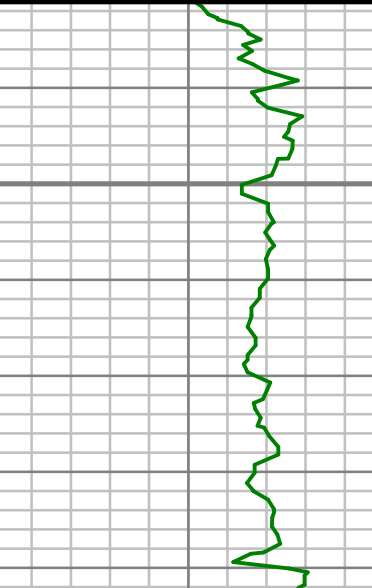

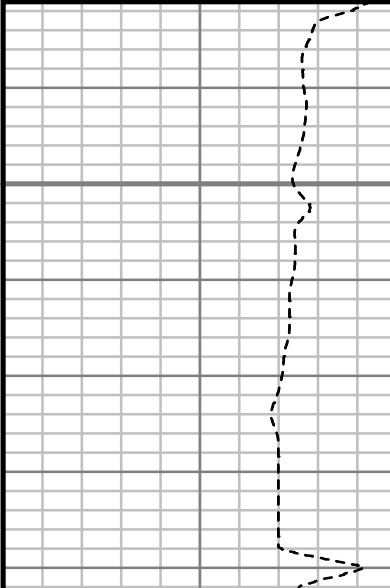
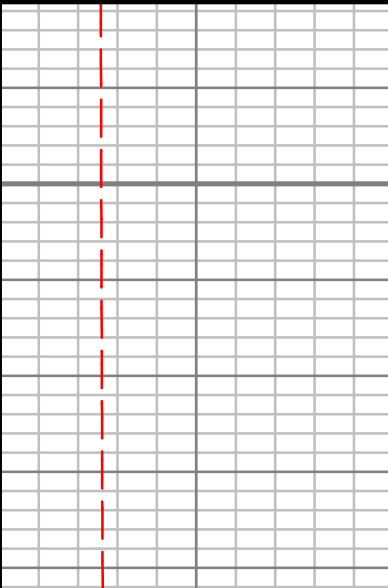
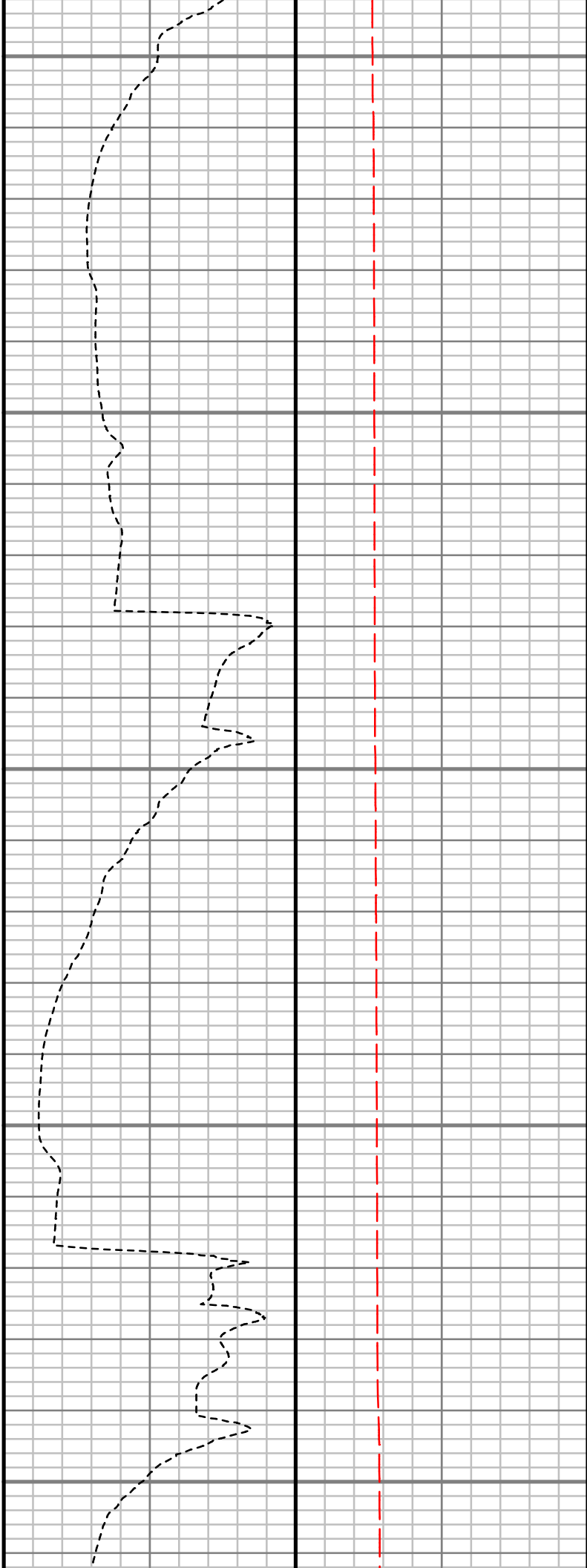
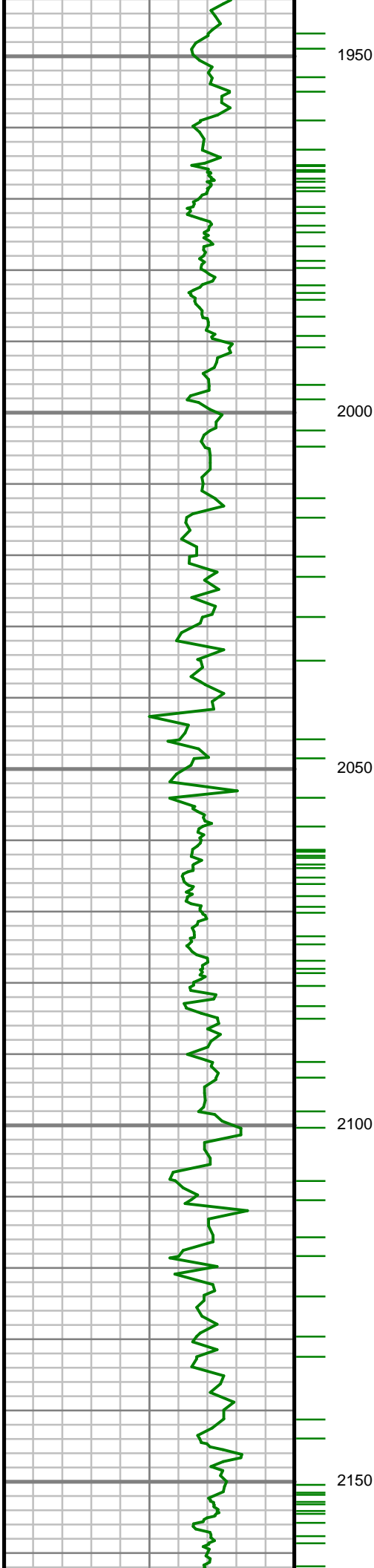


[illegible]

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.

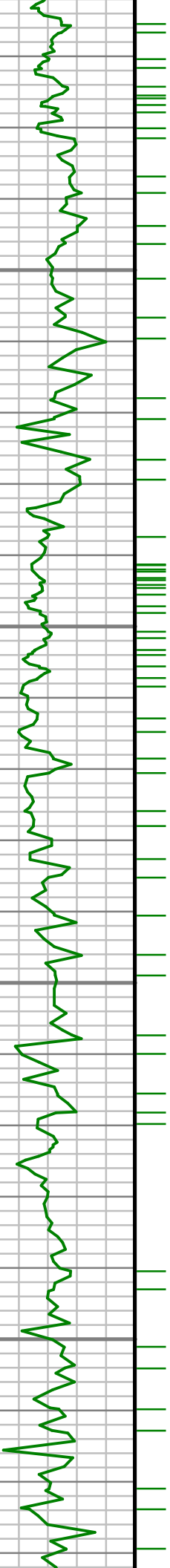
ANADARKO E&P ONSHORE LLC YELLOWHAMMER 30N2-8HZ WATTENBERG FIELD WELD COUNTY, COLORADO API # 05123454970000							
Gamma Ray (GR)		MEASURED DEPTH 1:240 (ft)	Rate of Penetration (ROP)		Tool Temperature (TEMP)		Comments
0	Unit = aapi 150		1000	Unit = ft/hr 0	0	Unit = °F 300	
							



S: 54 MD: 1956.00 ft
Inc: 21.63 deg Az:
178.36 deg TVD:
1907.64 ft

S: 55 MD: 2045.00 ft
Inc: 22.15 deg Az:
179.59 deg TVD:
1990.22 ft

S: 56 MD: 2134.00 ft
Inc: 23.30 deg Az:
178.55 deg TVD:
2072.31 ft

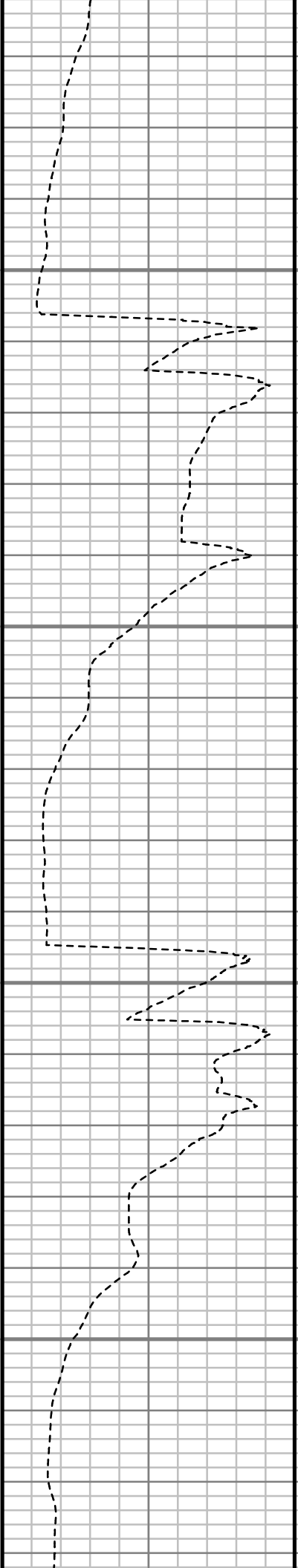


2200

2250

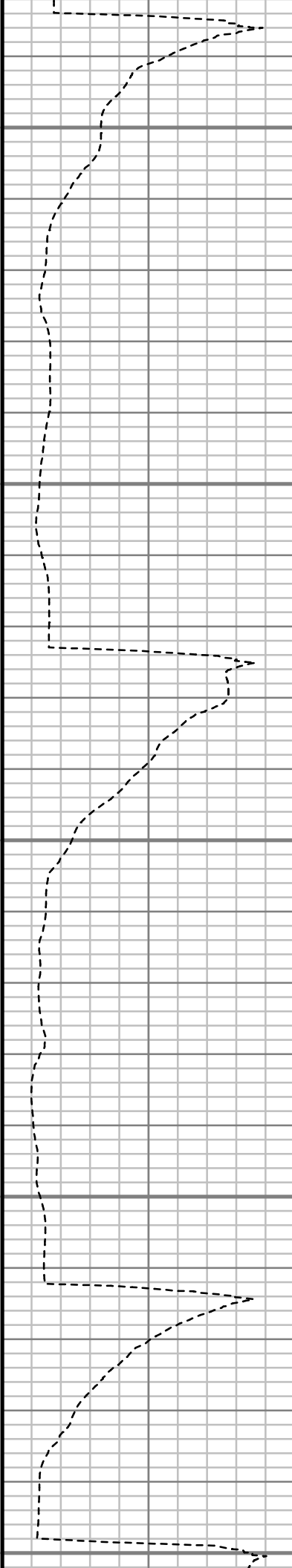
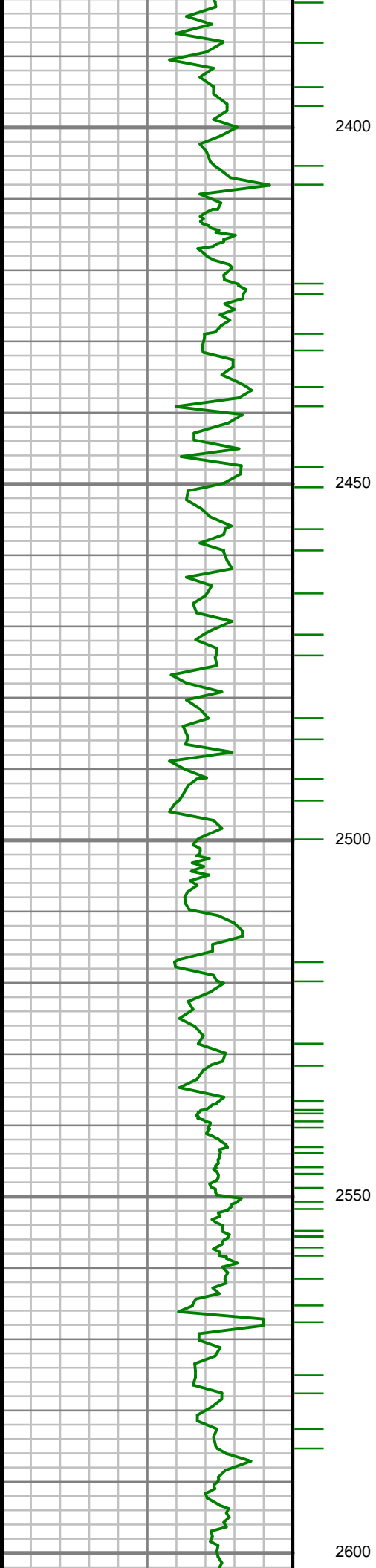
2300

2350



S: 57 MD: 2223.00 ft
Inc: 25.01 deg Az:
179.36 deg TVD:
2153.52 ft

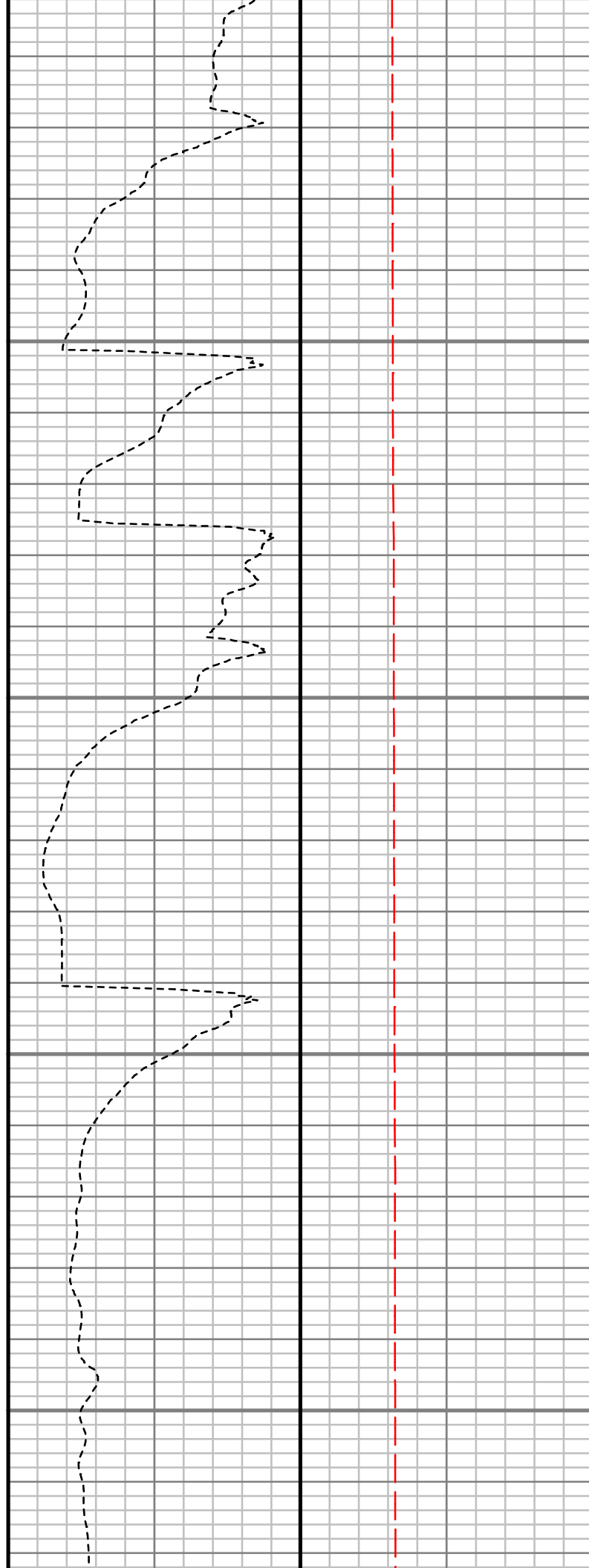
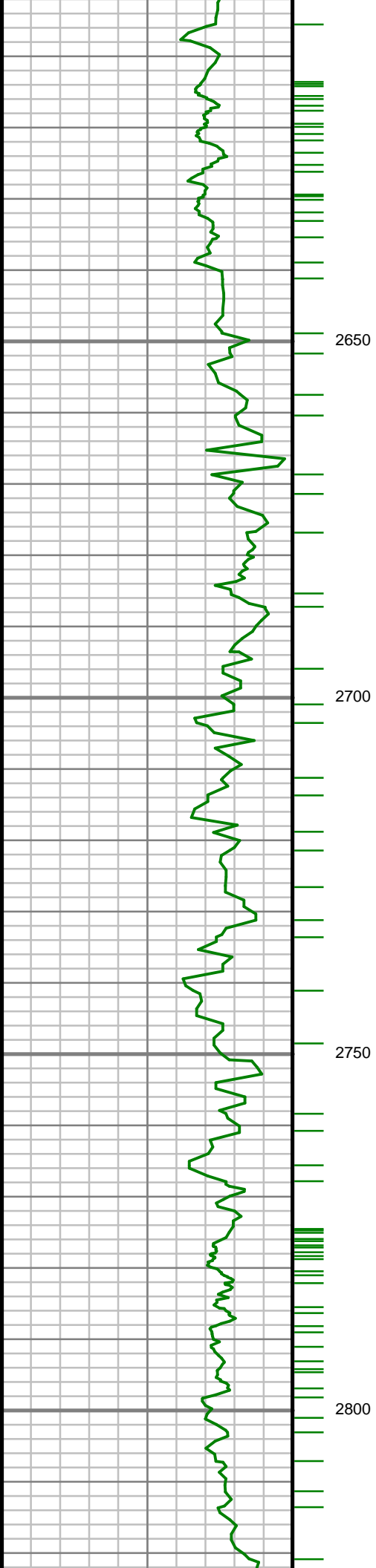
S: 58 MD: 2311.00 ft
Inc: 27.19 deg Az:
181.26 deg TVD:
2232.54 ft



S: 59 MD: 2400.00 ft
Inc: 26.79 deg Az:
179.64 deg TVD:
2311.85 ft

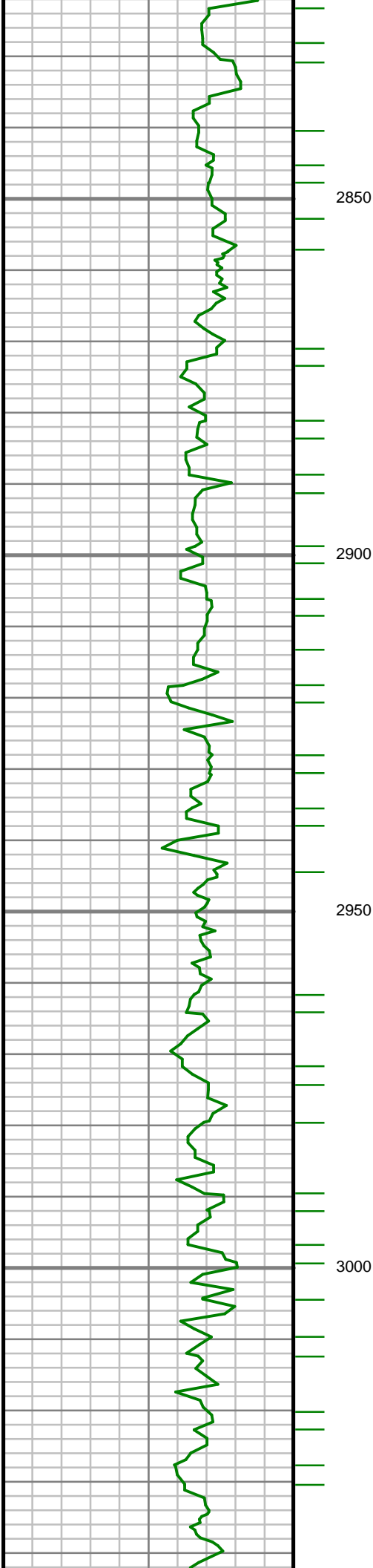
S: 60 MD: 2489.00 ft
Inc: 25.22 deg Az:
178.30 deg TVD:
2391.83 ft

S: 61 MD: 2578.00 ft
Inc: 23.39 deg Az:
176.63 deg TVD:
2472.94 ft



S: 62 MD: 2667.00 ft
Inc: 25.41 deg Az:
179.96 deg TVD:
2553.99 ft

S: 63 MD: 2756.00 ft
Inc: 25.56 deg Az:
180.89 deg TVD:
2634.33 ft

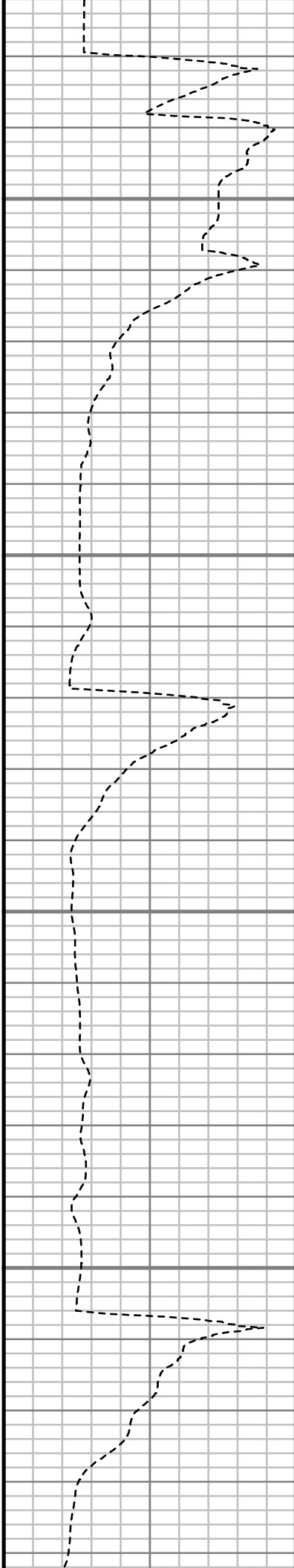


2850

2900

2950

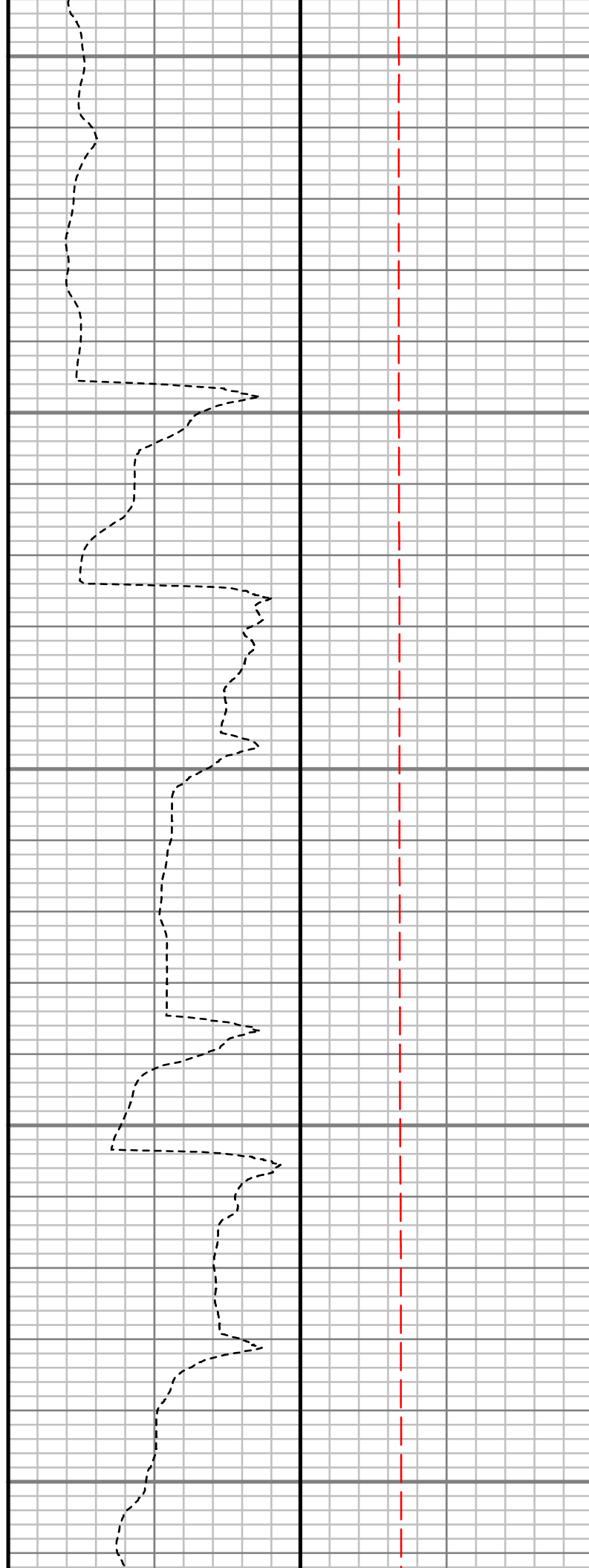
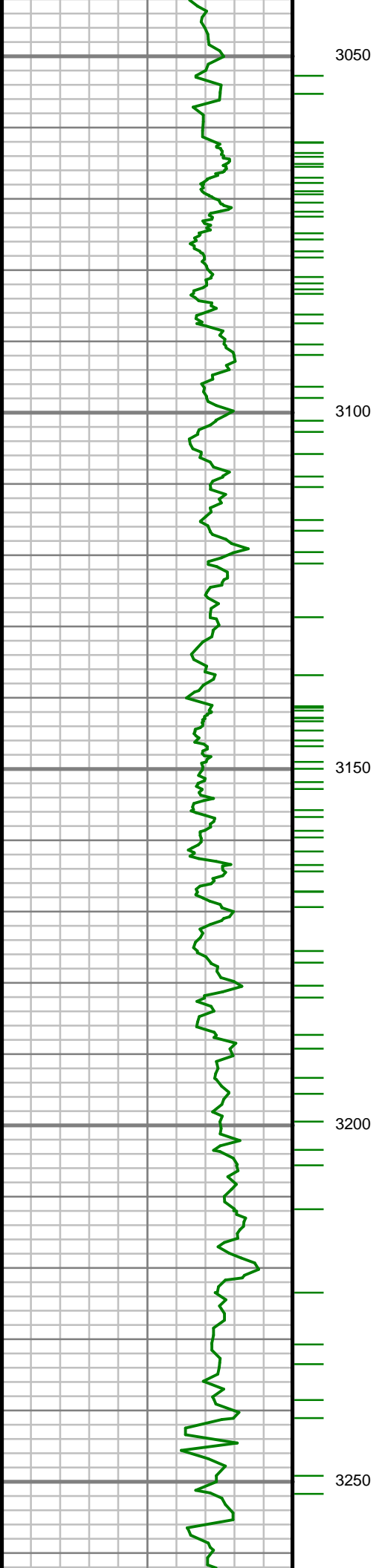
3000



S: 64 MD: 2845.00 ft
Inc: 26.12 deg Az:
181.76 deg TVD:
2714.43 ft

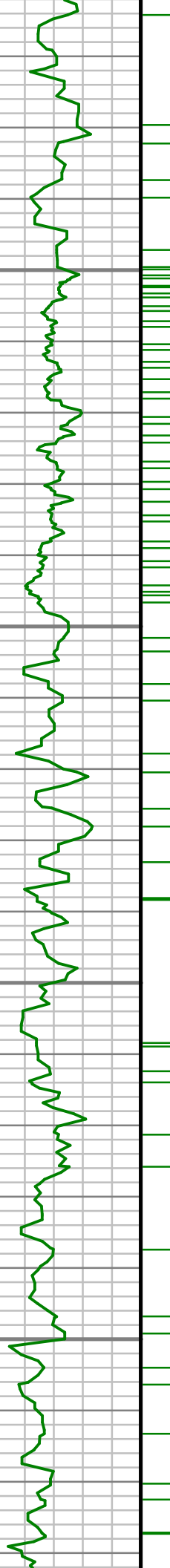
S: 65 MD: 2934.00 ft
Inc: 26.01 deg Az:
182.63 deg TVD:
2794.38 ft

S: 66 MD: 3023.00 ft
Inc: 24.00 deg Az:
182.13 deg TVD:
2875.04 ft



S: 67 MD: 3112.00 ft
Inc: 22.28 deg Az:
180.72 deg TVD:
2956.87 ft

S: 68 MD: 3201.00 ft
Inc: 24.17 deg Az:
177.63 deg TVD:
3038.66 ft

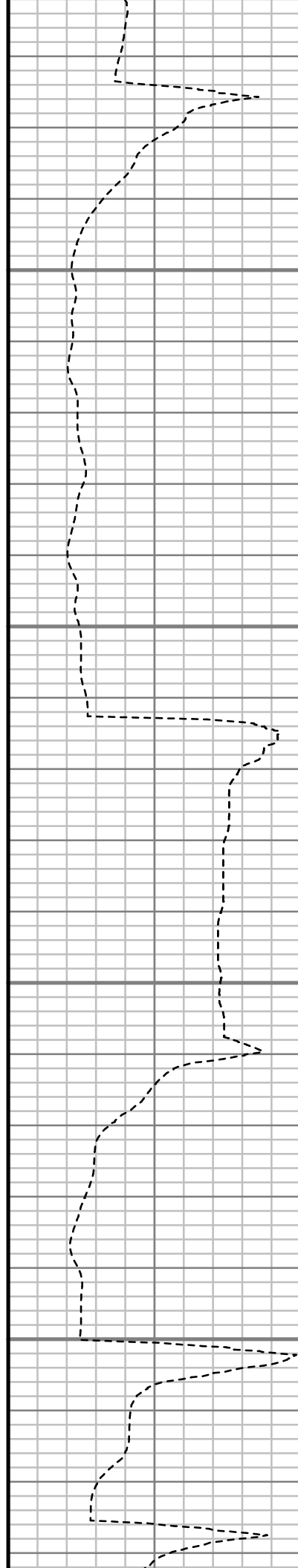


3300

3350

3400

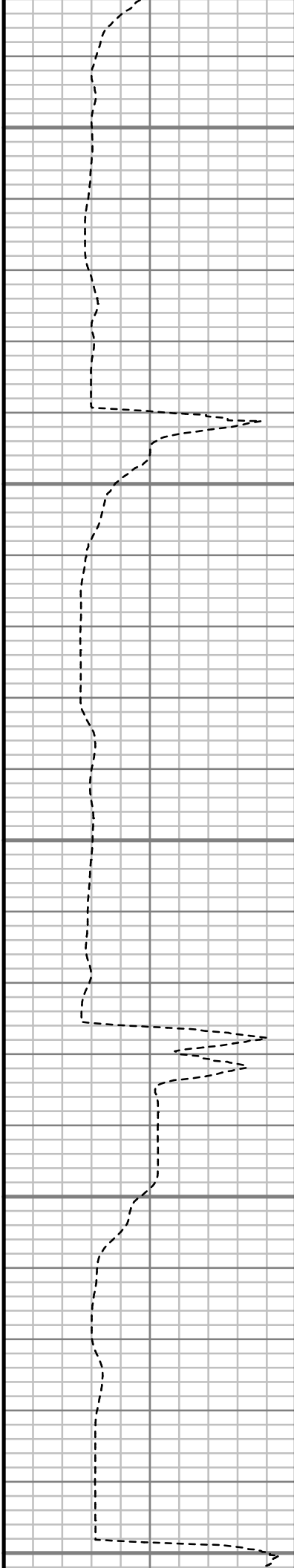
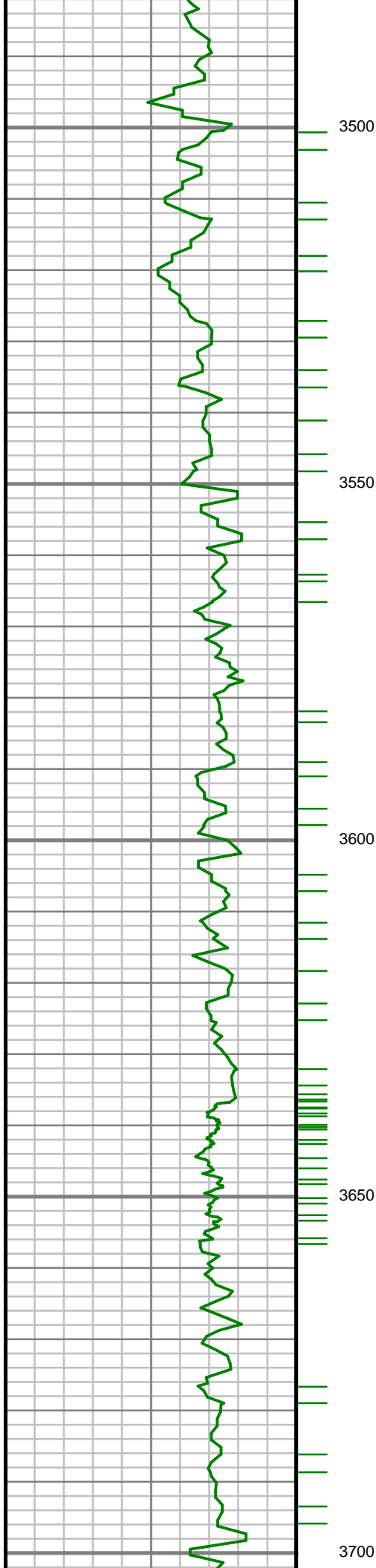
3450



S: 69 MD: 3290.00 ft
Inc: 25.30 deg Az:
178.51 deg TVD:
3119.49 ft

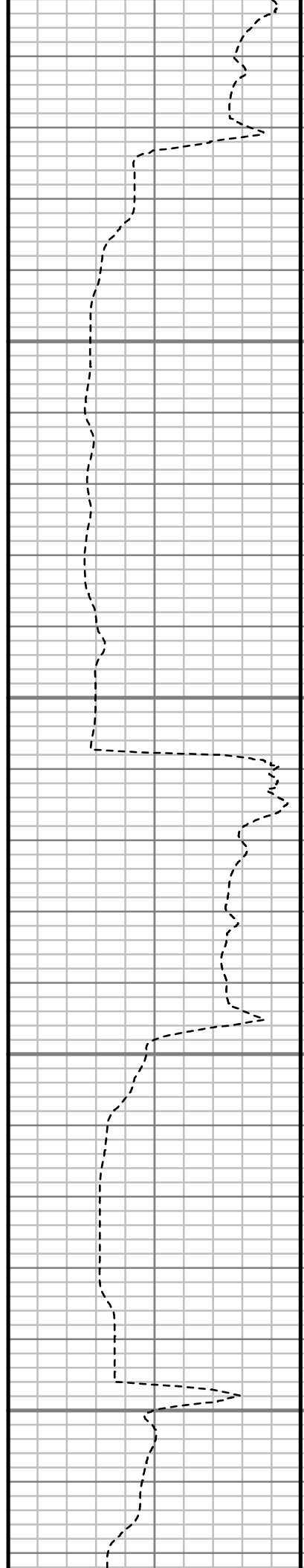
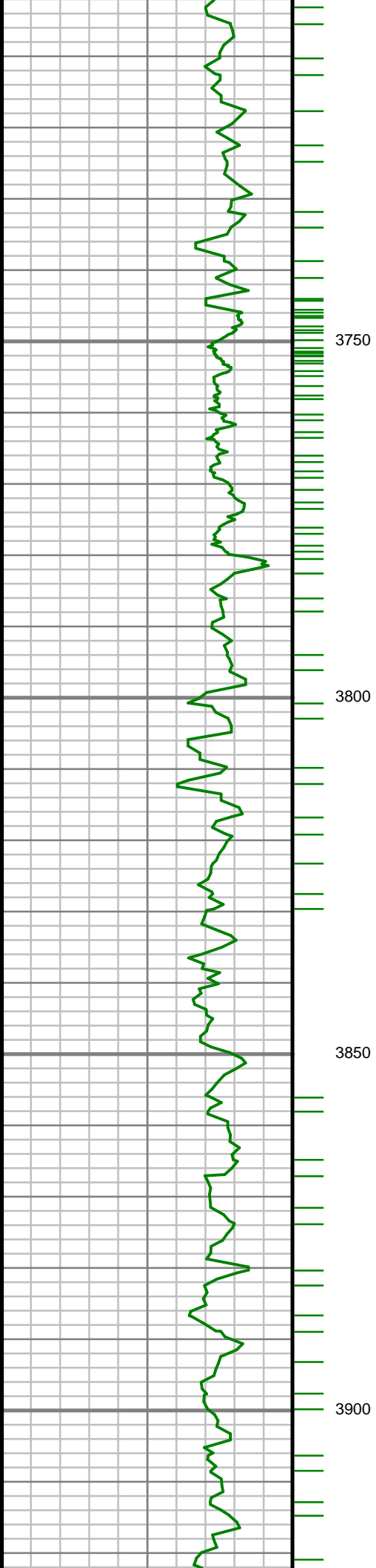
S: 70 MD: 3378.00 ft
Inc: 27.03 deg Az:
179.66 deg TVD:
3198.47 ft

S: 71 MD: 3467.00 ft
Inc: 29.91 deg Az:
179.31 deg TVD:
3276.70 ft



S: 72 MD: 3556.00 ft
Inc: 27.74 deg Az:
178.97 deg TVD:
3354.66 ft

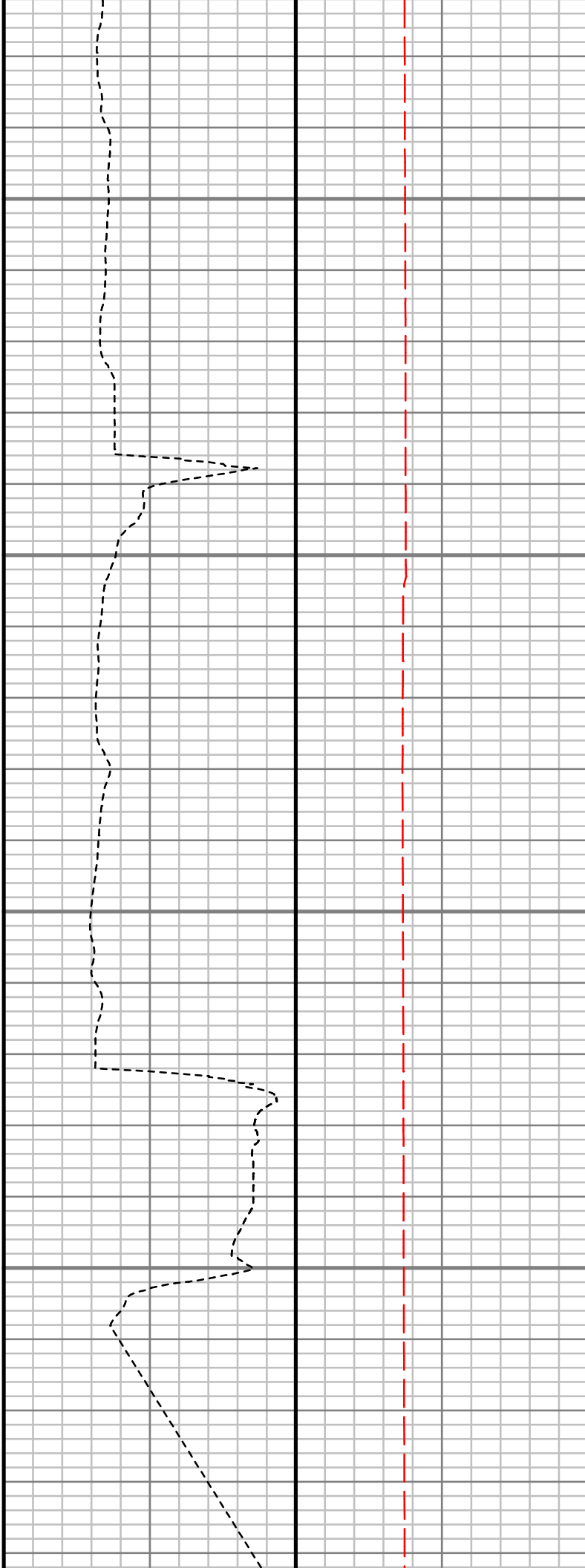
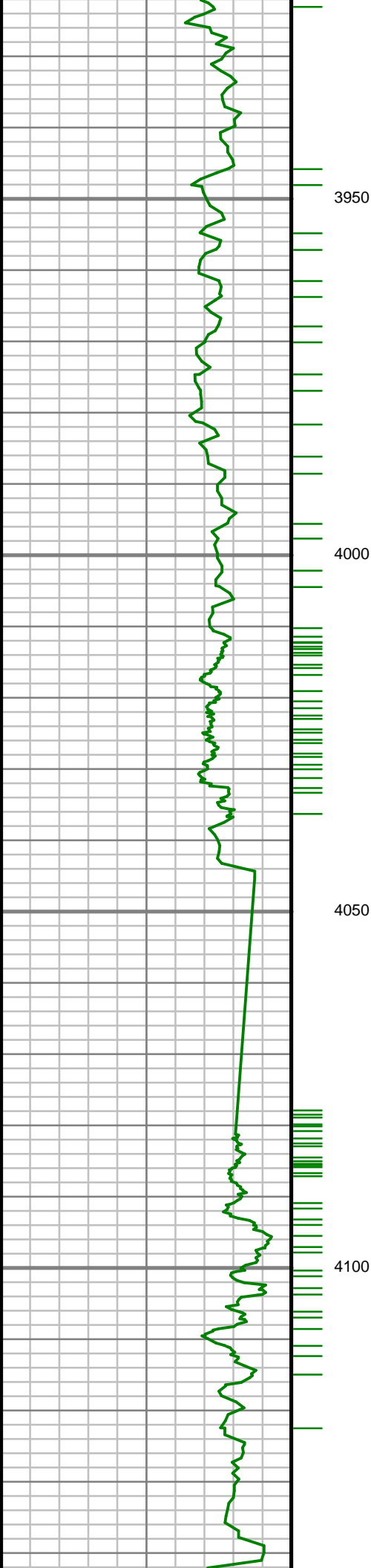
S: 73 MD: 3645.00 ft
Inc: 24.96 deg Az:
178.39 deg TVD:
3434.41 ft



S: 74 MD: 3734.00 ft
Inc: 25.42 deg Az:
180.85 deg TVD:
3514.94 ft

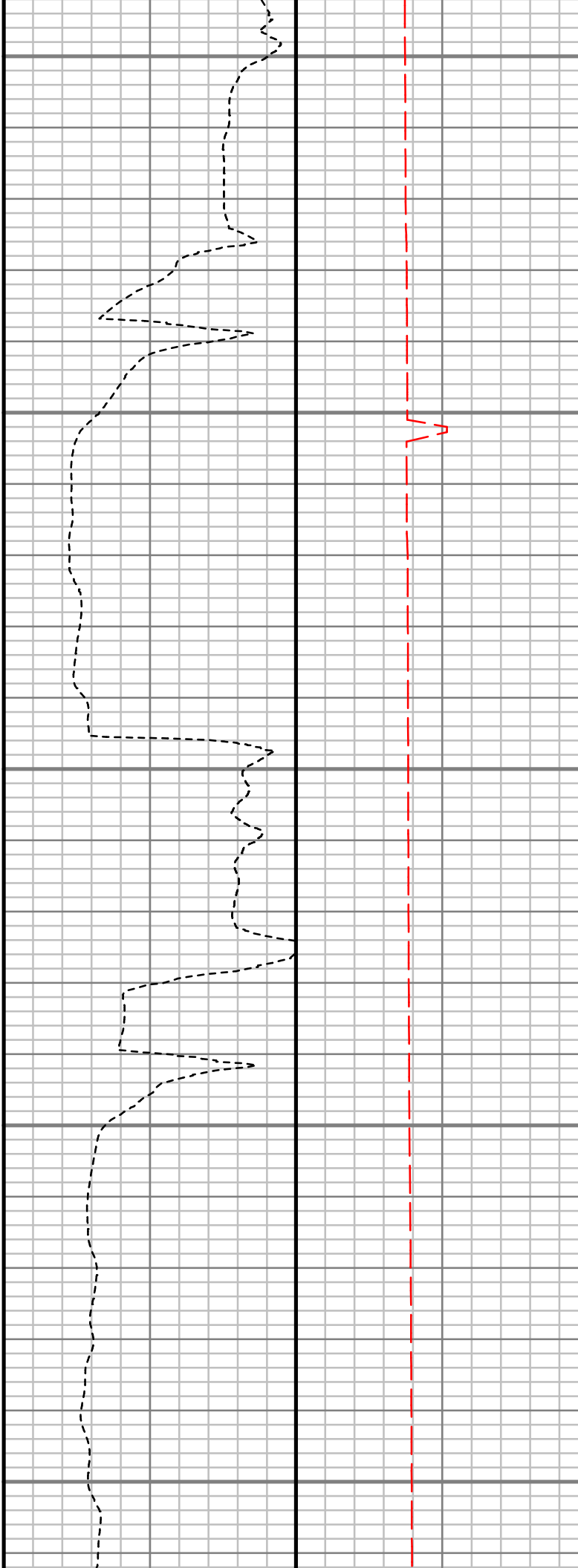
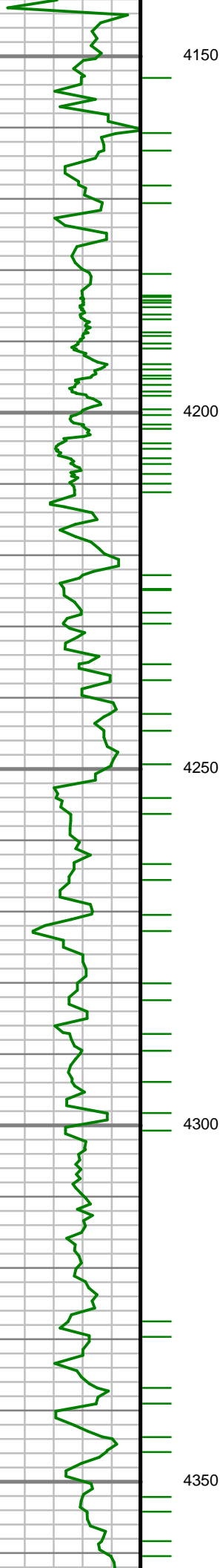
S: 75 MD: 3823.00 ft
Inc: 25.18 deg Az:
182.91 deg TVD:
3595.41 ft

S: 76 MD: 3911.00 ft
Inc: 25.02 deg Az:
184.32 deg TVD:
3675.10 ft



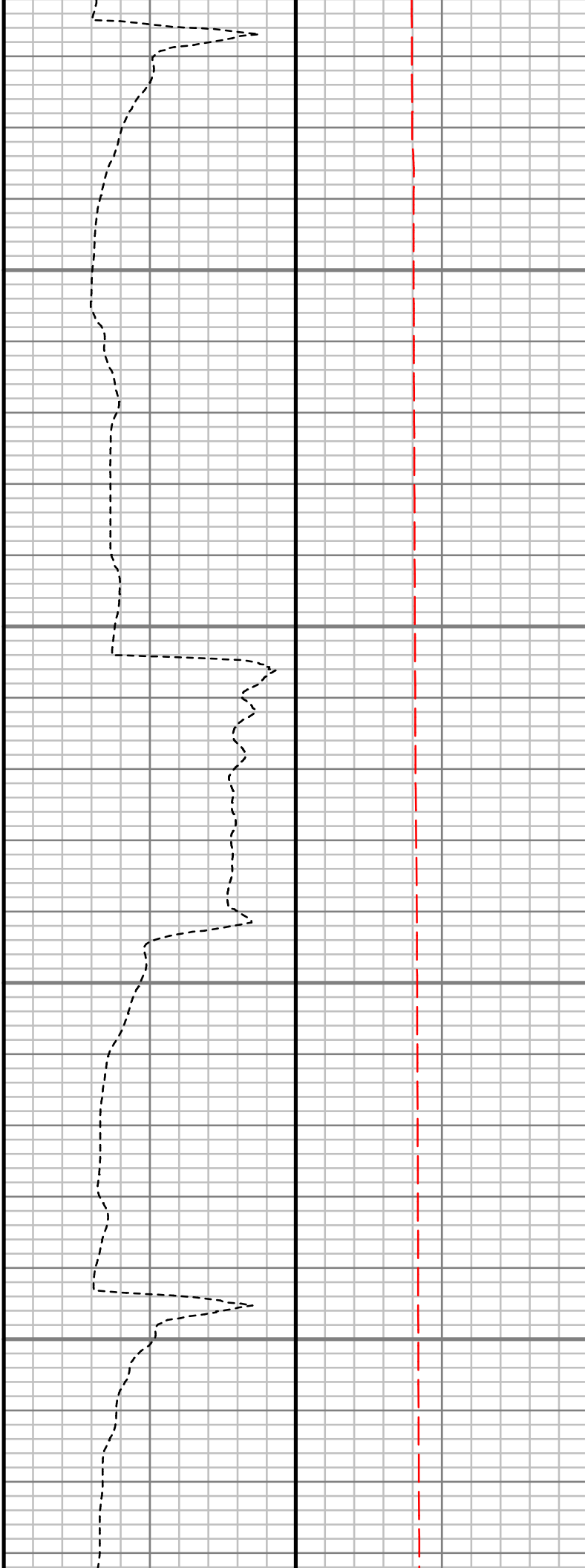
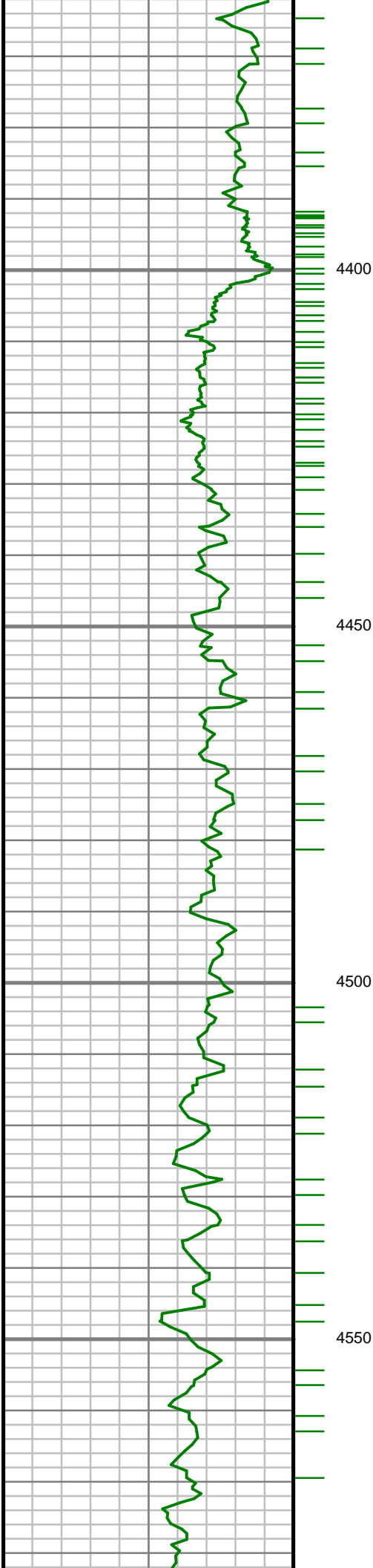
S: 77 MD: 4000.00 ft
Inc: 22.00 deg Az:
184.58 deg TVD:
3756.70 ft

S: 78 MD: 4115.00 ft
Inc: 22.11 deg Az:
186.68 deg TVD:
3863.29 ft



S: 79 MD: 4203.00 ft
Inc: 25.54 deg Az:
182.06 deg TVD:
3943.79 ft

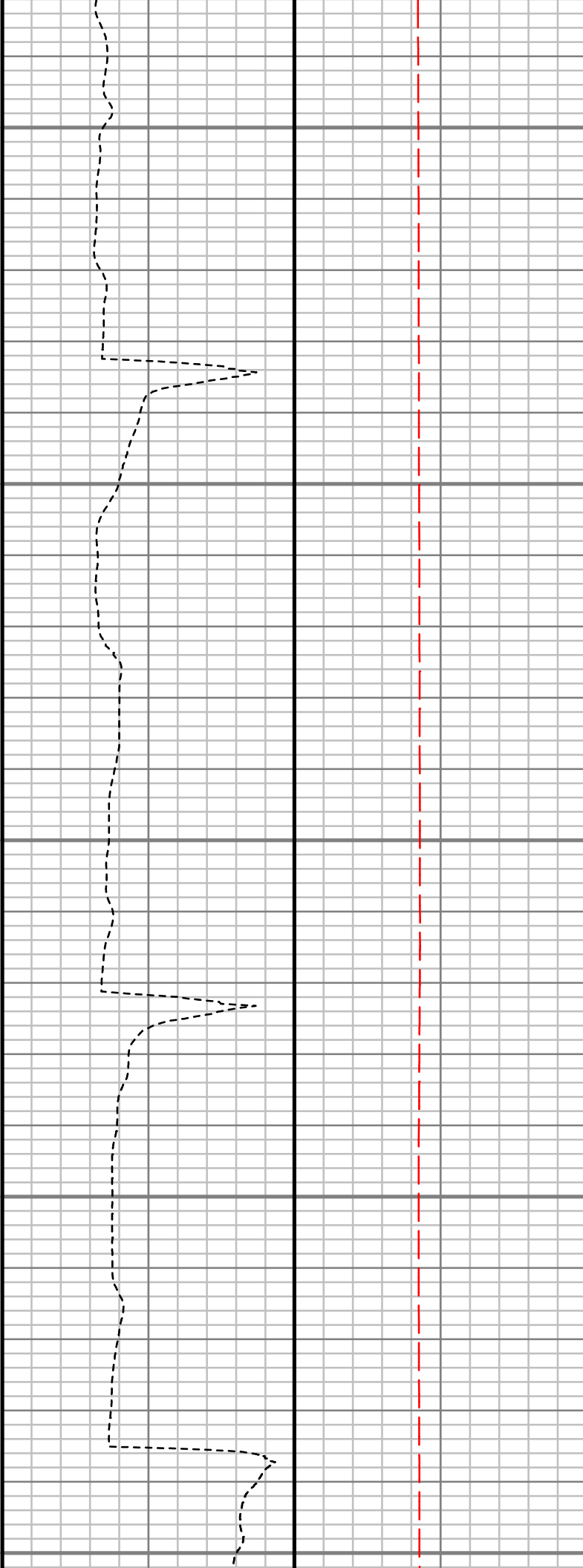
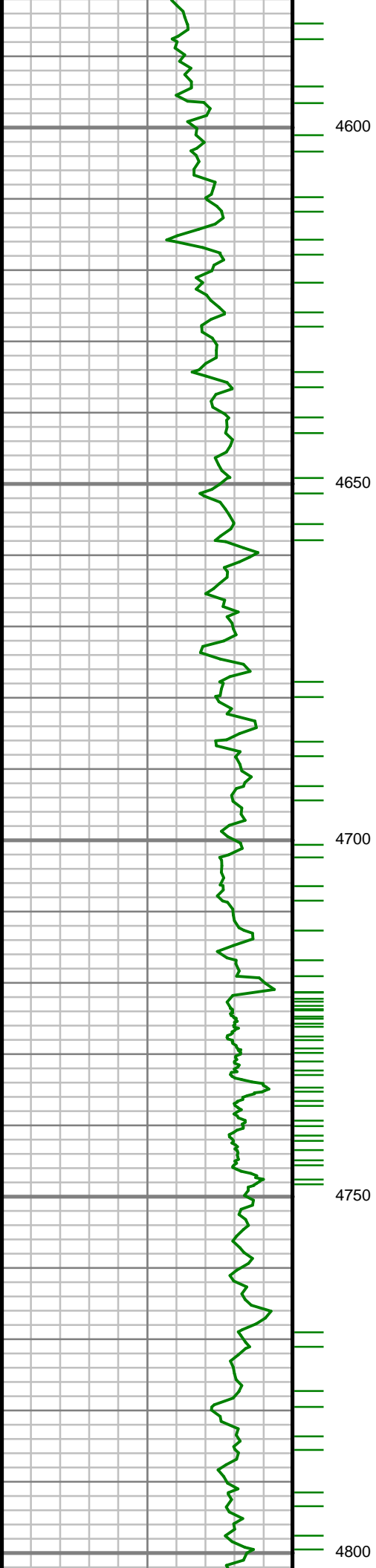
S: 80 MD: 4292.00 ft
Inc: 27.82 deg Az:
177.66 deg TVD:
4023.32 ft



S: 81 MD: 4381.00 ft
Inc: 25.33 deg Az:
174.88 deg TVD:
4102.91 ft

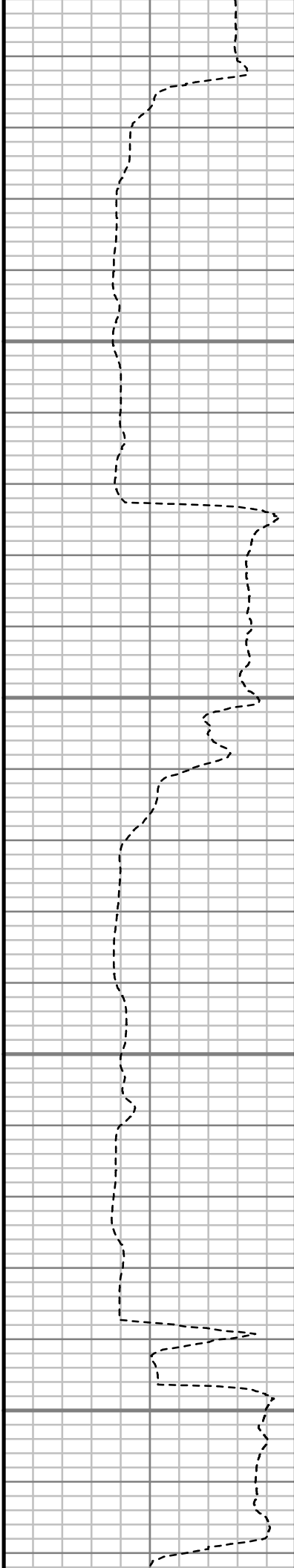
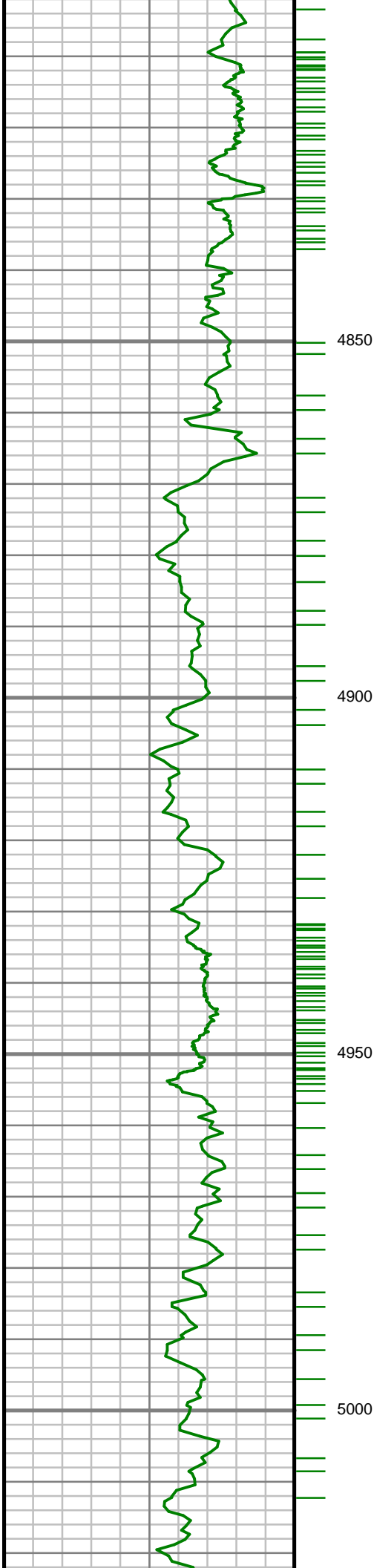
S: 82 MD: 4470.00 ft
Inc: 26.10 deg Az:
174.18 deg TVD:
4183.10 ft

S: 83 MD: 4559.00 ft
Inc: 27.53 deg Az:
174.78 deg TVD:
4262.52 ft



S: 84 MD: 4648.00 ft
Inc: 26.03 deg Az:
174.96 deg TVD:
4341.97 ft

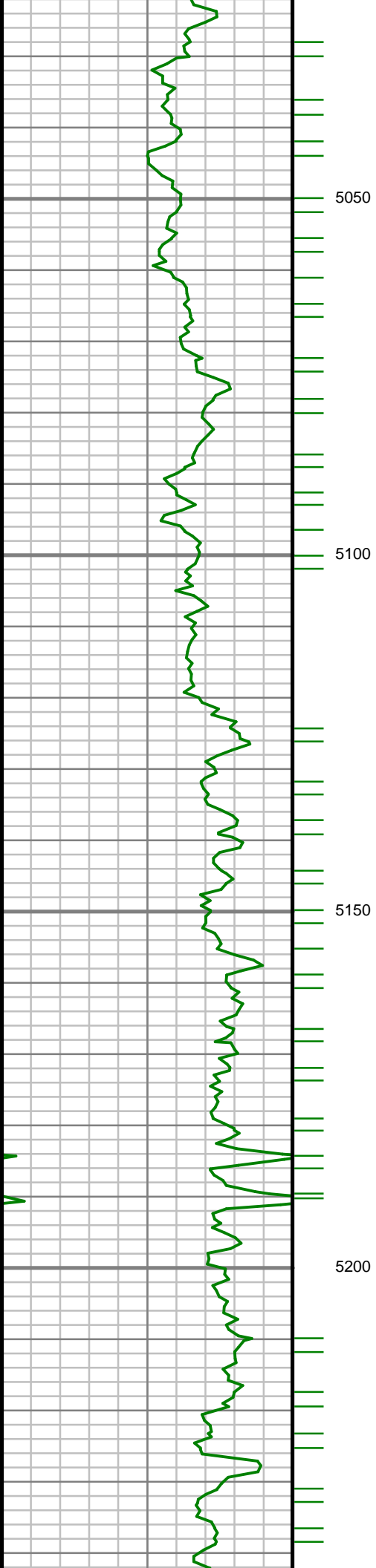
S: 85 MD: 4736.00 ft
Inc: 22.92 deg Az:
173.65 deg TVD:
4422.05 ft



S: 86 MD: 4825.00 ft
Inc: 24.68 deg Az:
177.15 deg TVD:
4503.48 ft

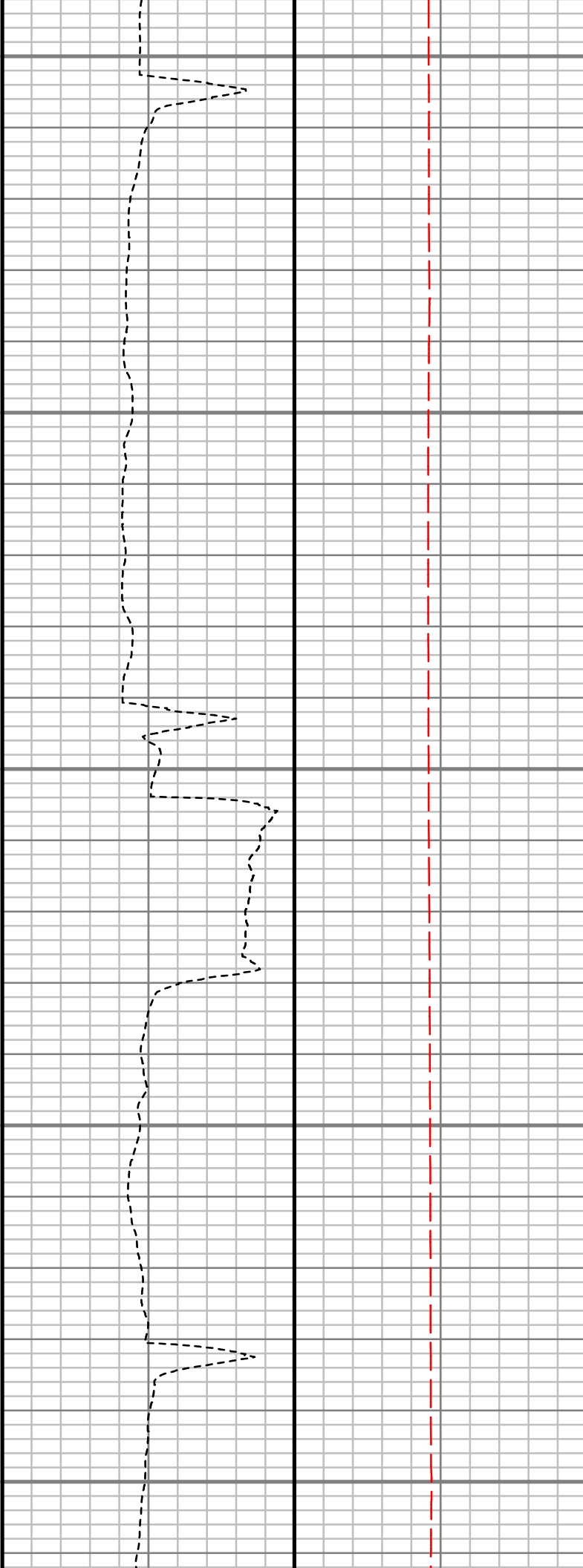
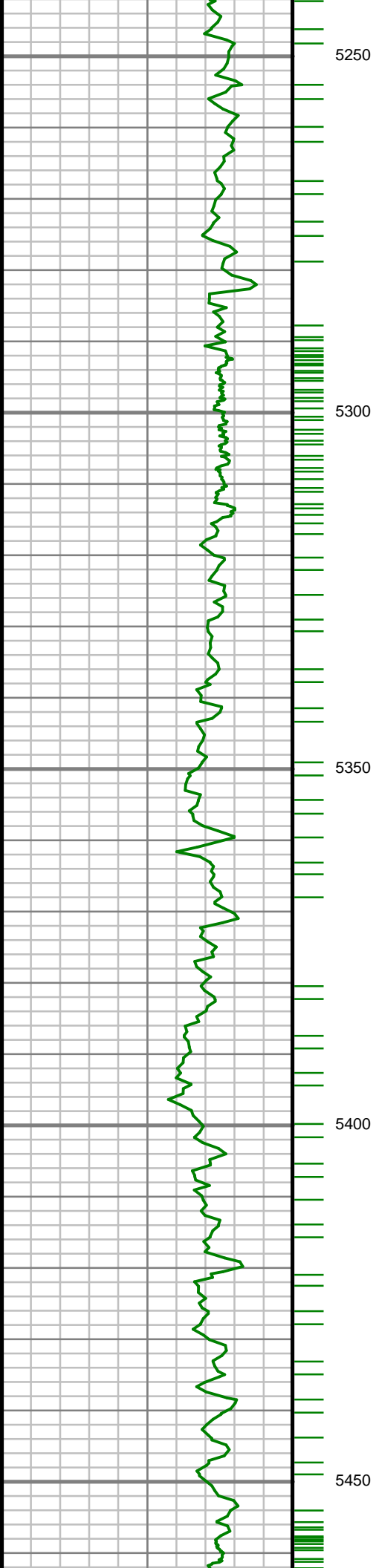
S: 87 MD: 4914.00 ft
Inc: 28.14 deg Az:
178.86 deg TVD:
4583.18 ft

S: 88 MD: 5003.00 ft
Inc: 27.74 deg Az:
178.11 deg TVD:
4661.81 ft



S: 89 MD: 5092.00 ft
Inc: 28.35 deg Az:
177.87 deg TVD:
4740.36 ft

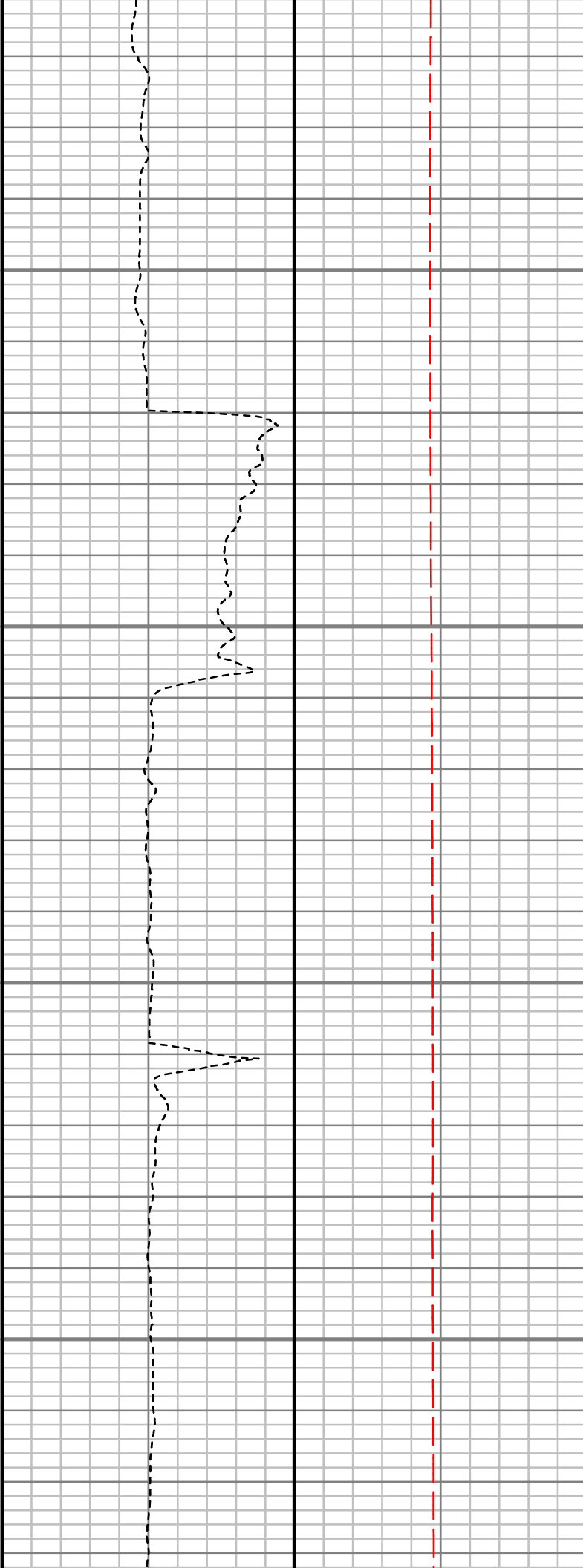
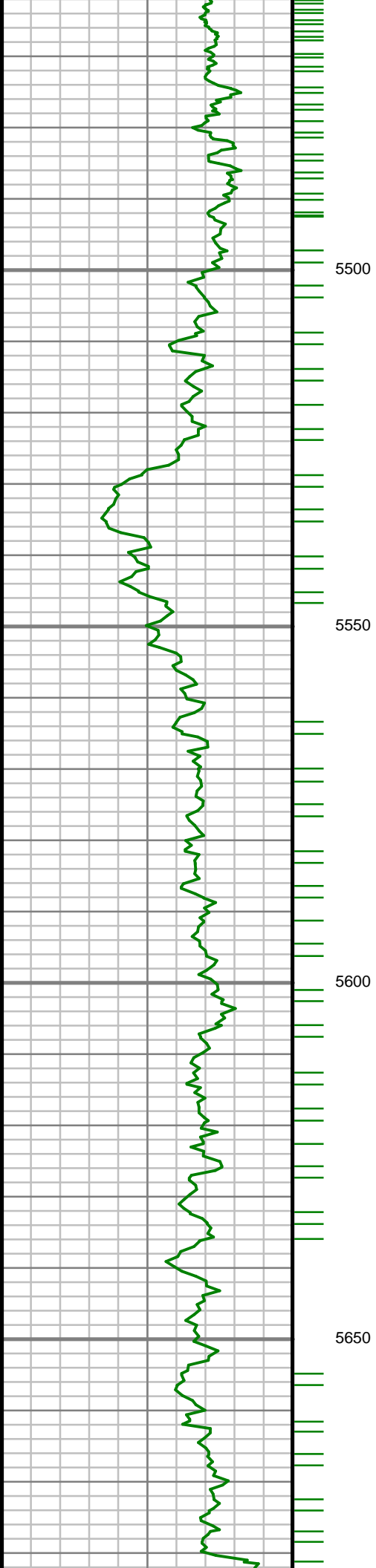
S: 90 MD: 5180.00 ft
Inc: 26.95 deg Az:
177.53 deg TVD:
4818.30 ft



S: 91 MD: 5269.00 ft
Inc: 24.38 deg Az:
176.55 deg TVD:
4898.52 ft

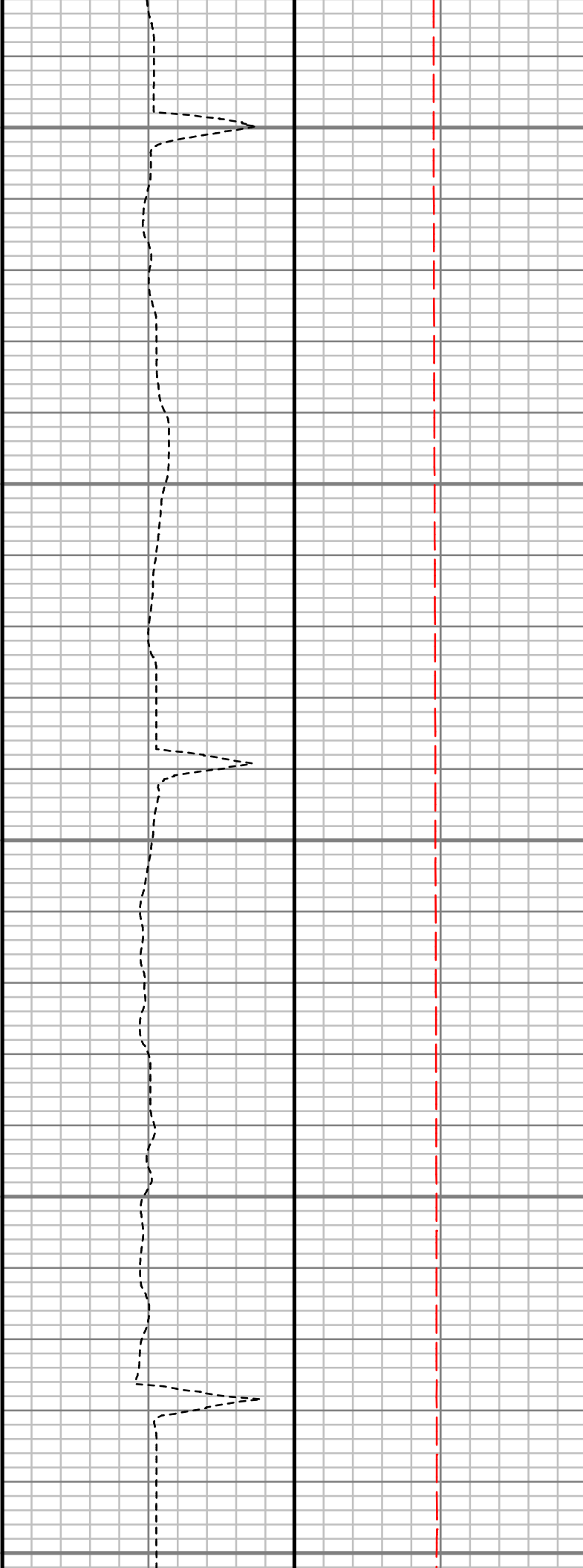
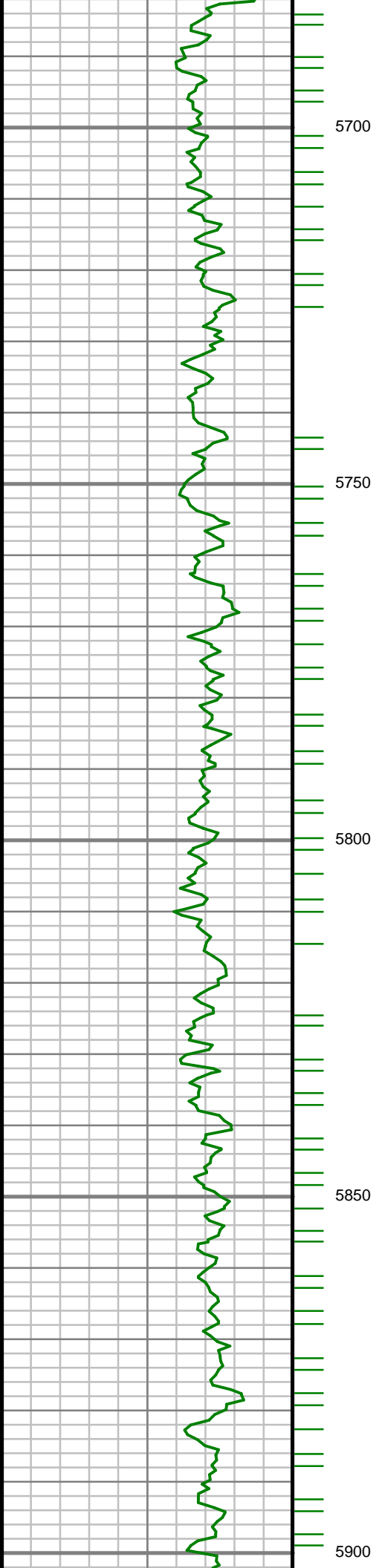
S: 92 MD: 5357.00 ft
Inc: 23.08 deg Az:
177.25 deg TVD:
4979.08 ft

S: 93 MD: 5446.00 ft
Inc: 23.40 deg Az:
176.82 deg TVD:
5060.86 ft



S: 94 MD: 5535.00 ft
Inc: 24.30 deg Az:
178.60 deg TVD:
5142.26 ft

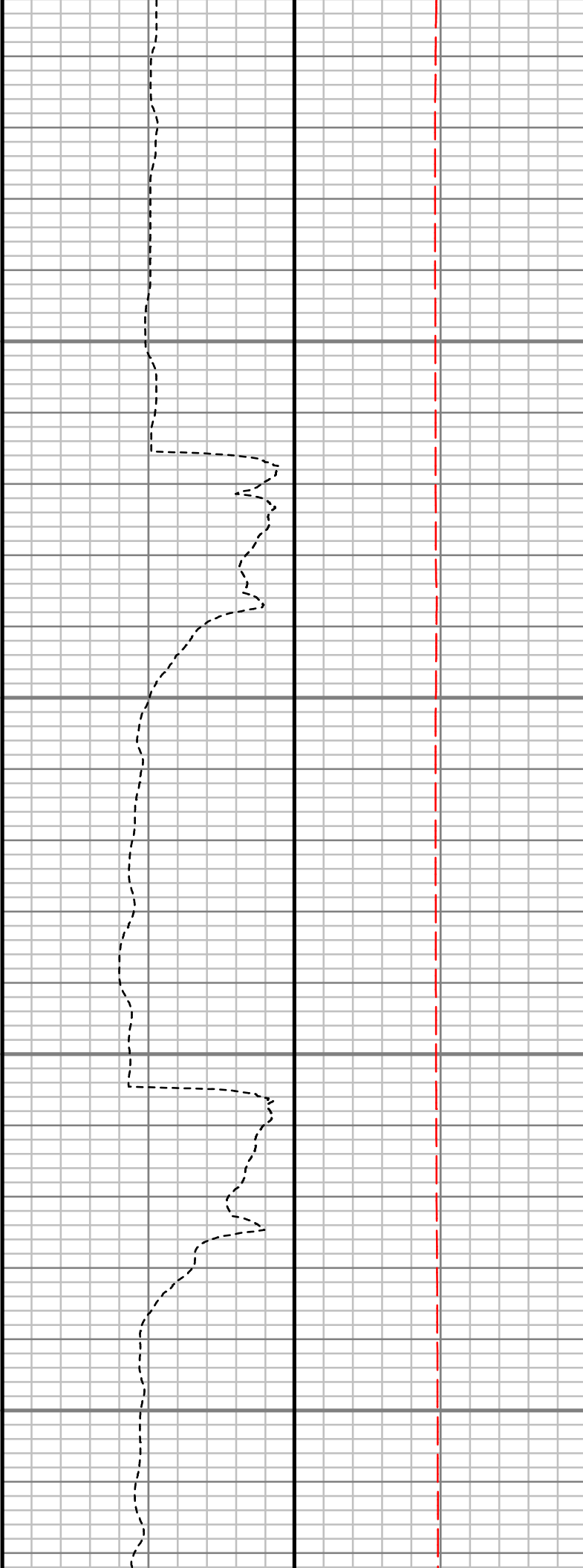
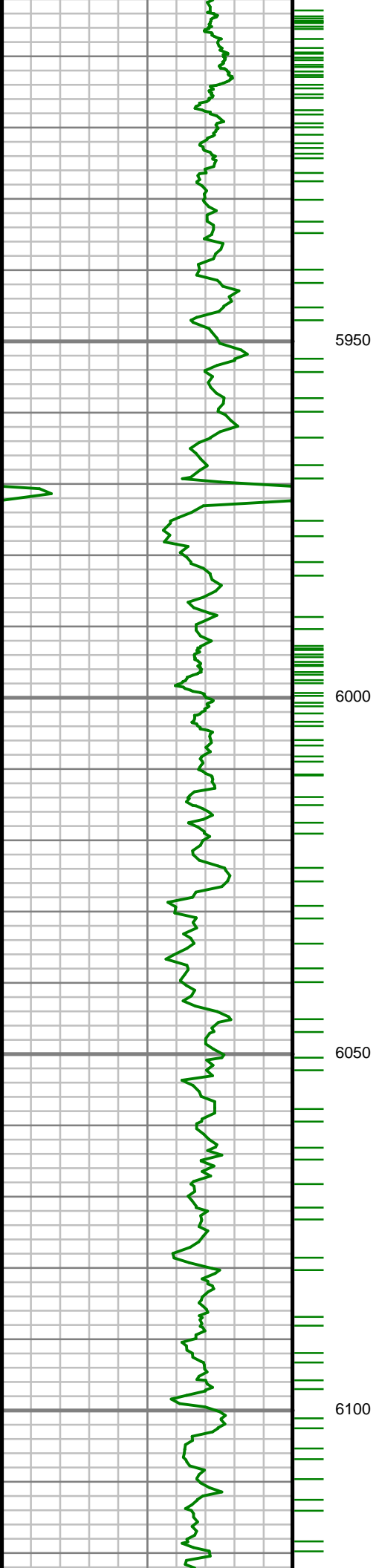
S: 95 MD: 5624.00 ft
Inc: 25.54 deg Az:
177.61 deg TVD:
5222.97 ft



S: 96 MD: 5713.00 ft
Inc: 22.43 deg Az:
175.90 deg TVD:
5304.28 ft

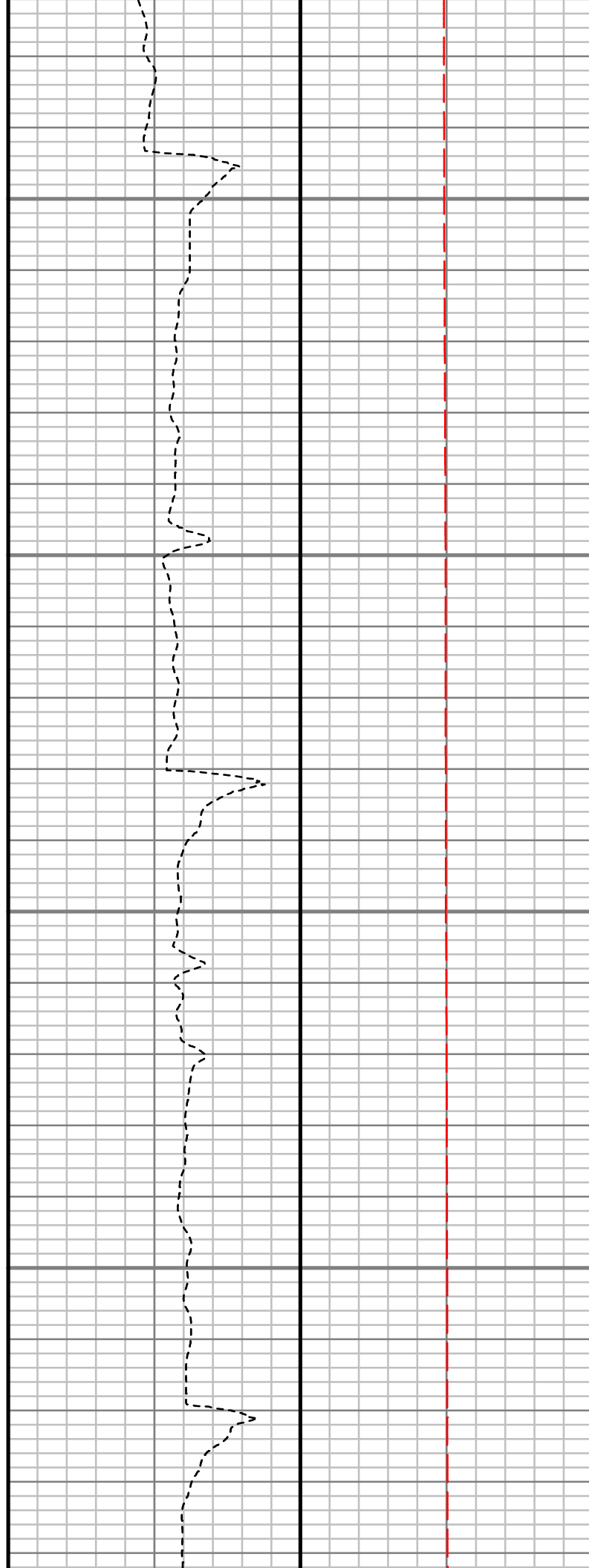
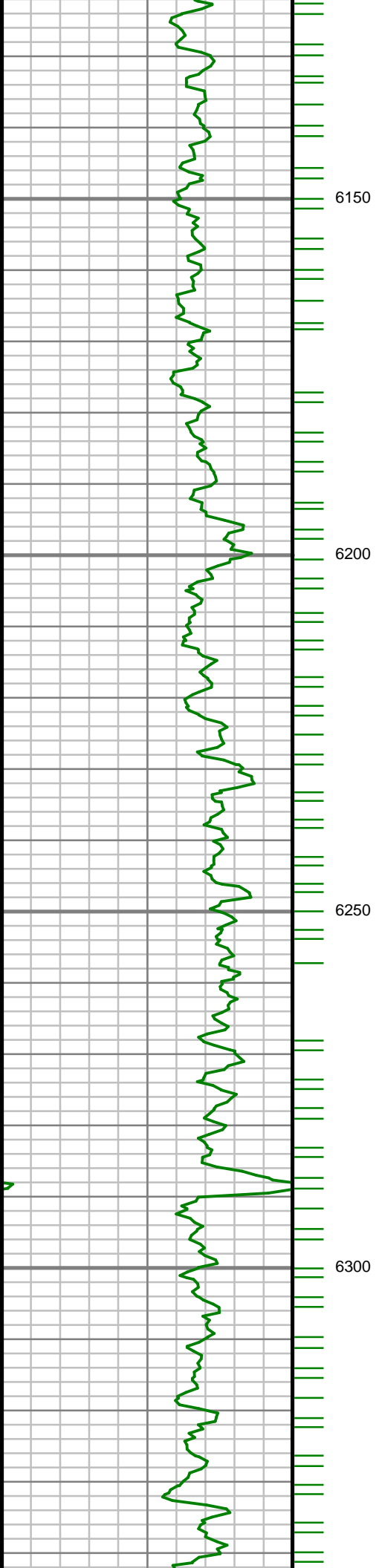
S: 97 MD: 5802.00 ft
Inc: 19.50 deg Az:
174.86 deg TVD:
5387.38 ft

S: 98 MD: 5891.00 ft
Inc: 16.36 deg Az:
173.89 deg TVD:
5472.05 ft



S: 99 MD: 5980.00 ft
Inc: 15.82 deg Az:
173.17 deg TVD:
5557.56 ft

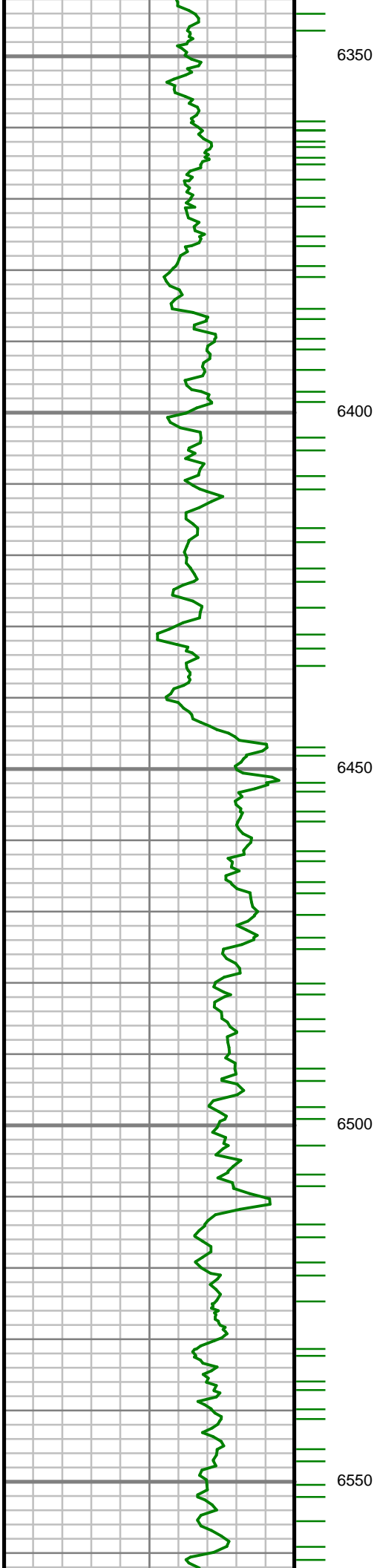
S: 100 MD: 6069.00 ft
Inc: 16.72 deg Az:
174.81 deg TVD:
5643.00 ft



S: 101 MD: 6158.00 ft
Inc: 14.92 deg Az:
172.31 deg TVD:
5728.63 ft

S: 102 MD: 6247.00 ft
Inc: 12.76 deg Az:
172.37 deg TVD:
5815.04 ft

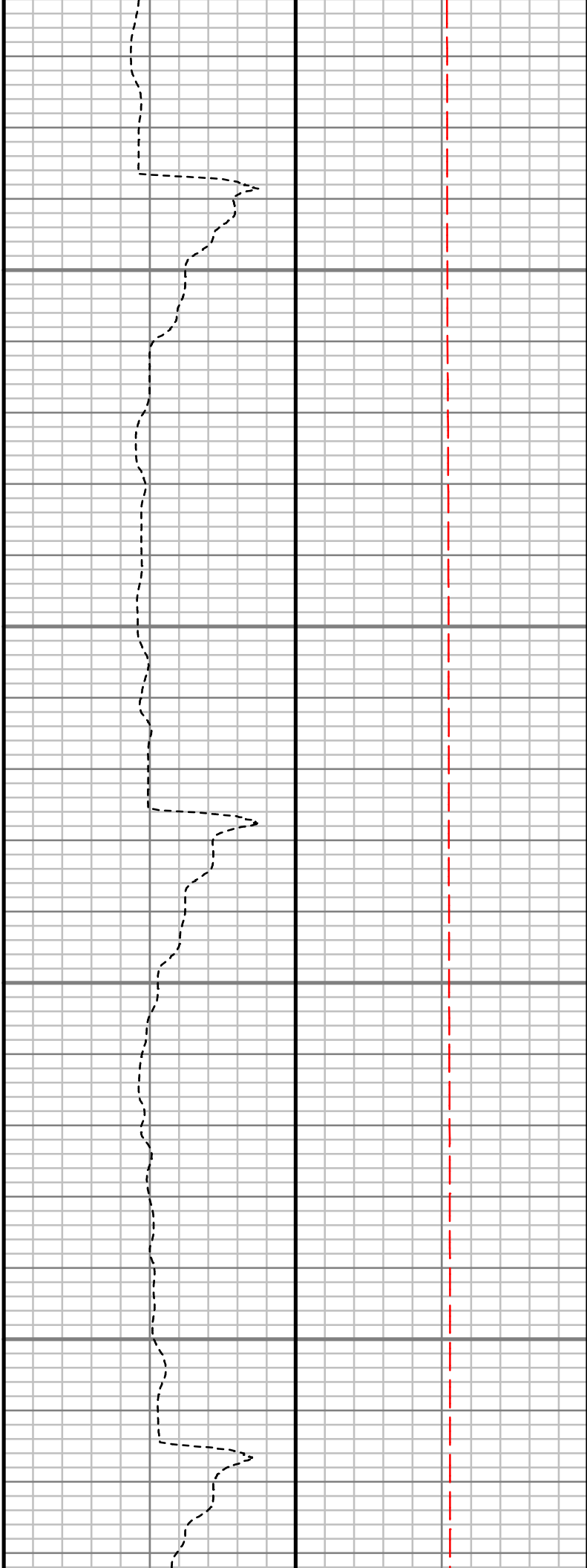
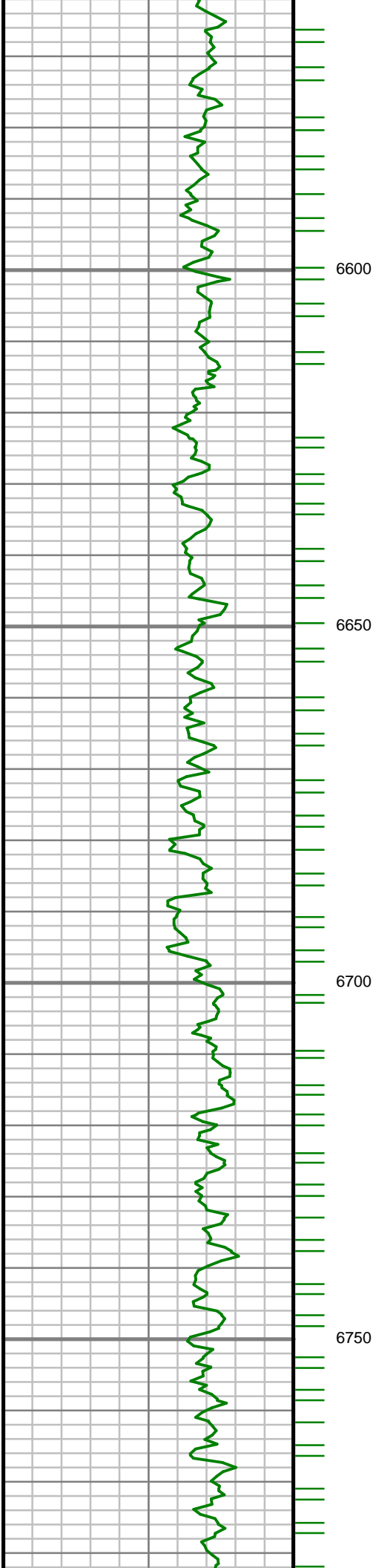
S: 103 MD: 6336.00 ft
Inc: 10.66 deg Az:
172.25 deg TVD:



173.23 deg TVD:
5902.18 ft

S: 104 MD: 6425.00 ft
Inc: 9.07 deg Az:
173.76 deg TVD:
5989.86 ft

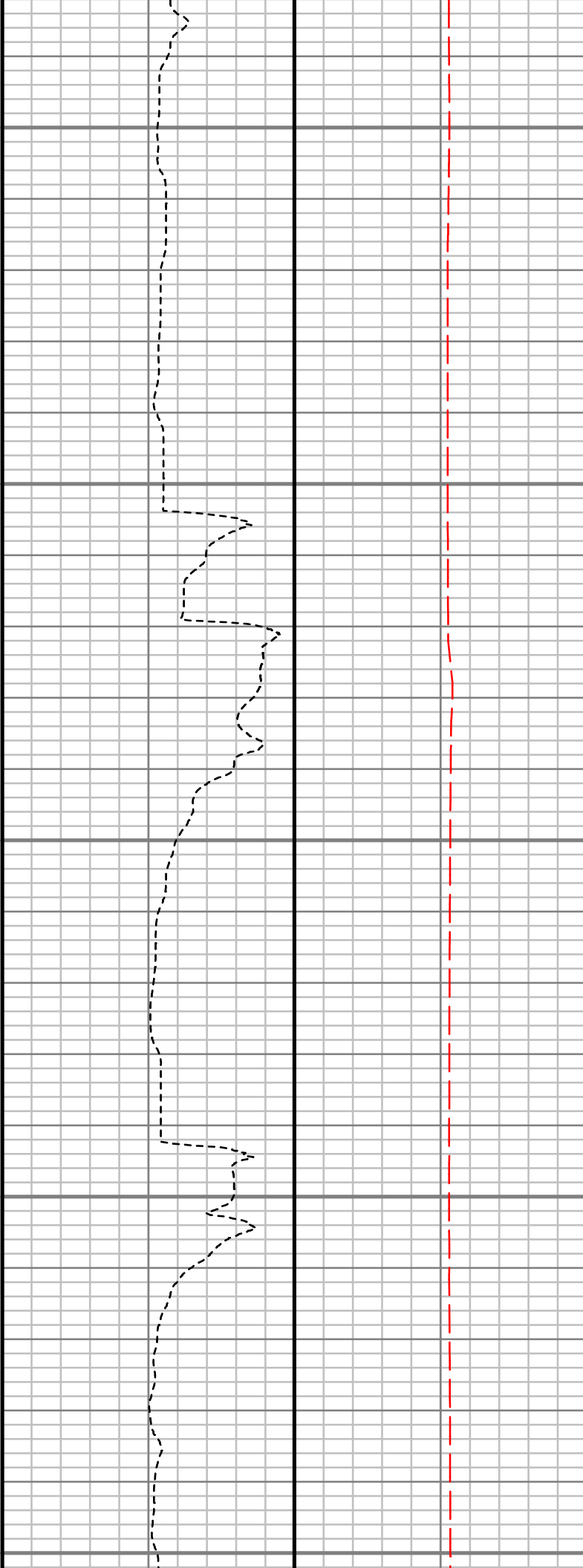
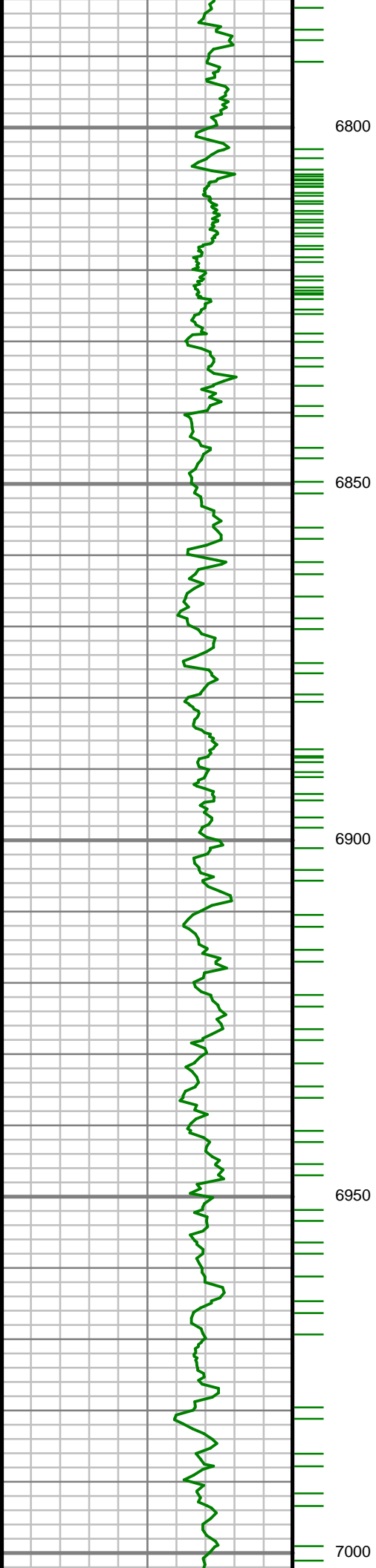
S: 105 MD: 6514.00 ft
Inc: 7.53 deg Az:
177.59 deg TVD:
6077.93 ft



S: 106 MD: 6603.00 ft
Inc: 5.95 deg Az:
175.73 deg TVD:
6166.31 ft

S: 107 MD: 6692.00 ft
Inc: 4.78 deg Az:
172.41 deg TVD:
6254.92 ft

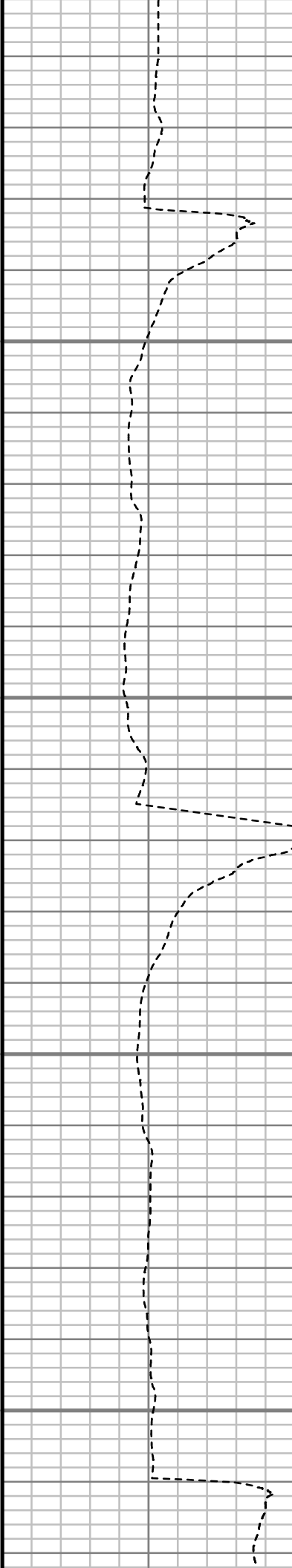
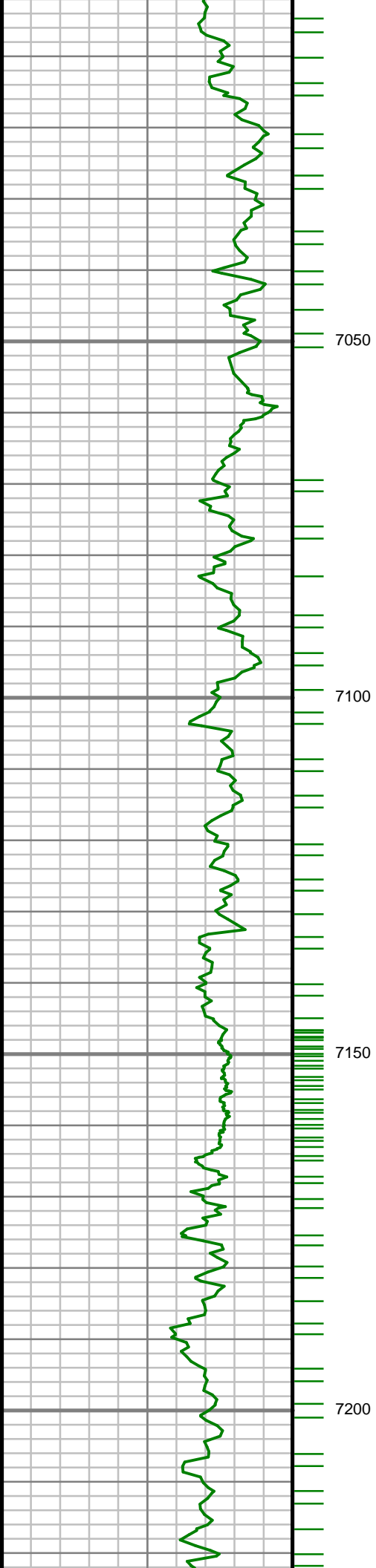
S: 108 MD: 6780.00 ft



Inc: 4.17 deg Az:
171.67 deg TVD:
6342.65 ft

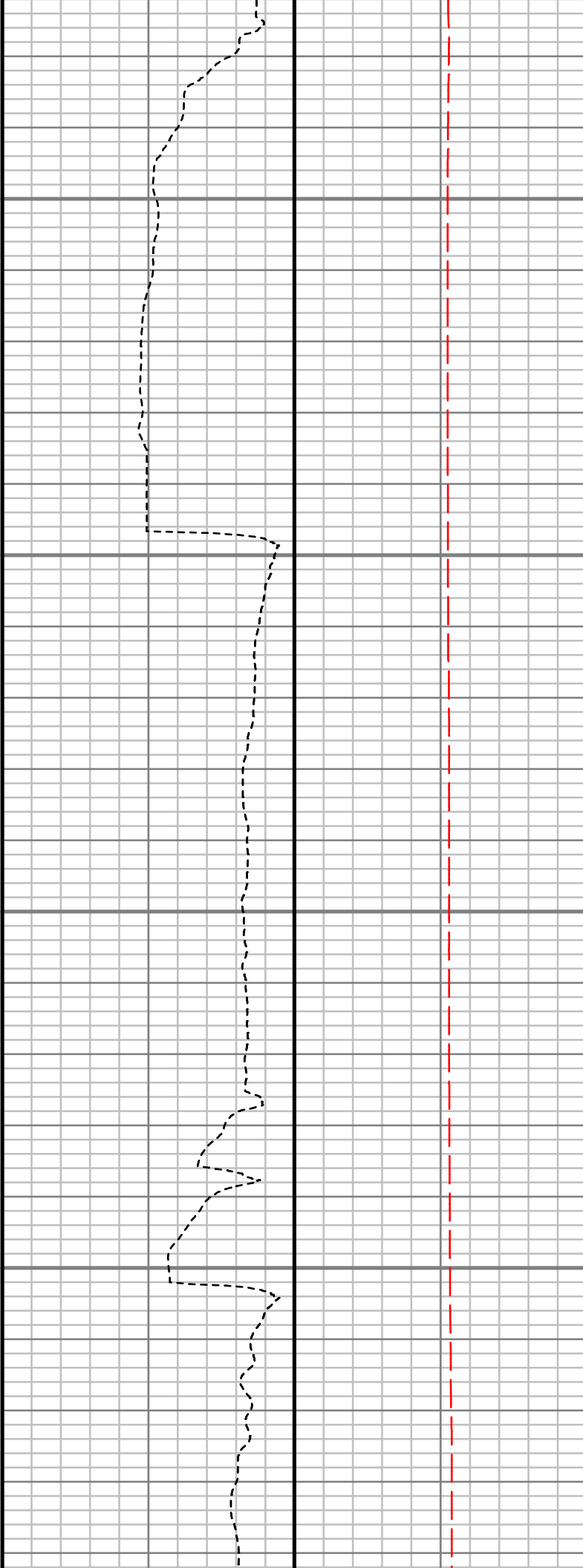
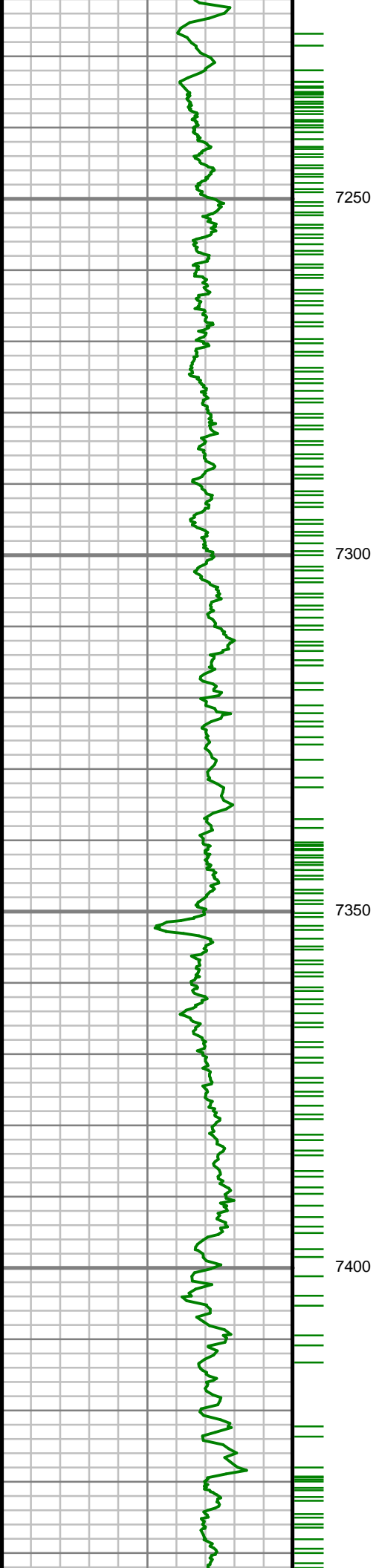
S: 109 MD: 6869.00 ft
Inc: 2.51 deg Az:
161.05 deg TVD:
6431.50 ft

S: 110 MD: 6958.00 ft
Inc: 1.05 deg Az:
153.20 deg TVD:
6520.45 ft



S: 111 MD: 7047.00 ft
Inc: 1.43 deg Az:
163.80 deg TVD:
6609.43 ft

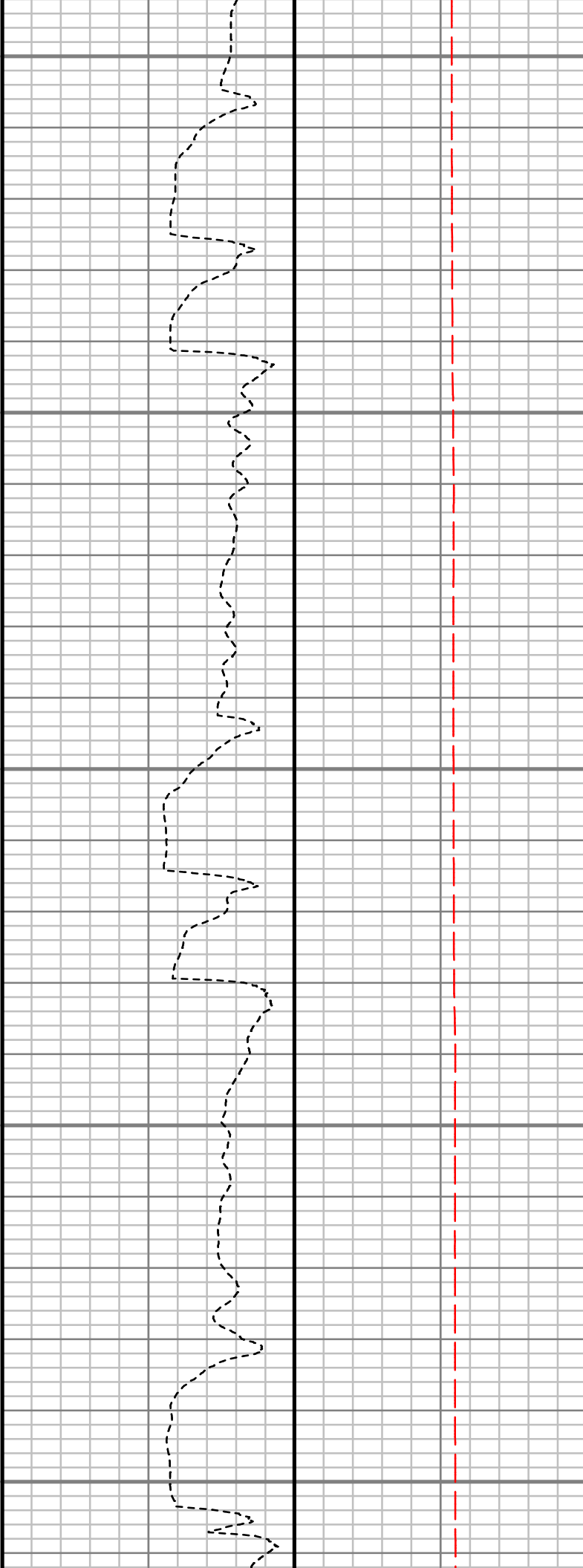
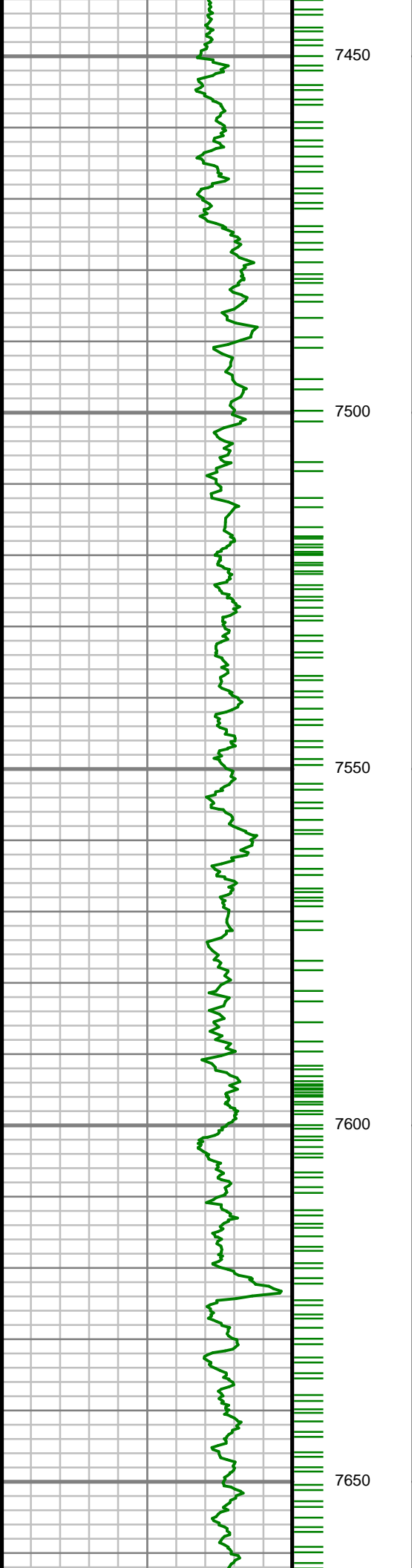
S: 112 MD: 7135.00 ft
Inc: 1.53 deg Az:
168.36 deg TVD:
6697.40 ft



S: 113 MD: 7224.00 ft
Inc: 0.39 deg Az:
154.05 deg TVD:
6786.39 ft

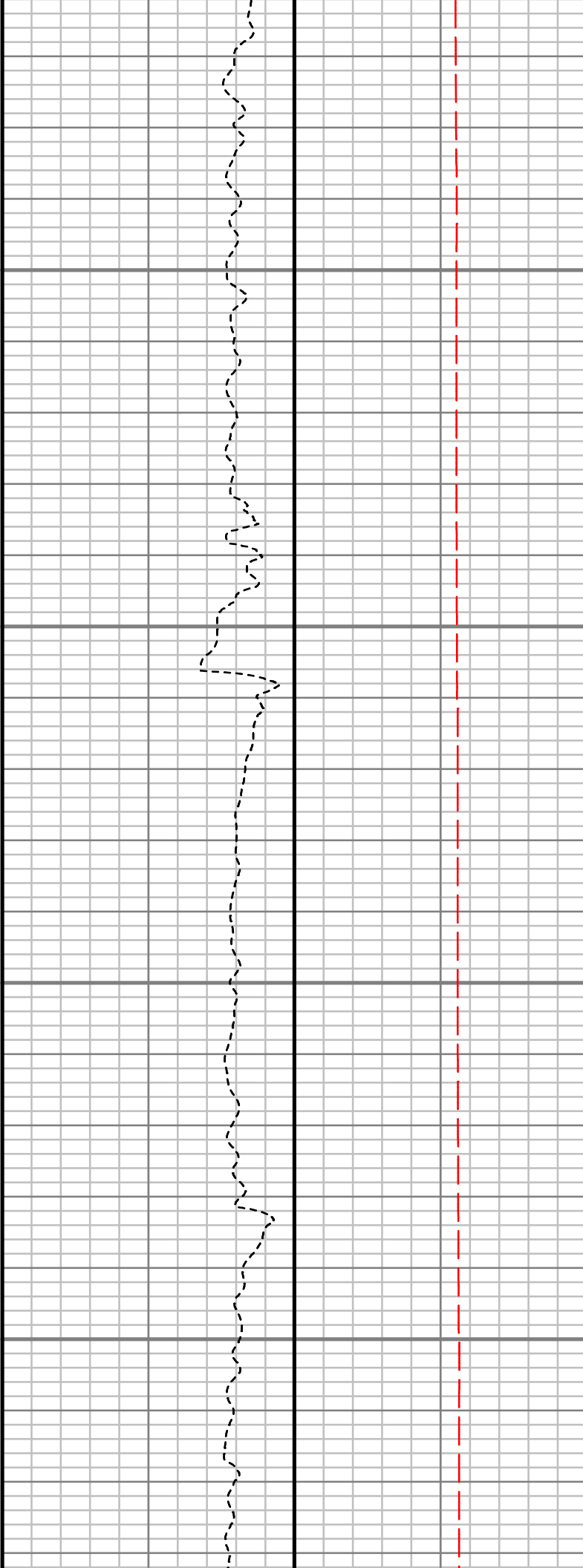
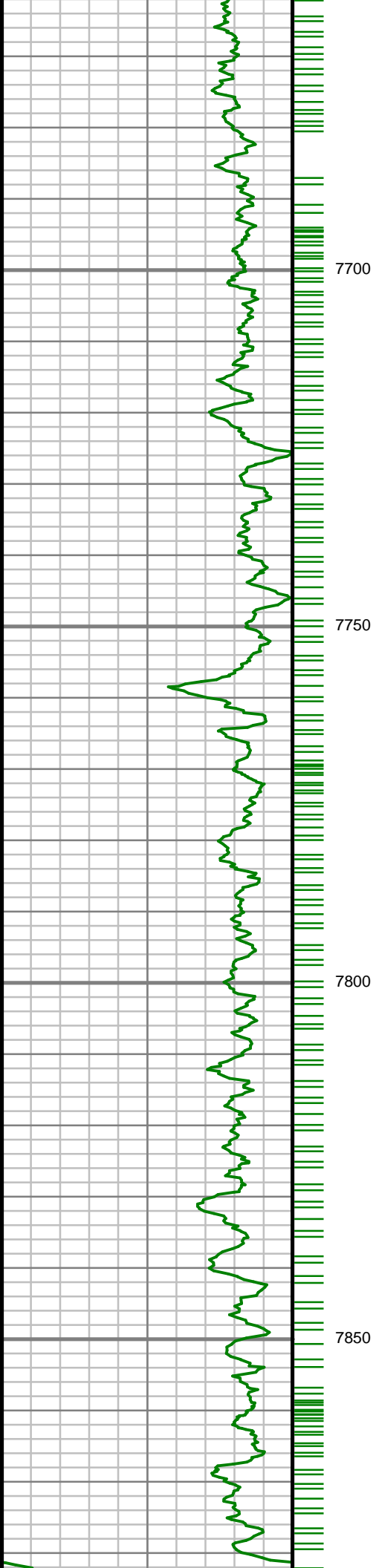
S: 114 MD: 7313.00 ft
Inc: 3.06 deg Az:
339.93 deg TVD:
6875.35 ft

S: 115 MD: 7402.00 ft
Inc: 10.84 deg Az:
349.34 deg TVD:
6963.63 ft



S: 116 MD: 7491.00 ft
Inc: 17.43 deg Az:
353.66 deg TVD:
7049.89 ft

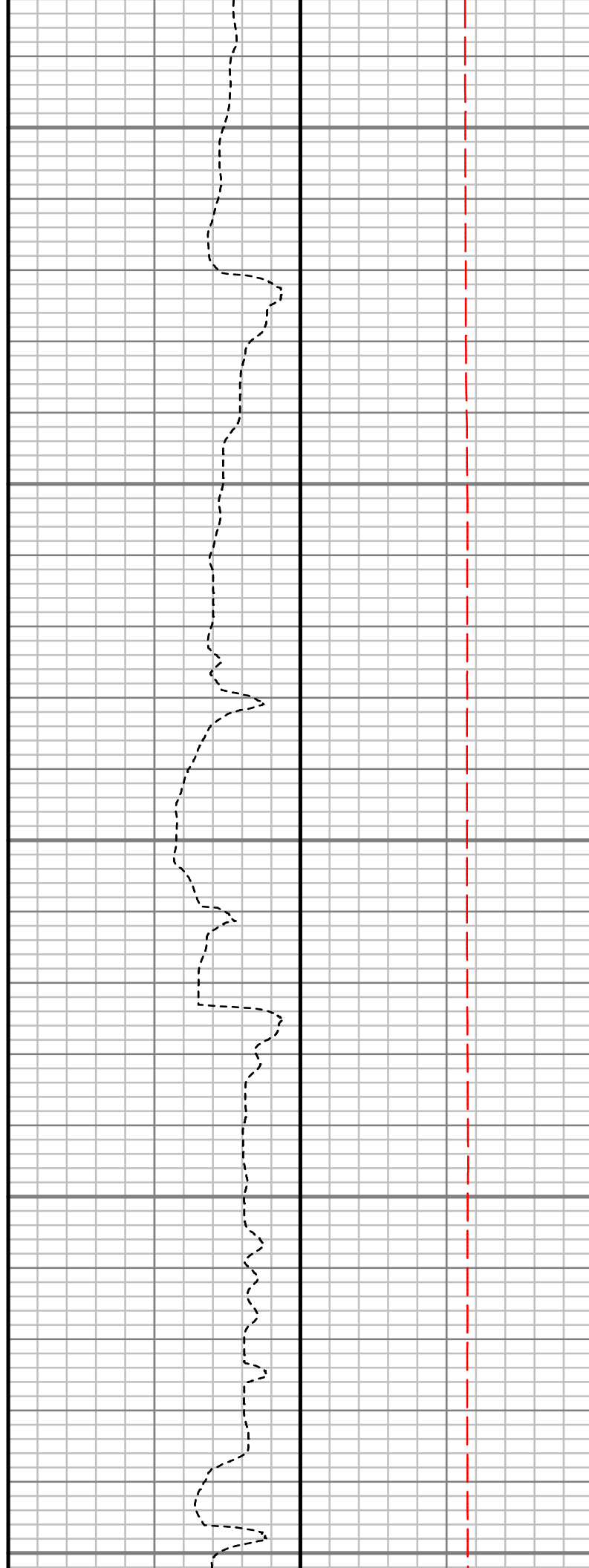
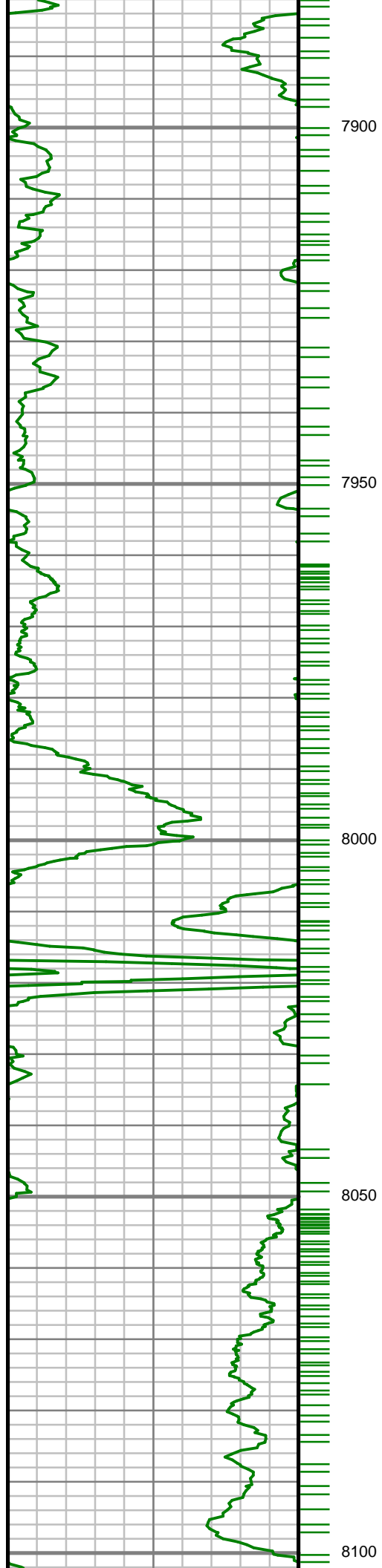
S: 117 MD: 7580.00 ft
Inc: 22.92 deg Az:
348.91 deg TVD:
7133.41 ft



S: 118 MD: 7669.00 ft
Inc: 25.33 deg Az:
357.00 deg TVD:
7214.65 ft

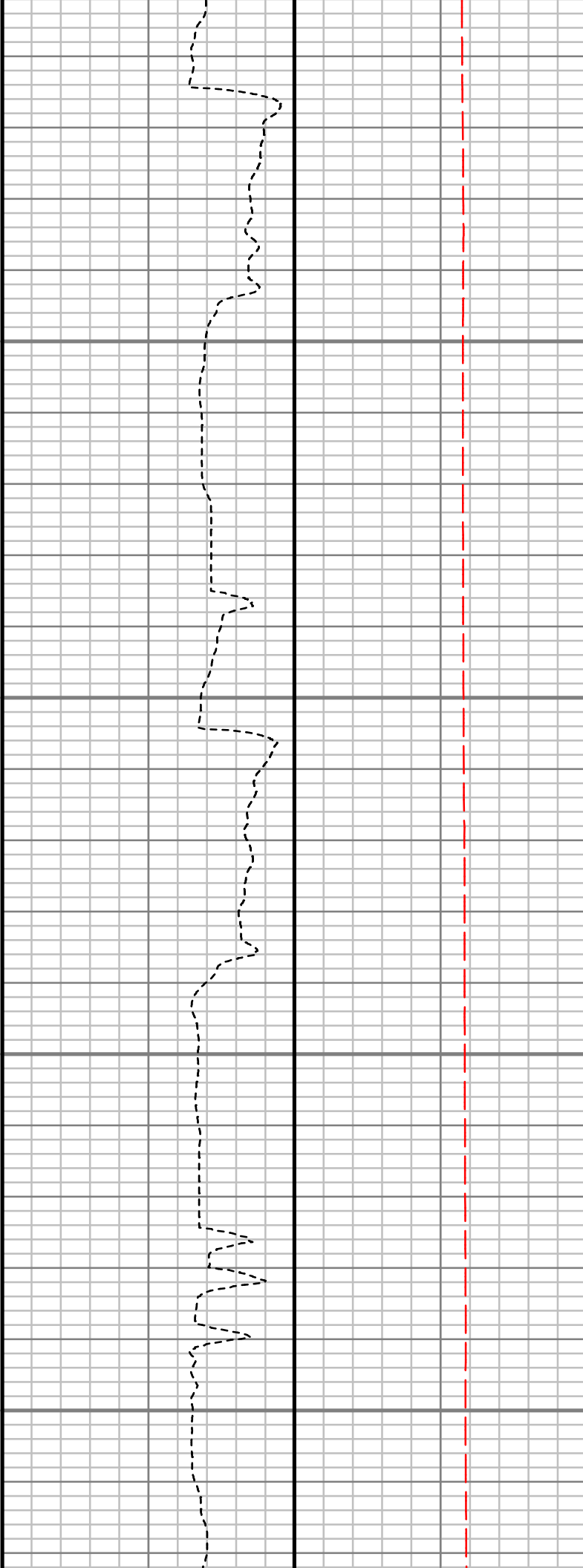
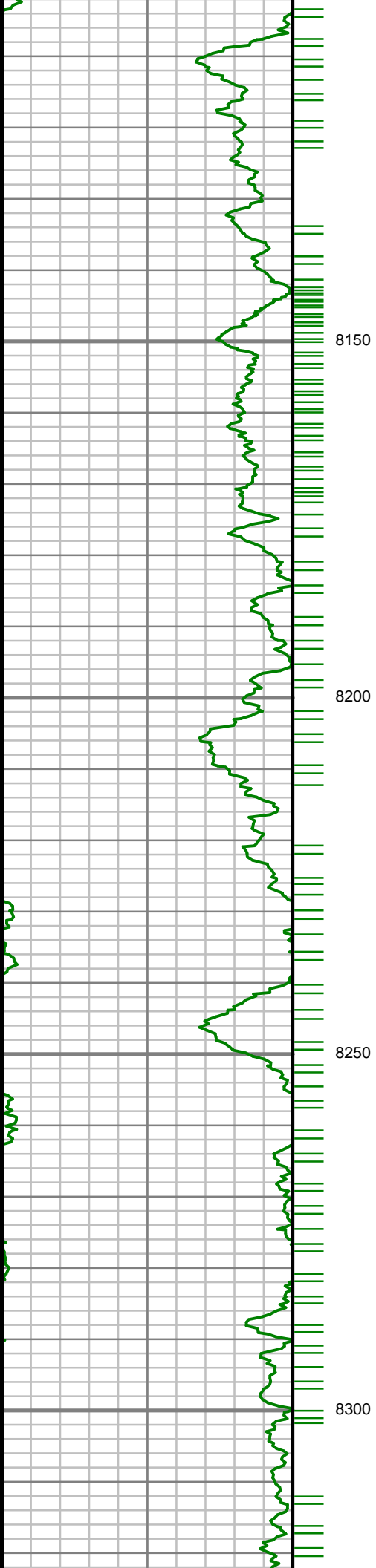
S: 119 MD: 7757.00 ft
Inc: 30.31 deg Az:
353.85 deg TVD:
7292.46 ft

S: 120 MD: 7846.00 ft
Inc: 40.20 deg Az:
357.24 deg TVD:
7365.06 ft



S: 121 MD: 7935.00 ft
Inc: 52.87 deg Az:
358.97 deg TVD:
7426.16 ft

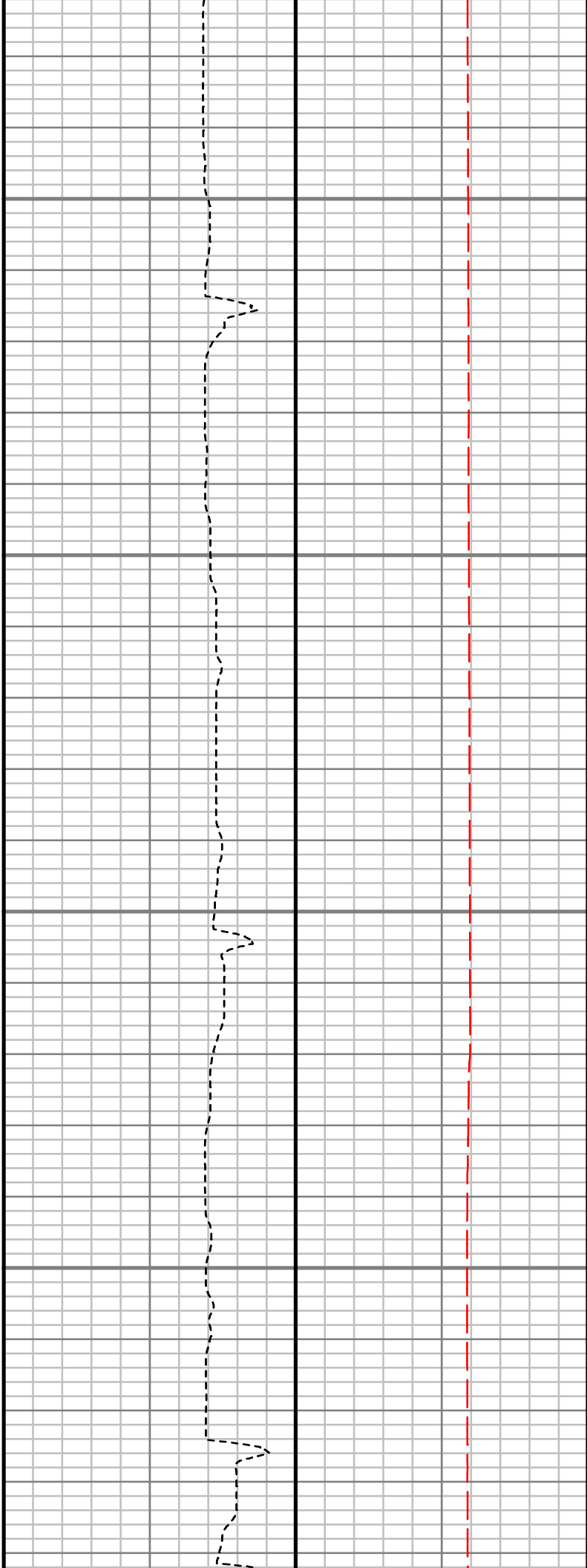
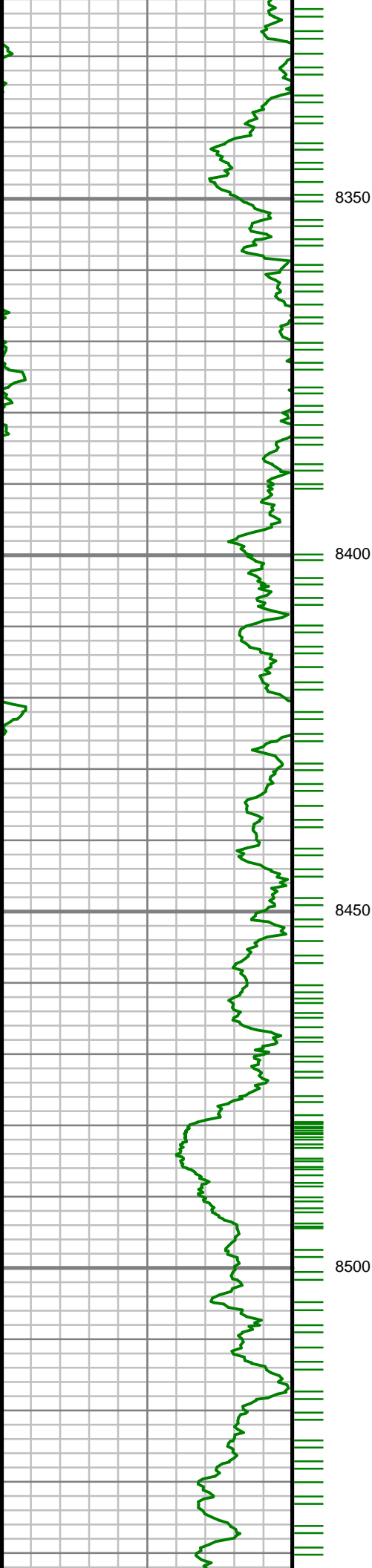
S: 122 MD: 8023.00 ft
Inc: 60.63 deg Az:
357.85 deg TVD:
7474.38 ft



S: 123 MD: 8112.00 ft
Inc: 69.85 deg Az:
355.99 deg TVD:
7511.61 ft

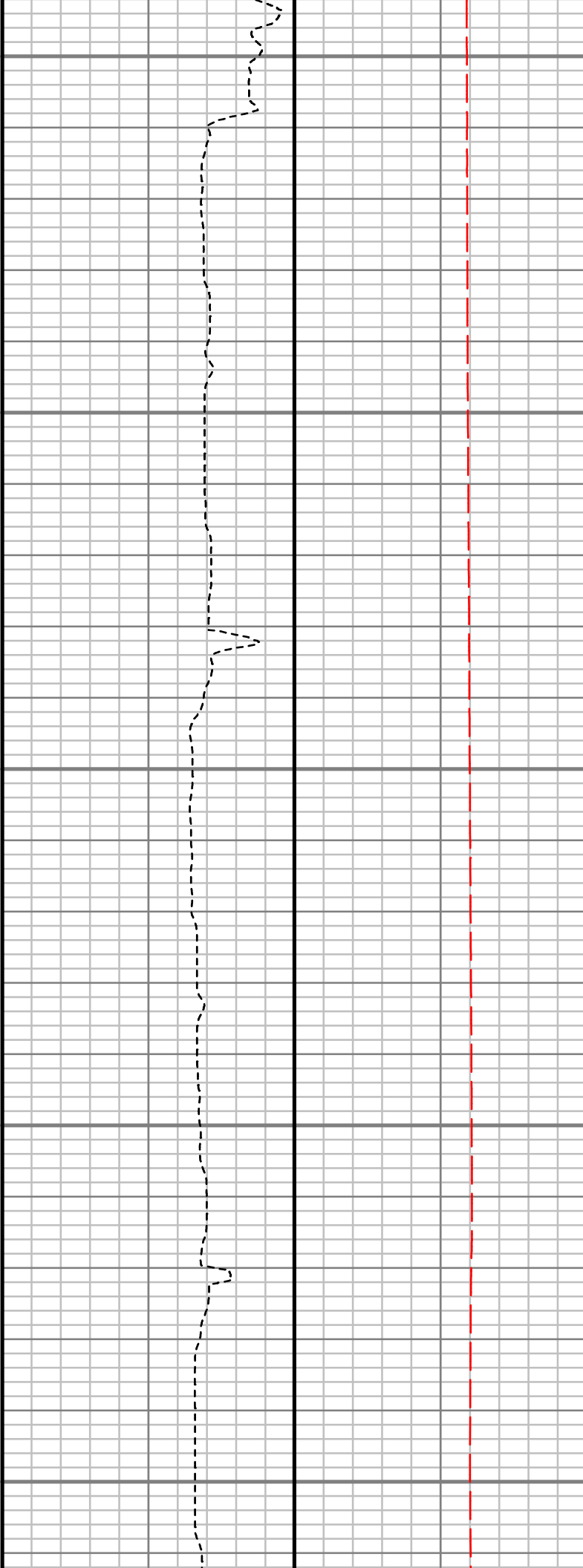
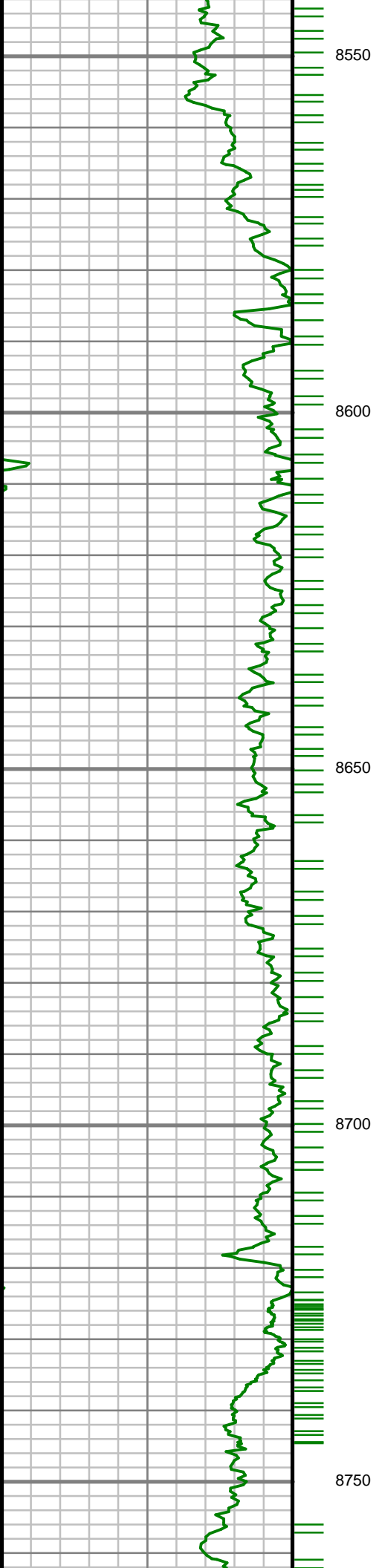
S: 124 MD: 8201.00 ft
Inc: 75.16 deg Az:
356.58 deg TVD:
7538.36 ft

S: 125 MD: 8290.00 ft
Inc: 79.68 deg Az:
358.63 deg TVD:
7557.75 ft



S: 126 MD: 8379.00 ft
Inc: 81.36 deg Az:
357.93 deg TVD:
7572.41 ft

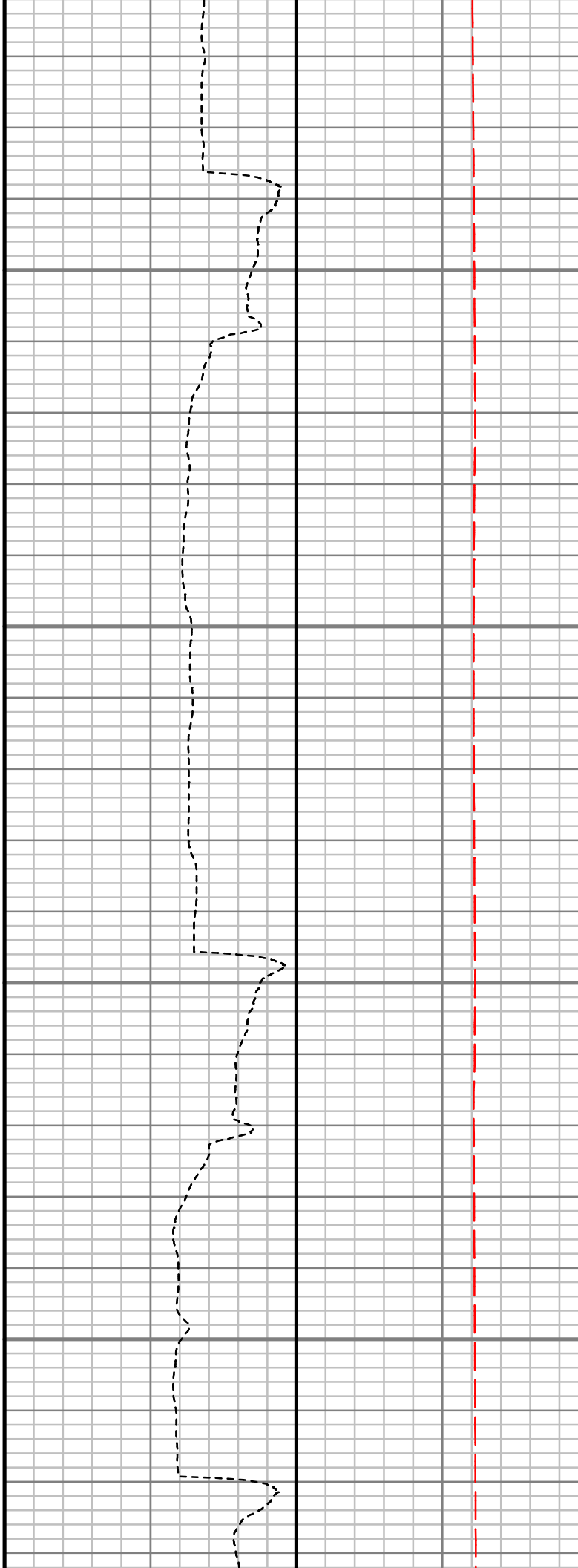
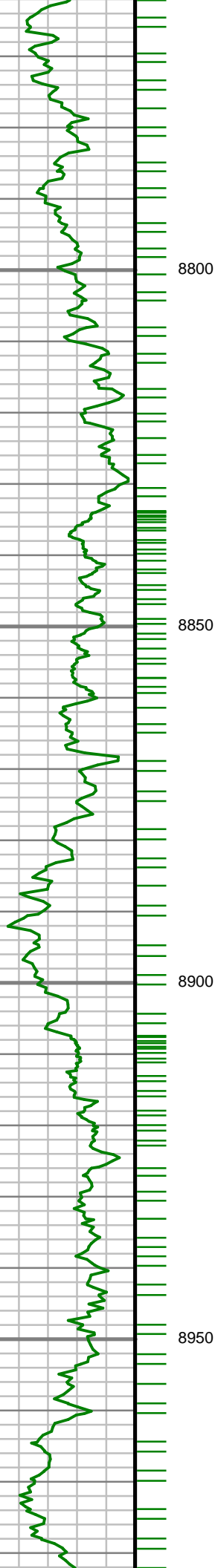
S: 127 MD: 8468.00 ft
Inc: 83.01 deg Az:
357.61 deg TVD:
7584.51 ft



S: 128 MD: 8557.00 ft
Inc: 86.31 deg Az:
357.71 deg TVD:
7592.78 ft

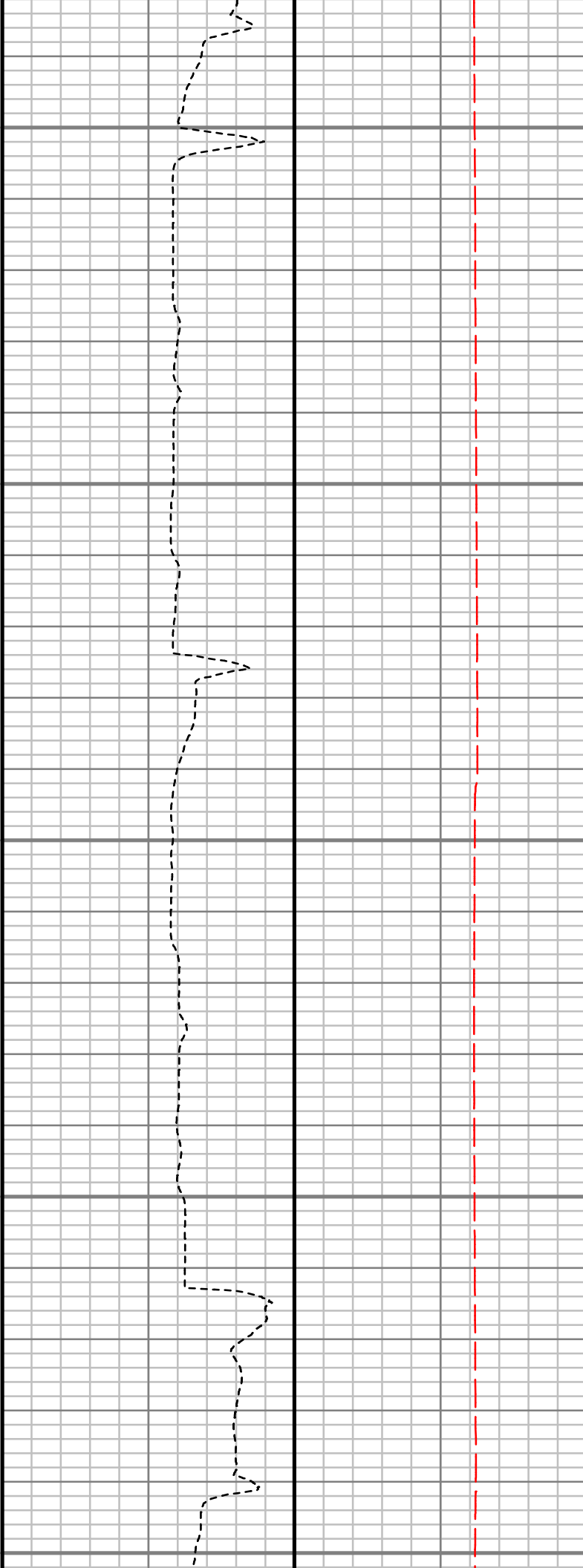
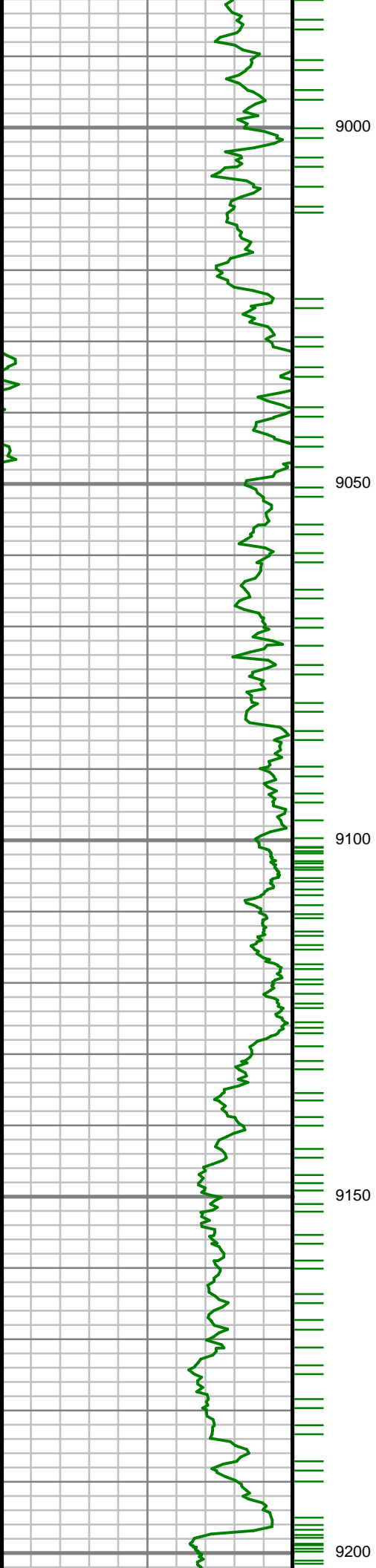
S: 129 MD: 8645.00 ft
Inc: 88.43 deg Az:
357.06 deg TVD:
7596.83 ft

S: 130 MD: 8734.00 ft
Inc: 90.87 deg Az:
356.94 deg TVD:
7597.37 ft



S: 131 MD: 8823.00 ft
Inc: 90.50 deg Az:
358.95 deg TVD:
7596.30 ft

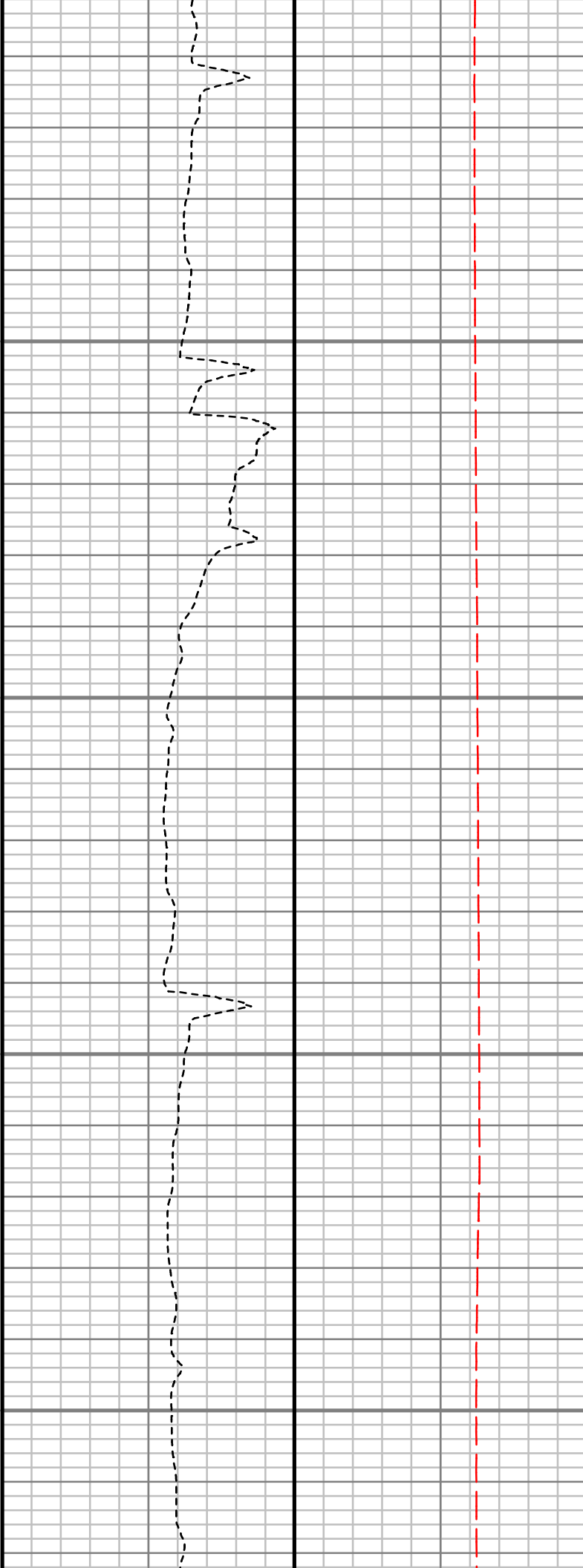
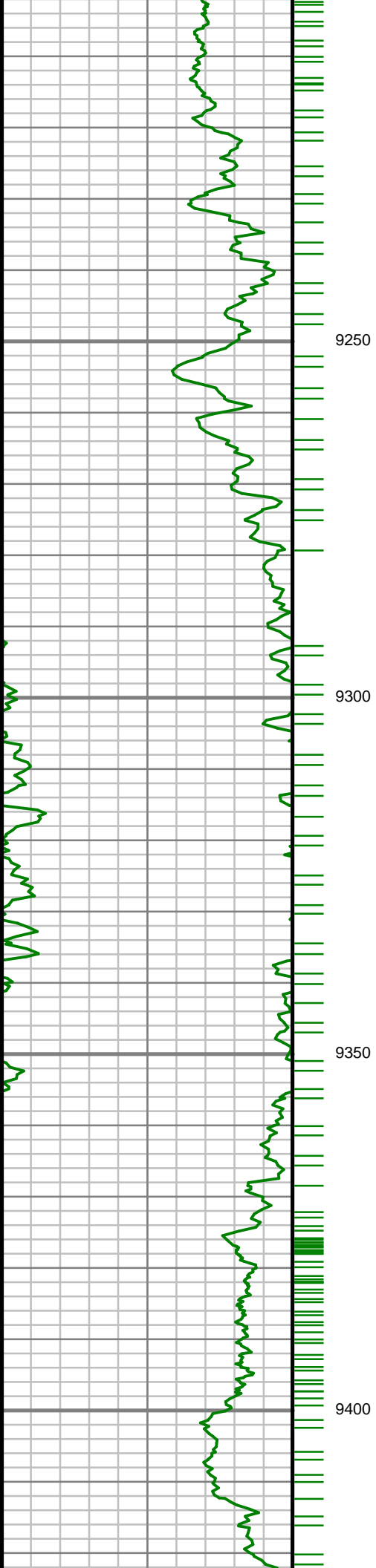
S: 132 MD: 8912.00 ft
Inc: 90.23 deg Az:
359.10 deg TVD:
7595.73 ft



S: 133 MD: 9000.00 ft
Inc: 88.66 deg Az:
359.20 deg TVD:
7596.58 ft

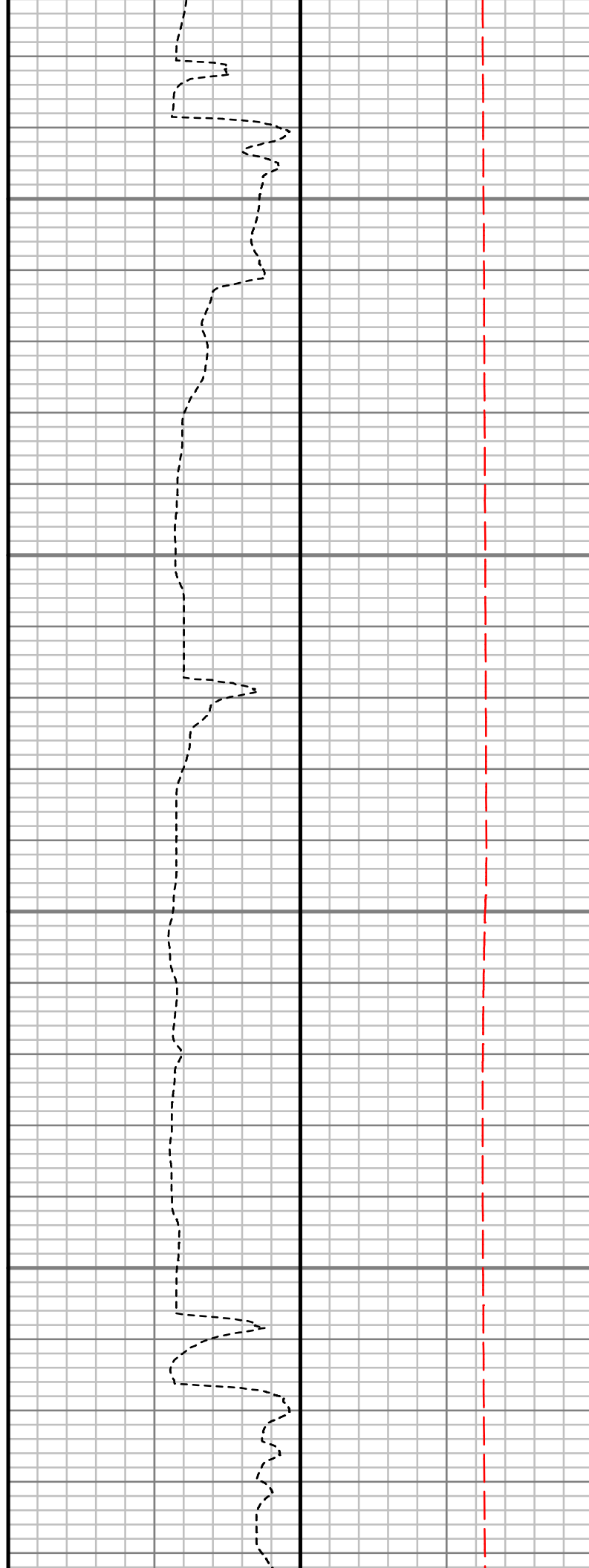
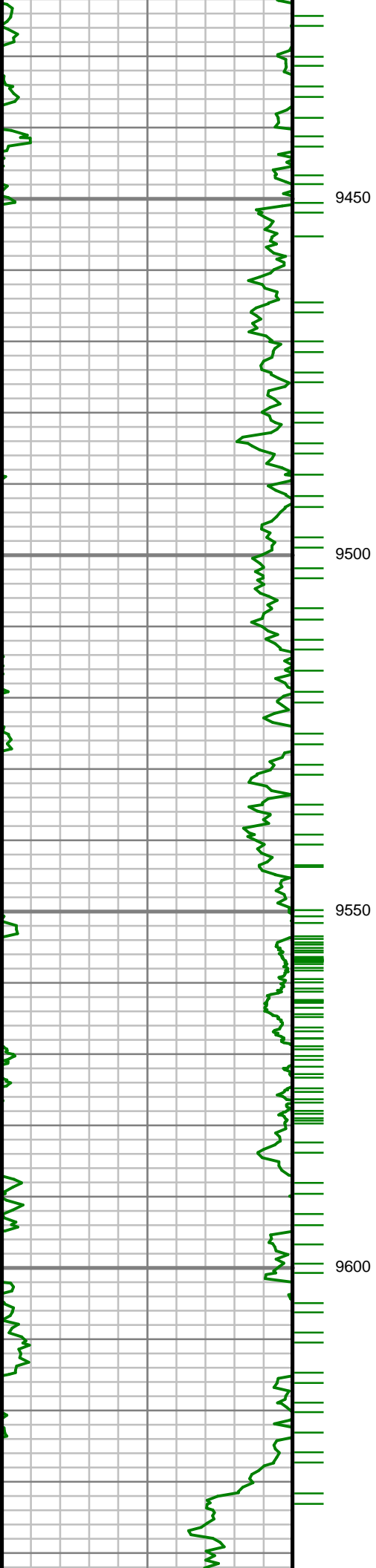
S: 134 MD: 9089.00 ft
Inc: 90.17 deg Az:
358.61 deg TVD:
7597.49 ft

S: 135 MD: 9178.00 ft
Inc: 89.97 deg Az:
358.83 deg TVD:
7597.39 ft



S: 136 MD: 9267.00 ft
Inc: 89.16 deg Az:
359.04 deg TVD:
7598.06 ft

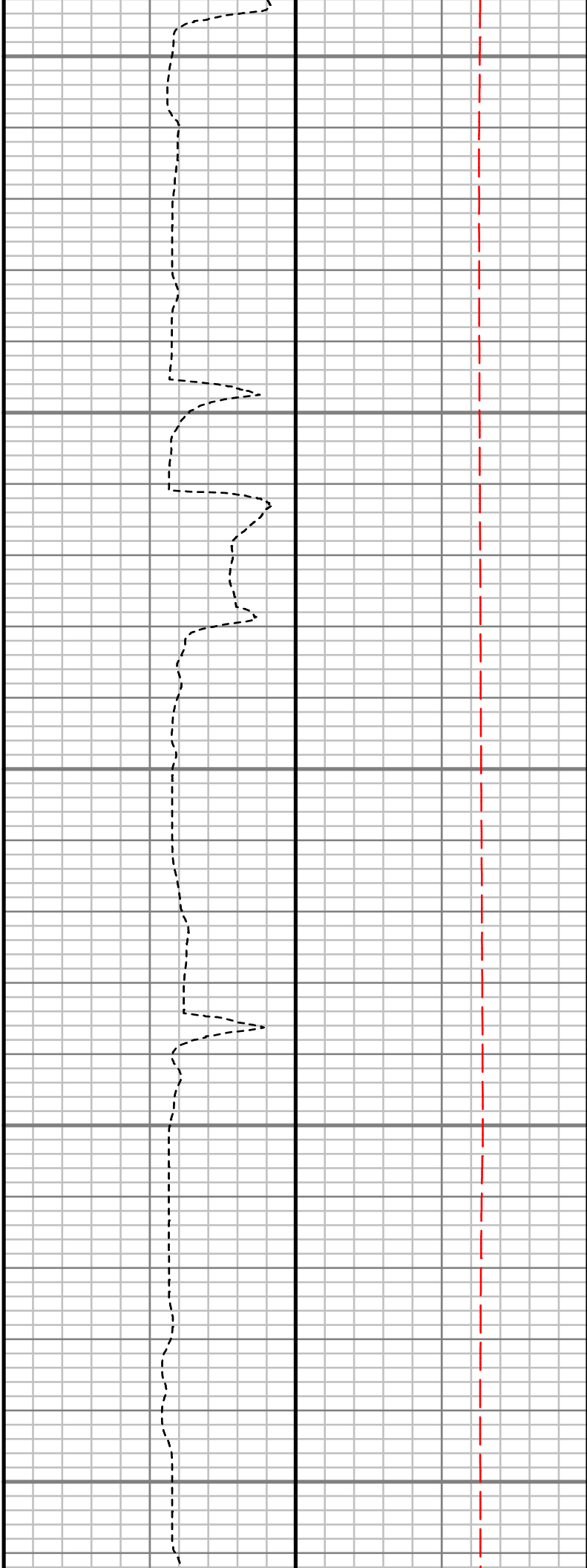
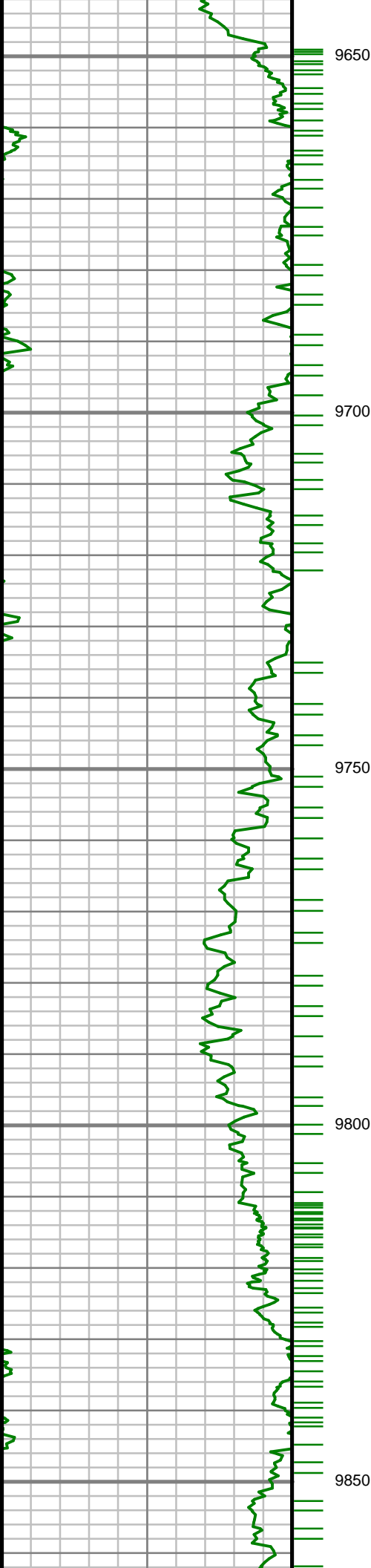
S: 137 MD: 9356.00 ft
Inc: 90.07 deg Az:
359.62 deg TVD:
7598.66 ft



S: 138 MD: 9445.00 ft
Inc: 90.64 deg Az:
359.90 deg TVD:
7598.12 ft

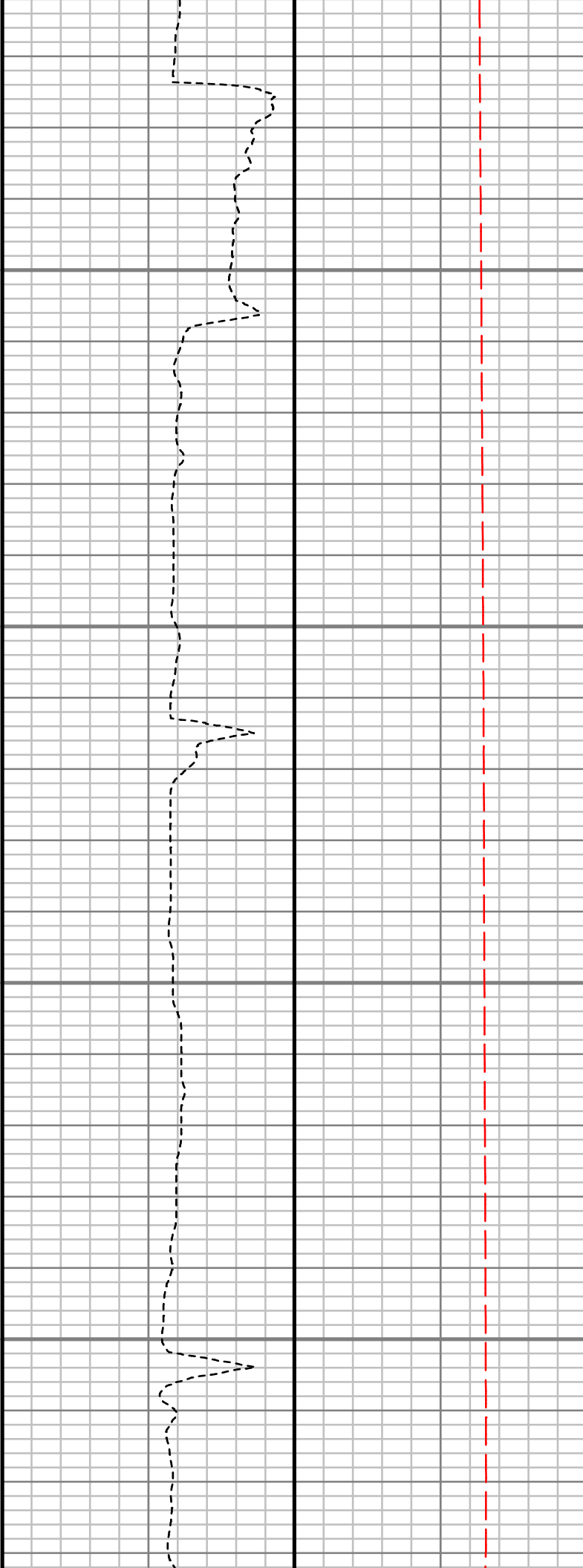
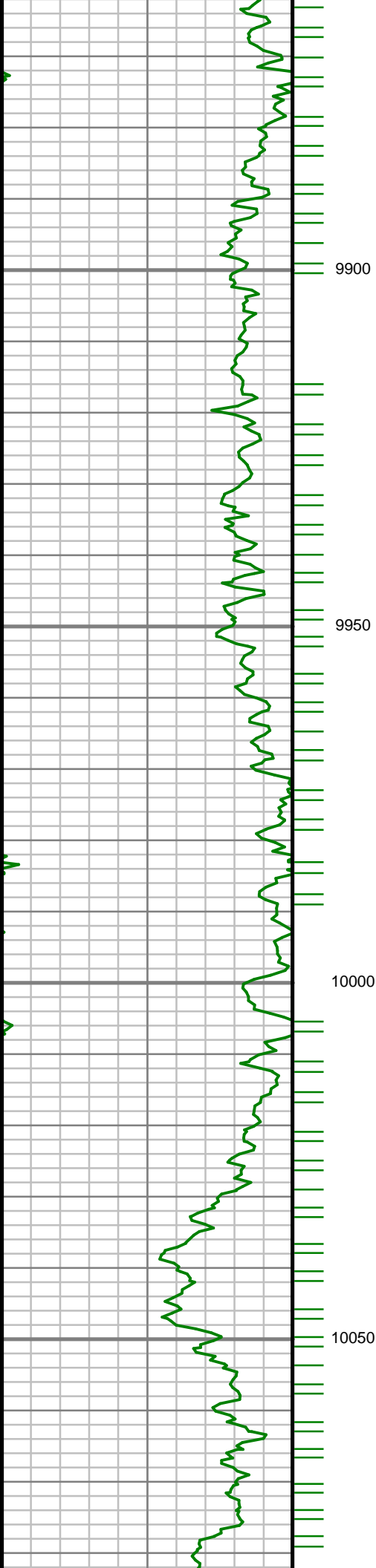
S: 139 MD: 9534.00 ft
Inc: 89.93 deg Az: 0.89
deg TVD: 7597.67 ft

S: 140 MD: 9623.00 ft
Inc: 90.74 deg Az:
359.66 deg TVD:
7597.15 ft



S: 141 MD: 9712.00 ft
Inc: 89.46 deg Az:
358.32 deg TVD:
7597.00 ft

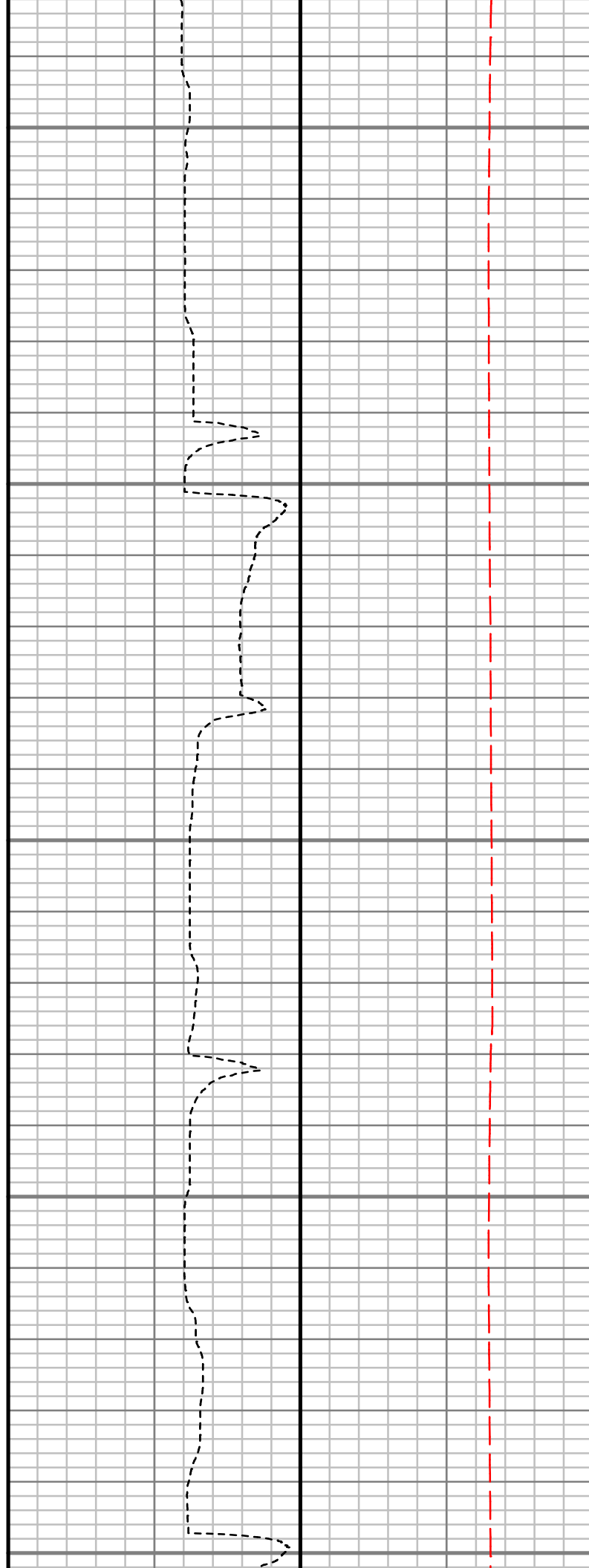
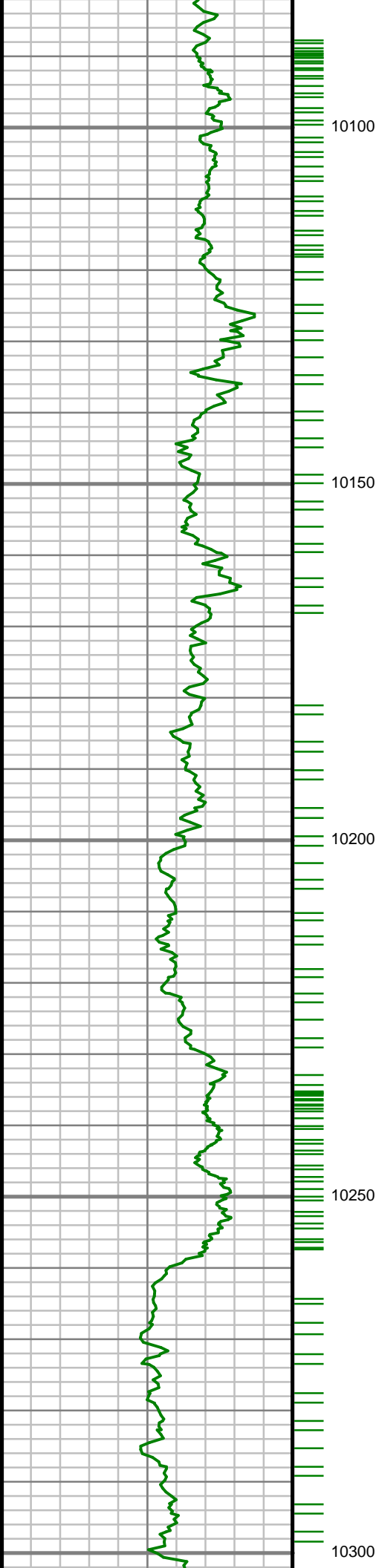
S: 142 MD: 9801.00 ft
Inc: 89.63 deg Az:
357.91 deg TVD:
7597.70 ft



S: 143 MD: 9890.00 ft
Inc: 88.83 deg Az:
357.75 deg TVD:
7598.90 ft

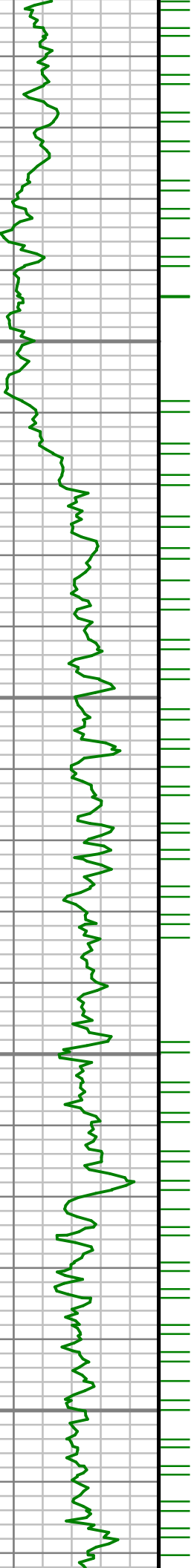
S: 144 MD: 9978.00 ft
Inc: 88.22 deg Az:
355.77 deg TVD:
7601.16 ft

S: 145 MD: 10067.00 ft
Inc: 90.03 deg Az:
355.41 deg TVD:
7602.52 ft



S: 146 MD: 10156.00 ft
Inc: 91.11 deg Az:
356.10 deg TVD:
7601.63 ft

S: 147 MD: 10245.00 ft
Inc: 89.87 deg Az:
358.76 deg TVD:
7600.88 ft



10350

10400

10450

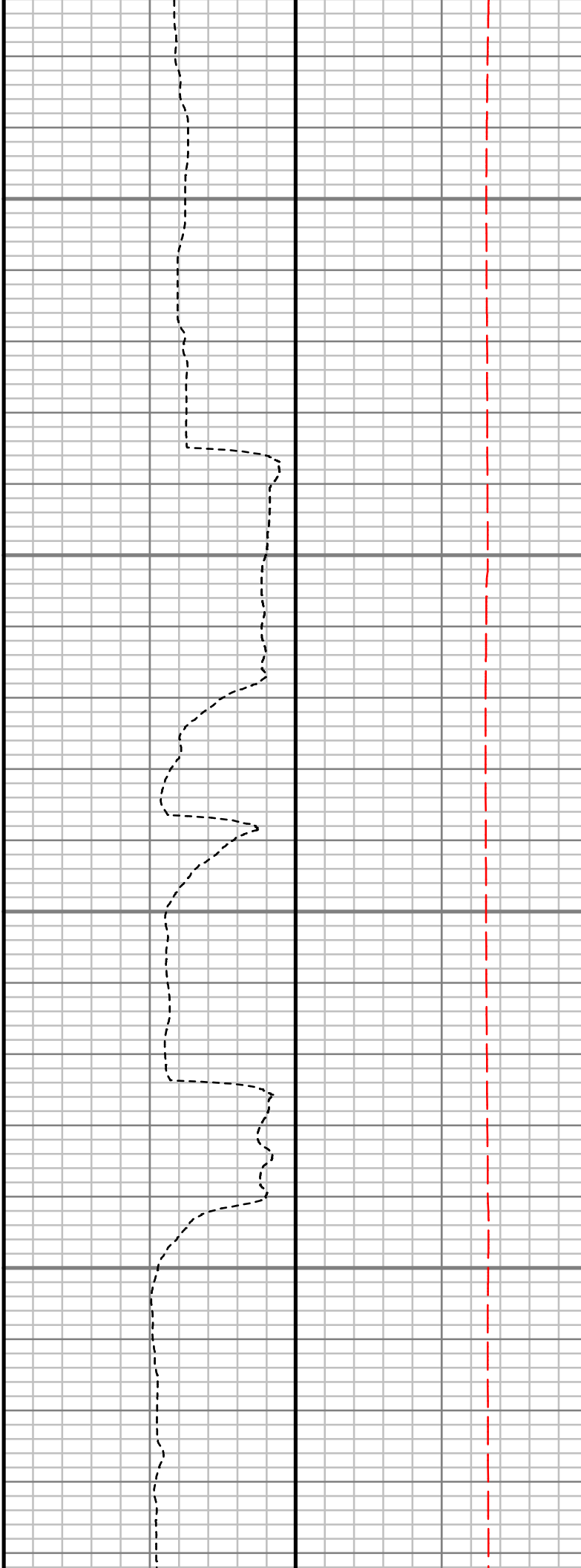
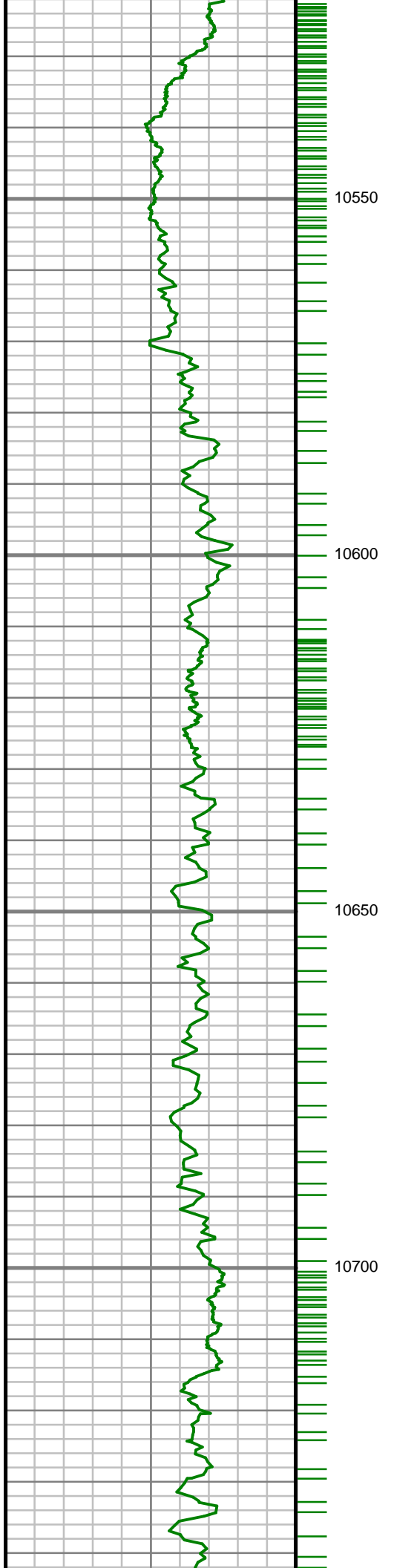
10500



S: 148 MD: 10334.00 ft
Inc: 88.76 deg Az: 0.17
deg TVD: 7601.95 ft

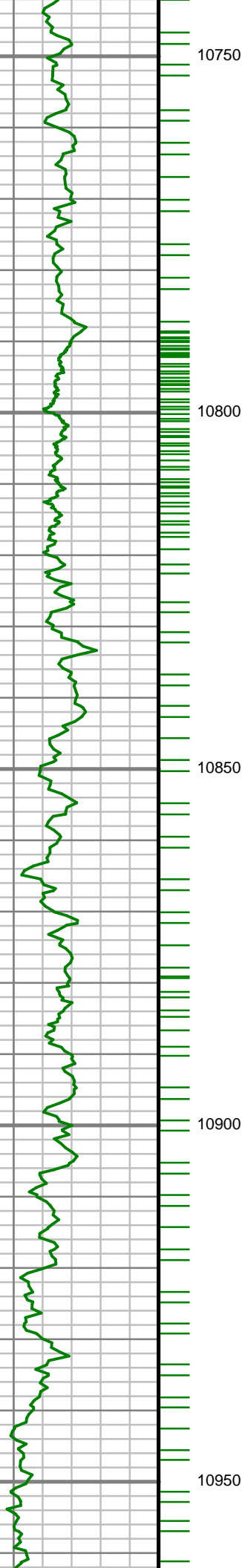
S: 149 MD: 10423.00 ft
Inc: 88.96 deg Az: 1.06
deg TVD: 7603.72 ft

S: 150 MD: 10512.00 ft
Inc: 91.64 deg Az: 1.41
deg TVD: 7603.25 ft



S: 151 MD: 10601.00 ft
Inc: 90.91 deg Az: 1.09
deg TVD: 7601.28 ft

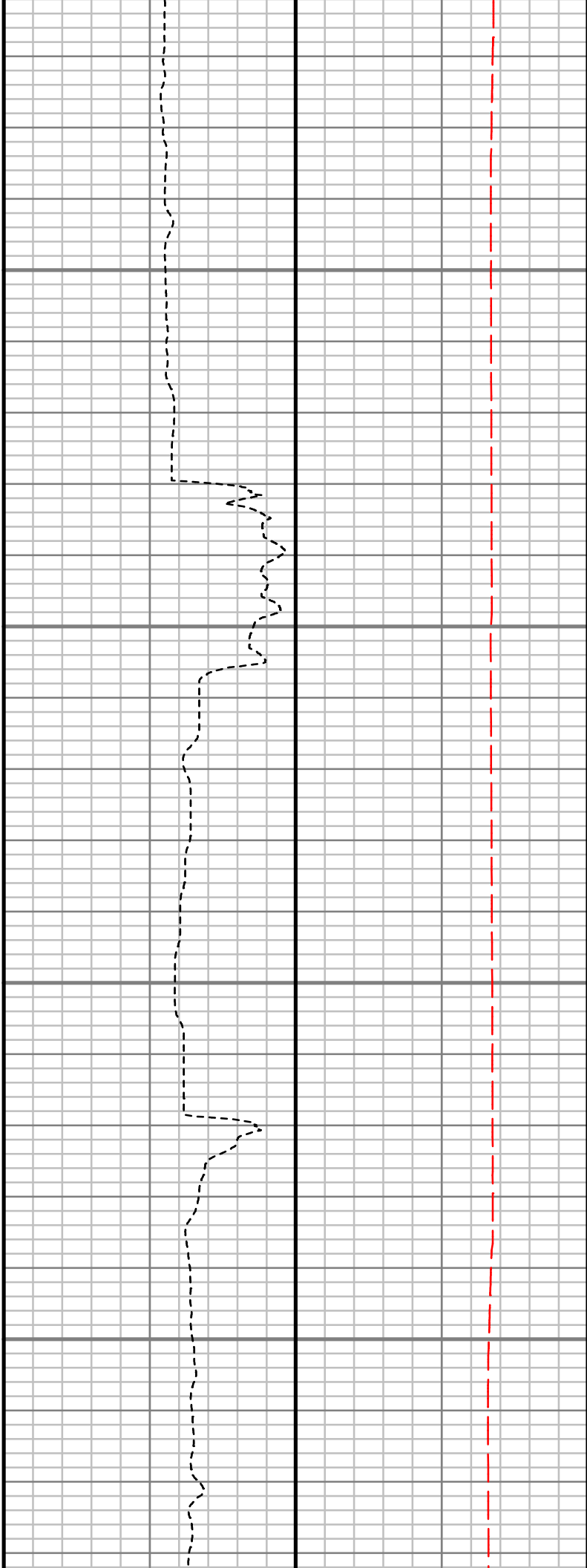
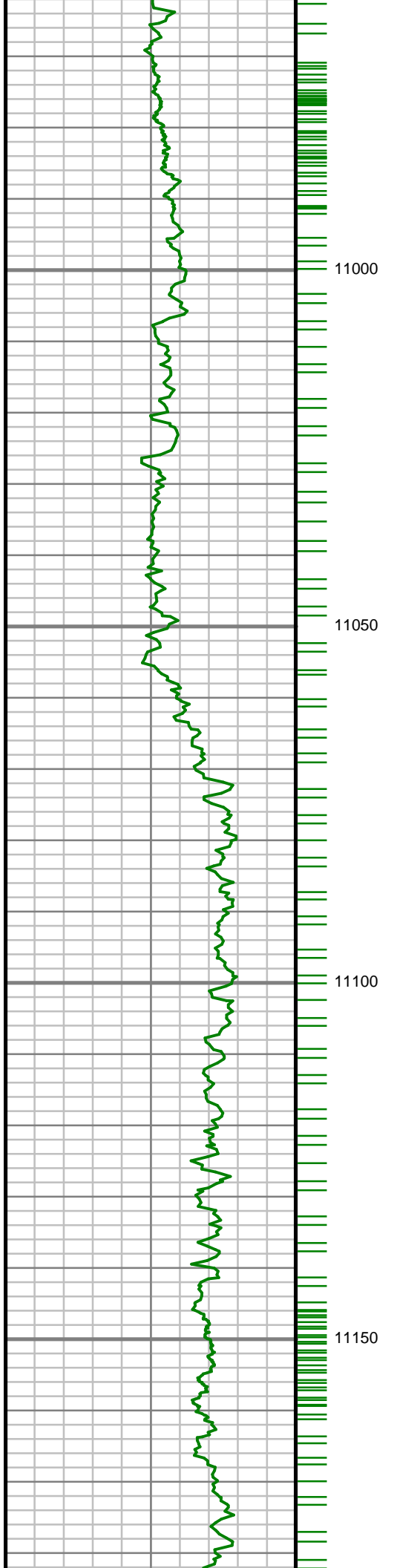
S: 152 MD: 10690.00 ft
Inc: 88.93 deg Az: 0.93
deg TVD: 7601.41 ft



S: 153 MD: 10779.00 ft
Inc: 89.90 deg Az:
359.67 deg TVD:
7602.32 ft

S: 154 MD: 10868.00 ft
Inc: 88.90 deg Az:
359.27 deg TVD:
7603.25 ft

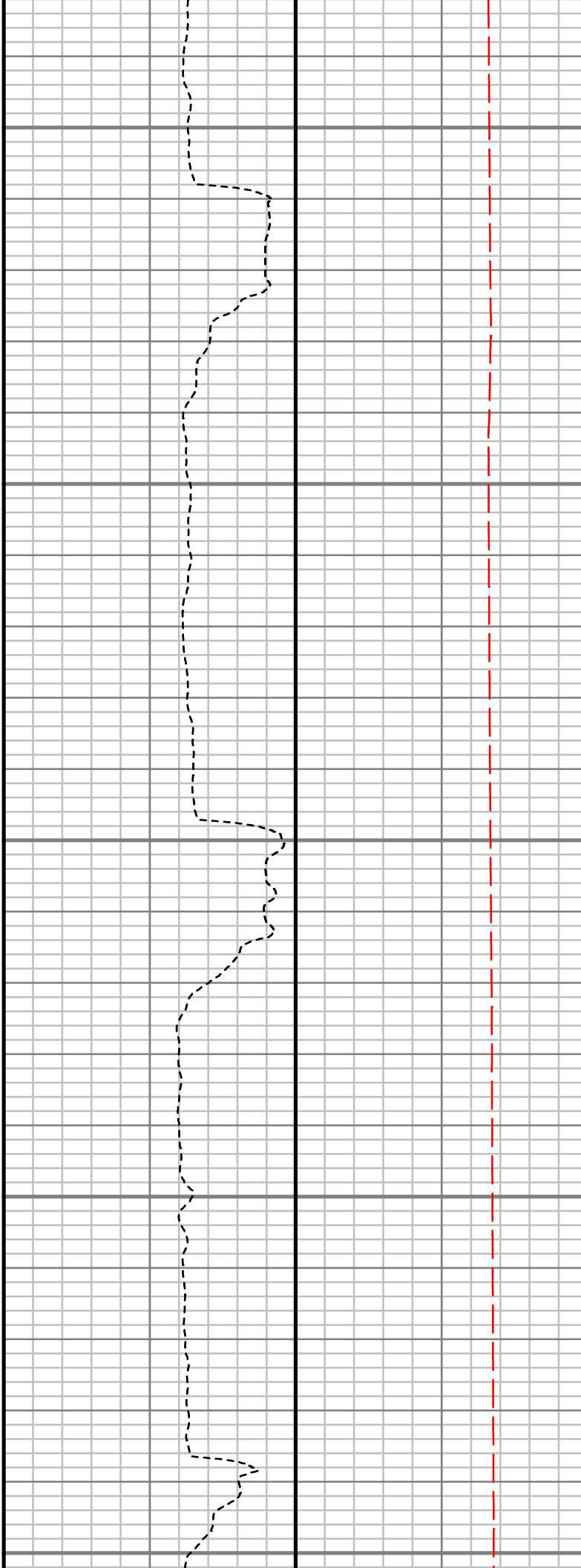
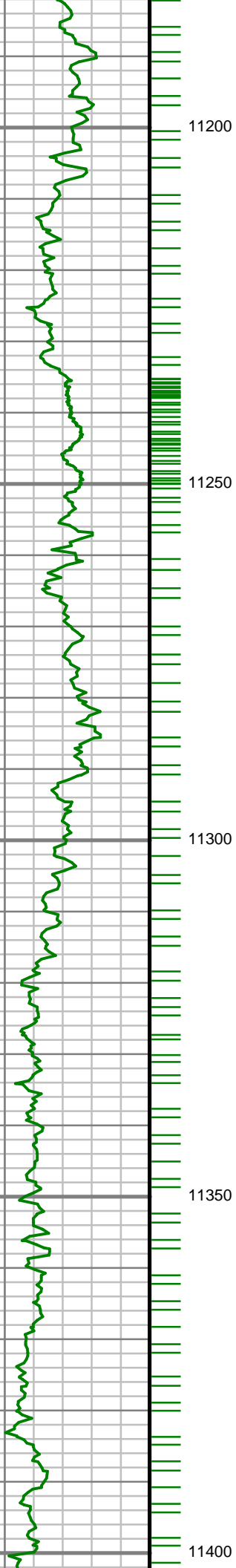
S: 155 MD: 10956.00 ft
Inc: 89.10 deg Az:
359.44 deg TVD:



338.44 deg TVD:
7604.80 ft

S: 156 MD: 11045.00 ft
Inc: 89.46 deg Az:
358.09 deg TVD:
7605.92 ft

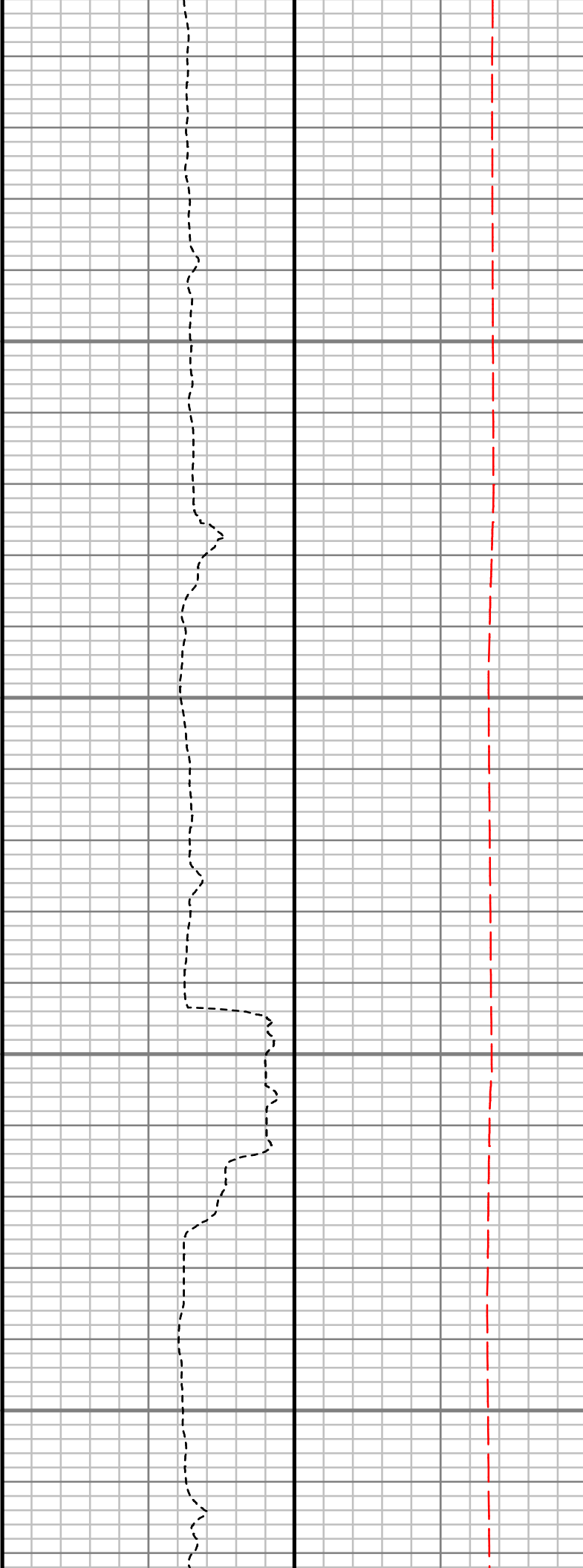
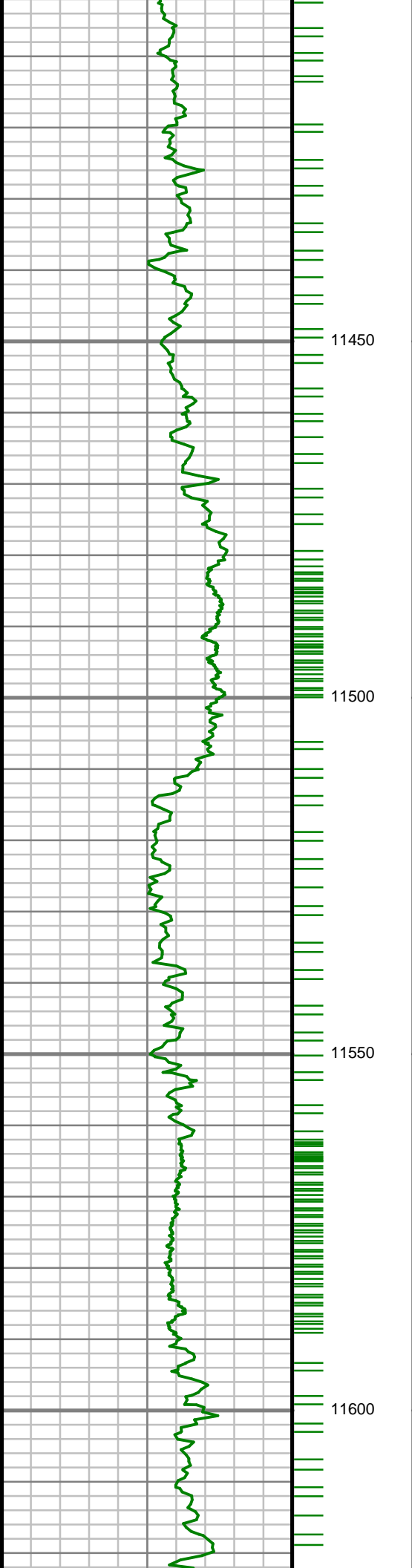
S: 157 MD: 11134.00 ft
Inc: 89.93 deg Az:
357.07 deg TVD:
7606.38 ft



S: 158 MD: 11223.00 ft
Inc: 90.07 deg Az:
356.47 deg TVD:
7606.38 ft

S: 159 MD: 11312.00 ft
Inc: 89.33 deg Az:
357.03 deg TVD:
7606.85 ft

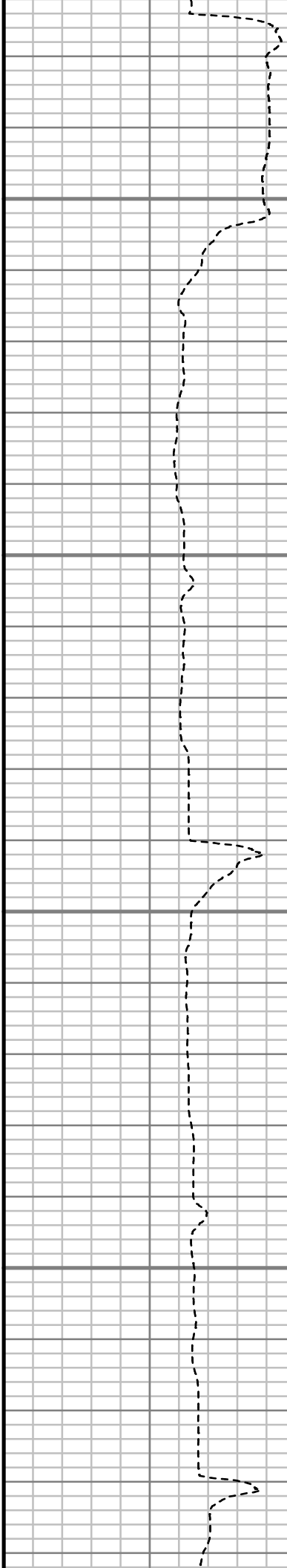
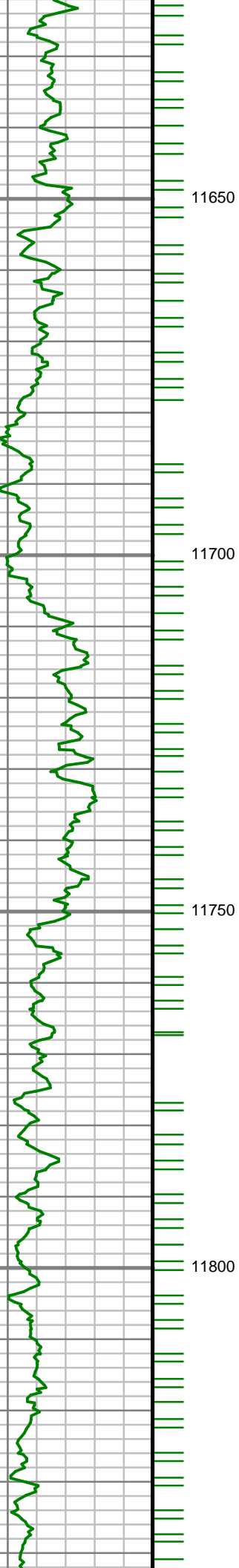
S: 160 MD: 11401.00 ft



S: 160 MD: 11401.00 ft
Inc: 90.47 deg Az:
357.12 deg TVD:
7607.01 ft

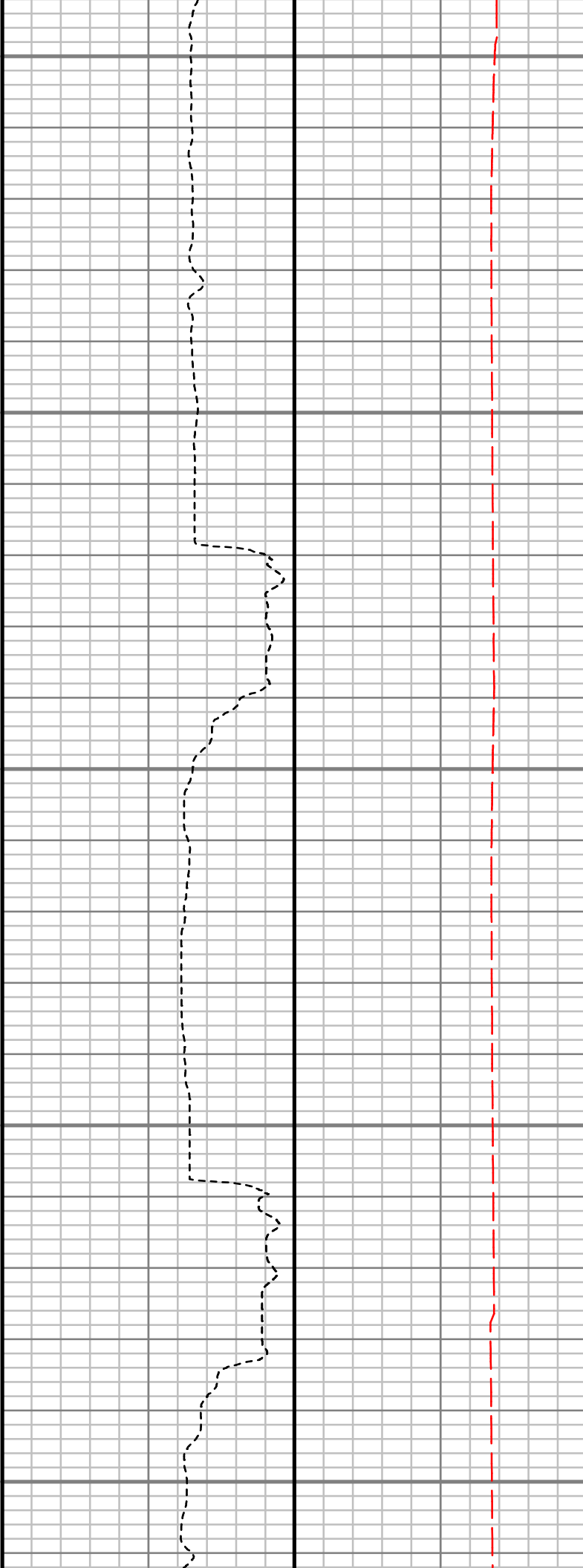
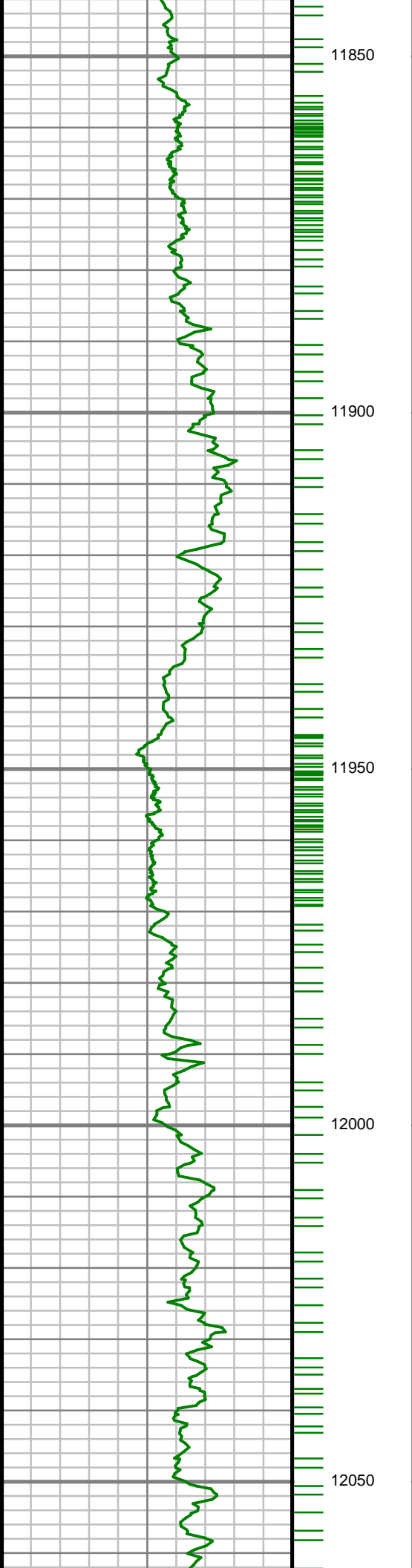
S: 161 MD: 11490.00 ft
Inc: 92.35 deg Az:
357.41 deg TVD:
7604.82 ft

S: 162 MD: 11578.00 ft
Inc: 91.37 deg Az:
357.82 deg TVD:
7601.96 ft



S: 163 MD: 11667.00 ft
Inc: 88.02 deg Az:
357.87 deg TVD:
7602.43 ft

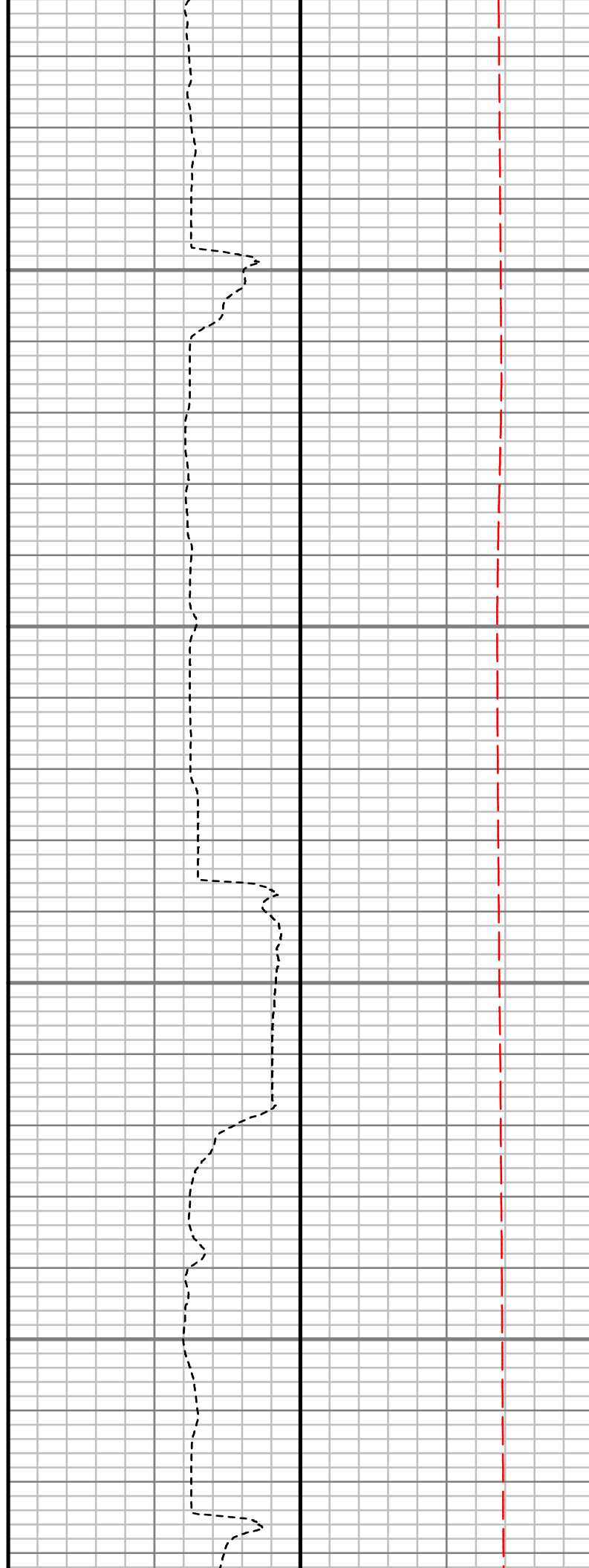
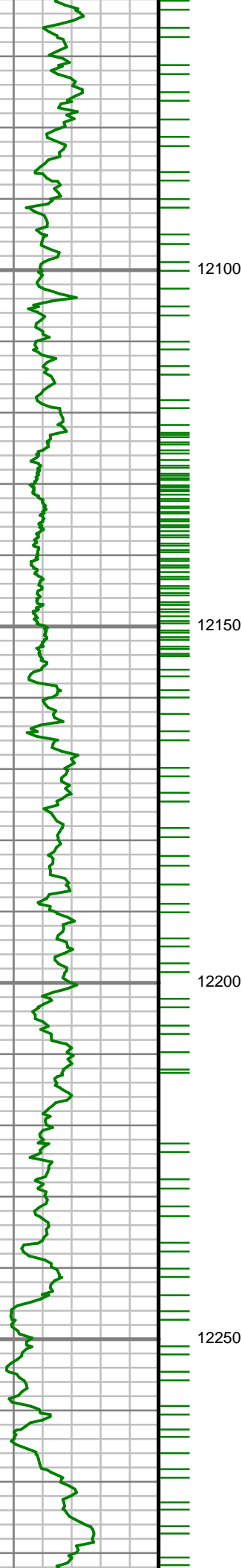
S: 164 MD: 11756.00 ft
Inc: 89.20 deg Az:
357.61 deg TVD:
7604.59 ft



S: 165 MD: 11845.00 ft
Inc: 90.84 deg Az:
357.85 deg TVD:
7604.56 ft

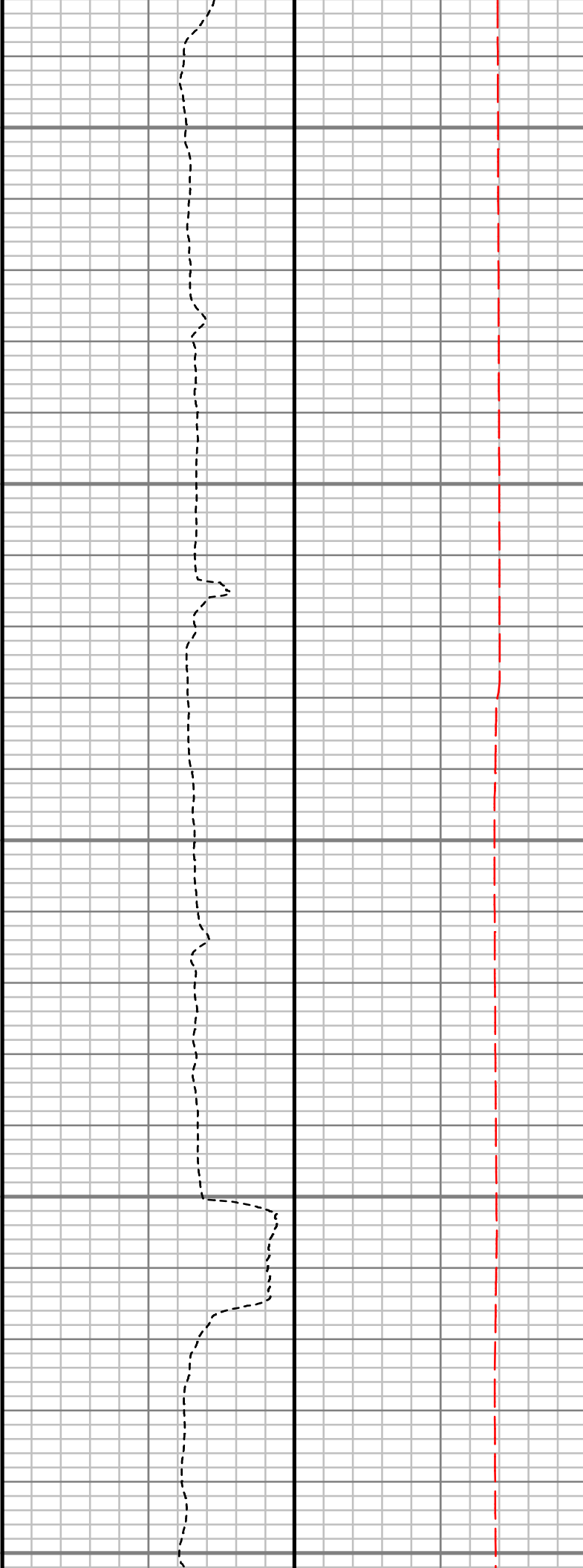
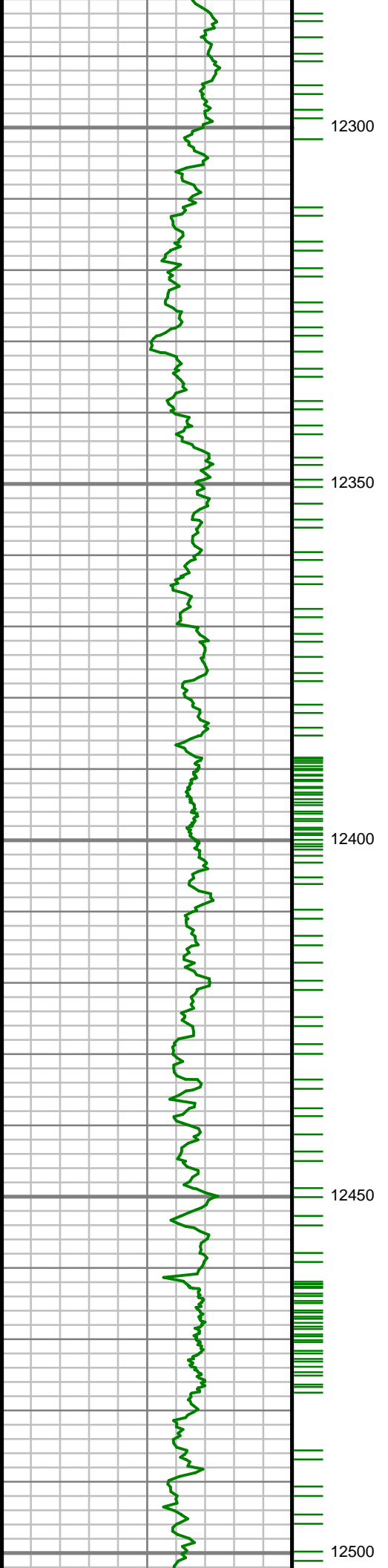
S: 166 MD: 11934.00 ft
Inc: 91.17 deg Az:
359.00 deg TVD:
7603.00 ft

S: 167 MD: 12023.00 ft
Inc: 90.07 deg Az: 0.21
deg TVD: 7602.04 ft



S: 168 MD: 12112.00 ft
Inc: 90.30 deg Az: 0.80
deg TVD: 7601.75 ft

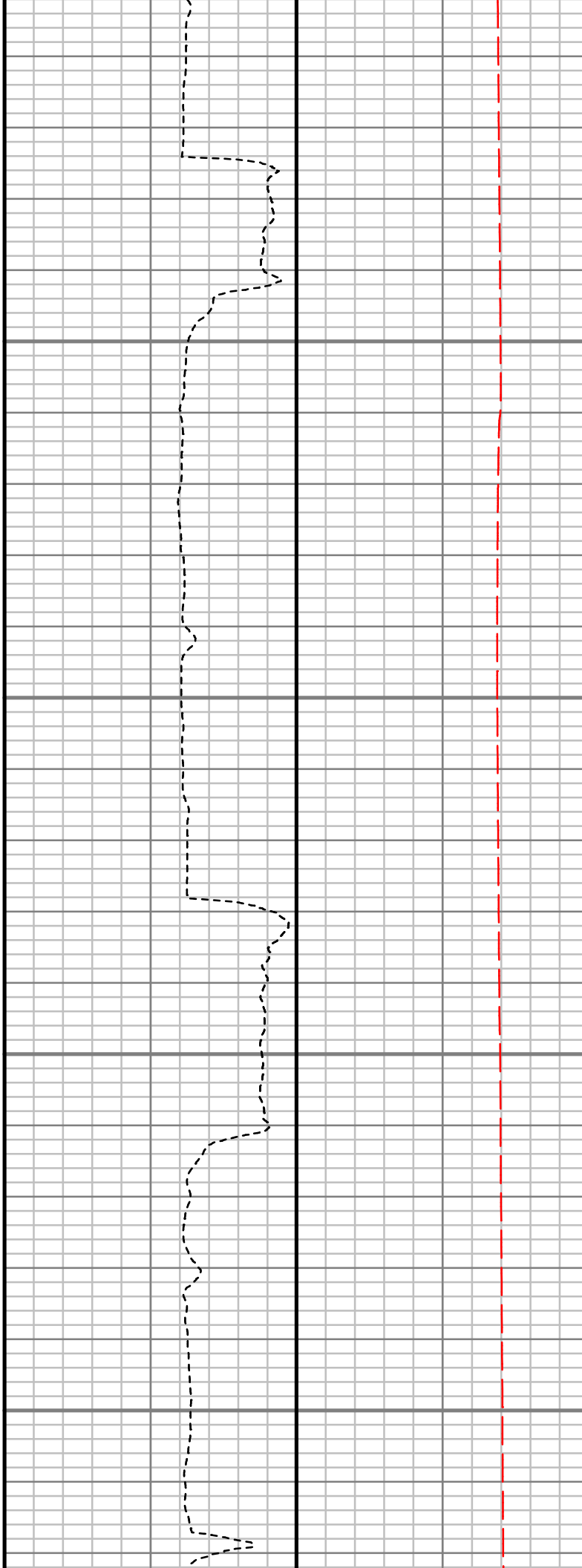
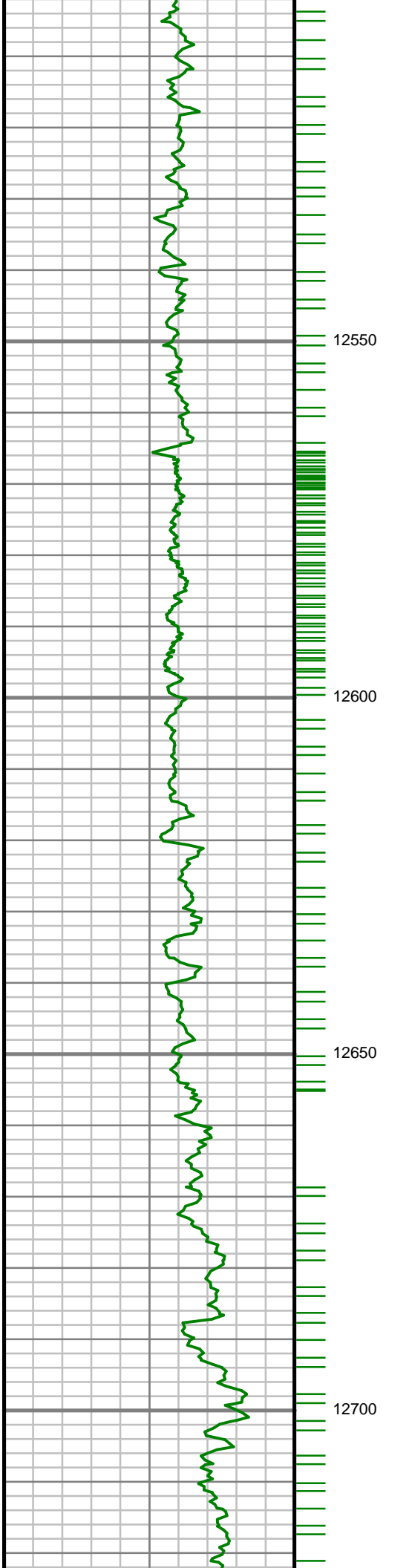
S: 169 MD: 12200.00 ft
Inc: 89.63 deg Az: 0.31
deg TVD: 7601.81 ft



S: 170 MD: 12289.00 ft
Inc: 88.42 deg Az:
359.55 deg TVD:
7603.32 ft

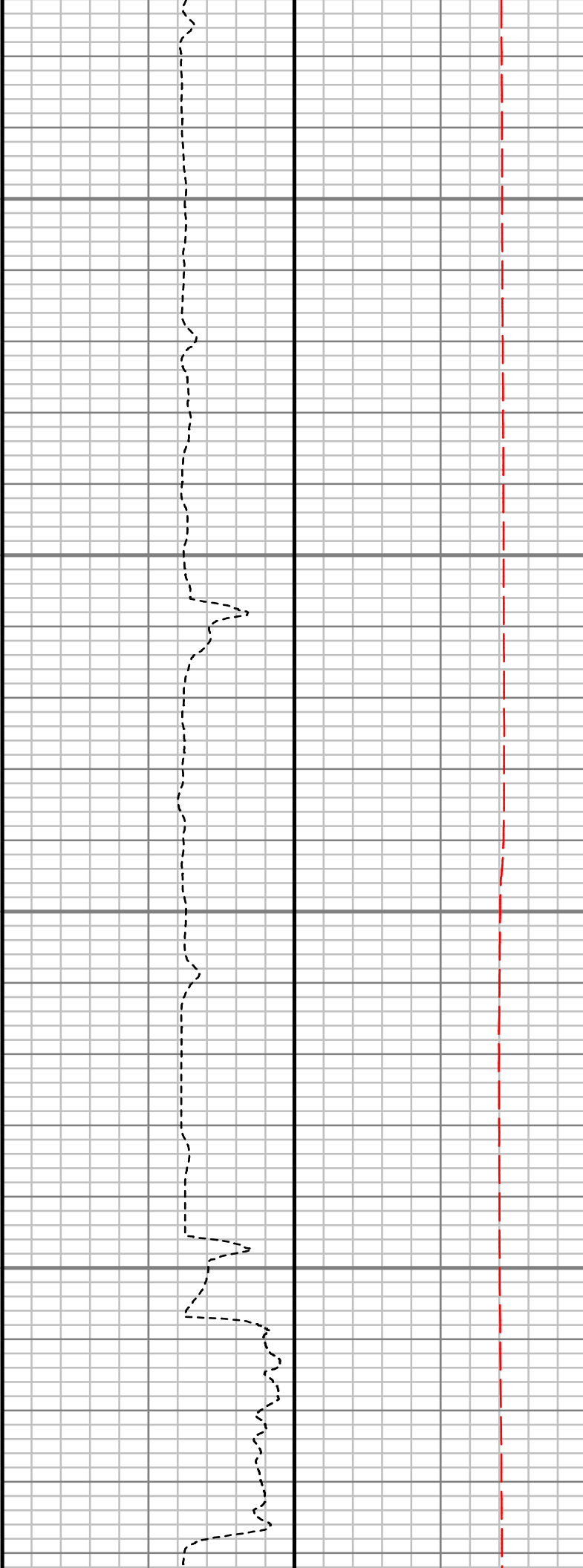
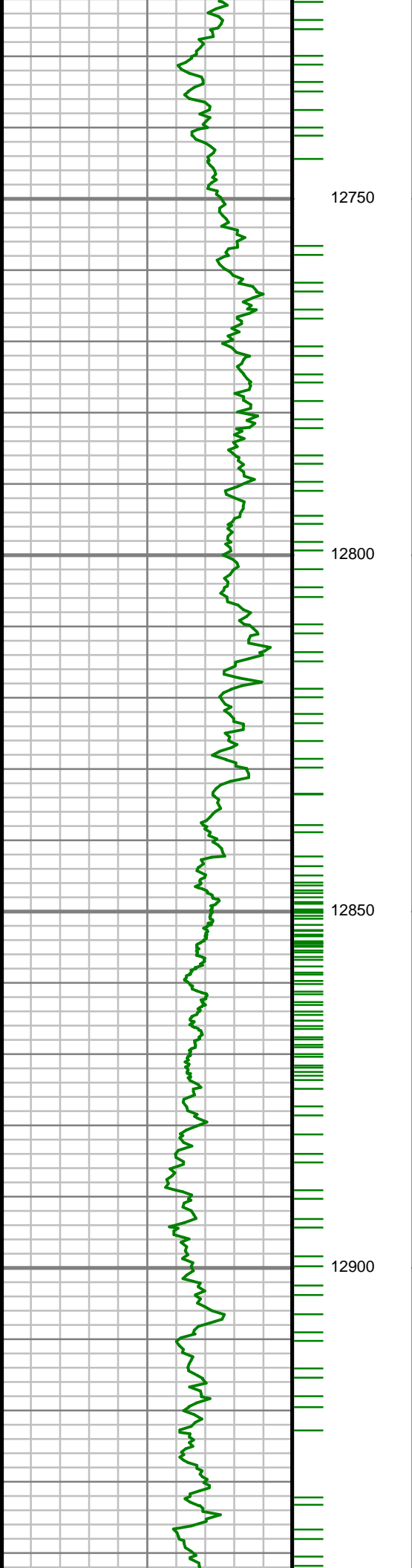
S: 171 MD: 12378.00 ft
Inc: 89.73 deg Az:
359.29 deg TVD:
7604.75 ft

S: 172 MD: 12467.00 ft
Inc: 90.81 deg Az:
358.99 deg TVD:
7604.33 ft



S: 173 MD: 12555.00 ft
Inc: 89.90 deg Az:
358.39 deg TVD:
7603.79 ft

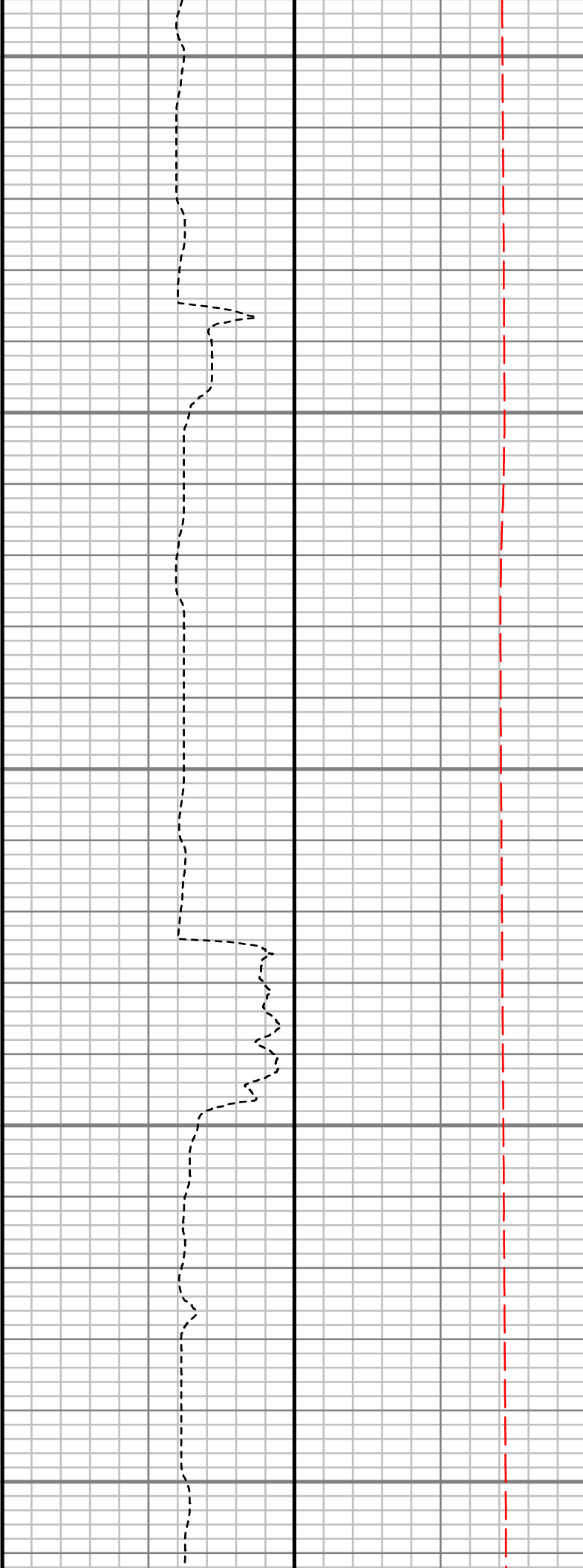
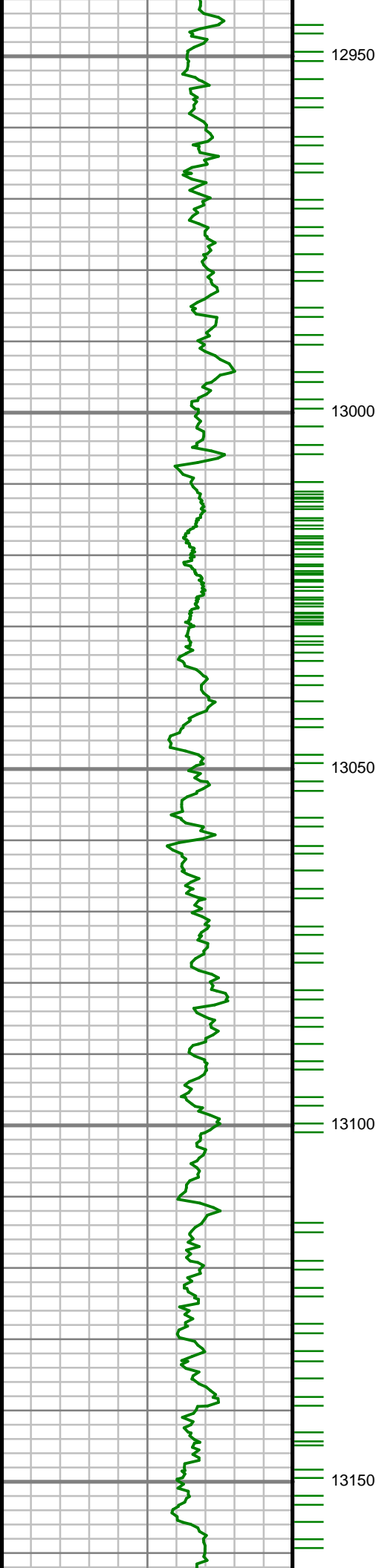
S: 174 MD: 12644.00 ft
Inc: 88.43 deg Az:
359.27 deg TVD:
7605.09 ft



S: 175 MD: 12733.00 ft
Inc: 88.02 deg Az: 1.16
deg TVD: 7607.85 ft

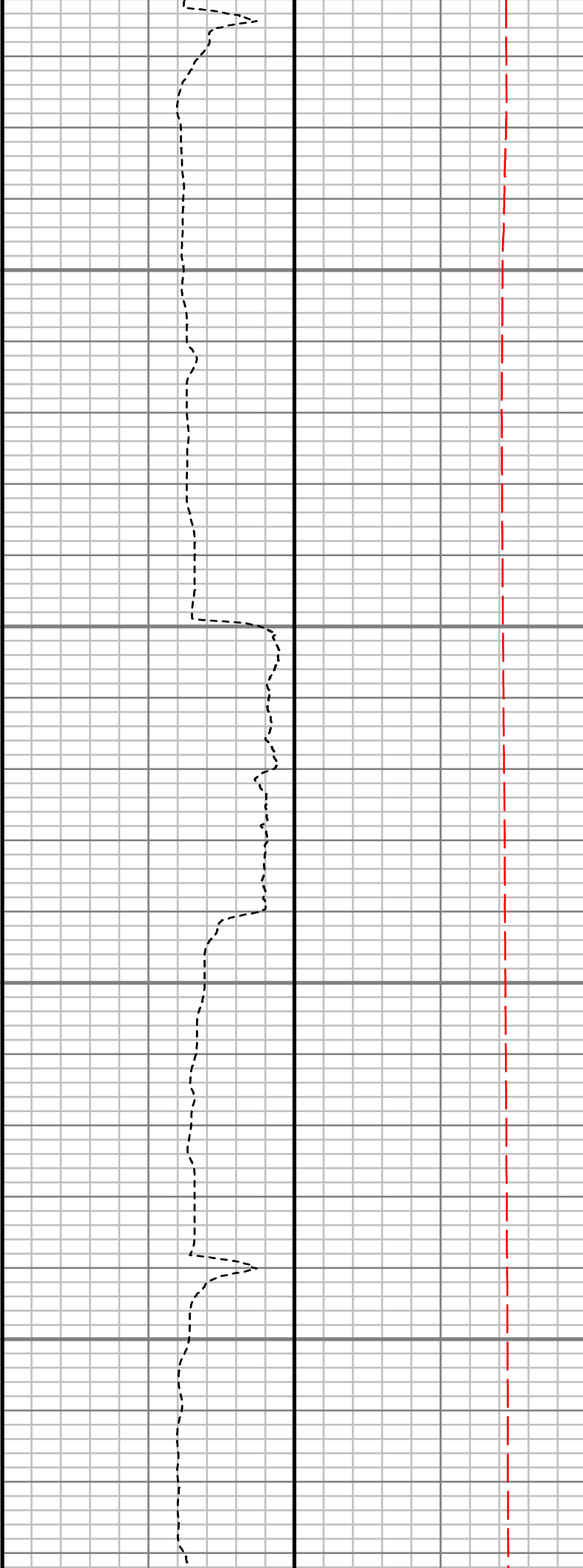
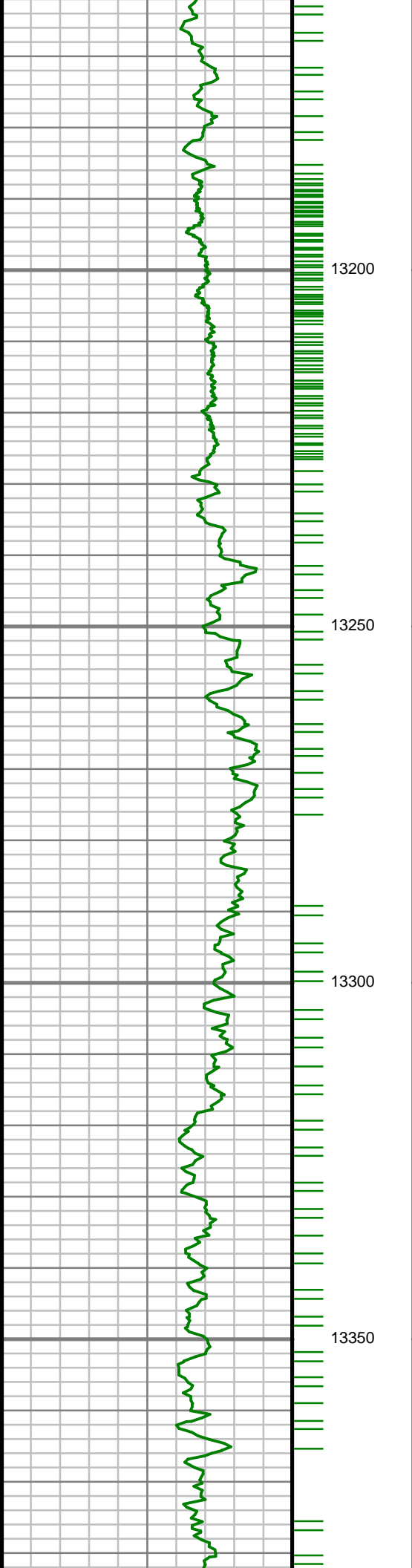
S: 176 MD: 12821.00 ft
Inc: 88.73 deg Az: 0.32
deg TVD: 7610.35 ft

S: 177 MD: 12910.00 ft
Inc: 89.83 deg Az: 0.68
deg TVD: 7611.47 ft



S: 178 MD: 12999.00 ft
Inc: 91.11 deg Az: 1.50
deg TVD: 7610.74 ft

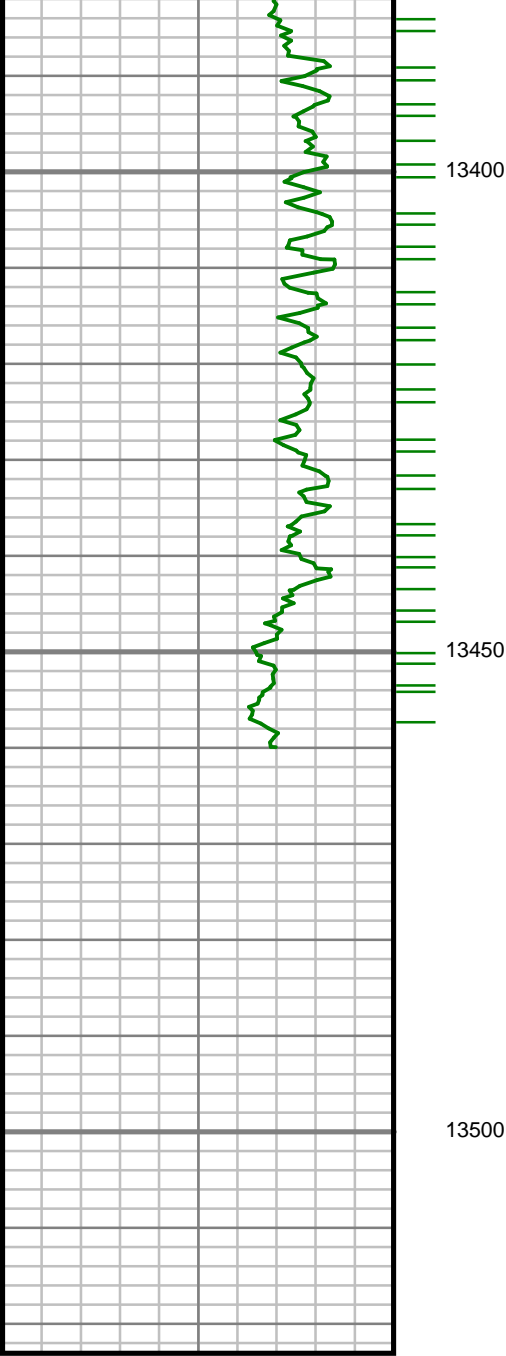
S: 179 MD: 13088.00 ft
Inc: 91.04 deg Az: 1.49
deg TVD: 7609.08 ft



S: 180 MD: 13177.00 ft
Inc: 91.44 deg Az: 0.22
deg TVD: 7607.15 ft

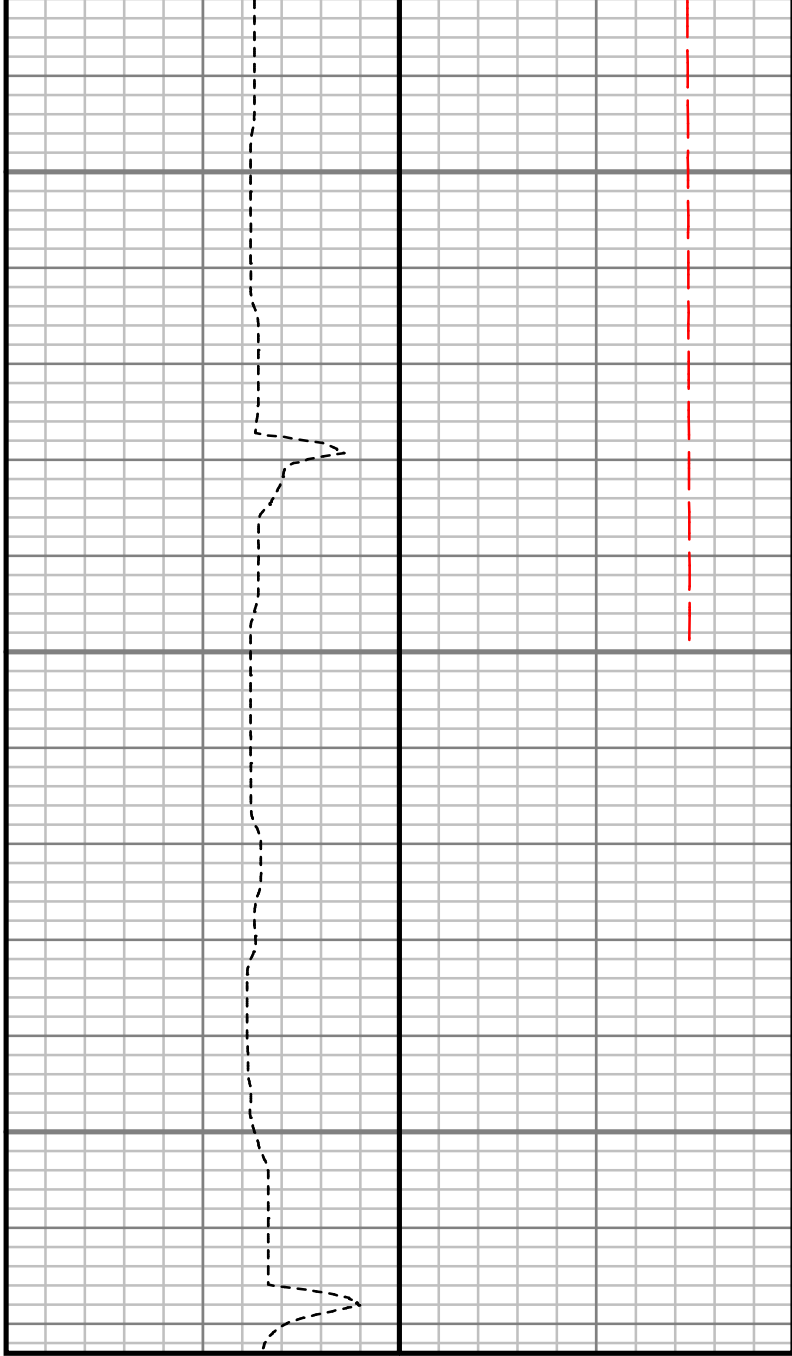
S: 181 MD: 13266.00 ft
Inc: 91.24 deg Az: 0.90
deg TVD: 7605.06 ft

S: 182 MD: 13355.00 ft
Inc: 89.87 deg Az: 1.32
deg TVD: 7604.21 ft



Gamma Ray (GR)		
0	Unit = aapi	150

MEASURED DEPTH
1,240 (ft)



Rate of Penetration (ROP)		Tool Temperature (TEMP)		Comments
1000	Unit = ft/hr	0	Unit = °F	

S: 183 MD: 13449.00 ft
Inc: 91.41 deg Az: 1.75
deg TVD: 7603.16 ft

CUSTOMER
PROJECT
FIELD

ANADARKO E&P ONSHORE LLC
YELLOWHAMMER 30N2-8HZ
WATTENBERG

WELL INFORMATION

Lat/Long
Northing
Easting
UWI

40.062813° N, 105.053561° W
14,549,608.31 ft
1,630,522.86 ft
2124795

MAP INFORMATION

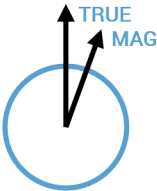
North Reference
Grid Correction
System
Datum
Map Zone

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

VERTICAL SECTION REFERENCE

+N/-S
+E/-W
Proposal Direction
Calculation Method

0 ft
0 ft
358.25°
Minimum Curvature



GEOMAGNETIC REFERENCE INFORMATION

Local Gravity: 999.027 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
0-1881 ft	ANADARKO MAGVAR	05 Dec 2017	8.42°	add 8.42°
1881-4202 ft	ANADARKO MAGVAR	04 Dec 2017	8.42°	add 8.42°
4202-7044 ft	ANADARKO MAGVAR	04 Dec 2017	8.43°	add 8.43°
7044-10110 ft	ANADARKO	01 Dec 2017	8.43°	add 8.43°

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
128.00	0.35	266.59	128.00	-0.01	-0.02	-0.39	0.27
160.00	0.04	216.49	160.00	-0.02	-0.04	-0.49	1.02
192.00	0.31	293.49	192.00	0.01	-0.01	-0.58	0.95
223.00	0.00	278.28	223.00	0.04	0.02	-0.66	1.00
254.00	0.00	98.28	254.00	0.04	0.02	-0.66	0.00
285.00	0.22	258.33	285.00	0.03	0.01	-0.72	0.71
317.00	0.00	278.28	317.00	0.02	0.00	-0.78	0.69
348.00	0.40	146.88	348.00	-0.07	-0.09	-0.72	1.29
380.00	0.62	142.49	380.00	-0.31	-0.33	-0.55	0.70
412.00	0.79	120.08	411.99	-0.56	-0.57	-0.25	1.00
443.00	0.66	133.17	442.99	-0.80	-0.80	0.06	0.68
475.00	0.75	131.85	474.99	-1.08	-1.07	0.35	0.29
507.00	0.62	140.91	506.99	-1.36	-1.34	0.62	0.53
539.00	1.05	165.60	538.98	-1.78	-1.76	0.80	1.72
571.00	1.49	177.56	570.98	-2.49	-2.46	0.89	1.60
602.00	1.54	183.80	601.97	-3.30	-3.28	0.88	0.56
634.00	1.76	186.70	633.95	-4.22	-4.20	0.79	0.74
666.00	1.89	181.78	665.94	-5.23	-5.21	0.72	0.64
698.00	2.02	176.77	697.92	-6.32	-6.30	0.73	0.67

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
729.00	2.24	178.70	728.90	-7.47	-7.45	0.78	0.75
761.00	3.08	183.18	760.86	-8.95	-8.94	0.75	2.70
793.00	3.74	183.18	792.80	-10.85	-10.84	0.64	2.06
825.00	4.44	183.36	824.72	-13.12	-13.12	0.51	2.19
856.00	5.54	183.71	855.60	-15.81	-15.81	0.34	3.55
888.00	5.89	178.70	887.45	-18.99	-18.99	0.28	1.90
920.00	5.98	180.72	919.27	-22.30	-22.30	0.30	0.71
952.00	6.28	181.78	951.09	-25.71	-25.71	0.22	1.00
983.00	7.43	187.40	981.87	-29.38	-29.40	-0.09	4.29
1015.00	8.48	188.63	1013.56	-33.74	-33.78	-0.71	3.32
1047.00	10.02	185.73	1045.14	-38.82	-38.88	-1.34	5.03
1078.00	11.21	185.99	1075.61	-44.48	-44.56	-1.93	3.84
1110.00	11.51	183.97	1106.99	-50.74	-50.84	-2.47	1.56
1142.00	11.73	185.38	1138.33	-57.15	-57.27	-3.00	1.12
1174.00	12.48	184.24	1169.62	-63.81	-63.95	-3.56	2.46
1237.00	14.37	183.27	1230.89	-78.37	-78.55	-4.51	3.02
1269.00	15.21	182.57	1261.83	-86.52	-86.71	-4.92	2.68
1332.00	16.26	183.18	1322.47	-103.54	-103.77	-5.78	1.69
1364.00	16.96	180.99	1353.14	-112.67	-112.91	-6.11	2.93
1396.00	17.84	179.93	1383.67	-122.23	-122.48	-6.19	2.92

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
1427.00	17.97	179.58	1413.17	-131.76	-132.01	-6.15	0.54
1459.00	17.93	180.46	1443.61	-141.62	-141.87	-6.15	0.86
1491.00	18.76	179.67	1473.99	-151.68	-151.94	-6.16	2.71
1522.00	19.64	178.70	1503.26	-161.87	-162.13	-6.01	3.02
1554.00	20.21	178.79	1533.35	-172.78	-173.04	-5.77	1.78
1586.00	20.48	178.00	1563.35	-183.90	-184.16	-5.46	1.20
1618.00	20.74	177.38	1593.30	-195.17	-195.41	-5.01	1.06
1649.00	20.70	178.52	1622.30	-206.14	-206.37	-4.61	1.31
1681.00	20.61	177.91	1652.24	-217.42	-217.65	-4.26	0.73
1713.00	21.09	177.73	1682.15	-228.81	-229.04	-3.83	1.51
1745.00	21.93	177.29	1711.92	-240.54	-240.76	-3.32	2.67
1776.00	22.02	177.47	1740.66	-252.14	-252.35	-2.79	0.36
1808.00	22.10	177.29	1770.32	-264.16	-264.35	-2.24	0.33
1831.00	22.10	176.94	1791.63	-272.81	-272.99	-1.80	0.57
1956.00	21.63	178.36	1907.64	-319.36	-319.51	0.11	0.56
2045.00	22.15	179.59	1990.22	-352.54	-352.68	0.70	0.78
2134.00	23.30	178.55	2072.31	-386.91	-387.06	1.27	1.37
2223.00	25.01	179.36	2153.52	-423.33	-423.47	1.92	1.96
2311.00	27.19	181.26	2232.54	-462.01	-462.17	1.69	2.65
2400.00	26.79	179.64	2311.85	-502.37	-502.56	1.37	0.94

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
2489.00	25.22	178.30	2391.83	-541.38	-541.57	2.06	1.89
2578.00	23.39	176.63	2472.94	-578.01	-578.17	3.66	2.19
2667.00	25.41	179.96	2553.99	-614.76	-614.90	4.71	2.74
2756.00	25.56	180.89	2634.33	-653.03	-653.20	4.43	0.48
2845.00	26.12	181.76	2714.43	-691.76	-691.98	3.53	0.76
2934.00	26.01	182.63	2794.38	-730.78	-731.06	2.03	0.45
3023.00	24.00	182.13	2875.04	-768.30	-768.64	0.46	2.27
3112.00	22.28	180.72	2956.87	-803.22	-803.60	-0.43	2.03
3201.00	24.17	177.63	3038.66	-838.30	-838.68	0.12	2.52
3290.00	25.30	178.51	3119.49	-875.54	-875.90	1.36	1.34
3378.00	27.03	179.66	3198.47	-914.34	-914.71	1.97	2.05
3467.00	29.91	179.31	3276.70	-956.76	-957.13	2.36	3.24
3556.00	27.74	178.97	3354.66	-999.66	-1000.03	3.00	2.45
3645.00	24.96	178.39	3434.41	-1039.16	-1039.53	3.90	3.13
3734.00	25.42	180.85	3514.94	-1077.02	-1077.40	4.15	1.28
3823.00	25.18	182.91	3595.41	-1114.97	-1115.40	2.90	1.03
3911.00	25.02	184.32	3675.10	-1152.14	-1152.66	0.55	0.70
4000.00	22.00	184.58	3756.70	-1187.43	-1188.05	-2.20	3.40
4115.00	22.11	186.68	3863.29	-1230.24	-1231.01	-6.44	0.69
4203.00	25.54	182.06	3943.79	-1265.56	-1266.43	-9.05	4.43

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
4292.00	27.82	177.66	4023.32	-1305.48	-1306.36	-8.89	3.39
4381.00	25.33	174.88	4102.91	-1345.26	-1346.08	-6.34	3.13
4470.00	26.10	174.18	4183.10	-1383.79	-1384.52	-2.66	0.94
4559.00	27.53	174.78	4262.52	-1423.86	-1424.49	1.20	1.63
4648.00	26.03	174.96	4341.97	-1463.89	-1464.43	4.78	1.69
4736.00	22.92	173.65	4422.05	-1500.26	-1500.71	8.38	3.59
4825.00	24.68	177.15	4503.48	-1536.12	-1536.49	11.22	2.54
4914.00	28.14	178.86	4583.18	-1575.70	-1576.05	12.56	3.98
5003.00	27.74	178.11	4661.81	-1617.40	-1617.74	13.66	0.60
5092.00	28.35	177.87	4740.36	-1659.25	-1659.56	15.12	0.70
5180.00	26.95	177.53	4818.30	-1700.08	-1700.37	16.76	1.61
5269.00	24.38	176.55	4898.52	-1738.61	-1738.85	18.73	2.93
5357.00	23.08	177.25	4979.08	-1774.01	-1774.21	20.65	1.51
5446.00	23.40	176.82	5060.86	-1809.12	-1809.27	22.47	0.40
5535.00	24.30	178.60	5142.26	-1845.09	-1845.22	23.90	1.30
5624.00	25.54	177.61	5222.97	-1882.59	-1882.70	25.14	1.47
5713.00	22.43	175.90	5304.28	-1918.75	-1918.82	27.16	3.59
5802.00	19.50	174.86	5387.38	-1950.55	-1950.55	29.70	3.32
5891.00	16.36	173.89	5472.05	-1977.88	-1977.81	32.37	3.55
5980.00	15.82	173.17	5557.56	-2002.45	-2002.31	35.15	0.65

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
6069.00	16.72	174.81	5643.00	-2027.31	-2027.11	37.75	1.14
6158.00	14.92	172.31	5728.63	-2051.49	-2051.21	40.44	2.16
6247.00	12.76	172.37	5815.04	-2072.67	-2072.31	43.28	2.42
6336.00	10.66	173.25	5902.18	-2090.65	-2090.23	45.55	2.37
6425.00	9.07	173.76	5989.86	-2105.84	-2105.37	47.28	1.79
6514.00	7.53	177.59	6077.93	-2118.66	-2118.17	48.29	1.83
6603.00	5.95	175.73	6166.31	-2129.10	-2128.60	48.87	1.79
6692.00	4.78	172.41	6254.92	-2137.40	-2136.88	49.71	1.35
6780.00	4.17	171.67	6342.65	-2144.23	-2143.68	50.66	0.71
6869.00	2.51	161.05	6431.50	-2149.31	-2148.73	51.76	1.97
6958.00	1.05	153.20	6520.45	-2151.91	-2151.30	52.76	1.66
7047.00	1.43	163.80	6609.43	-2153.73	-2153.10	53.44	0.49
7135.00	1.53	168.36	6697.40	-2155.95	-2155.31	53.98	0.18
7224.00	0.39	154.05	6786.39	-2157.40	-2156.75	54.36	1.30
7313.00	3.06	339.93	6875.35	-2155.43	-2154.79	53.68	3.87
7402.00	10.84	349.34	6963.63	-2144.89	-2144.32	51.31	8.81
7491.00	17.43	353.66	7049.89	-2123.31	-2122.83	48.29	7.49
7580.00	22.92	348.91	7133.41	-2092.91	-2092.56	43.48	6.43
7669.00	25.33	357.00	7214.65	-2056.76	-2056.53	39.15	4.59
7757.00	30.31	353.85	7292.46	-2015.78	-2015.63	35.78	5.90

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
7846.00	40.20	357.24	7365.06	-1964.54	-1964.48	31.98	11.33
7935.00	52.87	358.97	7426.16	-1900.08	-1900.05	29.95	14.30
8023.00	60.63	357.85	7474.38	-1826.55	-1826.55	27.88	8.89
8112.00	69.85	355.99	7511.61	-1745.84	-1745.94	23.49	10.54
8201.00	75.16	356.58	7538.36	-1661.04	-1661.26	18.01	5.99
8290.00	79.68	358.63	7557.75	-1574.21	-1574.51	14.39	5.55
8379.00	81.36	357.93	7572.41	-1486.43	-1486.76	11.75	2.04
8468.00	83.01	357.61	7584.51	-1398.26	-1398.66	8.32	1.89
8557.00	86.31	357.71	7592.78	-1309.67	-1310.13	4.70	3.71
8645.00	88.43	357.06	7596.83	-1221.77	-1222.32	0.68	2.51
8734.00	90.87	356.94	7597.37	-1132.80	-1133.45	-3.97	2.75
8823.00	90.50	358.95	7596.30	-1043.82	-1044.52	-7.16	2.29
8912.00	90.23	359.10	7595.73	-954.83	-955.54	-8.68	0.35
9000.00	88.66	359.20	7596.58	-866.84	-867.55	-9.99	1.79
9089.00	90.17	358.61	7597.49	-777.86	-778.58	-11.69	1.82
9178.00	89.97	358.83	7597.39	-688.86	-689.60	-13.68	0.34
9267.00	89.16	359.04	7598.06	-599.87	-600.62	-15.33	0.93
9356.00	90.07	359.62	7598.66	-510.89	-511.63	-16.37	1.21
9445.00	90.64	359.90	7598.12	-421.92	-422.63	-16.74	0.71
9534.00	89.93	0.89	7597.67	-332.99	-333.64	-16.13	1.37

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
9623.00	90.74	359.66	7597.15	-244.05	-244.64	-15.71	1.65
9712.00	89.46	358.32	7597.00	-155.06	-155.66	-17.28	2.07
9801.00	89.63	357.91	7597.70	-66.06	-66.71	-20.21	0.50
9890.00	88.83	357.75	7598.90	22.93	22.22	-23.57	0.92
9978.00	88.22	355.77	7601.16	110.86	110.04	-28.54	2.36
10067.00	90.03	355.41	7602.52	199.75	198.77	-35.38	2.07
10156.00	91.11	356.10	7601.63	288.66	287.52	-41.97	1.43
10245.00	89.87	358.76	7600.88	377.64	376.41	-45.96	3.30
10334.00	88.76	0.17	7601.95	466.61	465.40	-46.79	2.02
10423.00	88.96	1.06	7603.72	555.52	554.38	-45.83	1.02
10512.00	91.64	1.41	7603.25	644.39	643.35	-43.91	3.04
10601.00	90.91	1.09	7601.28	733.24	732.30	-41.97	0.90
10690.00	88.93	0.93	7601.41	822.13	821.28	-40.40	2.23
10779.00	89.90	359.67	7602.32	911.07	910.27	-39.93	1.79
10868.00	88.90	359.27	7603.25	1000.04	999.26	-40.76	1.22
10956.00	89.10	358.44	7604.80	1088.02	1087.23	-42.52	0.96
11045.00	89.46	358.09	7605.92	1177.02	1176.18	-45.21	0.57
11134.00	89.93	357.07	7606.38	1266.01	1265.10	-48.97	1.26
11223.00	90.07	356.47	7606.38	1354.98	1353.96	-53.98	0.69
11312.00	89.33	357.03	7606.85	1443.95	1442.82	-59.03	1.04

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
11401.00	90.47	357.12	7607.01	1532.92	1531.70	-63.57	1.28
11490.00	92.35	357.41	7604.82	1621.88	1620.57	-67.82	2.14
11578.00	91.37	357.82	7601.96	1709.83	1708.44	-71.48	1.20
11667.00	88.02	357.87	7602.43	1798.81	1797.36	-74.83	3.77
11756.00	89.20	357.61	7604.59	1887.78	1886.27	-78.33	1.35
11845.00	90.84	357.85	7604.56	1976.77	1975.20	-81.85	1.87
11934.00	91.17	359.00	7603.00	2065.76	2064.15	-84.29	1.34
12023.00	90.07	0.21	7602.04	2154.72	2153.14	-84.90	1.84
12112.00	90.30	0.80	7601.75	2243.65	2242.13	-84.11	0.72
12200.00	89.63	0.31	7601.81	2331.58	2330.13	-83.25	0.95
12289.00	88.42	359.55	7603.32	2420.53	2419.11	-83.35	1.60
12378.00	89.73	359.29	7604.75	2509.50	2508.09	-84.25	1.50
12467.00	90.81	358.99	7604.33	2598.48	2597.08	-85.58	1.25
12555.00	89.90	358.39	7603.79	2686.48	2685.06	-87.59	1.24
12644.00	88.43	359.27	7605.09	2775.46	2774.02	-89.41	1.93
12733.00	88.02	1.16	7607.85	2864.36	2862.98	-89.07	2.17
12821.00	88.73	0.32	7610.35	2952.24	2950.93	-87.94	1.25
12910.00	89.83	0.68	7611.47	3041.16	3039.92	-87.16	1.31
12999.00	91.11	1.50	7610.74	3130.05	3128.90	-85.47	1.70
13088.00	91.04	1.49	7609.08	3218.89	3217.85	-83.15	0.07

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
13177.00	91.44	0.22	7607.15	3307.78	3306.82	-81.82	1.49
13266.00	91.24	0.90	7605.06	3396.68	3395.79	-80.95	0.79
13355.00	89.87	1.32	7604.21	3485.56	3484.77	-79.23	1.62
13449.00	91.41	1.75	7603.16	3579.40	3578.72	-76.71	1.71

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

5" = 100' MD