

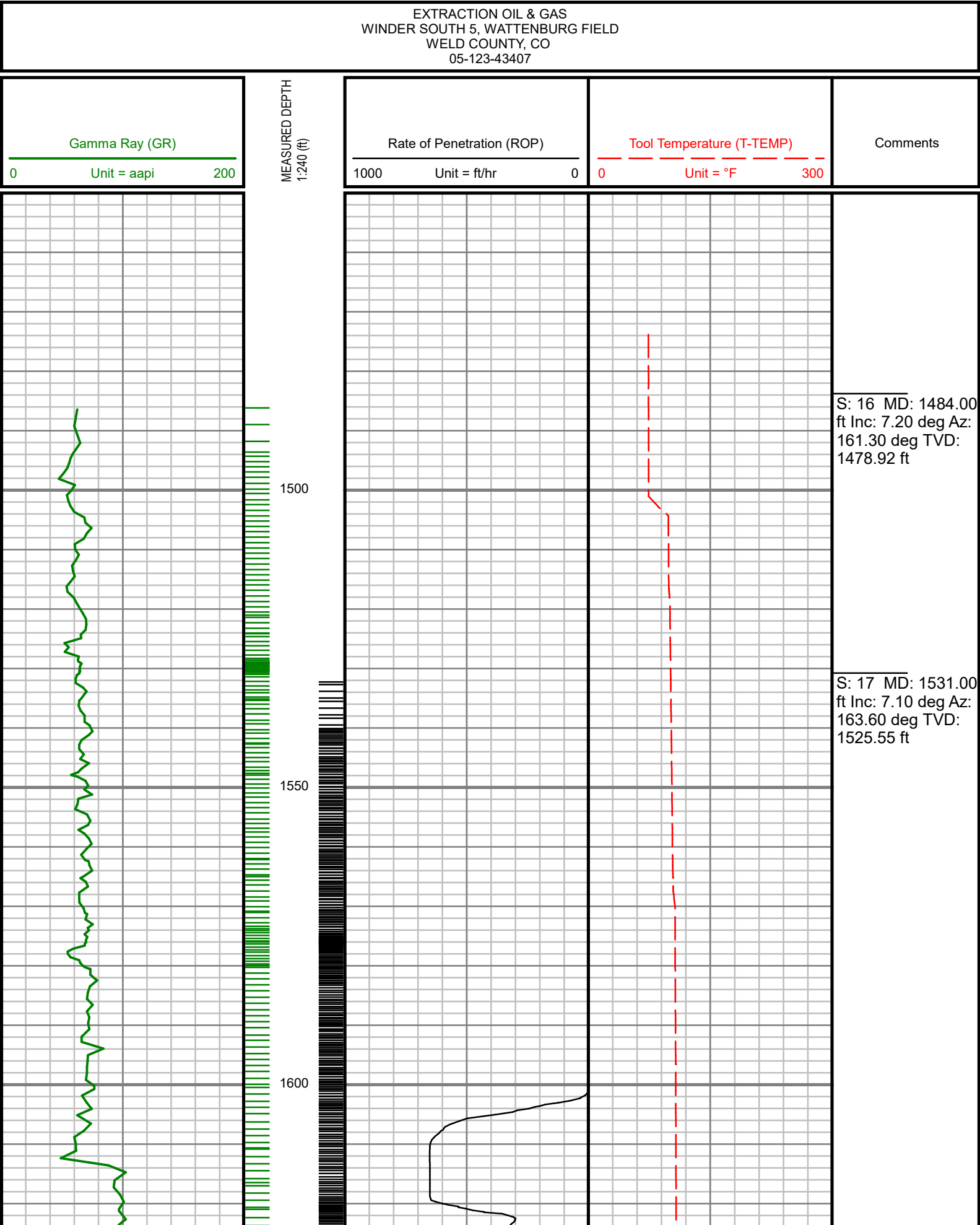


GAMMA RAY

5" = 100' MD

COMPANY : EXTRACTION OIL AND GAS									
WELL : WINDER SOUTH 5									
FIELD : WATTENBURG									
COUNTY : WELD									
STATE : COLORADO									
COUNTRY : U.S.A.									
UWI : 05-123-43407									
OTHER SERVICES									
WELL LOCATION									
LAT:40°30'9.626"N LONG:104°53'25.739"W									
N:1426547.18 ft E:3169498.36 ft									
SEC:9									
TWP:T6N									
RANGE:R67W									
ROF									
DEPTH REF. : RKB									
REF. HEIGHT : 25.000 ft									
RKB to Ground Level									
GROUND LEVEL : 4855.000 ft									
G.L. to MEAN SEA LEVEL									
BOREHOLE RECORD					DEVIATION RECORD				
HOLE SIZE in	FROM ft	TO ft	INCLINATION deg	FROM ft	TO ft				
12.25	0	1602	0 - 7	1602	1731				
7.875	1602	17145	7 - 14	1731	3560				
			14 - 14	3560	6950				
			14 - 90	6950	7730				
			90 - 92	7730	17145				
CASING RECORD									
CASING SIZE in	FROM ft	TO ft							
9.625	0	1602							
DRILLING CO.: PATTERSON									
RIG: 346									
LMD UNIT NO.:									
SPUD DATE: 09/09/2016									
LMD START DATE: 09/09/2016									
LMD END DATE: 09/19/2016									
DISTRICT: CASPER									
DEPTH: 1486 ft									
DEPTH: 17084 ft									
TOTAL DEPTH: 17145 ft									

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.



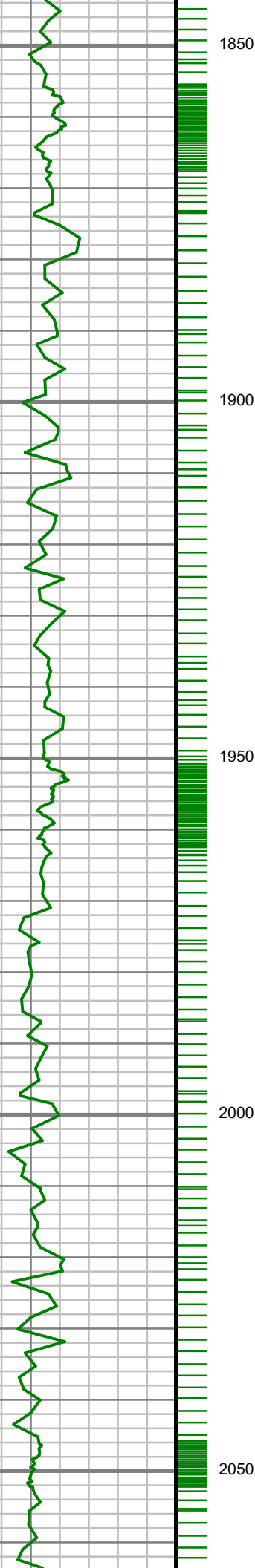


S: 18 MD: 1652.00
ft Inc: 6.09 deg Az:
159.50 deg TVD:
1645.75 ft

S: 19 MD: 1746.00
ft Inc: 8.18 deg Az:
175.47 deg TVD:
1739.03 ft

S: 20 MD: 1841.00

ft Inc: 10.13 deg
Az: 170.89 deg
TVD: 1832.81 ft



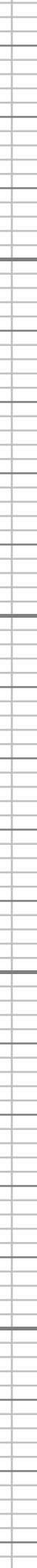
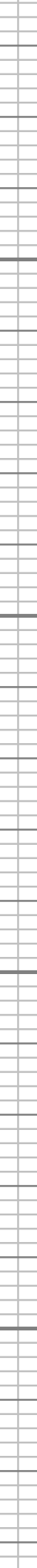
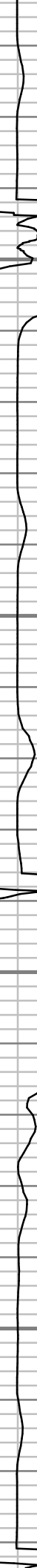
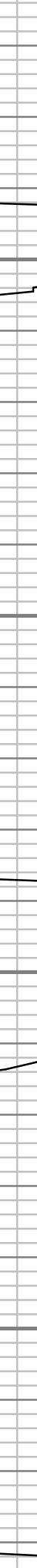
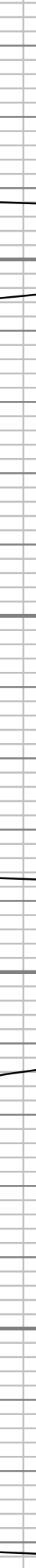
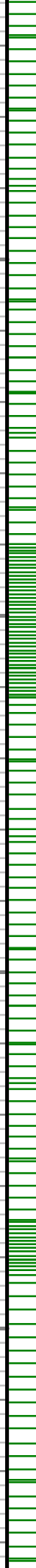
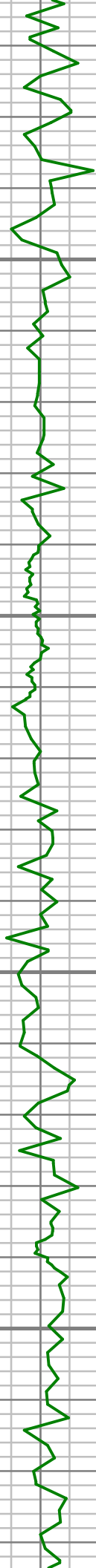
1850

1900

1950

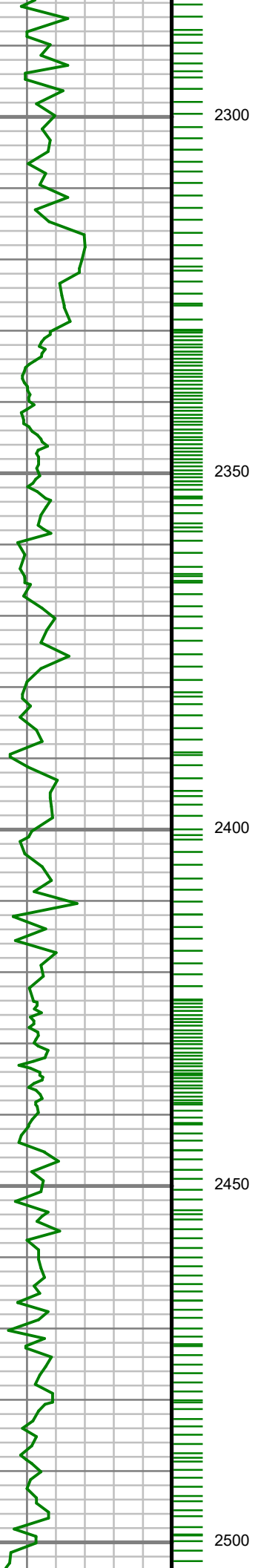
2000

2050



S: 21 MD: 2124.00
ft Inc: 14.29 deg
Az: 151.47 deg
TVD: 2109.46 ft

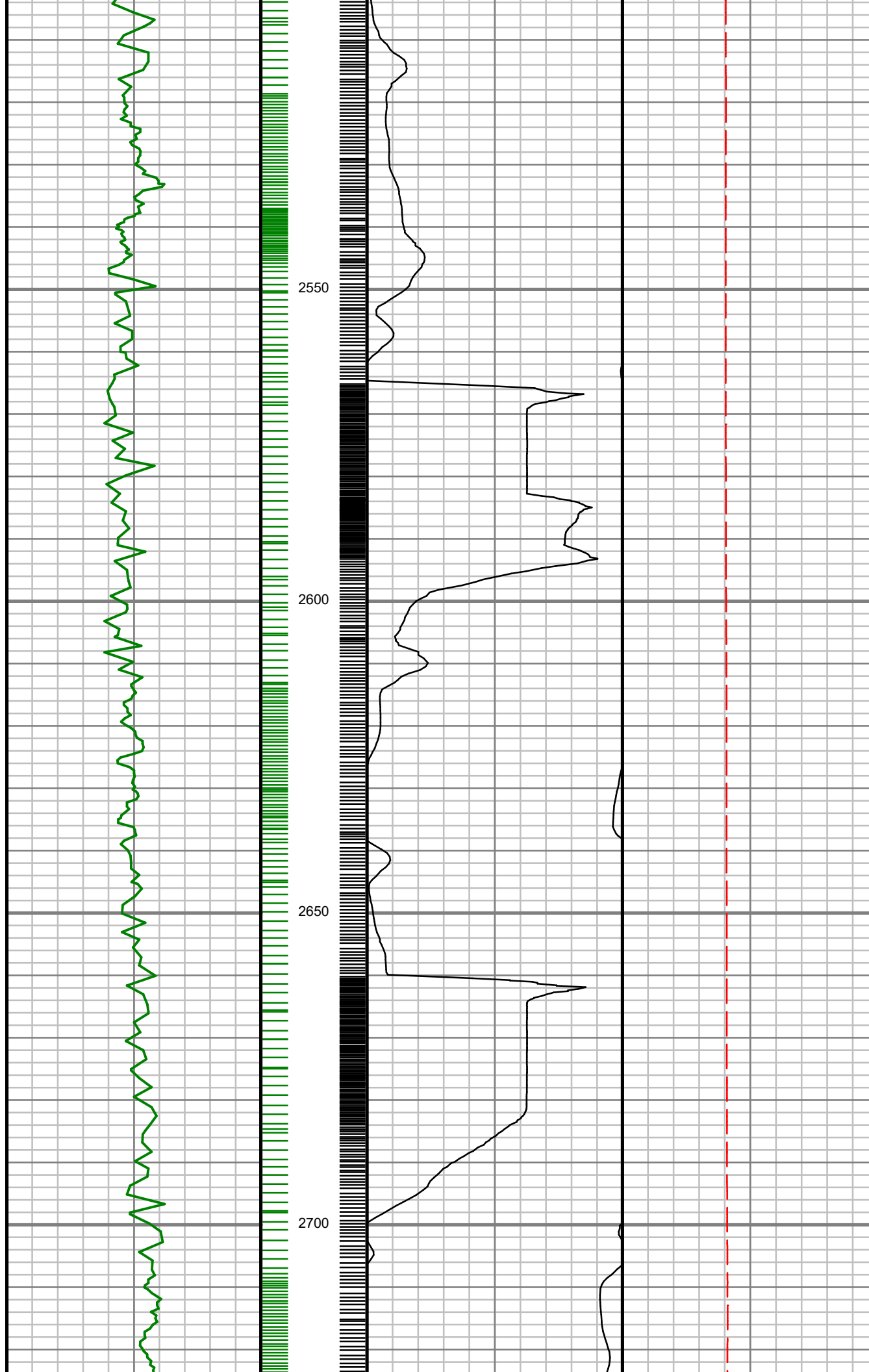
S: 22 MD: 2218.00
ft Inc: 13.78 deg
Az: 151.46 deg
TVD: 2200.66 ft



S: 23 MD: 2313.00
ft Inc: 13.35 deg
Az: 152.80 deg
TVD: 2293.01 ft

S: 24 MD: 2408.00
ft Inc: 12.93 deg
Az: 153.12 deg
TVD: 2385.52 ft

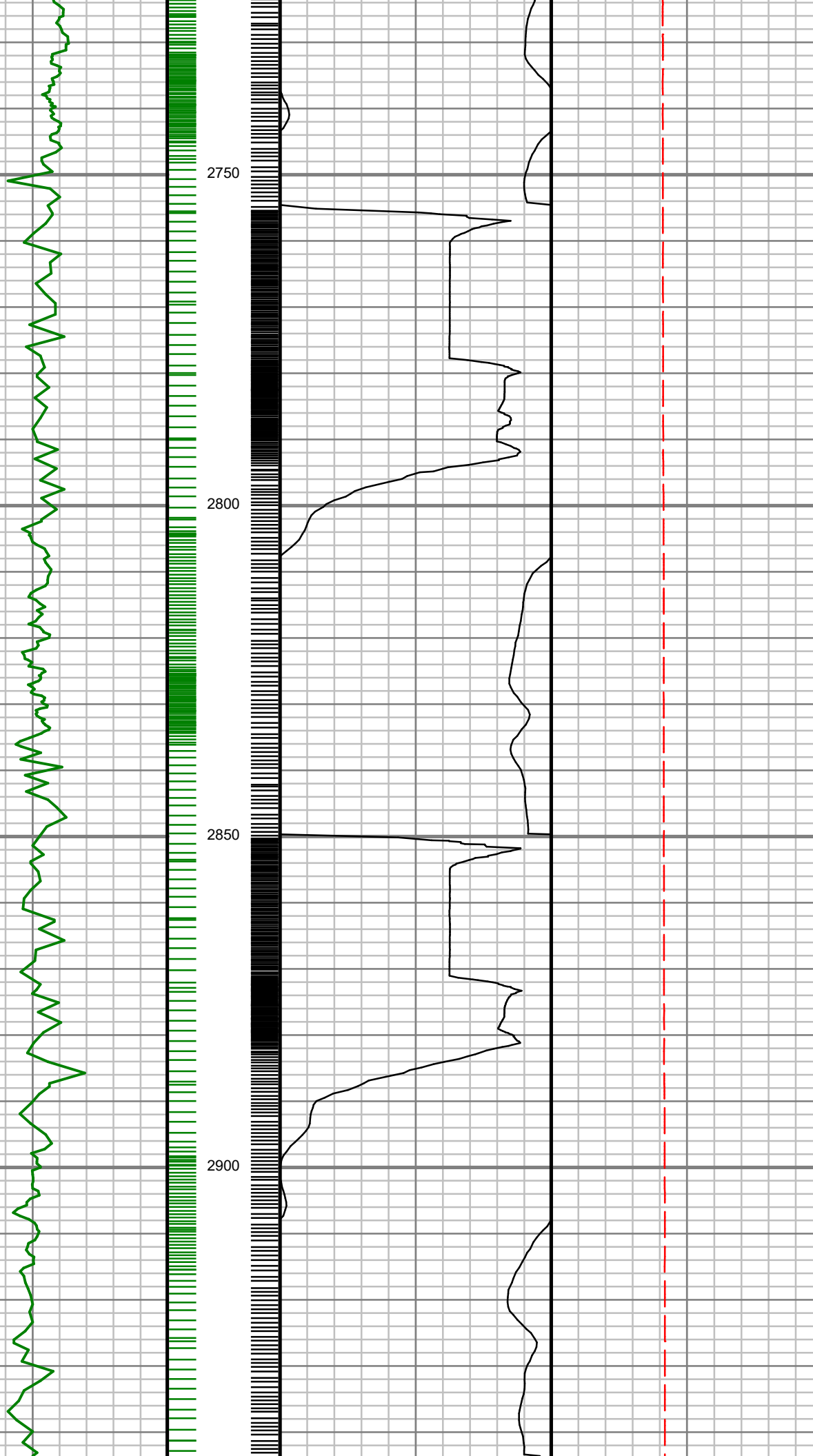
S: 25 MD: 2502.00



S: 25 MD: 2502.00
ft Inc: 12.52 deg
Az: 152.27 deg
TVD: 2477.21 ft

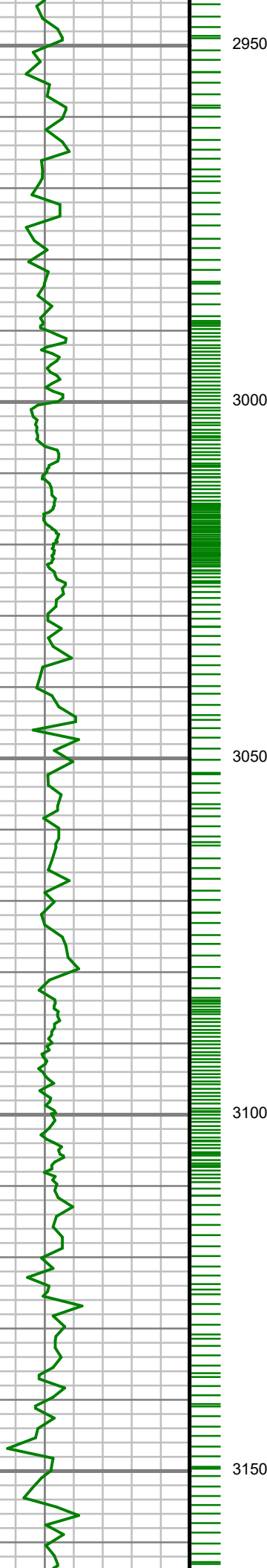
S: 26 MD: 2597.00
ft Inc: 13.43 deg
Az: 157.97 deg
TVD: 2569.79 ft

S: 27 MD: 2692.00
ft Inc: 12.76 deg
Az: 158.92 deg
TVD: 2662.32 ft



S: 28 MD: 2786.00
ft Inc: 13.22 deg
Az: 156.81 deg
TVD: 2753.91 ft

S: 29 MD: 2880.00
ft Inc: 14.31 deg
Az: 156.94 deg
TVD: 2845.21 ft



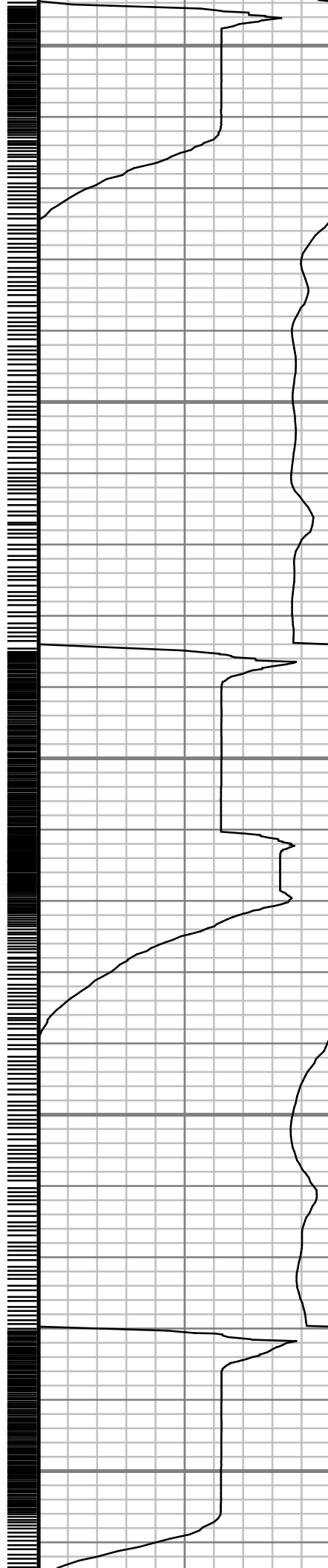
2950

3000

3050

3100

3150



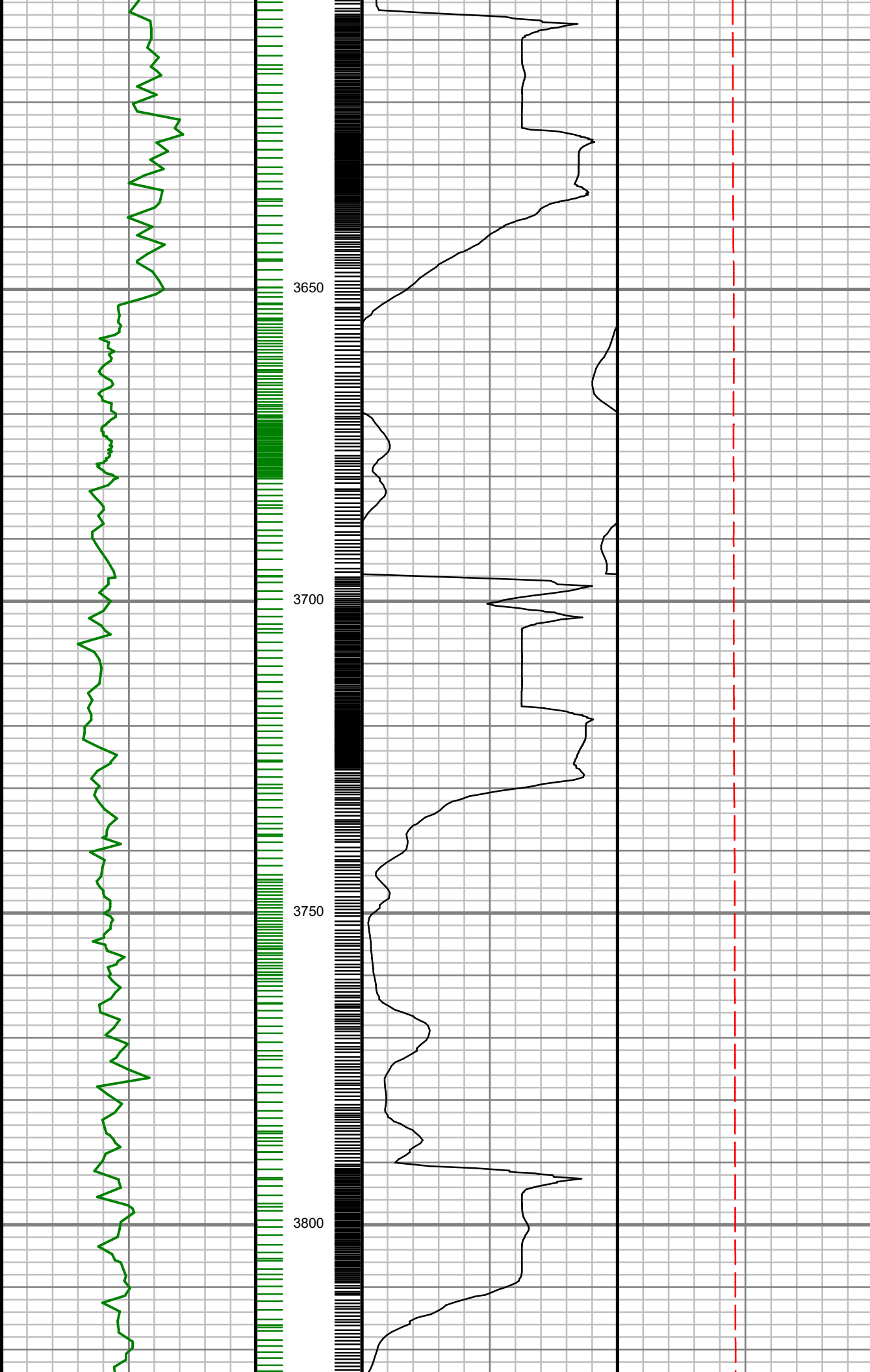
S: 30 MD: 2975.00
ft Inc: 13.93 deg
Az: 156.61 deg
TVD: 2937.34 ft

S: 31 MD: 3069.00
ft Inc: 13.07 deg
Az: 152.60 deg
TVD: 3028.75 ft

S: 32 MD: 3169.00
ft Inc: 13.07 deg
Az: 152.60 deg
TVD: 3128.75 ft

S: 33 MD: 3258.00
ft Inc: 12.79 deg
Az: 152.21 deg
TVD: 3213.23 ft

S: 34 MD: 3352.00
ft Inc: 13.04 deg
Az: 153.83 deg
TVD: 3304.85 ft



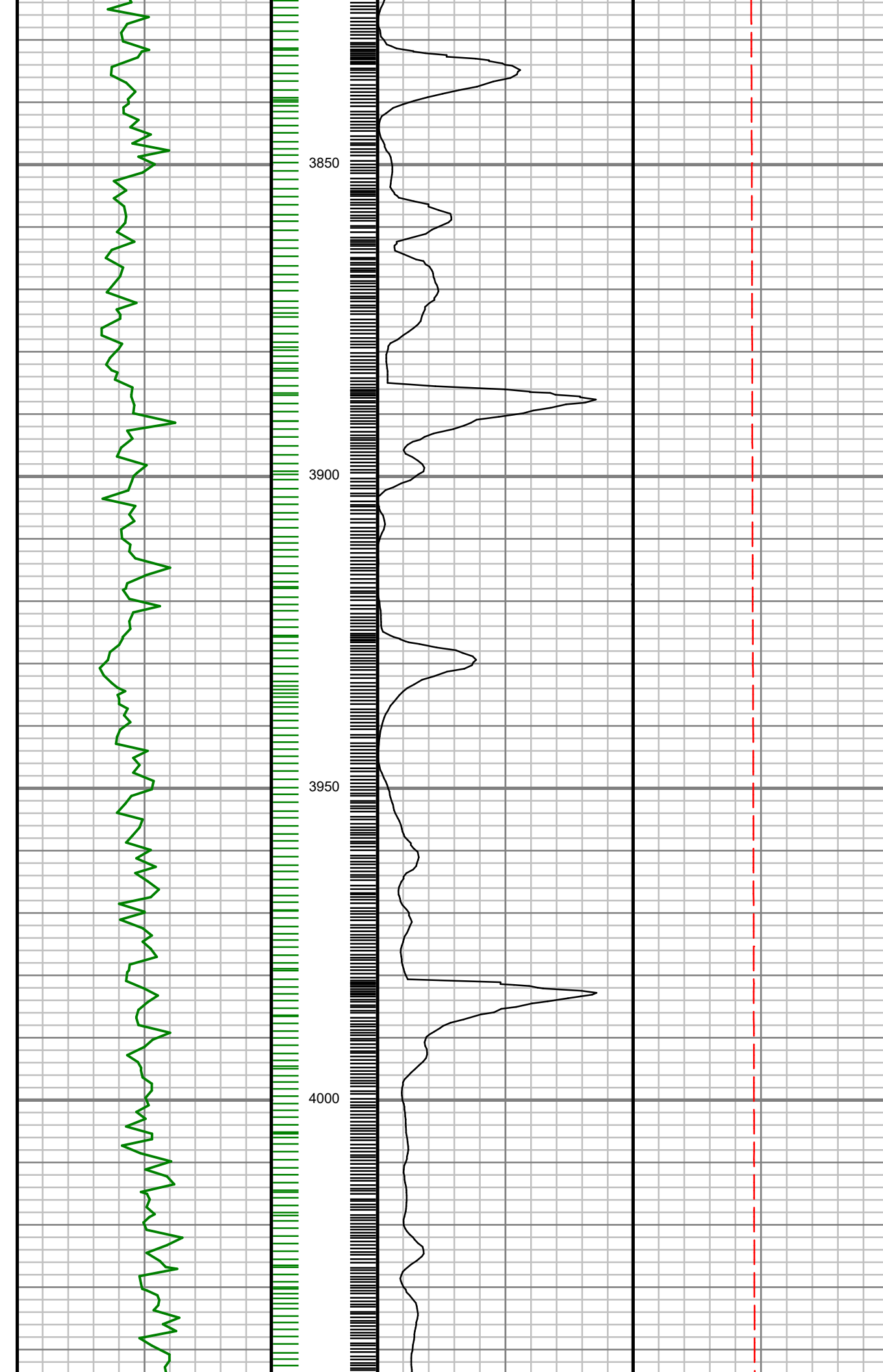
S: 37 MD: 3636.00
ft Inc: 12.84 deg
Az: 158.10 deg
TVD: 3580.57 ft

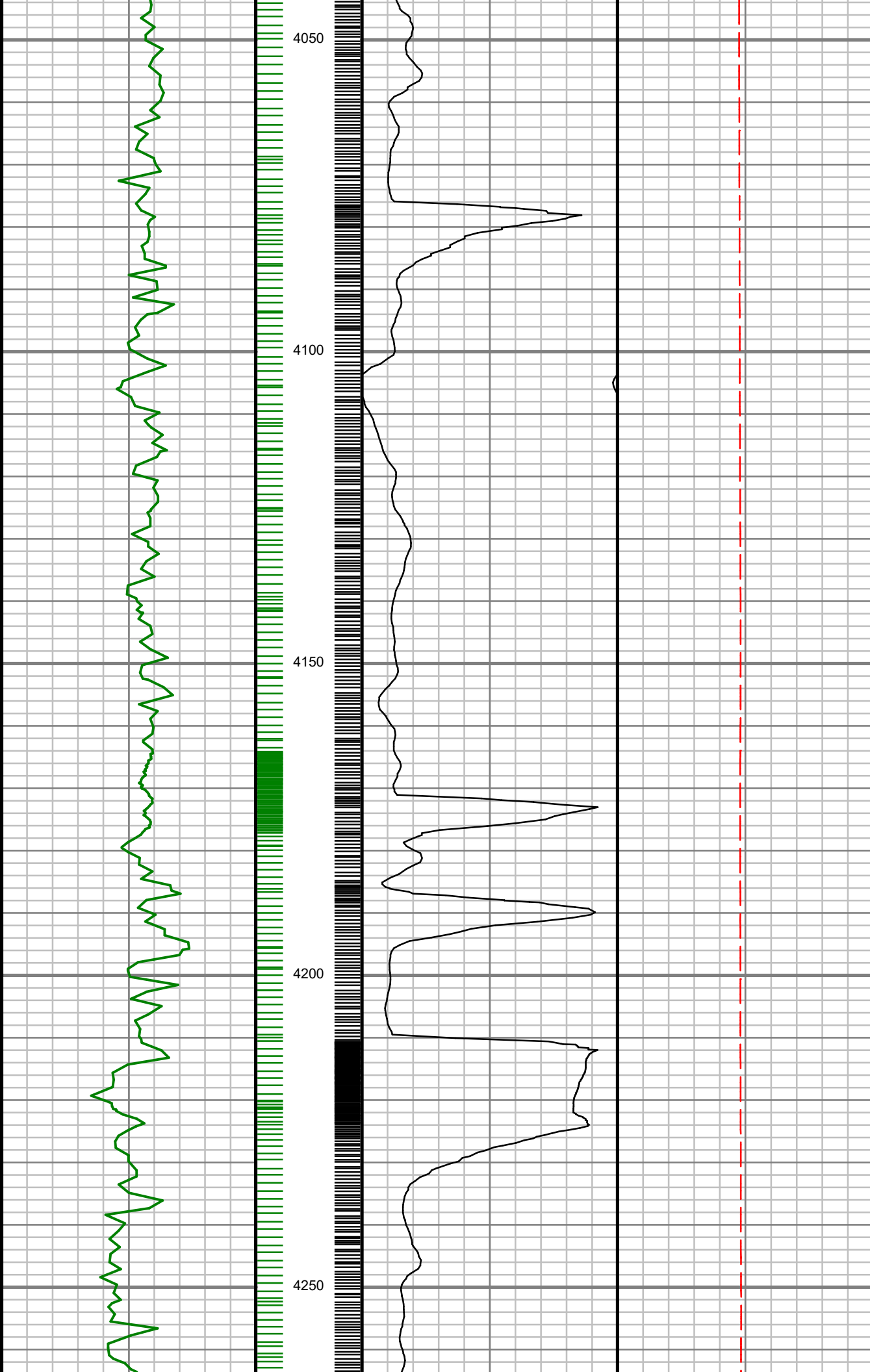
S: 38 MD: 3731.00
ft Inc: 13.95 deg
Az: 162.80 deg
TVD: 3672.99 ft

S: 39 MD: 3826.00
ft Inc: 14.18 deg
Az: 162.59 deg
TVD: 3765.14 ft

S: 40 MD: 3921.00
ft Inc: 14.40 deg
Az: 162.30 deg
TVD: 3857.20 ft

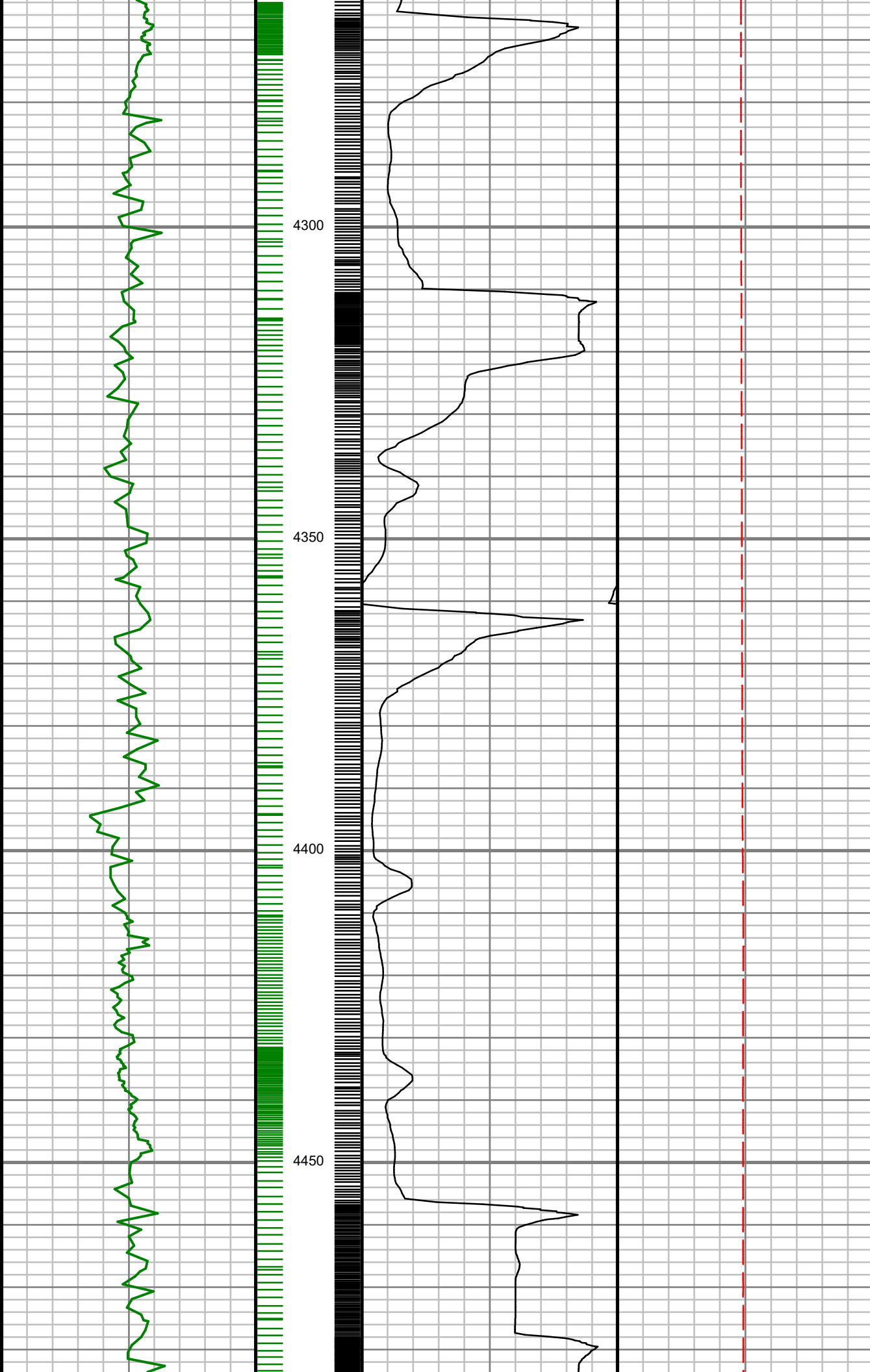
S: 41 MD: 4016.00
ft Inc: 14.06 deg
Az: 162.83 deg
TVD: 3949.29 ft





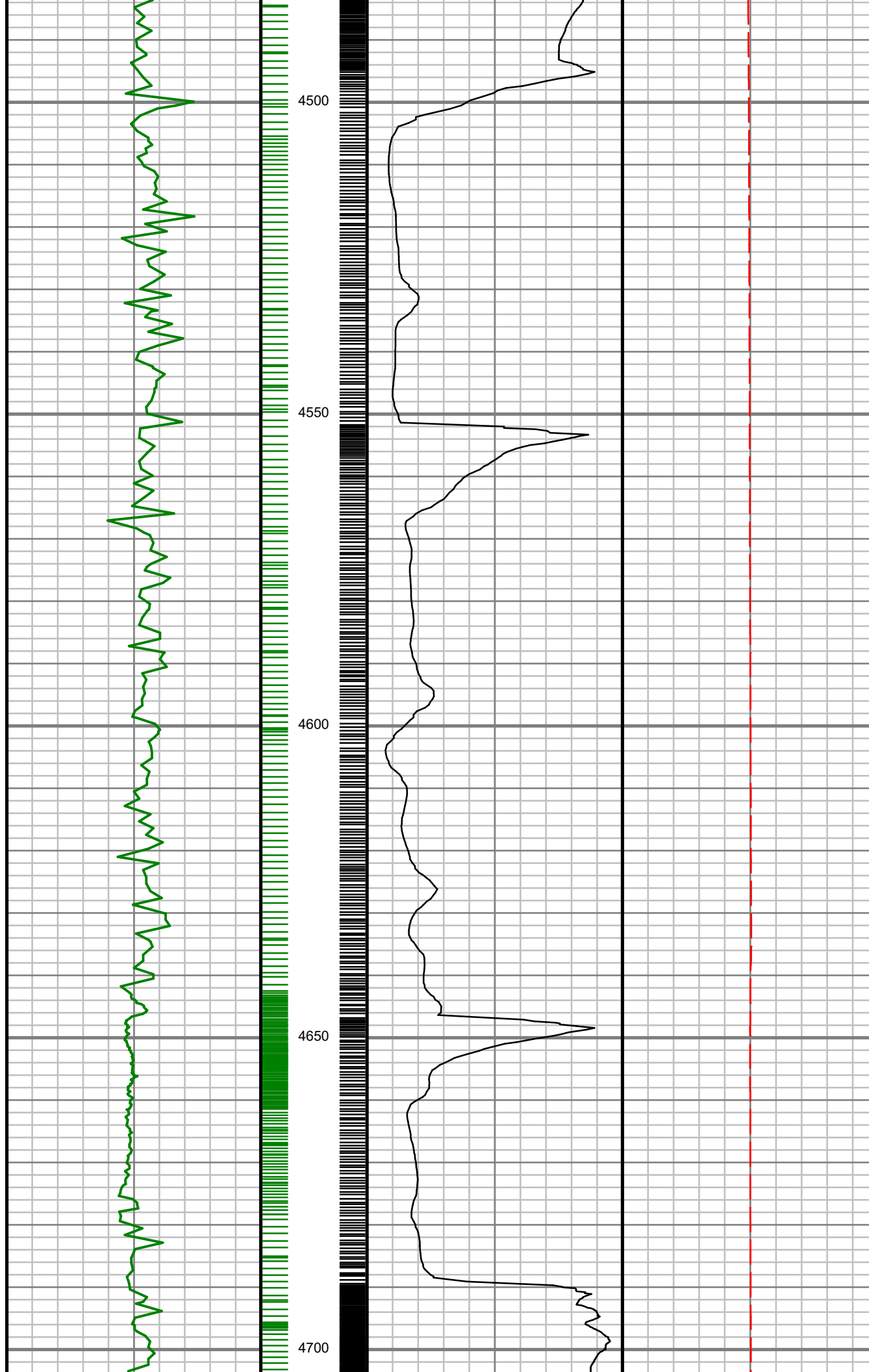
S: 42 MD: 4110.00
ft Inc: 12.25 deg
Az: 162.60 deg
TVD: 4040.81 ft

S: 43 MD: 4205.00
ft Inc: 11.66 deg
Az: 164.98 deg
TVD: 4133.75 ft



S: 44 MD: 4299.00
ft Inc: 11.96 deg
Az: 168.28 deg
TVD: 4225.76 ft

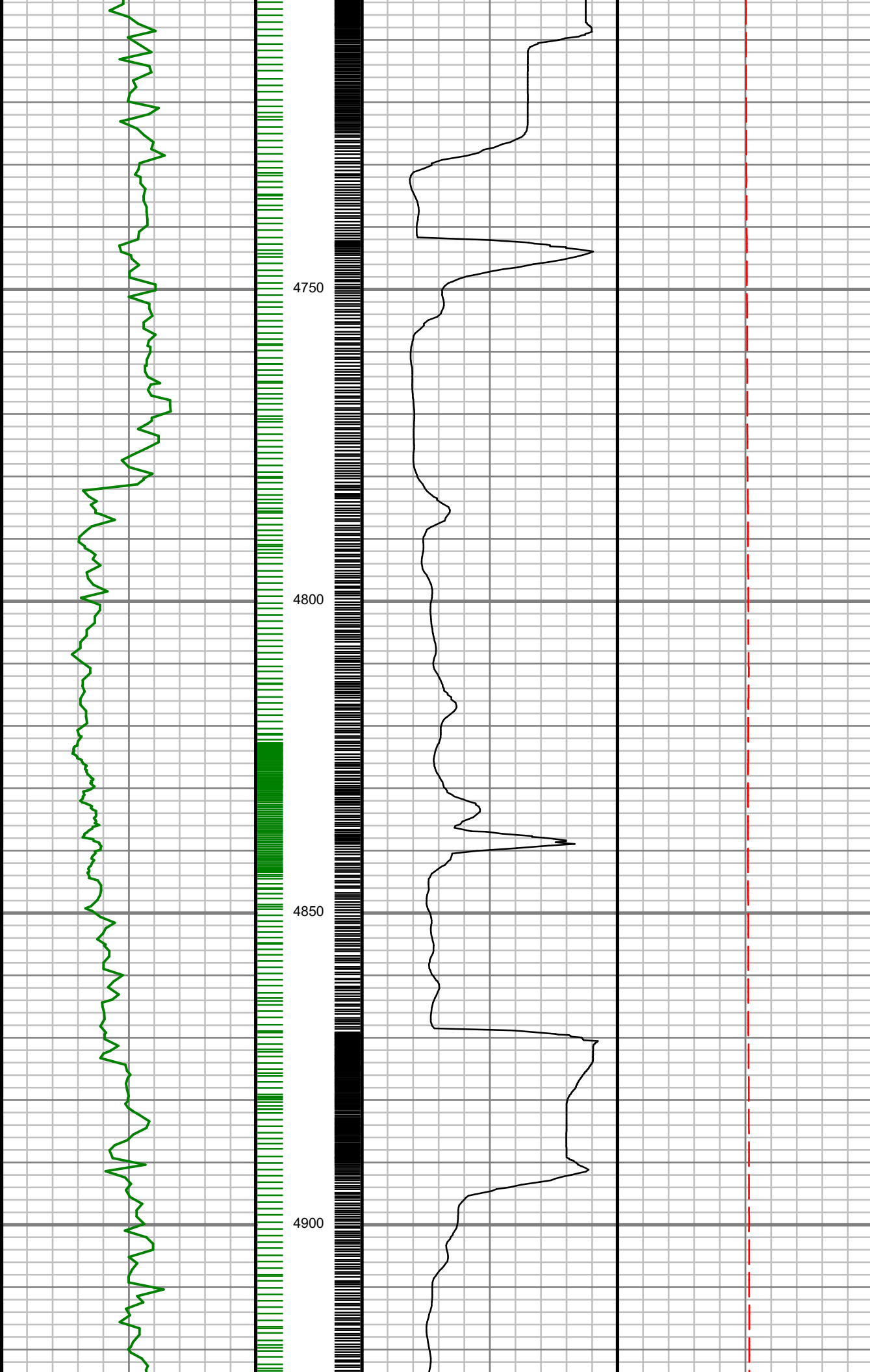
S: 45 MD: 4394.00
ft Inc: 12.61 deg
Az: 166.04 deg
TVD: 4318.59 ft



S: 46 MD: 4488.00
ft Inc: 14.18 deg
Az: 170.66 deg
TVD: 4410.03 ft

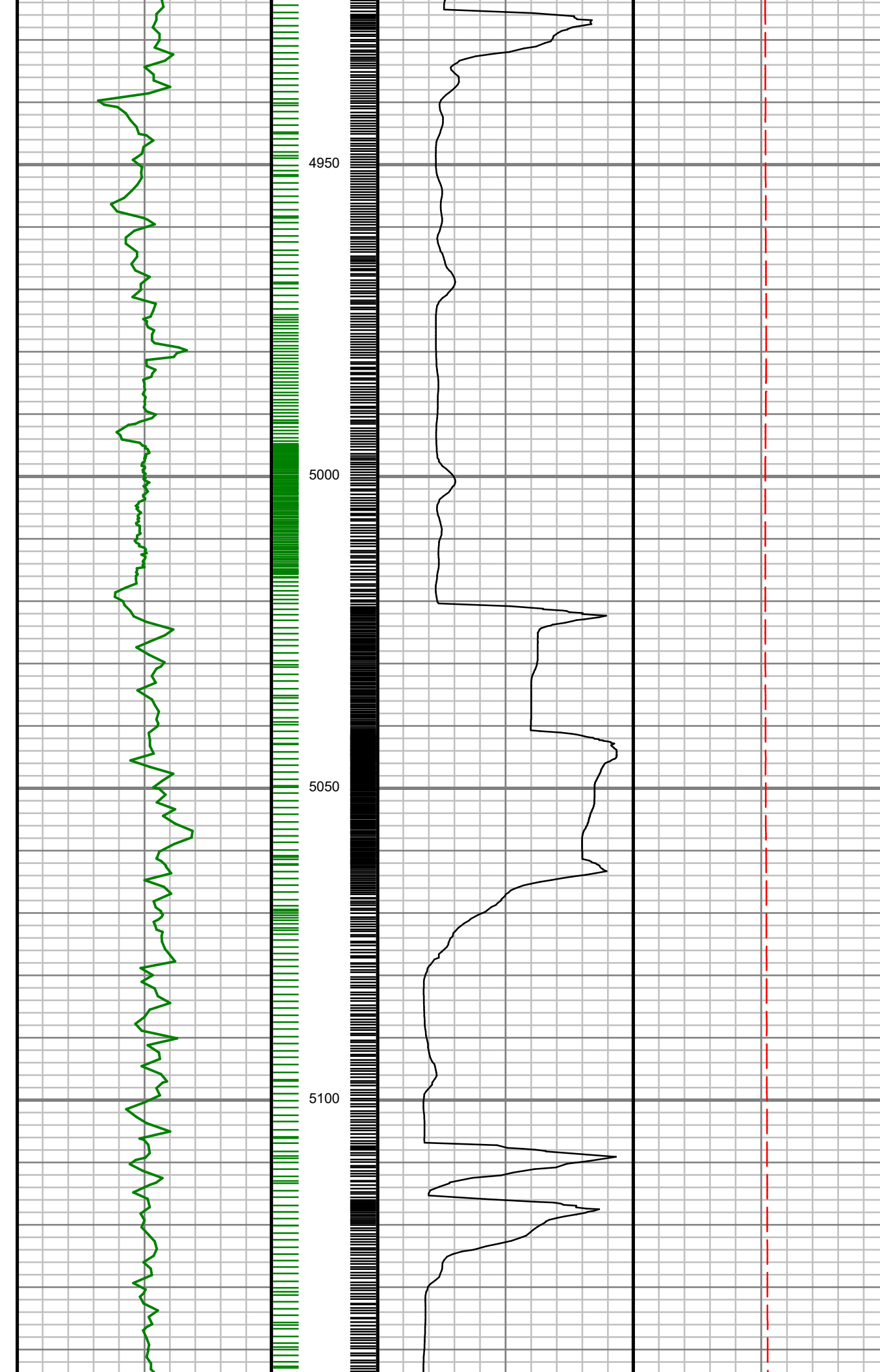
S: 47 MD: 4582.00
ft Inc: 13.24 deg
Az: 171.09 deg
TVD: 4501.35 ft

S: 48 MD: 4677.00
ft Inc: 11.67 deg
Az: 168.54 deg
TVD: 4594.11 ft



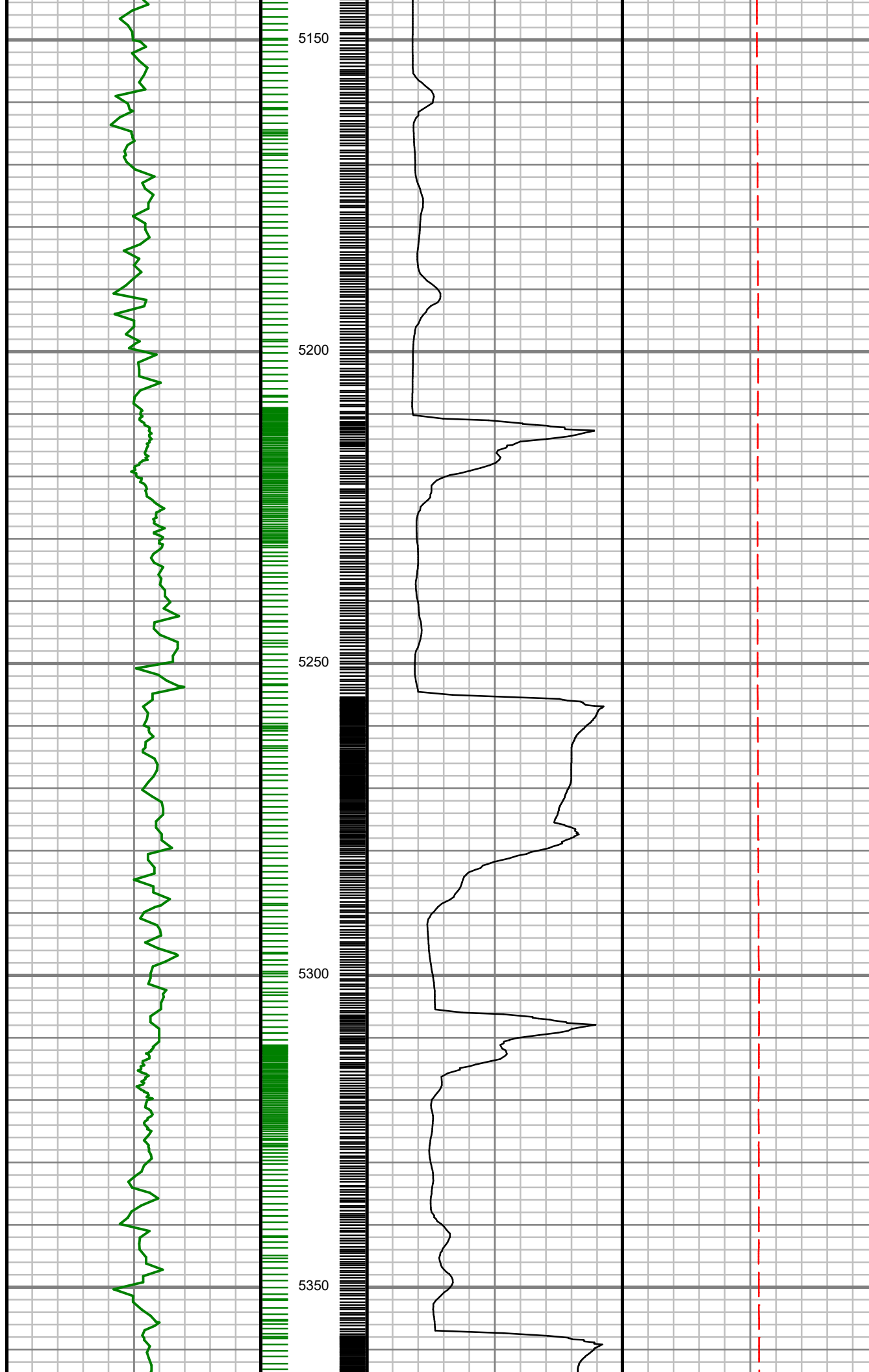
S: 49 MD: 4771.00
ft Inc: 11.94 deg
Az: 163.27 deg
TVD: 4686.13 ft

S: 50 MD: 4866.00
ft Inc: 11.59 deg
Az: 164.27 deg
TVD: 4779.13 ft



S: 51 MD: 4961.00
ft Inc: 13.52 deg
Az: 164.41 deg
TVD: 4871.86 ft

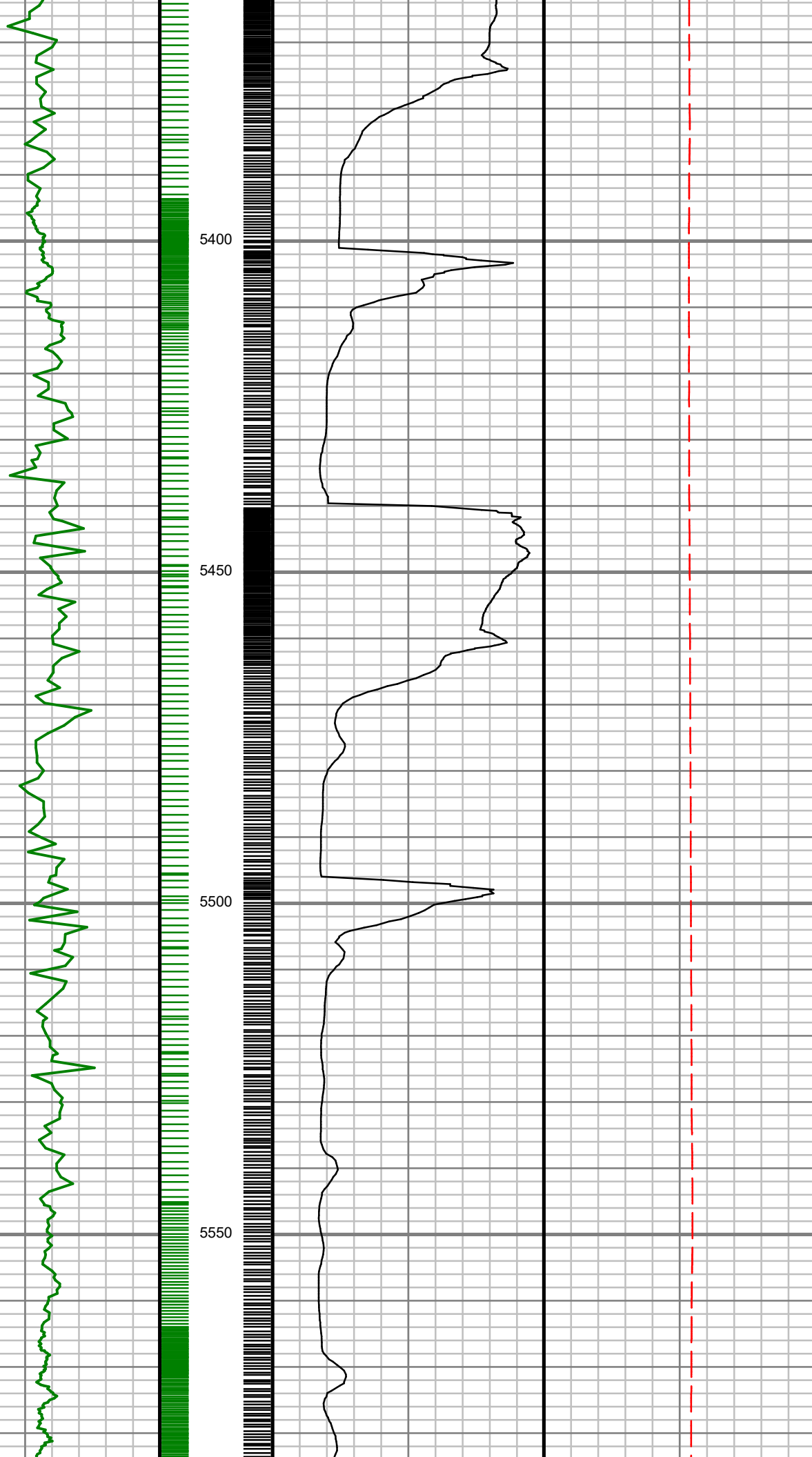
S: 52 MD: 5056.00
ft Inc: 14.88 deg
Az: 165.86 deg
TVD: 4963.95 ft



S: 53 MD: 5150.00
ft Inc: 13.58 deg
Az: 167.77 deg
TVD: 5055.06 ft

S: 54 MD: 5245.00
ft Inc: 11.32 deg
Az: 165.16 deg
TVD: 5147.82 ft

S: 55 MD: 5340.00
ft Inc: 12.98 deg
Az: 168.29 deg
TVD: 5240.69 ft



5400

5450

5500

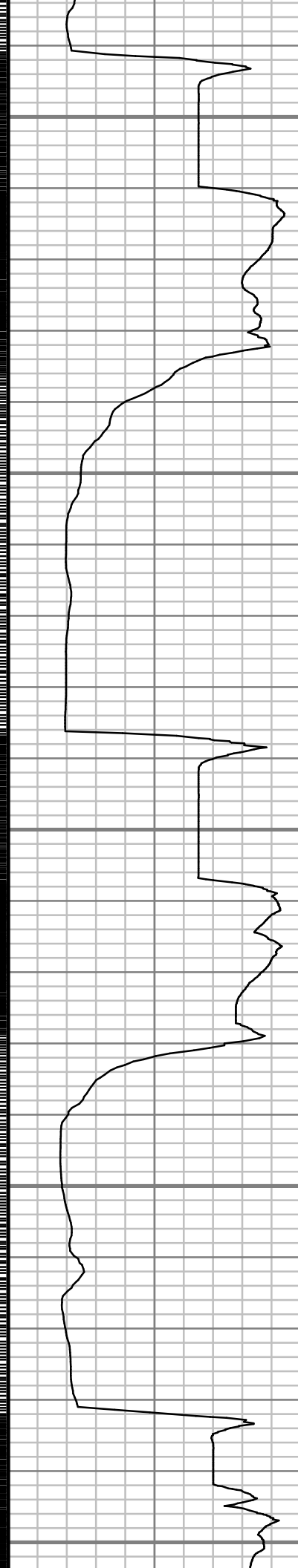
5550

S: 56 MD: 5435.00
ft Inc: 13.33 deg
Az: 168.91 deg
TVD: 5333.20 ft

S: 57 MD: 5529.00
ft Inc: 11.95 deg
Az: 168.49 deg
TVD: 5424.92 ft

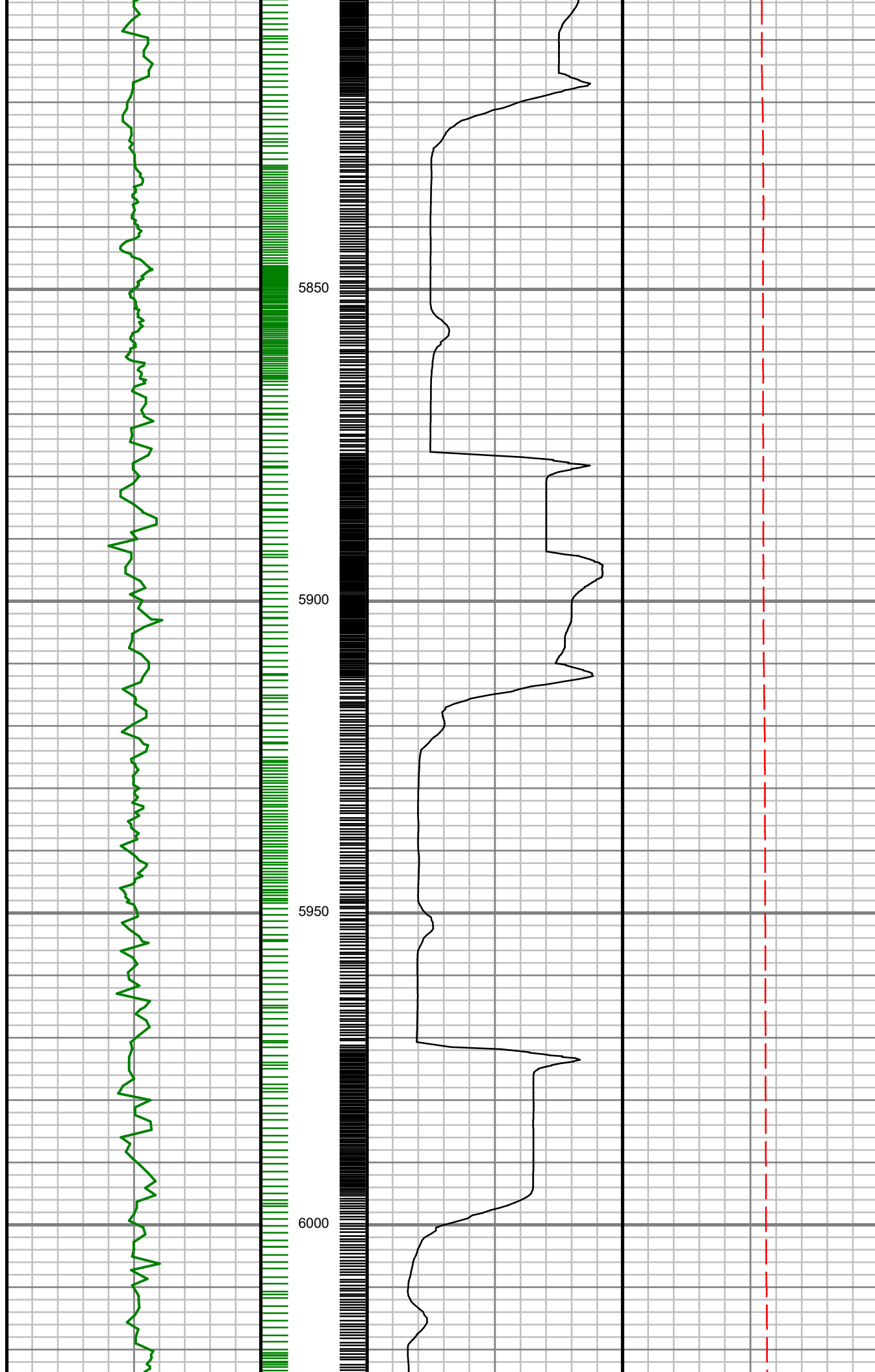


5600
5650
5700
5750
5800



S: 58 MD: 5624.00
ft Inc: 12.08 deg
Az: 154.44 deg
TVD: 5517.86 ft

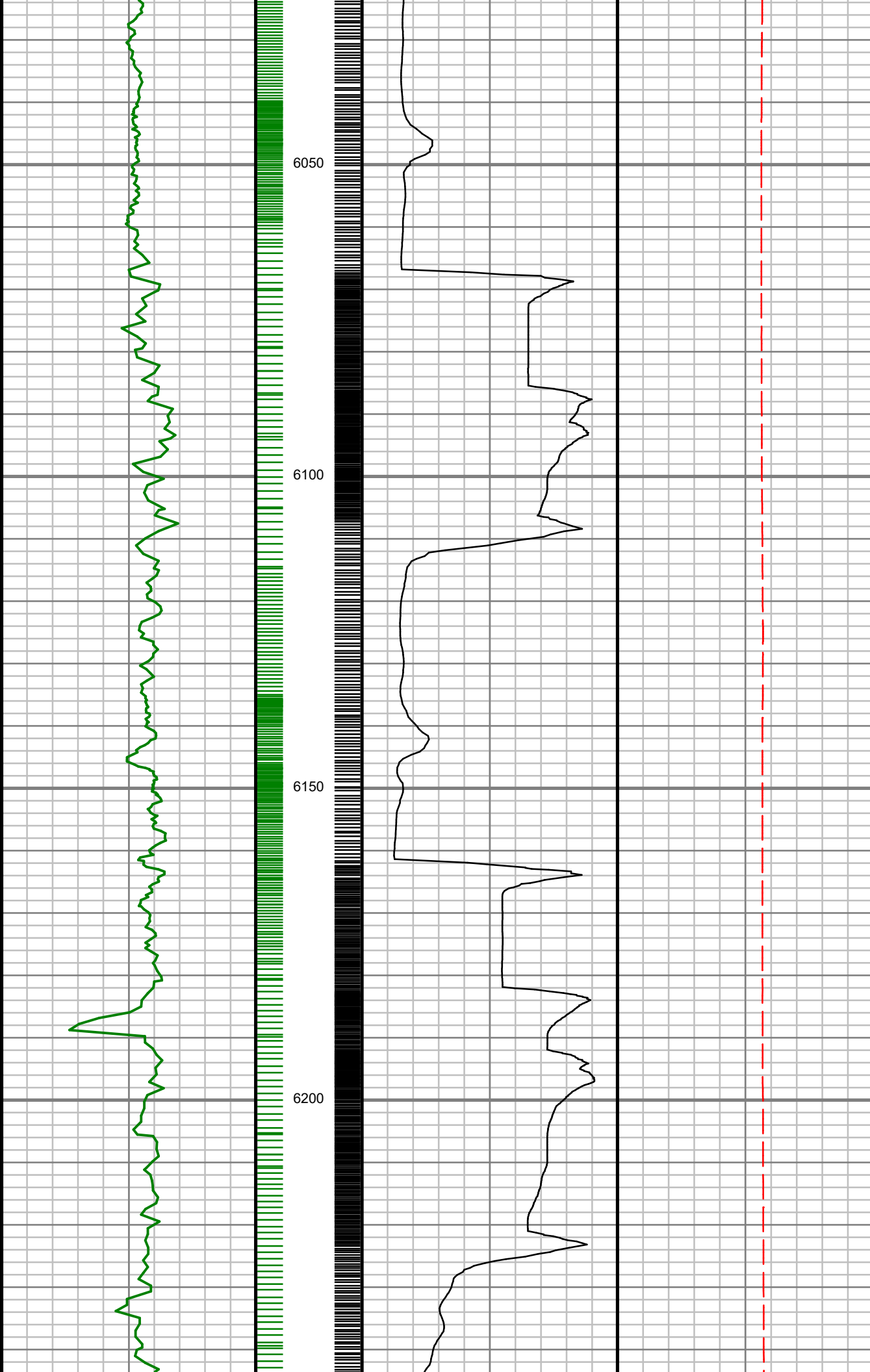
S: 59 MD: 5719.00
ft Inc: 12.61 deg
Az: 156.31 deg
TVD: 5610.66 ft



S: 60 MD: 5814.00
ft Inc: 13.86 deg
Az: 161.17 deg
TVD: 5703.14 ft

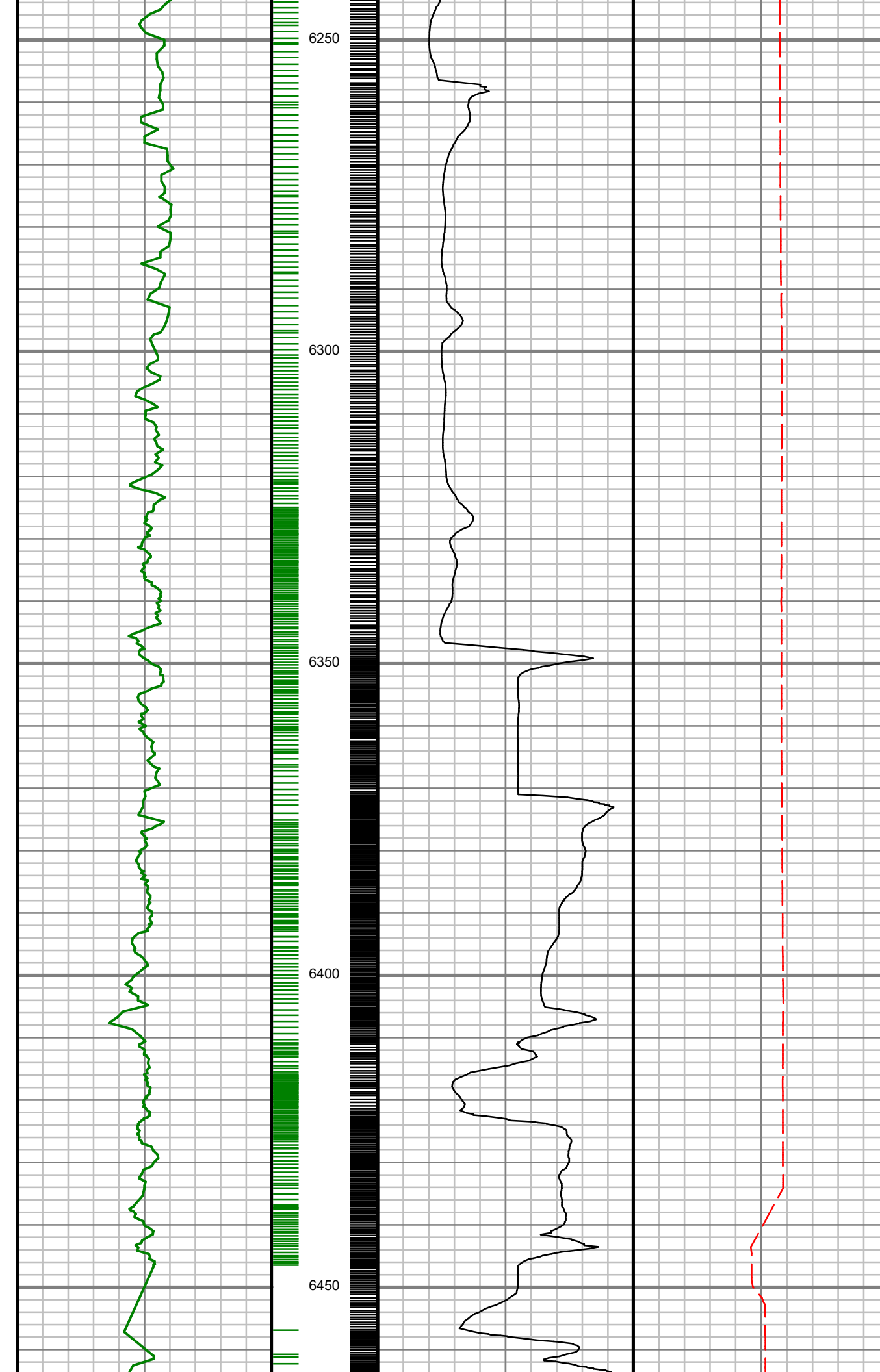
S: 61 MD: 5908.00
ft Inc: 15.07 deg
Az: 159.37 deg
TVD: 5794.16 ft

S: 62 MD: 6003.00
ft Inc: 12.70 deg
Az: 156.29 deg
TVD: 5886.38 ft



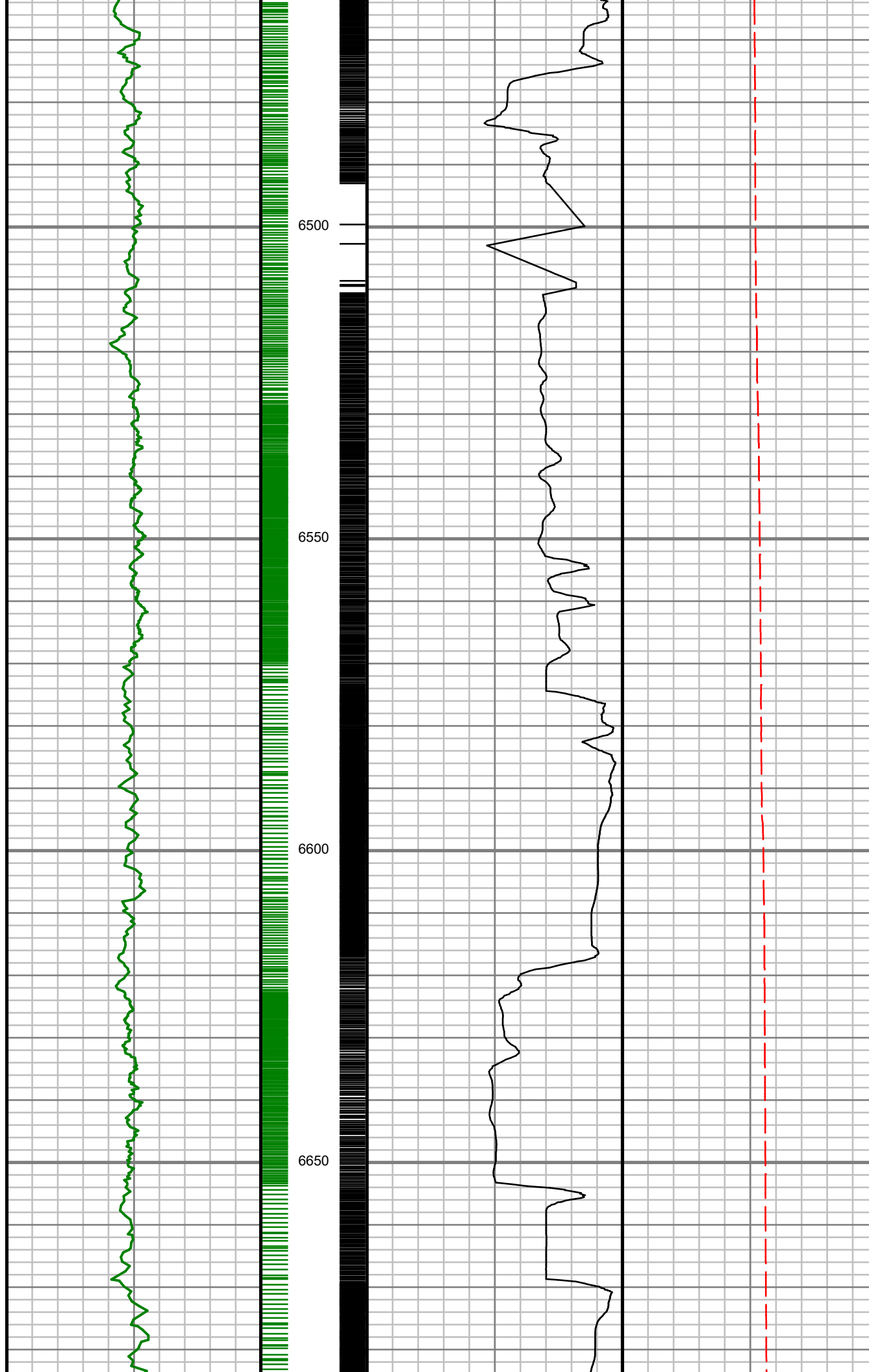
S: 63 MD: 6098.00
ft Inc: 11.76 deg
Az: 157.91 deg
TVD: 5979.22 ft

S: 64 MD: 6192.00
ft Inc: 10.33 deg
Az: 167.18 deg
TVD: 6071.48 ft



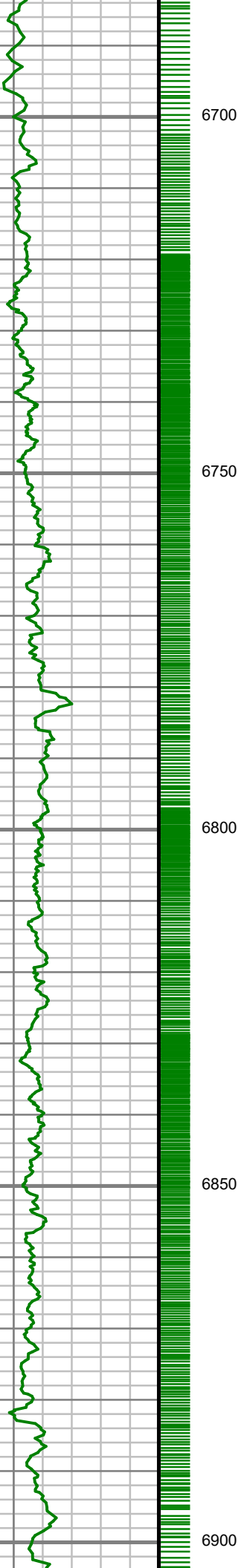
S: 65 MD: 6287.00
ft Inc: 10.74 deg
Az: 168.65 deg
TVD: 6164.88 ft

S: 66 MD: 6381.00
ft Inc: 10.98 deg
Az: 169.70 deg
TVD: 6257.20 ft



S: 67 MD: 6500.00
ft Inc: 12.60 deg
Az: 165.18 deg
TVD: 6373.69 ft

S: 68 MD: 6594.00
ft Inc: 12.04 deg
Az: 160.42 deg
TVD: 6465.52 ft



6700

6750

6800

6850

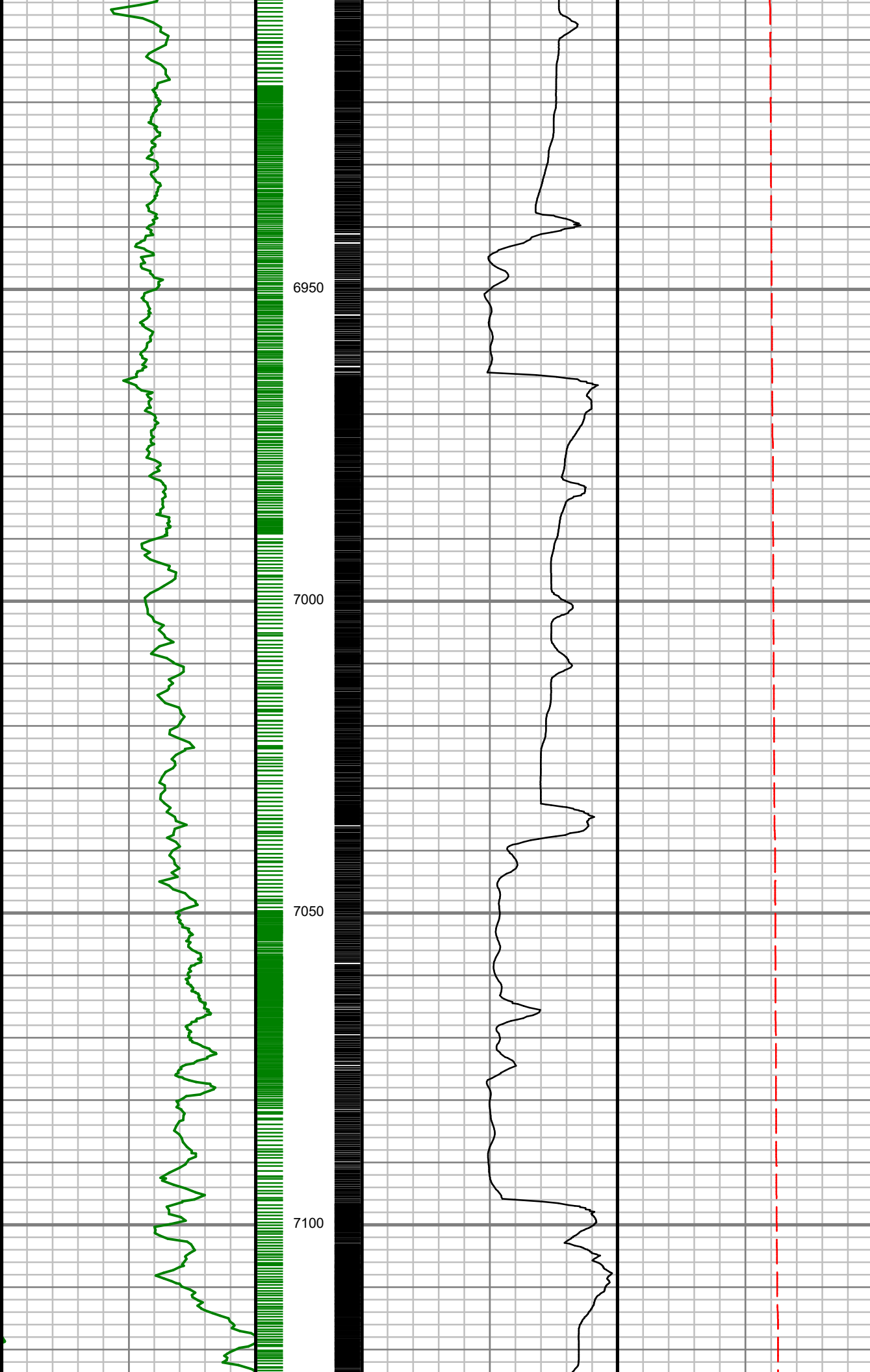
6900



S: 69 MD: 6689.00
ft Inc: 16.67 deg
Az: 155.58 deg
TVD: 6557.54 ft

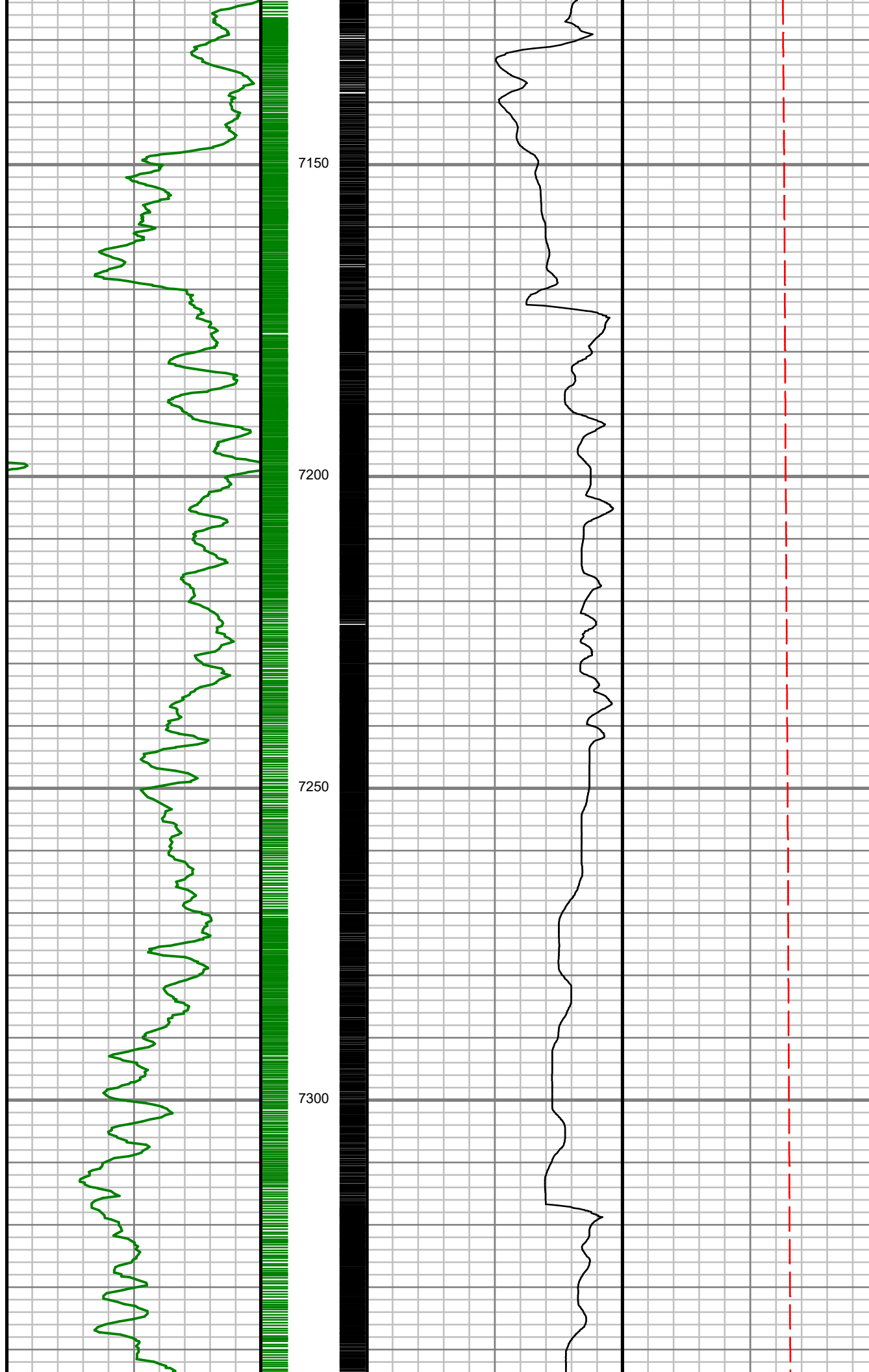
S: 70 MD: 6783.00
ft Inc: 16.98 deg
Az: 161.65 deg
TVD: 6647.52 ft

S: 71 MD: 6878.00
ft Inc: 24.35 deg
Az: 194.00 deg
TVD: 6736.63 ft



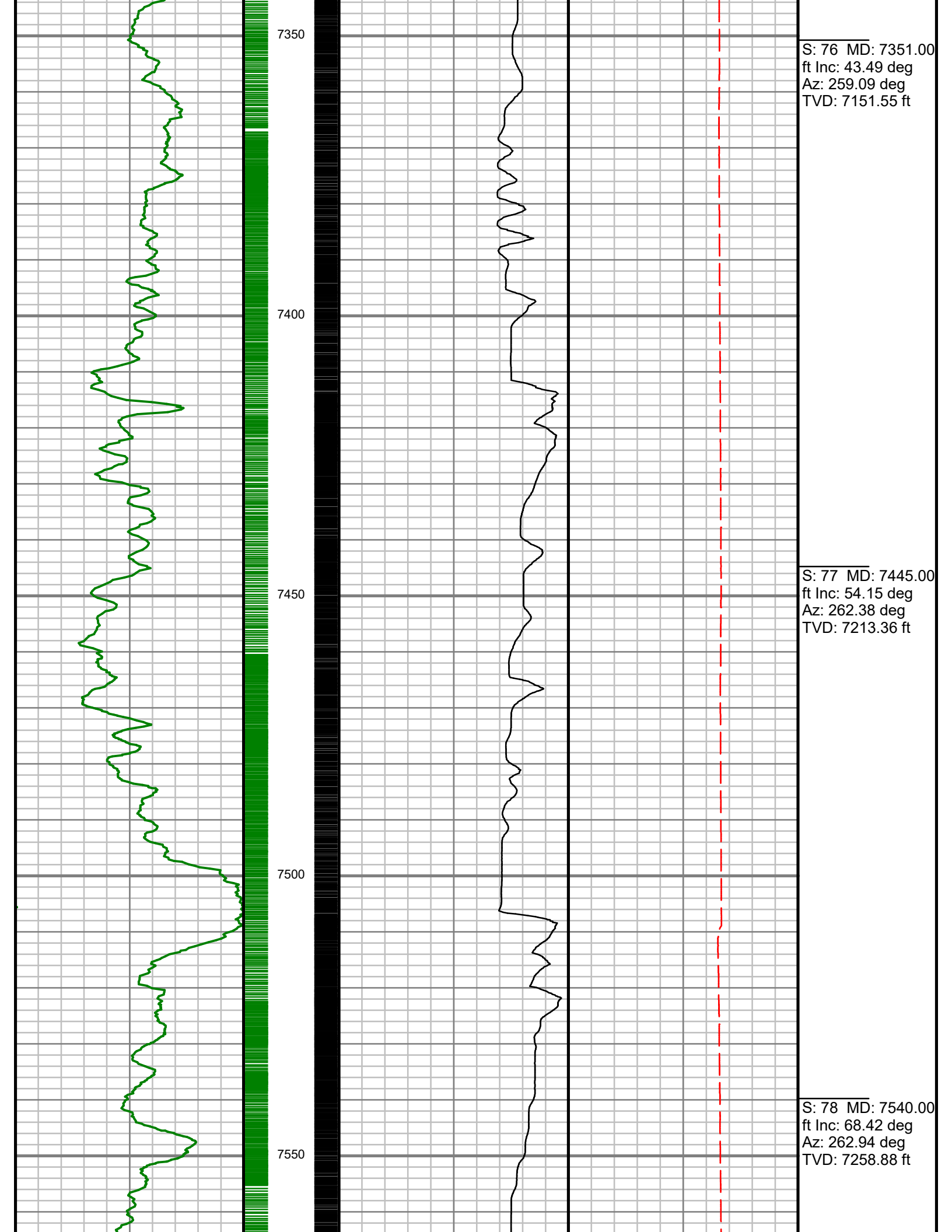
S: 72 MD: 6973.00
ft Inc: 25.81 deg
Az: 219.60 deg
TVD: 6822.92 ft

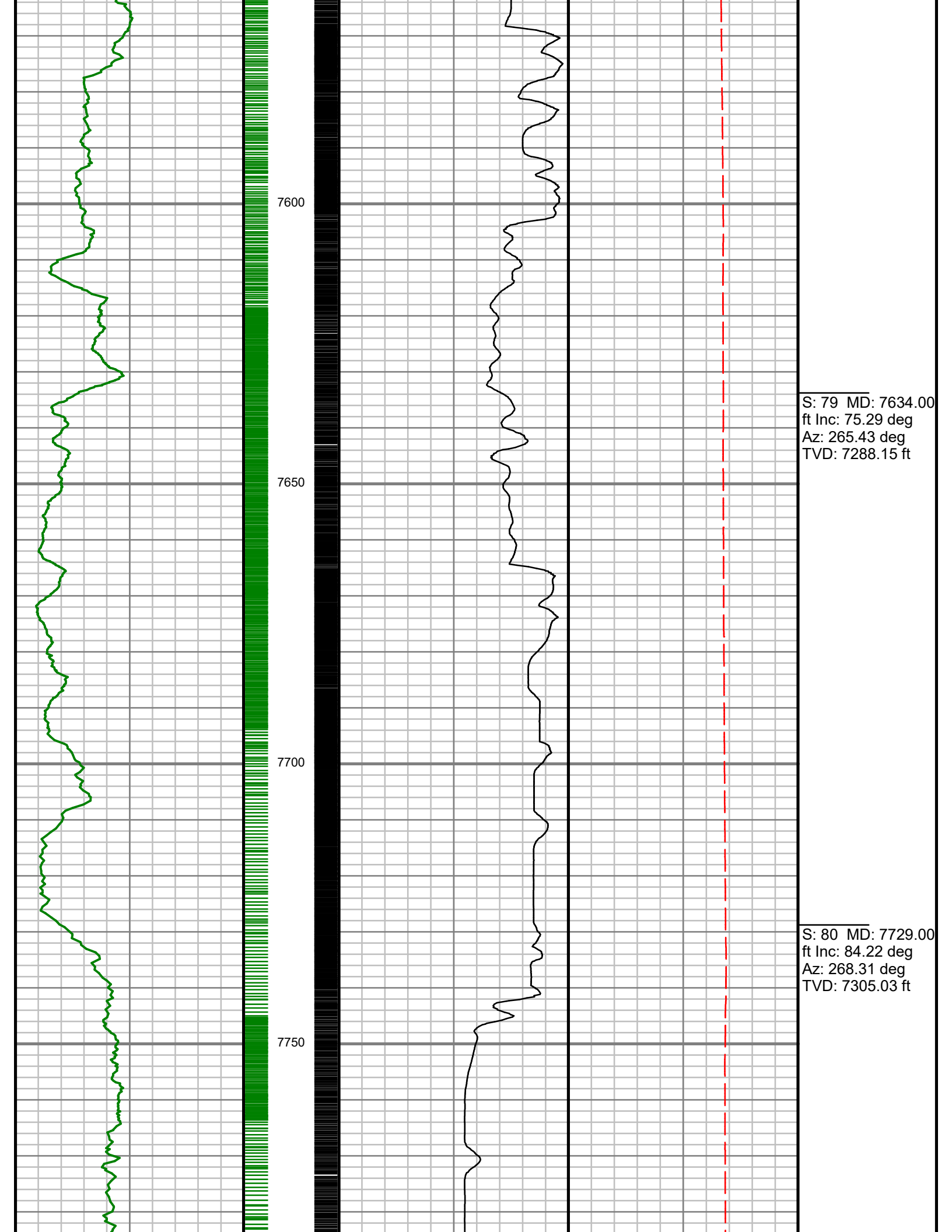
S: 73 MD: 7067.00
ft Inc: 23.48 deg
Az: 241.26 deg
TVD: 6908.52 ft

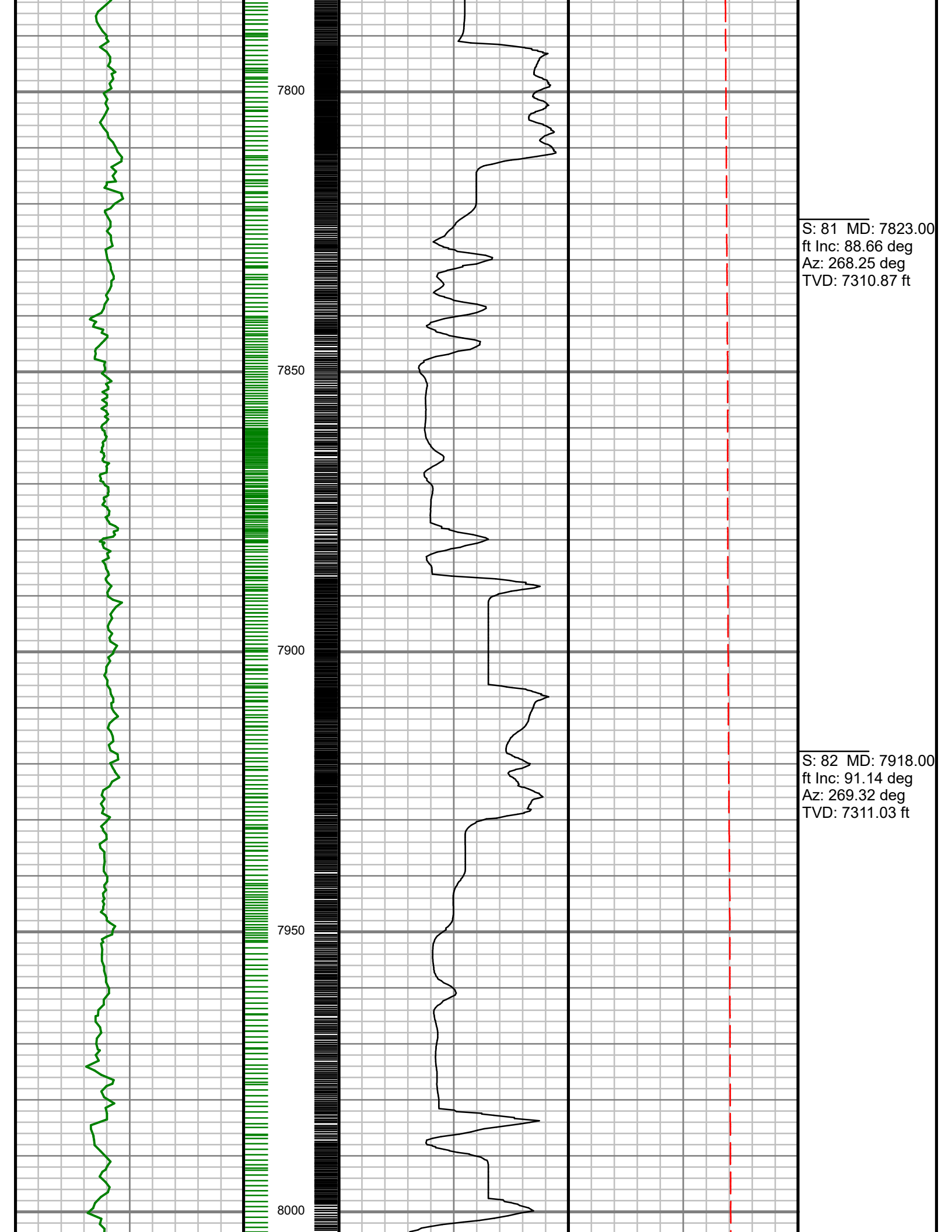


S: 74 MD: 7162.00
ft Inc: 24.35 deg
Az: 246.35 deg
TVD: 6995.38 ft

S: 75 MD: 7256.00
ft Inc: 33.86 deg
Az: 253.00 deg
TVD: 7077.44 ft



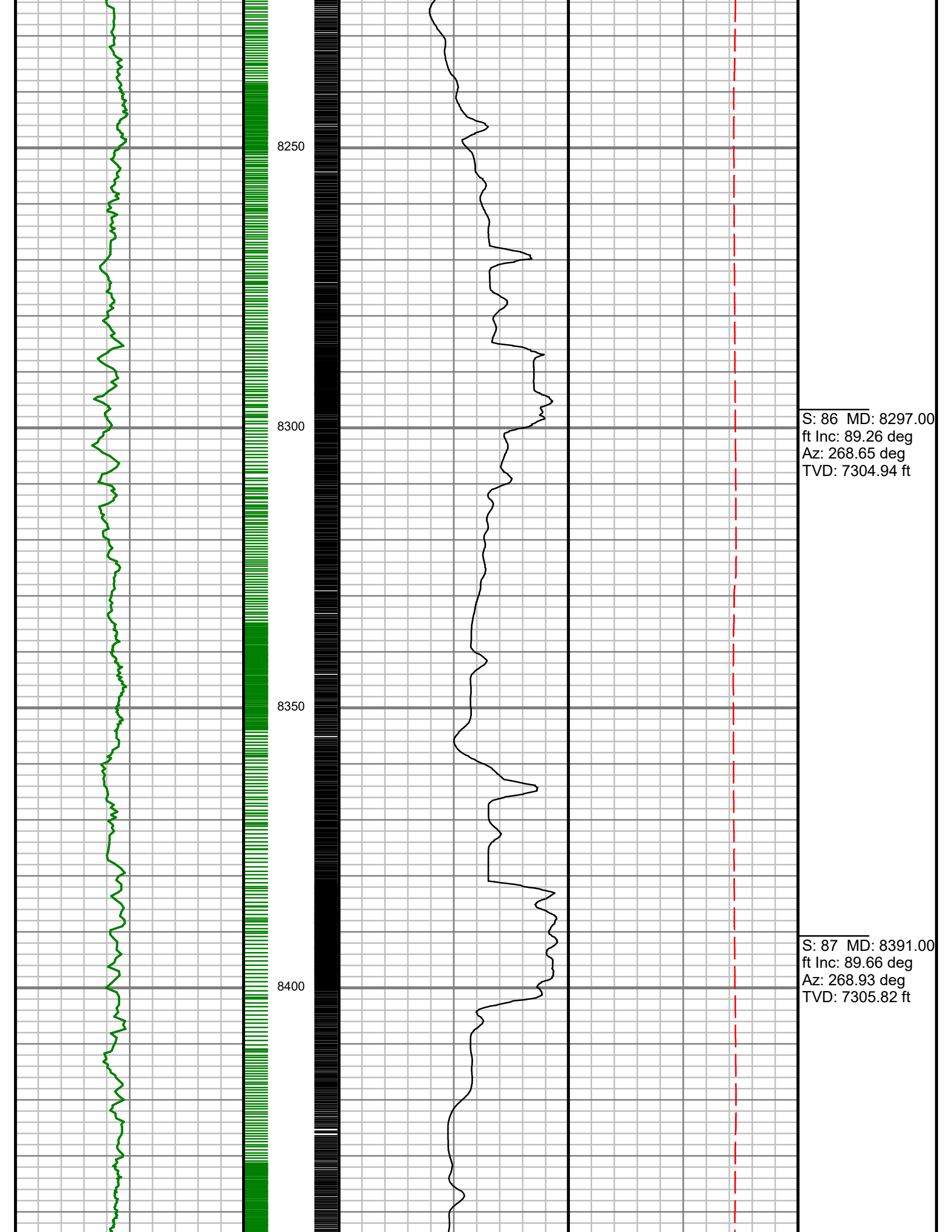


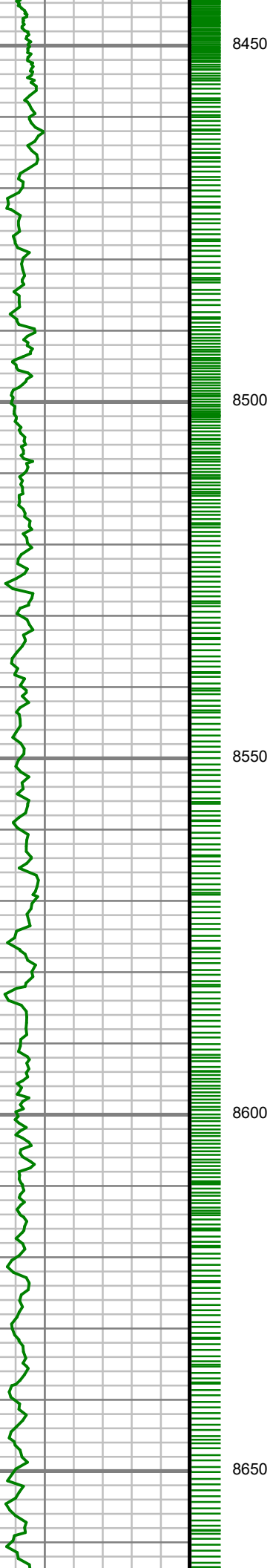


S: 83 MD: 8013.00
ft Inc: 92.58 deg
Az: 269.10 deg
TVD: 7307.95 ft

S: 84 MD: 8107.00
ft Inc: 90.54 deg
Az: 269.72 deg
TVD: 7305.39 ft

S: 85 MD: 8202.00
ft Inc: 90.37 deg
Az: 269.51 deg
TVD: 7304.64 ft





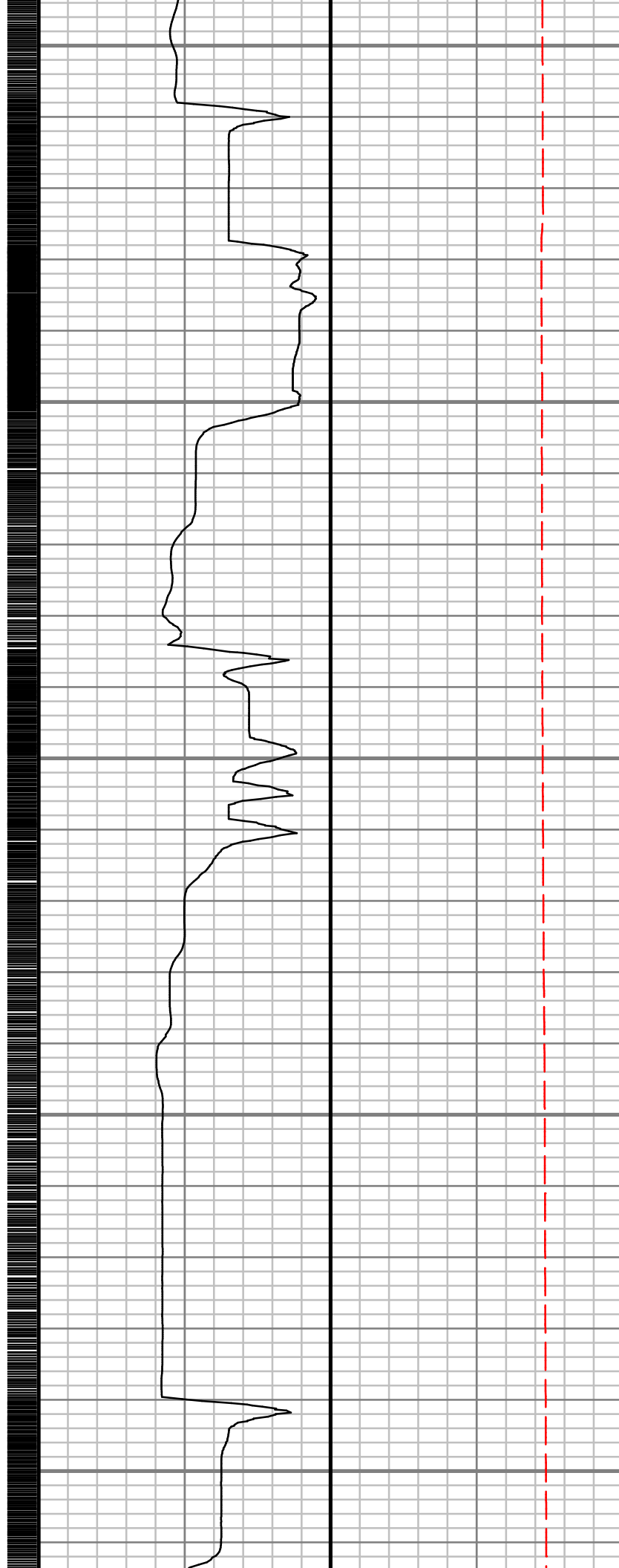
8450

8500

8550

8600

8650



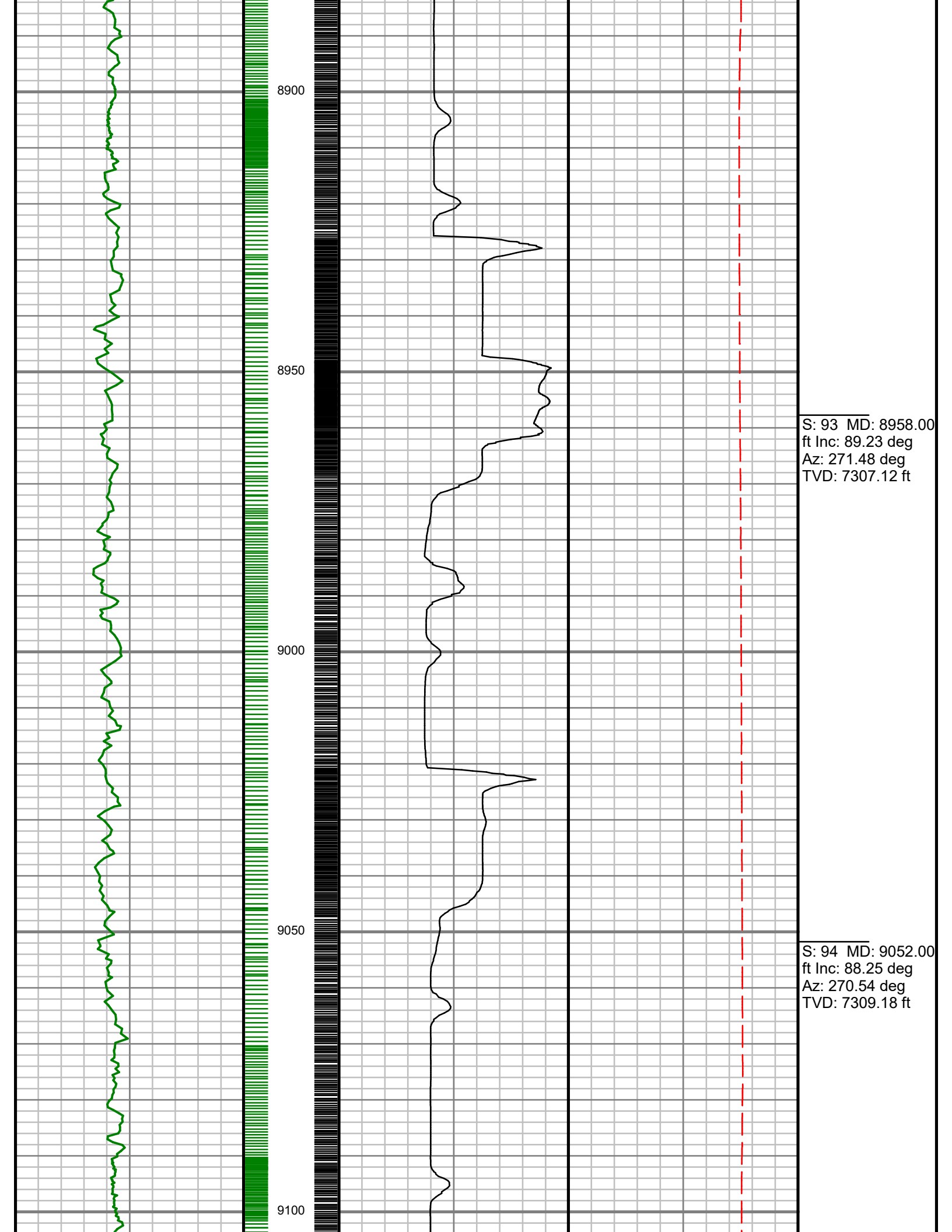
S: 88 MD: 8485.00
ft Inc: 89.69 deg
Az: 271.22 deg
TVD: 7306.35 ft

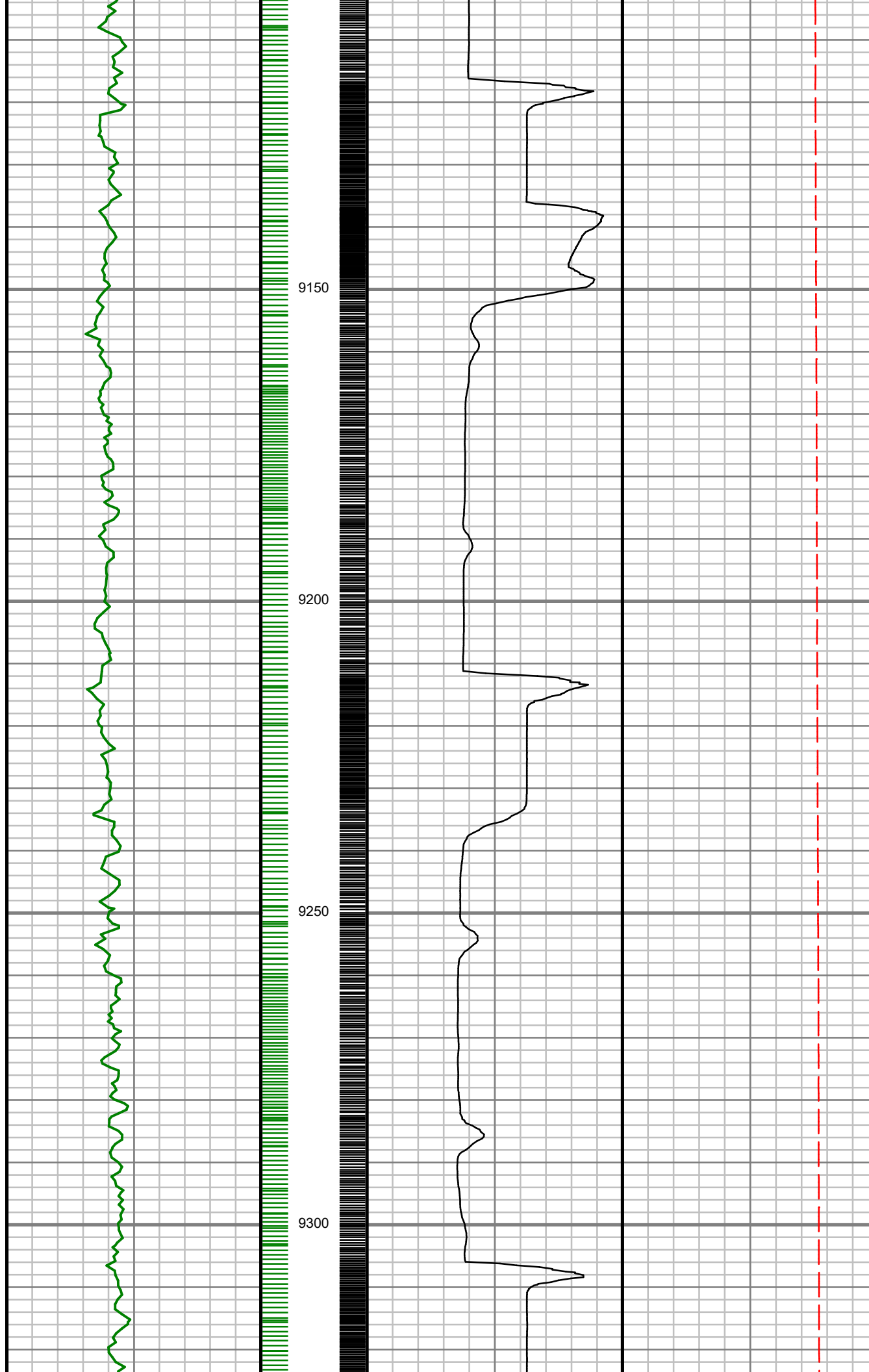
S: 89 MD: 8580.00
ft Inc: 89.90 deg
Az: 271.48 deg
TVD: 7306.69 ft

S: 90 MD: 8674.00
ft Inc: 89.66 deg
Az: 270.64 deg
TVD: 7307.05 ft

S: 91 MD: 8769.00
ft Inc: 89.77 deg
Az: 270.73 deg
TVD: 7307.52 ft

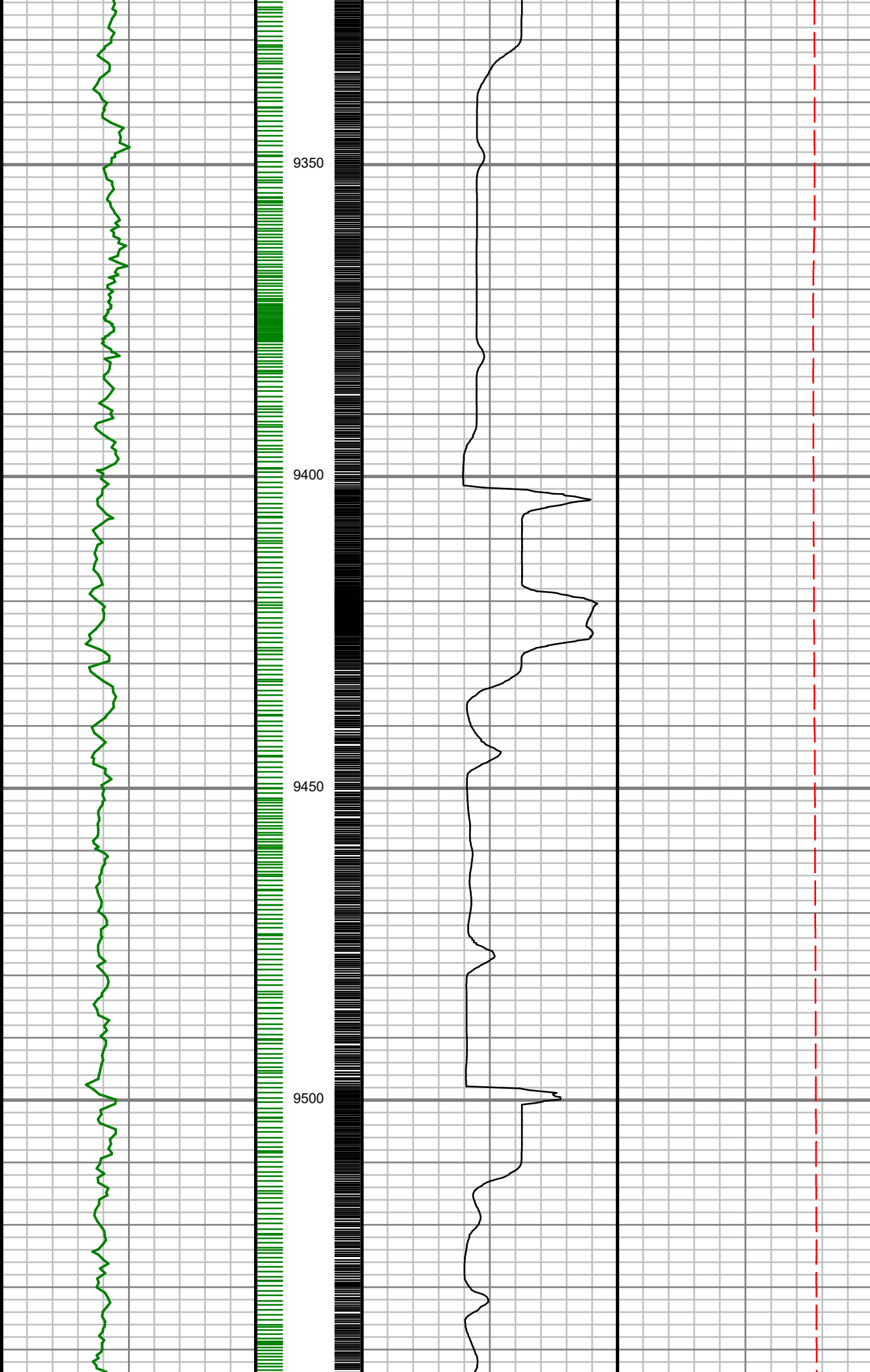
S: 92 MD: 8863.00
ft Inc: 90.75 deg
Az: 271.74 deg
TVD: 7307.10 ft





S: 95 MD: 9147.00
ft Inc: 89.93 deg
Az: 271.71 deg
TVD: 7310.68 ft

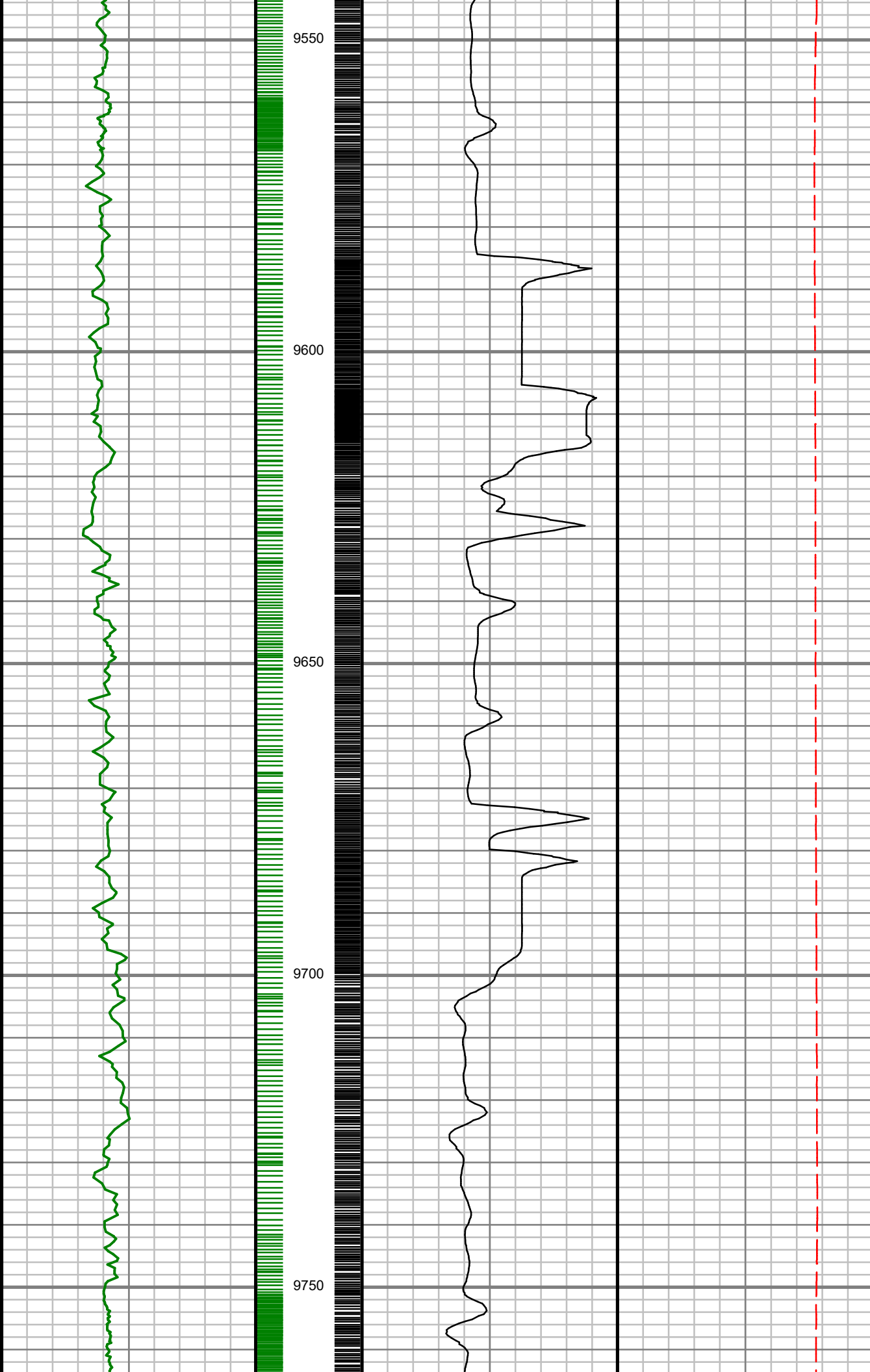
S: 96 MD: 9241.00
ft Inc: 91.07 deg
Az: 272.02 deg
TVD: 7309.86 ft



S: 97 MD: 9336.00
ft Inc: 91.11 deg
Az: 271.15 deg
TVD: 7308.05 ft

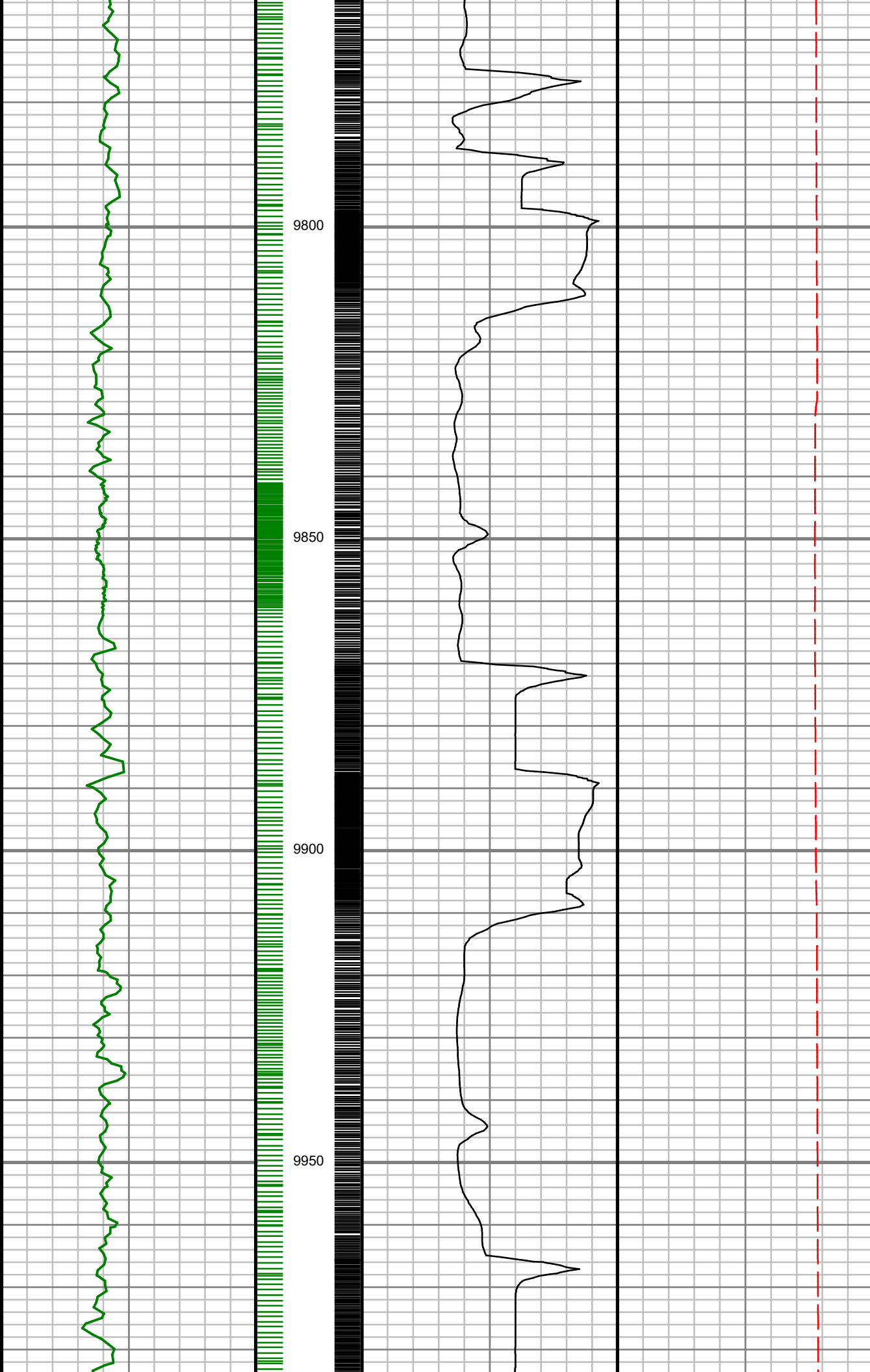
S: 98 MD: 9430.00
ft Inc: 89.90 deg
Az: 270.43 deg
TVD: 7307.22 ft

S: 99 MD: 9525.00
ft Inc: 90.84 deg
Az: 270.16 deg
TVD: 7306.62 ft



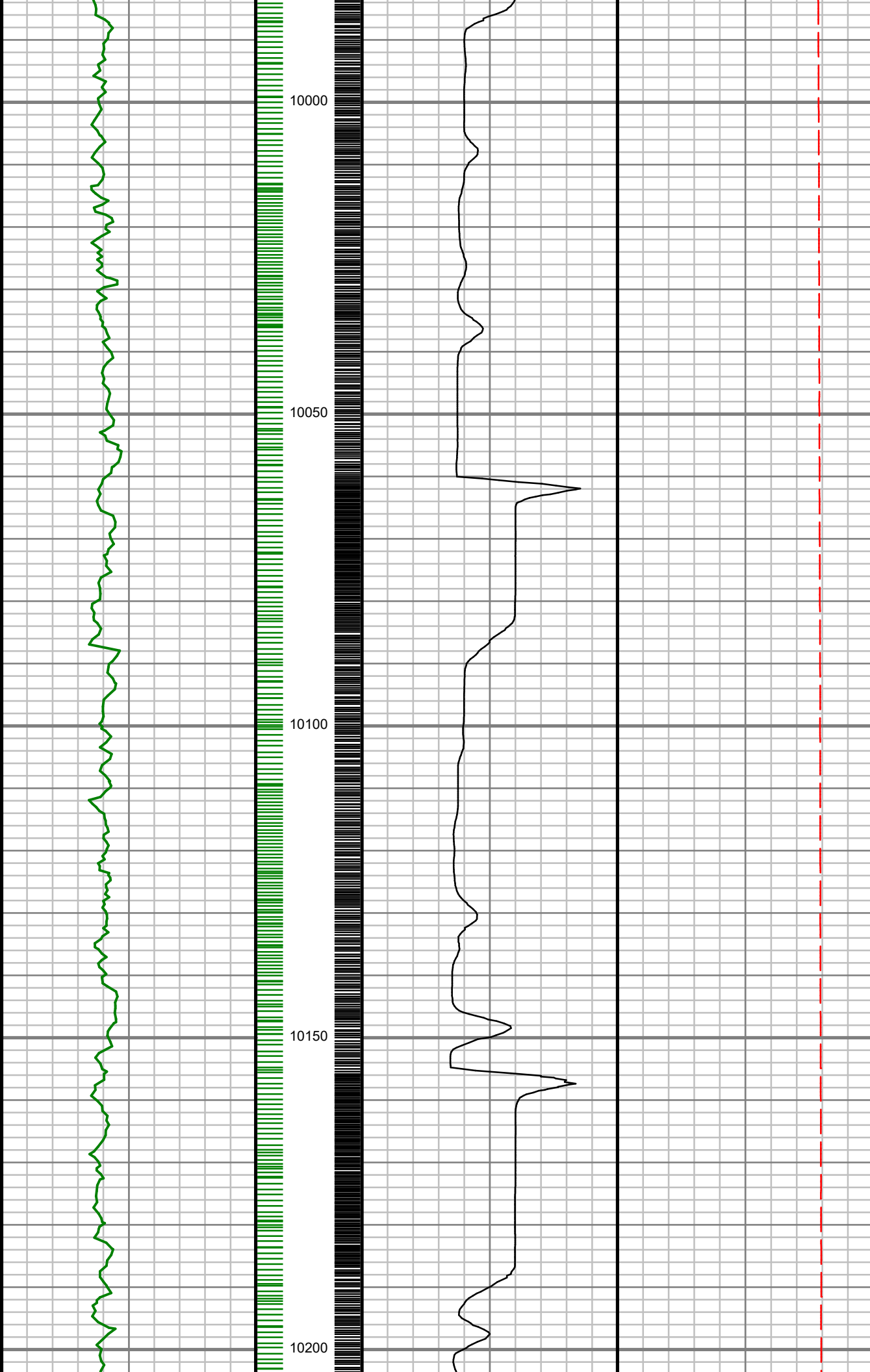
S: 100 MD:
9619.00 ft Inc:
90.17 deg Az:
269.65 deg TVD:
7305.79 ft

S: 101 MD:
9714.00 ft Inc:
90.94 deg Az:
269.31 deg TVD:
7304.87 ft



S: 102 MD:
9808.00 ft Inc:
89.25 deg Az:
267.96 deg TVD:
7304.72 ft

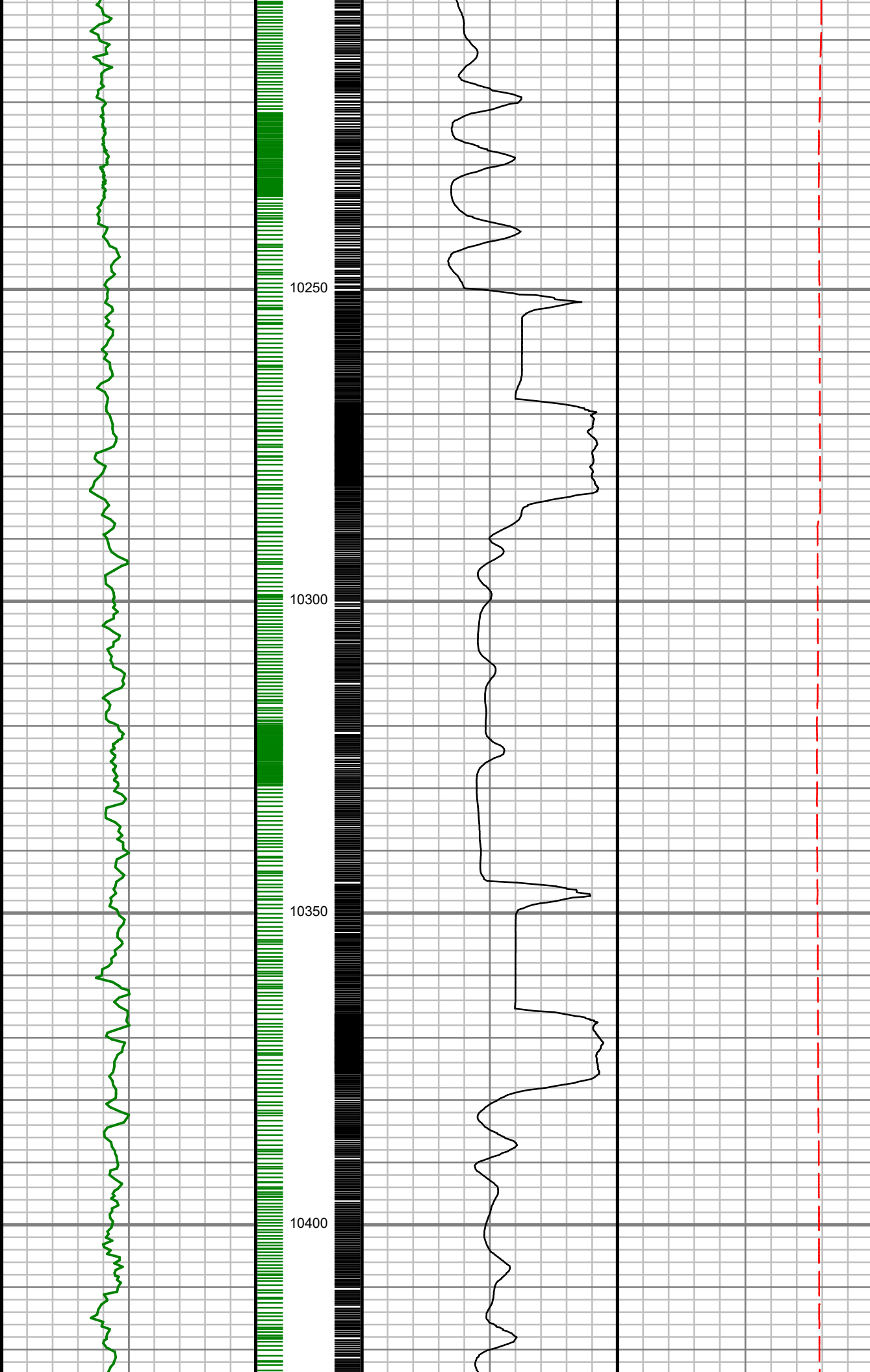
S: 103 MD:
9903.00 ft Inc:
89.36 deg Az:
270.17 deg TVD:
7305.87 ft



S: 104 MD:
9997.00 ft Inc:
90.20 deg Az:
270.31 deg TVD:
7306.22 ft

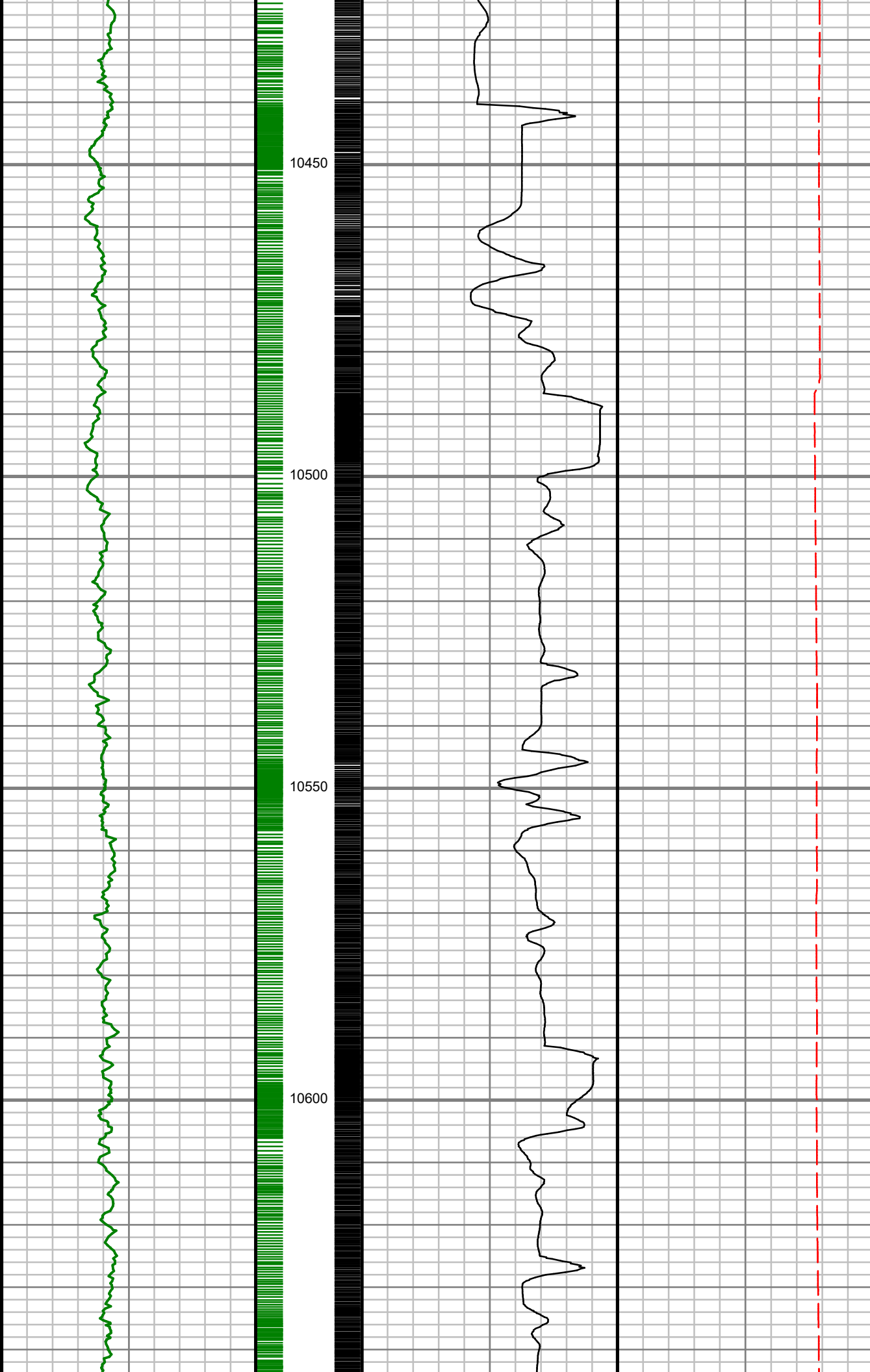
S: 105 MD:
10092.00 ft Inc:
90.71 deg Az:
269.87 deg TVD:
7305.47 ft

S: 106 MD:
10186.00 ft Inc:
91.44 deg Az:
269.36 deg TVD:
7303.71 ft



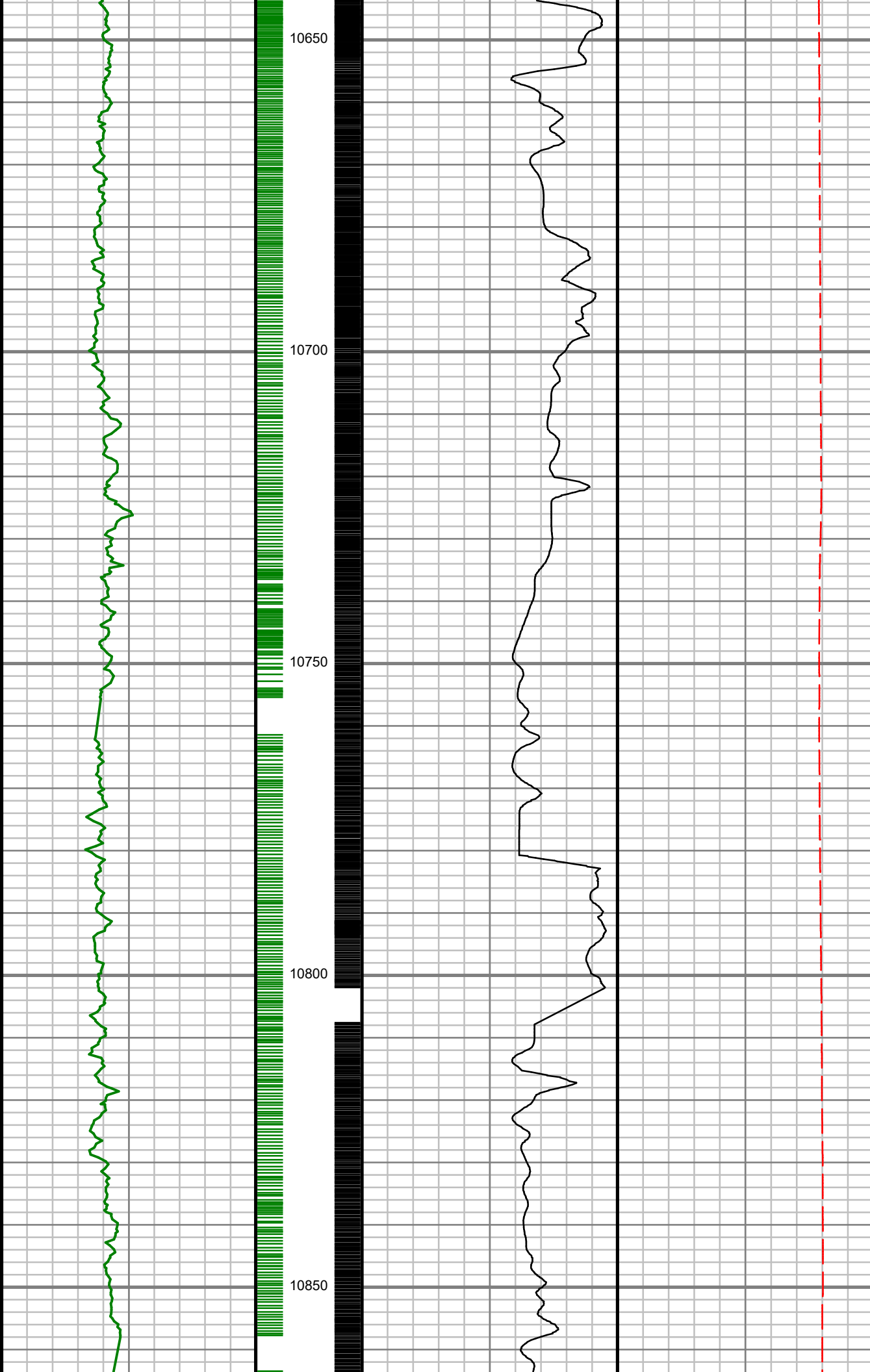
S: 107 MD:
10281.00 ft Inc:
90.94 deg Az:
270.03 deg TVD:
7301.74 ft

S: 108 MD:
10375.00 ft Inc:
89.70 deg Az:
270.08 deg TVD:
7301.21 ft



S: 109 MD:
10470.00 ft Inc:
90.67 deg Az:
269.76 deg TVD:
7300.91 ft

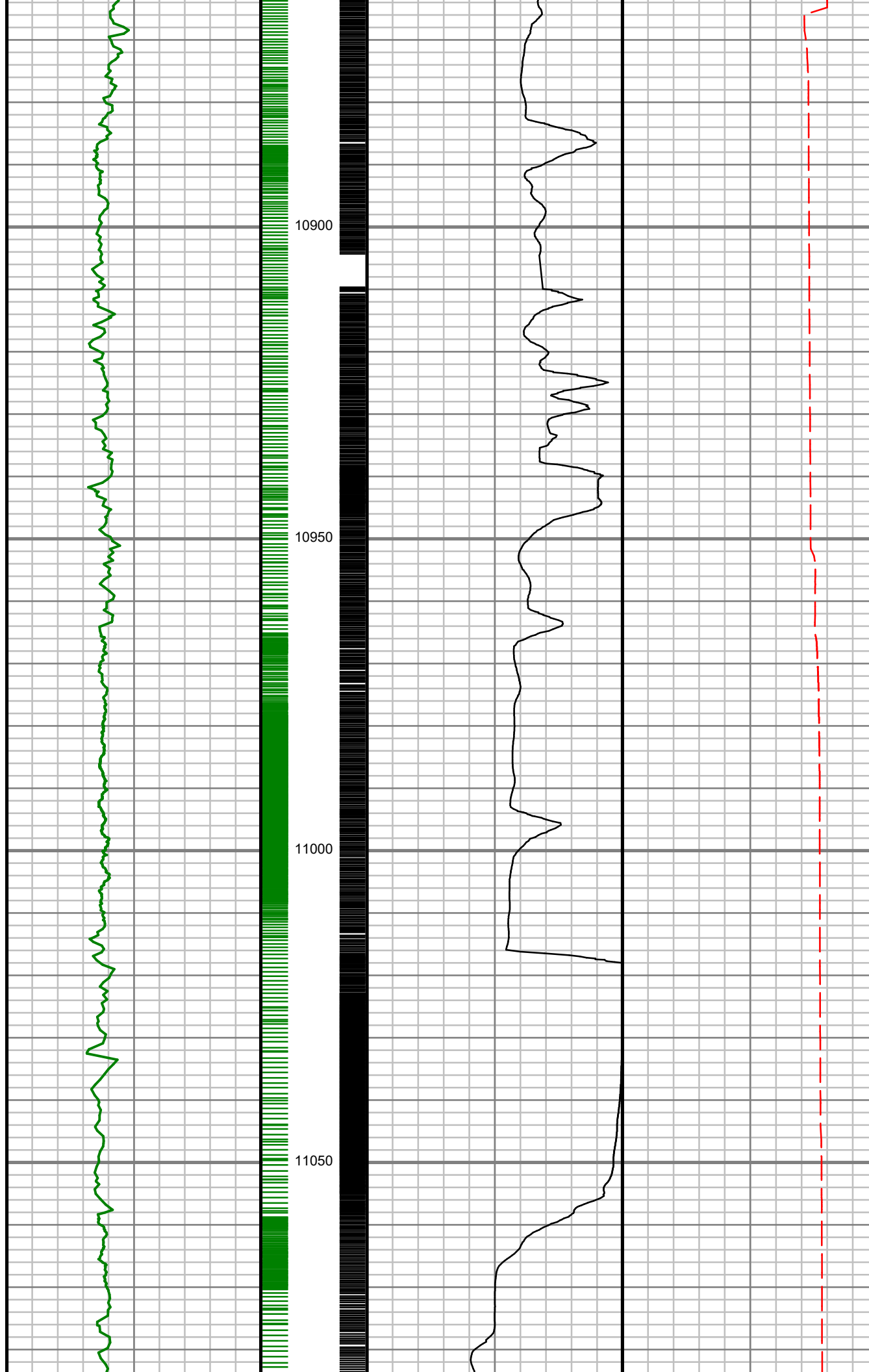
S: 110 MD:
10564.00 ft Inc:
92.08 deg Az:
271.07 deg TVD:
7298.65 ft



S: 111 MD:
10659.00 ft Inc:
88.22 deg Az:
271.26 deg TVD:
7298.40 ft

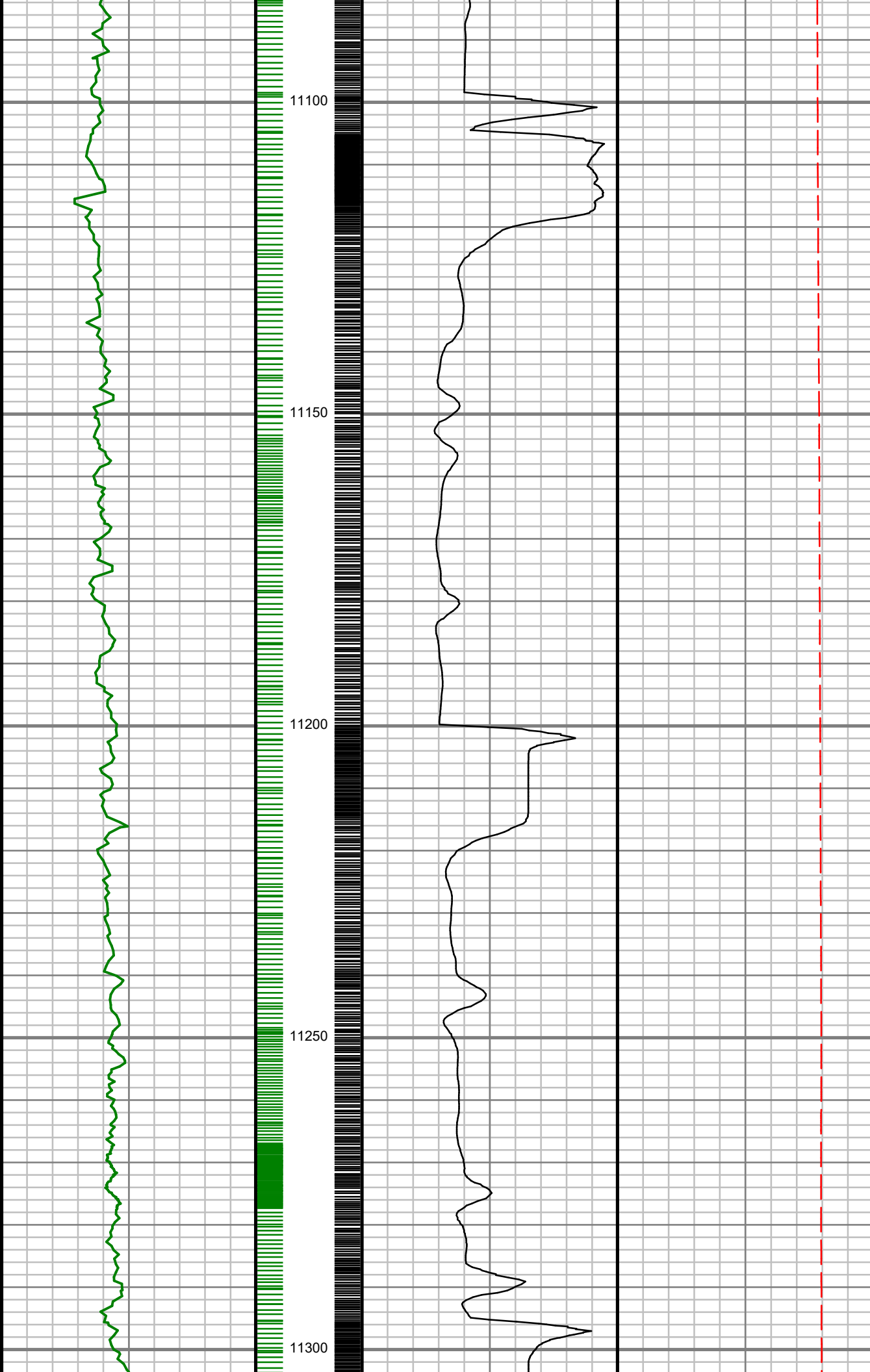
S: 112 MD:
10753.00 ft Inc:
87.85 deg Az:
271.41 deg TVD:
7301.62 ft

S: 113 MD:
10848.00 ft Inc:
90.94 deg Az:
270.01 deg TVD:
7302.62 ft



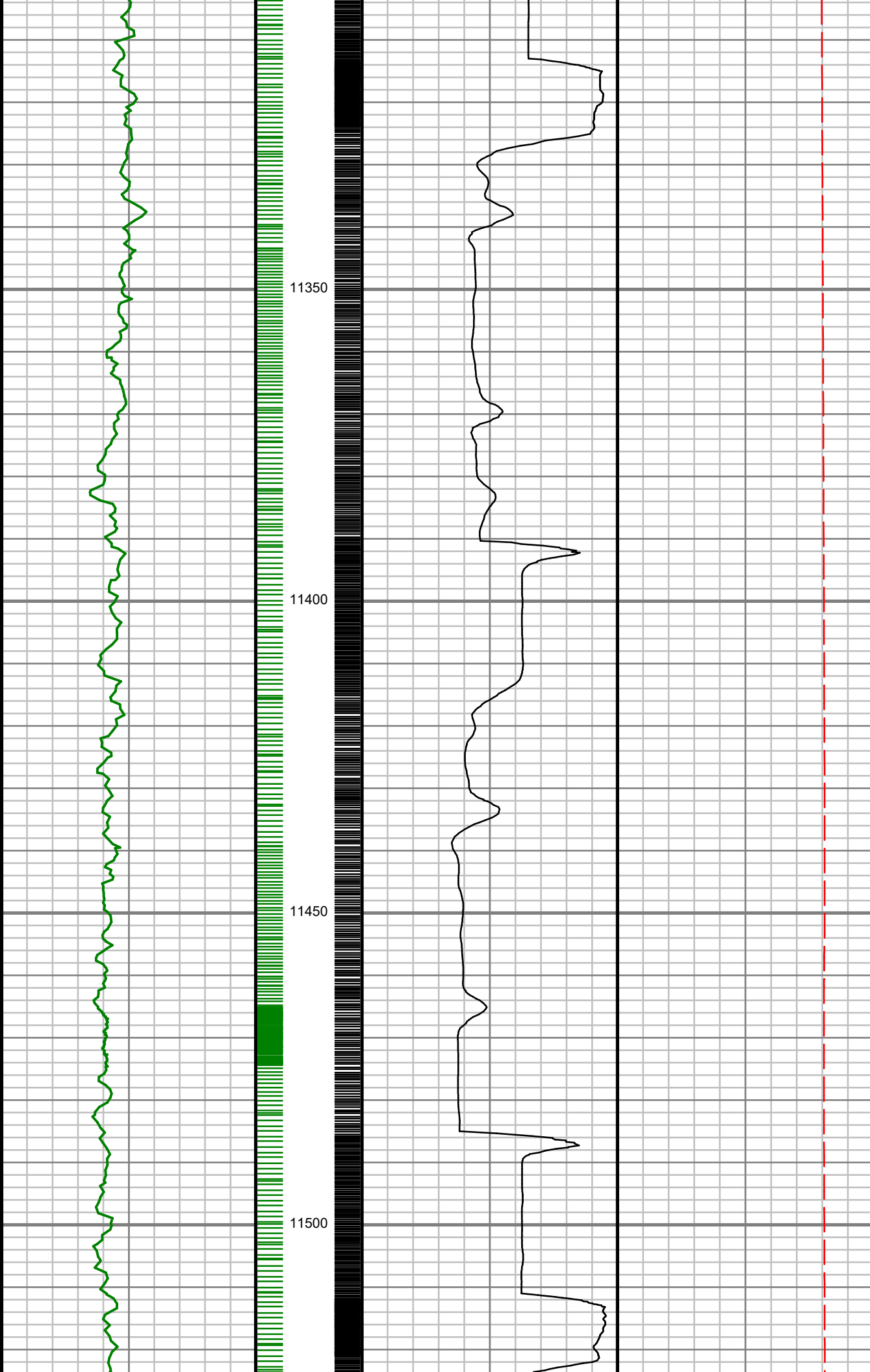
S: 114 MD:
10952.00 ft Inc:
90.54 deg Az:
269.63 deg TVD:
7301.28 ft

S: 115 MD:
11046.00 ft Inc:
89.43 deg Az:
271.95 deg TVD:
7301.31 ft



S: 116 MD:
11141.00 ft Inc:
89.19 deg Az:
274.94 deg TVD:
7302.45 ft

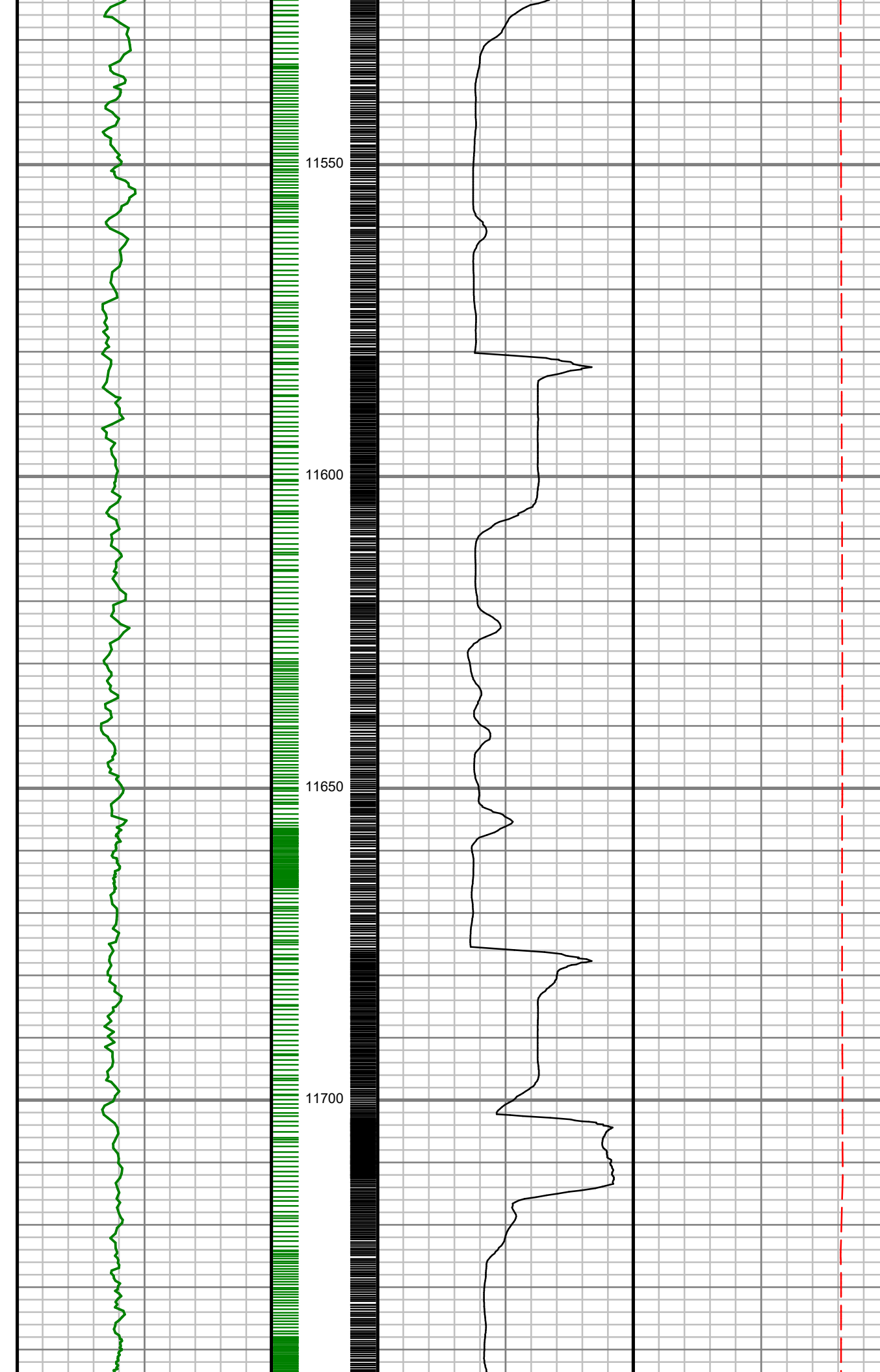
S: 117 MD:
11235.00 ft Inc:
90.13 deg Az:
274.99 deg TVD:
7303.00 ft



S: 118 MD:
11329.00 ft Inc:
91.58 deg Az:
273.58 deg TVD:
7301.60 ft

S: 119 MD:
11424.00 ft Inc:
92.18 deg Az:
272.86 deg TVD:
7298.48 ft

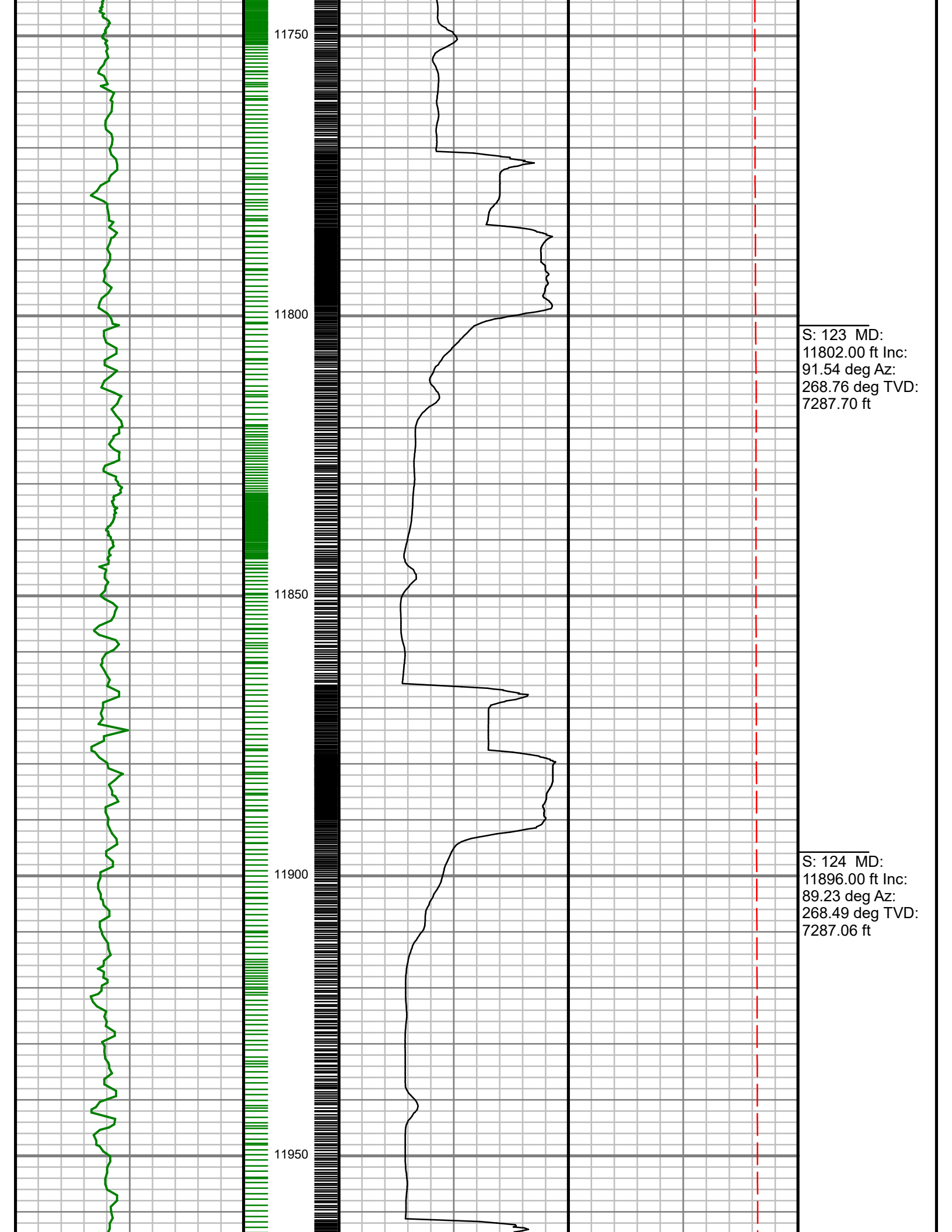
S: 120 MD:
11519.00 ft Inc:

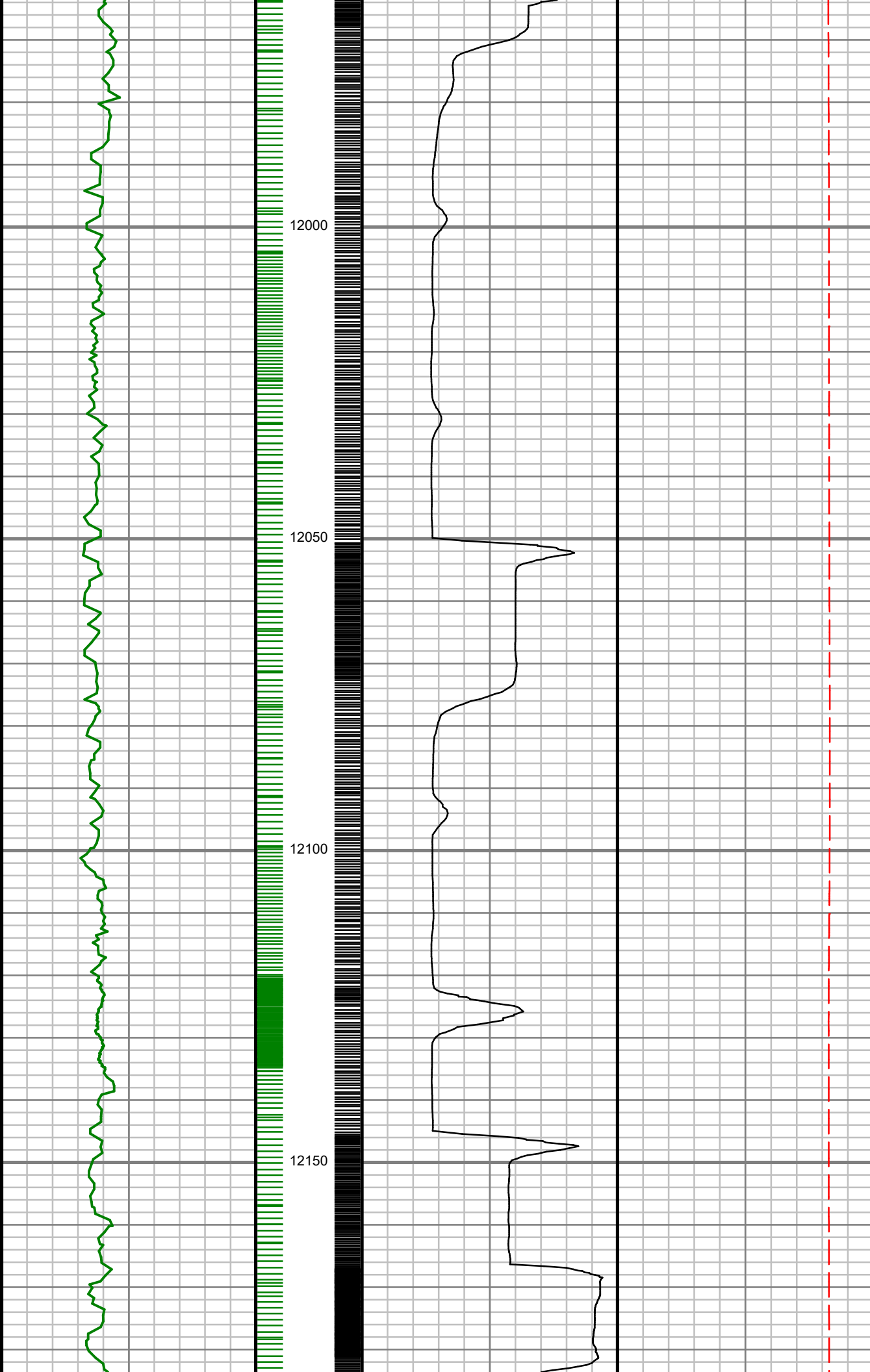


11519.00 ft Inc:
91.14 deg Az:
271.39 deg TVD:
7295.72 ft

S: 121 MD:
11613.00 ft Inc:
91.41 deg Az:
271.34 deg TVD:
7293.63 ft

S: 122 MD:
11707.00 ft Inc:
92.12 deg Az:
271.03 deg TVD:
7290.73 ft

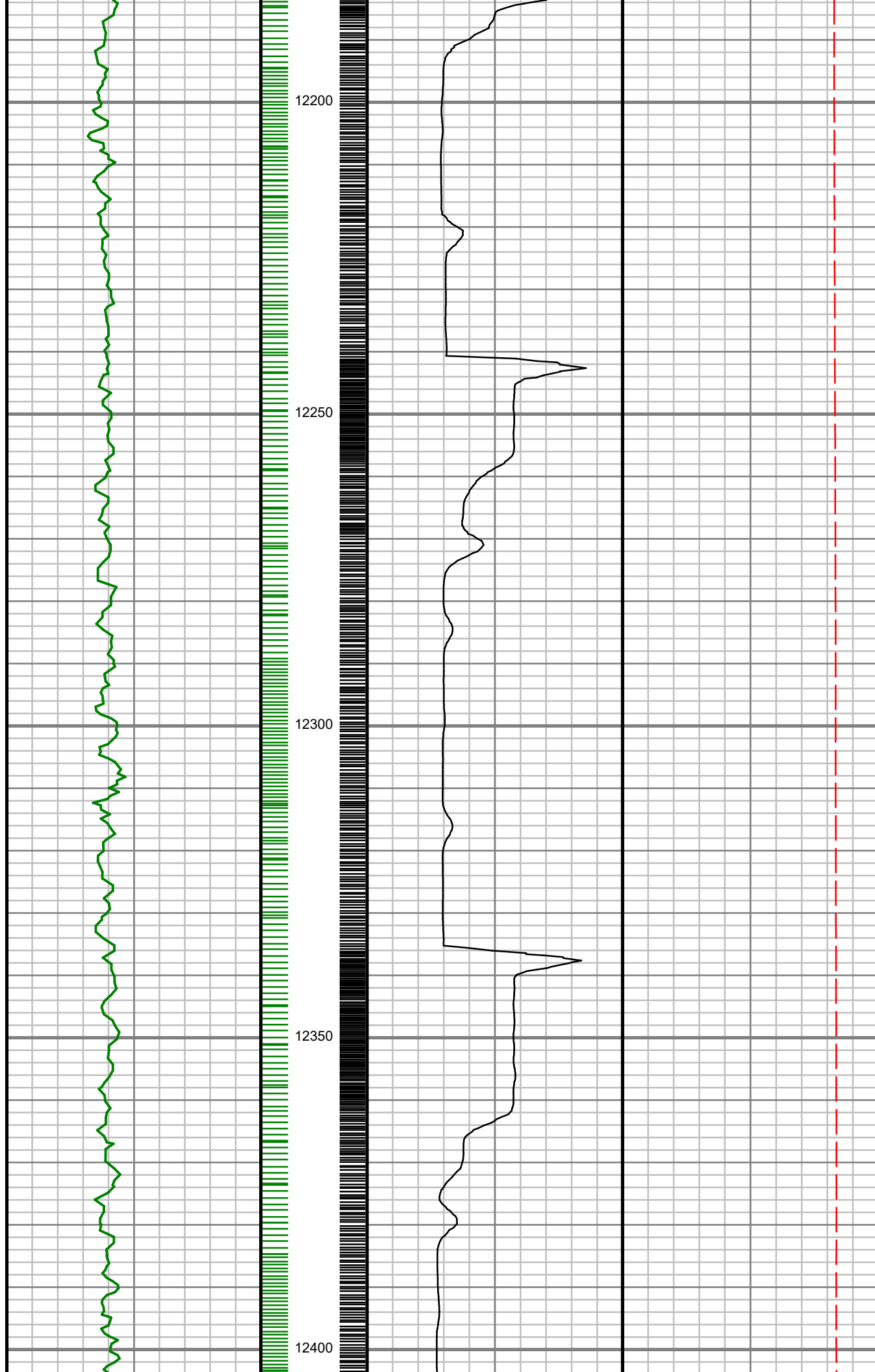




S: 125 MD:
11991.00 ft Inc:
89.83 deg Az:
268.57 deg TVD:
7287.84 ft

S: 126 MD:
12085.00 ft Inc:
90.47 deg Az:
267.92 deg TVD:
7287.60 ft

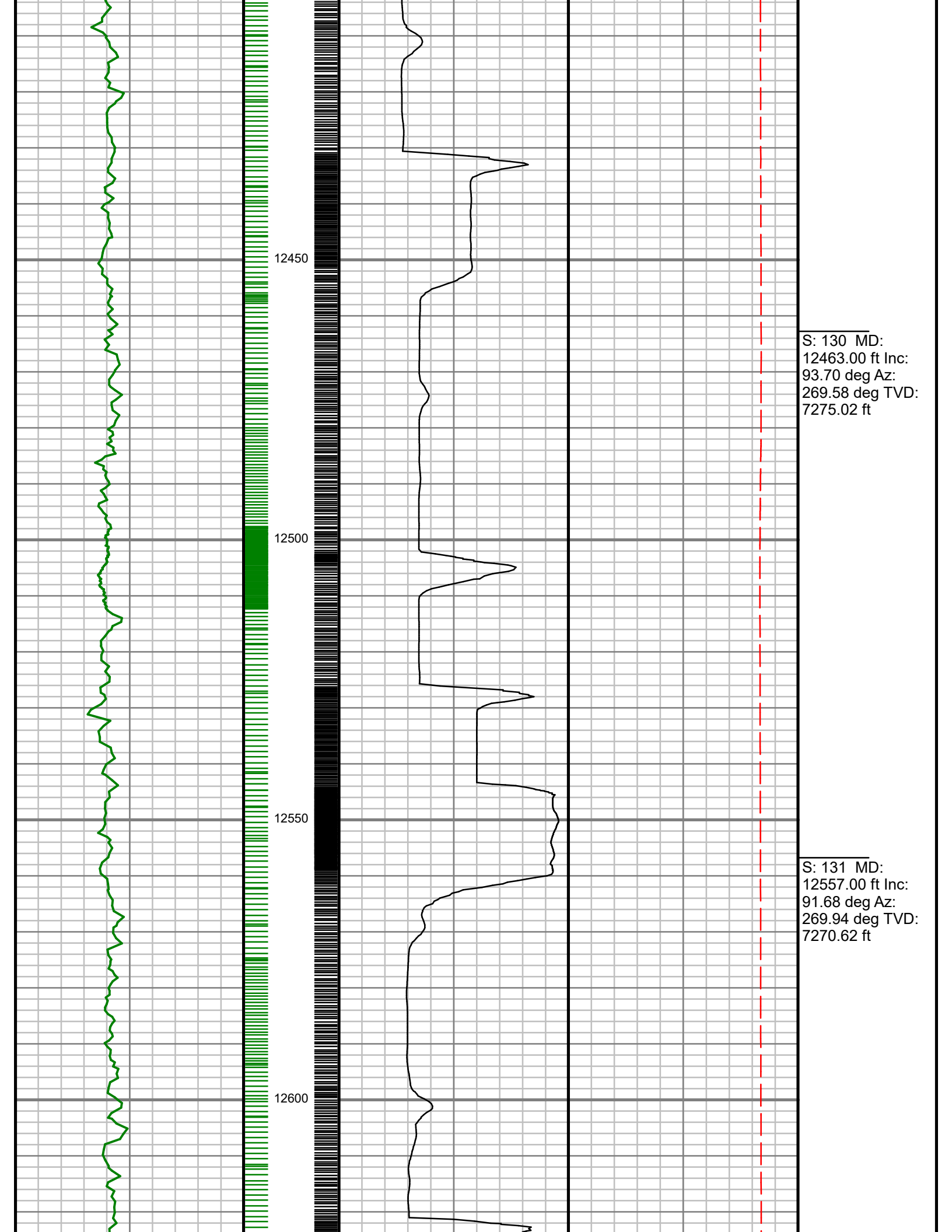
S: 127 MD:
12179.00 ft Inc:
91.03 deg Az:
267.38 deg TVD:
7287.40 ft



12180.00 ft Inc:
91.04 deg Az:
270.40 deg TVD:
7286.34 ft

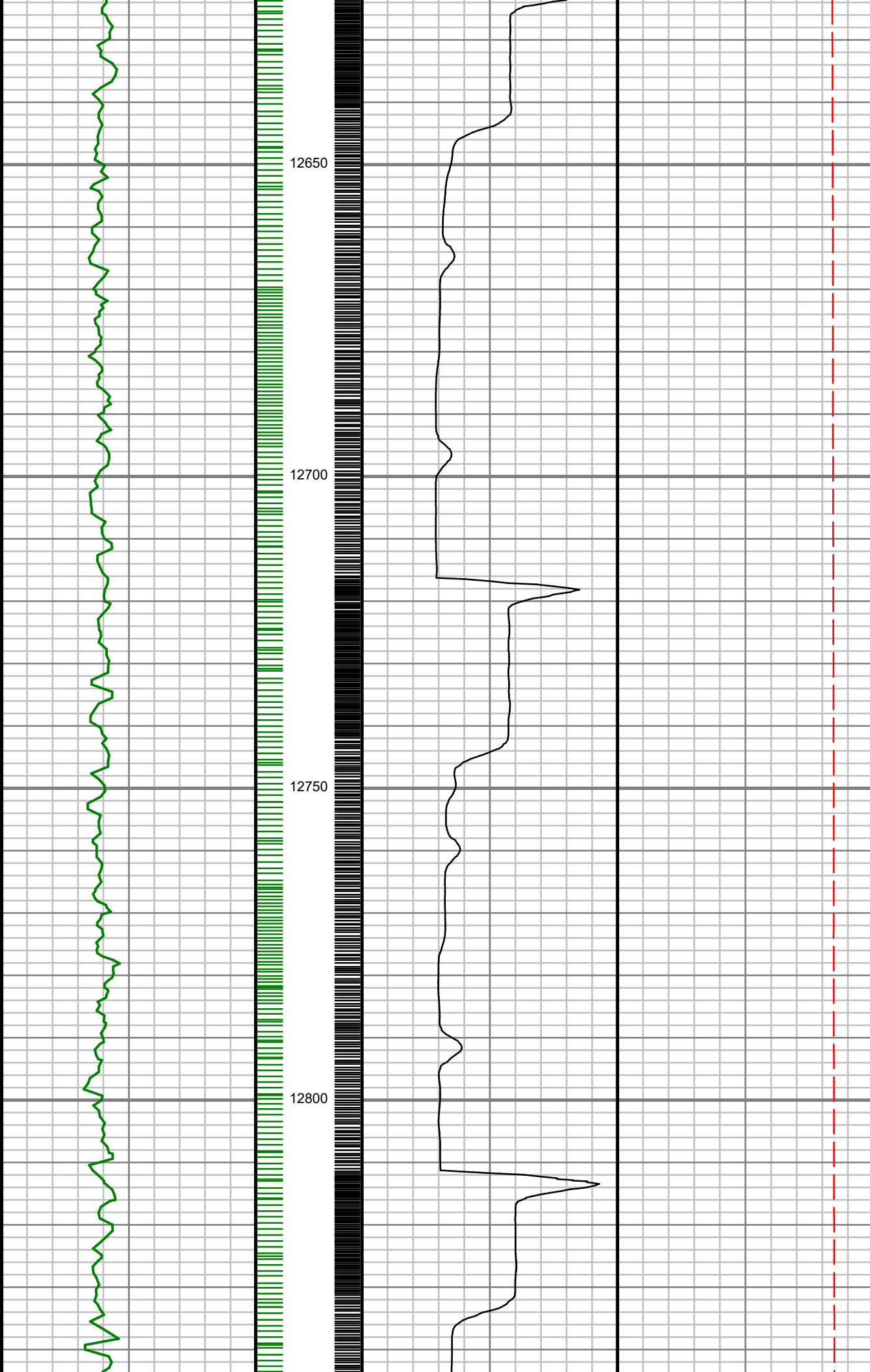
S: 128 MD:
12274.00 ft Inc:
91.88 deg Az:
270.71 deg TVD:
7283.95 ft

S: 129 MD:
12368.00 ft Inc:
92.62 deg Az:
269.86 deg TVD:
7280.26 ft



S: 130 MD:
12463.00 ft Inc:
93.70 deg Az:
269.58 deg TVD:
7275.02 ft

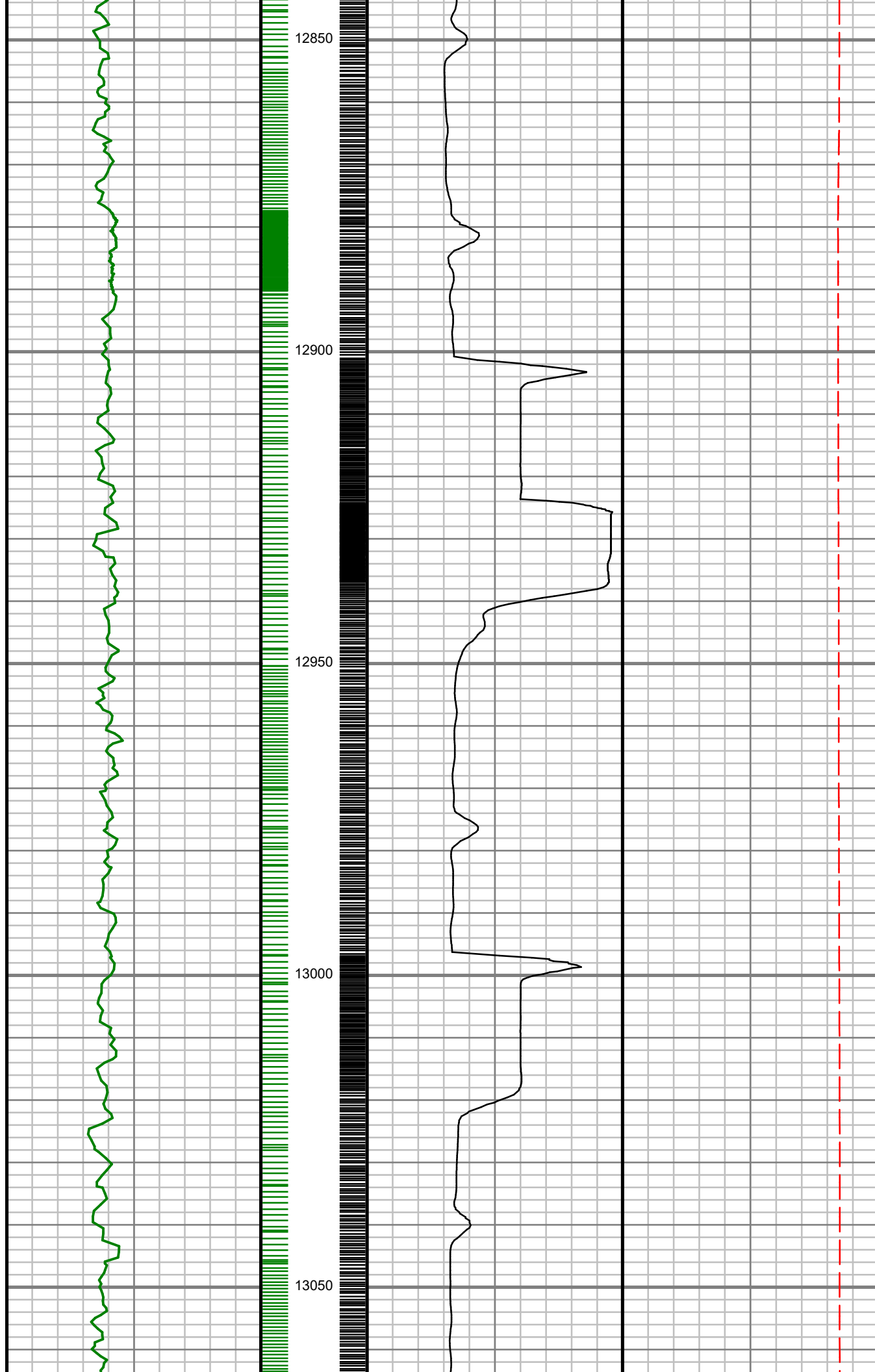
S: 131 MD:
12557.00 ft Inc:
91.68 deg Az:
269.94 deg TVD:
7270.62 ft



S: 132 MD:
12652.00 ft Inc:
91.95 deg Az:
269.64 deg TVD:
7267.61 ft

S: 133 MD:
12746.00 ft Inc:
93.02 deg Az:
269.80 deg TVD:
7263.54 ft

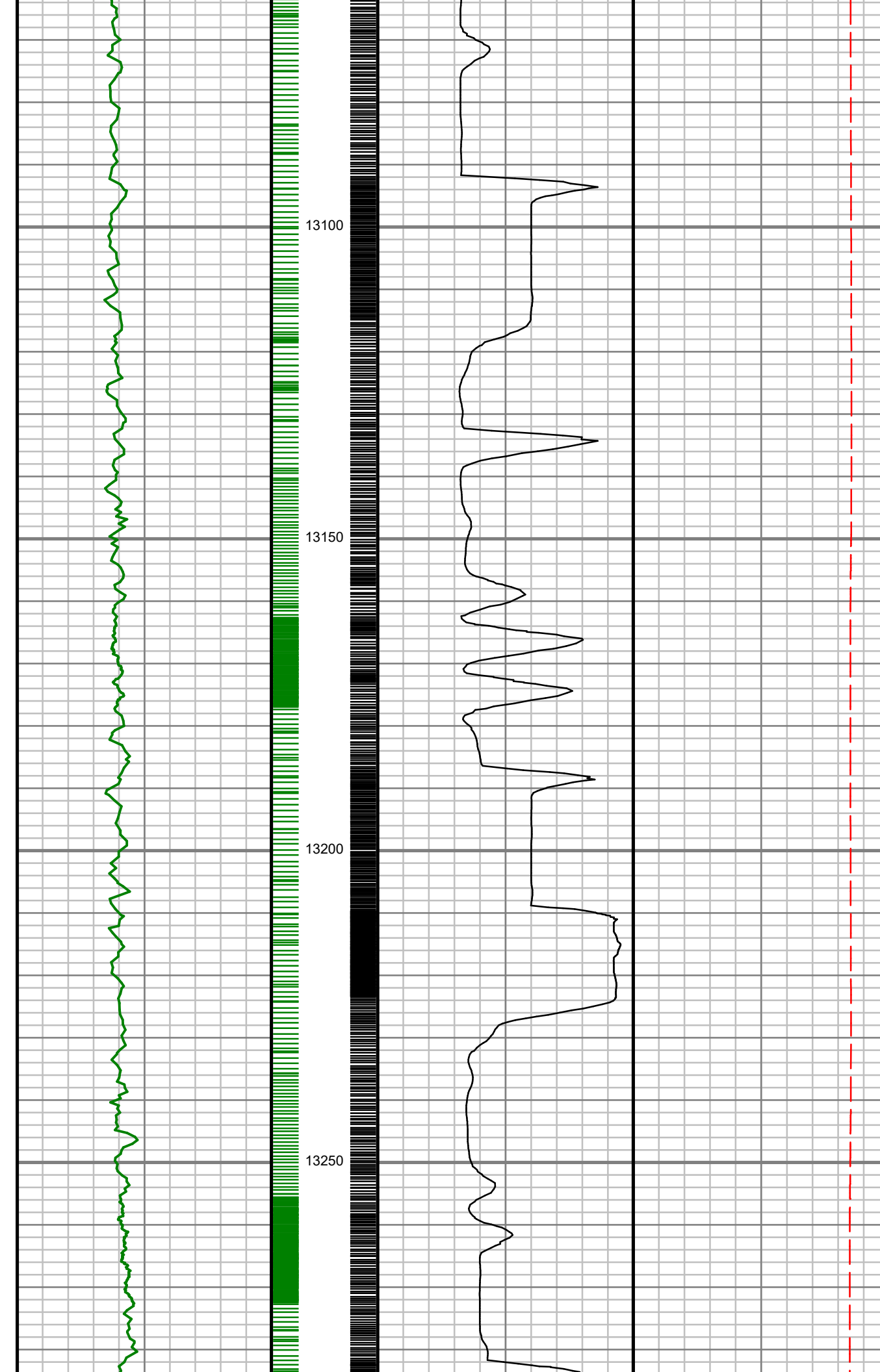
S: 134 MD:



12841.00 ft Inc:
94.16 deg Az:
269.84 deg TVD:
7257.59 ft

S: 135 MD:
12935.00 ft Inc:
92.12 deg Az:
270.33 deg TVD:
7252.45 ft

S: 136 MD:
13030.00 ft Inc:
92.18 deg Az:
269.55 deg TVD:
7248.88 ft

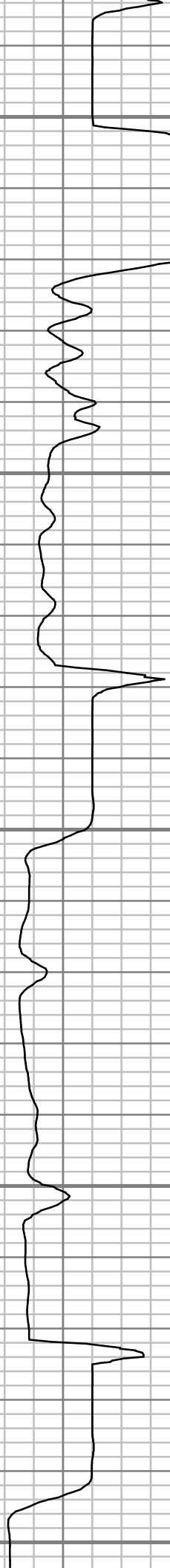


S: 137 MD:
13124.00 ft Inc:
92.38 deg Az:
268.62 deg TVD:
7245.14 ft

S: 138 MD:
13219.00 ft Inc:
93.36 deg Az:
268.90 deg TVD:
7240.38 ft



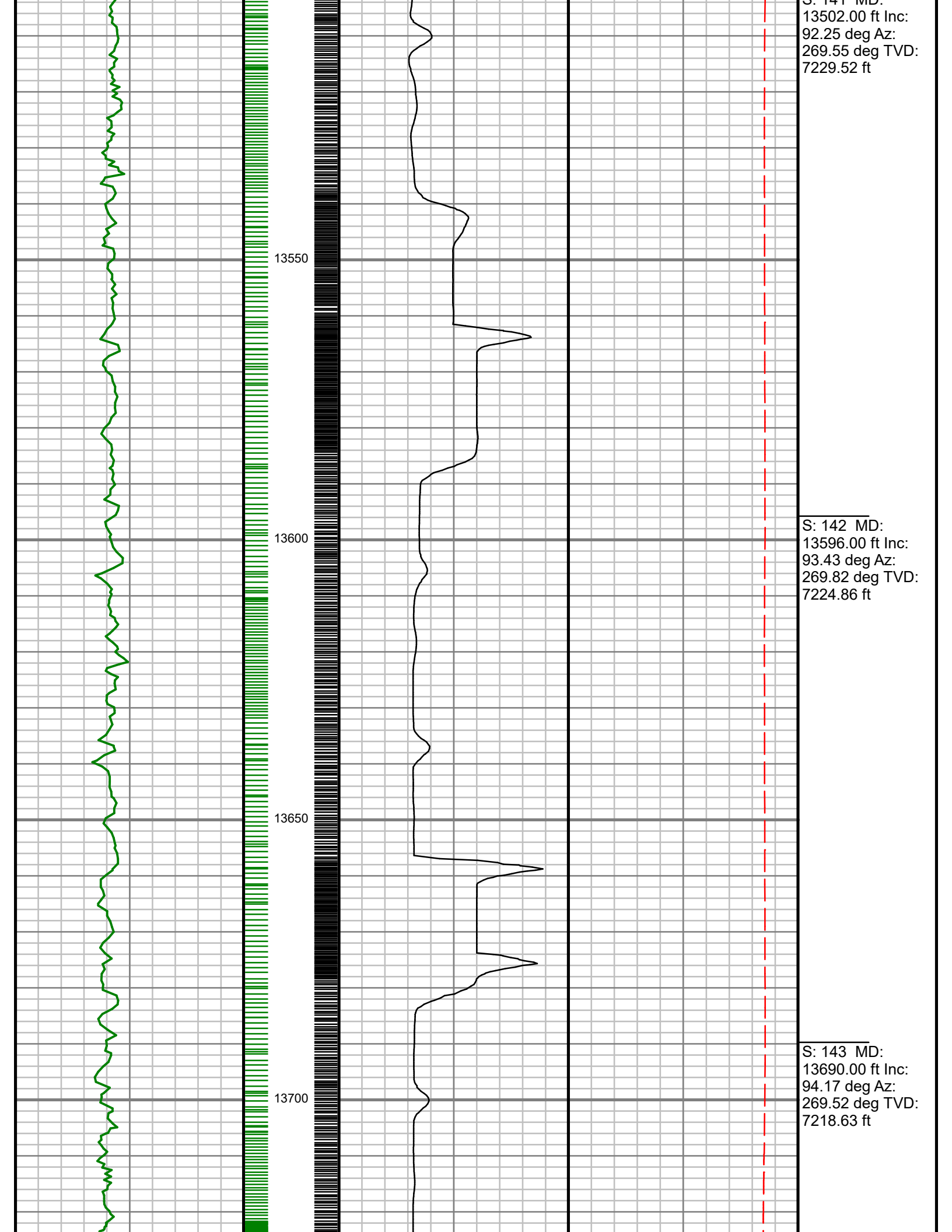
13300
13350
13400
13450
13500

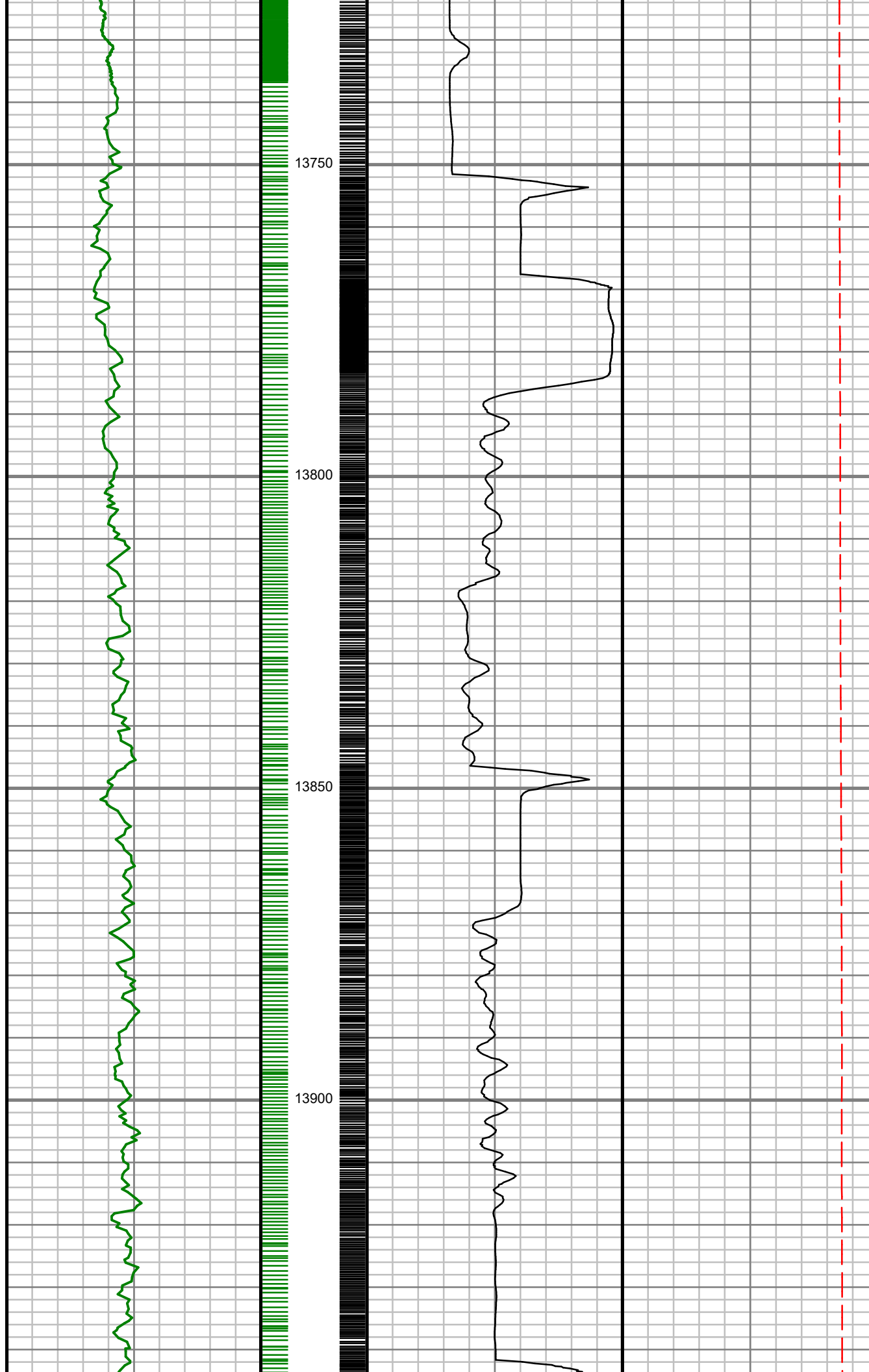


S: 139 MD:
13313.00 ft Inc:
92.18 deg Az:
270.27 deg TVD:
7235.83 ft

S: 140 MD:
13407.00 ft Inc:
91.61 deg Az:
269.87 deg TVD:
7232.72 ft

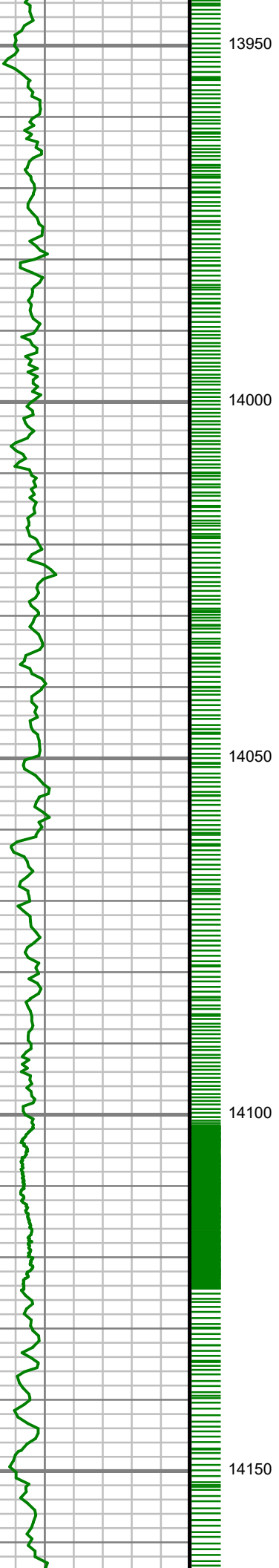
S: 141 MD:





S: 144 MD:
13784.00 ft Inc:
92.85 deg Az:
270.97 deg TVD:
7212.88 ft

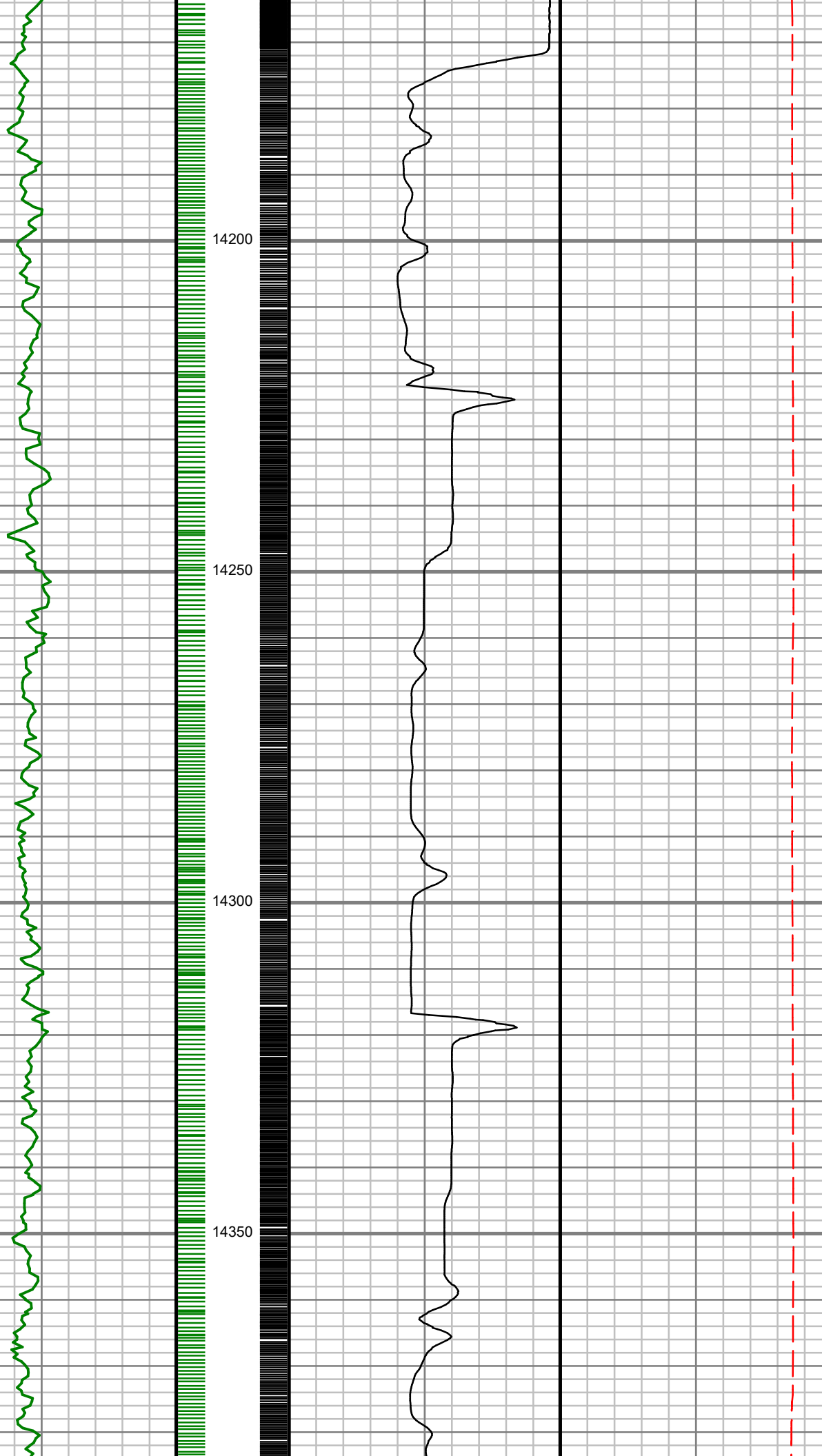
S: 145 MD:
13879.00 ft Inc:
92.65 deg Az:
270.53 deg TVD:
7208.31 ft



S: 146 MD:
13973.00 ft Inc:
92.15 deg Az:
269.34 deg TVD:
7204.37 ft

S: 147 MD:
14068.00 ft Inc:
91.68 deg Az:
268.32 deg TVD:
7201.20 ft

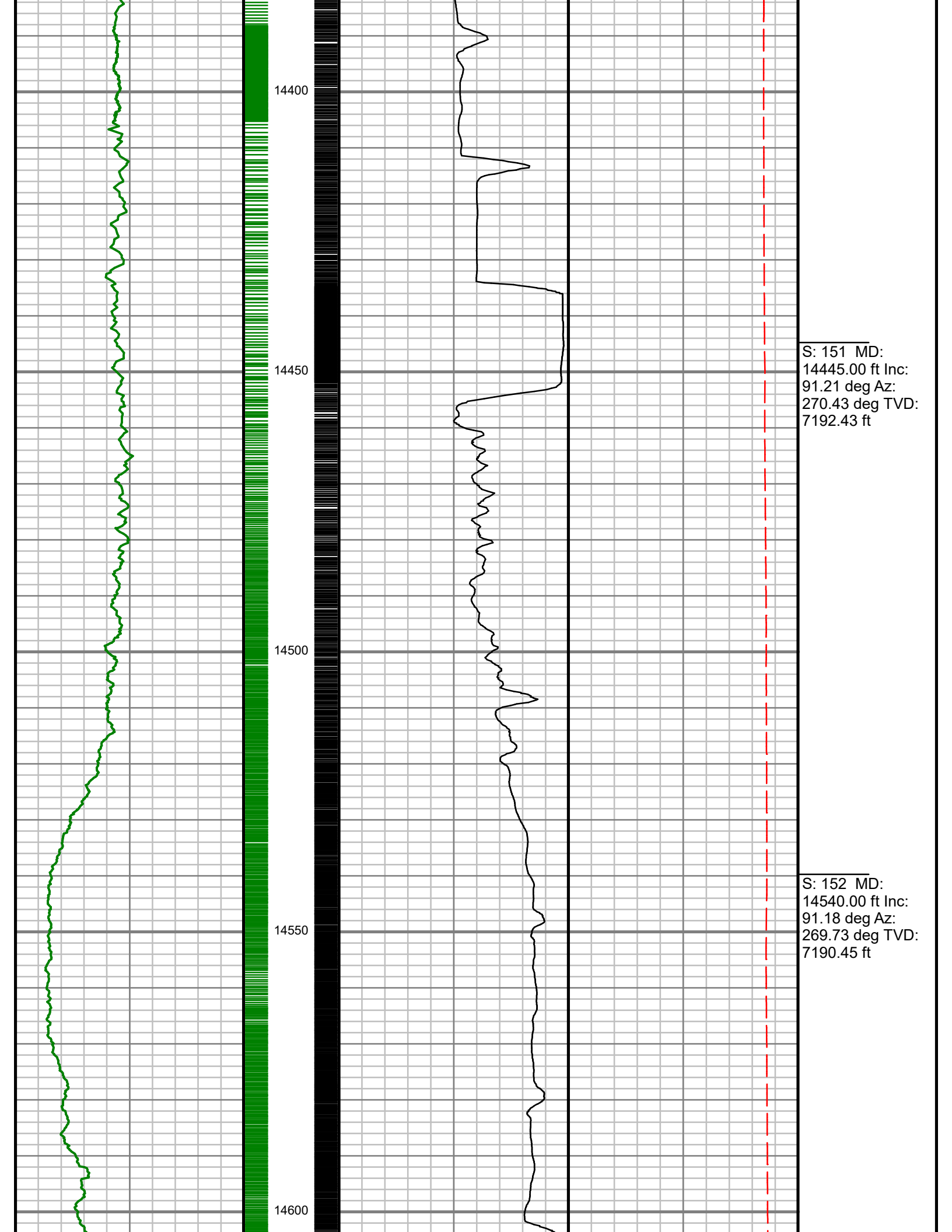
S: 148 MD:

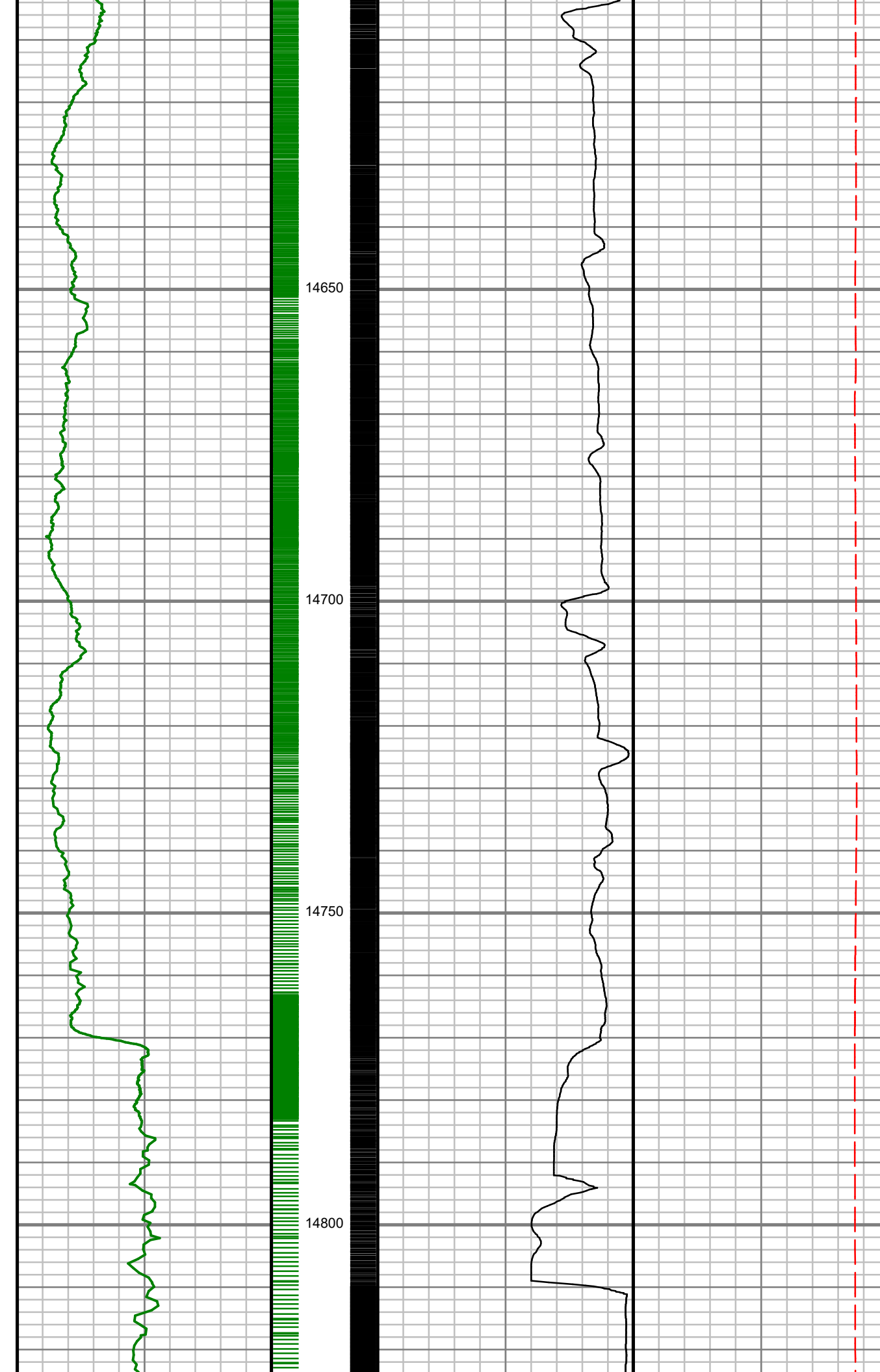


S: 148 MD:
14162.00 ft Inc:
91.81 deg Az:
269.68 deg TVD:
7198.34 ft

S: 149 MD:
14256.00 ft Inc:
91.78 deg Az:
270.45 deg TVD:
7195.39 ft

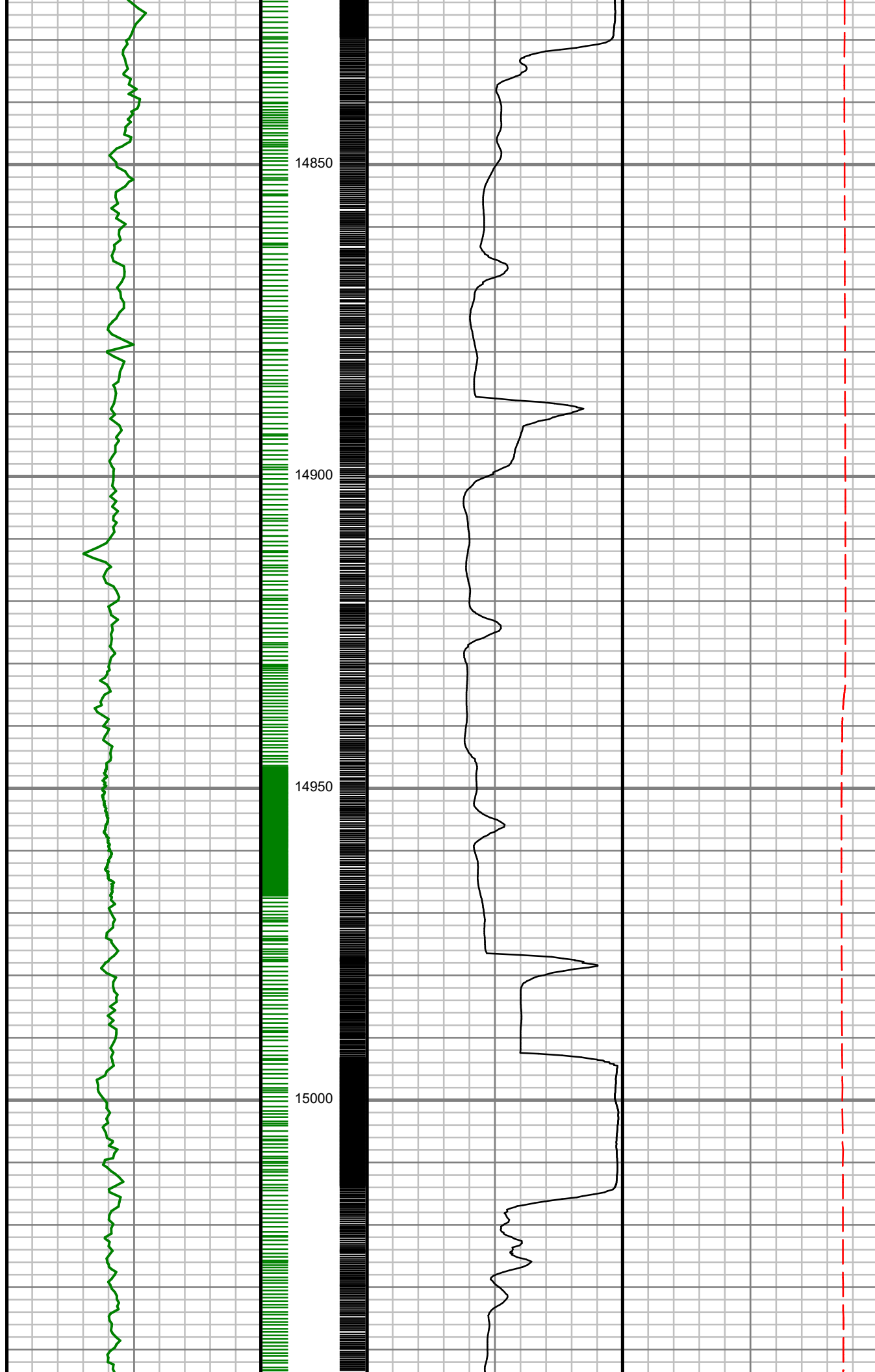
S: 150 MD:
14351.00 ft Inc:
90.30 deg Az:
269.49 deg TVD:
7193.67 ft





S: 153 MD:
14634.00 ft Inc:
92.18 deg Az:
269.40 deg TVD:
7187.69 ft

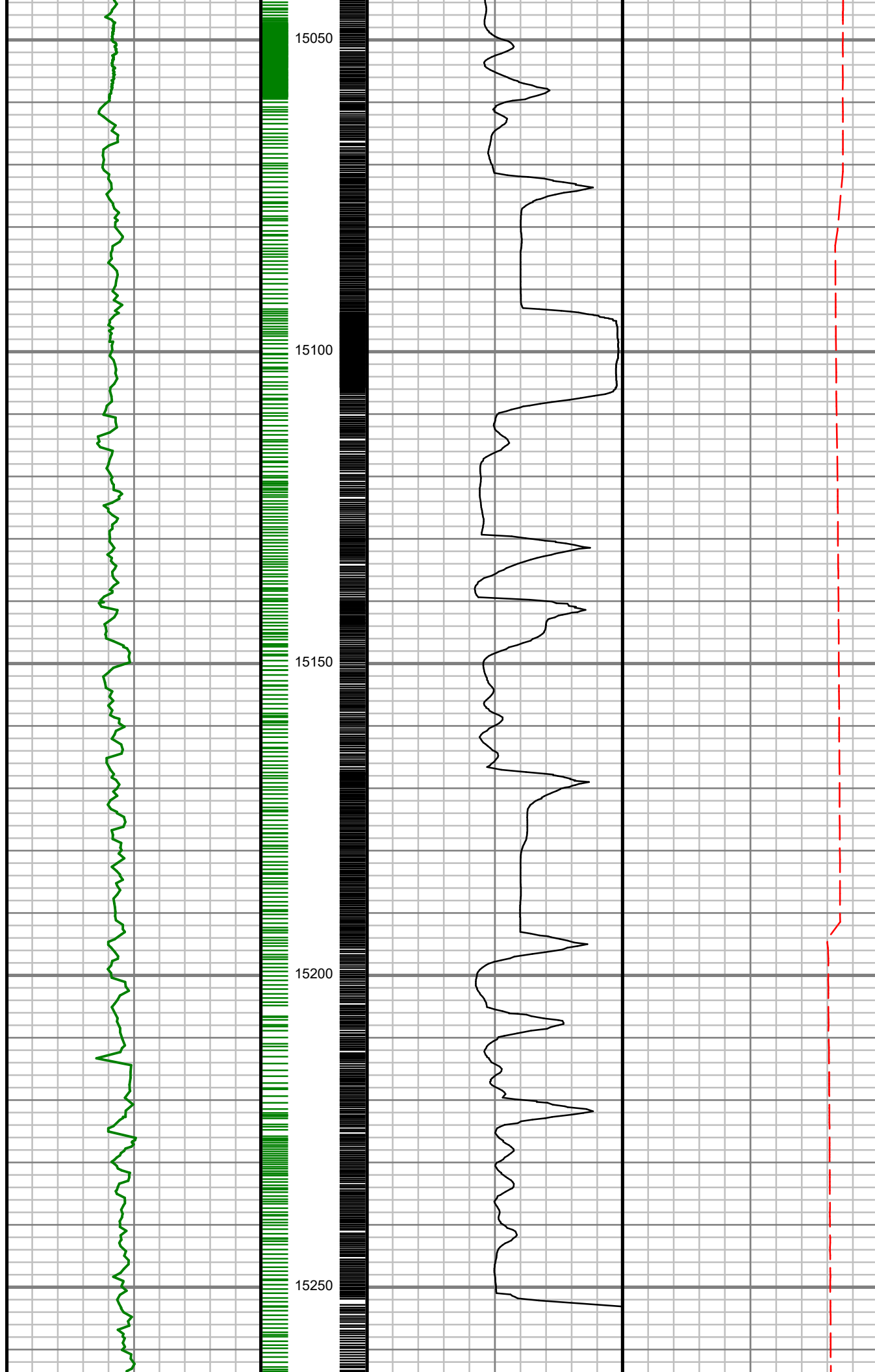
S: 154 MD:
14729.00 ft Inc:
93.52 deg Az:
268.96 deg TVD:
7182.97 ft



S: 155 MD:
14823.00 ft Inc:
92.48 deg Az:
270.20 deg TVD:
7178.05 ft

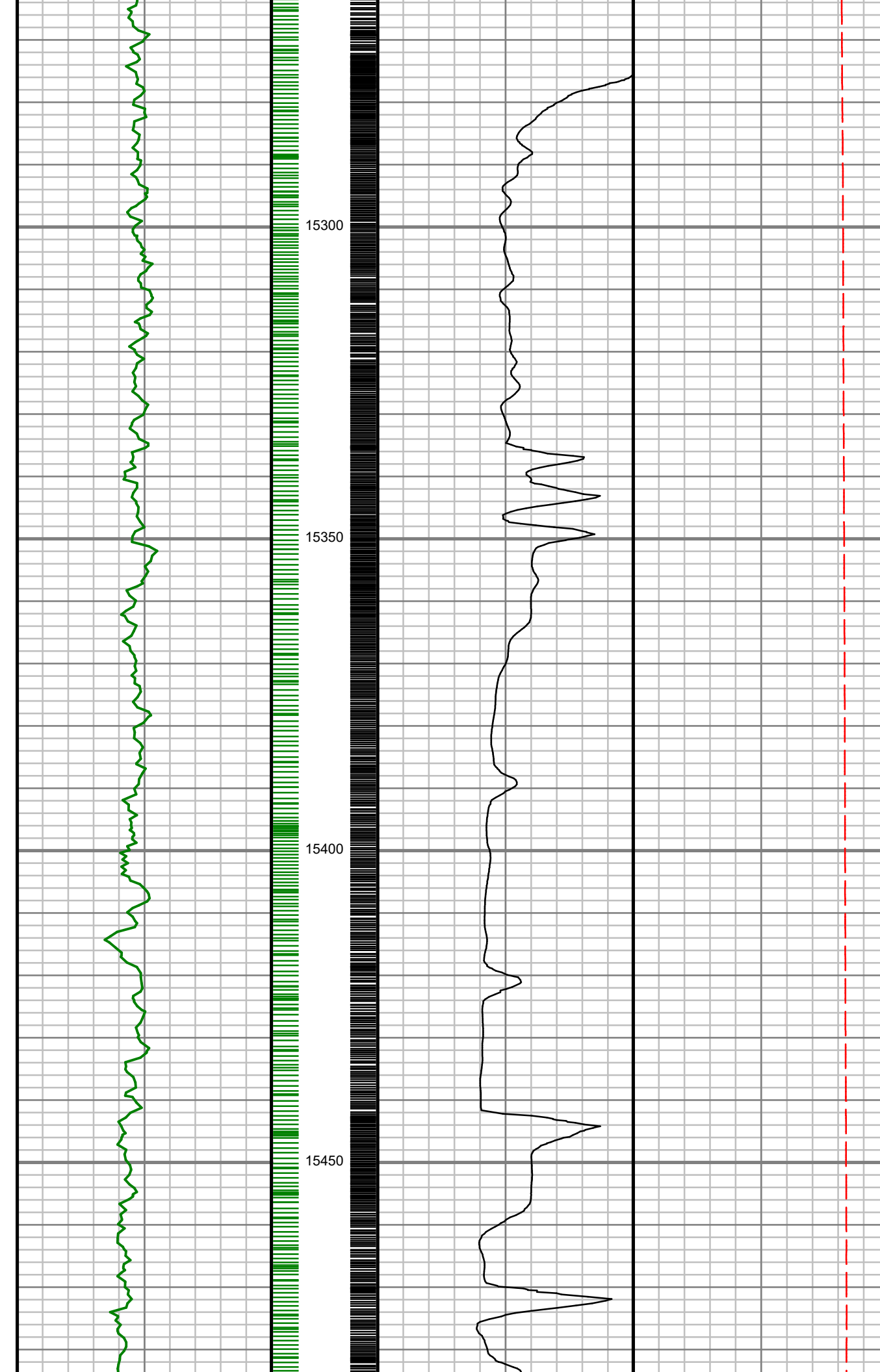
S: 156 MD:
14918.00 ft Inc:
93.22 deg Az:
270.62 deg TVD:
7173.32 ft

S: 157 MD:
15012.00 ft Inc:
92.18 deg Az:
270.72 deg TVD:
7168.89 ft



S: 158 MD:
15107.00 ft Inc:
92.08 deg Az:
270.91 deg TVD:
7165.36 ft

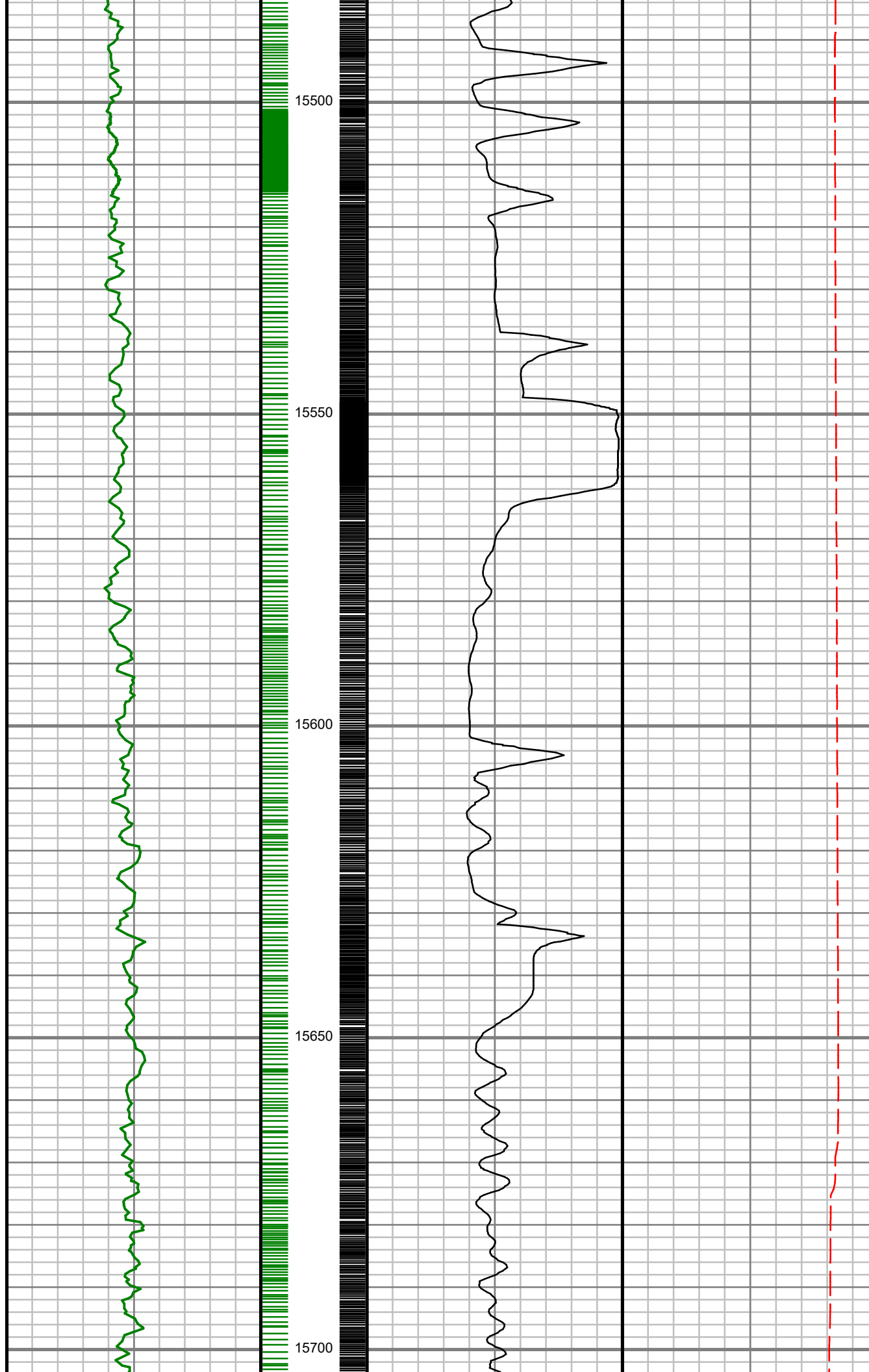
S: 159 MD:
15193.00 ft Inc:
91.48 deg Az:
270.29 deg TVD:
7162.69 ft



S: 160 MD:
15287.00 ft Inc:
91.48 deg Az:
269.53 deg TVD:
7160.26 ft

S: 161 MD:
15382.00 ft Inc:
90.70 deg Az:
268.53 deg TVD:
7158.46 ft

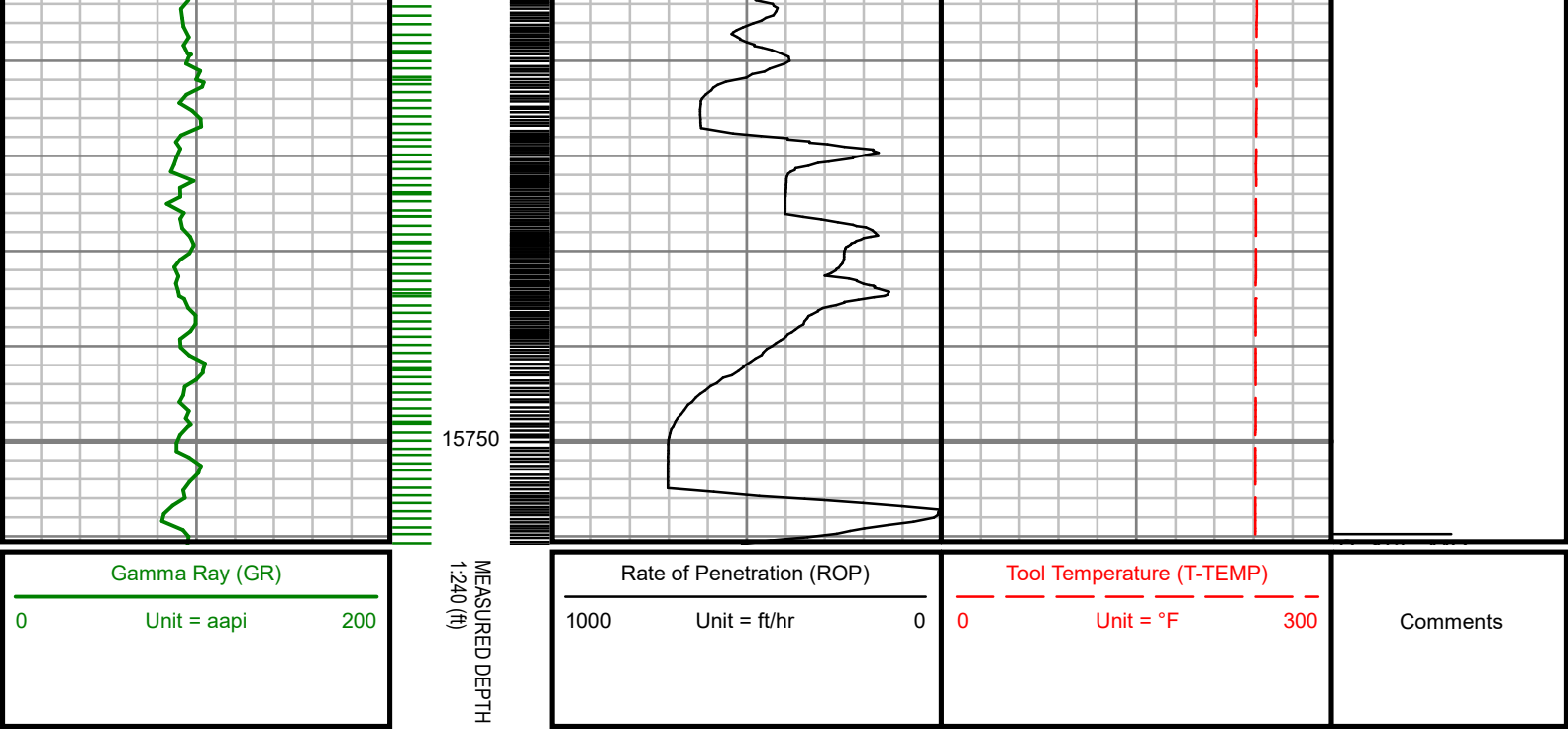
S: 162 MD:
15476.00 ft Inc:
90.70 deg Az:



90.70 deg Az:
268.44 deg TVD:
7157.30 ft

S: 163 MD:
15571.00 ft Inc:
90.67 deg Az:
269.81 deg TVD:
7156.16 ft

S: 164 MD:
15665.00 ft Inc:
90.30 deg Az:
269.17 deg TVD:
7155.36 ft

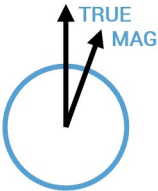


CUSTOMER EXTRACTION OIL AND GAS
PROJECT WINDER SOUTH 5
FIELD WATTENBURG

WELL INFORMATION
Lat/Long 40° 30' 9.626" N, 104° 53' 25.739" W
Northing 1,426,547.18 ft
Easting 3,169,498.36 ft
UWI 05-123-43407

MAP INFORMATION
North Reference True North
Grid Correction
System US State Plane 1983
Datum North American Datum 1983 (GRS 1980)
Map Zone Colorado North: 0501

VERTICAL SECTION REFERENCE
+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 270.16°
Calculation Method Minimum Curvature



GEOMAGNETIC REFERENCE INFORMATION
Local Gravity: 999.086 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
0-15760 ft	BGGM2015	08 Sep 2016	8.51°	add 8.51°

WELL NOTES
OPERATORS
B. FRANTZ, J. DENNING, R. PERRY

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	Invalid
134.00	0.80	22.20	134.00	-0.35	0.87	0.35	0.60	134.00
224.00	0.90	17.80	223.99	-0.80	2.12	0.81	0.13	90.00
314.00	0.80	30.00	313.98	-1.33	3.34	1.34	0.23	90.00
404.00	0.80	357.10	403.97	-1.61	4.51	1.62	0.50	90.00
494.00	0.70	354.00	493.96	-1.51	5.68	1.53	0.12	90.00
584.00	0.70	19.20	583.95	-1.63	6.75	1.65	0.34	90.00
674.00	0.90	59.60	673.95	-2.42	7.63	2.44	0.65	90.00
764.00	4.70	122.50	763.83	-6.15	6.00	6.17	4.85	90.00
854.00	6.10	172.70	853.48	-9.89	-0.73	9.88	5.28	90.00
944.00	5.10	167.30	943.05	-11.40	-9.37	11.37	1.25	90.00
1034.00	6.20	163.30	1032.61	-13.70	-17.93	13.65	1.30	90.00
1124.00	7.70	162.40	1121.94	-16.95	-28.33	16.87	1.67	90.00
1214.00	7.60	165.80	1211.14	-20.26	-39.85	20.15	0.51	90.00
1304.00	7.30	166.80	1300.38	-23.06	-51.19	22.92	0.36	90.00
1394.00	7.40	162.80	1389.65	-26.11	-62.29	25.94	0.58	90.00
1484.00	7.20	161.30	1478.92	-29.66	-73.17	29.46	0.31	90.00
1531.00	7.10	163.60	1525.55	-31.44	-78.74	31.22	0.65	47.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
1652.00	6.09	159.50	1645.75	-35.84	-91.93	35.58	0.92	121.00
1746.00	8.18	175.47	1739.03	-38.14	-103.27	37.86	3.05	94.00
1841.00	10.13	170.89	1832.81	-40.04	-118.26	39.71	2.19	95.00
2124.00	14.29	151.47	2109.46	-60.83	-173.56	60.35	2.05	283.00
2218.00	13.78	151.46	2200.66	-71.78	-193.58	71.24	0.54	94.00
2313.00	13.35	152.80	2293.01	-82.25	-213.27	81.66	0.56	95.00
2408.00	12.93	153.12	2385.52	-92.12	-232.51	91.47	0.45	95.00
2502.00	12.52	152.27	2477.21	-101.67	-250.91	100.97	0.47	94.00
2597.00	13.43	157.97	2569.79	-110.66	-270.25	109.90	1.65	95.00
2692.00	12.76	158.92	2662.32	-118.62	-290.27	117.81	0.74	95.00
2786.00	13.22	156.81	2753.91	-126.65	-309.84	125.78	0.70	94.00
2880.00	14.31	156.94	2845.21	-135.49	-330.41	134.57	1.15	94.00
2975.00	13.93	156.61	2937.34	-144.68	-351.71	143.70	0.41	95.00
3069.00	13.07	152.60	3028.75	-154.12	-371.53	153.09	1.35	94.00
3163.00	12.17	151.02	3120.47	-163.87	-389.64	162.78	1.03	94.00
3258.00	12.79	152.21	3213.23	-173.67	-407.70	172.53	0.70	95.00
3352.00	13.04	153.83	3304.85	-183.25	-426.41	182.06	0.47	94.00
3447.00	14.83	152.98	3397.05	-193.55	-446.86	192.31	1.90	95.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
3542.00	13.82	152.55	3489.10	-204.36	-467.75	203.06	1.07	95.00
3636.00	12.84	158.10	3580.57	-213.49	-487.41	212.13	1.71	94.00
3731.00	13.95	162.80	3672.99	-220.87	-508.14	219.45	1.63	95.00
3826.00	14.18	162.59	3765.14	-227.80	-530.18	226.32	0.25	95.00
3921.00	14.40	162.30	3857.20	-234.93	-552.54	233.39	0.24	95.00
4016.00	14.06	162.83	3949.29	-241.99	-574.82	240.39	0.38	95.00
4110.00	12.25	162.60	4040.81	-248.41	-595.25	246.75	1.93	94.00
4205.00	11.66	164.98	4133.75	-253.96	-614.15	252.25	0.81	95.00
4299.00	11.96	168.28	4225.76	-258.45	-632.86	256.69	0.79	94.00
4394.00	12.61	166.04	4318.59	-263.01	-652.56	261.19	0.85	95.00
4488.00	14.18	170.66	4410.03	-267.41	-673.88	265.53	2.03	94.00
4582.00	13.24	171.09	4501.35	-271.01	-695.88	269.07	1.01	94.00
4677.00	11.67	168.54	4594.11	-274.66	-716.05	272.67	1.75	95.00
4771.00	11.94	163.27	4686.13	-279.40	-734.68	277.35	1.18	94.00
4866.00	11.59	164.27	4779.13	-284.87	-753.27	282.77	0.43	95.00
4961.00	13.52	164.41	4871.86	-290.50	-773.15	288.34	2.04	95.00
5056.00	14.88	165.86	4963.95	-296.53	-795.68	294.30	1.48	95.00
5150.00	13.58	167.77	5055.06	-301.88	-818.17	299.59	1.47	94.00

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	Course Length ft
5245.00	11.32	165.16	5147.82	-306.68	-838.09	304.35	2.45	95.00
5340.00	12.98	168.29	5240.69	-311.29	-857.56	308.90	1.87	95.00
5435.00	13.33	168.91	5333.20	-315.63	-878.75	313.17	0.40	95.00
5529.00	11.95	168.49	5424.92	-319.71	-898.92	317.20	1.48	94.00
5624.00	12.08	154.44	5517.86	-326.01	-917.53	323.45	3.07	95.00
5719.00	12.61	156.31	5610.66	-334.52	-935.99	331.91	0.70	95.00
5814.00	13.86	161.17	5703.14	-342.42	-956.26	339.75	1.77	95.00
5908.00	15.07	159.37	5794.16	-350.42	-978.36	347.69	1.37	94.00
6003.00	12.70	156.29	5886.38	-359.03	-999.48	356.24	2.61	95.00
6098.00	11.76	157.91	5979.22	-366.92	-1018.02	364.08	1.05	95.00
6192.00	10.33	167.18	6071.48	-372.45	-1035.12	369.56	2.42	94.00
6287.00	10.74	168.65	6164.88	-376.13	-1052.11	373.19	0.51	95.00
6381.00	10.98	169.70	6257.20	-379.50	-1069.50	376.51	0.33	94.00
6500.00	12.60	165.18	6373.69	-384.91	-1093.19	381.86	1.57	119.00
6594.00	12.04	160.42	6465.52	-390.87	-1112.34	387.77	1.23	94.00
6689.00	16.67	155.58	6557.54	-399.89	-1134.10	396.73	5.03	95.00
6783.00	16.98	161.65	6647.52	-409.86	-1159.40	406.62	1.90	94.00
6878.00	24.35	194.00	6736.63	-409.57	-1191.72	406.25	14.04	95.00

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	Course Length ft
6973.00	25.81	219.60	6822.92	-391.70	-1226.76	388.27	11.44	95.00
7067.00	23.48	241.26	6908.52	-362.24	-1251.59	358.74	9.87	94.00
7162.00	24.35	246.35	6995.38	-327.75	-1268.55	324.20	2.35	95.00
7256.00	33.86	253.00	7077.44	-284.89	-1284.02	281.31	10.67	94.00
7351.00	43.49	259.09	7151.55	-227.36	-1297.98	223.74	10.89	95.00
7445.00	54.15	262.38	7213.36	-157.66	-1309.19	154.01	11.63	94.00
7540.00	68.42	262.94	7258.88	-75.27	-1319.78	71.58	15.04	95.00
7634.00	75.29	265.43	7288.15	13.51	-1328.78	-17.22	7.72	94.00
7729.00	84.22	268.31	7305.03	106.74	-1333.84	-110.47	9.87	95.00
7823.00	88.66	268.25	7310.87	200.49	-1336.66	-204.22	4.72	94.00
7918.00	91.14	269.32	7311.03	295.45	-1338.68	-299.19	2.85	95.00
8013.00	92.58	269.10	7307.95	390.38	-1339.99	-394.13	1.54	95.00
8107.00	90.54	269.72	7305.39	484.34	-1340.95	-488.08	2.28	94.00
8202.00	90.37	269.51	7304.64	579.33	-1341.59	-583.08	0.29	95.00
8297.00	89.26	268.65	7304.94	674.31	-1343.12	-678.06	1.47	95.00
8391.00	89.66	268.93	7305.82	768.28	-1345.11	-772.04	0.52	94.00
8485.00	89.69	271.22	7306.35	862.27	-1344.98	-866.03	2.43	94.00
8580.00	89.90	271.48	7306.69	957.25	-1342.75	-961.00	0.35	95.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
8674.00	89.66	270.64	7307.05	1051.24	-1341.01	-1054.98	0.93	94.00
8769.00	89.77	270.73	7307.52	1146.23	-1339.87	-1149.98	0.14	95.00
8863.00	90.75	271.74	7307.10	1240.21	-1337.84	-1243.95	1.50	94.00
8958.00	89.23	271.48	7307.12	1335.18	-1335.17	-1338.91	1.62	95.00
9052.00	88.25	270.54	7309.18	1429.14	-1333.52	-1432.87	1.44	94.00
9147.00	89.93	271.71	7310.68	1524.11	-1331.66	-1527.84	2.16	95.00
9241.00	91.07	272.02	7309.86	1618.06	-1328.60	-1621.78	1.26	94.00
9336.00	91.11	271.15	7308.05	1713.02	-1325.98	-1716.73	0.92	95.00
9430.00	89.90	270.43	7307.22	1807.01	-1324.69	-1810.71	1.49	94.00
9525.00	90.84	270.16	7306.62	1902.00	-1324.19	-1905.71	1.03	95.00
9619.00	90.17	269.65	7305.79	1996.00	-1324.35	-1999.70	0.90	94.00
9714.00	90.94	269.31	7304.87	2090.98	-1325.21	-2094.69	0.89	95.00
9808.00	89.25	267.96	7304.72	2184.95	-1327.45	-2188.66	2.30	94.00
9903.00	89.36	270.17	7305.87	2279.92	-1328.99	-2283.64	2.33	95.00
9997.00	90.20	270.31	7306.22	2373.91	-1328.60	-2377.63	0.90	94.00
10092.00	90.71	269.87	7305.47	2468.91	-1328.45	-2472.63	0.70	95.00
10186.00	91.44	269.36	7303.71	2562.89	-1329.08	-2566.61	0.96	94.00
10281.00	90.94	270.03	7301.74	2657.86	-1329.59	-2661.59	0.89	95.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
10375.00	89.70	270.08	7301.21	2751.86	-1329.50	-2755.58	1.32	94.00
10470.00	90.67	269.76	7300.91	2846.86	-1329.64	-2850.58	1.08	95.00
10564.00	92.08	271.07	7298.65	2940.83	-1328.96	-2944.55	2.05	94.00
10659.00	88.22	271.26	7298.40	3035.79	-1327.03	-3039.51	4.07	95.00
10753.00	87.85	271.41	7301.62	3129.72	-1324.84	-3133.43	0.43	94.00
10848.00	90.94	270.01	7302.62	3224.69	-1323.65	-3228.40	3.57	95.00
10952.00	90.54	269.63	7301.28	3328.68	-1323.98	-3332.39	0.53	104.00
11046.00	89.43	271.95	7301.31	3422.67	-1322.67	-3426.38	2.74	94.00
11141.00	89.19	274.94	7302.45	3517.50	-1316.96	-3521.19	3.15	95.00
11235.00	90.13	274.99	7303.00	3611.16	-1308.83	-3614.83	1.00	94.00
11329.00	91.58	273.58	7301.60	3704.90	-1301.81	-3708.55	2.14	94.00
11424.00	92.18	272.86	7298.48	3799.72	-1296.48	-3803.35	0.99	95.00
11519.00	91.14	271.39	7295.72	3894.62	-1292.96	-3898.24	1.89	95.00
11613.00	91.41	271.34	7293.63	3988.57	-1290.72	-3992.19	0.29	94.00
11707.00	92.12	271.03	7290.73	4082.51	-1288.77	-4086.13	0.82	94.00
11802.00	91.54	268.76	7287.70	4177.46	-1288.95	-4181.07	2.46	95.00
11896.00	89.23	268.49	7287.06	4271.41	-1291.21	-4275.04	2.48	94.00
11991.00	89.83	268.57	7287.84	4366.37	-1293.64	-4370.00	0.64	95.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
12085.00	90.47	267.92	7287.60	4460.32	-1296.53	-4463.96	0.97	94.00
12180.00	91.04	270.40	7286.34	4555.29	-1297.92	-4558.93	2.68	95.00
12274.00	91.88	270.71	7283.95	4649.25	-1297.01	-4652.89	0.96	94.00
12368.00	92.62	269.86	7280.26	4743.18	-1296.54	-4746.82	1.20	94.00
12463.00	93.70	269.58	7275.02	4838.03	-1297.00	-4841.67	1.17	95.00
12557.00	91.68	269.94	7270.62	4931.92	-1297.39	-4935.56	2.18	94.00
12652.00	91.95	269.64	7267.61	5026.87	-1297.73	-5030.51	0.42	95.00
12746.00	93.02	269.80	7263.54	5120.78	-1298.19	-5124.42	1.15	94.00
12841.00	94.16	269.84	7257.59	5215.59	-1298.49	-5219.23	1.20	95.00
12935.00	92.12	270.33	7252.45	5309.44	-1298.35	-5313.09	2.23	94.00
13030.00	92.18	269.55	7248.88	5404.37	-1298.45	-5408.02	0.82	95.00
13124.00	92.38	268.62	7245.14	5498.28	-1299.95	-5501.93	1.01	94.00
13219.00	93.36	268.90	7240.38	5593.13	-1302.00	-5596.79	1.07	95.00
13313.00	92.18	270.27	7235.83	5687.01	-1302.68	-5690.67	1.92	94.00
13407.00	91.61	269.87	7232.72	5780.96	-1302.55	-5784.62	0.74	94.00
13502.00	92.25	269.55	7229.52	5875.90	-1303.03	-5879.57	0.76	95.00
13596.00	93.43	269.82	7224.86	5969.78	-1303.55	-5973.45	1.29	94.00
13690.00	94.17	269.52	7218.63	6063.57	-1304.09	-6067.24	0.85	94.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
13784.00	92.85	270.97	7212.88	6157.39	-1303.69	-6161.06	2.07	94.00
13879.00	92.65	270.53	7208.31	6252.28	-1302.45	-6255.94	0.50	95.00
13973.00	92.15	269.34	7204.37	6346.19	-1302.55	-6349.85	1.37	94.00
14068.00	91.68	268.32	7201.20	6441.11	-1304.50	-6444.78	1.19	95.00
14162.00	91.81	269.68	7198.34	6535.05	-1306.14	-6538.72	1.46	94.00
14256.00	91.78	270.45	7195.39	6629.00	-1306.03	-6632.67	0.82	94.00
14351.00	90.30	269.49	7193.67	6723.98	-1306.09	-6727.65	1.86	95.00
14445.00	91.21	270.43	7192.43	6817.97	-1306.16	-6821.64	1.39	94.00
14540.00	91.18	269.73	7190.45	6912.95	-1306.03	-6916.62	0.73	95.00
14634.00	92.18	269.40	7187.69	7006.90	-1306.74	-7010.58	1.13	94.00
14729.00	93.52	268.96	7182.97	7101.77	-1308.10	-7105.45	1.48	95.00
14823.00	92.48	270.20	7178.05	7195.63	-1308.78	-7199.31	1.72	94.00
14918.00	93.22	270.62	7173.32	7290.51	-1308.10	-7294.19	0.89	95.00
15012.00	92.18	270.72	7168.89	7384.40	-1307.00	-7388.08	1.11	94.00
15107.00	92.08	270.91	7165.36	7479.33	-1305.65	-7483.00	0.22	95.00
15193.00	91.48	270.29	7162.69	7565.28	-1304.74	-7568.96	1.00	86.00
15287.00	91.48	269.53	7160.26	7659.25	-1304.89	-7662.92	0.81	94.00
15382.00	90.70	268.53	7158.46	7754.21	-1306.50	-7757.89	1.33	95.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
15476.00	90.70	268.44	7157.30	7848.17	-1308.98	-7851.85	0.10	94.00
15571.00	90.67	269.81	7156.16	7943.14	-1310.44	-7946.83	1.44	95.00
15665.00	90.30	269.17	7155.36	8037.13	-1311.28	-8040.82	0.78	94.00
15760.00	89.66	269.39	7155.39	8132.12	-1312.46	-8135.82	0.71	95.00

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	Course Length ft
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5" = 100' MD