



5" = 100' FEET MD

COMPANY : ANADARKO
WELL : SUNFLOWER 40N-17HZ
FIELD : WATTENBERG
COUNTY : WELD
STATE : COLORADO
COUNTRY : U.S.A.
UWI : 05-123-42074

COMPANY : ANADARKO

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FIELD : WATTENBERG

COUNTY : WELD

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UWI : 05-123-42074

WELL LOCATION

LAT:40°9'13.298"N LONG:104°40'57.763"W

SEC: 8

TWP : 2N

RANGE: 65W

OTHER SERVICES

DIRECTIONAL
ROP

DEPTH REF. : RKB

REF. HEIGHT : 20.000 ft

RKB to Ground Level

GROUND LEVEL : 4901.000 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	1903	0-18	0	1844
8.5	1903	12495	18-90	1844	8123
			90-92	8123	12495

CASING RECORD

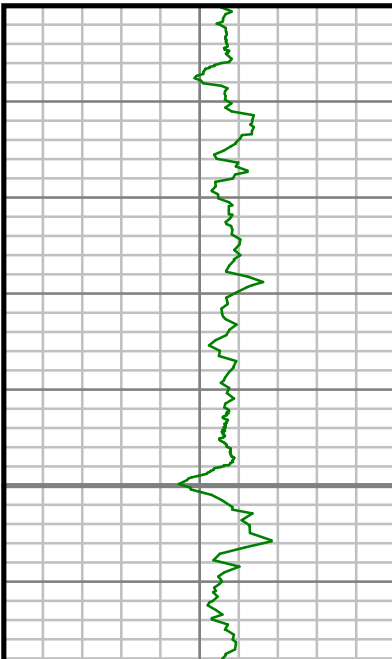
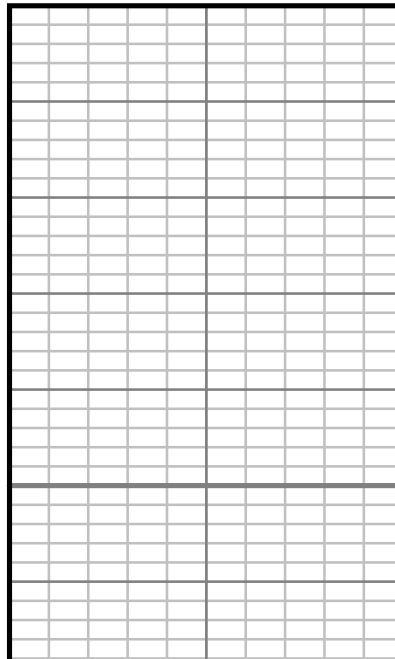
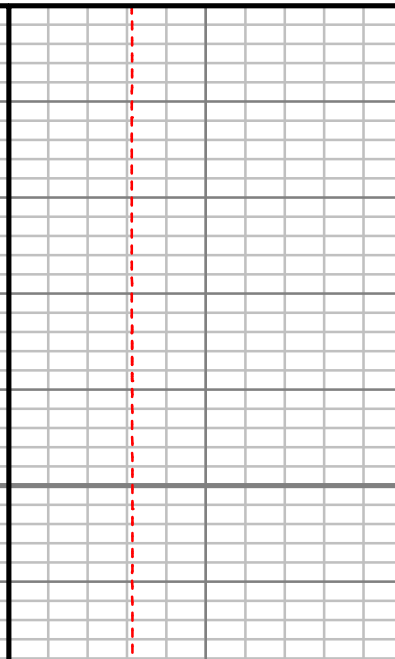
CASING SIZE in	FROM ft	TO ft			
9.625	0	1903			
			DRILLING CO. : PRECISION		
			RIG : 461		
			LWD UNIT NO. : MWD 00282-CDISTRICT : CASPER		
			SPUD DATE : 10/19/2015		
			LWD START DATE : 10/20/2015		DEPTH : 1858 ft
			LWD END DATE : 10/23/2015		DEPTH : 12495 ft
			TOTAL DEPTH : 12495 ft		

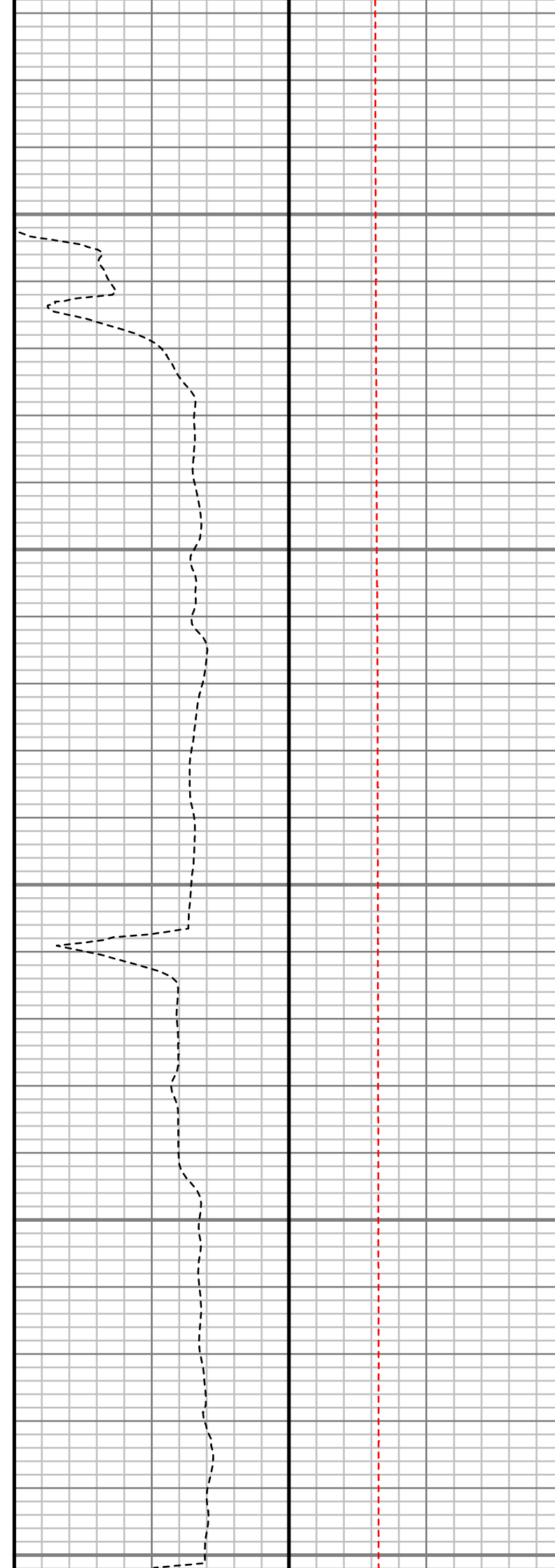
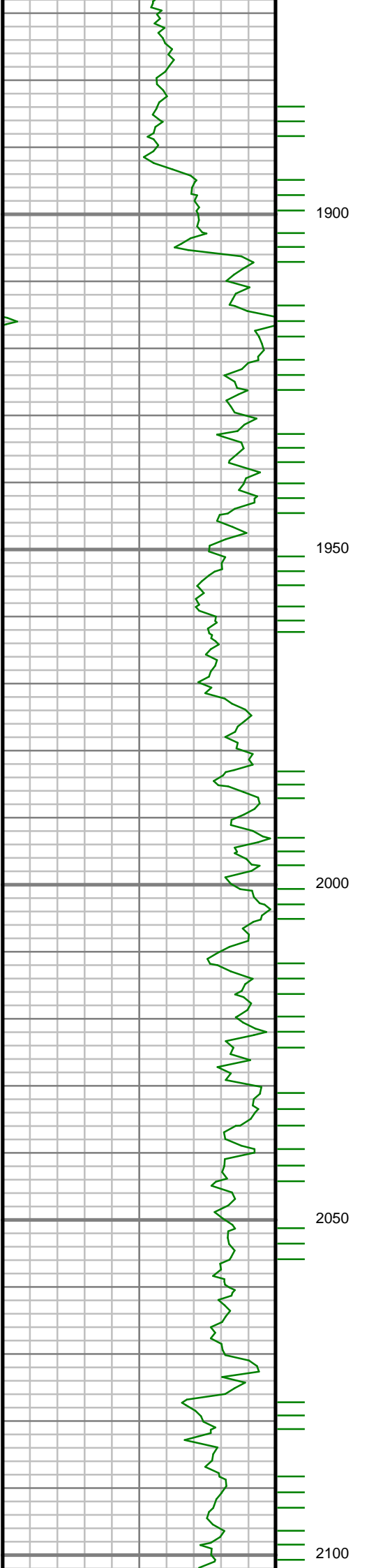
Run Data

RUN NUMBER	1						
START DATE	10/20/2015						
START TIME	1745						
END DATE	10/23/2015						
END TIME	1300						
DEPTH IN (ft)	1903						
DEPTH OUT (ft)	12495						
LOG TOP (ft)	1858						
LOG BOTTOM (ft)	12450						
HOLE SIZE (in)	8.5						
MUD DATA @ (ft)	1903						
MUD TYPE	OIL-BASED						
DENSITY (lb / gal)	9.5						
VISCOSITY (s / qt)	88						
pH	-						
FLUID LOSS (cm3 / 30)	4.5						
SALINITY (ppm)	52000						
Rm (ohmm @ deg F)	-						
Rmf (ohmm @ deg F)	-						
MAX TEMP (deg F)	226						
Rm @ MAX TEMP (ohmm)	-						
LWD ENGINEER #1	B. GREER						
LWD ENGINEER #2	H. ORAHOOD						
LWD ENGINEER #3	S. NEJAD						
LOG WITNESS #1	M. CHISAM						
LOG WITNESS #2	-						

[illegible]

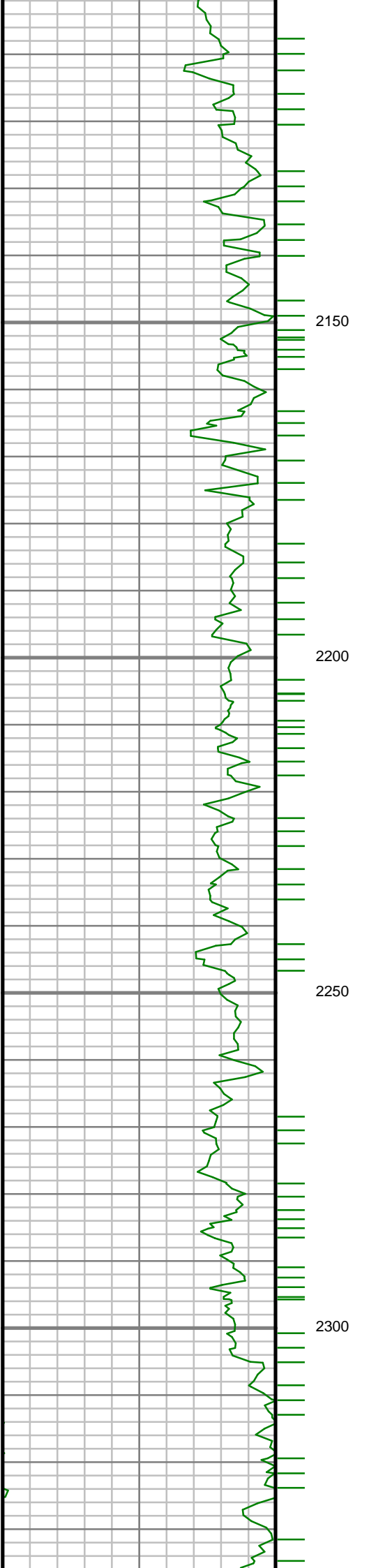
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 SUNFLOWER 40N-17HZ WATTENBERG FIELD WELD COUNTY, COLORADO 05-123-42074							
Gamma Ray (GR) Unit = aapi		MEASURED DEPTH 1:240 (ft)	Rate of Penetration (ROP) Unit = ft/hr		Tool Temperature (T-TEMP) Unit = °F		Comments
0	150		0	1000	0	300	
		1850					S: 21 MD: 1844.00 ft Inc: 15.88 deg Az: 68.66 deg TVD: 1811.08 ft



S: 22 MD: 1952.00 ft
Inc: 16.07 deg Az:
72.86 deg TVD:
1914.91 ft

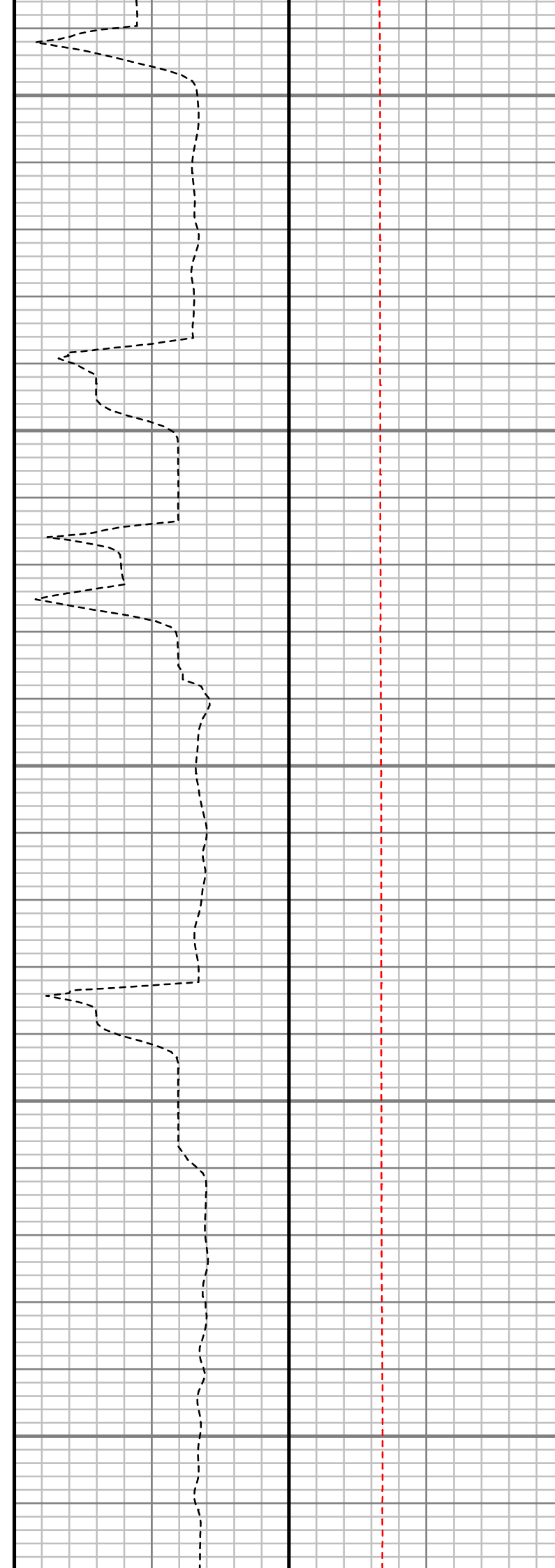
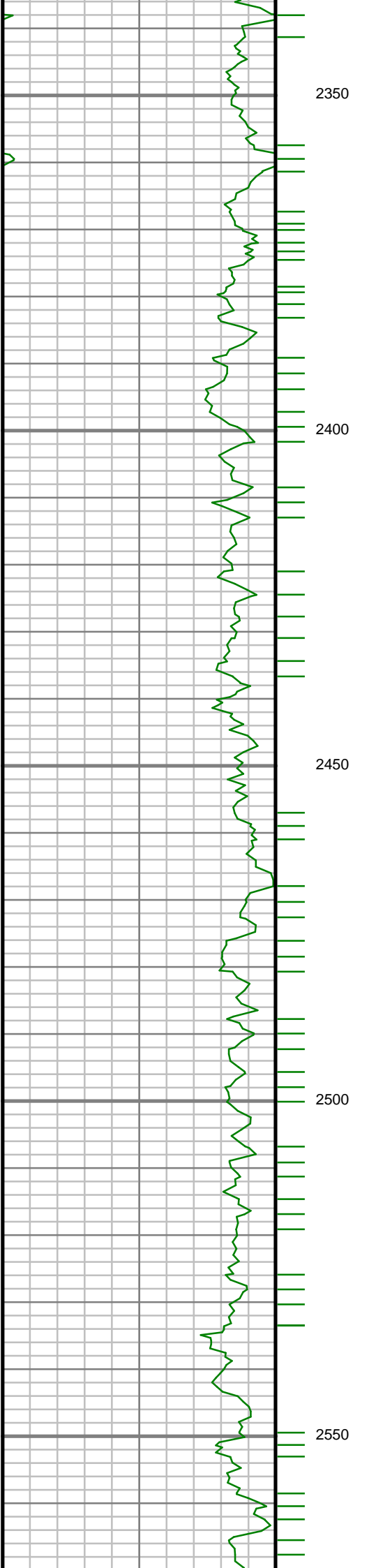
S: 23 MD: 2047.00 ft
Inc: 15.99 deg Az:
71.81 deg TVD:
2006.22 ft



S: 24 MD: 2143.00 ft
Inc: 15.71 deg Az:
70.50 deg TVD:
2098.57 ft

S: 25 MD: 2238.00 ft
Inc: 15.44 deg Az:
68.78 deg TVD:
2190.09 ft

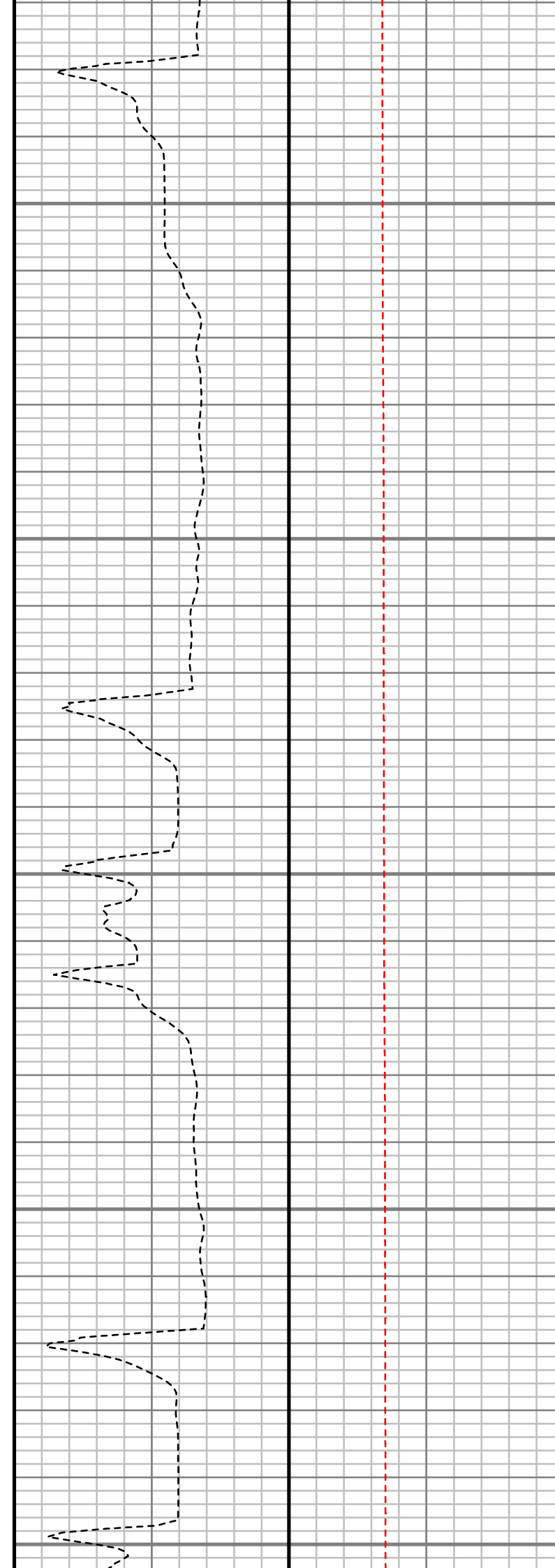
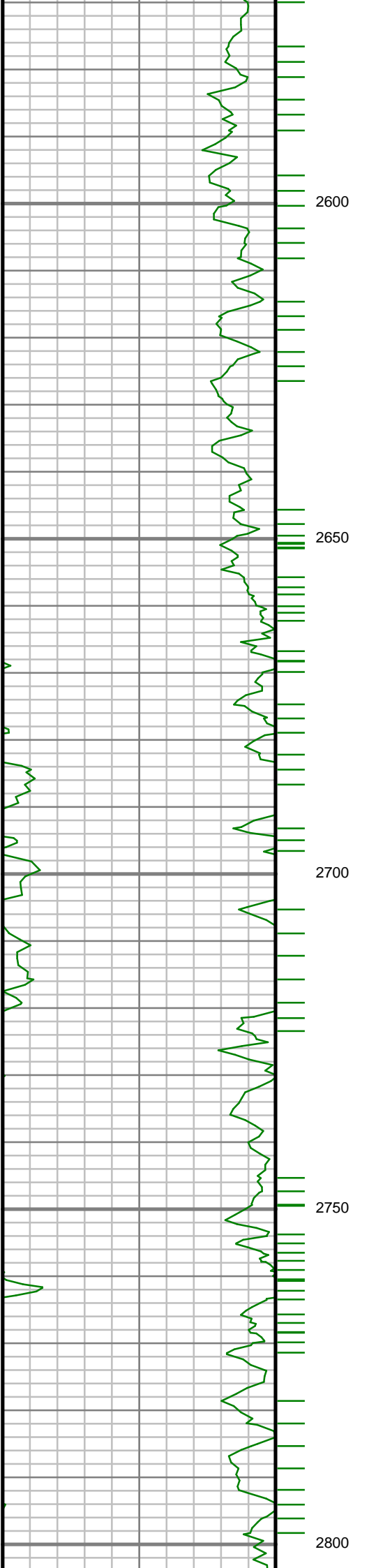
S: 26 MD: 2333.00 ft



Inc: 15.77 deg Az:
64.80 deg TVD:
2281.59 ft

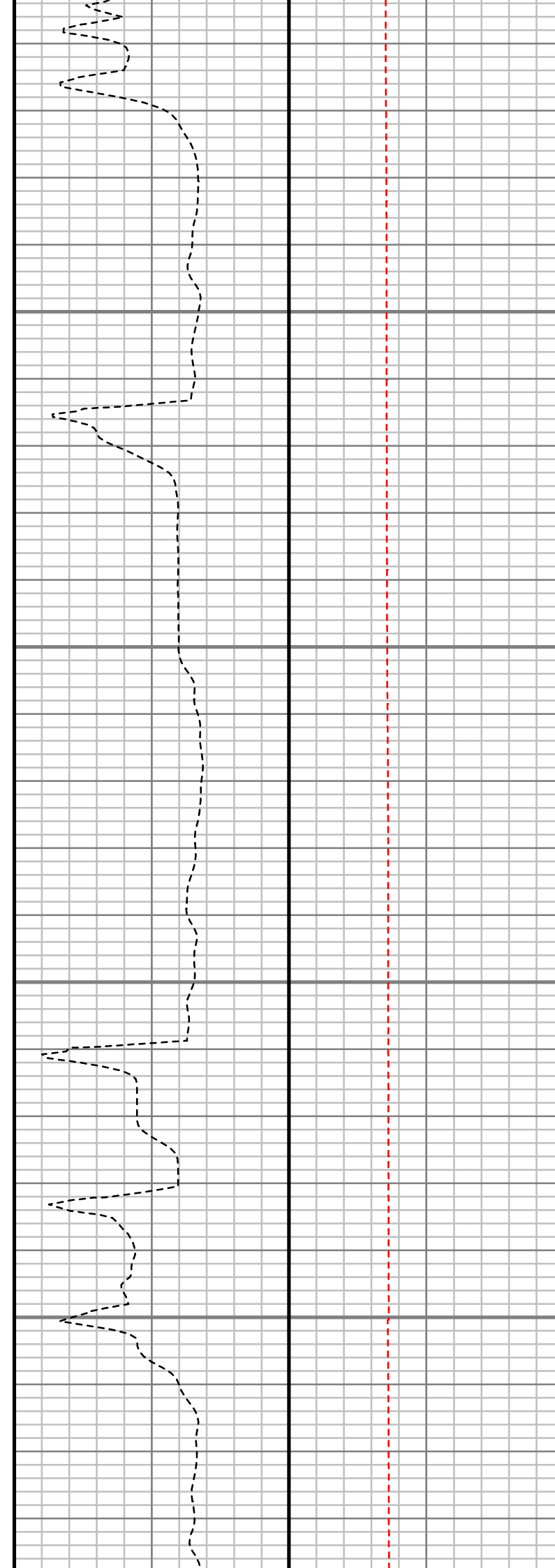
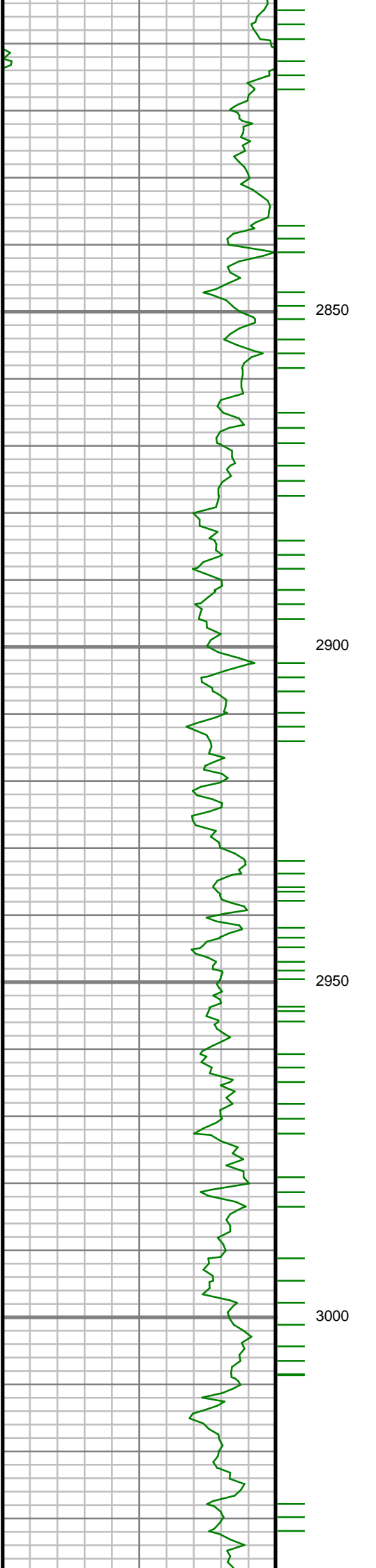
S: 27 MD: 2428.00 ft
Inc: 16.97 deg Az:
70.69 deg TVD:
2372.74 ft

S: 28 MD: 2523.00 ft
Inc: 16.46 deg Az:
72.35 deg TVD:
2463.73 ft



S: 29 MD: 2618.00 ft
Inc: 15.64 deg Az:
68.89 deg TVD:
2555.03 ft

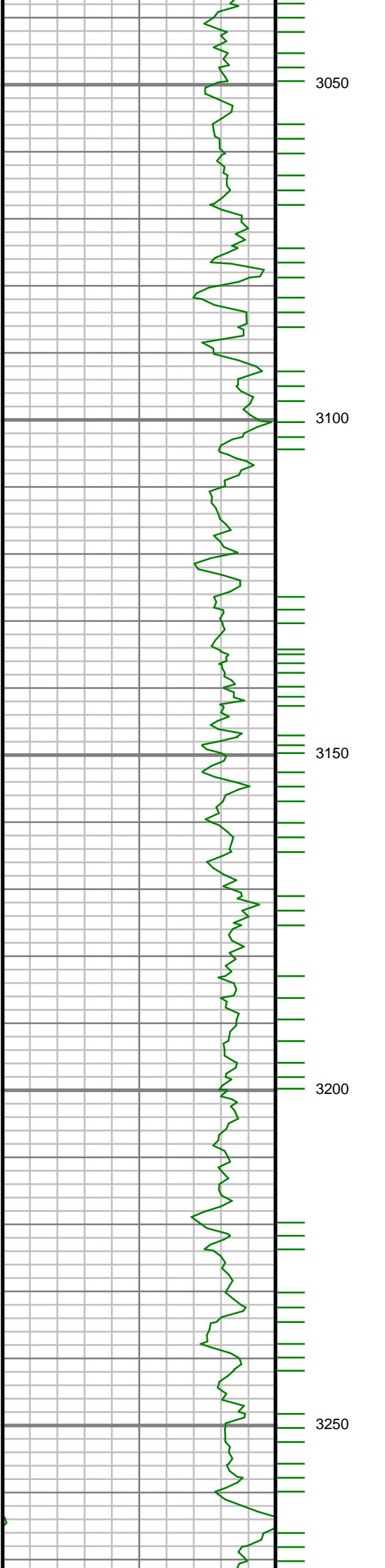
S: 30 MD: 2713.00 ft
Inc: 16.12 deg Az:
65.60 deg TVD:
2646.40 ft



S: 31 MD: 2808.00 ft
Inc: 16.47 deg Az:
65.49 deg TVD:
2737.59 ft

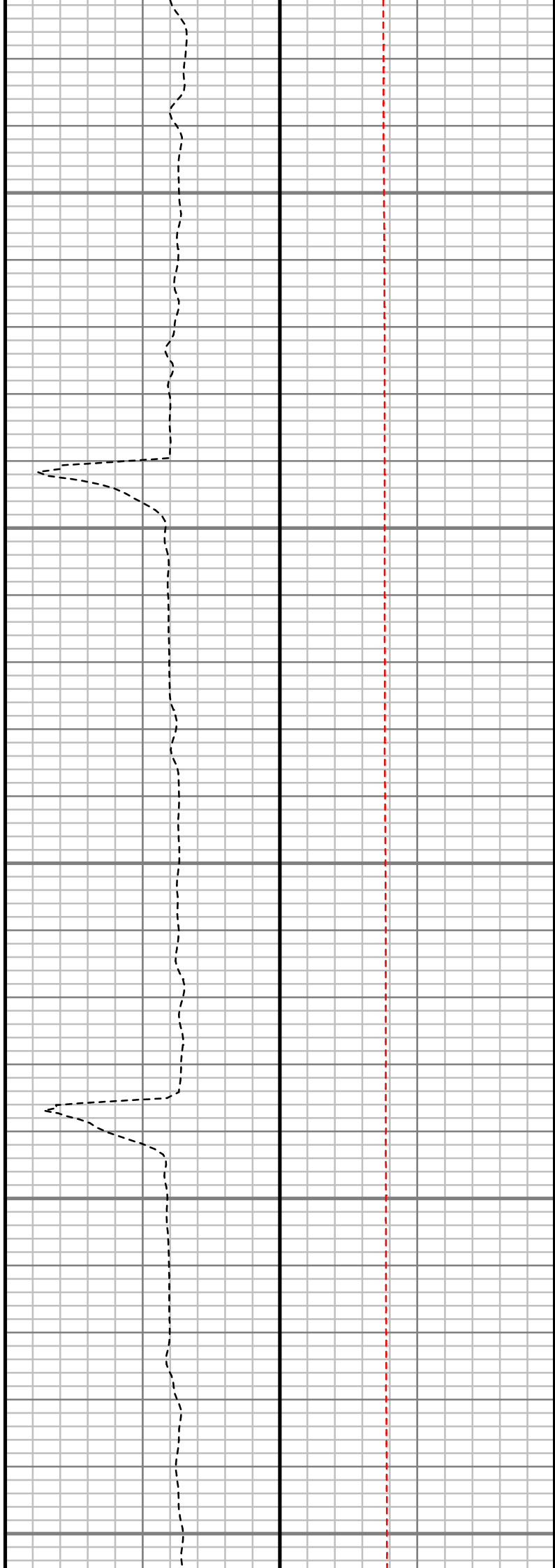
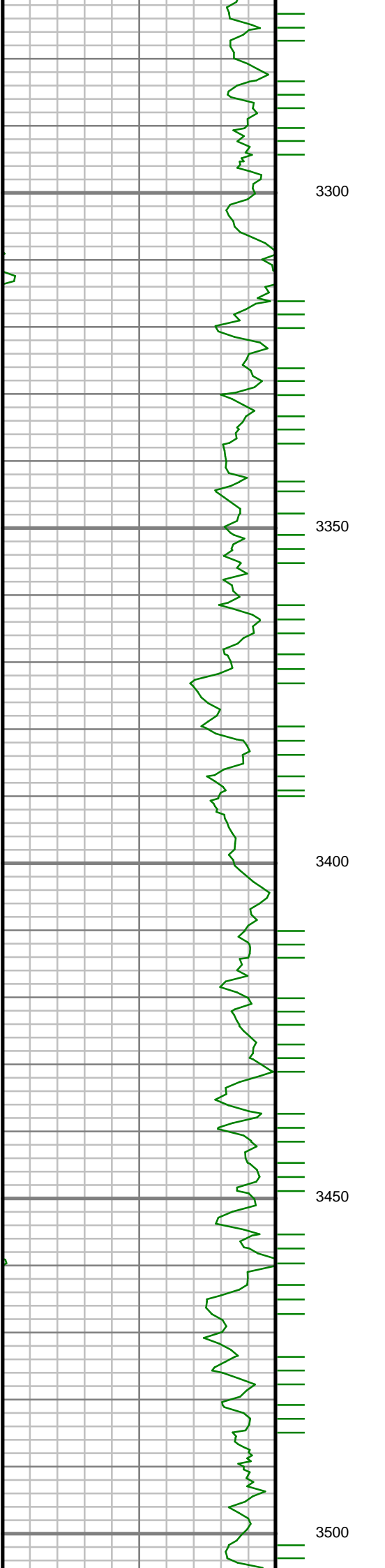
S: 32 MD: 2903.00 ft
Inc: 16.10 deg Az:
64.46 deg TVD:
2828.77 ft

S: 33 MD: 2999.00 ft
Inc: 16.73 deg Az:
70.13 deg TVD:
2920.87 ft



S: 34 MD: 3094.00 ft
Inc: 16.03 deg Az:
70.83 deg TVD:
3012.01 ft

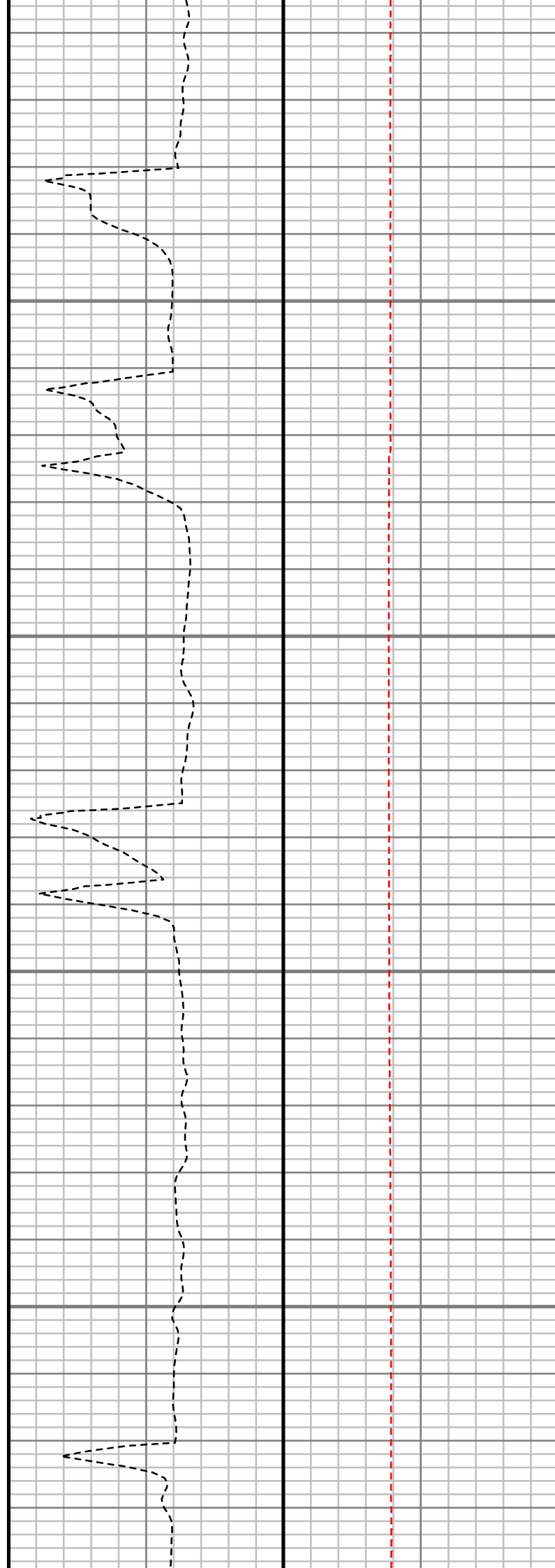
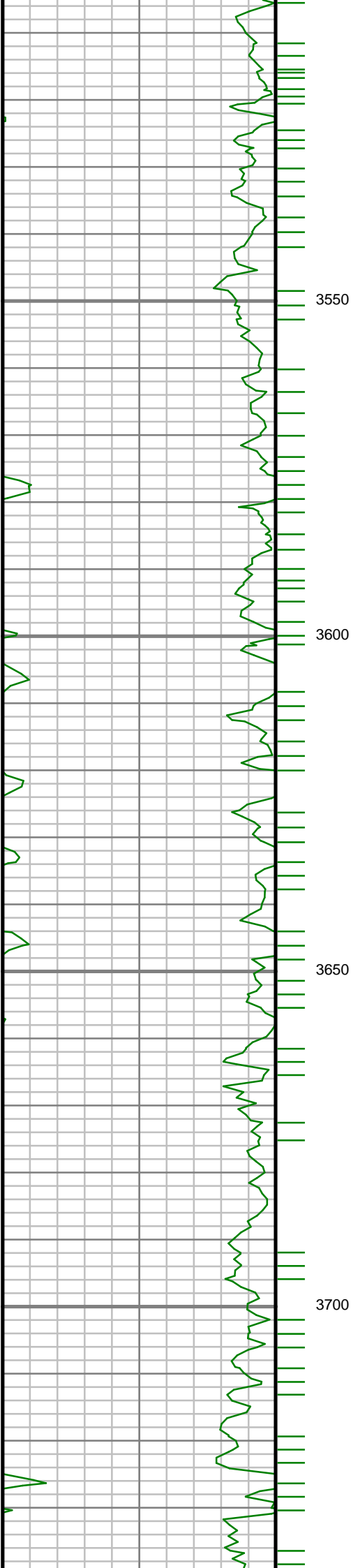
S: 35 MD: 3189.00 ft
Inc: 17.04 deg Az:
70.89 deg TVD:
3103.08 ft



S: 36 MD: 3284.00 ft
Inc: 16.65 deg Az:
72.25 deg TVD:
3194.00 ft

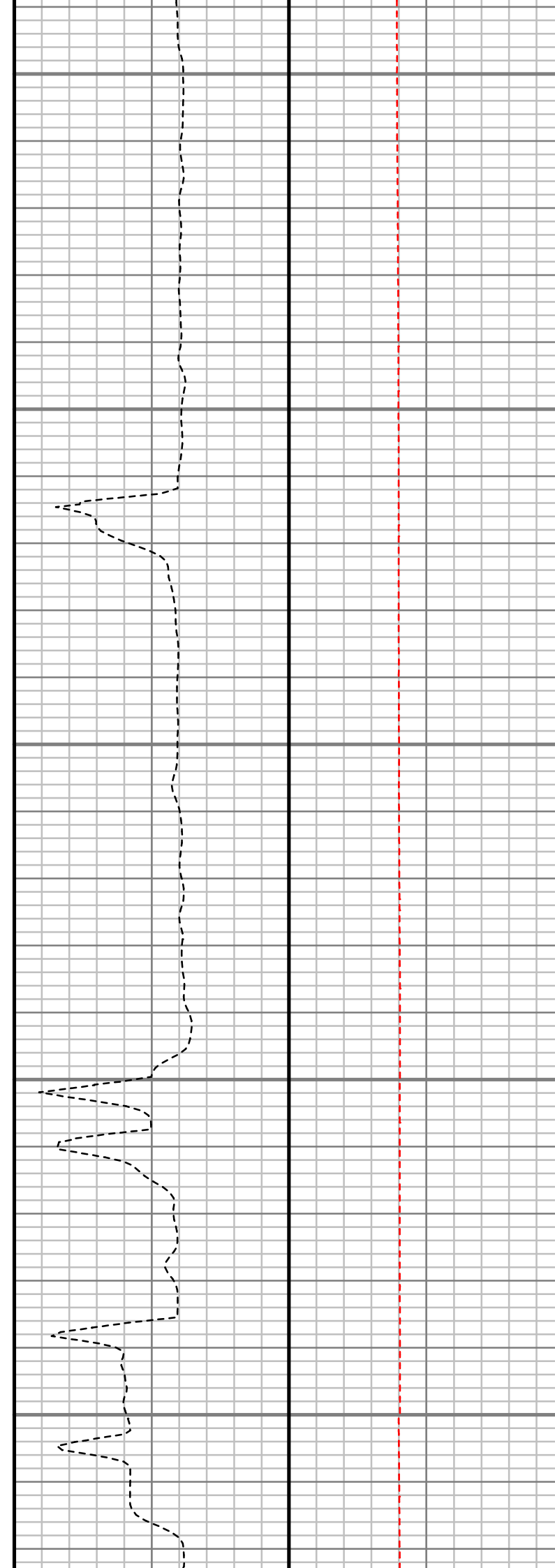
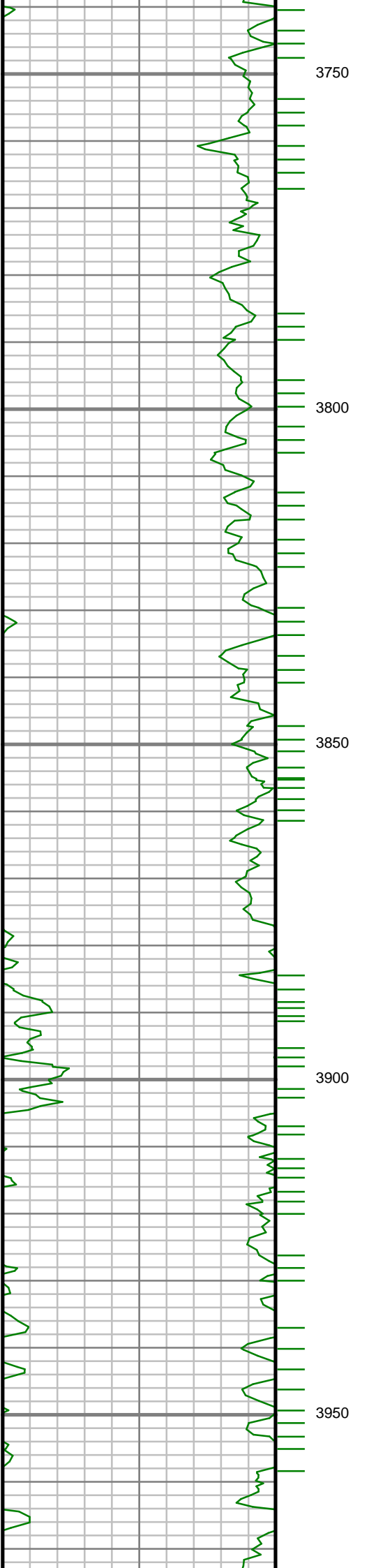
S: 37 MD: 3379.00 ft
Inc: 16.22 deg Az:
71.06 deg TVD:
3285.12 ft

S: 38 MD: 3474.00 ft
Inc: 15.81 deg Az:
68.28 deg TVD:
3376.44 ft



S: 39 MD: 3569.00 ft
Inc: 15.91 deg Az:
67.31 deg TVD:
3467.83 ft

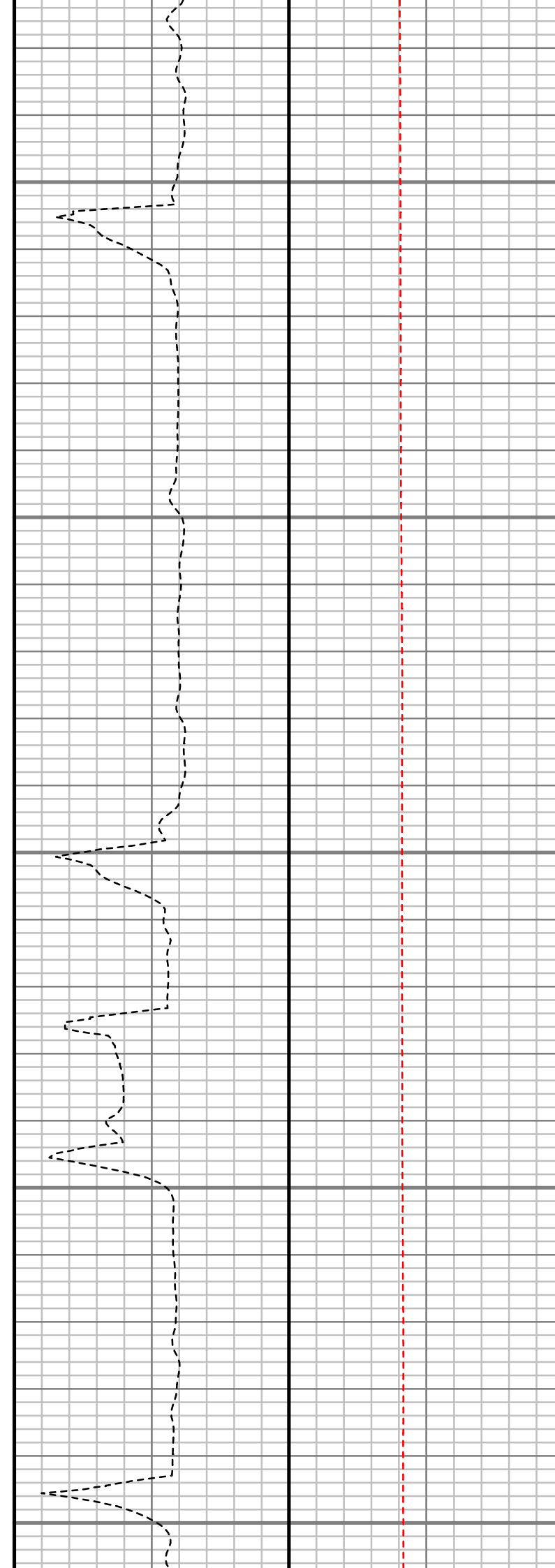
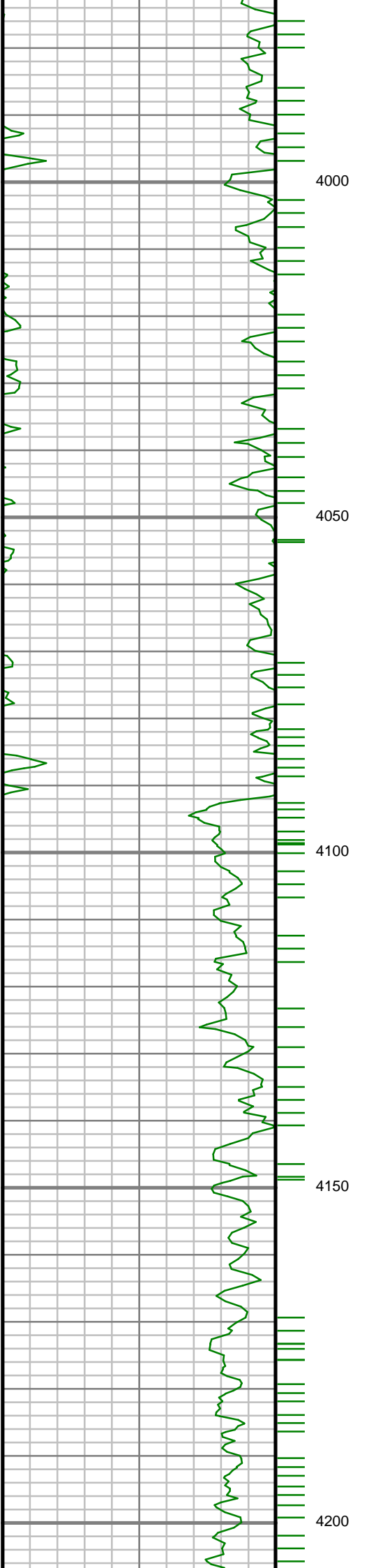
S: 40 MD: 3664.00 ft
Inc: 15.79 deg Az:
65.24 deg TVD:
3559.22 ft



S: 41 MD: 3760.00 ft
Inc: 15.37 deg Az:
62.32 deg TVD:
3651.69 ft

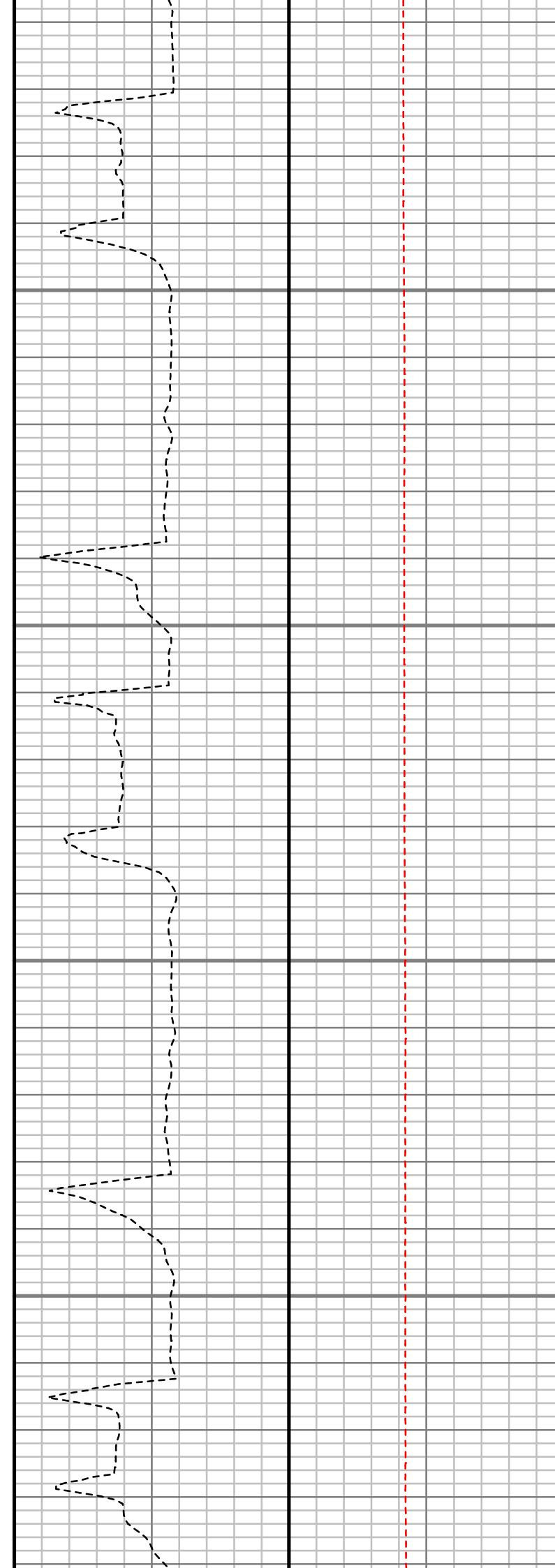
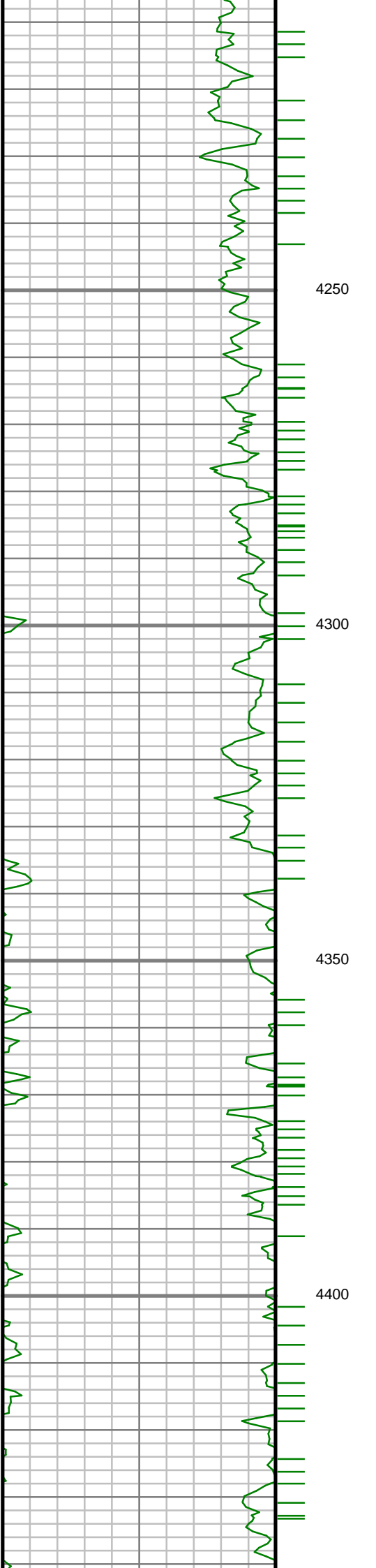
S: 42 MD: 3855.00 ft
Inc: 14.81 deg Az:
59.32 deg TVD:
3743.41 ft

S: 43 MD: 3950.00 ft
Inc: 13.58 deg Az:
62.35 deg TVD:
3835.51 ft



S: 44 MD: 4045.00 ft
Inc: 13.01 deg Az:
62.89 deg TVD:
3927.96 ft

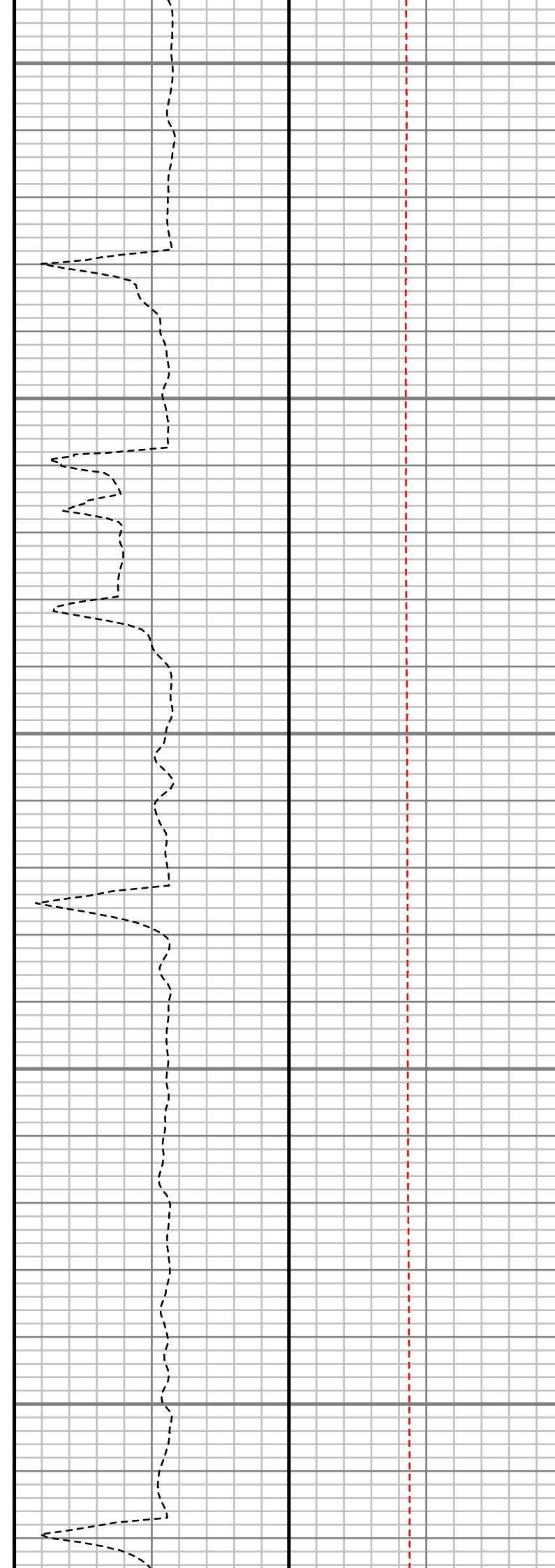
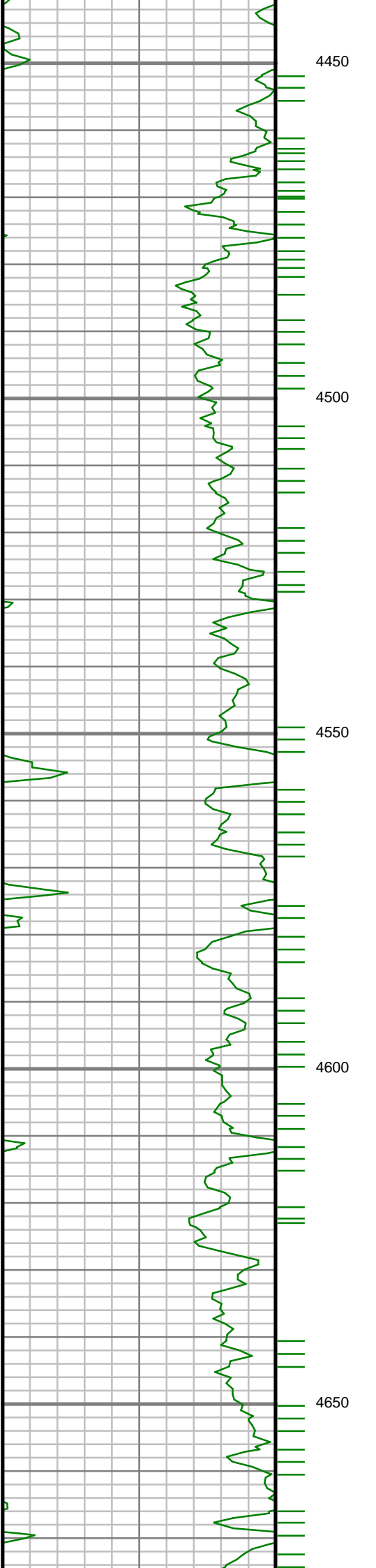
S: 45 MD: 4140.00 ft
Inc: 11.40 deg Az:
67.41 deg TVD:
4020.82 ft



S: 46 MD: 4235.00 ft
Inc: 9.38 deg Az: 67.11
deg TVD: 4114.25 ft

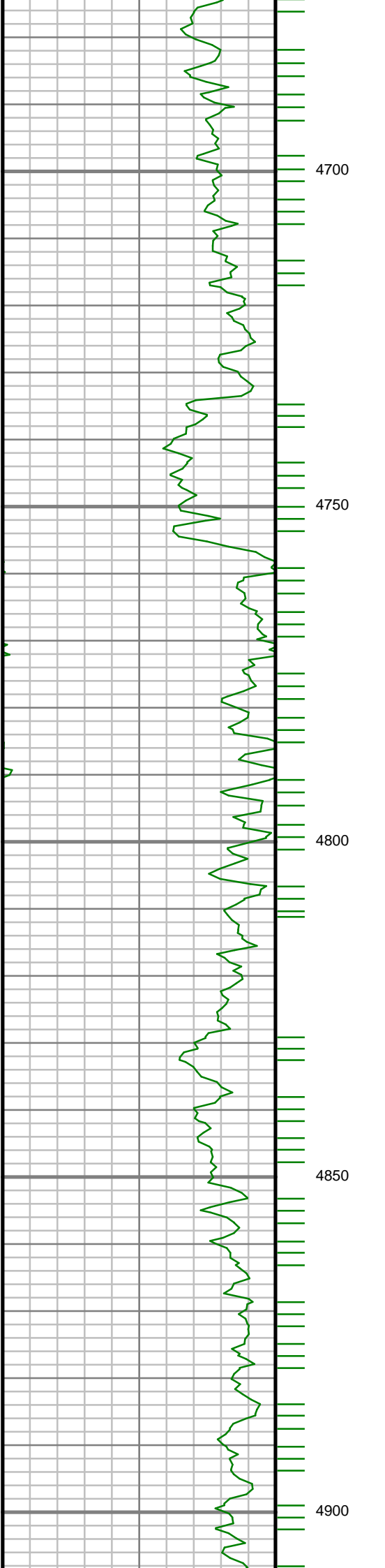
S: 47 MD: 4329.00 ft
Inc: 5.83 deg Az: 66.65
deg TVD: 4207.41 ft

S: 48 MD: 4425.00 ft
Inc: 3.82 deg Az: 73.24
deg TVD: 4303.07 ft



S: 49 MD: 4520.00 ft
Inc: 2.22 deg Az: 91.96
deg TVD: 4397.93 ft

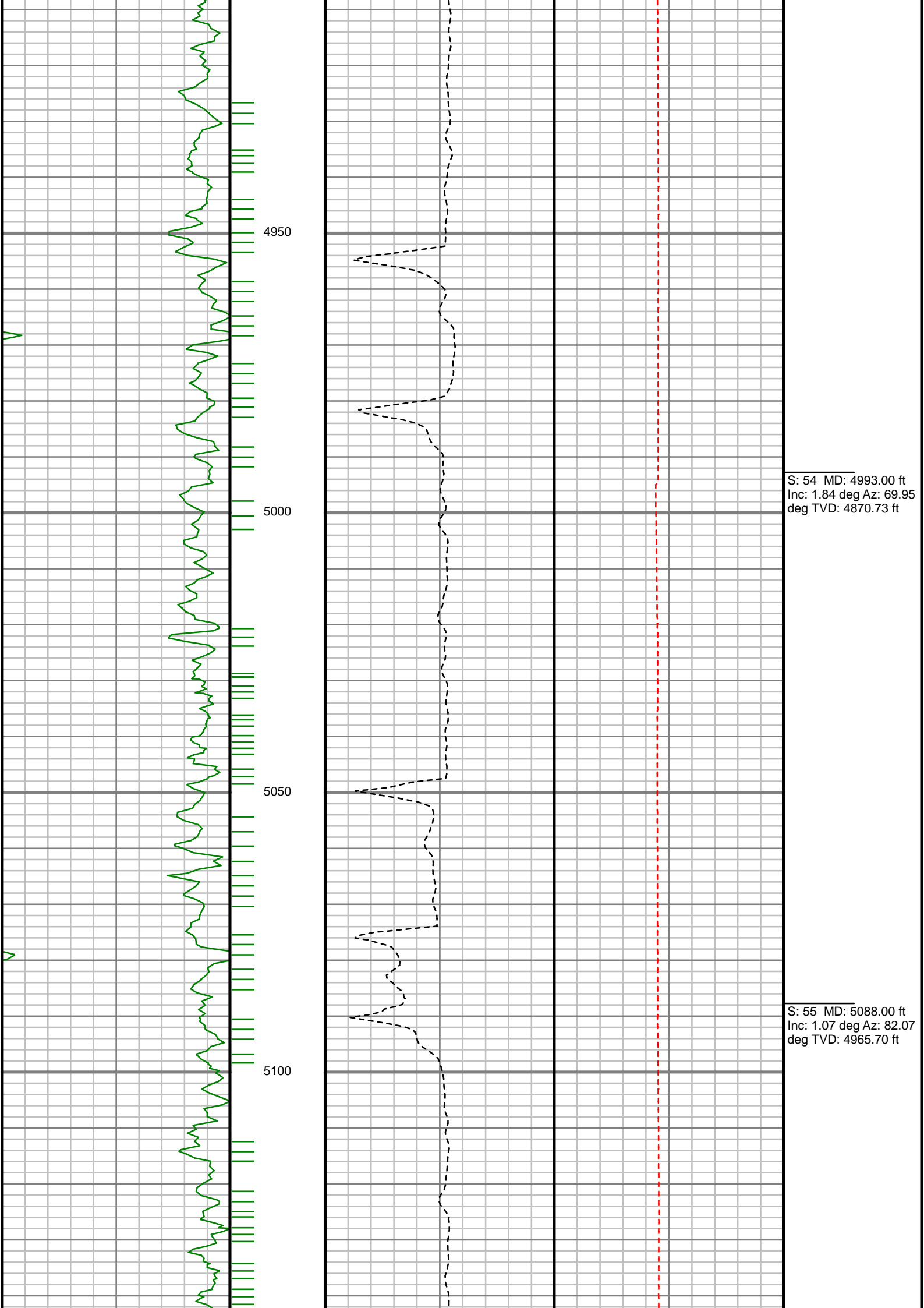
S: 50 MD: 4614.00 ft
Inc: 1.84 deg Az:
109.17 deg TVD:
4491.88 ft

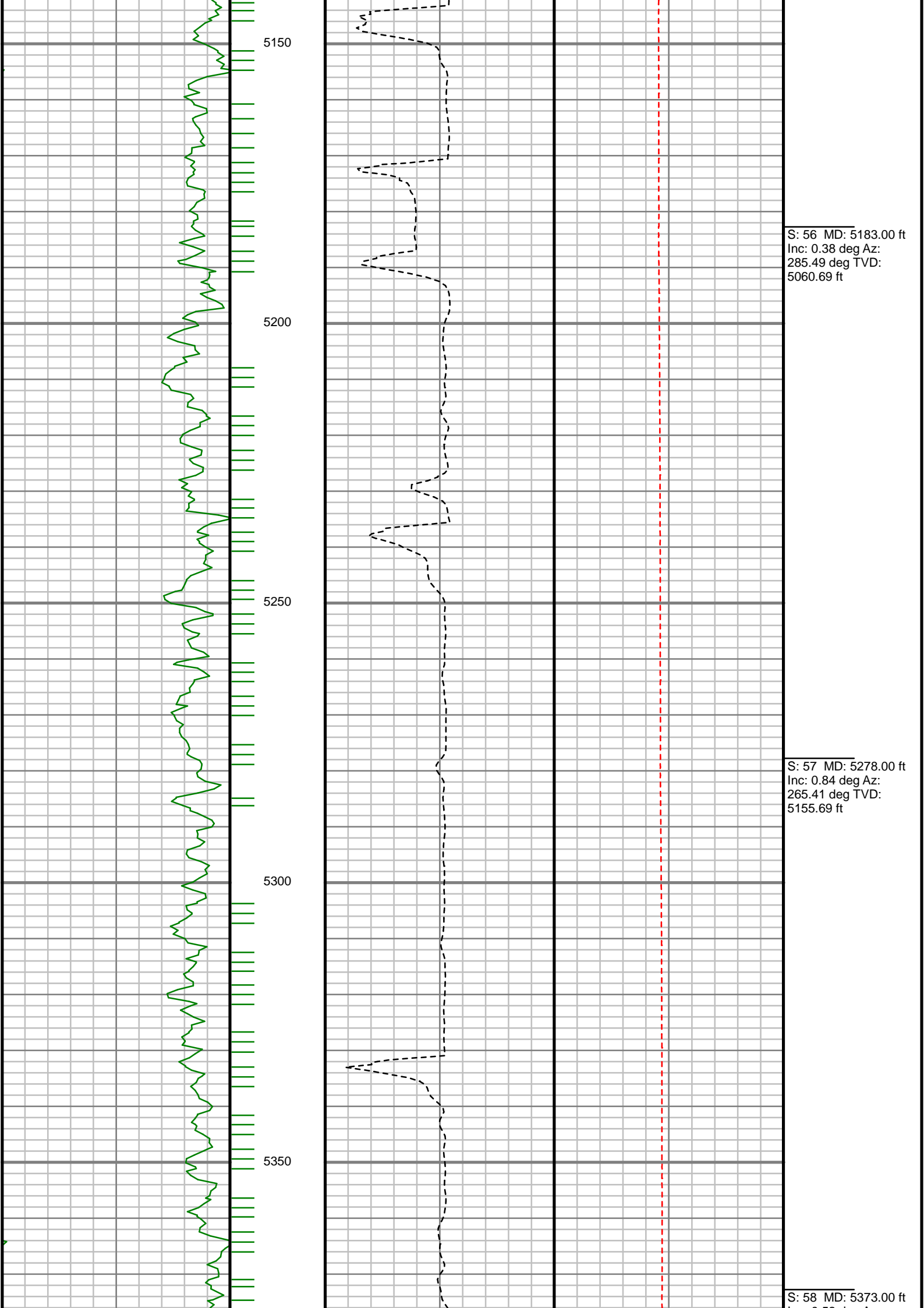


S: 51 MD: 4709.00 ft
Inc: 1.71 deg Az: 97.51
deg TVD: 4586.83 ft

S: 52 MD: 4804.00 ft
Inc: 1.50 deg Az: 92.07
deg TVD: 4681.79 ft

S: 53 MD: 4899.00 ft
Inc: 1.39 deg Az: 94.03
deg TVD: 4776.76 ft





5150

5200

5250

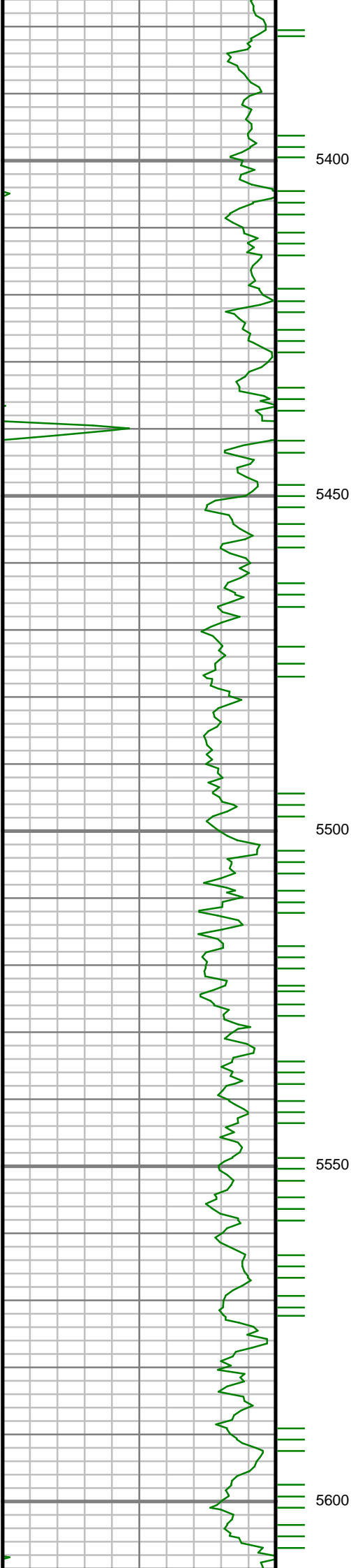
5300

5350

S: 56 MD: 5183.00 ft
Inc: 0.38 deg Az:
285.49 deg TVD:
5060.69 ft

S: 57 MD: 5278.00 ft
Inc: 0.84 deg Az:
265.41 deg TVD:
5155.69 ft

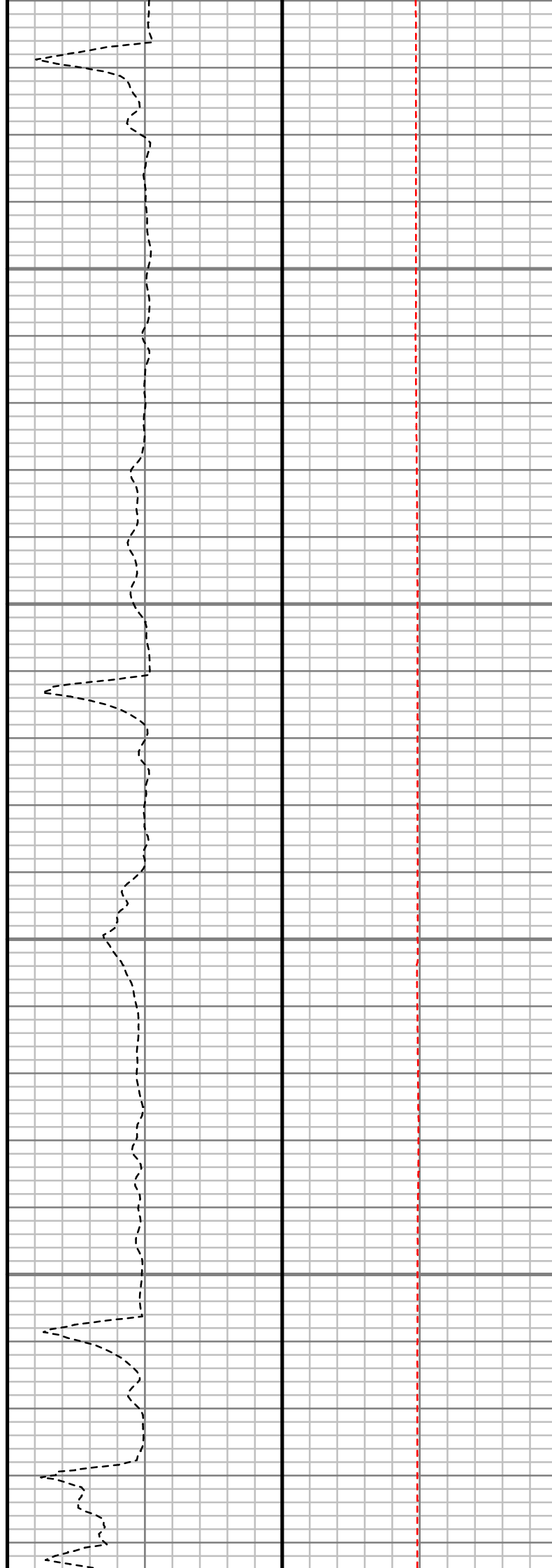
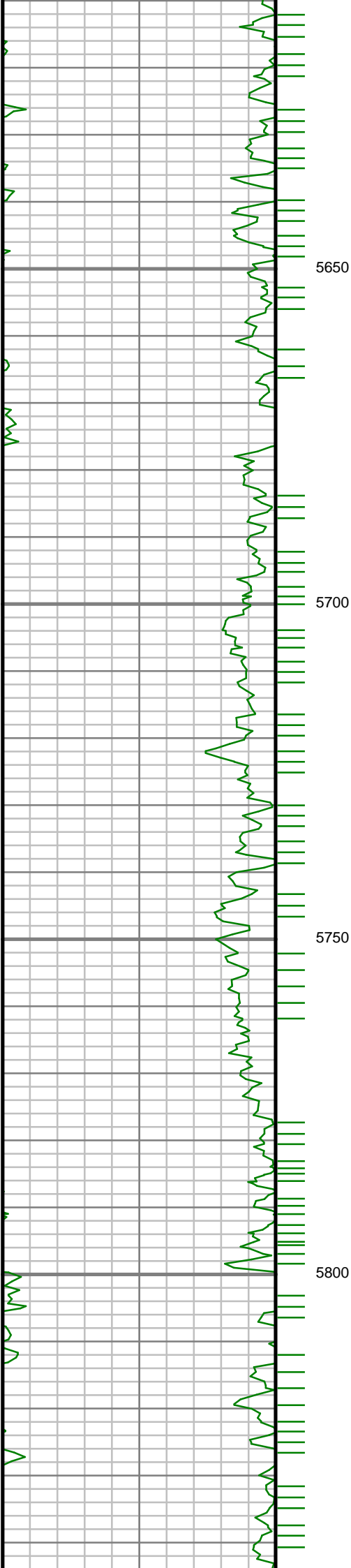
S: 58 MD: 5373.00 ft



Inc: 0.53 deg Az:
280.64 deg TVD:
5250.68 ft

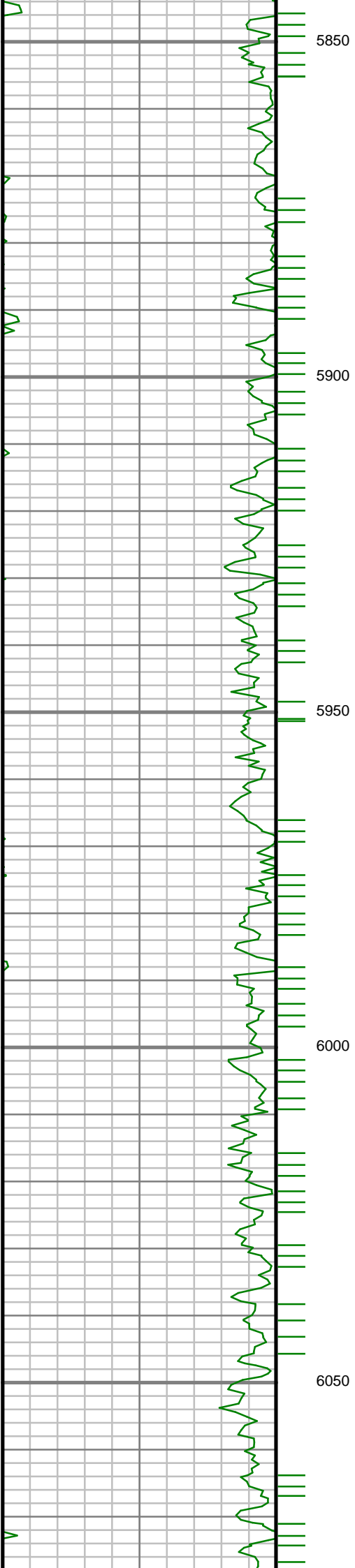
S: 59 MD: 5468.00 ft
Inc: 0.30 deg Az:
312.62 deg TVD:
5345.68 ft

S: 60 MD: 5563.00 ft
Inc: 0.26 deg Az:
330.41 deg TVD:
5440.67 ft



S: 61 MD: 5657.00 ft
Inc: 0.23 deg Az: 39.42
deg TVD: 5534.67 ft

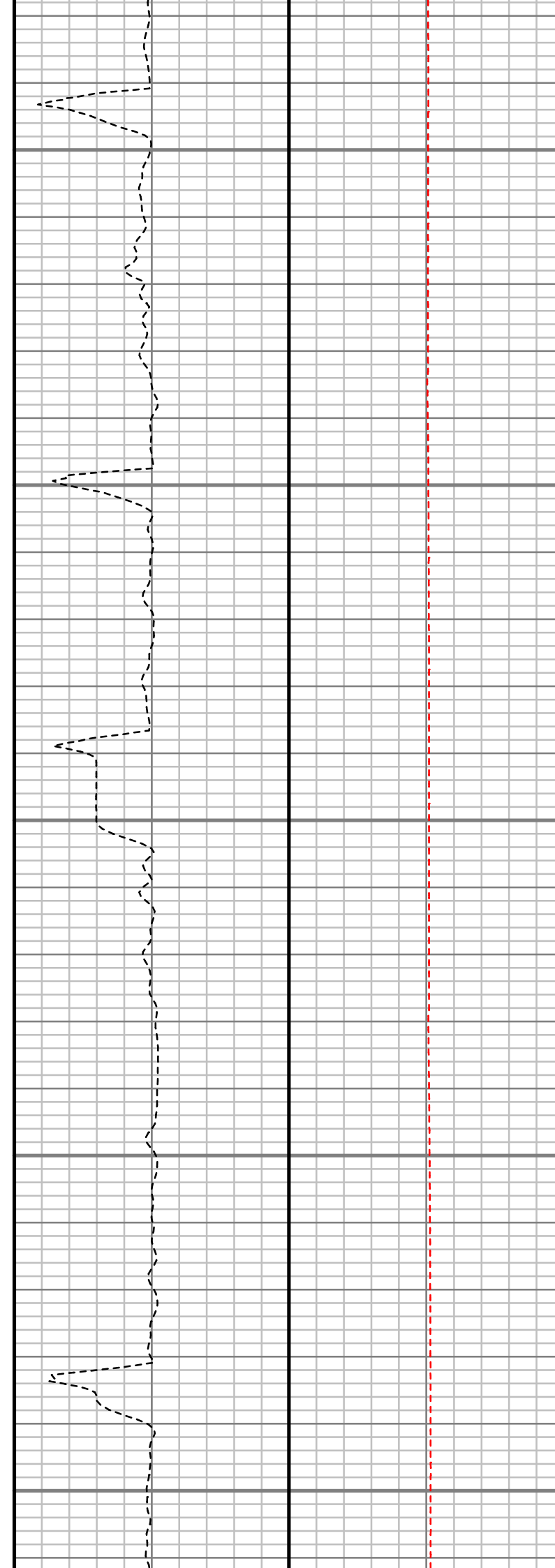
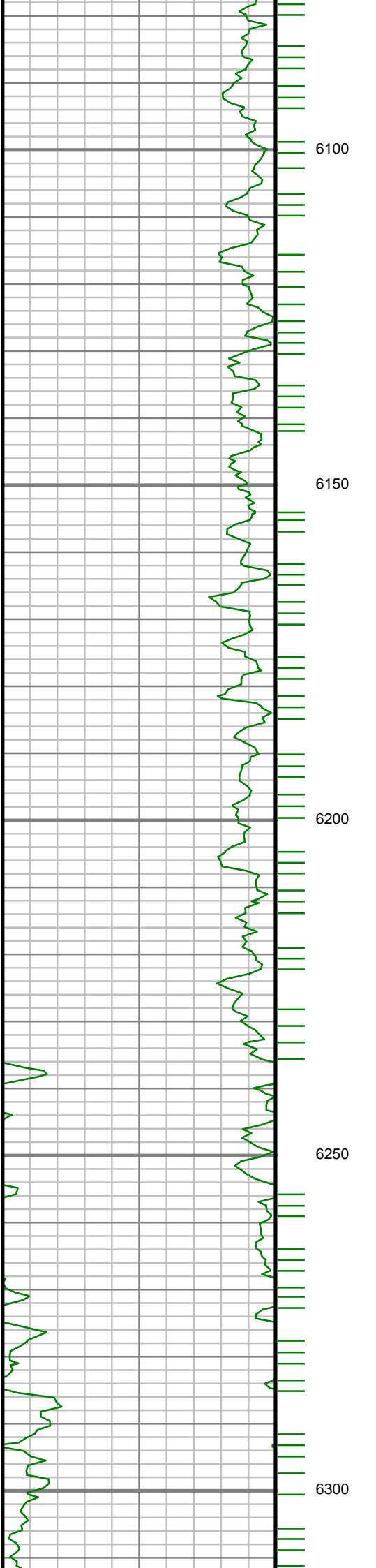
S: 62 MD: 5752.00 ft
Inc: 0.38 deg Az: 28.16
deg TVD: 5629.67 ft



S: 63 MD: 5847.00 ft
Inc: 1.08 deg Az:
282.58 deg TVD:
5724.67 ft

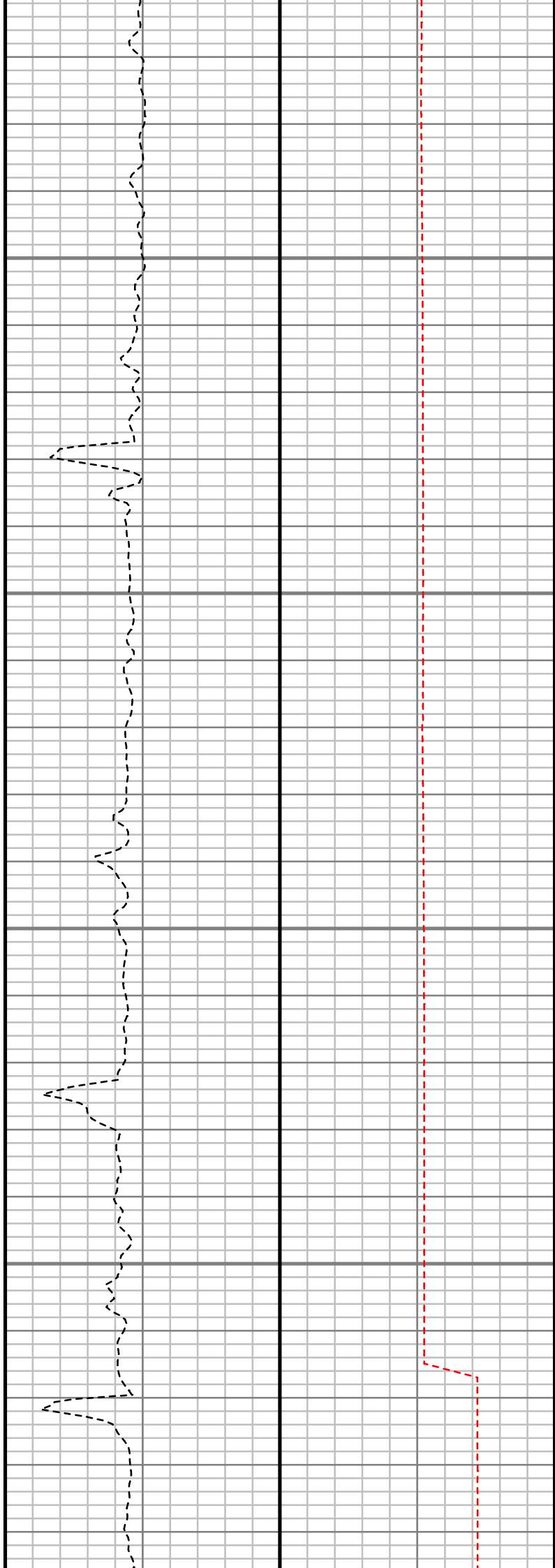
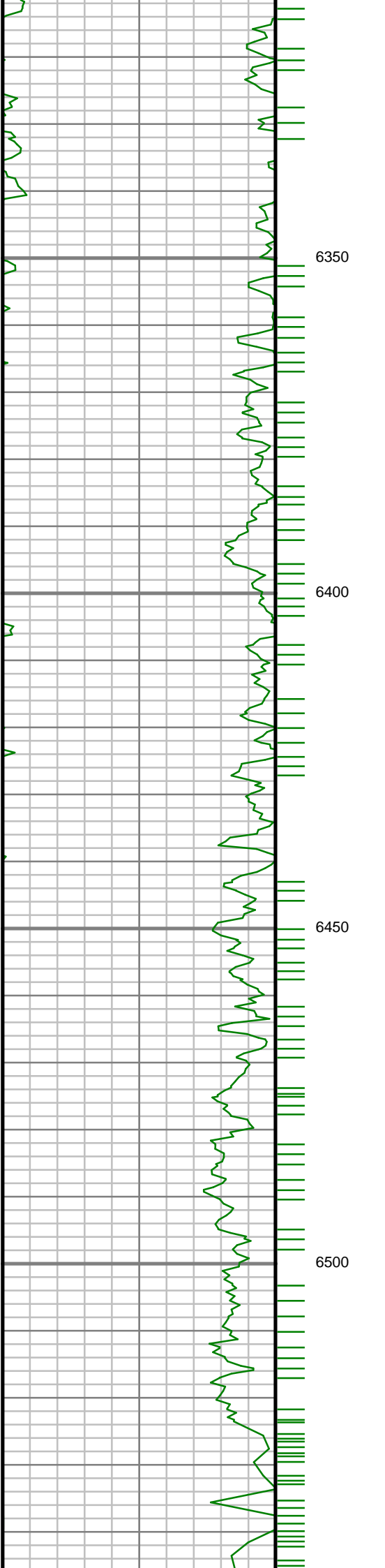
S: 64 MD: 5941.00 ft
Inc: 1.17 deg Az:
268.36 deg TVD:
5818.65 ft

S: 65 MD: 6036.00 ft
Inc: 1.15 deg Az:
236.49 deg TVD:
5913.63 ft



S: 66 MD: 6131.00 ft
Inc: 1.26 deg Az:
221.47 deg TVD:
6008.61 ft

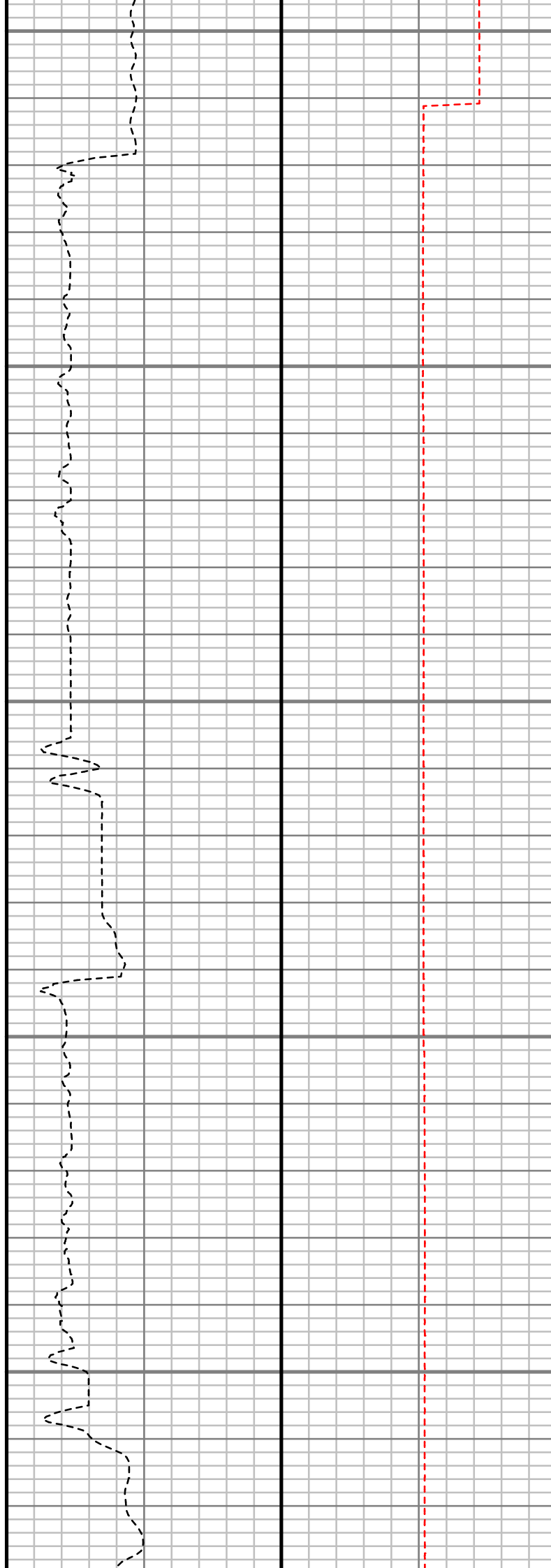
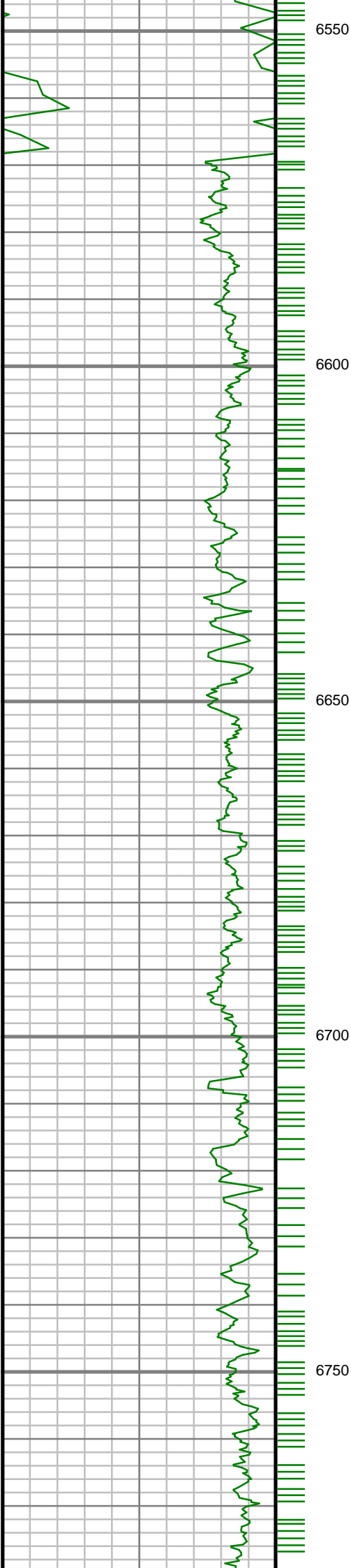
S: 67 MD: 6226.00 ft
Inc: 1.28 deg Az:
236.45 deg TVD:
6103.59 ft



S: 68 MD: 6321.00 ft
Inc: 0.99 deg Az:
252.52 deg TVD:
6198.57 ft

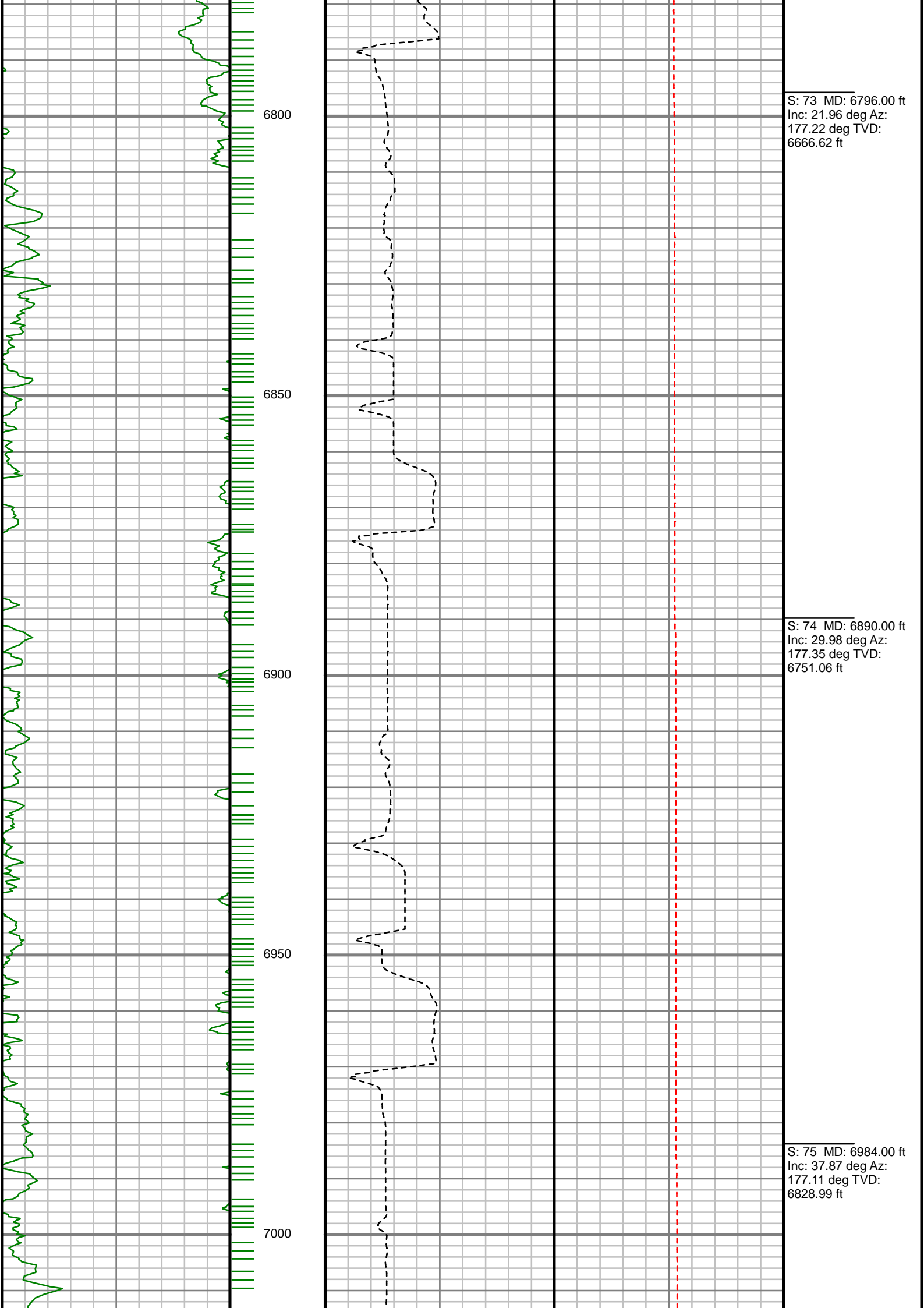
S: 69 MD: 6416.00 ft
Inc: 1.01 deg Az:
275.97 deg TVD:
6293.55 ft

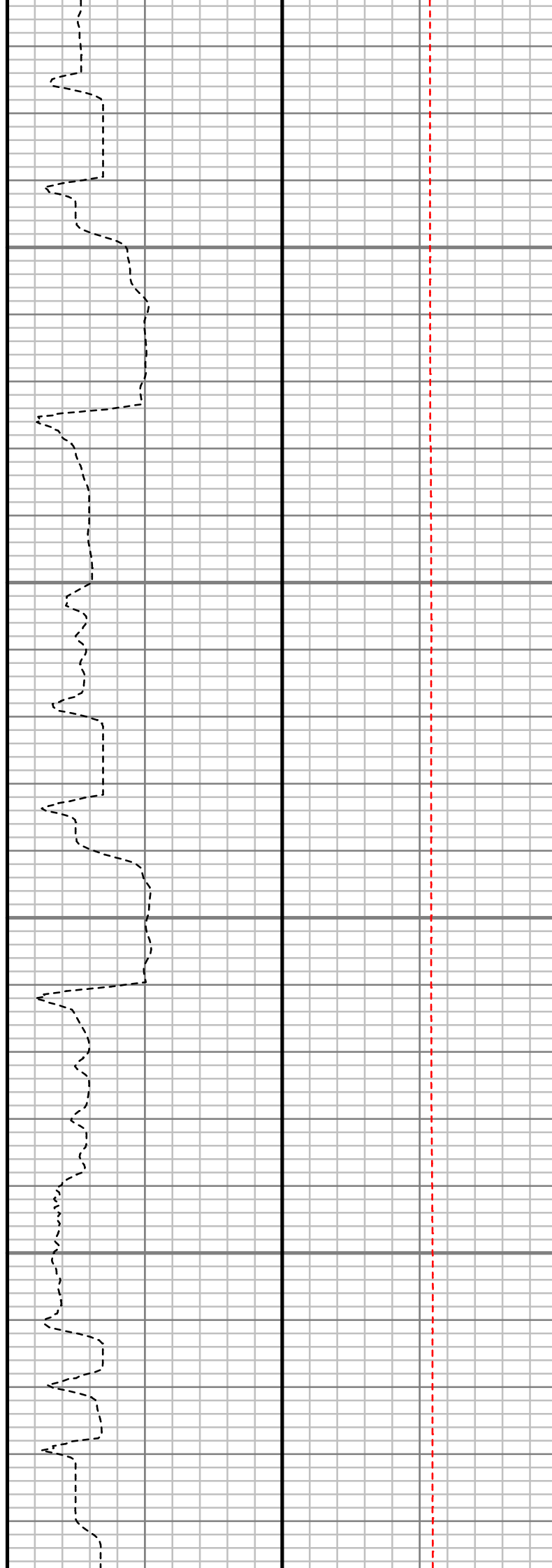
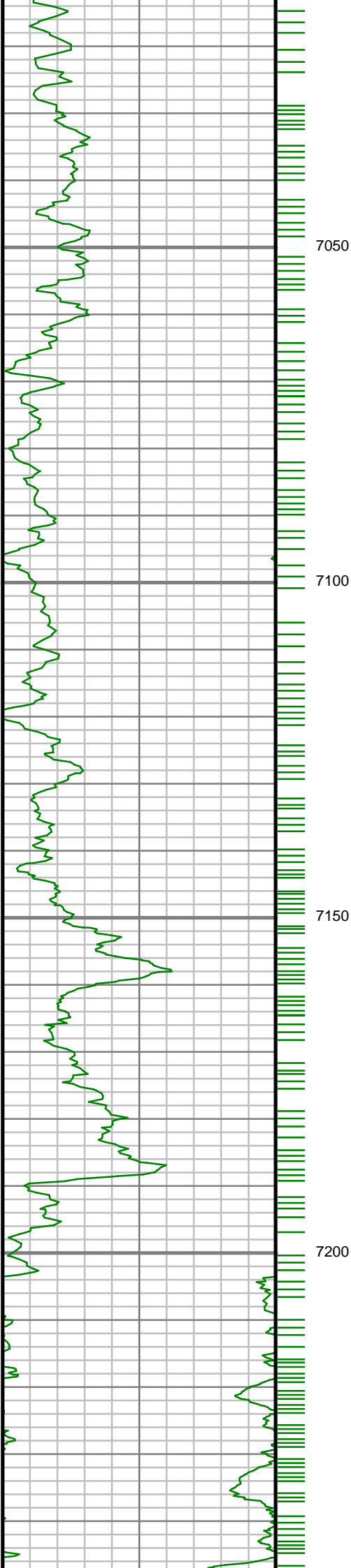
S: 70 MD: 6511.00 ft
Inc: 1.02 deg Az:
281.29 deg TVD:
6388.54 ft



S: 71 MD: 6606.00 ft
Inc: 6.07 deg Az:
175.83 deg TVD:
6483.36 ft

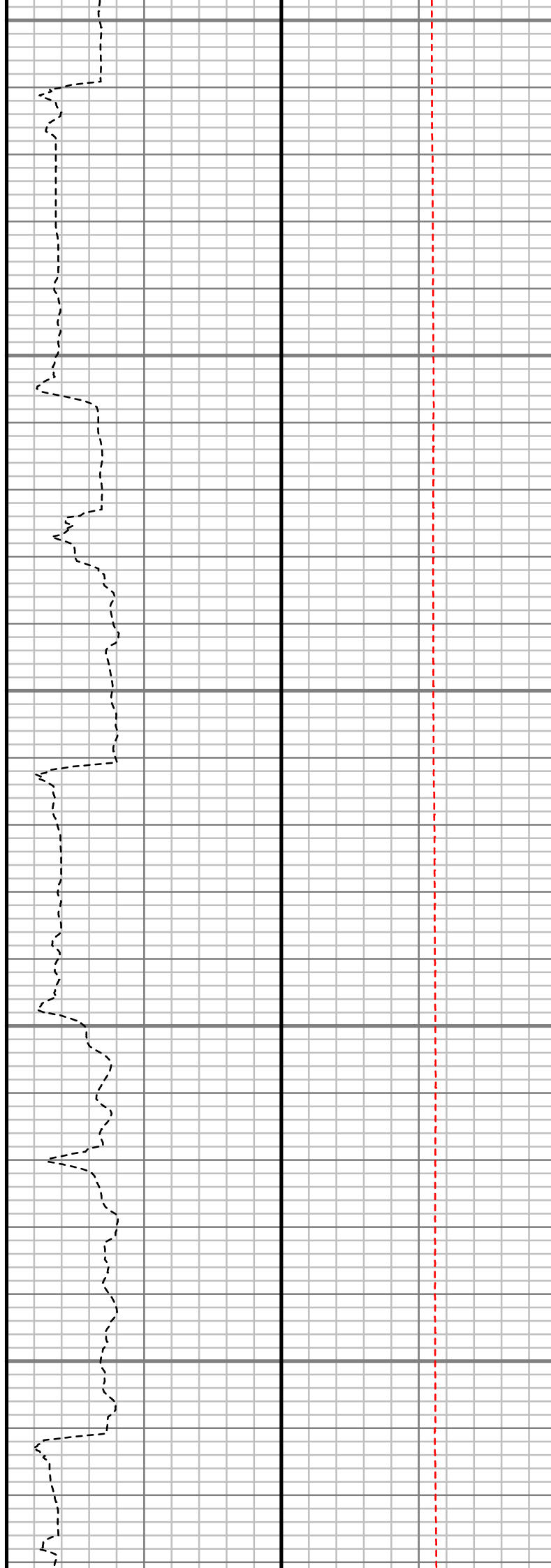
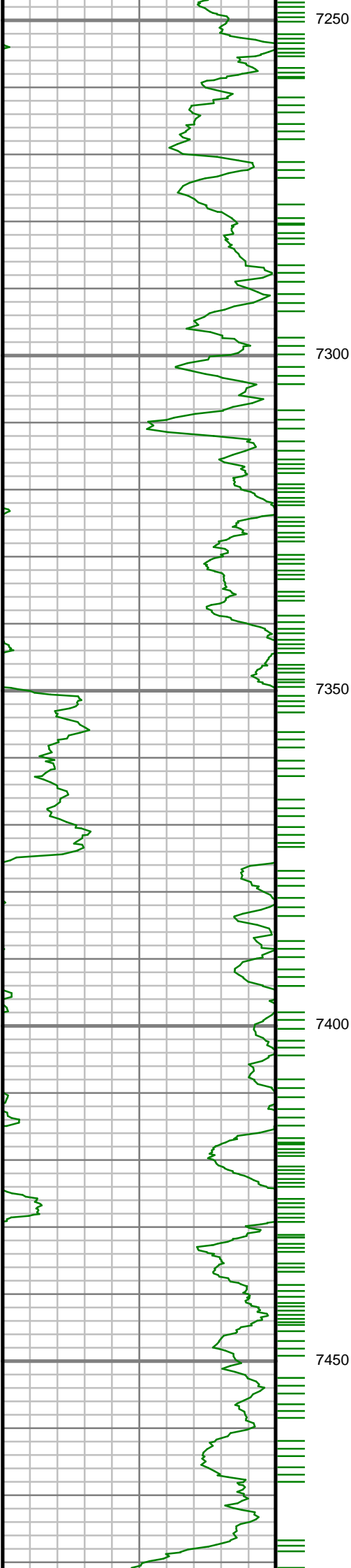
S: 72 MD: 6701.00 ft
Inc: 15.24 deg Az:
172.92 deg TVD:
6576.63 ft





S: 76 MD: 7079.00 ft
Inc: 43.99 deg Az:
179.53 deg TVD:
6900.74 ft

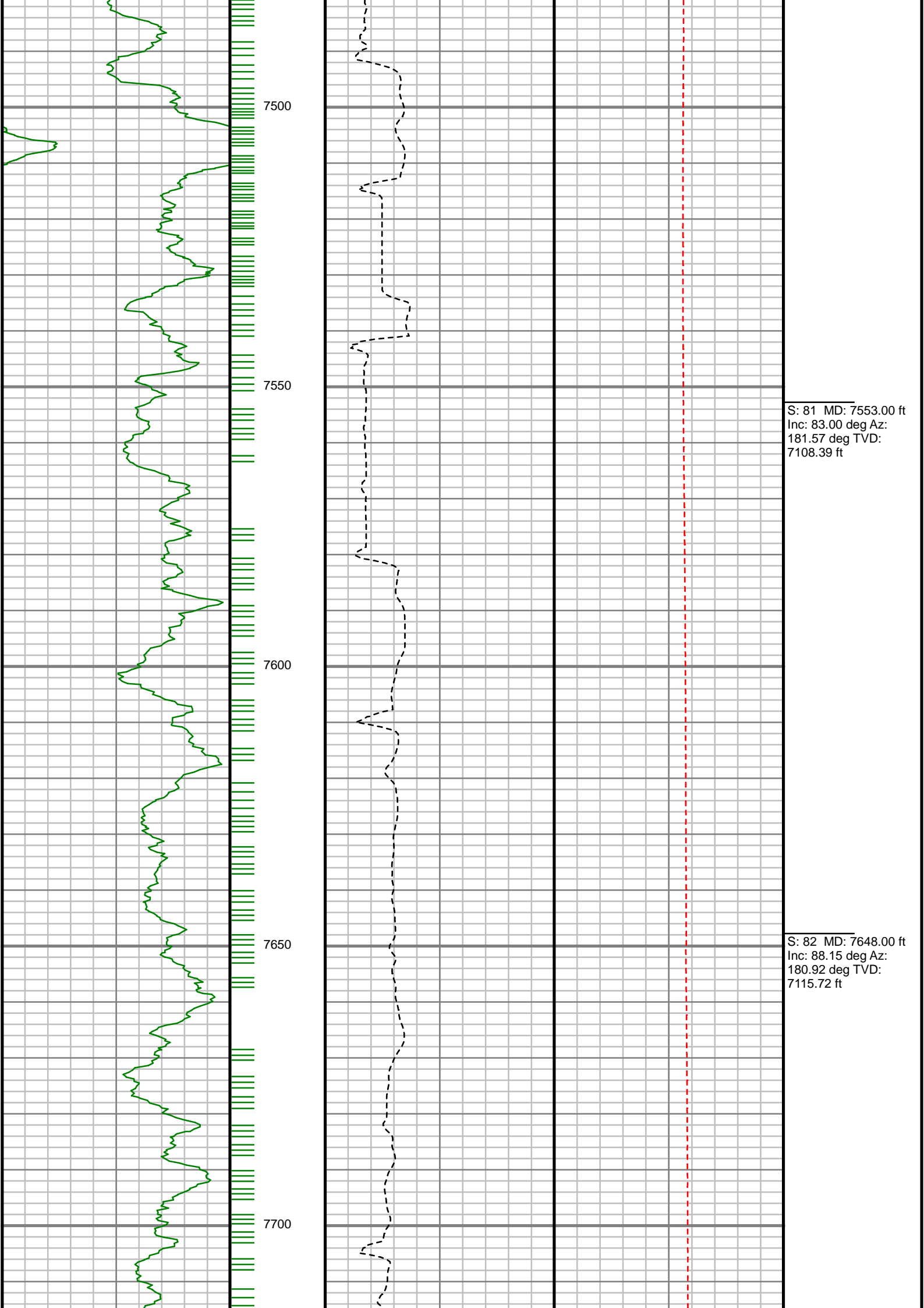
S: 77 MD: 7174.00 ft
Inc: 51.64 deg Az:
180.91 deg TVD:
6964.49 ft



S: 78 MD: 7269.00 ft
Inc: 60.15 deg Az:
179.84 deg TVD:
7017.71 ft

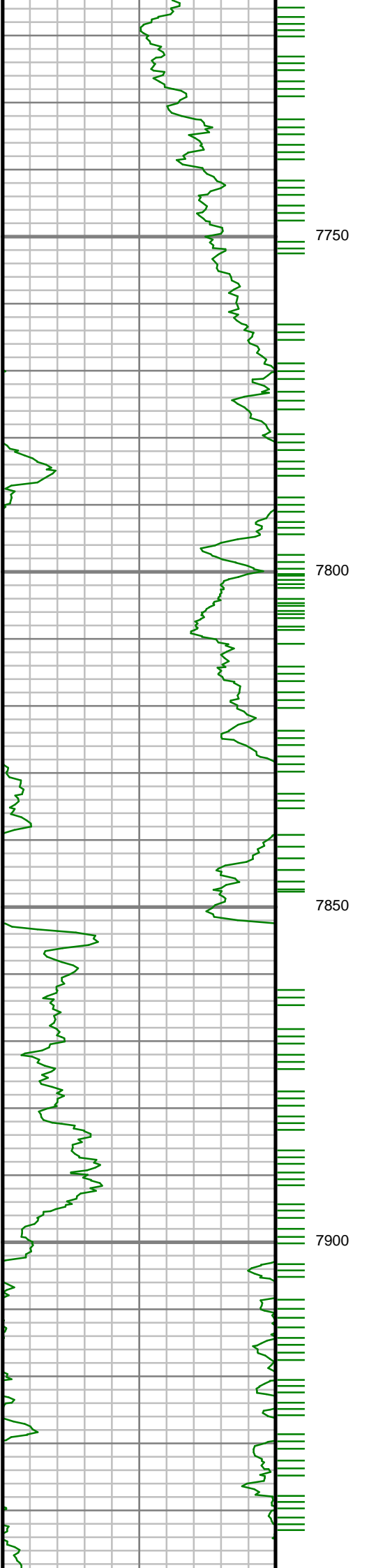
S: 79 MD: 7364.00 ft
Inc: 67.72 deg Az:
180.59 deg TVD:
7059.42 ft

S: 80 MD: 7458.00 ft
Inc: 74.48 deg Az:
180.75 deg TVD:
7089.85 ft



S: 81 MD: 7553.00 ft
Inc: 83.00 deg Az:
181.57 deg TVD:
7108.39 ft

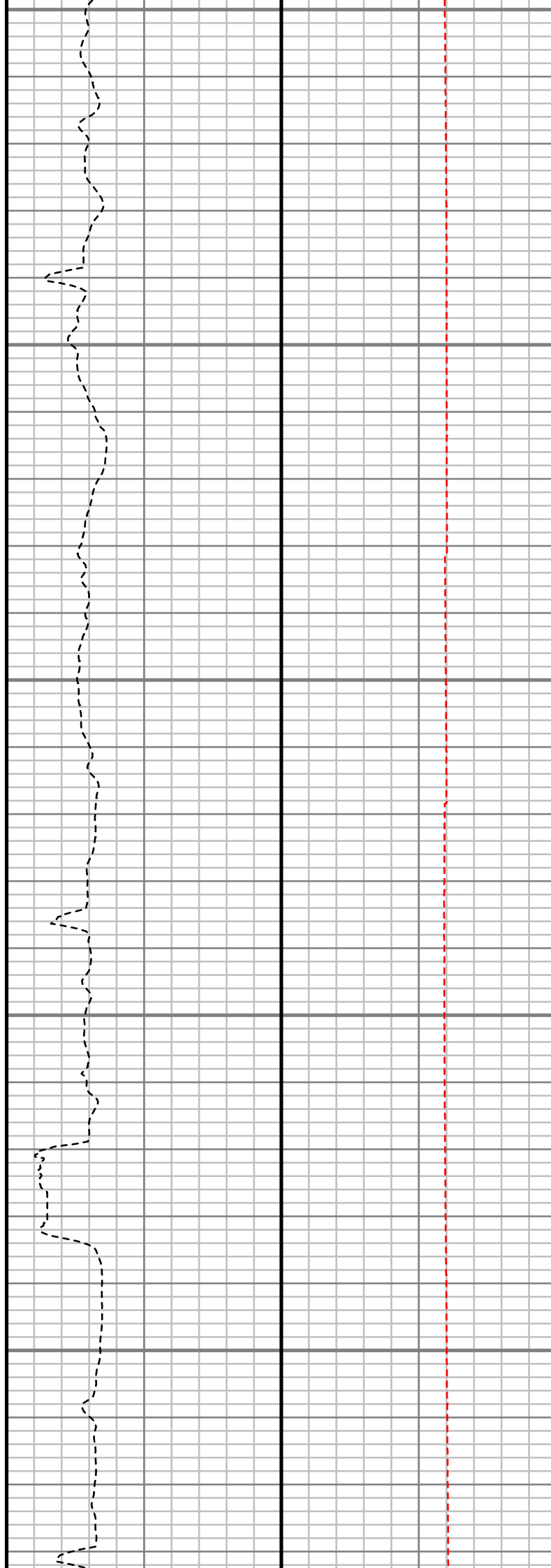
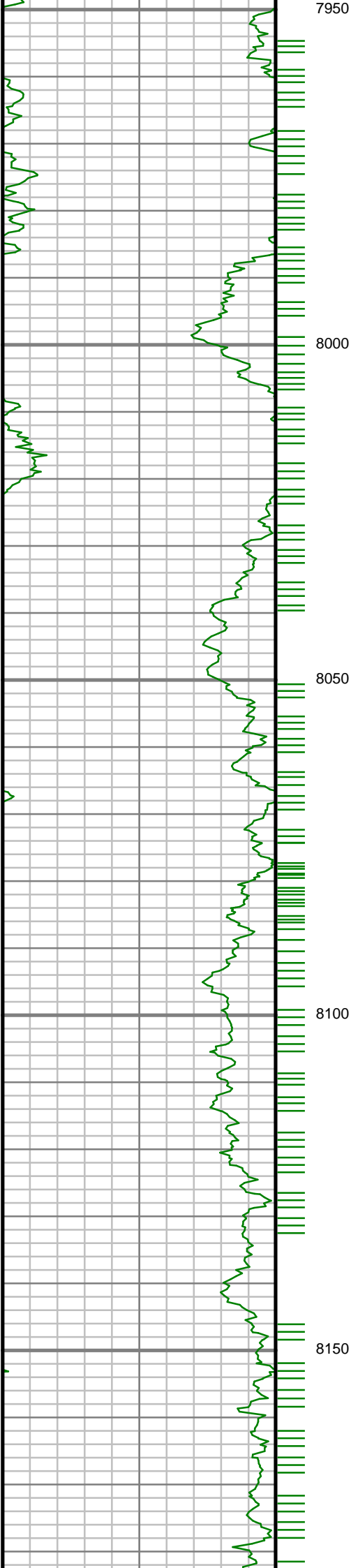
S: 82 MD: 7648.00 ft
Inc: 88.15 deg Az:
180.92 deg TVD:
7115.72 ft



S: 83 MD: 7743.00 ft
Inc: 88.62 deg Az:
180.18 deg TVD:
7118.39 ft

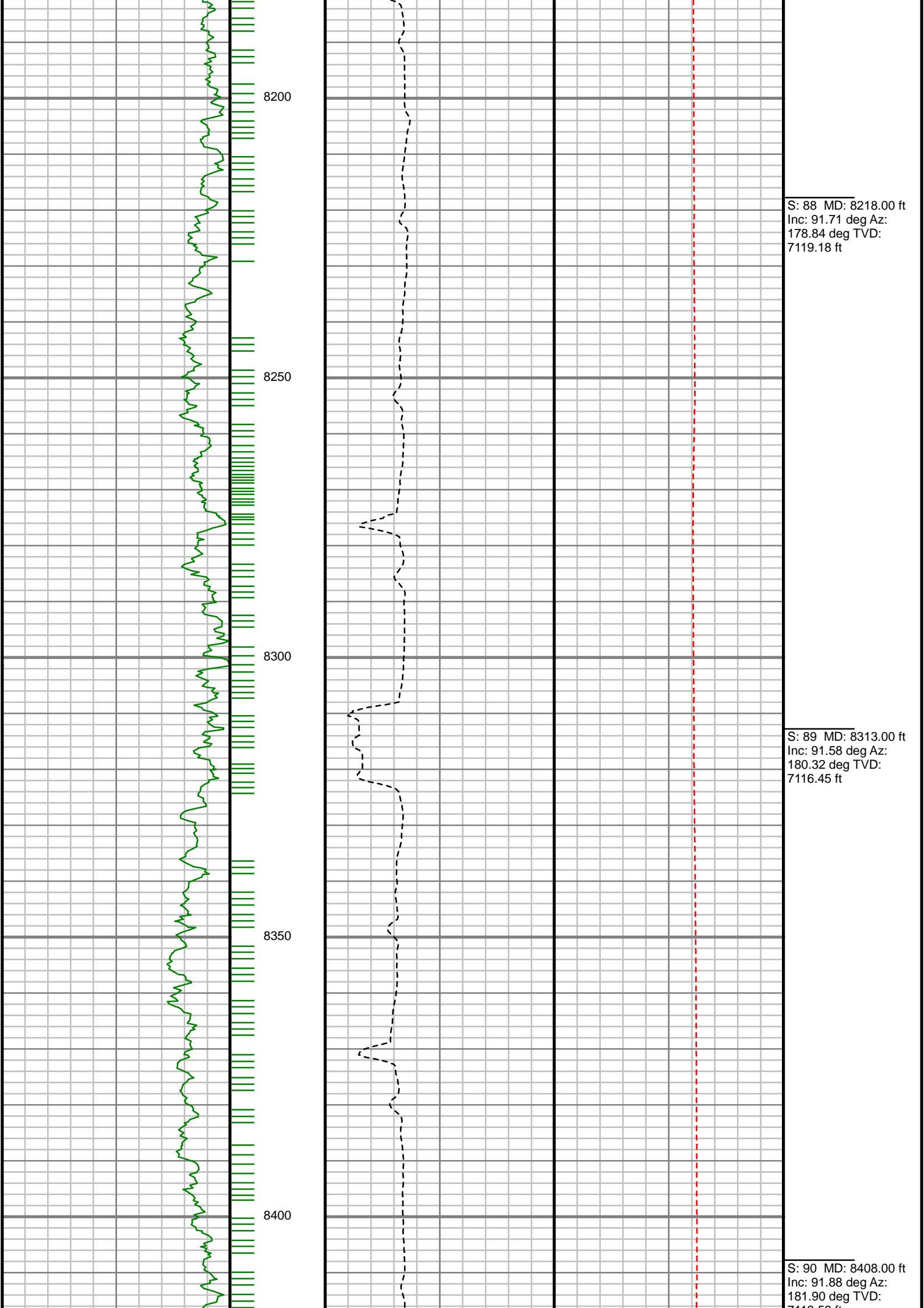
S: 84 MD: 7838.00 ft
Inc: 88.99 deg Az:
179.80 deg TVD:
7120.37 ft

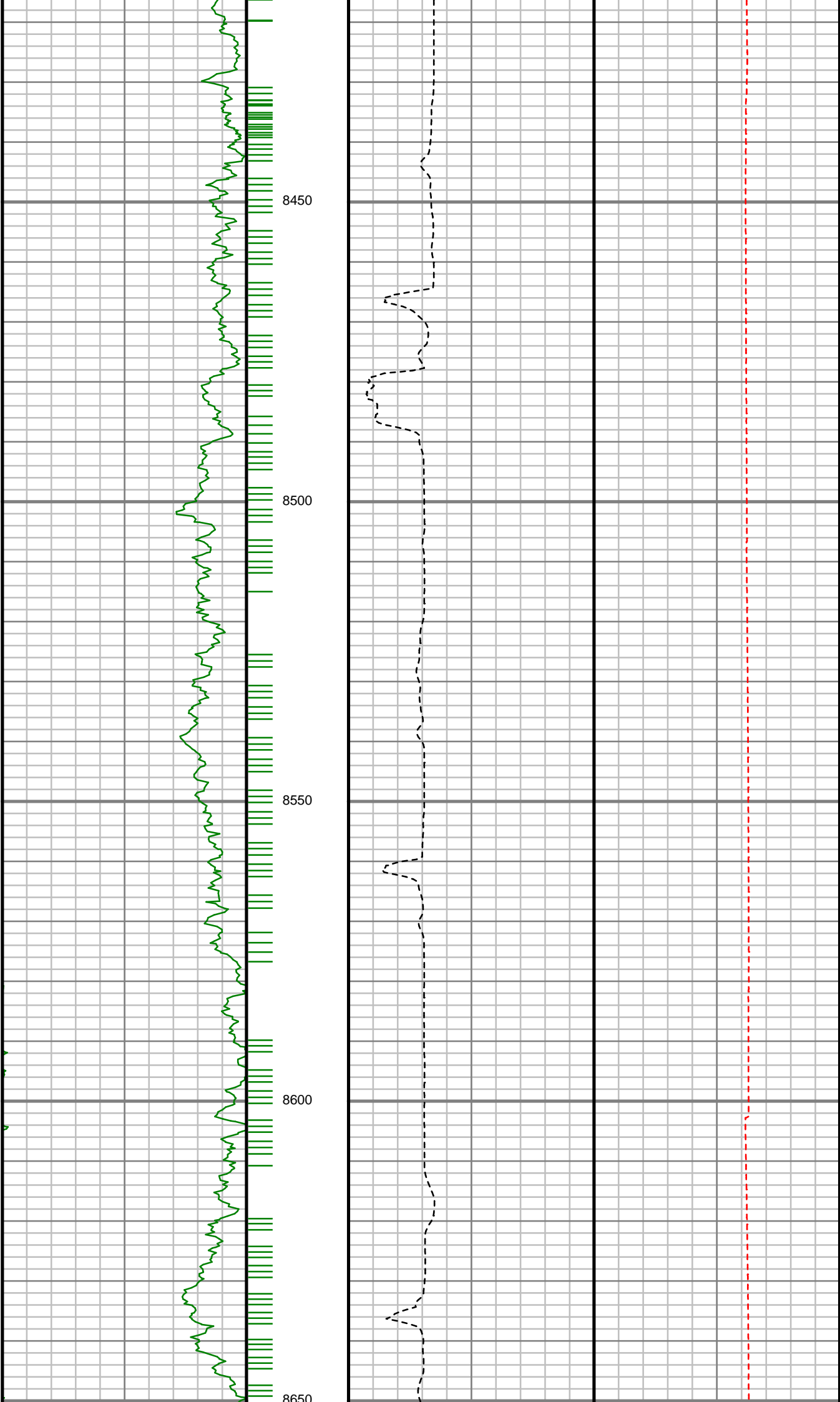
S: 85 MD: 7933.00 ft
Inc: 90.10 deg Az:
179.60 deg TVD:
7121.12 ft



S: 86 MD: 8029.00 ft
Inc: 89.46 deg Az:
179.59 deg TVD:
7121.49 ft

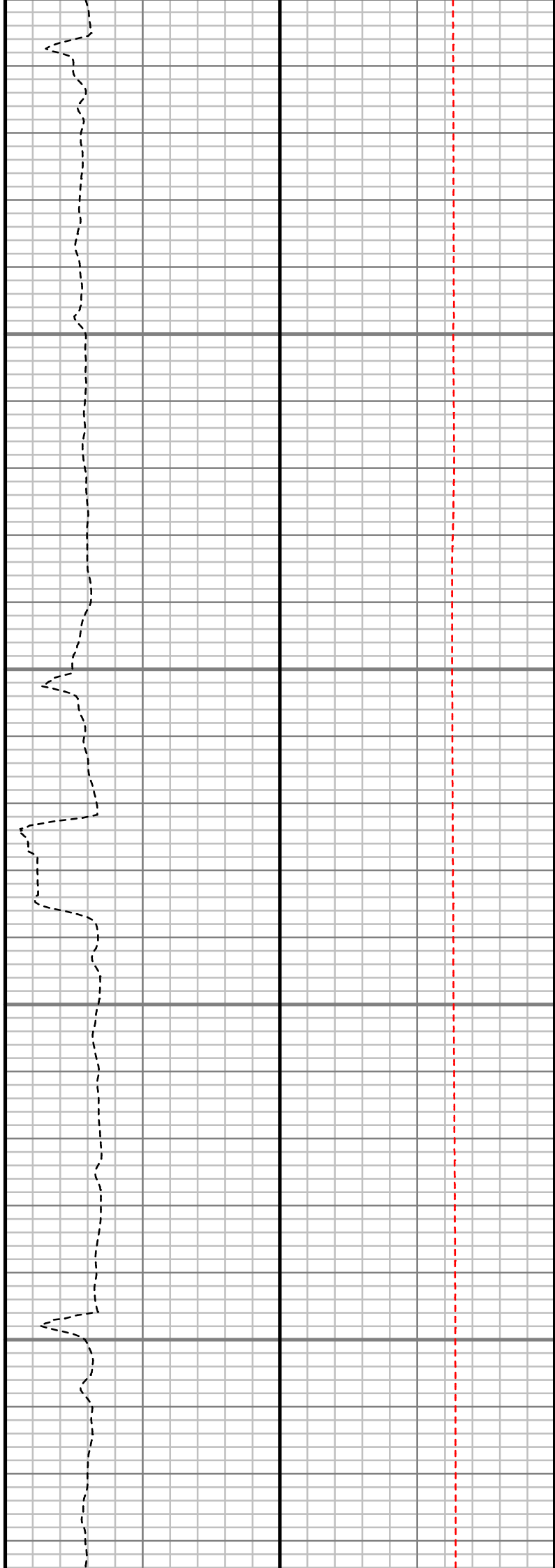
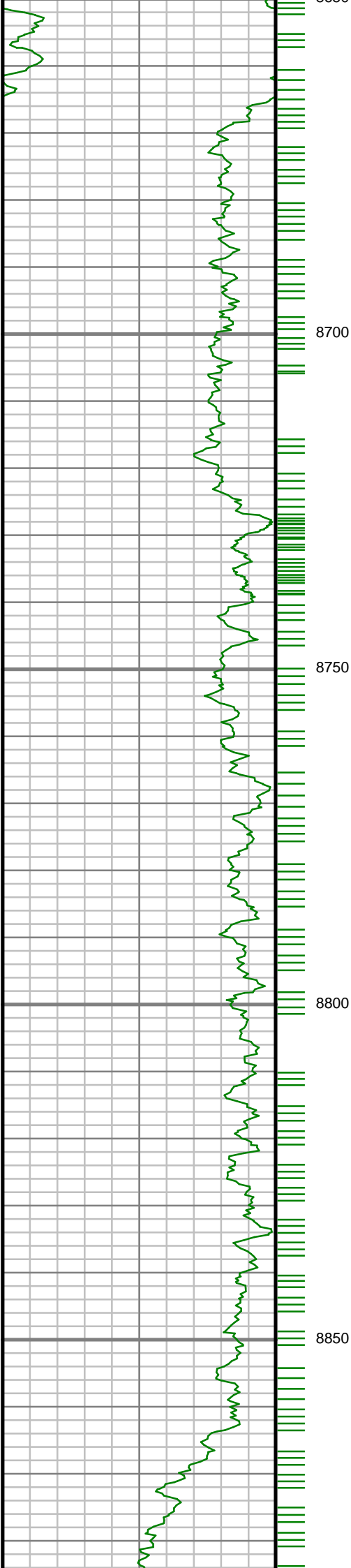
S: 87 MD: 8123.00 ft
Inc: 90.81 deg Az:
179.17 deg TVD:
7121.27 ft





S: 91 MD: 8503.00 ft
Inc: 91.01 deg Az:
180.89 deg TVD:
7111.18 ft

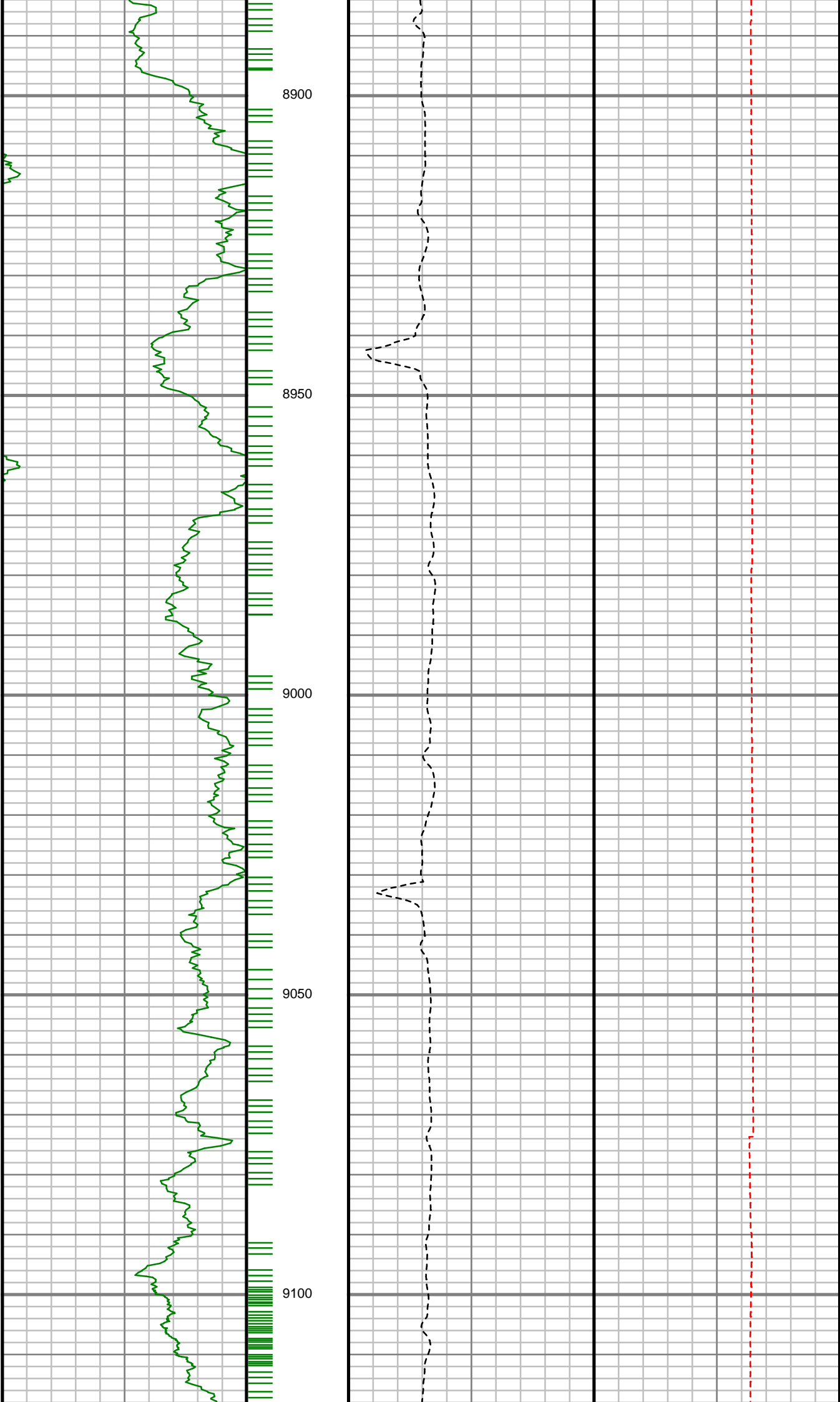
S: 92 MD: 8598.00 ft
Inc: 91.38 deg Az:
180.62 deg TVD:
7109.21 ft



S: 93 MD: 8692.00 ft
Inc: 91.95 deg Az:
179.81 deg TVD:
7106.48 ft

S: 94 MD: 8788.00 ft
Inc: 90.47 deg Az:
180.85 deg TVD:
7104.45 ft

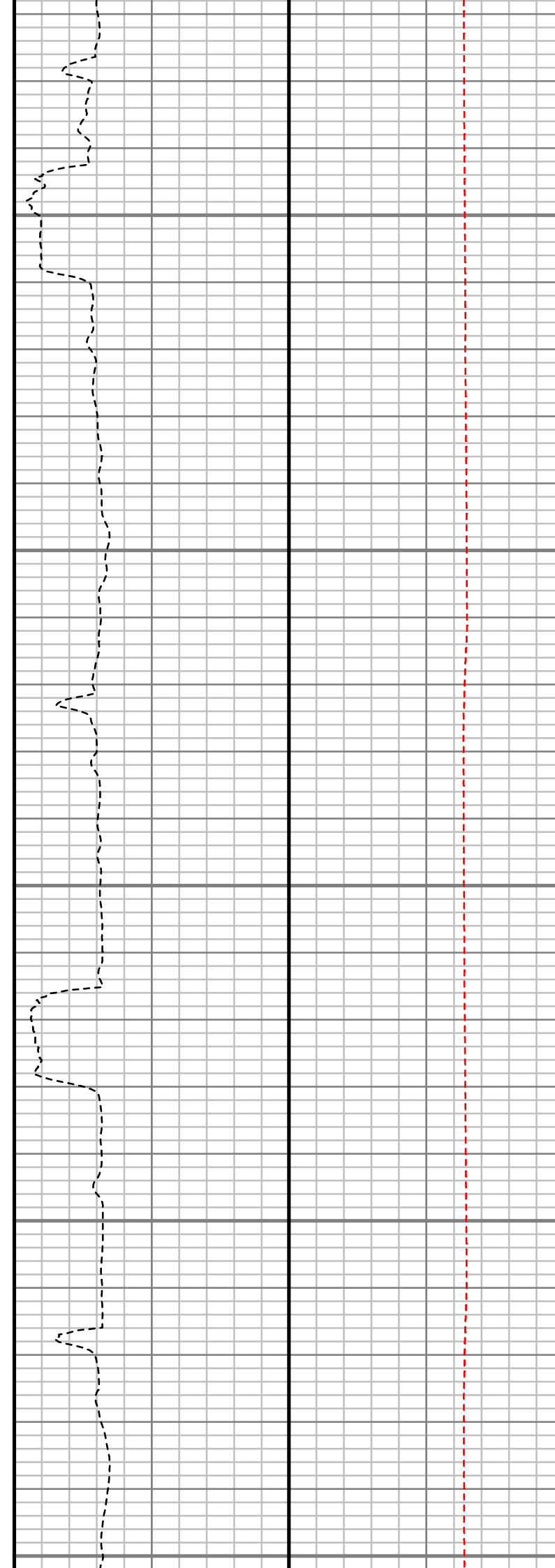
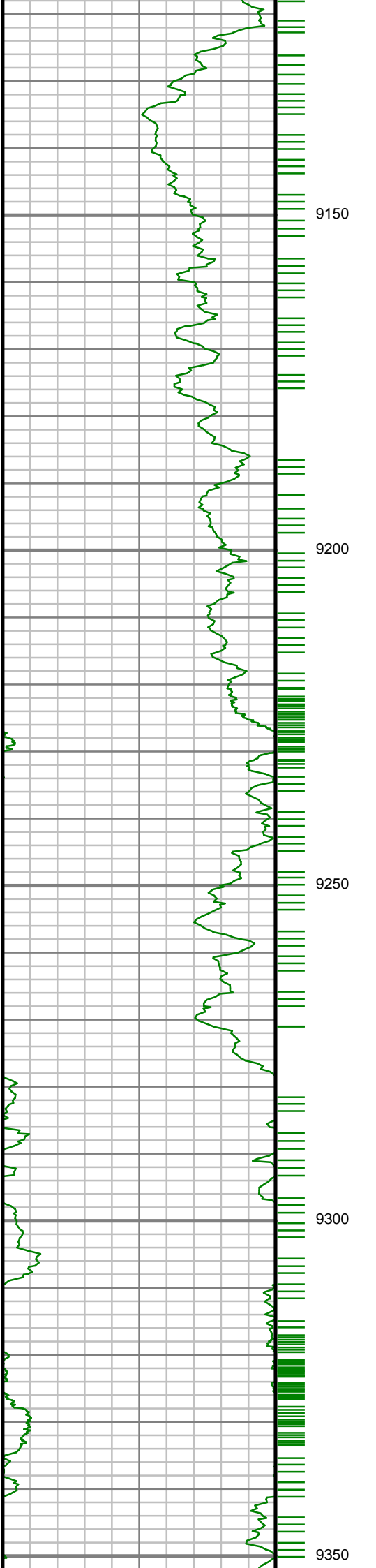
S: 95 MD: 8882.00 ft



S: 95 MD: 8883.00 ft
Inc: 90.81 deg Az:
180.45 deg TVD:
7103.39 ft

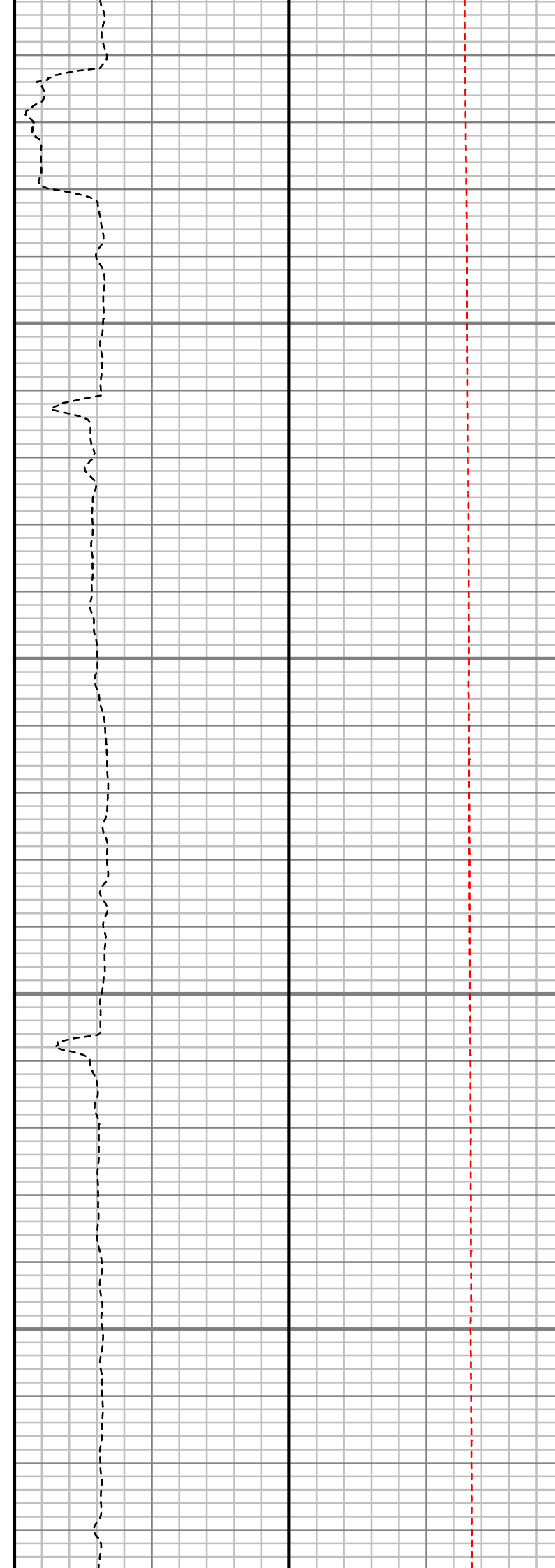
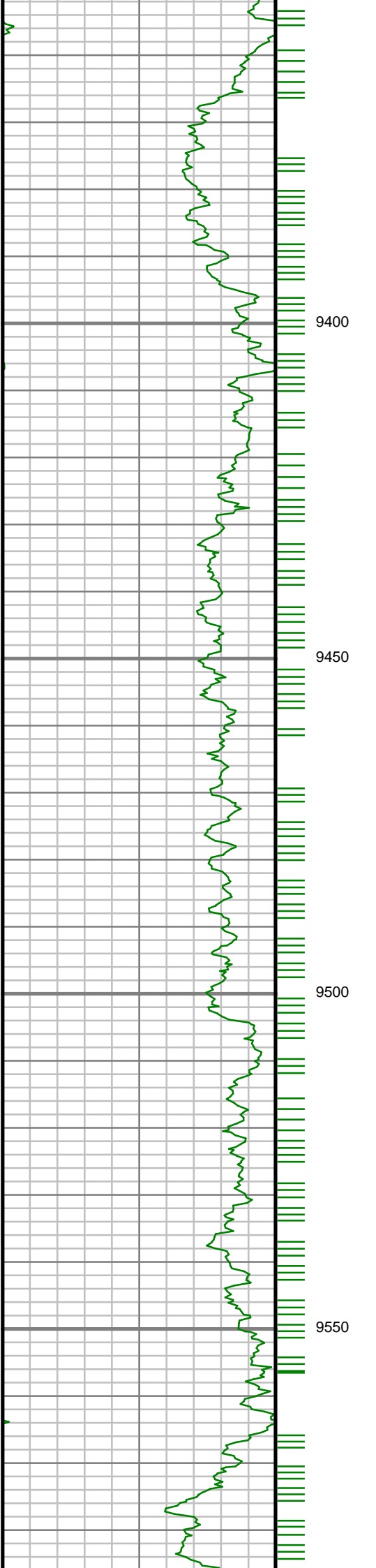
S: 96 MD: 8978.00 ft
Inc: 91.38 deg Az:
180.24 deg TVD:
7101.58 ft

S: 97 MD: 9073.00 ft
Inc: 91.91 deg Az:
180.03 deg TVD:
7098.86 ft



S: 98 MD: 9167.00 ft
Inc: 90.71 deg Az:
180.08 deg TVD:
7096.71 ft

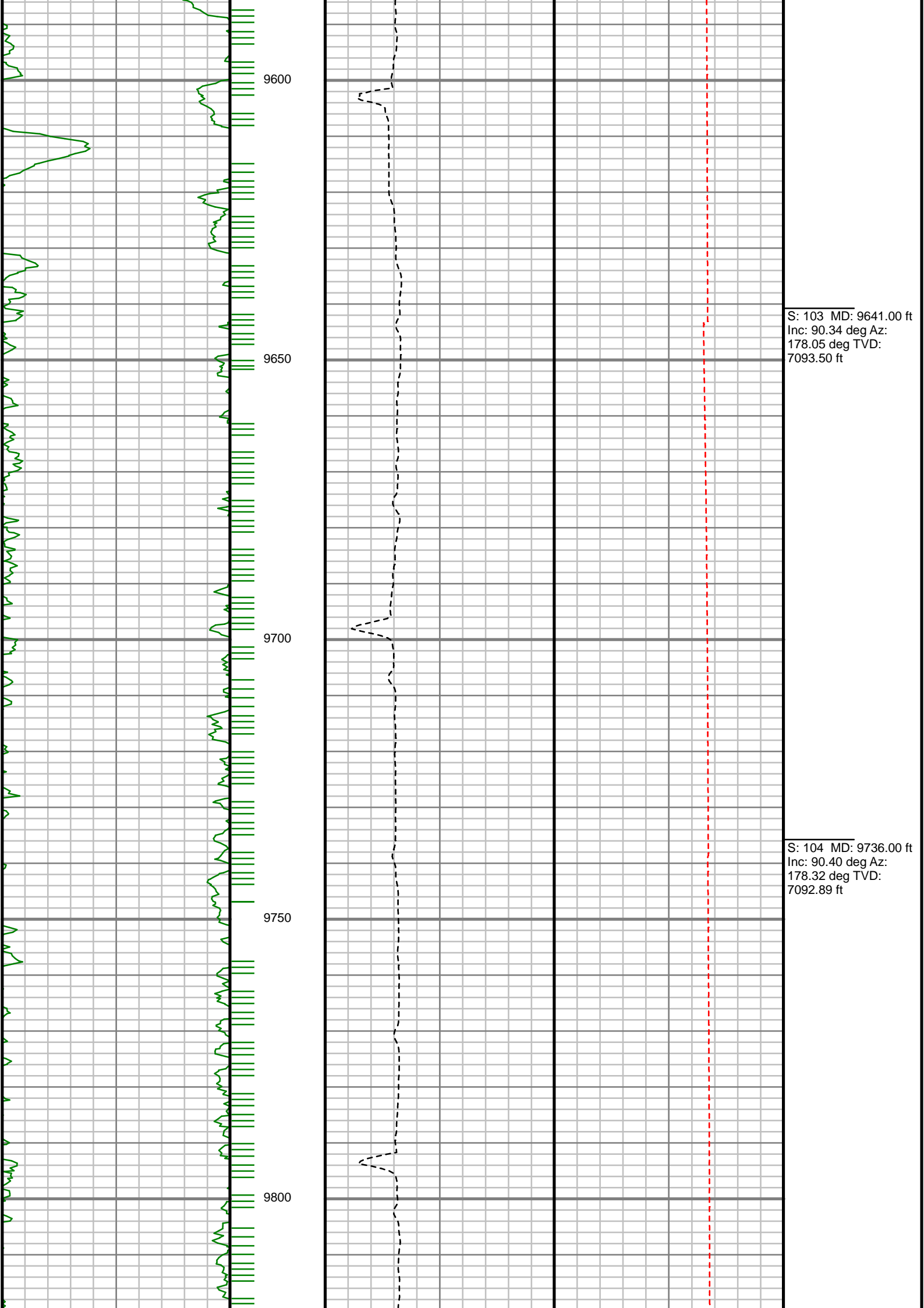
S: 99 MD: 9262.00 ft
Inc: 91.48 deg Az:
179.37 deg TVD:
7094.90 ft

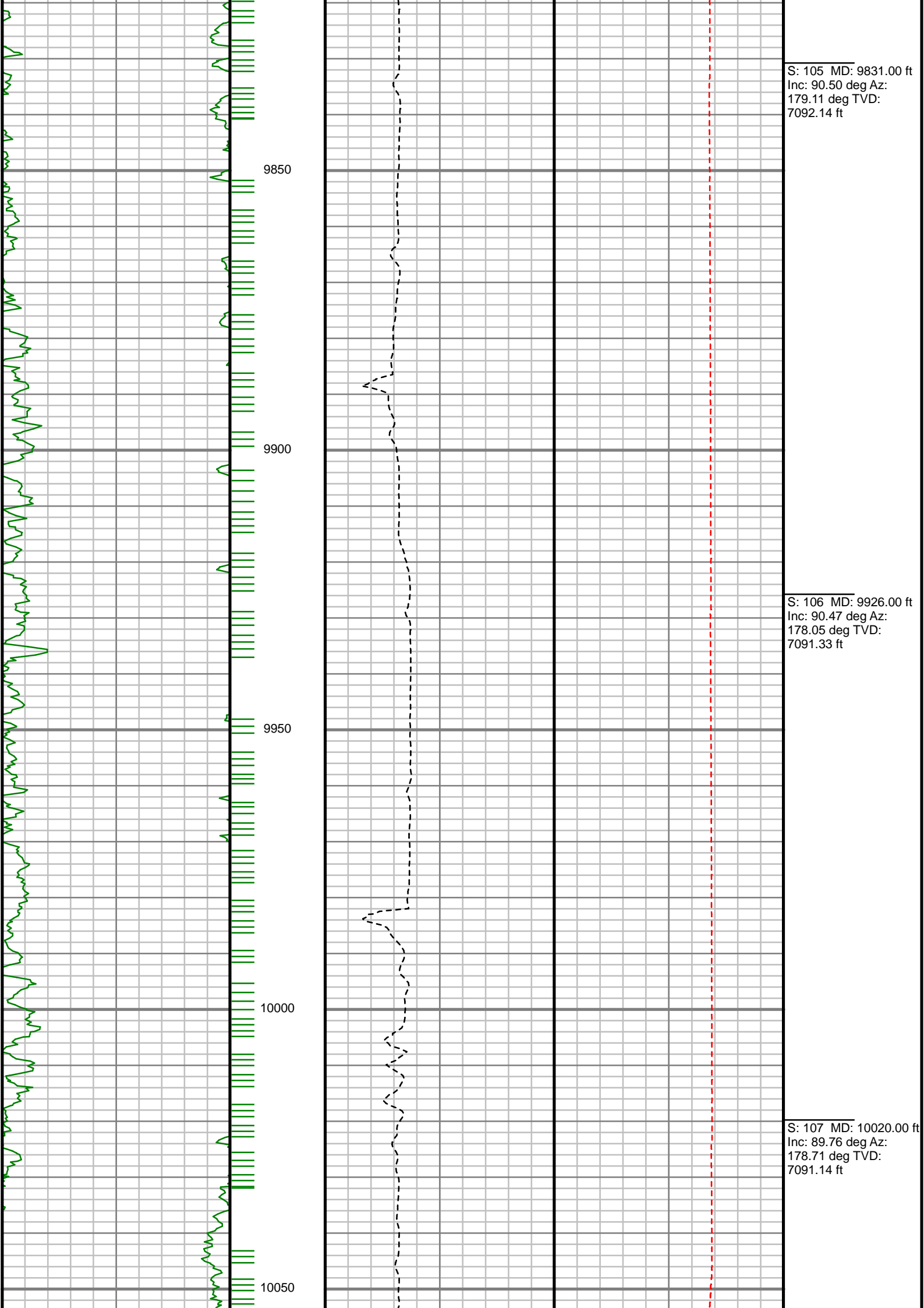


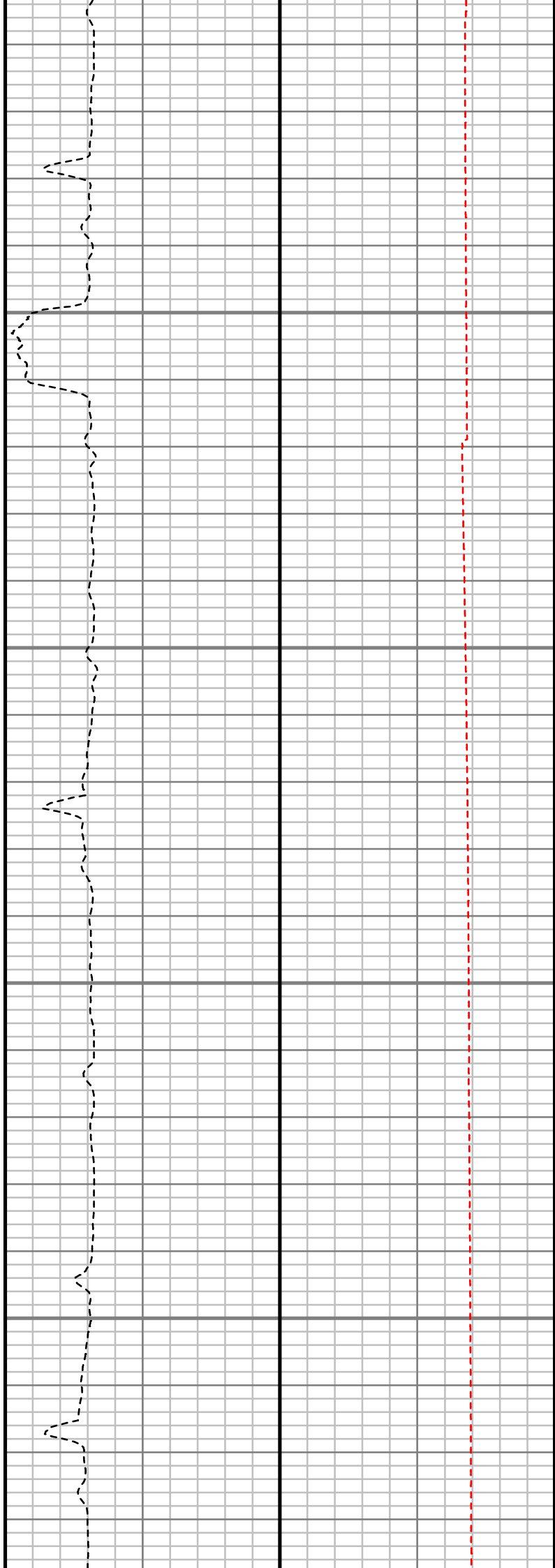
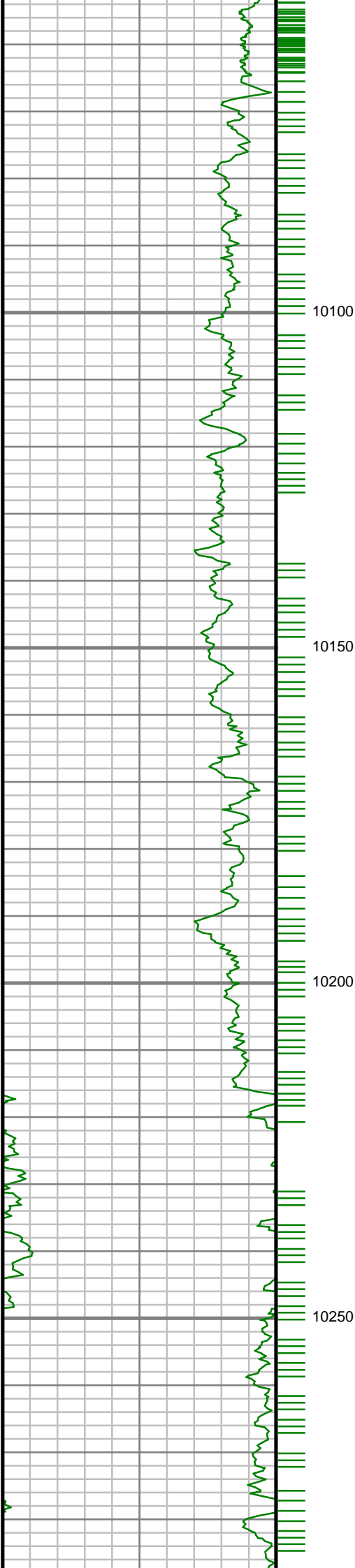
S: 100 MD: 9357.00 ft
Inc: 90.91 deg Az:
179.34 deg TVD:
7092.92 ft

S: 101 MD: 9452.00 ft
Inc: 89.46 deg Az:
178.77 deg TVD:
7092.61 ft

S: 102 MD: 9547.00 ft
Inc: 89.56 deg Az:
178.66 deg TVD:
7093.42 ft

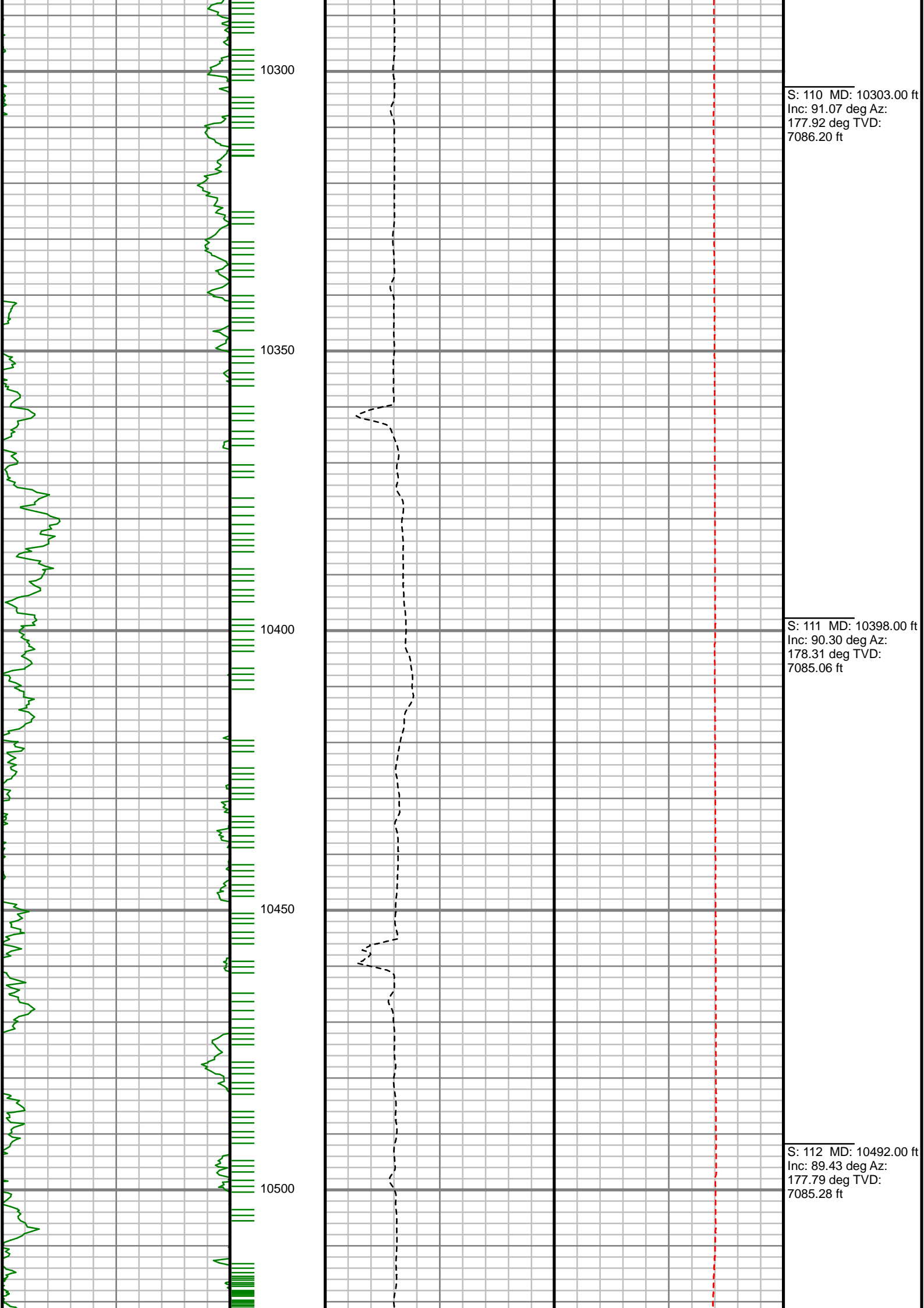


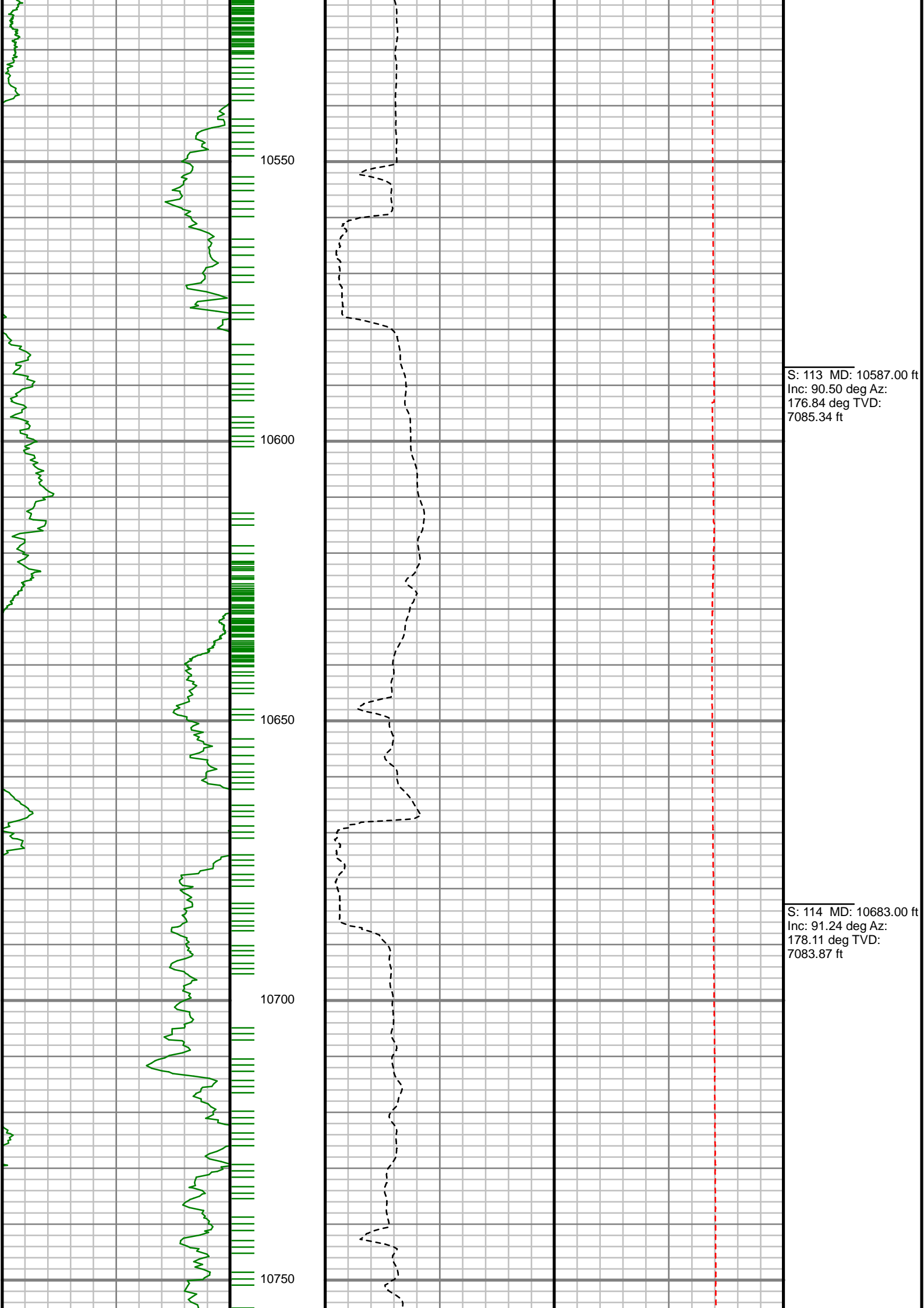


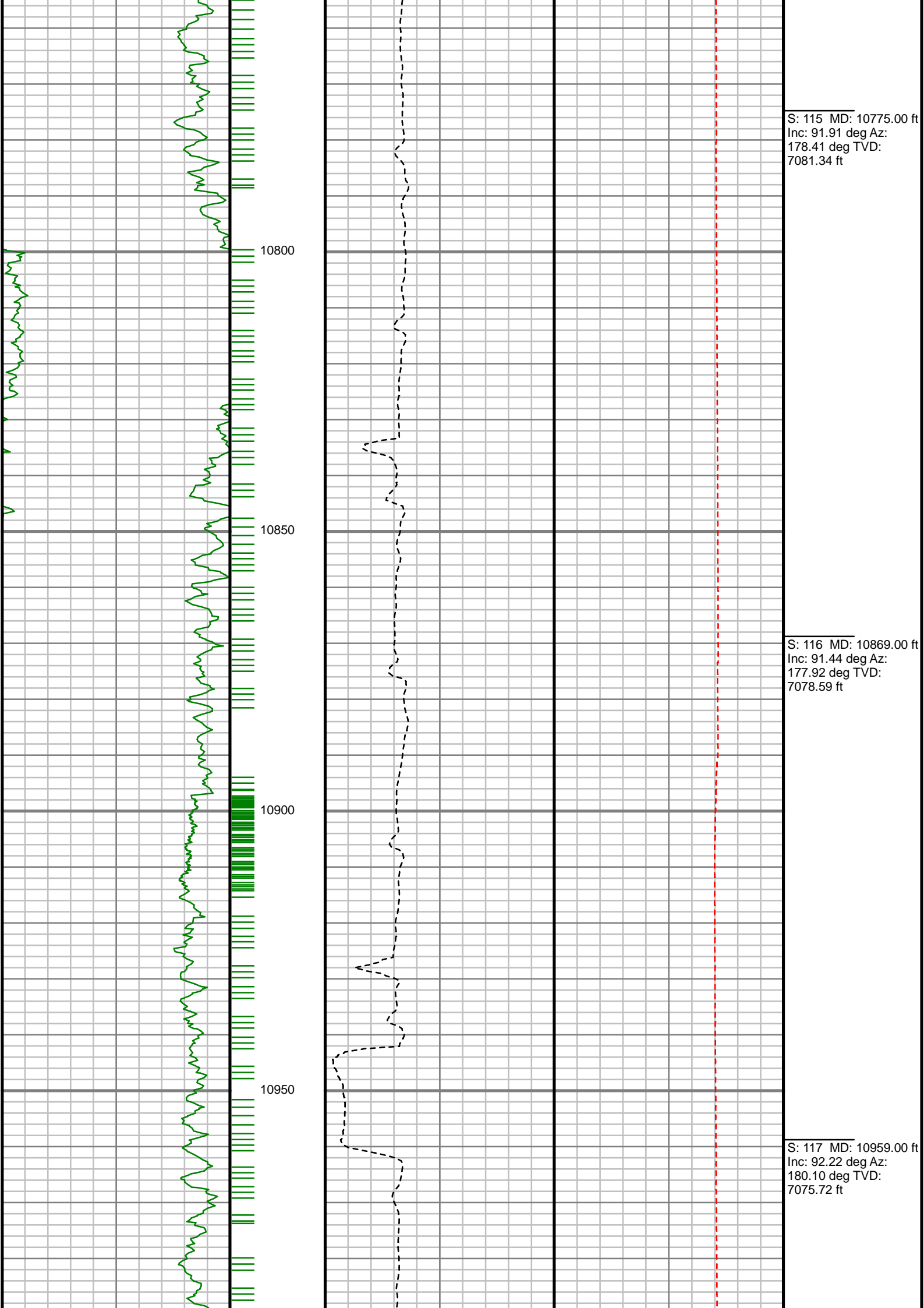


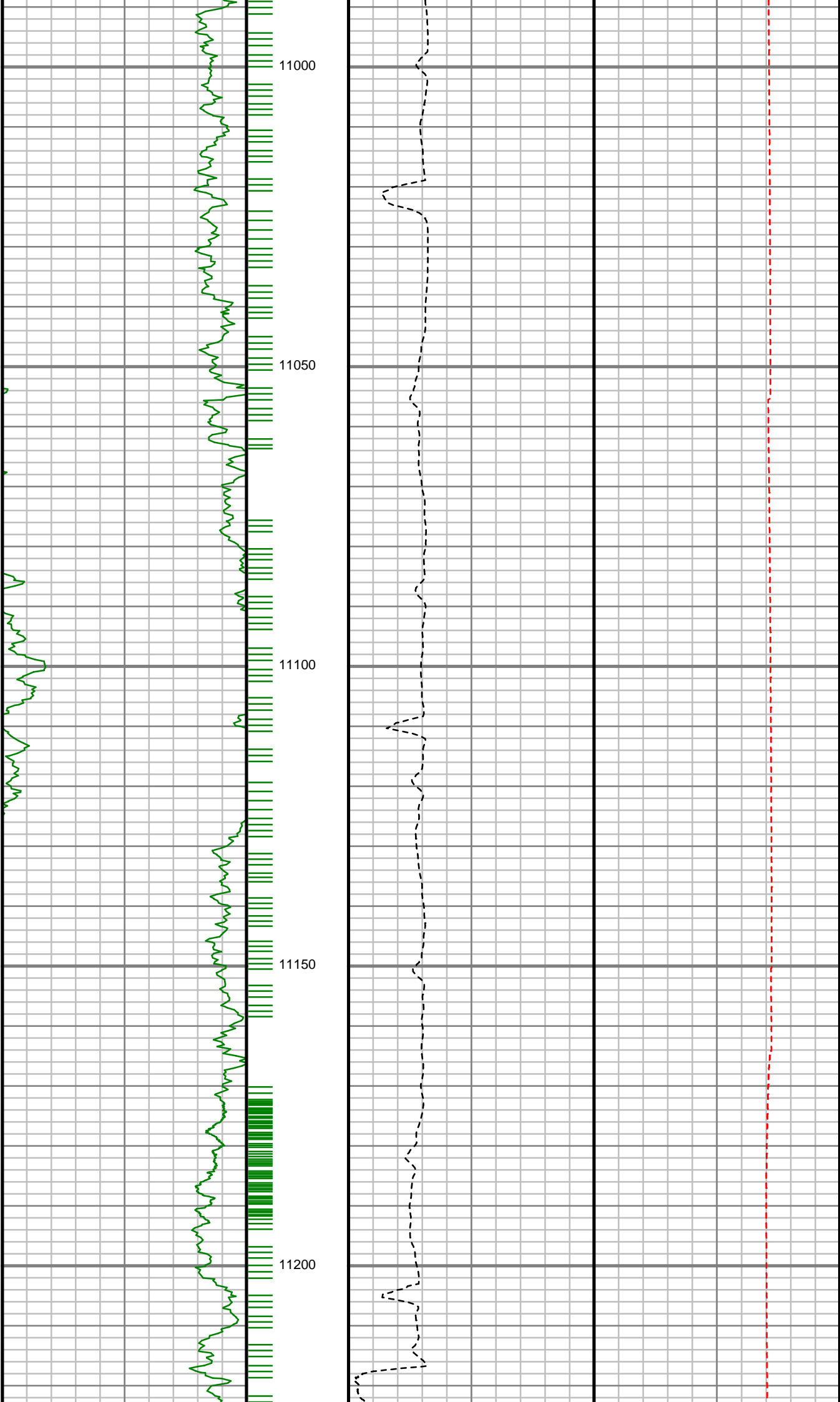
S: 108 MD: 10115.00 ft
Inc: 91.28 deg Az:
178.04 deg TVD:
7090.28 ft

S: 109 MD: 10209.00 ft
Inc: 91.31 deg Az:
178.07 deg TVD:
7088.16 ft



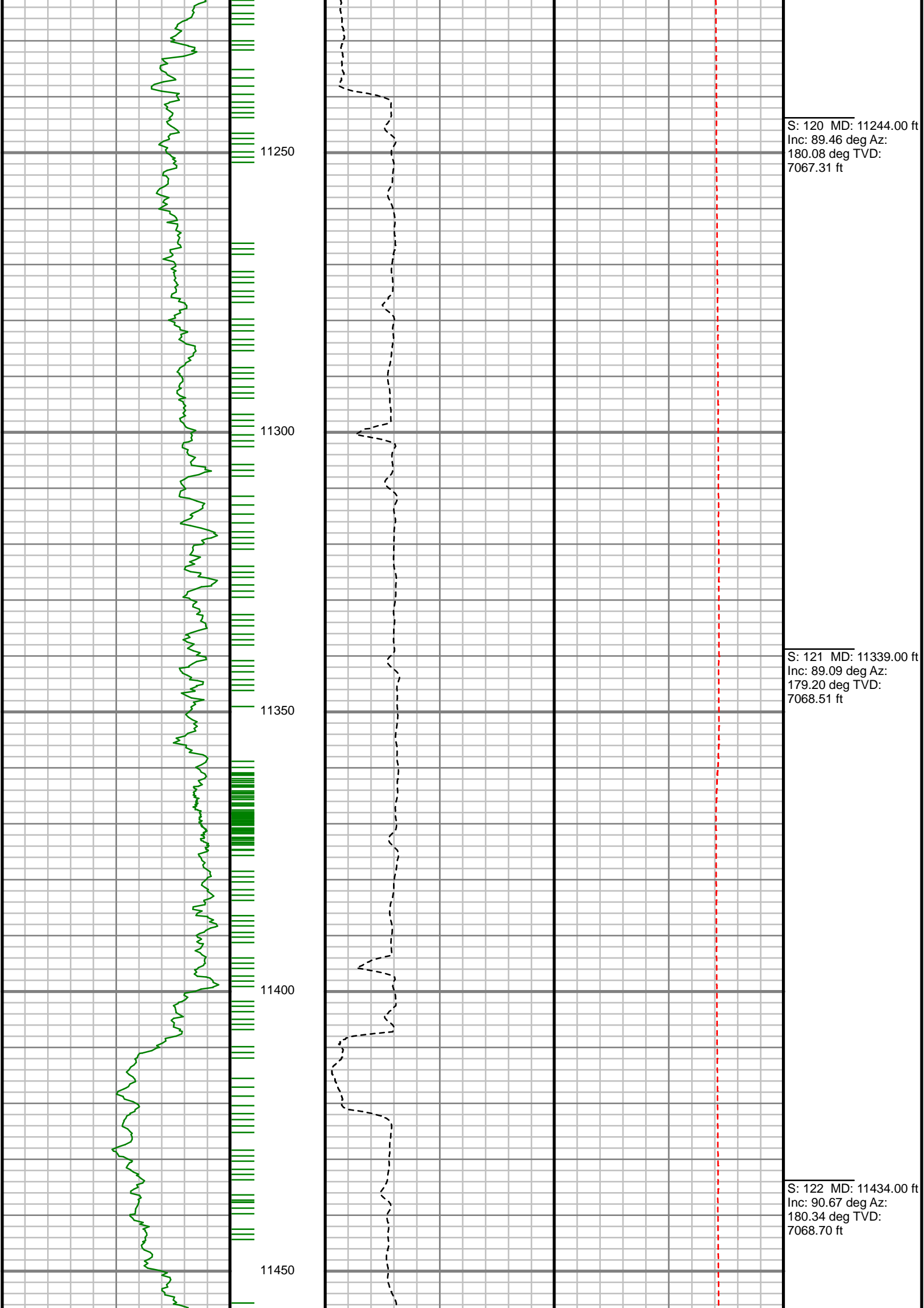


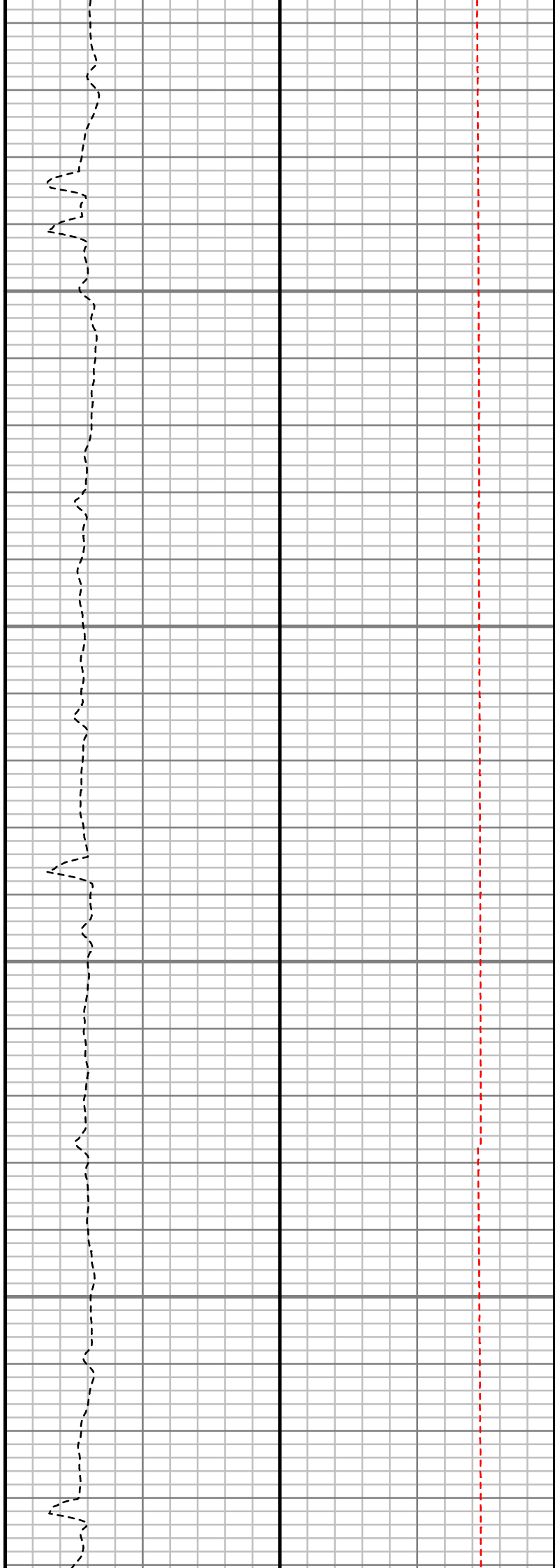
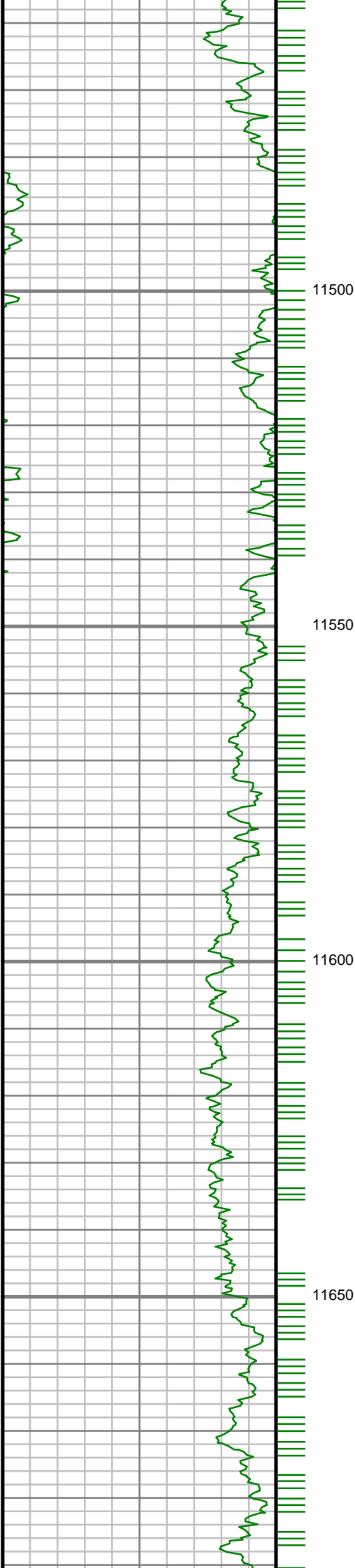




S: 118 MD: 11054.00 ft
Inc: 92.05 deg Az:
179.12 deg TVD:
7072.18 ft

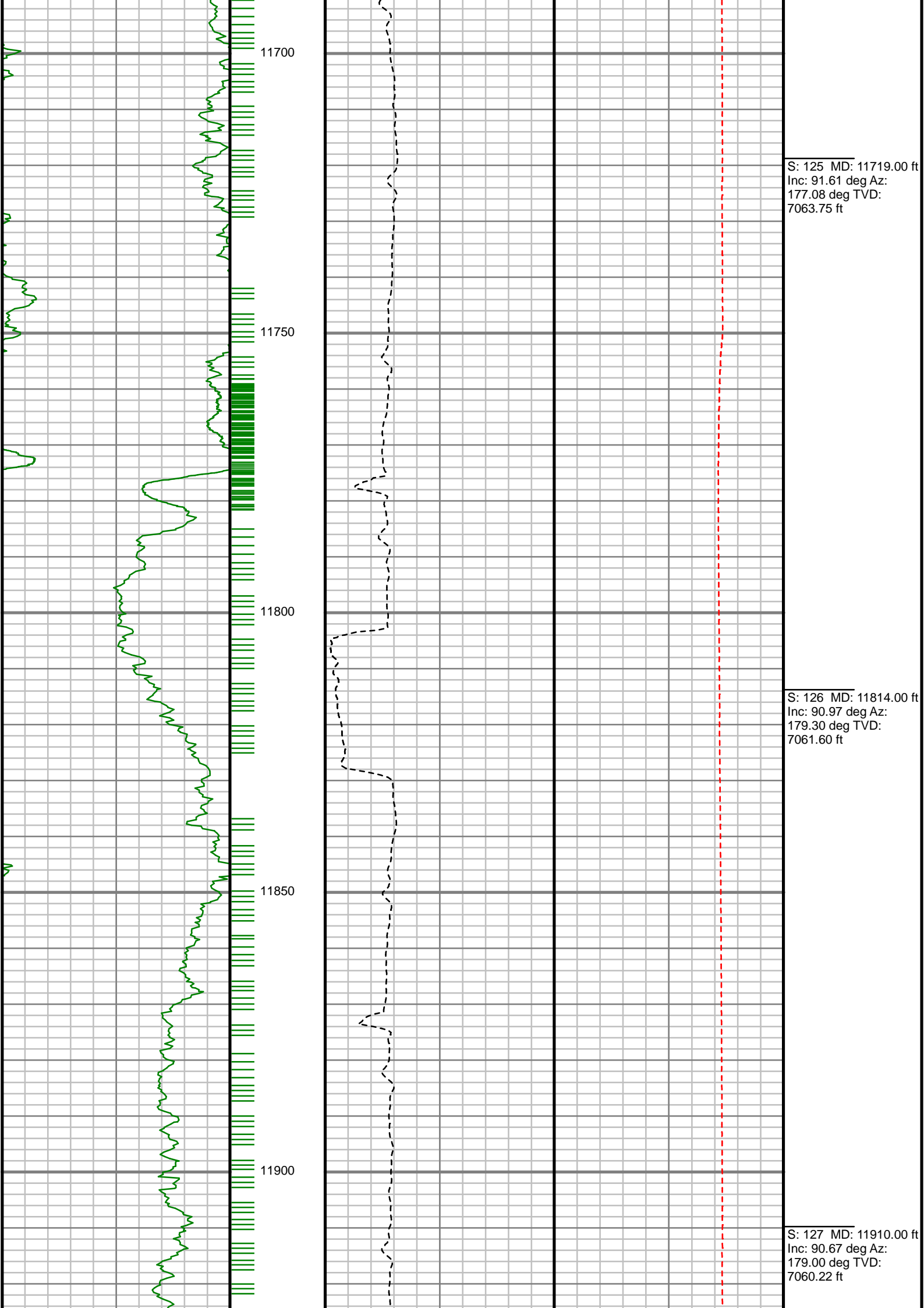
S: 119 MD: 11149.00 ft
Inc: 92.18 deg Az:
178.12 deg TVD:
7068.67 ft

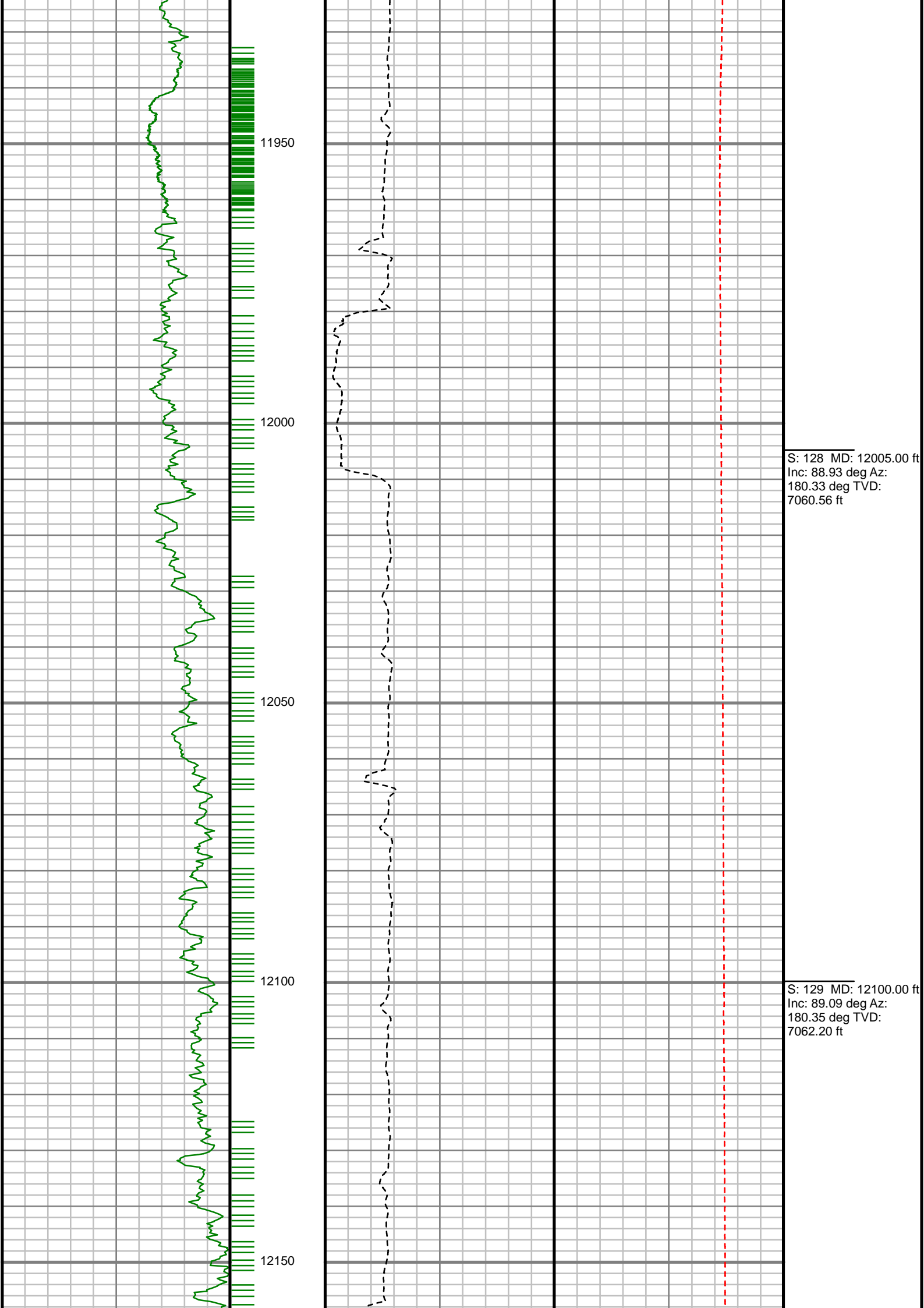


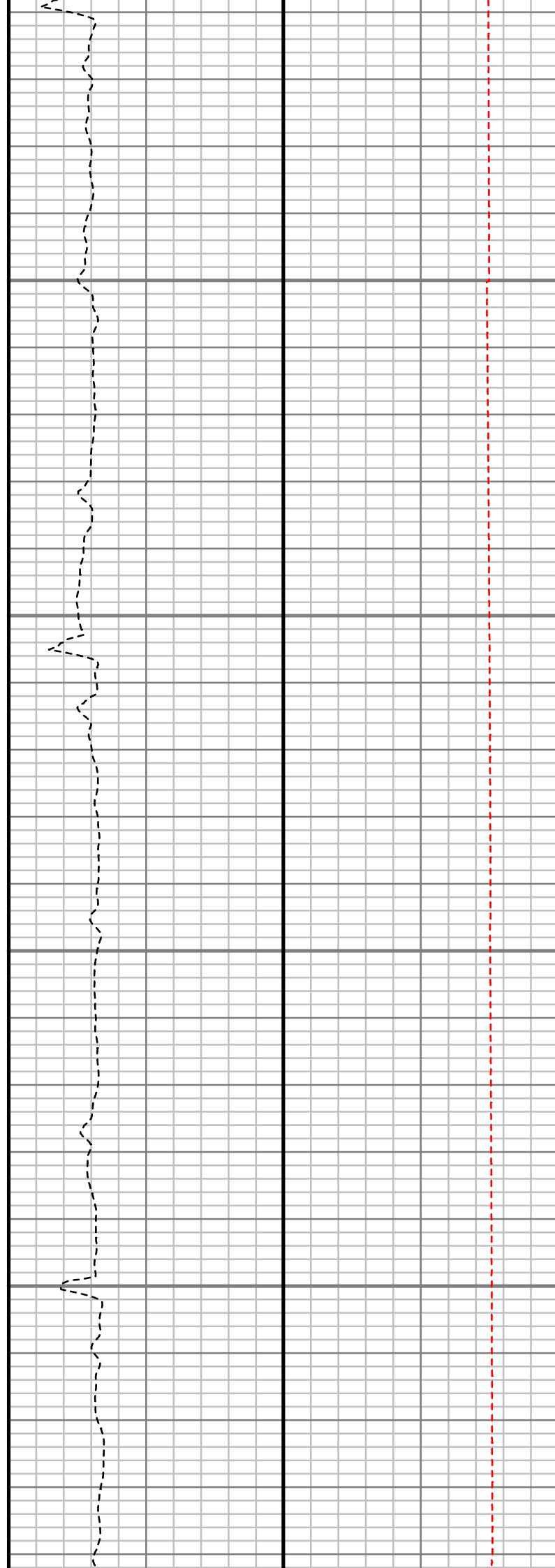
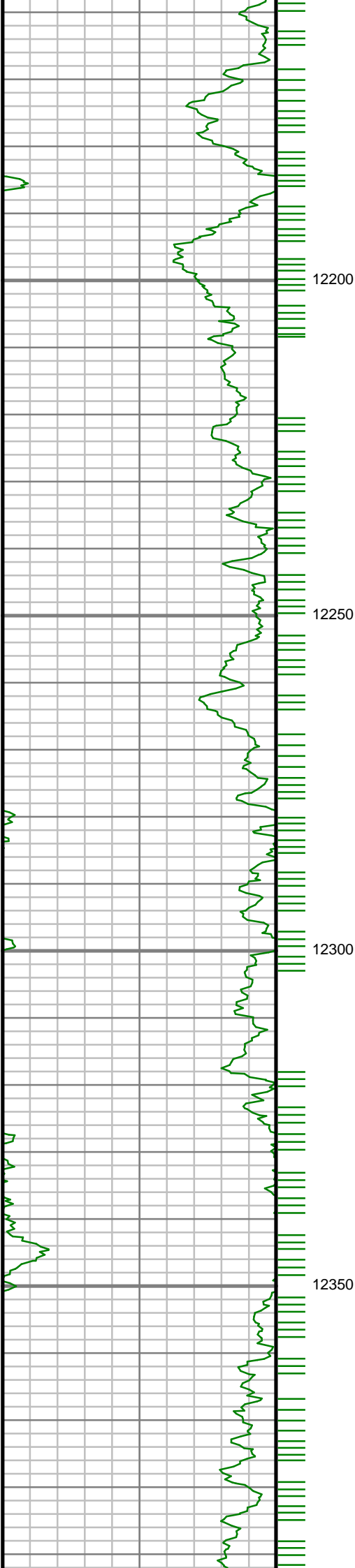


S: 123 MD: 11529.00 ft
Inc: 90.71 deg Az:
179.53 deg TVD:
7067.56 ft

S: 124 MD: 11624.00 ft
Inc: 91.14 deg Az:
178.28 deg TVD:
7066.03 ft







S: 130 MD: 12196.00 ft
Inc: 88.83 deg Az:
179.78 deg TVD:
7063.94 ft

S: 131 MD: 12291.00 ft
Inc: 88.49 deg Az:
179.34 deg TVD:
7066.17 ft

S: 132 MD: 12385.00 ft
Inc: 88.35 deg Az:
178.70 deg TVD:

