



5" = 100' FEET MD

COMPANY : ANADARKO E&P ONSHORE LLC  
WELL : CHEESE 16N-28HZ  
FIELD : WATTENBERG  
COUNTY : WELD  
STATE : COLORADO  
COUNTRY : U.S.A.  
UWI : 05-123-40950

COMPANY : ANADARKO E&P ONSHORE LLC

WELL : CHEESE 16N-28HZ

FIELD : WATTENBERG

COUNTY : WELD

STATE : COLORADO

COUNTRY : U.S.A.

UWI : 05-123-40950

WELL LOCATION

LAT:40.2025120°N LONG:104.6622320°W  
N:14600657.01 ft E:1734728.98 ft

SEC: 3N

TWP:65W

RANGE: 28

OTHER SERVICES

DIRECTIONAL  
ROP

DEPTH REF. : RKB

REF. HEIGHT : 25.000 ft

RKB to Ground Level

GROUND LEVEL : 4817.000 ft

G.L. to MEAN SEA LEVEL

## BOREHOLE RECORD

## DEVIATION RECORD

HOLE SIZE in	FROM ft	TO ft	INCLINATION deg	FROM ft	TO ft
8.5	1212	12624	0-14	1212	6427
			14-90	6427	7427
			90-92	7427	12624

## CASING RECORD

CASING SIZE in	FROM ft	TO ft			
9.625	0	1212			
			DRILLING CO. : H&P		
			RIG : 311		
			LWD UNIT NO. : C46-EM#114 DISTRICT:ICASPER		
			SPUD DATE : 05/16/2015		
			LWD START DATE : 05/17/2015	DEPTH : 1157 ft	
			LWD END DATE : 05/20/2015	DEPTH : 12624 ft	
			TOTAL DEPTH : 12624 ft		

Run Data

RUN NUMBER	1						
START DATE	05/17/2015						
START TIME	2200						
END DATE	05/21/2015						
END TIME	0130						
DEPTH IN (ft)	1212						
DEPTH OUT (ft)	12624						
LOG TOP (ft)	1157						
LOG BOTTOM (ft)	12624						
HOLE SIZE (in)	8.5						
MUD DATA @ (ft)	6310						
MUD TYPE	OIL-BASED						
DENSITY (lb / gal)	9.6						
VISCOSITY (s / qt)	60						
pH	-						
FLUID LOSS (cm3 / 30)	5						
SALINITY (ppm)	26.3						
Rm (ohmm @ deg F)	-						
Rmf (ohmm @ deg F)	-						
MAX TEMP (deg F)	226						
Rm @ MAX TEMP (ohmm)	-						
LWD ENGINEER #1	S. WAXLER						
LWD ENGINEER #2	B. GREER						
LWD ENGINEER #3							
LOG WITNESS #1	S. SADLE						
LOG WITNESS #2	R. CANNON						

[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  
CHEESE 16N-28HZ  
WATTENBERG FIELD  
WELD COUNTY, COLORADO  
05-123-40950

Gamma Ray (GR)

0Unit = aapi150

MEASURED DEPTH  
1:240 (ft)

1200

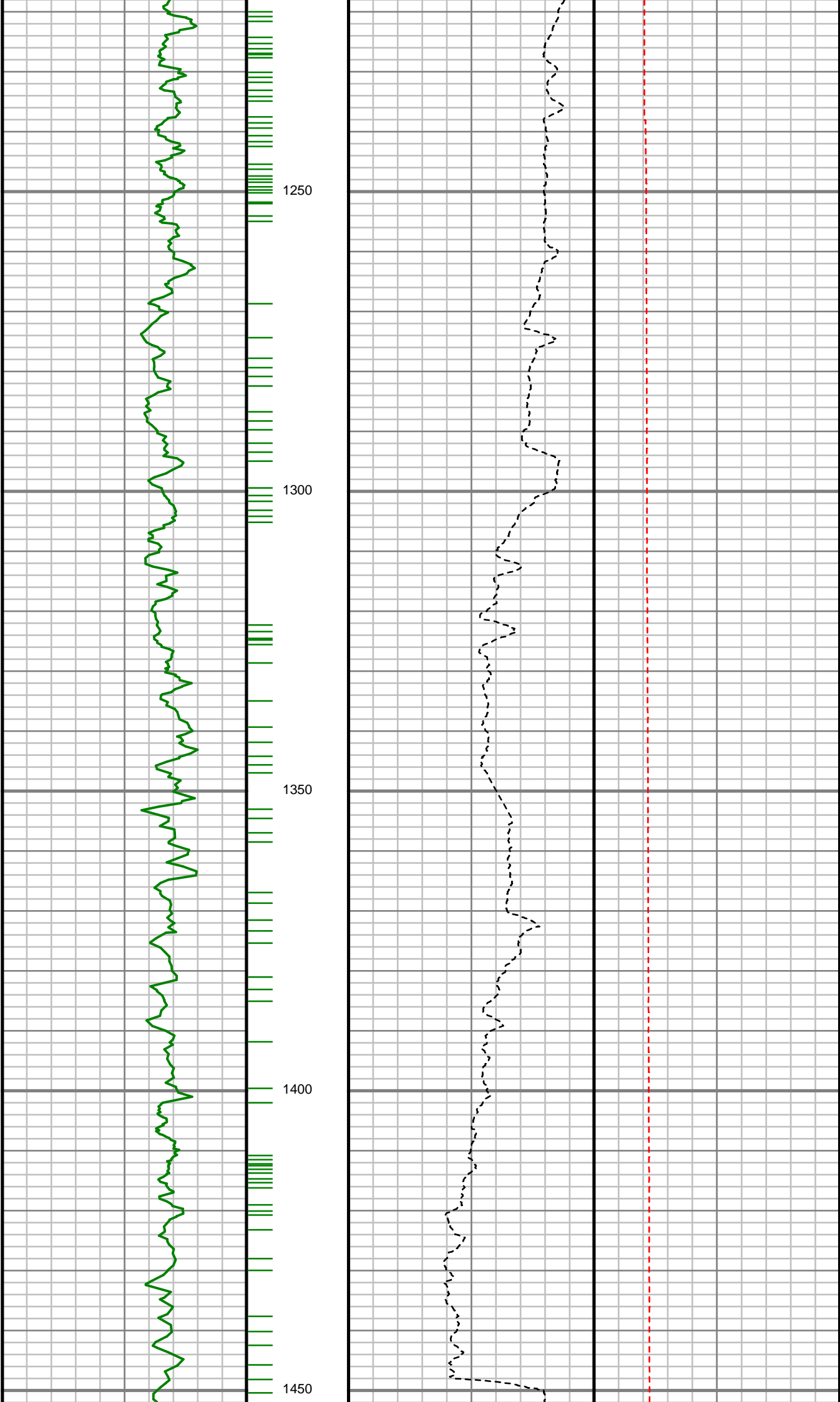
Rate of Penetration (ROP)

1000Unit = ft/hr0

Tool Temperature (T-TEMP)

50Unit = °F300

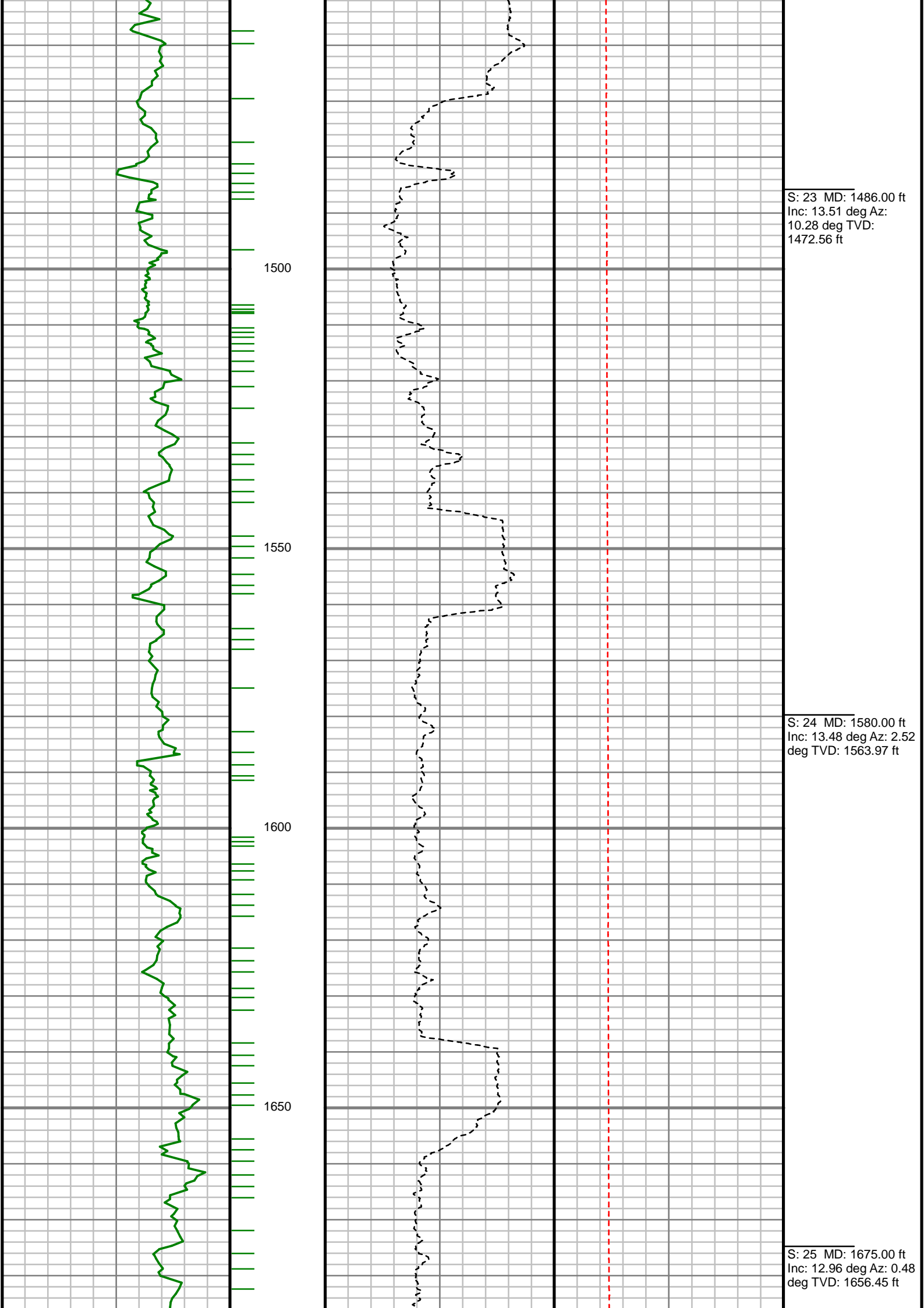
S: 19 MD: 1170.00 ft  
Inc: 11.90 deg Az: 8.20  
deg TVD: 1163.82 ft

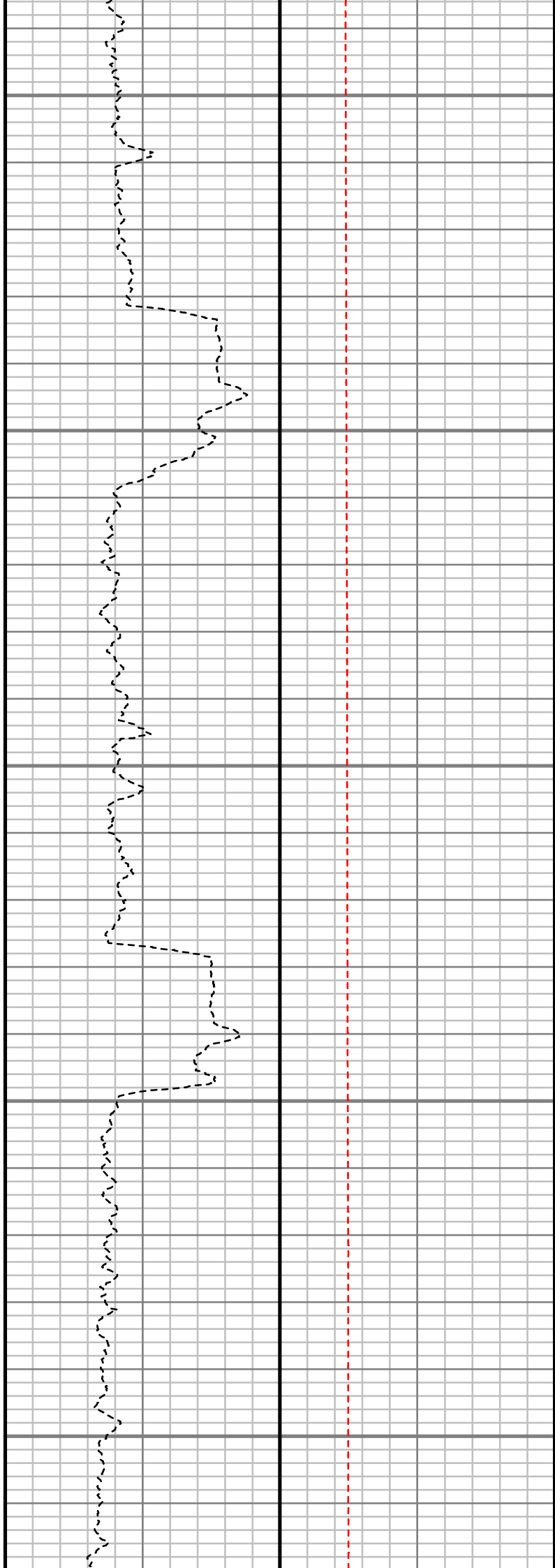
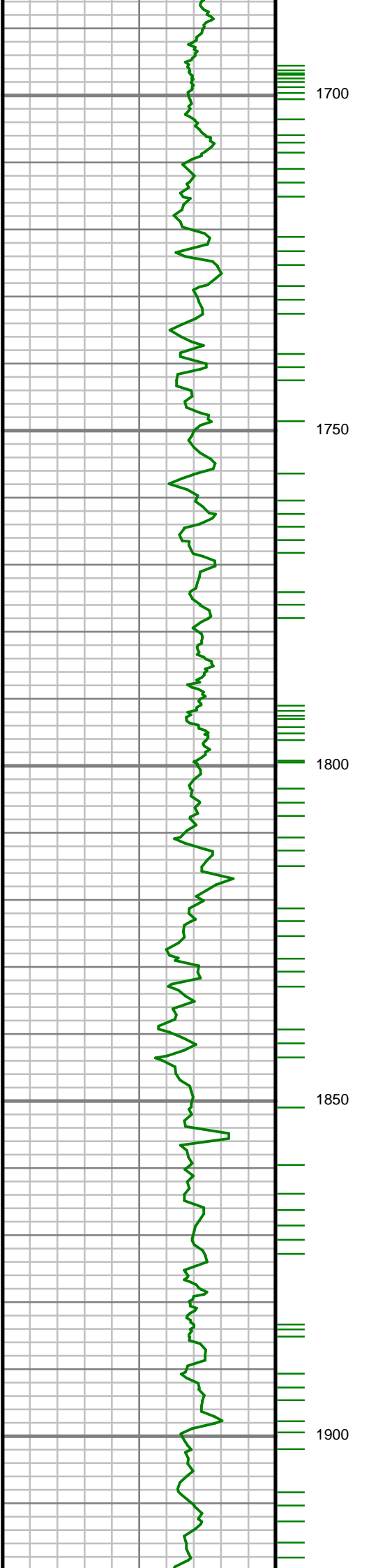


S: 20 MD: 1234.00 ft  
Inc: 12.07 deg Az:  
12.24 deg TVD:  
1226.43 ft

S: 21 MD: 1297.00 ft  
Inc: 12.39 deg Az:  
10.11 deg TVD:  
1288.00 ft

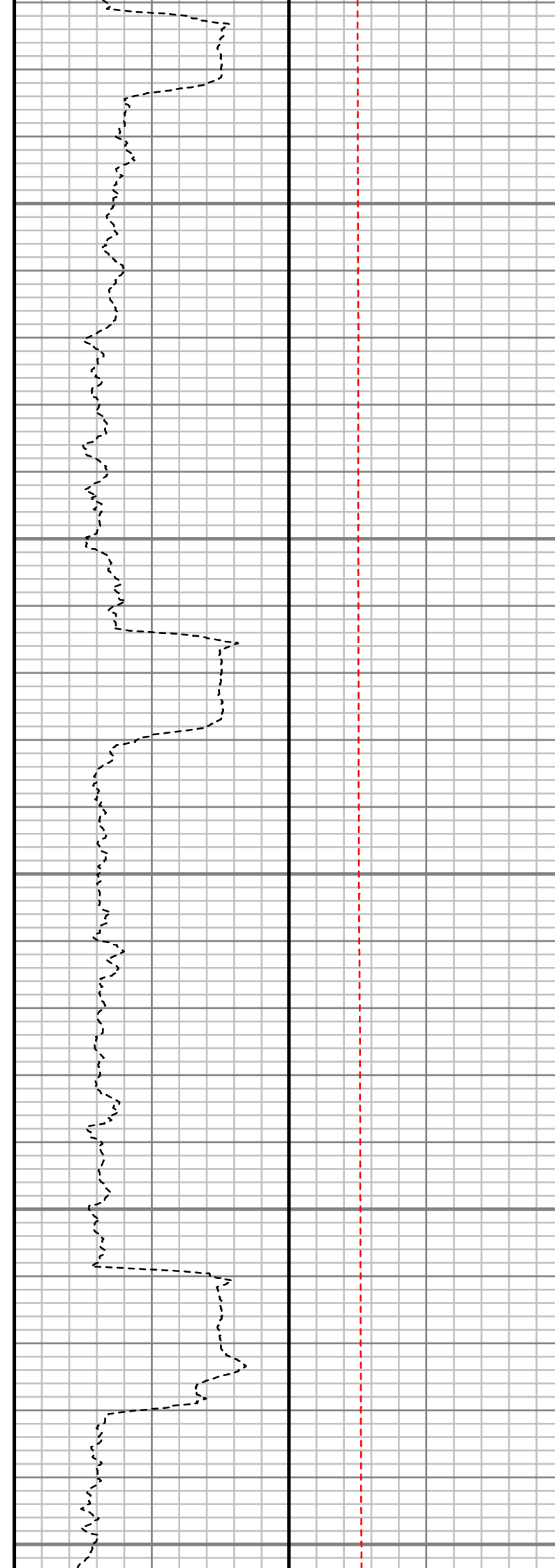
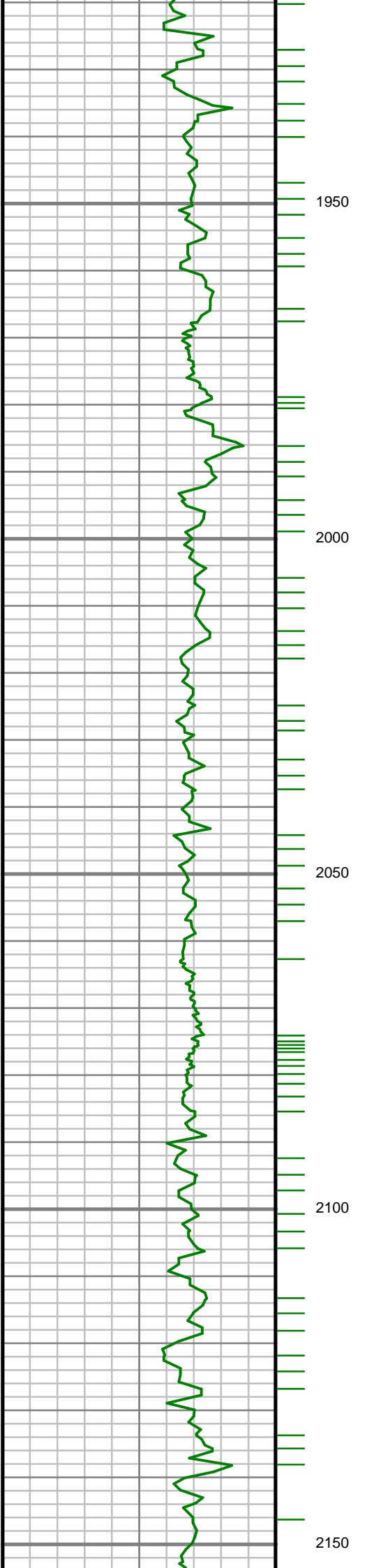
S: 22 MD: 1391.00 ft  
Inc: 11.93 deg Az: 9.35  
deg TVD: 1379.89 ft





S: 26 MD: 1769.00 ft  
Inc: 13.09 deg Az: 8.10  
deg TVD: 1748.04 ft

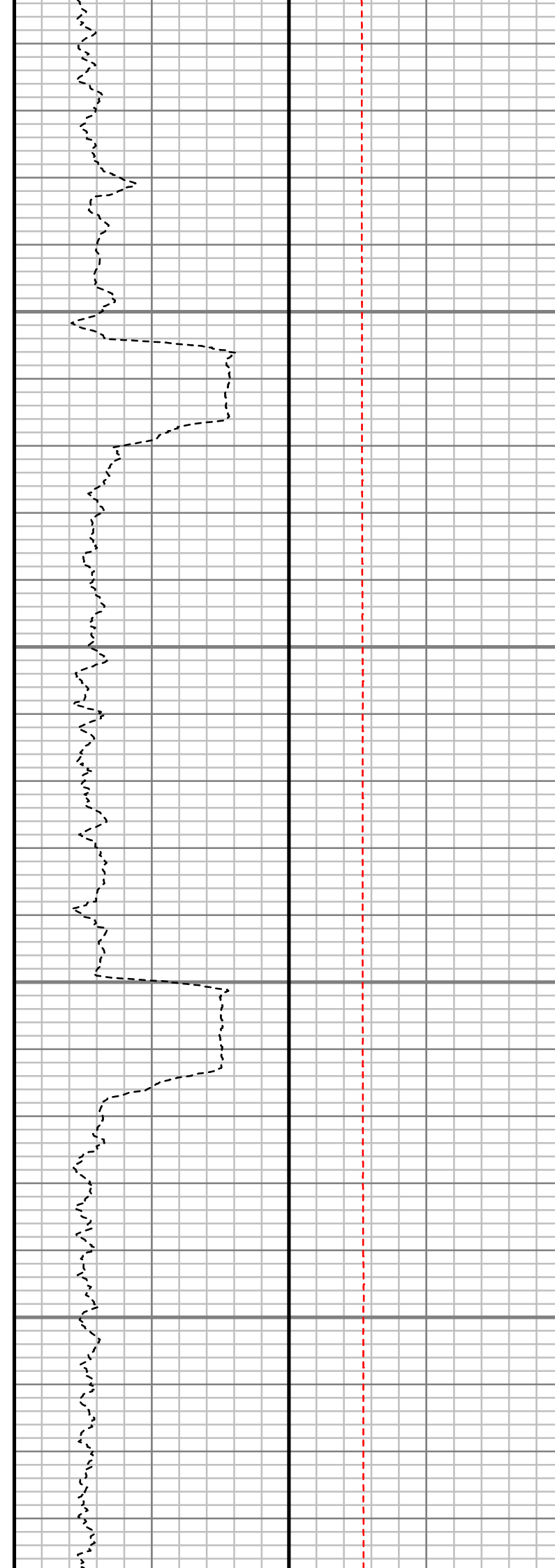
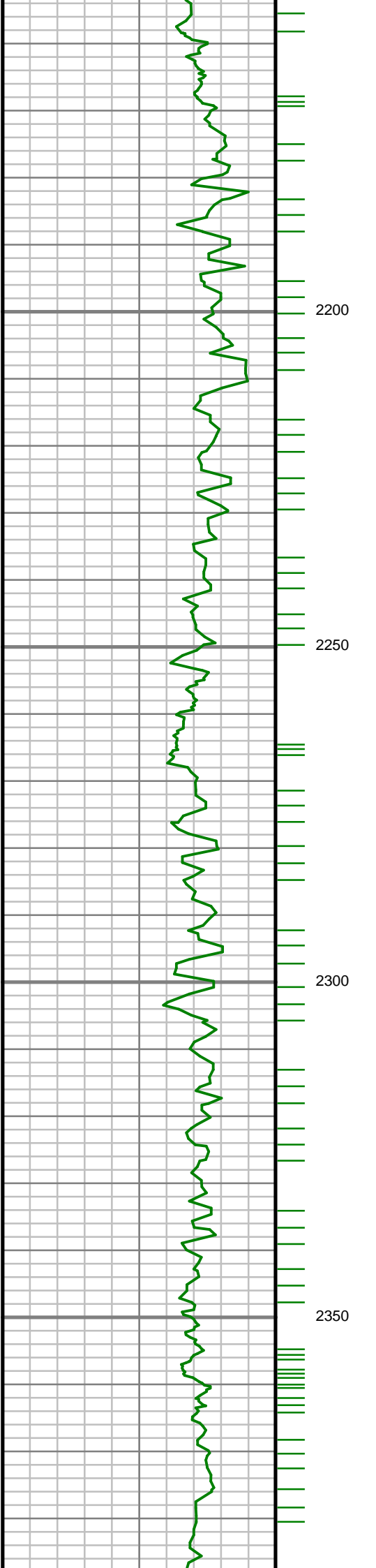
S: 27 MD: 1864.00 ft  
Inc: 14.92 deg Az: 7.35  
deg TVD: 1840.21 ft



S: 28 MD: 1958.00 ft  
Inc: 14.58 deg Az: 6.19  
deg TVD: 1931.11 ft

S: 29 MD: 2052.00 ft  
Inc: 14.15 deg Az: 5.41  
deg TVD: 2022.17 ft

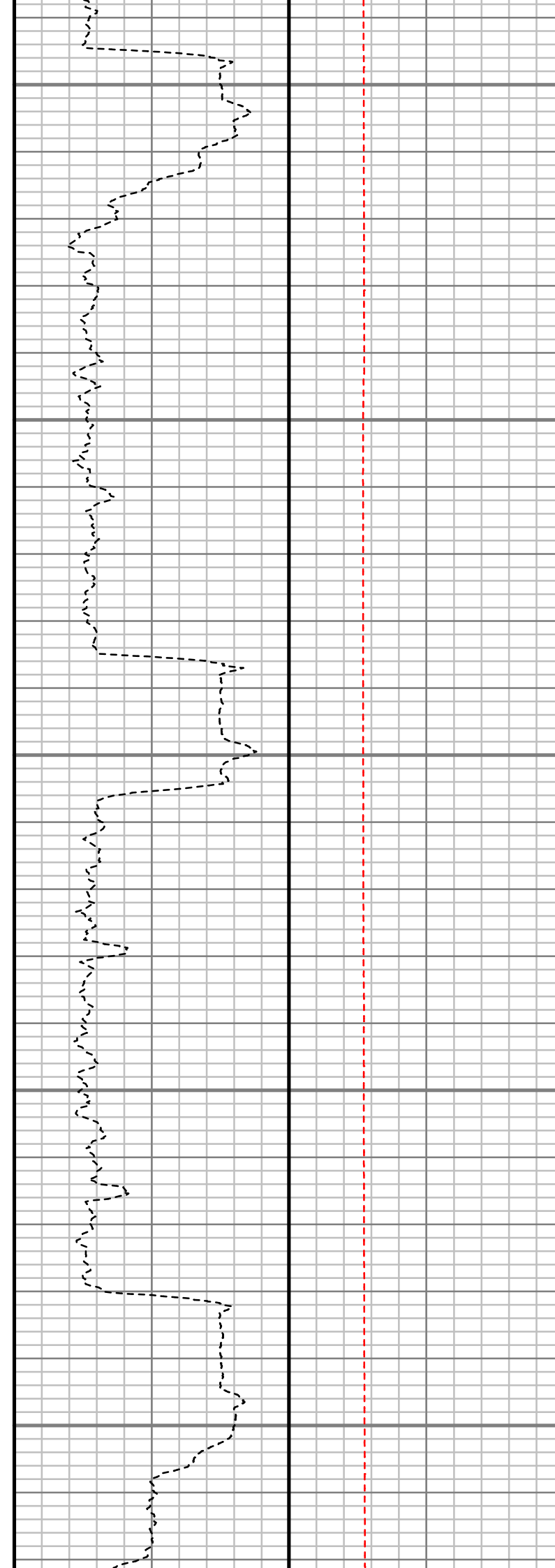
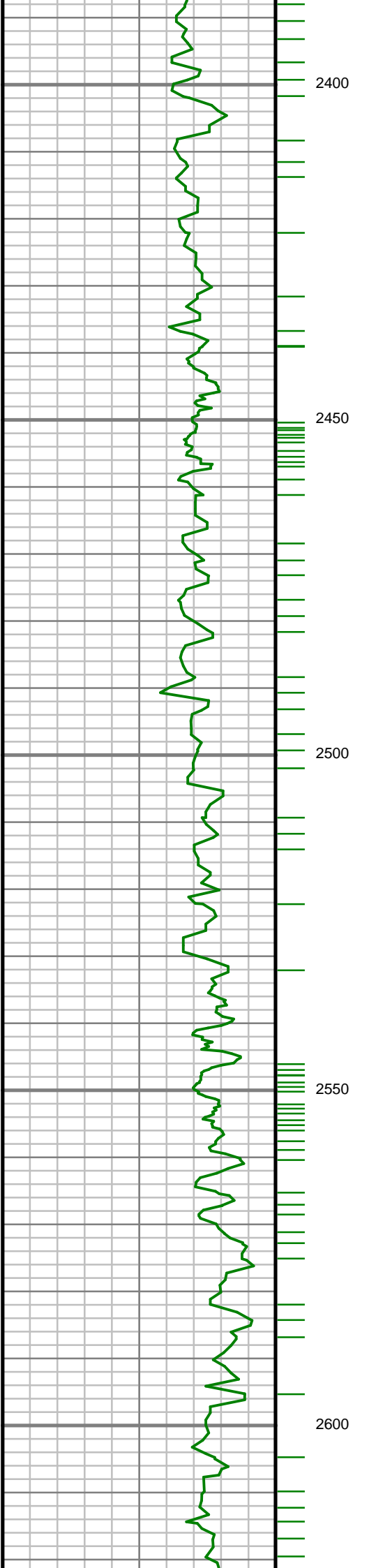
S: 30 MD: 2146.00 ft  
Inc: 14.35 deg Az:  
10.70 deg TVD:



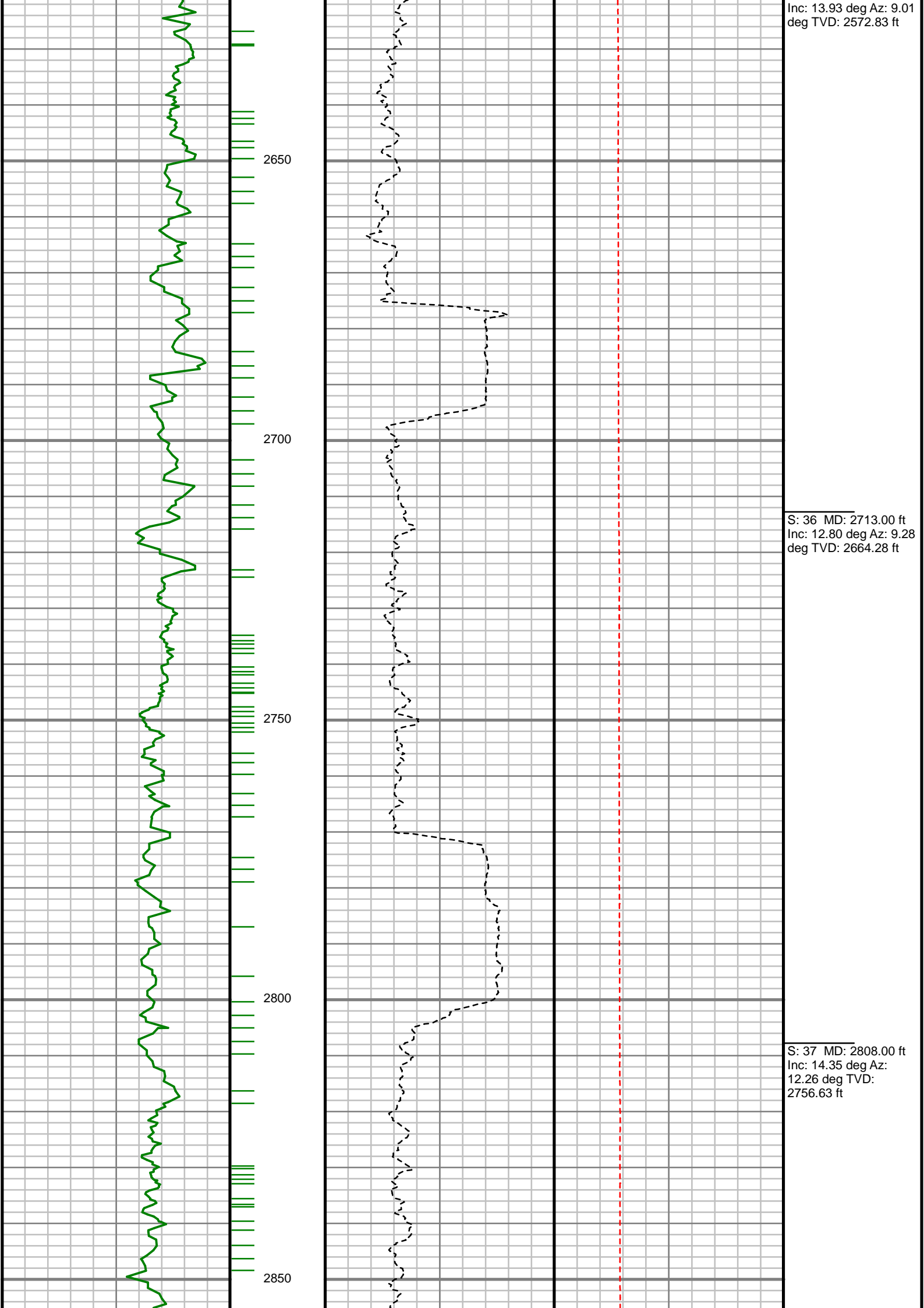
2113.29 ft

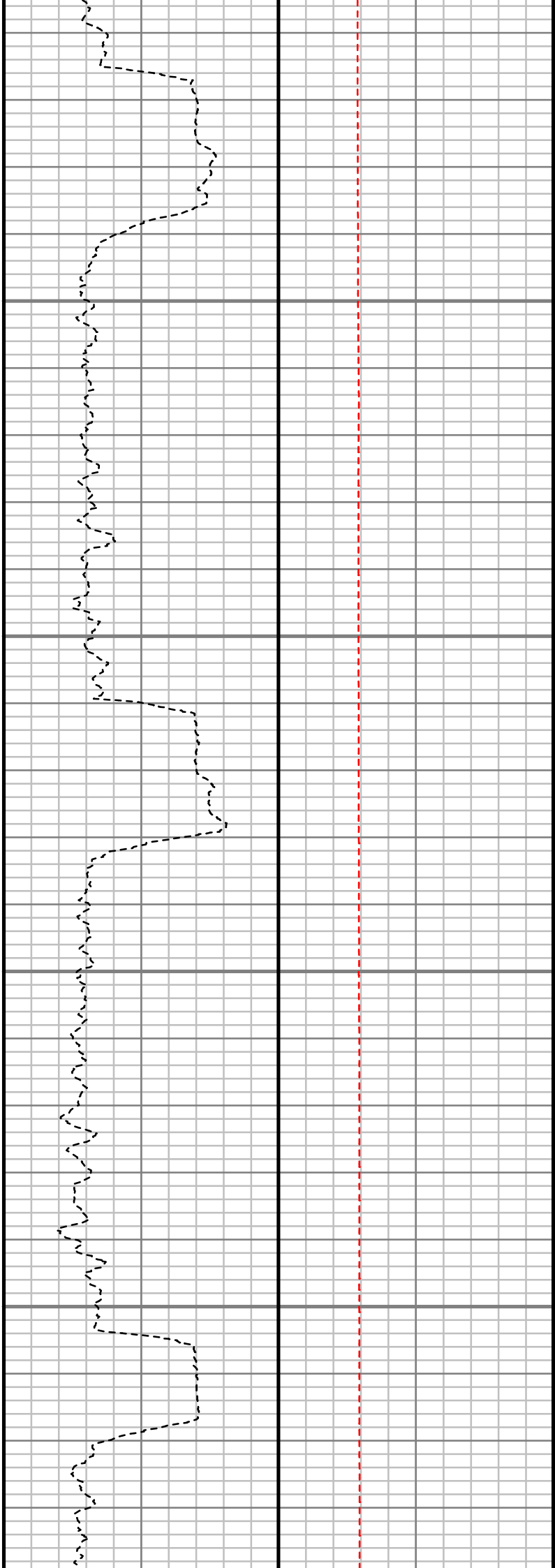
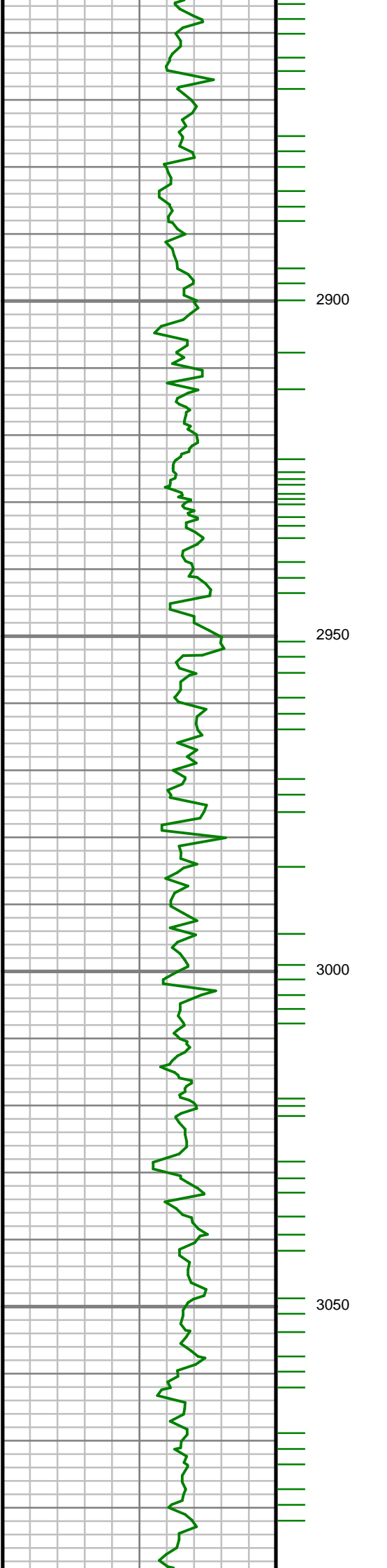
S: 31 MD: 2241.00 ft  
Inc: 13.94 deg Az:  
10.74 deg TVD:  
2205.41 ft

S: 32 MD: 2335.00 ft  
Inc: 13.53 deg Az:  
10.55 deg TVD:  
2296.72 ft



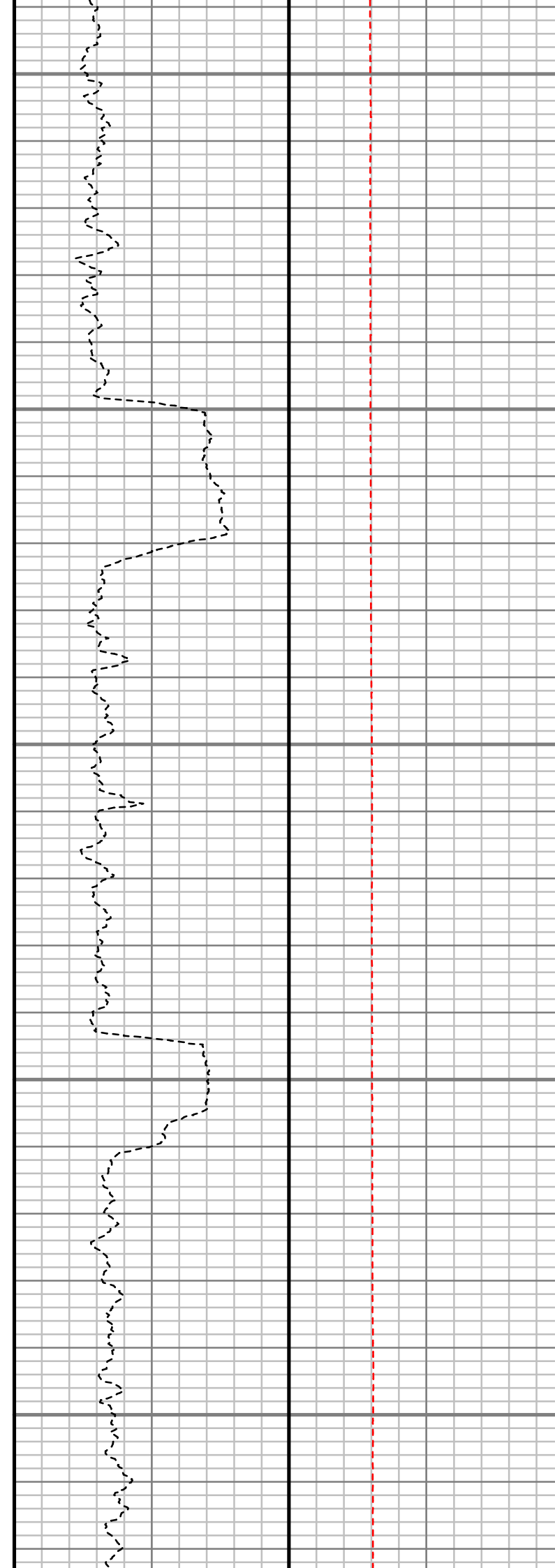
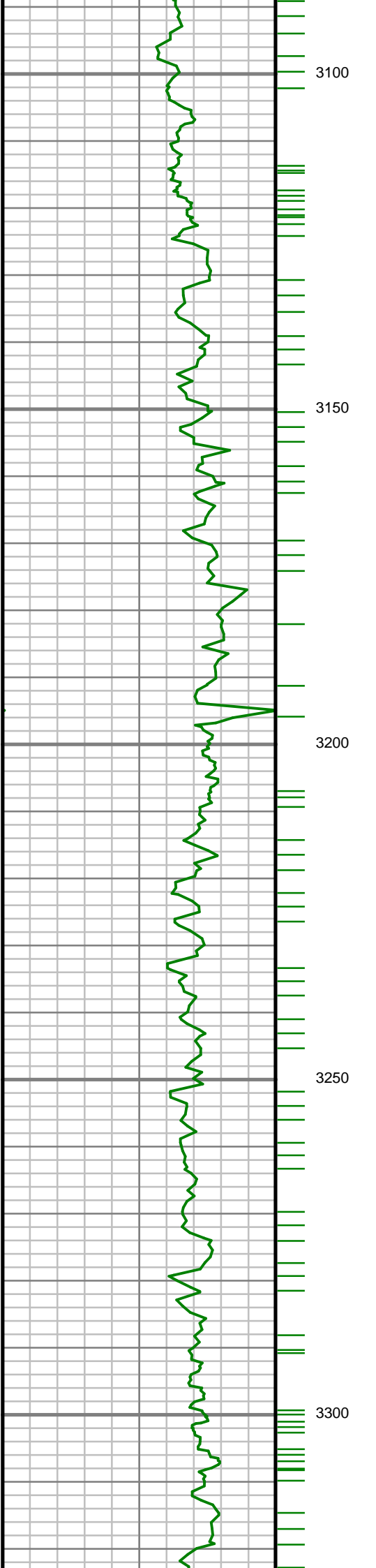






S: 38 MD: 2902.00 ft  
Inc: 15.46 deg Az:  
11.33 deg TVD:  
2847.46 ft

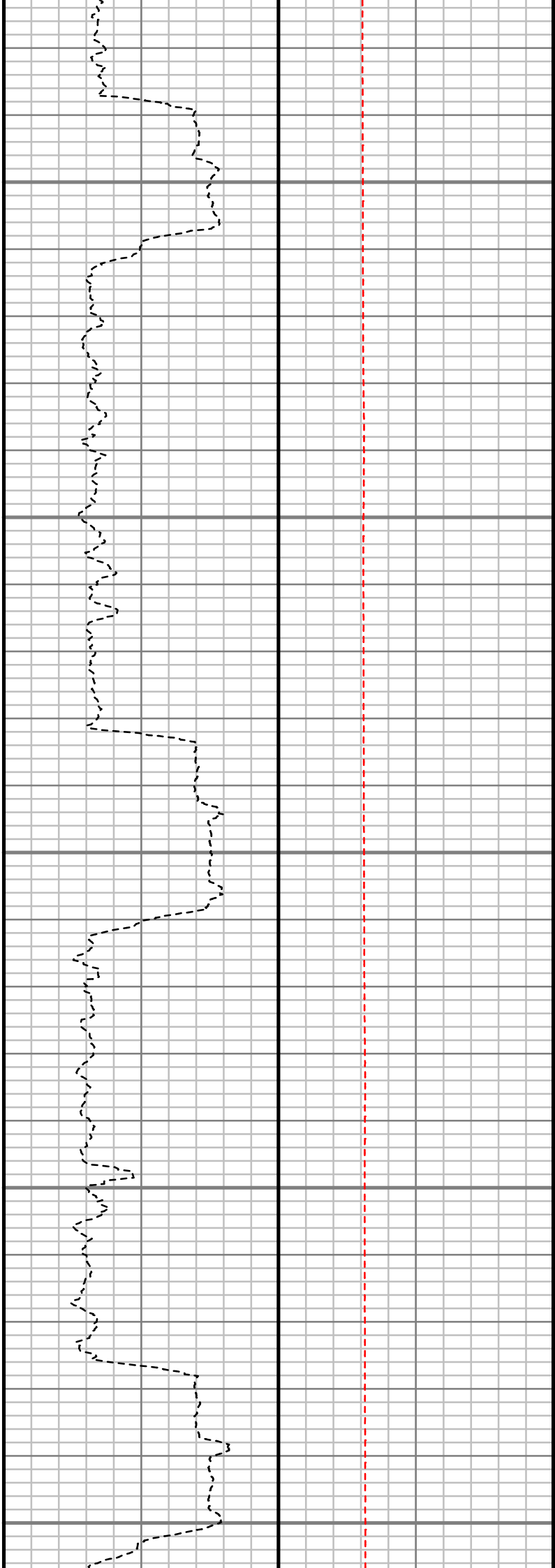
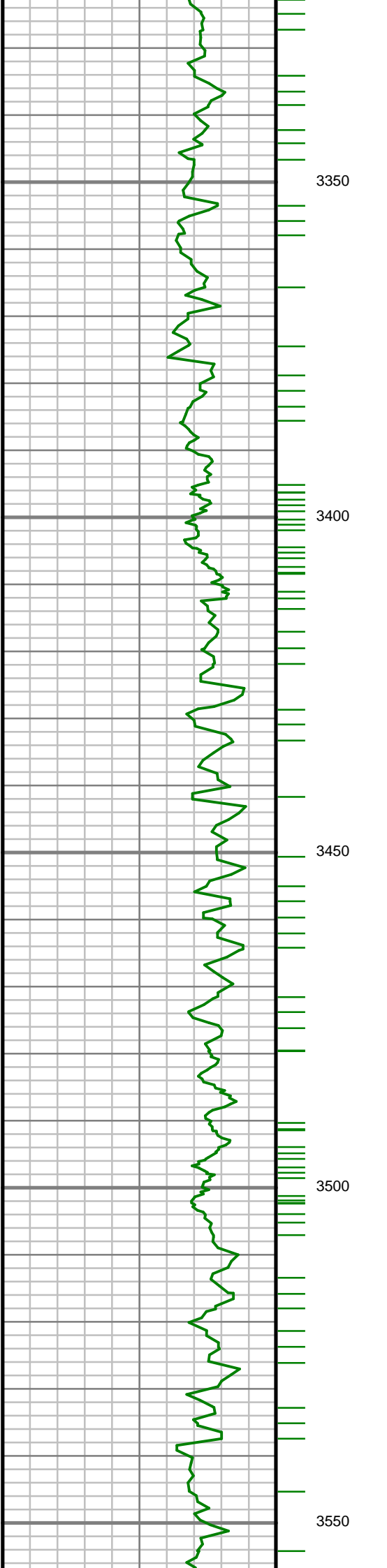
S: 39 MD: 2997.00 ft  
Inc: 15.85 deg Az: 7.82  
deg TVD: 2938.94 ft



S: 40 MD: 3091.00 ft  
Inc: 15.36 deg Az: 9.12  
deg TVD: 3029.47 ft

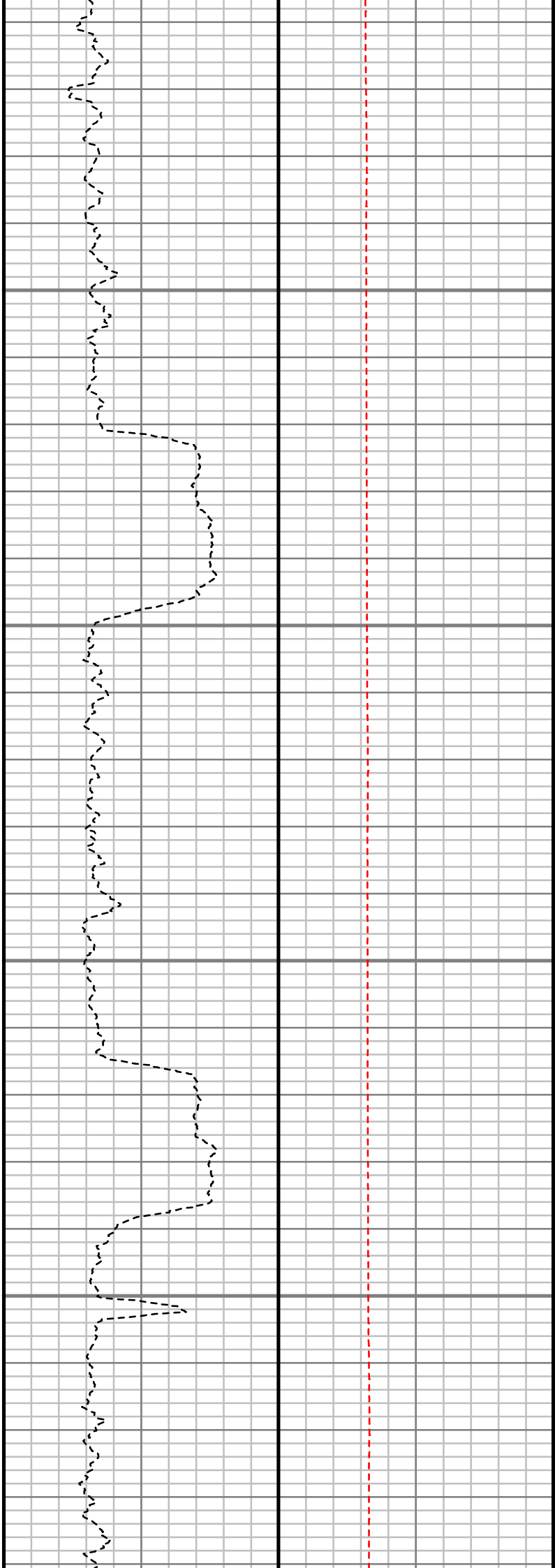
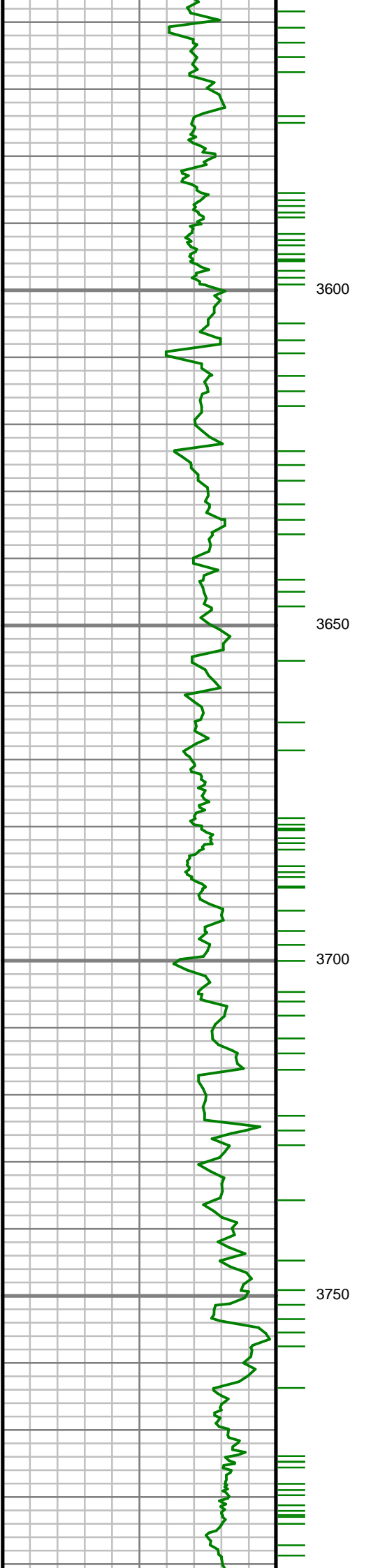
S: 41 MD: 3186.00 ft  
Inc: 14.76 deg Az: 4.84  
deg TVD: 3121.21 ft

S: 42 MD: 3280.00 ft  
Inc: 13.43 deg Az: 4.29  
deg TVD: 3212.38 ft



S: 43 MD: 3374.00 ft  
Inc: 13.43 deg Az:  
359.70 deg TVD:  
3303.81 ft

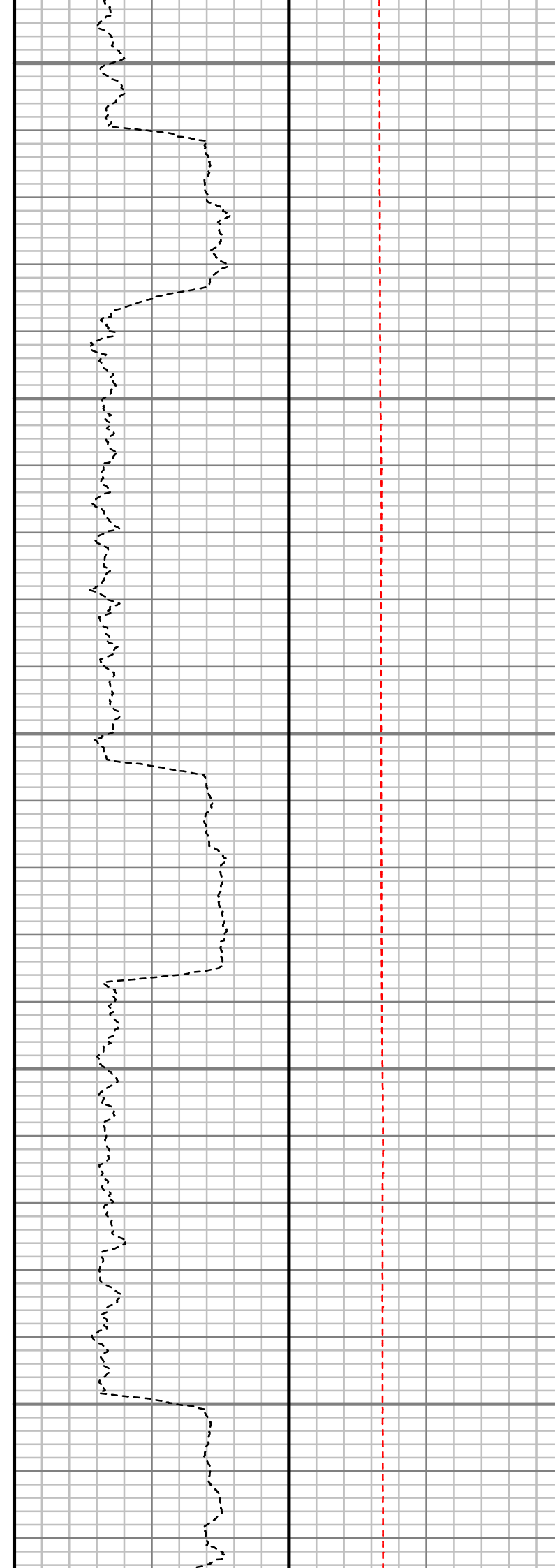
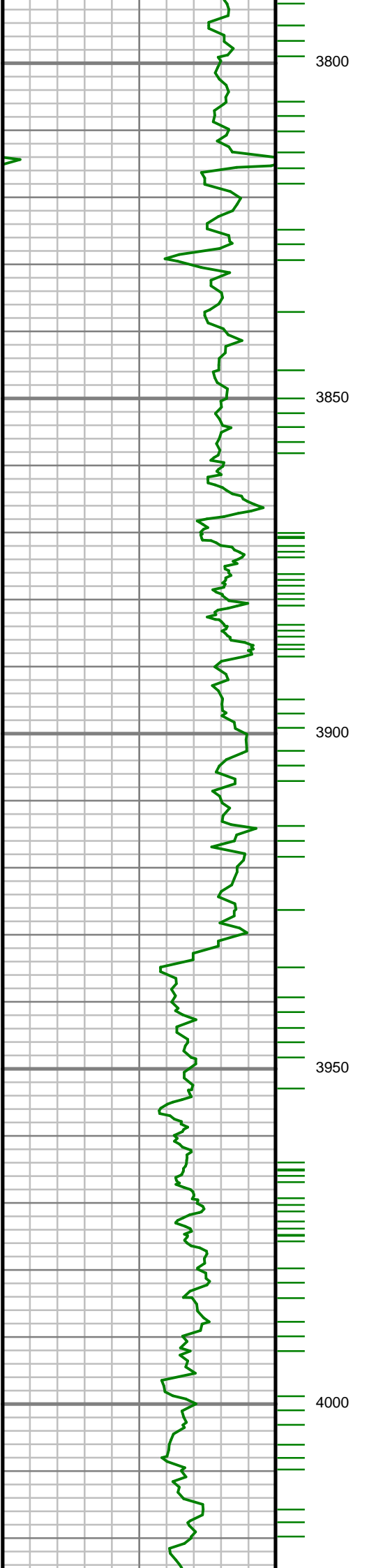
S: 44 MD: 3469.00 ft  
Inc: 13.73 deg Az: 1.61  
deg TVD: 3396.15 ft



S: 45 MD: 3564.00 ft  
Inc: 14.49 deg Az: 4.20  
deg TVD: 3488.29 ft

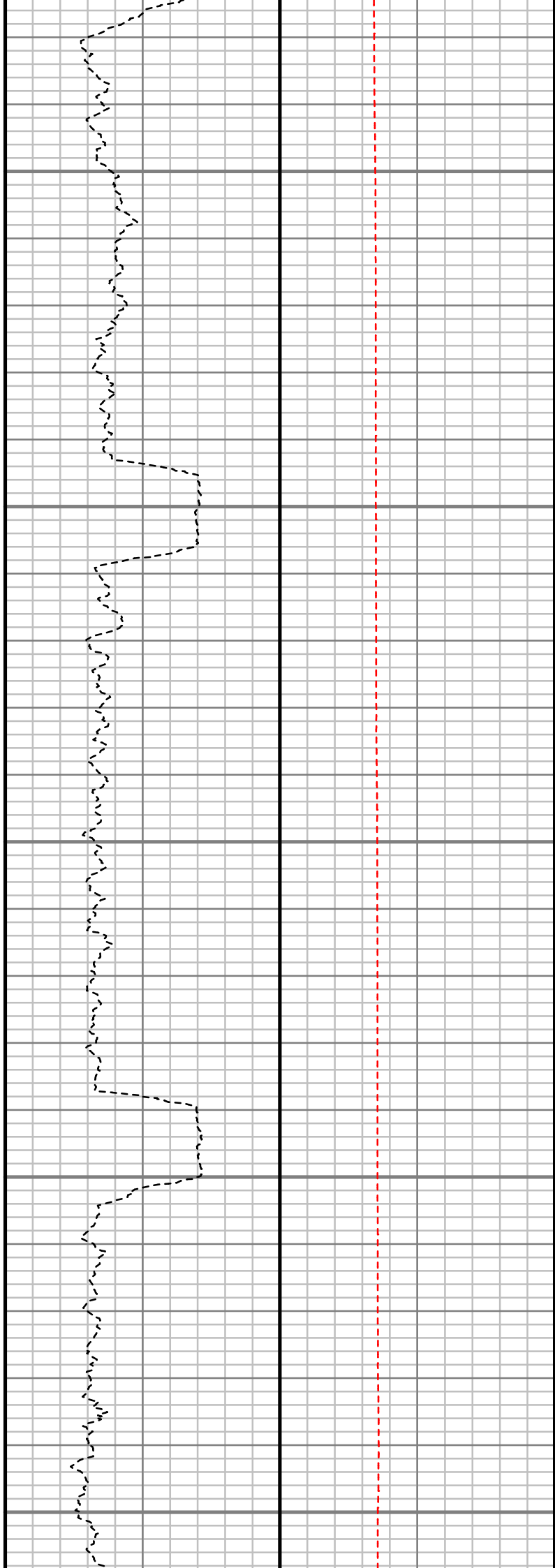
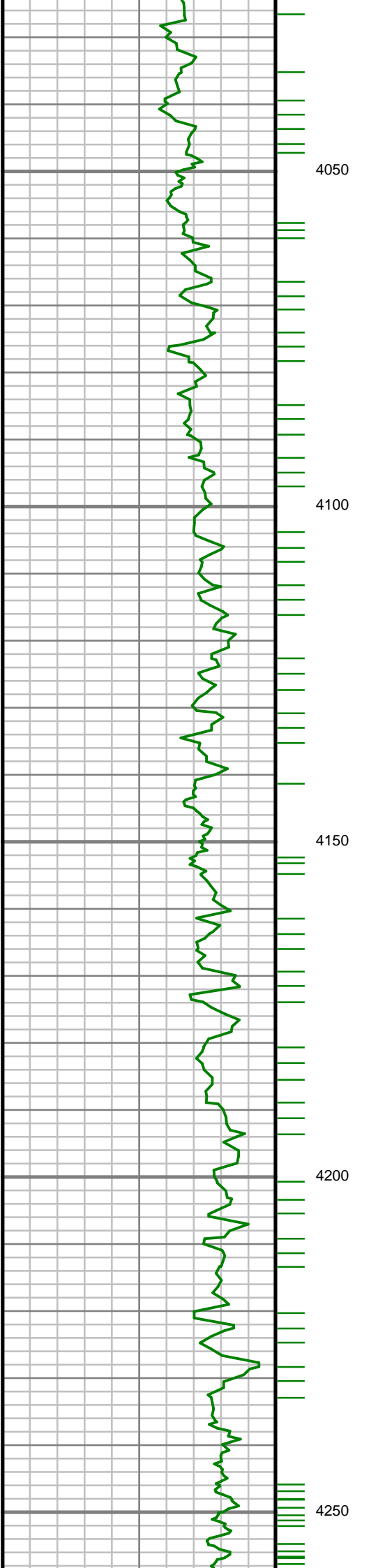
S: 46 MD: 3658.00 ft  
Inc: 14.25 deg Az: 8.00  
deg TVD: 3579.35 ft

S: 47 MD: 3752.00 ft  
Inc: 14.45 deg Az: 8.36  
deg TVD: 3670.42 ft



S: 48 MD: 3847.00 ft  
Inc: 13.96 deg Az:  
12.73 deg TVD:  
3762.51 ft

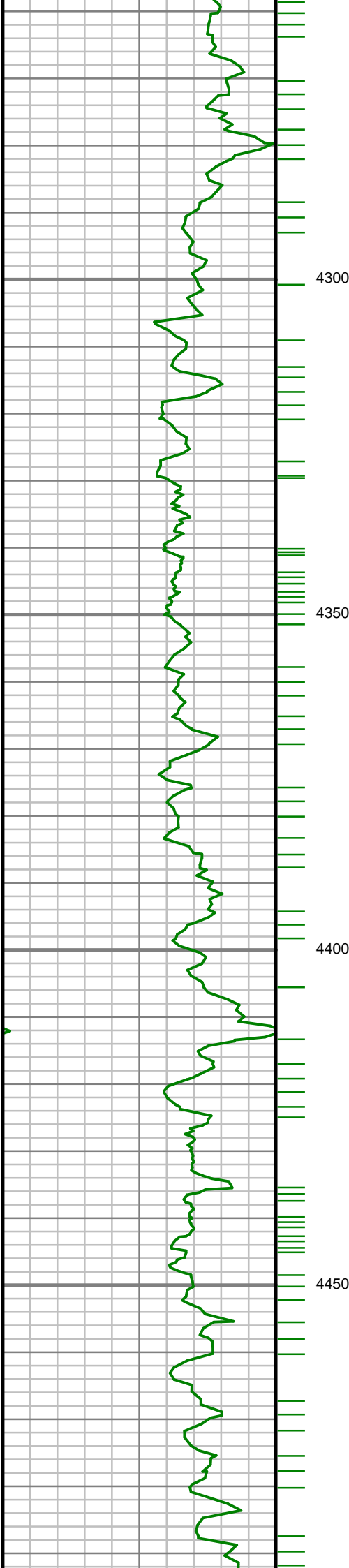
S: 49 MD: 3941.00 ft  
Inc: 14.93 deg Az:  
10.46 deg TVD:  
3853.54 ft



S: 50 MD: 4036.00 ft  
Inc: 16.24 deg Az: 9.63  
deg TVD: 3945.05 ft

S: 51 MD: 4130.00 ft  
Inc: 15.60 deg Az: 8.59  
deg TVD: 4035.44 ft

S: 52 MD: 4225.00 ft  
Inc: 14.27 deg Az: 8.71  
deg TVD: 4127.23 ft

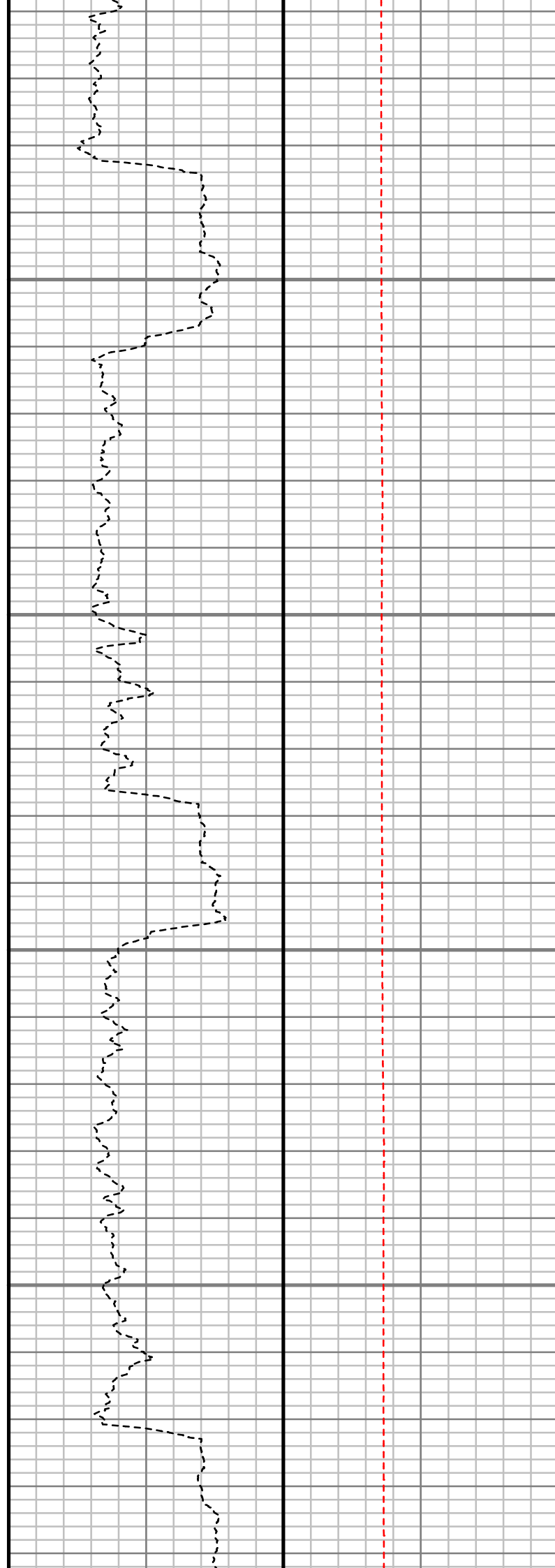


4300

4350

4400

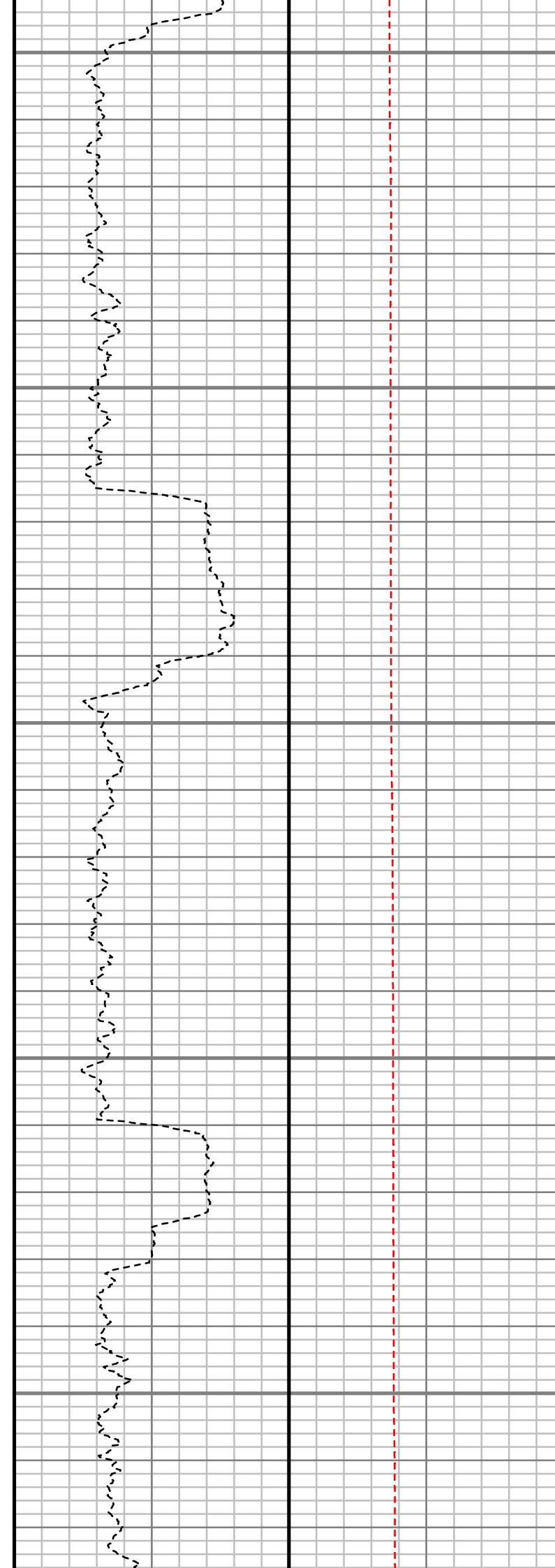
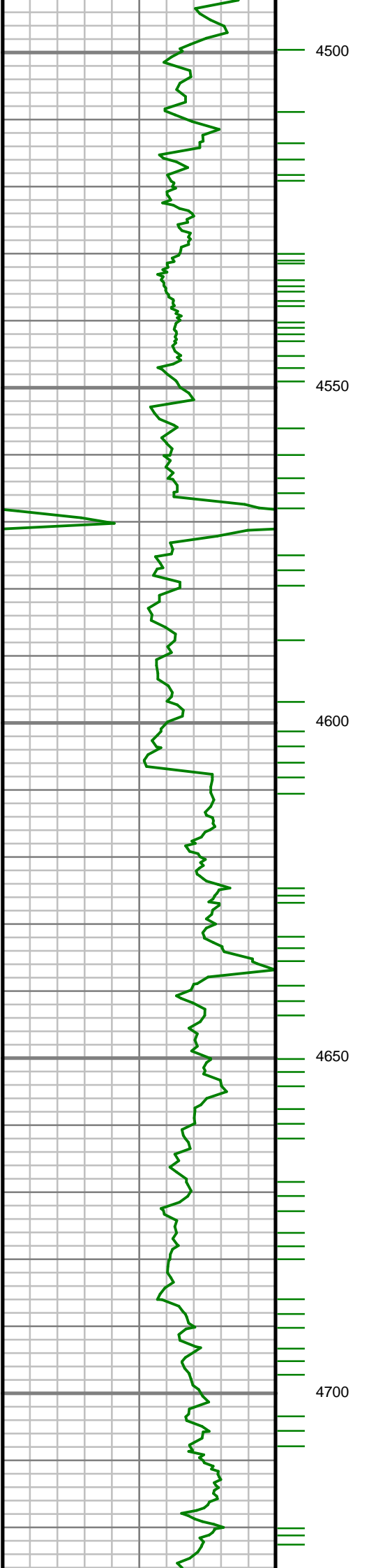
4450



S: 53 MD: 4319.00 ft  
Inc: 13.96 deg Az: 8.38  
deg TVD: 4218.39 ft

S: 54 MD: 4413.00 ft  
Inc: 13.60 deg Az: 7.77  
deg TVD: 4309.69 ft

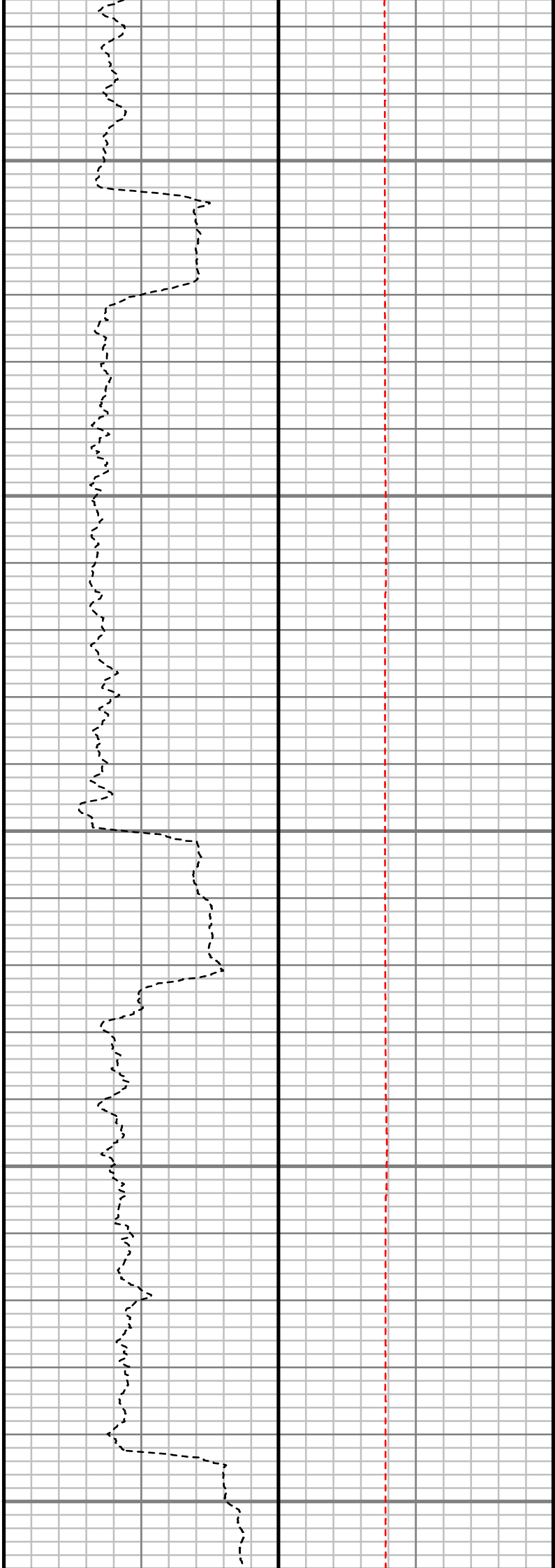
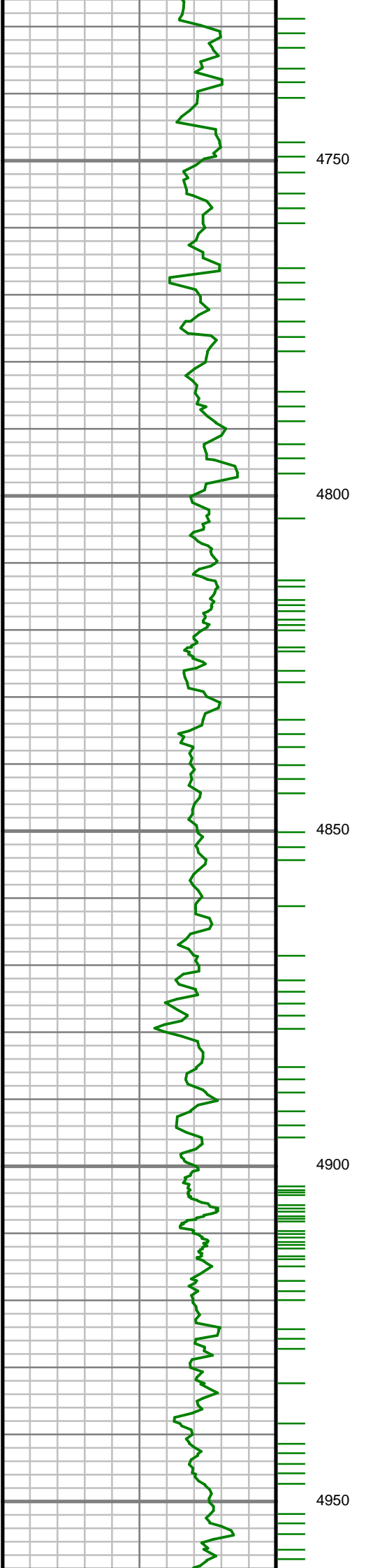




S: 55 MD: 4508.00 ft  
Inc: 13.16 deg Az: 6.33  
deg TVD: 4402.11 ft

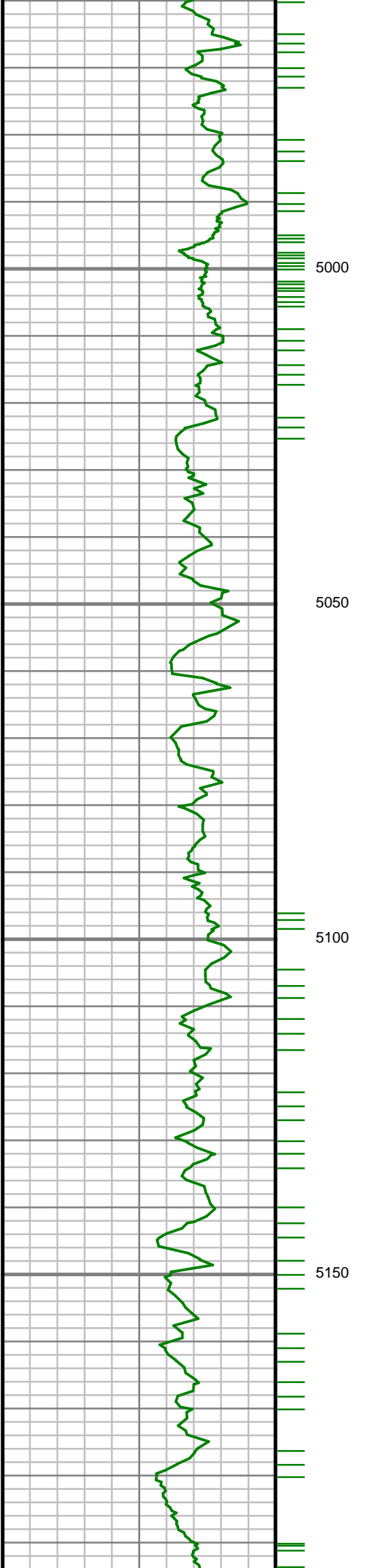
S: 56 MD: 4602.00 ft  
Inc: 13.35 deg Az: 6.91  
deg TVD: 4493.61 ft

S: 57 MD: 4697.00 ft  
Inc: 12.79 deg Az: 5.21  
deg TVD: 4586.14 ft



S: 58 MD: 4791.00 ft  
Inc: 10.75 deg Az: 0.71  
deg TVD: 4678.17 ft

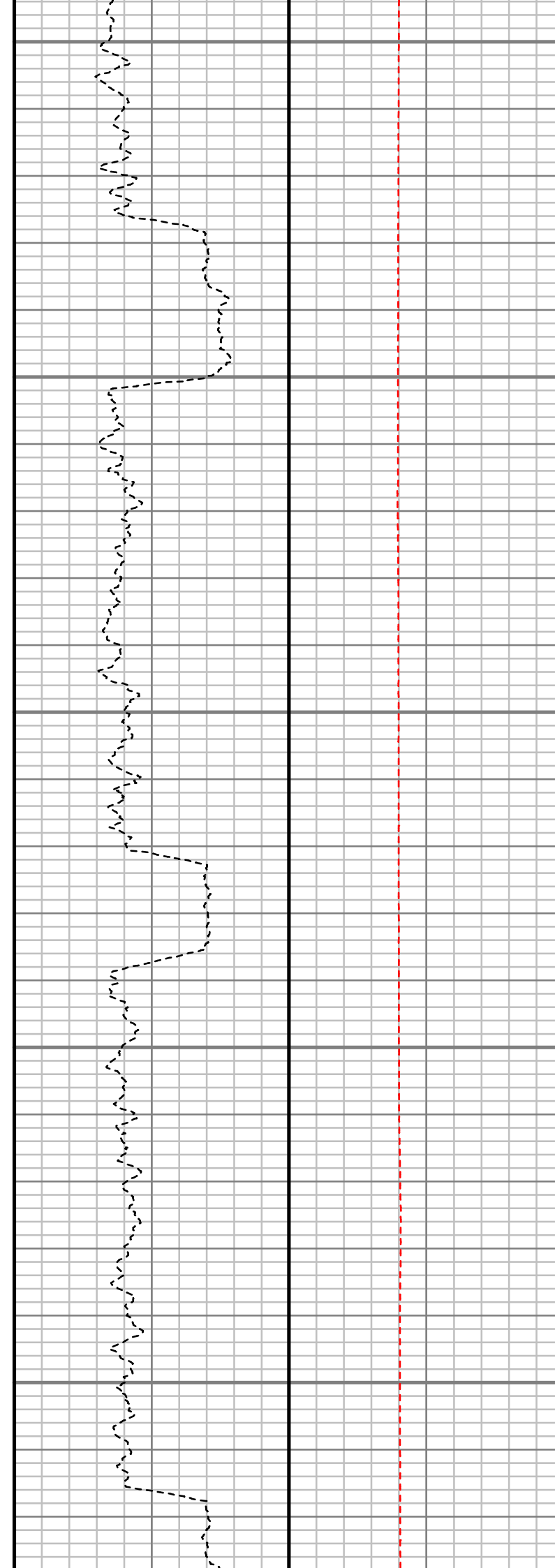
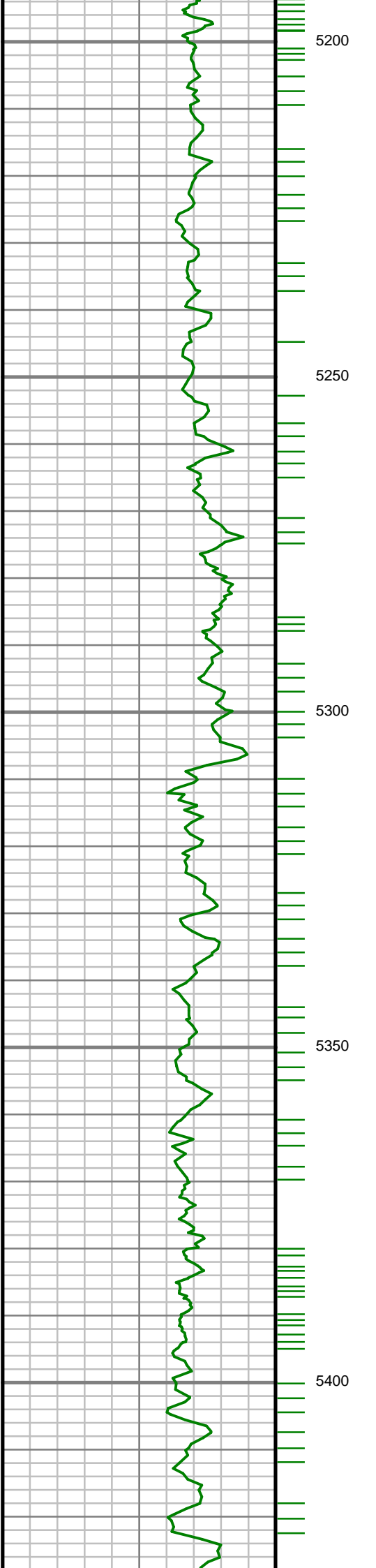
S: 59 MD: 4886.00 ft  
Inc: 9.19 deg Az: 2.95  
deg TVD: 4771.73 ft



S: 60 MD: 4980.00 ft  
Inc: 8.56 deg Az: 8.85  
deg TVD: 4864.60 ft

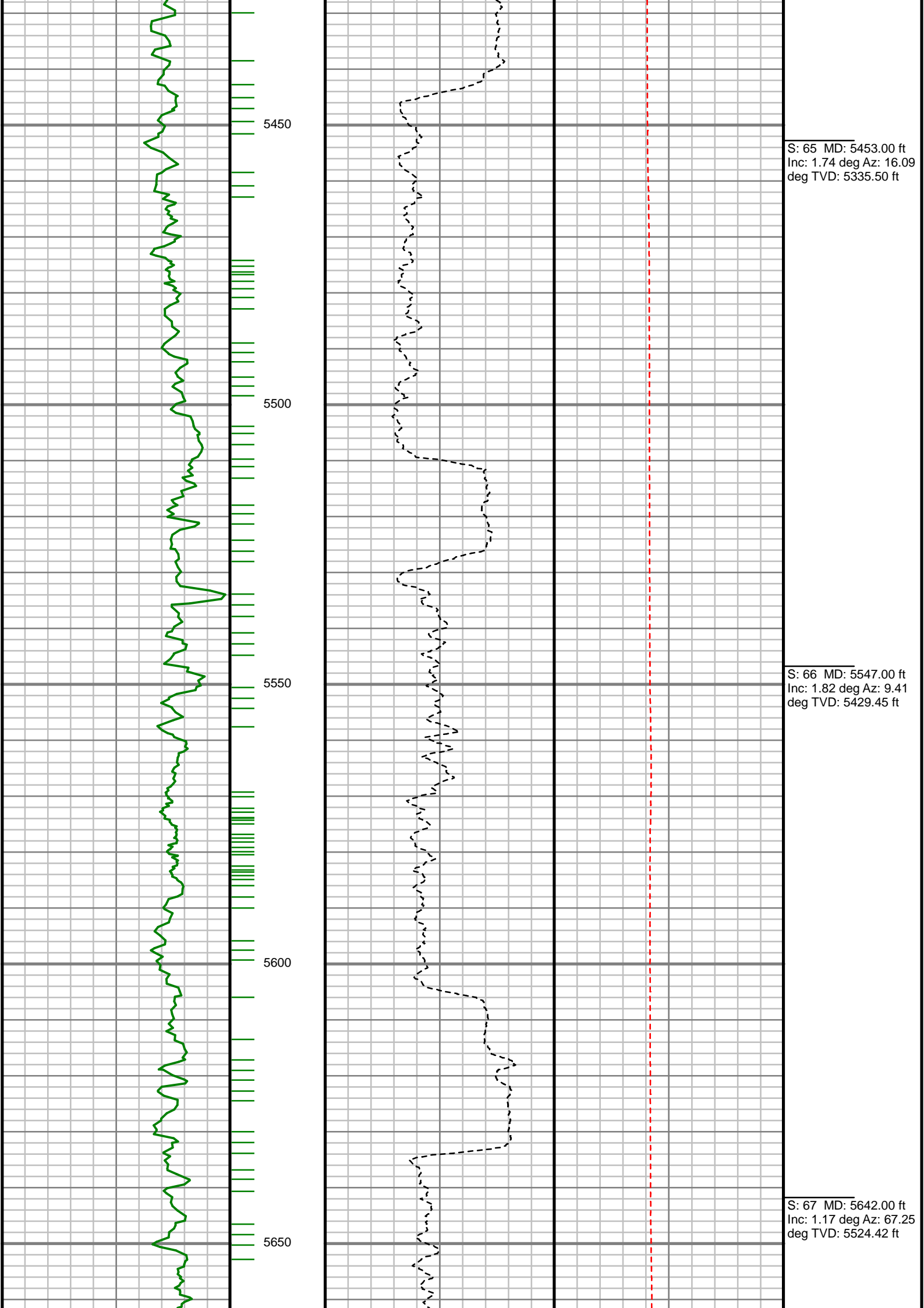
S: 61 MD: 5075.00 ft  
Inc: 6.24 deg Az: 2.91  
deg TVD: 4958.81 ft

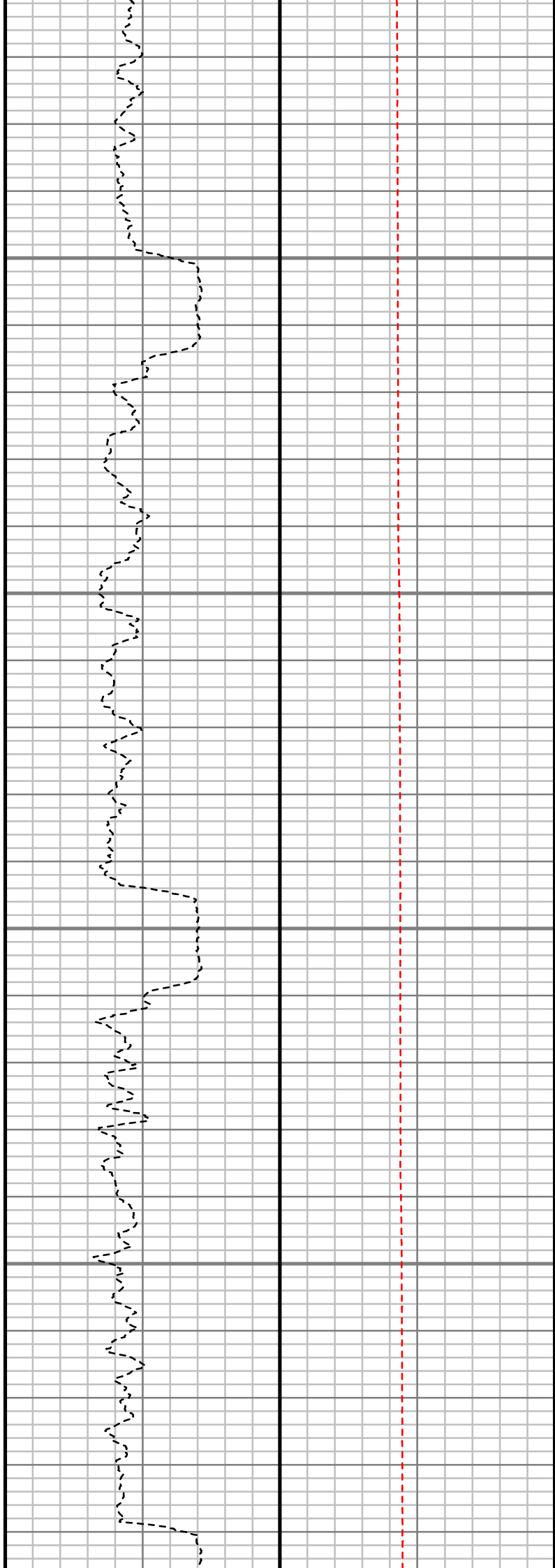
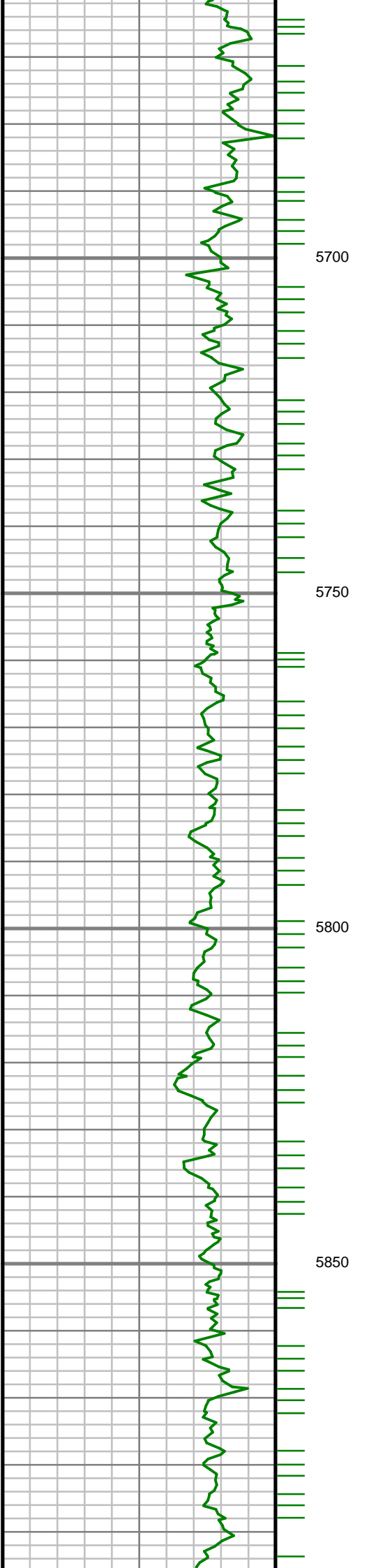
S: 62 MD: 5169.00 ft  
Inc: 6.11 deg Az: 6.72  
deg TVD: 5052.26 ft



S: 63 MD: 5264.00 ft  
Inc: 4.20 deg Az: 8.52  
deg TVD: 5146.87 ft

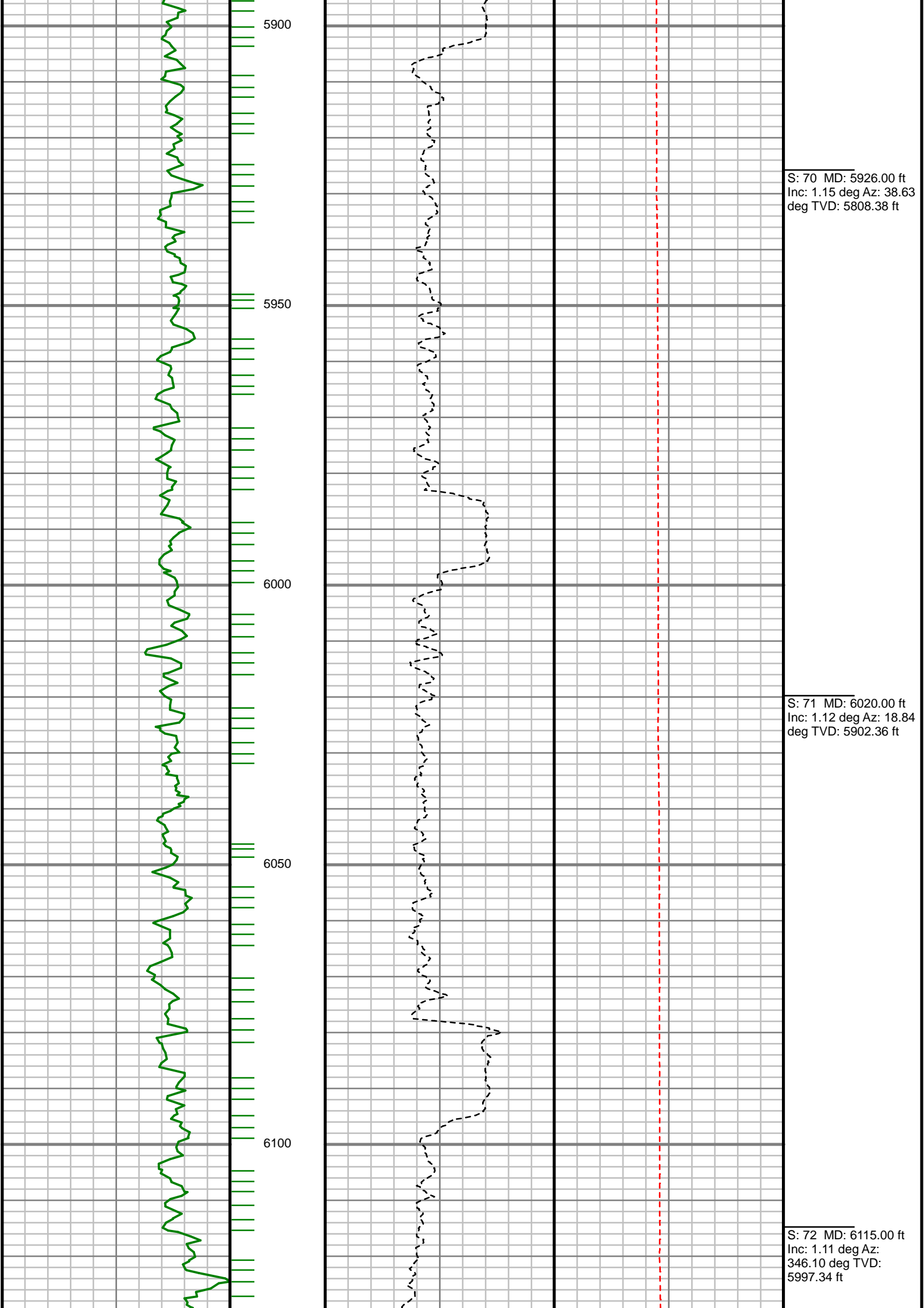
S: 64 MD: 5358.00 ft  
Inc: 4.13 deg Az: 2.54  
deg TVD: 5240.63 ft

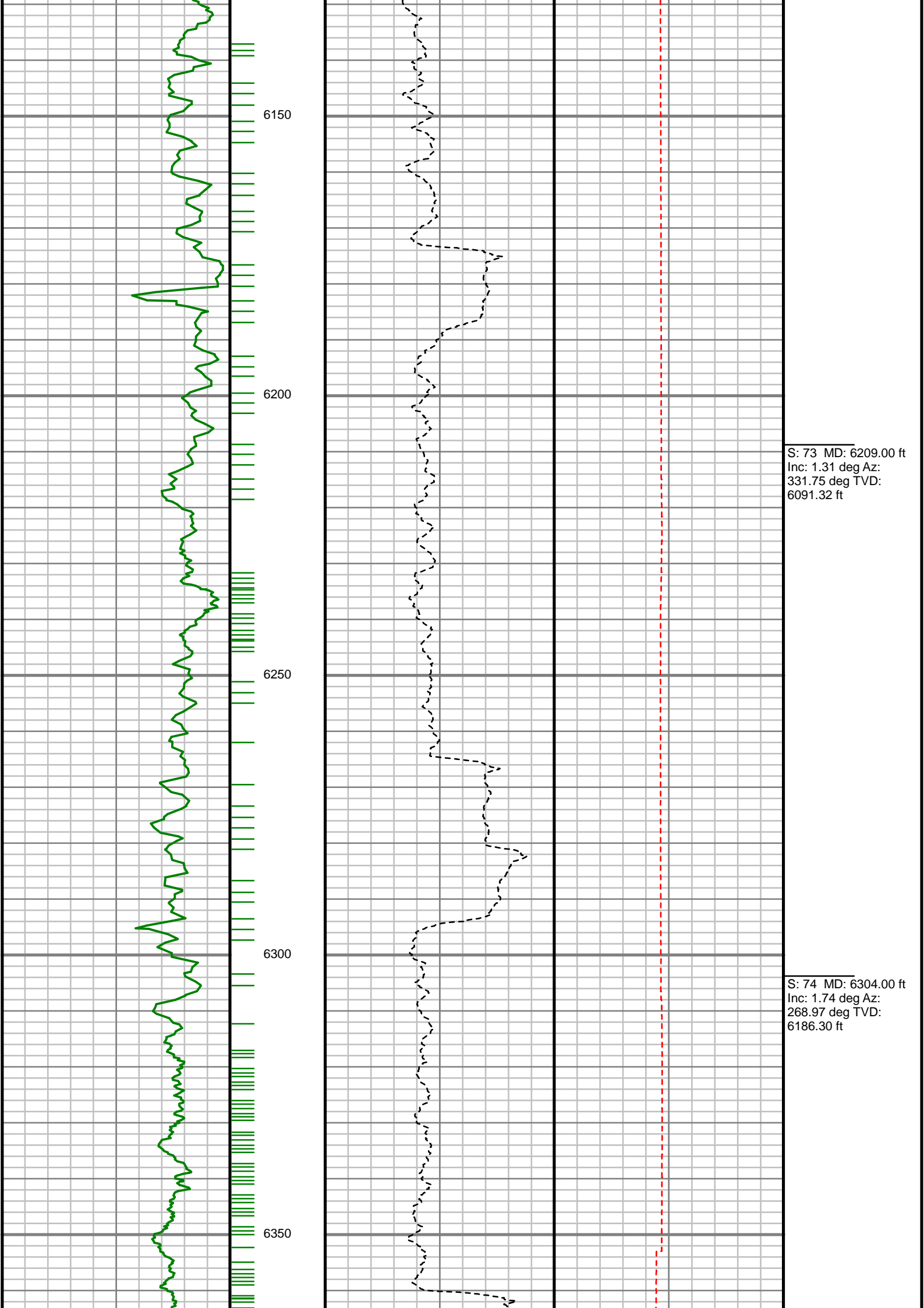




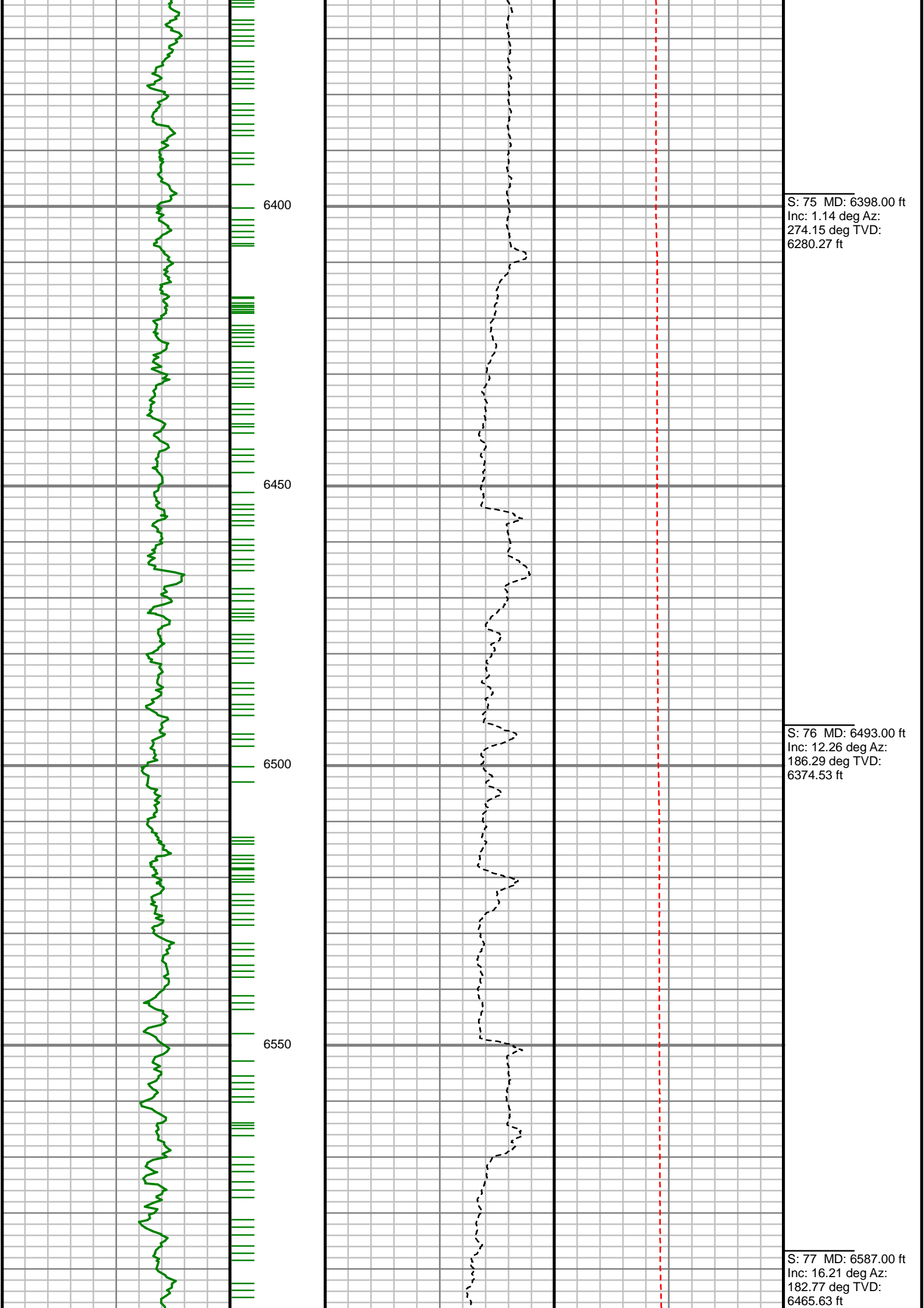
S: 68 MD: 5737.00 ft  
Inc: 0.95 deg Az: 43.73  
deg TVD: 5619.41 ft

S: 69 MD: 5831.00 ft  
Inc: 0.88 deg Az: 66.78  
deg TVD: 5713.39 ft





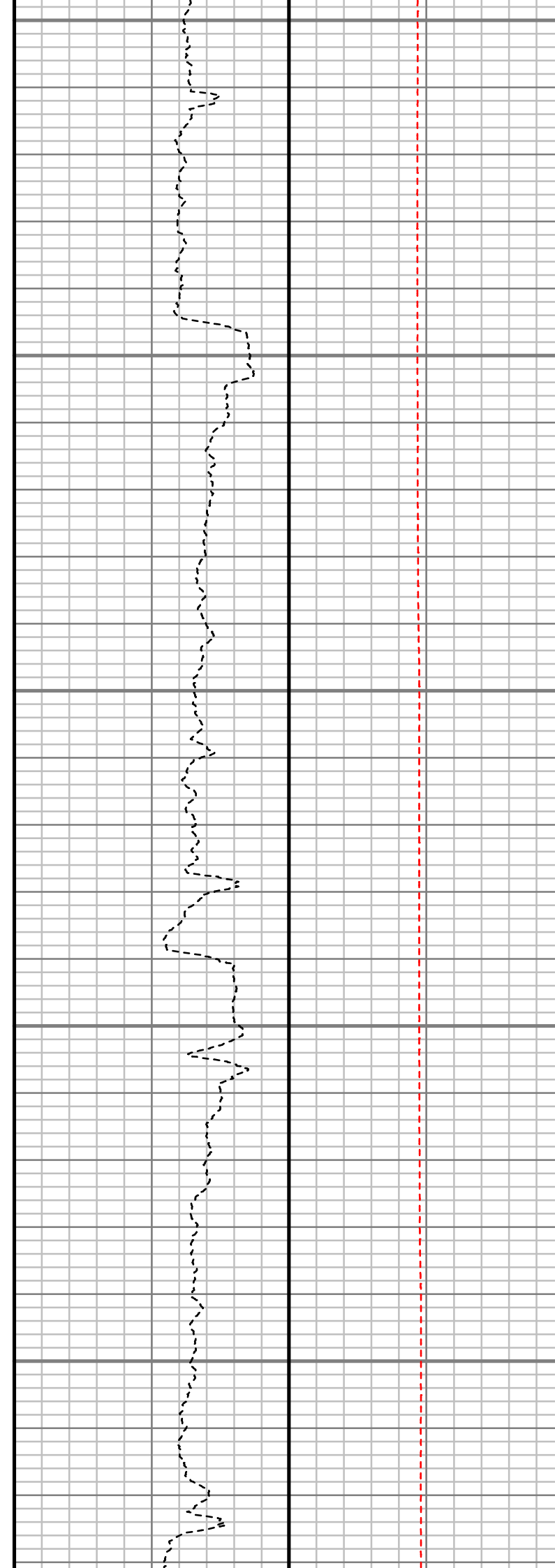
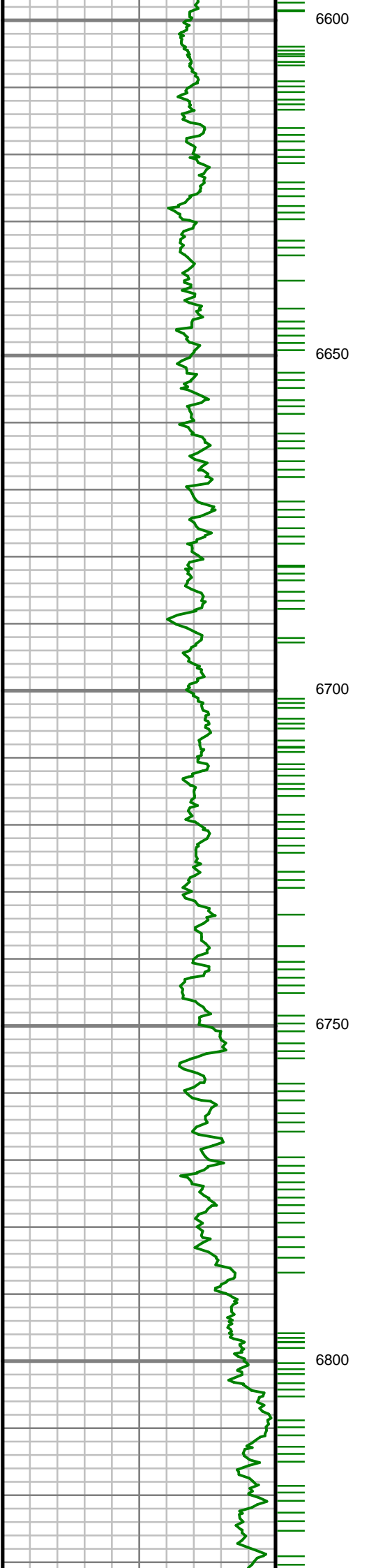




S: 75 MD: 6398.00 ft  
Inc: 1.14 deg Az:  
274.15 deg TVD:  
6280.27 ft

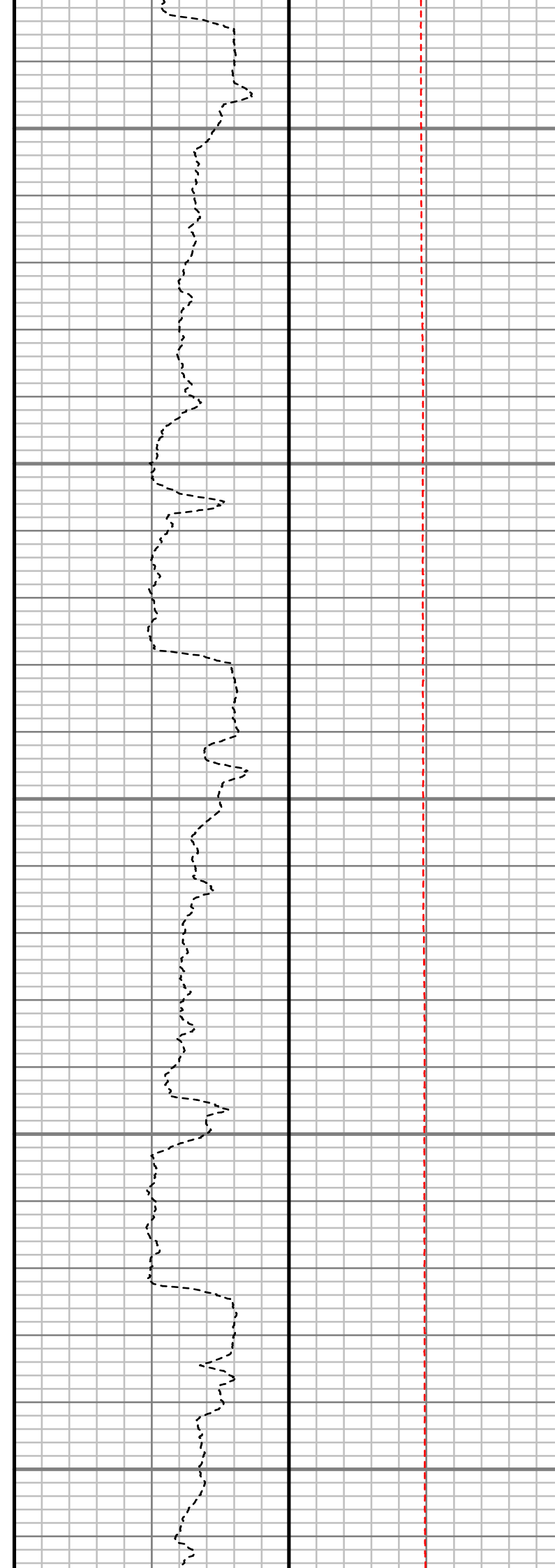
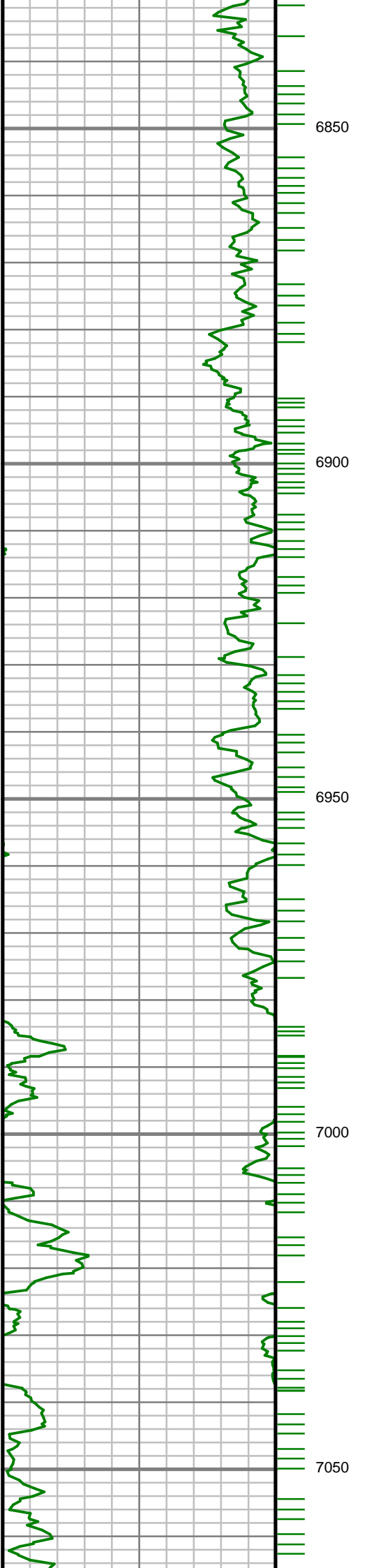
S: 76 MD: 6493.00 ft  
Inc: 12.26 deg Az:  
186.29 deg TVD:  
6374.53 ft

S: 77 MD: 6587.00 ft  
Inc: 16.21 deg Az:  
182.77 deg TVD:  
6465.63 ft



S: 78 MD: 6682.00 ft  
Inc: 21.53 deg Az:  
171.95 deg TVD:  
6555.52 ft

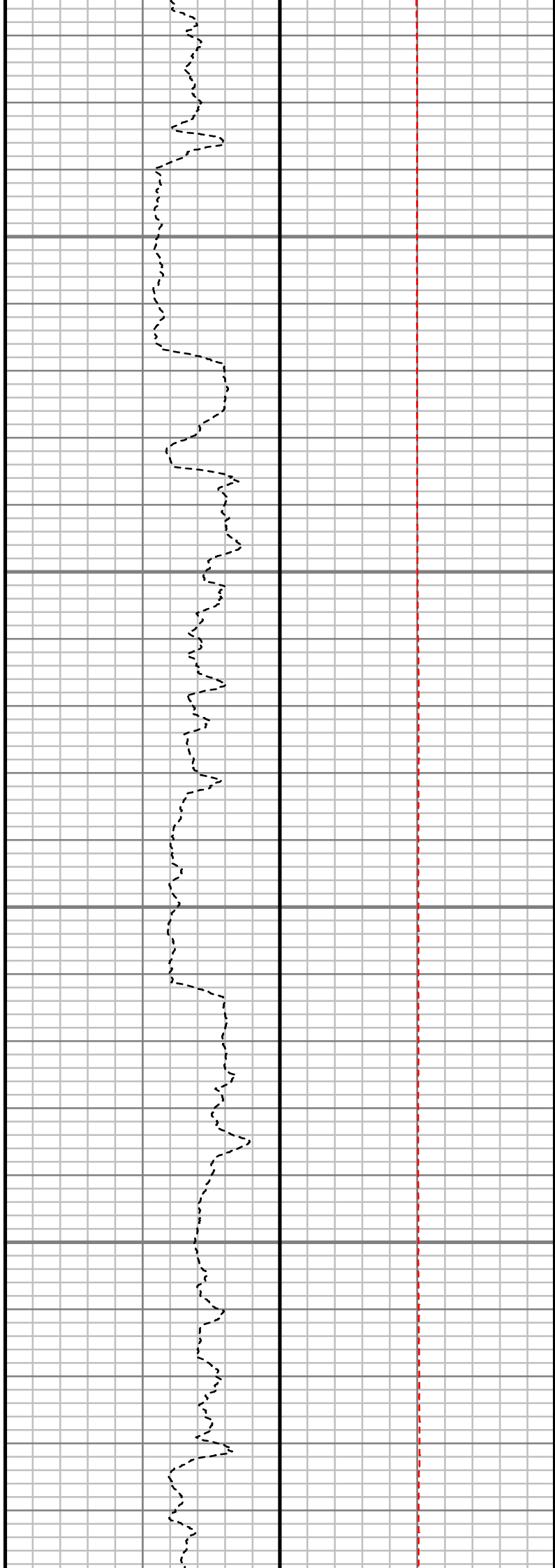
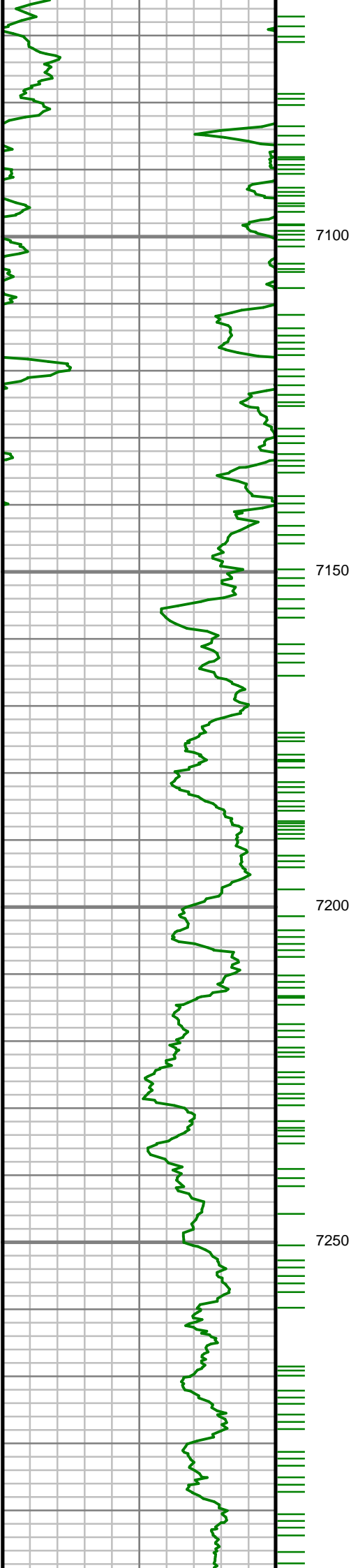
S: 79 MD: 6776.00 ft  
Inc: 29.61 deg Az:  
179.34 deg TVD:  
6640.27 ft



S: 80 MD: 6871.00 ft  
Inc: 41.06 deg Az:  
179.49 deg TVD:  
6717.64 ft

S: 81 MD: 6965.00 ft  
Inc: 49.03 deg Az:  
178.75 deg TVD:  
6784.00 ft

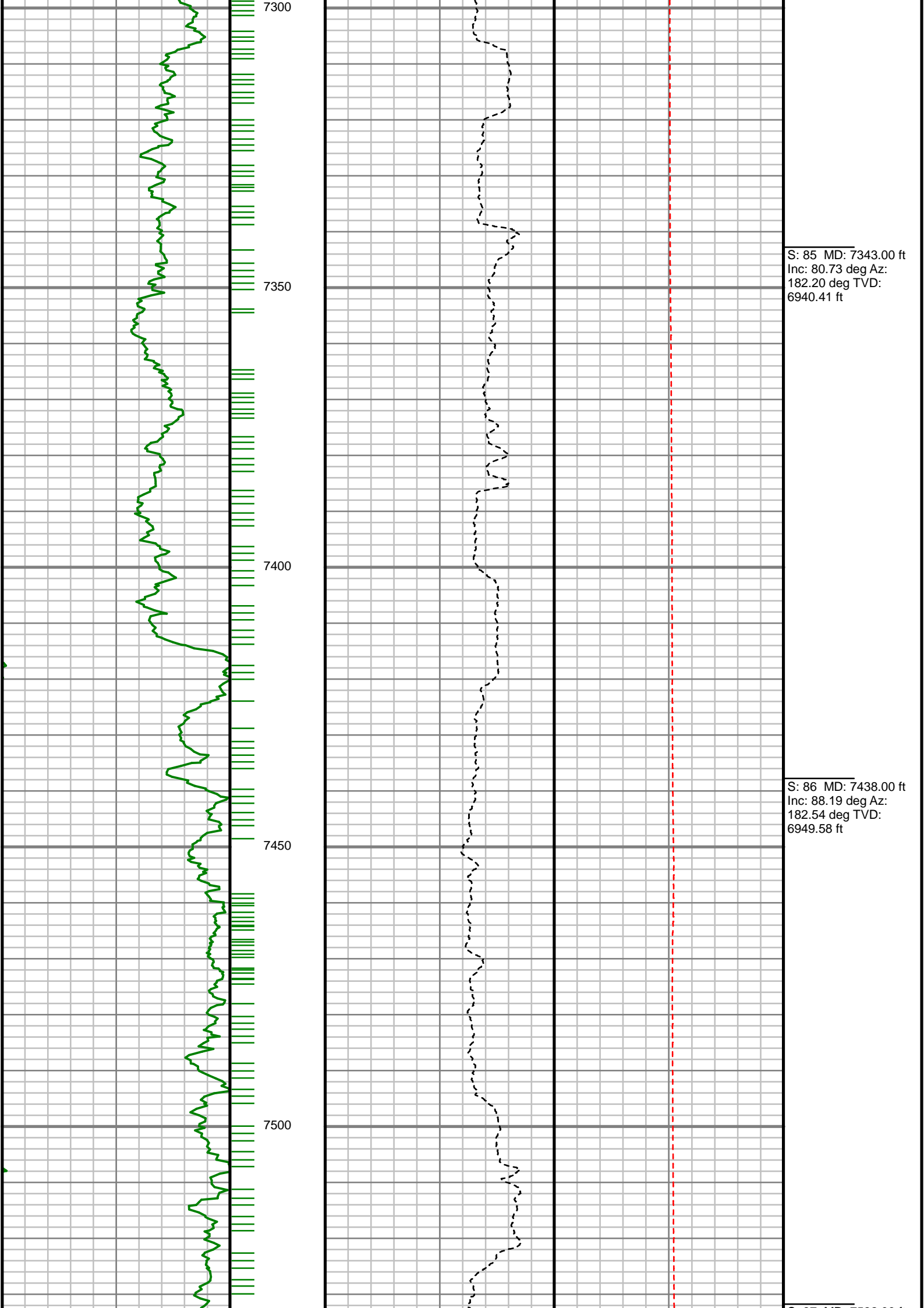
S: 82 MD: 7060.00 ft  
Inc: 58.31 deg Az:

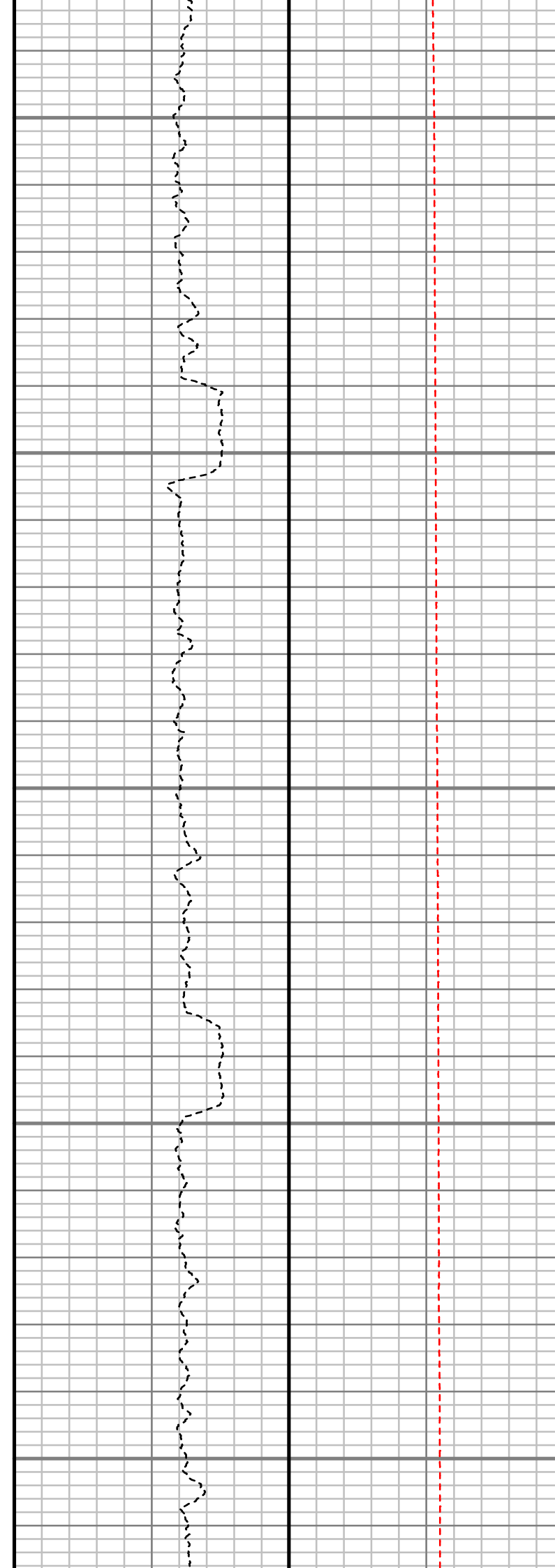
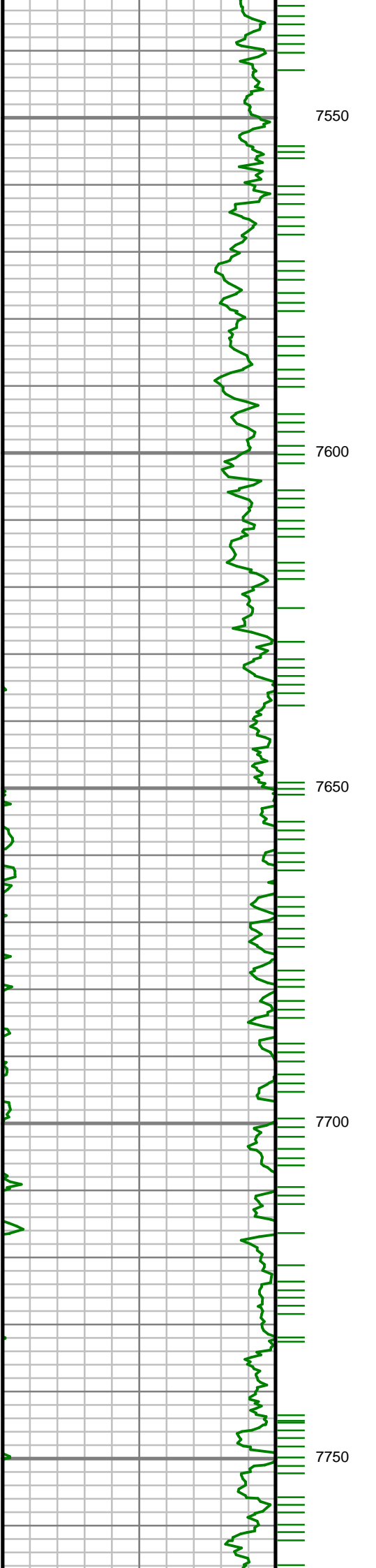


180.33 deg TVD:  
6840.22 ft

S: 83 MD: 7154.00 ft  
Inc: 64.68 deg Az:  
178.21 deg TVD:  
6885.07 ft

S: 84 MD: 7249.00 ft  
Inc: 73.17 deg Az:  
179.63 deg TVD:  
6919.20 ft

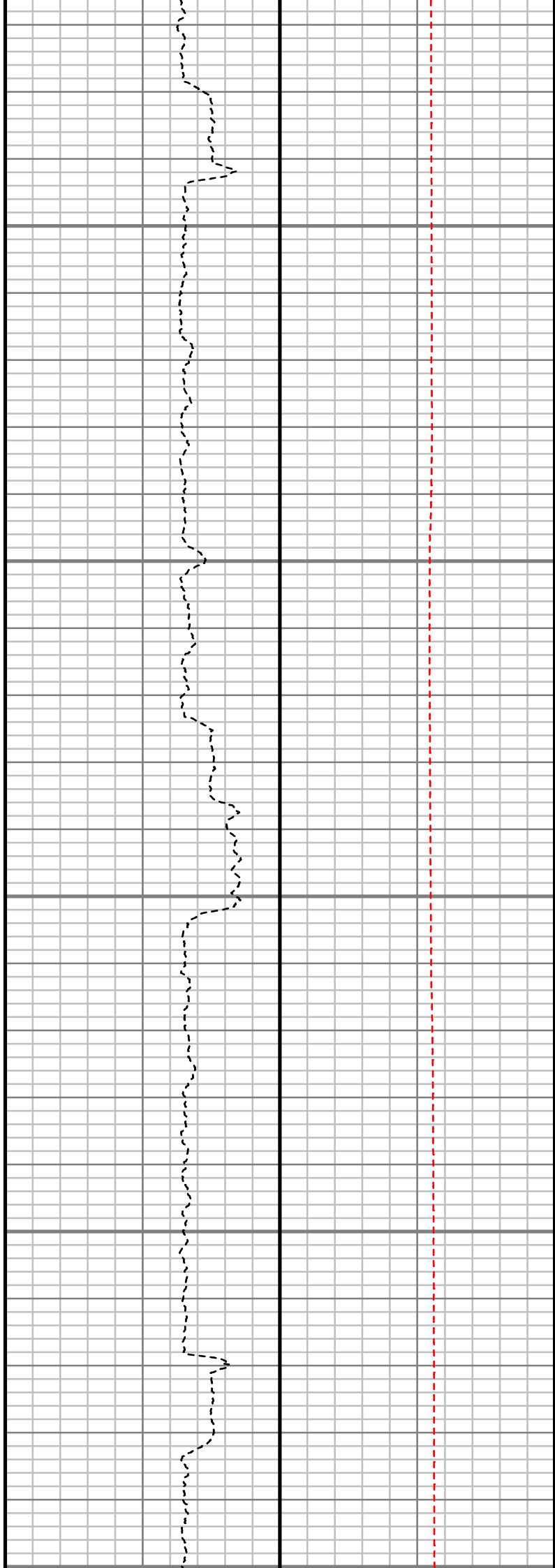
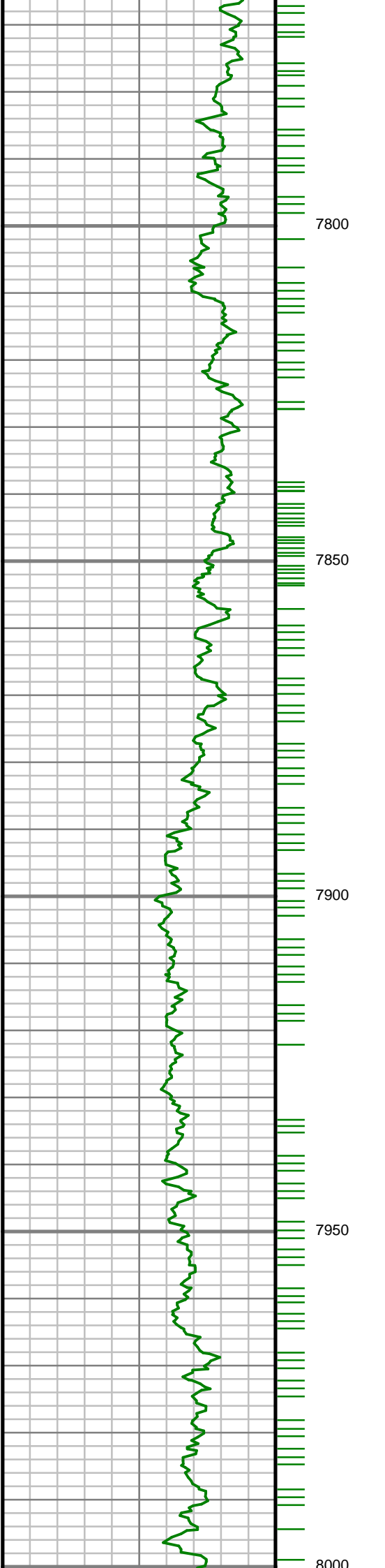




S: 87 MD: 7532.00 ft  
Inc: 87.68 deg Az:  
179.27 deg TVD:  
6952.97 ft

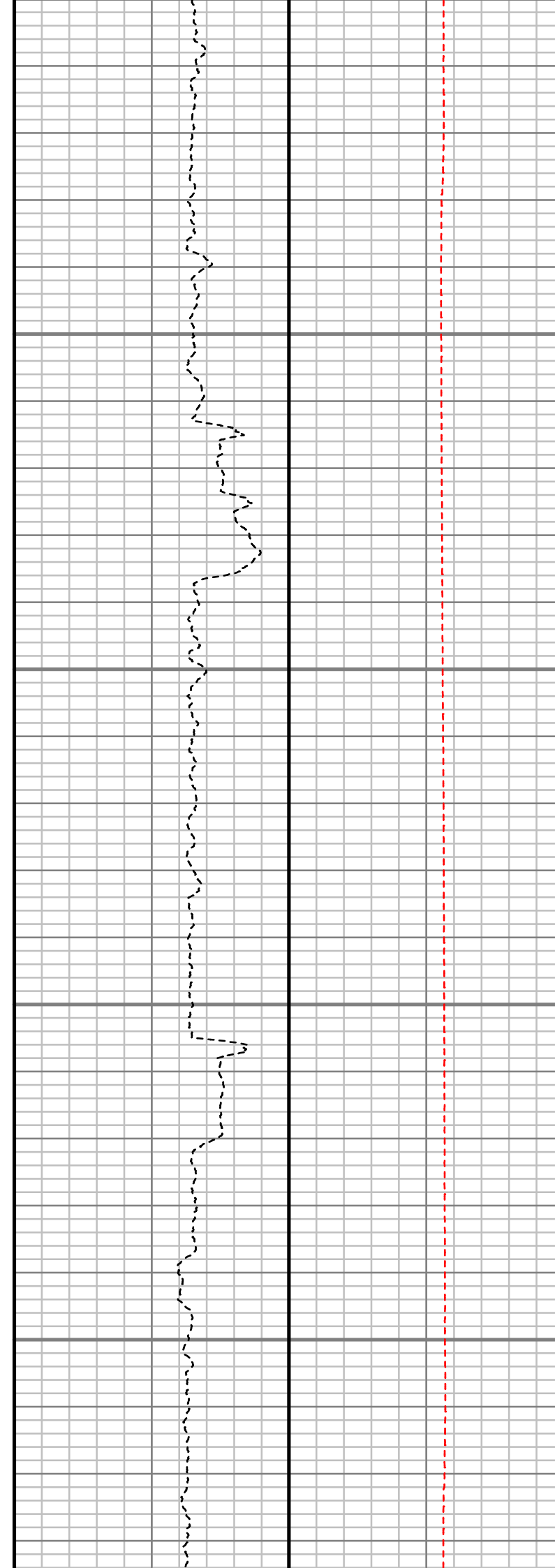
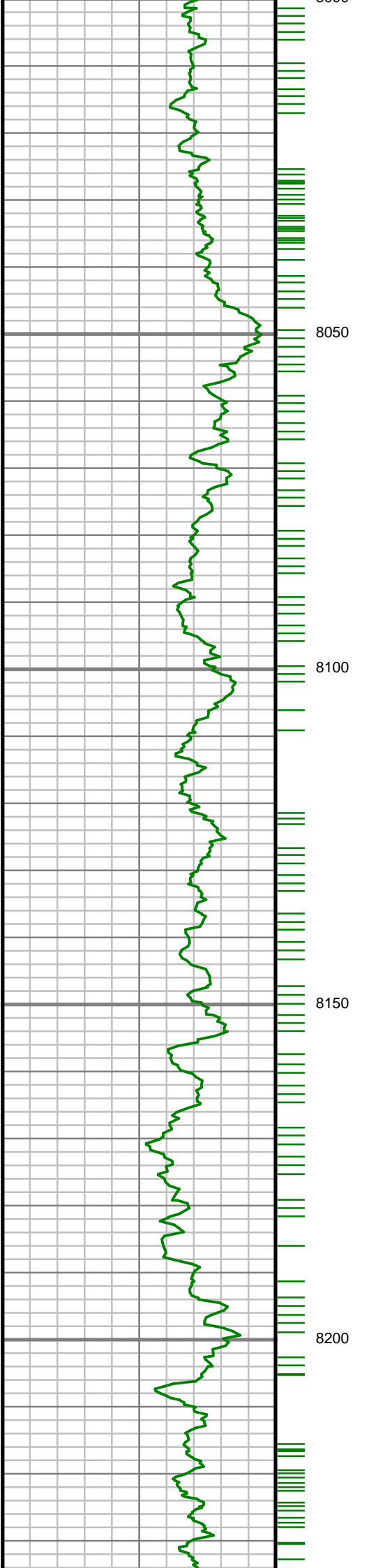
S: 88 MD: 7627.00 ft  
Inc: 88.29 deg Az:  
178.16 deg TVD:  
6956.31 ft

S: 89 MD: 7721.00 ft  
Inc: 89.43 deg Az:  
177.85 deg TVD:  
6958.19 ft



S: 90 MD: 7816.00 ft  
Inc: 90.44 deg Az:  
177.89 deg TVD:  
6958.30 ft

S: 91 MD: 7911.00 ft  
Inc: 89.19 deg Az:  
178.70 deg TVD:  
6958.60 ft

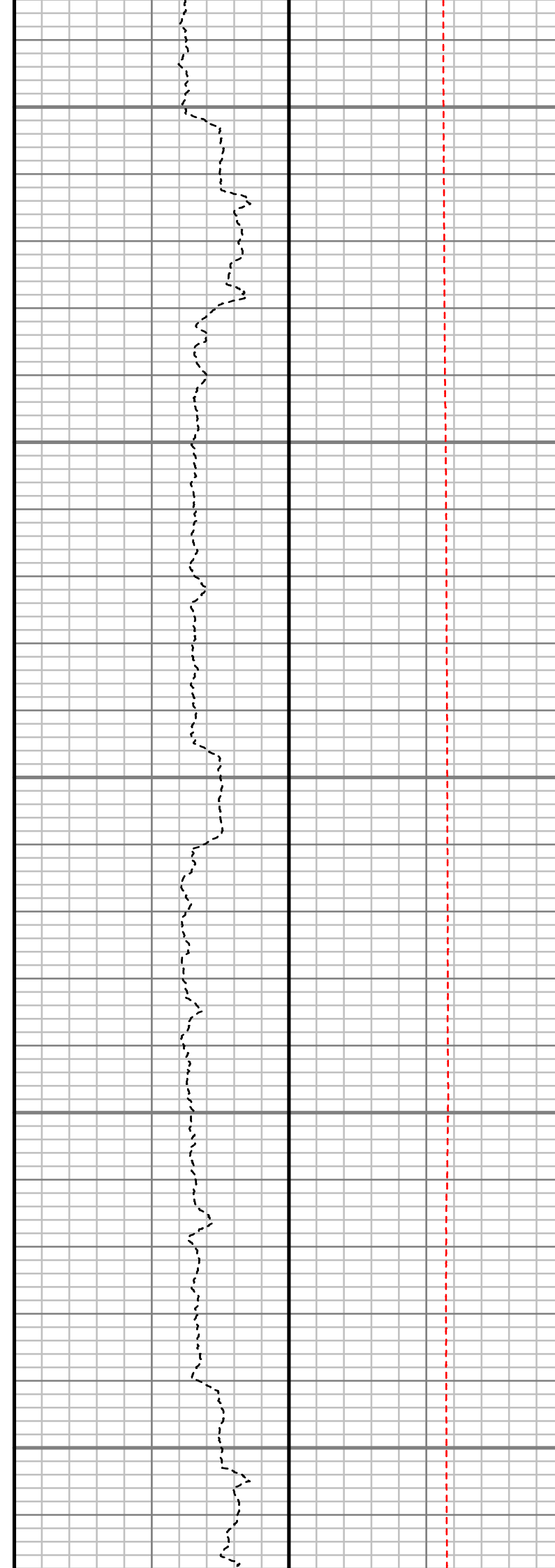
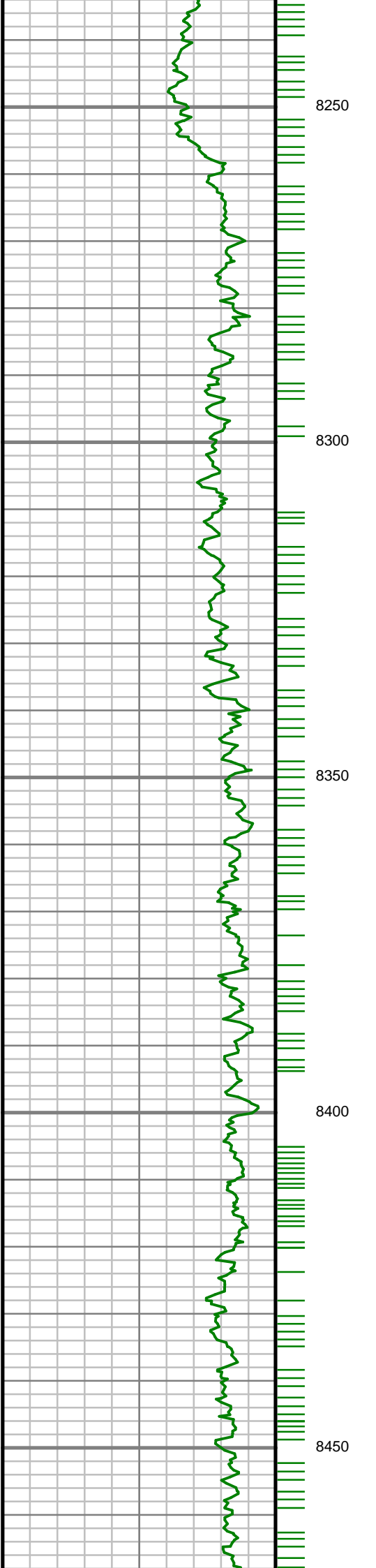


S: 92 MD: 8005.00 ft  
Inc: 90.30 deg Az:  
178.95 deg TVD:  
6959.02 ft

S: 93 MD: 8099.00 ft  
Inc: 89.87 deg Az:  
179.79 deg TVD:  
6958.88 ft

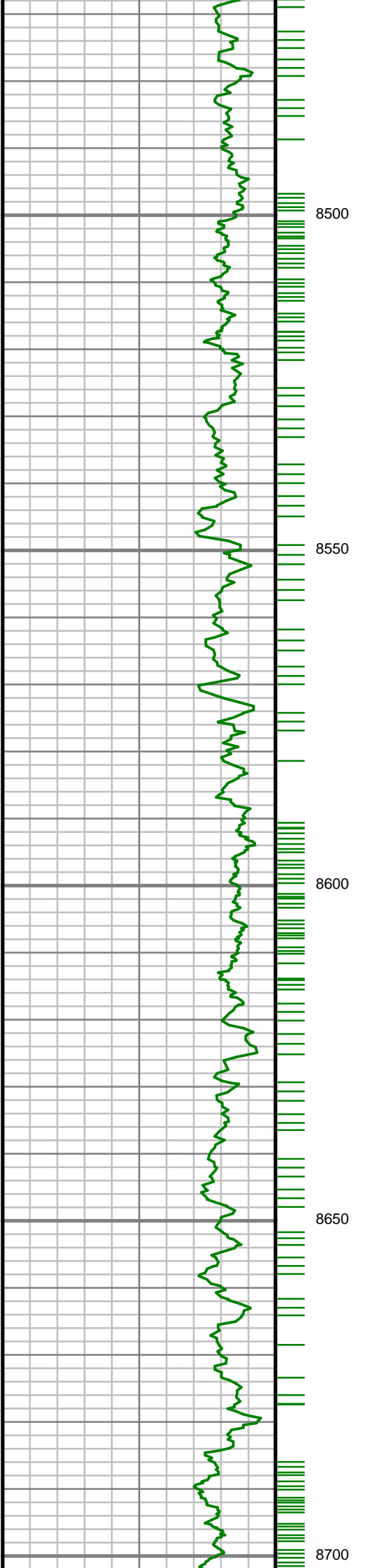
S: 94 MD: 8194.00 ft  
Inc: 91.11 deg Az:  
178.99 deg TVD:  
6958.07 ft





S: 95 MD: 8288.00 ft  
Inc: 88.72 deg Az:  
178.61 deg TVD:  
6958.21 ft

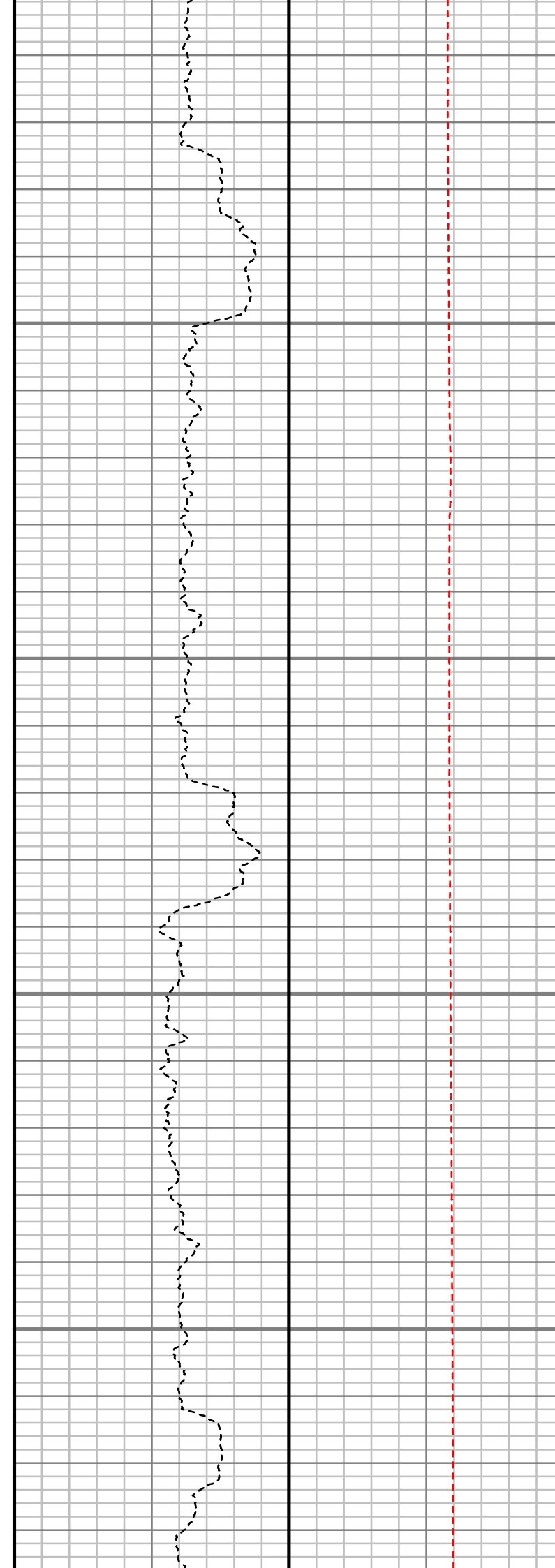
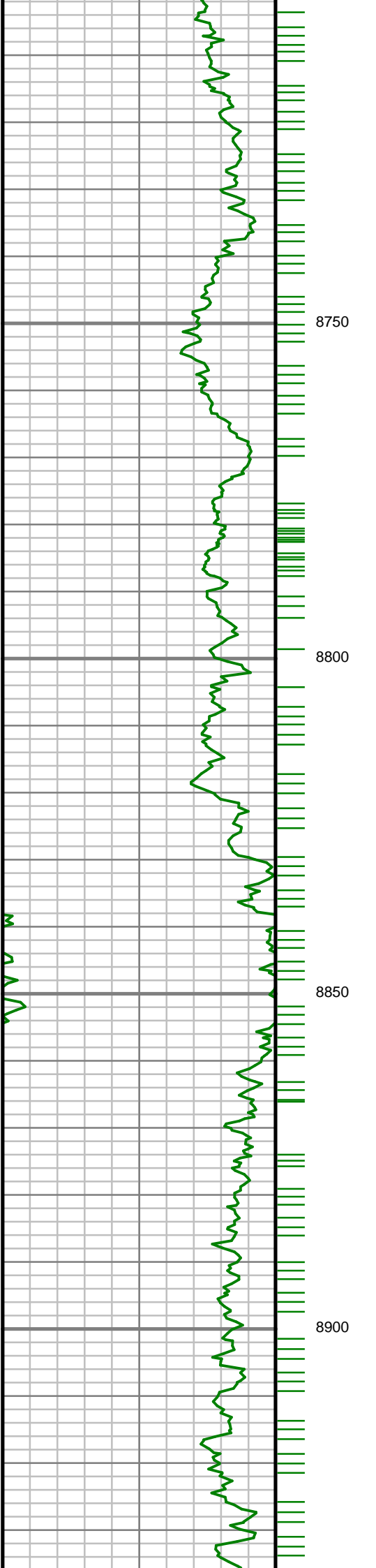
S: 96 MD: 8383.00 ft  
Inc: 88.49 deg Az:  
176.45 deg TVD:  
6960.52 ft



S: 97 MD: 8477.00 ft  
Inc: 87.58 deg Az:  
176.85 deg TVD:  
6963.75 ft

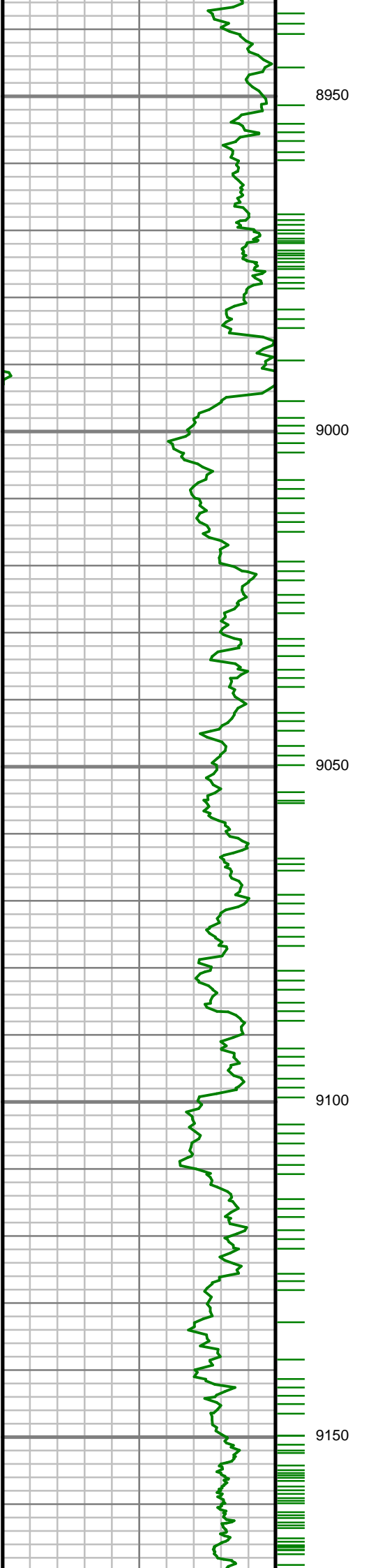
S: 98 MD: 8572.00 ft  
Inc: 89.90 deg Az:  
177.71 deg TVD:  
6965.84 ft

S: 99 MD: 8666.00 ft  
Inc: 91.14 deg Az:  
180.83 deg TVD:  
6964.98 ft



S: 100 MD: 8761.00 ft  
Inc: 92.02 deg Az:  
181.42 deg TVD:  
6962.36 ft

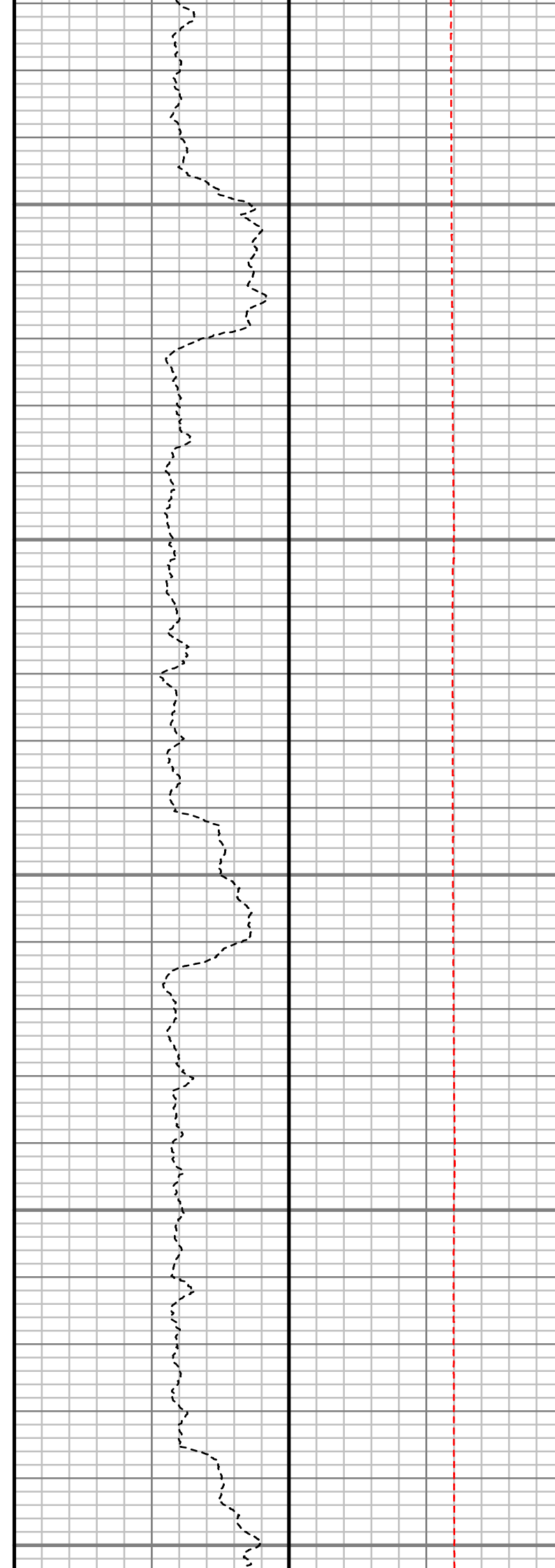
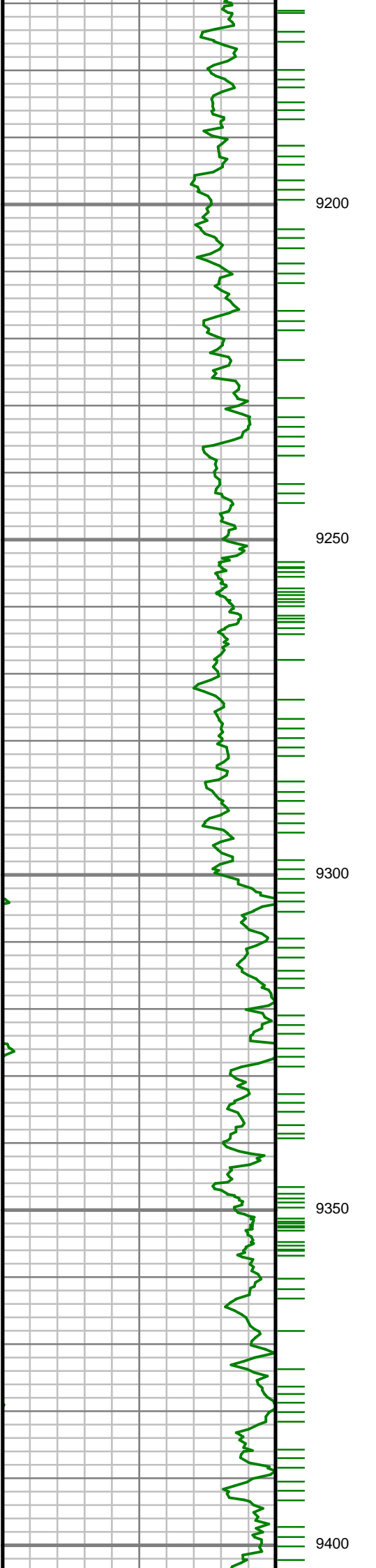
S: 101 MD: 8855.00 ft  
Inc: 90.97 deg Az:  
182.19 deg TVD:  
6959.91 ft



S: 102 MD: 8950.00 ft  
Inc: 91.65 deg Az:  
182.15 deg TVD:  
6957.74 ft

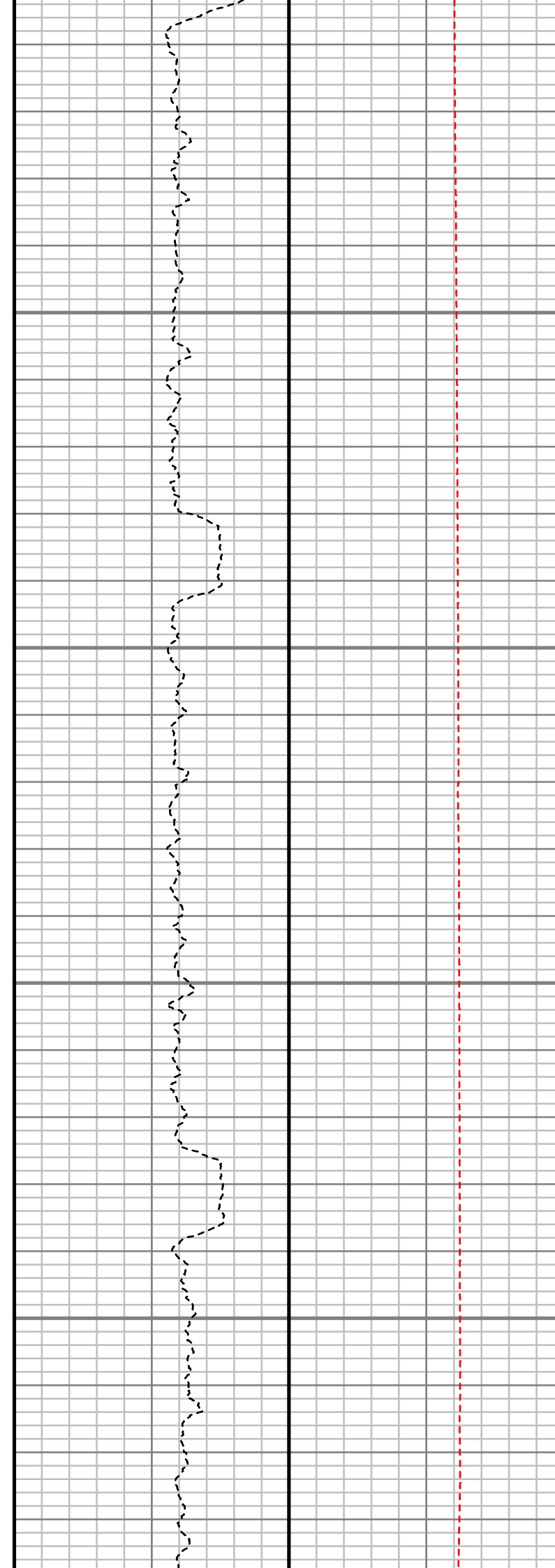
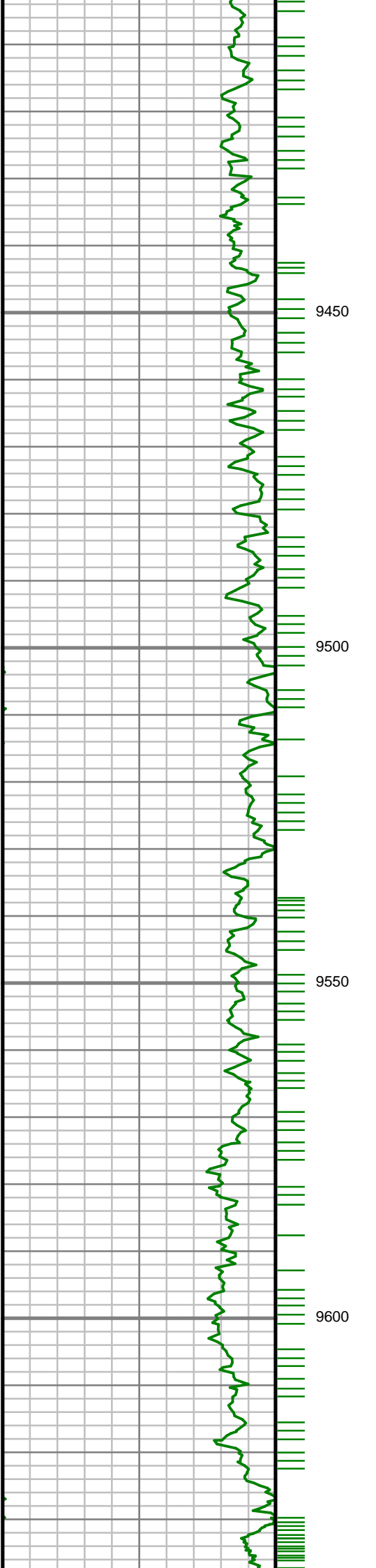
S: 103 MD: 9044.00 ft  
Inc: 90.84 deg Az:  
182.60 deg TVD:  
6955.70 ft

S: 104 MD: 9139.00 ft  
Inc: 91.38 deg Az:  
182.58 deg TVD:  
6953.86 ft



S: 105 MD: 9233.00 ft  
Inc: 89.80 deg Az:  
180.43 deg TVD:  
6952.89 ft

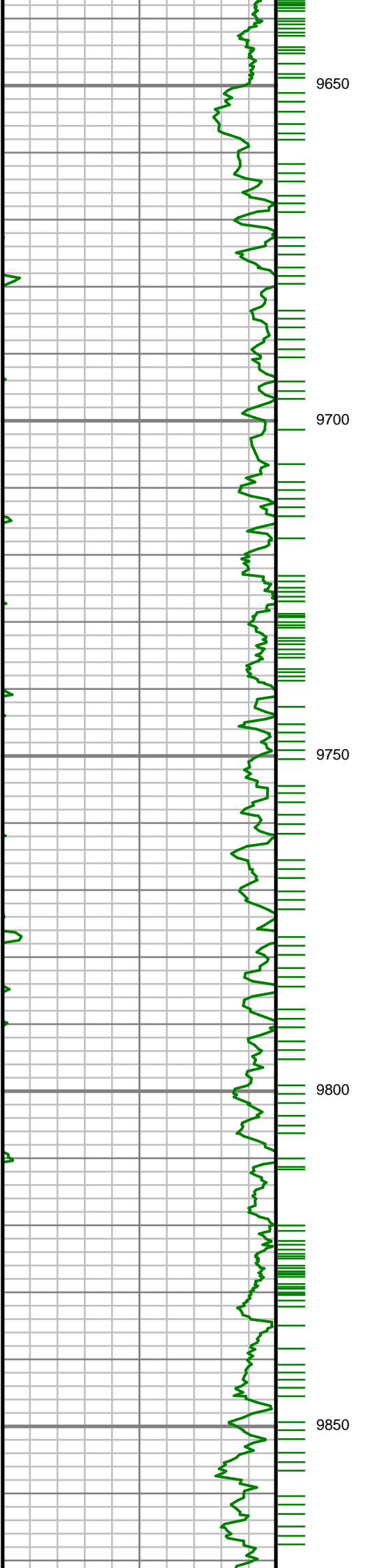
S: 106 MD: 9328.00 ft  
Inc: 88.15 deg Az:  
180.33 deg TVD:  
6954.59 ft



S: 107 MD: 9422.00 ft  
Inc: 90.07 deg Az:  
180.10 deg TVD:  
6956.05 ft

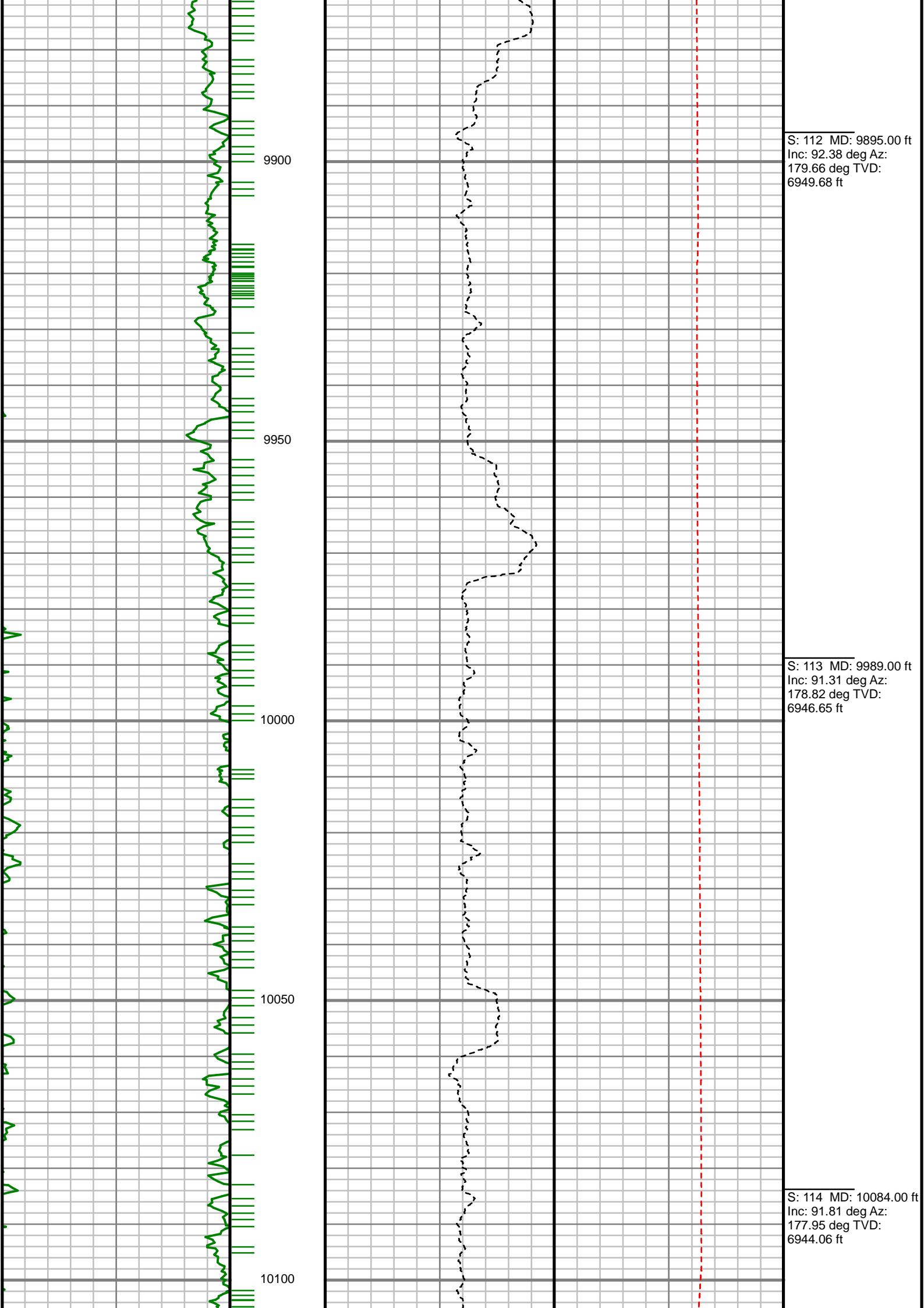
S: 108 MD: 9517.00 ft  
Inc: 90.91 deg Az:  
179.22 deg TVD:  
6955.24 ft

S: 109 MD: 9612.00 ft  
Inc: 91.95 deg Az:  
178.94 deg TVD:  
6952.87 ft

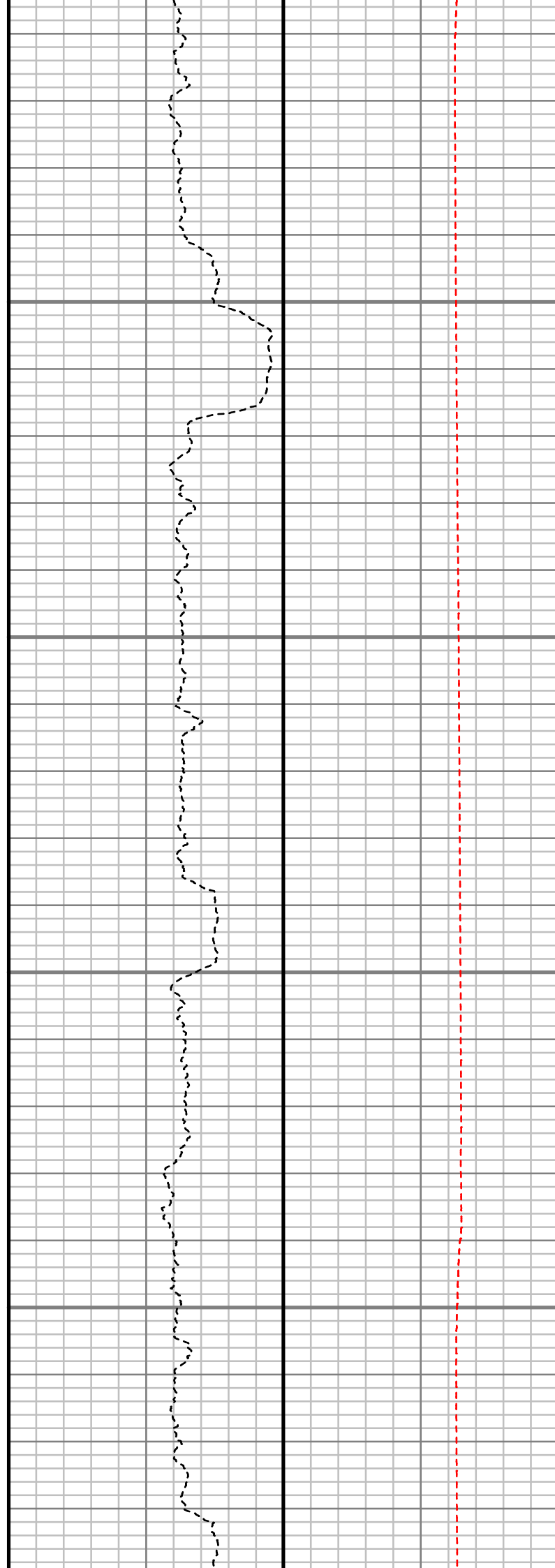
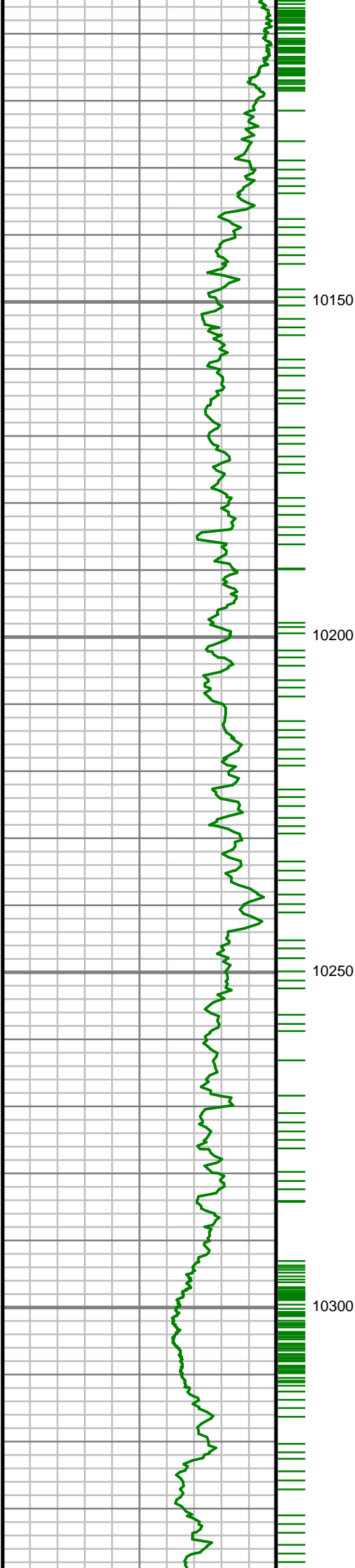


S: 110 MD: 9706.00 ft  
Inc: 89.50 deg Az:  
178.13 deg TVD:  
6951.69 ft

S: 111 MD: 9800.00 ft  
Inc: 90.27 deg Az:  
179.08 deg TVD:  
6951.88 ft

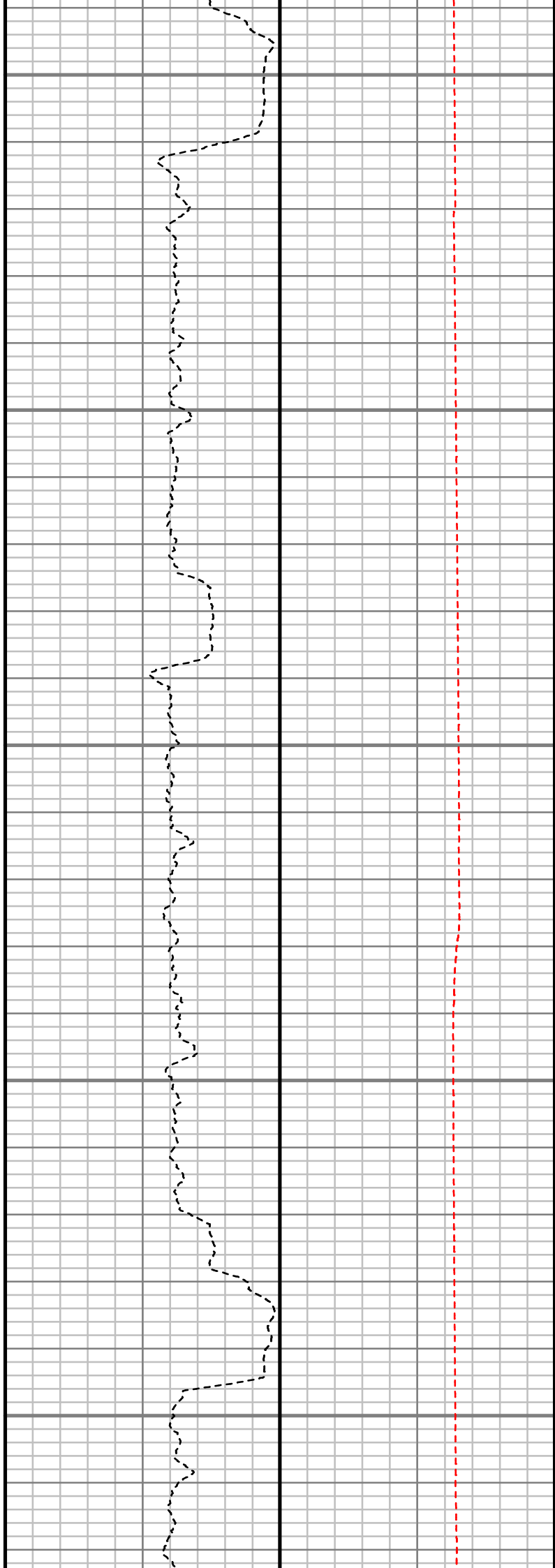
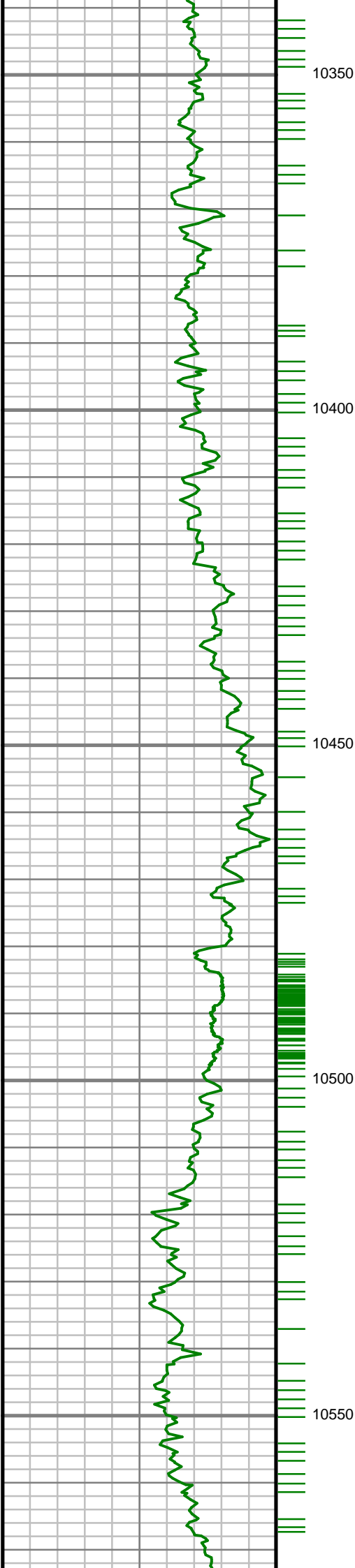






S: 115 MD: 10178.00 ft  
Inc: 90.77 deg Az:  
178.91 deg TVD:  
6941.94 ft

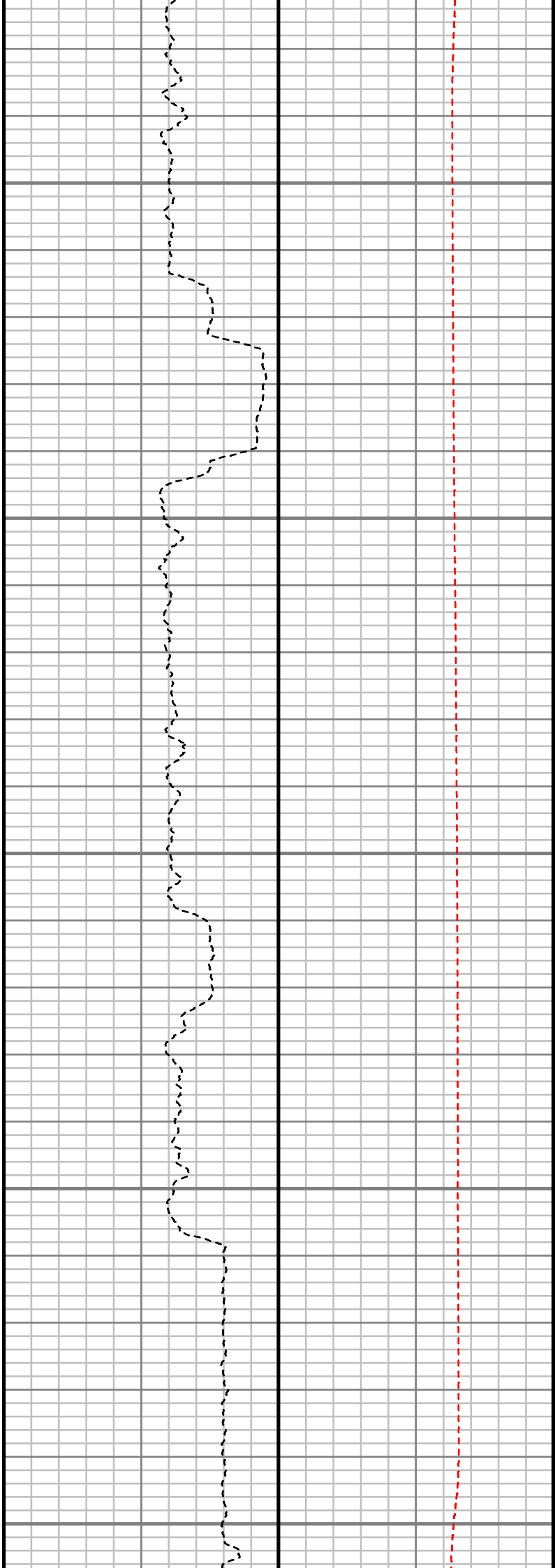
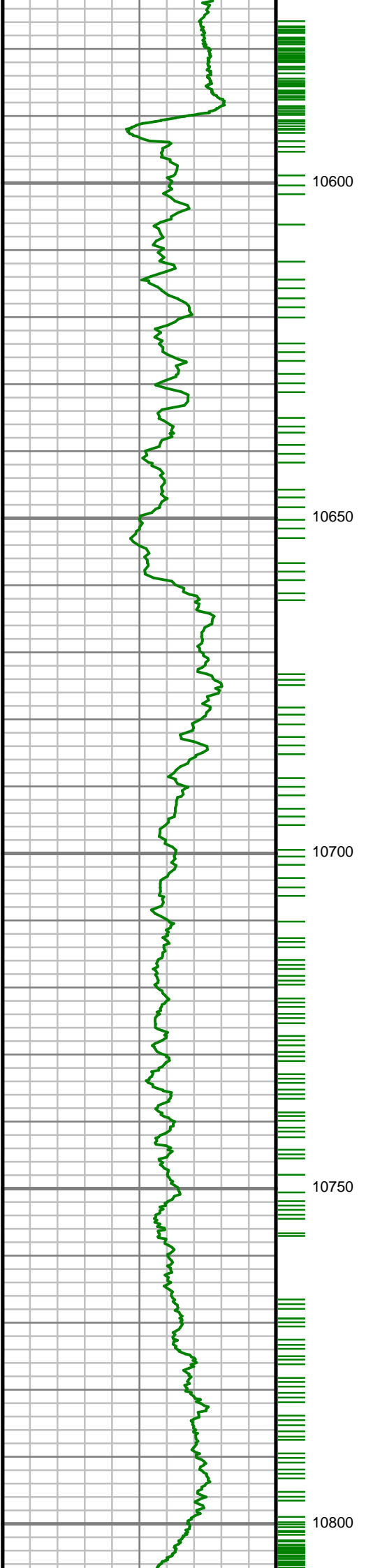
S: 116 MD: 10273.00 ft  
Inc: 92.02 deg Az:  
178.81 deg TVD:  
6939.63 ft



S: 117 MD: 10368.00 ft  
Inc: 90.50 deg Az:  
181.14 deg TVD:  
6937.54 ft

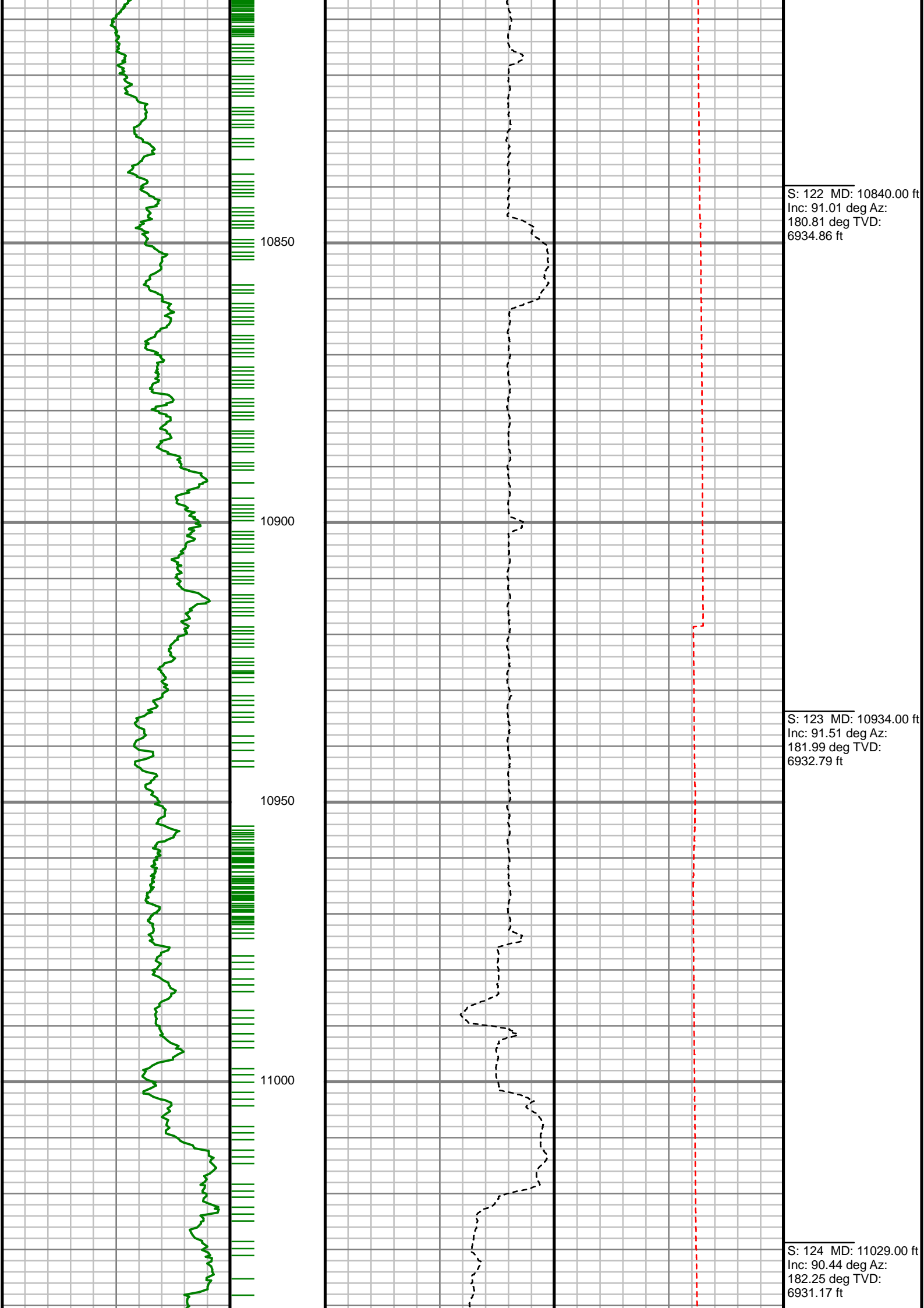
S: 118 MD: 10462.00 ft  
Inc: 91.38 deg Az:  
180.62 deg TVD:  
6935.99 ft

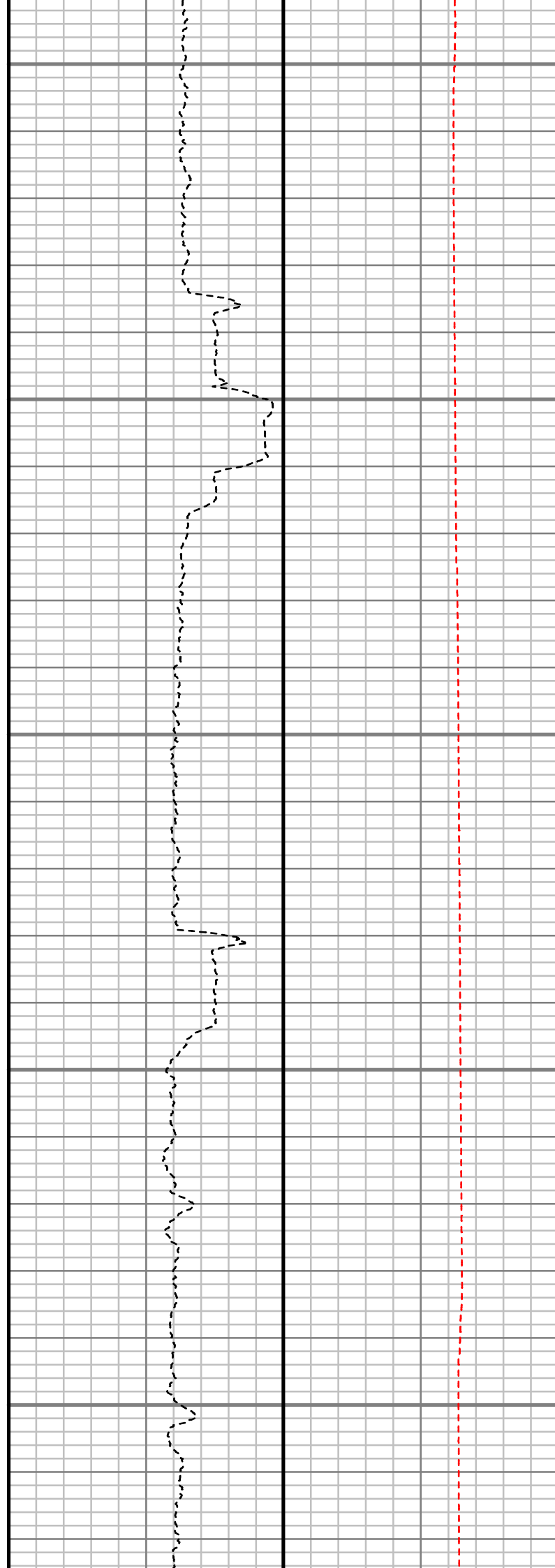
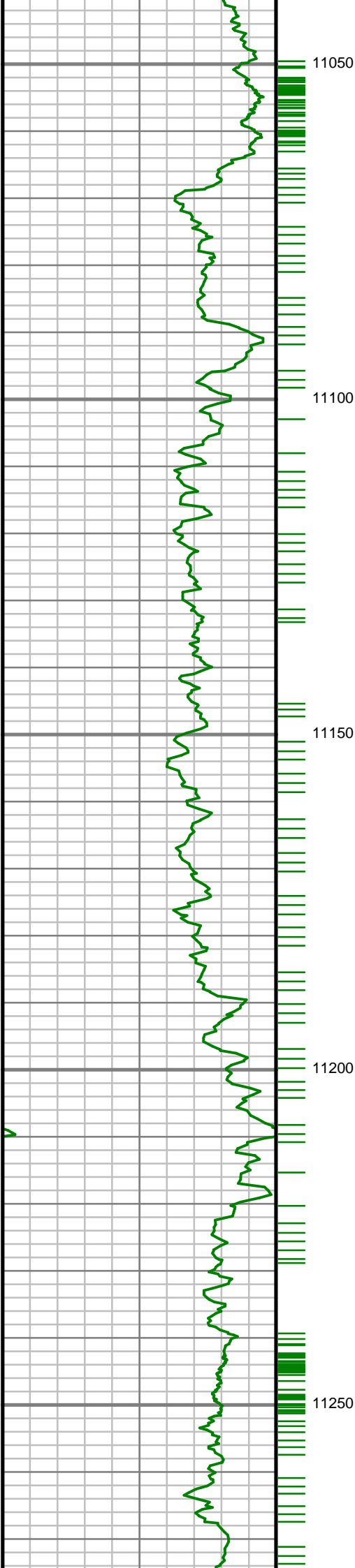
S: 119 MD: 10556.00 ft  
Inc: 90.81 deg Az:  
181.65 deg TVD:  
6934.20 ft



S: 120 MD: 10651.00 ft  
Inc: 88.79 deg Az:  
180.69 deg TVD:  
6934.54 ft

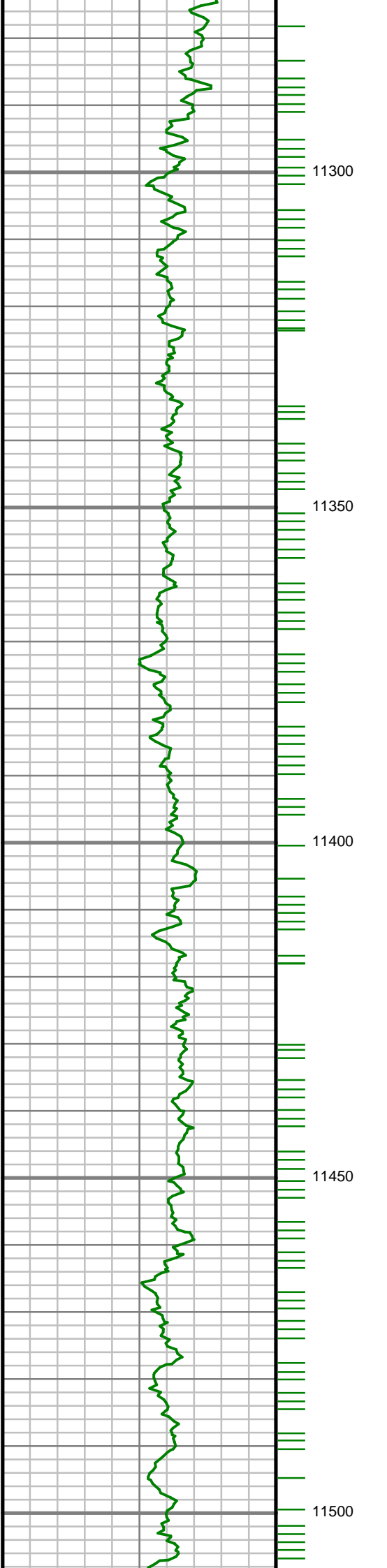
S: 121 MD: 10745.00 ft  
Inc: 89.90 deg Az:  
180.49 deg TVD:  
6935.61 ft





S: 125 MD: 11123.00 ft  
Inc: 88.59 deg Az:  
182.75 deg TVD:  
6931.97 ft

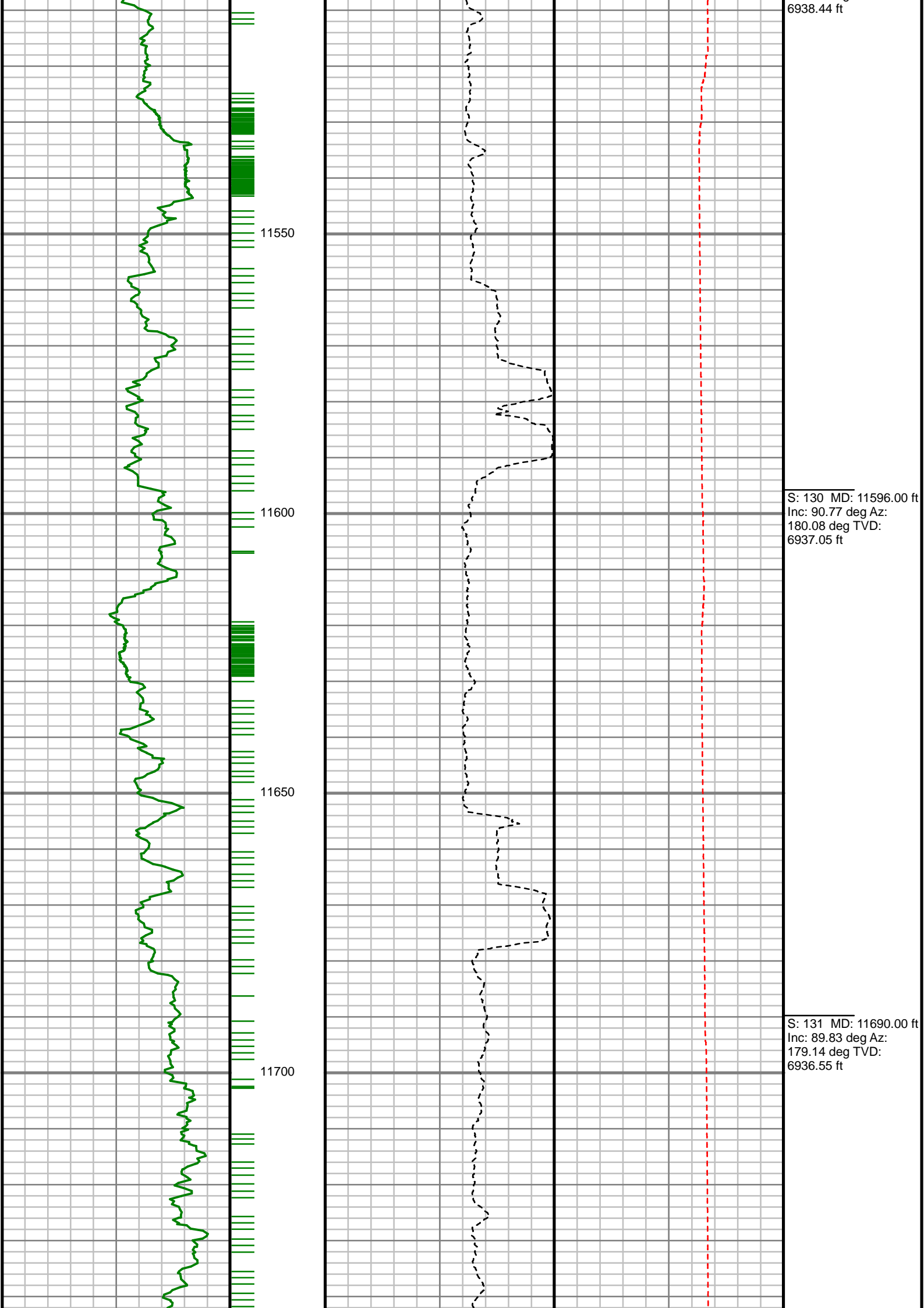
S: 126 MD: 11218.00 ft  
Inc: 89.76 deg Az:  
182.43 deg TVD:  
6933.34 ft

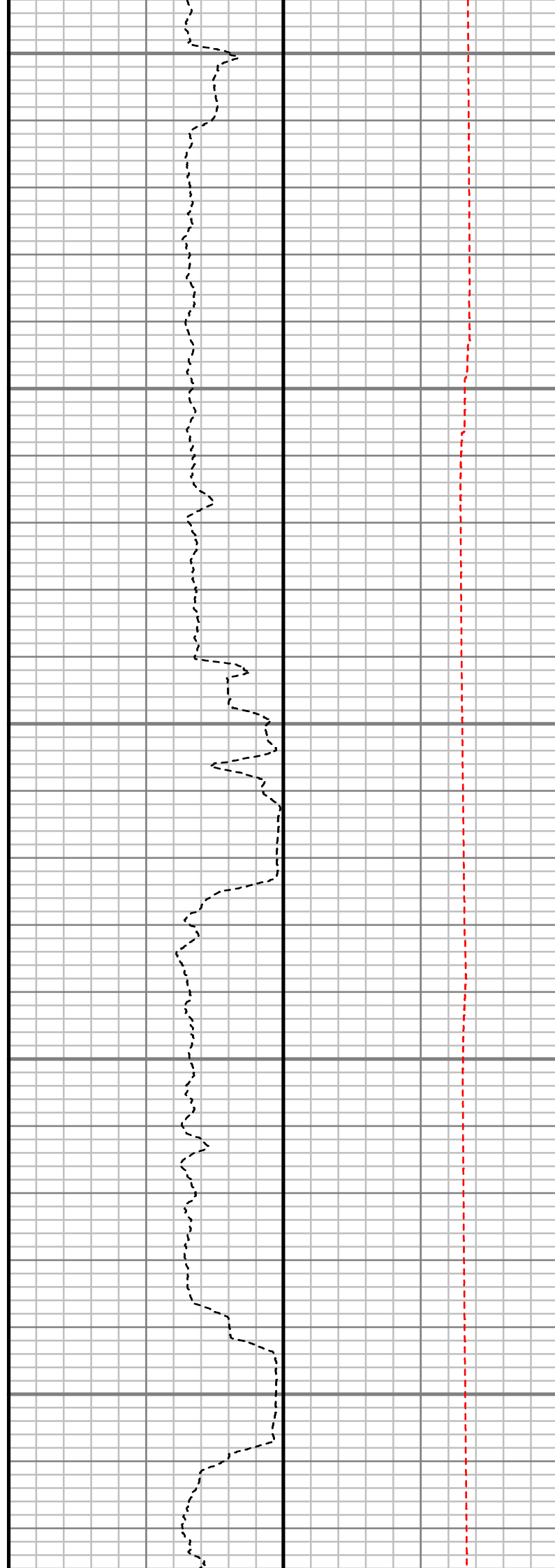
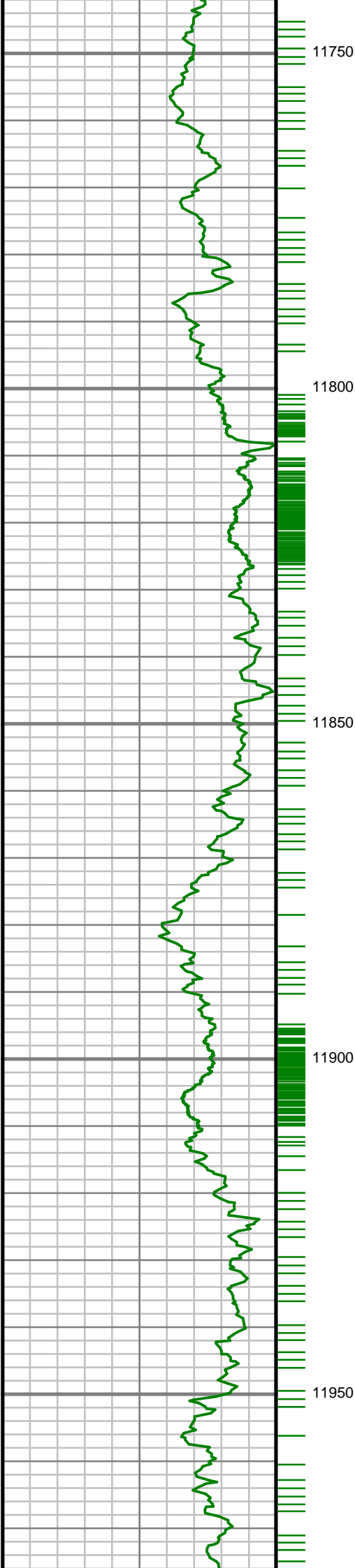


S: 127 MD: 11312.00 ft  
Inc: 87.61 deg Az:  
181.23 deg TVD:  
6935.49 ft

S: 128 MD: 11407.00 ft  
Inc: 88.96 deg Az:  
181.28 deg TVD:  
6938.33 ft

S: 129 MD: 11501.00 ft  
Inc: 90.91 deg Az:  
181.53 deg TVD:



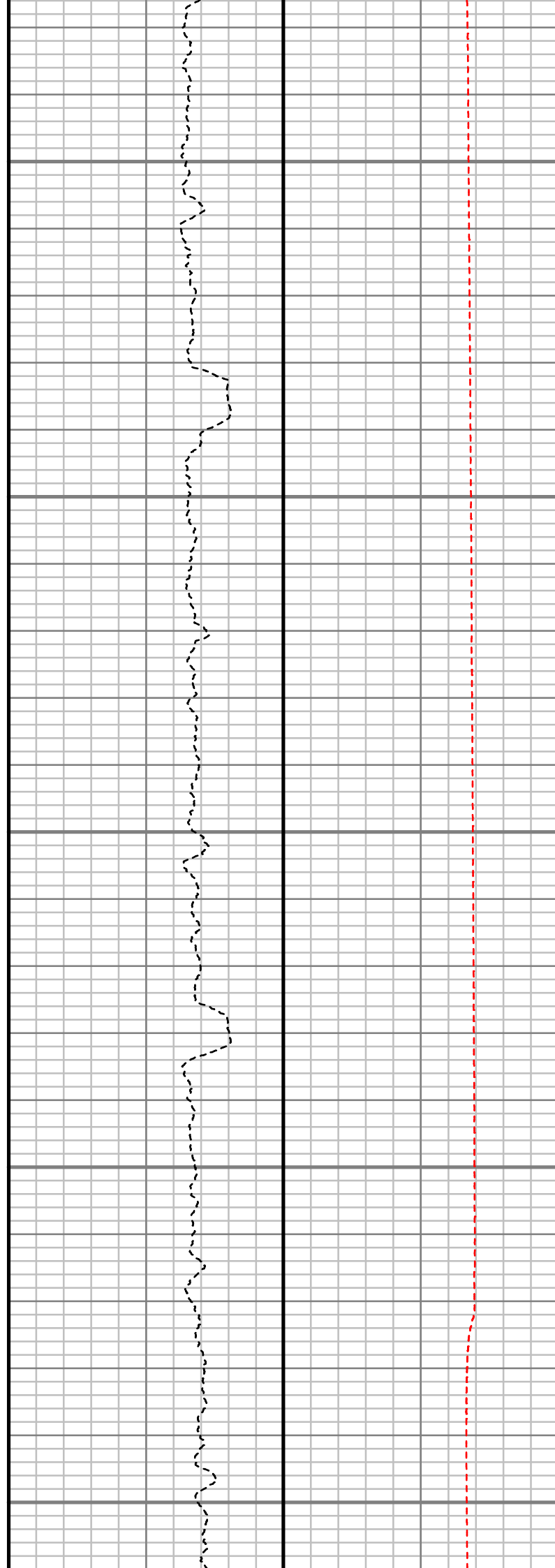
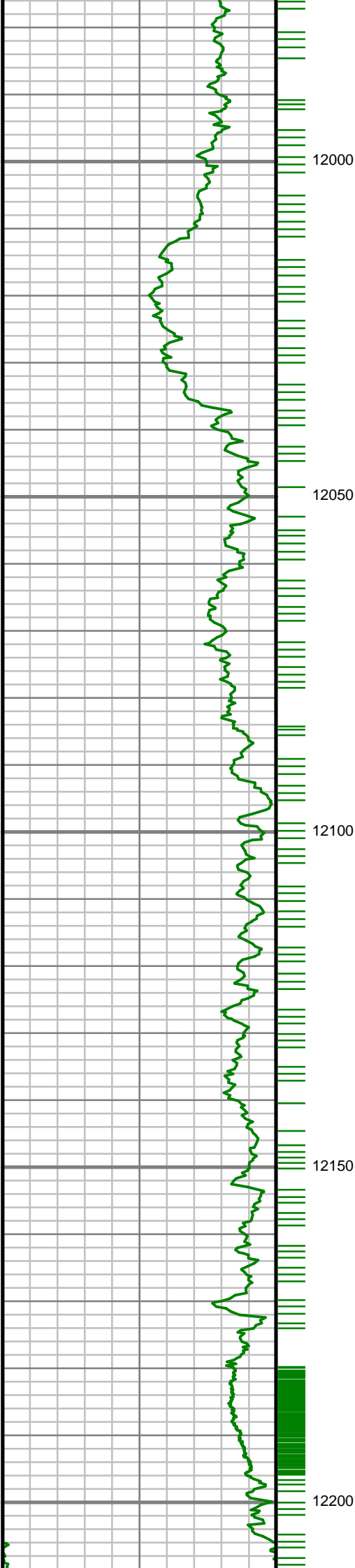


S: 132 MD: 11785.00 ft  
Inc: 91.34 deg Az:  
179.26 deg TVD:  
6935.58 ft

S: 133 MD: 11879.00 ft  
Inc: 90.94 deg Az:  
180.53 deg TVD:  
6933.70 ft

S: 134 MD: 11974.00 ft





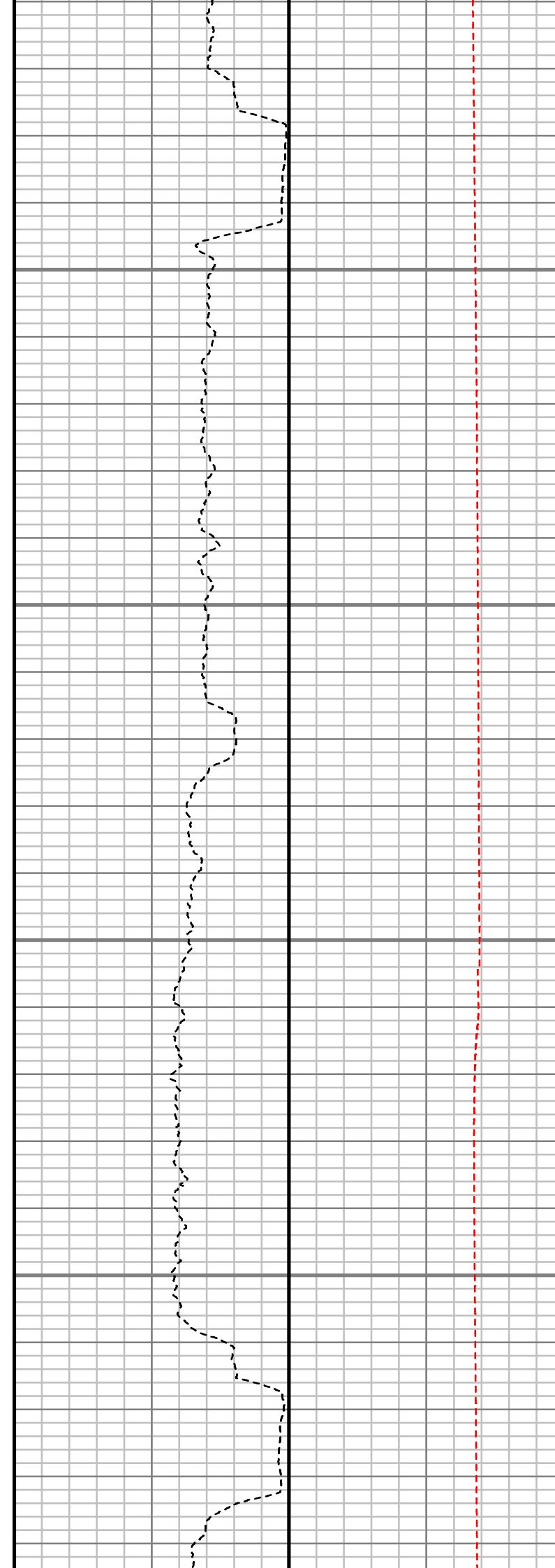
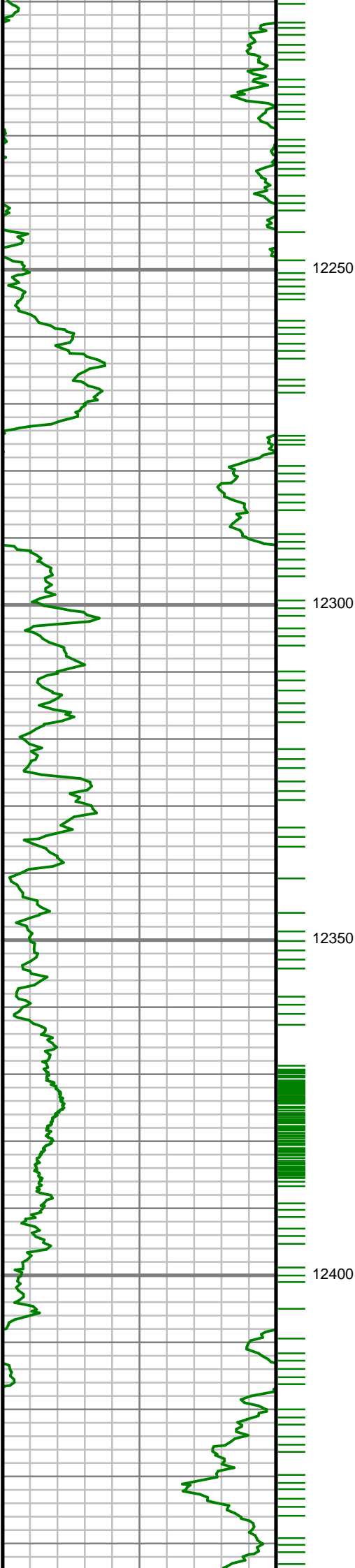
Inc: 88.59 deg Az:  
180.28 deg TVD:  
6934.09 ft

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S: 135 MD: 12068.00 ft  
Inc: 89.97 deg Az:  
180.23 deg TVD:  
6935.28 ft

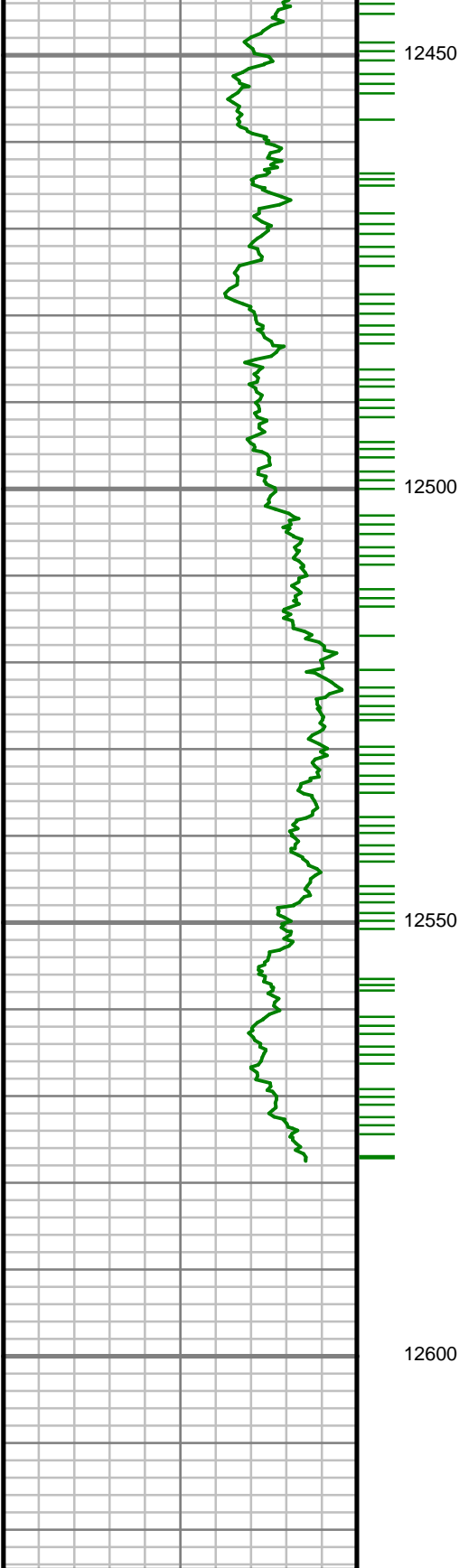
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S: 136 MD: 12163.00 ft  
Inc: 91.75 deg Az:  
180.08 deg TVD:  
6933.86 ft



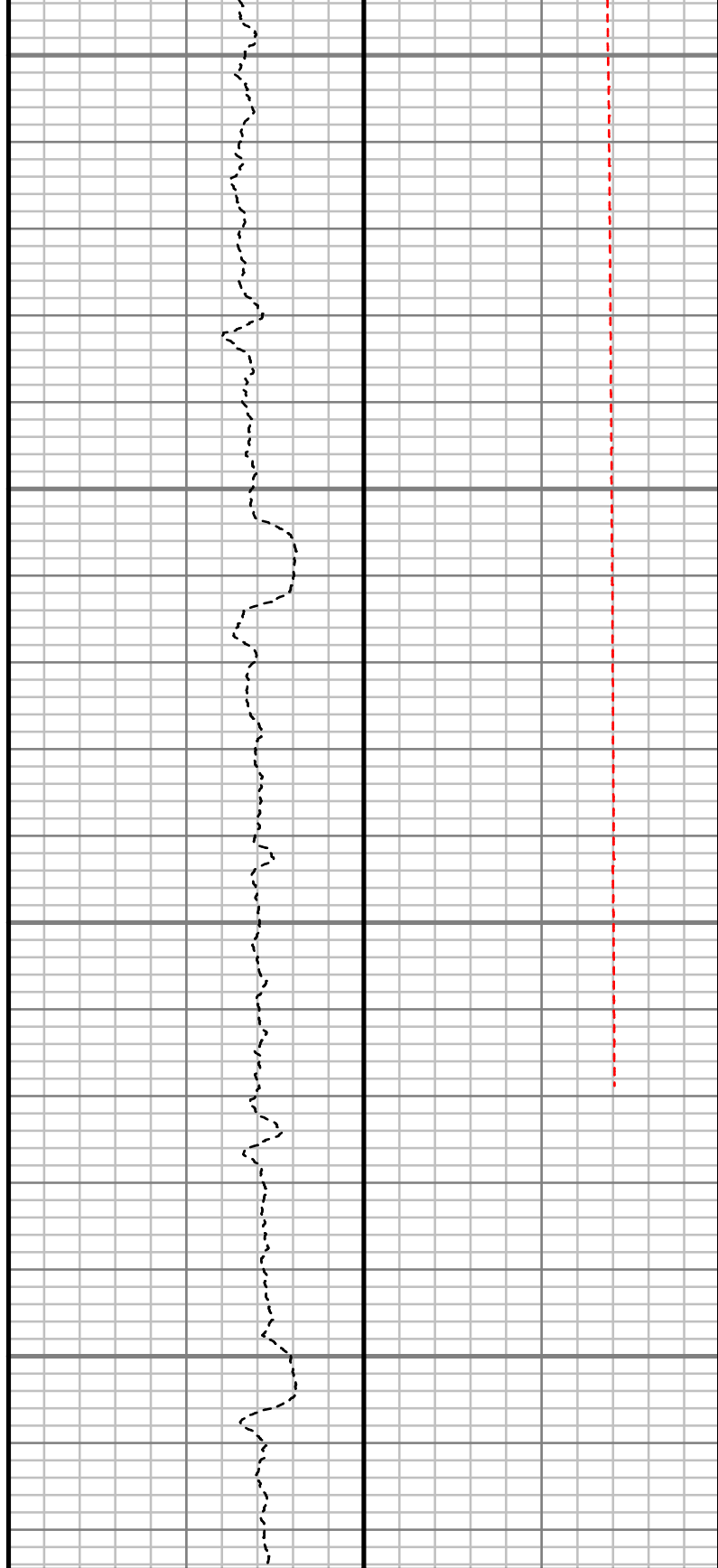
S: 137 MD: 12257.00 ft  
Inc: 90.23 deg Az:  
181.13 deg TVD:  
6932.23 ft

S: 138 MD: 12352.00 ft  
Inc: 91.71 deg Az:  
180.96 deg TVD:  
6930.62 ft



Gamma Ray (GR)		
0	Unit = aapi	150

MEASURED DEPTH  
1240 (ft)



Rate of Penetration (ROP)		
1000	Unit = ft/hr	0

Tool Temperature (T-TEMP)		
50	Unit = °F	300

Comments
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S: 139 MD: 12446.00 ft  
Inc: 88.89 deg Az:  
180.05 deg TVD:  
6930.12 ft

S: 140 MD: 12567.00 ft  
Inc: 90.57 deg Az:  
179.67 deg TVD:  
6930.69 ft

<b>Well Location</b>	3N-65W-28 CHEESE 1-28 HZ PAD
<b>Well Name</b>	CHEESE 16N-28HZ
<b>Survey Date</b>	5/17/2015
<b>Latitude</b>	40.2025120°N
<b>Longitude</b>	104.6622320°W
<b>Btotal</b>	52523 nT
<b>Dip</b>	66.88 deg
<b>Magnetic Declination</b>	8.46 deg
<b>North Reference</b>	True North
<b>Grid Correction</b>	None
<b>Depth Reference</b>	RKB (25.00 ft)
<b>Calculation Method</b>	Minimum Curvature
<b>Section (VS) Ref</b>	0.00N (ft), 0.00E (ft), 179.93Azim (deg)
<b>Operator(s)</b>	B. GREER, S. WAXLER

<b>Well Notes</b>
SURVEYS FROM 0 FT. TO 1108 FT. WERE ACQUIRED BY CATHEDRAL MWD.
SURVEYS FROM 1108 FT. TO 12624 FT. WERE ACQUIRED BY SCIENTIFIC DRILLING INTERNATIONAL MWD.

<b>MD</b> ft	<b>Inc</b> deg	<b>Azim</b> deg	<b>TVD</b> ft	<b>VS</b> ft	<b>+N/-S</b> ft	<b>+E/-W</b> ft	<b>DLS</b> °/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00
102.00	0.80	207.90	102.00	0.51	-0.51	-0.27	0.98
164.00	1.00	225.70	163.99	1.27	-1.27	-0.86	0.55
224.00	0.50	218.80	223.98	1.83	-1.84	-1.40	0.85
281.00	0.30	49.70	280.98	1.93	-1.93	-1.44	1.40
342.00	1.30	5.20	341.98	1.14	-1.14	-1.25	1.81
406.00	2.40	10.10	405.94	-0.90	0.90	-0.95	1.73
470.00	2.20	11.20	469.89	-3.43	3.43	-0.48	0.32
534.00	2.20	3.10	533.84	-5.86	5.86	-0.17	0.49
598.00	3.00	7.00	597.78	-8.75	8.75	0.10	1.28
662.00	4.00	8.30	661.66	-12.62	12.62	0.62	1.57
726.00	5.60	3.90	725.43	-17.94	17.94	1.16	2.56
789.00	6.50	4.70	788.08	-24.56	24.56	1.66	1.43
853.00	7.20	6.40	851.62	-32.16	32.16	2.40	1.14
917.00	8.30	9.00	915.04	-40.70	40.71	3.57	1.80
979.00	9.30	6.00	976.31	-50.10	50.11	4.80	1.77
1043.00	10.40	8.30	1039.36	-60.96	60.97	6.17	1.83
1108.00	11.80	9.10	1103.15	-73.33	73.34	8.07	2.17
1170.00	11.90	8.20	1163.82	-85.91	85.92	9.98	0.34

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
1234.00	12.07	12.24	1226.43	-98.98	99.00	12.34	1.34
1297.00	12.39	10.11	1288.00	-112.07	112.09	14.93	0.88
1391.00	11.93	9.35	1379.89	-131.58	131.61	18.28	0.52
1486.00	13.51	10.28	1472.56	-152.19	152.21	21.85	1.68
1580.00	13.48	2.52	1563.97	-173.94	173.97	24.29	1.93
1675.00	12.96	0.48	1656.45	-195.65	195.68	24.87	0.74
1769.00	13.09	8.10	1748.04	-216.74	216.77	26.46	1.83
1864.00	14.92	7.35	1840.21	-239.51	239.55	29.54	1.93
1958.00	14.58	6.19	1931.11	-263.27	263.31	32.36	0.48
2052.00	14.15	5.41	2022.17	-286.47	286.51	34.72	0.50
2146.00	14.35	10.70	2113.29	-309.35	309.40	37.97	1.40
2241.00	13.94	10.74	2205.41	-332.15	332.21	42.29	0.44
2335.00	13.53	10.55	2296.72	-354.08	354.14	46.41	0.43
2430.00	13.49	9.16	2389.09	-375.94	376.00	50.21	0.34
2524.00	13.39	11.35	2480.52	-397.43	397.50	54.09	0.55
2619.00	13.93	9.01	2572.83	-419.51	419.58	58.05	0.81
2713.00	12.80	9.28	2664.28	-440.95	441.03	61.50	1.20
2808.00	14.35	12.26	2756.63	-462.84	462.92	65.70	1.79
2902.00	15.46	11.33	2847.46	-486.51	486.59	70.63	1.21
2997.00	15.85	7.82	2938.94	-511.77	511.87	74.89	1.08

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
3091.00	15.36	9.12	3029.47	-536.78	536.88	78.61	0.64
3186.00	14.76	4.84	3121.21	-561.27	561.37	81.62	1.33
3280.00	13.43	4.29	3212.38	-584.09	584.19	83.45	1.42
3374.00	13.43	359.70	3303.81	-605.89	605.99	84.21	1.13
3469.00	13.73	1.61	3396.15	-628.19	628.30	84.47	0.57
3564.00	14.49	4.20	3488.29	-651.31	651.42	85.66	1.03
3658.00	14.25	8.00	3579.35	-674.49	674.60	88.13	1.03
3752.00	14.45	8.36	3670.42	-697.55	697.66	91.45	0.24
3847.00	13.96	12.73	3762.51	-720.45	720.57	95.69	1.24
3941.00	14.93	10.46	3853.54	-743.41	743.53	100.39	1.19
4036.00	16.24	9.63	3945.05	-768.53	768.66	104.84	1.40
4130.00	15.60	8.59	4035.44	-793.98	794.12	108.92	0.74
4225.00	14.27	8.71	4127.23	-818.18	818.32	112.61	1.41
4319.00	13.96	8.38	4218.39	-840.85	840.99	116.01	0.33
4413.00	13.60	7.77	4309.69	-863.01	863.16	119.16	0.42
4508.00	13.16	6.33	4402.11	-884.82	884.97	121.86	0.58
4602.00	13.35	6.91	4493.61	-906.23	906.38	124.35	0.24
4697.00	12.79	5.21	4586.14	-927.58	927.74	126.62	0.71
4791.00	10.75	0.71	4678.17	-946.71	946.87	127.67	2.38
4886.00	9.19	2.95	4771.73	-963.15	963.31	128.17	1.69

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
4980.00	8.56	8.85	4864.60	-977.56	977.72	129.64	1.18
5075.00	6.24	2.91	4958.81	-989.70	989.86	130.99	2.57
5169.00	6.11	6.72	5052.26	-999.77	999.93	131.83	0.45
5264.00	4.20	8.52	5146.87	-1008.23	1008.39	132.94	2.02
5358.00	4.13	2.54	5240.63	-1015.02	1015.18	133.60	0.47
5453.00	1.74	16.09	5335.50	-1019.83	1019.99	134.15	2.60
5547.00	1.82	9.41	5429.45	-1022.67	1022.84	134.79	0.23
5642.00	1.17	67.25	5524.42	-1024.53	1024.70	135.93	1.63
5737.00	0.95	43.73	5619.41	-1025.47	1025.64	137.37	0.51
5831.00	0.88	66.78	5713.39	-1026.32	1026.49	138.57	0.40
5926.00	1.15	38.63	5808.38	-1027.35	1027.53	139.84	0.59
6020.00	1.12	18.84	5902.36	-1028.96	1029.13	140.73	0.42
6115.00	1.11	346.10	5997.34	-1030.73	1030.90	140.81	0.66
6209.00	1.31	331.75	6091.32	-1032.56	1032.74	140.08	0.39
6304.00	1.74	268.97	6186.30	-1033.50	1033.67	138.12	1.72
6398.00	1.14	274.15	6280.27	-1033.54	1033.71	135.76	0.66
6493.00	12.26	186.29	6374.53	-1023.55	1023.72	133.71	12.91
6587.00	16.21	182.77	6465.63	-1000.53	1000.69	131.98	4.30
6682.00	21.53	171.95	6555.52	-969.99	970.16	133.78	6.68
6776.00	29.61	179.34	6640.27	-929.61	929.78	136.47	9.23

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
6871.00	41.06	179.49	6717.64	-874.77	874.93	137.02	12.05
6965.00	49.03	178.75	6784.00	-808.31	808.48	138.07	8.51
7060.00	58.31	180.33	6840.22	-731.86	732.03	138.63	9.85
7154.00	64.68	178.21	6885.07	-649.31	649.48	139.72	7.06
7249.00	73.17	179.63	6919.20	-560.76	560.94	141.36	9.05
7343.00	80.73	182.20	6940.41	-469.28	469.45	139.87	8.47
7438.00	88.19	182.54	6949.58	-374.88	375.04	135.96	7.86
7532.00	87.68	179.27	6952.97	-280.96	281.13	134.47	3.52
7627.00	88.29	178.16	6956.31	-186.05	186.21	136.60	1.33
7721.00	89.43	177.85	6958.19	-92.12	92.29	139.87	1.26
7816.00	90.44	177.89	6958.30	2.82	-2.64	143.39	1.06
7911.00	89.19	178.70	6958.60	97.78	-97.60	146.21	1.56
8005.00	90.30	178.95	6959.02	191.76	-191.58	148.14	1.21
8099.00	89.87	179.79	6958.88	285.75	-285.57	149.17	1.01
8194.00	91.11	178.99	6958.07	380.74	-380.56	150.18	1.56
8288.00	88.72	178.61	6958.21	474.72	-474.53	152.14	2.57
8383.00	88.49	176.45	6960.52	569.60	-569.41	156.24	2.29
8477.00	87.58	176.85	6963.75	663.39	-663.19	161.73	1.05
8572.00	89.90	177.71	6965.84	758.26	-758.05	166.24	2.60
8666.00	91.14	180.83	6964.98	852.23	-852.03	167.43	3.57

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
8761.00	92.02	181.42	6962.36	947.17	-946.97	165.56	1.11
8855.00	90.97	182.19	6959.91	1041.09	-1040.89	162.60	1.38
8950.00	91.65	182.15	6957.74	1135.99	-1135.80	159.00	0.71
9044.00	90.84	182.60	6955.70	1229.88	-1229.69	155.10	0.98
9139.00	91.38	182.58	6953.86	1324.76	-1324.58	150.81	0.57
9233.00	89.80	180.43	6952.89	1418.71	-1418.53	148.34	2.84
9328.00	88.15	180.33	6954.59	1513.69	-1513.51	147.71	1.74
9422.00	90.07	180.10	6956.05	1607.67	-1607.50	147.36	2.05
9517.00	90.91	179.22	6955.24	1702.67	-1702.49	147.92	1.28
9612.00	91.95	178.94	6952.87	1797.63	-1797.45	149.45	1.14
9706.00	89.50	178.13	6951.69	1891.58	-1891.40	151.85	2.75
9800.00	90.27	179.08	6951.88	1985.56	-1985.37	154.14	1.30
9895.00	92.38	179.66	6949.68	2080.52	-2080.33	155.19	2.31
9989.00	91.31	178.82	6946.65	2174.46	-2174.27	156.43	1.45
10084.00	91.81	177.95	6944.06	2269.39	-2269.20	159.10	1.06
10178.00	90.77	178.91	6941.94	2363.33	-2363.14	161.68	1.50
10273.00	92.02	178.81	6939.63	2458.29	-2458.09	163.57	1.31
10368.00	90.50	181.14	6937.54	2553.25	-2553.06	163.60	2.92
10462.00	91.38	180.62	6935.99	2647.23	-2647.03	162.16	1.08
10556.00	90.81	181.65	6934.20	2741.19	-2740.99	160.30	1.25

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
10651.00	88.79	180.69	6934.54	2836.16	-2835.97	158.36	2.35
10745.00	89.90	180.49	6935.61	2930.15	-2929.96	157.39	1.20
10840.00	91.01	180.81	6934.86	3025.13	-3024.94	156.32	1.21
10934.00	91.51	181.99	6932.79	3119.08	-3118.89	154.02	1.37
11029.00	90.44	182.25	6931.17	3213.99	-3213.81	150.52	1.16
11123.00	88.59	182.75	6931.97	3307.89	-3307.71	146.42	2.04
11218.00	89.76	182.43	6933.34	3402.78	-3402.61	142.13	1.29
11312.00	87.61	181.23	6935.49	3496.69	-3496.53	139.12	2.62
11407.00	88.96	181.28	6938.33	3591.62	-3591.46	137.04	1.42
11501.00	90.91	181.53	6938.44	3685.59	-3685.43	134.74	2.09
11596.00	90.77	180.08	6937.05	3780.56	-3780.40	133.40	1.53
11690.00	89.83	179.14	6936.55	3874.56	-3874.40	134.04	1.42
11785.00	91.34	179.26	6935.58	3969.54	-3969.38	135.37	1.60
11879.00	90.94	180.53	6933.70	4063.52	-4063.36	135.53	1.42
11974.00	88.59	180.28	6934.09	4158.51	-4158.35	134.86	2.49
12068.00	89.97	180.23	6935.28	4252.50	-4252.34	134.45	1.47
12163.00	91.75	180.08	6933.86	4347.49	-4347.33	134.20	1.88
12257.00	90.23	181.13	6932.23	4441.46	-4441.30	133.20	1.96
12352.00	91.71	180.96	6930.62	4536.43	-4536.27	131.47	1.57
12446.00	88.89	180.05	6930.12	4630.41	-4630.25	130.65	3.15

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
12567.00	90.57	179.67	6930.69	4751.40	-4751.25	130.94	1.42

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



5" = 100' FEET MD