



GAMMA RAY LOG

5" = 100' FEET MD

COMPANY : ANADARKO PETROLEUM CORP. WELL : HEDGE 16N-22HZ FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-36521									
DEPTH REF. : RKB REF. HEIGHT : 25.000 ft GROUND LEVEL : 4905.000 ft					RKB to Ground Level G.L. to MEAN SEA LEVEL				
WELL LOCATION LAT:40°12'57.888"N LONG:104°45'18.122"W N:1322434.03 ft E:3208041.17 ft SEC:22 TWP:3N RANGE:66W					DIRECTIONAL ROP				
BOREHOLE RECORD									
HOLE SIZE in	FROM ft	TO ft	INCLINATION deg	FROM ft	TO ft				
12.25	0	978	0 - 10	0	6678				
8.75	978	7621	10 - 90	6678	7621				
6.125	7621	12088	90 - 94	7621	12088				
CASING RECORD									
CASING SIZE in	FROM ft	TO ft							
9.625	0	968							
7	0	7611							
DRILLING CO. : H&P RIG : 311 LMD UNIT NO. : C-46 SPUD DATE : 07/27/2013 LMD START DATE : 08/06/2013 LMD END DATE : 08/12/2013 DISTRICT : CASPER DEPTH : 968 ft DEPTH : 12088 ft TOTAL DEPTH : 12088 ft									

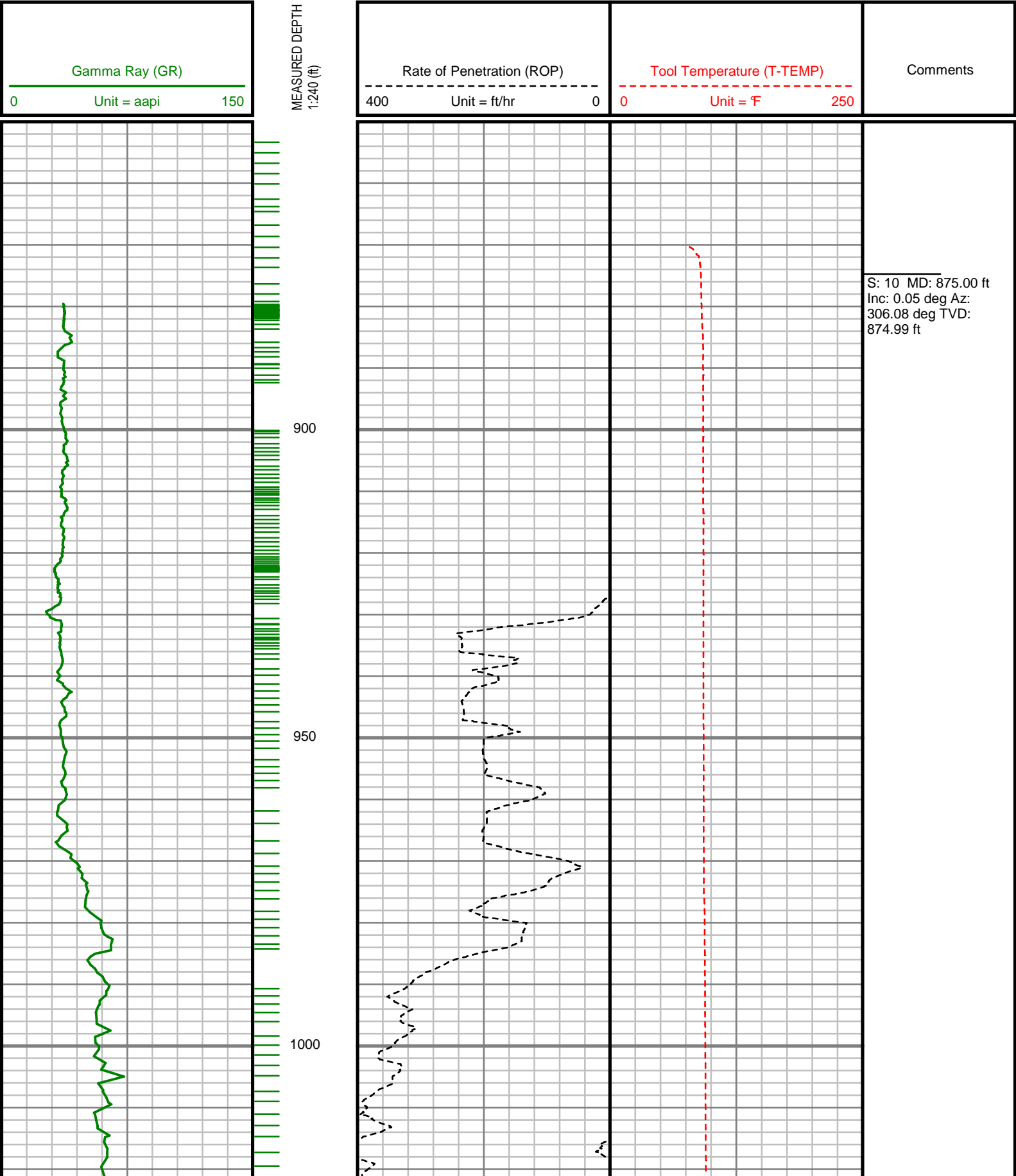
Run Data						
RUN NUMBER	1	2	3			
START DATE	08/06/2013	08/09/2013	08/11/2013			
START TIME	1100	1800	0300			
END DATE	08/09/2013	08/11/2013	08/12/2013			
END TIME	1800	0300	0045			
DEPTH IN (ft)	978	7621	9572			
DEPTH OUT (ft)	7621	9572	12088			
LOG TOP (ft)	968	7574	9515			
LOG BOTTOM (ft)	7574	9515	12019			
HOLE SIZE (in)	8.75	6.125	6.125			
MUD DATA @ (ft)	968	7621	10345			
MUD TYPE	WATER-BASED	WATER-BASED	WATER-BASED			
DENSITY (lb / gal)	8.7	10.3	9.8			
VISCOSITY (s / qt)	28	35	37			
pH	8.3	9.4	9.3			
FLUID LOSS (cm3 / 30)	-	-	-			
SALINITY (ppm)	1100	1300	1300			
Rm (ohmm @ deg F)	-	-	-			
Rmf (ohmm @ deg F)	-	-	-			
MAX TEMP (deg F)	178	218	245			
Rm @ MAX TEMP (ohmm)	-	-	-			
LWD ENGINEER #1	J. DENNING	J. DENNING	J. DENNING			
LWD ENGINEER #2	M. SHARKER	M. SHARKER	M. SHARKER			
LWD ENGINEER #3	-	-	-			
LOG WITNESS #1	J. STUART	J. STUART	J. STUART			
LOG WITNESS #2	-	-	-			

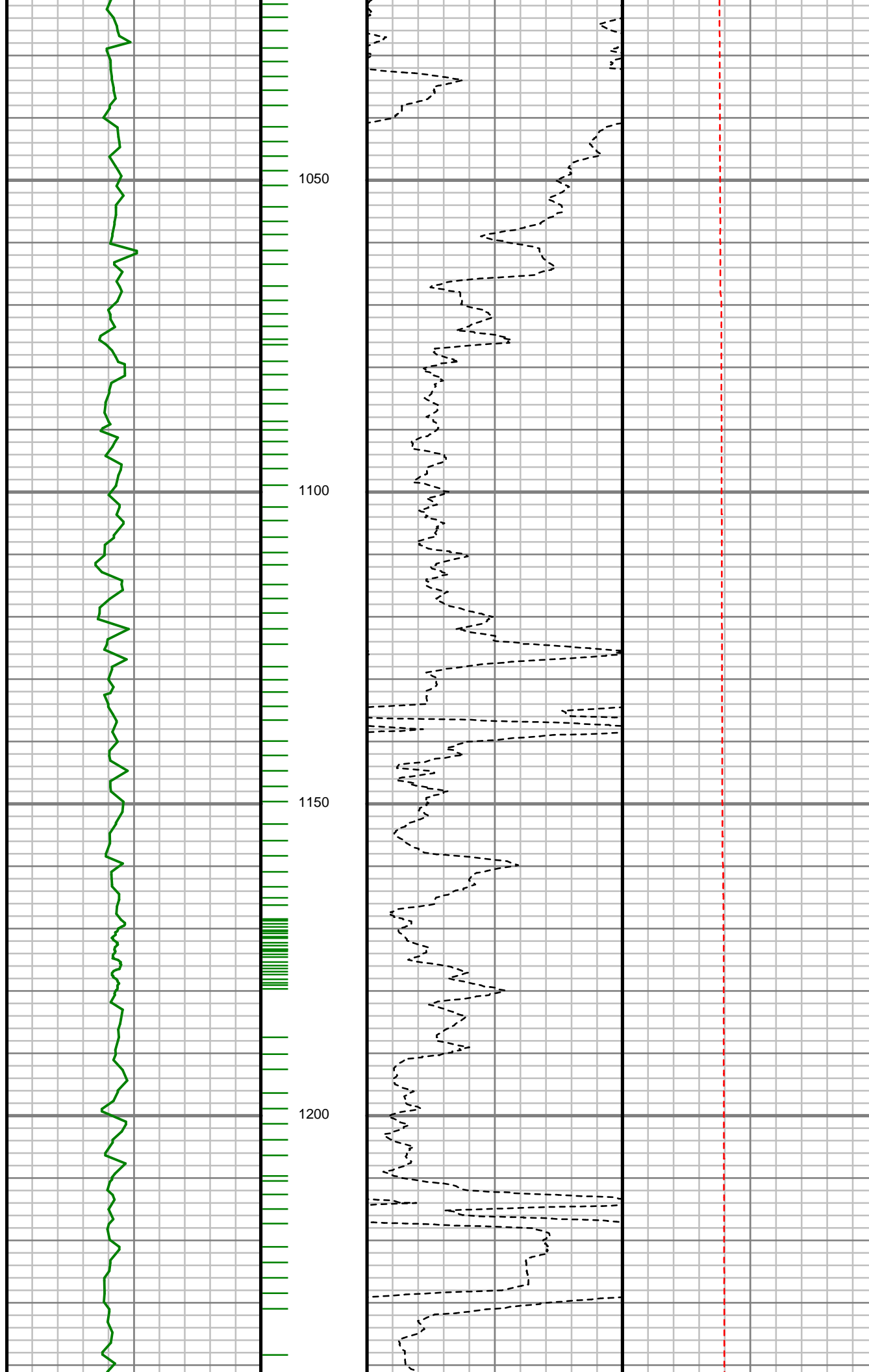
Remarks
ANADARKO PETROLEUM CORPORATION PRODUCTION AFE# 2059550
SCIENTIFIC DRILLING INTERNATIONAL JOB# 41095
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO TOOL TEMPERATURE CURVE
RUN #1: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-150MH / CONT = 295 / MWD EYE = 0778 / GAMMA RAY = 517
BIT TO SENSOR OFFSETS: SURVEY = 56.34 FT. / GAMMA RAY = 47.09 FT.
RUN #2: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-149 / CONT = 542 / MWD EYE = 0259 / GAMMA RAY = 232
BIT TO SENSOR OFFSETS: SURVEY = 66.91 FT. / GAMMA RAY = 57.66 FT.
RUN #3: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-149 / CONT = 542 / MWD EYE = 0259 / GAMMA RAY = 232
BIT TO SENSOR OFFSETS: SURVEY = 66.21 FT. / GAMMA RAY = 56.96 FT.

[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.

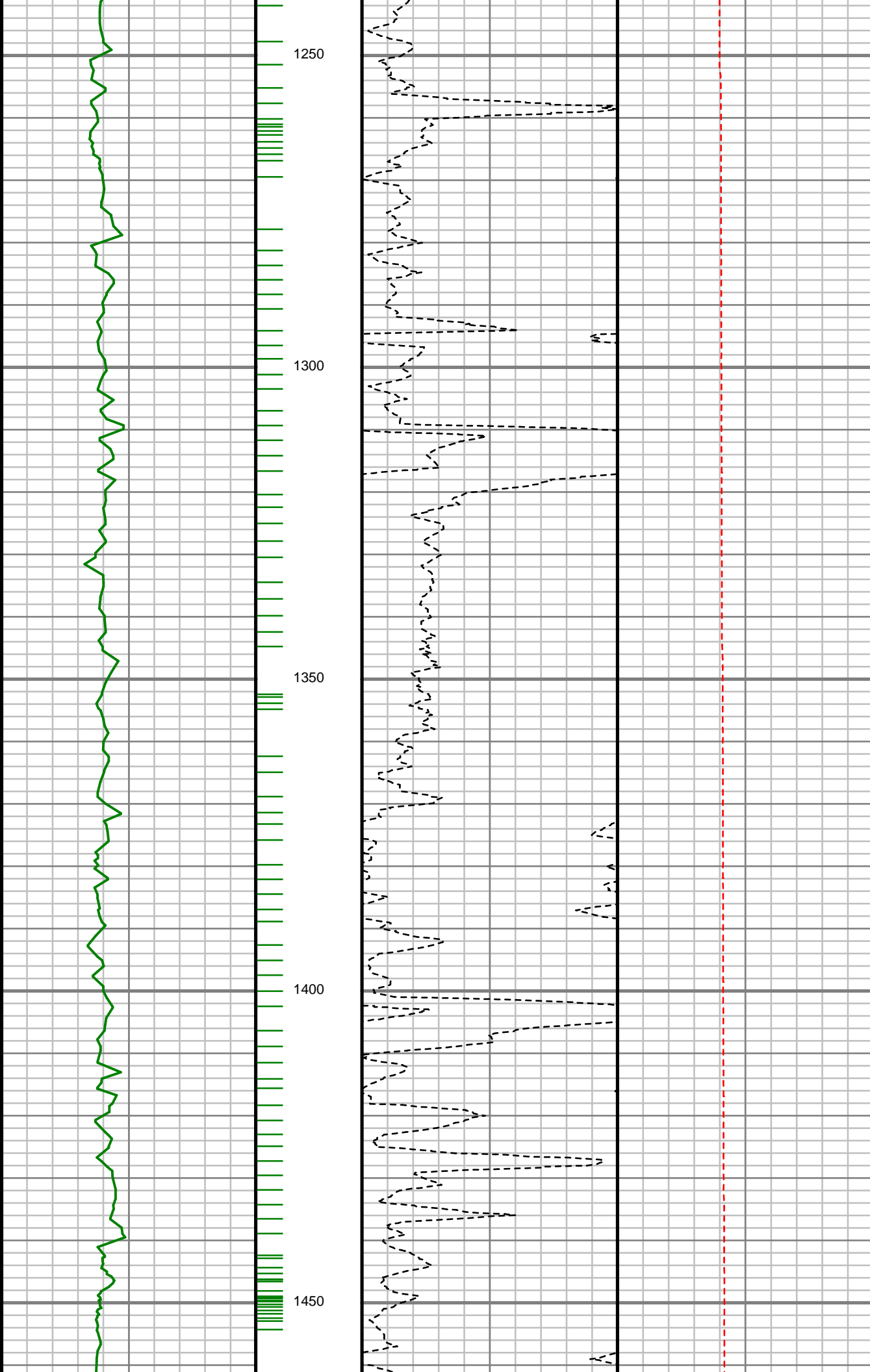
ANADARKO PETROLEUM CORP.
HEDGE 16N-22HZ
WATTENBERG FIELD
WELD COUNTY, COLORADO
05-123-36521





S: 11 MD: 1065.00 ft
Inc: 0.24 deg Az:
323.72 deg TVD:
1064.99 ft

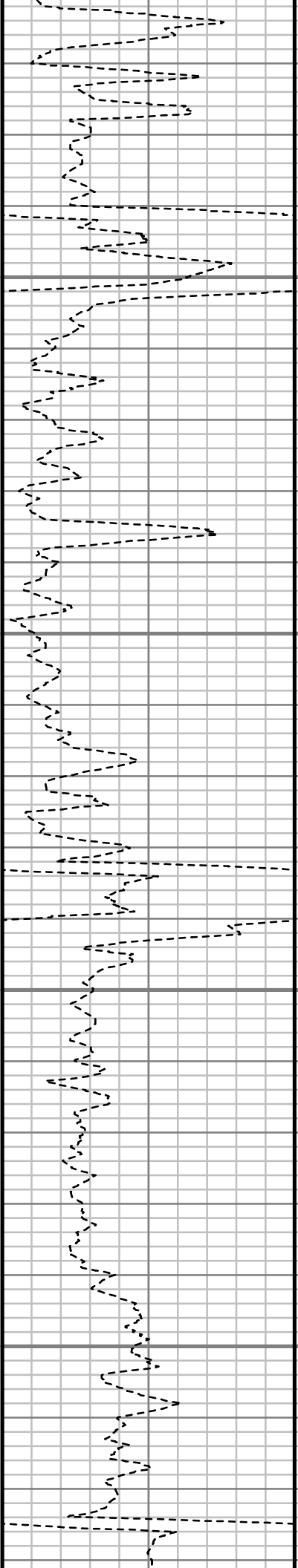
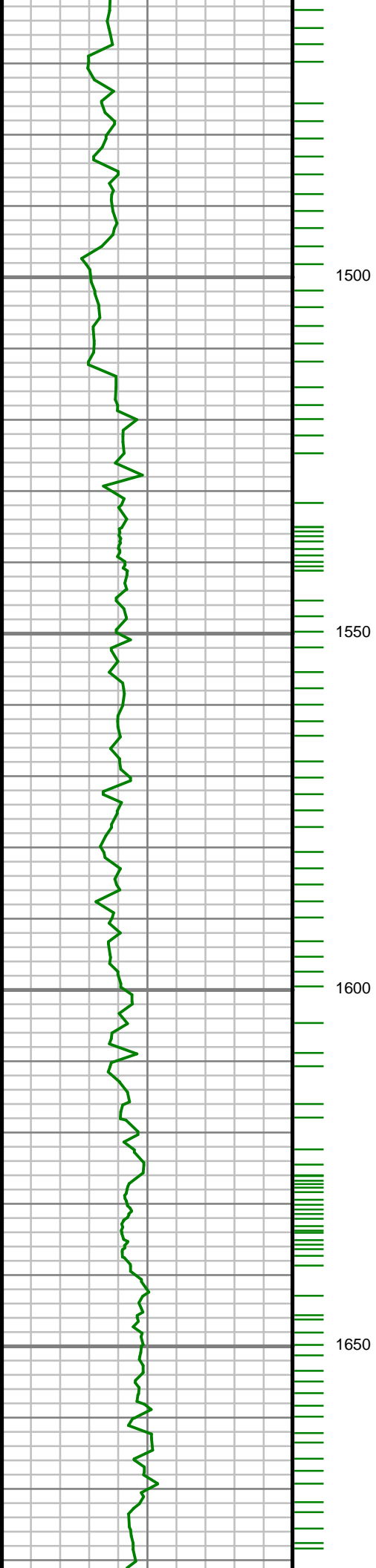
S: 12 MD: 1157.00 ft
Inc: 0.21 deg Az:
339.15 deg TVD:
1156.99 ft



S: 13 MD: 1248.00 ft
Inc: 3.46 deg Az:
342.58 deg TVD:
1247.93 ft

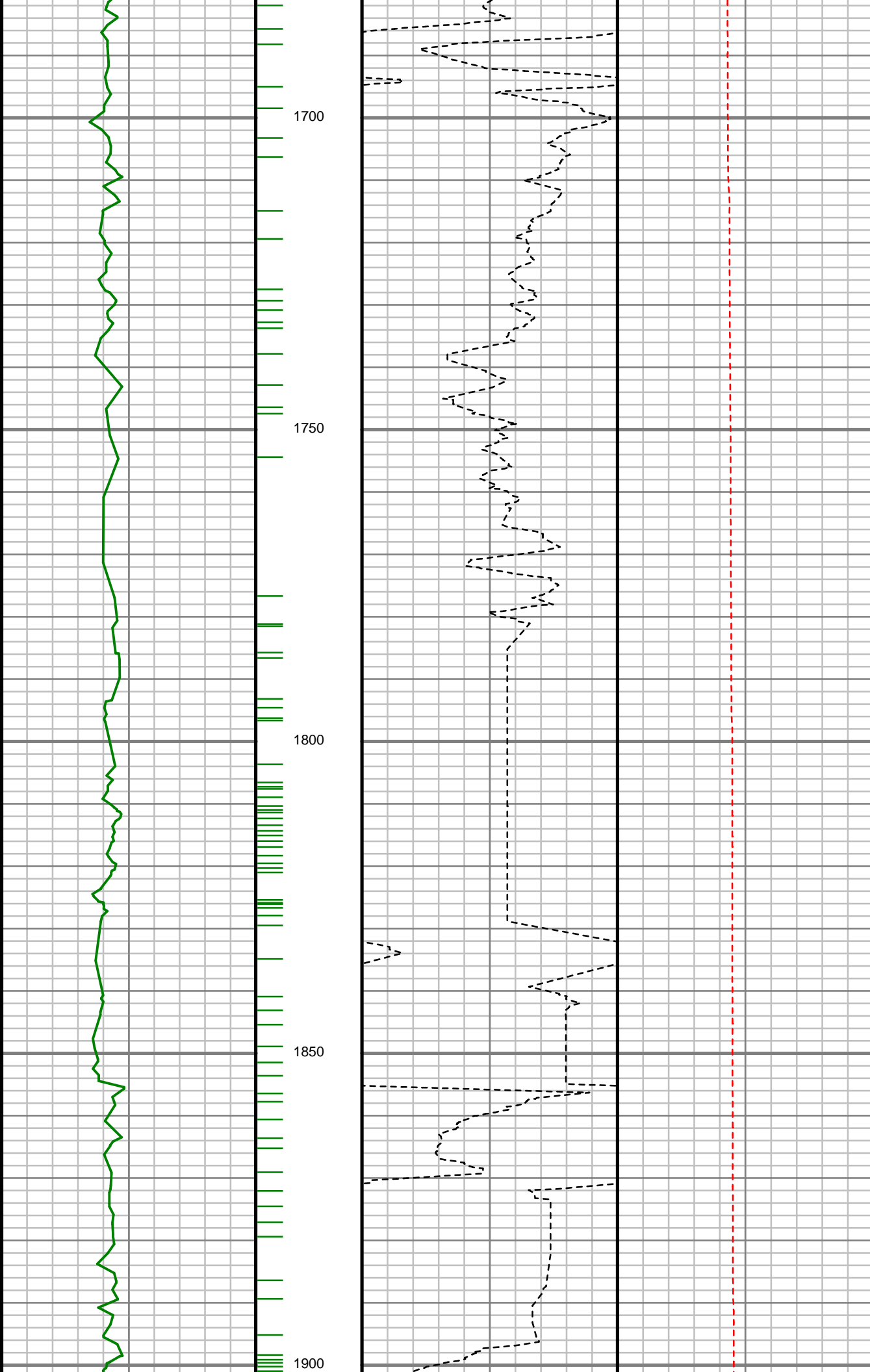
S: 14 MD: 1340.00 ft
Inc: 5.65 deg Az:
336.17 deg TVD:
1339.64 ft

S: 15 MD: 1431.00 ft
Inc: 6.84 deg Az:
327.44 deg TVD:
1430.10 ft



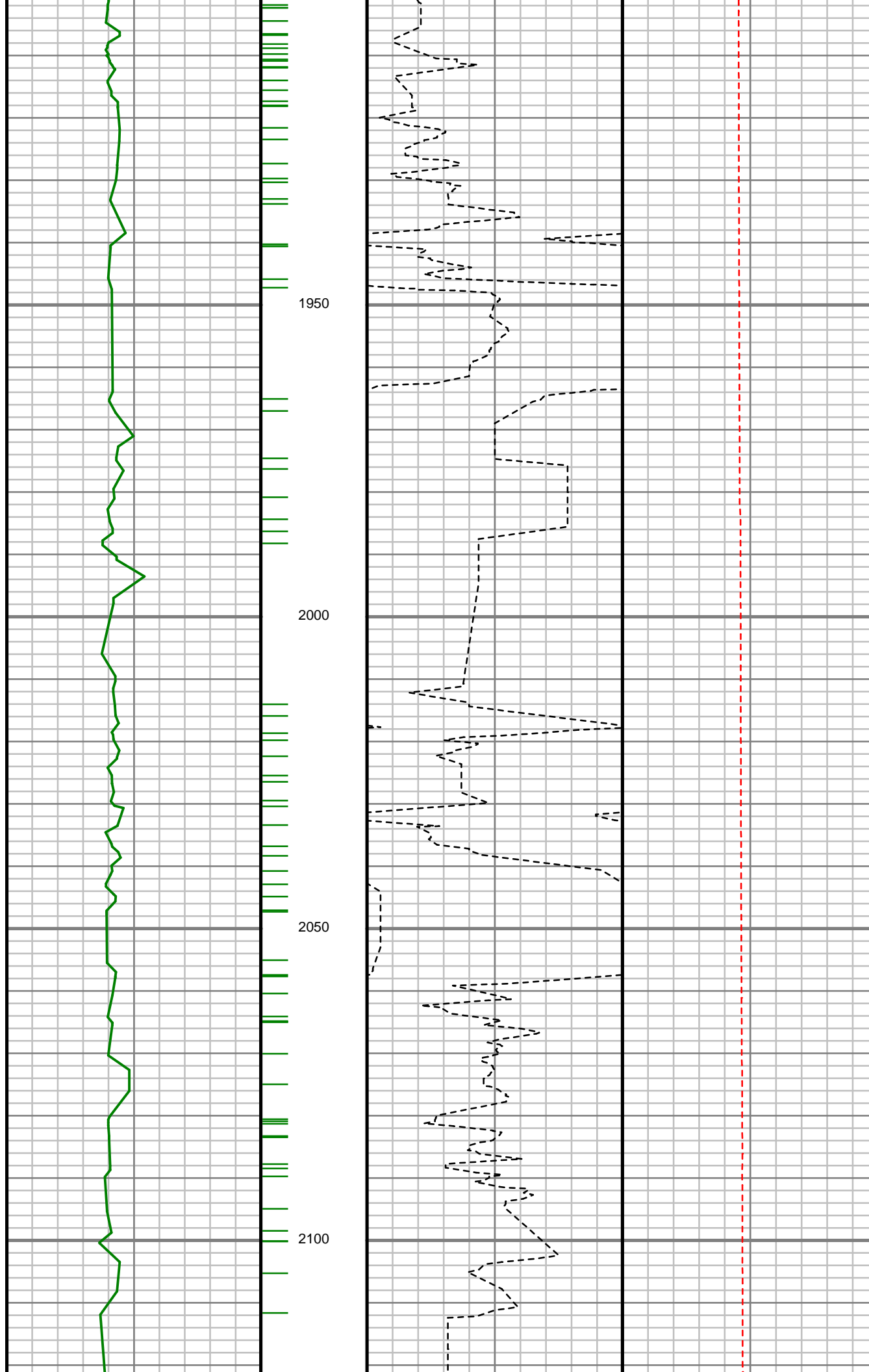
S: 16 MD: 1522.00 ft
Inc: 9.07 deg Az:
325.37 deg TVD:
1520.22 ft

S: 17 MD: 1614.00 ft
Inc: 10.26 deg Az:
322.08 deg TVD:
1610.91 ft

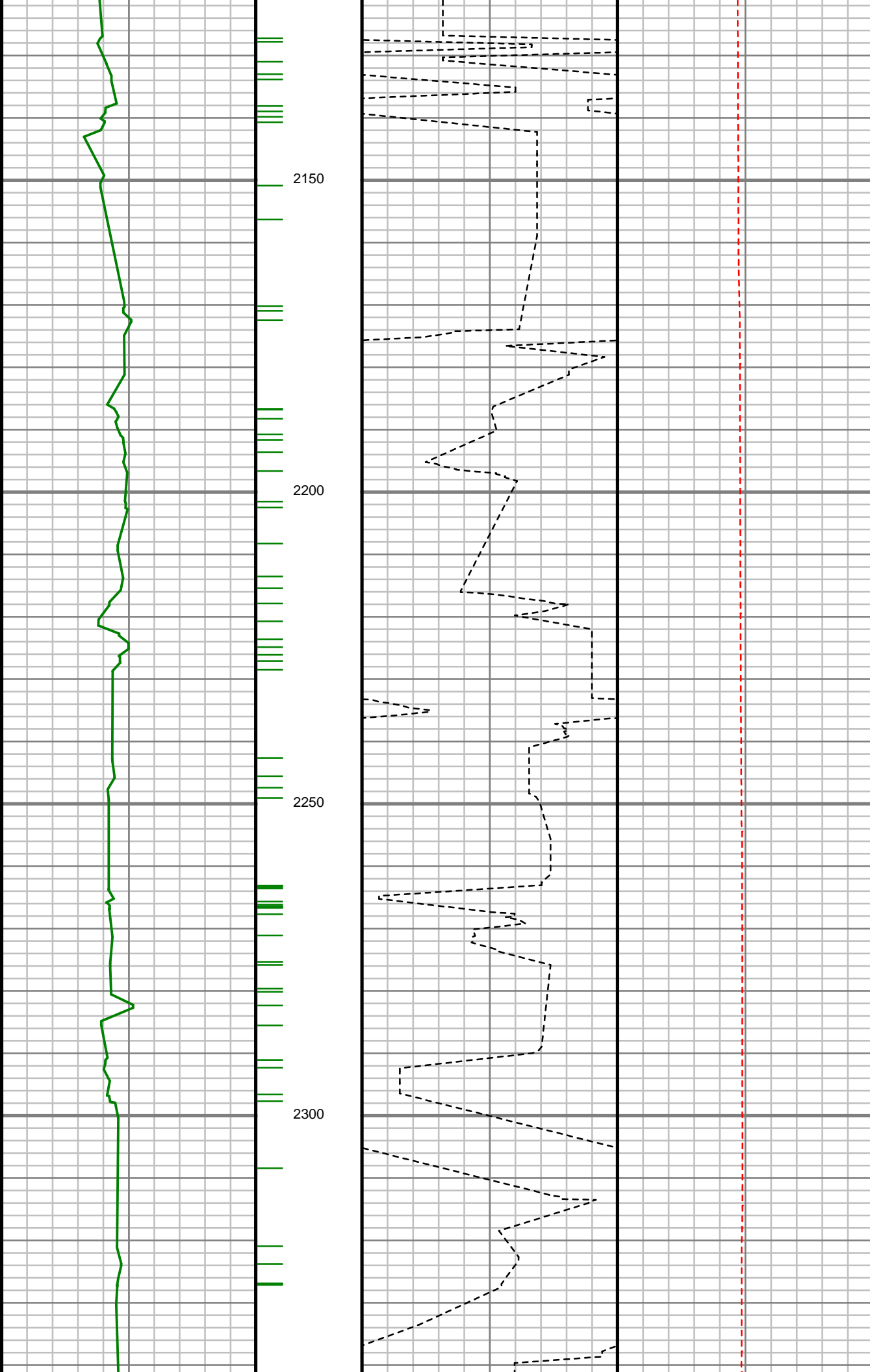


S: 18 MD: 1795.00 ft
Inc: 9.93 deg Az:
315.78 deg TVD:
1789.11 ft

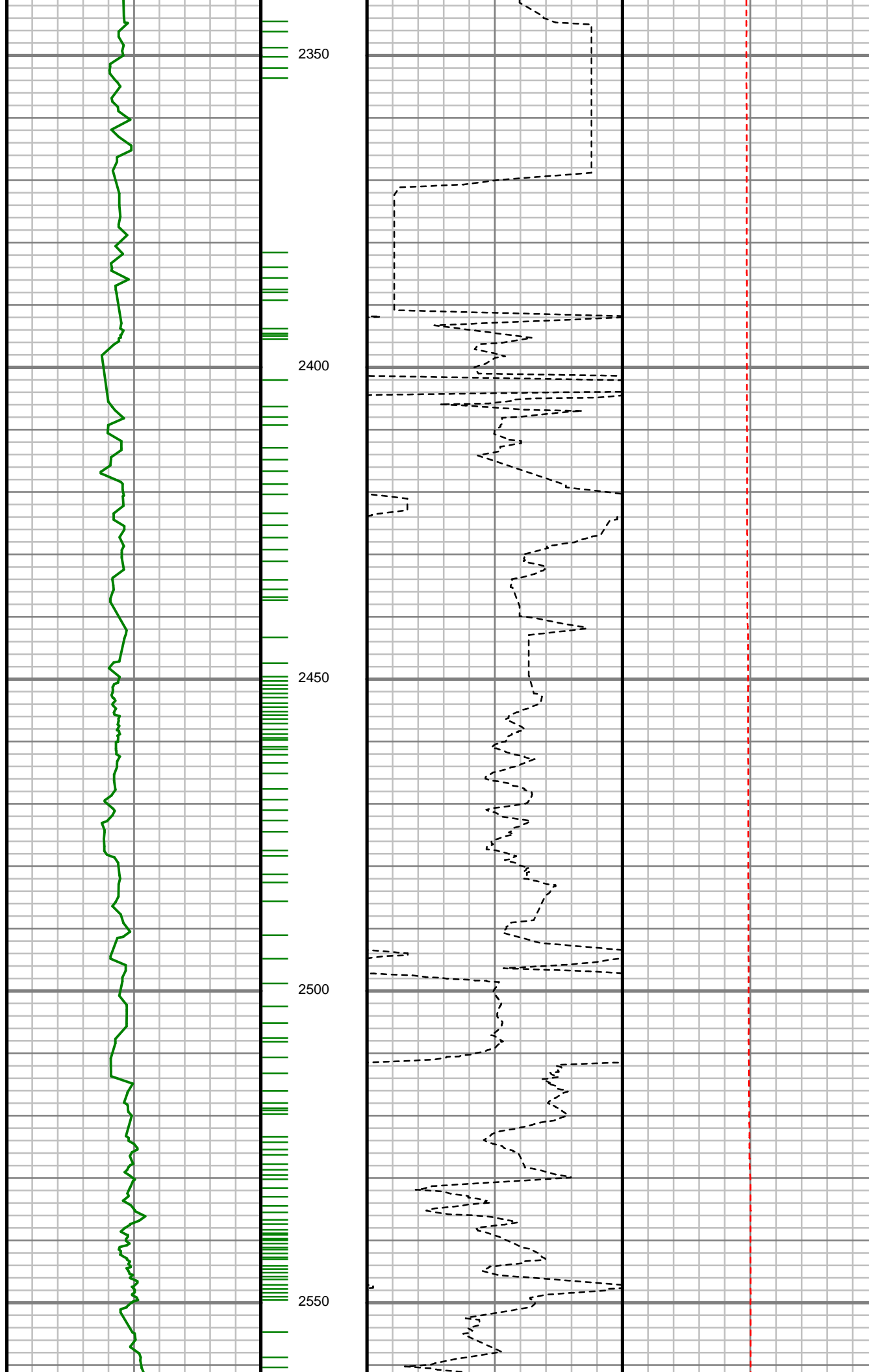
S: 19 MD: 1887.00 ft
Inc: 10.66 deg Az:
327.29 deg TVD:
1879.64 ft



S: 20 MD: 2068.00 ft
Inc: 10.41 deg Az:
330.68 deg TVD:
2057.60 ft

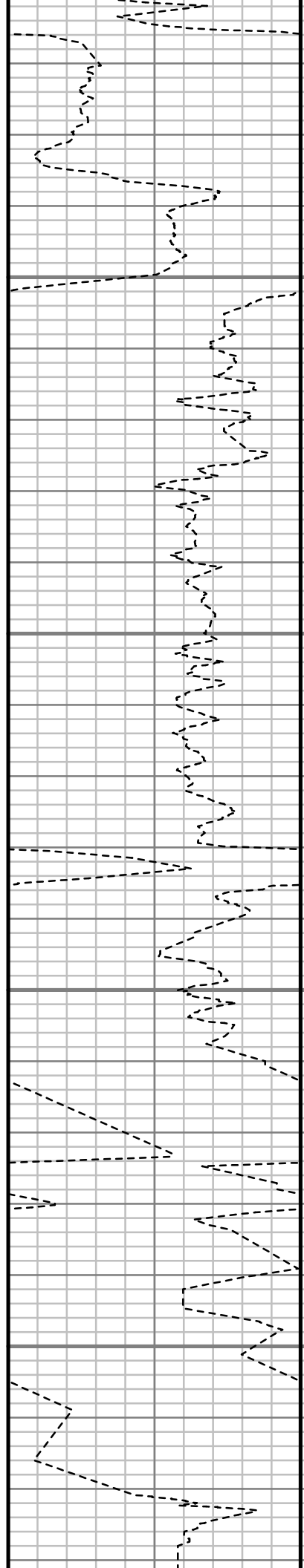
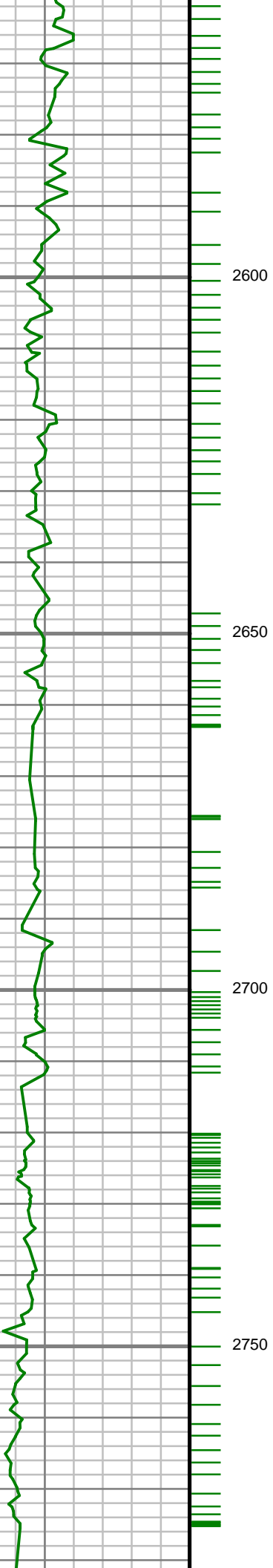


S: 21 MD: 2251.00 ft
Inc: 10.53 deg Az:
325.03 deg TVD:
2237.56 ft

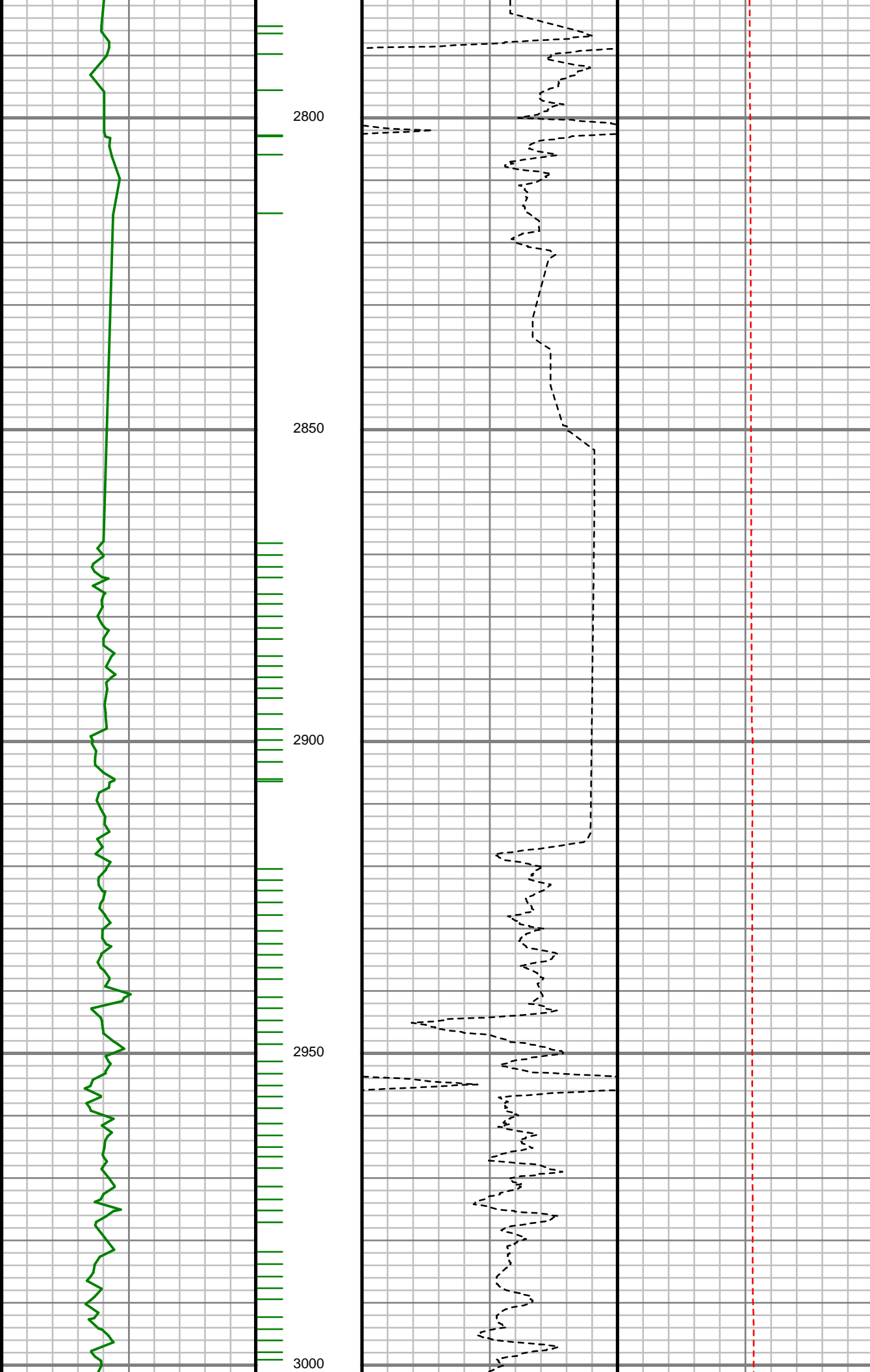


S: 22 MD: 2433.00 ft
Inc: 10.94 deg Az:
327.69 deg TVD:
2416.37 ft

S: 23 MD: 2524.00 ft
Inc: 12.03 deg Az:
334.62 deg TVD:
2505.56 ft



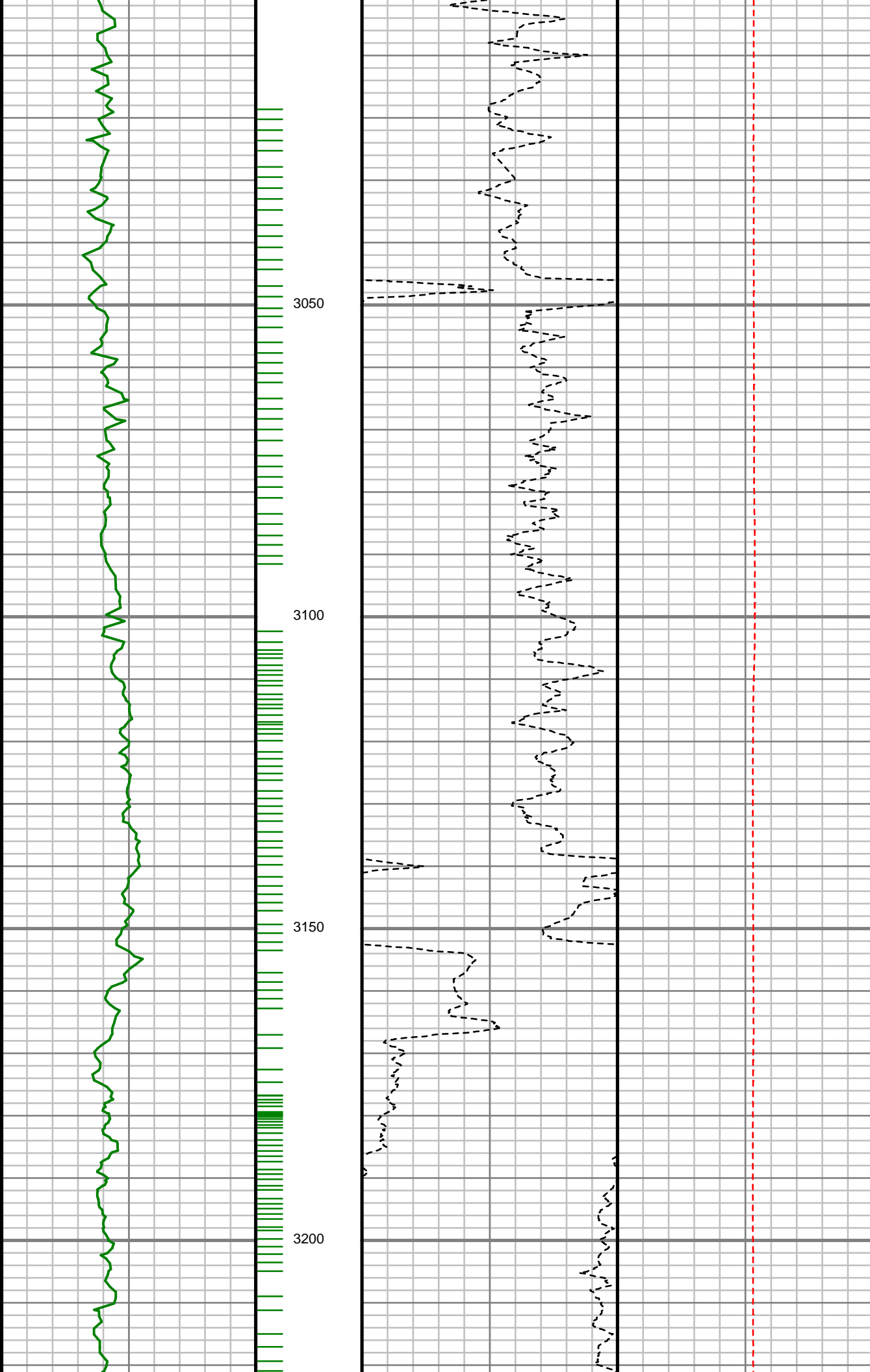
S: 24 MD: 2709.00 ft
Inc: 11.09 deg Az:
335.95 deg TVD:
2686.80 ft



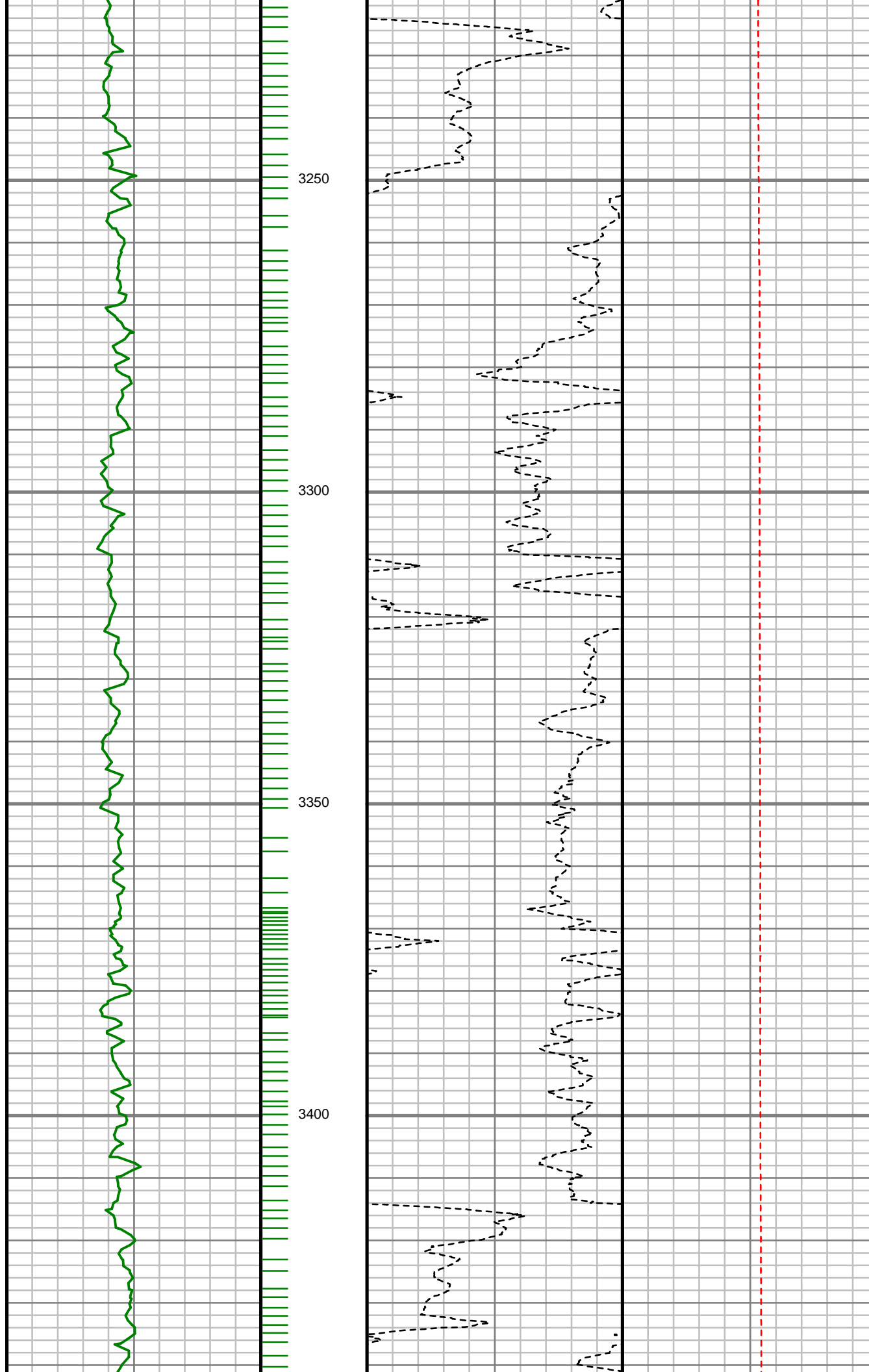
S: 25 MD: 2801.00 ft
Inc: 13.35 deg Az:
336.50 deg TVD:
2776.71 ft

S: 26 MD: 2892.00 ft
Inc: 13.22 deg Az:
331.89 deg TVD:
2865.28 ft

S: 27 MD: 2983.00 ft
Inc: 12.43 deg Az:
328.18 deg TVD:
2954.01 ft

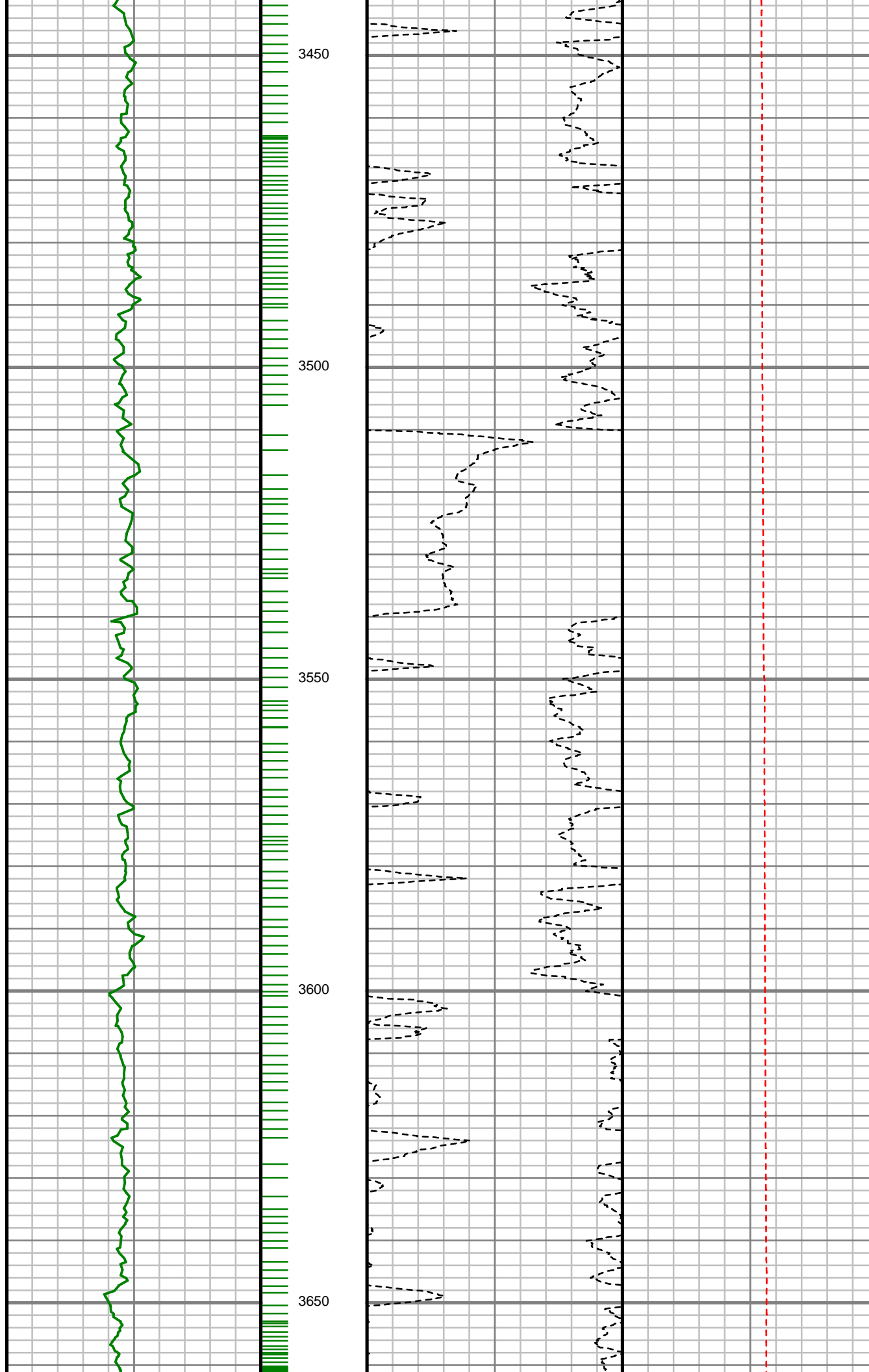


S: 28 MD: 3076.00 ft
Inc: 12.01 deg Az:
323.84 deg TVD:
3044.90 ft



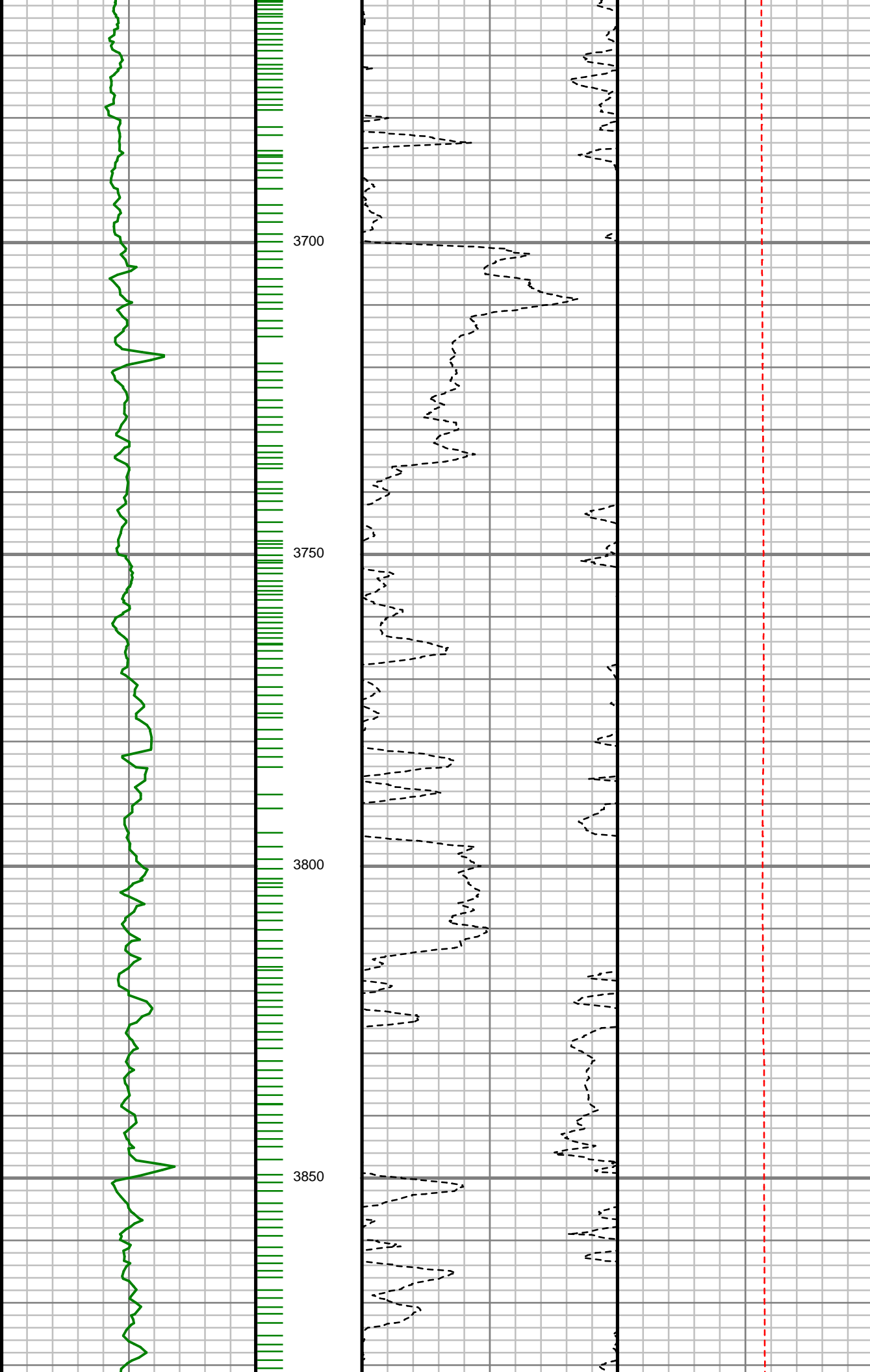
S: 29 MD: 3261.00 ft
Inc: 12.29 deg Az:
330.23 deg TVD:
3225.77 ft

S: 30 MD: 3355.00 ft
Inc: 10.07 deg Az:
326.60 deg TVD:
3317.98 ft



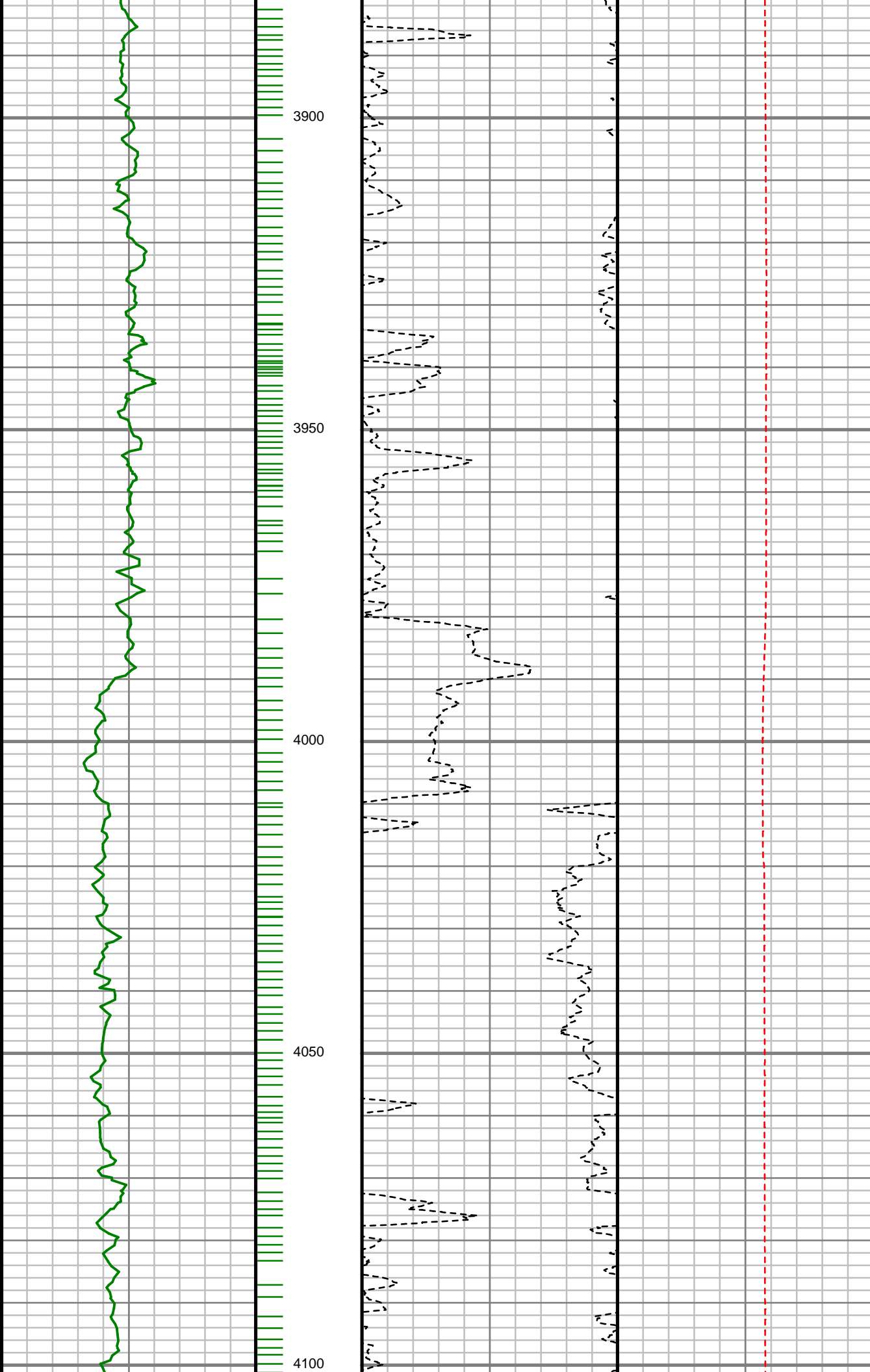
S: 31 MD: 3450.00 ft
Inc: 9.98 deg Az:
321.62 deg TVD:
3411.53 ft

S: 32 MD: 3544.00 ft
Inc: 11.44 deg Az:
328.51 deg TVD:
3503.89 ft

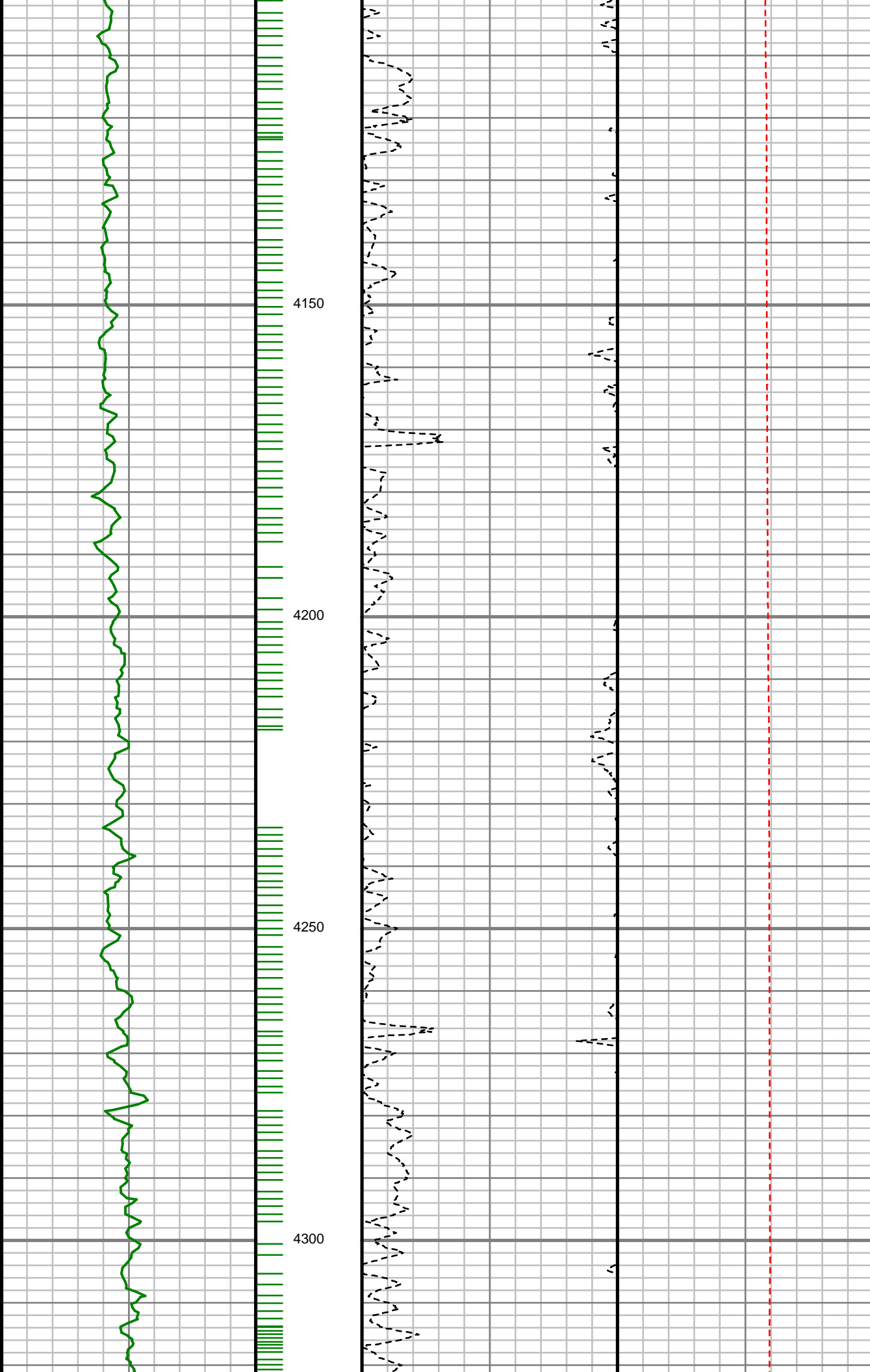


S: 33 MD: 3733.00 ft
Inc: 9.65 deg Az:
334.32 deg TVD:
3689.70 ft

S: 34 MD: 3827.00 ft
Inc: 10.88 deg Az:
341.55 deg TVD:
3782.19 ft

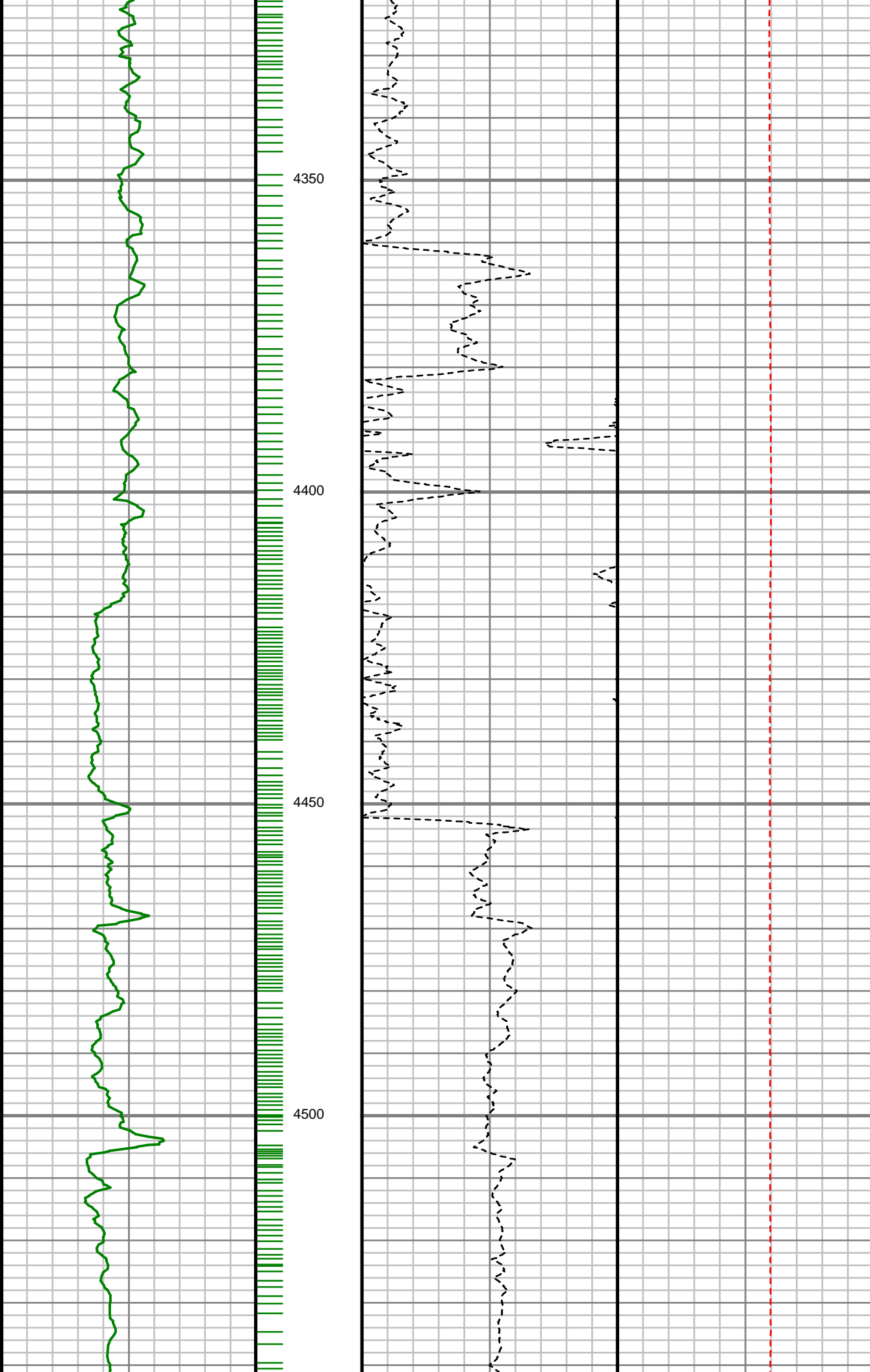


S: 35 MD: 4016.00 ft
Inc: 10.66 deg Az:
333.23 deg TVD:
3967.87 ft



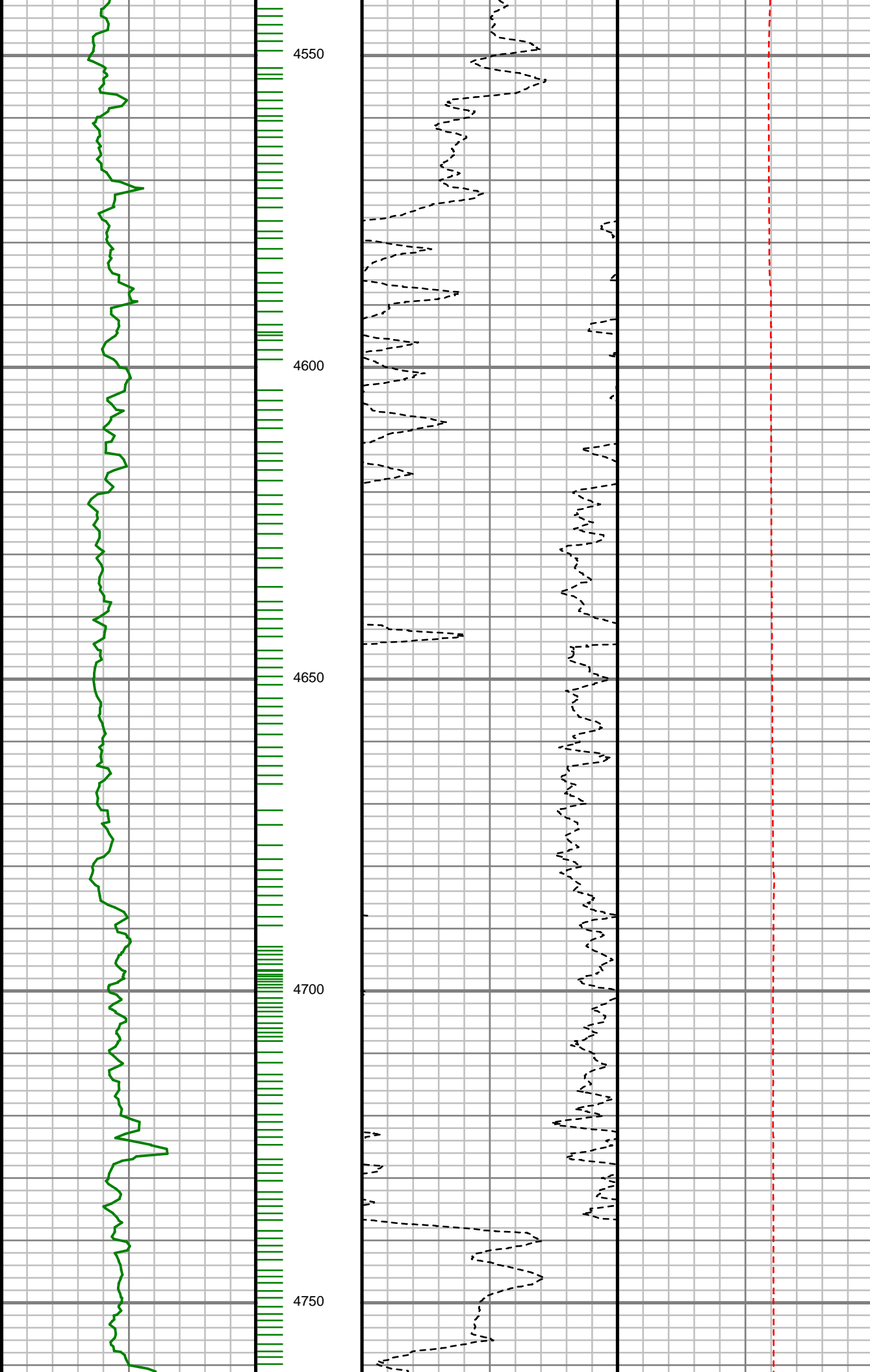
S: 36 MD: 4110.00 ft
Inc: 10.94 deg Az:
330.35 deg TVD:
4060.21 ft

S: 37 MD: 4204.00 ft
Inc: 10.45 deg Az:
327.62 deg TVD:
4152.58 ft



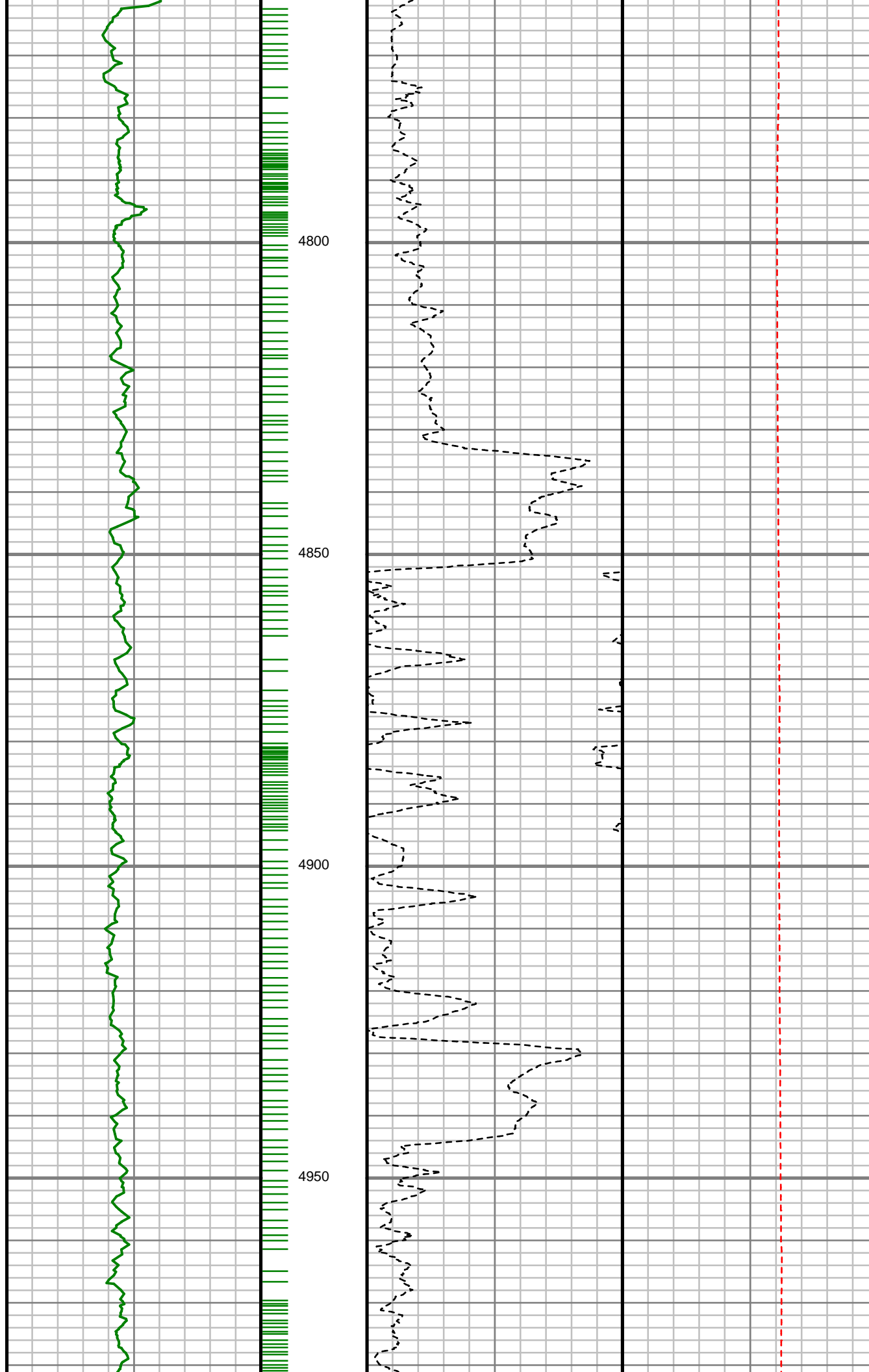
S: 38 MD: 4393.00 ft
Inc: 8.48 deg Az:
319.53 deg TVD:
4339.00 ft

S: 39 MD: 4487.00 ft
Inc: 9.51 deg Az:
321.63 deg TVD:
4431.84 ft



S: 40 MD: 4581.00 ft
Inc: 11.64 deg Az:
314.76 deg TVD:
4524.24 ft

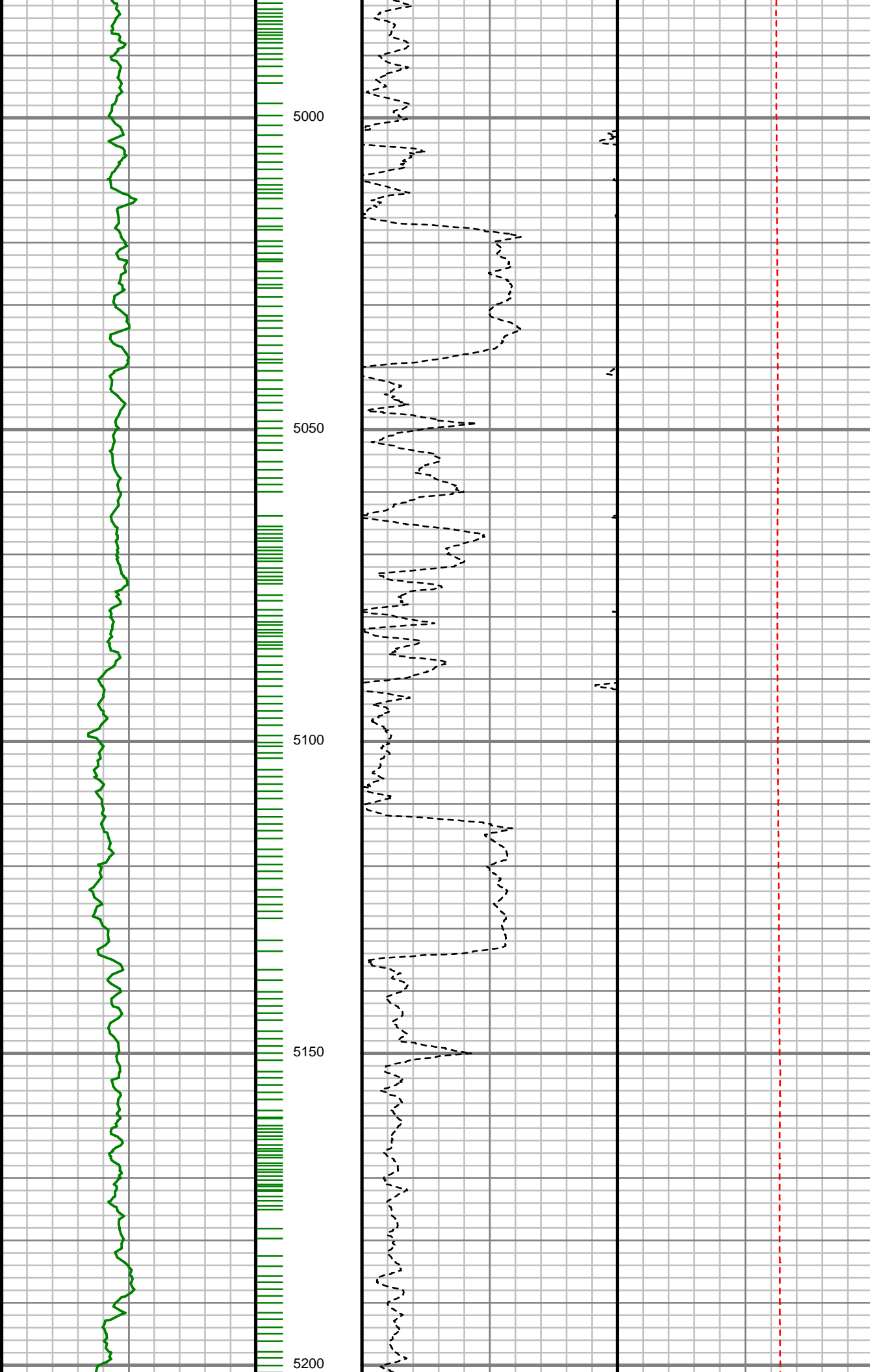
S: 41 MD: 4676.00 ft
Inc: 10.38 deg Az:
310.84 deg TVD:
4617.50 ft



S: 42 MD: 4770.00 ft
Inc: 9.45 deg Az:
321.30 deg TVD:
4710.10 ft

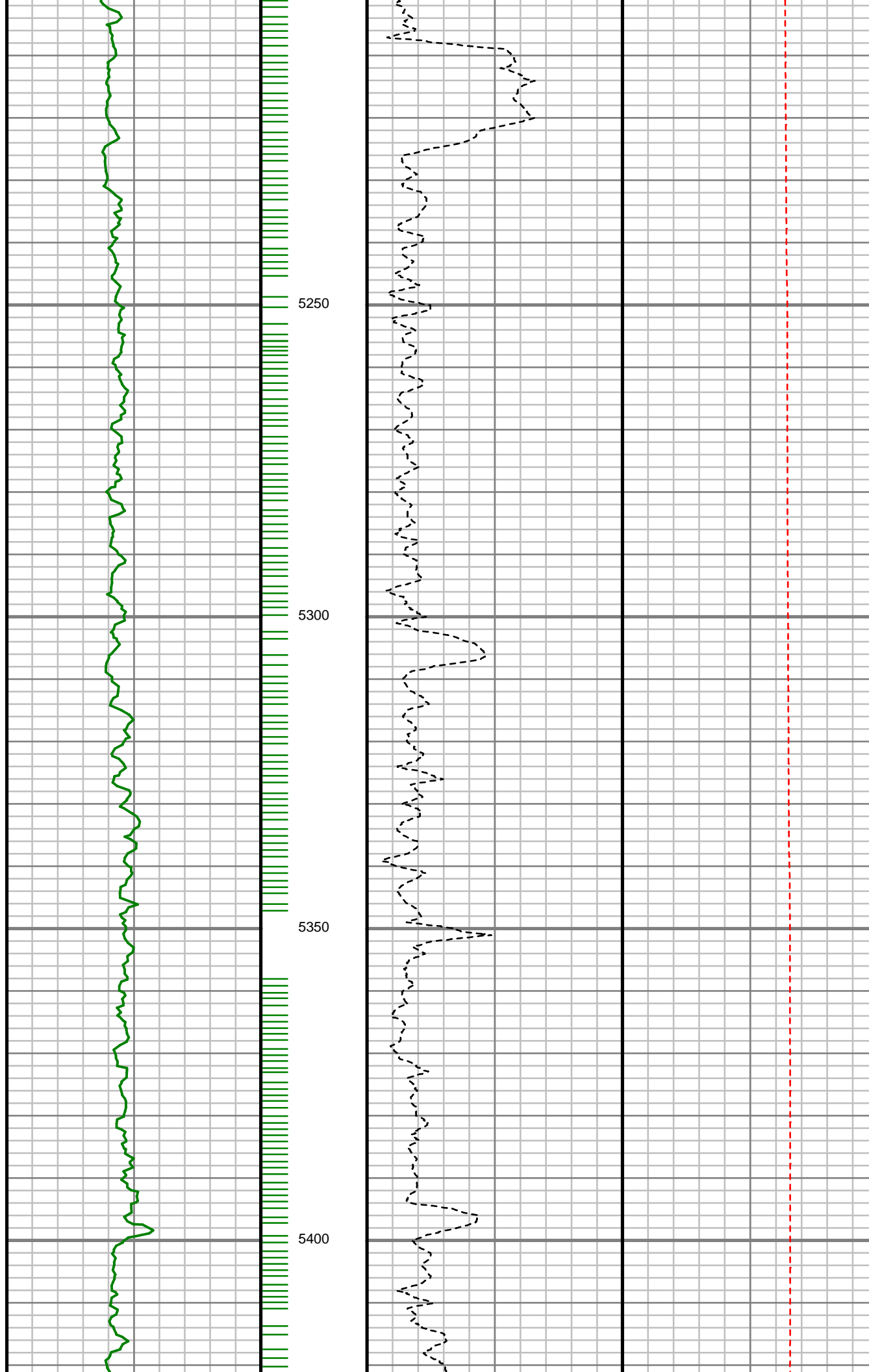
S: 43 MD: 4864.00 ft
Inc: 7.99 deg Az:
337.03 deg TVD:
4803.02 ft

S: 44 MD: 4958.00 ft
Inc: 5.84 deg Az:
347.17 deg TVD:
4896.34 ft



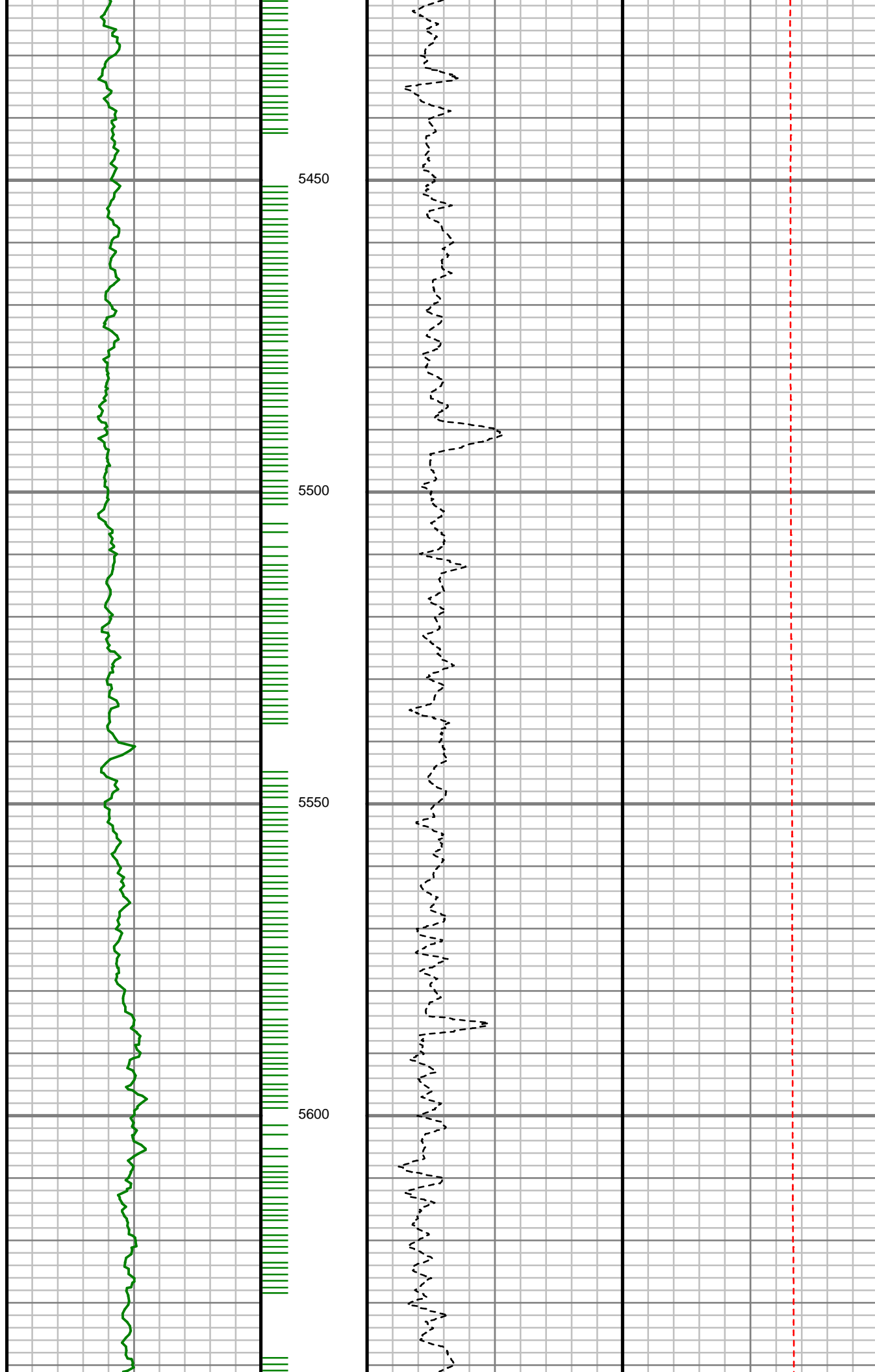
S: 45 MD: 5052.00 ft
Inc: 3.83 deg Az: 6.09
deg TVD: 4990.00 ft

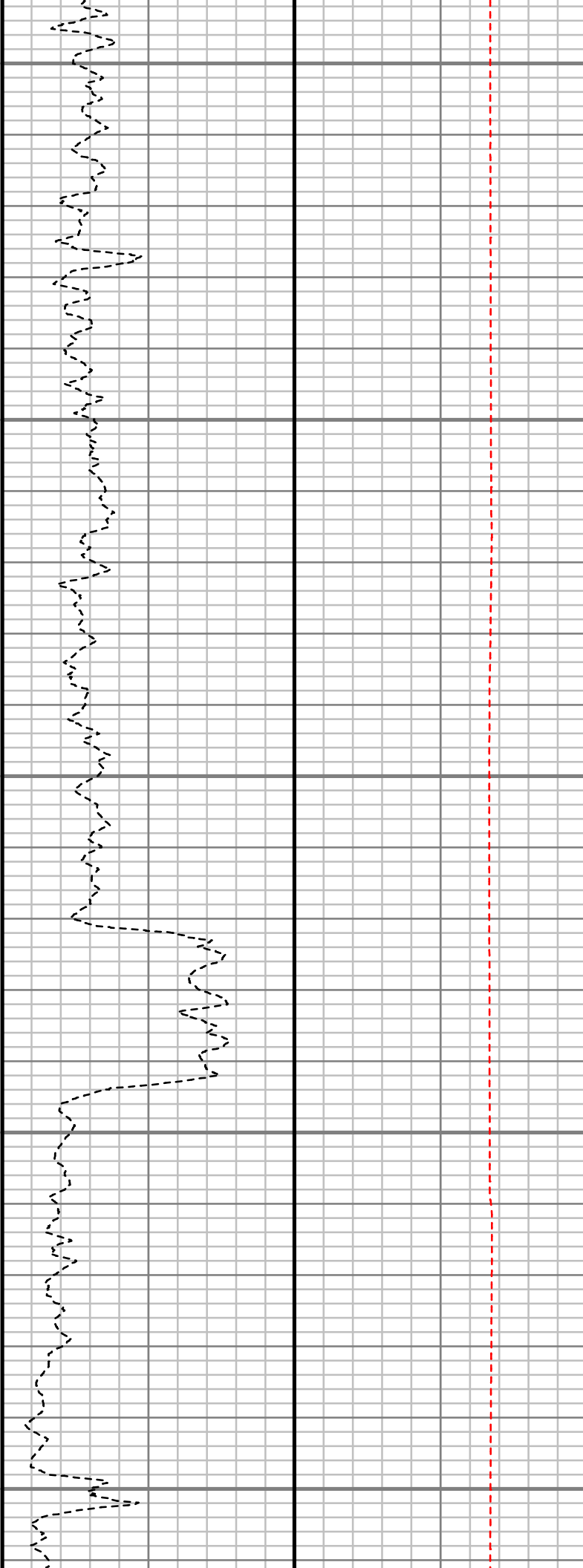
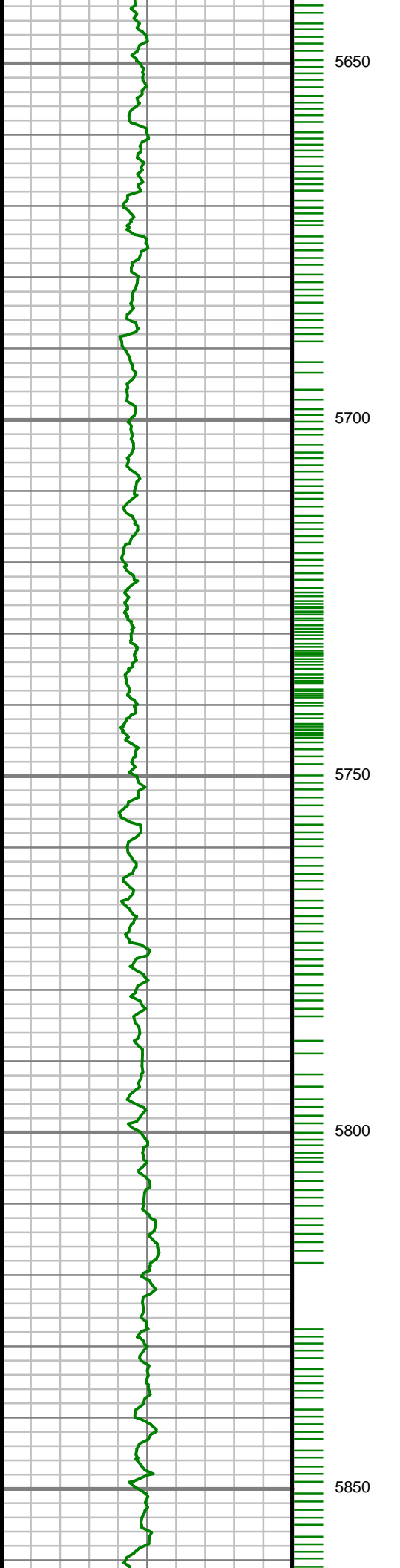
S: 46 MD: 5146.00 ft
Inc: 2.37 deg Az: 84.14
deg TVD: 5083.90 ft



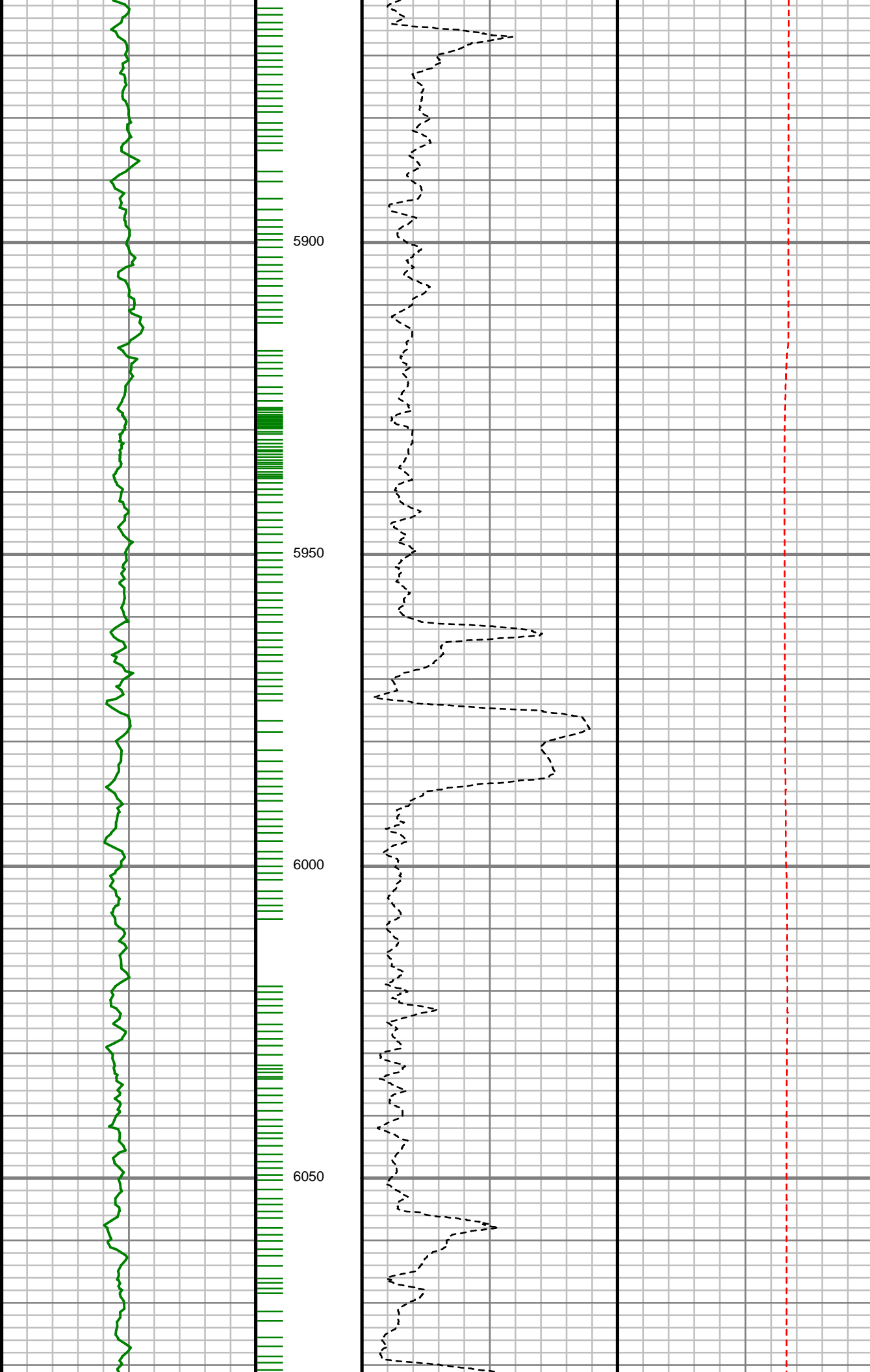
S: 47 MD: 5241.00 ft
Inc: 0.55 deg Az:
132.87 deg TVD:
5178.86 ft

S: 48 MD: 5430.00 ft
Inc: 0.58 deg Az:
119.65 deg TVD:
5367.86 ft



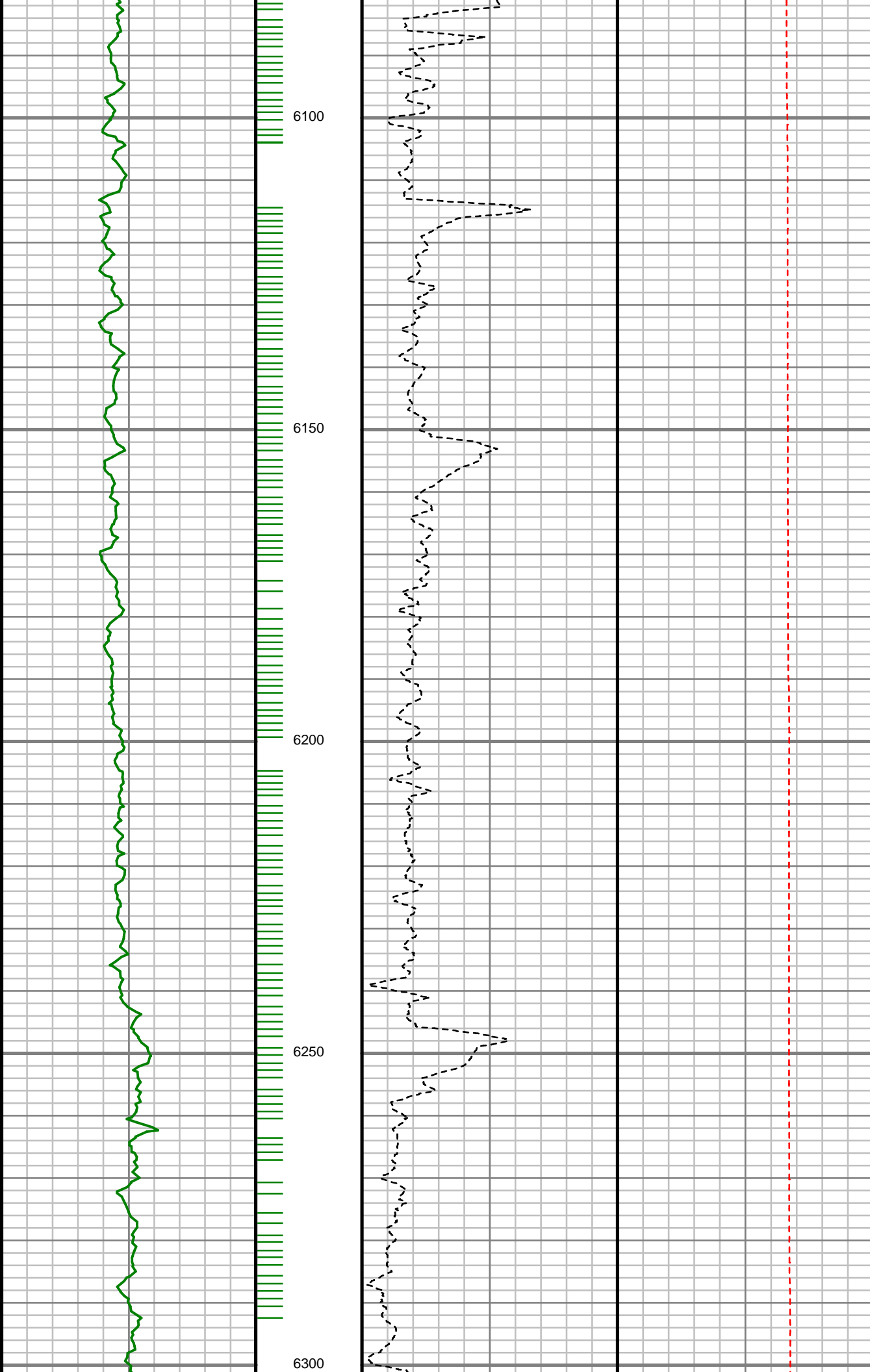


S: 49 MD: 5713.00 ft
Inc: 0.75 deg Az: 69.77
deg TVD: 5650.84 ft



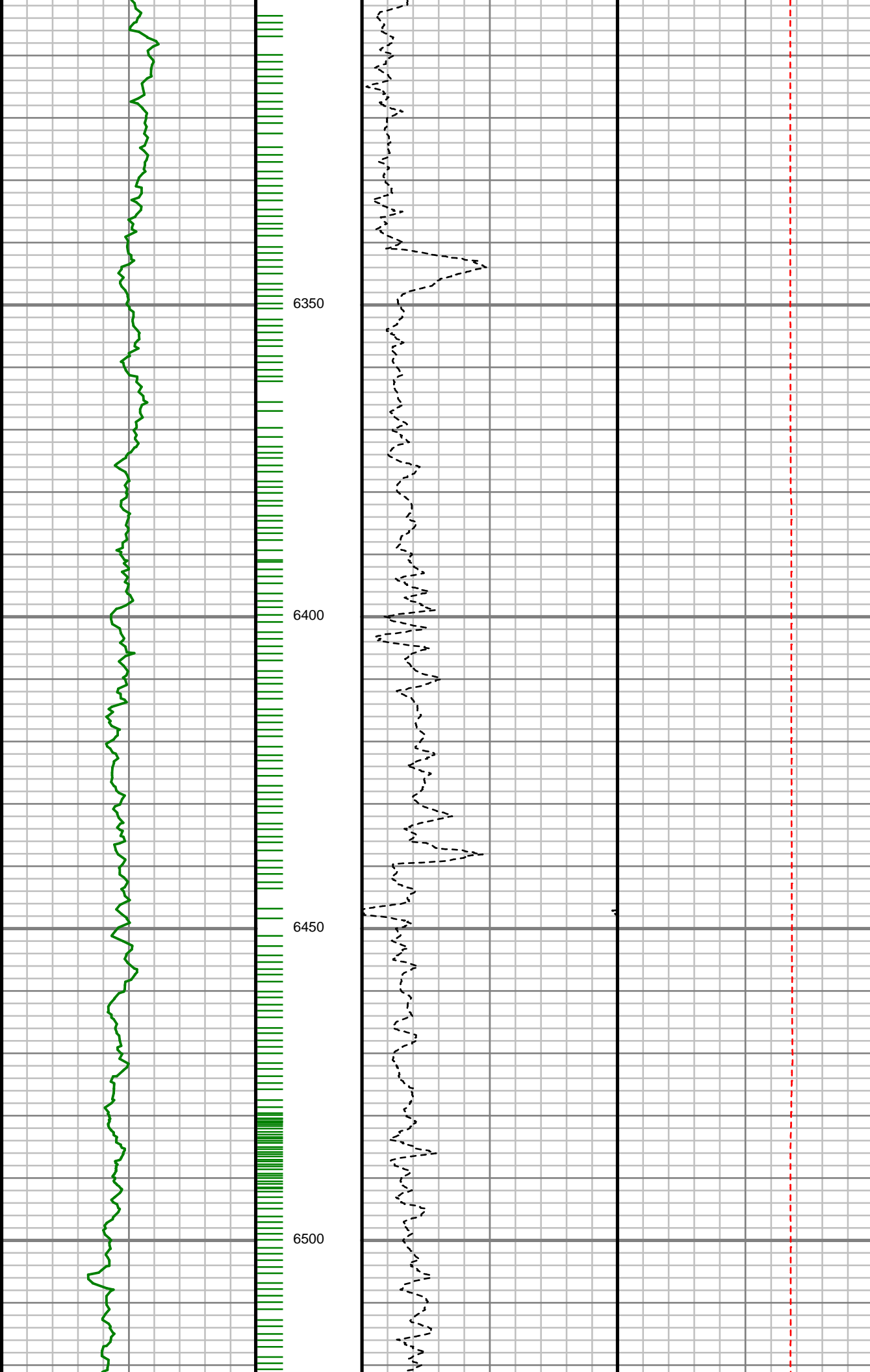
S: 50 MD: 5902.00 ft
Inc: 0.83 deg Az:
222.46 deg TVD:
5839.83 ft

S: 51 MD: 5996.00 ft
Inc: 1.75 deg Az:
289.18 deg TVD:
5933.81 ft

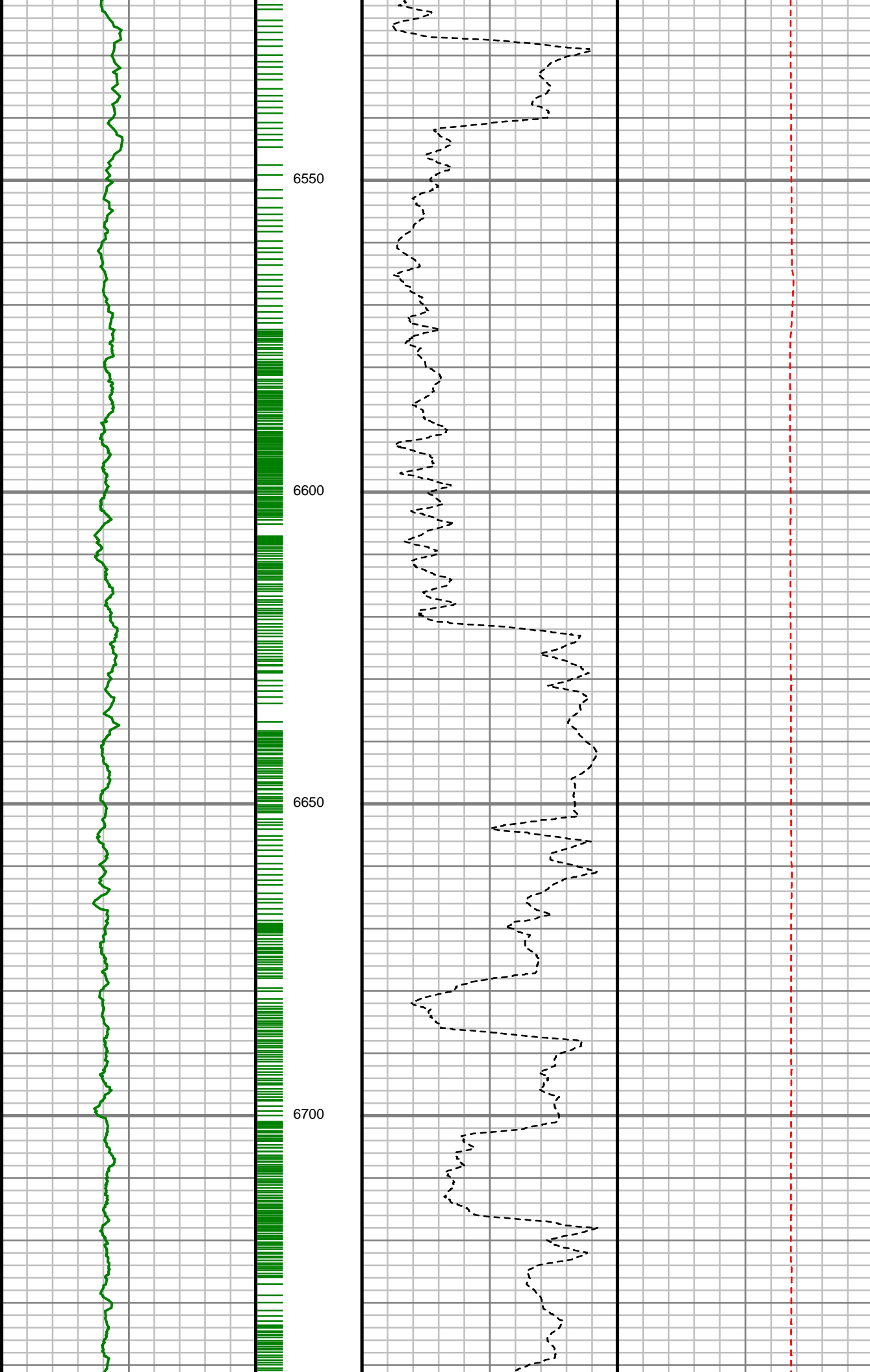


S: 52 MD: 6091.00 ft
Inc: 1.05 deg Az:
292.42 deg TVD:
6028.78 ft

S: 53 MD: 6186.00 ft
Inc: 0.87 deg Az:
281.66 deg TVD:
6123.77 ft



S: 54 MD: 6375.00 ft
Inc: 1.45 deg Az:
232.08 deg TVD:
6312.73 ft



S: 55 MD: 6564.00 ft
Inc: 0.81 deg Az:
192.62 deg TVD:
6501.70 ft

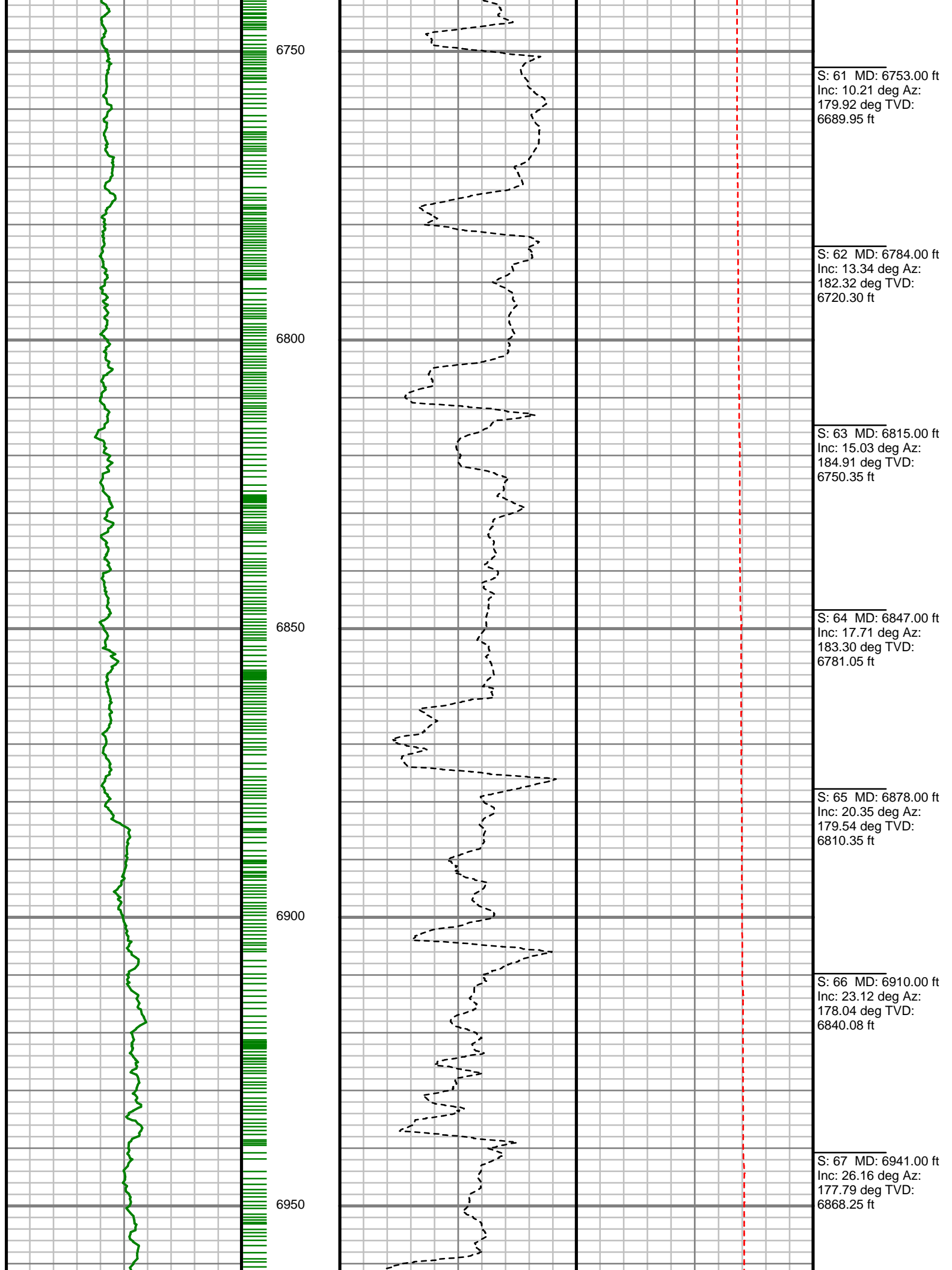
S: 56 MD: 6595.00 ft
Inc: 0.90 deg Az:
196.32 deg TVD:
6532.70 ft

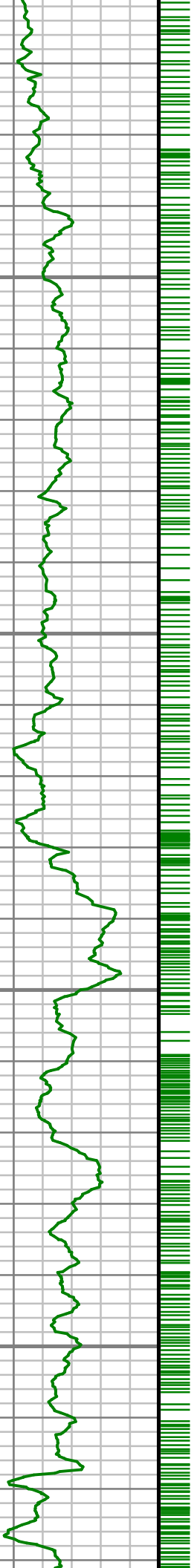
S: 57 MD: 6627.00 ft
Inc: 1.57 deg Az:
203.30 deg TVD:
6564.69 ft

S: 58 MD: 6658.00 ft
Inc: 3.37 deg Az:
172.19 deg TVD:
6595.66 ft

S: 59 MD: 6690.00 ft
Inc: 5.76 deg Az:
175.48 deg TVD:
6627.55 ft

S: 60 MD: 6721.00 ft
Inc: 7.65 deg Az:
177.71 deg TVD:
6658.34 ft



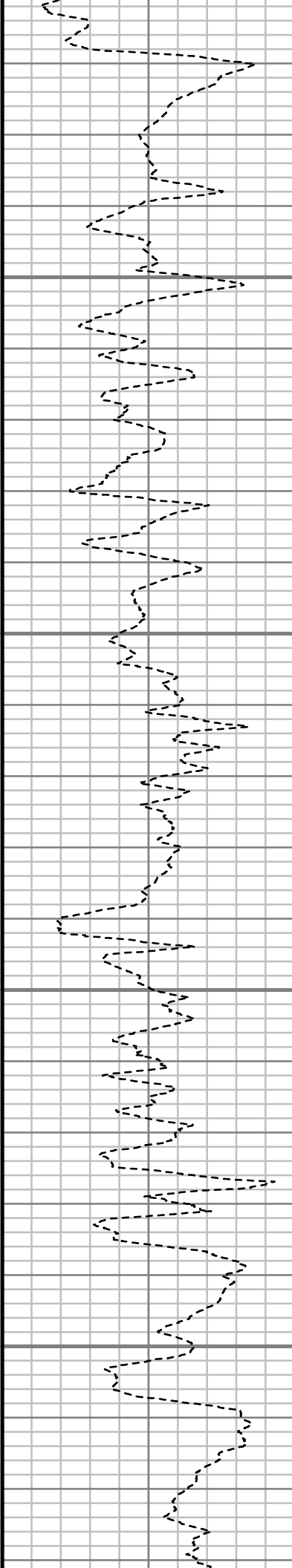


7000

7050

7100

7150



S: 68 MD: 6973.00 ft
Inc: 28.43 deg Az:
177.27 deg TVD:
6896.69 ft

S: 69 MD: 7004.00 ft
Inc: 30.32 deg Az:
178.26 deg TVD:
6923.70 ft

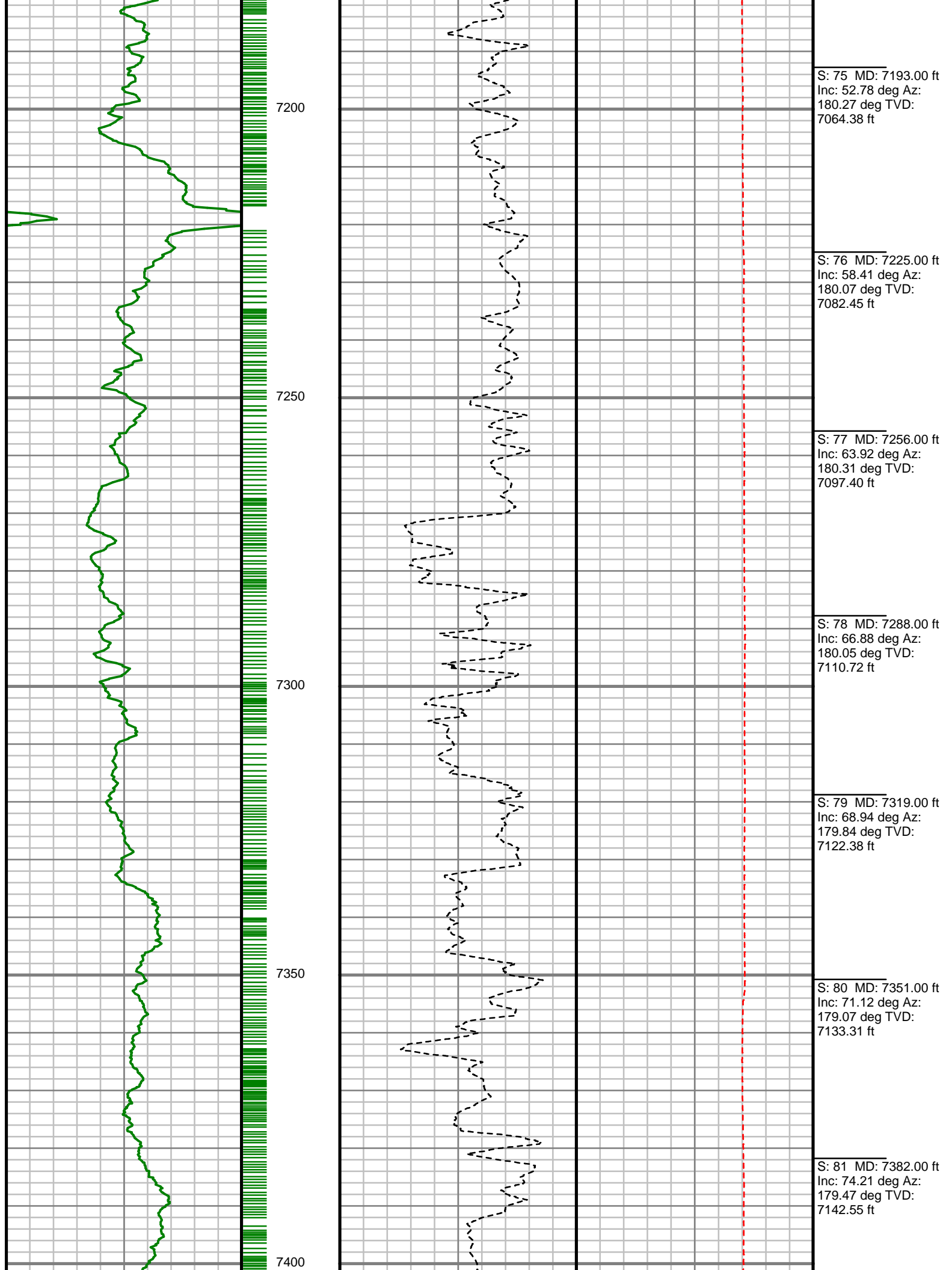
S: 70 MD: 7036.00 ft
Inc: 33.92 deg Az:
178.63 deg TVD:
6950.80 ft

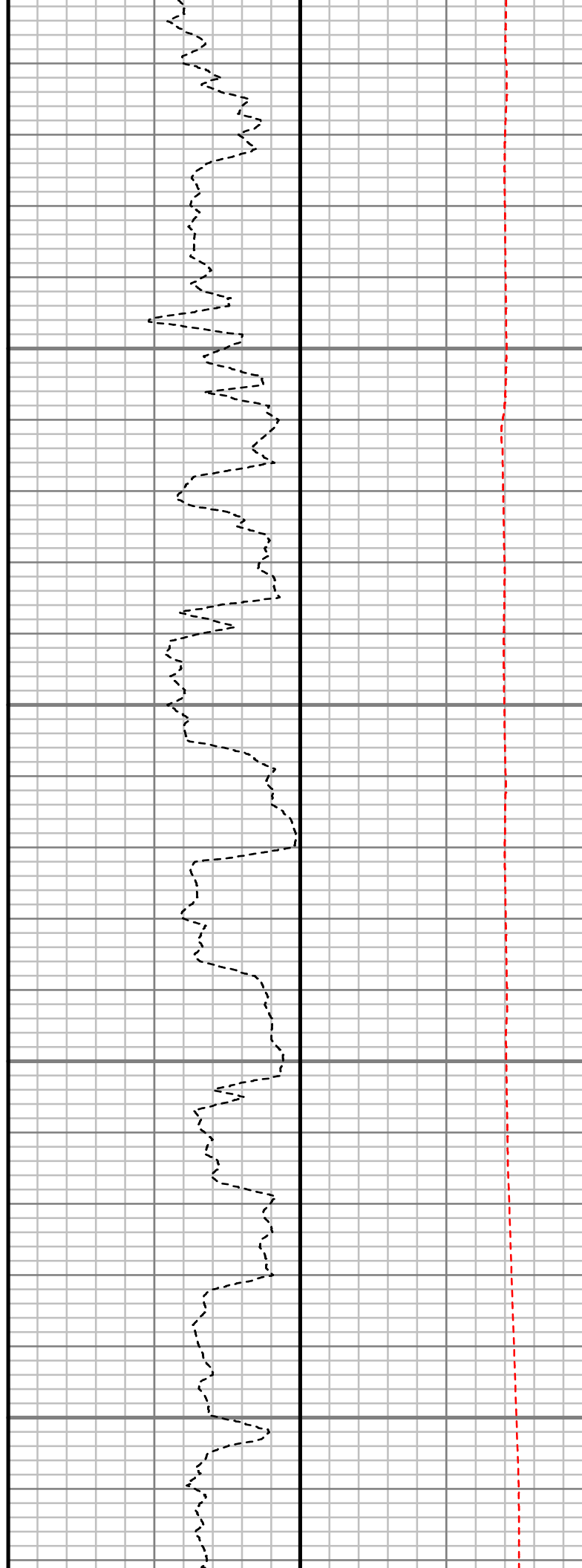
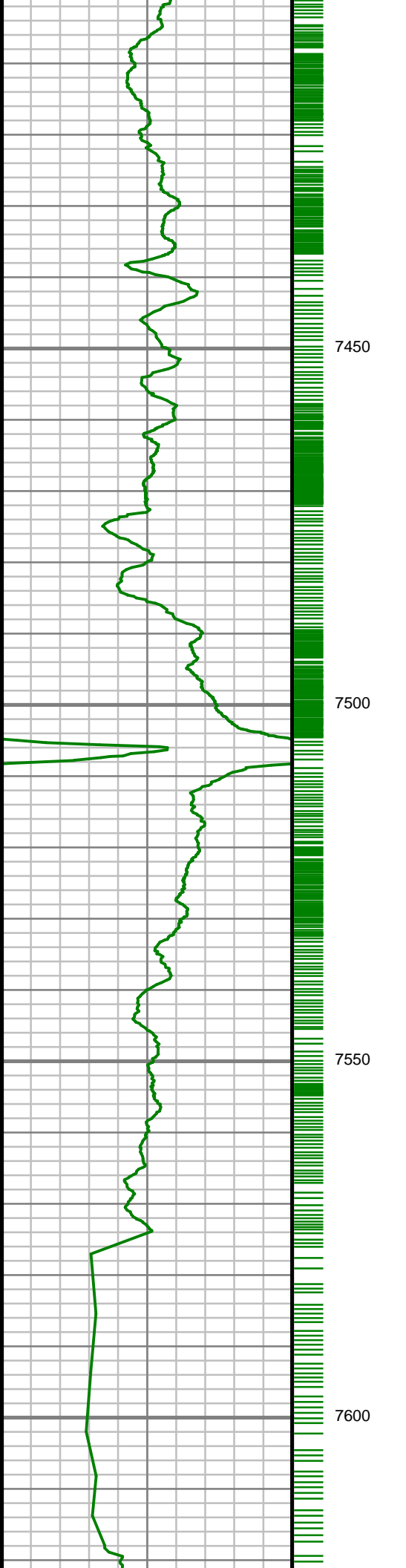
S: 71 MD: 7067.00 ft
Inc: 38.41 deg Az:
177.63 deg TVD:
6975.82 ft

S: 72 MD: 7099.00 ft
Inc: 42.38 deg Az:
178.25 deg TVD:
7000.18 ft

S: 73 MD: 7130.00 ft
Inc: 45.05 deg Az:
178.86 deg TVD:
7022.59 ft

S: 74 MD: 7162.00 ft
Inc: 47.95 deg Az:
179.61 deg TVD:
7044.61 ft





S: 82 MD: 7414.00 ft
Inc: 76.45 deg Az:
179.39 deg TVD:
7150.65 ft

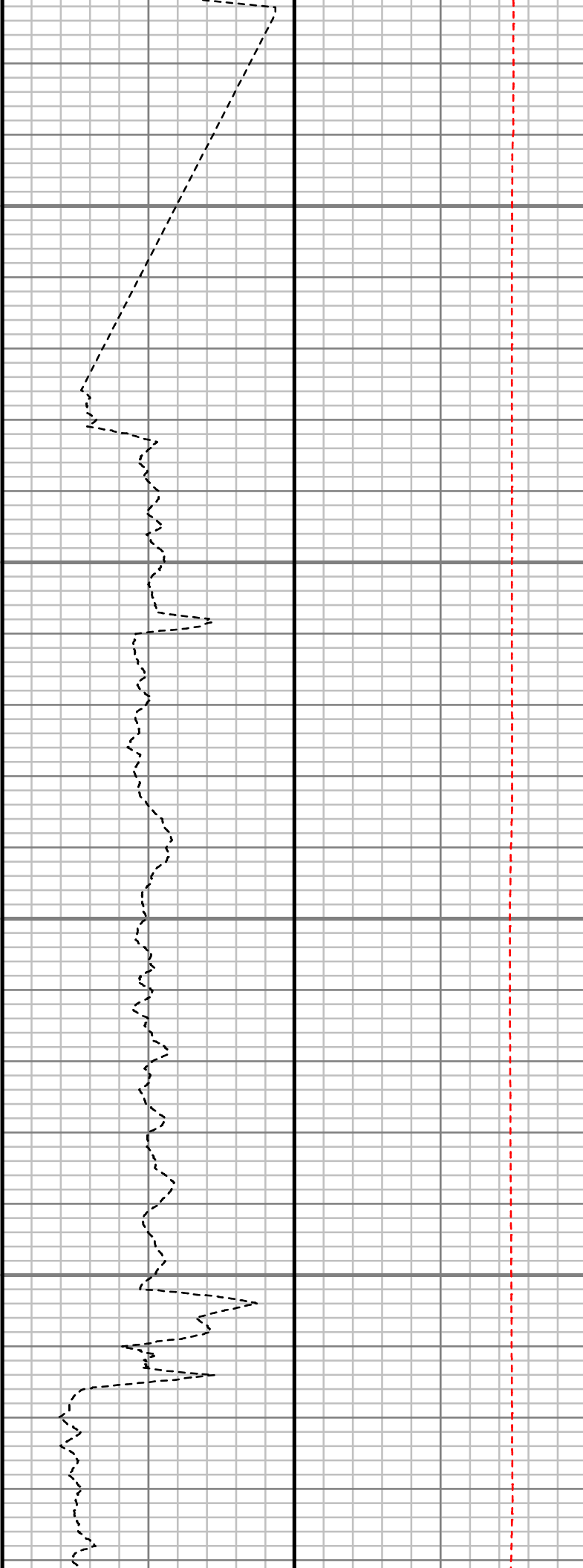
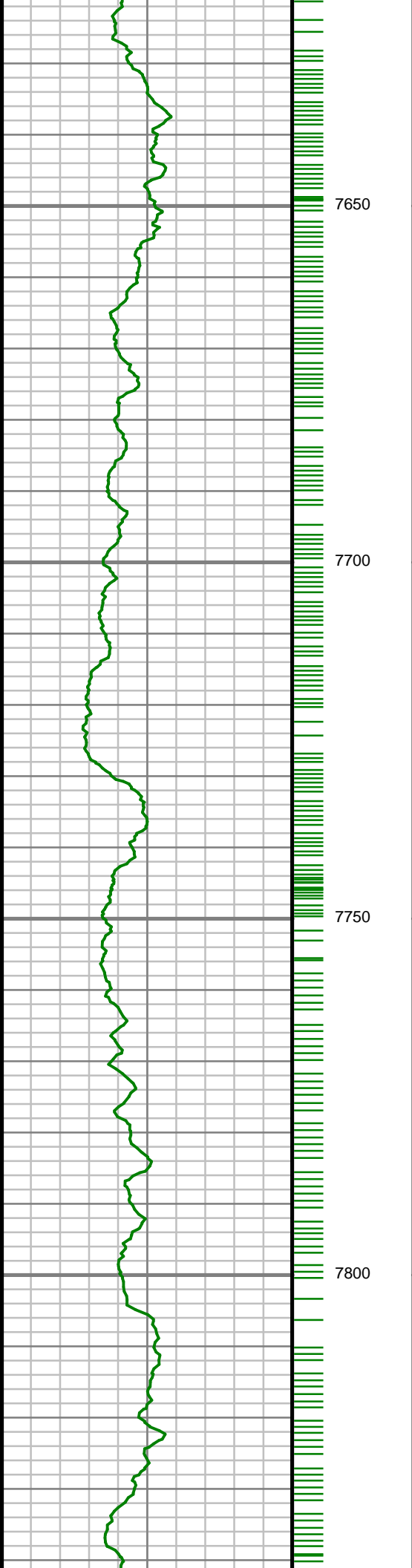
S: 83 MD: 7445.00 ft
Inc: 77.90 deg Az:
178.95 deg TVD:
7157.53 ft

S: 84 MD: 7477.00 ft
Inc: 80.37 deg Az:
179.04 deg TVD:
7163.56 ft

S: 85 MD: 7508.00 ft
Inc: 82.26 deg Az:
179.25 deg TVD:
7168.24 ft

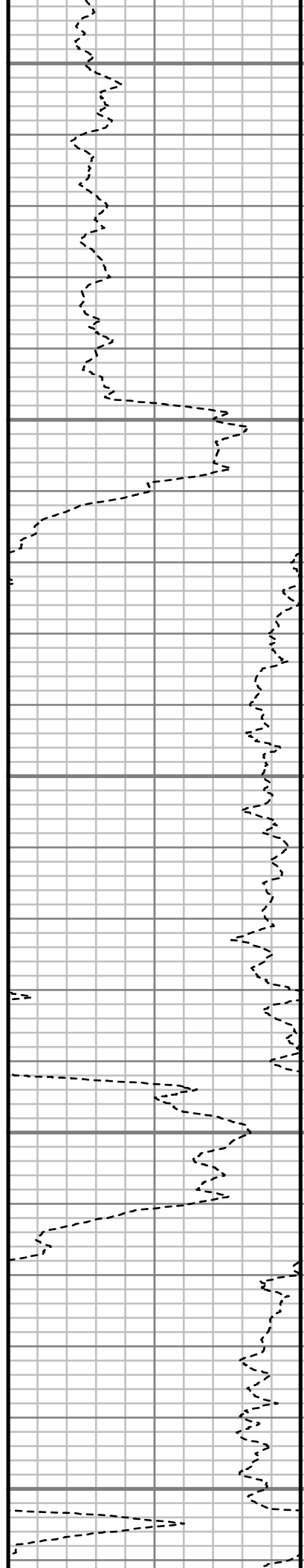
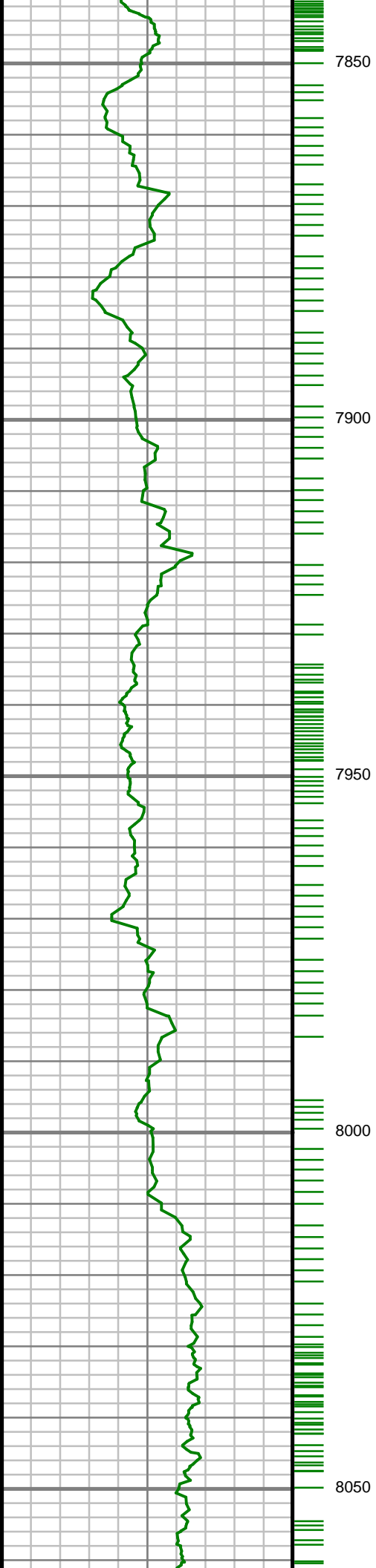
S: 86 MD: 7540.00 ft
Inc: 84.86 deg Az:
179.45 deg TVD:
7171.83 ft

S: 87 MD: 7563.00 ft
Inc: 87.02 deg Az:
180.14 deg TVD:
7173.46 ft



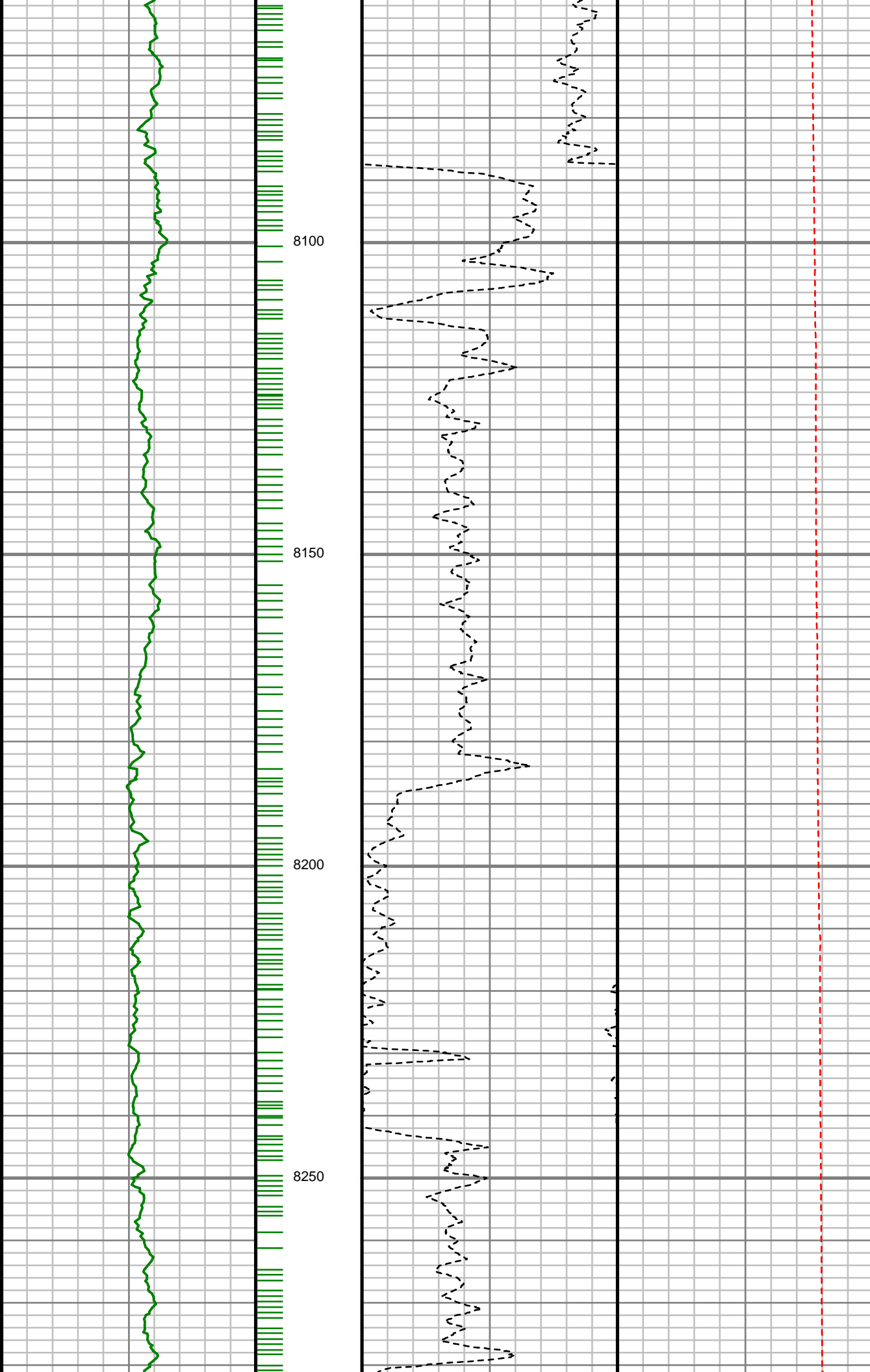
S: 88 MD: 7733.00 ft
Inc: 88.79 deg Az:
179.84 deg TVD:
7179.69 ft

S: 89 MD: 7827.00 ft
Inc: 89.53 deg Az:
181.31 deg TVD:
7181.06 ft



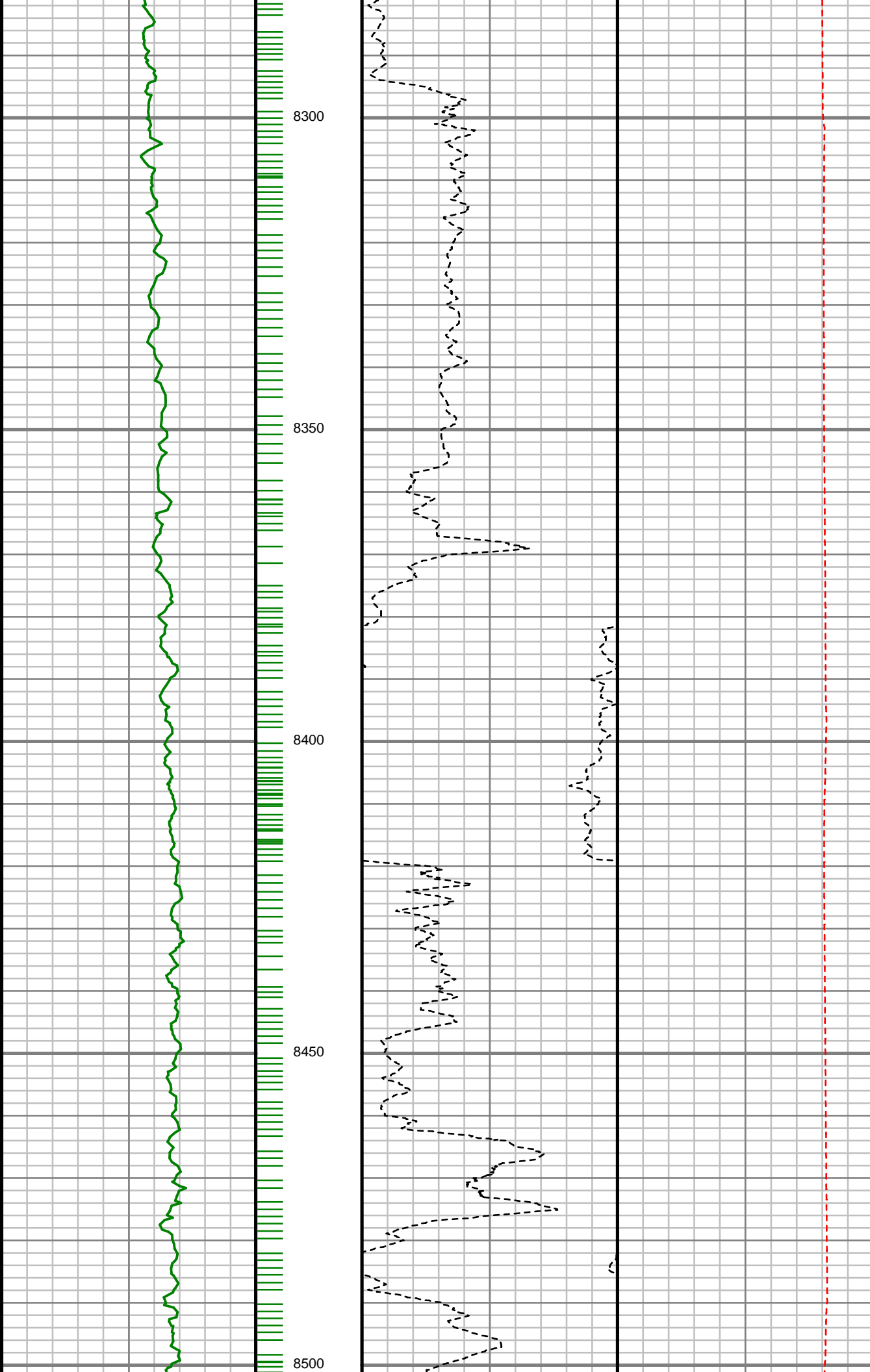
S: 90 MD: 7921.00 ft
Inc: 89.46 deg Az:
180.40 deg TVD:
7181.89 ft

S: 91 MD: 8016.00 ft
Inc: 89.97 deg Az:
180.62 deg TVD:
7182.36 ft



S: 92 MD: 8110.00 ft
Inc: 91.94 deg Az:
180.02 deg TVD:
7180.80 ft

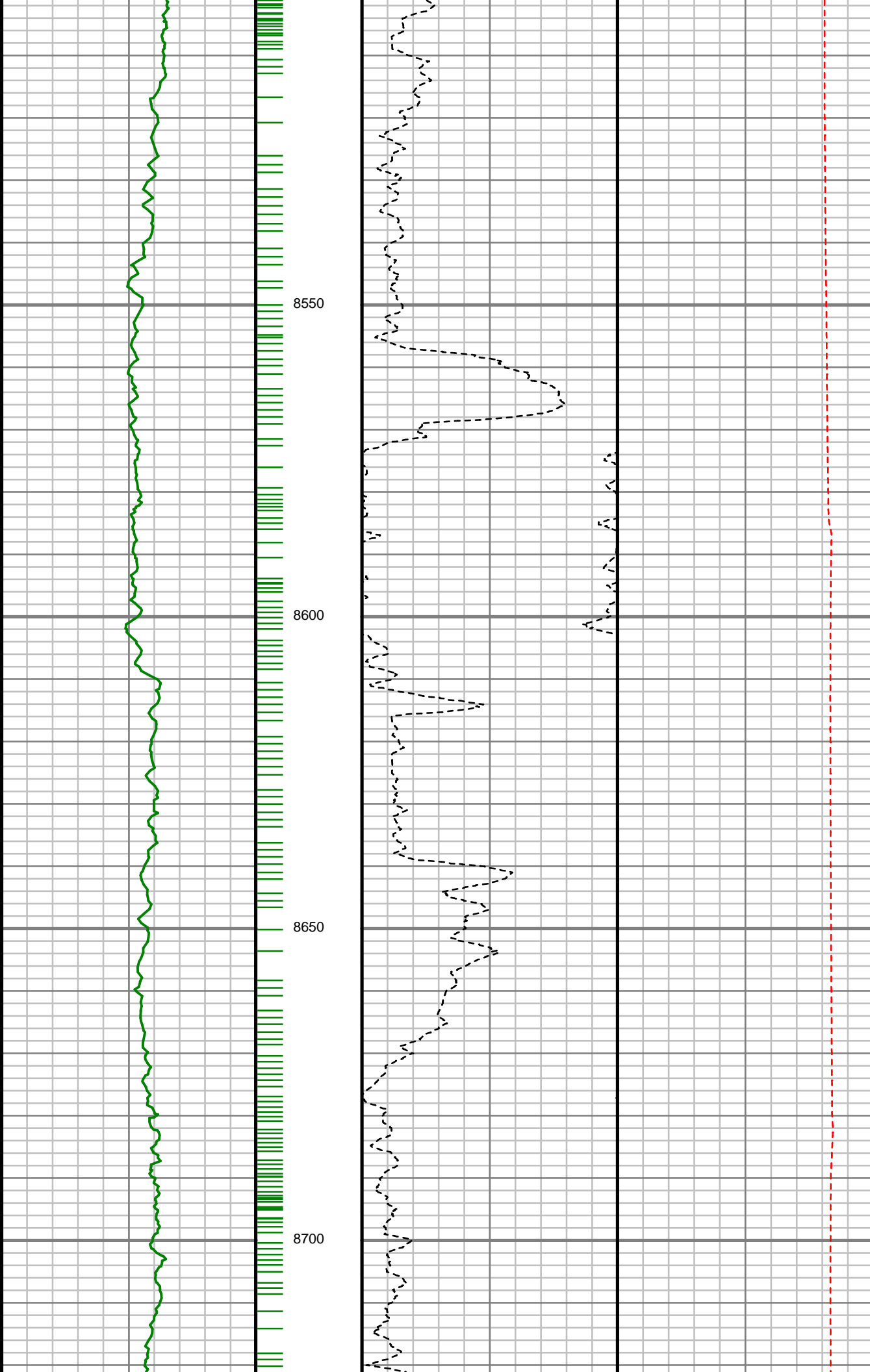
S: 93 MD: 8204.00 ft
Inc: 91.88 deg Az:
180.30 deg TVD:
7177.66 ft



S: 94 MD: 8299.00 ft
Inc: 91.75 deg Az:
179.68 deg TVD:
7174.65 ft

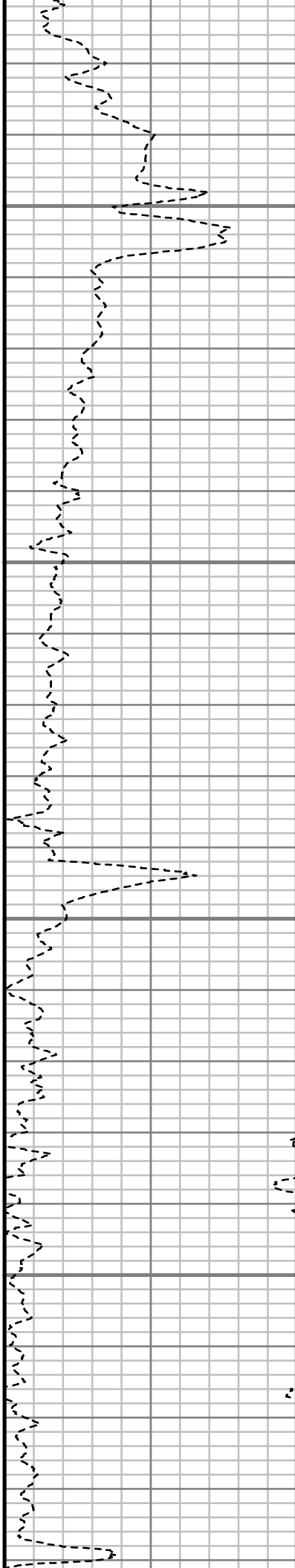
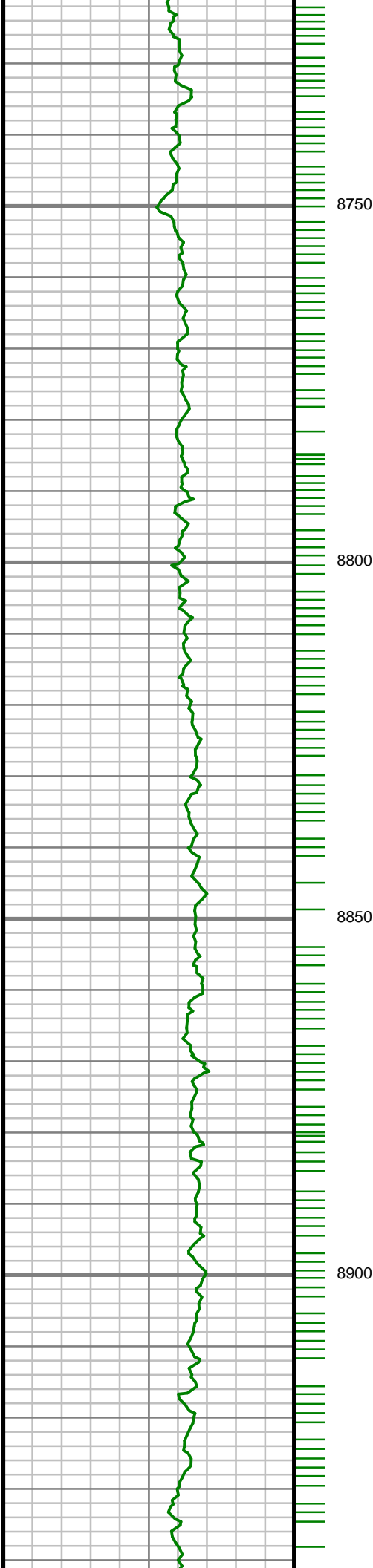
S: 95 MD: 8393.00 ft
Inc: 90.70 deg Az:
179.02 deg TVD:
7172.65 ft

S: 96 MD: 8487.00 ft
Inc: 92.06 deg Az:
179.13 deg TVD:
7170.38 ft



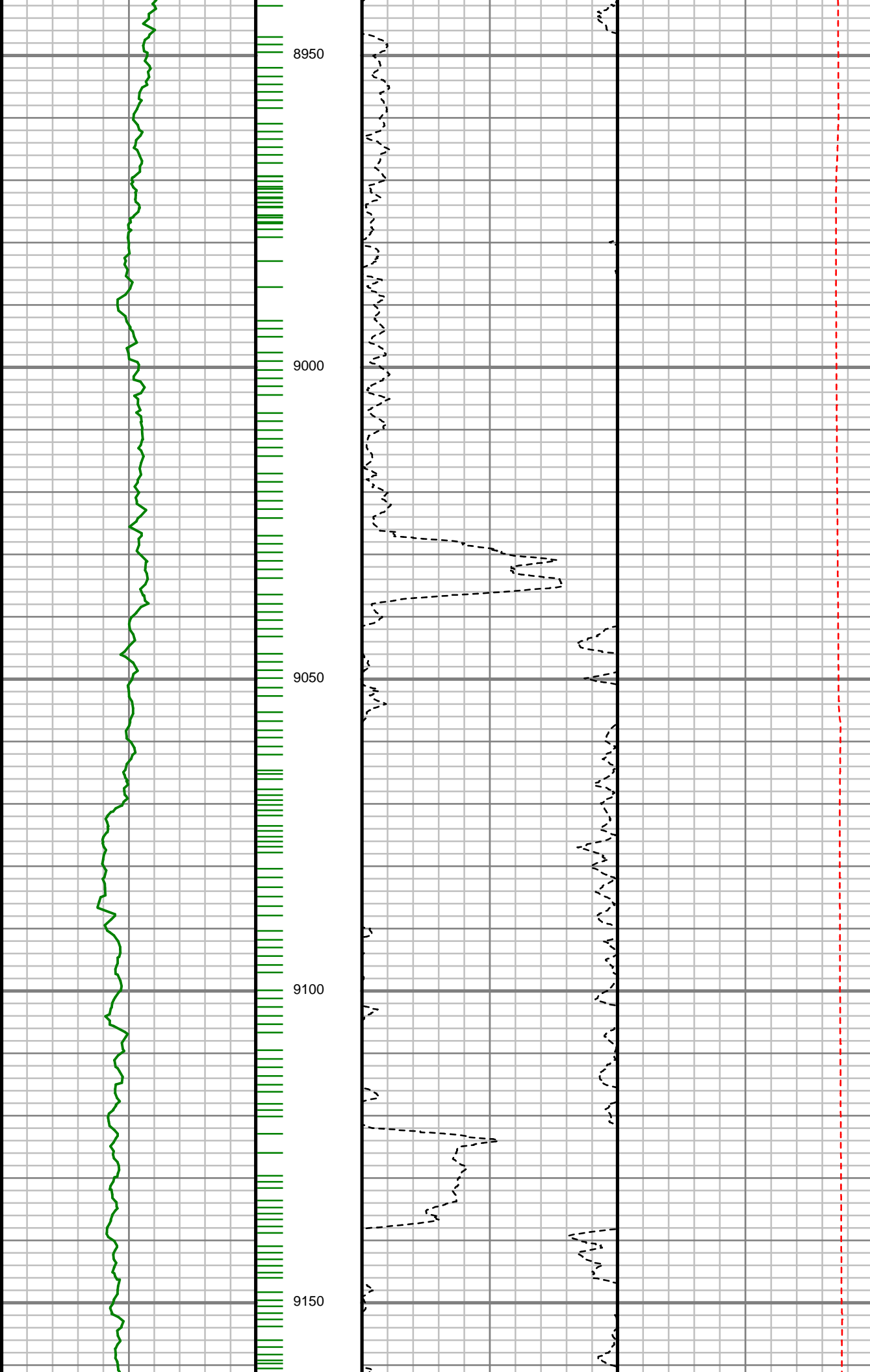
S: 97 MD: 8582.00 ft
Inc: 91.88 deg Az:
180.58 deg TVD:
7167.12 ft

S: 98 MD: 8676.00 ft
Inc: 91.48 deg Az:
180.65 deg TVD:
7164.37 ft



S: 99 MD: 8770.00 ft
Inc: 92.12 deg Az:
181.16 deg TVD:
7161.41 ft

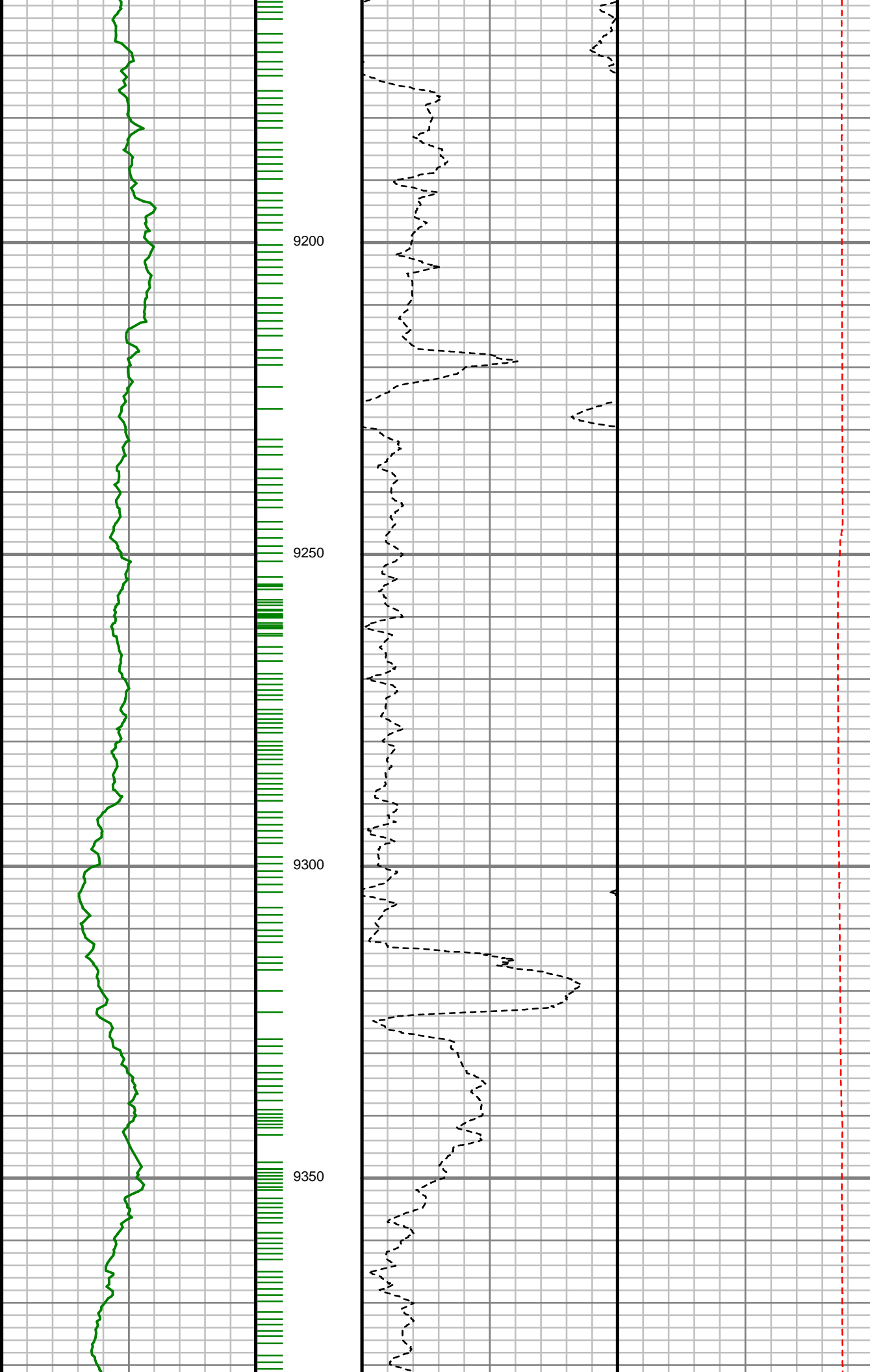
S: 100 MD: 8864.00 ft
Inc: 92.12 deg Az:
179.91 deg TVD:
7157.94 ft



S: 101 MD: 8959.00 ft
Inc: 91.34 deg Az:
180.82 deg TVD:
7155.07 ft

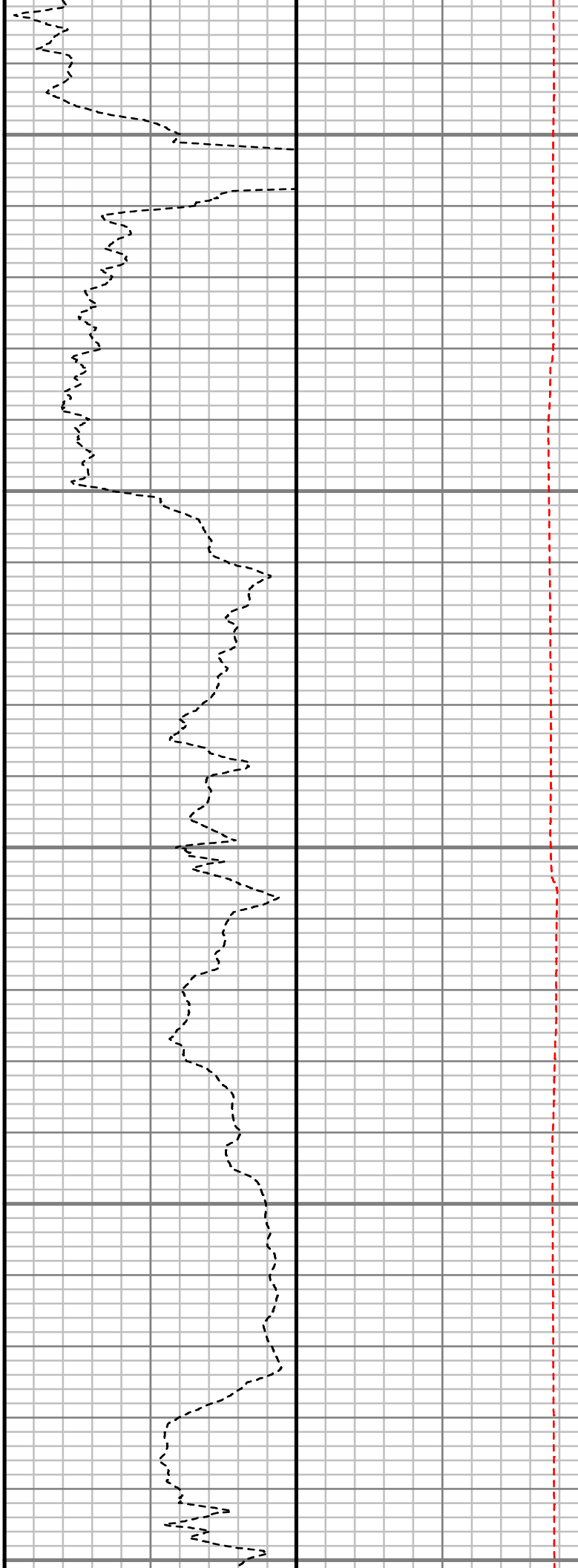
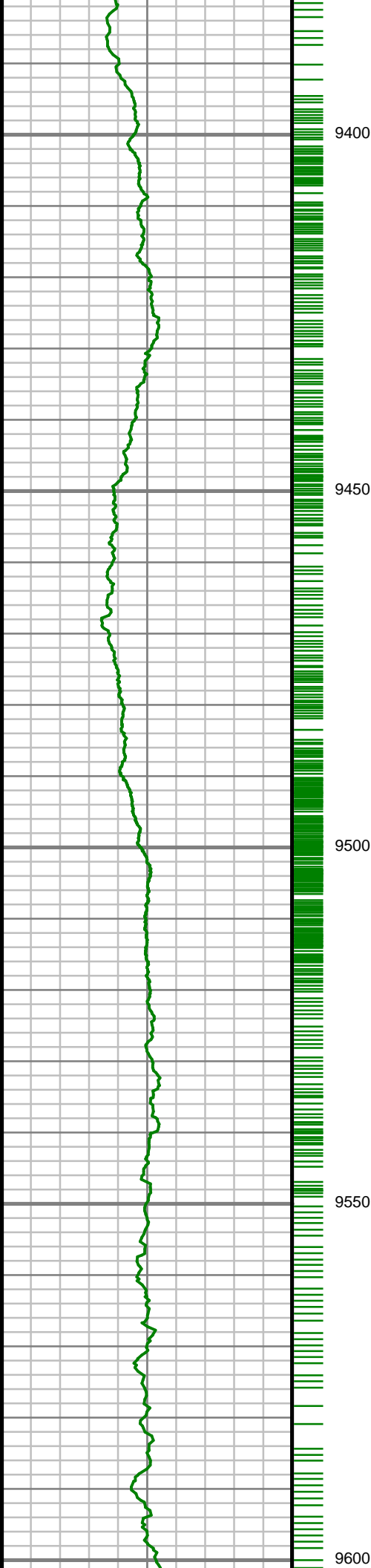
S: 102 MD: 9053.00 ft
Inc: 92.09 deg Az:
180.01 deg TVD:
7152.26 ft

S: 103 MD: 9147.00 ft
Inc: 91.75 deg Az:
180.15 deg TVD:
7149.11 ft



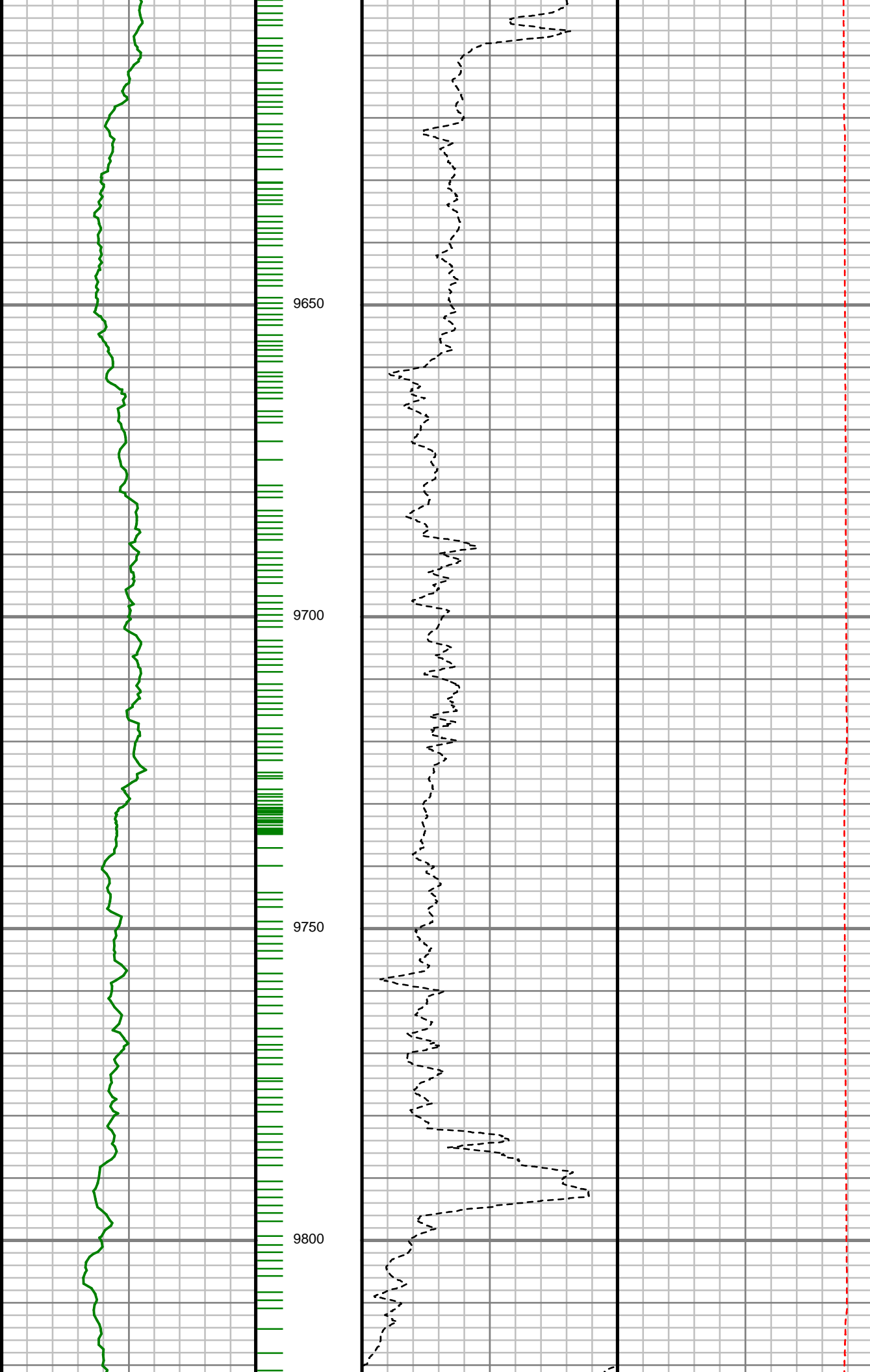
S: 104 MD: 9241.00 ft
Inc: 90.81 deg Az:
180.22 deg TVD:
7147.01 ft

S: 105 MD: 9335.00 ft
Inc: 91.88 deg Az:
179.50 deg TVD:
7144.81 ft



S: 106 MD: 9430.00 ft
Inc: 90.77 deg Az:
178.98 deg TVD:
7142.61 ft

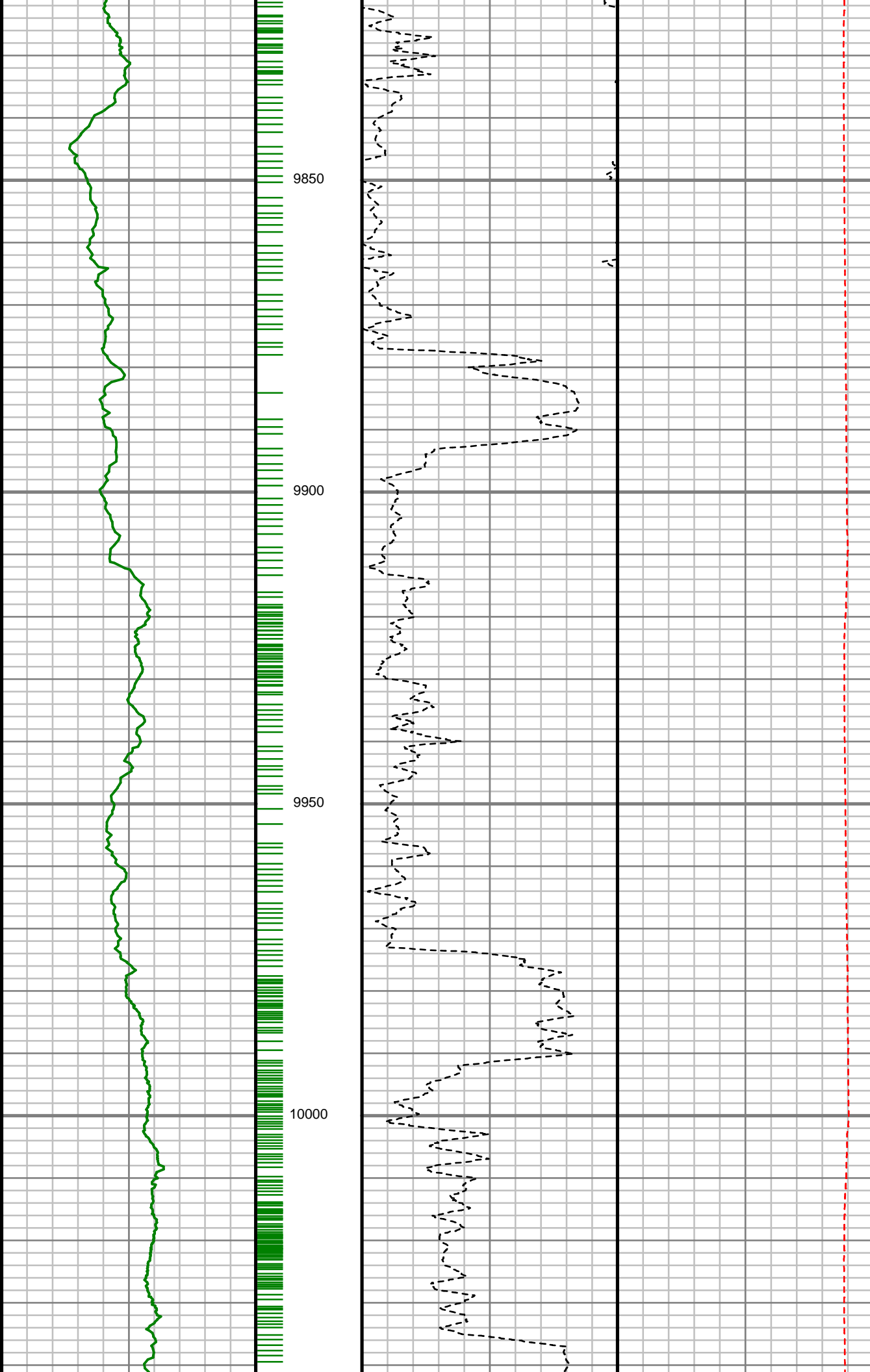
S: 107 MD: 9523.00 ft
Inc: 89.13 deg Az:
177.52 deg TVD:
7142.69 ft



S: 108 MD: 9617.00 ft
Inc: 92.08 deg Az:
179.17 deg TVD:
7141.70 ft

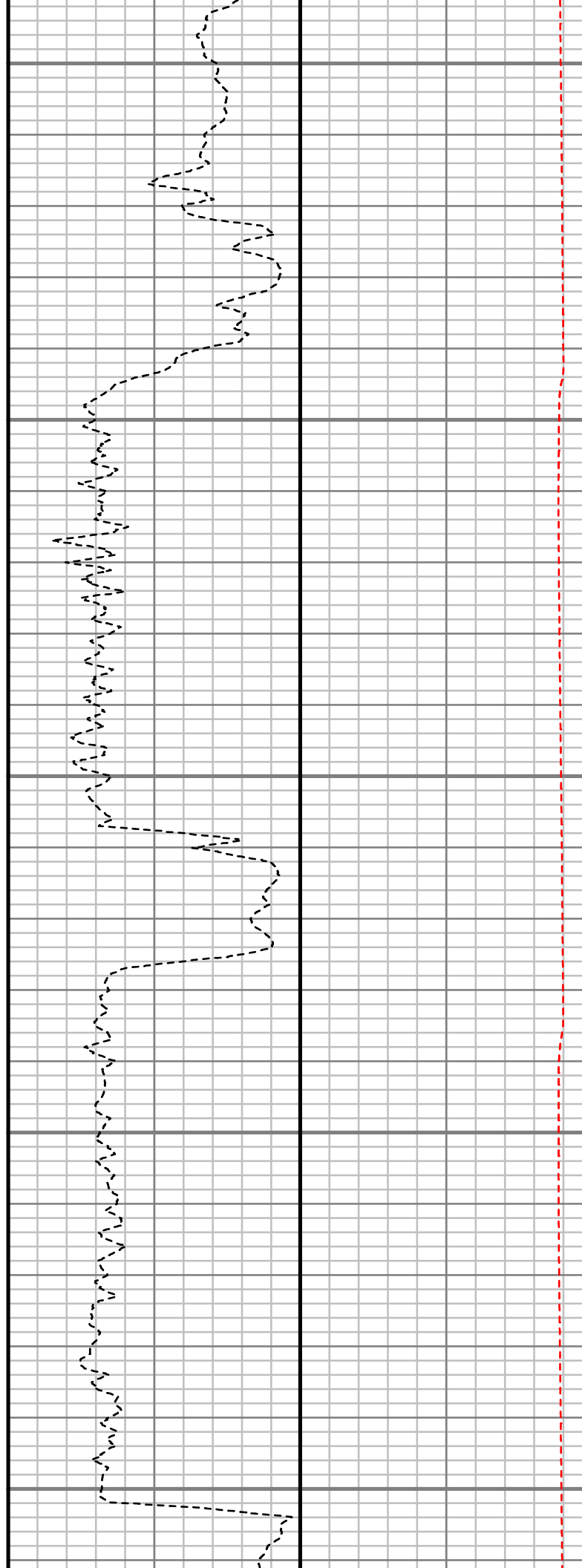
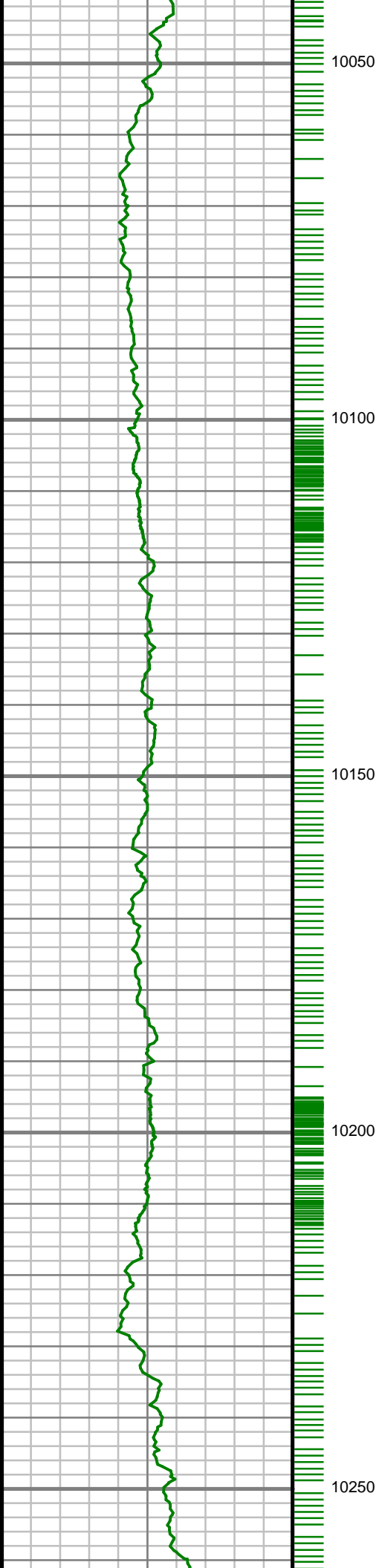
S: 109 MD: 9711.00 ft
Inc: 92.08 deg Az:
177.81 deg TVD:
7138.28 ft

S: 110 MD: 9806.00 ft
Inc: 93.23 deg Az:
178.62 deg TVD:
7133.88 ft



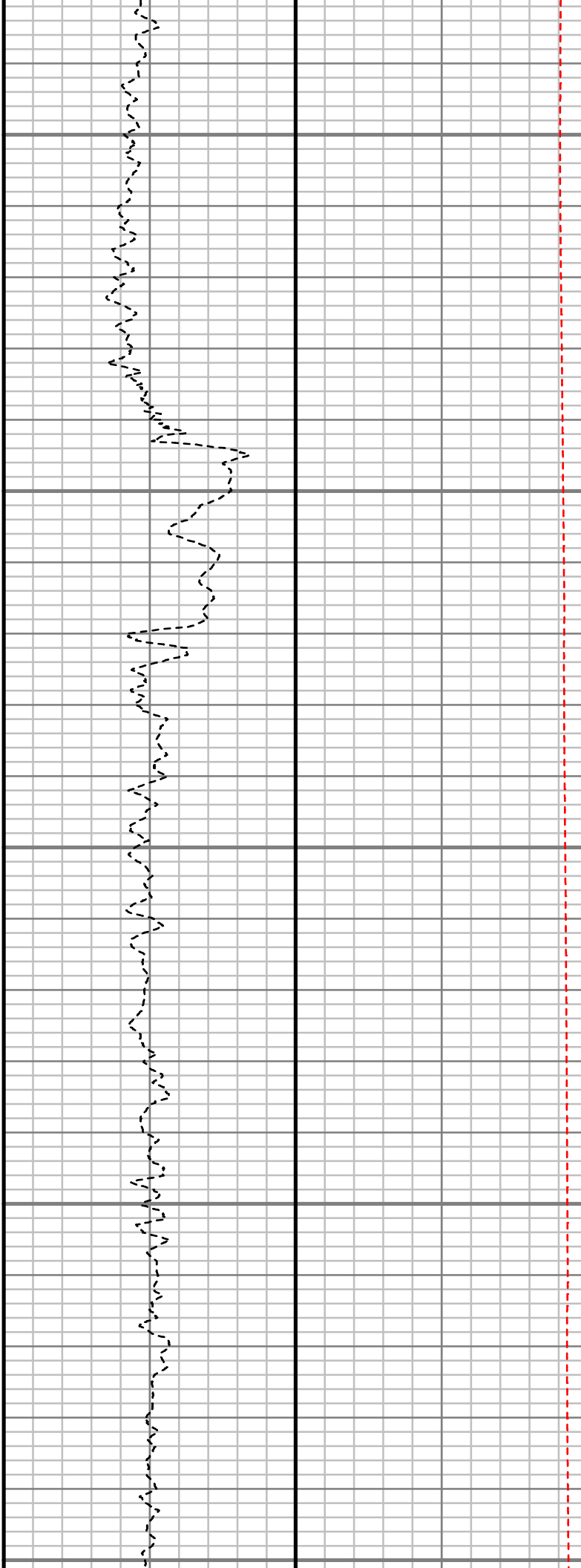
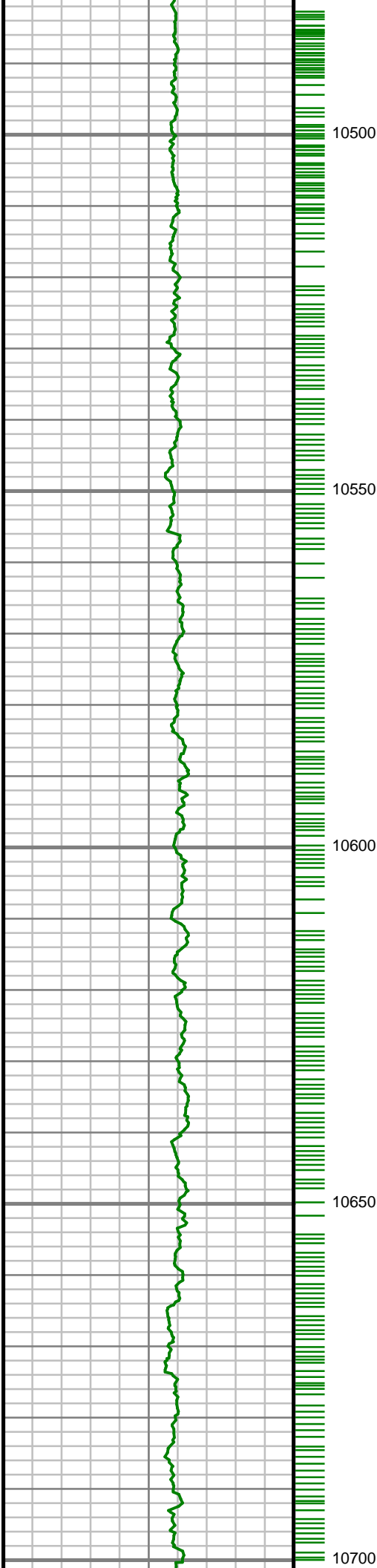
S: 111 MD: 9900.00 ft
Inc: 92.79 deg Az:
178.42 deg TVD:
7128.94 ft

S: 112 MD: 9995.00 ft
Inc: 92.18 deg Az:
176.42 deg TVD:
7124.82 ft



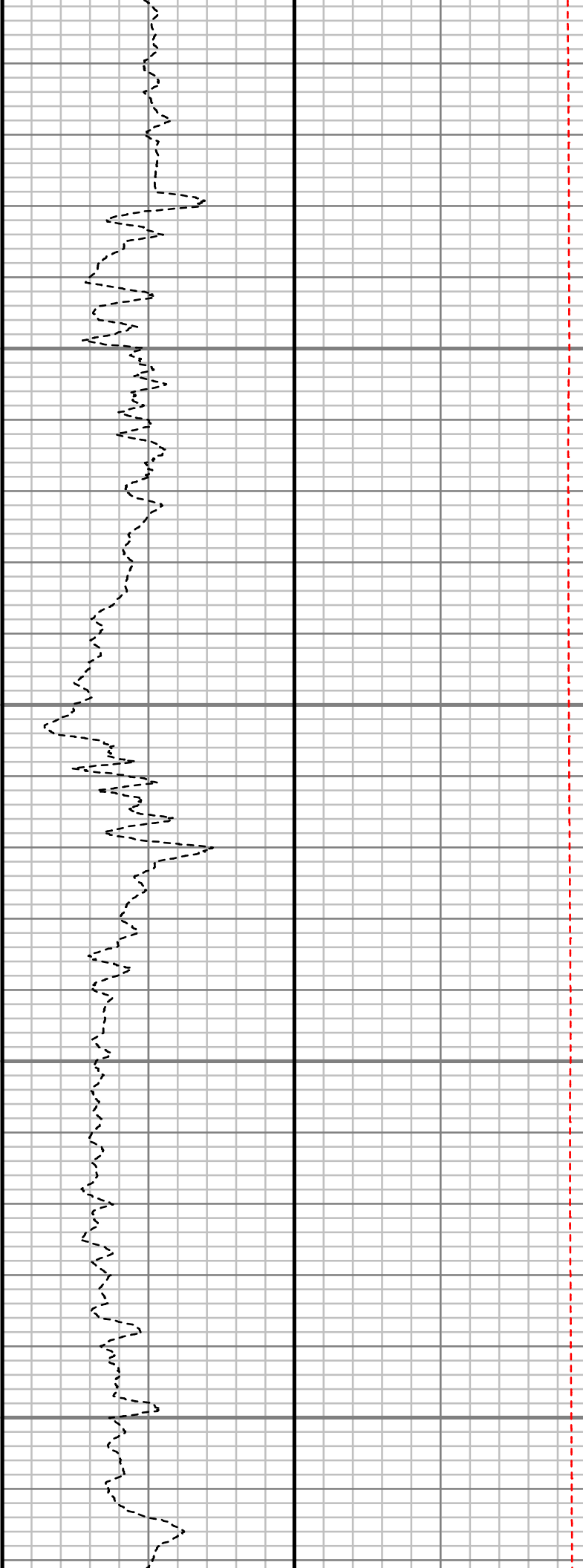
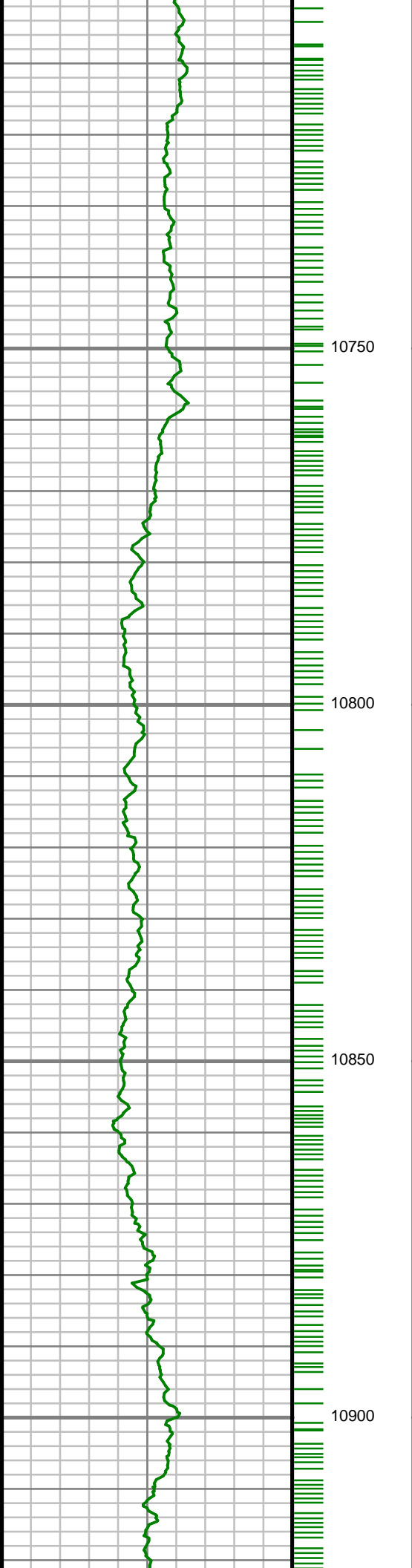
S: 113 MD: 10089.00 ft
Inc: 90.27 deg Az:
177.17 deg TVD:
7122.81 ft

S: 114 MD: 10184.00 ft
Inc: 89.56 deg Az:
177.58 deg TVD:
7122.95 ft



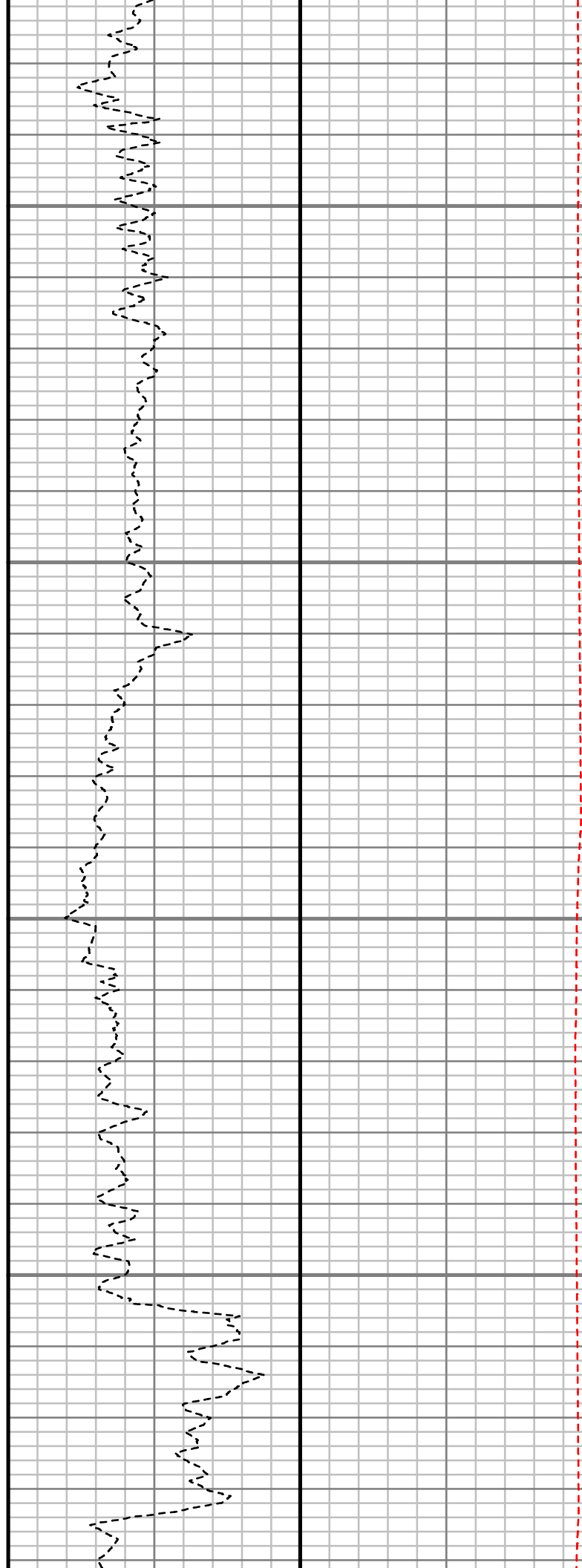
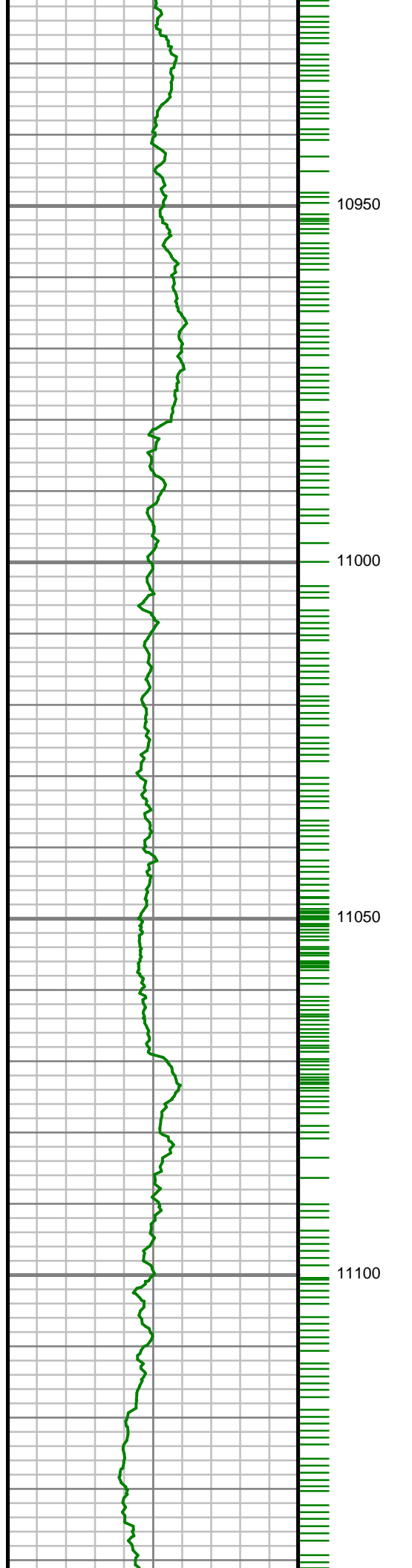
S: 118 MD: 10561.00 ft
Inc: 89.16 deg Az:
184.10 deg TVD:
7128.54 ft

S: 119 MD: 10656.00 ft
Inc: 88.69 deg Az:
183.65 deg TVD:
7130.31 ft



S: 120 MD: 10751.00 ft
Inc: 89.06 deg Az:
182.63 deg TVD:
7132.18 ft

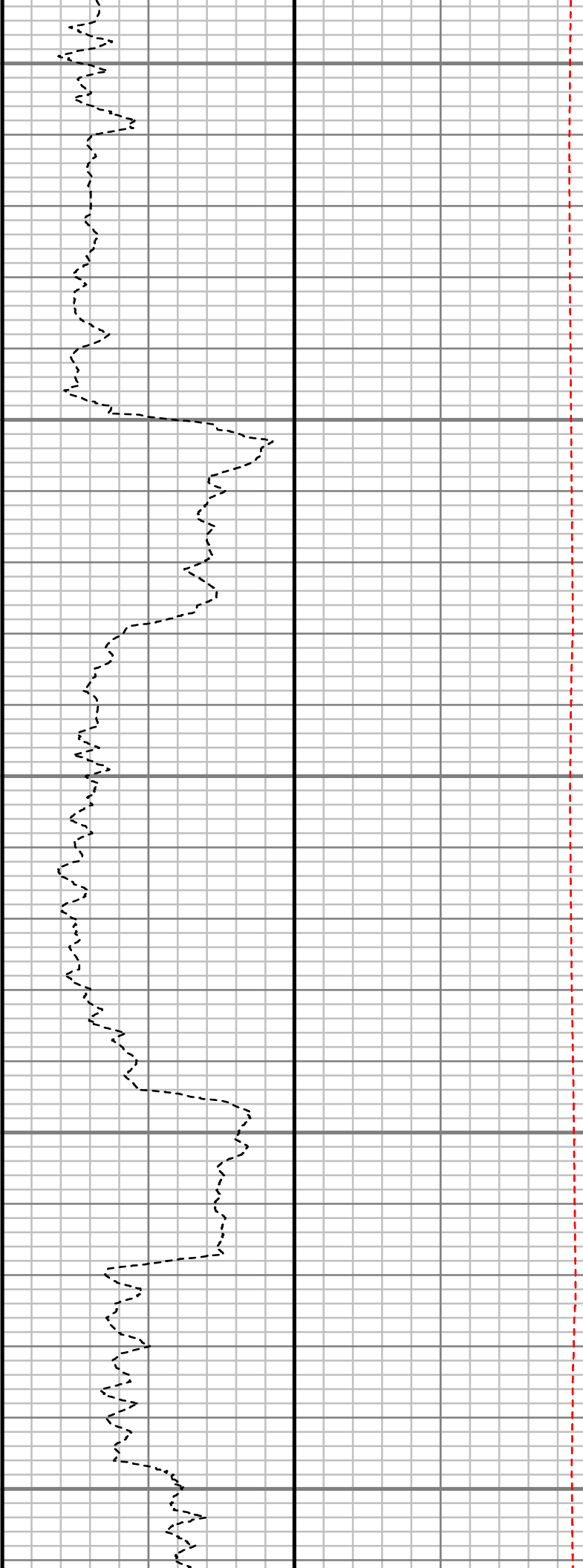
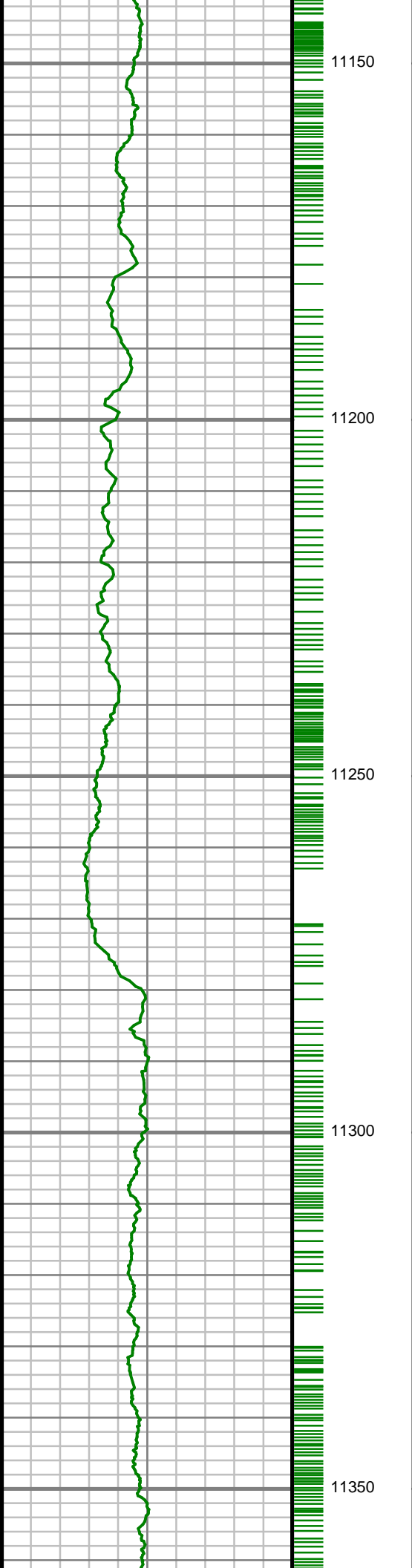
S: 121 MD: 10846.00 ft
Inc: 89.29 deg Az:
182.03 deg TVD:
7133.54 ft



S: 122 MD: 10940.00 ft
Inc: 89.43 deg Az:
181.21 deg TVD:
7134.59 ft

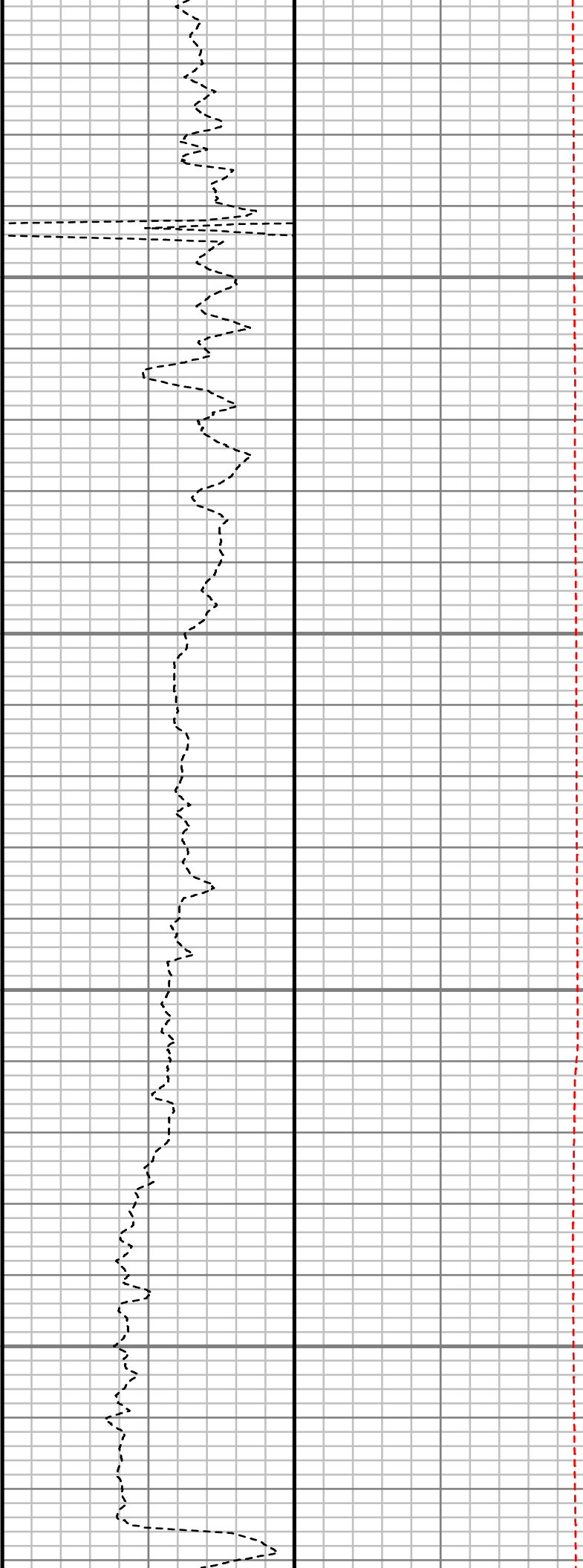
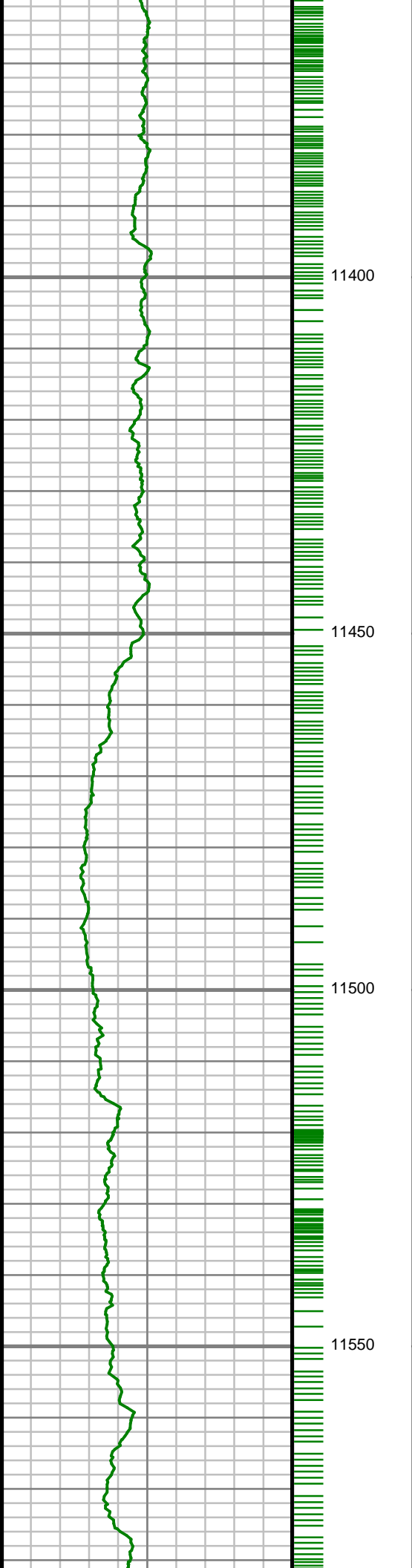
S: 123 MD: 11034.00 ft
Inc: 89.80 deg Az:
177.15 deg TVD:
7135.22 ft

S: 124 MD: 11129.00 ft
Inc: 88.75 deg Az:
177.67 deg TVD:
7136.42 ft



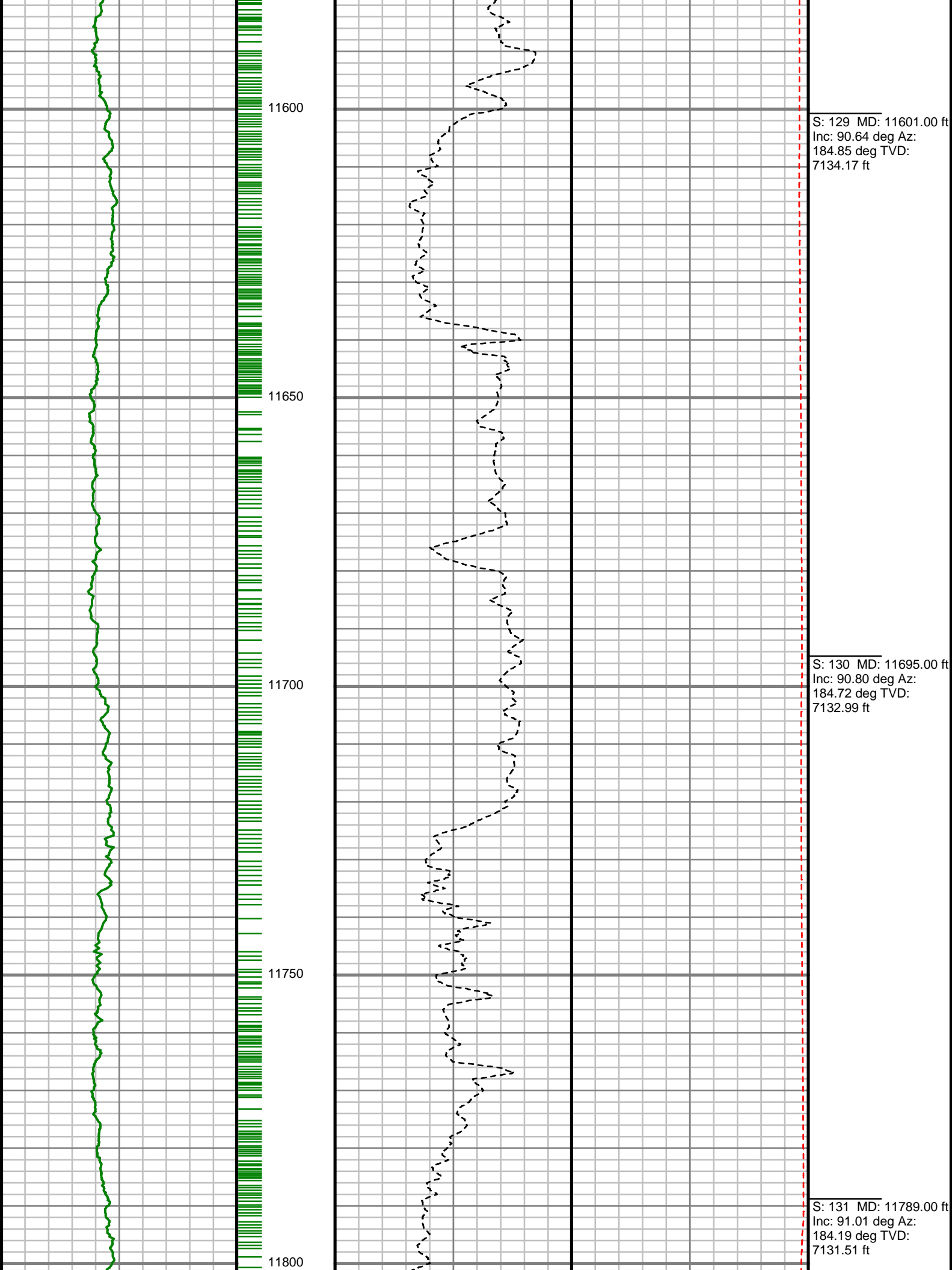
S: 125 MD: 11223.00 ft
Inc: 88.19 deg Az:
180.72 deg TVD:
7138.93 ft

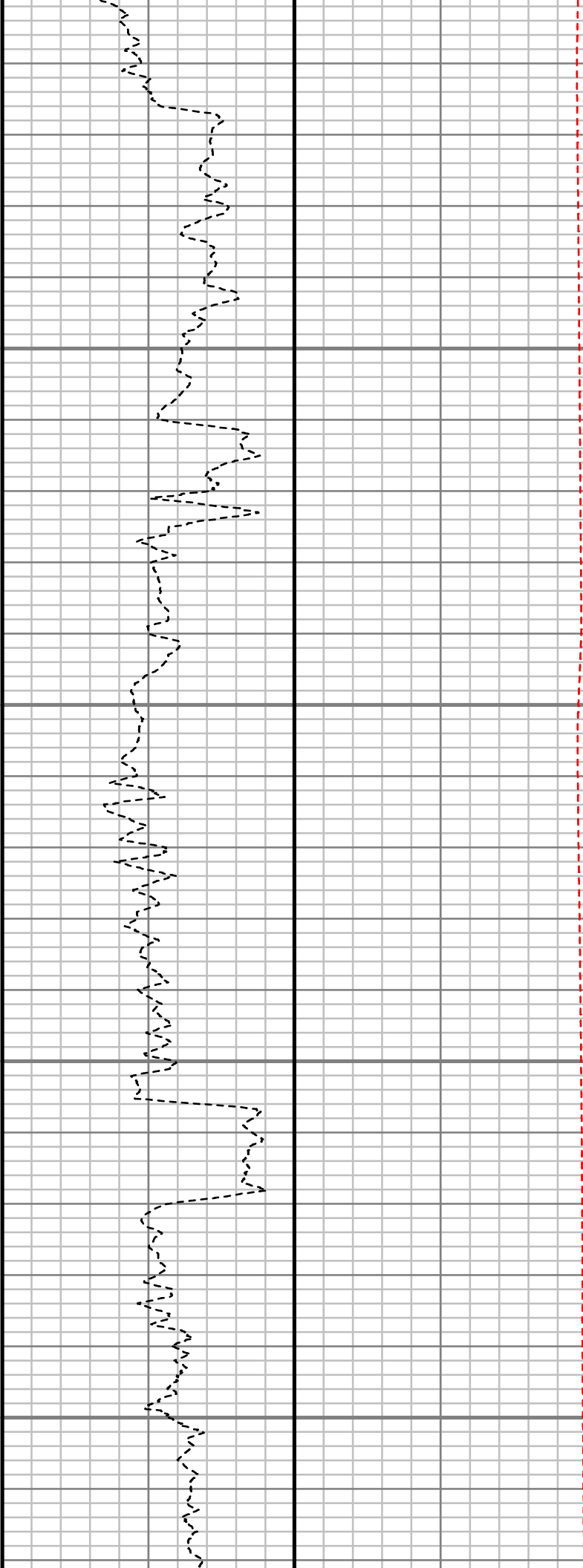
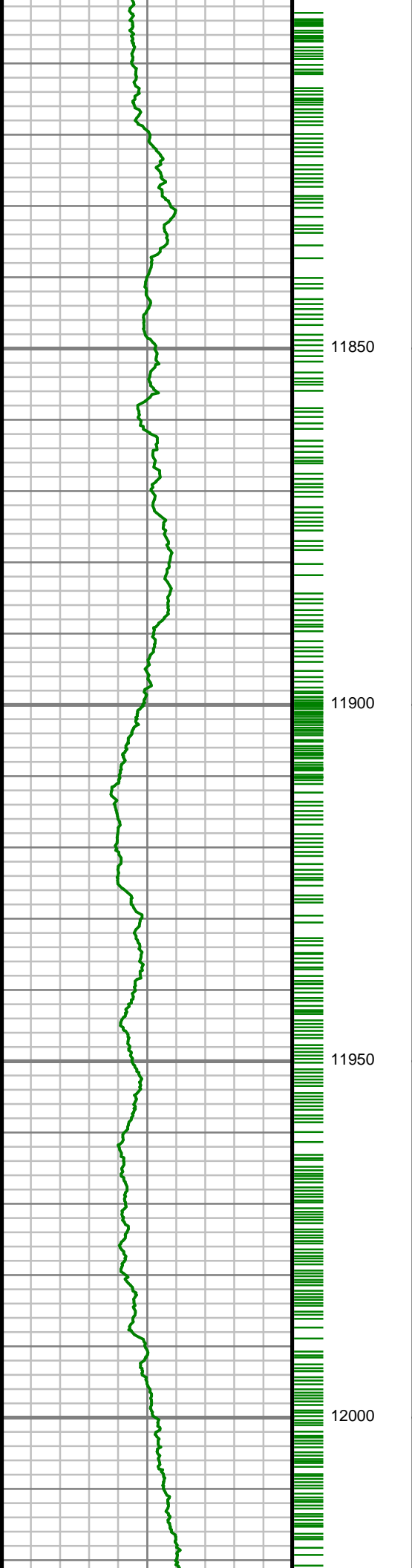
S: 126 MD: 11317.00 ft
Inc: 90.34 deg Az:
182.43 deg TVD:
7140.14 ft



S: 127 MD: 11412.00 ft
Inc: 91.31 deg Az:
184.18 deg TVD:
7138.77 ft

S: 128 MD: 11506.00 ft
Inc: 91.81 deg Az:
183.61 deg TVD:
7136.21 ft

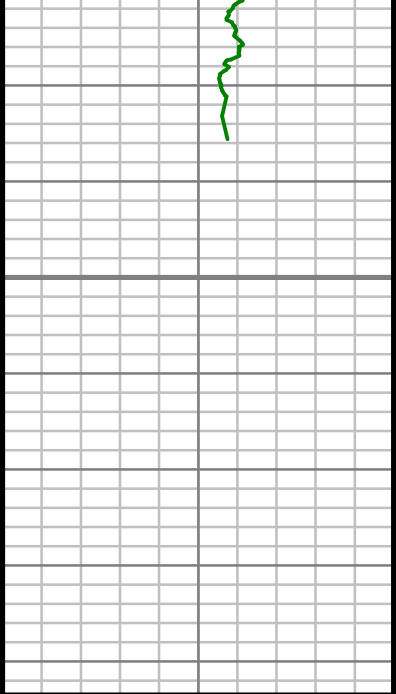




S: 132 MD: 11884.00 ft
Inc: 91.31 deg Az:
181.10 deg TVD:
7129.58 ft

S: 133 MD: 11979.00 ft
Inc: 90.94 deg Az:
179.56 deg TVD:
7127.71 ft

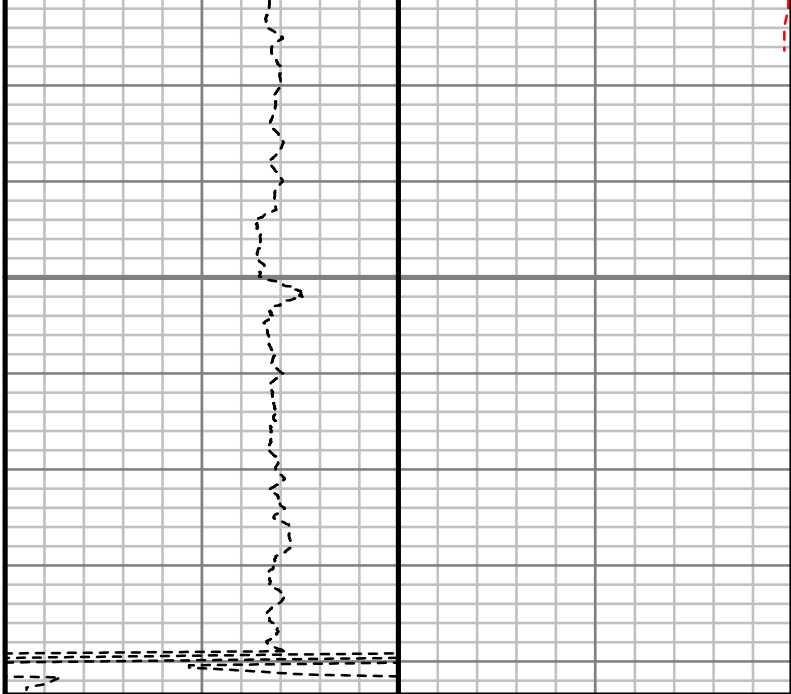
S: 134 MD: 12019.00 ft



12050

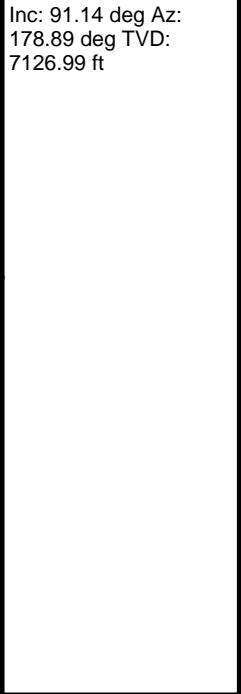
MEASURED DEPTH
1:240 (ft)

Gamma Ray (GR)		
0	Unit = aapi	150



Rate of Penetration (ROP)		
1200	Unit = ft/hr	800

Tool Temperature (T-TEMP)		
0	Unit = °F	250



Comments

Inc: 91.14 deg Az:
178.89 deg TVD:
7126.99 ft

Survey Report

Customer Name:	ANADARKO PETROLEUM CORP.						
Site Name:	HEDGE 1N-22HZ						
Well Name:	HEDGE 16N-22HZ						
Survey:	HEDGE 16N-22HZ						
Survey Date:	8/6/2013						
Magnetic Declination:	8.59 deg						
North Reference:	True North						
Calculation Method:	Minimum Curvature						
Section (VS) Ref:	0.00N (ft), 0.00E (ft), 180.00Azim (deg)						
MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
25.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00
125.00	0.14	208.31	125.00	0.11	-0.11	-0.06	0.14
225.00	0.26	147.37	225.00	0.41	-0.41	0.01	0.23
325.00	0.33	162.61	325.00	0.87	-0.87	0.21	0.10
425.00	0.41	195.18	425.00	1.49	-1.49	0.21	0.22
525.00	0.23	187.24	524.99	2.04	-2.04	0.09	0.18
625.00	0.15	203.24	624.99	2.36	-2.36	0.01	0.10
725.00	0.20	254.34	724.99	2.52	-2.52	-0.21	0.16

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
825.00	0.21	203.55	824.99	2.74	-2.74	-0.45	0.18
875.00	0.05	306.08	874.99	2.81	-2.81	-0.50	0.45
1065.00	0.24	323.72	1064.99	2.44	-2.44	-0.80	0.10
1157.00	0.21	339.15	1156.99	2.13	-2.13	-0.98	0.07
1248.00	3.46	342.58	1247.93	-0.65	0.65	-1.86	3.57
1340.00	5.65	336.17	1339.64	-7.44	7.44	-4.52	2.45
1431.00	6.84	327.44	1430.10	-16.11	16.11	-9.25	1.66
1522.00	9.07	325.37	1520.22	-26.58	26.58	-16.24	2.48
1614.00	10.26	322.08	1610.91	-39.01	39.01	-25.40	1.42
1795.00	9.93	315.78	1789.11	-62.90	62.90	-46.18	0.64
1887.00	10.66	327.29	1879.64	-75.75	75.75	-56.31	2.37
2068.00	10.41	330.68	2057.60	-104.08	104.08	-73.36	0.37
2251.00	10.53	325.03	2237.56	-132.19	132.19	-91.03	0.57
2433.00	10.94	327.69	2416.37	-160.40	160.40	-109.79	0.35
2524.00	12.03	334.62	2505.56	-176.27	176.27	-118.47	1.93
2709.00	11.09	335.95	2686.80	-209.93	209.93	-133.98	0.53
2801.00	13.35	336.50	2776.71	-227.75	227.75	-141.82	2.46
2892.00	13.22	331.89	2865.28	-246.56	246.56	-150.92	1.17
2983.00	12.43	328.18	2954.01	-264.06	264.06	-160.98	1.25
3076.00	12.01	323.84	3044.90	-280.38	280.38	-171.97	1.08

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
3261.00	12.29	330.23	3225.77	-313.02	313.02	-193.11	0.74
3355.00	10.07	326.60	3317.98	-328.58	328.58	-202.60	2.47
3450.00	9.98	321.62	3411.53	-341.96	341.96	-212.28	0.92
3544.00	11.44	328.51	3503.89	-356.30	356.30	-222.21	2.07
3733.00	9.65	334.32	3689.70	-386.57	386.57	-238.87	1.10
3827.00	10.88	341.55	3782.19	-402.09	402.09	-245.09	1.90
4016.00	10.66	333.23	3967.87	-434.63	434.63	-258.62	0.83
4110.00	10.94	330.35	4060.21	-450.14	450.14	-266.95	0.64
4204.00	10.45	327.62	4152.58	-465.10	465.10	-275.93	0.75
4393.00	8.48	319.53	4339.00	-490.19	490.19	-294.16	1.26
4487.00	9.51	321.63	4431.84	-501.55	501.55	-303.48	1.14
4581.00	11.64	314.76	4524.24	-514.32	514.32	-315.03	2.63
4676.00	10.38	310.84	4617.50	-526.66	526.66	-328.31	1.55
4770.00	9.45	321.30	4710.10	-538.22	538.22	-339.55	2.15
4864.00	7.99	337.03	4803.02	-550.27	550.27	-346.93	2.96
4958.00	5.84	347.17	4896.34	-560.94	560.94	-350.54	2.63
5052.00	3.83	6.09	4990.00	-568.72	568.72	-351.27	2.70
5146.00	2.37	84.14	5083.90	-572.04	572.04	-349.00	4.32
5241.00	0.55	132.87	5178.86	-571.94	571.94	-346.71	2.16

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
5430.00	0.58	119.65	5367.86	-570.85	570.85	-345.21	0.07
5713.00	0.75	69.77	5650.84	-570.77	570.77	-342.23	0.21
5902.00	0.83	222.46	5839.83	-570.19	570.19	-341.99	0.81
5996.00	1.75	289.18	5933.81	-570.16	570.16	-343.81	1.72
6091.00	1.05	292.42	6028.78	-570.97	570.97	-345.99	0.74
6186.00	0.87	281.66	6123.77	-571.44	571.44	-347.50	0.27
6375.00	1.45	232.08	6312.73	-570.27	570.27	-350.79	0.58
6564.00	0.81	192.62	6501.70	-567.50	567.50	-352.96	0.51
6595.00	0.90	196.32	6532.70	-567.05	567.05	-353.07	0.34
6627.00	1.57	203.30	6564.69	-566.41	566.41	-353.32	2.14
6658.00	3.37	172.19	6595.66	-565.12	565.12	-353.36	7.05
6690.00	5.76	175.48	6627.55	-562.58	562.58	-353.11	7.50
6721.00	7.65	177.71	6658.34	-558.97	558.97	-352.90	6.15
6753.00	10.21	179.92	6689.95	-554.00	554.00	-352.81	8.07
6784.00	13.34	182.32	6720.30	-547.68	547.68	-352.95	10.22
6815.00	15.03	184.91	6750.35	-540.10	540.10	-353.44	5.83
6847.00	17.71	183.30	6781.05	-531.11	531.11	-354.08	8.49
6878.00	20.35	179.54	6810.35	-521.01	521.01	-354.31	9.37
6910.00	23.12	178.04	6840.08	-509.16	509.16	-354.05	8.84
6941.00	26.16	177.79	6868.25	-496.25	496.25	-353.57	9.80

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
6973.00	28.43	177.27	6896.69	-481.59	481.59	-352.94	7.16
7004.00	30.32	178.26	6923.70	-466.40	466.40	-352.35	6.28
7036.00	33.92	178.63	6950.80	-449.39	449.39	-351.89	11.28
7067.00	38.41	177.63	6975.82	-431.11	431.11	-351.29	14.59
7099.00	42.38	178.25	7000.18	-410.39	410.39	-350.55	12.49
7130.00	45.05	178.86	7022.59	-388.98	388.98	-350.01	8.70
7162.00	47.95	179.61	7044.61	-365.77	365.77	-349.70	9.24
7193.00	52.78	180.27	7064.38	-341.90	341.90	-349.68	15.66
7225.00	58.41	180.07	7082.45	-315.51	315.51	-349.76	17.58
7256.00	63.92	180.31	7097.40	-288.37	288.37	-349.85	17.80
7288.00	66.88	180.05	7110.72	-259.27	259.27	-349.94	9.28
7319.00	68.94	179.84	7122.38	-230.55	230.55	-349.92	6.68
7351.00	71.12	179.07	7133.31	-200.48	200.48	-349.63	7.17
7382.00	74.21	179.47	7142.55	-170.90	170.90	-349.25	10.04
7414.00	76.45	179.39	7150.65	-139.94	139.94	-348.94	7.03
7445.00	77.90	178.95	7157.53	-109.72	109.72	-348.51	4.87
7477.00	80.37	179.04	7163.56	-78.30	78.30	-347.95	7.71
7508.00	82.26	179.25	7168.24	-47.66	47.66	-347.50	6.14
7540.00	84.86	179.45	7171.83	-15.87	15.87	-347.14	8.16

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
7563.00	87.02	180.14	7173.46	7.07	-7.07	-347.05	9.84
7733.00	88.79	179.84	7179.69	176.95	-176.95	-347.03	1.06
7827.00	89.53	181.31	7181.06	270.93	-270.93	-347.97	1.75
7921.00	89.46	180.40	7181.89	364.92	-364.92	-349.37	0.97
8016.00	89.97	180.62	7182.36	459.91	-459.91	-350.21	0.58
8110.00	91.94	180.02	7180.80	553.89	-553.89	-350.73	2.20
8204.00	91.88	180.30	7177.66	647.84	-647.84	-350.99	0.30
8299.00	91.75	179.68	7174.65	742.79	-742.79	-350.98	0.66
8393.00	90.70	179.02	7172.65	836.76	-836.76	-349.92	1.31
8487.00	92.06	179.13	7170.38	930.72	-930.72	-348.41	1.44
8582.00	91.88	180.58	7167.12	1025.66	-1025.66	-348.17	1.53
8676.00	91.48	180.65	7164.37	1119.62	-1119.62	-349.18	0.44
8770.00	92.12	181.16	7161.41	1213.56	-1213.56	-350.66	0.87
8864.00	92.12	179.91	7157.94	1307.49	-1307.49	-351.54	1.32
8959.00	91.34	180.82	7155.07	1402.44	-1402.44	-352.15	1.25
9053.00	92.09	180.01	7152.26	1496.40	-1496.40	-352.82	1.17
9147.00	91.75	180.15	7149.11	1590.34	-1590.34	-352.95	0.39
9241.00	90.81	180.22	7147.01	1684.32	-1684.32	-353.25	1.01
9335.00	91.88	179.50	7144.81	1778.29	-1778.29	-353.02	1.37
9430.00	90.77	178.98	7142.61	1873.25	-1873.25	-351.75	1.29

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
9523.00	89.13	177.52	7142.69	1966.20	-1966.20	-348.91	2.37
9617.00	92.08	179.17	7141.70	2060.15	-2060.15	-346.20	3.60
9711.00	92.08	177.81	7138.28	2154.05	-2154.05	-343.73	1.44
9806.00	93.23	178.62	7133.88	2248.90	-2248.90	-340.77	1.47
9900.00	92.79	178.42	7128.94	2342.74	-2342.74	-338.34	0.51
9995.00	92.18	176.42	7124.82	2437.55	-2437.55	-334.07	2.21
10089.00	90.27	177.17	7122.81	2531.37	-2531.37	-328.81	2.18
10184.00	89.56	177.58	7122.95	2626.27	-2626.27	-324.46	0.86
10278.00	89.60	178.95	7123.63	2720.22	-2720.22	-321.62	1.46
10372.00	88.39	179.99	7125.29	2814.20	-2814.20	-320.74	1.69
10467.00	89.26	180.53	7127.24	2909.18	-2909.18	-321.18	1.08
10561.00	89.16	184.10	7128.54	3003.08	-3003.08	-324.97	3.79
10656.00	88.69	183.65	7130.31	3097.85	-3097.85	-331.39	0.68
10751.00	89.06	182.63	7132.18	3192.68	-3192.68	-336.60	1.14
10846.00	89.29	182.03	7133.54	3287.59	-3287.59	-340.46	0.68
10940.00	89.43	181.21	7134.59	3381.55	-3381.55	-343.12	0.88
11034.00	89.80	177.15	7135.22	3475.52	-3475.52	-341.77	4.33
11129.00	88.75	177.67	7136.42	3570.41	-3570.41	-337.49	1.23
11223.00	88.19	180.72	7138.93	3664.36	-3664.36	-336.17	3.30

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
11317.00	90.34	182.43	7140.14	3758.31	-3758.31	-338.76	2.92
11412.00	91.31	184.18	7138.77	3853.13	-3853.13	-344.24	2.11
11506.00	91.81	183.61	7136.21	3946.88	-3946.88	-350.63	0.81
11601.00	90.64	184.85	7134.17	4041.60	-4041.60	-357.63	1.80
11695.00	90.80	184.72	7132.99	4135.26	-4135.26	-365.47	0.22
11789.00	91.01	184.19	7131.51	4228.96	-4228.96	-372.77	0.61
11884.00	91.31	181.10	7129.58	4323.83	-4323.83	-377.15	3.27
11979.00	90.94	179.56	7127.71	4418.81	-4418.81	-377.70	1.67
12019.00	91.14	178.89	7126.99	4458.80	-4458.80	-377.15	1.75



GAMMA RAY LOG

5" = 100' FEET MD