



GAMMA RAY

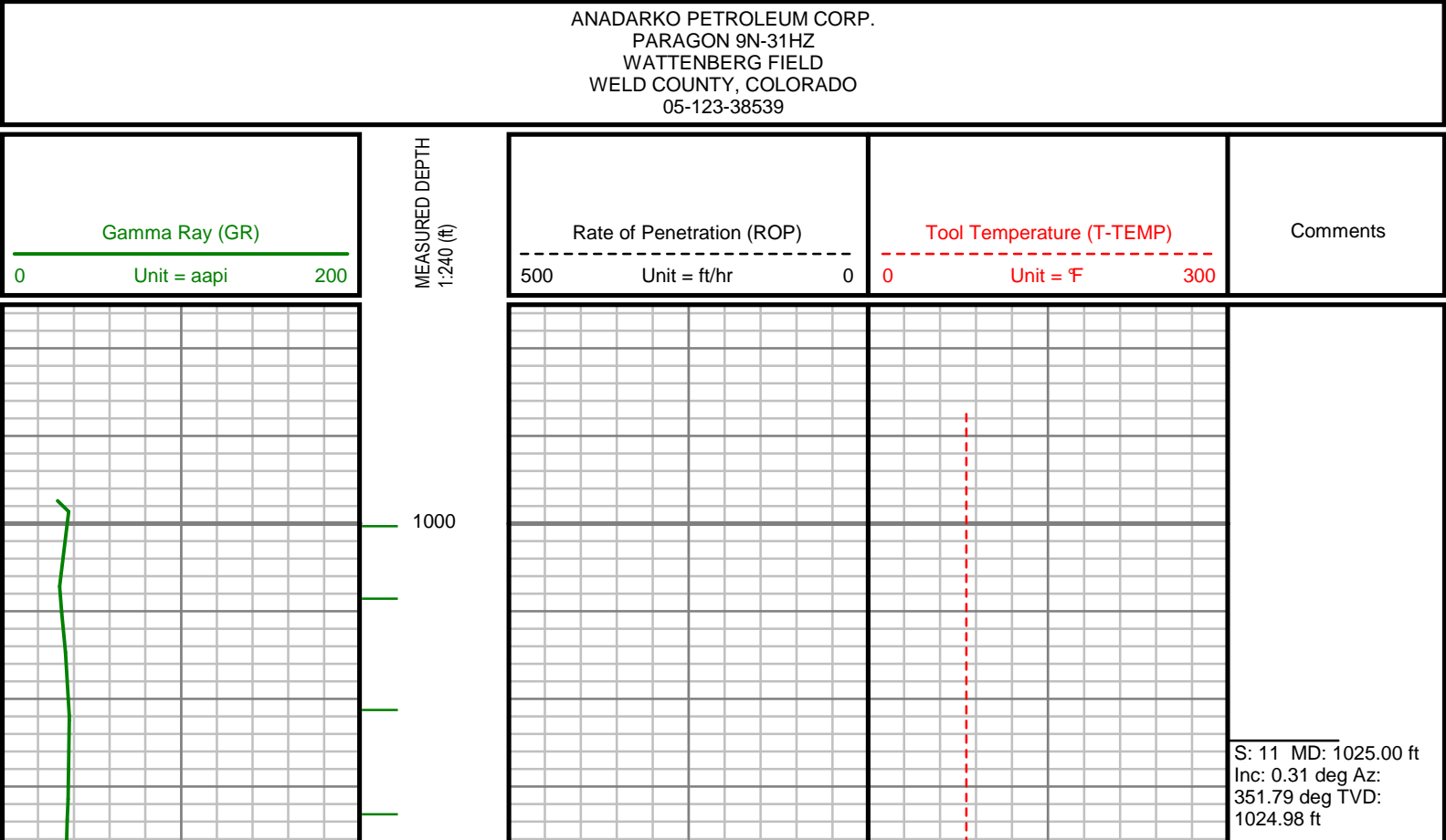
5" = 100' FEET MD

COMPANY : ANADARKO PETROLEUM CORP.					
WELL : PARAGON 9N-31HZ					
FIELD : WATTENBERG					
COUNTY : WELD					
STATE : COLORADO					
COUNTRY : U.S.A.					
UWI : 05-123-38539					
<div style="display: flex; justify-content: space-between;"> <div> COMPANY : ANADARKO PETROLEUM CORP. WELL : PARAGON 9N-31HZ FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-38539 </div> <div>OTHER SERVICES</div> </div>					
<div style="display: flex; justify-content: space-between;"> <div> DEPTH REF. : RKB REF. HEIGHT : 25.000 ft GROUND LEVEL : 4975.000 ft </div> <div> LAT:40°4'27.890"N LONG:104°41'53.952"W N:1270968.13 ft E:3224345.41 ft SEC:6 TWP:1N RANGE:65W </div> <div>DIRECTIONAL ROP</div> </div>					
BOREHOLE RECORD				DEVIATION RECORD	
HOLE SIZE in	FROM ft	TO ft	INCLINATION deg	FROM ft	TO ft
12.25	0	1121	0-13	0	6550
8.75	1121	7562	13-90	6550	7562
6.125	7562	14227	90-92	7562	14227
CASING RECORD					
CASING SIZE in	FROM ft	TO ft			
9.625	0	1121			
7	0	7562			
			DRILLING CO.: H&P		
			RIG: 311		
			LMD UNIT NO.: C-46 DISTRICT: CASPER		
			SPUD DATE: 11/28/2013		
			LMD START DATE: 01/13/2014 DEPTH: 1068 ft		
			LMD END DATE: 01/21/2014 DEPTH: 14227 ft		
TOTAL DEPTH: 14227 ft					

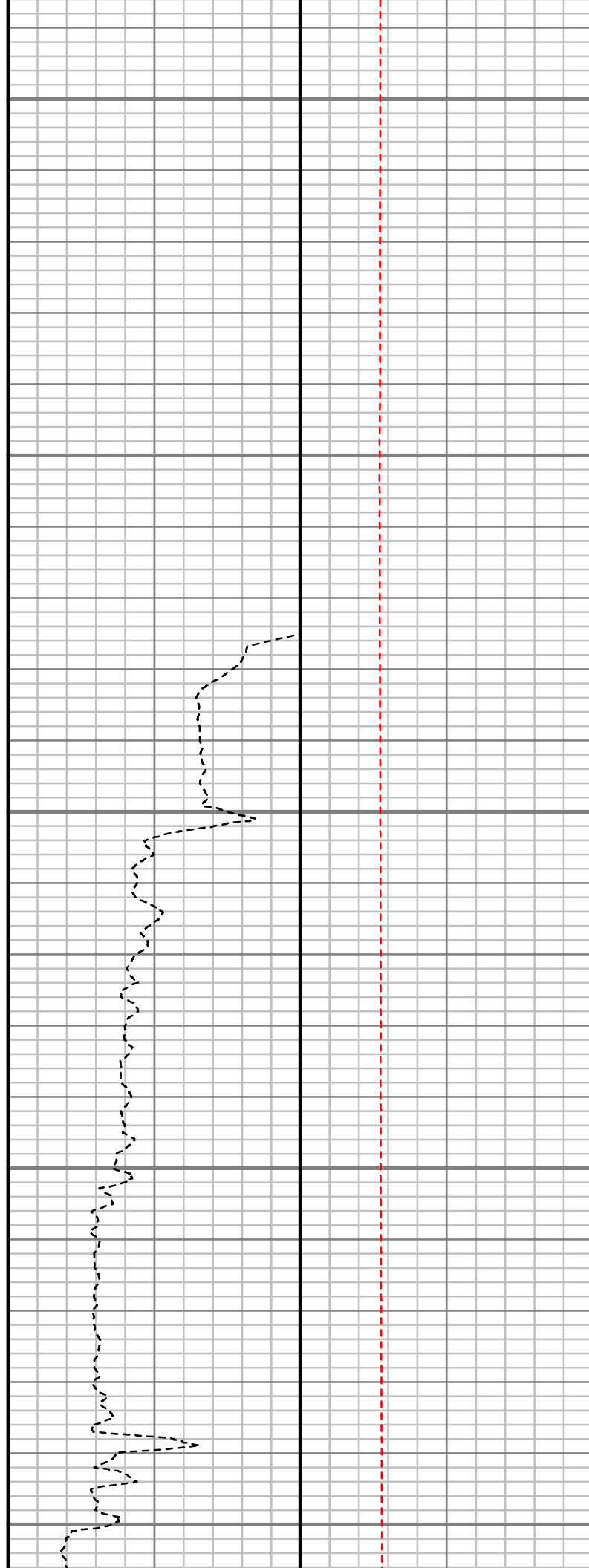
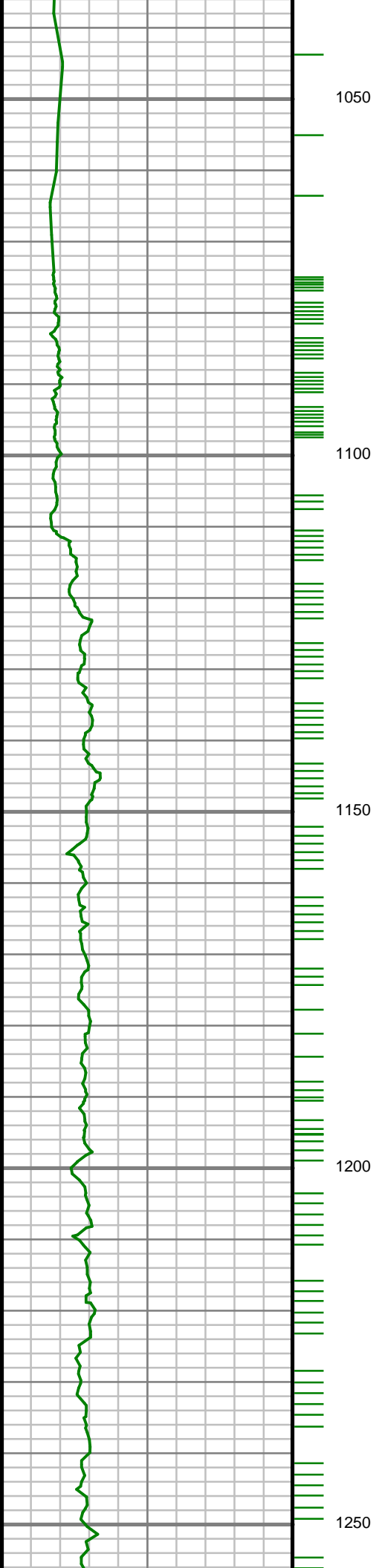
Run Data						
RUN NUMBER	1	2				
START DATE	01/13/2014	01/18/2014				
START TIME	2330	1730				
END DATE	01/16/2014	01/21/2014				
END TIME	1730	1830				
DEPTH IN (ft)	1121	7562				
DEPTH OUT (ft)	7562	14227				
LOG TOP (ft)	1068	7509				
LOG BOTTOM (ft)	7509	14177				
HOLE SIZE (in)	8.75	6.125				
MUD DATA @ (ft)	5145	7,562				
MUD TYPE	WATER-BASED	WATER-BASED				
DENSITY (lb / gal)	8.75	9.40				
VISCOSITY (s / qt)	30	36				
pH	9	9				
FLUID LOSS (cm3 / 30)	13.0	9.8				
SALINITY (ppm)	1300	1500				
Rm (ohmm @ deg F)	-	-				
Rmf (ohmm @ deg F)	-	-				
MAX TEMP (deg F)	173	236				
Rm @ MAX TEMP (ohmm)	-	-				
LWD ENGINEER #1	M. SHARKER	M. SHARKER				
LWD ENGINEER #2	B. GREER	B. GREER				
LWD ENGINEER #3	-	-				
LOG WITNESS #1	J. STUART	J. STUART				
LOG WITNESS #2	-	-				

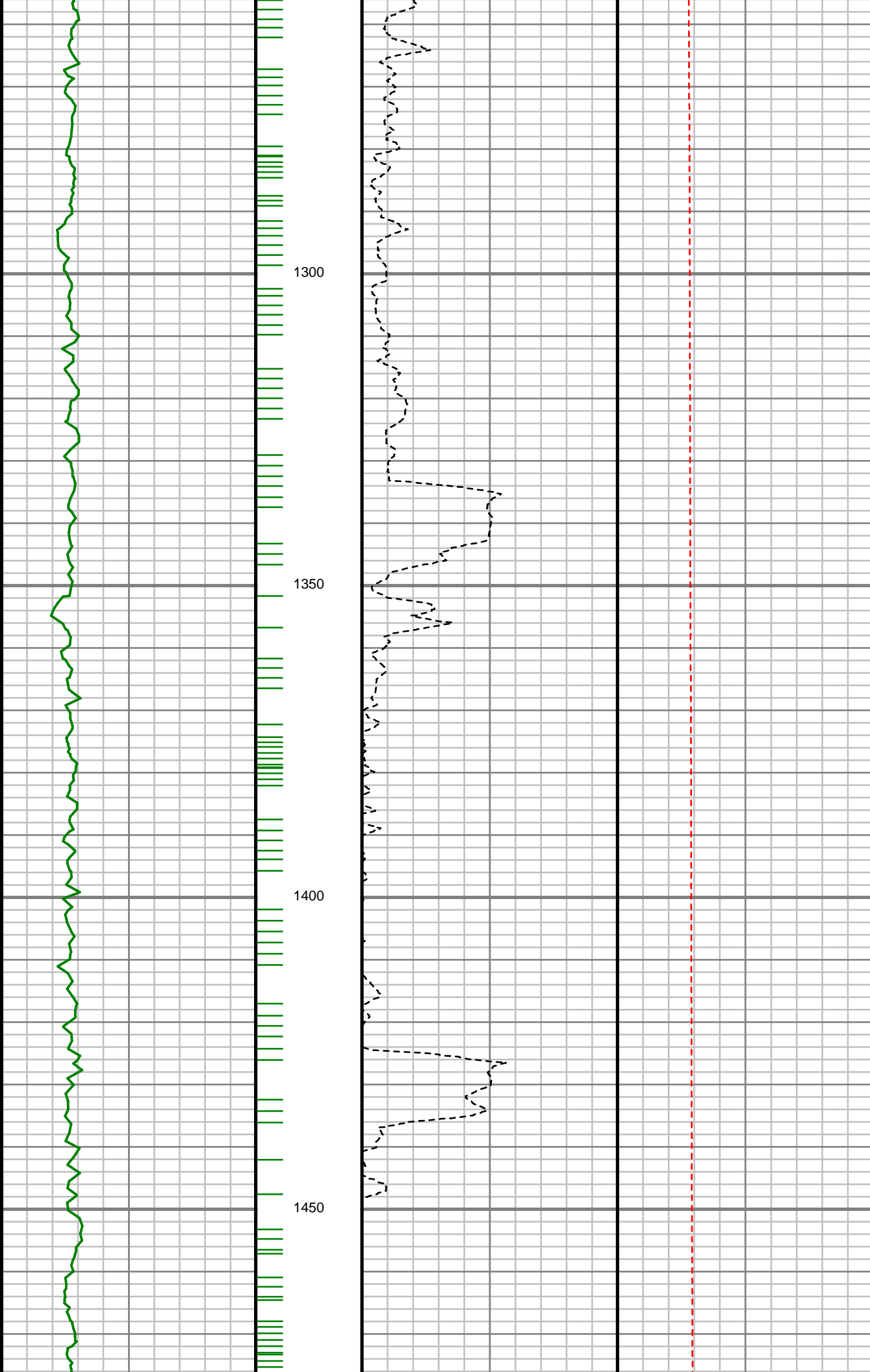
Remarks
ANADARKO PETROLEUM CORP. PRODUCTION AFE# 2088985
SCIENTIFIC DRILLING INTERNATIONAL JOB# 103481
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO TOOL TEMPERATURE CURVE
RUN #1: MWD / GAMMA RAY LOGGIN RUN
SENSORS S/N: PULSER = 128-028 / CONT = 603 / MWD EYE = 0902 / GAMMA RAY = 1076
BIT TO SENSOR OFFSETS: SURVEY = 61.77 FT. / GAMMA RAY = 52.52 FT.
RUN #2: MWD / GAMMA RAY LOGGIN RUN
SENSORS S/N: PULSER = 78-266 / CONT = 114 / MWD EYE = 0932 / GAMMA RAY = 1086
BIT TO SENSOR OFFSETS: SURVEY = 66.93 FT. / GAMMA RAY = 57.68 FT.
SURVEY WELL NOTES:
SURVEYS FROM 0.0 FT. TO 1112 FT. WERE ACQUIRED BY MS GYRO MWD.
SURVEYS FROM 1121 FT. TO 14158 FT. WERE ACQUIRED BY SCIENTIFIC DRILLING INTERNATIONAL MWD.
MNEMONICS LIST:
GR = GAMMA RAY
ROP = RATE OF PENETRATION
T-TEMP = TOOL TEMPERATURE

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions as set out in our current price schedule.



S: 12 MD: 1037.00 ft
Inc: 0.25 deg Az:
343.95 deg TVD:
1036.98 ft

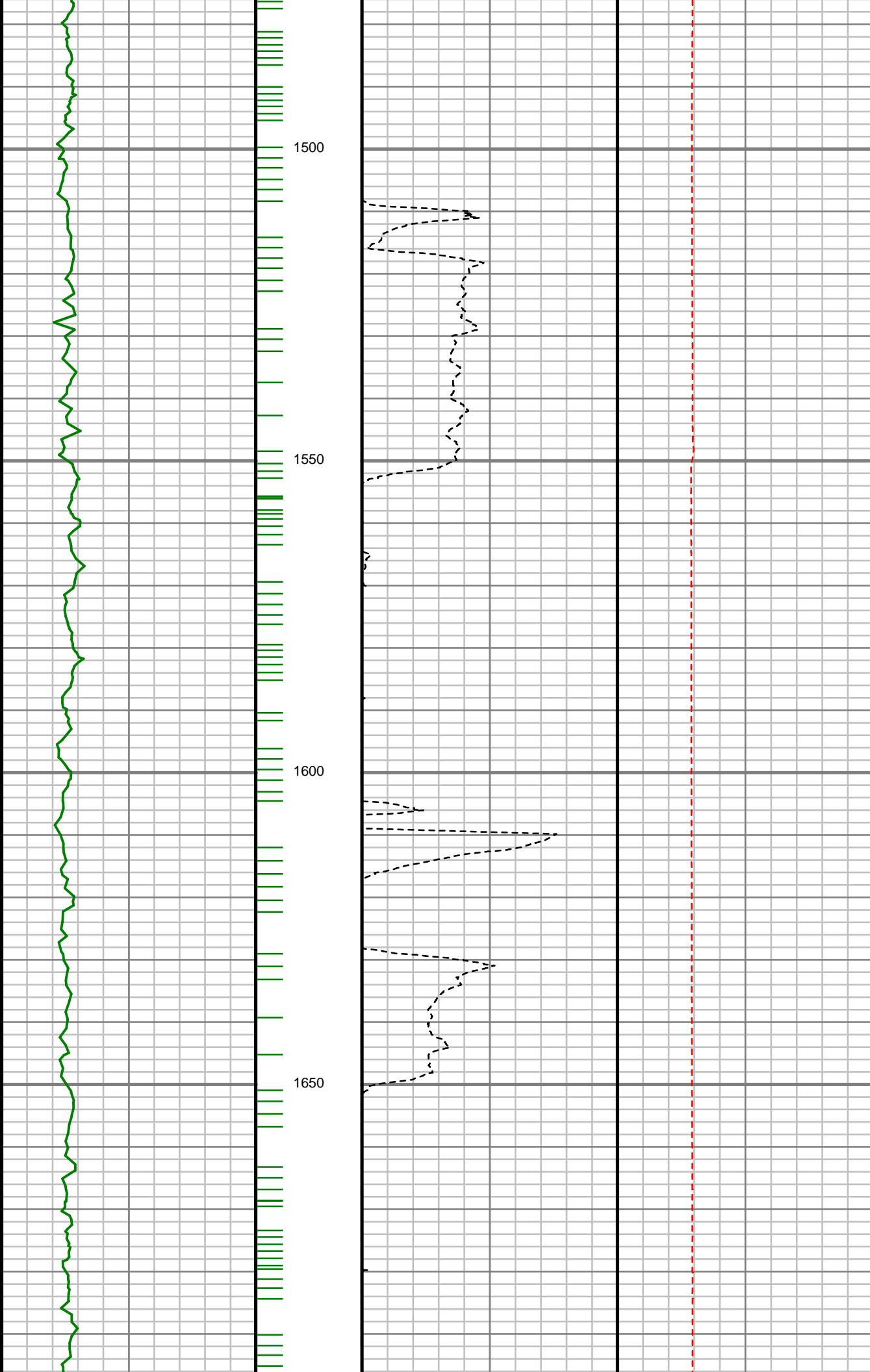




S: 13 MD: 1269.00 ft
Inc: 1.35 deg Az: 53.85
deg TVD: 1268.95 ft

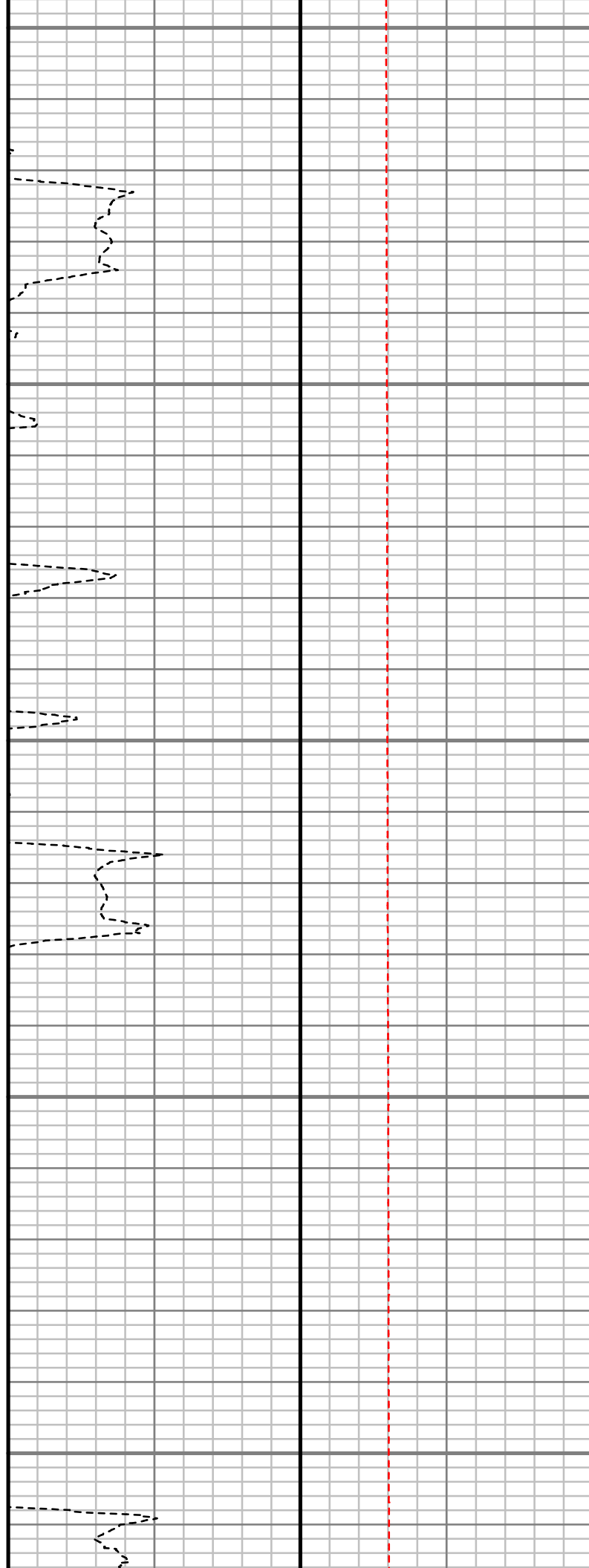
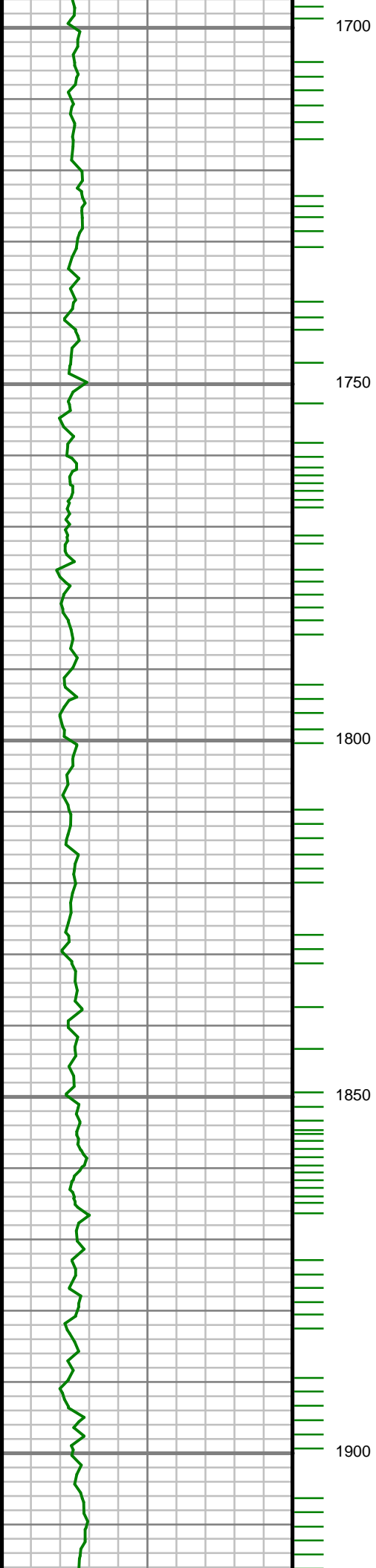
S: 14 MD: 1360.00 ft
Inc: 1.06 deg Az:
175.59 deg TVD:
1359.94 ft

S: 15 MD: 1452.00 ft
Inc: 2.42 deg Az:
224.58 deg TVD:
1451.90 ft



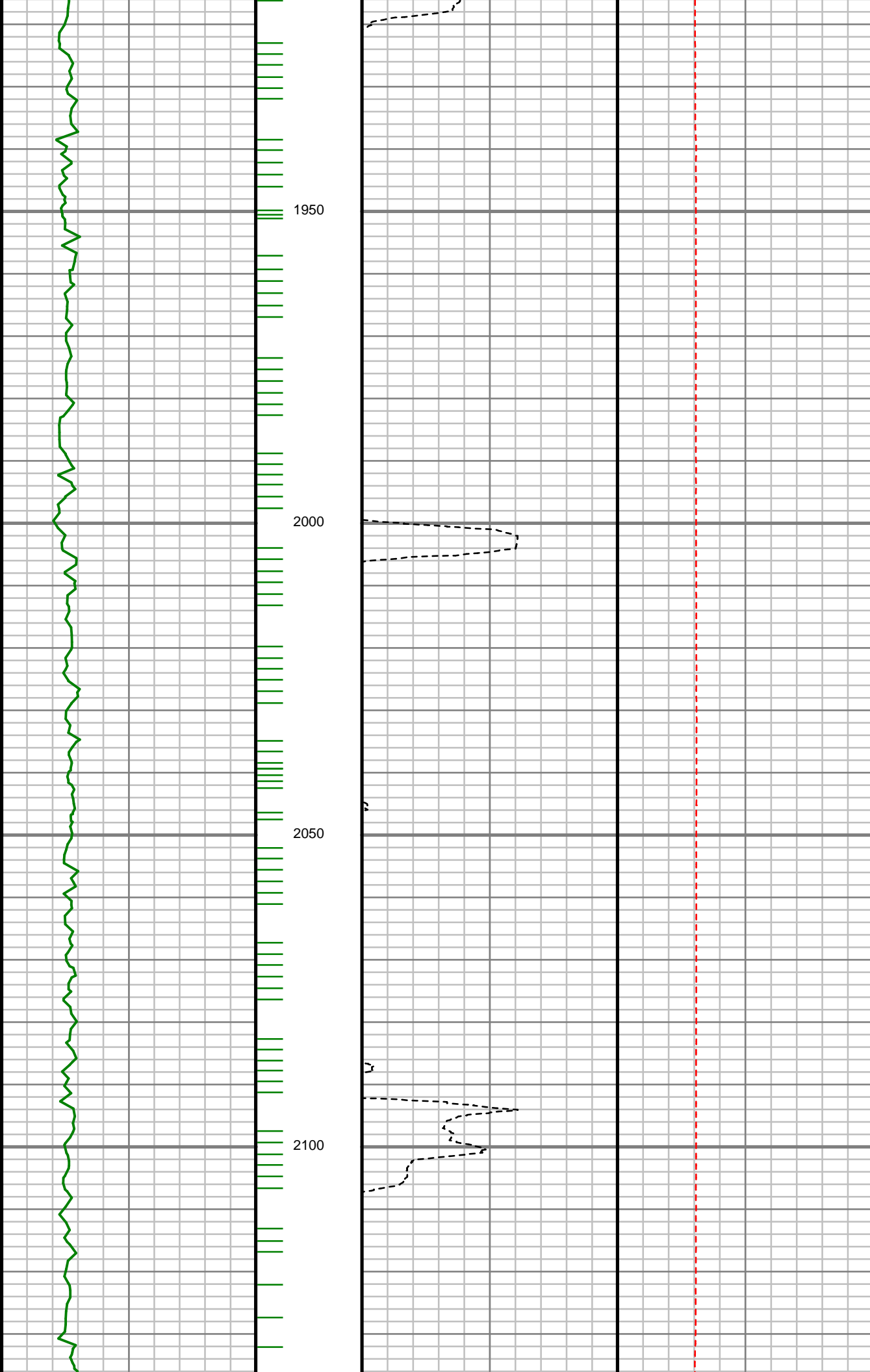
S: 16 MD: 1565.00 ft
Inc: 3.89 deg Az:
229.72 deg TVD:
1564.73 ft

S: 17 MD: 1657.00 ft
Inc: 6.69 deg Az:
231.60 deg TVD:
1656.33 ft



S: 18 MD: 1749.00 ft
Inc: 8.25 deg Az:
215.17 deg TVD:
1747.55 ft

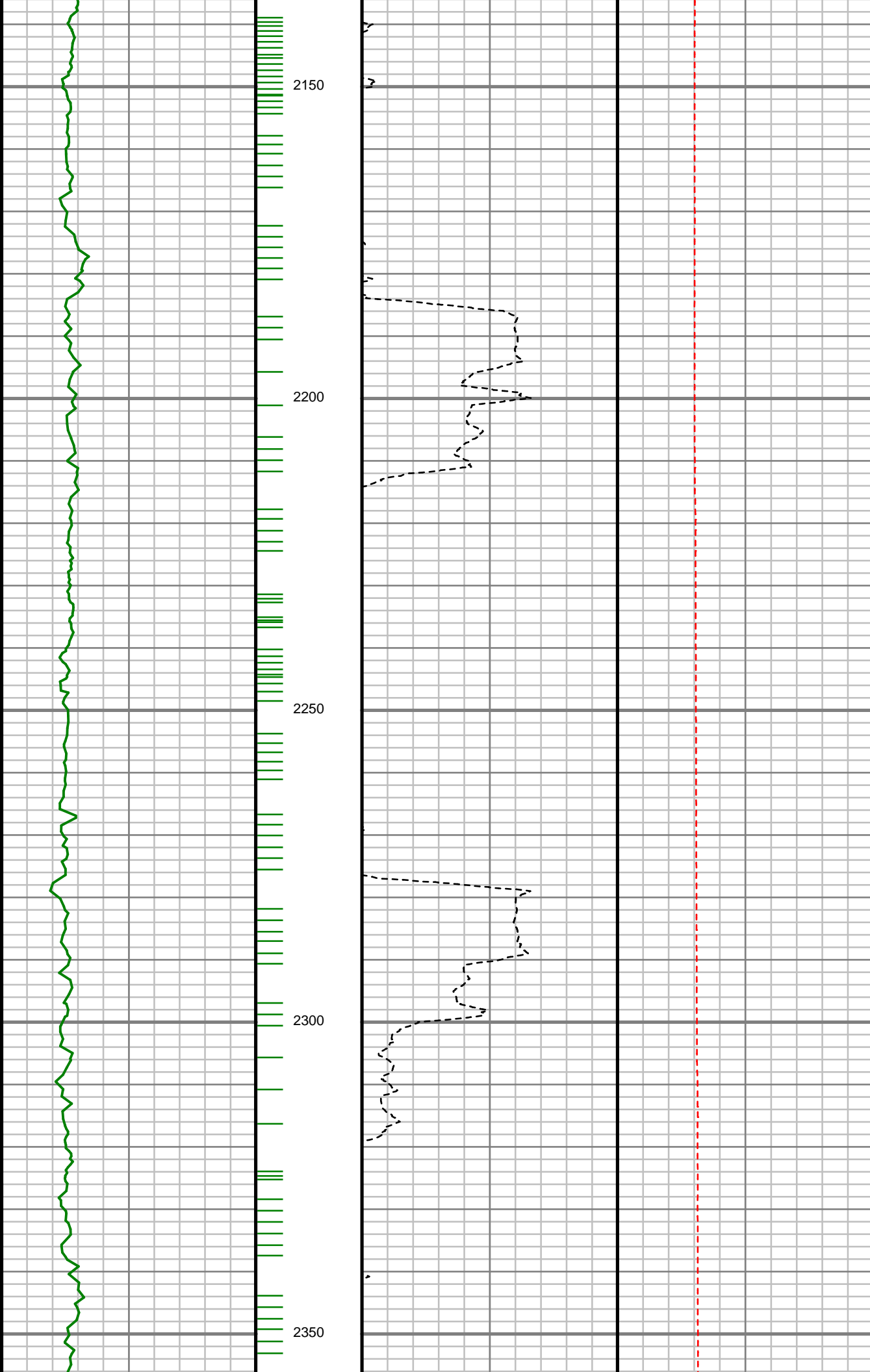
S: 19 MD: 1841.00 ft
Inc: 10.78 deg Az:
218.67 deg TVD:
1838.28 ft



S: 20 MD: 1932.00 ft
Inc: 11.46 deg Az:
210.06 deg TVD:
1927.58 ft

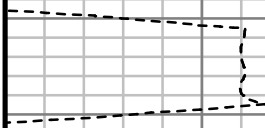
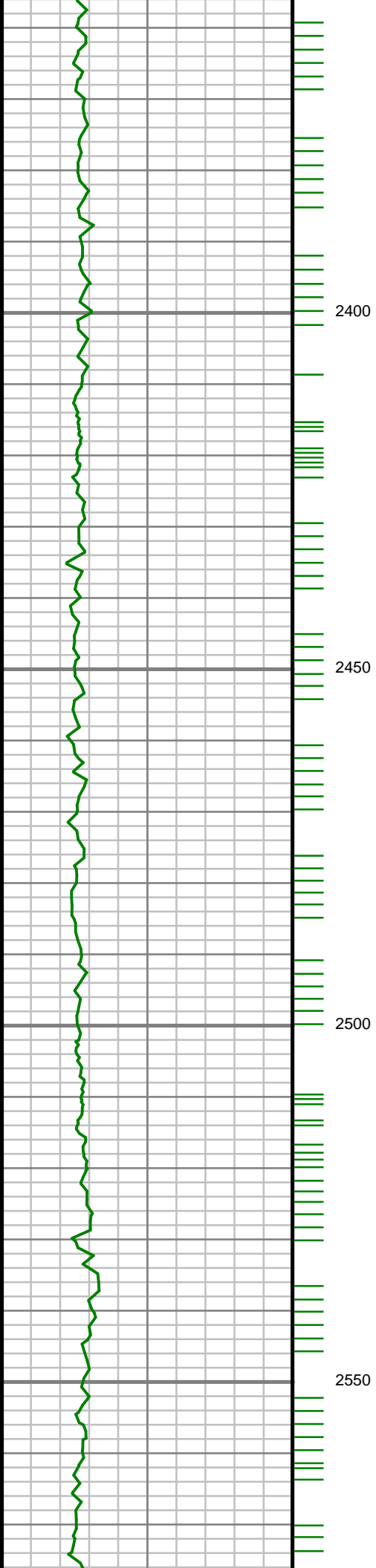
S: 21 MD: 2023.00 ft
Inc: 11.65 deg Az:
210.70 deg TVD:
2016.73 ft

S: 22 MD: 2115.00 ft
Inc: 11.87 deg Az:
208.34 deg TVD:
2106.80 ft

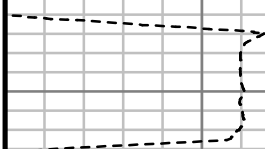


S: 23 MD: 2206.00 ft
Inc: 12.71 deg Az:
211.18 deg TVD:
2195.72 ft

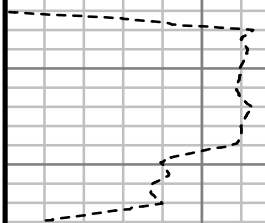
S: 24 MD: 2298.00 ft
Inc: 12.92 deg Az:
219.32 deg TVD:
2285.43 ft



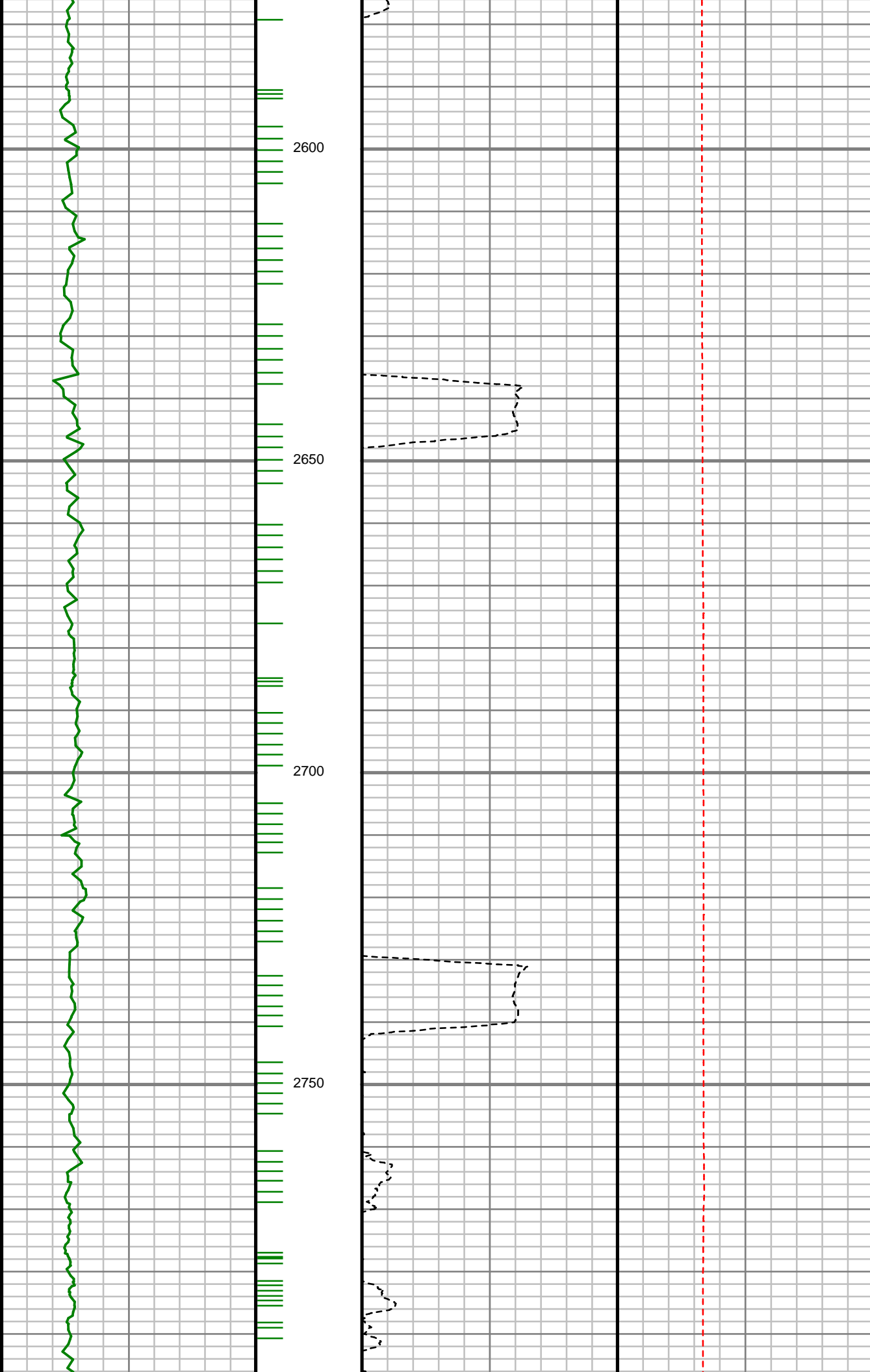
S: 25 MD: 2389.00 ft
Inc: 12.78 deg Az:
221.99 deg TVD:
2374.15 ft



S: 26 MD: 2481.00 ft
Inc: 11.57 deg Az:
219.40 deg TVD:
2464.08 ft



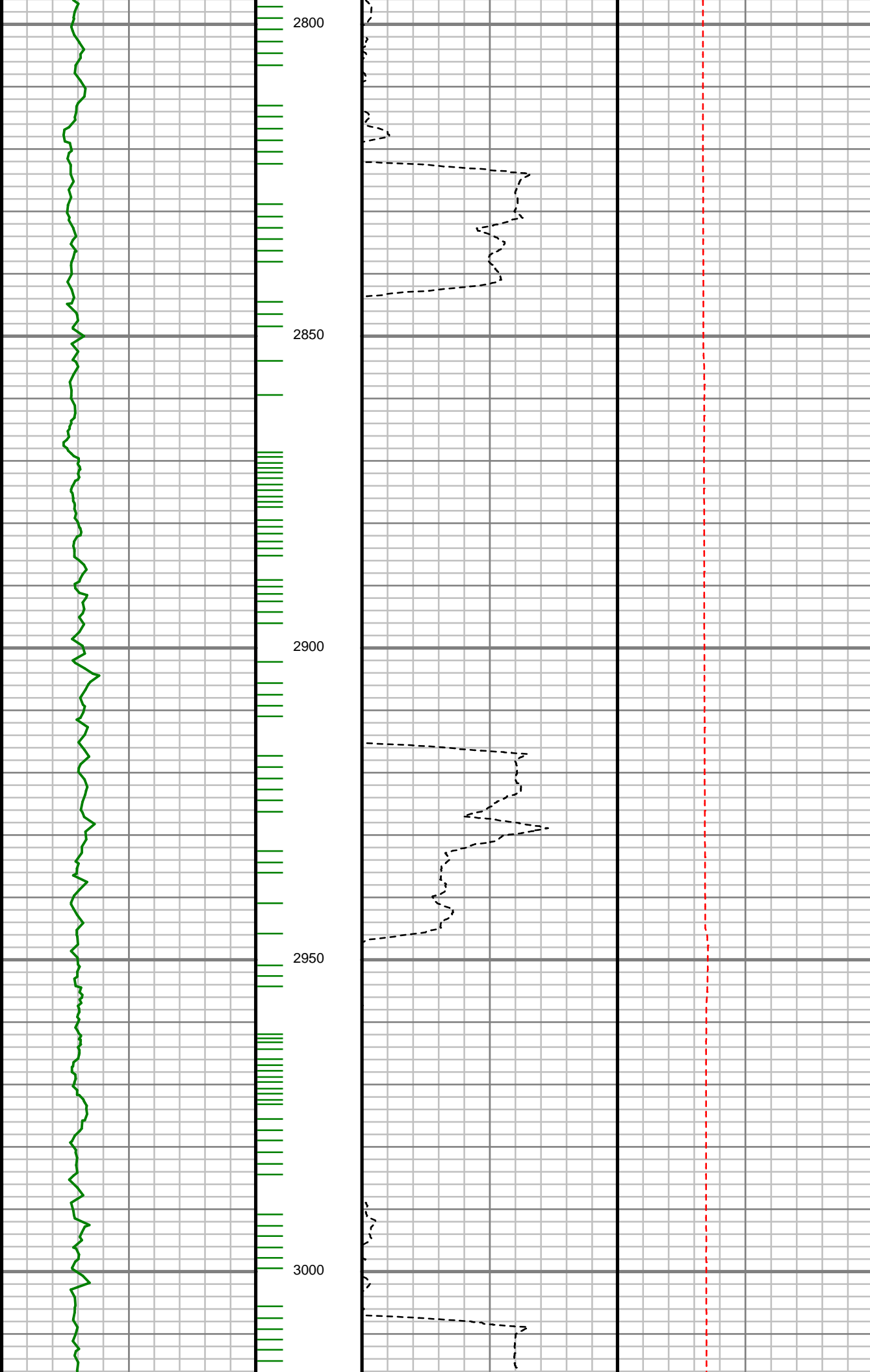
S: 27 MD: 2573.00 ft



Inc: 11.87 deg Az:
216.21 deg TVD:
2554.17 ft

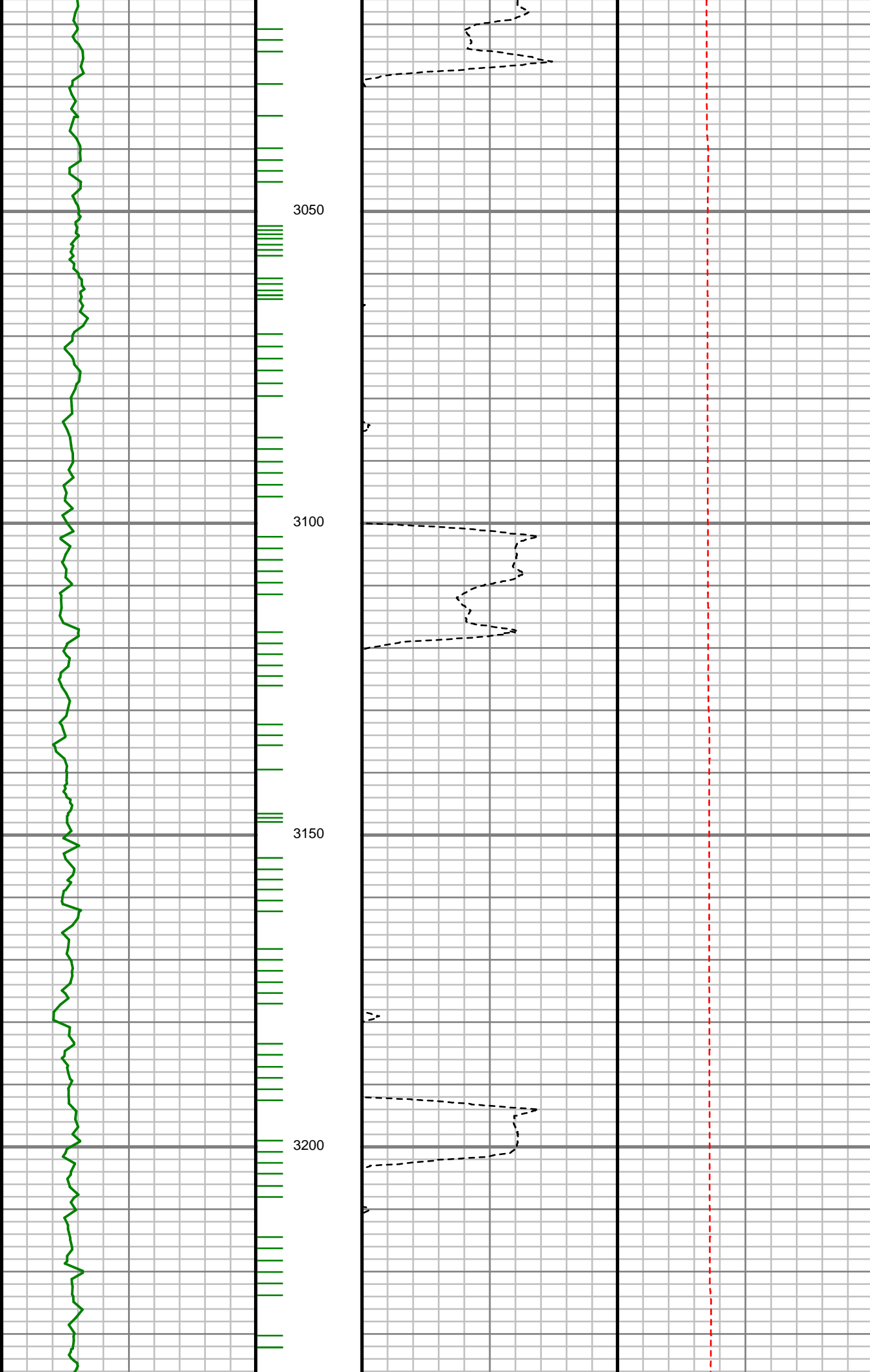
S: 28 MD: 2665.00 ft
Inc: 11.54 deg Az:
217.01 deg TVD:
2644.25 ft

S: 29 MD: 2756.00 ft
Inc: 10.40 deg Az:
216.84 deg TVD:
2733.59 ft



S: 30 MD: 2848.00 ft
Inc: 10.75 deg Az:
218.57 deg TVD:
2824.03 ft

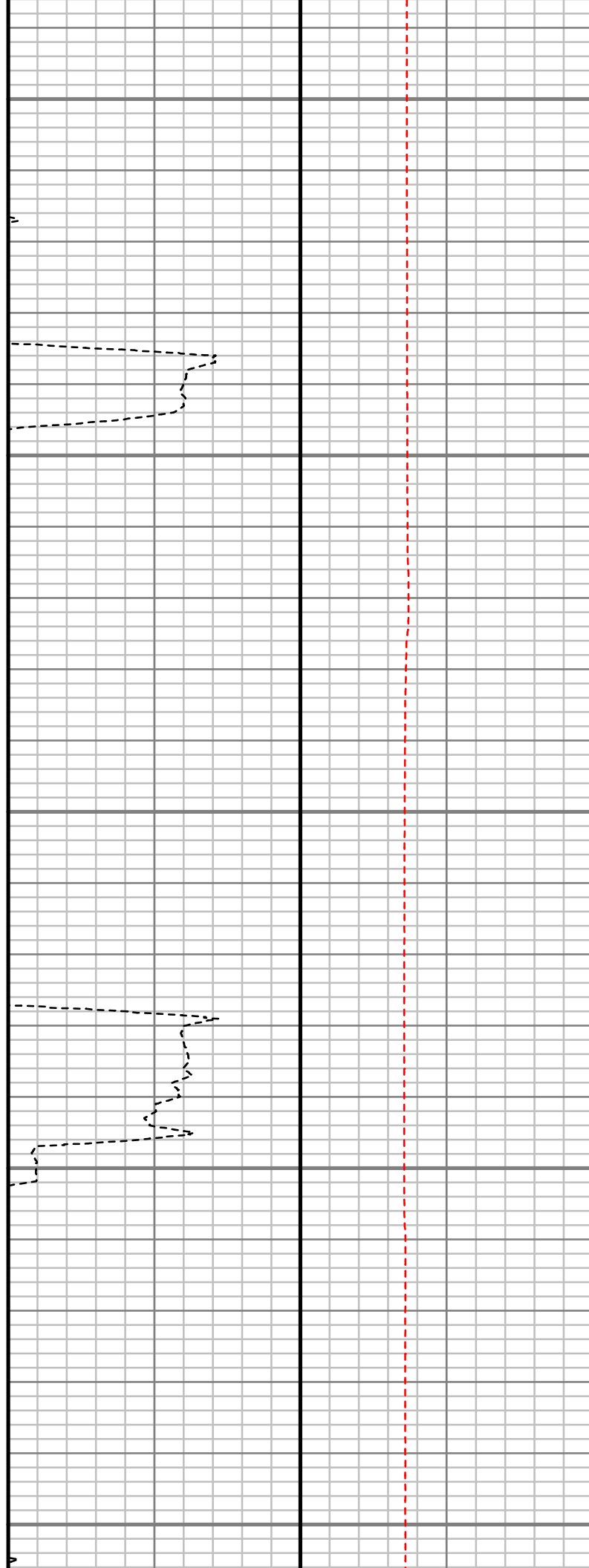
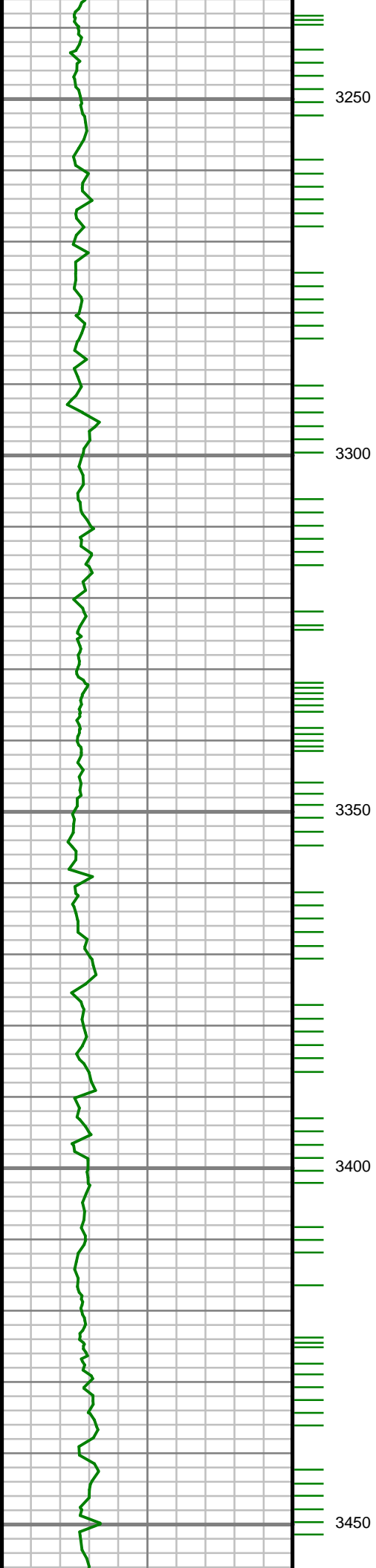
S: 31 MD: 2939.00 ft
Inc: 10.40 deg Az:
210.04 deg TVD:
2913.49 ft



S: 32 MD: 3031.00 ft
Inc: 10.74 deg Az:
209.38 deg TVD:
3003.93 ft

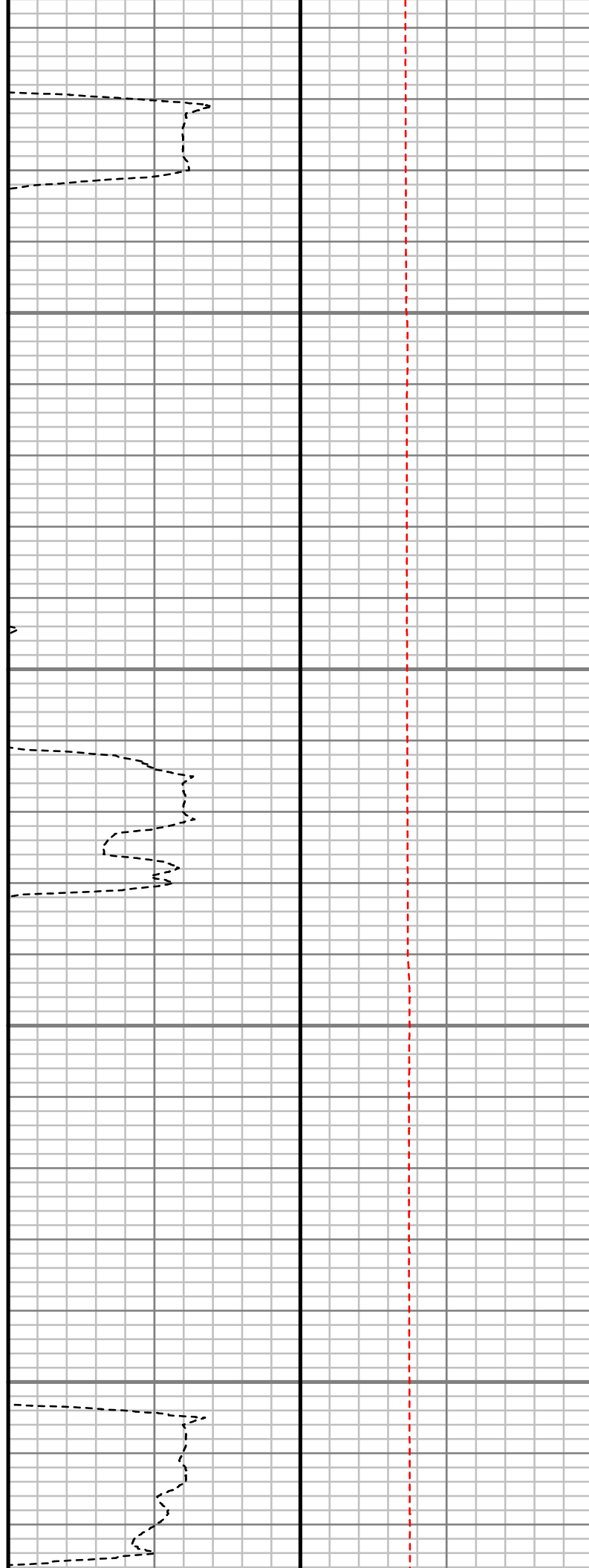
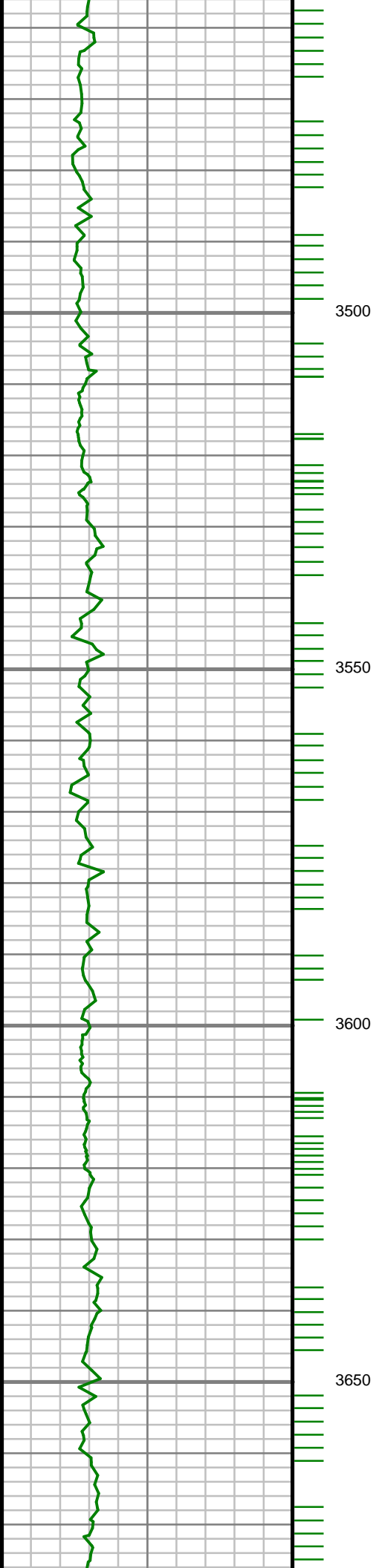
S: 33 MD: 3122.00 ft
Inc: 12.02 deg Az:
211.86 deg TVD:
3093.14 ft

S: 34 MD: 3214.00 ft
Inc: 11.52 deg Az:
212.18 deg TVD:
3183.20 ft



S: 35 MD: 3306.00 ft
Inc: 10.31 deg Az:
215.48 deg TVD:
3273.53 ft

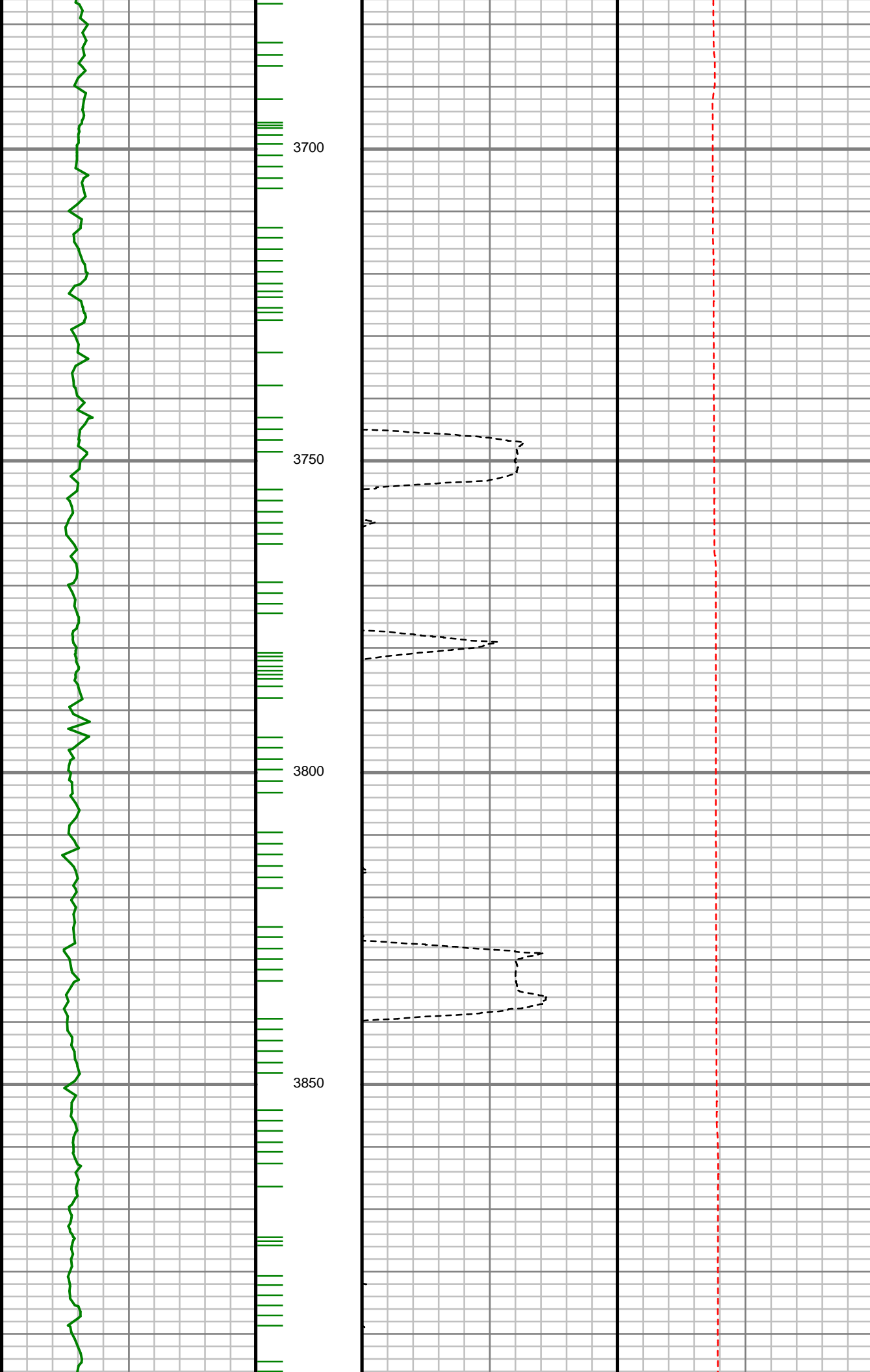
S: 36 MD: 3397.00 ft
Inc: 10.32 deg Az:
215.36 deg TVD:
3363.06 ft



S: 37 MD: 3489.00 ft
Inc: 8.99 deg Az:
212.24 deg TVD:
3453.76 ft

S: 38 MD: 3580.00 ft
Inc: 8.28 deg Az:
206.16 deg TVD:
3543.73 ft

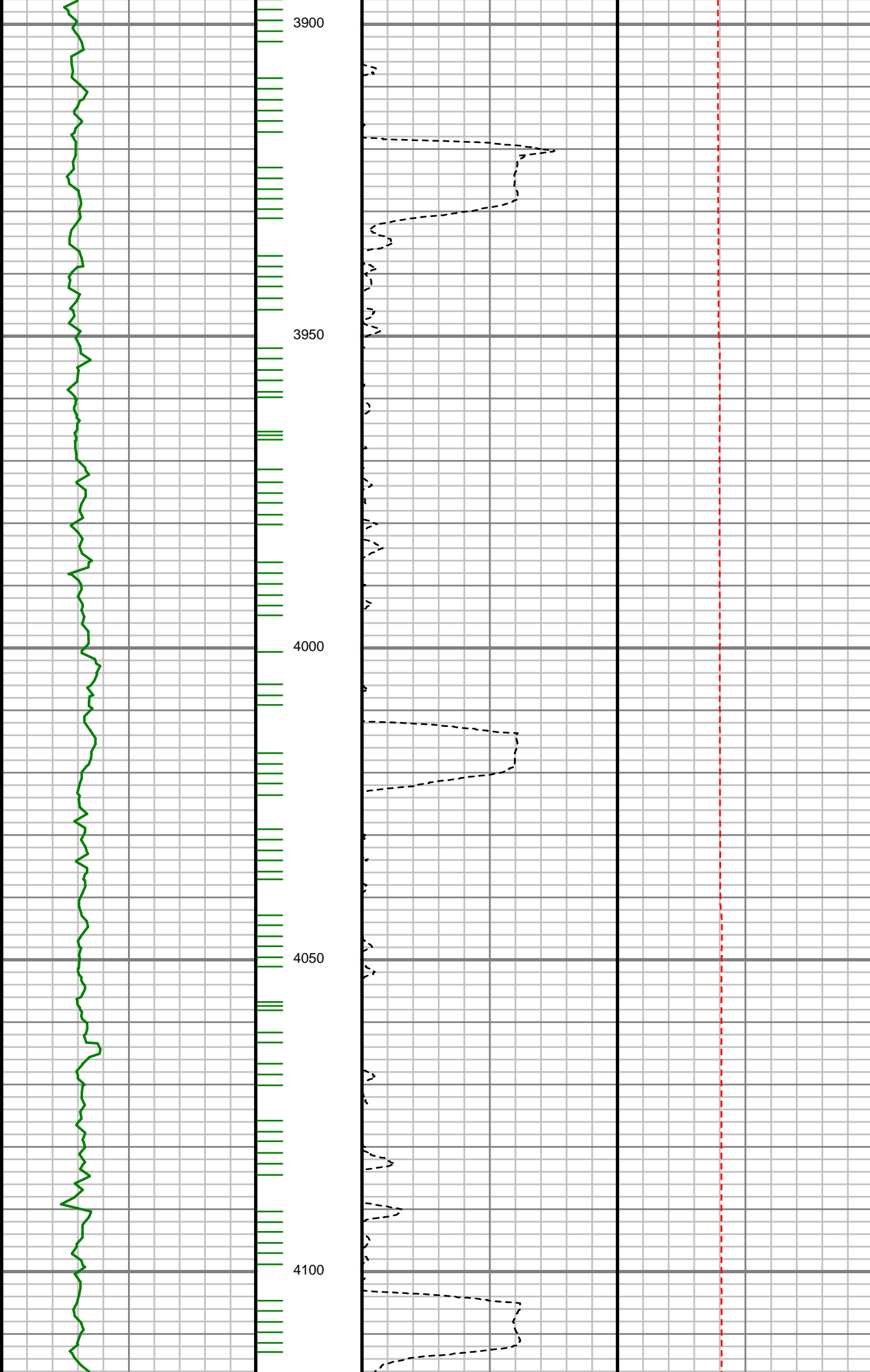
S: 39 MD: 3672.00 ft
Inc: 8.21 deg Az:



212.54 deg TVD:
3634.78 ft

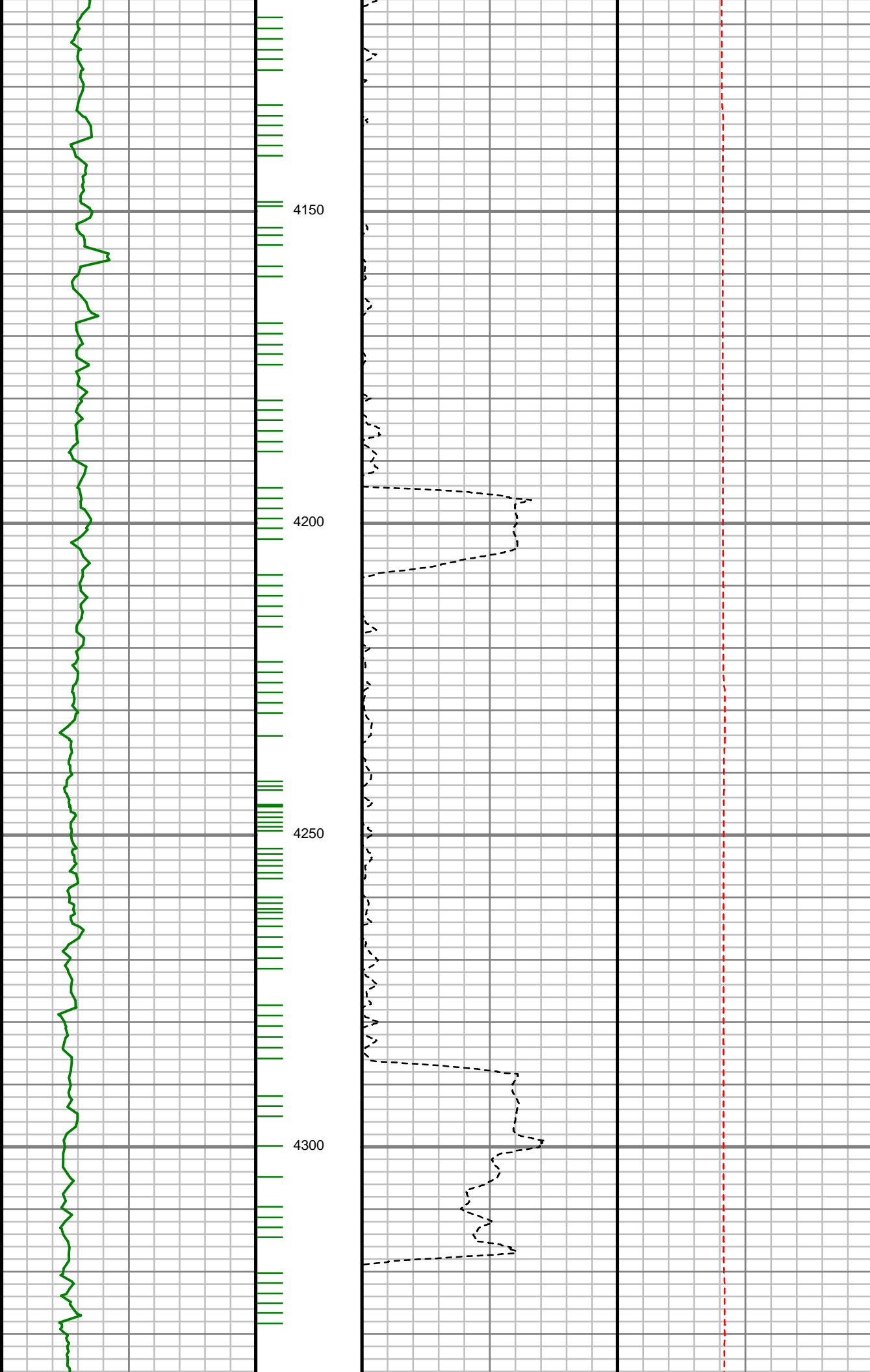
S: 40 MD: 3764.00 ft
Inc: 8.25 deg Az:
210.97 deg TVD:
3725.84 ft

S: 41 MD: 3856.00 ft
Inc: 7.29 deg Az:
211.33 deg TVD:
3816.99 ft



S: 42 MD: 3947.00 ft
Inc: 5.96 deg Az:
208.29 deg TVD:
3907.38 ft

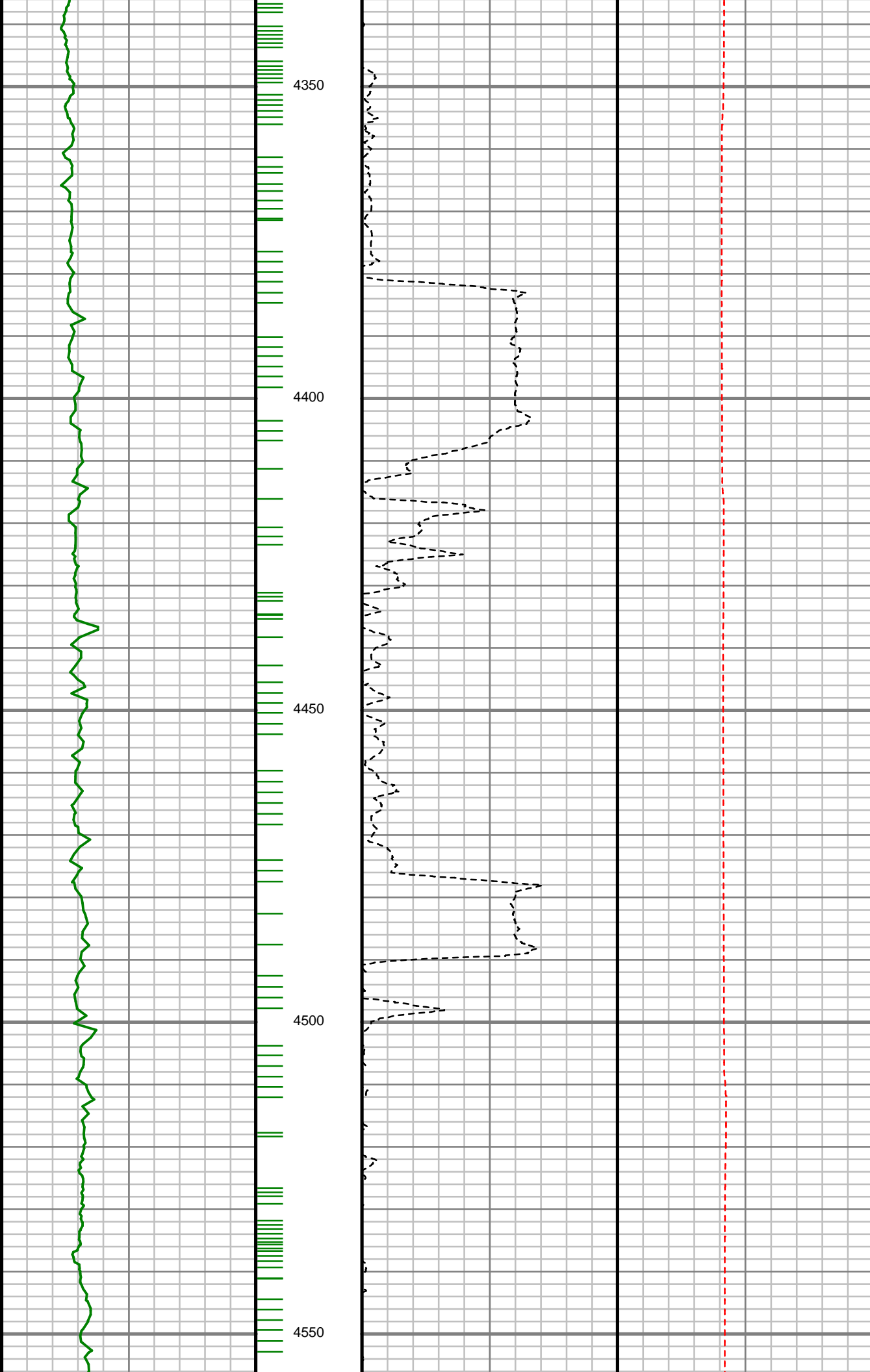
S: 43 MD: 4039.00 ft
Inc: 4.06 deg Az:
201.27 deg TVD:
3999.03 ft



S: 44 MD: 4130.00 ft
Inc: 3.75 deg Az:
196.64 deg TVD:
4089.82 ft

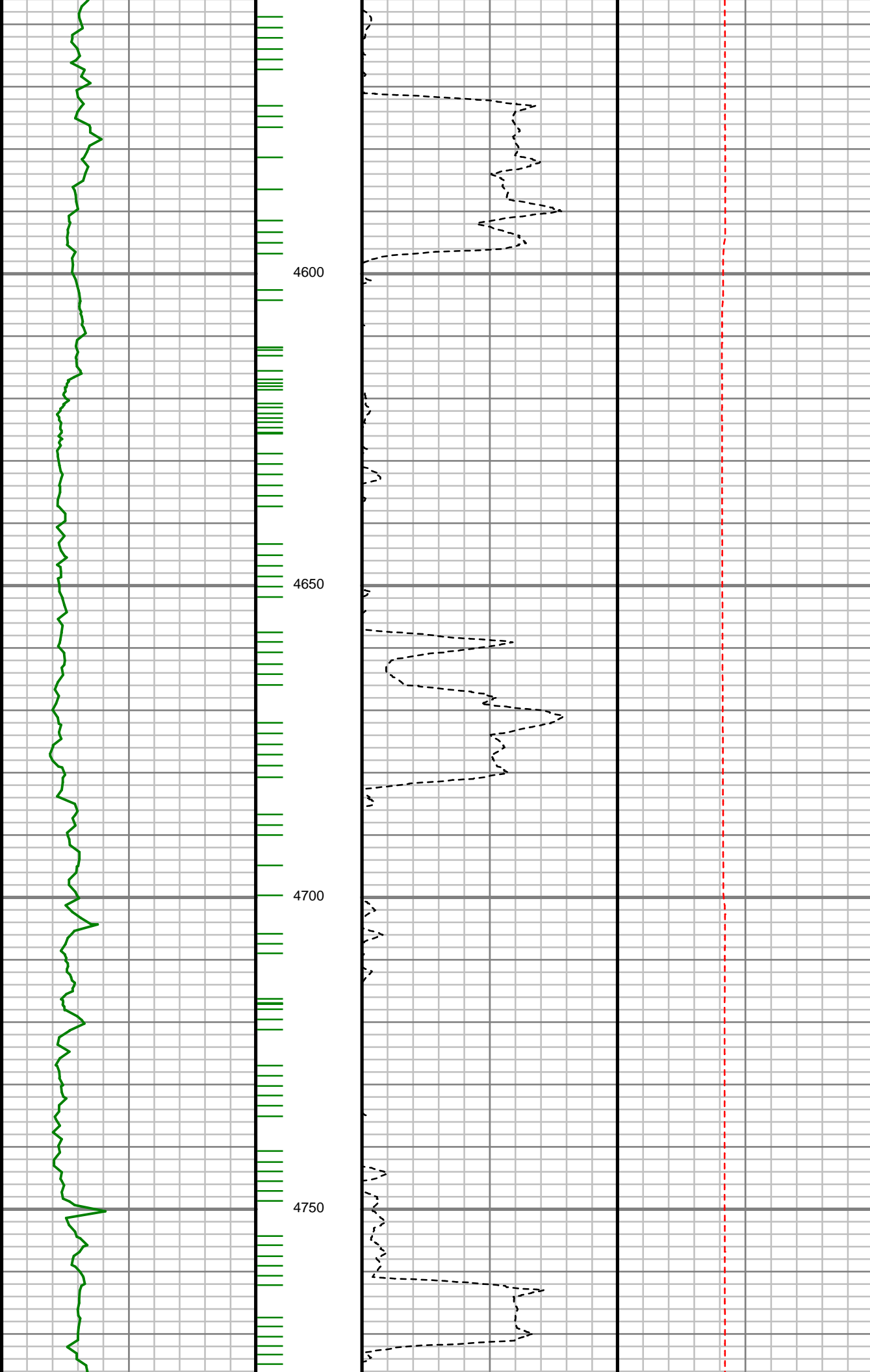
S: 45 MD: 4222.00 ft
Inc: 3.36 deg Az:
189.21 deg TVD:
4181.64 ft

S: 46 MD: 4316.00 ft
Inc: 1.31 deg Az:
212.70 deg TVD:
4275.56 ft



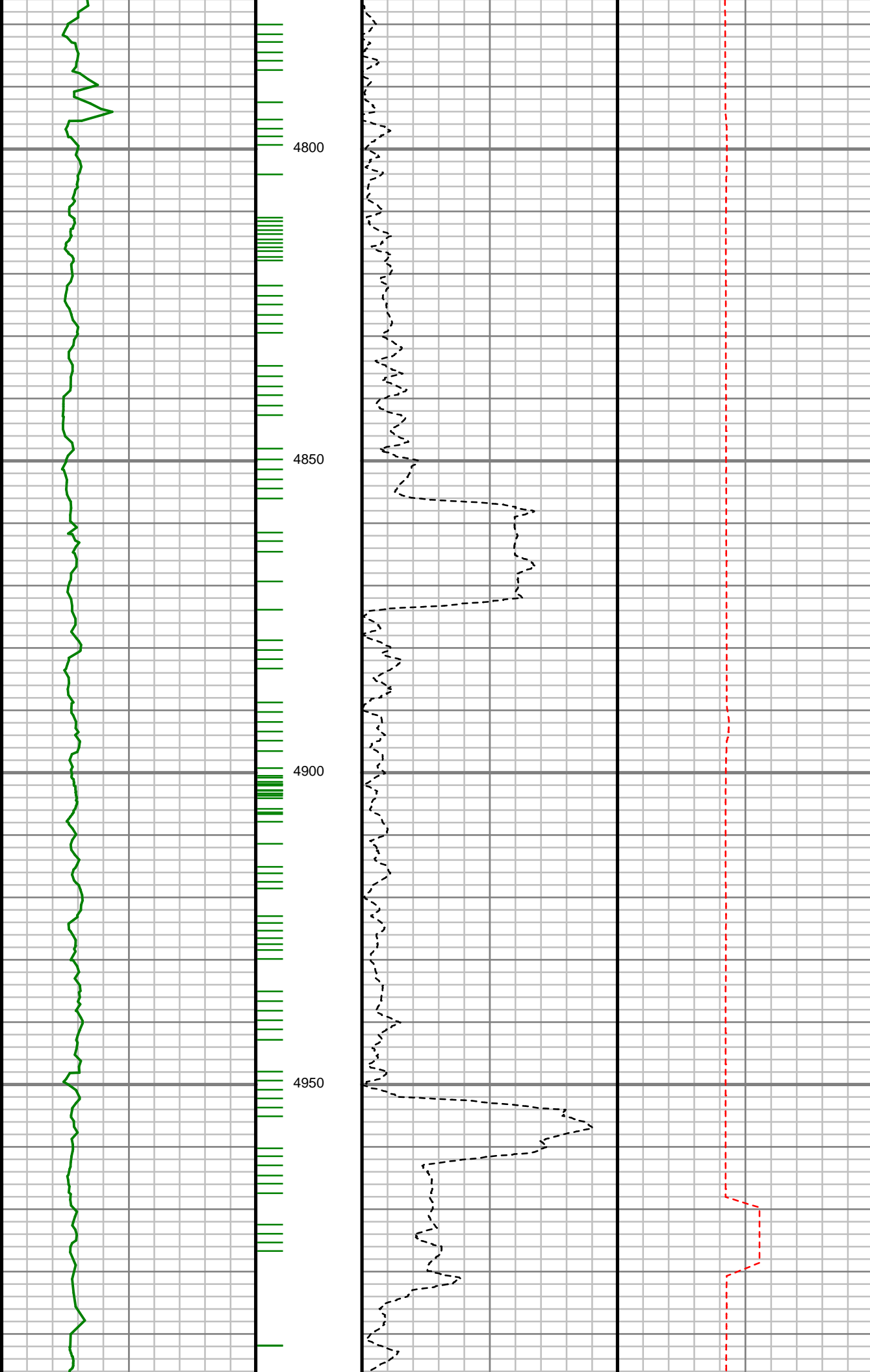
S: 47 MD: 4411.00 ft
Inc: 0.81 deg Az:
267.60 deg TVD:
4370.54 ft

S: 48 MD: 4505.00 ft
Inc: 0.81 deg Az:
297.26 deg TVD:
4464.53 ft



S: 49 MD: 4599.00 ft
Inc: 0.24 deg Az:
350.75 deg TVD:
4558.53 ft

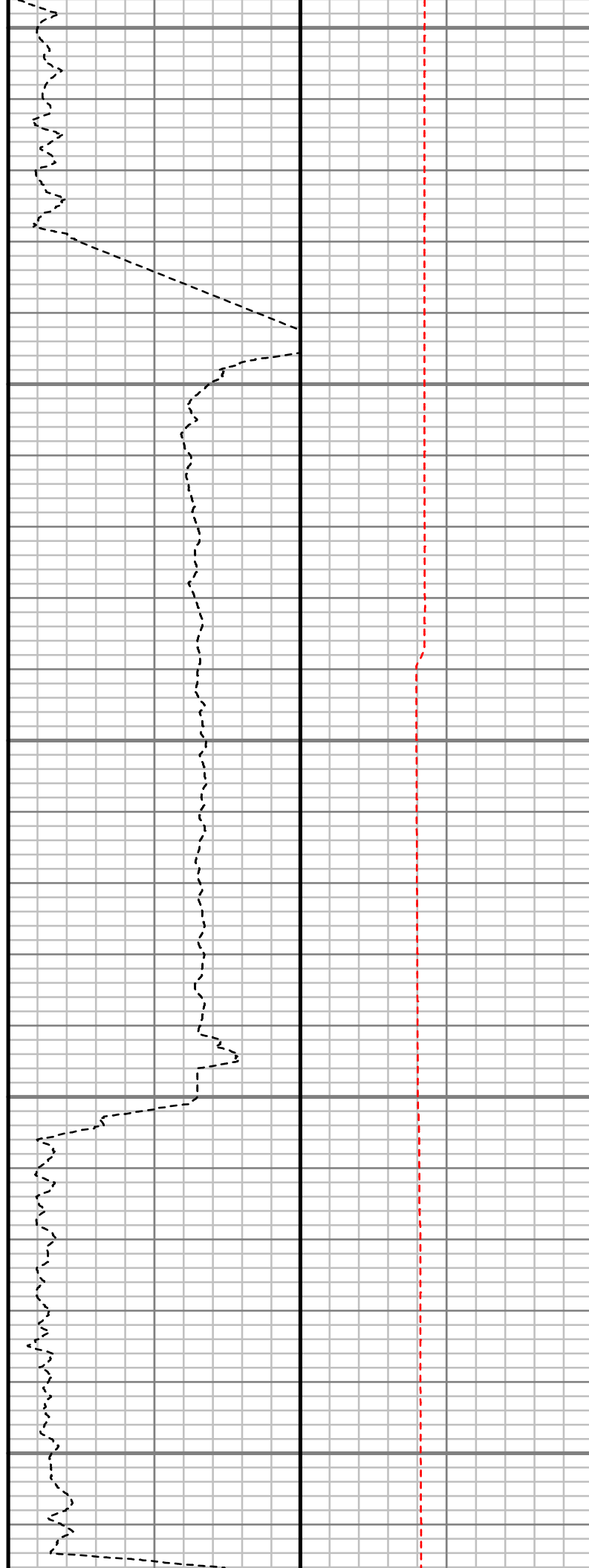
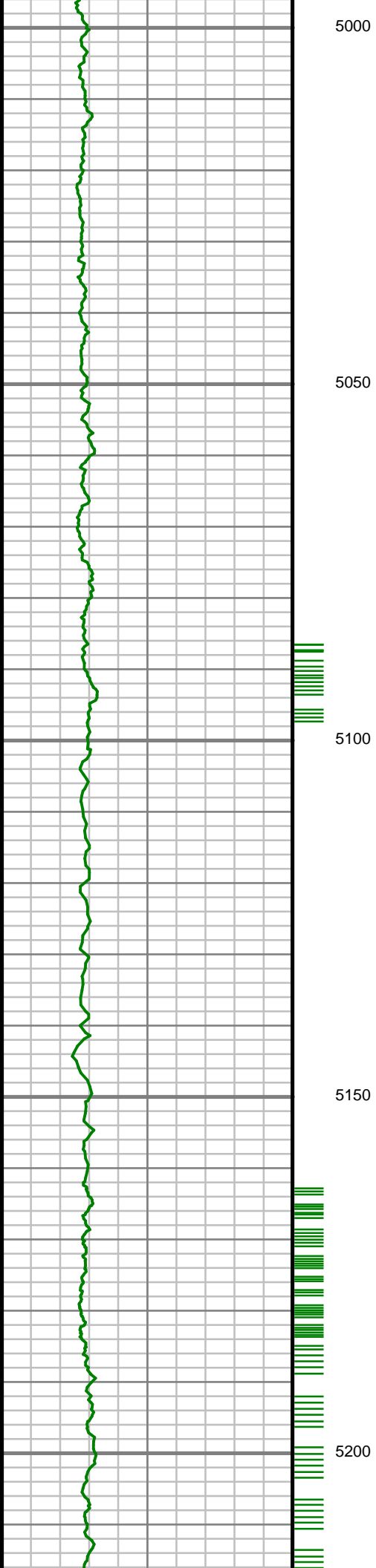
S: 50 MD: 4694.00 ft
Inc: 1.72 deg Az:
292.57 deg TVD:
4653.52 ft



S: 51 MD: 4788.00 ft
Inc: 2.00 deg Az:
307.23 deg TVD:
4747.47 ft

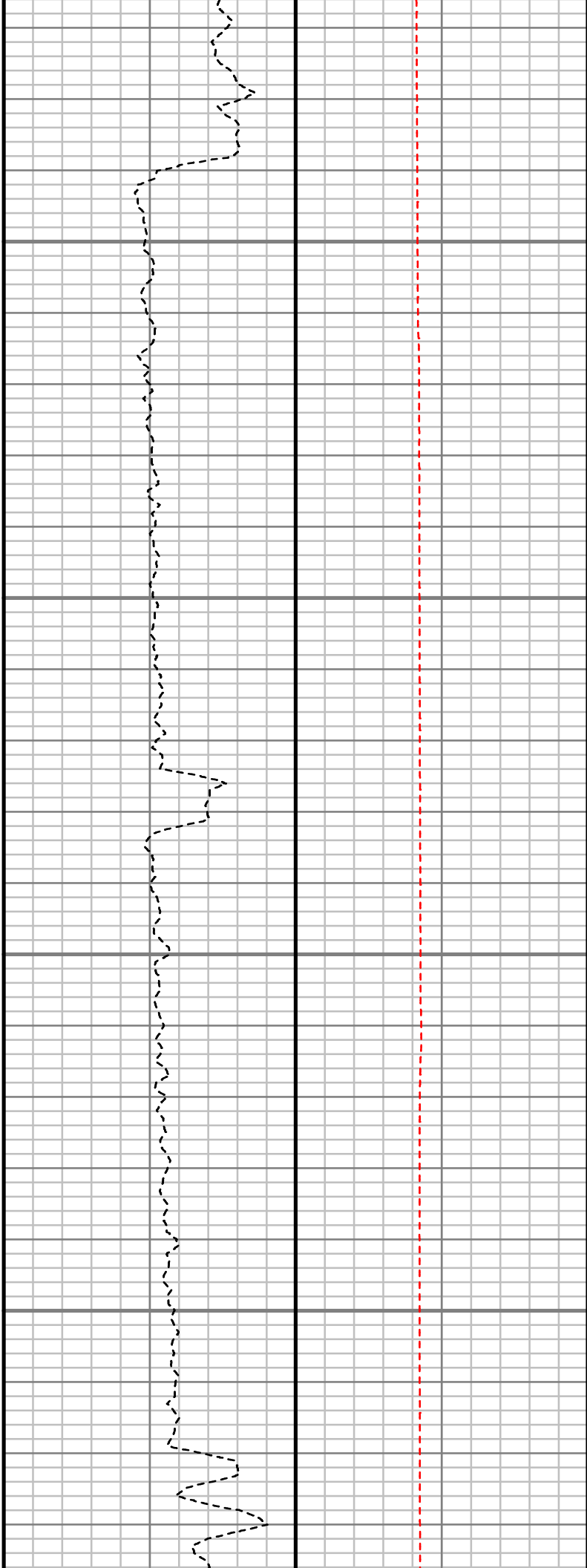
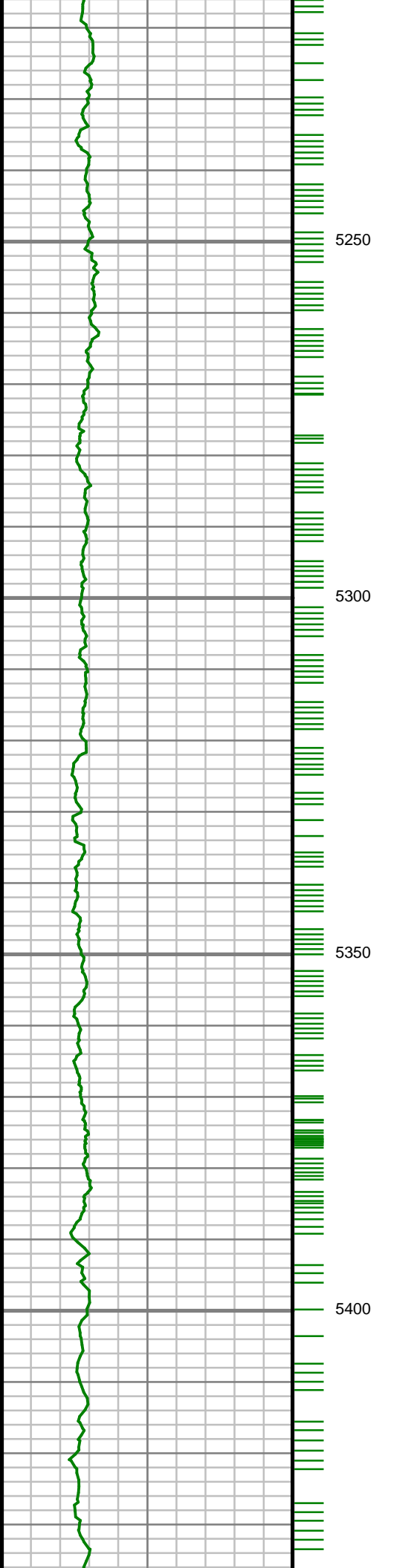
S: 52 MD: 4883.00 ft
Inc: 1.25 deg Az:
299.34 deg TVD:
4842.43 ft

S: 53 MD: 4977.00 ft
Inc: 0.54 deg Az:
263.20 deg TVD:
4936.42 ft



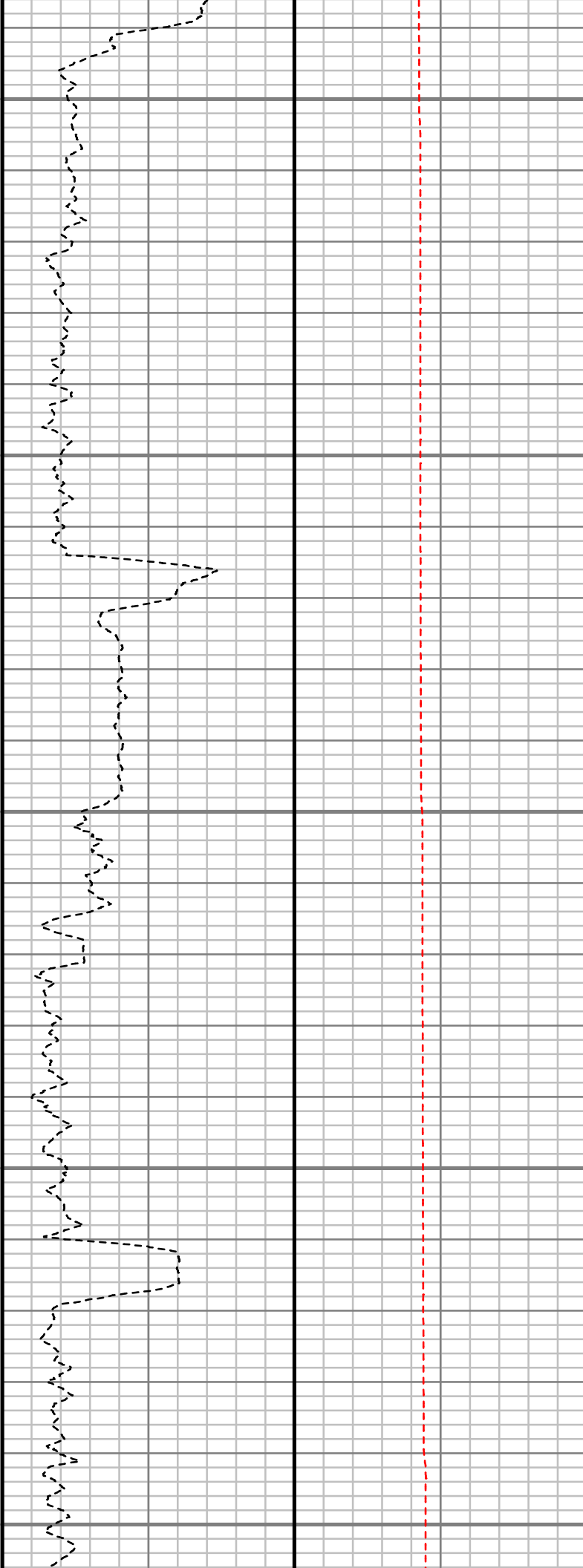
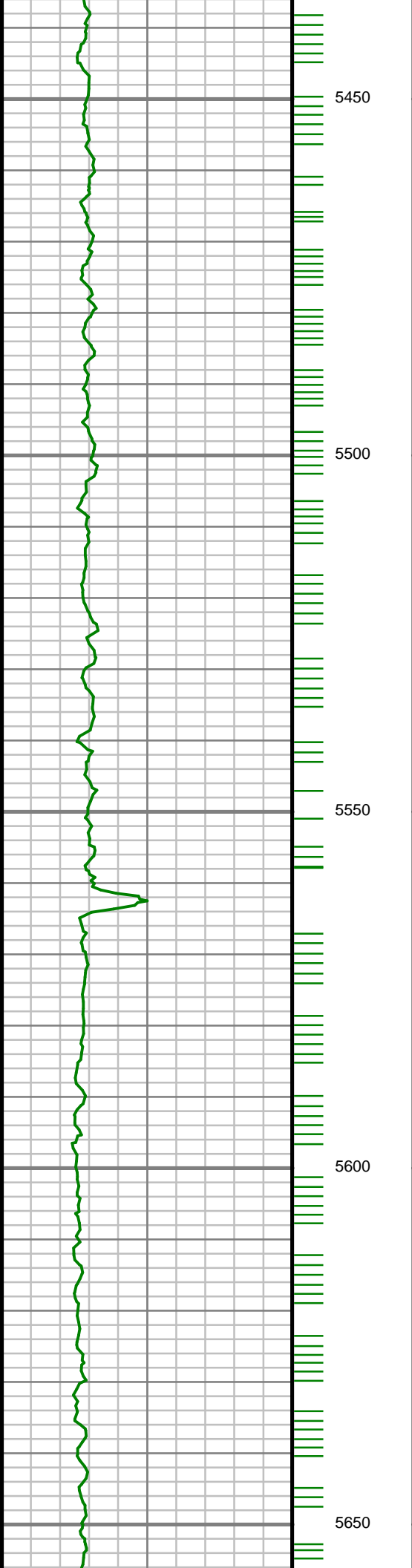
S: 54 MD: 5071.00 ft
Inc: 0.14 deg Az:
299.74 deg TVD:
5030.41 ft

S: 55 MD: 5165.00 ft
Inc: 0.26 deg Az: 58.32
deg TVD: 5124.41 ft



S: 56 MD: 5260.00 ft
Inc: 0.47 deg Az:
114.42 deg TVD:
5219.41 ft

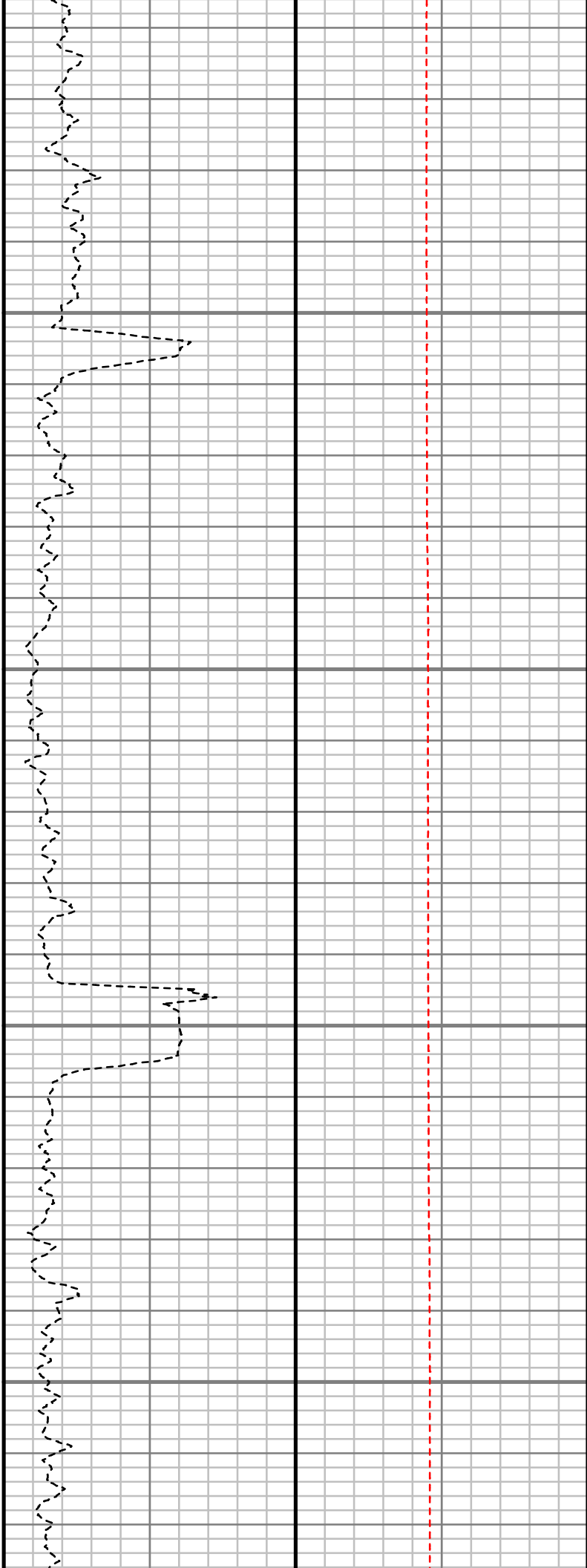
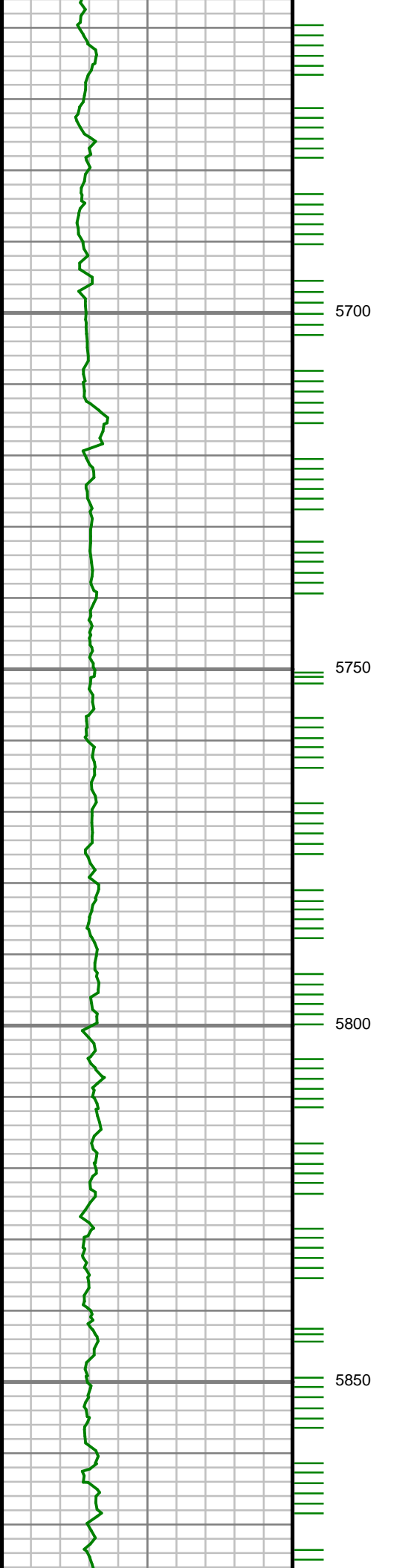
S: 57 MD: 5354.00 ft
Inc: 0.47 deg Az: 67.84
deg TVD: 5313.41 ft



S: 58 MD: 5448.00 ft
Inc: 0.68 deg Az:
221.06 deg TVD:
5407.41 ft

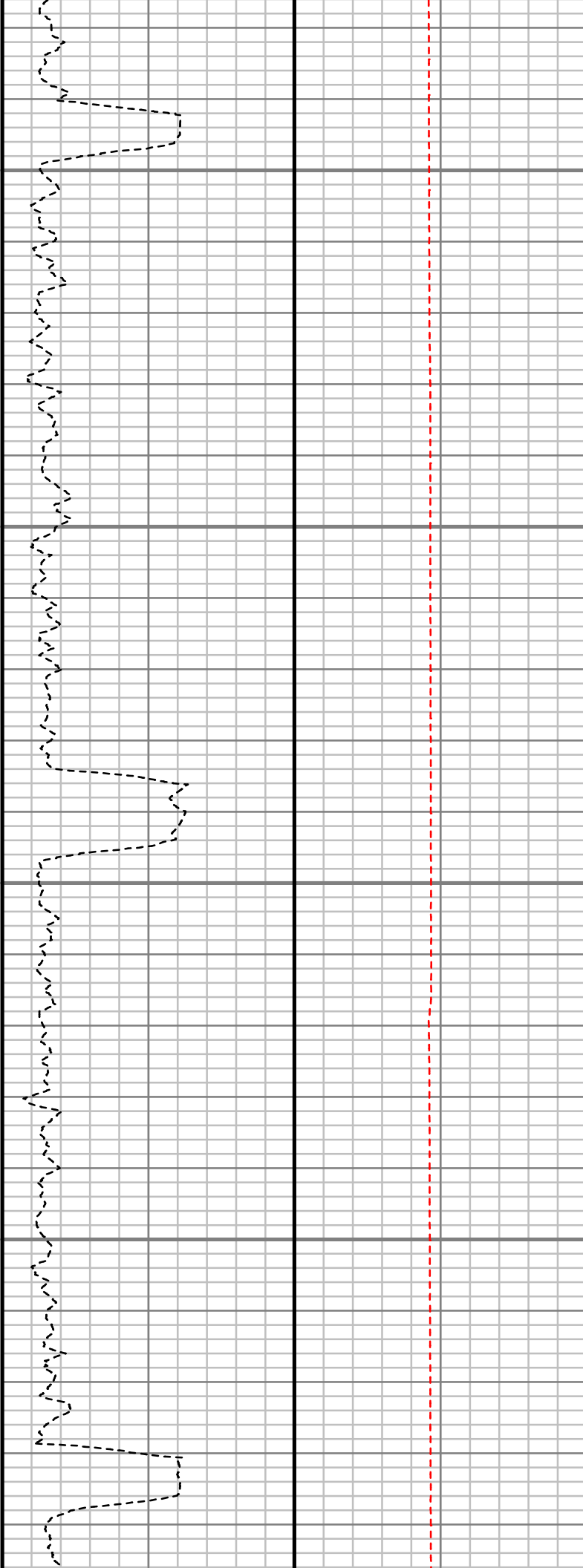
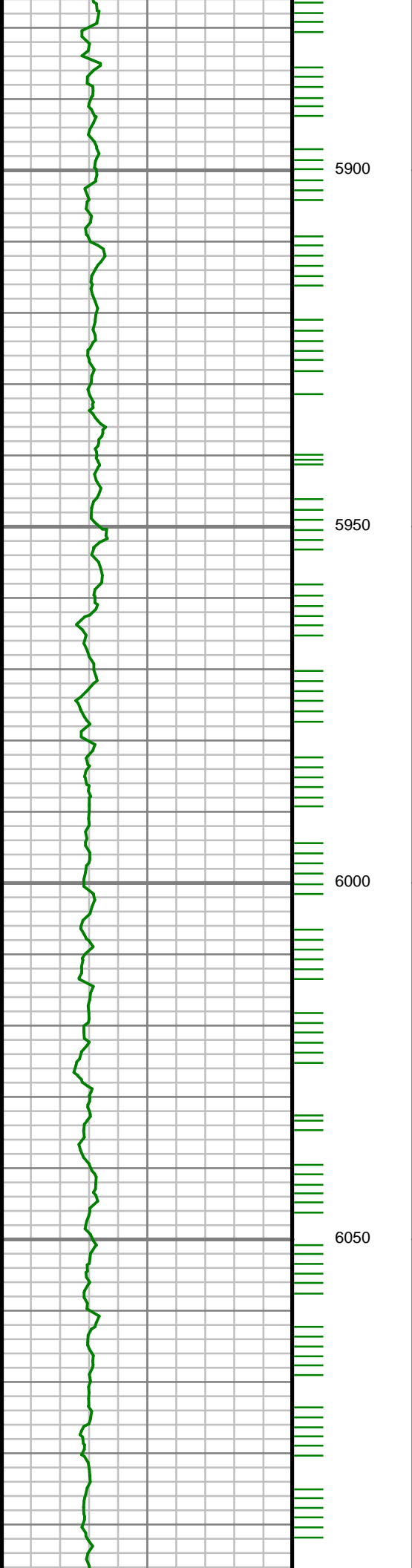
S: 59 MD: 5543.00 ft
Inc: 0.95 deg Az:
237.92 deg TVD:
5502.40 ft

S: 60 MD: 5637.00 ft
Inc: 1.25 deg Az:
248.09 deg TVD:
5596.38 ft



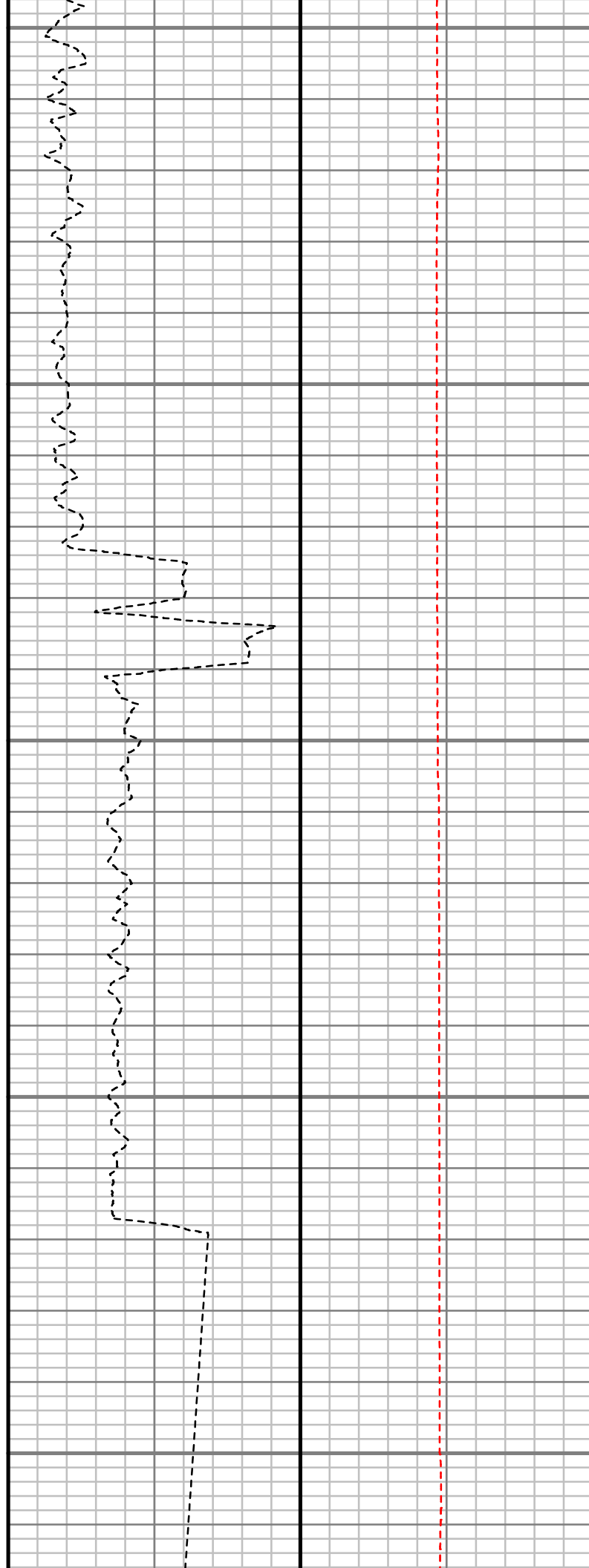
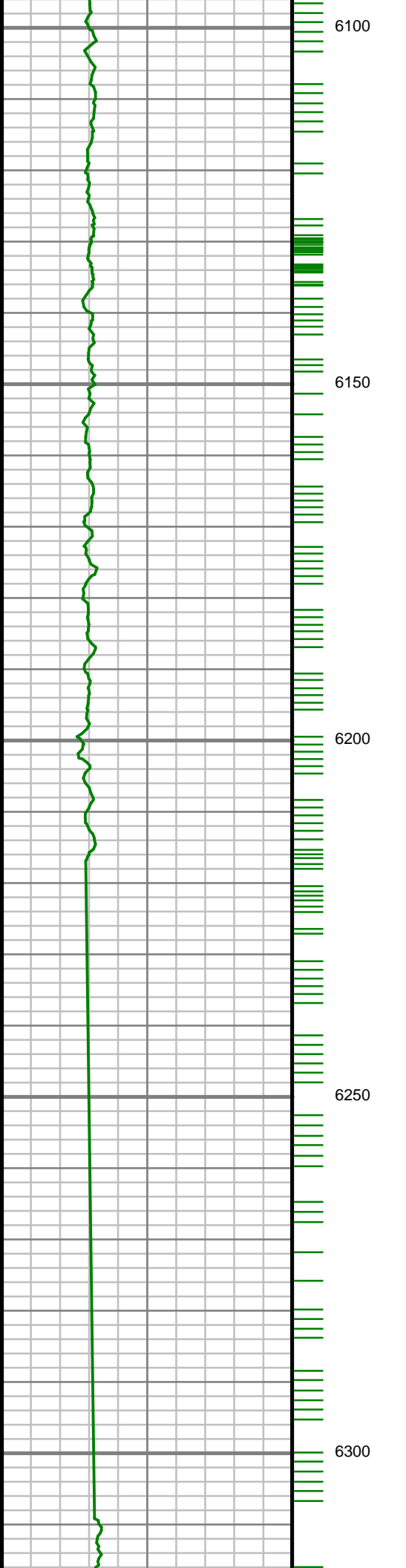
S: 61 MD: 5731.00 ft
Inc: 1.04 deg Az:
269.32 deg TVD:
5690.36 ft

S: 62 MD: 5826.00 ft
Inc: 1.25 deg Az:
259.11 deg TVD:
5785.34 ft



S: 63 MD: 5920.00 ft
Inc: 1.29 deg Az:
282.55 deg TVD:
5879.32 ft

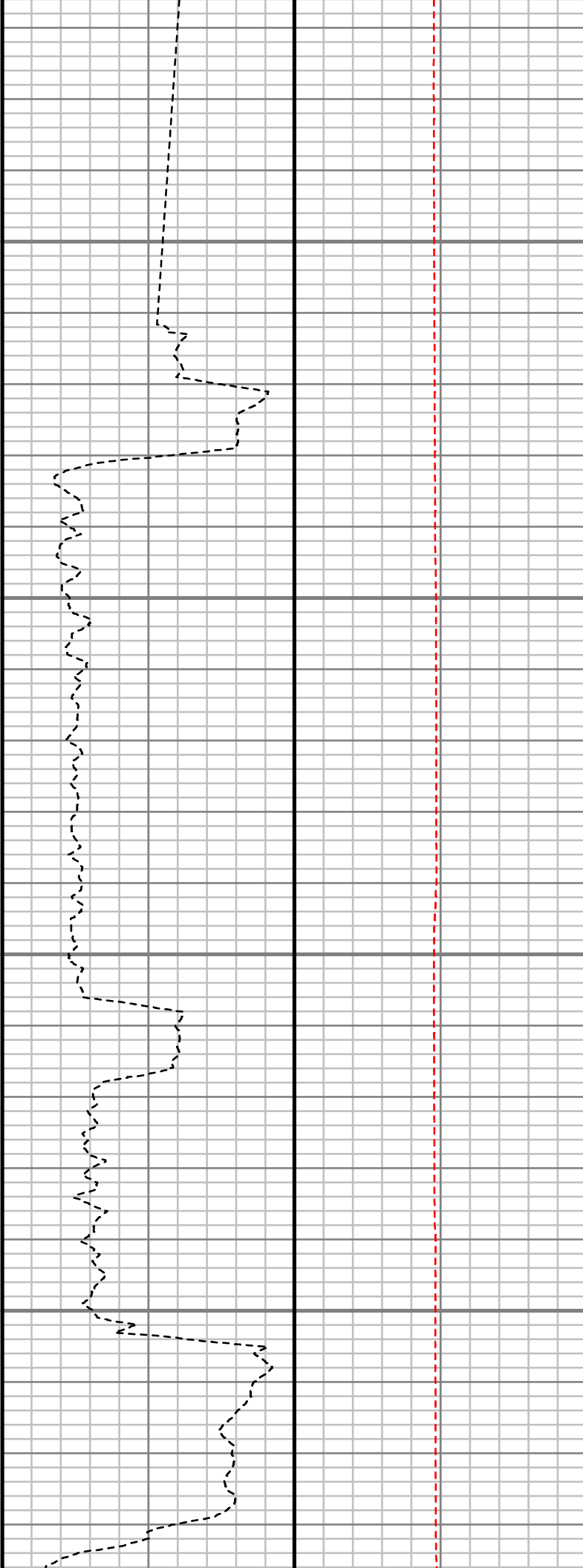
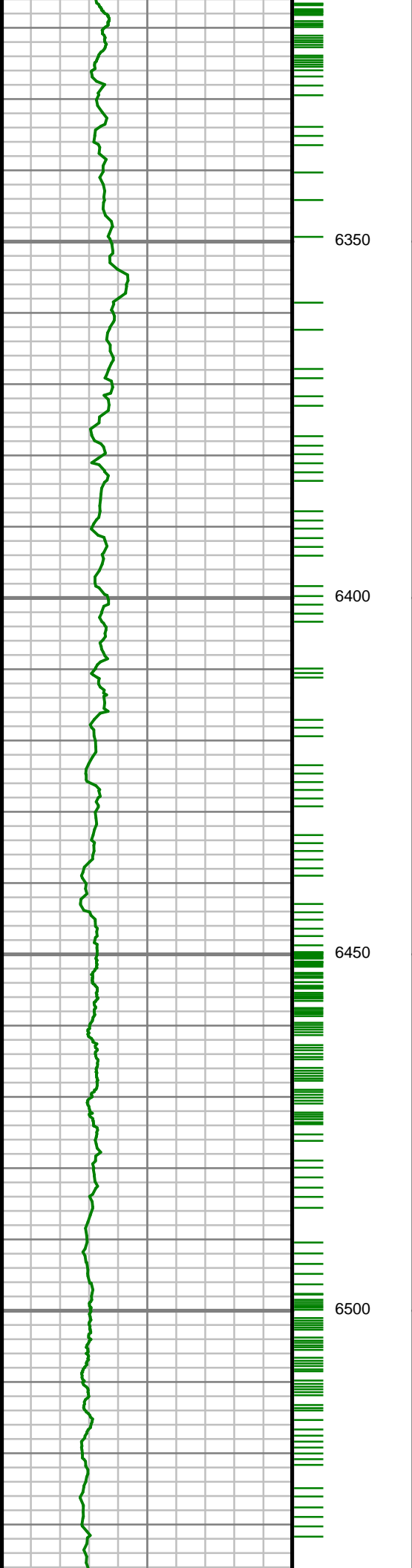
S: 64 MD: 6014.00 ft
Inc: 1.06 deg Az:
314.80 deg TVD:
5973.30 ft



S: 65 MD: 6108.00 ft
Inc: 1.45 deg Az:
335.09 deg TVD:
6067.28 ft

S: 66 MD: 6203.00 ft
Inc: 1.36 deg Az: 44.87
deg TVD: 6162.26 ft

S: 67 MD: 6297.00 ft
Inc: 2.13 deg Az: 9.21
deg TVD: 6256.22 ft

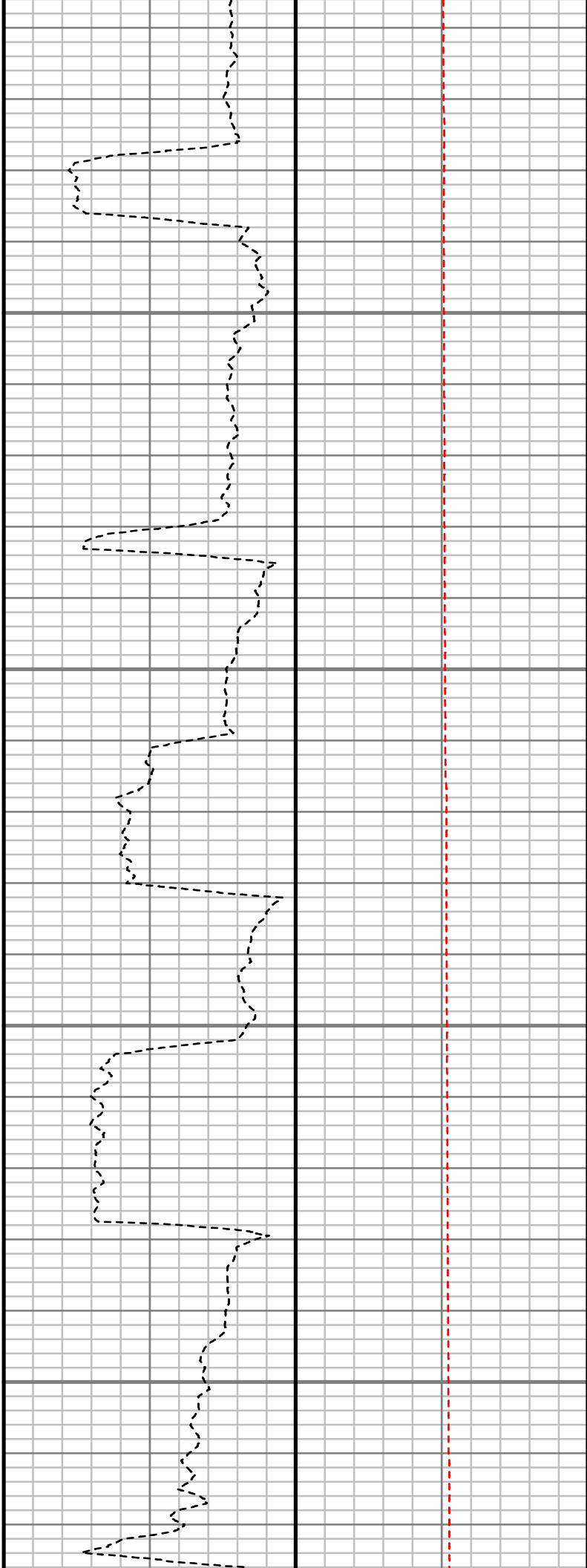
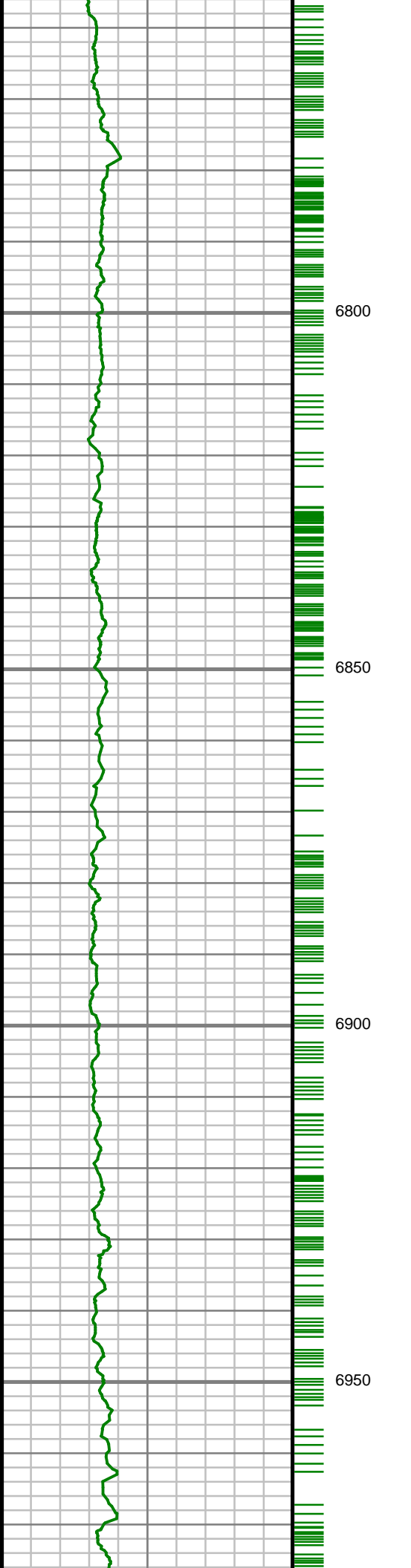


S: 68 MD: 6392.00 ft
Inc: 1.21 deg Az: 54.79
deg TVD: 6351.18 ft

S: 69 MD: 6439.00 ft
Inc: 0.98 deg Az: 60.43
deg TVD: 6398.17 ft

S: 70 MD: 6486.00 ft
Inc: 0.92 deg Az: 39.74
deg TVD: 6445.16 ft

S: 71 MD: 6533.00 ft



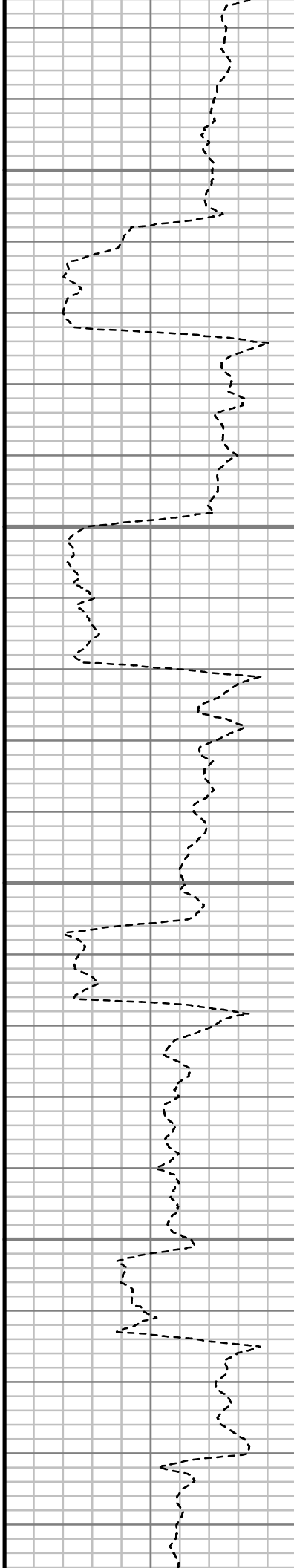
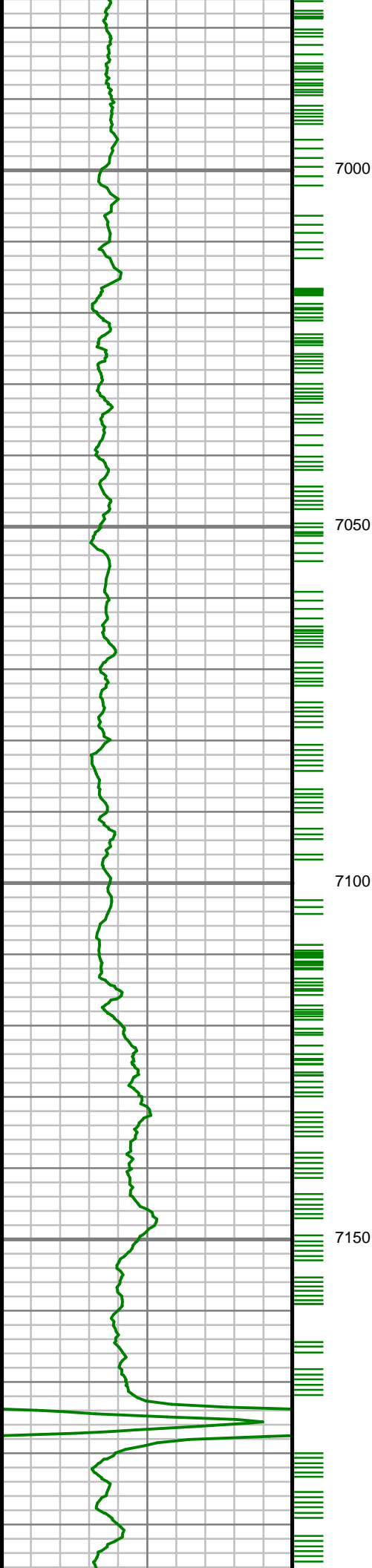
S: 76 MD: 6769.00 ft
Inc: 19.46 deg Az:
357.14 deg TVD:
6723.24 ft

S: 77 MD: 6816.00 ft
Inc: 24.15 deg Az:
355.60 deg TVD:
6766.86 ft

S: 78 MD: 6863.00 ft
Inc: 28.28 deg Az:
353.33 deg TVD:
6809.02 ft

S: 79 MD: 6910.00 ft
Inc: 30.35 deg Az:
355.80 deg TVD:
6850.00 ft

S: 80 MD: 6958.00 ft
Inc: 35.01 deg Az: 2.45
deg TVD: 6890.40 ft



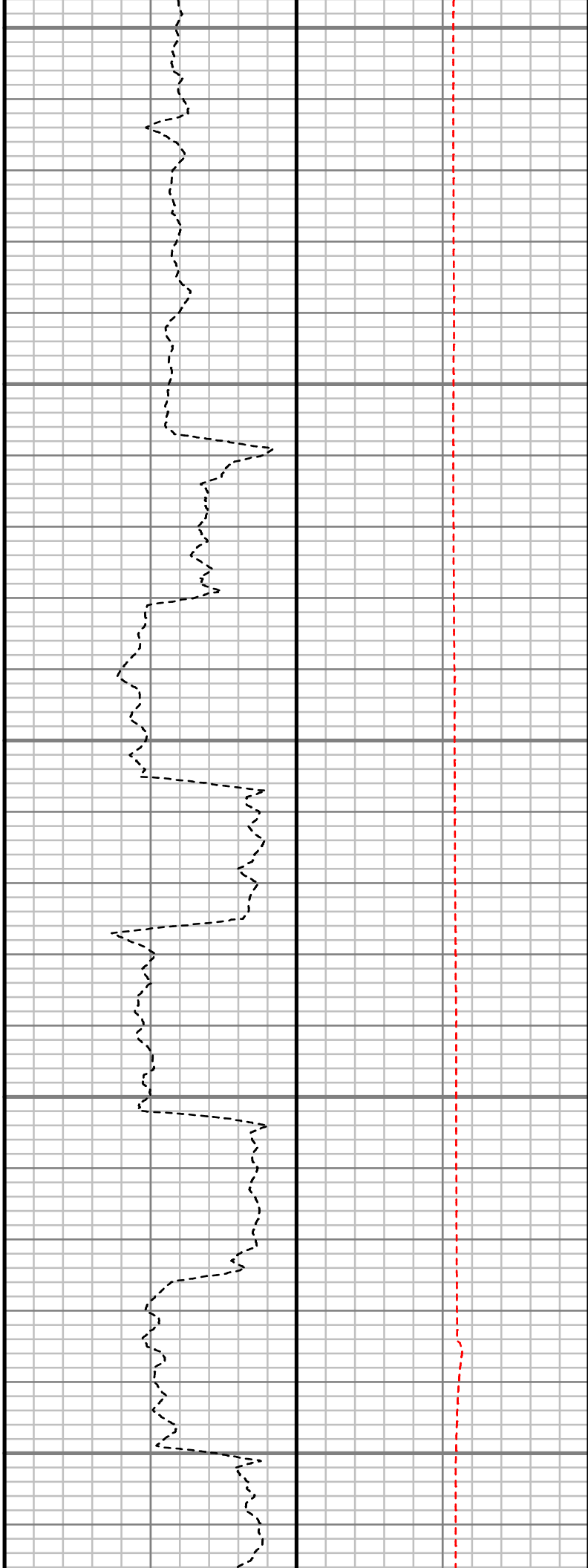
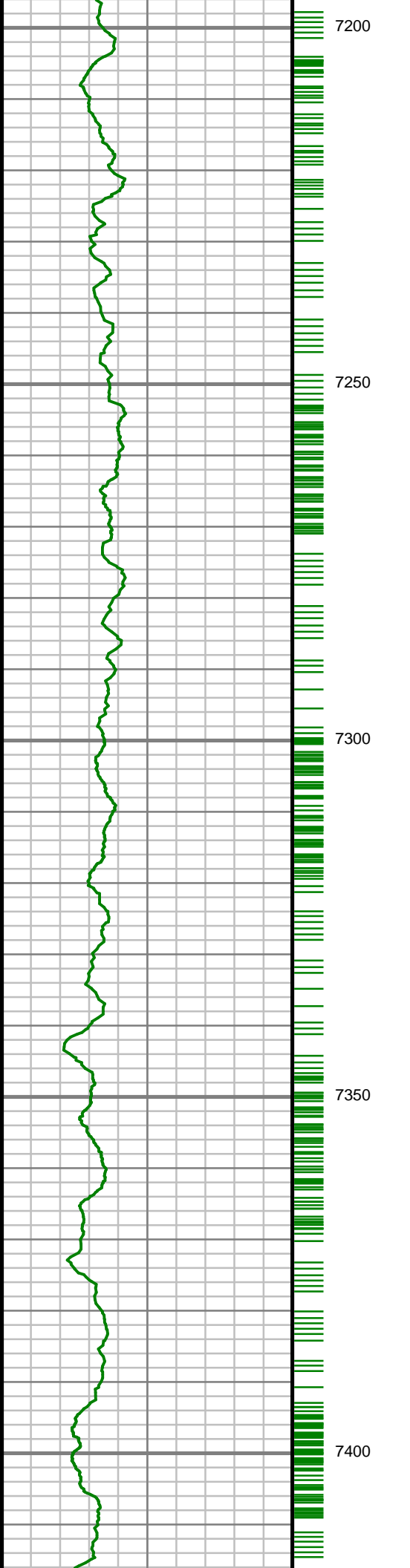
S: 81 MD: 7005.00 ft
Inc: 40.15 deg Az: 5.08
deg TVD: 6927.64 ft

S: 82 MD: 7052.00 ft
Inc: 45.22 deg Az: 5.67
deg TVD: 6962.18 ft

S: 83 MD: 7099.00 ft
Inc: 50.79 deg Az: 3.70
deg TVD: 6993.61 ft

S: 84 MD: 7146.00 ft
Inc: 56.74 deg Az: 2.73
deg TVD: 7021.38 ft

S: 85 MD: 7193.00 ft



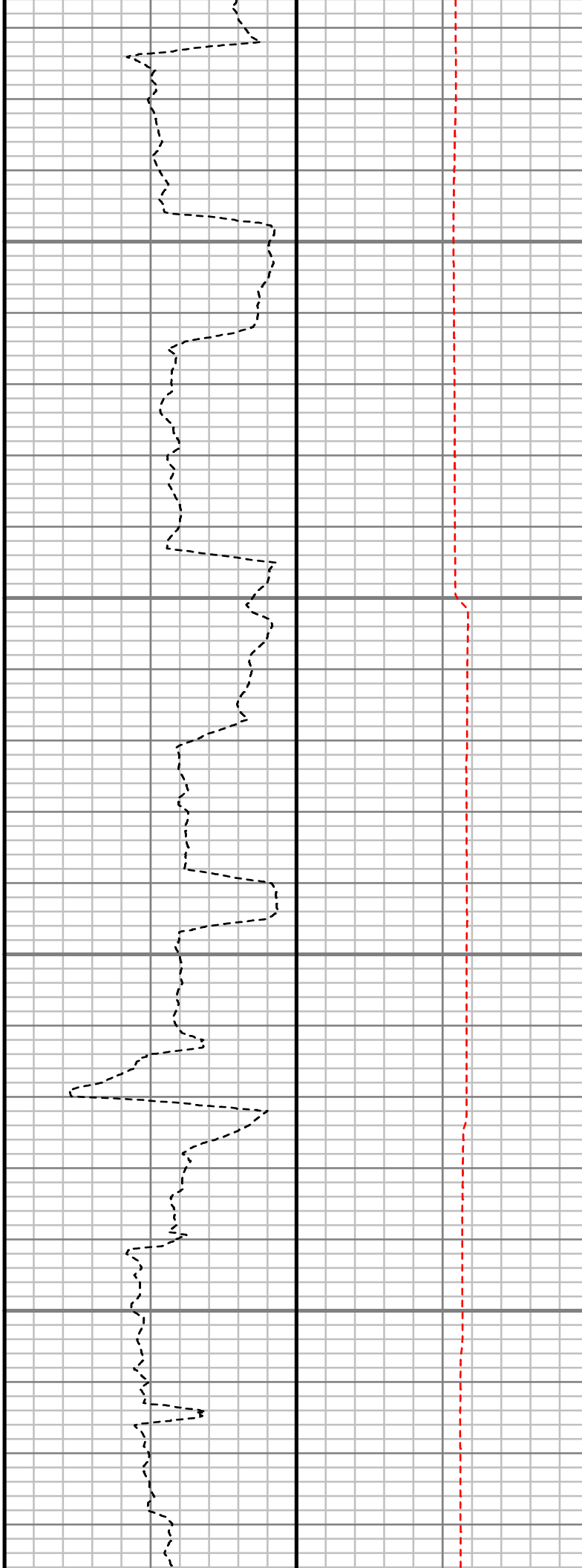
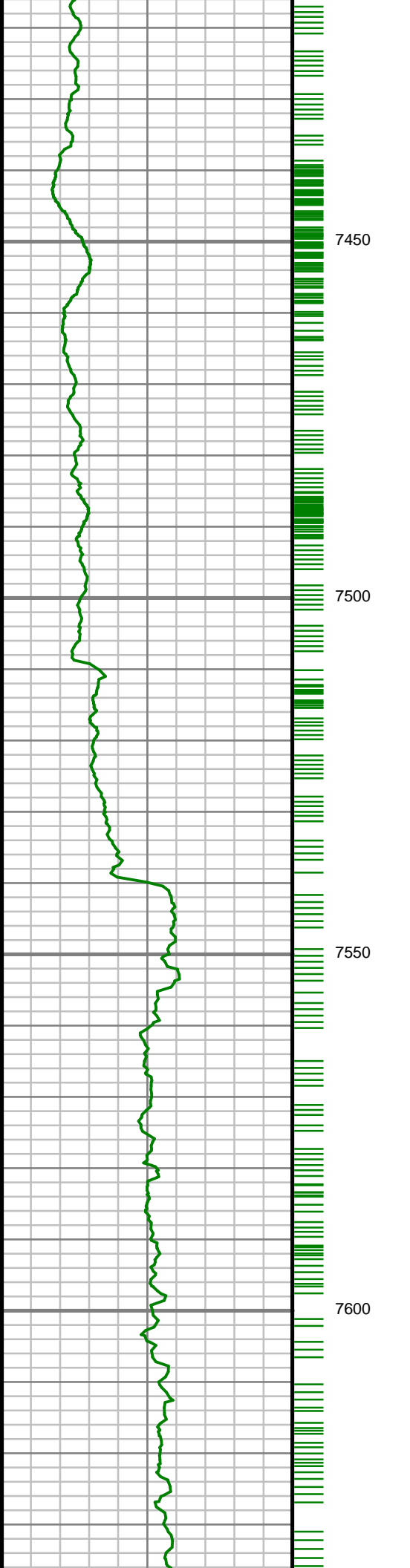
Inc: 61.07 deg Az: 1.38
deg TVD: 7045.65 ft

S: 86 MD: 7241.00 ft
Inc: 62.42 deg Az: 1.02
deg TVD: 7068.37 ft

S: 87 MD: 7288.00 ft
Inc: 66.35 deg Az:
359.83 deg TVD:
7088.69 ft

S: 88 MD: 7335.00 ft
Inc: 70.54 deg Az:
359.92 deg TVD:
7105.95 ft

S: 89 MD: 7382.00 ft
Inc: 75.08 deg Az: 0.61
deg TVD: 7119.84 ft

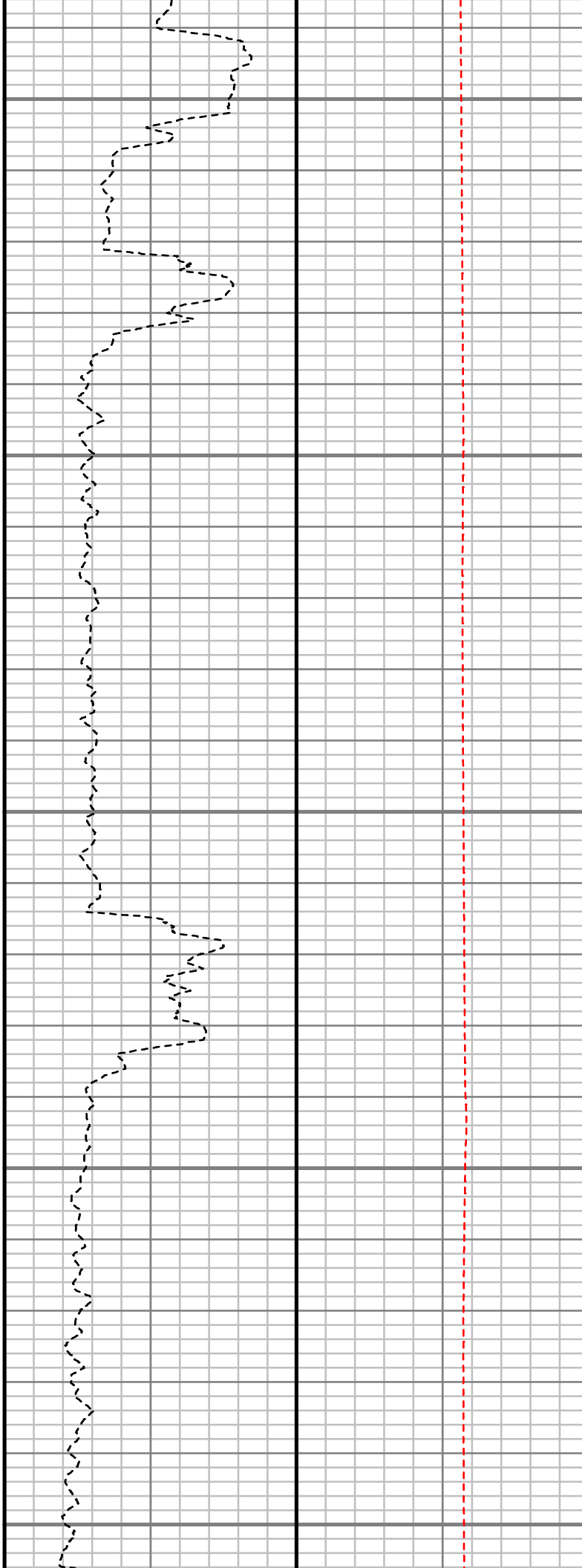
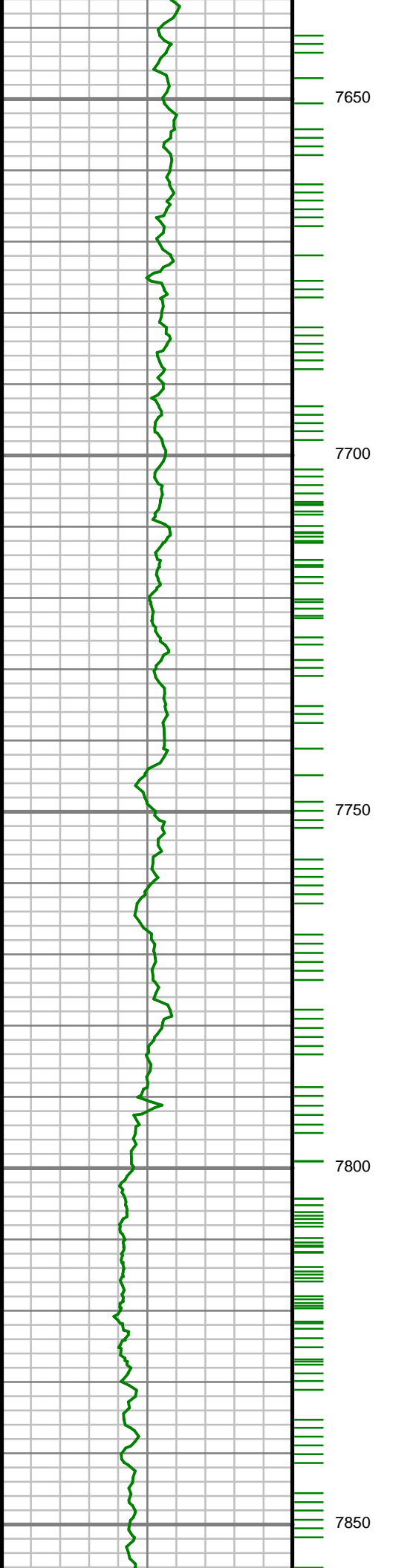


S: 90 MD: 7429.00 ft
Inc: 79.44 deg Az: 0.98
deg TVD: 7130.20 ft

S: 91 MD: 7476.00 ft
Inc: 83.14 deg Az: 0.68
deg TVD: 7137.32 ft

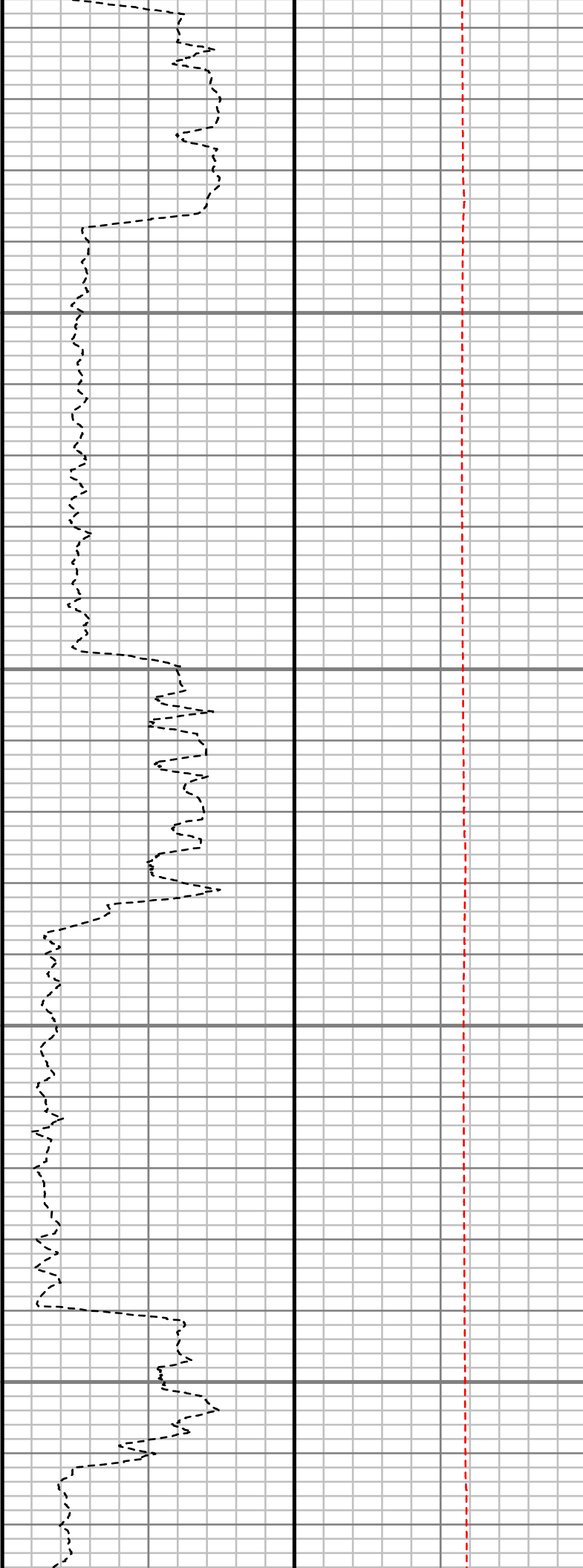
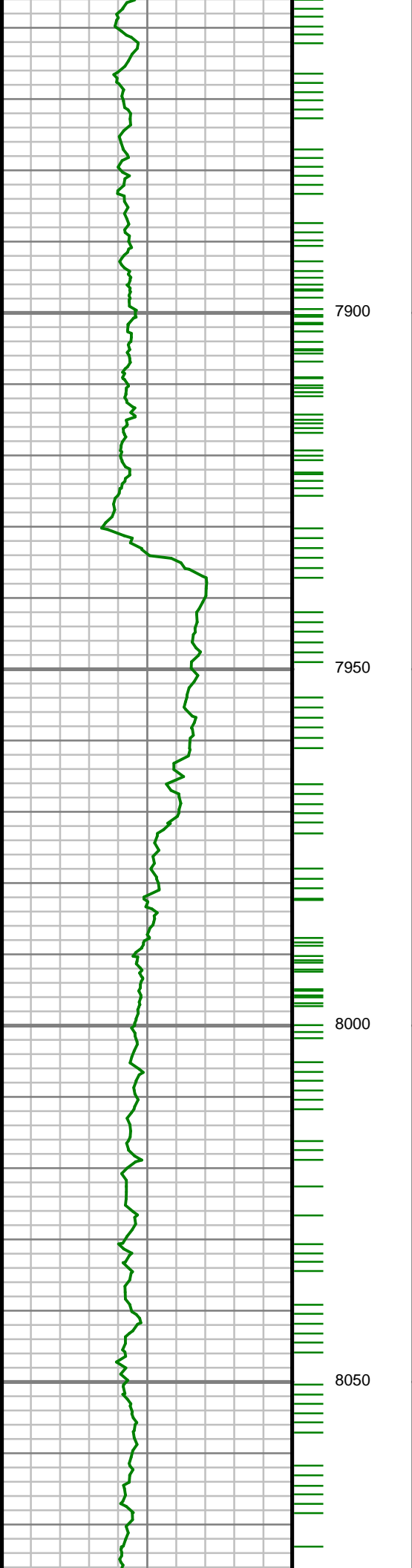
S: 92 MD: 7498.00 ft
Inc: 85.81 deg Az: 0.98
deg TVD: 7139.44 ft

S: 93 MD: 7603.00 ft
Inc: 91.11 deg Az: 0.08
deg TVD: 7142.26 ft



S: 94 MD: 7695.00 ft
Inc: 90.57 deg Az: 0.14
deg TVD: 7140.91 ft

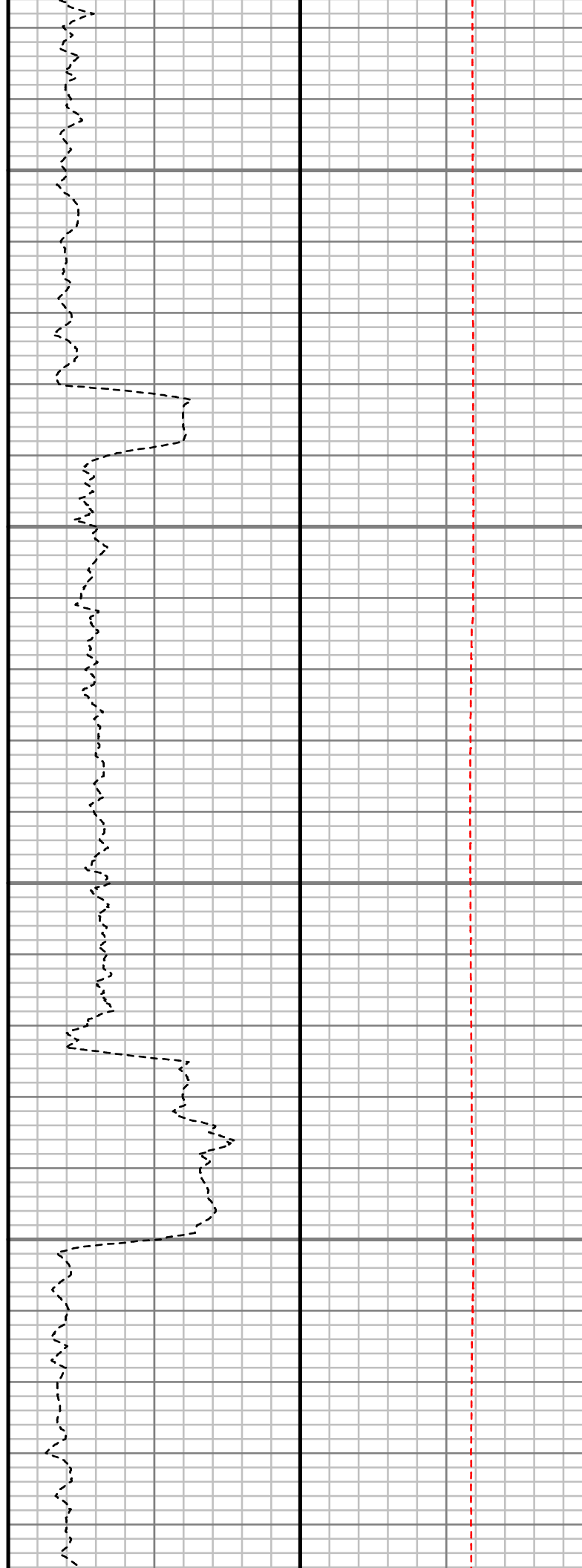
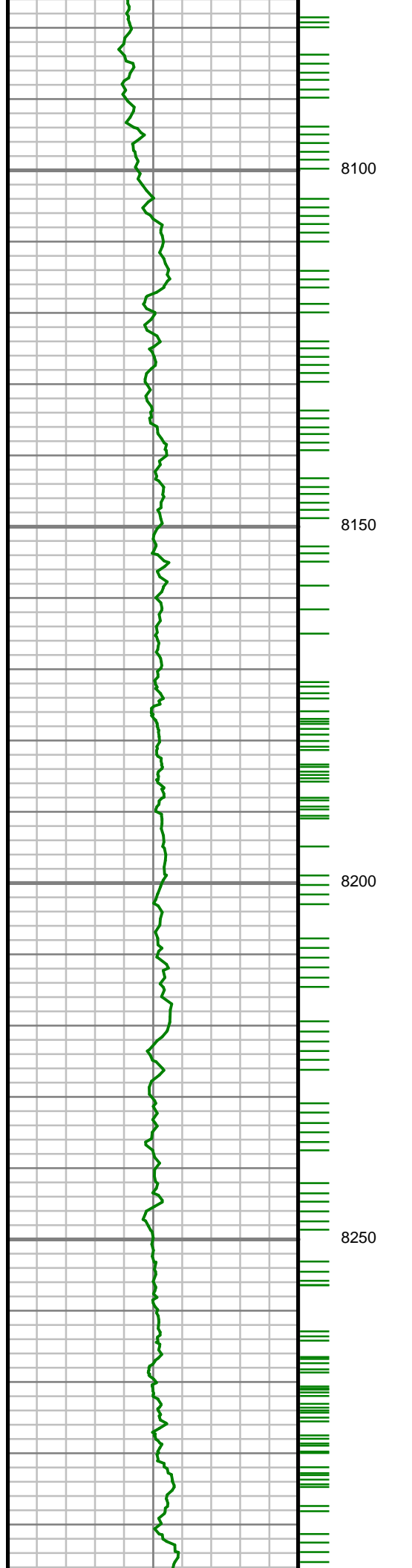
S: 95 MD: 7787.00 ft
Inc: 90.40 deg Az: 0.38
deg TVD: 7140.13 ft



S: 96 MD: 7878.00 ft
Inc: 90.23 deg Az: 0.91
deg TVD: 7139.62 ft

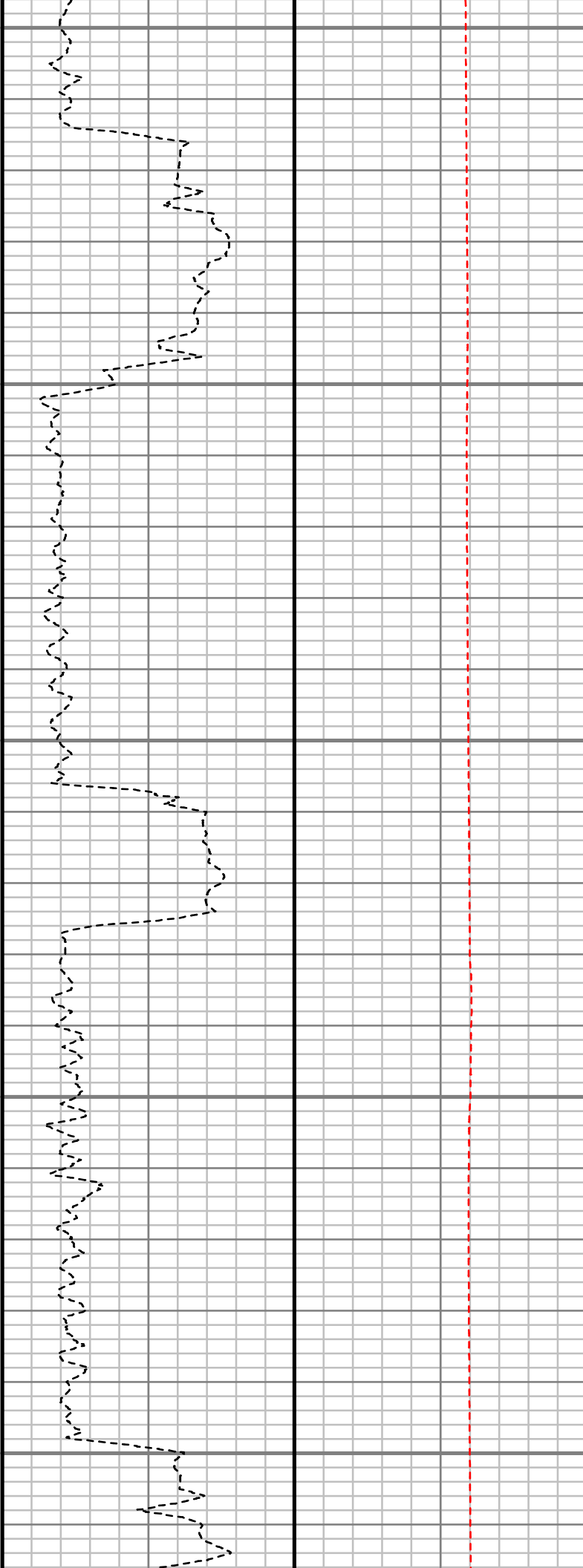
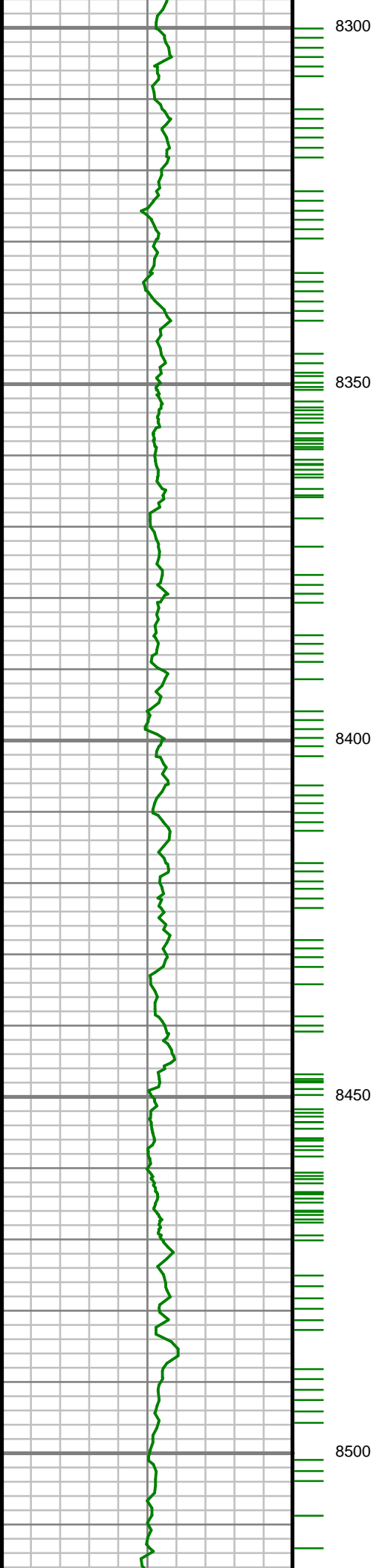
S: 97 MD: 7970.00 ft
Inc: 89.23 deg Az: 0.02
deg TVD: 7140.06 ft

S: 98 MD: 8061.00 ft
Inc: 88.72 deg Az:
359.32 deg TVD:
7141.68 ft



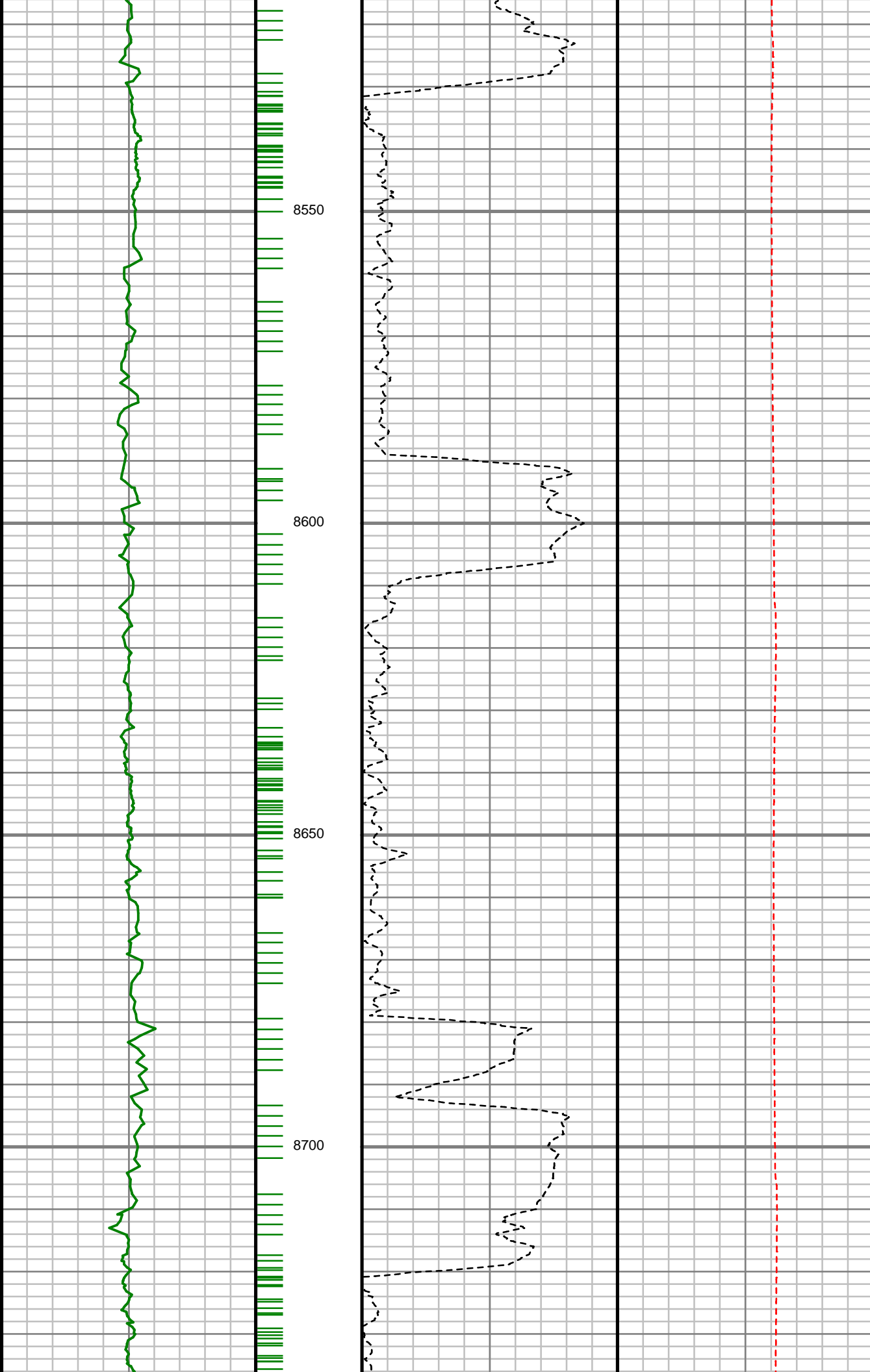
S: 99 MD: 8153.00 ft
Inc: 89.46 deg Az:
358.53 deg TVD:
7143.14 ft

S: 100 MD: 8245.00 ft
Inc: 90.10 deg Az:
358.74 deg TVD:
7143.49 ft



S: 101 MD: 8336.00 ft
Inc: 89.70 deg Az:
358.95 deg TVD:
7143.65 ft

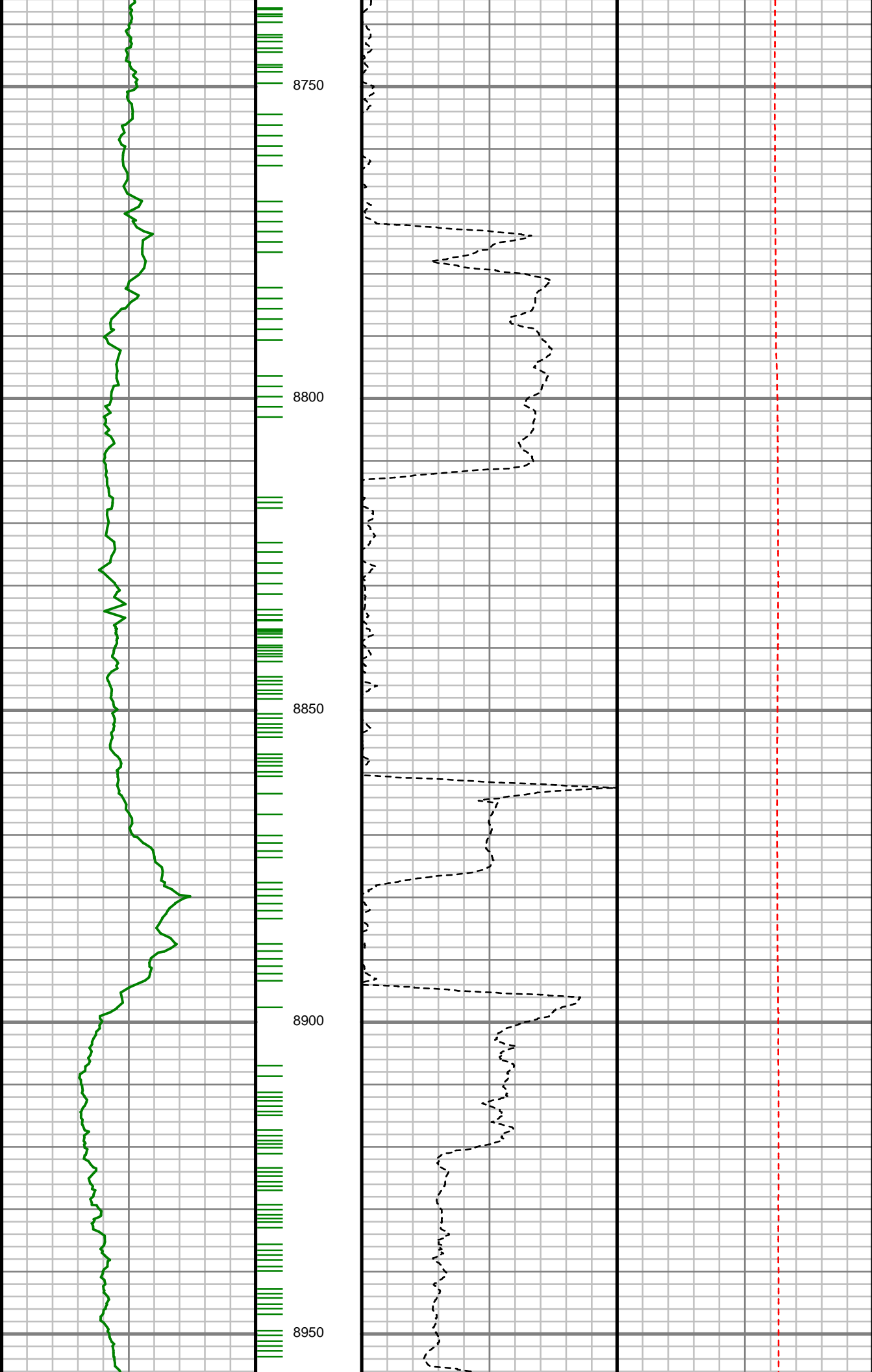
S: 102 MD: 8428.00 ft
Inc: 90.17 deg Az: 0.62
deg TVD: 7143.76 ft



S: 103 MD: 8519.00 ft
Inc: 90.44 deg Az: 0.96
deg TVD: 7143.28 ft

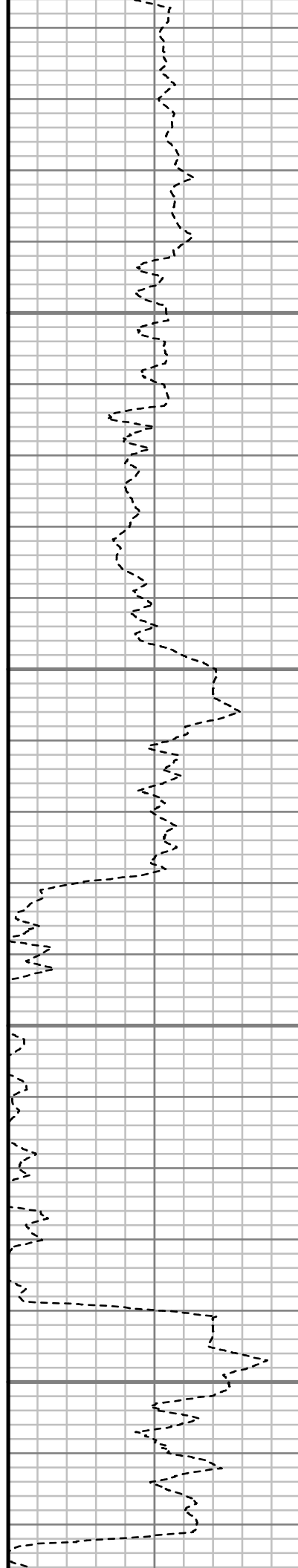
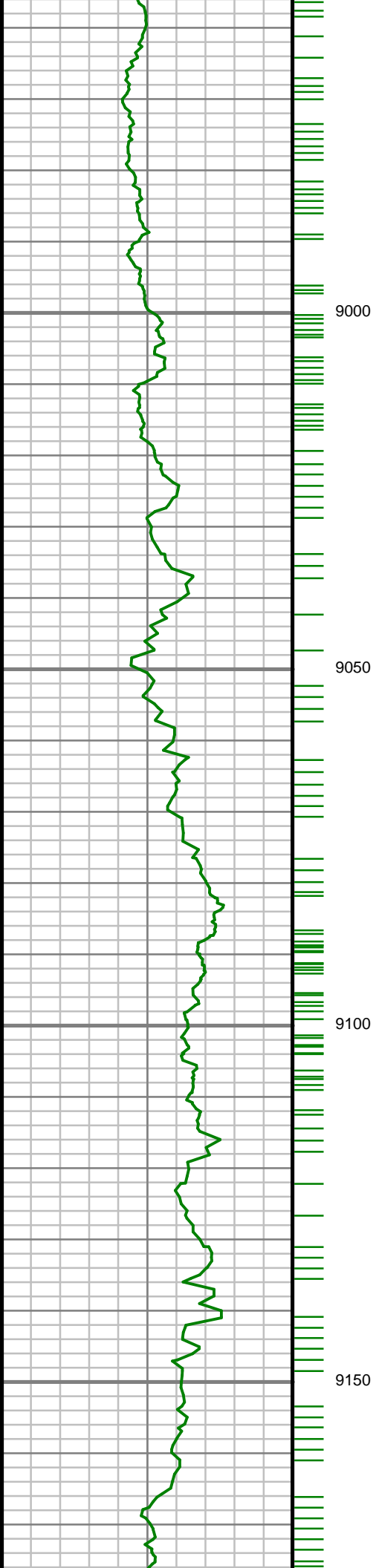
S: 104 MD: 8611.00 ft
Inc: 89.60 deg Az:
359.02 deg TVD:
7143.25 ft

S: 105 MD: 8702.00 ft
Inc: 89.16 deg Az:
358.90 deg TVD:
7144.24 ft



S: 106 MD: 8794.00 ft
Inc: 90.60 deg Az: 0.62
deg TVD: 7144.43 ft

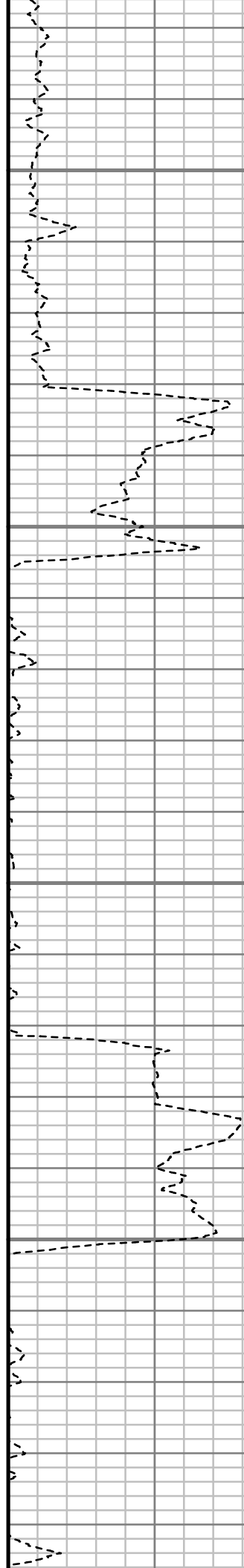
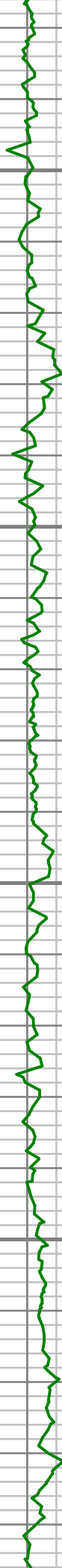
S: 107 MD: 8886.00 ft
Inc: 92.05 deg Az: 1.61
deg TVD: 7142.29 ft



S: 108 MD: 8978.00 ft
Inc: 91.78 deg Az: 1.52
deg TVD: 7139.22 ft

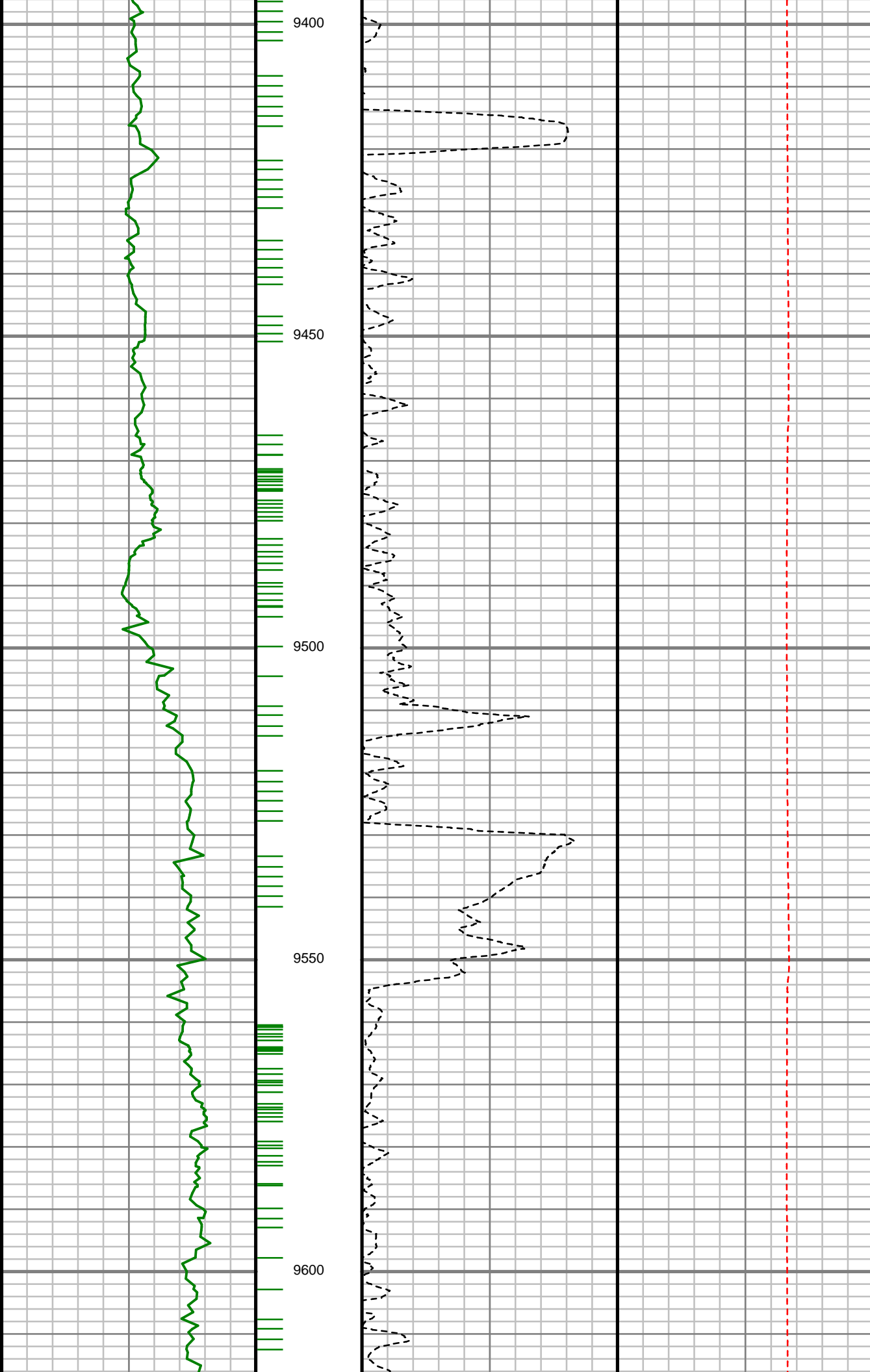
S: 109 MD: 9069.00 ft
Inc: 91.34 deg Az: 1.40
deg TVD: 7136.74 ft

S: 110 MD: 9161.00 ft
Inc: 90.37 deg Az: 1.27
deg TVD: 7135.36 ft



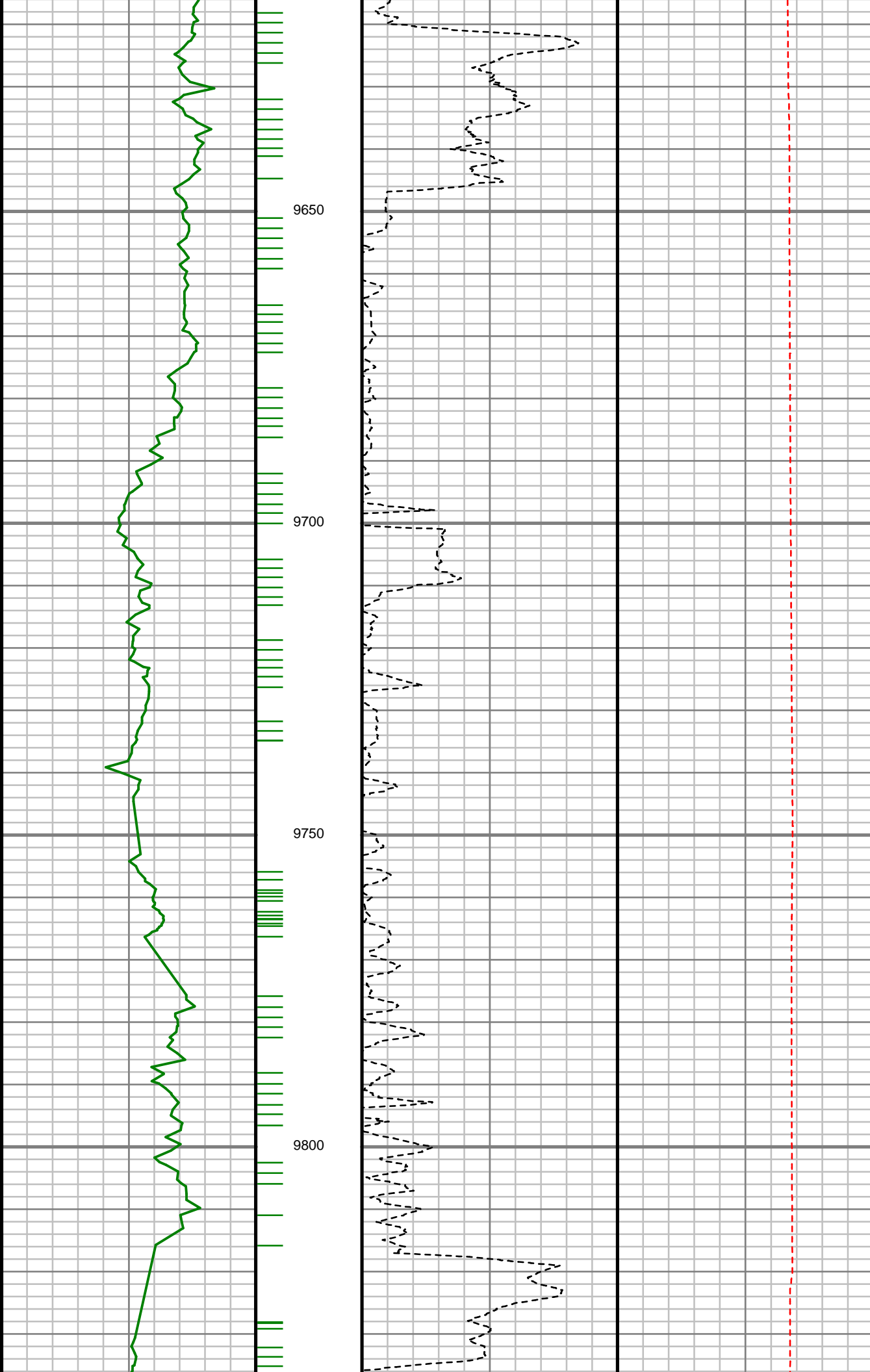
S: 111 MD: 9252.00 ft
Inc: 89.73 deg Az: 0.79
deg TVD: 7135.28 ft

S: 112 MD: 9344.00 ft
Inc: 88.89 deg Az: 1.99
deg TVD: 7136.39 ft



S: 113 MD: 9439.00 ft
Inc: 89.83 deg Az: 2.77
deg TVD: 7137.45 ft

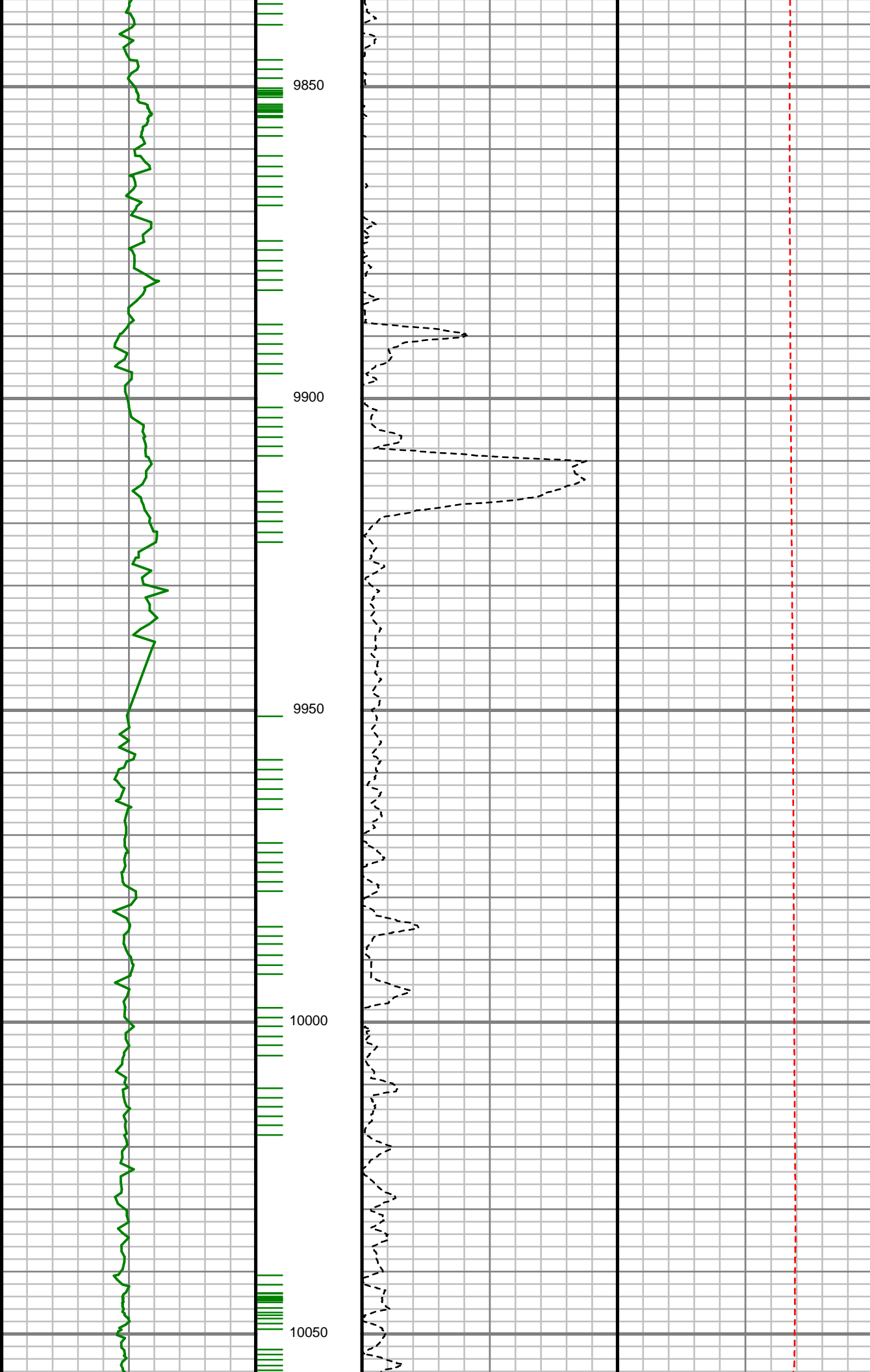
S: 114 MD: 9533.00 ft
Inc: 90.40 deg Az: 1.01
deg TVD: 7137.26 ft



S: 115 MD: 9627.00 ft
Inc: 88.56 deg Az:
359.82 deg TVD:
7138.11 ft

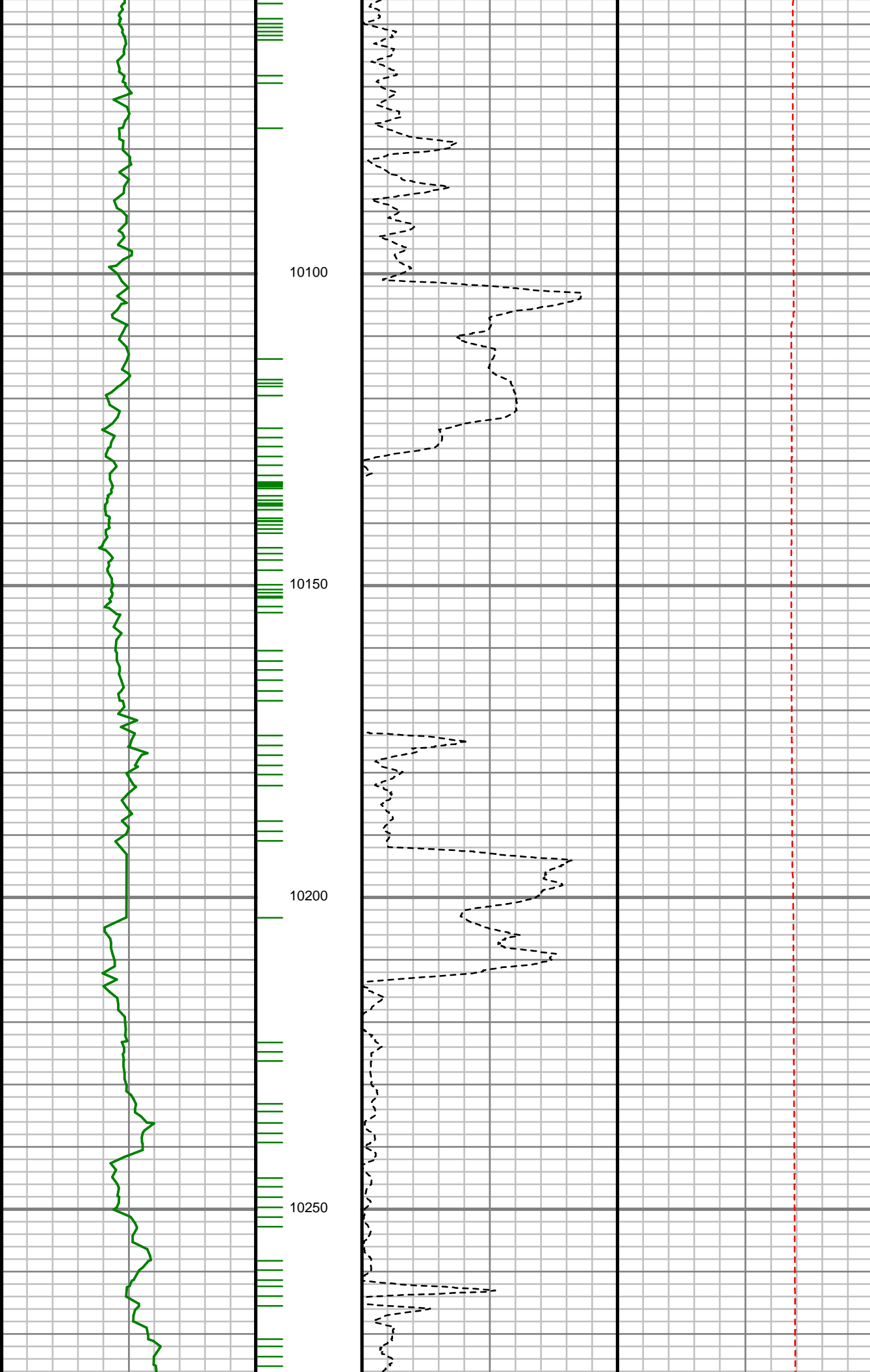
S: 116 MD: 9722.00 ft
Inc: 87.61 deg Az:
359.41 deg TVD:
7141.29 ft

S: 117 MD: 9816.00 ft
Inc: 87.68 deg Az:
359.22 deg TVD:
7145.15 ft



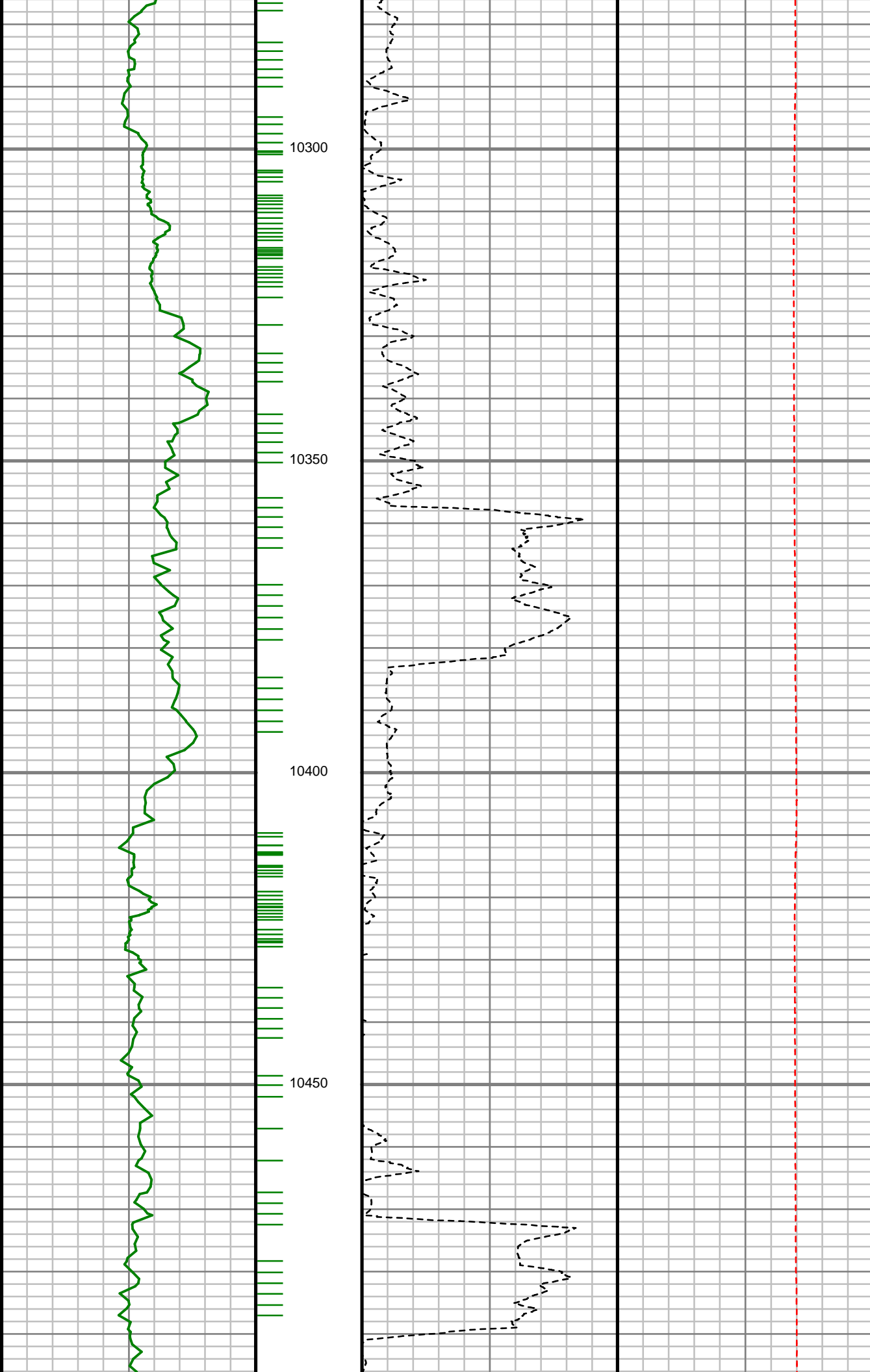
S: 118 MD: 9911.00 ft
Inc: 89.63 deg Az:
359.58 deg TVD:
7147.38 ft

S: 119 MD: 10005.00 ft
Inc: 90.67 deg Az:
358.99 deg TVD:
7147.13 ft



S: 120 MD: 10099.00 ft
Inc: 89.76 deg Az:
357.49 deg TVD:
7146.77 ft

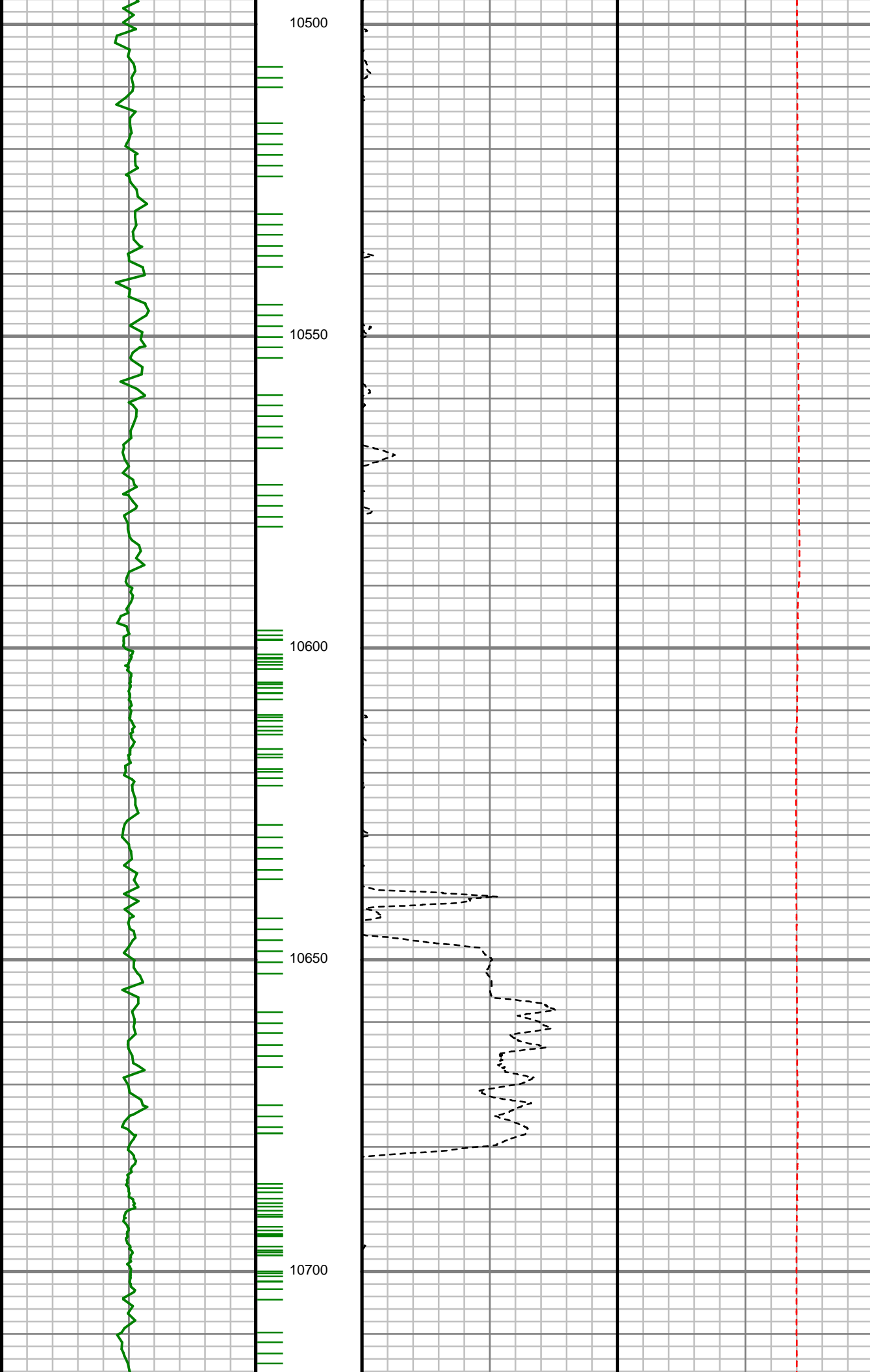
S: 121 MD: 10194.00 ft
Inc: 89.93 deg Az:
358.56 deg TVD:
7147.02 ft



S: 122 MD: 10288.00 ft
Inc: 90.54 deg Az:
358.20 deg TVD:
7146.63 ft

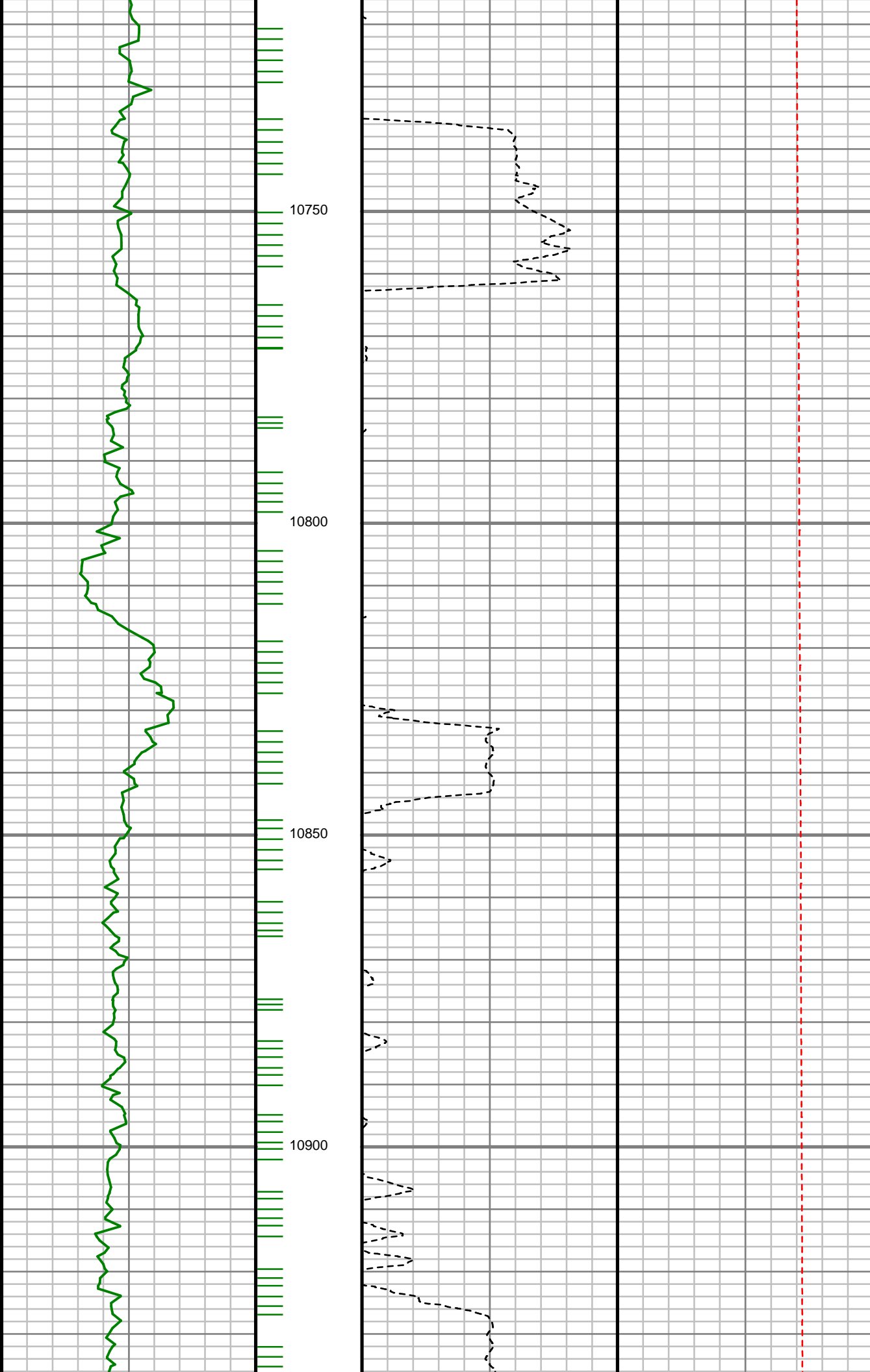
S: 123 MD: 10383.00 ft
Inc: 90.13 deg Az:
359.41 deg TVD:
7146.08 ft

S: 124 MD: 10477.00 ft
Inc: 89.80 deg Az:
358.62 deg TVD:
7146.13 ft



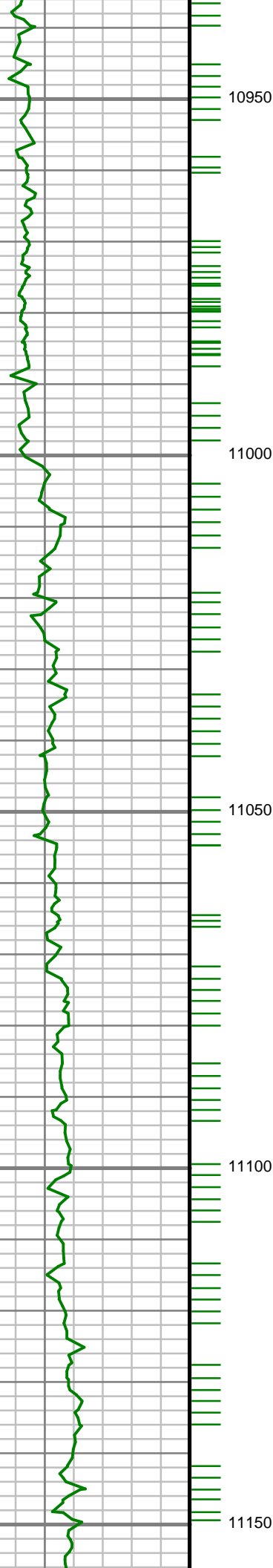
S: 125 MD: 10571.00 ft
Inc: 89.63 deg Az:
358.29 deg TVD:
7146.60 ft

S: 126 MD: 10665.00 ft
Inc: 89.73 deg Az:
359.95 deg TVD:
7147.12 ft



S: 127 MD: 10760.00 ft
Inc: 89.16 deg Az: 1.20
deg TVD: 7148.04 ft

S: 128 MD: 10854.00 ft
Inc: 88.86 deg Az: 0.34
deg TVD: 7149.67 ft



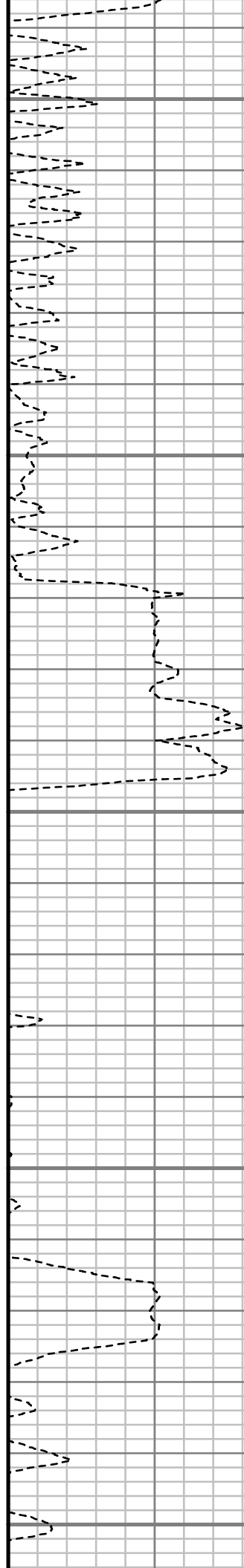
10950

11000

11050

11100

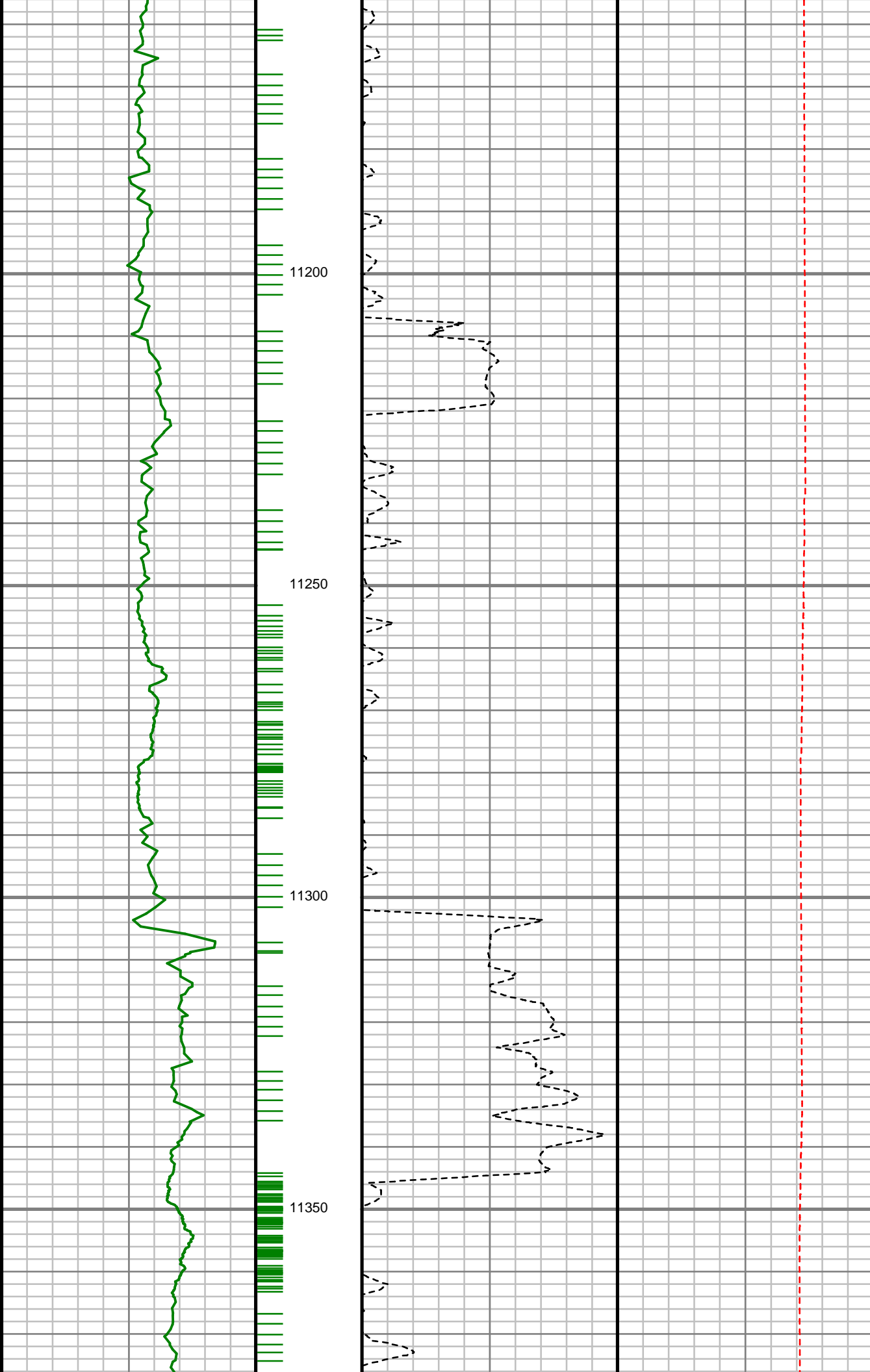
11150



S: 129 MD: 10948.00 ft
Inc: 90.24 deg Az: 0.52
deg TVD: 7150.41 ft

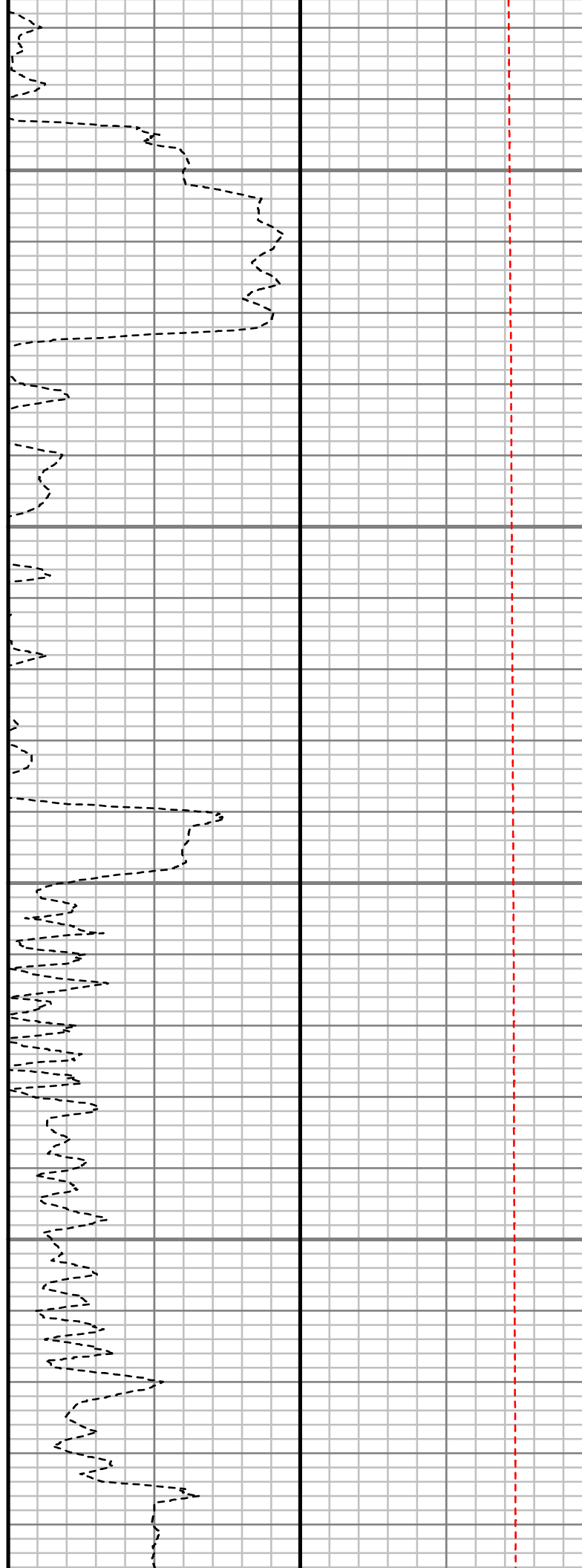
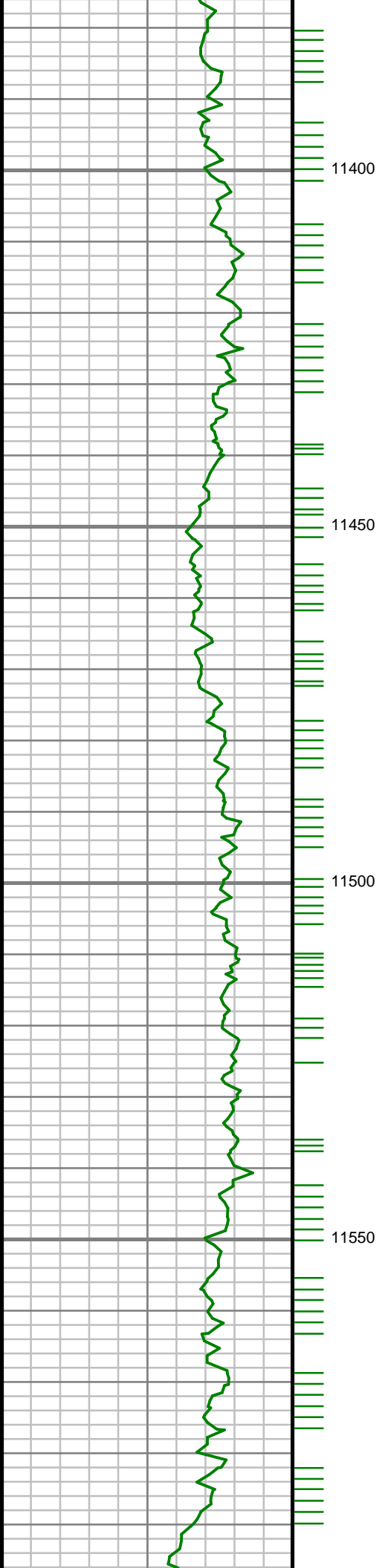
S: 130 MD: 11043.00 ft
Inc: 89.90 deg Az: 0.23
deg TVD: 7150.30 ft

S: 131 MD: 11137.00 ft
Inc: 89.93 deg Az: 0.10
deg TVD: 7150.44 ft



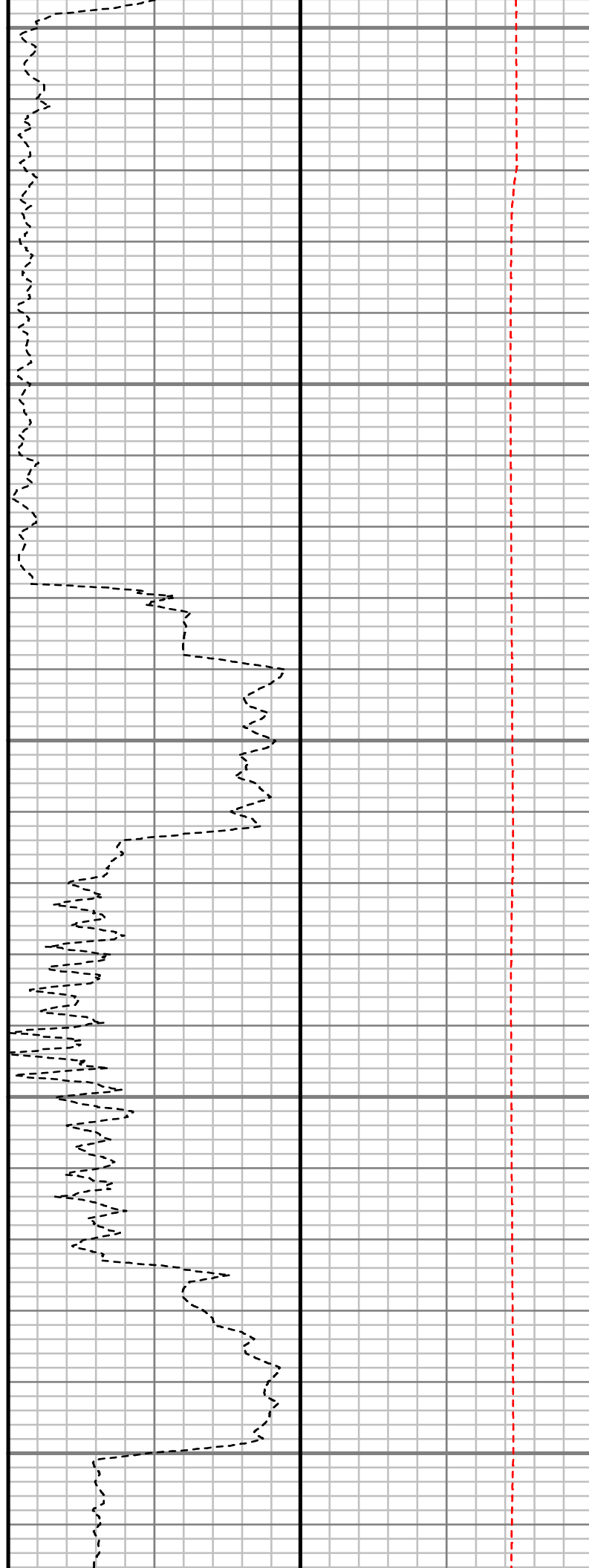
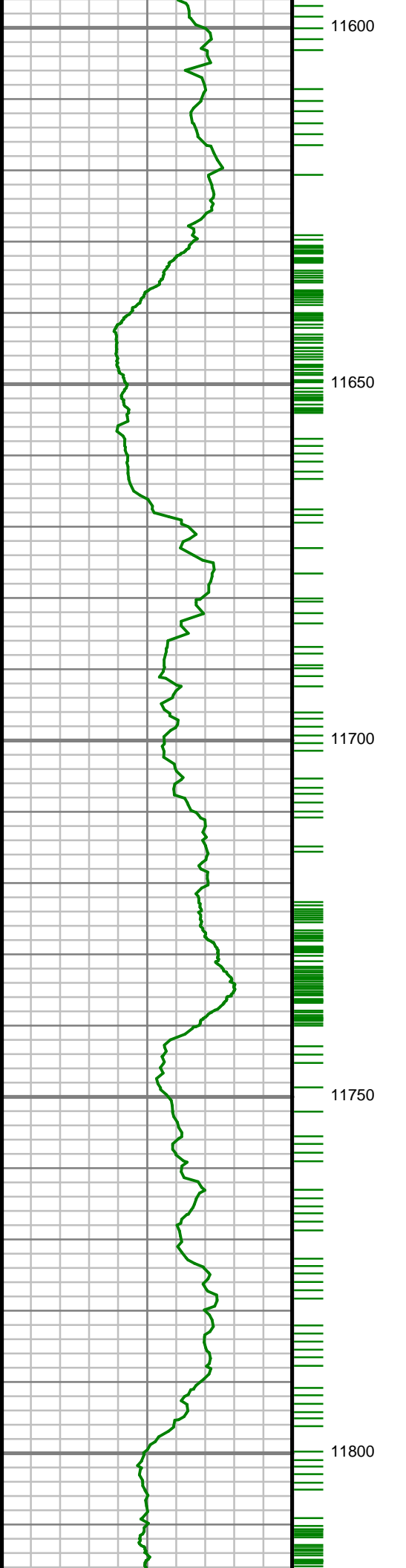
S: 132 MD: 11231.00 ft
Inc: 91.41 deg Az:
359.59 deg TVD:
7149.34 ft

S: 133 MD: 11325.00 ft
Inc: 90.87 deg Az:
358.14 deg TVD:
7147.46 ft



S: 134 MD: 11420.00 ft
Inc: 89.33 deg Az:
359.87 deg TVD:
7147.29 ft

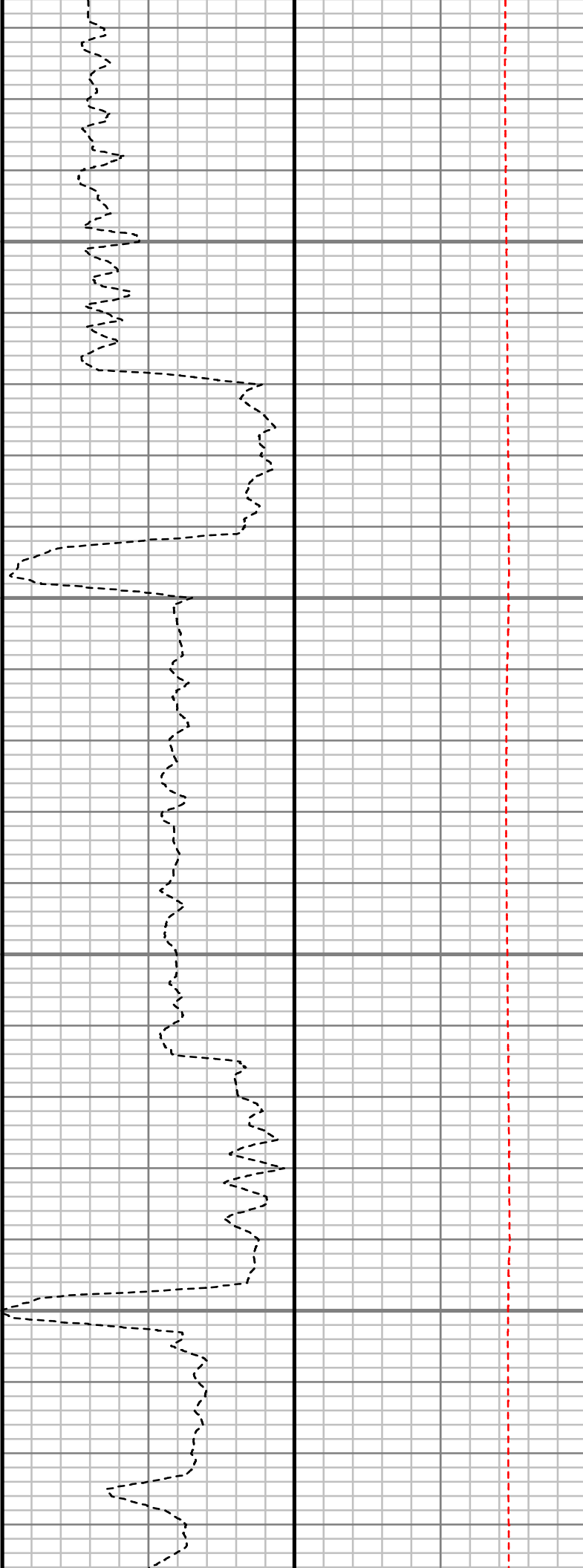
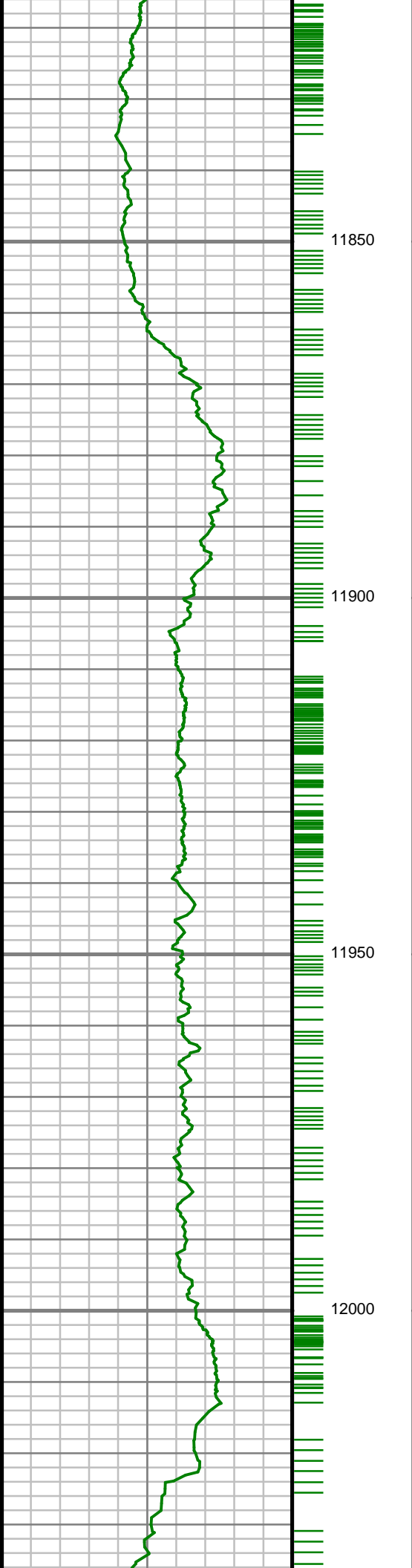
S: 135 MD: 11514.00 ft
Inc: 89.53 deg Az:
359.22 deg TVD:
7148.23 ft



S: 136 MD: 11608.00 ft
Inc: 88.79 deg Az:
358.35 deg TVD:
7149.61 ft

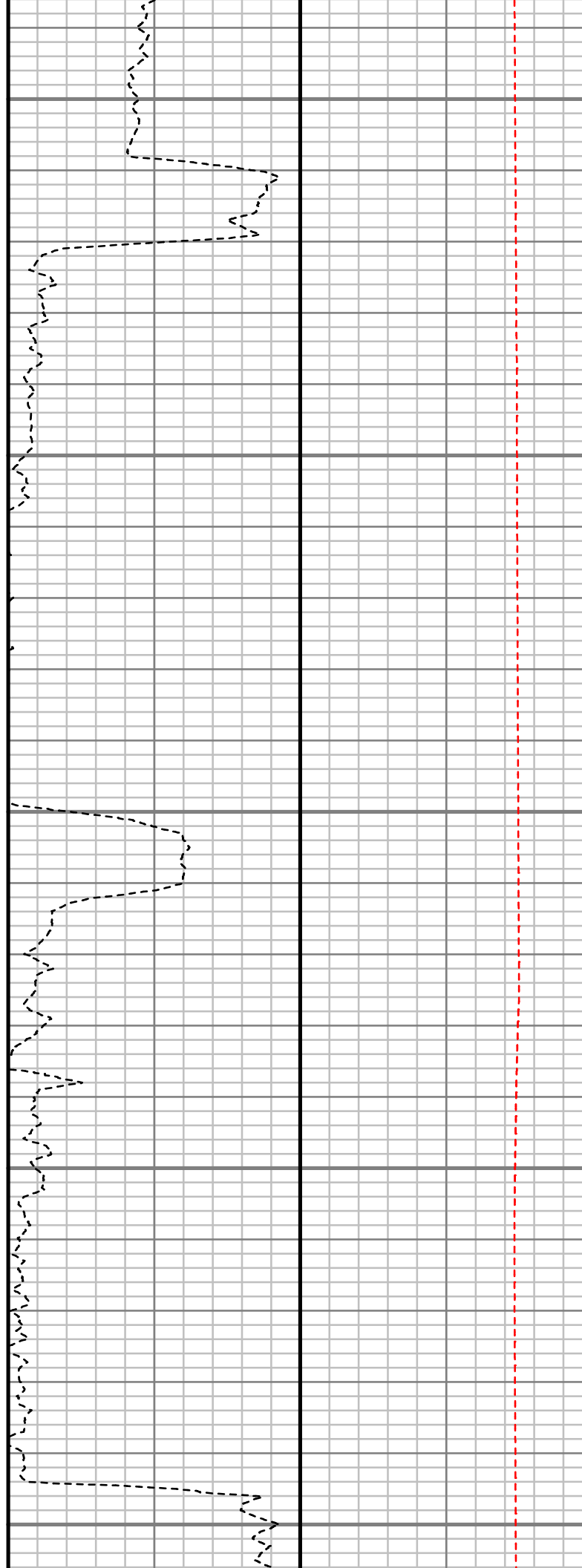
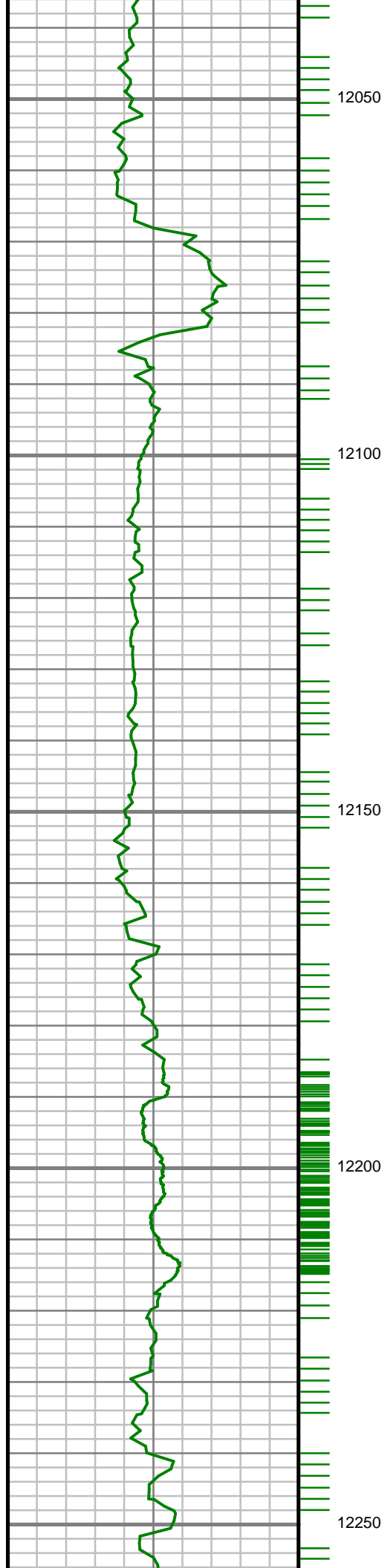
S: 137 MD: 11702.00 ft
Inc: 88.76 deg Az:
359.15 deg TVD:
7151.62 ft

S: 138 MD: 11797.00 ft
Inc: 88.52 deg Az:
359.55 deg TVD:
7153.88 ft



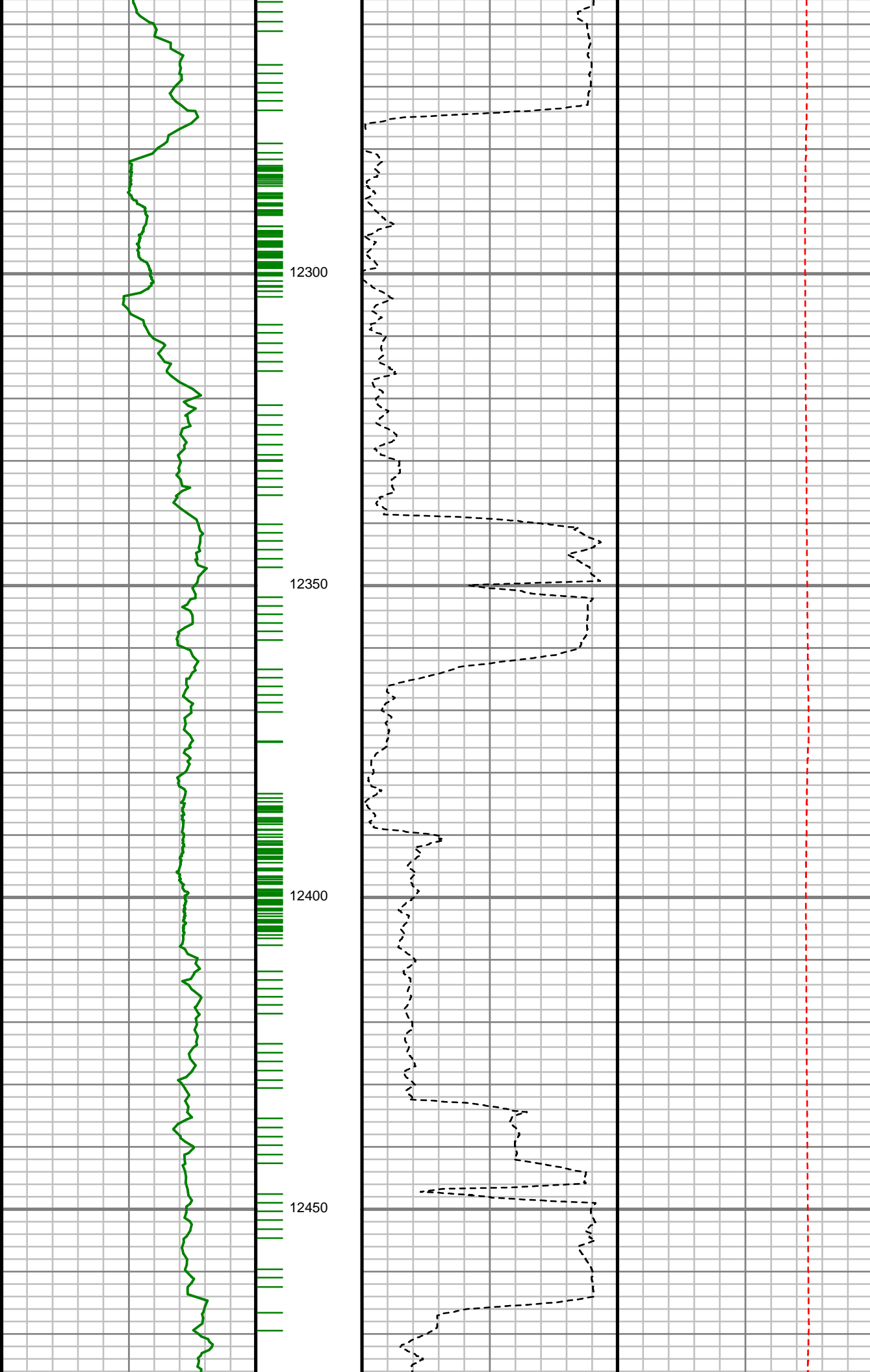
S: 139 MD: 11891.00 ft
Inc: 91.38 deg Az:
359.59 deg TVD:
7153.96 ft

S: 140 MD: 11986.00 ft
Inc: 89.66 deg Az:
359.71 deg TVD:
7153.10 ft



S: 141 MD: 12080.00 ft
Inc: 90.40 deg Az: 0.07
deg TVD: 7153.04 ft

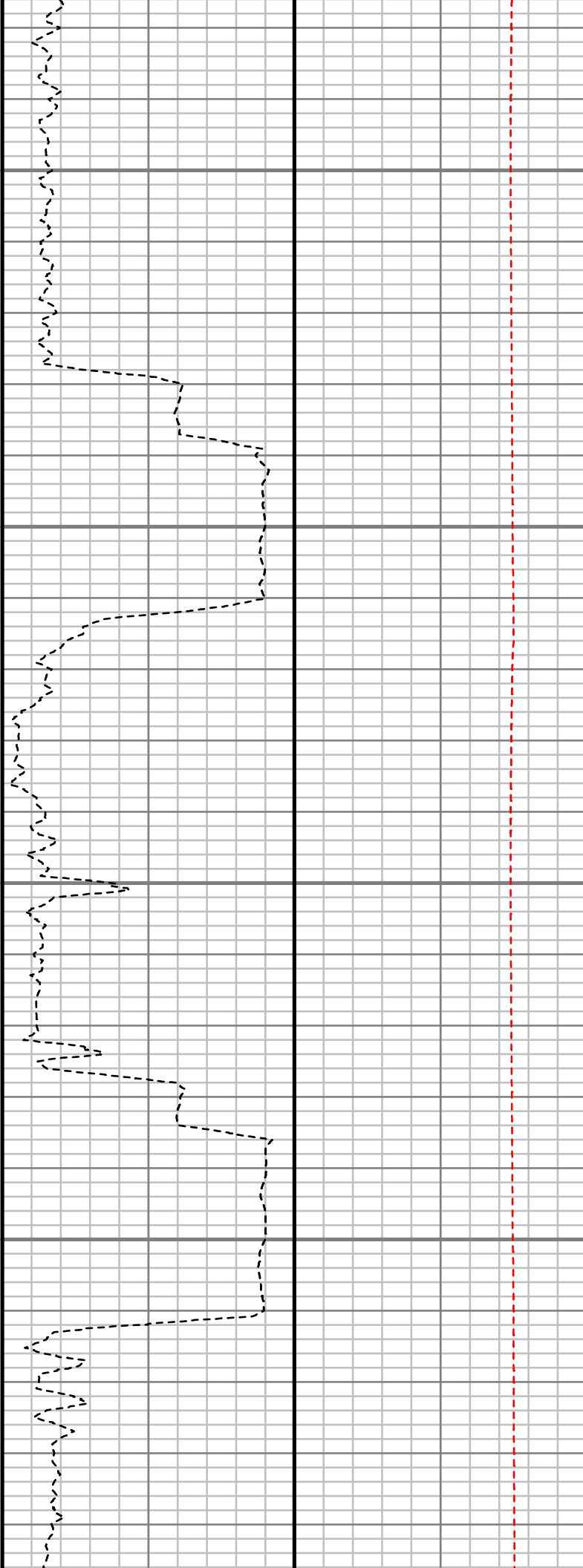
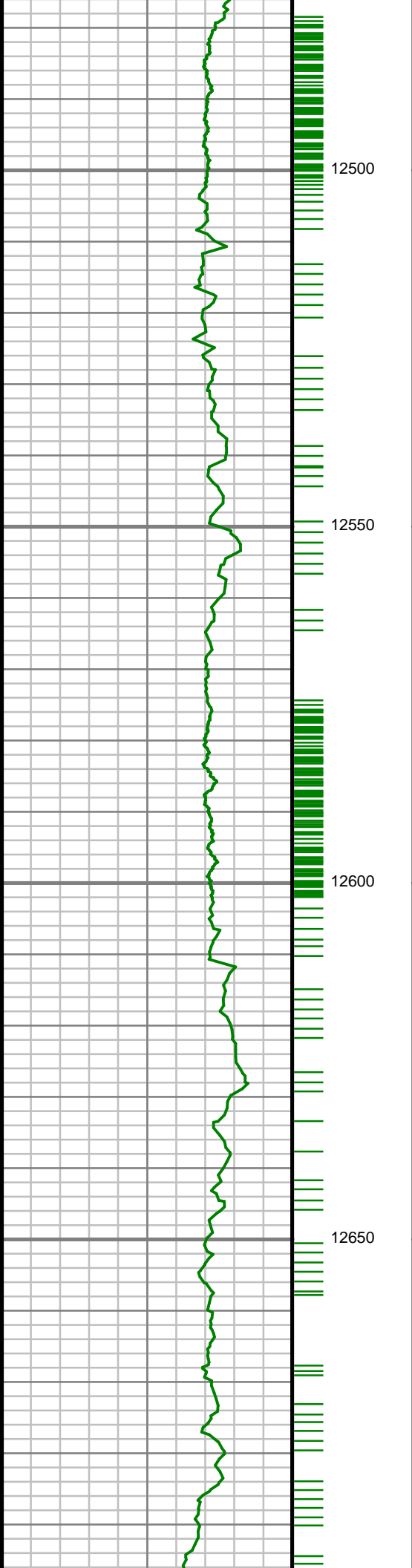
S: 142 MD: 12174.00 ft
Inc: 93.26 deg Az:
359.96 deg TVD:
7150.04 ft



S: 143 MD: 12269.00 ft
Inc: 91.78 deg Az:
359.76 deg TVD:
7145.86 ft

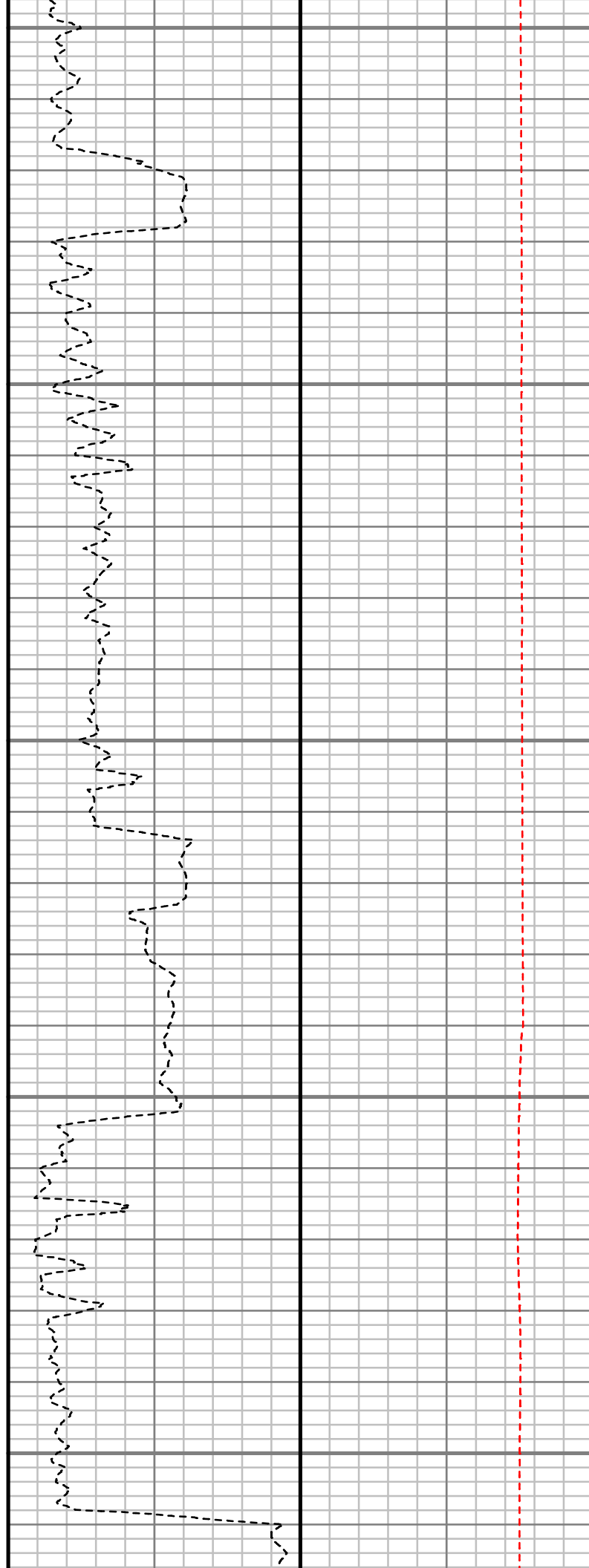
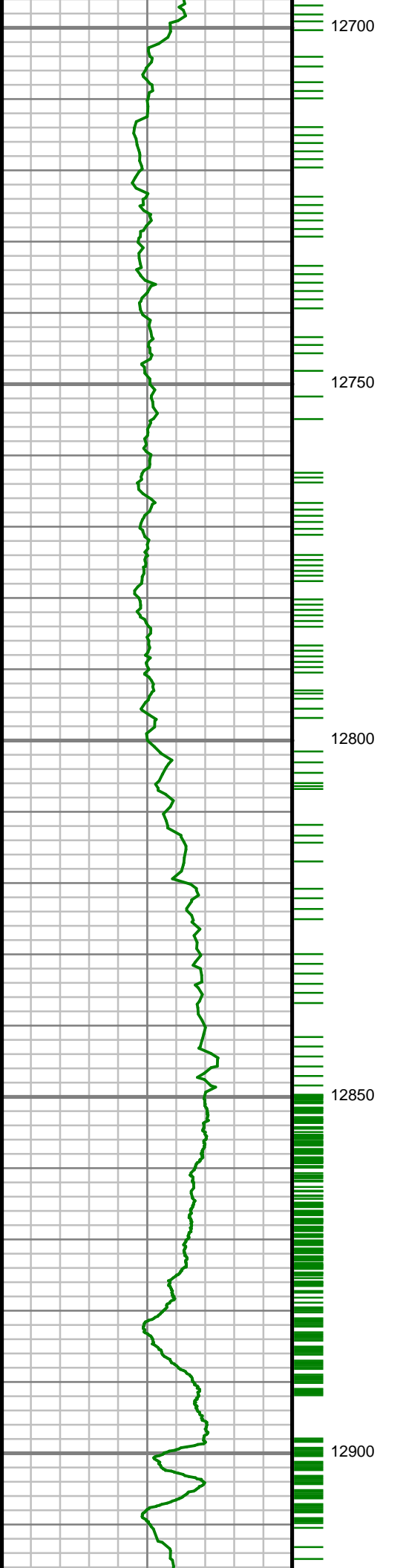
S: 144 MD: 12363.00 ft
Inc: 90.60 deg Az:
358.51 deg TVD:
7143.91 ft

S: 145 MD: 12458.00 ft
Inc: 89.16 deg Az:
358.59 deg TVD:
7144.10 ft



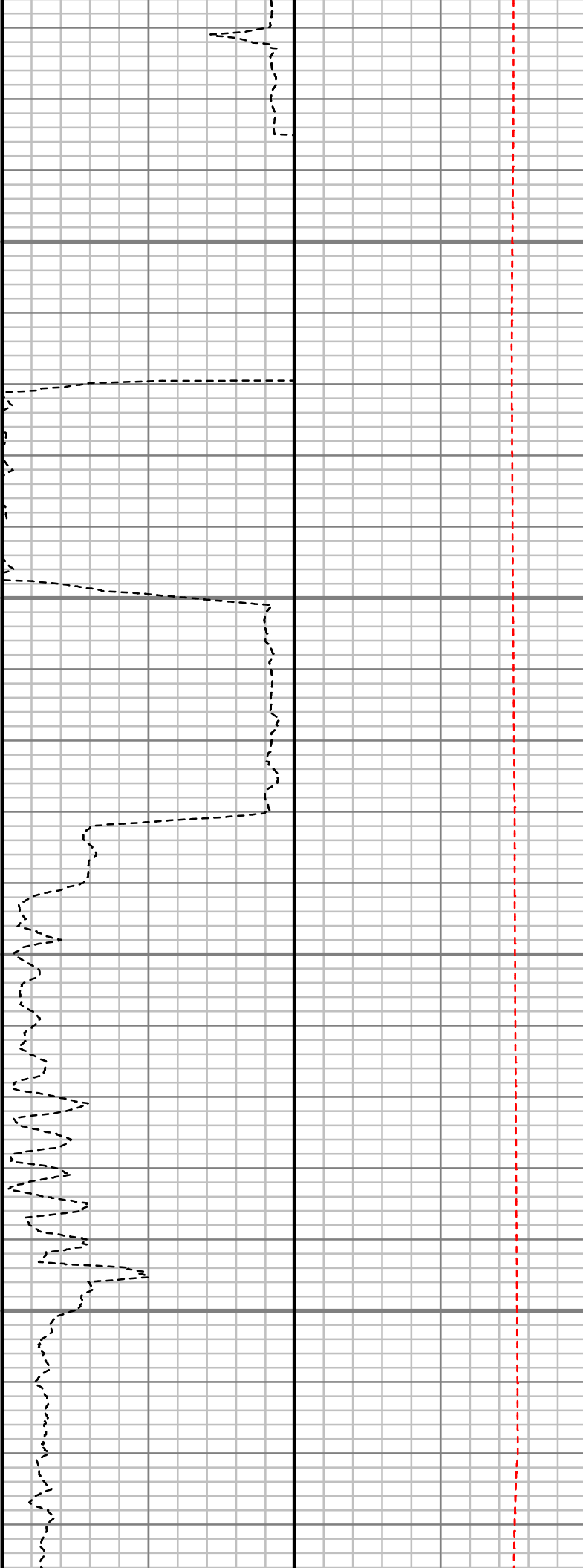
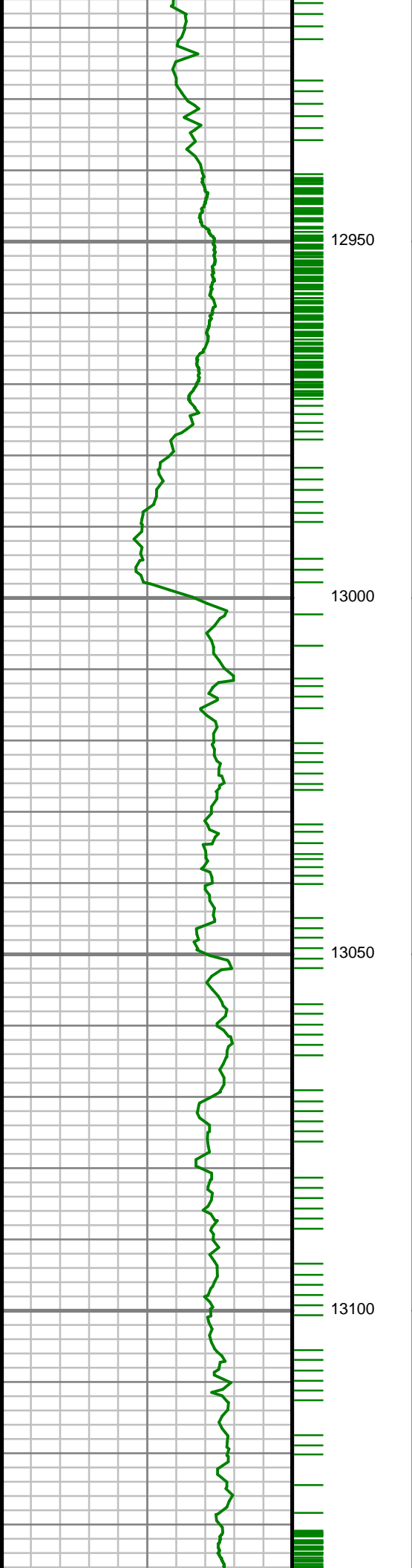
S: 146 MD: 12552.00 ft
Inc: 89.43 deg Az:
359.20 deg TVD:
7145.26 ft

S: 147 MD: 12647.00 ft
Inc: 89.09 deg Az: 1.12
deg TVD: 7146.49 ft



S: 148 MD: 12741.00 ft
Inc: 90.10 deg Az: 0.65
deg TVD: 7147.15 ft

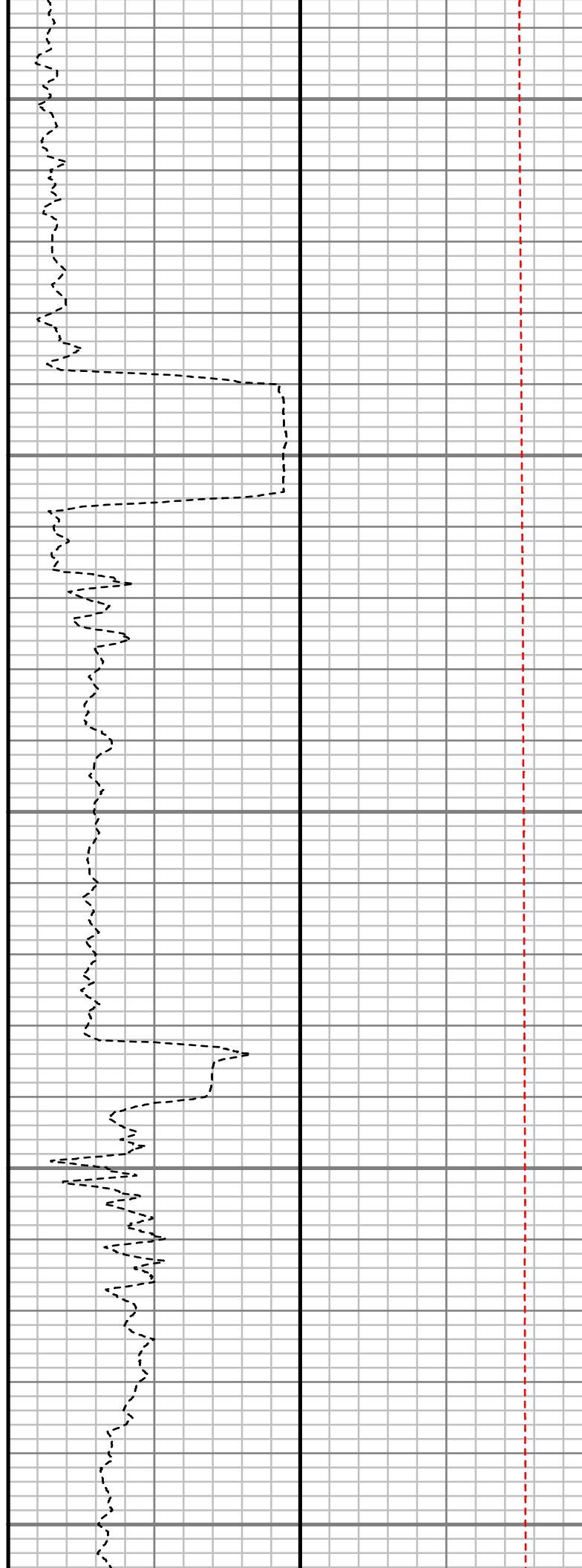
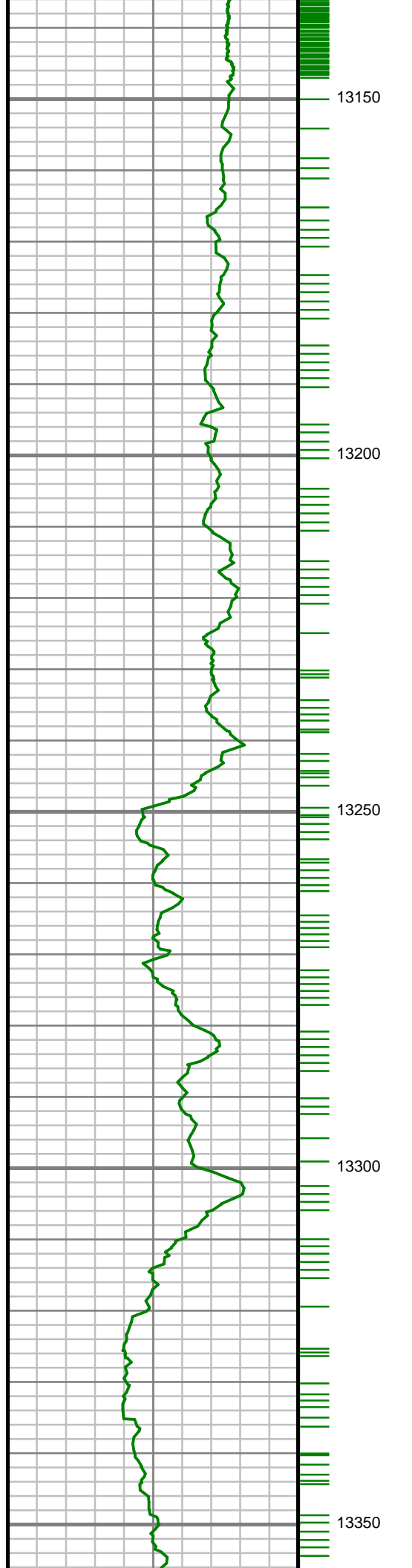
S: 149 MD: 12835.00 ft
Inc: 92.45 deg Az:
359.89 deg TVD:
7145.06 ft



S: 150 MD: 12930.00 ft
Inc: 91.55 deg Az:
359.98 deg TVD:
7141.74 ft

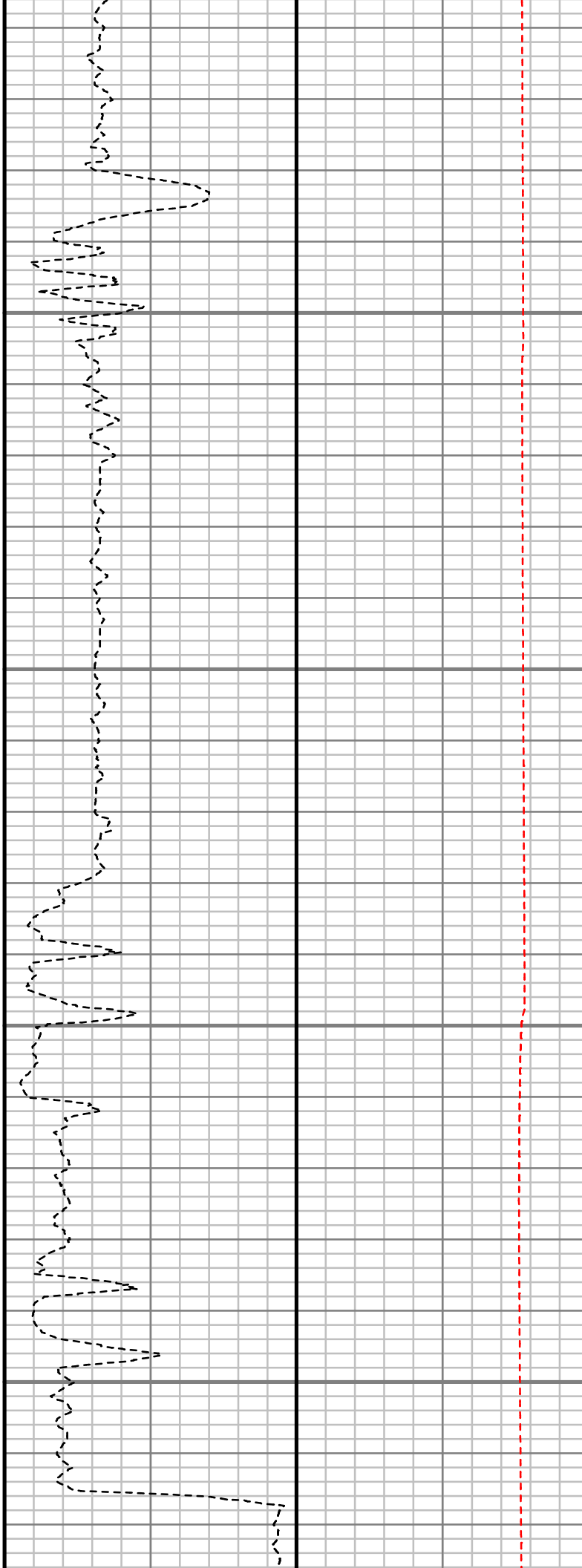
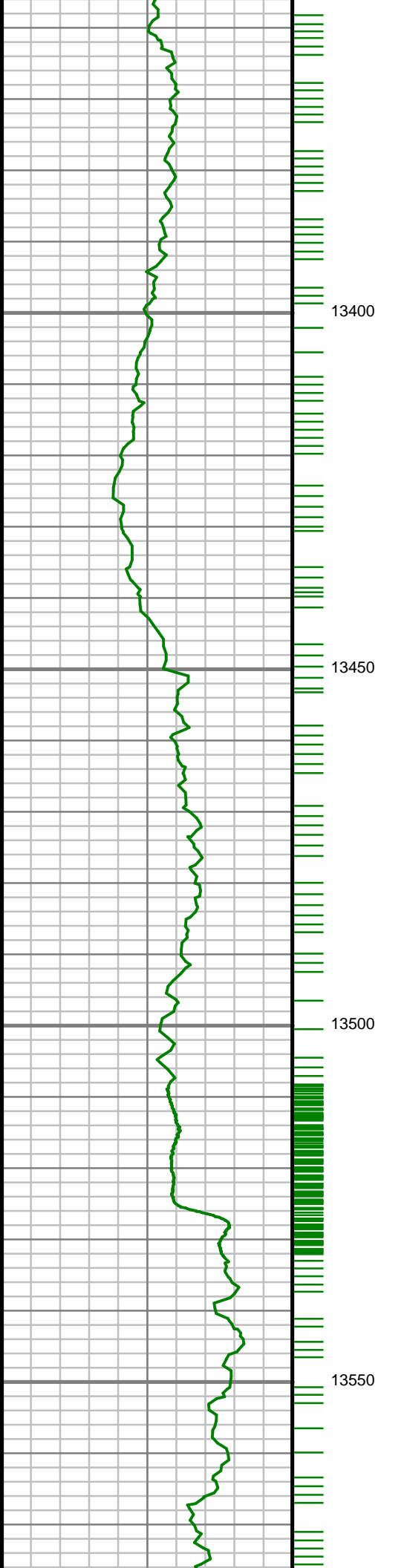
S: 151 MD: 13024.00 ft
Inc: 88.92 deg Az: 0.57
deg TVD: 7141.36 ft

S: 152 MD: 13119.00 ft
Inc: 90.07 deg Az: 0.55
deg TVD: 7142.19 ft



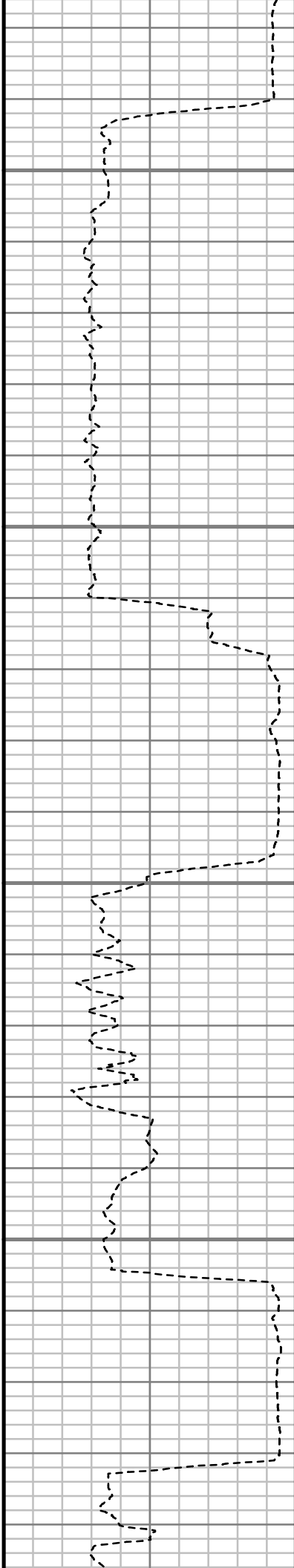
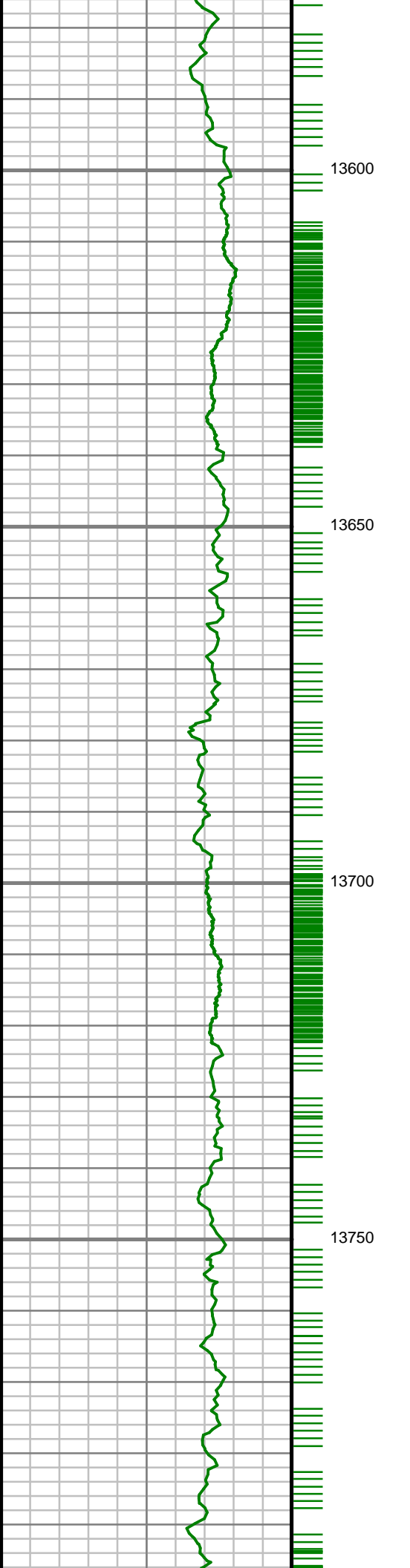
S: 153 MD: 13213.00 ft
Inc: 89.63 deg Az: 1.70
deg TVD: 7142.44 ft

S: 154 MD: 13307.00 ft
Inc: 88.55 deg Az: 0.44
deg TVD: 7143.93 ft



S: 155 MD: 13401.00 ft
Inc: 88.99 deg Az:
359.56 deg TVD:
7145.94 ft

S: 156 MD: 13496.00 ft
Inc: 88.39 deg Az:
358.75 deg TVD:
7148.11 ft



S: 157 MD: 13590.00 ft
Inc: 87.95 deg Az:
359.94 deg TVD:
7151.12 ft

S: 158 MD: 13622.00 ft
Inc: 88.15 deg Az:
359.85 deg TVD:
7152.21 ft

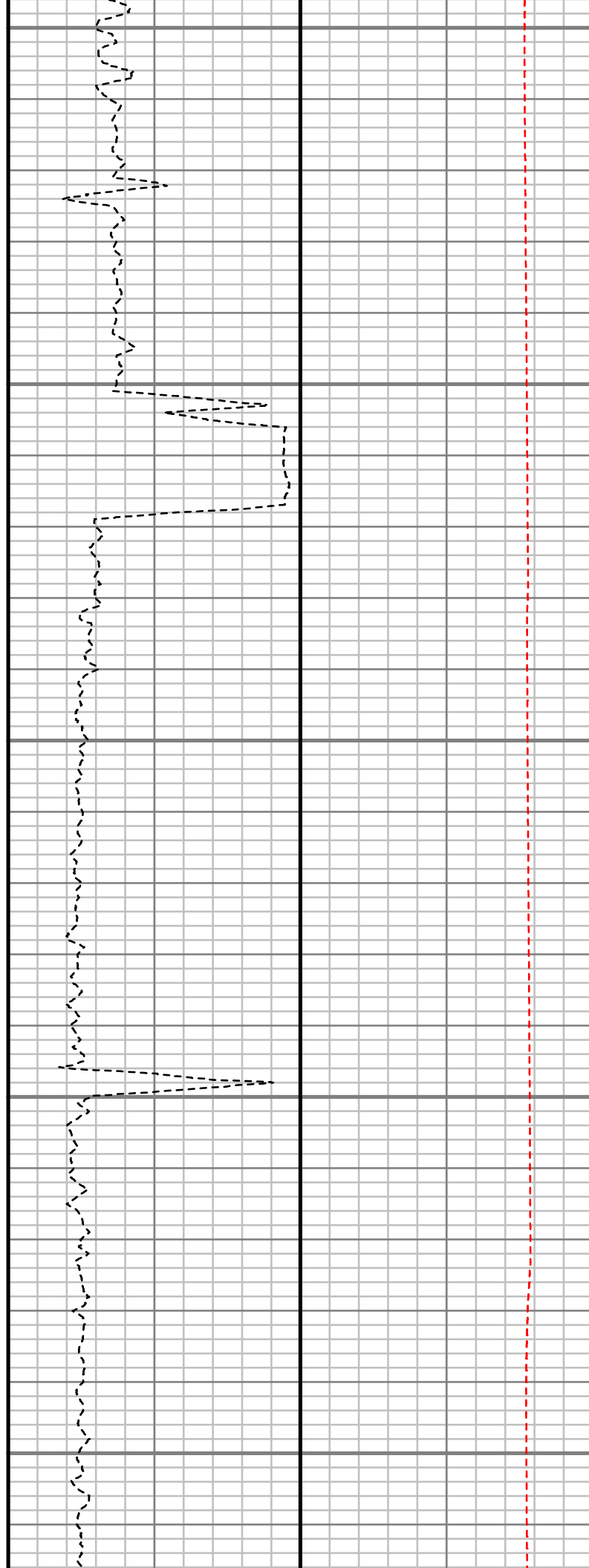
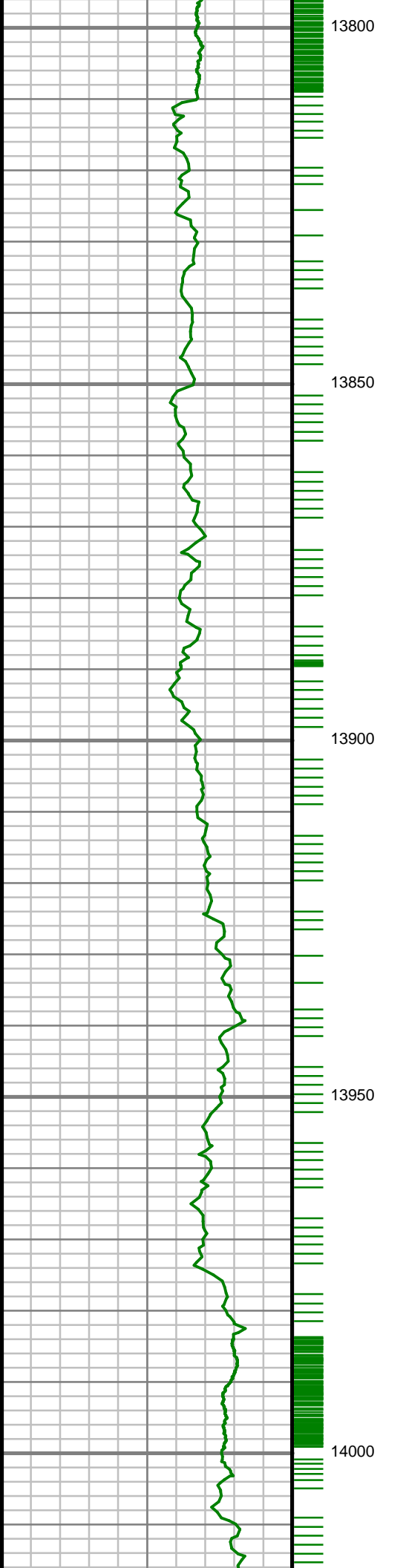
S: 159 MD: 13653.00 ft
Inc: 88.19 deg Az:
359.98 deg TVD:
7153.20 ft

S: 160 MD: 13685.00 ft
Inc: 88.86 deg Az: 1.25
deg TVD: 7154.02 ft

S: 161 MD: 13716.00 ft
Inc: 89.19 deg Az: 1.29
deg TVD: 7154.55 ft

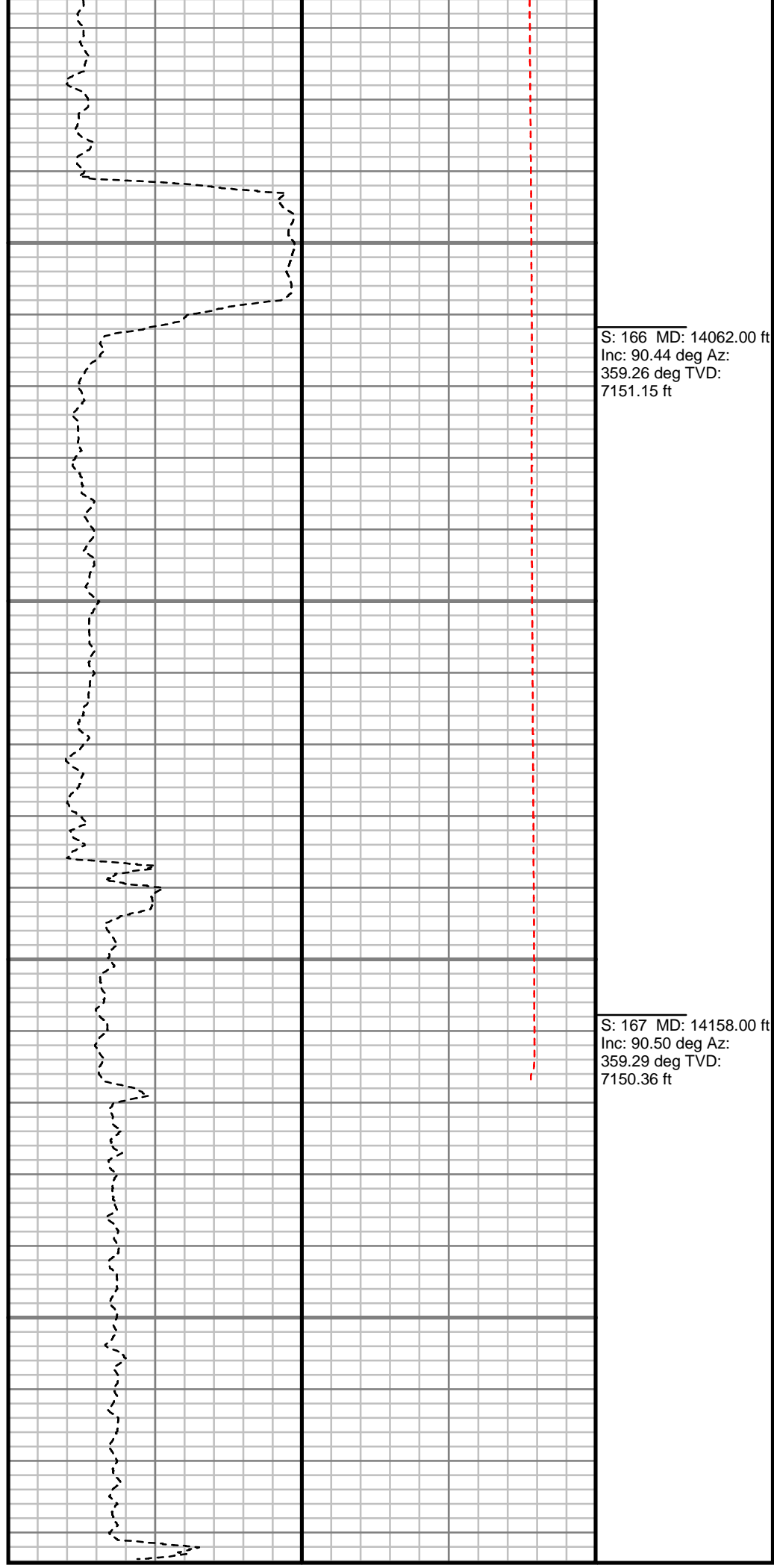
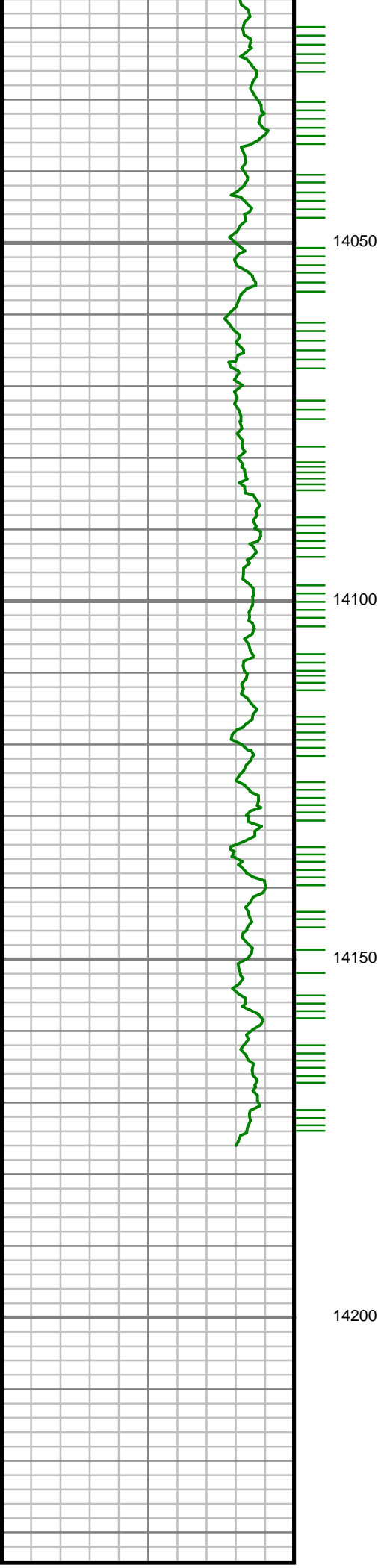
S: 162 MD: 13747.00 ft
Inc: 88.69 deg Az: 0.35
deg TVD: 7155.12 ft

S: 163 MD: 13779.00 ft
Inc: 89.50 deg Az: 0.40
deg TVD: 7155.63 ft



S: 164 MD: 13873.00 ft
Inc: 91.14 deg Az: 0.22
deg TVD: 7155.10 ft

S: 165 MD: 13967.00 ft
Inc: 91.61 deg Az:
359.29 deg TVD:
7152.85 ft



Gamma Ray (GR)		
0	Unit = aapi	200

MEASURED DEPTH
1:240 (ft)

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

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

Comments

Survey Report

Customer Name:	ANADARKO PETROLEUM CORP.
Site Name:	PARAGON 16-6HZ
Well Name:	PARAGON 9N-31HZ
Survey:	PARAGON 9N-31HZ
Survey Date:	1/14/2014
Magnetic Declination:	8.24 deg
North Reference:	True North
Calculation Method:	Minimum Curvature
Section (VS) Ref:	0.00N (ft), 0.00E (ft), 0.00Azim (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	0.10	244.78	125.00	-0.04	-0.04	-0.08	0.10
225.00	0.02	88.11	225.00	-0.07	-0.07	-0.14	0.12
325.00	0.20	86.55	325.00	-0.06	-0.06	0.05	0.18
425.00	0.39	87.89	425.00	-0.04	-0.04	0.57	0.19
525.00	0.38	69.66	525.00	0.09	0.09	1.22	0.12
625.00	0.48	87.79	624.99	0.22	0.22	1.95	0.17
725.00	0.55	59.70	724.99	0.48	0.48	2.78	0.26

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
825.00	0.65	41.69	824.98	1.14	1.14	3.57	0.21
925.00	0.59	8.92	924.98	2.08	2.08	4.03	0.35
1025.00	0.31	351.79	1024.98	2.85	2.85	4.07	0.31
1037.00	0.25	343.95	1036.98	2.91	2.91	4.06	0.59
1269.00	1.35	53.85	1268.95	5.01	5.01	6.13	0.56
1360.00	1.06	175.59	1359.94	4.80	4.80	7.06	2.32
1452.00	2.42	224.58	1451.90	2.57	2.57	5.76	2.07
1565.00	3.89	229.72	1564.73	-1.61	-1.61	1.16	1.32
1657.00	6.69	231.60	1656.33	-6.95	-6.95	-5.42	3.04
1749.00	8.25	215.17	1747.55	-15.68	-15.68	-13.42	2.86
1841.00	10.78	218.67	1838.28	-27.80	-27.80	-22.60	2.82
1932.00	11.46	210.06	1927.58	-42.27	-42.27	-32.45	1.97
2023.00	11.65	210.70	2016.73	-58.00	-58.00	-41.67	0.24
2115.00	11.87	208.34	2106.80	-74.31	-74.31	-50.90	0.58
2206.00	12.71	211.18	2195.72	-91.11	-91.11	-60.53	1.14
2298.00	12.92	219.32	2285.43	-107.73	-107.73	-72.28	1.97
2389.00	12.78	221.99	2374.15	-123.08	-123.08	-85.46	0.67
2481.00	11.57	219.40	2464.08	-137.77	-137.77	-98.13	1.45
2573.00	11.87	216.21	2554.17	-152.54	-152.54	-109.57	0.78
2665.00	11.54	217.01	2644.25	-167.52	-167.52	-120.70	0.40

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
2756.00	10.40	216.84	2733.59	-181.36	-181.36	-131.10	1.26
2848.00	10.75	218.57	2824.03	-194.72	-194.72	-141.43	0.51
2939.00	10.40	210.04	2913.49	-208.46	-208.46	-150.83	1.76
3031.00	10.74	209.38	3003.93	-223.12	-223.12	-159.19	0.39
3122.00	12.02	211.86	3093.14	-238.55	-238.55	-168.35	1.51
3214.00	11.52	212.18	3183.20	-254.47	-254.47	-178.31	0.55
3306.00	10.31	215.48	3273.53	-268.95	-268.95	-187.98	1.48
3397.00	10.32	215.36	3363.06	-282.23	-282.23	-197.43	0.03
3489.00	8.99	212.24	3453.76	-295.03	-295.03	-206.03	1.55
3580.00	8.28	206.16	3543.73	-306.92	-306.92	-212.71	1.27
3672.00	8.21	212.54	3634.78	-318.40	-318.40	-219.16	1.00
3764.00	8.25	210.97	3725.84	-329.60	-329.60	-226.09	0.25
3856.00	7.29	211.33	3816.99	-340.24	-340.24	-232.52	1.04
3947.00	5.96	208.29	3907.38	-349.33	-349.33	-237.76	1.51
4039.00	4.06	201.27	3999.03	-356.57	-356.57	-241.20	2.17
4130.00	3.75	196.64	4089.82	-362.42	-362.42	-243.22	0.49
4222.00	3.36	189.21	4181.64	-367.95	-367.95	-244.51	0.65
4316.00	1.31	212.70	4275.56	-371.58	-371.58	-245.54	2.36
4411.00	0.81	267.60	4370.54	-372.52	-372.52	-246.80	1.13

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
4505.00	0.81	297.26	4464.53	-372.24	-372.24	-248.05	0.44
4599.00	0.24	350.75	4558.53	-371.75	-371.75	-248.67	0.74
4694.00	1.72	292.57	4653.52	-371.01	-371.01	-250.02	1.70
4788.00	2.00	307.23	4747.47	-369.47	-369.47	-252.63	0.58
4883.00	1.25	299.34	4842.43	-367.96	-367.96	-254.86	0.83
4977.00	0.54	263.20	4936.42	-367.52	-367.52	-256.19	0.93
5071.00	0.14	299.74	5030.41	-367.51	-367.51	-256.73	0.47
5165.00	0.26	58.32	5124.41	-367.34	-367.34	-256.65	0.37
5260.00	0.47	114.42	5219.41	-367.39	-367.39	-256.11	0.41
5354.00	0.47	67.84	5313.41	-367.40	-367.40	-255.40	0.40
5448.00	0.68	221.06	5407.41	-367.68	-367.68	-255.41	1.19
5543.00	0.95	237.92	5502.40	-368.52	-368.52	-256.44	0.38
5637.00	1.25	248.09	5596.38	-369.32	-369.32	-258.06	0.38
5731.00	1.04	269.32	5690.36	-369.71	-369.71	-259.86	0.50
5826.00	1.25	259.11	5785.34	-369.92	-369.92	-261.73	0.31
5920.00	1.29	282.55	5879.32	-369.88	-369.88	-263.78	0.55
6014.00	1.06	314.80	5973.30	-369.04	-369.04	-265.43	0.74
6108.00	1.45	335.09	6067.28	-367.35	-367.35	-266.54	0.63
6203.00	1.36	44.87	6162.26	-365.46	-365.46	-266.26	1.70
6297.00	2.13	9.21	6256.22	-362.94	-362.94	-265.19	1.38

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
6392.00	1.21	54.79	6351.18	-360.62	-360.62	-264.08	1.63
6439.00	0.98	60.43	6398.17	-360.13	-360.13	-263.33	0.55
6486.00	0.92	39.74	6445.16	-359.64	-359.64	-262.74	0.73
6533.00	4.21	357.46	6492.11	-357.63	-357.63	-262.57	7.63
6580.00	7.35	352.94	6538.87	-352.92	-352.92	-263.02	6.73
6627.00	9.57	356.18	6585.35	-346.04	-346.04	-263.65	4.83
6675.00	11.05	355.71	6632.58	-337.47	-337.47	-264.26	3.10
6722.00	15.01	354.46	6678.36	-326.91	-326.91	-265.18	8.44
6769.00	19.46	357.14	6723.24	-313.03	-313.03	-266.16	9.62
6816.00	24.15	355.60	6766.86	-295.61	-295.61	-267.29	10.04
6863.00	28.28	353.33	6809.02	-274.96	-274.96	-269.32	9.06
6910.00	30.35	355.80	6850.00	-252.05	-252.05	-271.49	5.10
6958.00	35.01	2.45	6890.40	-226.18	-226.18	-271.78	12.25
7005.00	40.15	5.08	6927.64	-197.60	-197.60	-269.86	11.46
7052.00	45.22	5.67	6962.18	-165.88	-165.88	-266.87	10.81
7099.00	50.79	3.70	6993.61	-131.08	-131.08	-264.05	12.26
7146.00	56.74	2.73	7021.38	-93.25	-93.25	-261.93	12.77
7193.00	61.07	1.38	7045.65	-53.04	-53.04	-260.50	9.53
7241.00	62.42	1.02	7068.37	-10.77	-10.77	-259.62	2.89

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
7288.00	66.35	359.83	7088.69	31.60	31.60	-259.31	8.65
7335.00	70.54	359.92	7105.95	75.30	75.30	-259.41	8.91
7382.00	75.08	0.61	7119.84	120.19	120.19	-259.20	9.77
7429.00	79.44	0.98	7130.20	166.02	166.02	-258.56	9.31
7476.00	83.14	0.68	7137.32	212.46	212.46	-257.88	7.89
7498.00	85.81	0.98	7139.44	234.36	234.36	-257.57	12.20
7603.00	91.11	0.08	7142.26	339.28	339.28	-256.60	5.12
7695.00	90.57	0.14	7140.91	431.27	431.27	-256.43	0.59
7787.00	90.40	0.38	7140.13	523.26	523.26	-256.01	0.32
7878.00	90.23	0.91	7139.62	614.25	614.25	-254.98	0.62
7970.00	89.23	0.02	7140.06	706.25	706.25	-254.23	1.46
8061.00	88.72	359.32	7141.68	797.23	797.23	-254.75	0.95
8153.00	89.46	358.53	7143.14	889.20	889.20	-256.47	1.18
8245.00	90.10	358.74	7143.49	981.17	981.17	-258.66	0.73
8336.00	89.70	358.95	7143.65	1072.16	1072.16	-260.50	0.50
8428.00	90.17	0.62	7143.76	1164.15	1164.15	-260.85	1.89
8519.00	90.44	0.96	7143.28	1255.14	1255.14	-259.59	0.47
8611.00	89.60	359.02	7143.25	1347.14	1347.14	-259.61	2.29
8702.00	89.16	358.90	7144.24	1438.12	1438.12	-261.26	0.50
8794.00	90.60	0.62	7144.43	1530.11	1530.11	-261.65	2.44

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
8886.00	92.05	1.61	7142.29	1622.06	1622.06	-259.86	1.90
8978.00	91.78	1.52	7139.22	1713.98	1713.98	-257.35	0.31
9069.00	91.34	1.40	7136.74	1804.91	1804.91	-255.04	0.50
9161.00	90.37	1.27	7135.36	1896.88	1896.88	-252.90	1.07
9252.00	89.73	0.79	7135.28	1987.86	1987.86	-251.26	0.88
9344.00	88.89	1.99	7136.39	2079.83	2079.83	-249.04	1.59
9439.00	89.83	2.77	7137.45	2174.74	2174.74	-245.10	1.29
9533.00	90.40	1.01	7137.26	2268.68	2268.68	-242.00	1.96
9627.00	88.56	359.82	7138.11	2362.67	2362.67	-241.31	2.34
9722.00	87.61	359.41	7141.29	2457.61	2457.61	-241.95	1.08
9816.00	87.68	359.22	7145.15	2551.53	2551.53	-243.07	0.21
9911.00	89.63	359.58	7147.38	2646.49	2646.49	-244.06	2.09
10005.00	90.67	358.99	7147.13	2740.48	2740.48	-245.23	1.27
10099.00	89.76	357.49	7146.77	2834.43	2834.43	-248.11	1.86
10194.00	89.93	358.56	7147.02	2929.37	2929.37	-251.38	1.14
10288.00	90.54	358.20	7146.63	3023.34	3023.34	-254.03	0.75
10383.00	90.13	359.41	7146.08	3118.31	3118.31	-256.02	1.34
10477.00	89.80	358.62	7146.13	3212.30	3212.30	-257.64	0.91
10571.00	89.63	358.29	7146.60	3306.26	3306.26	-260.18	0.39

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
10665.00	89.73	359.95	7147.12	3400.24	3400.24	-261.62	1.77
10760.00	89.16	1.20	7148.04	3495.23	3495.23	-260.67	1.45
10854.00	88.86	0.34	7149.67	3589.21	3589.21	-259.41	0.97
10948.00	90.24	0.52	7150.41	3683.20	3683.20	-258.71	1.48
11043.00	89.90	0.23	7150.30	3778.20	3778.20	-258.09	0.47
11137.00	89.93	0.10	7150.44	3872.20	3872.20	-257.82	0.14
11231.00	91.41	359.59	7149.34	3966.19	3966.19	-258.08	1.66
11325.00	90.87	358.14	7147.46	4060.15	4060.15	-259.95	1.64
11420.00	89.33	359.87	7147.29	4155.13	4155.13	-261.59	2.45
11514.00	89.53	359.22	7148.23	4249.12	4249.12	-262.33	0.72
11608.00	88.79	358.35	7149.61	4343.09	4343.09	-264.32	1.22
11702.00	88.76	359.15	7151.62	4437.04	4437.04	-266.36	0.85
11797.00	88.52	359.55	7153.88	4532.01	4532.01	-267.44	0.49
11891.00	91.38	359.59	7153.96	4626.00	4626.00	-268.15	3.04
11986.00	89.66	359.71	7153.10	4720.99	4720.99	-268.72	1.81
12080.00	90.40	0.07	7153.04	4814.99	4814.99	-268.91	0.87
12174.00	93.26	359.96	7150.04	4908.93	4908.93	-268.89	3.04
12269.00	91.78	359.76	7145.86	5003.83	5003.83	-269.12	1.57
12363.00	90.60	358.51	7143.91	5097.80	5097.80	-270.55	1.82
12458.00	89.16	358.59	7144.10	5192.77	5192.77	-272.95	1.52

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	7100ft
12552.00	89.43	359.20	7145.26	5286.74	5286.74	-274.76	0.71
12647.00	89.09	1.12	7146.49	5381.73	5381.73	-274.49	2.05
12741.00	90.10	0.65	7147.15	5475.71	5475.71	-273.04	1.19
12835.00	92.45	359.89	7145.06	5569.68	5569.68	-272.59	2.63
12930.00	91.55	359.98	7141.74	5664.62	5664.62	-272.70	0.96
13024.00	88.92	0.57	7141.36	5758.61	5758.61	-272.25	2.86
13119.00	90.07	0.55	7142.19	5853.60	5853.60	-271.33	1.20
13213.00	89.63	1.70	7142.44	5947.58	5947.58	-269.48	1.30
13307.00	88.55	0.44	7143.93	6041.55	6041.55	-267.73	1.76
13401.00	88.99	359.56	7145.94	6135.53	6135.53	-267.73	1.05
13496.00	88.39	358.75	7148.11	6230.49	6230.49	-269.13	1.06
13590.00	87.95	359.94	7151.12	6324.44	6324.44	-270.20	1.35
13622.00	88.15	359.85	7152.21	6356.42	6356.42	-270.26	0.70
13653.00	88.19	359.98	7153.20	6387.40	6387.40	-270.31	0.43
13685.00	88.86	1.25	7154.02	6419.39	6419.39	-269.96	4.50
13716.00	89.19	1.29	7154.55	6450.38	6450.38	-269.28	1.09
13747.00	88.69	0.35	7155.12	6481.37	6481.37	-268.83	3.44
13779.00	89.50	0.40	7155.63	6513.36	6513.36	-268.63	2.52
13873.00	91.14	0.22	7155.10	6607.36	6607.36	-268.12	1.76

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
13967.00	91.61	359.29	7152.85	6701.33	6701.33	-268.52	1.11
14062.00	90.44	359.26	7151.15	6796.30	6796.30	-269.72	1.24
14158.00	90.50	359.29	7150.36	6892.29	6892.29	-270.93	0.08

5" = 100' FEET MD