



GAMMA RAY

2" = 100' FEET MD

COMPANY : ANADARKO PETROLEUM CORP.

WELL : NRC 4N-8HZ

FIELD : WATTENBERG

COUNTY : WELD

STATE : COLORADO

COUNTRY : U.S.A.

UWI : 05-123-38412

COMPANY : ANADARKO PETROLEUM CORP.

WELL : NRC 4N-8HZ

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UWI : 05-123-38412

WELL LOCATION

LAT:40°3'33.628"N LONG:104°55'17.720"W  
N:1264991.29 ft E:3161901.77 ft

SEC:8

TWP:1N

RANGE:67W

OTHER SERVICES

DIRECTIONAL

ROP

DEPTH REF. : RKB

REF. HEIGHT : 25.000 ft

RKB to Ground Level

GROUND LEVEL : 5049.000 ft

G.L. to MEAN SEA LEVEL

## BOREHOLE RECORD

## DEVIATION RECORD

HOLE SIZE in	FROM ft	TO ft	INCLINATION deg	FROM ft	TO ft
12.25	0	1160	0-11	0	6967
8.75	1160	7911	11-90	6967	7911
6.125	7911	12553	90-93	7911	12553

## CASING RECORD

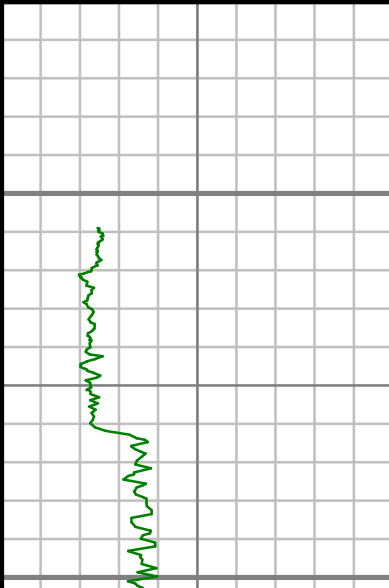
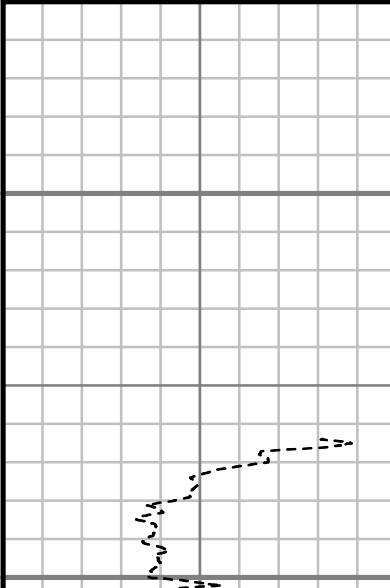
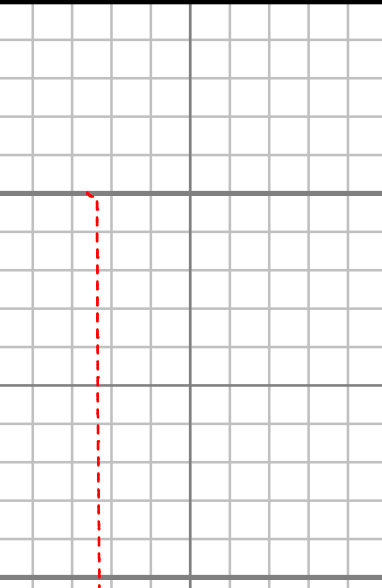
CASING SIZE in	FROM ft	TO ft
9.625	0	1118
7	0	7911
DRILLING CO. : H&P		
RIG : 311		
LWD UNIT NO. : C-46 DISTRICT : CASPER		
SPUD DATE : 02/09/2014		
LWD START DATE : 02/19/2014 DEPTH : 1332 ft		
LWD END DATE : 02/25/2014 DEPTH : 12485 ft		
TOTAL DEPTH : 12553 ft		

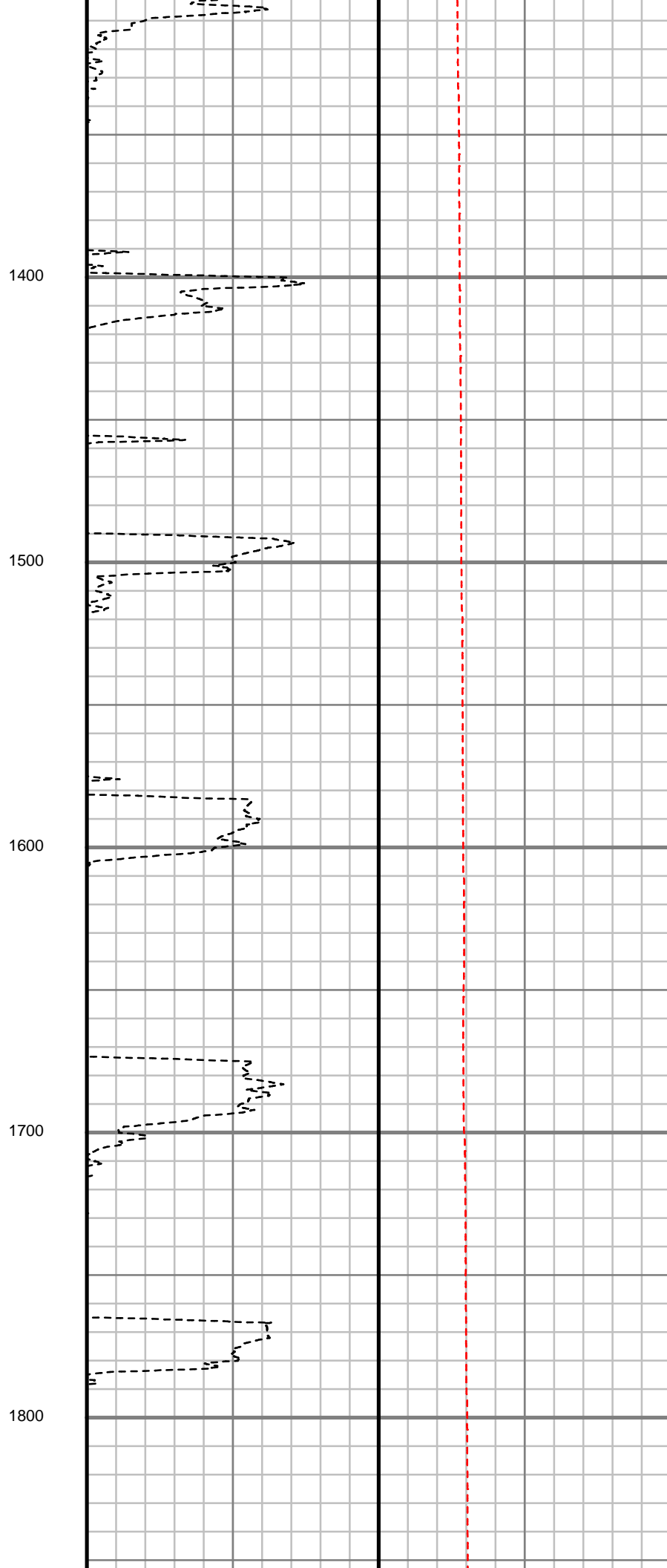
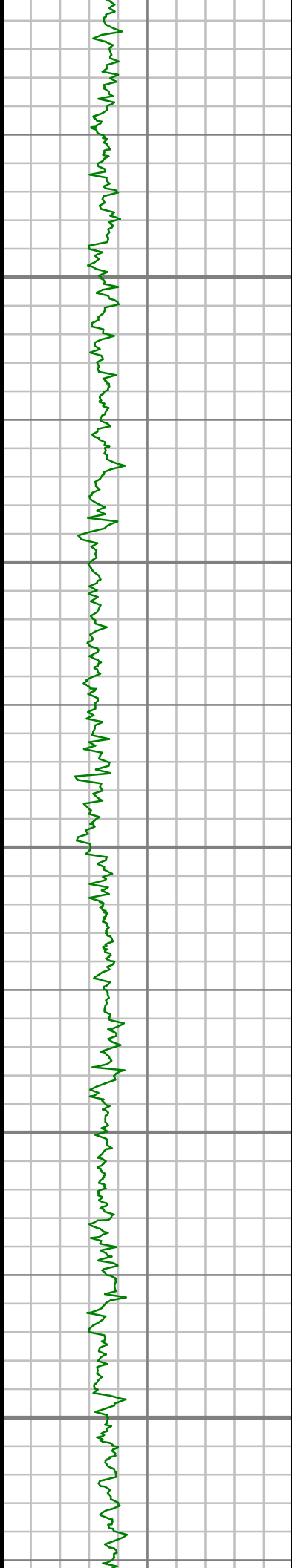
## Run Data

RUN NUMBER	1	2
START DATE	02/19/2014	02/23/2014
START TIME	1830	1000
END DATE	02/23/2014	02/25/2014
END TIME	2300	1230
DEPTH IN (ft)	1160	7911
DEPTH OUT (ft)	7911	12553
LOG TOP (ft)	1106	7857
LOG BOTTOM (ft)	7857	12485
HOLE SIZE (in)	8.75	6.125
MUD DATA @ (ft)	1160	7911
MUD TYPE	WATER-BASED	WATER-BASED
DENSITY (lb / gal)	10.1	10.0
VISCOSITY (s / qt)	38	42
pH	9.3	9.3
FLUID LOSS (cm3 / 30)	8.2	6.4
SALINITY (ppm)	2100	1400
Rm (ohmm @ deg F)	-	-
Rmf (ohmm @ deg F)	-	-
MAX TEMP (deg F)	156	223
Rm @ MAX TEMP (ohmm)	-	-
LWD ENGINEER #1	B. GREER	B. GREER
LWD ENGINEER #2	M. SHARKER	M. SHARKER
LWD ENGINEER #3	-	-
LOG WITNESS #1	J. STUART	J. STUART
LOG WITNESS #2	-	-

Remarks
ANADARKO PETROLEUM CORP. PRODUCTION AFE# 2085770
SCIENTIFIC DRILLING INTERNATIONAL JOB# 116921
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 = 128-350 / CONT = 603 / MWD EYE = 0386 / GAMMA RAY =1076
BIT TO SENSOR OFFSETS: SURVEY = 64.13 FT. / GAMMA RAY = 54.88 FT.
RUN # 2: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-062 / CONT = 819 / MWD EYE = 0298 / GAMMA RAY =1101
BIT TO SENSOR OFFSETS: SURVEY = 66.27 FT. / GAMMA RAY = 57.02 FT.
SURVEY WELL NOTES:
SURVEYS FROM 0.0 FT. TO 1160 FT. WERE ACQUIRED BY MS GYRO MWD.
SURVEYS FROM 1160 FT. TO 12485 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.

ANADARKO PETROLEUM CORP. NRC 4N-8HZ WATTENBERG FIELD WELD COUNTY, COLORADO 05-123-38412				
Gamma Ray (GR) 0 Unit = aapi 150	MEASURED DEPTH 1:600 (ft)	Rate of Penetration (ROP) 450 Unit = ft/hr 0	Tool Temperature (T-TEMP) 0 Unit = °F 300	Comments
				<div>S: 12 MD: 1167.00 ft Inc: 0.92 deg Az: 67.02 deg TVD: 1166.97 ft</div>



S: 13 MD: 1332.00 ft  
Inc: 0.36 deg Az: 55.36  
deg TVD: 1331.96 ft

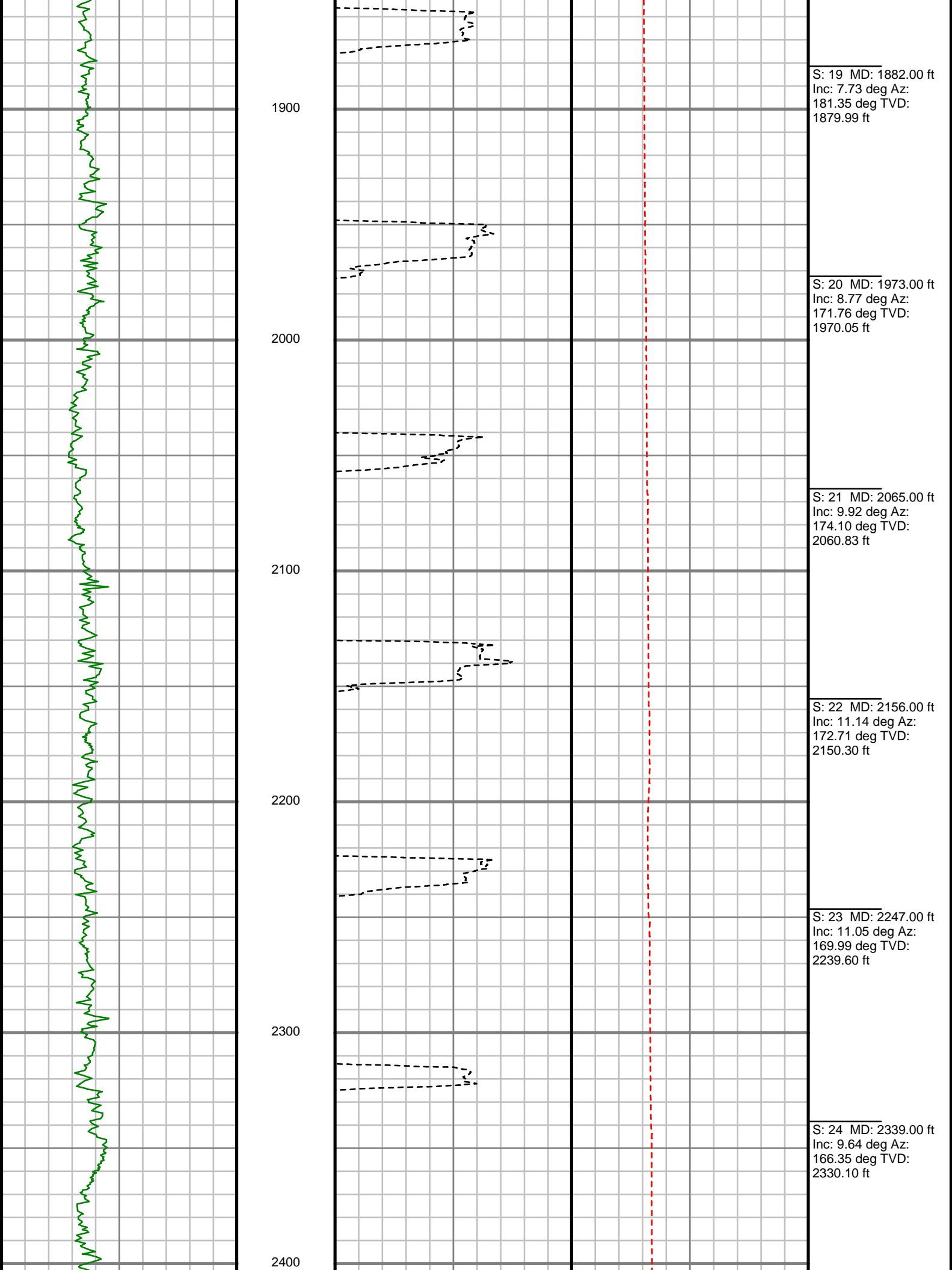
S: 14 MD: 1423.00 ft  
Inc: 1.45 deg Az:  
158.74 deg TVD:  
1422.95 ft

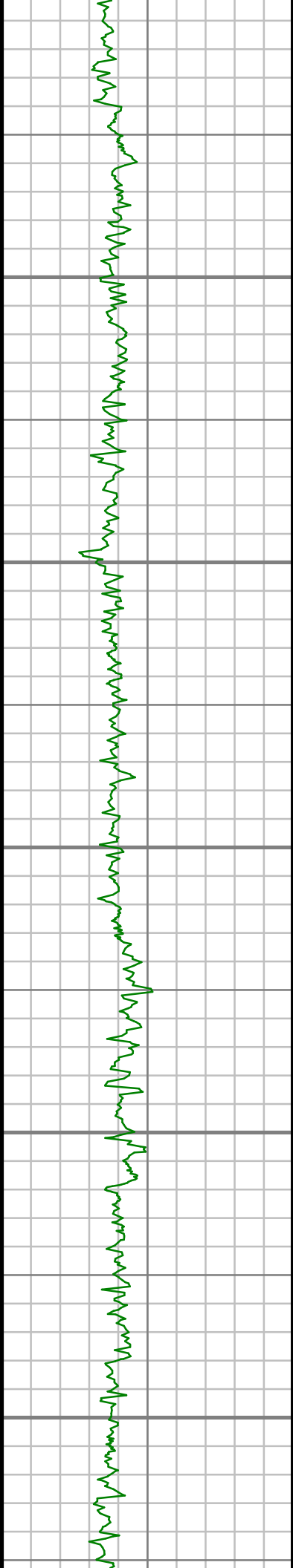
S: 15 MD: 1515.00 ft  
Inc: 3.16 deg Az:  
170.33 deg TVD:  
1514.87 ft

S: 16 MD: 1607.00 ft  
Inc: 4.29 deg Az:  
188.28 deg TVD:  
1606.68 ft

S: 17 MD: 1698.00 ft  
Inc: 5.48 deg Az:  
189.01 deg TVD:  
1697.35 ft

S: 18 MD: 1790.00 ft  
Inc: 7.24 deg Az:  
185.76 deg TVD:  
1788.78 ft





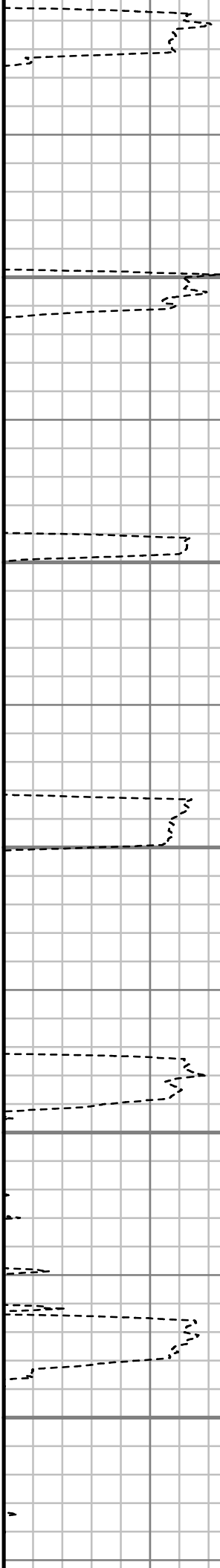
2500

2600

2700

2800

2900



S: 25 MD: 2431.00 ft  
Inc: 11.10 deg Az:  
166.55 deg TVD:  
2420.59 ft

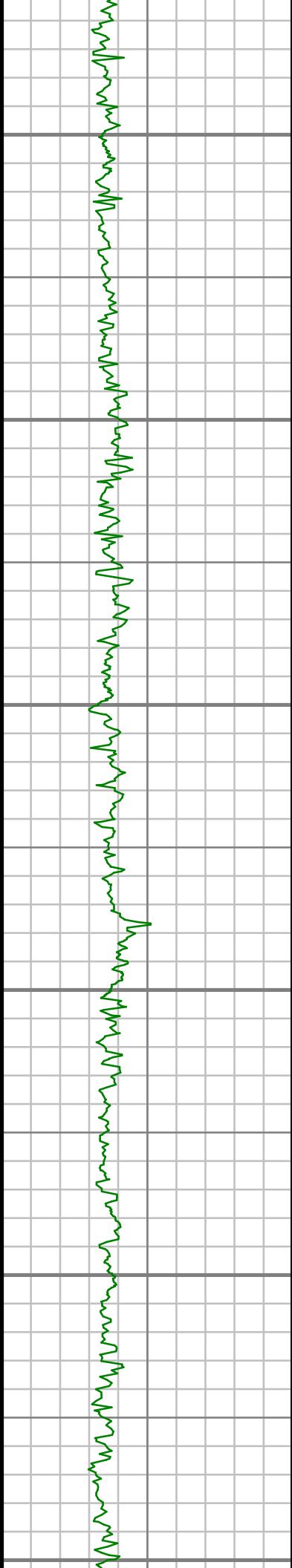
S: 26 MD: 2523.00 ft  
Inc: 11.14 deg Az:  
165.59 deg TVD:  
2510.87 ft

S: 27 MD: 2614.00 ft  
Inc: 10.01 deg Az:  
166.23 deg TVD:  
2600.32 ft

S: 28 MD: 2706.00 ft  
Inc: 10.42 deg Az:  
166.78 deg TVD:  
2690.86 ft

S: 29 MD: 2797.00 ft  
Inc: 10.54 deg Az:  
168.98 deg TVD:  
2780.34 ft

S: 30 MD: 2891.00 ft  
Inc: 10.75 deg Az:  
167.62 deg TVD:  
2872.73 ft



3000

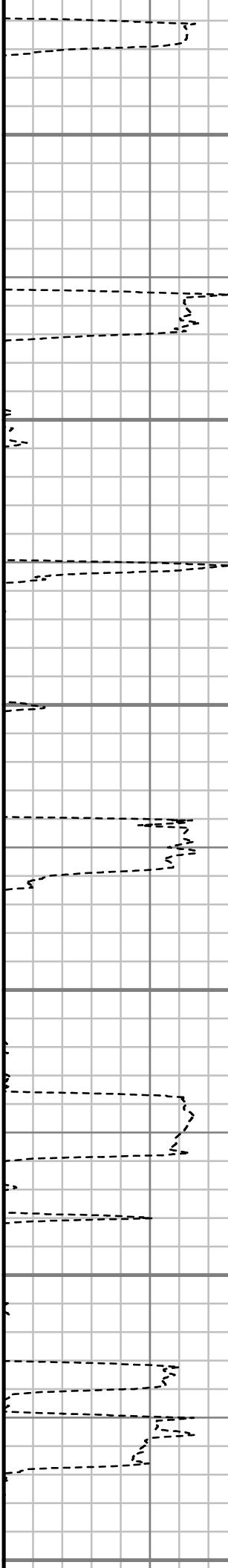
3100

3200

3300

3400

3500



S: 31 MD: 2986.00 ft  
Inc: 10.27 deg Az:  
168.94 deg TVD:  
2966.13 ft

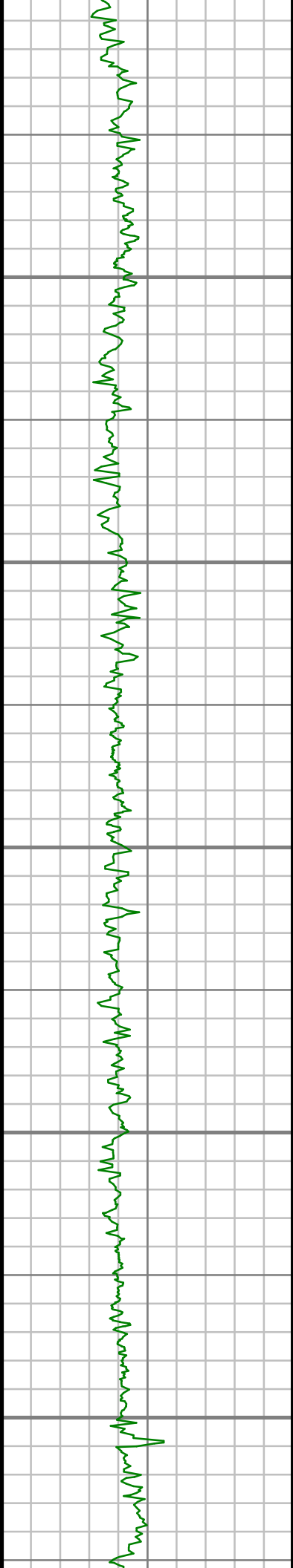
S: 32 MD: 3080.00 ft  
Inc: 10.25 deg Az:  
166.42 deg TVD:  
3058.63 ft

S: 33 MD: 3175.00 ft  
Inc: 9.23 deg Az:  
169.13 deg TVD:  
3152.26 ft

S: 34 MD: 3269.00 ft  
Inc: 8.68 deg Az:  
162.55 deg TVD:  
3245.11 ft

S: 35 MD: 3363.00 ft  
Inc: 9.52 deg Az:  
164.92 deg TVD:  
3337.93 ft

S: 36 MD: 3458.00 ft  
Inc: 10.11 deg Az:  
167.34 deg TVD:  
3431.54 ft



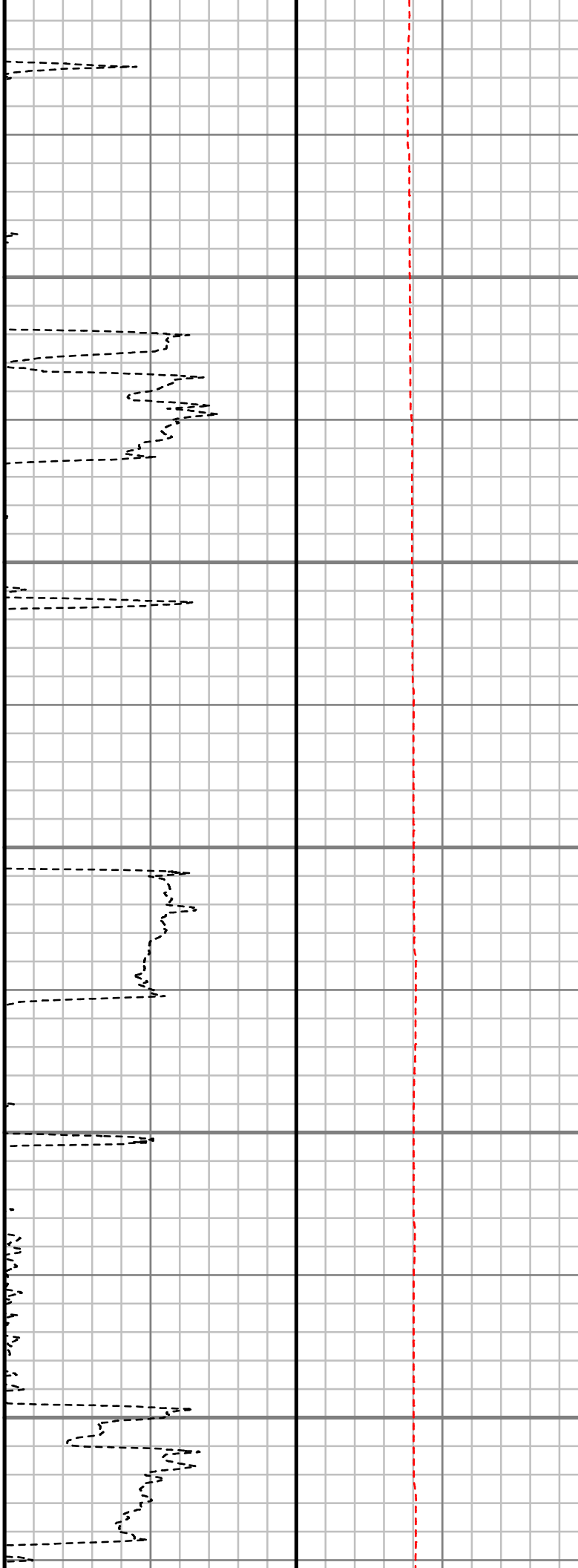
3600

3700

3800

3900

4000



S: 37 MD: 3552.00 ft  
Inc: 8.57 deg Az:  
167.55 deg TVD:  
3524.29 ft

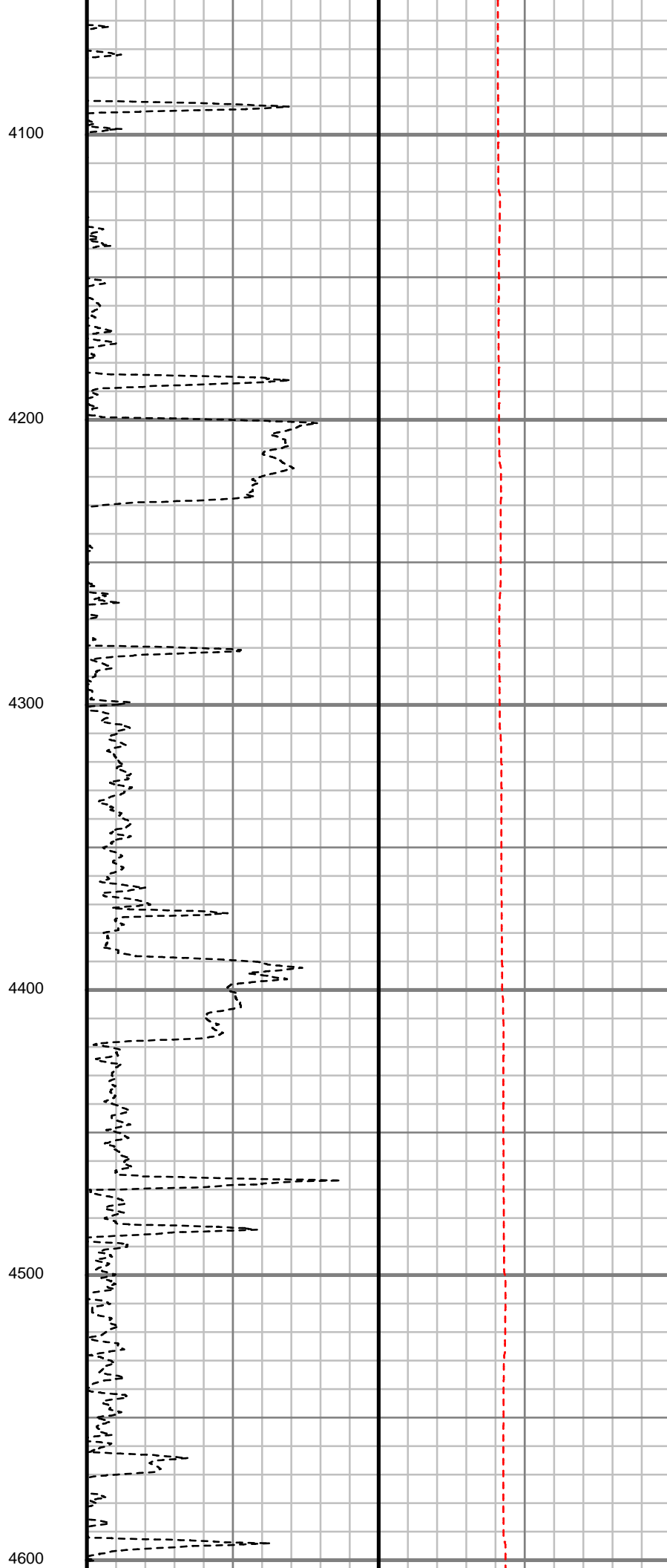
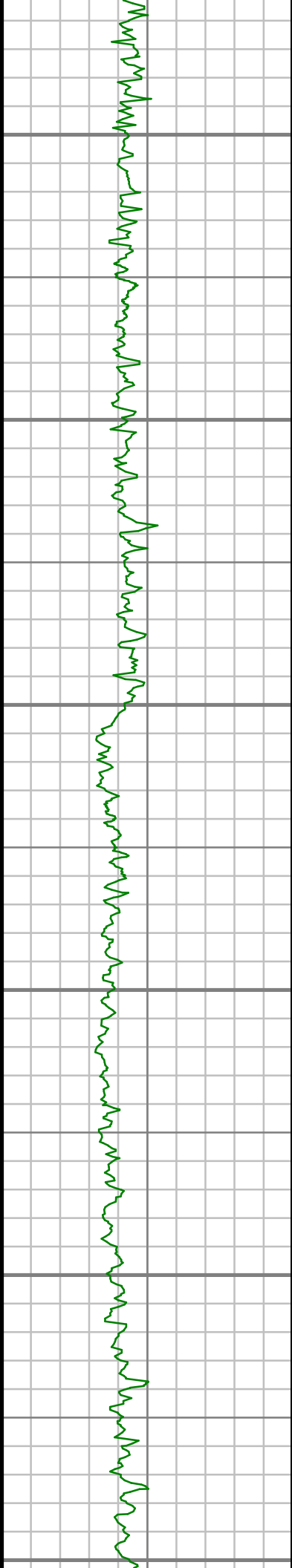
S: 38 MD: 3646.00 ft  
Inc: 8.81 deg Az:  
166.21 deg TVD:  
3617.21 ft

S: 39 MD: 3740.00 ft  
Inc: 8.47 deg Az:  
166.80 deg TVD:  
3710.15 ft

S: 40 MD: 3835.00 ft  
Inc: 9.67 deg Az:  
162.66 deg TVD:  
3803.96 ft

S: 41 MD: 3929.00 ft  
Inc: 9.75 deg Az:  
159.90 deg TVD:  
3896.61 ft

S: 42 MD: 4024.00 ft  
Inc: 9.97 deg Az:  
154.61 deg TVD:  
3990.21 ft



S: 43 MD: 4118.00 ft  
Inc: 10.59 deg Az:  
151.66 deg TVD:  
4082.70 ft

S: 44 MD: 4213.00 ft  
Inc: 10.04 deg Az:  
158.86 deg TVD:  
4176.17 ft

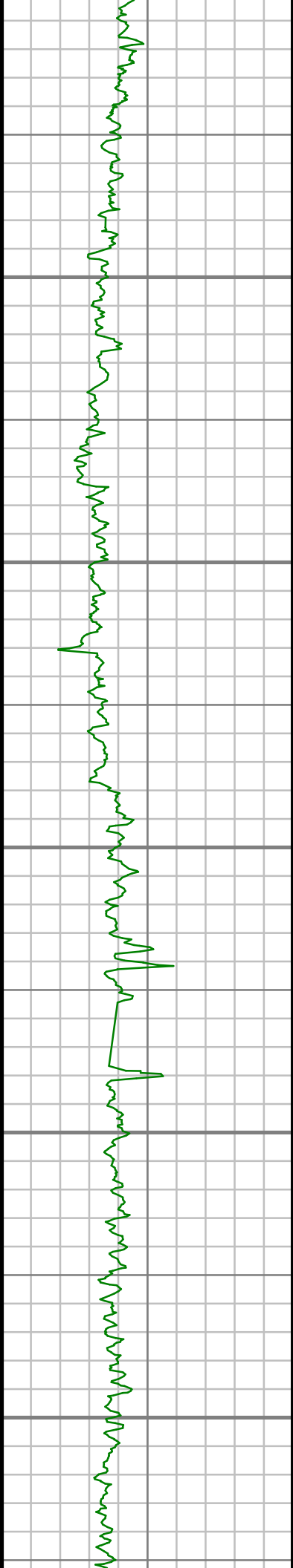
S: 45 MD: 4307.00 ft  
Inc: 9.91 deg Az:  
158.53 deg TVD:  
4268.75 ft

S: 46 MD: 4401.00 ft  
Inc: 10.71 deg Az:  
165.39 deg TVD:  
4361.24 ft

S: 47 MD: 4495.00 ft  
Inc: 11.70 deg Az:  
172.93 deg TVD:  
4453.45 ft

S: 48 MD: 4590.00 ft  
Inc: 10.19 deg Az:





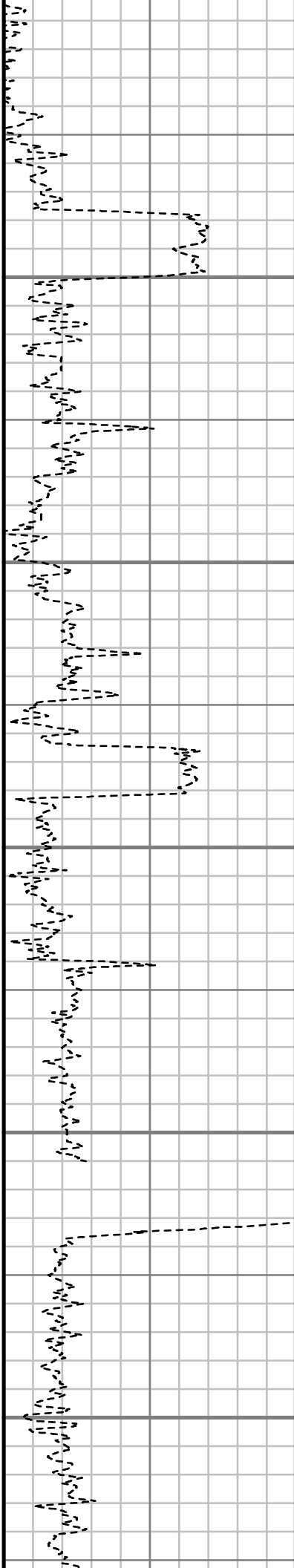
4700

4800

4900

5000

5100



176.14 deg TVD:  
4546.72 ft

S: 49 MD: 4684.00 ft  
Inc: 10.21 deg Az:  
173.94 deg TVD:  
4639.24 ft

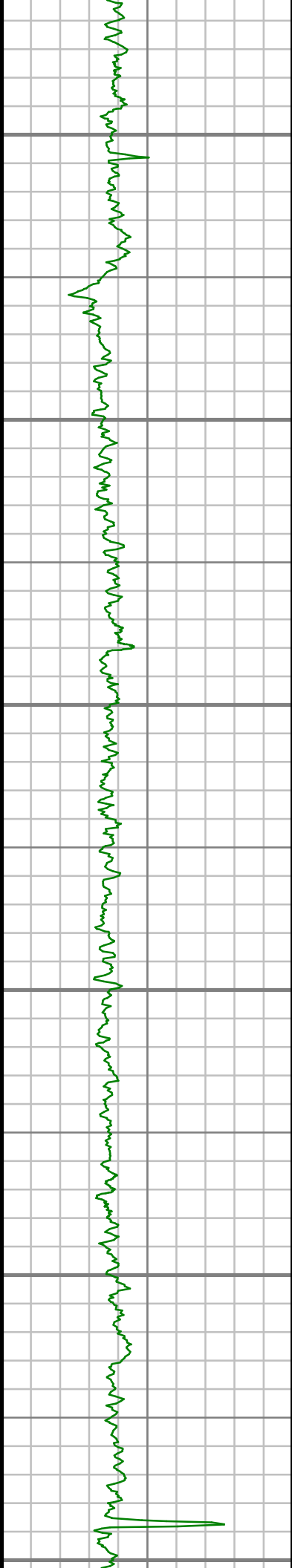
S: 50 MD: 4778.00 ft  
Inc: 11.26 deg Az:  
175.70 deg TVD:  
4731.59 ft

S: 51 MD: 4873.00 ft  
Inc: 12.12 deg Az:  
170.60 deg TVD:  
4824.62 ft

S: 52 MD: 4967.00 ft  
Inc: 12.63 deg Az:  
169.23 deg TVD:  
4916.44 ft

S: 53 MD: 5061.00 ft  
Inc: 11.53 deg Az:  
171.87 deg TVD:  
5008.35 ft





5200

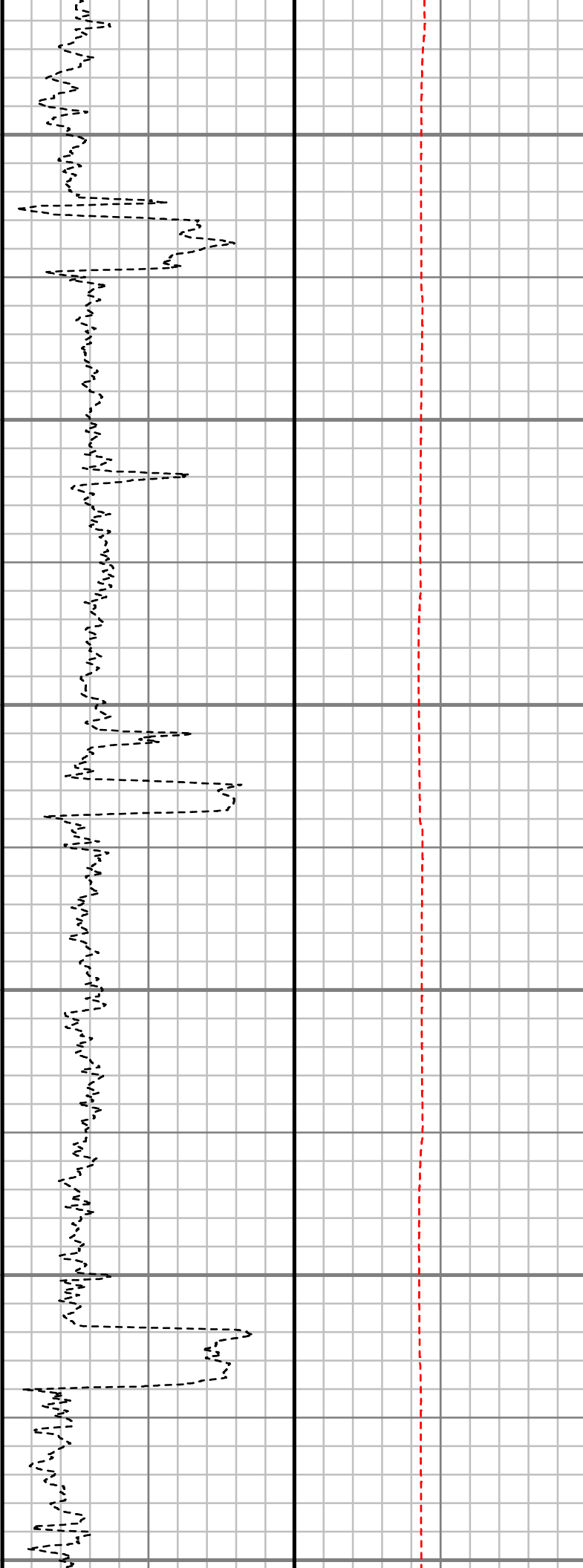
5300

5400

5500

5600

5700



S: 54 MD: 5156.00 ft  
Inc: 10.42 deg Az:  
172.62 deg TVD:  
5101.61 ft

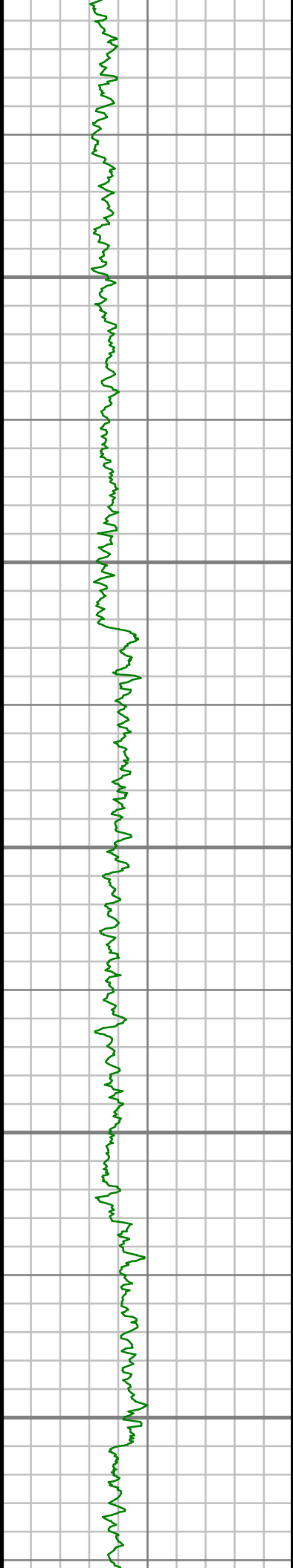
S: 55 MD: 5250.00 ft  
Inc: 10.12 deg Az:  
167.22 deg TVD:  
5194.11 ft

S: 56 MD: 5344.00 ft  
Inc: 10.90 deg Az:  
164.84 deg TVD:  
5286.53 ft

S: 57 MD: 5439.00 ft  
Inc: 9.69 deg Az:  
171.27 deg TVD:  
5380.01 ft

S: 58 MD: 5533.00 ft  
Inc: 8.19 deg Az:  
175.81 deg TVD:  
5472.86 ft

S: 59 MD: 5627.00 ft  
Inc: 8.69 deg Az:  
172.59 deg TVD:  
5565.84 ft



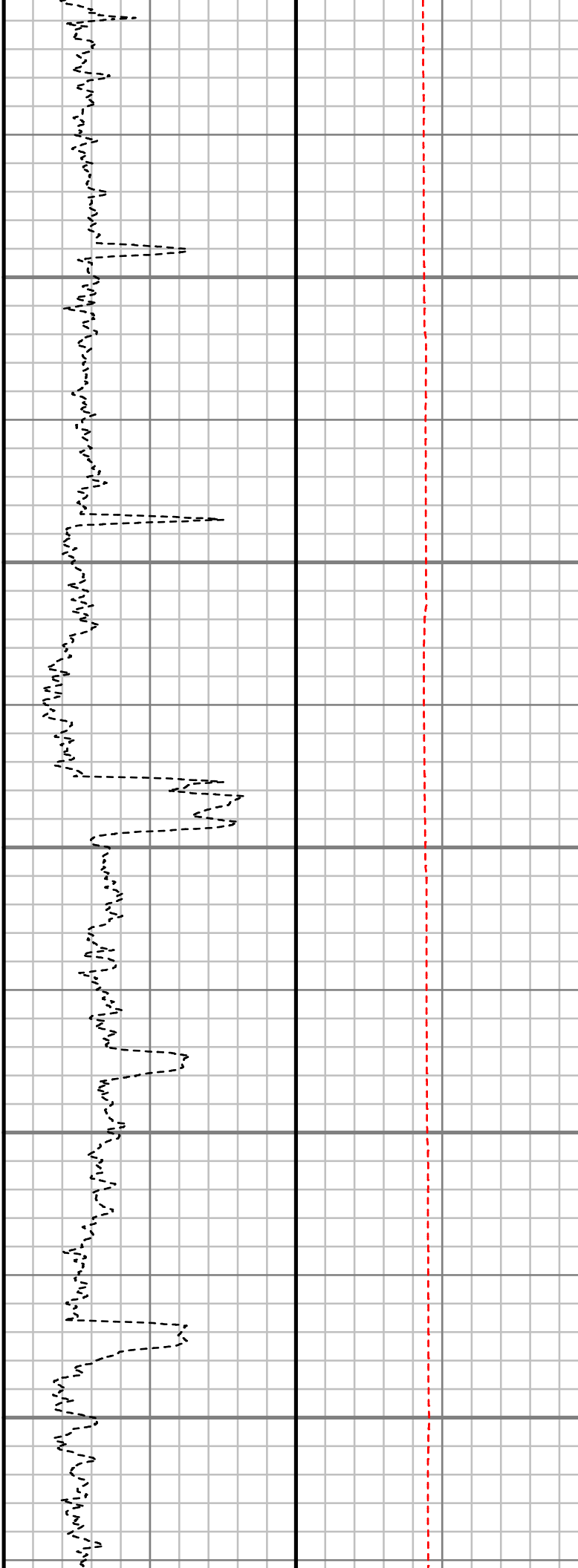
5800

5900

6000

6100

6200



S: 60 MD: 5721.00 ft  
Inc: 8.79 deg Az:  
173.17 deg TVD:  
5658.75 ft

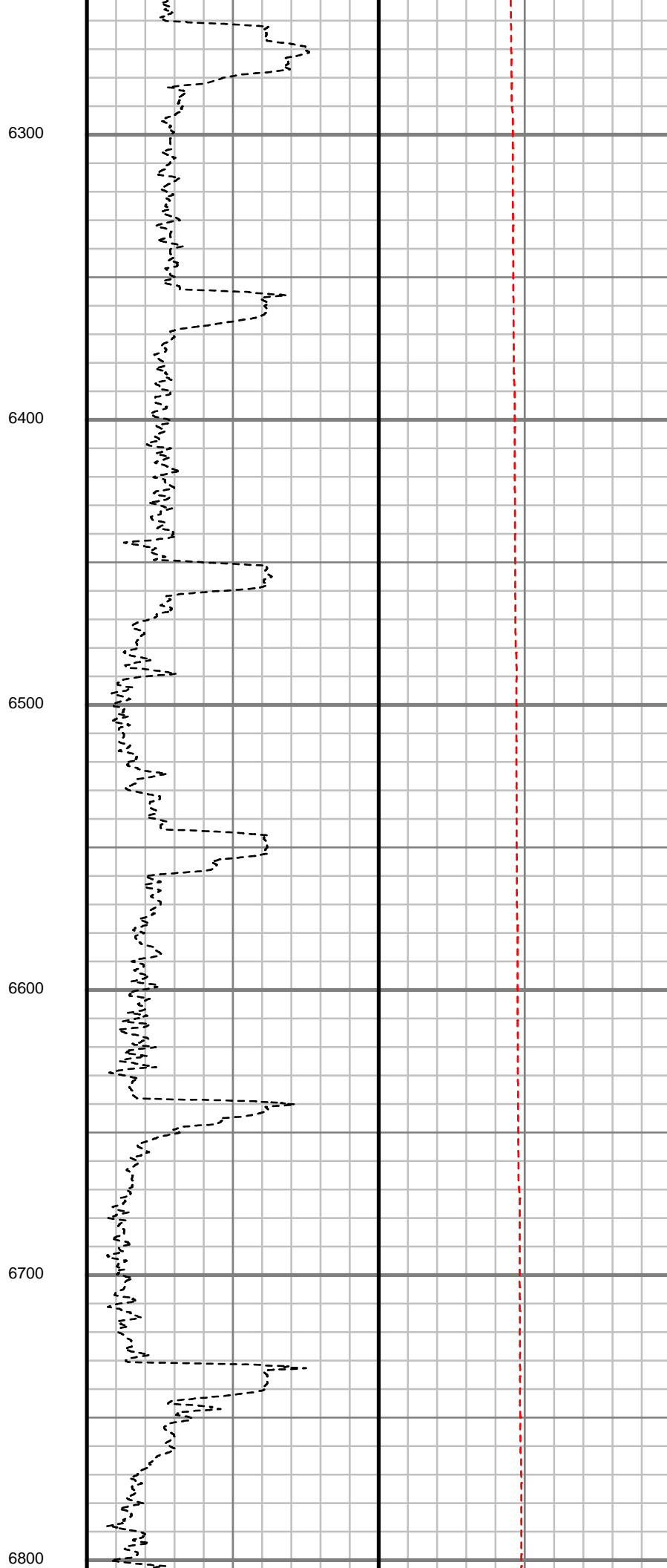
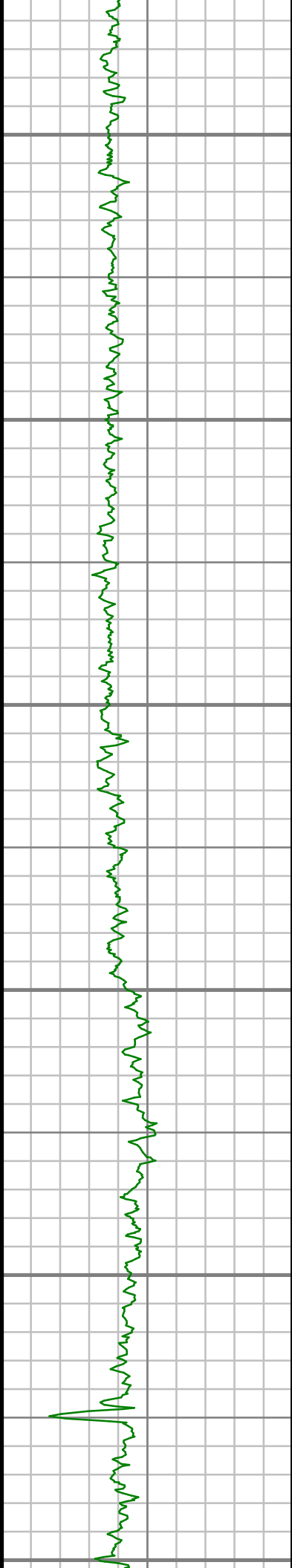
S: 61 MD: 5816.00 ft  
Inc: 8.32 deg Az:  
173.66 deg TVD:  
5752.70 ft

S: 62 MD: 5910.00 ft  
Inc: 7.19 deg Az:  
173.24 deg TVD:  
5845.83 ft

S: 63 MD: 6005.00 ft  
Inc: 6.90 deg Az:  
168.57 deg TVD:  
5940.12 ft

S: 64 MD: 6099.00 ft  
Inc: 6.62 deg Az:  
165.52 deg TVD:  
6033.46 ft

S: 65 MD: 6194.00 ft  
Inc: 5.15 deg Az:  
164.25 deg TVD:  
6127.96 ft



S: 66 MD: 6288.00 ft  
Inc: 3.53 deg Az:  
173.16 deg TVD:  
6221.69 ft

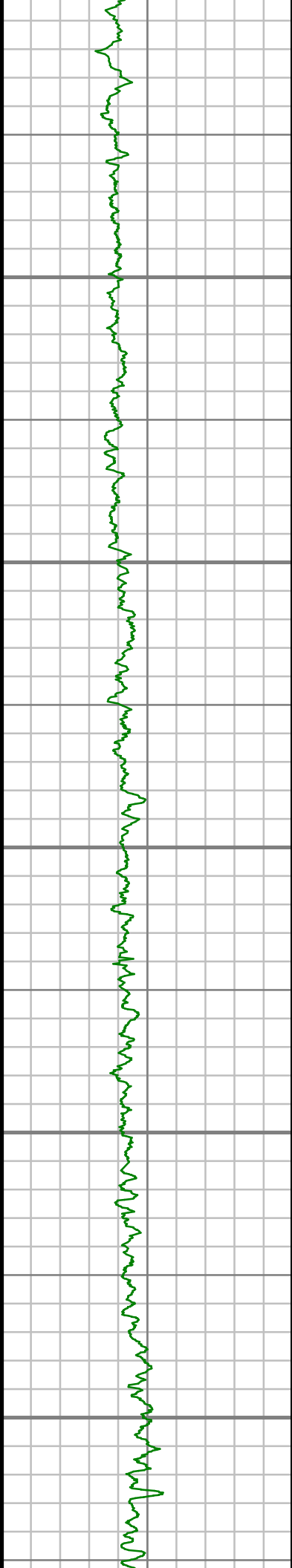
S: 67 MD: 6383.00 ft  
Inc: 2.64 deg Az:  
182.35 deg TVD:  
6316.55 ft

S: 68 MD: 6477.00 ft  
Inc: 1.81 deg Az:  
164.65 deg TVD:  
6410.48 ft

S: 69 MD: 6571.00 ft  
Inc: 1.90 deg Az:  
148.94 deg TVD:  
6504.43 ft

S: 70 MD: 6666.00 ft  
Inc: 0.99 deg Az:  
155.17 deg TVD:  
6599.40 ft

S: 71 MD: 6760.00 ft  
Inc: 0.80 deg Az:  
159.94 deg TVD:  
6693.39 ft



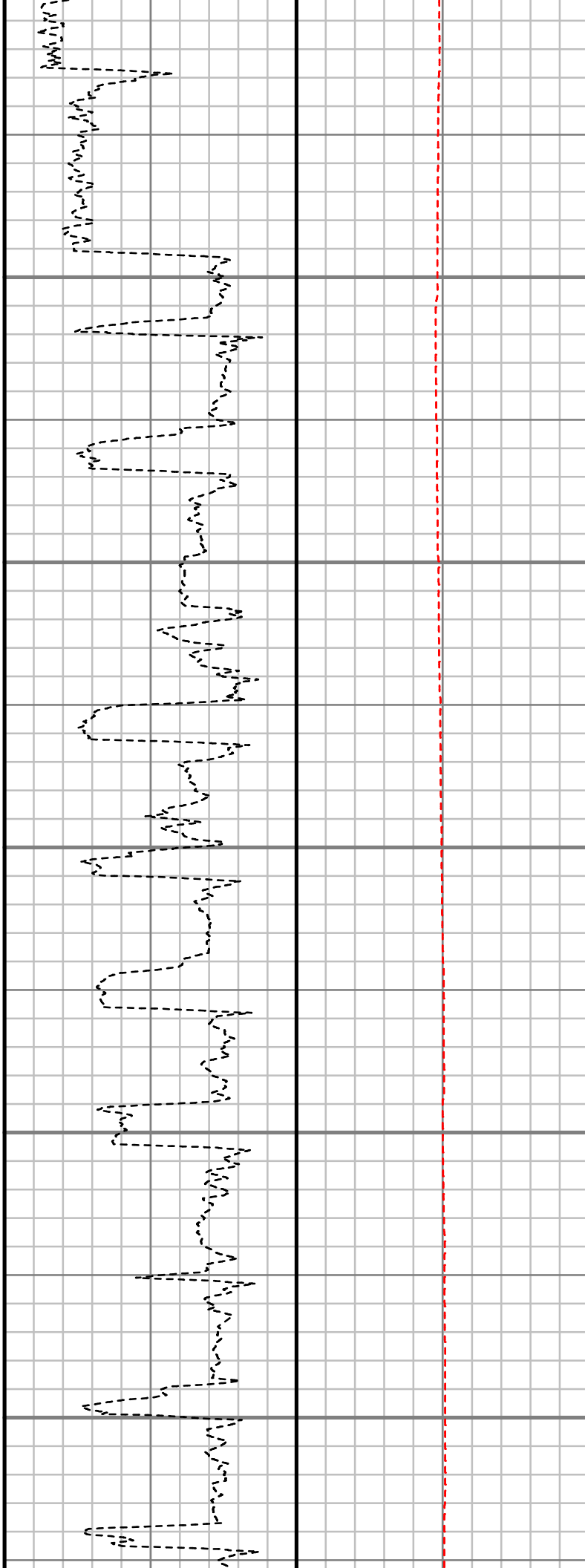
6900

7000

7100

7200

7300



S: 72 MD: 6854.00 ft  
Inc: 0.78 deg Az:  
167.52 deg TVD:  
6787.38 ft

S: 73 MD: 6901.00 ft  
Inc: 0.80 deg Az: 22.17  
deg TVD: 6834.38 ft

S: 74 MD: 6949.00 ft  
Inc: 4.86 deg Az: 8.28  
deg TVD: 6882.31 ft

S: 75 MD: 6996.00 ft  
Inc: 8.03 deg Az: 13.62  
deg TVD: 6929.01 ft

S: 76 MD: 7043.00 ft  
Inc: 10.23 deg Az: 7.96  
deg TVD: 6975.41 ft

S: 77 MD: 7090.00 ft  
Inc: 13.10 deg Az: 3.52  
deg TVD: 7021.44 ft

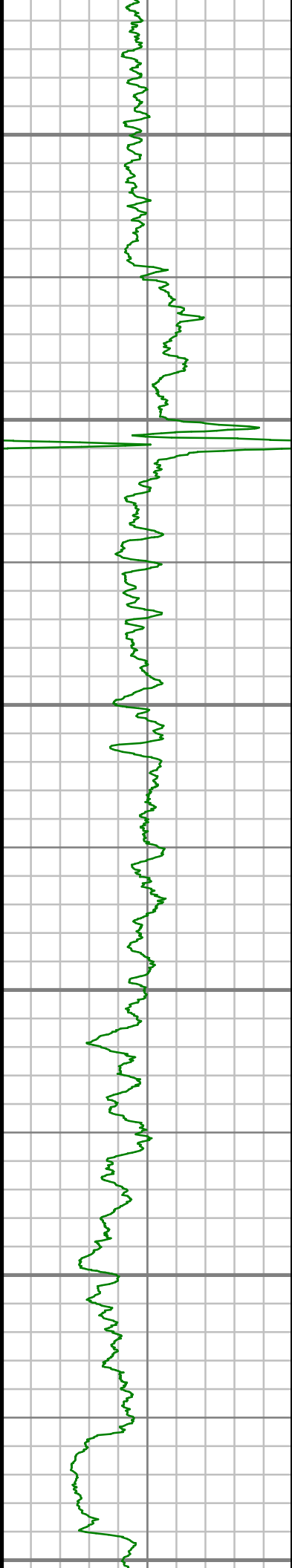
S: 78 MD: 7138.00 ft  
Inc: 15.71 deg Az: 3.60  
deg TVD: 7067.92 ft

S: 79 MD: 7185.00 ft  
Inc: 17.98 deg Az: 3.70  
deg TVD: 7112.90 ft

S: 80 MD: 7232.00 ft  
Inc: 21.07 deg Az: 2.62  
deg TVD: 7157.19 ft

S: 81 MD: 7279.00 ft  
Inc: 24.36 deg Az: 2.72  
deg TVD: 7200.54 ft

S: 82 MD: 7327.00 ft  
Inc: 27.76 deg Az: 2.27  
deg TVD: 7243.66 ft



7400

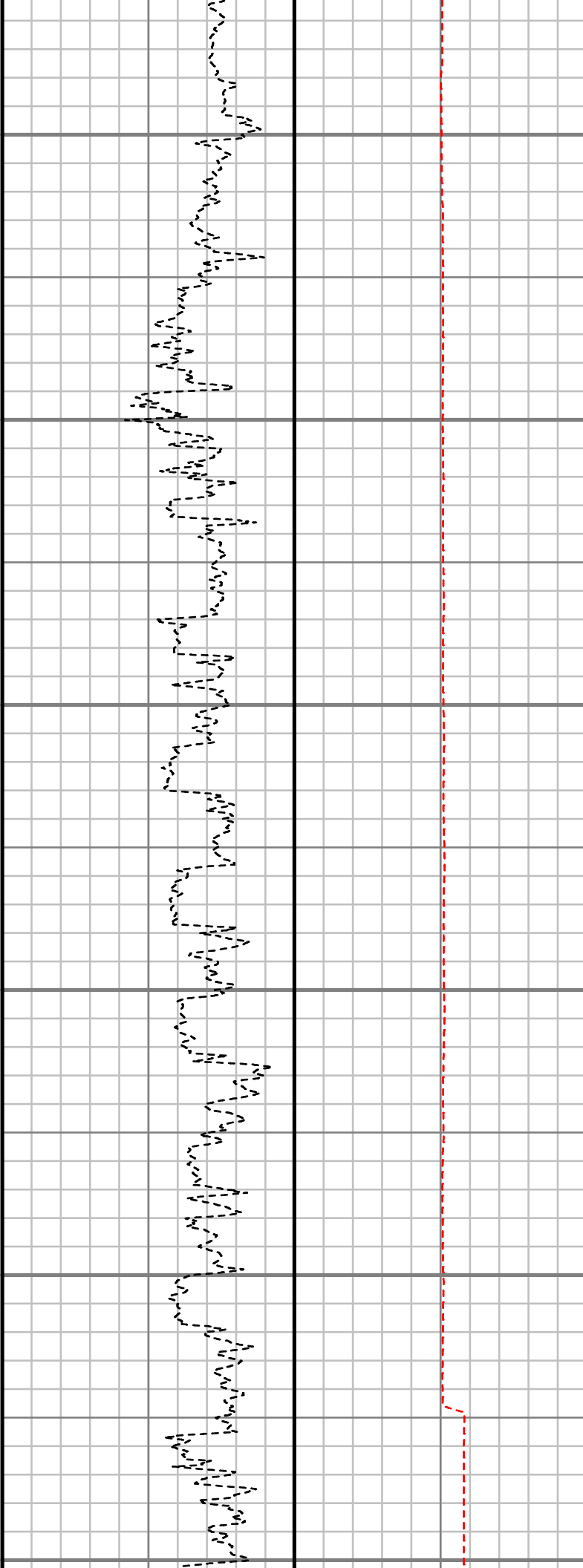
7500

7600

7700

7800

7900



S: 83 MD: 7374.00 ft  
Inc: 32.48 deg Az: 0.30  
deg TVD: 7284.30 ft

S: 84 MD: 7421.00 ft  
Inc: 38.11 deg Az:  
357.04 deg TVD:  
7322.65 ft

S: 85 MD: 7468.00 ft  
Inc: 44.22 deg Az:  
358.89 deg TVD:  
7358.02 ft

S: 86 MD: 7515.00 ft  
Inc: 50.35 deg Az: 0.41  
deg TVD: 7389.88 ft

S: 87 MD: 7562.00 ft  
Inc: 55.88 deg Az: 0.89  
deg TVD: 7418.08 ft

S: 88 MD: 7609.00 ft  
Inc: 61.24 deg Az: 0.72  
deg TVD: 7442.59 ft

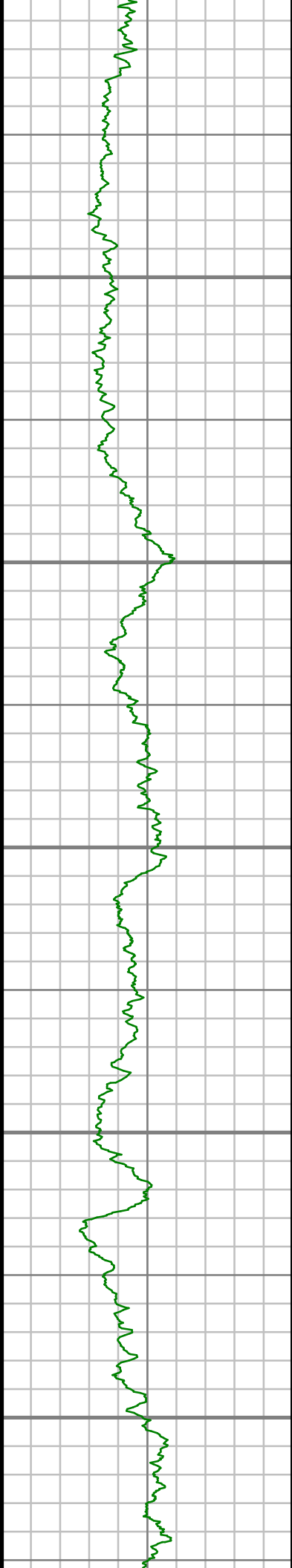
S: 89 MD: 7656.00 ft  
Inc: 65.91 deg Az: 0.23  
deg TVD: 7463.50 ft

S: 90 MD: 7704.00 ft  
Inc: 69.29 deg Az: 0.55  
deg TVD: 7481.79 ft

S: 91 MD: 7751.00 ft  
Inc: 73.44 deg Az: 0.33  
deg TVD: 7496.81 ft

S: 92 MD: 7798.00 ft  
Inc: 77.16 deg Az: 0.22  
deg TVD: 7508.73 ft

S: 93 MD: 7845.00 ft  
Inc: 82.88 deg Az:  
359.30 deg TVD:  
7516.87 ft



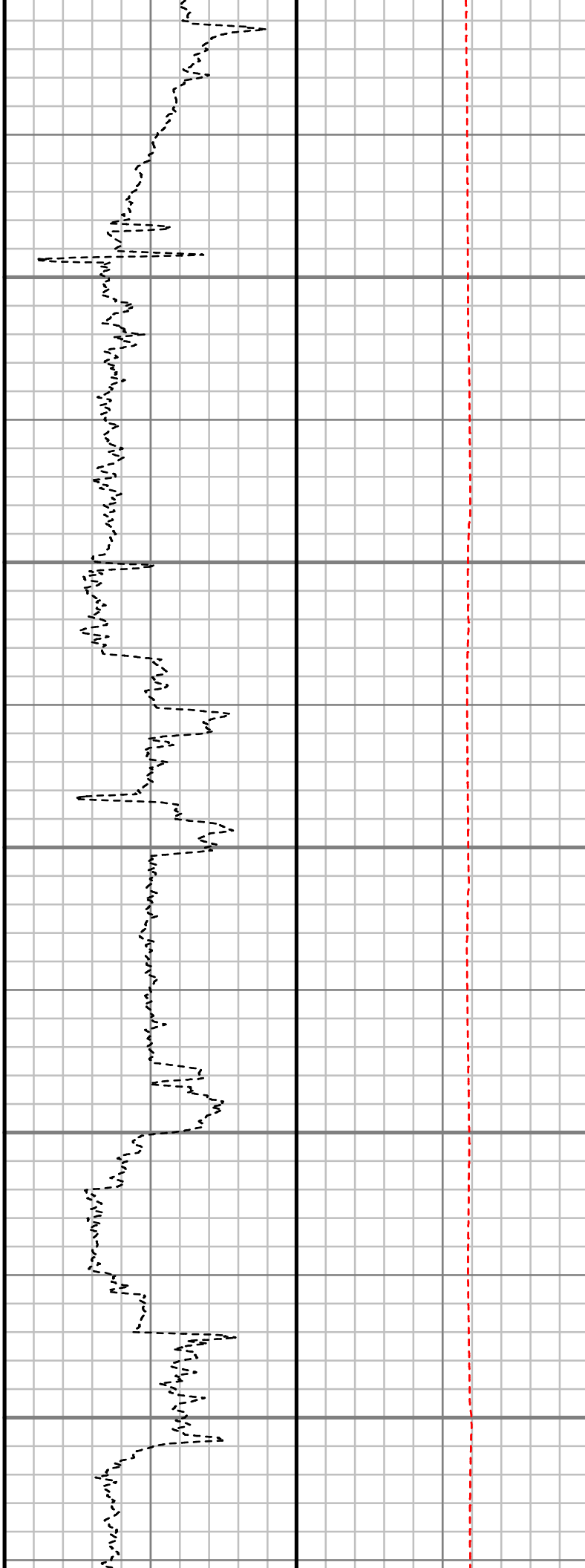
8000

8100

8200

8300

8400



S: 94 MD: 7924.00 ft  
Inc: 88.32 deg Az:  
359.96 deg TVD:  
7522.93 ft

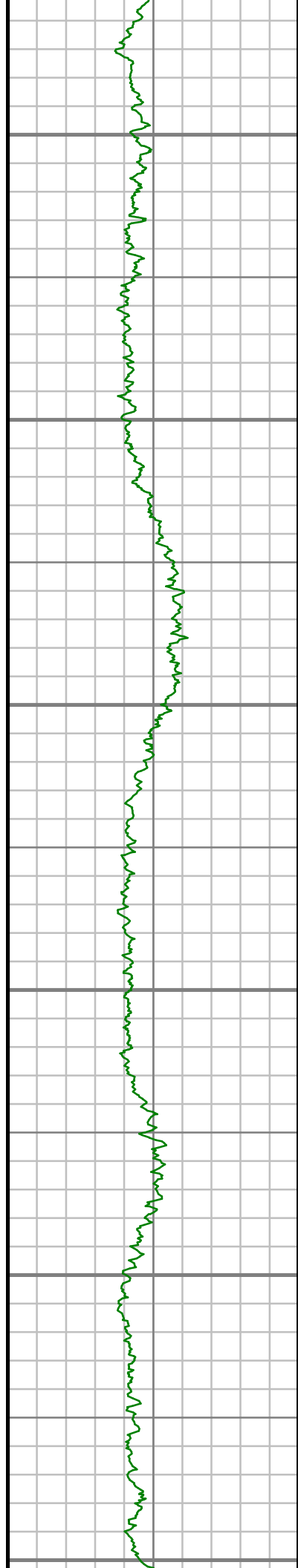
S: 95 MD: 8018.00 ft  
Inc: 90.30 deg Az:  
359.03 deg TVD:  
7524.06 ft

S: 96 MD: 8113.00 ft  
Inc: 92.35 deg Az:  
358.77 deg TVD:  
7521.86 ft

S: 97 MD: 8207.00 ft  
Inc: 92.45 deg Az:  
357.83 deg TVD:  
7517.91 ft

S: 98 MD: 8301.00 ft  
Inc: 92.69 deg Az:  
358.62 deg TVD:  
7513.70 ft

S: 99 MD: 8395.00 ft  
Inc: 91.82 deg Az:  
358.98 deg TVD:  
7510.00 ft



8500

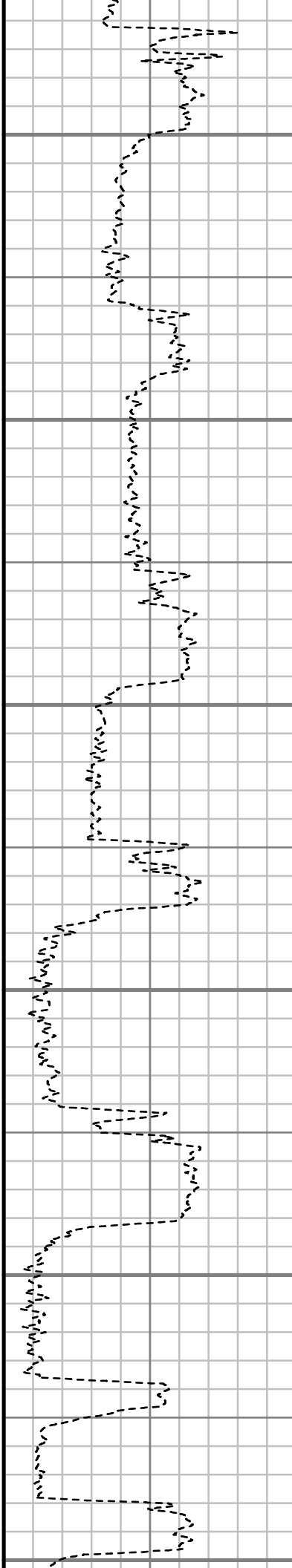
8600

8700

8800

8900

9000



S: 100 MD: 8490.00 ft  
Inc: 90.77 deg Az: 0.33  
deg TVD: 7507.86 ft

S: 101 MD: 8584.00 ft  
Inc: 90.30 deg Az: 0.29  
deg TVD: 7506.97 ft

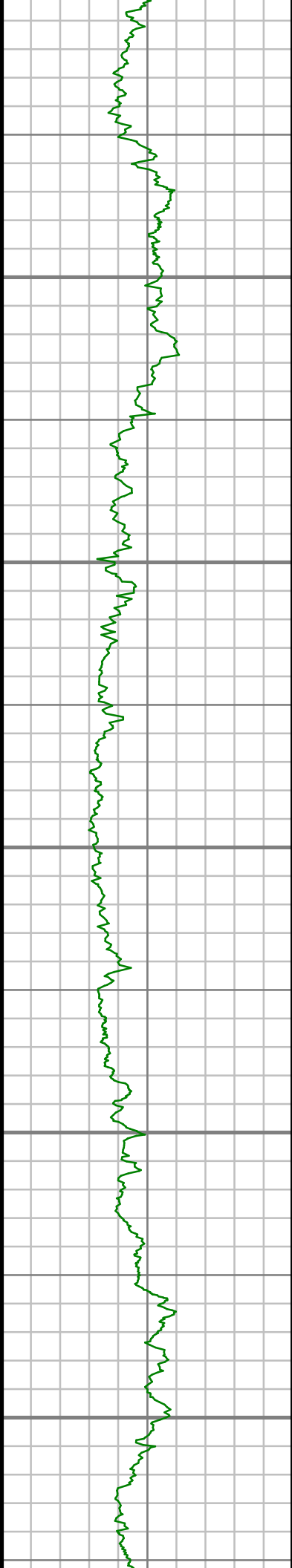
S: 102 MD: 8679.00 ft  
Inc: 89.46 deg Az: 0.14  
deg TVD: 7507.17 ft

S: 103 MD: 8773.00 ft  
Inc: 89.56 deg Az: 0.37  
deg TVD: 7507.97 ft

S: 104 MD: 8867.00 ft  
Inc: 89.03 deg Az:  
359.57 deg TVD:  
7509.13 ft

S: 105 MD: 8962.00 ft  
Inc: 90.34 deg Az:  
358.74 deg TVD:  
7509.66 ft





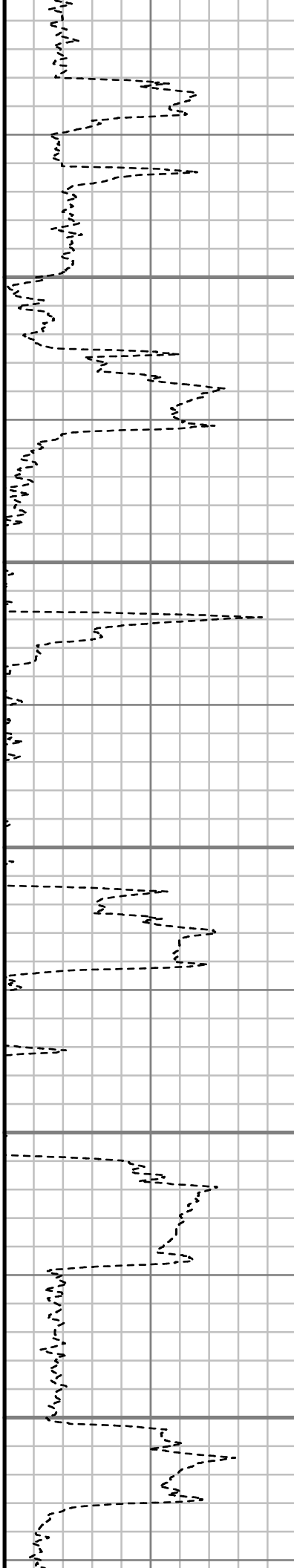
9100

9200

9300

9400

9500



S: 106 MD: 9056.00 ft  
Inc: 88.45 deg Az:  
358.81 deg TVD:  
7510.65 ft

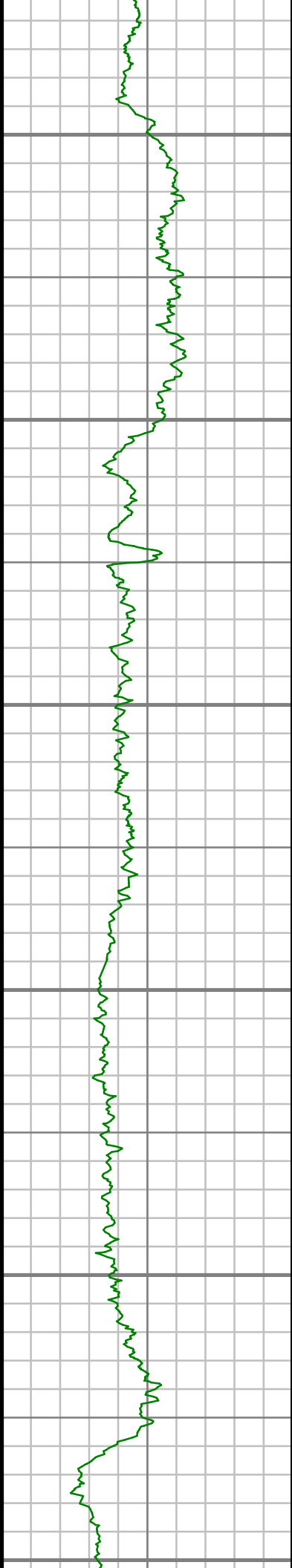
S: 107 MD: 9150.00 ft  
Inc: 87.88 deg Az:  
358.83 deg TVD:  
7513.65 ft

S: 108 MD: 9245.00 ft  
Inc: 88.55 deg Az:  
358.19 deg TVD:  
7516.60 ft

S: 109 MD: 9339.00 ft  
Inc: 90.84 deg Az:  
358.85 deg TVD:  
7517.10 ft

S: 110 MD: 9434.00 ft  
Inc: 90.44 deg Az:  
359.26 deg TVD:  
7516.04 ft

S: 111 MD: 9528.00 ft  
Inc: 90.10 deg Az:  
359.89 deg TVD:  
7515.60 ft



9600

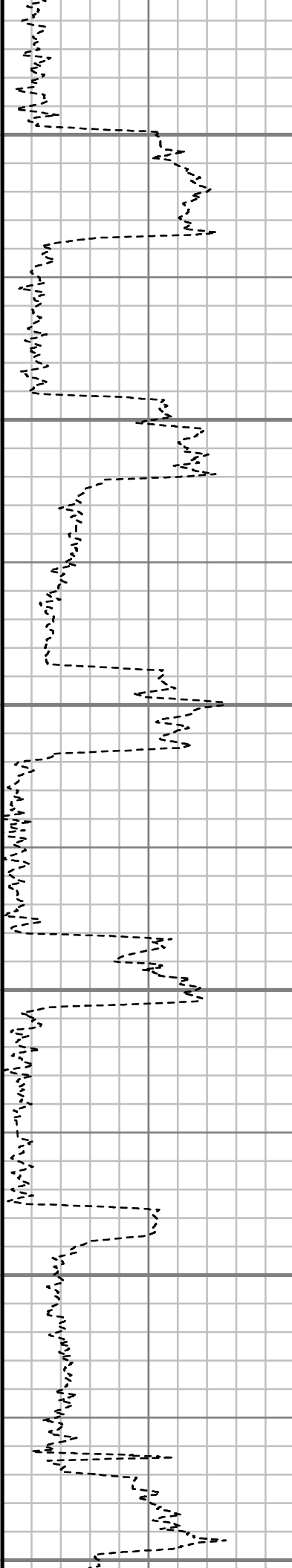
9700

9800

9900

10000

10100



S: 112 MD: 9623.00 ft  
Inc: 89.73 deg Az: 0.75  
deg TVD: 7515.74 ft

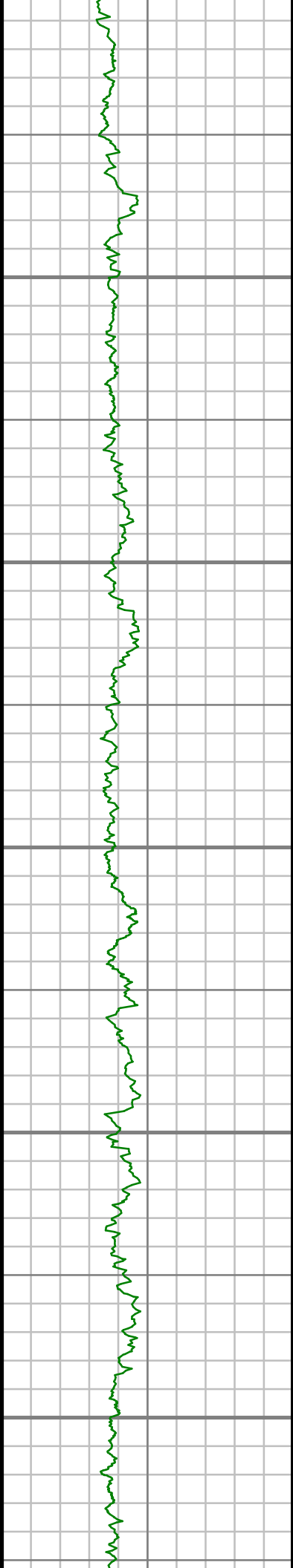
S: 113 MD: 9717.00 ft  
Inc: 89.23 deg Az: 0.99  
deg TVD: 7516.60 ft

S: 114 MD: 9812.00 ft  
Inc: 88.52 deg Az: 1.54  
deg TVD: 7518.46 ft

S: 115 MD: 9906.00 ft  
Inc: 88.86 deg Az: 1.89  
deg TVD: 7520.61 ft

S: 116 MD: 10001.00 ft  
Inc: 90.47 deg Az: 1.33  
deg TVD: 7521.17 ft

S: 117 MD: 10095.00 ft



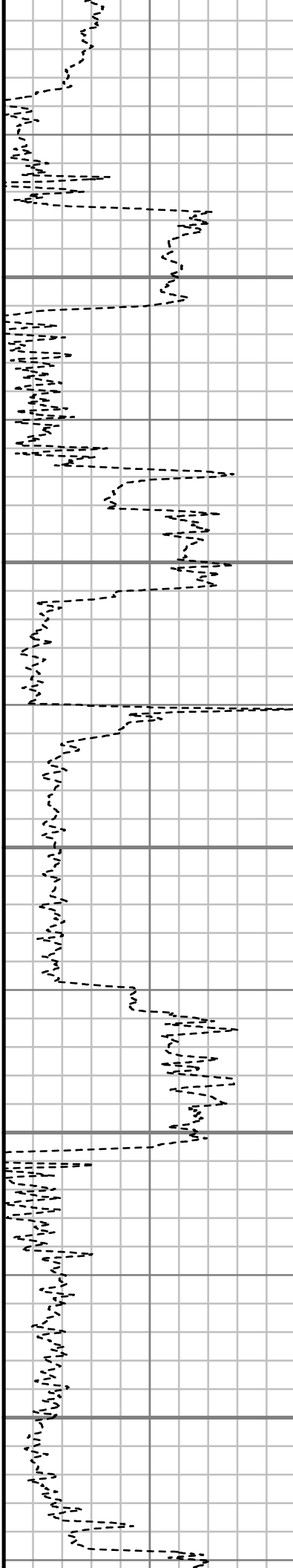
10200

10300

10400

10500

10600



Inc: 91.04 deg Az: 1.25  
deg TVD: 7519.93 ft

S: 118 MD: 10189.00 ft  
Inc: 90.74 deg Az:  
359.78 deg TVD:  
7518.47 ft

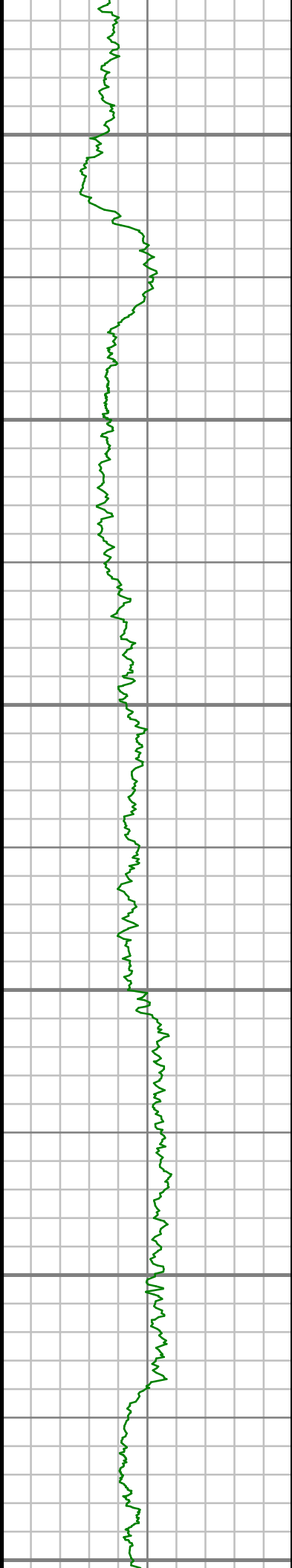
S: 119 MD: 10284.00 ft  
Inc: 89.97 deg Az: 0.12  
deg TVD: 7517.88 ft

S: 120 MD: 10379.00 ft  
Inc: 90.57 deg Az: 0.56  
deg TVD: 7517.44 ft

S: 121 MD: 10473.00 ft  
Inc: 90.61 deg Az:  
359.69 deg TVD:  
7516.47 ft

S: 122 MD: 10568.00 ft  
Inc: 89.87 deg Az: 0.06  
deg TVD: 7516.08 ft





10700

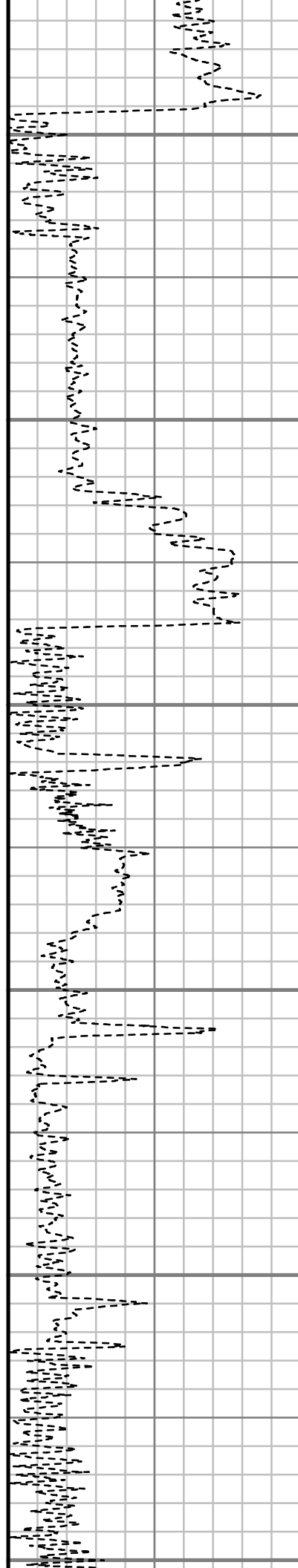
10800

10900

11000

11100

11200



S: 123 MD: 10662.00 ft  
Inc: 89.06 deg Az:  
359.13 deg TVD:  
7516.96 ft

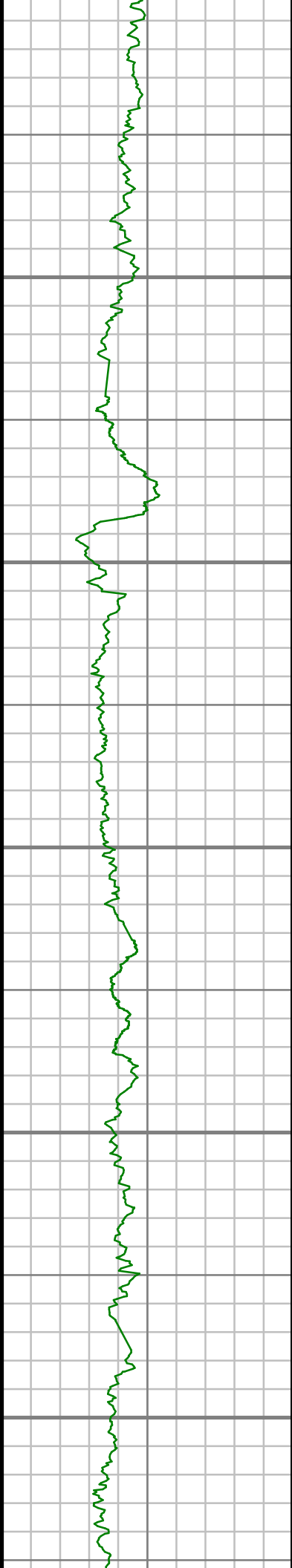
S: 124 MD: 10756.00 ft  
Inc: 88.55 deg Az:  
359.55 deg TVD:  
7518.92 ft

S: 125 MD: 10851.00 ft  
Inc: 88.69 deg Az:  
359.87 deg TVD:  
7521.21 ft

S: 126 MD: 10945.00 ft  
Inc: 88.32 deg Az:  
359.78 deg TVD:  
7523.66 ft

S: 127 MD: 11039.00 ft  
Inc: 89.23 deg Az:  
359.64 deg TVD:  
7525.67 ft

S: 128 MD: 11134.00 ft  
Inc: 90.91 deg Az: 0.11  
deg TVD: 7525.56 ft



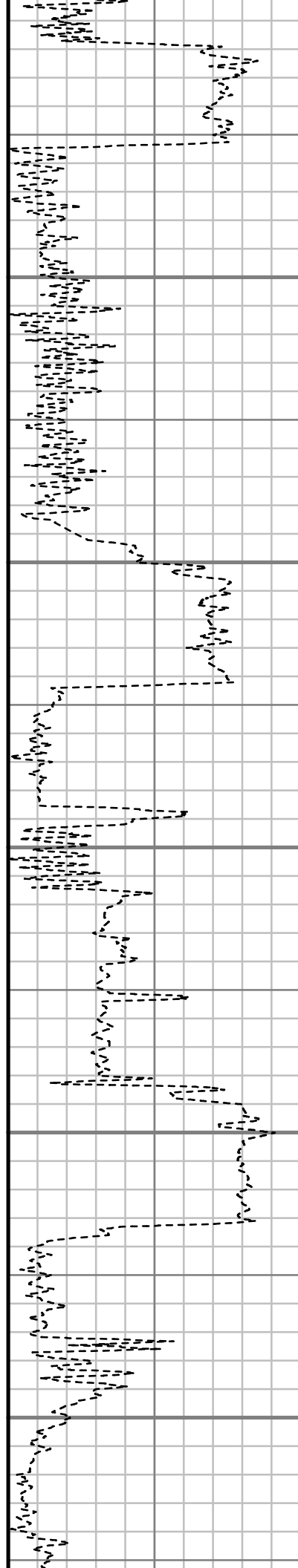
11300

11400

11500

11600

11700



S: 129 MD: 11228.00 ft  
Inc: 91.28 deg Az: 0.82  
deg TVD: 7523.77 ft

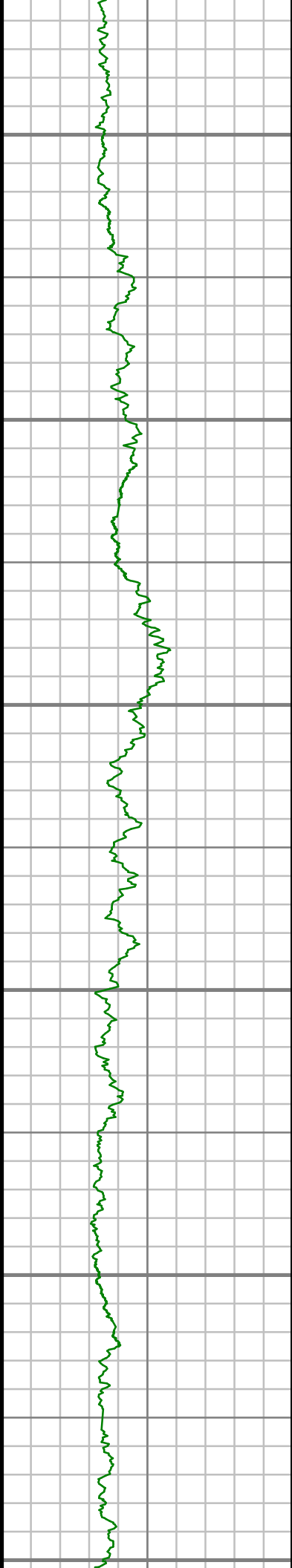
S: 130 MD: 11322.00 ft  
Inc: 91.48 deg Az: 1.38  
deg TVD: 7521.51 ft

S: 131 MD: 11417.00 ft  
Inc: 91.31 deg Az: 1.69  
deg TVD: 7519.20 ft

S: 132 MD: 11511.00 ft  
Inc: 91.21 deg Az: 0.87  
deg TVD: 7517.13 ft

S: 133 MD: 11605.00 ft  
Inc: 89.80 deg Az: 0.42  
deg TVD: 7516.30 ft

S: 134 MD: 11700.00 ft  
Inc: 88.96 deg Az: 0.16  
deg TVD: 7517.33 ft



11800

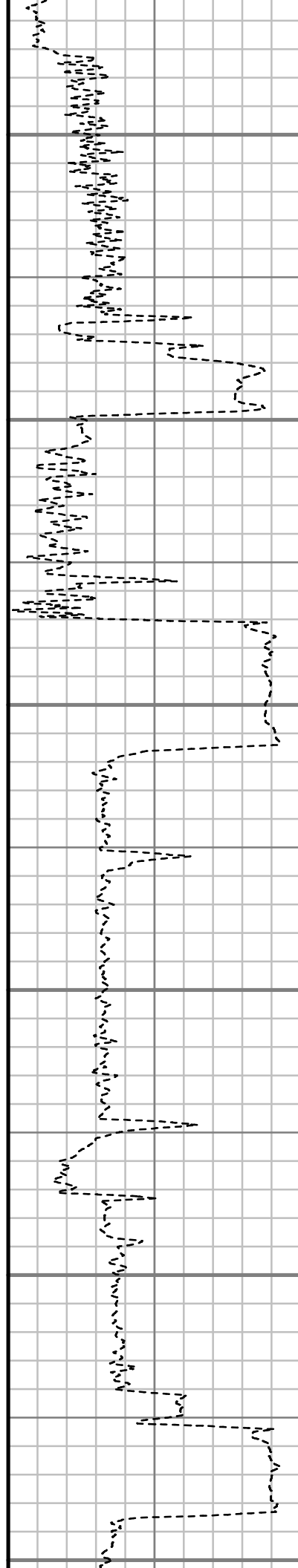
11900

12000

12100

12200

12300



S: 135 MD: 11794.00 ft  
Inc: 90.47 deg Az:  
359.13 deg TVD:  
7517.80 ft

S: 136 MD: 11888.00 ft  
Inc: 90.64 deg Az:  
359.00 deg TVD:  
7516.89 ft

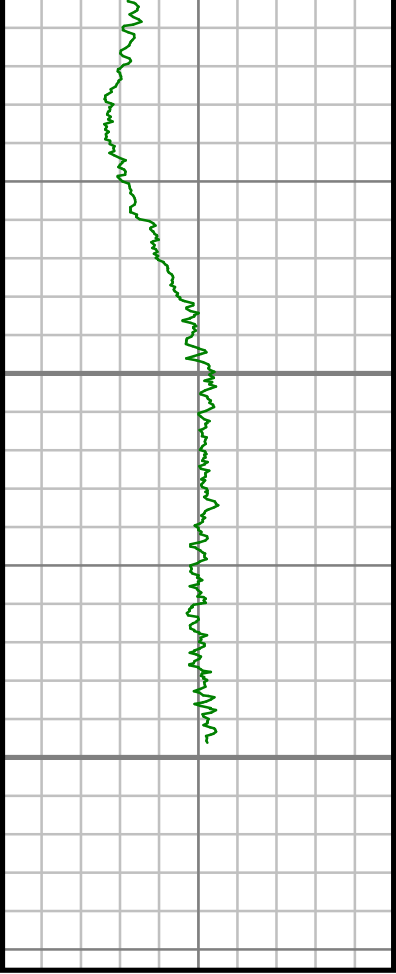
S: 137 MD: 11983.00 ft  
Inc: 89.43 deg Az:  
357.85 deg TVD:  
7516.84 ft

S: 138 MD: 12077.00 ft  
Inc: 87.95 deg Az:  
356.91 deg TVD:  
7518.99 ft

S: 139 MD: 12172.00 ft  
Inc: 89.66 deg Az:  
356.83 deg TVD:  
7520.96 ft

S: 140 MD: 12266.00 ft  
Inc: 89.03 deg Az:  
357.19 deg TVD:  
7522.04 ft



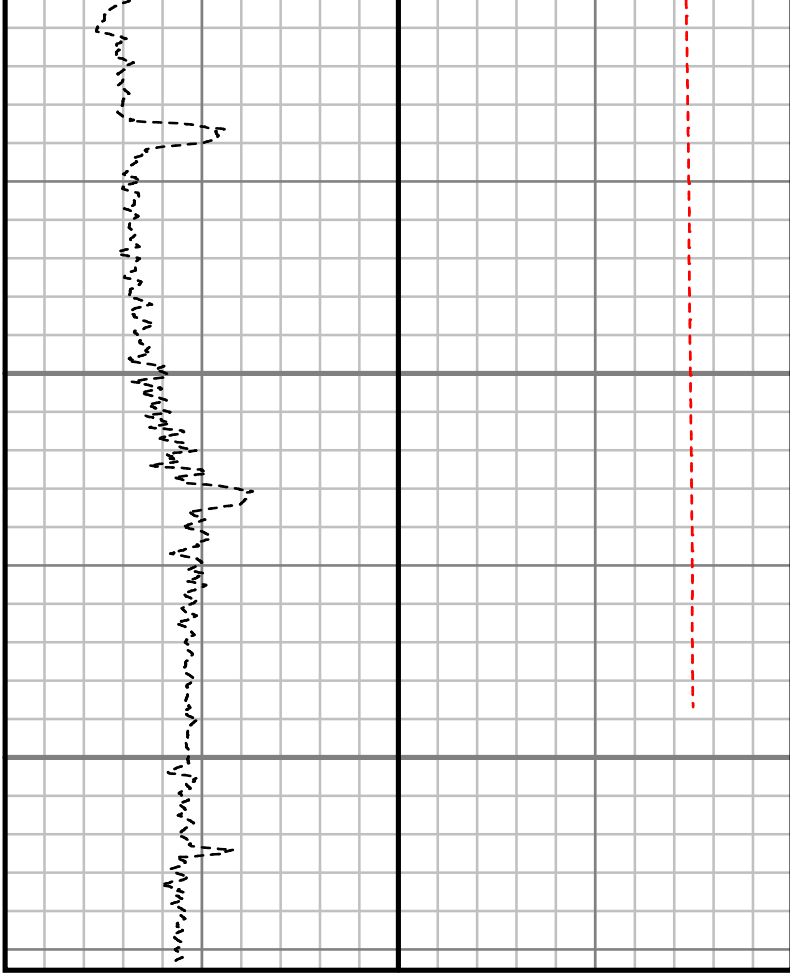


Gamma Ray (GR)		
0	Unit = aapi	150

MEASURED DEPTH  
1:600 (ft)

12400

12500



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

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

Comments
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S: 141 MD: 12360.00 ft  
Inc: 89.43 deg Az:  
356.90 deg TVD:  
7523.31 ft

S: 142 MD: 12455.00 ft  
Inc: 90.10 deg Az:  
356.54 deg TVD:  
7523.70 ft

S: 143 MD: 12485.00 ft  
Inc: 90.67 deg Az:  
356.77 deg TVD:  
7523.49 ft

# Survey Report

<b>Customer Name:</b>	ANADARKO PETROLEUM CORP.						
<b>Site Name:</b>	NRC 4N-8HZ						
<b>Well Name:</b>	NRC 4N-8HZ						
<b>Survey:</b>	NRC 4N-8HZ						
<b>Survey Date:</b>	2/19/2014						
<b>Magnetic Declination:</b>	8.53 deg						
<b>North Reference:</b>	True North						
<b>Calculation Method:</b>	Minimum Curvature						
<b>Section (VS) Ref:</b>	0.00N (ft), 0.00E (ft), 0.00Azim (deg)						
<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
100.00	0.71	169.39	100.00	-0.61	-0.61	0.11	0.71
200.00	0.20	2.36	200.00	-1.04	-1.04	0.24	0.91
300.00	0.76	130.80	299.99	-1.30	-1.30	0.74	0.90
400.00	0.32	252.85	399.99	-1.82	-1.82	0.98	0.97
500.00	0.49	78.17	499.99	-1.81	-1.81	1.13	0.81
600.00	0.59	192.22	599.99	-2.23	-2.23	1.44	0.91
700.00	0.43	55.66	699.98	-2.52	-2.52	1.64	0.95
800.00	0.53	141.67	799.98	-2.67	-2.67	2.24	0.66

<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
900.00	0.57	7.25	899.98	-2.54	-2.54	2.59	1.01
1000.00	0.69	117.48	999.98	-2.32	-2.32	3.19	1.04
1100.00	0.47	19.20	1099.97	-2.22	-2.22	3.85	0.89
1167.00	0.92	67.02	1166.97	-1.75	-1.75	4.44	1.04
1332.00	0.36	55.36	1331.96	-0.93	-0.93	6.09	0.35
1423.00	1.45	158.74	1422.95	-1.84	-1.84	6.74	1.73
1515.00	3.16	170.33	1514.87	-5.43	-5.43	7.59	1.92
1607.00	4.29	188.28	1606.68	-11.34	-11.34	7.52	1.75
1698.00	5.48	189.01	1697.35	-19.00	-19.00	6.35	1.31
1790.00	7.24	185.76	1788.78	-29.11	-29.11	5.08	1.95
1882.00	7.73	181.35	1879.99	-41.06	-41.06	4.35	0.82
1973.00	8.77	171.76	1970.05	-54.05	-54.05	5.20	1.90
2065.00	9.92	174.10	2060.83	-68.88	-68.88	7.02	1.32
2156.00	11.14	172.71	2150.30	-85.40	-85.40	8.94	1.36
2247.00	11.05	169.99	2239.60	-102.70	-102.70	11.57	0.58
2339.00	9.64	166.35	2330.10	-118.87	-118.87	14.92	1.69
2431.00	11.10	166.55	2420.59	-134.97	-134.97	18.80	1.59
2523.00	11.14	165.59	2510.87	-152.19	-152.19	23.07	0.20
2614.00	10.01	166.23	2600.32	-168.39	-168.39	27.15	1.24
2706.00	10.42	166.78	2690.86	-184.26	-184.26	30.95	0.46



MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
2797.00	10.54	168.98	2780.34	-200.44	-200.44	34.43	0.46
2891.00	10.75	167.62	2872.73	-217.44	-217.44	37.95	0.34
2986.00	10.27	168.94	2966.13	-234.40	-234.40	41.47	0.56
3080.00	10.25	166.42	3058.63	-250.76	-250.76	45.04	0.48
3175.00	9.23	169.13	3152.26	-266.47	-266.47	48.47	1.18
3269.00	8.68	162.55	3245.11	-280.64	-280.64	52.02	1.24
3363.00	9.52	164.92	3337.93	-294.91	-294.91	56.17	0.98
3458.00	10.11	167.34	3431.54	-310.63	-310.63	60.04	0.76
3552.00	8.57	167.55	3524.29	-325.52	-325.52	63.35	1.64
3646.00	8.81	166.21	3617.21	-339.35	-339.35	66.58	0.34
3740.00	8.47	166.80	3710.15	-353.08	-353.08	69.87	0.38
3835.00	9.67	162.66	3803.96	-367.50	-367.50	73.85	1.44
3929.00	9.75	159.90	3896.61	-382.51	-382.51	78.94	0.50
4024.00	9.97	154.61	3990.21	-397.49	-397.49	85.23	0.98
4118.00	10.59	151.66	4082.70	-412.44	-412.44	92.81	0.87
4213.00	10.04	158.86	4176.17	-427.84	-427.84	99.94	1.47
4307.00	9.91	158.53	4268.75	-443.02	-443.02	105.86	0.15
4401.00	10.71	165.39	4361.24	-459.00	-459.00	111.03	1.55
4495.00	11.70	172.93	4453.45	-476.90	-476.90	114.40	1.88

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
4590.00	10.19	176.14	4546.72	-494.84	-494.84	116.15	1.71
4684.00	10.21	173.94	4639.24	-511.41	-511.41	117.59	0.41
4778.00	11.26	175.70	4731.59	-528.84	-528.84	119.16	1.17
4873.00	12.12	170.60	4824.62	-547.93	-547.93	121.48	1.42
4967.00	12.63	169.23	4916.44	-567.77	-567.77	125.02	0.63
5061.00	11.53	171.87	5008.35	-587.17	-587.17	128.26	1.31
5156.00	10.42	172.62	5101.61	-605.10	-605.10	130.71	1.18
5250.00	10.12	167.22	5194.11	-621.58	-621.58	133.63	1.07
5344.00	10.90	164.84	5286.53	-638.21	-638.21	137.78	0.95
5439.00	9.69	171.27	5380.01	-654.79	-654.79	141.34	1.75
5533.00	8.19	175.81	5472.86	-669.28	-669.28	143.03	1.77
5627.00	8.69	172.59	5565.84	-683.00	-683.00	144.44	0.74
5721.00	8.79	173.17	5658.75	-697.17	-697.17	146.21	0.14
5816.00	8.32	173.66	5752.70	-711.21	-711.21	147.83	0.49
5910.00	7.19	173.24	5845.83	-723.81	-723.81	149.27	1.21
6005.00	6.90	168.57	5940.12	-735.31	-735.31	151.10	0.67
6099.00	6.62	165.52	6033.46	-746.09	-746.09	153.58	0.48
6194.00	5.15	164.25	6127.96	-755.50	-755.50	156.10	1.56
6288.00	3.53	173.16	6221.69	-762.43	-762.43	157.59	1.86
6383.00	2.64	182.35	6316.55	-767.52	-767.52	157.85	1.07

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
6477.00	1.81	164.65	6410.48	-771.12	-771.12	158.16	1.14
6571.00	1.90	148.94	6504.43	-773.88	-773.88	159.35	0.55
6666.00	0.99	155.17	6599.40	-775.97	-775.97	160.51	0.97
6760.00	0.80	159.94	6693.39	-777.33	-777.33	161.07	0.21
6854.00	0.78	167.52	6787.38	-778.57	-778.57	161.44	0.11
6901.00	0.80	22.17	6834.38	-778.58	-778.58	161.63	3.22
6949.00	4.86	8.28	6882.31	-776.26	-776.26	162.05	8.51
6996.00	8.03	13.62	6929.01	-771.09	-771.09	163.11	6.86
7043.00	10.23	7.96	6975.41	-763.77	-763.77	164.46	5.05
7090.00	13.10	3.52	7021.44	-754.31	-754.31	165.37	6.39
7138.00	15.71	3.60	7067.92	-742.40	-742.40	166.11	5.43
7185.00	17.98	3.70	7112.90	-728.80	-728.80	166.98	4.83
7232.00	21.07	2.62	7157.19	-713.12	-713.12	167.83	6.62
7279.00	24.36	2.72	7200.54	-695.00	-695.00	168.68	6.99
7327.00	27.76	2.27	7243.66	-673.93	-673.93	169.59	7.10
7374.00	32.48	0.30	7284.30	-650.36	-650.36	170.09	10.25
7421.00	38.11	357.04	7322.65	-623.23	-623.23	169.41	12.64
7468.00	44.22	358.89	7358.02	-592.33	-592.33	168.34	13.26
7515.00	50.35	0.41	7389.88	-557.82	-557.82	168.16	13.25

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
7562.00	55.88	0.89	7418.08	-520.24	-520.24	168.59	11.79
7609.00	61.24	0.72	7442.59	-480.16	-480.16	169.15	11.41
7656.00	65.91	0.23	7463.50	-438.08	-438.08	169.50	9.97
7704.00	69.29	0.55	7481.79	-393.72	-393.72	169.80	7.07
7751.00	73.44	0.33	7496.81	-349.19	-349.19	170.14	8.86
7798.00	77.16	0.22	7508.73	-303.74	-303.74	170.36	7.92
7845.00	82.88	359.30	7516.87	-257.47	-257.47	170.16	12.31
7924.00	88.32	359.96	7522.93	-178.73	-178.73	169.66	6.93
8018.00	90.30	359.03	7524.06	-84.75	-84.75	168.83	2.33
8113.00	92.35	358.77	7521.86	10.20	10.20	167.01	2.18
8207.00	92.45	357.83	7517.91	104.08	104.08	164.22	1.00
8301.00	92.69	358.62	7513.70	197.94	197.94	161.31	0.88
8395.00	91.82	358.98	7510.00	291.84	291.84	159.35	1.00
8490.00	90.77	0.33	7507.86	386.81	386.81	158.78	1.80
8584.00	90.30	0.29	7506.97	480.81	480.81	159.29	0.50
8679.00	89.46	0.14	7507.17	575.81	575.81	159.65	0.90
8773.00	89.56	0.37	7507.97	669.80	669.80	160.06	0.26
8867.00	89.03	359.57	7509.13	763.79	763.79	160.02	1.02
8962.00	90.34	358.74	7509.66	858.78	858.78	158.62	1.64
9056.00	88.45	358.81	7510.65	952.75	952.75	156.60	2.00

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
9150.00	87.88	358.83	7513.65	1046.68	1046.68	154.67	0.61
9245.00	88.55	358.19	7516.60	1141.60	1141.60	152.19	0.97
9339.00	90.84	358.85	7517.10	1235.56	1235.56	149.77	2.53
9434.00	90.44	359.26	7516.04	1330.54	1330.54	148.20	0.61
9528.00	90.10	359.89	7515.60	1424.54	1424.54	147.50	0.76
9623.00	89.73	0.75	7515.74	1519.54	1519.54	148.03	0.99
9717.00	89.23	0.99	7516.60	1613.52	1613.52	149.46	0.59
9812.00	88.52	1.54	7518.46	1708.48	1708.48	151.56	0.95
9906.00	88.86	1.89	7520.61	1802.41	1802.41	154.38	0.52
10001.00	90.47	1.33	7521.17	1897.37	1897.37	157.05	1.80
10095.00	91.04	1.25	7519.93	1991.34	1991.34	159.16	0.61
10189.00	90.74	359.78	7518.47	2085.32	2085.32	160.00	1.60
10284.00	89.97	0.12	7517.88	2180.32	2180.32	159.91	0.89
10379.00	90.57	0.56	7517.44	2275.31	2275.31	160.48	0.79
10473.00	90.61	359.69	7516.47	2369.31	2369.31	160.69	0.93
10568.00	89.87	0.06	7516.08	2464.30	2464.30	160.48	0.87
10662.00	89.06	359.13	7516.96	2558.30	2558.30	159.81	1.31
10756.00	88.55	359.55	7518.92	2652.27	2652.27	158.73	0.69
10851.00	88.69	359.87	7521.21	2747.24	2747.24	158.25	0.37

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
10945.00	88.32	359.78	7523.66	2841.21	2841.21	157.97	0.41
11039.00	89.23	359.64	7525.67	2935.18	2935.18	157.49	0.98
11134.00	90.91	0.11	7525.56	3030.18	3030.18	157.28	1.84
11228.00	91.28	0.82	7523.77	3124.16	3124.16	158.04	0.86
11322.00	91.48	1.38	7521.51	3218.11	3218.11	159.85	0.63
11417.00	91.31	1.69	7519.20	3313.05	3313.05	162.40	0.36
11511.00	91.21	0.87	7517.13	3407.00	3407.00	164.49	0.87
11605.00	89.80	0.42	7516.30	3500.99	3500.99	165.55	1.58
11700.00	88.96	0.16	7517.33	3595.98	3595.98	166.03	0.93
11794.00	90.47	359.13	7517.80	3689.98	3689.98	165.45	1.95
11888.00	90.64	359.00	7516.89	3783.96	3783.96	163.91	0.22
11983.00	89.43	357.85	7516.84	3878.92	3878.92	161.30	1.76
12077.00	87.95	356.91	7518.99	3972.79	3972.79	157.01	1.86
12172.00	89.66	356.83	7520.96	4067.63	4067.63	151.82	1.81
12266.00	89.03	357.19	7522.04	4161.49	4161.49	146.92	0.78
12360.00	89.43	356.90	7523.31	4255.36	4255.36	142.07	0.53
12455.00	90.10	356.54	7523.70	4350.20	4350.20	136.63	0.80
12485.00	90.67	356.77	7523.49	4380.15	4380.15	134.88	2.05

2" = 100' FEET MD