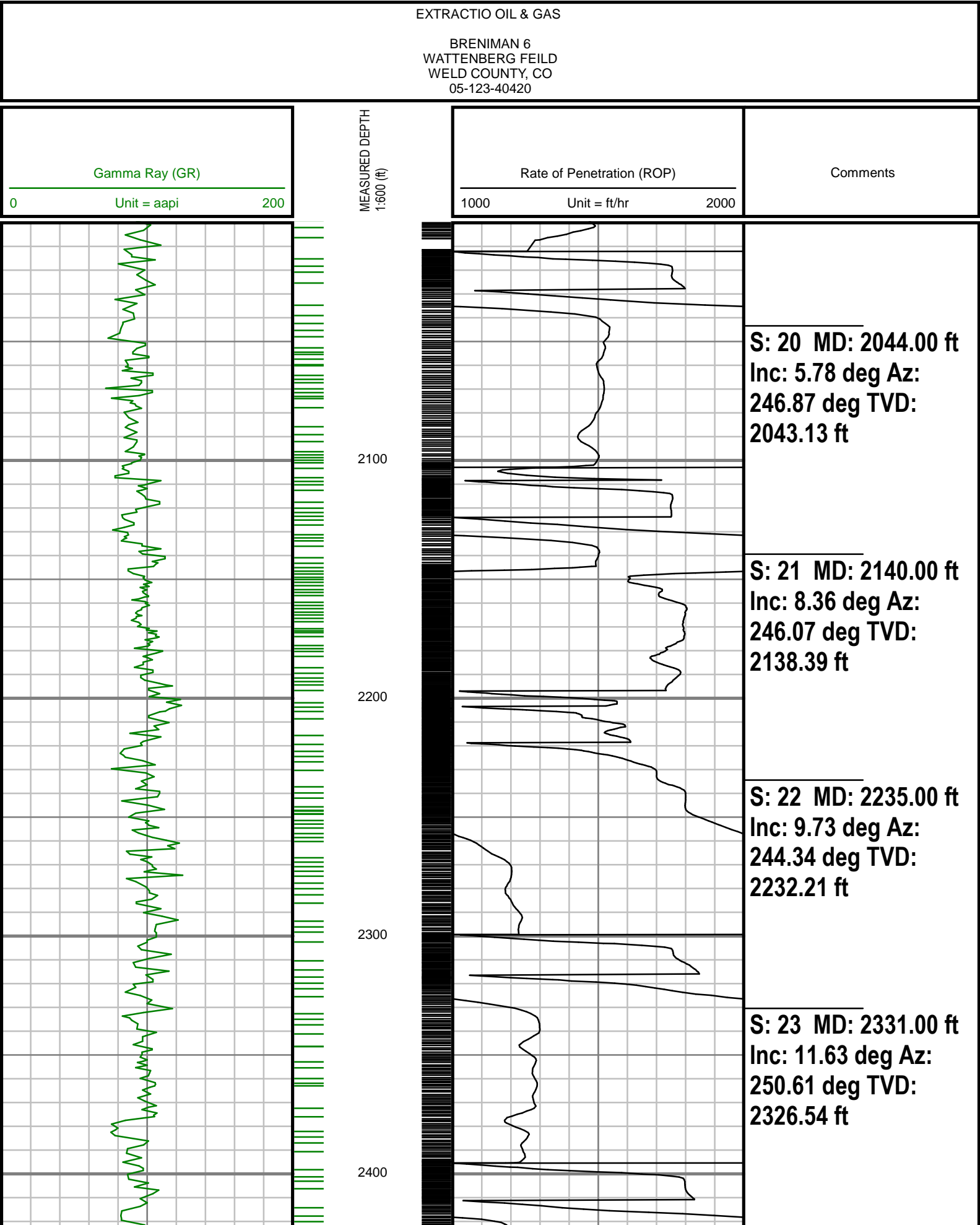


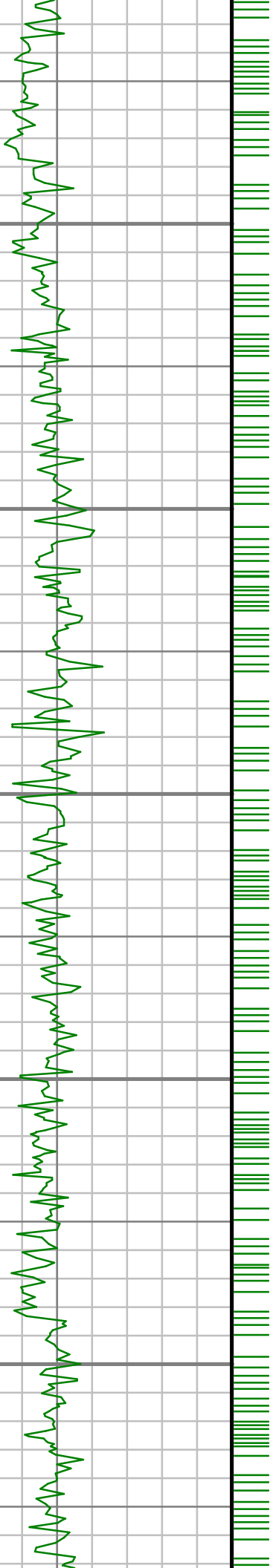


Remarks
EXTRACTION OIL & GAS PRODUCTION AFE# 14-722
SCIENTIFIC DRILLING INTERNATIONAL JOB# 371112
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE
RUN #1: MWD GAMMA LOGGING RUN
SENSOR S/N: EM 5 CONTROLLER-965 / MWD EYE-774 / GAMMA RAY-1332
BIT TO SENSOR OFFSET: MWD EYE-61.02 FT. / GAMMA RAY- 47.69 FT.
RUN #2: MWD GAMMA LOGGING RUN
SENSOR S/N: EM 5 CONTROLLER-965 / MWD EYE-774 / GAMMA RAY-1332
BIT TO SENSOR OFFSET: MWD EYE-61.02 FT. / GAMMA RAY- 47.69 FT.
RUN #3: MWD GAMMA LOGGING RUN
SENSOR S/N: EM 5 CONTROLLER-965 / MWD EYE-774 / GAMMA RAY-1332
BIT TO SENSOR OFFSET: MWD EYE-69.44 FT. / GAMMA RAY- 56.01 FT.
RUN #4: MWD GAMMA LOGGING RUN
SENSOR S/N: EM 5 CONTROLLER-965 / MWD EYE-774 / GAMMA RAY-1332
BIT TO SENSOR OFFSET: MWD EYE-61.02 FT. / GAMMA RAY- 47.69 FT.
MNEMONICS LIST:
GR = GAMMA RAY

[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.





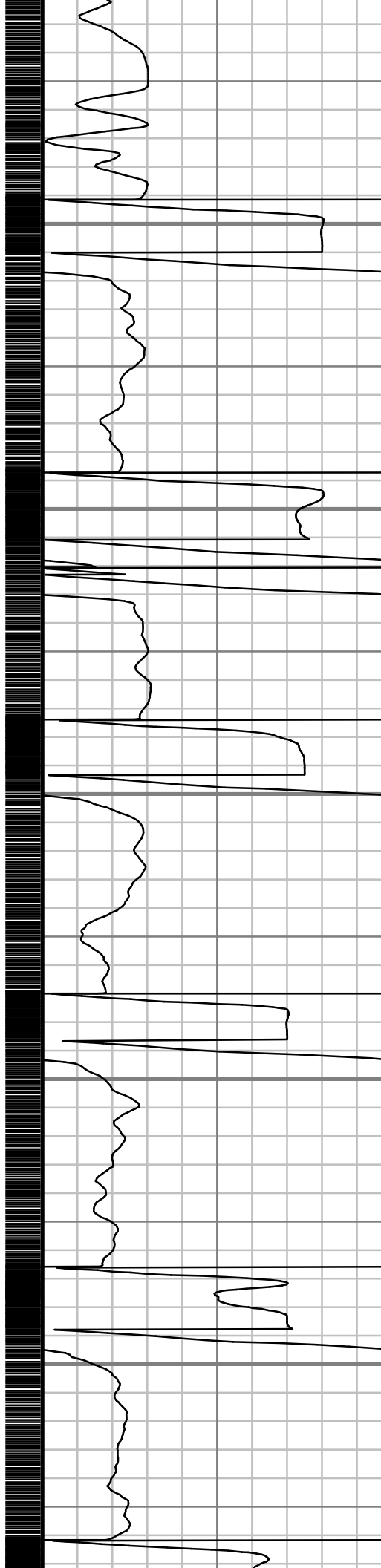
2500

2600

2700

2800

2900



S: 24 MD: 2426.00 ft  
Inc: 13.05 deg Az:  
258.62 deg TVD:  
2419.35 ft

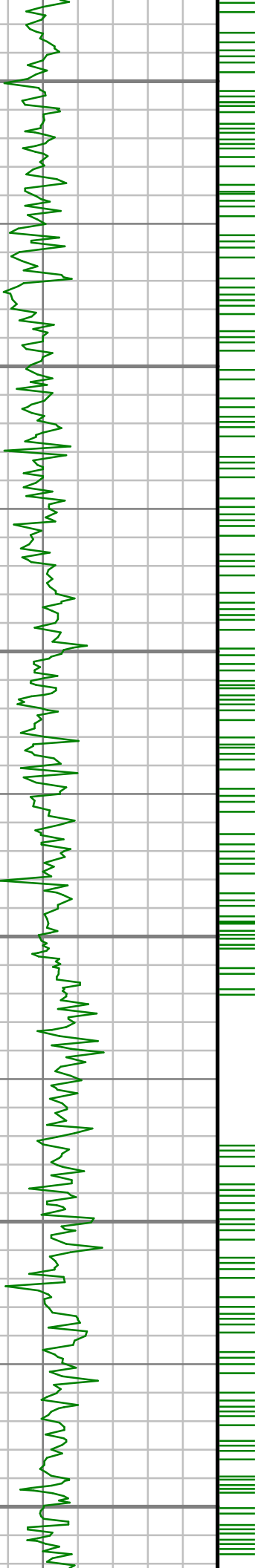
S: 25 MD: 2521.00 ft  
Inc: 16.16 deg Az:  
259.62 deg TVD:  
2511.27 ft

S: 26 MD: 2616.00 ft  
Inc: 18.30 deg Az:  
254.88 deg TVD:  
2602.01 ft

S: 27 MD: 2711.00 ft  
Inc: 19.92 deg Az:  
250.58 deg TVD:  
2691.77 ft

S: 28 MD: 2806.00 ft  
Inc: 21.08 deg Az:  
246.75 deg TVD:  
2780.76 ft

S: 29 MD: 2902.00 ft  
Inc: 21.49 deg Az:  
250.41 deg TVD:  
2870.22 ft



3000

3100

3200

3300

3400

3500



S: 30 MD: 2997.00 ft  
Inc: 22.36 deg Az:  
251.50 deg TVD:  
2958.35 ft

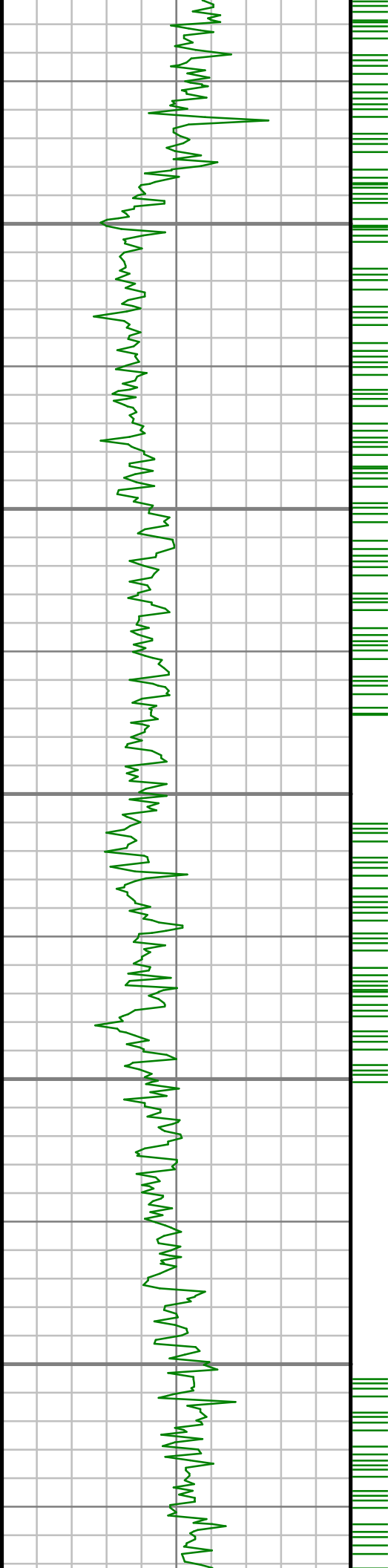
S: 31 MD: 3092.00 ft  
Inc: 23.15 deg Az:  
251.72 deg TVD:  
3045.95 ft

S: 32 MD: 3188.00 ft  
Inc: 21.11 deg Az:  
250.54 deg TVD:  
3134.88 ft

S: 33 MD: 3284.00 ft  
Inc: 21.62 deg Az:  
250.90 deg TVD:  
3224.28 ft

S: 34 MD: 3378.00 ft  
Inc: 22.73 deg Az:  
255.71 deg TVD:  
3311.33 ft

S: 35 MD: 3473.00 ft  
Inc: 20.66 deg Az:  
253.92 deg TVD:  
3399.60 ft



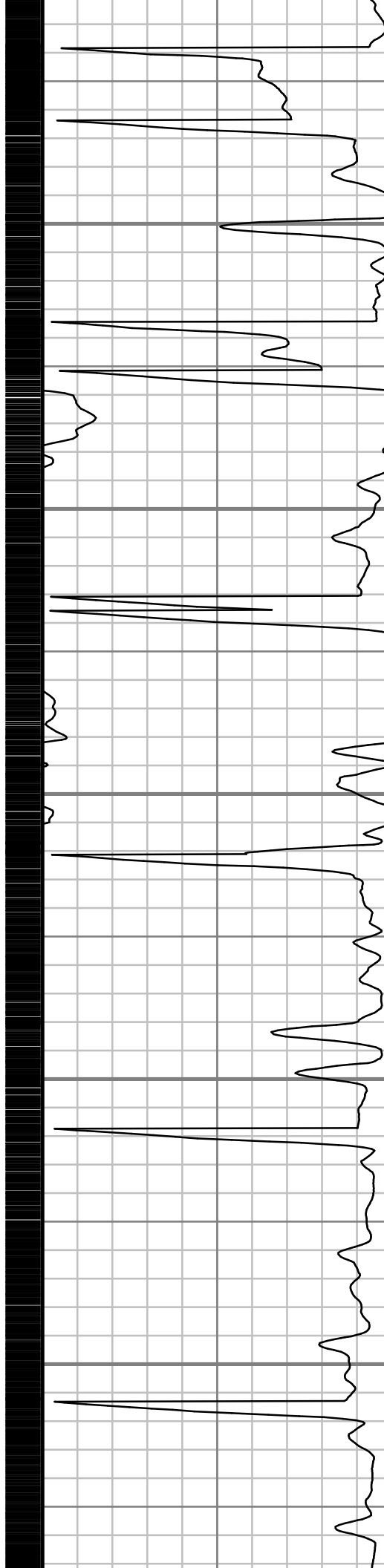
3600

3700

3800

3900

4000

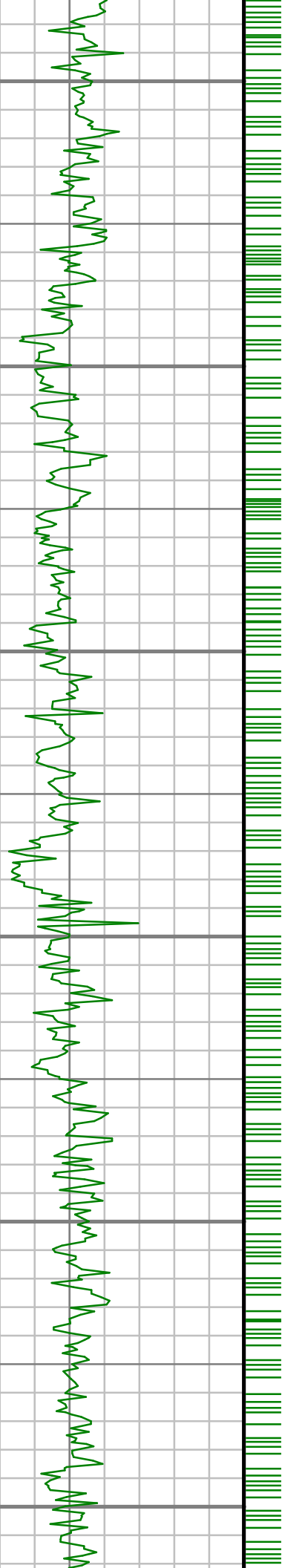


S: 36 MD: 3568.00 ft  
Inc: 22.76 deg Az:  
257.30 deg TVD:  
3487.86 ft

S: 37 MD: 3664.00 ft  
Inc: 25.58 deg Az:  
260.83 deg TVD:  
3575.44 ft

S: 38 MD: 3854.00 ft  
Inc: 25.73 deg Az:  
259.97 deg TVD:  
3746.72 ft

S: 39 MD: 4044.00 ft  
Inc: 22.99 deg Az:



4100

4200

4300

4400

4500

4600

S: 40 MD: 4140.00 ft  
Inc: 20.51 deg Az:  
260.45 deg TVD:  
4008.95 ft

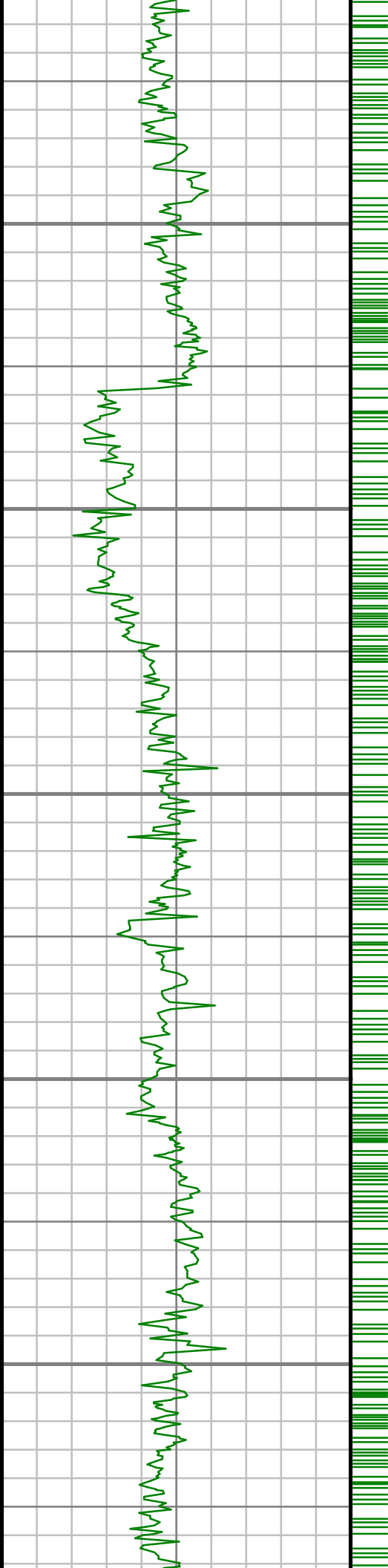
S: 41 MD: 4235.00 ft  
Inc: 20.02 deg Az:  
260.03 deg TVD:  
4098.07 ft

S: 42 MD: 4330.00 ft  
Inc: 23.28 deg Az:  
252.34 deg TVD:  
4186.37 ft

S: 43 MD: 4426.00 ft  
Inc: 22.44 deg Az:  
251.49 deg TVD:  
4274.83 ft

S: 44 MD: 4521.00 ft  
Inc: 21.11 deg Az:  
250.86 deg TVD:  
4363.05 ft

S: 45 MD: 4616.00 ft



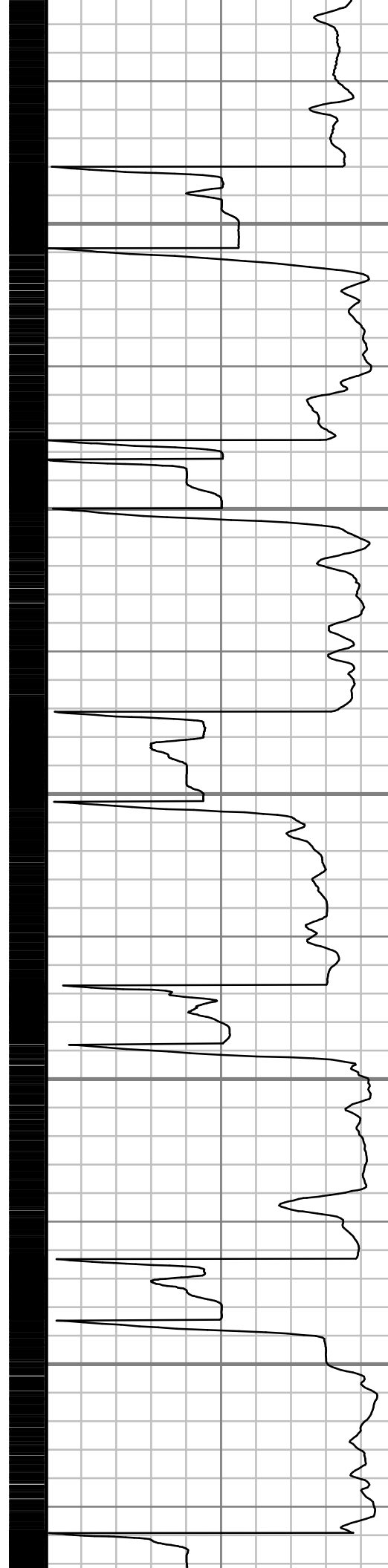
4700

4800

4900

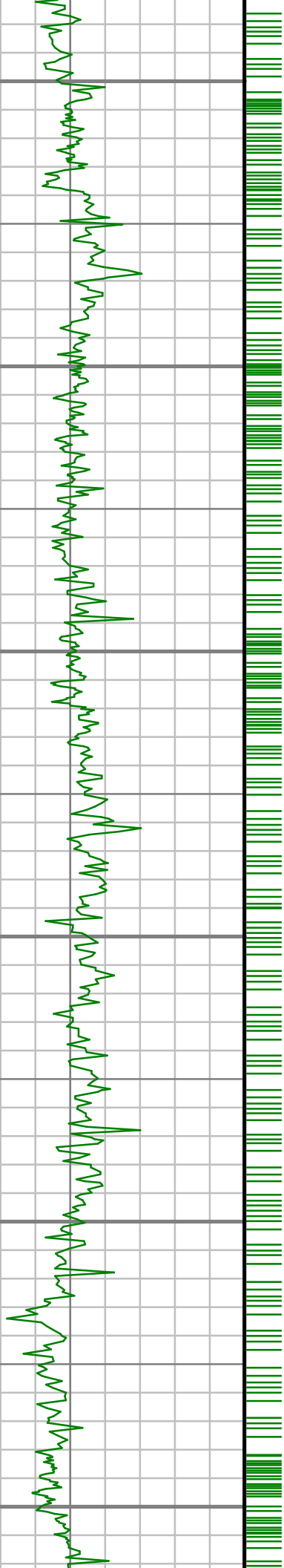
5000

5100



S: 43 MD: 4616.00 ft Inc: 18.67 deg Az: 248.51 deg TVD: 4452.38 ft
S: 46 MD: 4712.00 ft Inc: 18.49 deg Az: 254.97 deg TVD: 4543.39 ft
S: 47 MD: 4807.00 ft Inc: 18.12 deg Az: 256.45 deg TVD: 4633.58 ft
S: 48 MD: 4902.00 ft Inc: 19.54 deg Az: 251.33 deg TVD: 4723.50 ft
S: 49 MD: 4997.00 ft Inc: 21.54 deg Az: 250.97 deg TVD: 4812.46 ft
S: 50 MD: 5093.00 ft Inc: 20.18 deg Az: 249.49 deg TVD: 4902.16 ft





5200

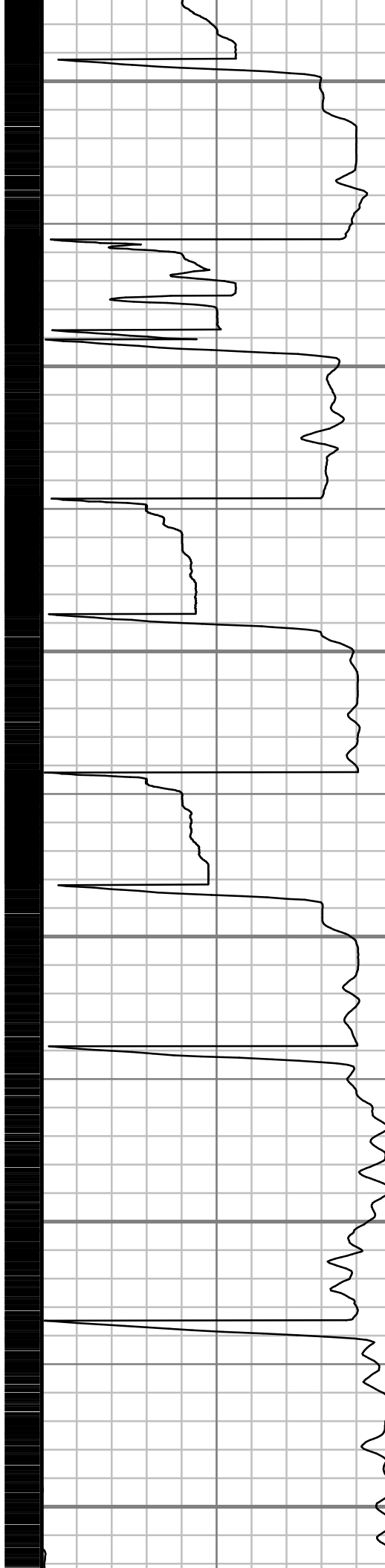
5300

5400

5500

5600

5700



**S: 51 MD: 5188.00 ft**  
**Inc: 21.10 deg Az:**  
**251.45 deg TVD:**  
**4991.07 ft**

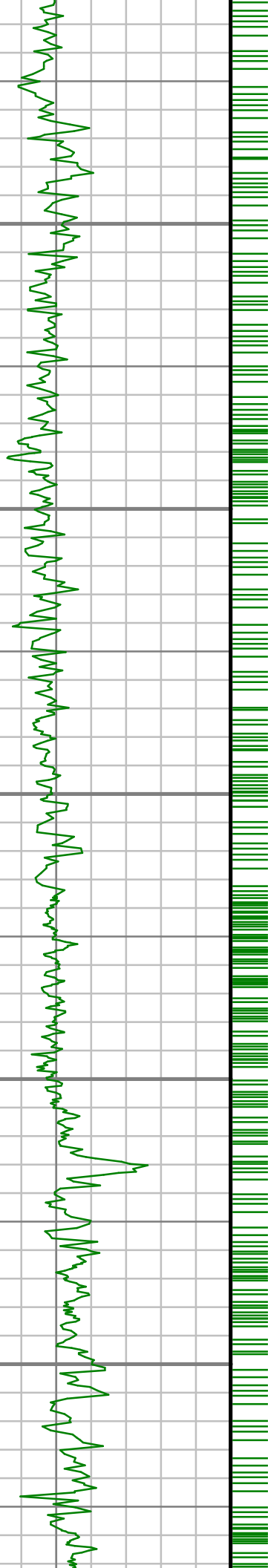
**S: 52 MD: 5284.00 ft**  
**Inc: 20.33 deg Az:**  
**248.20 deg TVD:**  
**5080.86 ft**

**S: 53 MD: 5379.00 ft**  
**Inc: 21.93 deg Az:**  
**249.09 deg TVD:**  
**5169.47 ft**

**S: 54 MD: 5475.00 ft**  
**Inc: 25.20 deg Az:**  
**253.43 deg TVD:**  
**5257.46 ft**

**S: 55 MD: 5570.00 ft**  
**Inc: 24.30 deg Az:**  
**250.54 deg TVD:**  
**5343.73 ft**

**S: 56 MD: 5666.00 ft**  
**Inc: 22.41 deg Az:**  
**250.10 deg TVD:**  
**5431.86 ft**



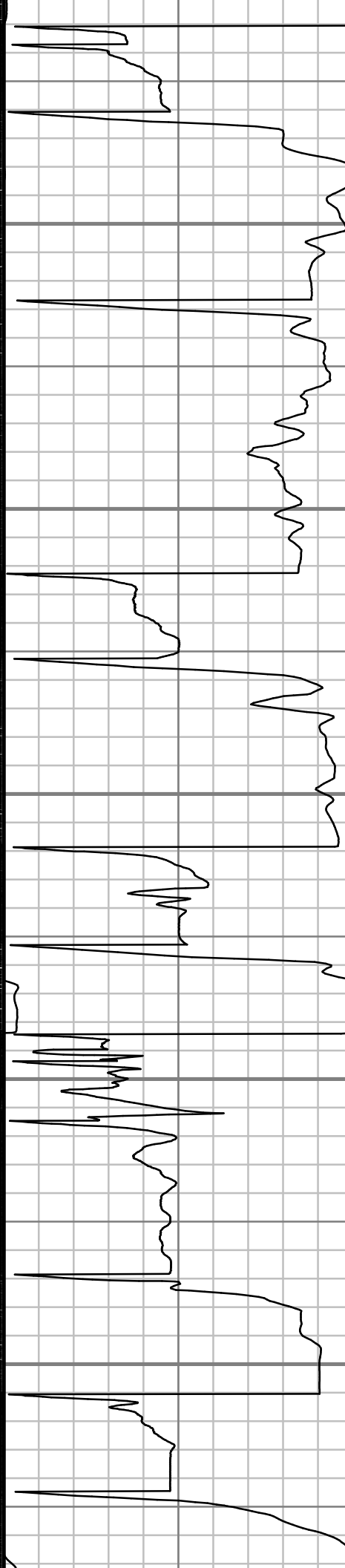
5800

5900

6000

6100

6200



S: 57 MD: 5761.00 ft  
Inc: 22.65 deg Az:  
251.30 deg TVD:  
5519.61 ft

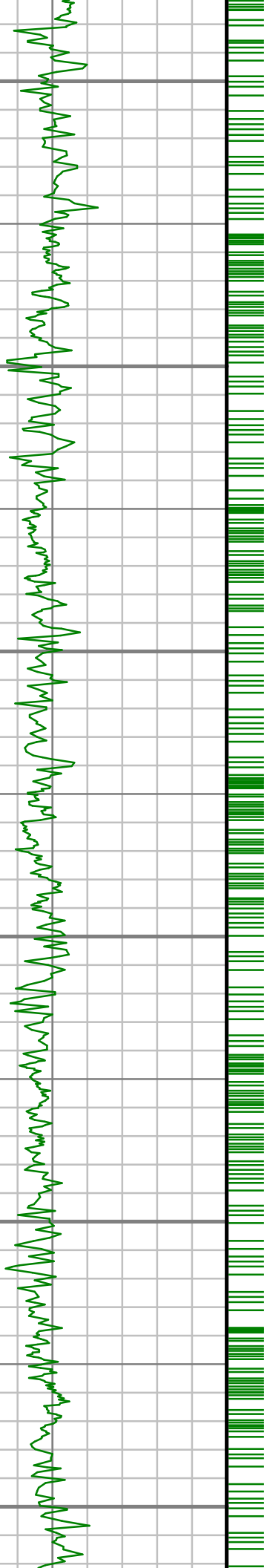
S: 58 MD: 5857.00 ft  
Inc: 20.75 deg Az:  
249.76 deg TVD:  
5608.81 ft

S: 59 MD: 5952.00 ft  
Inc: 18.99 deg Az:  
251.06 deg TVD:  
5698.15 ft

S: 60 MD: 6048.00 ft  
Inc: 18.60 deg Az:  
257.25 deg TVD:  
5789.04 ft

S: 61 MD: 6143.00 ft  
Inc: 18.83 deg Az:  
257.36 deg TVD:  
5879.01 ft

S: 62 MD: 6238.00 ft  
Inc: 21.78 deg Az:  
250.17 deg TVD:



6300

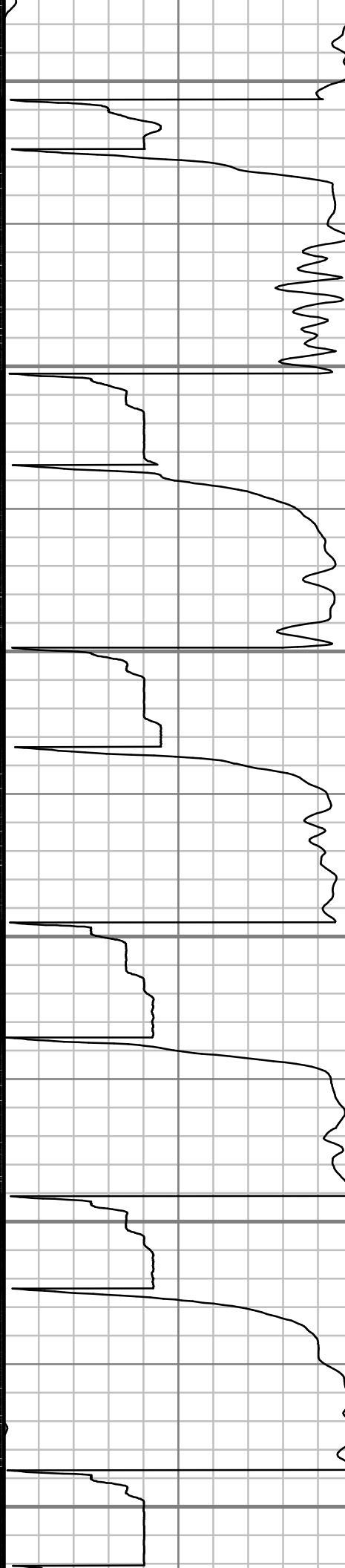
6400

6500

6600

6700

6800



S: 63 MD: 6333.00 ft  
Inc: 20.48 deg Az:  
243.65 deg TVD:  
6056.74 ft

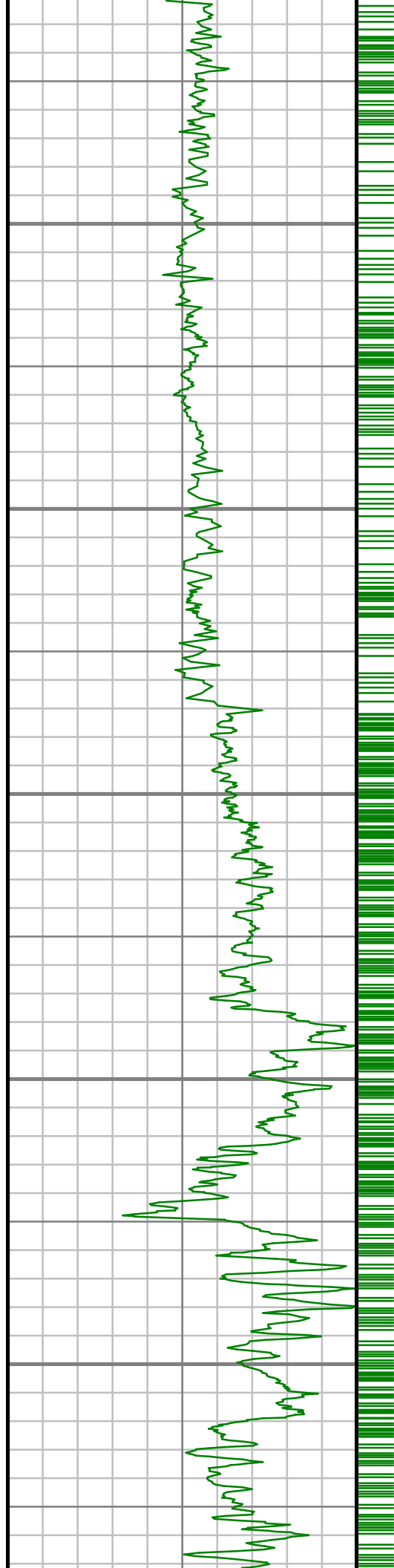
S: 64 MD: 6428.00 ft  
Inc: 20.82 deg Az:  
247.88 deg TVD:  
6145.64 ft

S: 65 MD: 6524.00 ft  
Inc: 20.43 deg Az:  
250.85 deg TVD:  
6235.49 ft

S: 66 MD: 6619.00 ft  
Inc: 21.45 deg Az:  
250.64 deg TVD:  
6324.22 ft

S: 67 MD: 6714.00 ft  
Inc: 21.79 deg Az:  
251.66 deg TVD:  
6412.54 ft

S: 68 MD: 6809.00 ft



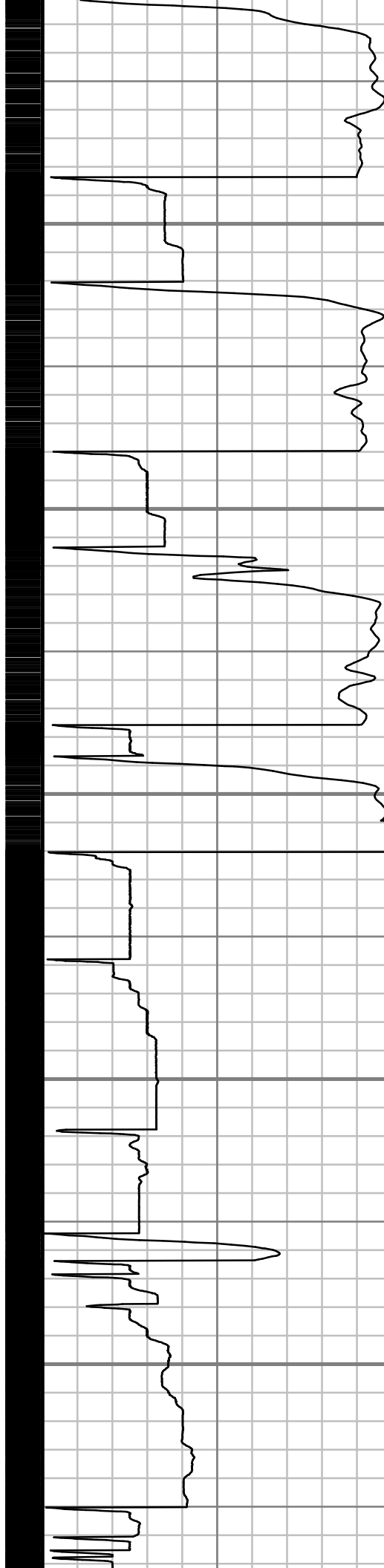
6900

7000

7100

7200

7300



Inc: 21.38 deg Az:  
253.91 deg TVD:  
6500.88 ft

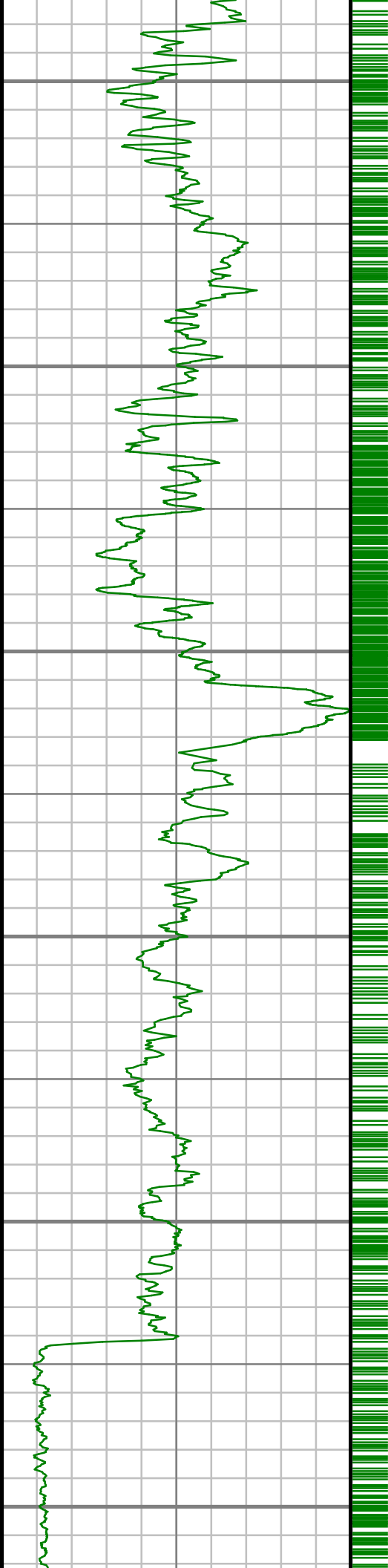
S: 69 MD: 6905.00 ft  
Inc: 21.48 deg Az:  
255.89 deg TVD:  
6590.24 ft

S: 70 MD: 7000.00 ft  
Inc: 22.78 deg Az:  
258.51 deg TVD:  
6678.24 ft

S: 71 MD: 7095.00 ft  
Inc: 20.71 deg Az:  
257.56 deg TVD:  
6766.48 ft

S: 72 MD: 7191.00 ft  
Inc: 28.21 deg Az:  
258.33 deg TVD:  
6853.80 ft

S: 73 MD: 7286.00 ft  
Inc: 35.46 deg Az:  
257.15 deg TVD:  
6934.46 ft



7400

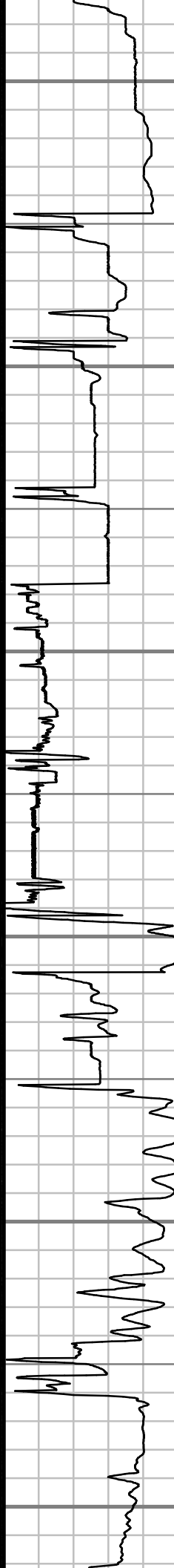
7500

7600

7700

7800

7900



S: 74 MD: 7381.00 ft  
Inc: 40.55 deg Az:  
263.99 deg TVD:  
7009.32 ft

S: 75 MD: 7476.00 ft  
Inc: 48.43 deg Az:  
268.80 deg TVD:  
7077.06 ft

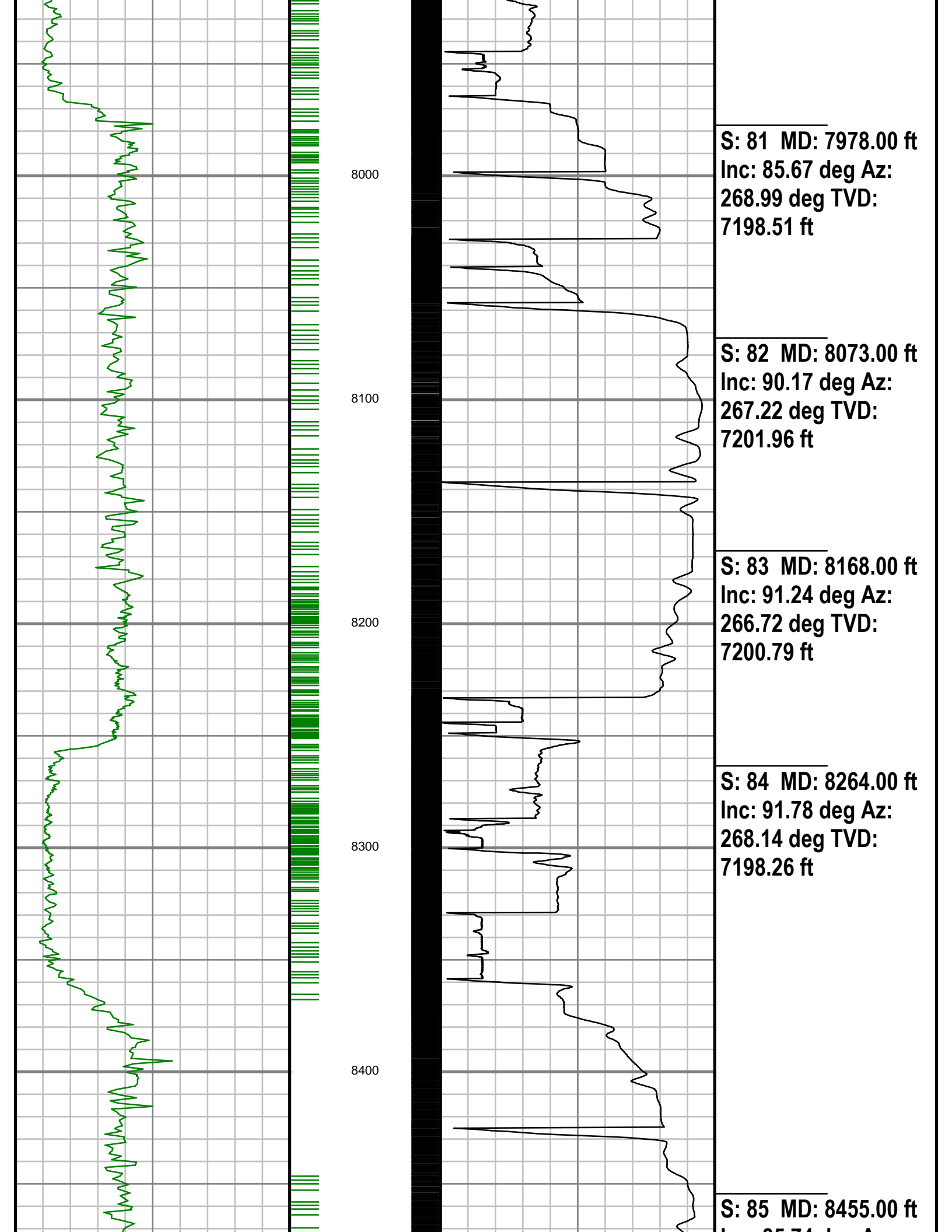
S: 76 MD: 7571.00 ft  
Inc: 57.45 deg Az:  
267.01 deg TVD:  
~~7134.26 ft~~

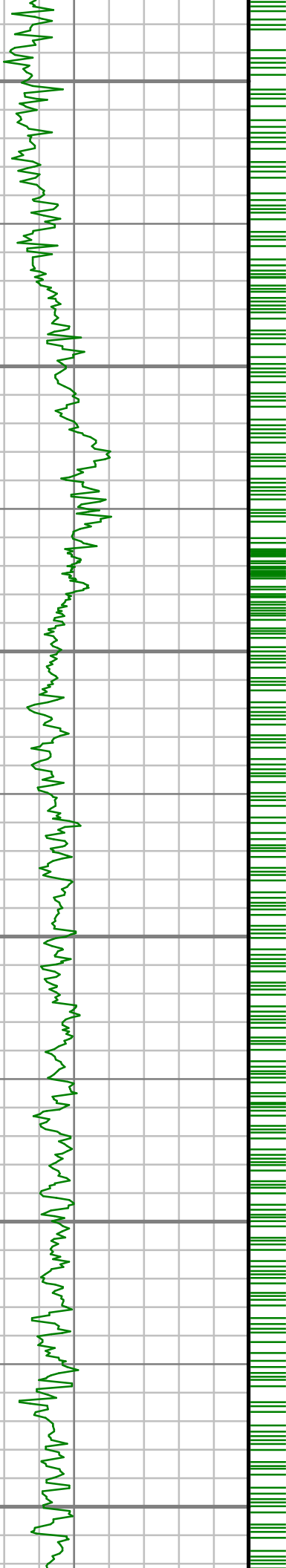
S: 77 MD: 7618.00 ft  
Inc: 65.71 deg Az:  
268.52 deg TVD:  
7156.61 ft

S: 78 MD: 7692.00 ft  
Inc: 78.83 deg Az:  
271.25 deg TVD:  
7179.09 ft

S: 79 MD: 7787.00 ft  
Inc: 87.48 deg Az:  
270.15 deg TVD:  
7190.40 ft

S: 80 MD: 7882.00 ft  
Inc: 88.56 deg Az:  
268.20 deg TVD:





8500

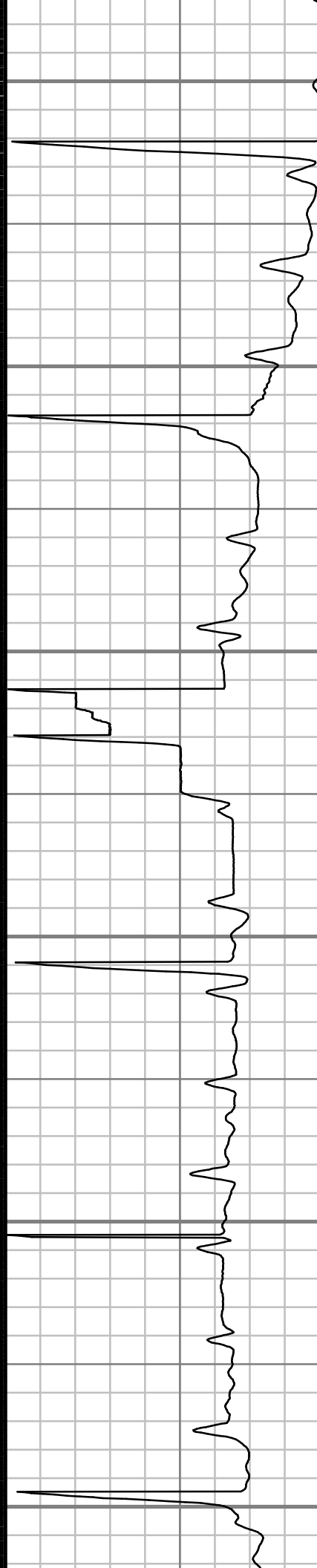
8600

8700

8800

8900

9000



Inc: 85.74 deg Az:  
268.94 deg TVD:  
7202.40 ft

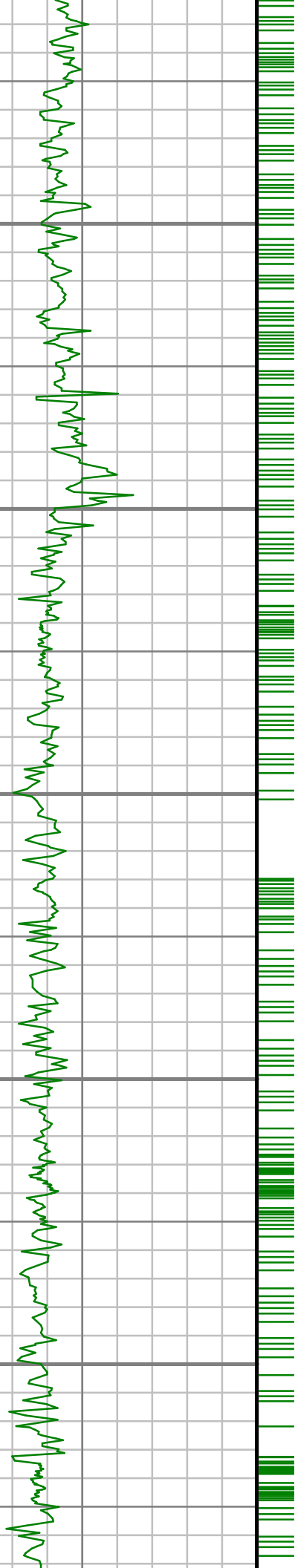
S: 86 MD: 8550.00 ft  
Inc: 86.78 deg Az:  
268.95 deg TVD:  
7208.59 ft

S: 87 MD: 8645.00 ft  
Inc: 87.69 deg Az:  
268.20 deg TVD:  
7213.17 ft

S: 88 MD: 8741.00 ft  
Inc: 89.60 deg Az:  
269.92 deg TVD:  
7215.44 ft

S: 89 MD: 8836.00 ft  
Inc: 90.17 deg Az:  
270.23 deg TVD:  
7215.64 ft

S: 90 MD: 8931.00 ft  
Inc: 90.87 deg Az:  
270.14 deg TVD:  
7214.78 ft



9100

9200

9300

9400

9500



**S: 91 MD: 9027.00 ft**  
**Inc: 90.84 deg Az:**  
**269.12 deg TVD:**  
**7213.34 ft**

**S: 92 MD: 9122.00 ft**  
**Inc: 90.60 deg Az:**  
**268.55 deg TVD:**  
**7212.15 ft**

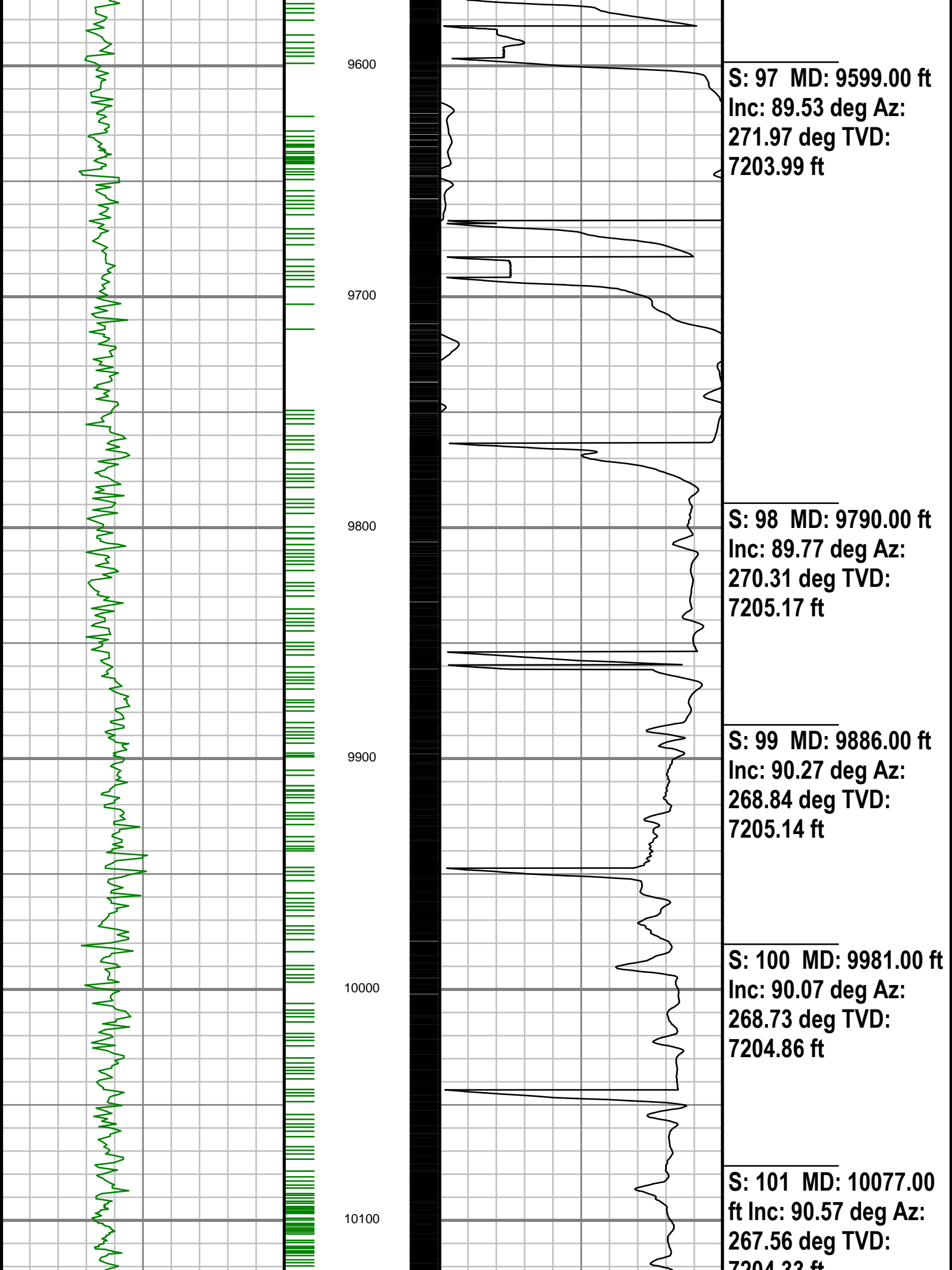
**S: 93 MD: 9218.00 ft**  
**Inc: 91.58 deg Az:**  
**269.11 deg TVD:**  
**7210.32 ft**

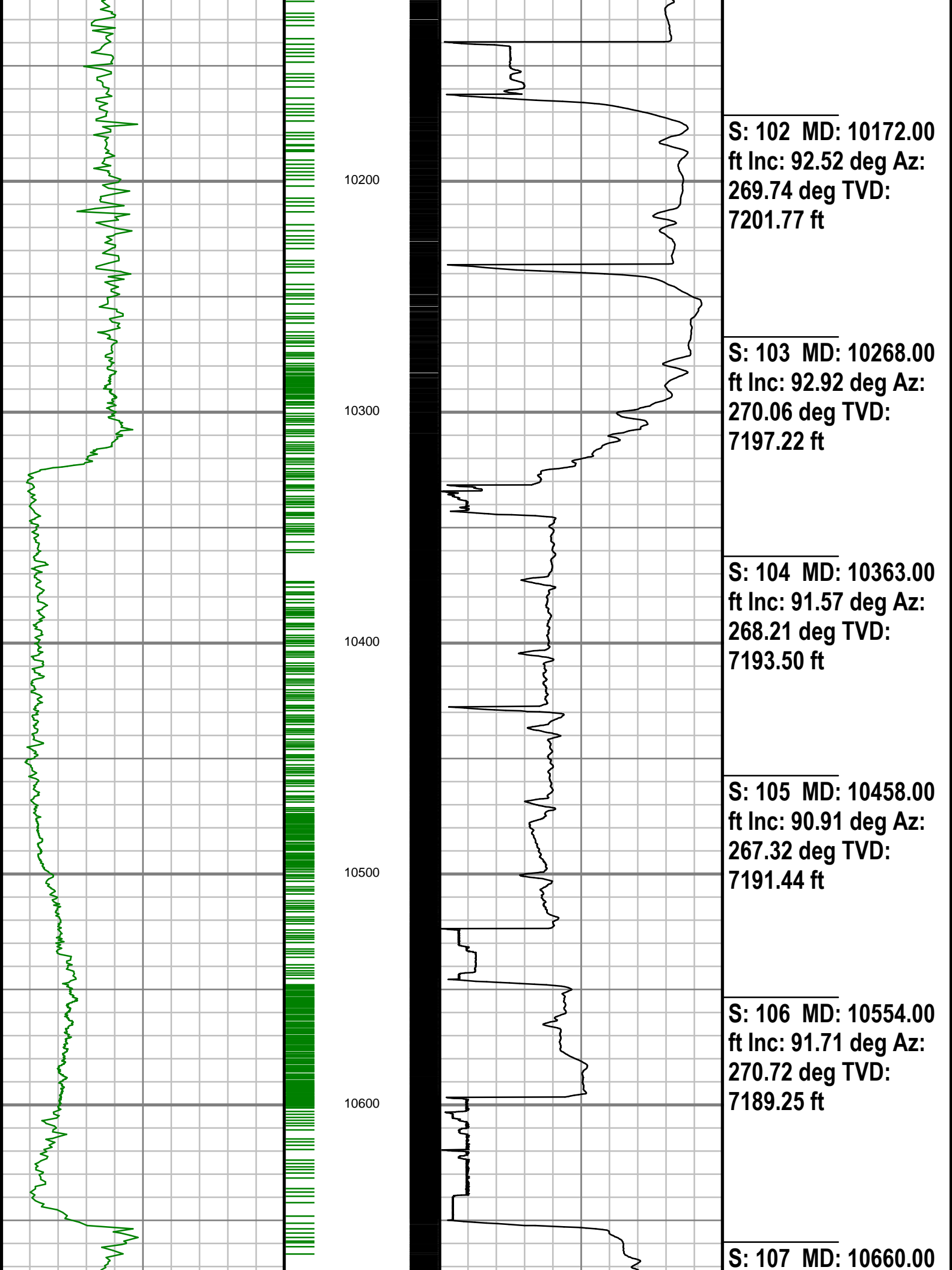
**S: 94 MD: 9313.00 ft**  
**Inc: 90.70 deg Az:**  
**269.96 deg TVD:**  
**7208.43 ft**

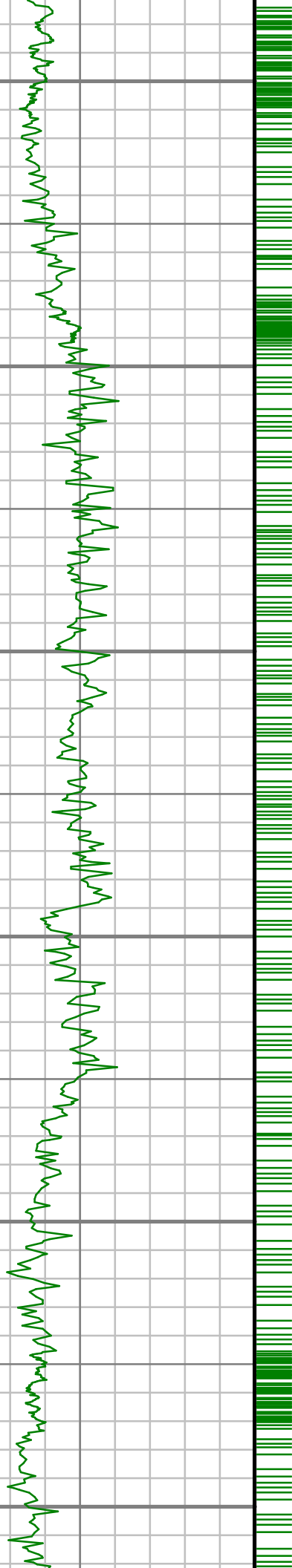
**S: 95 MD: 9408.00 ft**  
**Inc: 91.68 deg Az:**  
**270.09 deg TVD:**  
**7206.46 ft**

**S: 96 MD: 9519.00 ft**  
**Inc: 90.70 deg Az:**  
**270.80 deg TVD:**  
**7204.15 ft**









10700

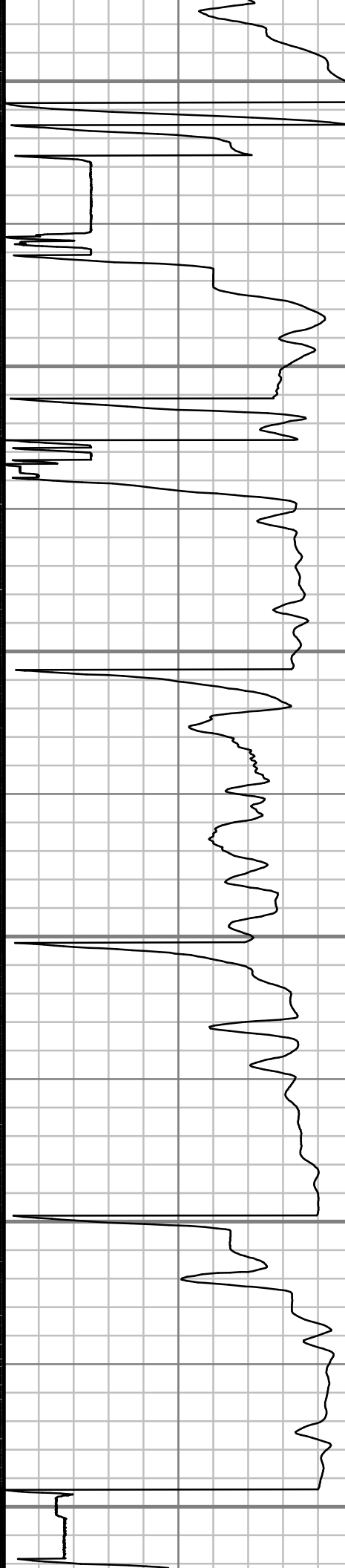
10800

10900

11000

11100

11200



ft Inc: 85.31 deg Az:  
270.38 deg TVD:  
7192.01 ft

---

S: 108 MD: 10744.00  
ft Inc: 88.89 deg Az:  
271.10 deg TVD:  
7196.26 ft

---

S: 109 MD: 10839.00  
ft Inc: 91.27 deg Az:  
272.18 deg TVD:  
7196.12 ft

---

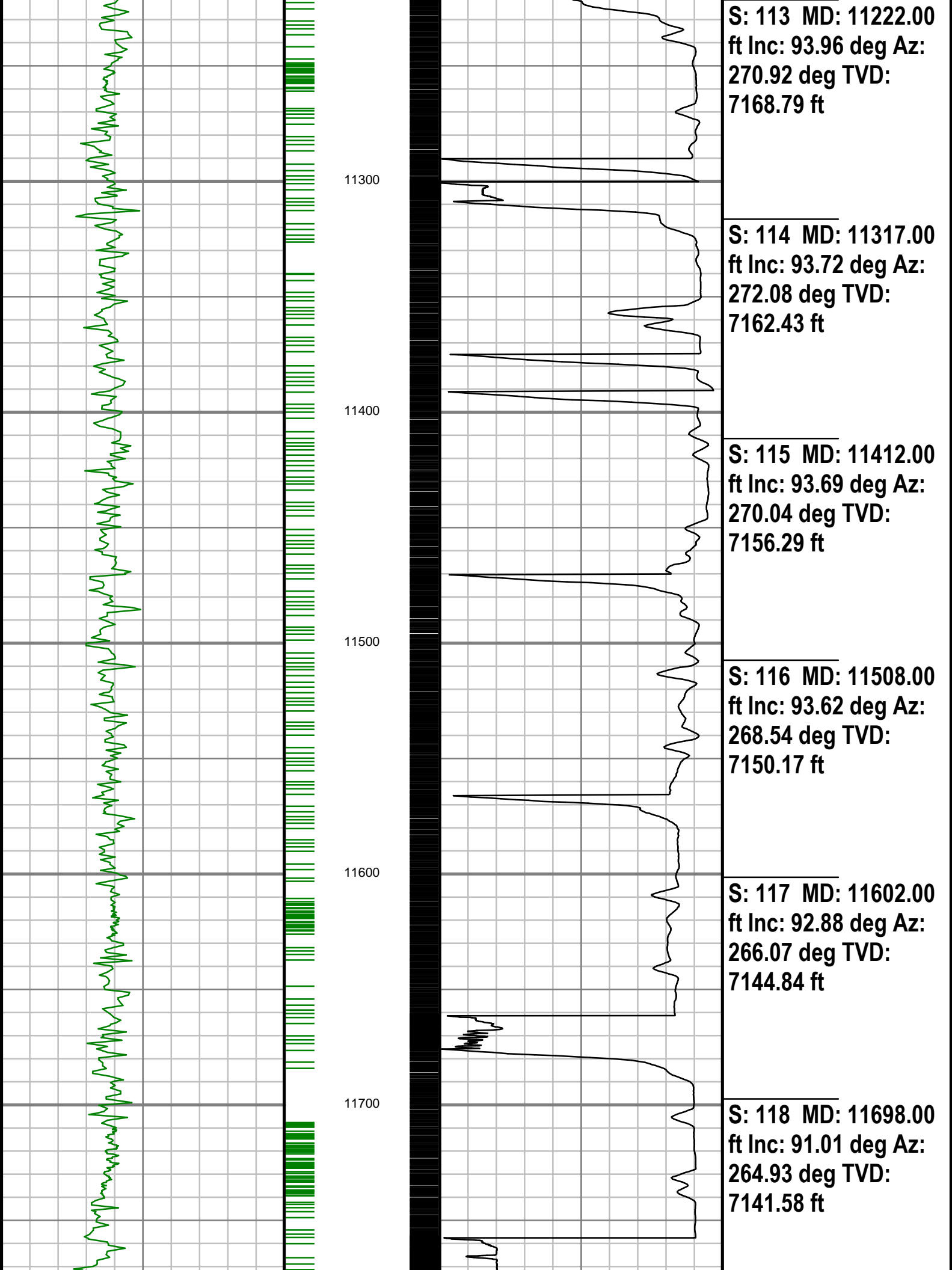
S: 110 MD: 10934.00  
ft Inc: 93.25 deg Az:  
272.74 deg TVD:  
7192.36 ft

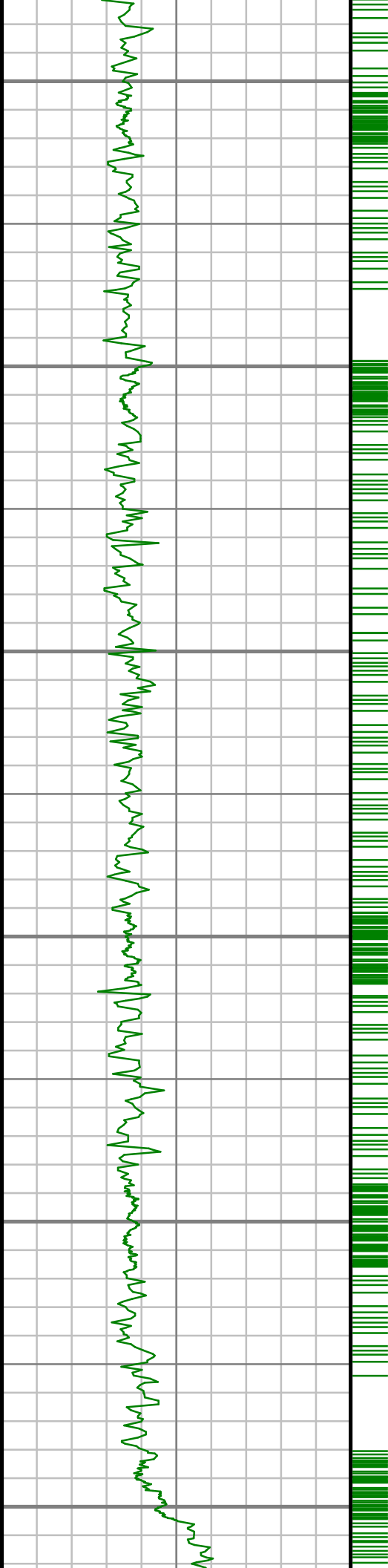
---

S: 111 MD: 11030.00  
ft Inc: 94.40 deg Az:  
272.43 deg TVD:  
7185.96 ft

---

S: 112 MD: 11125.00  
ft Inc: 96.08 deg Az:  
273.58 deg TVD:  
7177.29 ft





11800

11900

12000

12100

12200

12300



S: 119 MD: 11793.00  
ft Inc: 92.79 deg Az:  
268.64 deg TVD:  
7138.44 ft

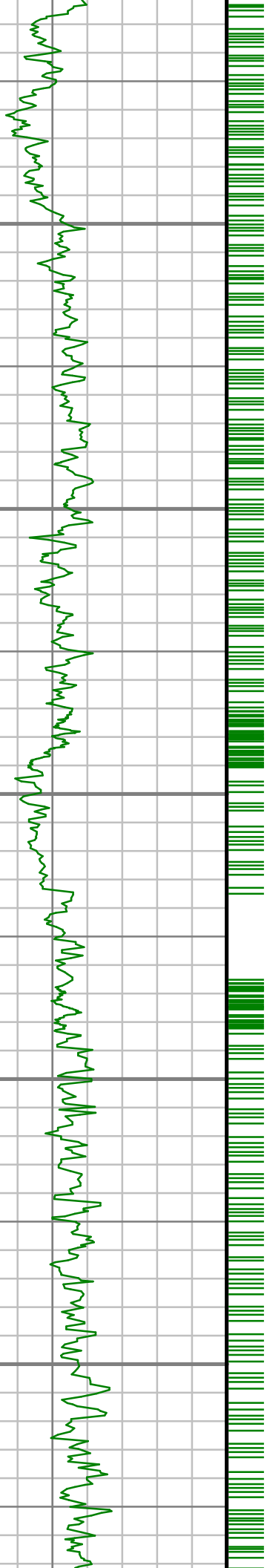
S: 120 MD: 11888.00  
ft Inc: 93.16 deg Az:  
270.66 deg TVD:  
7133.51 ft

S: 121 MD: 11983.00  
ft Inc: 92.08 deg Az:  
270.19 deg TVD:  
7129.17 ft

S: 122 MD: 12079.00  
ft Inc: 93.49 deg Az:  
271.65 deg TVD:  
7124.51 ft

S: 123 MD: 12174.00  
ft Inc: 92.18 deg Az:  
271.71 deg TVD:  
7119.81 ft

S: 124 MD: 12269.00  
ft Inc: 89.23 deg Az:  
272.34 deg TVD:  
7118.65 ft



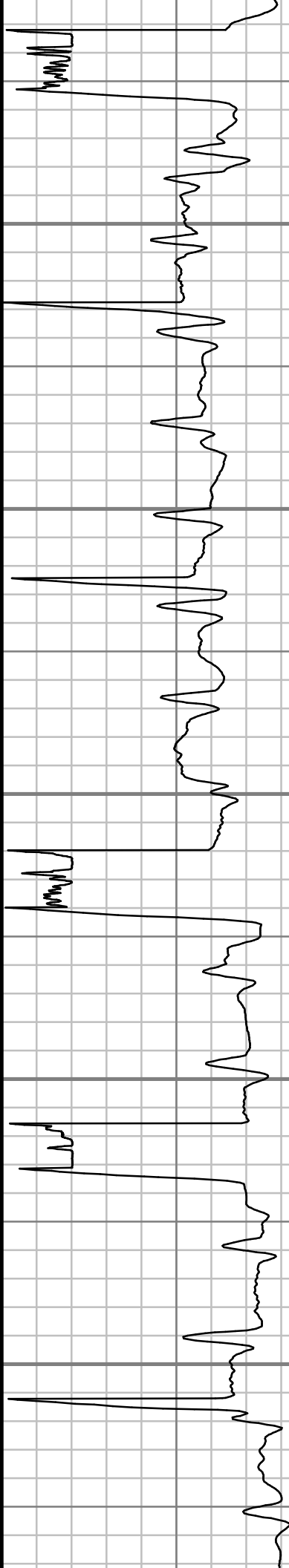
12400

12500

12600

12700

12800



S: 125 MD: 12364.00  
ft Inc: 91.98 deg Az:  
272.41 deg TVD:  
7117.65 ft

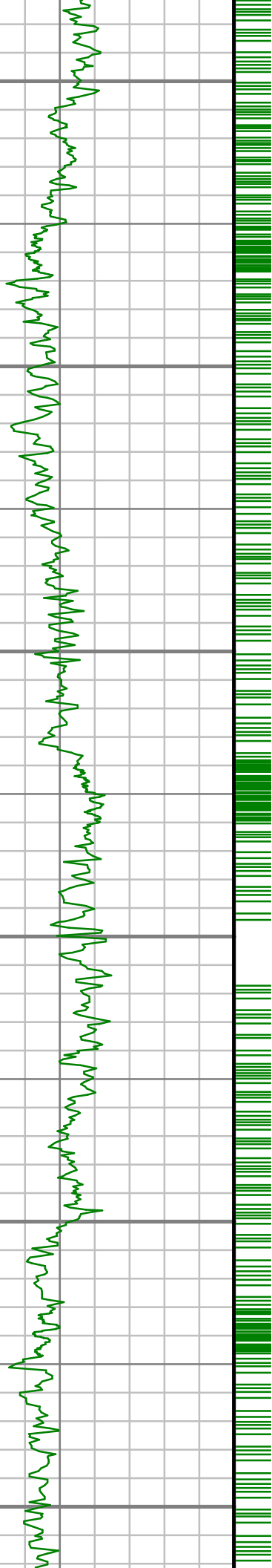
S: 126 MD: 12460.00  
ft Inc: 93.12 deg Az:  
271.59 deg TVD:  
7113.37 ft

S: 127 MD: 12555.00  
ft Inc: 94.06 deg Az:  
272.24 deg TVD:  
7107.43 ft

S: 128 MD: 12650.00  
ft Inc: 92.38 deg Az:  
272.77 deg TVD:  
7102.09 ft

S: 129 MD: 12745.00  
ft Inc: 91.24 deg Az:  
270.08 deg TVD:  
7099.09 ft

S: 130 MD: 12840.00  
ft Inc: 91.14 deg Az:  
269.73 deg TVD:



12900

13000

13100

13200

13300

13400

S: 131 MD: 12935.00  
ft Inc: 90.70 deg Az:  
269.10 deg TVD:  
7095.58 ft

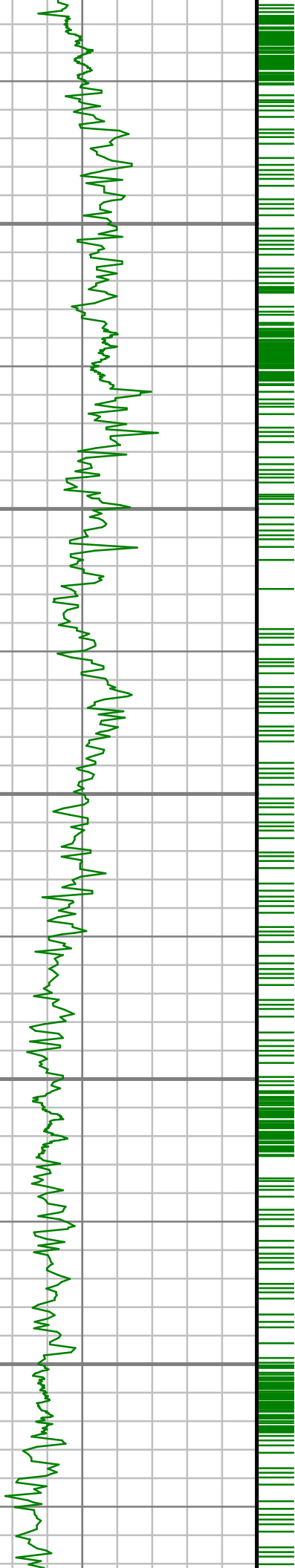
S: 132 MD: 13030.00  
ft Inc: 92.95 deg Az:  
269.22 deg TVD:  
7092.55 ft

S: 133 MD: 13125.00  
ft Inc: 93.96 deg Az:  
268.81 deg TVD:  
7086.82 ft

S: 134 MD: 13221.00  
ft Inc: 93.35 deg Az:  
271.21 deg TVD:  
7080.70 ft

S: 135 MD: 13316.00  
ft Inc: 94.03 deg Az:  
269.80 deg TVD:  
7074.59 ft

S: 136 MD: 13411.00



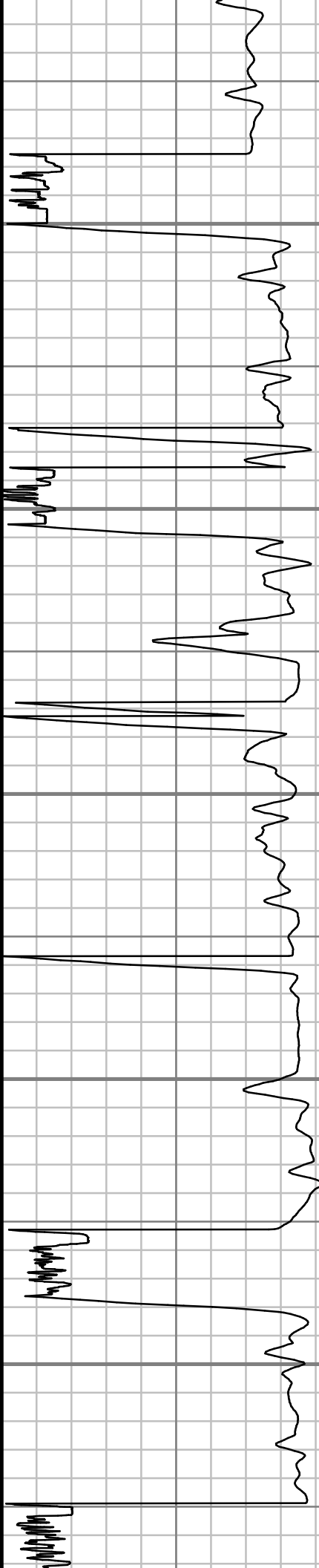
13500

13600

13700

13800

13900



ft Inc: 93.76 deg Az:  
269.34 deg TVD:  
7068.14 ft

S: 137 MD: 13506.00  
ft Inc: 91.27 deg Az:  
268.72 deg TVD:  
7063.97 ft

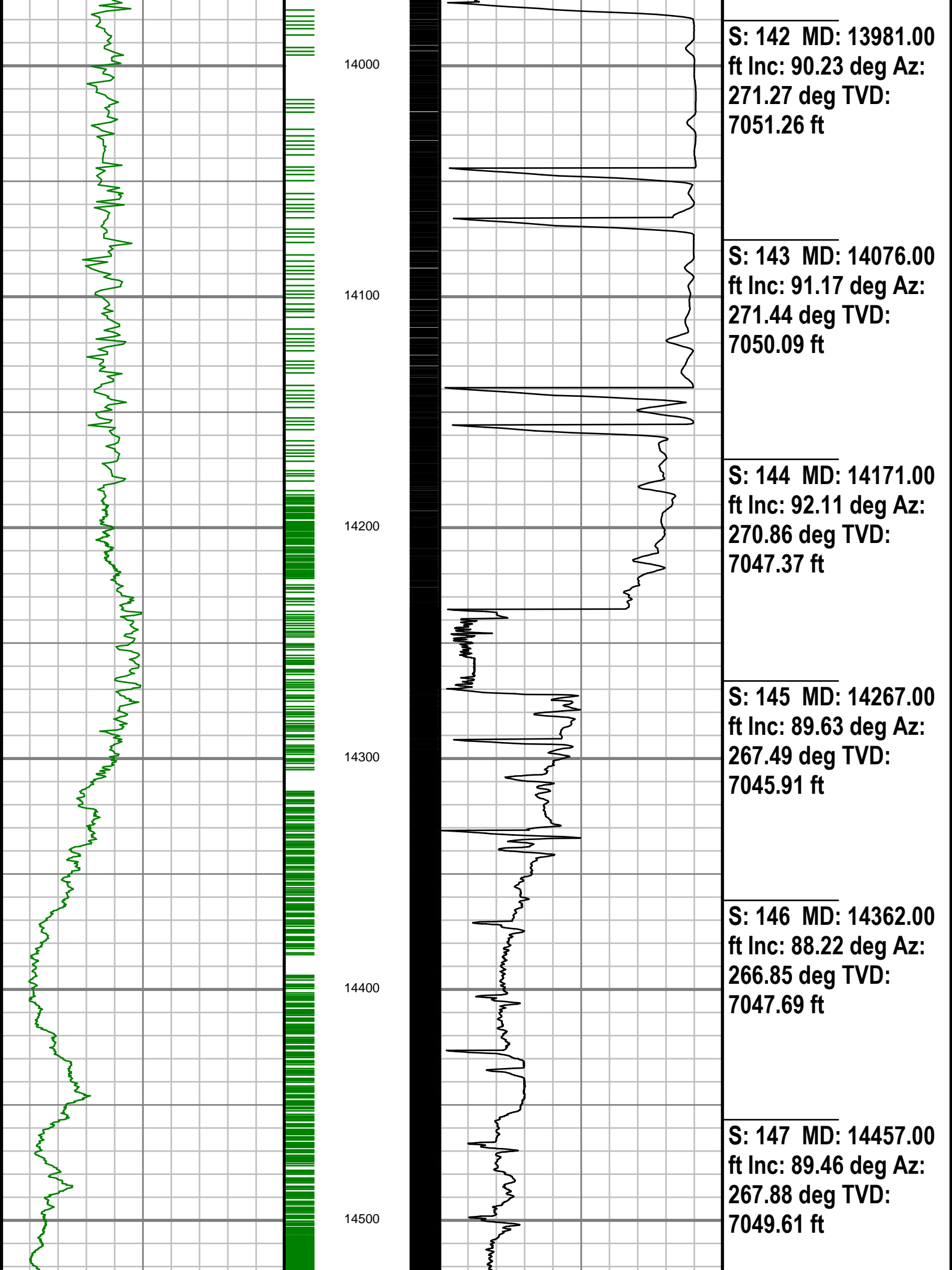
S: 138 MD: 13601.00  
ft Inc: 90.84 deg Az:  
269.68 deg TVD:  
7062.22 ft

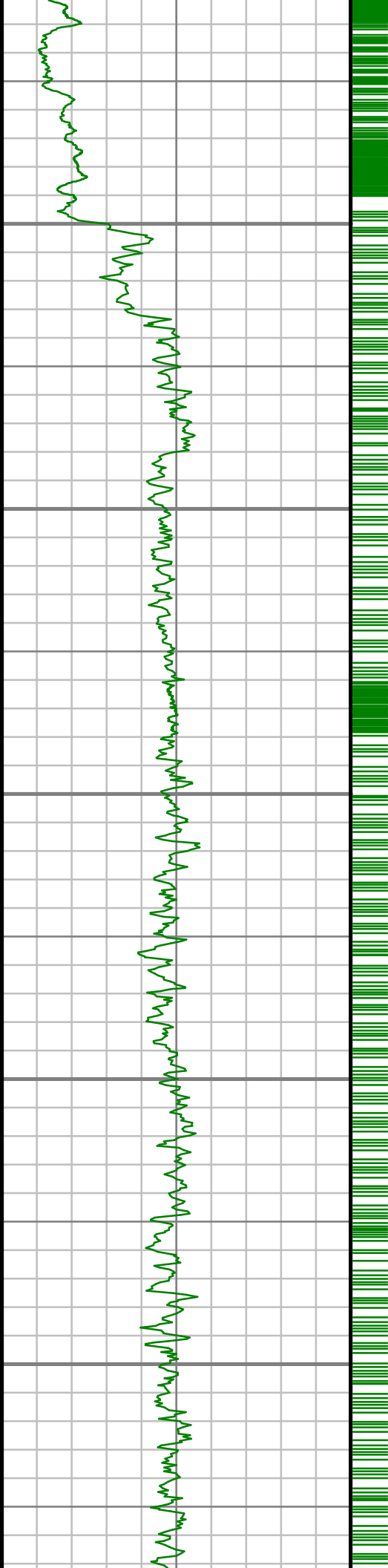
S: 139 MD: 13696.00  
ft Inc: 91.38 deg Az:  
270.67 deg TVD:  
7060.38 ft

S: 140 MD: 13791.00  
ft Inc: 93.02 deg Az:  
270.68 deg TVD:  
7056.74 ft

S: 141 MD: 13886.00  
ft Inc: 91.68 deg Az:  
269.91 deg TVD:  
7052.85 ft







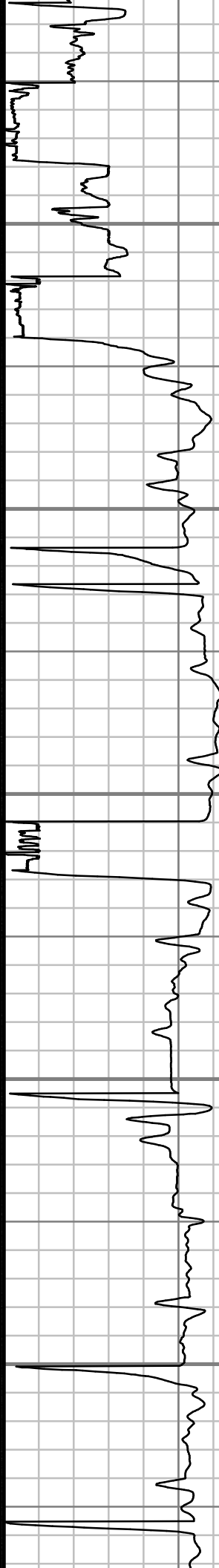
14600

14700

14800

14900

15000



S: 148 MD: 14552.00  
ft Inc: 89.66 deg Az:  
267.34 deg TVD:  
7050.33 ft

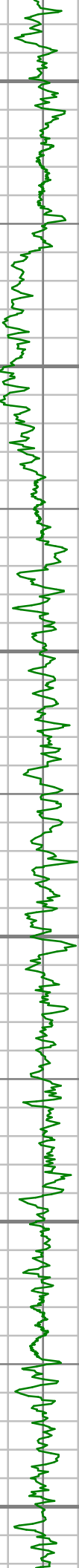
S: 149 MD: 14647.00  
ft Inc: 88.69 deg Az:  
271.07 deg TVD:  
7051.69 ft

S: 150 MD: 14742.00  
ft Inc: 88.42 deg Az:  
269.72 deg TVD:  
7054.08 ft

S: 151 MD: 14837.00  
ft Inc: 90.20 deg Az:  
270.59 deg TVD:  
7055.22 ft

S: 152 MD: 14932.00  
ft Inc: 90.60 deg Az:  
270.30 deg TVD:  
7054.56 ft

S: 153 MD: 15028.00  
ft Inc: 91.64 deg Az:  
270.27 deg TVD:  
7052.67 ft



15100

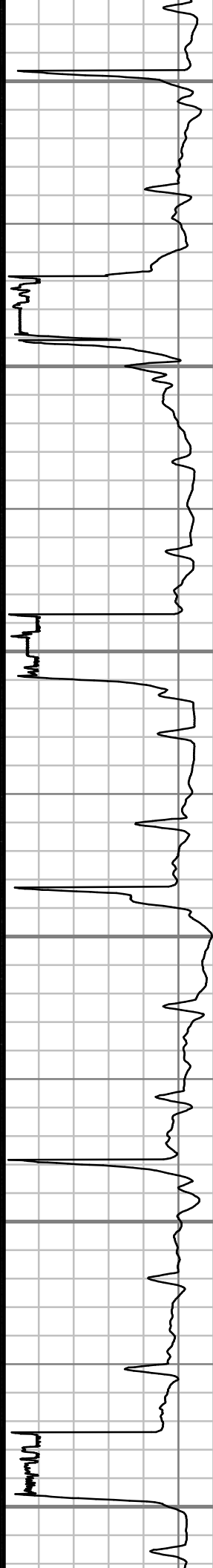
15200

15300

15400

15500

15600



S: 154 MD: 15123.00  
ft Inc: 92.82 deg Az:  
271.17 deg TVD:  
7048.98 ft

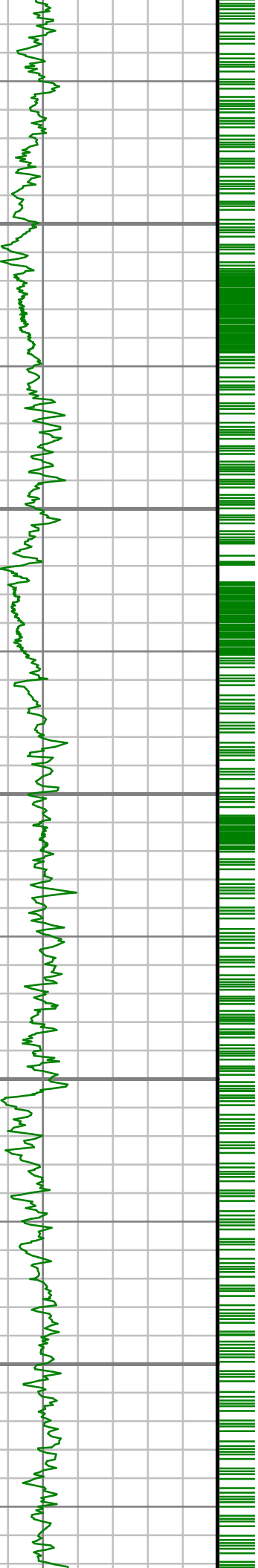
S: 155 MD: 15218.00  
ft Inc: 91.71 deg Az:  
272.11 deg TVD:  
7045.23 ft

S: 156 MD: 15314.00  
ft Inc: 89.80 deg Az:  
271.87 deg TVD:  
7043.96 ft

S: 157 MD: 15409.00  
ft Inc: 90.91 deg Az:  
271.84 deg TVD:  
7043.38 ft

S: 158 MD: 15505.00  
ft Inc: 91.71 deg Az:  
271.76 deg TVD:  
7041.19 ft

S: 159 MD: 15600.00  
ft Inc: 90.27 deg Az:



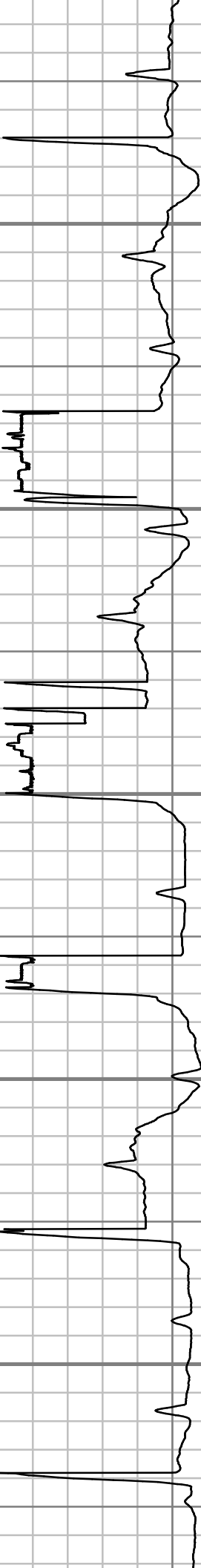
15700

15800

15900

16000

16100



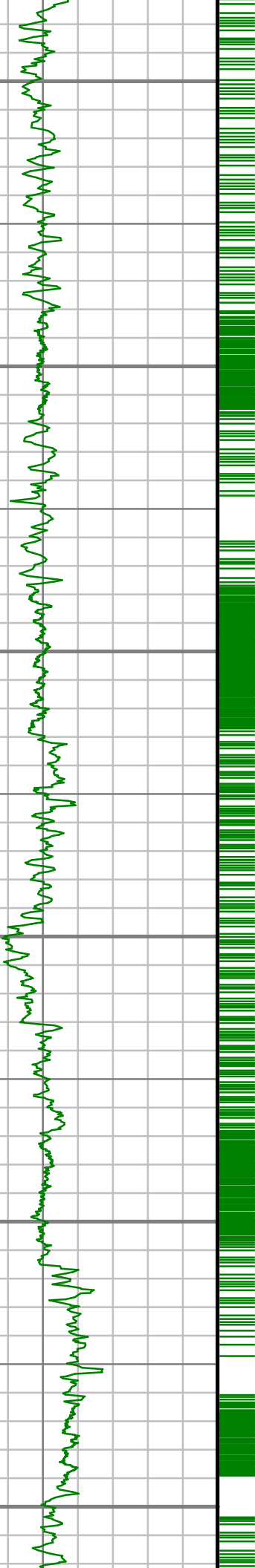
S: 160 MD: 15696.00  
ft Inc: 91.85 deg Az:  
273.67 deg TVD:  
7037.78 ft

S: 161 MD: 15791.00  
ft Inc: 90.34 deg Az:  
272.40 deg TVD:  
7035.97 ft

S: 162 MD: 15886.00  
ft Inc: 88.56 deg Az:  
270.71 deg TVD:  
7036.89 ft

S: 163 MD: 15981.00  
ft Inc: 89.46 deg Az:  
268.84 deg TVD:  
7038.53 ft

S: 164 MD: 16077.00  
ft Inc: 89.93 deg Az:  
267.68 deg TVD:  
7039.03 ft



16200

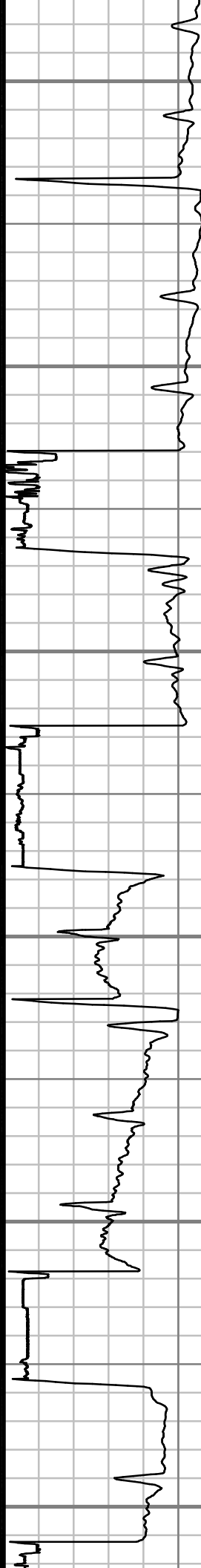
16300

16400

16500

16600

16700



**S: 165 MD: 16172.00**  
**ft Inc: 90.84 deg Az:**  
**267.28 deg TVD:**  
**7038.39 ft**

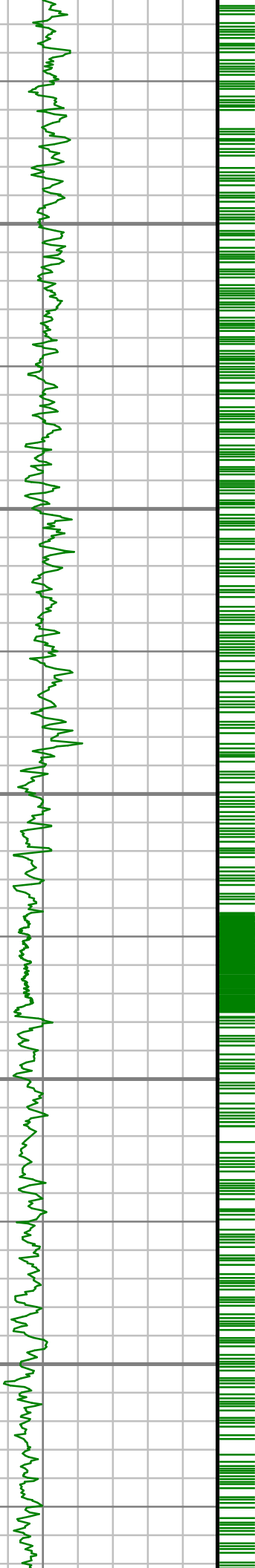
**S: 166 MD: 16268.00**  
**ft Inc: 90.94 deg Az:**  
**265.46 deg TVD:**  
**7036.90 ft**

**S: 167 MD: 16363.00**  
**ft Inc: 91.17 deg Az:**  
**266.14 deg TVD:**  
**7035.15 ft**

**S: 168 MD: 16458.00**  
**ft Inc: 91.64 deg Az:**  
**267.38 deg TVD:**  
**7032.82 ft**

**S: 169 MD: 16553.00**  
**ft Inc: 93.32 deg Az:**  
**267.73 deg TVD:**  
**7028.71 ft**

**S: 170 MD: 16648.00**  
**ft Inc: 92.65 deg Az:**  
**270.06 deg TVD:**  
**7023.76 ft**



16800

16900

17000

17100

17200



S: 171 MD: 16743.00  
ft Inc: 90.13 deg Az:  
271.78 deg TVD:  
7021.45 ft

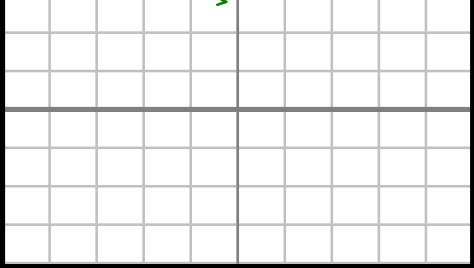
S: 172 MD: 16838.00  
ft Inc: 91.01 deg Az:  
272.46 deg TVD:  
7020.51 ft

S: 173 MD: 16933.00  
ft Inc: 91.71 deg Az:  
272.39 deg TVD:  
7018.26 ft

S: 174 MD: 17028.00  
ft Inc: 92.31 deg Az:  
270.83 deg TVD:  
7014.92 ft

S: 175 MD: 17123.00  
ft Inc: 89.93 deg Az:  
273.01 deg TVD:  
7013.06 ft

S: 176 MD: 17257.00



Gamma Ray (GR)		
0	Unit = aapi	200

17300

MEASURED DEPTH  
1:600 (ft)



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

ft Inc: 91.54 deg Az:  
274.23 deg TVD:  
7011.34 ft

S: 177 MD: 17320.00  
ft Inc: 91.54 deg Az:

Comments
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GAMMA RAY

2" = 100' FEET MD