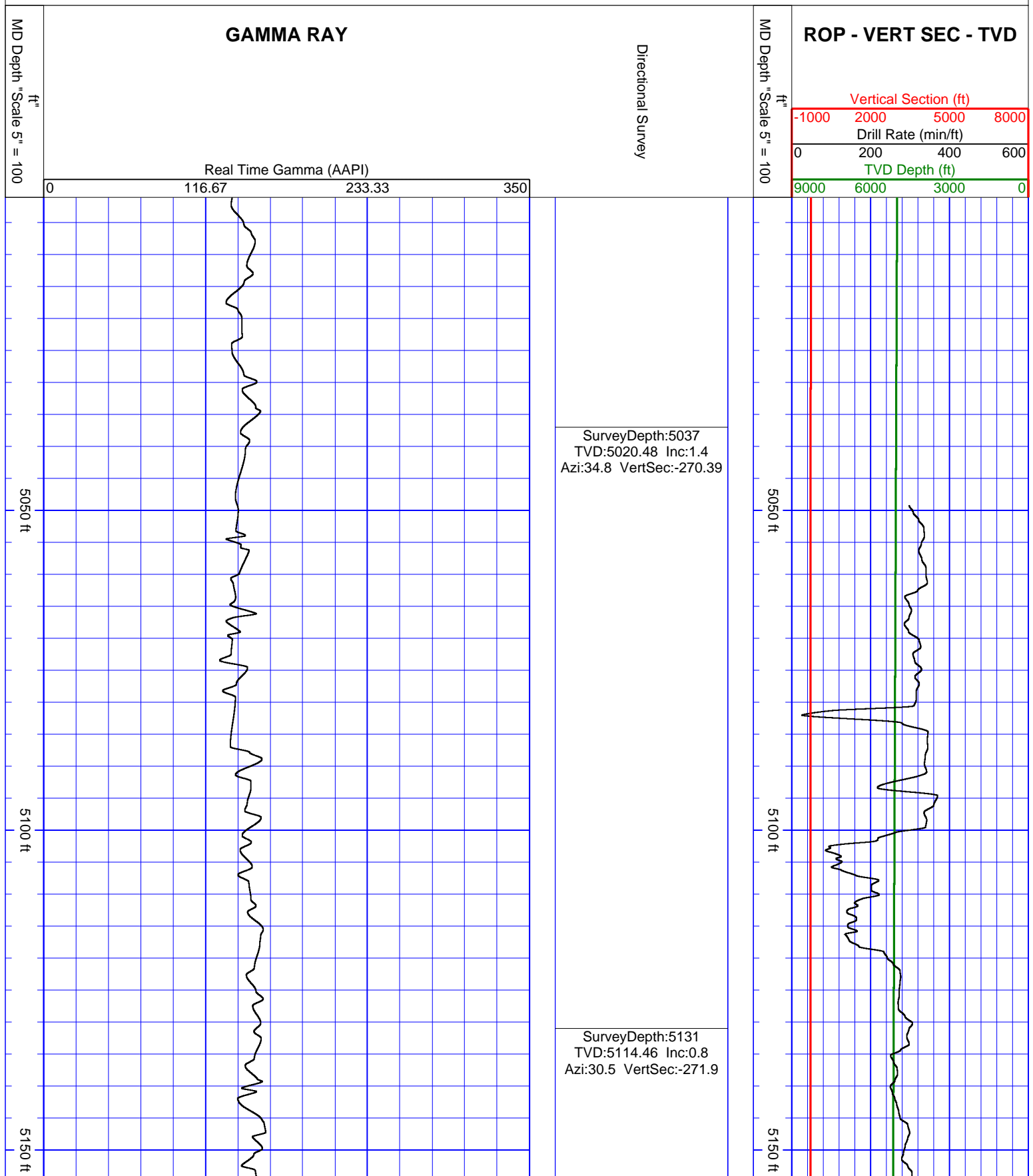
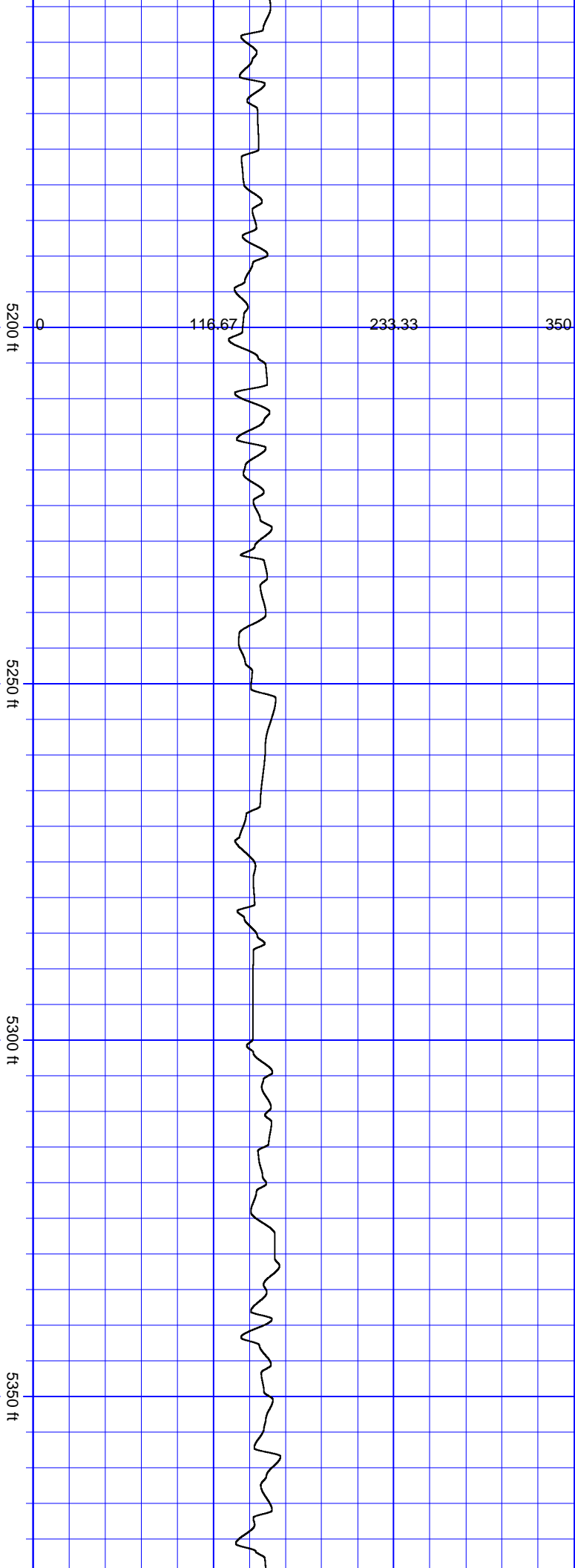




Oil Company: Whiting Petroleum  
Well Name: Razor 22D-2703  
Surface Location: Weld, Co  
Bit Run:  
Log Depth Start: 5001.05 ft    Log Depth End: 13235.99 ft  
Data Depth Start: 5001.05 ft    Data Depth End: 13235.99 ft

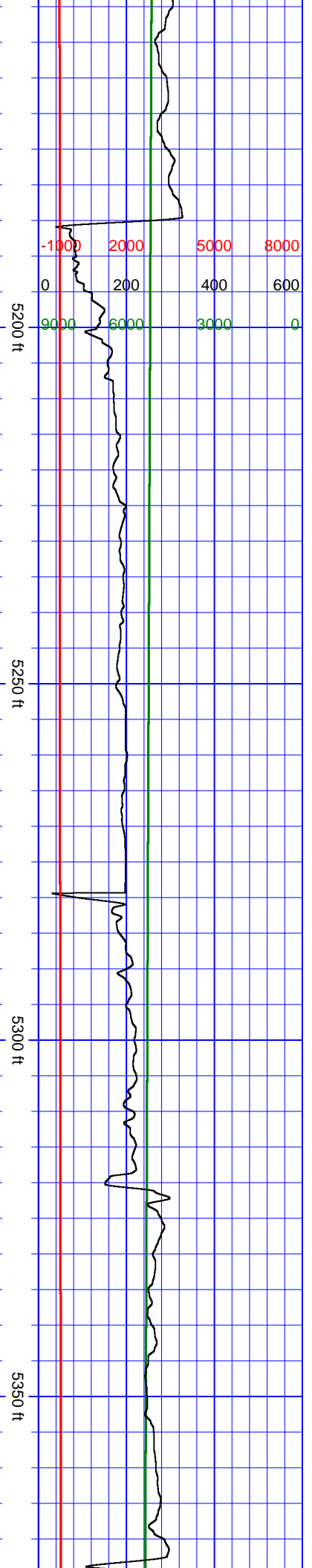
Interpretations of this data by Cathedral Energy Services will be of best judgment as to correctness. Cathedral Energy Services cannot and does not guarantee the accuracy or correctness of interpretations or any surveys derived therefrom. Cathedral Energy Services makes no warranties of performance, results, fitness or suitability for any particular purposes with respect to the goods being furnished under the terms and conditions. Cathedral Energy Services warrants that the equipment furnished will conform to Cathedral Energy Services published specifications in effect at the time and be in good working order.

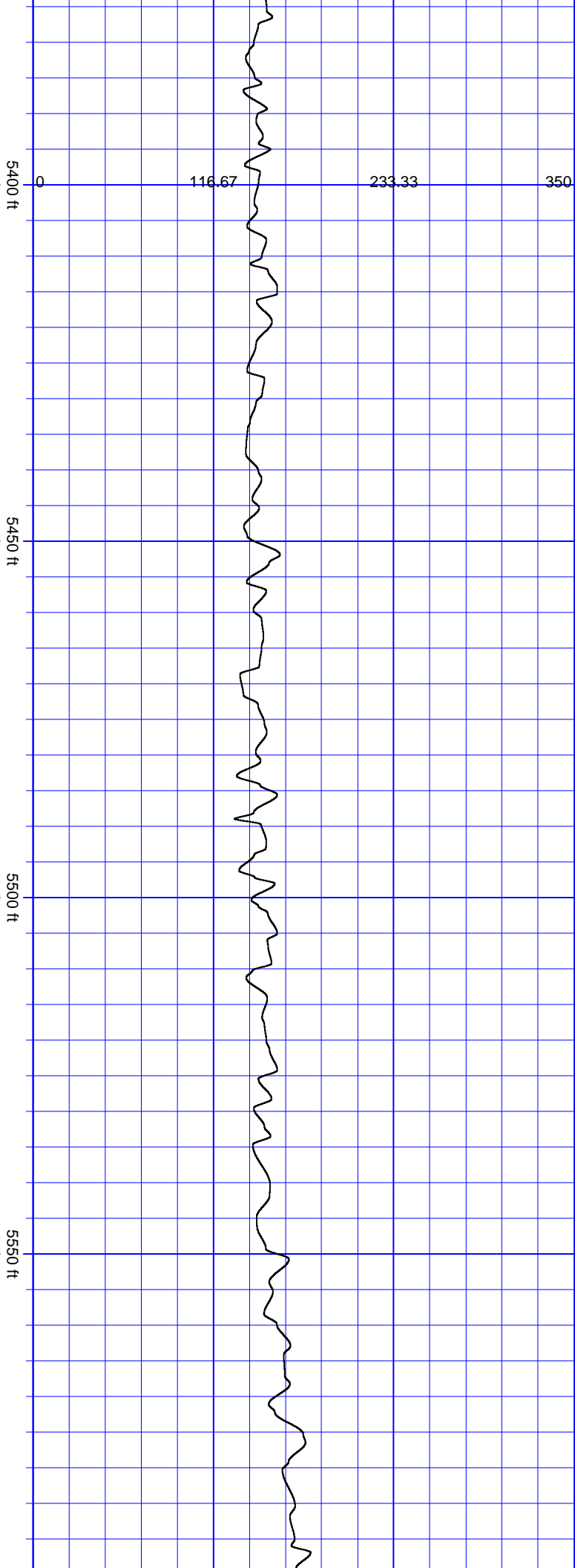




SurveyDepth:5225  
TVD:5208.25 Inc:7  
Azi:176.7 VertSec:-  
266.74

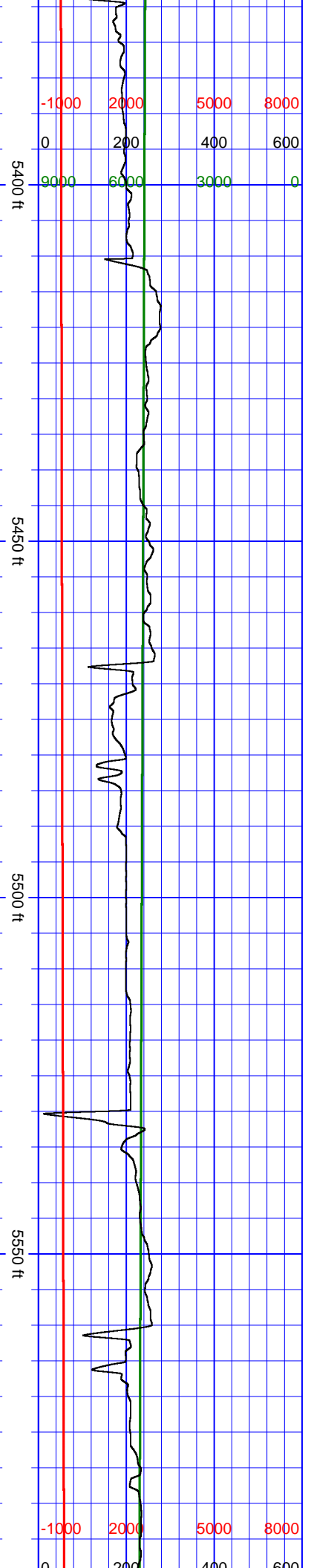
SurveyDepth:5318  
TVD:5298.31 Inc:20.8  
Azi:181.5 VertSec:-  
244.47

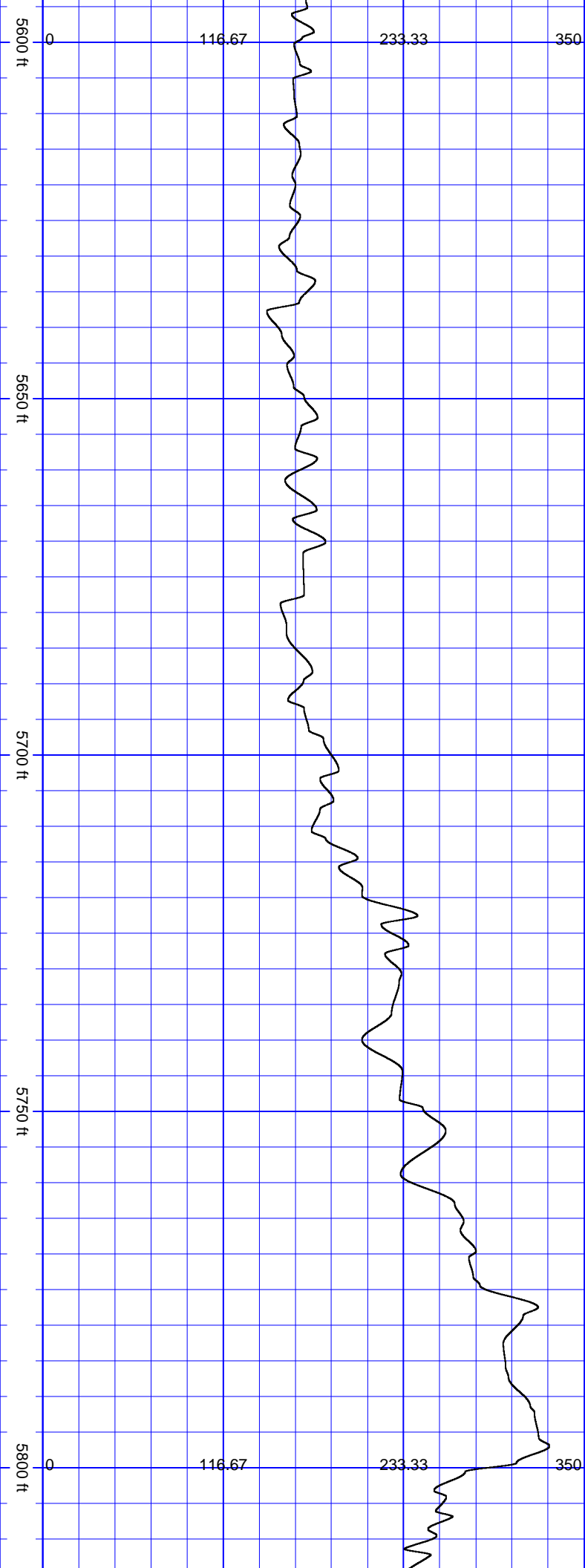




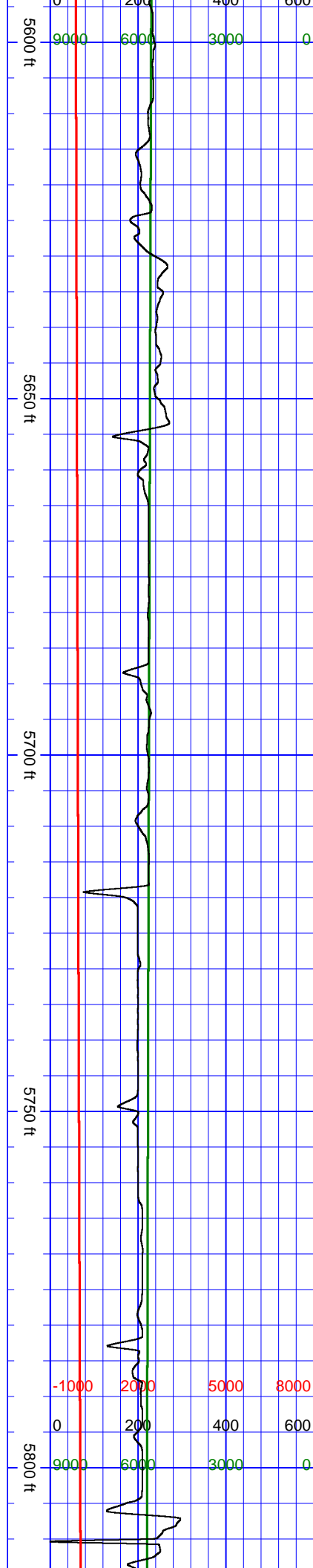
SurveyDepth:5412  
TVD:5385.27 Inc:23.8  
Azi:178.8 VertSec:-  
208.81

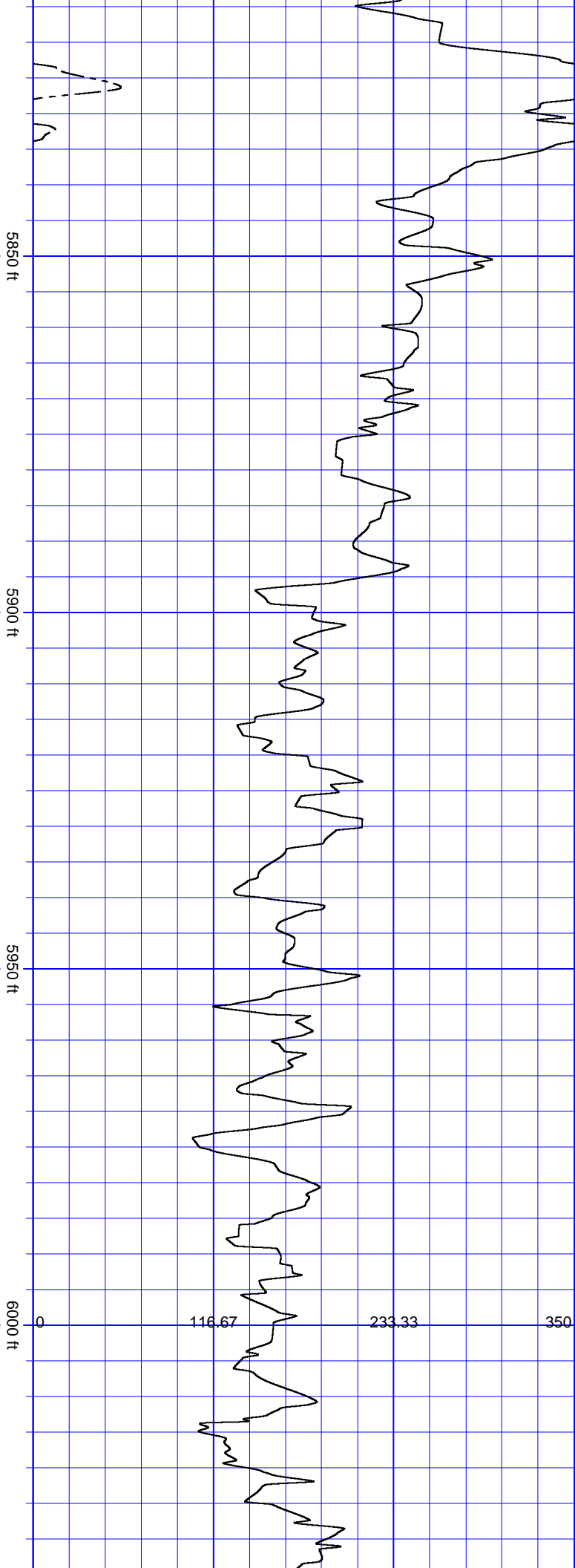
SurveyDepth:5506  
TVD:5469.37 Inc:29.2  
Azi:174.5 VertSec:-  
166.99





|   |
|---|
| SurveyDepth:5599<br>TVD:5546.62 Inc:38.3<br>Azi:177.2 VertSec:-115.51 |
| SurveyDepth:5630<br>TVD:5570.49 Inc:41<br>Azi:181 VertSec:-95.74      |
| SurveyDepth:5661<br>TVD:5593.98 Inc:40.5<br>Azi:184.7 VertSec:-75.54  |
| SurveyDepth:5693<br>TVD:5617.81 Inc:43.2<br>Azi:186.2 VertSec:-54.29  |
| SurveyDepth:5724<br>TVD:5639.36 Inc:48.7<br>Azi:186.6 VertSec:-32.16  |
| SurveyDepth:5755<br>TVD:5658.69 Inc:54.1<br>Azi:185.7 VertSec:-8.08   |
| SurveyDepth:5786<br>TVD:5675.78 Inc:59<br>Azi:183.4 VertSec:17.7      |





SurveyDepth:5817  
TVD:5690.61 Inc:63.8  
Azi:181.1 VertSec:44.88

SurveyDepth:5849  
TVD:5704.21 Inc:65.9  
Azi:179.8 VertSec:73.84

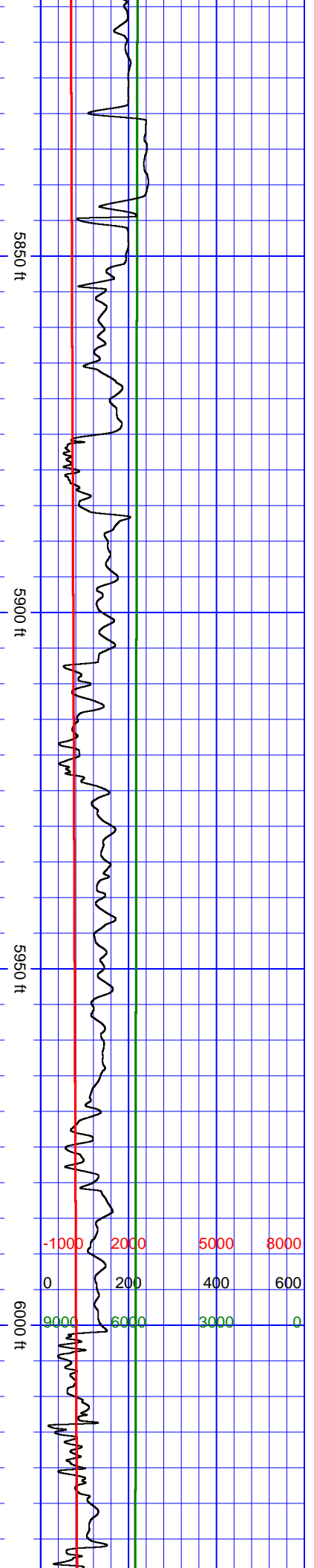
SurveyDepth:5880  
TVD:5716.17 Inc:68.7  
Azi:178.7  
VertSec:102.44

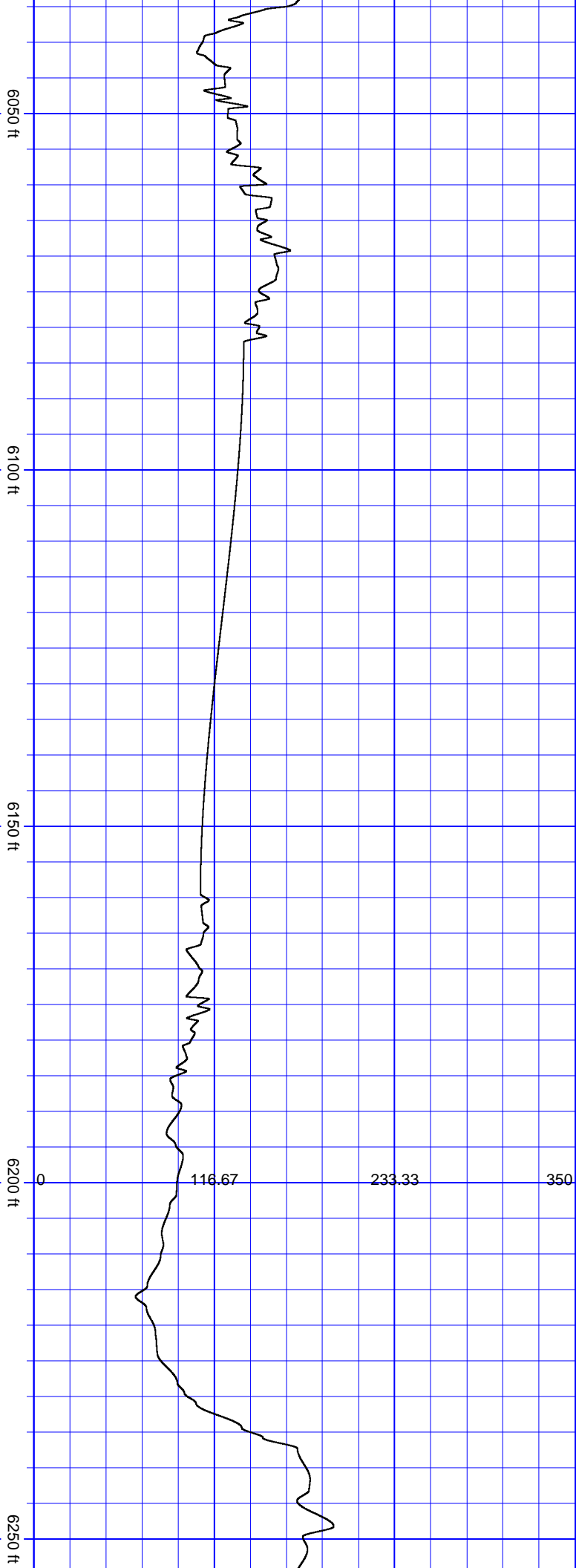
SurveyDepth:5911  
TVD:5726.78 Inc:71.3  
Azi:178.5  
VertSec:131.56

SurveyDepth:5942  
TVD:5736.46 Inc:72.3  
Azi:179.4 VertSec:161

SurveyDepth:5973  
TVD:5745.39 Inc:74.2  
Azi:180 VertSec:190.68

SurveyDepth:6005  
TVD:5753.3 Inc:77.2  
Azi:180.6  
VertSec:221.69

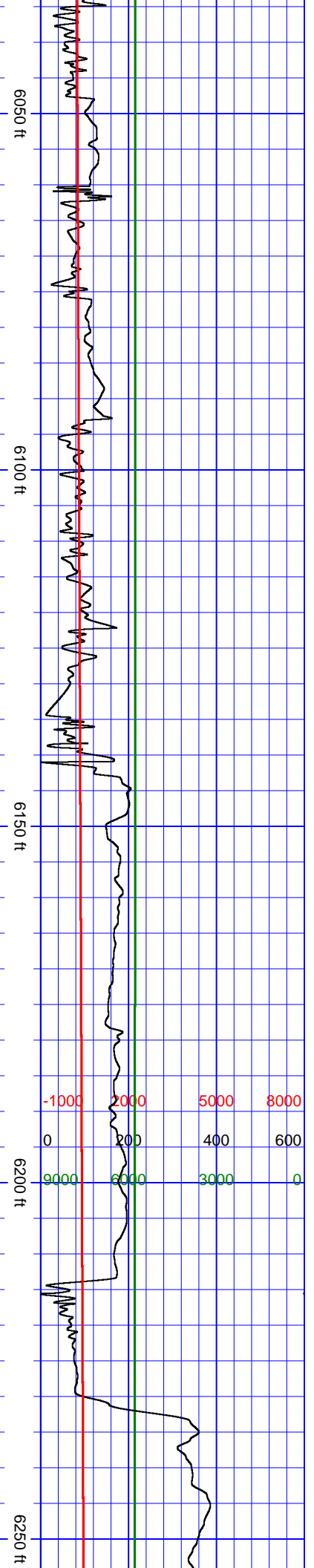


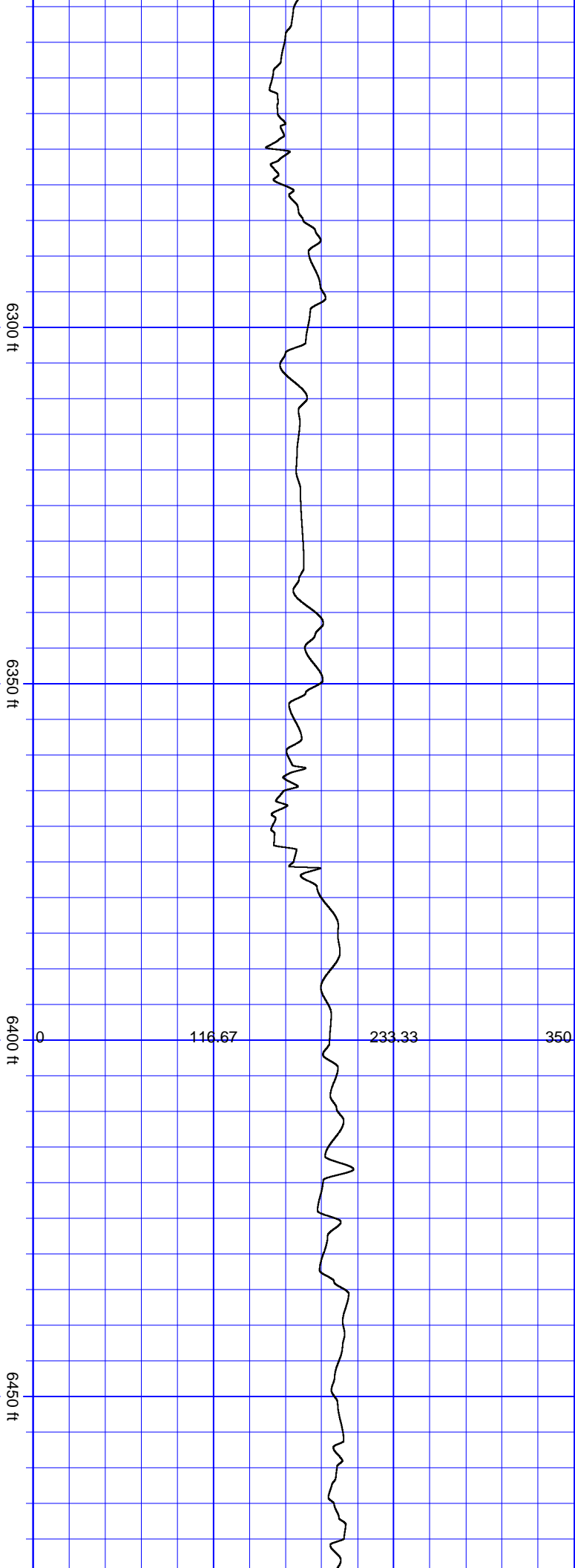


SurveyDepth:6036  
TVD:5759.21 Inc:80.8  
Azi:180.9  
VertSec:252.11

SurveyDepth:6075  
TVD:5764.91 Inc:82.4  
Azi:181.5  
VertSec:290.68

SurveyDepth:6166  
TVD:5772.68 Inc:87.8  
Azi:181.4  
VertSec:381.29

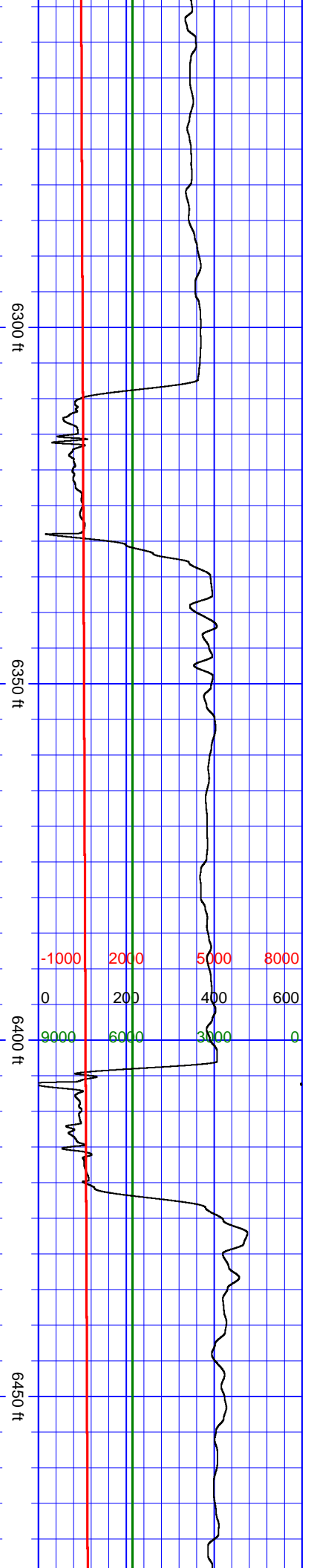


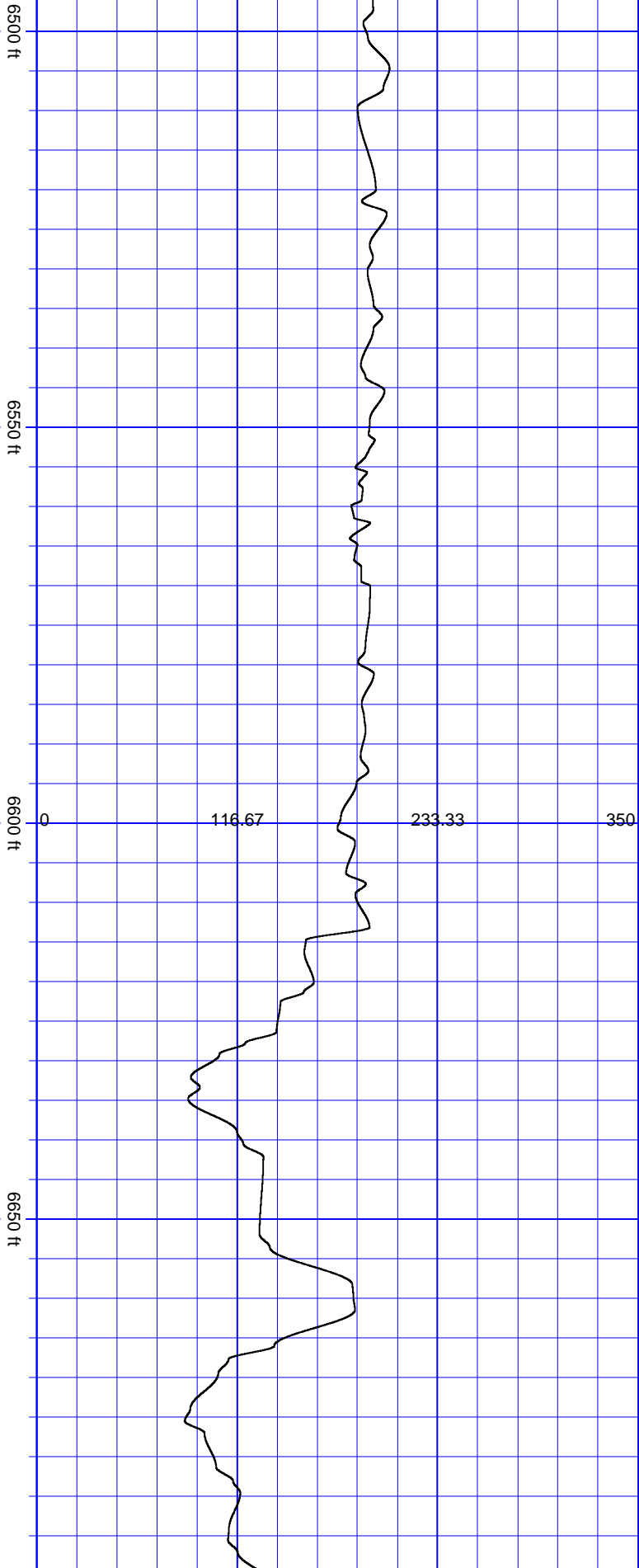


SurveyDepth:6260  
TVD:5775.71 Inc:88.5  
Azi:180.8  
VertSec:475.22

SurveyDepth:6355  
TVD:5777.12 Inc:89.8  
Azi:180 VertSec:570.2

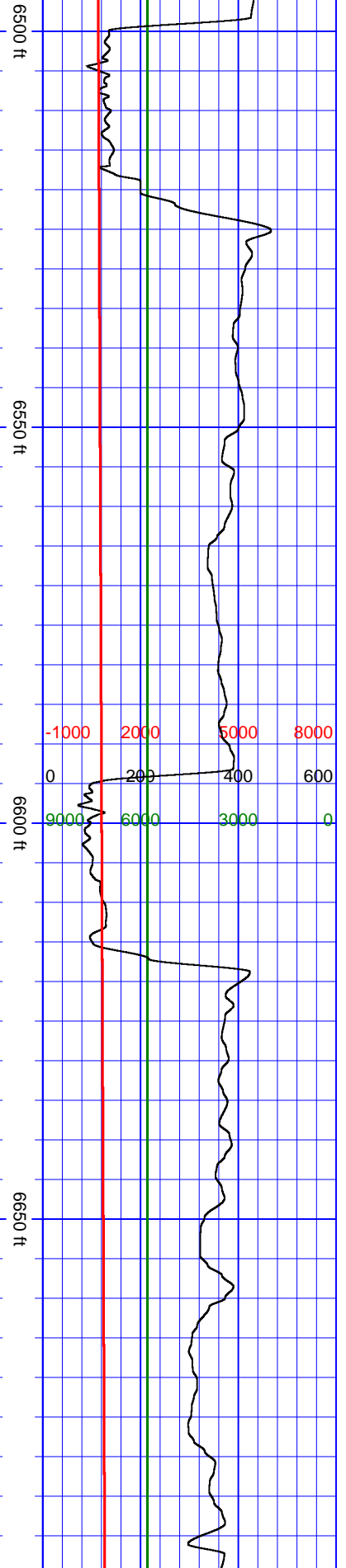
SurveyDepth:6450  
TVD:5777.29 Inc:90  
Azi:181 VertSec:665.2



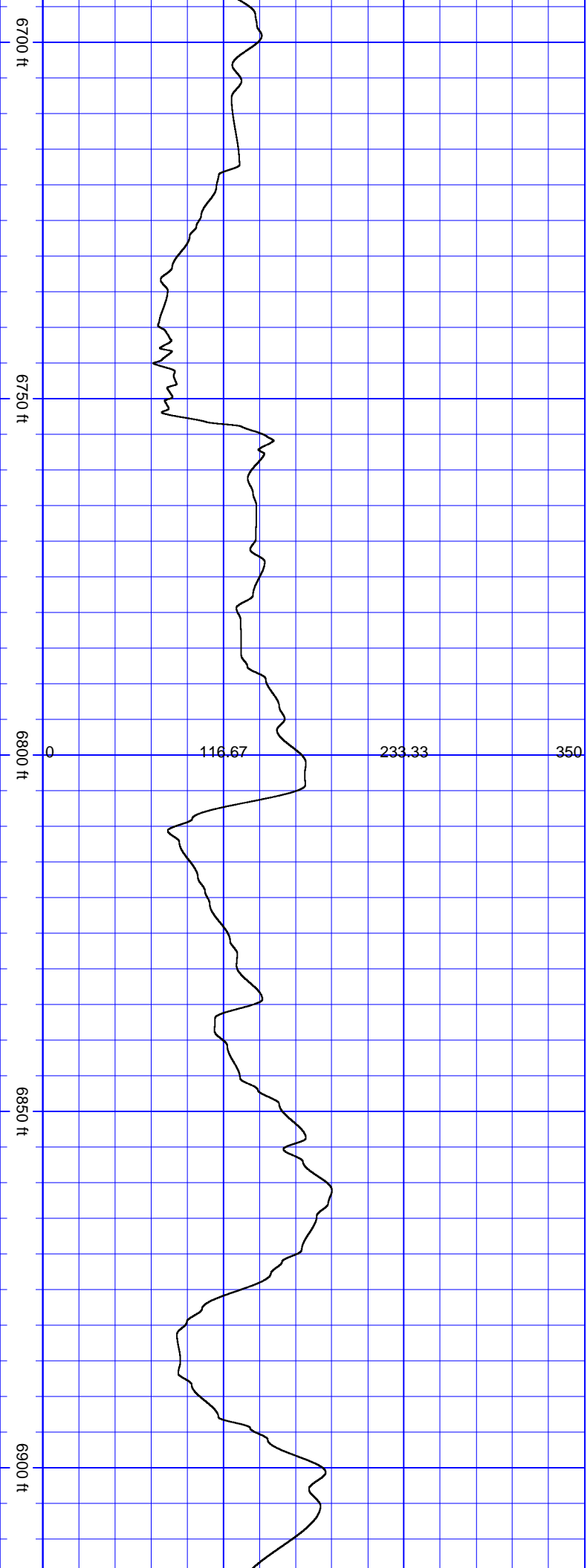


SurveyDepth:6544  
TVD:5777.12 Inc:90.2  
Azi:180.7  
VertSec:759.19

SurveyDepth:6639  
TVD:5775.63 Inc:91.6  
Azi:181.4  
VertSec:854.16

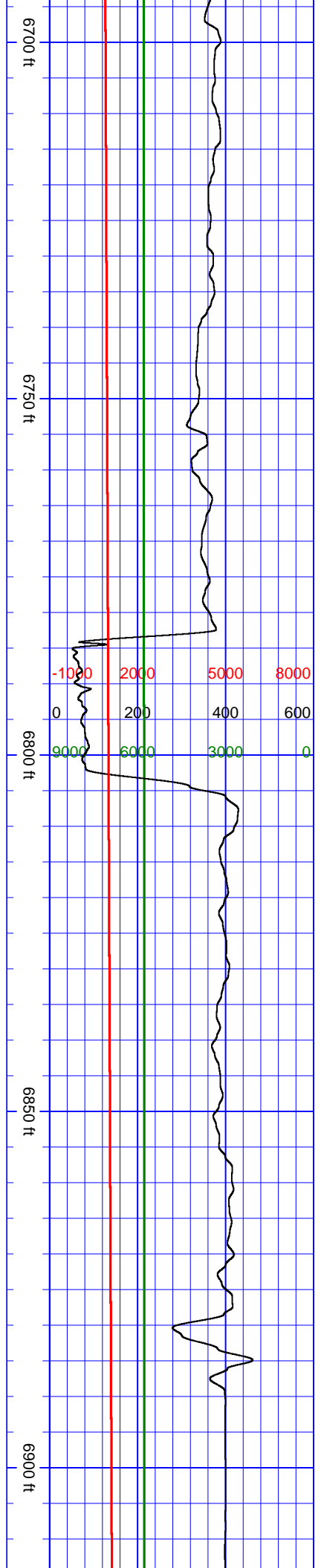


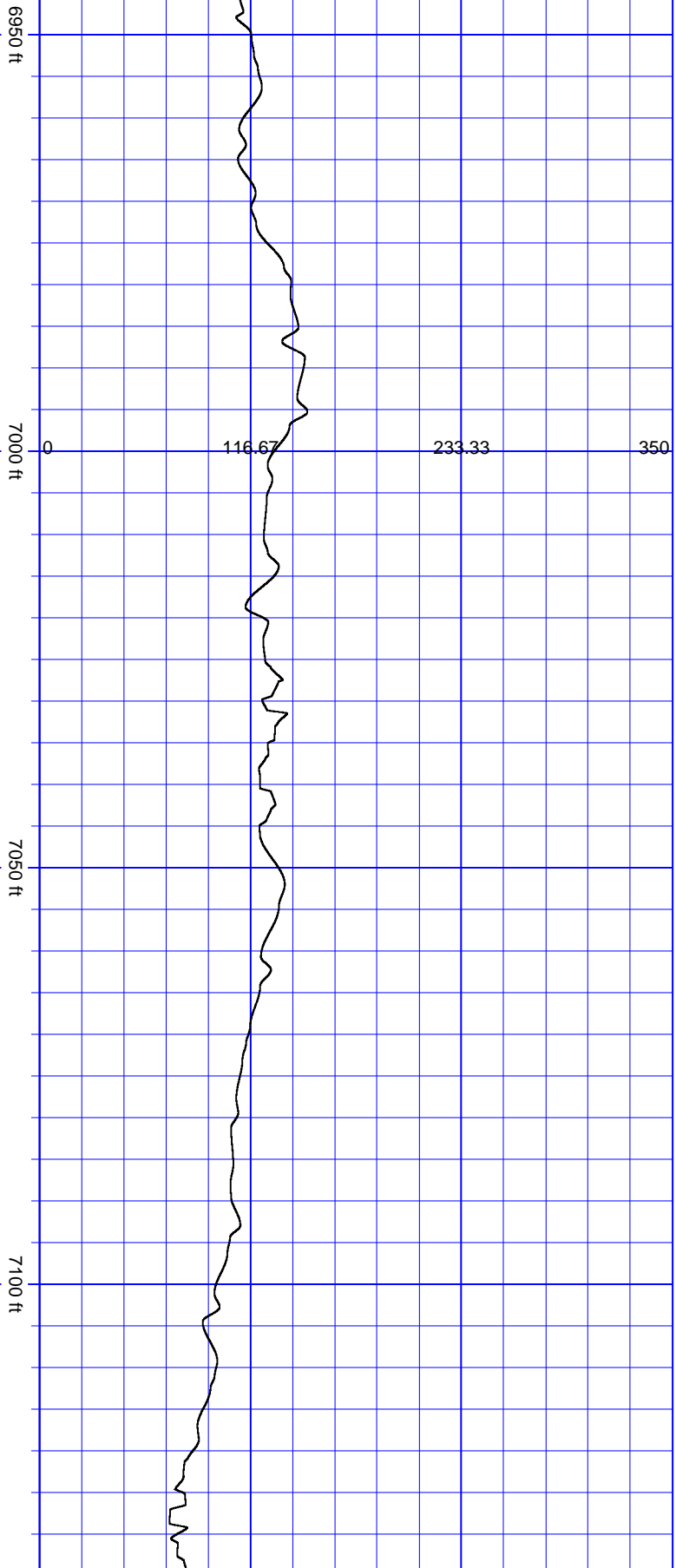




SurveyDepth:6734  
TVD:5774.06 Inc:90.3  
Azi:179.5  
VertSec:949.13

SurveyDepth:6829  
TVD:5772.31 Inc:91.8  
Azi:179.3  
VertSec:1044.11

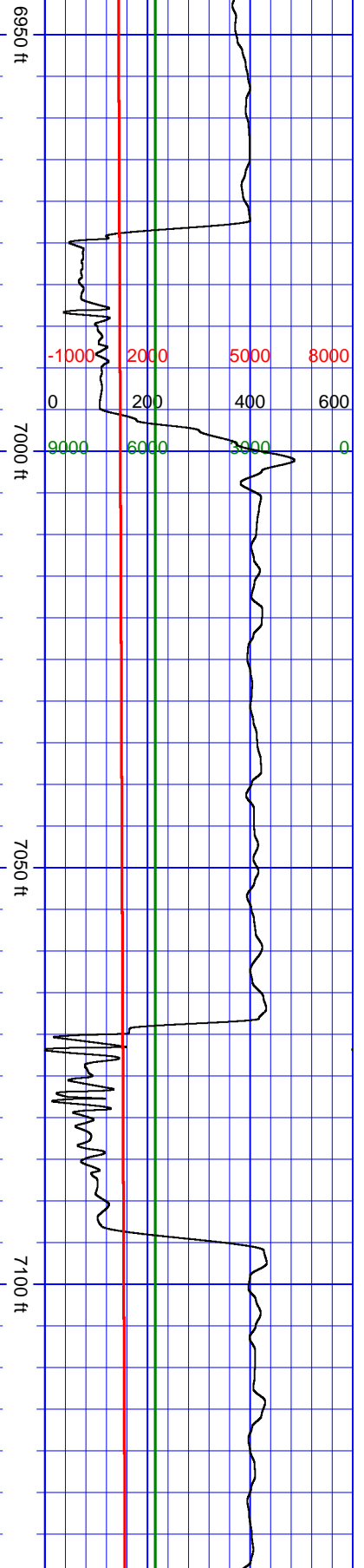


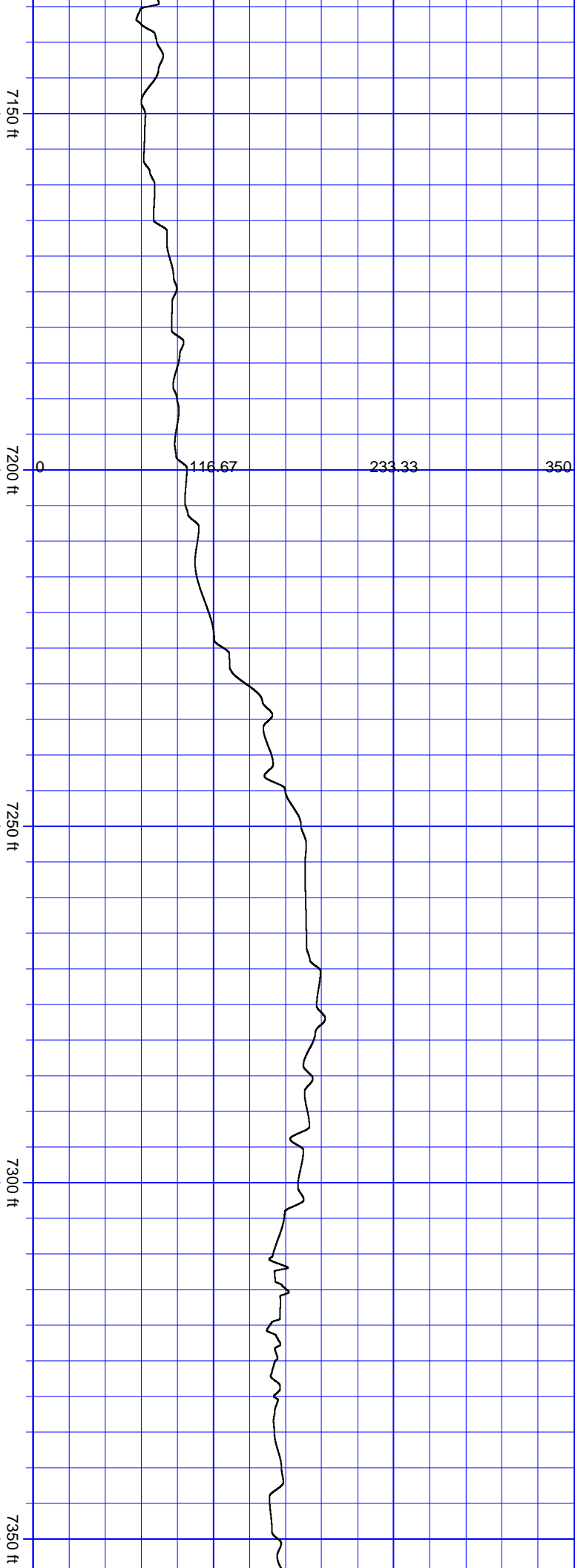


SurveyDepth:6923  
TVD:5769.69 Inc:91.4  
Azi:177.3  
VertSec:1138.03

SurveyDepth:7018  
TVD:5766.87 Inc:92  
Azi:177.9  
VertSec:1232.9

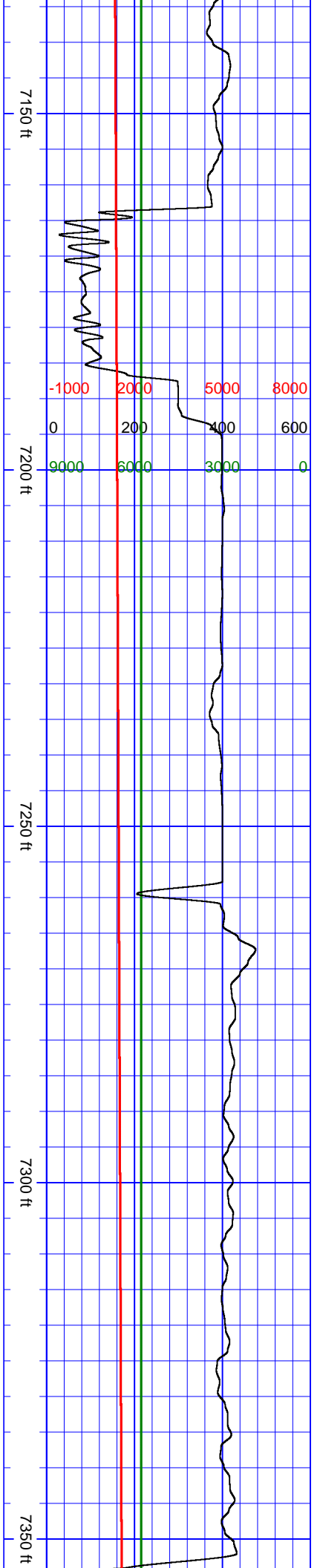
SurveyDepth:7113  
TVD:5764.55 Inc:90.8  
Azi:180.2  
VertSec:1327.85

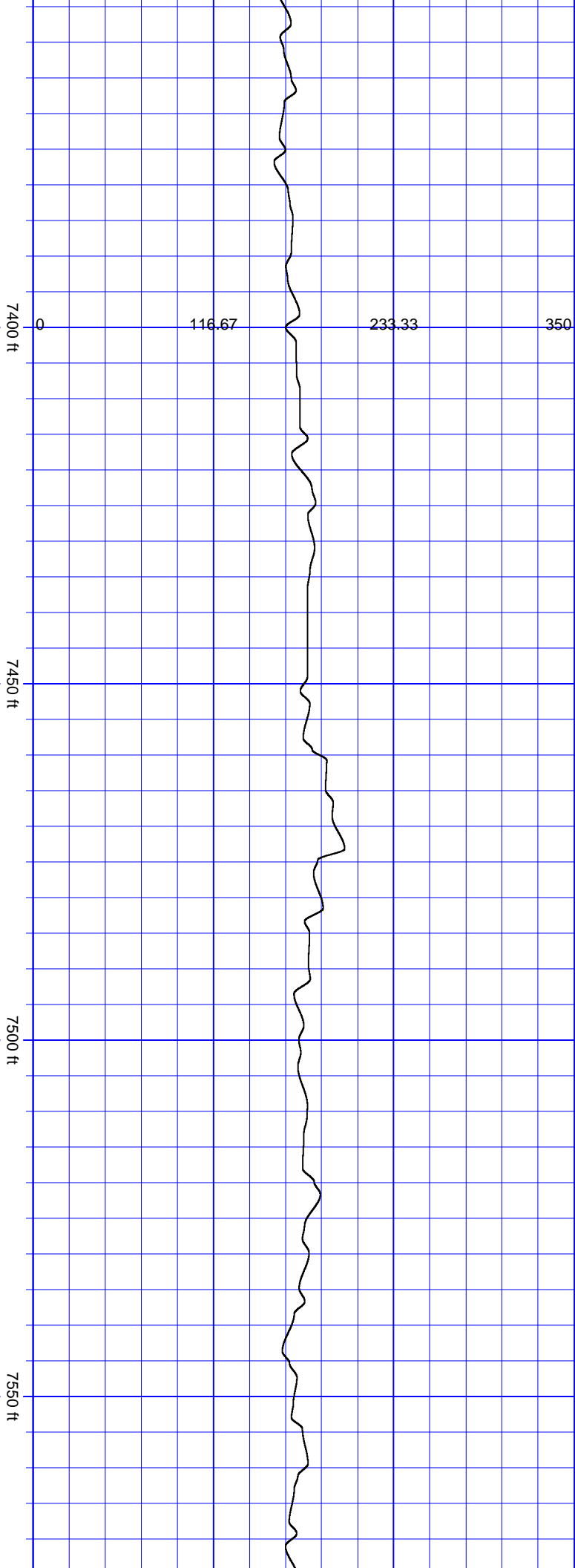




SurveyDepth:7207  
TVD:5762.75 Inc:91.4  
Azi:181.5  
VertSec:1421.82

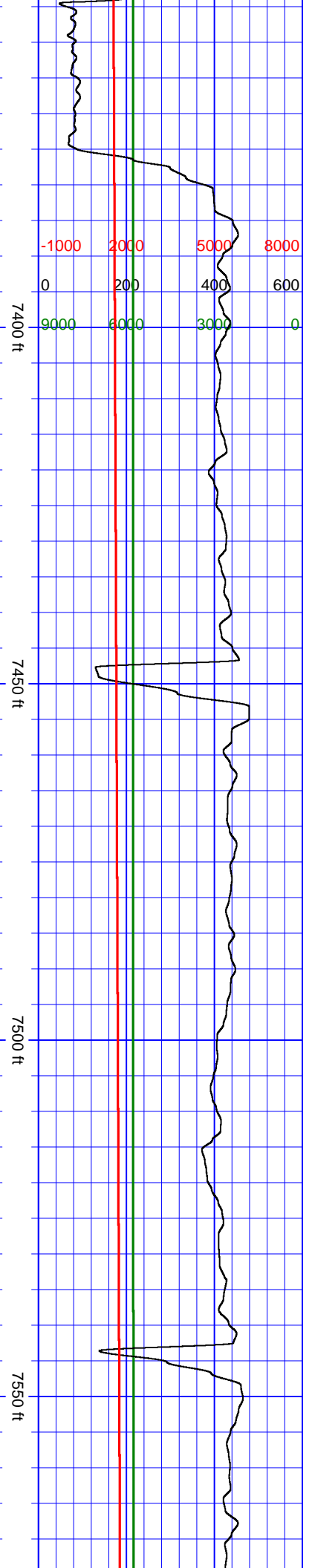
SurveyDepth:7302  
TVD:5760.92 Inc:90.8  
Azi:180.4  
VertSec:1516.79

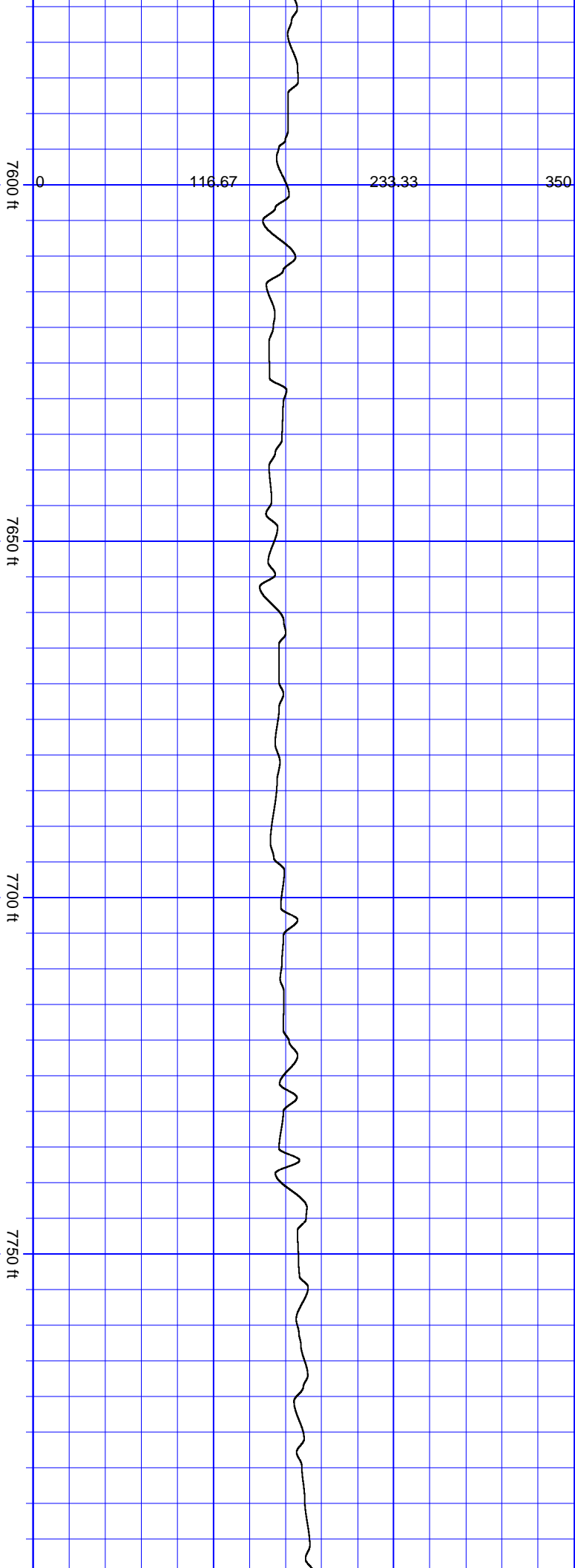




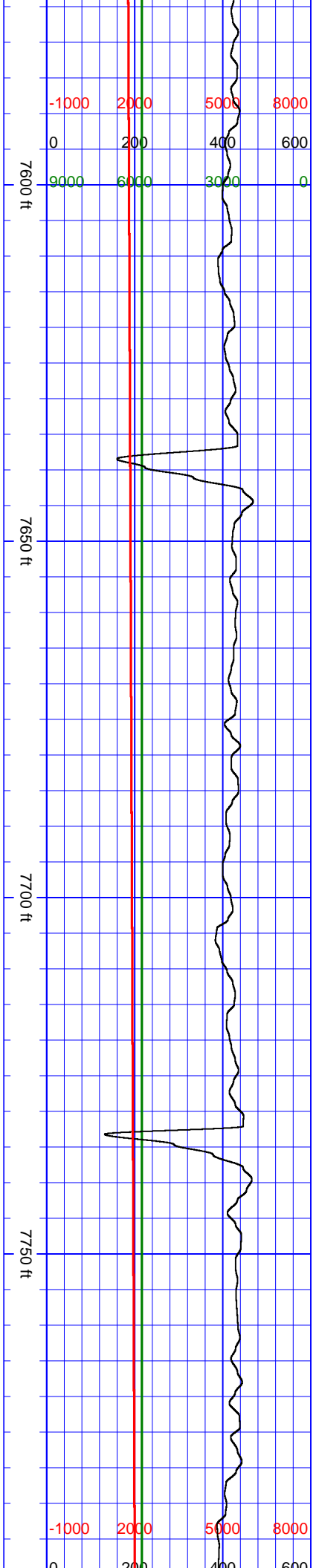
SurveyDepth:7397  
TVD:5759.26 Inc:91.2  
Azi:182.5  
VertSec:1611.74

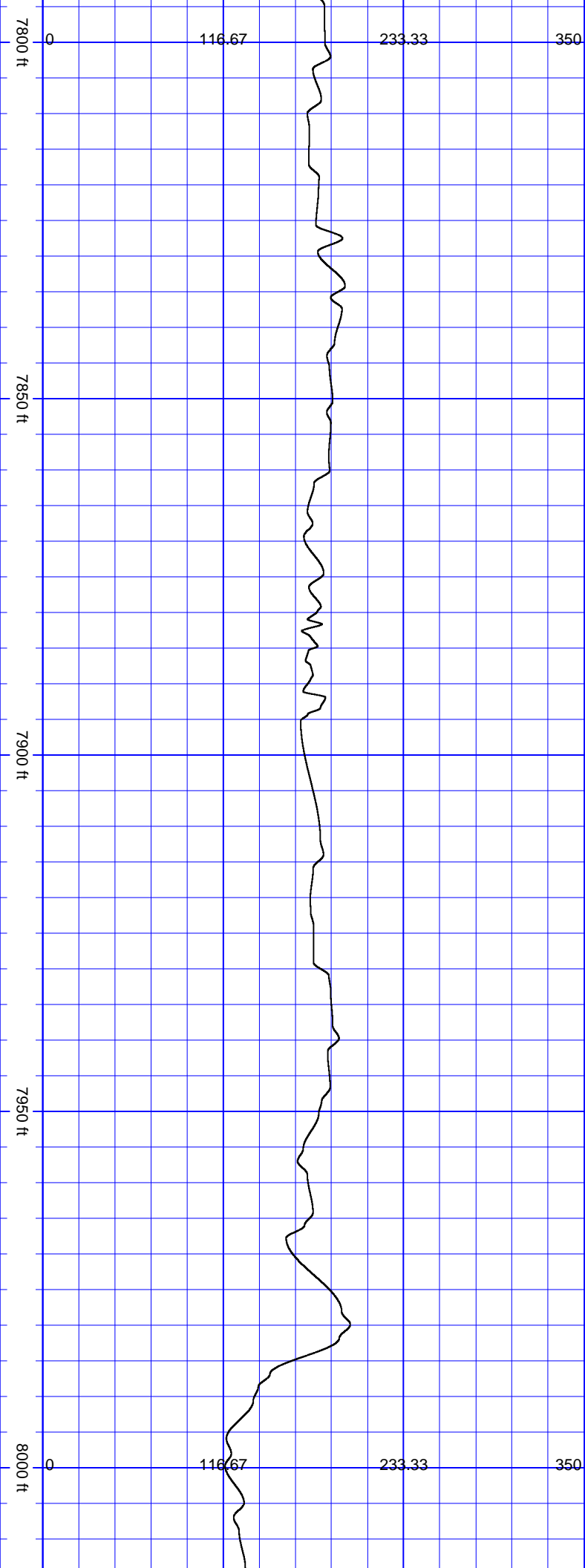
SurveyDepth:7492  
TVD:5757.44 Inc:91  
Azi:180.8  
VertSec:1706.68





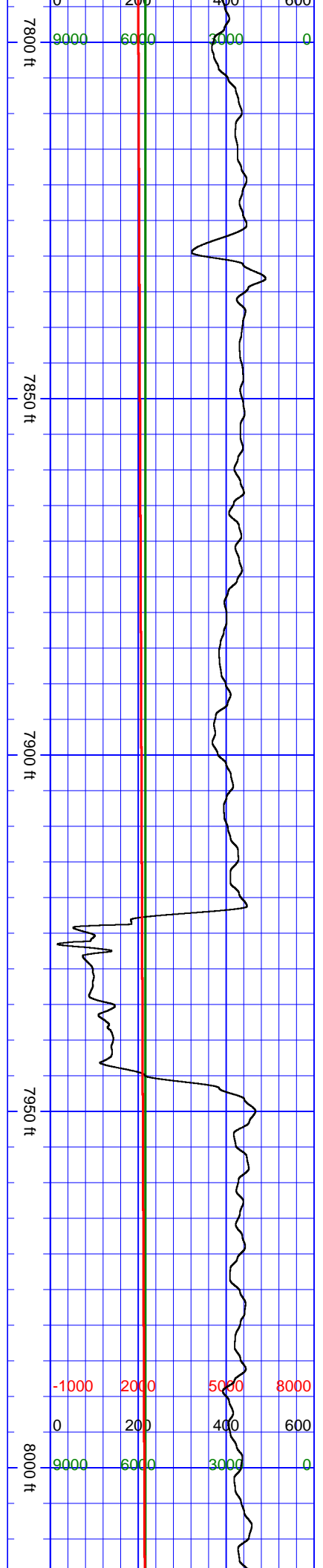
|  |
|--|
| SurveyDepth:7586<br>TVD:5756.04 Inc:90.7<br>Azi:180.8<br>VertSec:1800.66 |
| SurveyDepth:7681<br>TVD:5754.47 Inc:91.2<br>Azi:180.5<br>VertSec:1895.64 |
| SurveyDepth:7776<br>TVD:5752.15 Inc:91.6<br>Azi:179.9<br>VertSec:1990.61 |





SurveyDepth:7871  
TVD:5749.83 Inc:91.2  
Azi:179.3  
VertSec:2085.58

SurveyDepth:7965  
TVD:5748.52 Inc:90.4  
Azi:180 VertSec:2179.57



8050 ft

8100 ft

8150 ft

8200 ft

0 116.67 233.33 350

SurveyDepth:8060  
TVD:5748.35 Inc:89.8  
Azi:178.8  
VertSec:2274.56

SurveyDepth:8155  
TVD:5748.68 Inc:89.8  
Azi:181.1  
VertSec:2369.55

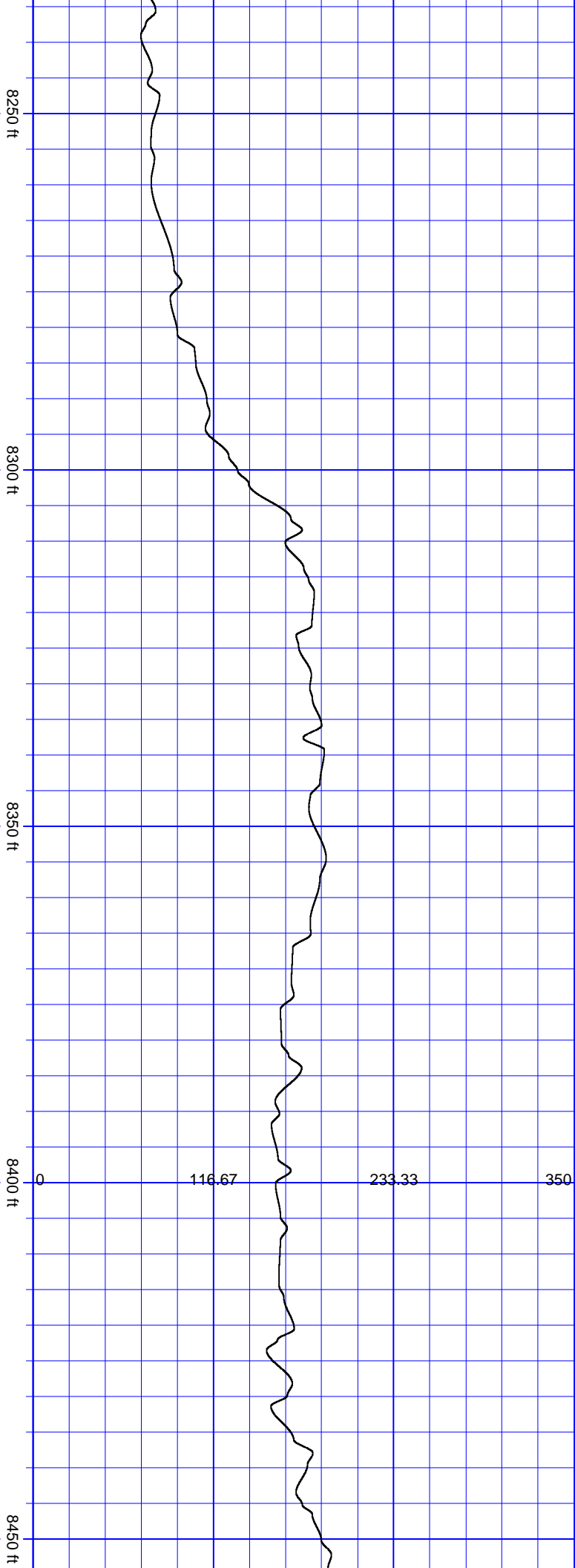
8050 ft

8100 ft

8150 ft

8200 ft

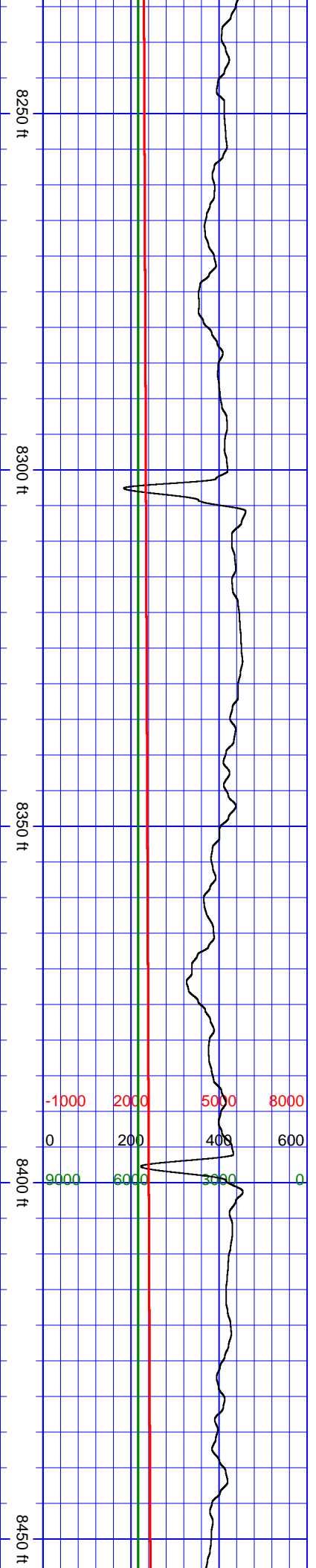
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0 200 400 600  
9000 6000 3000 0



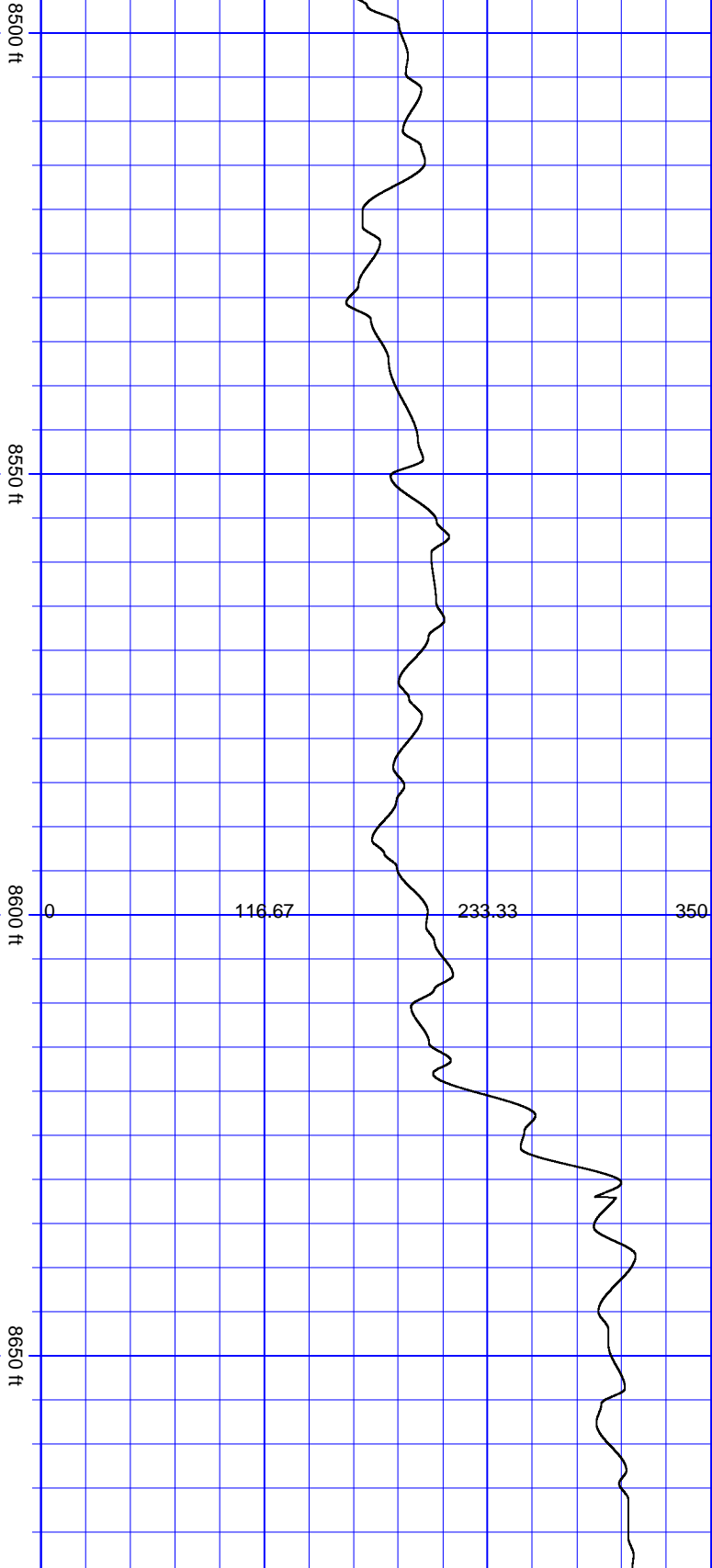
SurveyDepth:8249  
TVD:5748.11 Inc:90.9  
Azi:181.4  
VertSec:2463.53

SurveyDepth:8344  
TVD:5747.03 Inc:90.4  
Azi:180.8  
VertSec:2558.5

SurveyDepth:8437  
TVD:5746.46 Inc:90.3  
Azi:180.4  
VertSec:2651.5

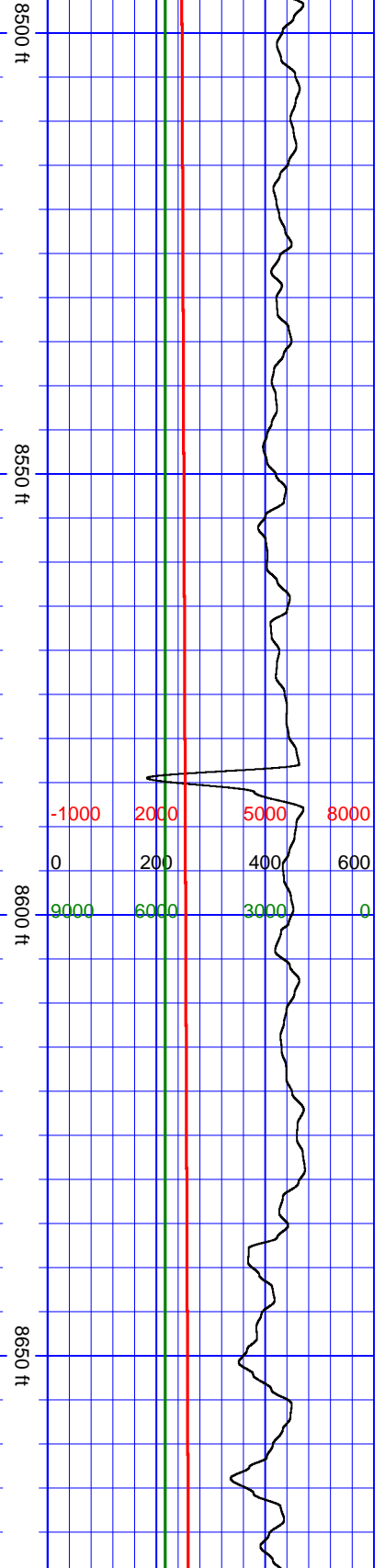


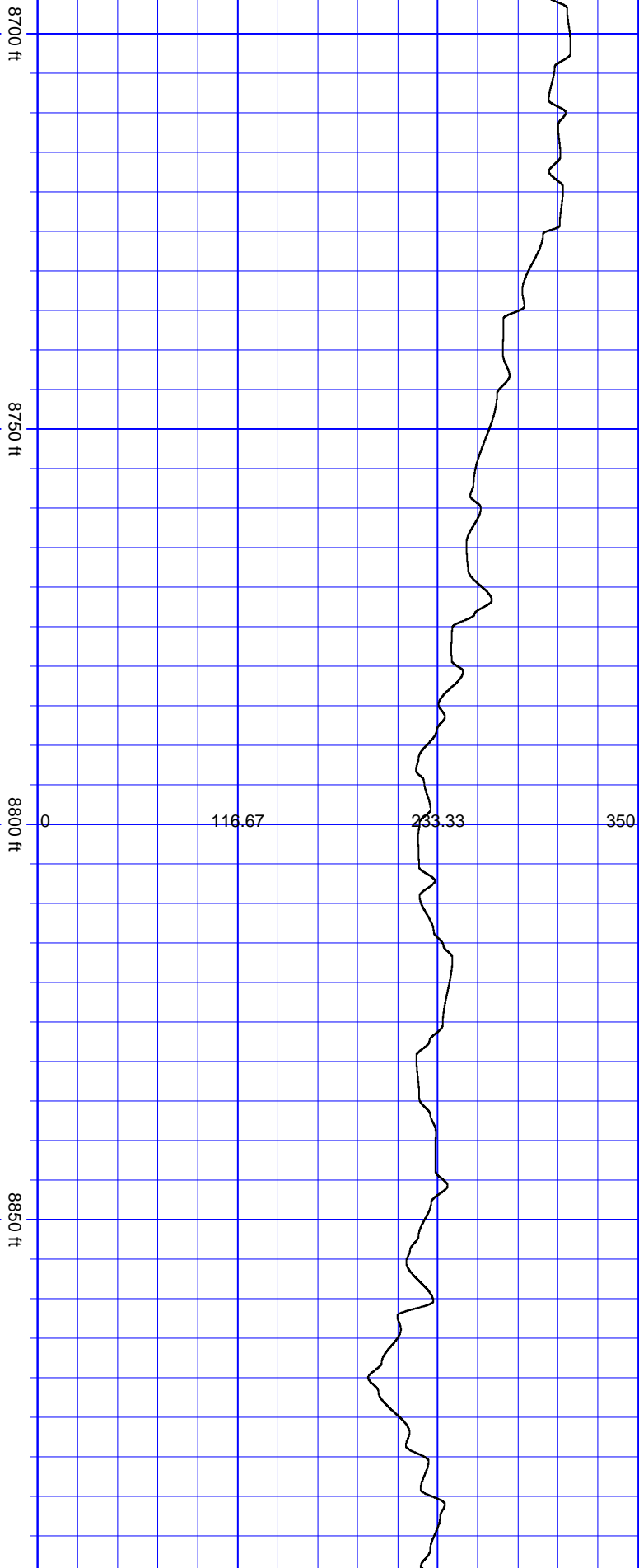




SurveyDepth:8531  
TVD:5746.54 Inc:89.6  
Azi:180.4  
VertSec:2745.49

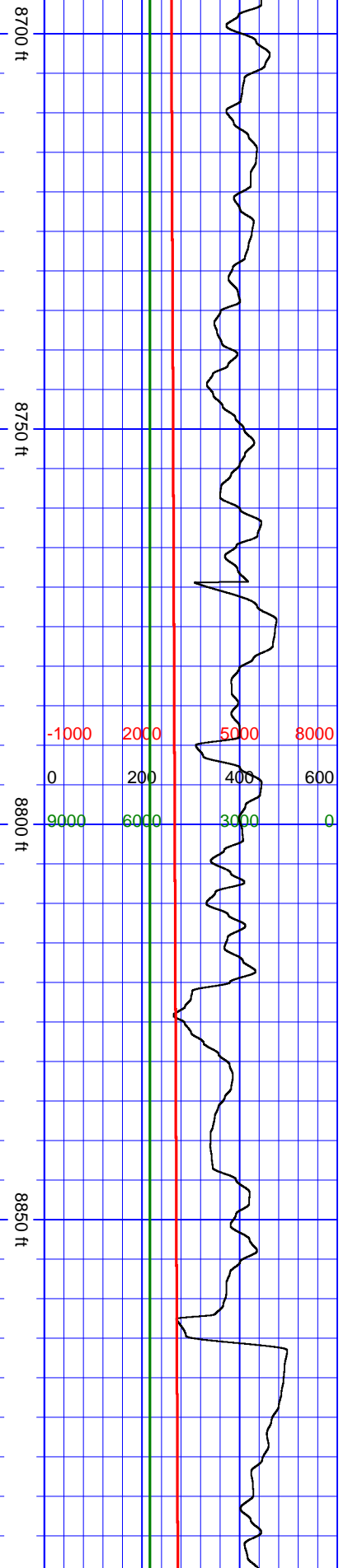
SurveyDepth:8624  
TVD:5747.44 Inc:89.3  
Azi:180.1  
VertSec:2838.49

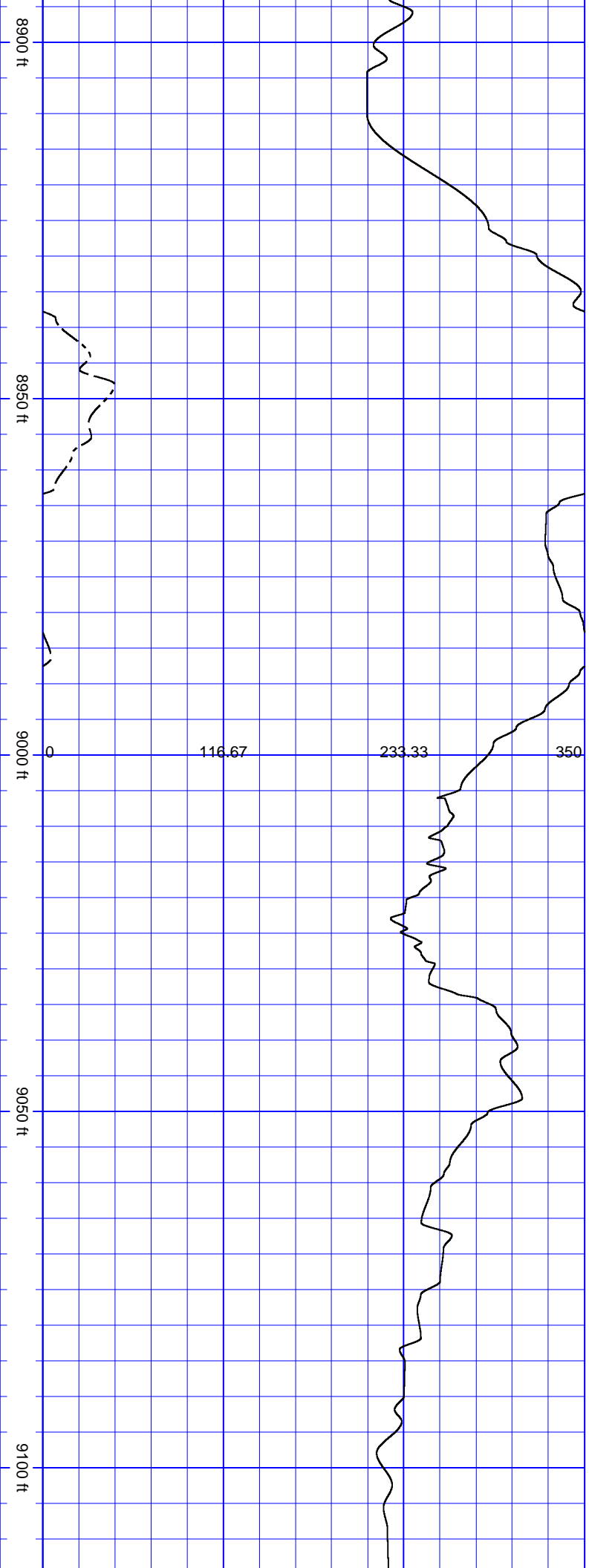




SurveyDepth:8717  
TVD:5748.9 Inc:88.9  
Azi:180.5  
VertSec:2931.47

SurveyDepth:8810  
TVD:5750.52 Inc:89.1  
Azi:179.6  
VertSec:3024.46

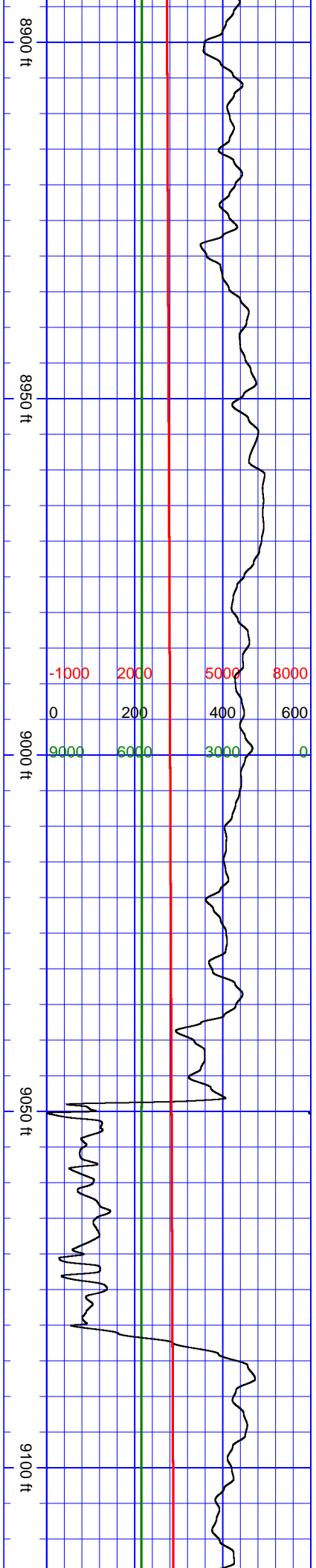


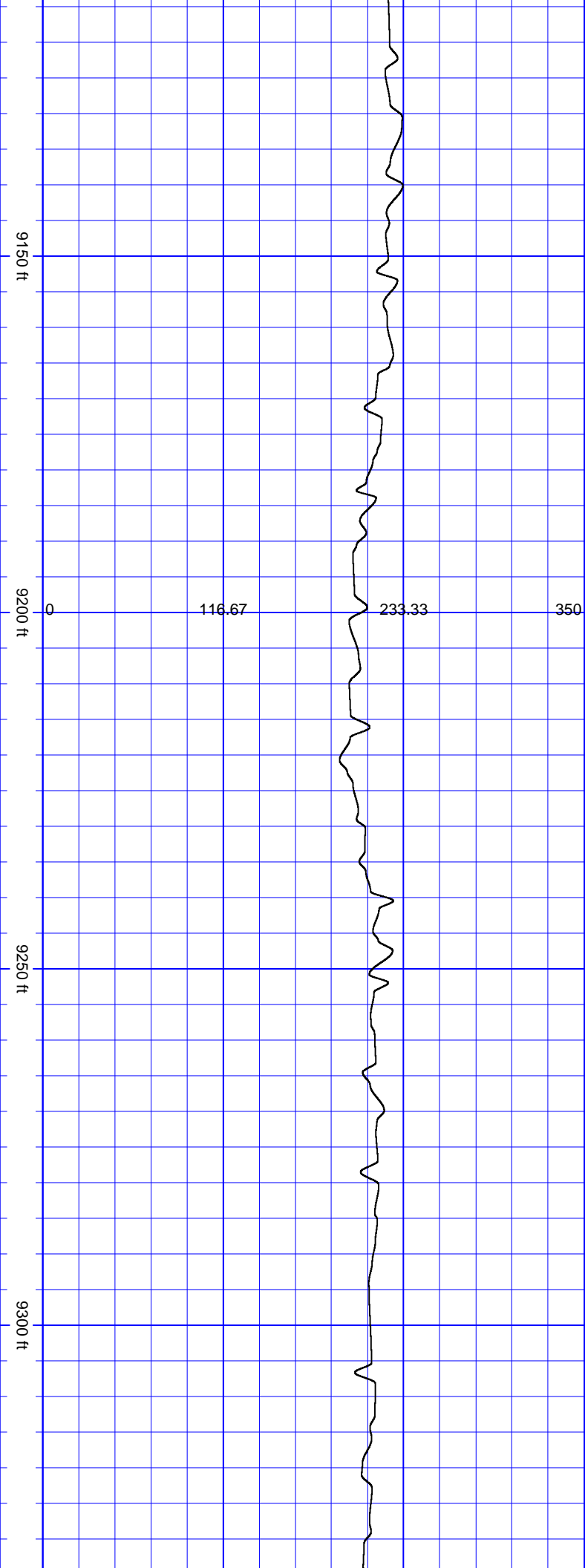


SurveyDepth:8903  
TVD:5752.63 Inc:88.3  
Azi:180.1  
VertSec:3117.43

SurveyDepth:8995  
TVD:5755.76 Inc:87.8  
Azi:179.5  
VertSec:3209.38

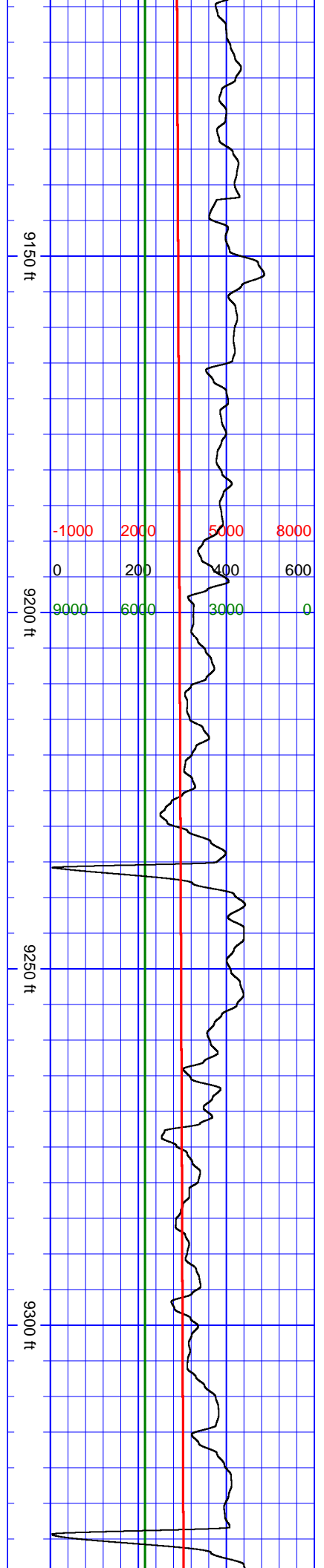
SurveyDepth:9089  
TVD:5757.48 Inc:90.1  
Azi:181.4  
VertSec:3303.35

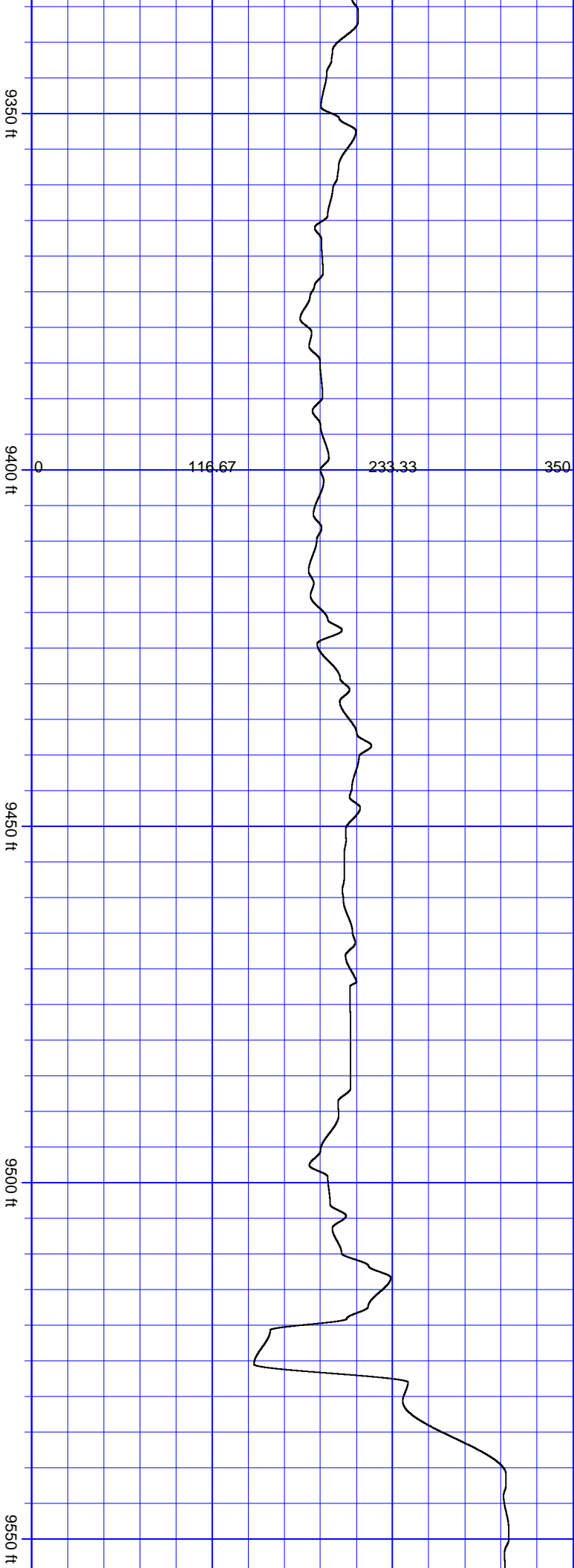




SurveyDepth:9182  
TVD:5757.73 Inc:89.6  
Azi:181.3  
VertSec:3396.32

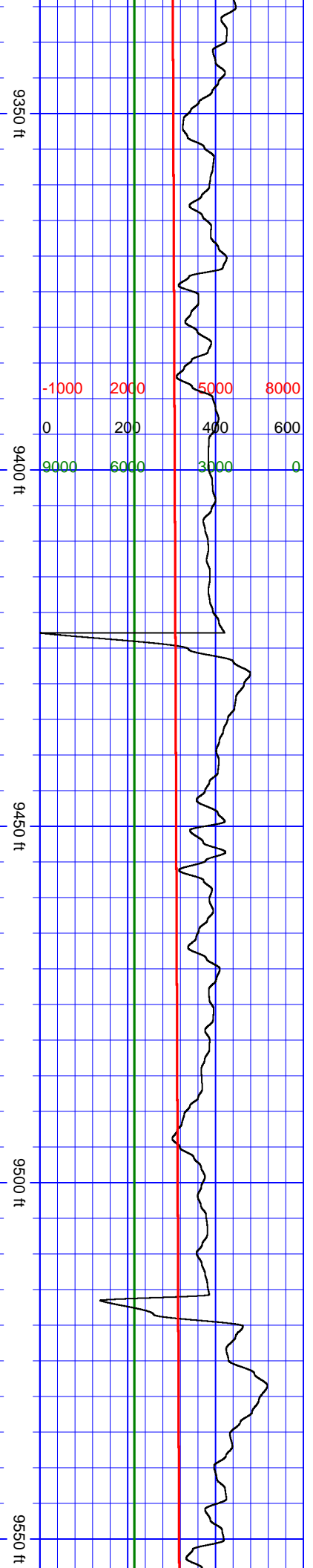
SurveyDepth:9276  
TVD:5758.3 Inc:89.7  
Azi:180.5  
VertSec:3490.31

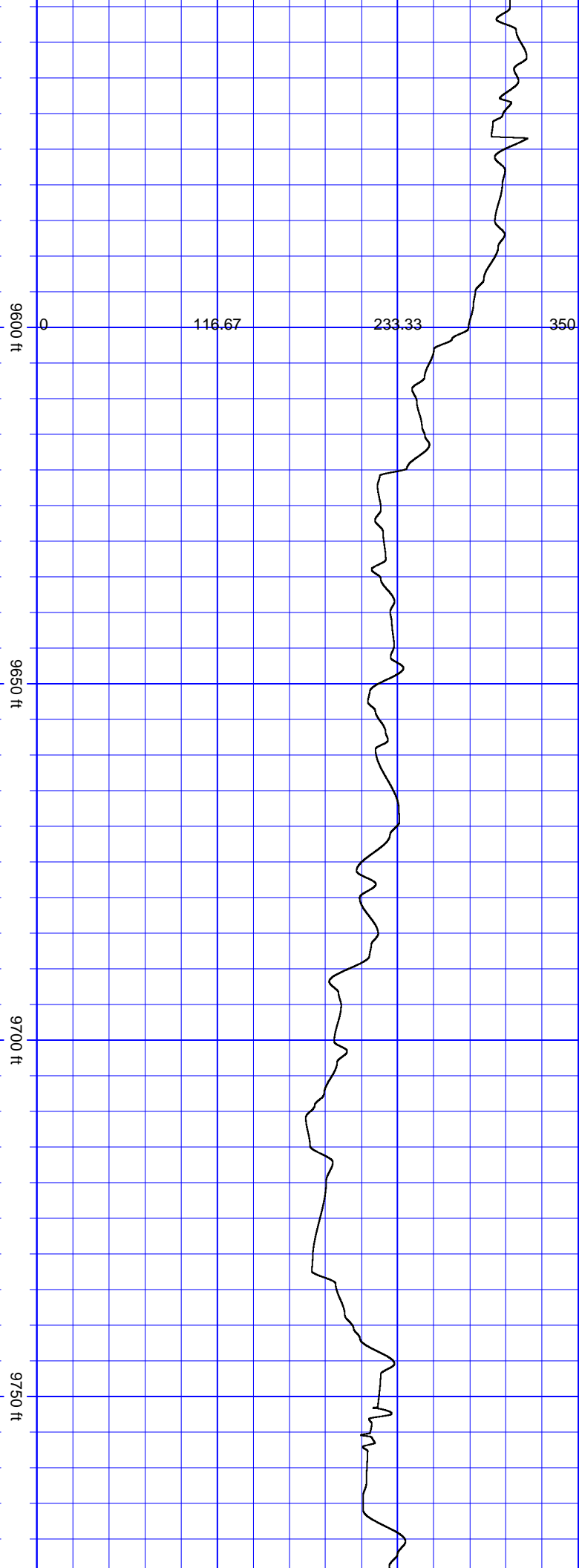




SurveyDepth:9369  
TVD:5758.87 Inc:89.6  
Azi:180.2  
VertSec:3583.31

SurveyDepth:9463  
TVD:5759.61 Inc:89.5  
Azi:179.5  
VertSec:3677.3

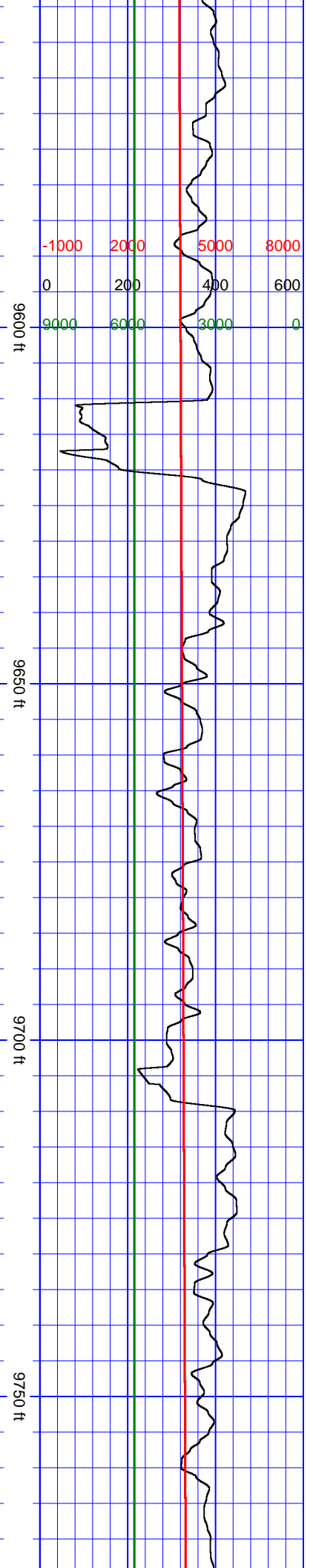


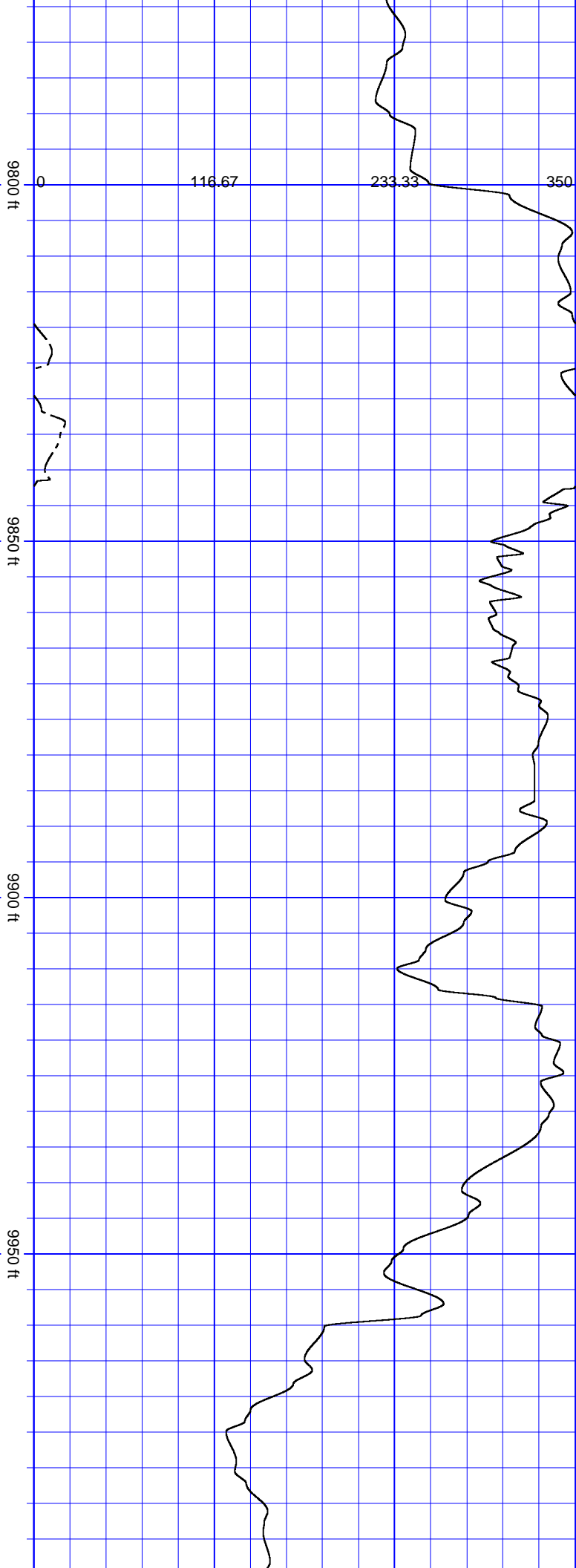


SurveyDepth:9556  
TVD:5760.5 Inc:89.4  
Azi:179.5  
VertSec:3770.29

SurveyDepth:9650  
TVD:5762.14 Inc:88.6  
Azi:179.5  
VertSec:3864.28

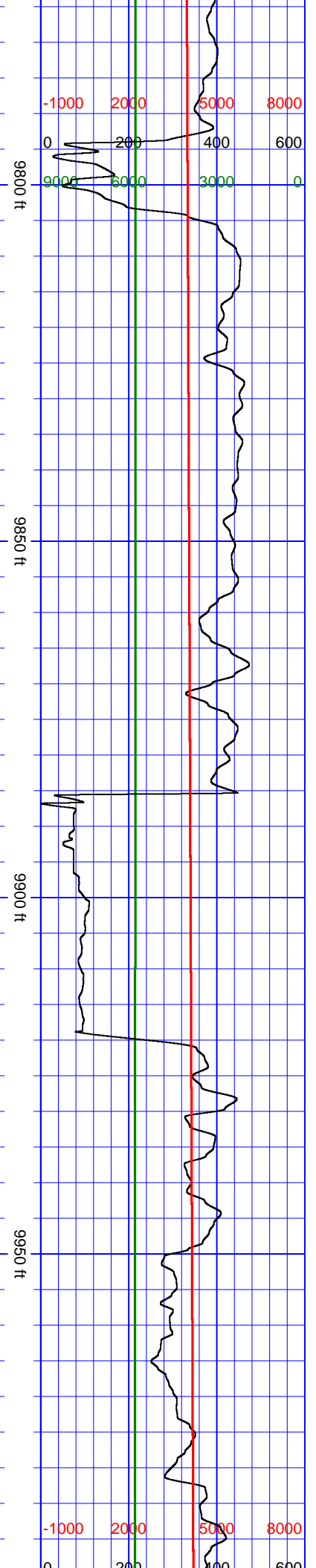
SurveyDepth:9743  
TVD:5764.9 Inc:88  
Azi:180 VertSec:3957.23

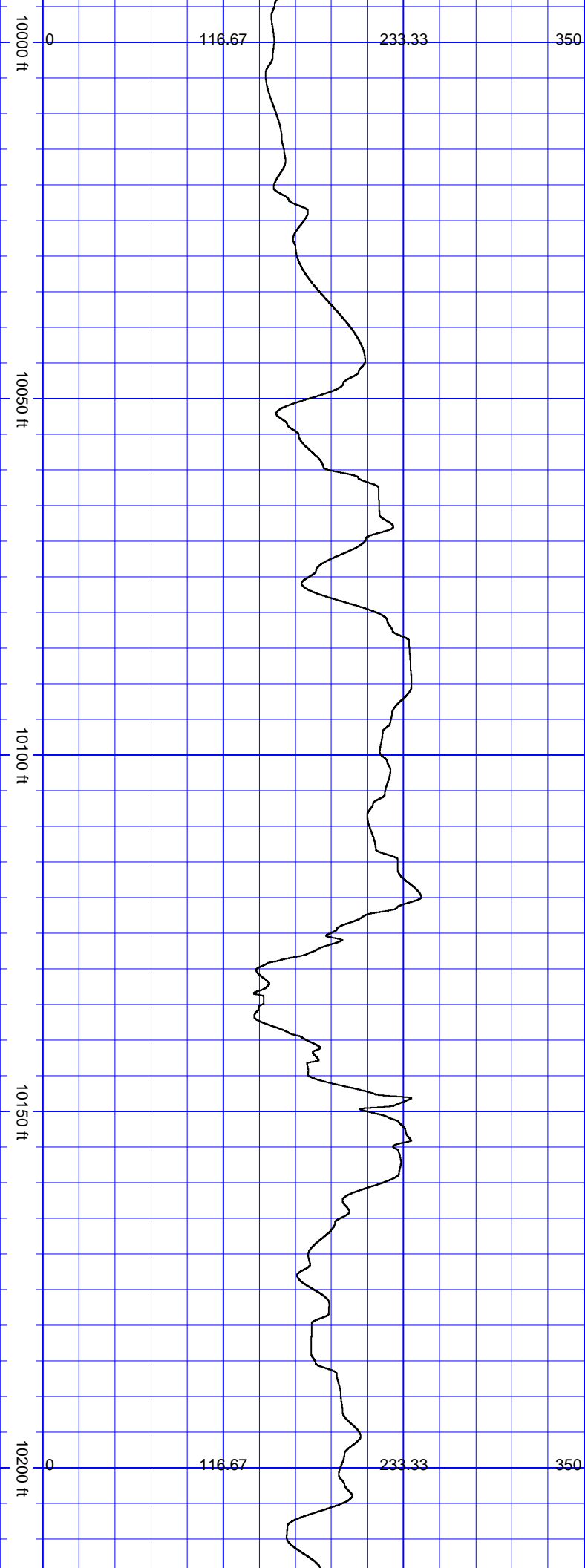




SurveyDepth:9837  
TVD:5769.98 Inc:85.8  
Azi:176.2  
VertSec:4051.02

SurveyDepth:9931  
TVD:5773.84 Inc:89.5  
Azi:179.1  
VertSec:4144.84

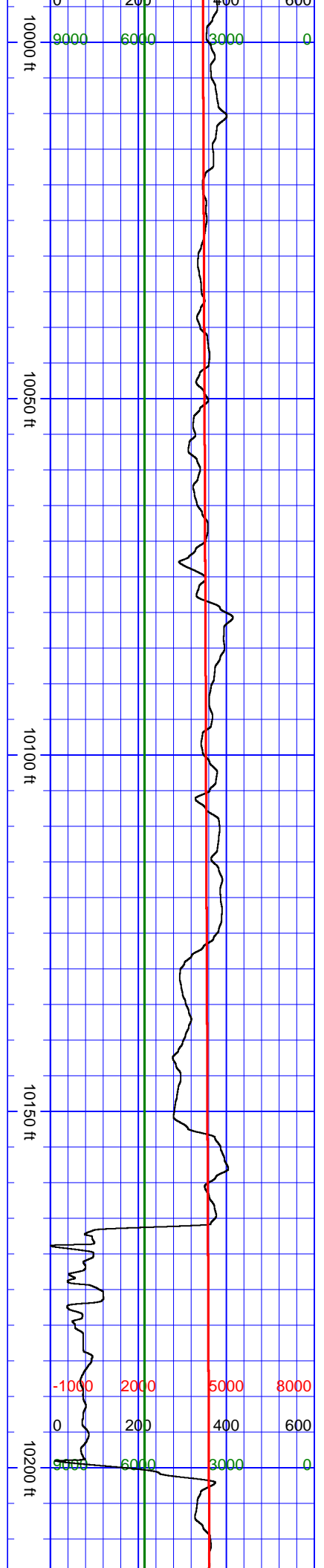




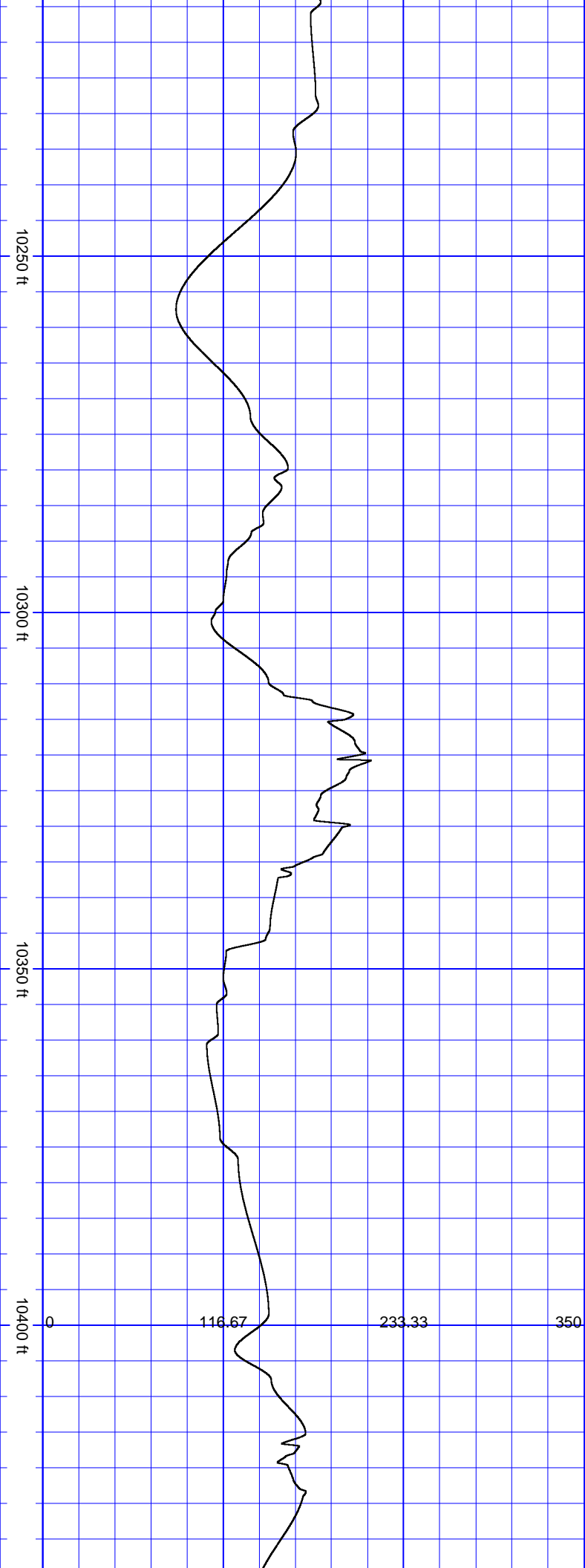
SurveyDepth:10024  
TVD:5775.54 Inc:88.4  
Azi:178.5  
VertSec:4237.8

SurveyDepth:10118  
TVD:5779.15 Inc:87.2  
Azi:178 VertSec:4331.68

SurveyDepth:10211

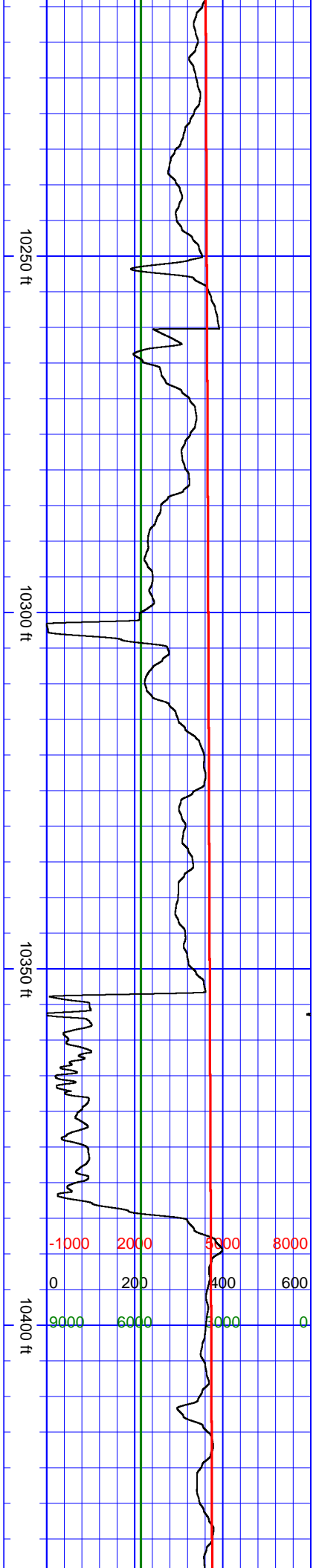


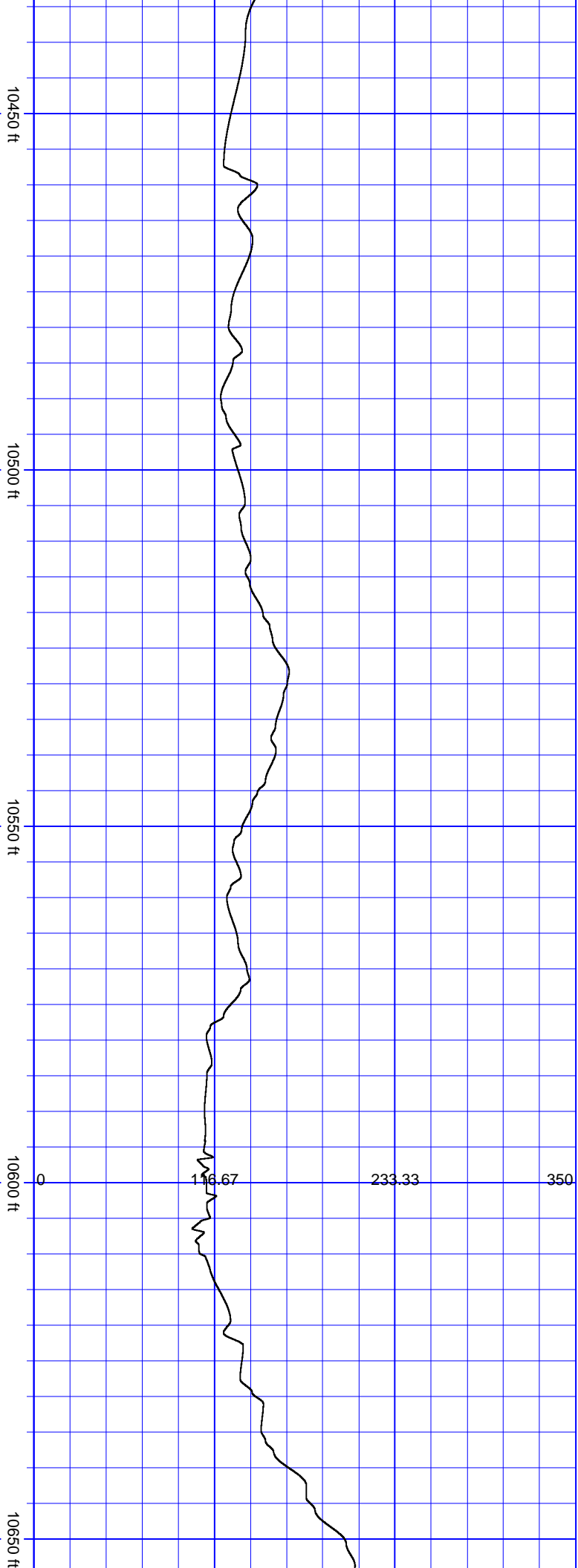




TVD:5783.21 Inc:87.8  
Azi:181.3  
VertSec:4424.58

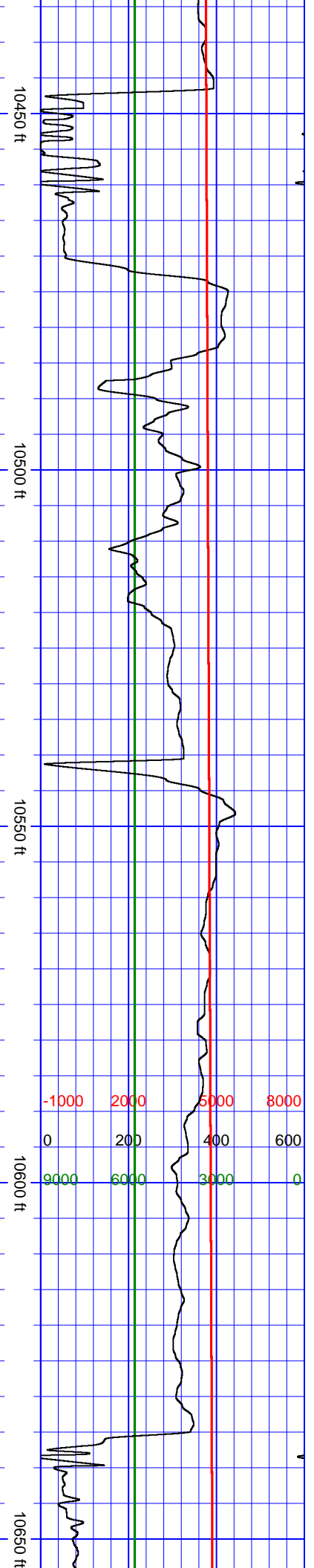
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TVD:5787.15 Inc:87.4  
Azi:179.8  
VertSec:4518.49

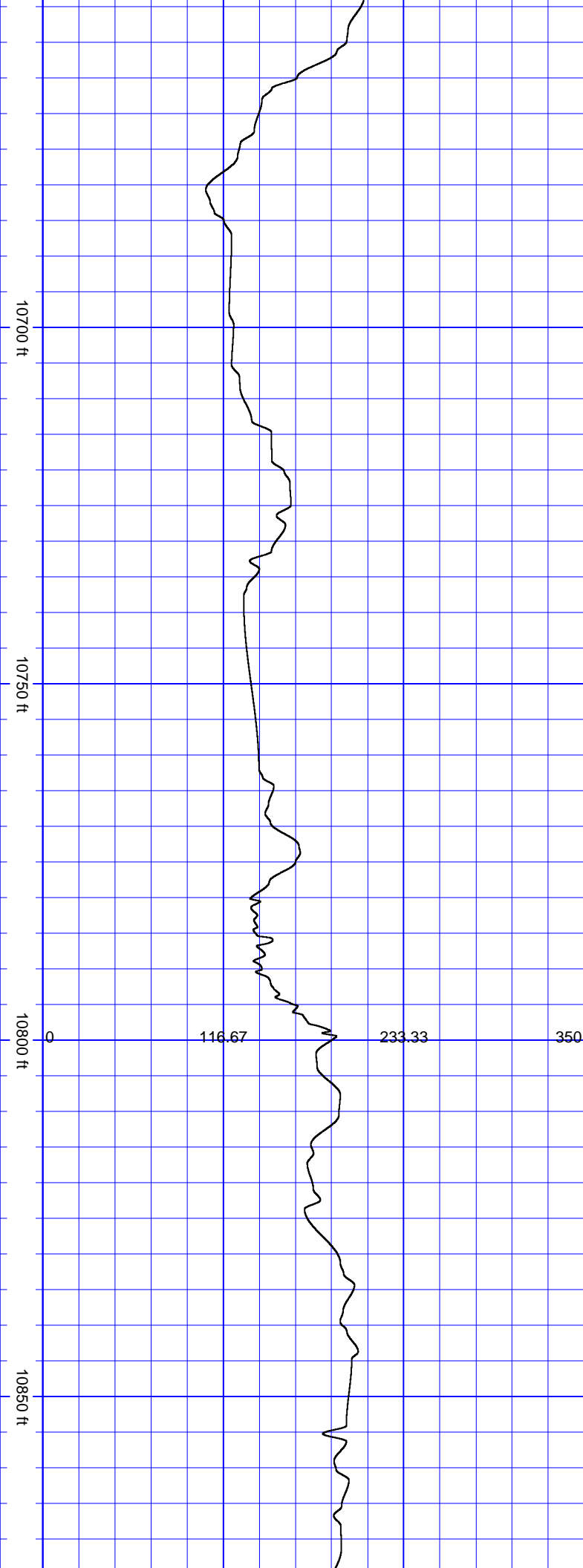




SurveyDepth:10492  
TVD:5788.78 Inc:91.6  
Azi:179.9  
VertSec:4705.44

SurveyDepth:10585  
TVD:5786.26 Inc:91.5  
Azi:179.3  
VertSec:4798.4

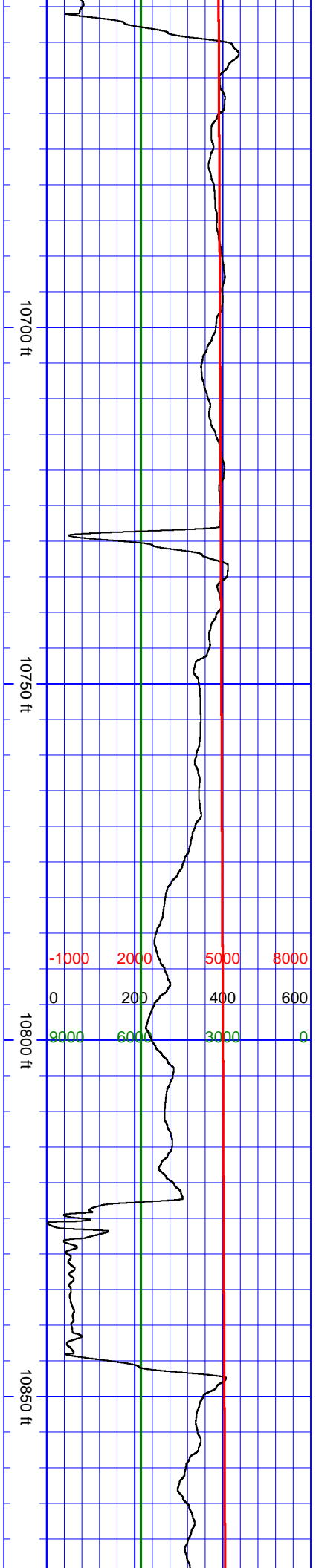




SurveyDepth:10679  
TVD:5782.82 Inc:92.7  
Azi:180 VertSec:4892.34

SurveyDepth:10772  
TVD:5778.44 Inc:92.7  
Azi:179.5  
VertSec:4985.23

SurveyDepth:10866  
TVD:5774.83 Inc:91.7  
Azi:180.3



10900 ft

10950 ft

11000 ft

11050 ft

0 116.67 233.33 350

VertSec:5079.16

SurveyDepth:10959  
TVD:5771.99 Inc:91.8  
Azi:179.6  
VertSec:5172.12

SurveyDepth:11053  
TVD:5770.84 Inc:89.6  
Azi:180.7  
VertSec:5266.1

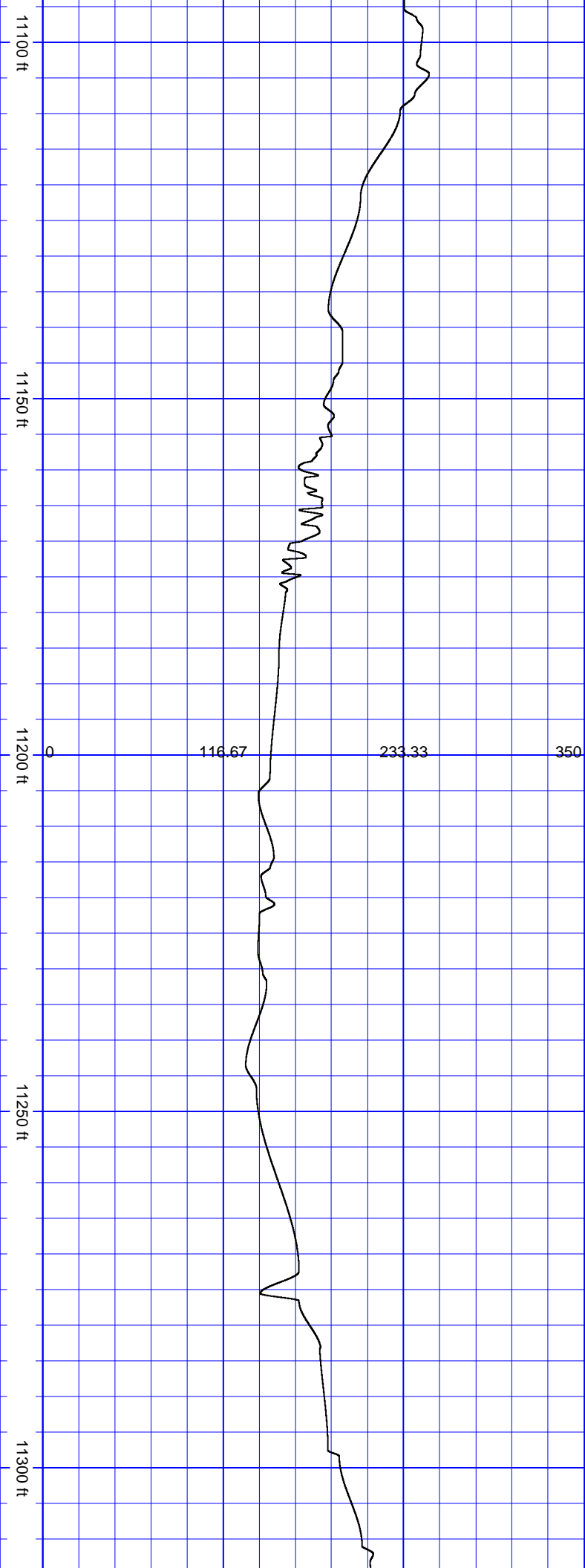
10900 ft

10950 ft

11000 ft

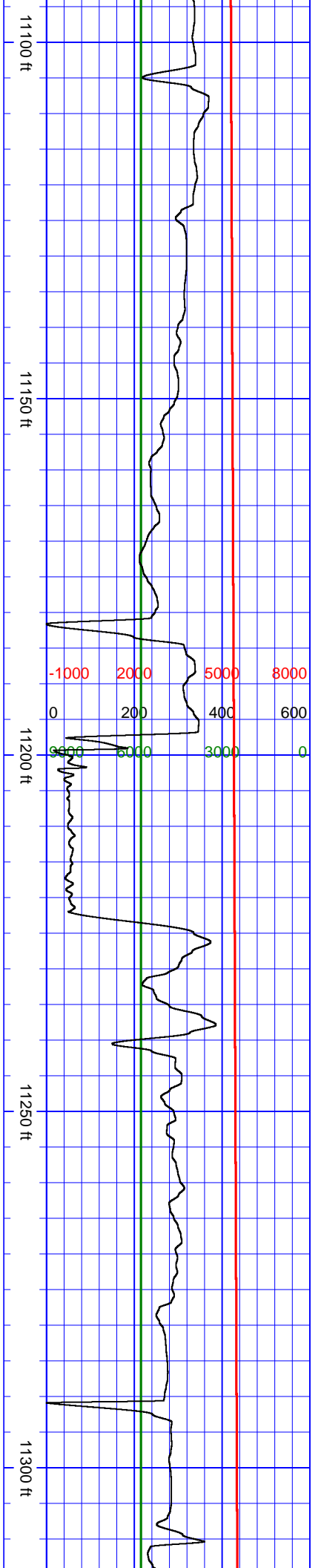
11050 ft

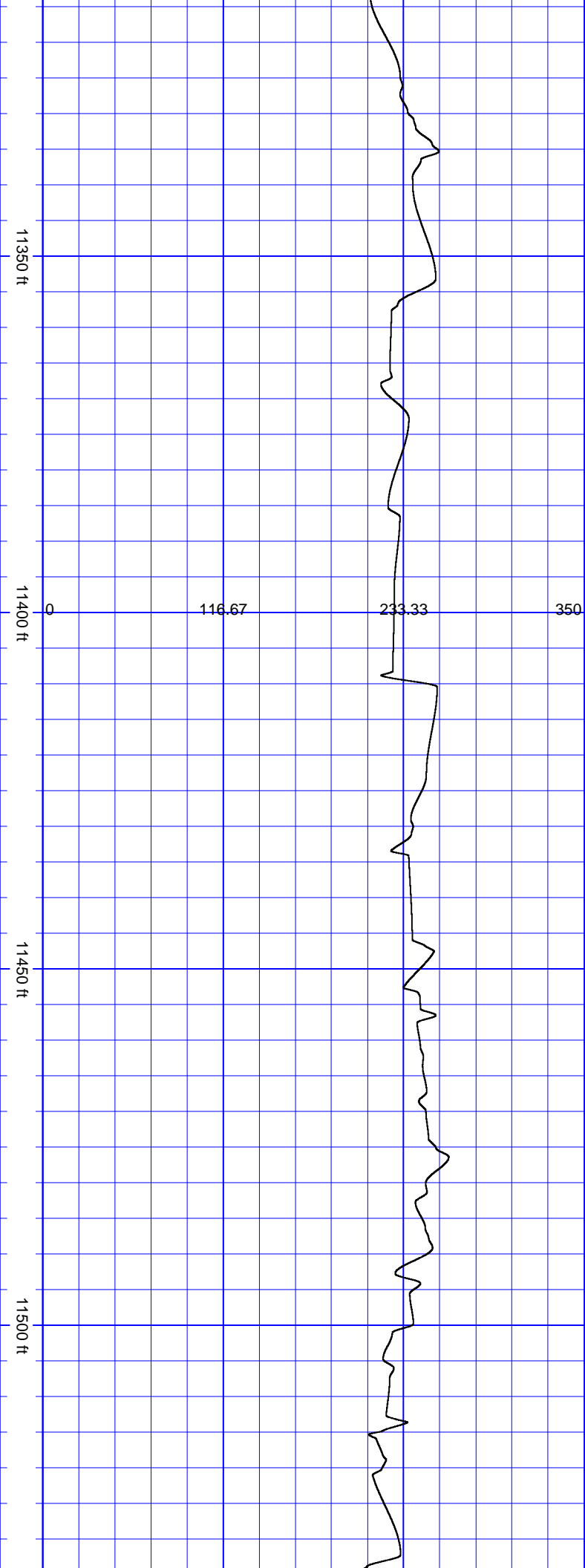
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0 200 400 600  
9000 6000 3000 0



SurveyDepth:11146  
TVD:5771.65 Inc:89.4  
Azi:180.4  
VertSec:5359.09

SurveyDepth:11240  
TVD:5772.06 Inc:90.1  
Azi:182.8  
VertSec:5453.05

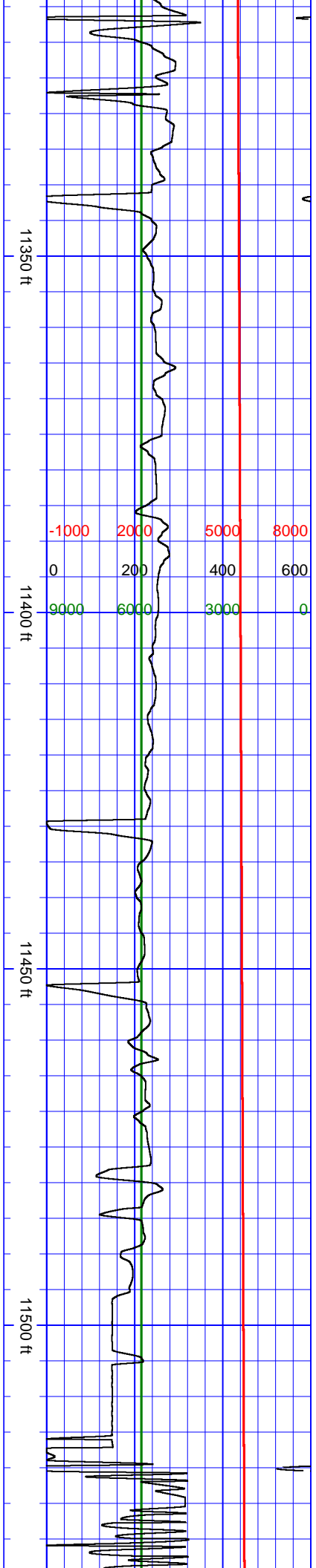


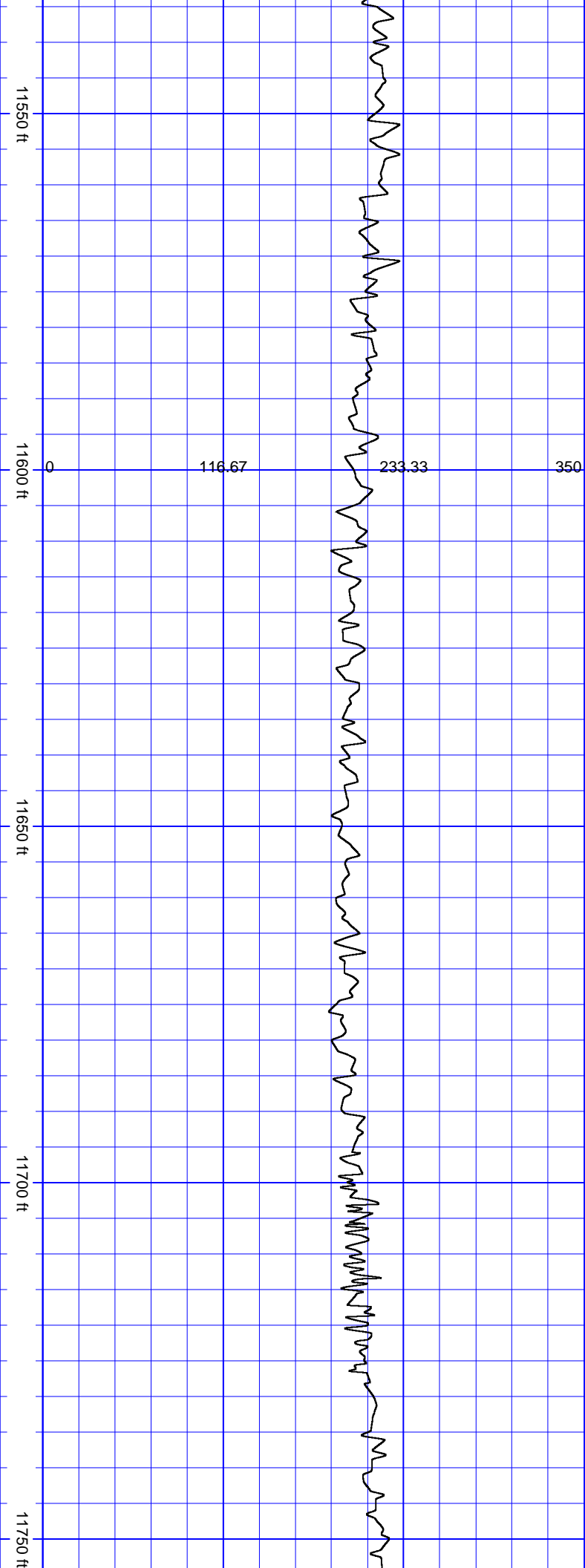


SurveyDepth:11333  
TVD:5771.17 Inc:91  
Azi:182.3  
VertSec:5545.95

SurveyDepth:11427  
TVD:5769.86 Inc:90.6  
Azi:181.6  
VertSec:5639.89

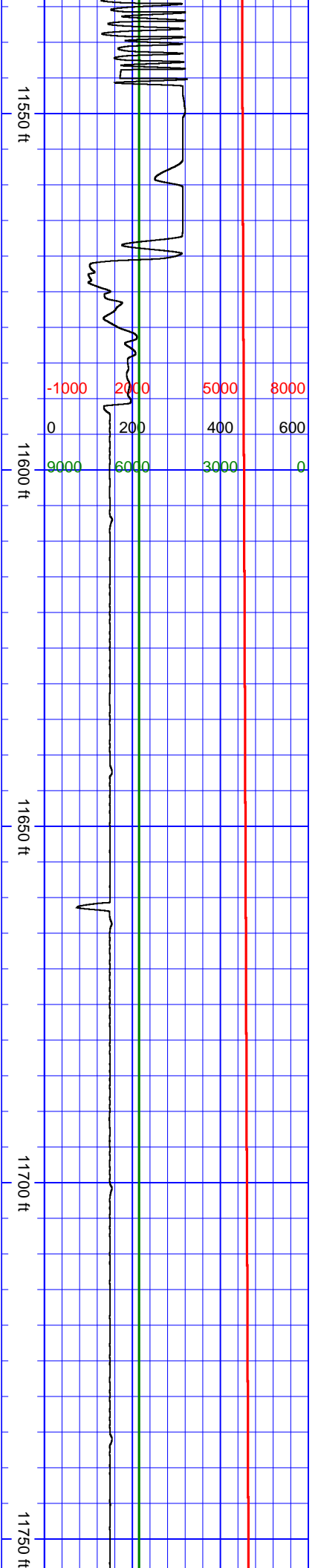
SurveyDepth:11504  
TVD:5768.98 Inc:90.7  
Azi:181 VertSec:5716.86

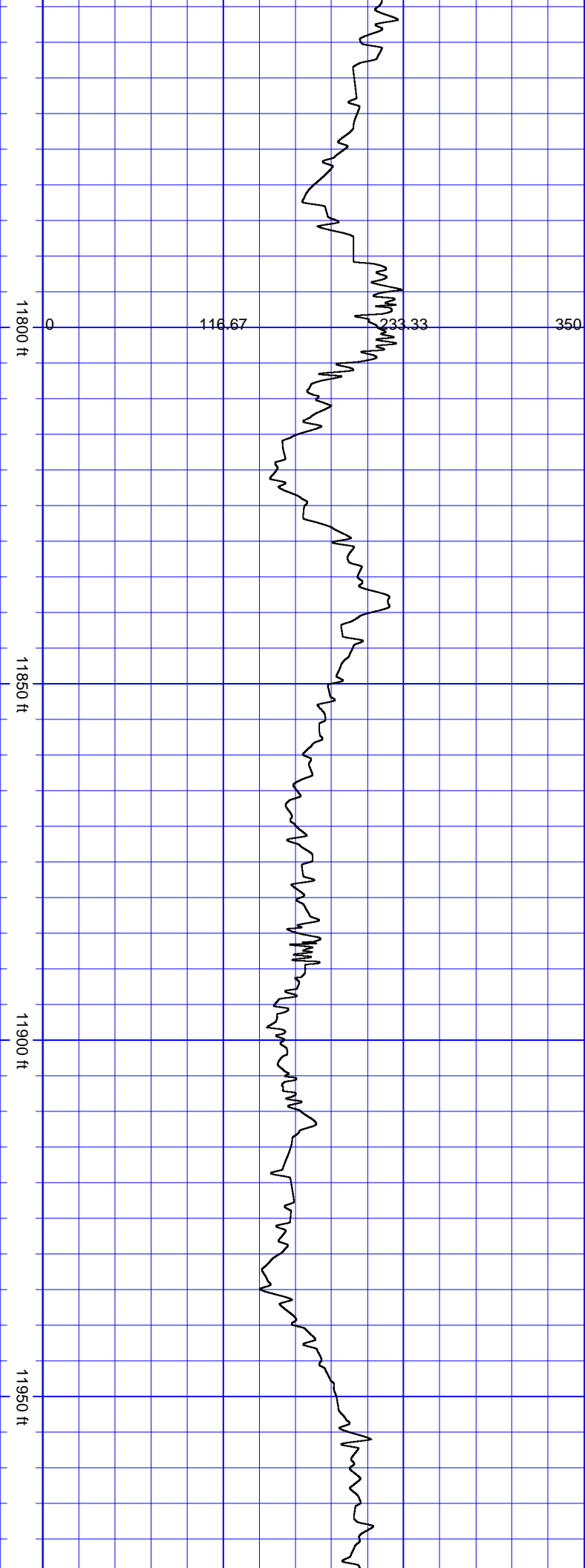




SurveyDepth:11598  
TVD:5768.24 Inc:90.2  
Azi:179 VertSec:5810.85

SurveyDepth:11691  
TVD:5768.16 Inc:89.9  
Azi:176.4  
VertSec:5903.77

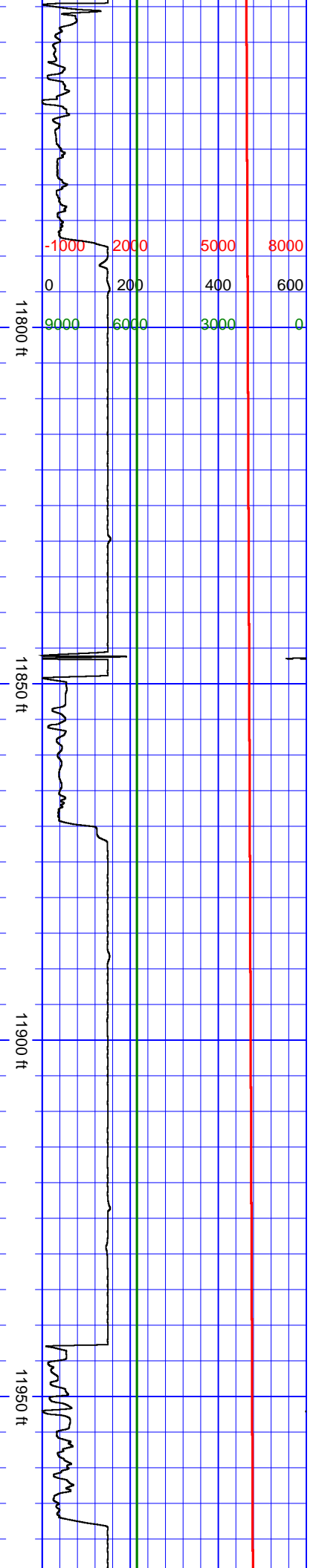




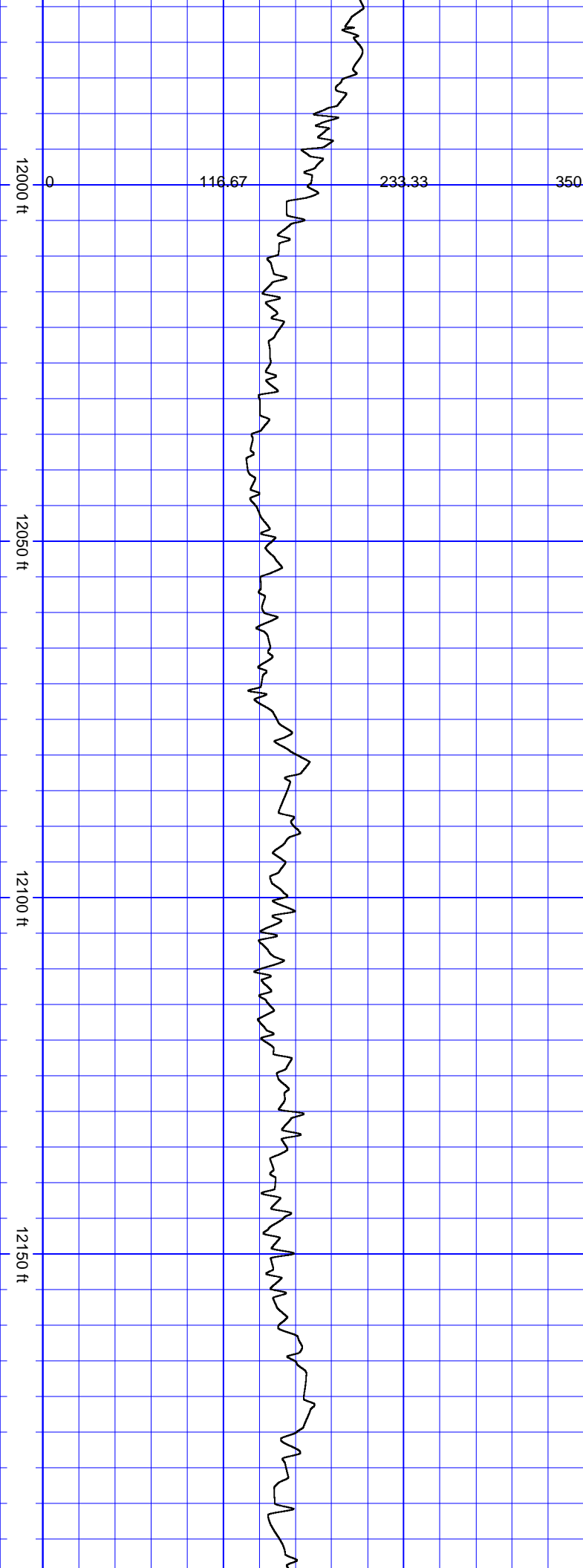
SurveyDepth:11785  
TVD:5765.7 Inc:93.1  
Azi:176.3  
VertSec:5997.54

SurveyDepth:11879  
TVD:5761.19 Inc:92.4  
Azi:177.1  
VertSec:6091.27

SurveyDepth:11972



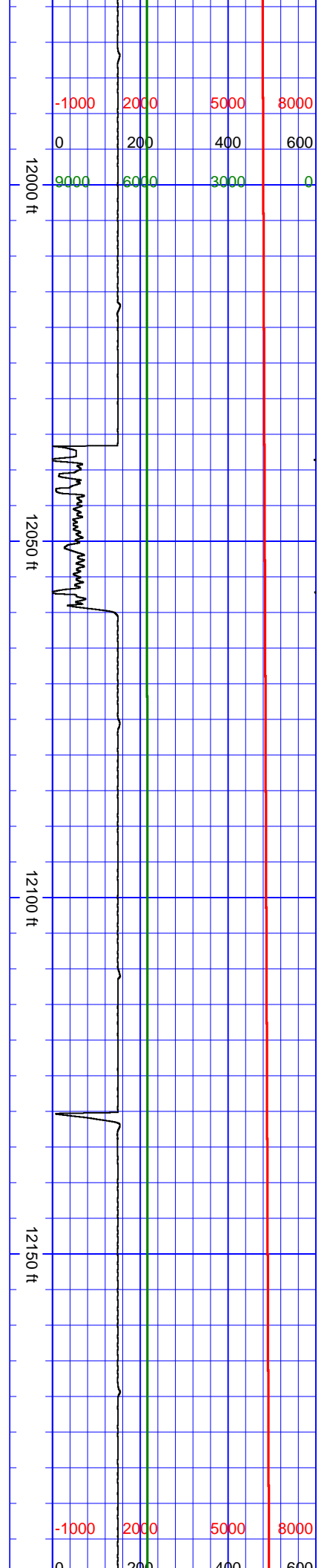


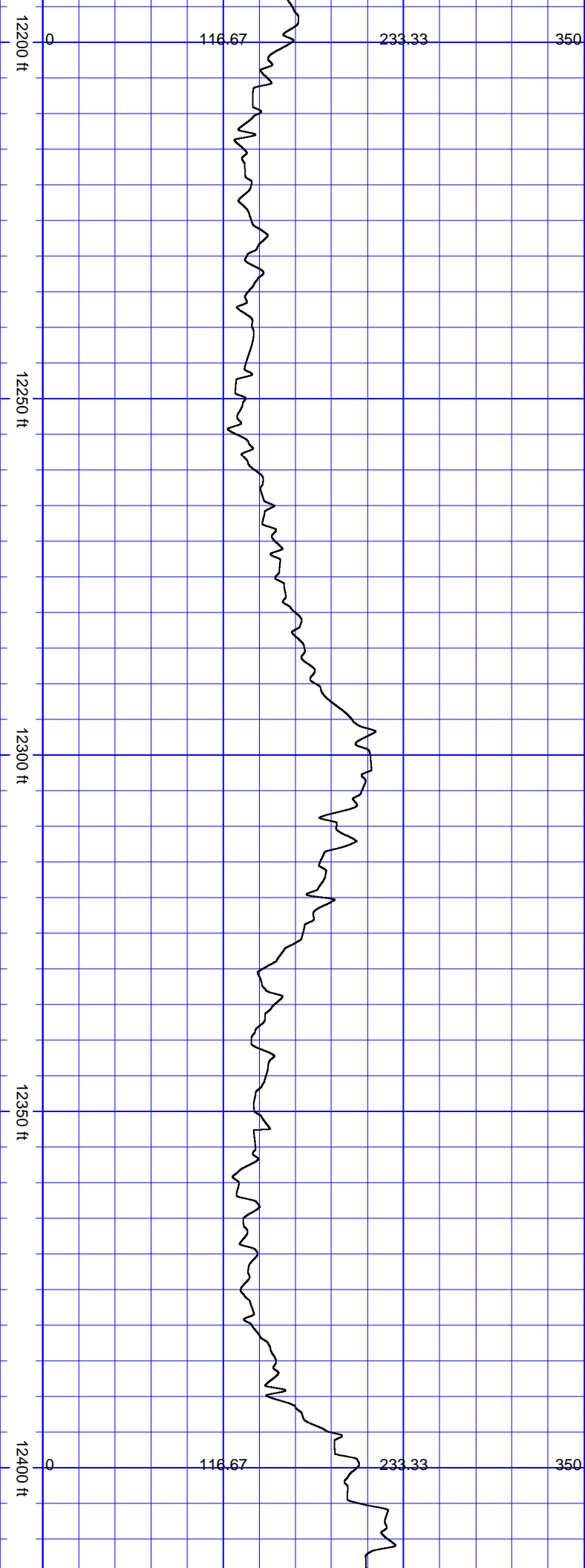


TVD:5758.51 Inc:90.9  
Azi:179.7  
VertSec:6184.19

SurveyDepth:12066  
TVD:5756.87 Inc:91.1  
Azi:182.5  
VertSec:6278.14

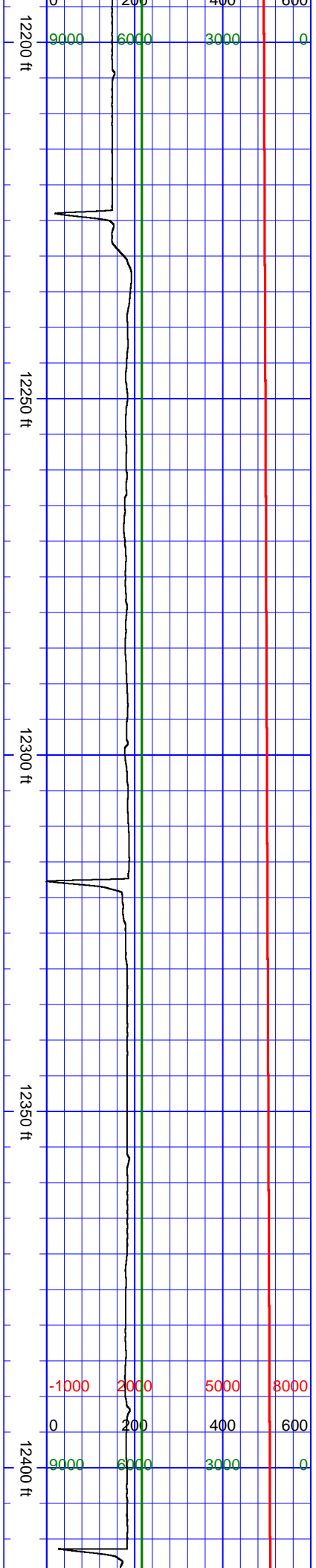
SurveyDepth:12159  
TVD:5755.01 Inc:91.2  
Azi:182.3  
VertSec:6371.04





SurveyDepth:12253  
TVD:5752.87 Inc:91.4  
Azi:181.6  
VertSec:6464.96

SurveyDepth:12347  
TVD:5750 Inc:92.1  
Azi:181.4  
VertSec:6558.89



12450 ft

12500 ft

12550 ft

12600 ft

0 116.67 233.33 350

SurveyDepth:12440  
TVD:5746.27 Inc:92.5  
Azi:180.9  
VertSec:6651.79

SurveyDepth:12534  
TVD:5743.65 Inc:90.7  
Azi:180.9  
VertSec:6745.74

SurveyDepth:12628  
TVD:5742.17 Inc:91.1  
Azi:180.9  
VertSec:6839.79

12450 ft

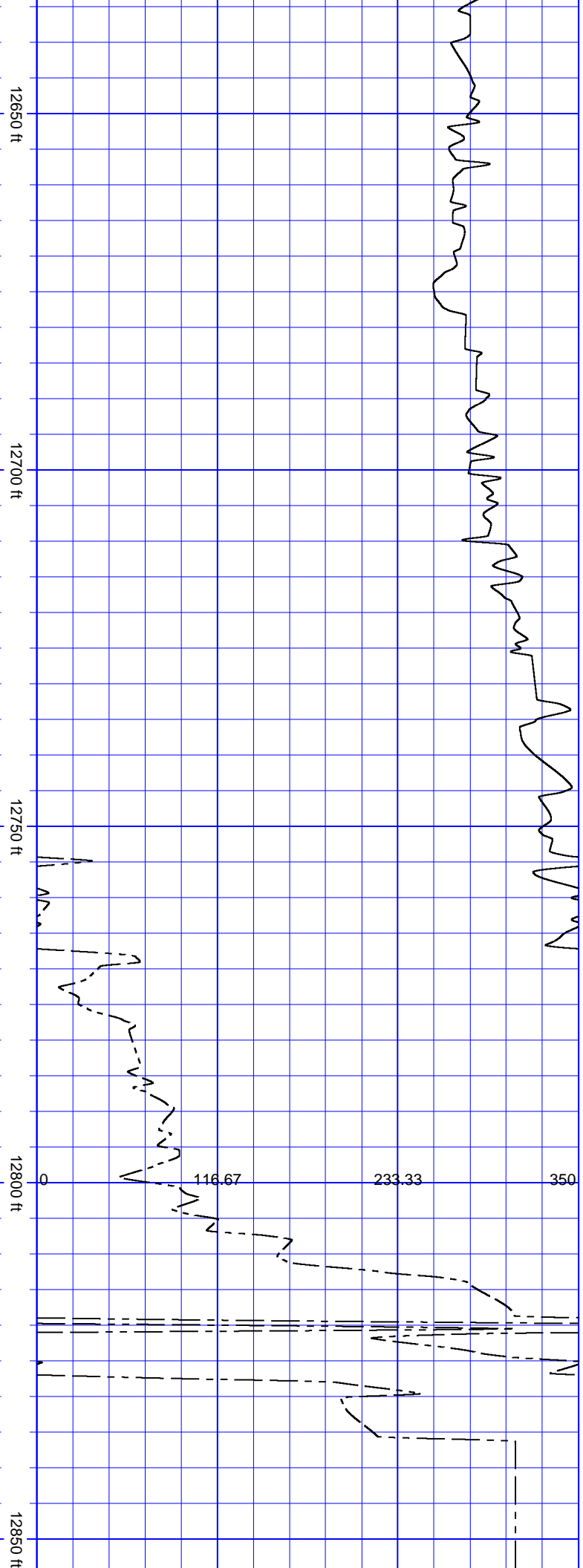
12500 ft

12550 ft

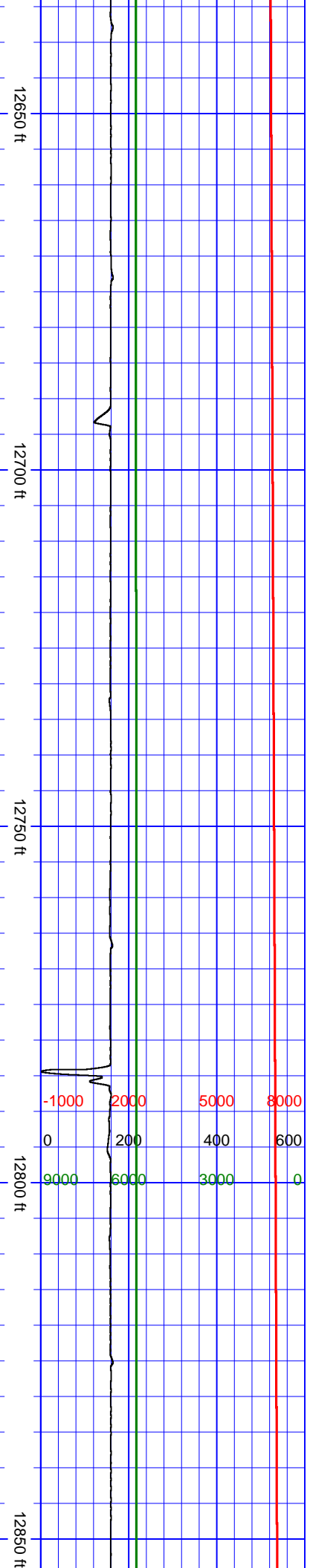
12600 ft

-1000 2000 5000 8000  
0 200 400 600  
9000 6000 3000 0

Azi:180.6  
VertSec:6839.72



SurveyDepth:12815  
TVD:5738.74 Inc:91  
Azi:179.7  
VertSec:7026.69



12900 ft

12950 ft

13000 ft

13050 ft

SurveyDepth:12908  
TVD:5736.47 Inc:91.8  
Azi:180 VertSec:7119.66

SurveyDepth:13002  
TVD:5736.88 Inc:87.7  
Azi:178.5  
VertSec:7213.63

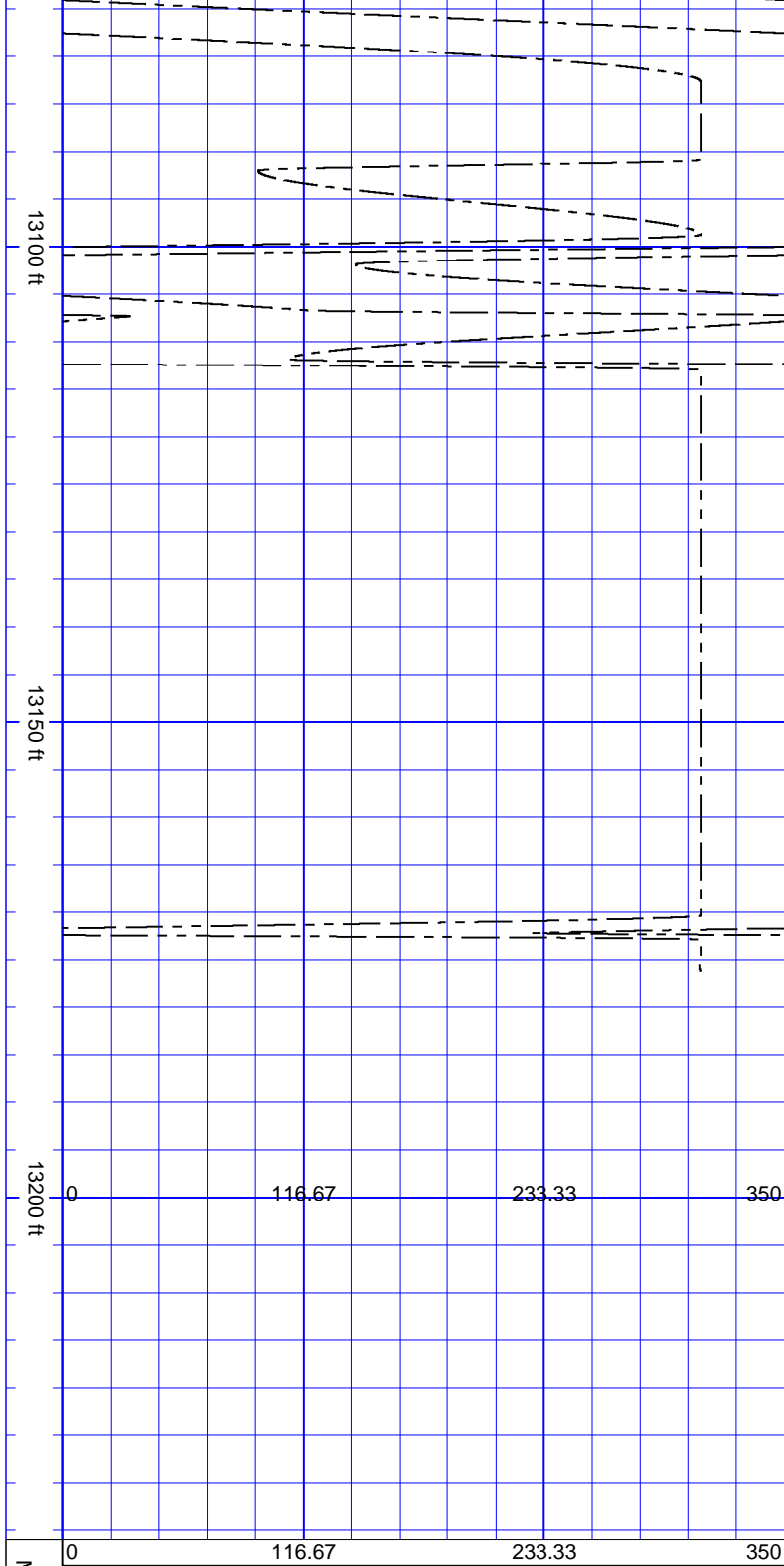
12900 ft

12950 ft

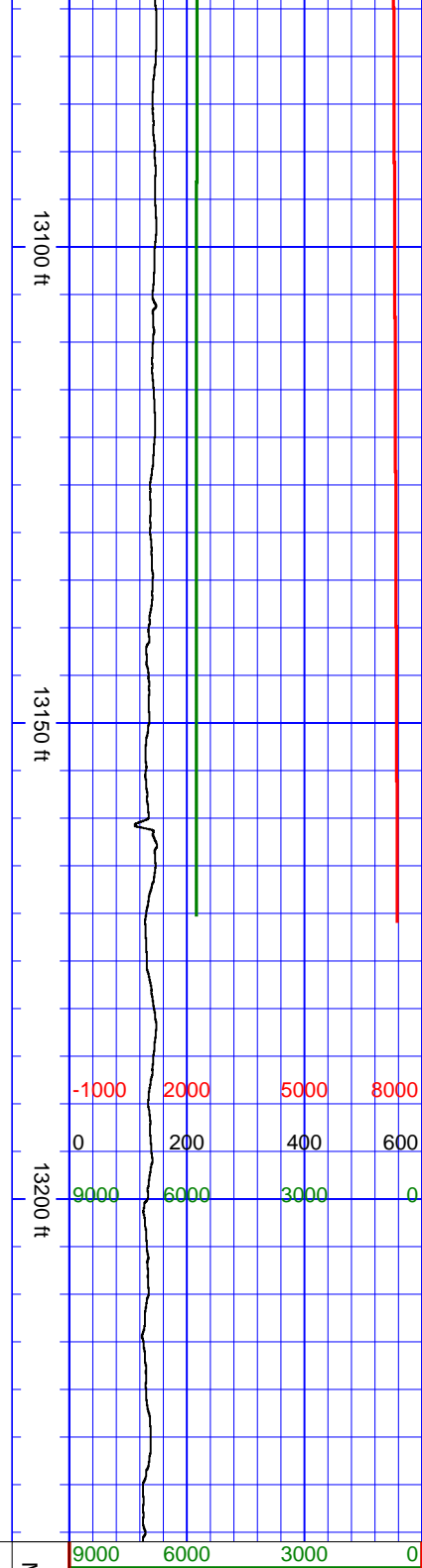
13000 ft

13050 ft

|       |      |      |      |
|-------|------|------|------|
| -1000 | 2000 | 5000 | 8000 |
| 0     | 200  | 400  | 600  |
| 9000  | 6000 | 3000 | 0    |



SurveyDepth:13171  
 TVD:5743.66 Inc:87.7  
 Azi:178.7  
 VertSec:7382.44



|                                 |                        |        |        |     |
|---------------------------------|------------------------|--------|--------|-----|
| MD Depth "Scale 5" = 100<br>ft" | 0                      | 116.67 | 233.33 | 350 |
|                                 | Real Time Gamma (AAPI) |        |        |     |
|                                 | GAMMA RAY              |        |        |     |

|                      |                                 |                       |      |      |      |
|----------------------|---------------------------------|-----------------------|------|------|------|
| Directional Survey   | MD Depth "Scale 5" = 100<br>ft" | 9000                  | 6000 | 3000 | 0    |
|                      |                                 | TVD Depth (ft)        |      |      |      |
|                      |                                 | 0                     | 200  | 400  | 600  |
|                      |                                 | Drill Rate (min/ft)   |      |      |      |
|                      |                                 | -1000                 | 2000 | 5000 | 8000 |
|                      |                                 | Vertical Section (ft) |      |      |      |
| ROP - VERT SEC - TVD |                                 |                       |      |      |      |



Oil Company: Whiting Petroleum  
 Well Name: Razor 22D-2703  
 Surface Location: Weld, Co  
 Bit Run:  
 Log Depth Start: 5001.05 ft    Log Depth End: 13235.99 ft  
 Data Depth Start: 5001.05 ft    Data Depth End: 13235.99 ft