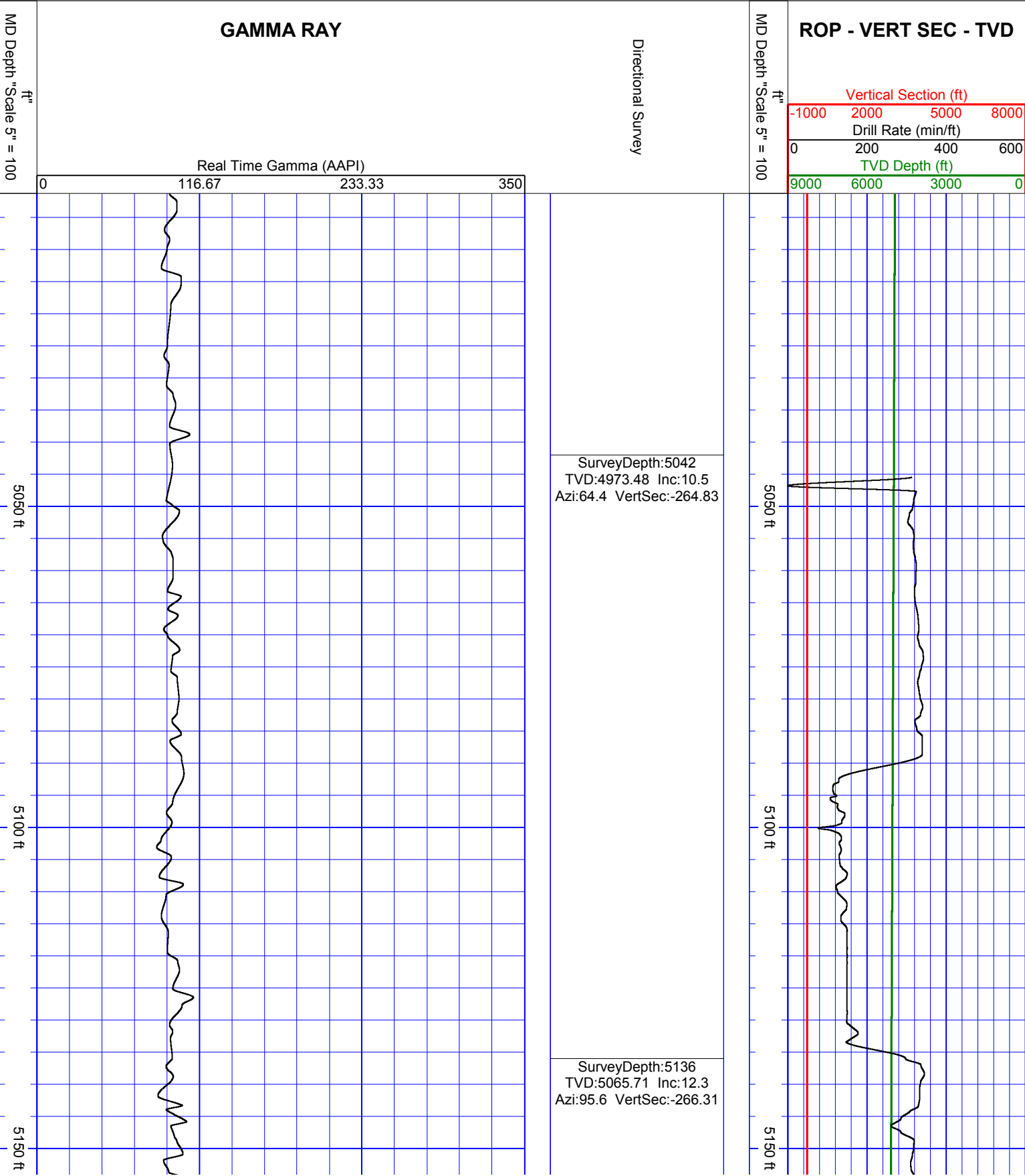
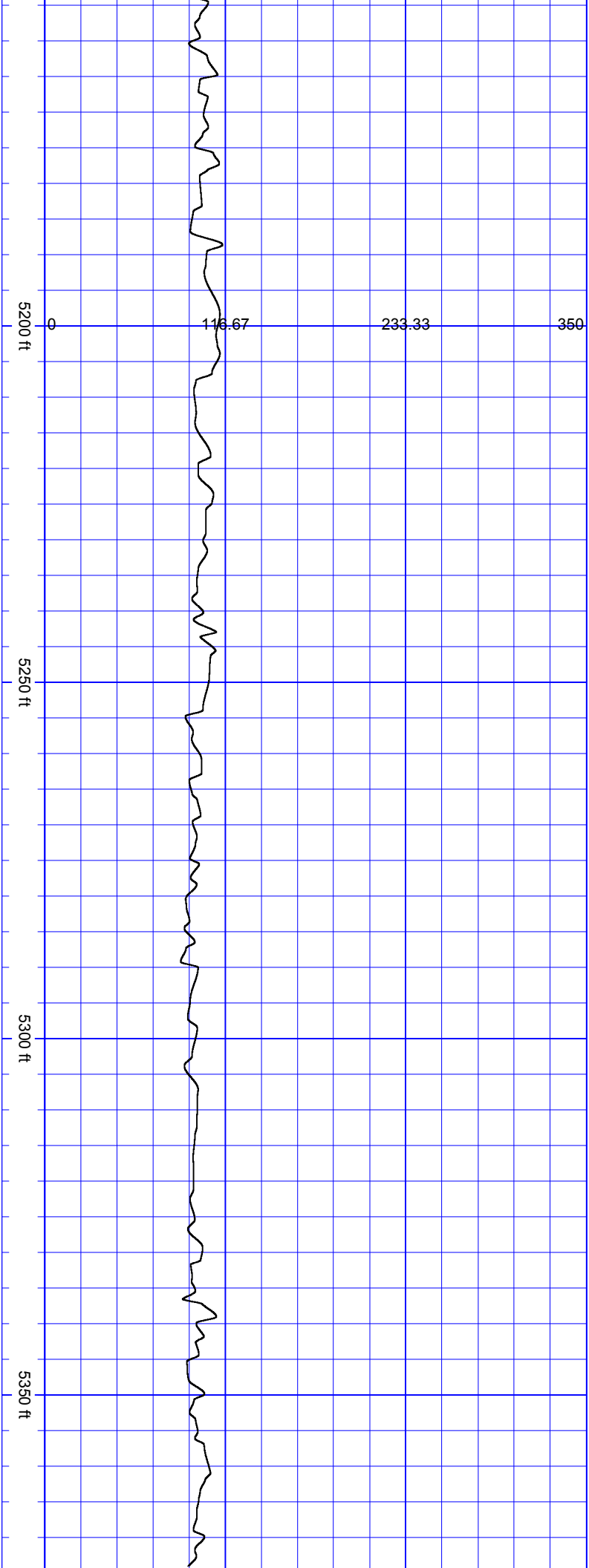




Oil Company: Whiting Petroleum
Well Name: Horsetail 08D-1704 05-123-41024-01
Surface Location: S8-T10N-R57W
Bit Run:
Log Depth Start: 5001.26 ft Log Depth End: 16045.08 ft
Data Depth Start: 5001.26 ft Data Depth End: 16045.08 ft

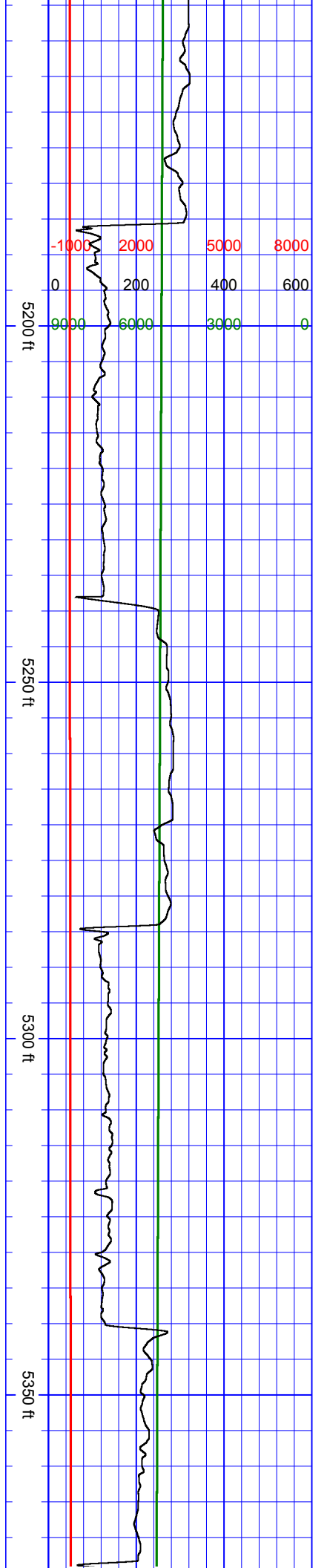
Interpretations of this data by Cathedral Energy Services will be of best judgment as to correctness. Cathedral Energy Services cannot and does not guarantee the accuracy or correctness of interpretations or any surveys derived therefrom. Cathedral Energy Services makes no warranties of performance, 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.

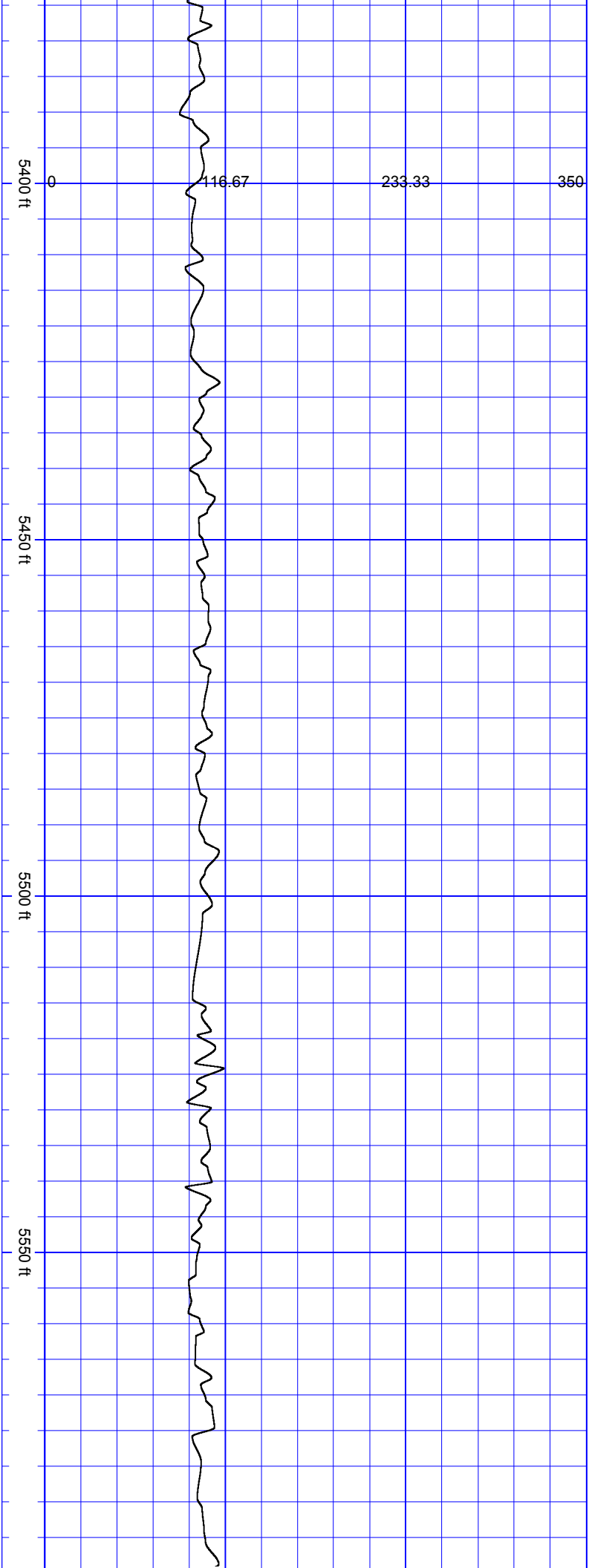
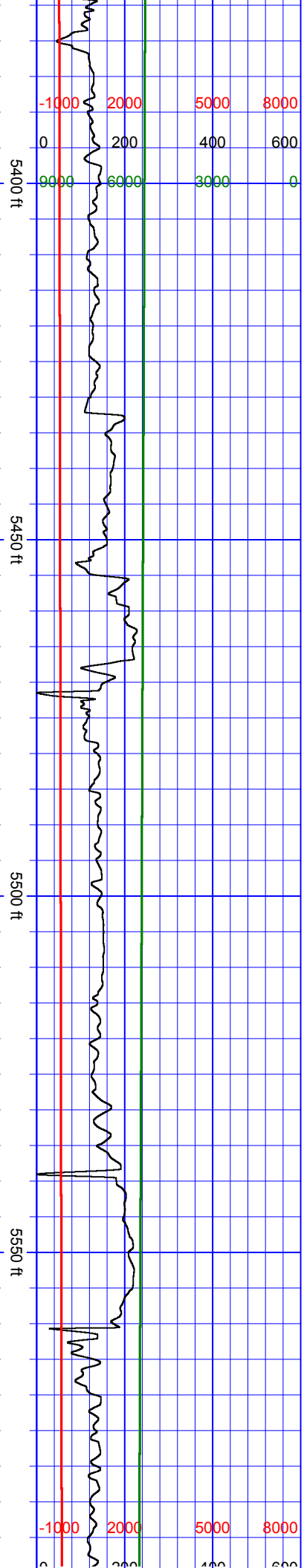


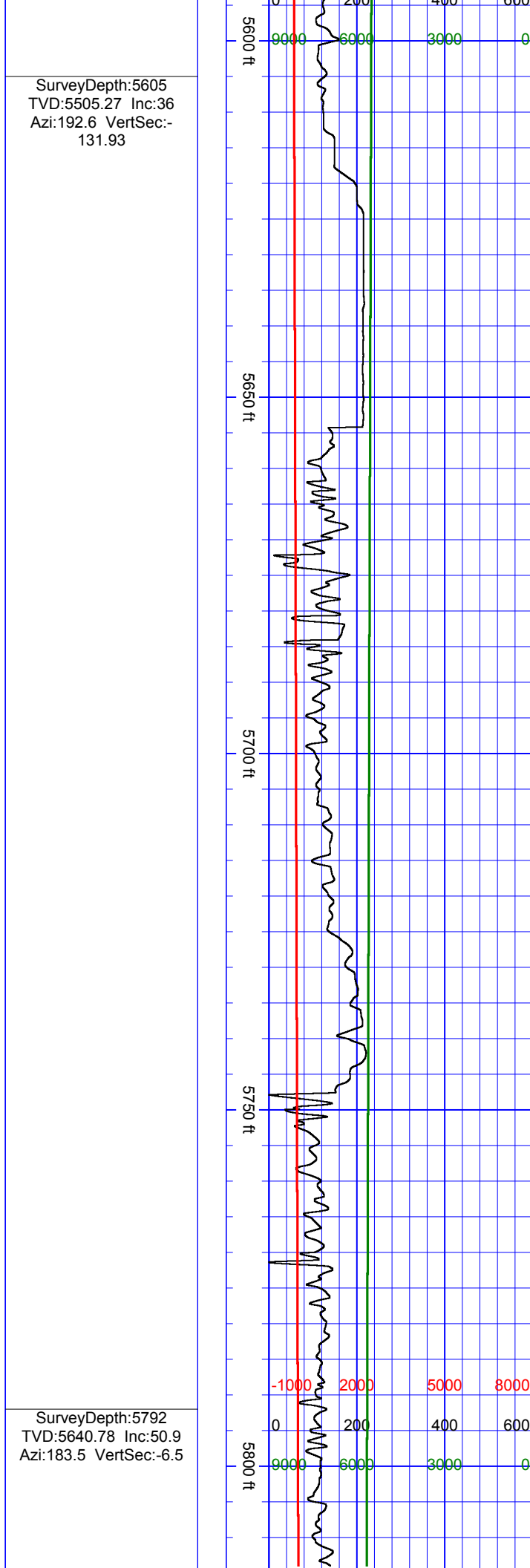
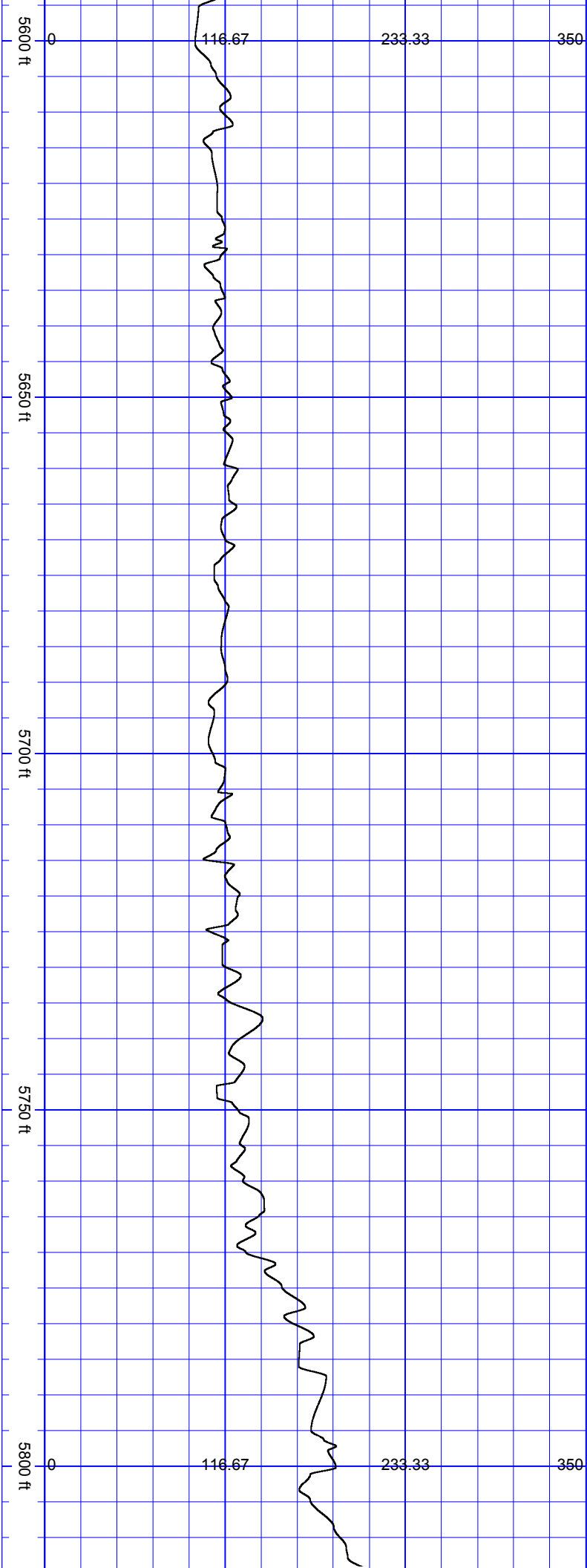


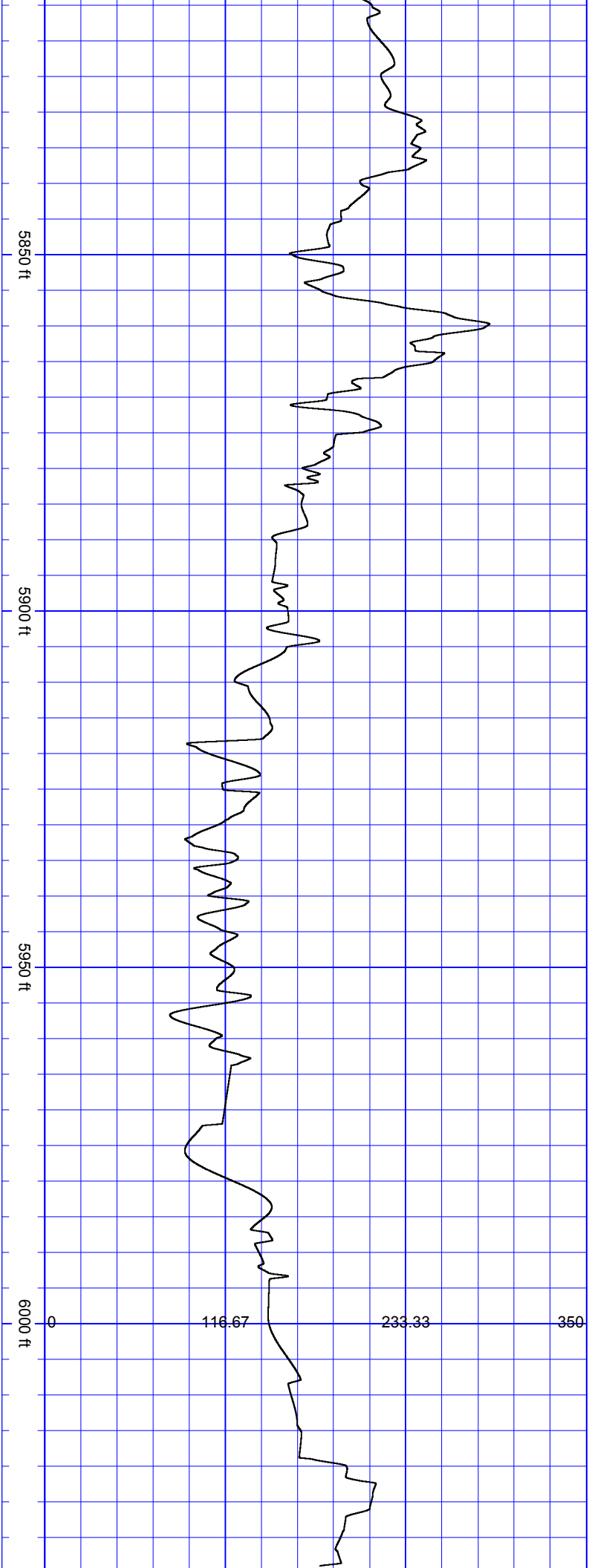
SurveyDepth:5230
TVD:5158.13 Inc:9.5
Azi:134.9 VertSec:-
258.78

SurveyDepth:5323
TVD:5249.58 Inc:12.3
Azi:176.9 VertSec:-
243.07



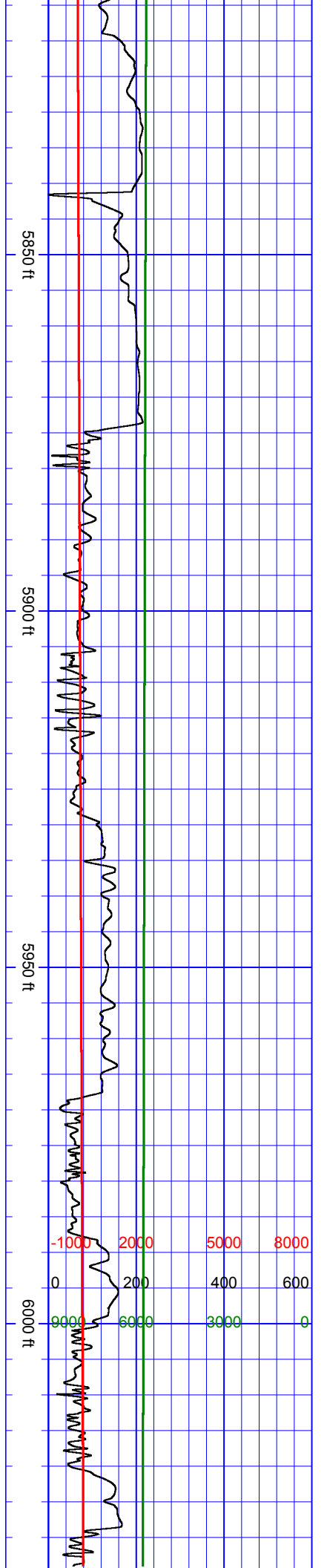


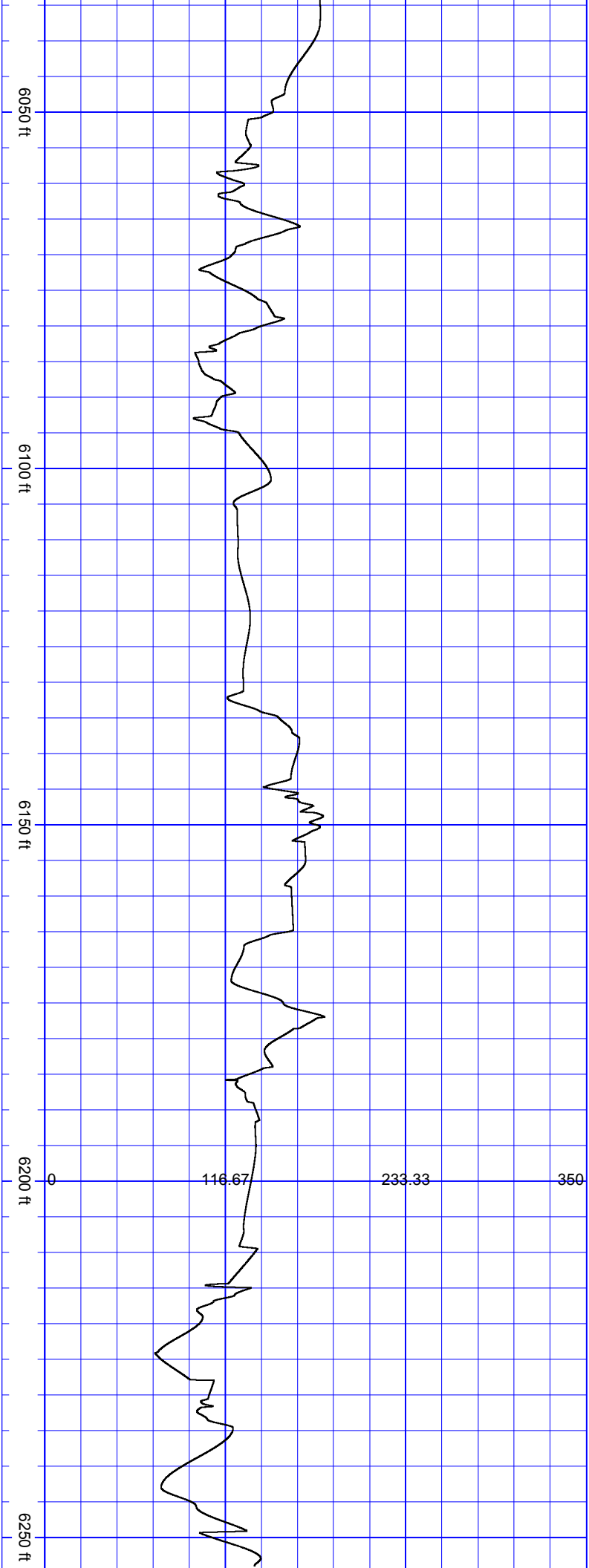




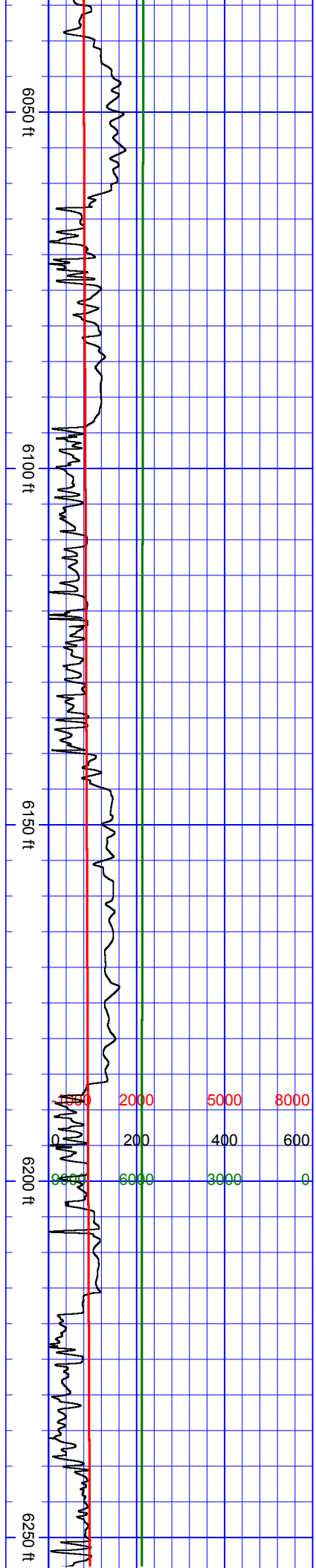
SurveyDepth:5886
TVD:5696.49 Inc:56.4
Azi:179.9 VertSec:68.79

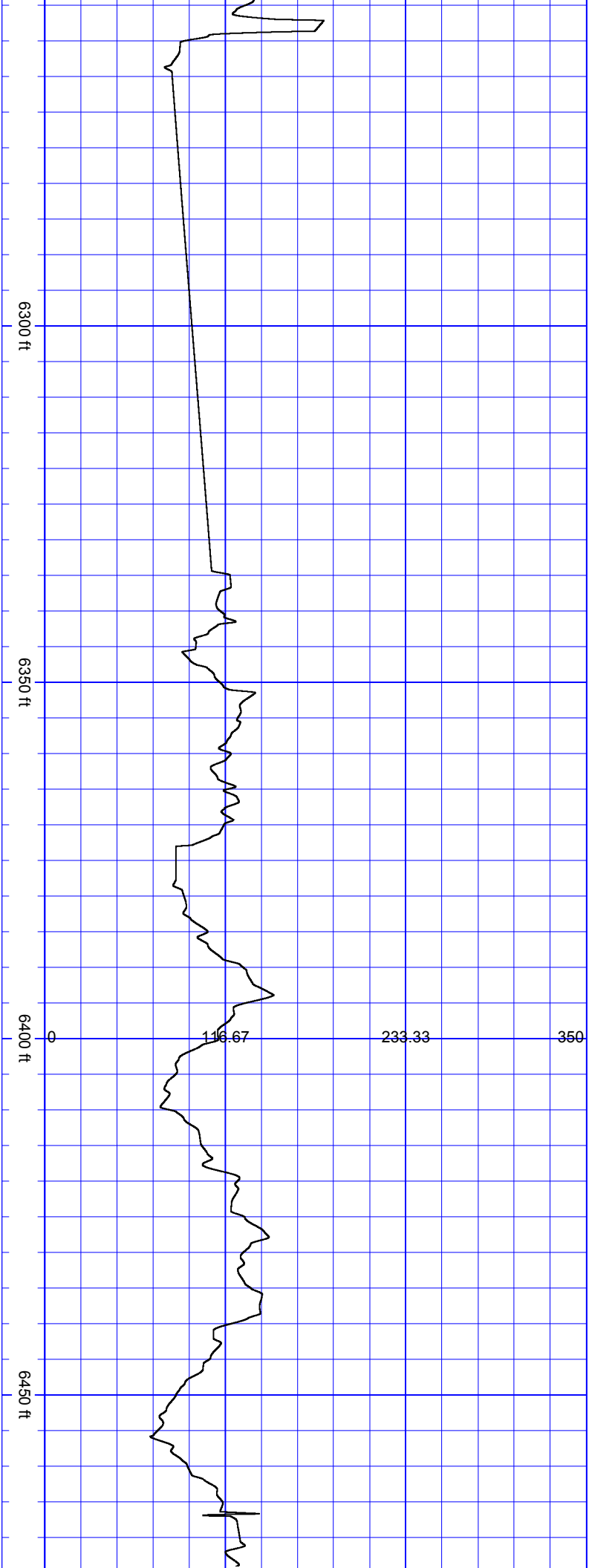
SurveyDepth:6010
TVD:5755.82 Inc:66.4
Azi:173.1
VertSec:177.43





SurveyDepth:6073 TVD:5778.7 Inc:70.99 Azi:172.84 VertSec:236.02
SurveyDepth:6135 TVD:5796.01 Inc:76.6 Azi:178.3 VertSec:295.51
SurveyDepth:6166 TVD:5802.98 Inc:77.39 Azi:177.58 VertSec:325.7
SurveyDepth:6197 TVD:5809.56 Inc:78.1 Azi:176.9 VertSec:355.99

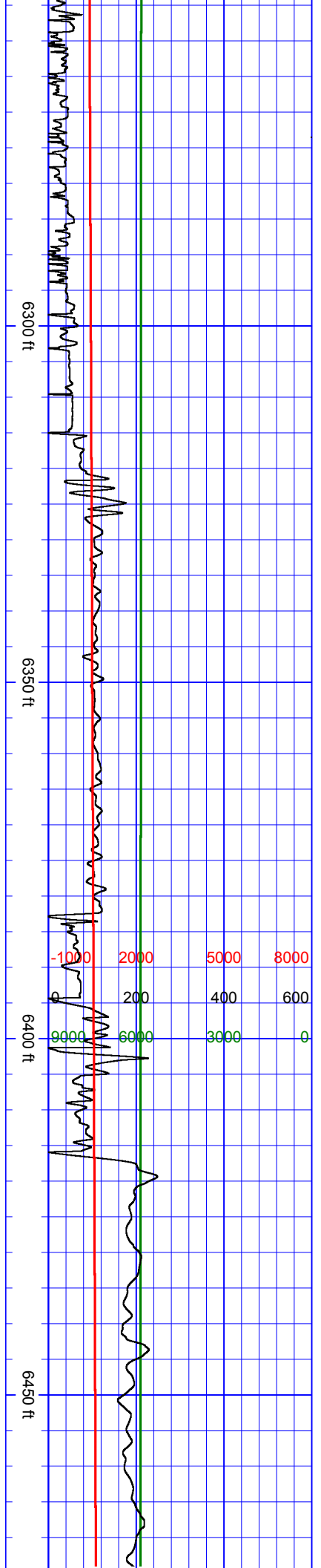




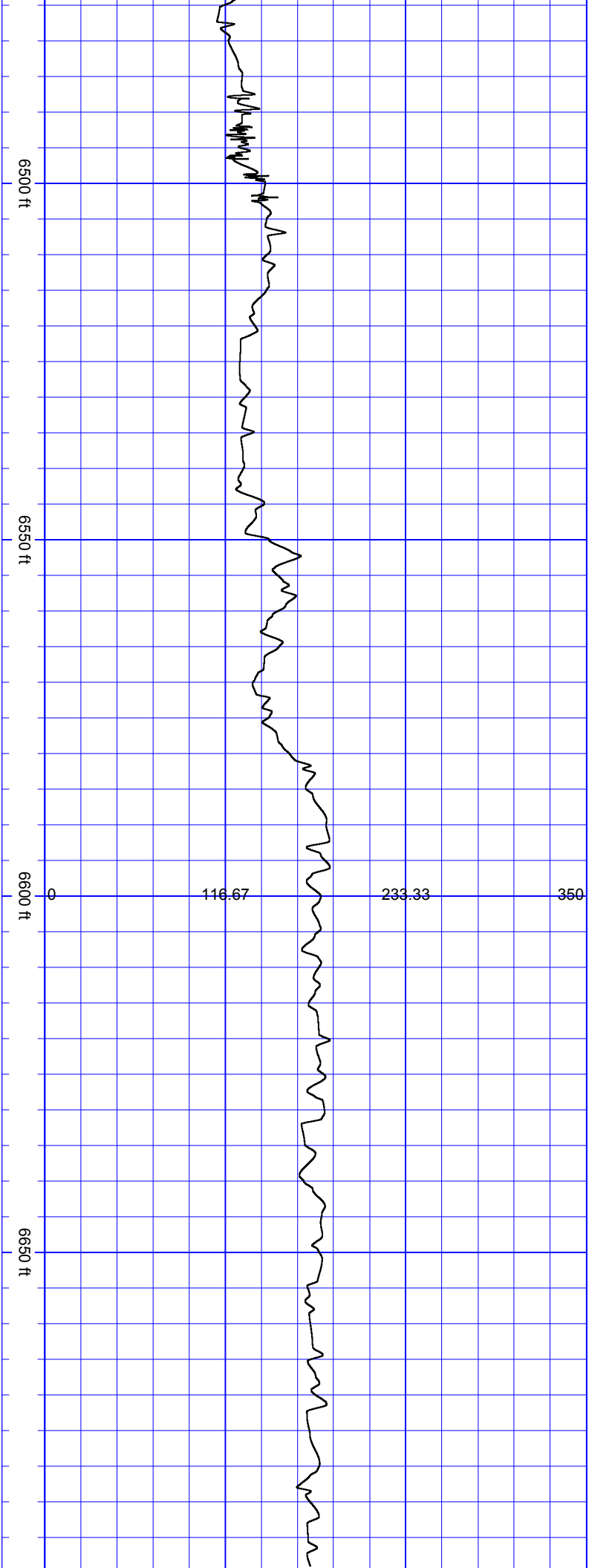
SurveyDepth:6260
TVD:5821.85 Inc:79.4
Azi:176.5
VertSec:417.77

SurveyDepth:6355
TVD:5836.3 Inc:83.1
Azi:179.1
VertSec:511.59

SurveyDepth:6450
TVD:5845.07 Inc:86.3
Azi:179.2
VertSec:606.03

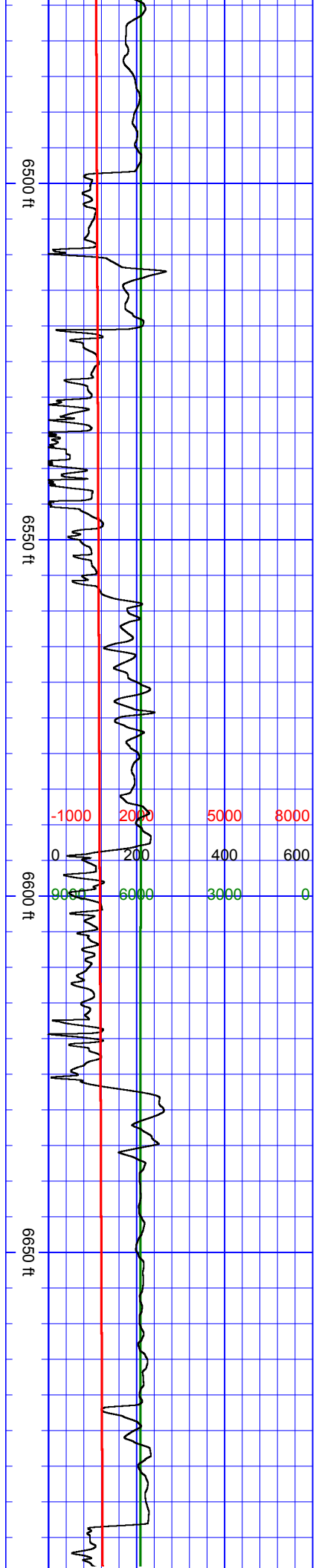


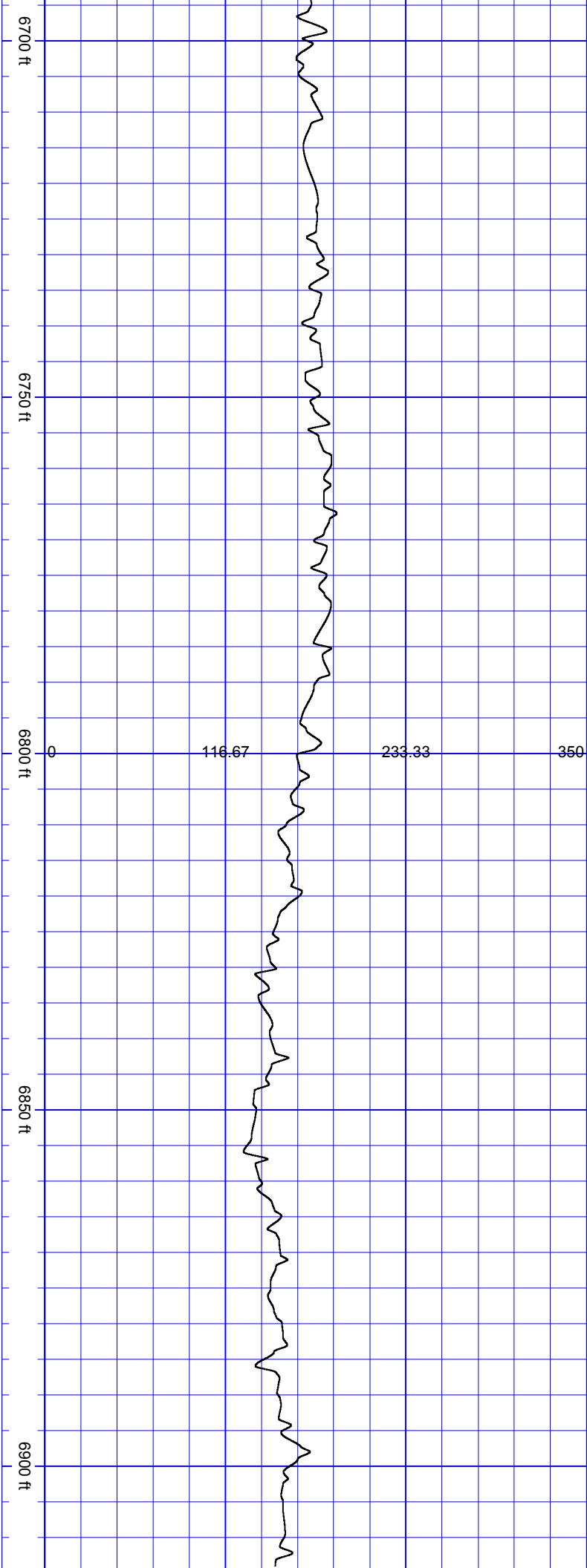
Red	Green	Blue
-1000	2000	5000
200	400	600
9000	6000	3000
0	0	0



SurveyDepth:6544
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Azi:180.1
VertSec:699.61

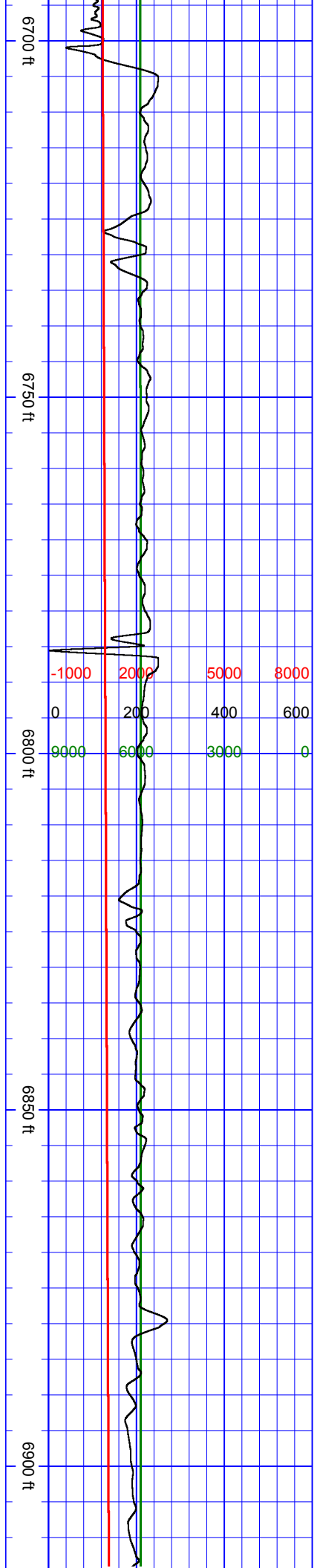
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Azi:183.4
VertSec:794.02

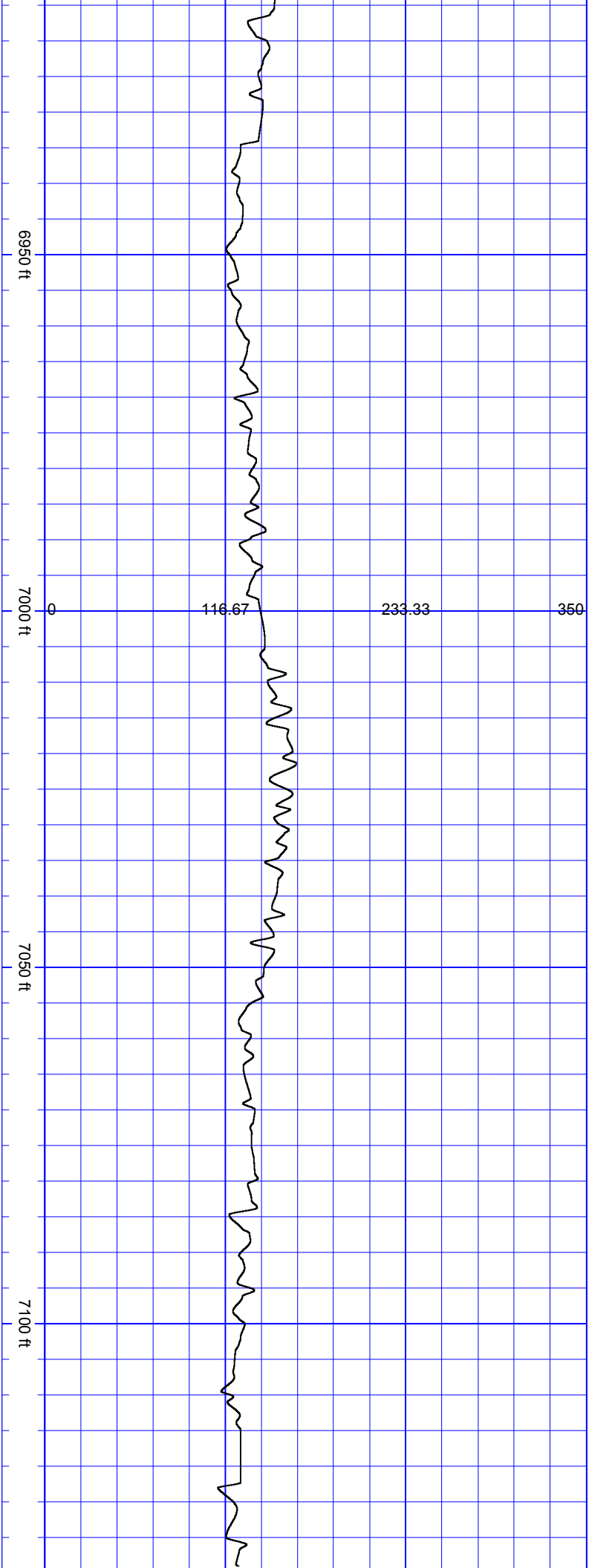




SurveyDepth:6734
TVD:5854.45 Inc:91.5
Azi:183 VertSec:888.26

SurveyDepth:6828
TVD:5851.9 Inc:91.6
Azi:182.5
VertSec:981.57

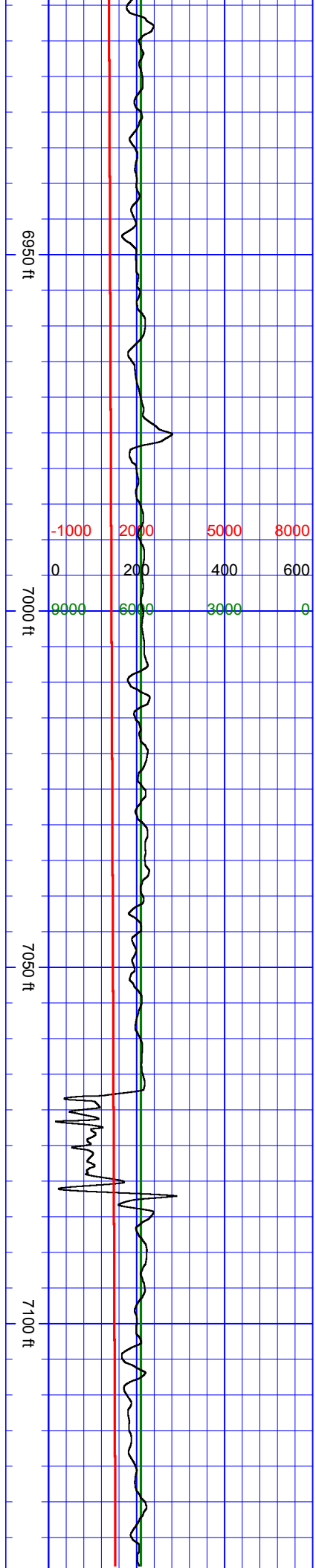


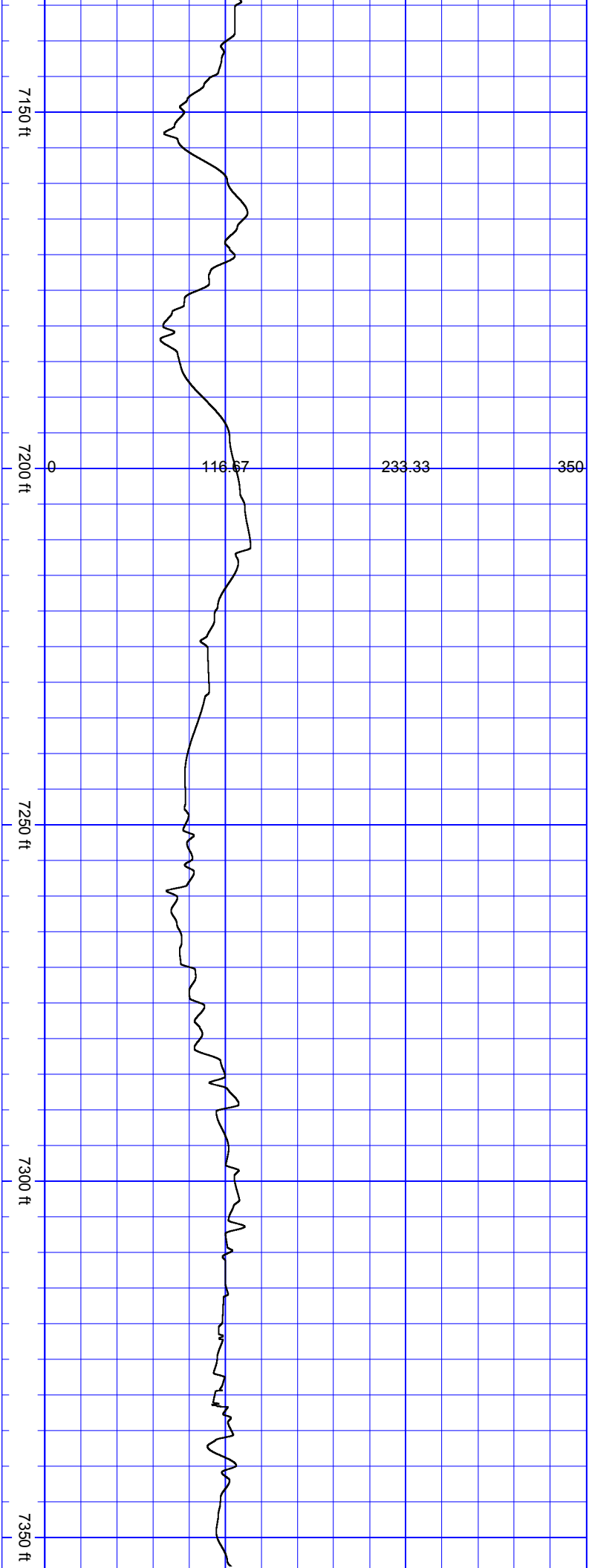


SurveyDepth:6923
TVD:5848.92 Inc:92
Azi:182.3
VertSec:1075.93

SurveyDepth:7018
TVD:5845.52 Inc:92.1
Azi:183.1
VertSec:1170.22

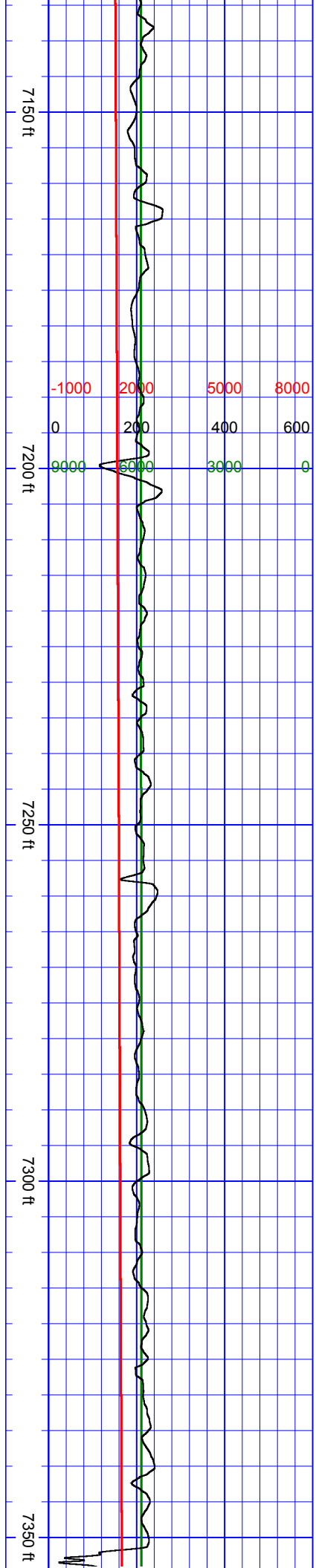
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TVD:5842.41 Inc:91.7
Azi:180.4
VertSec:1263.68

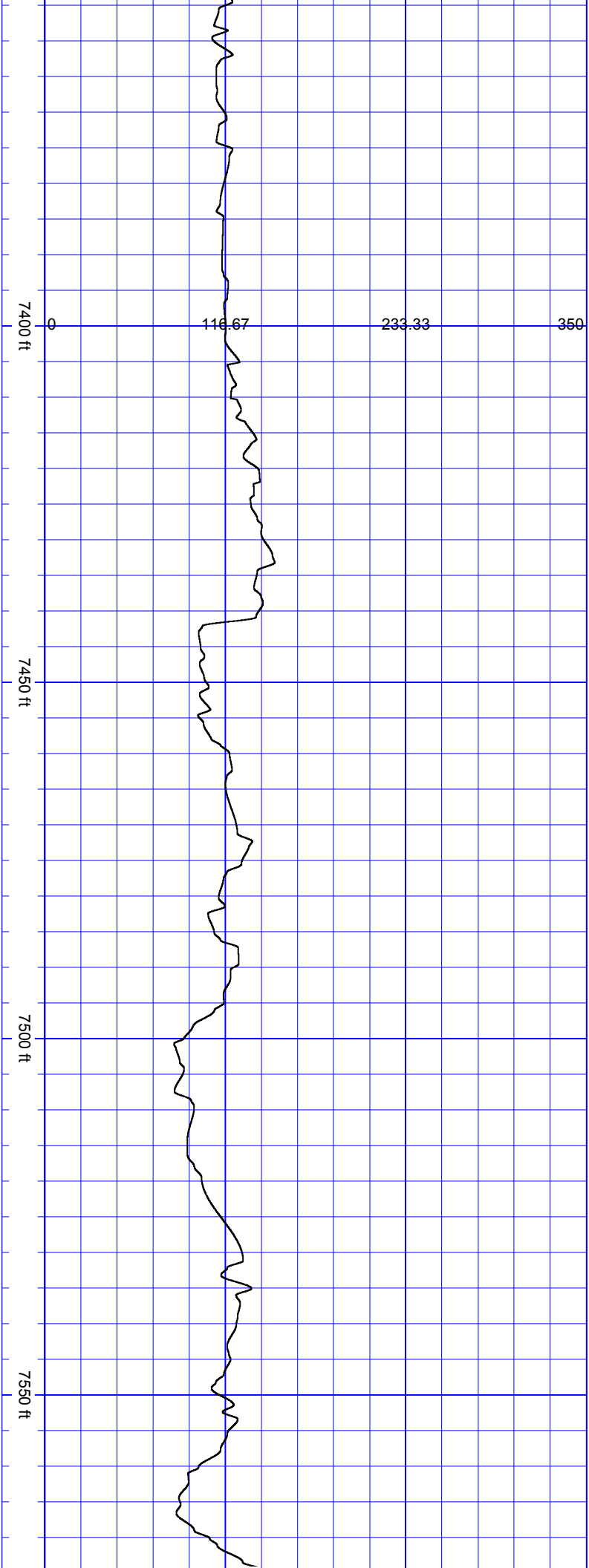




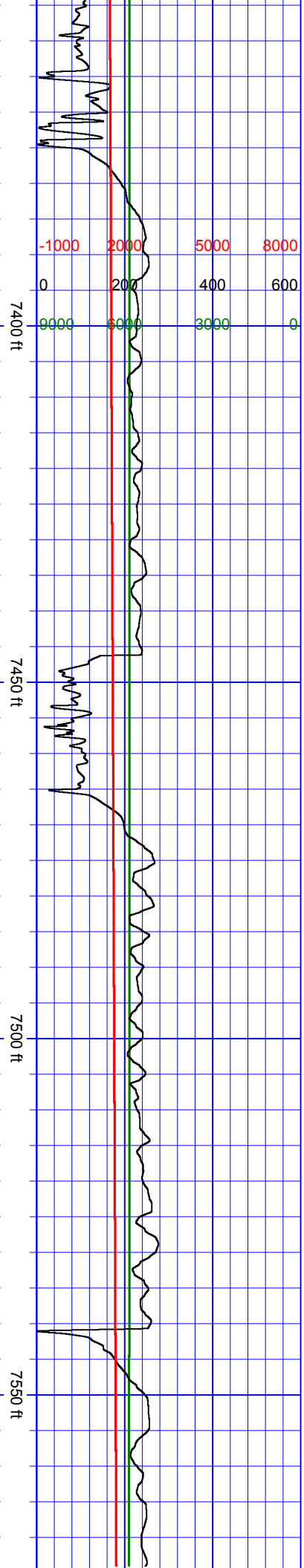
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TVD:5839.26 Inc:92.1
Azi:180.2
VertSec:1358.36

SurveyDepth:7302
TVD:5835.69 Inc:92.2
Azi:180.2
VertSec:1453.04





SurveyDepth:7491
TVD:5835.36 Inc:88
Azi:179.7
VertSec:1641.54



SurveyDepth:7586
TVD:5839.75 Inc:86.7
Azi:179.3
VertSec:1736.26

7600 ft 0 126.67 233.33 350

7650 ft

7700 ft

7750 ft

7600 ft

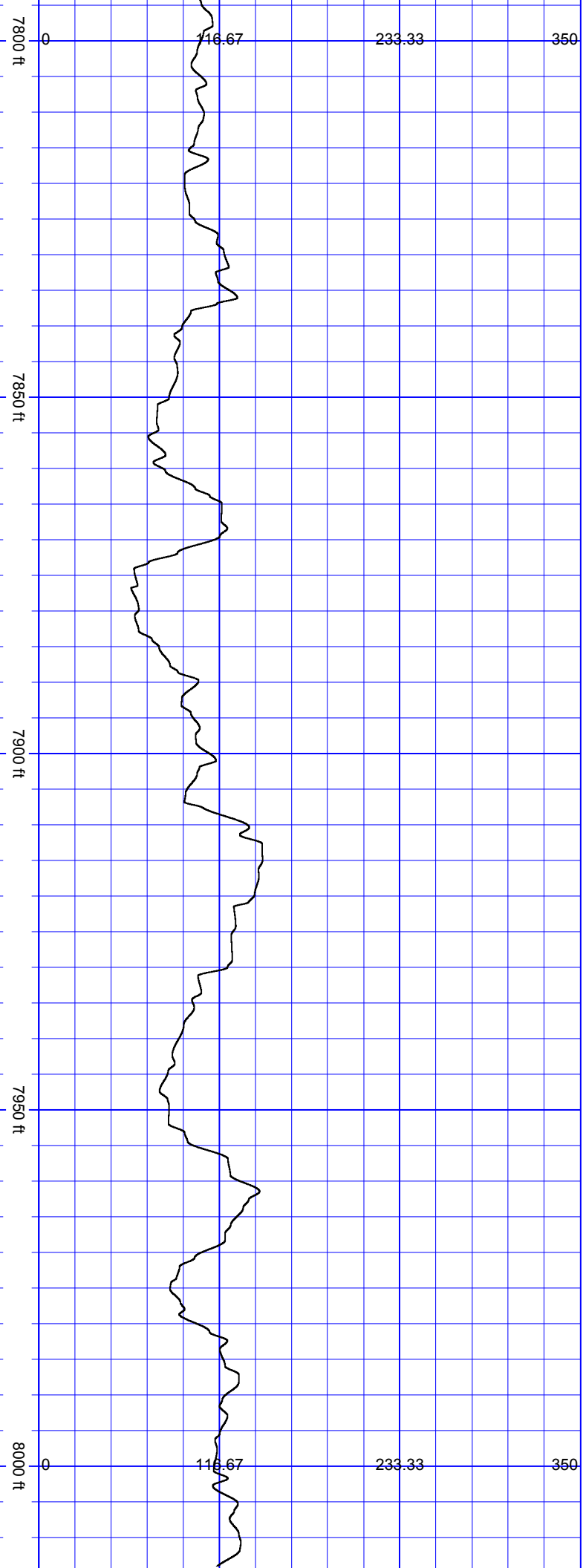
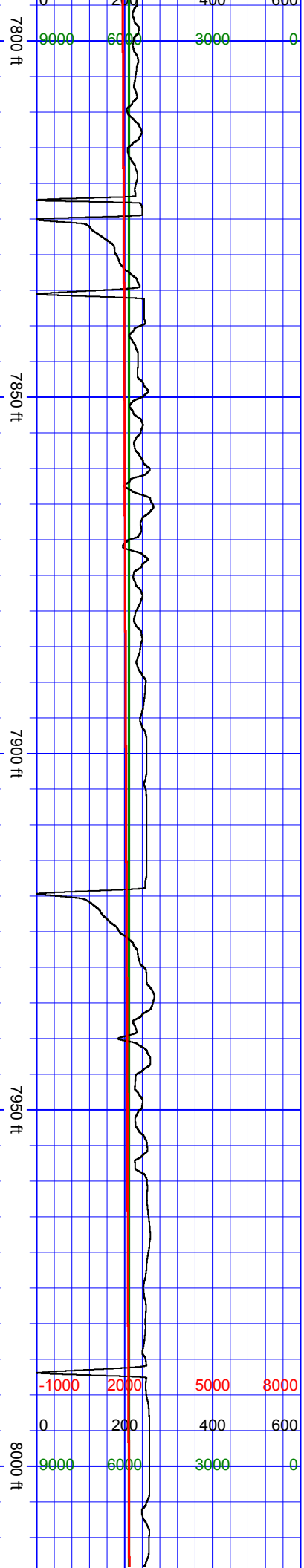
7650 ft

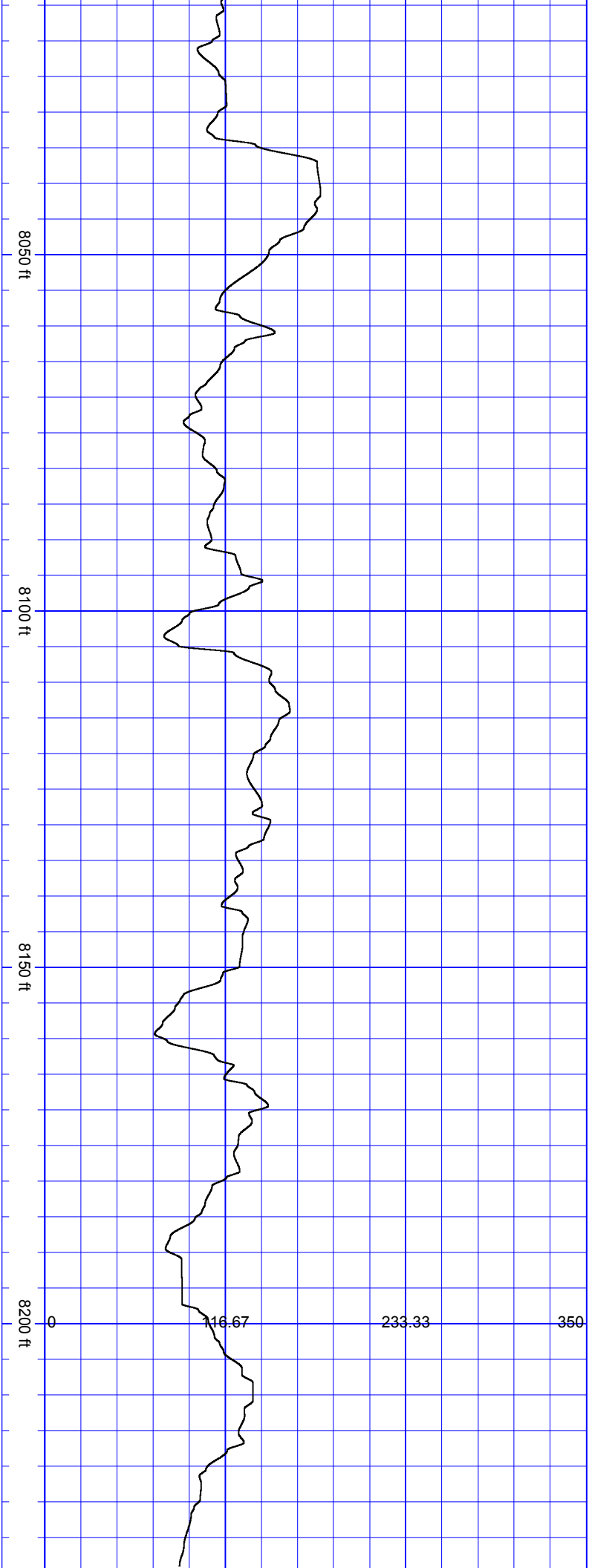
7700 ft

7750 ft

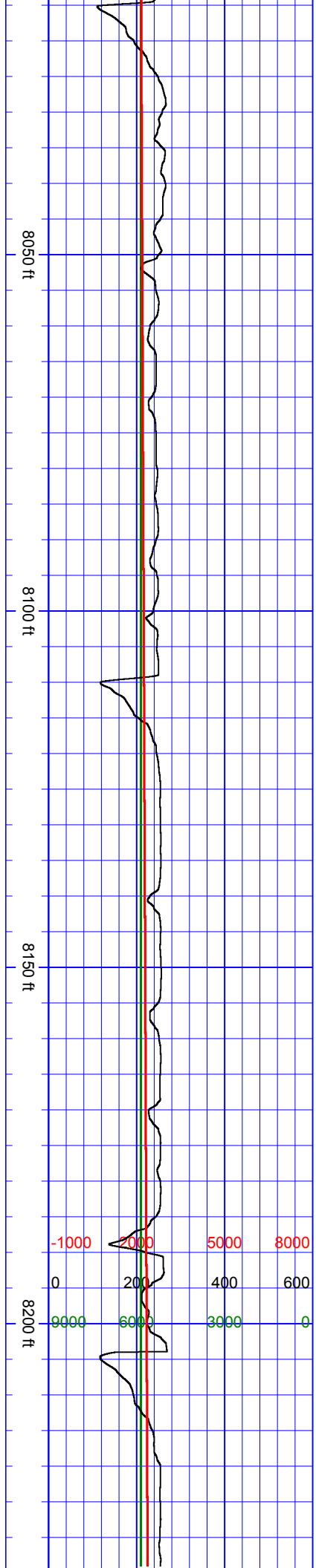
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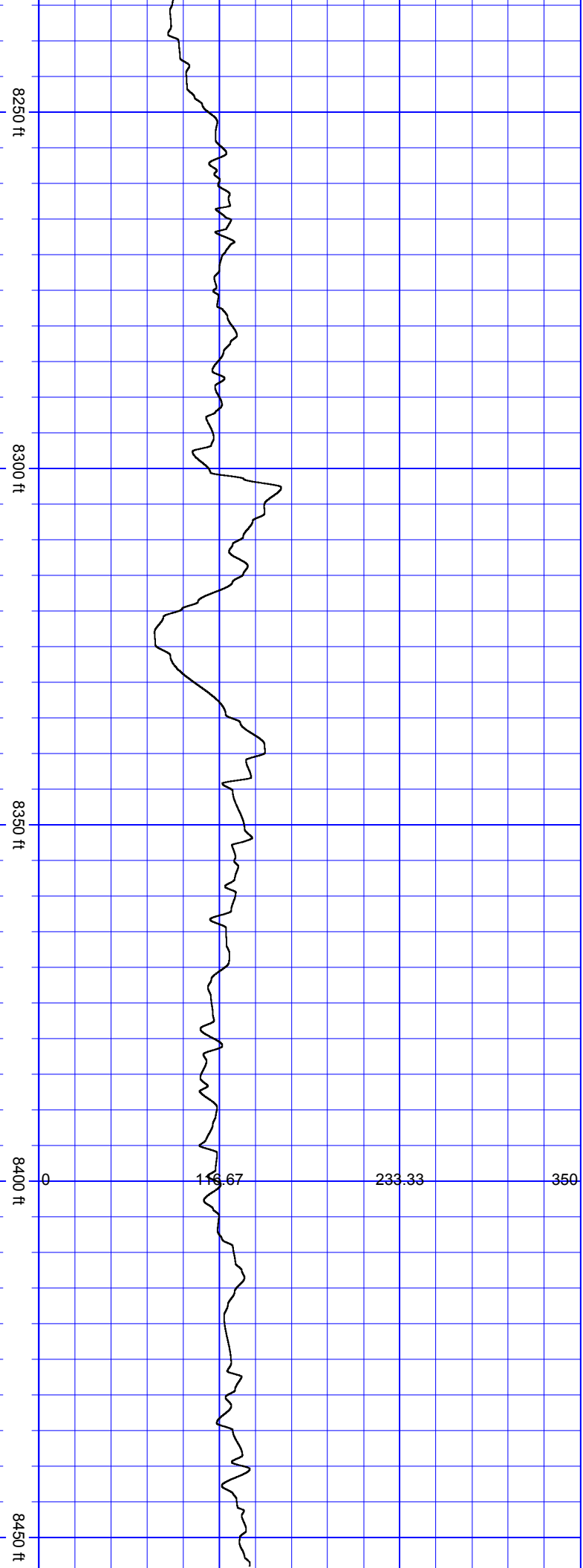
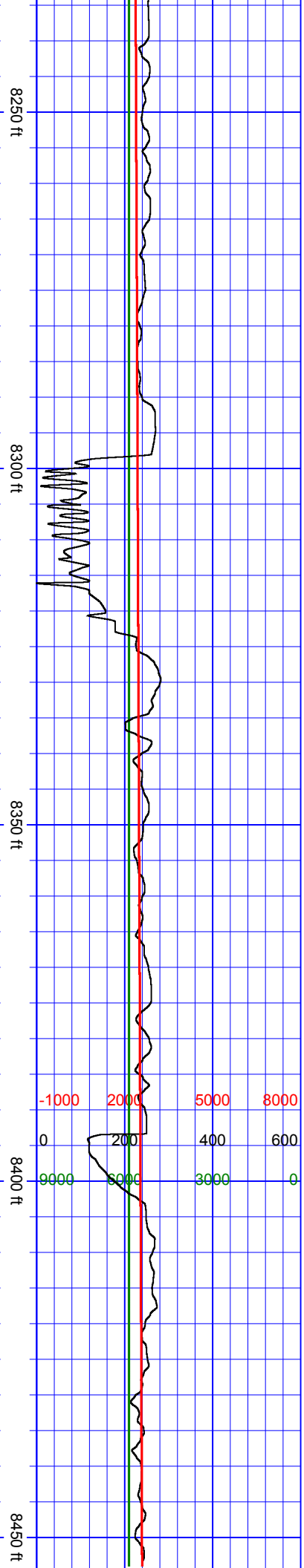
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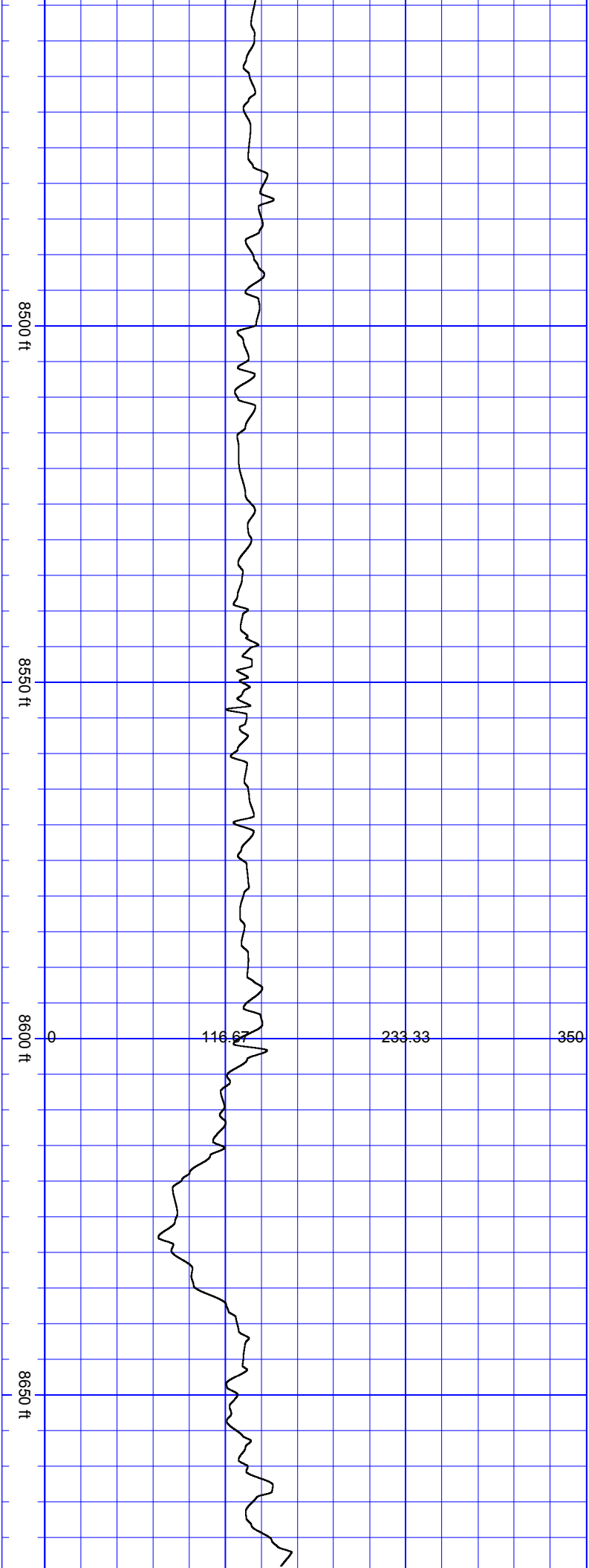




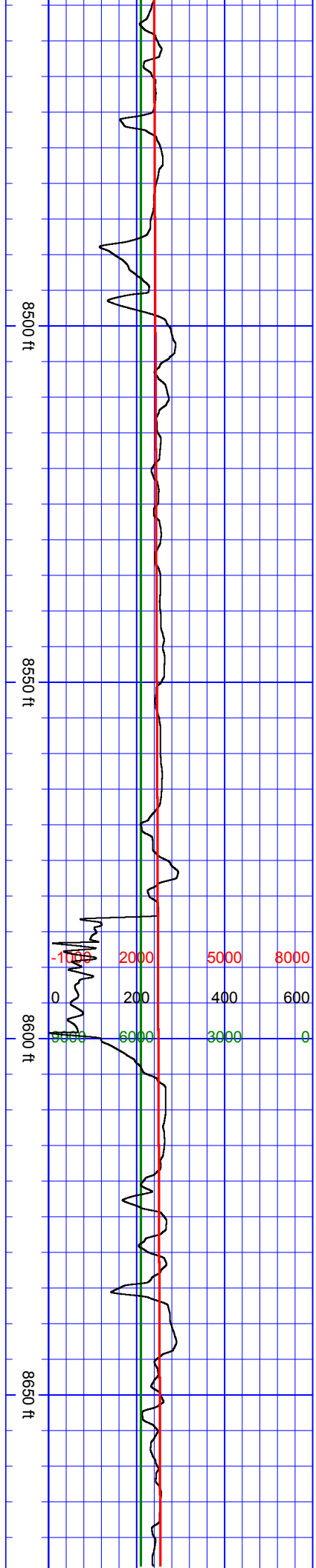
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Azi:179.4
VertSec:2208.25

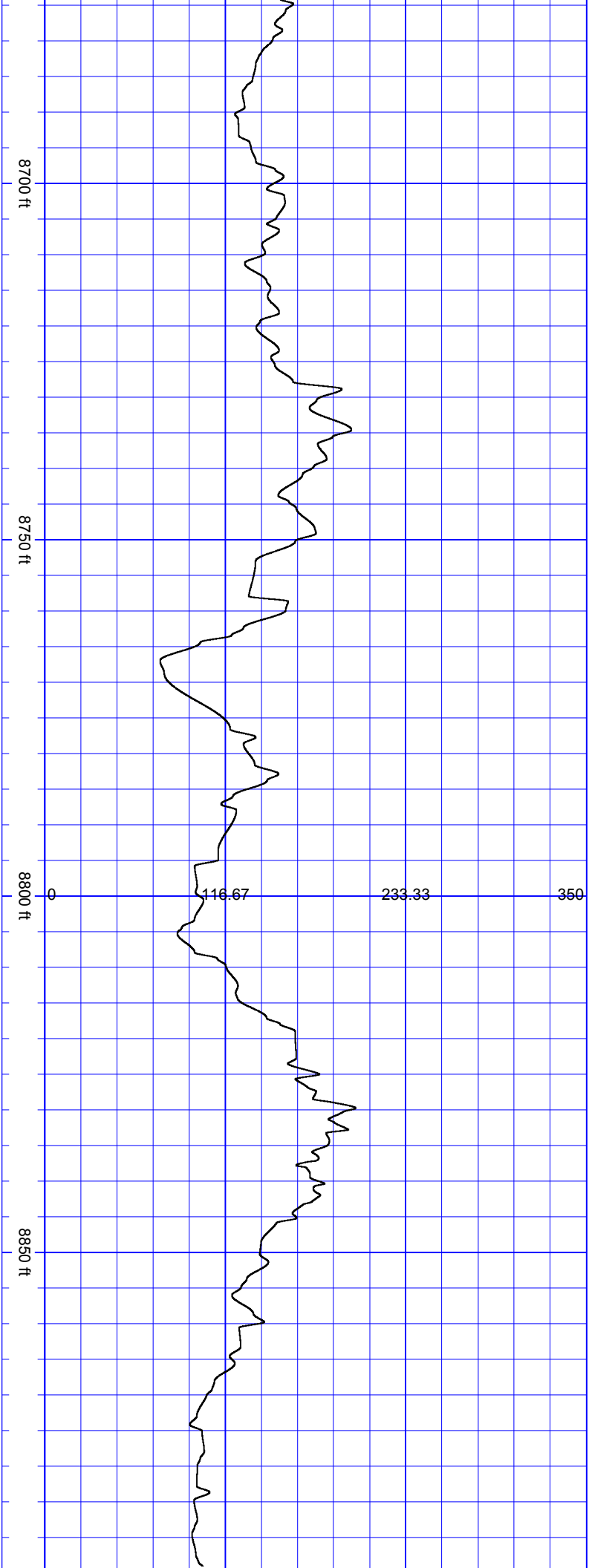






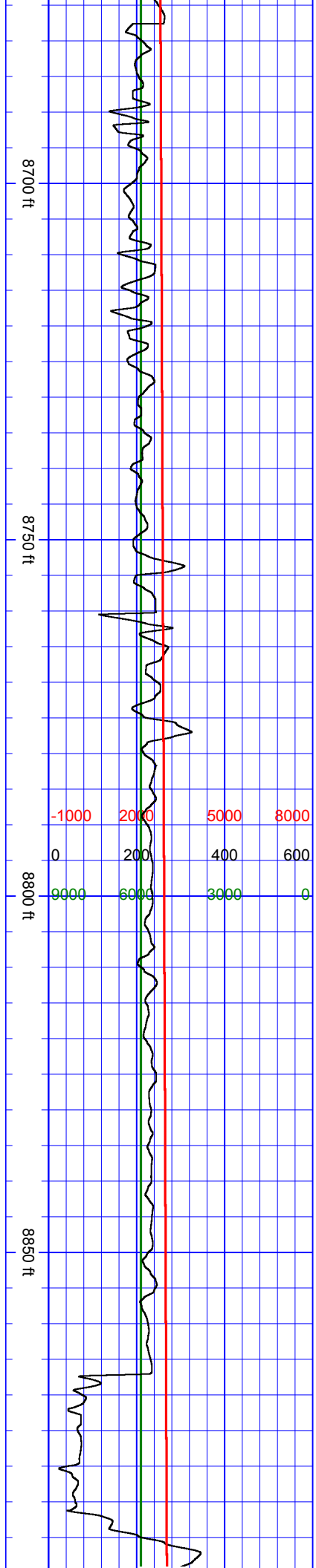
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TVD:5844.86 Inc:89.7
Azi:182.4
VertSec:2775.07

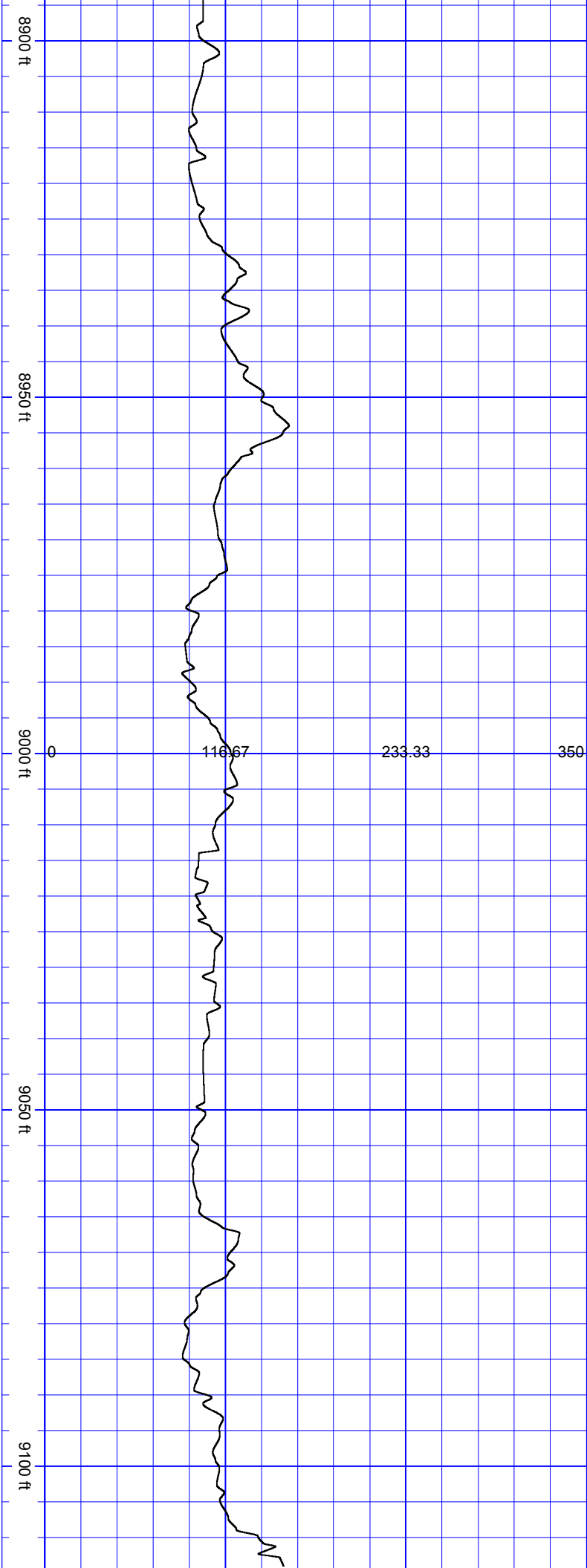




SurveyDepth:8722
TVD:5846.09 Inc:88.8
Azi:182.2
VertSec:2868.49

SurveyDepth:8817
TVD:5848.66 Inc:88.1
Azi:182 VertSec:2962.91

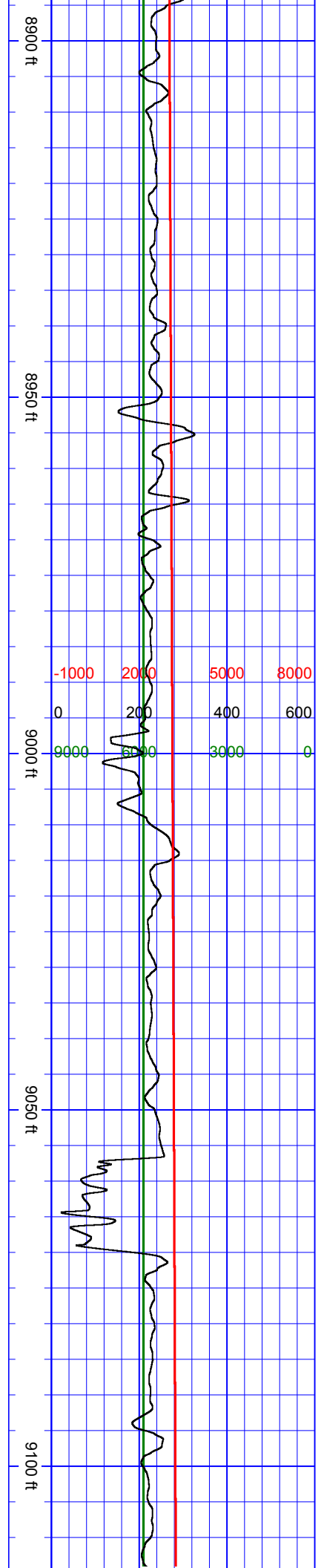


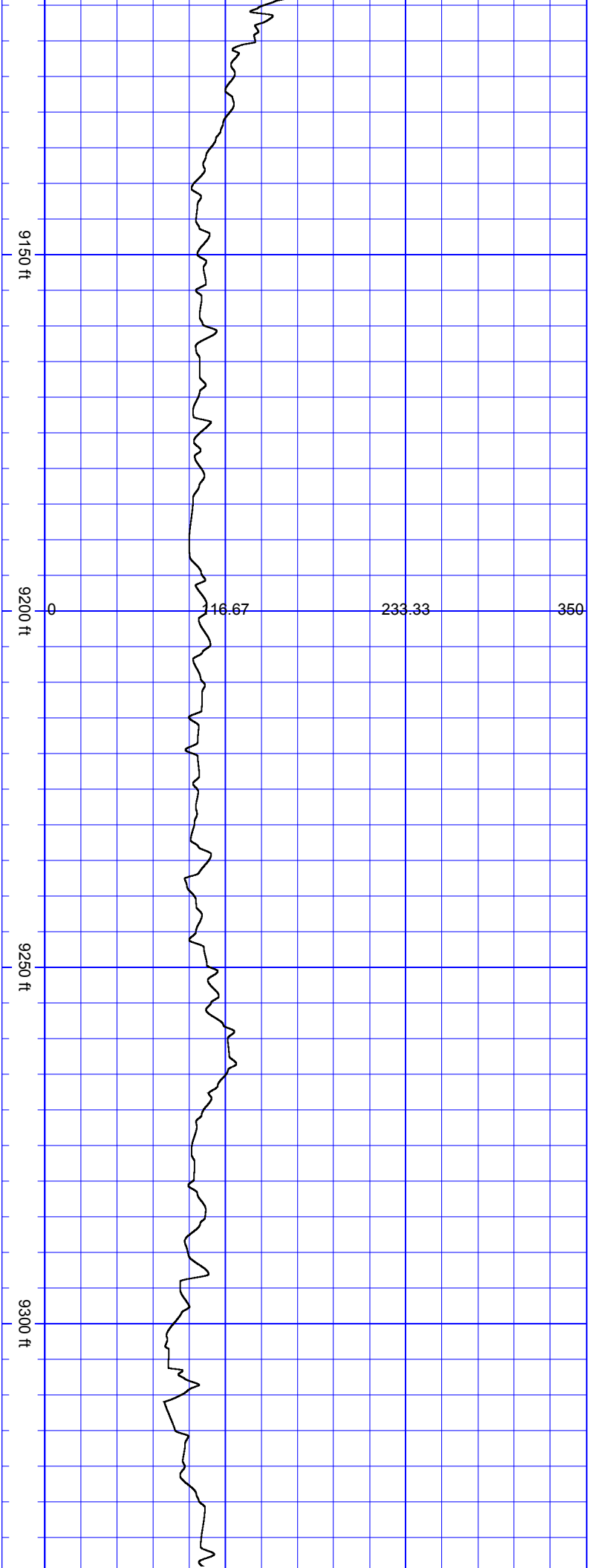


SurveyDepth:8912
TVD:5849.74 Inc:90.6
Azi:183 VertSec:3057.28

SurveyDepth:9006
TVD:5848.92 Inc:90.4
Azi:182.5
VertSec:3150.63

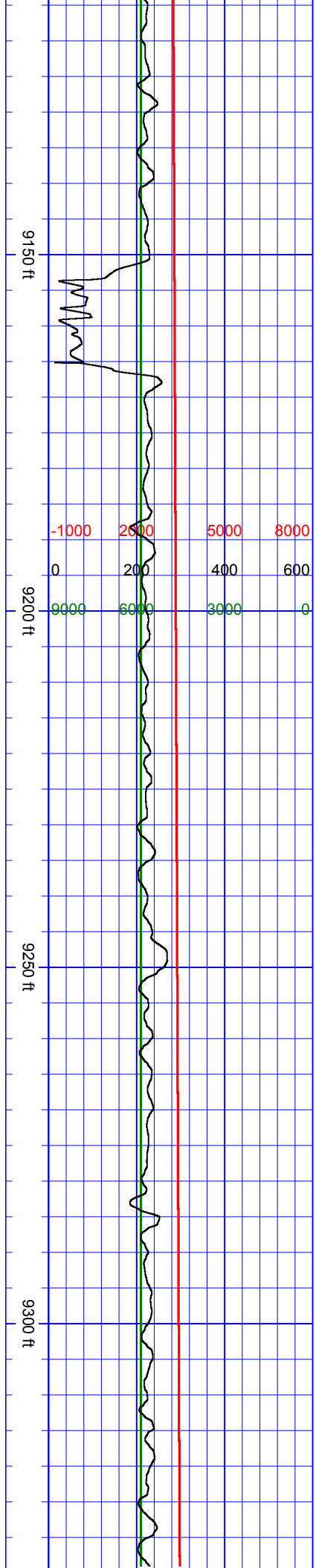
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Azi:182.1
VertSec:3245.01

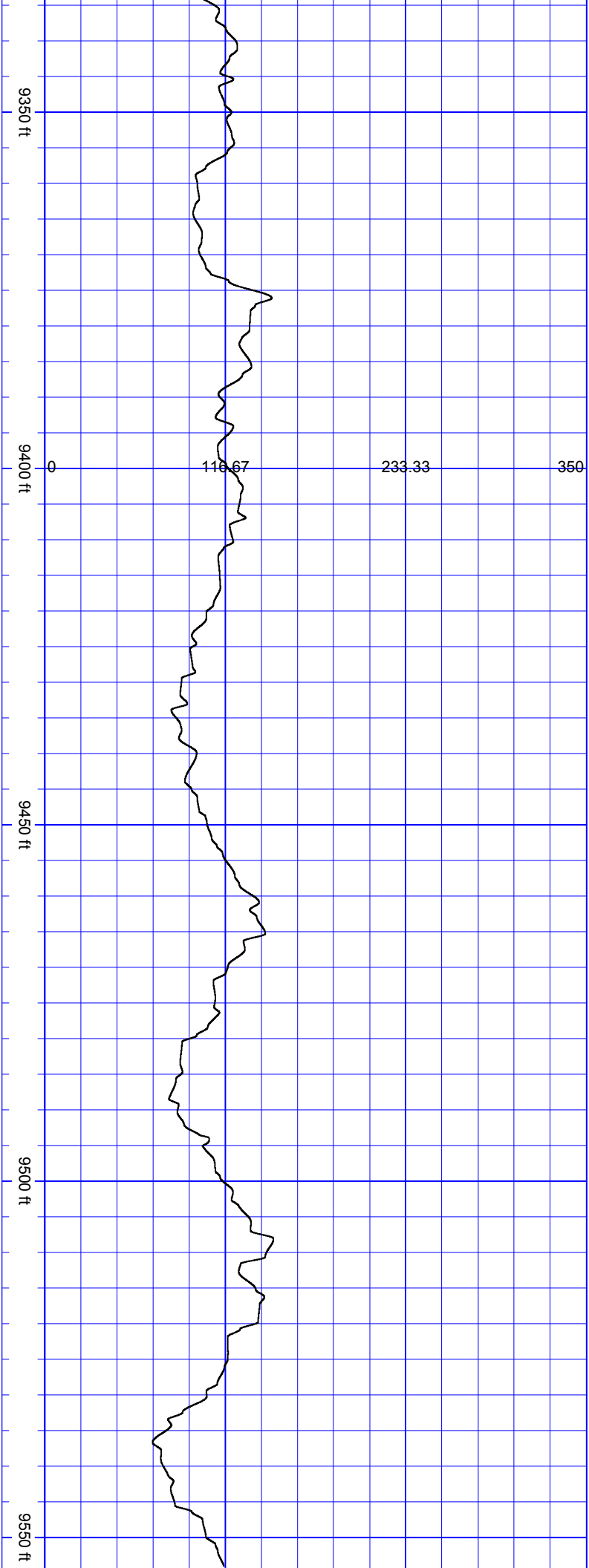




SurveyDepth:9196
TVD:5843.36 Inc:91.1
Azi:181.2
VertSec:3339.5

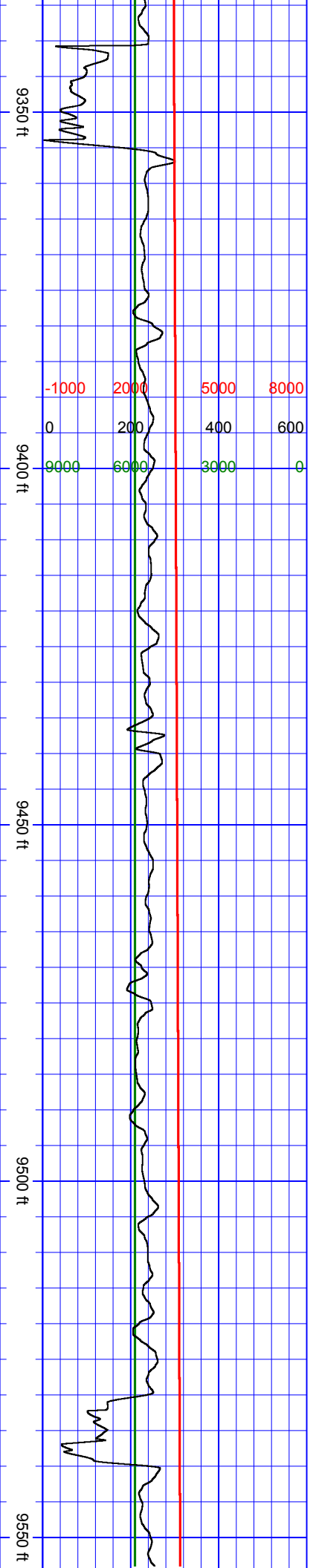
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TVD:5841.29 Inc:91.4
Azi:180.8
VertSec:3434.11

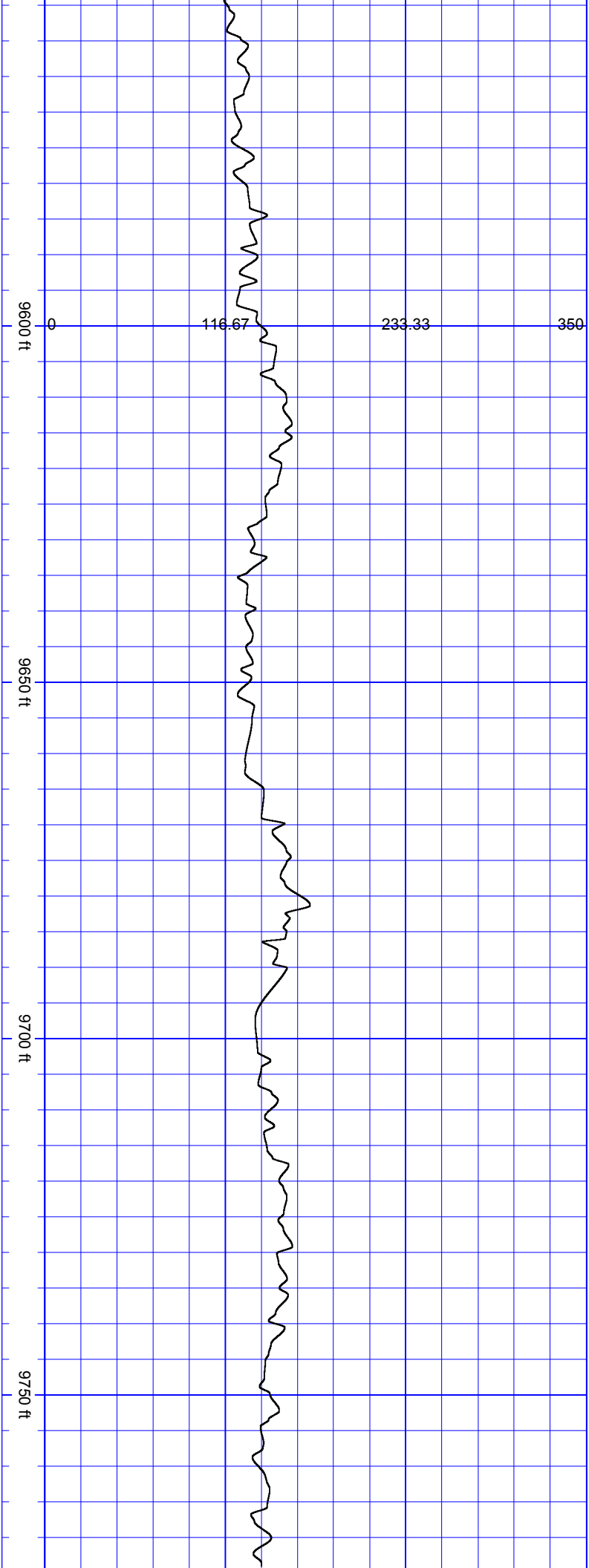




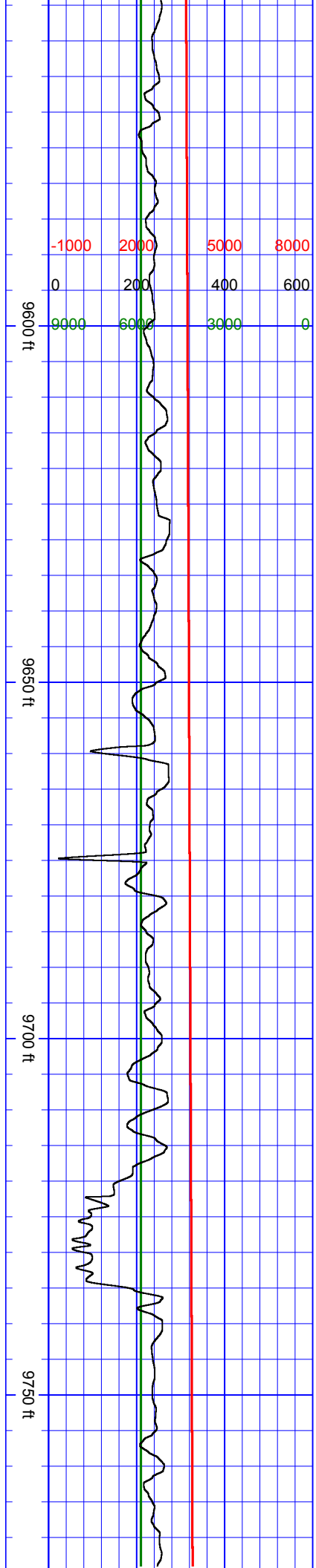
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VertSec:3527.86

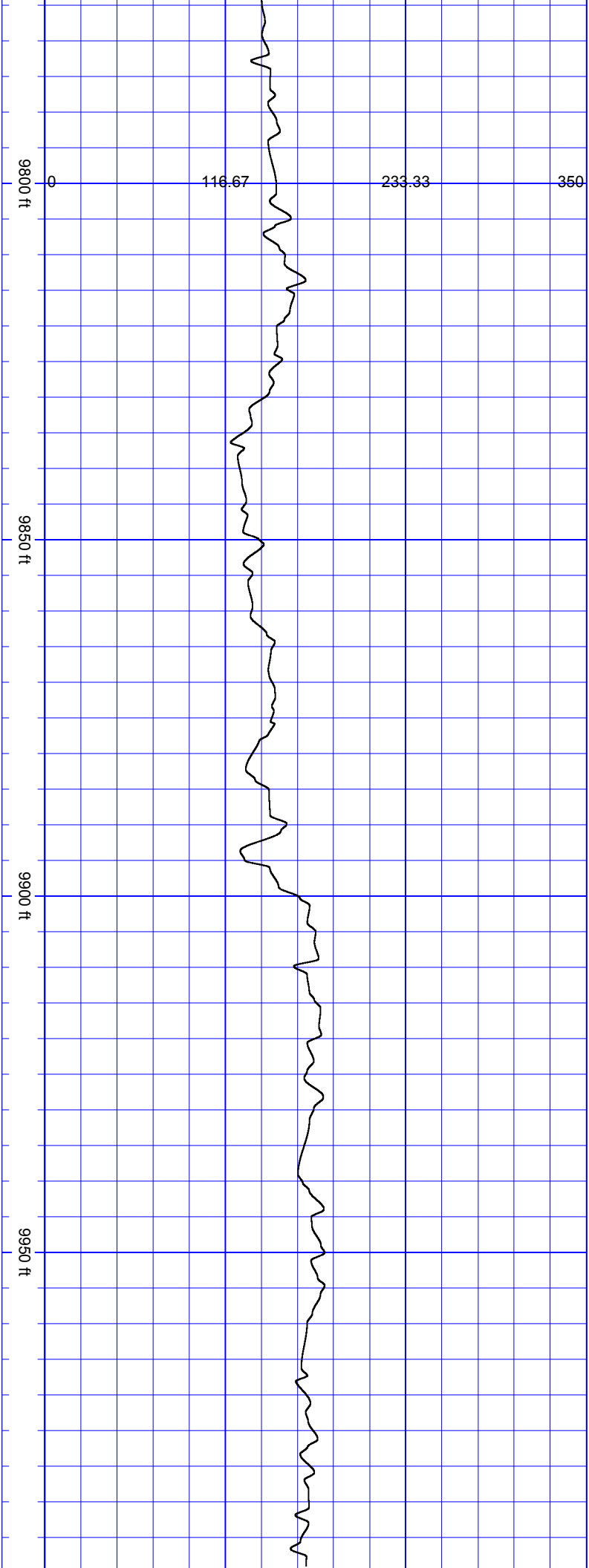
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TVD:5844.19 Inc:88.3
Azi:179.2
VertSec:3622.66





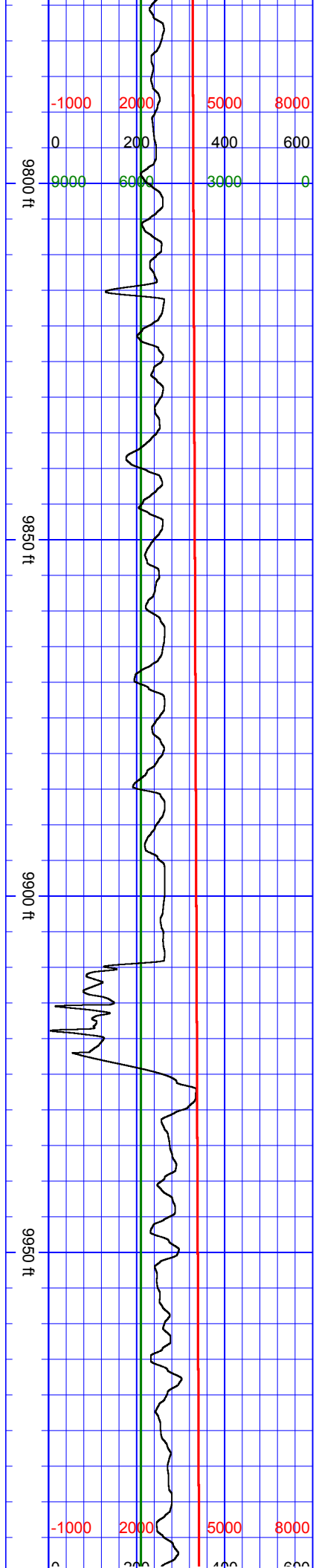
SurveyDepth:9575 TVD:5846.76 Inc:88.6 Azi:179.4 VertSec:3717.47	SurveyDepth:9669 TVD:5849.3 Inc:88.3 Azi:179 VertSec:3811.28	SurveyDepth:9764 TVD:5850.88 Inc:89.8 Azi:179.7 VertSec:3906.1
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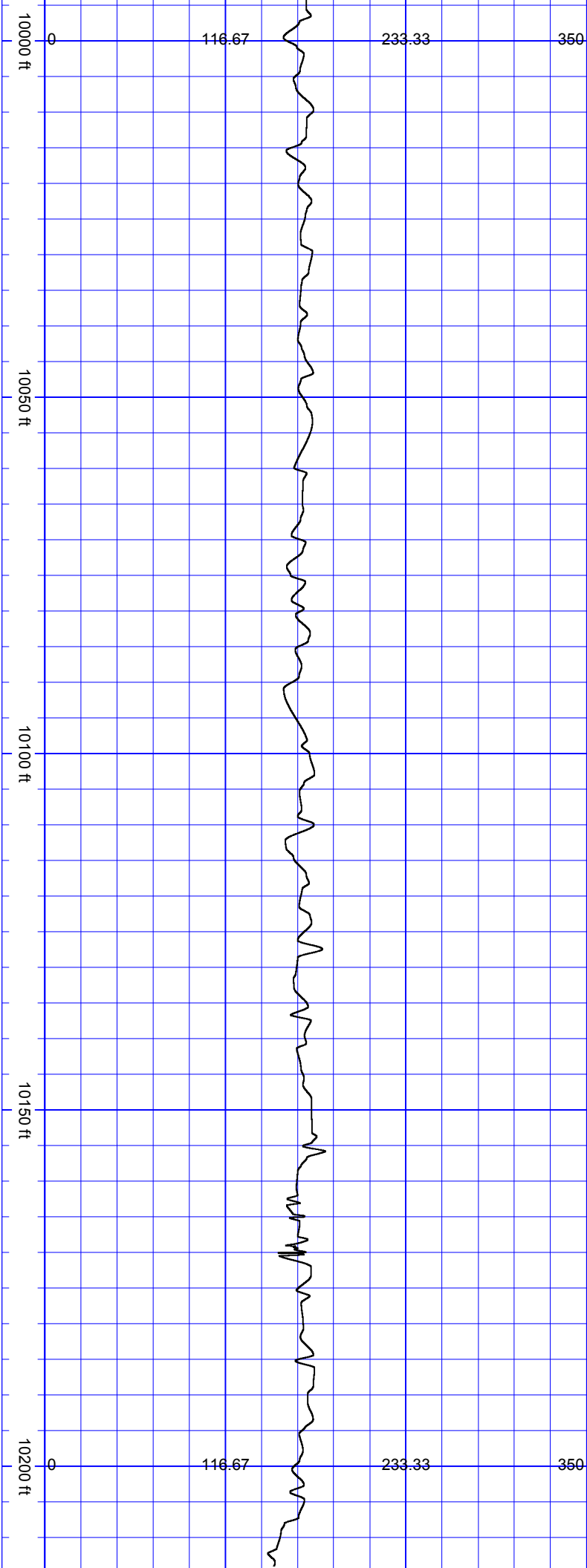




SurveyDepth:9859
TVD:5851.29 Inc:89.7
Azi:179.2
VertSec:4000.93

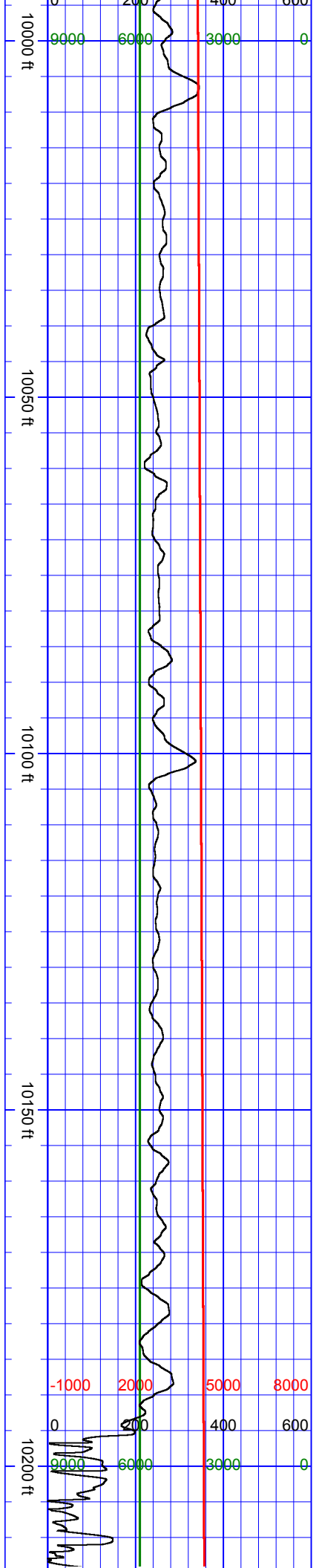
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Azi:180.7
VertSec:4094.7

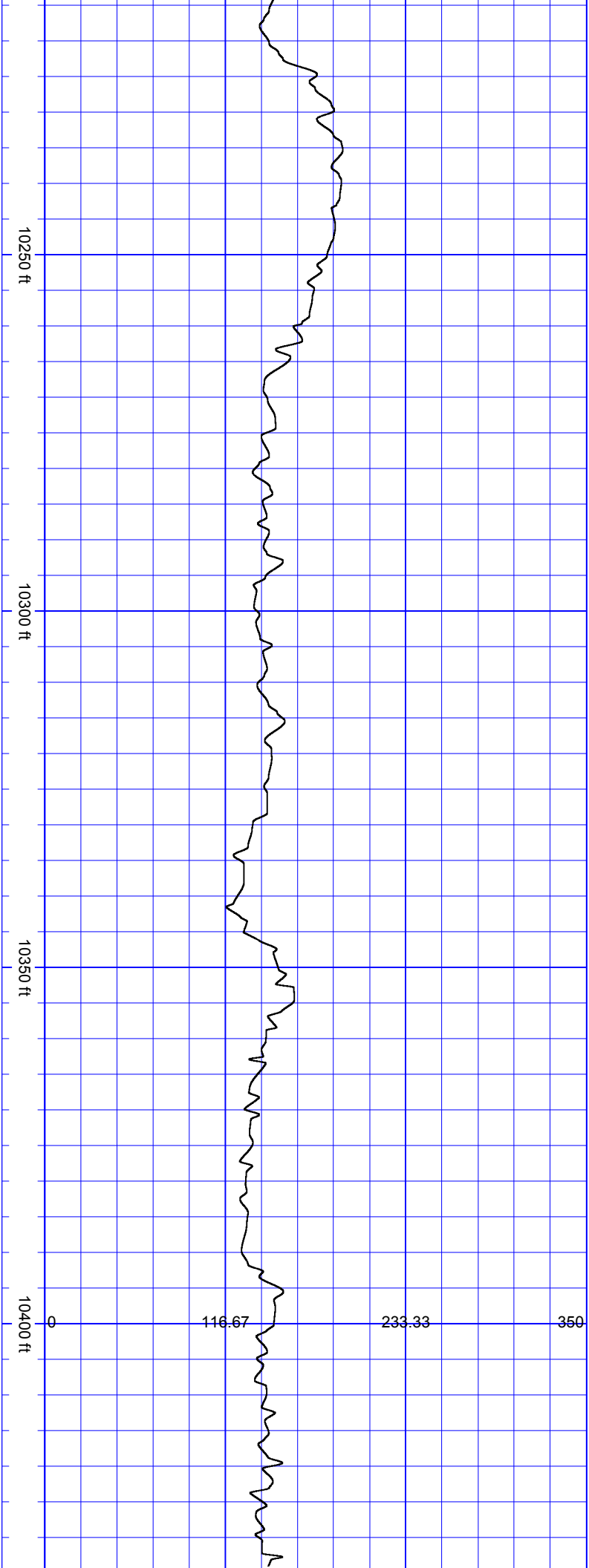




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Azi:179.7
VertSec:4189.44

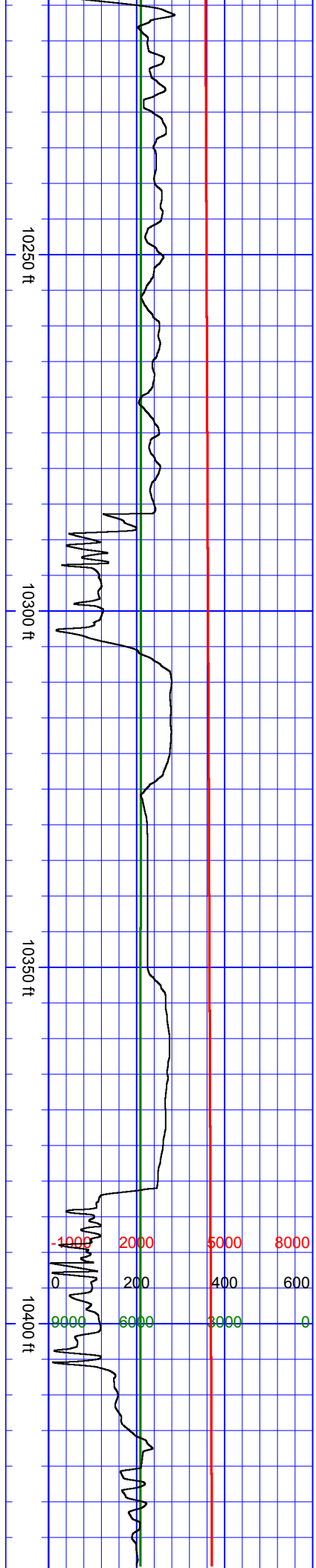
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Azi:177.9
VertSec:4284.32

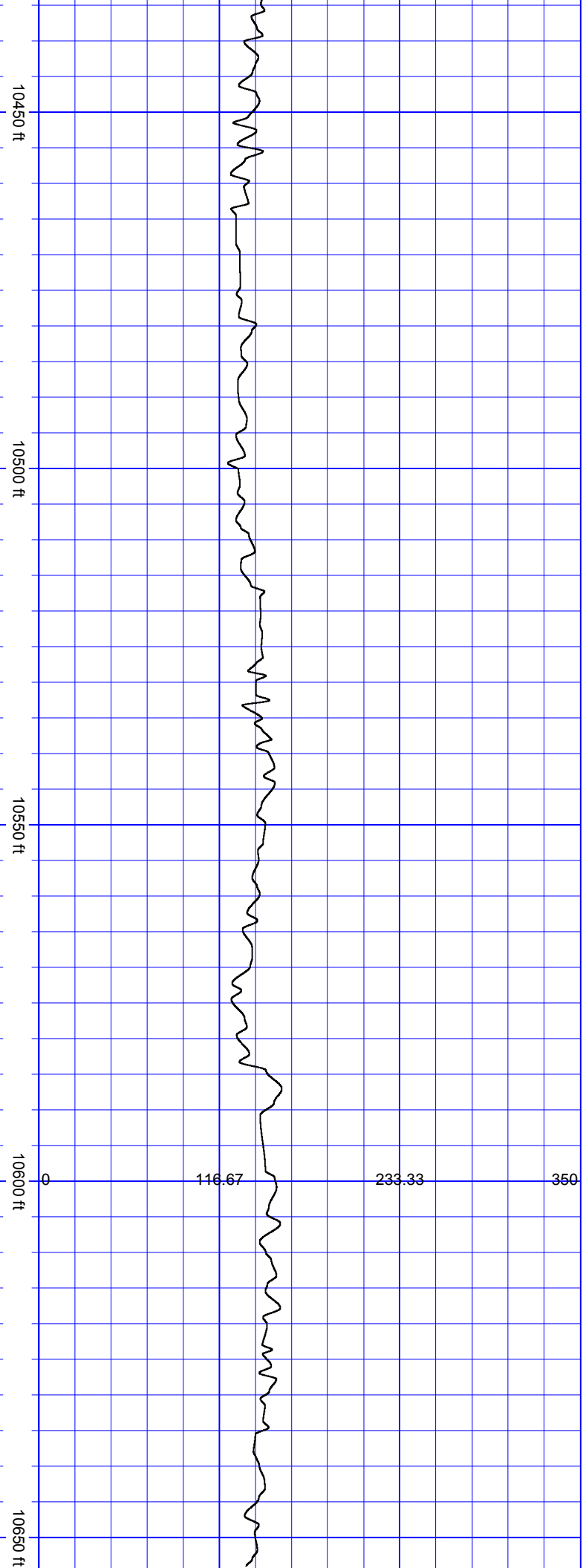
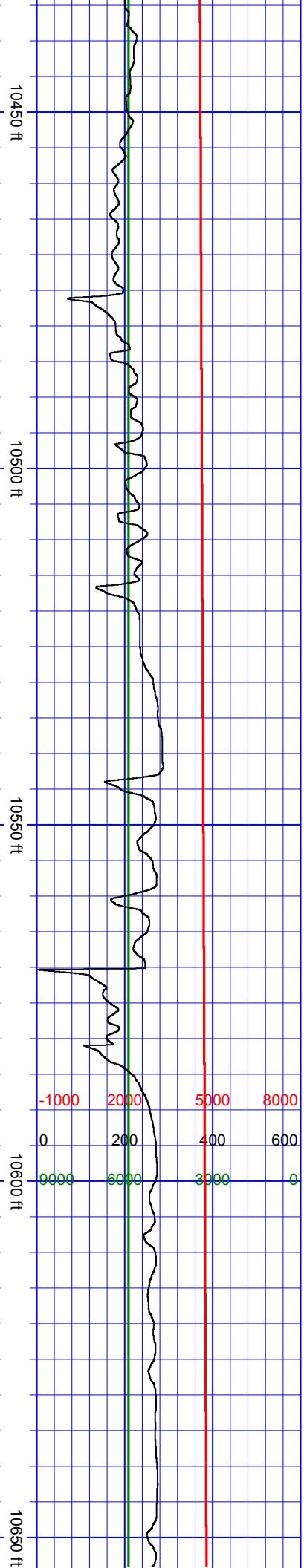


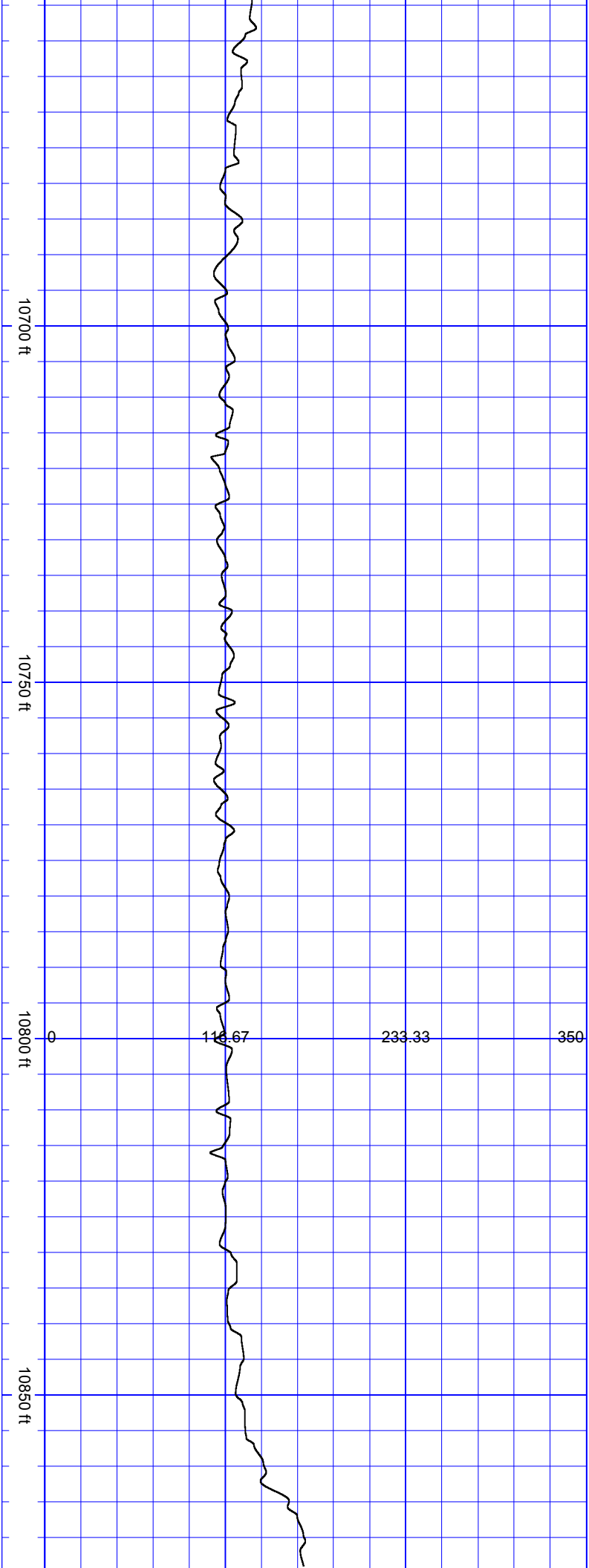


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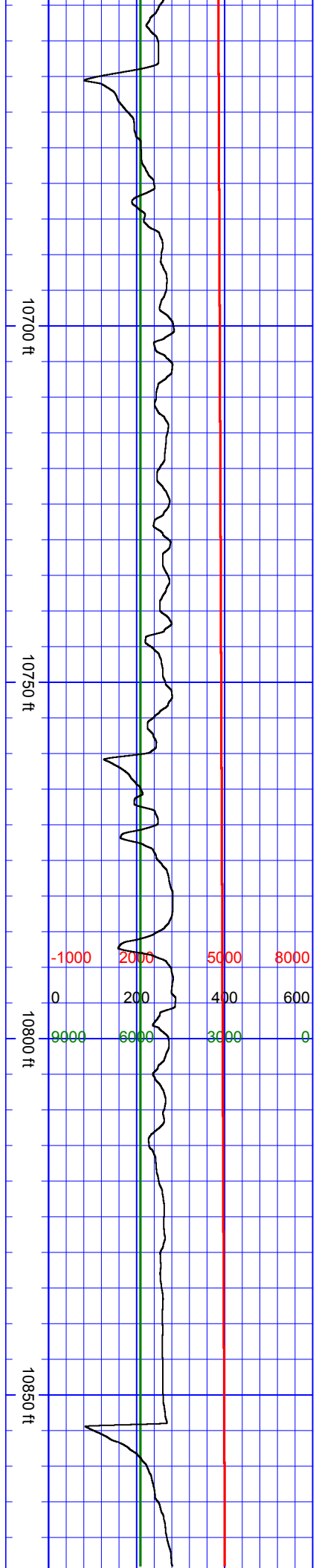
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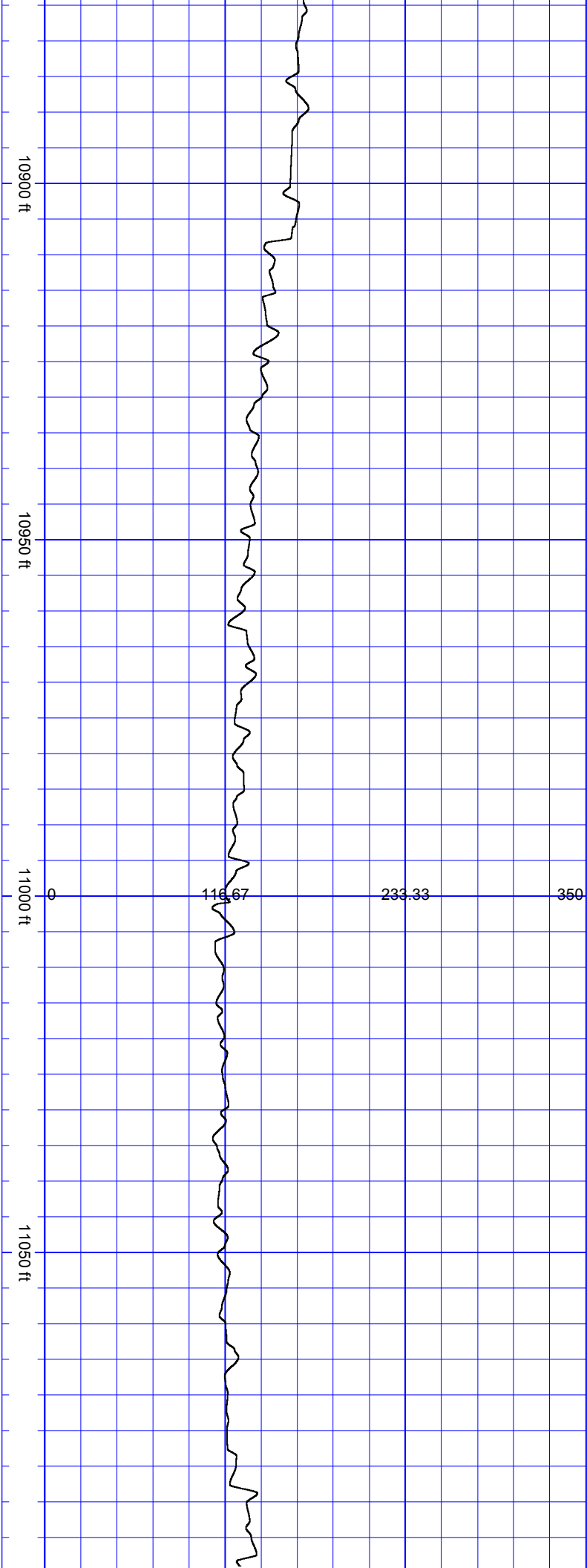




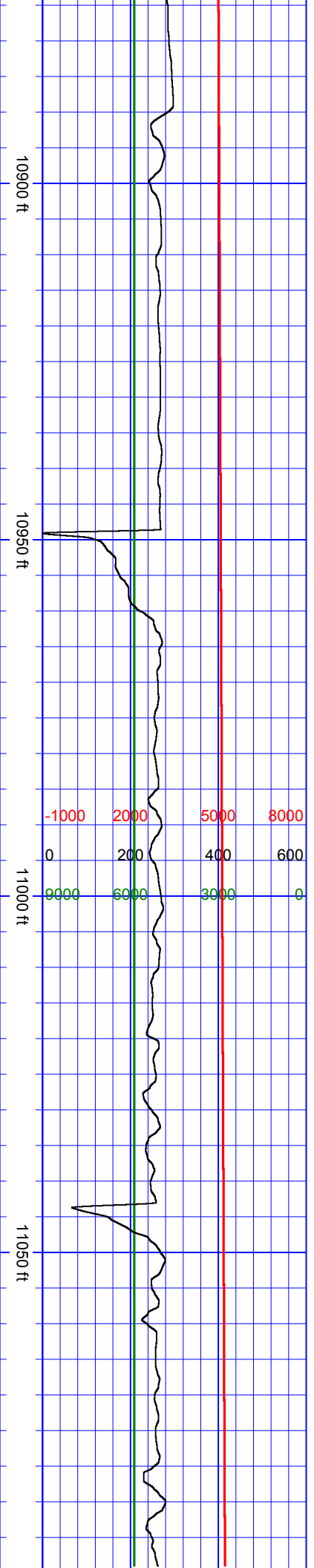


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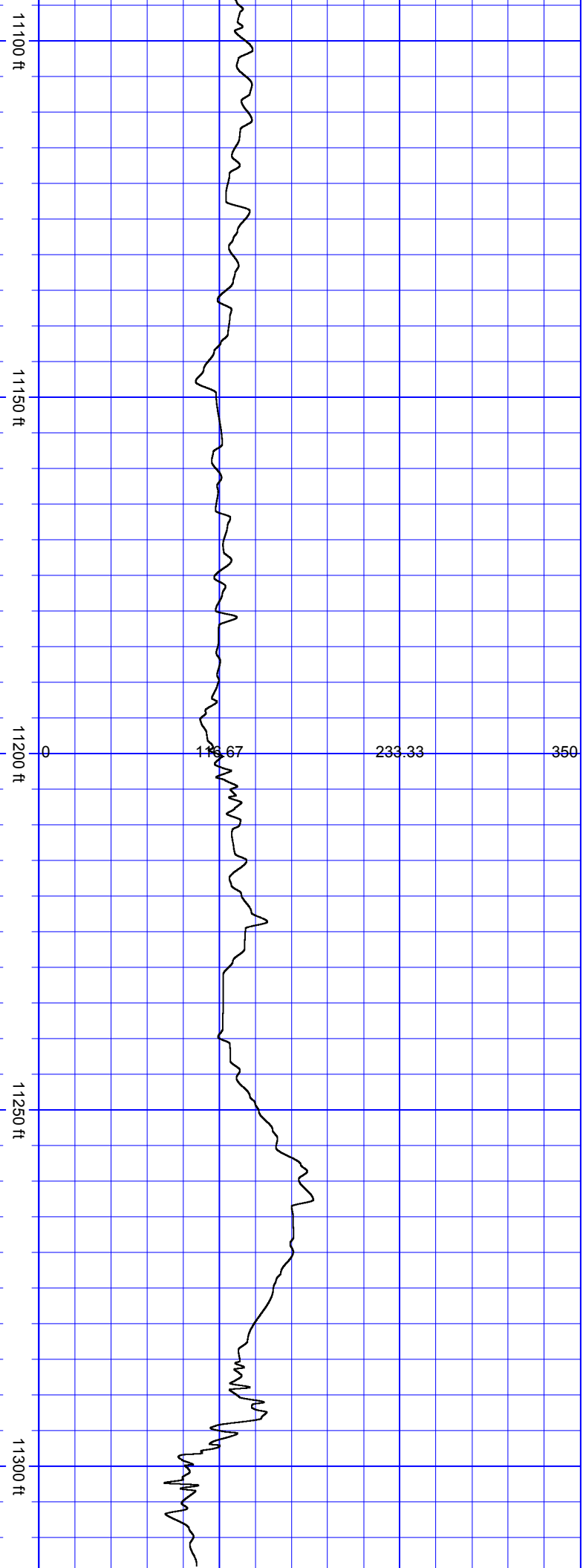
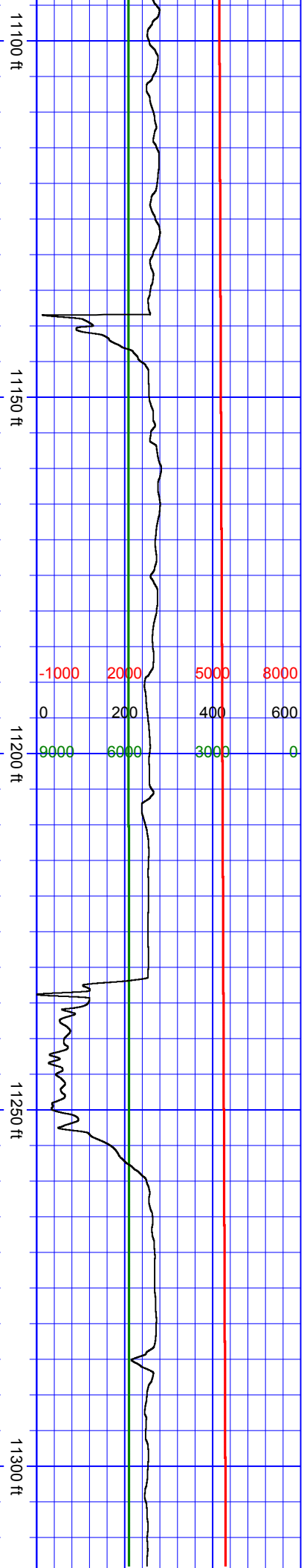


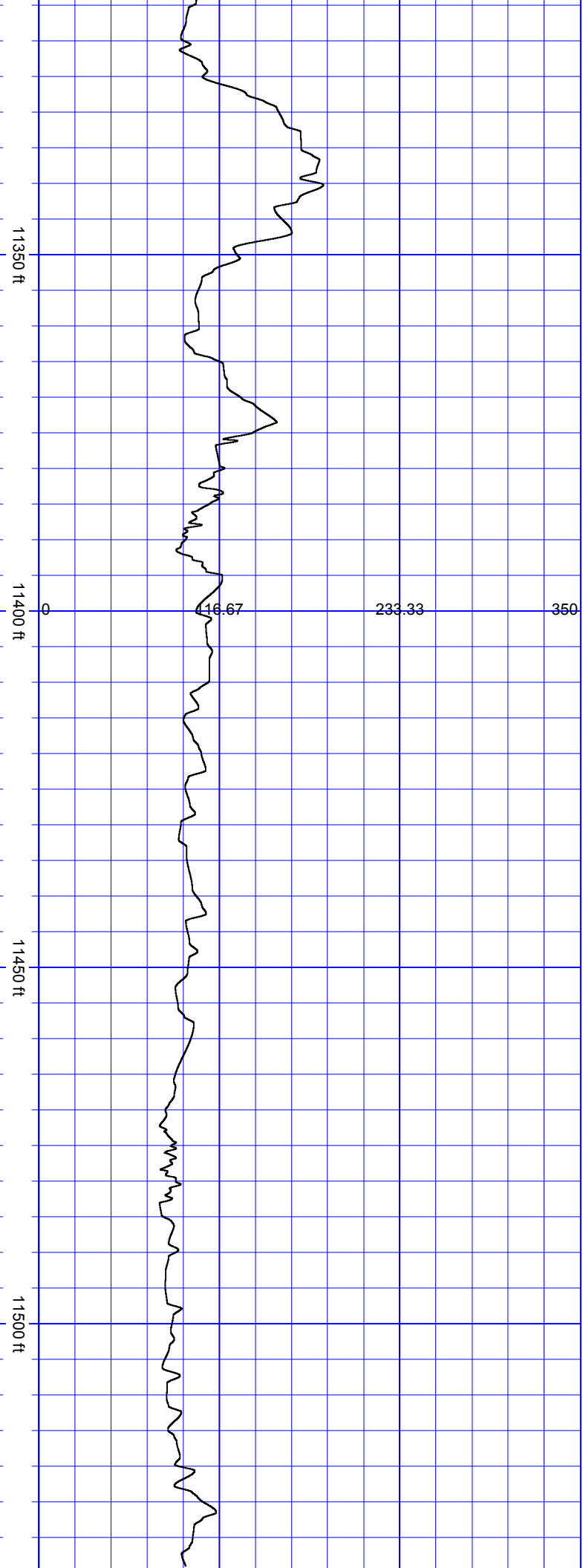
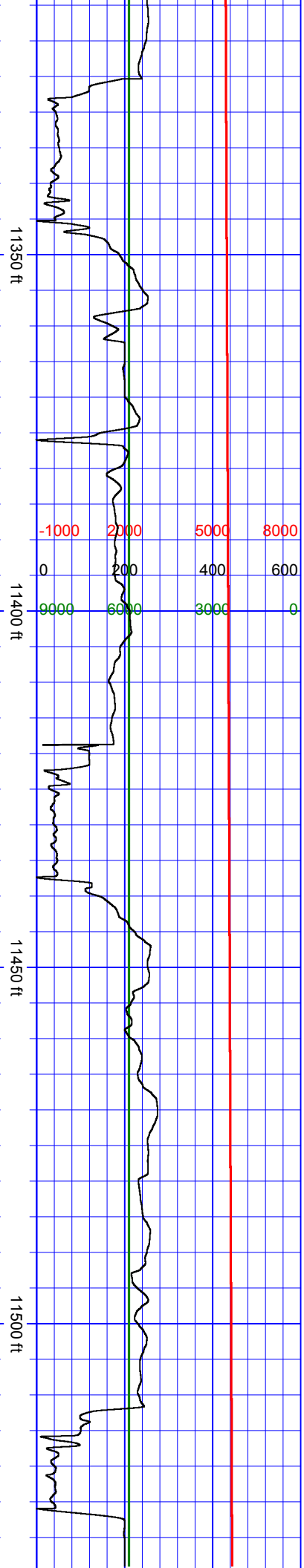


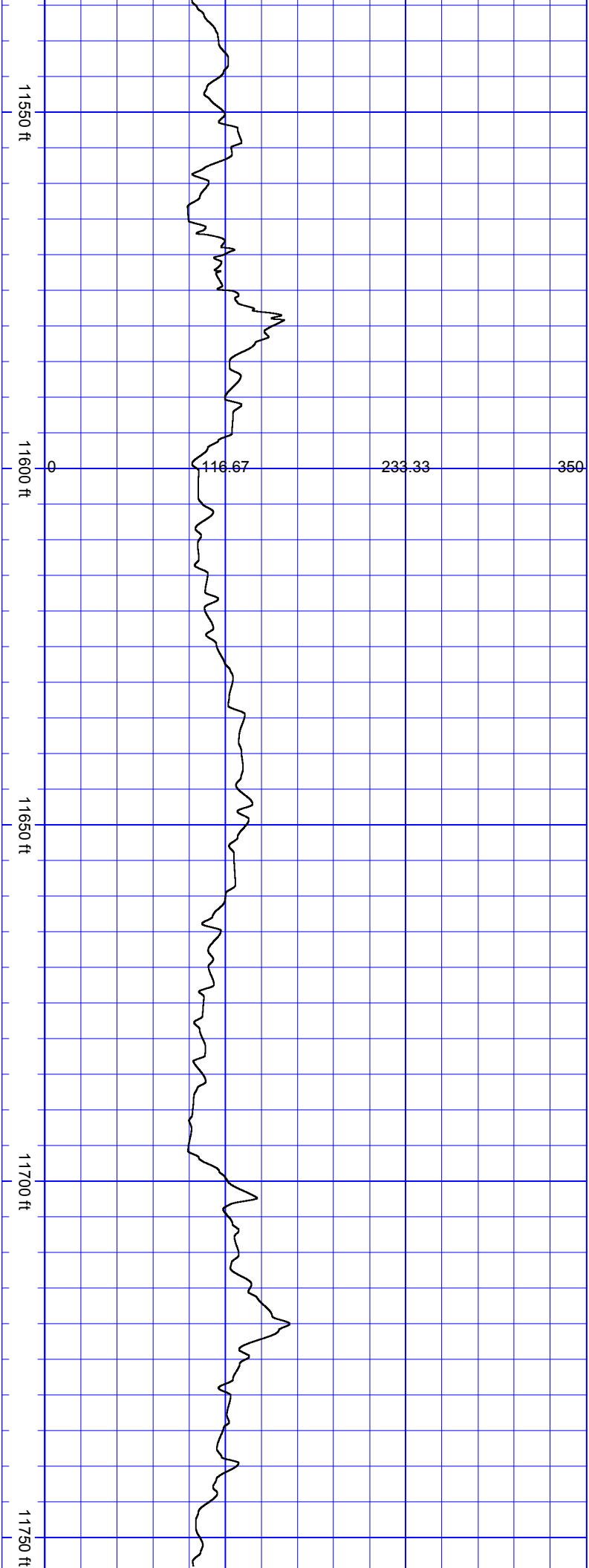
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TVD:5857.65 Inc:90



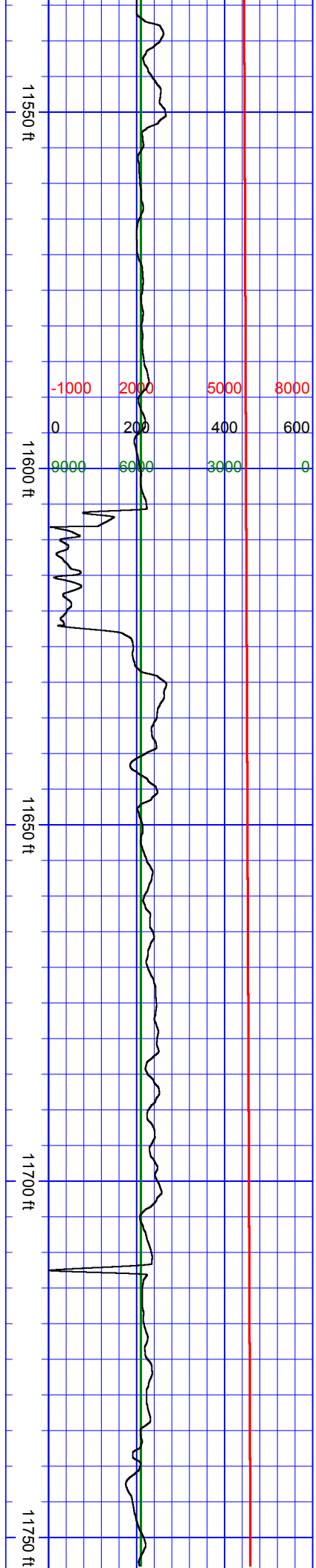
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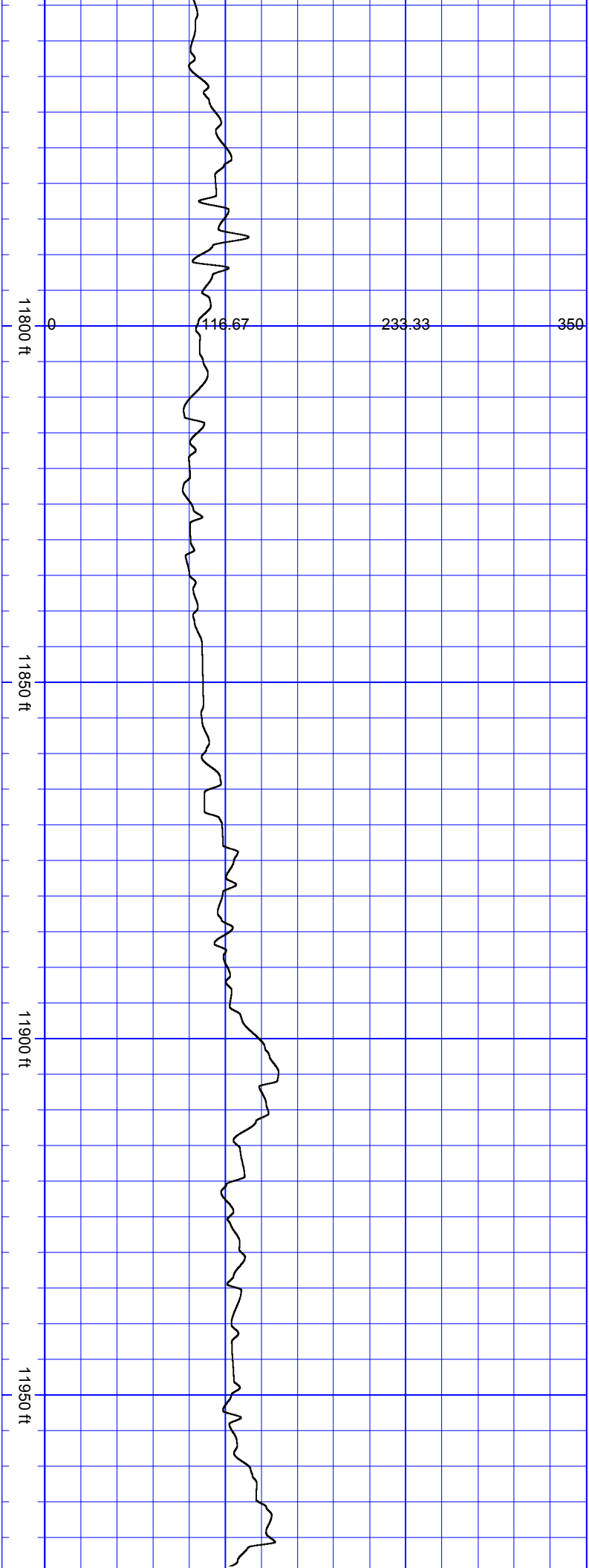






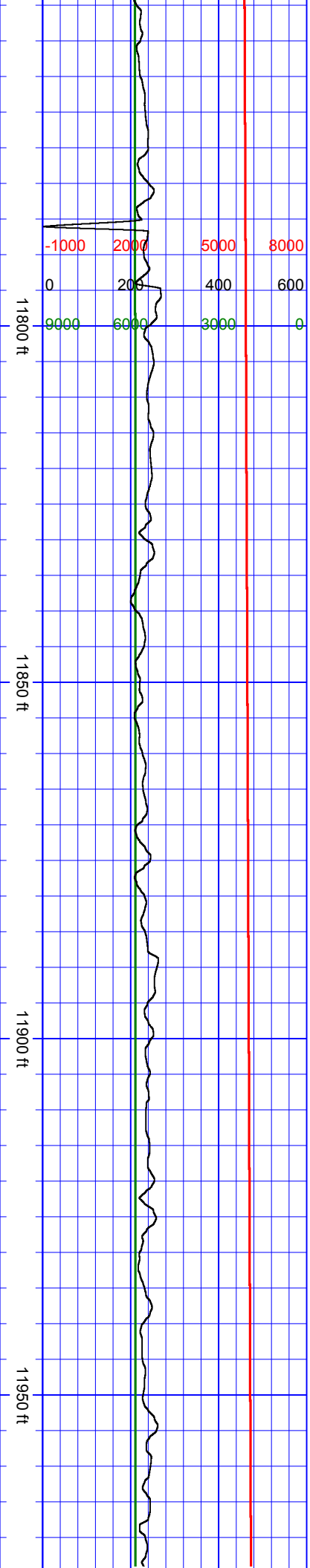
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SurveyDepth:11650 TVD:5840.19 Inc:91 Azi:182 VertSec:5787.11
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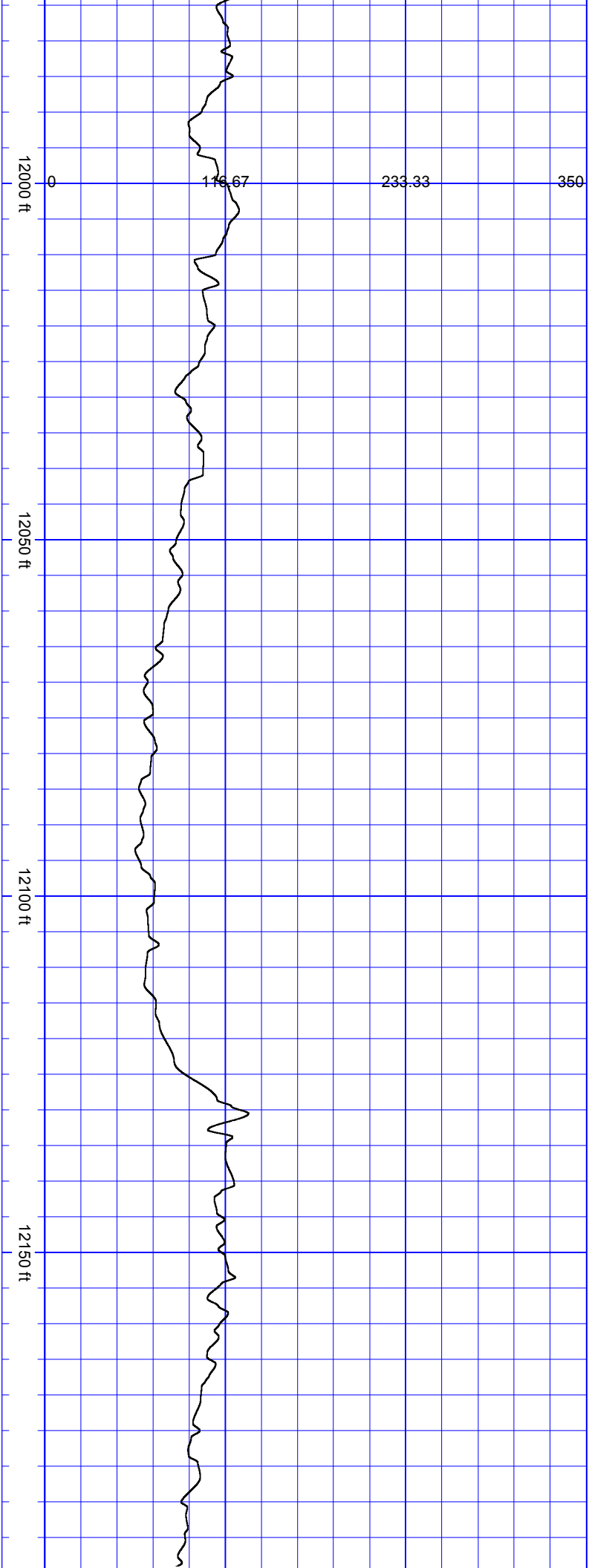




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Azi:181.6
VertSec:5973.12

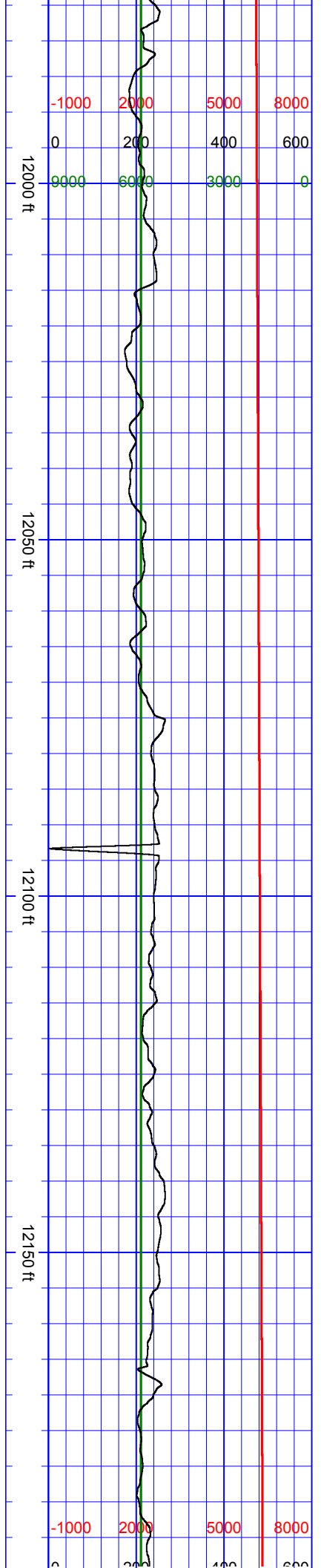
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Azi:180.9
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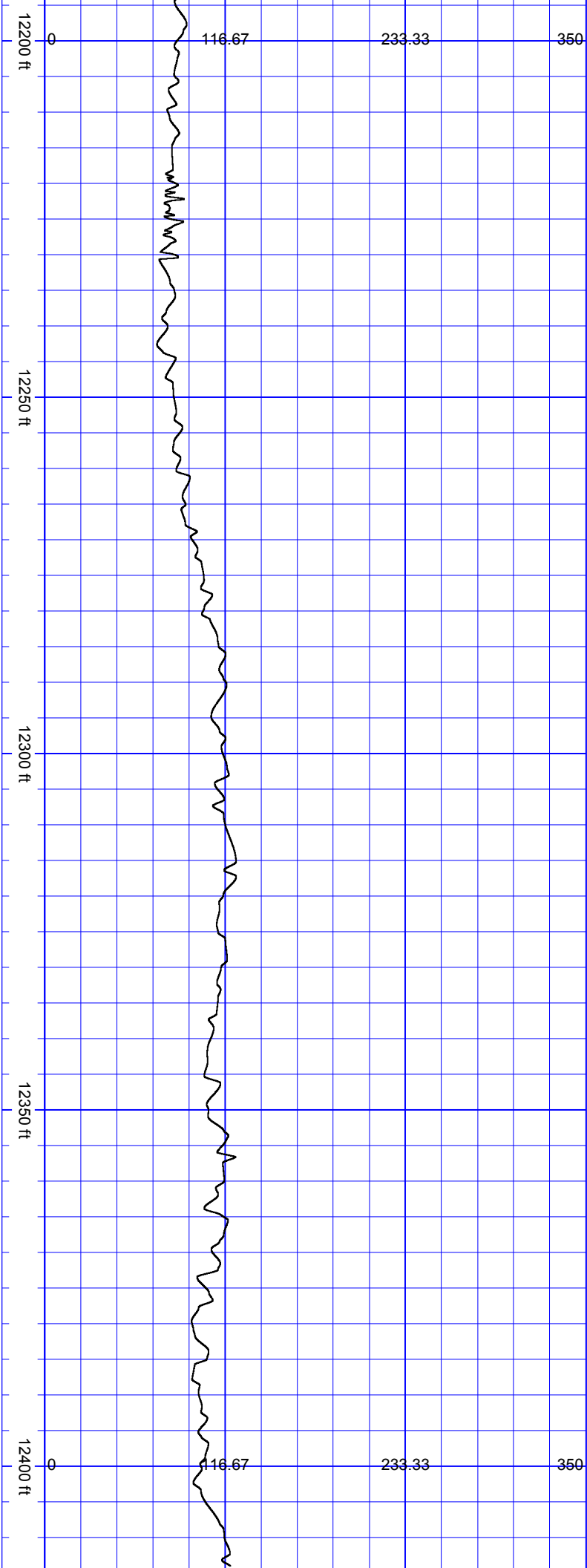




SurveyDepth:12024
TVD:5836.27 Inc:90
Azi:180 VertSec:6159.44

SurveyDepth:12117
TVD:5836.19 Inc:90.1
Azi:179.8
VertSec:6252.23

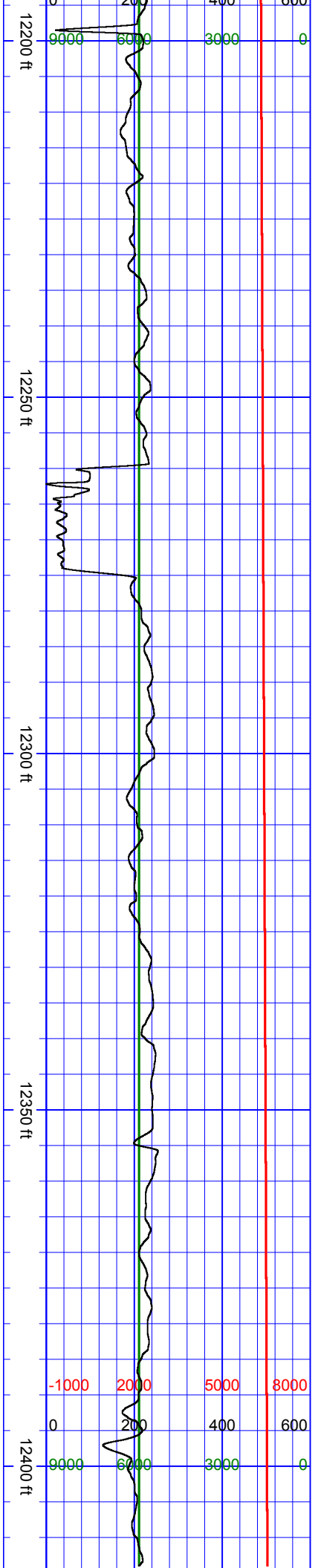


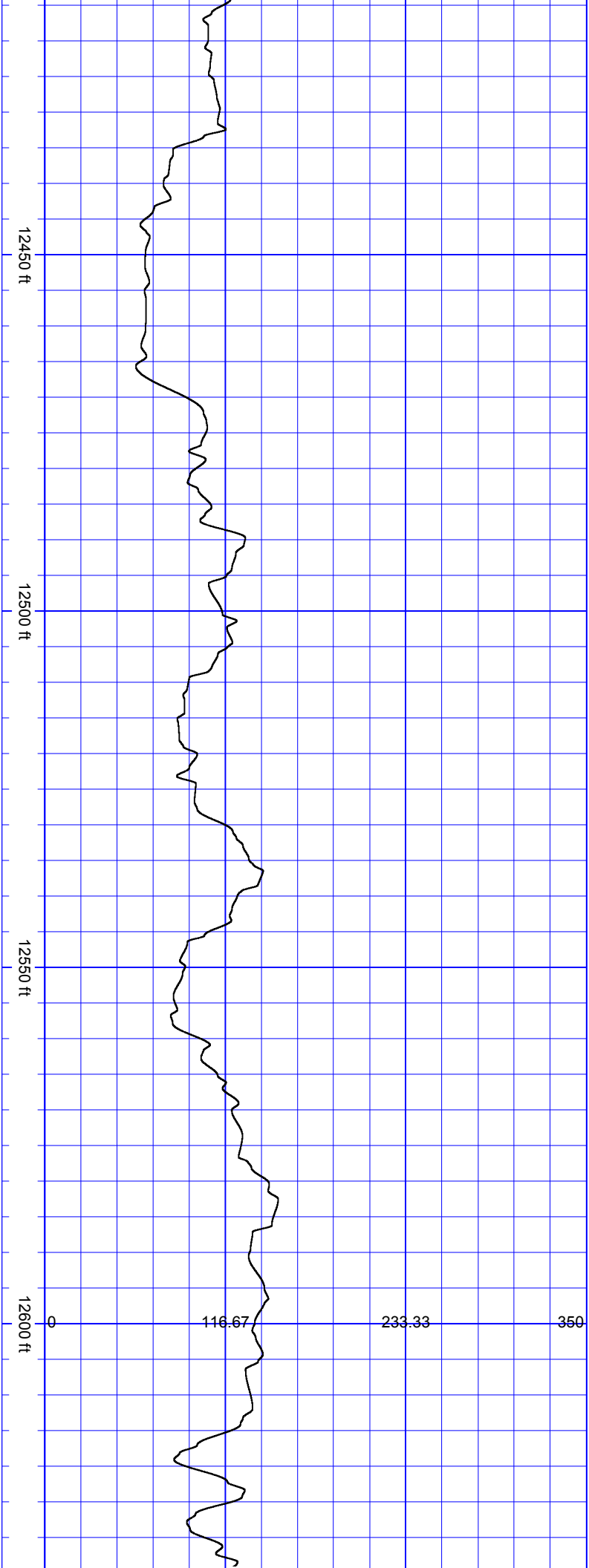


SurveyDepth:12211
TVD:5835.86 Inc:90.3
Azi:179.6
VertSec:6346.03

SurveyDepth:12304
TVD:5835.95 Inc:89.6
Azi:181.2
VertSec:6438.75

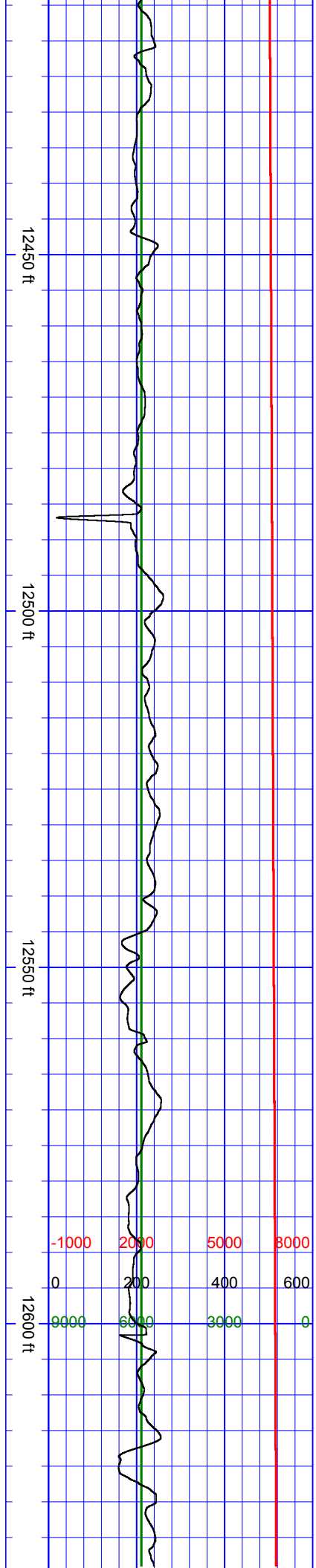
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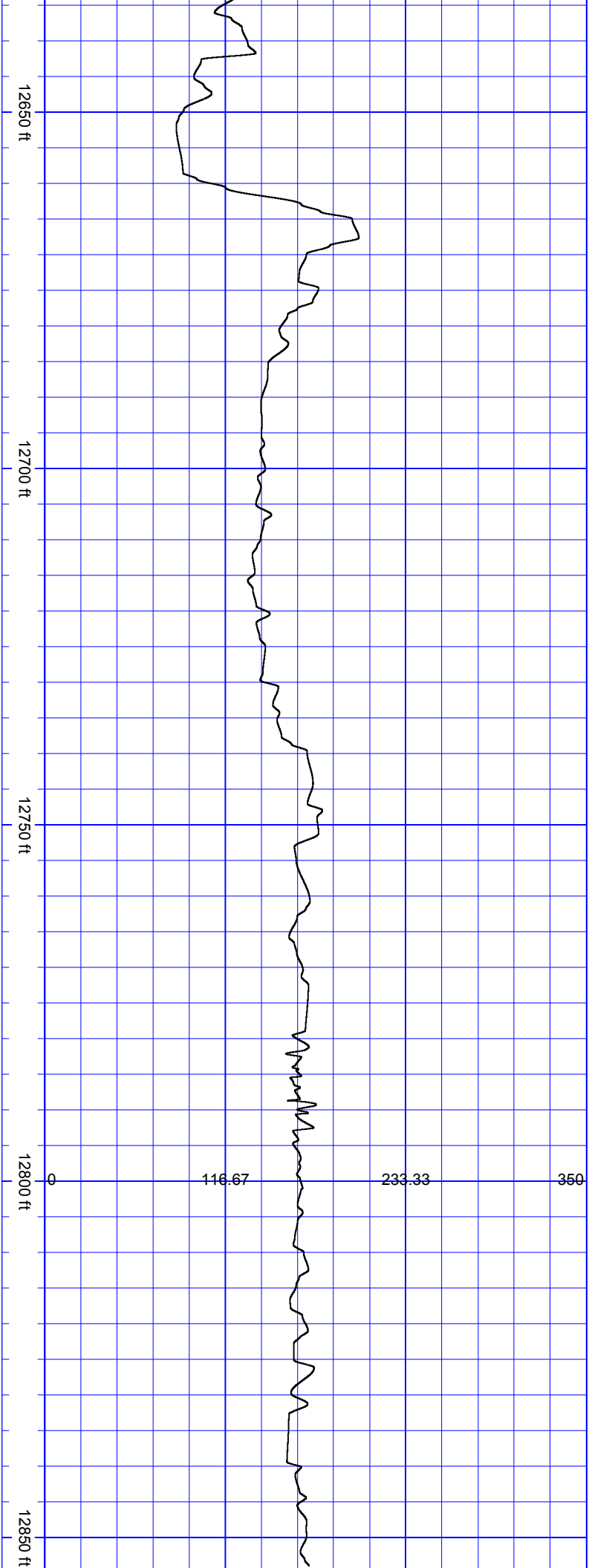




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Azi:180.7
VertSec:6625.06

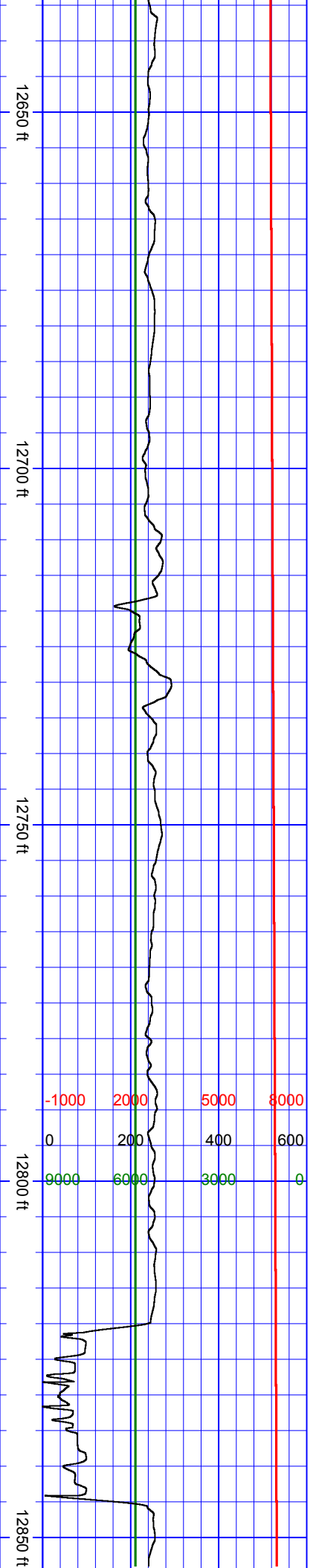
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VertSec:6717.78

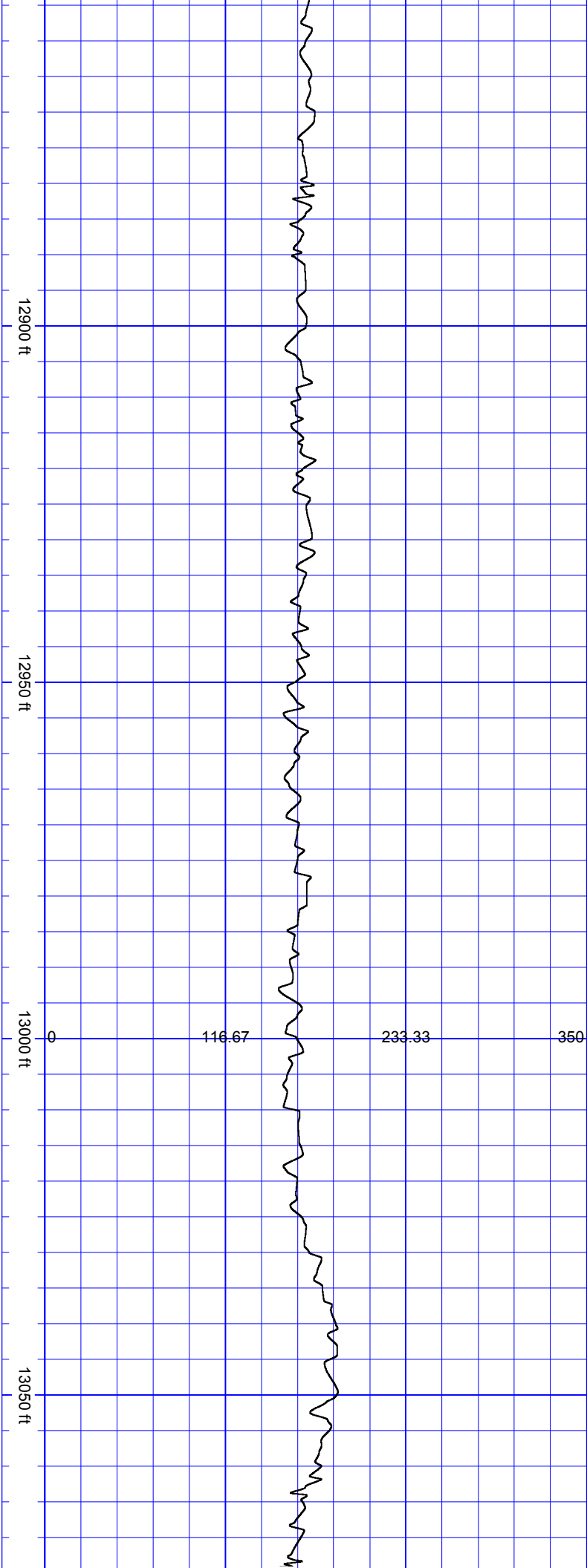




SurveyDepth:12678
TVD:5837.41 Inc:90.4
Azi:179.3
VertSec:6811.58

SurveyDepth:12772
TVD:5837.17 Inc:89.9
Azi:177.4
VertSec:6905.49

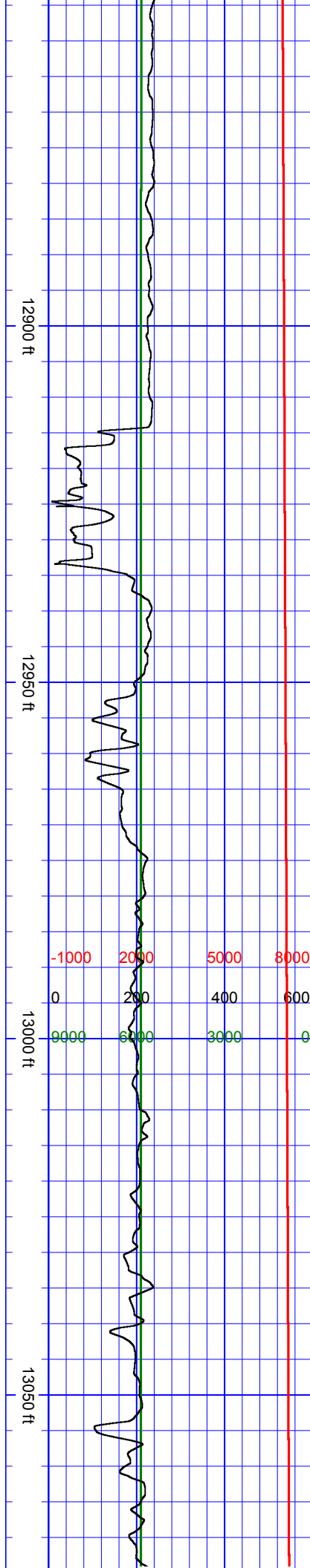


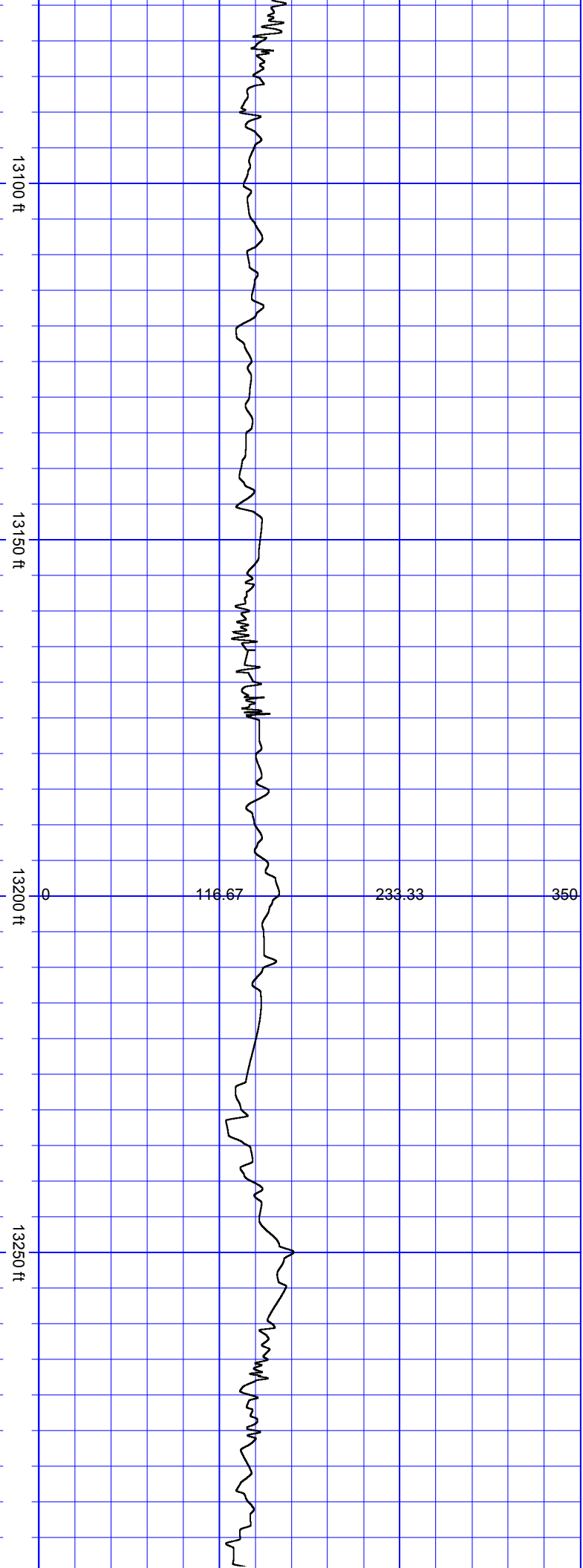
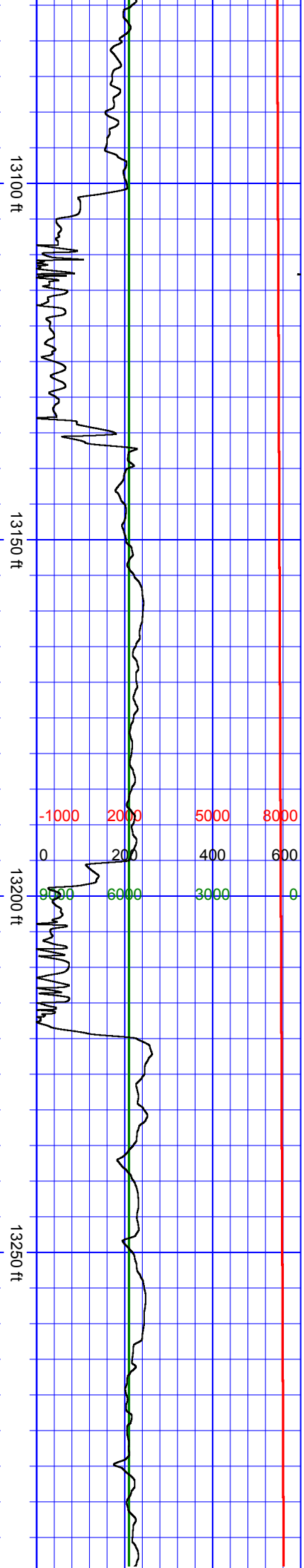


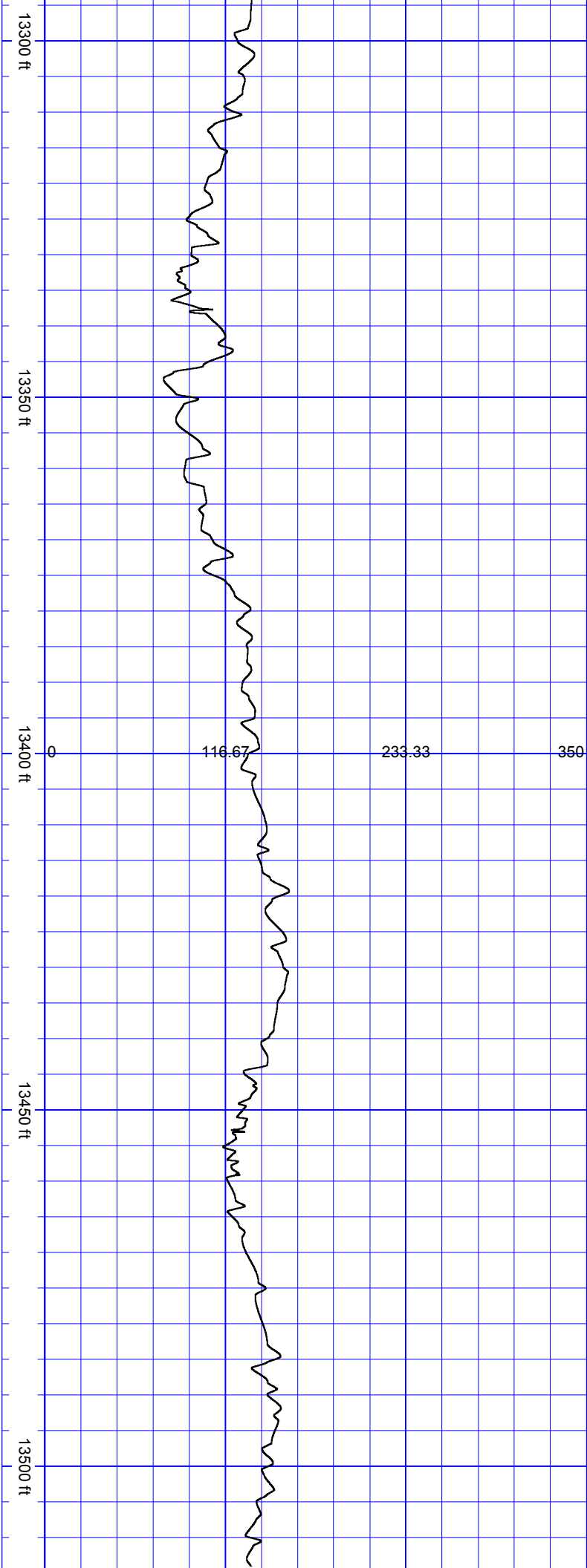
SurveyDepth:12865
TVD:5837.57 Inc:89.6
Azi:178.5
VertSec:6998.43

SurveyDepth:12959
TVD:5839.13 Inc:88.5
Azi:180 VertSec:7092.27

SurveyDepth:13053
TVD:5841.76 Inc:88.3
Azi:179.8
VertSec:7186.01

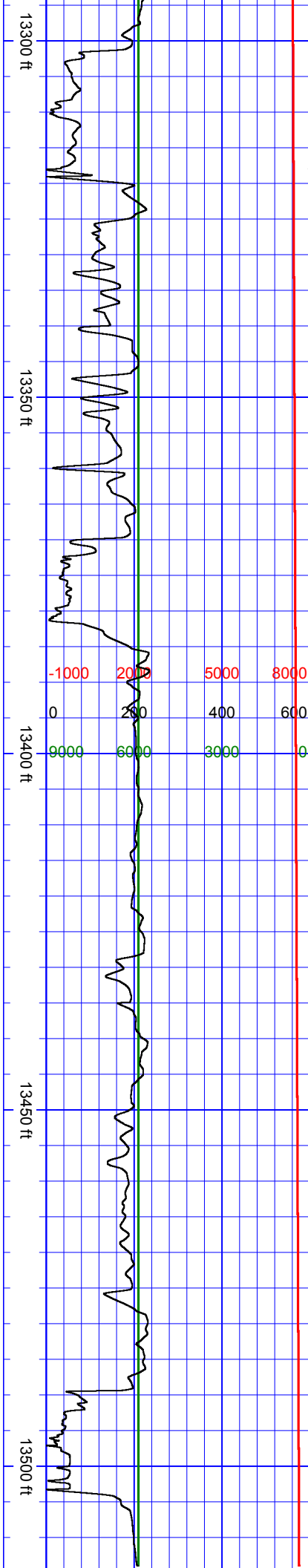




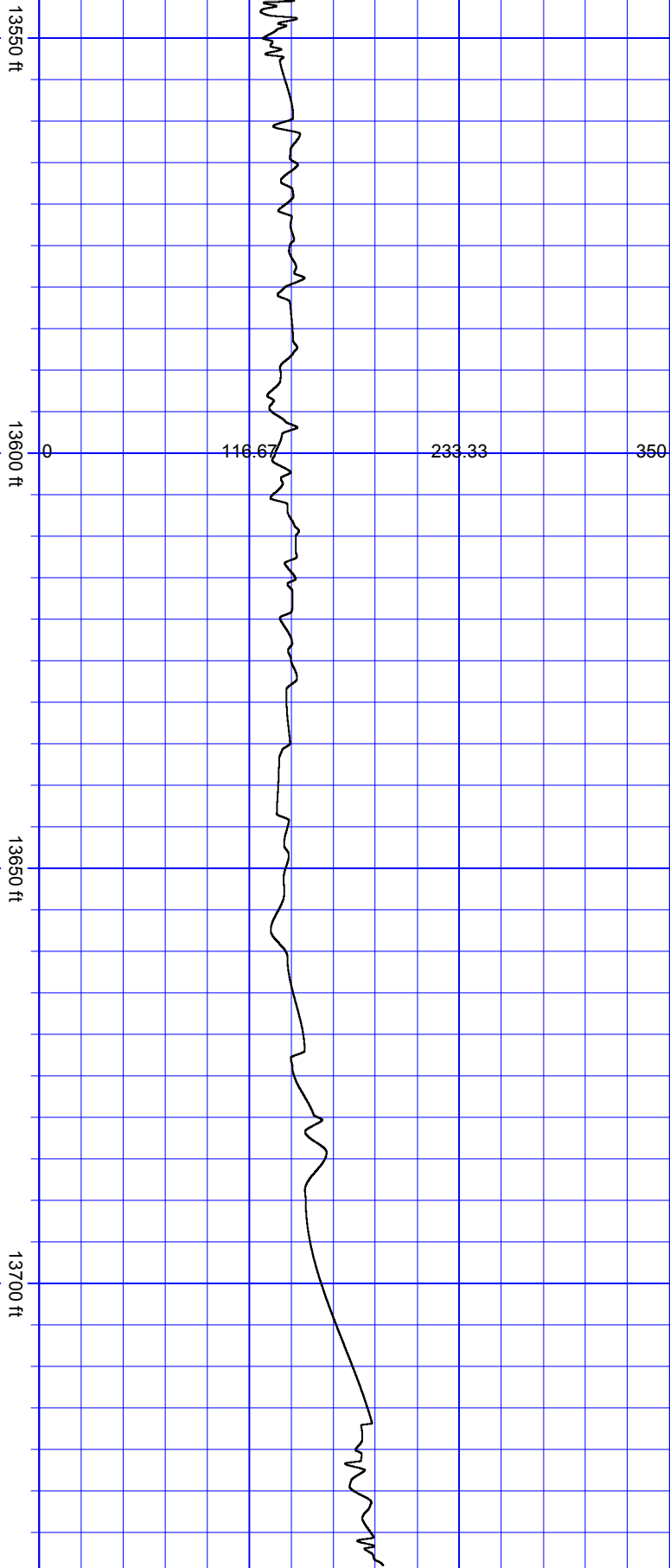


SurveyDepth:13334
TVD:5845.68 Inc:90.1
Azi:183.2
VertSec:7465.63

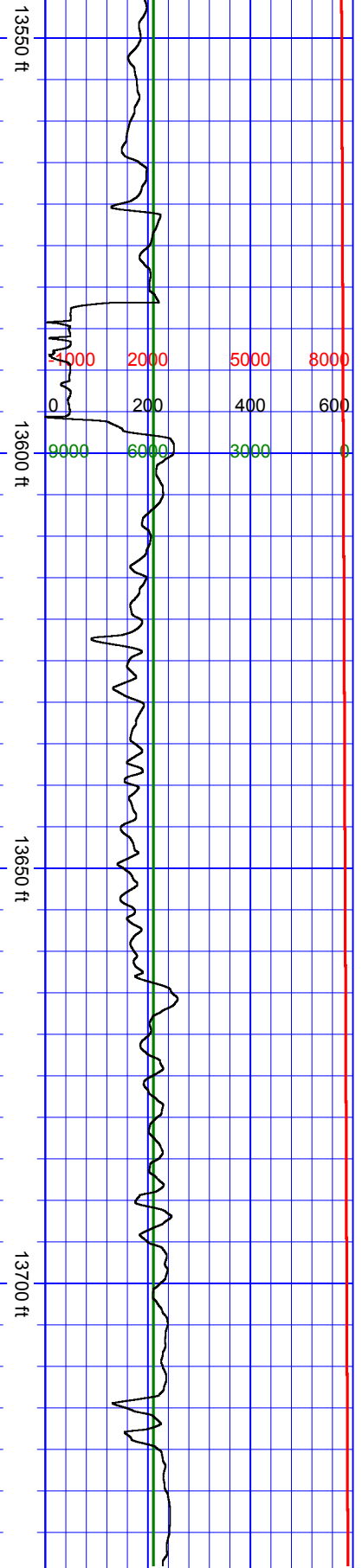
SurveyDepth:13427
TVD:5843.08 Inc:93.1
Azi:186 VertSec:7557.53

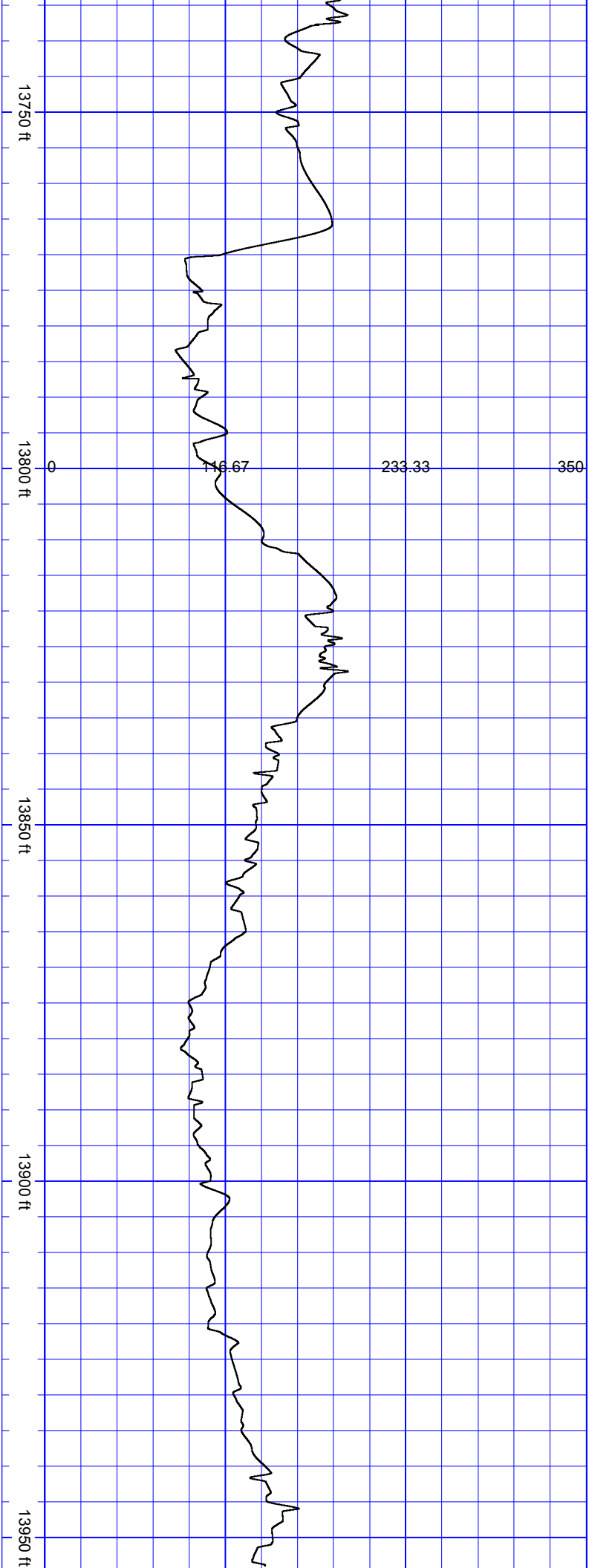


SurveyDepth:13521
TVD:5838.25 Inc:92.8
Azi:185 VertSec:7650.11



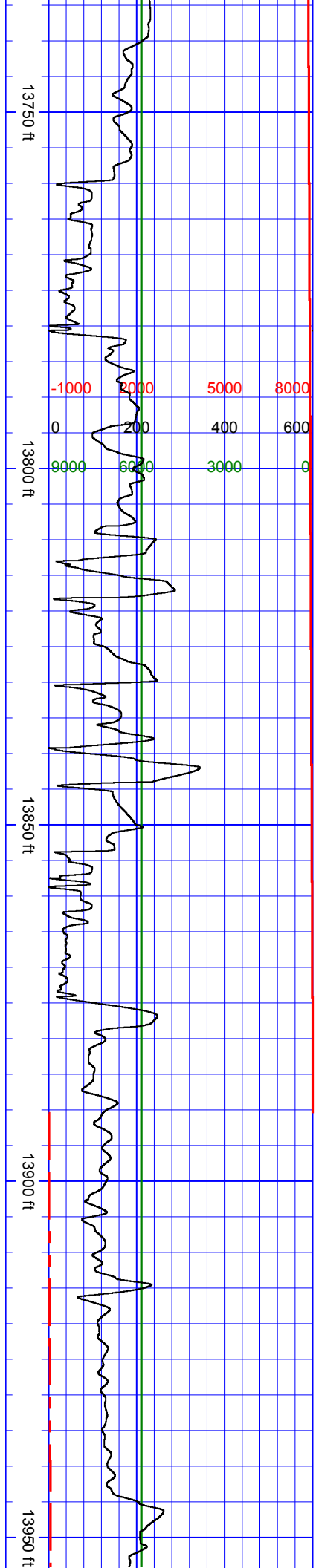
SurveyDepth:13708
TVD:5831.23 Inc:91.5
Azi:184 VertSec:7834.92

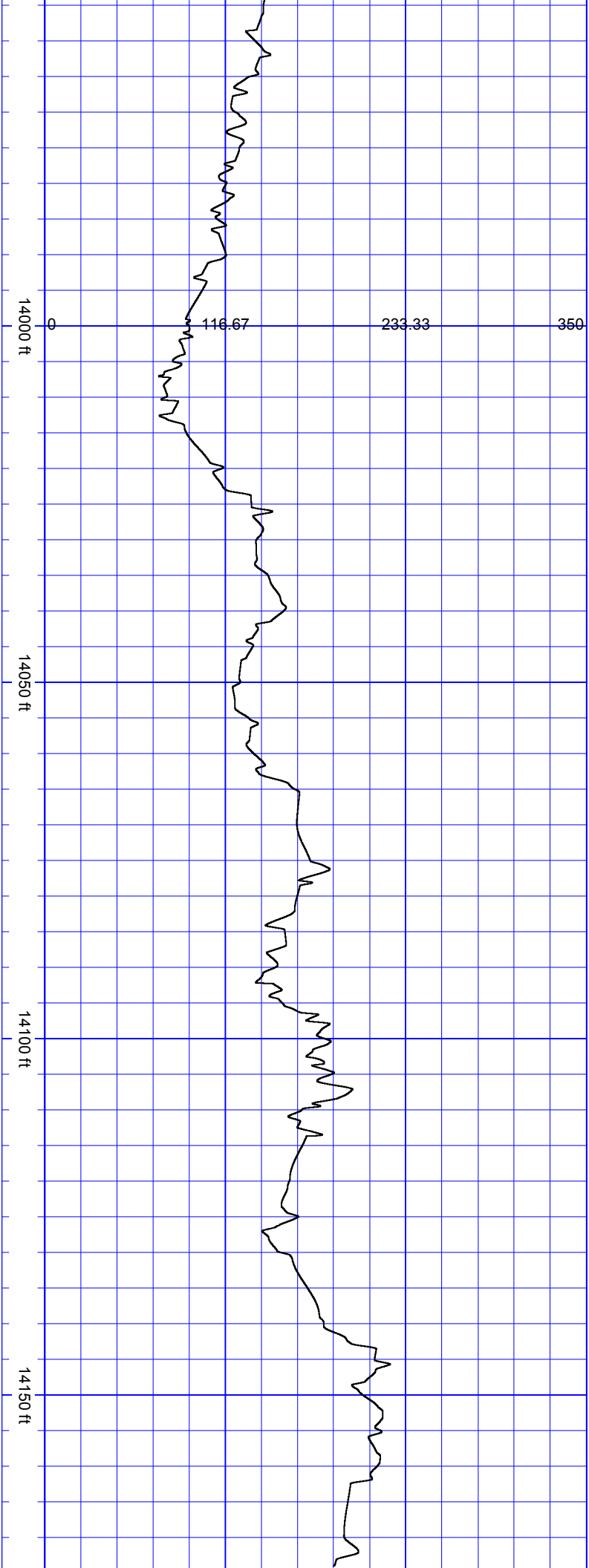




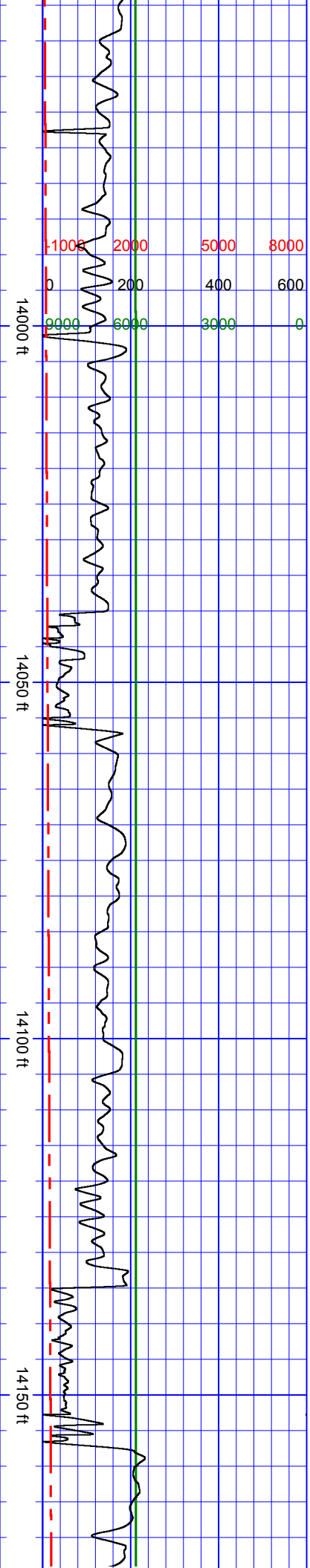
SurveyDepth:13802
TVD:5829.02 Inc:91.2
Azi:182.9
VertSec:7928.09

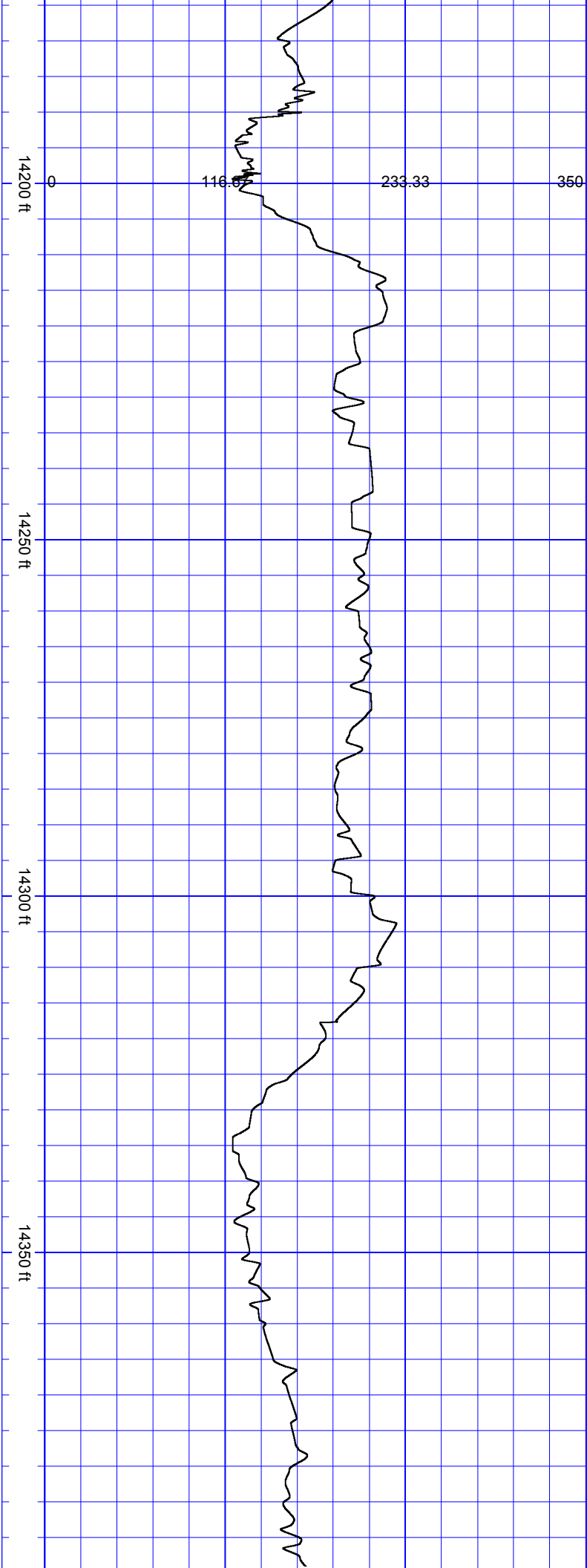
SurveyDepth:13895
TVD:5826.18 Inc:92.3
Azi:179 VertSec:8020.68





SurveyDepth:13989
TVD:5821.99 Inc:92.8
Azi:178.5
VertSec:8114.48

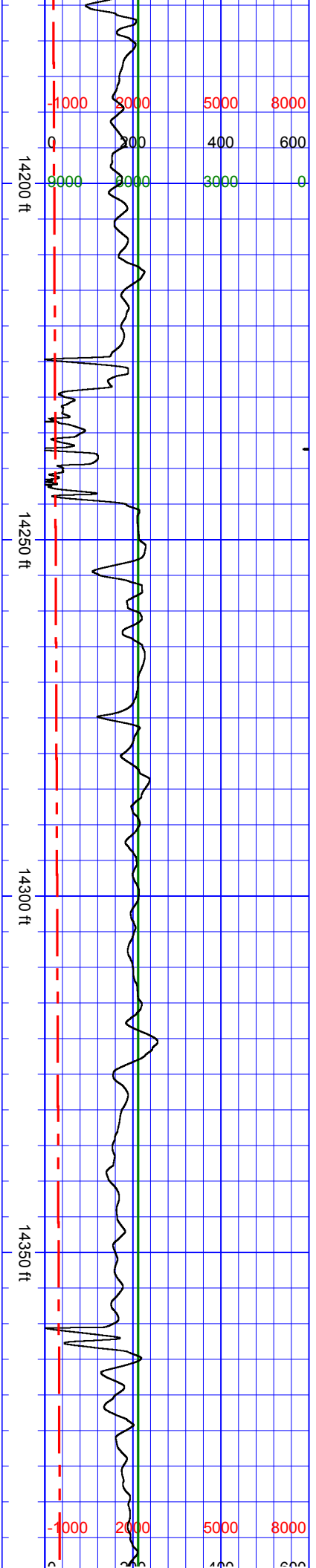


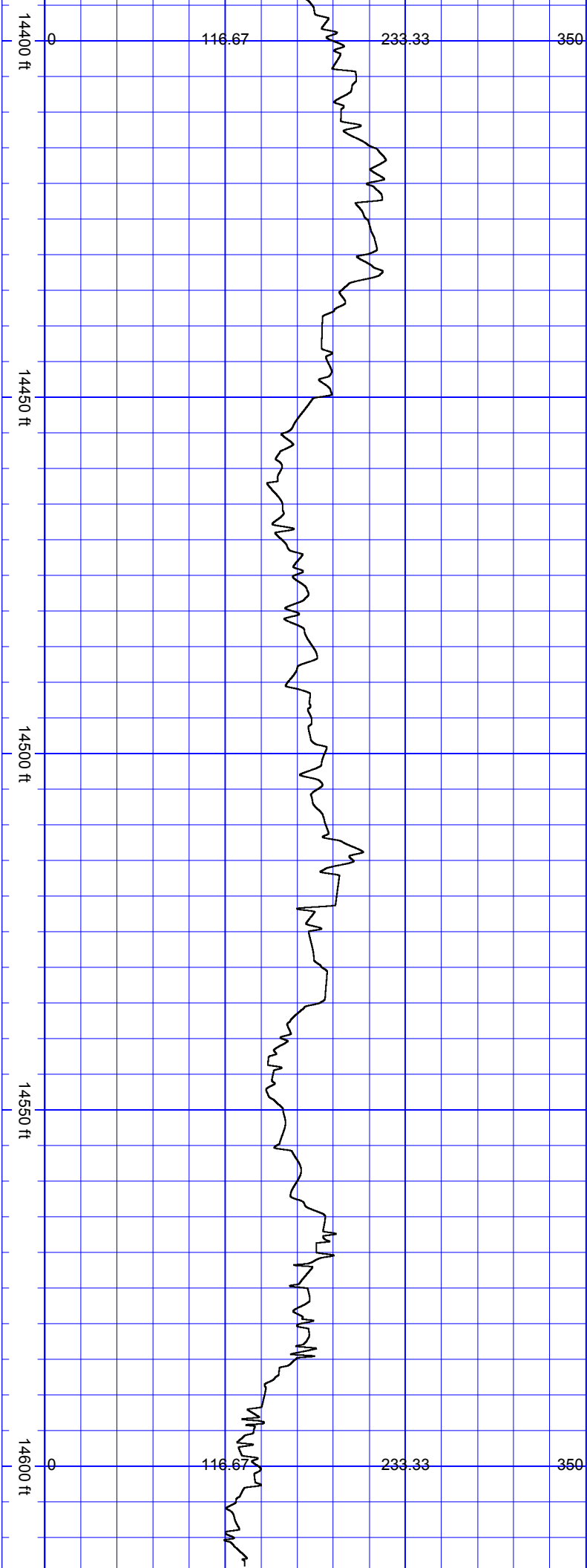


SurveyDepth:14176
TVD:5814.32 Inc:91.9
Azi:180.1 VertSec:8301

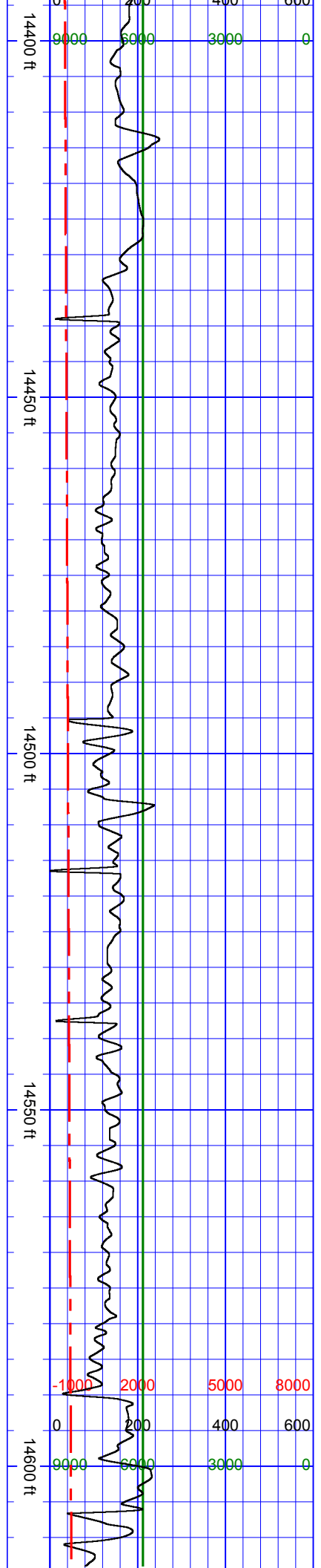
SurveyDepth:14270
TVD:5812.85 Inc:89.9
Azi:180.9
VertSec:8394.7

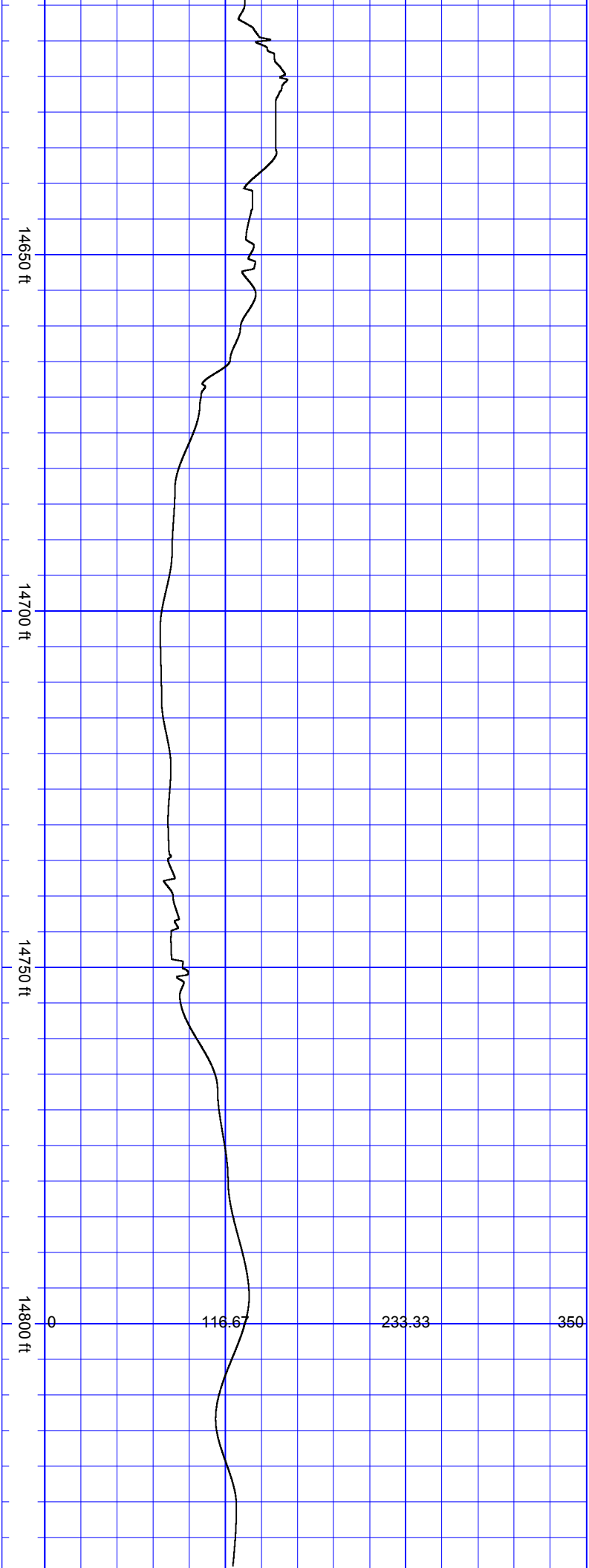
SurveyDepth:14363
TVD:5813.17 Inc:89.7
Azi:180.7
VertSec:8487.37





SurveyDepth:14457
TVD:5813.83 Inc:89.5
Azi:180 VertSec:8581.09

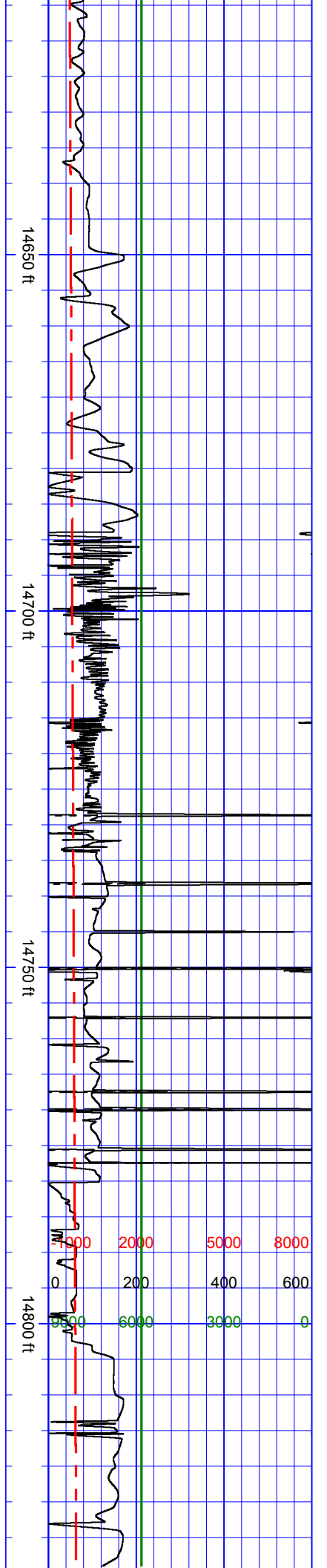


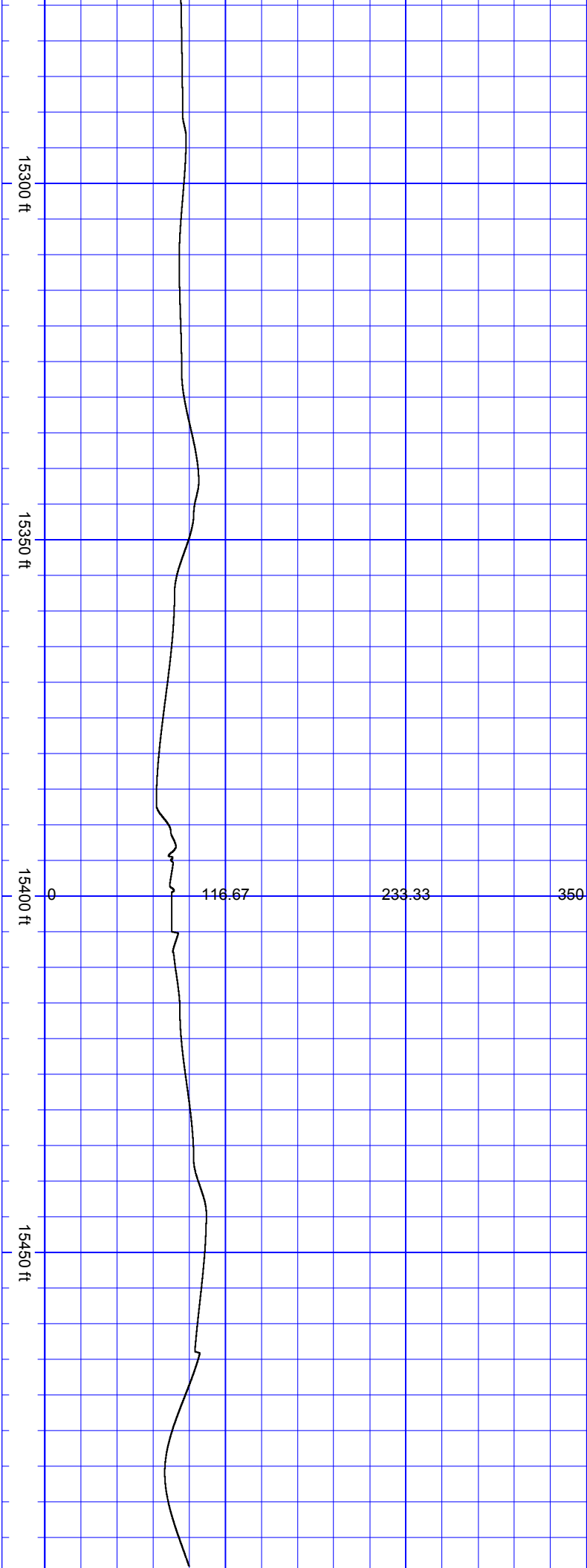


SurveyDepth:14633
TVD:5815.37 Inc:89.5
Azi:178.9
VertSec:8756.76

SurveyDepth:14727
TVD:5815.45 Inc:90.4
Azi:178.9
VertSec:8850.64

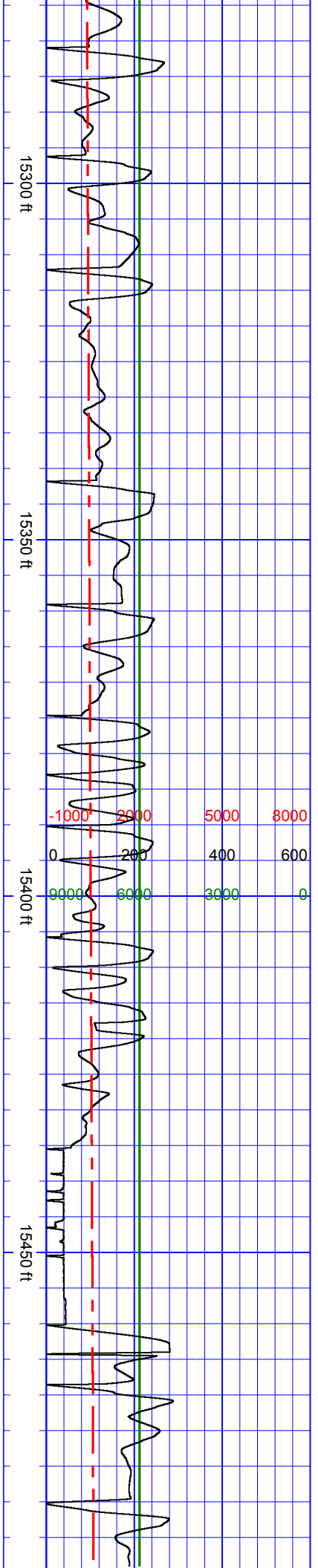
SurveyDepth:14821
TVD:5815.94 Inc:89
Azi:179.6
VertSec:8944.48

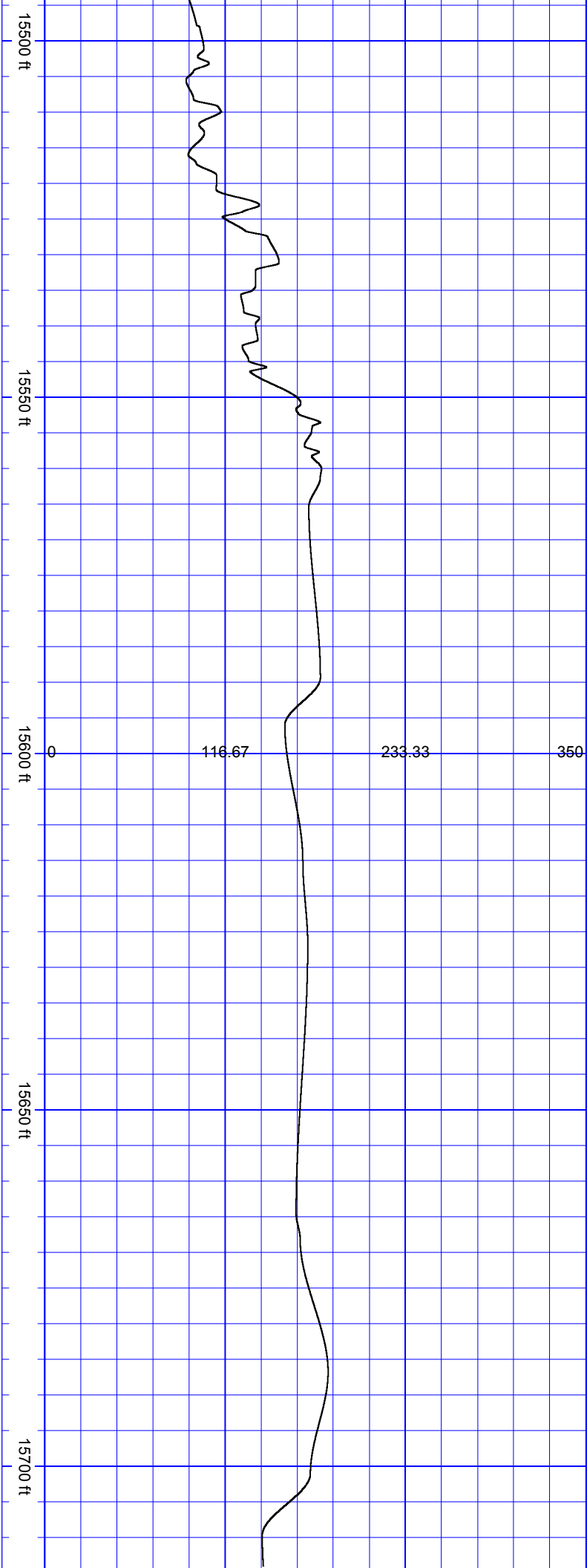




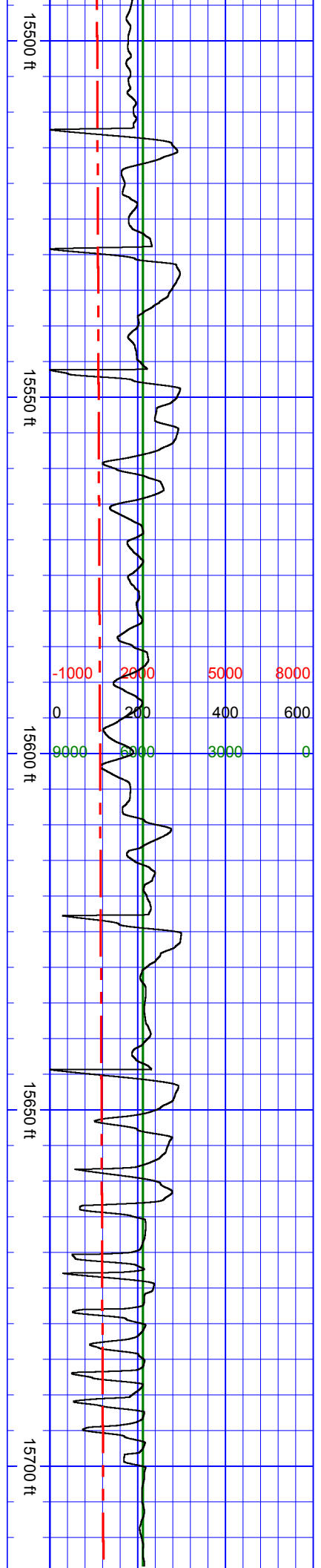
SurveyDepth:15288
TVD:5815.53 Inc:90.24
Azi:179.15
VertSec:9410.68

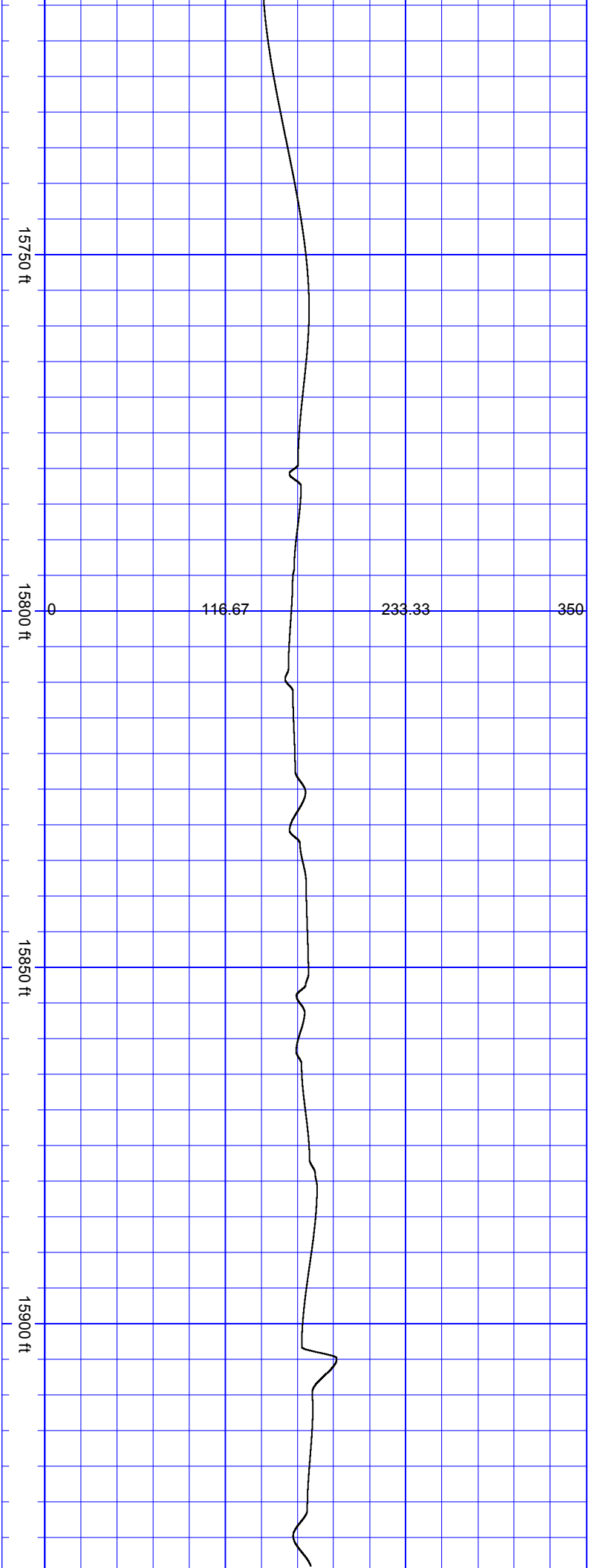
SurveyDepth:15382
TVD:5814.46 Inc:91.1
Azi:179.5
VertSec:9504.52





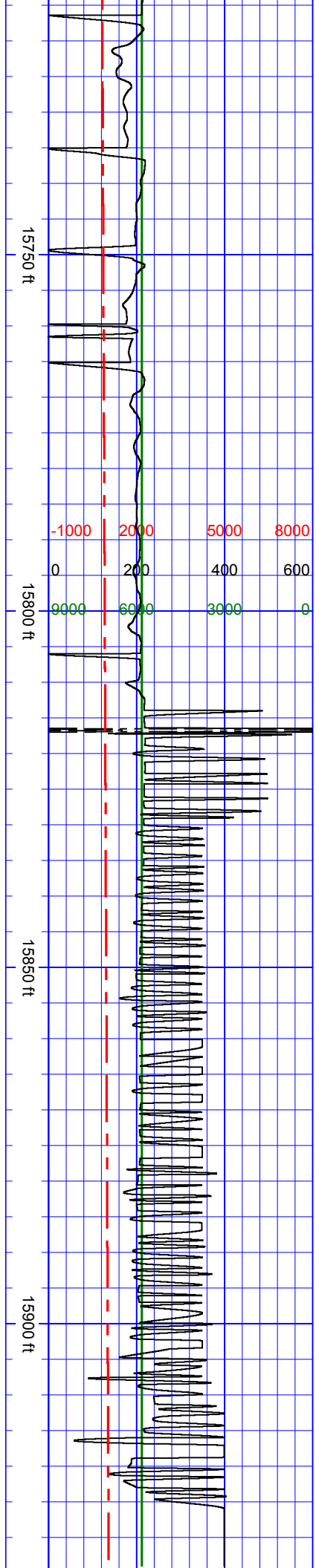
SurveyDepth:15664
TVD:5811.76 Inc:89.96
Azi:179.71
VertSec:9785.94

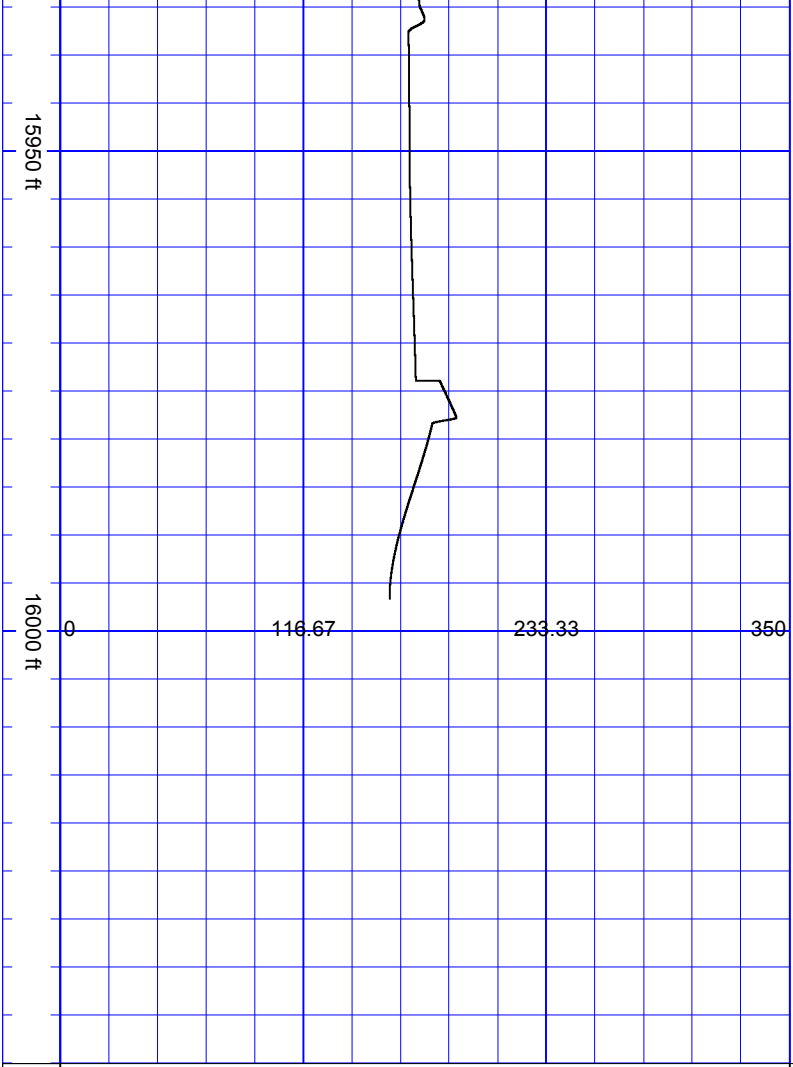




SurveyDepth:15757
TVD:5811.59 Inc:90.2
Azi:179.3
VertSec:9878.76

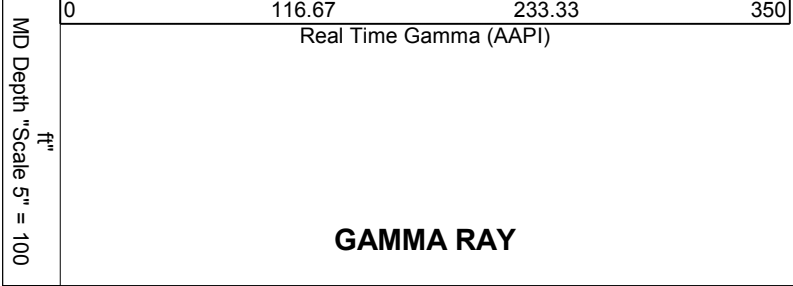
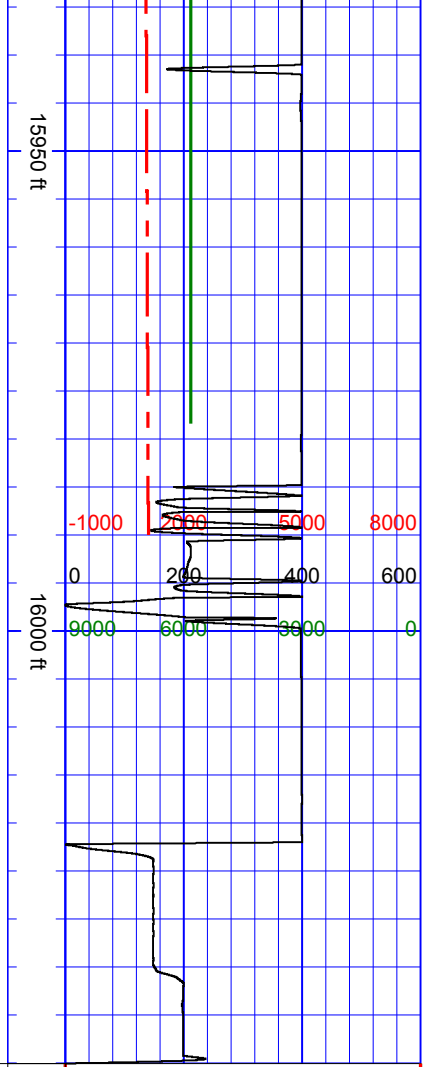
SurveyDepth:15851
TVD:5811.51 Inc:89.9
Azi:179 VertSec:9972.62



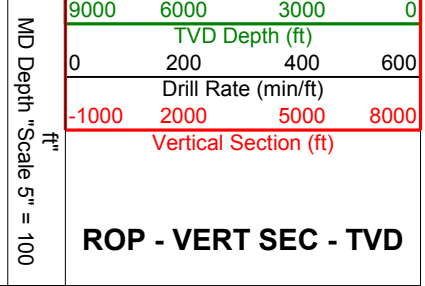



SurveyDepth:15944
TVD:5811.11 Inc:90.6
Azi:179.82
VertSec:10065.45

SurveyDepth:15990
TVD:5810.79 Inc:90.2
Azi:178.3
VertSec:10111.39



Directional Survey





Oil Company: Whiting Petroleum
Well Name: Horsetail 08D-1704
Surface Location: S8-T10N-R57W
Bit Run:
Log Depth Start: 5001.26 ft Log Depth End: 16045.08 ft
Data Depth Start: 5001.26 ft Data Depth End: 16045.08 ft