



QES Directional

63 Casper View Court  
Mills, WY 82644  
Office: (307) 472-7400

Patriot 0880 15-32H5

Scale 5":100' - MD

5/29/2019 3:34 AM

**Oper. Company:** Sandridge Energy  
**Well:** Patriot 0880 15-32H5  
**Field:** Niobrara  
**Rig:** Cyclone 33  
**Well ID:** 05-057-06616-0000  
**Job Number:** RM-190775

**State:** CO  
**County:** Jackson  
**Country:** USA  
**Location:** Sec 29, T8N, R80W, 6th PM  
**Start Date:** 05/19/2019 19:49:00  
**End Date:** 05/29/2019 02:30:00

**Latitude:** 40° 37' 47.575 N  
**Longitude:** 106° 23' 43.418 W

**Elev GL:** 8086'  
**Elev DF:** 26'  
**Elev KB:** 8112

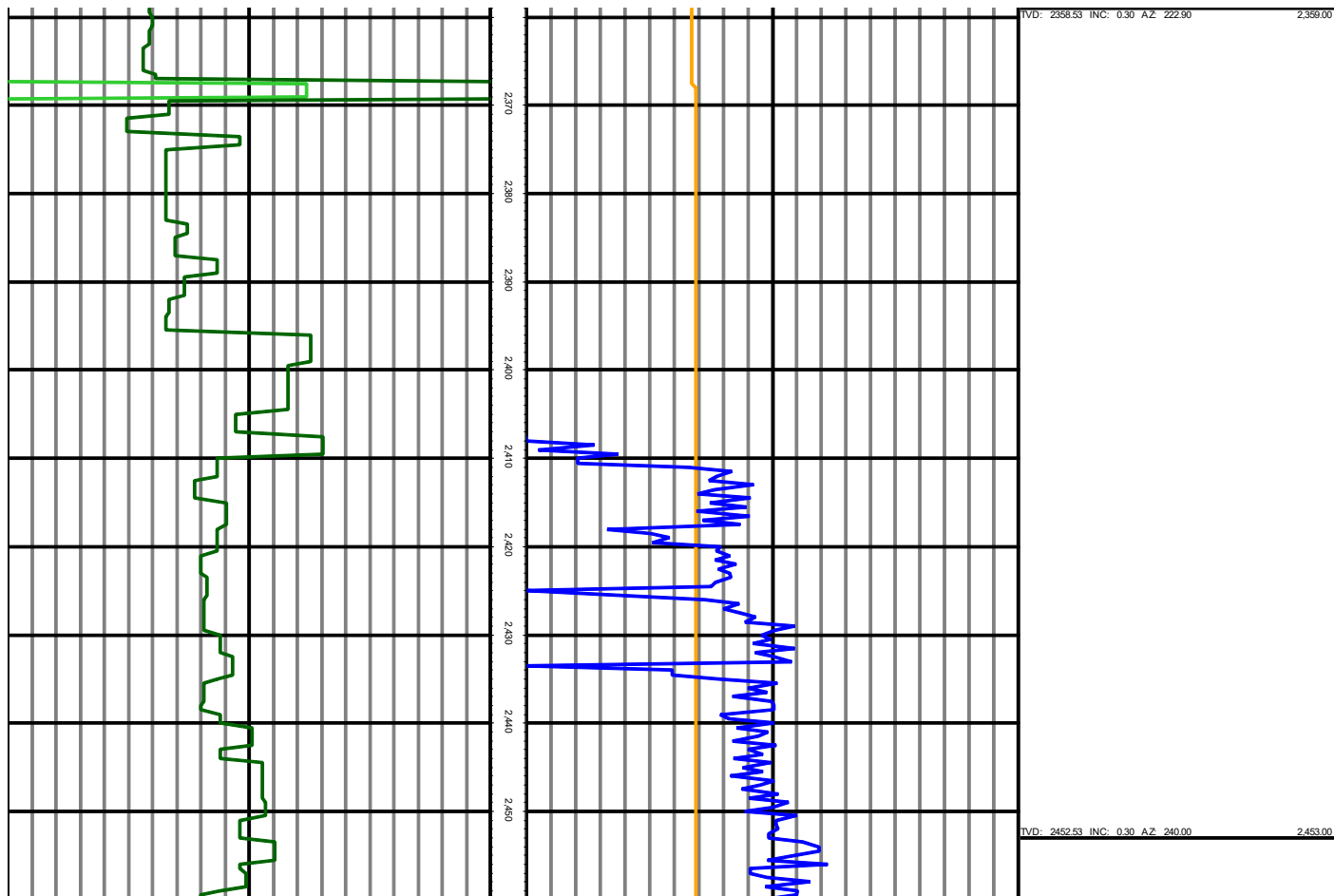
**Operator 1:** Chris Travis

**Operator 2:** Jonathan Bazemore

Hole Data			Casing Data		
Size	From	To	Size	From	To
12 1/4	115.00	2407.00	16	0.00	115.00
8 3/4	2407.00	18525.00	9 5/8	0.00	2407.00
			5 1/2	0.00	18505.00

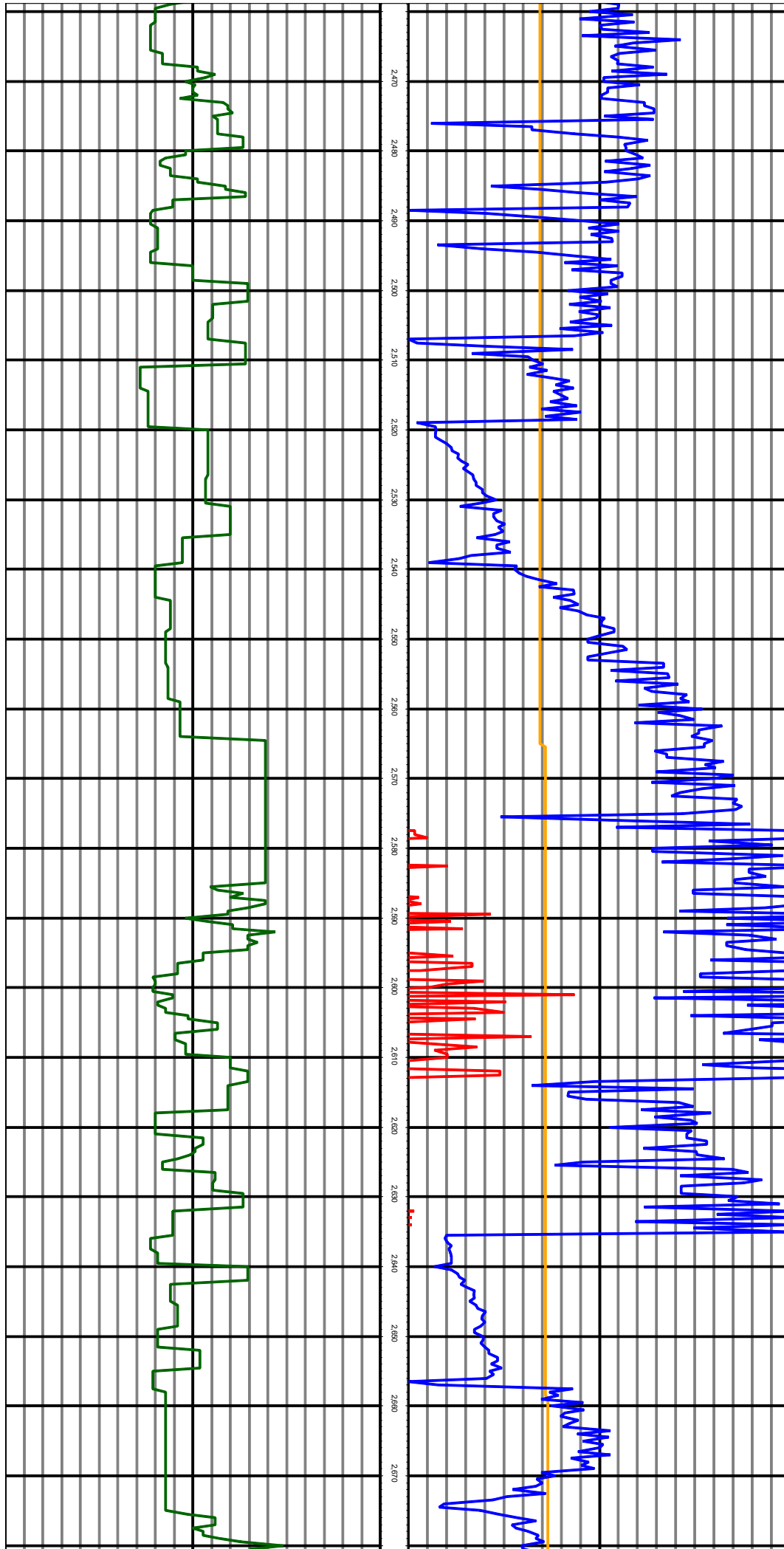
*All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost damages or expenses incurred or sustained by anyone resulting from an interpretation made by any of our officers, agents, or employees.*

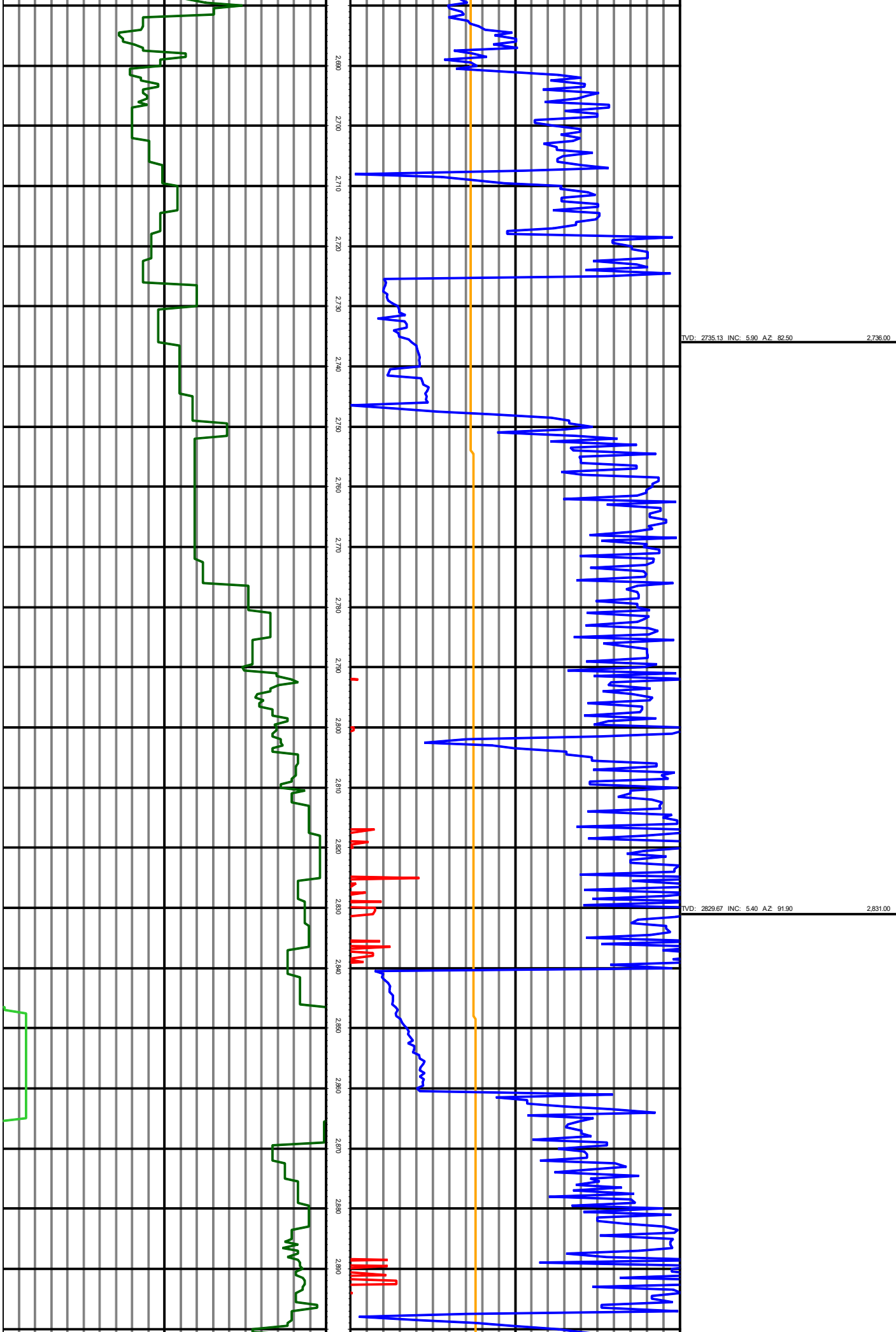
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TVD: 2547.51 INC: 1.80 AZ: 100.80 2548.00

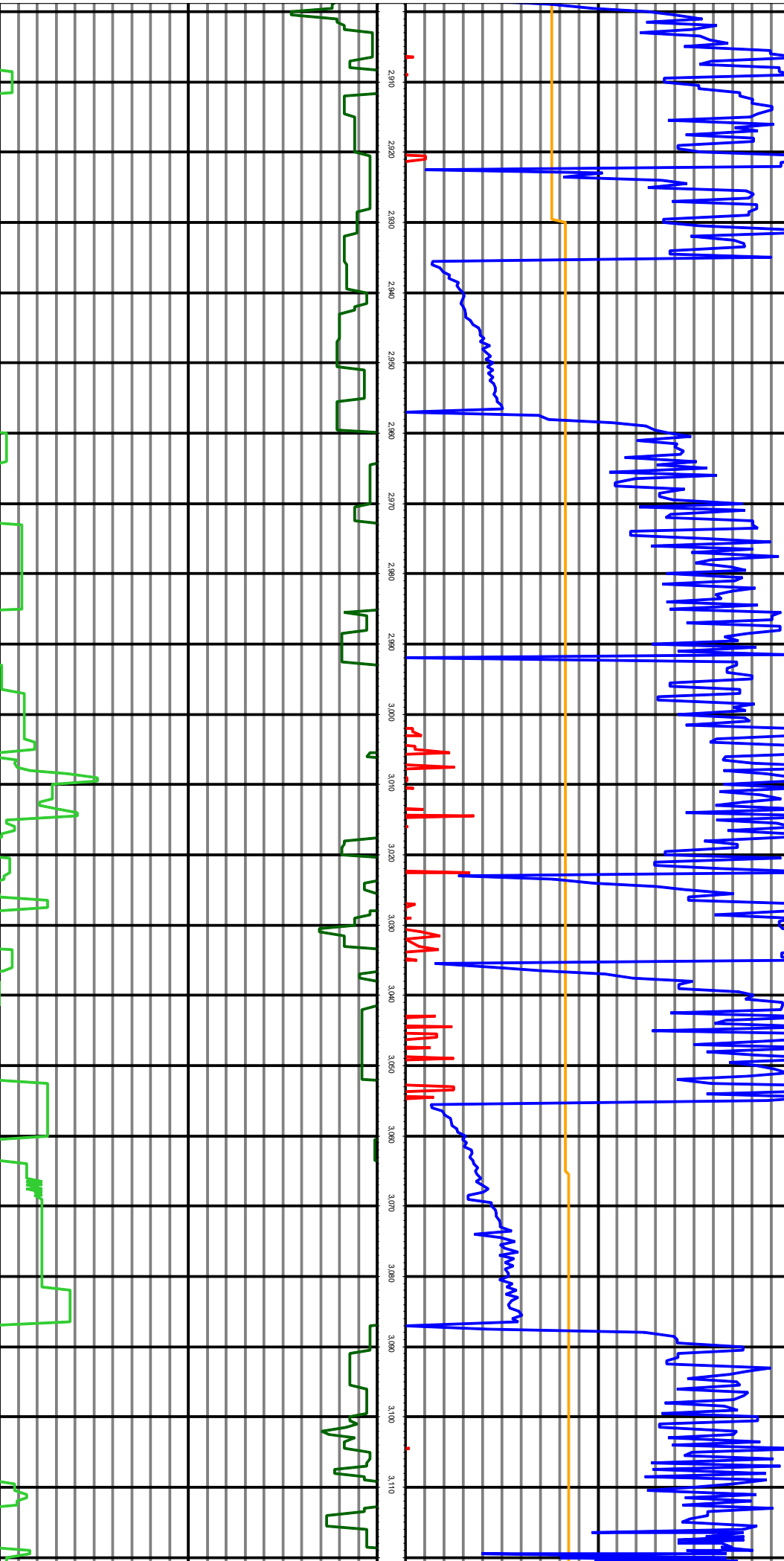
TVD: 2641.43 INC: 3.10 AZ: 87.40 2642.00

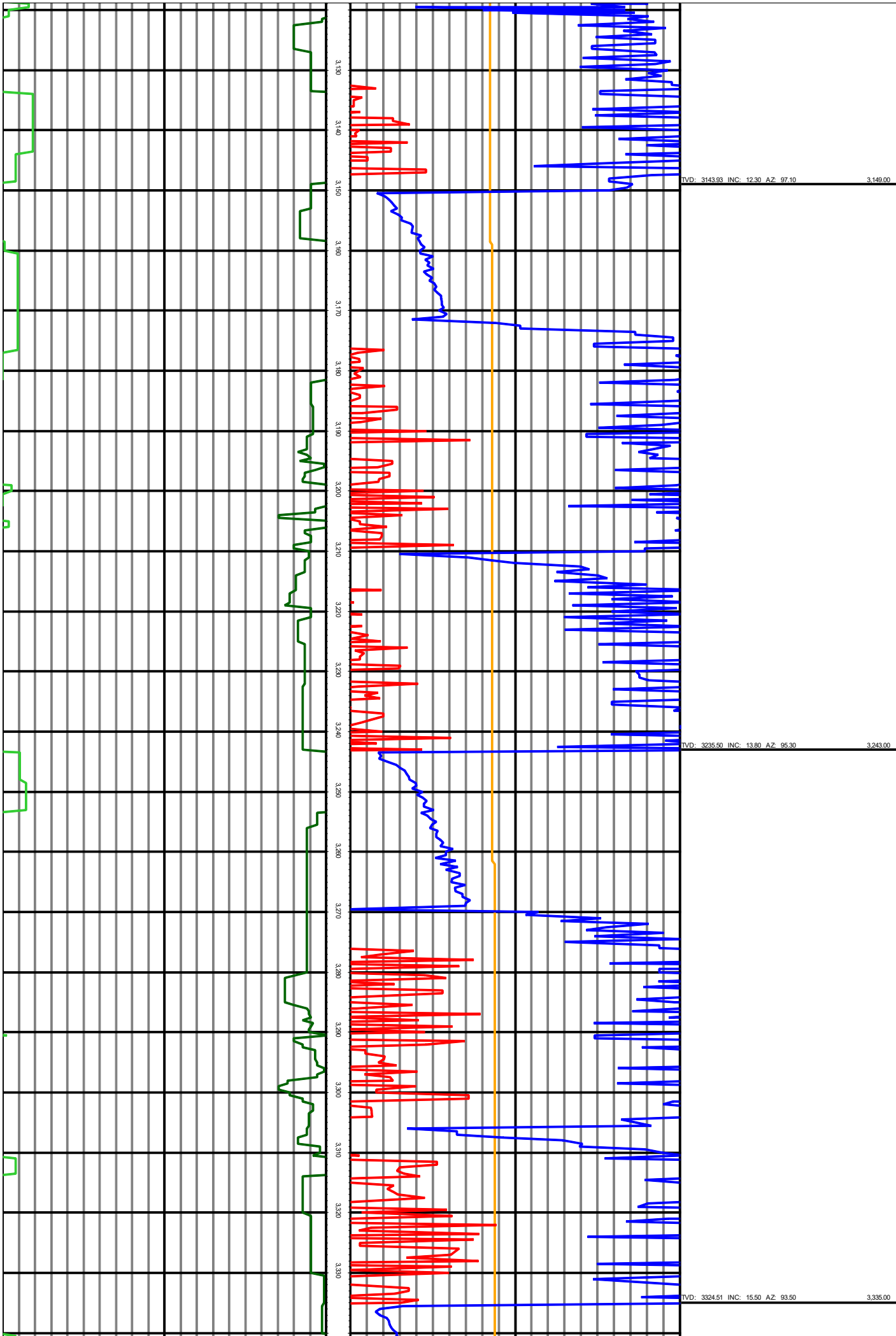


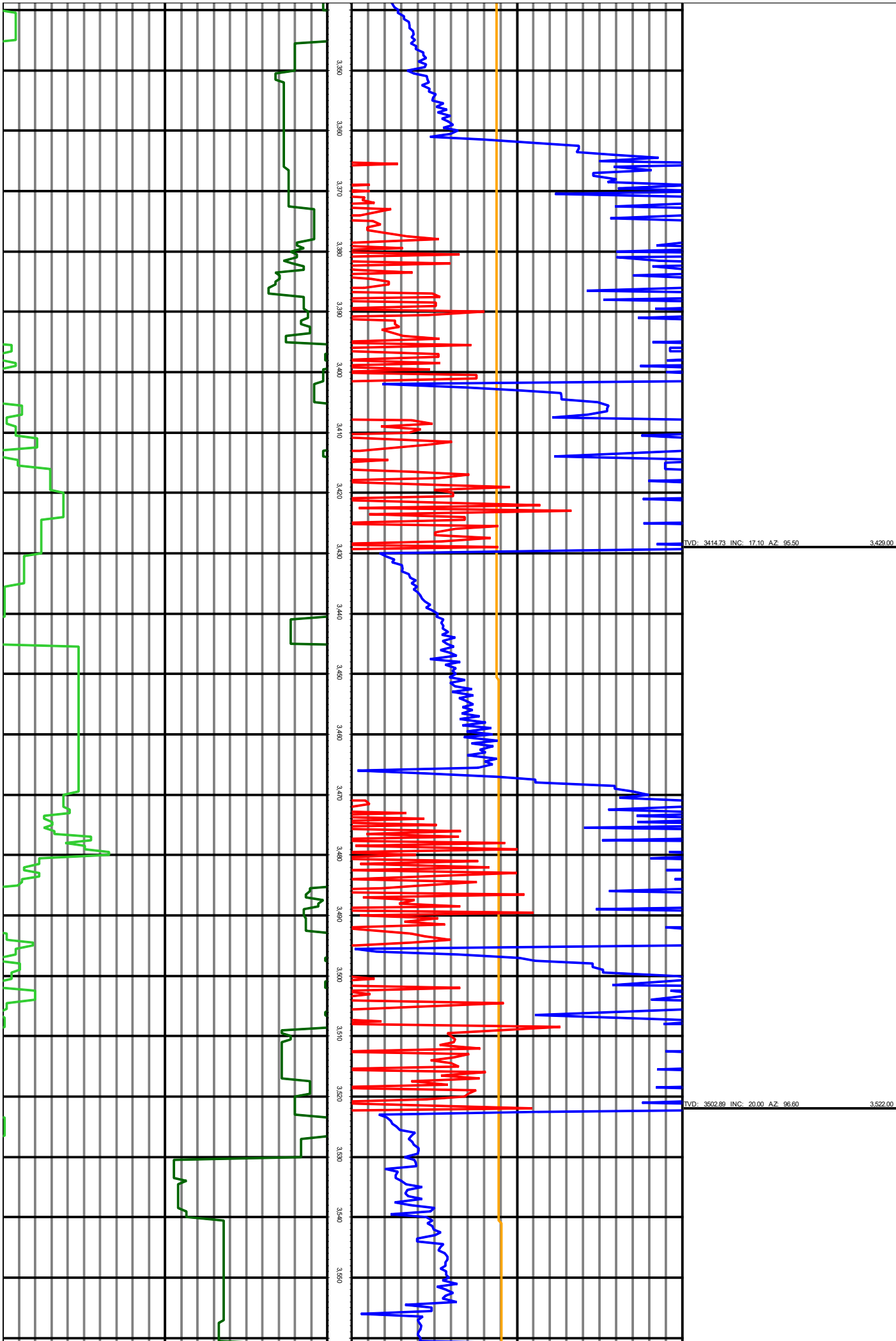


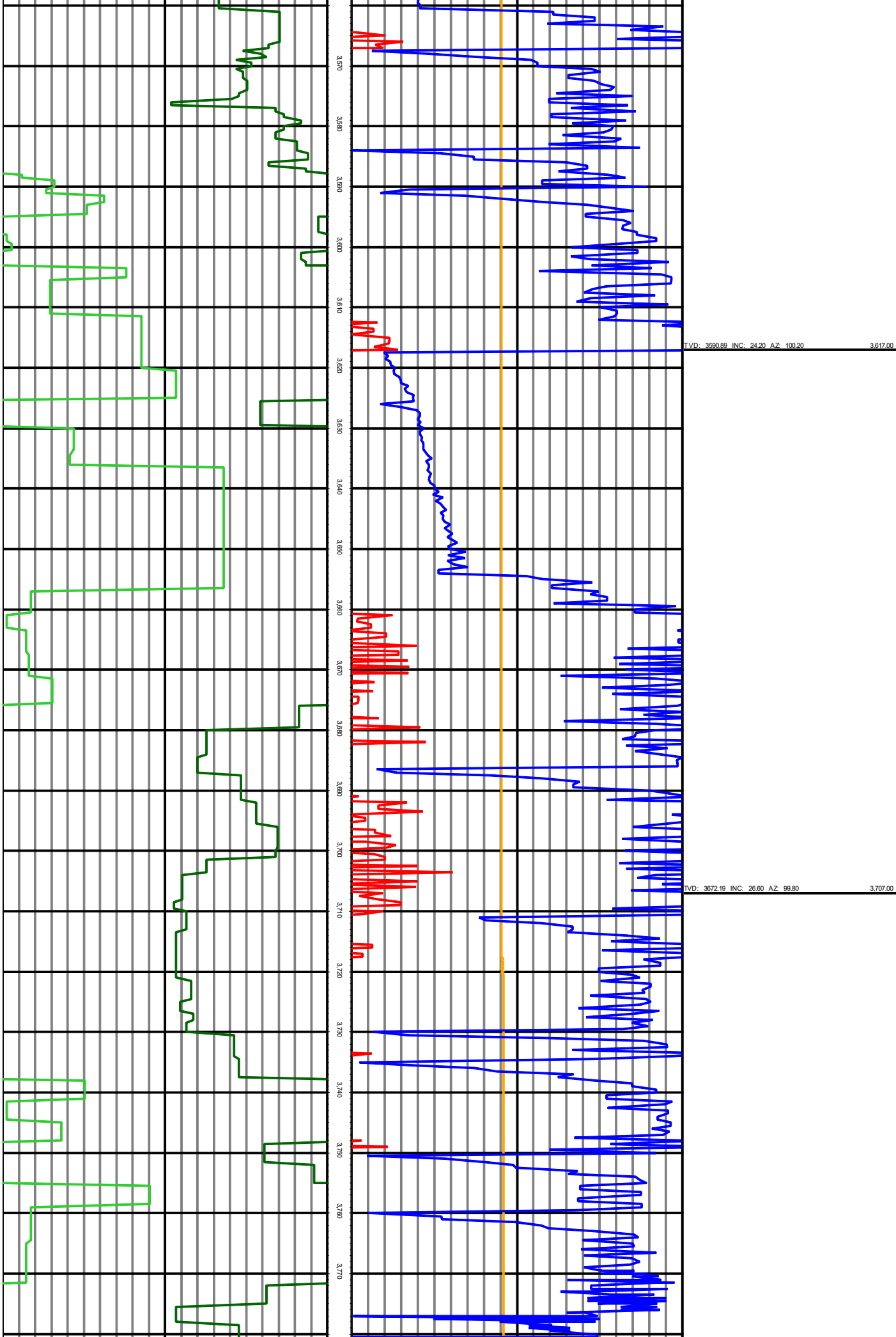
TVD: 2023.10 INC: 7.20 AZ: 97.90 2,925.00

TVD: 3050.69 INC: 9.70 AZ: 96.10 3,054.00





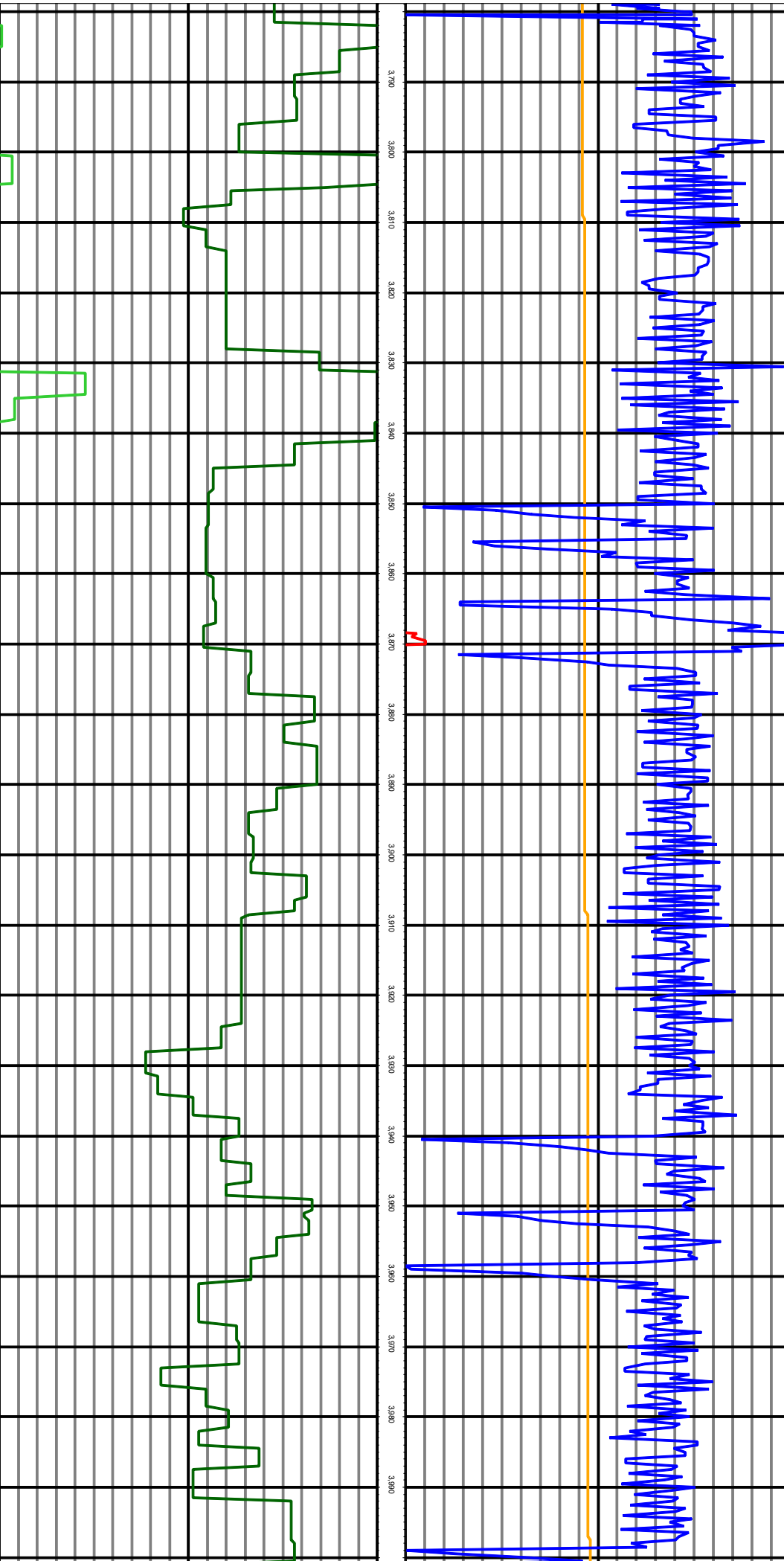




TVD: 3755.60 INC: 25.90 AZ: 99.10 3.800.00

TVD: 3838.50 INC: 25.50 AZ: 98.20 3.892.00

TVD: 3921.57 INC: 25.40 AZ: 97.80 3.984.00

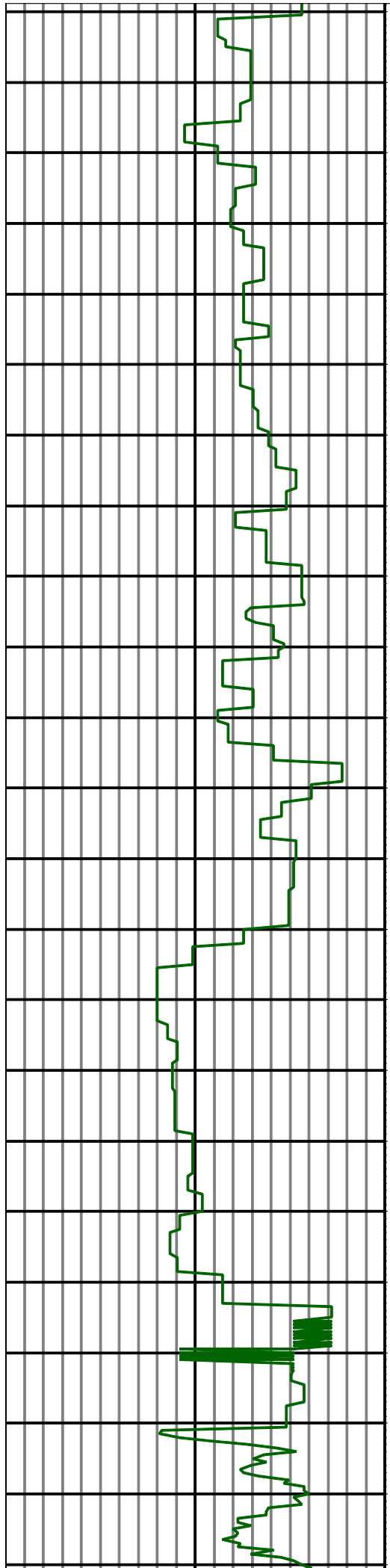
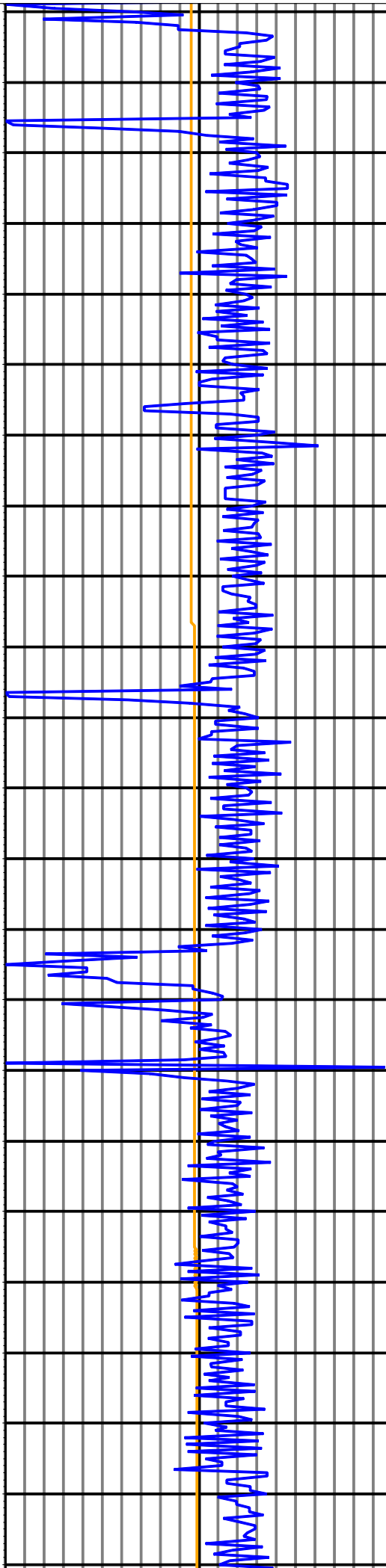




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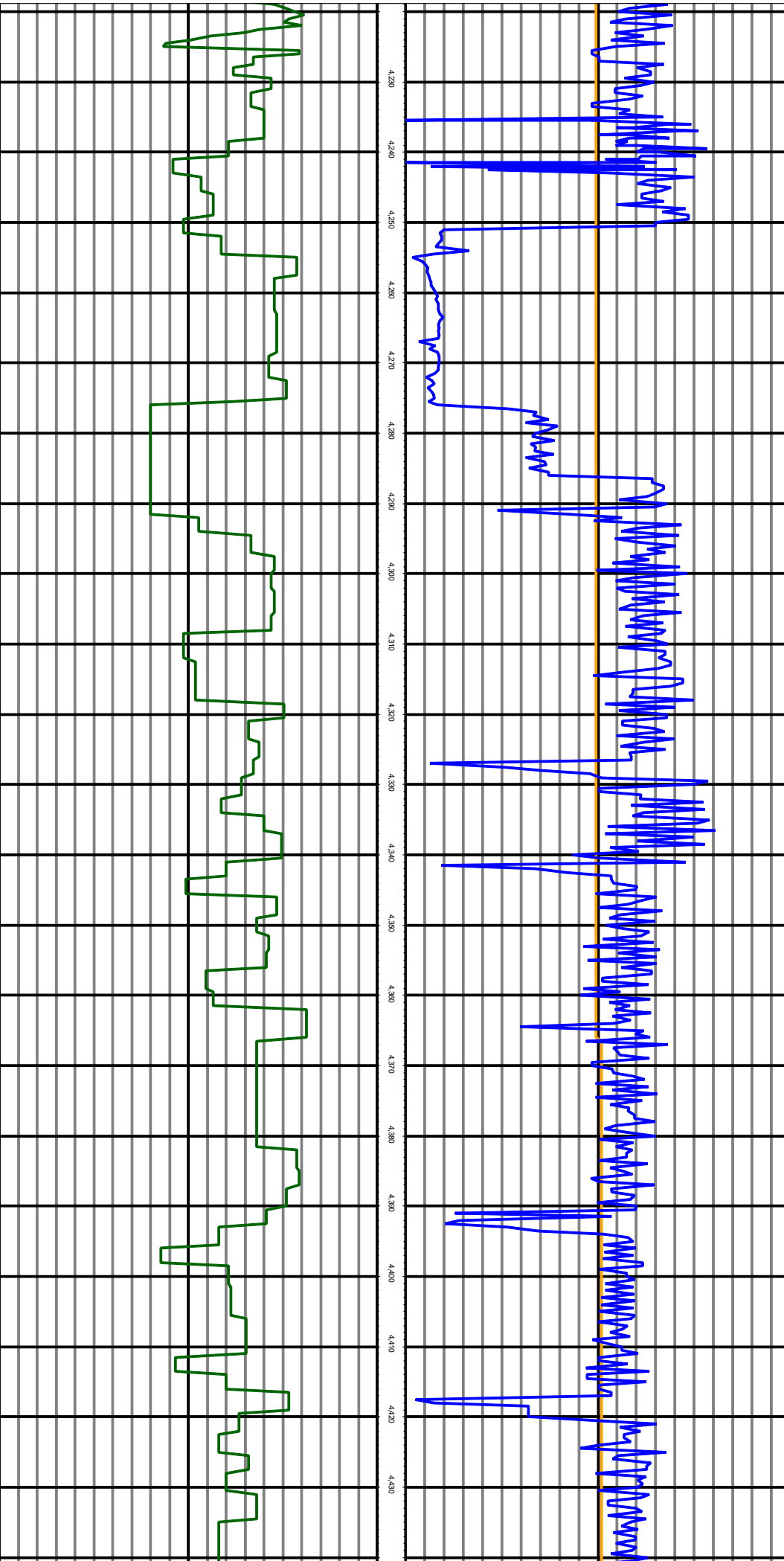
TVD: 4092.23 INC: 24.00 AZ: 96.00 4.172.00

4.070 4.075 4.080 4.085 4.090 4.095 4.100 4.105 4.110 4.115 4.120 4.125 4.130 4.135 4.140 4.145 4.150 4.155 4.160 4.165 4.170 4.175 4.180 4.185 4.190 4.195 4.200 4.205 4.210



TVD: 4175.85 INC: 25.30 AZ: 98.10 4264.00

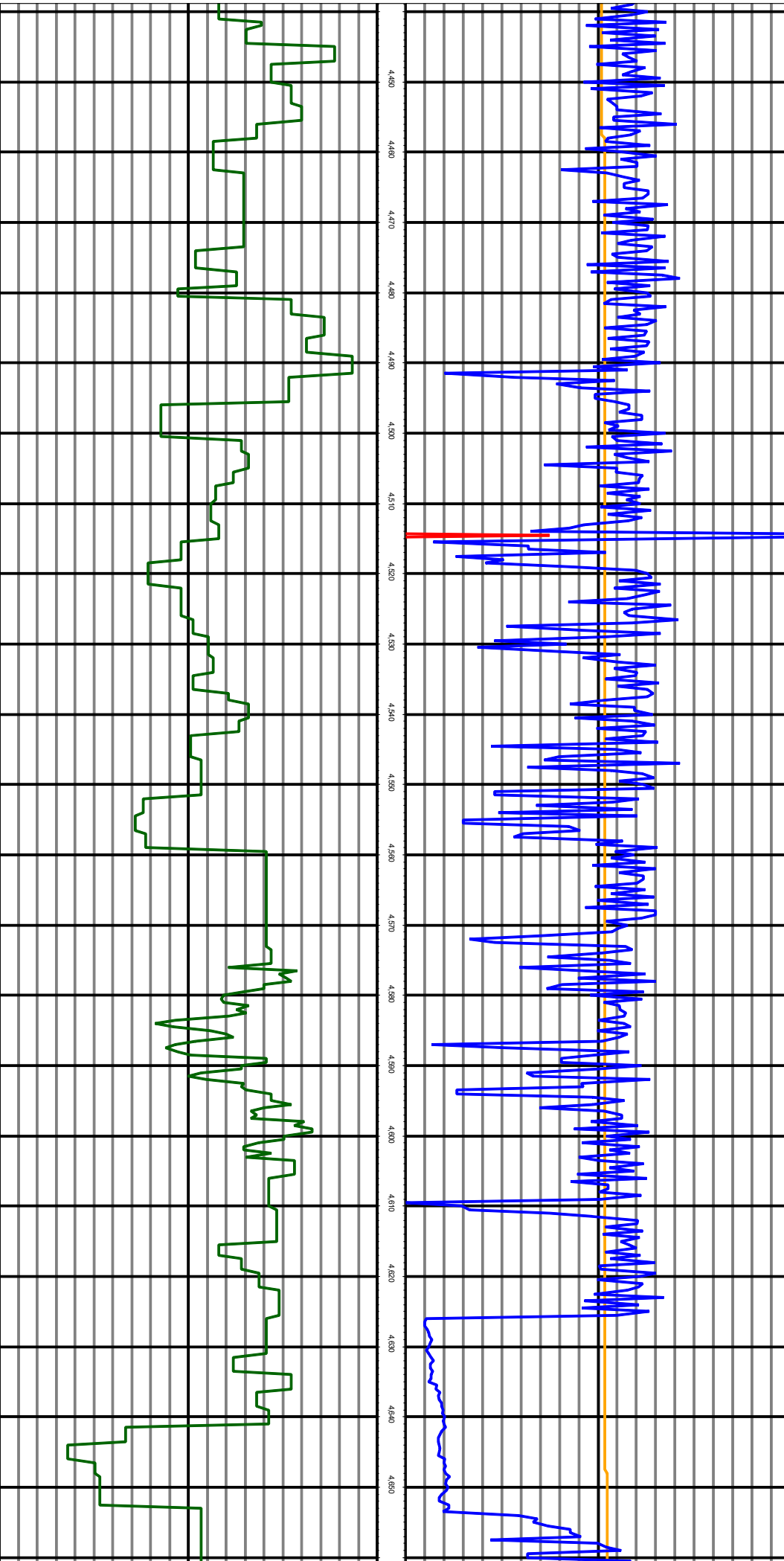
TVD: 4260.66 INC: 25.80 AZ: 99.10 4358.00



TVD: 4345.67 INC: 24.70 AZ: 99.70 4,452.00

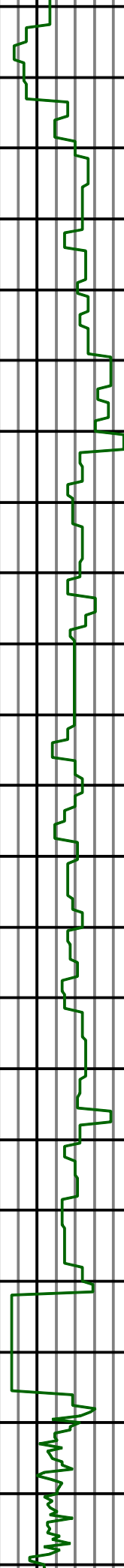
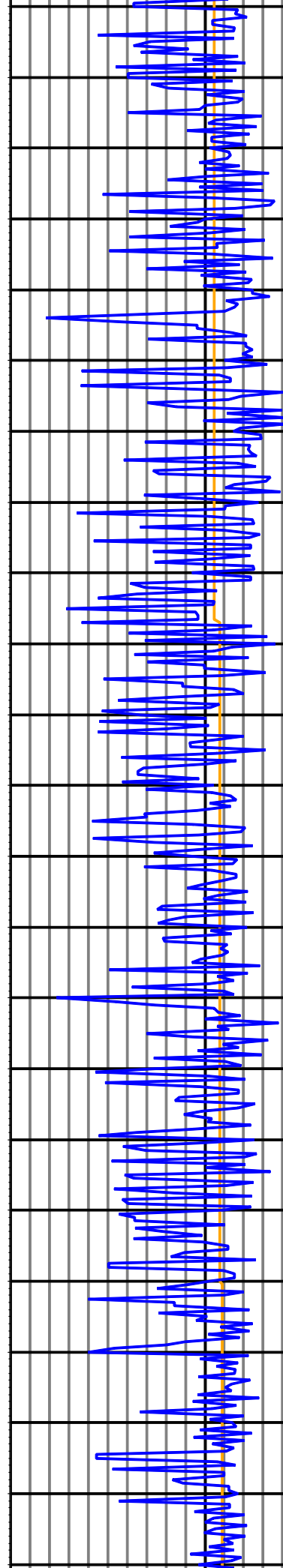
TVD: 4432.36 INC: 23.60 AZ: 99.90 4,547.00

TVD: 4518.94 INC: 25.00 AZ: 100.40 4,642.00



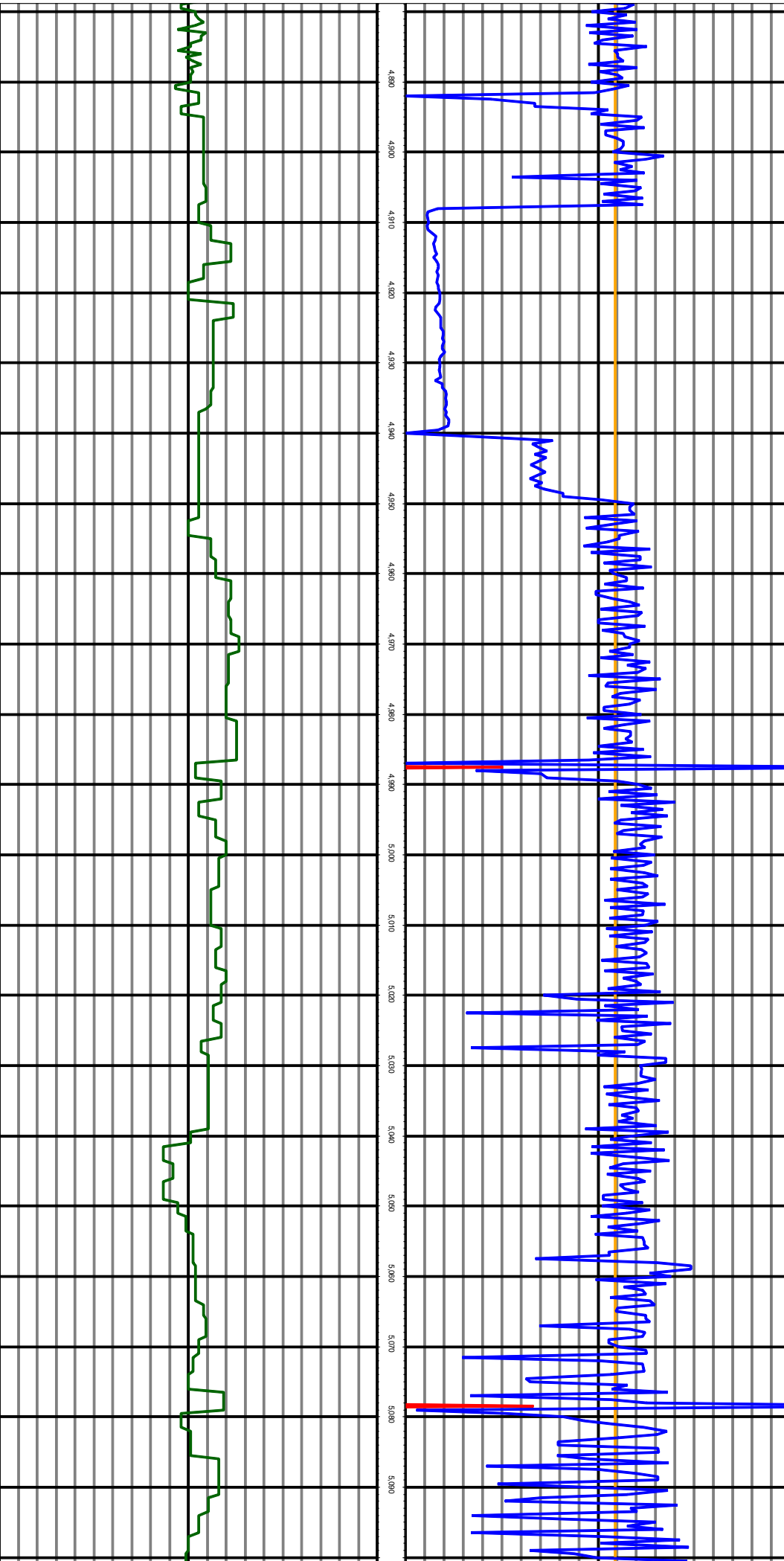
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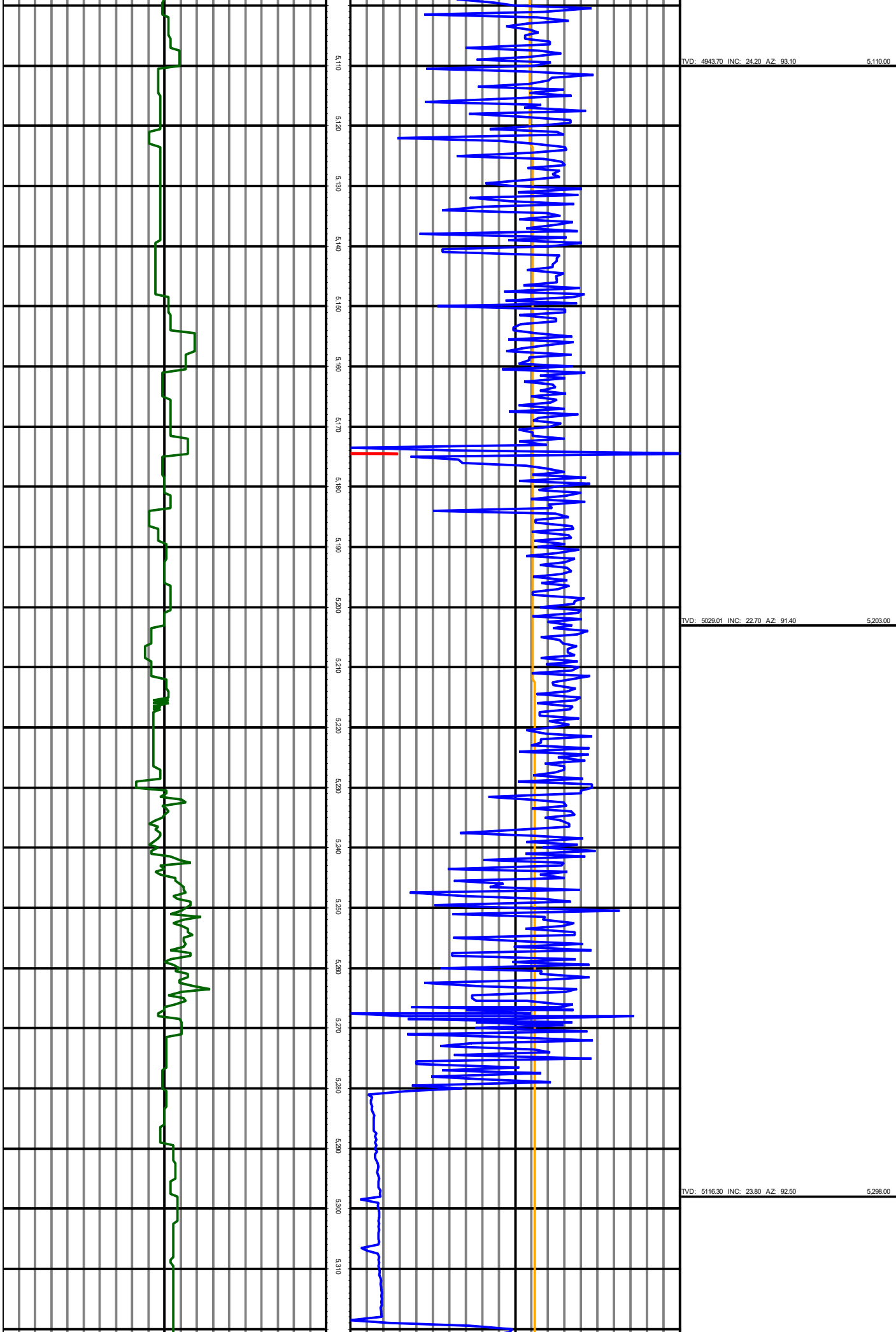
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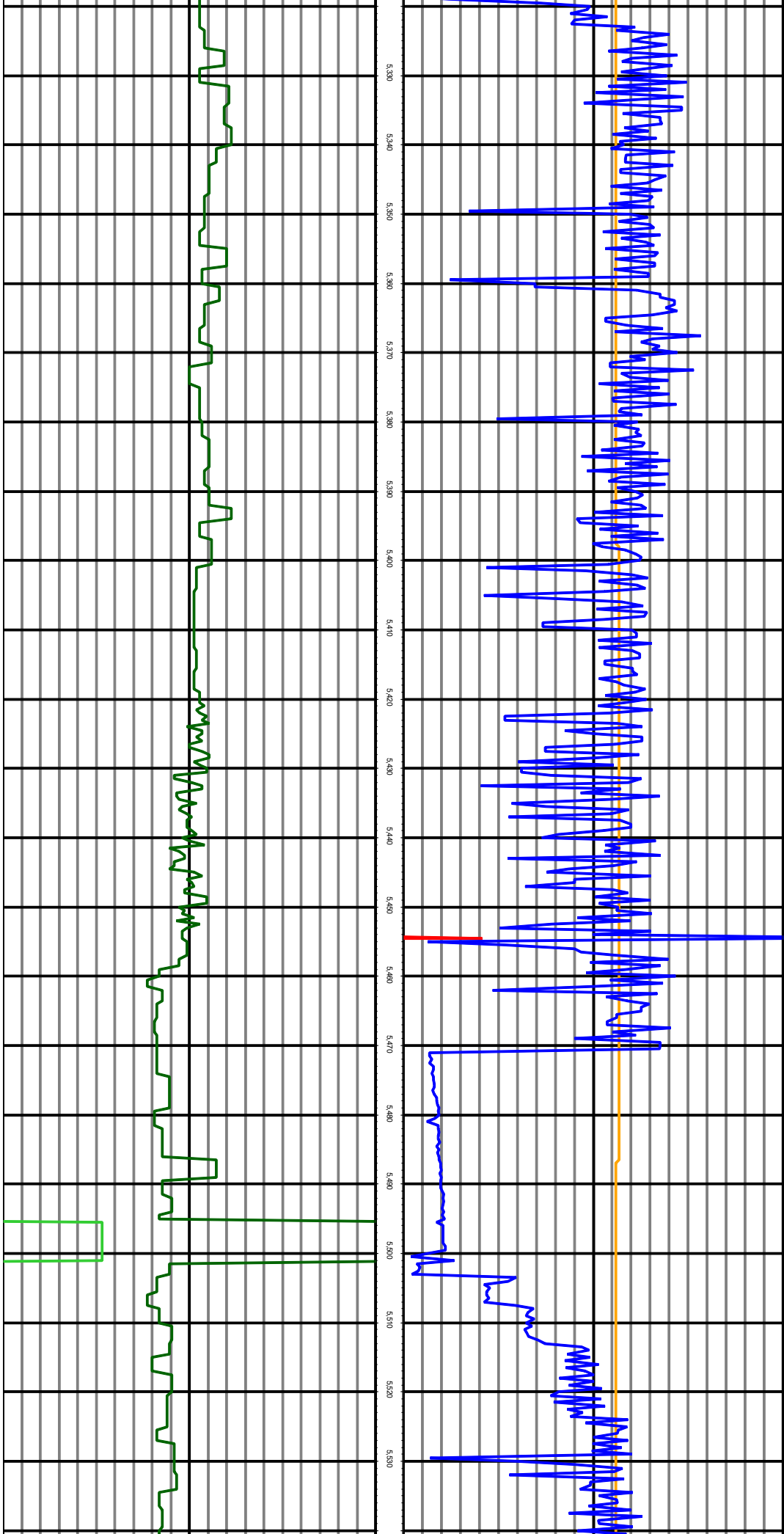


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TVD: 4859.31 INC: 25.50 AZ: 95.10 5,017.00







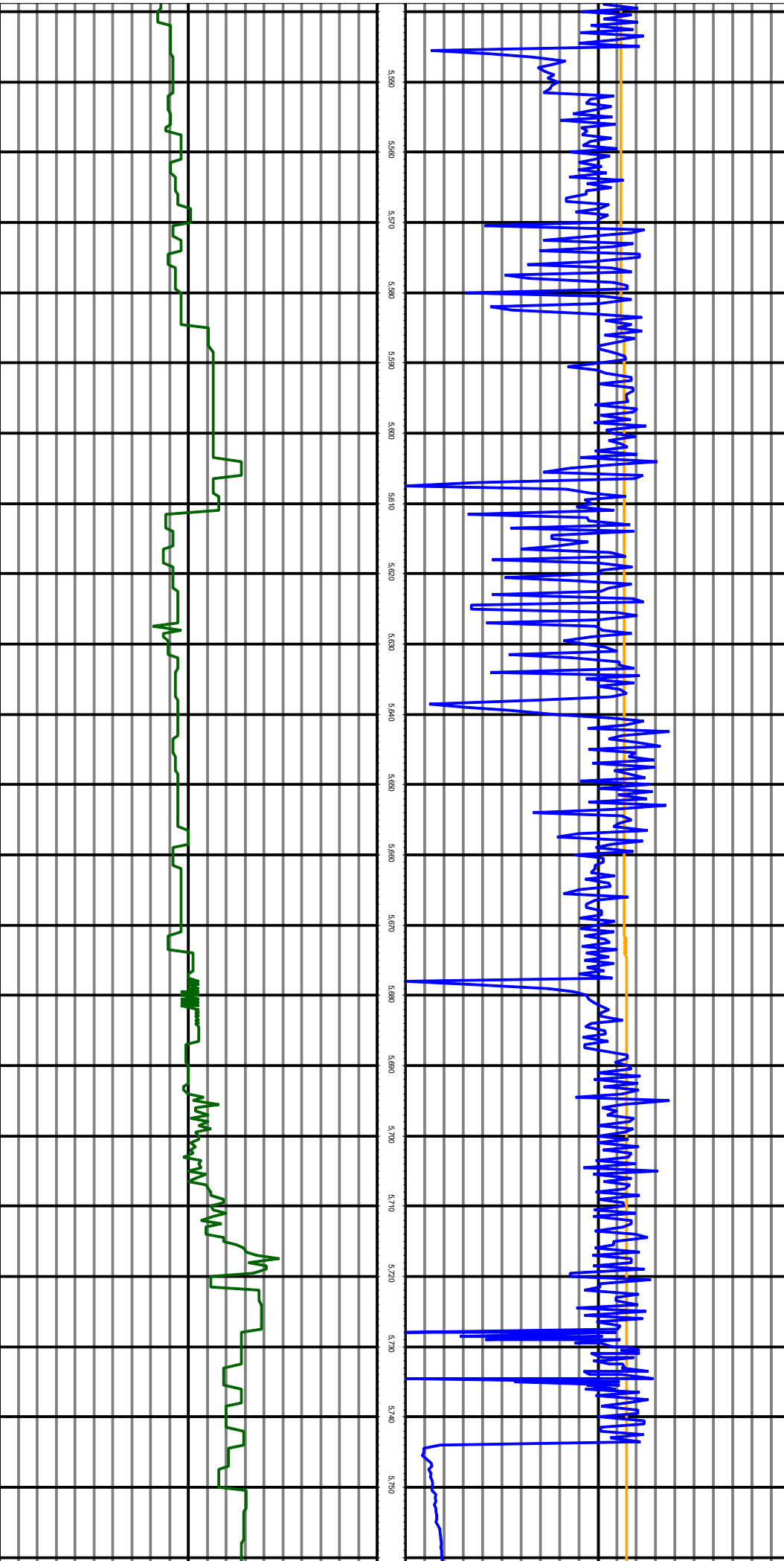
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TVD: 5286.32 INC: 24.70 AZ: 92.20 5,484.00

TVD: 5370.67 INC: 25.10 AZ: 91.90 5.577.00

TVD: 5451.69 INC: 23.80 AZ: 90.70 5.666.00

TVD: 5538.68 INC: 23.60 AZ: 94.30 5.761.00

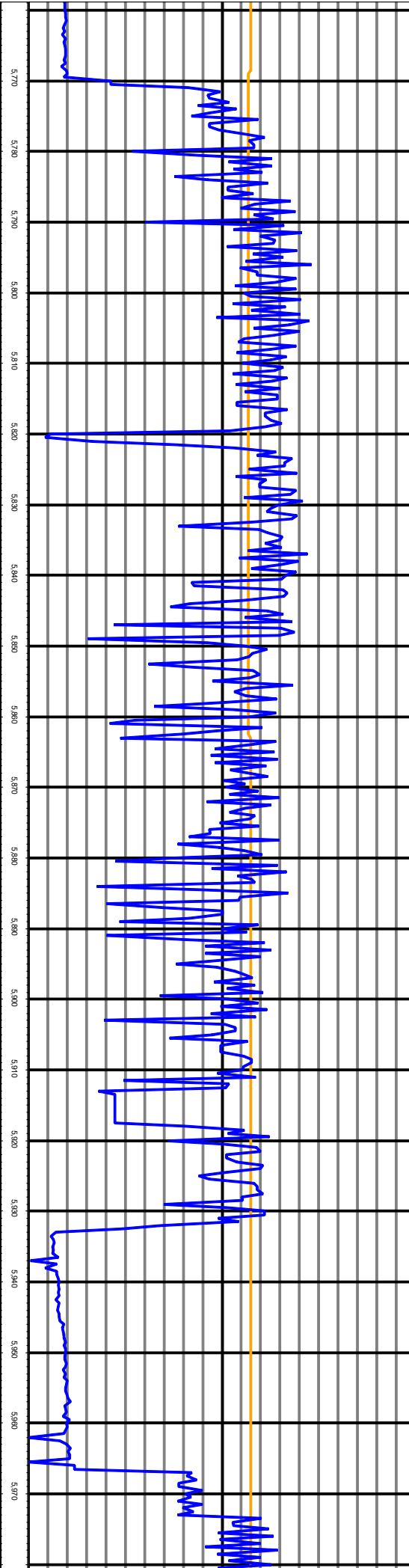
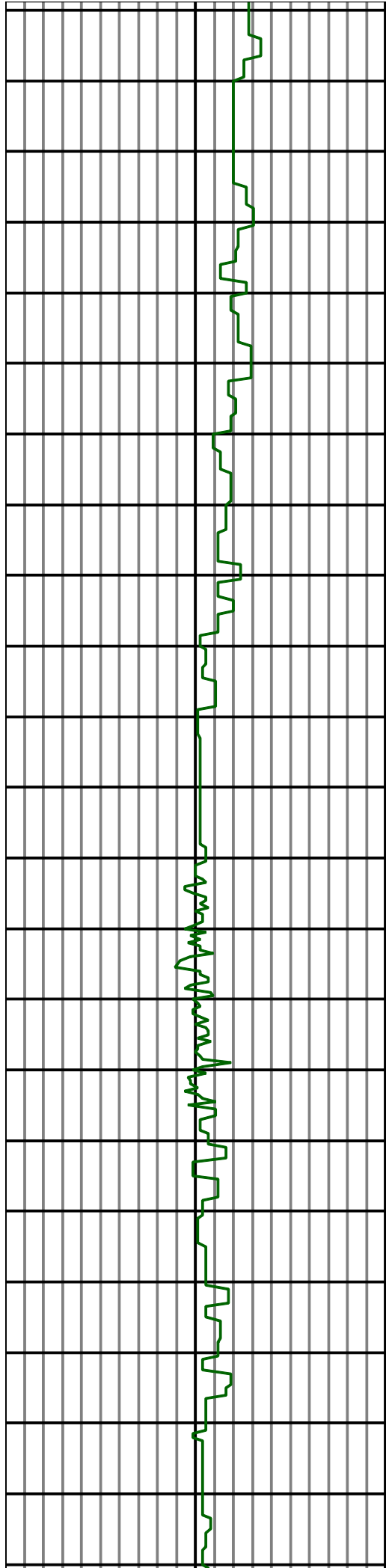


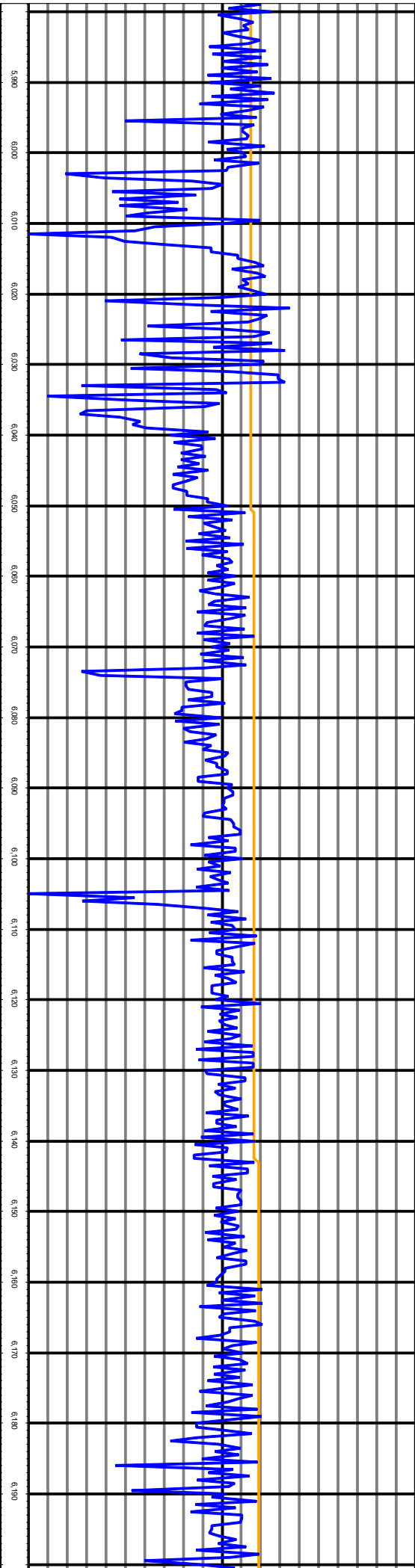
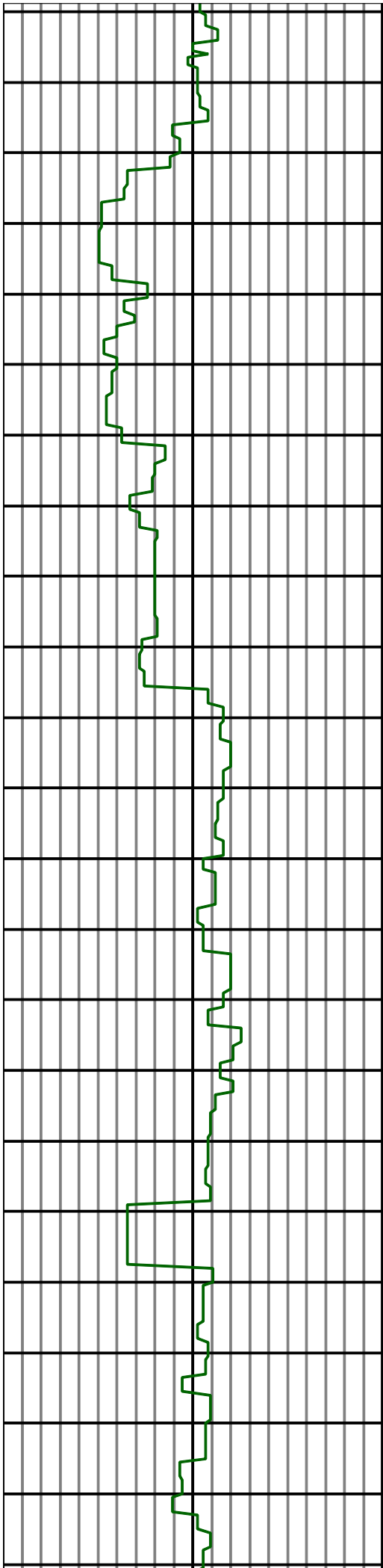


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TVD: 5625.21 INC: 22.40 AZ: 93.40 5.855.00

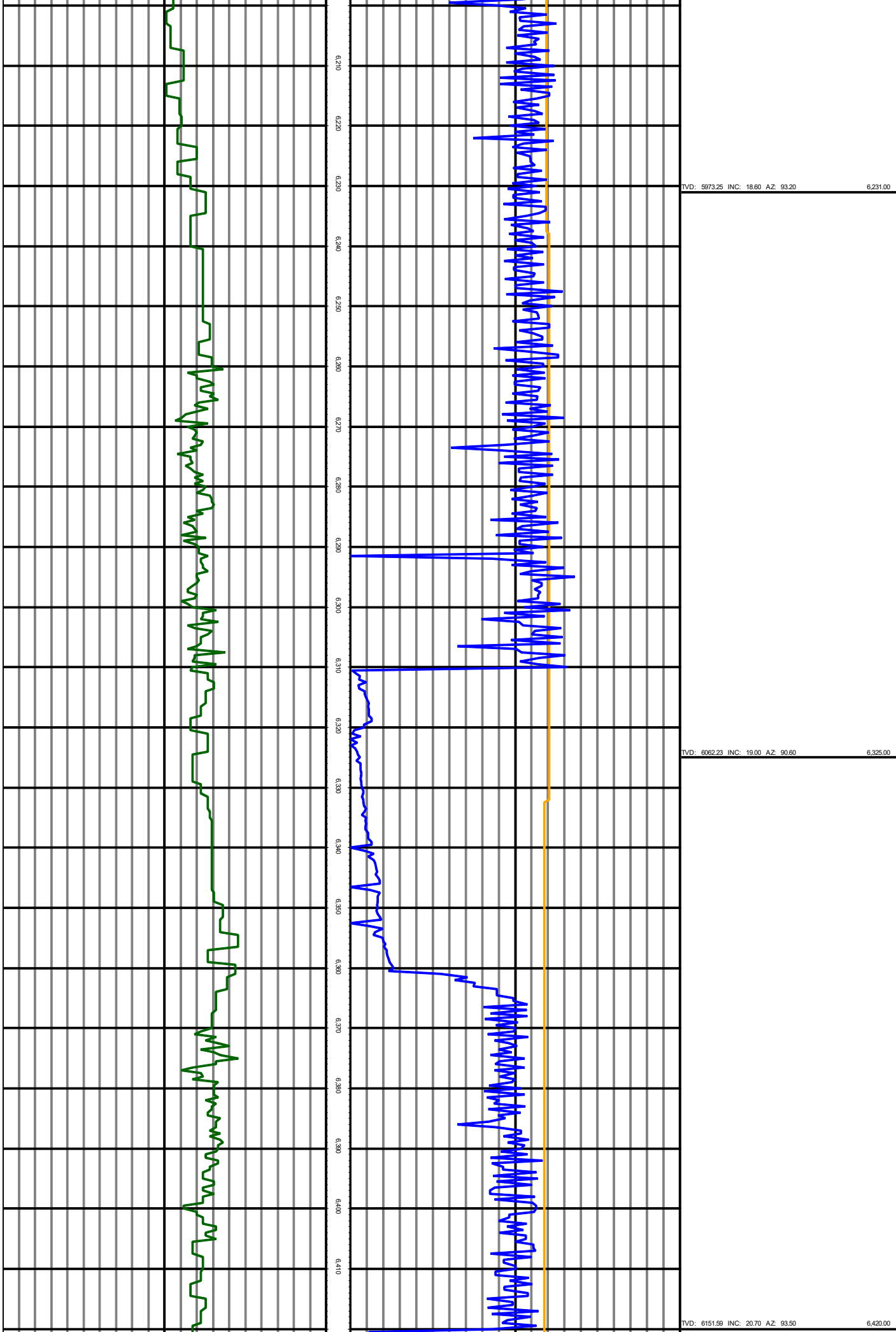
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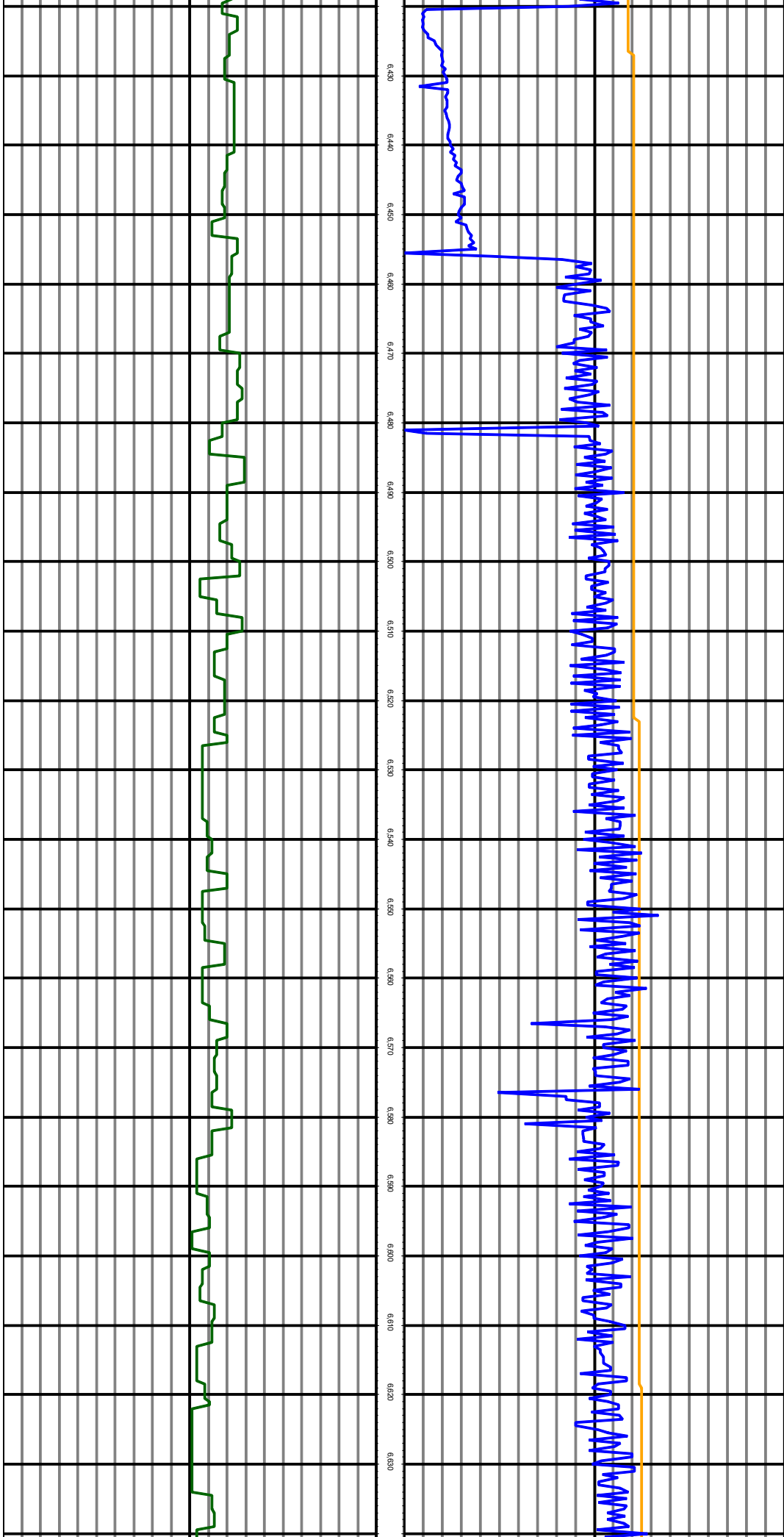




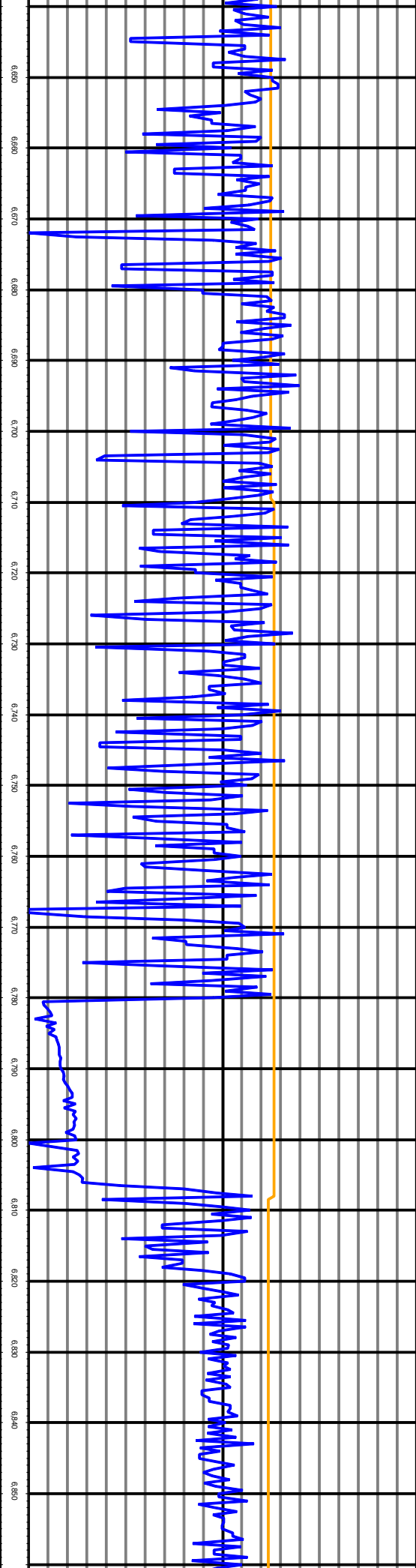
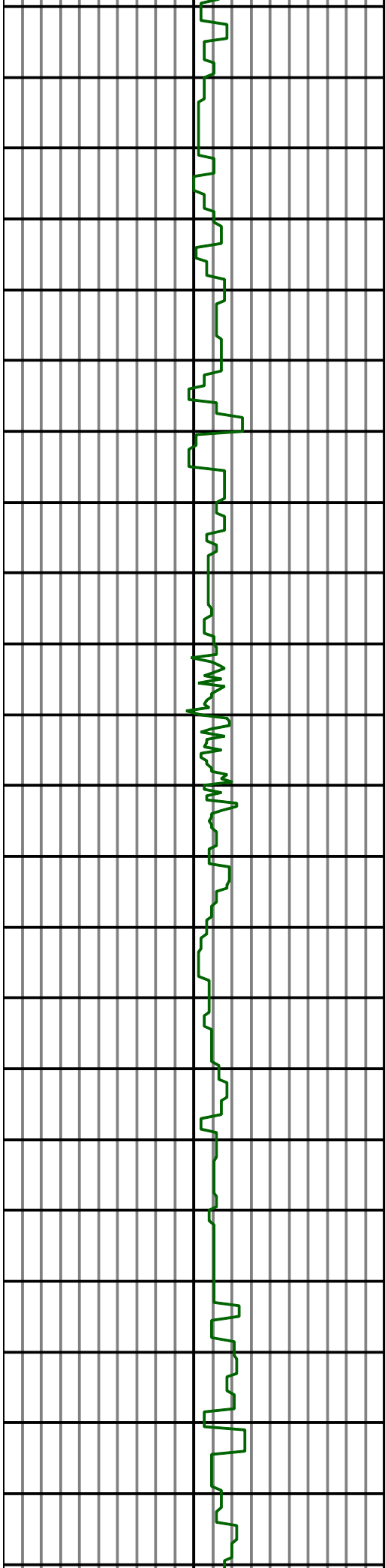
TVD: 5798.08 INC: 23.60 AZ: 98.70 6.043.00

TVD: 5884.02 INC: 21.40 AZ: 96.40 6.137.00



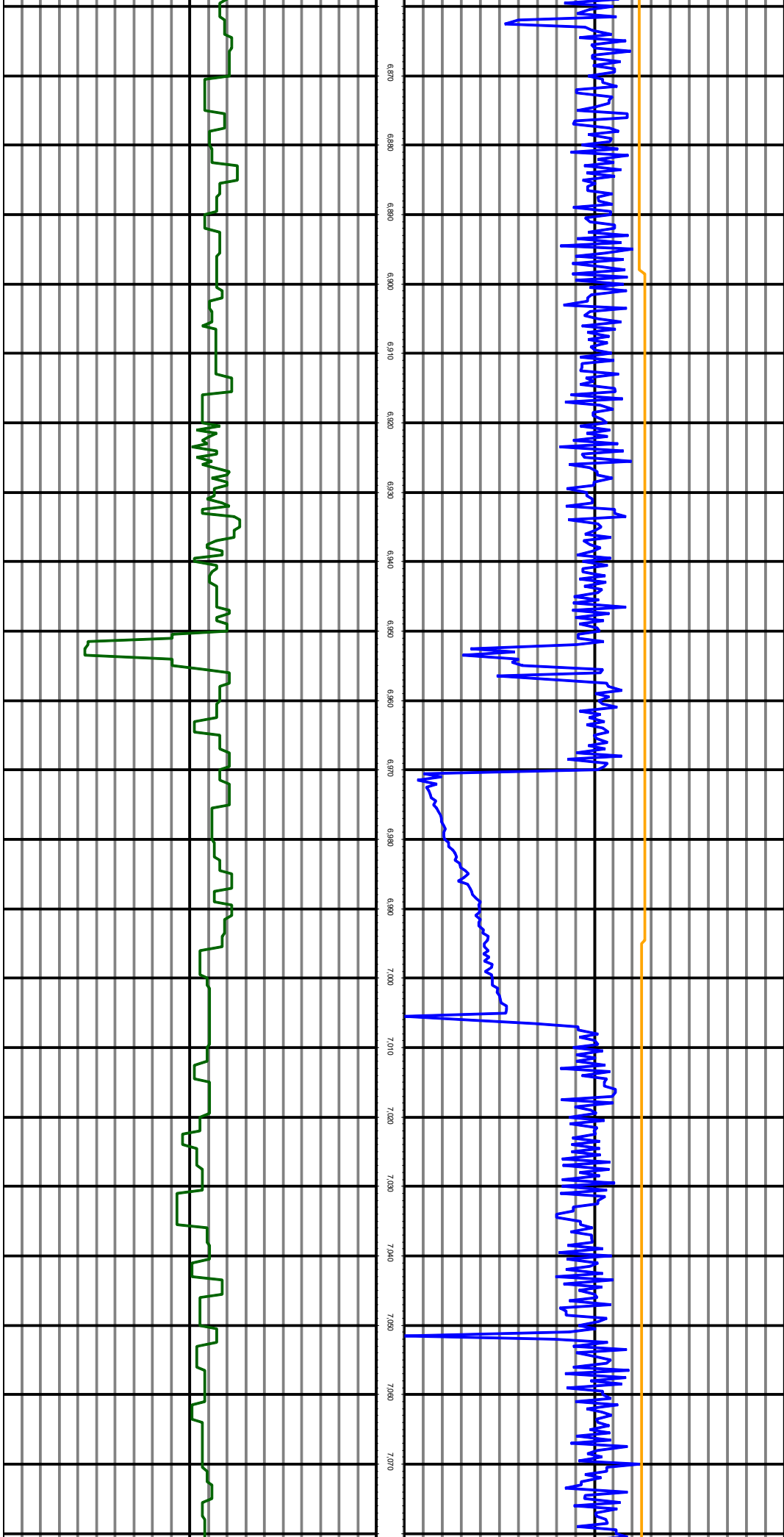


IVD: 6151.59 INC: 20.70 AZ: 93.50	6.420.00
IVD: 6239.37 INC: 21.20 AZ: 95.30	6.514.00
IVD: 6328.67 INC: 18.70 AZ: 93.30	6.609.00



TVD: 6419.39 INC: 15.80 AZ: 90.00 6,704.00

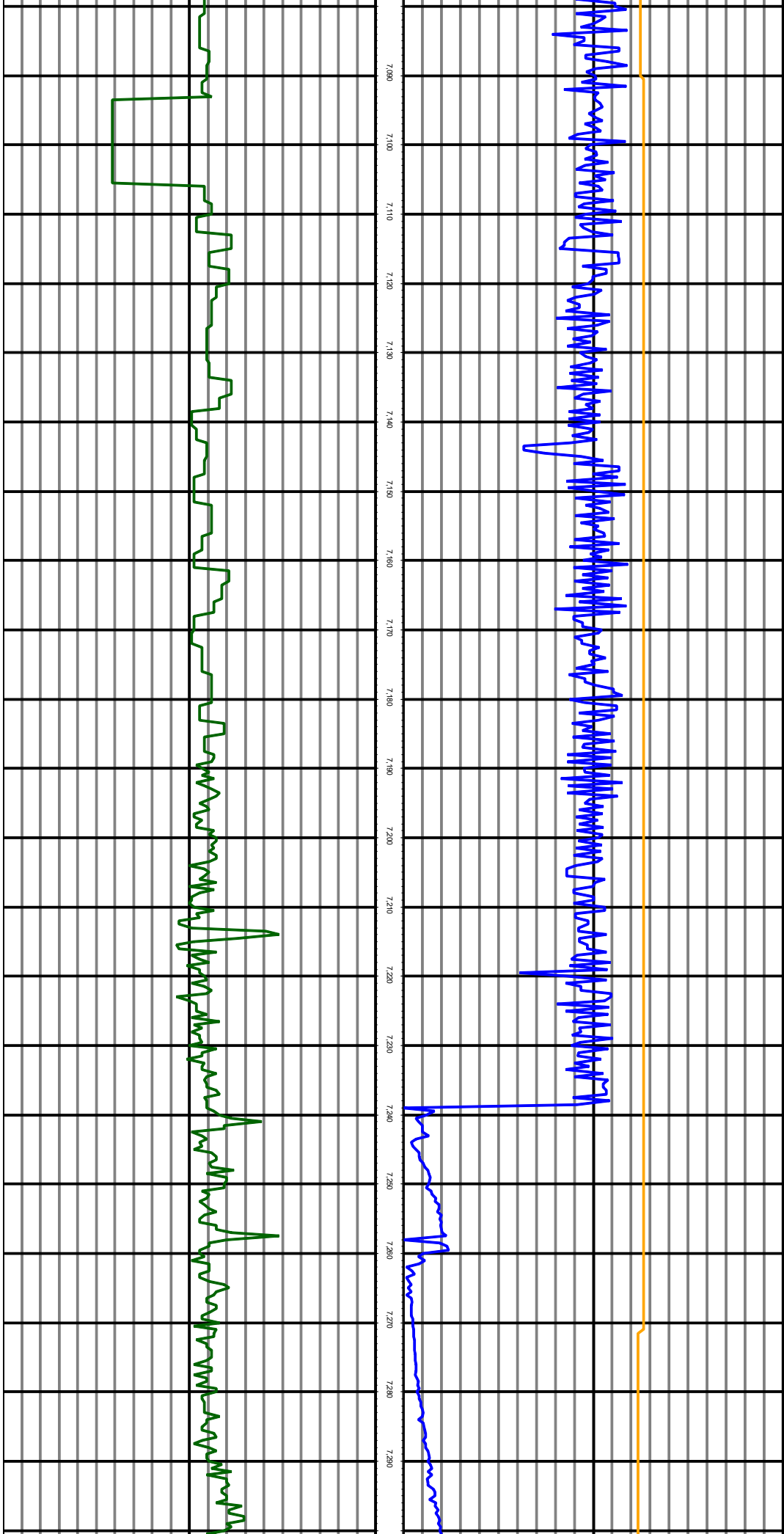
TVD: 6509.44 INC: 13.10 AZ: 98.00 6,797.00



TVD: 6601.39 INC: 10.90 AZ: 94.10 6.891.00

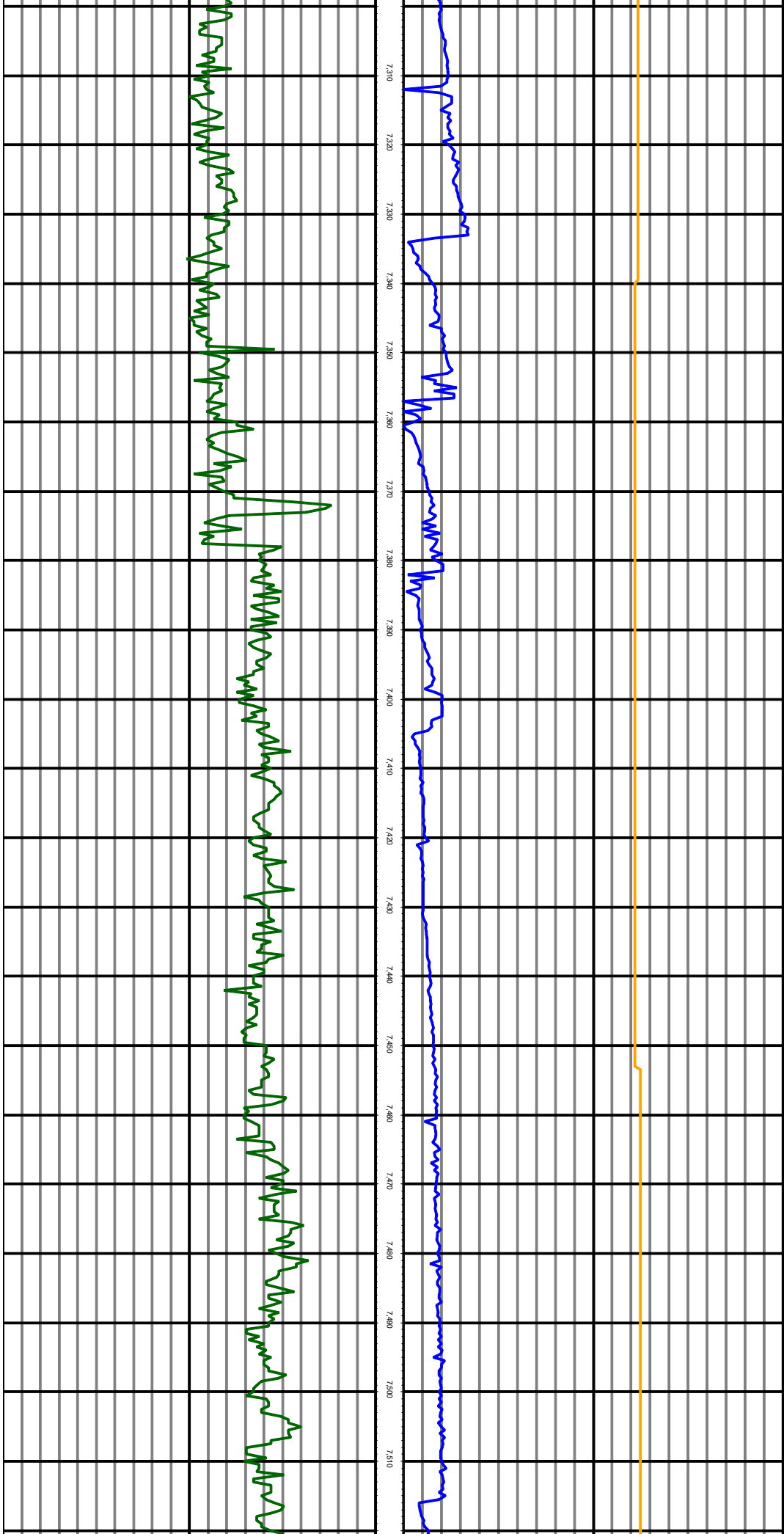
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TVD: 6785.99 INC: 3.60 AZ: 91.00 7.077.00



TVD: 6880.86 INC: 2.60 AZ: 65.30 7,172.00

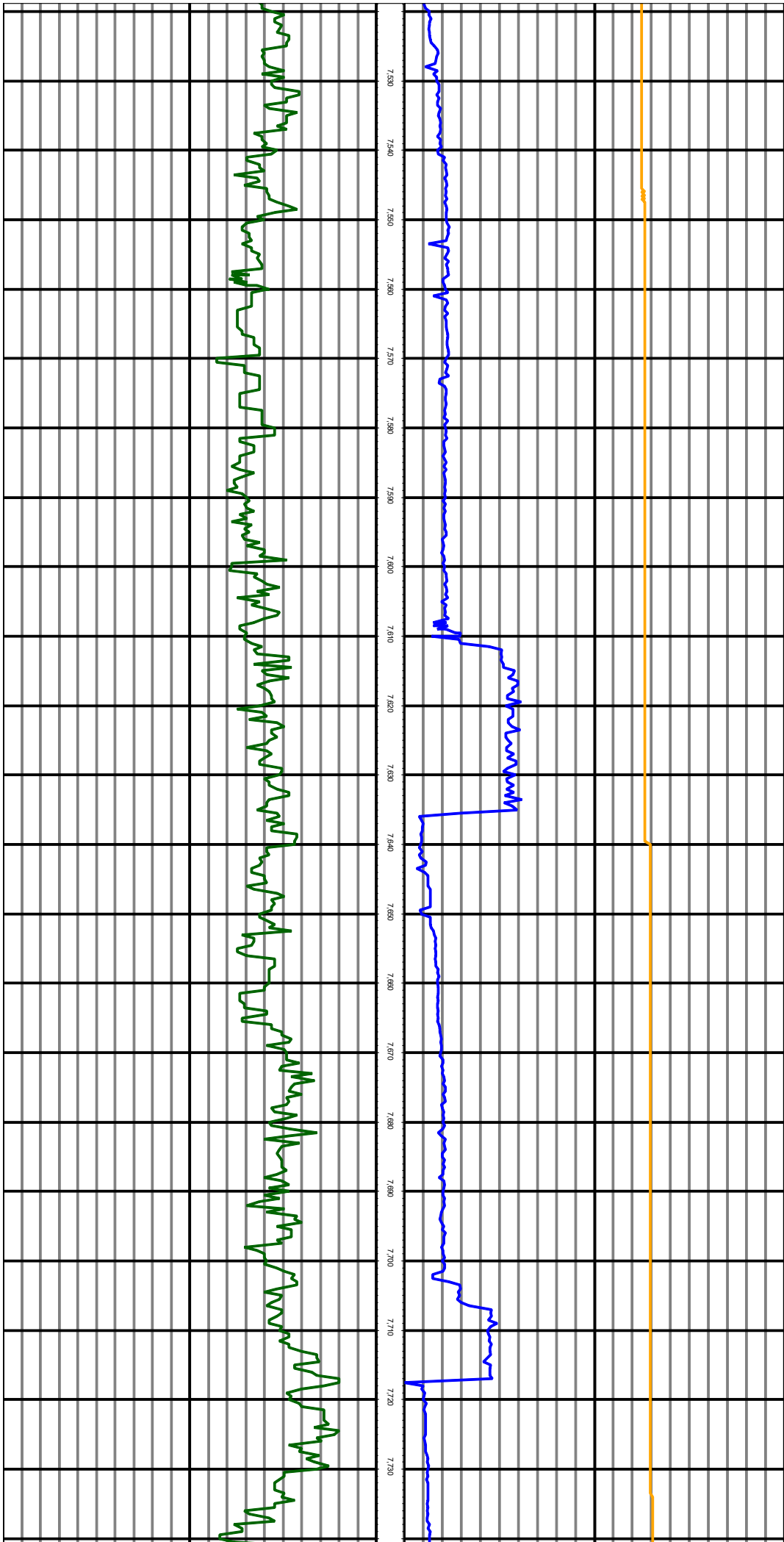
TVD: 6974.75 INC: 3.50 AZ: 130.20 7,266.00



TVD: 7066.81 INC: 12.30 AZ: 164.00 7.359.00

TVD: 7155.84 INC: 21.00 AZ: 174.30 7.452.00

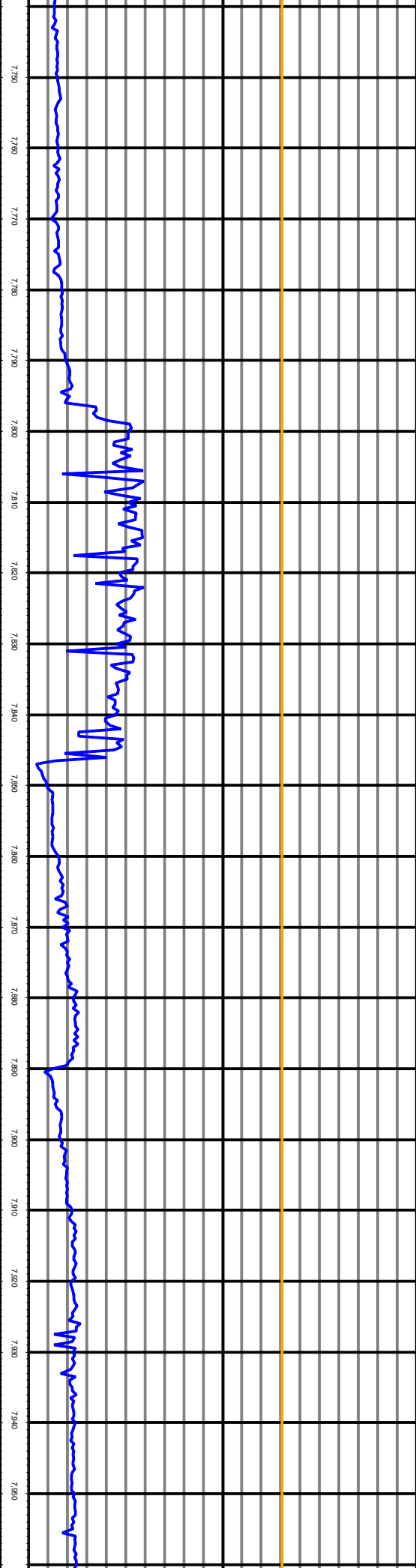
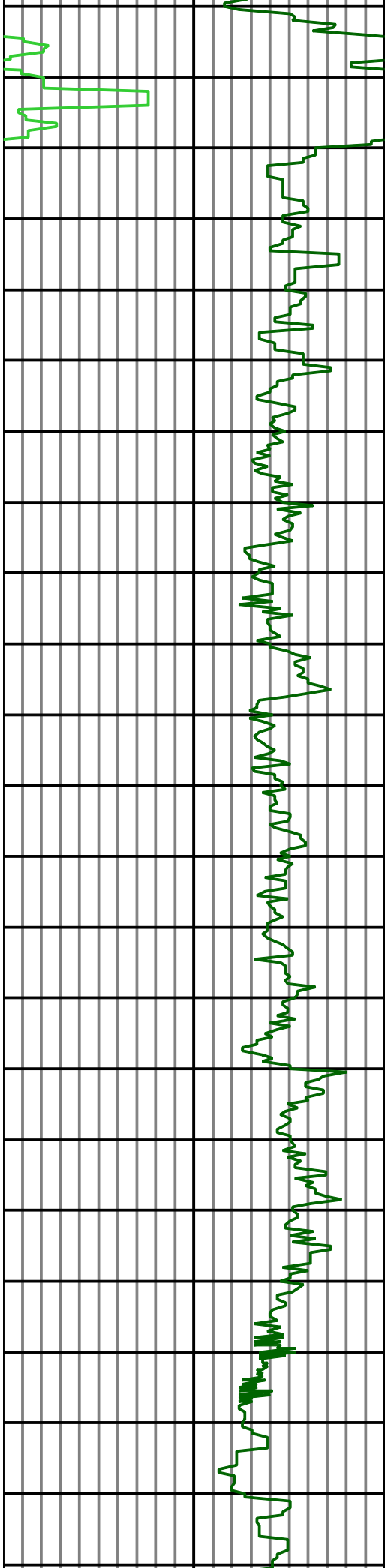




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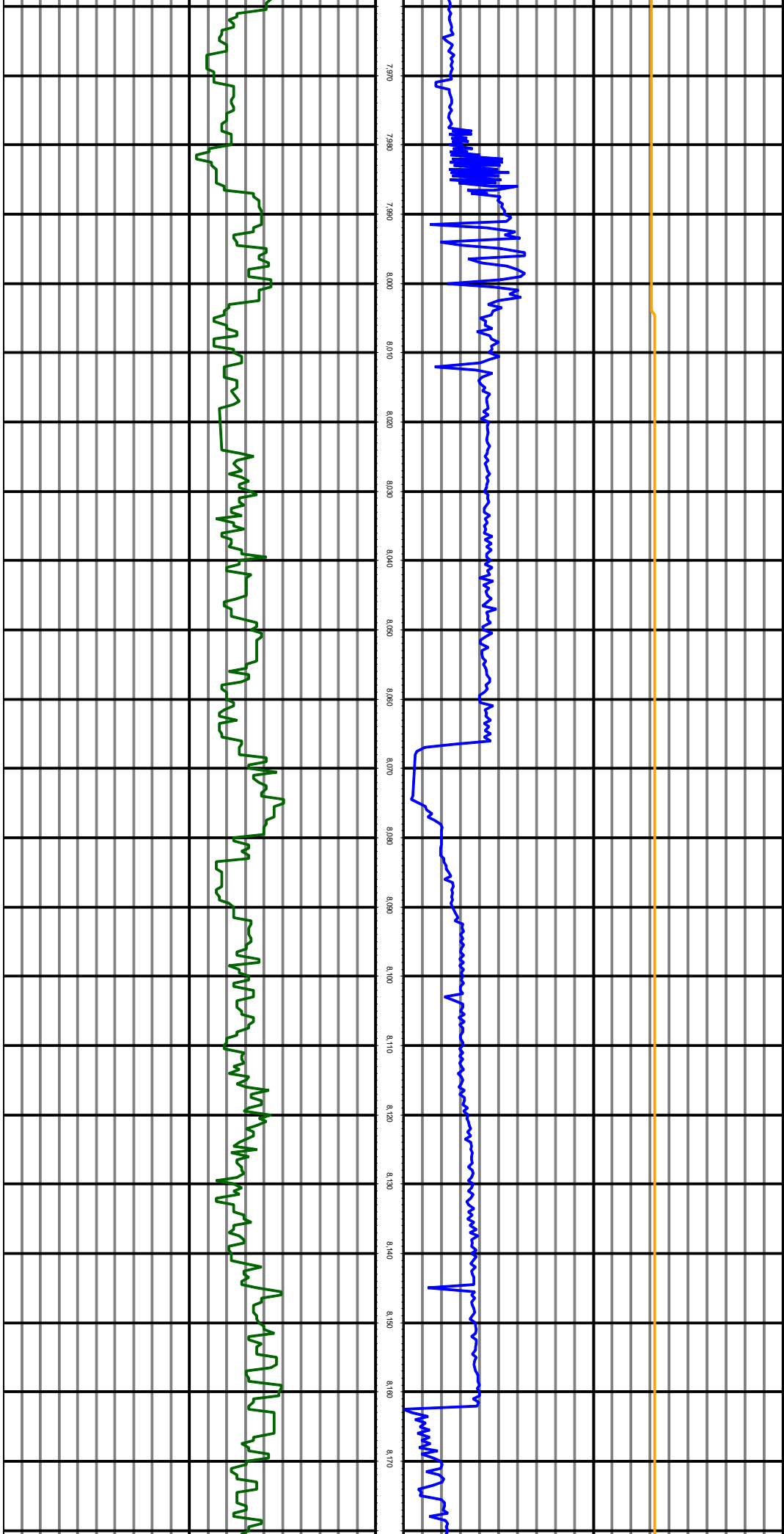
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TVD: 7389.04 INC: 45.50 AZ: 179.40 7.734.00



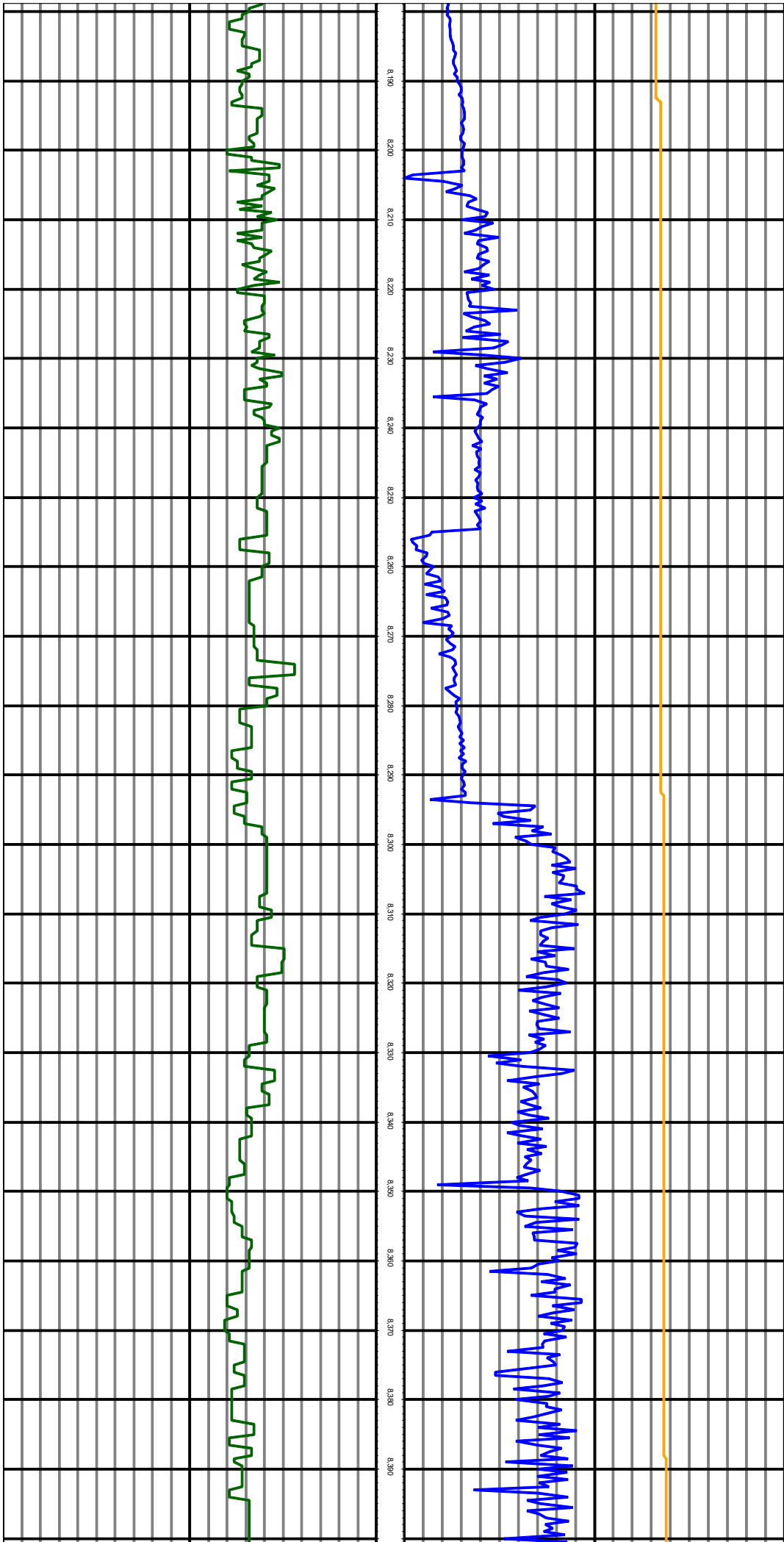
TVD: 7449.13 INC: 50.70 AZ: 179.30 7.824.00

TVD: 7501.44 INC: 59.90 AZ: 179.30 7.916.00



TVD: 7544.56 INC: 66.70 AZ: 177.90 8,012.00

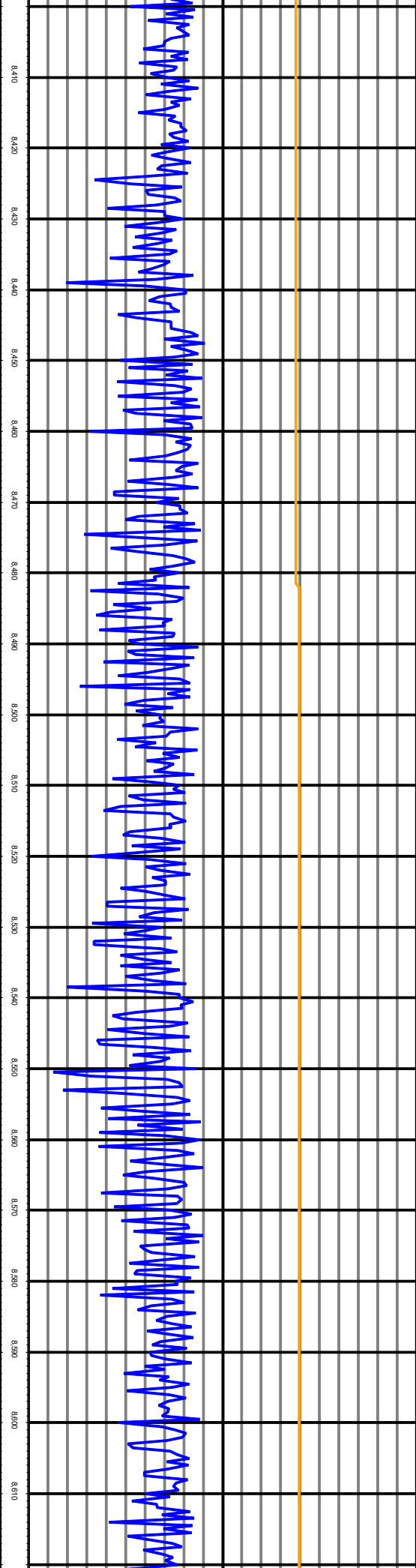
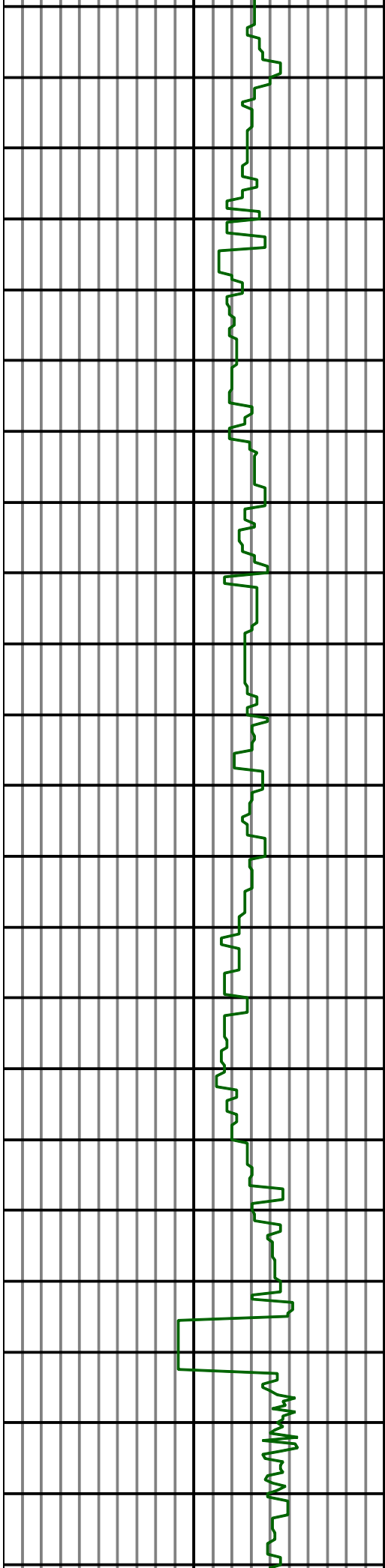
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TVD: 7599.26 INC: 81.10 AZ: 177.30 8,193.00

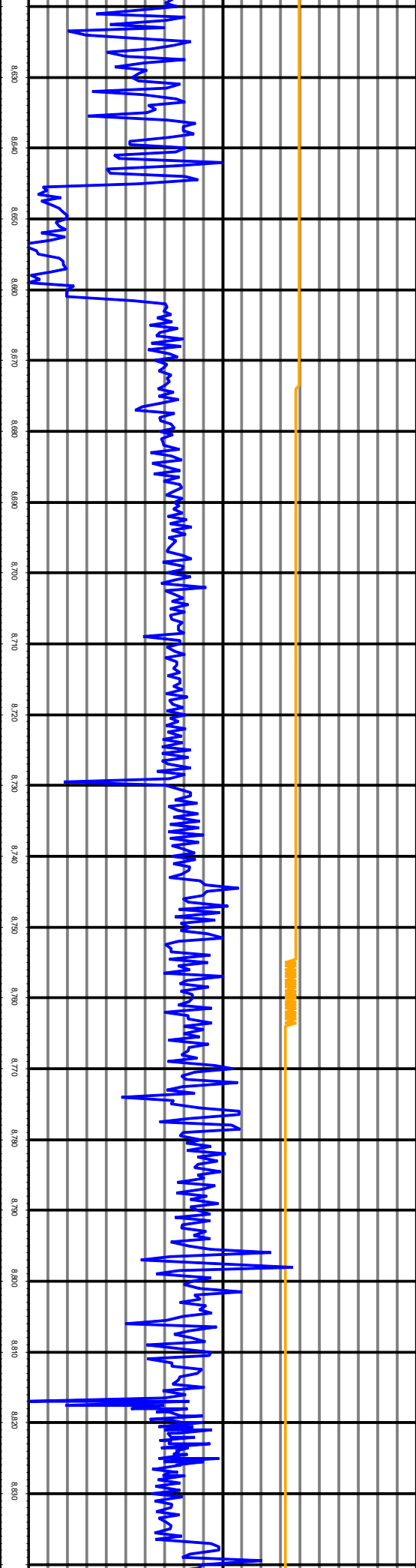
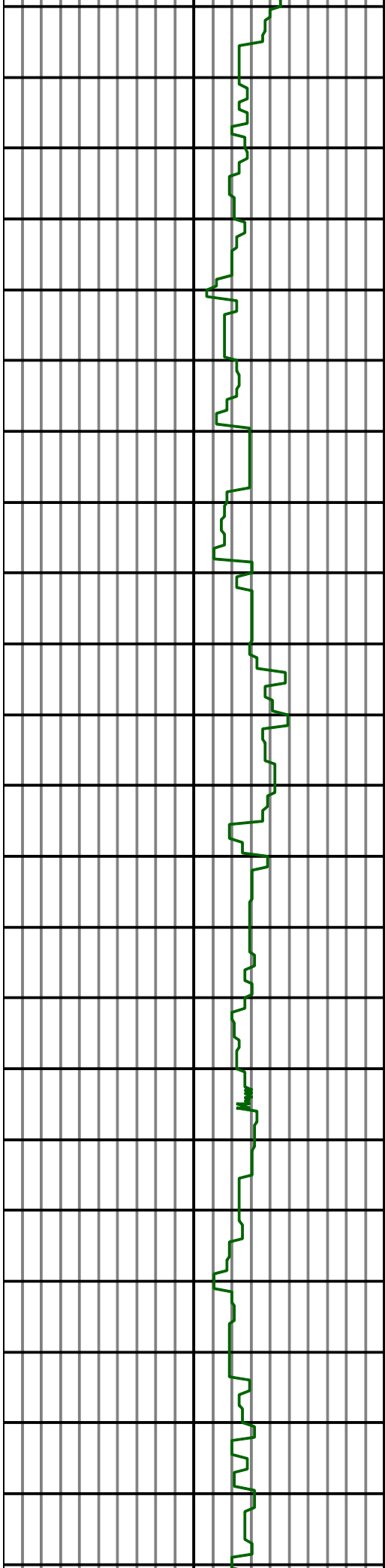
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TVD: 7615.82 INC: 86.20 AZ: 177.90 8,380.00



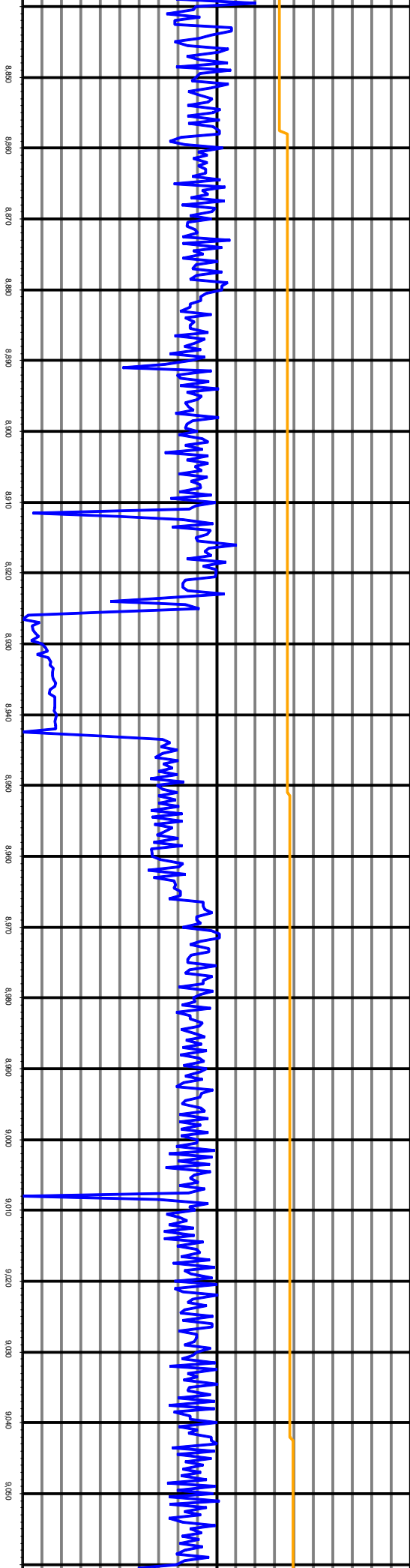
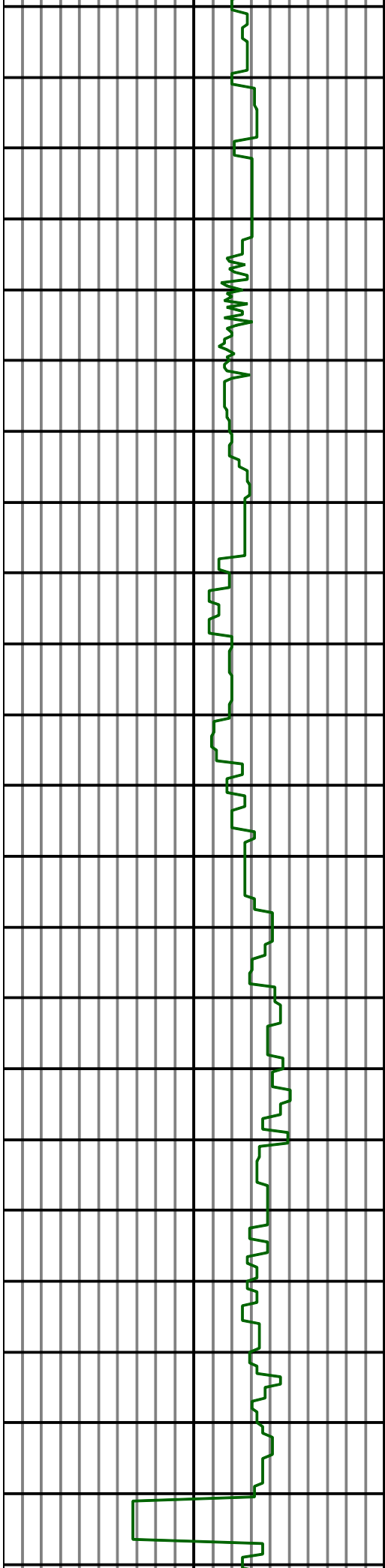
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TVD: 7635.82 INC: 85.20 AZ: 179.20 8.662.00

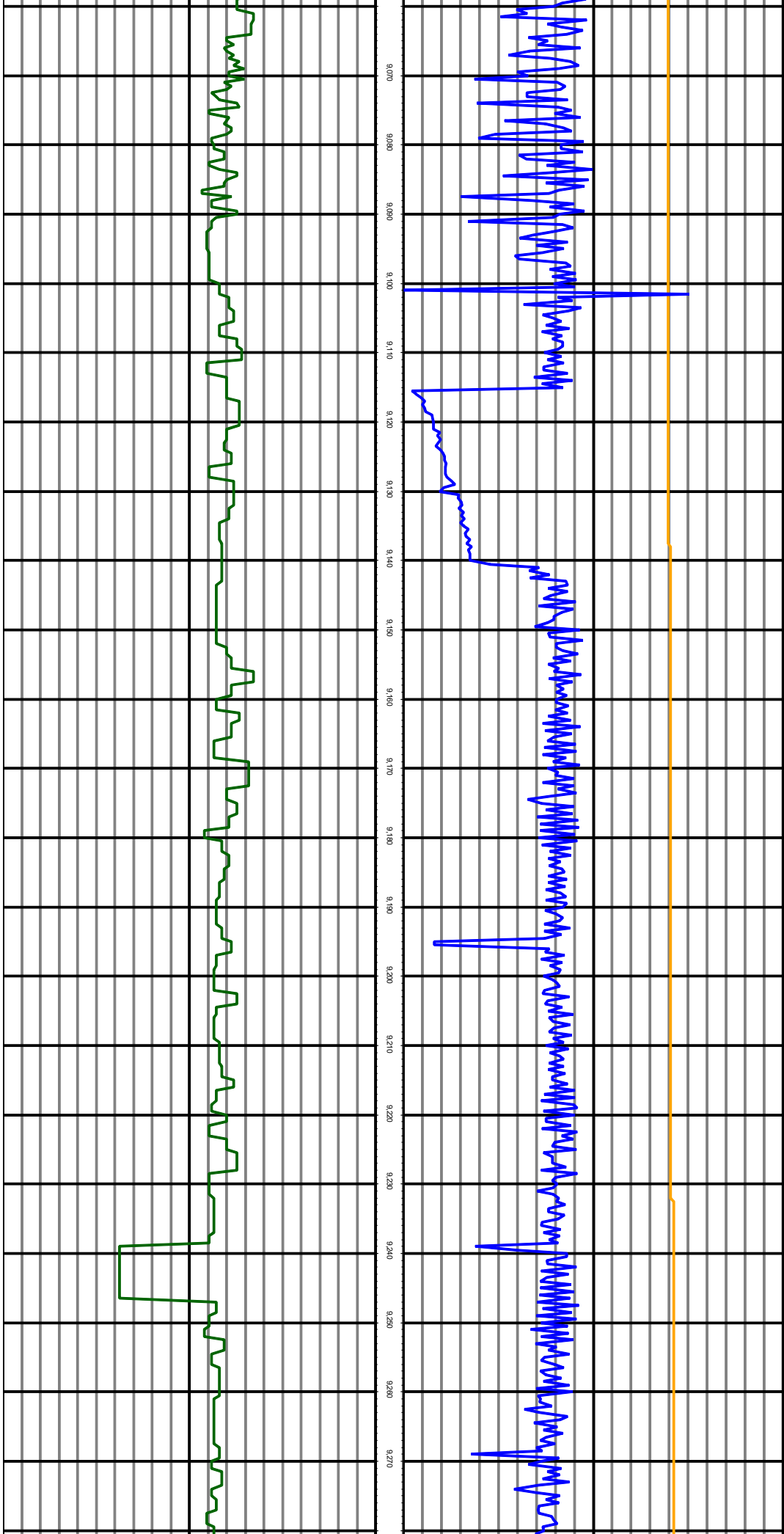
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TVD: 7657.94 INC: 84.40 AZ: 179.30 8,944.00

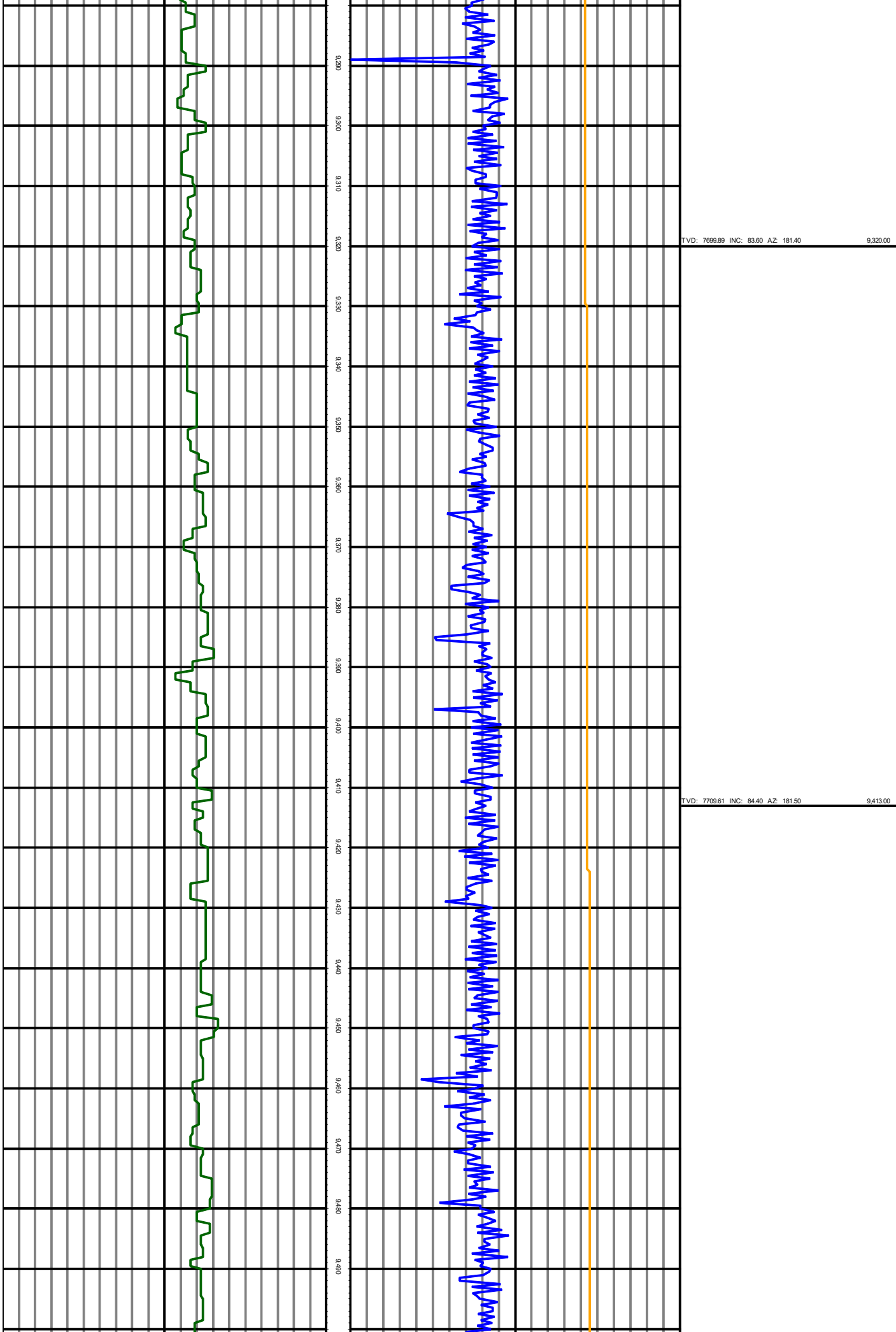
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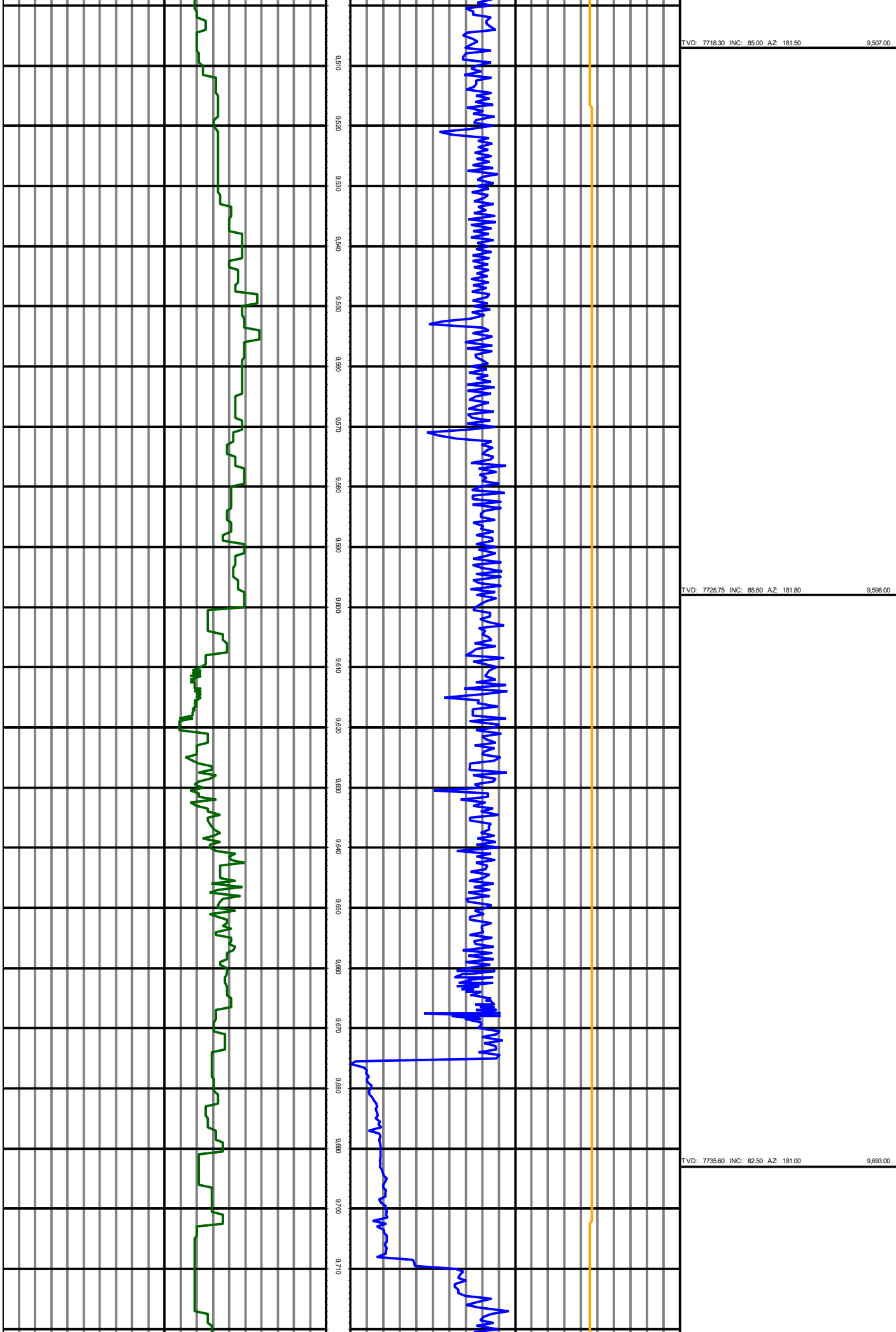


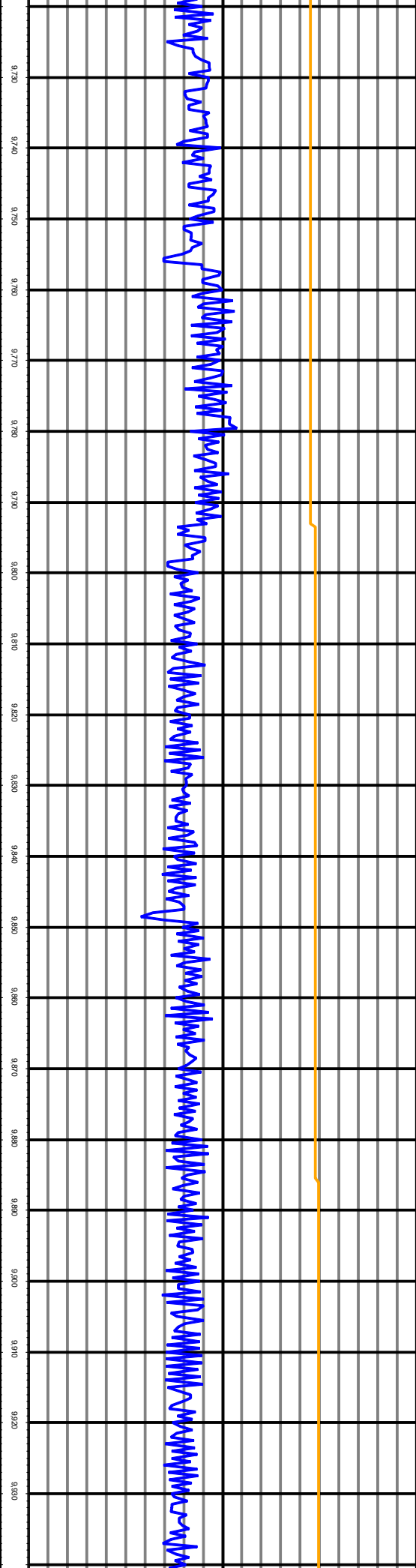
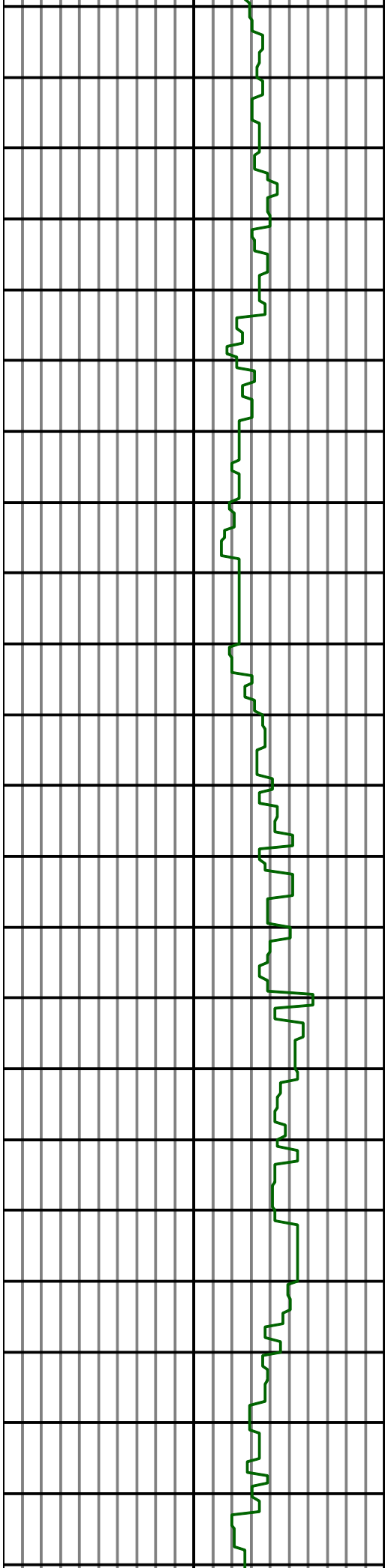
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TVD: 7686.64 INC: 82.80 AZ: 180.90 9,225.00



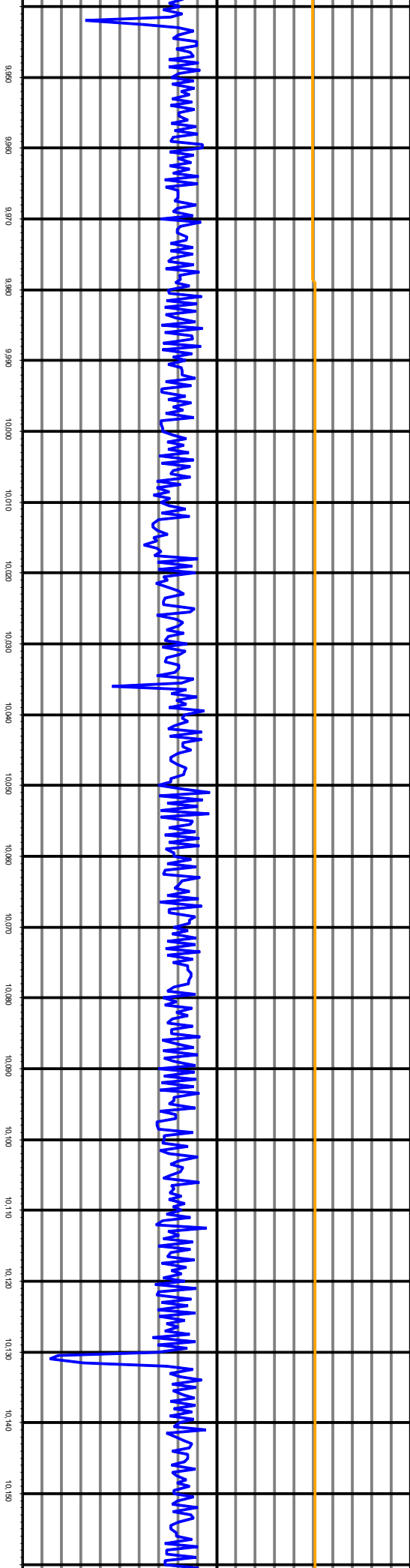
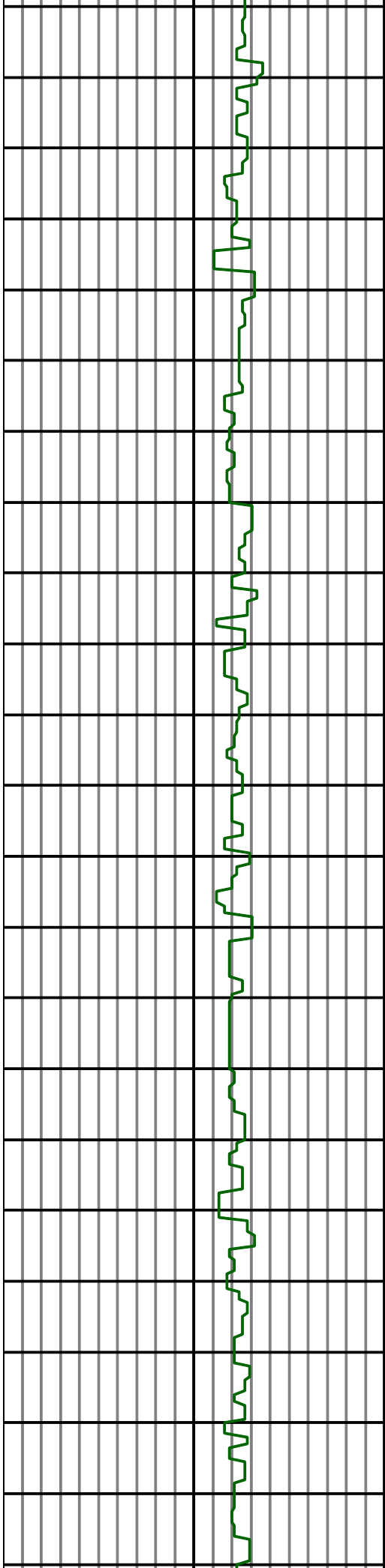






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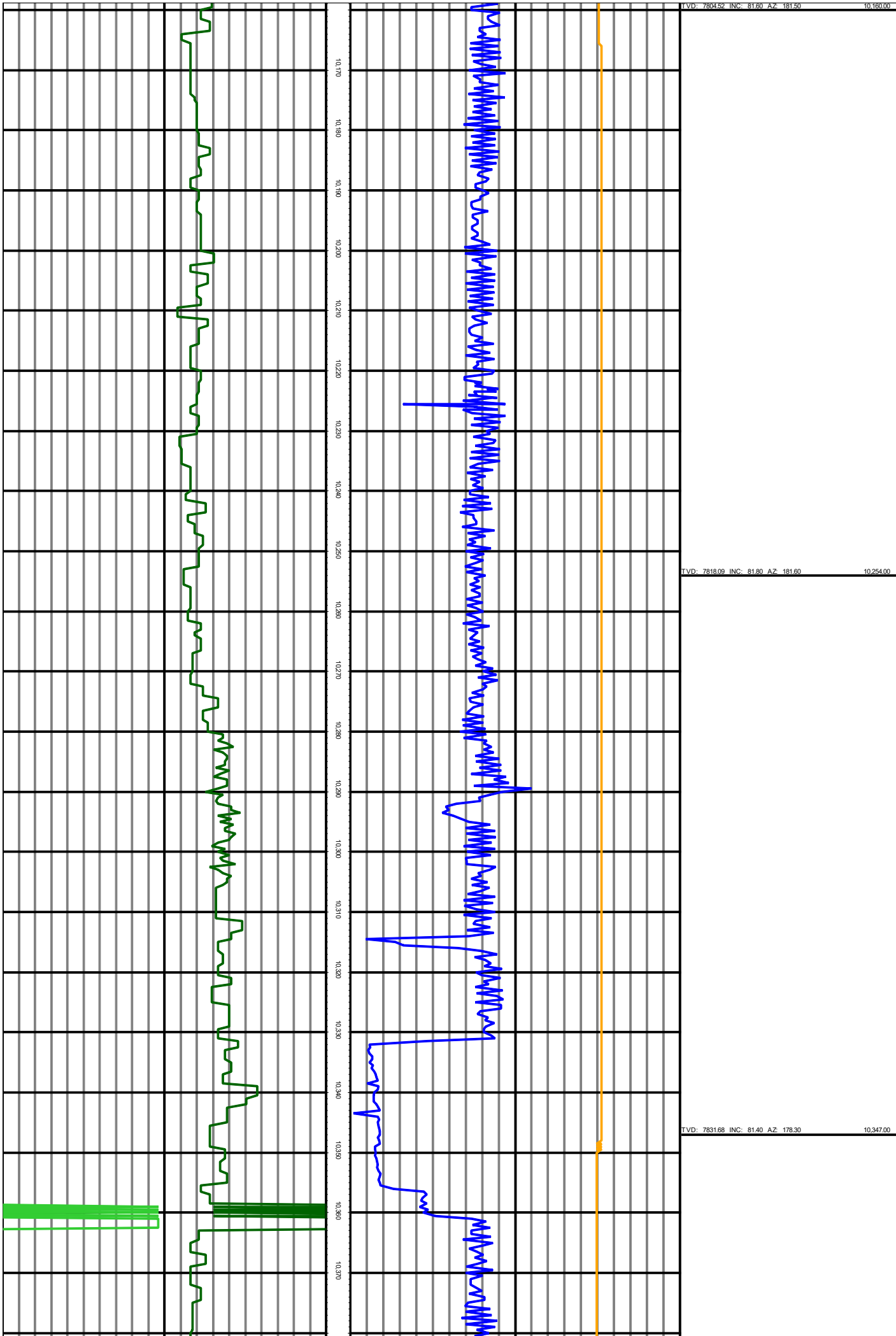
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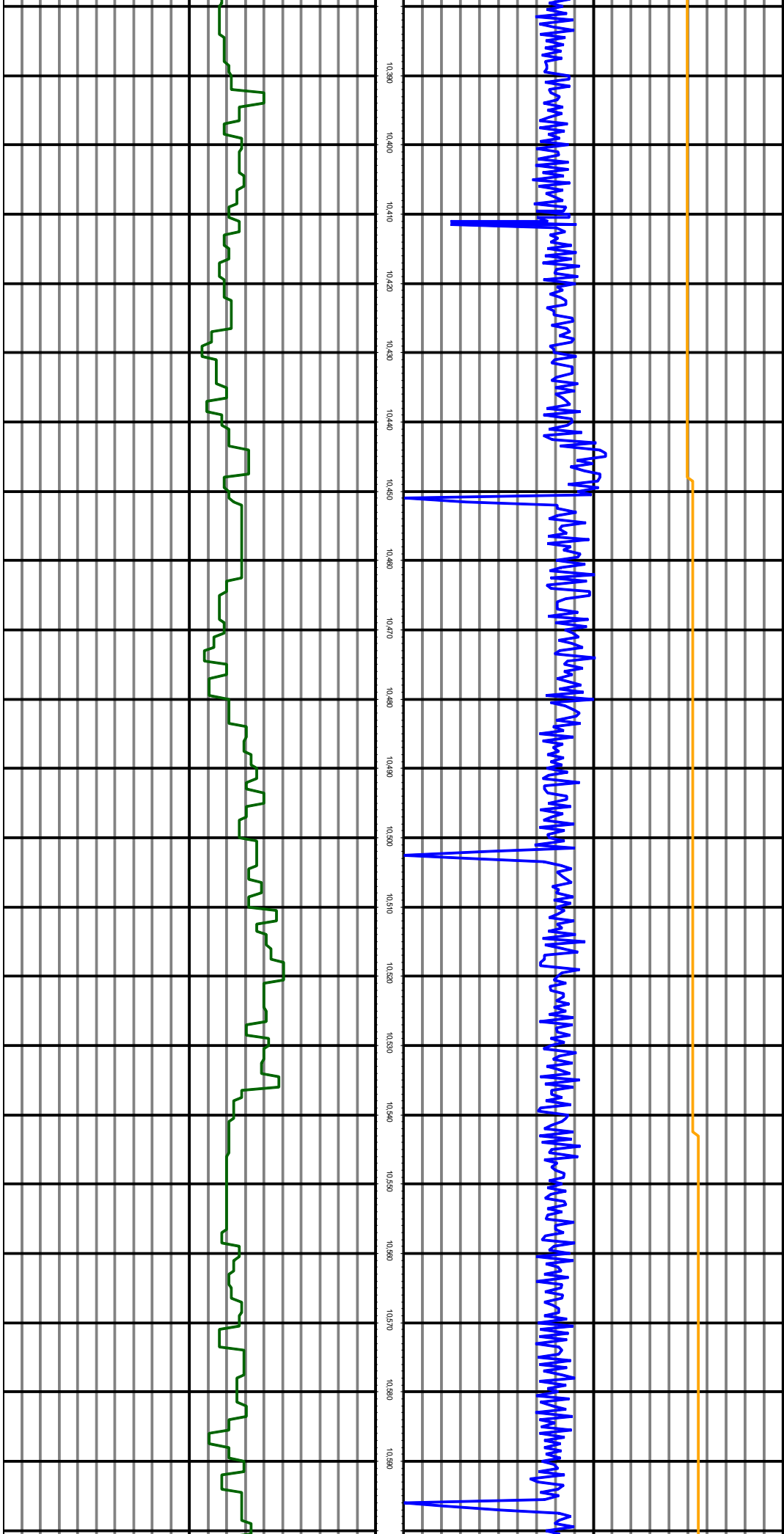


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TVD: 7790.79 INC: 81.60 AZ: 181.10 10.066.00

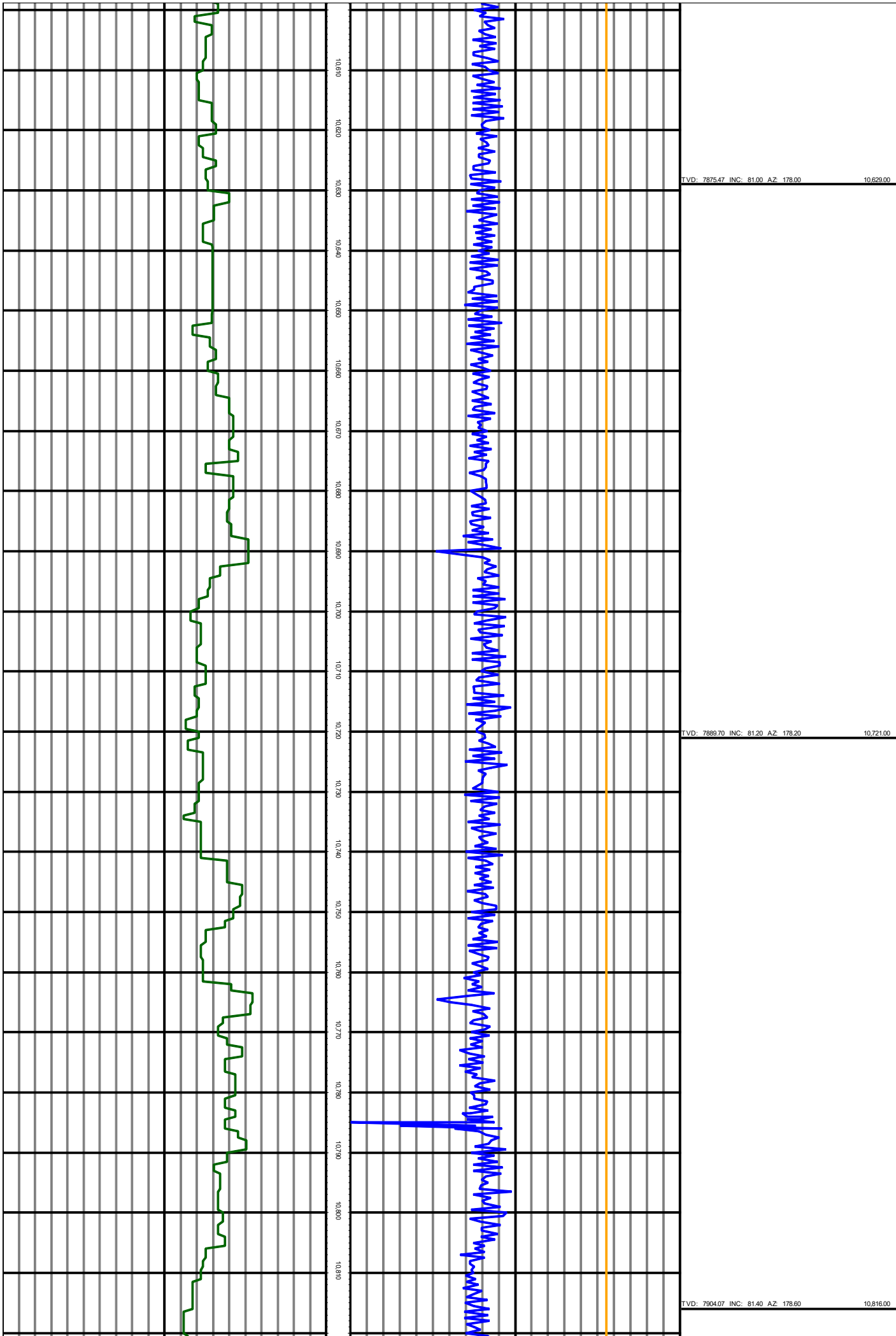
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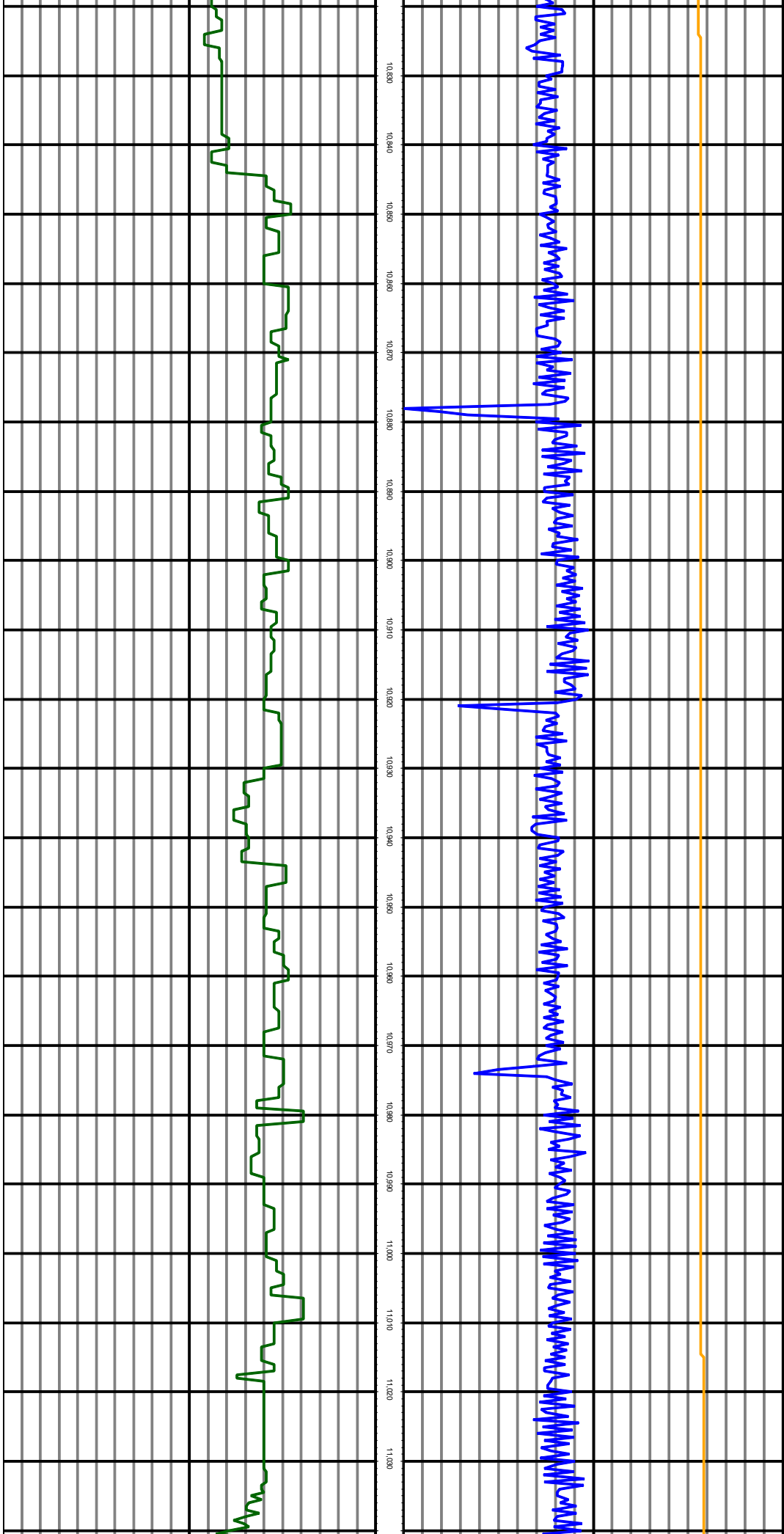




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TVD: 7860.68 INC: 80.90 AZ: 178.30 10.535.00





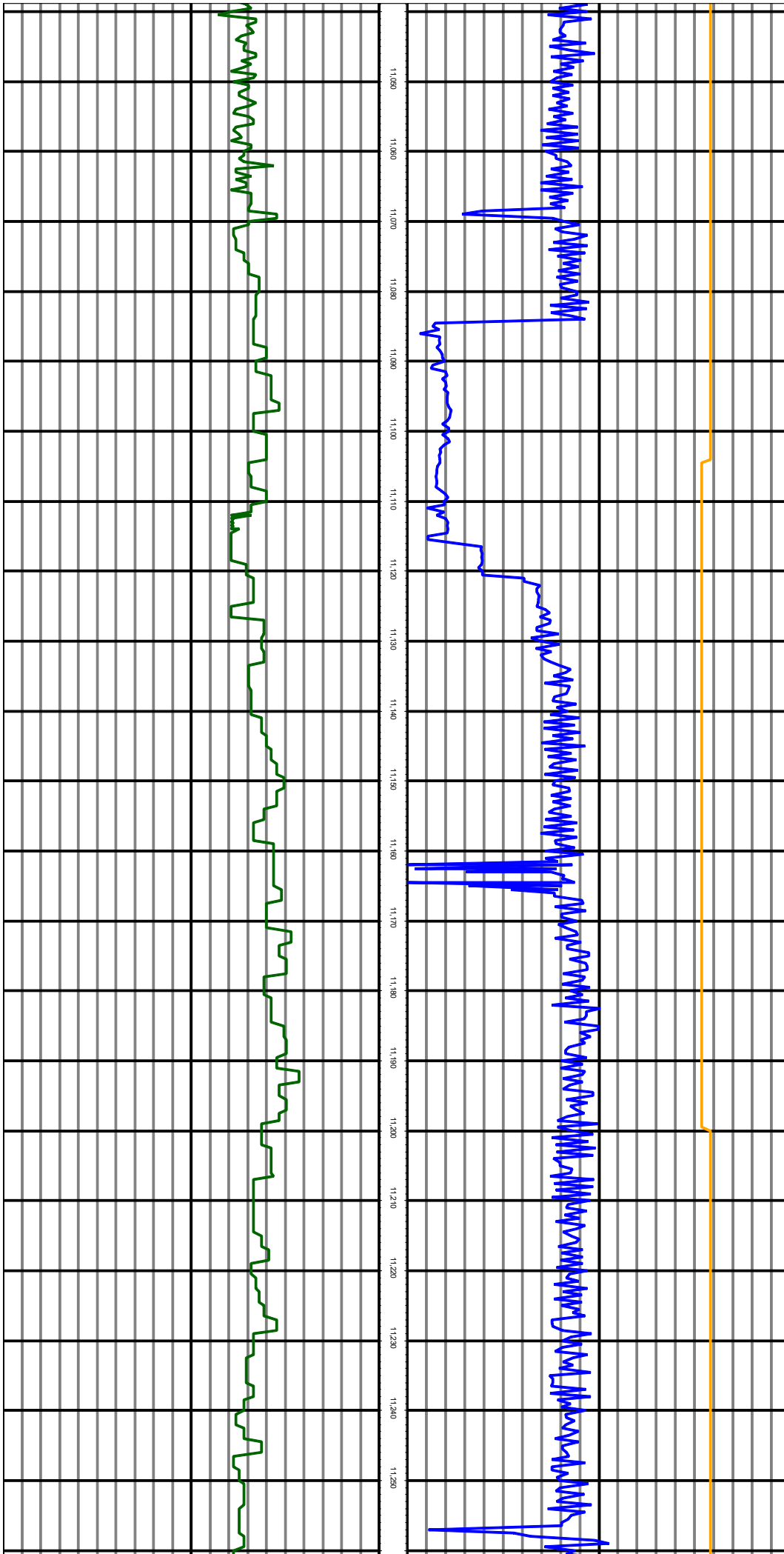
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TVD: 7933.55 INC: 80.70 AZ: 177.60 11.006.00



TVD: 7946.30 INC: 83.70 AZ: 179.10 11,100.00

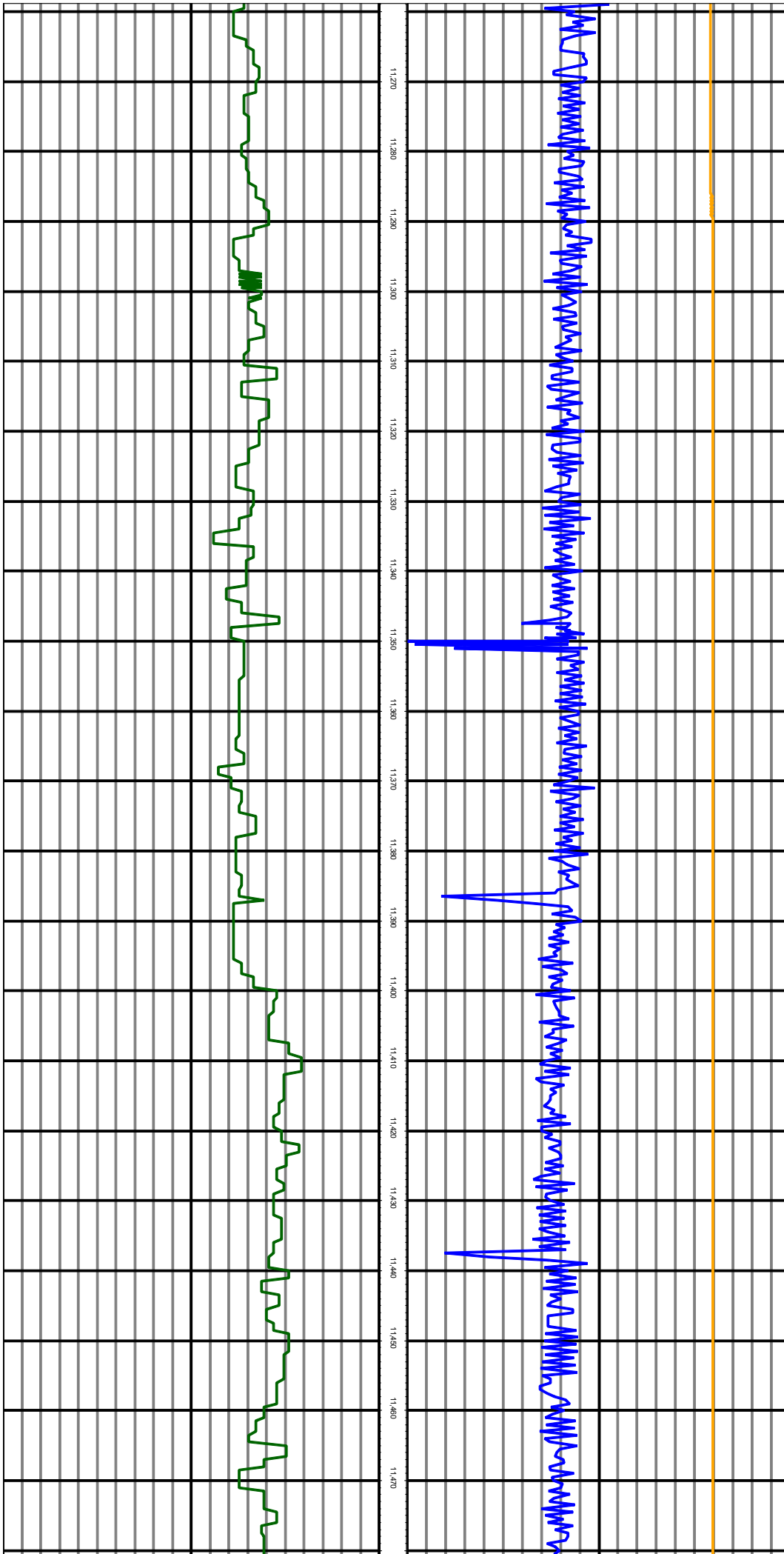
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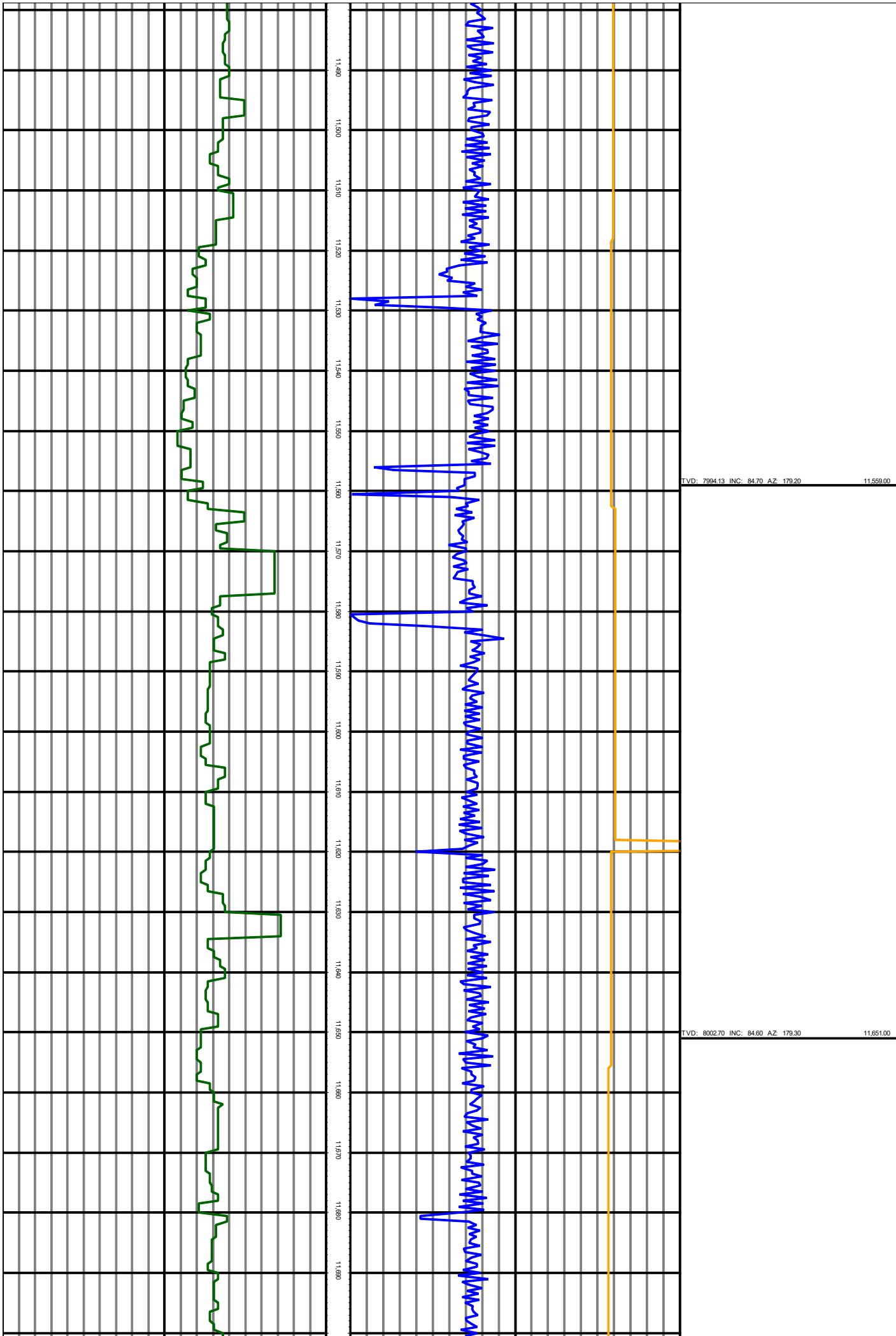


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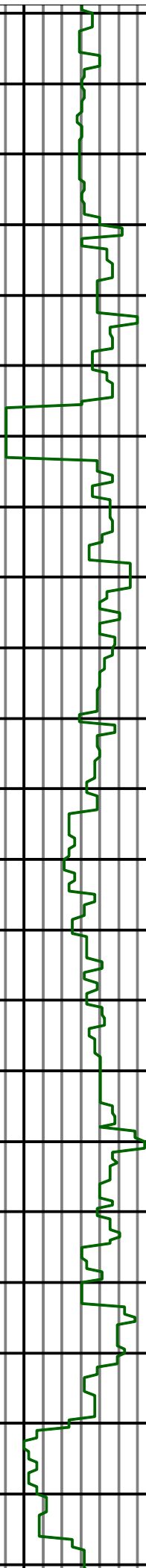
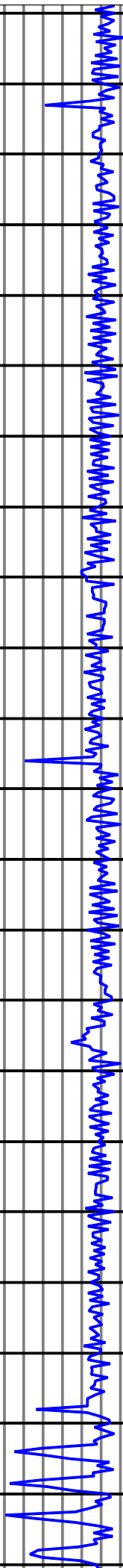
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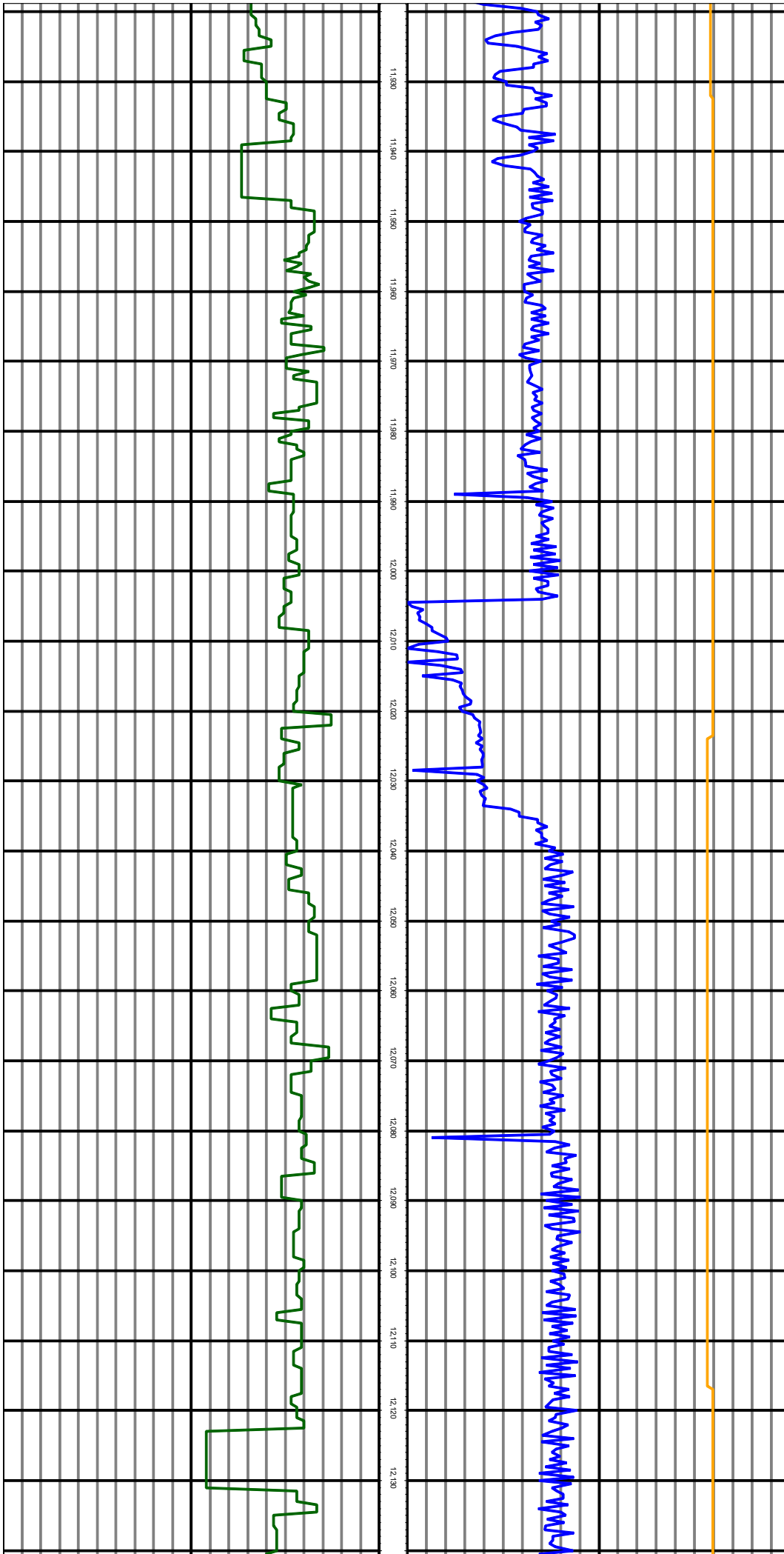
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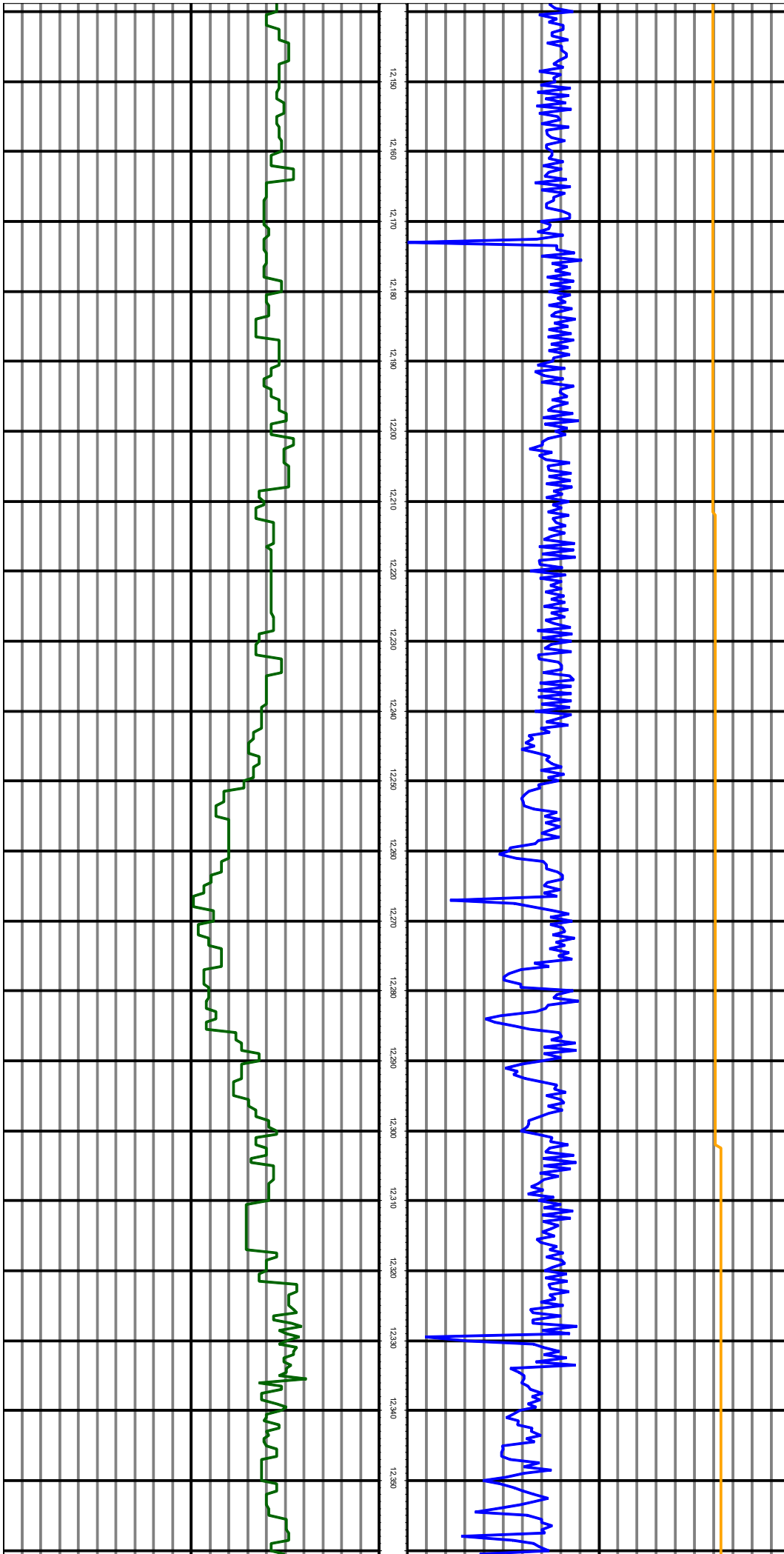
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TVD: 8043.22 INC: 86.60 AZ: 179.50 12.107.00



TVD: 8048.19 INC: 87.20 AZ: 179.10 12.199.00

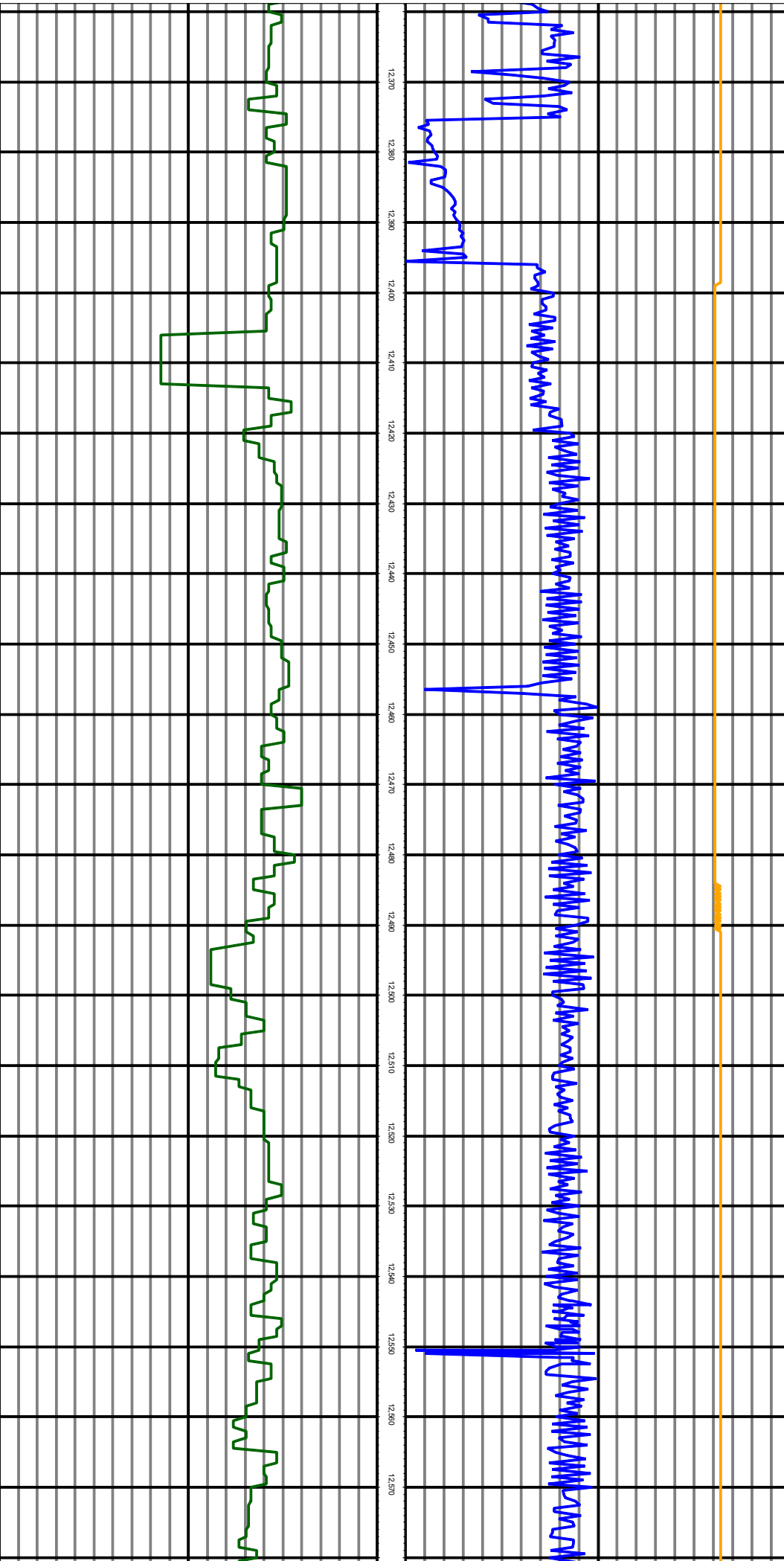
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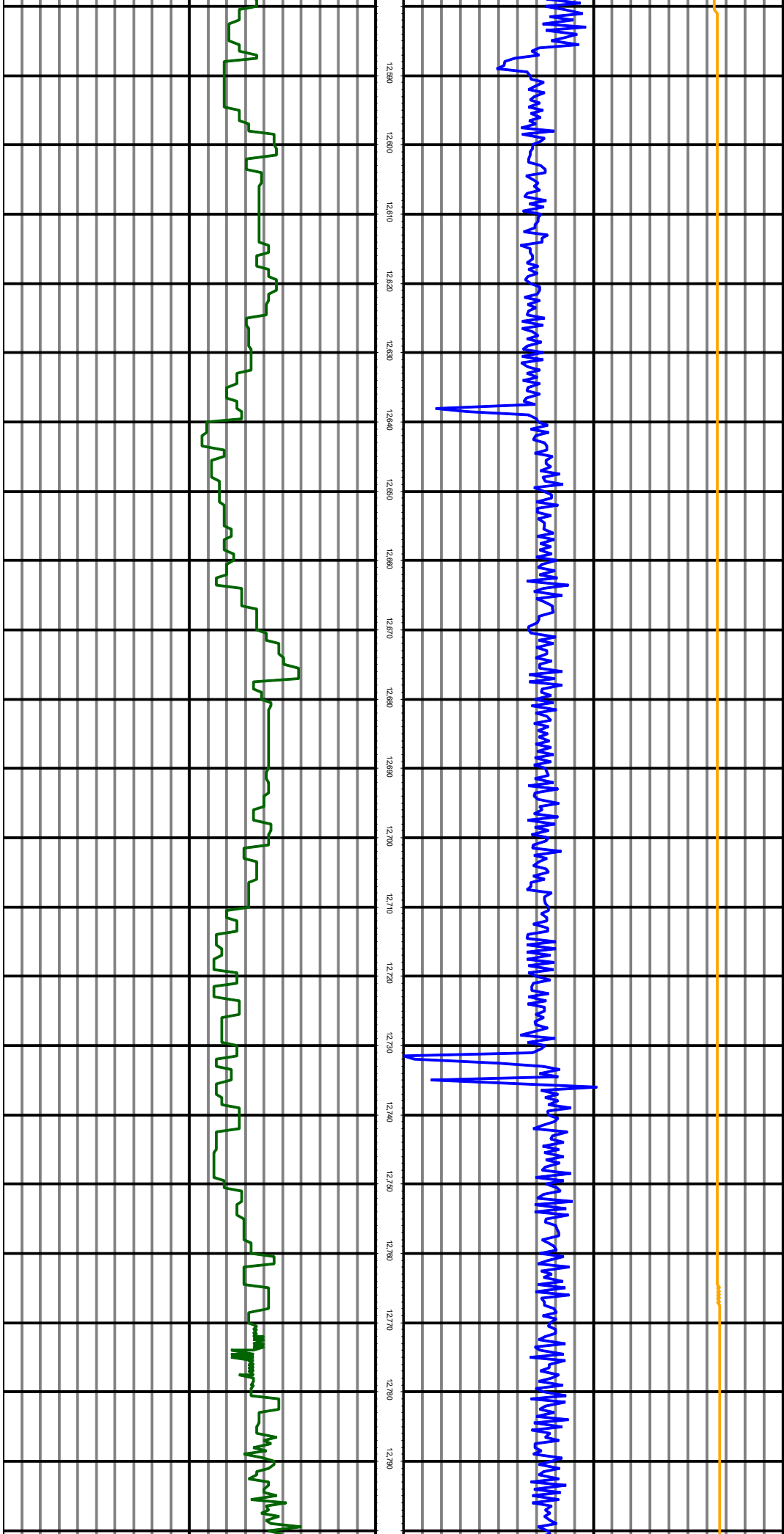


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TVD: 8062.06 INC: 86.70 AZ: 180.70 12,481.00

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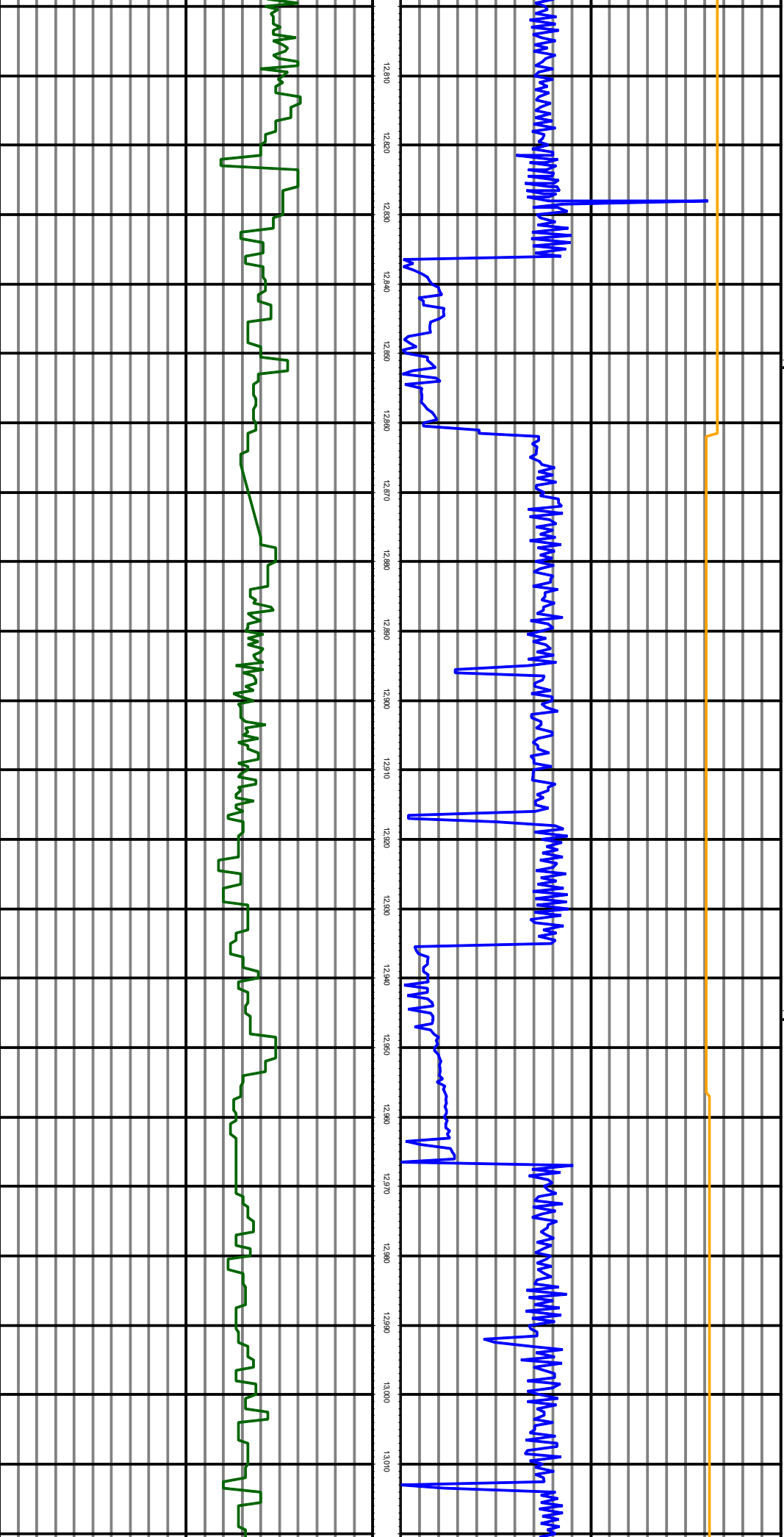
TVD: 8072.14 INC: 87.20 AZ: 180.20 12,666.00

TVD: 8076.60 INC: 87.30 AZ: 180.00 12,759.00



TVD: 8080.42 INC: 88.00 AZ: 181.10 12.852.00

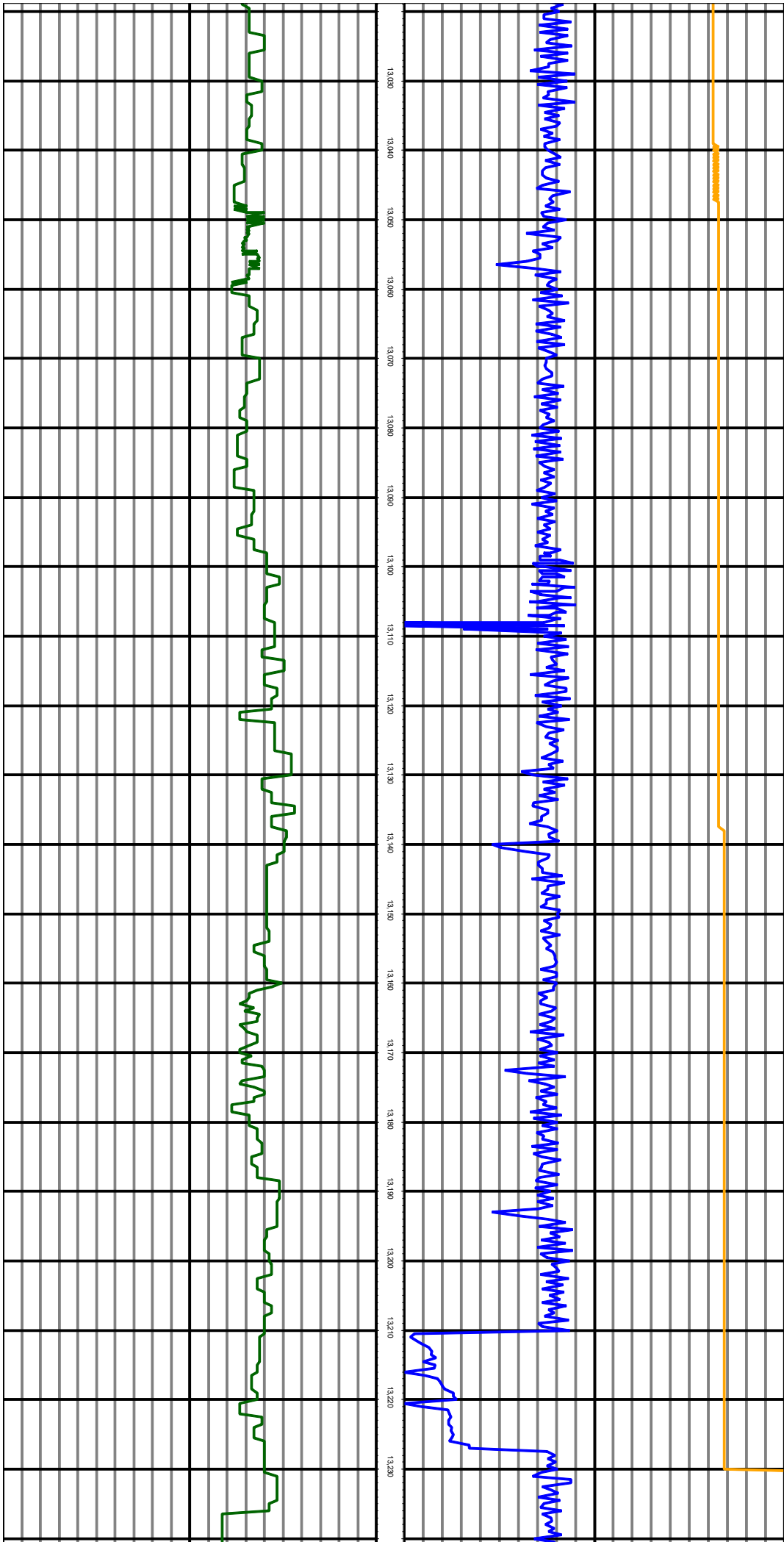
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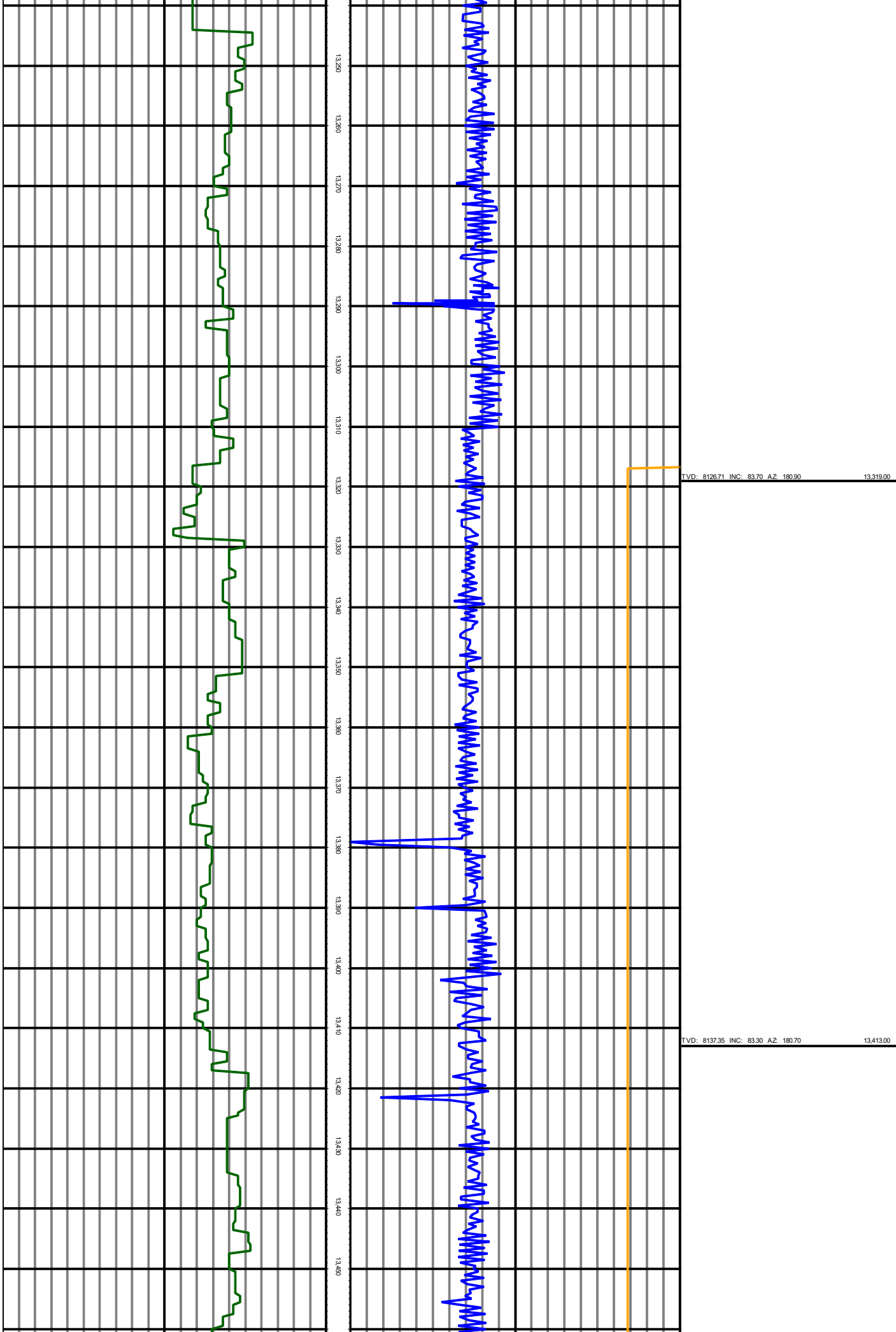


TVD: 8095.25 INC: 83.60 AZ: 181.70 13,036.00

TVD: 8106.30 INC: 82.90 AZ: 181.80 13,130.00

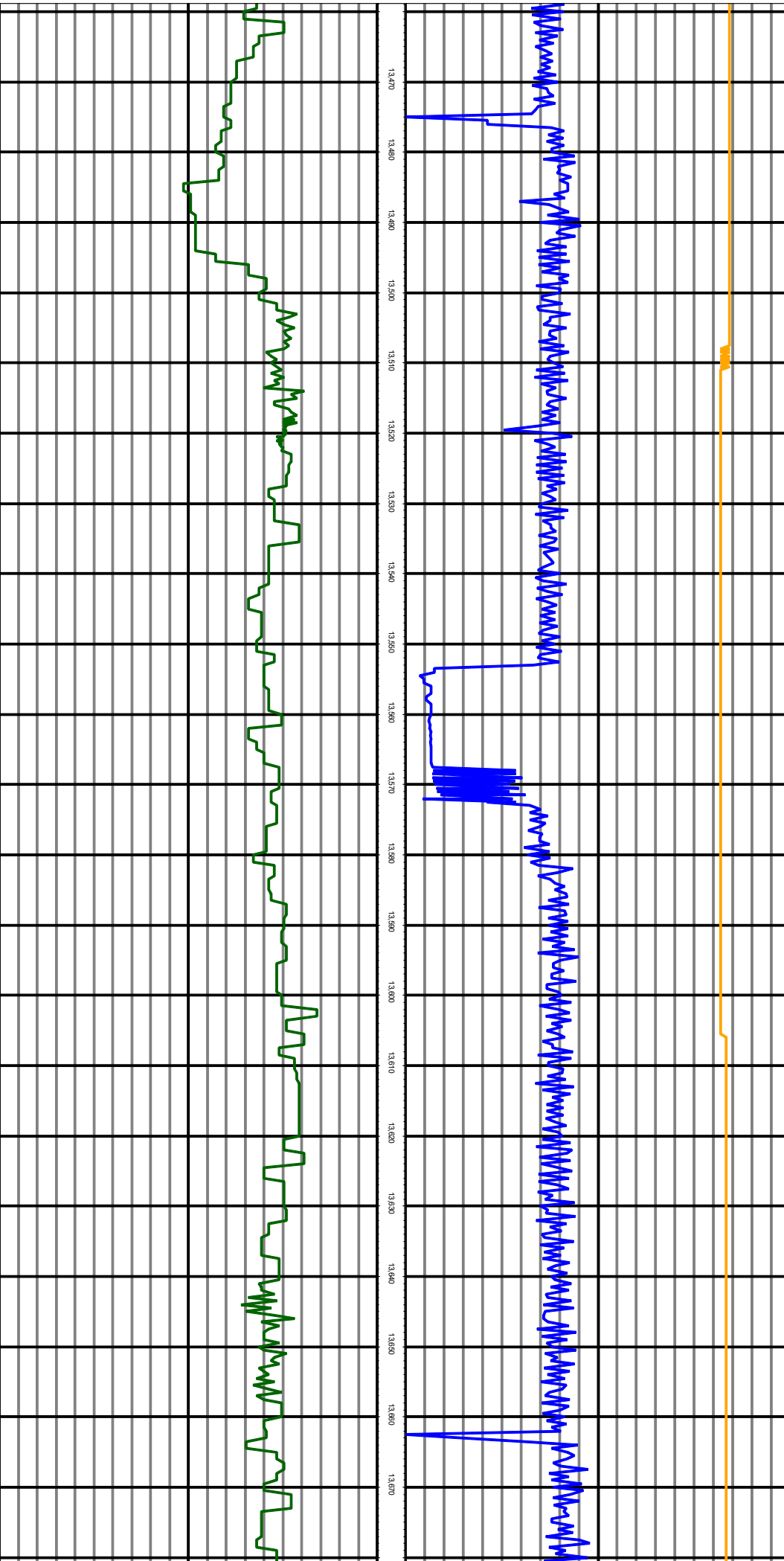
TVD: 8116.78 INC: 84.30 AZ: 180.90 13,224.00





TVD: 8148.04 INC: 83.50 AZ: 180.70 13,506.00

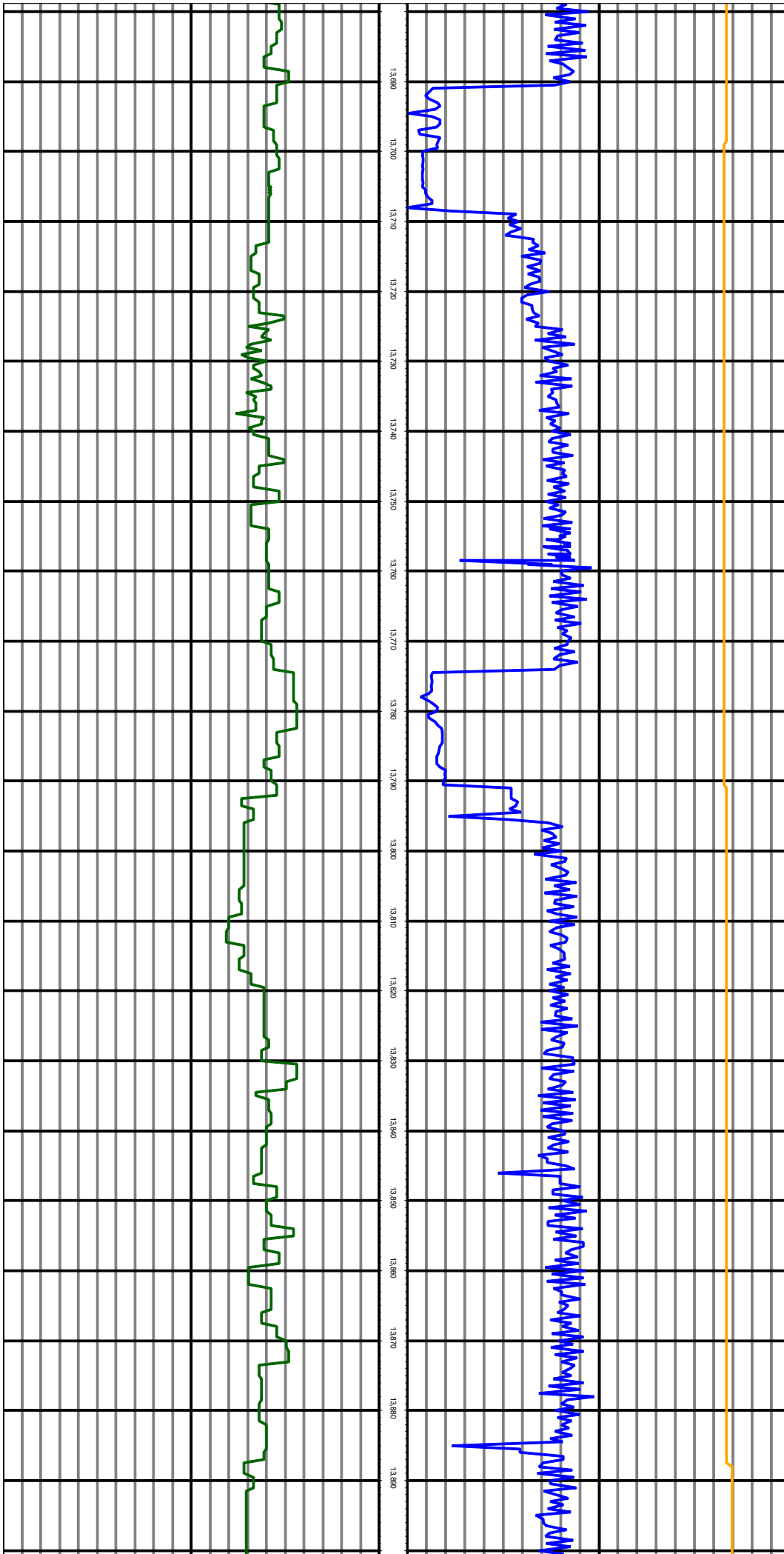
TVD: 8157.13 INC: 85.40 AZ: 180.90 13,600.00

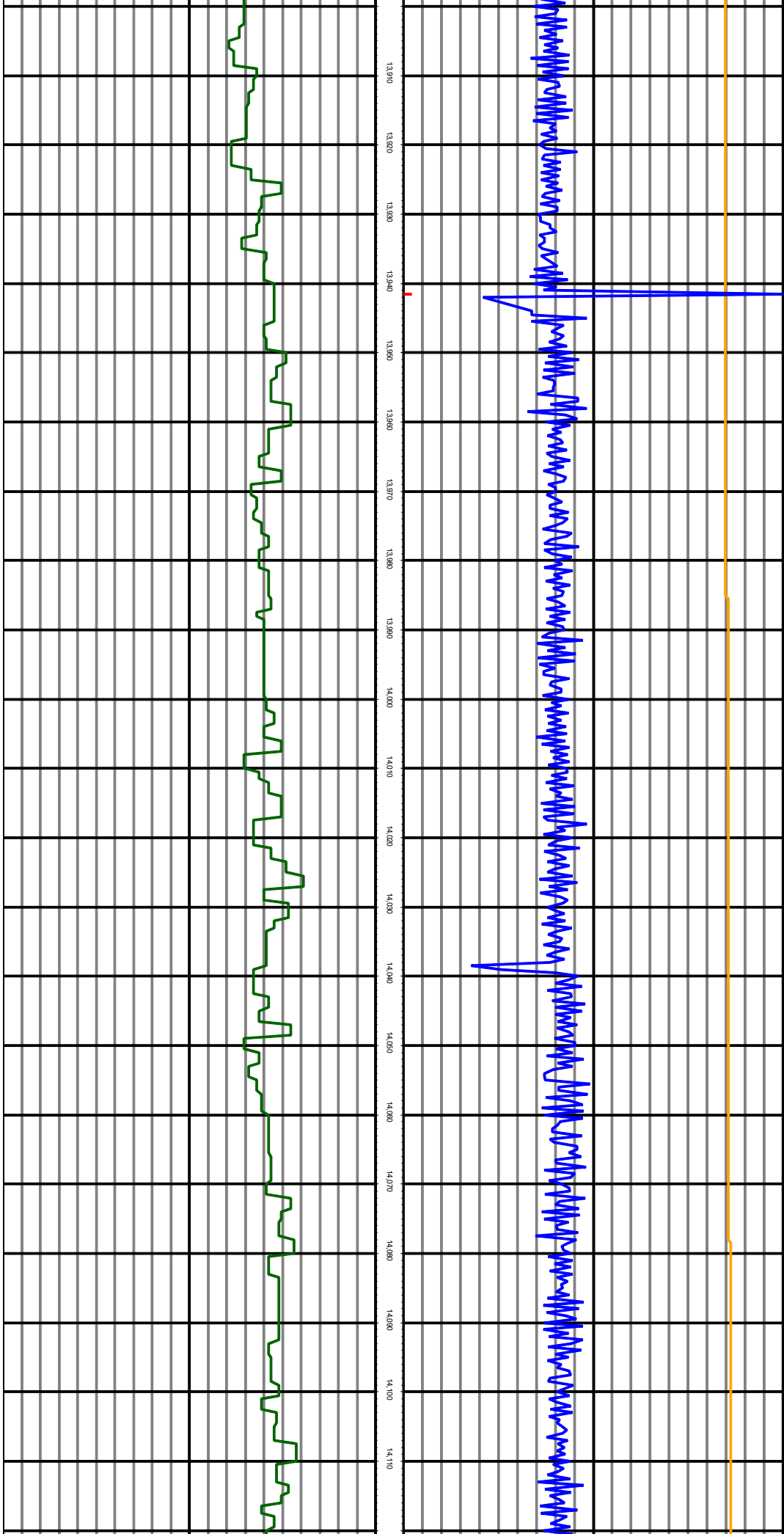


TVD: 8163.55 INC: 86.60 AZ: 181.20 13.692.00

TVD: 8167.69 INC: 86.40 AZ: 180.70 13.787.00

TVD: 8170.10 INC: 88.70 AZ: 180.70 13.882.00



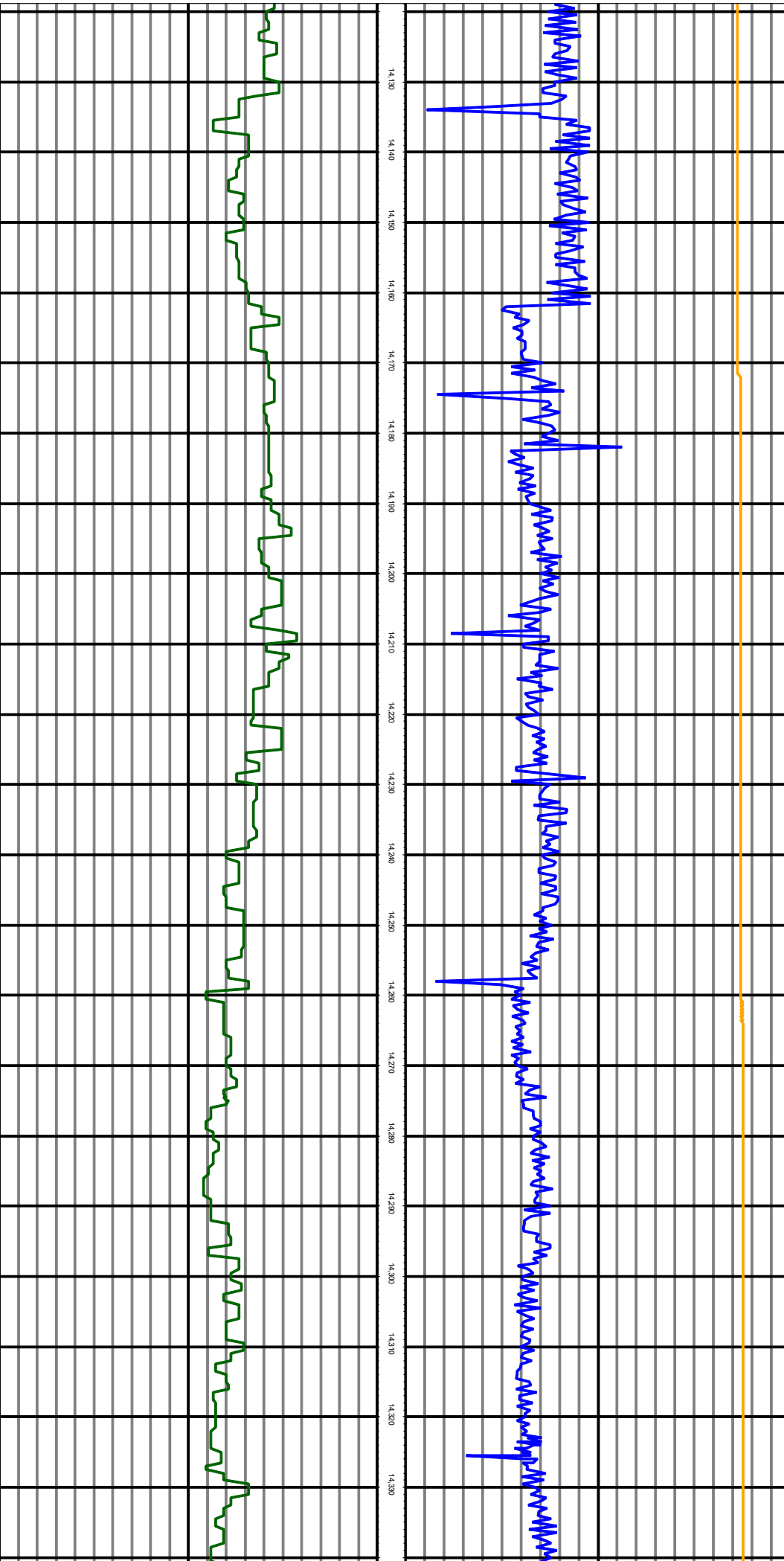


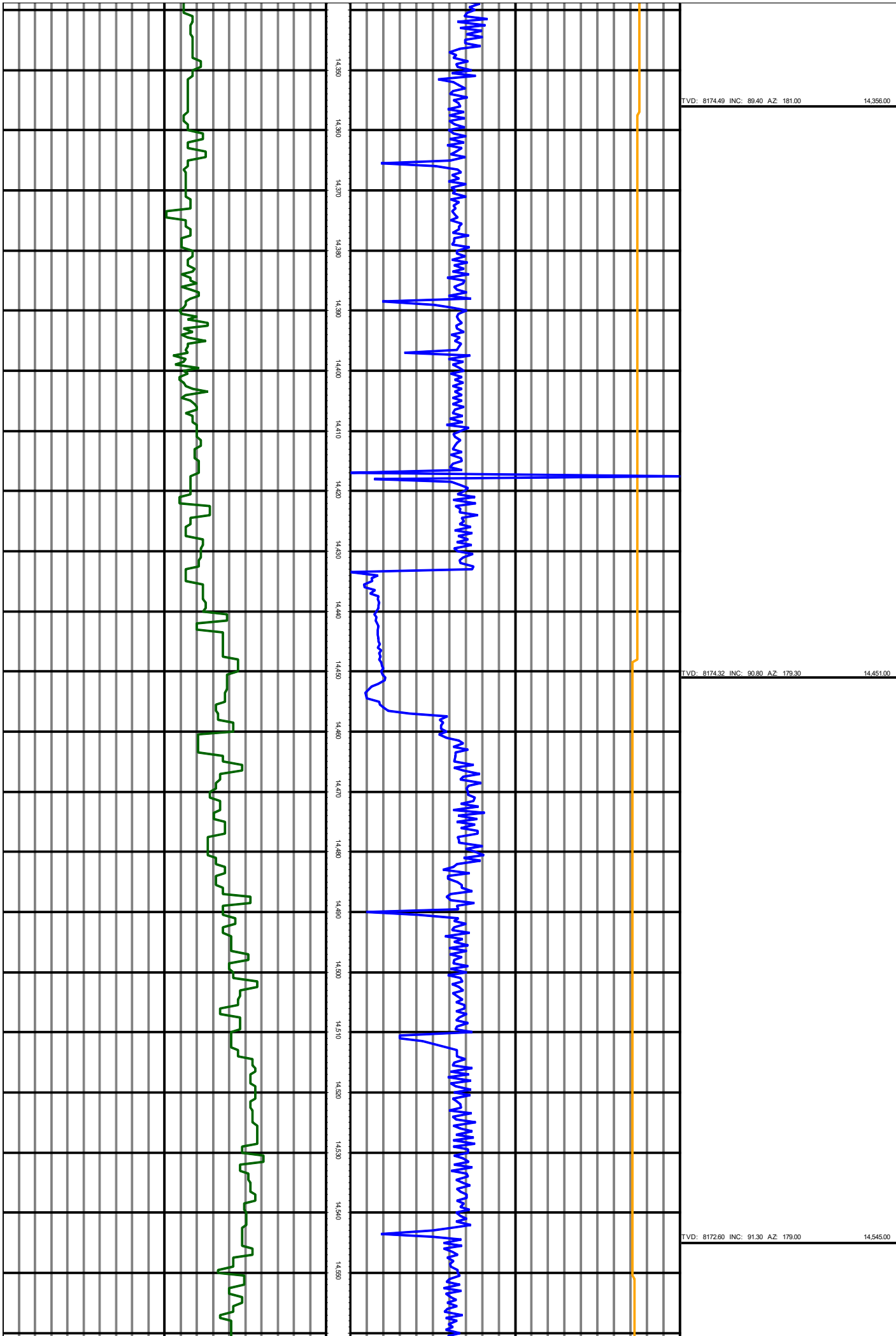
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TVD: 8173.08 INC: 89.50 AZ: 181.00 14,072.00

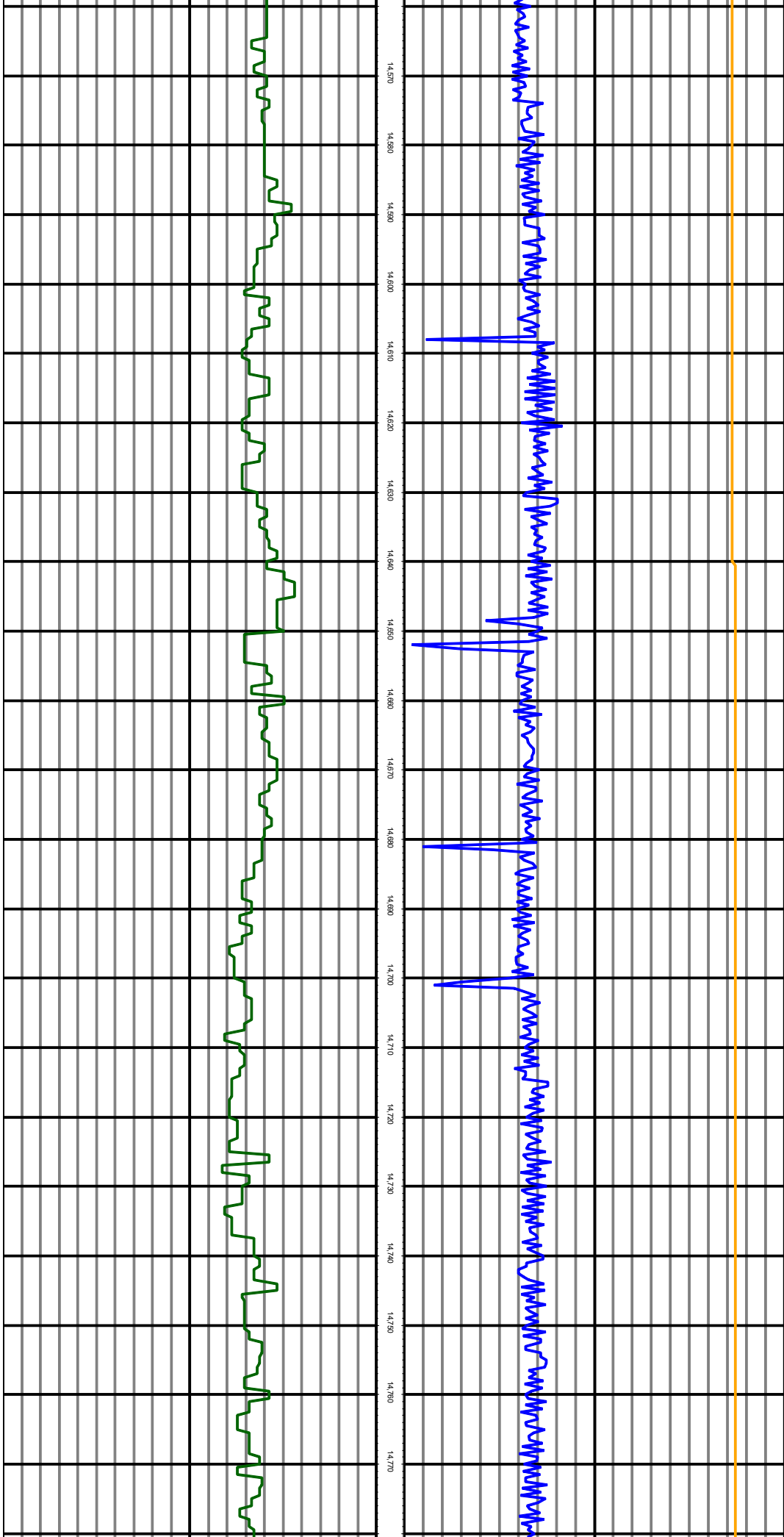
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TVD: 8173.82 INC: 89.80 AZ: 181.00 14,261.00







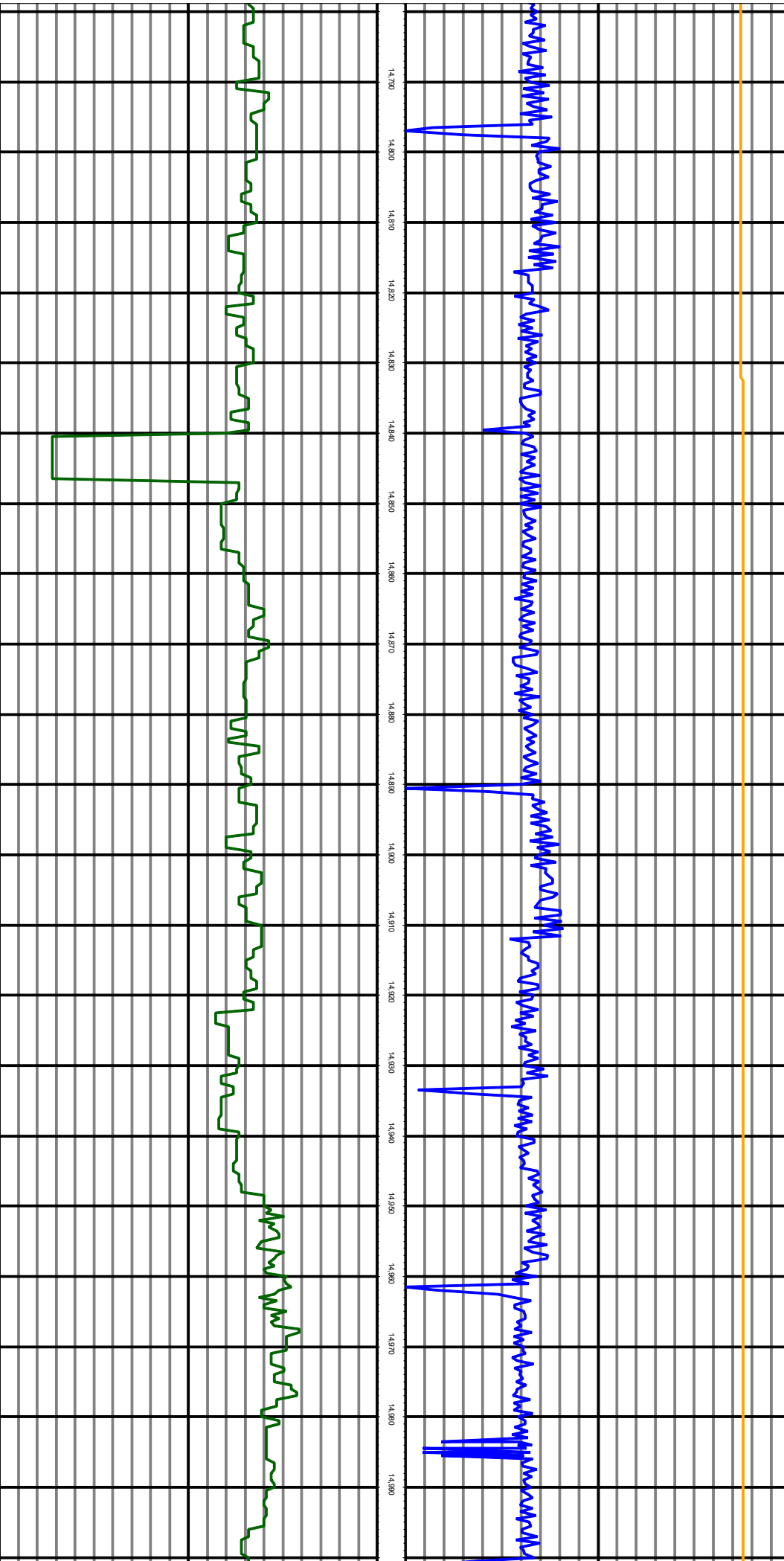


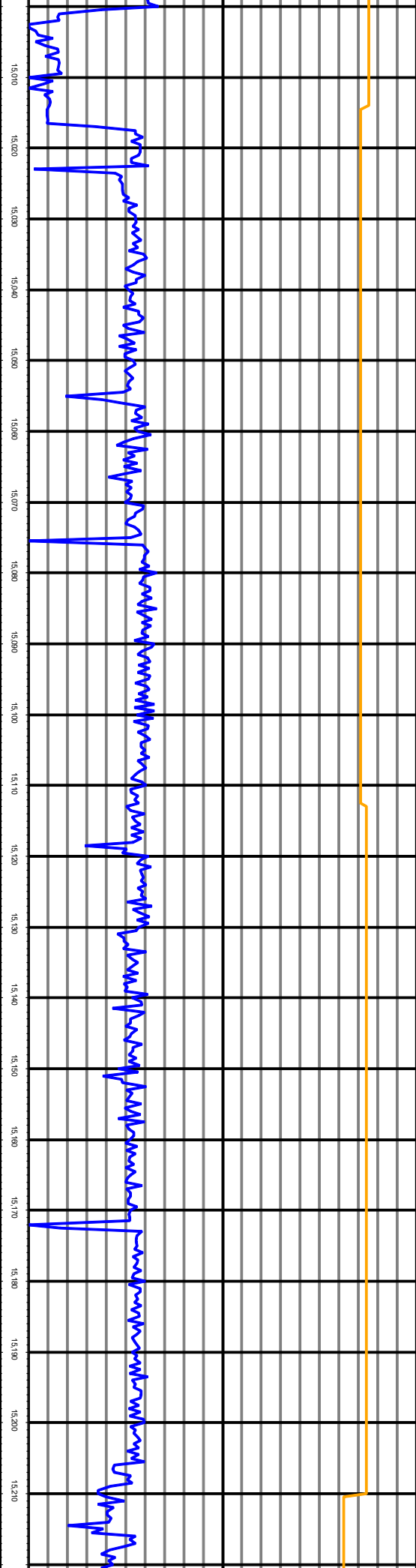
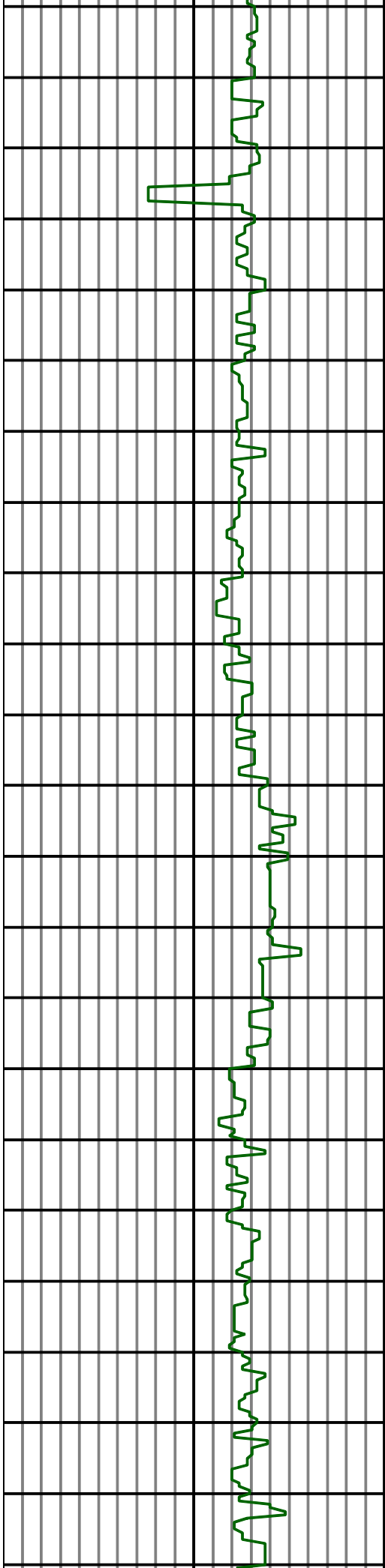
TVD: 8170.14 INC: 91.70 AZ: 179.30 14,639.00

TVD: 8167.32 INC: 91.70 AZ: 179.60 14,734.00

TVD: 8164.35 INC: 92.00 AZ: 180.00 14,826.00

TVD: 8160.70 INC: 92.40 AZ: 180.00 14,921.00

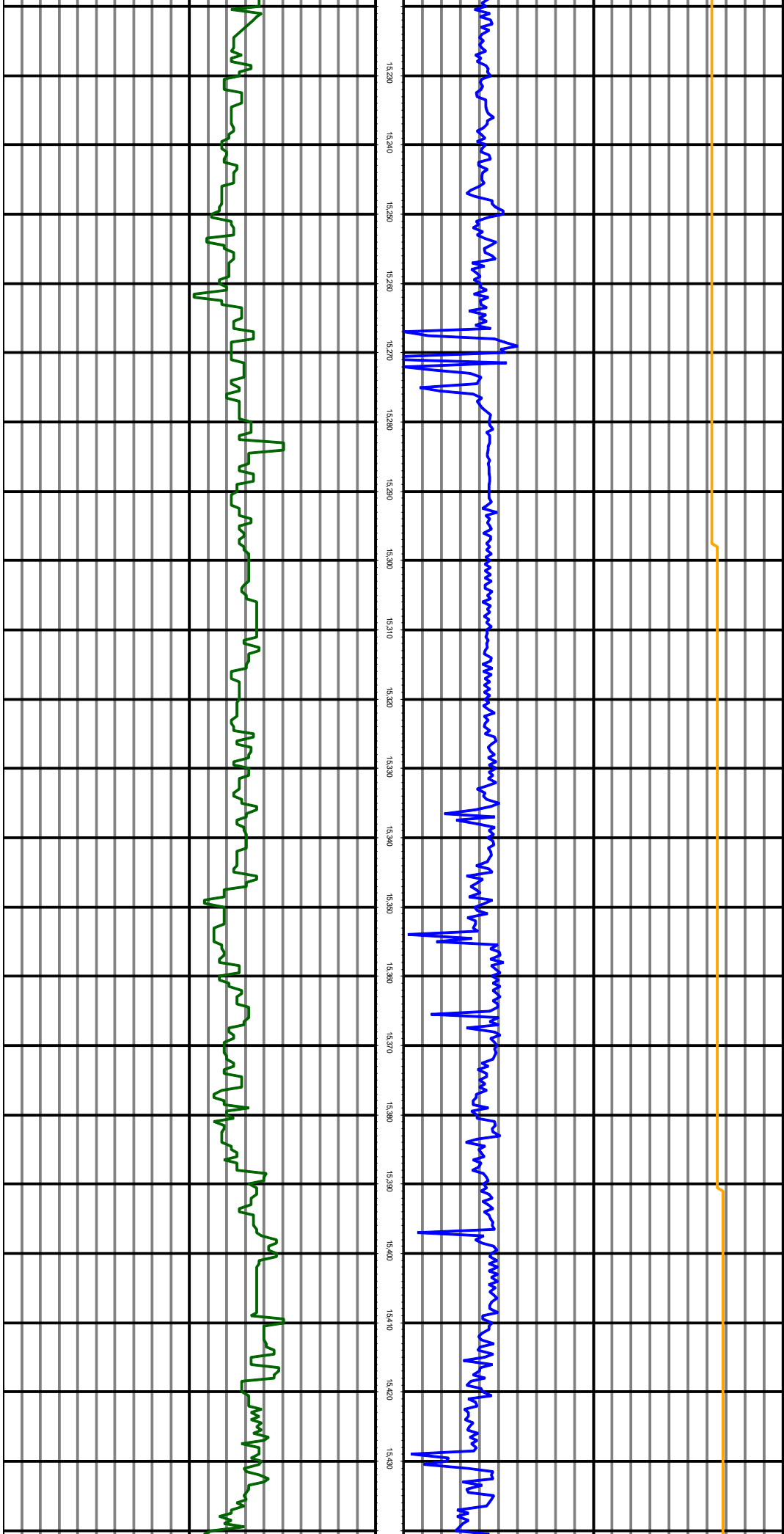




TVD: 8157.22 INC: 91.80 AZ: 178.60 15,016.00

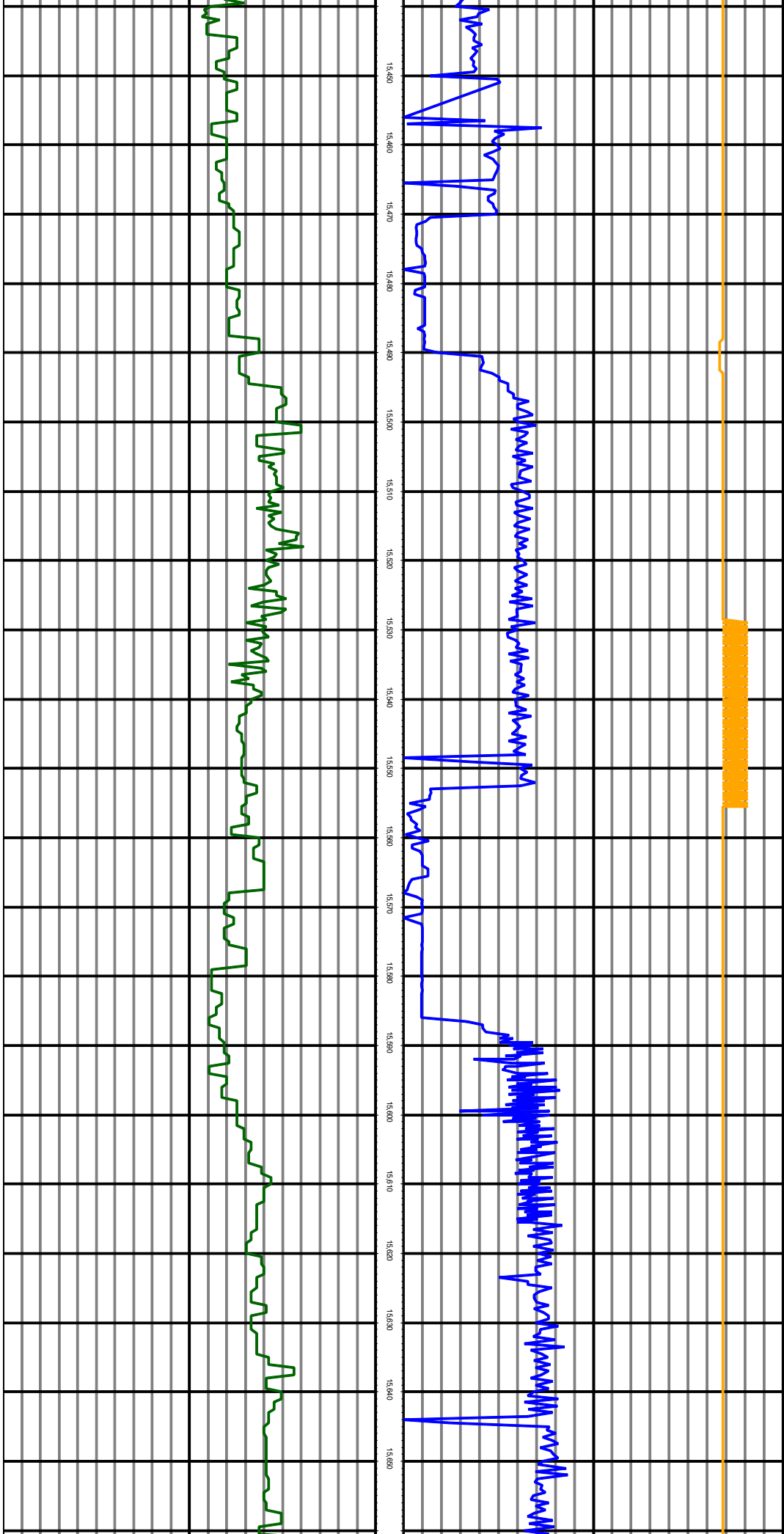
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TVD: 8150.79 INC: 92.00 AZ: 179.10 15,205.00



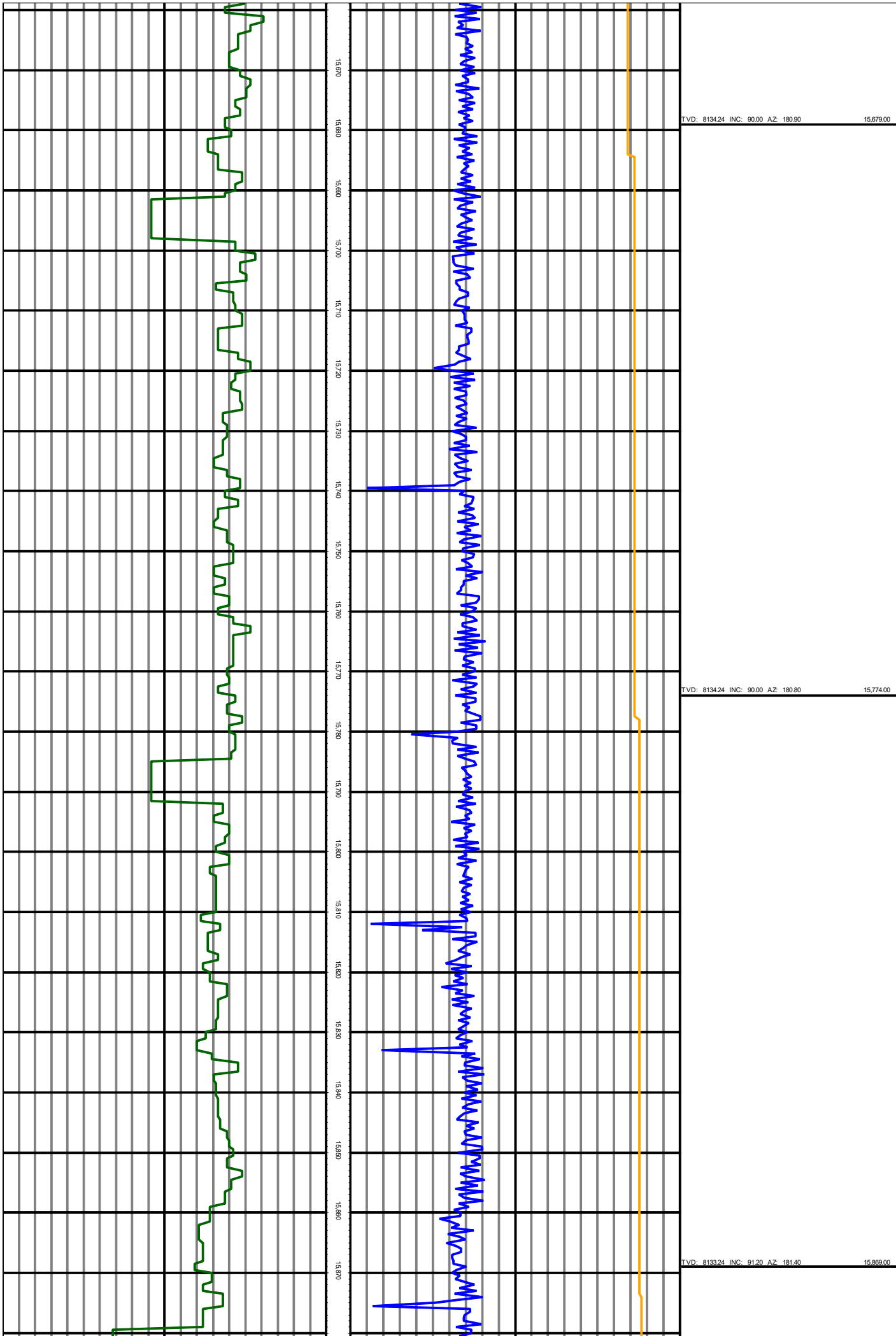
TVD: 8147.07 INC: 92.40 AZ: 179.20 15,302.00

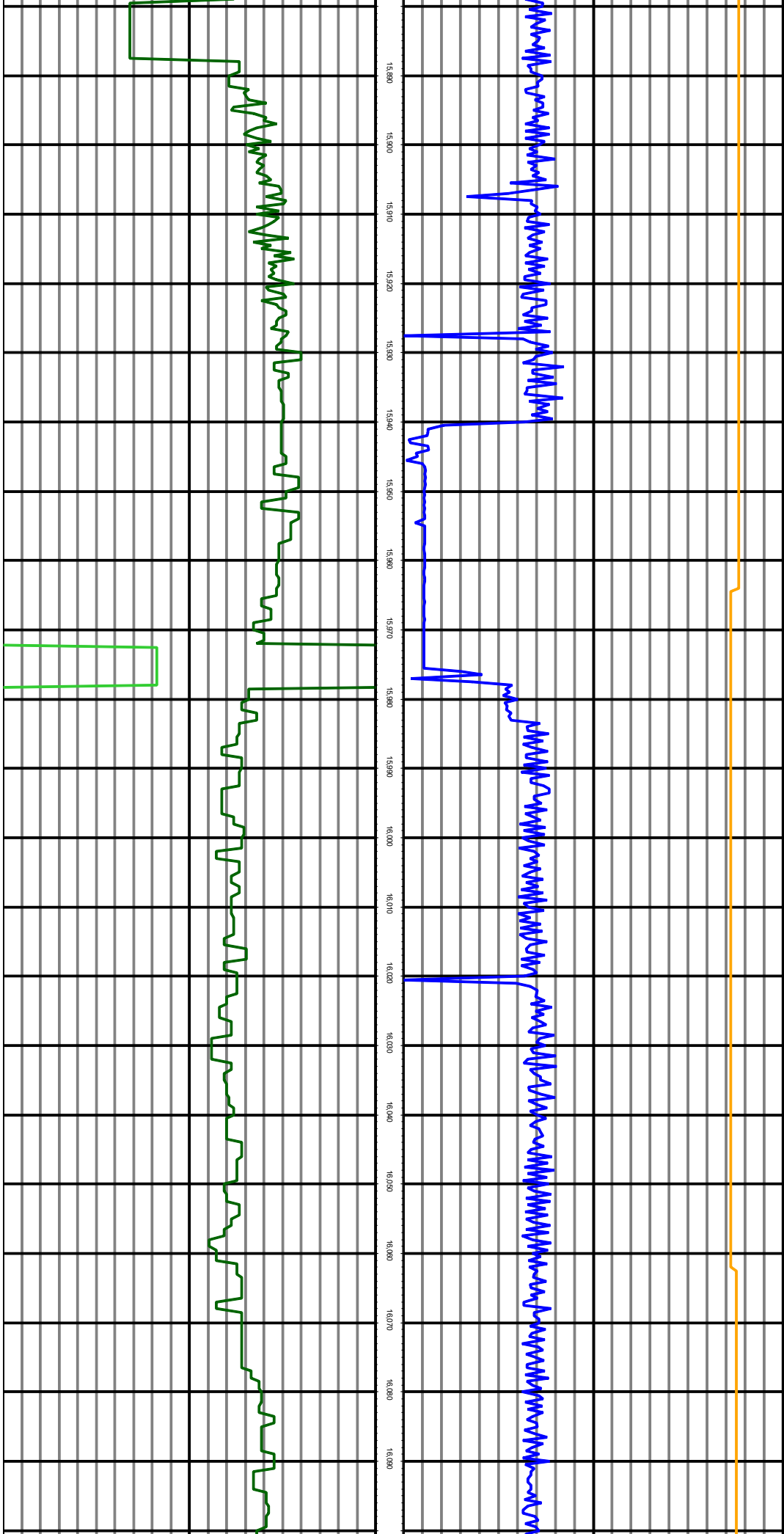
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TVD: 8137.14 INC: 93.10 AZ: 180.20 15,490.00

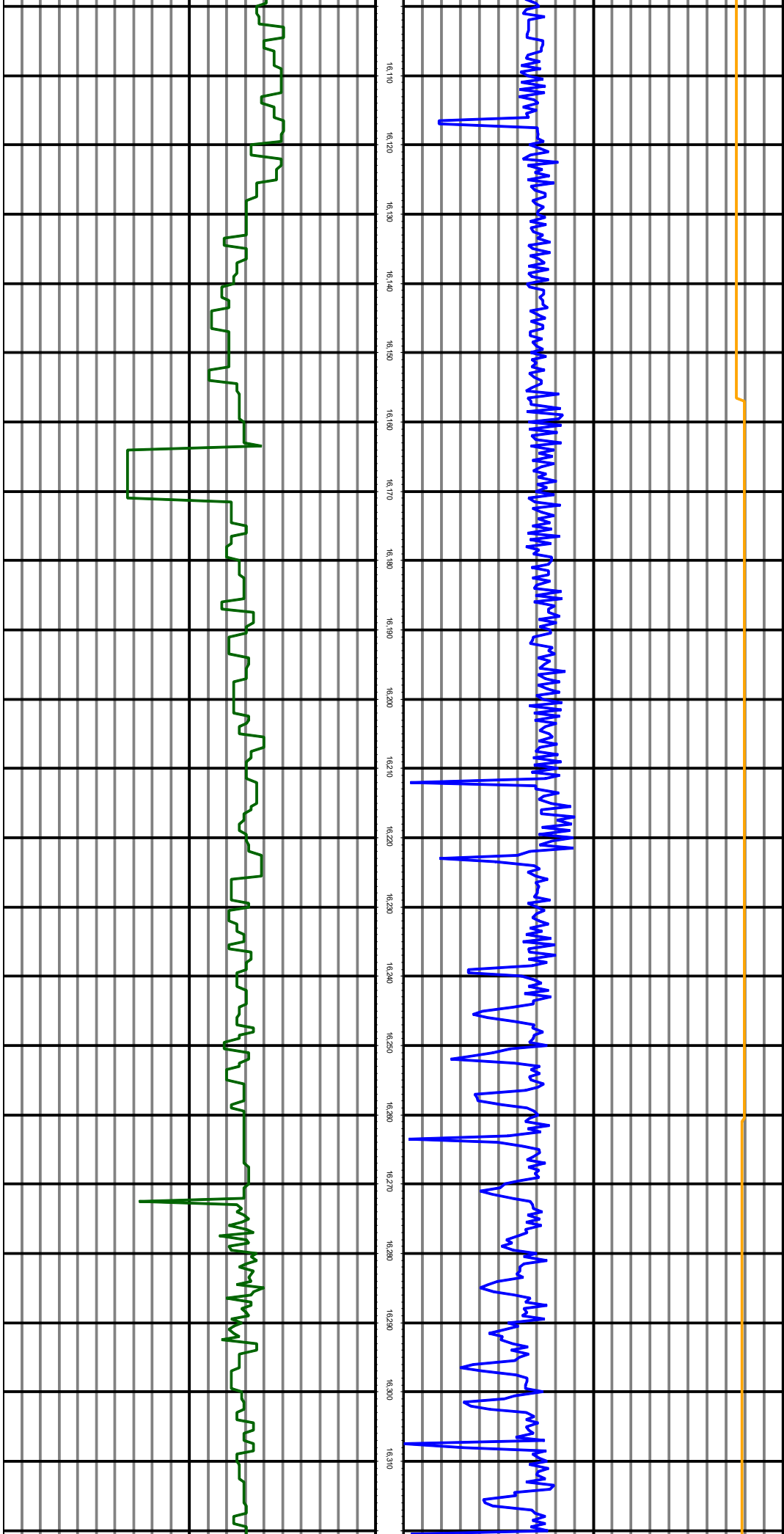
TVD: 8134.40 INC: 90.20 AZ: 180.70 15,585.00





TVD: 8133.41 INC: 88.60 AZ: 180.00 15,964.00

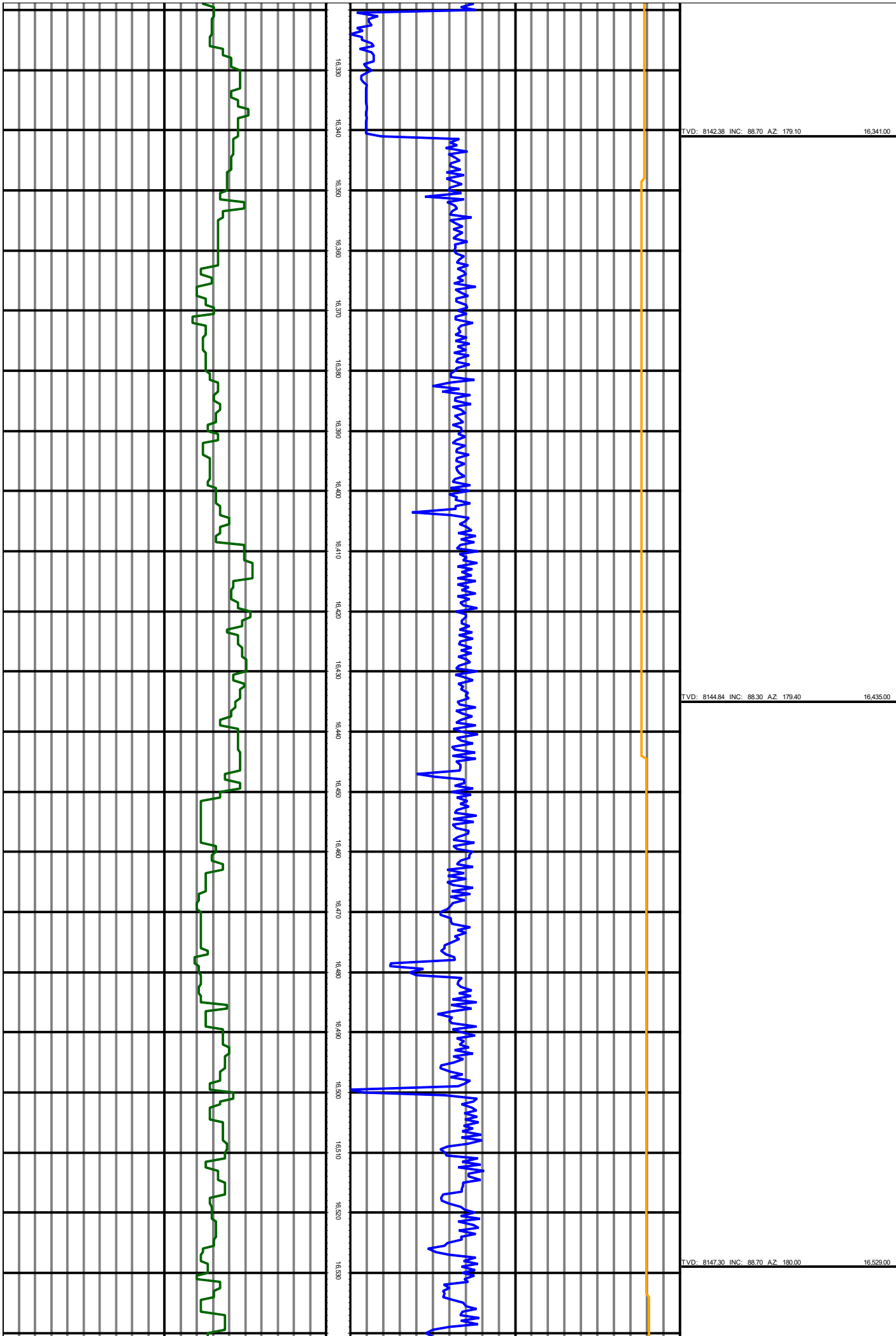
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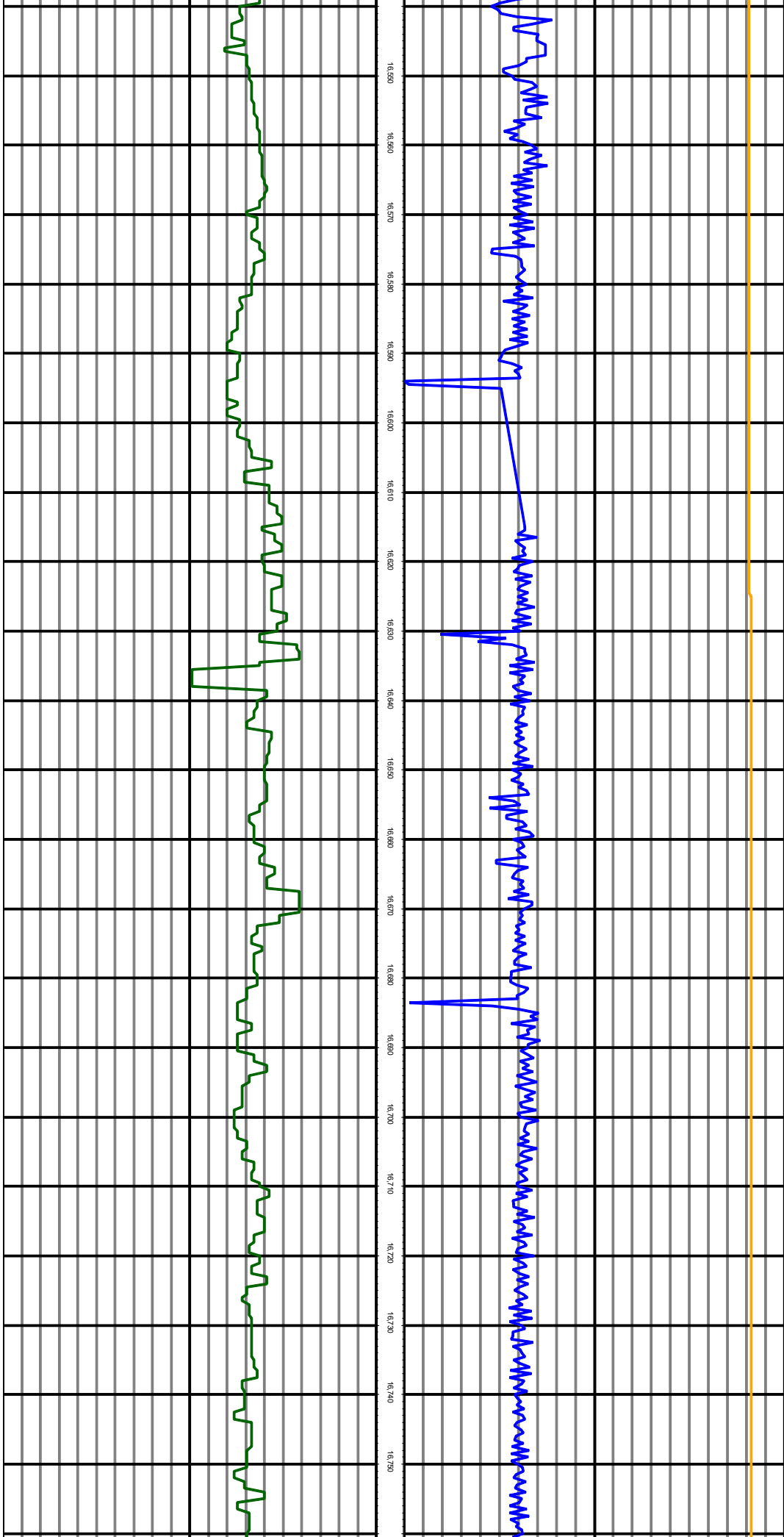


TVD: 8138.77 INC: 88.50 AZ: 180.40 16.153.00

TVD: 8140.68 INC: 89.20 AZ: 180.90 16.248.00

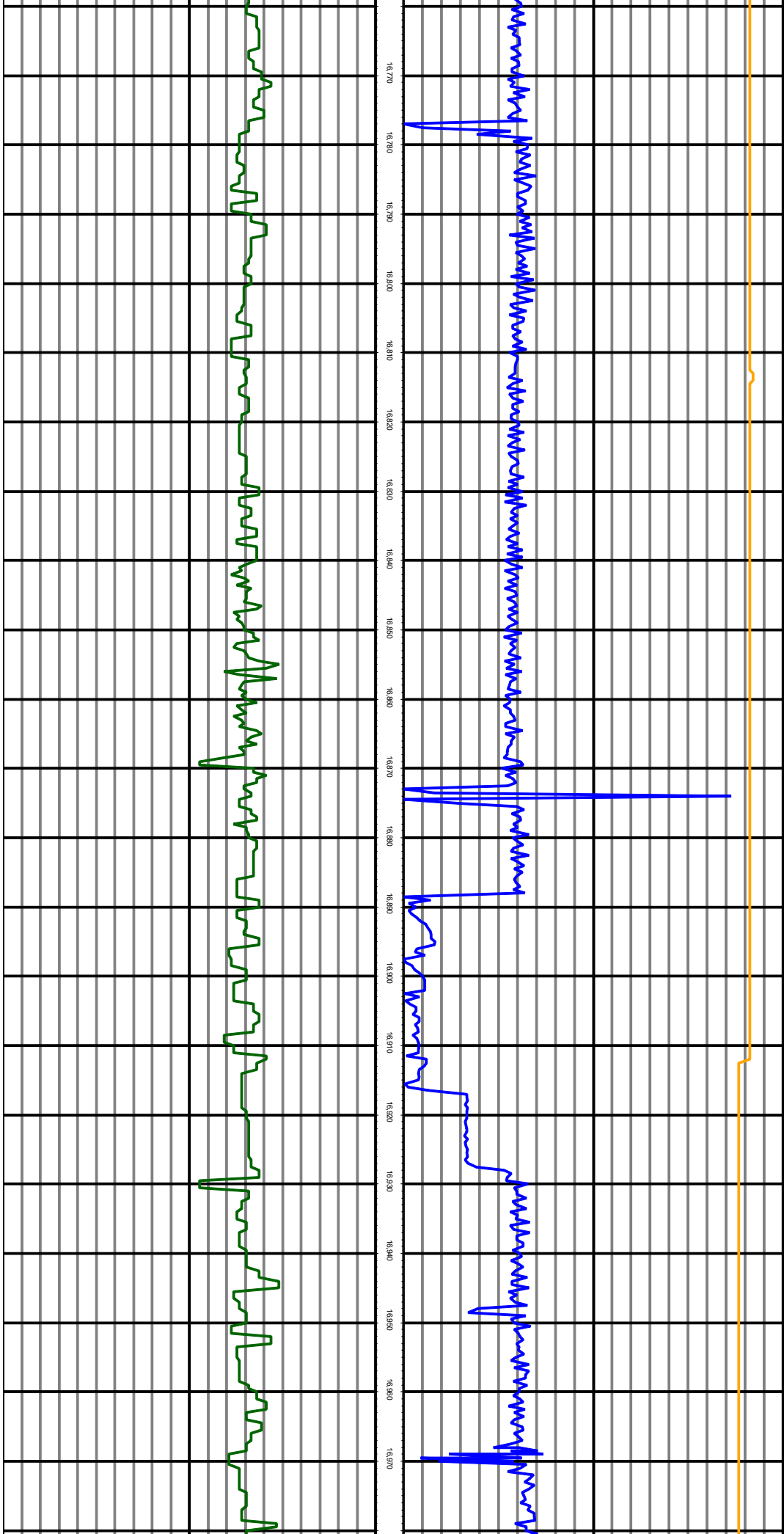






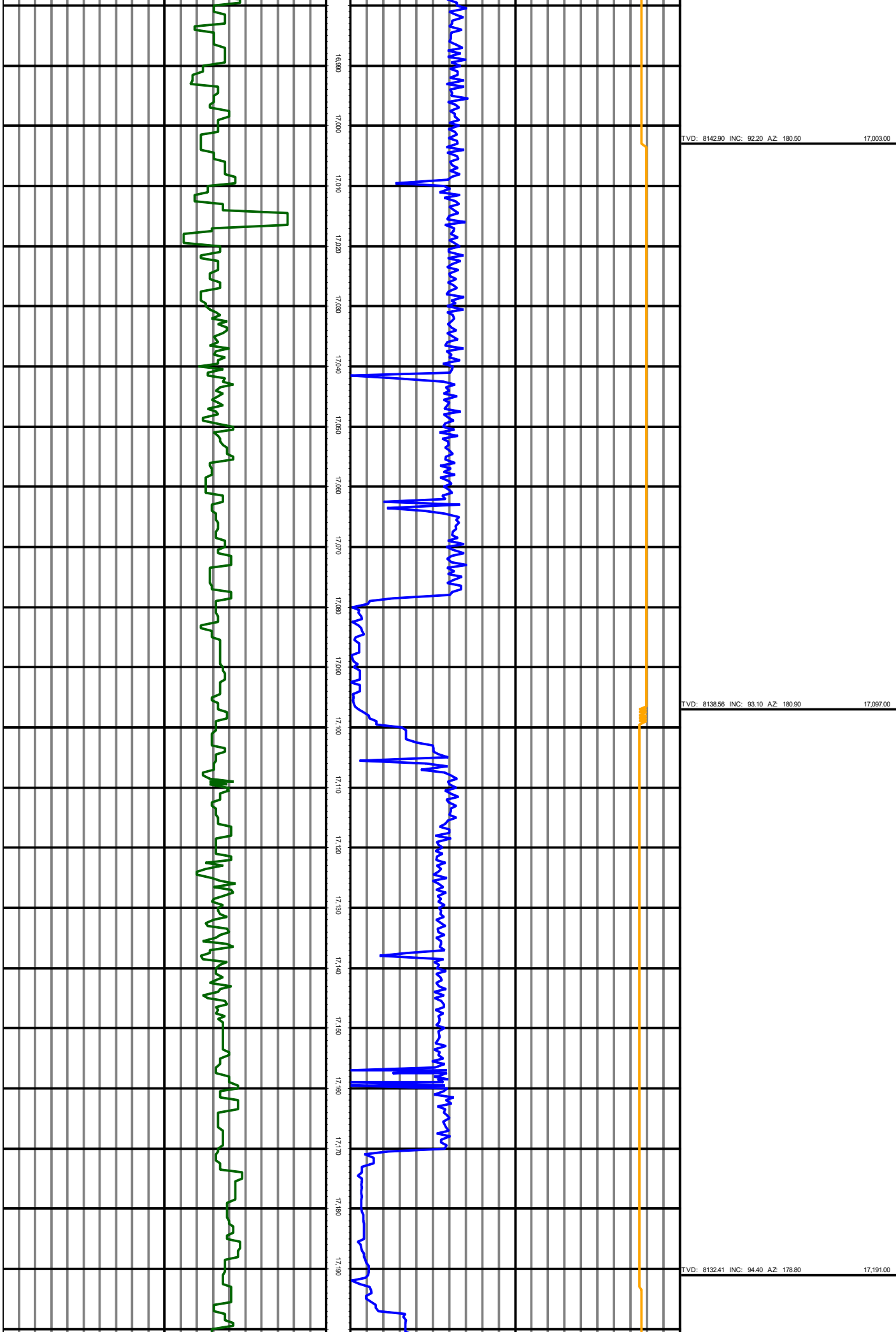
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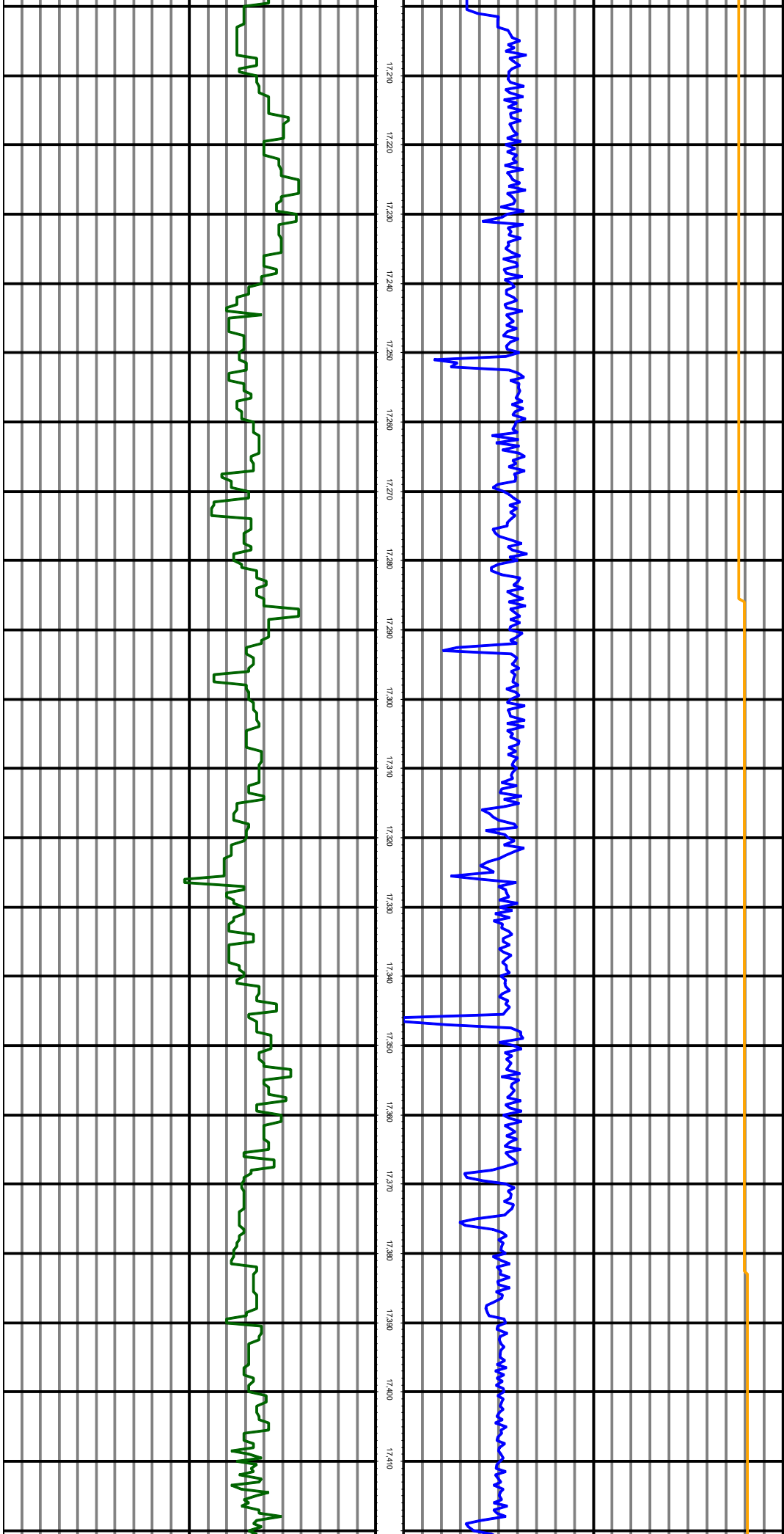
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TVD: 8149.20 INC: 90.60 AZ: 180.70 16,813.00

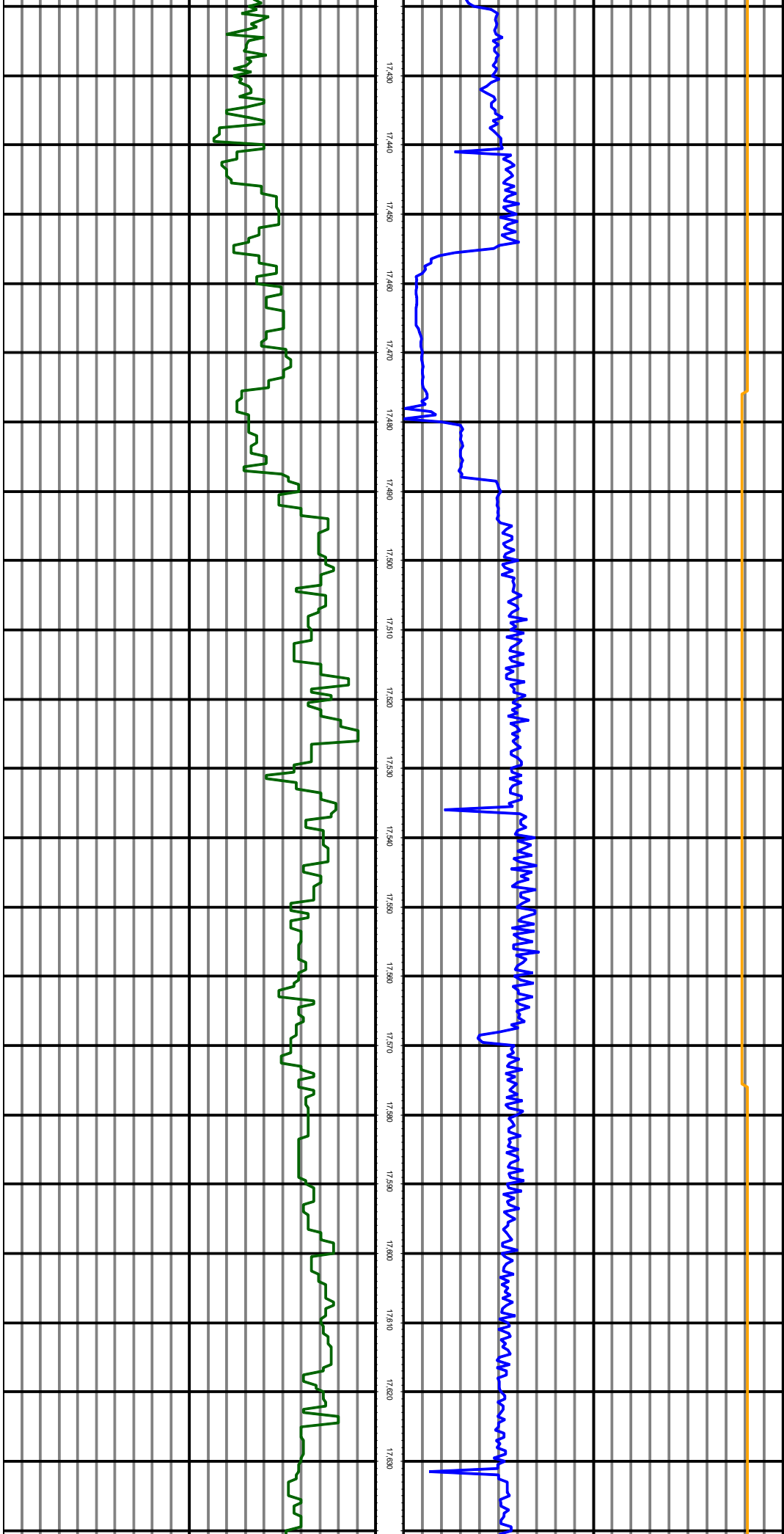
TVD: 8146.72 INC: 92.40 AZ: 180.50 16,908.00





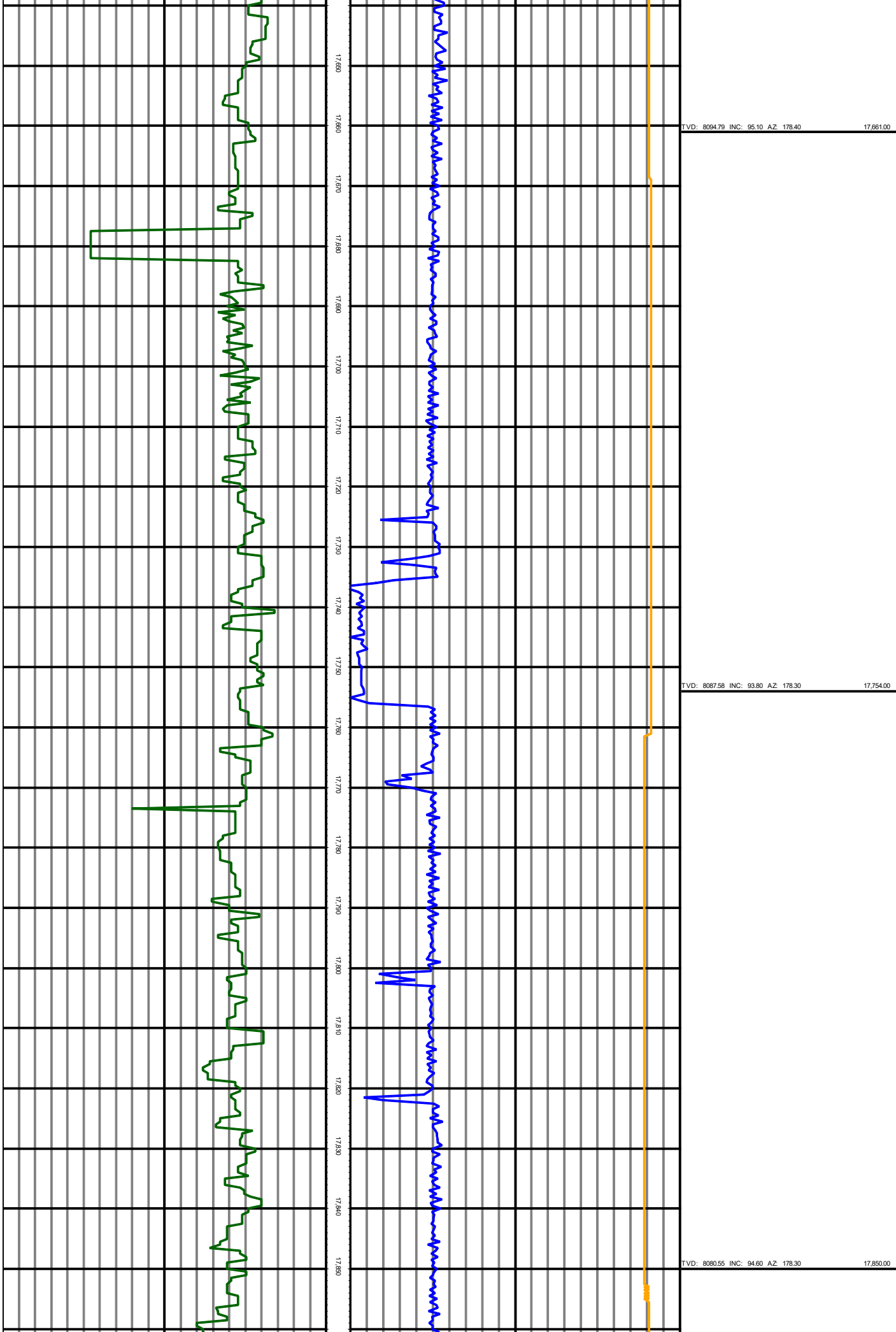
TVD: 8124.96 INC: 94.60 AZ: 178.90 17,286.00

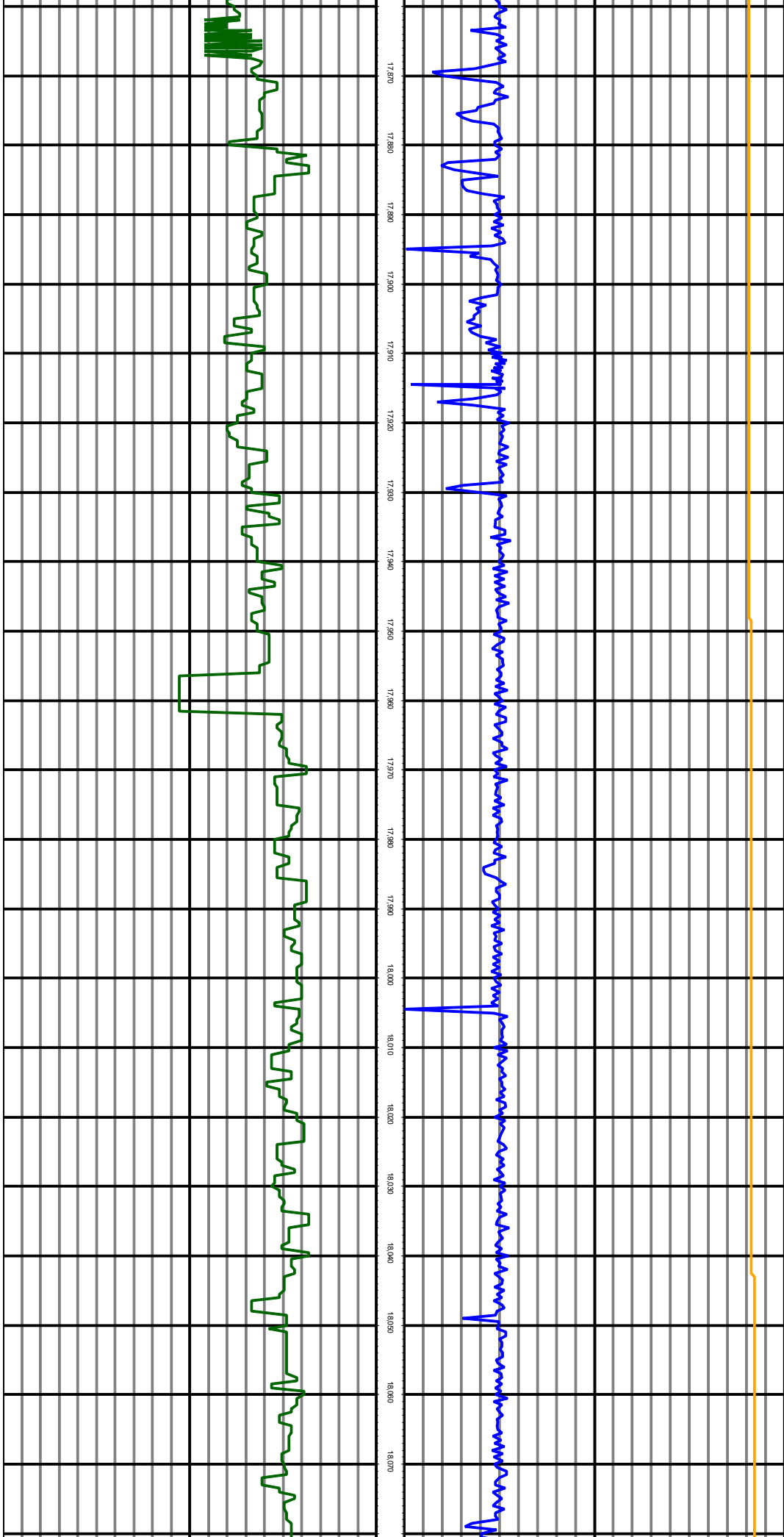
TVD: 8116.59 INC: 95.50 AZ: 179.10 17,381.00



TVD: 8108.89 INC: 93.90 AZ: 177.80 17,475.00

TVD: 8102.25 INC: 94.20 AZ: 178.00 17,569.00

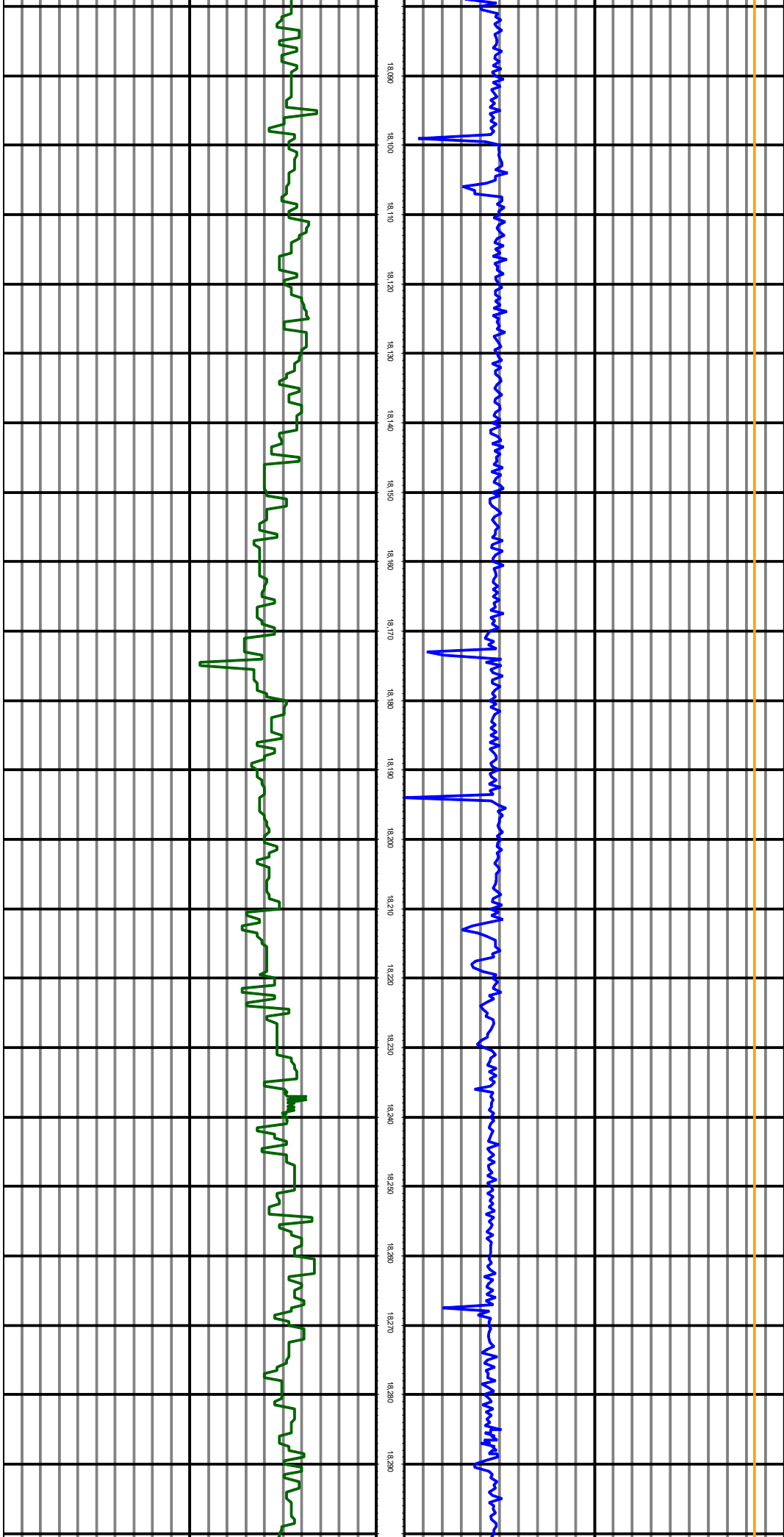




TVD: 8073.41 INC: 94.30 AZ: 178.50 17,942.00

TVD: 8066.37 INC: 94.20 AZ: 178.40 18,037.00





TVD: 8059.73 INC: 93.90 AZ: 178.20 18,131.00

TVD: 8053.24 INC: 94.10 AZ: 177.30 18,224.00

