

CONFIDENTIAL



Nzone Guidance

Heaven Hill 2-12HU

Scale 1":100' - MD

5/12/2018 10:02 AM

Oper. Company: Tug Hill Operating

Well: Heaven Hill 2-12HU

Field: Utica

Rig: Nabors X08

Well ID: 47-051-01952

Job Number: THO-17-1011A

State: WV

County: Marshall

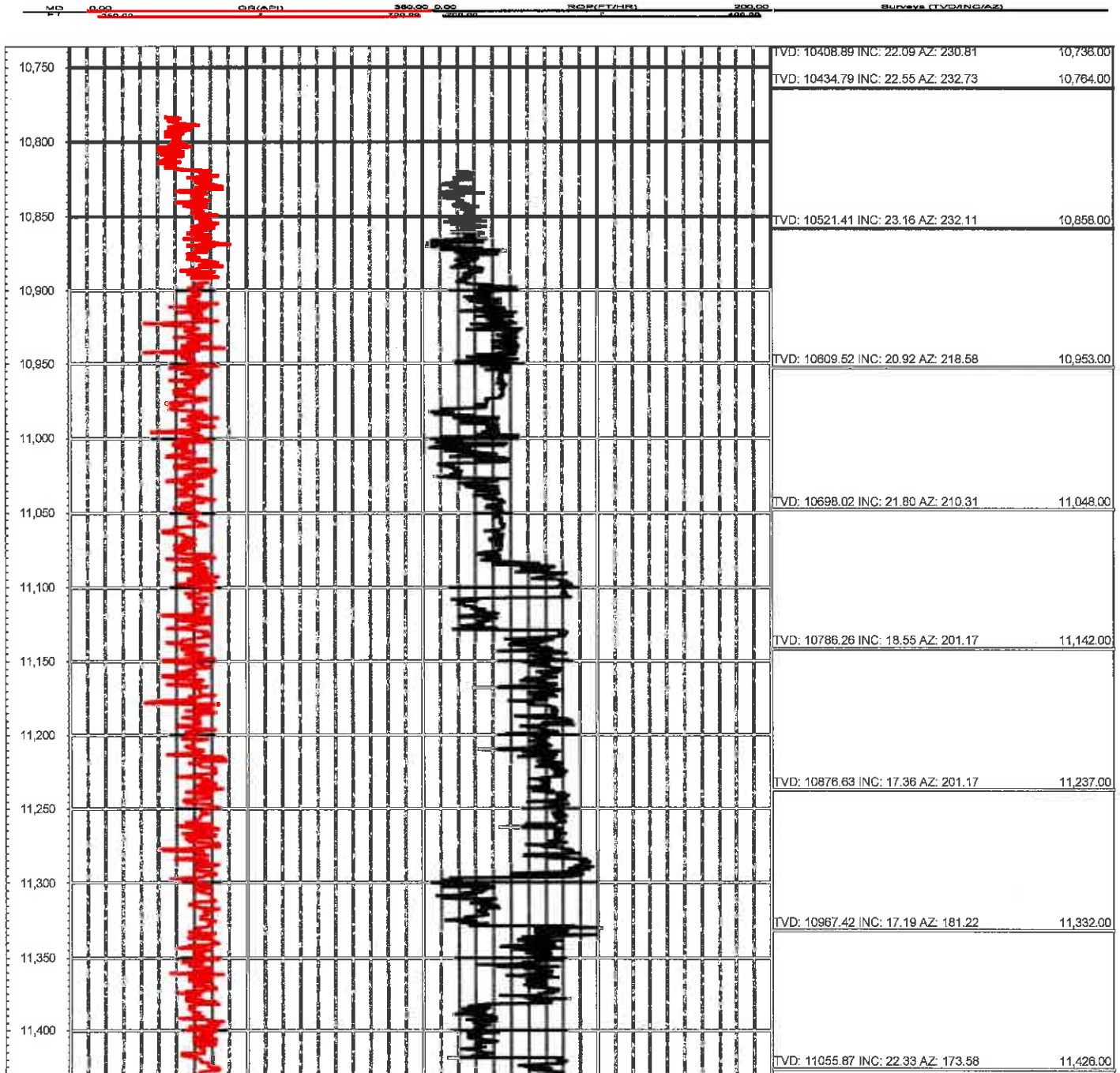
Country: USA

Location: Heaven Hills 2

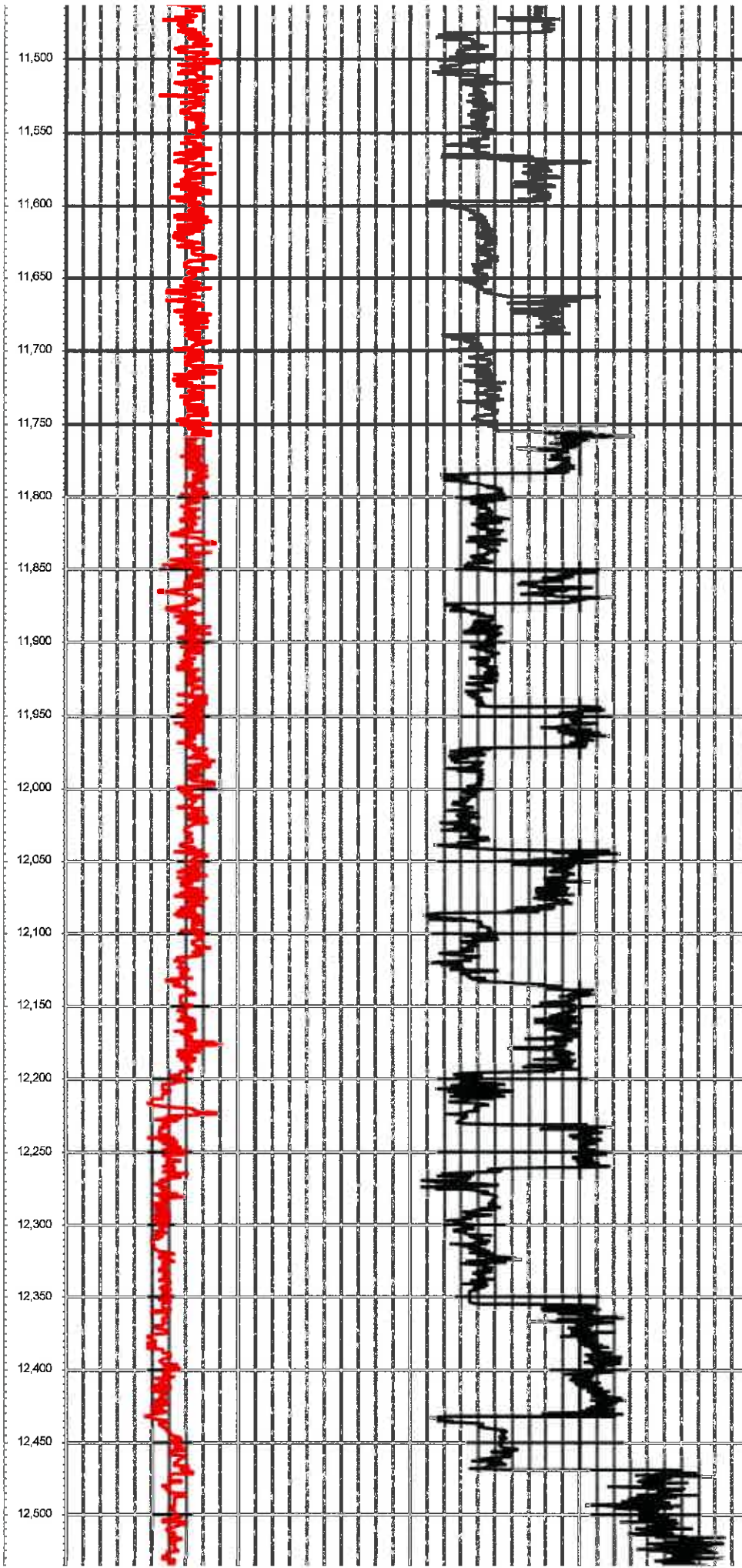
Start Date:

End Date:

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: 11141.03 INC: 27.89 AZ: 175.51 11,520.00

TVD: 11222.62 INC: 33.85 AZ: 175.95 11,615.00

TVD: 11298.28 INC: 40.48 AZ: 175.16 11,710.00

TVD: 11366.73 INC: 46.07 AZ: 168.48 11,804.00

TVD: 11427.69 INC: 54.02 AZ: 166.37 11,899.00

TVD: 11478.06 INC: 61.89 AZ: 163.82 11,994.00

TVD: 11518.09 INC: 68.26 AZ: 159.86 12,089.00

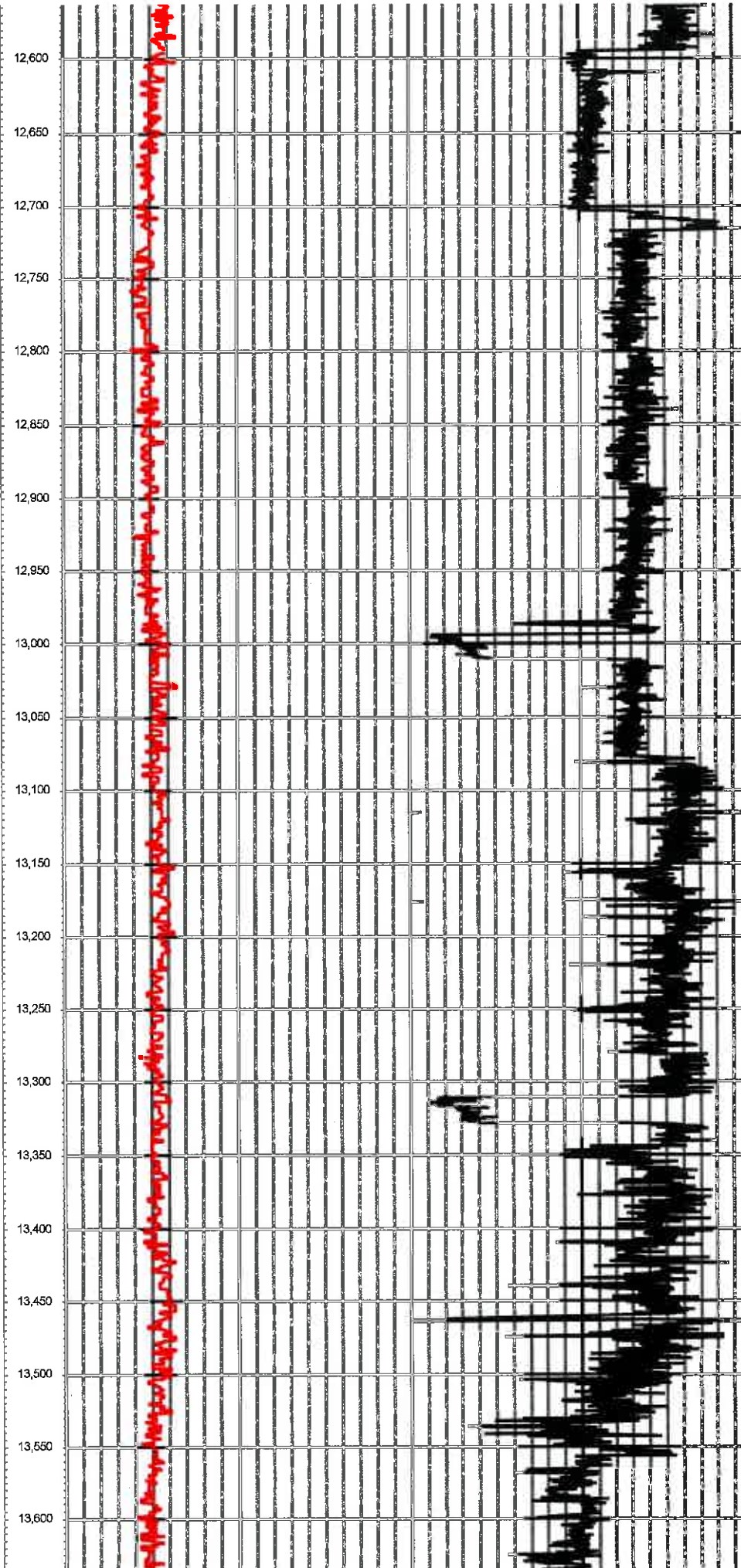
TVD: 11549.62 INC: 72.97 AZ: 157.75 12,184.00

TVD: 11574.75 INC: 76.35 AZ: 156.08 12,279.00

TVD: 11590.26 INC: 84.84 AZ: 155.03 12,374.00

TVD: 11595.70 INC: 88.53 AZ: 151.78 12,468.00

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TVD: 11600.61 INC: 88.48 AZ: 152.92 12,658.00

TVD: 11603.32 INC: 88.22 AZ: 152.13 12,752.00

TVD: 11606.45 INC: 88.00 AZ: 151.69 12,847.00

TVD: 11610.35 INC: 87.30 AZ: 151.16 12,942.00

TVD: 11613.11 INC: 89.36 AZ: 150.20 13,037.00

TVD: 11614.59 INC: 88.84 AZ: 149.58 13,131.00

TVD: 11617.09 INC: 88.18 AZ: 148.88 13,227.00

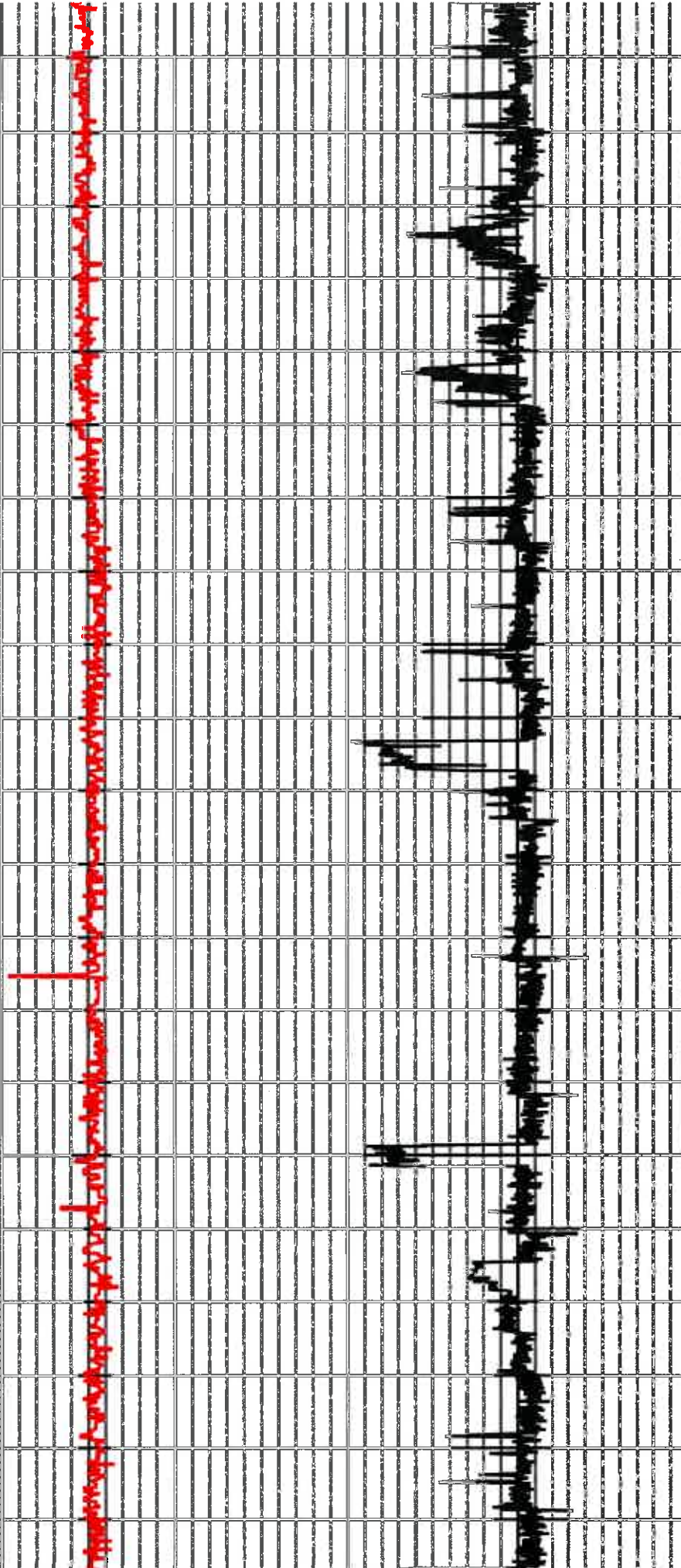
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TVD: 11617.80 INC: 90.20 AZ: 149.32 13,416.00

TVD: 11618.06 INC: 89.49 AZ: 148.97 13,510.00

TVD: 11619.19 INC: 89.14 AZ: 148.79 13,605.00

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14,600
14,650
14,700



TVD: 11620.76 INC: 88.97 AZ: 148.70 13,700.00

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TVD: 11622.36 INC: 89.10 AZ: 149.49 13,795.00

TVD: 11624.11 INC: 88.79 AZ: 149.58 13,890.00

TVD: 11626.31 INC: 88.53 AZ: 149.14 13,984.00

TVD: 11629.11 INC: 88.09 AZ: 148.09 14,079.00

TVD: 11631.73 INC: 88.75 AZ: 149.44 14,174.00

TVD: 11633.28 INC: 89.36 AZ: 149.23 14,268.00

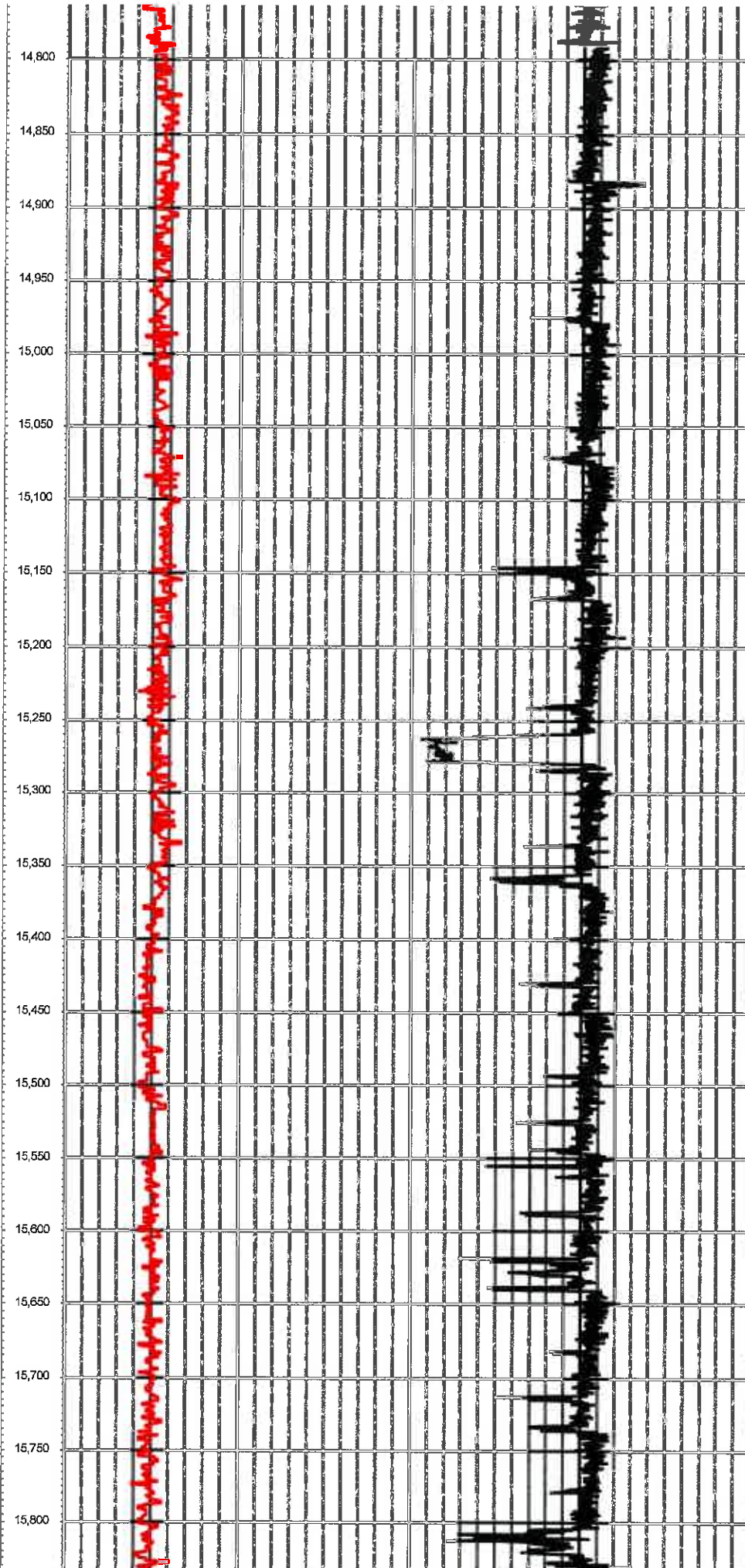
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TVD: 11637.31 INC: 89.10 AZ: 150.37 14,552.00

TVD: 11639.43 INC: 88.35 AZ: 149.67 14,647.00

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TVD: 11641.25 INC: 90.02 AZ: 152.04 14,836.00

TVD: 11641.77 INC: 89.36 AZ: 151.95 14,931.00

TVD: 11643.15 INC: 88.97 AZ: 151.16 15,026.00

TVD: 11645.13 INC: 88.62 AZ: 150.64 15,120.00

TVD: 11647.90 INC: 88.04 AZ: 150.64 15,215.00

TVD: 11648.92 INC: 90.73 AZ: 151.34 15,310.00

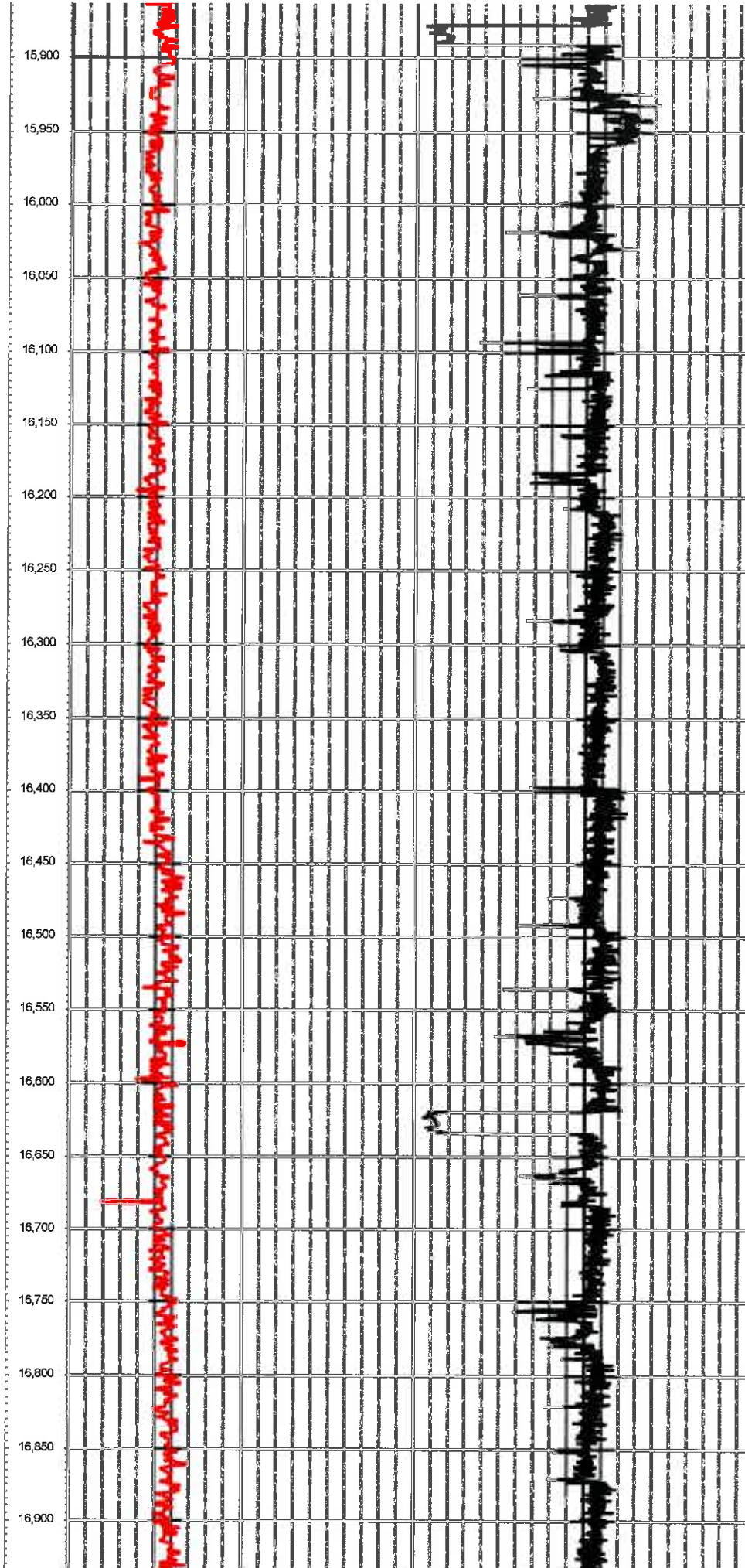
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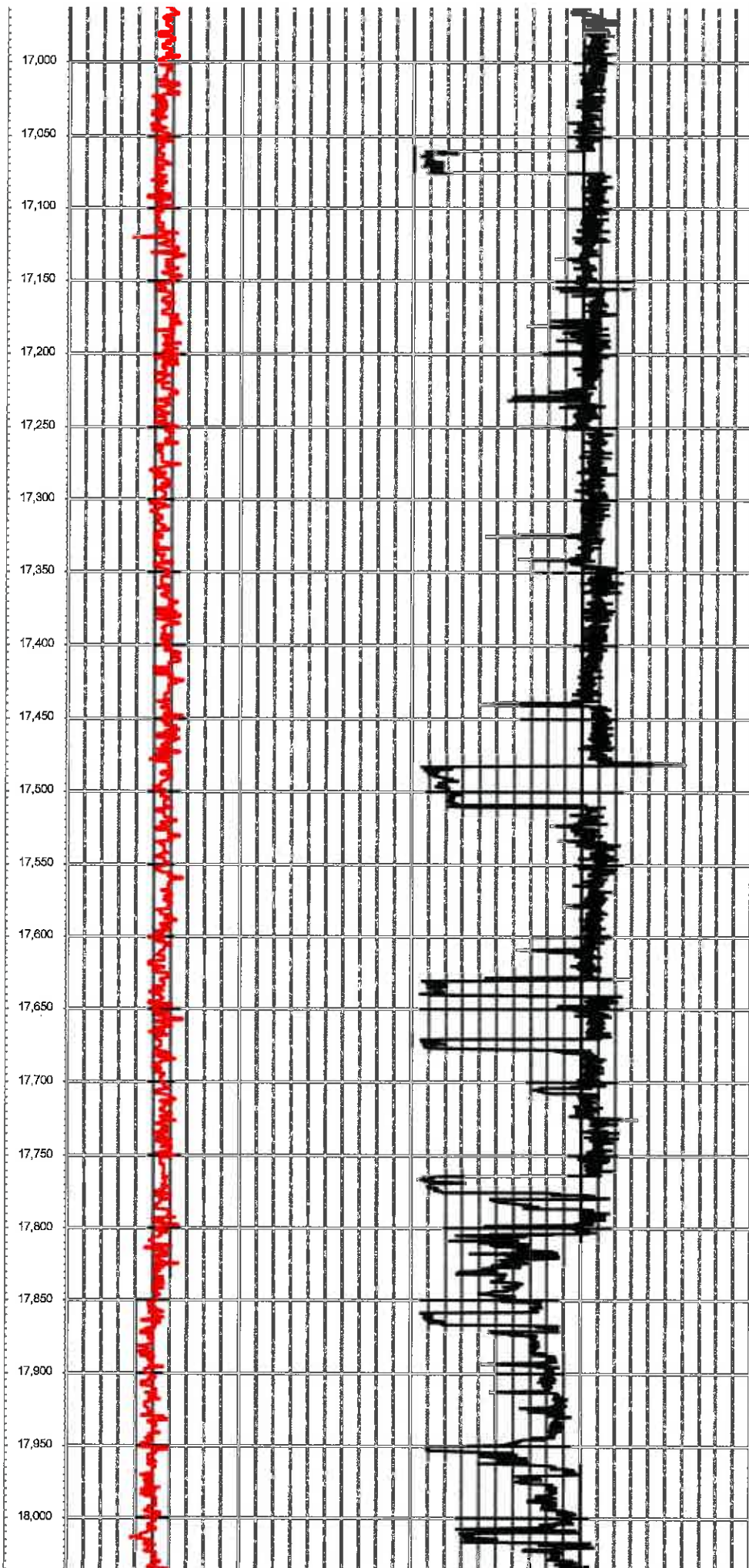
TVD: 11649.01 INC: 89.01 AZ: 151.60 15,594.00

TVD: 11650.94 INC: 88.66 AZ: 150.72 15,689.00

TVD: 11653.57 INC: 88.13 AZ: 150.46 15,783.00



TVD: 11655.87 INC: 89.10 AZ: 150.37	15,878.00
CONFIDENTIAL	
TVD: 11656.96 INC: 89.58 AZ: 150.81	15,973.00
TVD: 11657.88 INC: 89.32 AZ: 151.25	16,068.00
TVD: 11659.17 INC: 89.10 AZ: 150.64	16,162.00
TVD: 11660.74 INC: 89.01 AZ: 150.81	16,257.00
TVD: 11662.45 INC: 88.92 AZ: 150.90	16,352.00
TVD: 11664.61 INC: 88.48 AZ: 150.99	16,447.00
TVD: 11667.68 INC: 87.82 AZ: 150.64	16,542.00
TVD: 11669.77 INC: 89.63 AZ: 148.97	16,636.00
TVD: 11670.38 INC: 89.63 AZ: 149.58	16,731.00
TVD: 11671.33 INC: 89.23 AZ: 146.88	16,826.00
TVD: 11672.95 INC: 88.79 AZ: 146.35	16,920.00



TVD: 11675.50 INC: 88.13 AZ: 147.82 17,015.00

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TVD: 11677.15 INC: 89.89 AZ: 148.44 17,110.00

TVD: 11677.72 INC: 89.41 AZ: 147.82 17,204.00

TVD: 11679.10 INC: 88.92 AZ: 146.86 17,299.00

TVD: 11681.40 INC: 88.31 AZ: 146.24 17,394.00

TVD: 11683.74 INC: 88.84 AZ: 147.30 17,488.00

TVD: 11685.74 INC: 88.75 AZ: 147.82 17,583.00

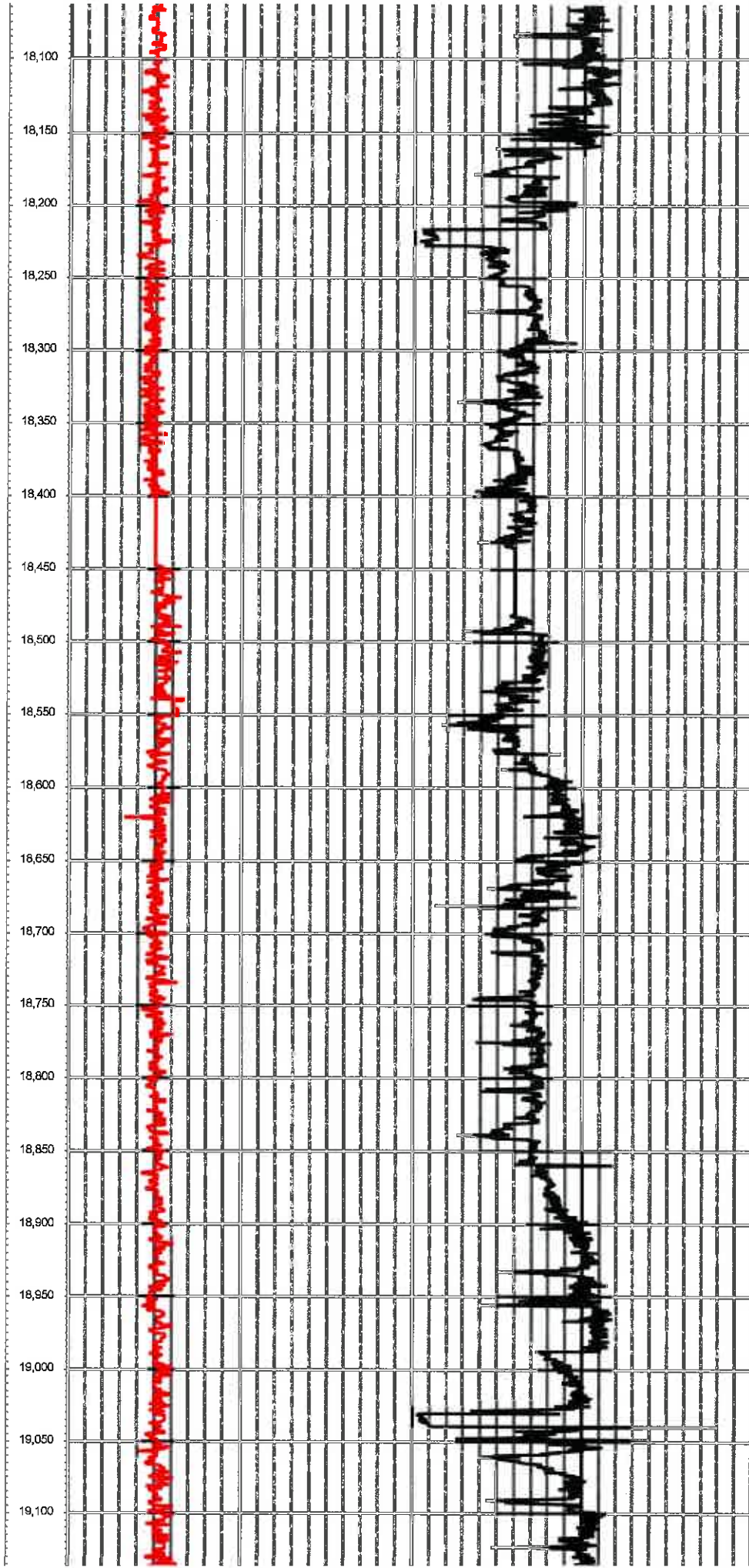
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TVD: 11687.14 INC: 90.77 AZ: 151.69 17,867.00

TVD: 11687.03 INC: 89.36 AZ: 151.78 17,962.00

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TVD: 11689.68 INC: 88.79 AZ: 149.32 18,151.00

TVD: 11691.82 INC: 88.62 AZ: 151.87 18,246.00

TVD: 11694.13 INC: 88.57 AZ: 152.04 18,340.00

TVD: 11696.46 INC: 88.62 AZ: 151.78 18,435.00

TVD: 11698.50 INC: 88.92 AZ: 152.31 18,530.00

TVD: 11700.54 INC: 88.62 AZ: 151.95 18,625.00

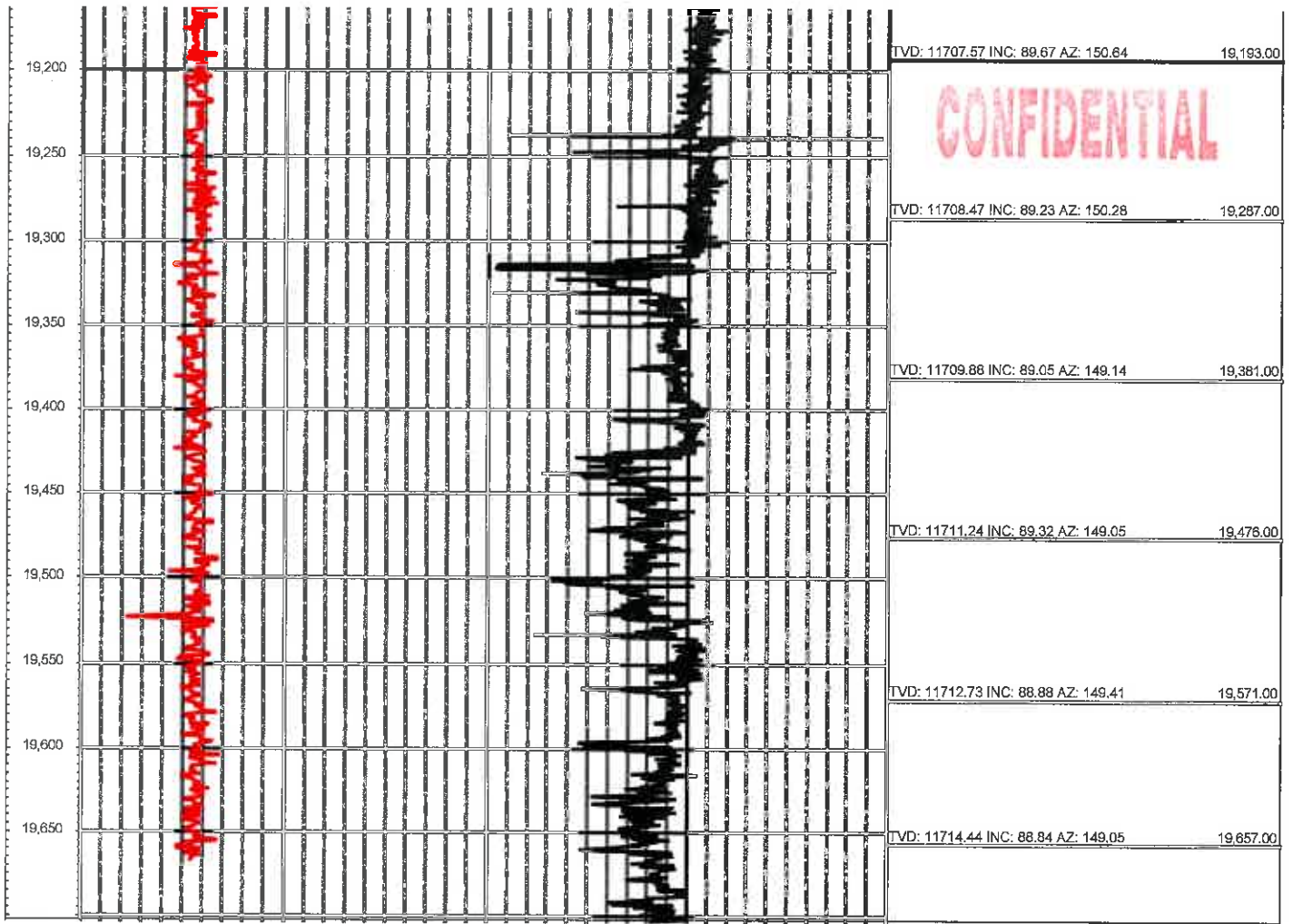
TVD: 11702.55 INC: 88.92 AZ: 151.87 18,719.00

TVD: 11704.27 INC: 89.01 AZ: 152.04 18,814.00

TVD: 11705.71 INC: 89.23 AZ: 152.13 18,908.00

TVD: 11706.99 INC: 89.23 AZ: 152.57 19,003.00

TVD: 11707.46 INC: 90.20 AZ: 150.72 19,098.00



MP 0.00 GR(API) 350.00 0.00 ROP(FTHR) 300.00 Surveys (TVD(INC/AZ))
 FT 150.00 700.00 250.00 100.00