



Titan Directional Services, Inc.
20302 Park Row Suite 1200
Katy, TX 77449

Shull 5-25-9-60
Scale 1":100' - MD
2/11/2015 7:23 PM

Oper. Company: Carrizo Oil & Gas, Inc.
Well: Shull 5-25-9-60
Field: Niobrara CONZ'83
Rig: Xtreme 19
Well ID: 05-123-41038
Job Number: TL15008

State: Colorado
County: Weld
Country: USA
Location: Keota
Start Date: 02/08/2015 06:00:00
End Date: 02/11/2015 19:15:00

Latitude: 40.7146861111111
Longitude: -104.035997222222

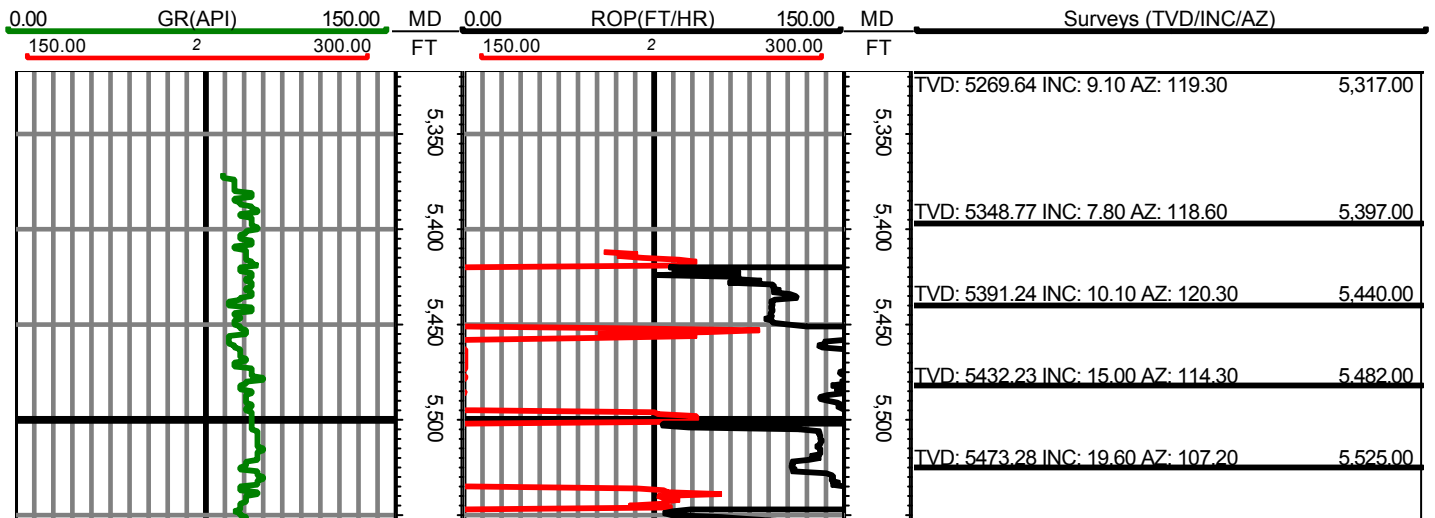
Elev KB: 17'
Elev DF: 5004'
Elev GL: 4887'

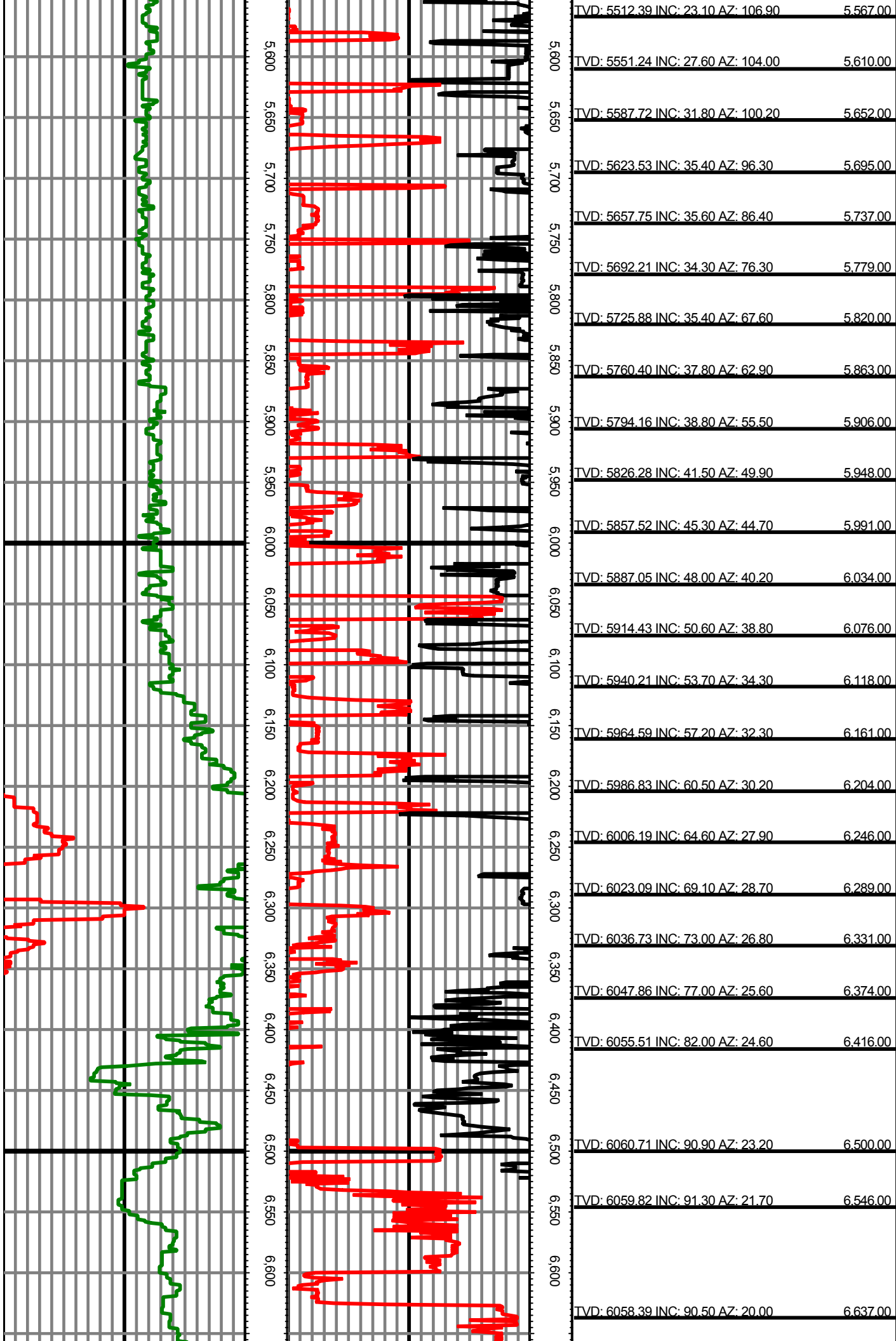
Operator 1: Skylar Thompson

Operator 2: Paul Brown

| Tool Run Data | Run #1 | Run #2 | Run #3 | Run #4 | Run #5 |
|--------------------|----------|----------|-------------|-----------|----------|
| Tool S/N | N/A | N/A | G6033 | G6033 | |
| Bit Size | 12 1/4 | 8 3/4 | 8 3/4 | 6 1/8 | |
| Cal Factor | N/A | N/A | 4.56 | 2.26 | |
| Survey Offset: | 54.00 | 47.00 | 51.00 | 53.00 | |
| Gamma Offset | 0.00 | 0.00 | 39.00 | 41.00 | |
| Resistivity Offset | 0.00 | 0.00 | 0.00 | 0.00 | |
| Start Depth | 0.00 | 1459.00 | 5410.00 | 6470.00 | |
| StartDate | 2/4/2015 | 2/6/2015 | 2/8/2015 | 2/10/2015 | |
| StartTime | 20:15 | 17:00 | 02:00 | 00:30 | |
| EndDepth | 1459.00 | 5410.00 | 6470.00 | 11037.00 | |
| EndDate | 2/5/2015 | 2/8/2015 | 2/9/2015 | 2/11/2015 | |
| EndTime | 12:00 | 00:15 | 01:45 | 19:15 | |
| Mud Type | WBM | WBM | WBM | WBM | |
| Temperature | 83 | 129 | 136 | 190 | |
| Hole Data | | | Casing Data | | |
| Size | From | To | Size | From | To |
| 12 1/4 | 0.00 | 1459.00 | 9 5/8 | 0.00 | 1439.00 |
| 8 3/4 | 1459.00 | 6470.00 | 7 | 0.00 | 6450.00 |
| 6 1/8 | 6470.00 | 11037.00 | 4.5 | 0.00 | 11037.00 |

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: 5512.39 INC: 23.10 AZ: 106.90 | 5,567.00 |
| TVD: 5551.24 INC: 27.60 AZ: 104.00 | 5,610.00 |
| TVD: 5587.72 INC: 31.80 AZ: 100.20 | 5,652.00 |
| TVD: 5623.53 INC: 35.40 AZ: 96.30 | 5,695.00 |
| TVD: 5657.75 INC: 35.60 AZ: 86.40 | 5,737.00 |
| TVD: 5692.21 INC: 34.30 AZ: 76.30 | 5,779.00 |
| TVD: 5725.88 INC: 35.40 AZ: 67.60 | 5,820.00 |
| TVD: 5760.40 INC: 37.80 AZ: 62.90 | 5,863.00 |
| TVD: 5794.16 INC: 38.80 AZ: 55.50 | 5,906.00 |
| TVD: 5826.28 INC: 41.50 AZ: 49.90 | 5,948.00 |
| TVD: 5857.52 INC: 45.30 AZ: 44.70 | 5,991.00 |
| TVD: 5887.05 INC: 48.00 AZ: 40.20 | 6,034.00 |
| TVD: 5914.43 INC: 50.60 AZ: 38.80 | 6,076.00 |
| TVD: 5940.21 INC: 53.70 AZ: 34.30 | 6,118.00 |
| TVD: 5964.59 INC: 57.20 AZ: 32.30 | 6,161.00 |
| TVD: 5986.83 INC: 60.50 AZ: 30.20 | 6,204.00 |
| TVD: 6006.19 INC: 64.60 AZ: 27.90 | 6,246.00 |
| TVD: 6023.09 INC: 69.10 AZ: 28.70 | 6,289.00 |
| TVD: 6036.73 INC: 73.00 AZ: 26.80 | 6,331.00 |
| TVD: 6047.86 INC: 77.00 AZ: 25.60 | 6,374.00 |
| TVD: 6055.51 INC: 82.00 AZ: 24.60 | 6,416.00 |
| TVD: 6060.71 INC: 90.90 AZ: 23.20 | 6,500.00 |
| TVD: 6059.82 INC: 91.30 AZ: 21.70 | 6,546.00 |
| TVD: 6058.39 INC: 90.50 AZ: 20.00 | 6,637.00 |

TVD: 6056.79 INC: 91.50 AZ: 16.90 6,729.00

TVD: 6052.77 INC: 93.50 AZ: 12.00 6,821.00

TVD: 6047.79 INC: 92.70 AZ: 5.20 6,913.00

TVD: 6046.91 INC: 88.40 AZ: 359.40 7,005.00

TVD: 6048.23 INC: 89.80 AZ: 355.70 7,089.00

TVD: 6049.73 INC: 88.20 AZ: 356.00 7,175.00

TVD: 6052.05 INC: 88.60 AZ: 355.90 7,258.00

TVD: 6054.00 INC: 88.80 AZ: 356.20 7,344.00

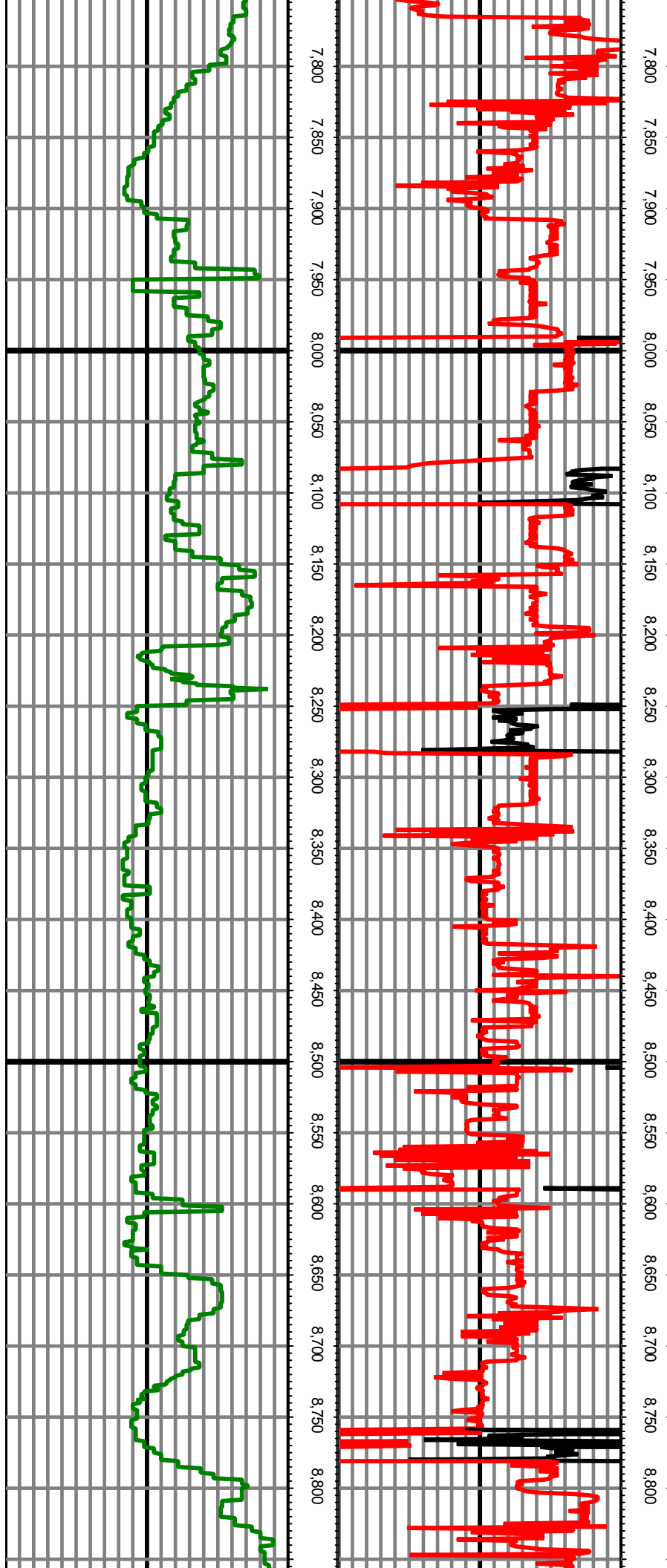
TVD: 6055.33 INC: 89.40 AZ: 356.20 7,429.00

TVD: 6055.19 INC: 90.80 AZ: 357.30 7,513.00

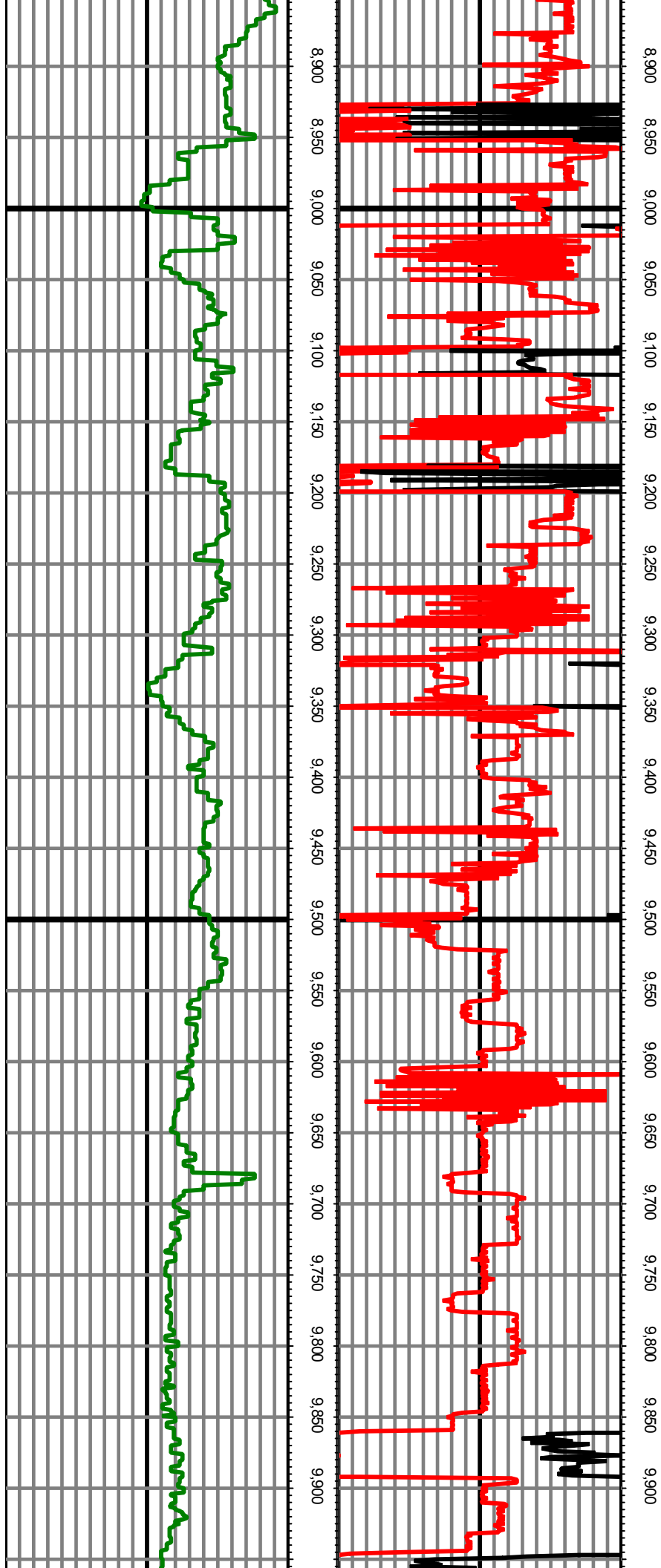
TVD: 6054.44 INC: 90.20 AZ: 357.00 7,598.00

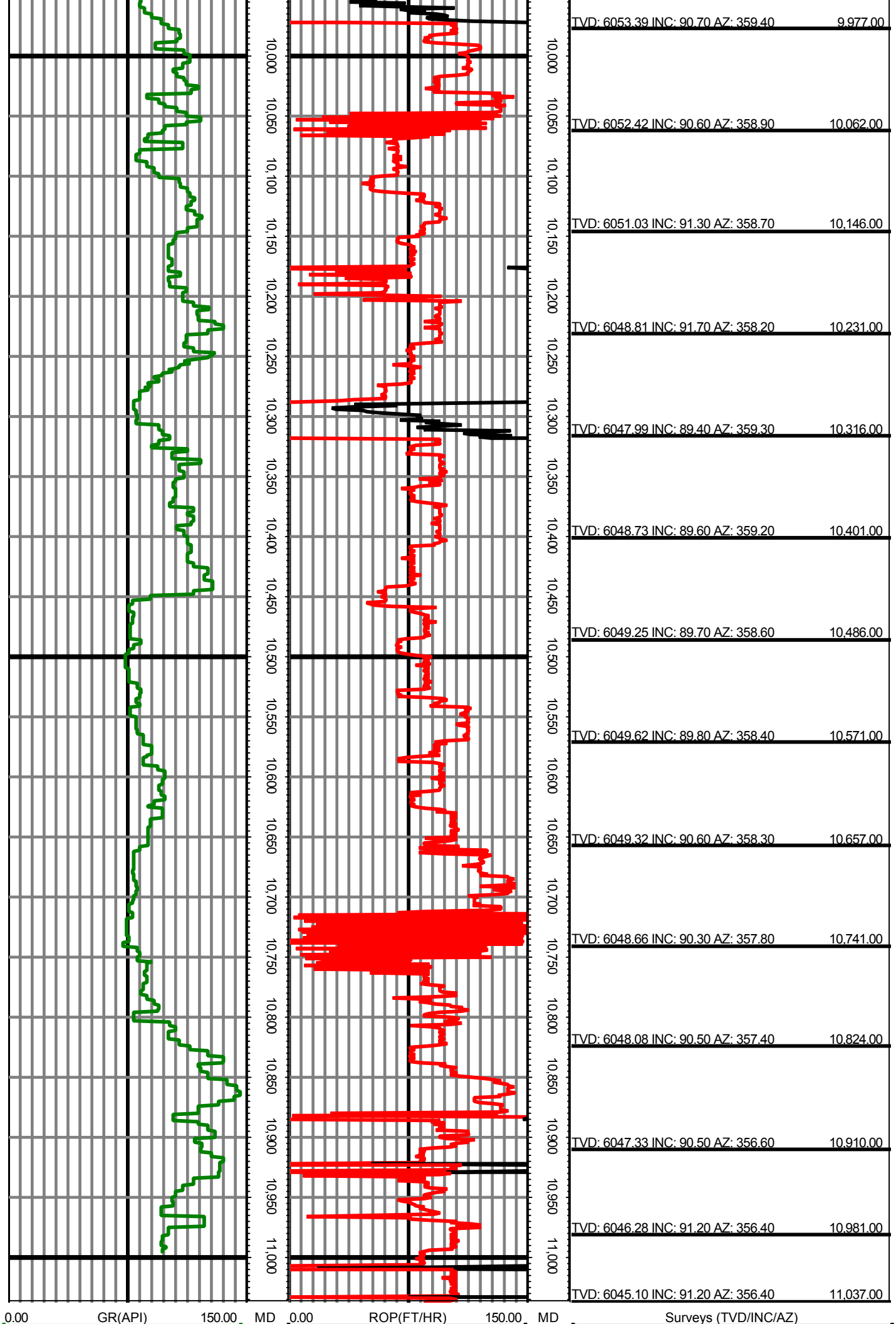
TVD: 6052.89 INC: 91.90 AZ: 357.40 7,683.00

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| TVD: 6051.92 INC: 89.40 AZ: 357.10 | 7.768.00 |
| TVD: 6051.92 INC: 90.60 AZ: 357.60 | 7.853.00 |
| TVD: 6050.81 INC: 90.90 AZ: 357.40 | 7.938.00 |
| TVD: 6048.96 INC: 91.60 AZ: 357.80 | 8.023.00 |
| TVD: 6048.21 INC: 89.40 AZ: 357.50 | 8.108.00 |
| TVD: 6050.22 INC: 87.90 AZ: 356.70 | 8.193.00 |
| TVD: 6050.88 INC: 91.20 AZ: 358.30 | 8.278.00 |
| TVD: 6049.70 INC: 90.40 AZ: 357.70 | 8.363.00 |
| TVD: 6049.55 INC: 89.80 AZ: 358.10 | 8.448.00 |
| TVD: 6050.29 INC: 89.20 AZ: 357.80 | 8.533.00 |
| TVD: 6051.40 INC: 89.30 AZ: 358.00 | 8.618.00 |
| TVD: 6052.21 INC: 89.60 AZ: 357.60 | 8.702.00 |
| TVD: 6052.14 INC: 90.50 AZ: 359.80 | 8.785.00 |



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|------------------------------------|----------|
| TVD: 6052.44 INC: 89.10 AZ: 358.60 | 8,872.00 |
| TVD: 6051.48 INC: 92.20 AZ: 359.10 | 8,957.00 |
| TVD: 6048.29 INC: 92.10 AZ: 358.80 | 9,042.00 |
| TVD: 6046.09 INC: 90.90 AZ: 0.40 | 9,126.00 |
| TVD: 6045.72 INC: 89.60 AZ: 1.30 | 9,210.00 |
| TVD: 6046.09 INC: 89.90 AZ: 1.10 | 9,295.00 |
| TVD: 6046.39 INC: 89.70 AZ: 0.30 | 9,380.00 |
| TVD: 6046.83 INC: 89.70 AZ: 359.80 | 9,465.00 |
| TVD: 6047.28 INC: 89.70 AZ: 359.40 | 9,551.00 |
| TVD: 6048.32 INC: 88.90 AZ: 357.60 | 9,636.00 |
| TVD: 6050.03 INC: 88.80 AZ: 357.50 | 9,721.00 |
| TVD: 6051.76 INC: 88.90 AZ: 356.70 | 9,807.00 |
| TVD: 6053.24 INC: 89.10 AZ: 358.30 | 9,892.00 |





150.00 2 300.00

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150.00 2 300.00

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