



Precision Directional Services, Inc
 27610 Commerce Oaks Drive
 Commerce Oaks Drive
 Oak Ridge North, TX 77385

DL1953

5"-100' - TVD
 11/6/2013 12:29:01 PM

Oper. Company: Carrizo Oil & Gas, Inc
Country: USA
State / Province: Colorado
County / Parish: Weld
Started: 10/30/2013 08:00 PM

API/UWI: 05-123-38240
Field: Niobrara CONZ'83
Well: Konig 2-31-11-59
Rig: Xtreme 19
Ended: 11/06/2013 12:00 PM

Personnel

Day Hand: Paul Brown
Night Hand: Neil LaRubbio
Comp. Emp: Curtiss Andersen

Location

Latitude: 40.8737138888889
Longitude: -104.0271944444444
Elev. GL: 5432'
Elev. DF: 5449'
Elev. KB: 17'

Hole Data

Casing Data

Bit Sizes

Size	From	To
12 1/4	0	1408
8 3/4	1408	6830
6 1/8	6830	11359

Size	From	To
9 5/8	0	1408
7	0	6808
4 1/2	6808	11359

Size	From	To
12 1/4	0	1430
8 3/4	1430	6830
6 1/8	6830	11359

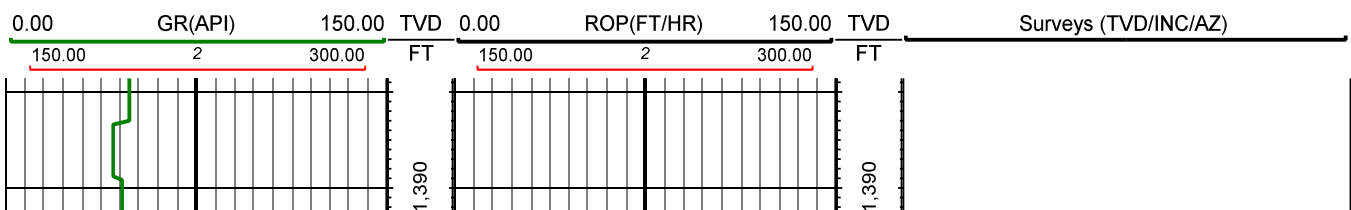
Mud Data

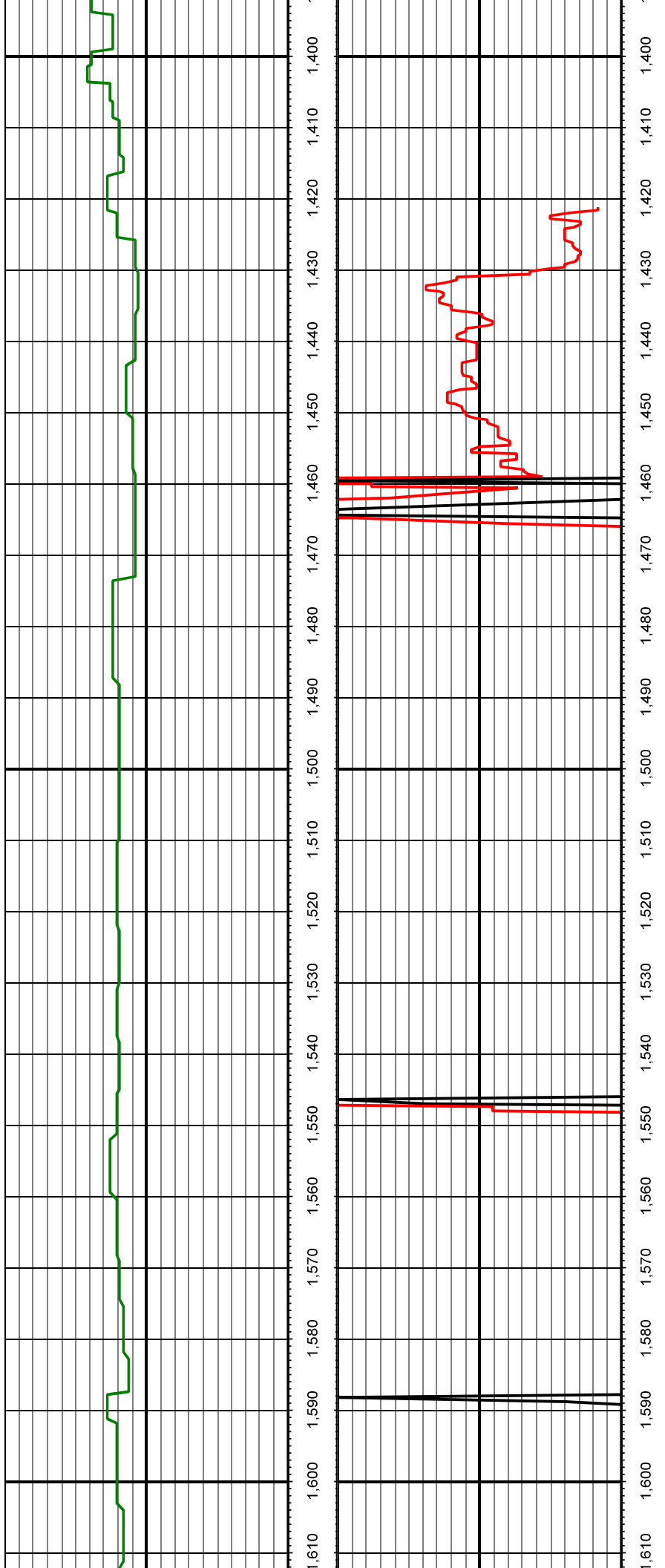
Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
WBM	8.4	8.4	40-44	N/A	N/A	N/A	0	1430
WBM	8.4 - 9.0	8.4 - 9.0	30 - 40	N/A	N/A	N/A	1430	6100
WBM	9.0 - 9.5	9.0 - 9.5	28 - 30	N/A	N/A	N/A	6100	6830
WBM	9.5 - 9.7	9.5 - 9.7	44 - 45	N/A	N/A	N/A	6830	11359

Tool Run Data

Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
G2669	43	0	10/29/2013 4:30:52 PM	1428	10/31/2013 3:30:52 PM	6100
G2108	44	0	11/1/2013 6:30:41 PM	6100	11/2/2013 10:30:41 PM	6830
G2669	41	0	11/3/2013 6:30:24 PM	6830	11/6/2013 12:00:24 PM	11359

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.

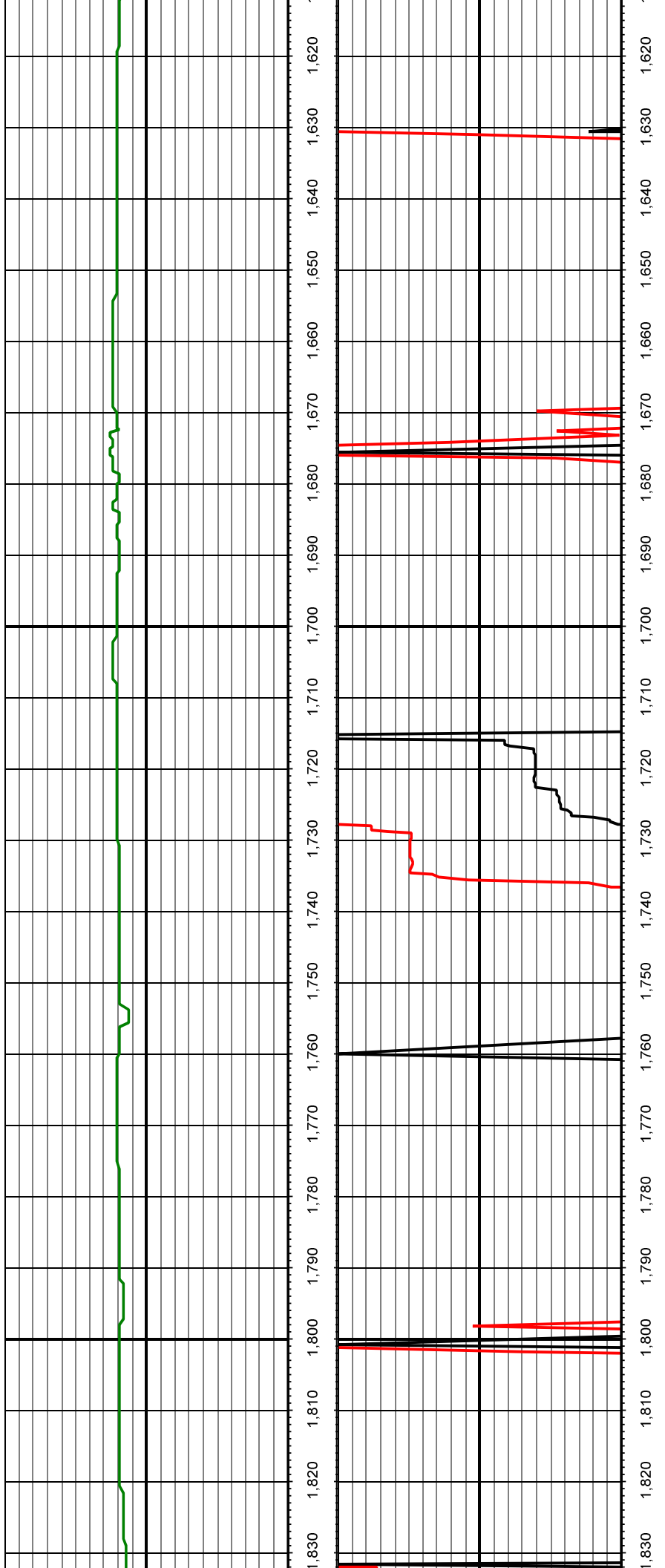




TVD: 1405.19 INC: 6.70 AZ: 205.50 1,405.19

TVD: 1489.60 INC: 6.80 AZ: 204.80 1,489.60

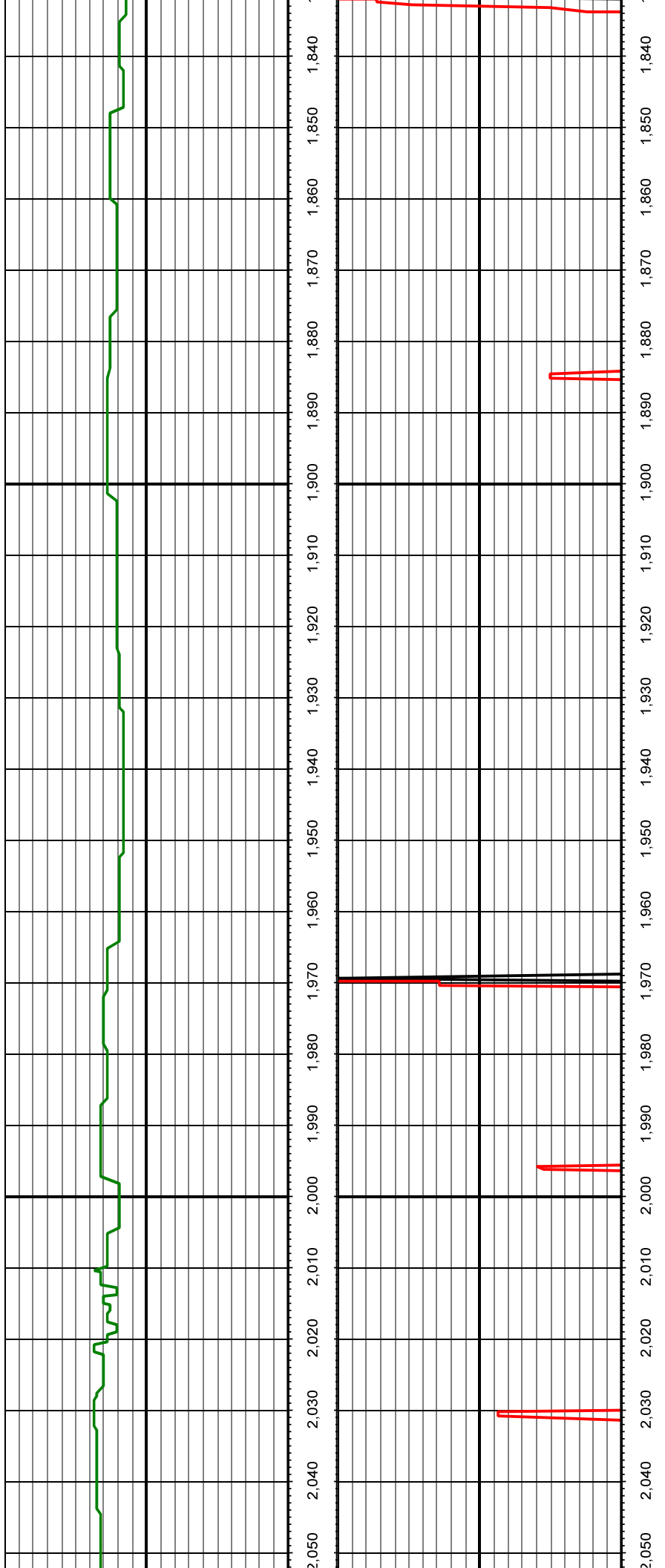
TVD: 1574.00 INC: 6.90 AZ: 205.70 1,574.00



TVD: 1659.42 INC: 6.40 AZ: 206.20 1,659.42

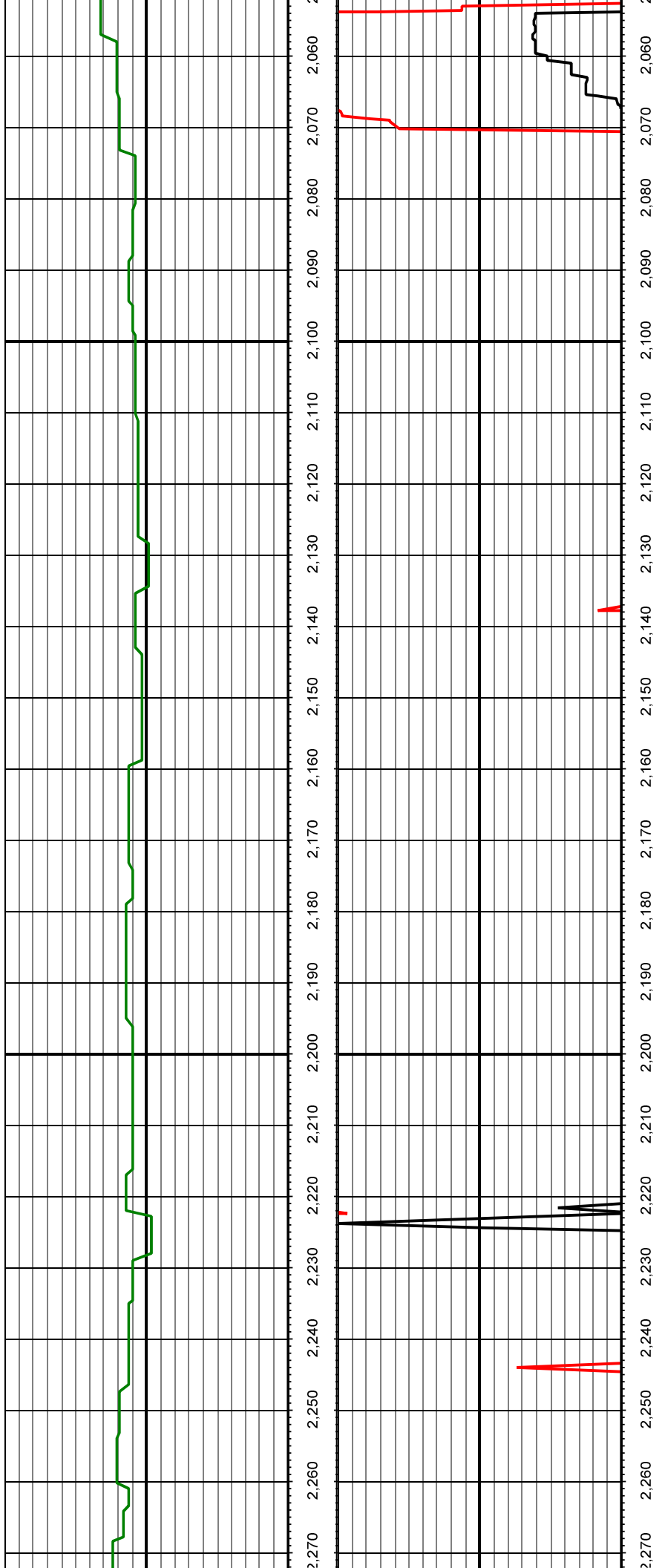
TVD: 1742.78 INC: 7.70 AZ: 205.30 1,742.78

TVD: 1827.01 INC: 7.80 AZ: 205.00 1,827.01



TVD: 1911.23 INC: 7.70 AZ: 207.30 1,911.23

TVD: 1996.40 INC: 8.20 AZ: 204.10 1,996.40

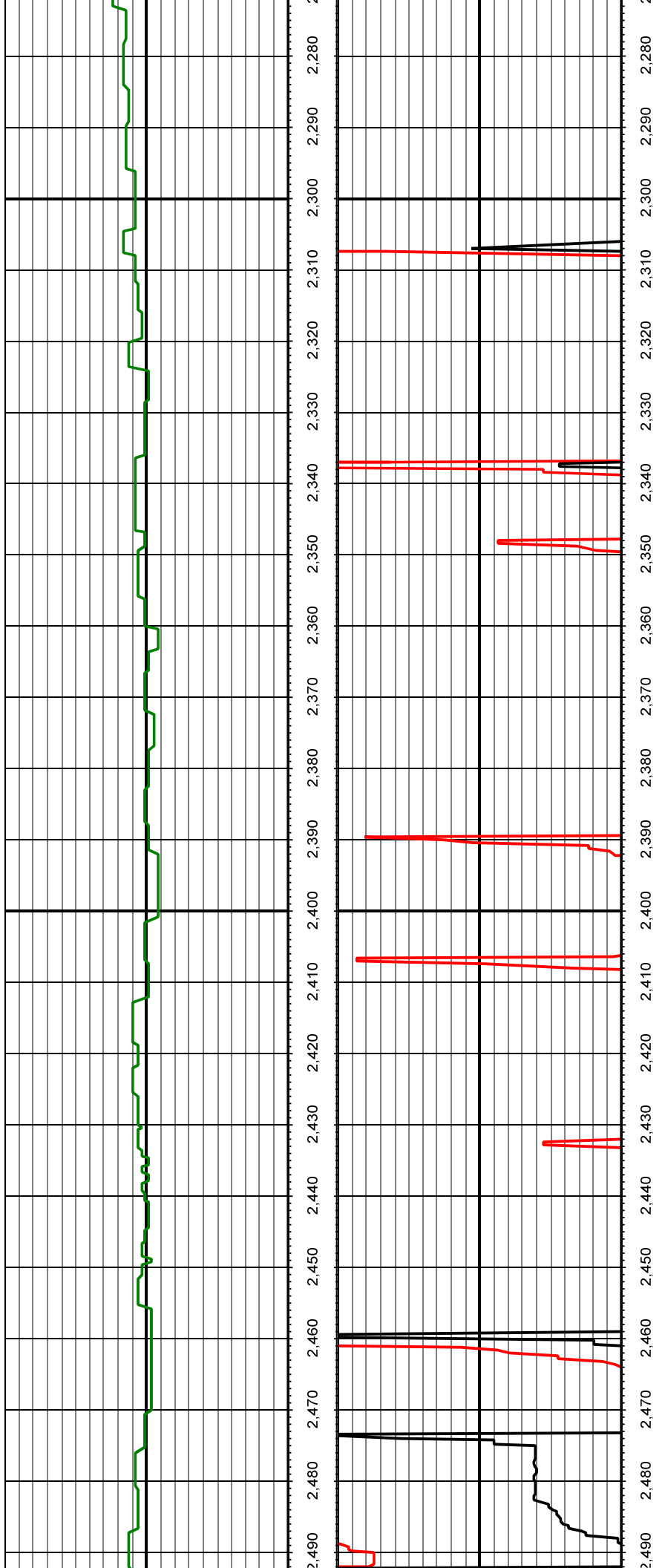


2,060
2,070
2,080
2,090
2,100
2,110
2,120
2,130
2,140
2,150
2,160
2,170
2,180
2,190
2,200
2,210
2,220
2,230
2,240
2,250
2,260
2,270

TVD: 2080.66 INC: 7.00 AZ: 211.00 2,080.66

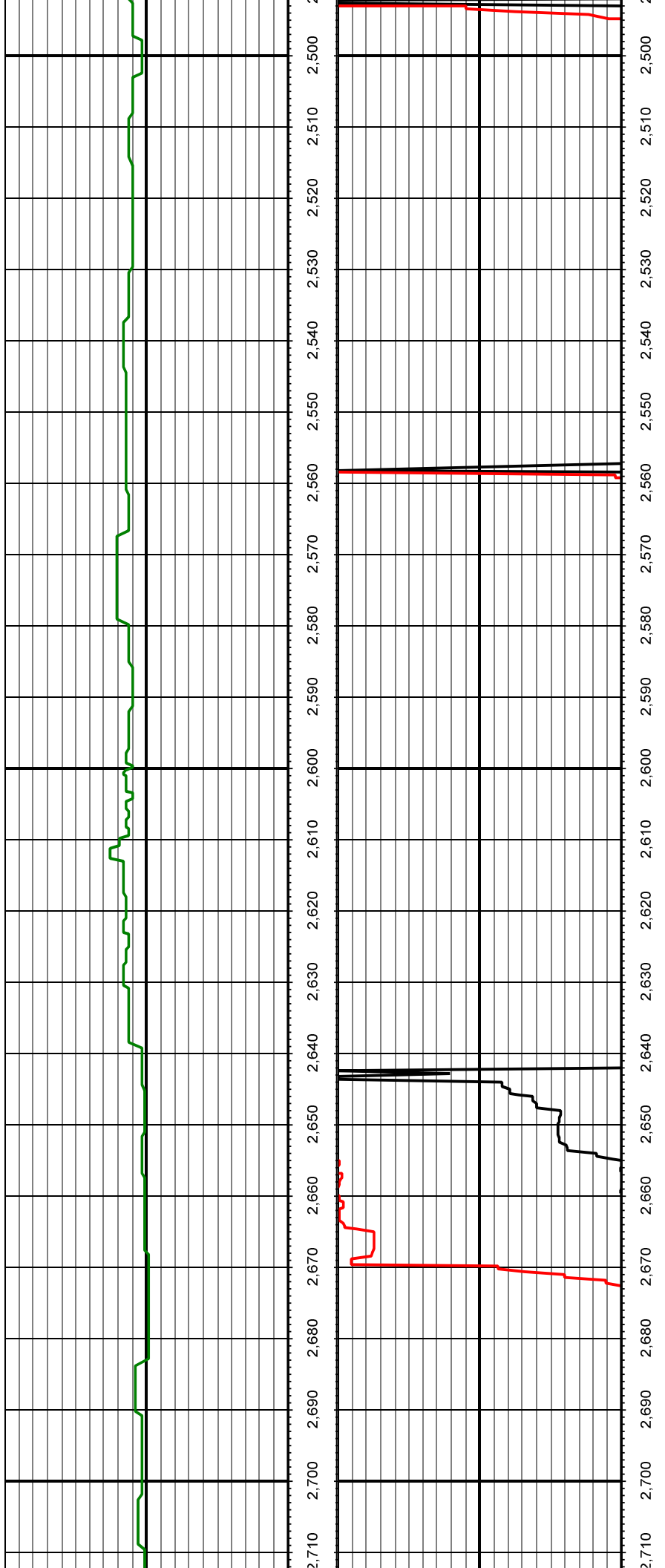
TVD: 2165.03 INC: 6.90 AZ: 211.70 2,165.03

TVD: 2249.43 INC: 6.70 AZ: 211.30 2,249.43



TVD: 2333.89 INC: 6.30 AZ: 211.10 2,333.89

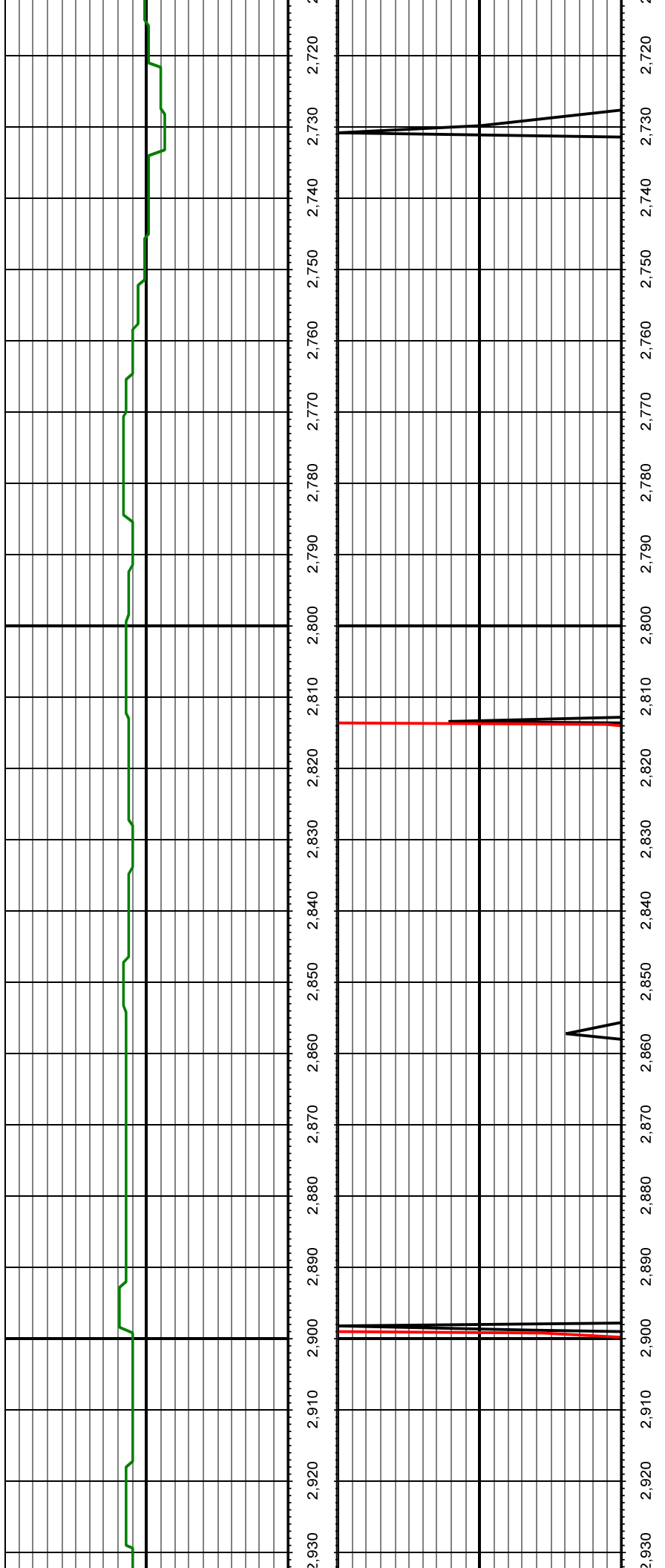
TVD: 2418.41 INC: 5.90 AZ: 209.70 2,418.41



TVD: 2502.88 INC: 6.80 AZ: 211.30 2,502.88

TVD: 2587.34 INC: 6.20 AZ: 208.10 2,587.34

TVD: 2671.72 INC: 7.60 AZ: 216.10 2,671.72



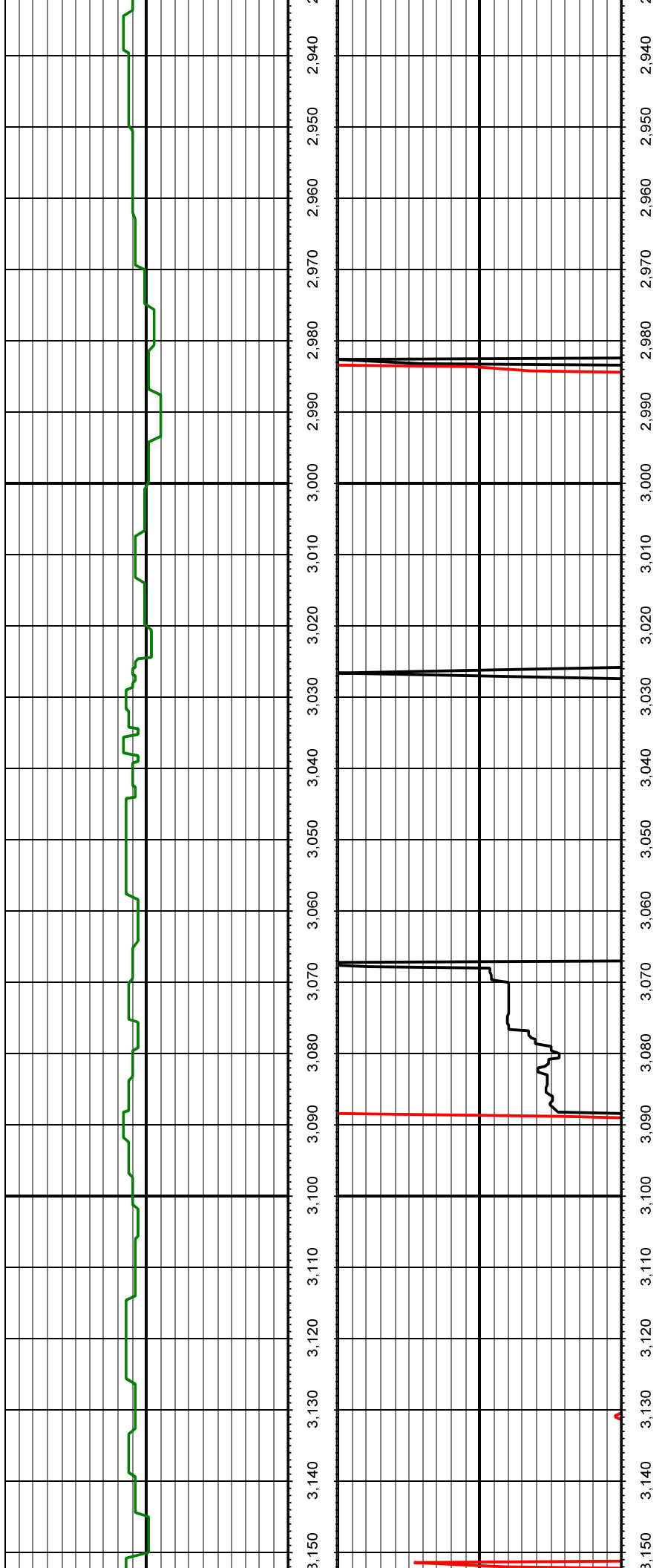
2,720 2,730 2,740 2,750 2,760 2,770 2,780 2,790 2,800 2,810 2,820 2,830 2,840 2,850 2,860 2,870 2,880 2,890 2,900 2,910 2,920 2,930

TVD: 2757.01 INC: 7.20 AZ: 216.80 2,757.00

TVD: 2841.34 INC: 7.10 AZ: 215.00 2,841.34

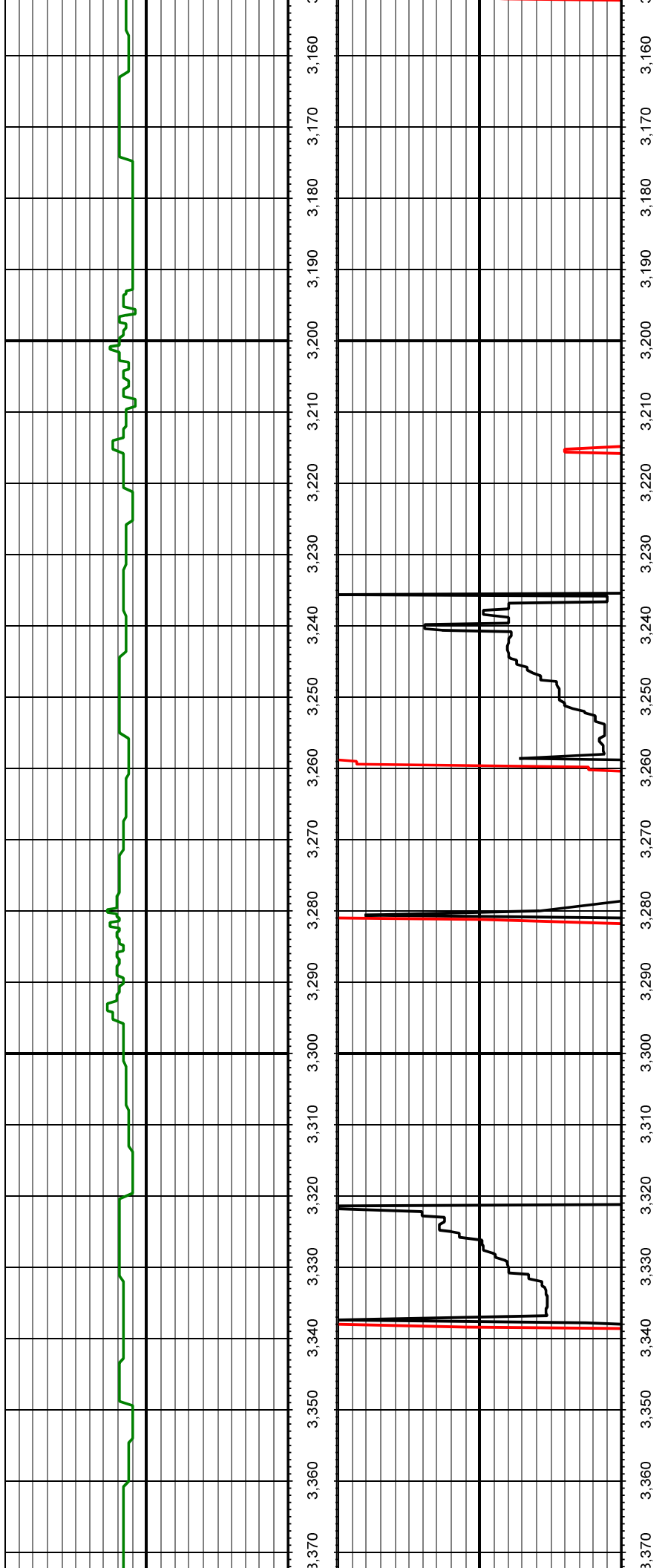
TVD: 2925.74 INC: 6.60 AZ: 212.90 2,925.74





TVD: 3010.24 INC: 5.80 AZ: 211.80 3,010.24

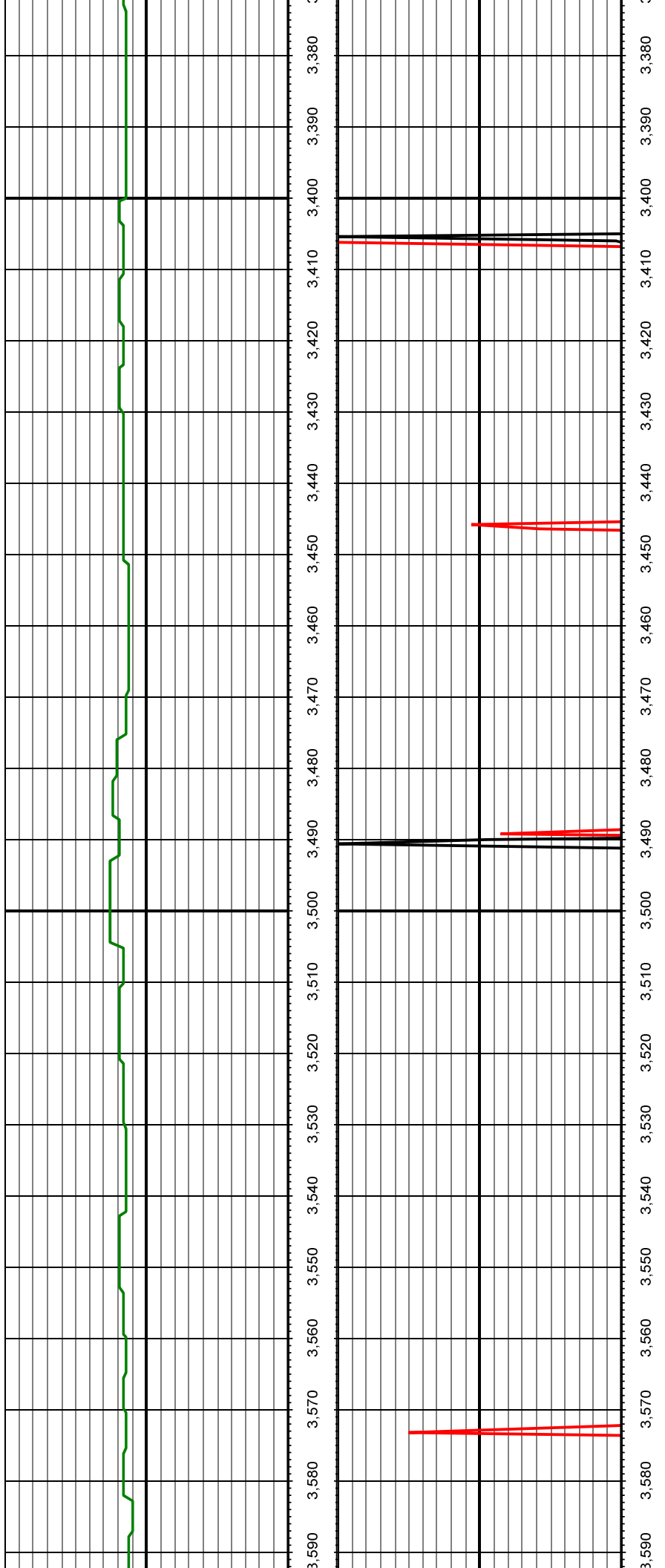
TVD: 3094.72 INC: 6.90 AZ: 208.10 3,094.72



TVD: 3179.16 INC: 6.20 AZ: 204.30 3,179.16

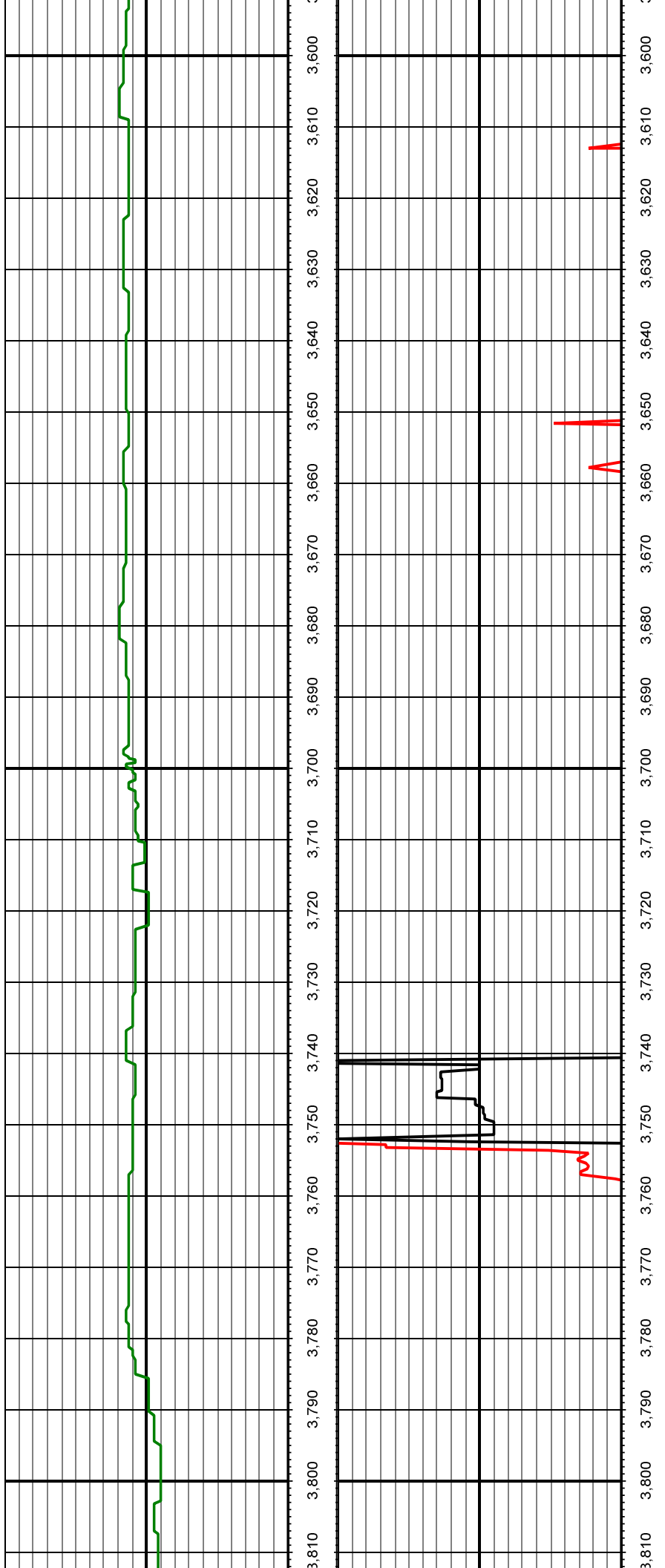
TVD: 3263.57 INC: 7.30 AZ: 203.90 3,263.57

TVD: 3347.75 INC: 8.60 AZ: 205.90 3,347.75



TVD: 3431.77 INC: 8.80 AZ: 204.60 3,431.77

TVD: 3516.77 INC: 8.70 AZ: 205.30 3,516.77

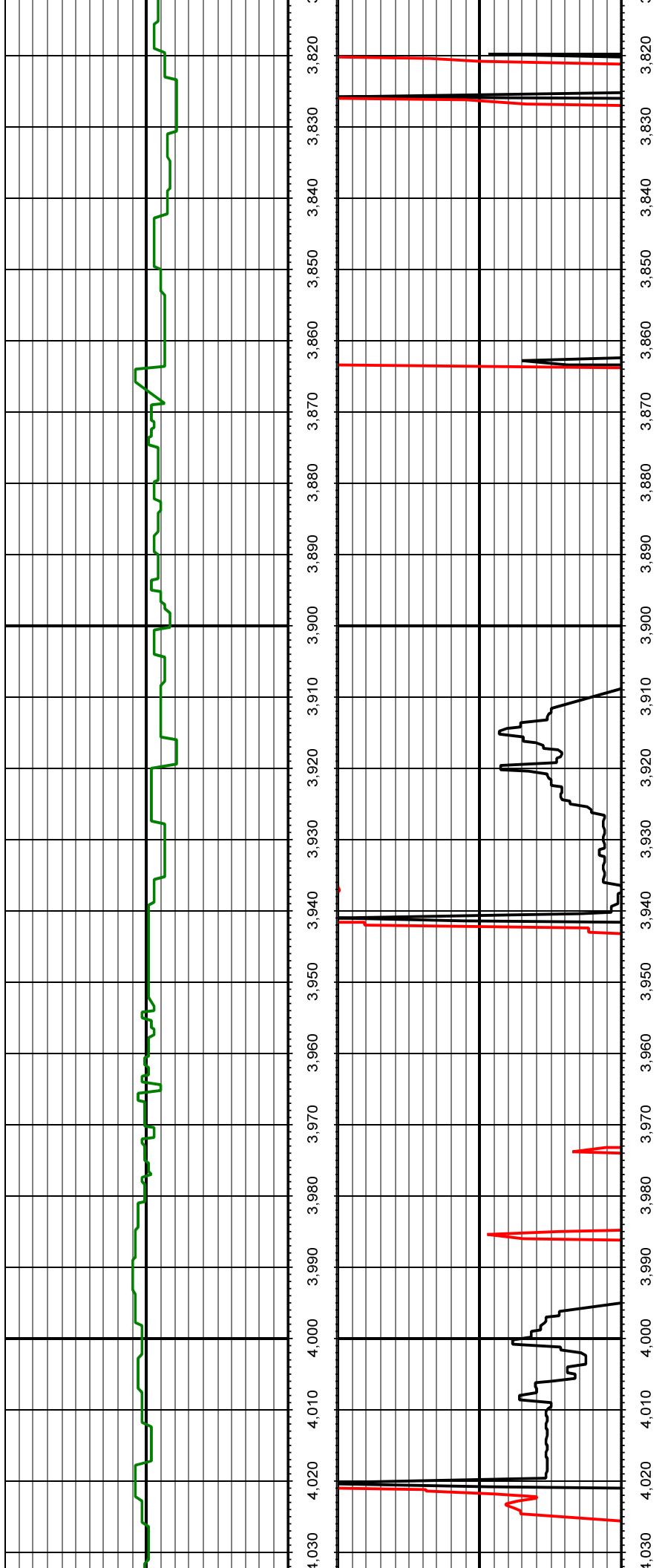


3,600 3,610 3,620 3,630 3,640 3,650 3,660 3,670 3,680 3,690 3,700 3,710 3,720 3,730 3,740 3,750 3,760 3,770 3,780 3,790 3,800 3,810

TVD: 3600.83 INC: 8.40 AZ: 203.10 3,600.83

TVD: 3684.99 INC: 7.70 AZ: 201.80 3,684.99

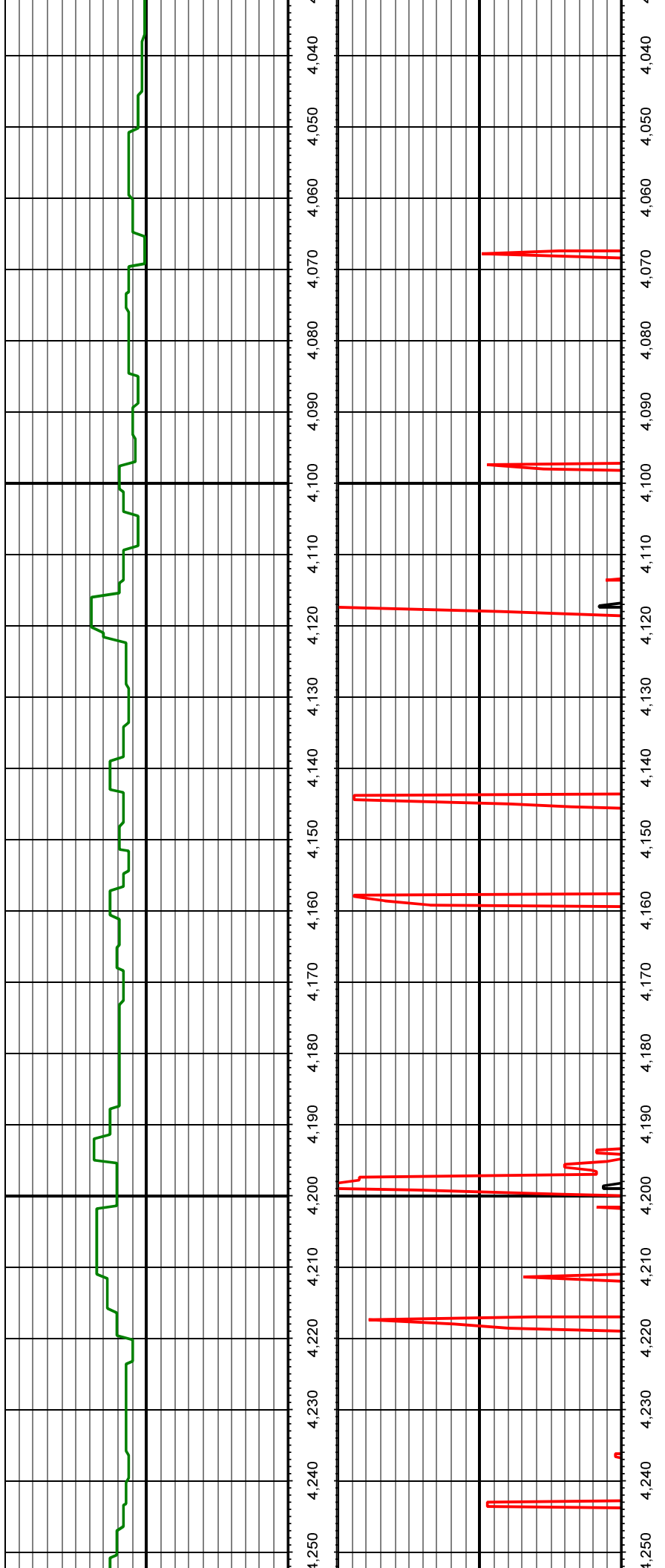
TVD: 3769.31 INC: 6.80 AZ: 206.60 3,769.31



TVD: 3853.82 INC: 5.50 AZ: 202.50 3,853.82

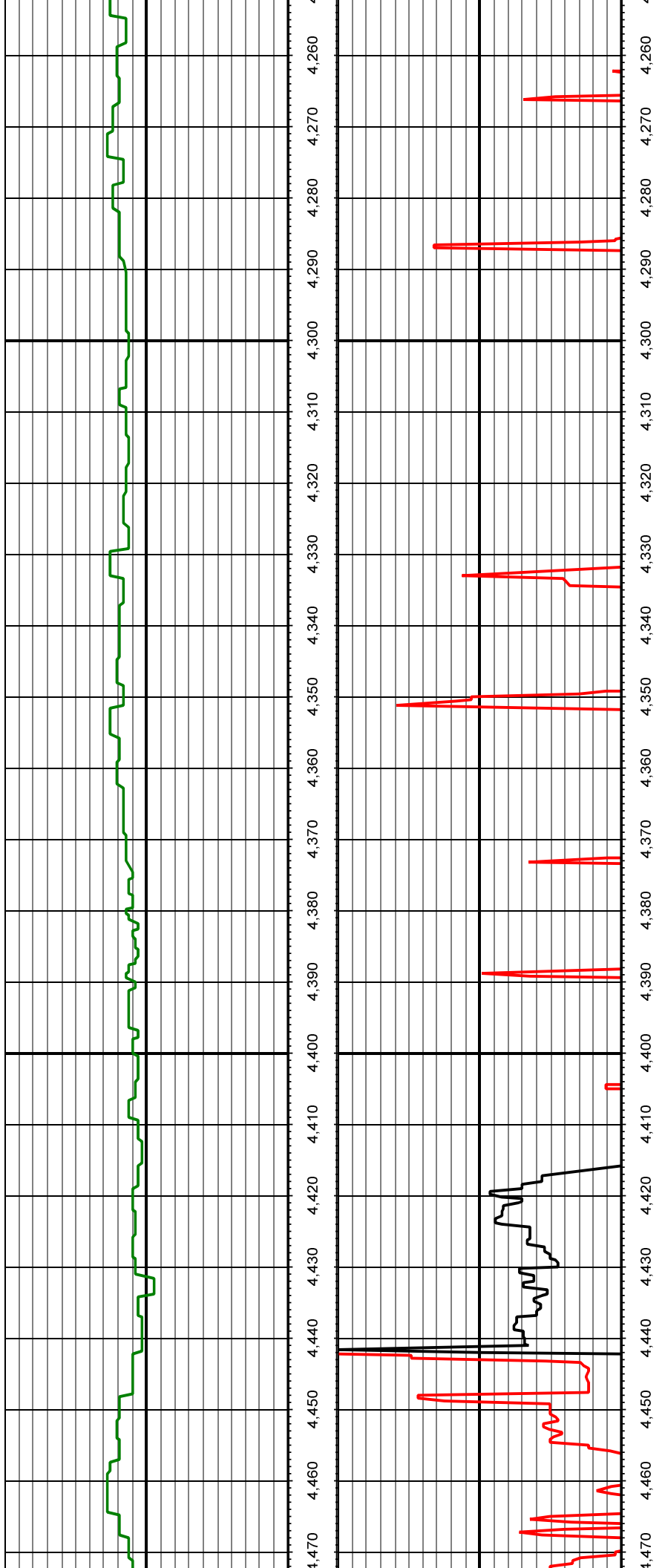
TVD: 3938.39 INC: 6.10 AZ: 207.80 3,938.39

TVD: 4022.82 INC: 7.10 AZ: 211.00 4,022.82



TVD: 4107.11 INC: 7.70 AZ: 208.00 4,107.11

TVD: 4191.34 INC: 7.80 AZ: 207.30 4,191.34

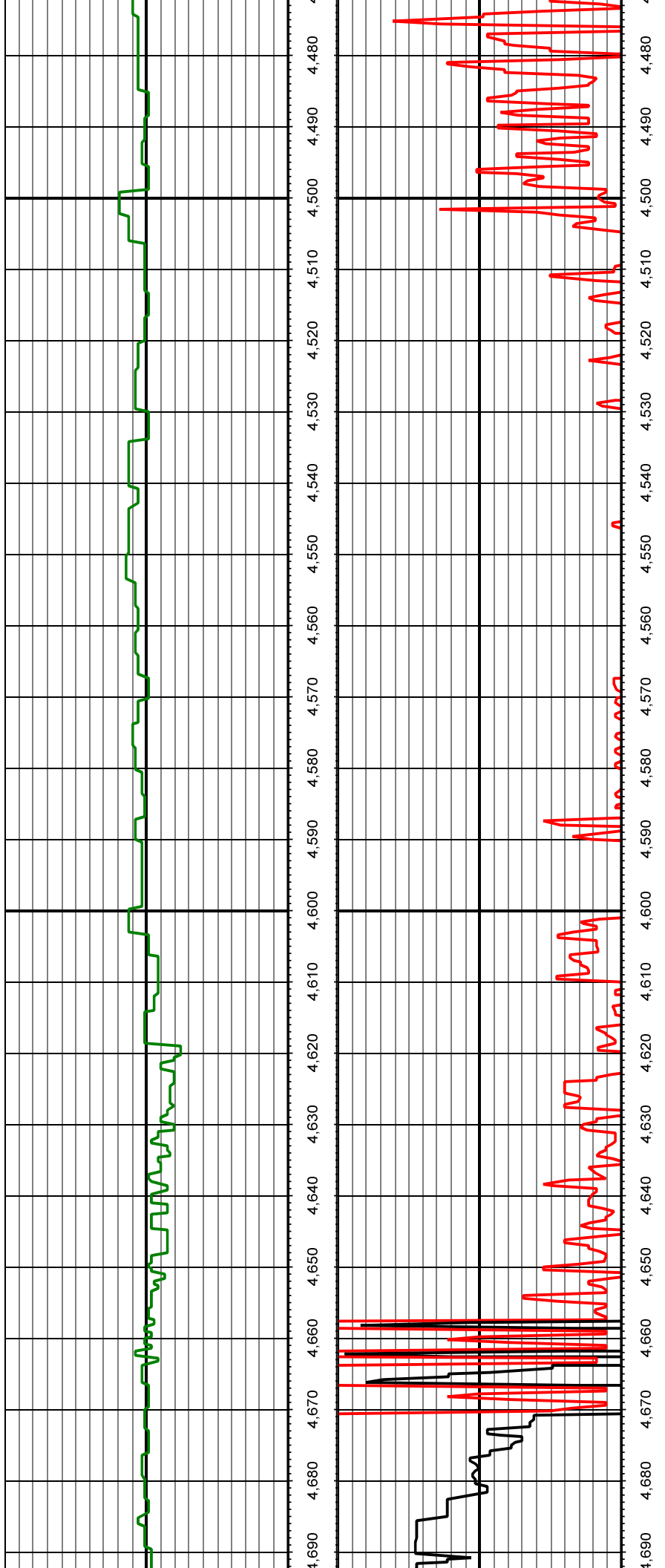


4,260 4,270 4,280 4,290 4,300 4,310 4,320 4,330 4,340 4,350 4,360 4,370 4,380 4,390 4,400 4,410 4,420 4,430 4,440 4,450 4,460 4,470

TVD: 4275.54 INC: 7.90 AZ: 206.40 4,275.54

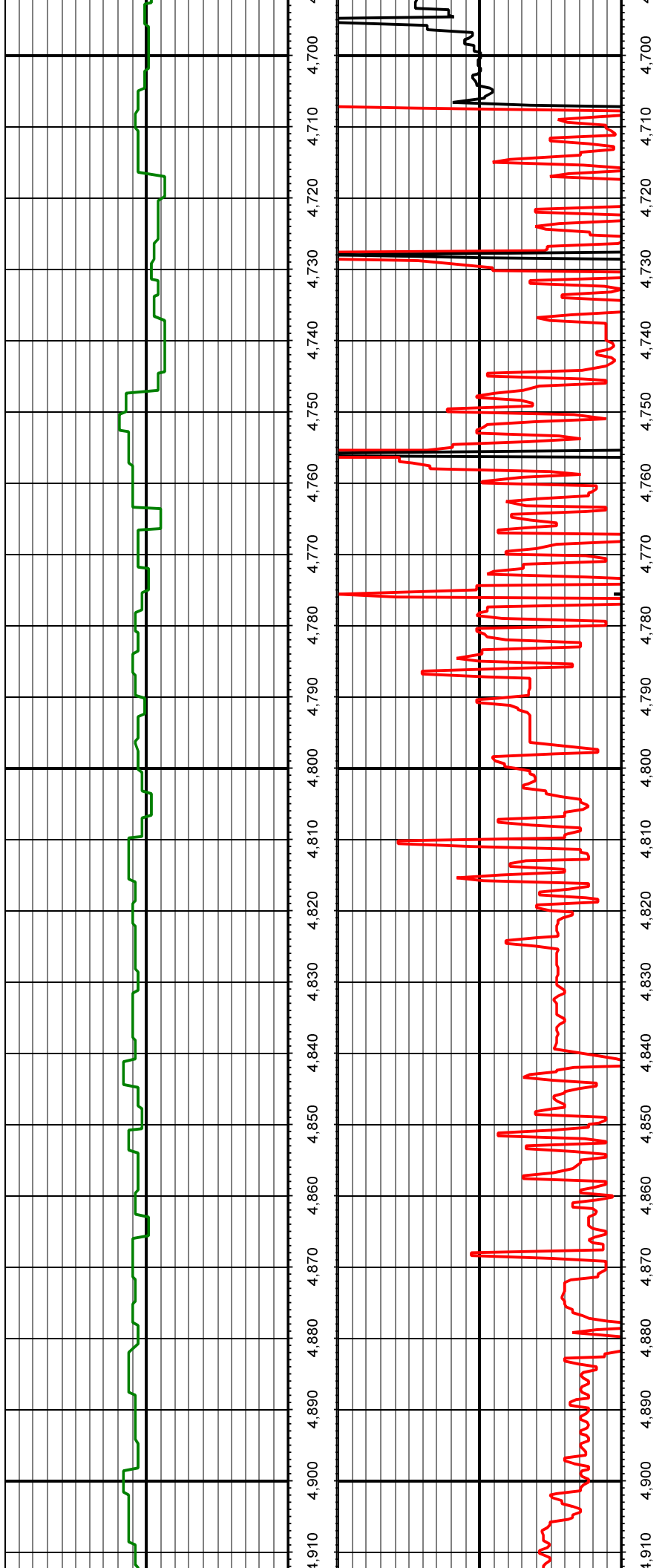
TVD: 4359.70 INC: 8.20 AZ: 207.60 4,359.70

TVD: 4443.97 INC: 6.80 AZ: 208.30 4,443.97



TVD: 4528.43 INC: 6.20 AZ: 203.90 4,528.43

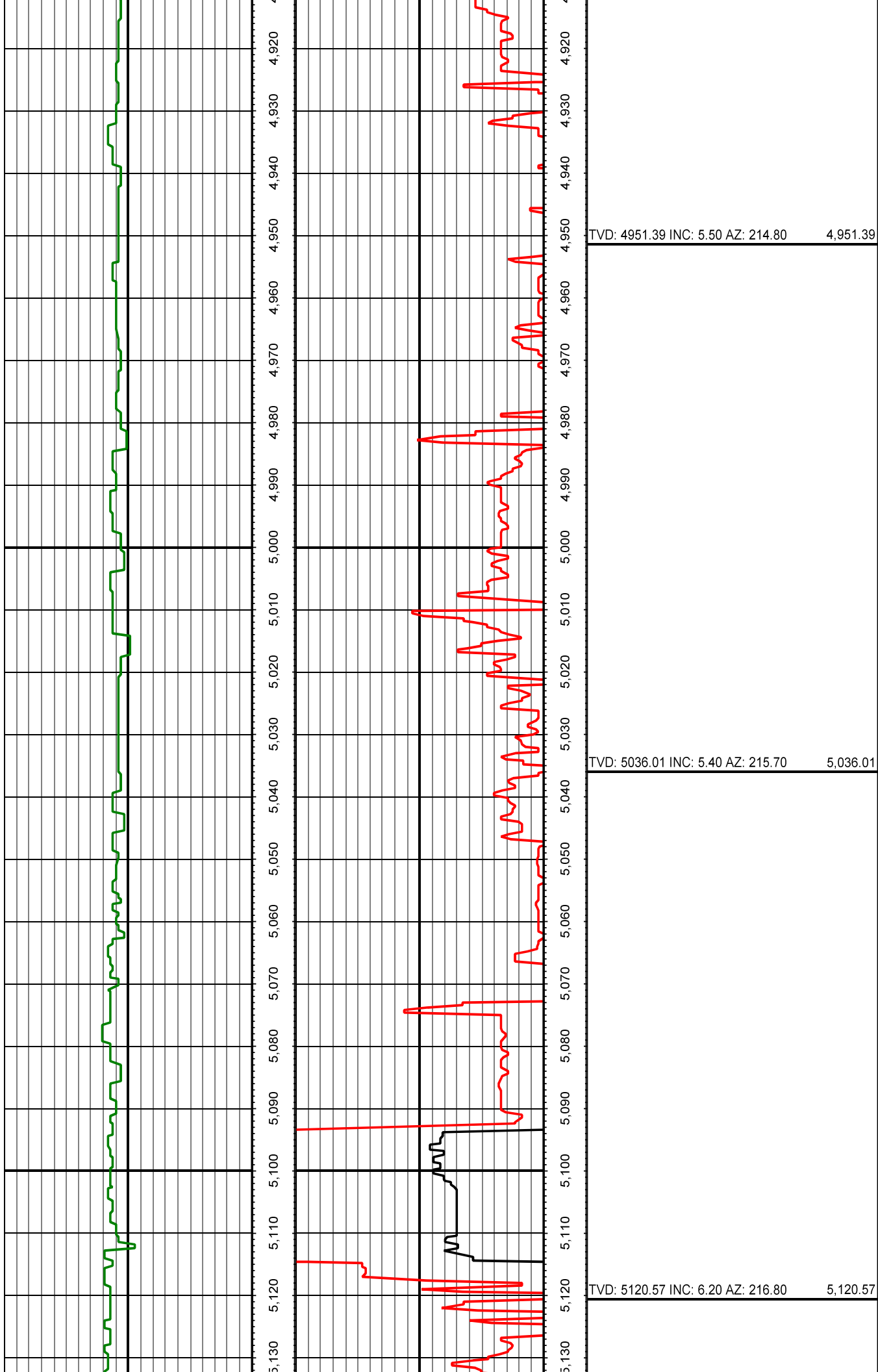
TVD: 4612.97 INC: 5.70 AZ: 201.80 4,612.97



TVD: 4697.57 INC: 5.50 AZ: 212.20 4,697.57

TVD: 4782.18 INC: 5.50 AZ: 214.70 4,782.17

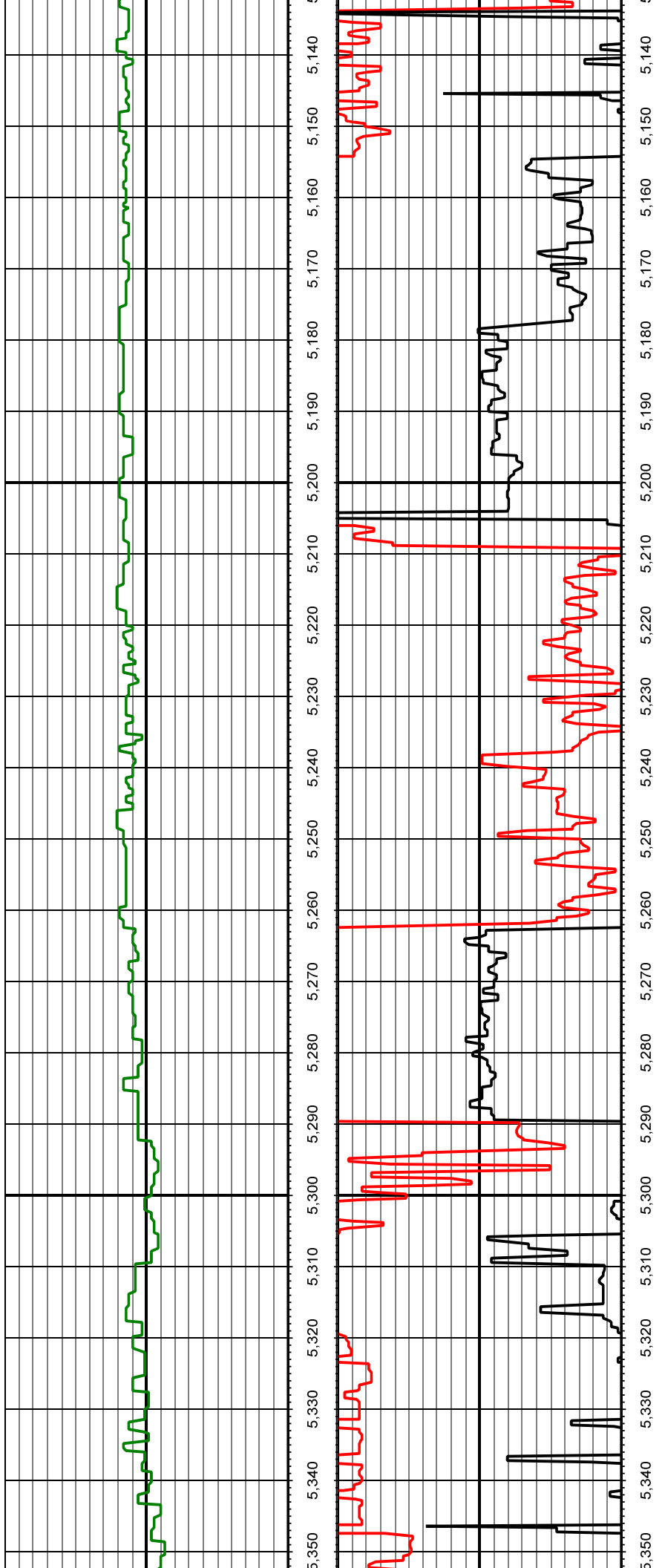
TVD: 4866.78 INC: 5.50 AZ: 212.20 4,866.78



TVD: 4951.39 INC: 5.50 AZ: 214.80 4,951.39

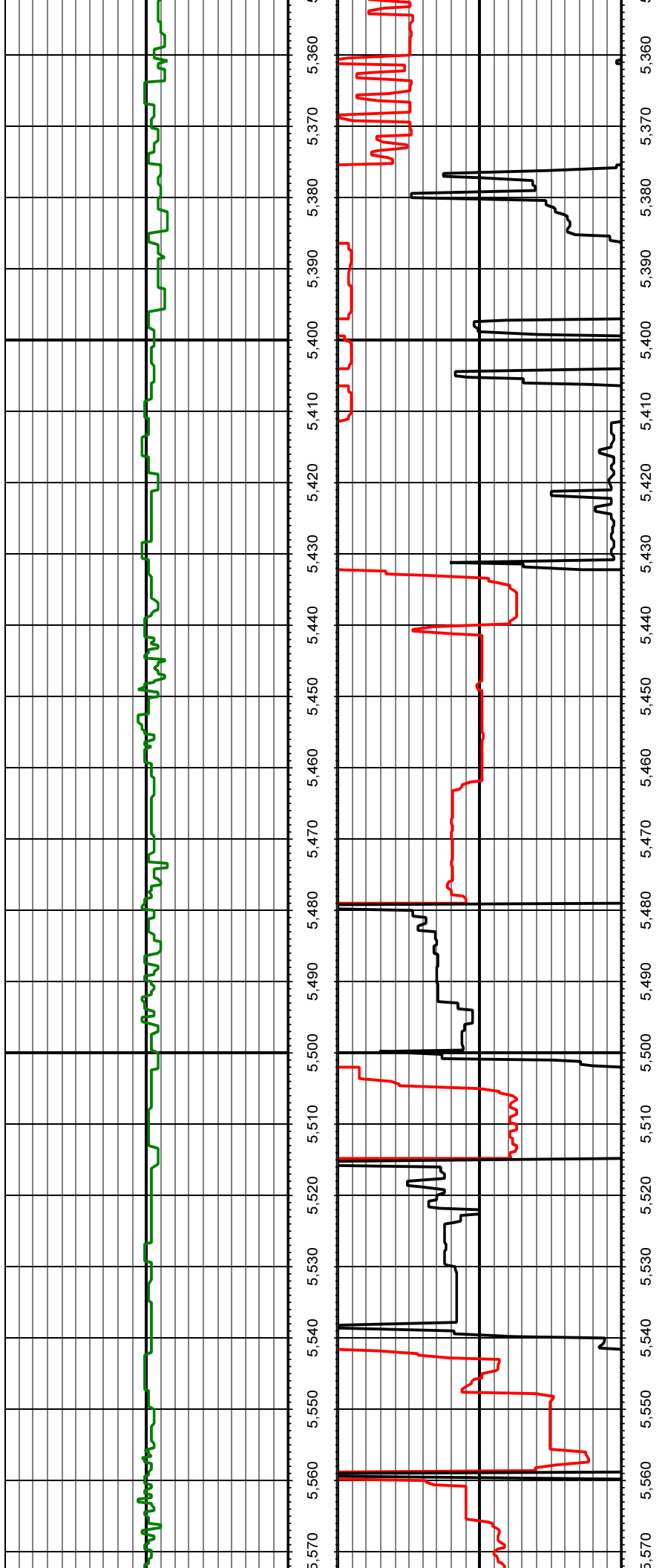
TVD: 5036.01 INC: 5.40 AZ: 215.70 5,036.01

TVD: 5120.57 INC: 6.20 AZ: 216.80 5,120.57



TVD: 5205.08 INC: 6.20 AZ: 204.30 5,205.08

TVD: 5289.67 INC: 6.10 AZ: 184.10 5,289.67



TVD: 5374.34 INC: 5.00 AZ: 178.60

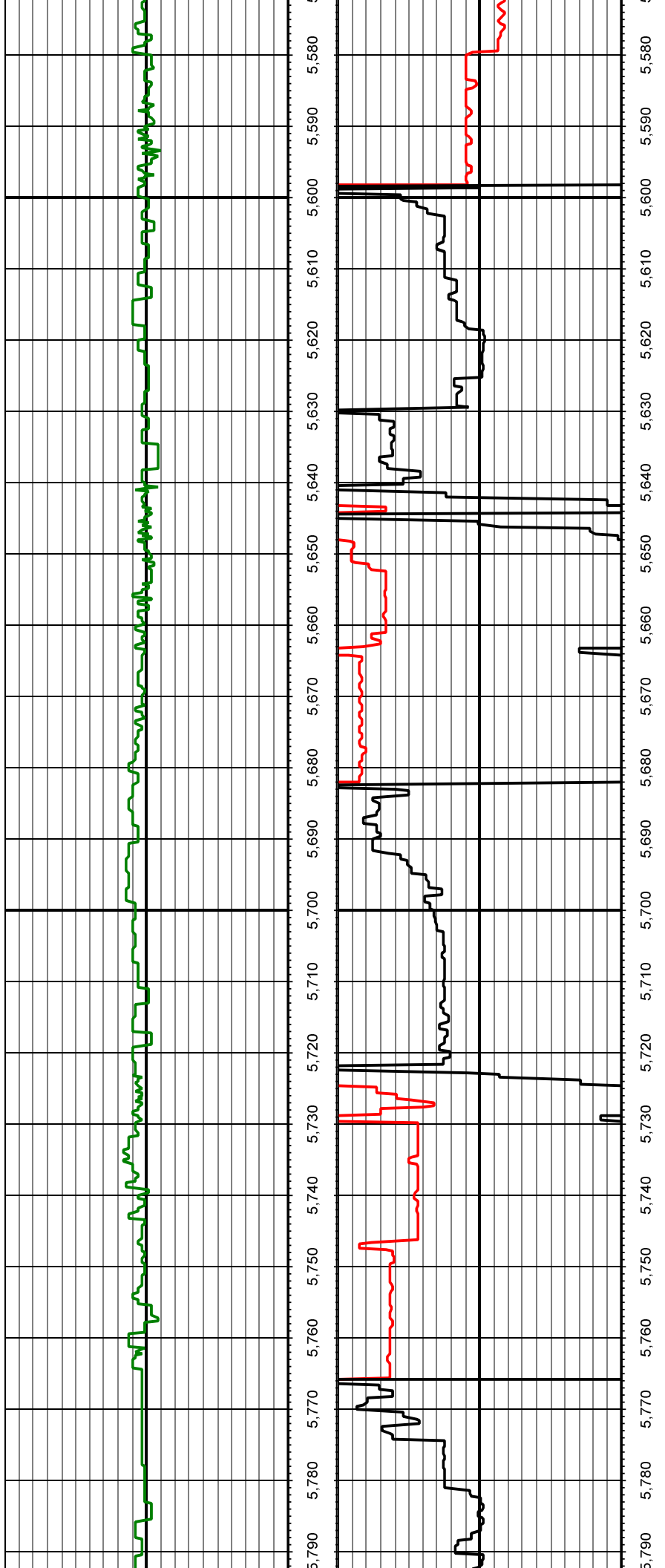
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TVD: 5459.08 INC: 4.00 AZ: 175.50

5,459.08

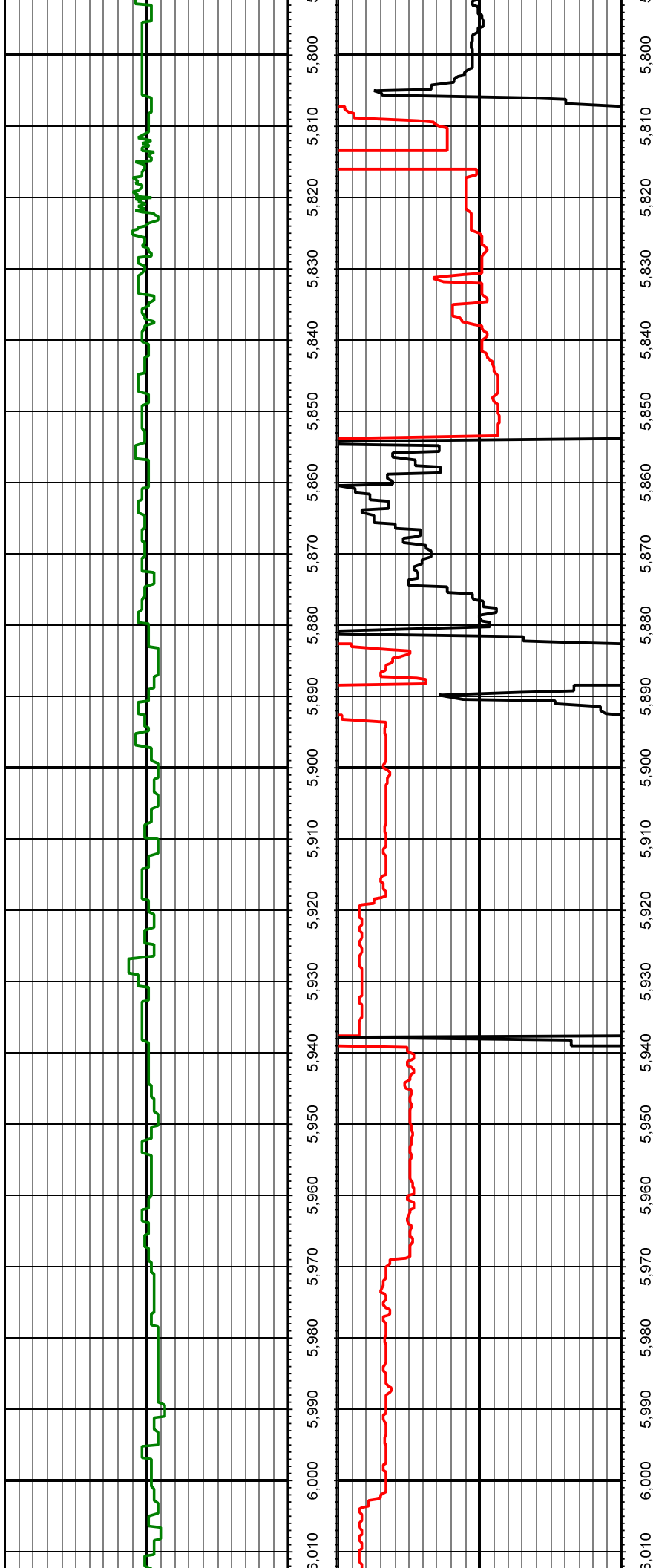
TVD: 5543.79 INC: 5.40 AZ: 175.30

5,543.79



TVD: 5628.37 INC: 6.10 AZ: 171.40 5,628.36

TVD: 5712.81 INC: 7.00 AZ: 174.90 5,712.81

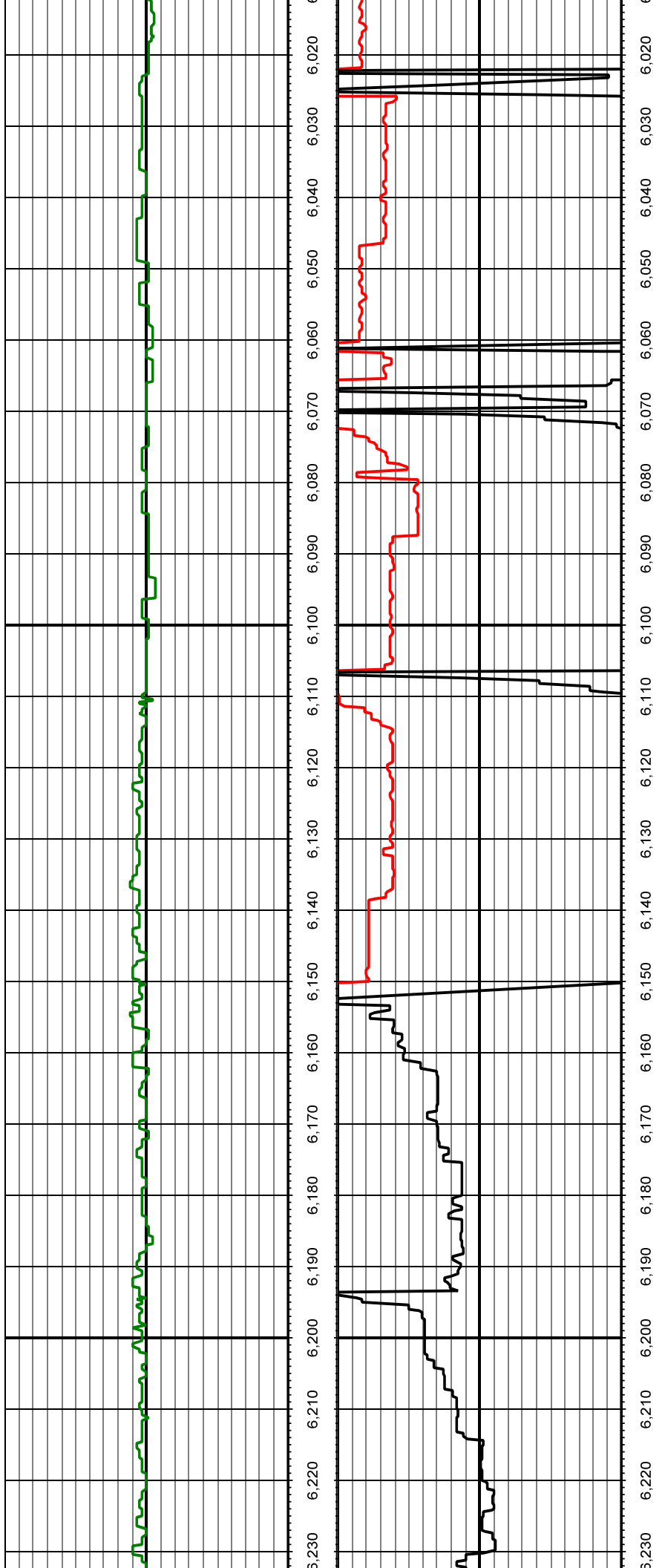


TVD: 5797.14 INC: 7.40 AZ: 180.00 5,797.14

TVD: 5881.44 INC: 7.30 AZ: 184.40 5,881.44

TVD: 5965.89 INC: 5.70 AZ: 186.50 5,965.89

TVD: 6007.71 INC: 5.00 AZ: 185.30 6,007.71



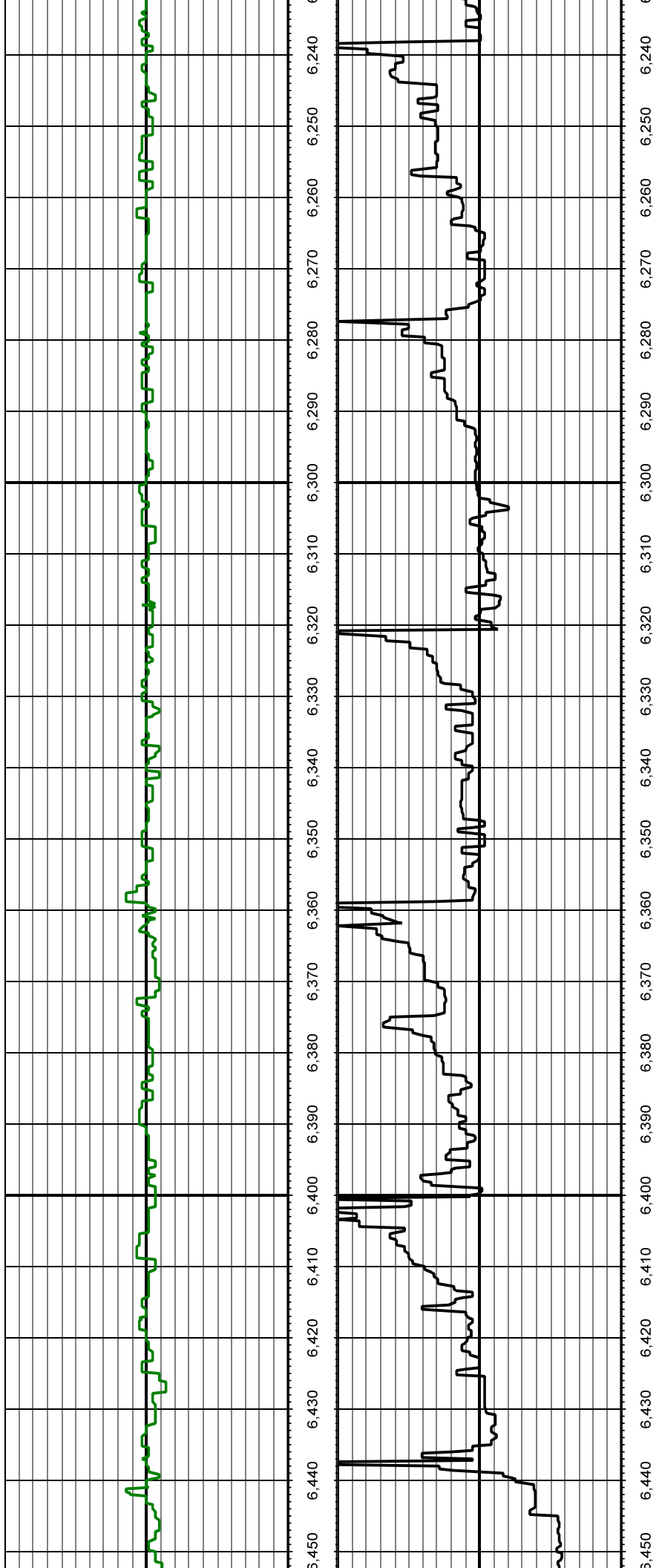
TVD: 6049.56 INC: 4.60 AZ: 186.20 6,049.56

TVD: 6092.44 INC: 4.10 AZ: 184.60 6,092.44

TVD: 6134.35 INC: 3.40 AZ: 187.90 6,134.35

TVD: 6177.32 INC: 1.10 AZ: 295.90 6,177.32

TVD: 6219.26 INC: 4.90 AZ: 345.80 6,219.26



TVD: 6261.93 INC: 9.20 AZ: 351.90 6,261.93

TVD: 6304.10 INC: 13.20 AZ: 356.70 6,304.10

TVD: 6344.61 INC: 17.40 AZ: 1.30 6,344.60

TVD: 6385.14 INC: 21.50 AZ: 2.70 6,385.14

TVD: 6424.51 INC: 25.90 AZ: 1.30 6,424.51

