



Precision Directional Services, Inc.

27610 Commerce Oaks Drive
Oak Ridge North, TX 77385
713-435-6250

Nelson Ranches 3-27-10-59

Scale 2":100' - MD

5/8/2014 6:59 AM

Oper. Company: Carrizo Oil & Gas, Inc.
Well: Nelson Ranches 3-27-10-59
Field: Niobrara CONZ'83
Rig: Xtreme 19
Well ID: 05-123-39159-00
Job Number: DL2180

State: CO
County: Weld
Country: USA
Location: Keota
Start Date: 04/30/2014 20:00:00
End Date: 05/07/2014 13:00:00

Latitude: 40.8099944444444
Longitude: -103.97575833333

Elev KB: 17'
Elev DF: 5184'
Elev GL: 5167'

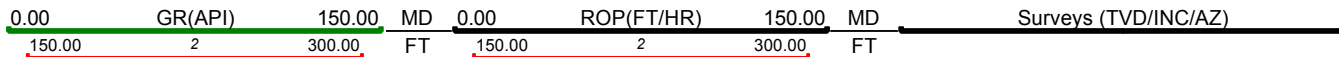
Operator 1: Paul Brown

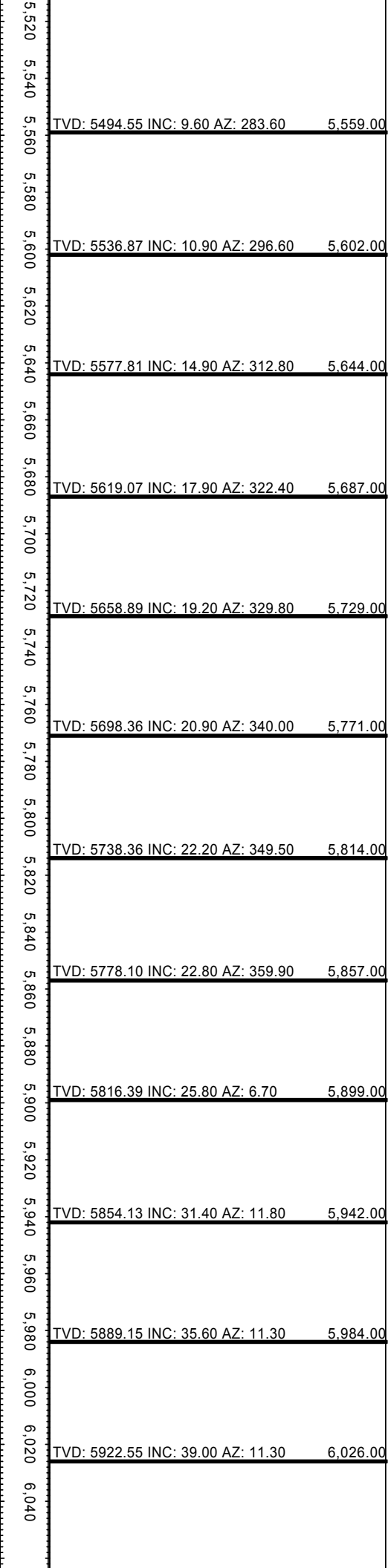
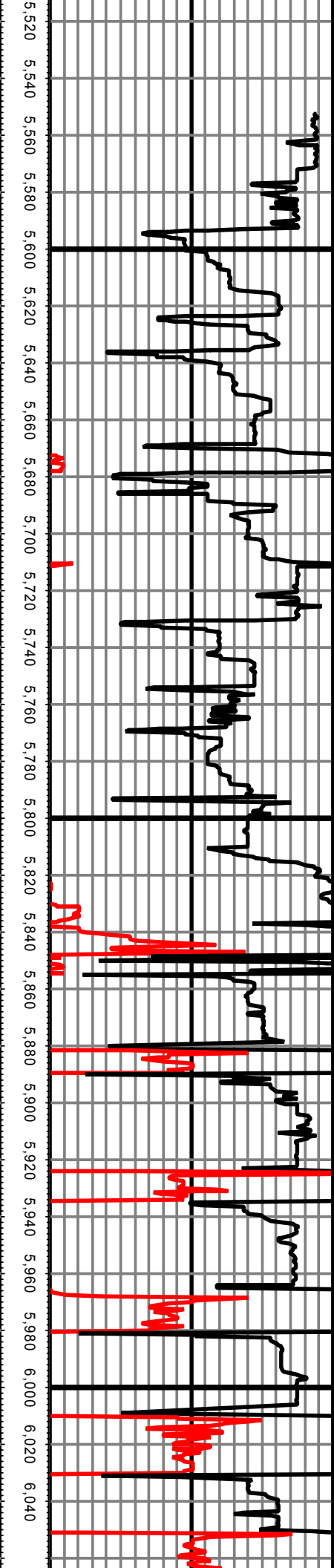
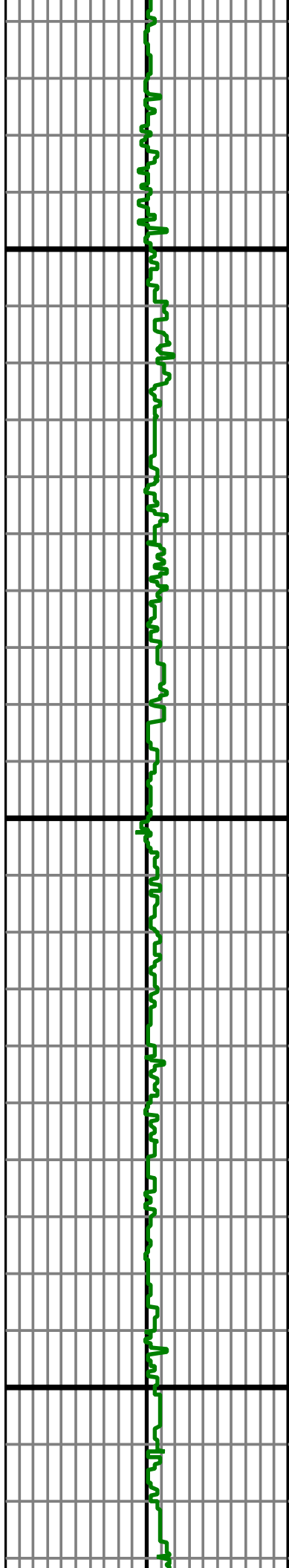
Operator 2: Skylar Tompson

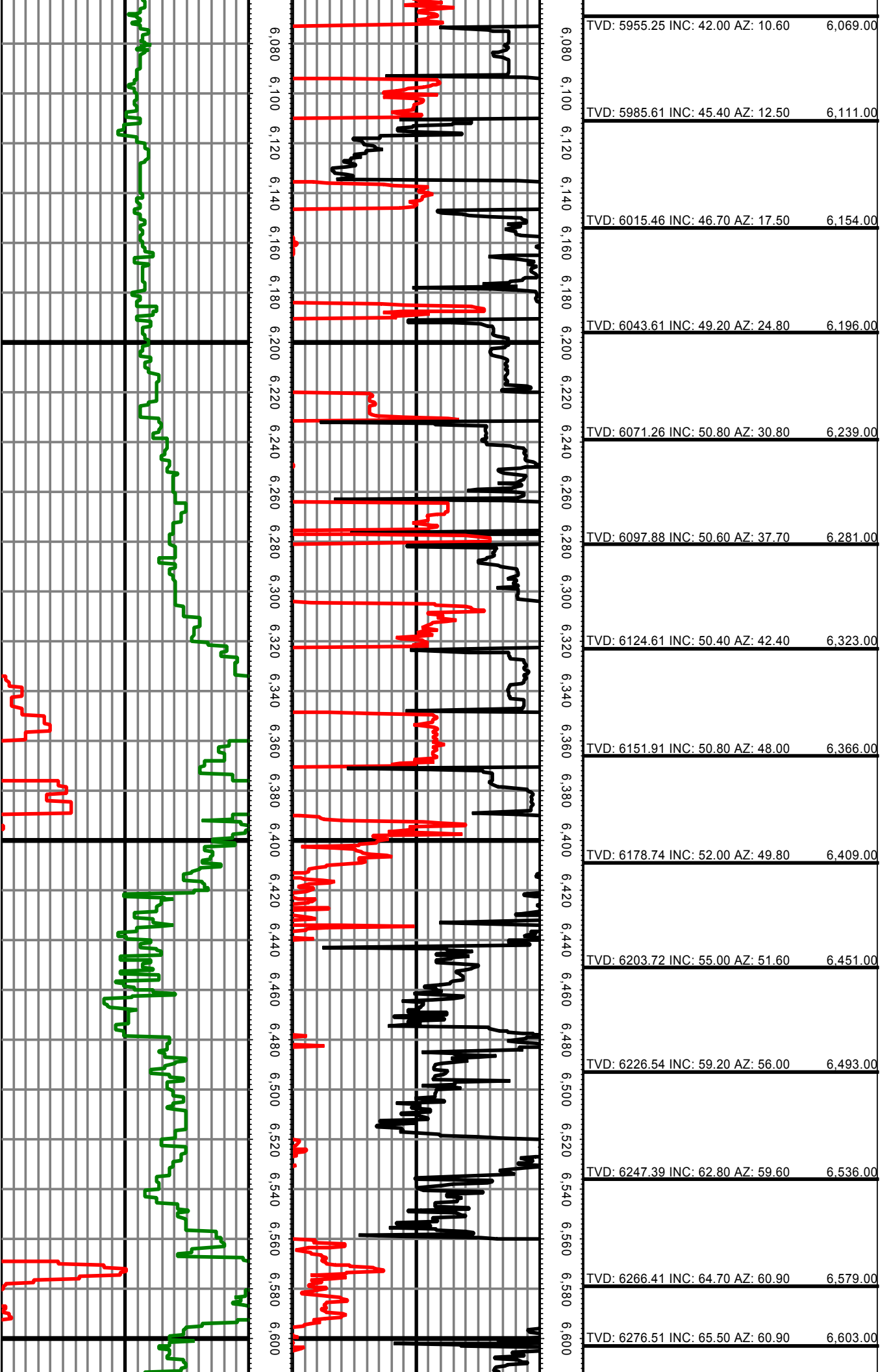
Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	G1698	G2577			
Bit Size	8 3/4	6 1/8			
Cal Factor	3.30	1.31			
Gamma Offset	50.00	51.00			
Resistivity Offset	0.00	0.00			
Start Depth	5190.00	6669.00			
StartDate	4/30/2014	5/2/2014			
StartTime	5:00 PM	10:00 PM			
EndDepth	6669.00	11233.00			
EndDate	5/2/2014	5/7/2014			
EndTime	12:15 AM	1:00 PM			
Mud Type	WBM	WBM			
Mud Weight	9.4 - 9.7	9.6 - 9.9			
Funnel Viscosity	47 - 52	48 - 52			
Plastic Viscosity	12 - 14	12 - 16			
Yield Point	12 - 14	12 - 13			
Gel Strength	25 - 29	21 - 28			
Solids Content	6.8 - 7.6	7.0 - 7.6			
Sand Content	0.25 - 0.5	0.25 - 0.5			
Mud Alkalinity	0.7	0.8			
Filtrate Alkalinity	0.5 - 1.2	0.5 - 1.4			
Chlorides	700	600 - 800			
Mud RM	N/A	N/A			
Mud RMF	N/A	N/A			
Mud RMC	N/A	N/A			
Mud RM at BHT	N/A	N/A			

Hole Data			Casing Data		
Size	From	To	Size	From	To
12 1/4	0.00	1453.00	9 5/8	0.00	1433.00
8 3/4	1453.00	6669.00	7	0.00	6648.00
6 1/8	6669.00	11233.00	4.5	6648.00	11233.00

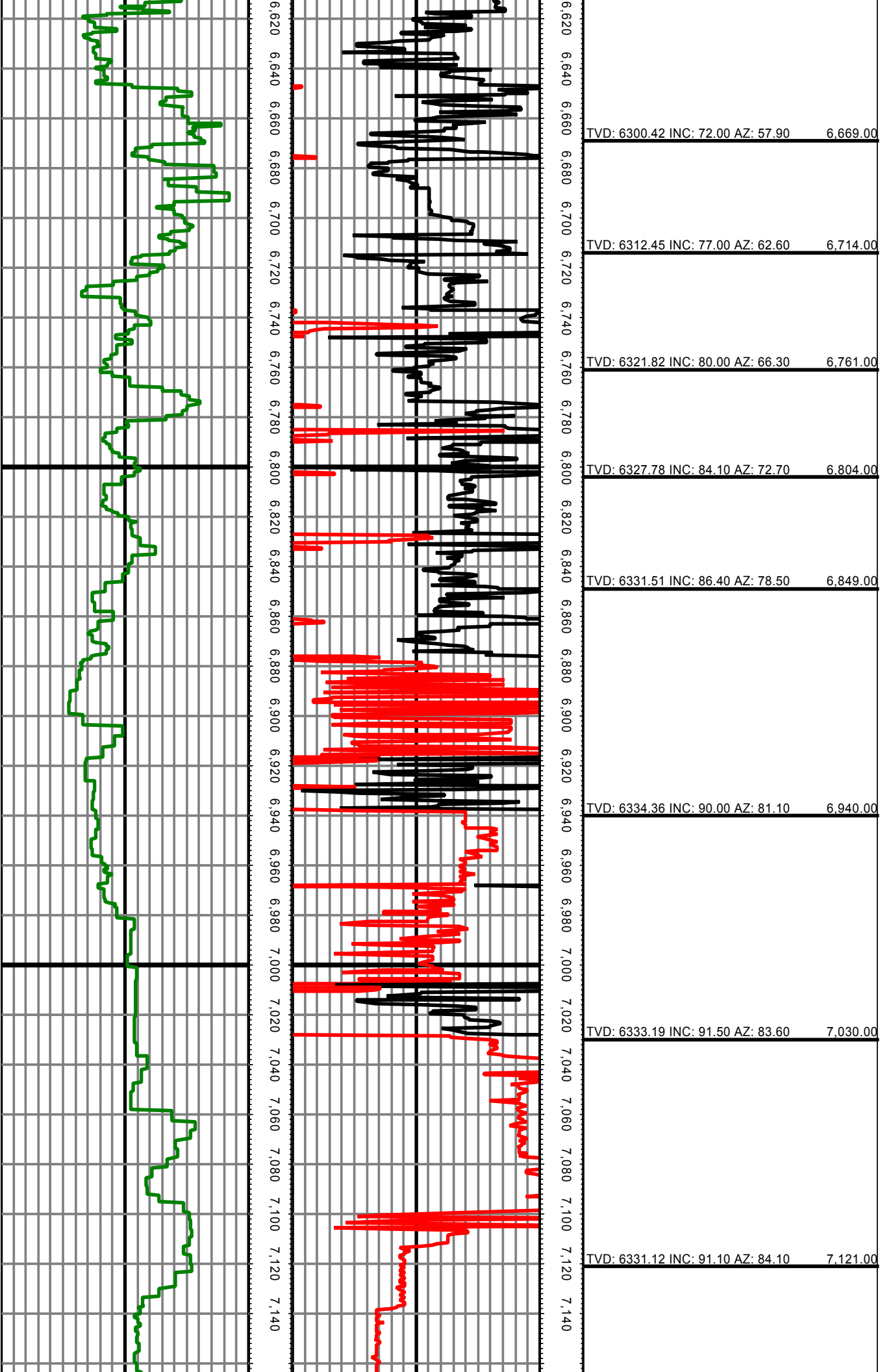
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost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

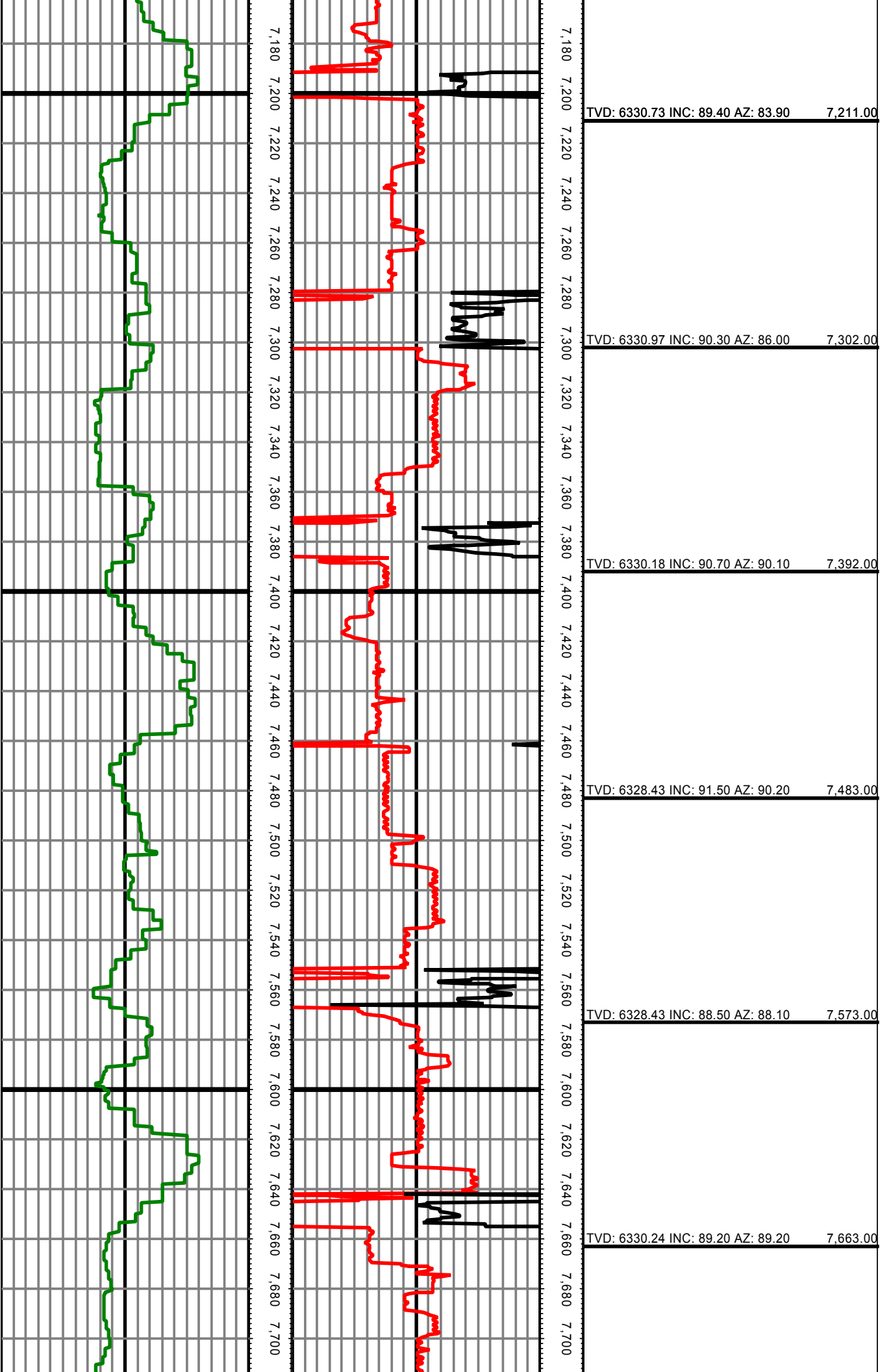


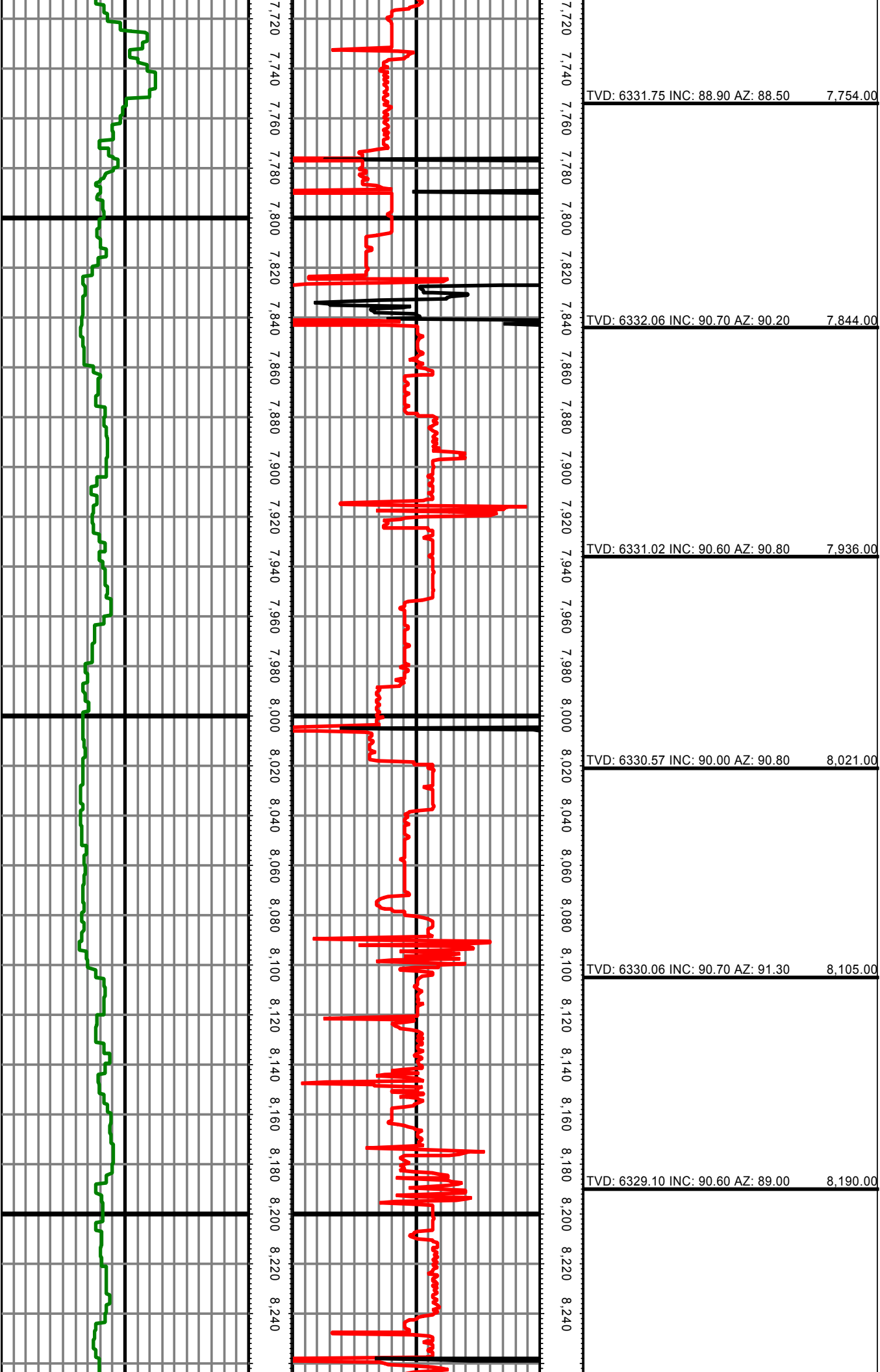


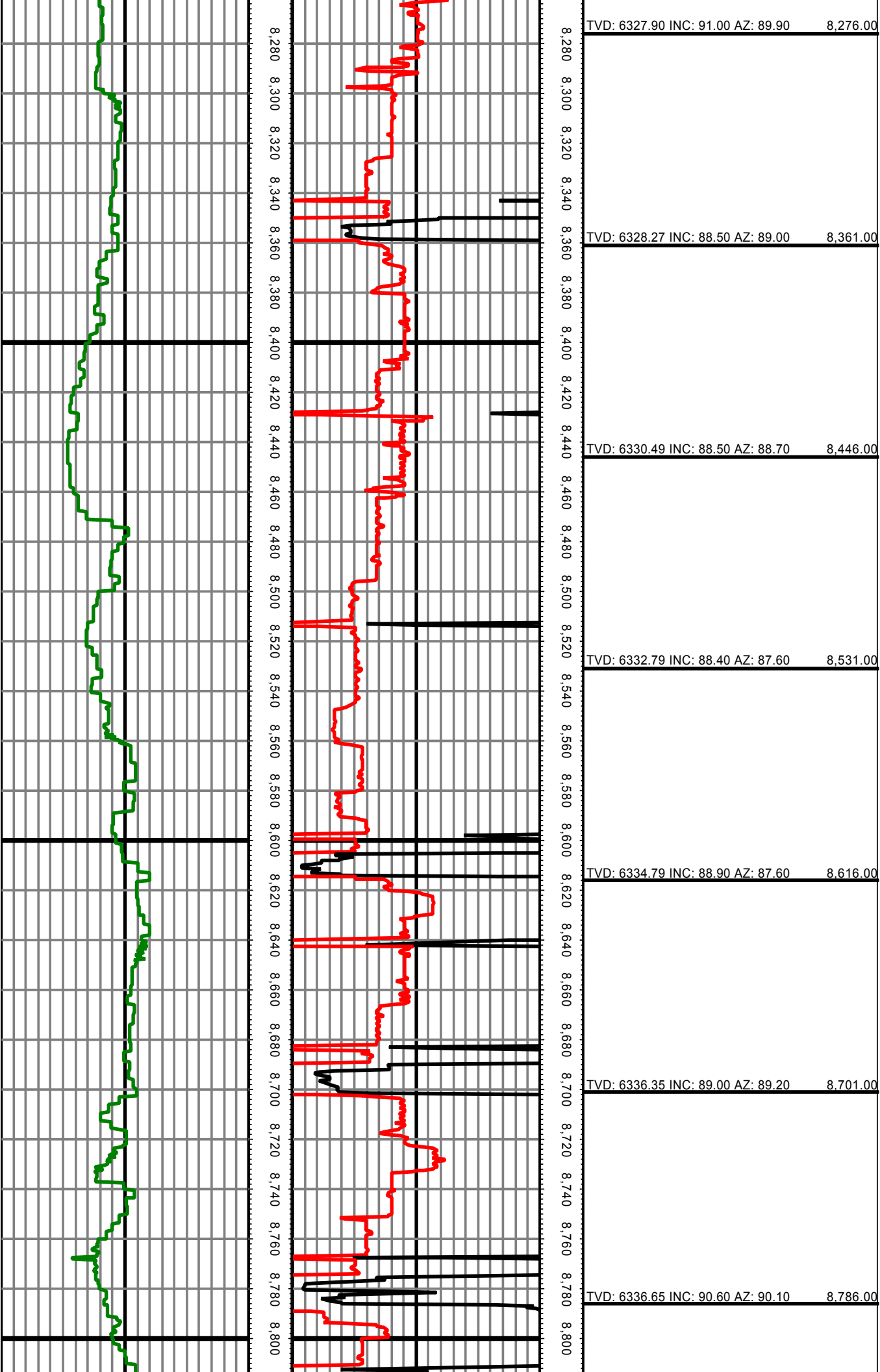


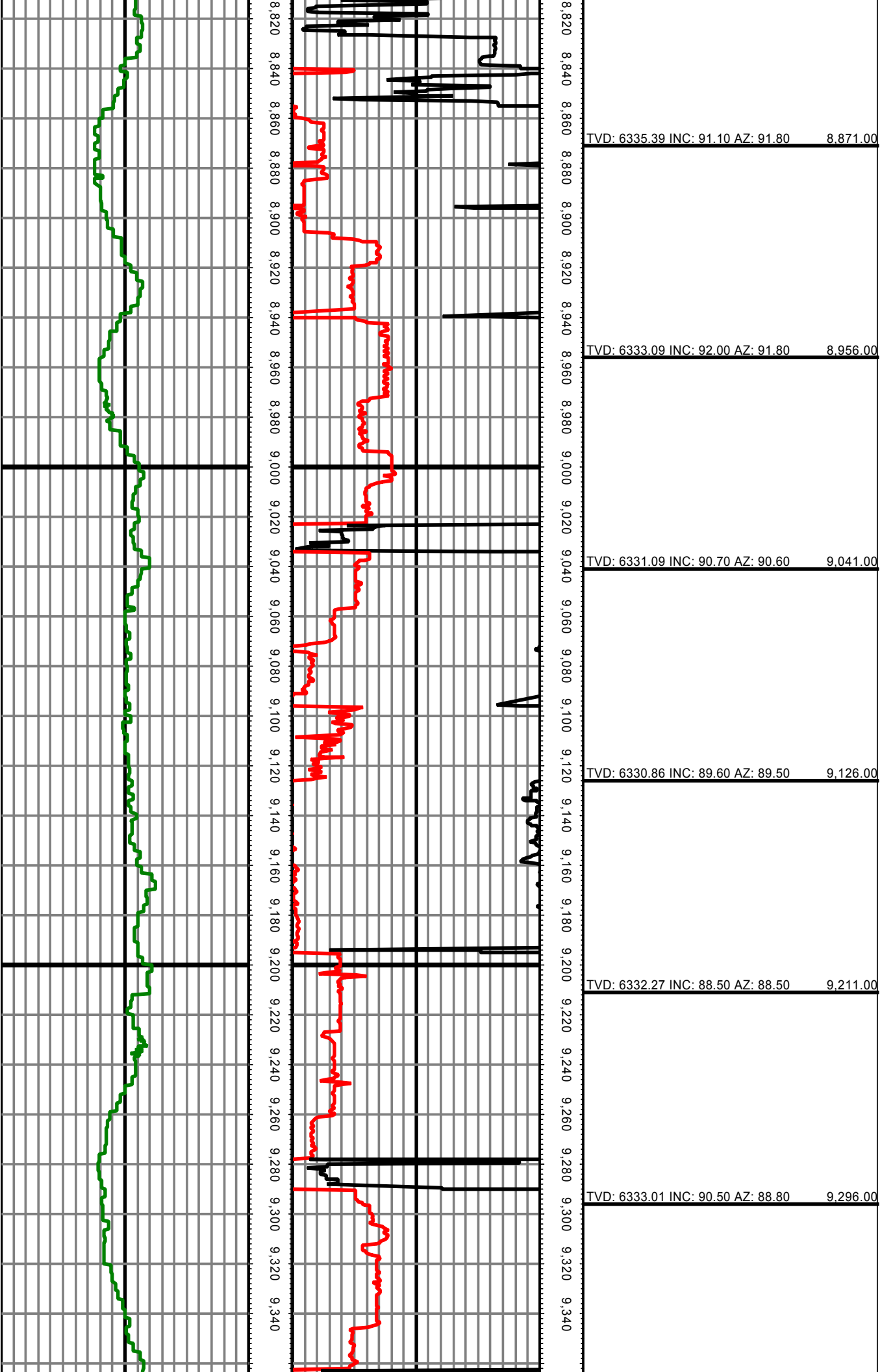
TVD: 5955.25 INC: 42.00 AZ: 10.60	6,069.00
TVD: 5985.61 INC: 45.40 AZ: 12.50	6,111.00
TVD: 6015.46 INC: 46.70 AZ: 17.50	6,154.00
TVD: 6043.61 INC: 49.20 AZ: 24.80	6,196.00
TVD: 6071.26 INC: 50.80 AZ: 30.80	6,239.00
TVD: 6097.88 INC: 50.60 AZ: 37.70	6,281.00
TVD: 6124.61 INC: 50.40 AZ: 42.40	6,323.00
TVD: 6151.91 INC: 50.80 AZ: 48.00	6,366.00
TVD: 6178.74 INC: 52.00 AZ: 49.80	6,409.00
TVD: 6203.72 INC: 55.00 AZ: 51.60	6,451.00
TVD: 6226.54 INC: 59.20 AZ: 56.00	6,493.00
TVD: 6247.39 INC: 62.80 AZ: 59.60	6,536.00
TVD: 6266.41 INC: 64.70 AZ: 60.90	6,579.00
TVD: 6276.51 INC: 65.50 AZ: 60.90	6,603.00

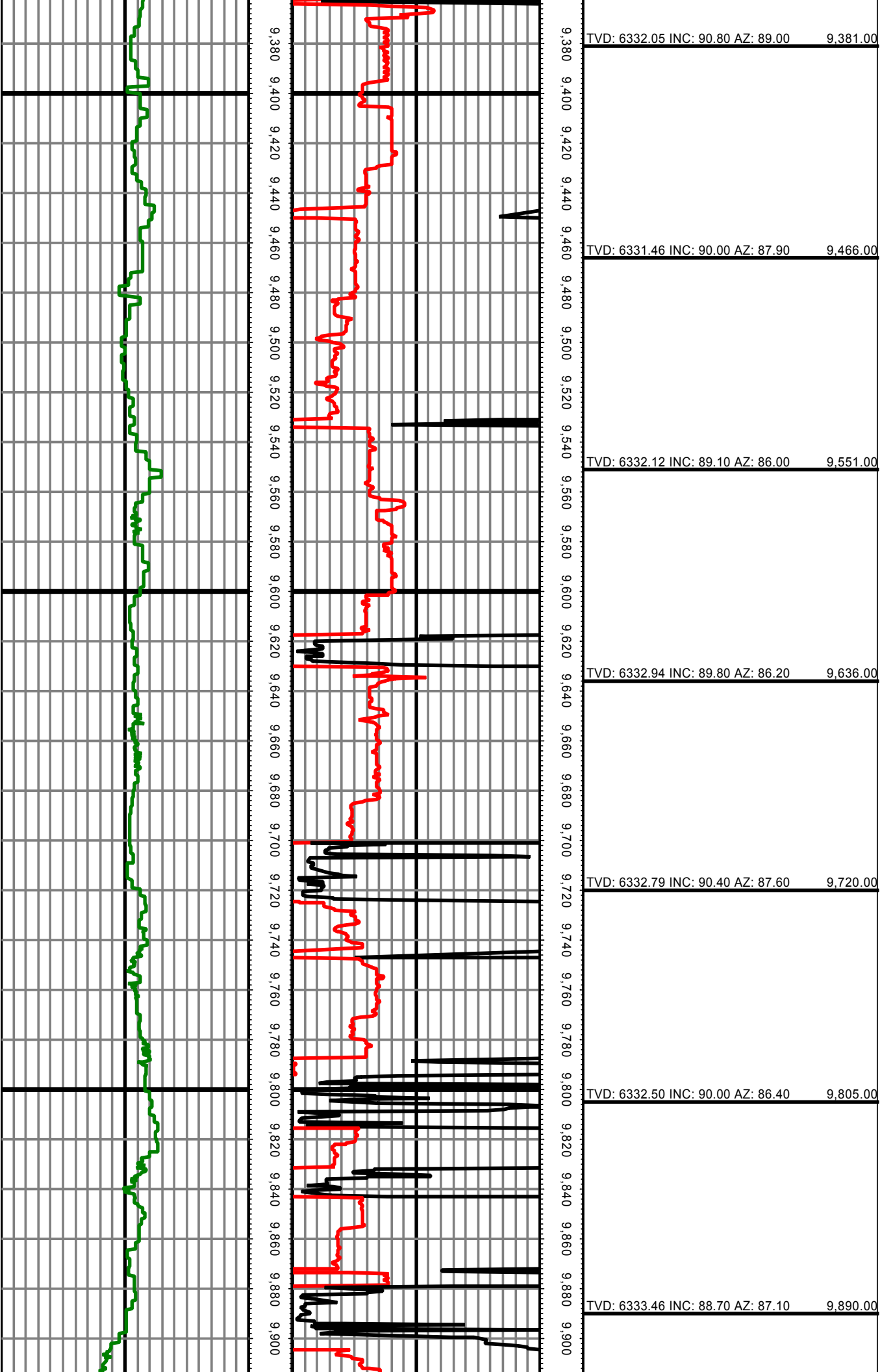


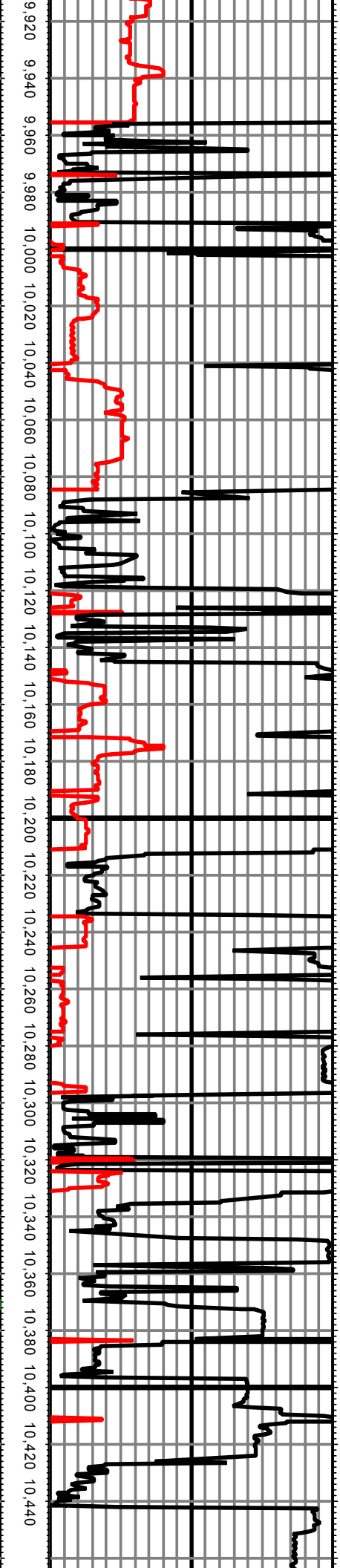
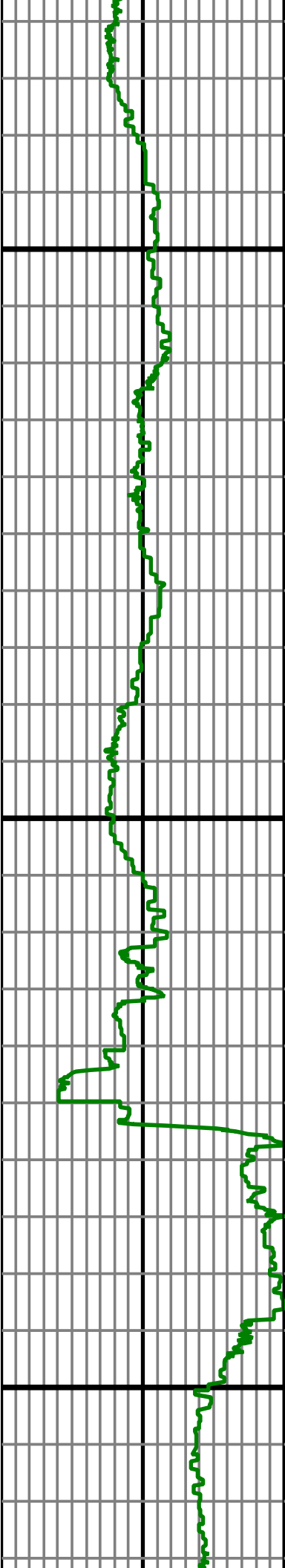












9,920	TVD: 6334.40 INC: 88.80 AZ: 86.90	9,933.00
9,940		
9,960	TVD: 6334.66 INC: 90.50 AZ: 87.80	9,975.00
9,980		
10,000	TVD: 6334.35 INC: 90.30 AZ: 88.50	10,018.00
10,020		
10,040	TVD: 6334.02 INC: 90.60 AZ: 88.80	10,060.00
10,060		
10,080	TVD: 6332.93 INC: 92.40 AZ: 90.80	10,102.00
10,100		
10,120	TVD: 6331.31 INC: 91.90 AZ: 91.10	10,145.00
10,140		
10,160	TVD: 6329.92 INC: 91.90 AZ: 90.60	10,187.00
10,180		
10,200	TVD: 6327.61 INC: 94.40 AZ: 90.20	10,229.00
10,220		
10,240	TVD: 6324.01 INC: 95.20 AZ: 90.20	10,272.00
10,260		
10,280	TVD: 6320.38 INC: 94.50 AZ: 89.70	10,315.00
10,300		
10,320	TVD: 6317.70 INC: 92.80 AZ: 90.40	10,357.00
10,340		
10,360	TVD: 6316.39 INC: 90.70 AZ: 91.30	10,400.00
10,380		
10,400	TVD: 6316.21 INC: 89.80 AZ: 92.30	10,442.00
10,420		
10,440		

