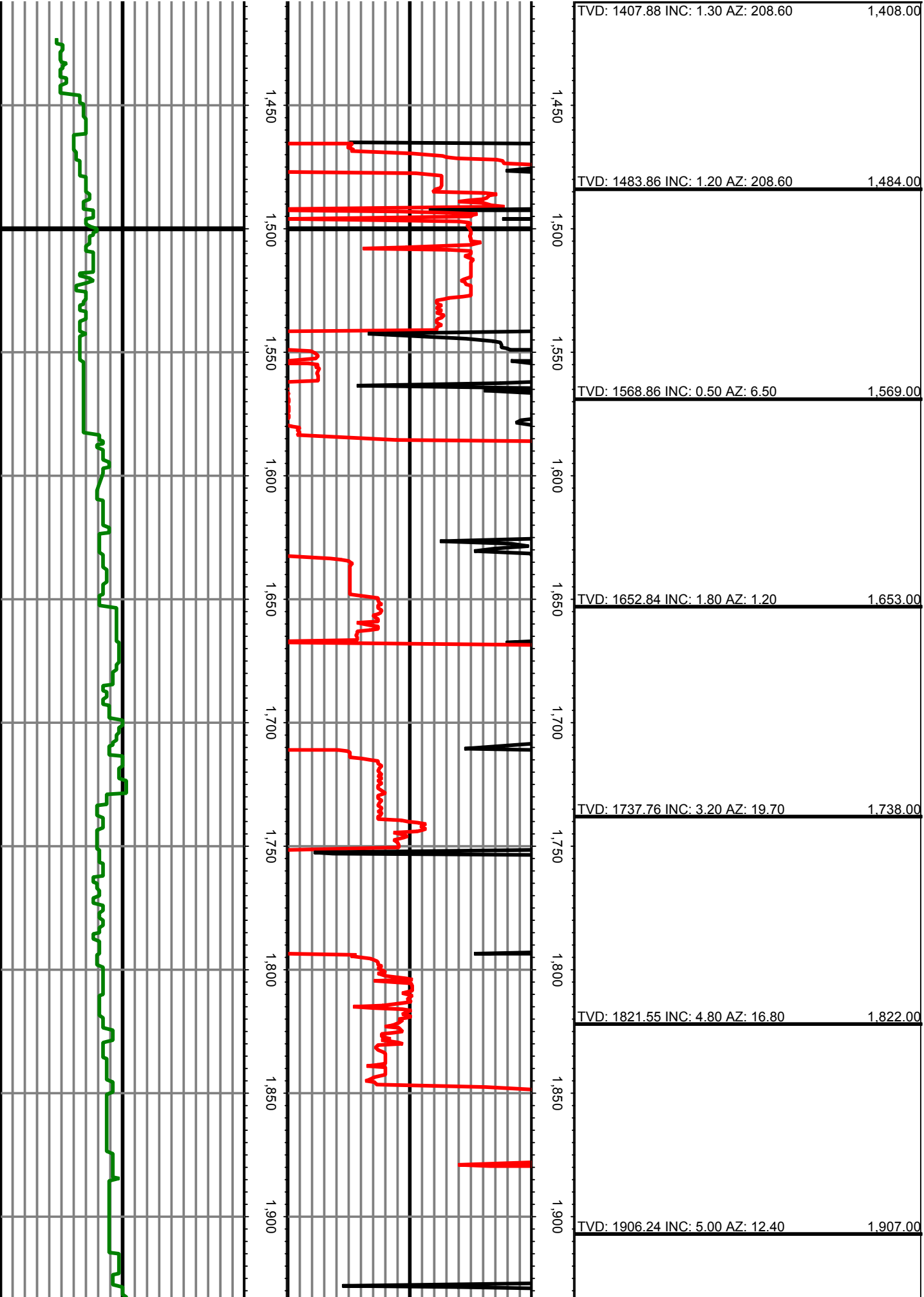
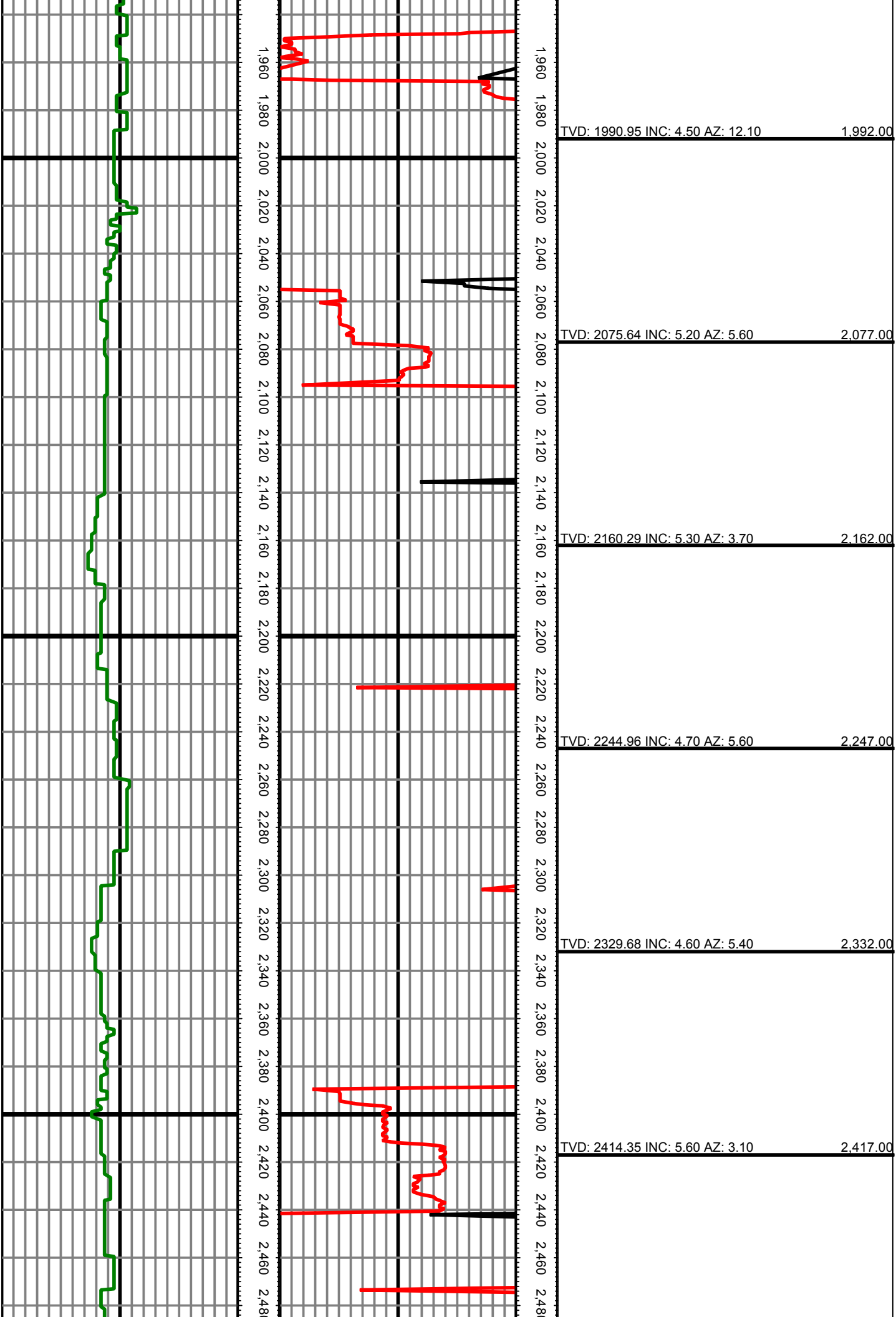


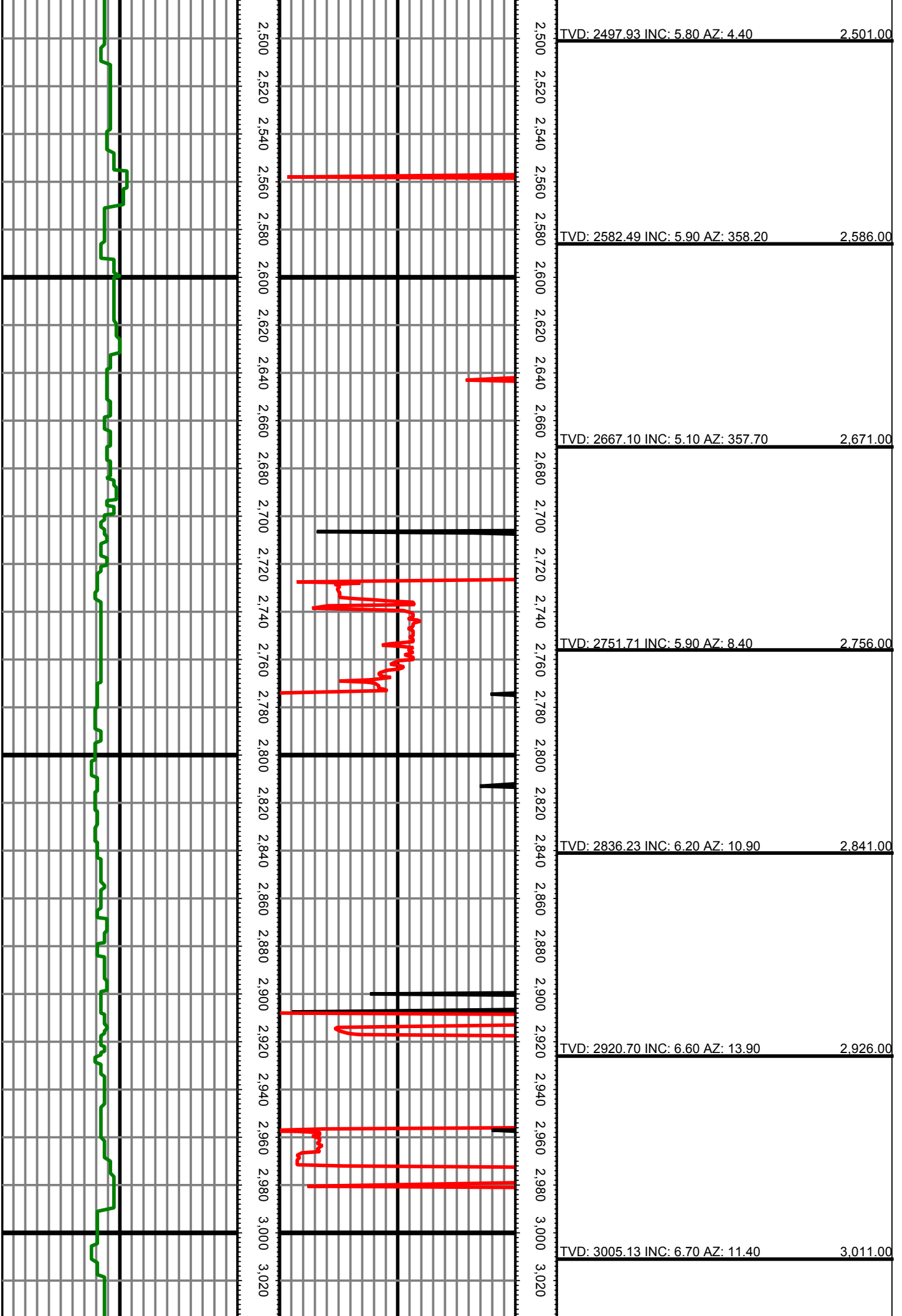
**Precision Directional Services, Inc.**27610 Commerce Oaks Drive  
Oak Ridge North, TX 77385  
(713) 435-6250**Timbro Ranch 2-34-10-59****Scale 2":100' - MD****11/23/2014 9:40 PM****Oper. Company:** Carrizo Oil & Gas, Inc.**Well:** Timbro Ranch 2-34-10-59**Field:** Niobrara CONZ'83**Rig:** Xtreme 19**Well ID:** 05-123-40525**Job Number:** DL2461**State:** Colorado**County:** Weld**Country:** USA**Location:** Keota**Start Date:** 11/18/2014 05:30:00**End Date:** 11/23/2014 21:30:00**Latitude:** 40.786250**Longitude:** -103.963210**Elev KB:** 17'**Elev DF:** 5082'**Elev GL:** 5065'**Operator 1:** Paul Brown**Operator 2:** Kyle Elliott

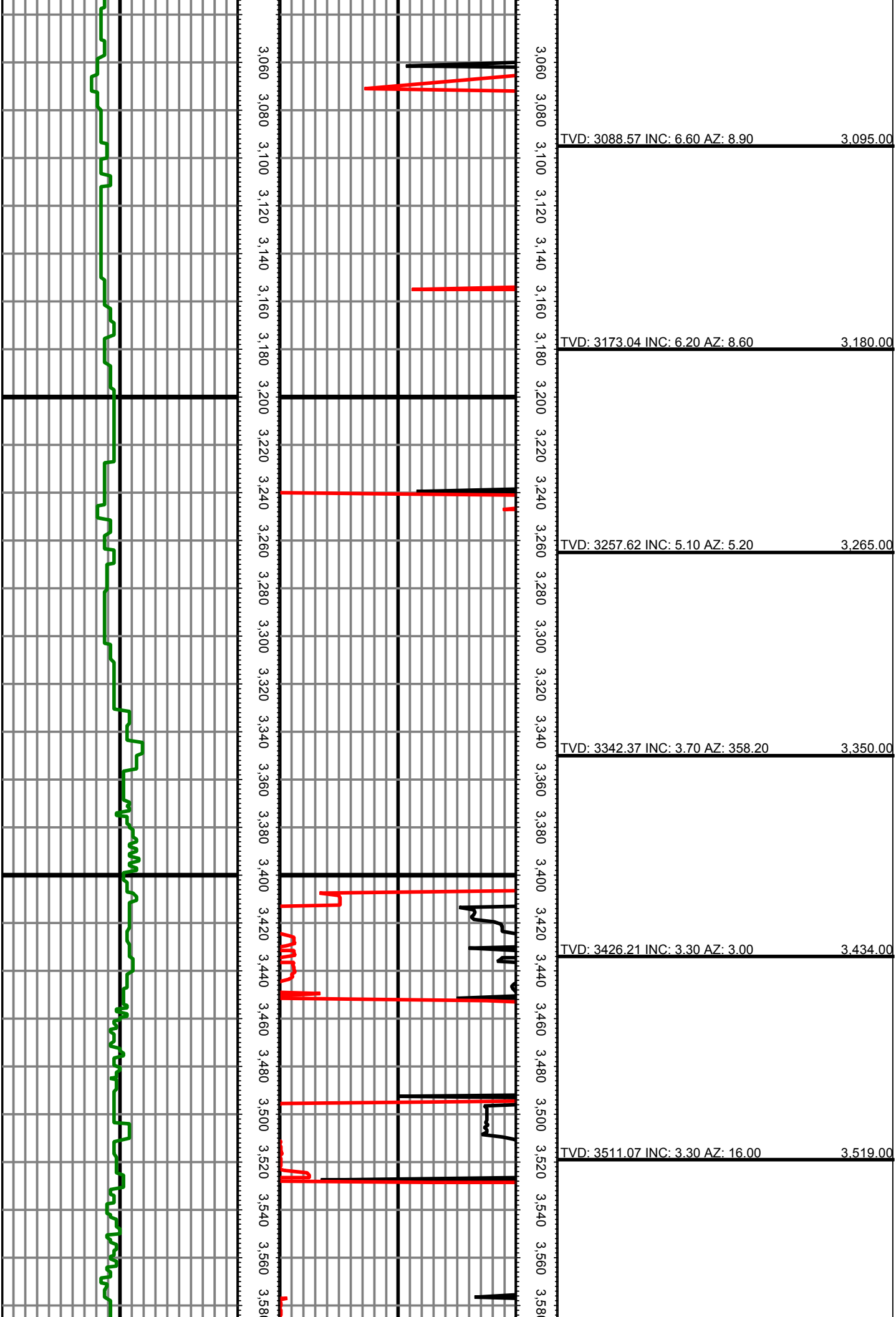
Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	G2030	G1527	G1527		
Bit Size	8 3/4	8 3/4	6 1/8		
Cal Factor	4.08	4.01	1.53		
Gamma Offset	42.00	42.00	44.00		
Resistivity Offset	0.00	0.00	0.00		
Start Depth	1465.00	5660.00	6421.00		
StartDate	11/18/2014	11/19/2014	11/21/2014		
StartTime	00:30	15:30	12:45		
EndDepth	5660.00	6421.00	10611.00		
EndDate	11/19/2014	11/20/2014	11/23/2014		
EndTime	13:30	18:30	21:30		
Mud Type	WBM	WBM	WBM		
Mud Weight	8.4 - 9.5	9.5 - 9.6	9.6 - 9.8		
Funnel Viscosity	49	42 - 47	48 - 49		
Plastic Viscosity	18	14 - 15	17 - 20		
Yield Point	13	14 - 16	13 - 25		
Gel Strength	4	17 - 19	19 - 32		
Solids Content	4.6	5.6 - 6.0	6.8		
Sand Content	0.25	0.25	0.25		
Mud Alkalinity	0.8	0.7 - 0.88	2.2 - 2.4		
Filtrate Alkalinity	0.6 - 1.4	0.5 - 1.4	2		
Chlorides	500 - 700	800	1700		
Mud RM	N/A	N/A	N/A		
Mud RMF	N/A	N/A	N/A		
Mud RMC	N/A	N/A	N/A		
Mud RM at BHT	N/A	N/A	N/A		
Temperature	120	120 - 140	140 - 185		
Hole Data			Casing Data		
Size	From	To	Size	From	To
12 1/4	0.00	1465.00	9 5/8	0.00	1445.00
8 3/4	1465.00	6421.00	7	0.00	6401.00
6 1/8	6421.00	10611.00	4.5	6401.00	10611.00

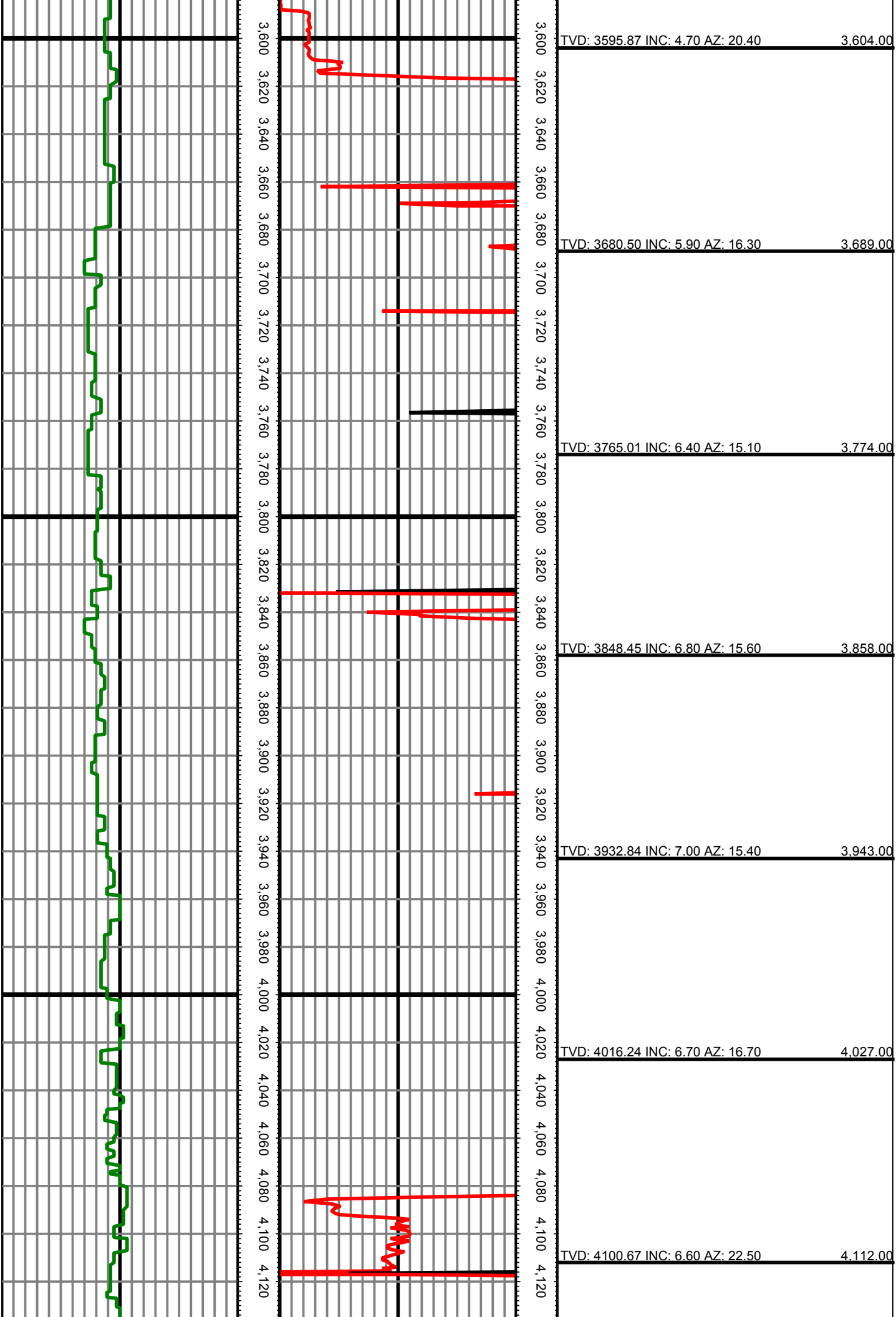
*All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost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

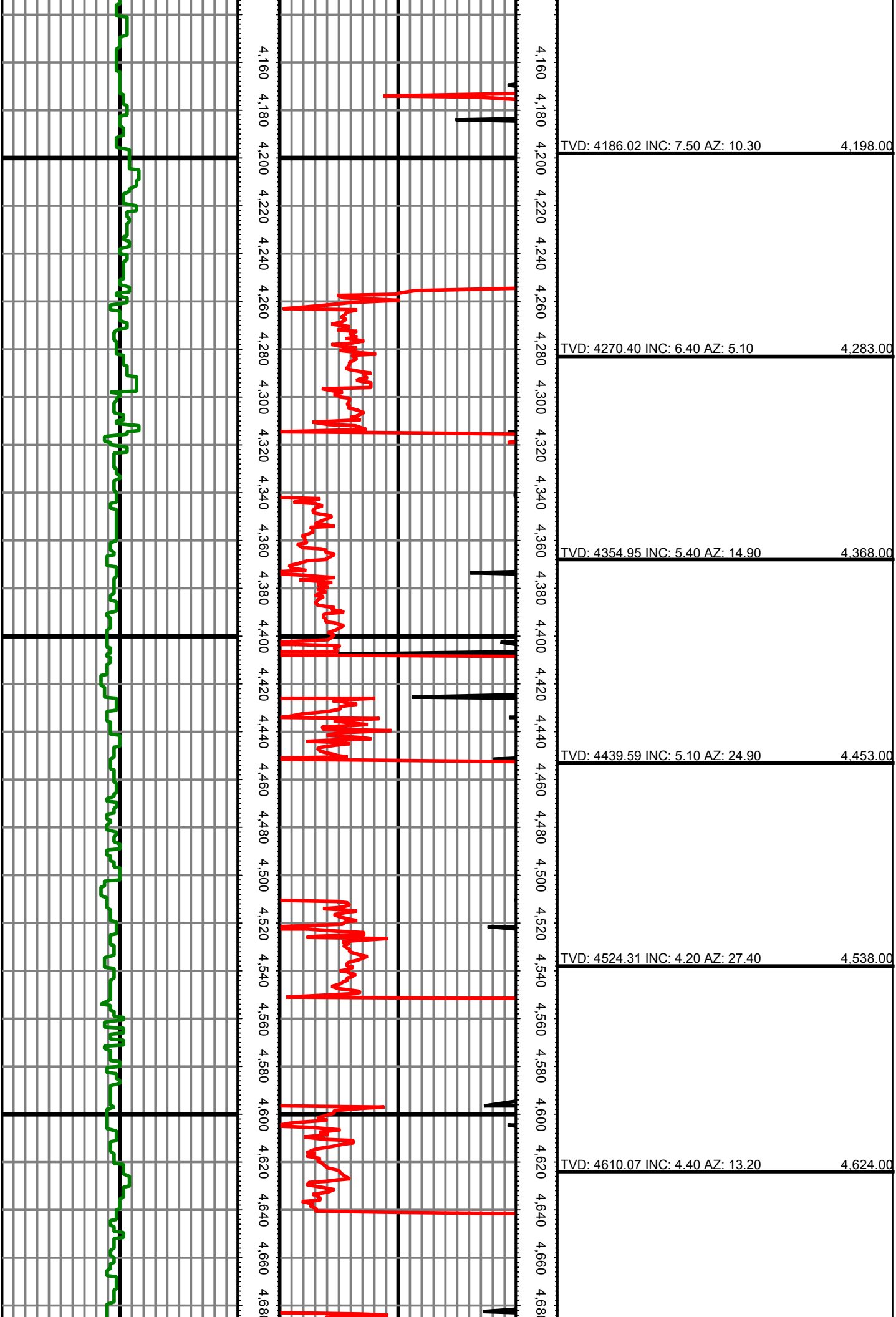


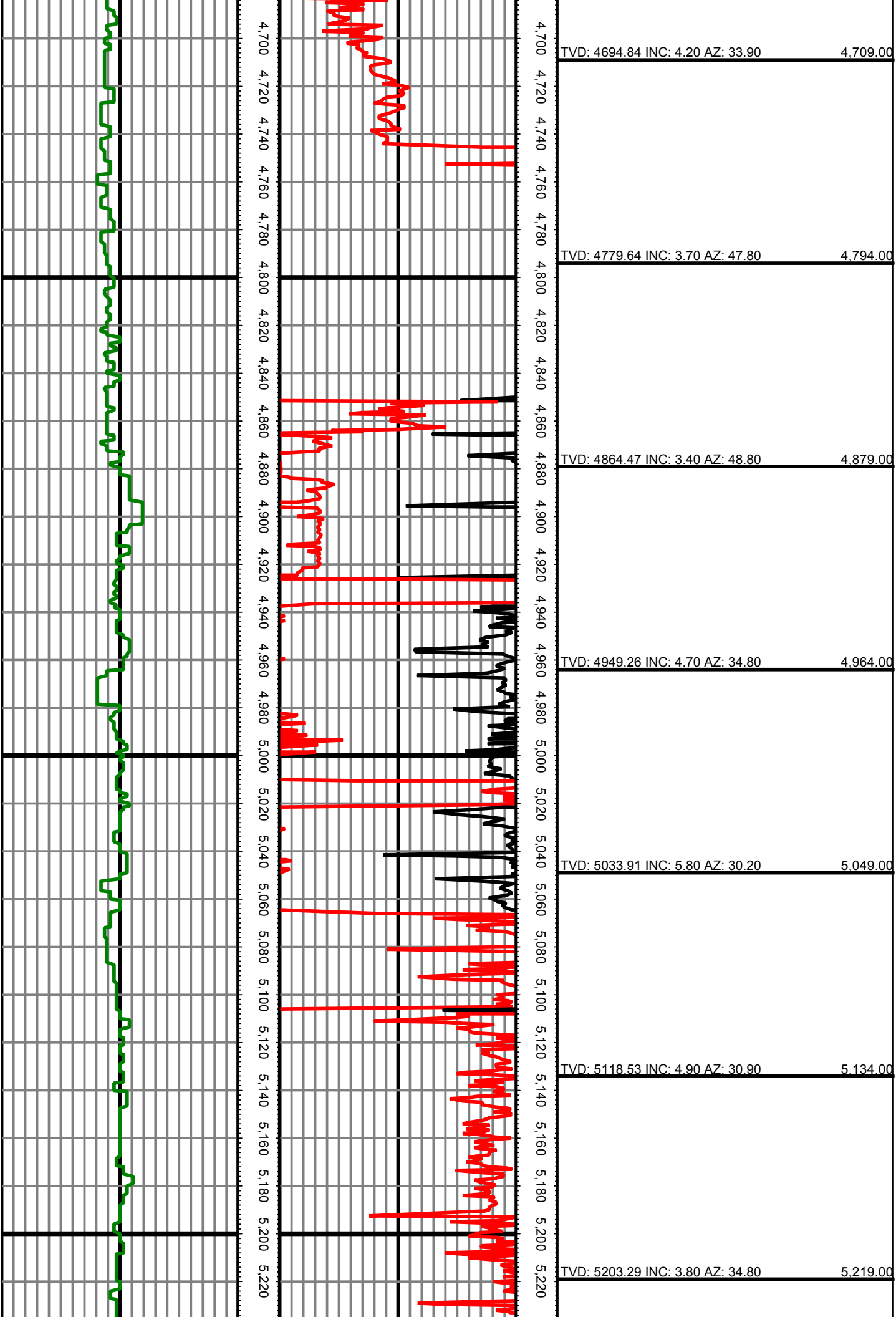




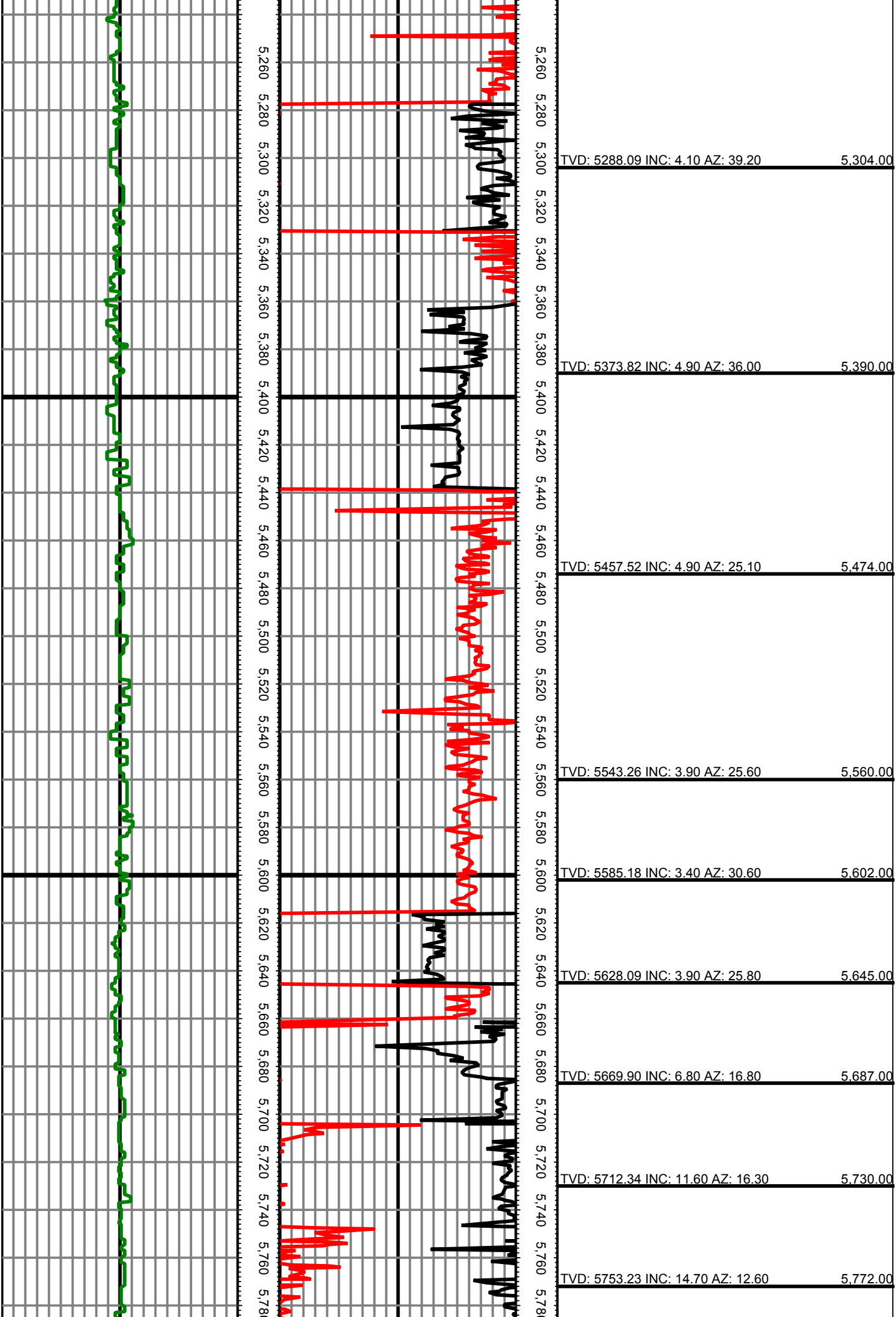


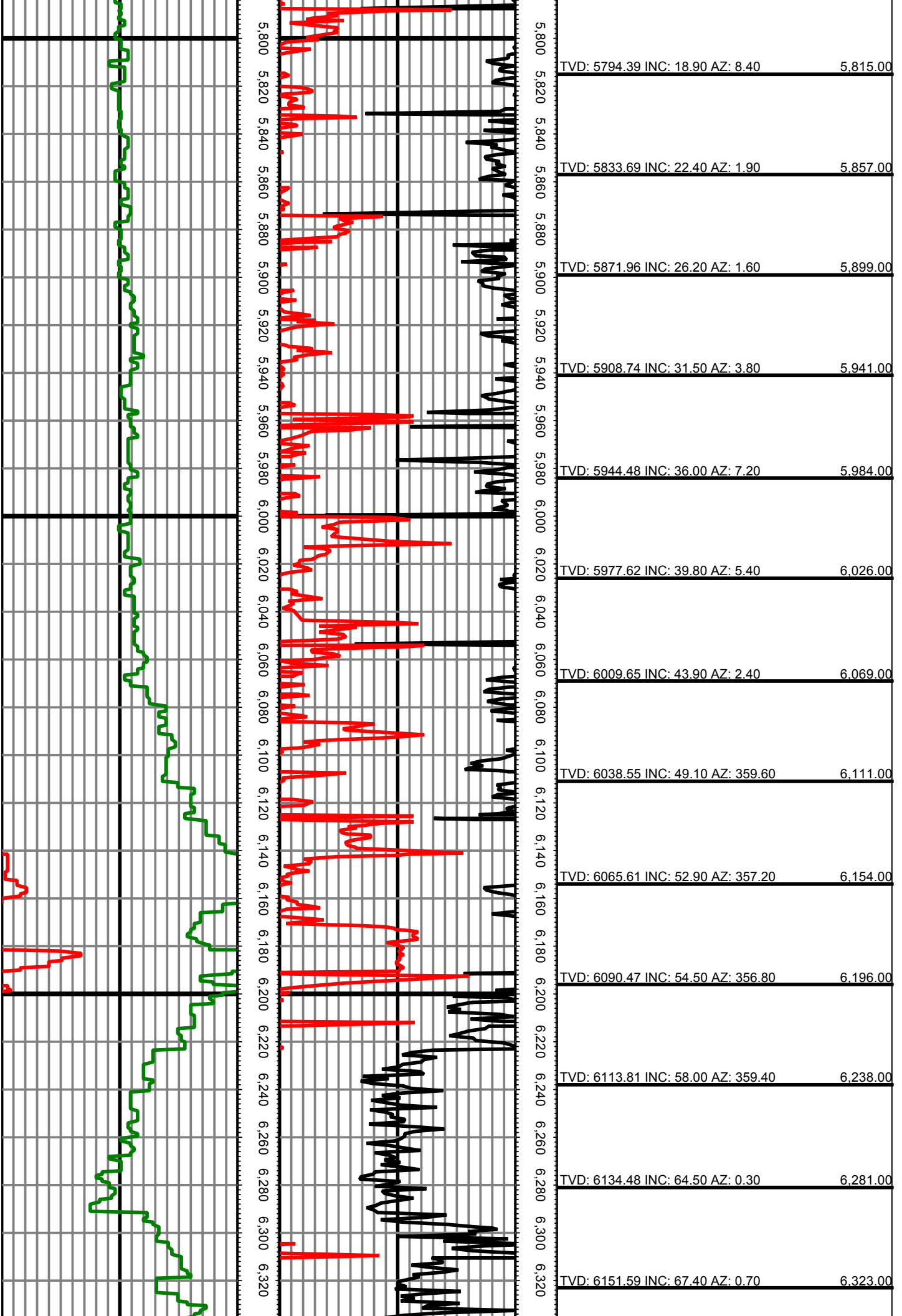


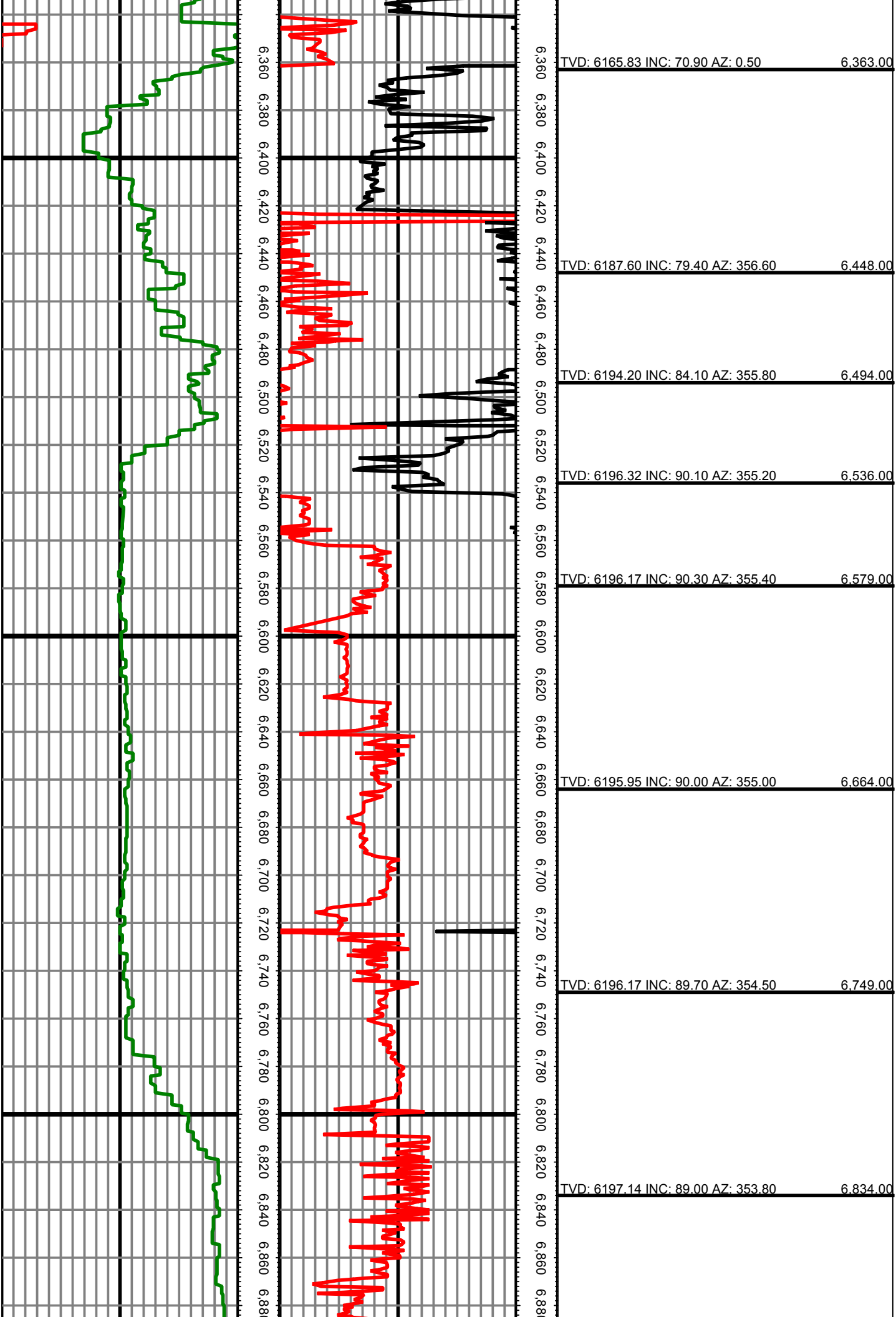


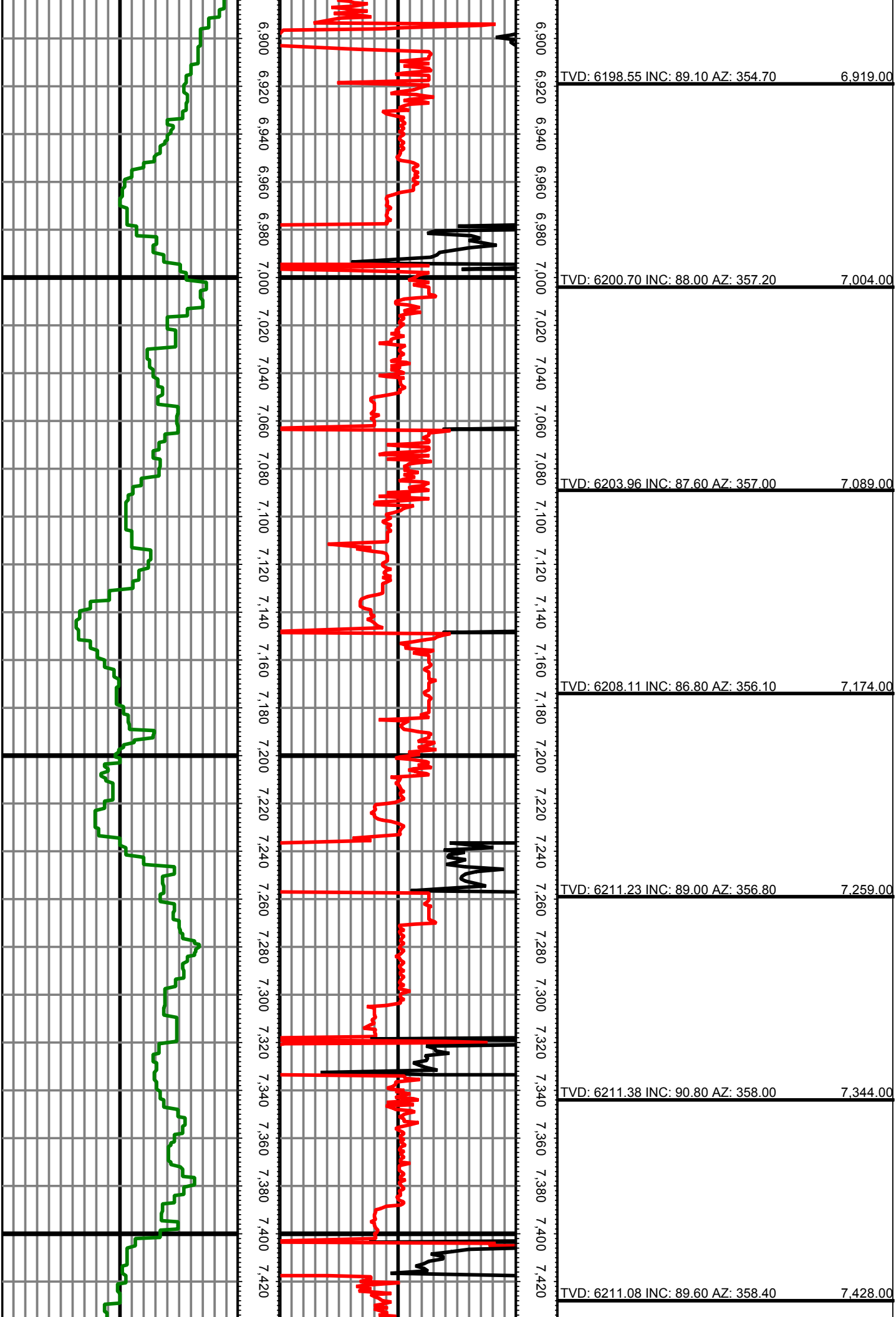


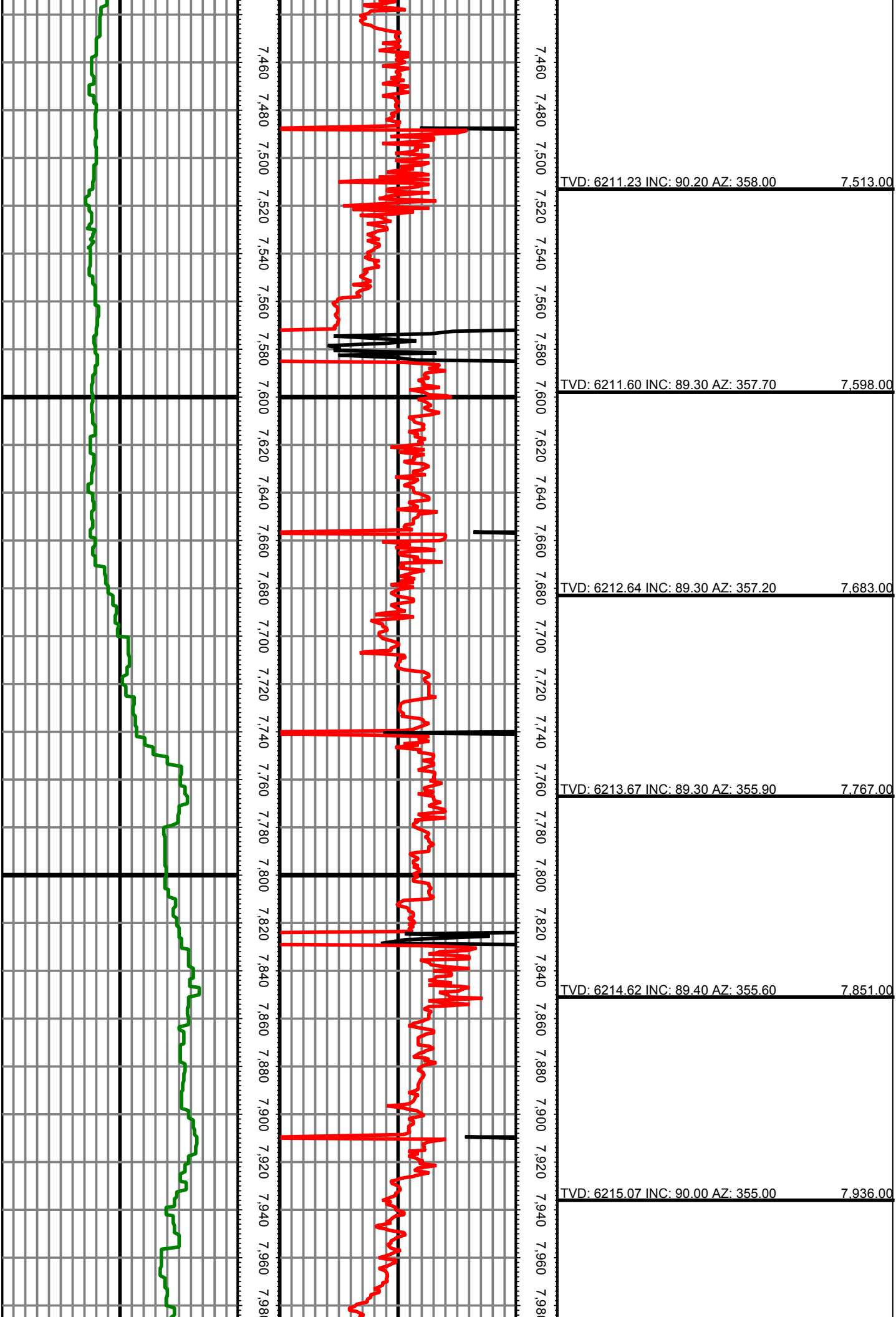


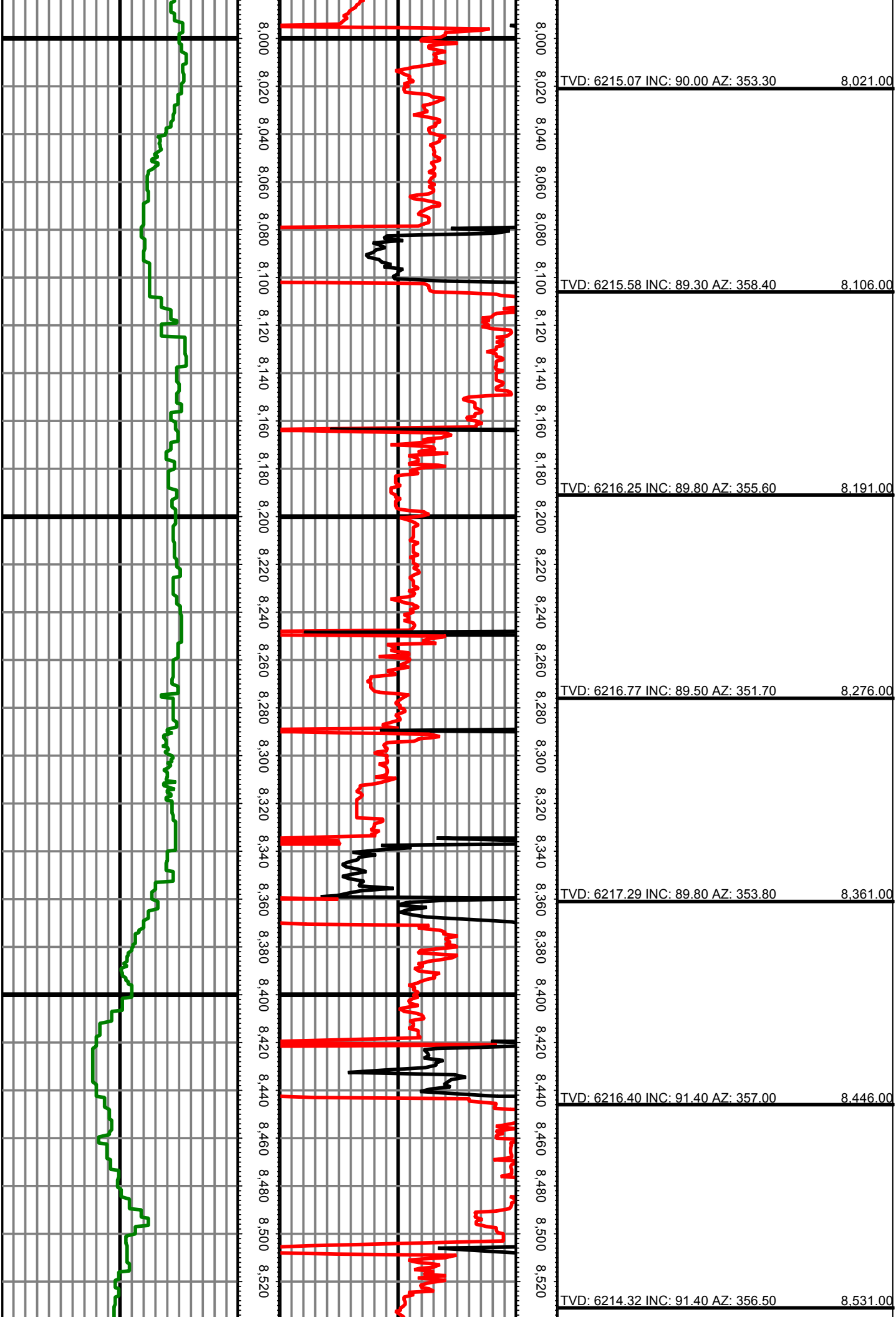


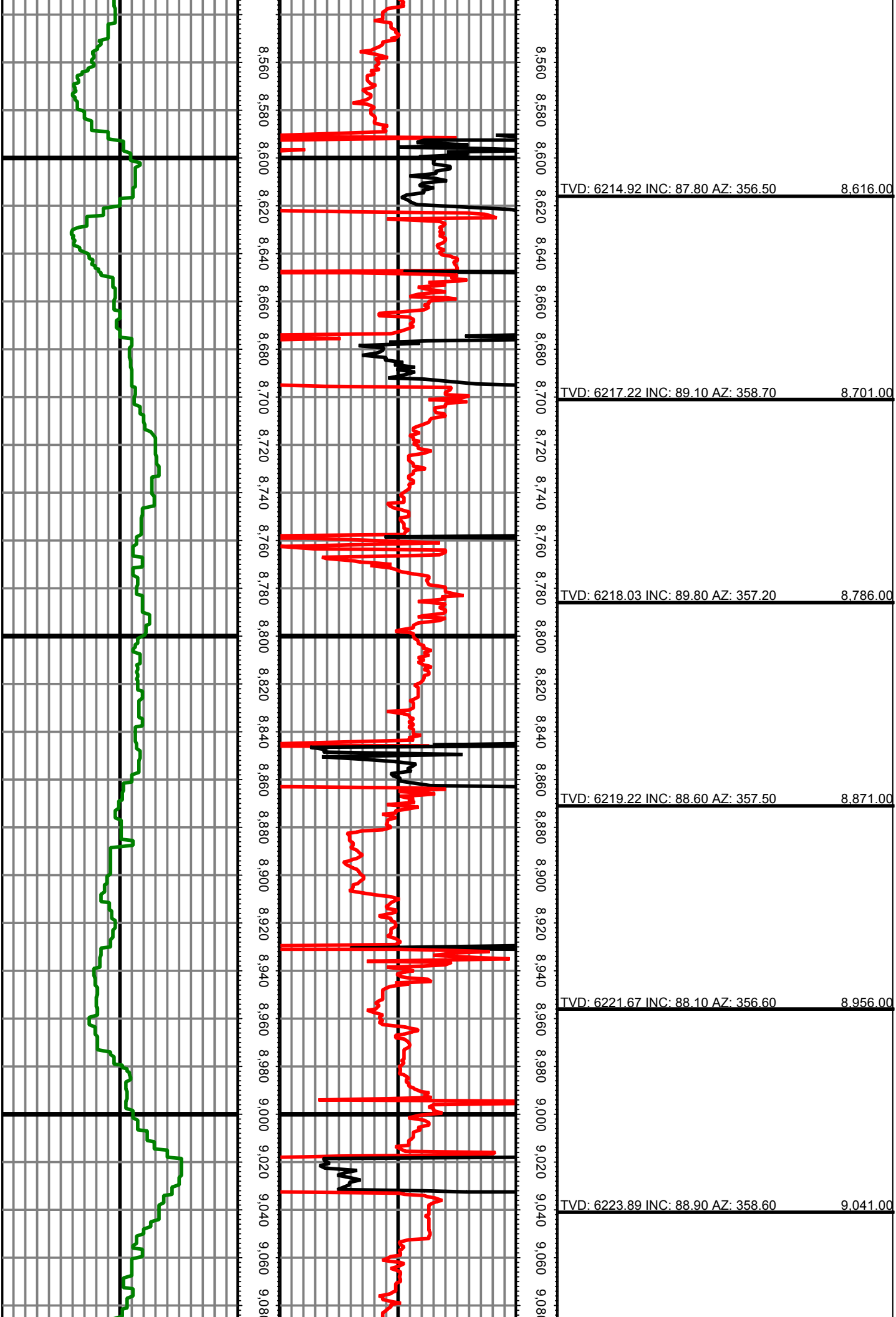


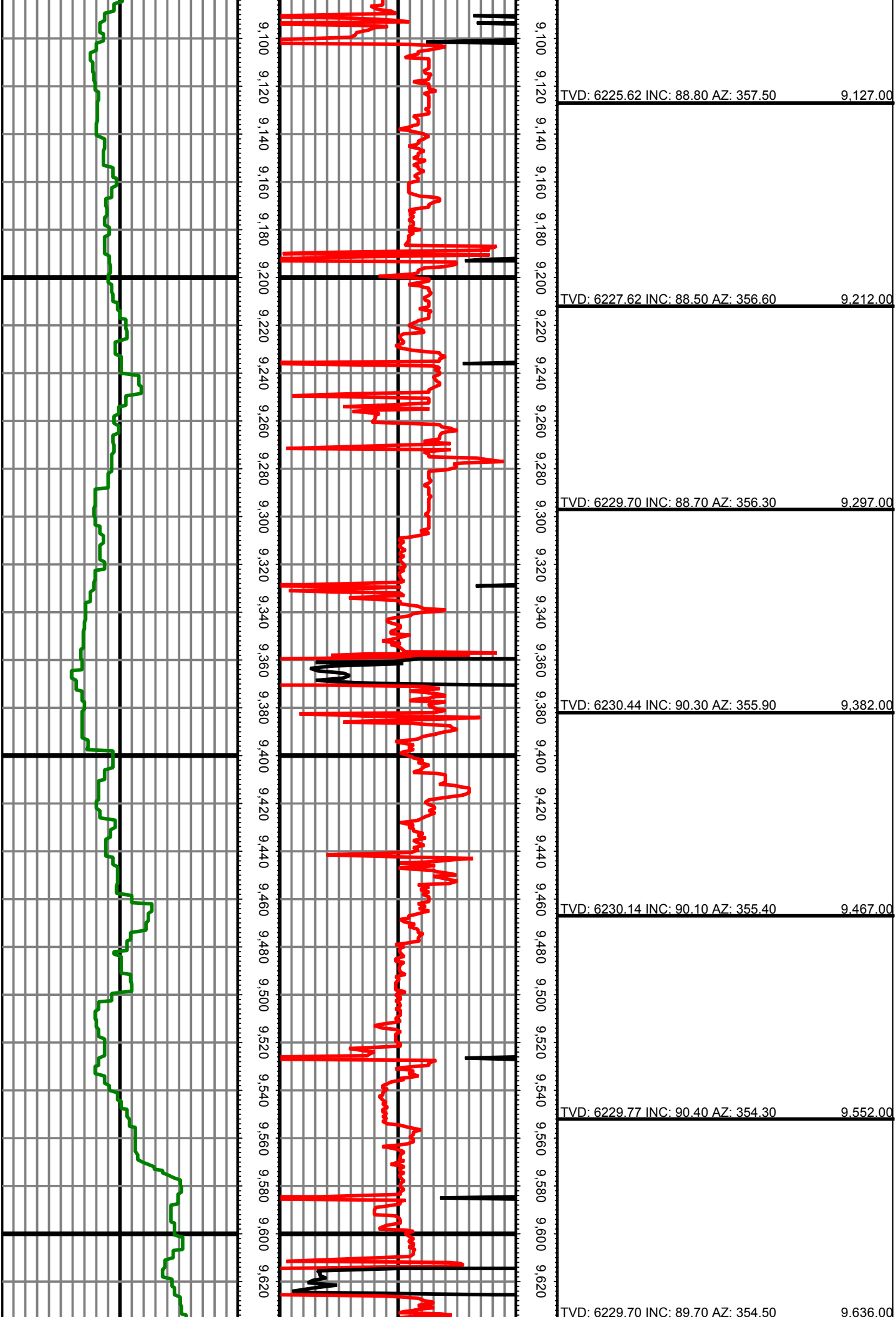




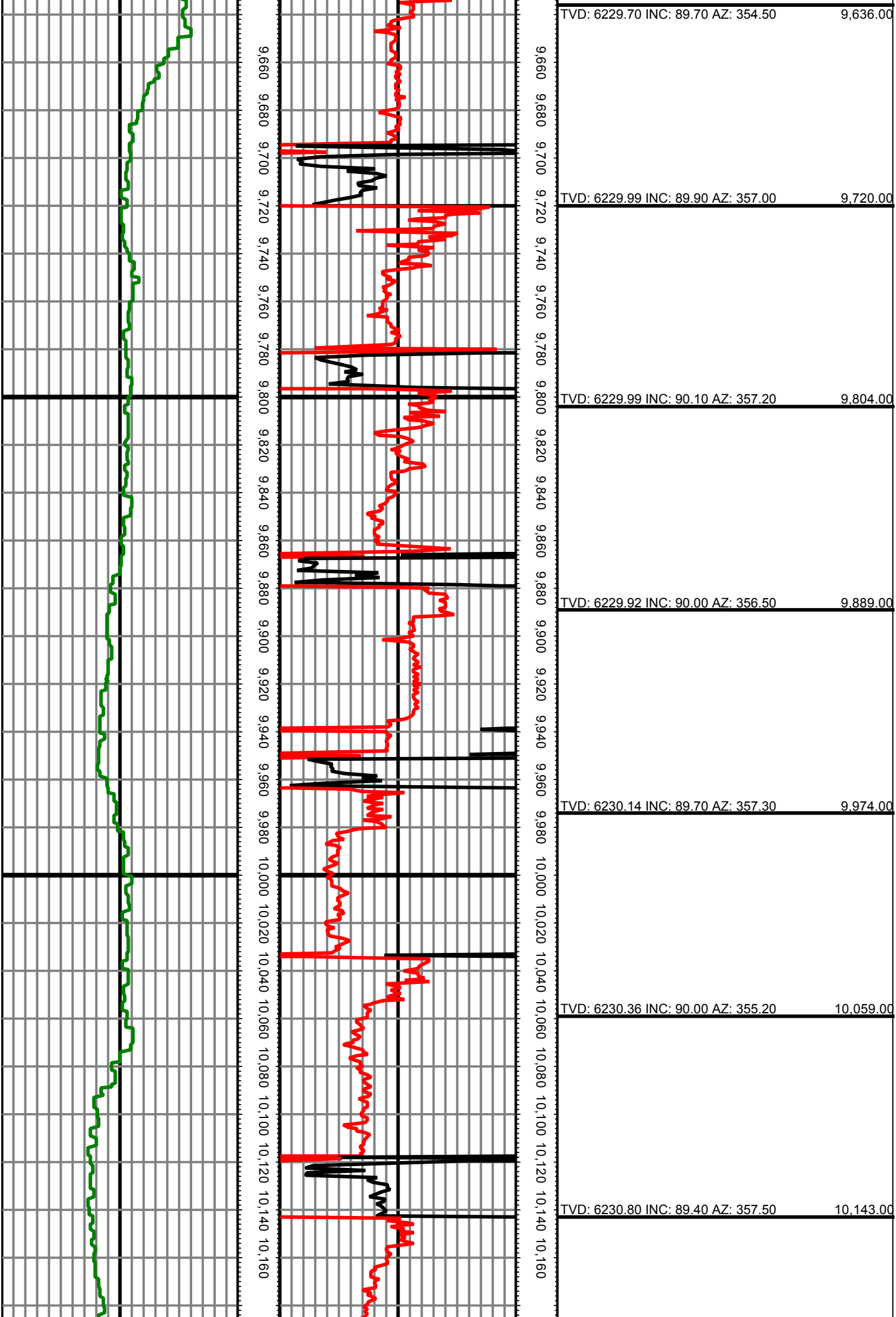












TVD: 6229.70 INC: 89.70 AZ: 354.50 9,636.00

TVD: 6229.99 INC: 89.90 AZ: 357.00 9,720.00

TVD: 6229.99 INC: 90.10 AZ: 357.20 9,804.00

TVD: 6229.92 INC: 90.00 AZ: 356.50 9,889.00

TVD: 6230.14 INC: 89.70 AZ: 357.30 9,974.00

TVD: 6230.36 INC: 90.00 AZ: 355.20 10,059.00

TVD: 6230.80 INC: 89.40 AZ: 357.50 10,143.00

