



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

DL1955

5":100' - MD

11/3/2013 6:08:12 PM

Oper. Company: Carrizo Oil & Gas, Inc.
Country: United States
State / Province: Colorado
County / Parish: Weld Co
Started: 10/27/2013 11:00 AM

API/UWI: 05-123-38350
Field: Niobrara CONZ 83'
Well: Speaker 1-27-8-61
Rig: Xtreme 17
Ended: 11/01/2013 02:45 PM

Personnel

Day Hand: Luis Suarez
Night Hand: Andrew Thomson
Comp. Emp: Curtiss Andersen

Location

Latitude: 40.37'35.107N
Longitude: 104.12'01.696W
Elev. GL: 4932
Elev. DF: 17
Elev. KB: 4949

Hole Data

| Size | From | To |
|--------|------|-------|
| 12 1/4 | 0 | 1471 |
| 8 3/4 | 1471 | 6668 |
| 6 1/8 | 6668 | 11142 |

Casing Data

| Size | From | To |
|-------|------|-------|
| 9 5/8 | 0 | 1471 |
| 7 | 1471 | 6668 |
| 4 1/2 | 6668 | 11142 |

Bit Sizes

| Size | From | To |
|--------|------|-------|
| 12 1/4 | 0 | 1471 |
| 8 3/4 | 1471 | 6668 |
| 6 1/8 | 6668 | 11142 |

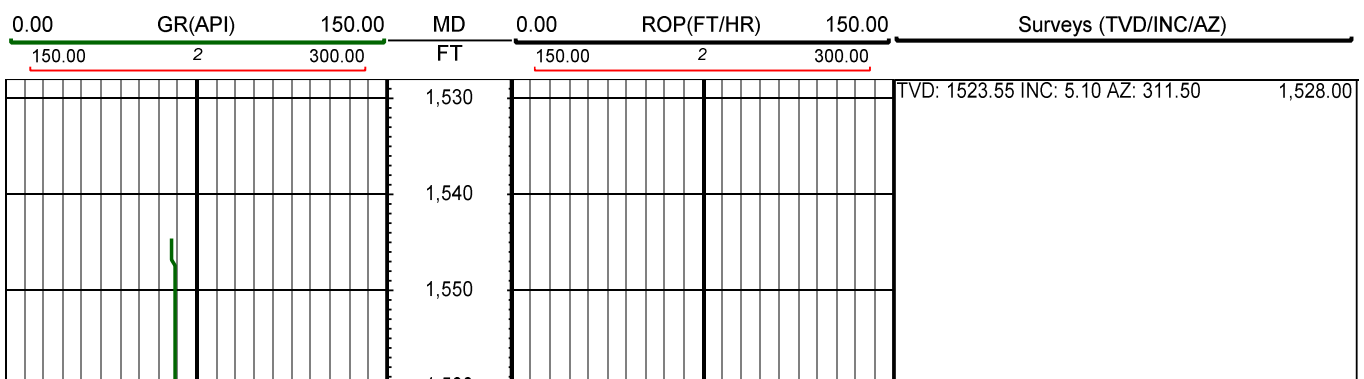
Mud Data

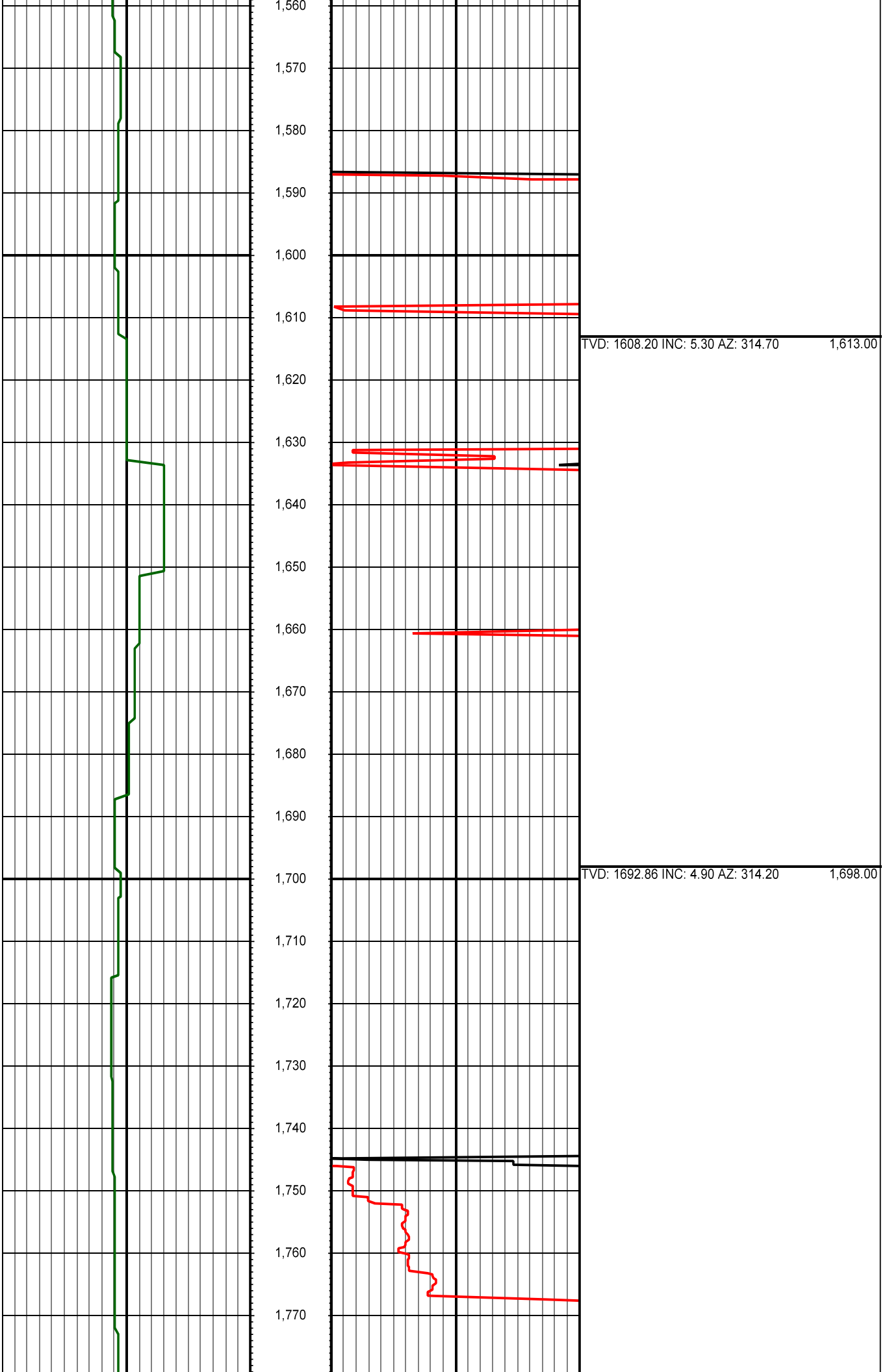
| Type | Weight | Density | Viscosity | Rm | Rmf | Rmc | From | To |
|------|--------|---------|-----------|----|-----|-----|------|----|
|------|--------|---------|-----------|----|-----|-----|------|----|

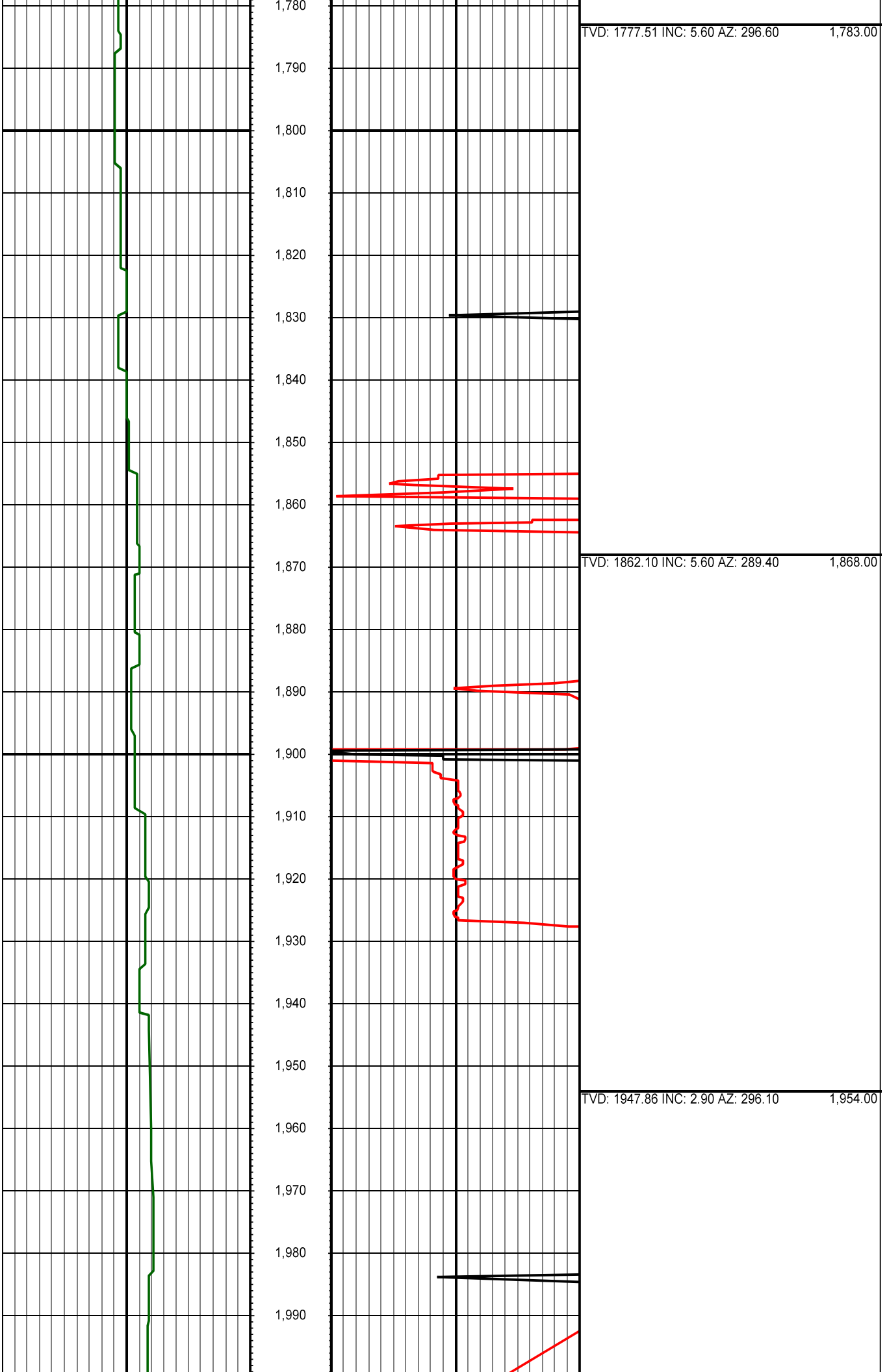
Tool Run Data

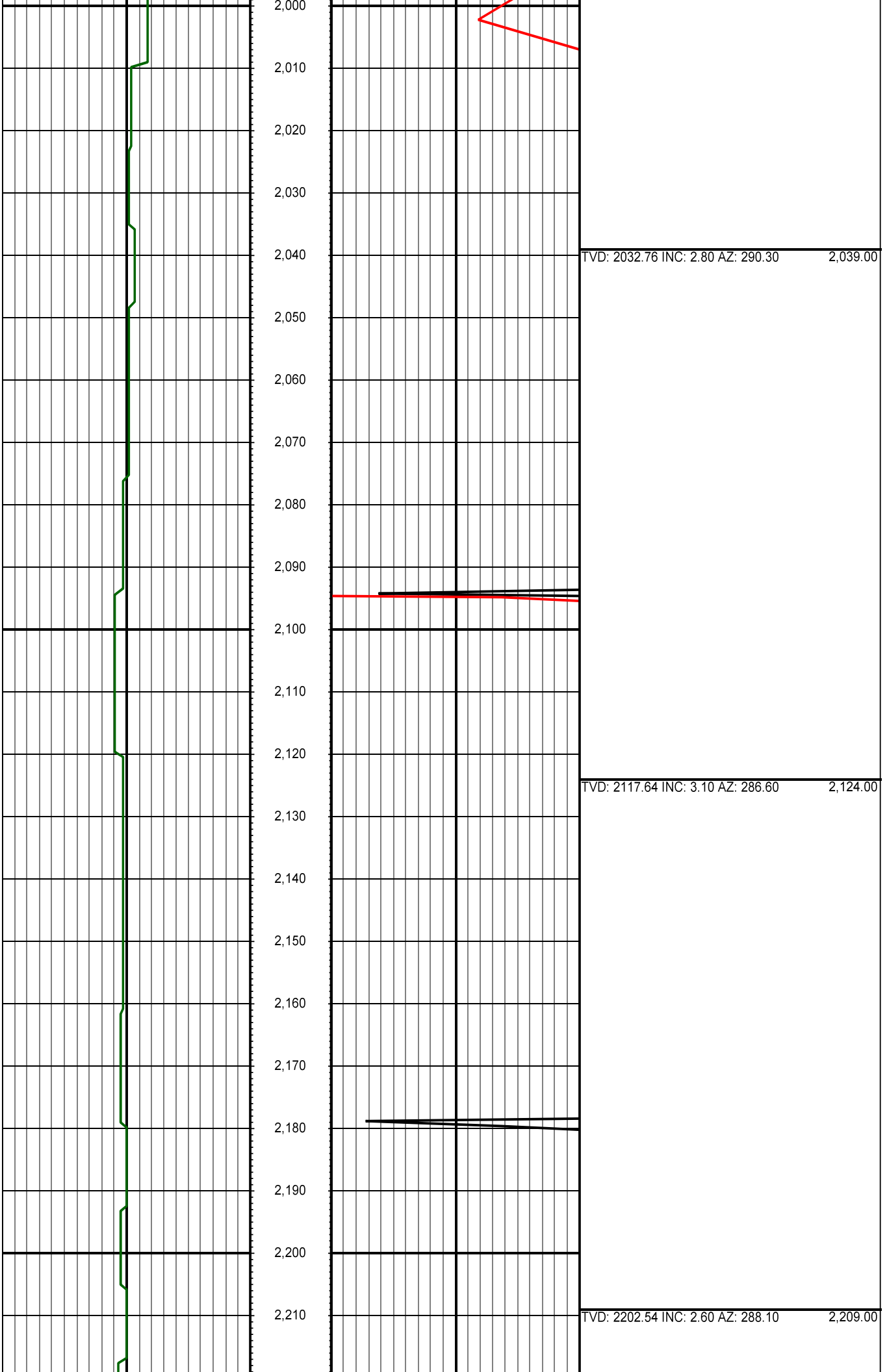
| Serial Number | Gamma Offset | Resist. Offset | Start Time | Start Depth | End Time | End Depth |
|---------------|--------------|----------------|-----------------------|-------------|-----------------------|-----------|
| G1148 | 42 | 0 | 10/27/2013 7:00:27 AM | 1471 | 10/28/2013 2:30:27 PM | 5891 |
| G2689 | 42 | 0 | 10/28/2013 3:00:56 PM | 5891 | 10/29/2013 4:00:56 PM | 6668 |
| G2689 | 41 | 0 | 10/29/2013 1:00:34 PM | 6668 | 11/1/2013 2:45:34 PM | 11142 |

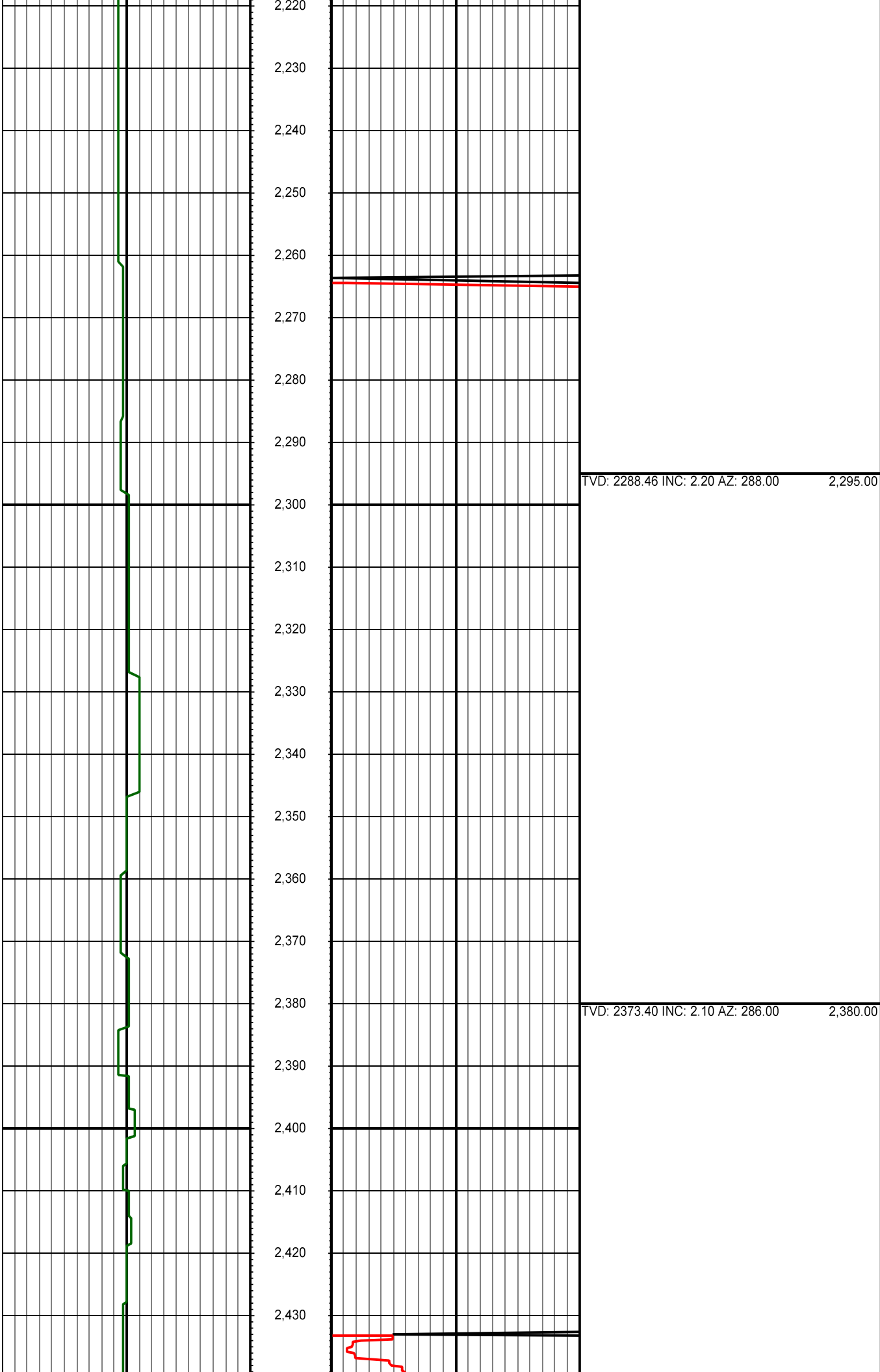
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost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

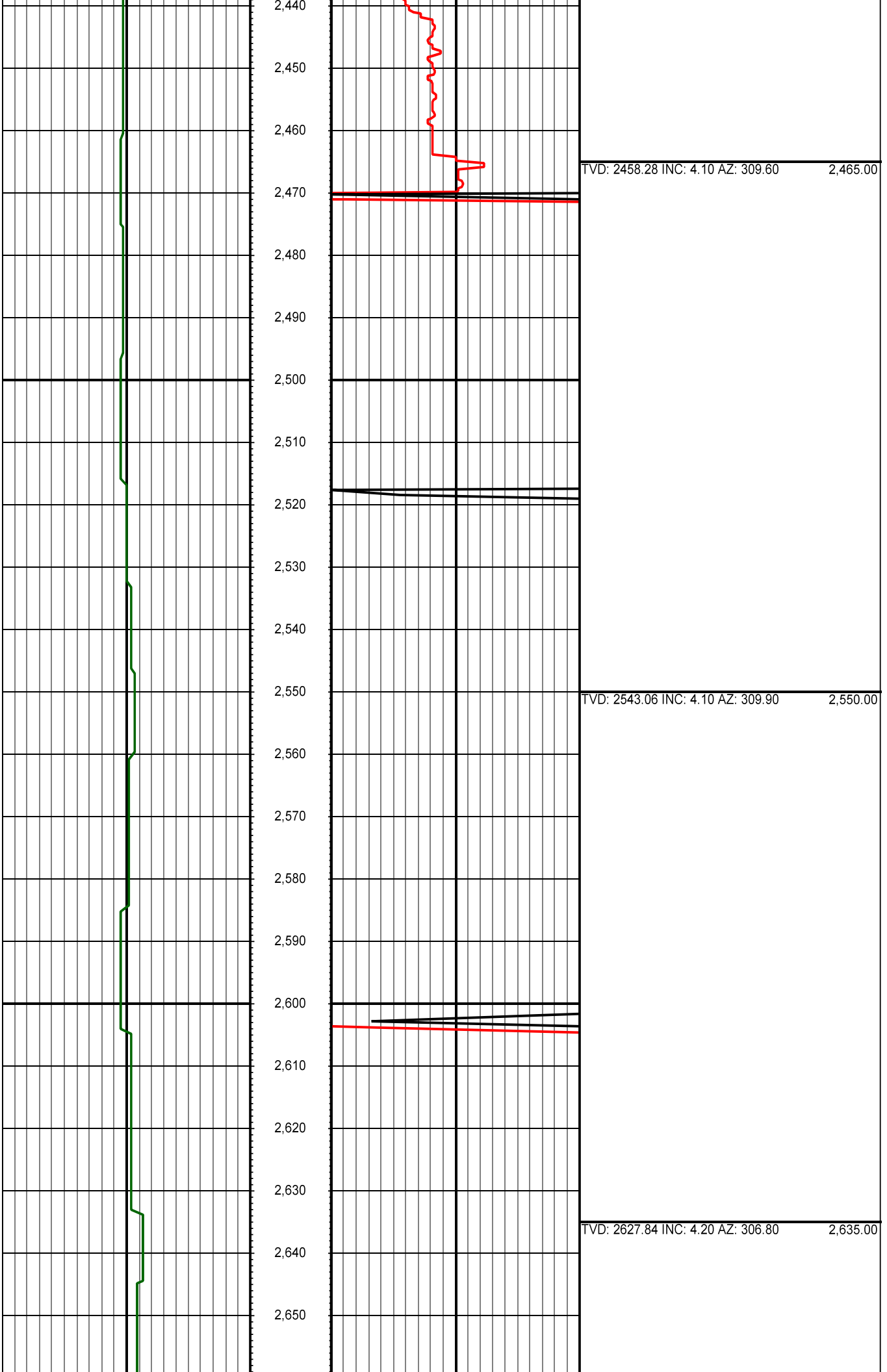


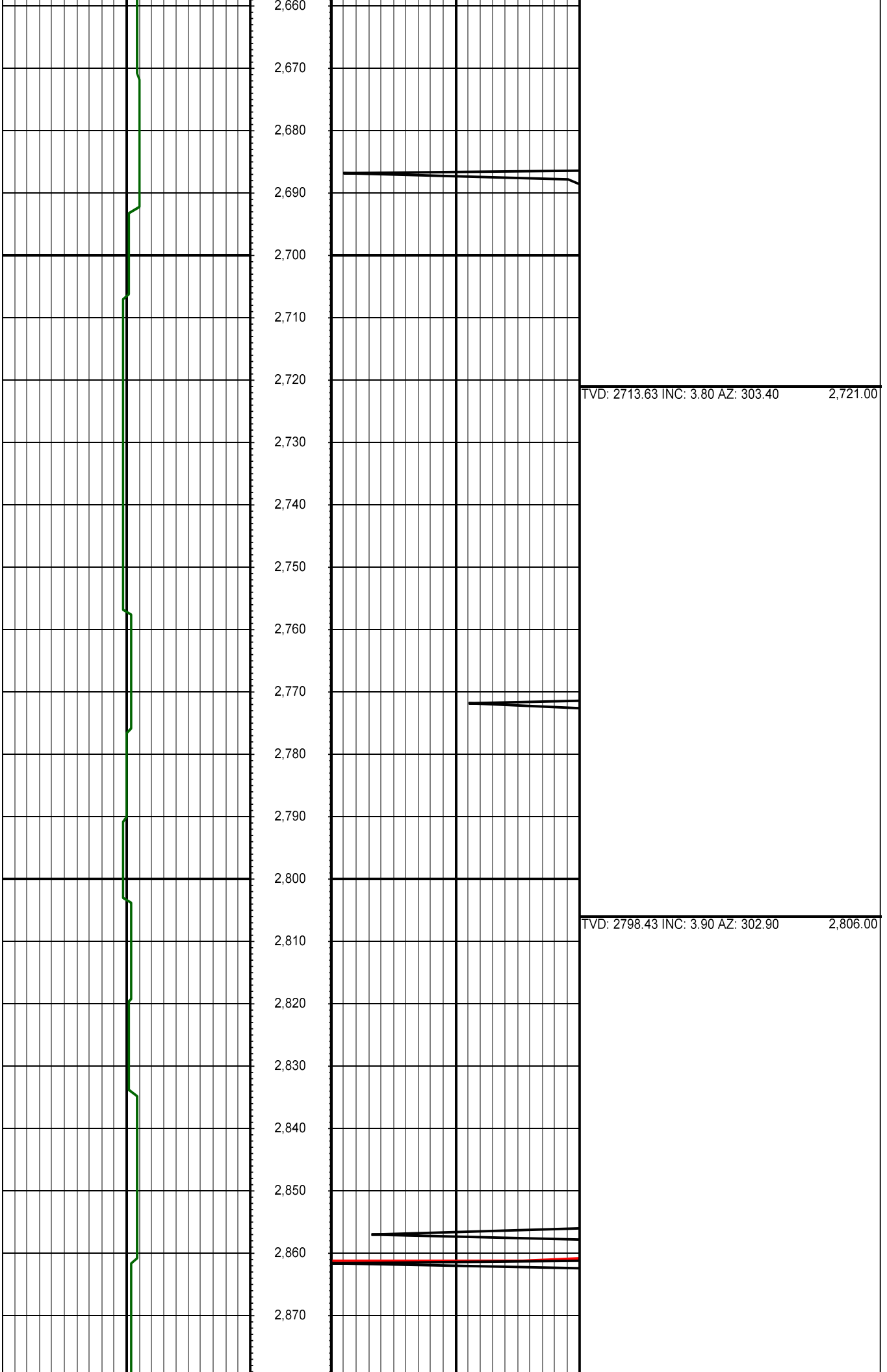


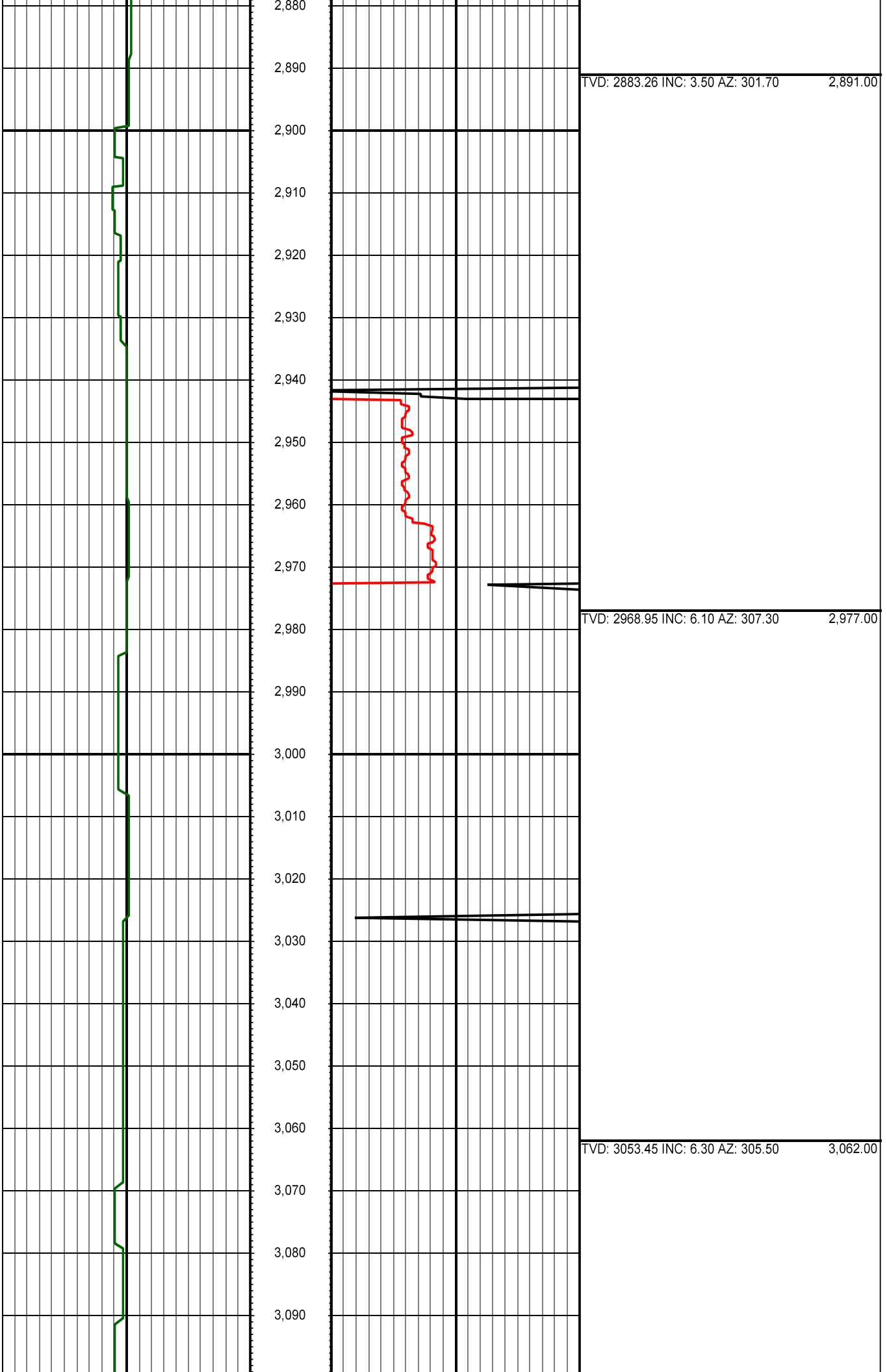


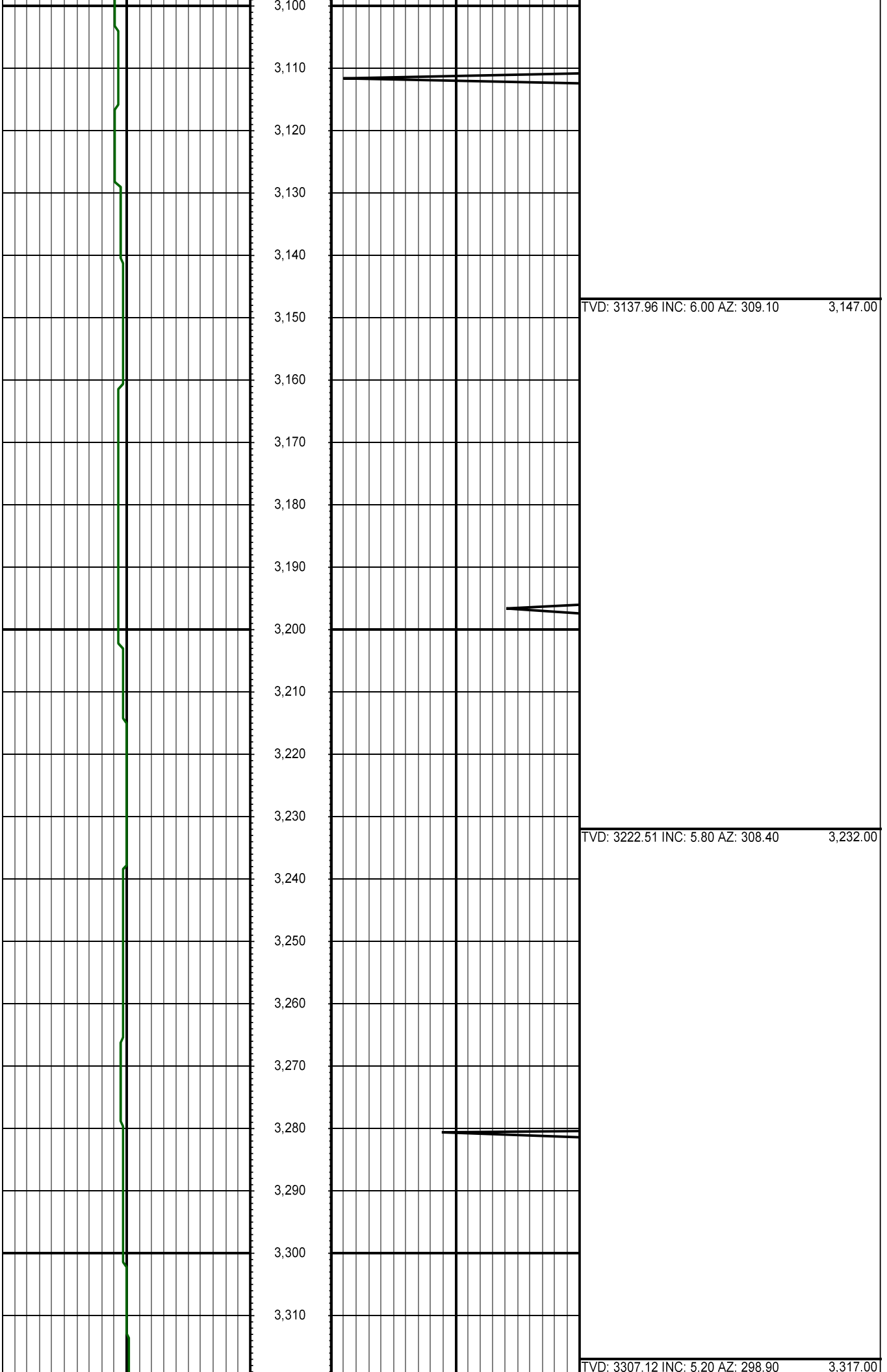


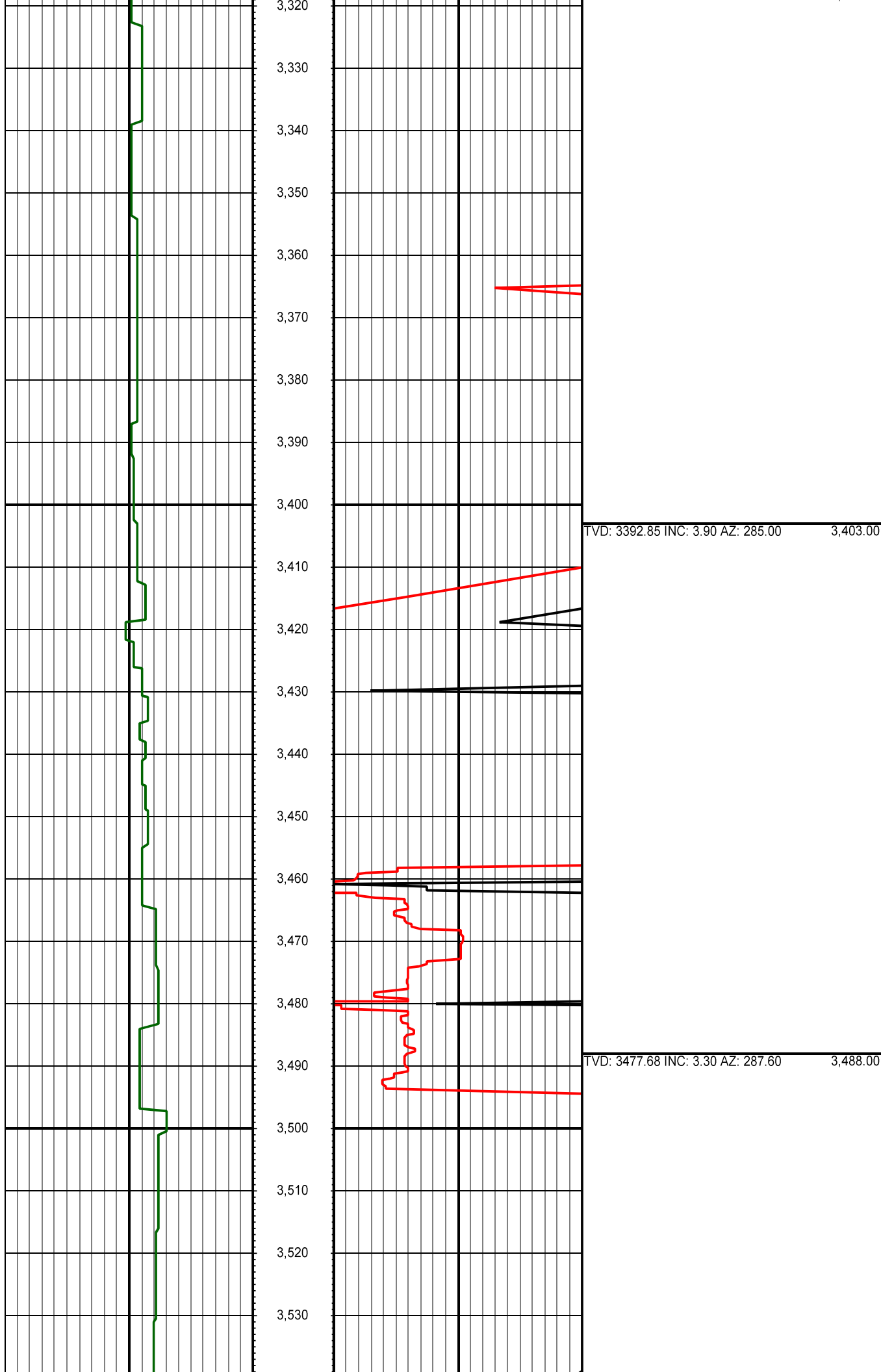


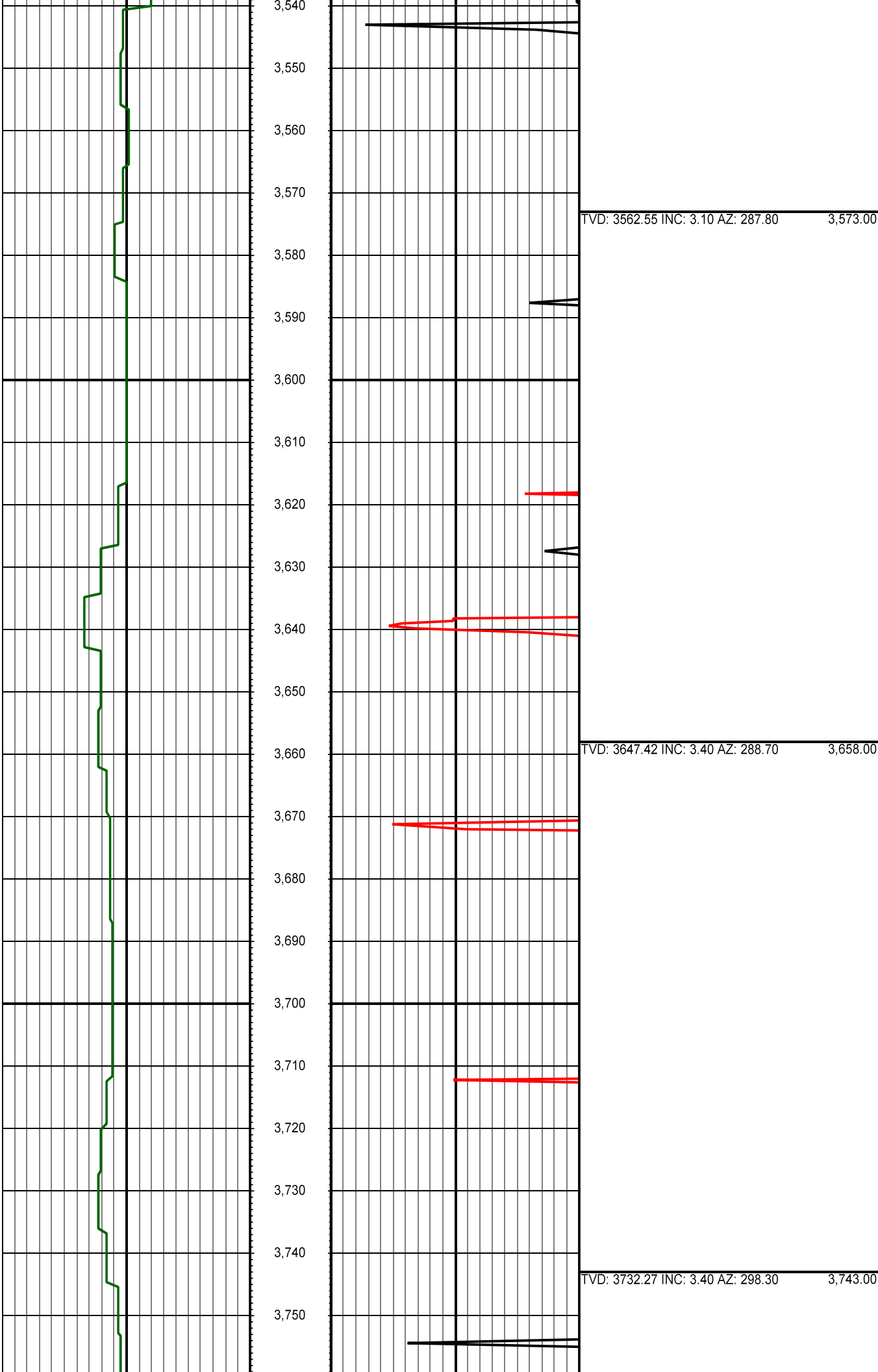


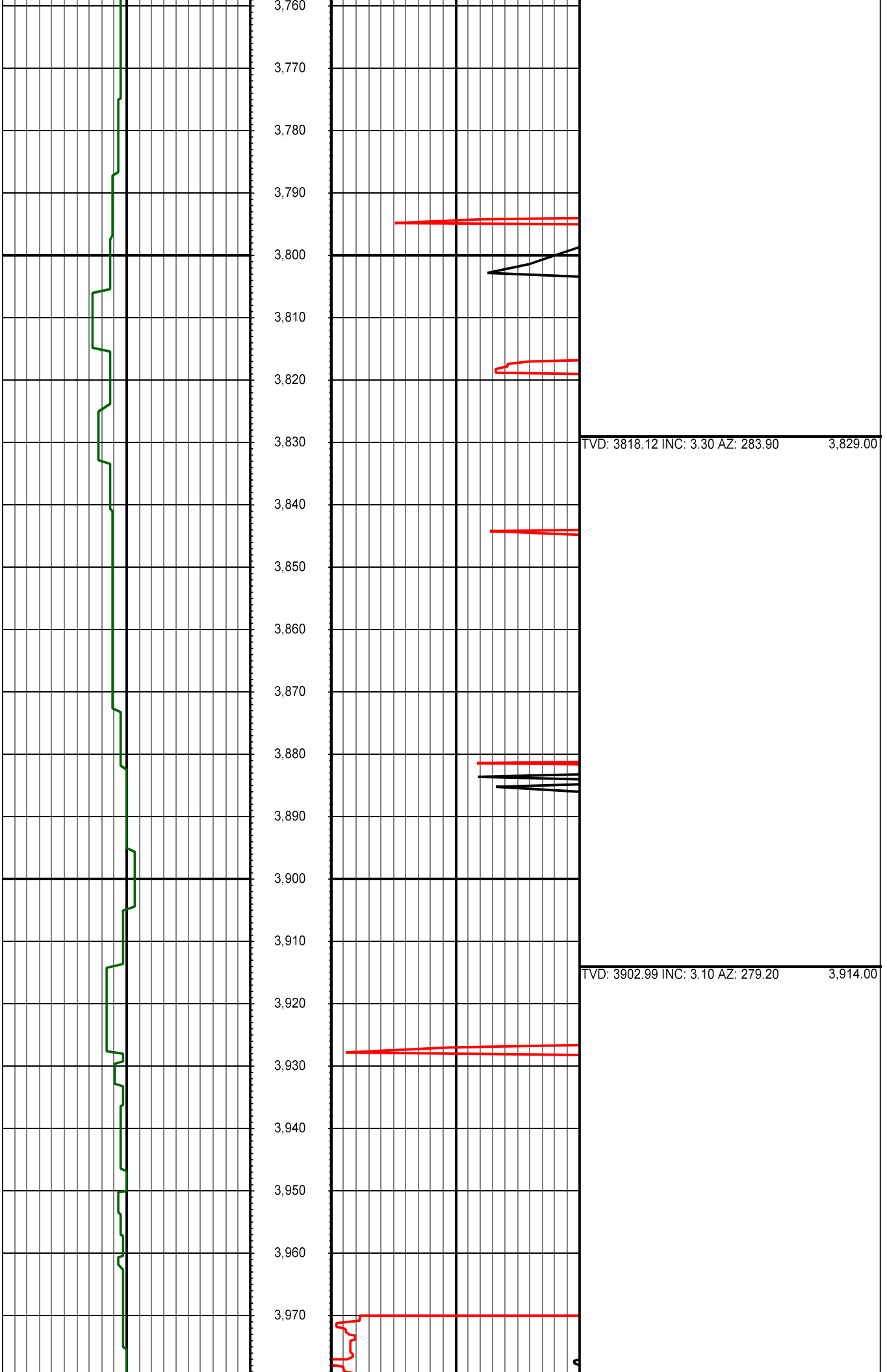


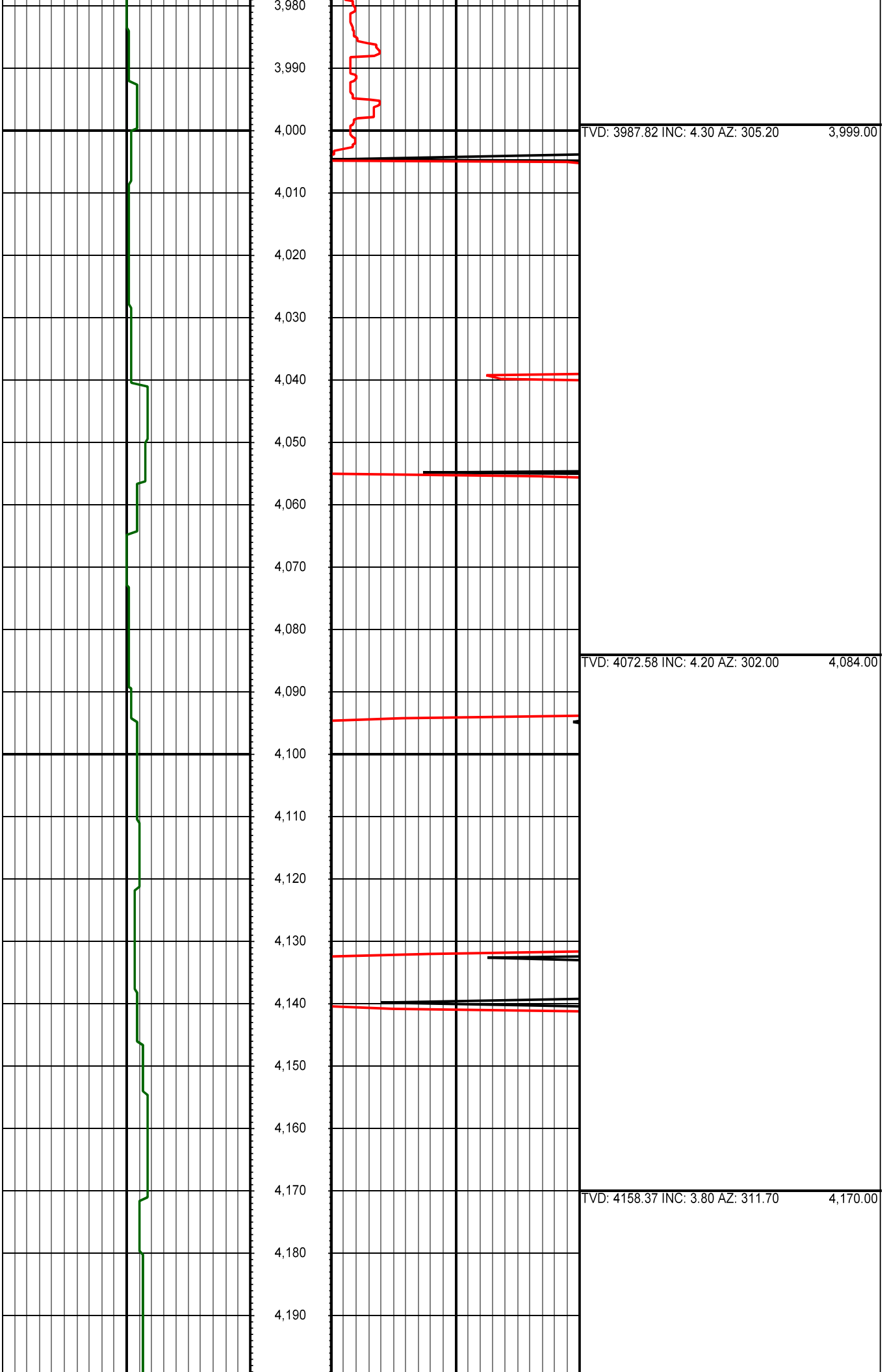


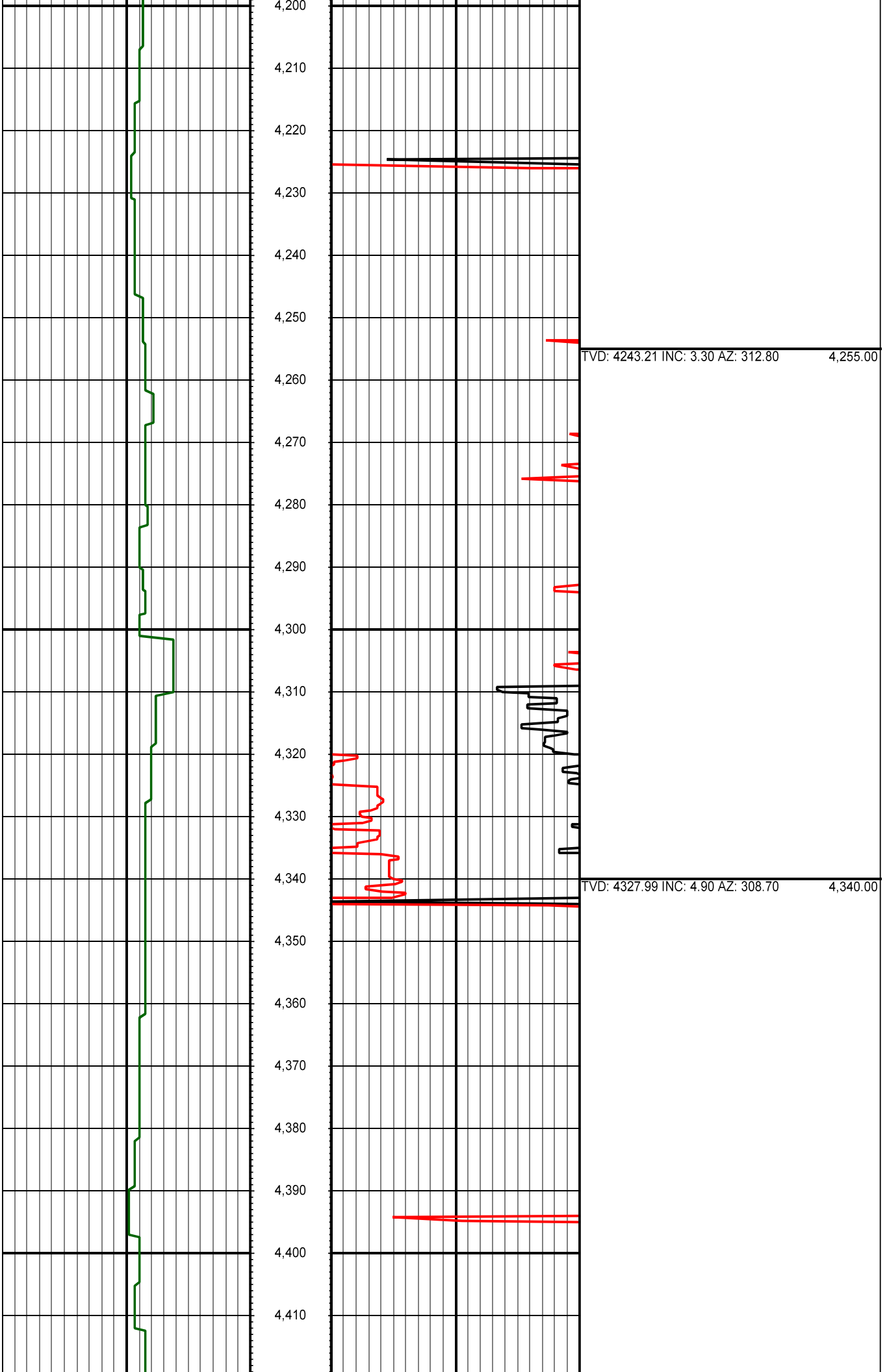


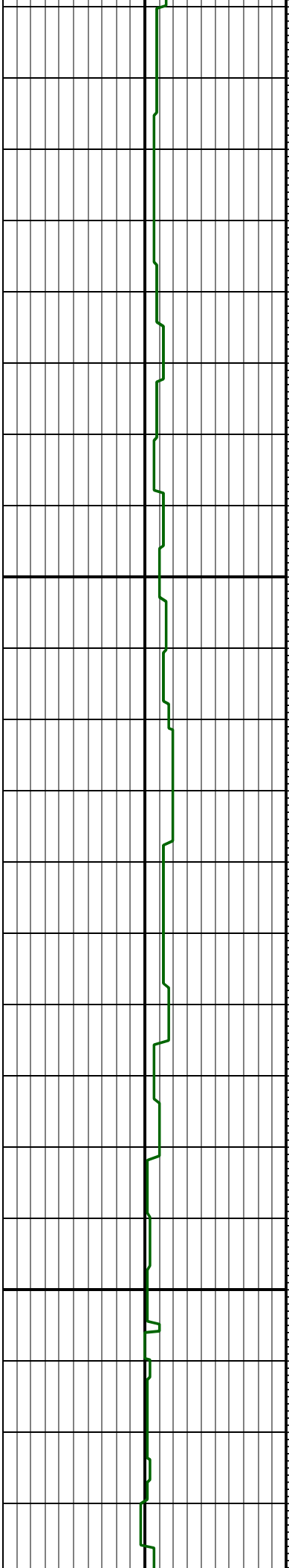












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TVD: 4413.71 INC: 4.40 AZ: 308.70 4,426.00

TVD: 4498.47 INC: 4.20 AZ: 314.90 4,511.00

TVD: 4583.28 INC: 3.50 AZ: 320.50 4,596.00

