



Precision Directional Services, Inc  
PDSI  
27610 Commerce Oaks Drive  
Oak Ridge North, TX 77385  
(713) 805-4436

**DL1605**

2":100' - MD  
4/11/2013 2:32:43 PM

**Oper. Company:** Carrizo Oil & Gas, Inc  
**Country:** USA  
**State / Province:** CO  
**County / Parish:** Weld  
**Started:** 04/03/2013 04:00 PM

**API/UWI:** 05-123-36868-00  
**Field:** Niobrara CONZ'83  
**Well:** Nelson 2-17-9-60  
**Rig:** Xtreme 19  
**Ended:** 04/11/2013 02:35 PM

### Personnel

**Day Hand:** Paul Brown  
**Night Hand:** Andrew Thomson  
**Comp. Emp:** Gabe Vela

### Location

**Latitude:** 40 44' 34.562" N  
**Longitude:** 104 07' 16.287" W  
**Elev. GL:** 4991  
**Elev. DF:** 5008  
**Elev. KB:** 17

### Hole Data

Size	From	To
12 3/4	0	1446
8 3/4	1446	6685
6 1/8	6685	10910

### Casing Data

Size	From	To
9 5/8	0	1446
7	0	6668
4.5	6668	10910

### Bit Sizes

Size	From	To
12 3/4	0	1446
8 3/4	1446	6685
6 1/8	6685	10910

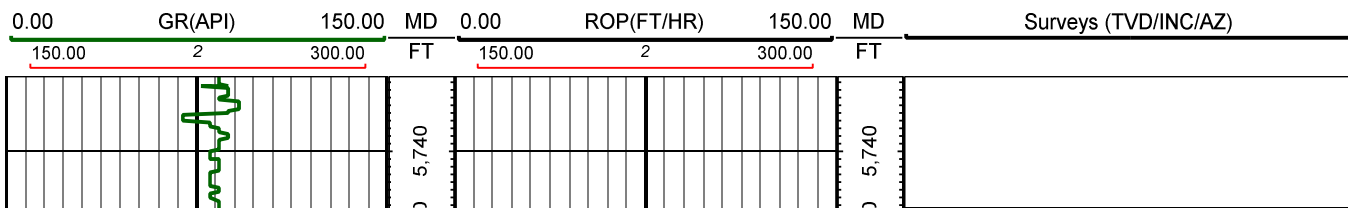
### Mud Data

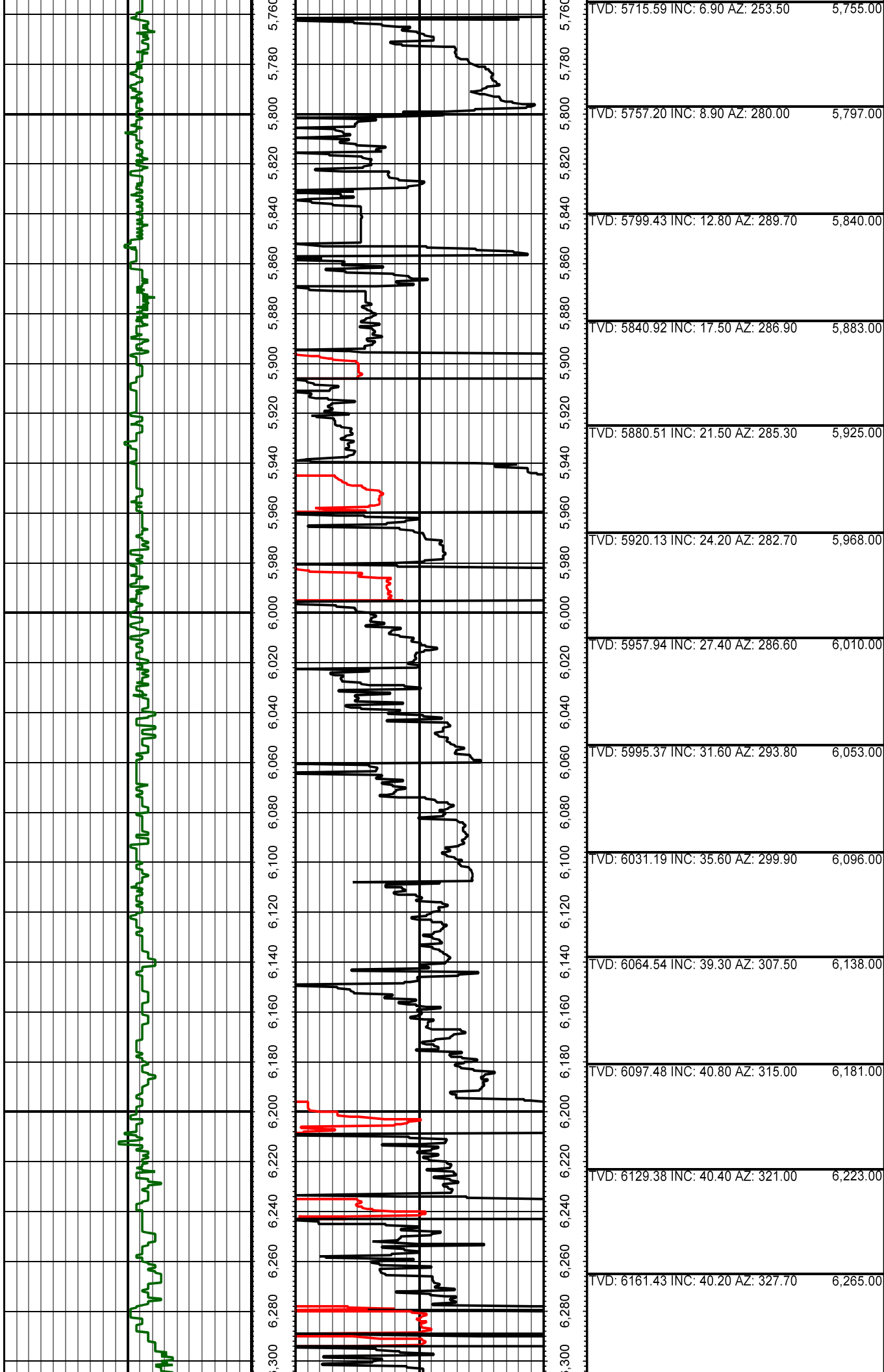
Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
WBM	8.4	8.4	27	N/A	N/A	N/A	0	1446
WBM	8.4	8.4	27	N/A	N/A	N/A	1446	4200
WBM	8.8 - 9.3	8.8-9.3	32-40	N/A	N/A	N/A	4200	6685
WBM	9.6	9.6	40-50	N/A	N/A	N/A	6685	10910

### Tool Run Data

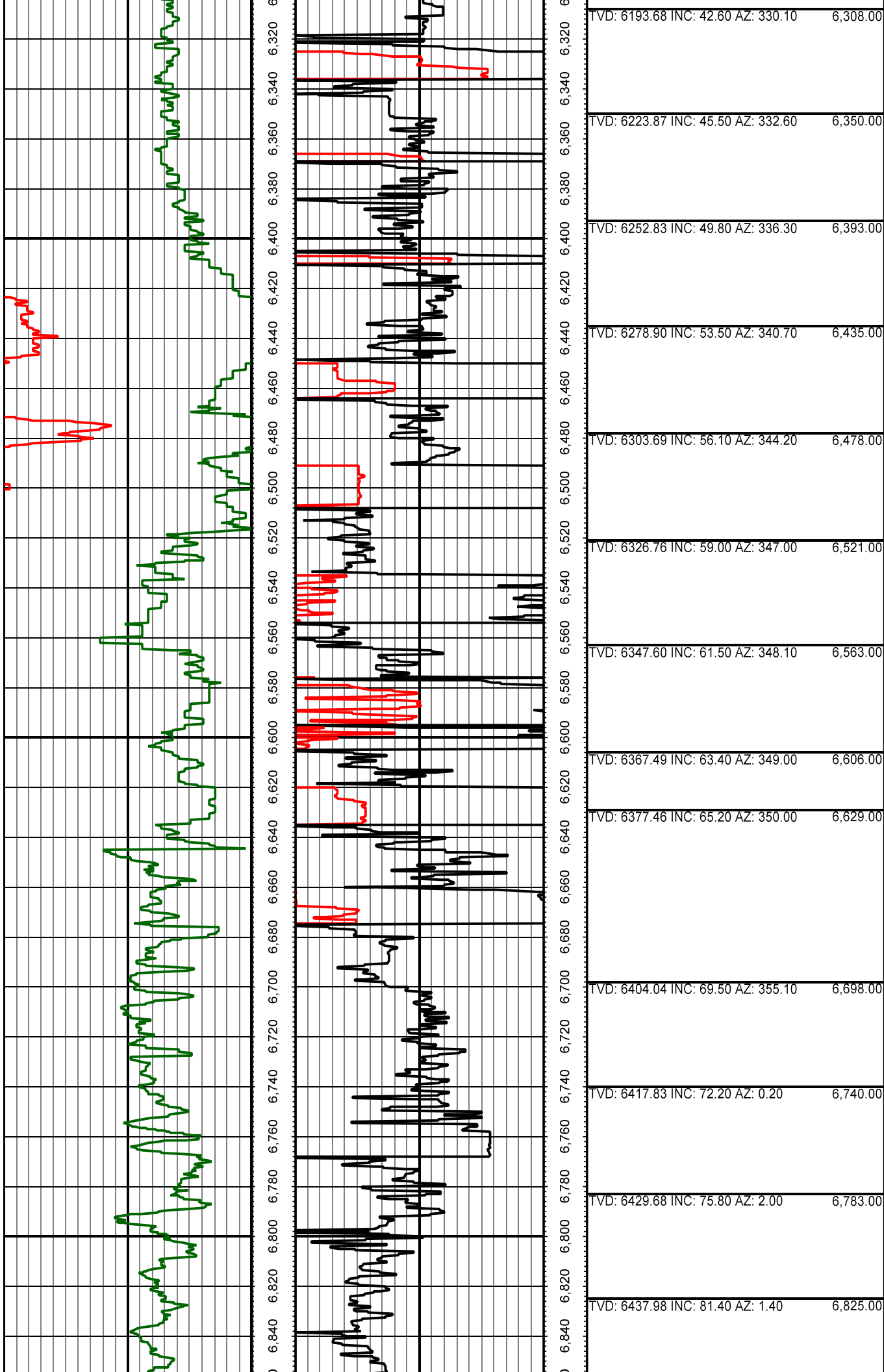
Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
G2828	40	0	4/3/2013 12:30:29 PM	5760	4/4/2013 11:00:29 PM	6685
G2828	42	0	4/5/2013 6:00:16 PM	6685	4/8/2013 11:00:16 AM	9380
G2034	42	0	4/8/2013 11:35:45 PM	9380	4/11/2013 2:35:45 PM	10910

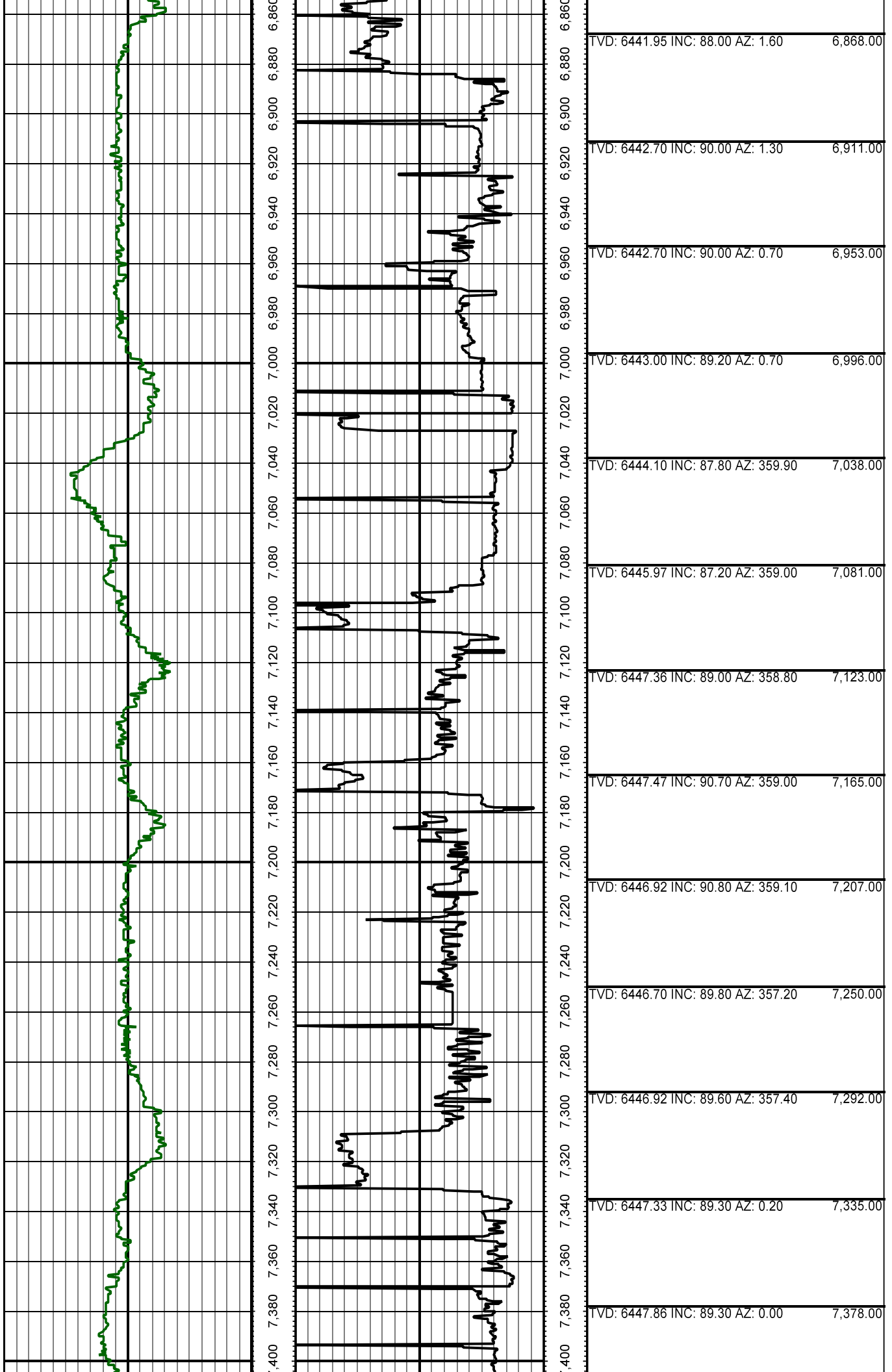
*All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost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

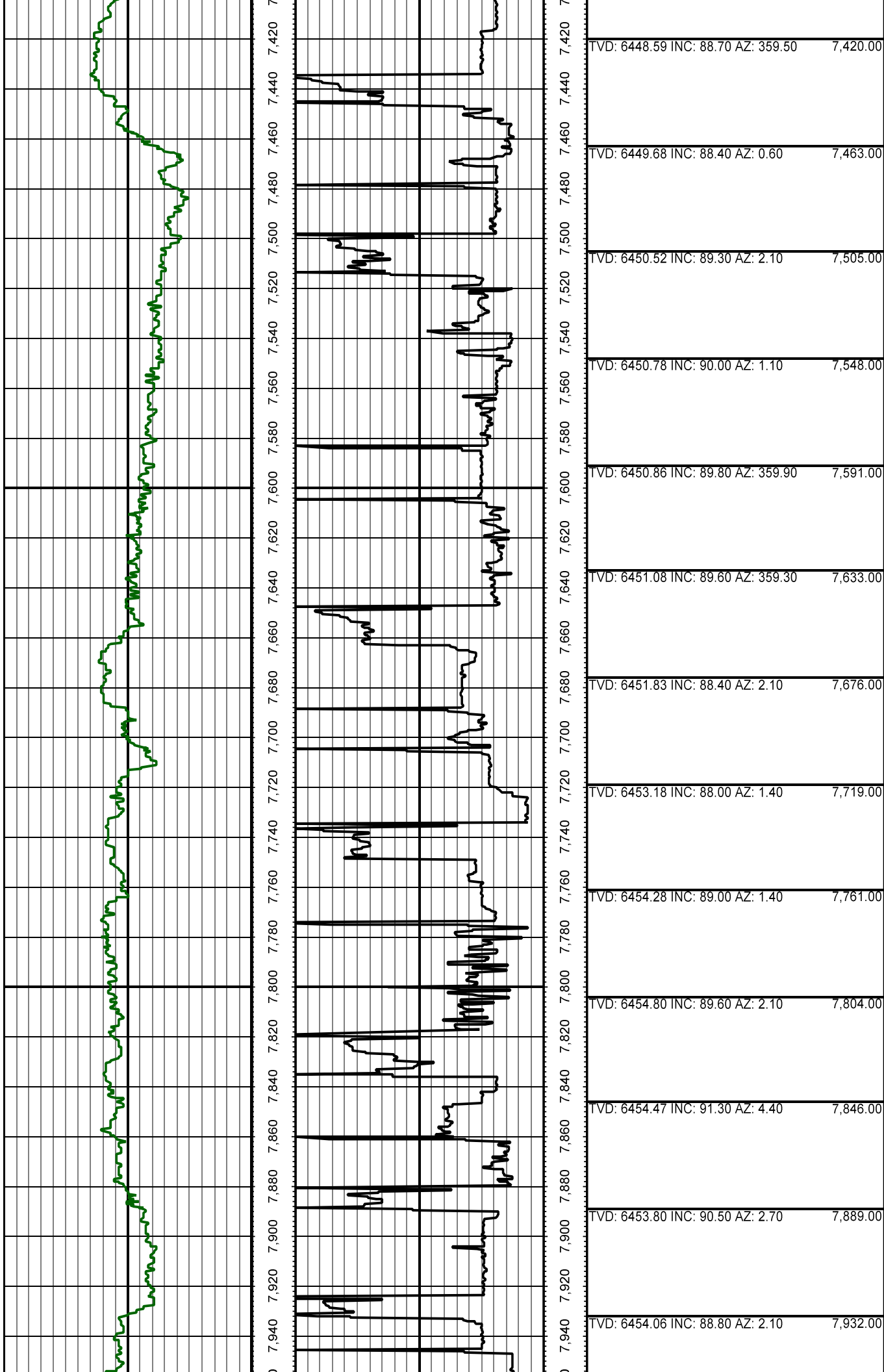


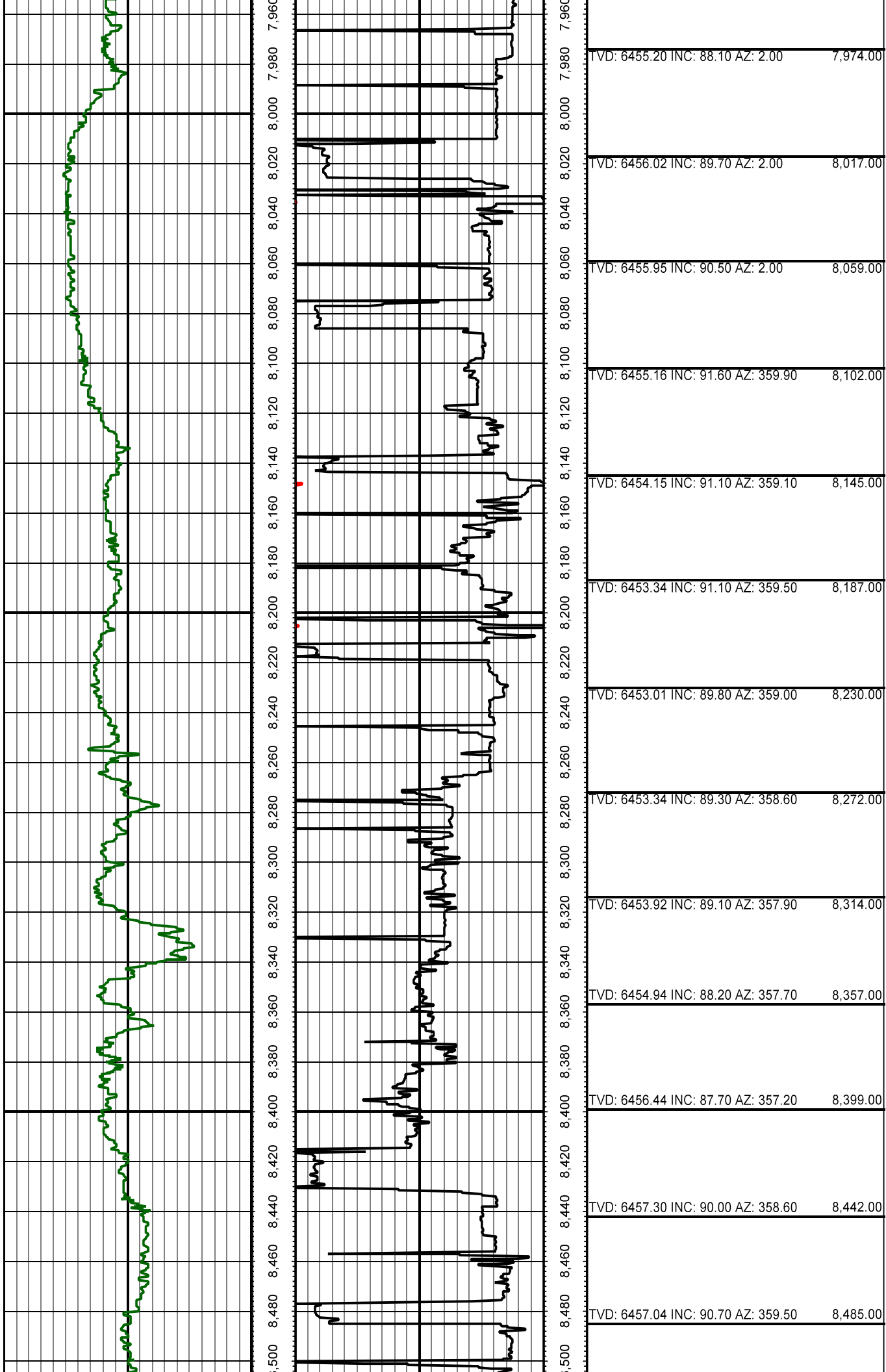


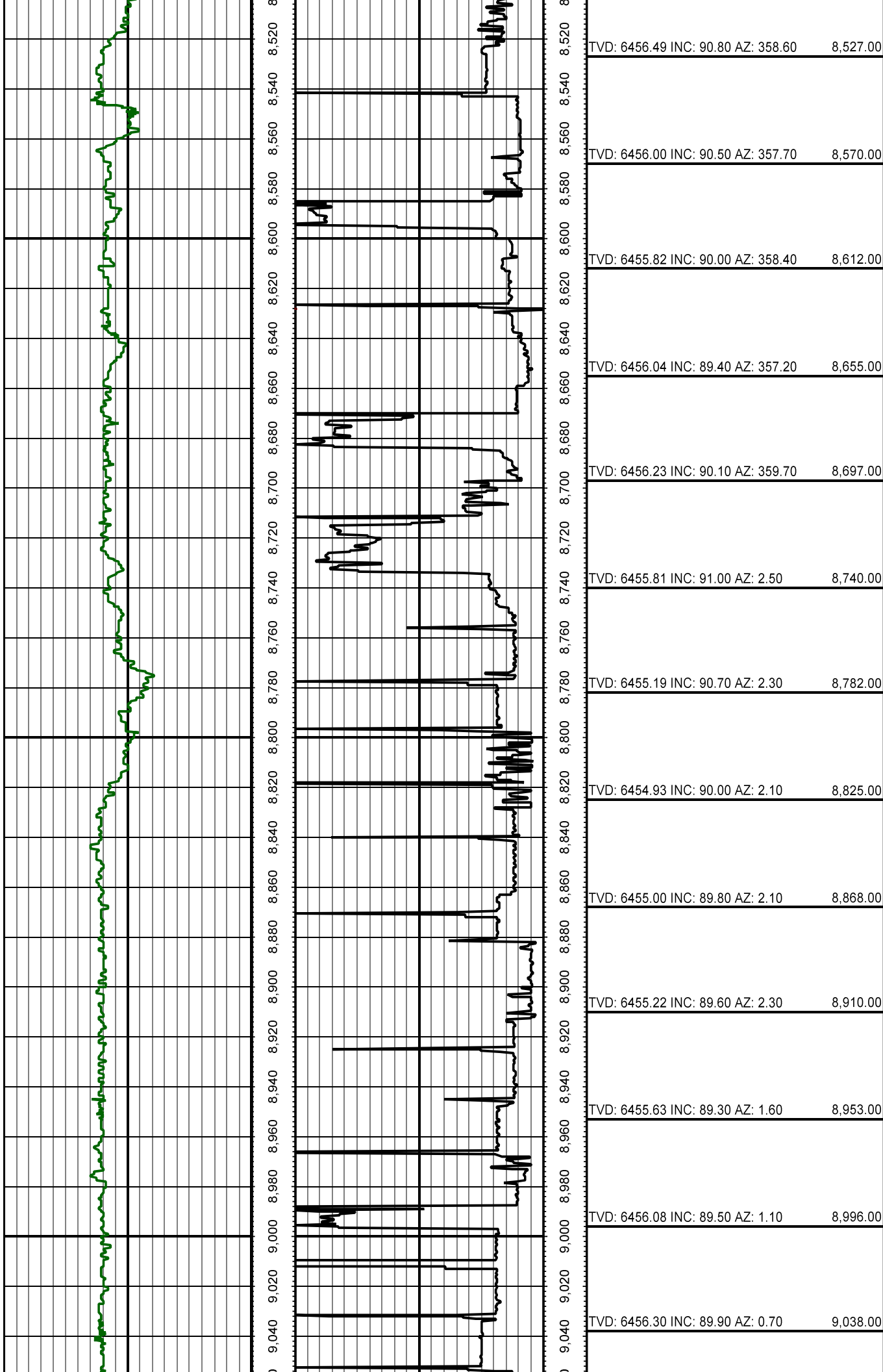
TVD: 5715.59 INC: 6.90 AZ: 253.50	5,755.00
TVD: 5757.20 INC: 8.90 AZ: 280.00	5,797.00
TVD: 5799.43 INC: 12.80 AZ: 289.70	5,840.00
TVD: 5840.92 INC: 17.50 AZ: 286.90	5,883.00
TVD: 5880.51 INC: 21.50 AZ: 285.30	5,925.00
TVD: 5920.13 INC: 24.20 AZ: 282.70	5,968.00
TVD: 5957.94 INC: 27.40 AZ: 286.60	6,010.00
TVD: 5995.37 INC: 31.60 AZ: 293.80	6,053.00
TVD: 6031.19 INC: 35.60 AZ: 299.90	6,096.00
TVD: 6064.54 INC: 39.30 AZ: 307.50	6,138.00
TVD: 6097.48 INC: 40.80 AZ: 315.00	6,181.00
TVD: 6129.38 INC: 40.40 AZ: 321.00	6,223.00
TVD: 6161.43 INC: 40.20 AZ: 327.70	6,265.00

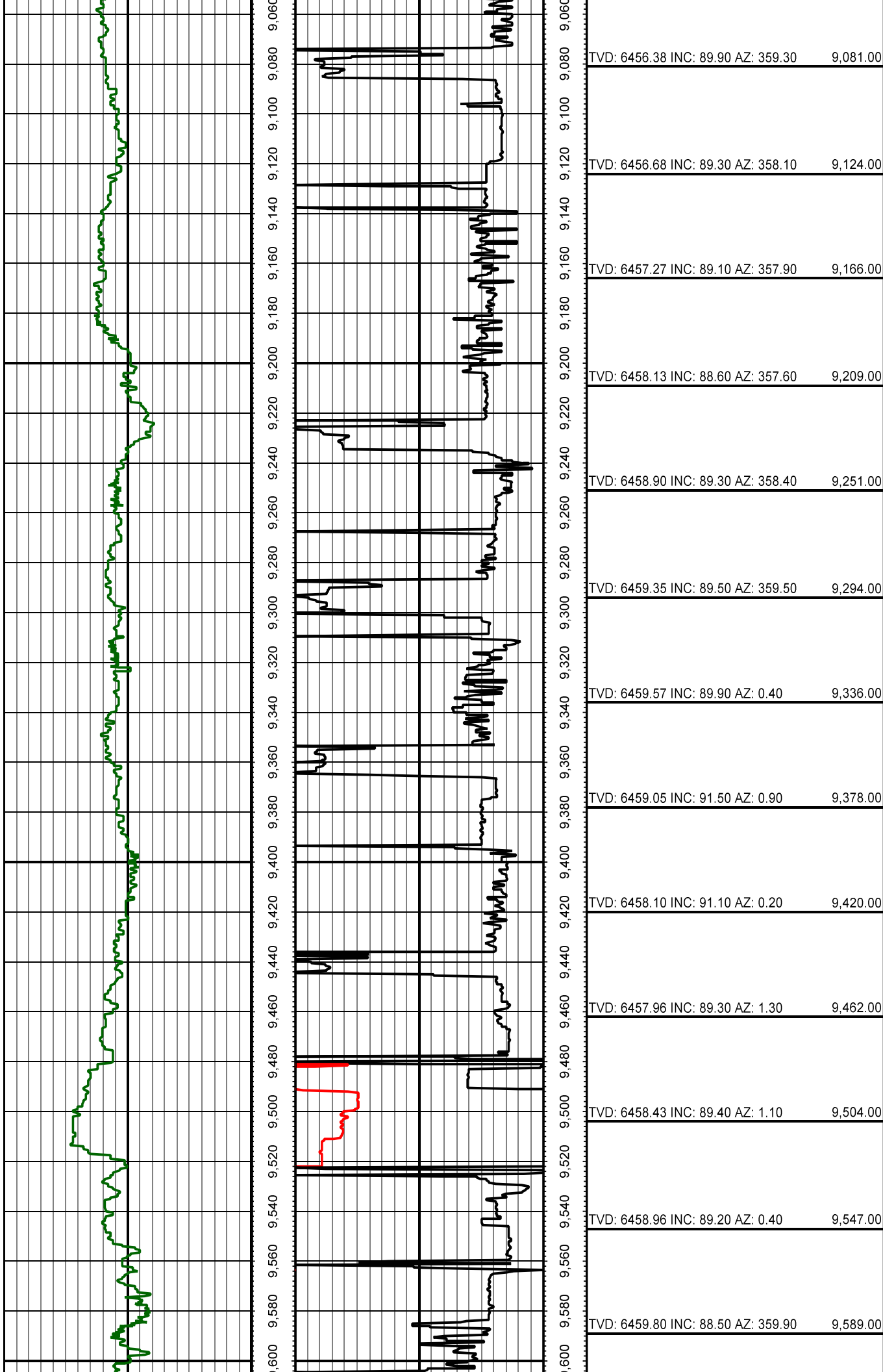




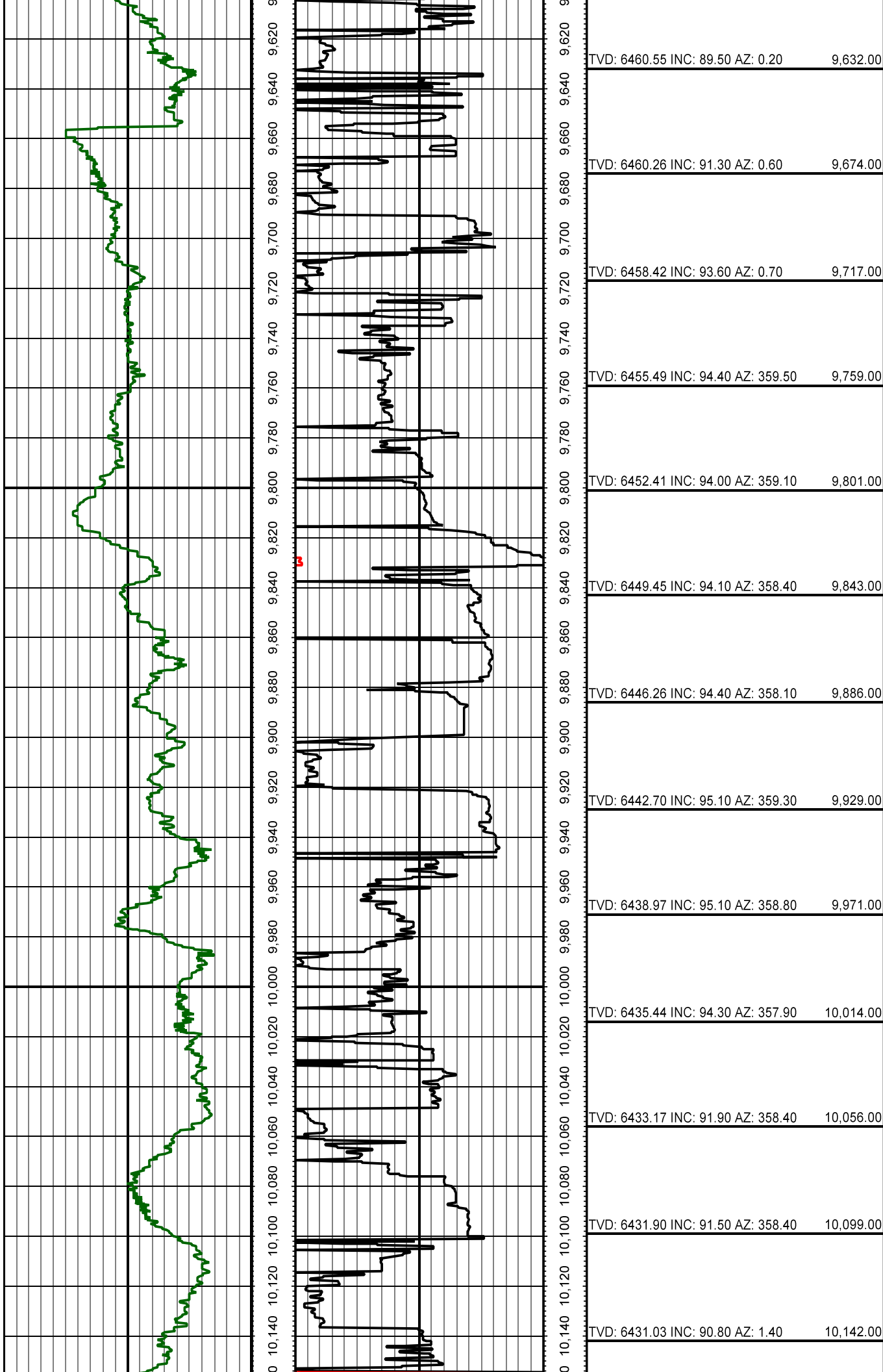


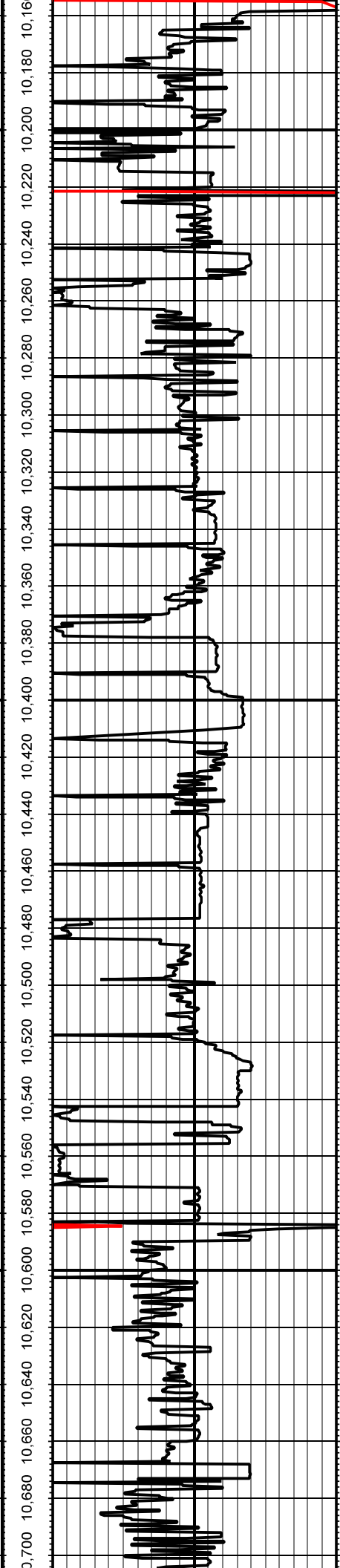
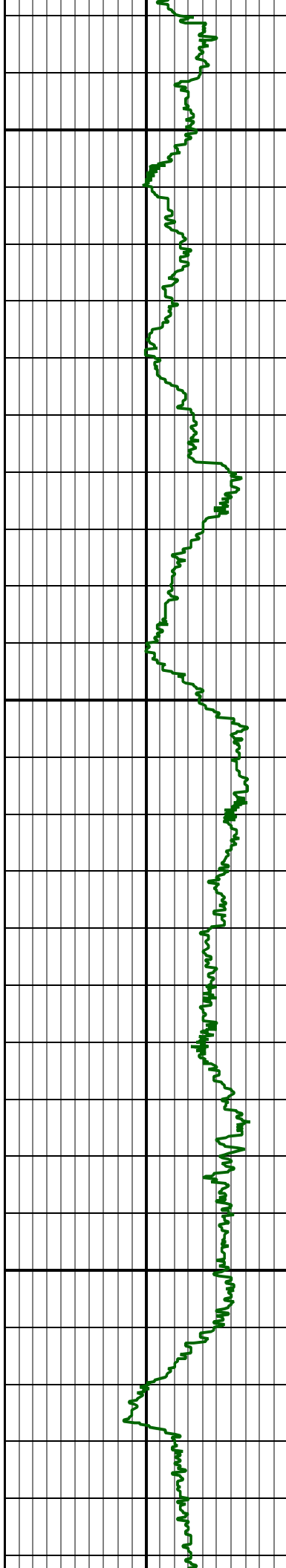












TVD: 6430.48 INC: 90.70 AZ: 1.40 10,184.00

TVD: 6429.96 INC: 90.70 AZ: 1.40 10,227.00

TVD: 6429.92 INC: 89.40 AZ: 1.40 10,269.00

TVD: 6430.60 INC: 88.80 AZ: 1.10 10,312.00

TVD: 6431.61 INC: 88.50 AZ: 0.90 10,355.00

TVD: 6432.78 INC: 88.30 AZ: 1.10 10,397.00

TVD: 6434.17 INC: 88.00 AZ: 0.60 10,440.00

TVD: 6435.75 INC: 87.70 AZ: 0.70 10,482.00

TVD: 6437.69 INC: 87.00 AZ: 0.70 10,524.00

TVD: 6439.23 INC: 88.90 AZ: 1.10 10,567.00

TVD: 6440.14 INC: 88.60 AZ: 0.20 10,609.00

TVD: 6441.27 INC: 88.40 AZ: 0.20 10,652.00

TVD: 6442.28 INC: 88.90 AZ: 0.60 10,695.00

