



Gamma Ray

LWD MEMORY LOG

Scale: 1:240

Measured Depth

Company: Noble Energy
Well: Rampart A32-751

Field: Wattenberg

County: Weld Country: United States

Driller's Depth State: Colorado

Status: Surface Location: 40° 27' 55.409" N Other Services:

Final Print

Latitude: 104° 34' 10.889" W

API No: 05-123-50931-00 Longitude: Directional

Job ID: 111017847 SEC: 20 TWN: 6N RGE: 64W

Permanent Datum (P.D.): Mean Sea Level Elevation: 0.00 ft

Log Measured From: Rig Floor Above P.D.: 4736.00 ft Elev. KB: 4736.00 ft

Dates Interval Magnetic Field Reference

From: 2021-09-11 To: 2021-09-13 Spud: 2021-08-31
Drilled (ft) 1962.00 Top: 1962.00 Bottom: 17045.00
Logged (ft) 1962.00 Top: 1962.00 Bottom: 17032.00
Azi Reference North: 1962.00 Total Magnetic Field Strength: (nT) 51898
Mag to Reference North Correction: (deg) 7.00

Borehole Record

Casing Record

Hole Size (in)	From (ft)	To (ft)	Size (in)	Weight (lb/ft)	From (ft)	To (ft)
13.500	30.00	1962.00	9.625	36.00	30.00	1952.00
8.500	1962.00	17045.00				

Mud Record

Deviation Record

Type	From (ft)	To (ft)	Hole Size (in)	Interval (ft)	Inc Az (Start)	Inc Az (End)
Oil Based Mud	1962.00	17045.00	8.500	15083.00	0.73 340.43	88.92 180.60

Acquisition System

Software Version

Other

Cadence RT 6.1
Plot Studio 6.1.9289.2
Rig: H&P 517
Contractor: Helmerich & Payne Drilling Co
District: RMA
Unit: D&E

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Log Run Summary

Run No	Bit Run No.	Bit Size (in)	Bit Type	Bit Gauge Length (in)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Hours (h)
						Top (ft)	Bottom (ft)	From (ft)	To (ft)	Start Logging	End Logging	
1	1	8.500	PDC	3.00	Rotary Steerable	1962.00	17032.00	1962.00	17045.00	2021-09-11 15:22	2021-09-13 19:15	45.87

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Ahmad Ihmeidan	2021-09-11	2021-09-13	Tien Bui	2021-09-11	2021-09-13	Tucker Landry	2021-09-11	2021-09-13
Adam Schlenz	2021-09-12	2021-09-13						

Mud Properties Record

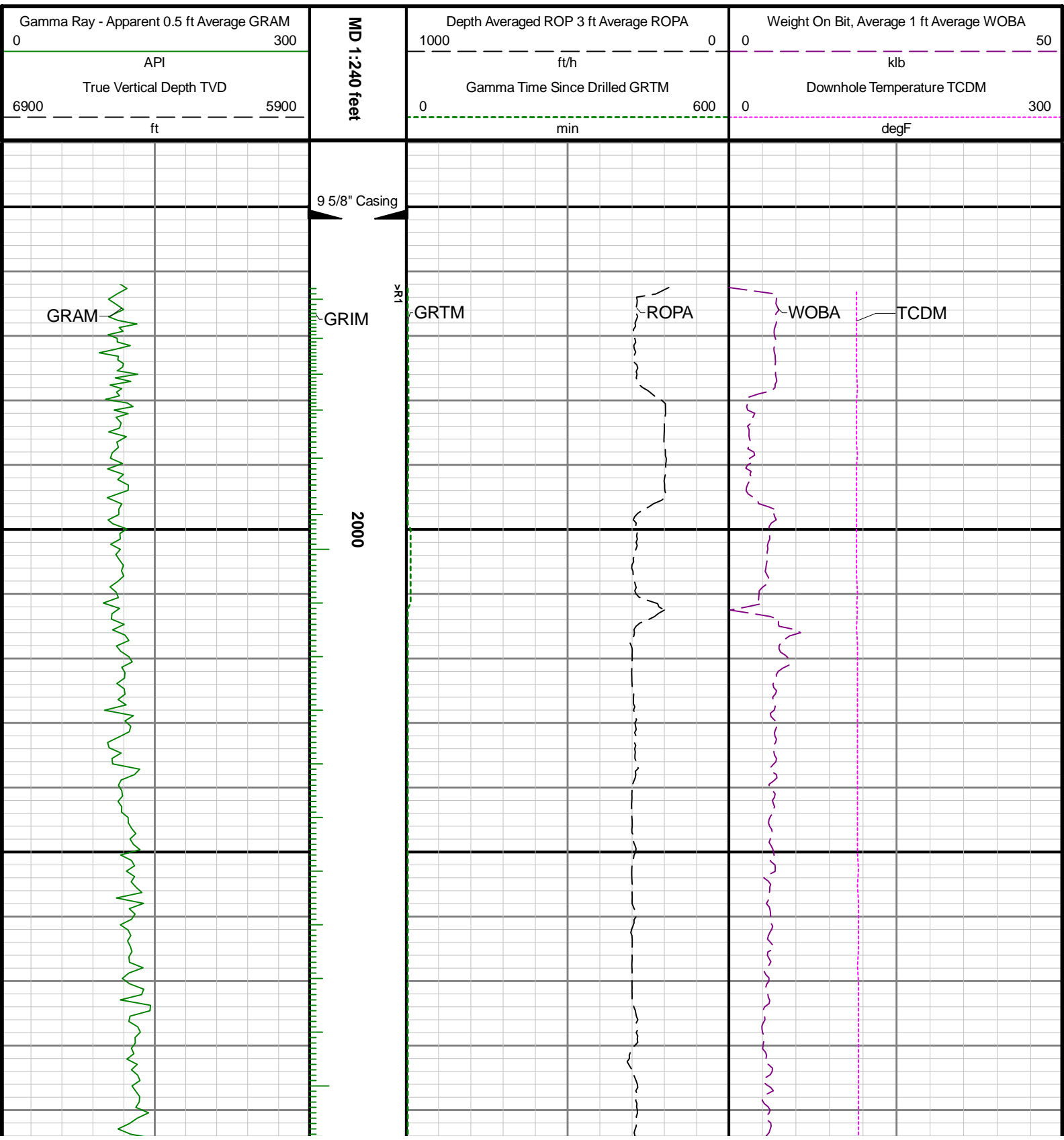
Date / Time	Run No.	Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2021-09-10 17:39	1	1962.00	Oil Based Mud	9.3	10	N/A	18.0	79.5/20.5	Active Pit	25000	0.00
2021-09-13 23:26	1	12209.00	Oil Based Mud	10.1	16	N/A	17.6	68/17.5	Active Pit	29923	0.00
2021-09-13 23:27	1	14701.00	Oil Based Mud	10.1	15	N/A	17.6	68/17.5	Active Pit	29923	0.00
2021-09-13 23:29	1	17045.00	Oil Based Mud	10.2	16	N/A	19.6	68/16.5	Active Pit	28475	0.00

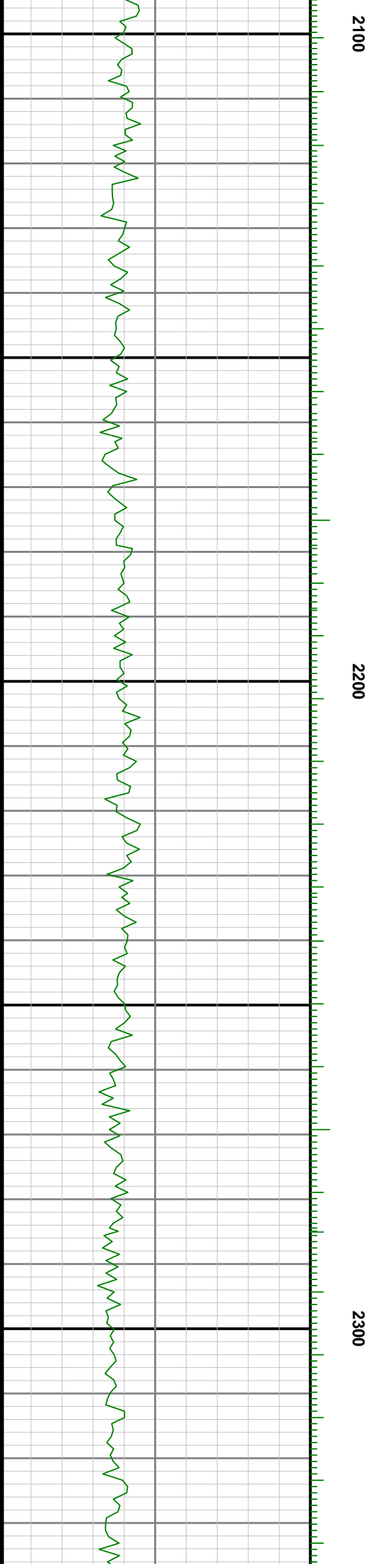
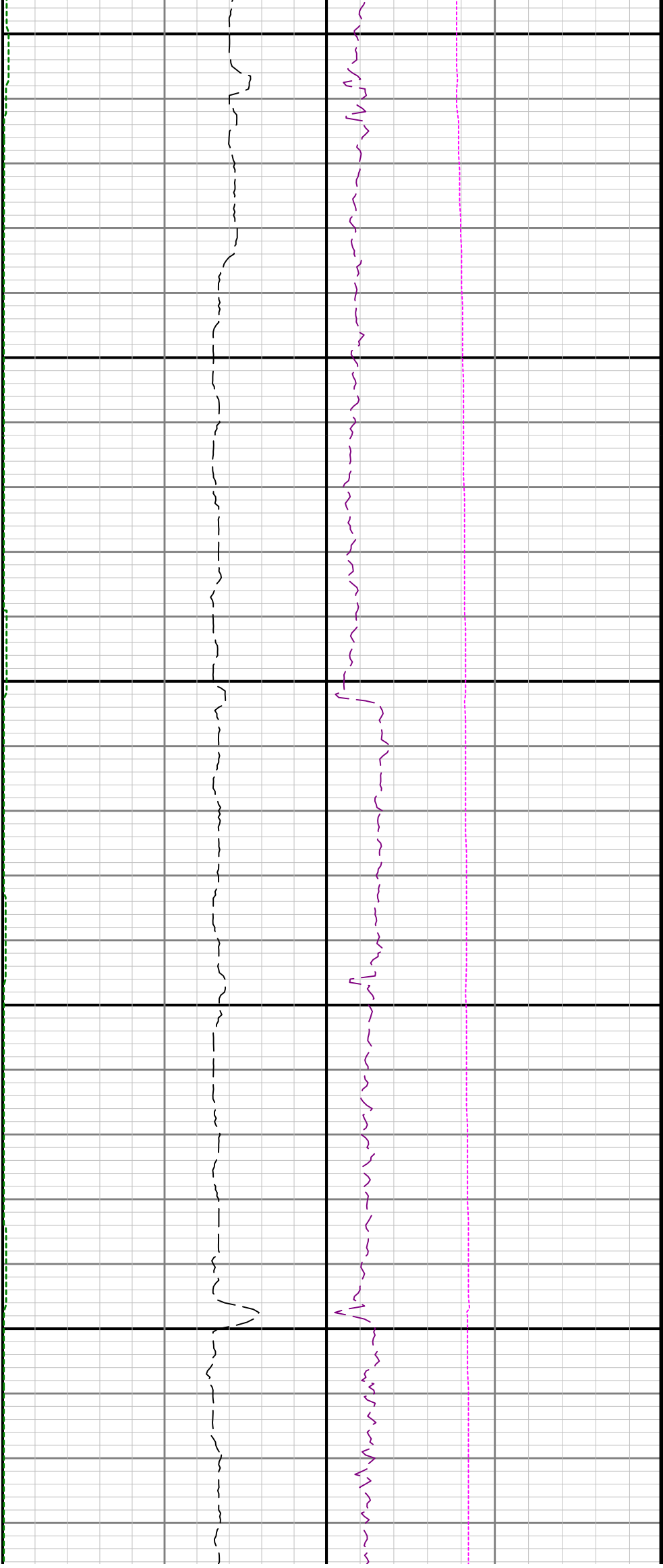
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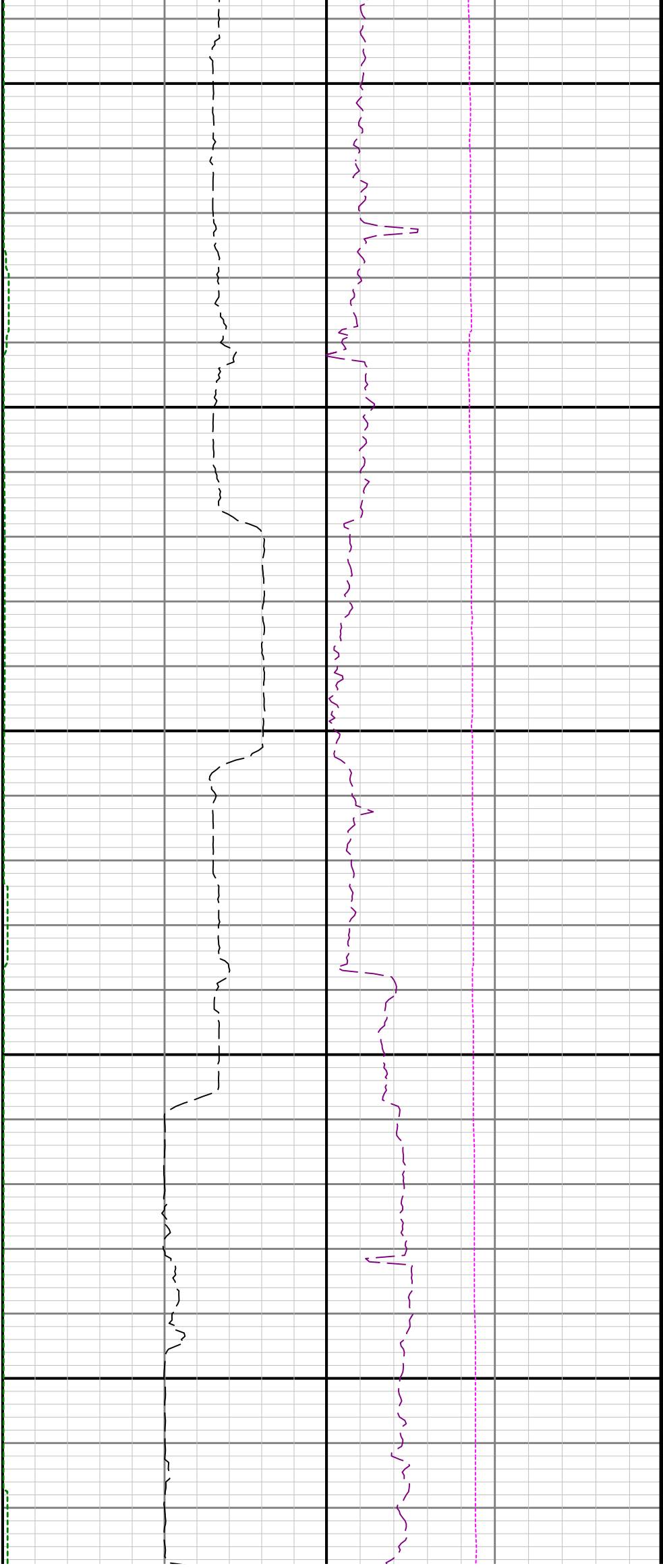
Run No.	Tool	Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)
1	AutoTrak Curve Steering Unit	15208060	Near Bit VSS	5.93	6.77	7.000	4.330
1	AutoTrak Curve Steering Unit	15208060	Near Bit Inclination	5.93	6.77	7.000	4.330
1	AutoTrak Curve MWD	11010705	Gamma (single)	2.77	12.04	7.000	2.250

Service and Tool Mnemonics

Remarks

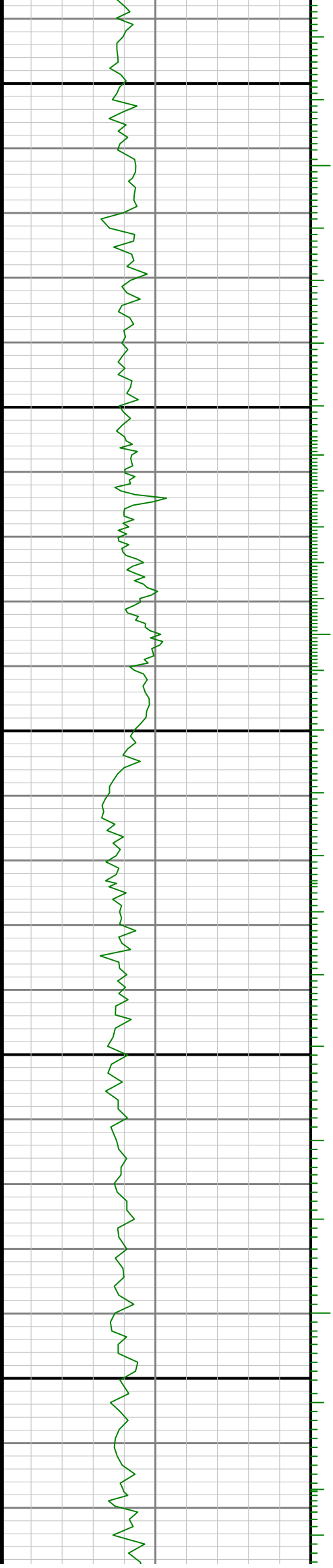


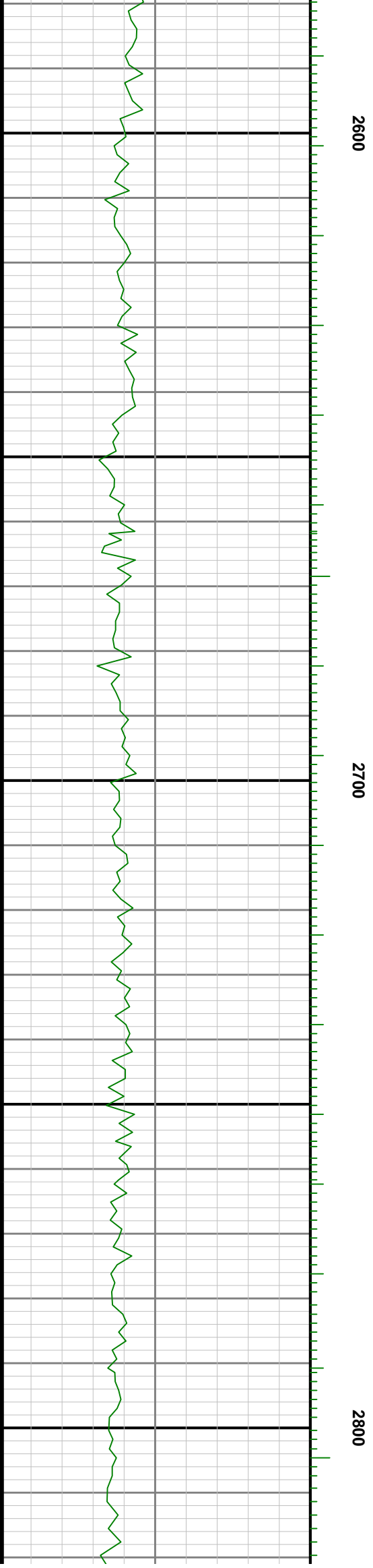
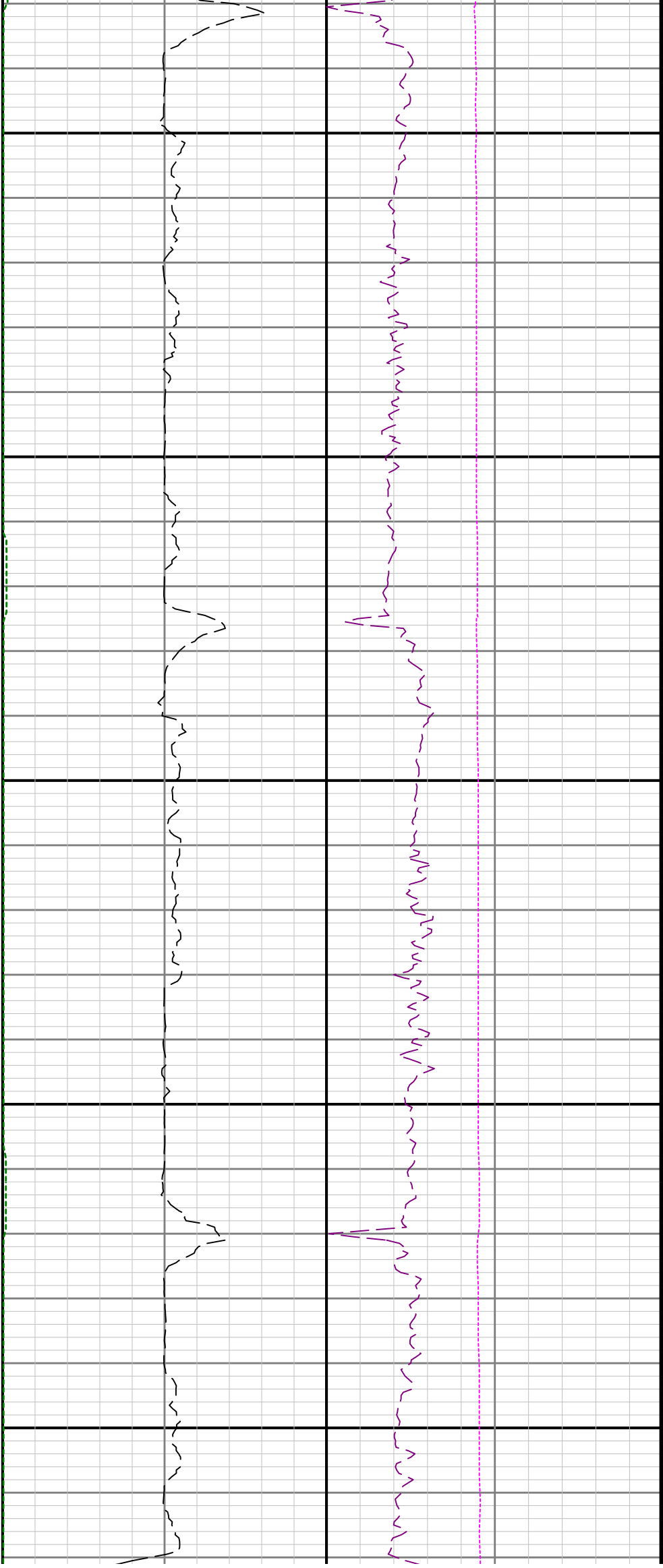


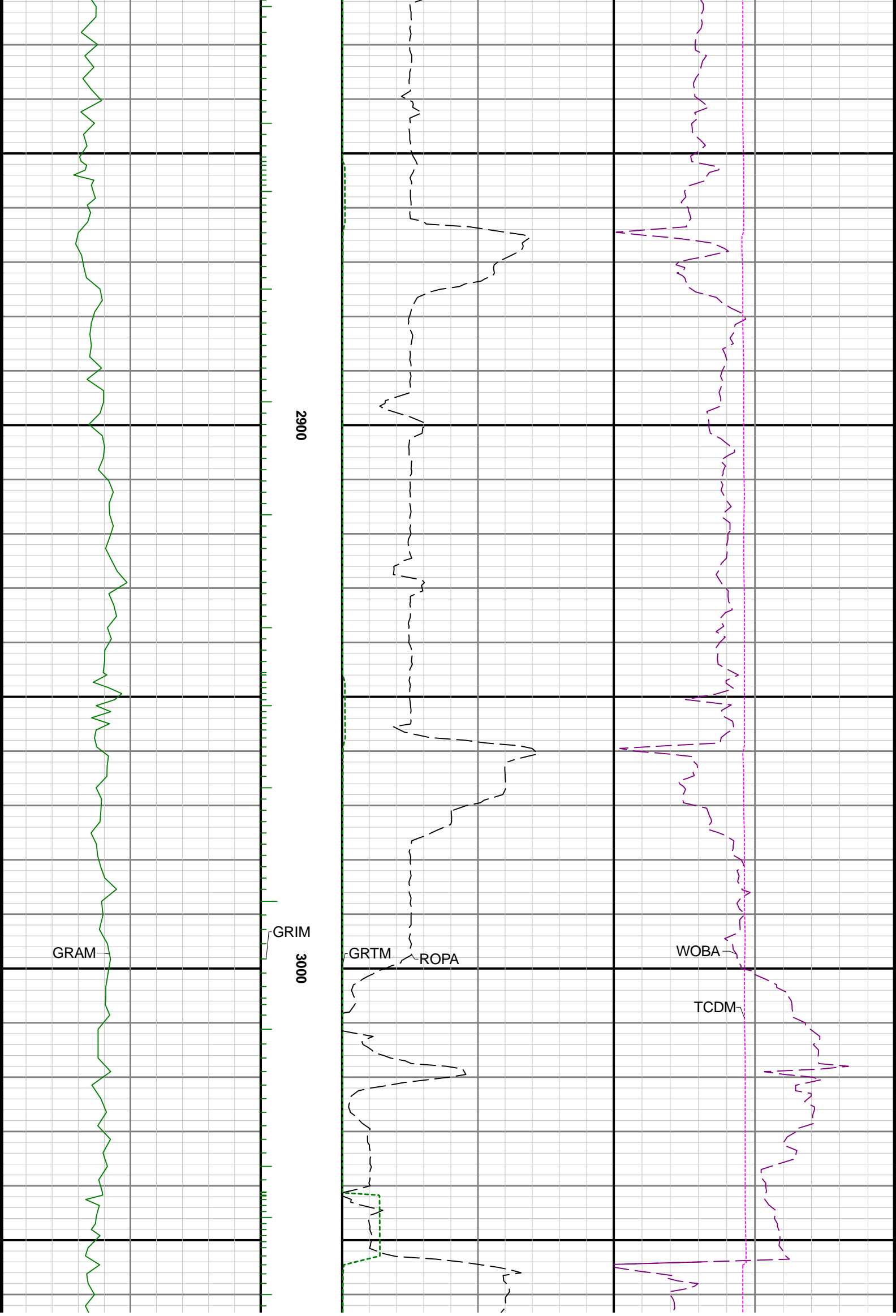


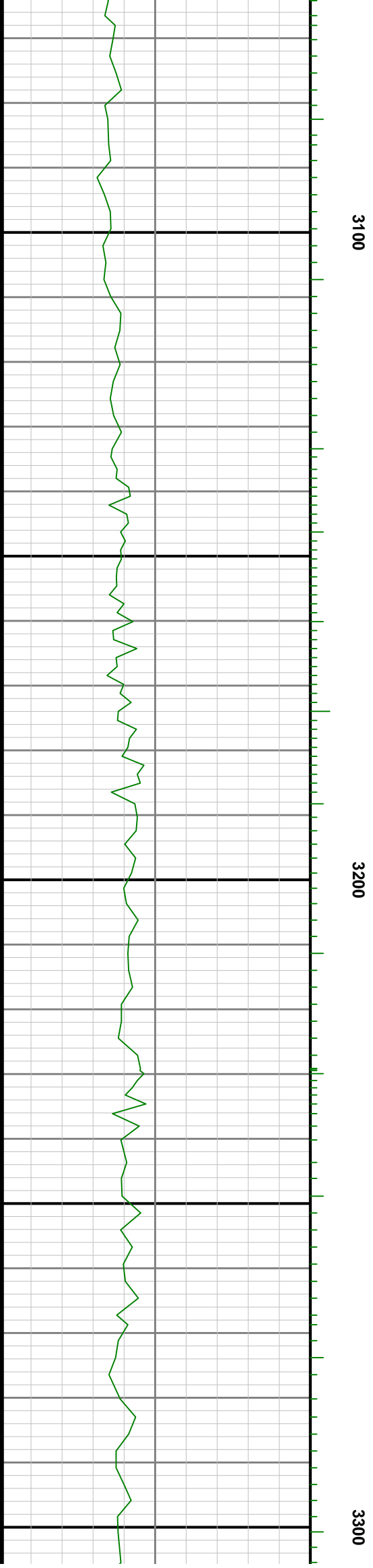
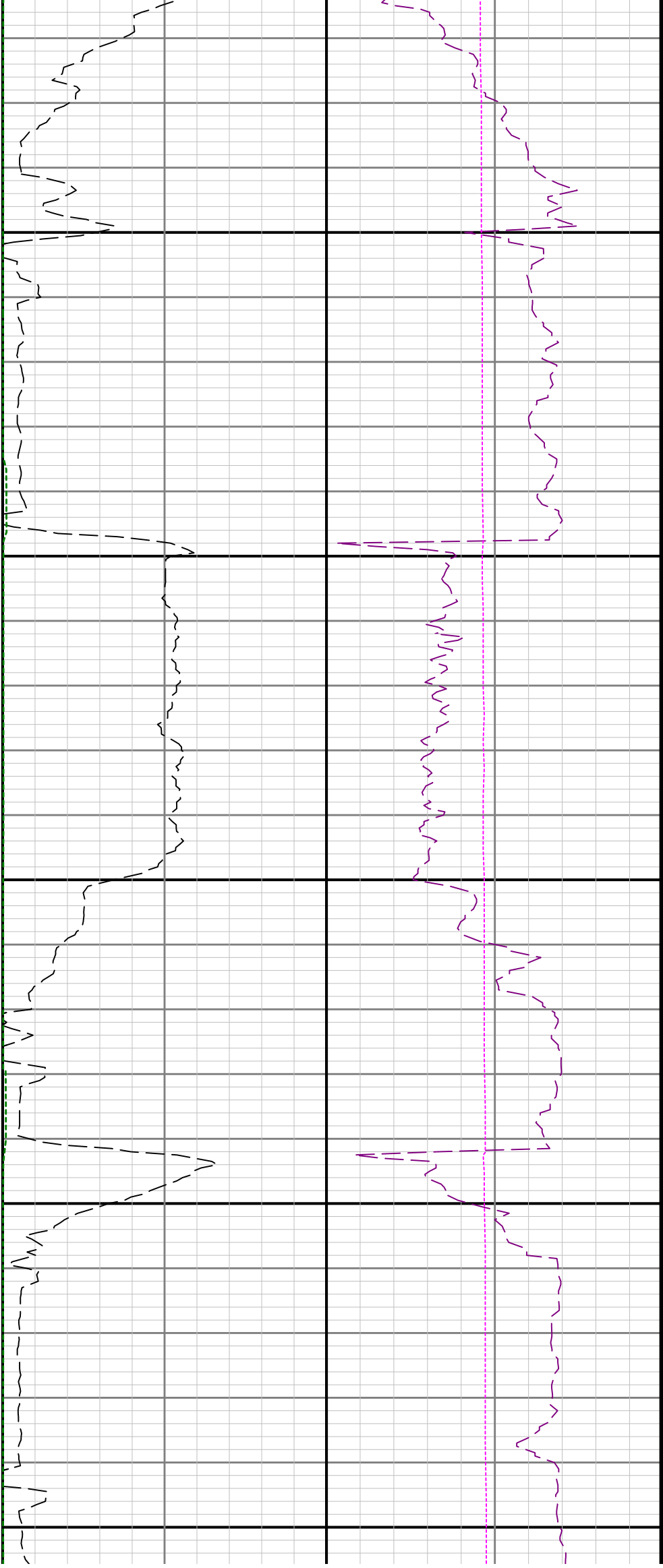
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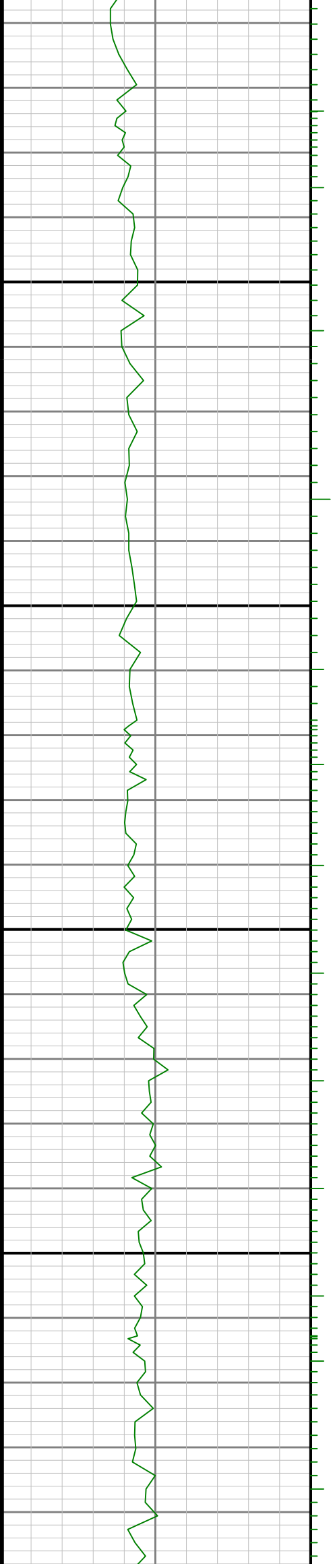


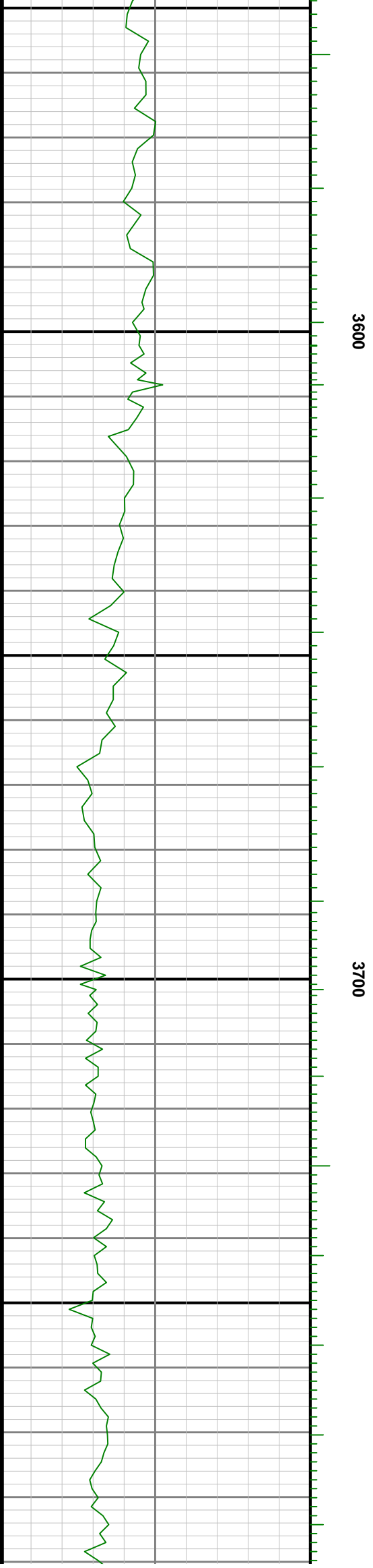
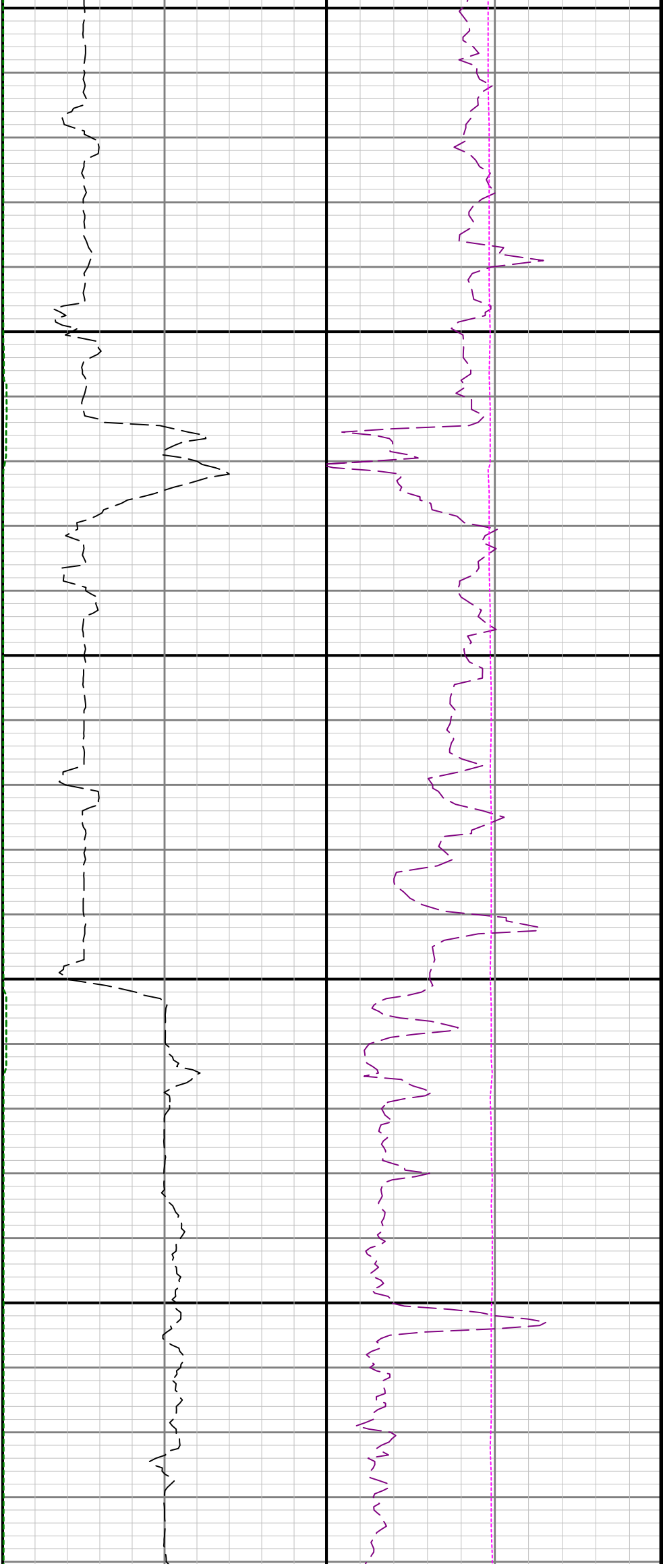


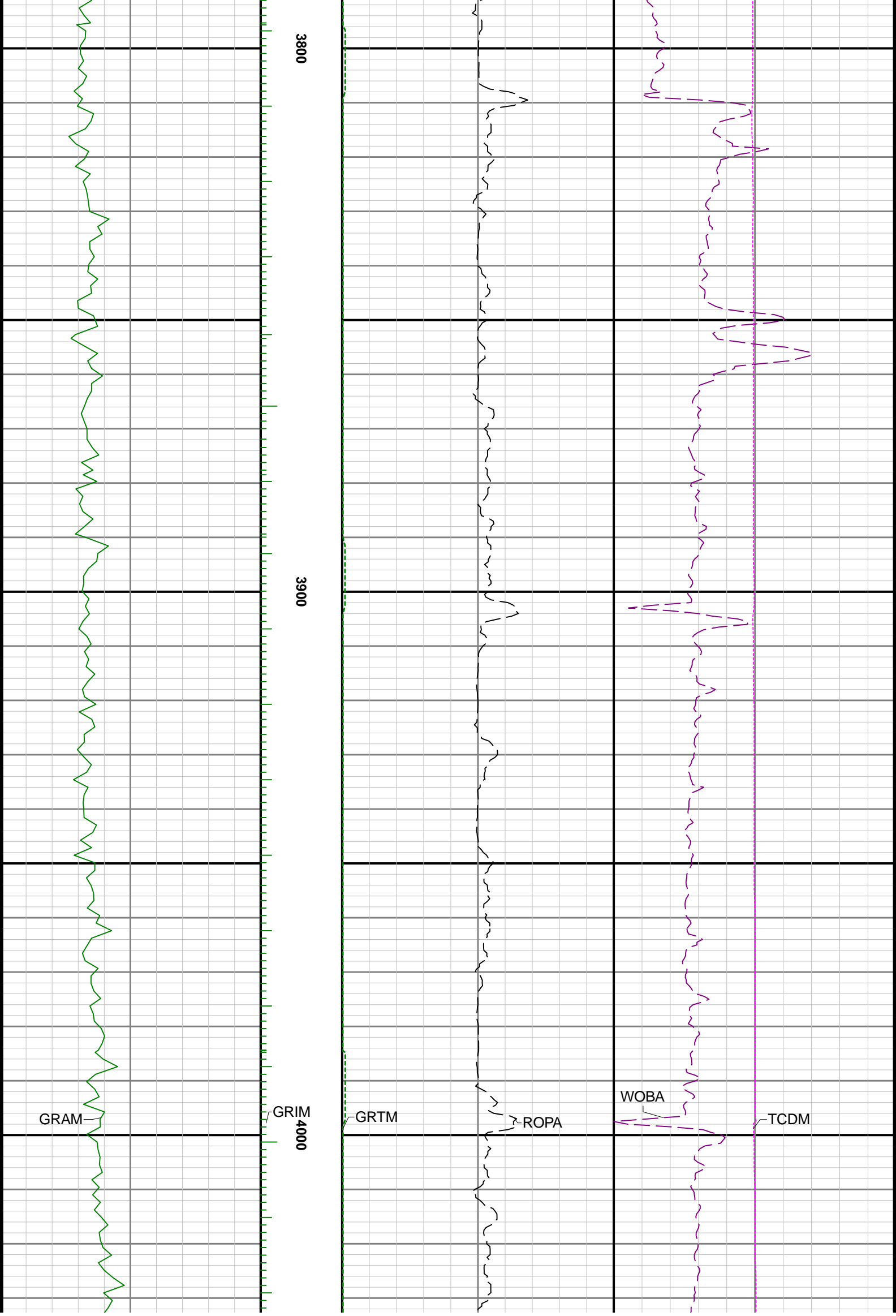


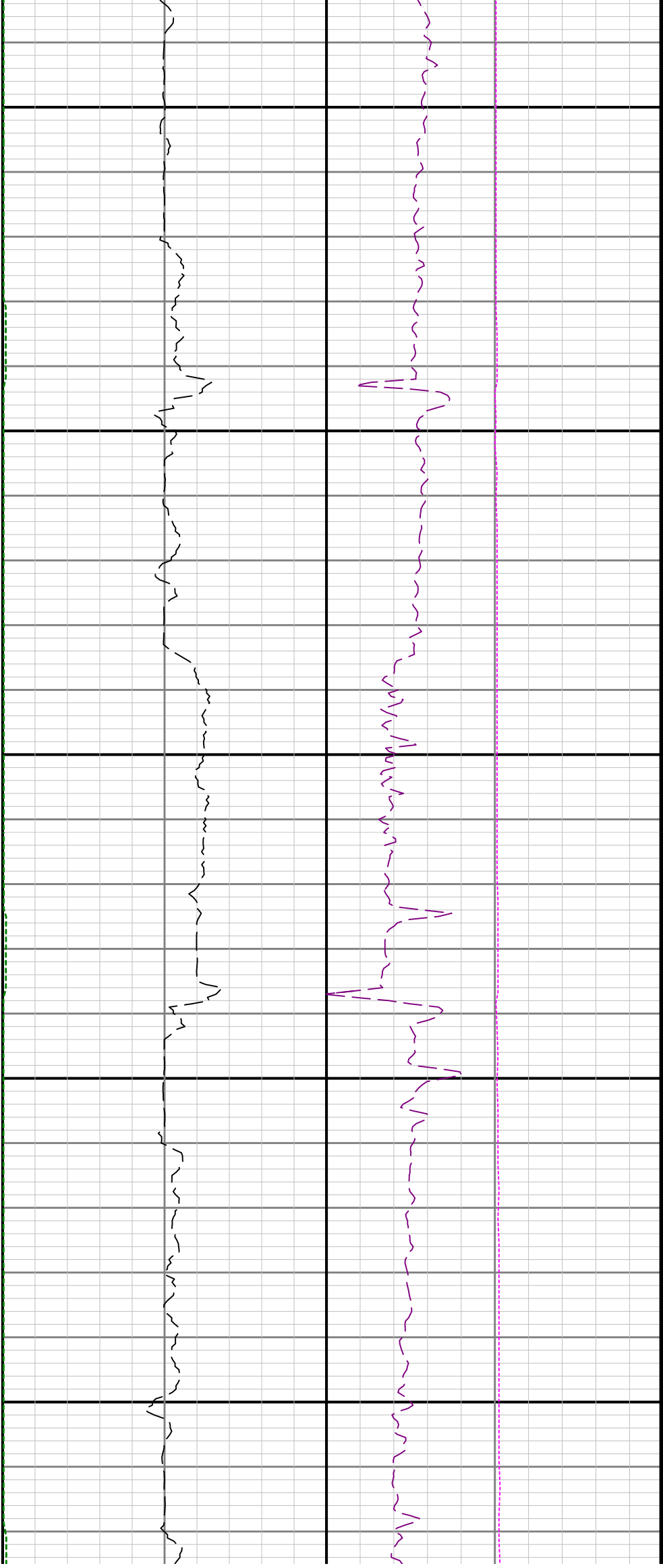
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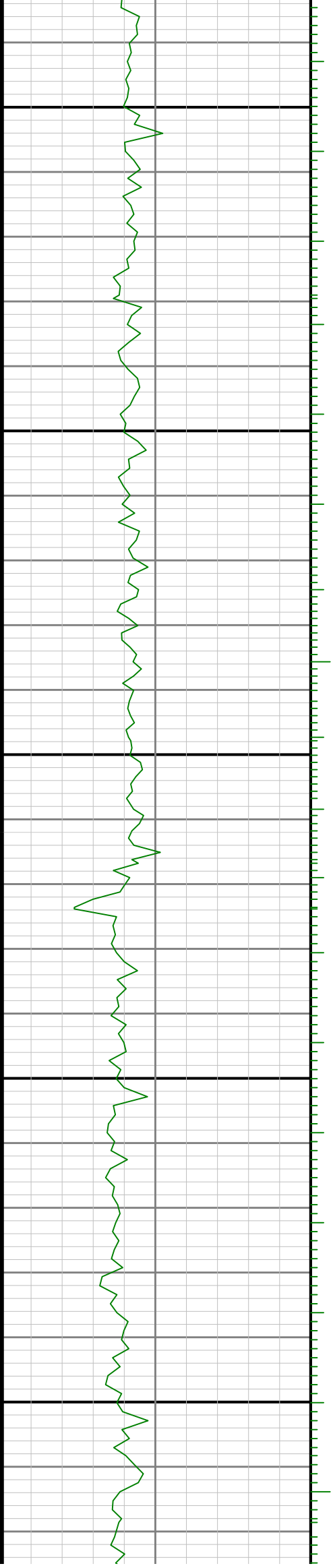


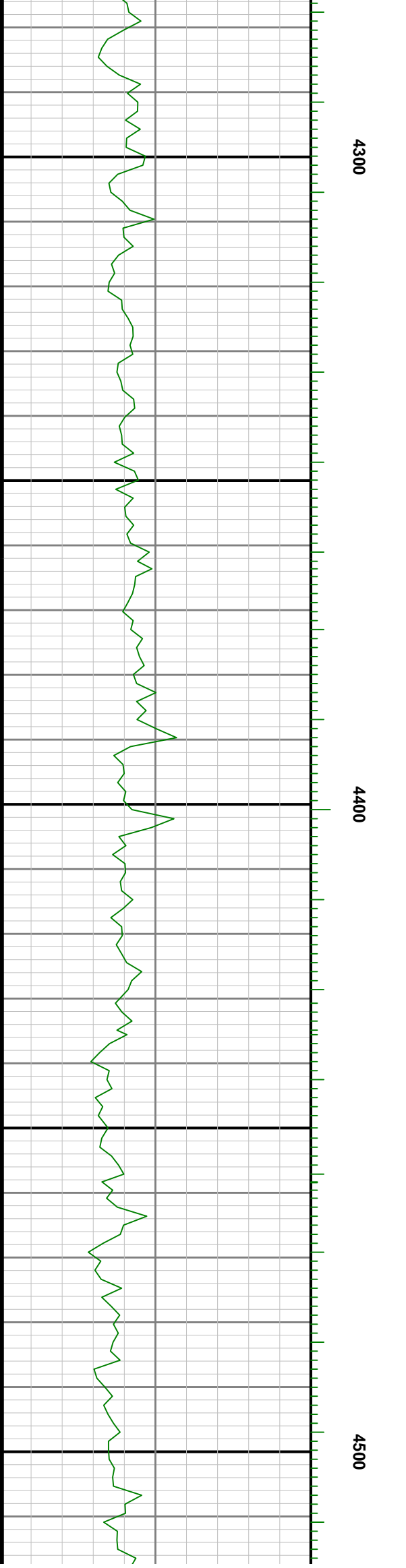
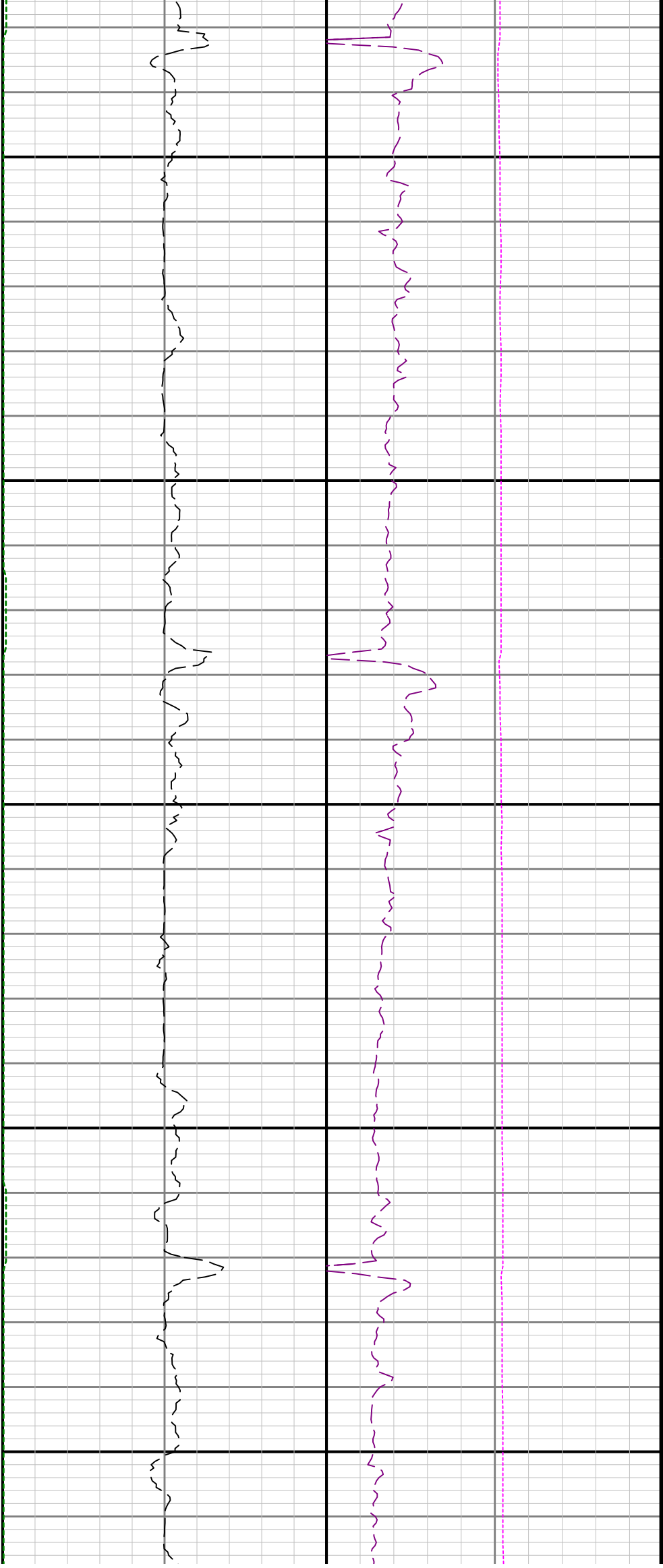


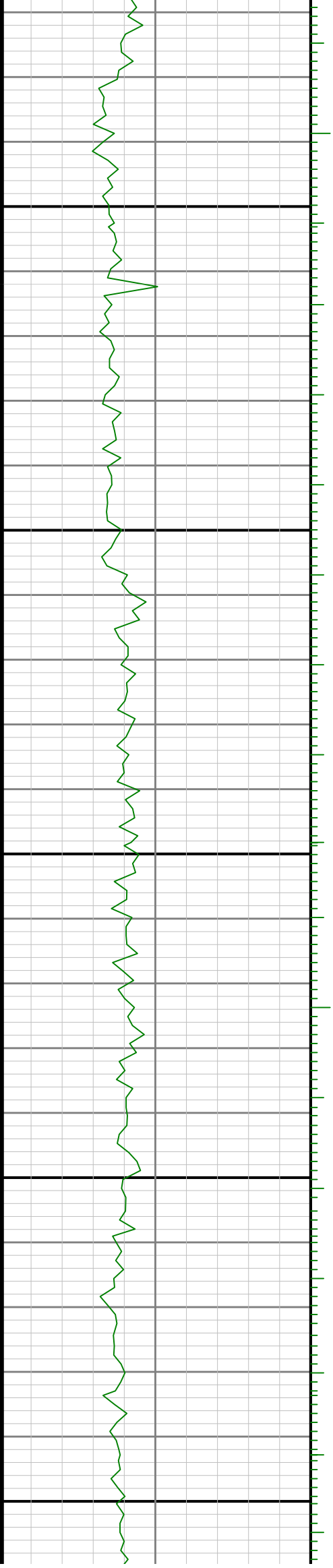
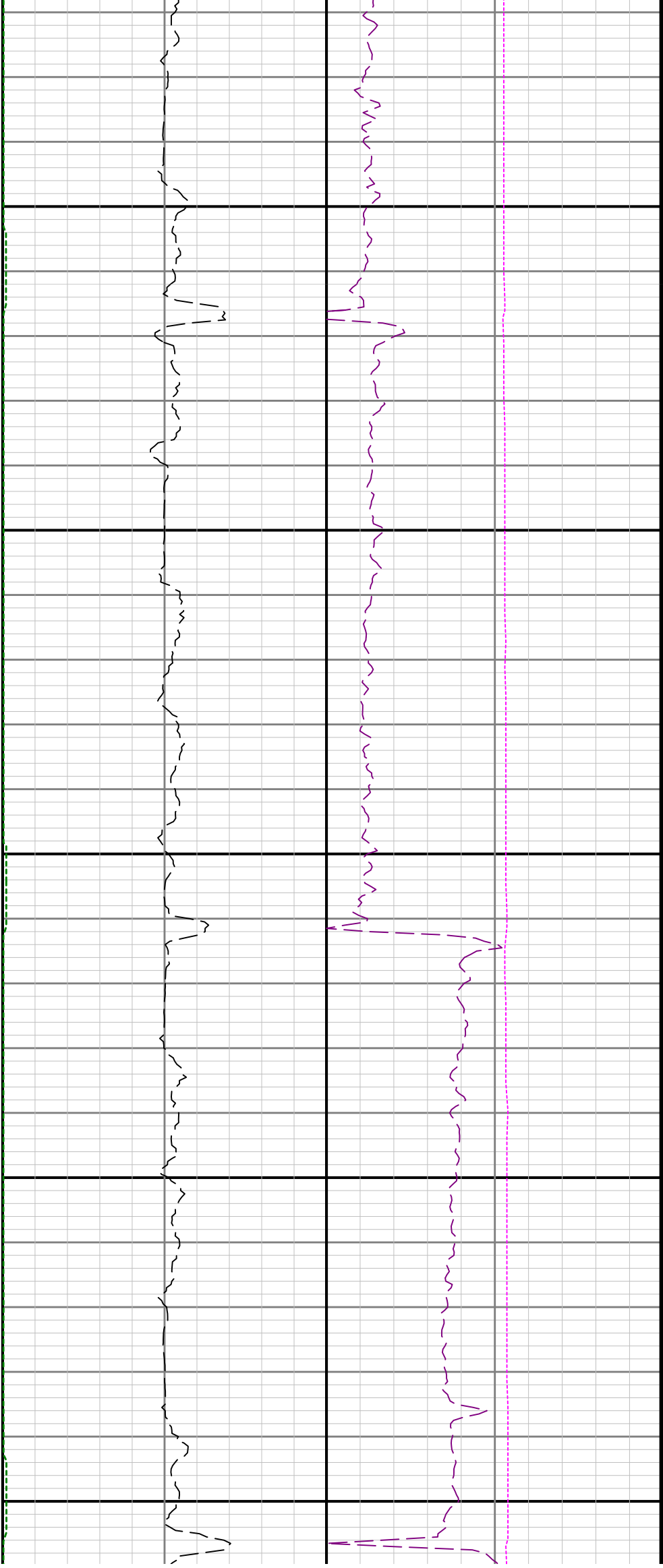


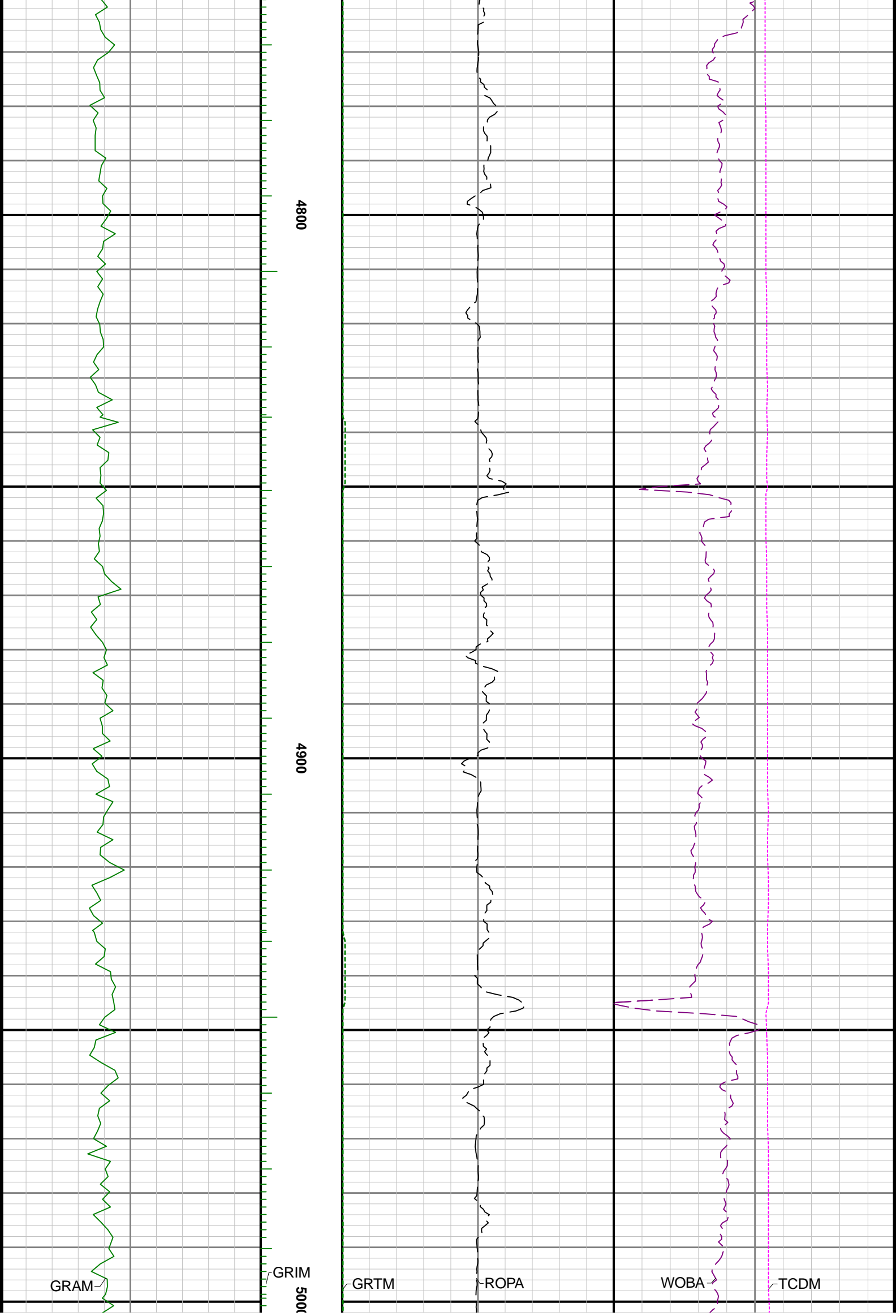
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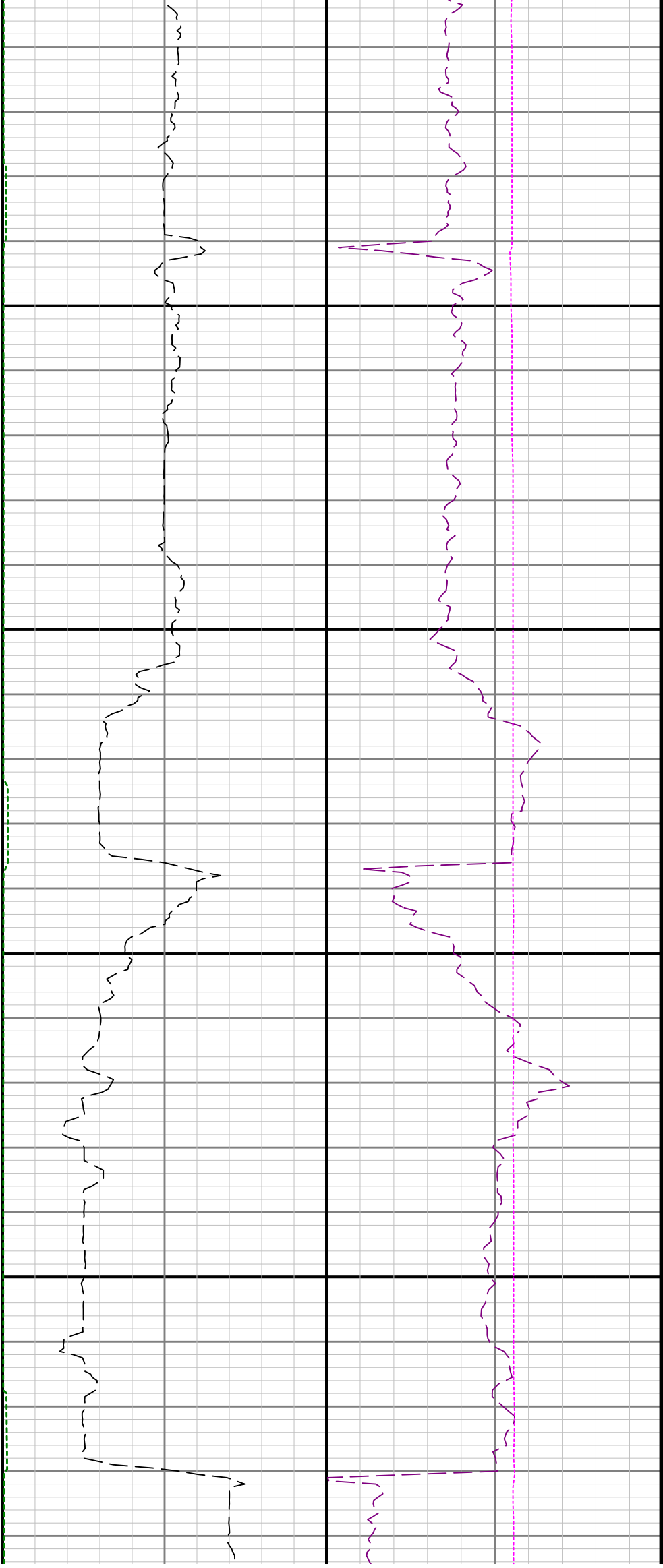
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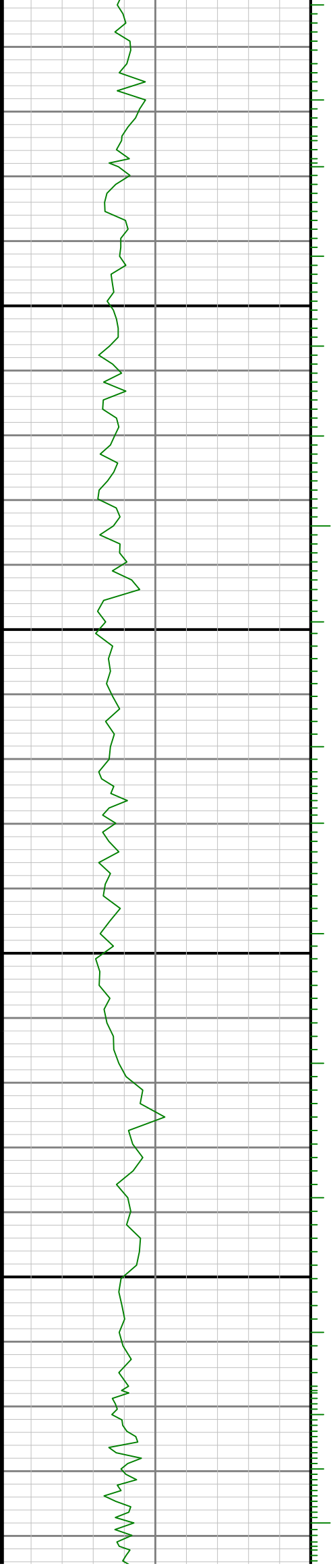


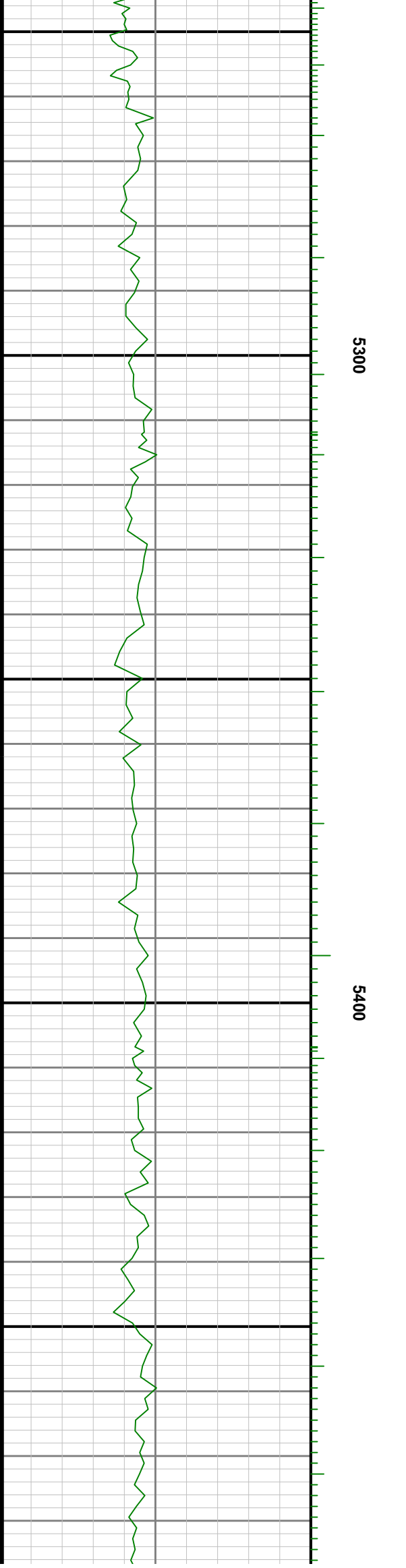
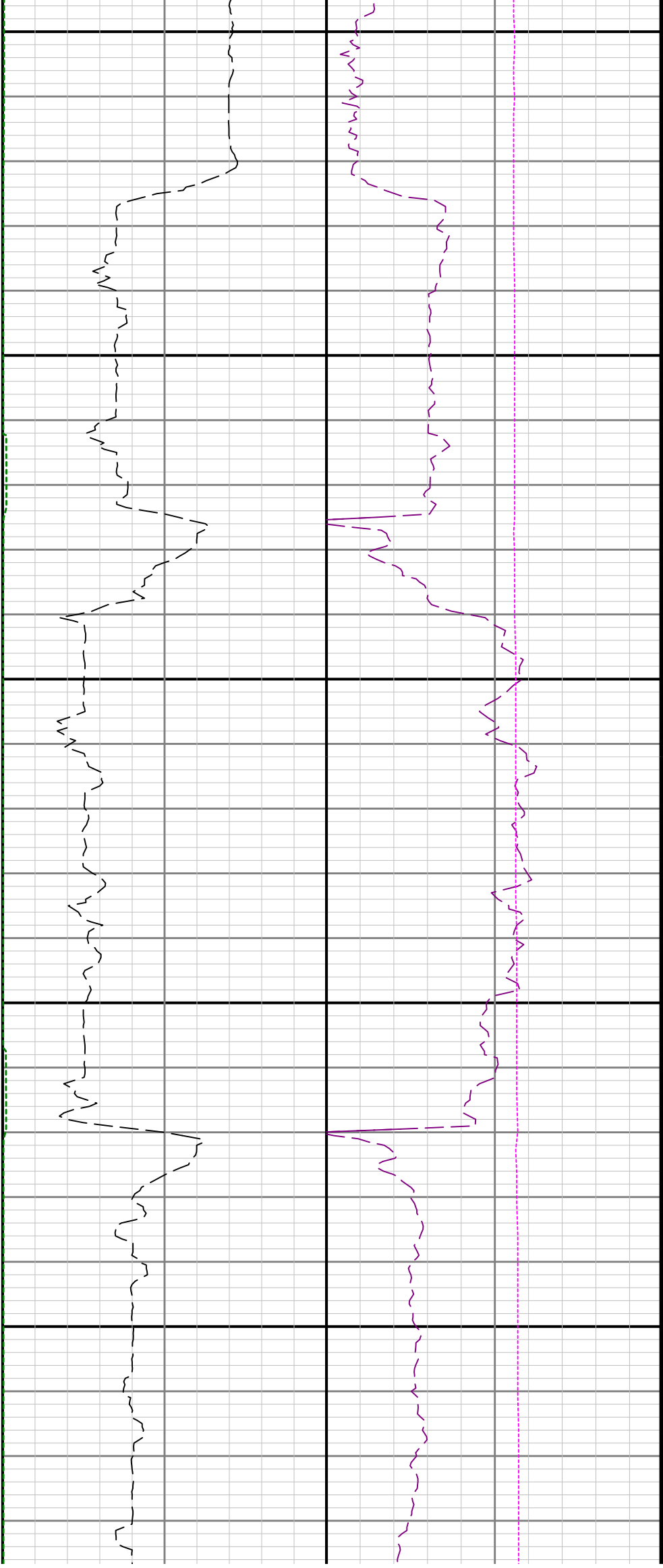


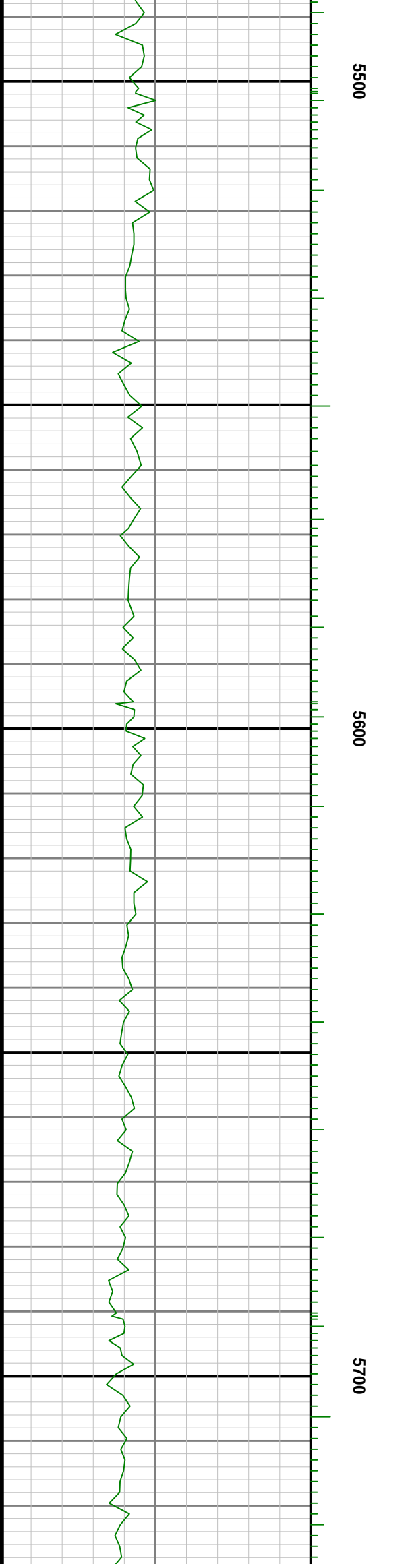
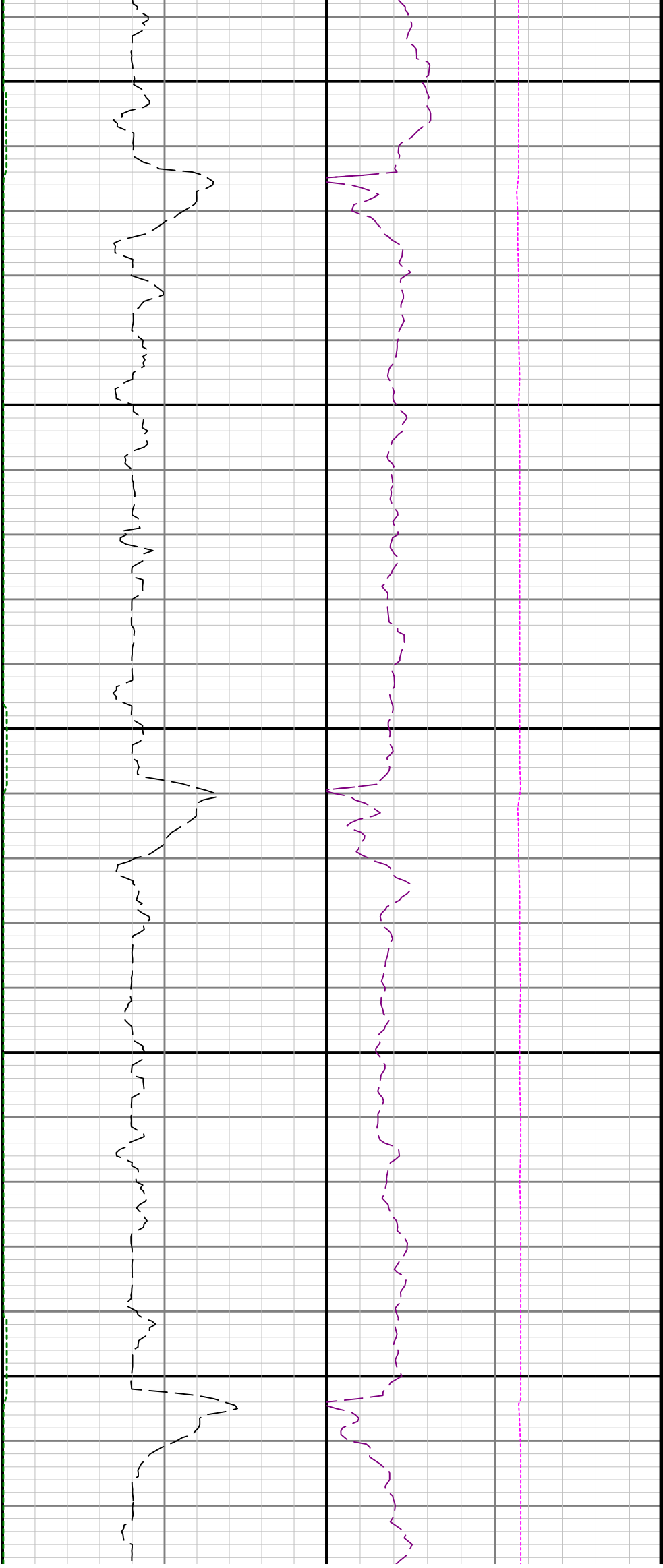


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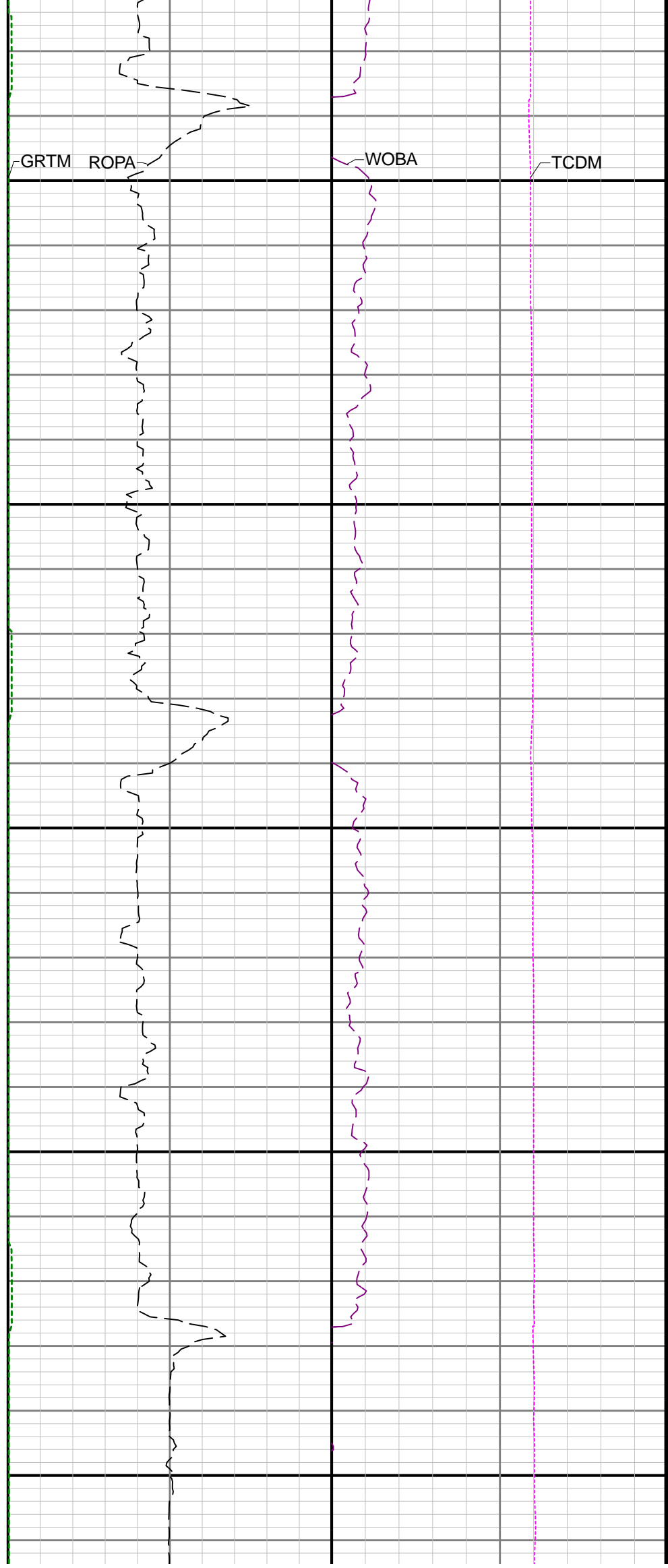
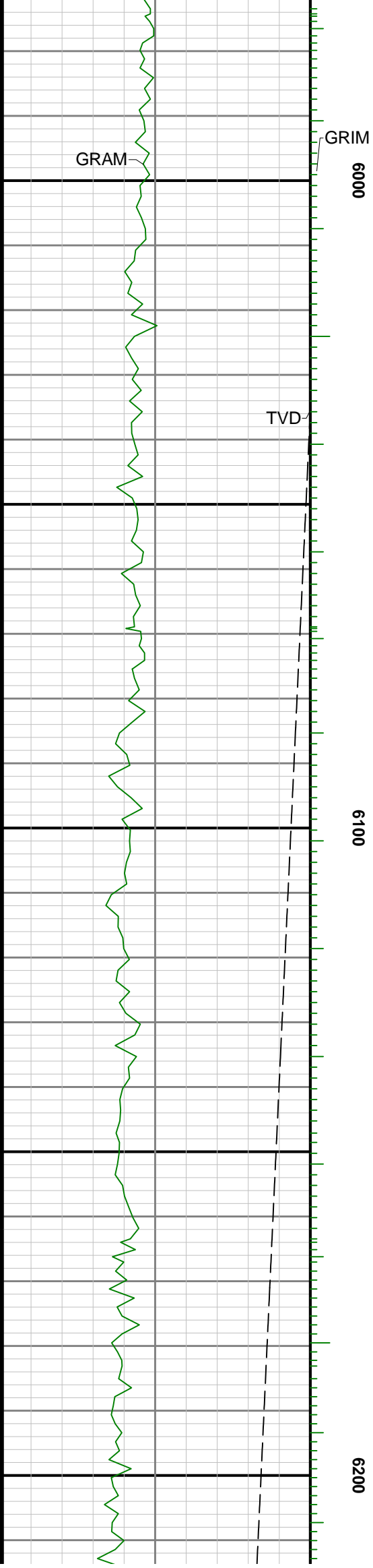


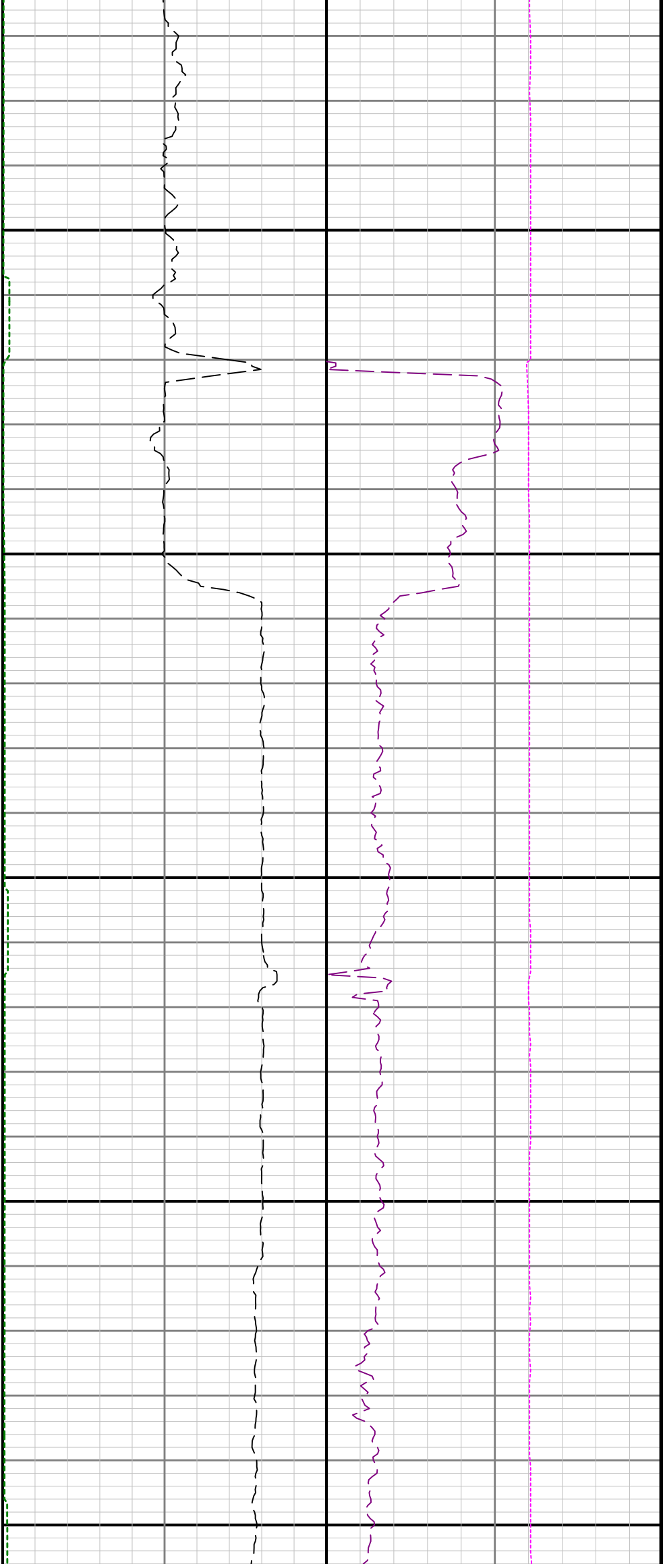




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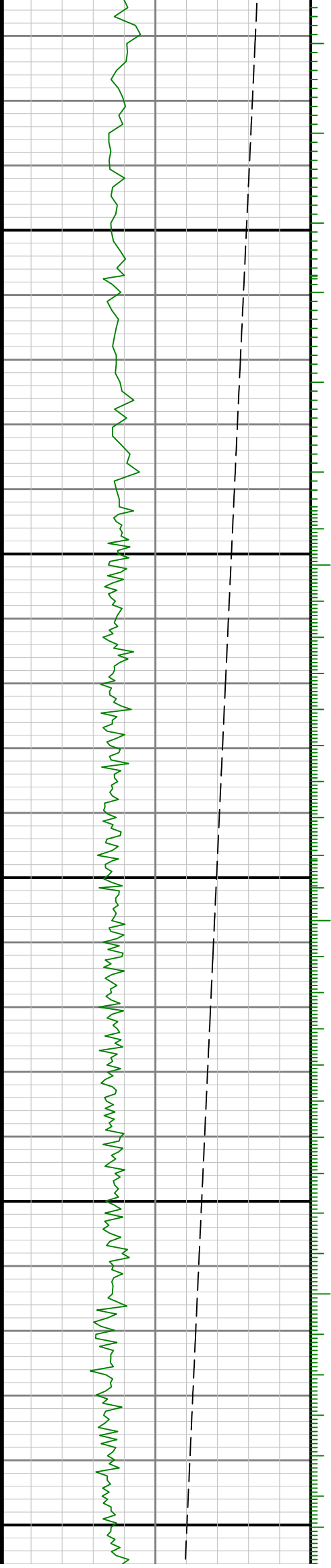
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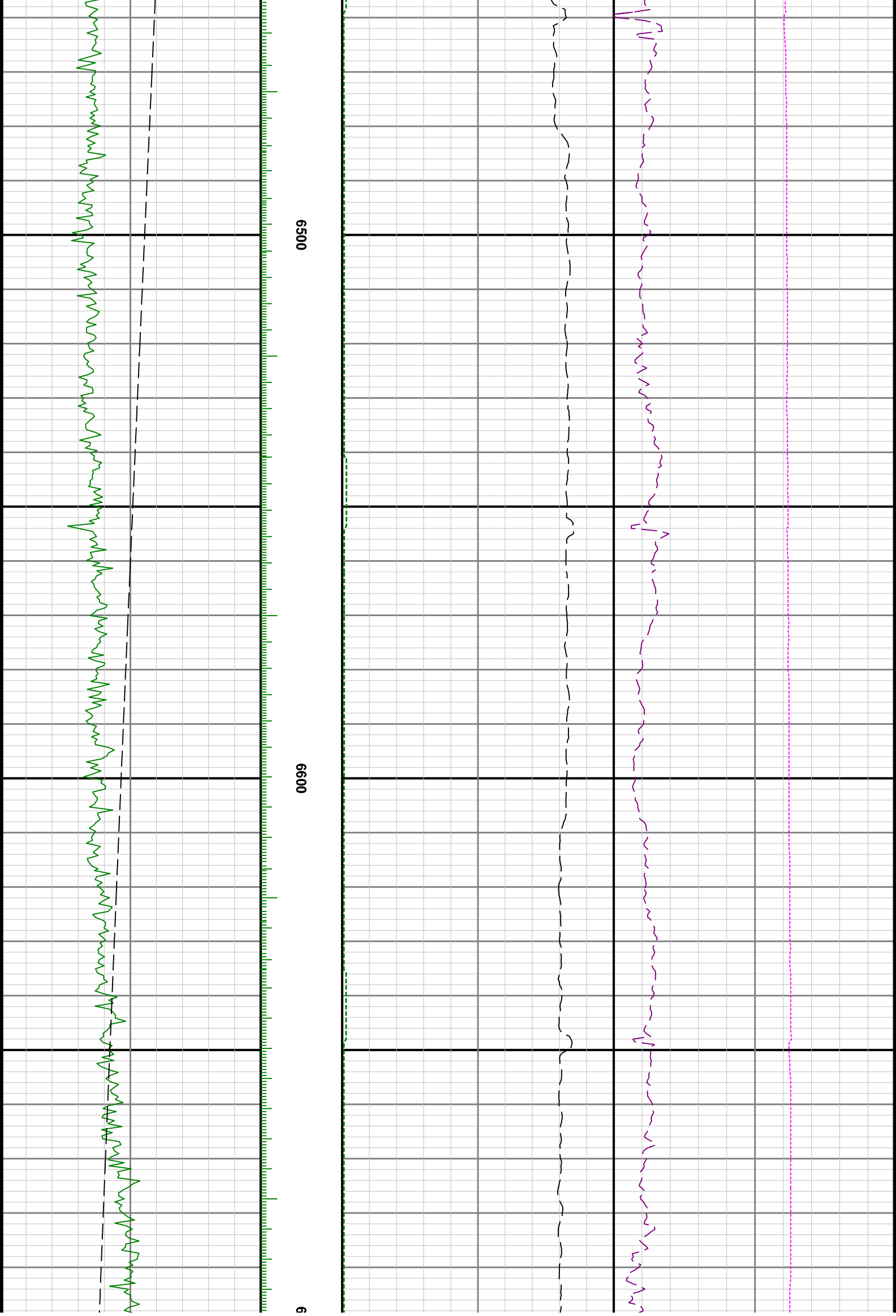


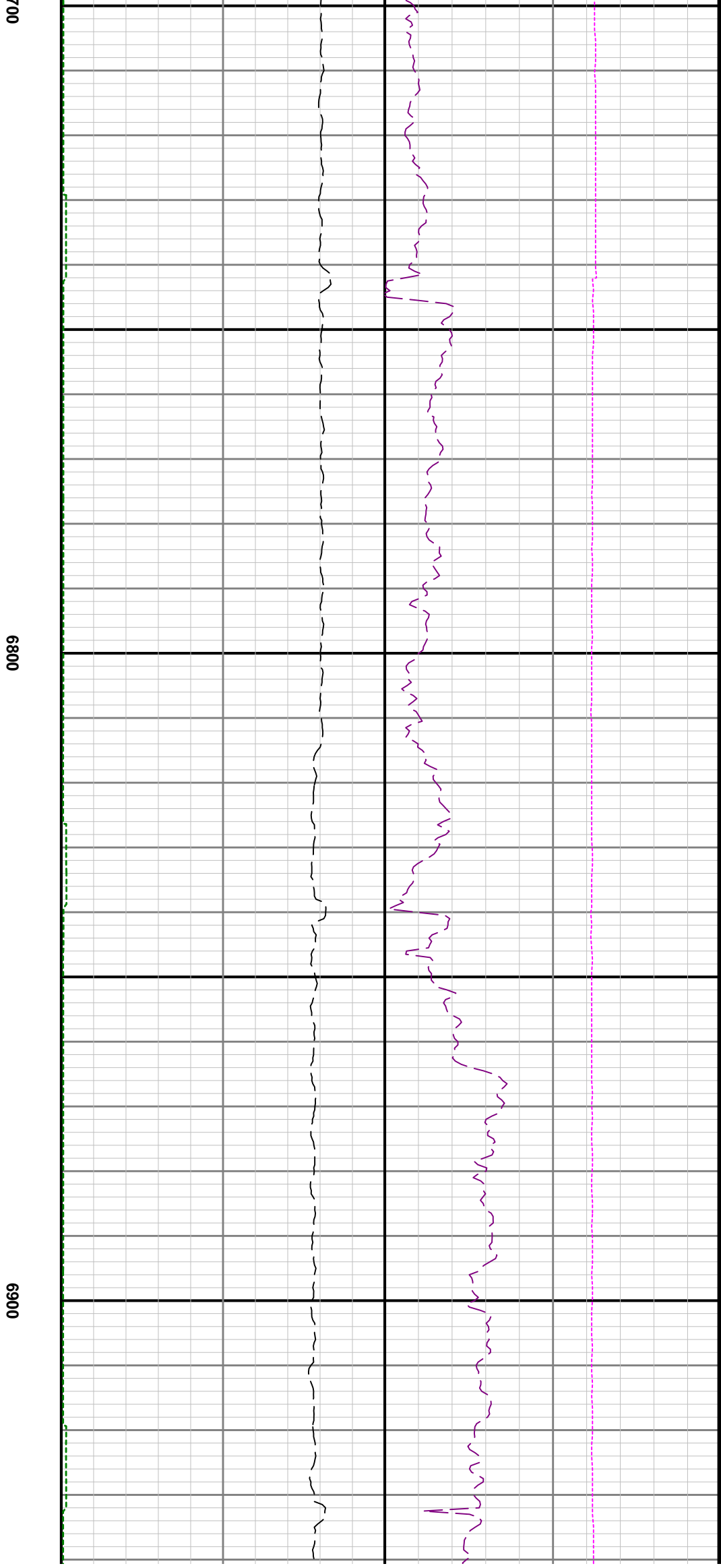
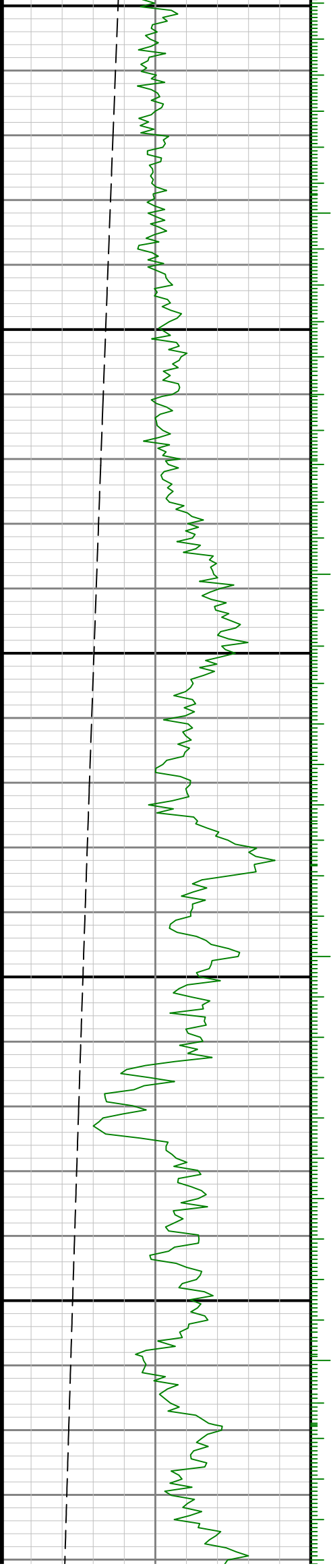


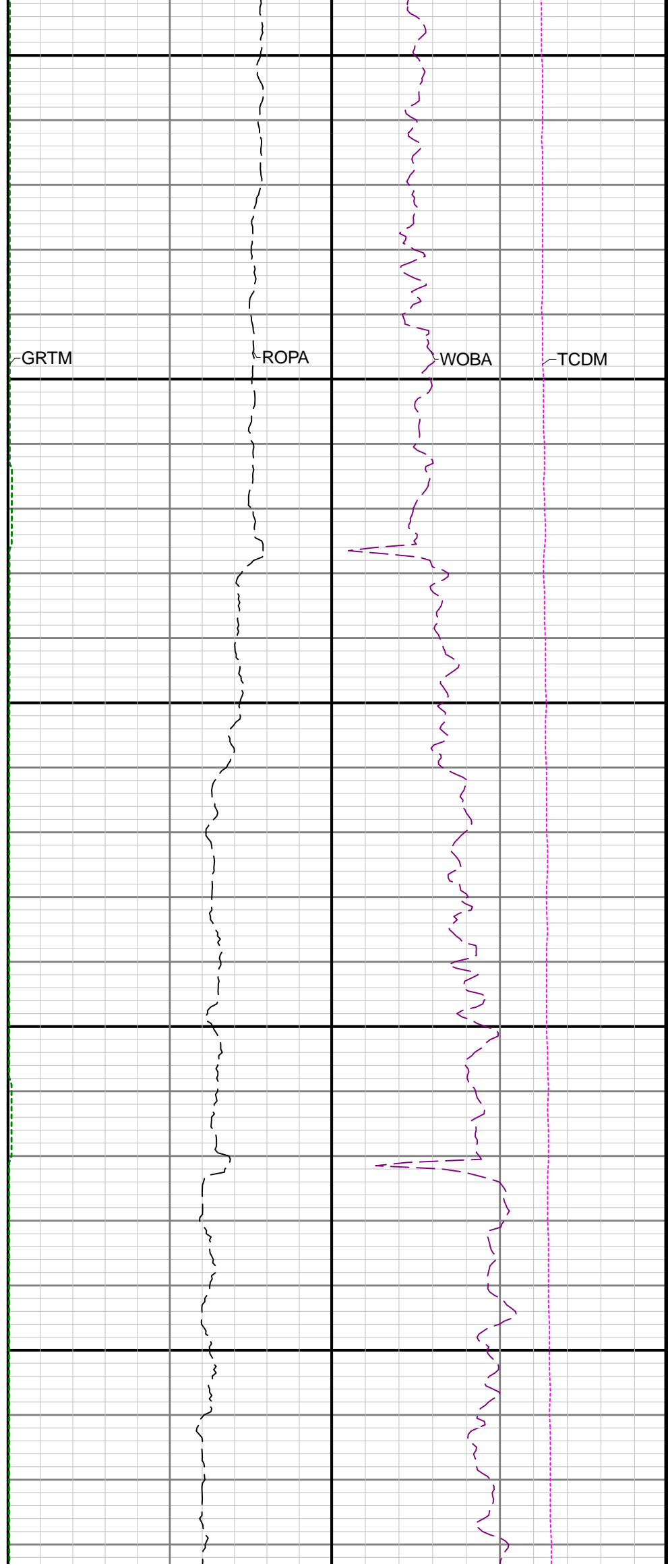
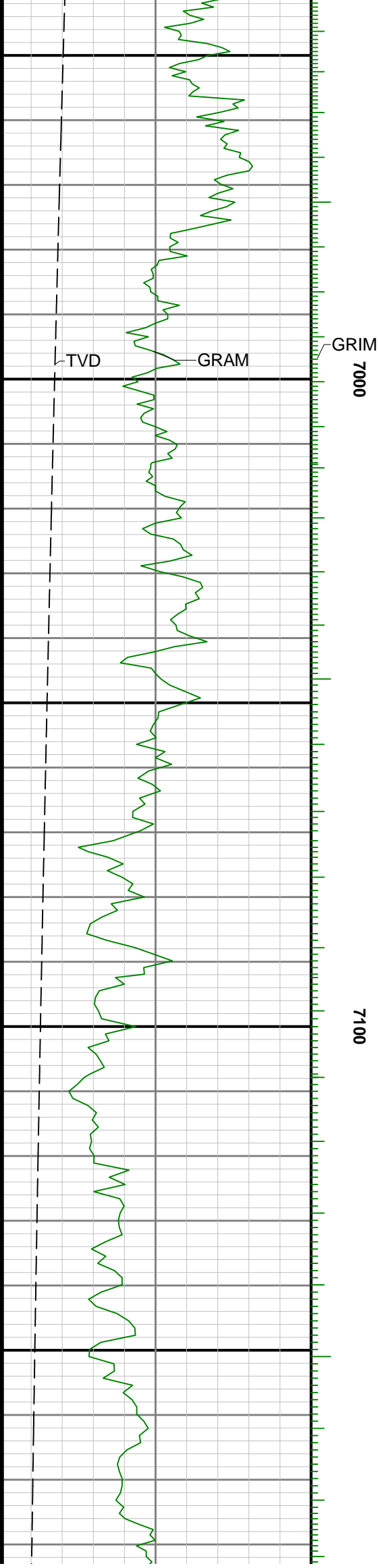
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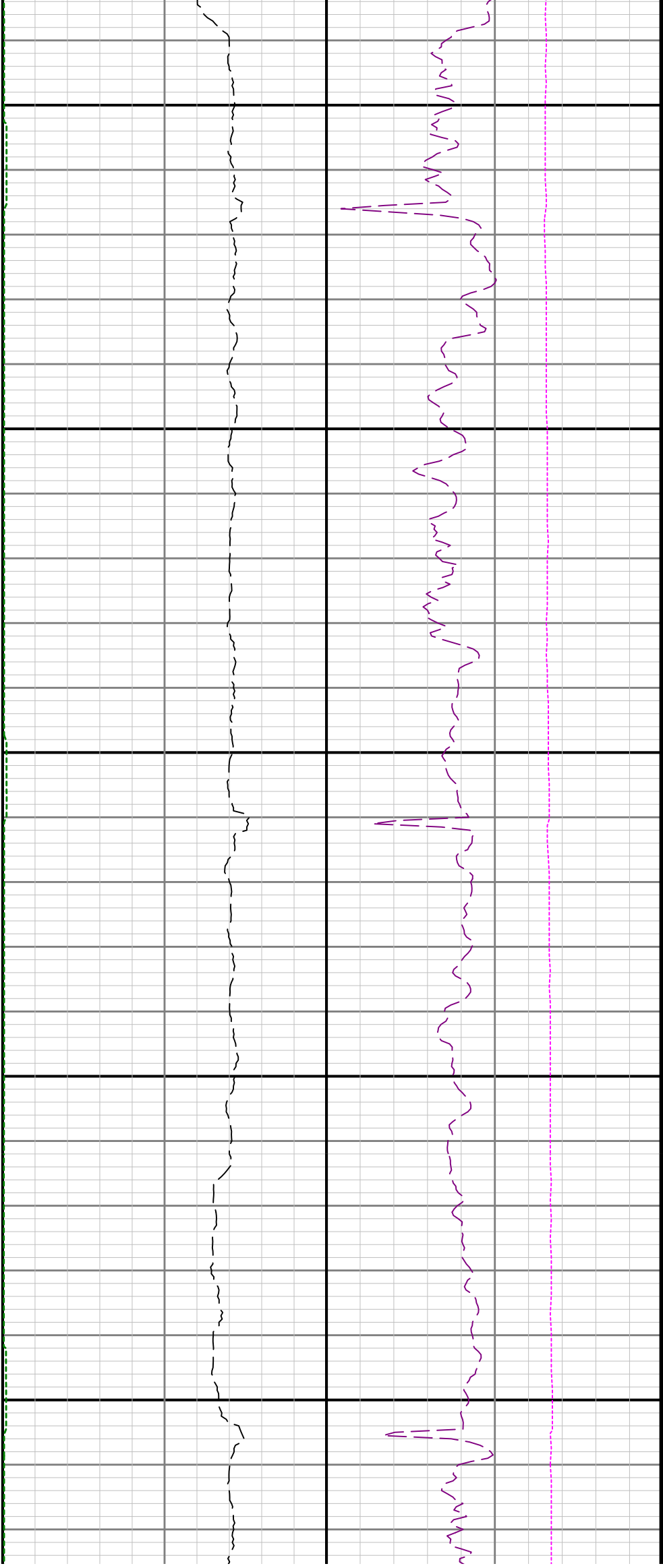
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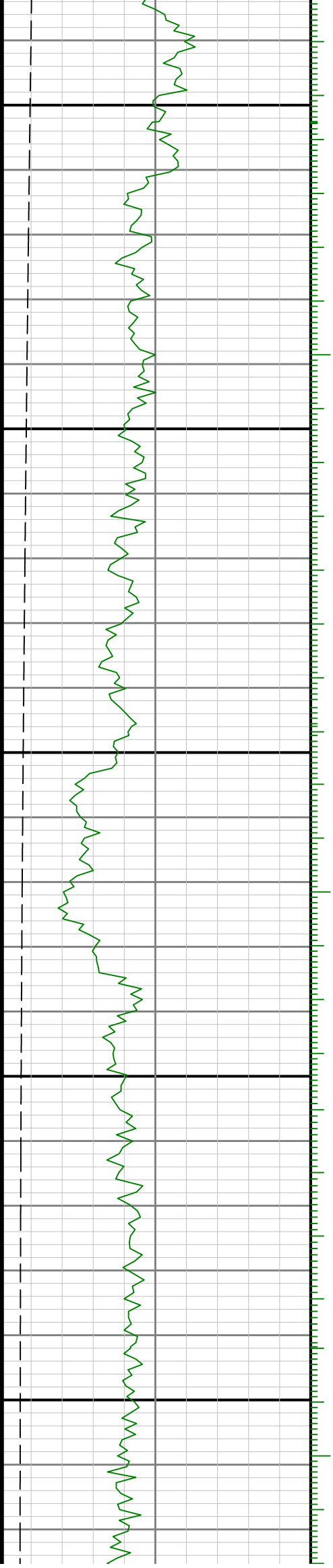


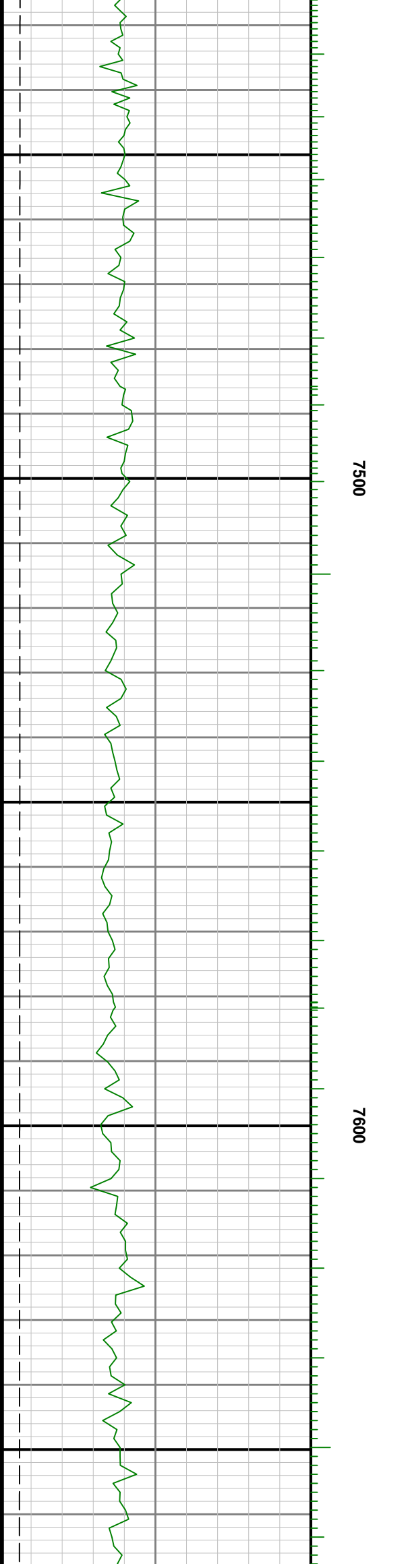


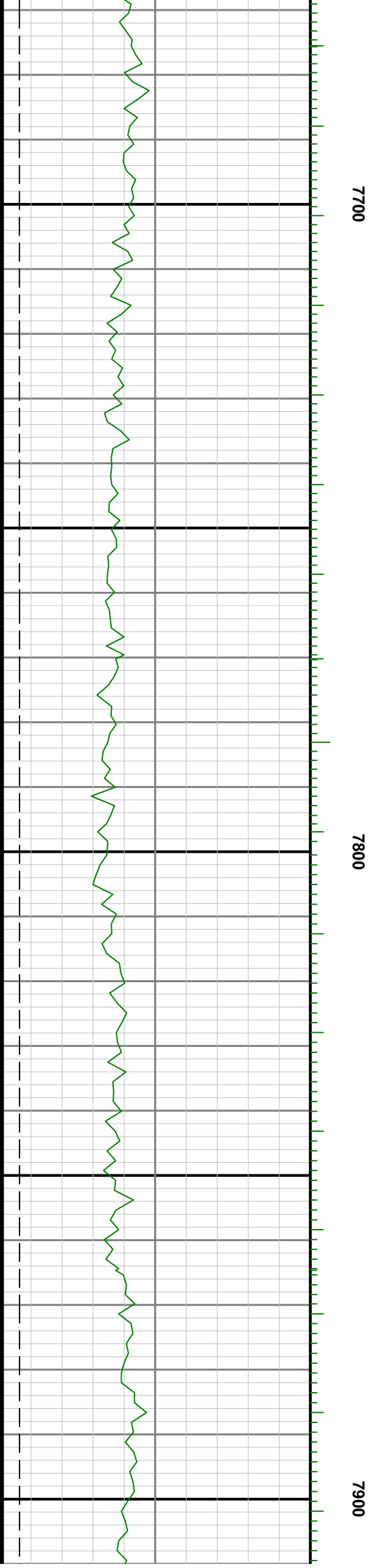
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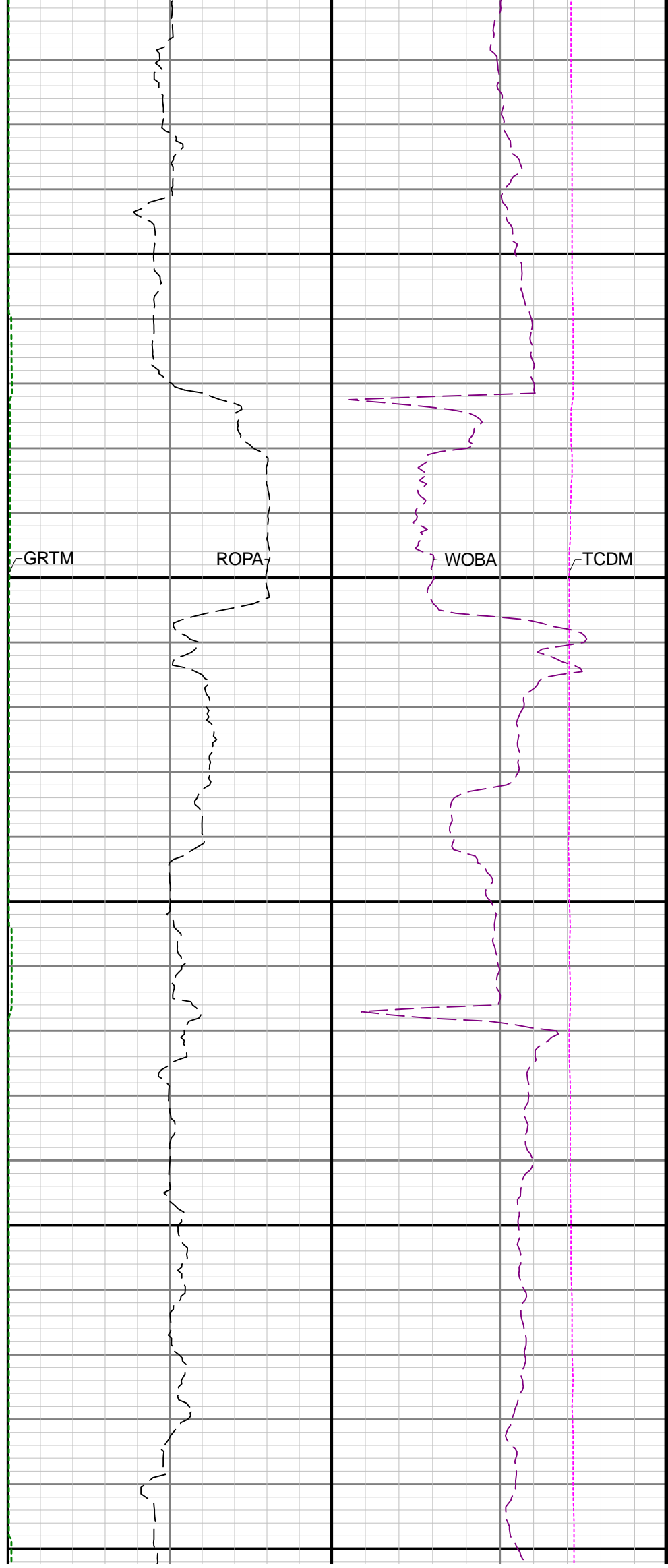
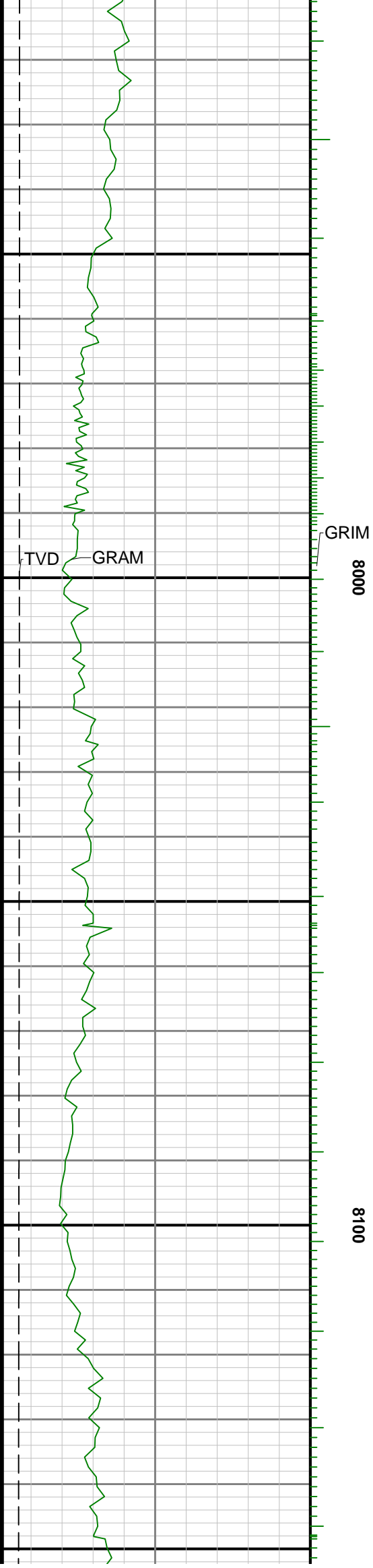
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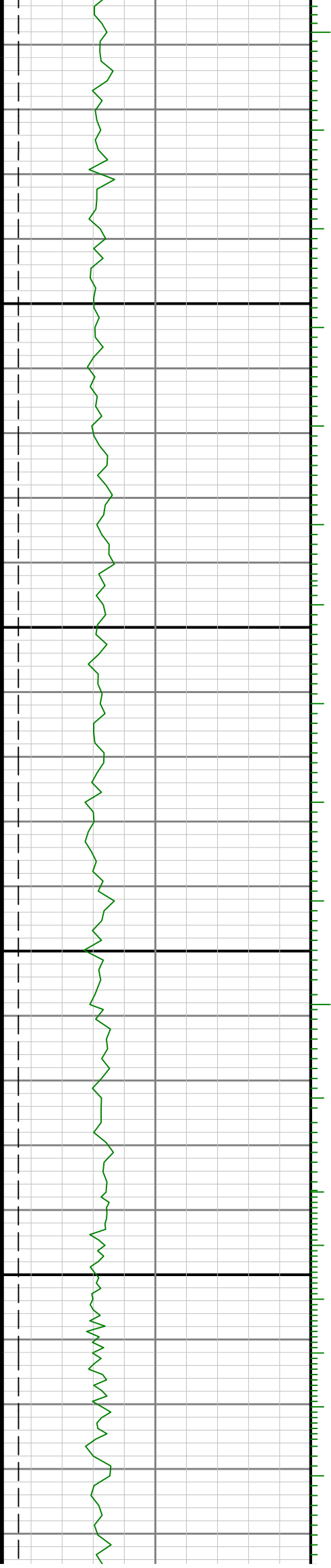


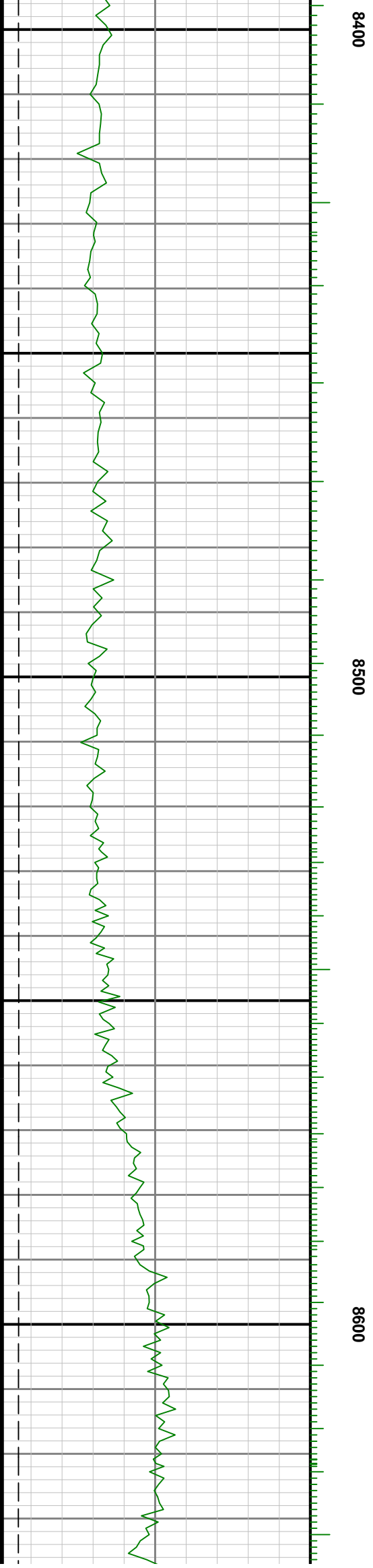
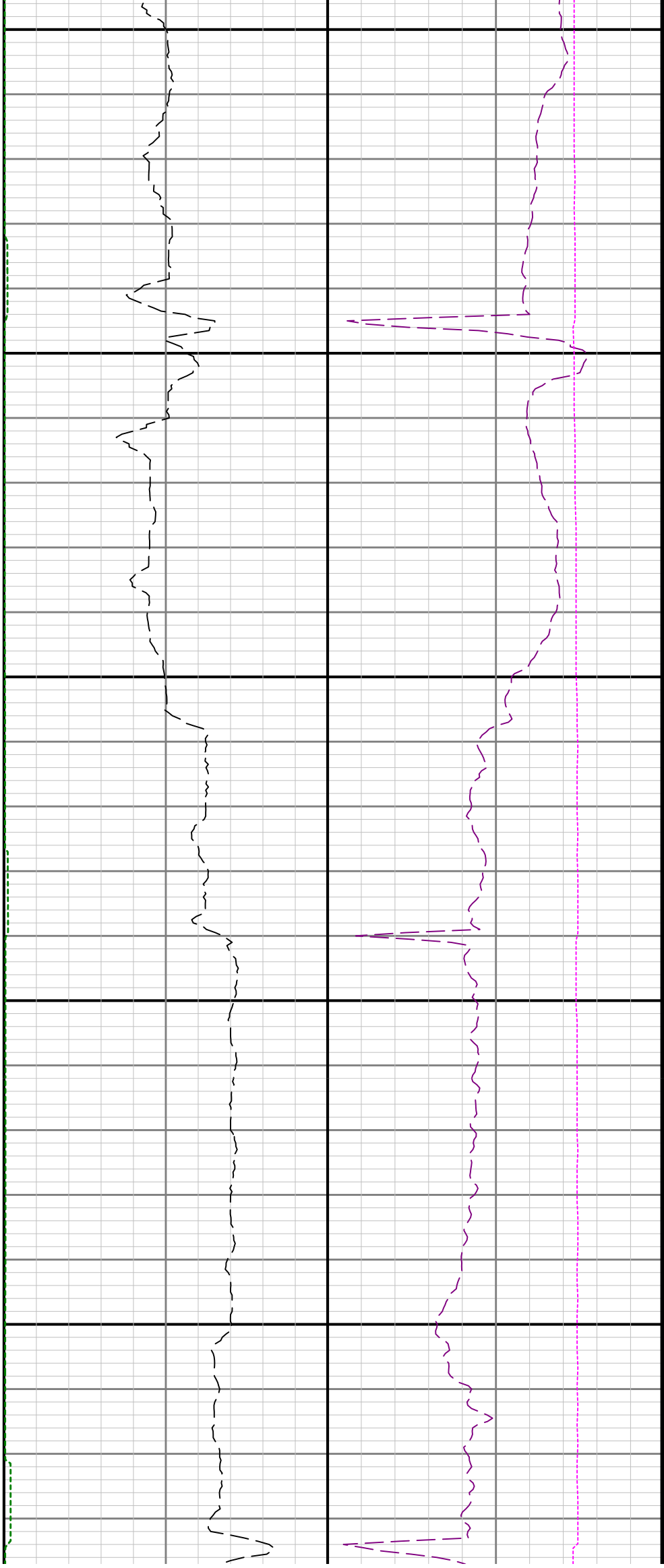


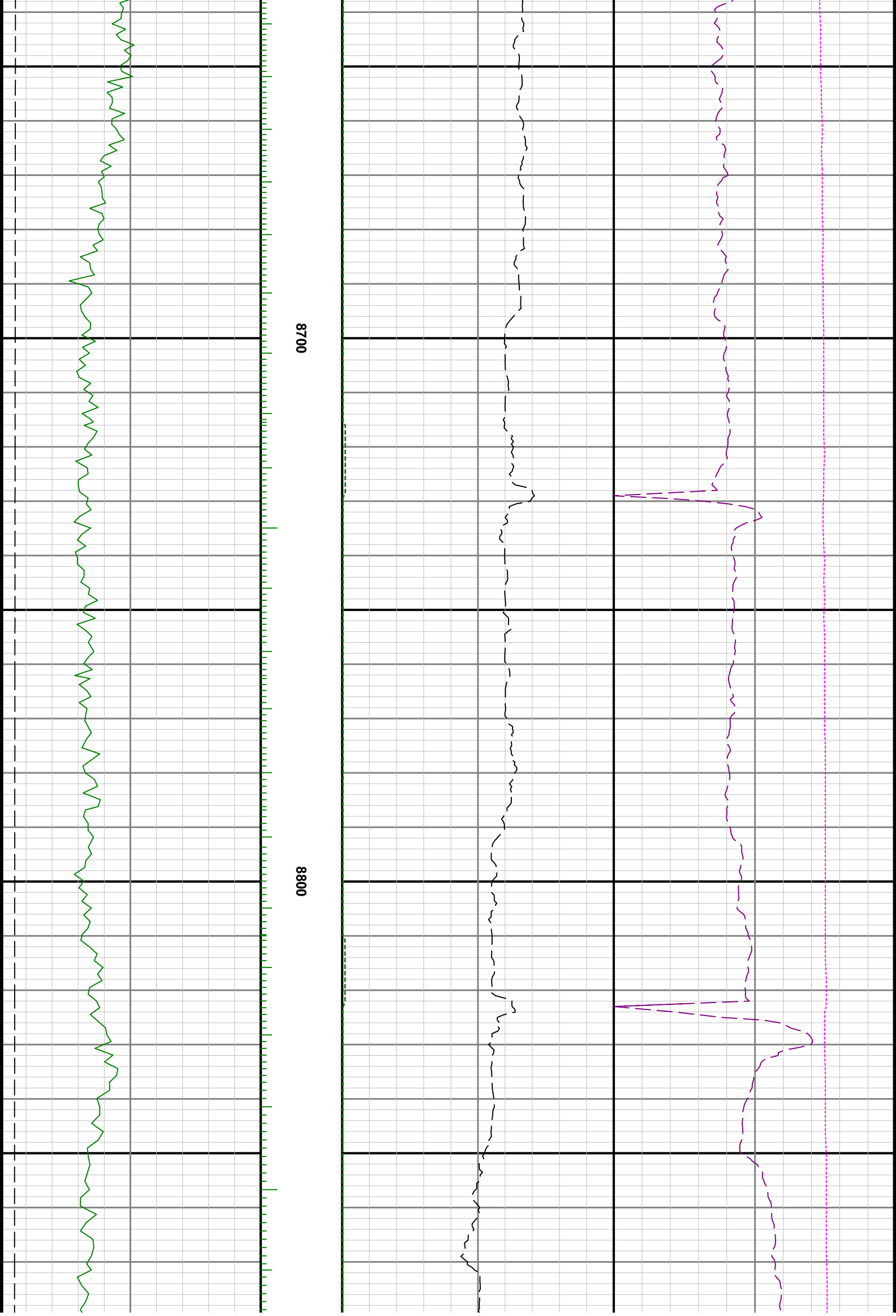


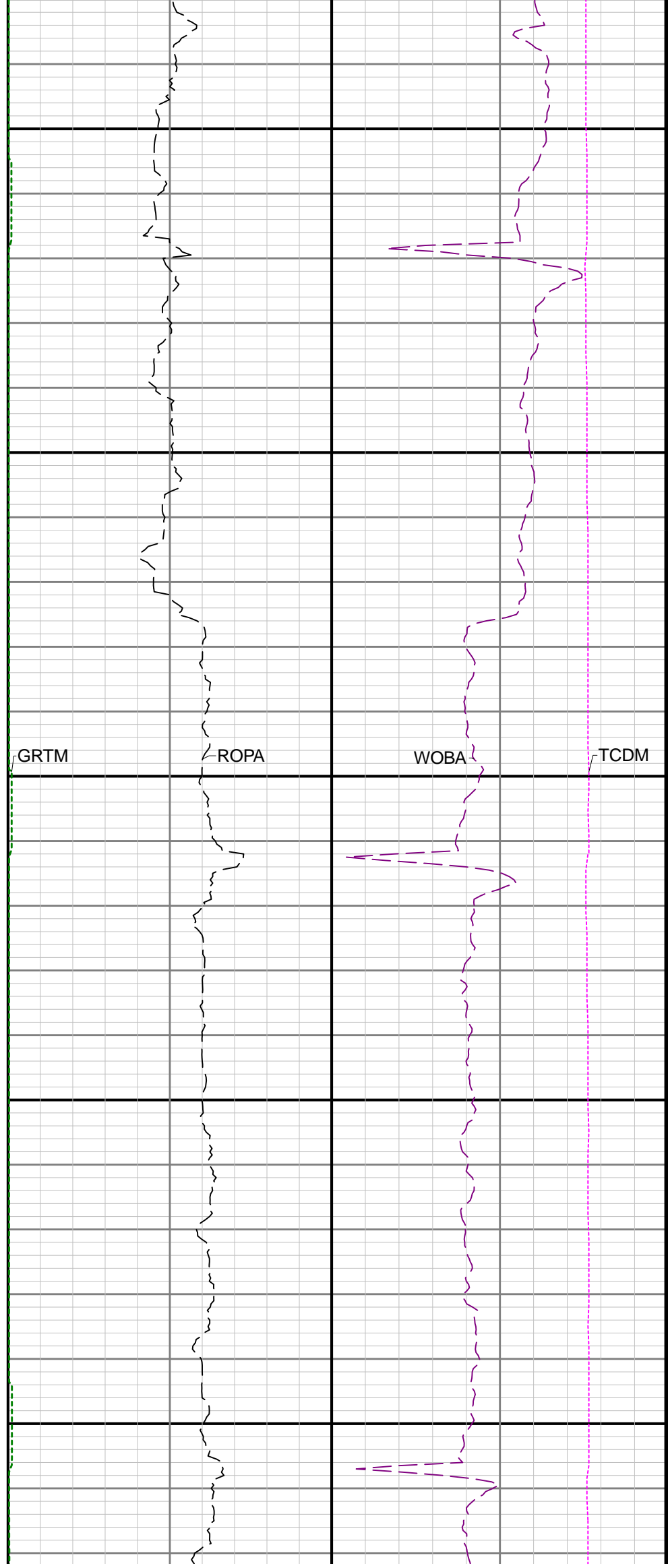
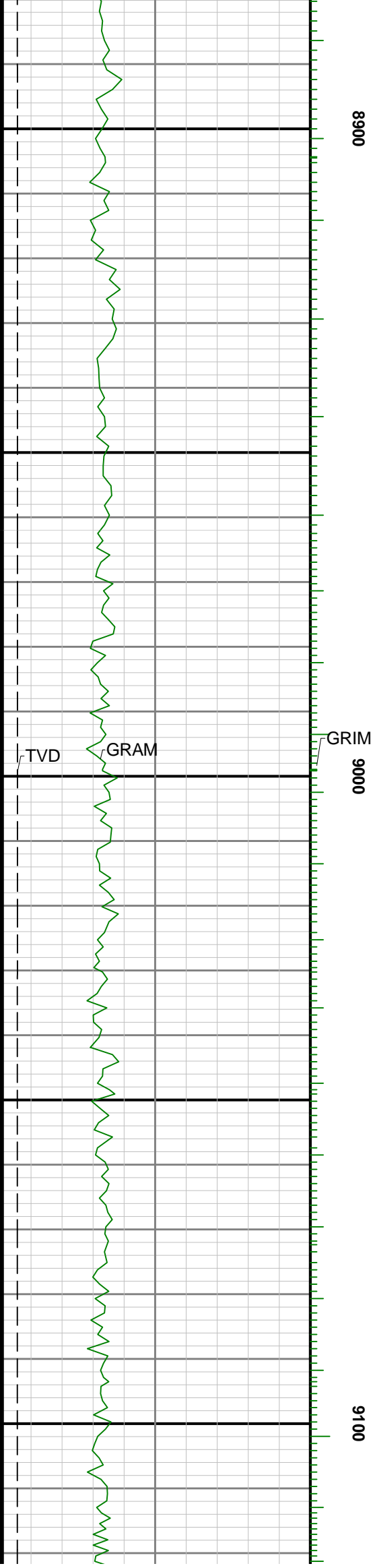
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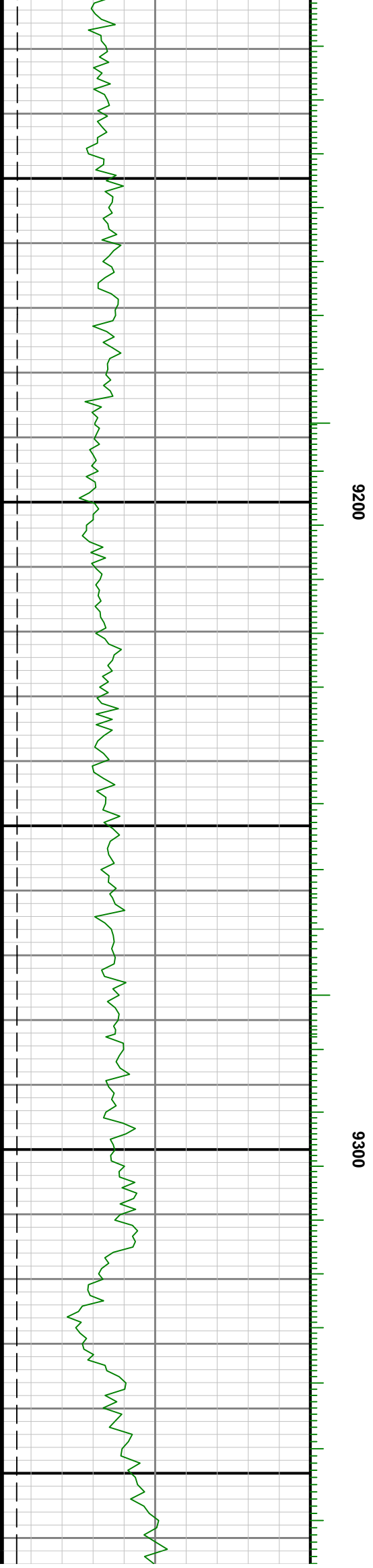
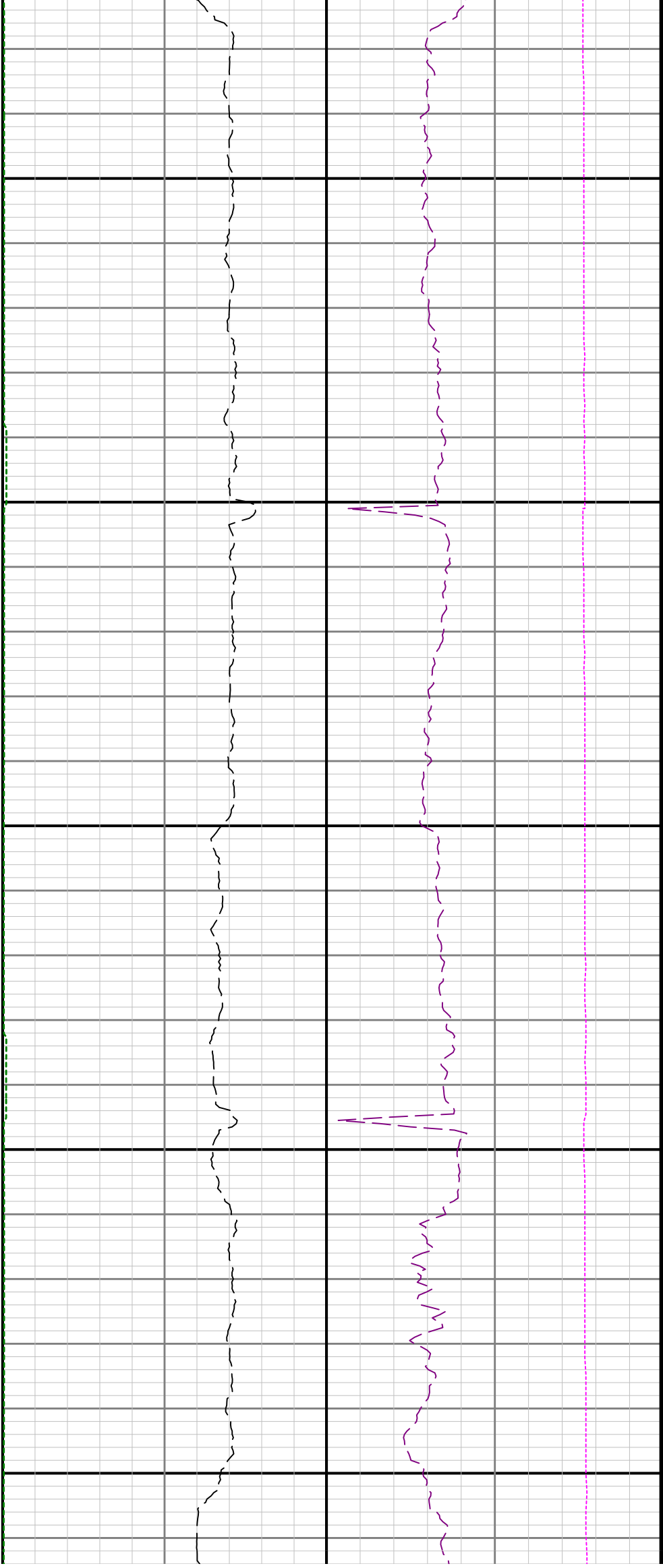
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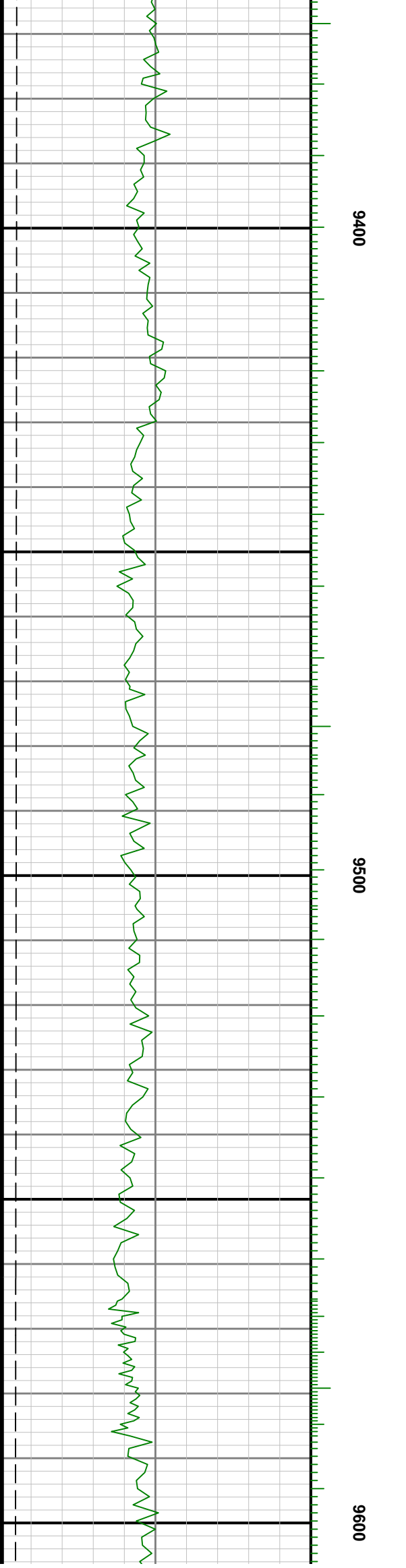
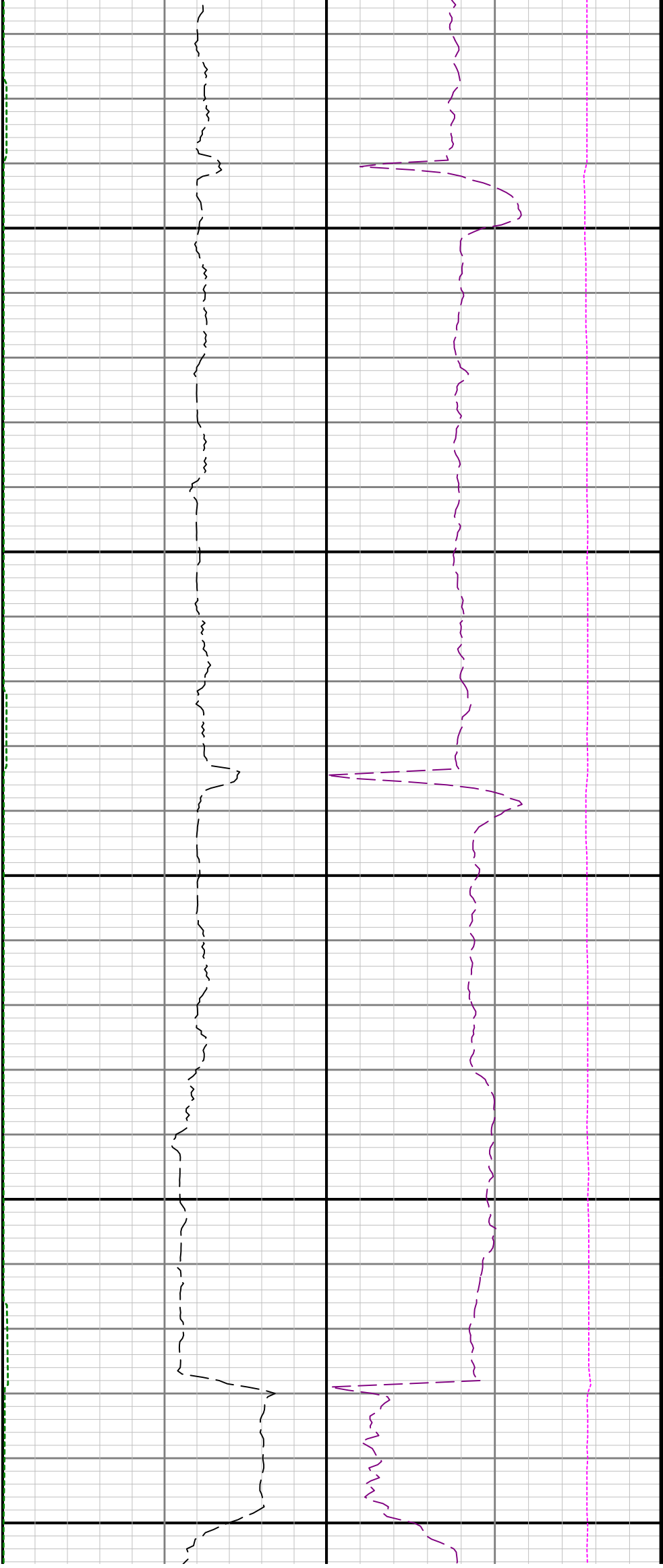


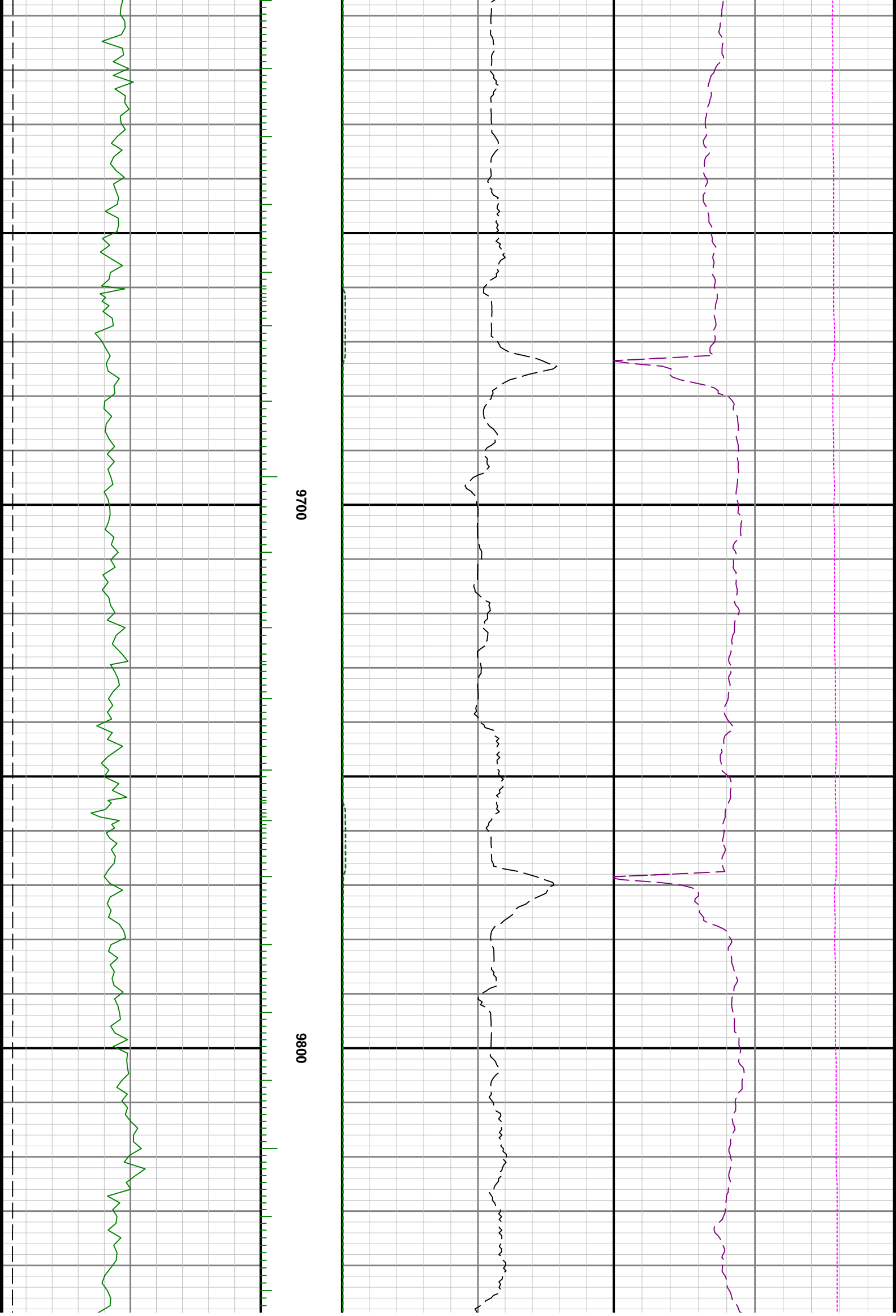


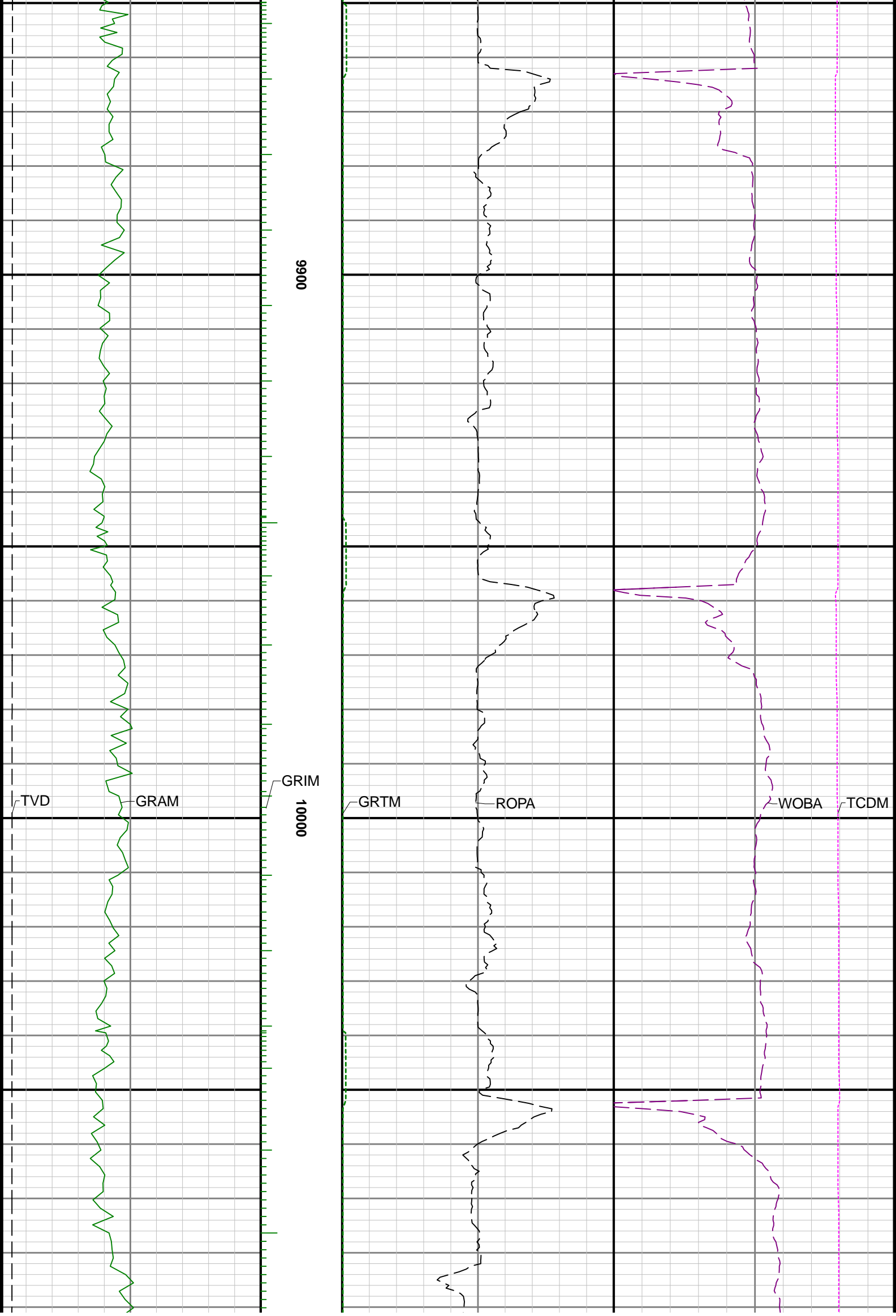


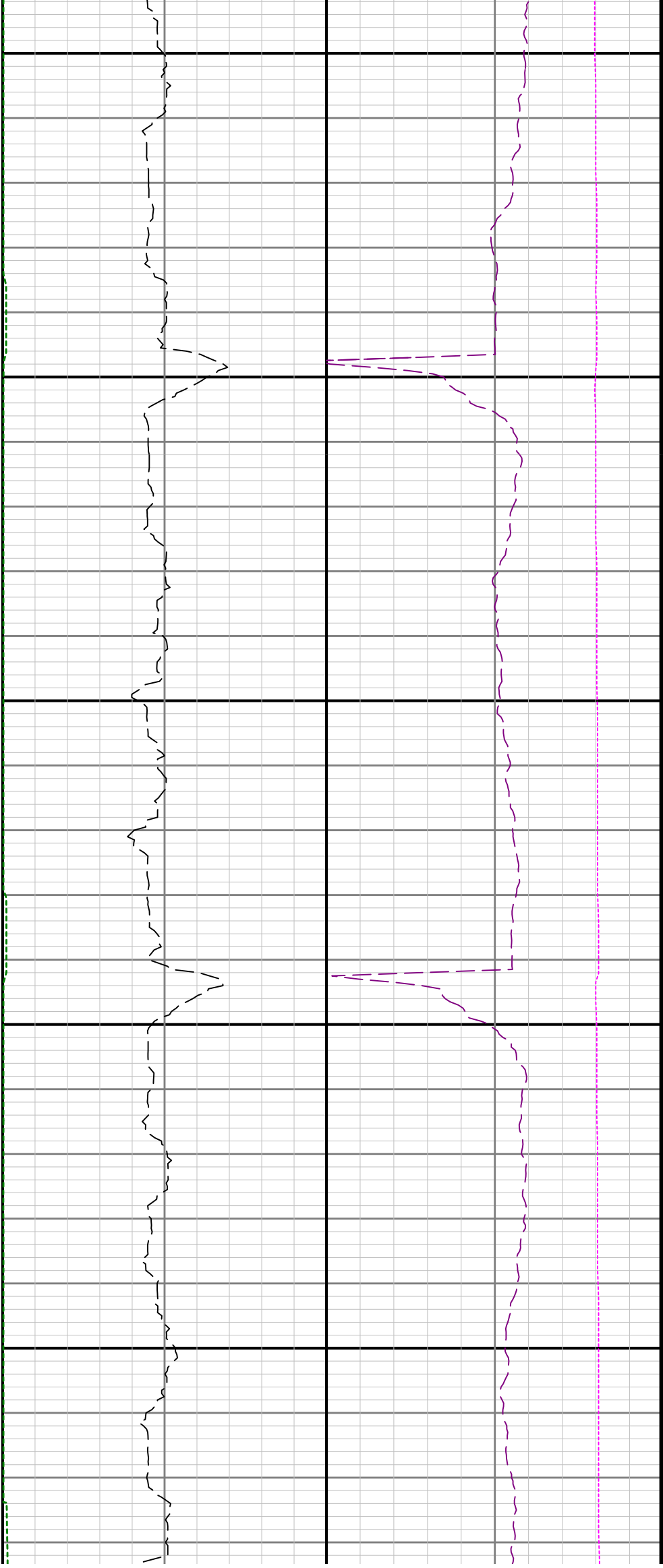












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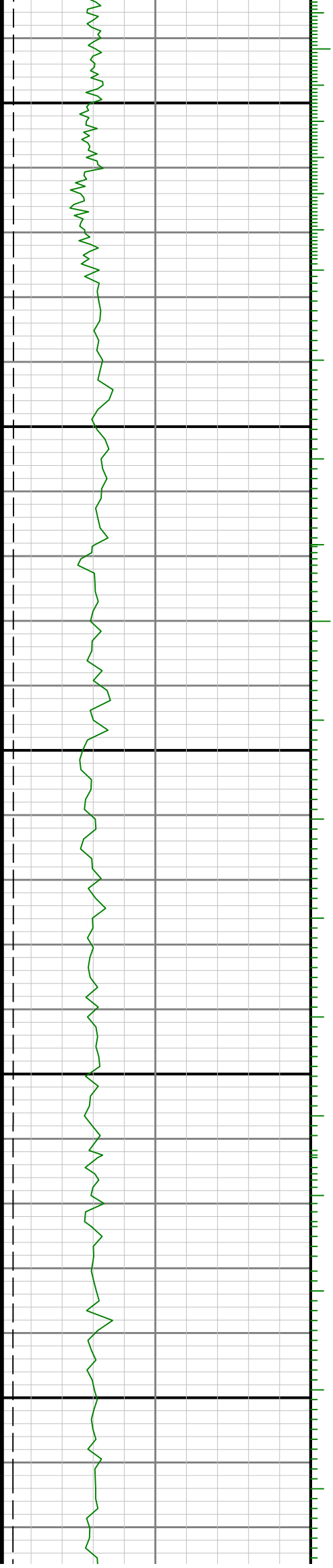
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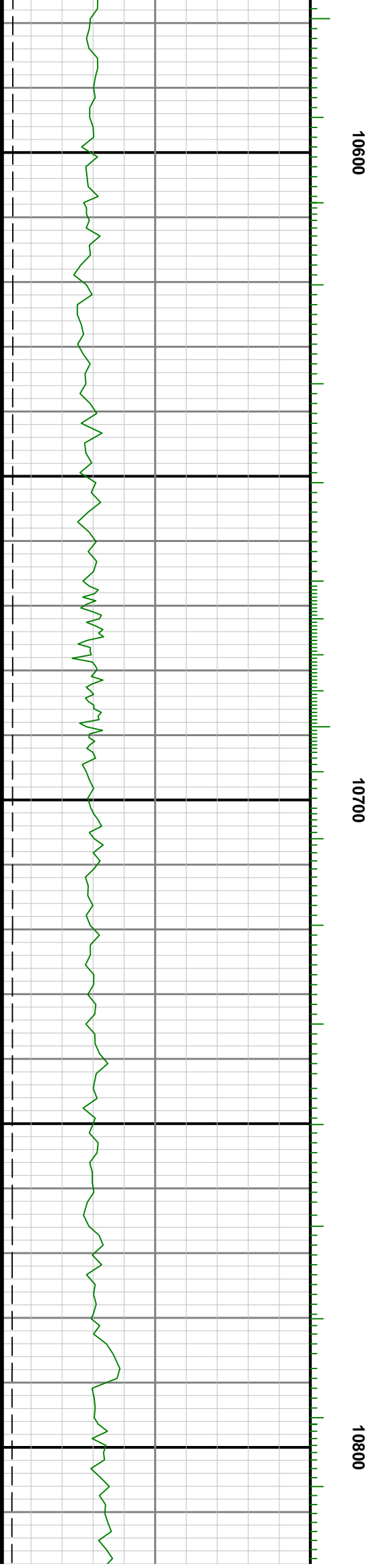
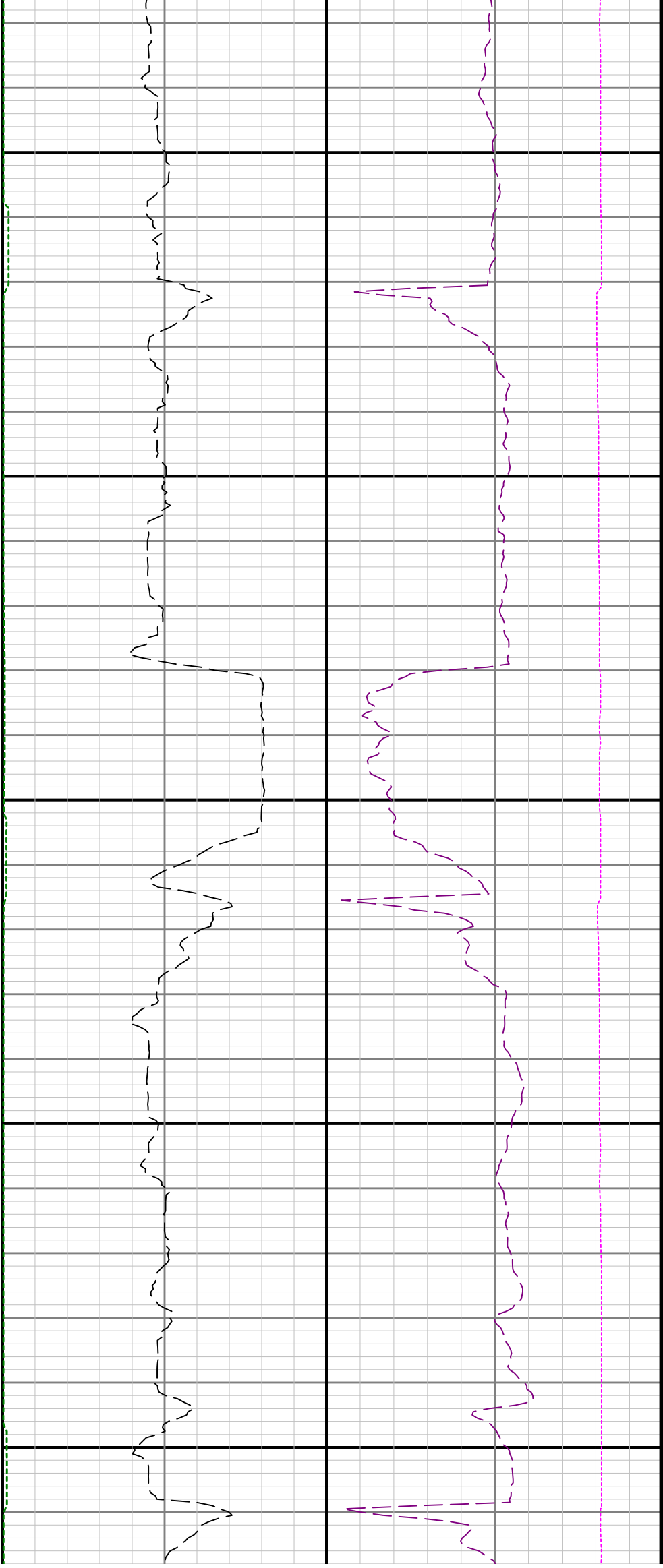
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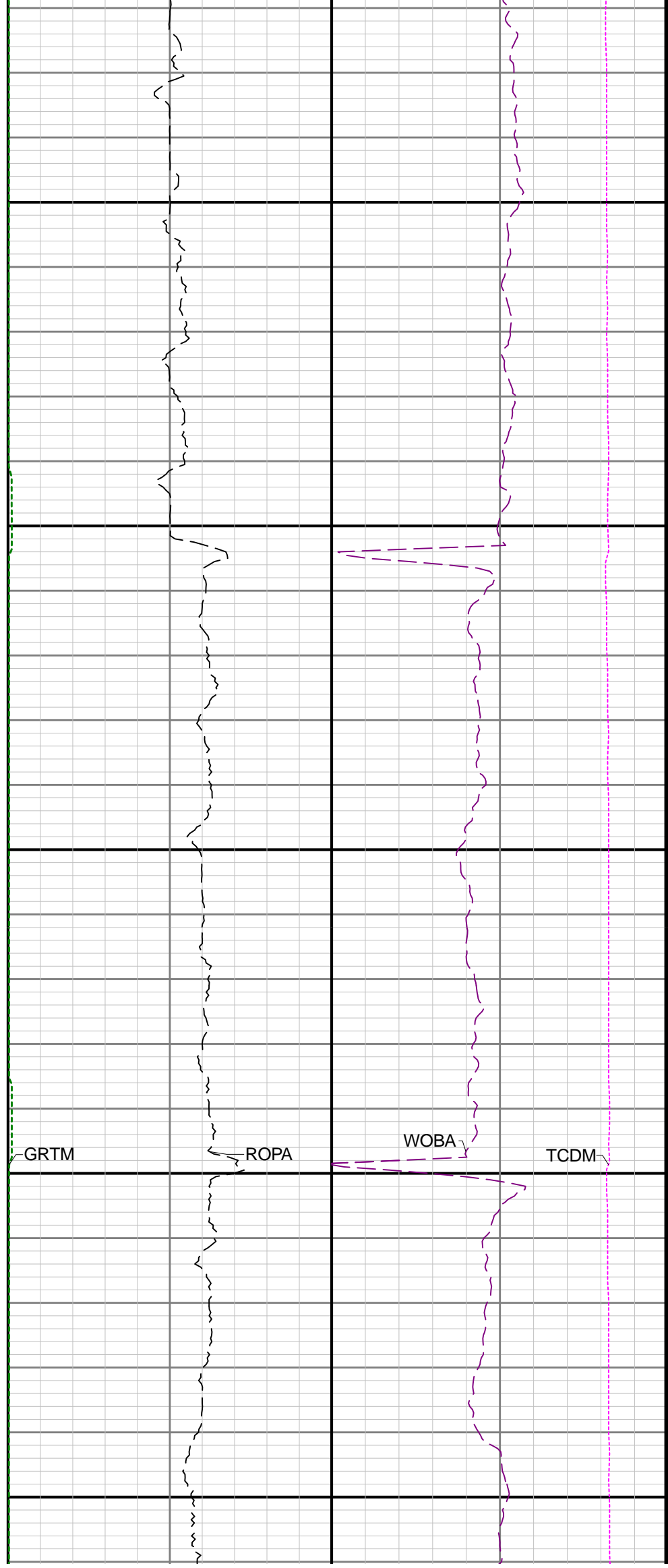
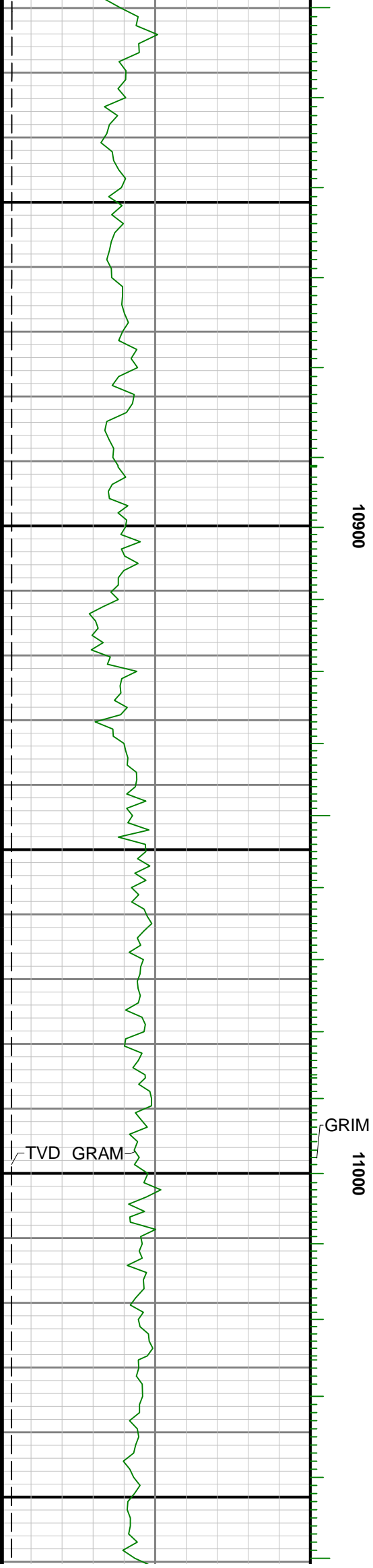


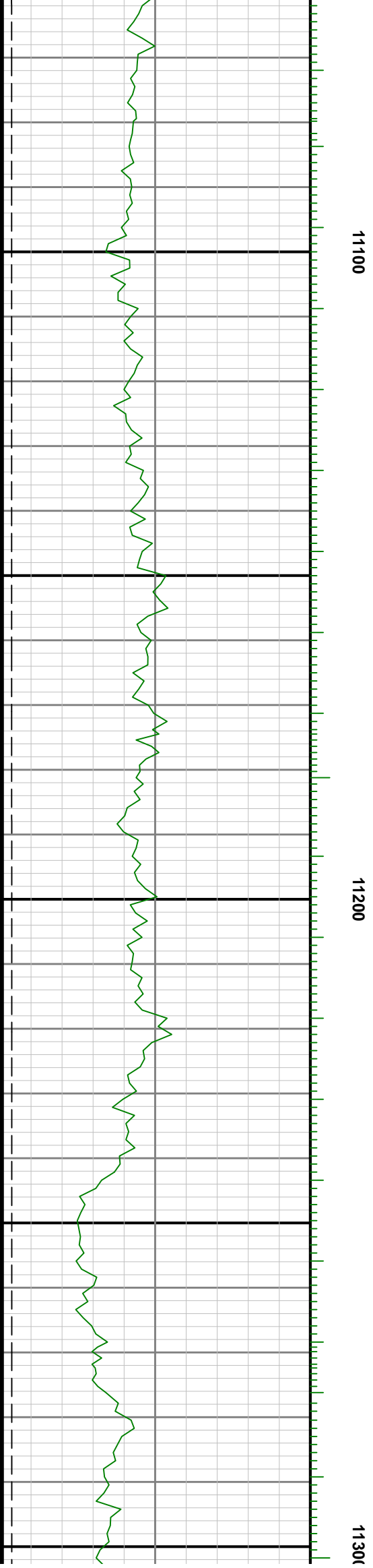
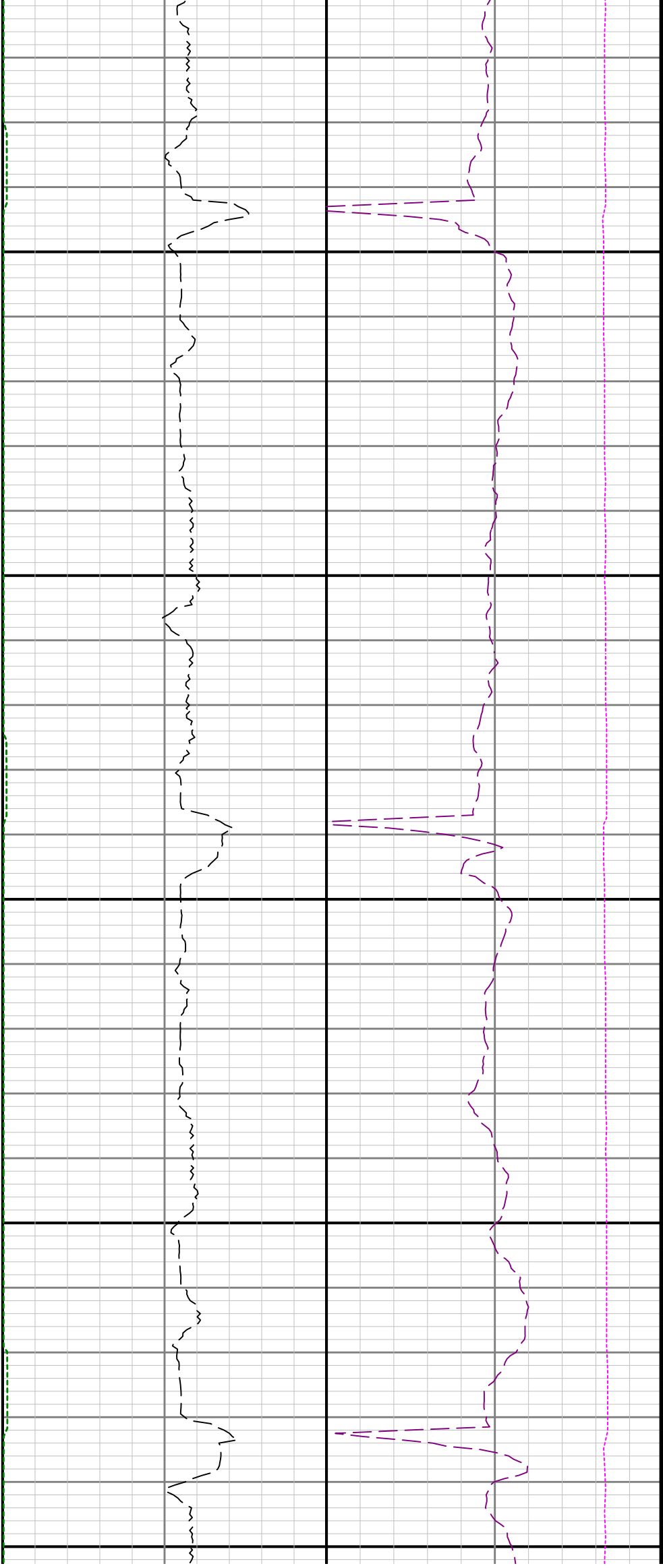
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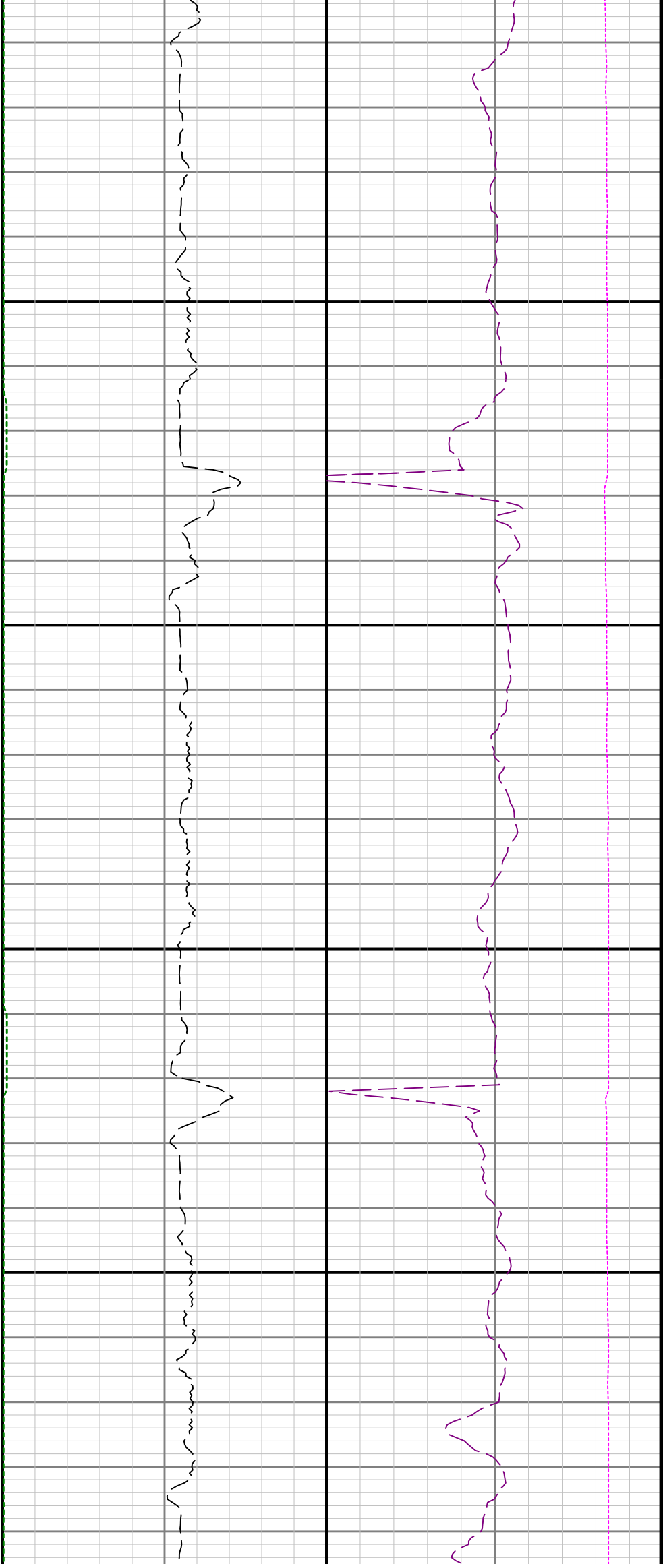
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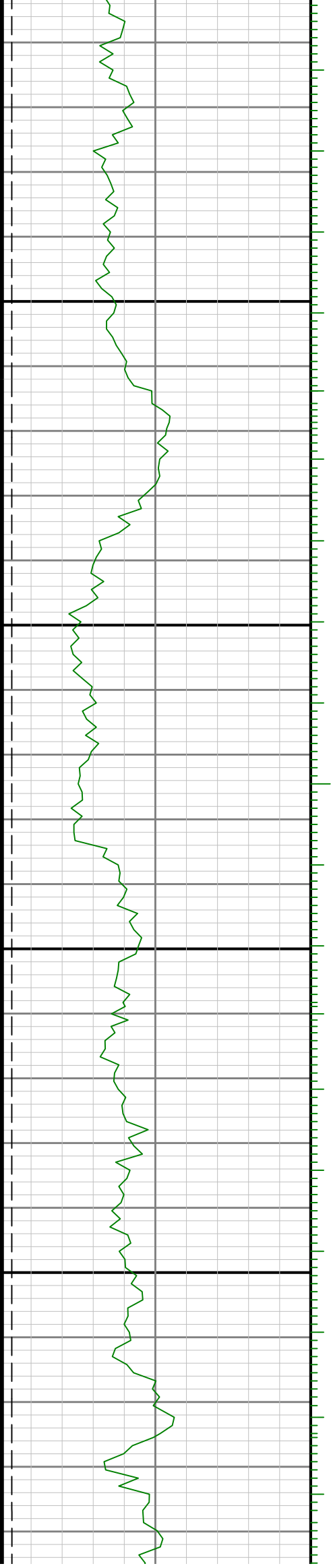


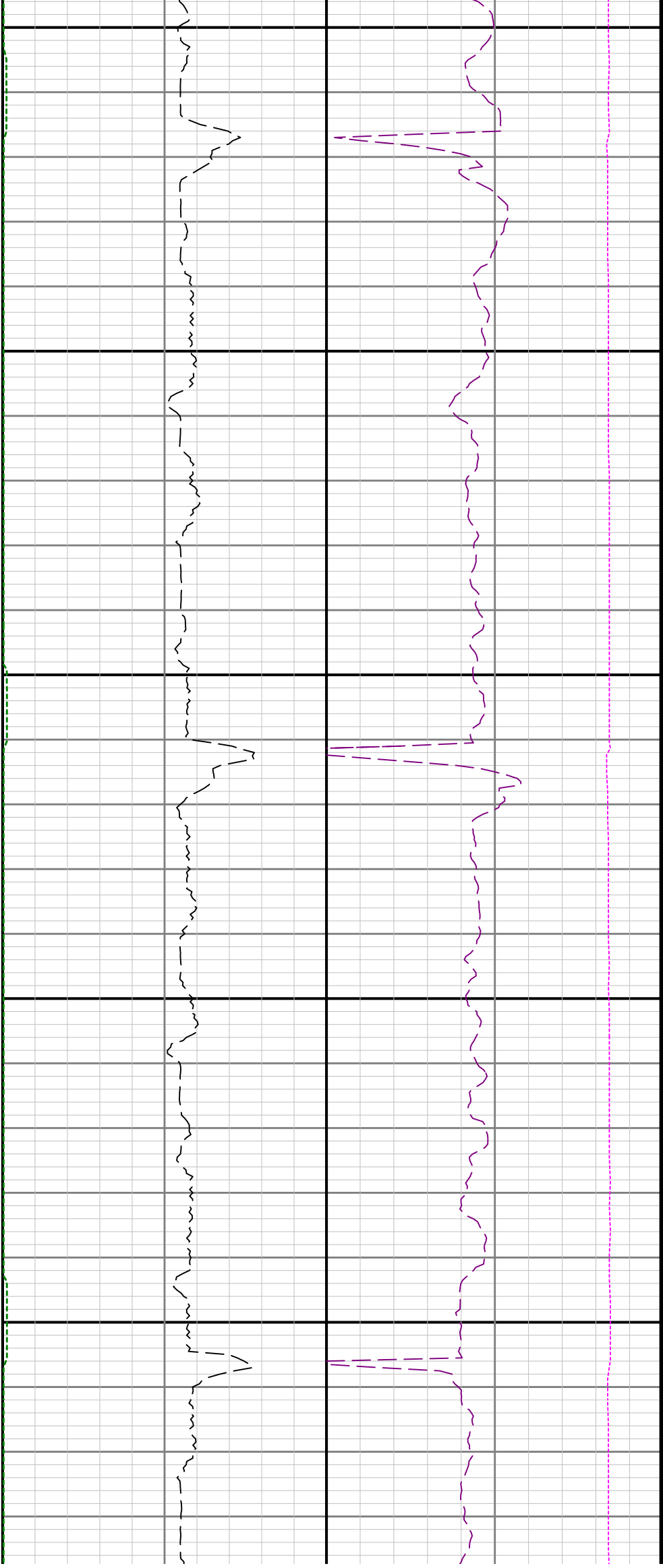




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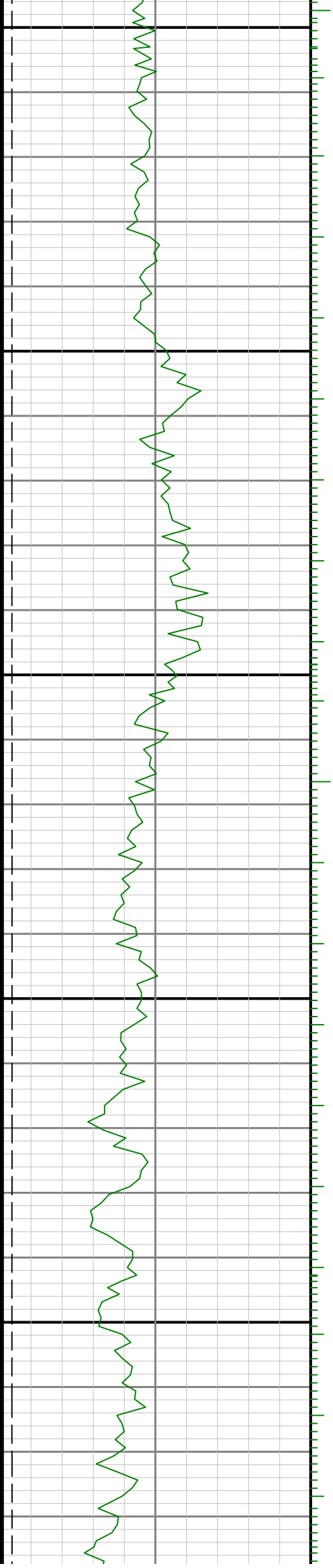
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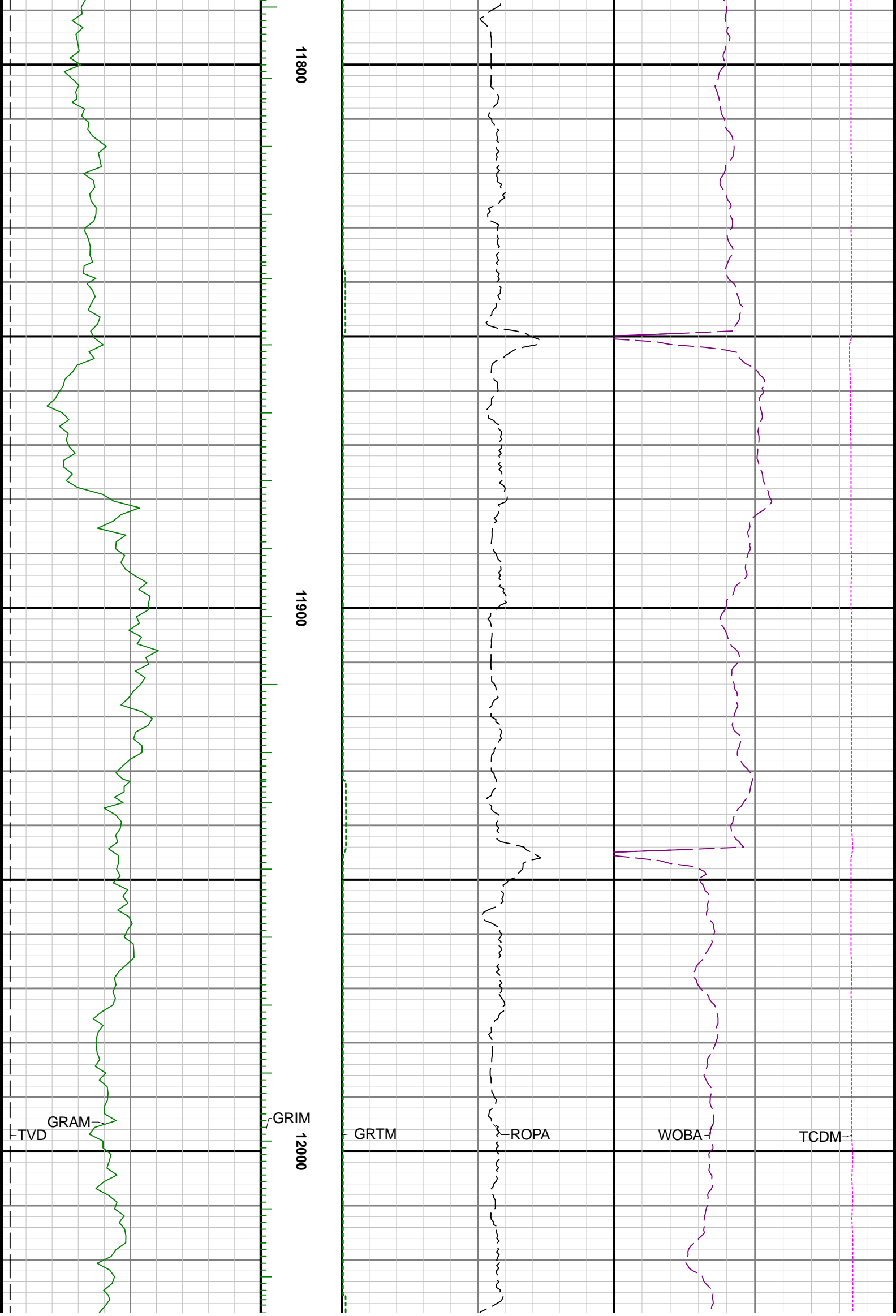


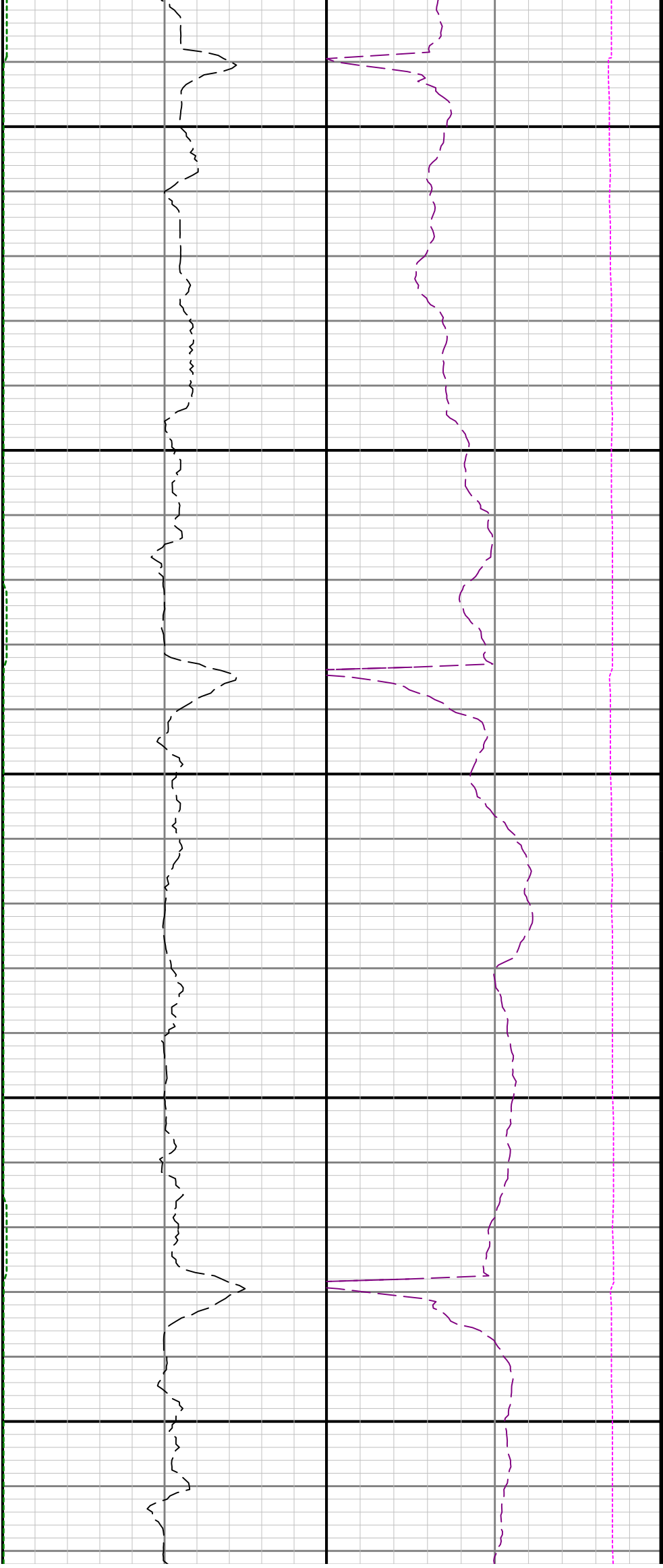


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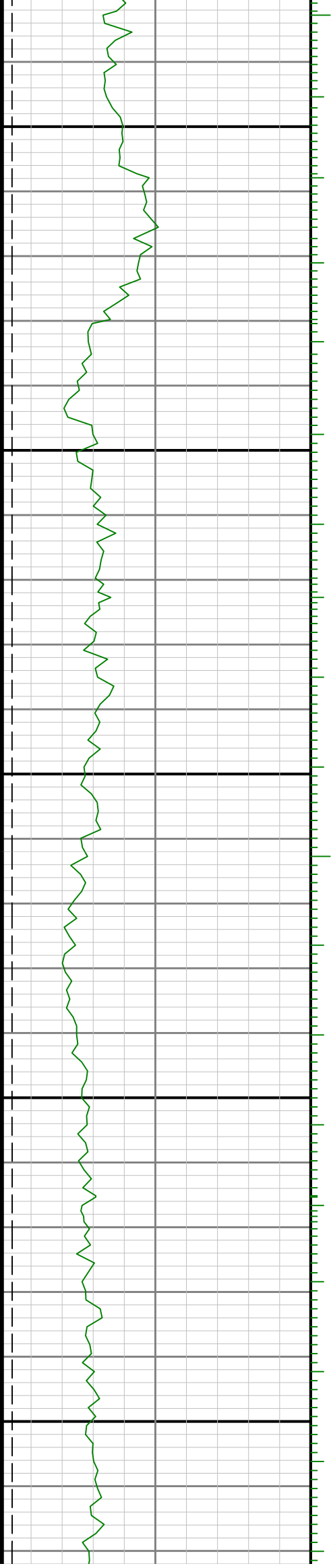


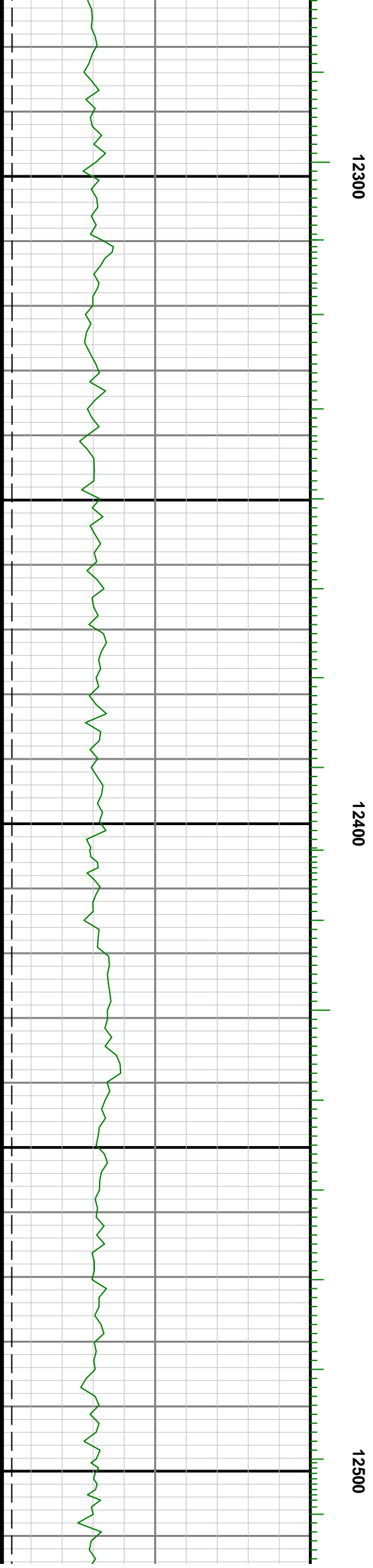


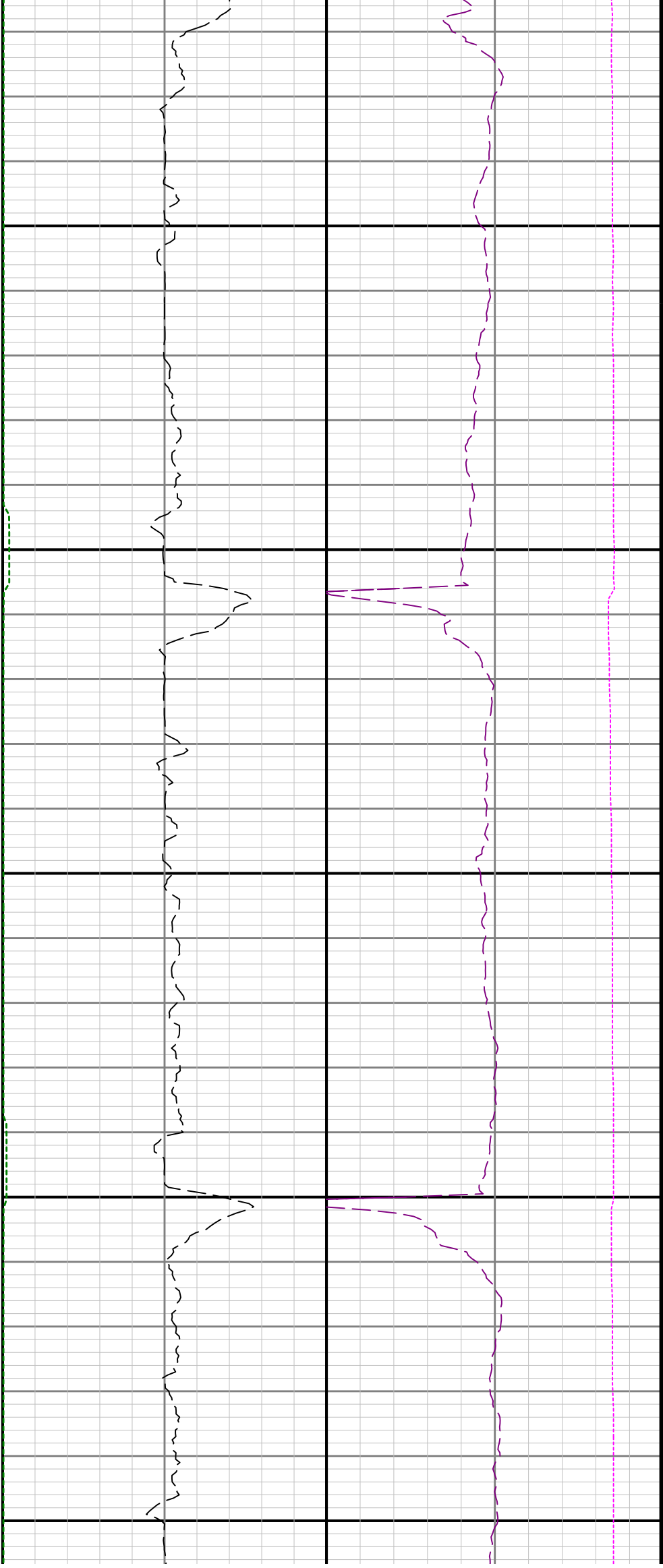


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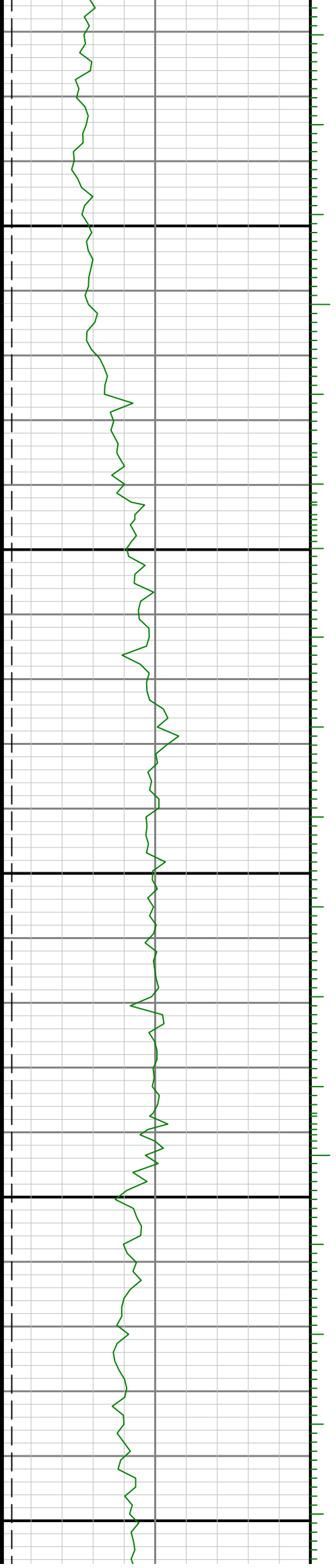


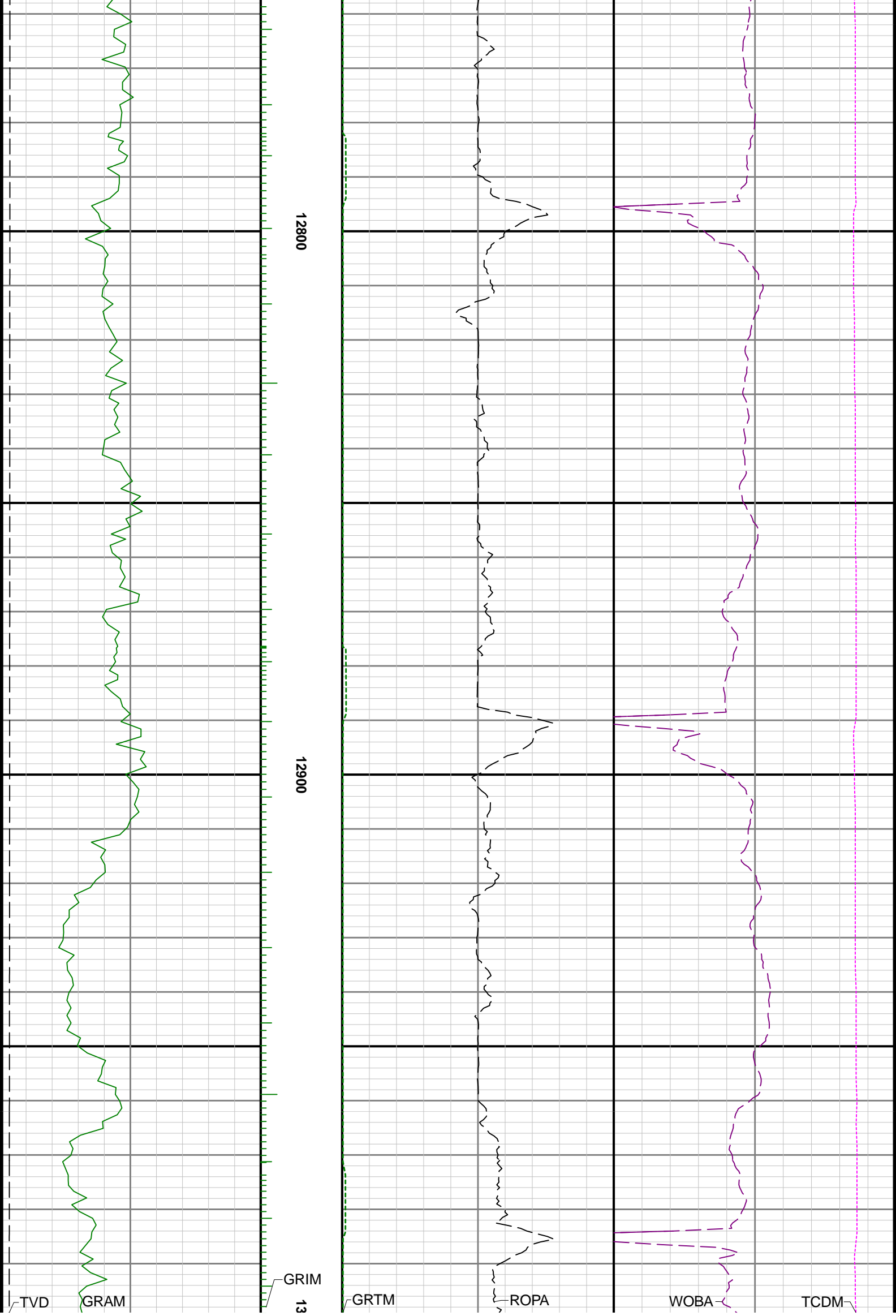


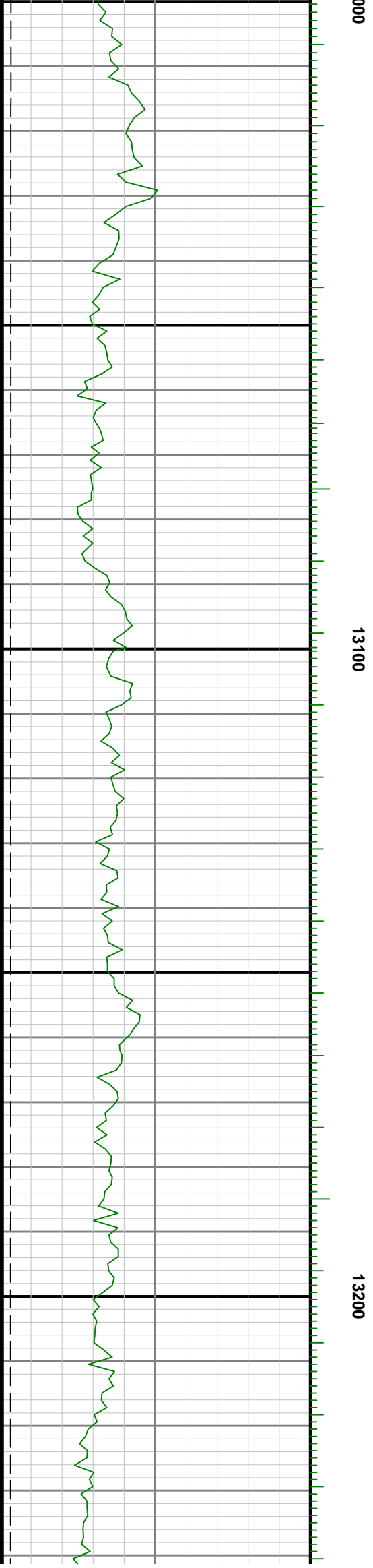
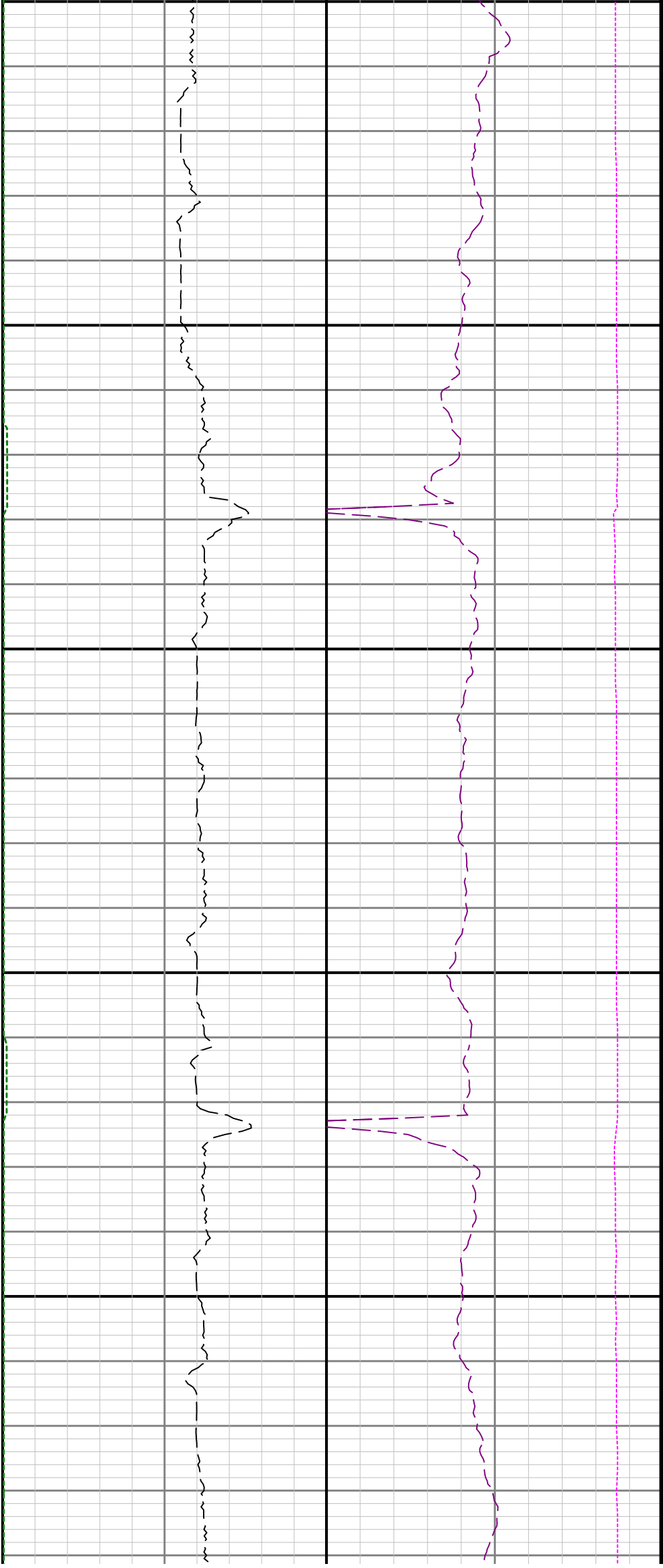


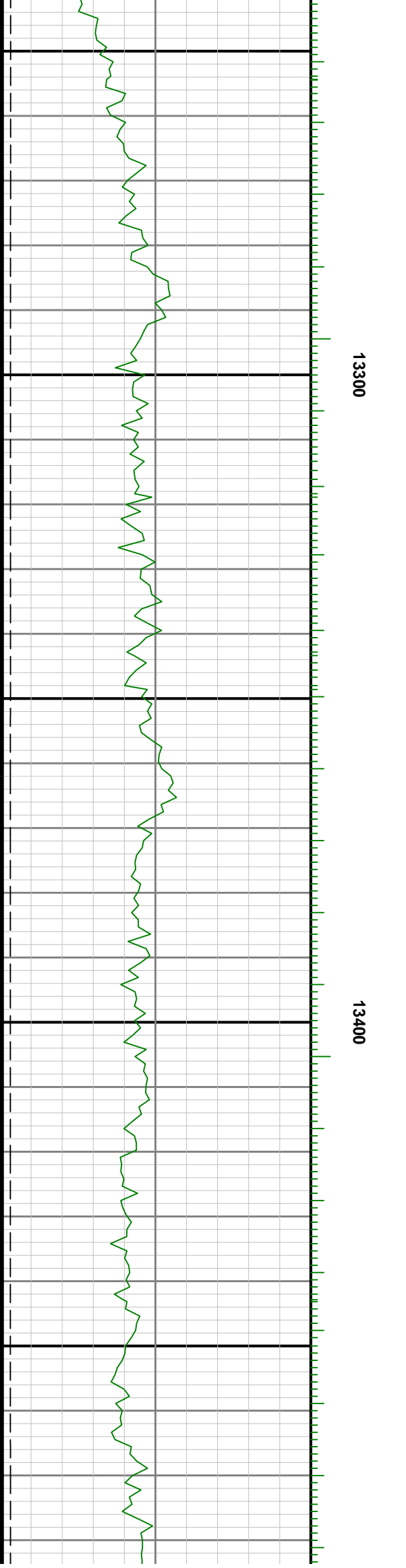
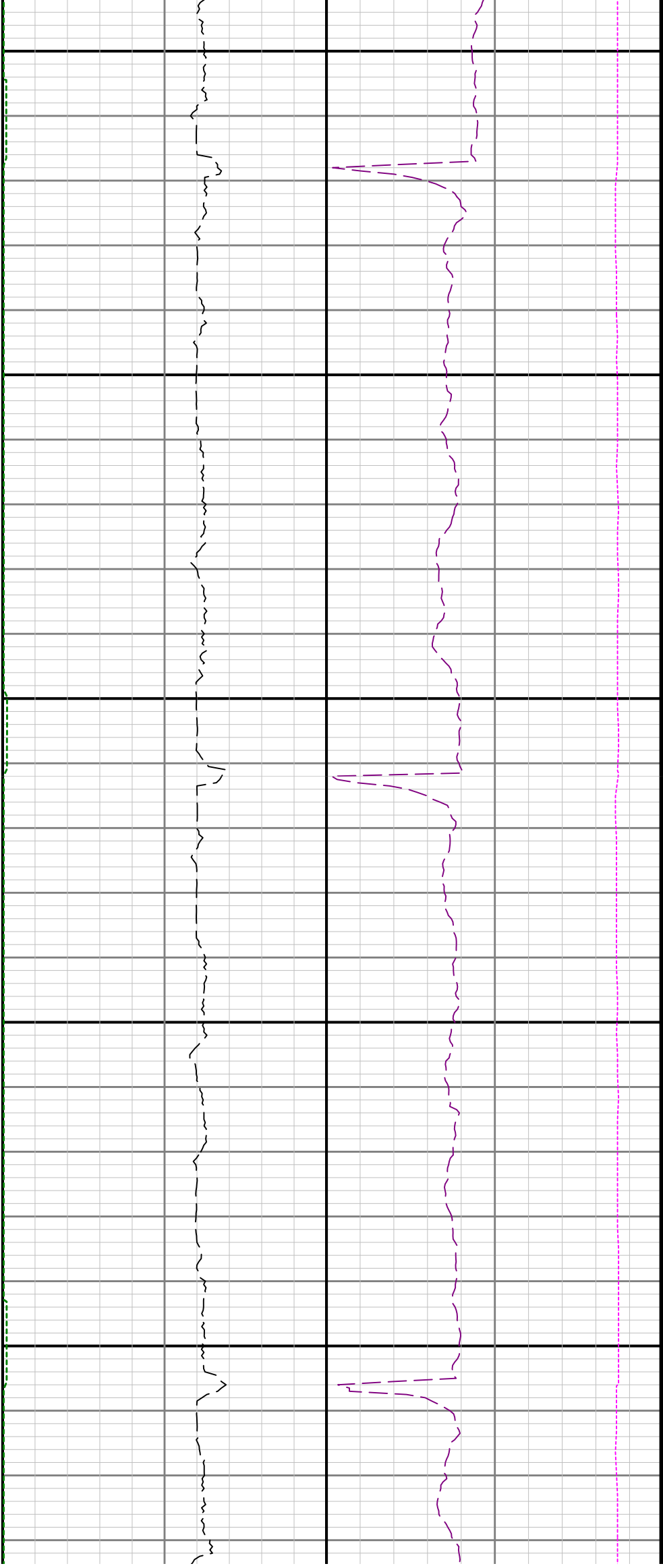
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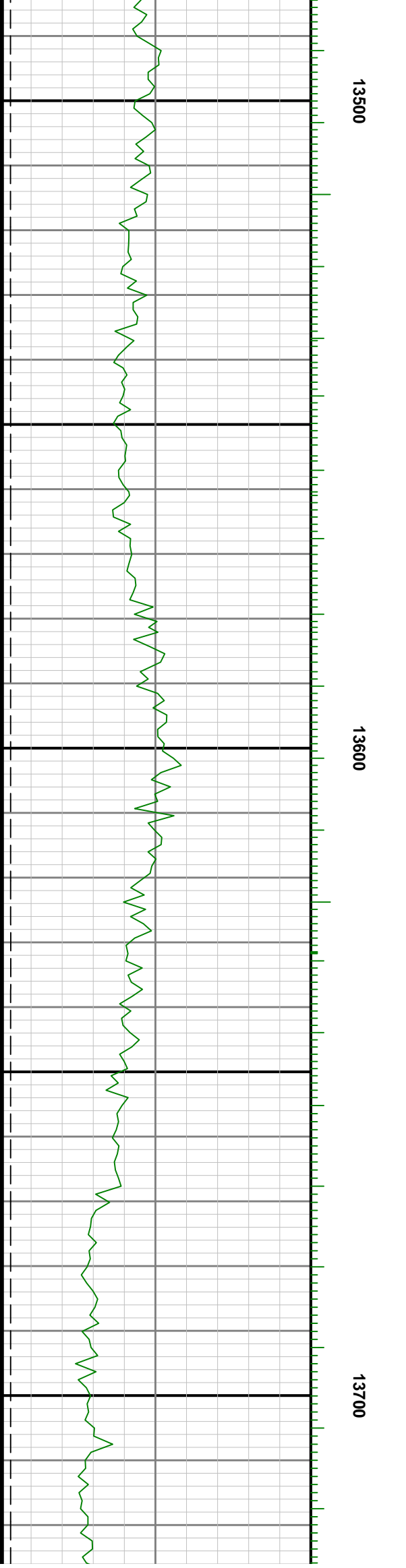
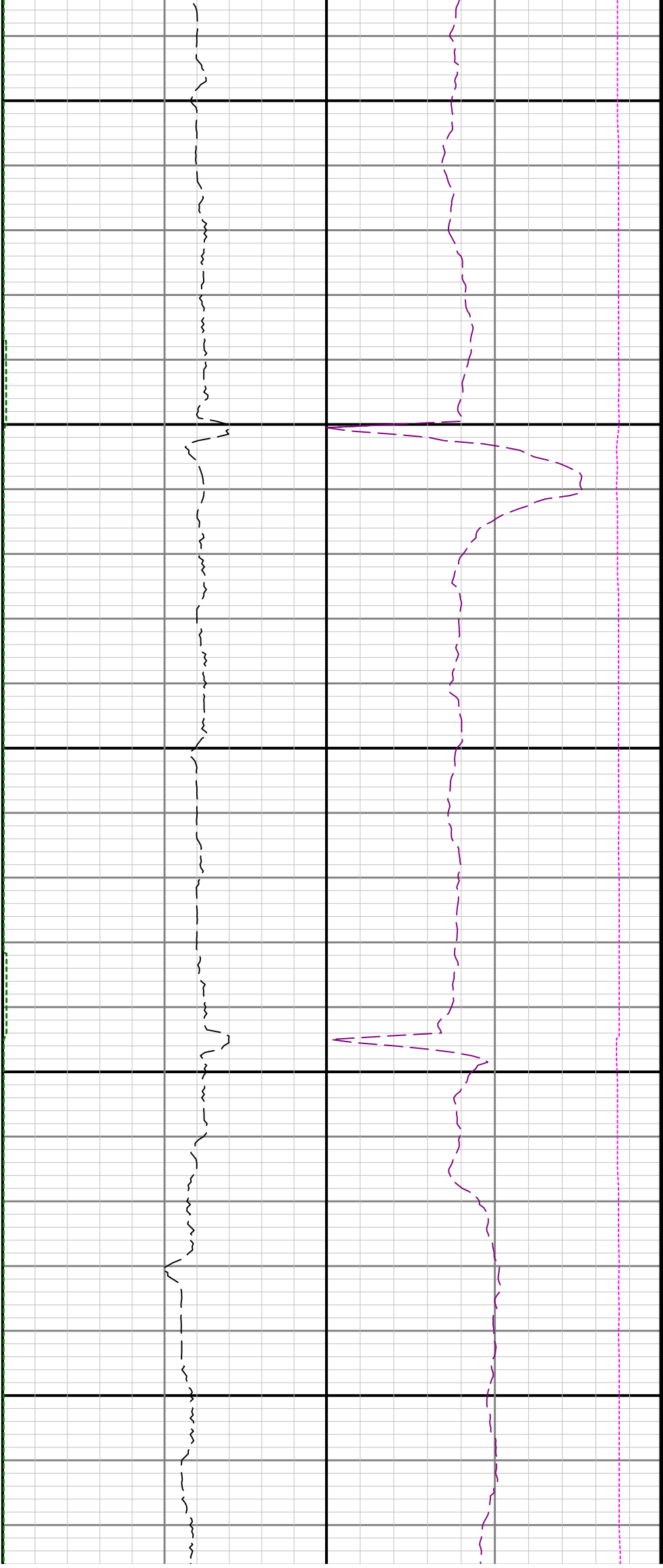
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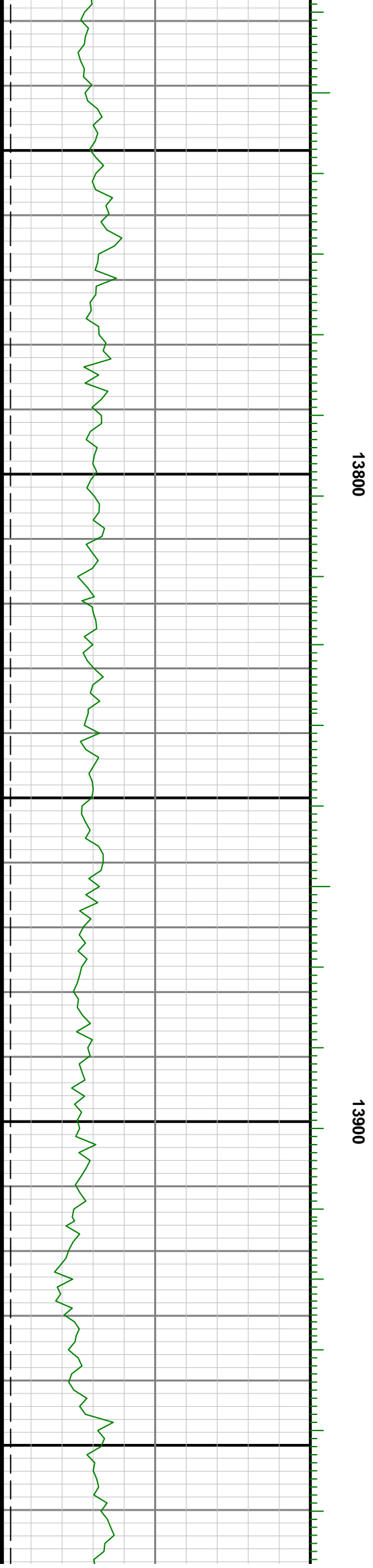
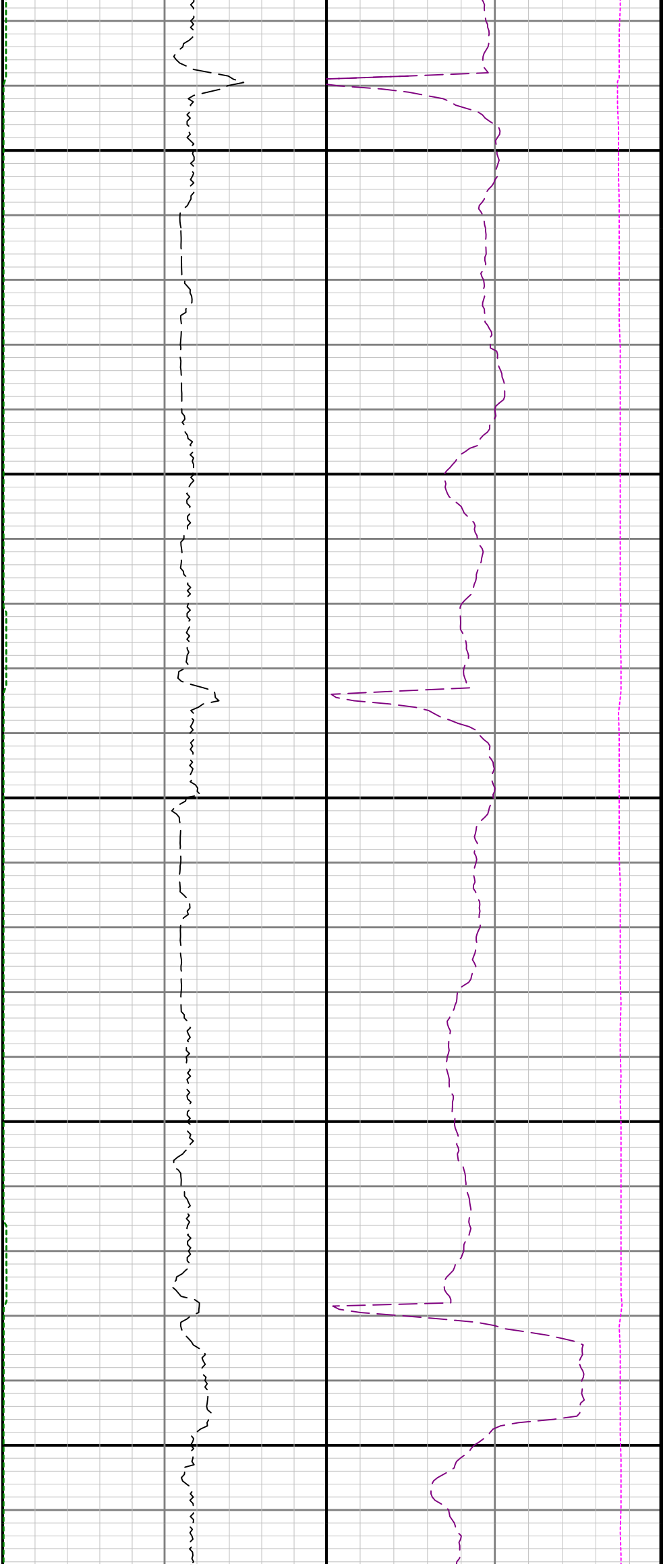


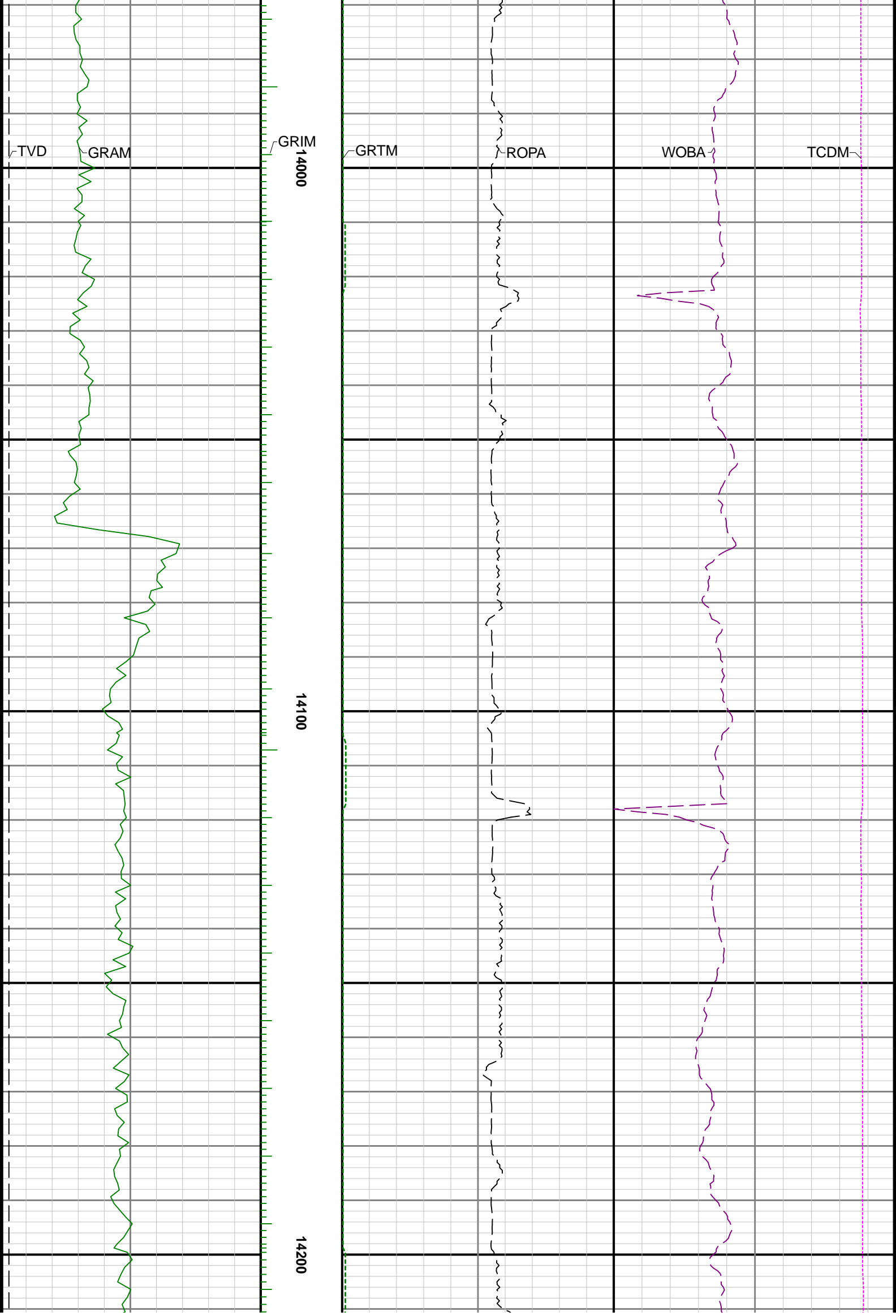








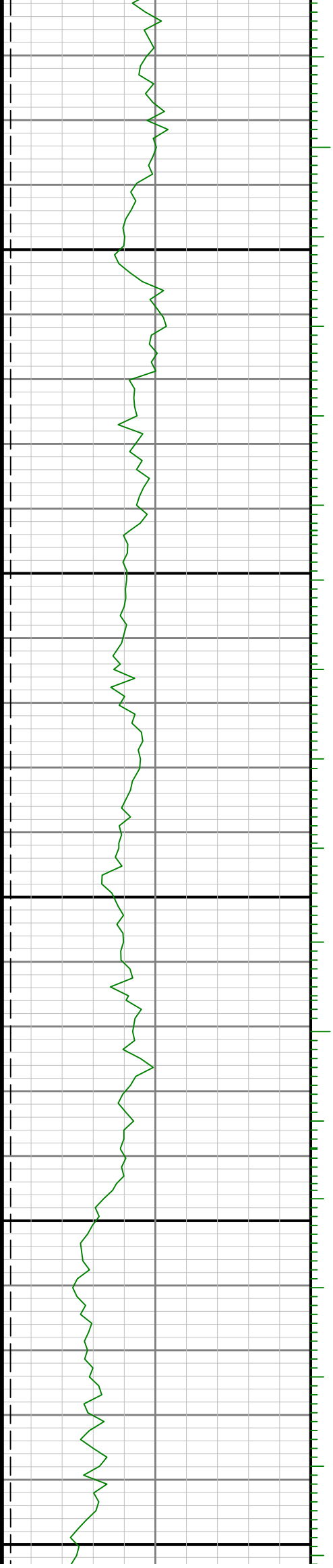


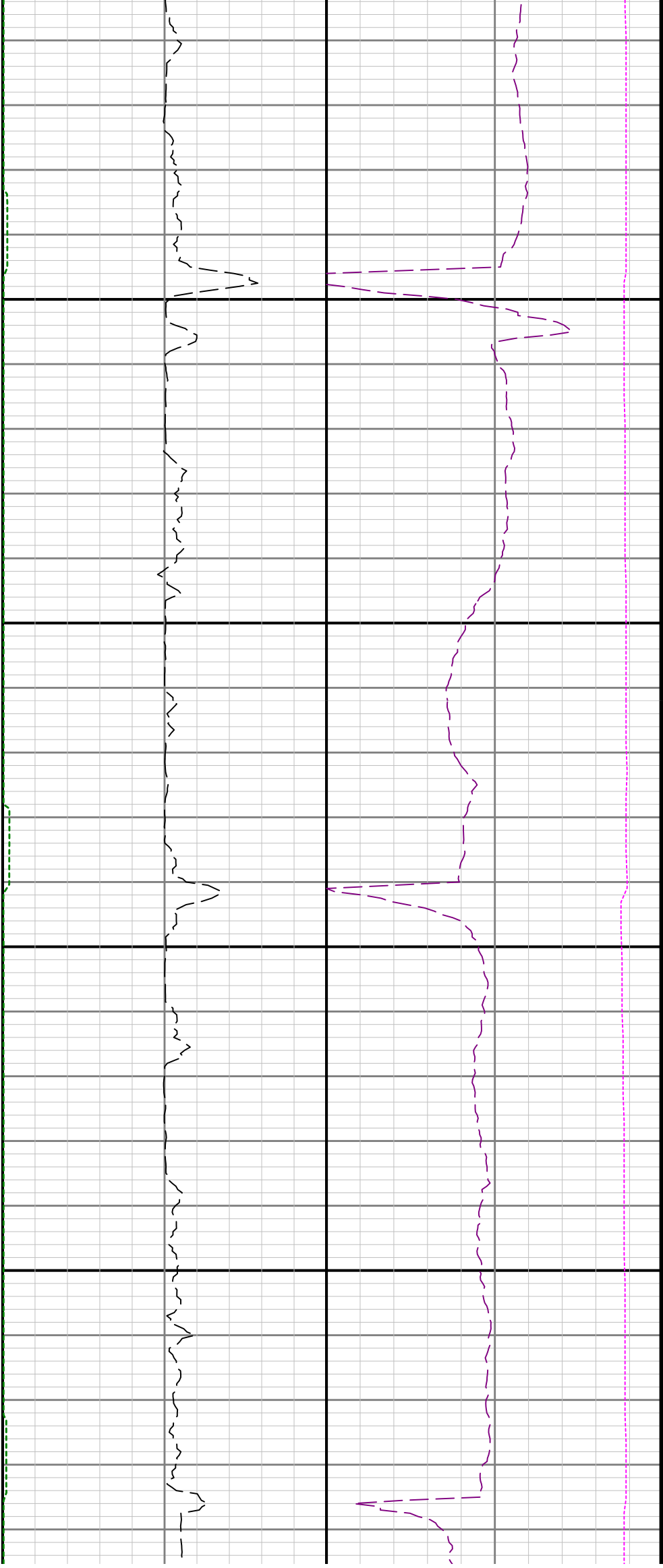




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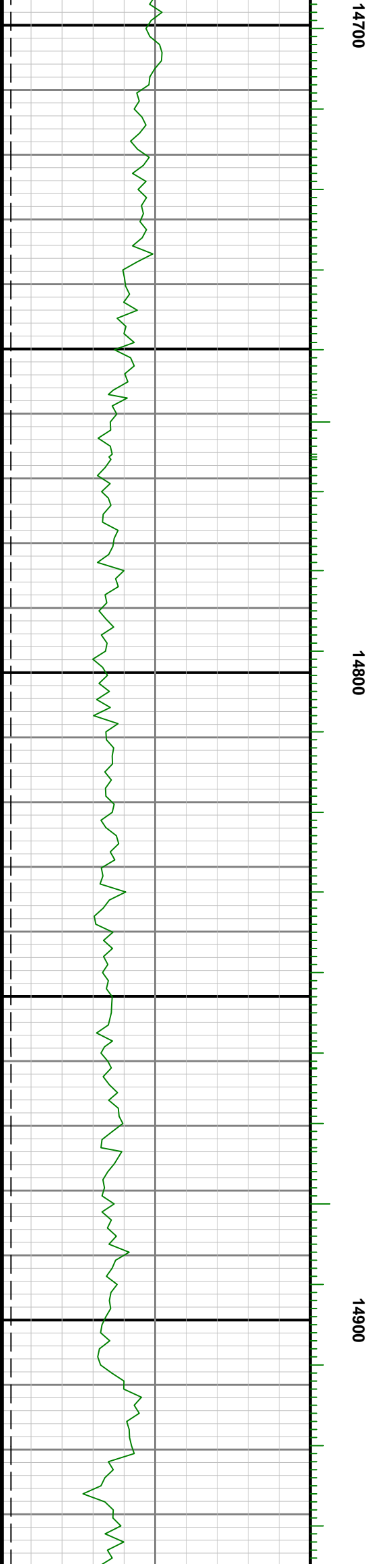
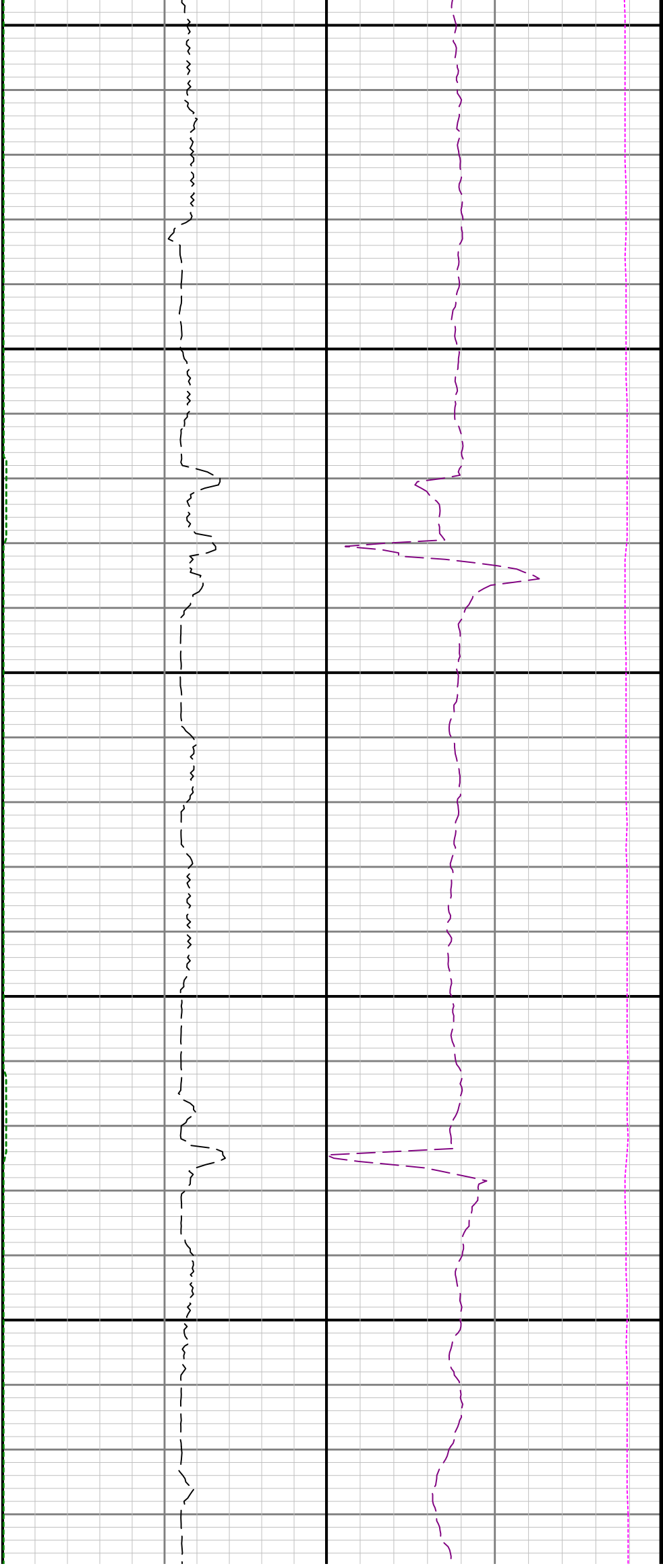
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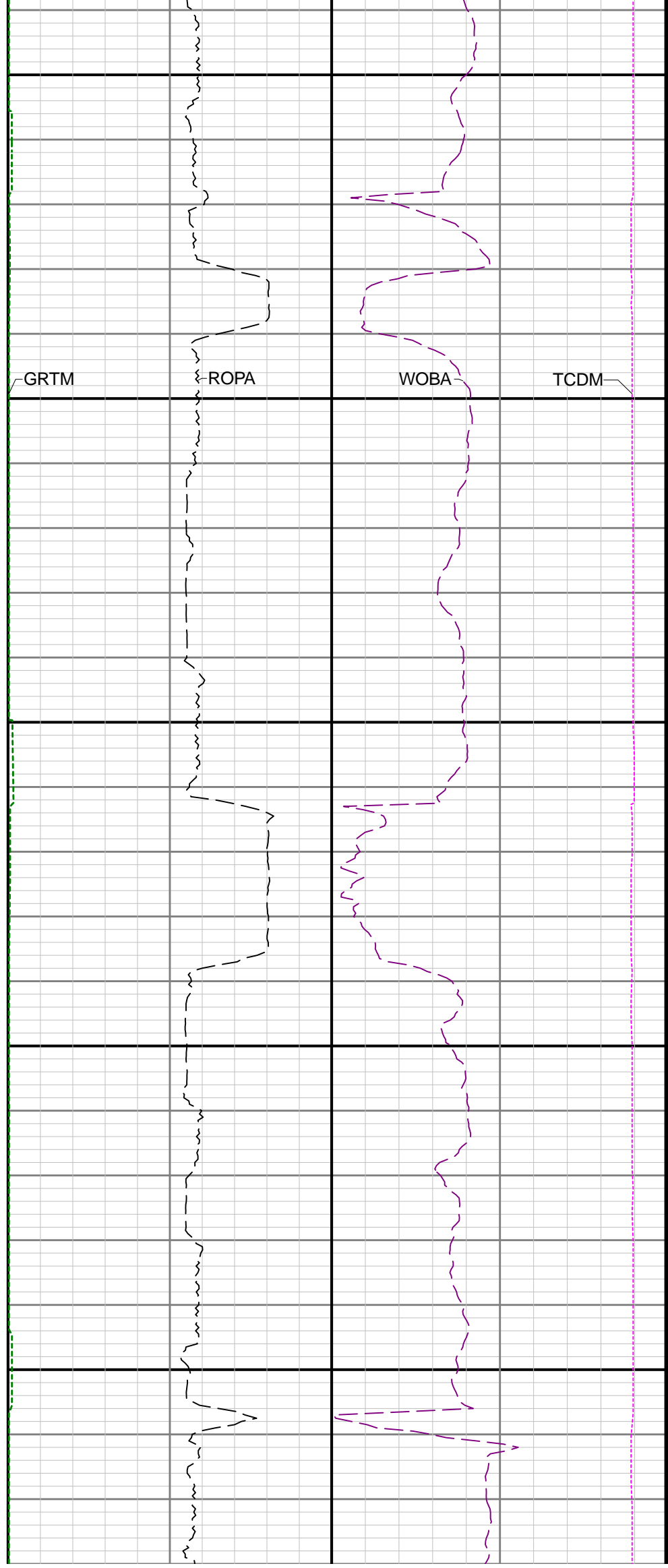
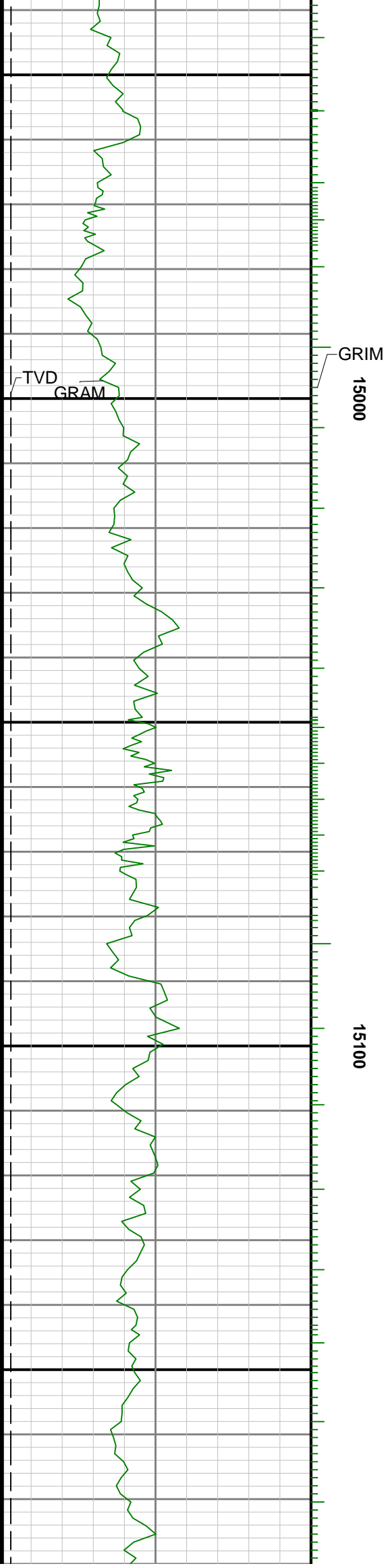


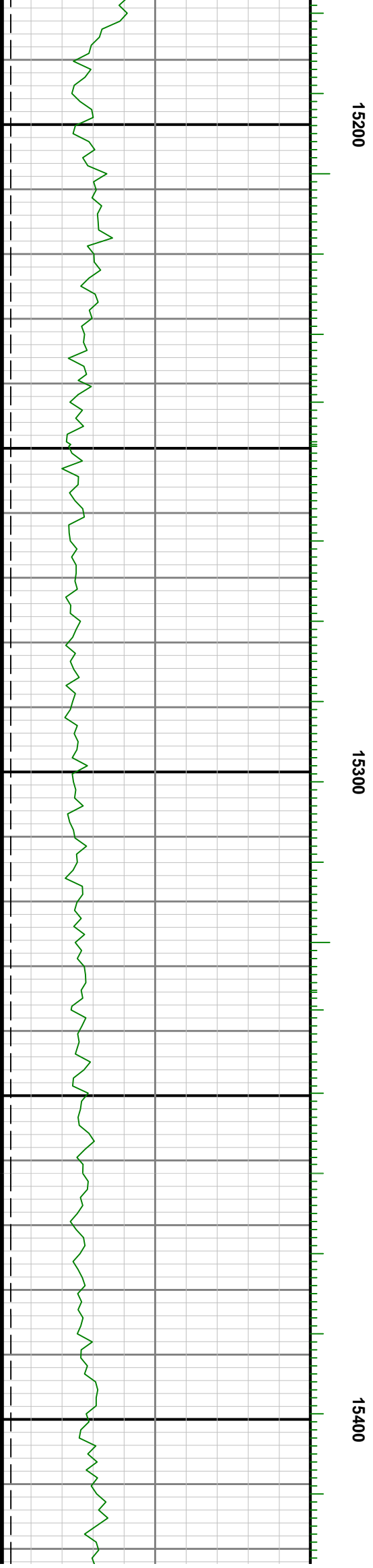
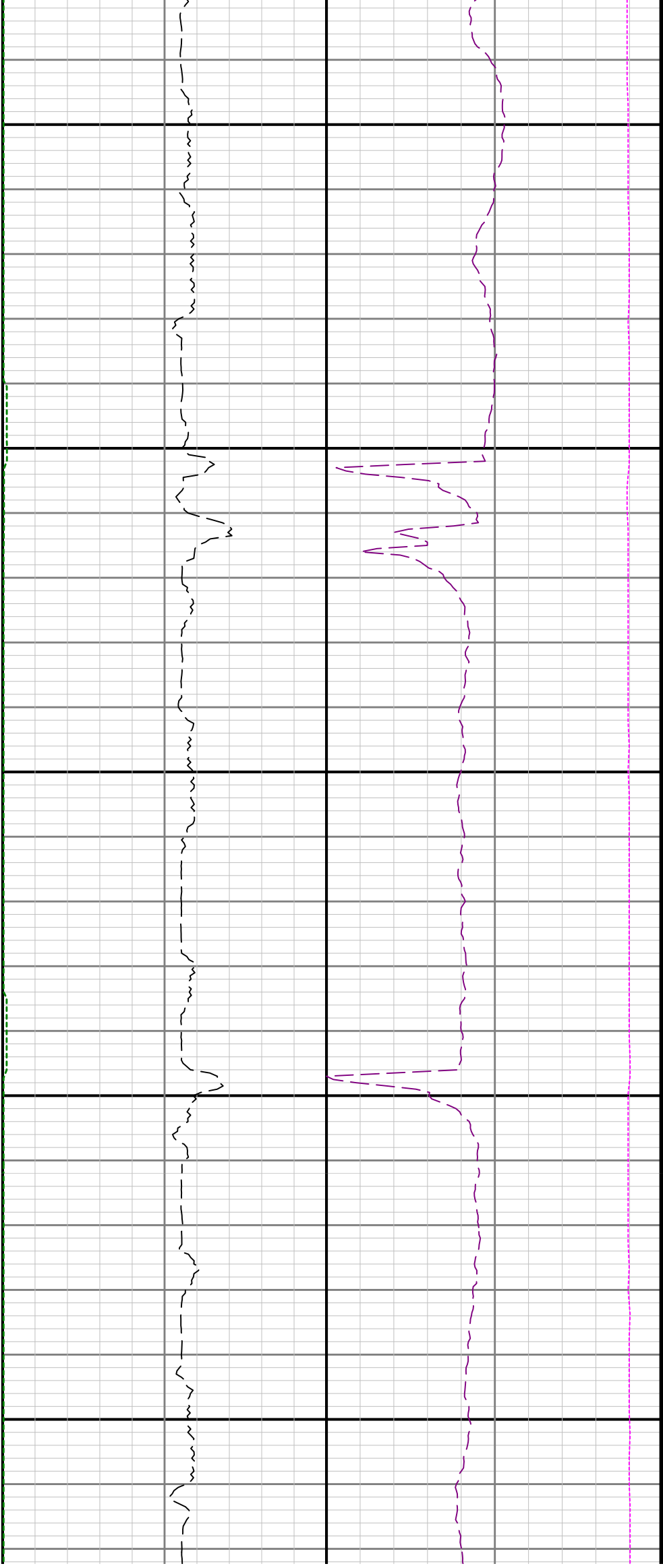


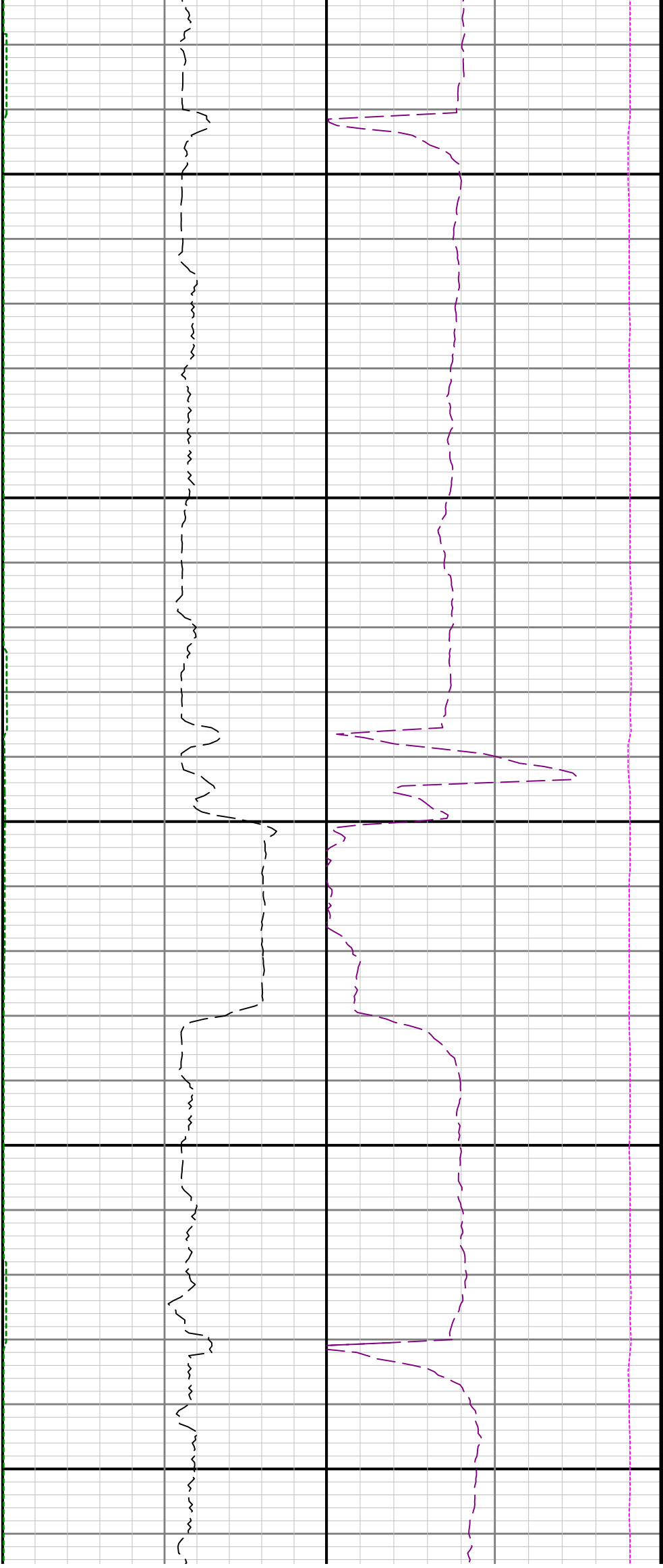
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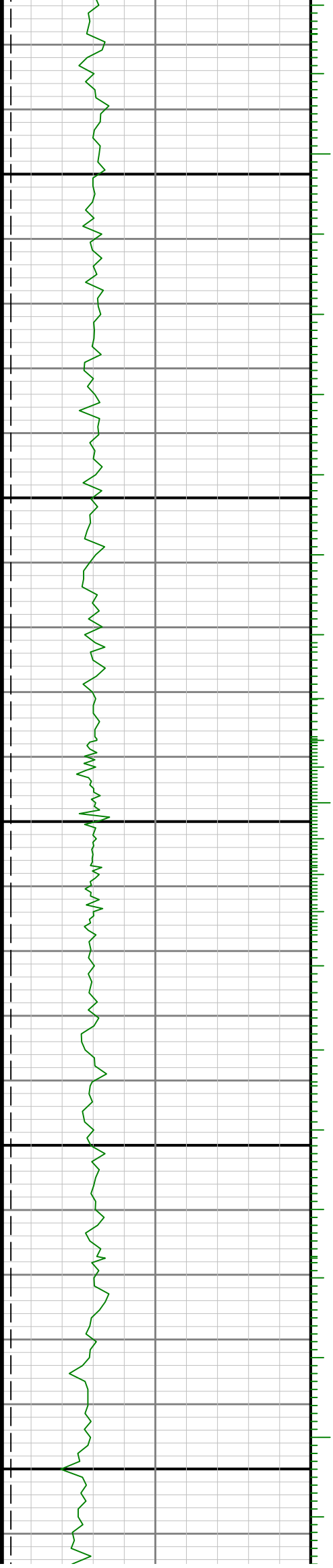


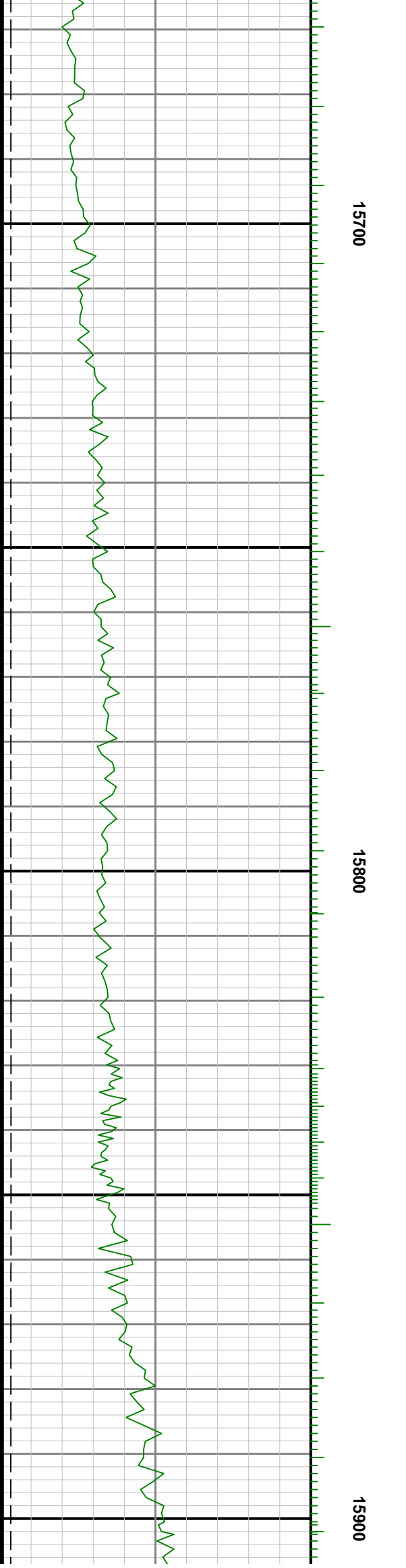


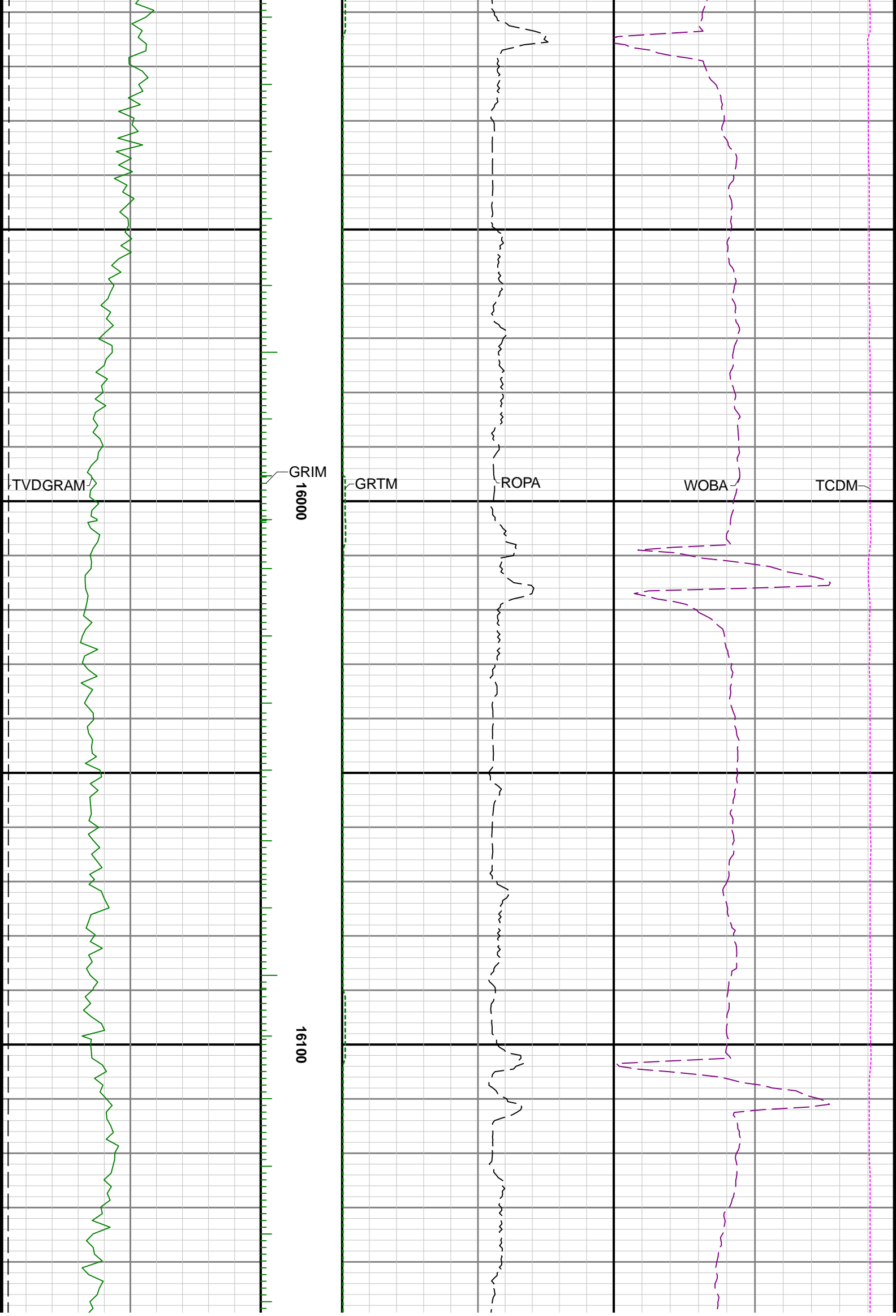


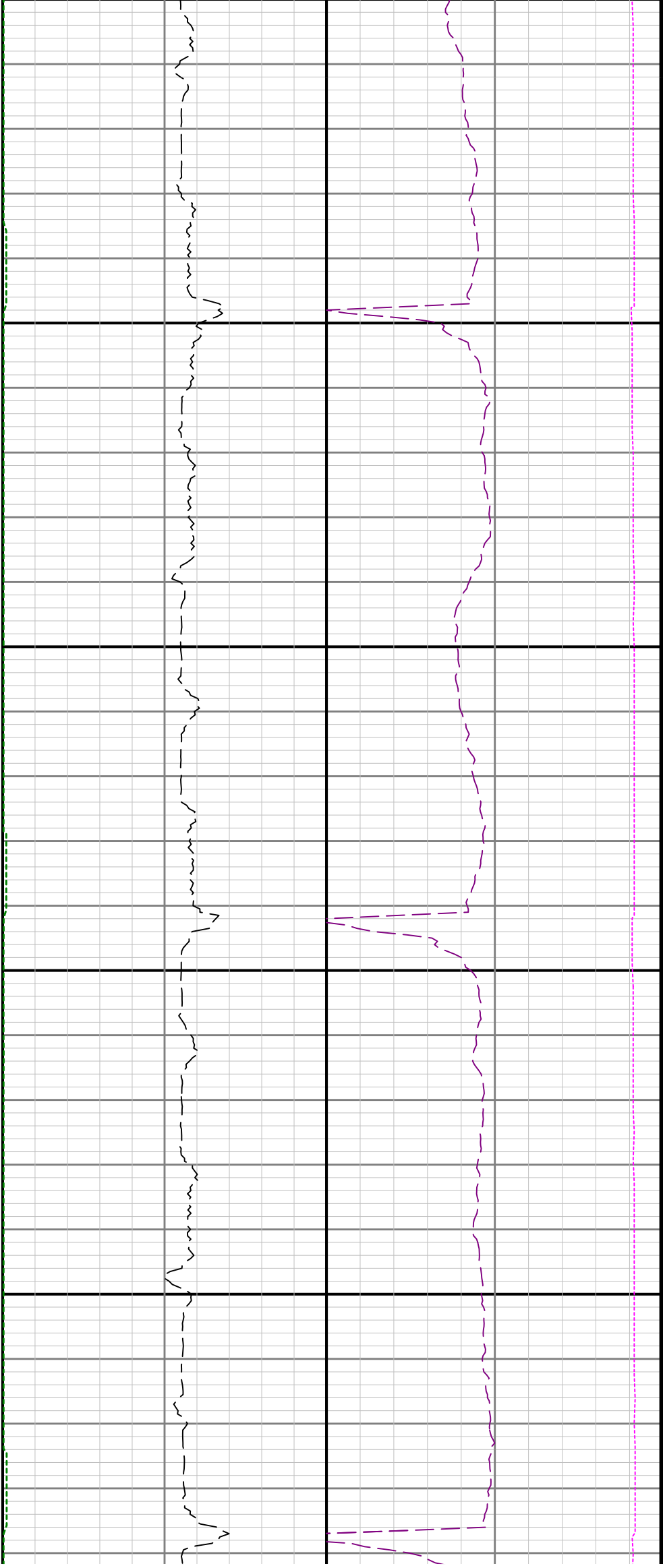
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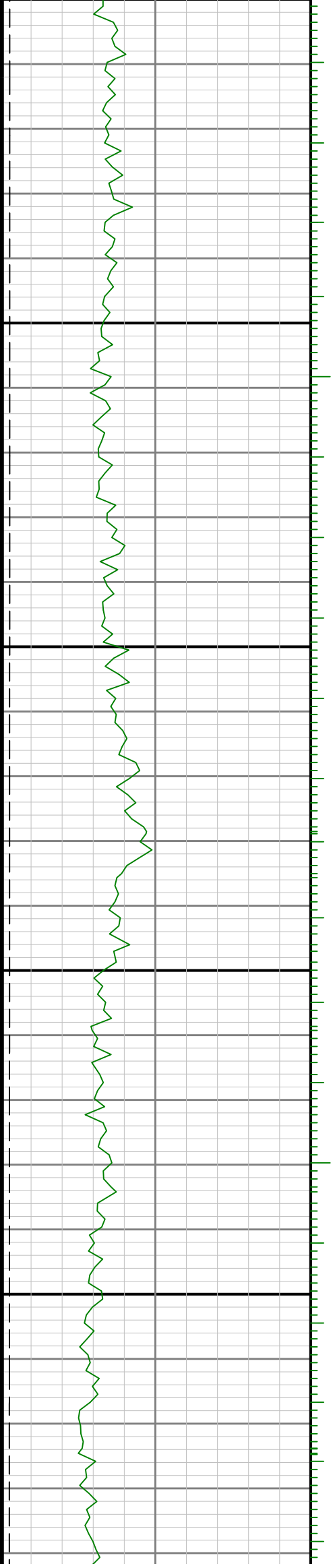


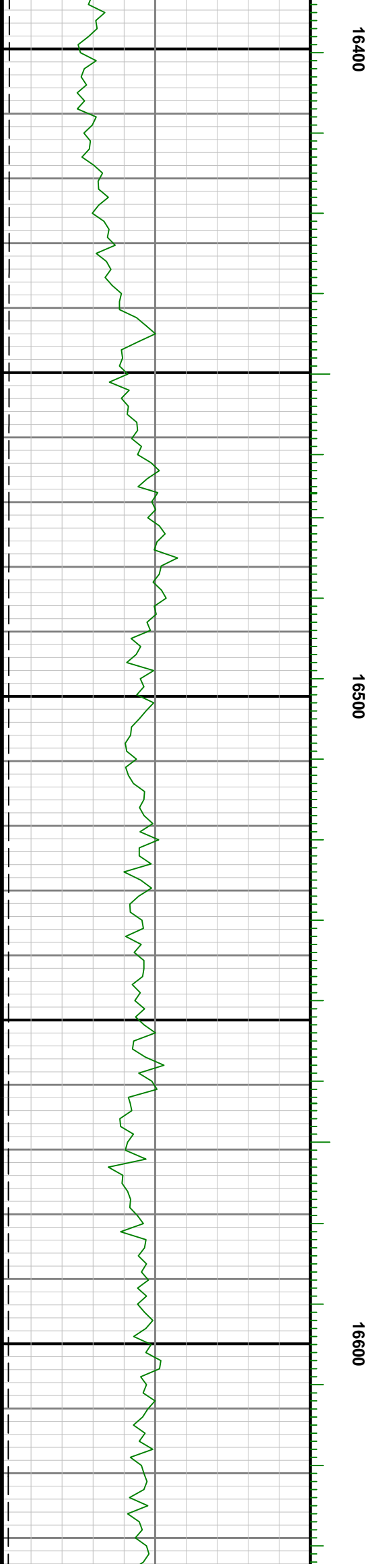
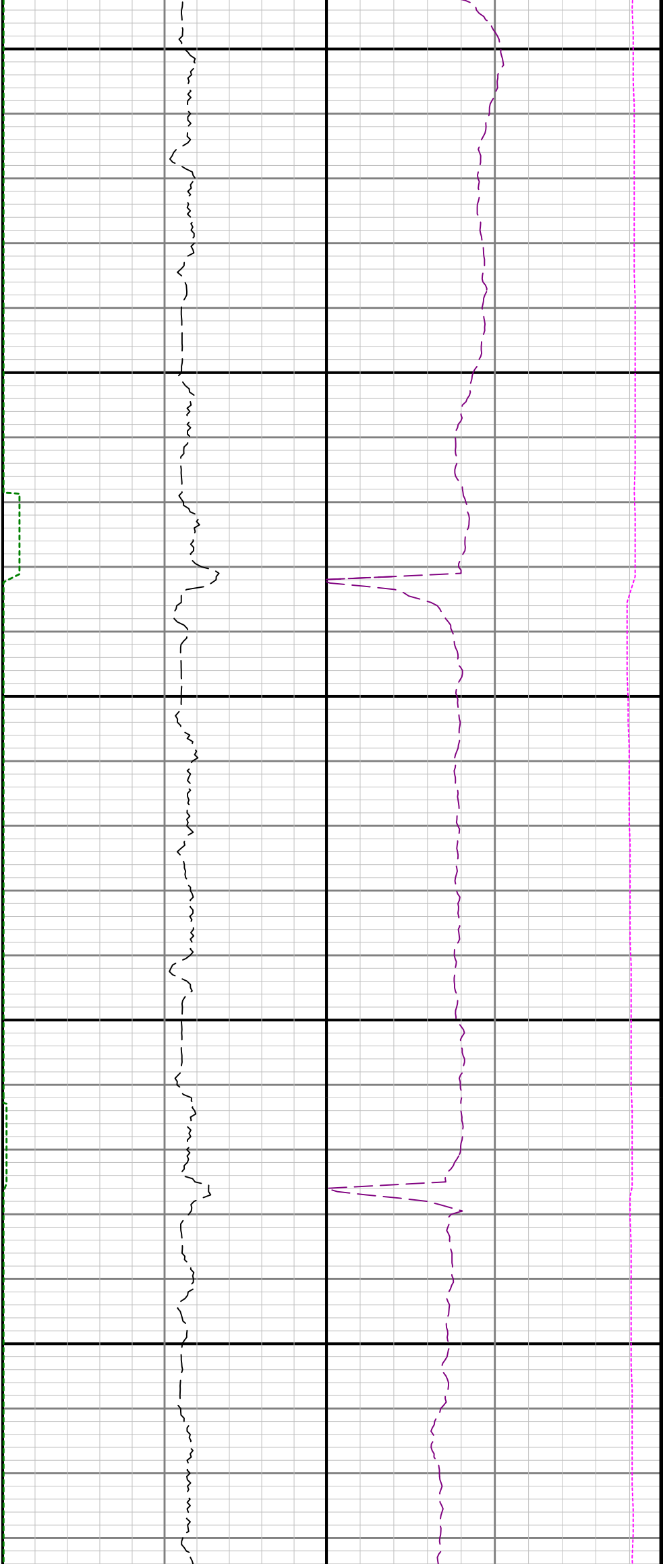




16200

16300







16700

16800

