

Baker Hughes				LWD MEMORY LOG			
				Gamma Ray			
Scale:				Company: Noble Energy			
1:240				Well: Reveille A35-750			
Measured Depth				Field: Wattenberg			
				County: Weld Country: United States			
Depth Reference:				State: Colorado			
Driller's Depth							
Status:				Surface Location:		Other Services:	
Final Print				Latitude: 40° 26' 10.788" N			
API No: 05-123-50801-00				Longitude: 104° 31' 30.864" W		Directional	
Job ID: 110697732				SEC: 35 TWN: 6N RGE: 64W			
Permanent Datum (P.D.): Mean Sea Level				Elevation: 0.00 ft		Elev. KB: N/A	
Log Measured From: Rig Floor				Above P.D.: 4677.00 ft		Elev. DF: 4677.00 ft Elev. GL: 4647.00 ft	
Dates		Interval		Magnetic Field Reference			
From: 2021-01-26	Drilled (ft)	Logged (ft)	Azi Reference North:		Grid	Dip Angle: (deg)	66.83
To: 2021-01-29	Top: 1944.00	Top: 1944.00	Total Magnetic Field Strength: (nT)		51975		
Spud: 2021-01-26	Bottom: 17381.00	Bottom: 17368.00	Mag to Reference North Correction: (deg)		7.11		
Borehole Record				Casing Record			
Hole Size (in)	From (ft)	To (ft)	Size (in)	Weight (lb/ft)	From (ft)	To (ft)	
13.500	30.00	1944.00	9.625	36.00	30.00	1934.00	
8.500	1944.00	17381.00					
			</				

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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	2.50	Rotary Steerable	1944.00	17368.00	1944.00	17381.00	2021-01-26 22:15	2021-01-29 08:20	56.30

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Adam Schlenz	2021-01-26	2021-01-30						

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+ (%)
2021-01-27 05:00	1	4109.00	Oil Based Mud	9.4	12	N/A	14.7	70.6/18.4	Active Pit	27211	0.00
2021-01-28 05:00	1	9609.00	Oil Based Mud	10.0	12	N/A	16.4	69.6/16.4	Active Pit	25267	0.00
2021-01-28 16:00	1	13242.00	Oil Based Mud	10.0	13	N/A	16.8	70/16	Active Pit	25267	0.00
2021-01-29 04:00	1	16389.00	Oil Based Mud	10.0	14	N/A	17.6	69/16.5	Active Pit	25753	0.00

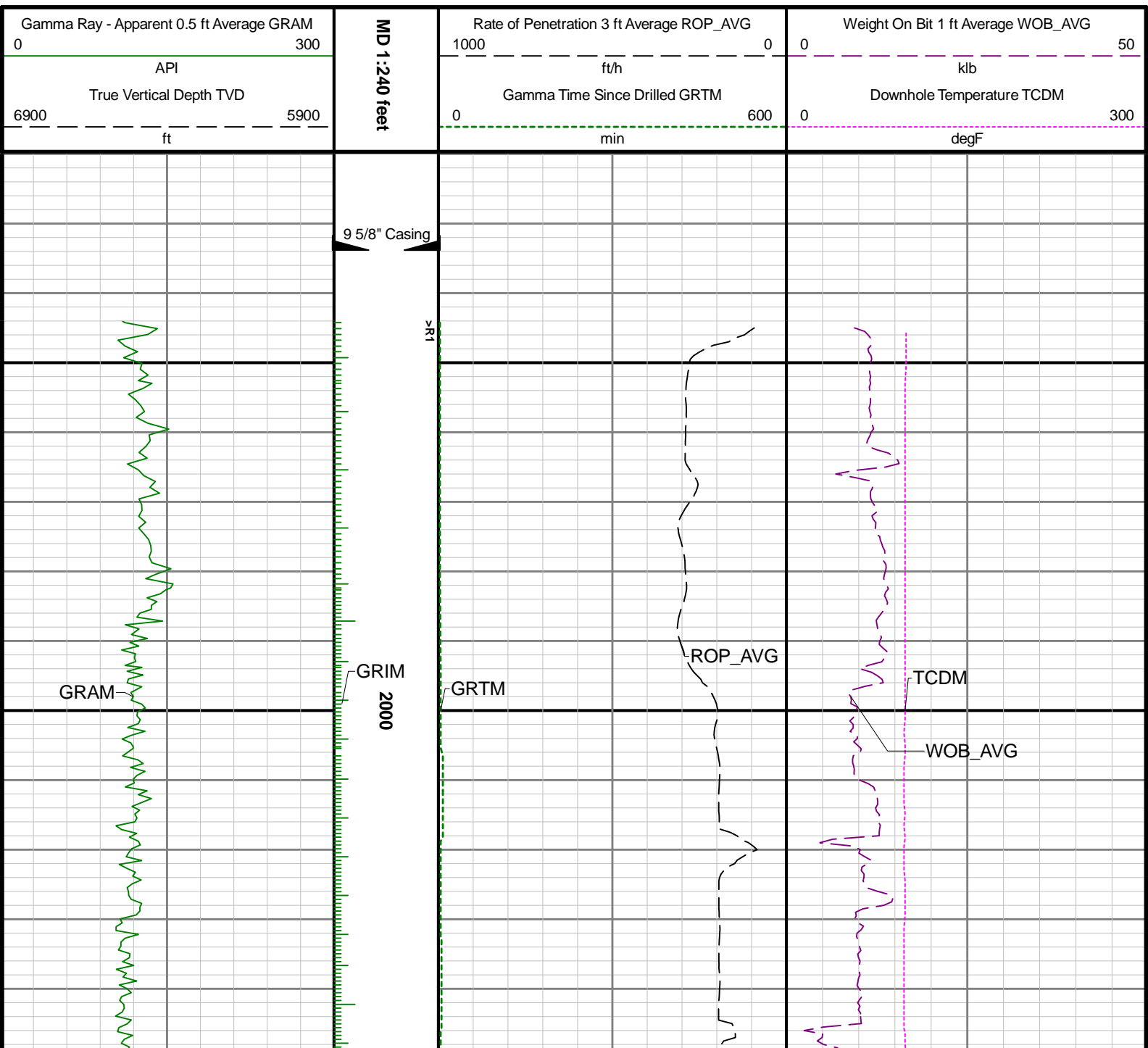
Equipment and Service Data

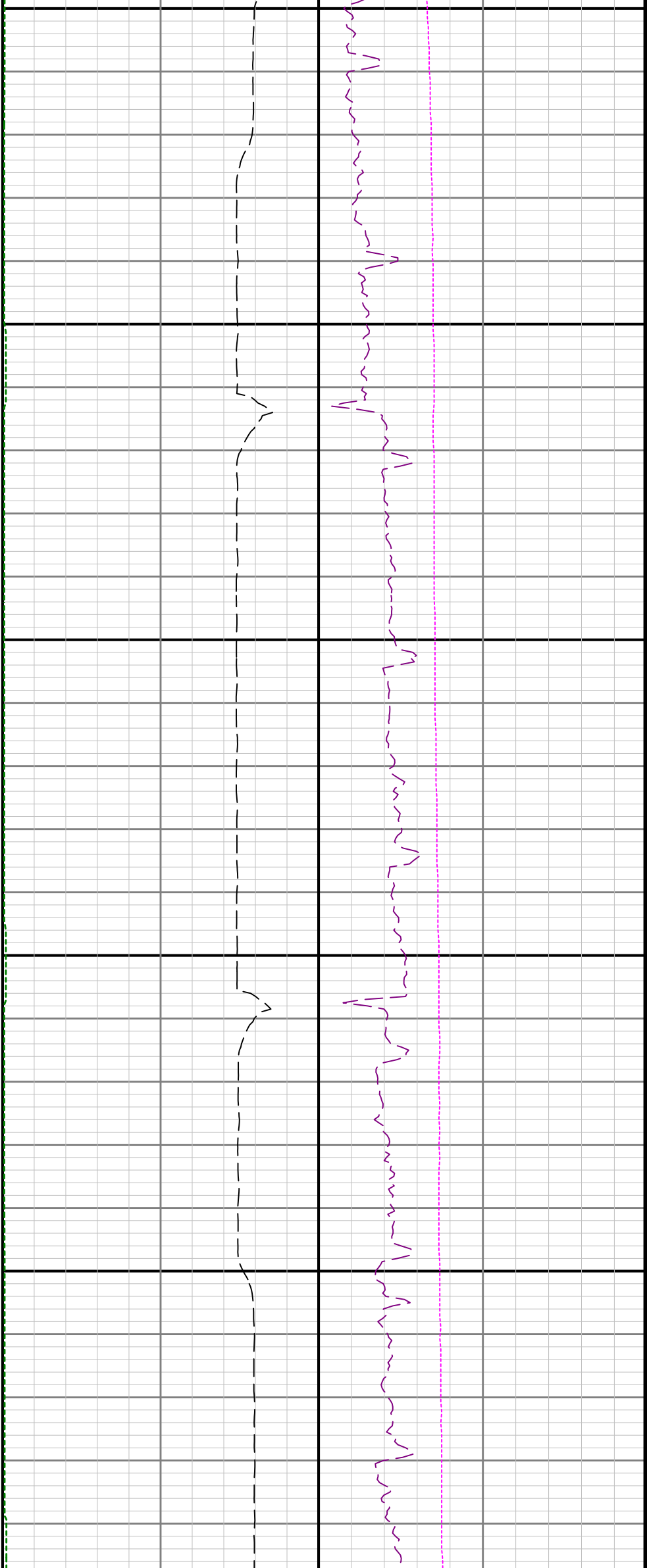
Run No.	Tool	Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)
1	AutoTrak Curve Steering Unit	14186737	Near Bit VSS	5.93	6.78	7.000	4.330
1	AutoTrak Curve Steering Unit	14186737	Near Bit Inclination	5.93	6.78	7.000	4.330
1	AutoTrak Curve MWD	14281551	Gamma (single)	2.75	12.94	7.000	3.250
1	AutoTrak Curve MWD	14281551	Directional (mag)	12.27	22.46	7.000	3.250

Service and Tool Mnemonics		
Mnemonic	Name	Description
ATC SU	AutoTrak Curve SU	Auto Trak Curve Steering Unit
ATC MWD	AutoTrak Curve MWD	Auto Trak Curve MWD
ATC LCPM	AutoTrak Curve LCPM	Auto Trak Curve LCPM
Comments		
1 Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes, depth calibrations and measurements could not be independently verified.		
2 Baker Hughes LWD run 1 utilized a 6.75 inch NaviGamma service (Directional and Gamma Ray) behind a 8.5 inch bit and rotary steerable assembly from 1944 to 17381 feet MD (1944 to 6681 feet TVD).		
3 The Gamma Ray Apparent (GRAM) data is presented 0 to 300 API, per the customer's request.		

Remarks				
Number	Depth (ft)	Hole Section (in)	Run No.	Remark
1	17381.00	8.500	1	The interval from 17368 to 17381 feet MD (6681 feet TVD) was not logged after being drilled due to sensor to bit offset at well TD.

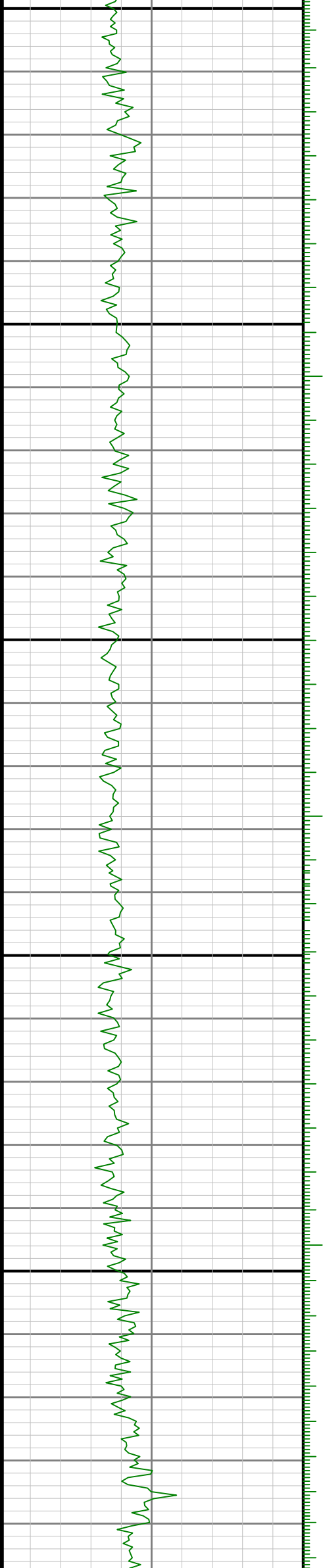
Curve Mnemonics		
Presented Curves	Description	Units
ROP_AVG	Rate of Penetration - Average 3 ft Average	ft/h
TVD	True Vertical Depth	ft
WOB_AVG	Weight on Bit - Average 1 ft Average	klb
GRAM	Gamma Ray - Apparent - Memory 0.5 ft Average	API
GRIM	Gamma Ray - Data Point Indicator - Memory	unitless
GRTM	Gamma Ray - Time Since Drilled - Memory	min
TCDM	Directional Real-Time Survey Temperature	degF

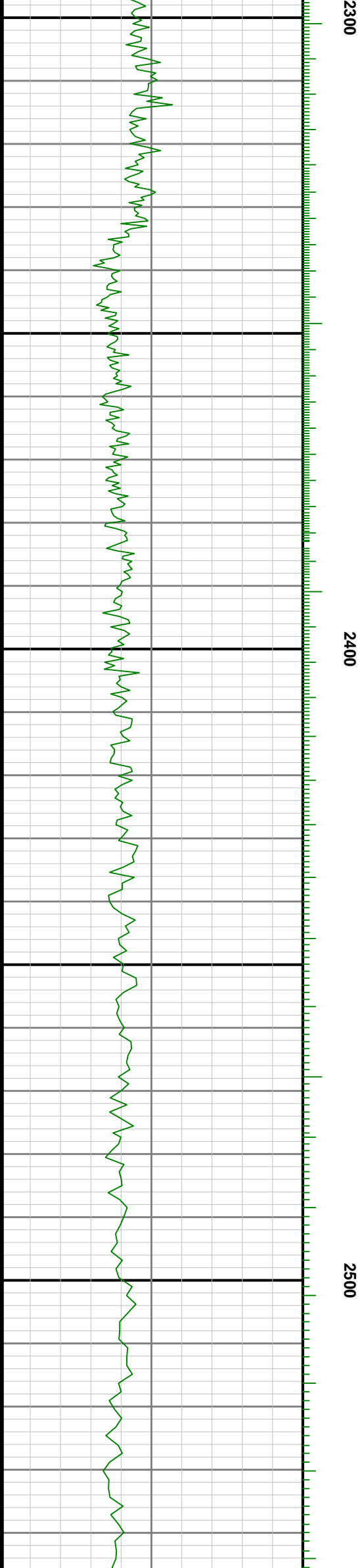
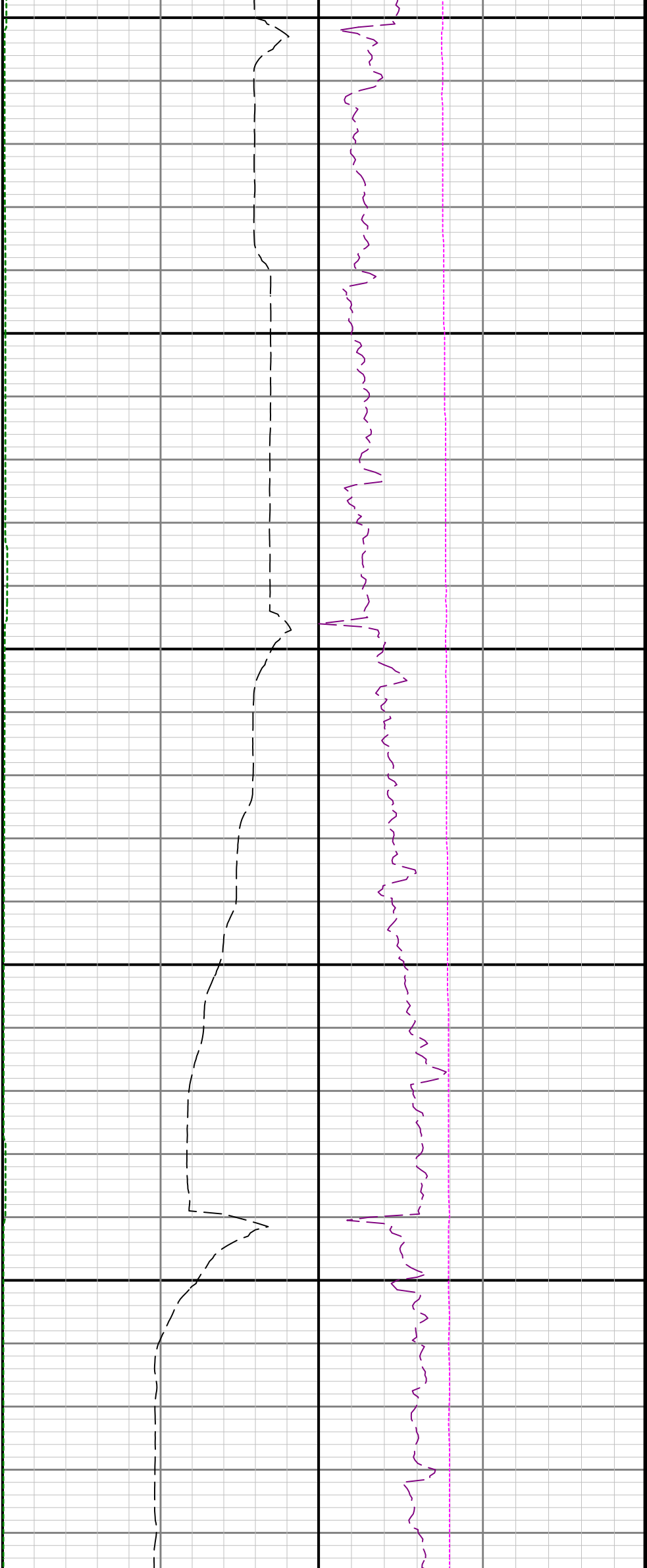


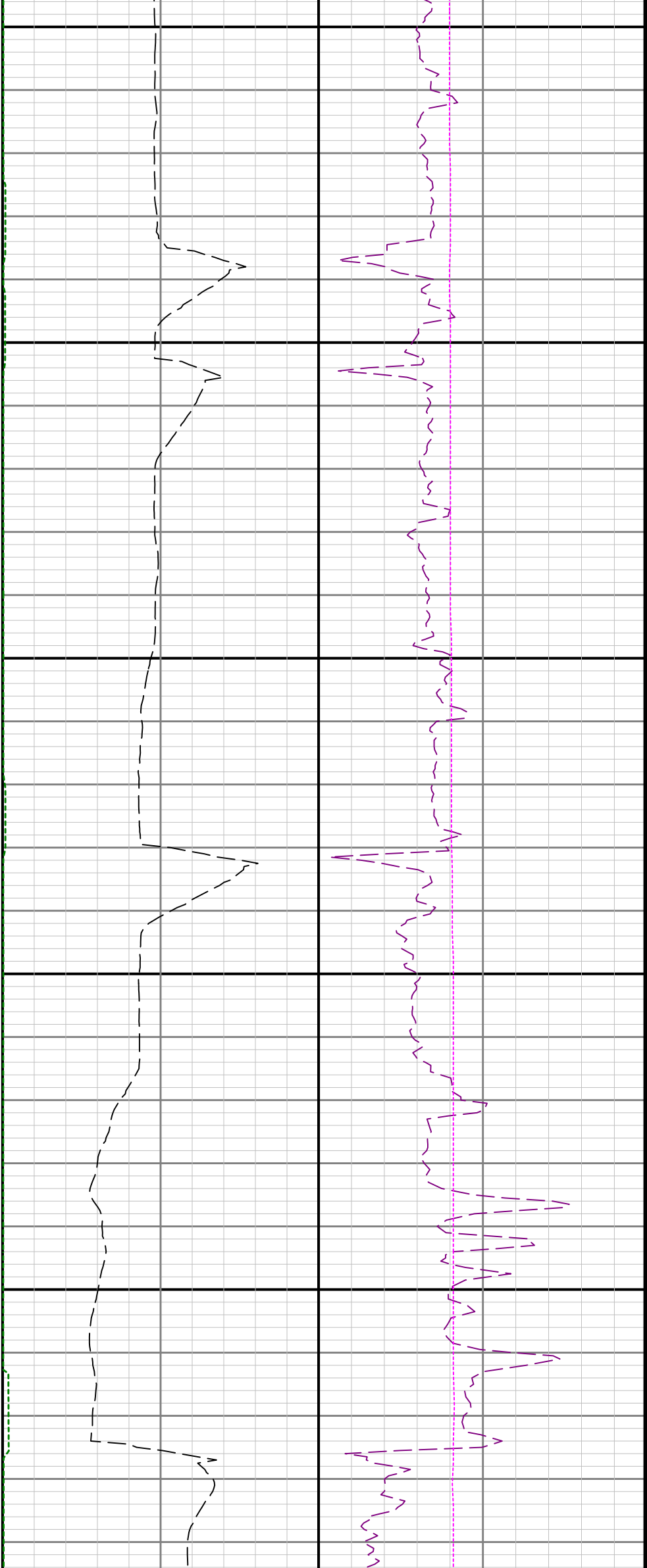


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2200

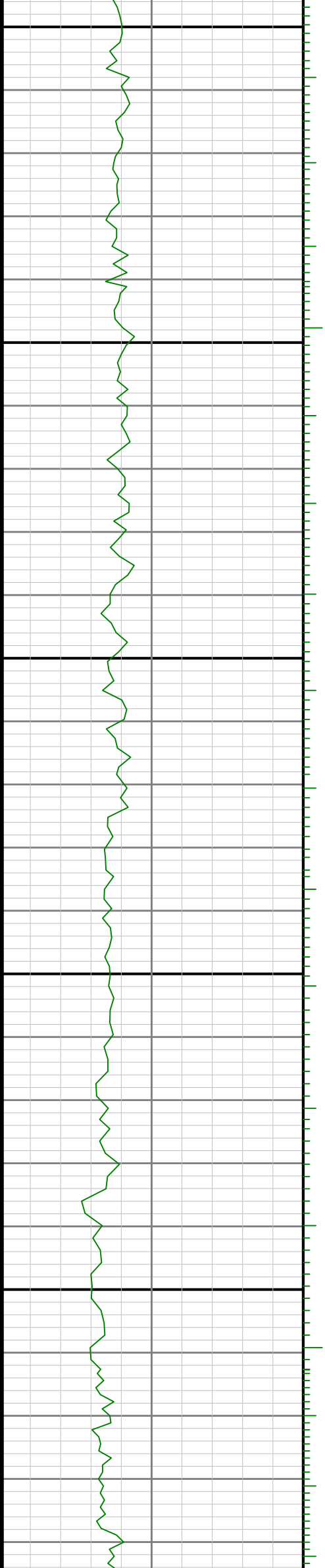


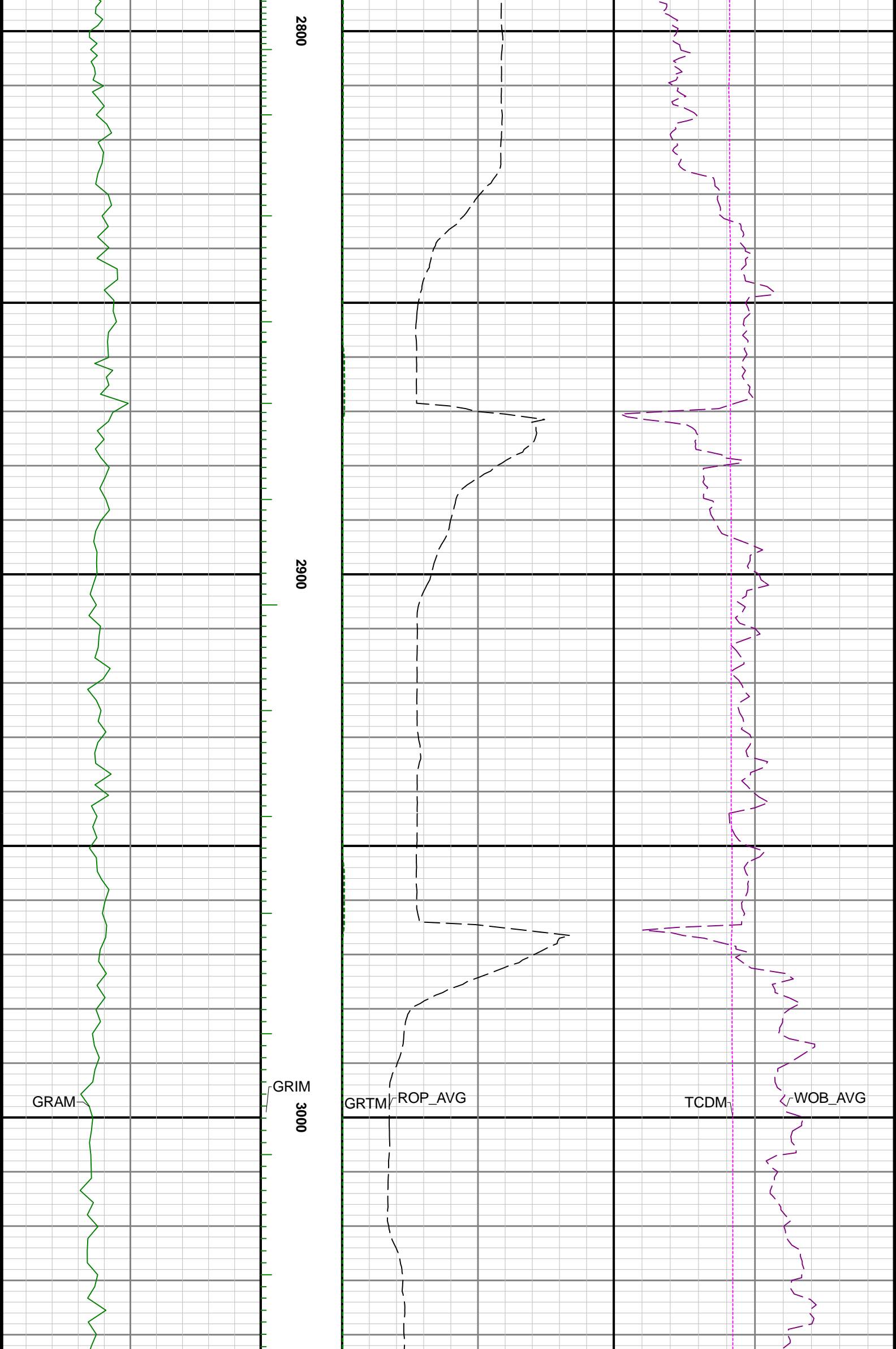




2600

2700





2800

2900

3000

GRM

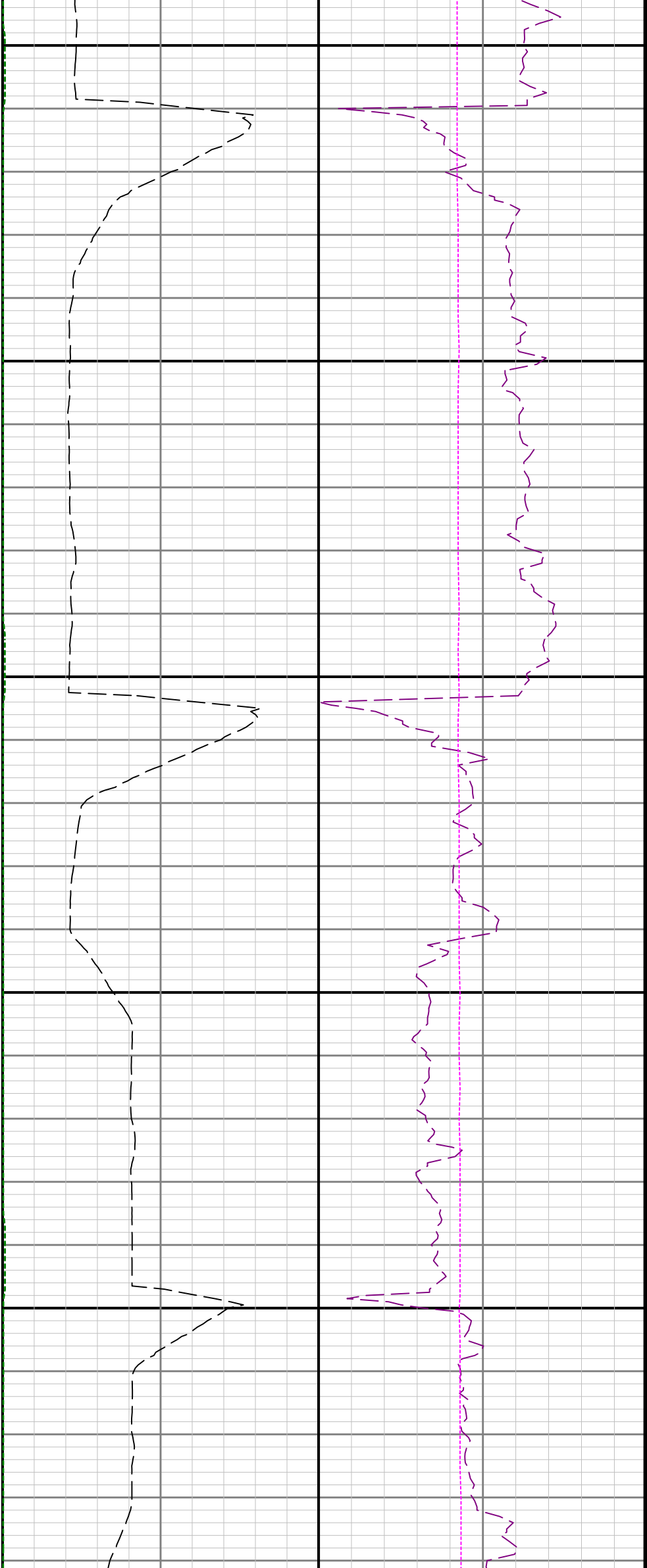
GRAM

ROP_AVG

GRTM

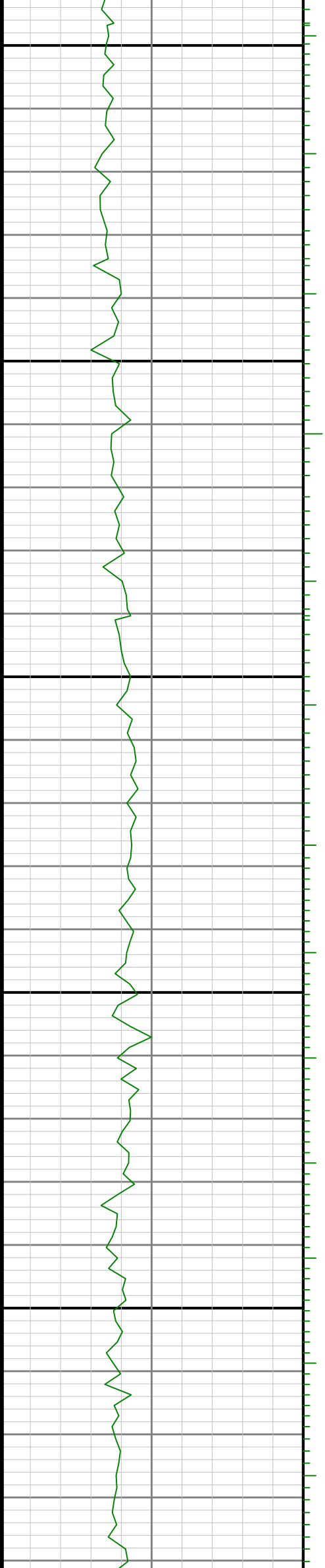
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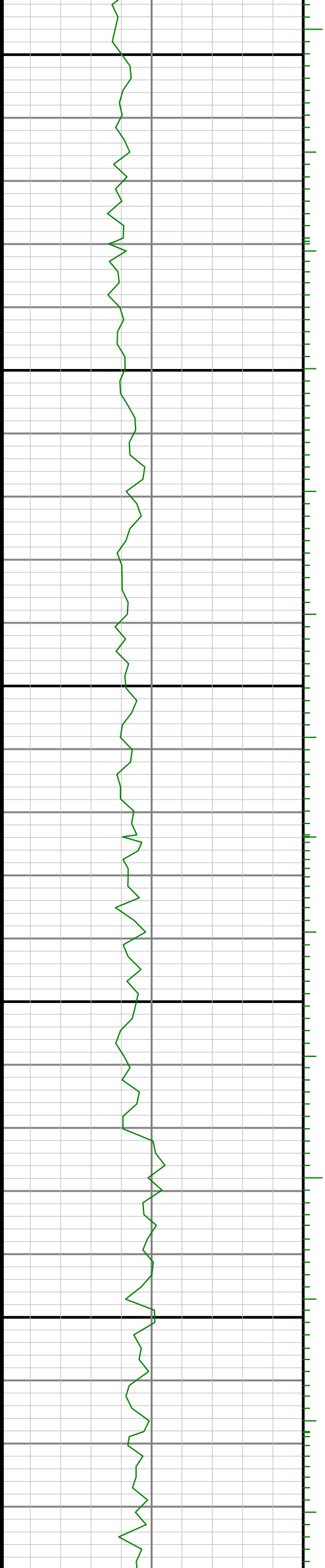
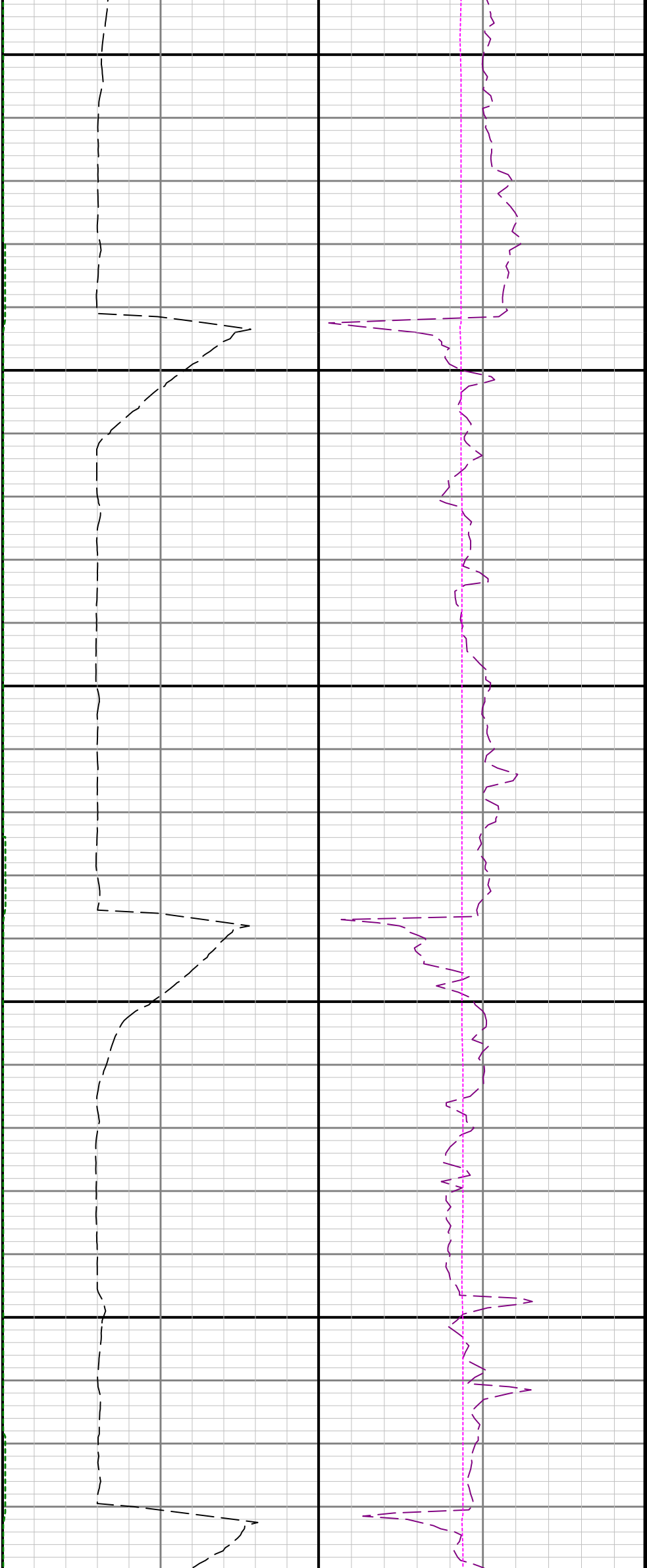
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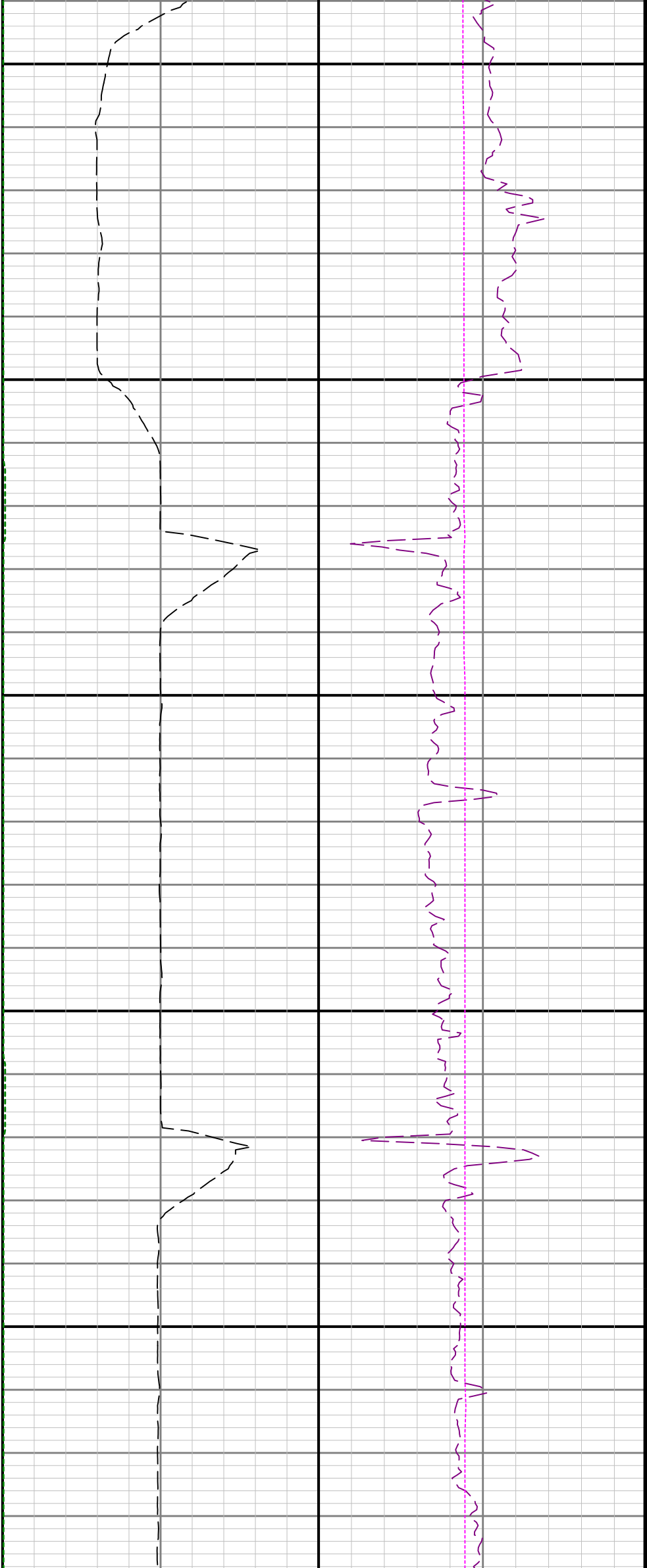


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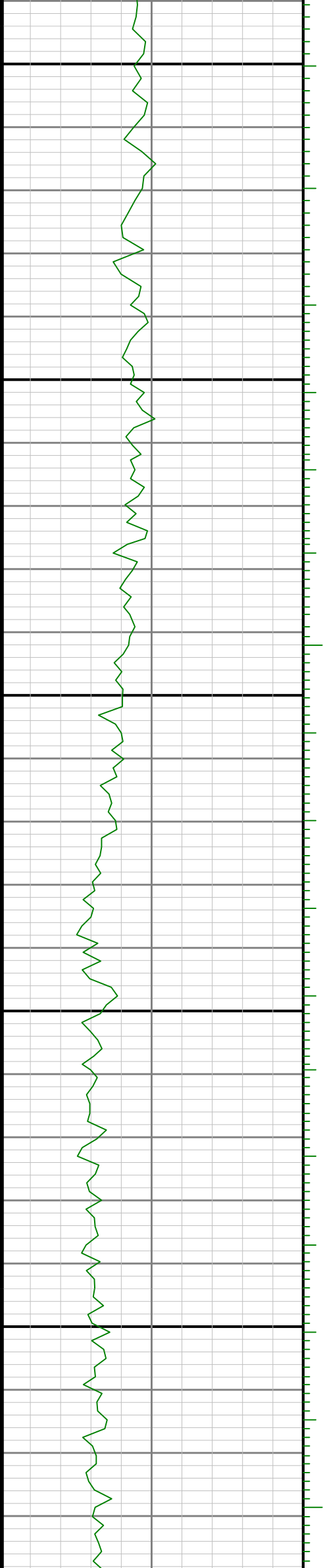


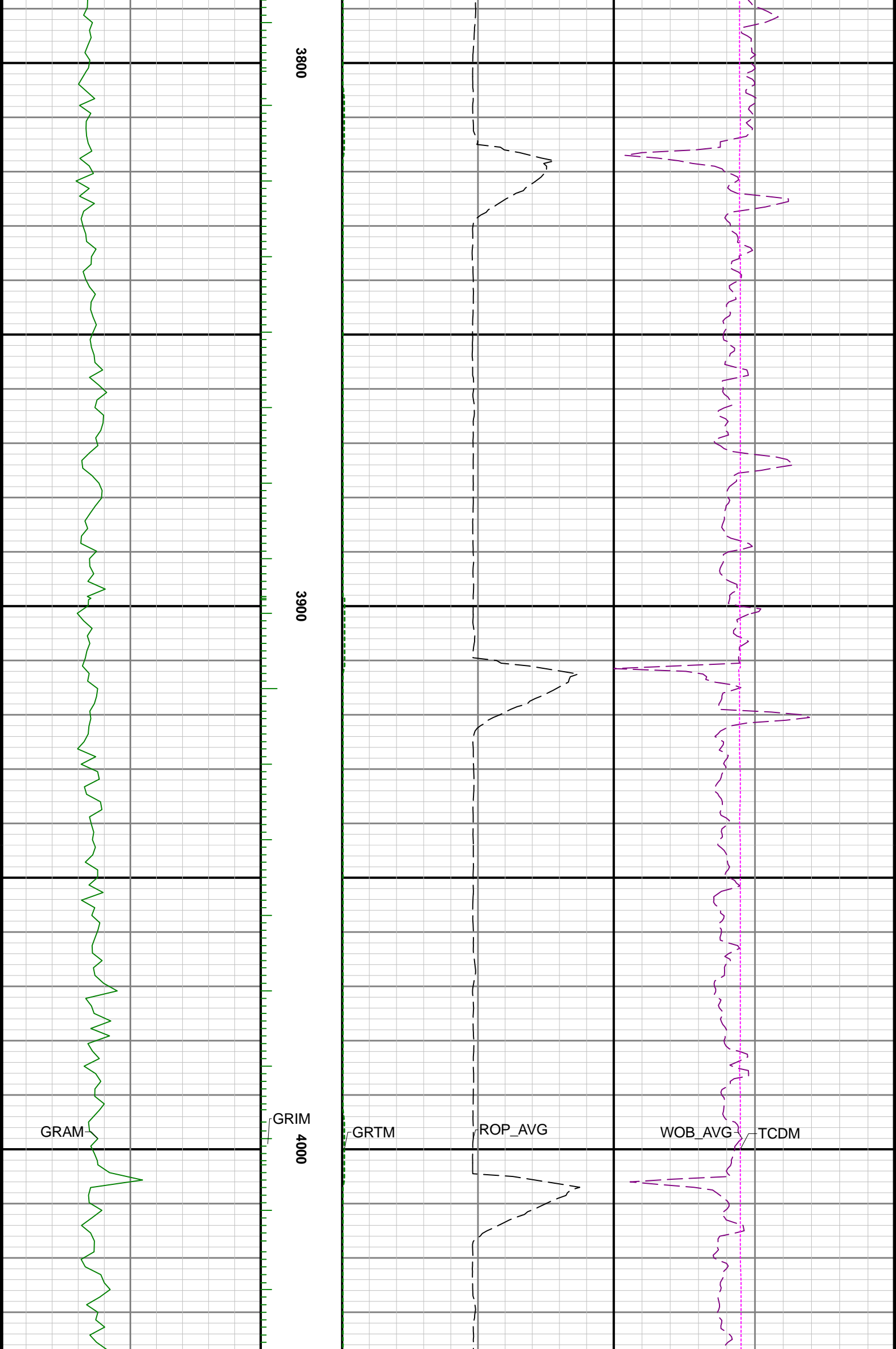


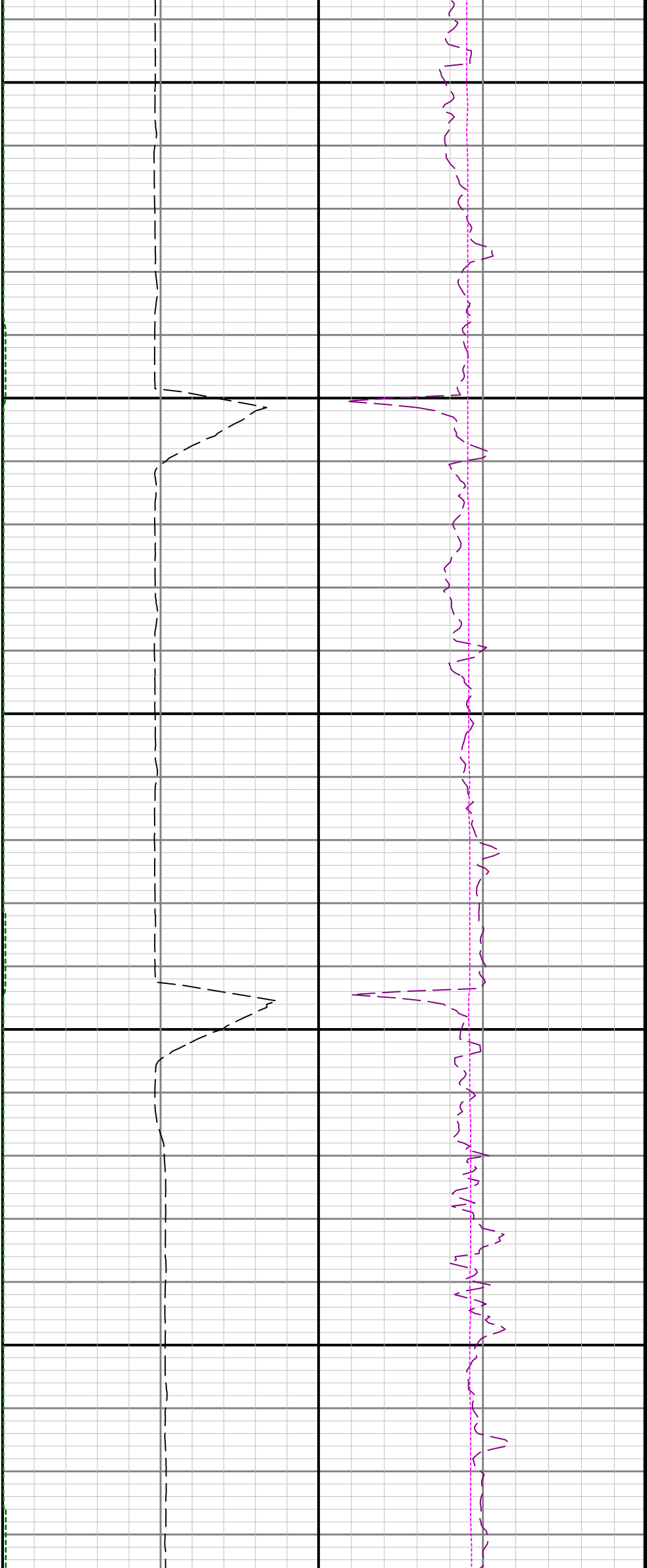


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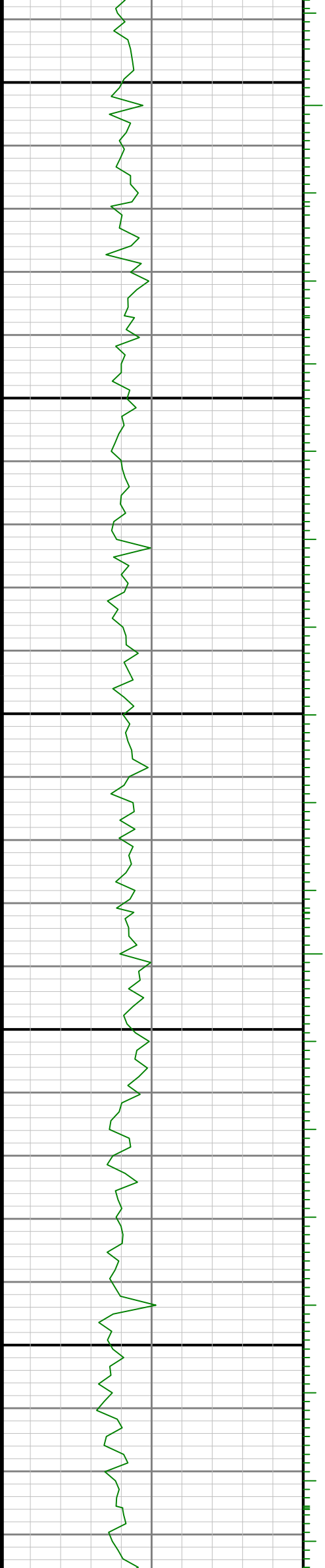


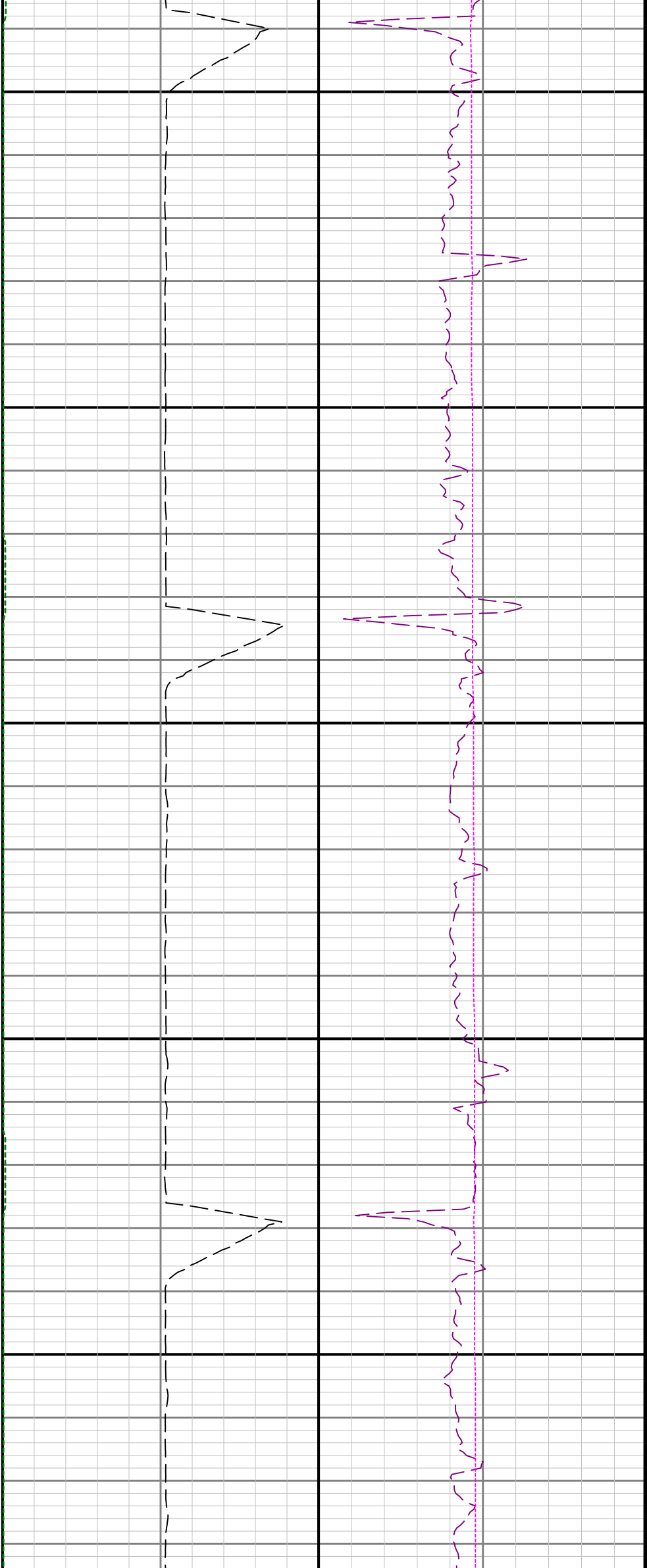




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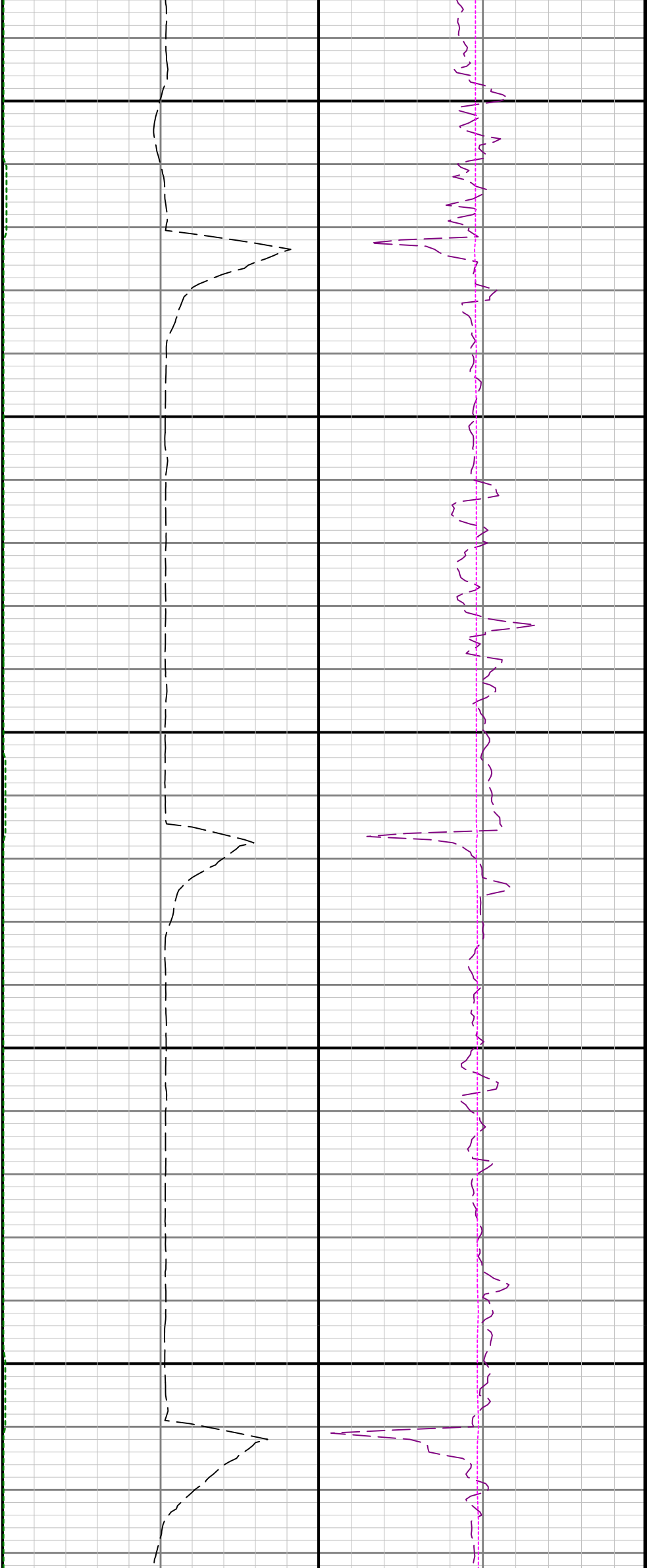




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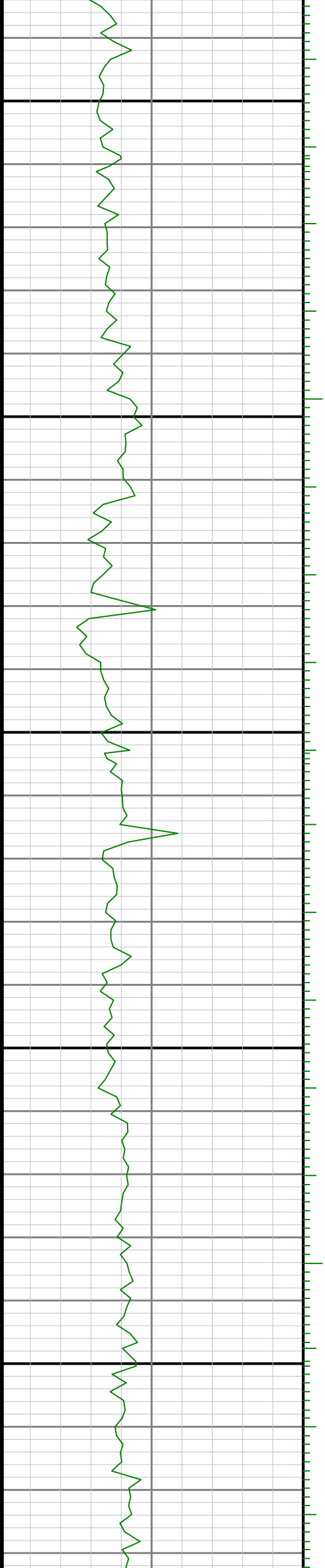
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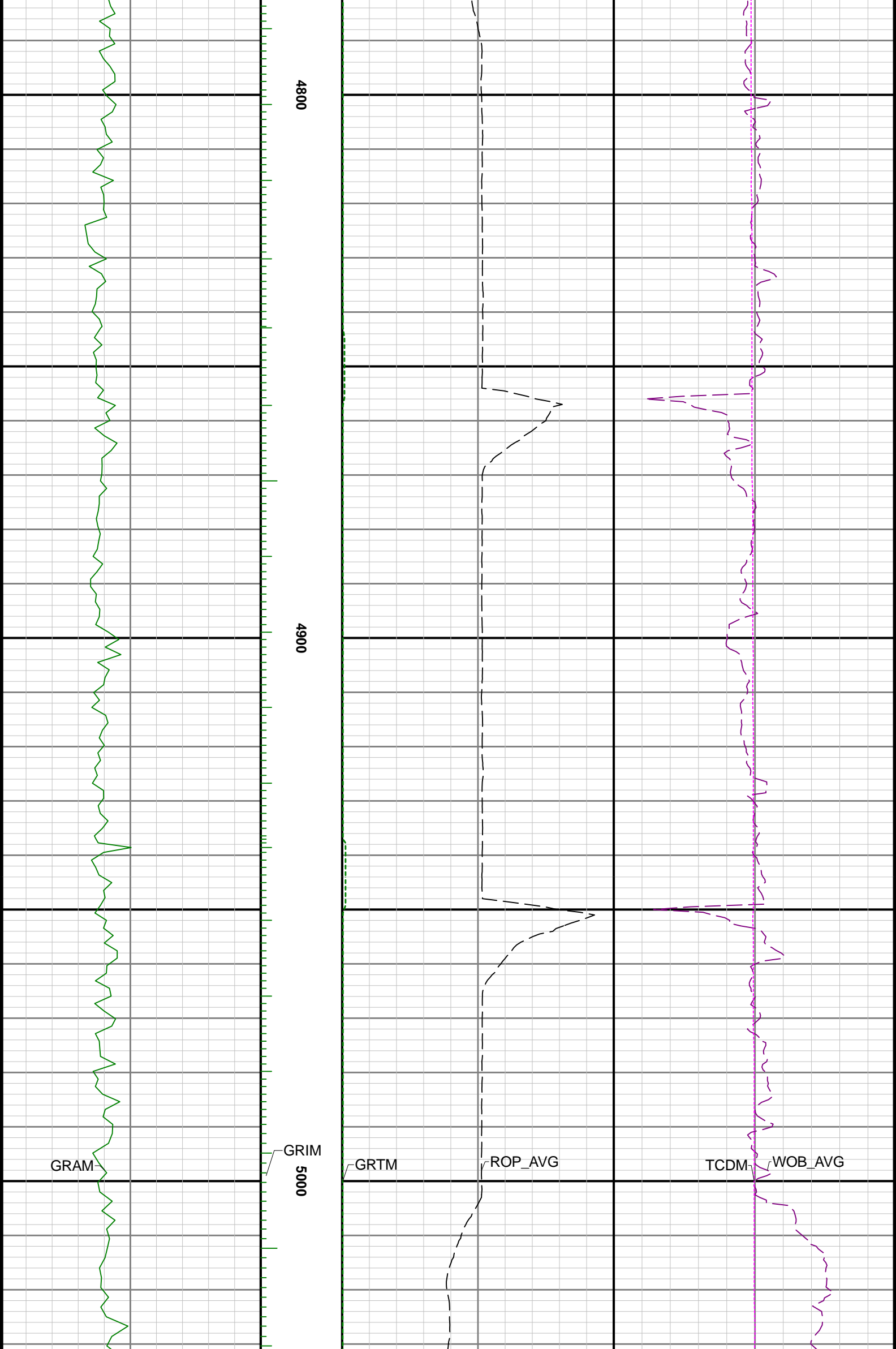
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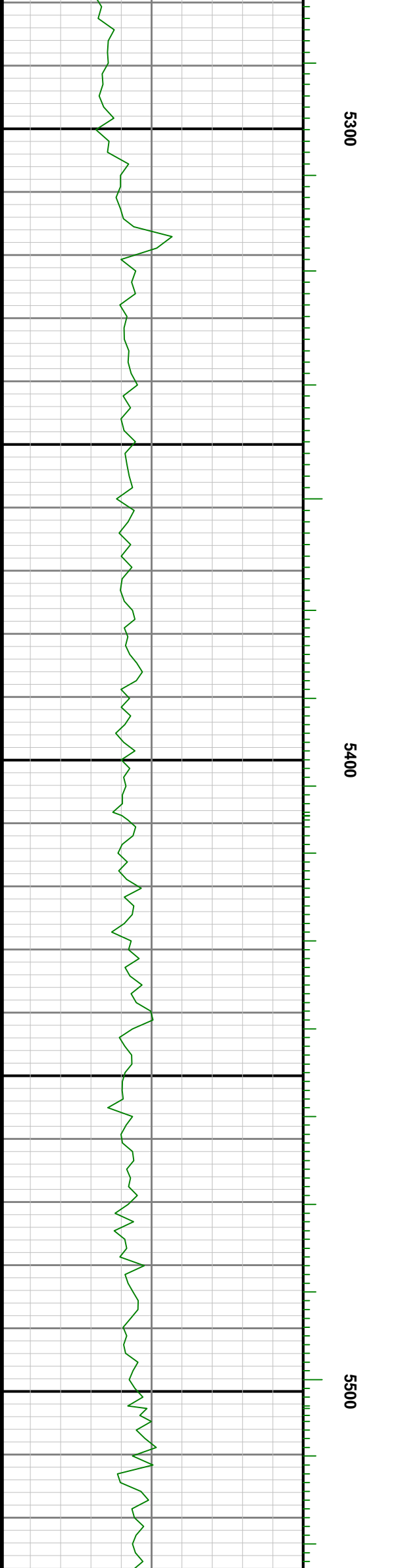
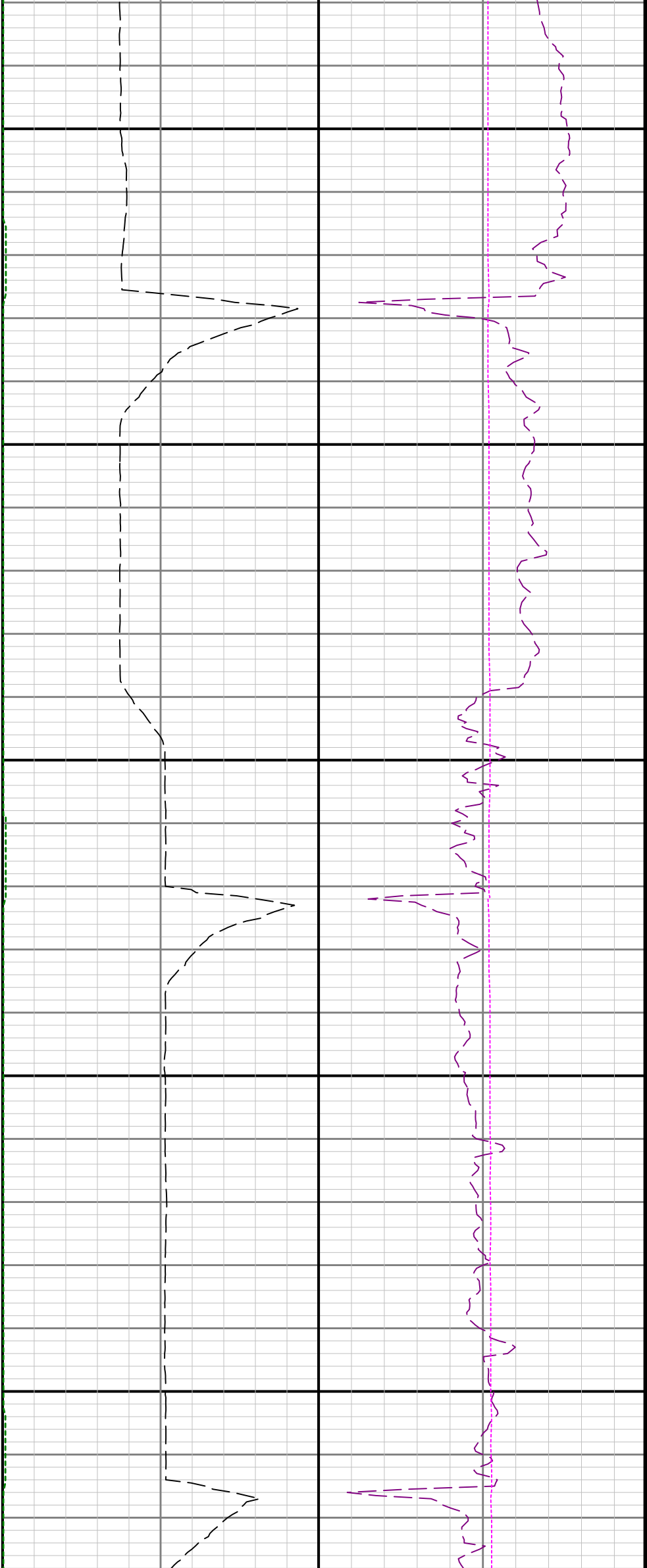


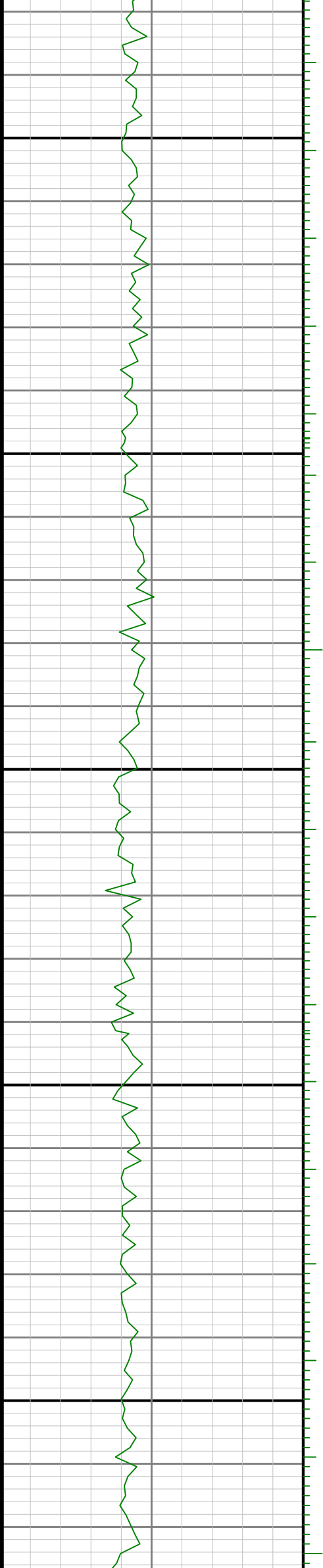
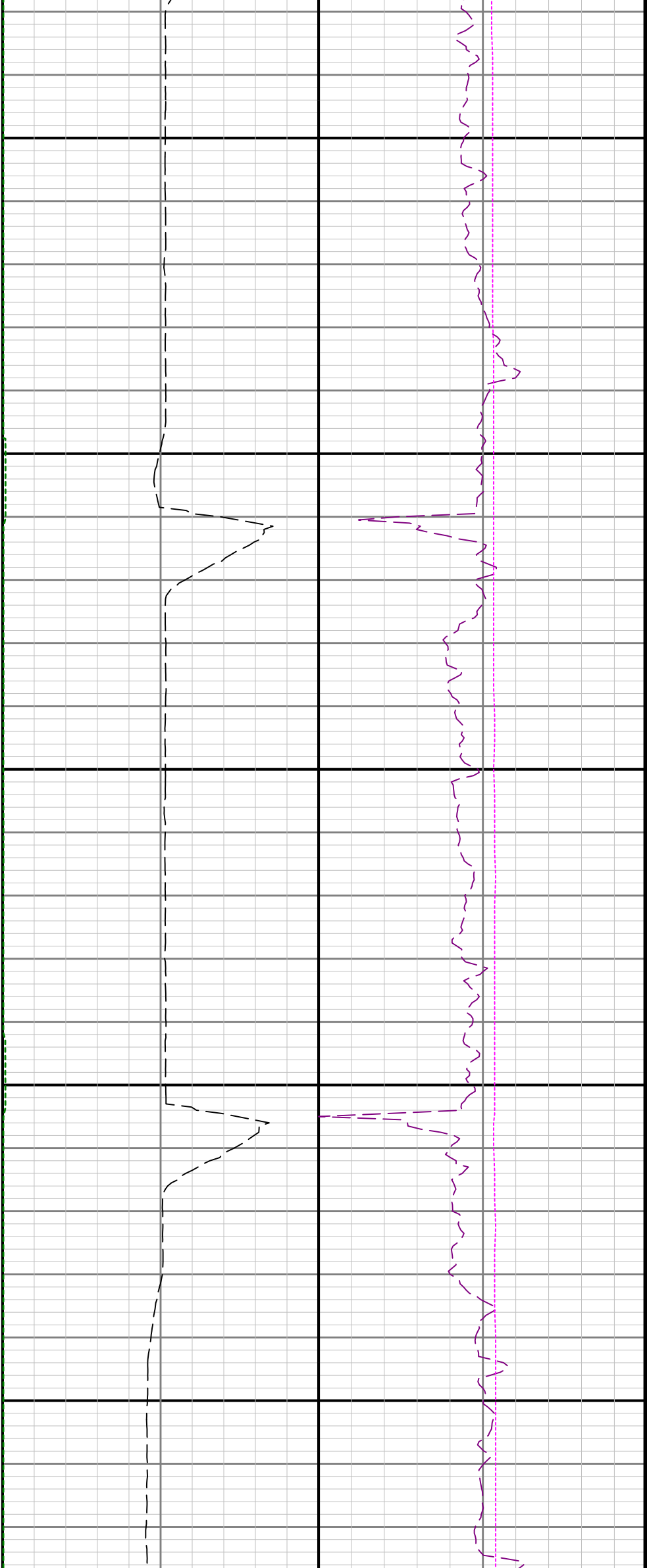
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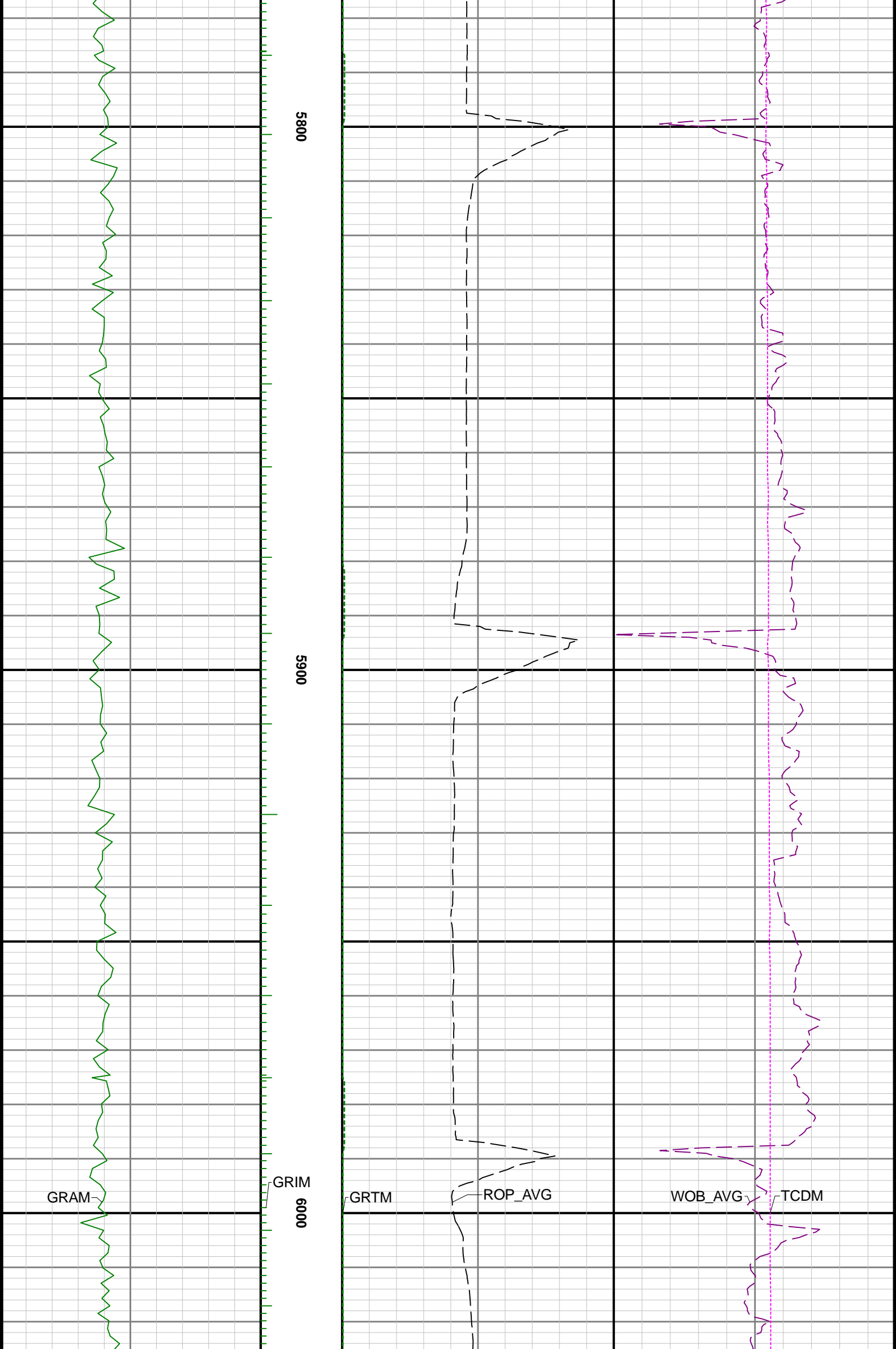
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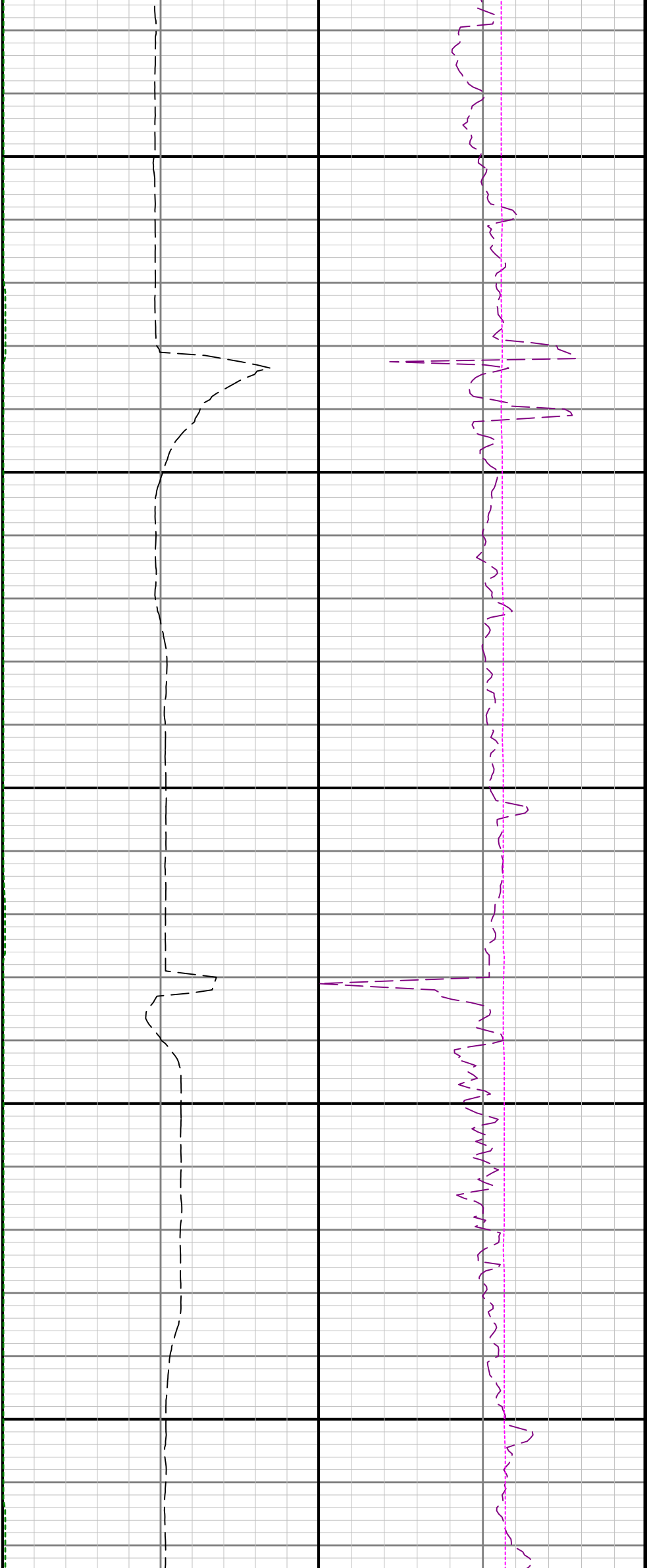






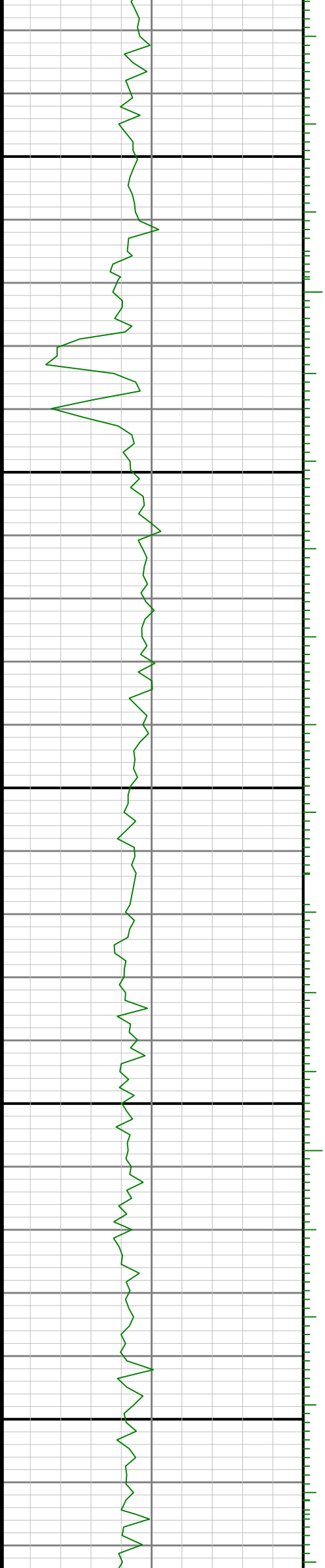


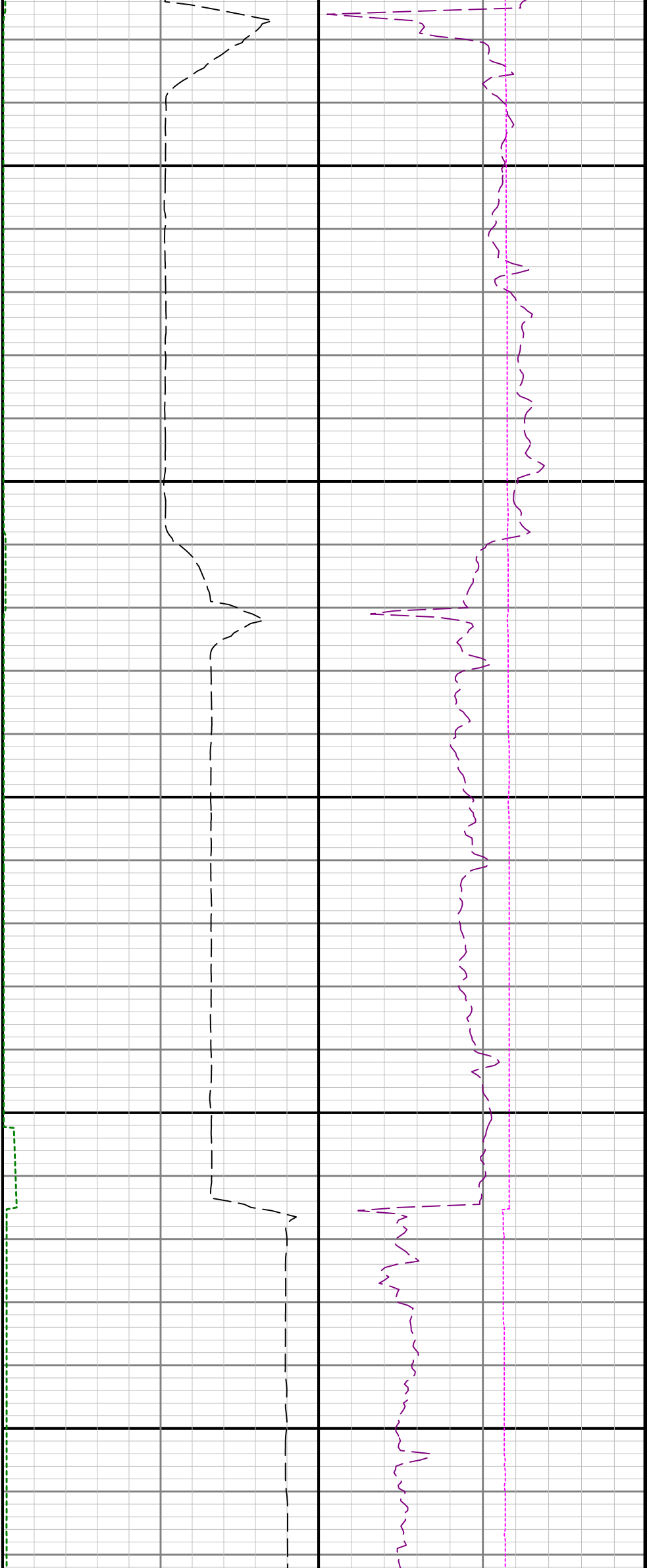




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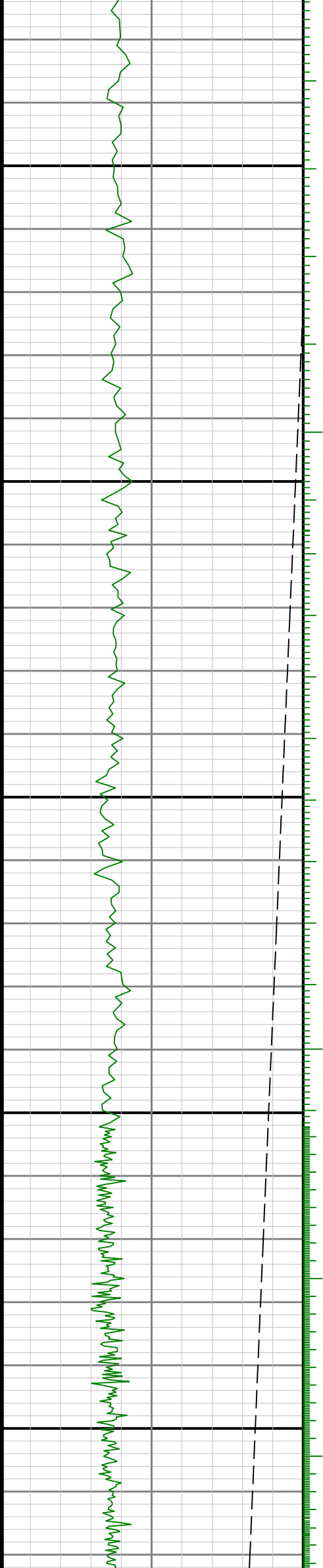


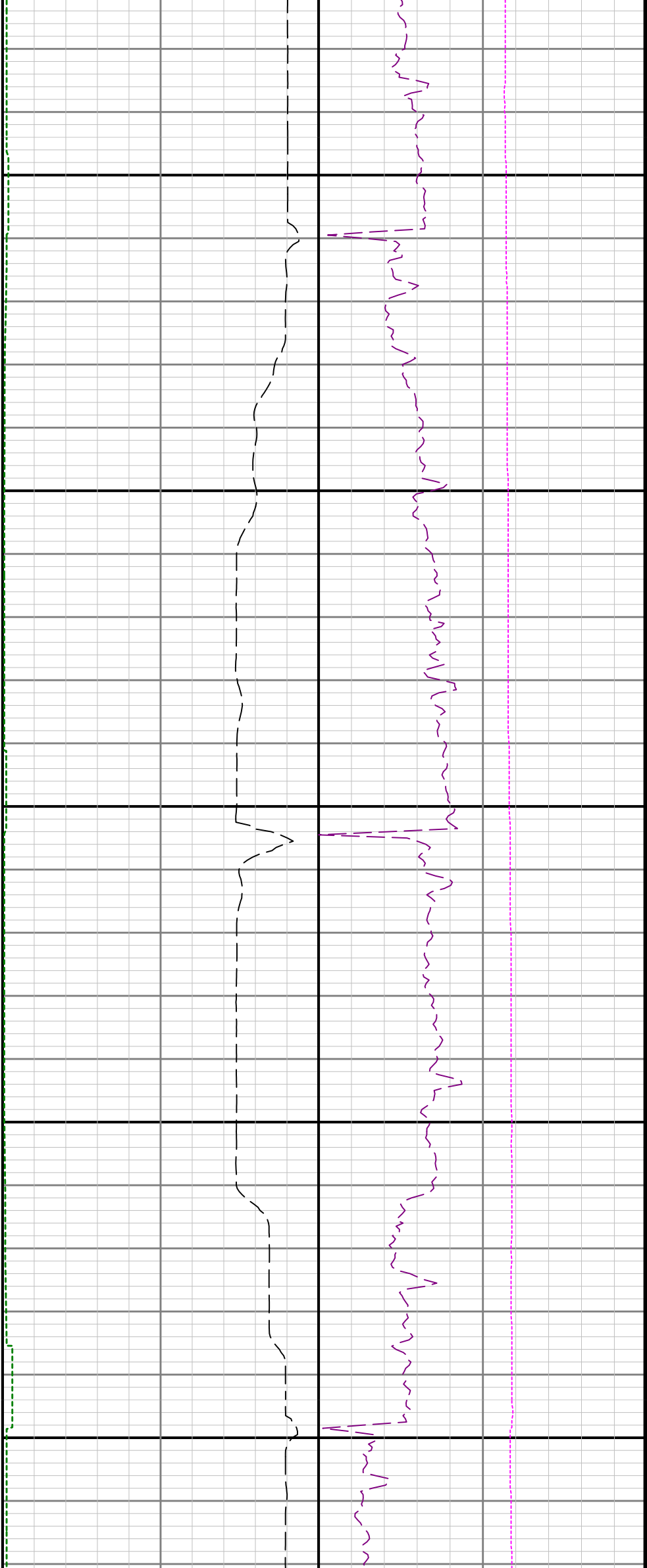


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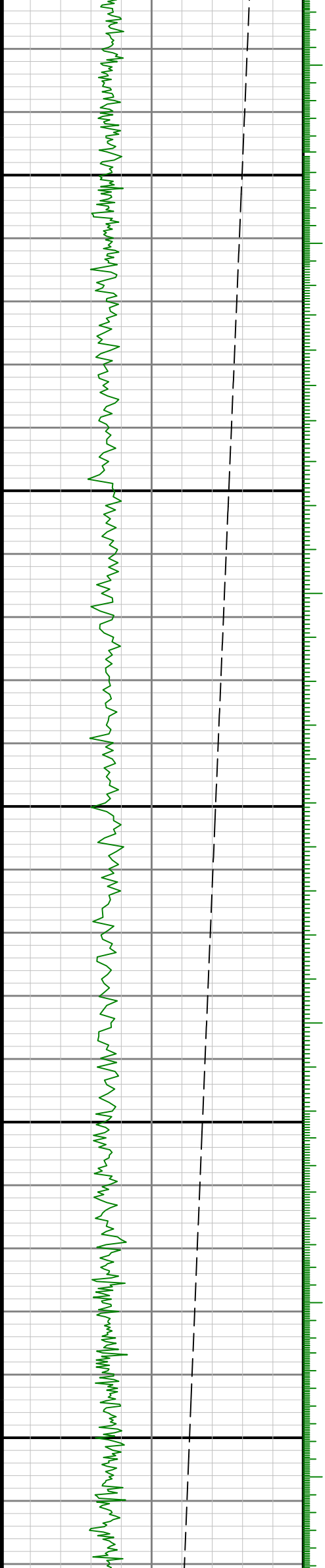
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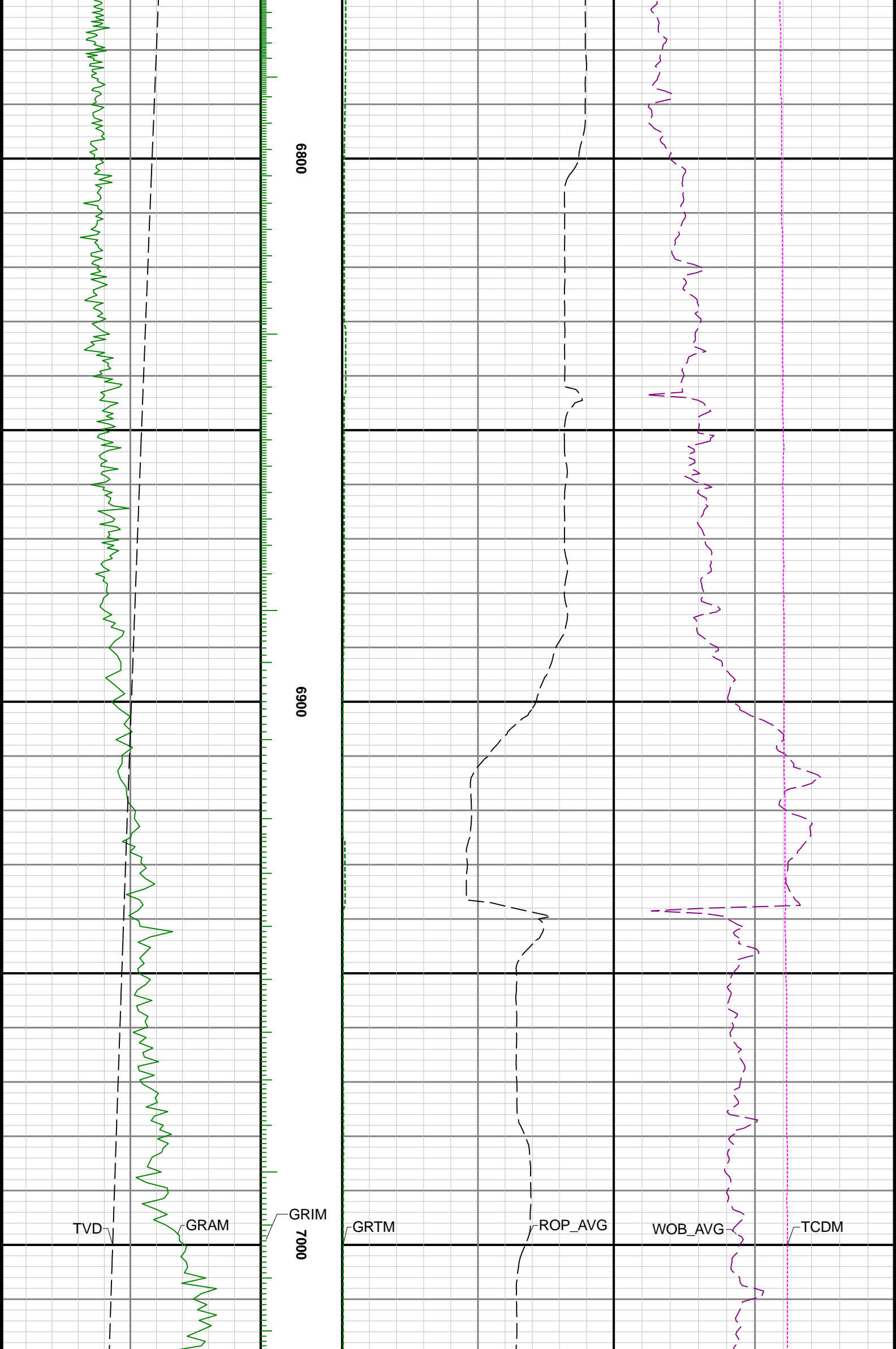


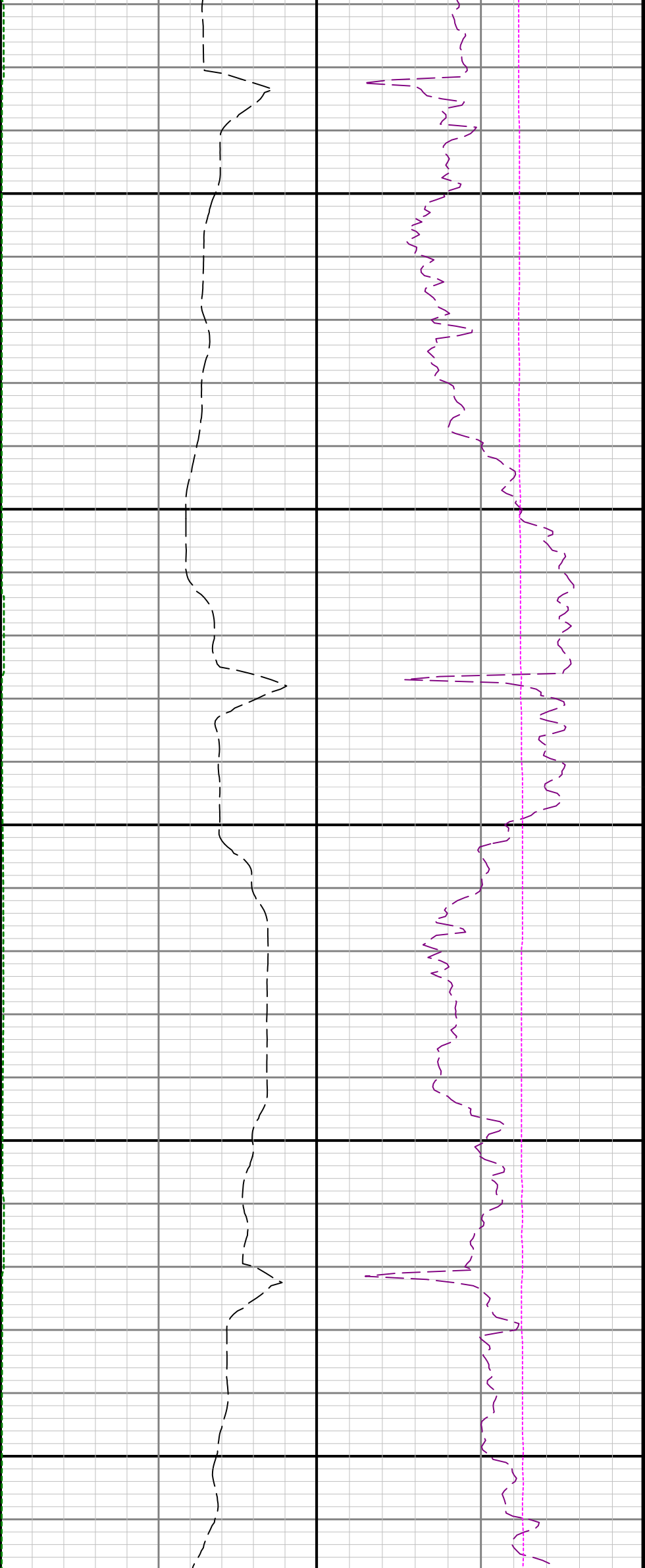


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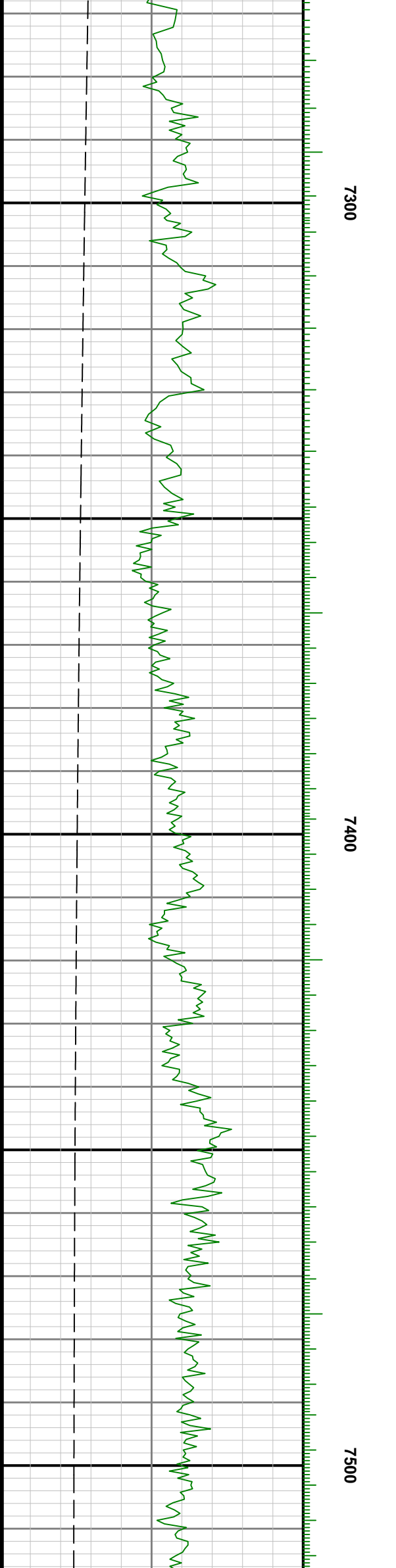
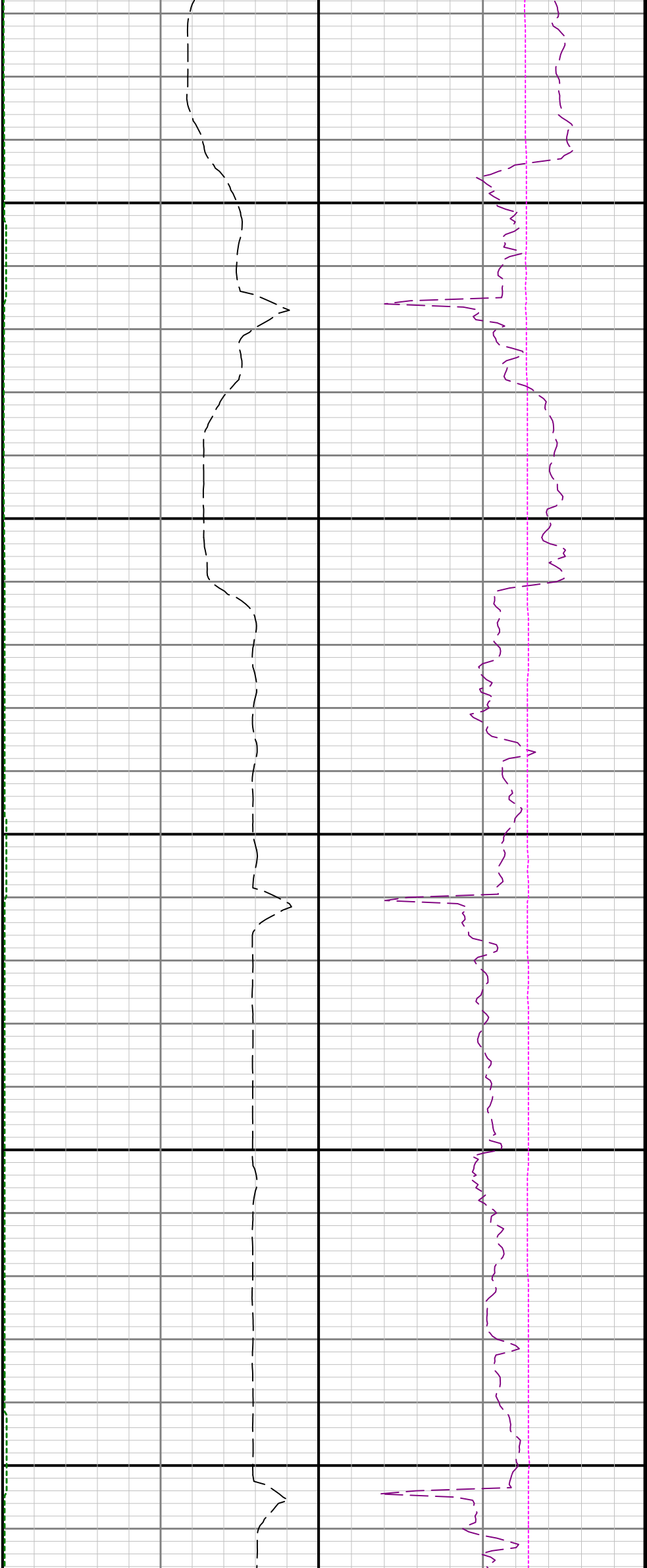


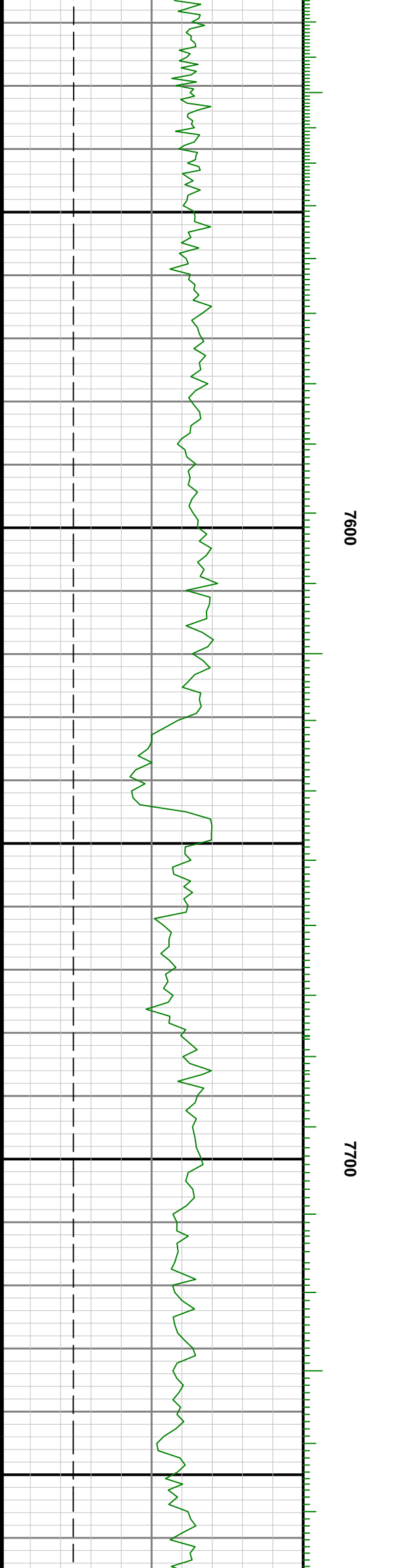
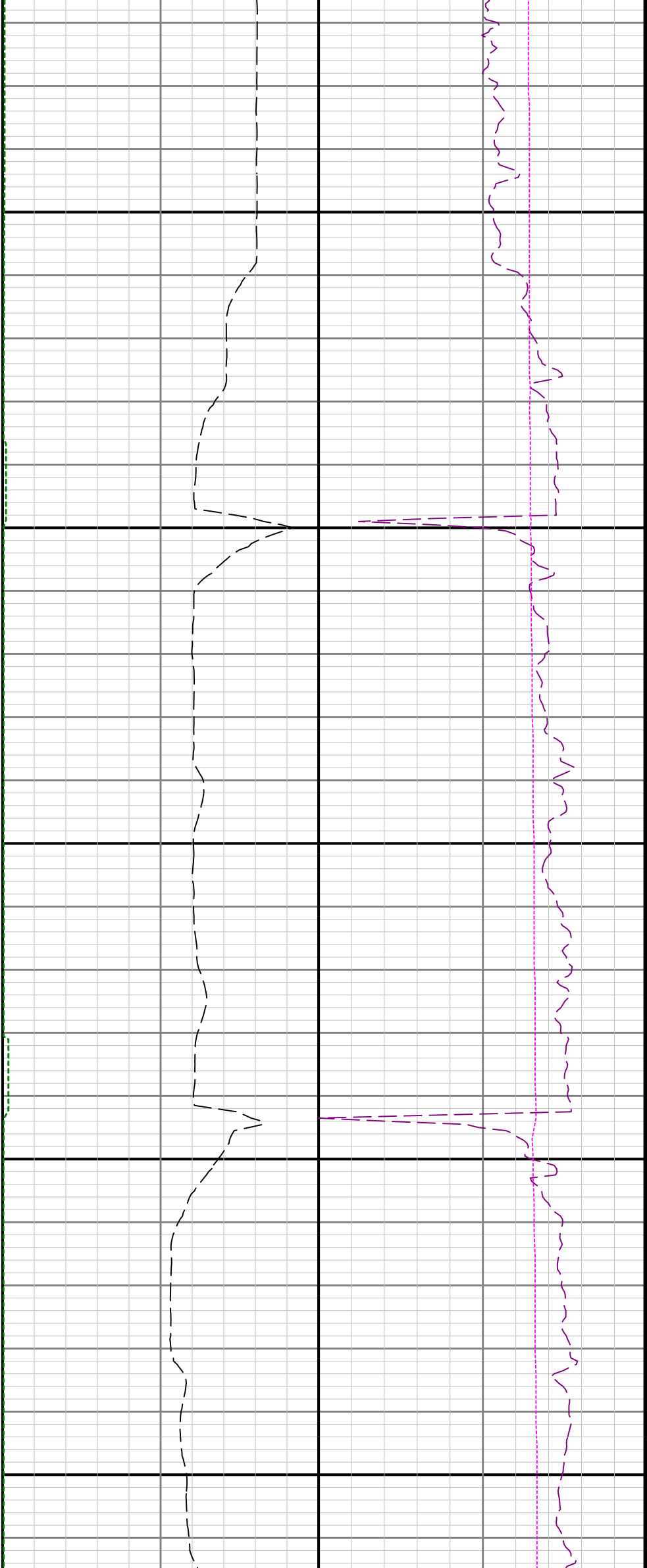


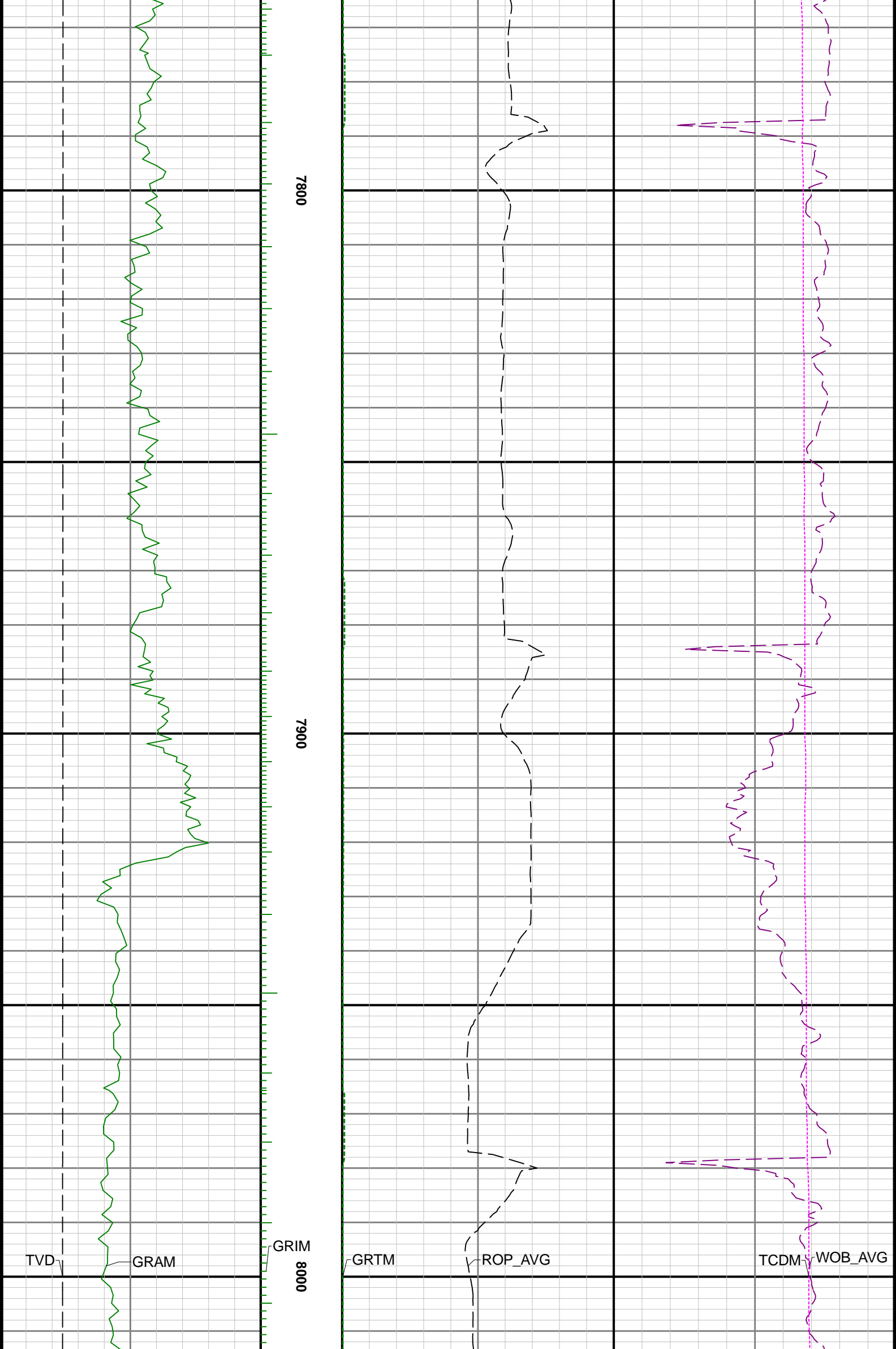


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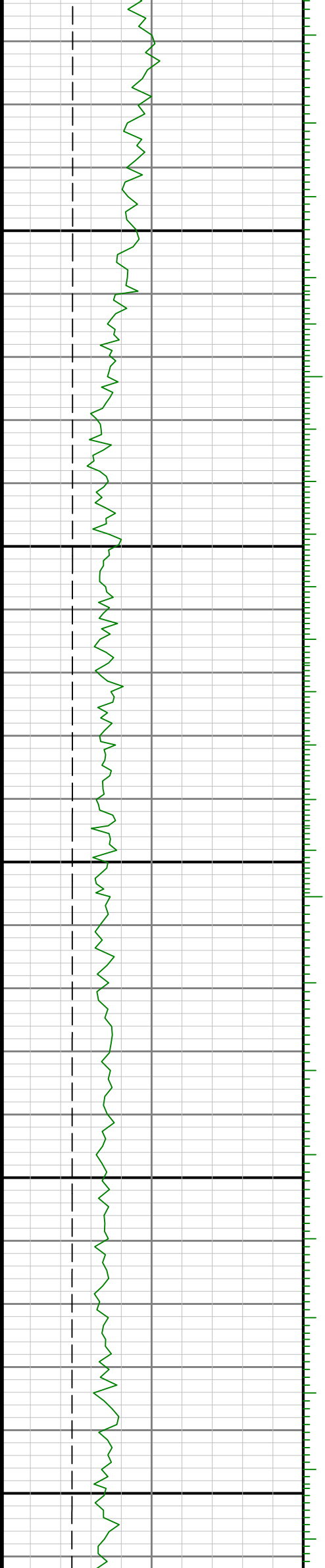


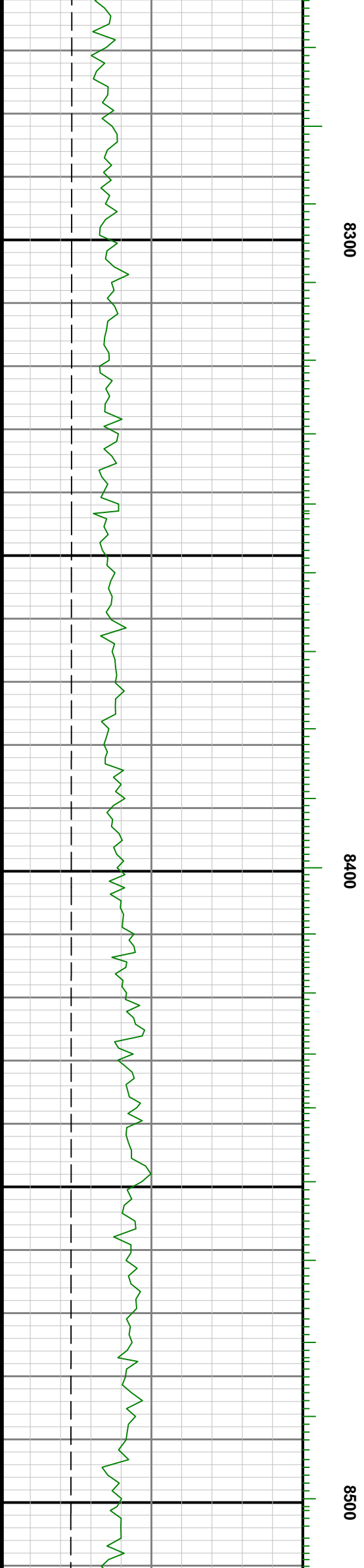
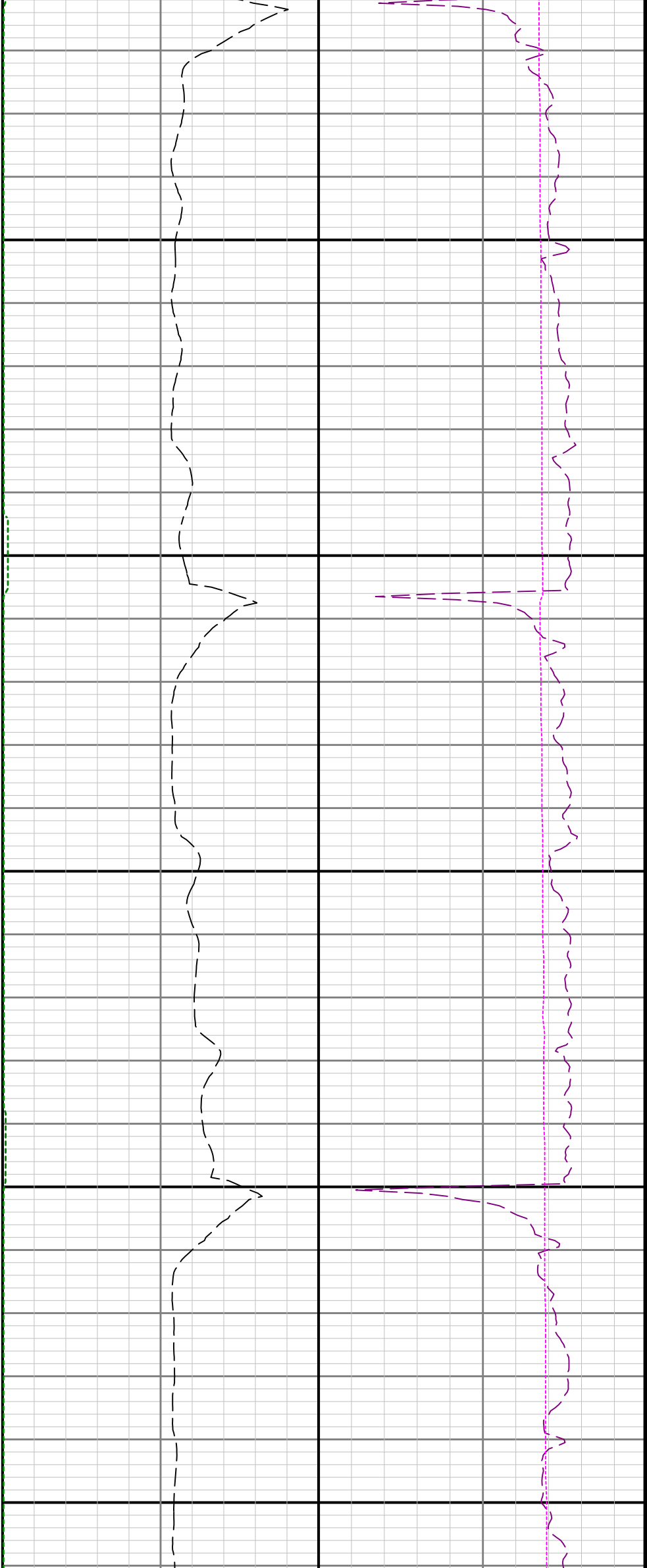


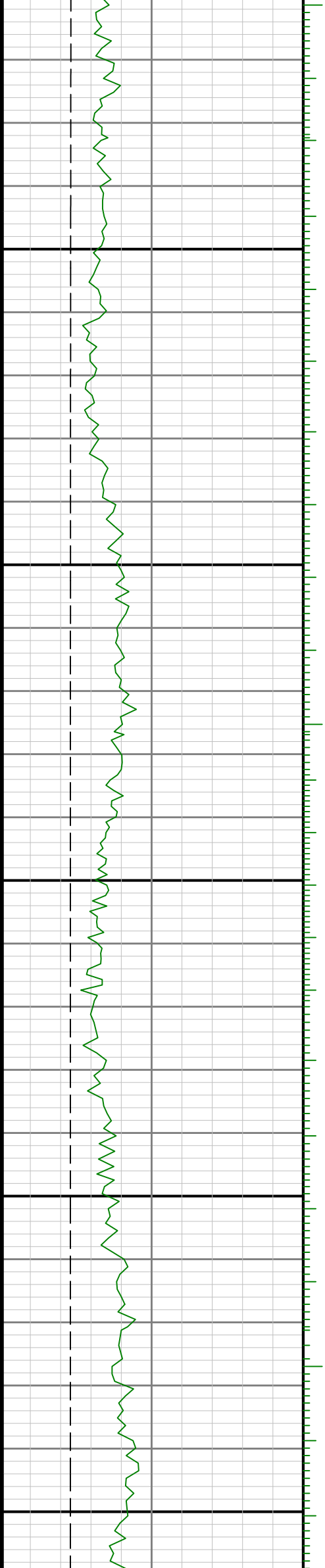


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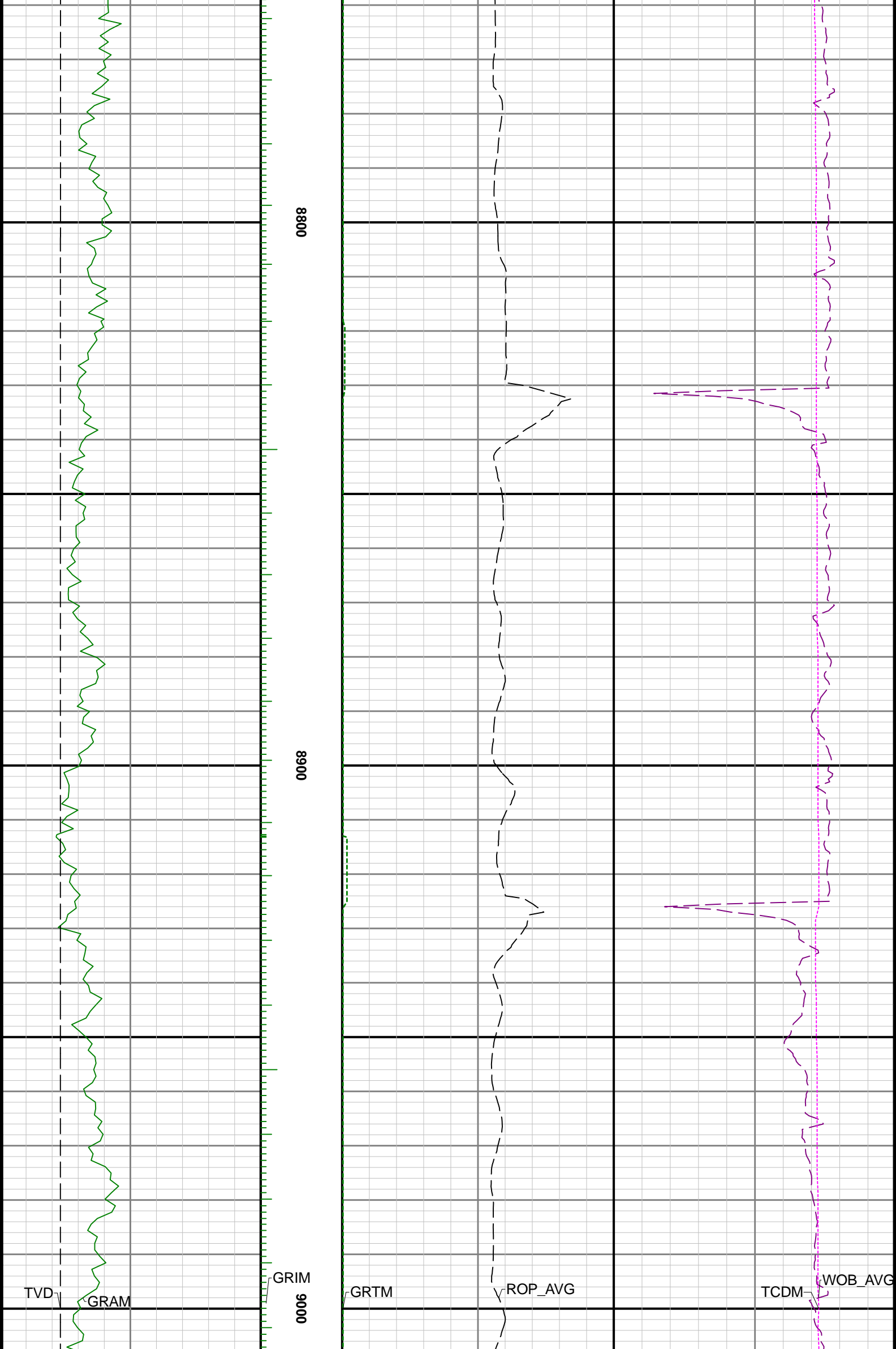


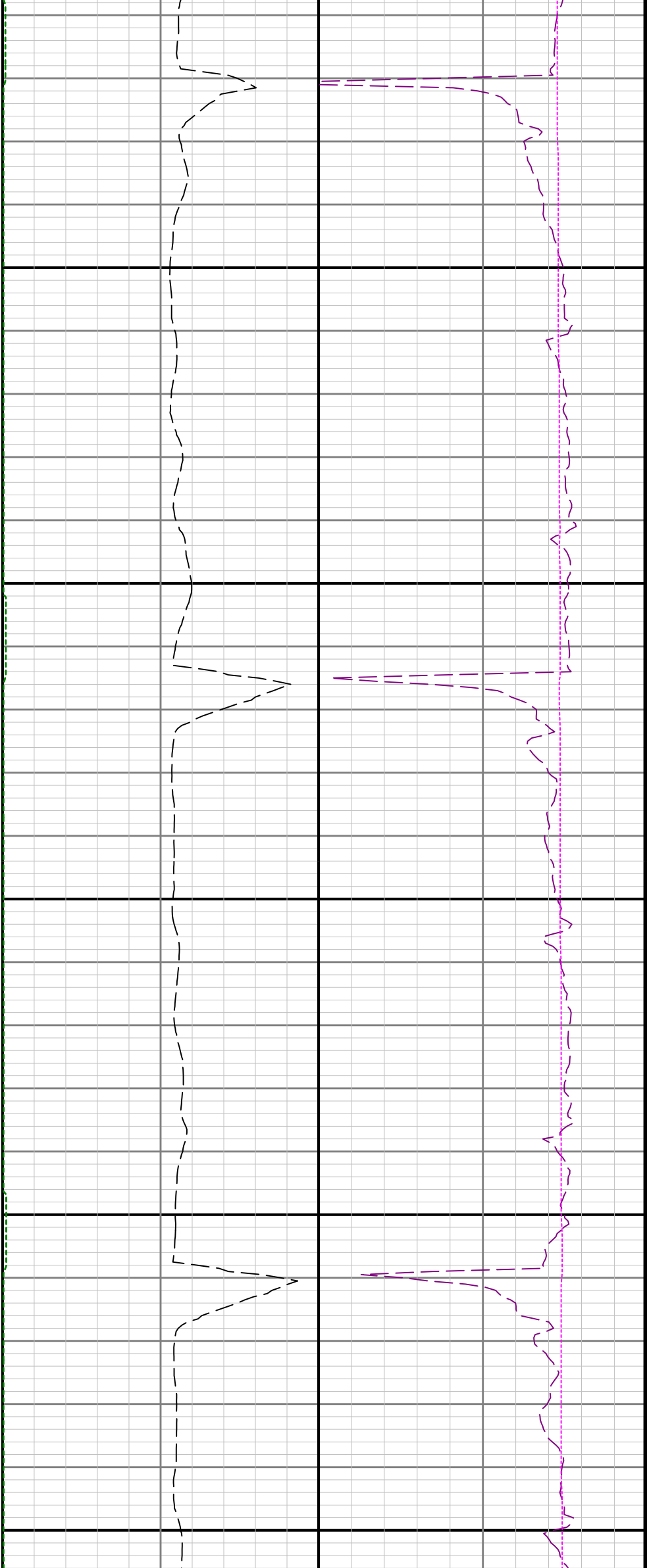


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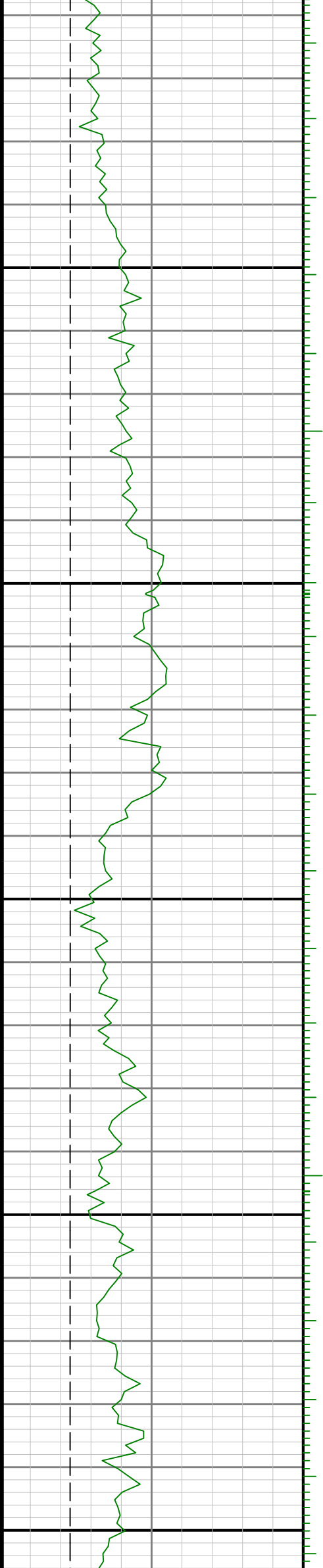






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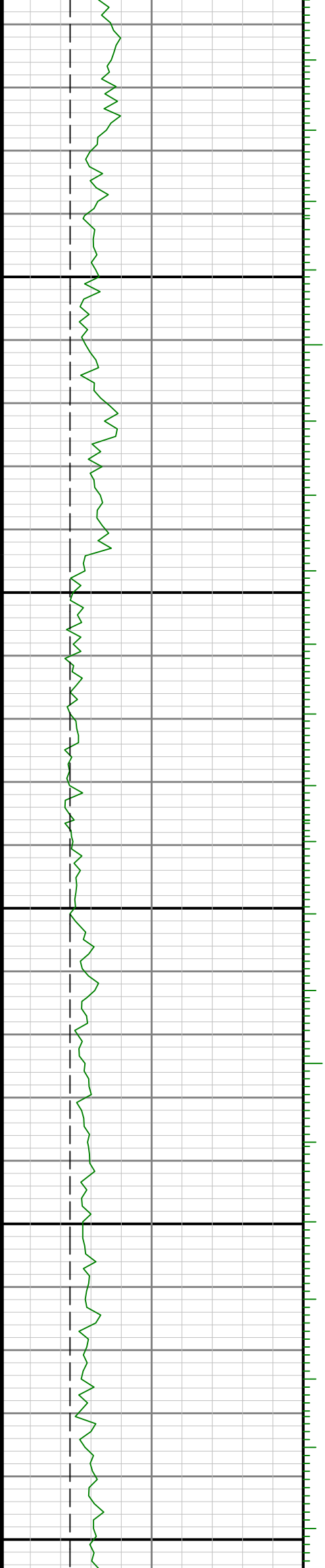


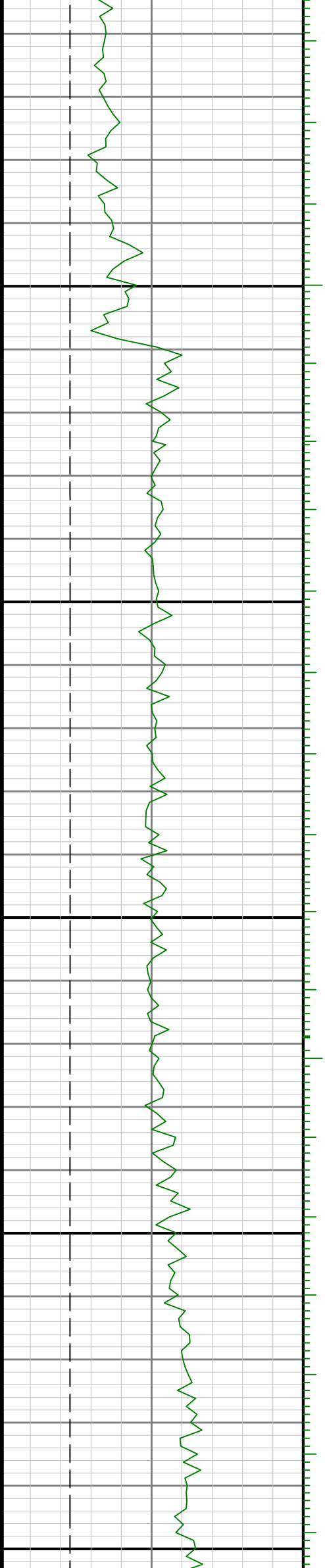


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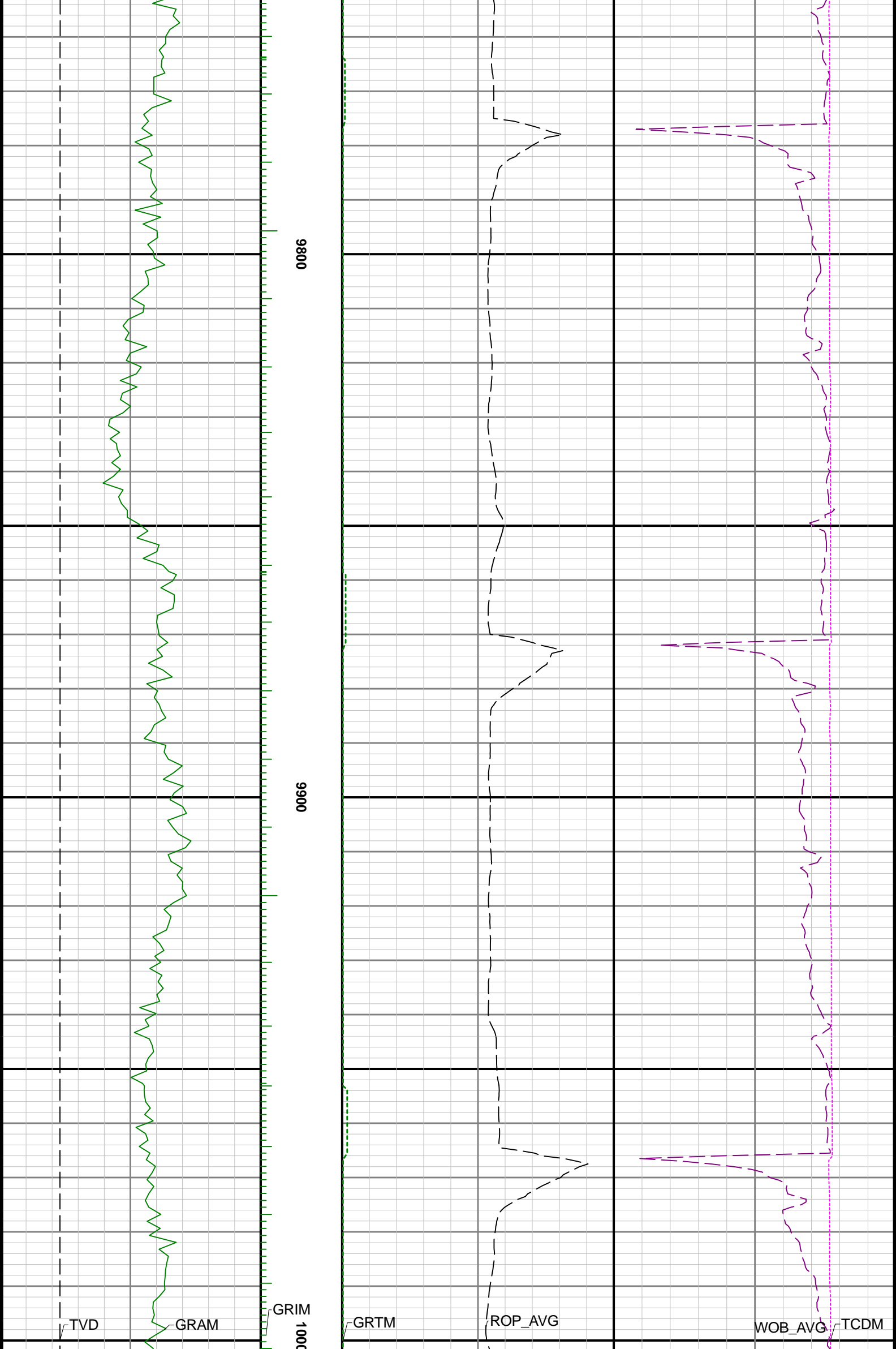


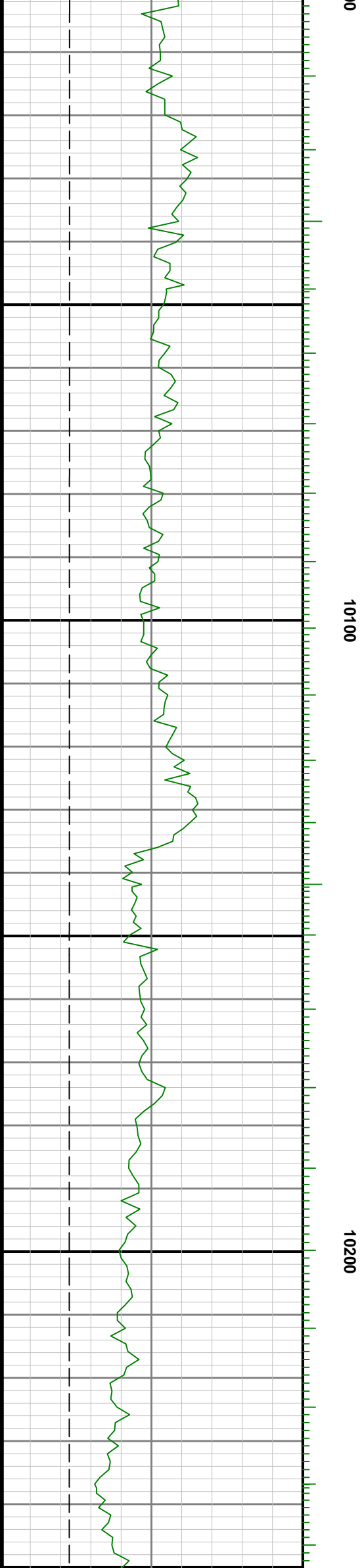


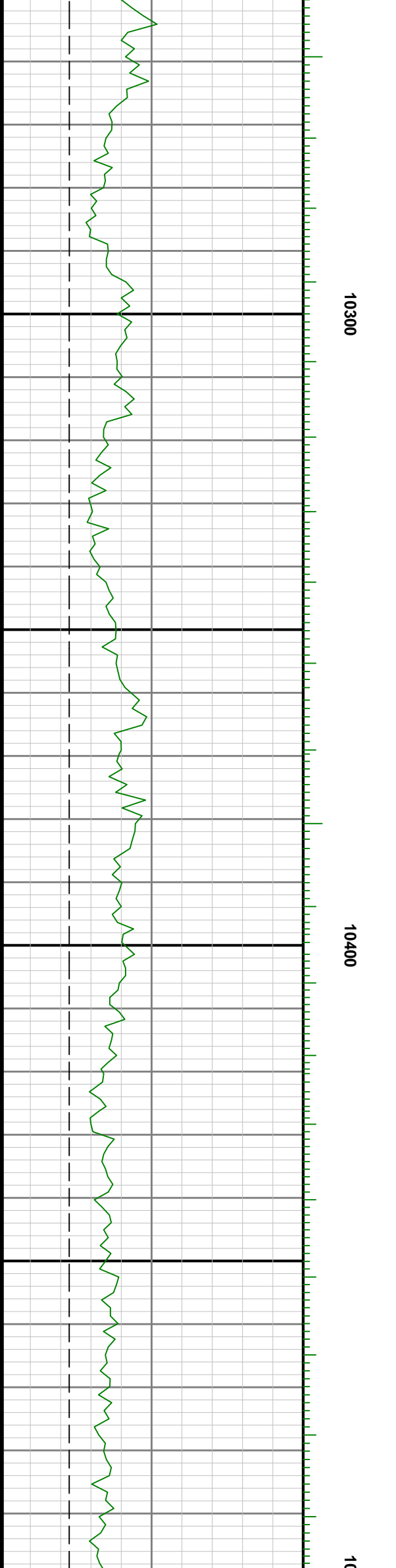
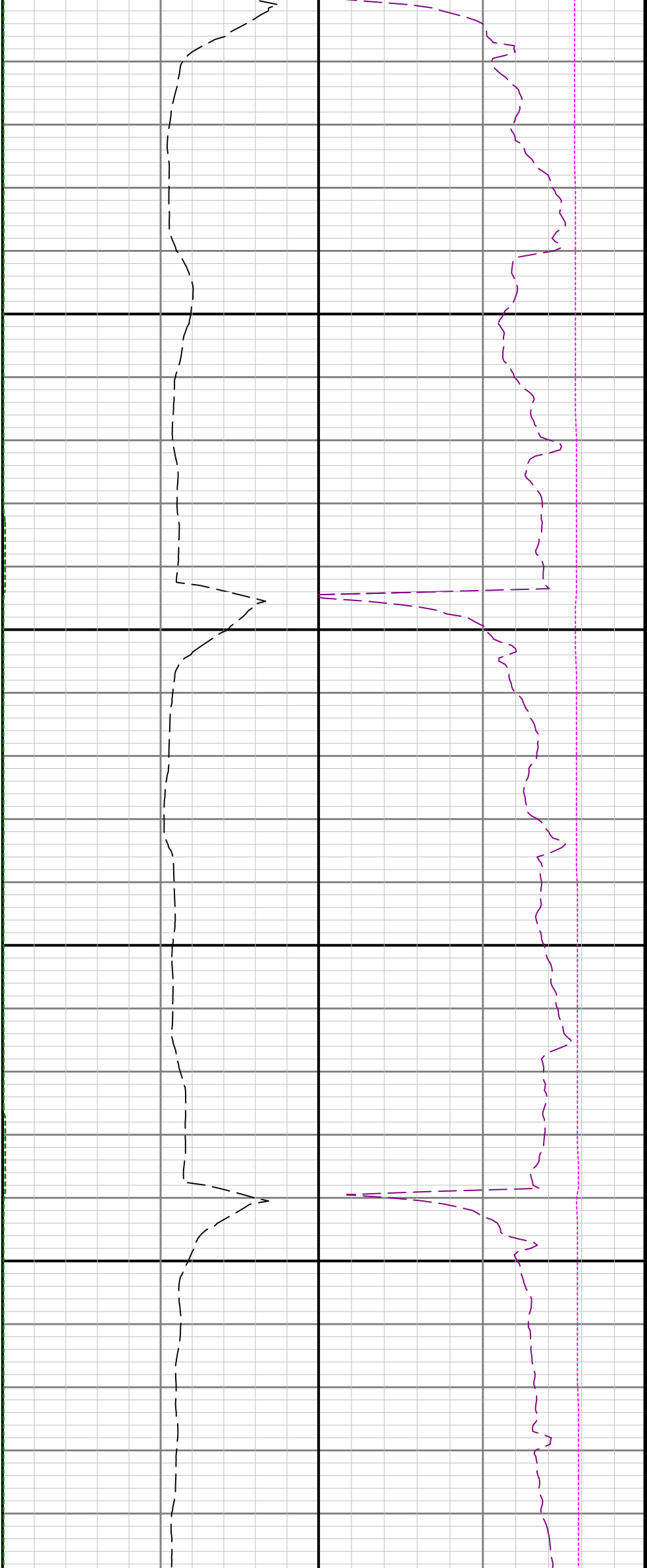
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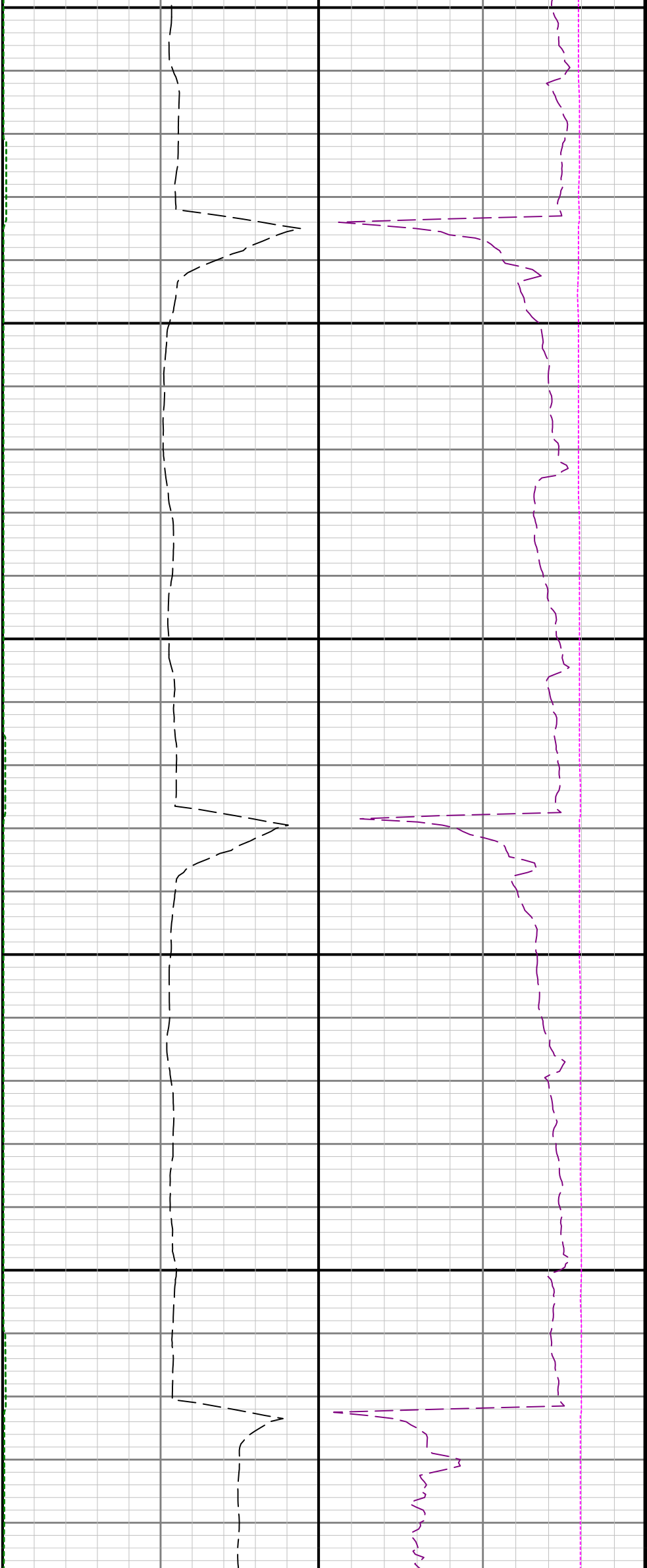
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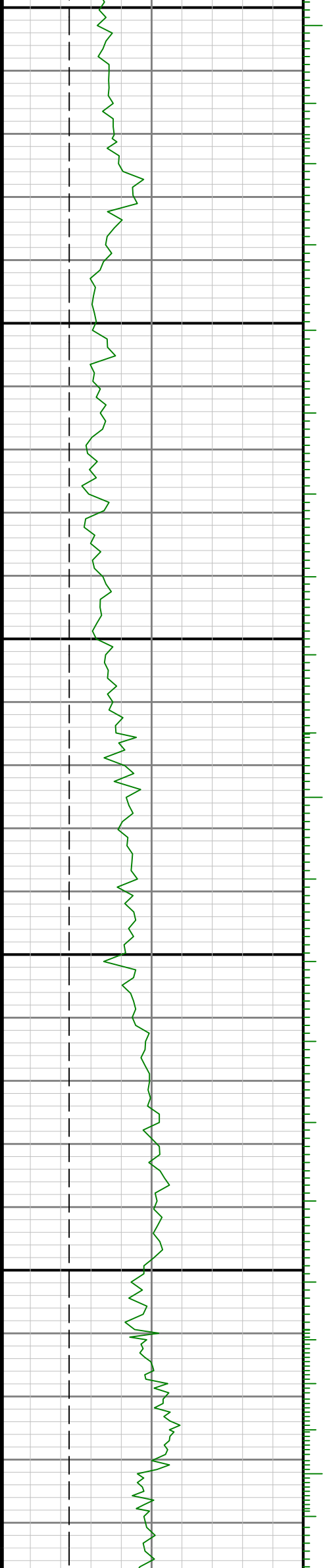


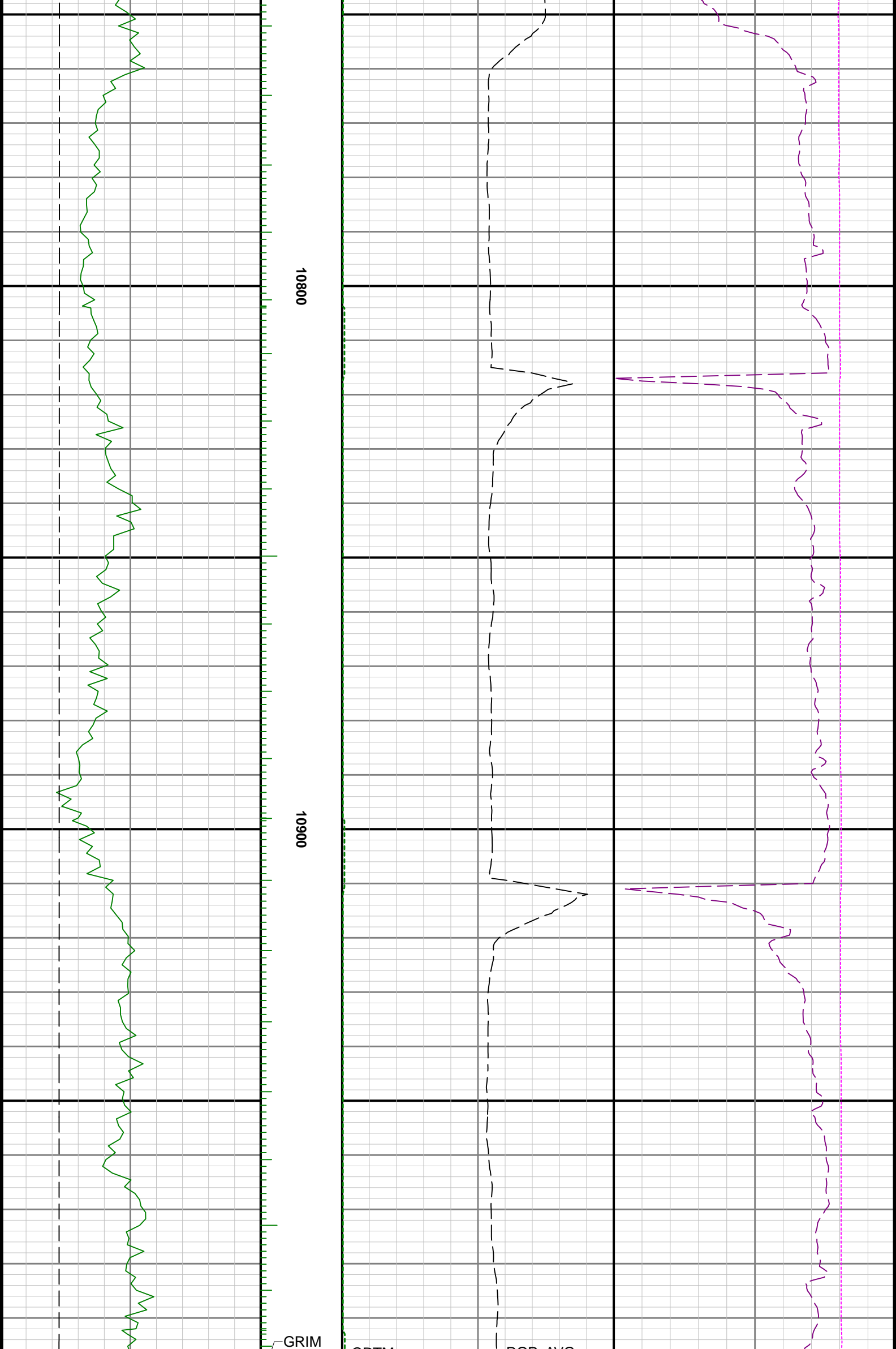


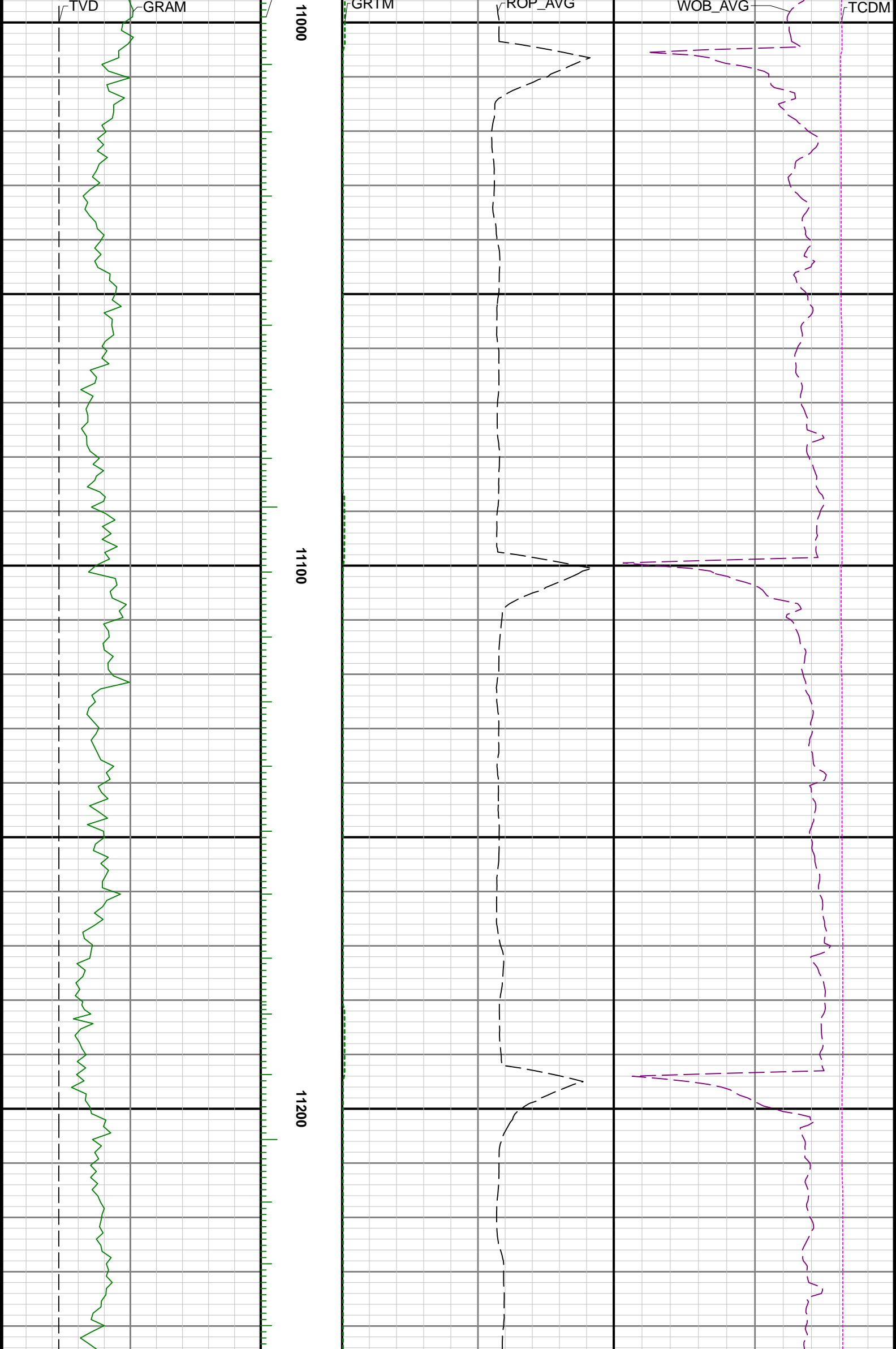
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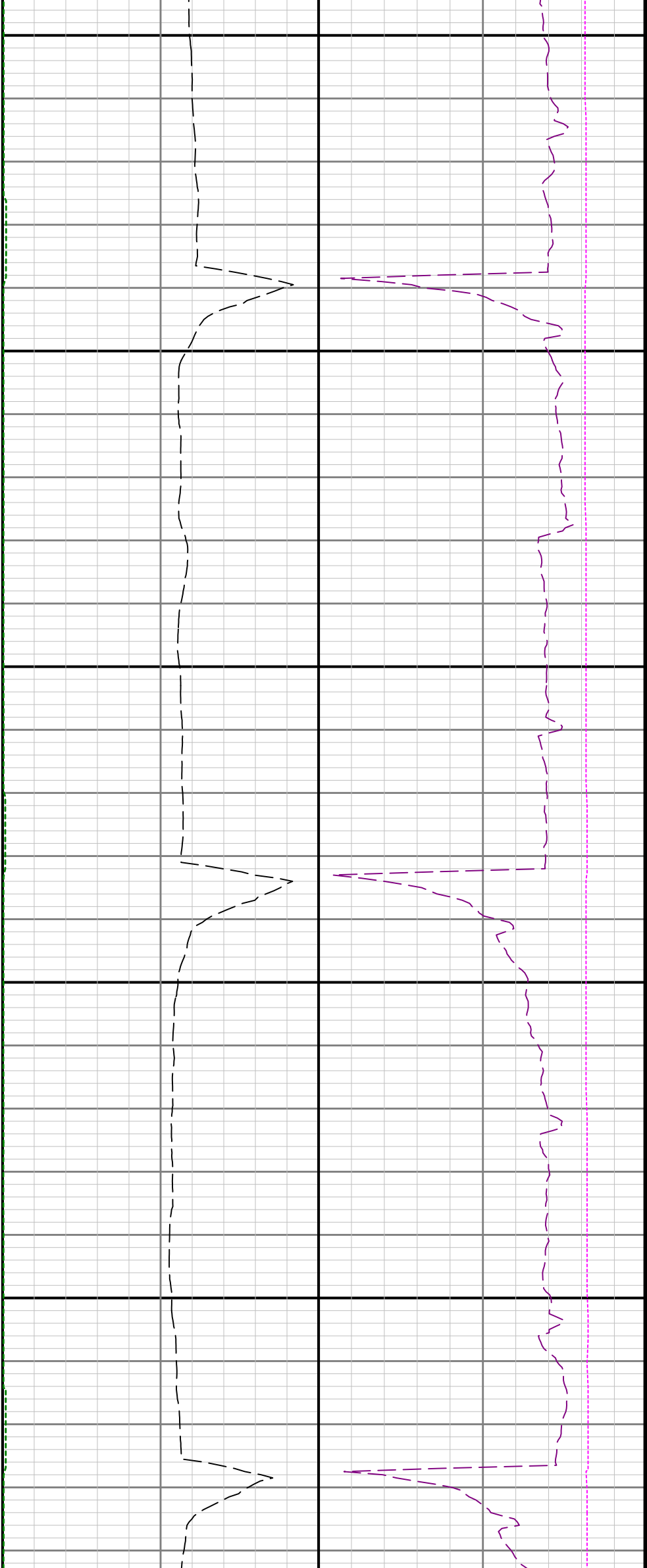
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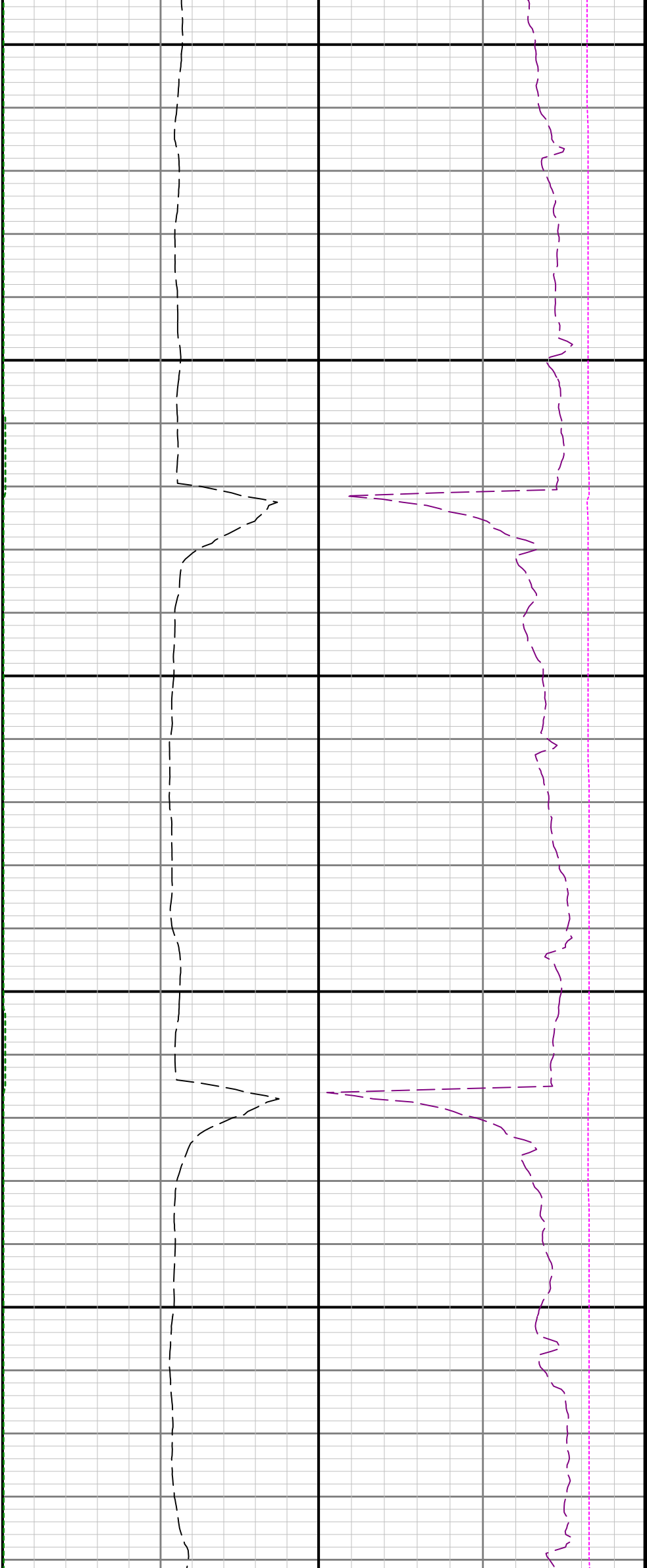






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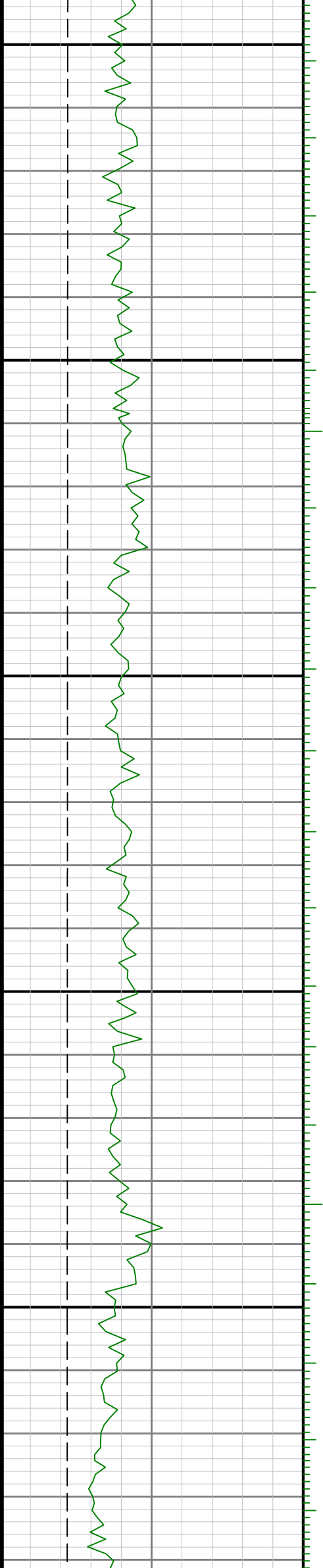
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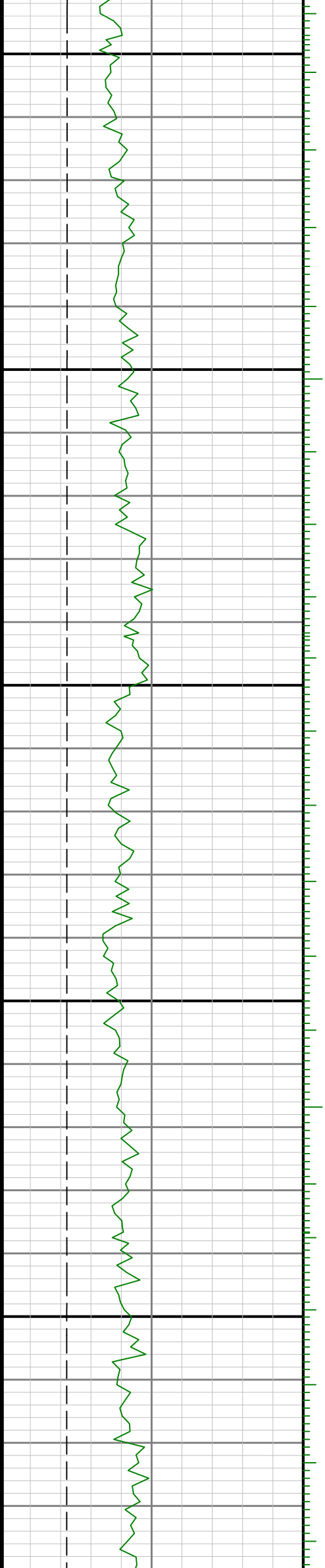
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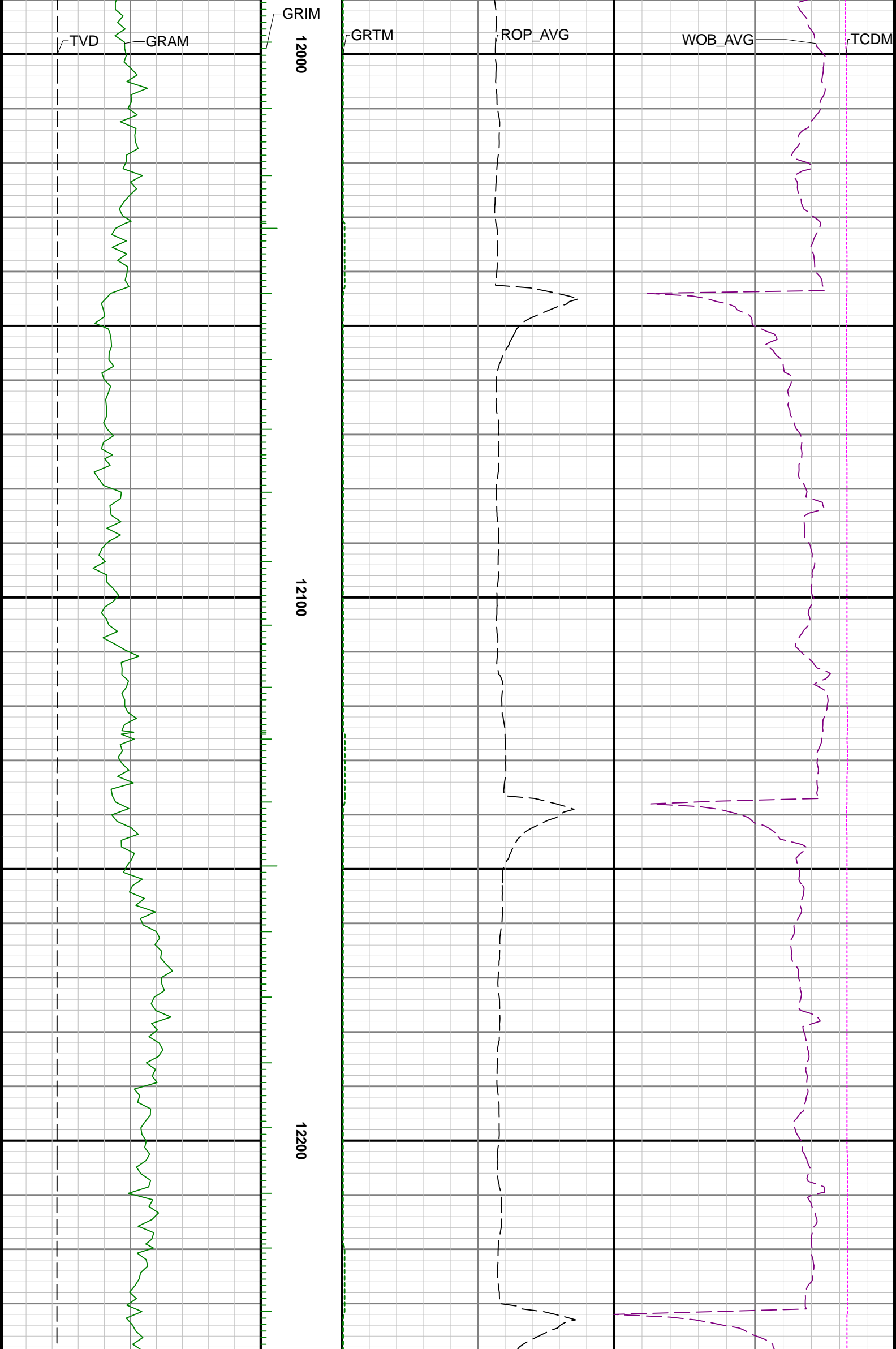


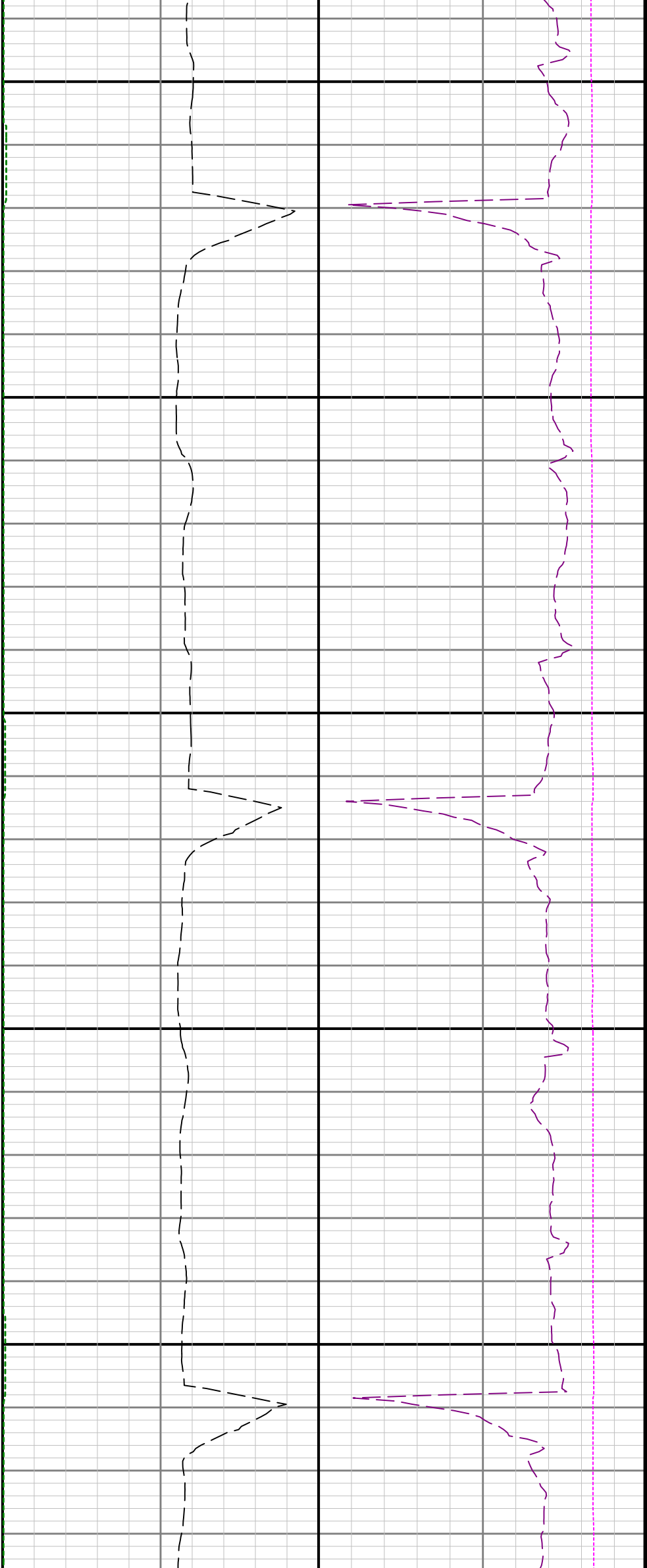


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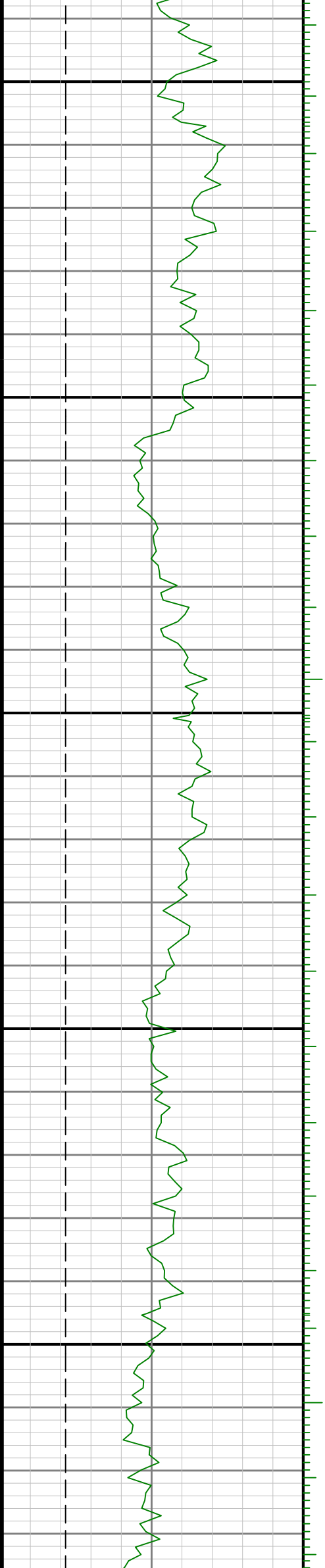


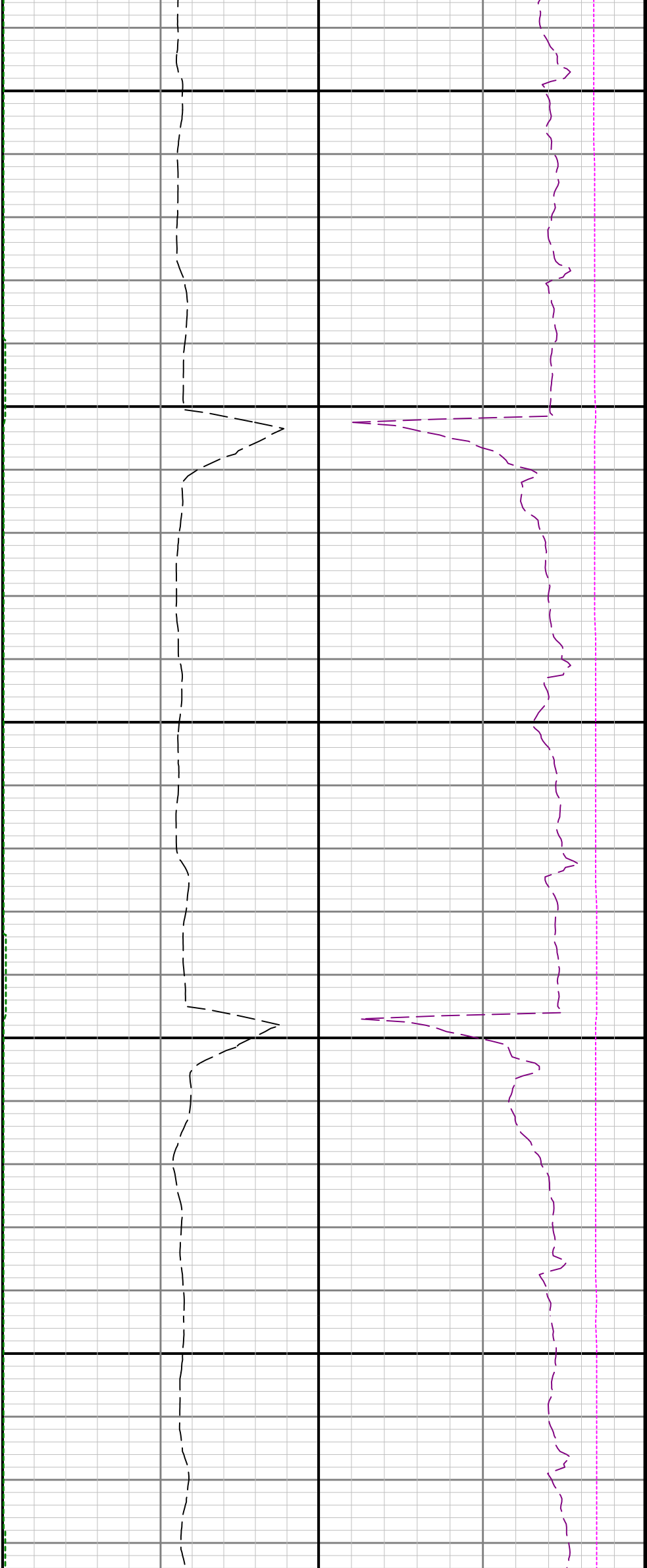


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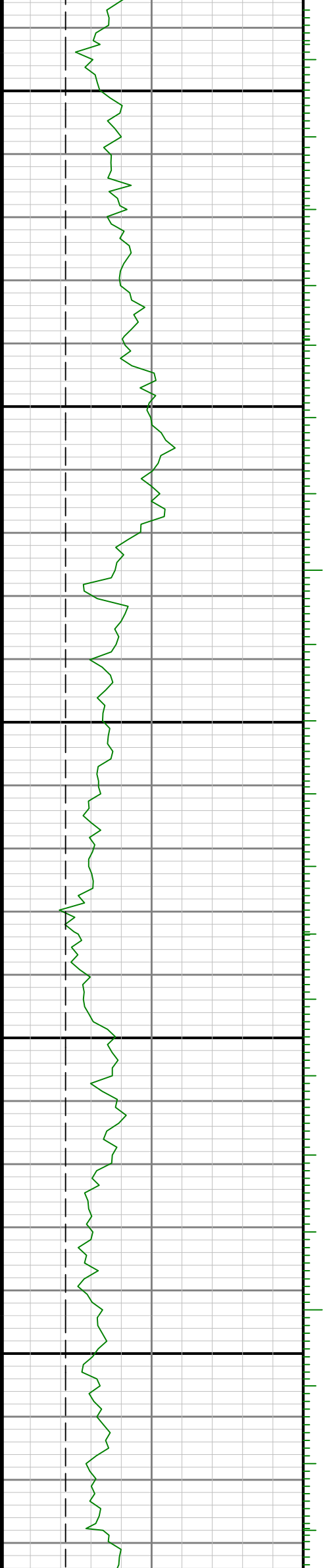
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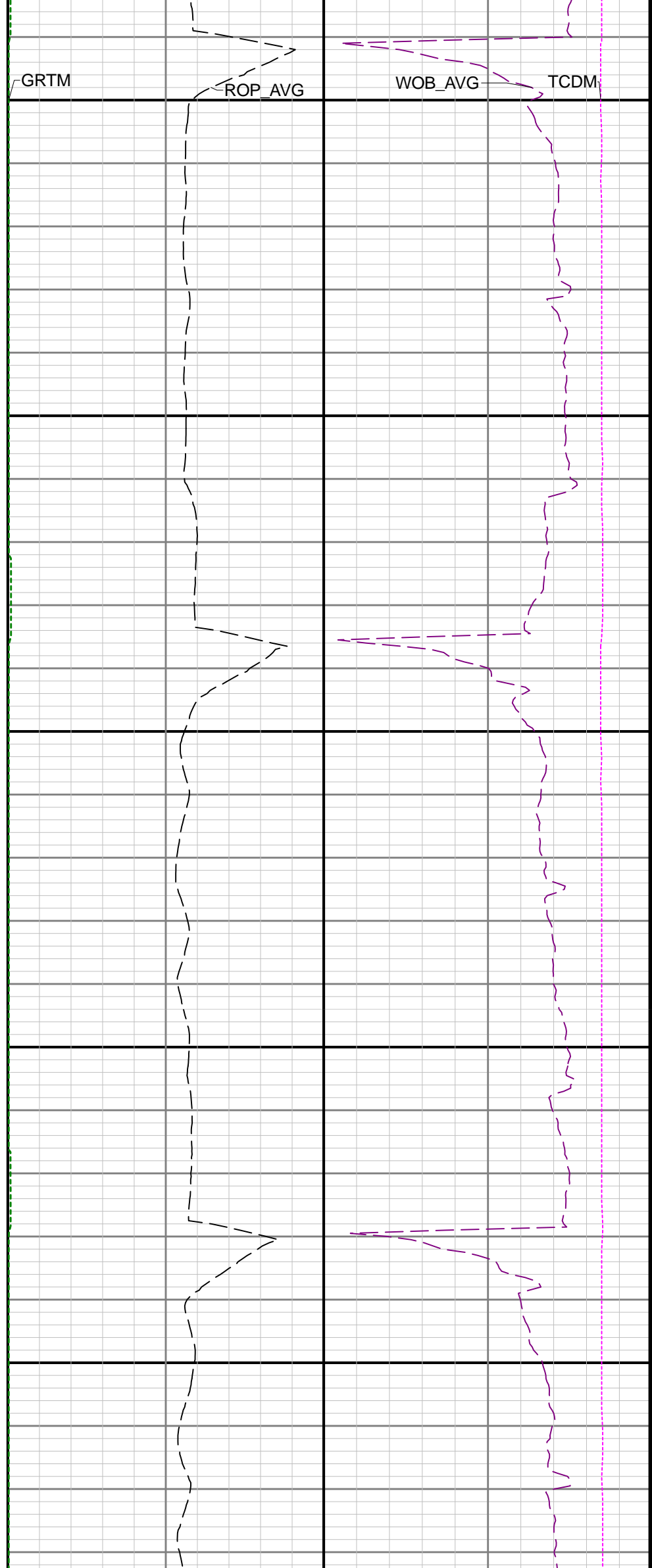
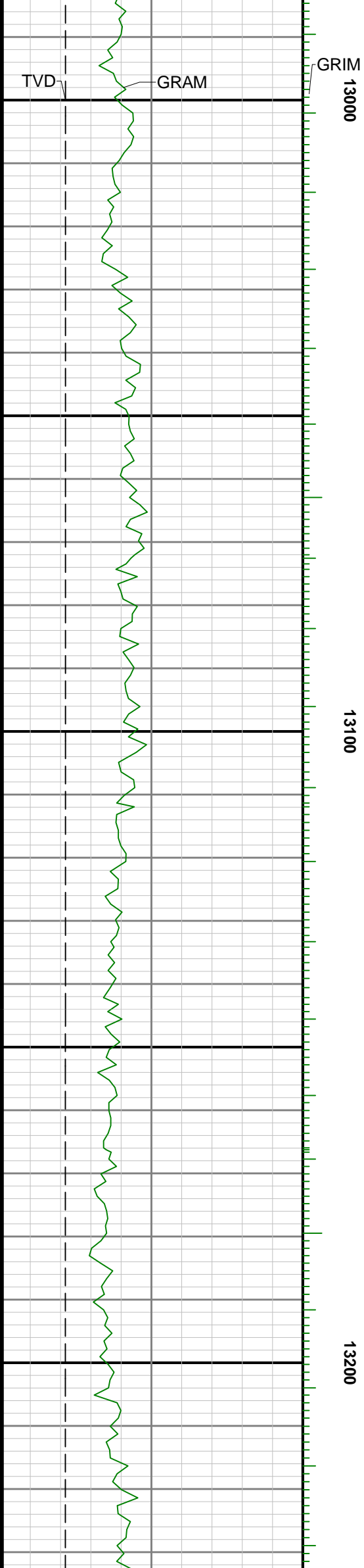




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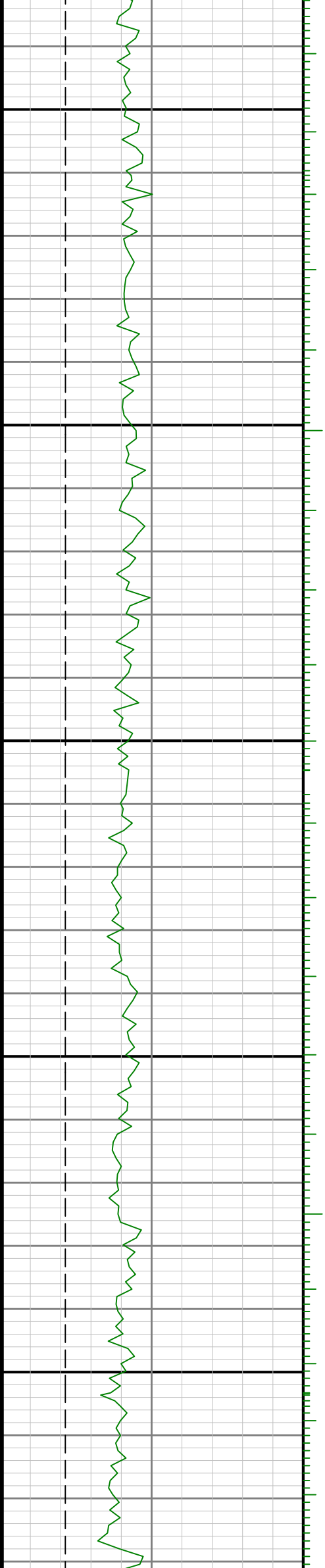


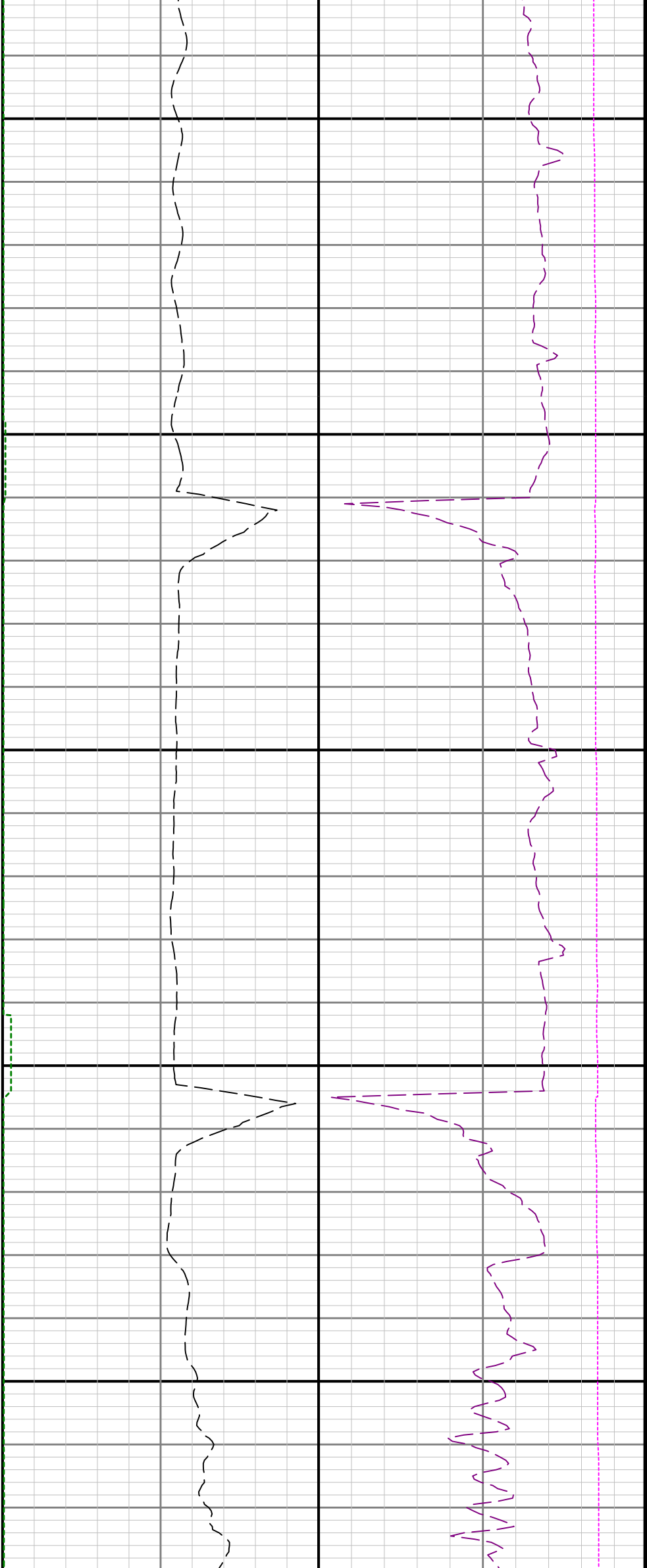




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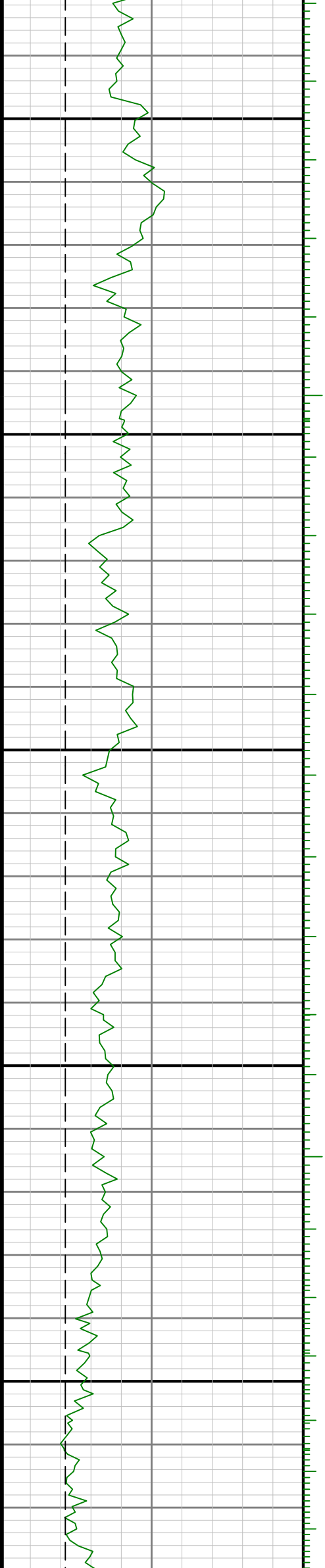




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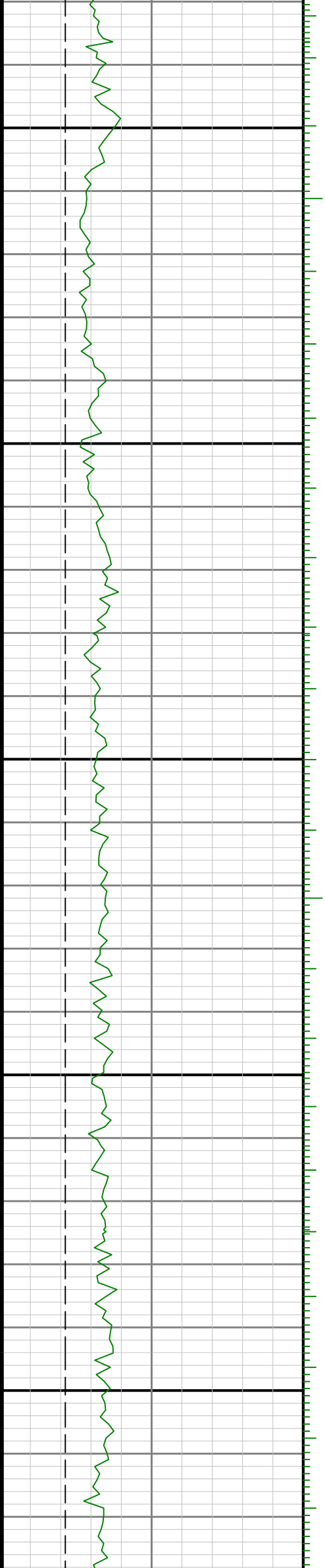
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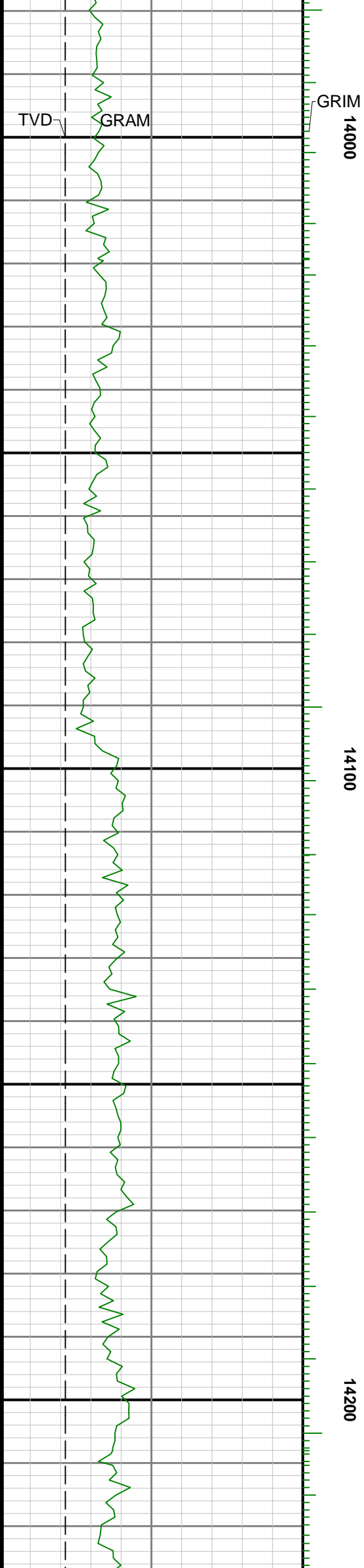




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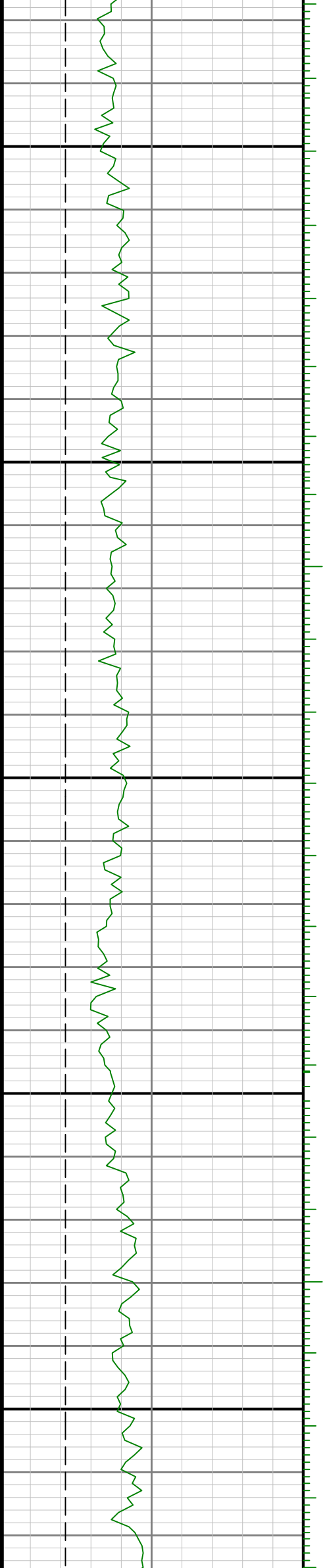






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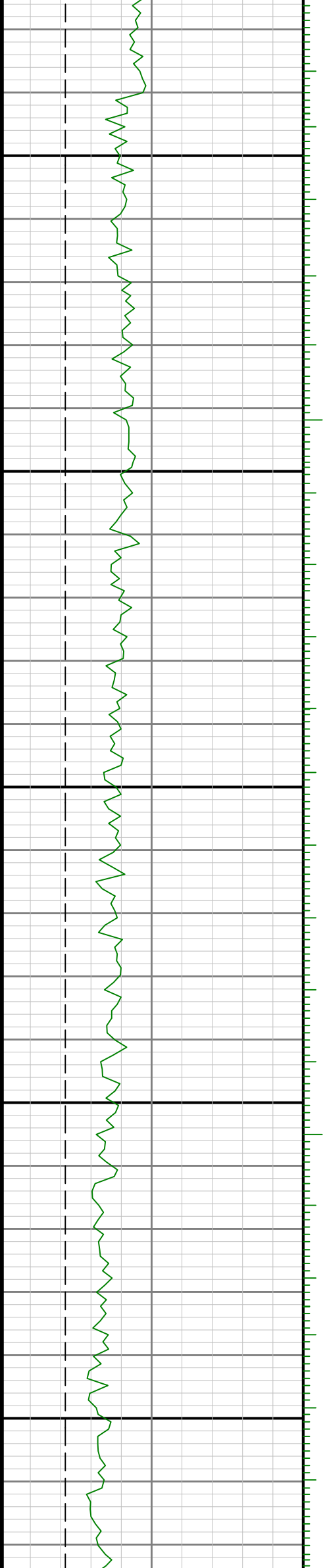


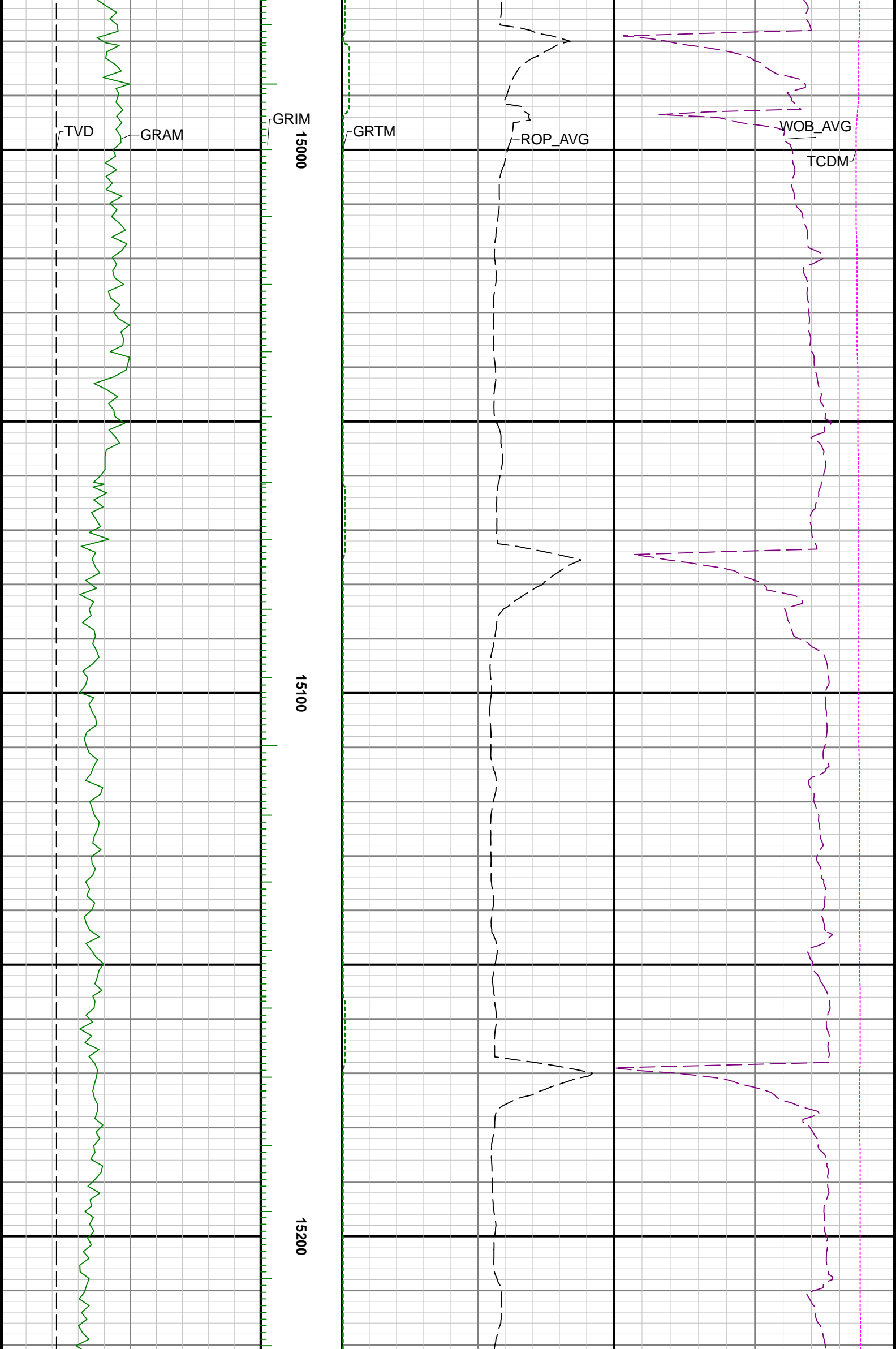


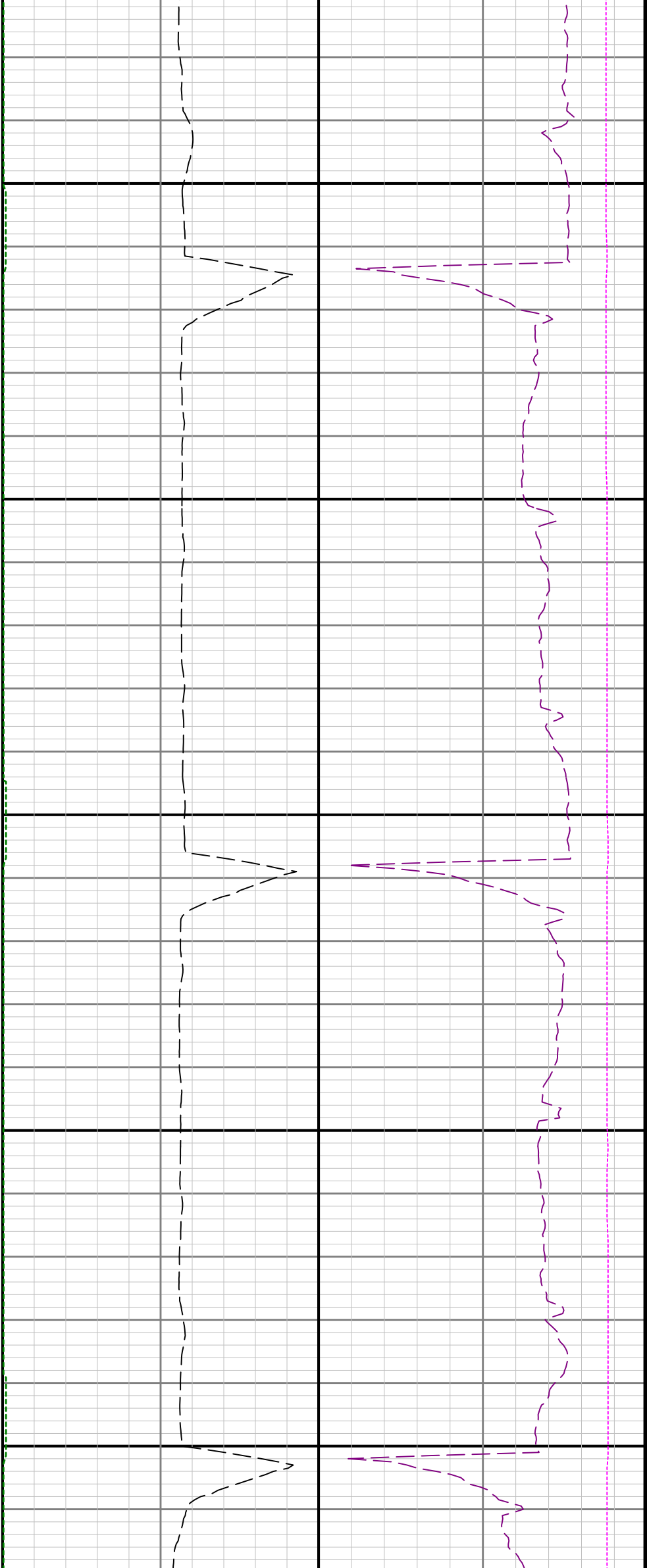
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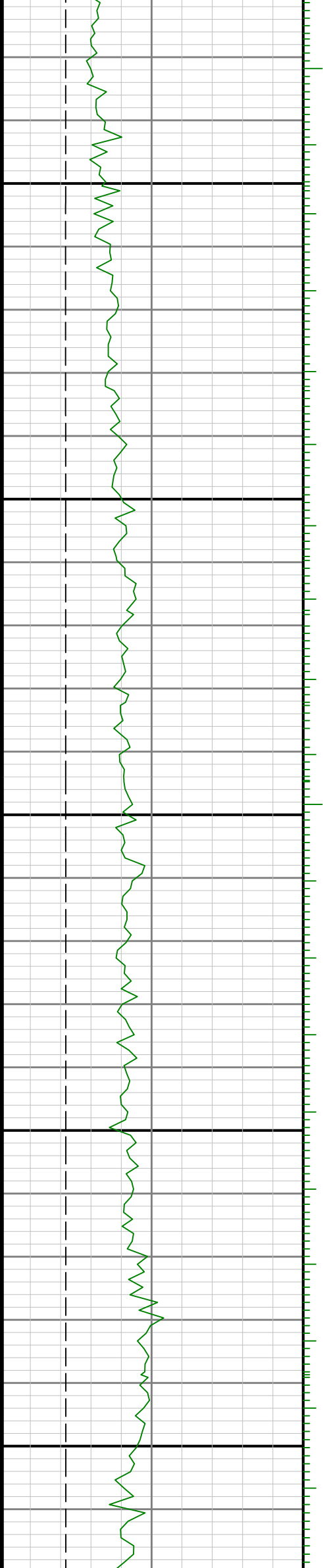


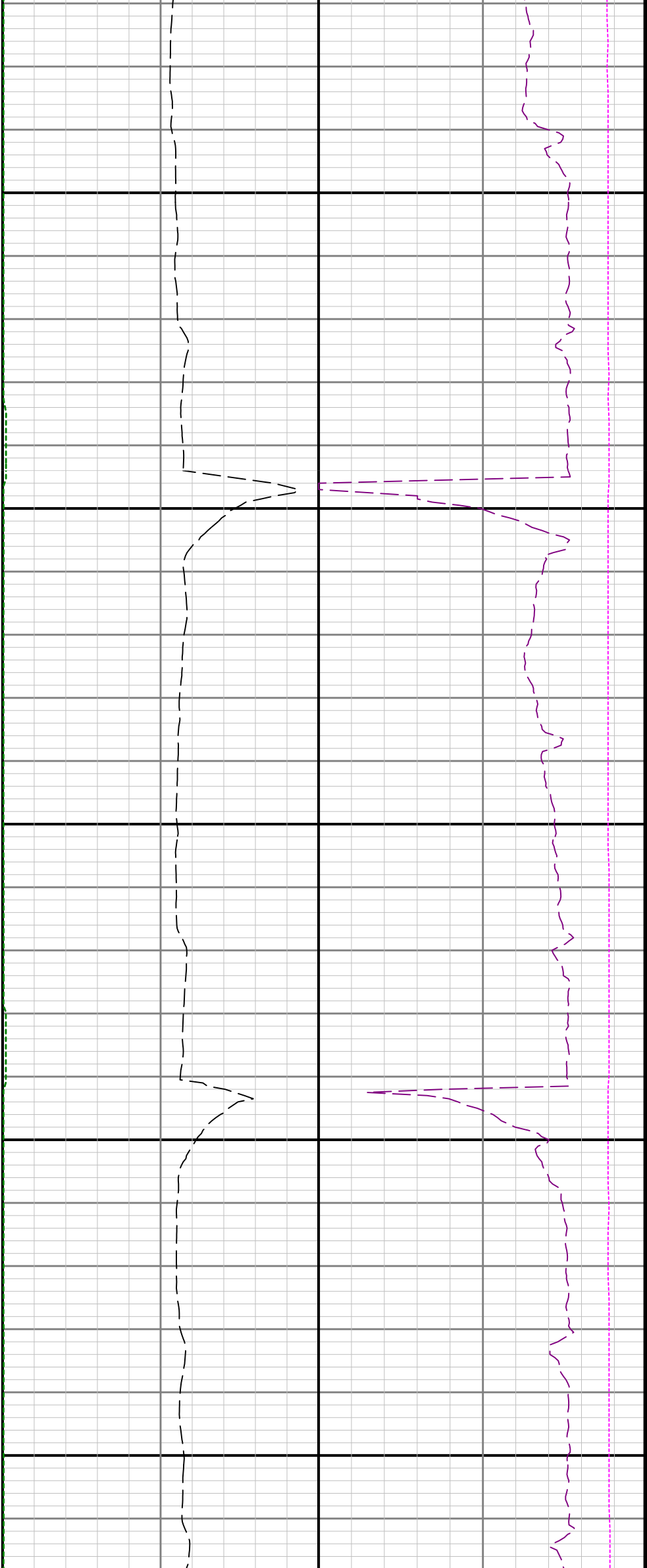




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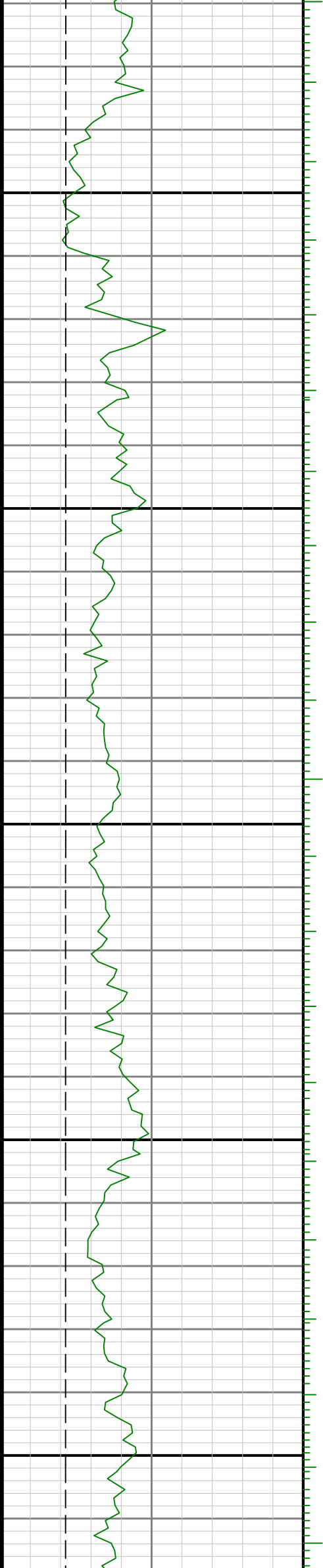


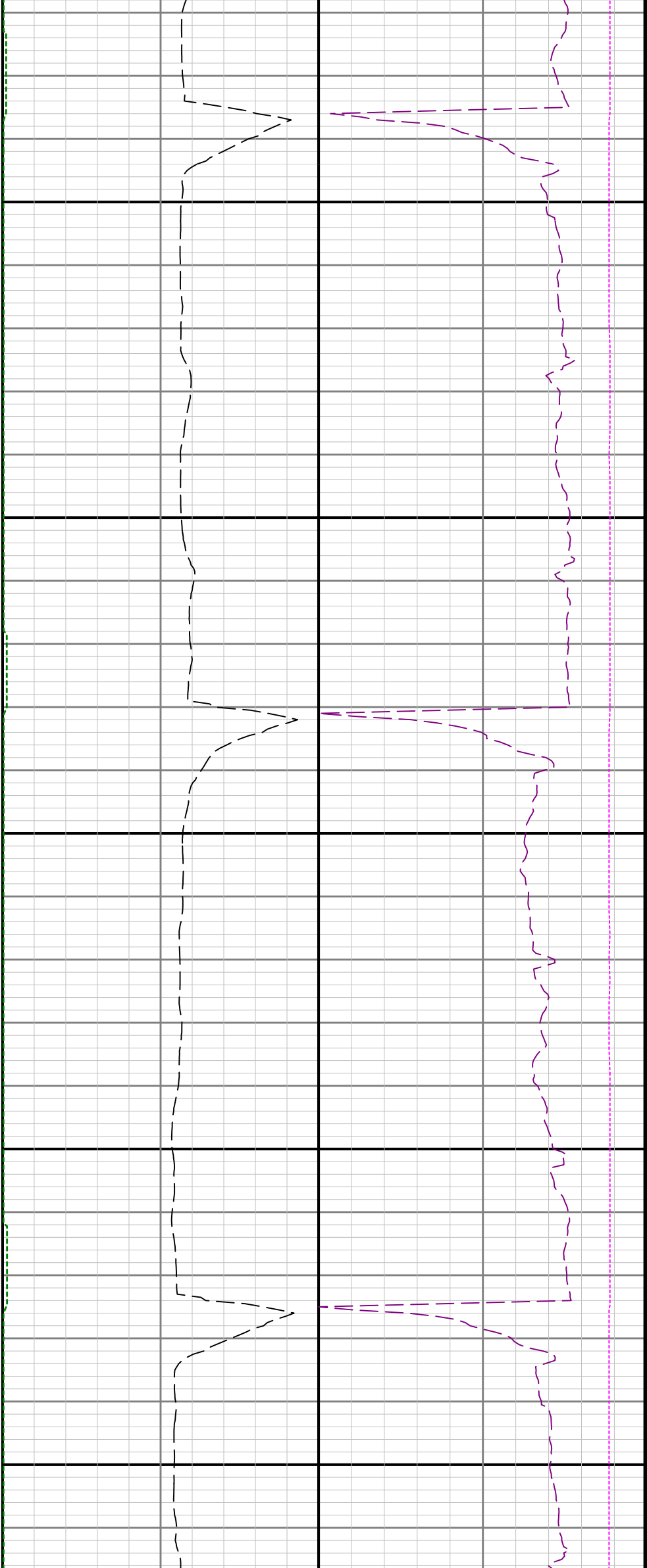


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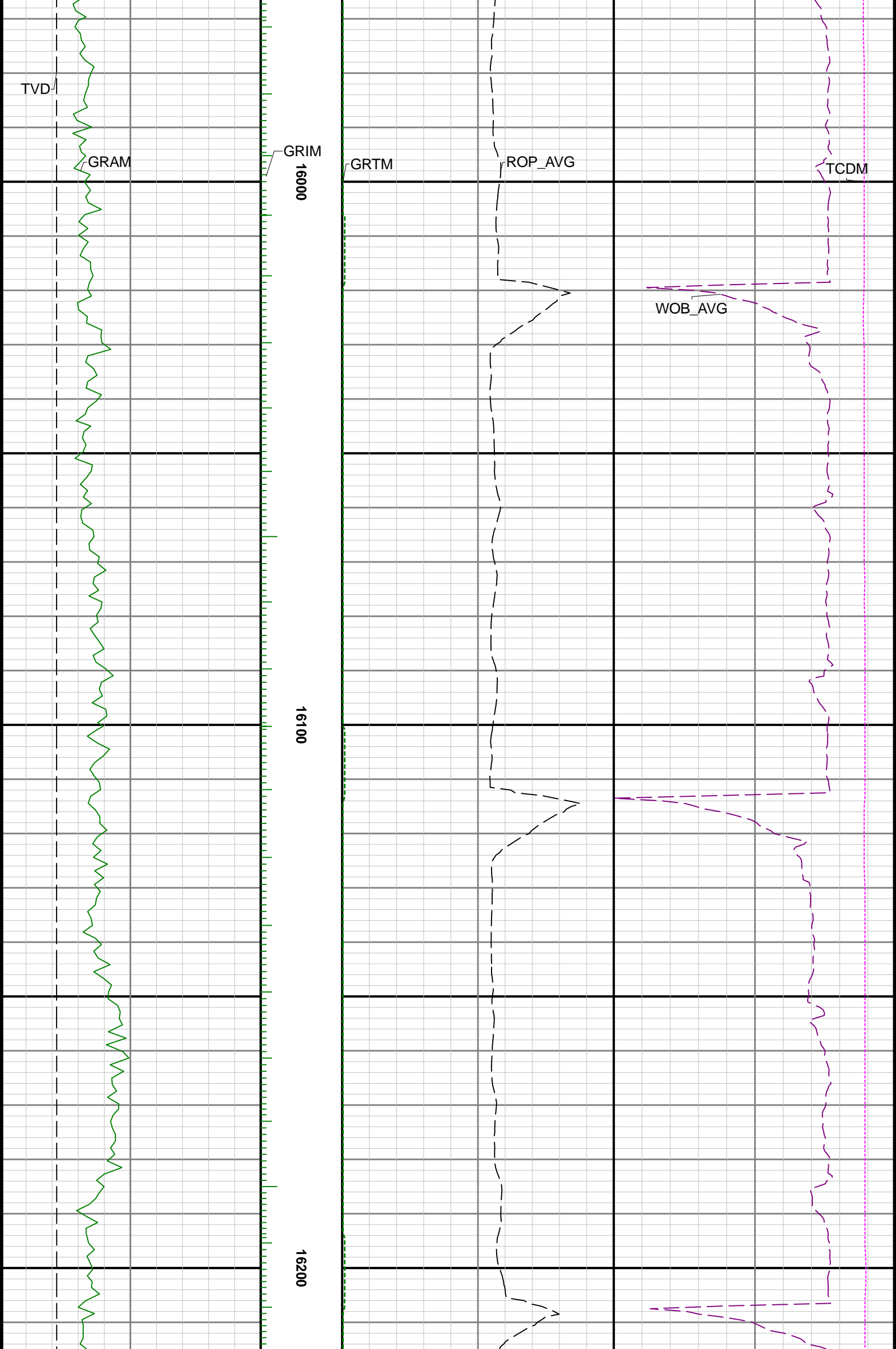
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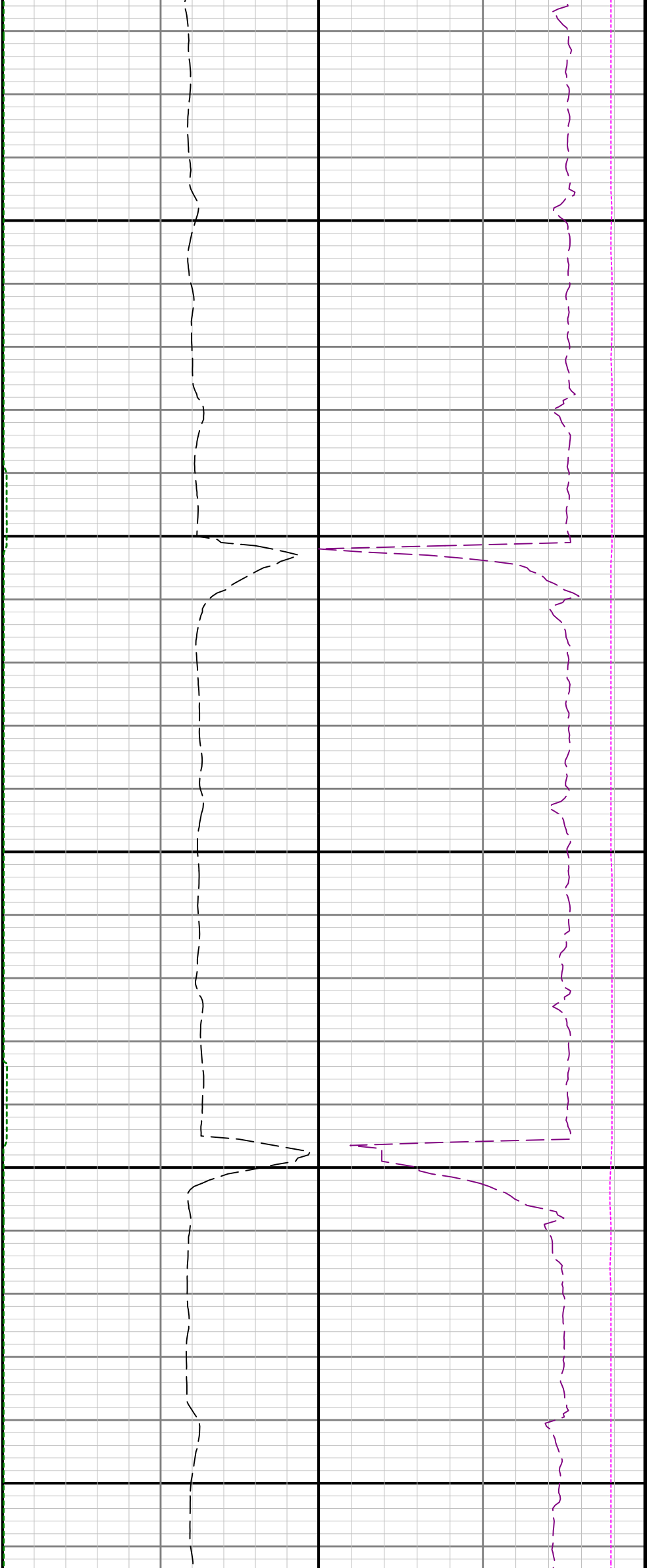




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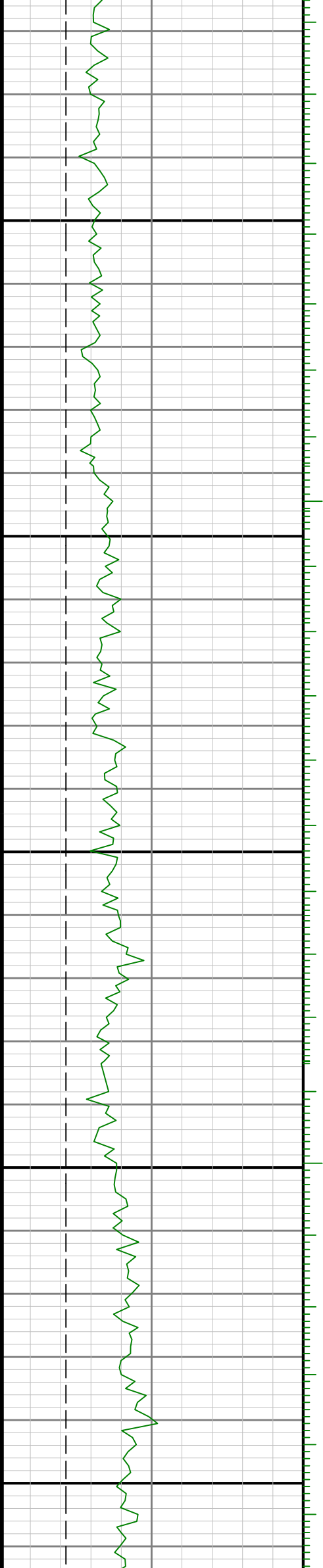
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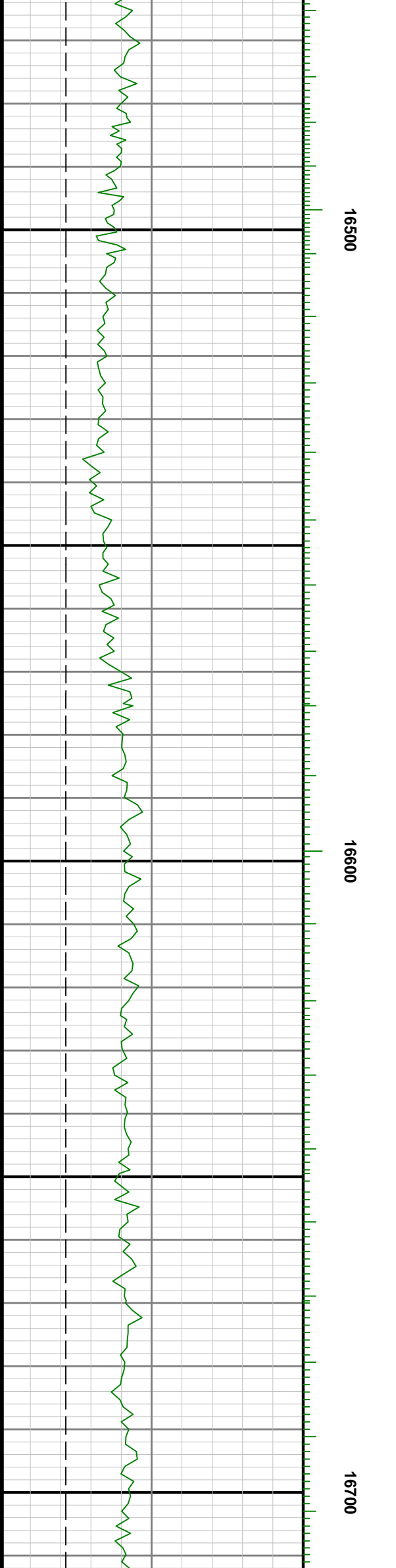
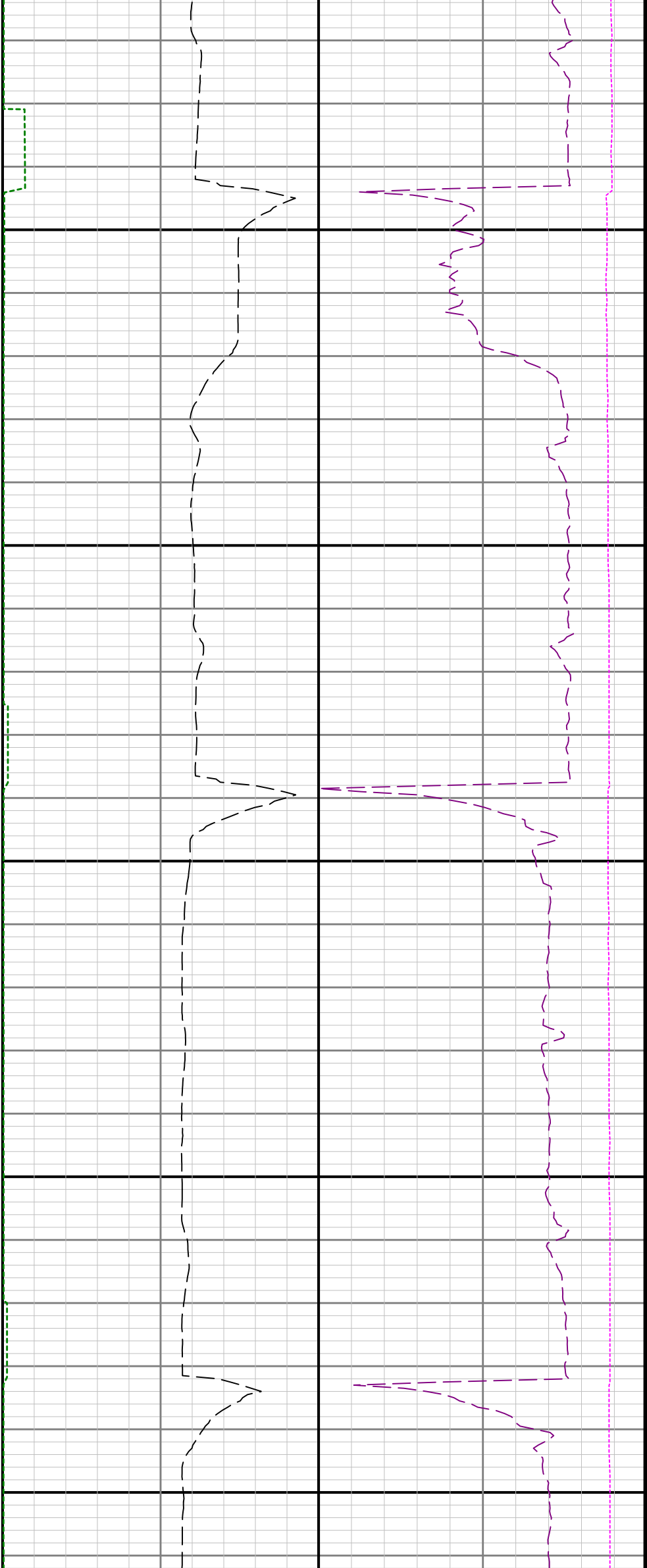




16300

16400







16800

16900

