


BAKER HUGHES a GE company				LWD MEMORY LOG			
				Gamma Ray			
Scale:		Company: Noble Energy					
1:240 MD		Well: Emmy State H25-731					
Depth Reference:		Field: Wattenberg					
Driller's Depth		County: Weld					
		State: Colorado					
		Country: United States					
Status:		Surface Location:			Other Services:		
Final Print		Latitude: 040° 11' 22.812" N					
		Longitude: 104° 36' 32.796" W			Directional		
API No: 05-123-46971-00		SEC: 25		TWN: 3N		RGE: 65W	
Job ID: 109312882							
Permanent Datum (P.D.): Ground Level		Elevation: 4805.00 ft		Elev. KB: 4835.00 ft		N/A	
Log Measured From: Rig Floor		Above P.D. 30.00 ft		Elev. DF: 4805.00 ft		Elev. GL:	
Dates				Magnetic Field Reference			
Interval Drilled							
Date From: 2018-09-22		Top: (ft) 1947.00		Azi Reference North: Grid		Dip Angle: (deg) 66.69	
Date To: 2018-09-25		Bottom: (ft) 17293.00		Total Magnetic Field Strength: (nT)		52109	
Spud Date: 2018-09-21				Mag to Reference North Correction: (deg)		7.51	
Borehole Record				Casing Record			
Hole Size (in)		From (ft)		To (ft)		Size (in)	
13.500		30.00		1947.00		9.625	
8.500		1947.00		17293.00		36.00	
						30.00	
						1937.00	
Mud Record				Deviation Record			
Type		From (ft)		To (ft)		Hole Size (in)	
Oil Based Mud		1947.00		17293.00		8.500	
						15346.00	
						0.03 75.49	
						89.89 359.94	

Service and Tool Mnemonics

Mnemonic	Name	Description
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_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 1947 to 17293 feet MD (1947 to 6898 feet TVD).
- 3
- The Gamma Ray Apparent (GRAM) data is presented 0 to 300 API, per the customer's request.

Remarks

Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	3331.00	8.500	1	The interval from 3271 to 3318 feet MD (3362 to 3310 feet TVD) does not have gamma ray data, due to a failed downlink terminating power to the rotary steerable assembly.
2	3422.00	8.500	1	The interval from 3382 to 3409 feet MD (3373 to 3400 feet TVD) does not have gamma ray data, due to a failed downlink terminating power to the rotary steerable assembly.
3	3556.00	8.500	1	The interval from 3519 to 3543 feet MD (3509 to 3533 feet TVD) does not have gamma ray data, due to a failed downlink terminating power to the rotary steerable assembly.
4	3739.00	8.500	1	The interval from 3710 to 3726 feet MD (3698 to 3713 feet TVD) does not have gamma ray data, due to a failed downlink terminating power to the rotary steerable assembly.
5	5313.00	8.500	1	The interval from 5288 to 5300 feet MD (5256 to 5268 feet TVD) does not have gamma ray data, due to a failed downlink terminating power to the rotary steerable assembly.
6	6231.00	8.500	1	The interval from 6206 to 6218 feet MD (6165 to 6177 feet TVD) does not have gamma ray data, due to a failed downlink terminating power to the rotary steerable assembly.
7	9681.00	8.500	1	The interval from 9650 to 9668 feet MD (6878 feet TVD) does not have gamma ray data, due to a failed downlink terminating power to the rotary steerable assembly.
8	17293.00	8.500	1	The interval from 17280 to 17293 feet MD (6898 feet TVD) was not logged after being drilled due to sensor to bit offset at well TD.



Company

Well

Interval

Created

Noble Energy

Emmy State H25-731

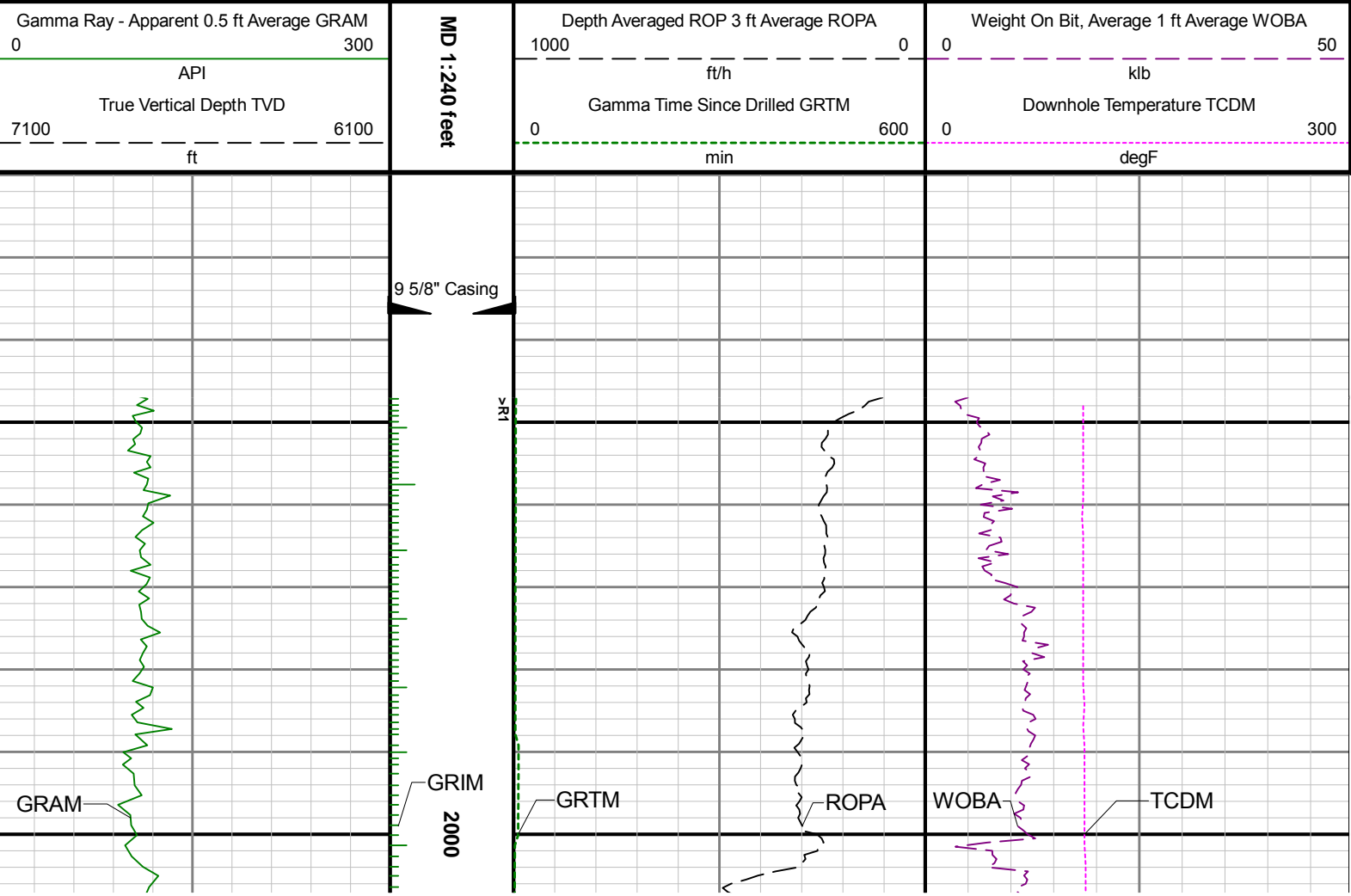
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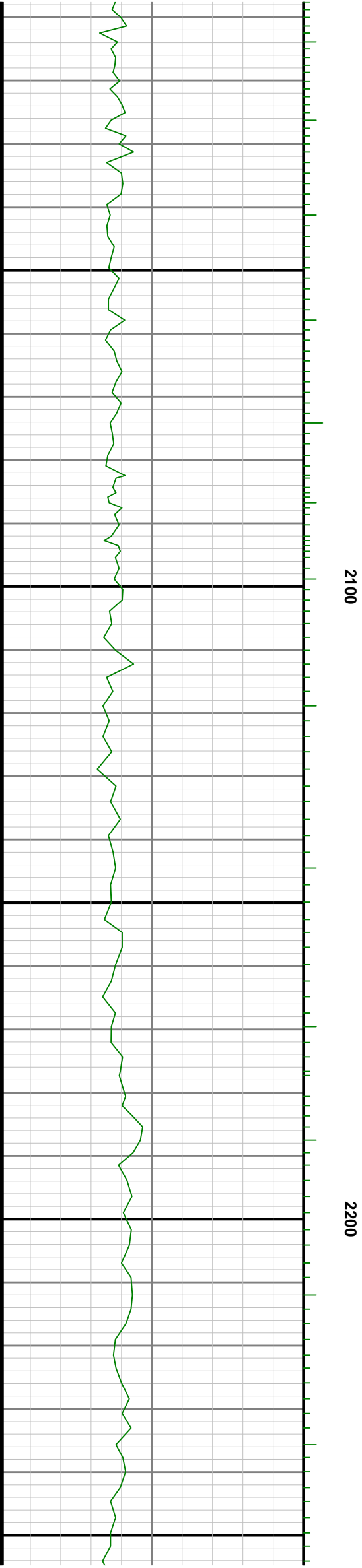
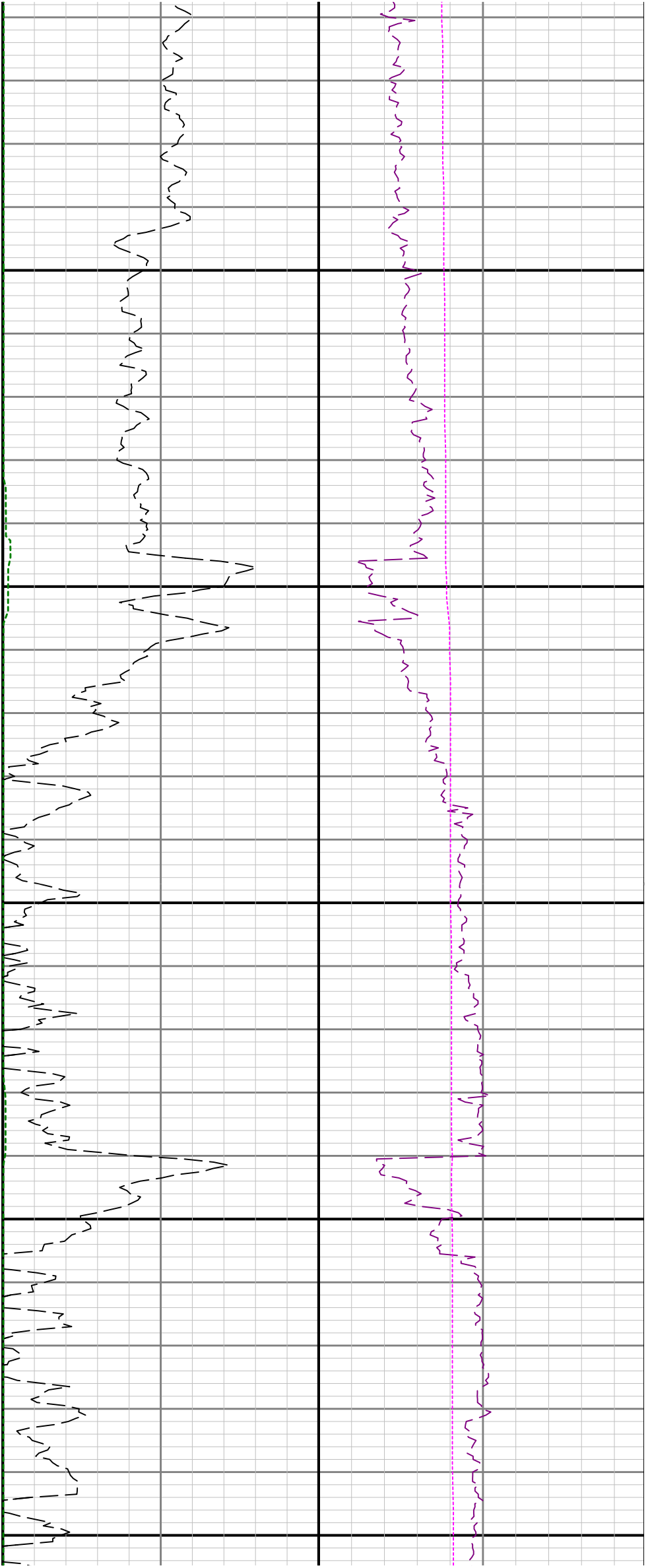
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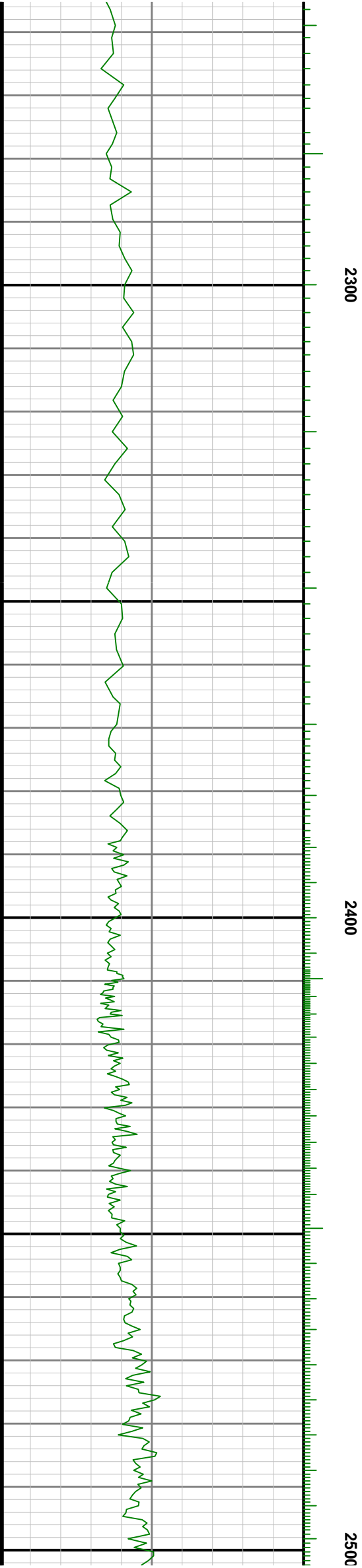
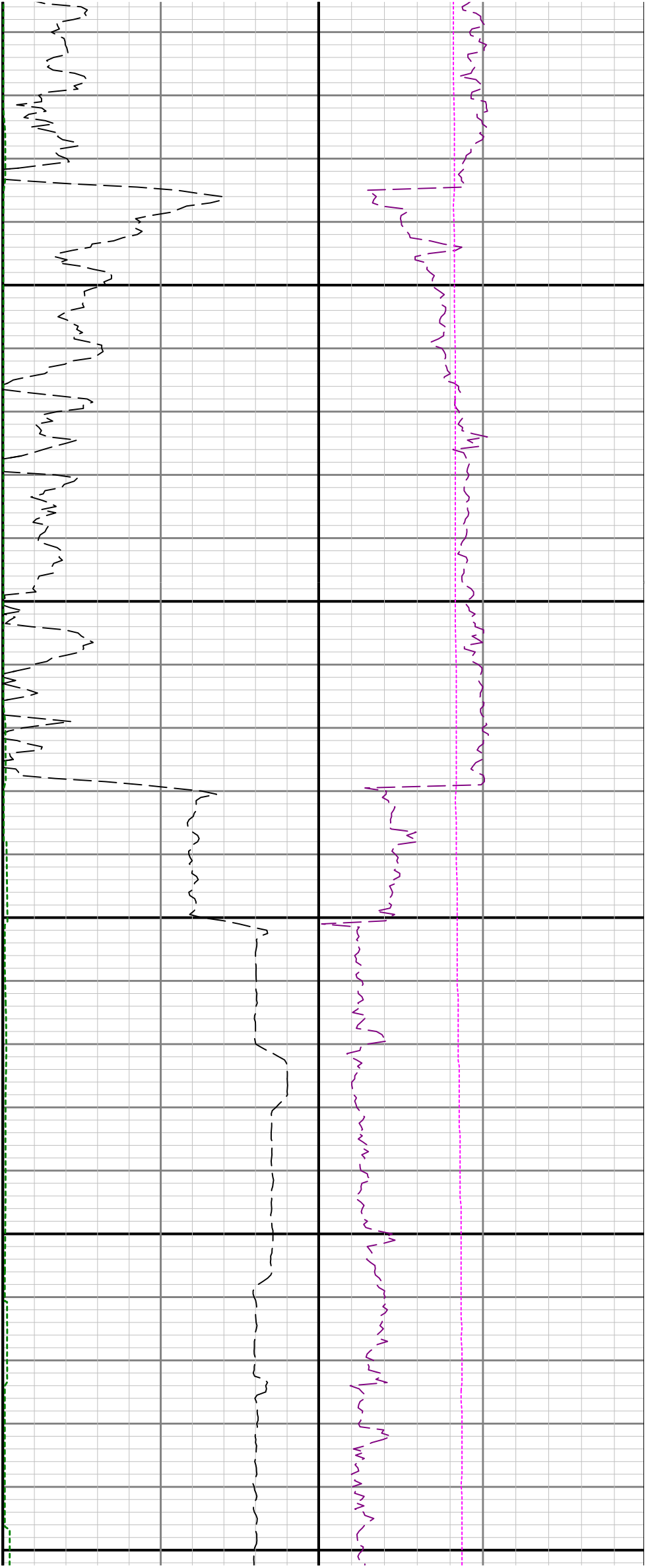
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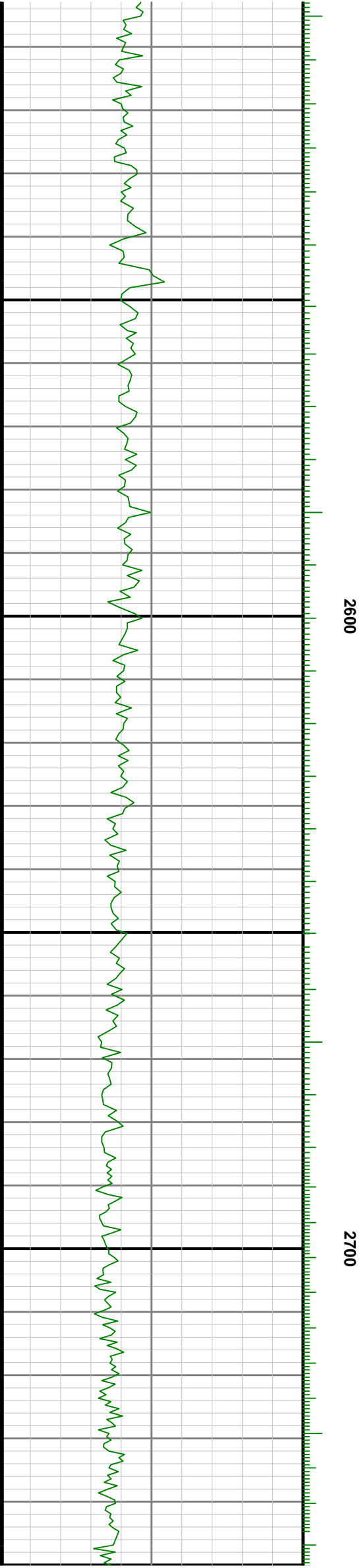
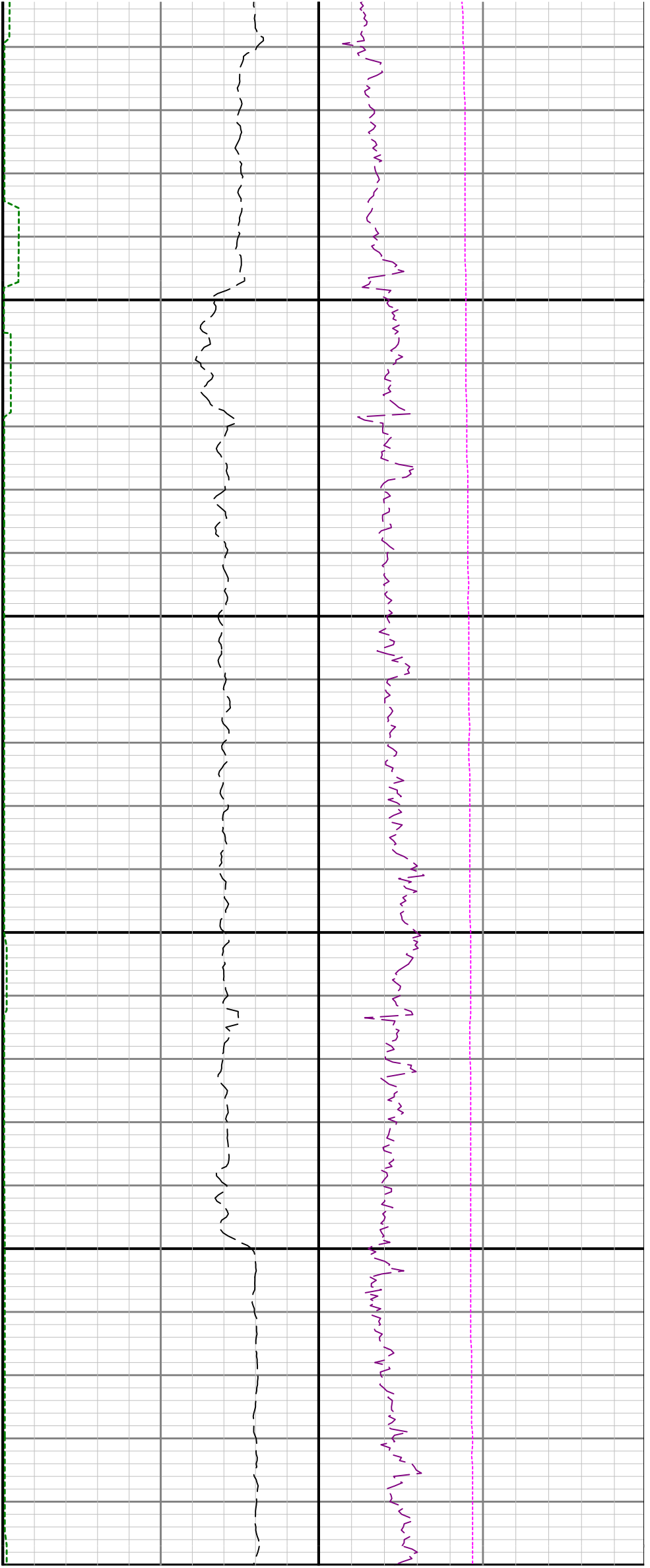
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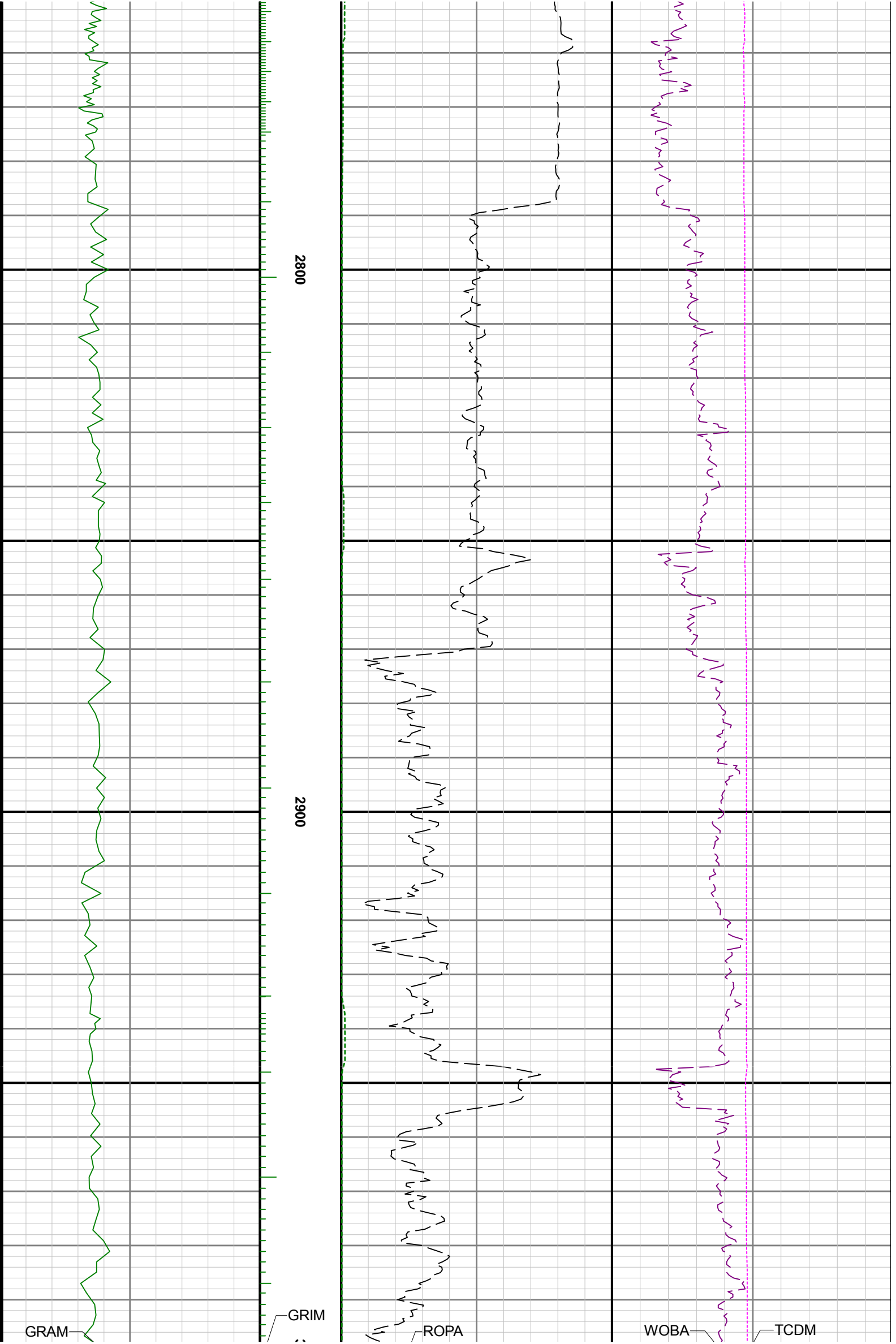
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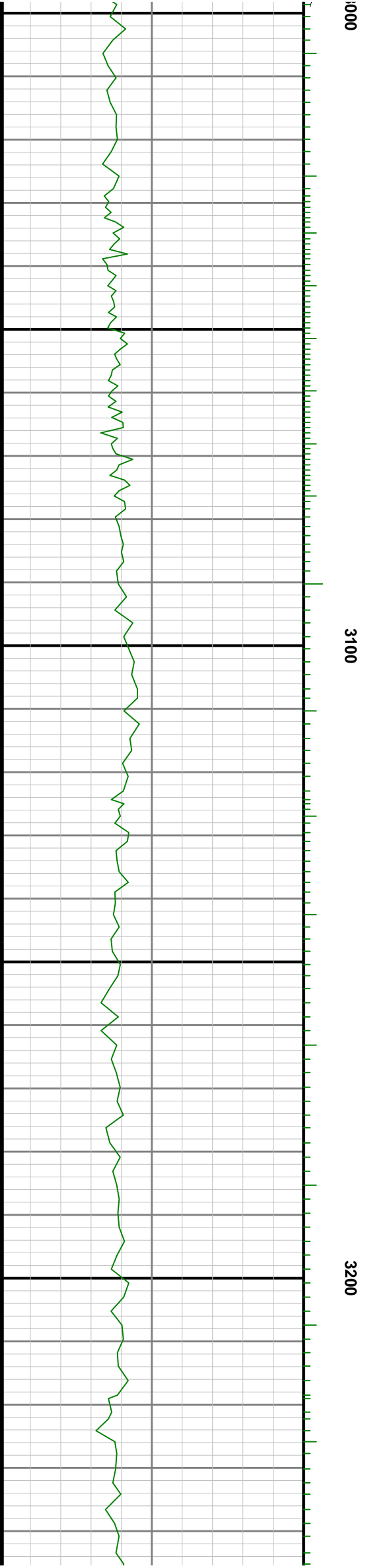
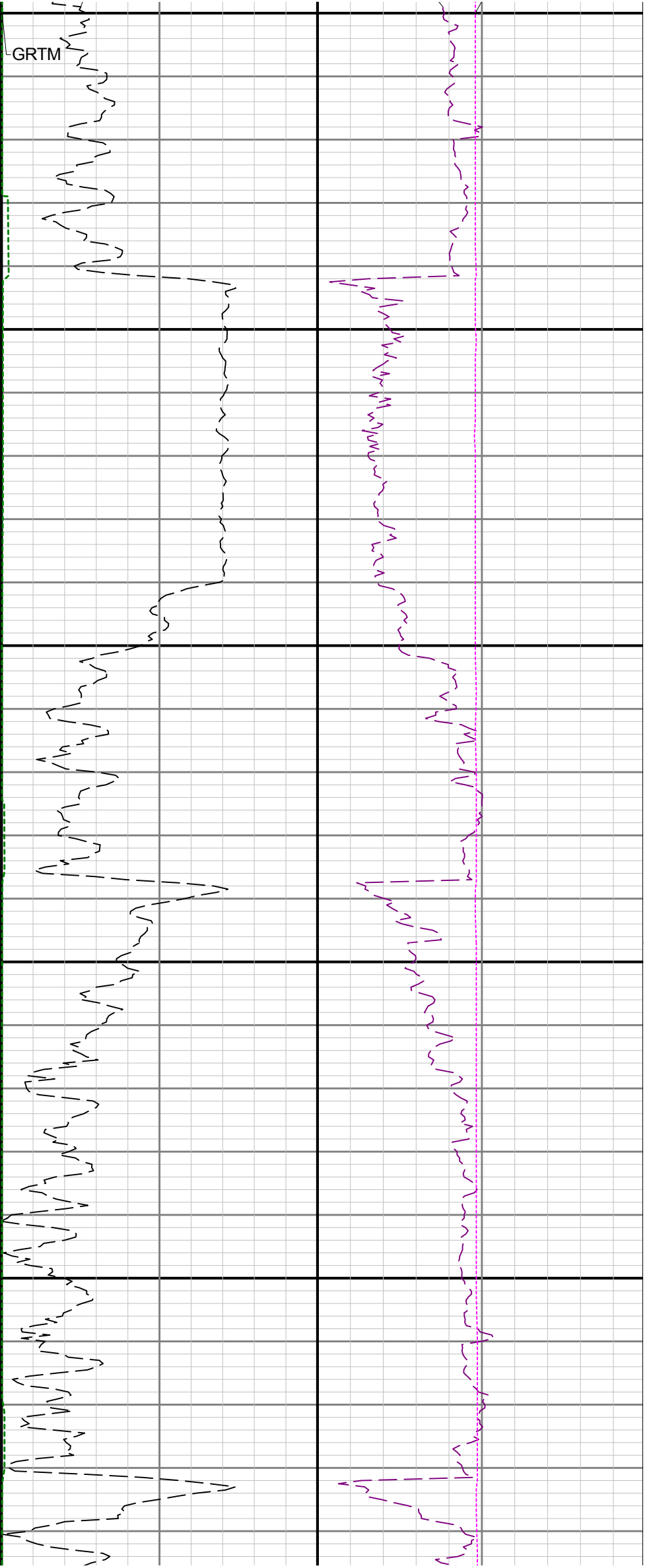


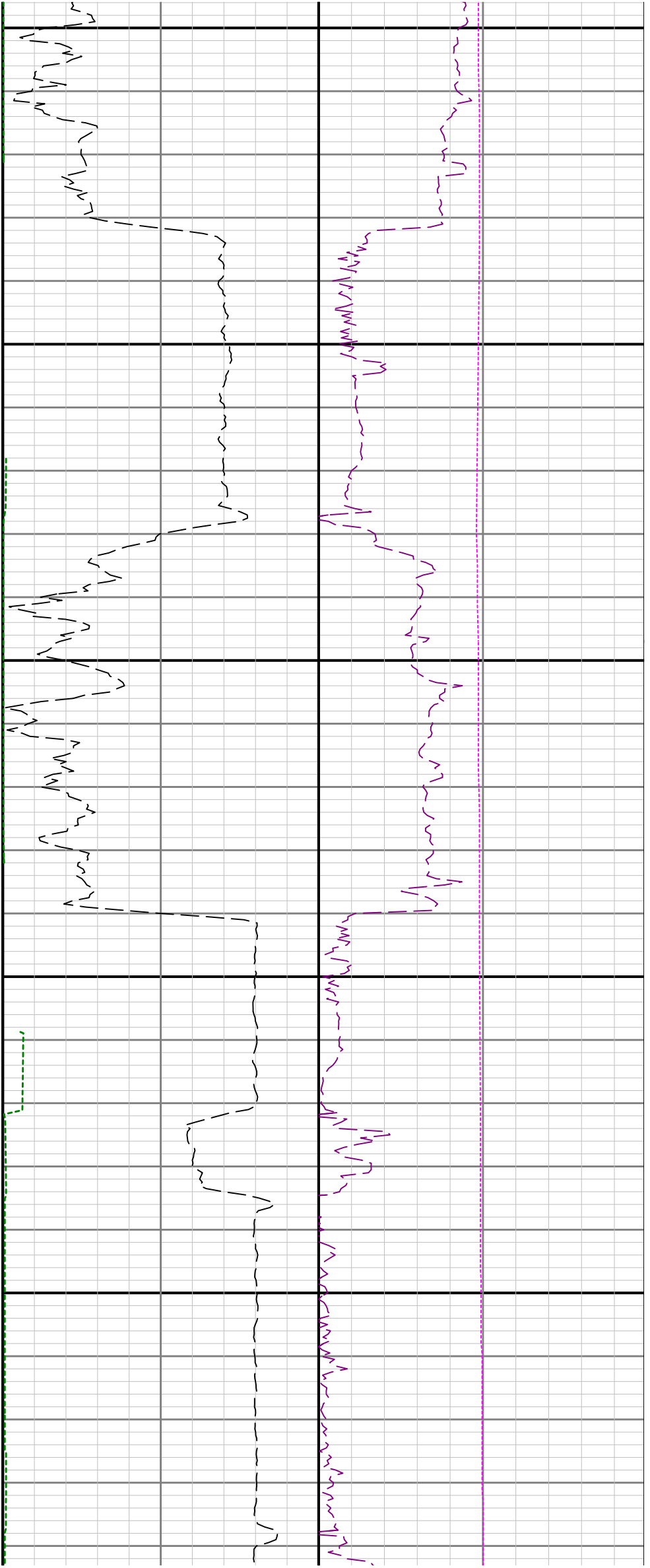










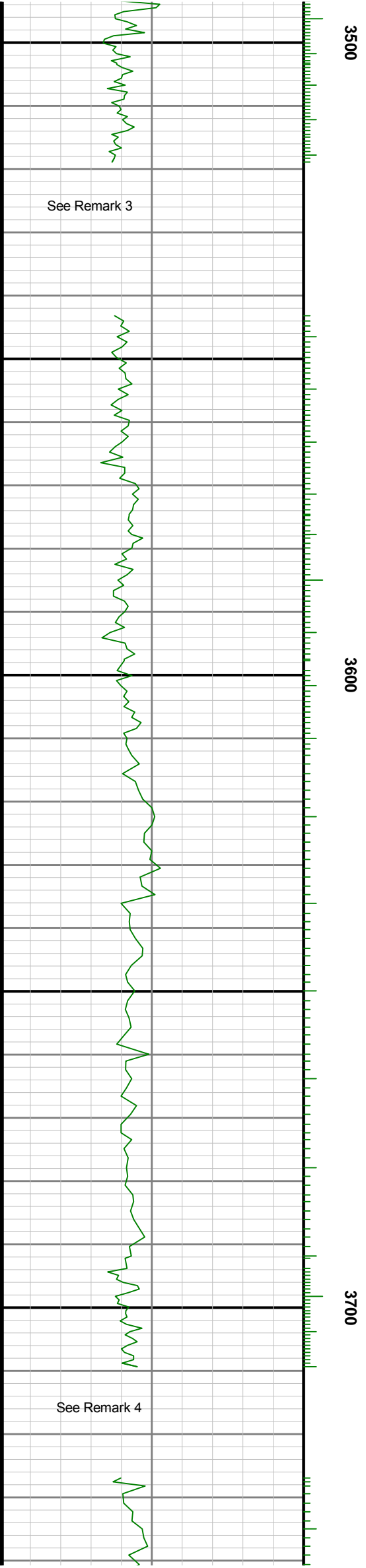
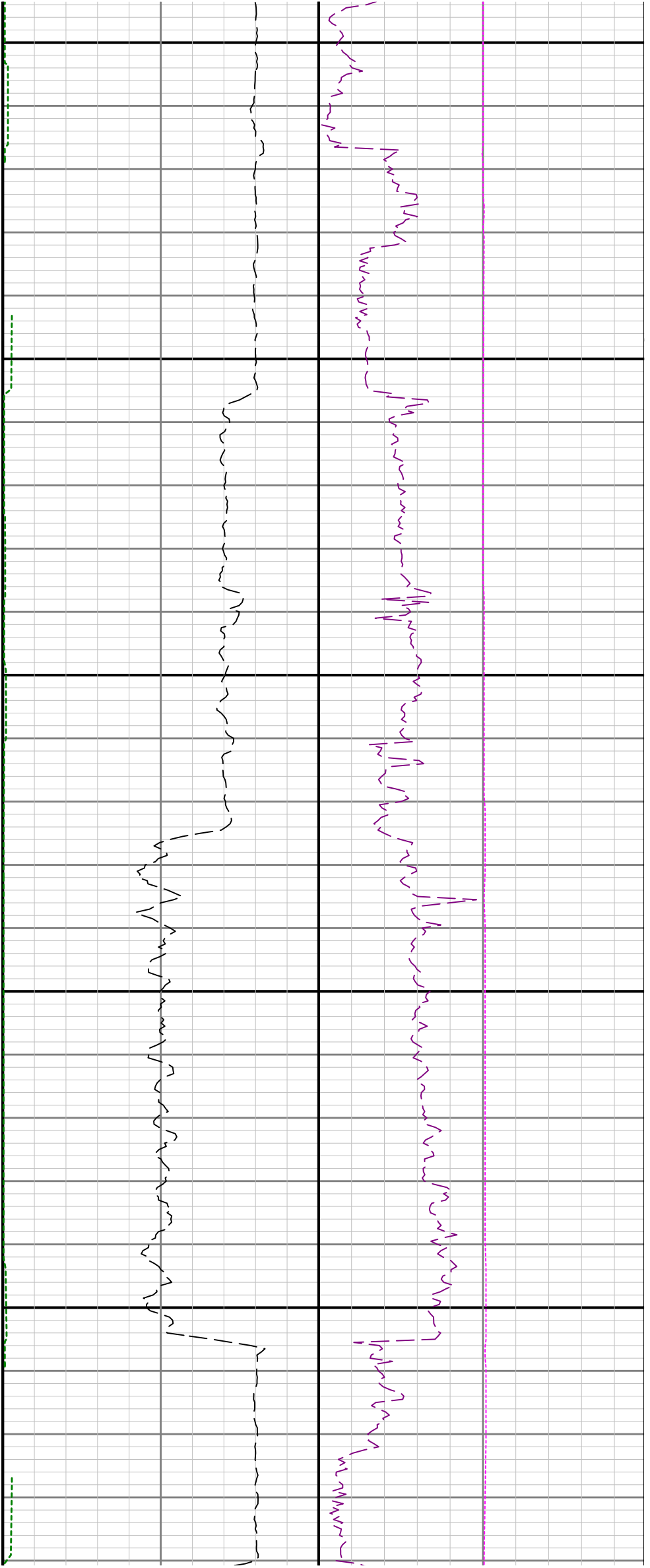


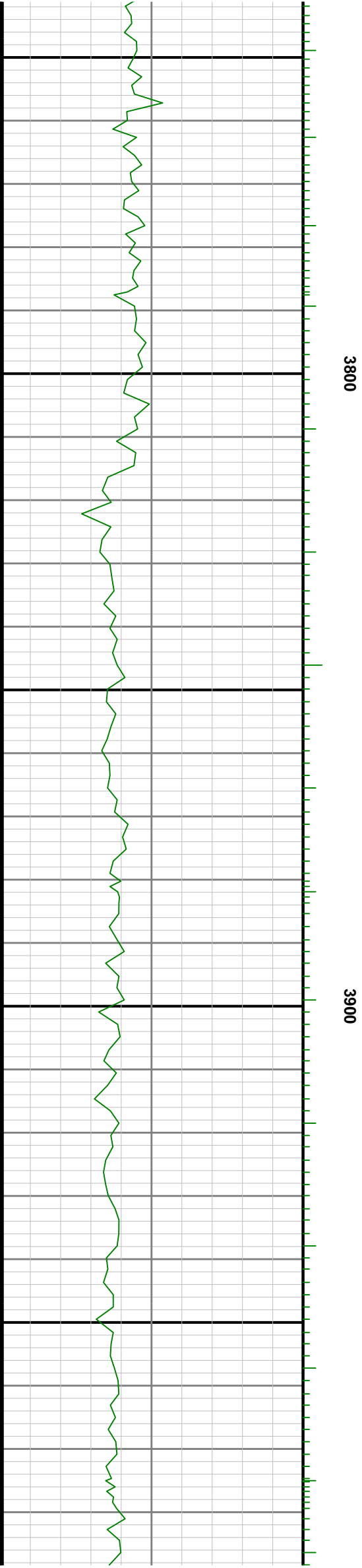
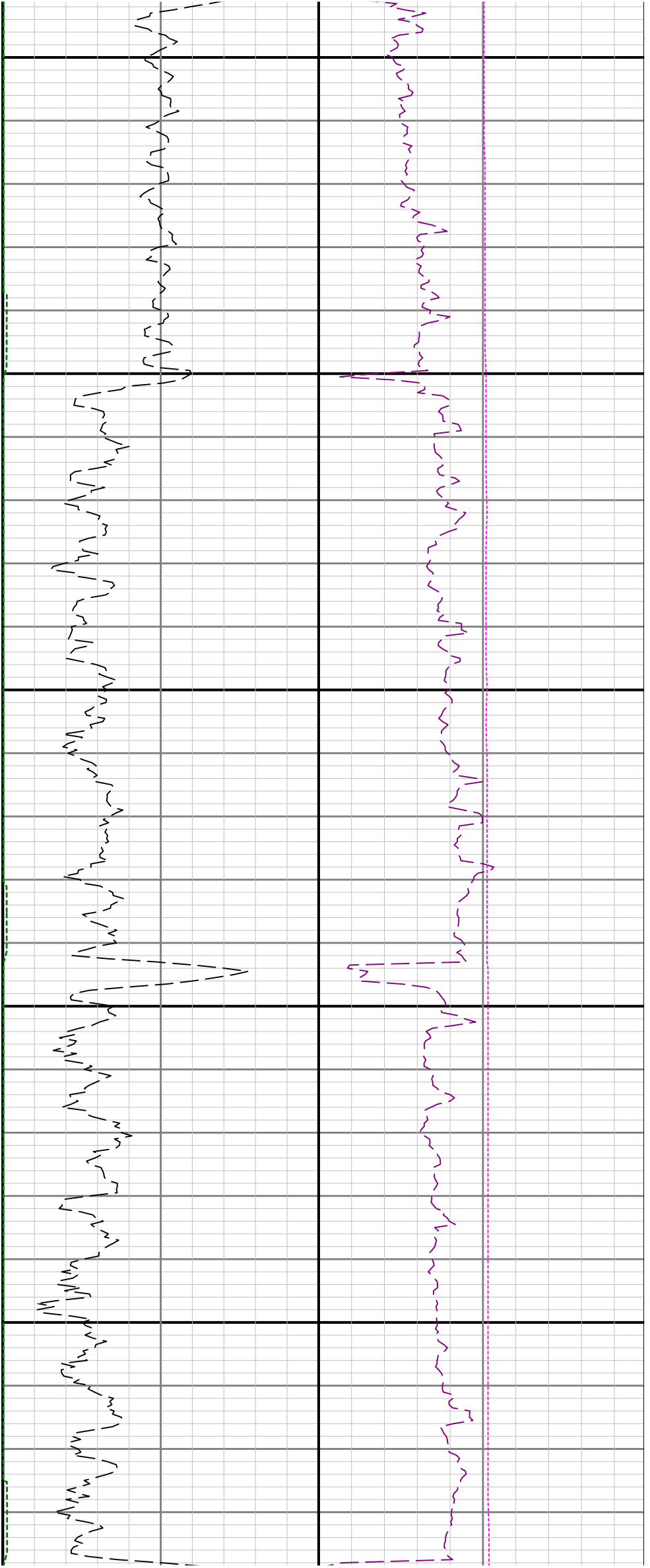
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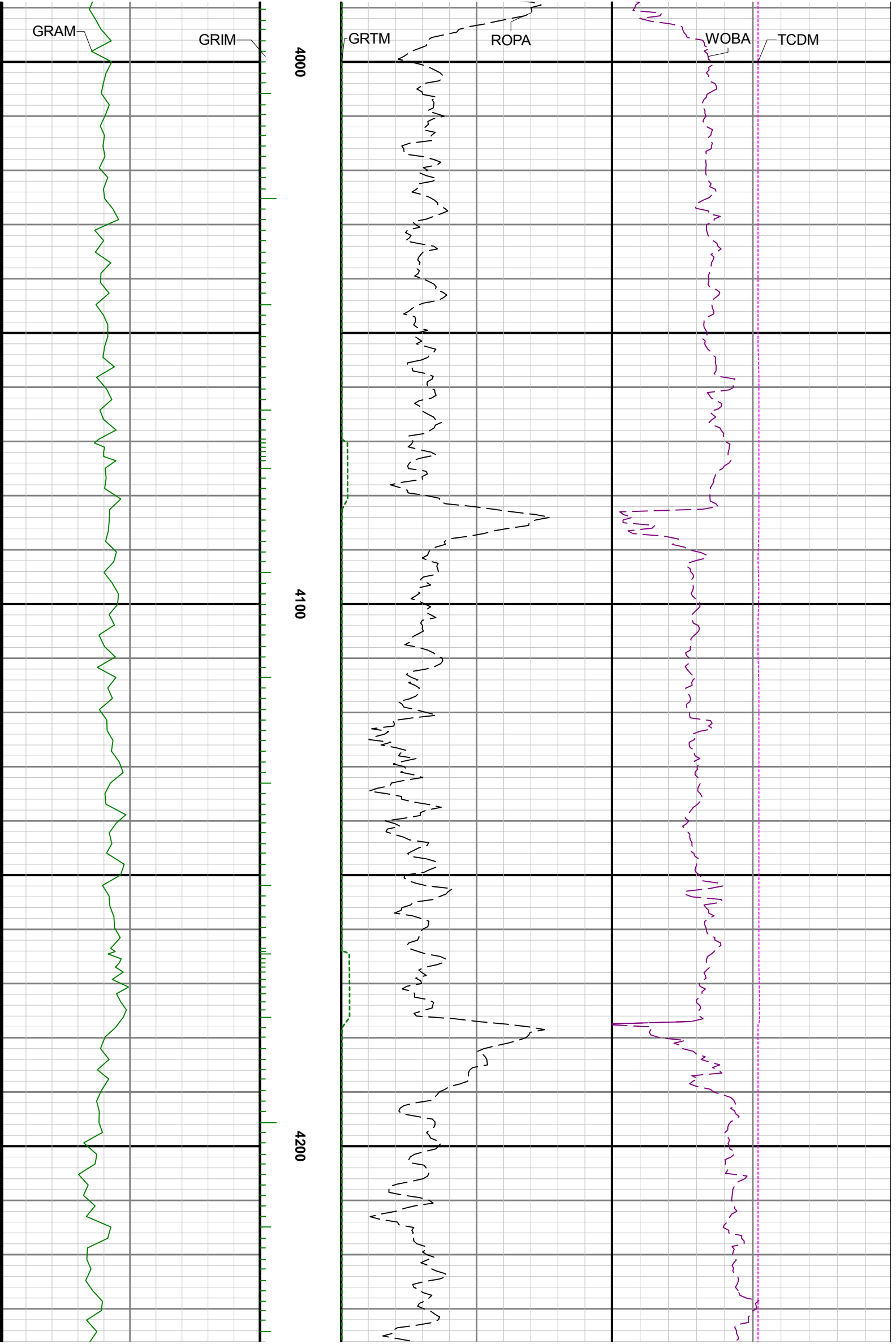
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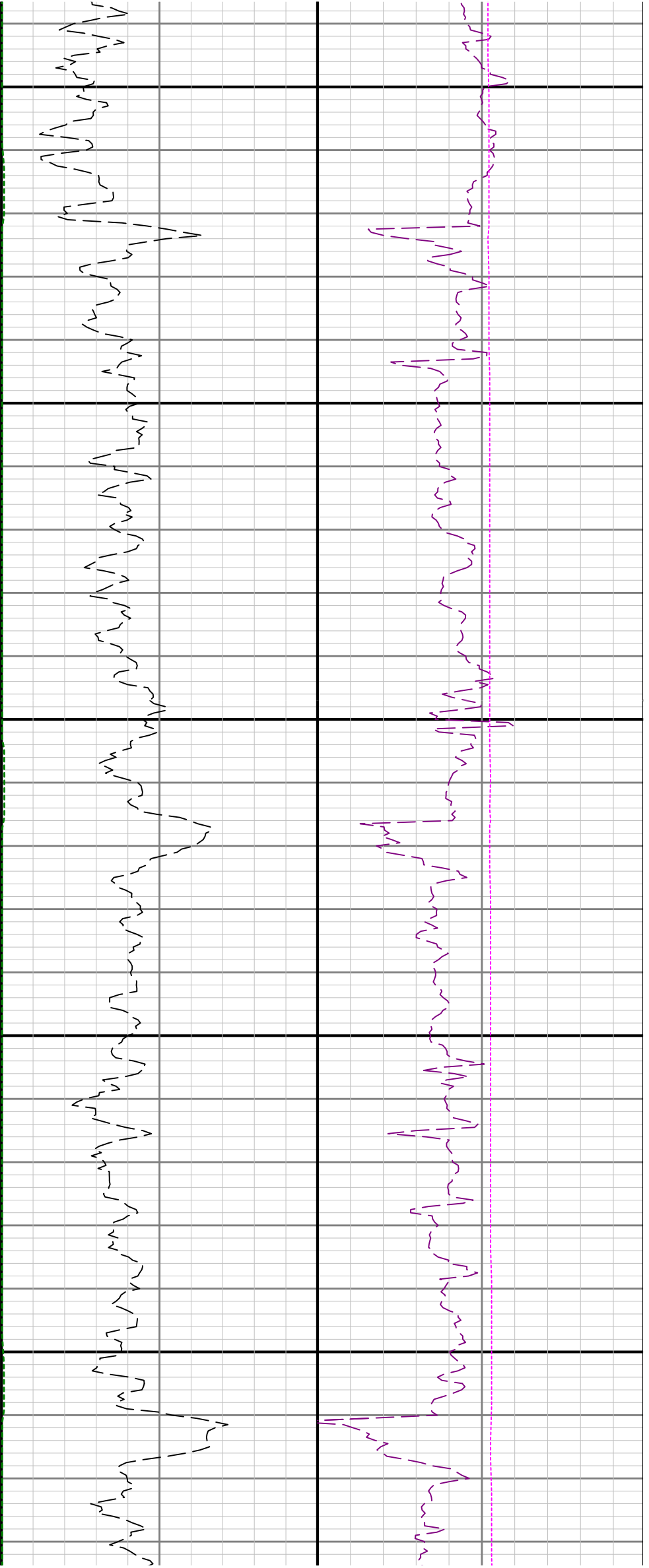
See Remark 1

See Remark 2



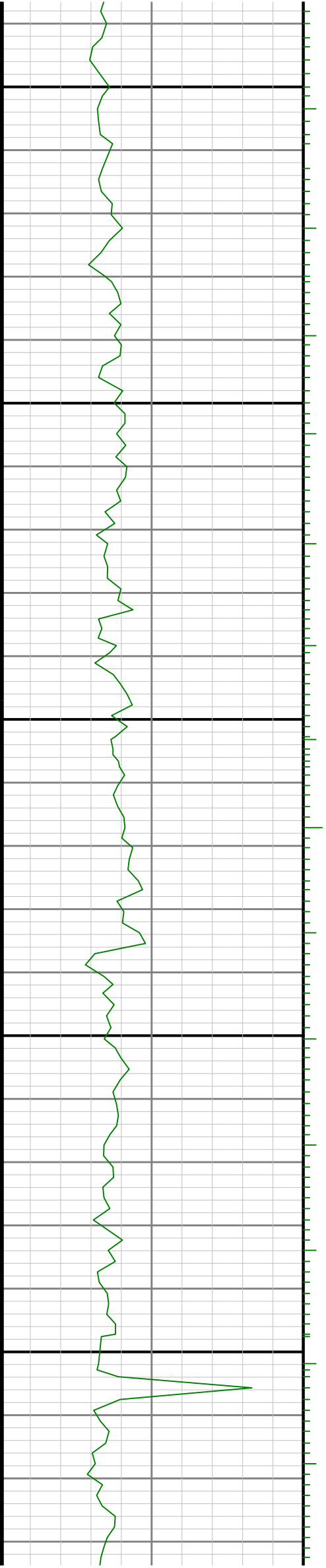


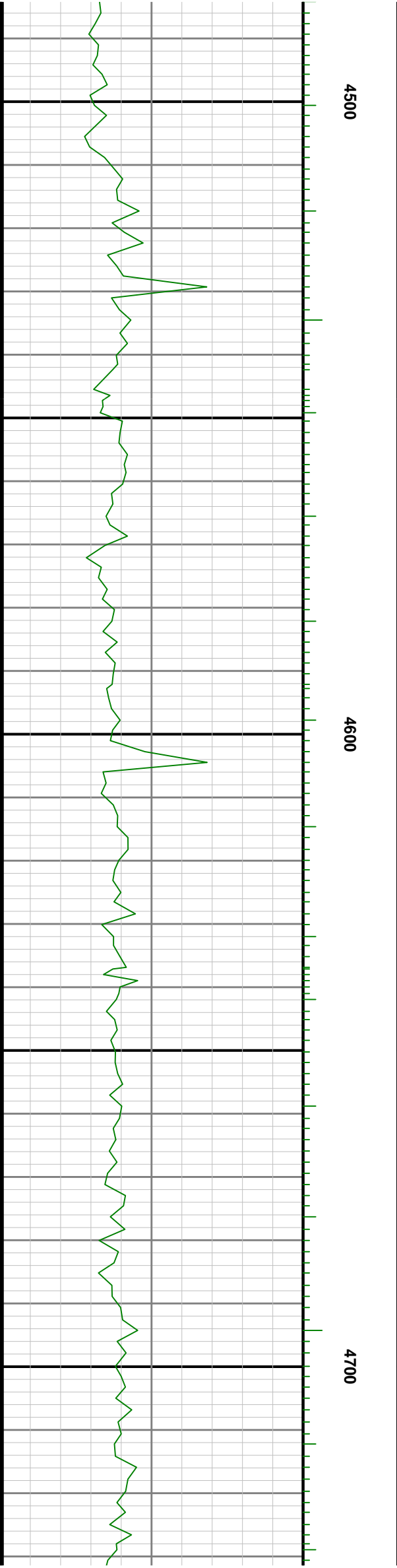
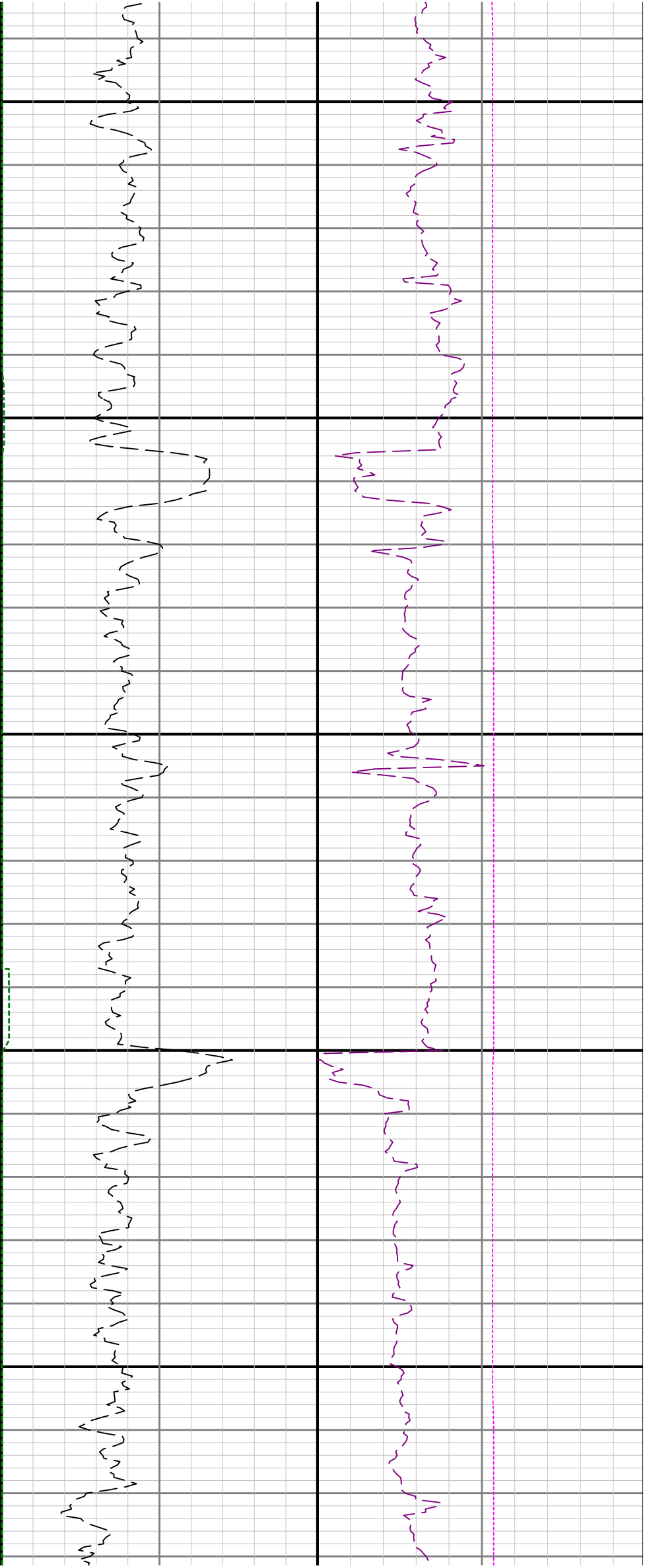


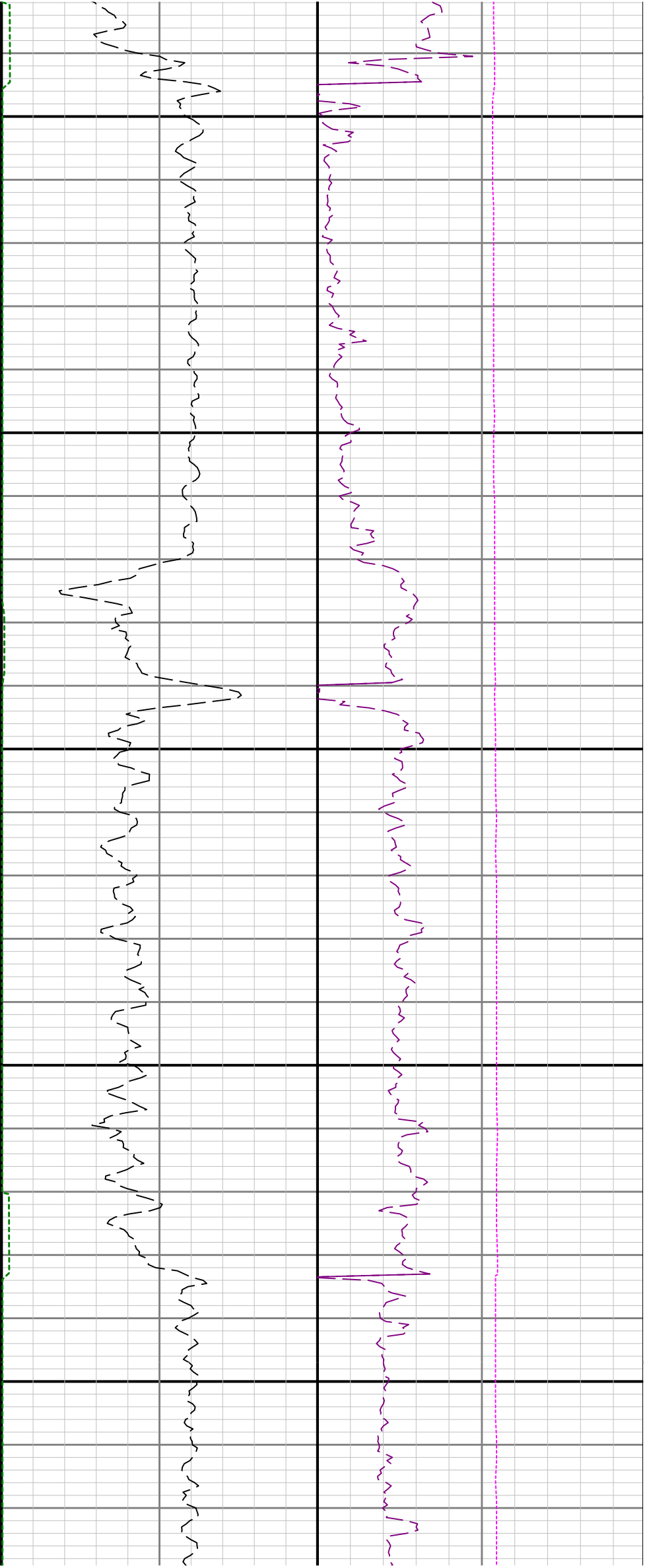


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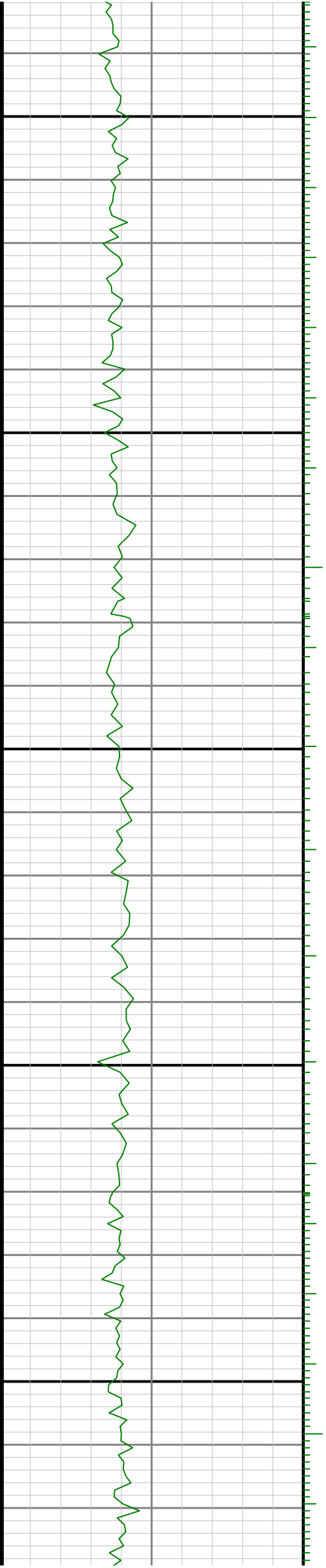


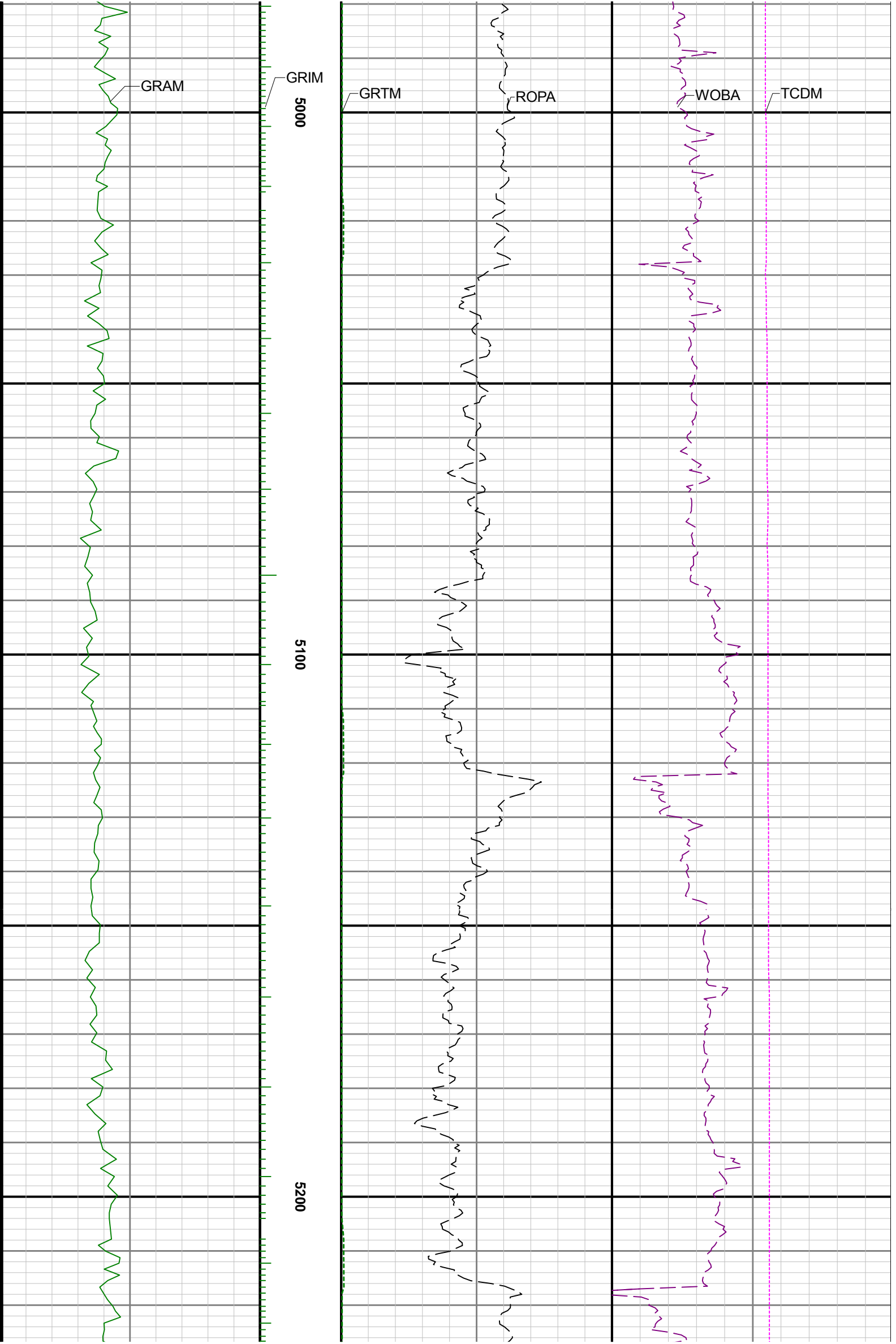


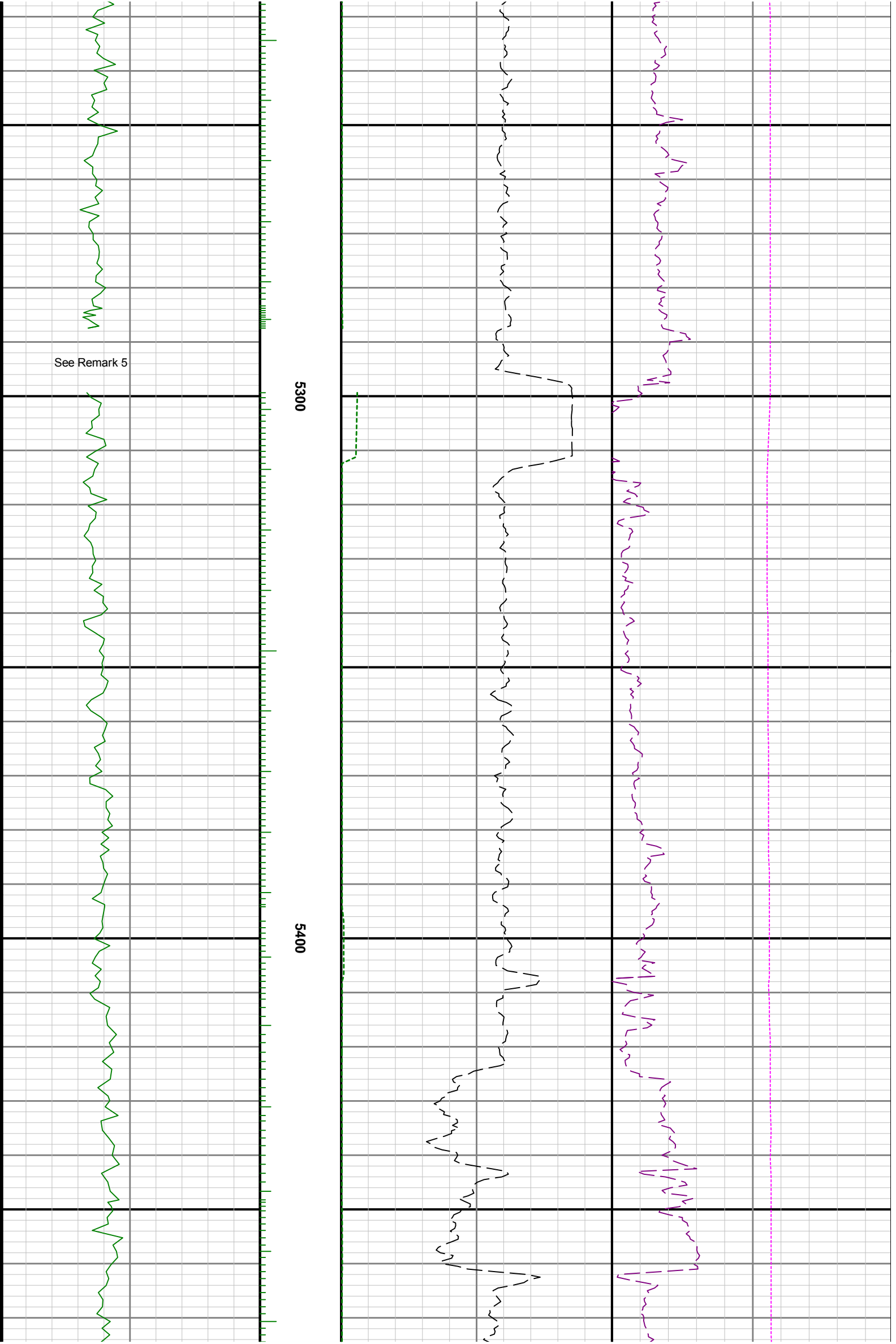


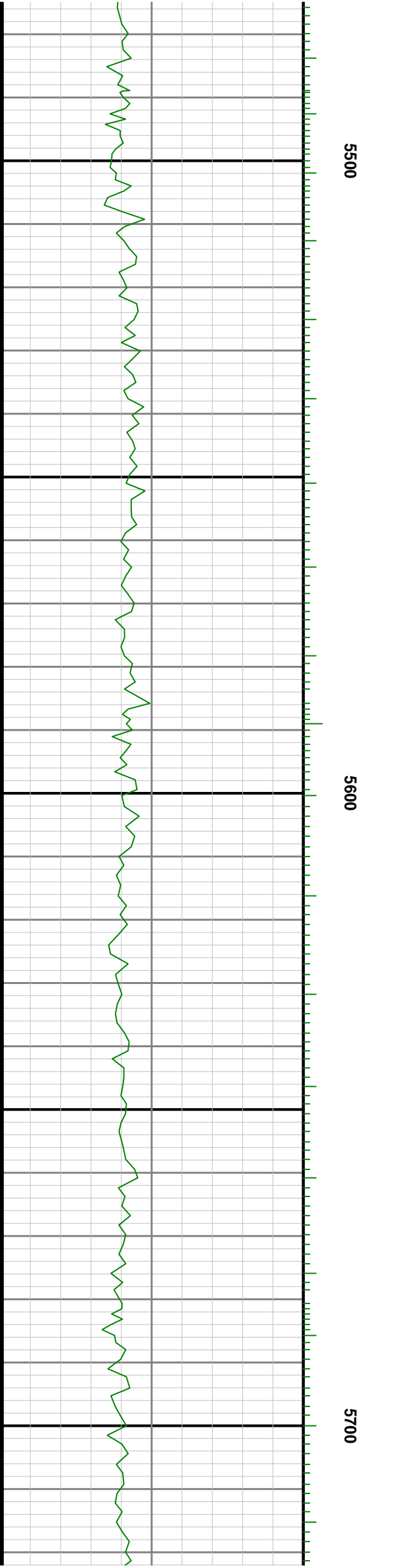
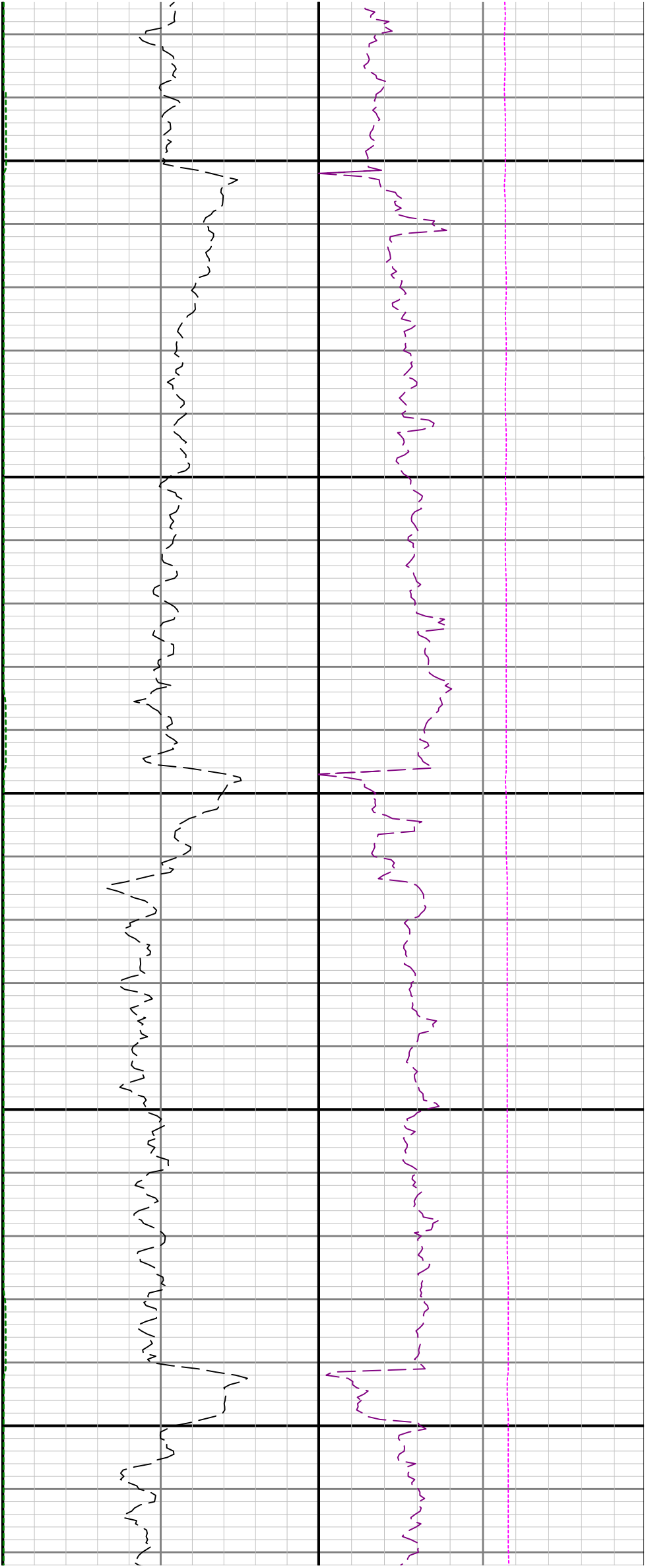
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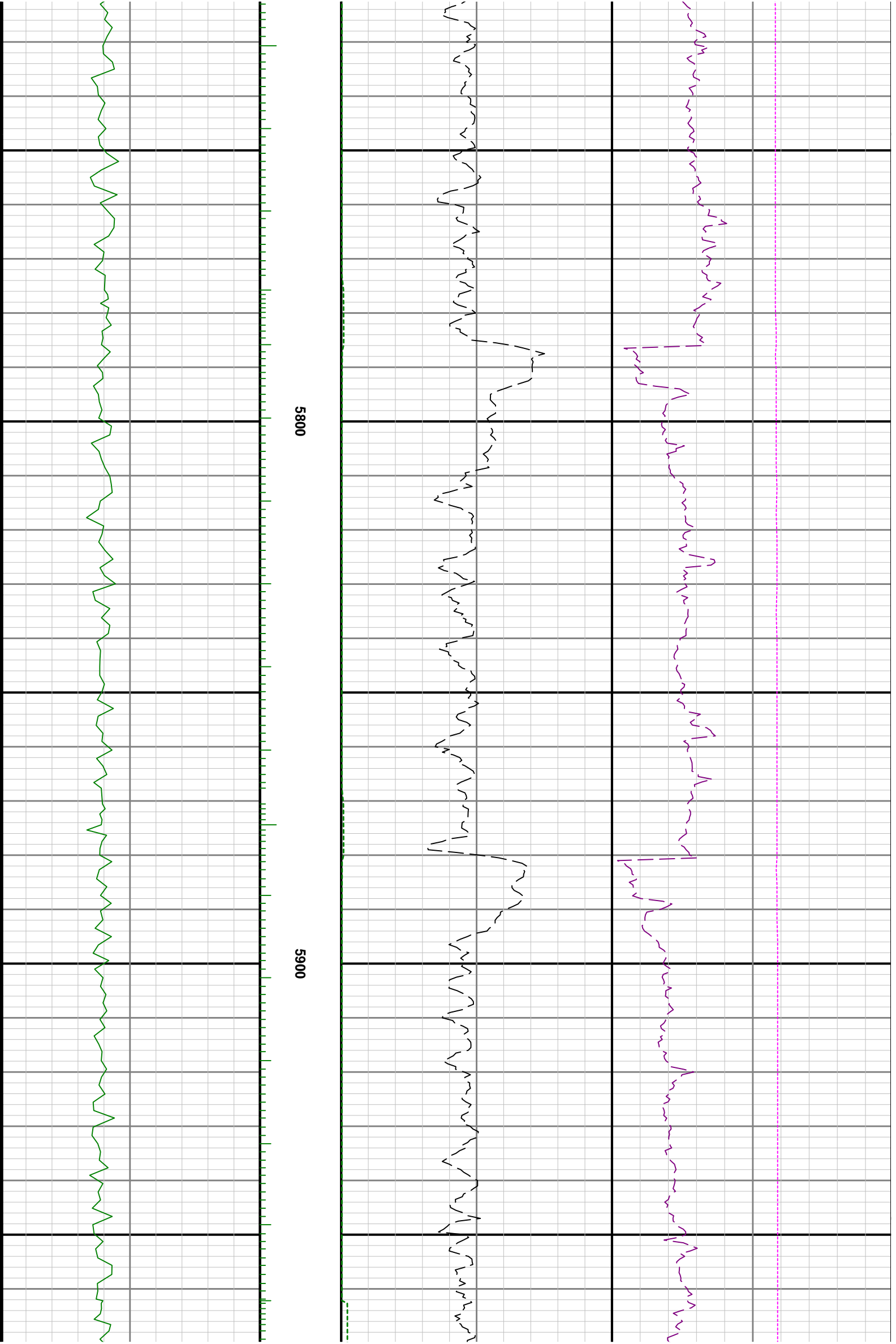
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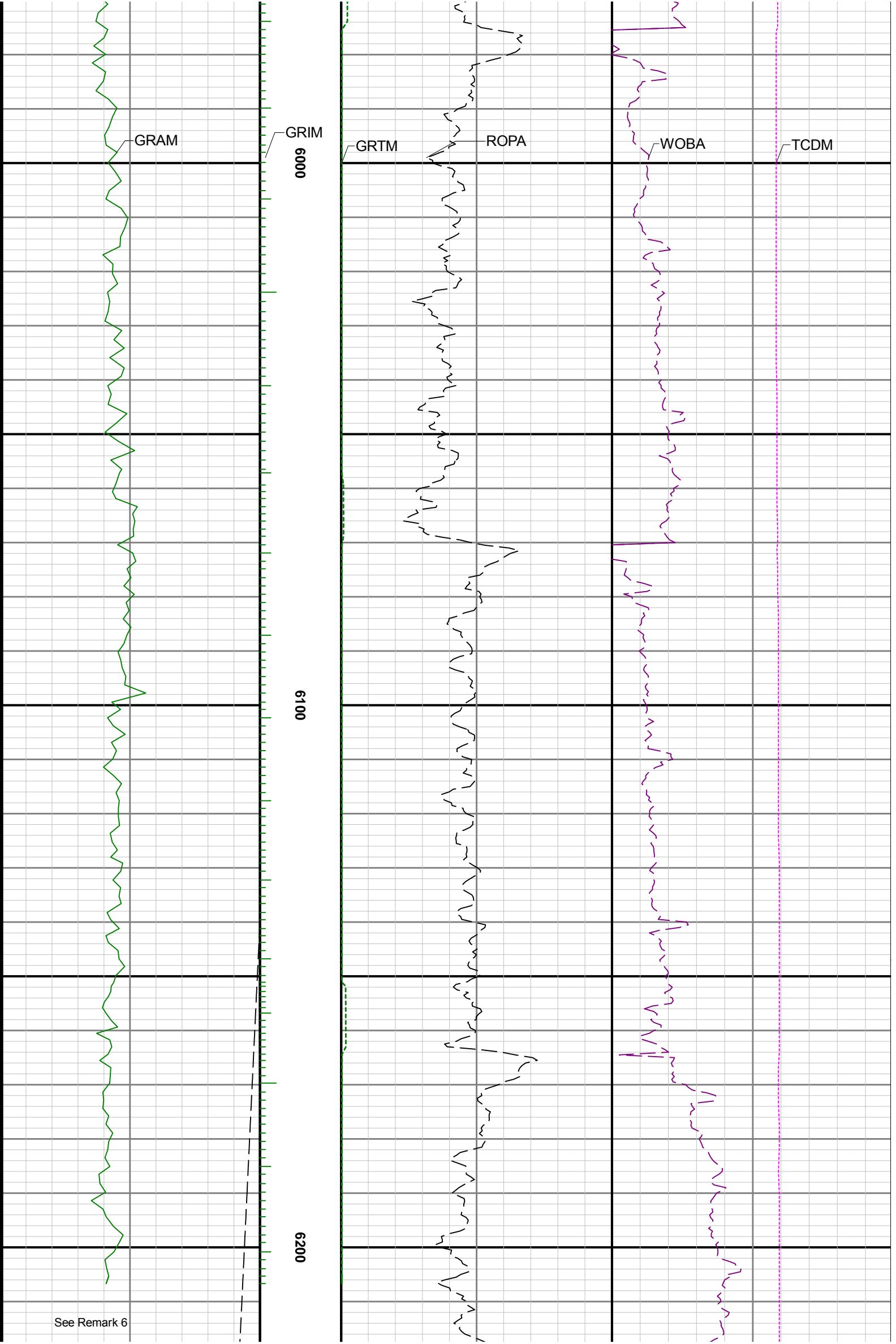


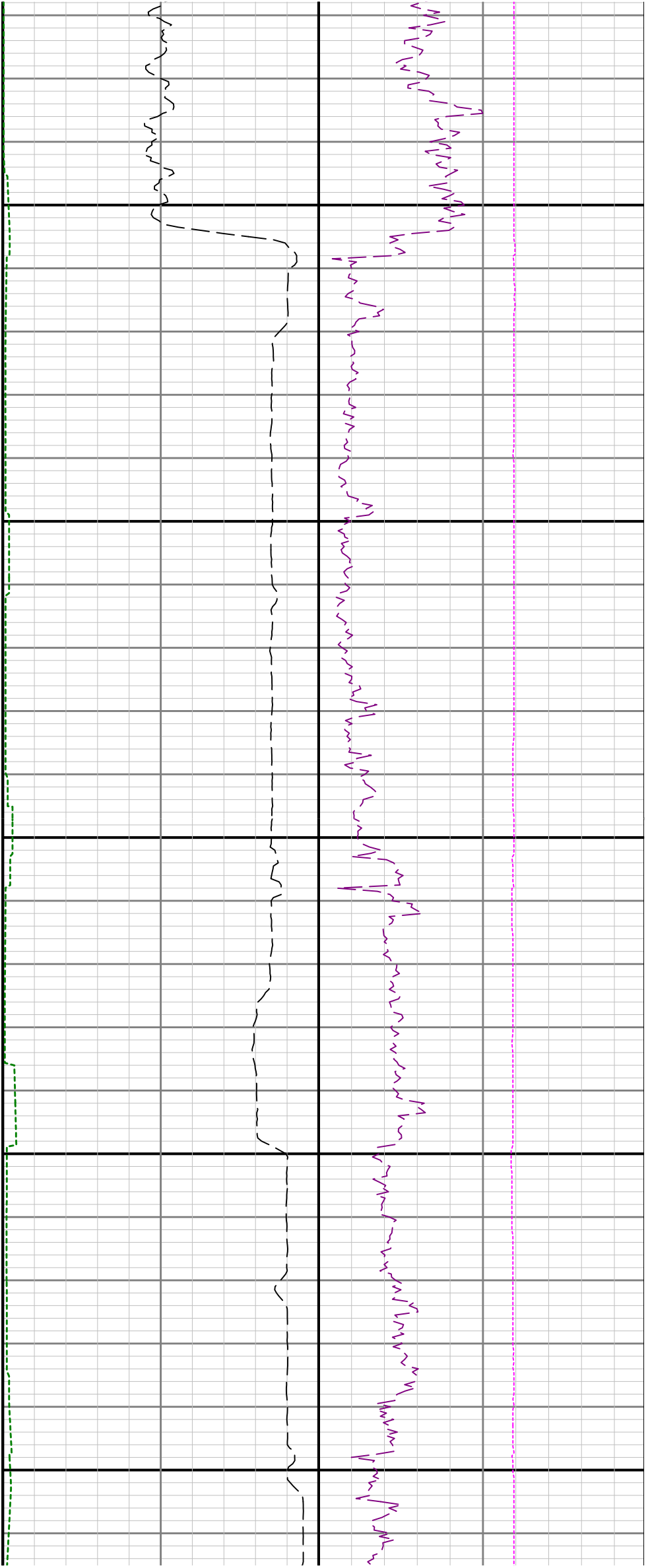






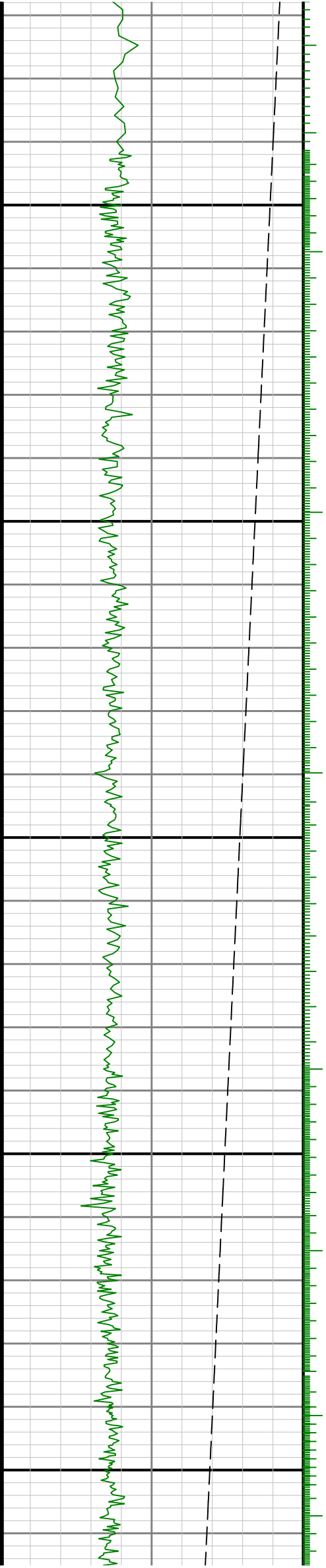


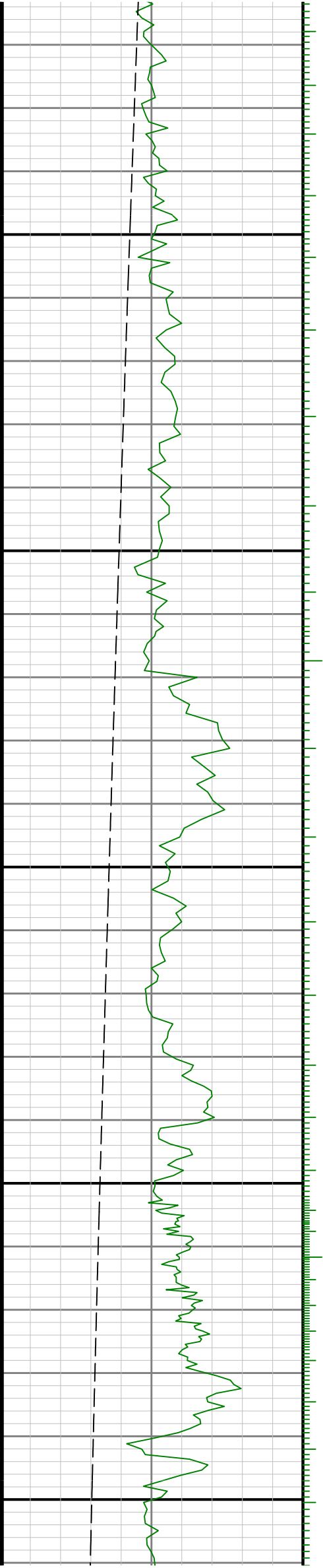




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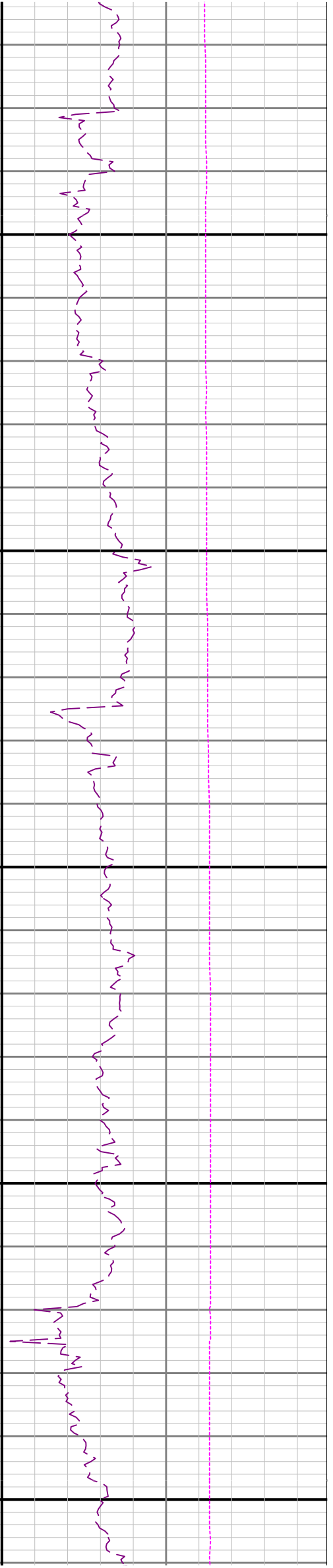
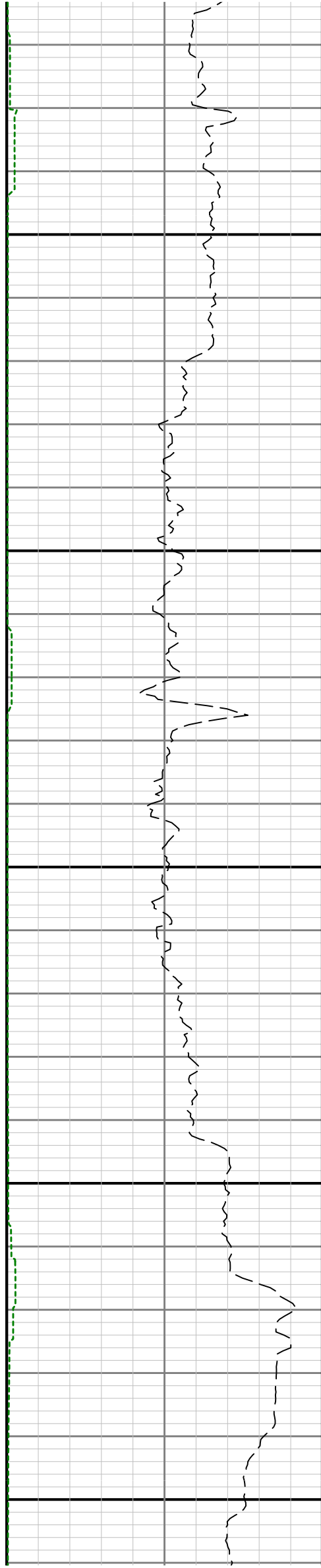
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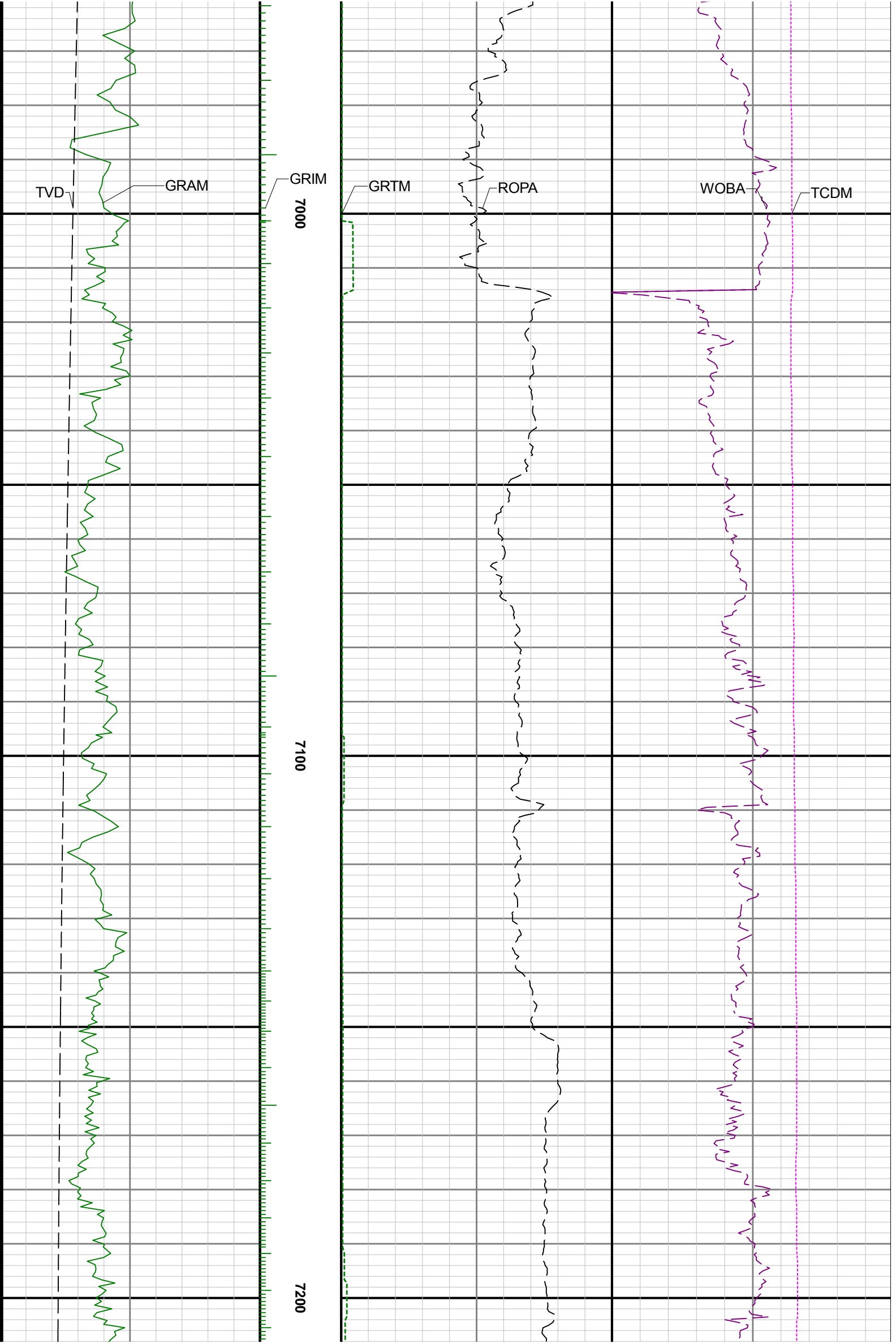


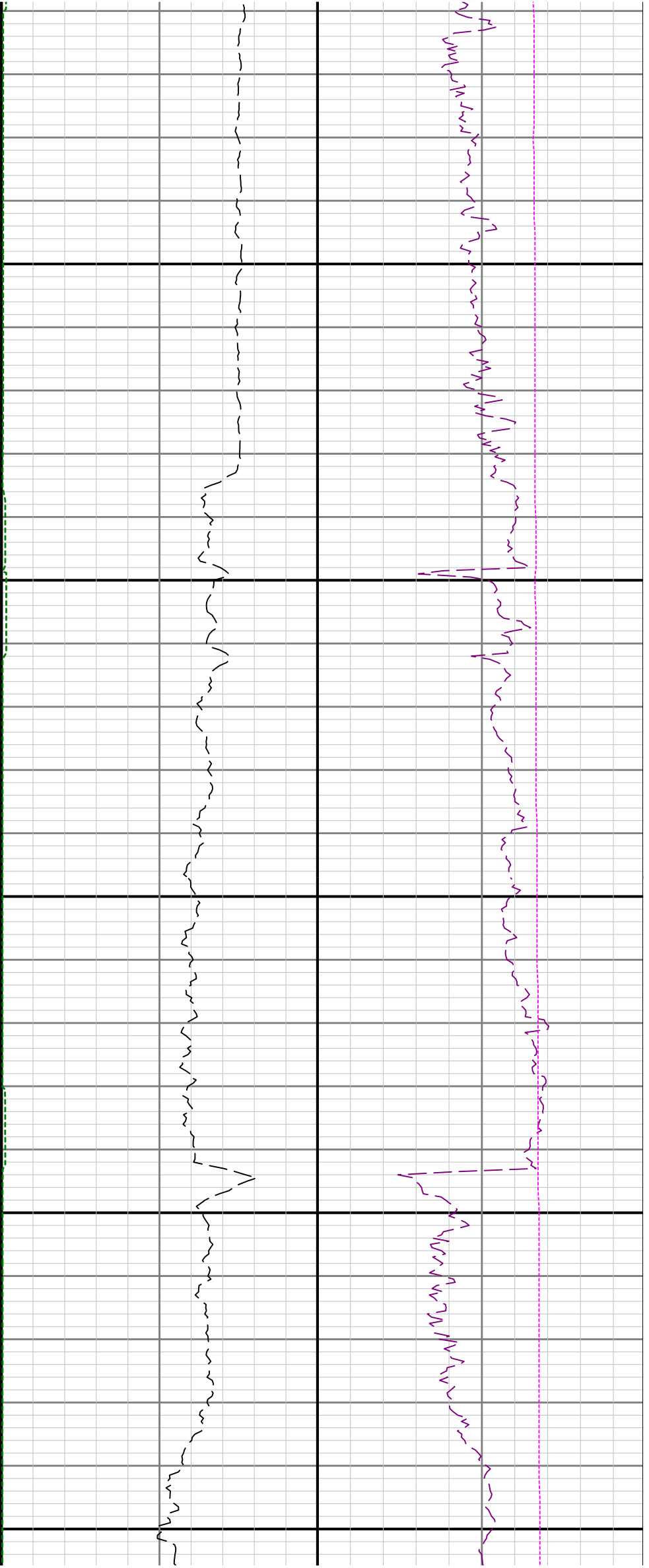


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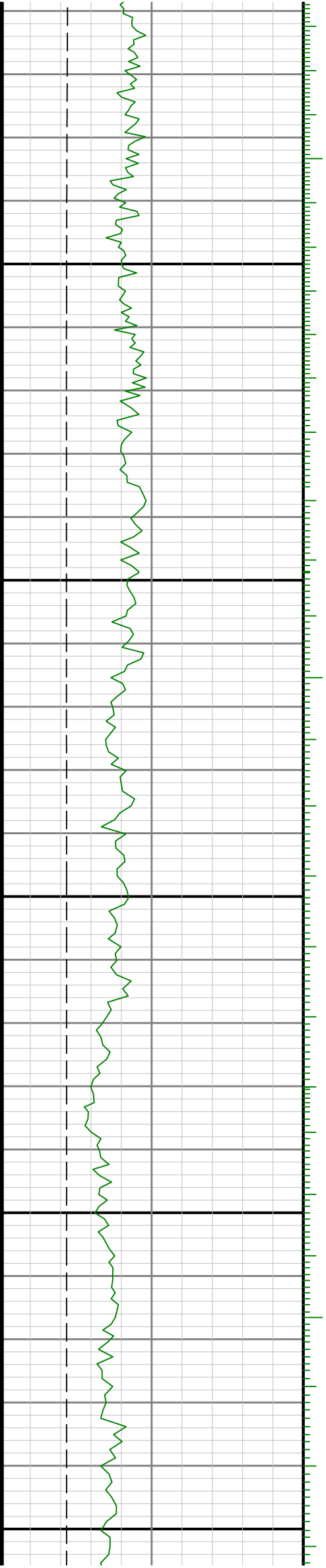


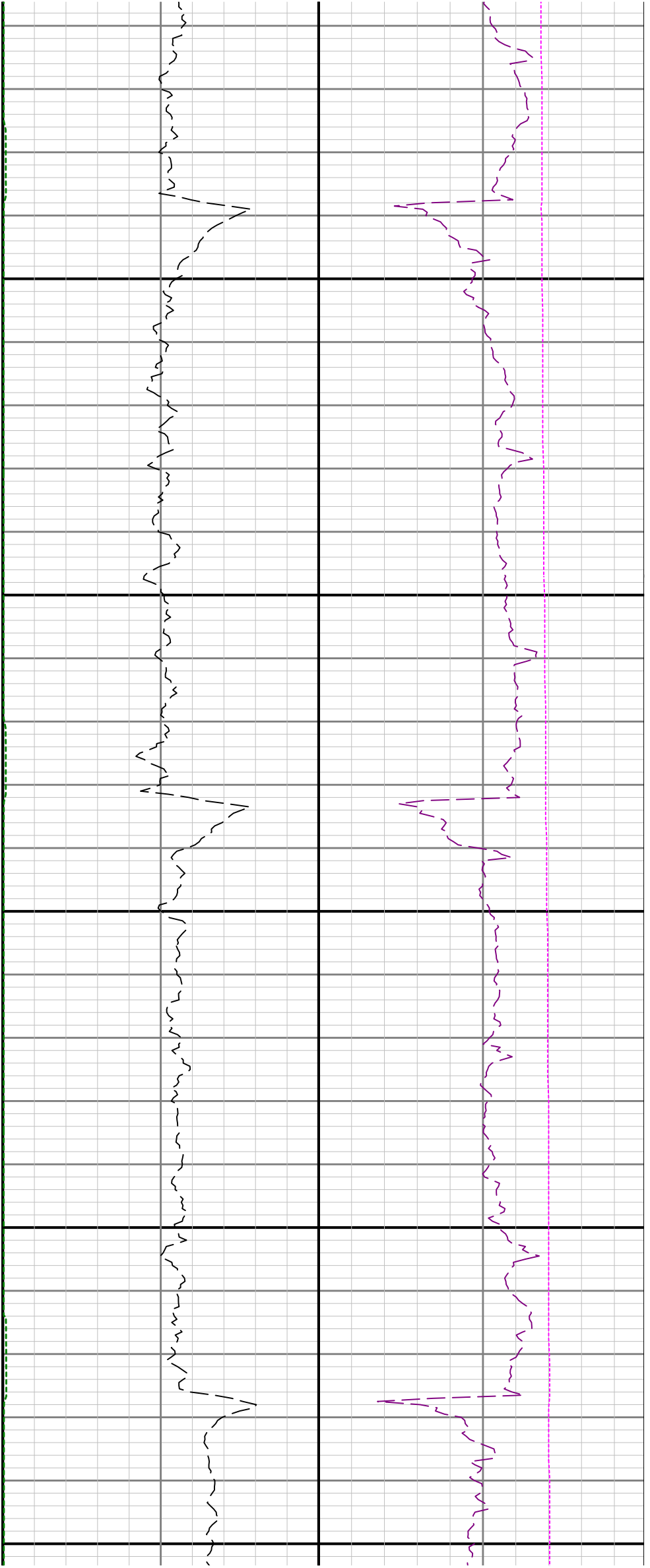




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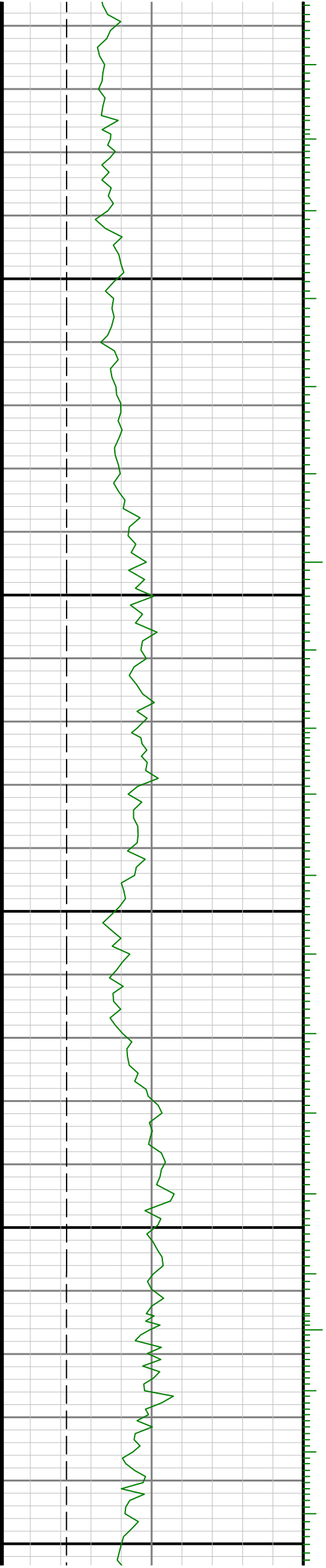


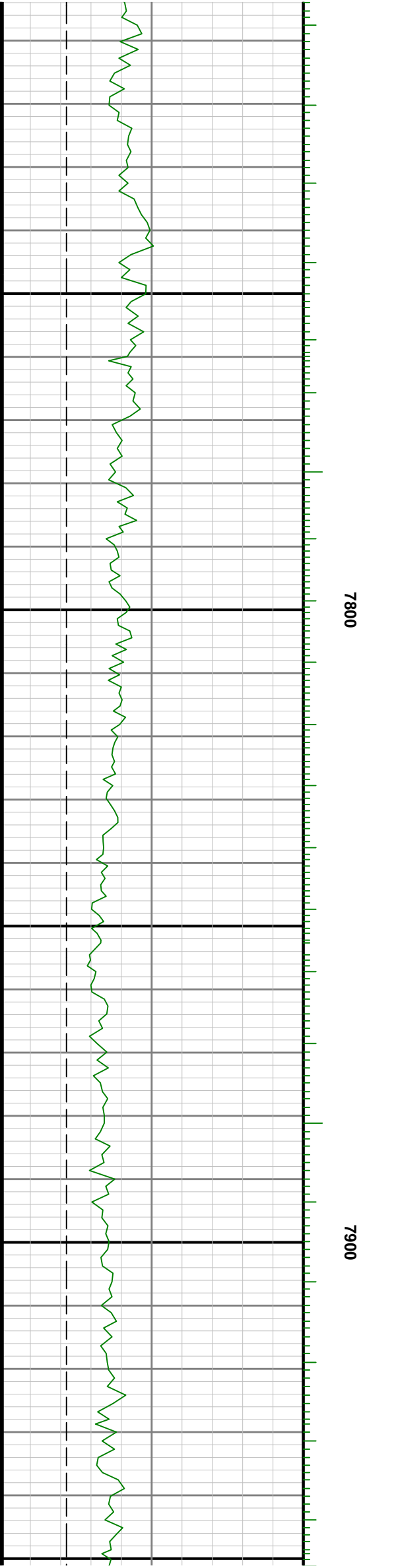
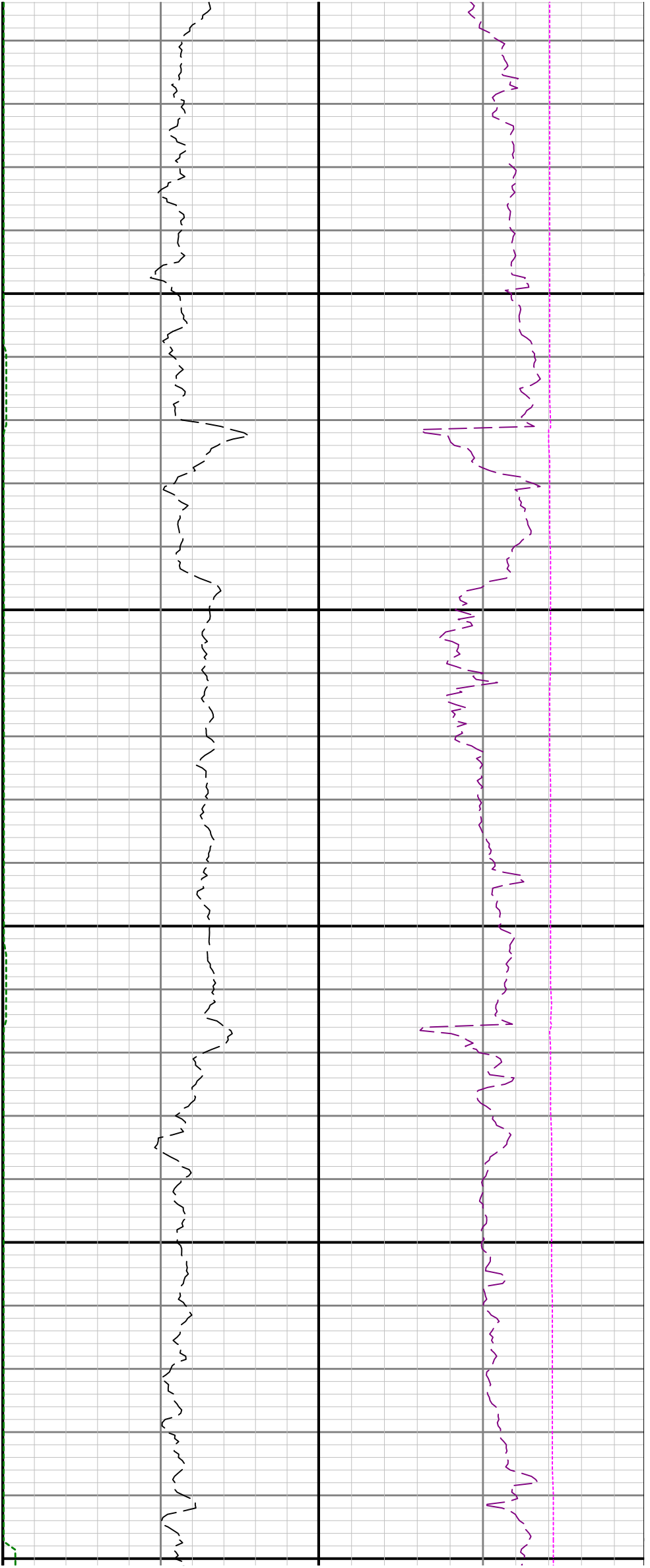


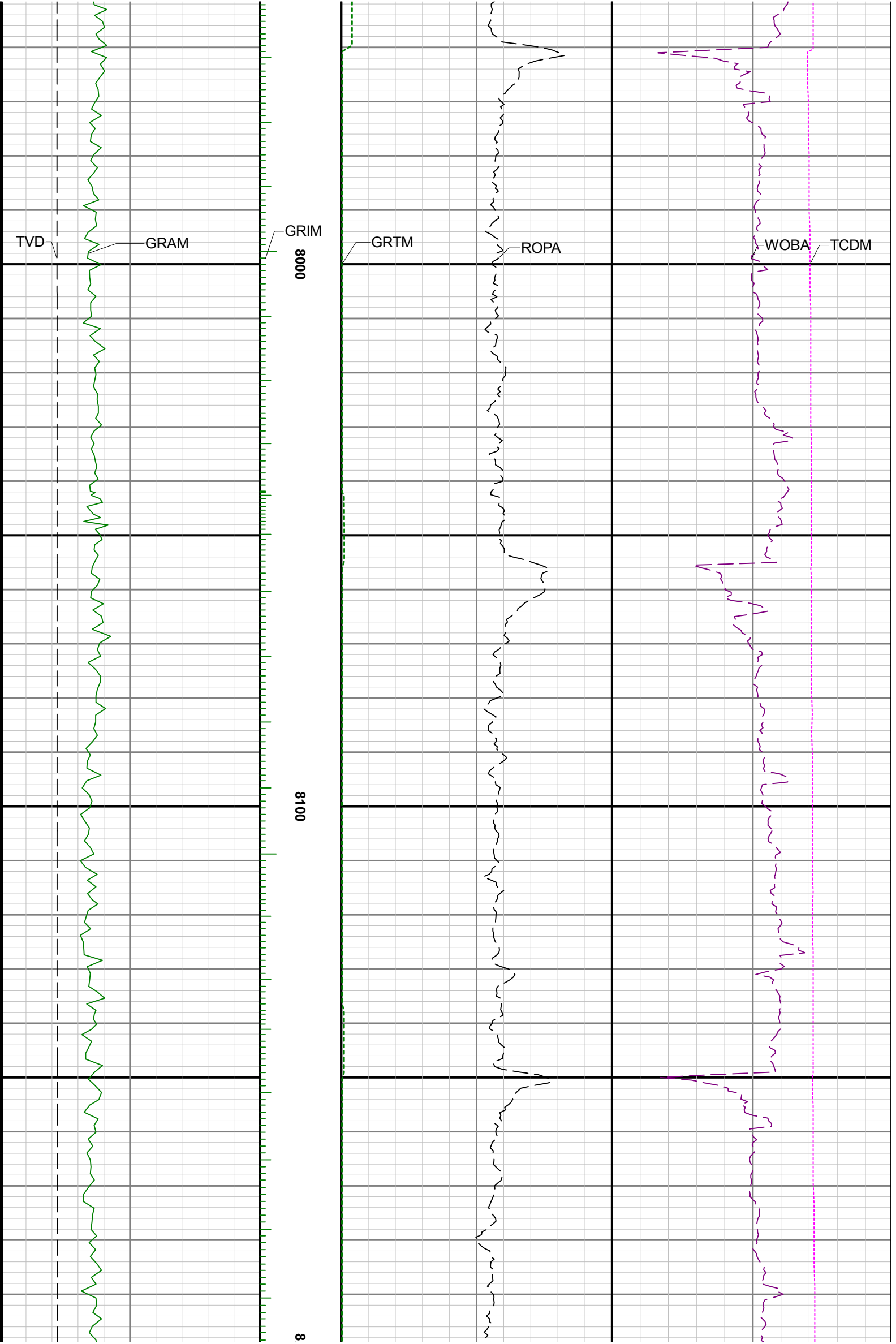
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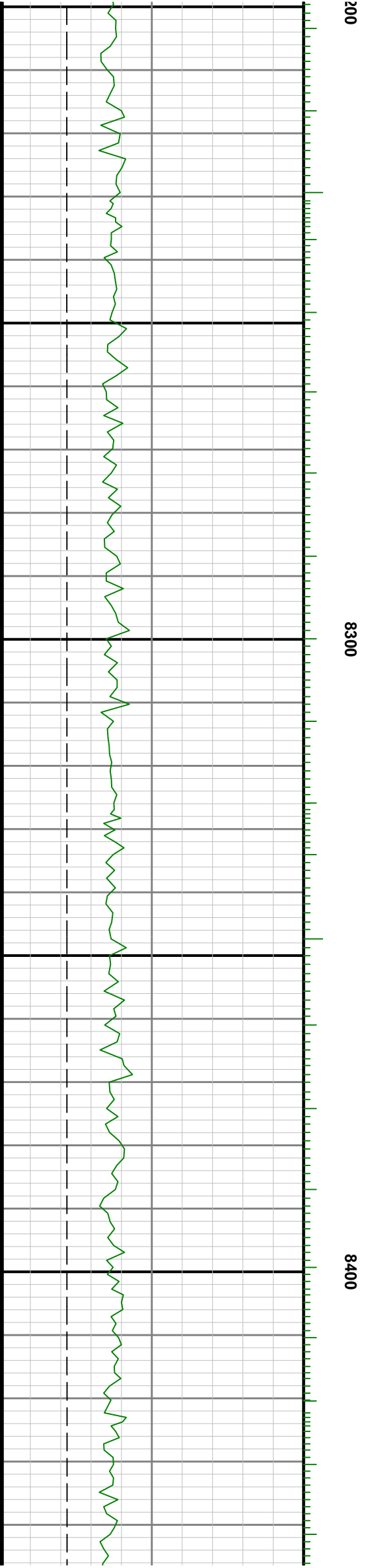
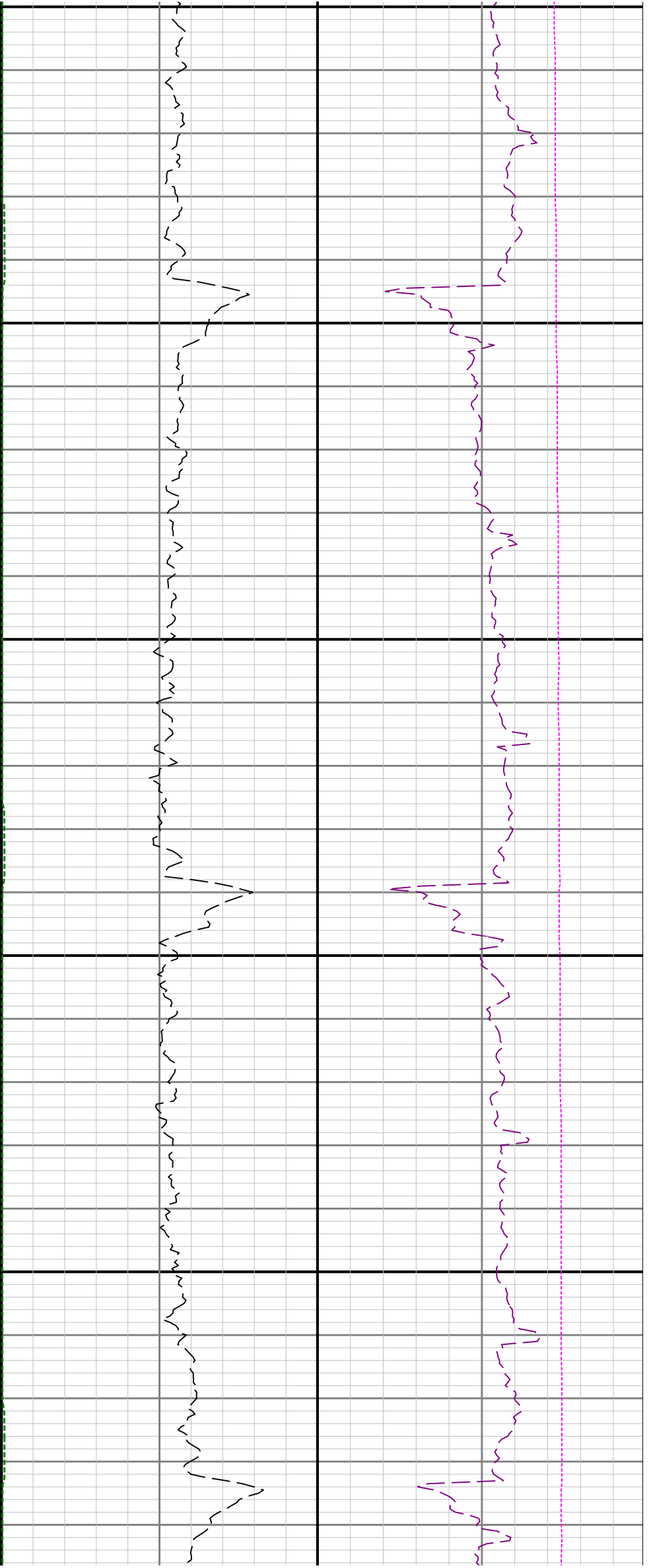
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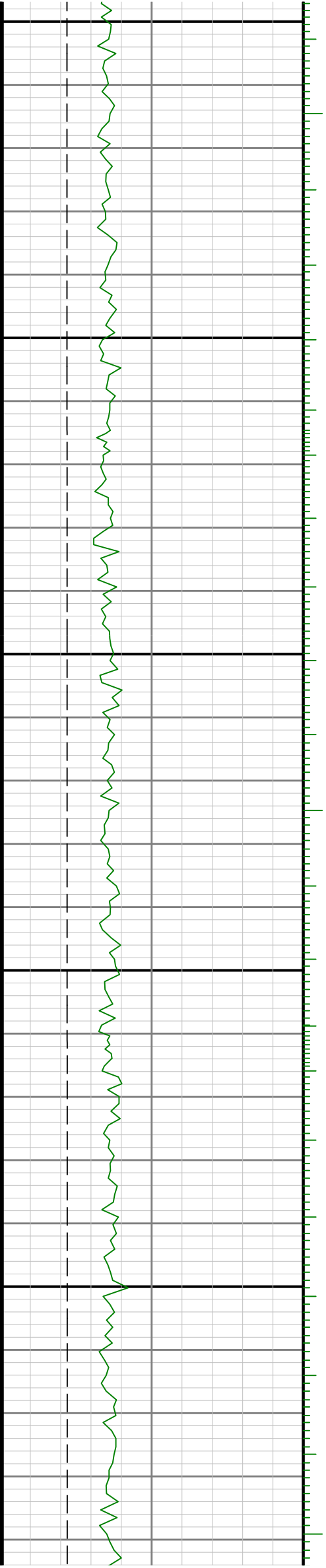
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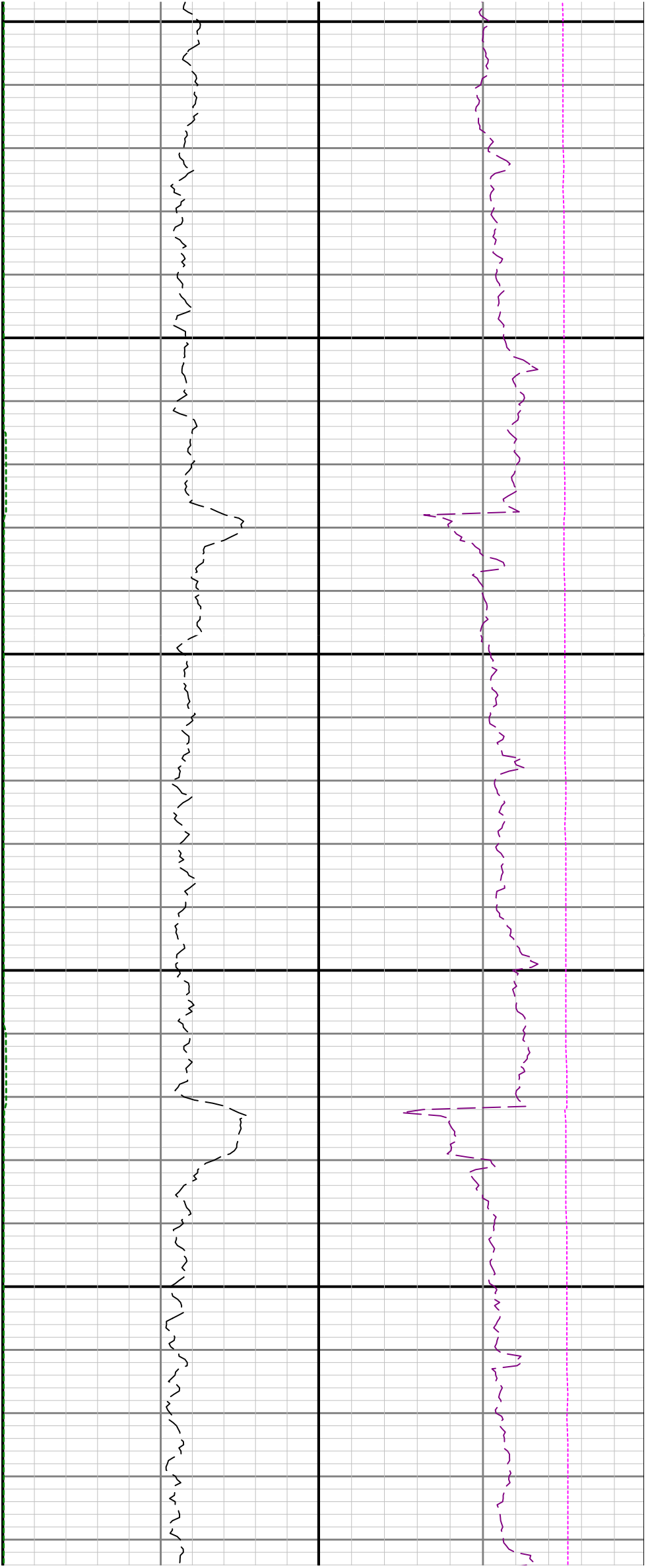


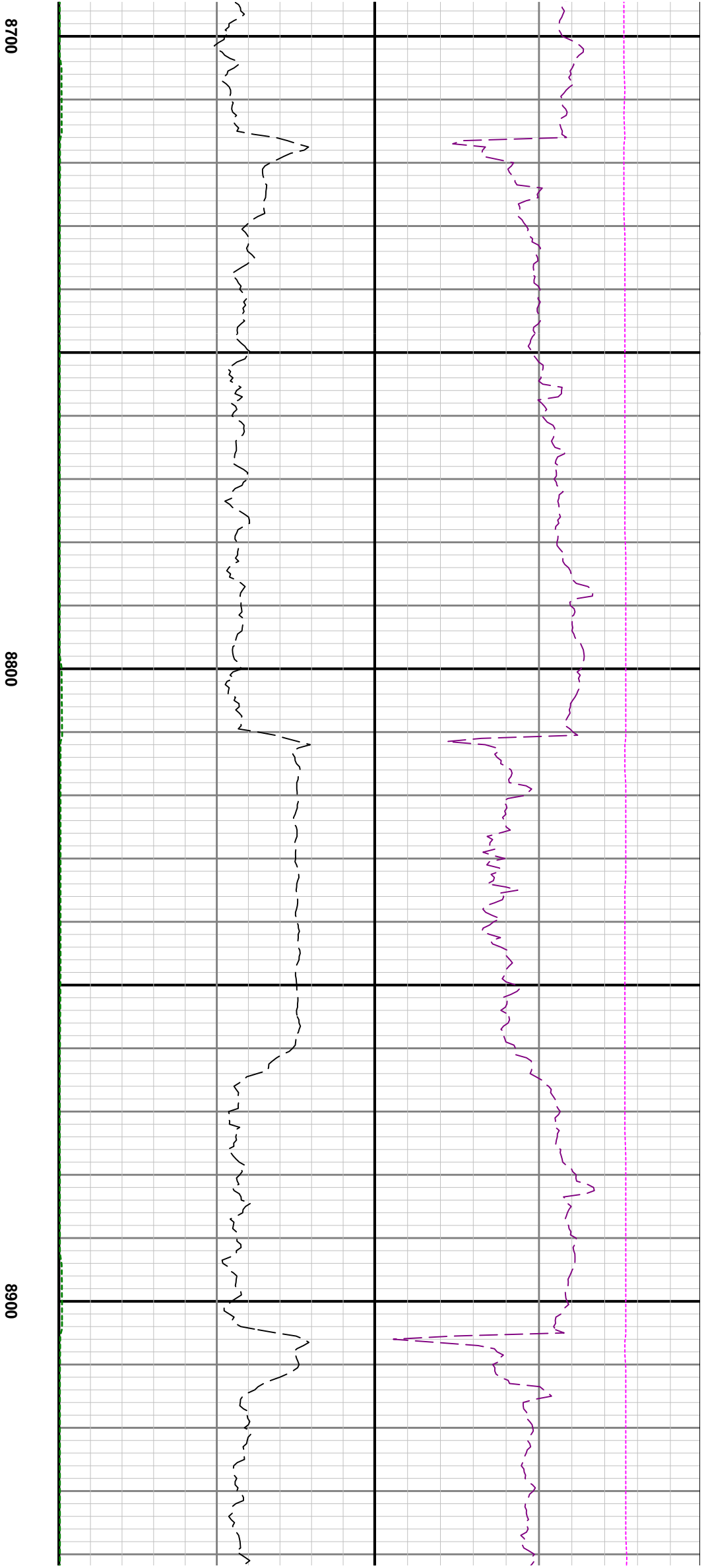
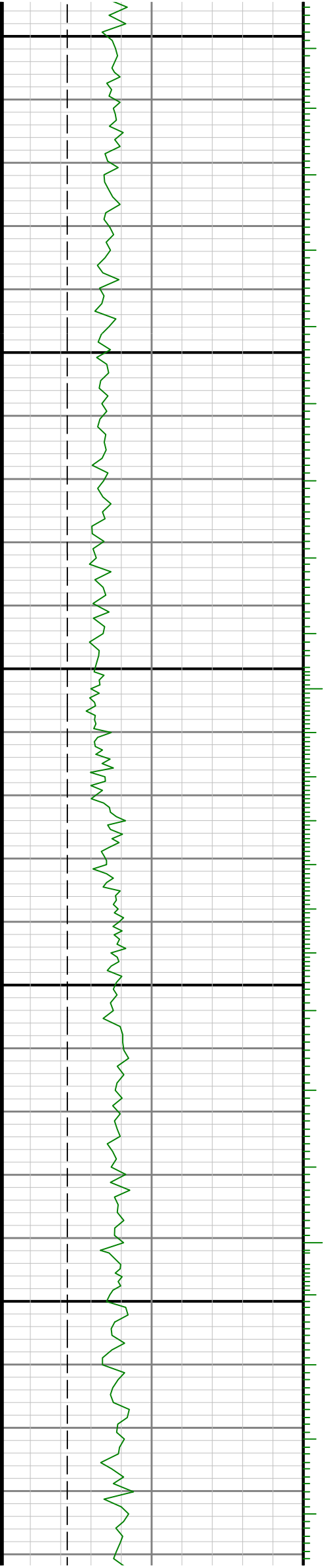


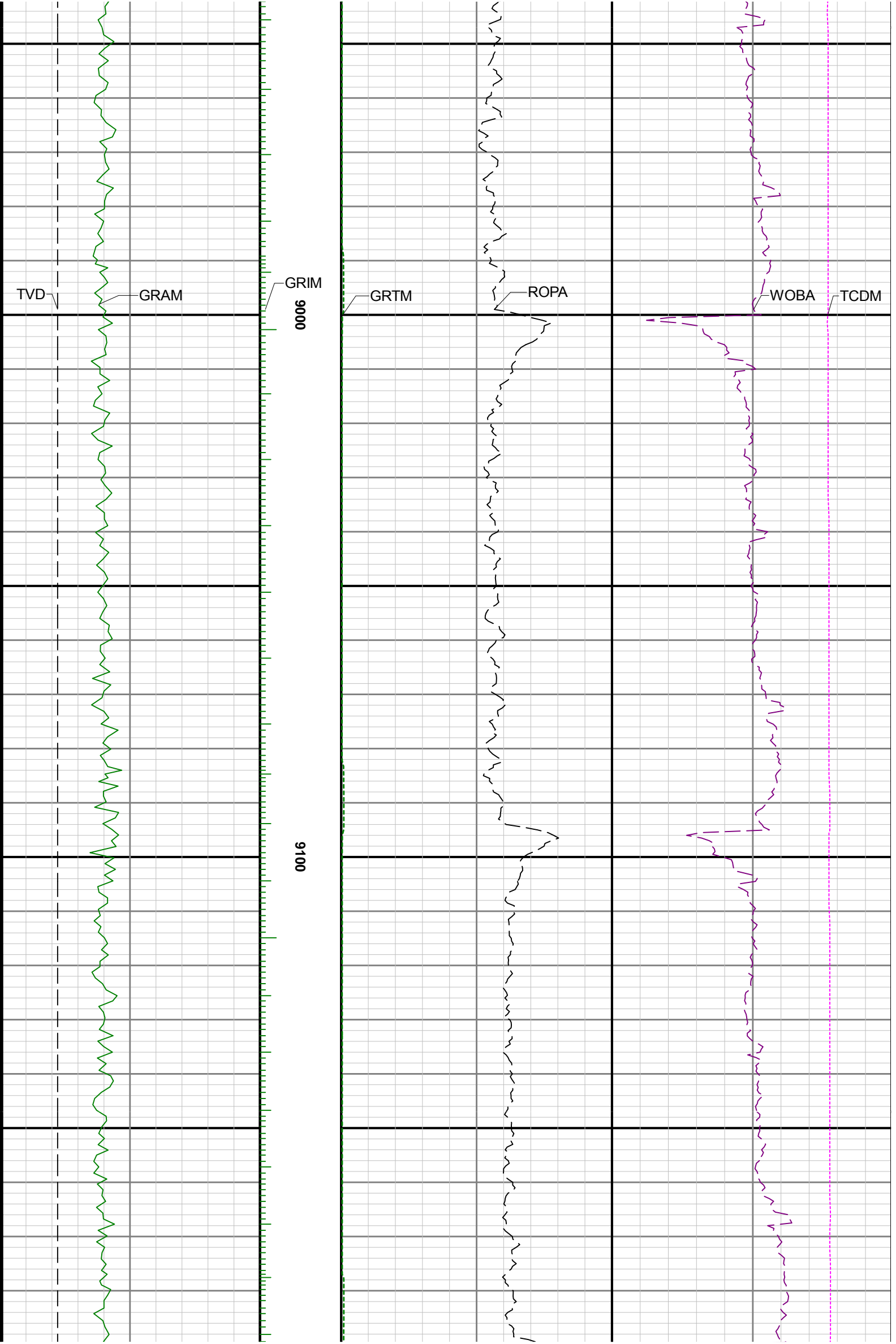


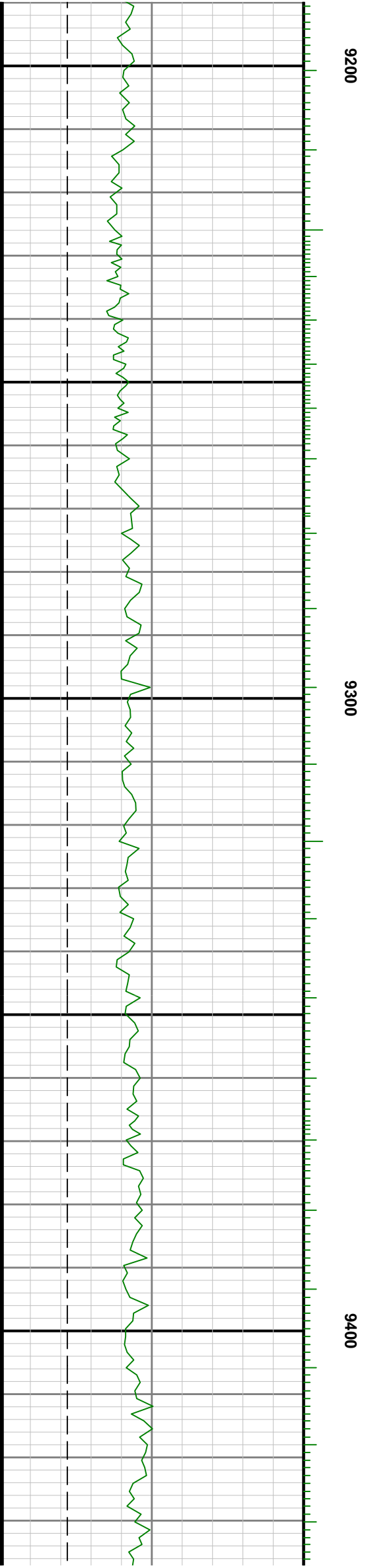
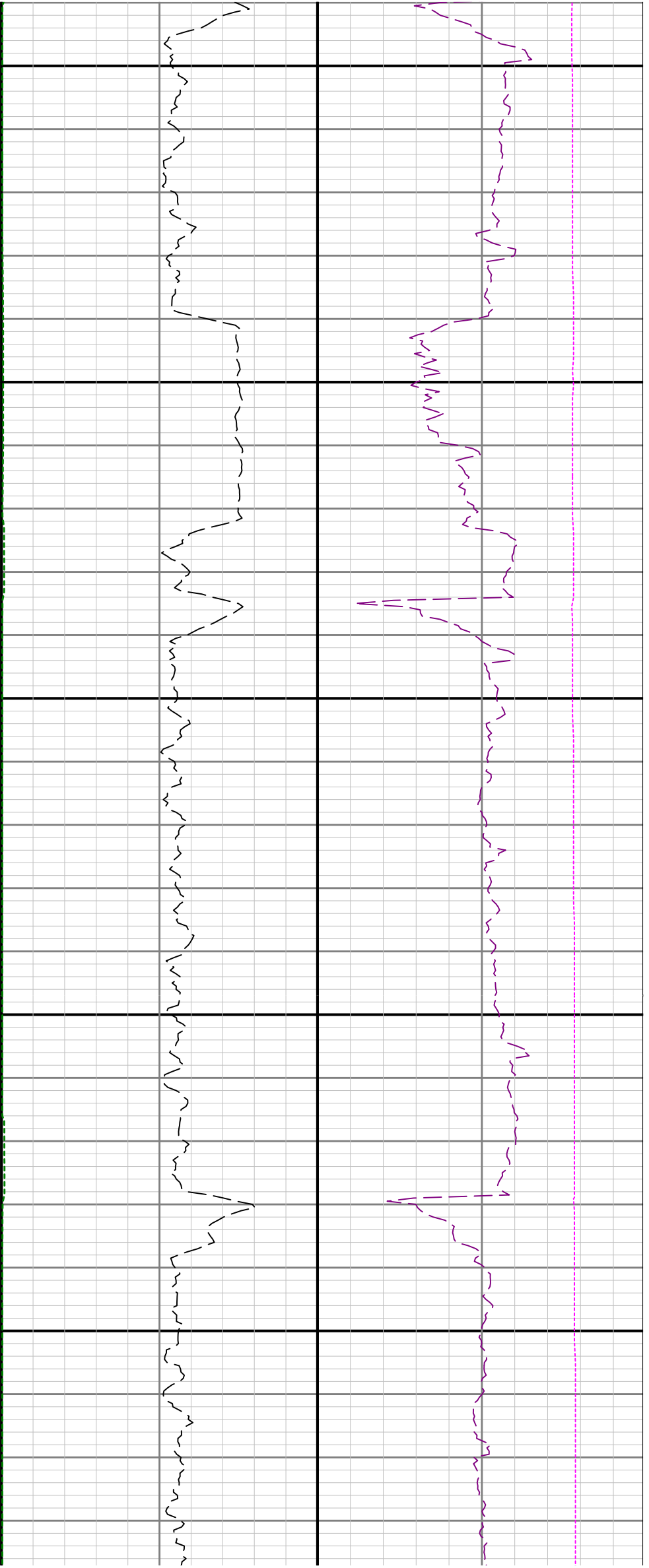
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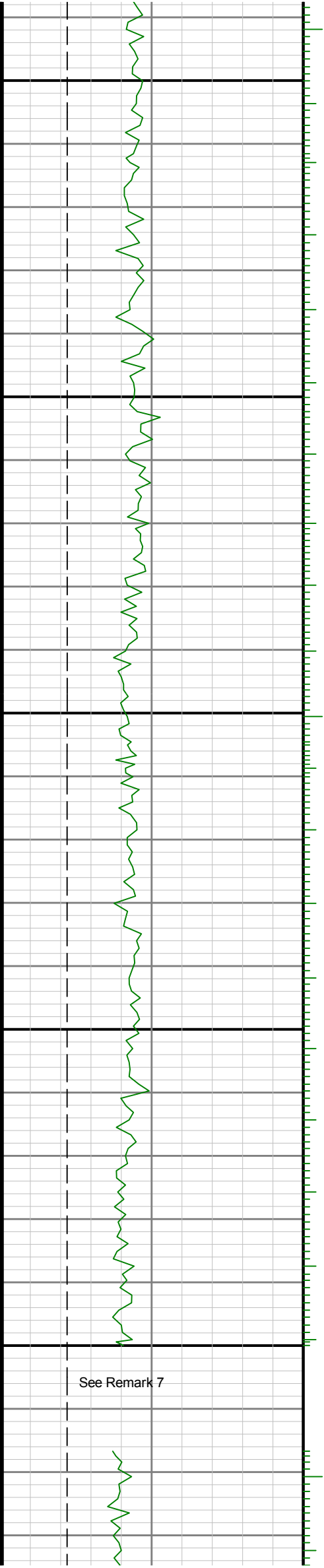
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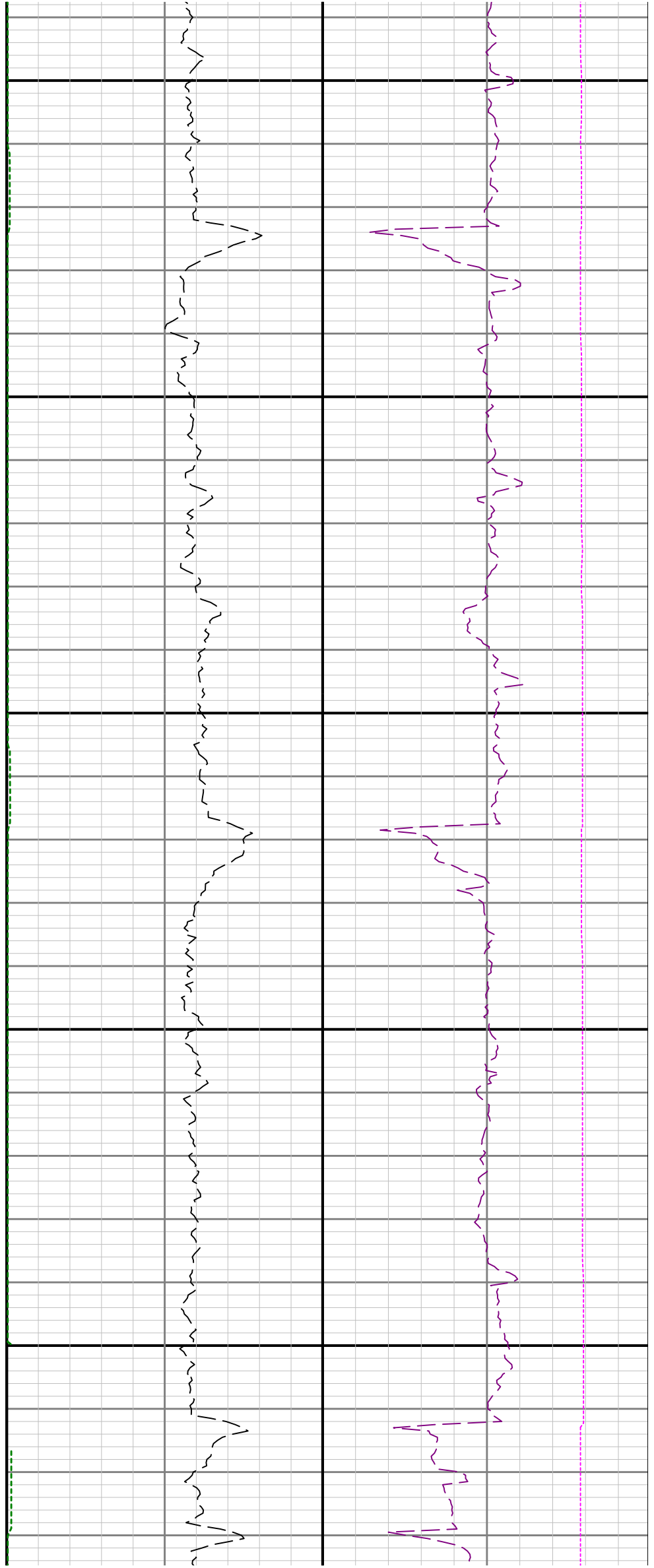






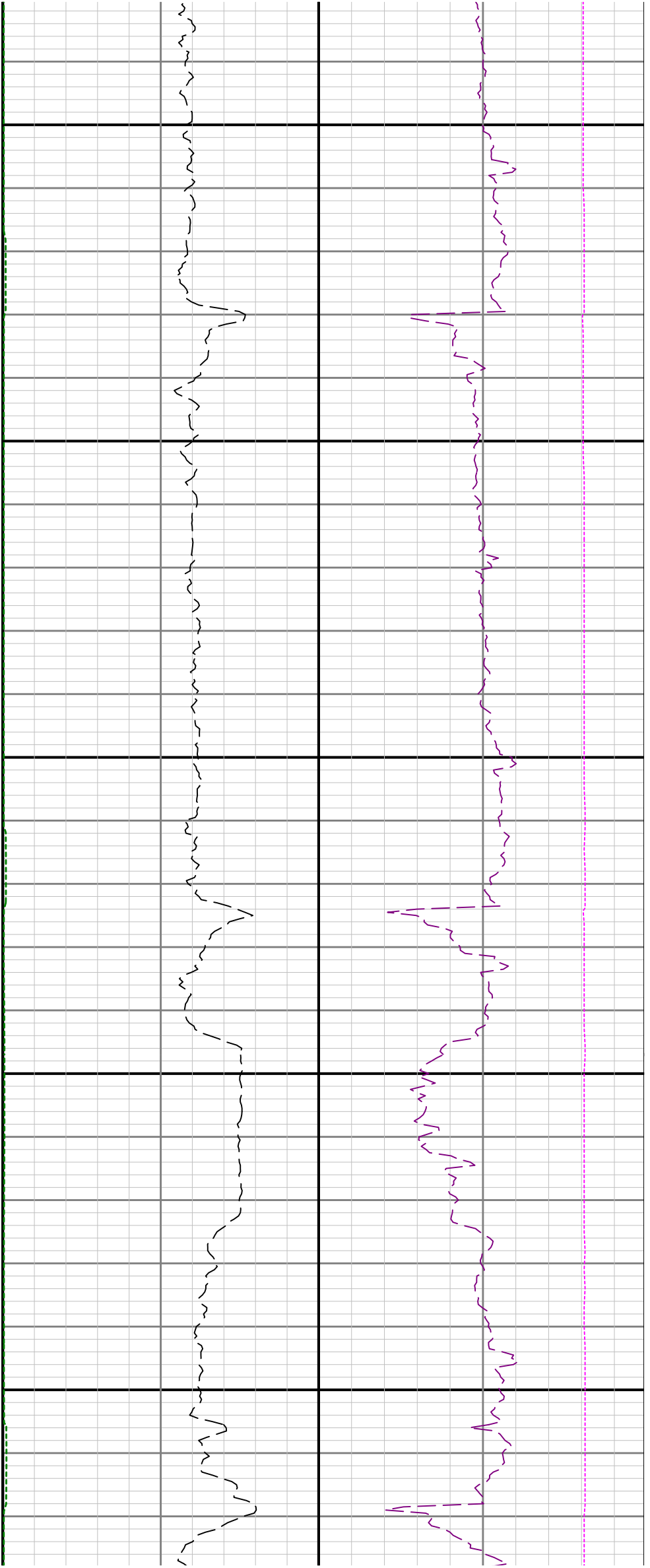
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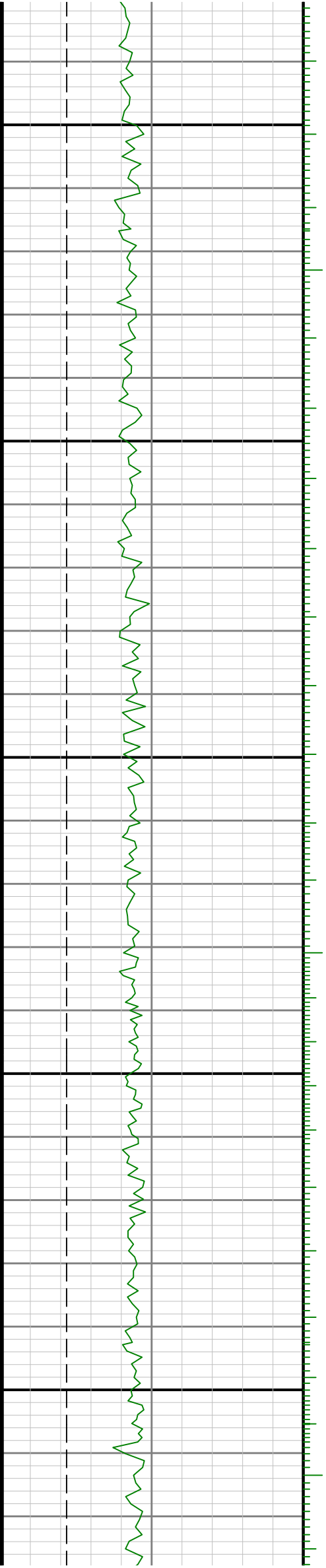


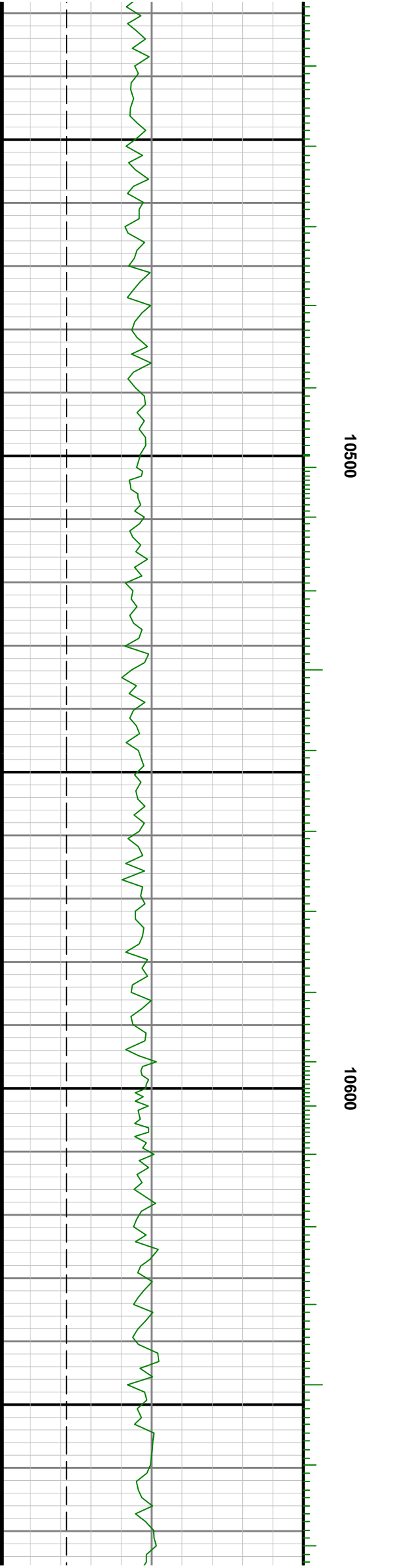
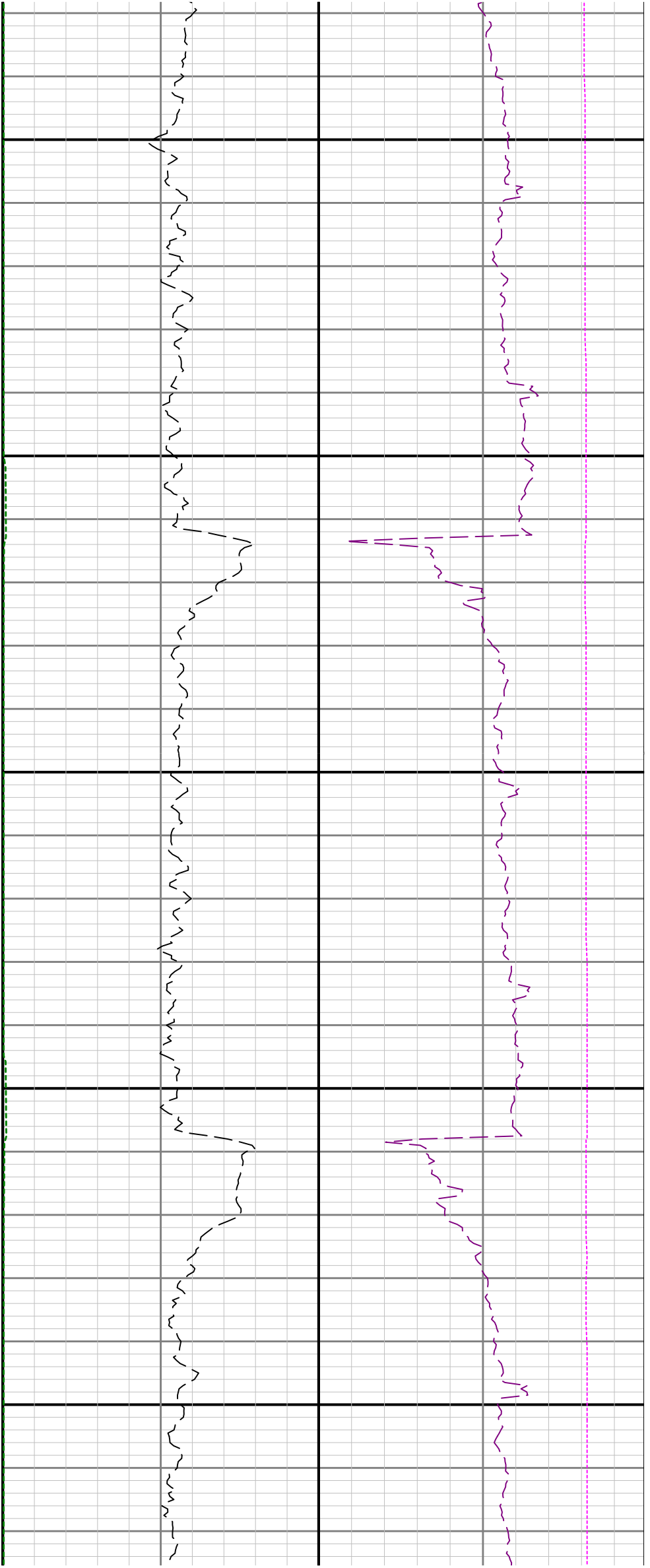


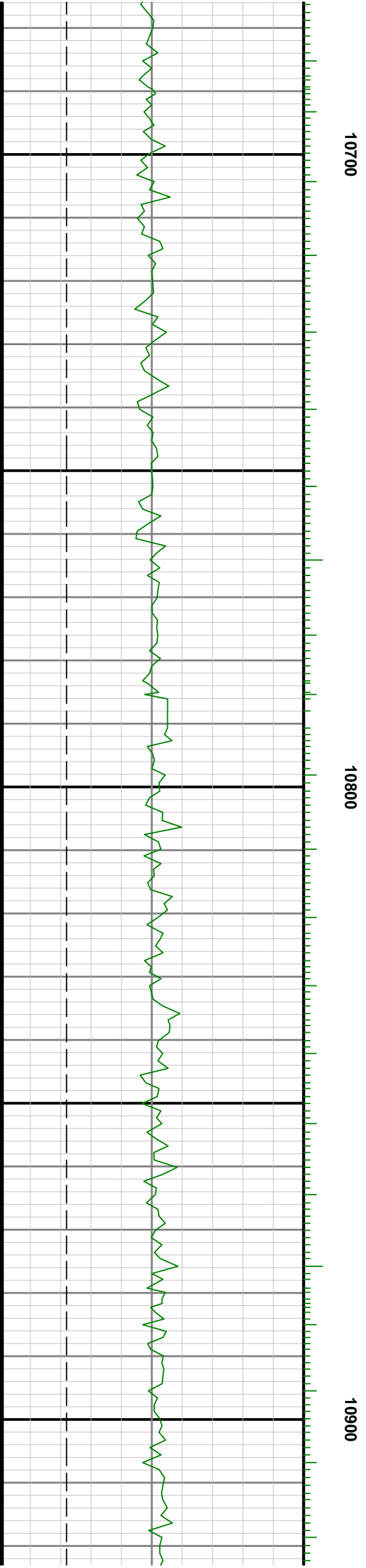
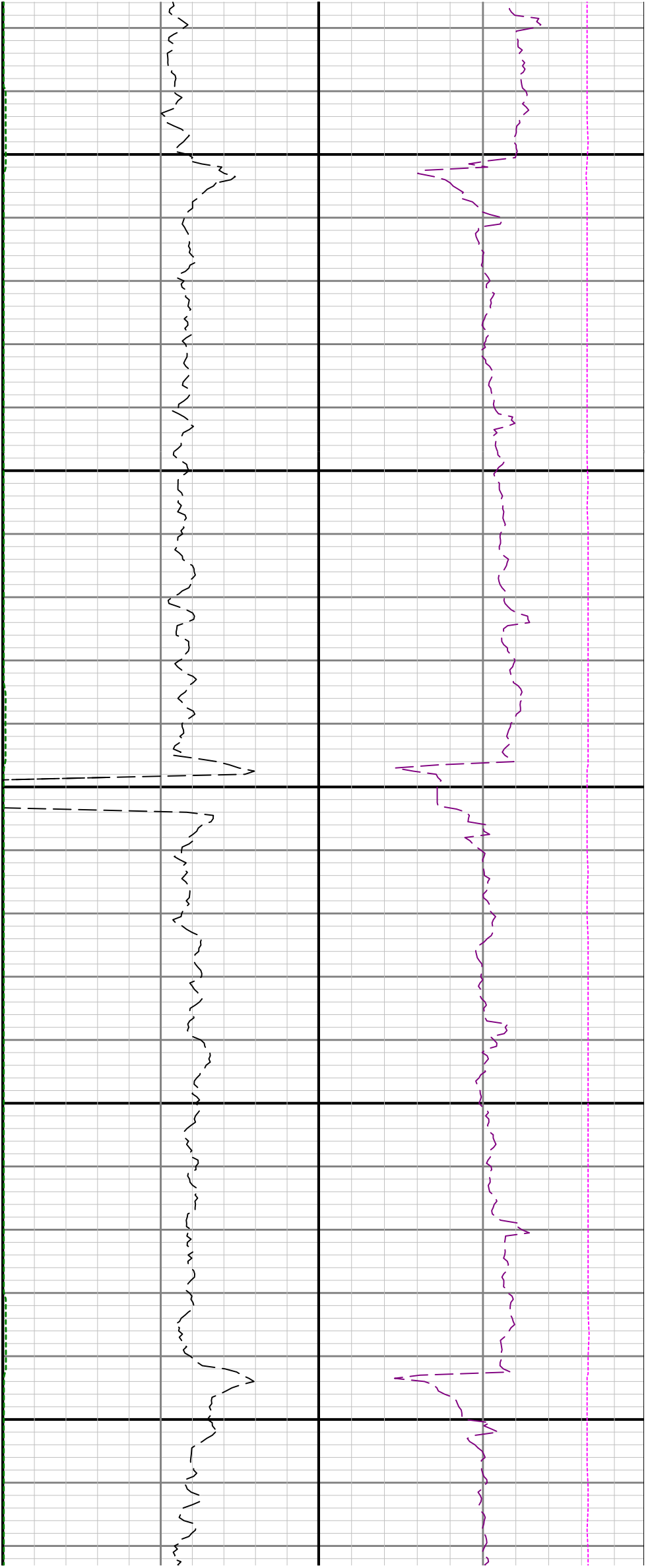


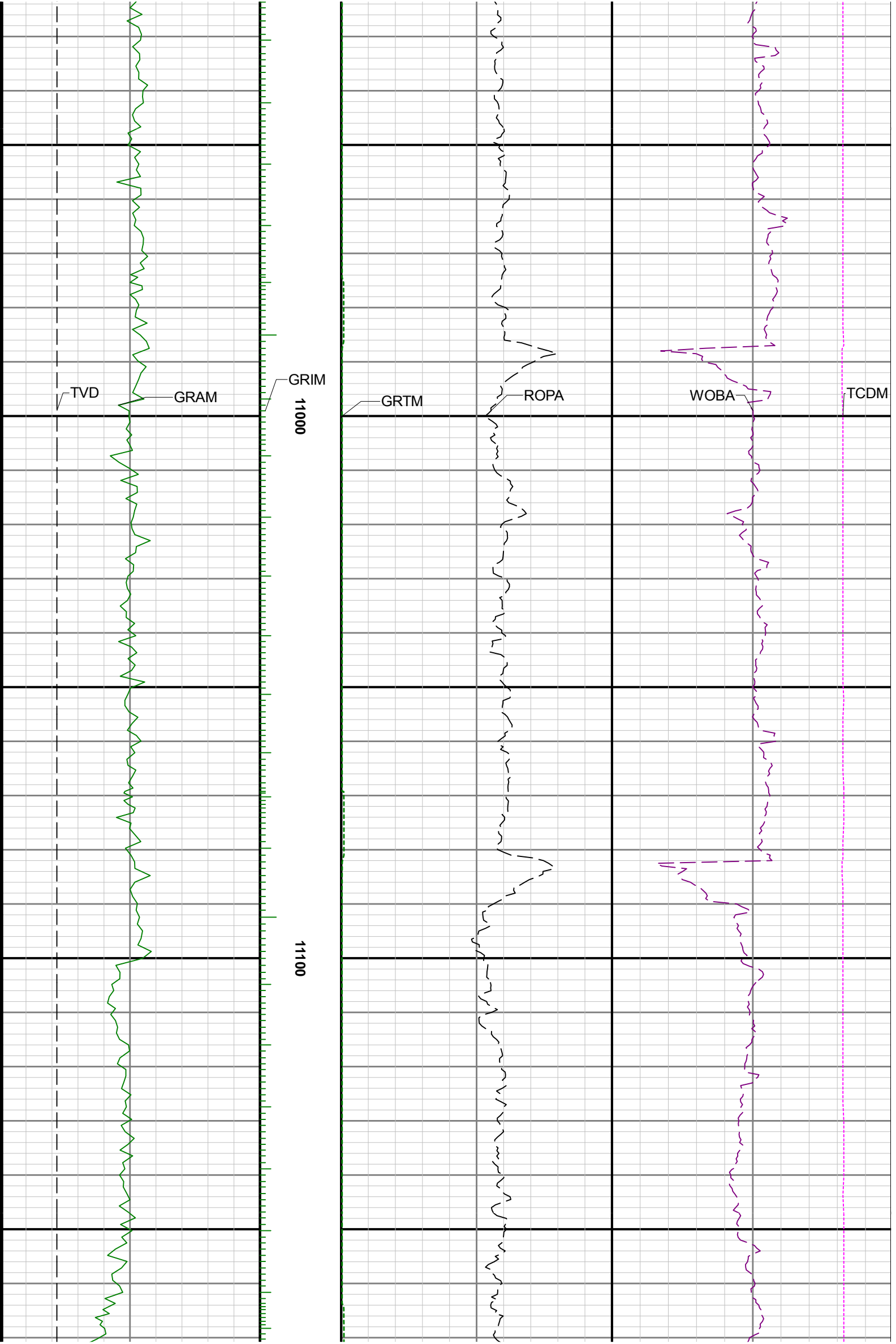


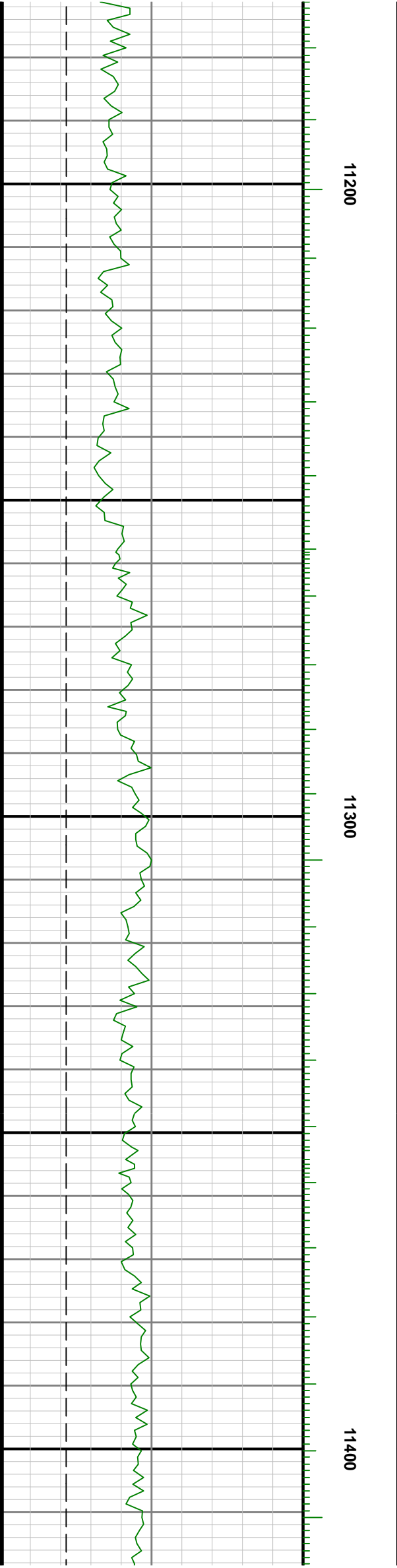
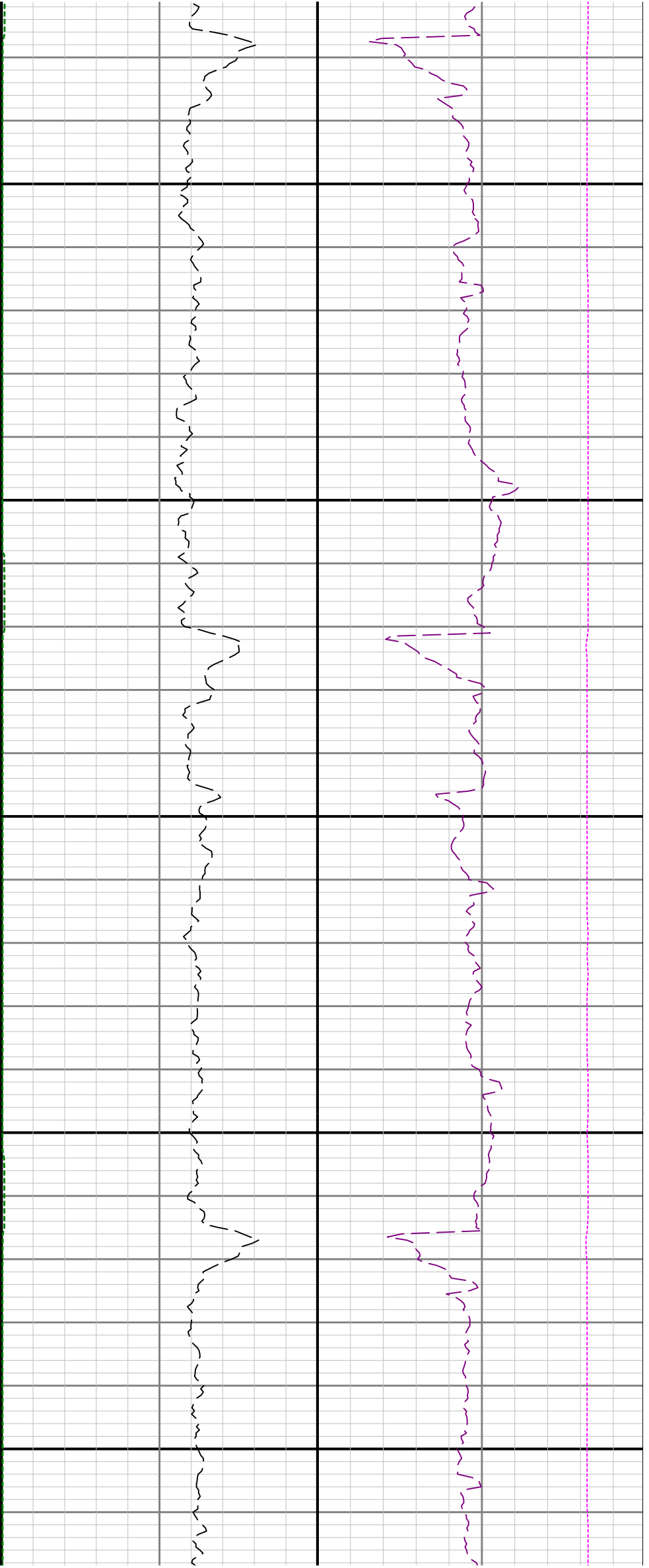
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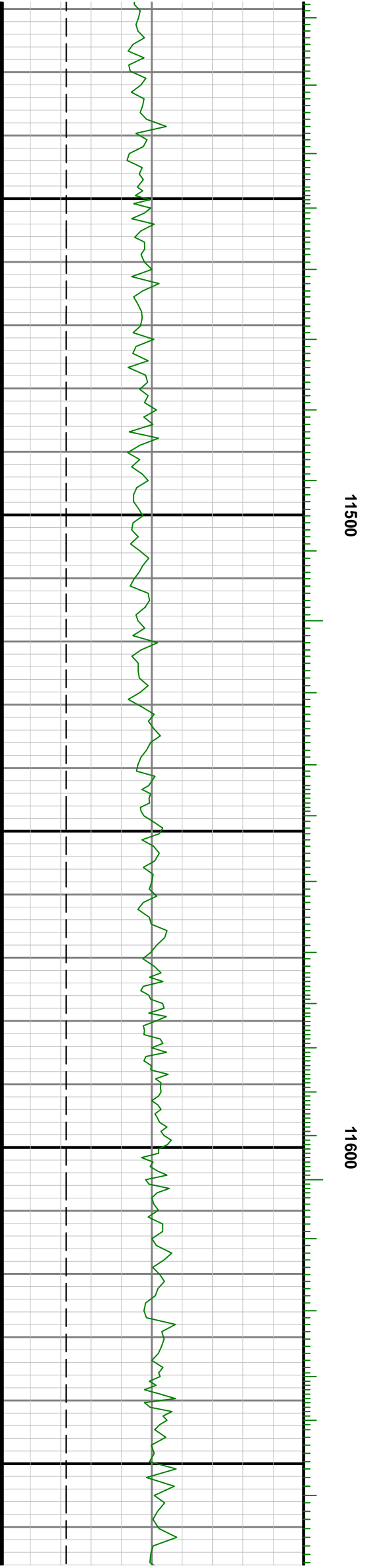
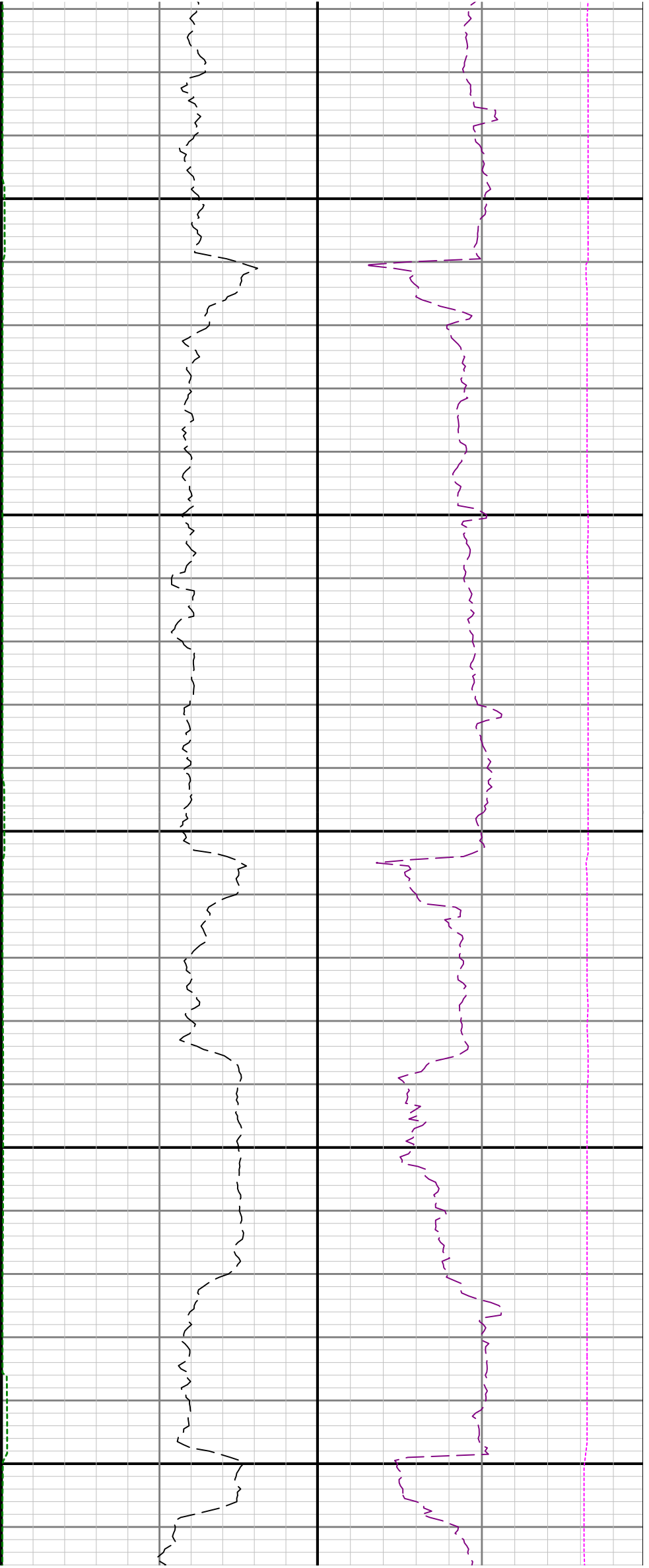


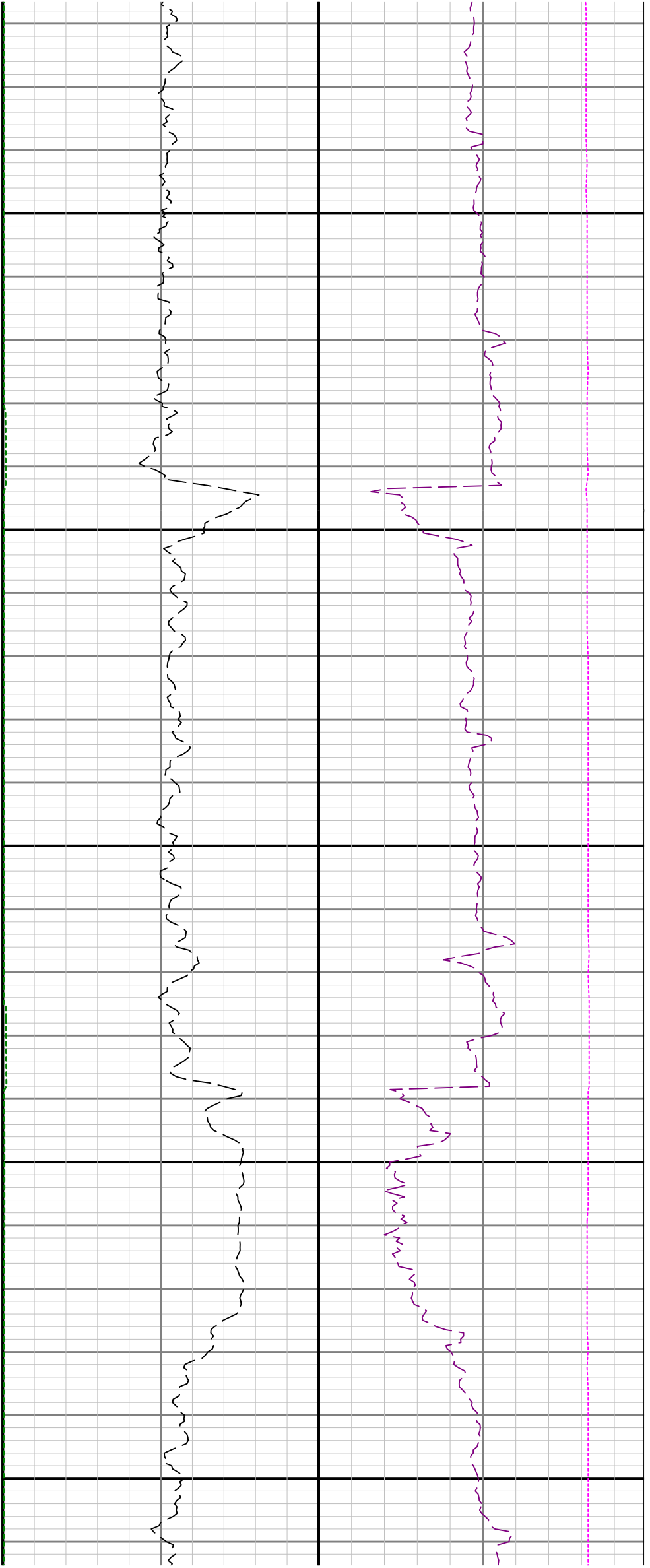








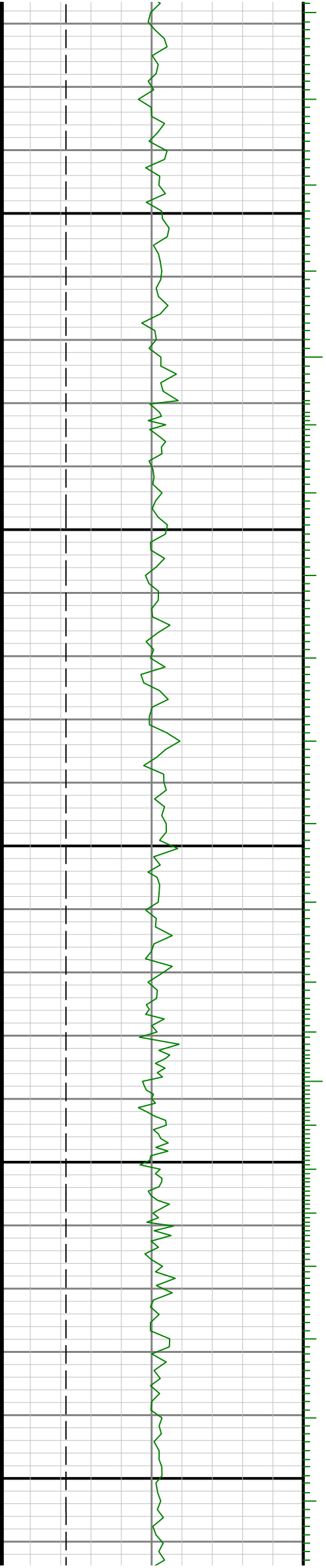


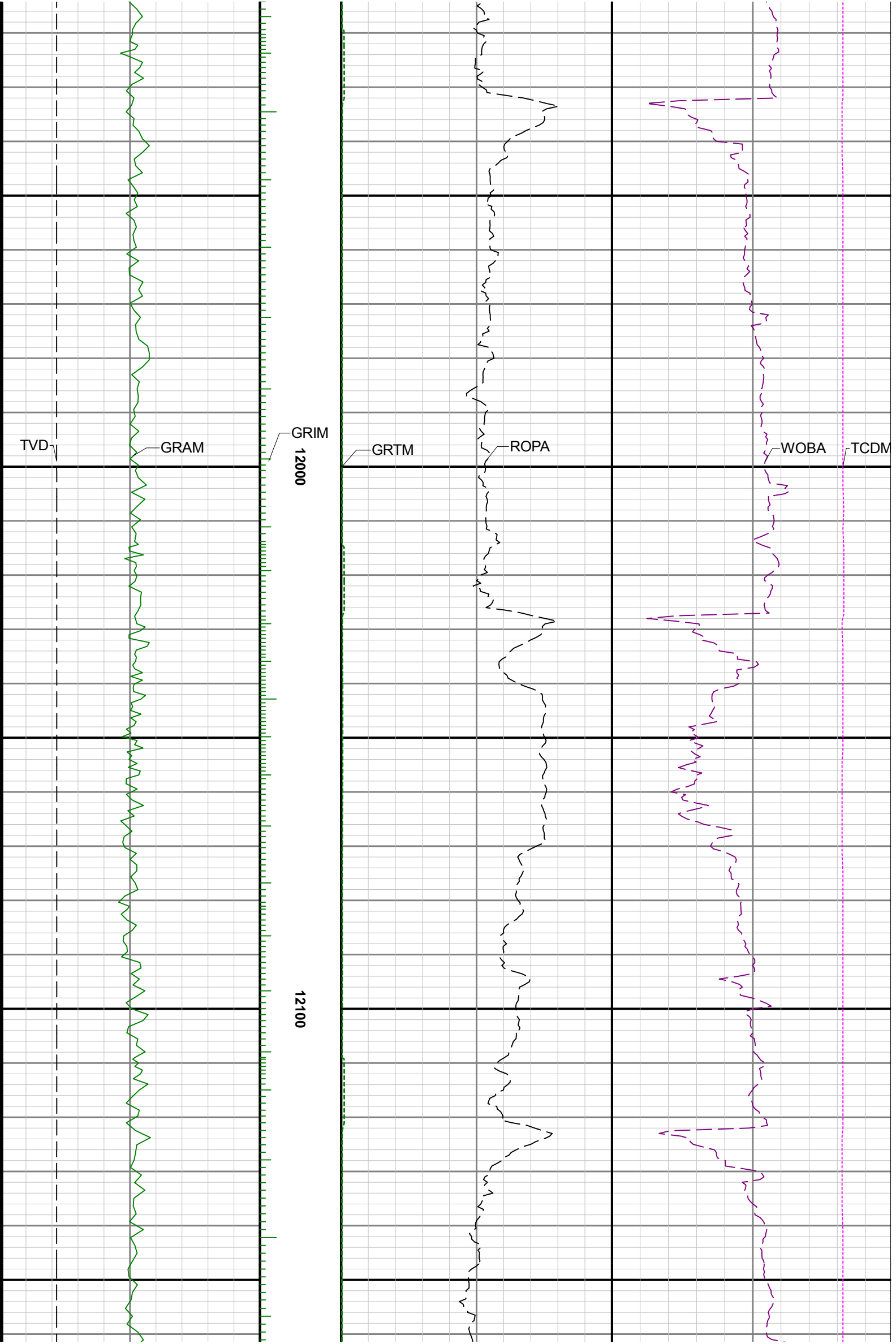


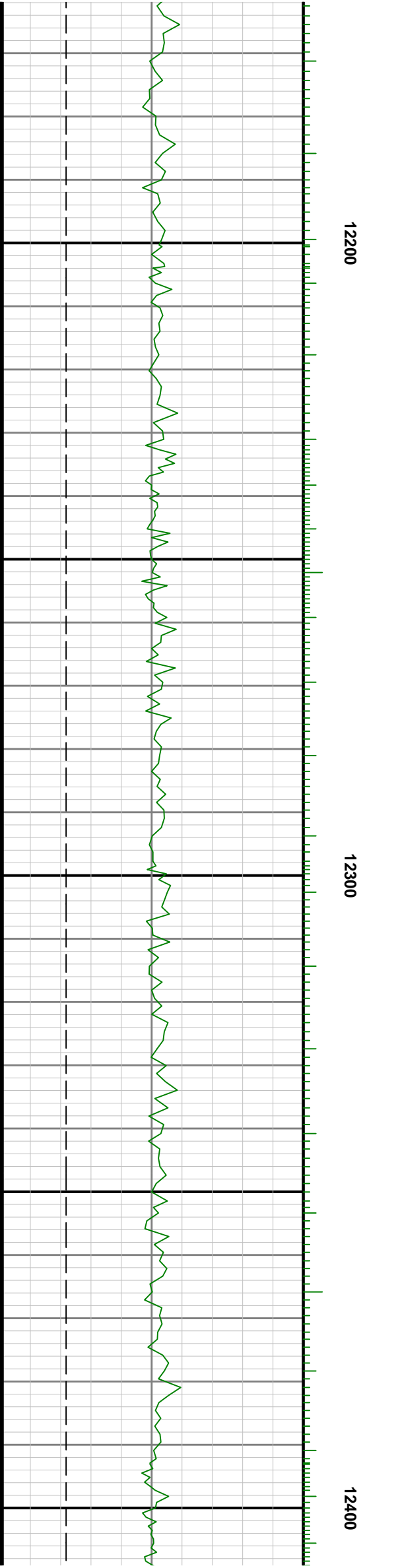
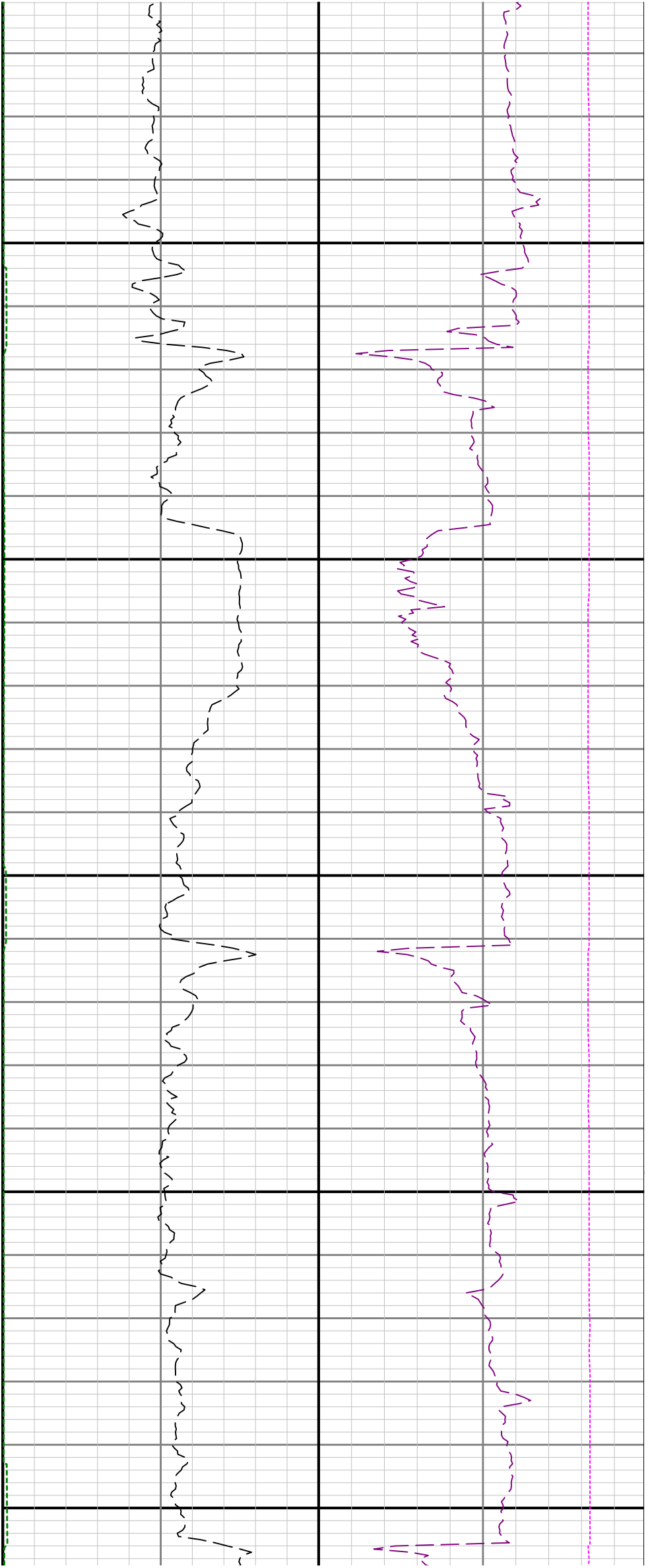
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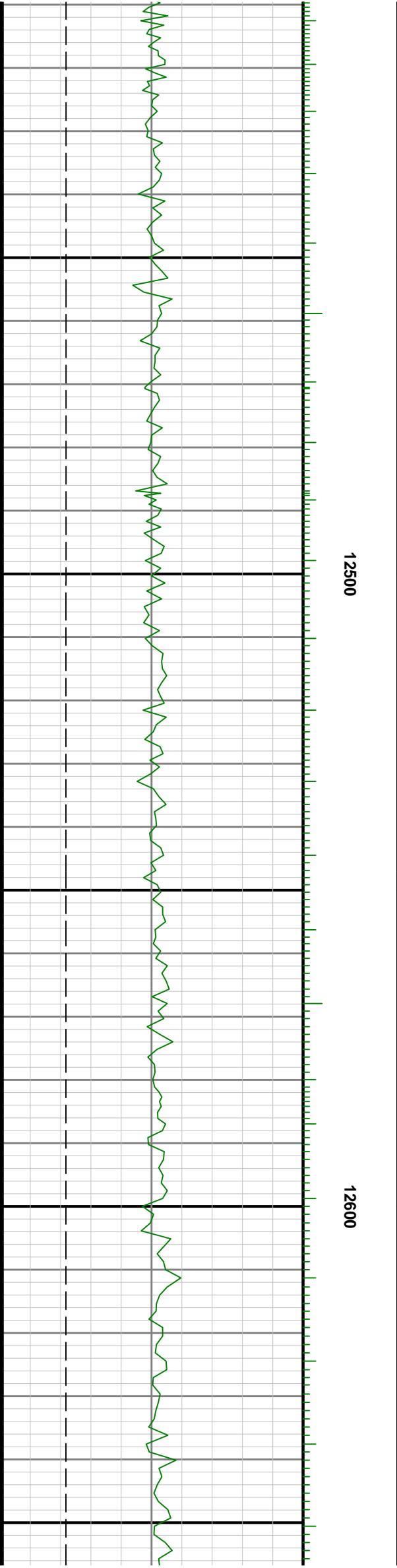
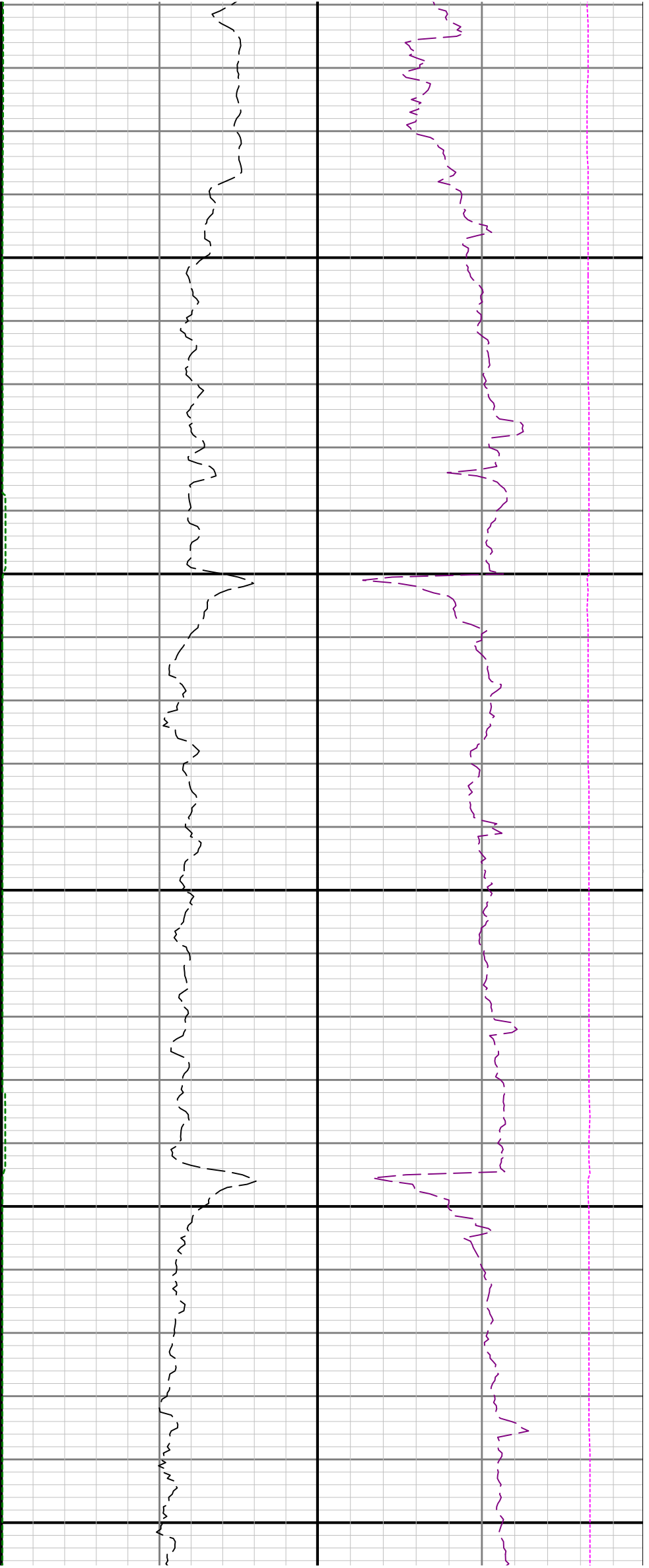
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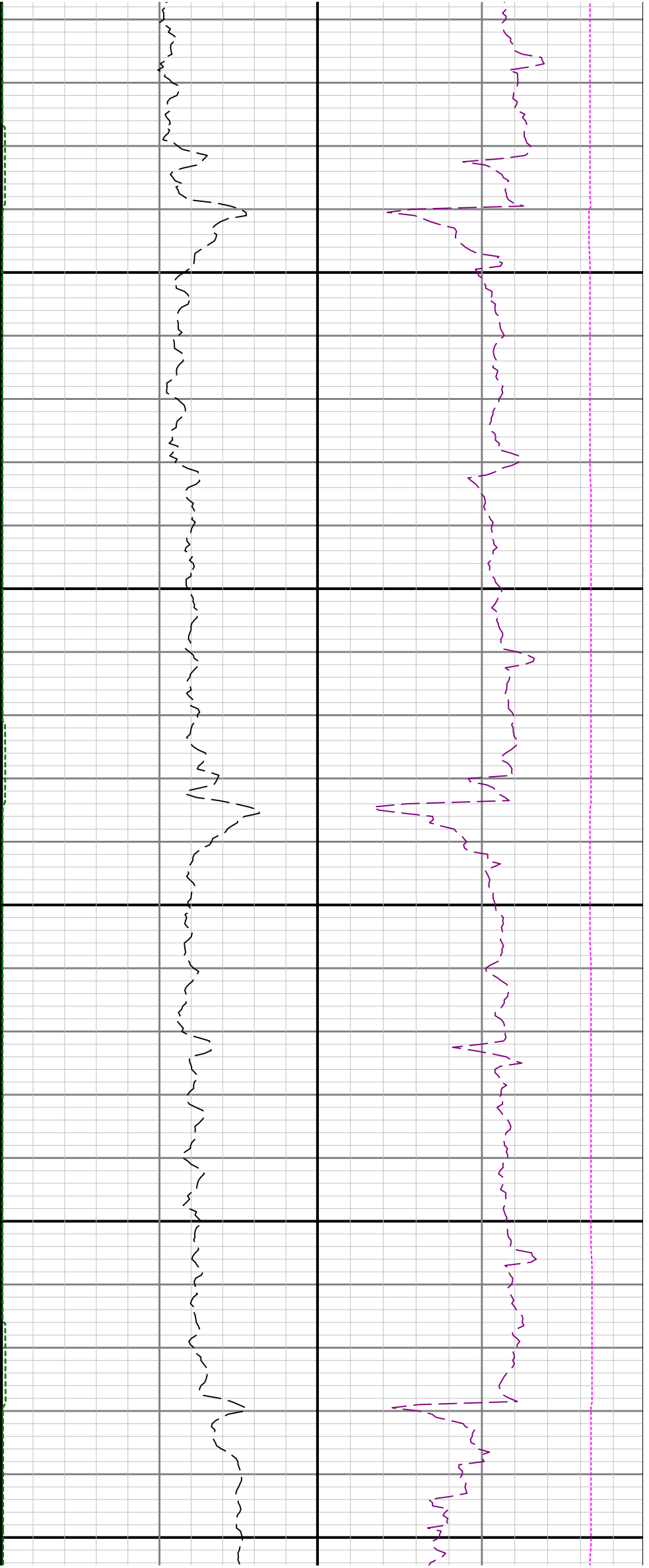
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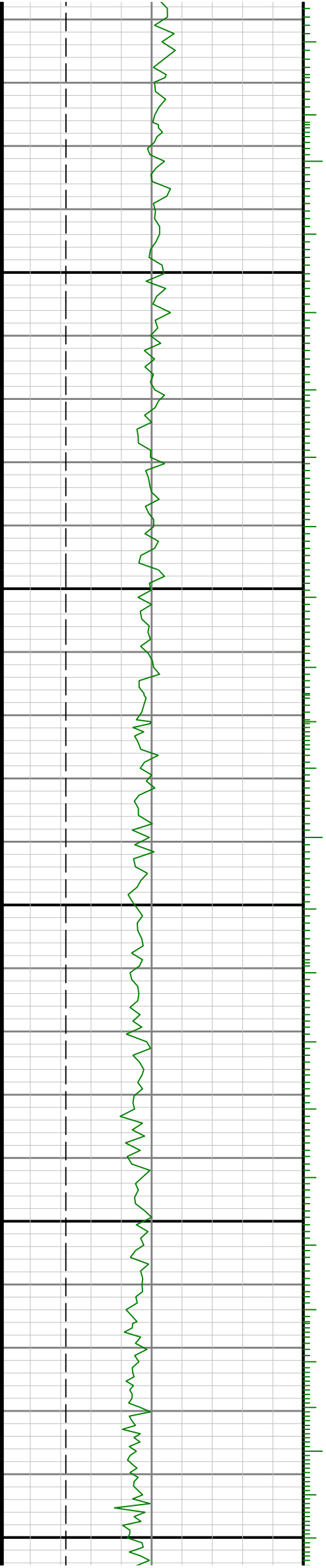


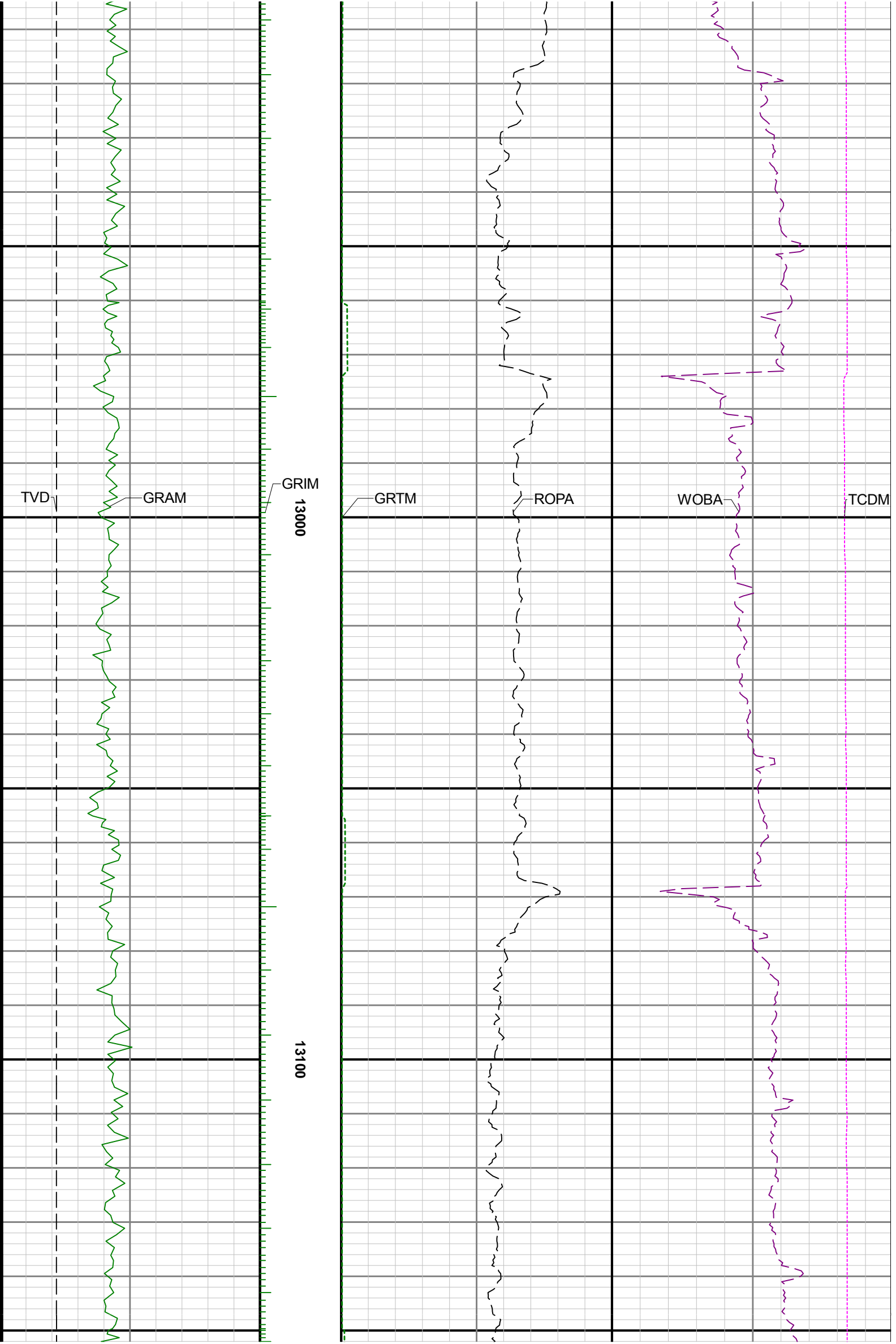


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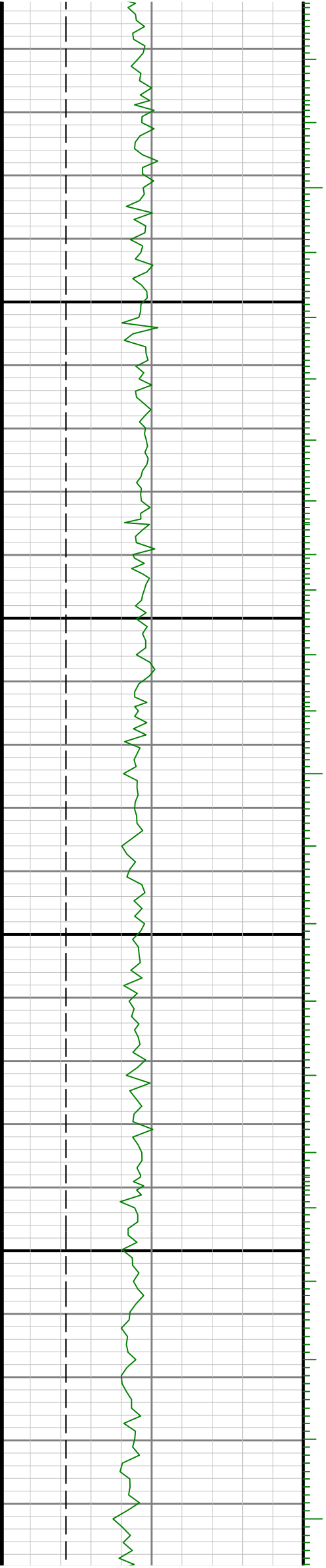


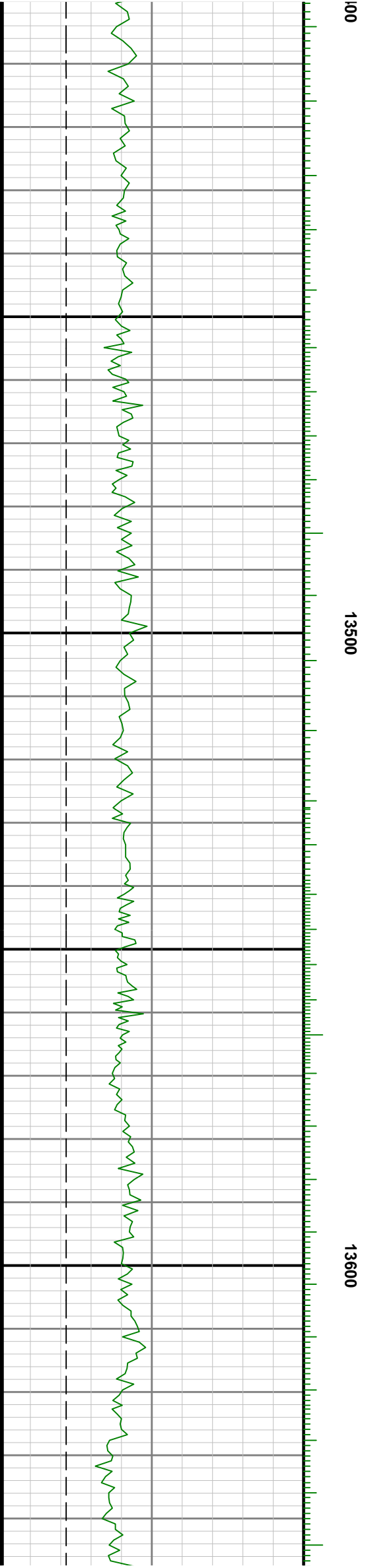
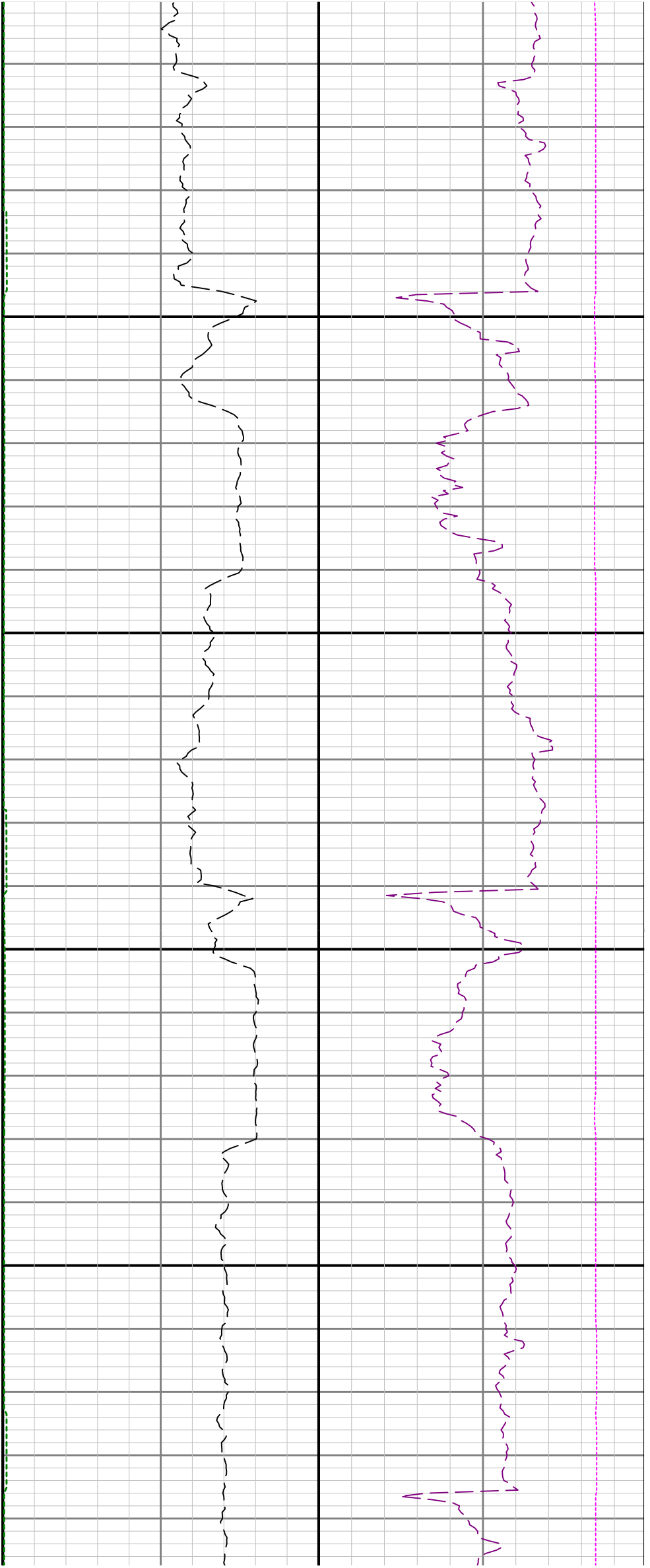


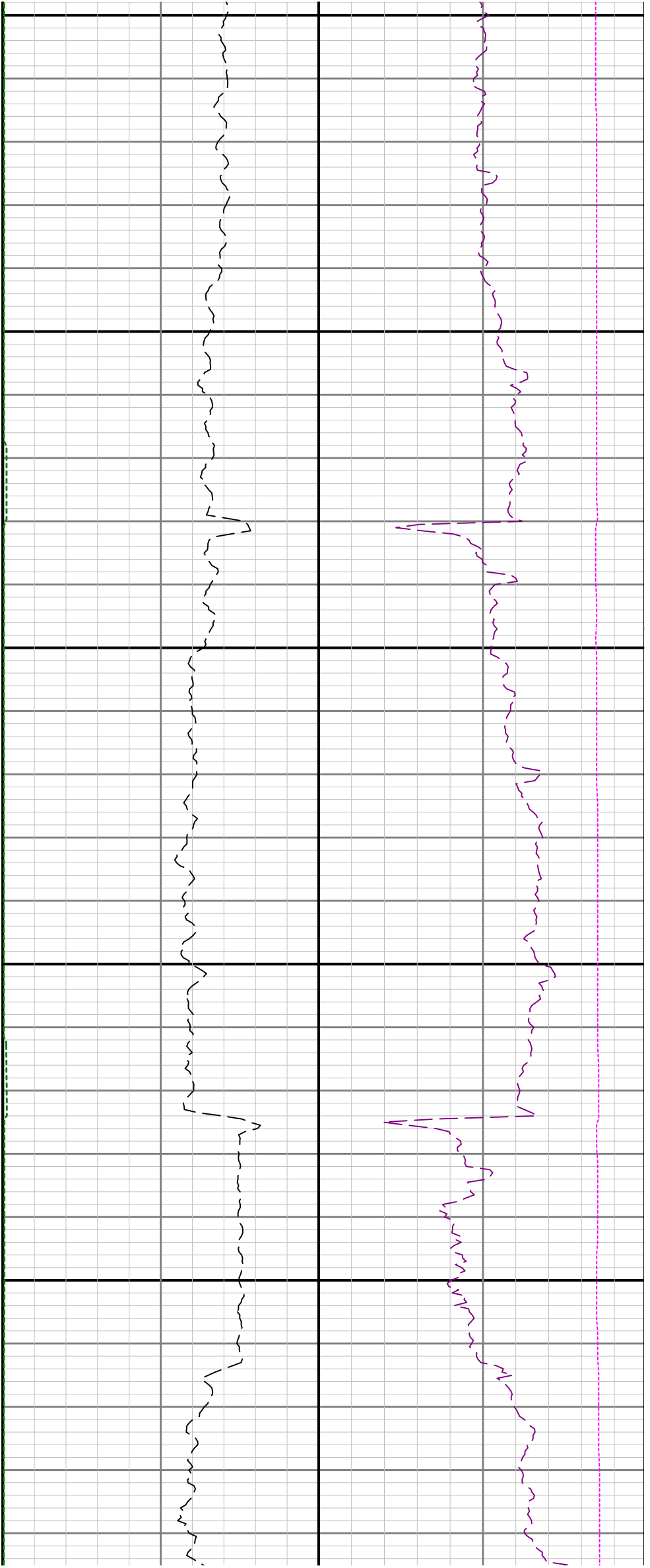
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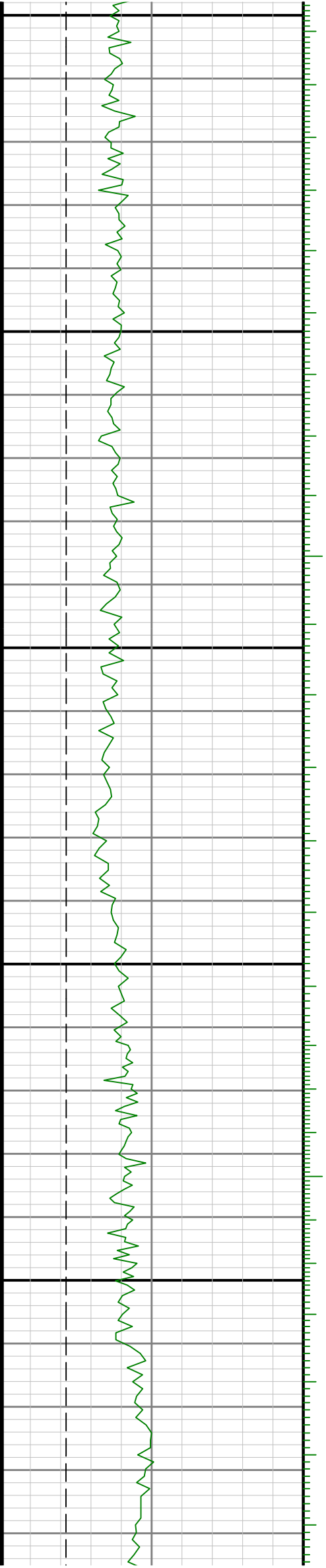


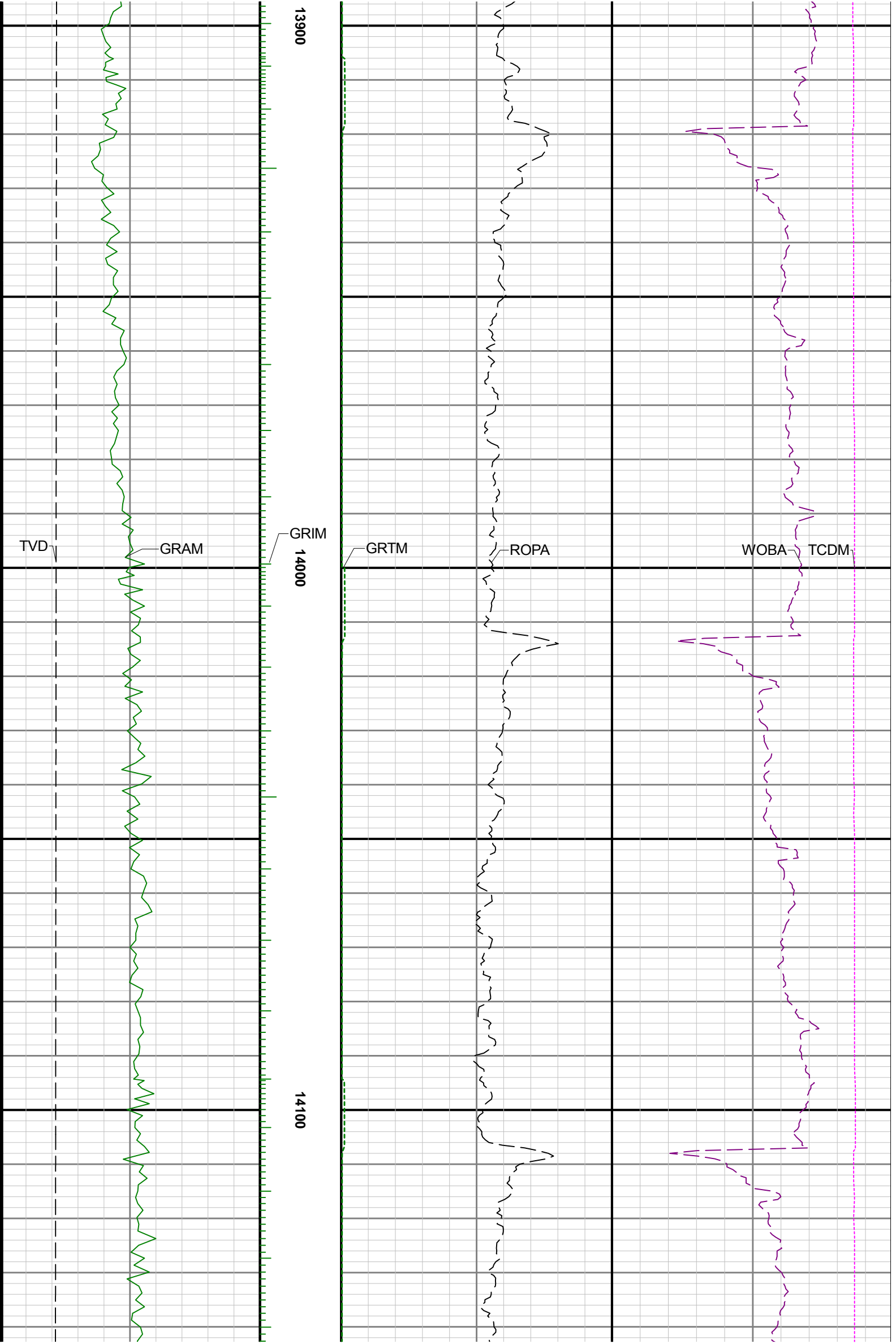


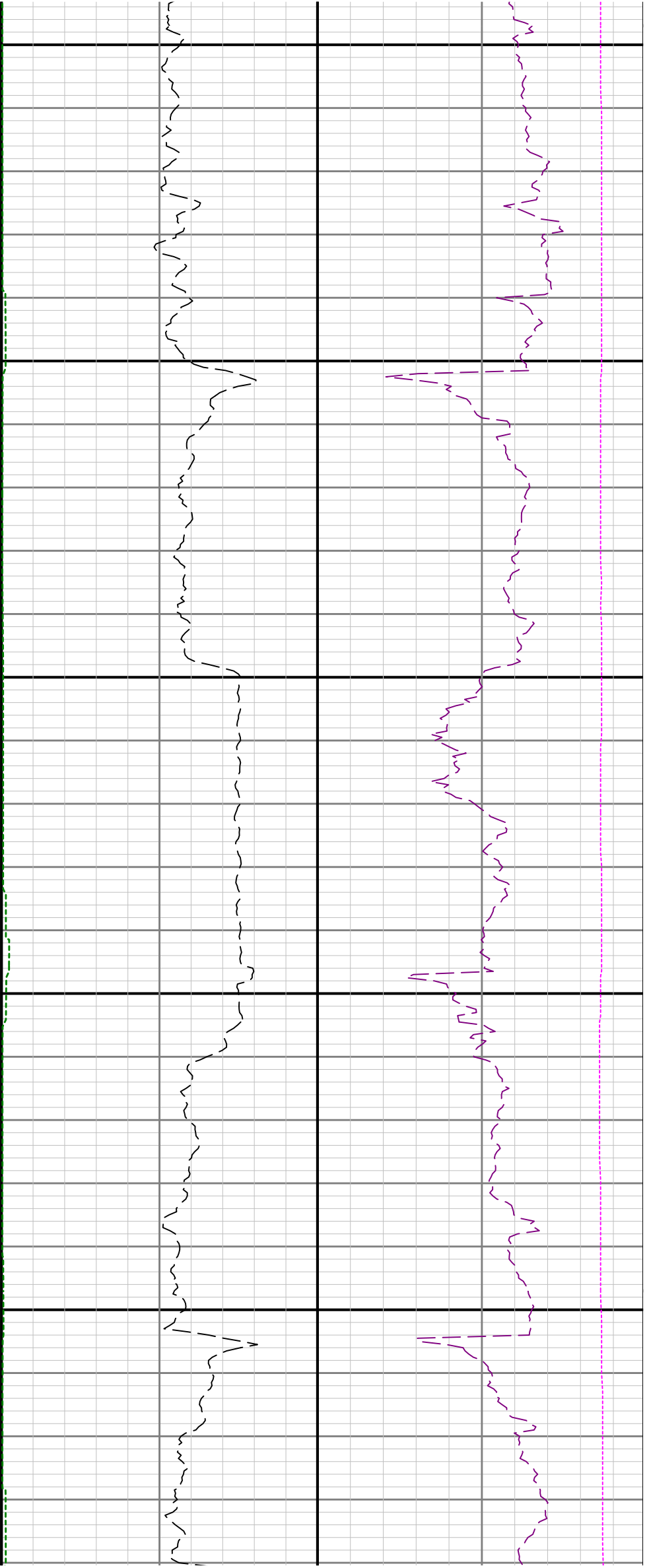


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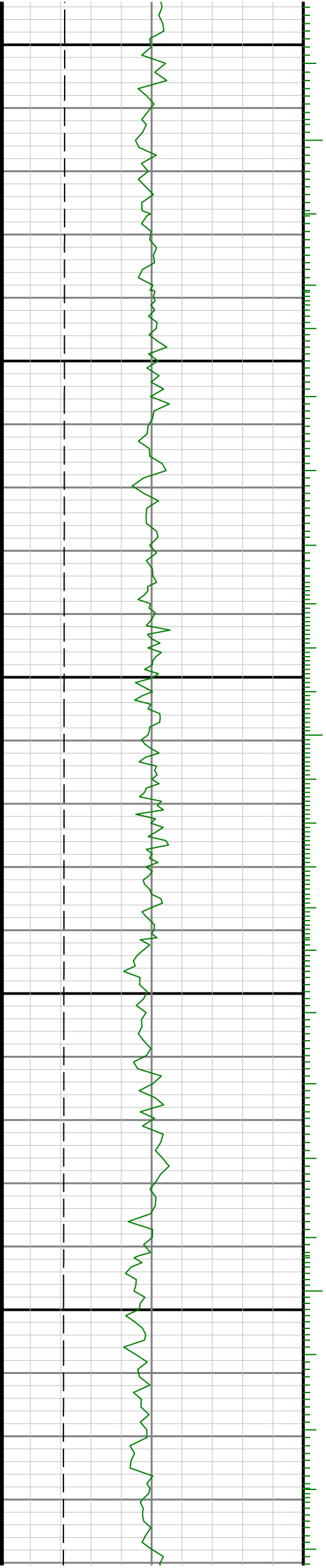


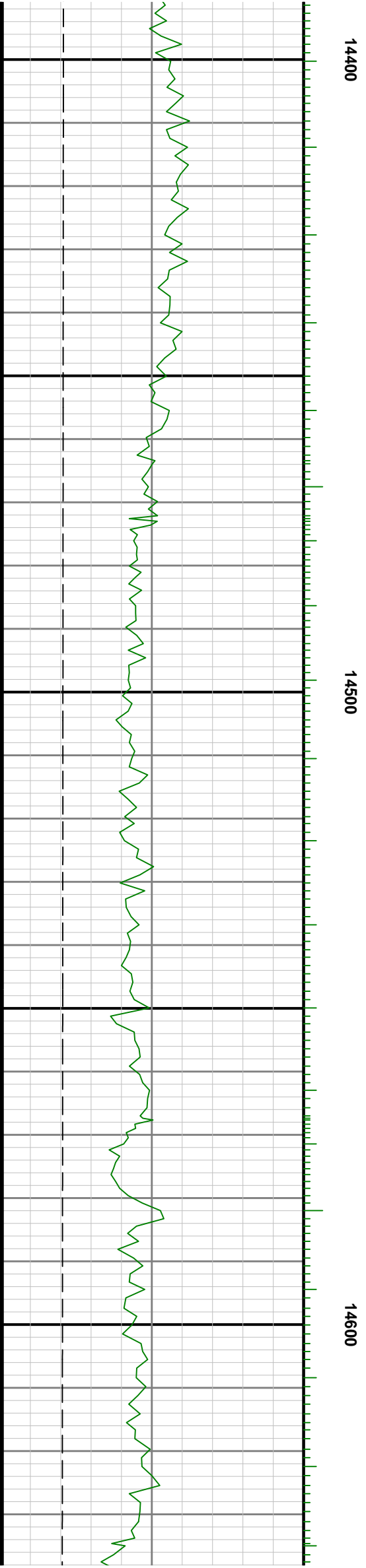
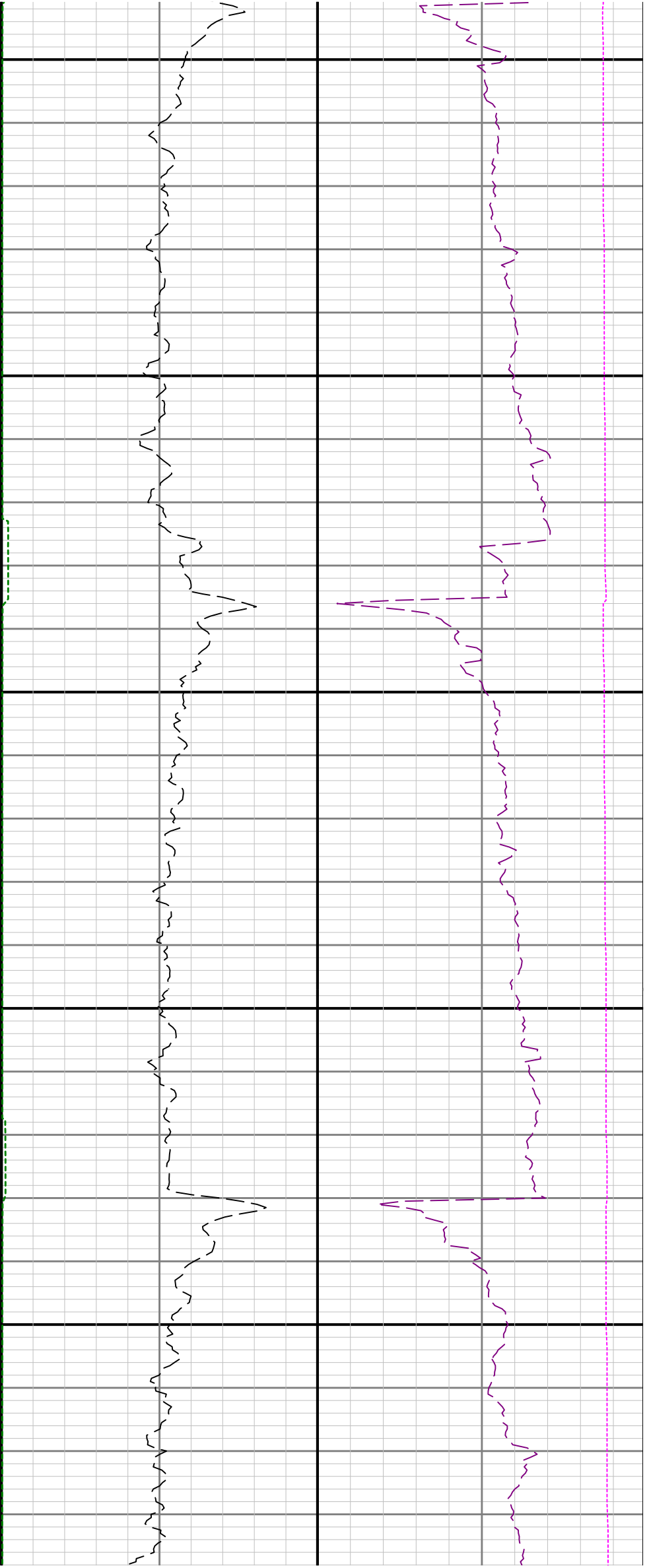


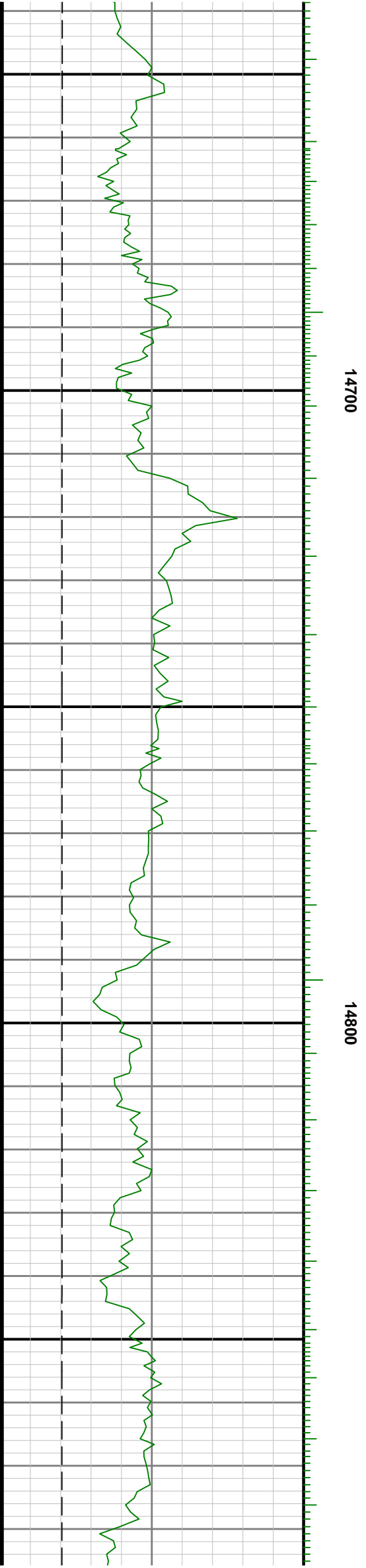
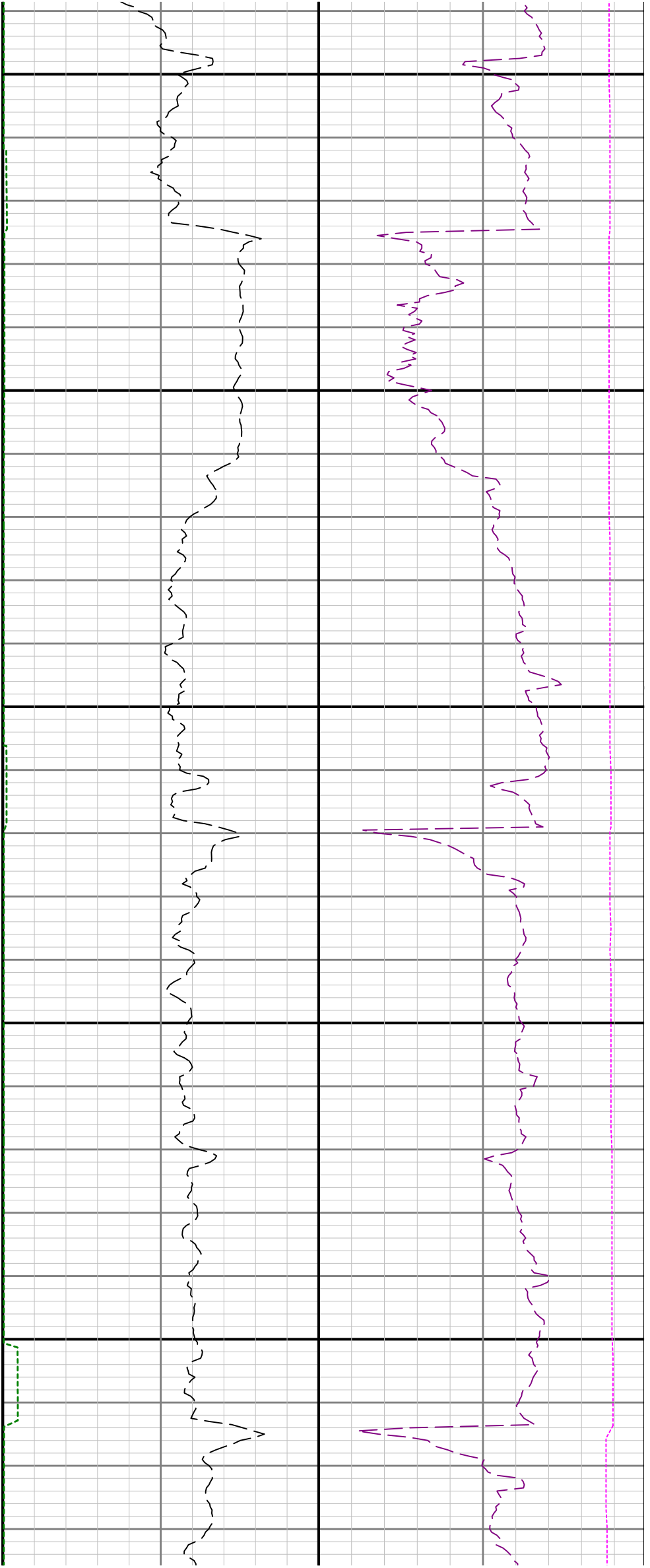


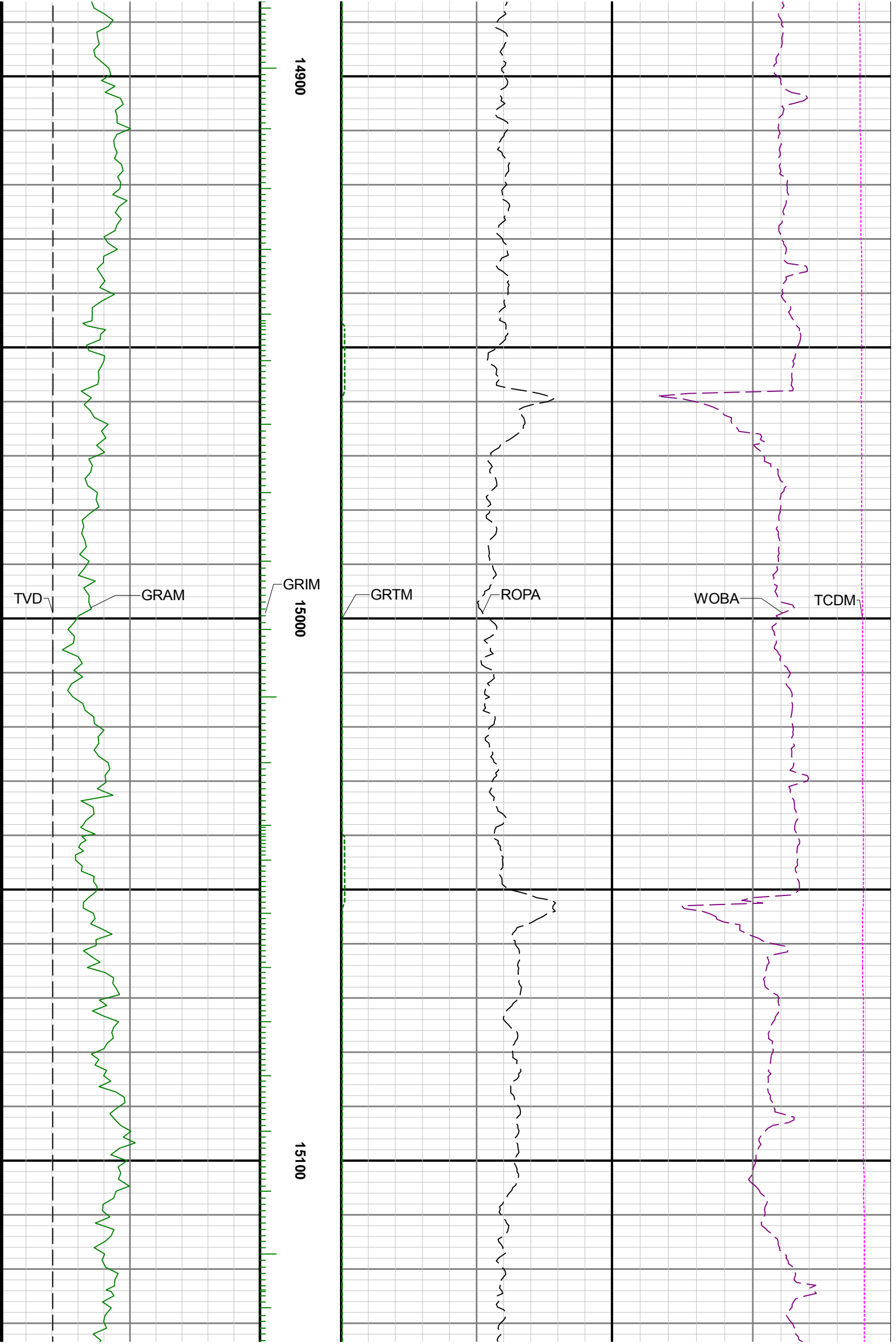
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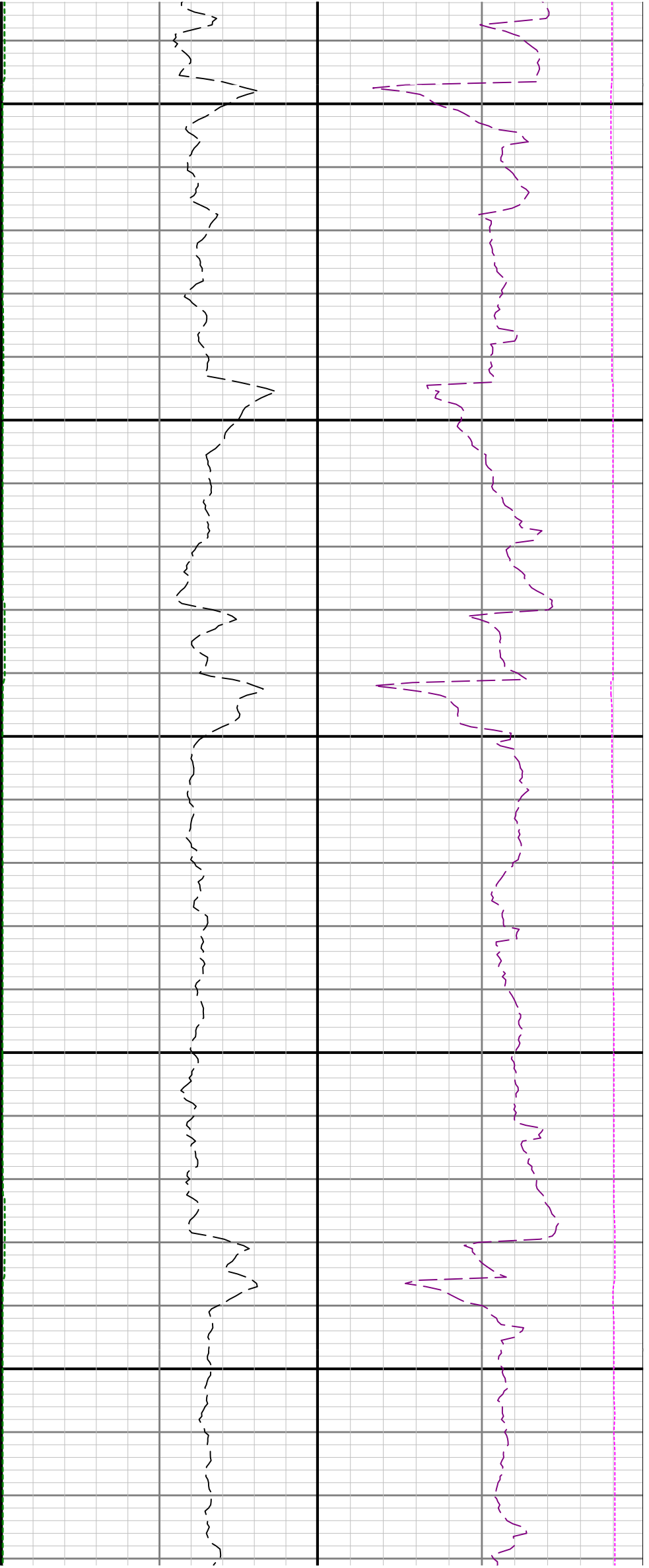
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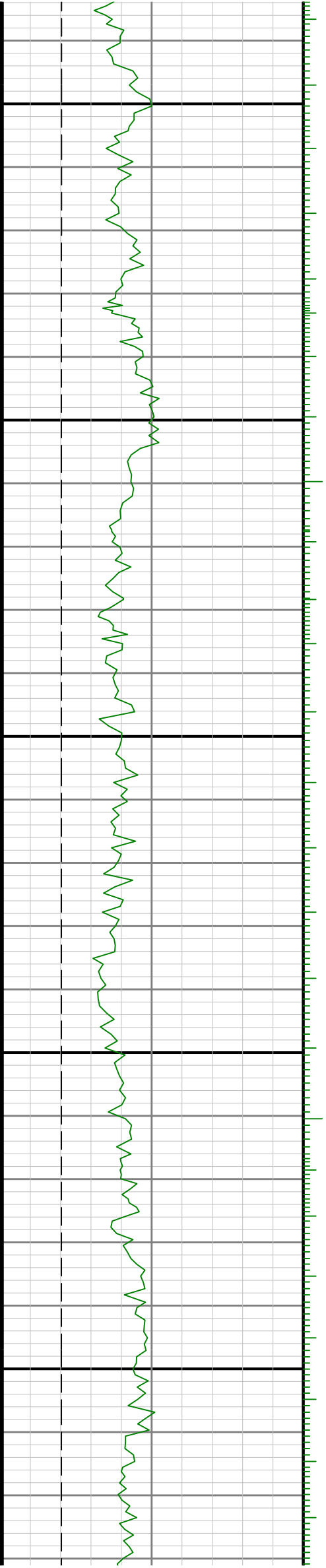


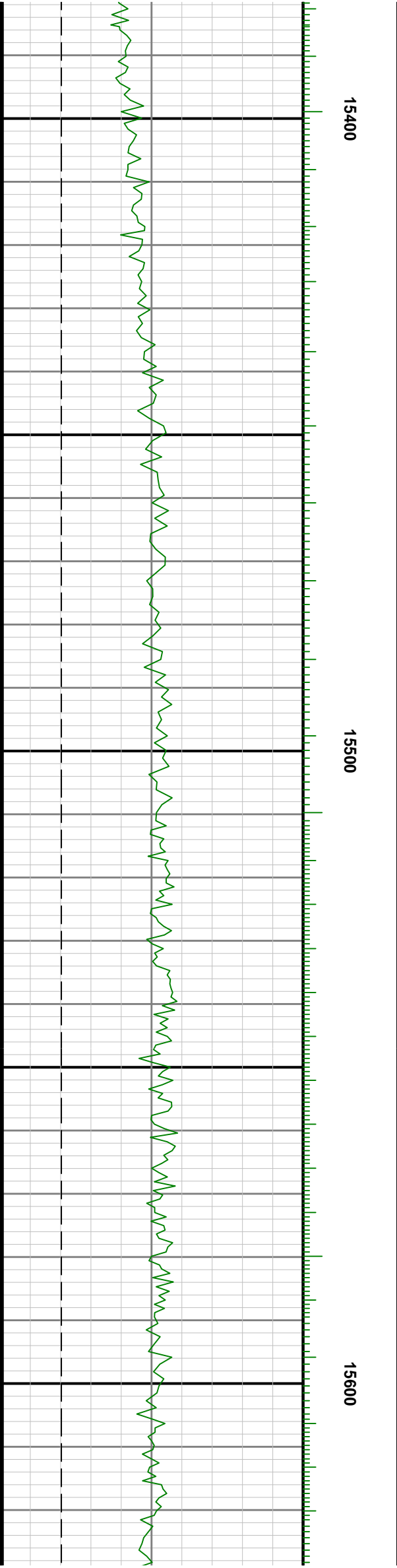
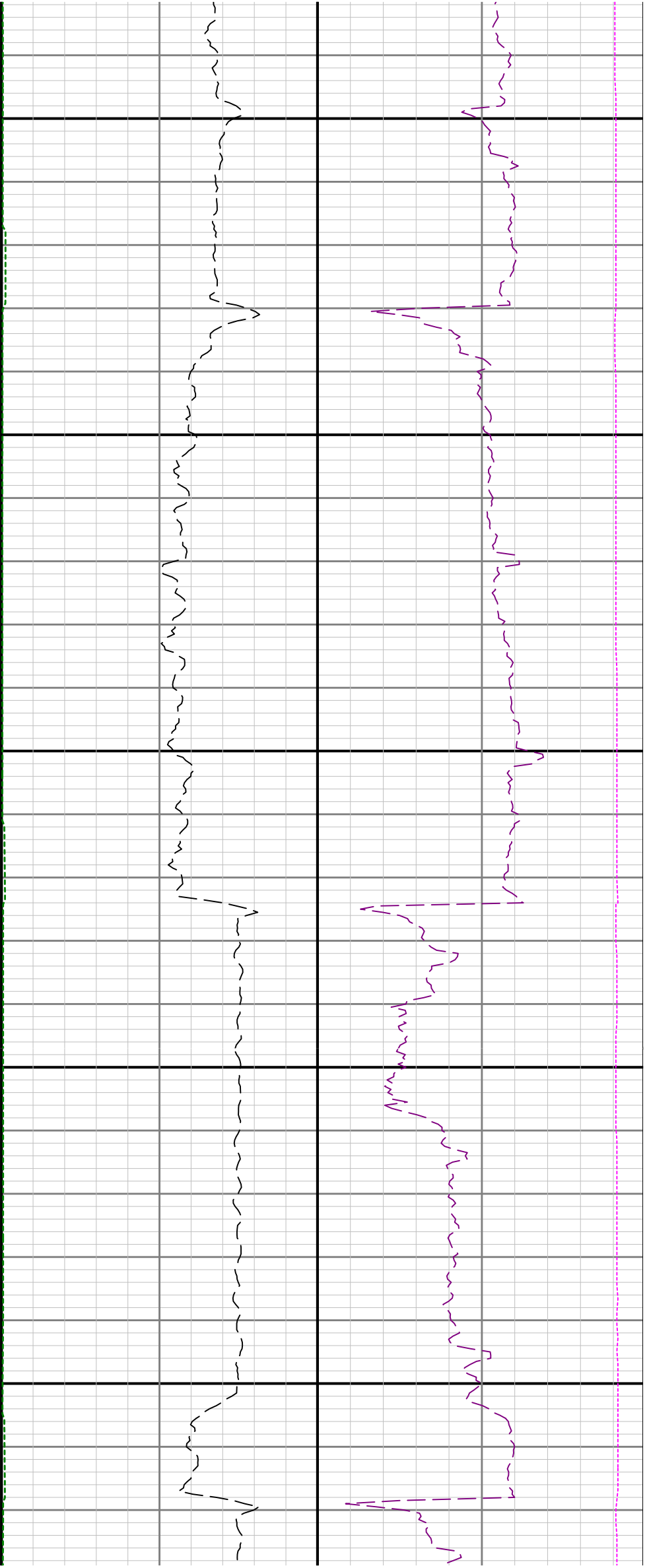


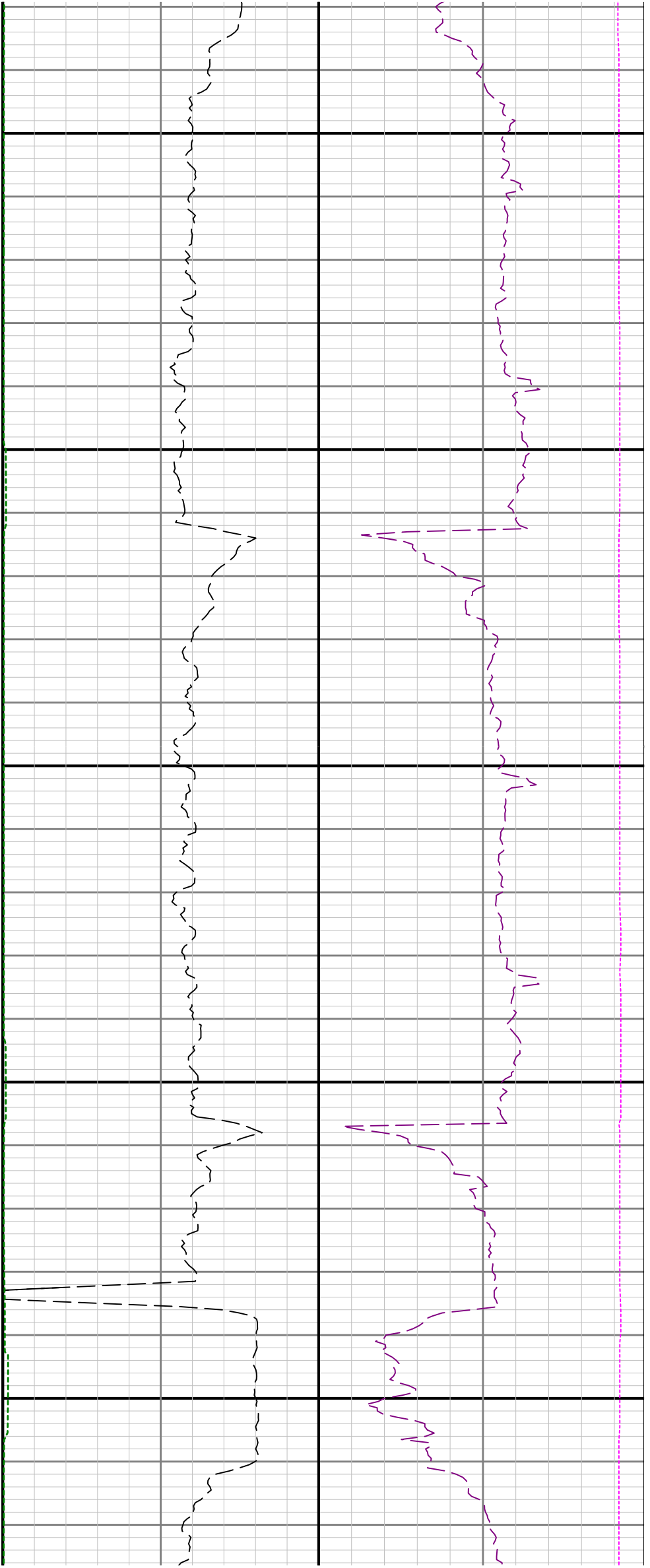


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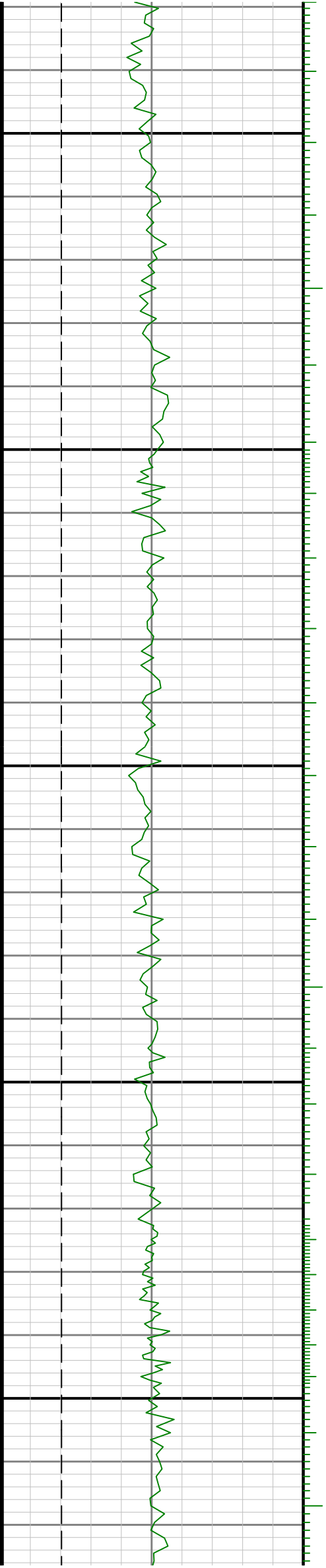


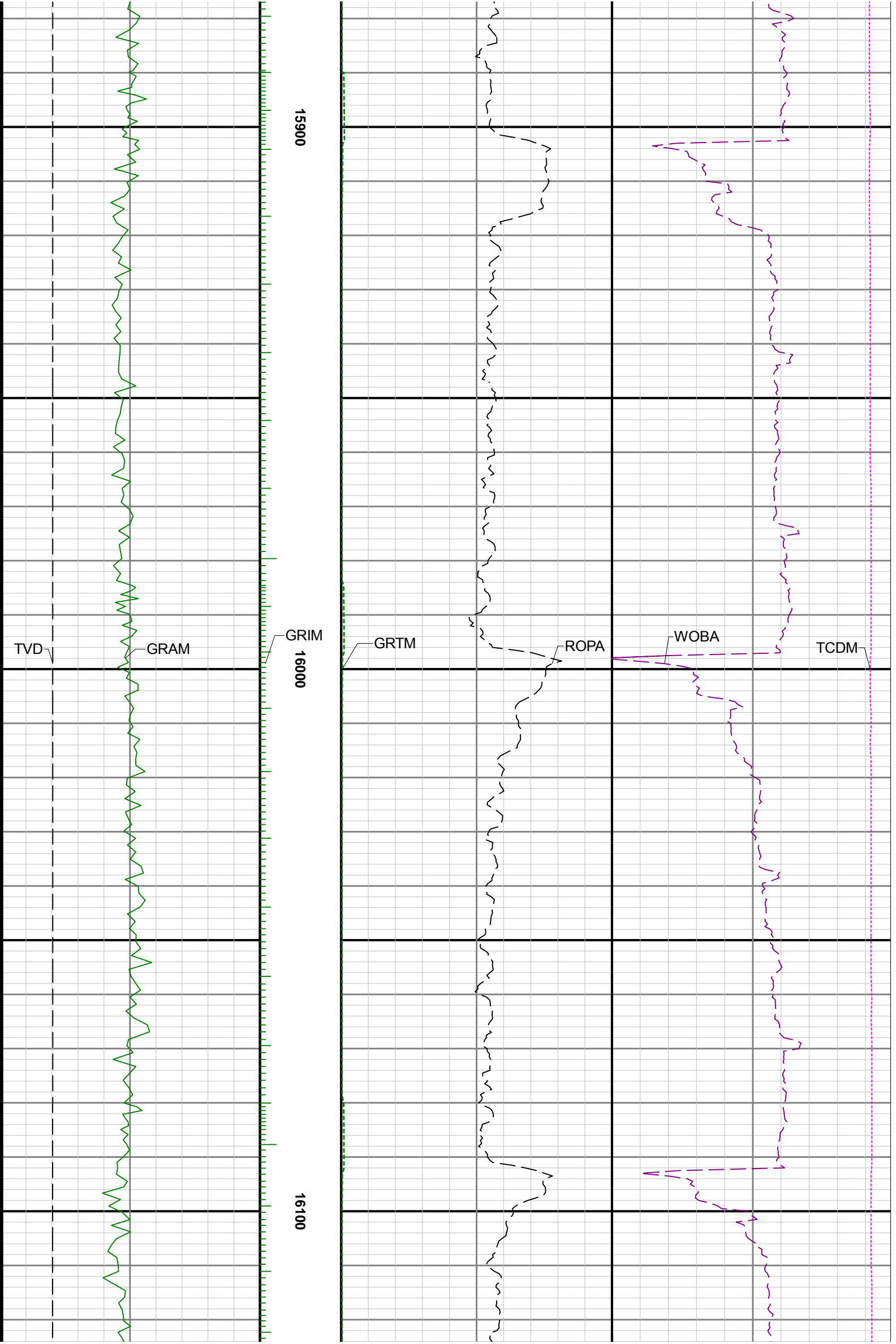


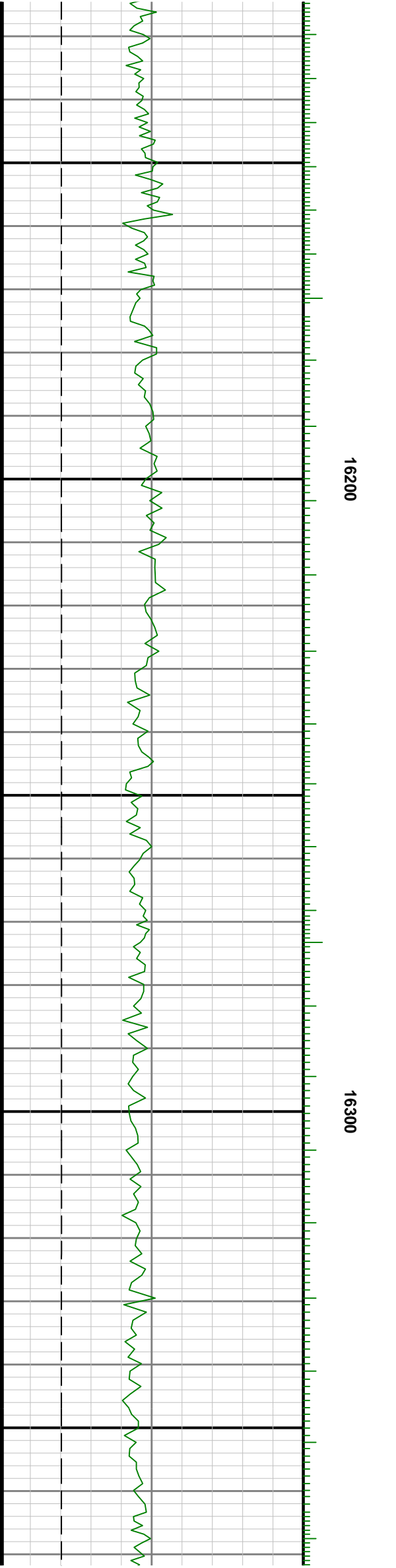
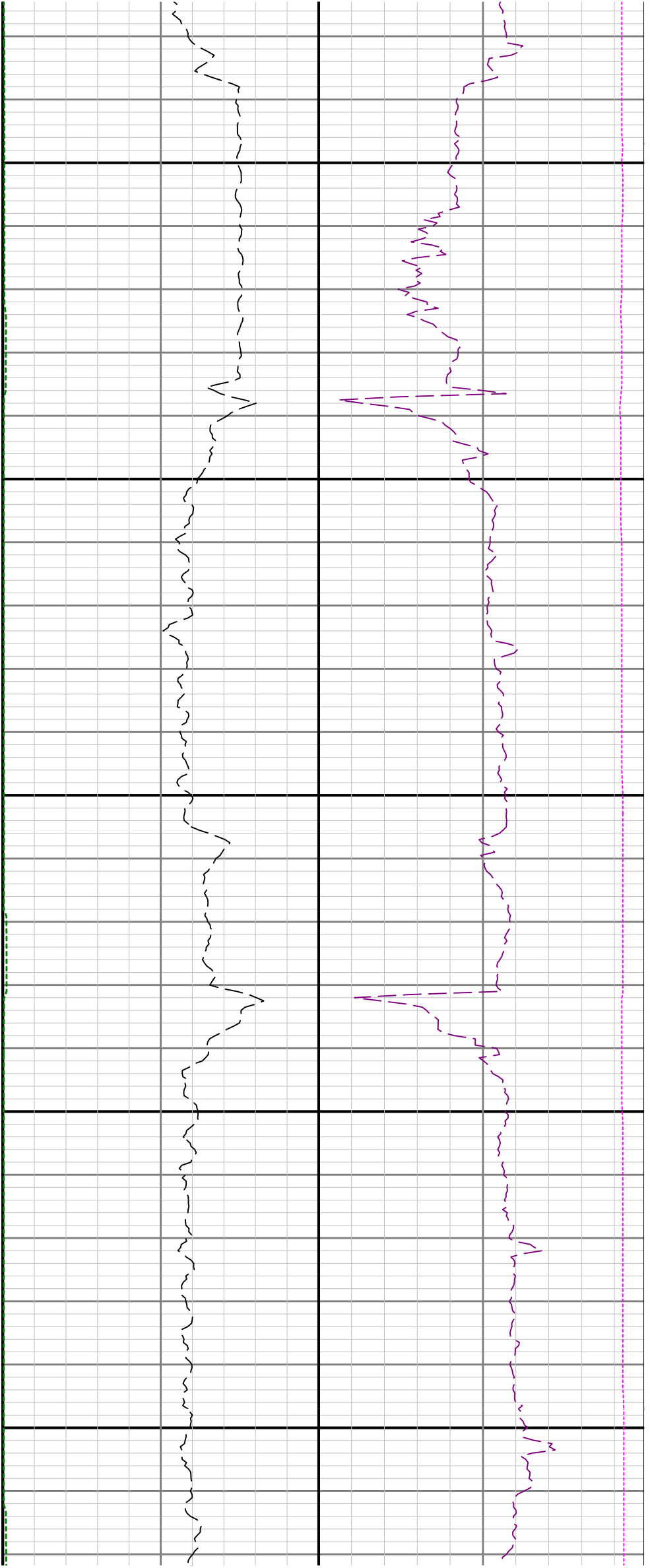


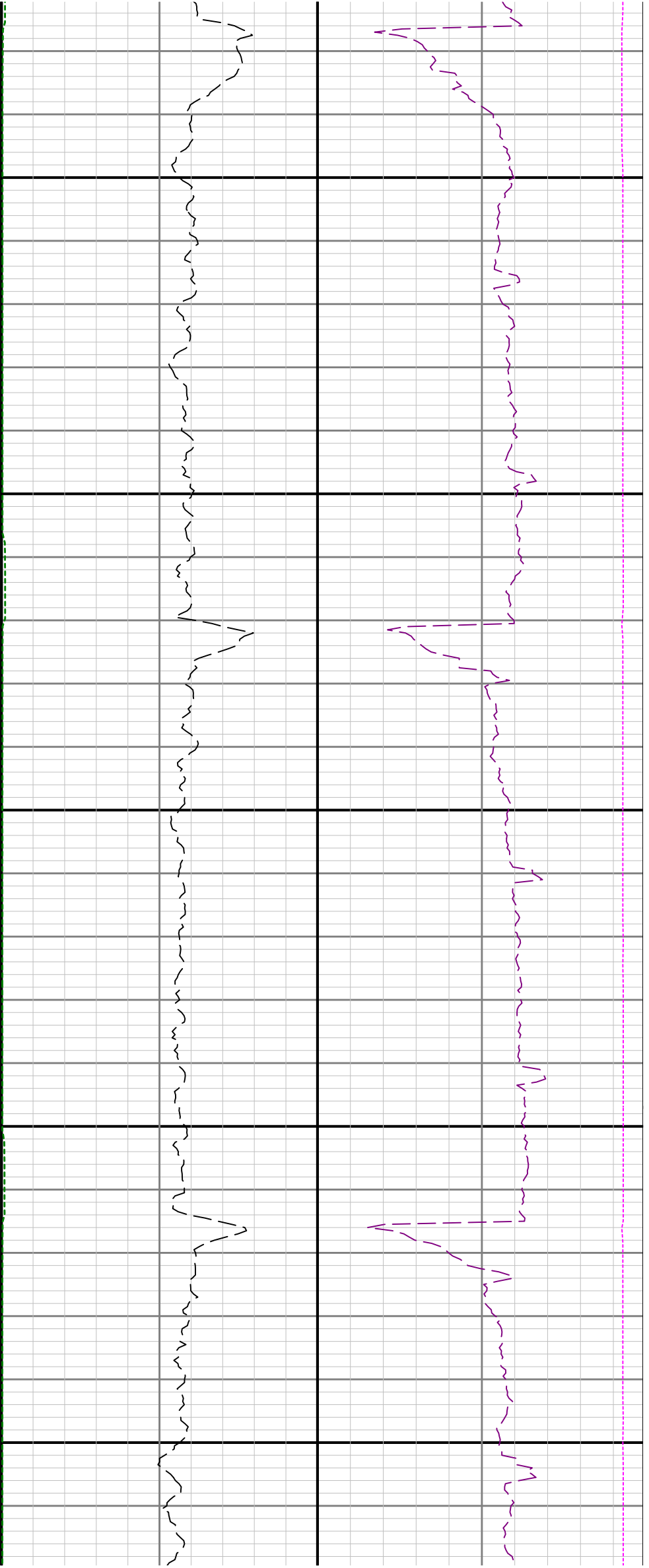
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16400

16500

16600

