

Baker Hughes				LWD MEMORY LOG			
				Gamma Ray			
Scale: 1:240		Company: Noble Energy		Well: Reveille A34-725			
Measured Depth		Field: Wattenberg					
Depth Reference:		County: Weld		Country: United States			
Driller's Depth		State: Colorado					
Status: Final Print		Surface Location: Latitude: 40° 26' 10.786" N Longitude: 104° 31' 32.351" W		Other Services: Directional			
API No: 05-123-50797-00		SEC: 35 TWN: 6N RGE: 64W					
Job ID: 110697722		Elevation: 0.00 ft		Elev. KB: 4680.00 ft		N/A	
Permanent Datum (P.D.): Mean Sea Level		Above P.D.: 4680.00 ft		Elev. DF: 4650.00 ft		Elev. GL: 4650.00 ft	
Log Measured From: Rig Floor							
Dates		Interval		Magnetic Field Reference			
From: 2021-01-06		Drilled (ft)		Logged (ft)		Azi Reference North: 66.83	
To: 2021-01-09		Top: 1944.00		Top: 1944.00		Grid Dip Angle: (deg) 51975	
Spud: 2021-01-06		Bottom: 17121.00		Bottom: 17108.00		Total Magnetic Field Strength: (nT) 7.11	
						Mag to Reference North Correction: (deg)	
Borehole Record				Casing Record			
Hole Size (in)		From (ft)		To (ft)		Size (in)	
						Weight (lb/ft)	
13.500		30.00		1944.00		36.00	
8.500		1944.00		17121.00		From (ft)	
						To (ft)	

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Log Run Summary												
Run No	Bit Run No.	Bit Size	Bit Type	Bit Gauge Length (in)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Hours
						Top	Bottom	From	To	Start Logging	End Logging	
		(in)				(ft)	(ft)	(ft)	(ft)			
1	1	8.500	PDC	2.50	Rotary Steerable	1944.00	1975.00	1944.00	1986.00	2021-01-06 03:26	2021-01-06 03:39	1.85
2	1RR	8.500	PDC	2.50	Rotary Steerable	1975.00	17108.00	1986.00	17121.00	2021-01-06 07:30	2021-01-08 21:39	57.30

Crew									
Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite	Name	
Adam Schlenz		2021-01-05	2021-01-09						

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+ (%)
2021-01-06 01:43	1	1944.00	Oil Based Mud	9.6	14	N/A	15.8	70/19	Active Pit	27992	0.00
2021-01-06 06:38	2	1986.00	Oil Based Mud	9.6	14	N/A	15.8	70/19	Active Pit	N/A	0.00
2021-01-07 04:00	2	6628.00	Oil Based Mud	9.6	16	N/A	16.8	69/19	Active Pit	28475	0.00
2021-01-07 16:00	2	7263.00	Oil Based Mud	9.6	13	N/A	17.4	69/20	Active Pit	26725	0.00
2021-01-09 04:00	2	17121.00	Oil Based Mud	9.8	15	N/A	18.6	68/18.5	Active Pit	26239	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	13867779	Near Bit Inclination	5.93	6.78	7.000	4.330
1	AutoTrak Curve Steering Unit	13867779	Near Bit VSS	5.93	6.78	7.000	4.330

1	AutoTrak Curve MWD	12603327	Gamma (single)	2.75	12.93	7.000	3.250
1	AutoTrak Curve MWD	12603327	Directional (mag)	12.27	22.45	7.000	3.250
2	AutoTrak Curve Steering Unit	14316020	Near Bit Inclination	5.93	6.78	7.000	4.330
2	AutoTrak Curve Steering Unit	14316020	Near Bit VSS	5.93	6.78	7.000	4.330
2	AutoTrak Curve MWD	12441474	Gamma (single)	2.75	12.91	7.000	3.250
2	AutoTrak Curve MWD	12441474	Directional (mag)	12.27	22.43	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

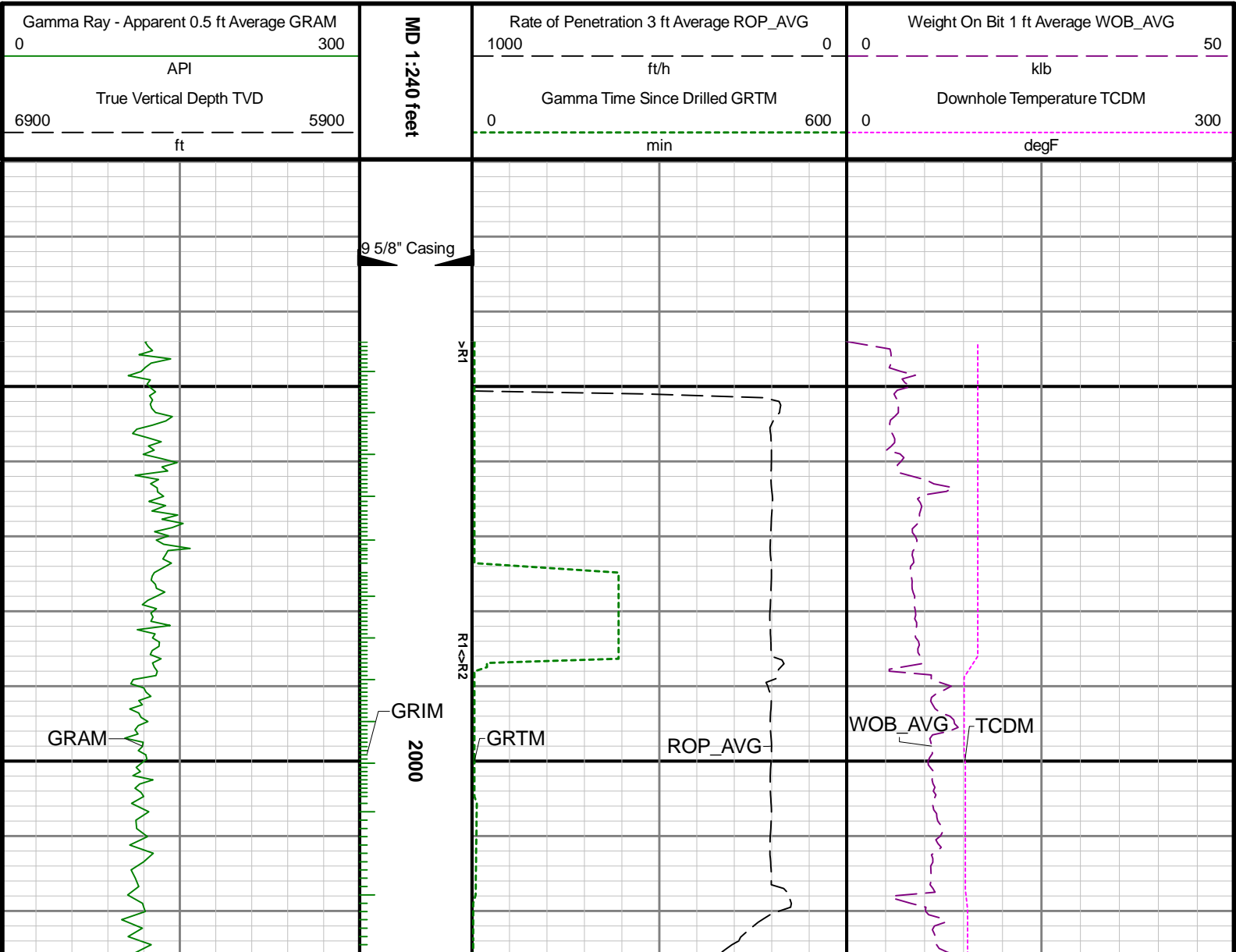
1	Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes, depth calibrations and measurements could not be independently verified.
2	Baker Hughes LWD run 1 and 2 utilized a 6.75 inch NaviGamma service (Directional and Gamma Ray) behind a 8.5 inch bit and rotary steerable assembly from 1944 to 17121 feet MD (1944 to 6760 feet TVD).
3	The Gamma Ray Apparent (GRAM) data is presented 0 to 300 API, per the customer's request.

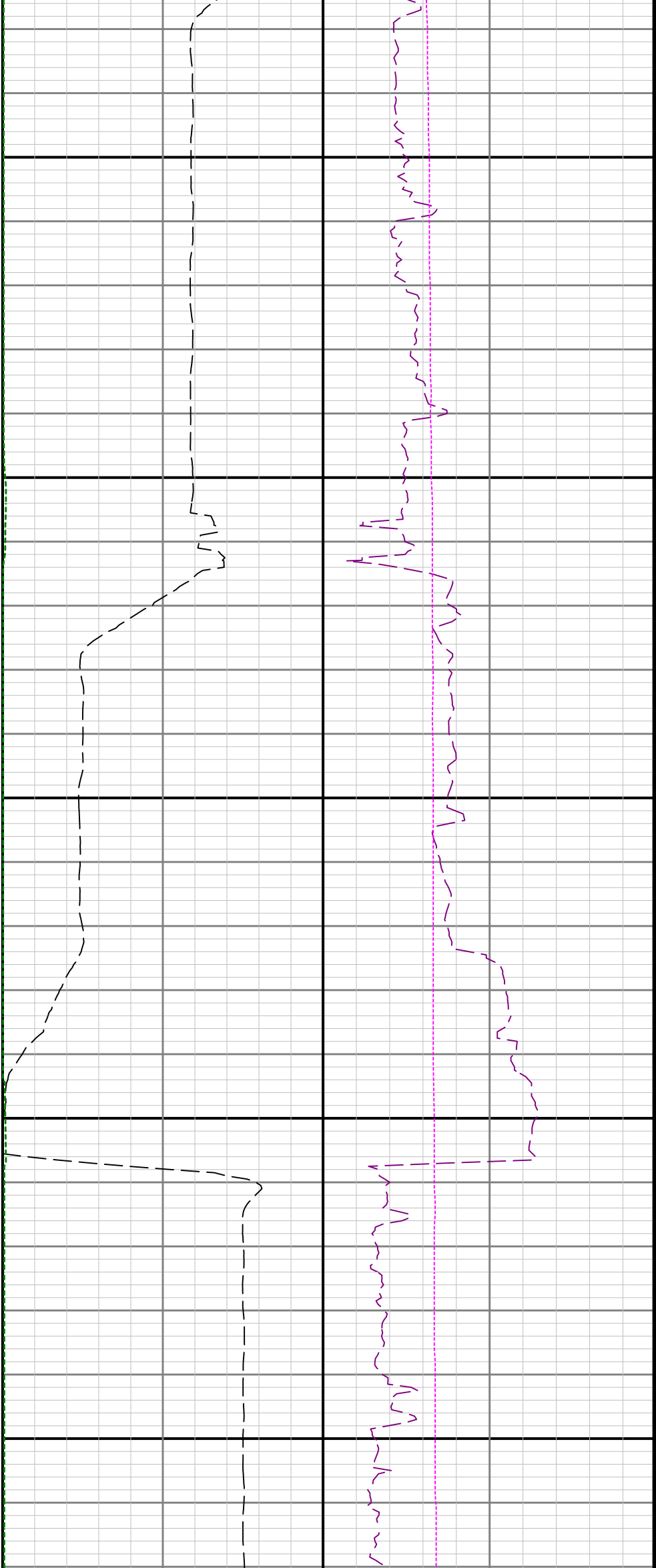
Remarks

Number	Depth (ft)	Hole Section (in)	Run No.	Remark
1	17121.00	8.500	2	The interval from 17108 to 17121 feet MD (6760 feet TVD) was not logged after being drilled due to sensor to bit offset at well TD.

Curve Mnemonics

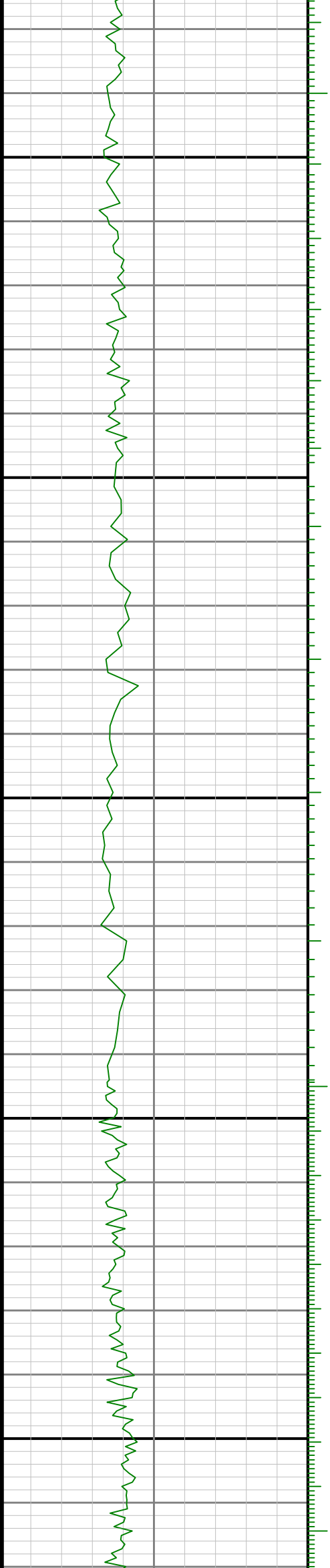
Presented Curves	Description	Units
ROP_AVG	Rate of Penetration 3 ft Average	ft/h
TVD	TVD	ft
WOB_AVG	Weight On Bit 1 ft Average	klb
GRAM	Gamma Ray - Apparent - Memory 0.5 ft Average	API
GRIM	Gamma Ray - Data Point Indicator - Memory	unitless
GRTM	Gamma Ray - Time Since Drilled - Memory	min
TCDM	Directional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

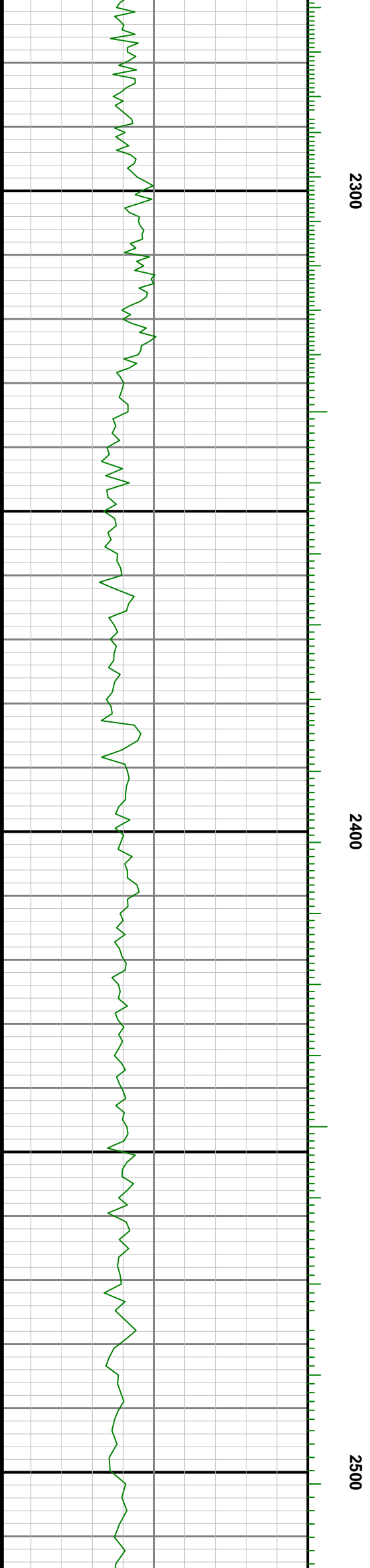
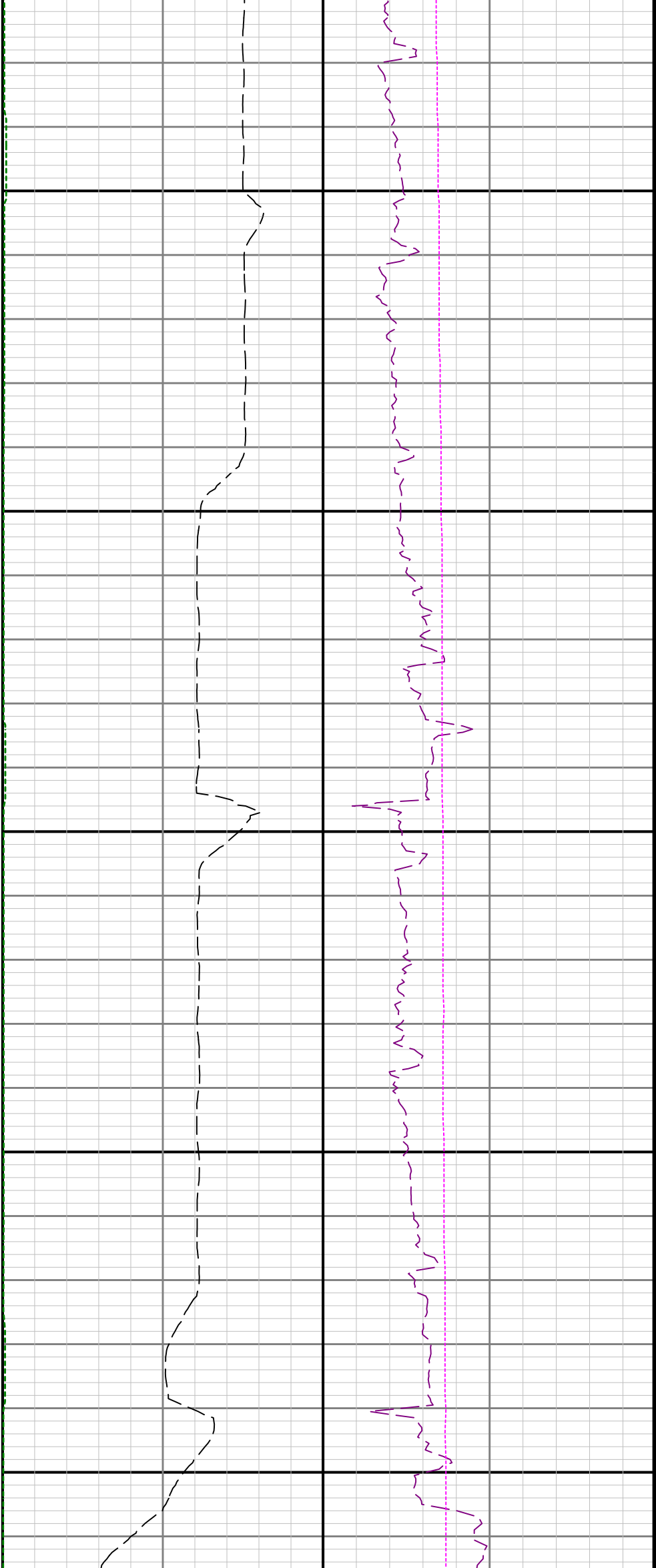


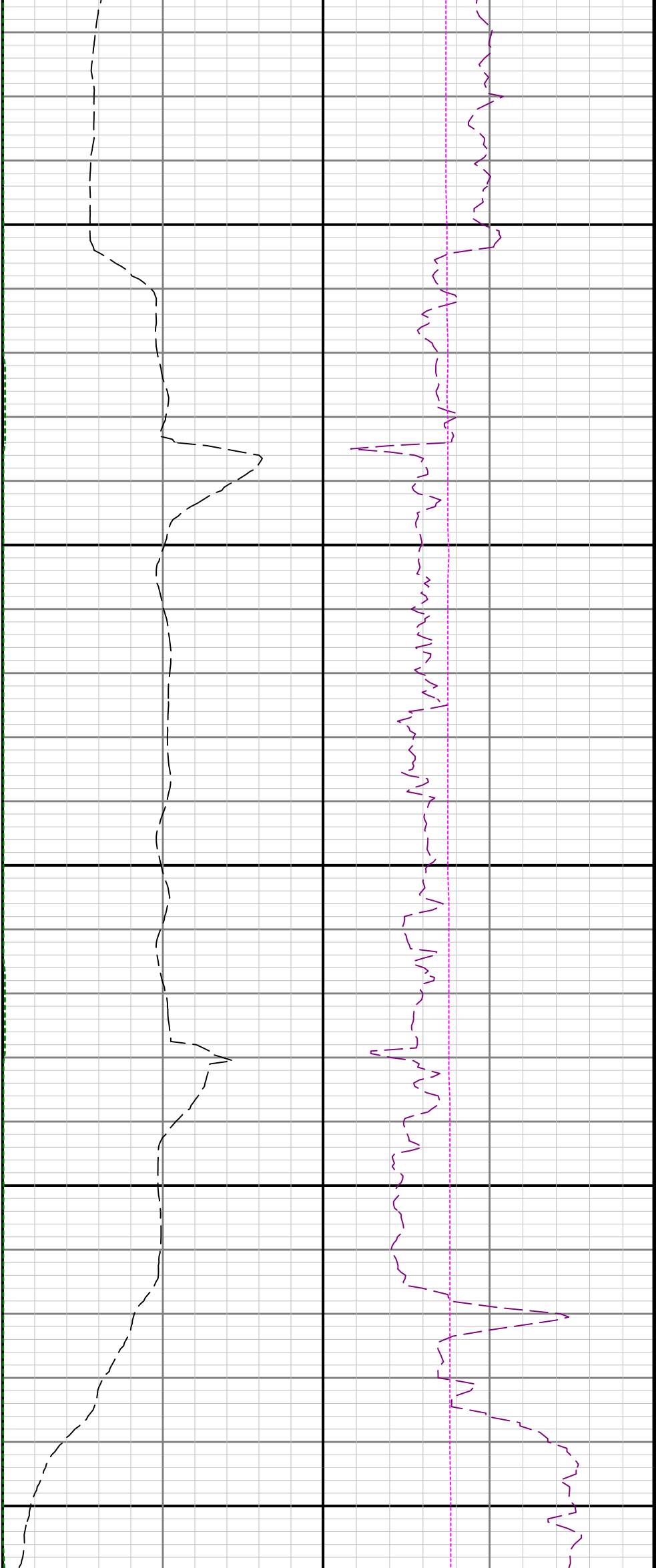


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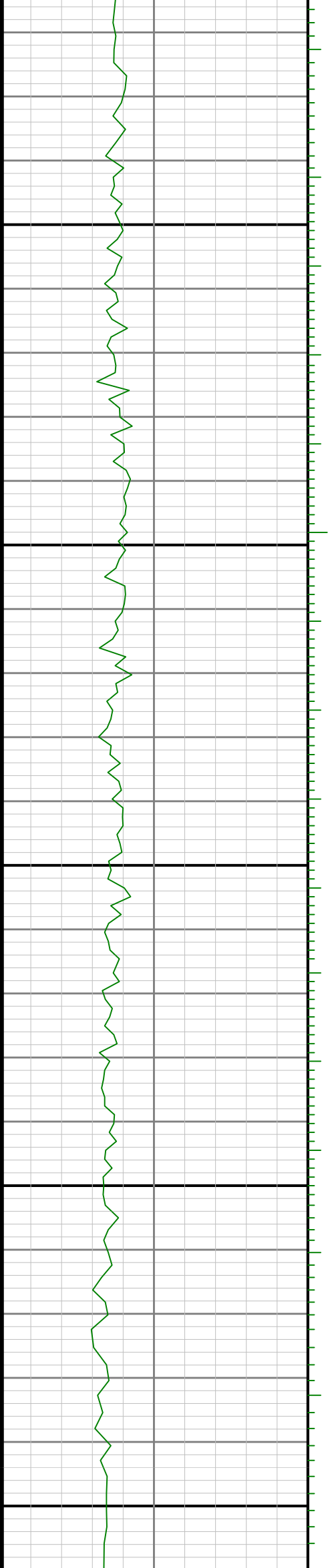


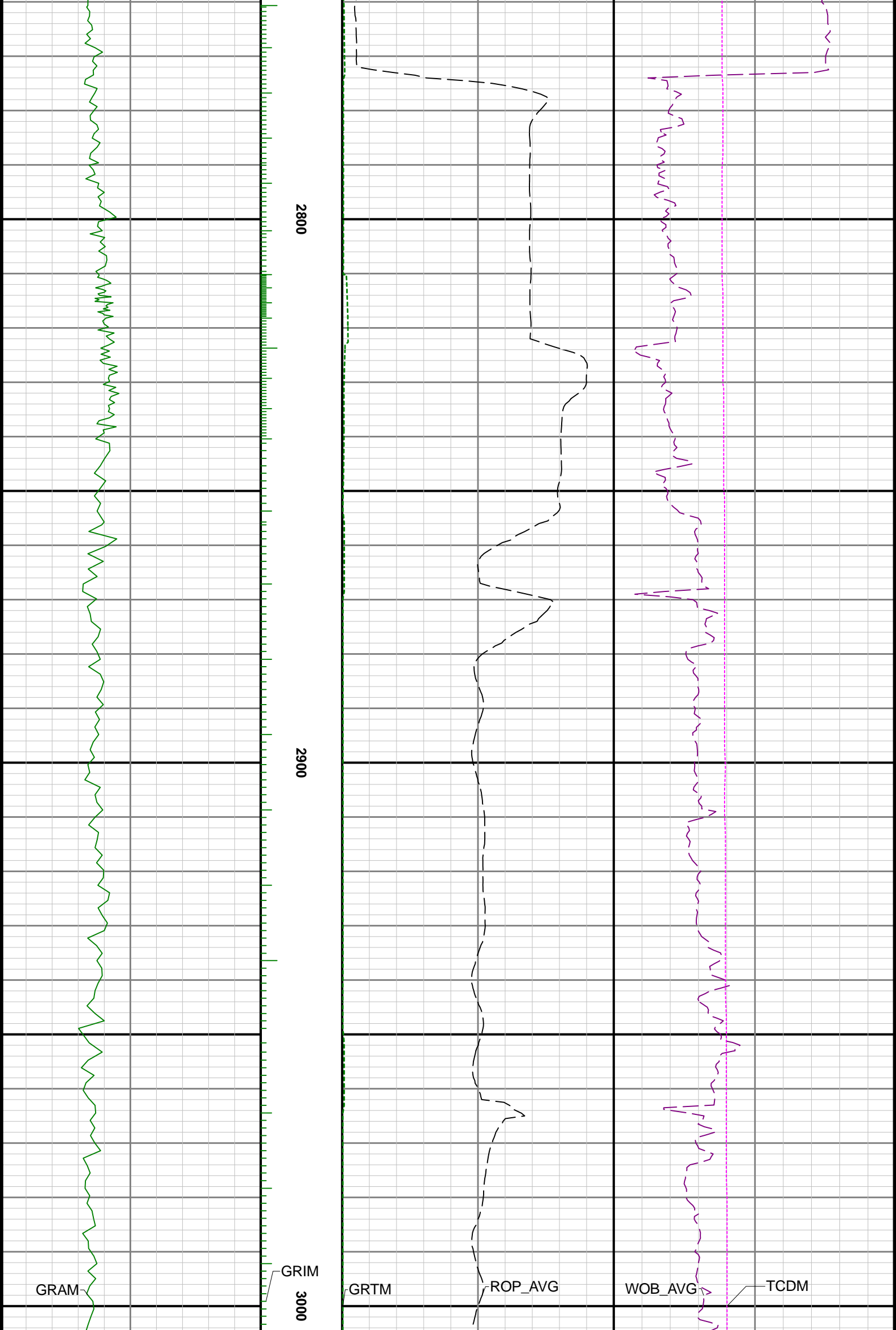


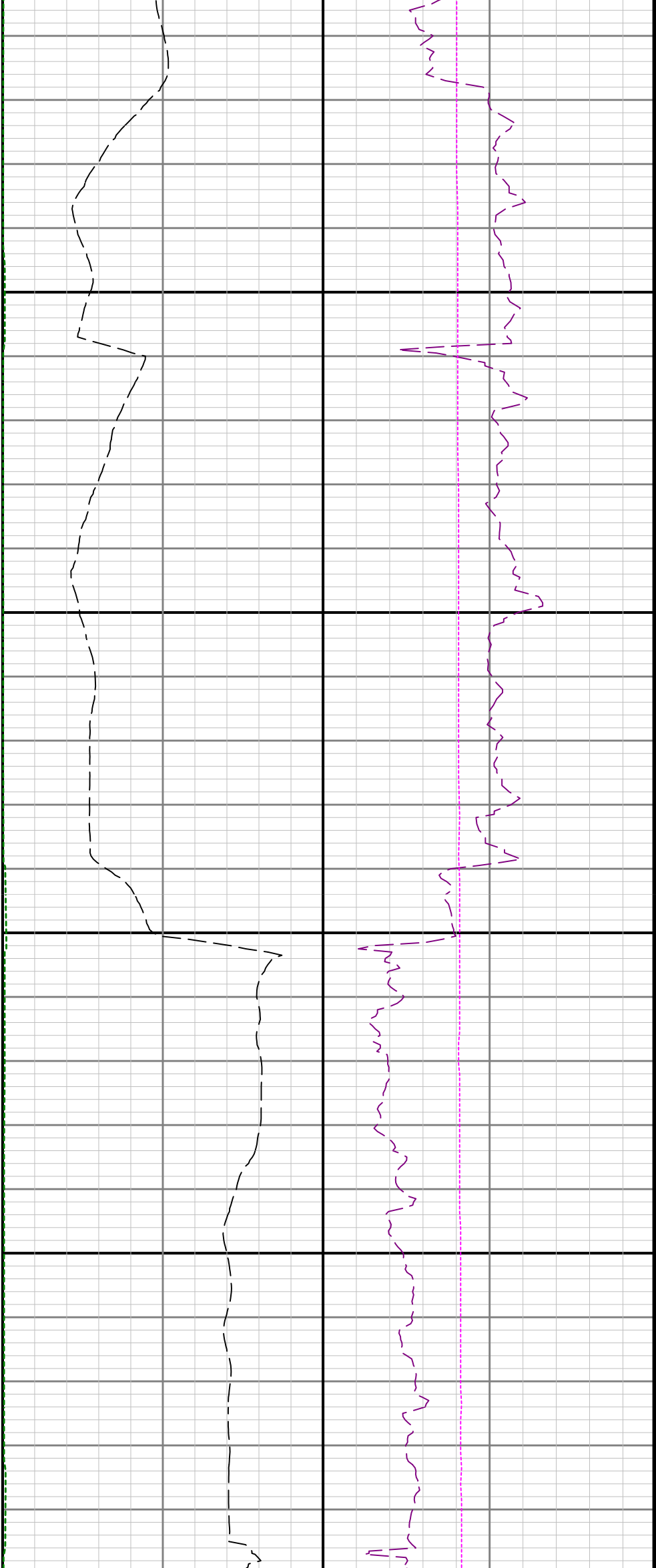


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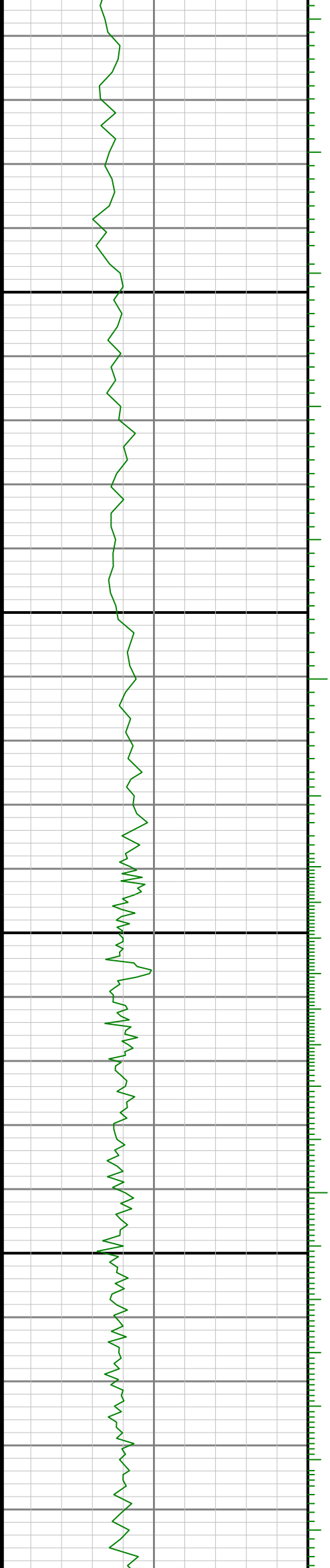


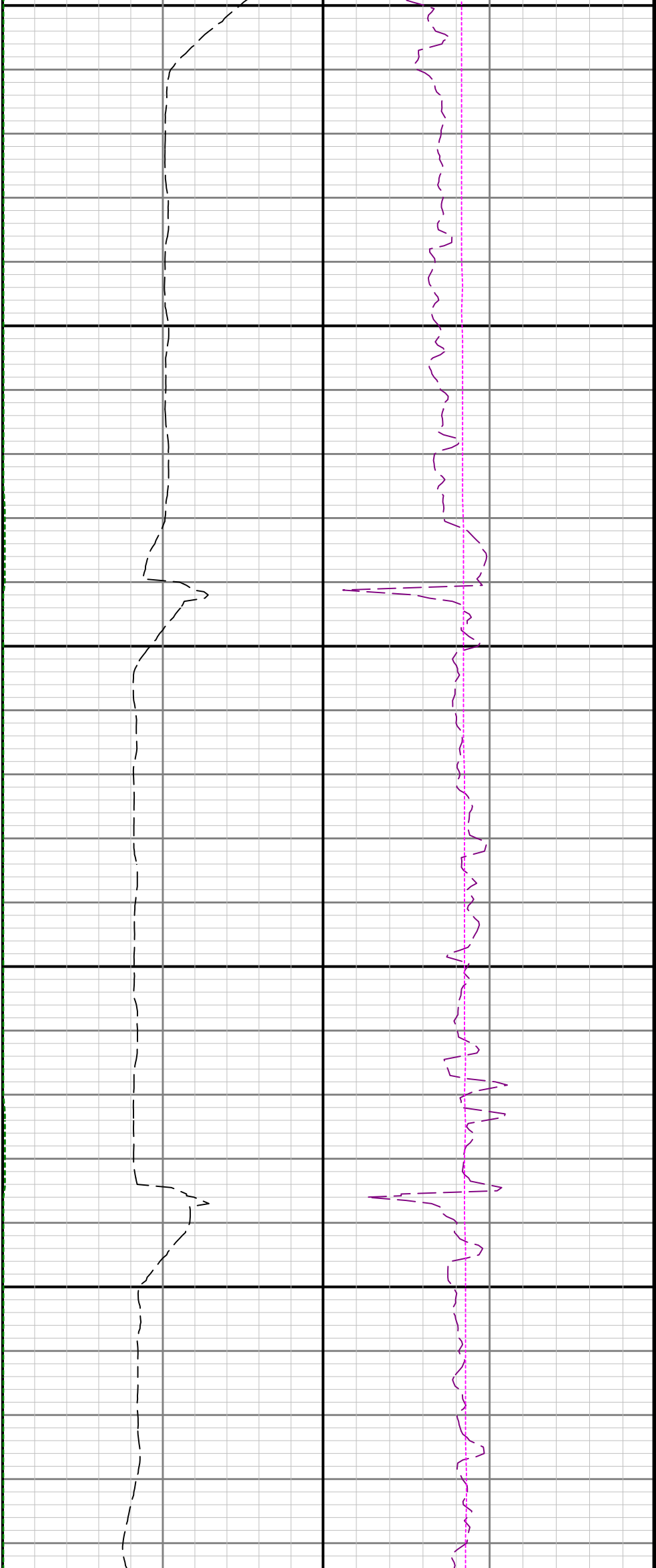




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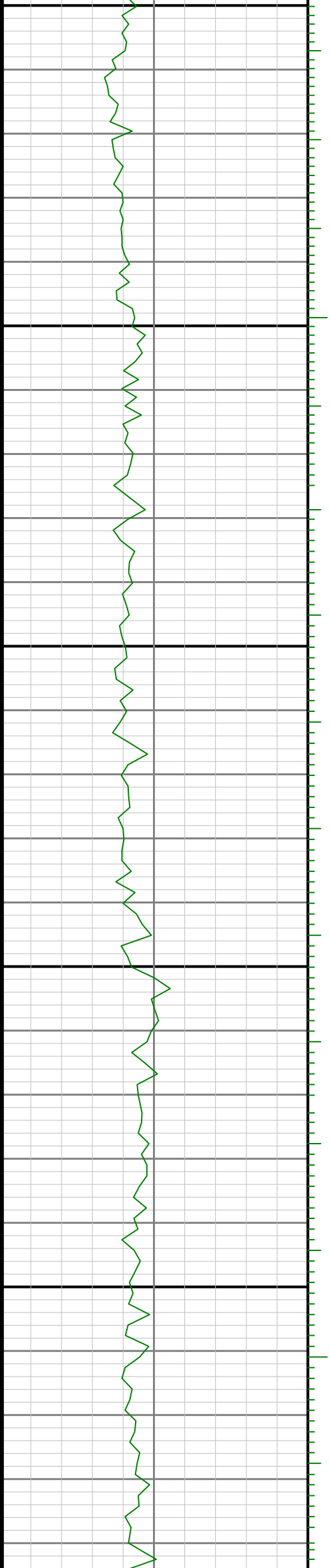
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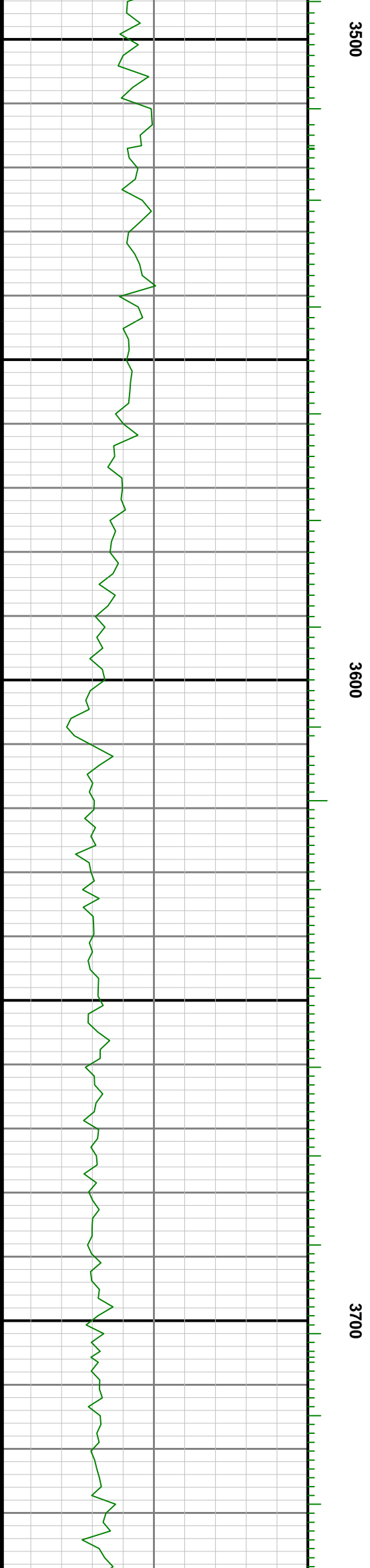
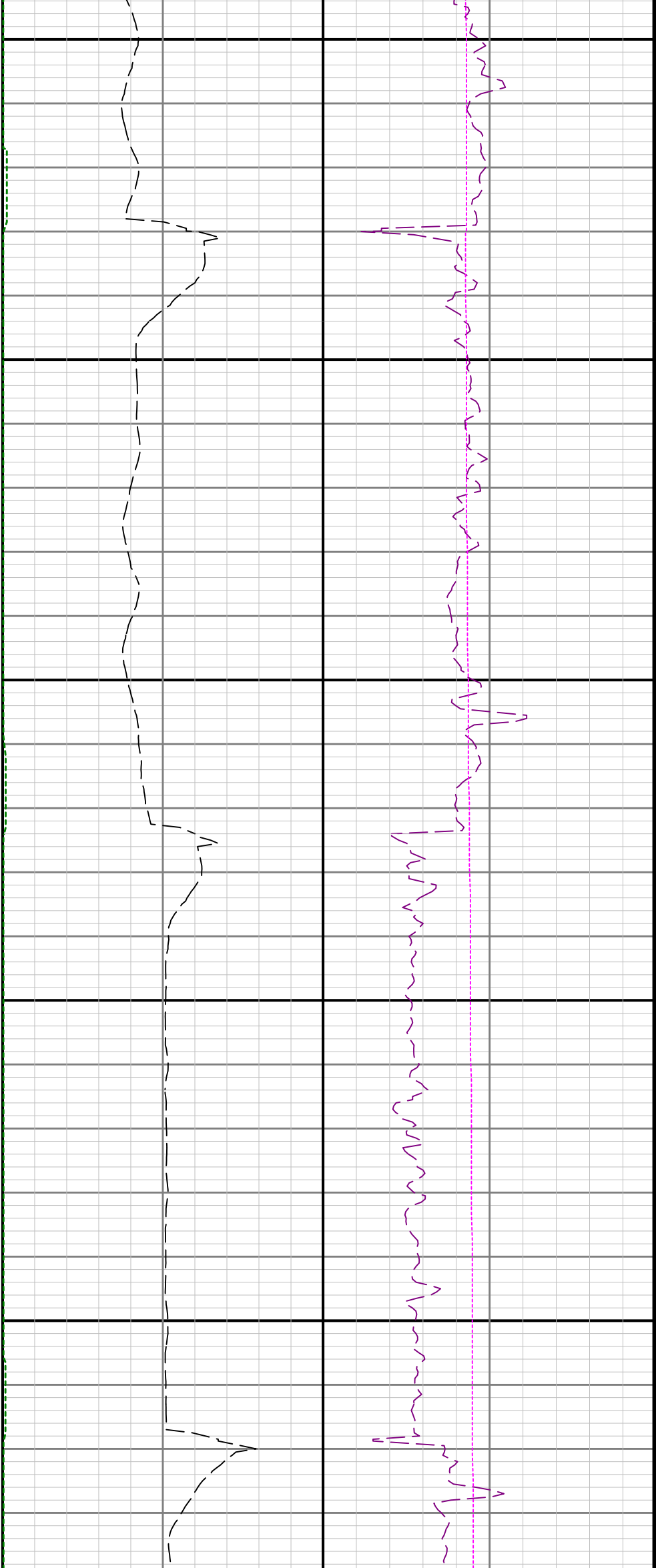


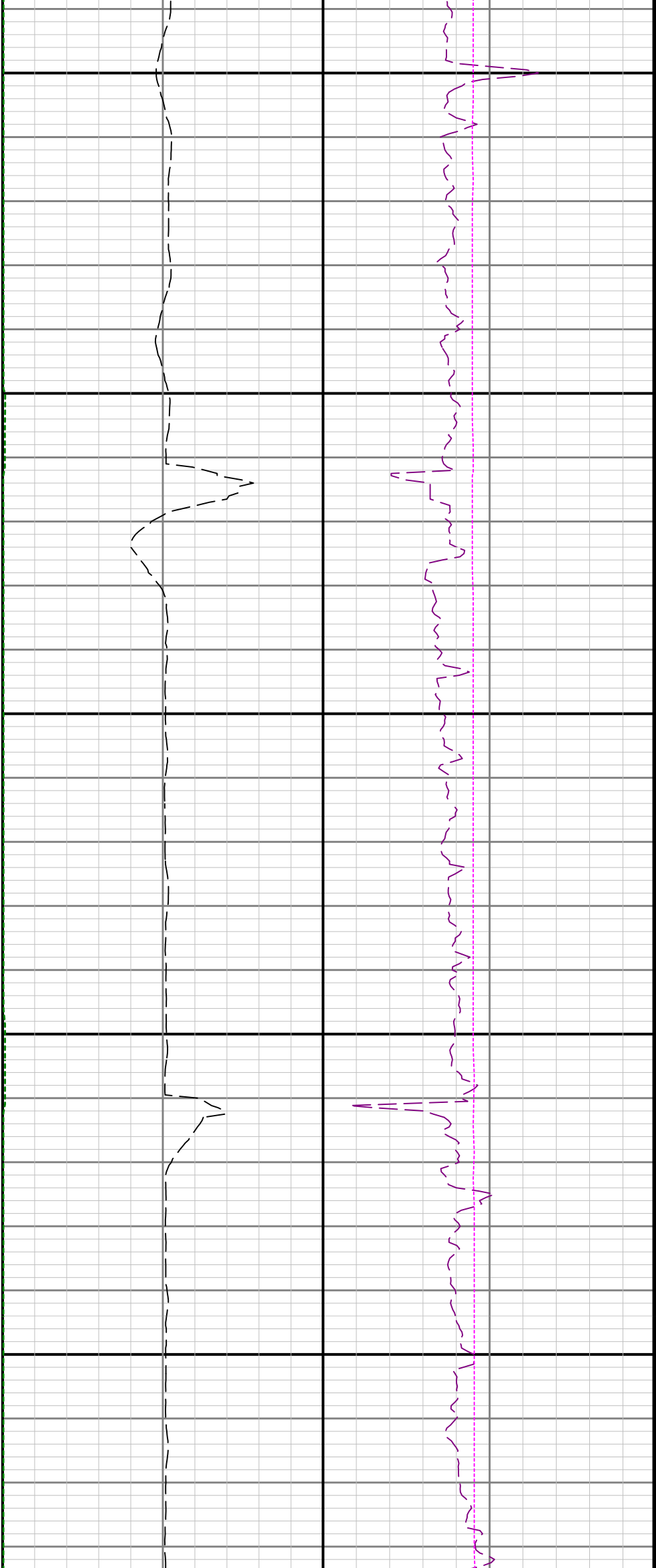


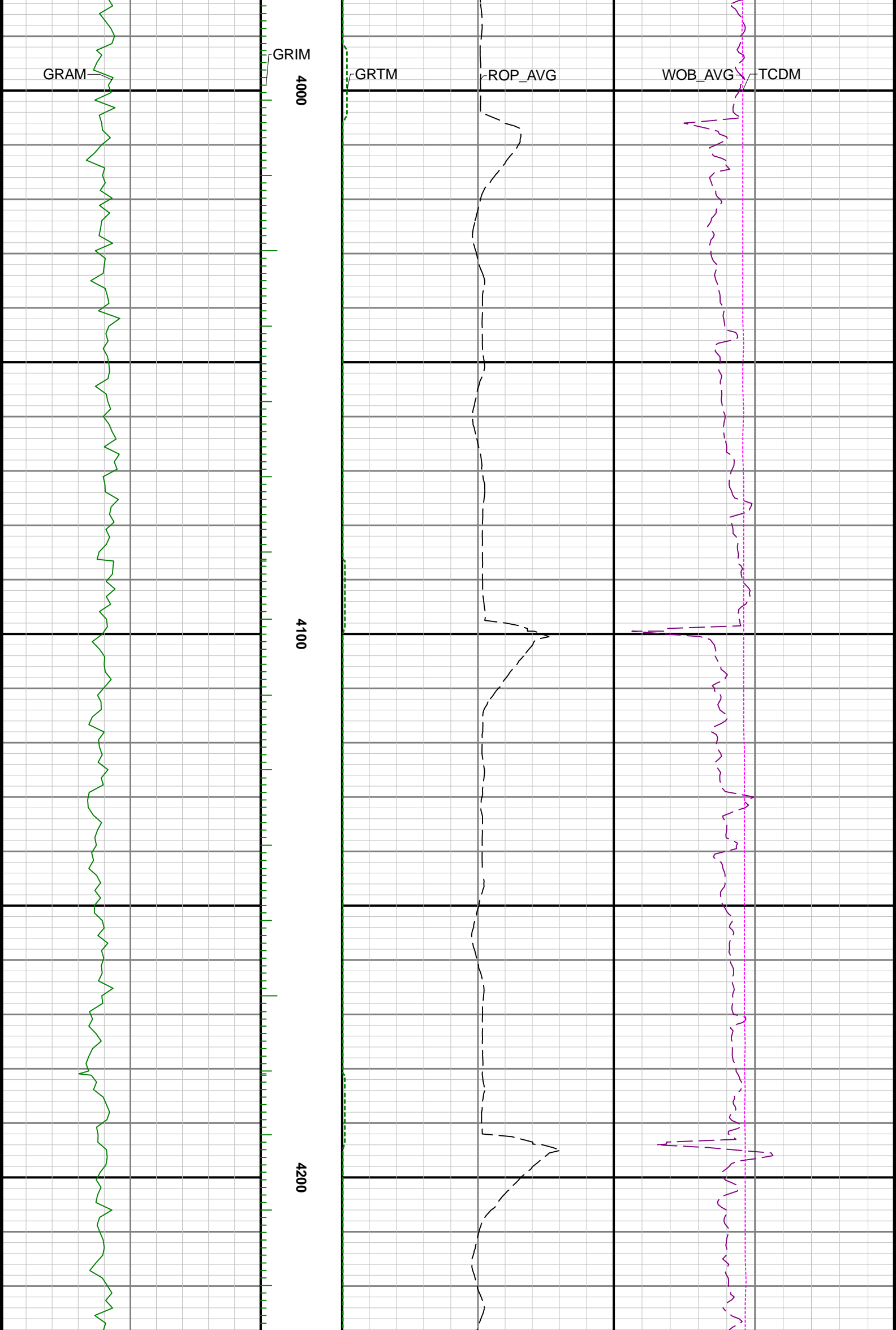
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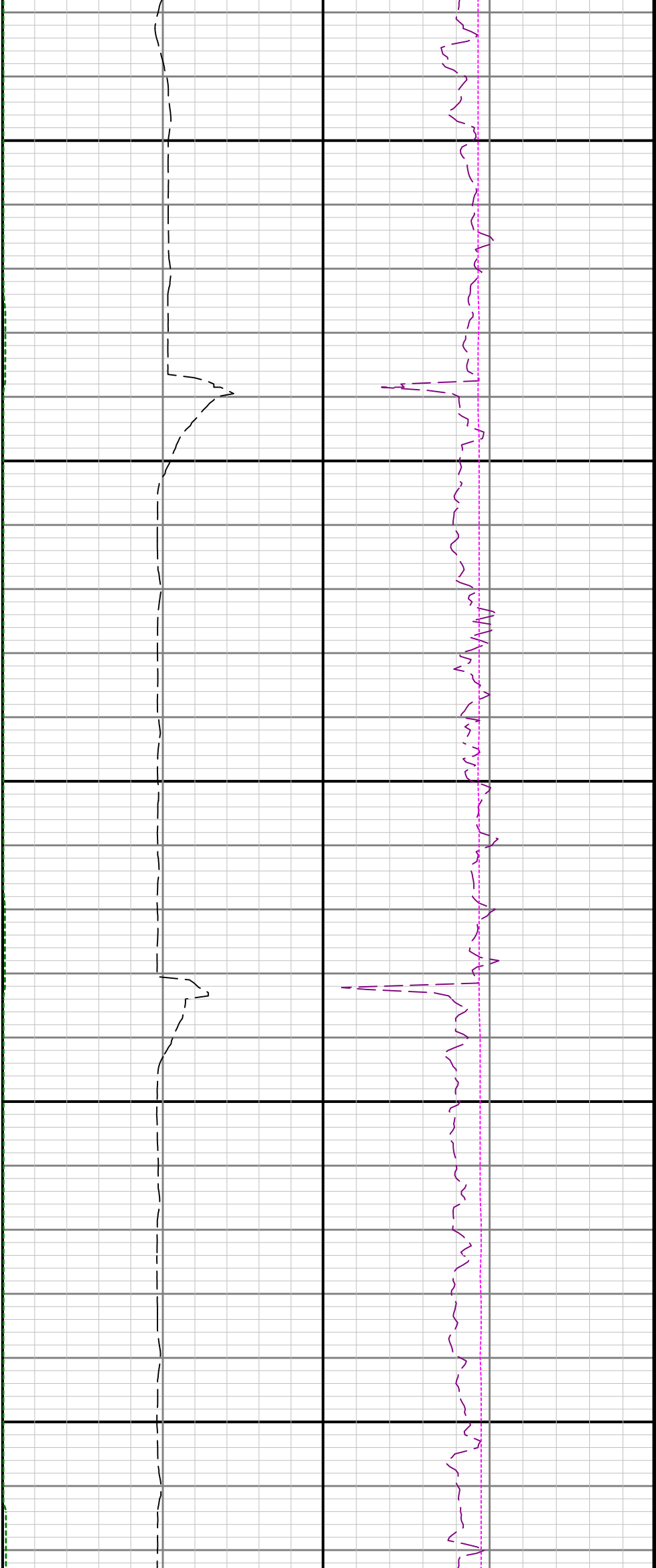
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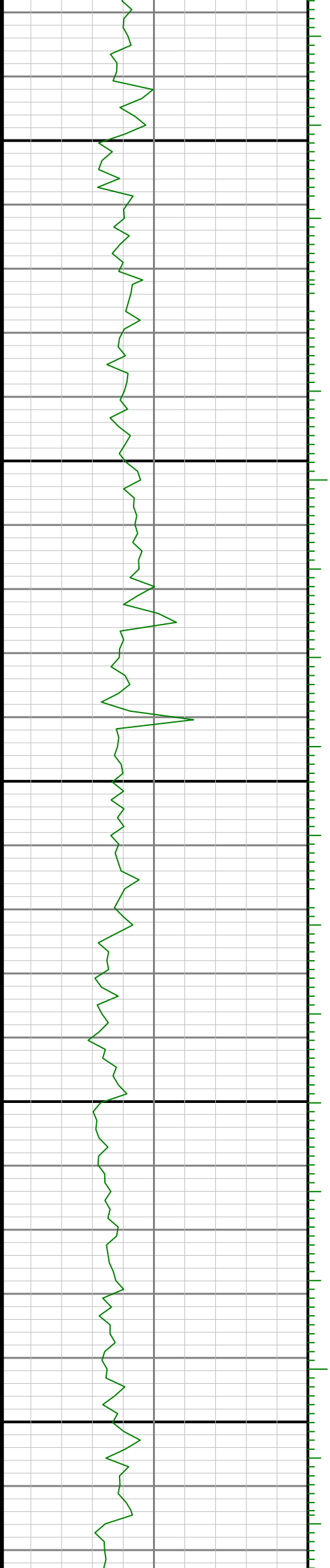


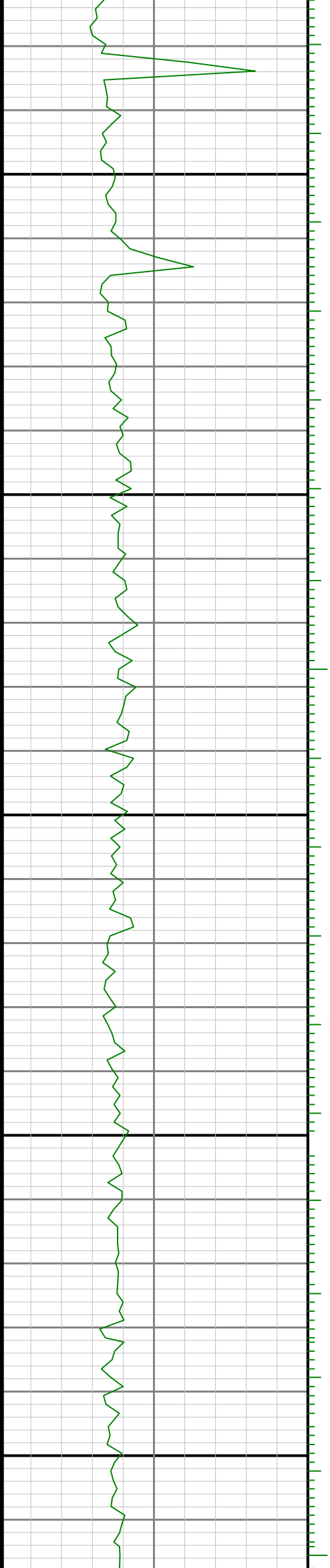


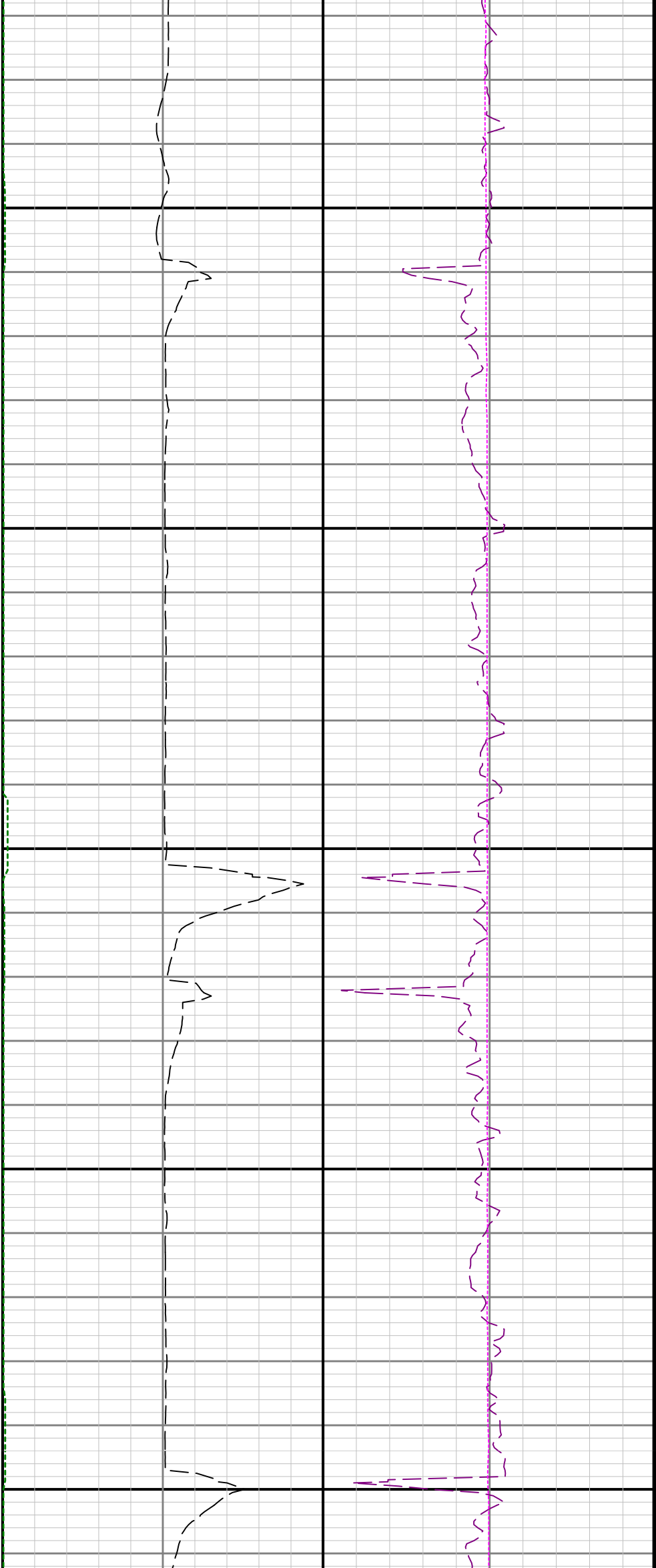


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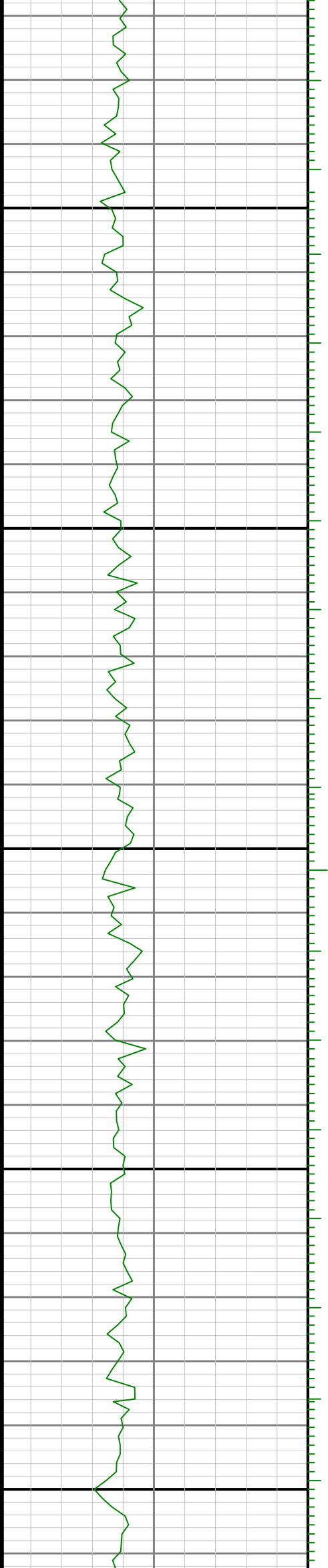


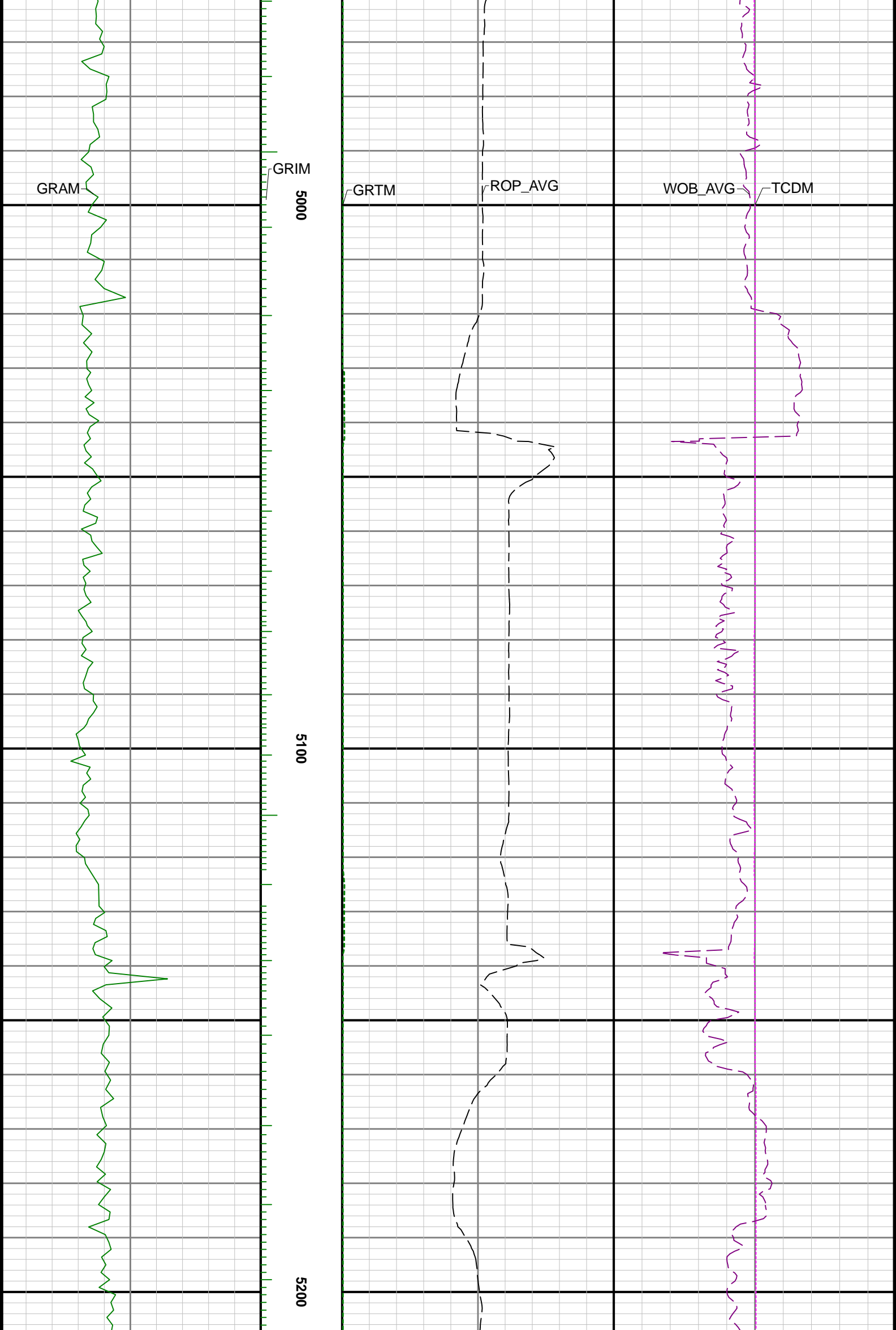




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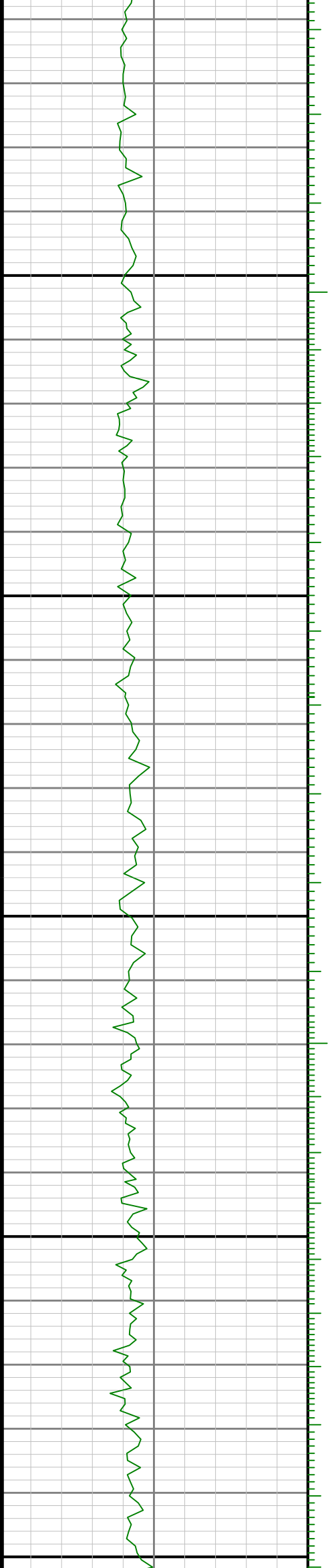


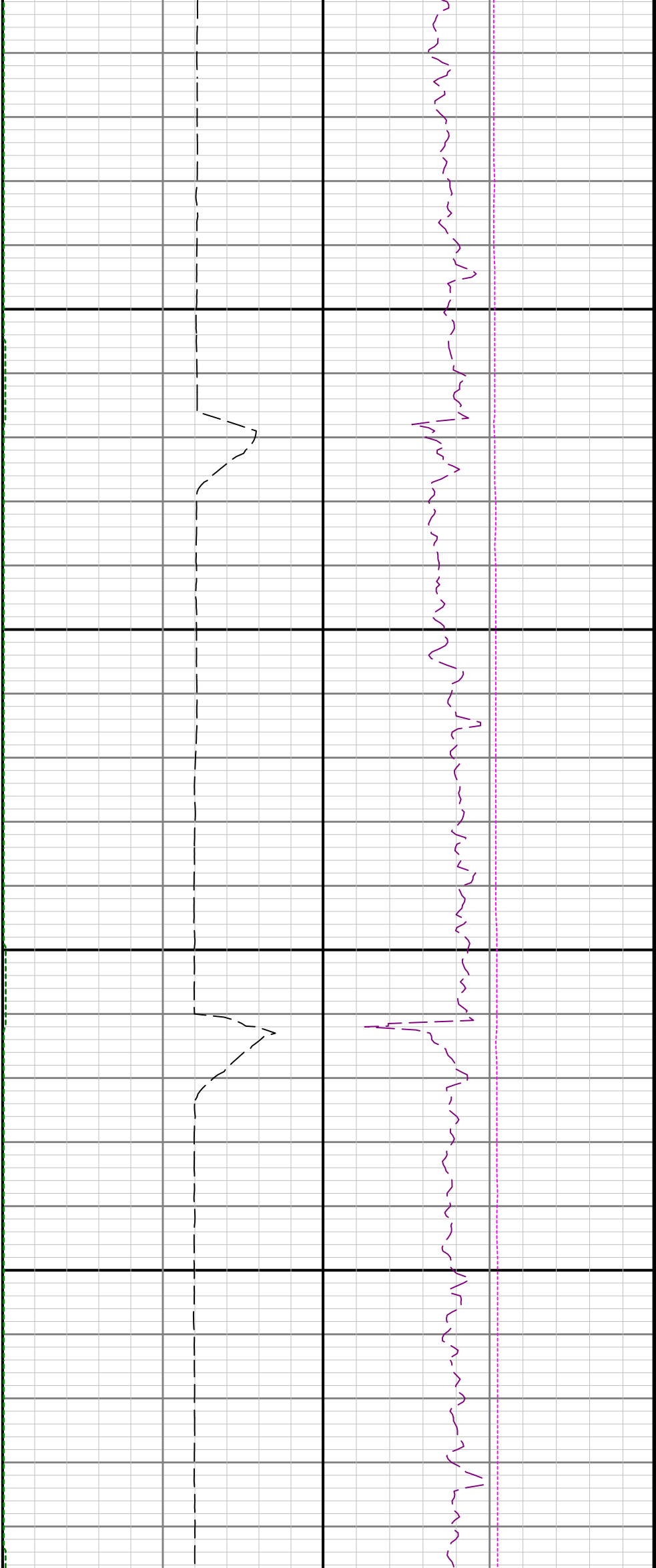




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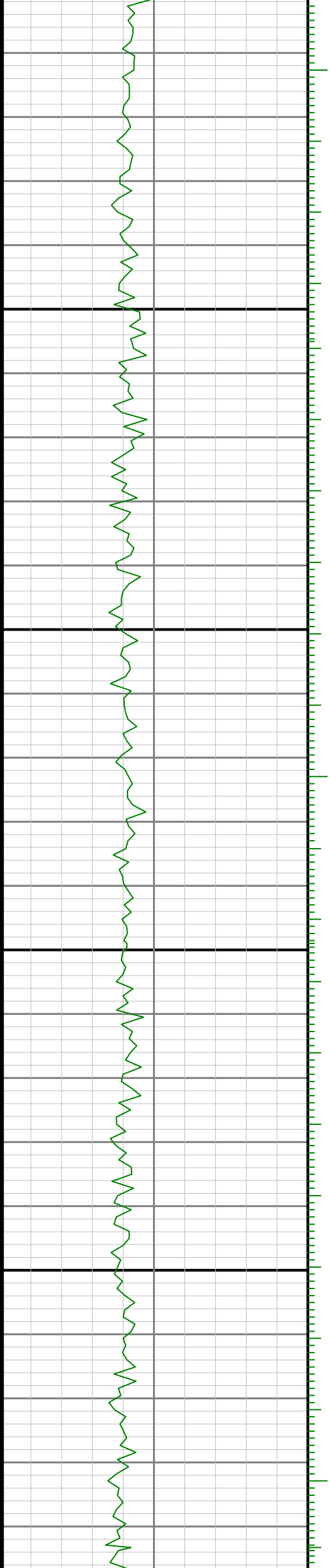
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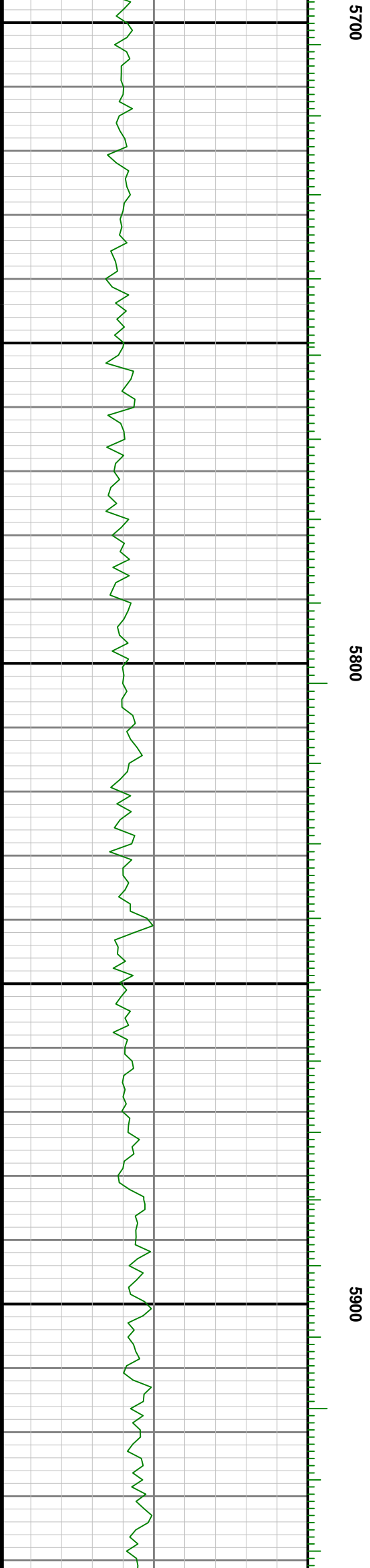
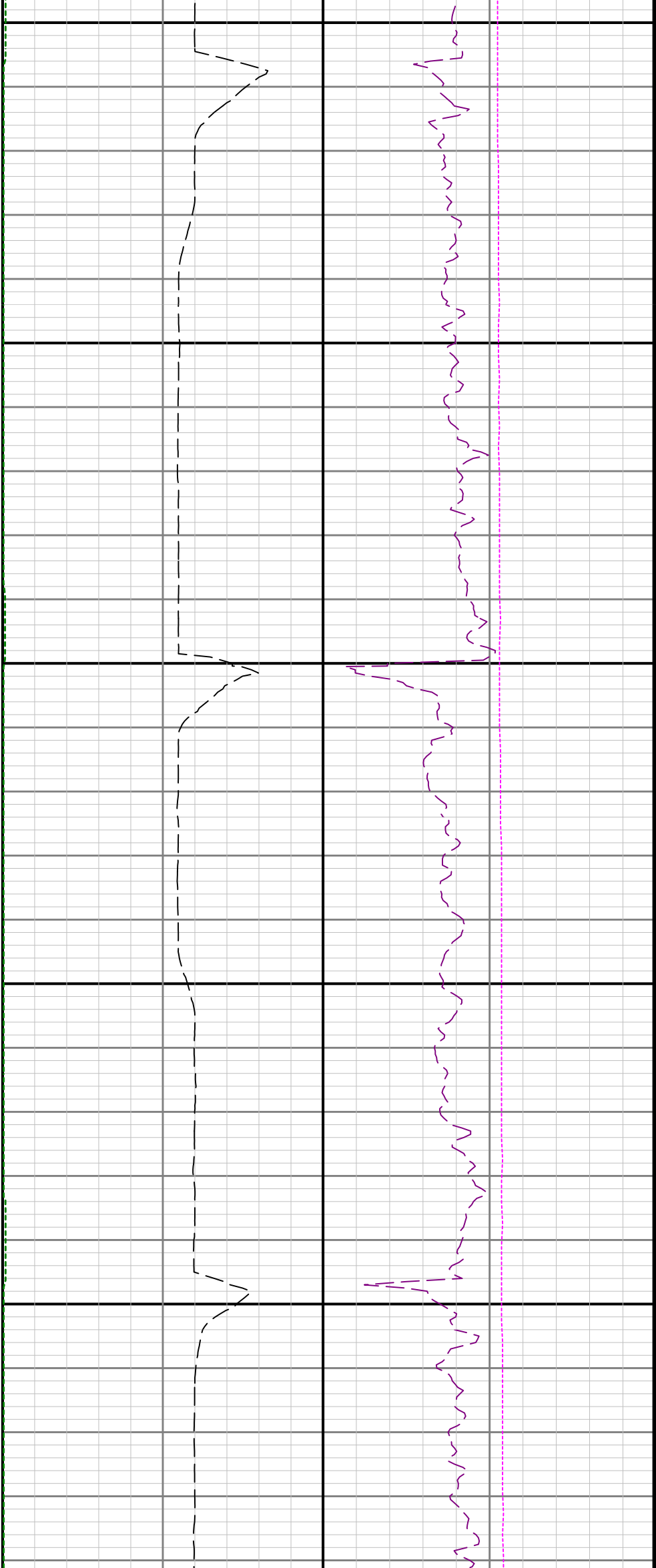


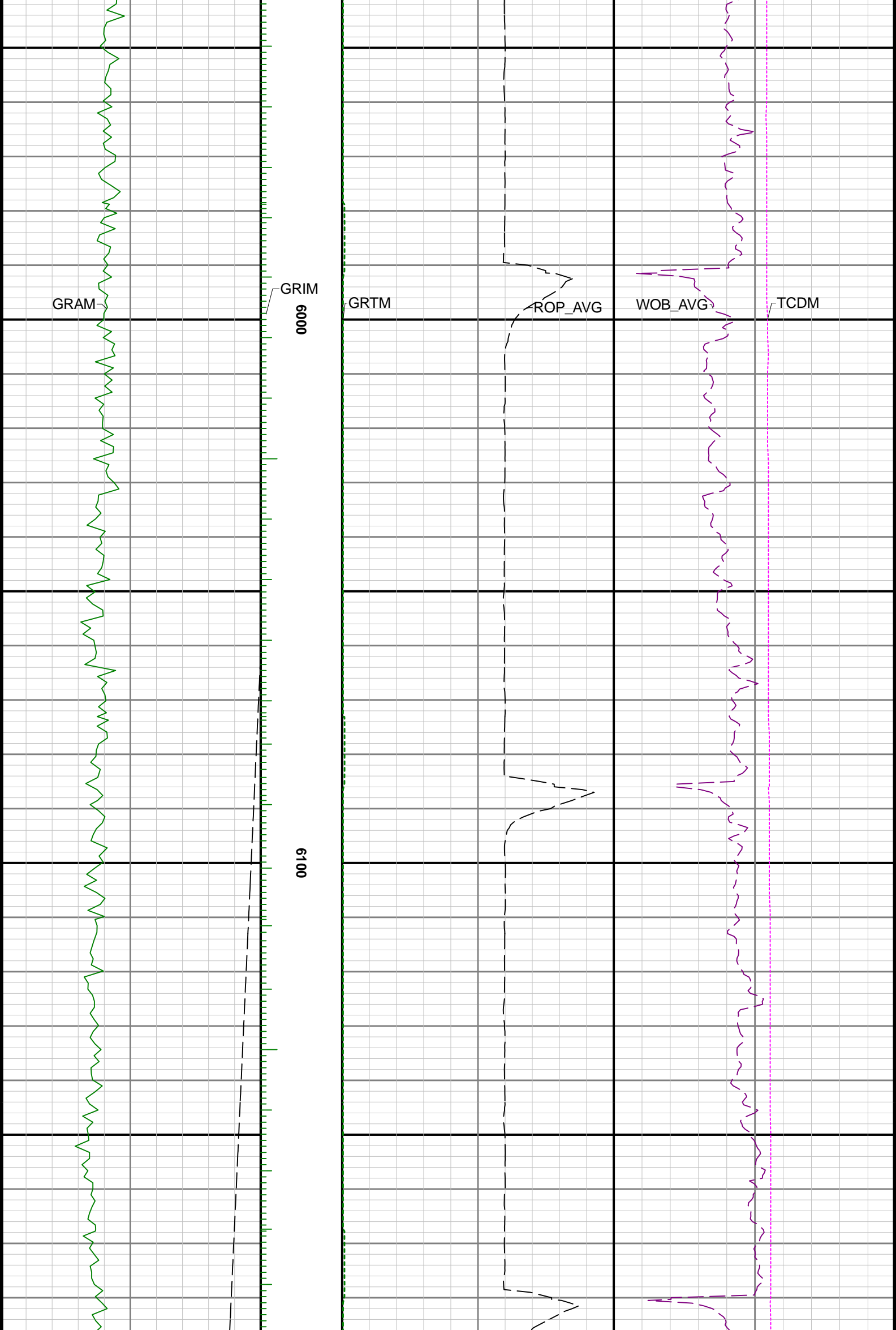


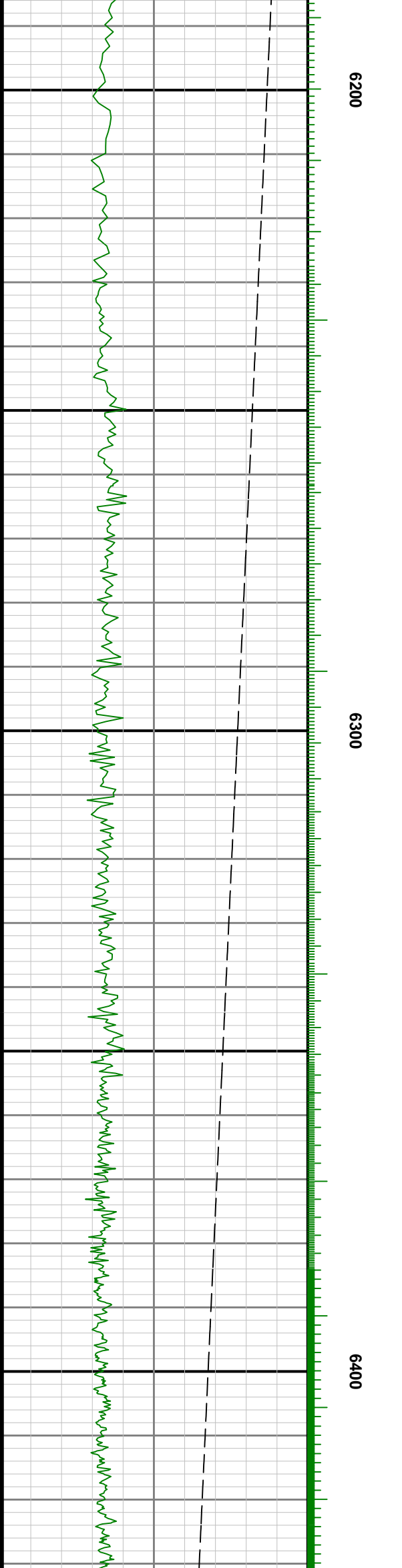
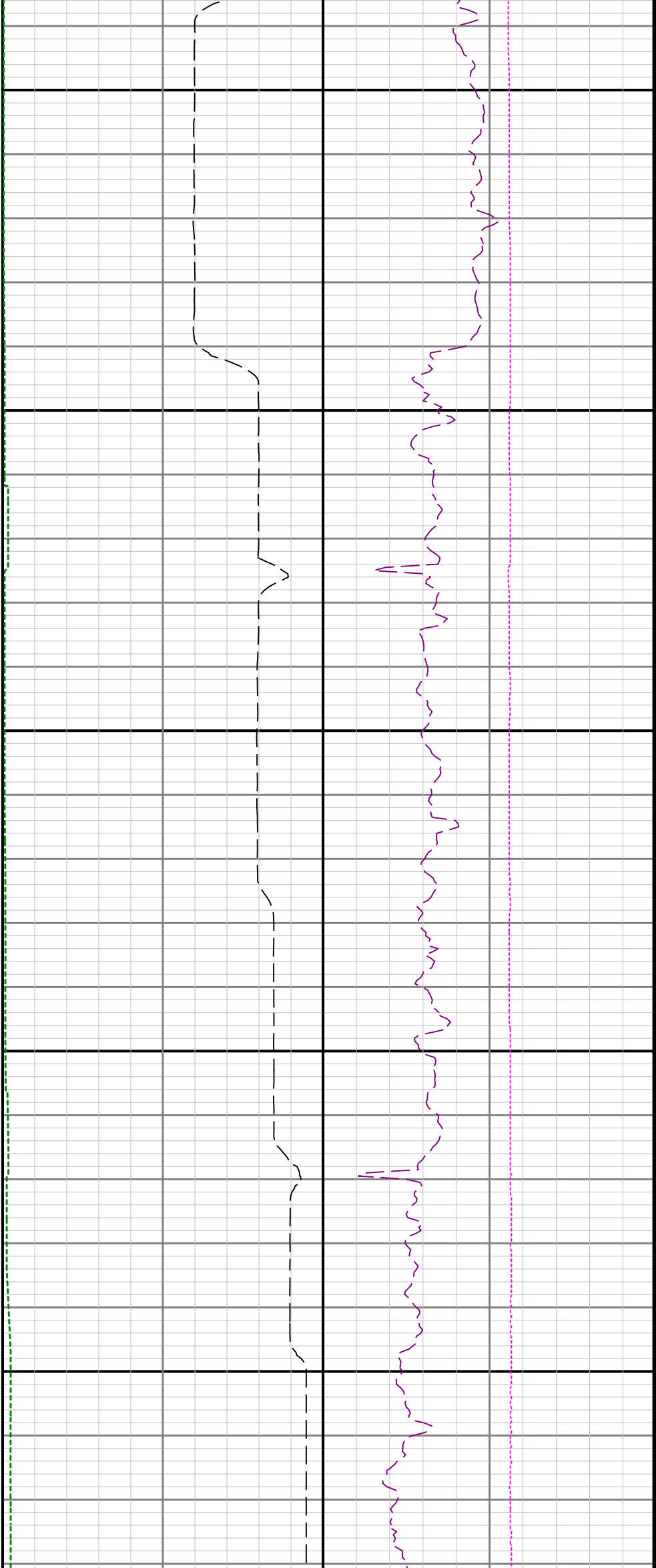
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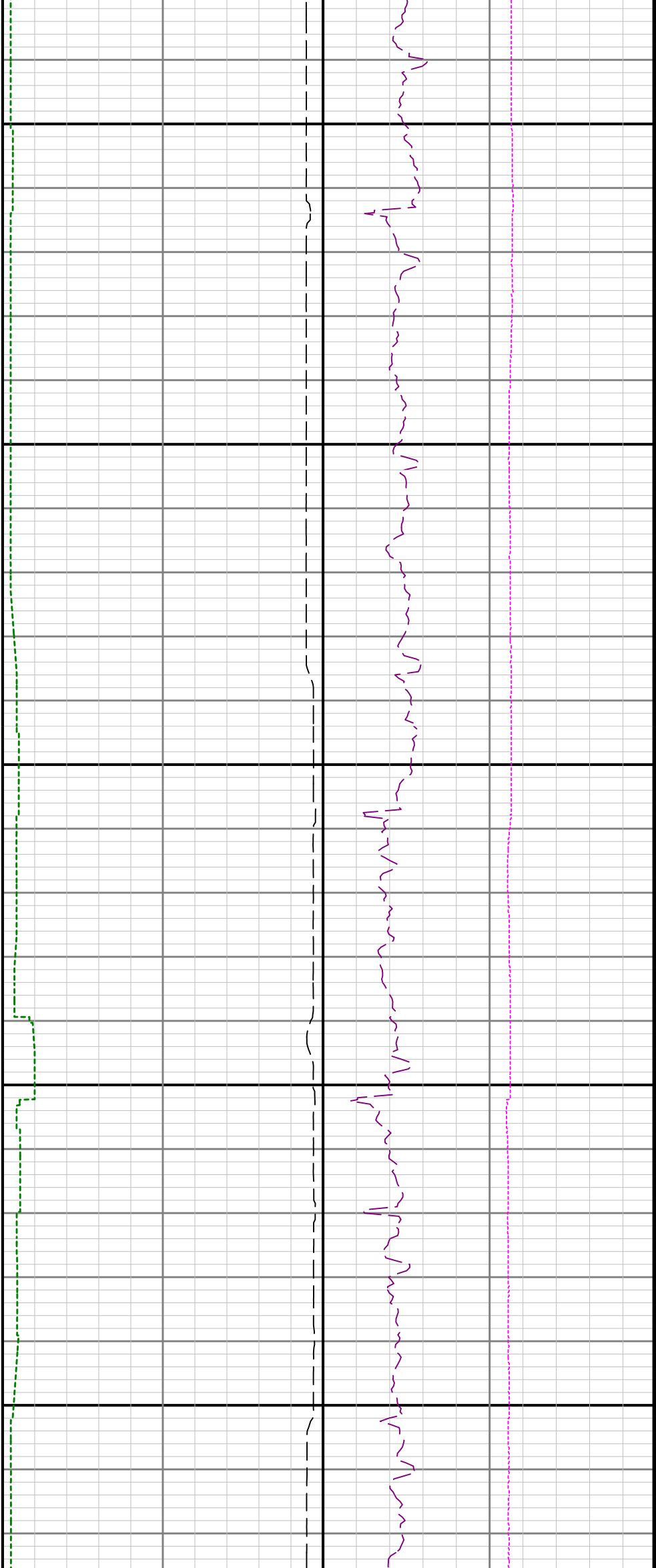
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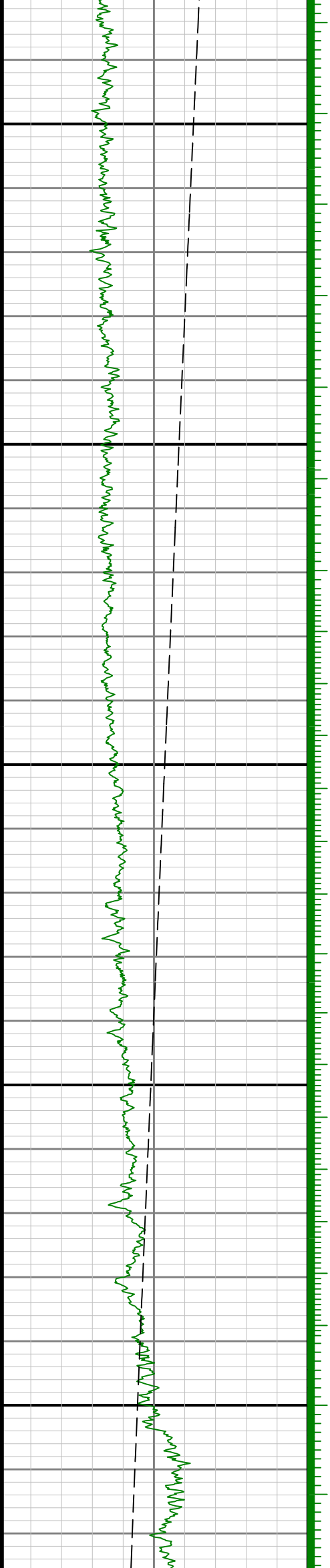


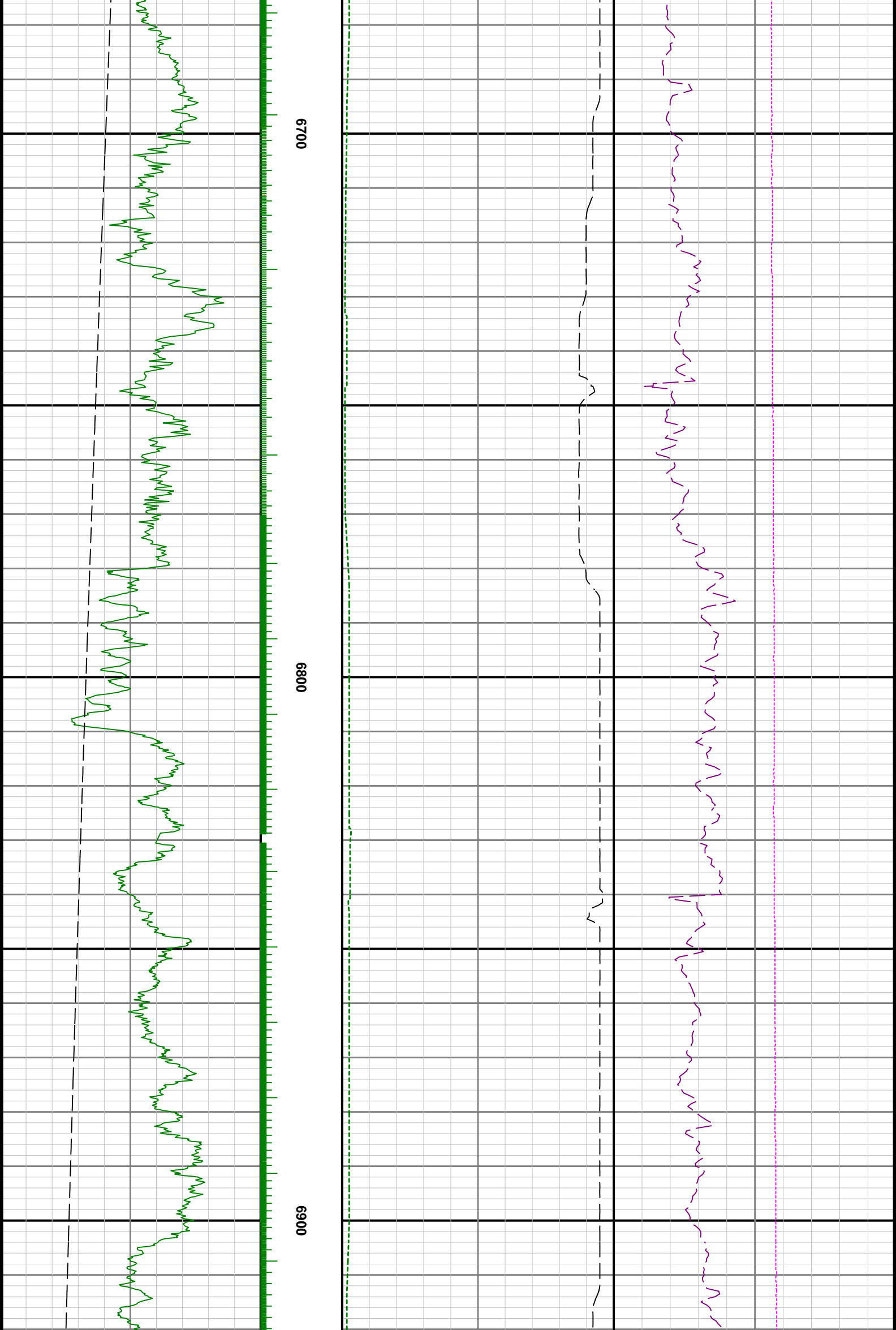


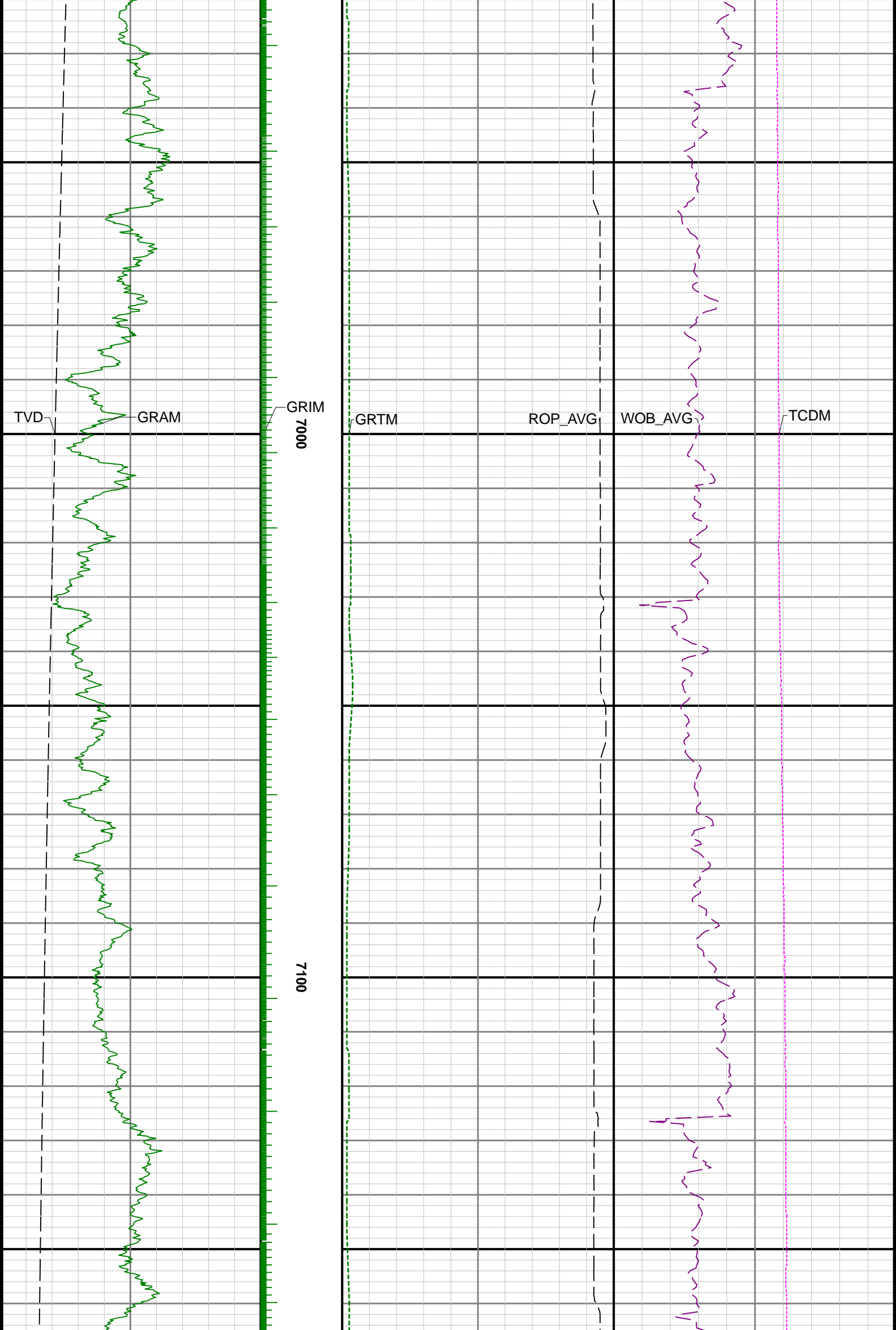


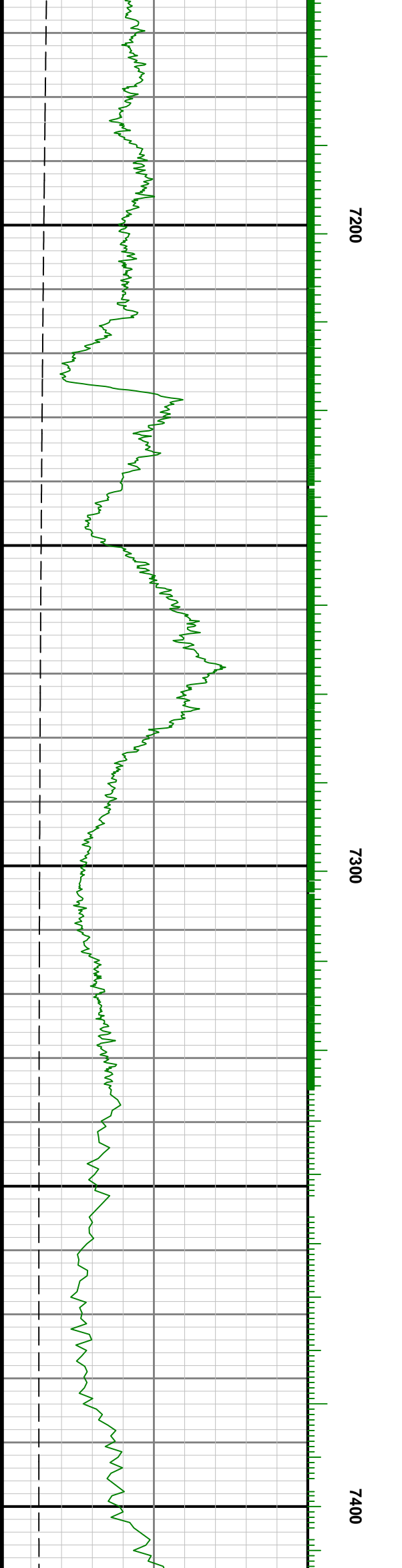
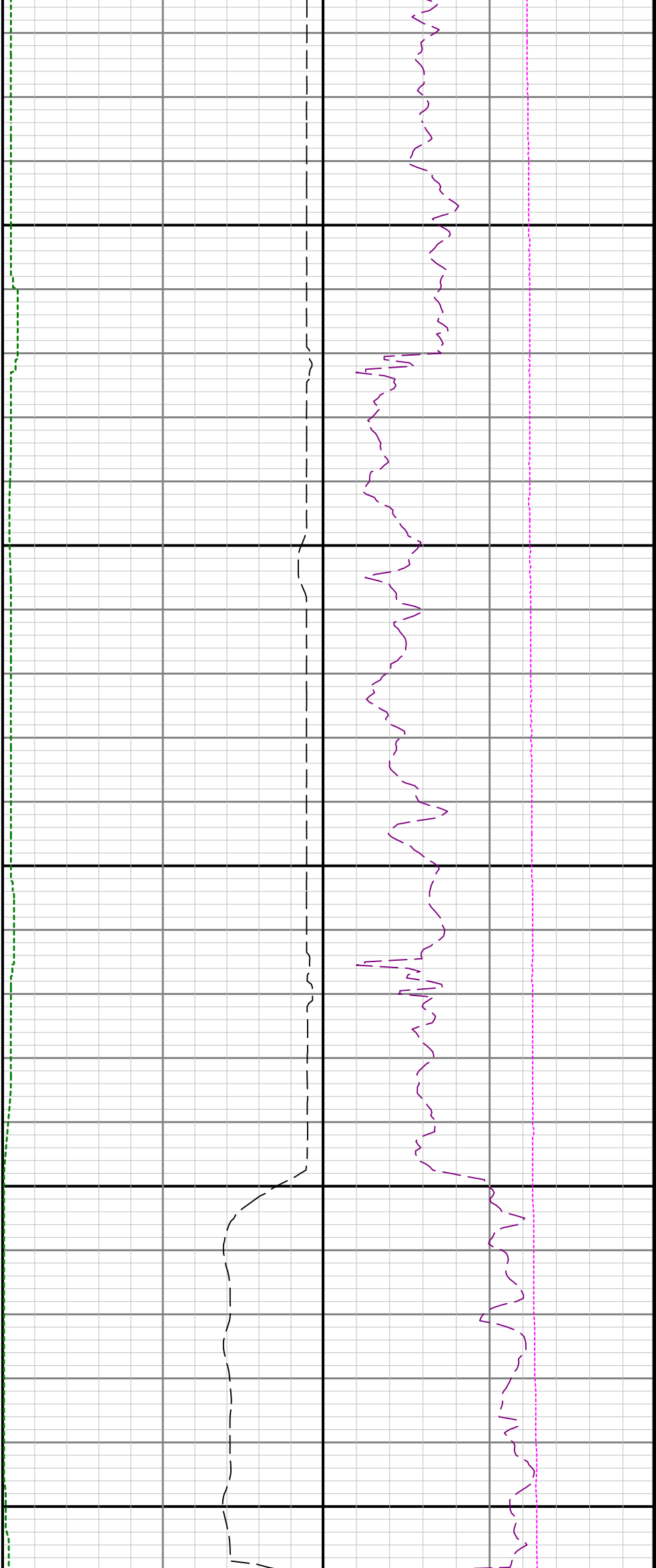
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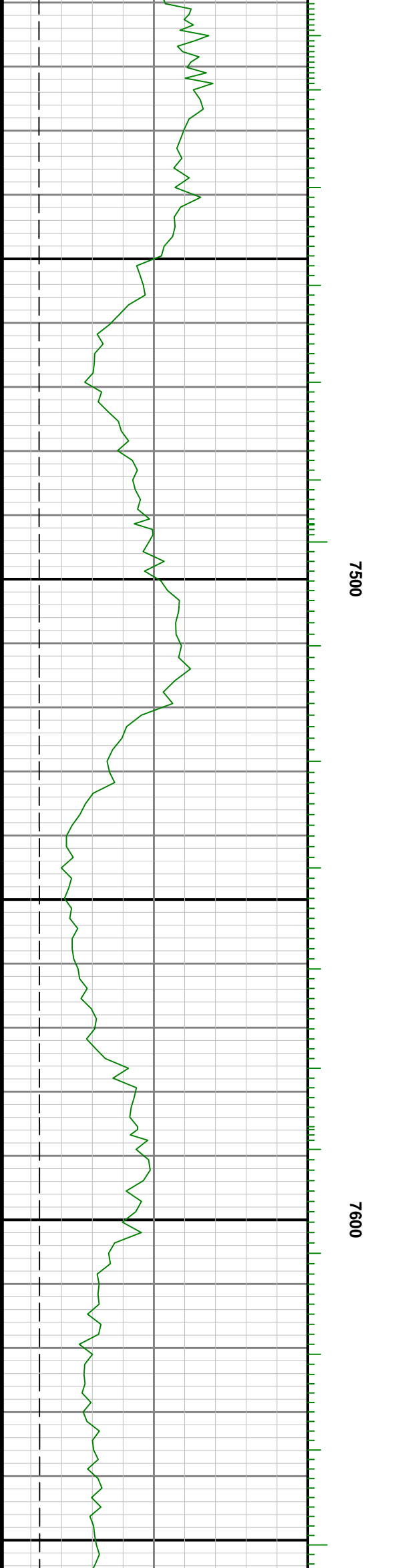
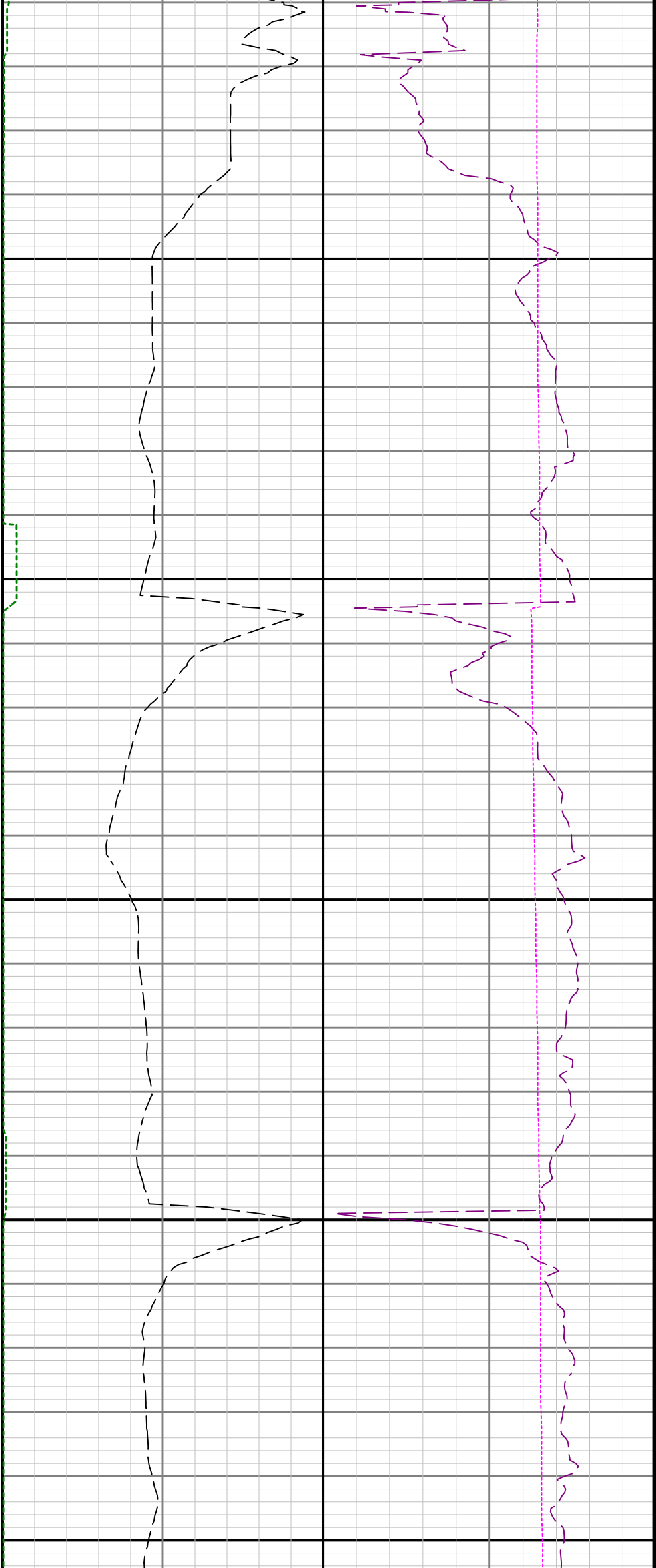
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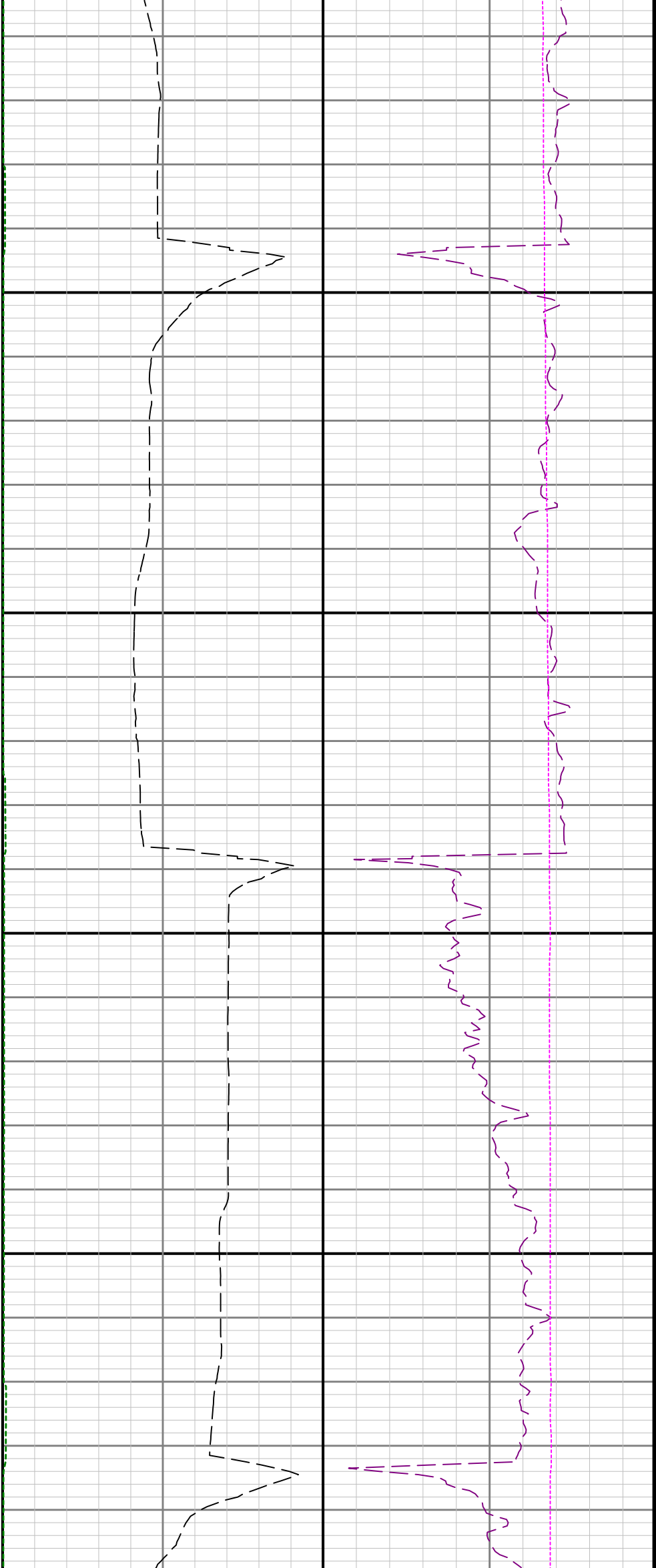








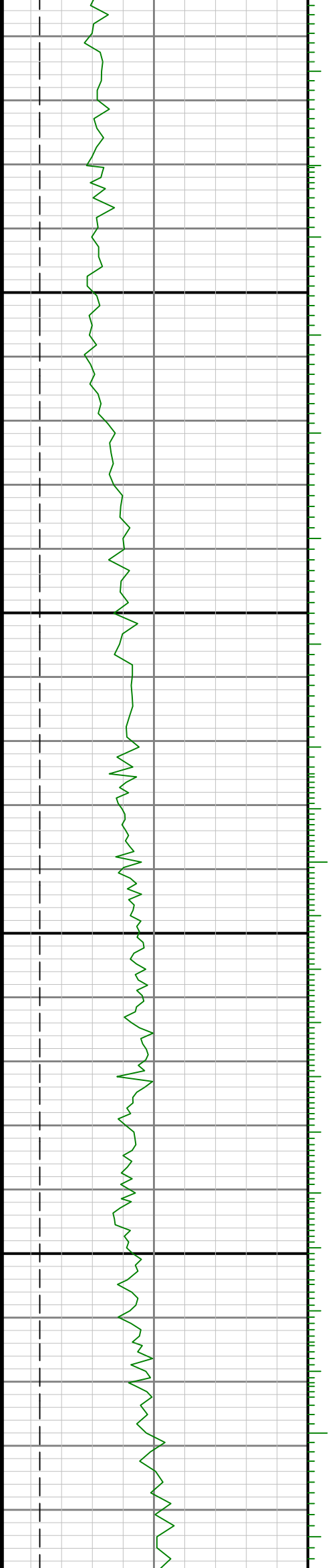


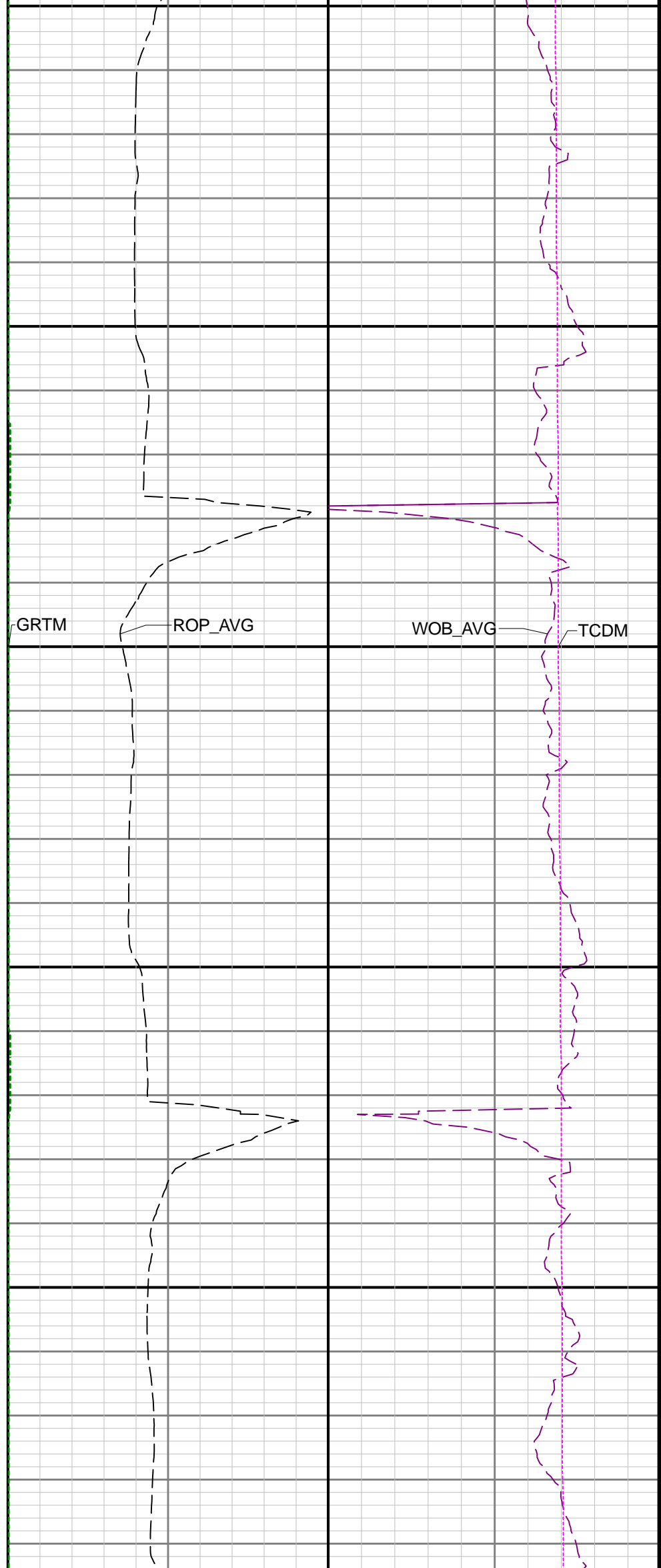
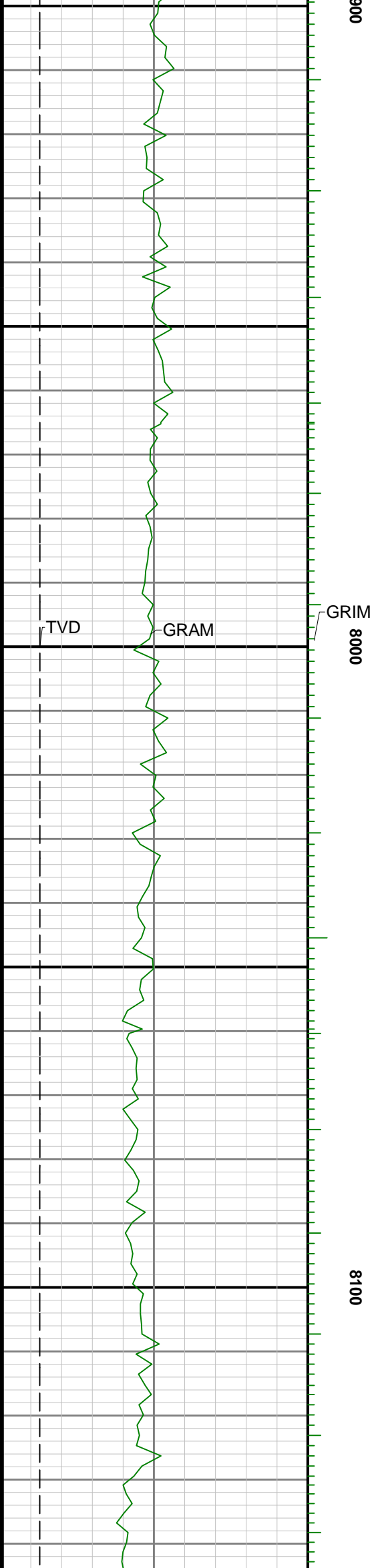


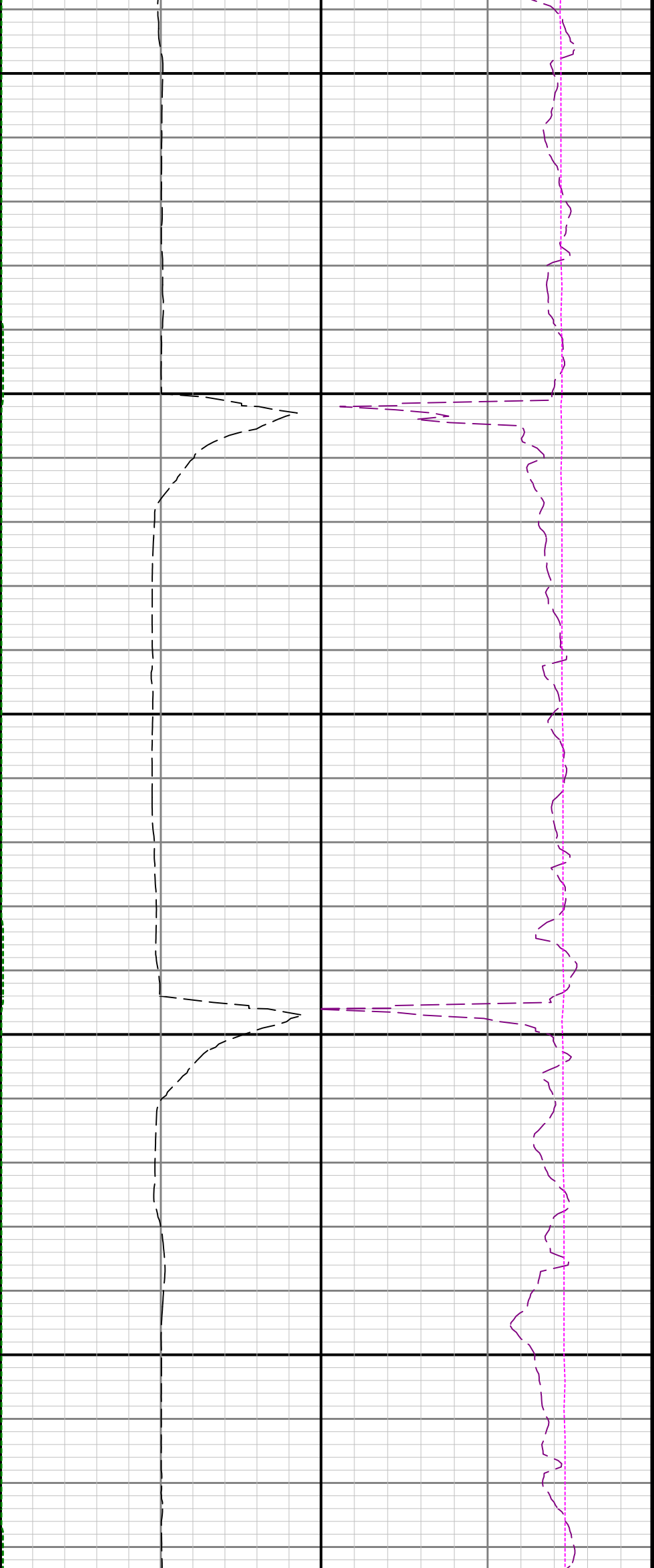
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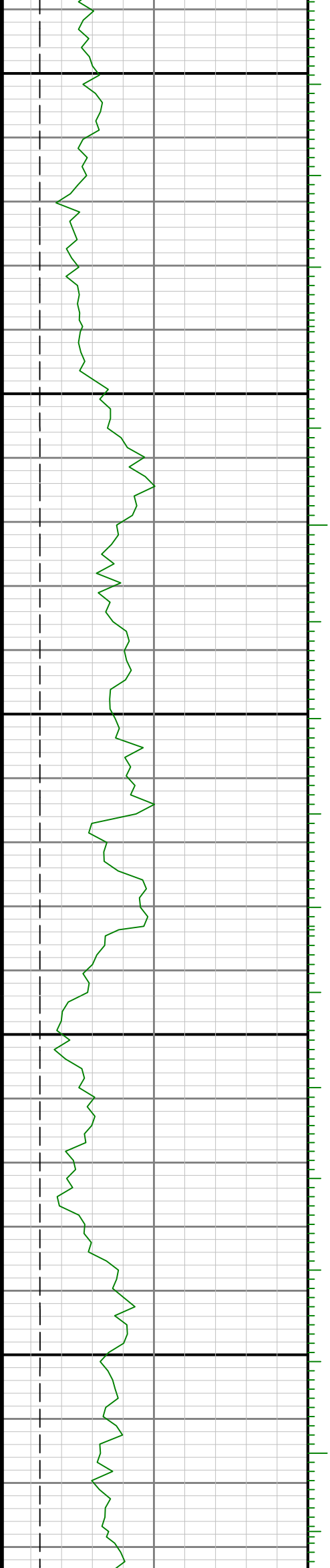


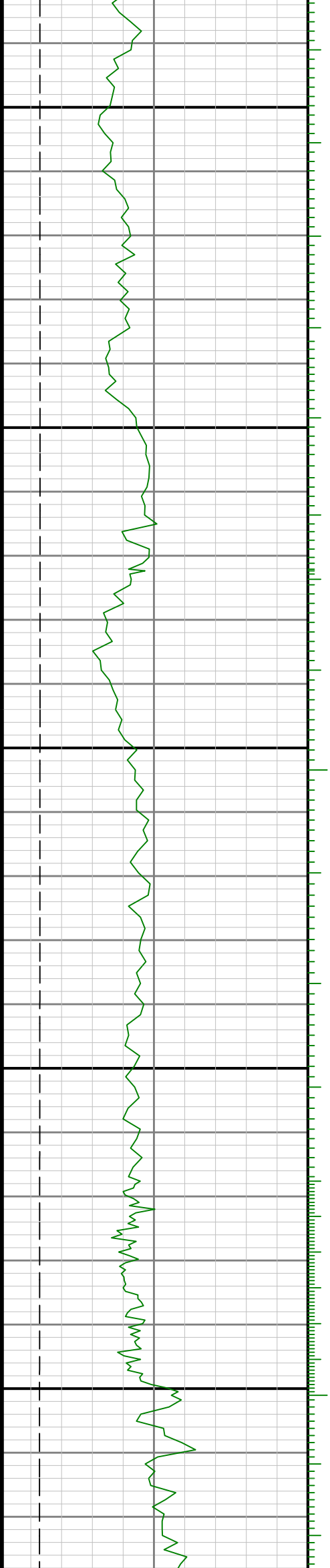


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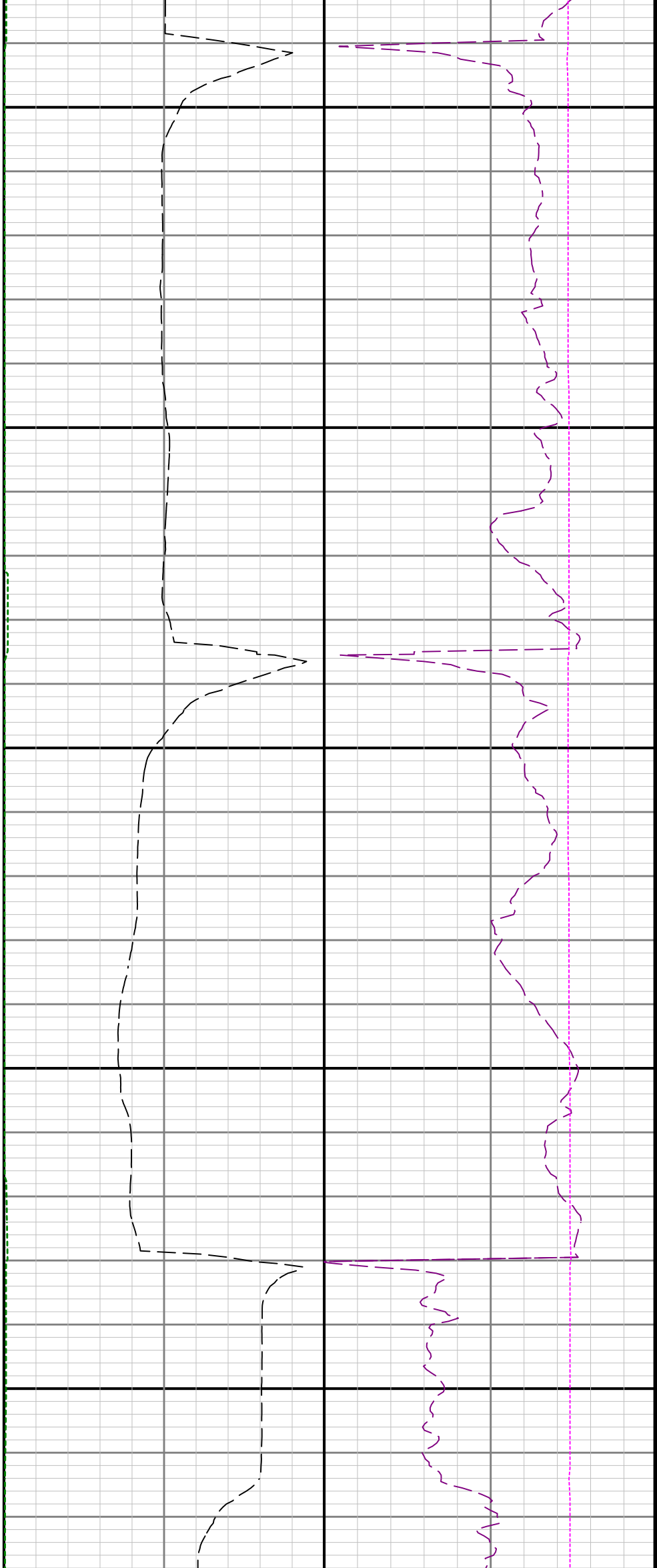
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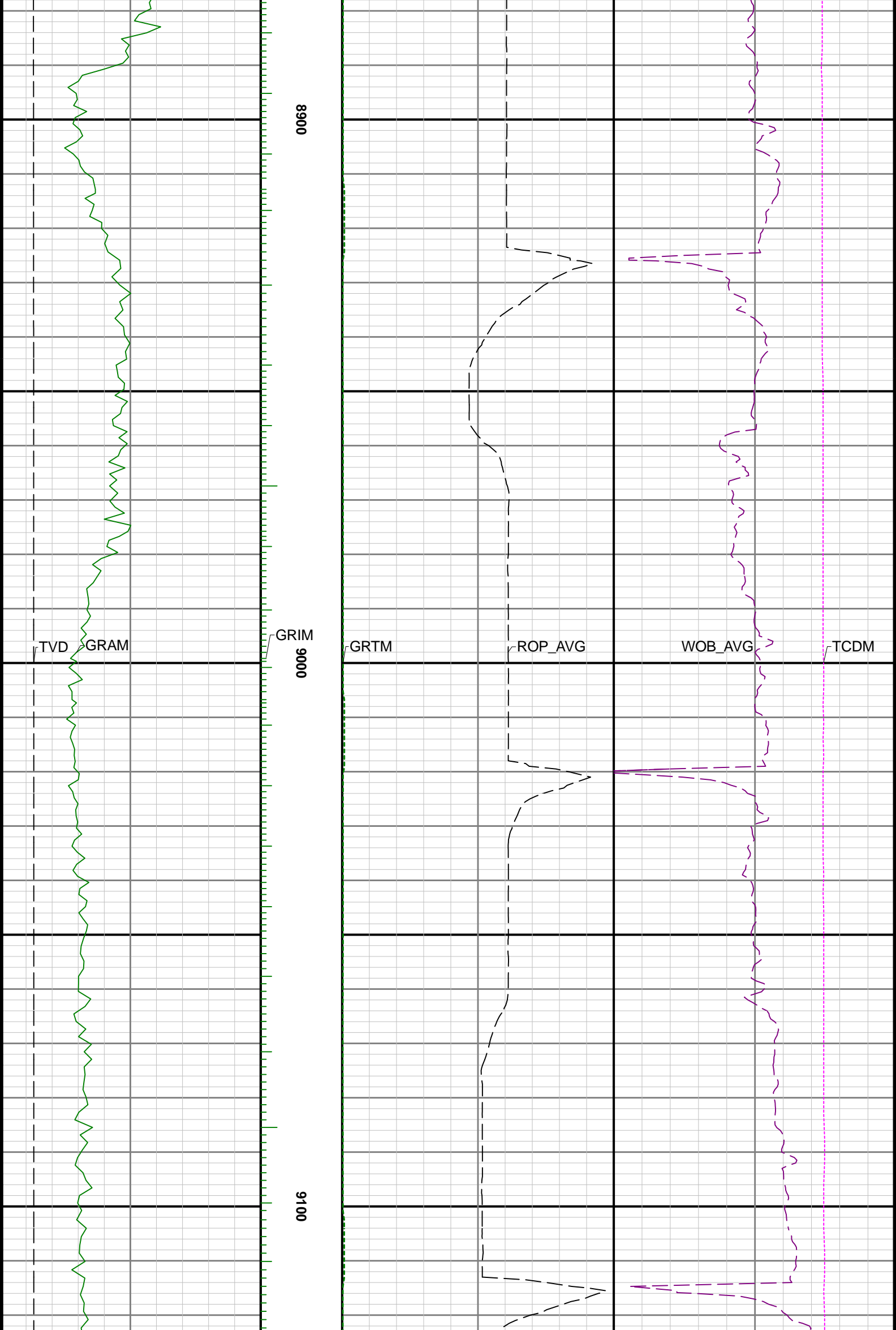


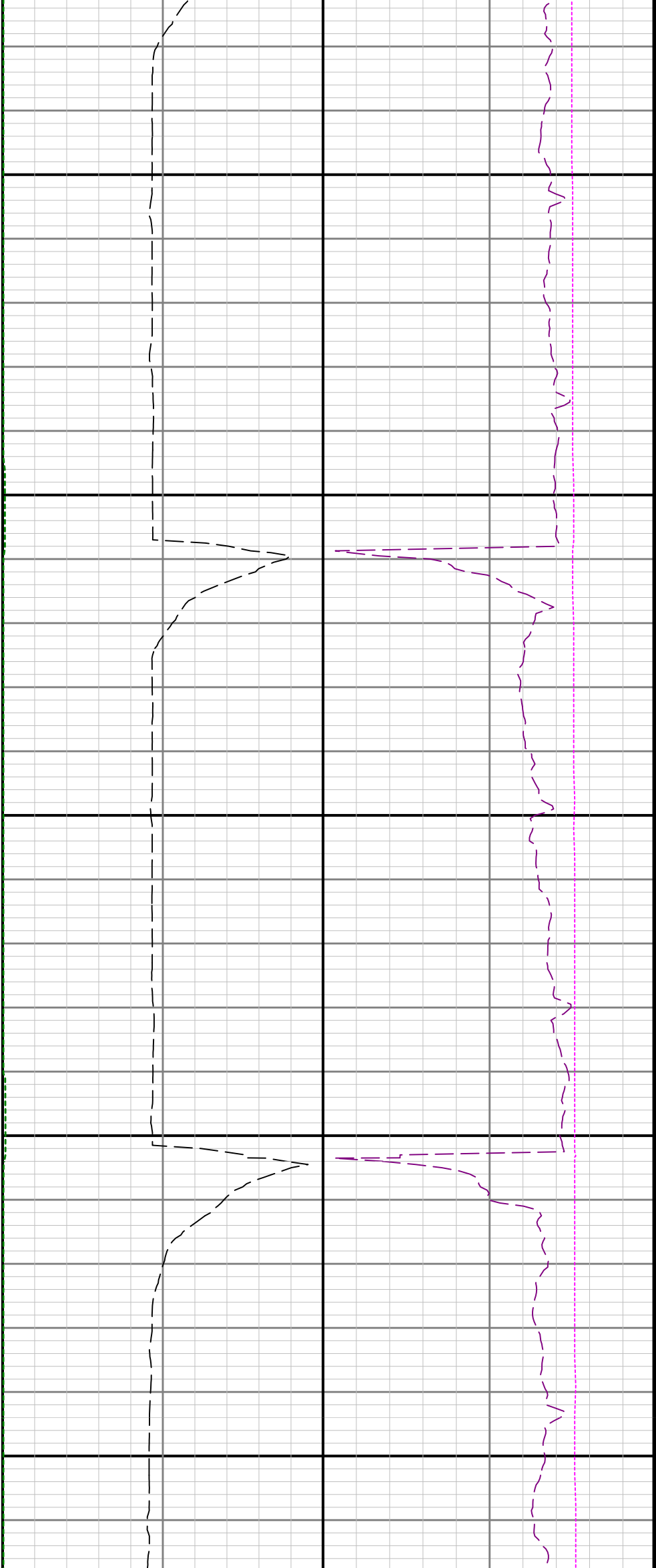


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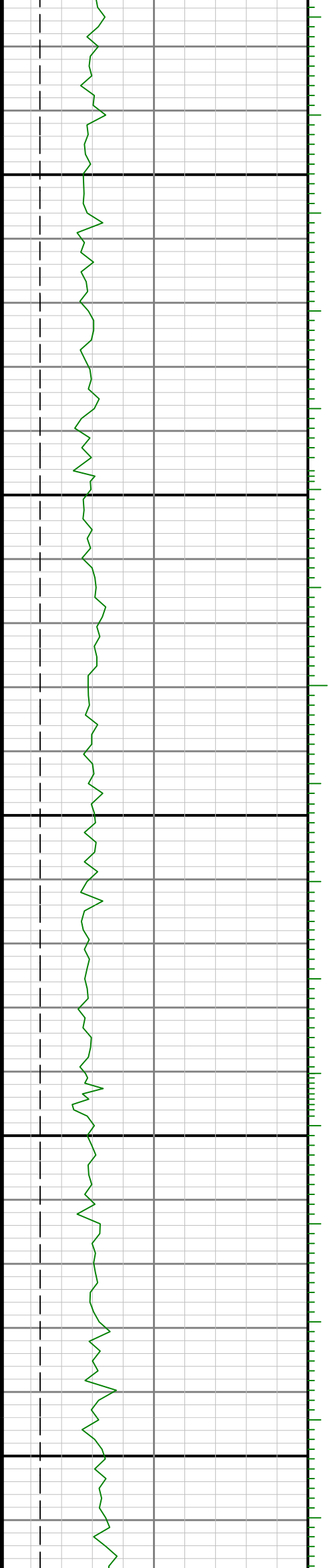


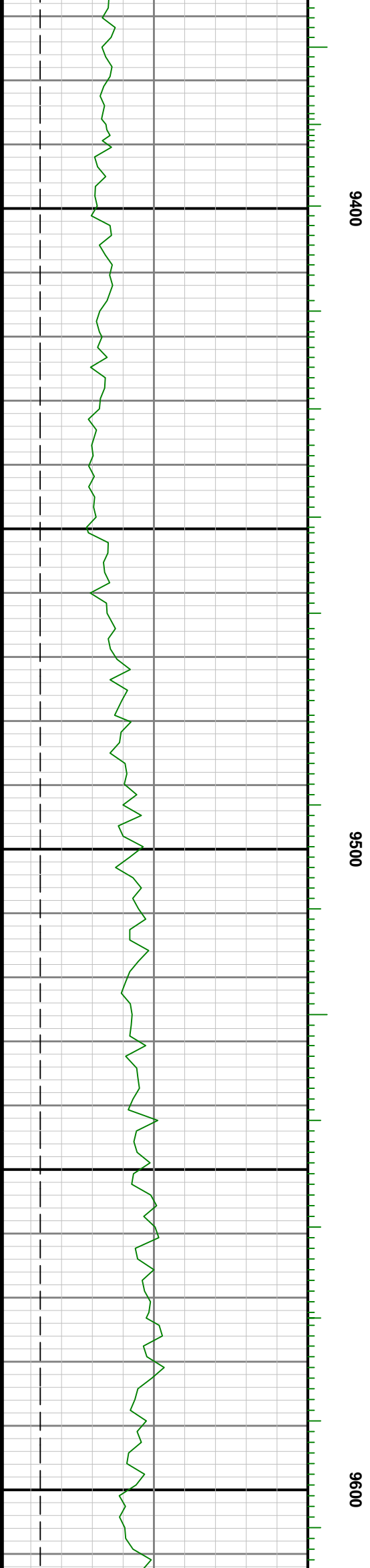


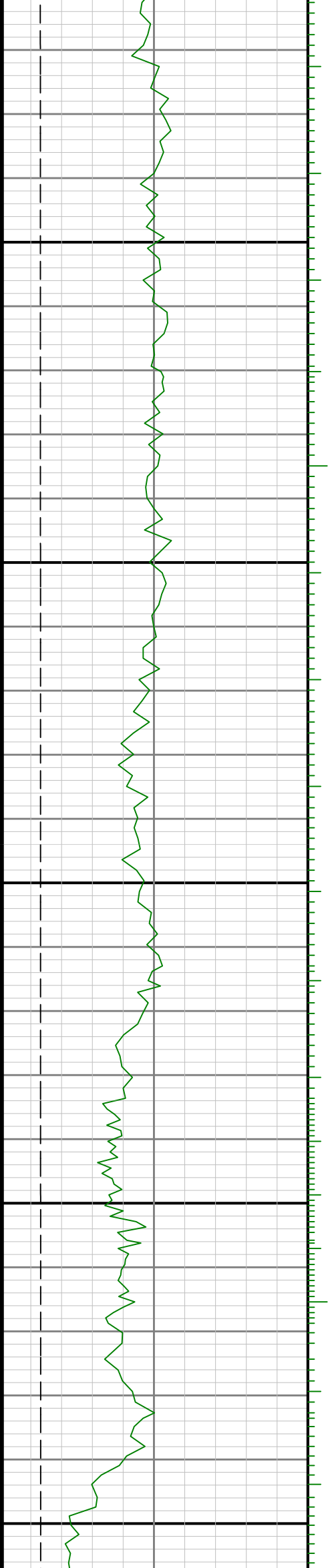


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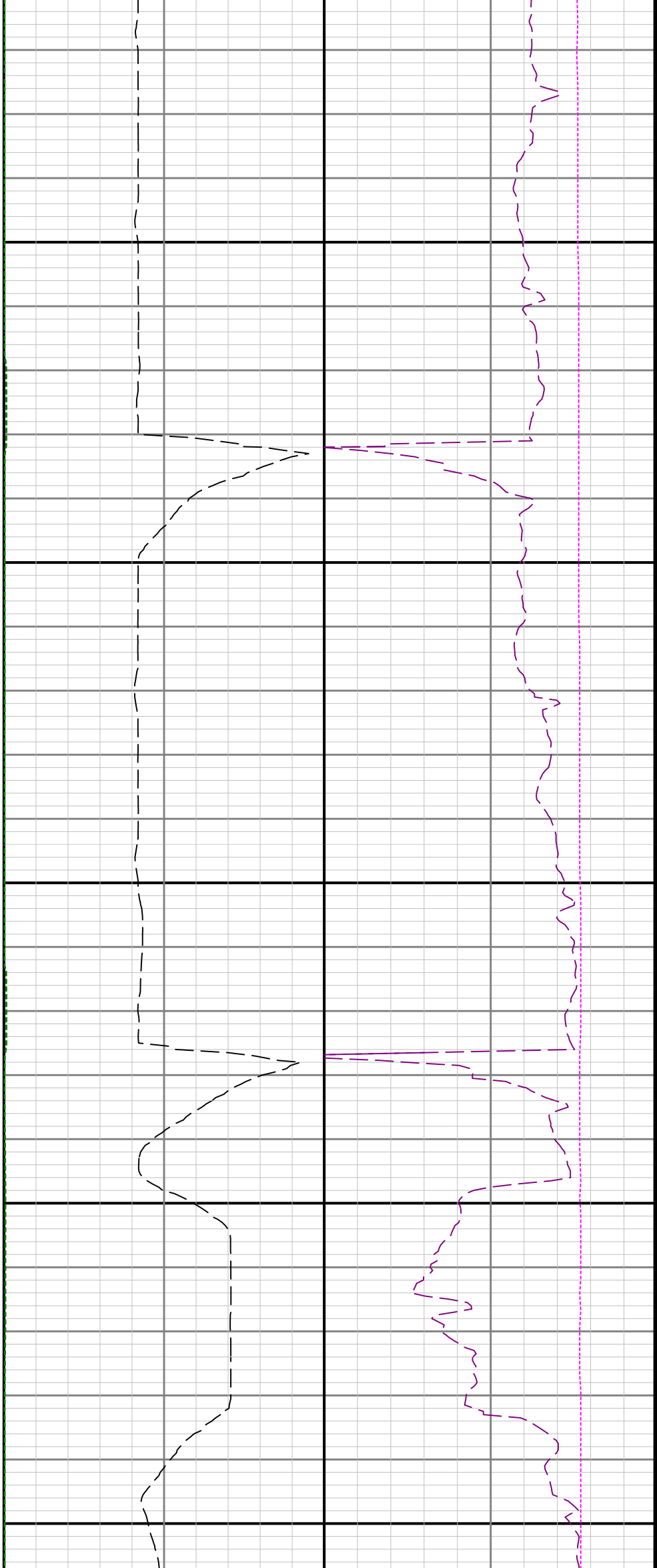


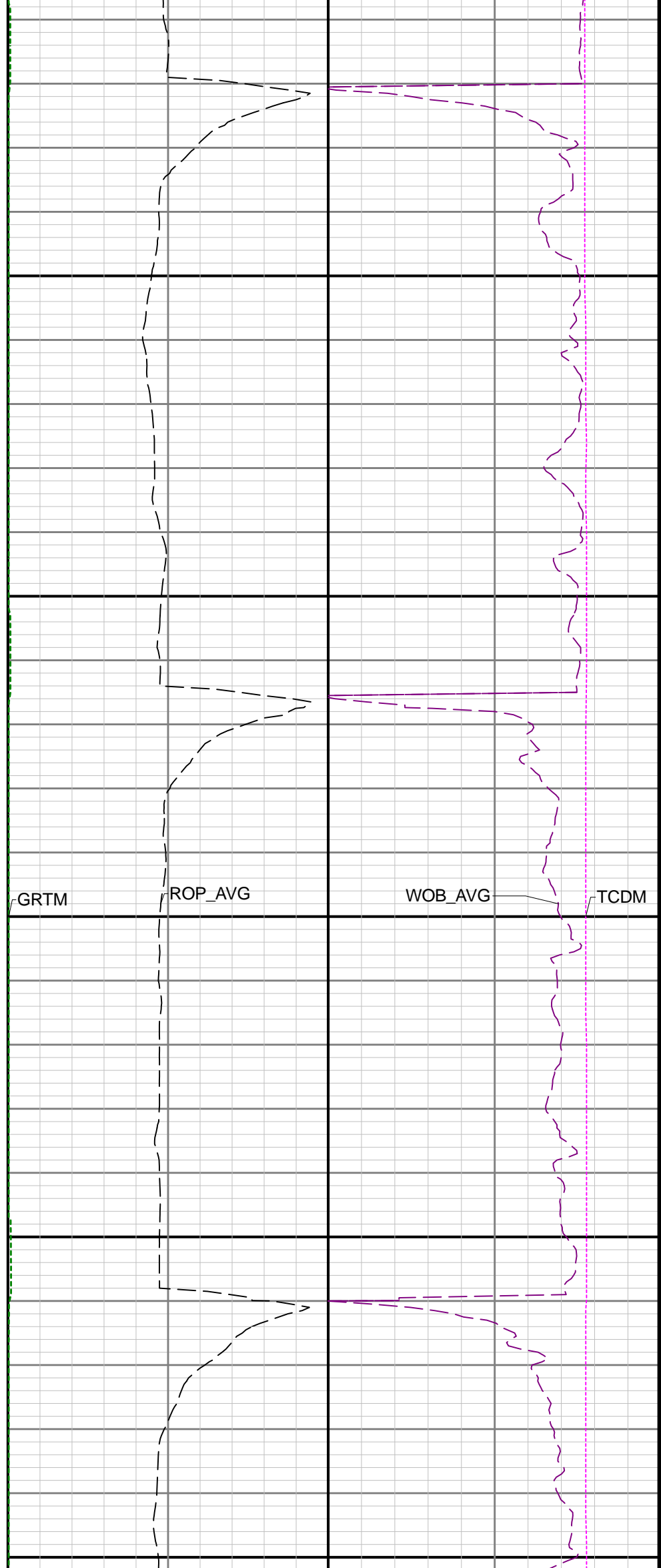
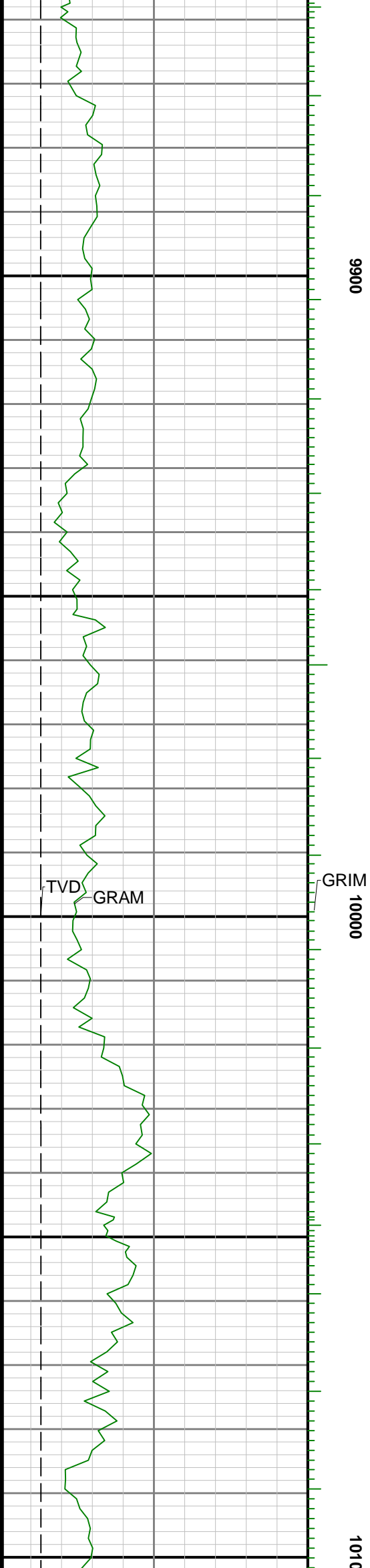


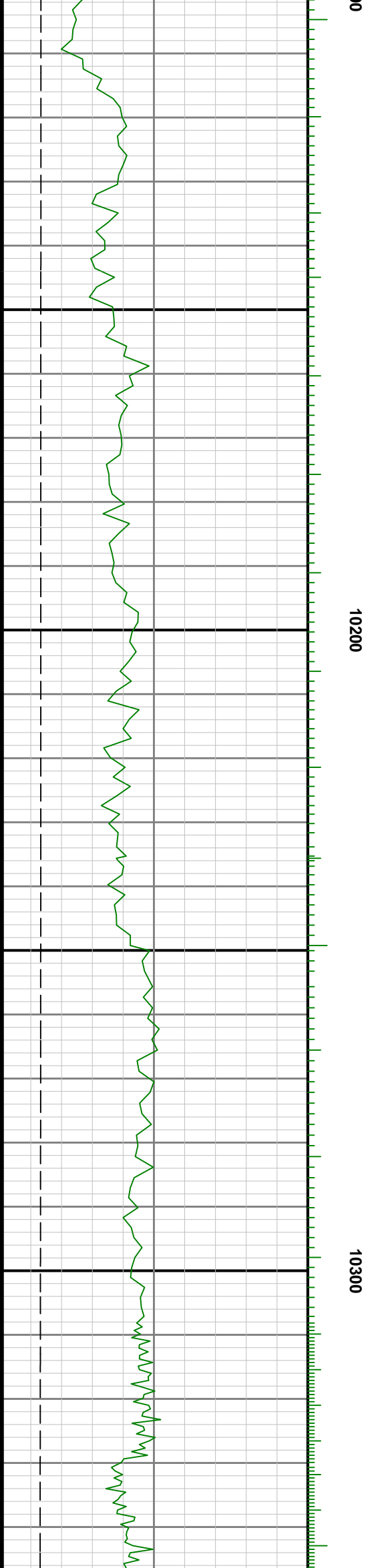
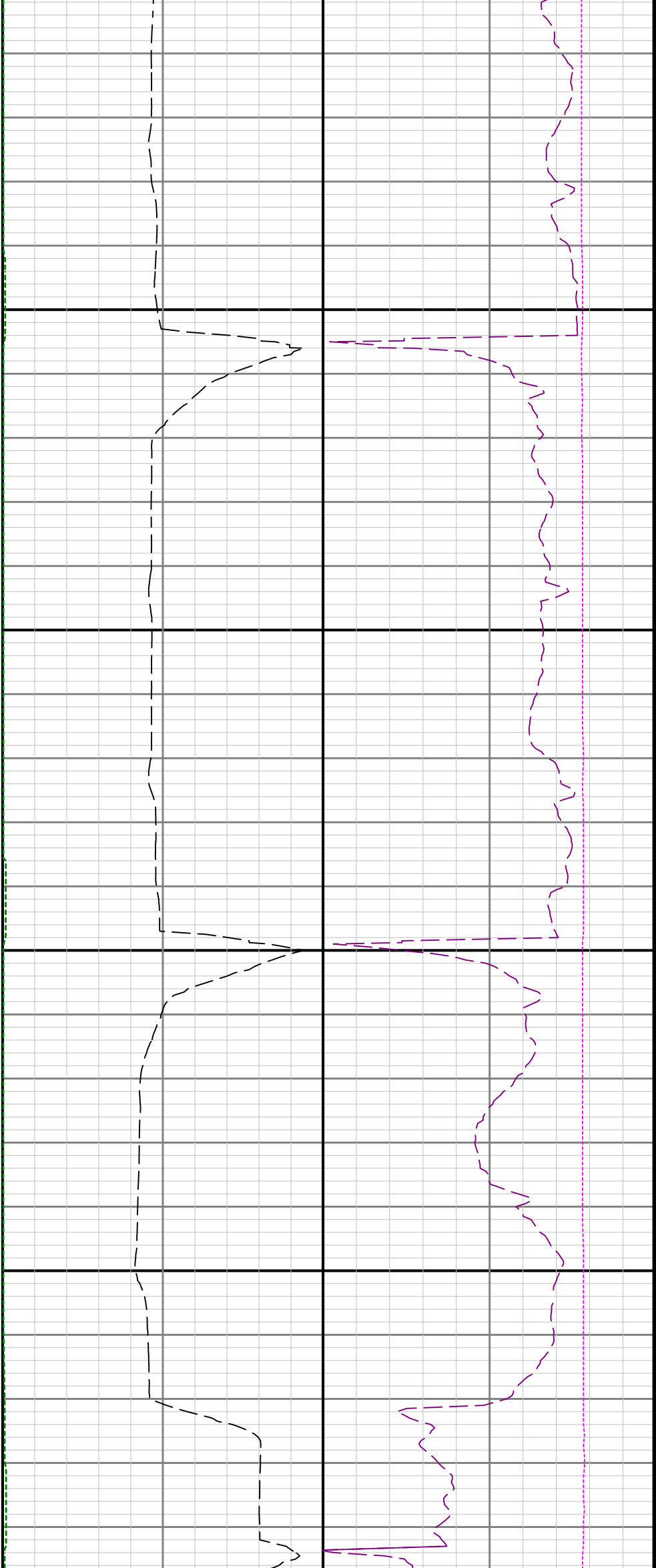


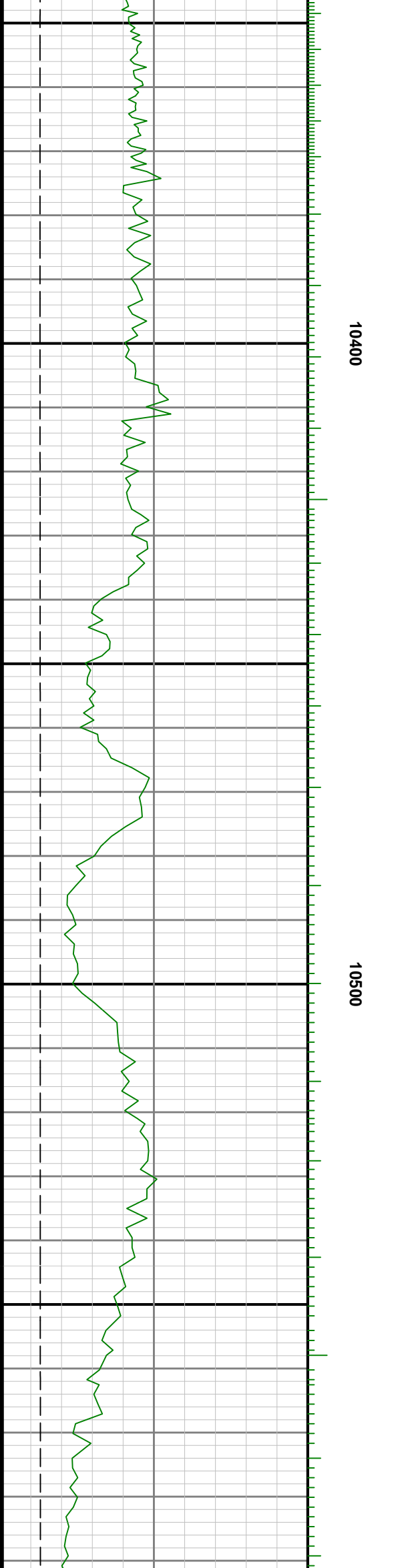
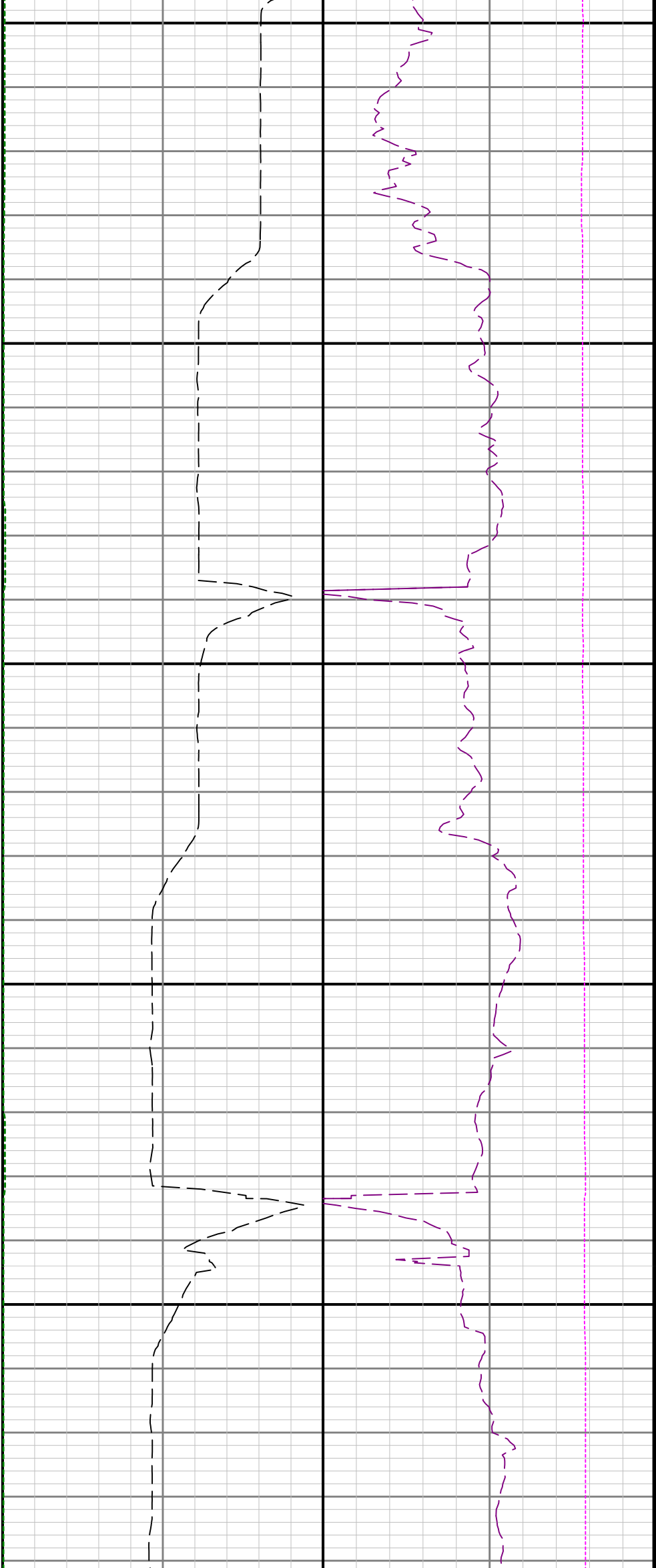
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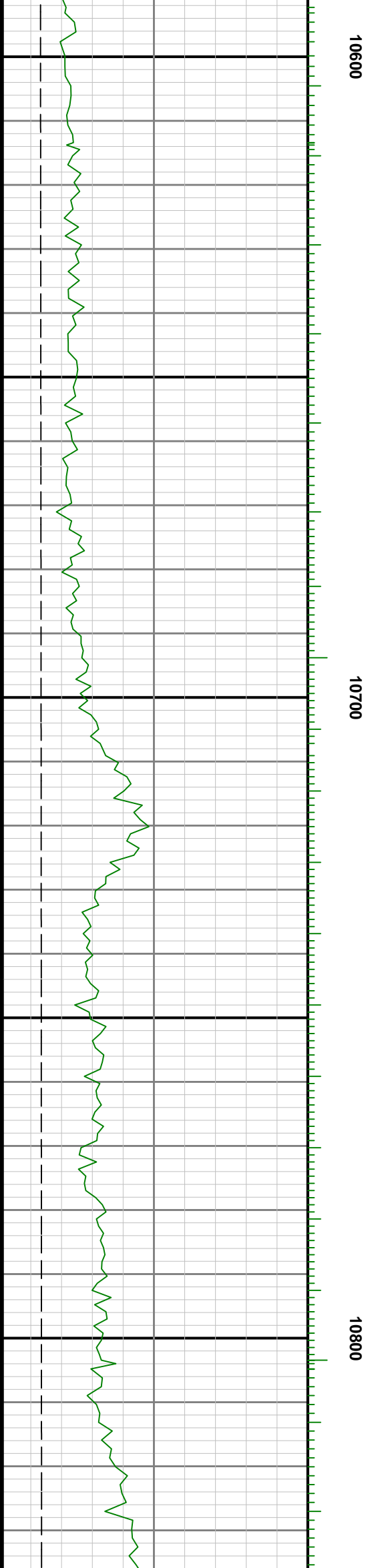
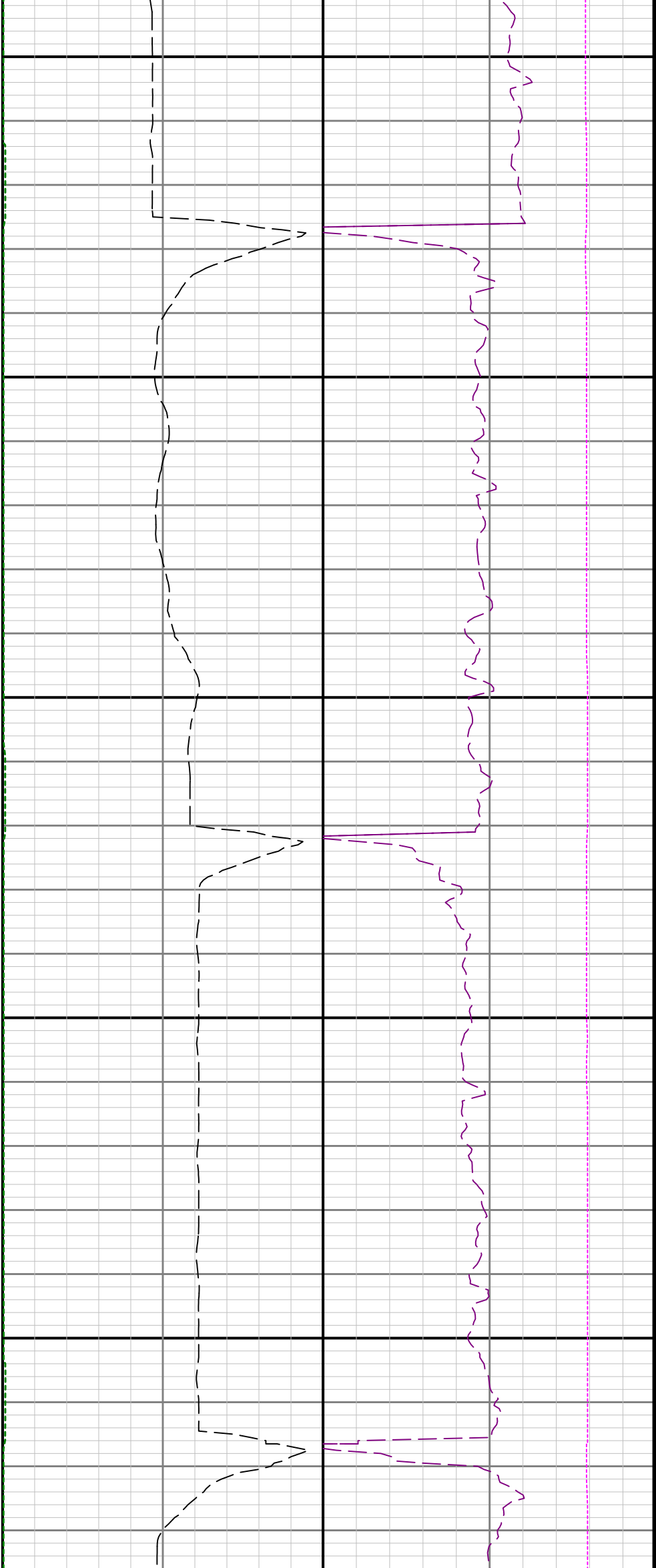
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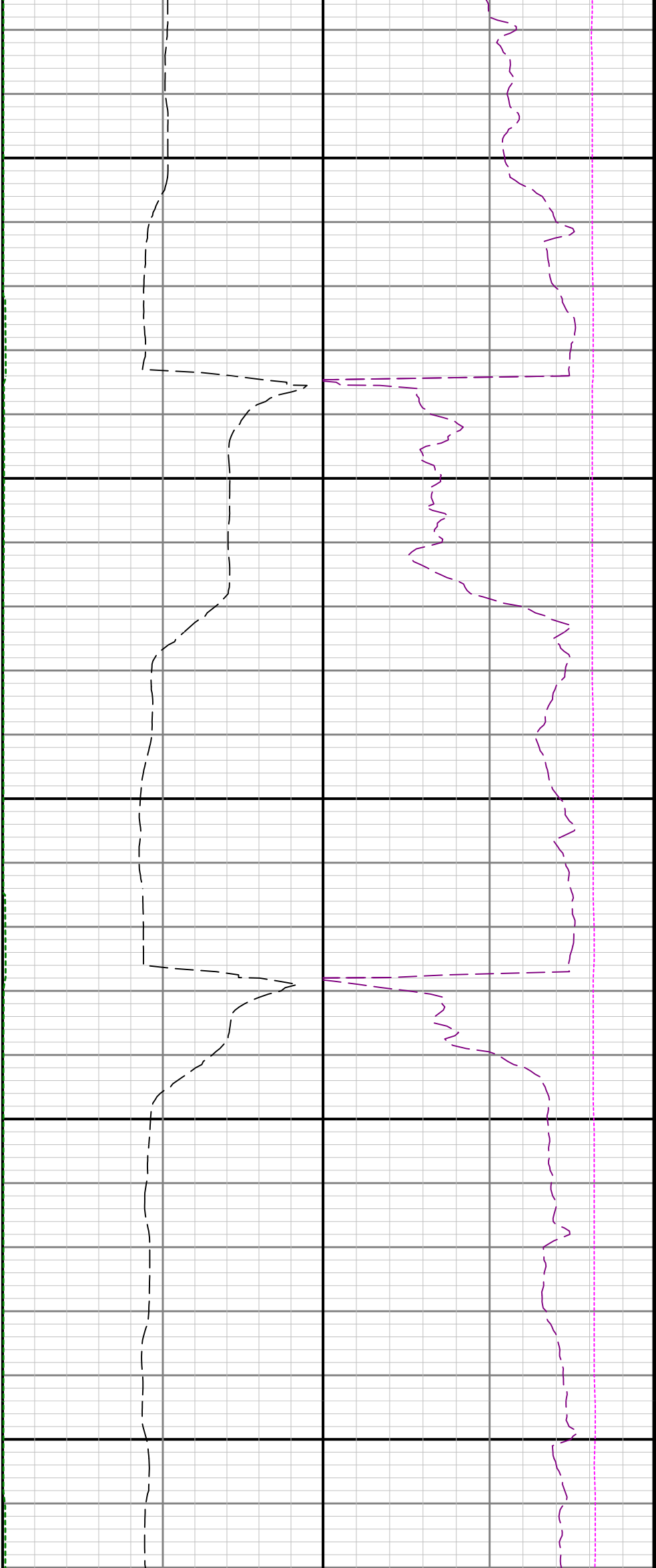




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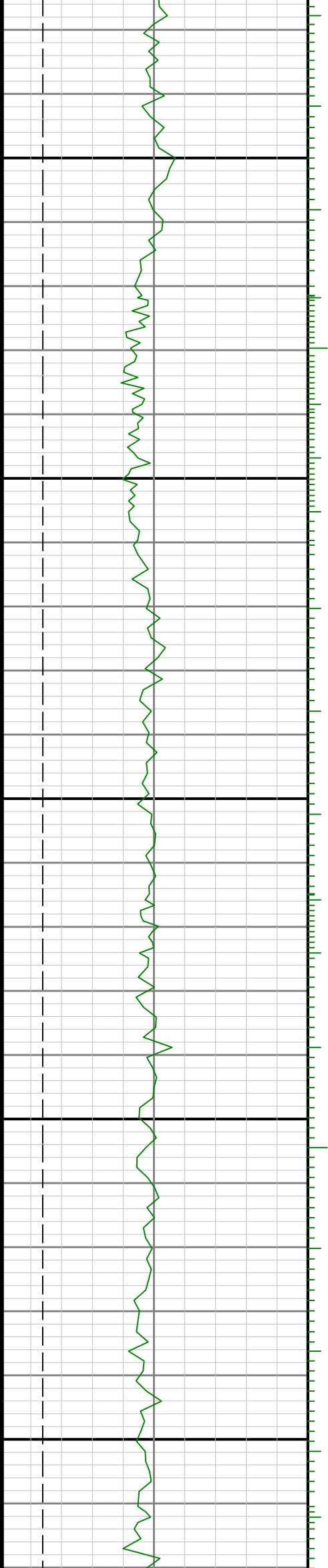
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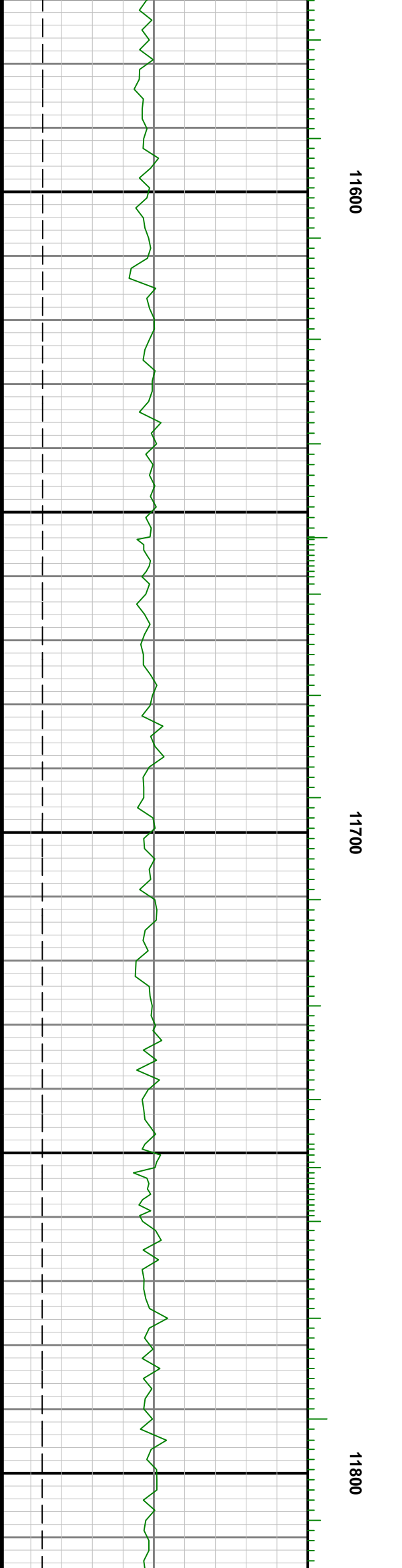
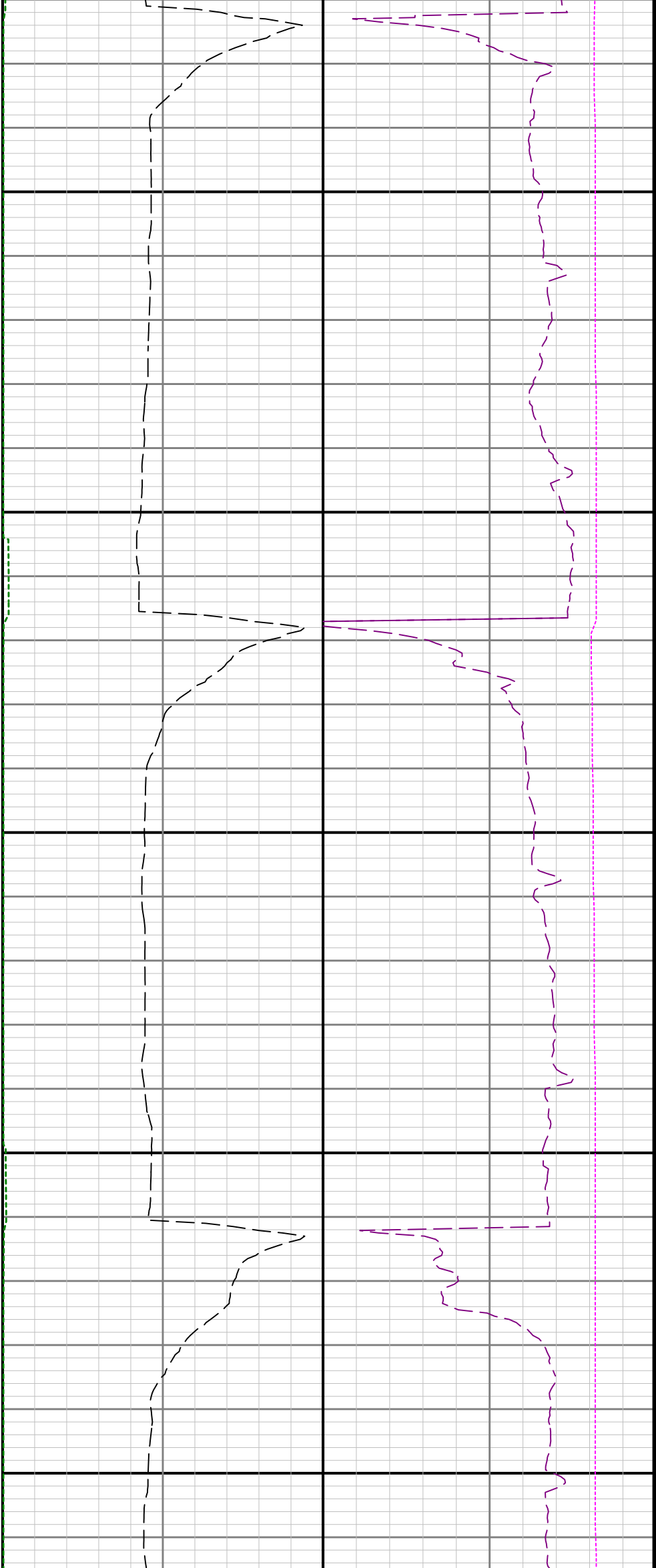
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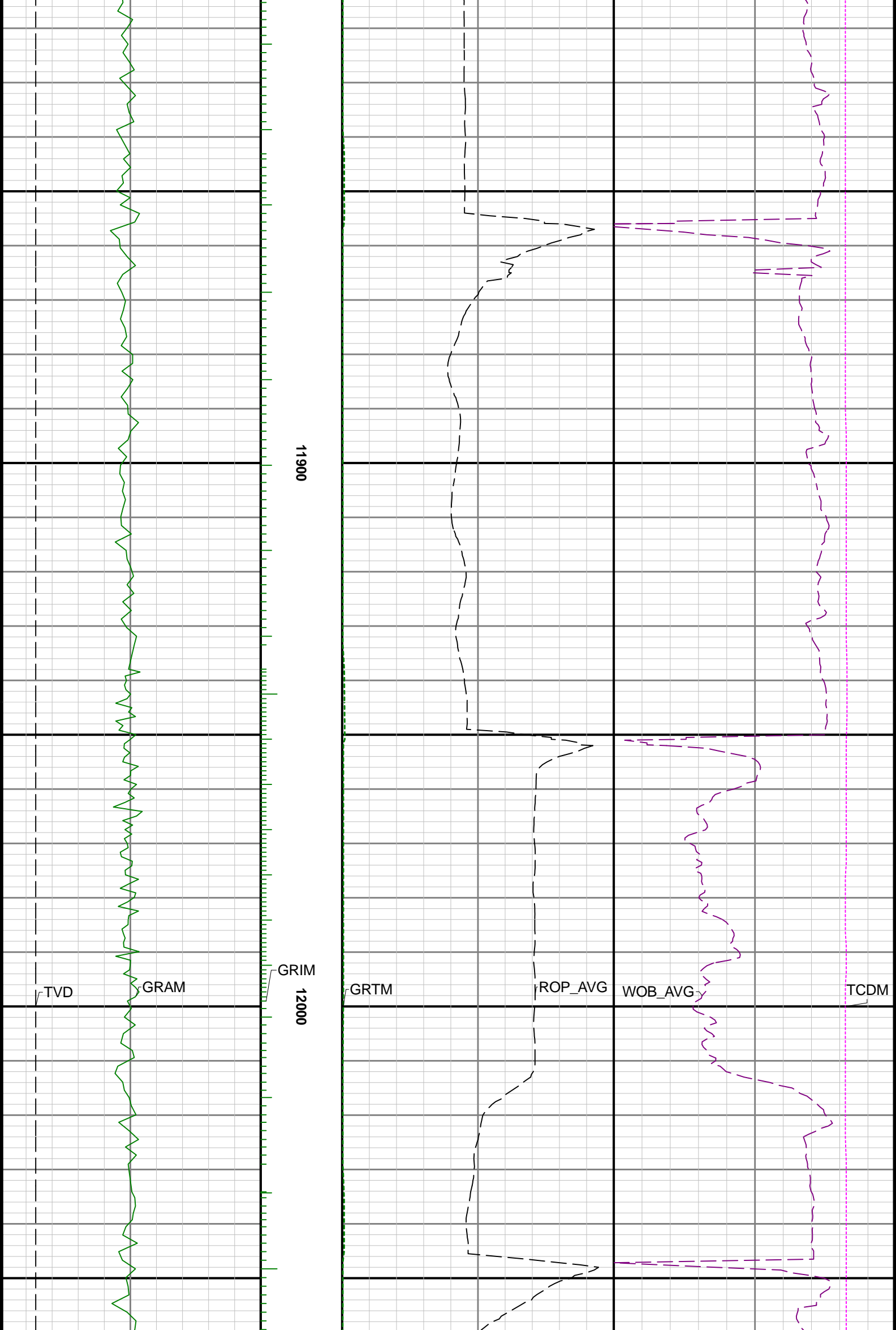


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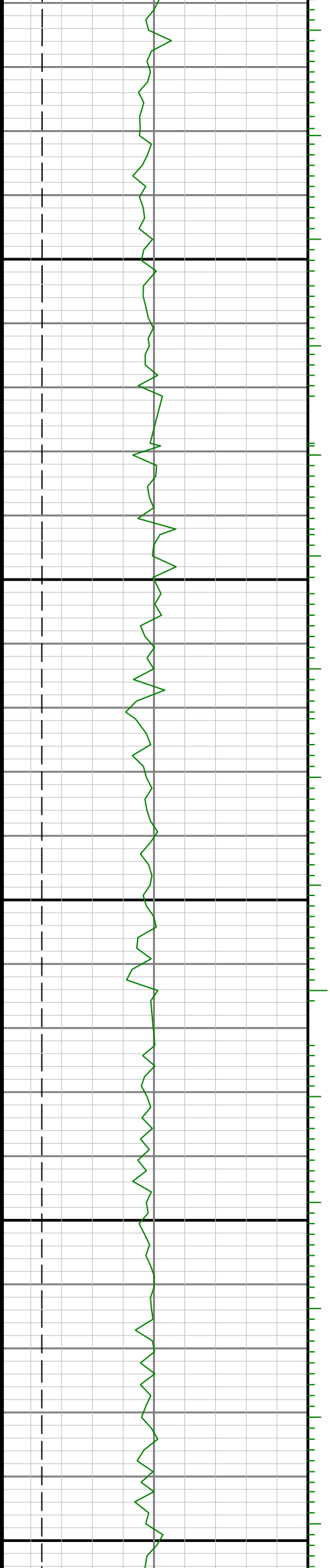


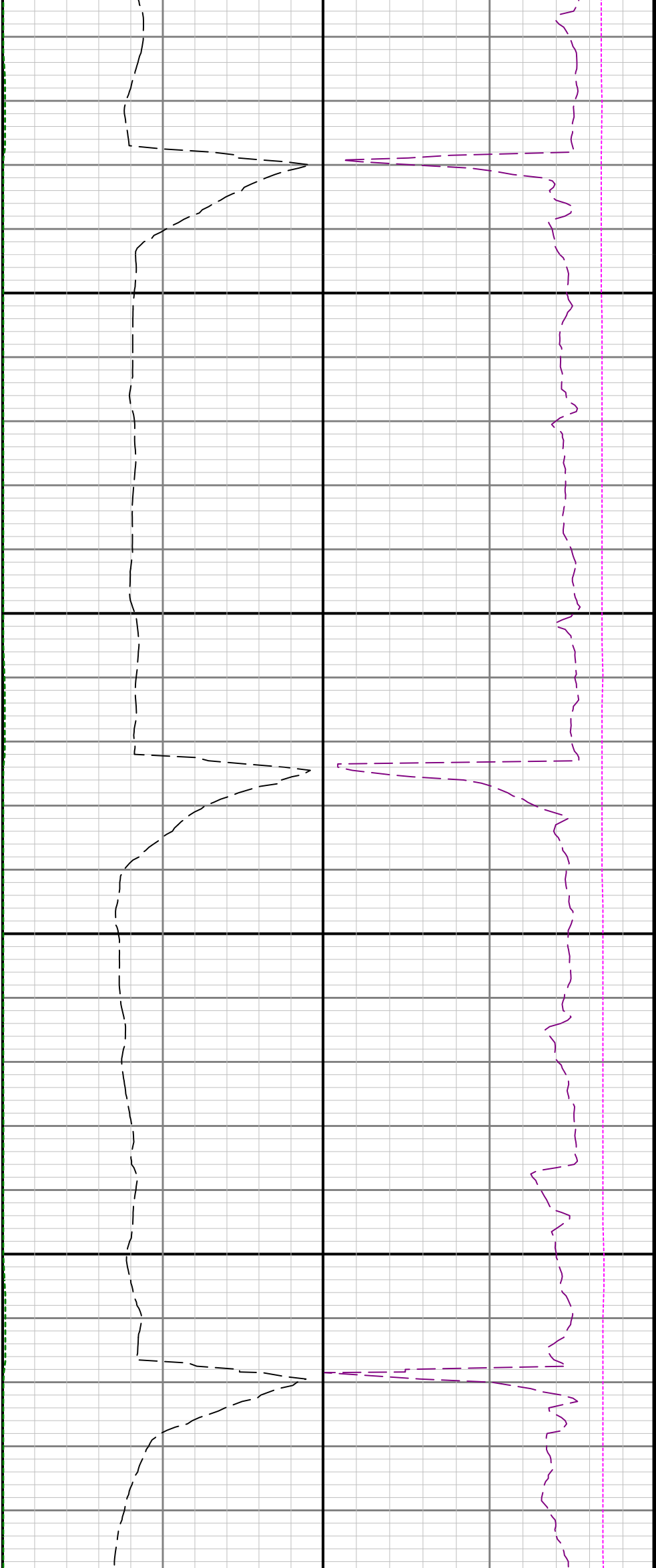


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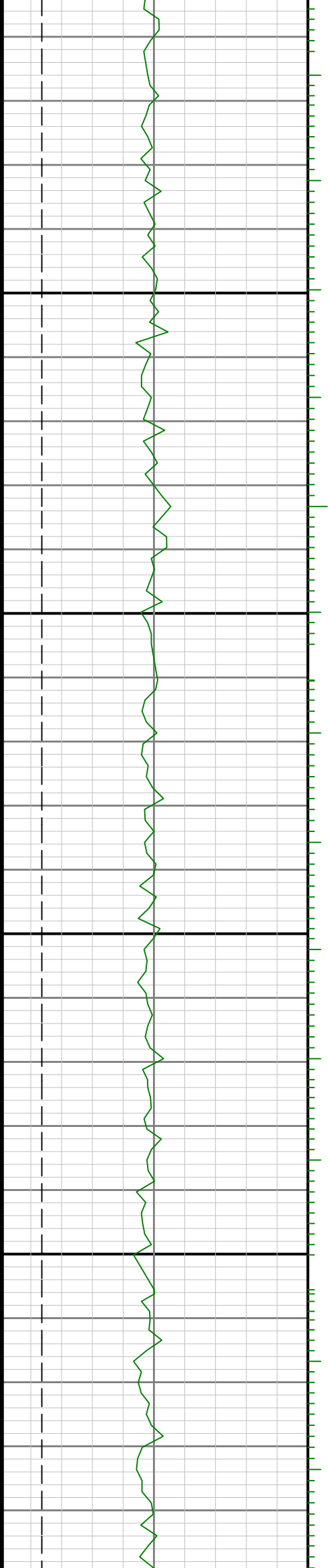
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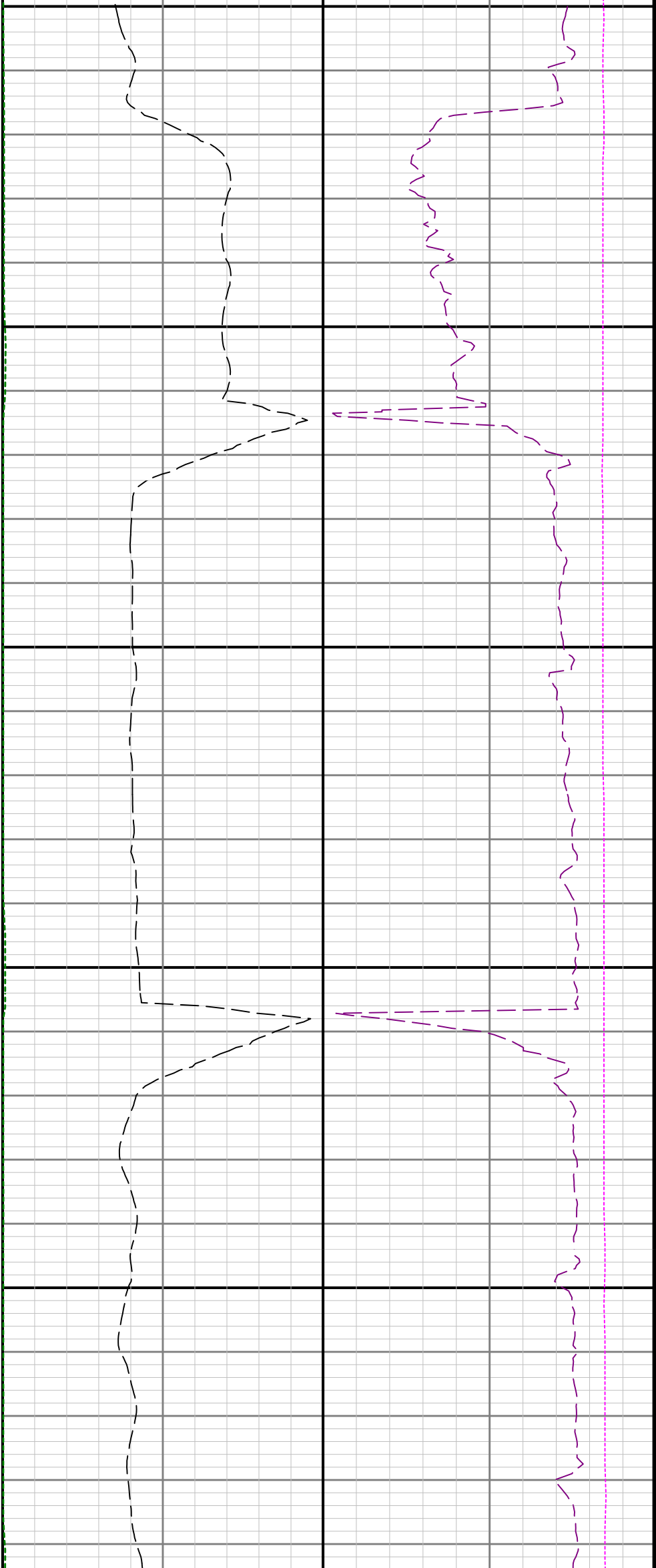




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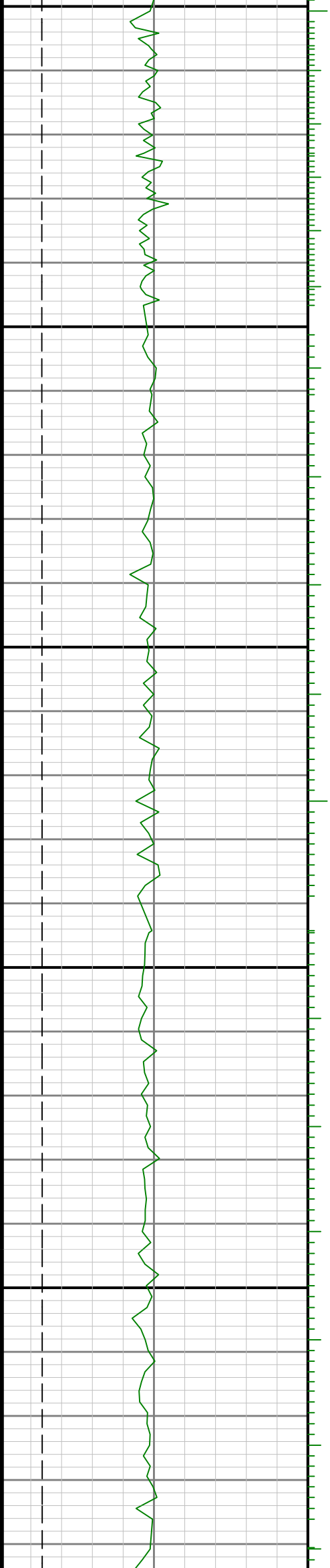
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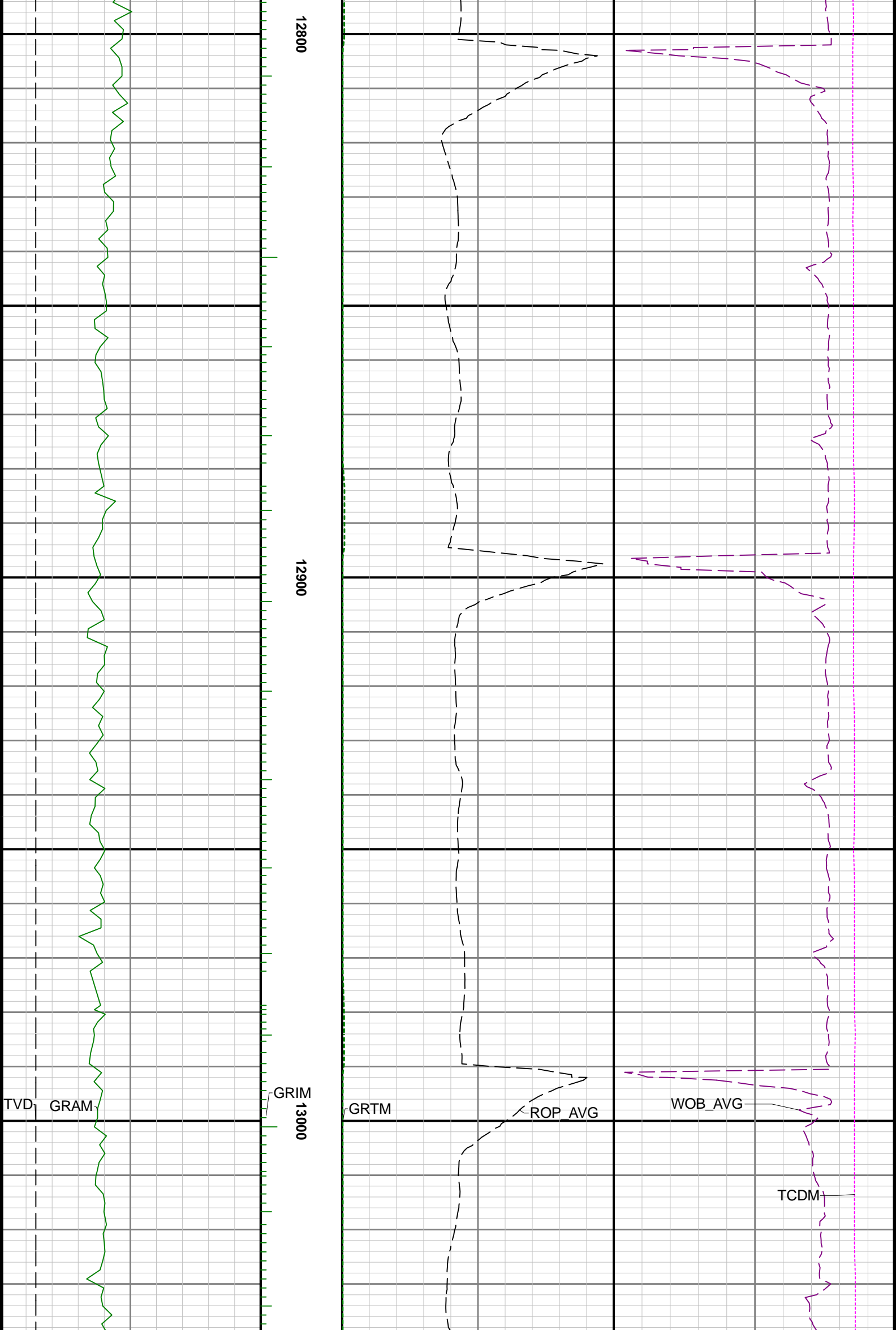


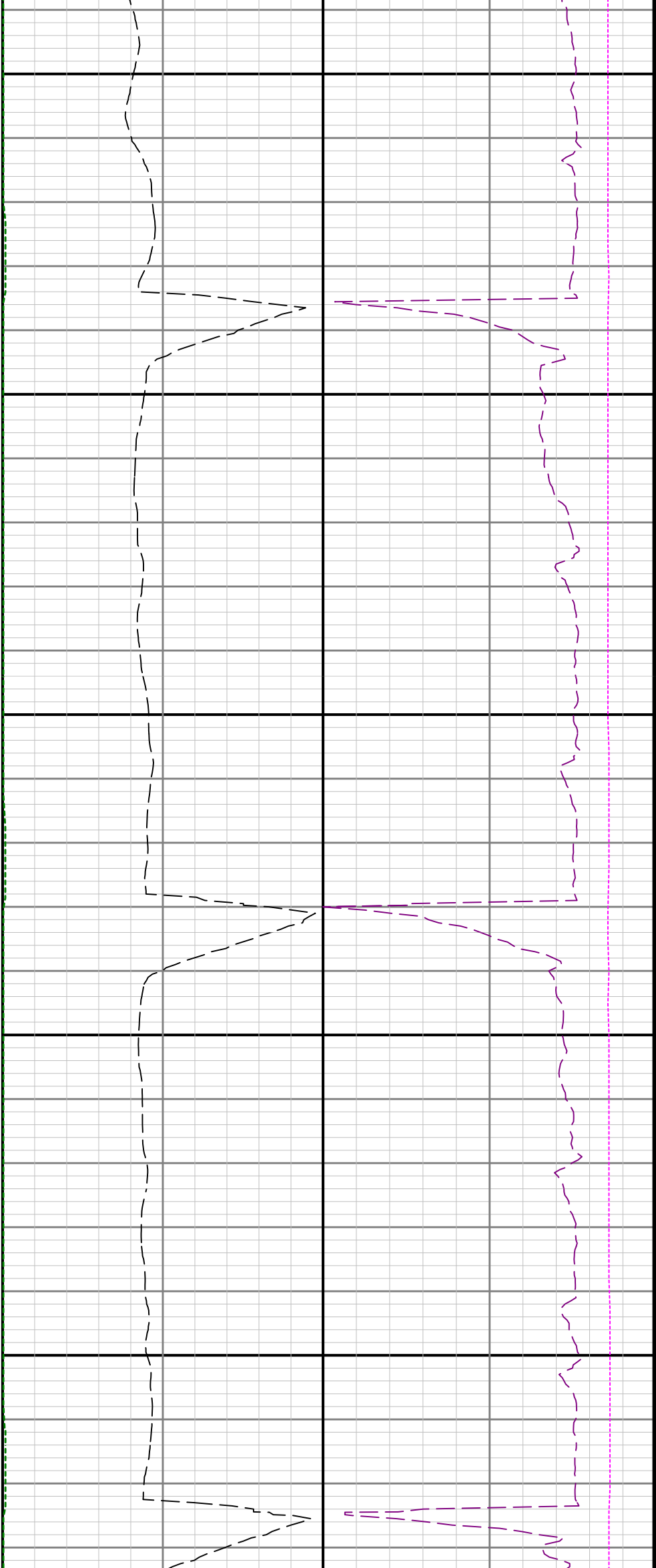


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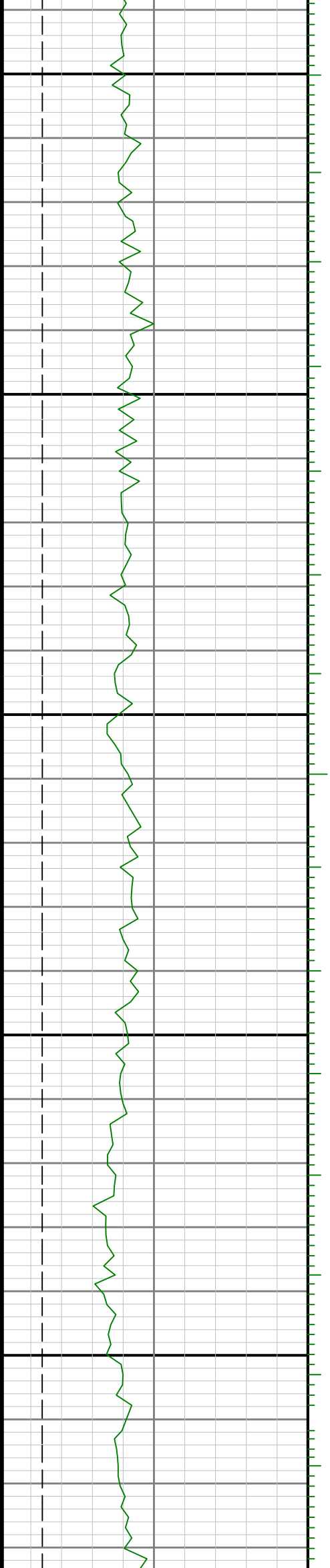


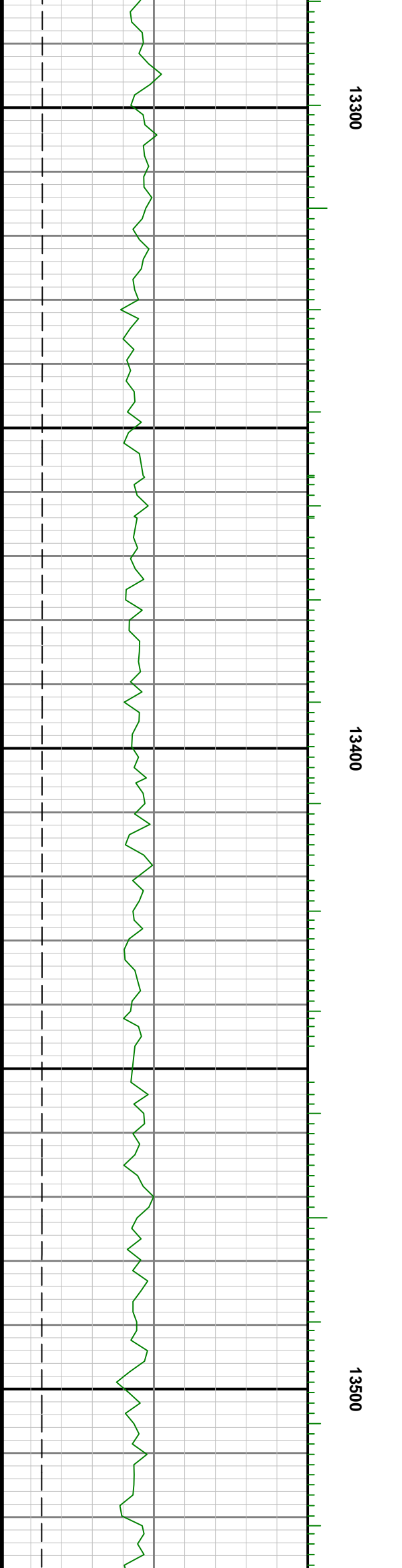


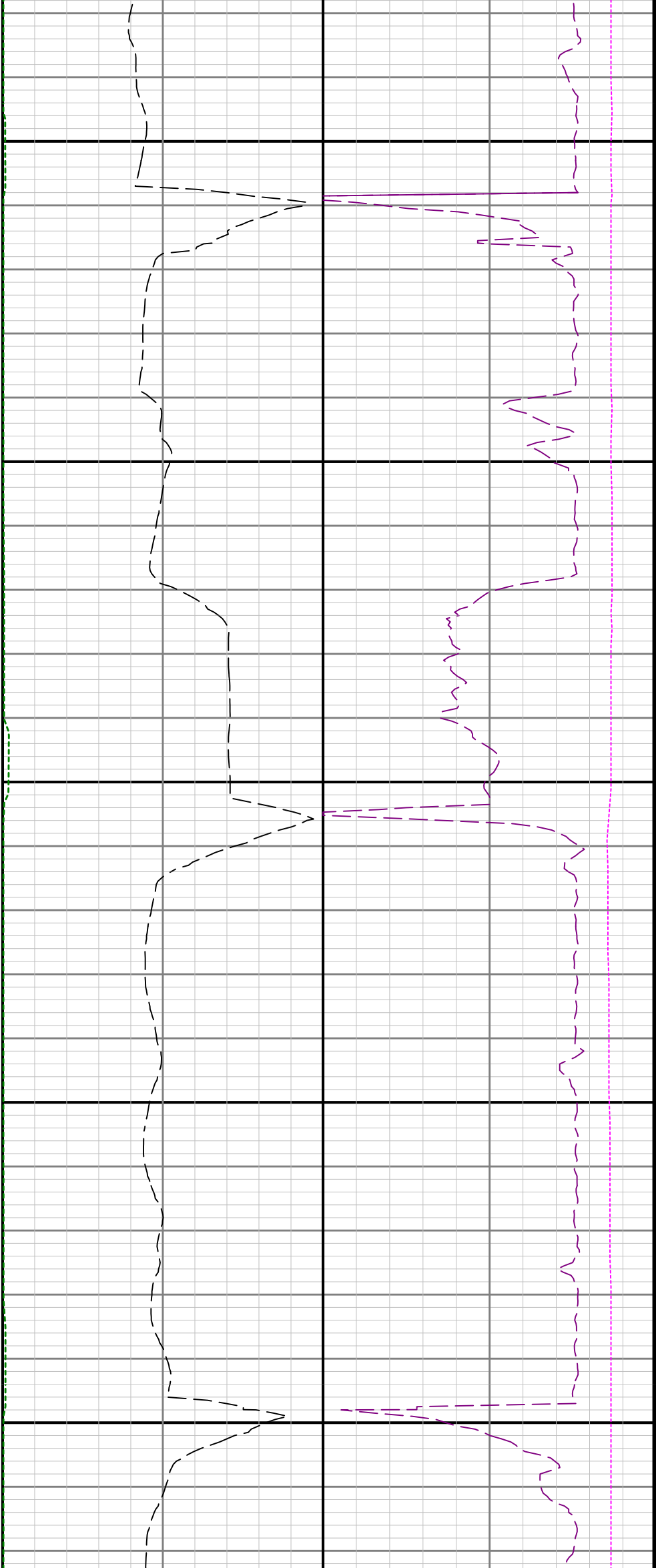


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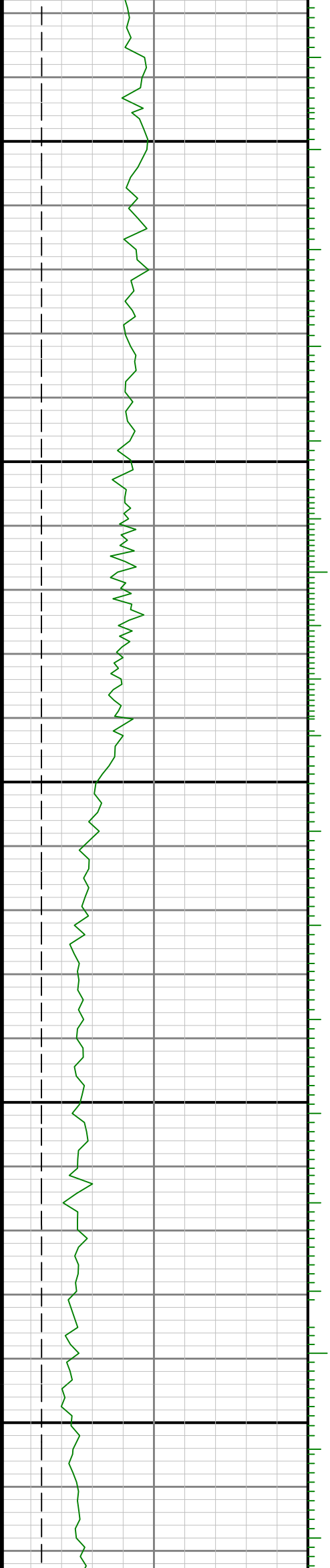






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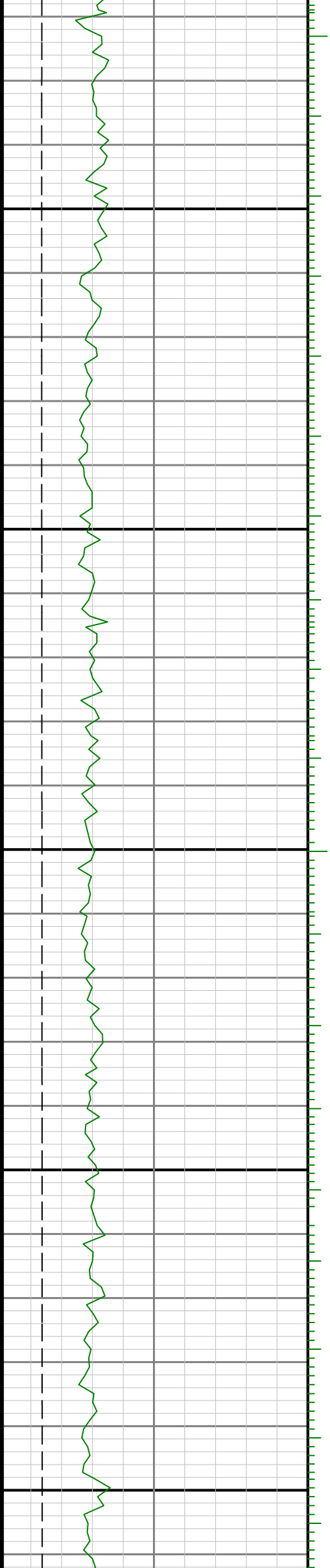


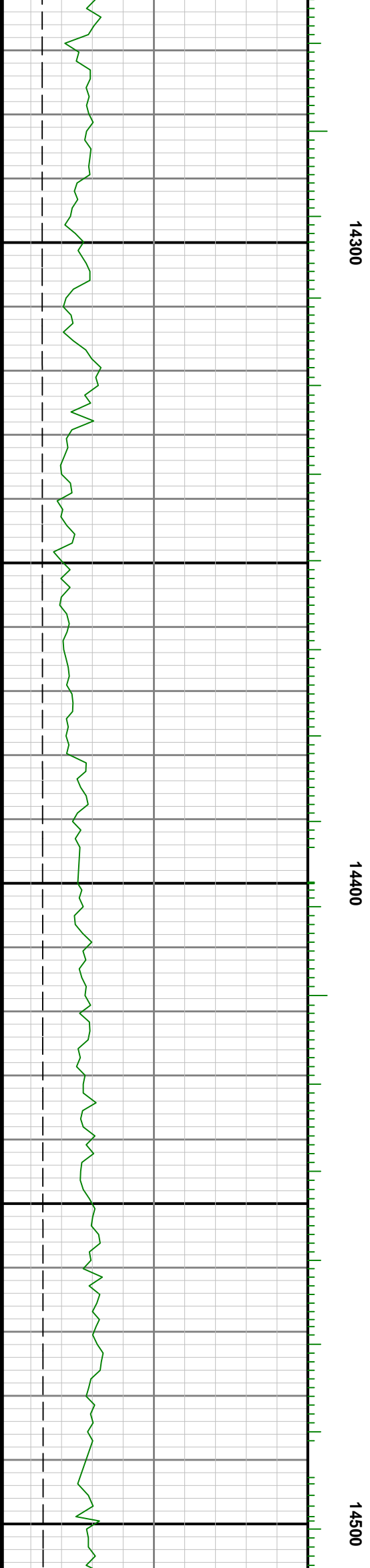


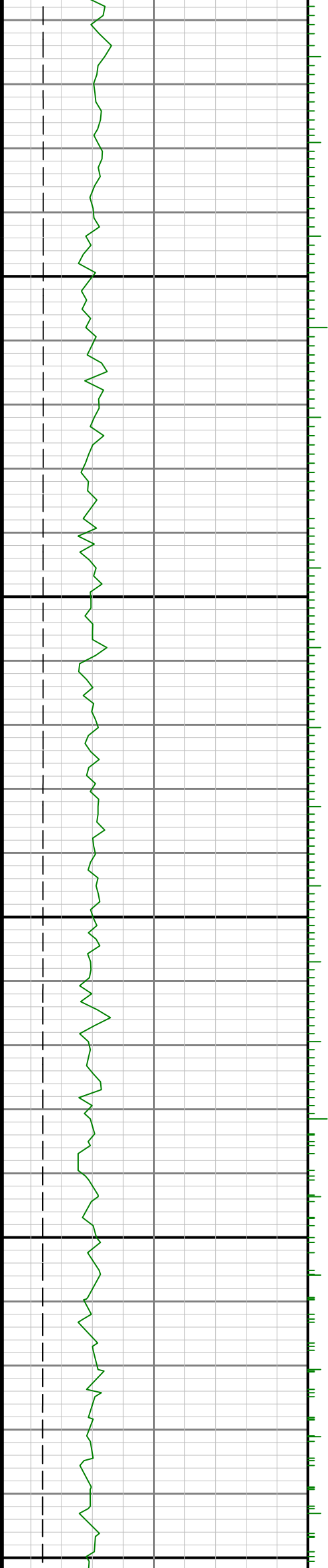
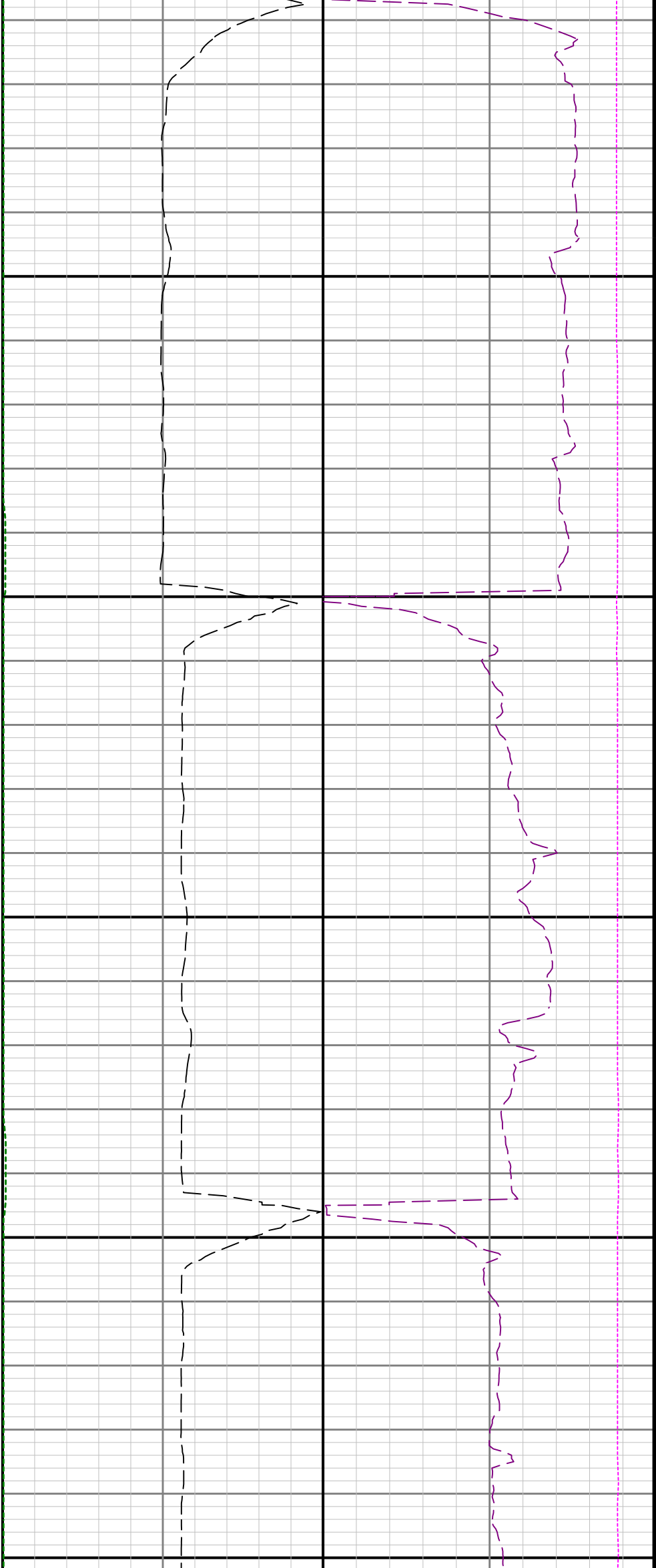


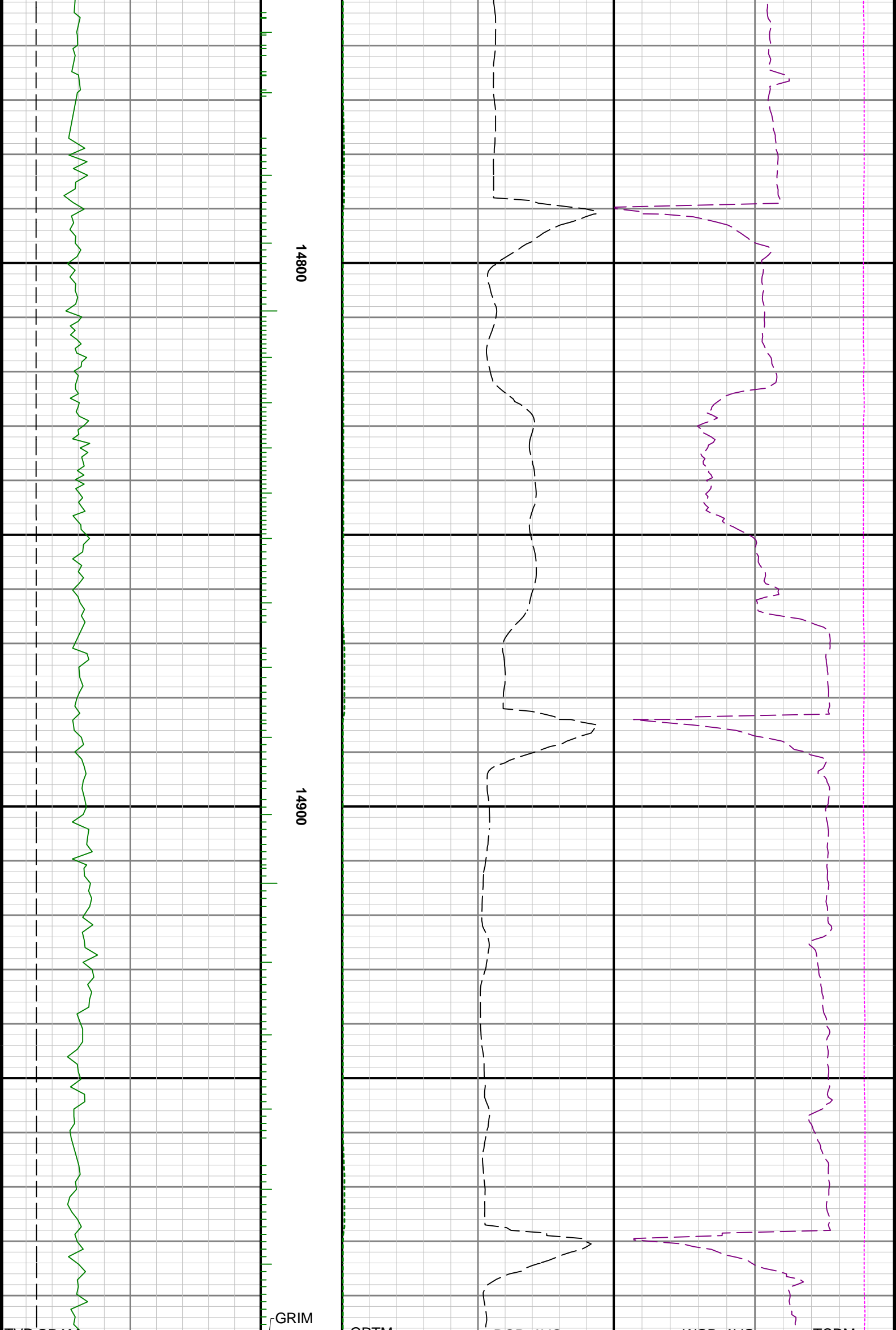
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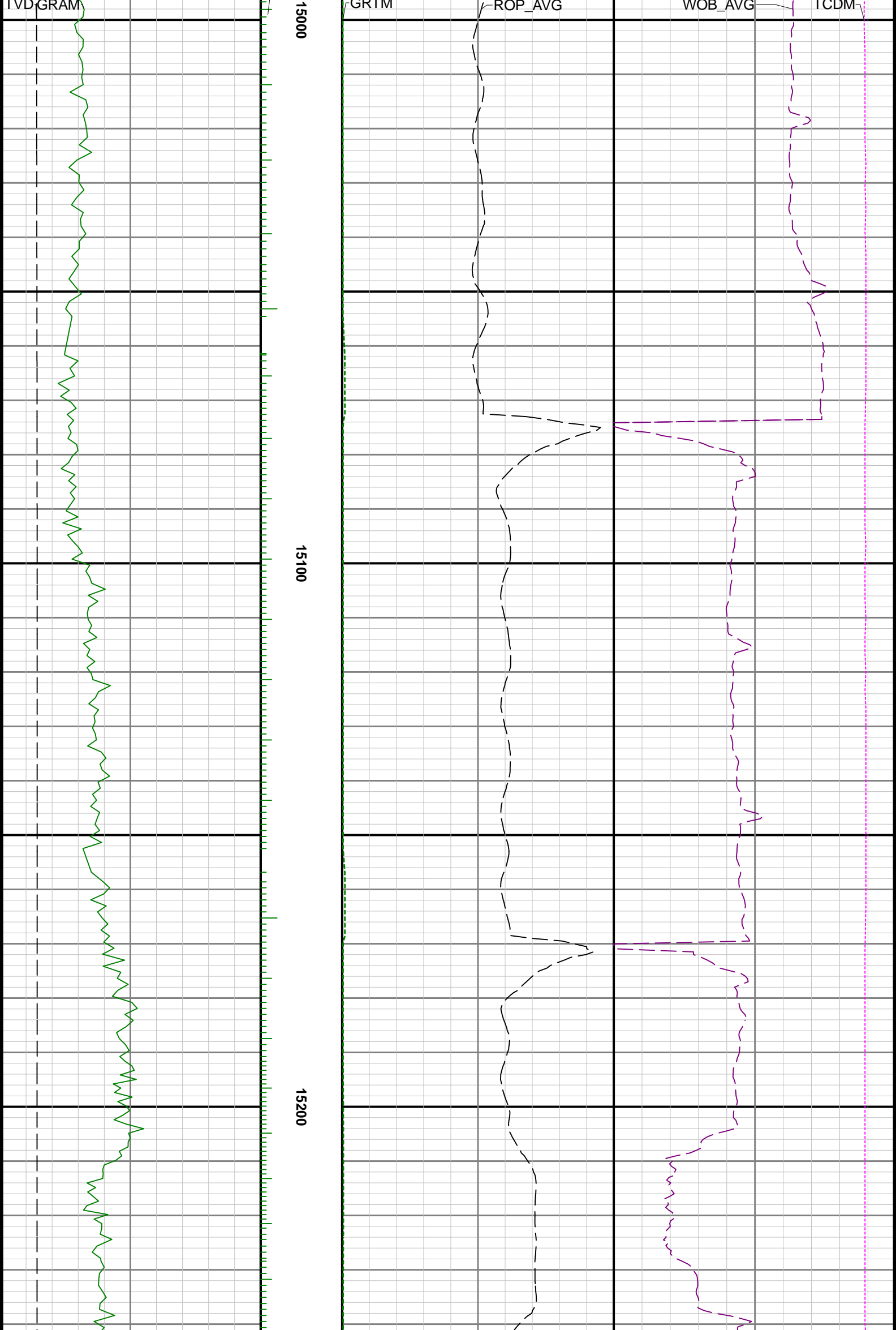
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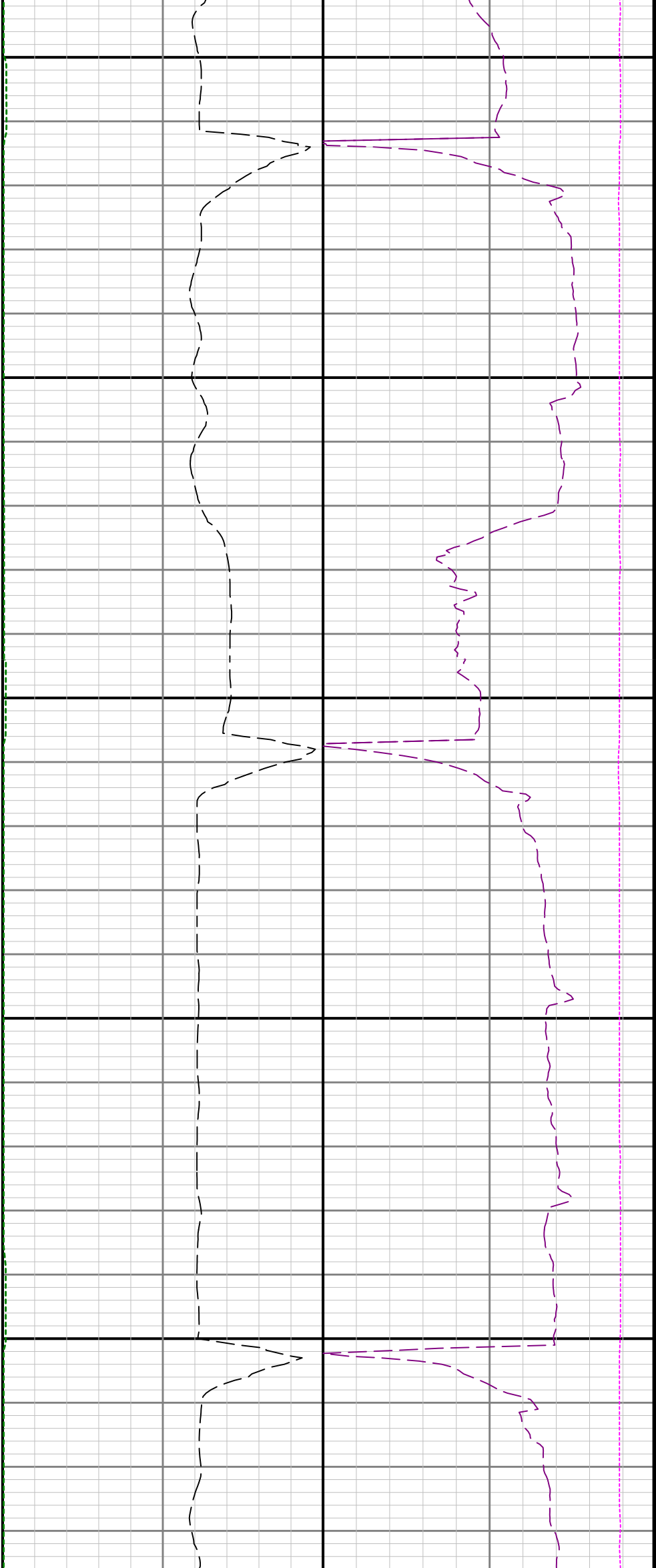






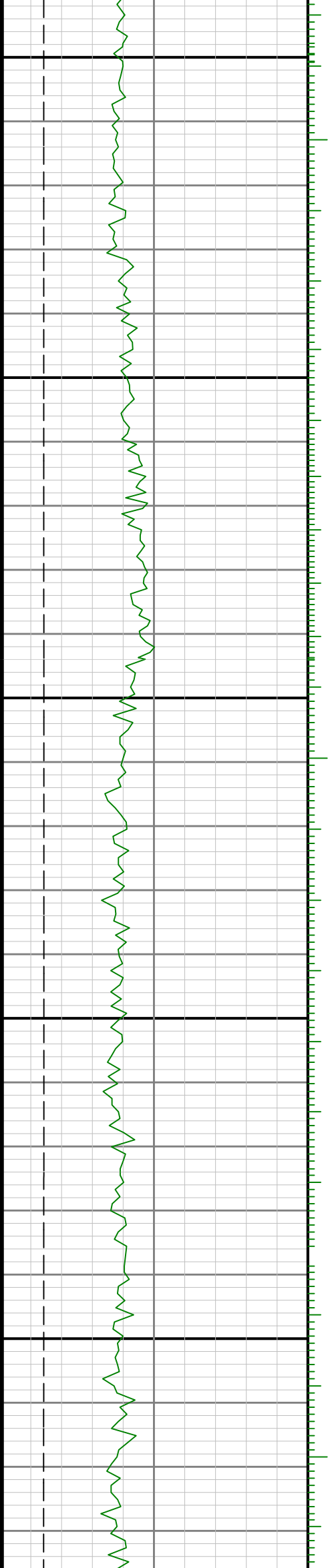


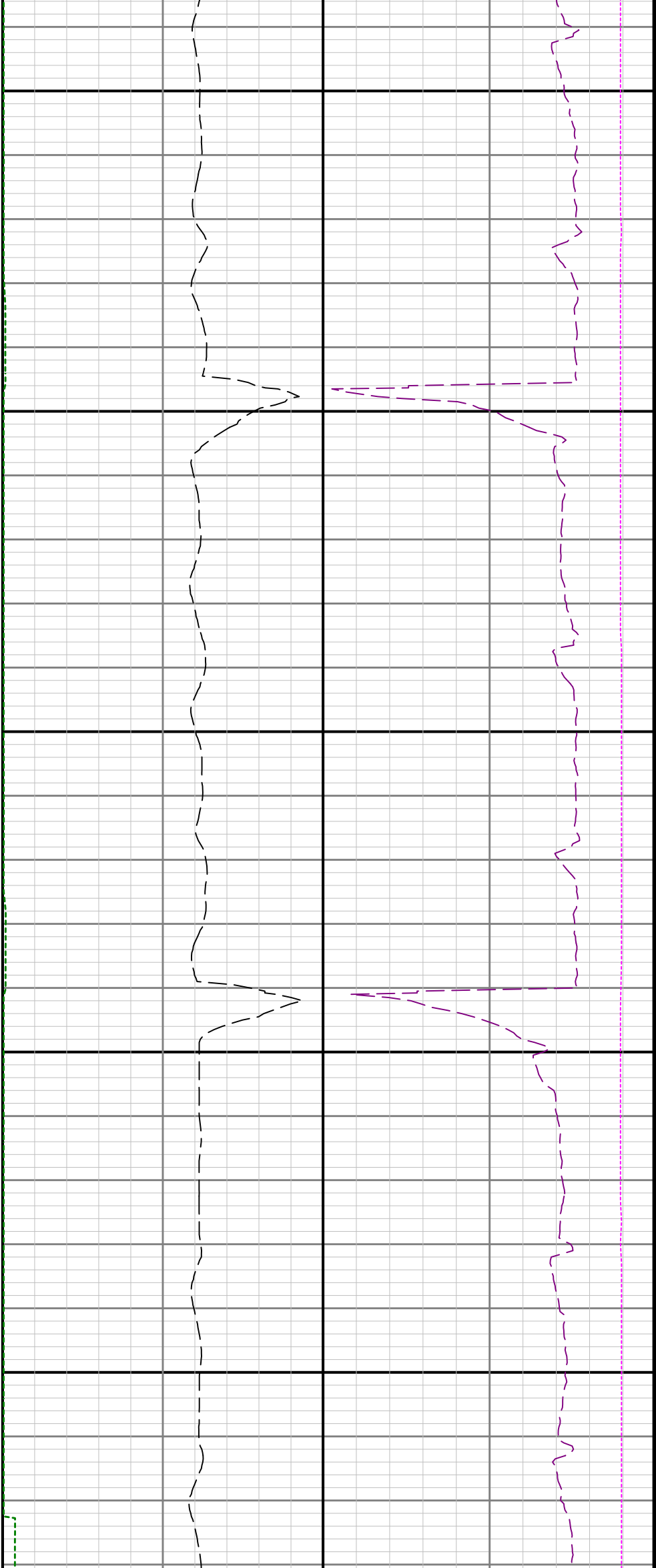




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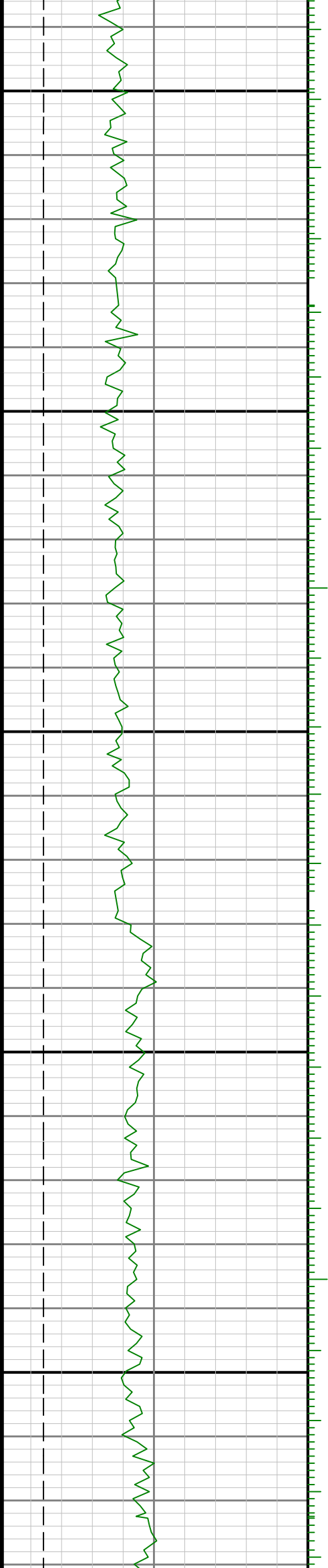


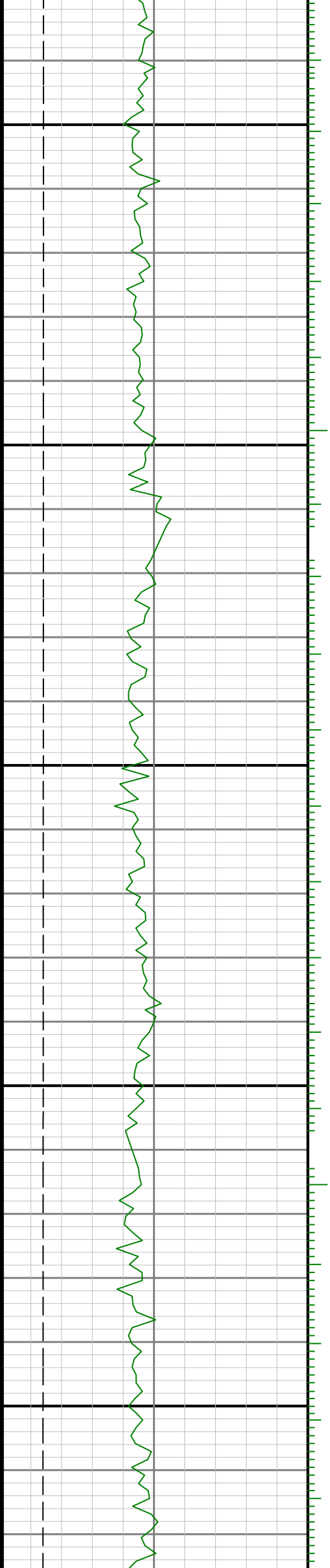
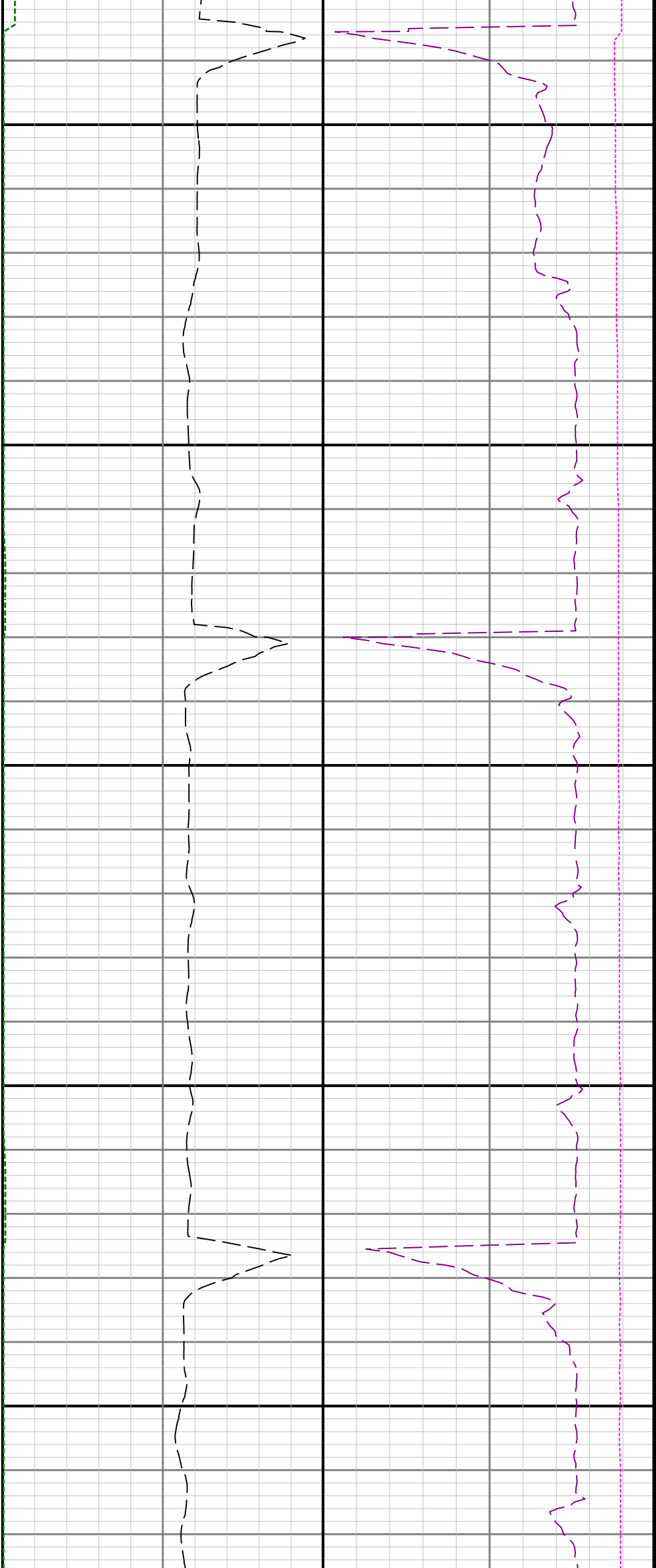


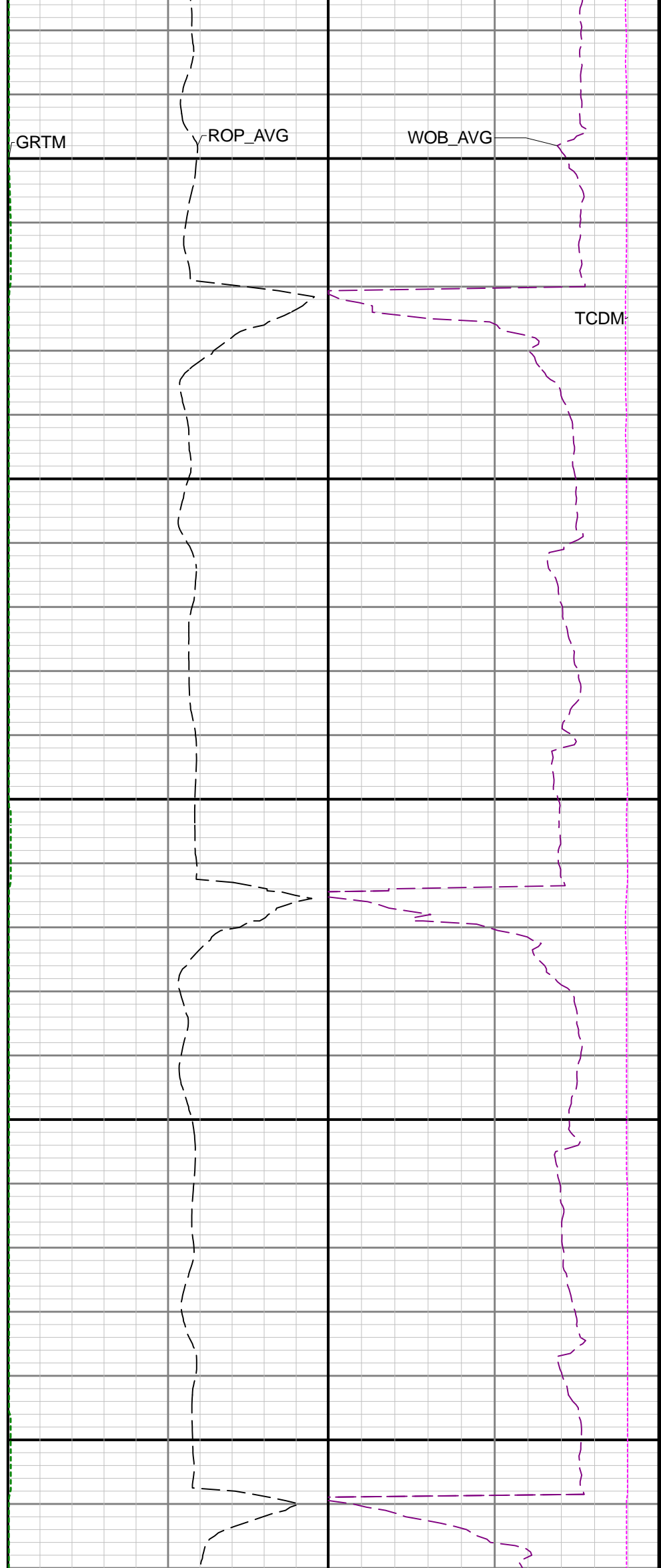
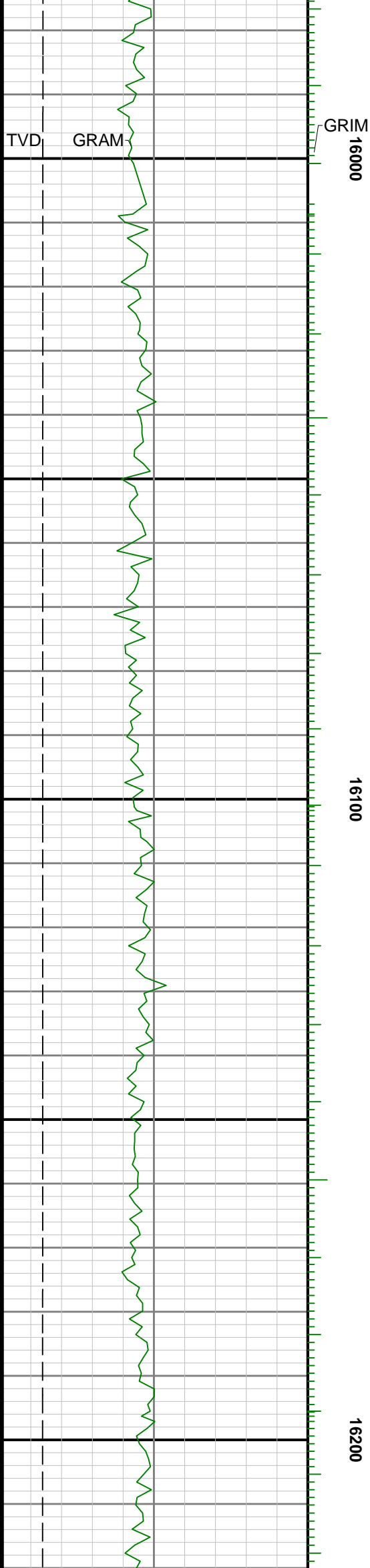
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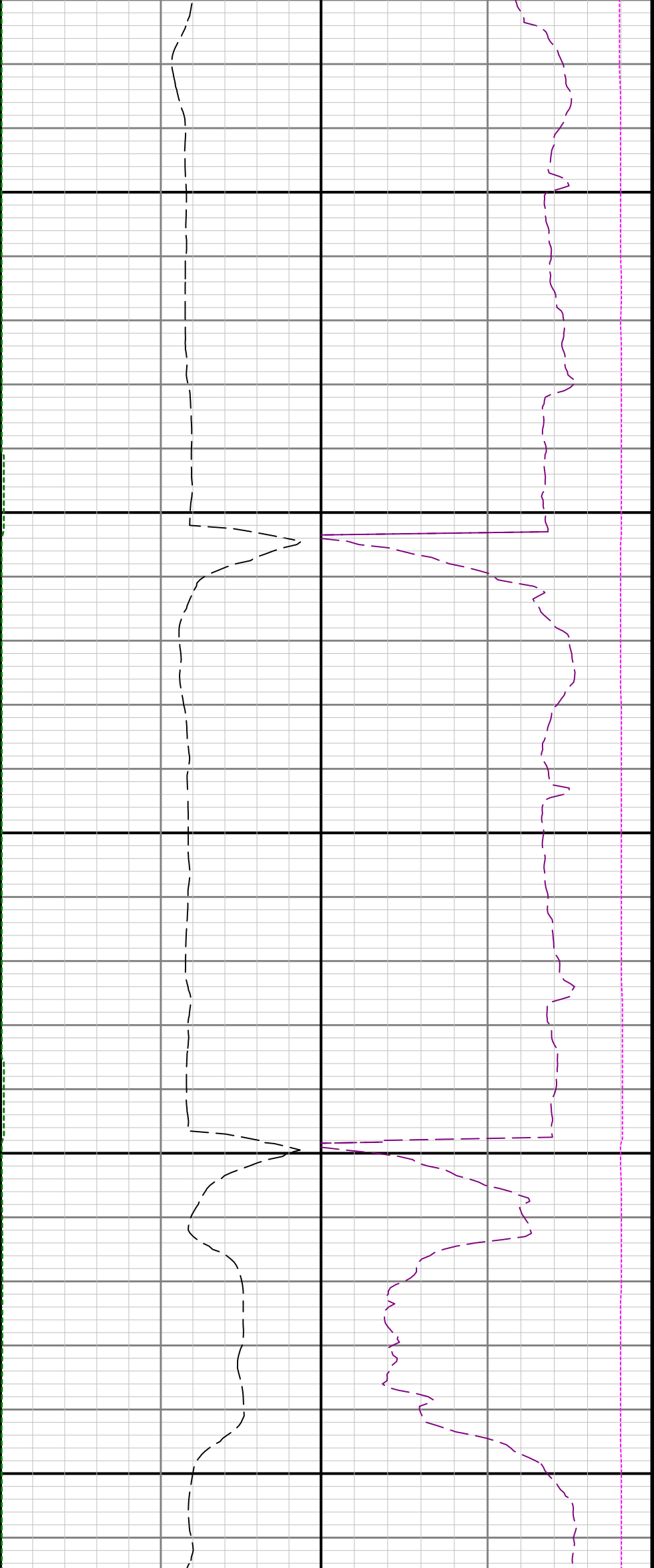
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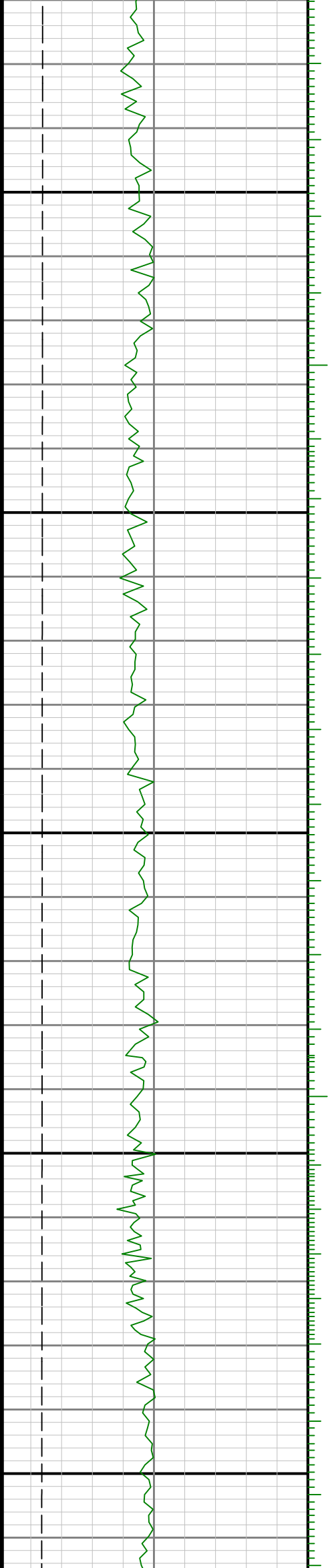


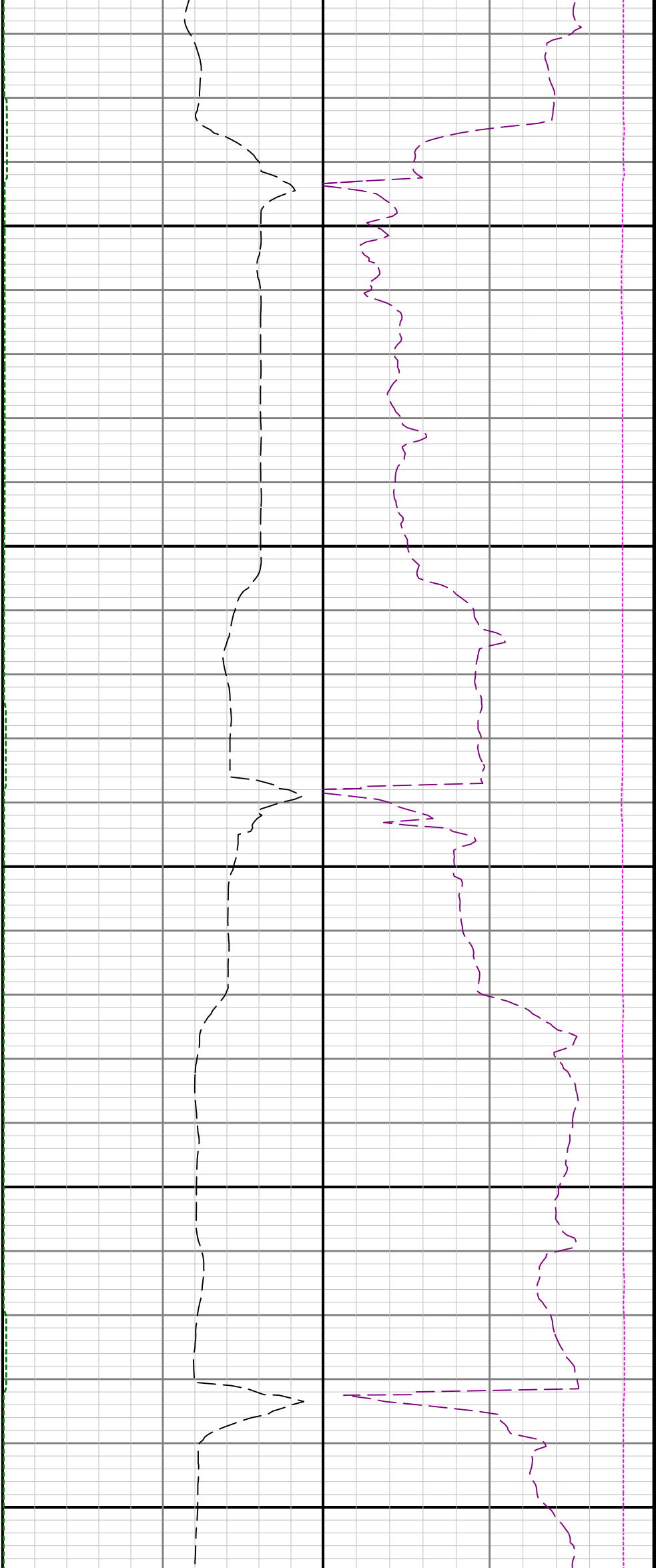




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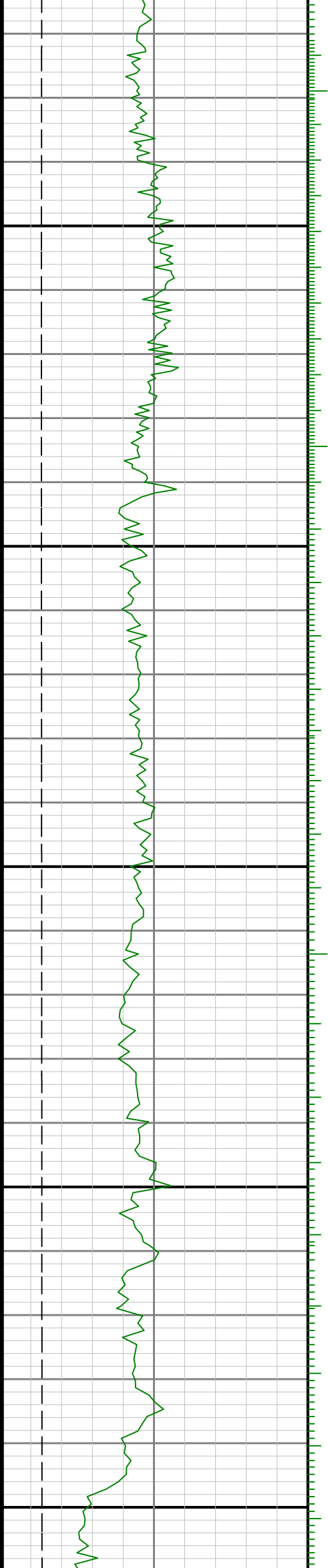


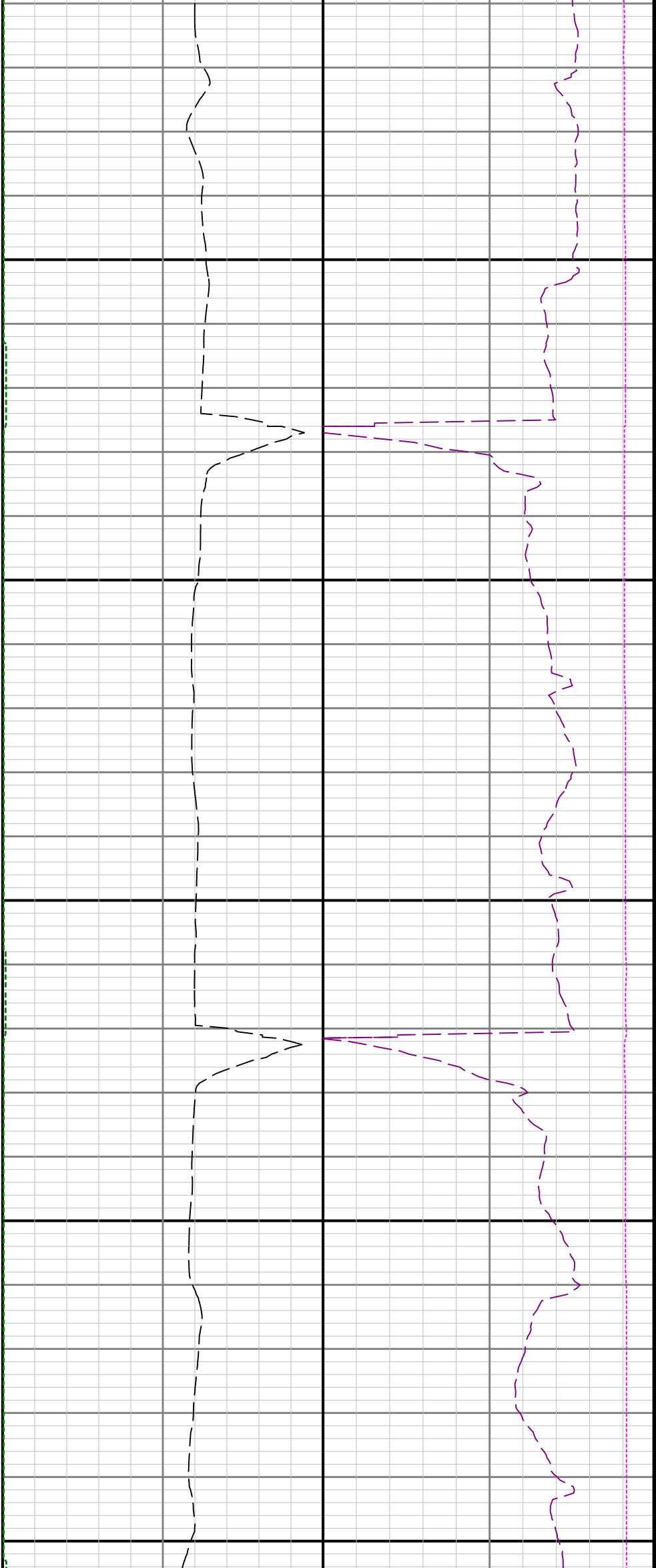


16500

16600

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16800

16900

