



LWD MEMORY LOG

Gamma Ray

Scale: **Company: SRC Energy**

1:240 MD **Well:** **Troudt 2N-29B-L**

Depth Reference:

Driller's Depth **County:** Weld County **Country:** United States

State: Colorado

Status:	Surface Location:	Other Services:
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Final Print

API No: 05-123-46293

Job ID:	9050/48	SEC:	27	TWN:	6N	RGE:	66v
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Permanent Datum (P.D.):	Ground Level	Elevation:	4714.00 ft	Elev. KB
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Log Measured From:	Rig Floor	Above P.D.	25.00 ft	Elev. GL:	4714.00 ft
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Dates Interval Logged Magnetic Field Reference

Date From:	2018-04-03	Top: (ft)	1816.00	Azi Reference North:	True	Dip Angle: (deg)	66.1
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Build Date:	2018 04 03	Made to Reference North Corrosion: (dead)	7 H
Date 10:	2018 03 22	total magnetic field strength: (111)	020
Date 10:	2018 03 22	total magnetic field strength: (111)	020

Spud Date:	2018-04-03	Mag to Reference North Correction: (deg)	7.5
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Borehole Records

Casing Rec

Hole Size (in)	From (ft)	To (ft)	Size (in)	Weight (lb/ft)	From (ft)	To (ft)
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13.500	25.00	1837.00	9.625	36.00	25.00	182
25.00						

6.300	1637.00	16480.00			
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[illegible]

[illegible]

Mud Record

Deviation Record

Type	From (ft)	To (ft)	Hole Size (in)	Interval (ft)	Inc Az (Start)	Inc Az (End)
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Diesel-Oil Based Mud	25.00	16480.00	13.500	1771.00	0.00	274.21	11.77
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Acquisition System	Software Version	Other
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Baker Hughes Cadence	RT4.1	Rig:	Precision 562
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PlotStudio	4.1.7763.3	Contractor:	Precision Drilling
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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	Bottom	From	To	Start Logging	End Logging	
						(ft)	(ft)	(ft)	(ft)			
2	2	8.500	PDC	3.00	AutoTrak Curve	1827.00	2354.00	1827.00	2367.00	2018-06-19 01:38	2018-06-19 06:04	10.48
3	2	8.500	PDC	3.00	AutoTrak Curve	2354.00	16467.00	2367.00	16480.00	2018-06-19 11:52	2018-06-22 09:06	85.77

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Garrett Gerdson	2018-06-18	2018-06-23						

Mud Properties Record

Date / Time	Run No.	Measured Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2018-06-19 00:00	2	1840.00	Diesel-Oil Based Mud	9.7	20	N/A	10.0	78/22	Active Pit	42000	0.00
2018-06-20 03:30	3	6828.00	Diesel-Oil Based Mud	9.9	27	N/A	11.0	78/22	Active Pit	41000	0.00
2018-06-21 03:30	3	11317.00	Diesel-Oil Based Mud	10.0	28	N/A	9.0	77/23	Active Pit	44000	0.00
2018-06-21 15:30	3	13222.00	Diesel-Oil Based Mud	10.0	28	N/A	9.0	77/23	Active Pit	48000	0.00
2018-06-22 03:30	3	15609.00	Diesel-Oil Based Mud	10.1	29	N/A	9.0	73/27	Active Pit	47000	0.00
2018-06-22 15:30	3	16480.00	Diesel-Oil Based Mud	10.1	29	N/A	10.0	73/27	Active Pit	47000	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)
2	ATC_SU	14186736	Near Bit VSS	5.93	6.73	7.000	4.330
2	ATC_SU	14186736	Near Bit Inclination	5.93	6.73	7.000	4.330
2	ATC_MWD	12049472	Gamma (single)	2.76	12.90	7.000	3.250
2	ATC_MWD	12049472	Directional (mag)	12.27	22.41	7.000	3.250
3	ATC_SU	14178991	Near Bit Inclination	5.93	6.73	7.000	4.330
3	ATC_SU	14178991	Near Bit VSS	5.93	6.73	7.000	4.330
3	ATC_MWD	14219820	Gamma (single)	2.75	12.90	7.000	3.250
3	ATC_MWD	14219820	Directional (mag)	12.27	22.42	7.000	3.250

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 obtained from a depth control system not supplied or operated by Baker Hughes. Due to lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
2	Baker Hughes LWD Run 1 utilized 8 inch NaviTrak service (Directional only) behind a 13 1/2 inch bit and steerable assembly from surface to 1837 feet MD (surface to 1811 feet TVD). No logging data was acquired during this run.
3	Baker Hughes LWD Runs 2 and 3 utilized 6 ¾ inch NaviGamma services (Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly from 1837 to 16480 feet MD (1811 to 6915 feet TVD).
4	Gamma Ray Apparent (GRAM) is presented 0 to 300 API per customer request.

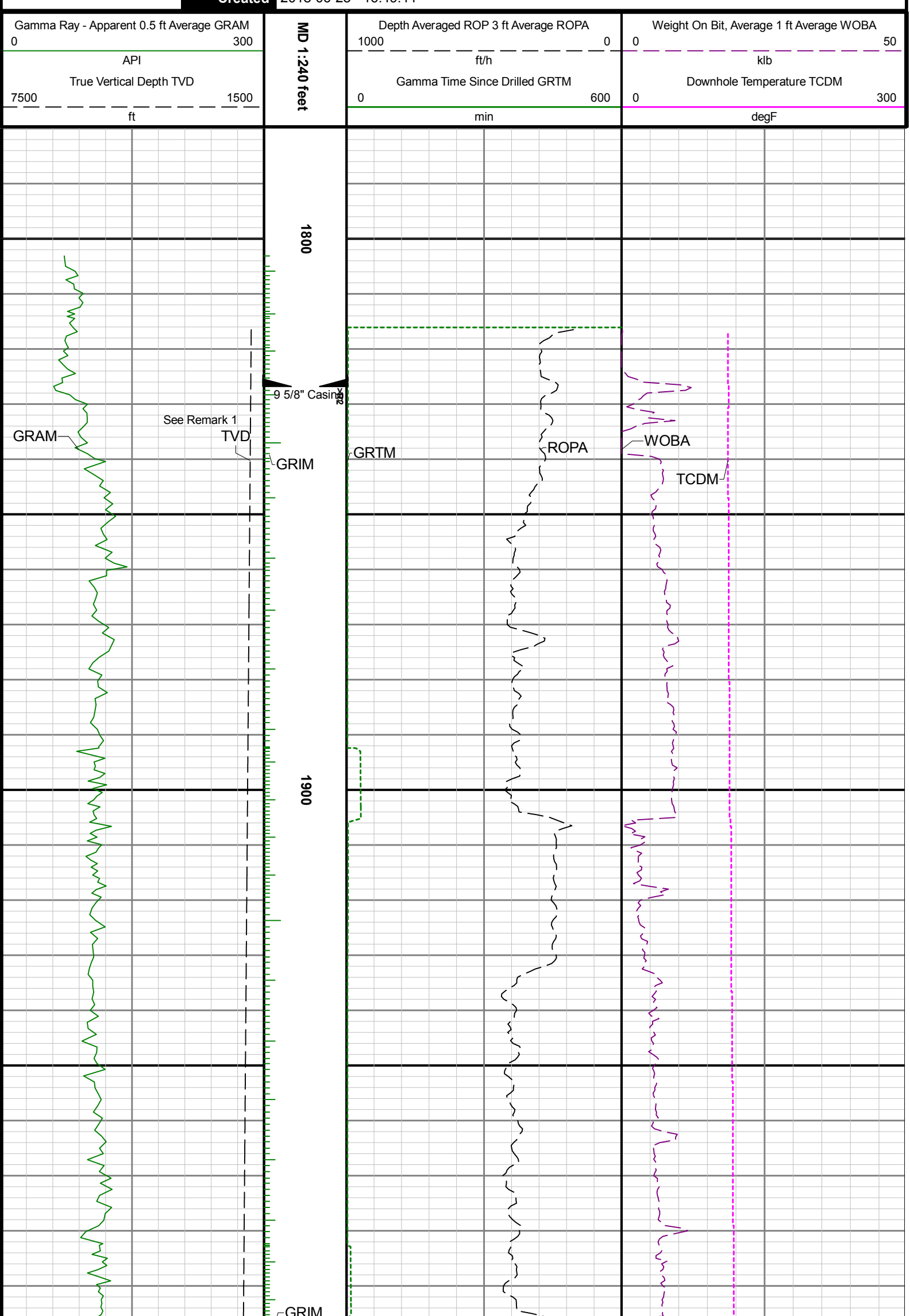
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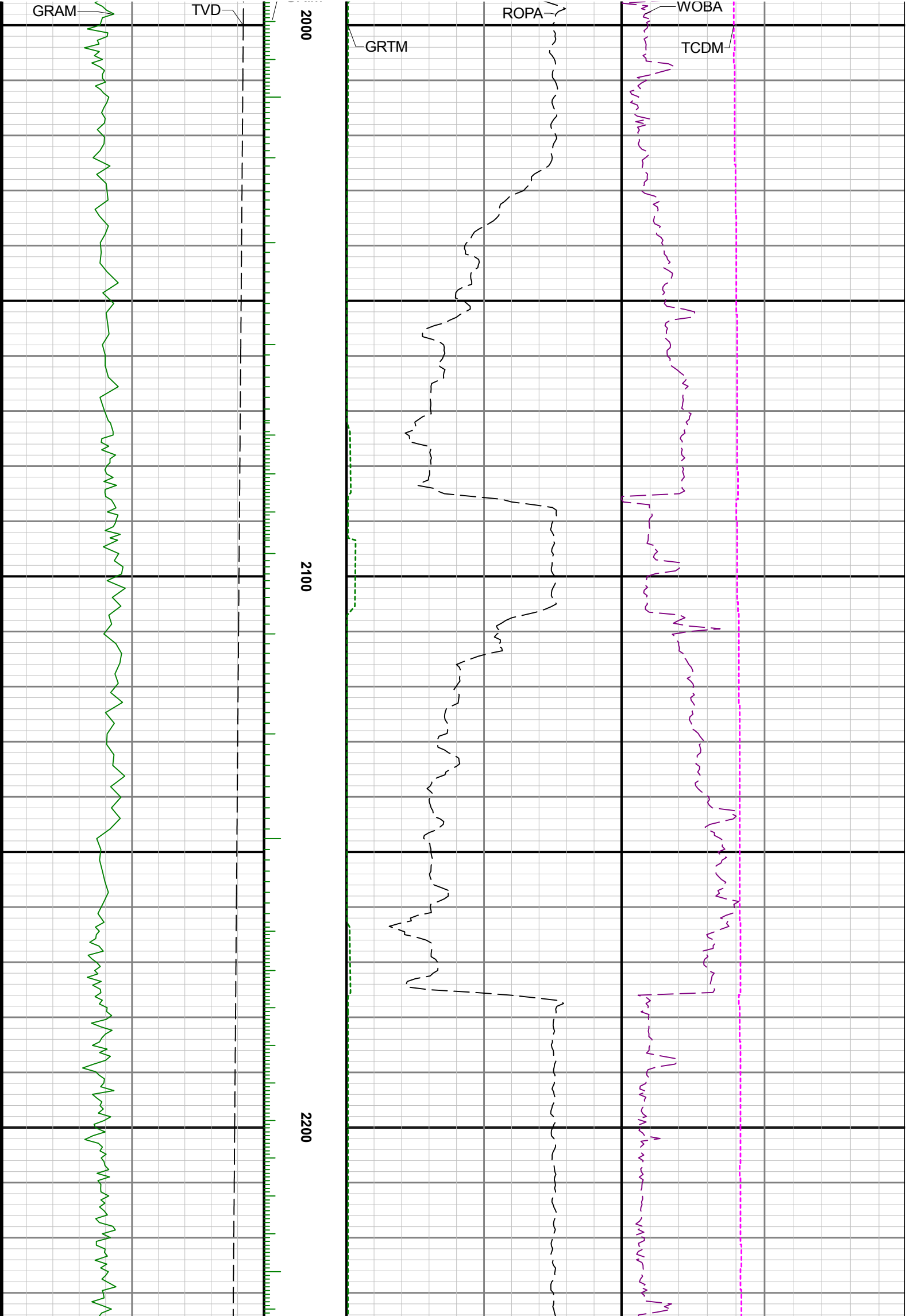
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	1833.00	8.500	2	Gamma Ray logging operations began at 1827 feet (1801 feet TVD).
2	16475.00	8.500	3	The interval from 16467 to 16480 feet MD (6915 feet TVD) was not logged due to sensor to bit offset at well TD.

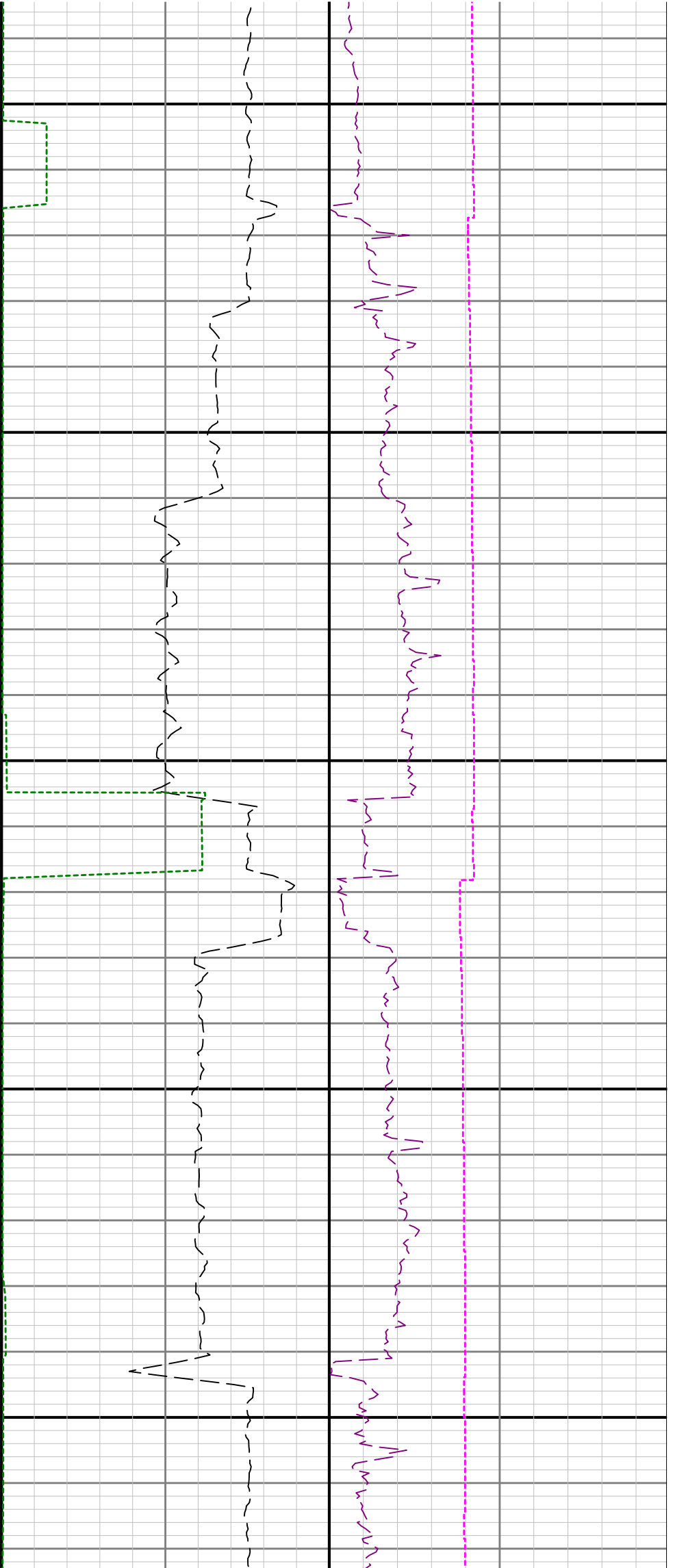
Curve Mnemonics

Presented Curves	Description	Units
ROPA	Depth Averaged ROP 3 ft Average	ft/h
TVD	True Vertical Depth	ft
WOBA	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	Downhole Temperature	degF

<div> <div>BAKER HUGHES</div> <div>a GE company</div> </div>	Company	SRC Energy	
	Well	Troutd 2N-29B-L	
	Interval	Date From: 2018-04-03 05:02:11	Top: 1800.00
	Created	Date To: 2018-06-22 03:06:06	Bottom: 16480.00
		2018-06-23 16:49:43	



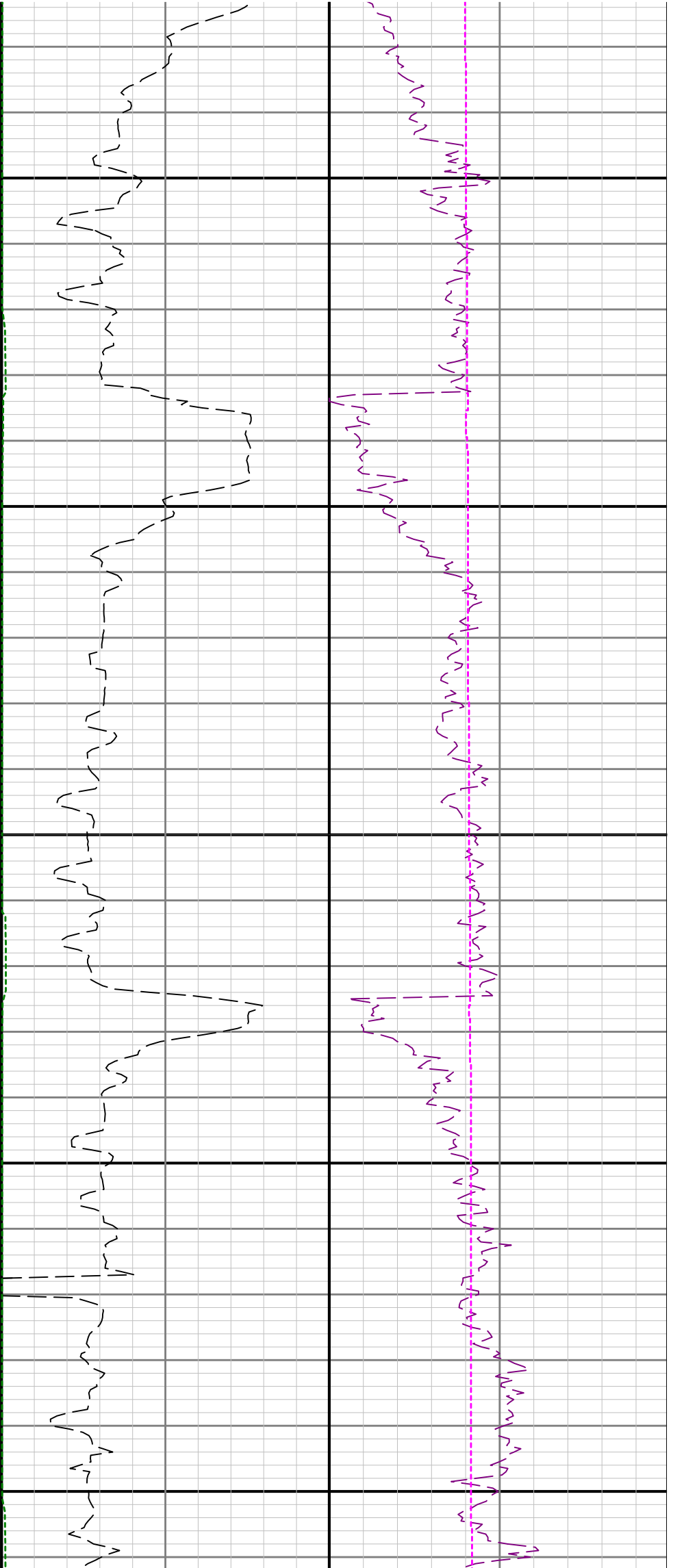




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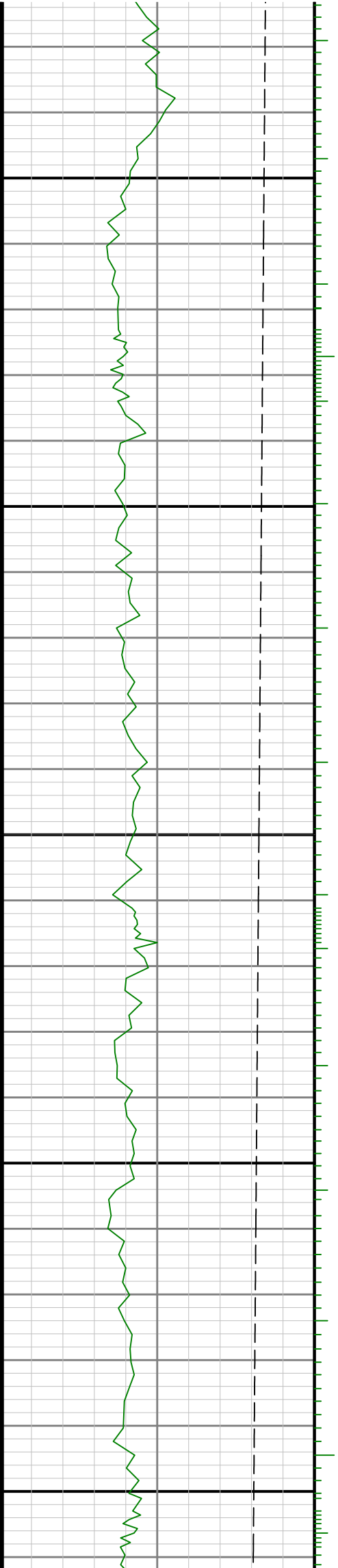
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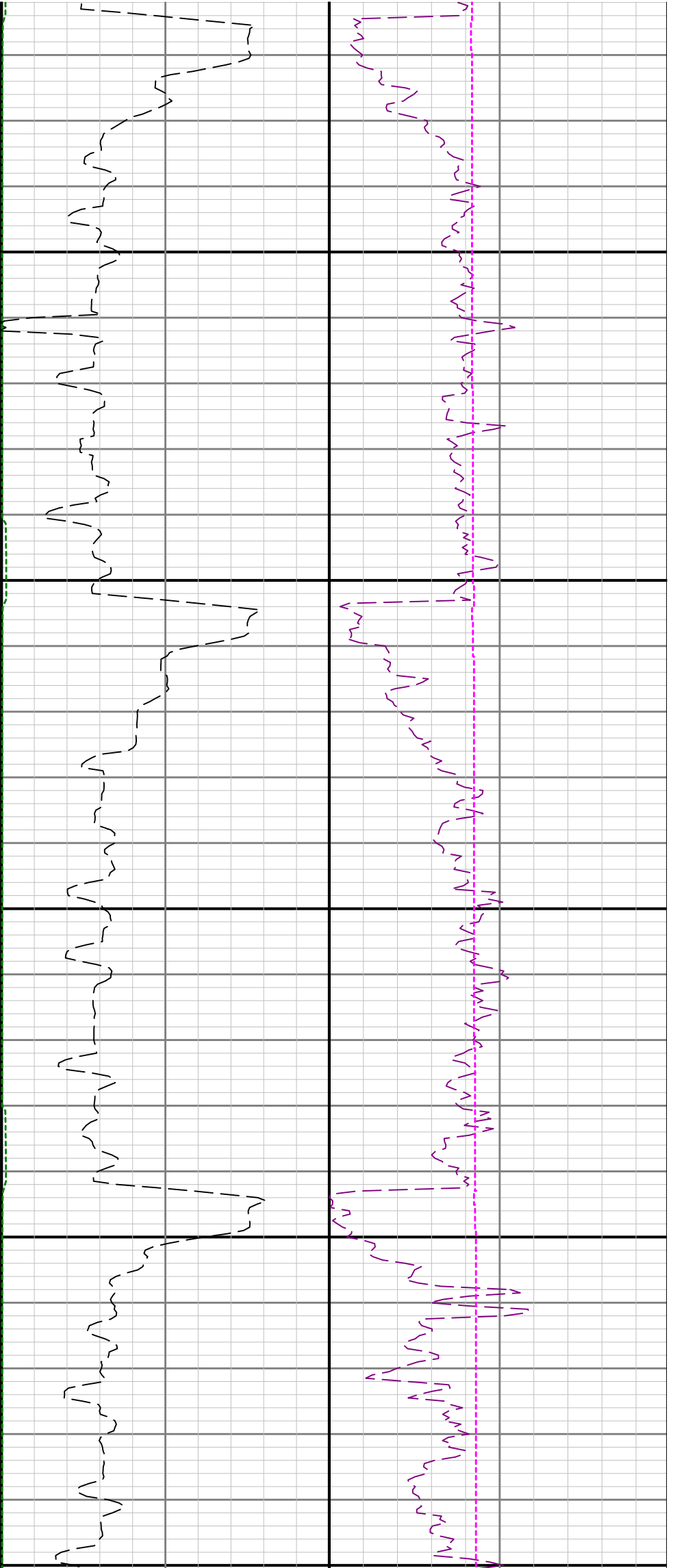


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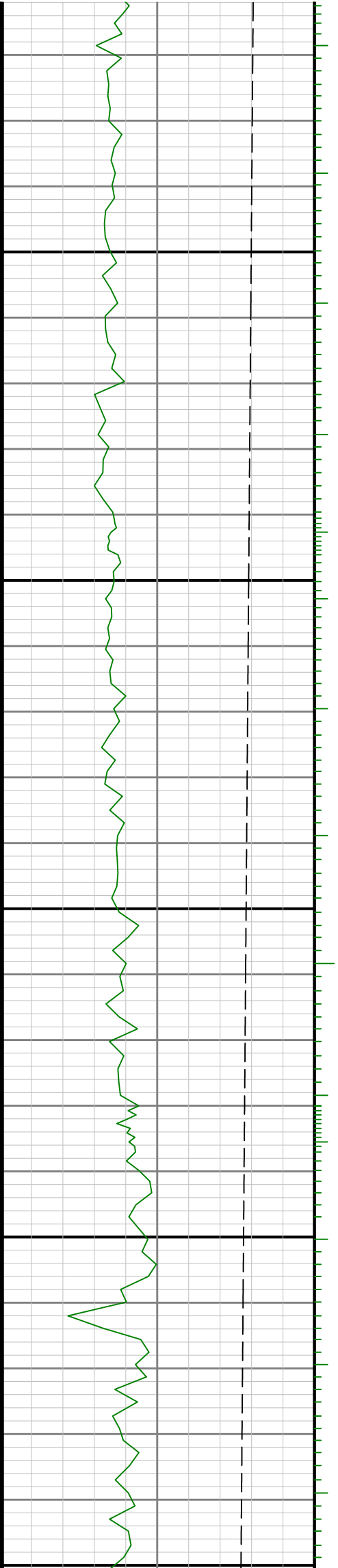
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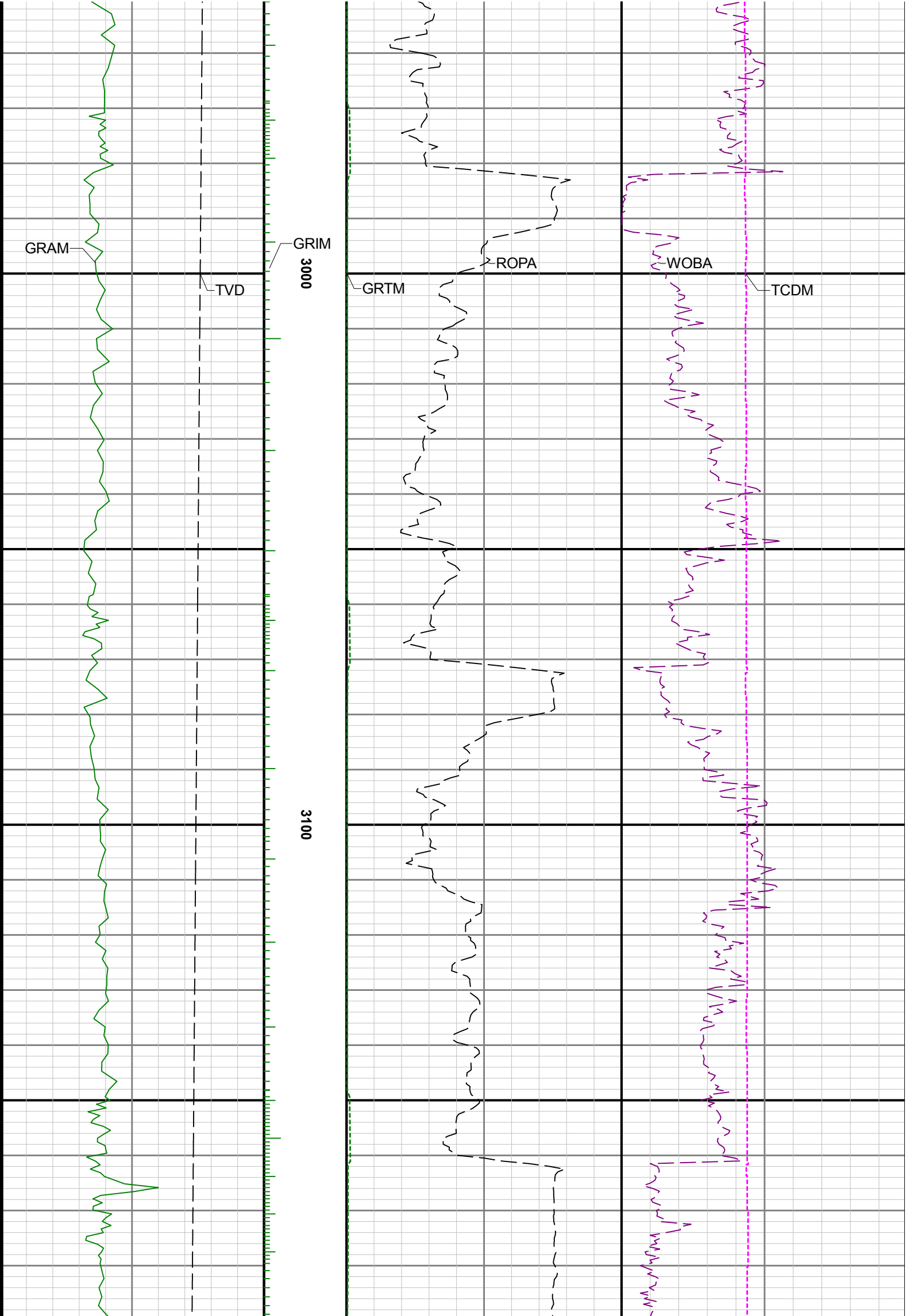


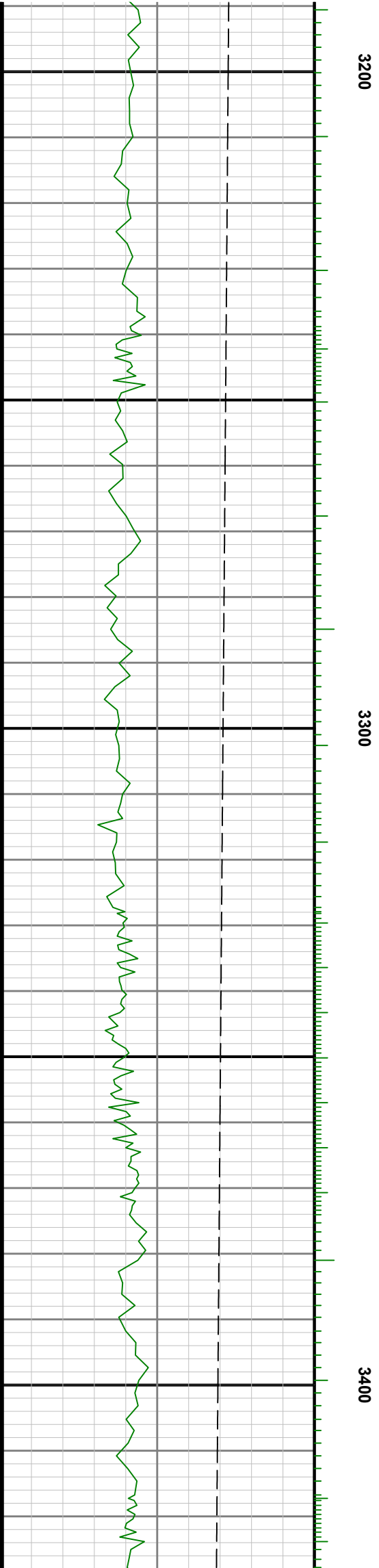
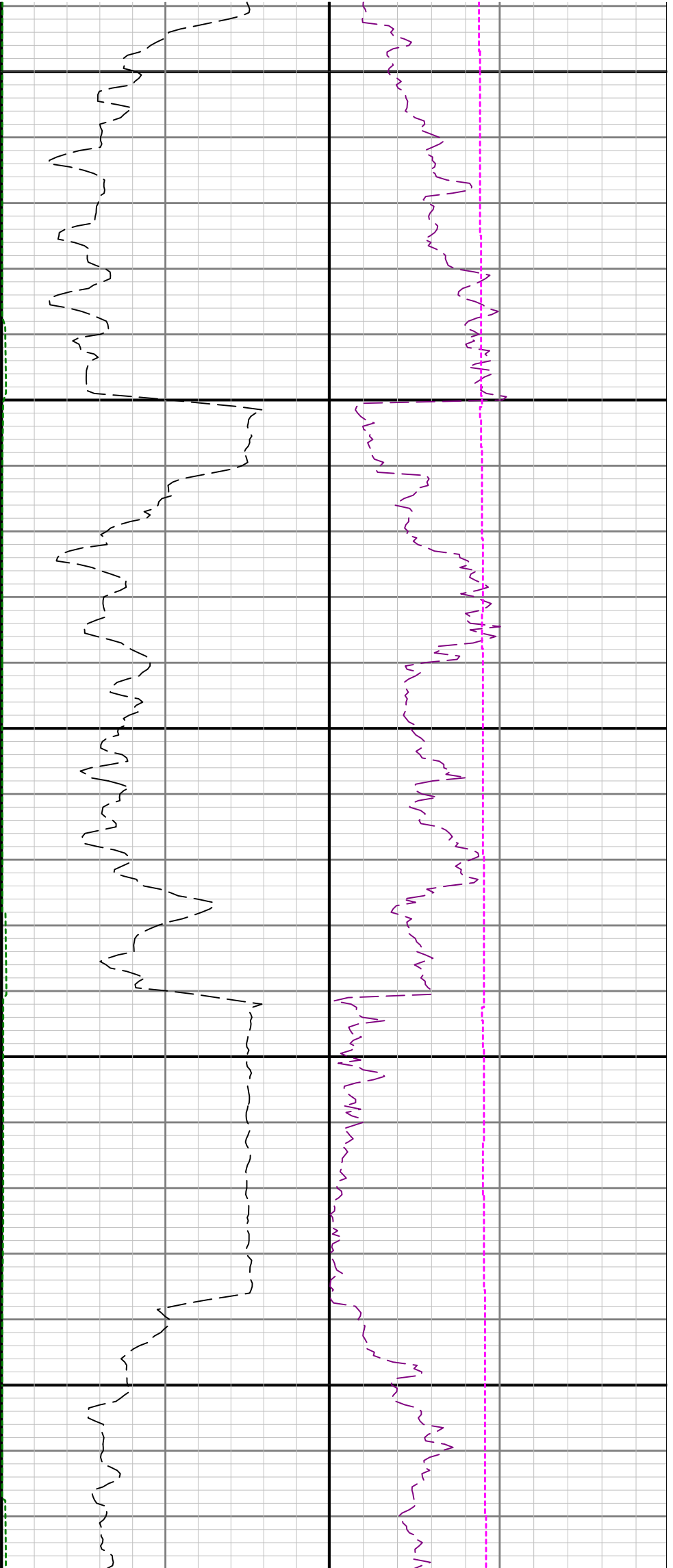


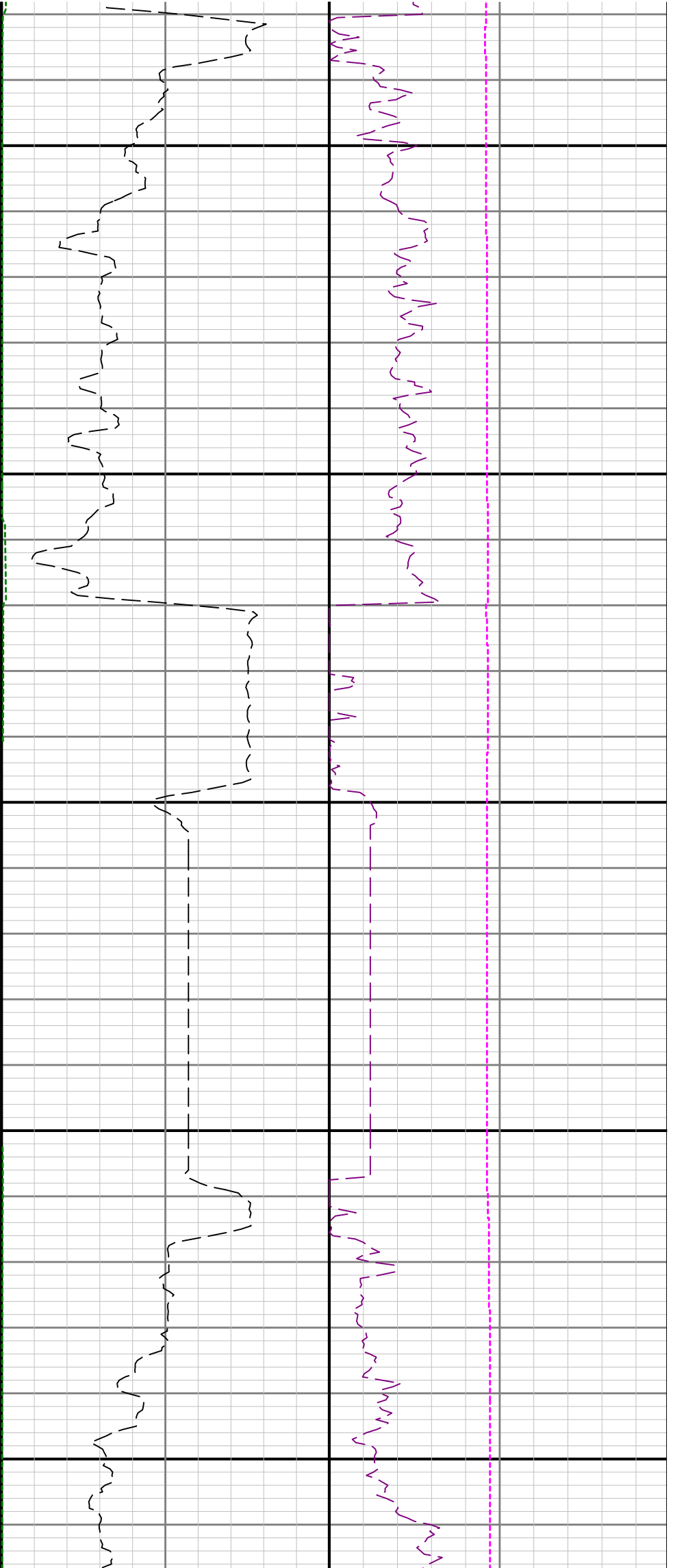
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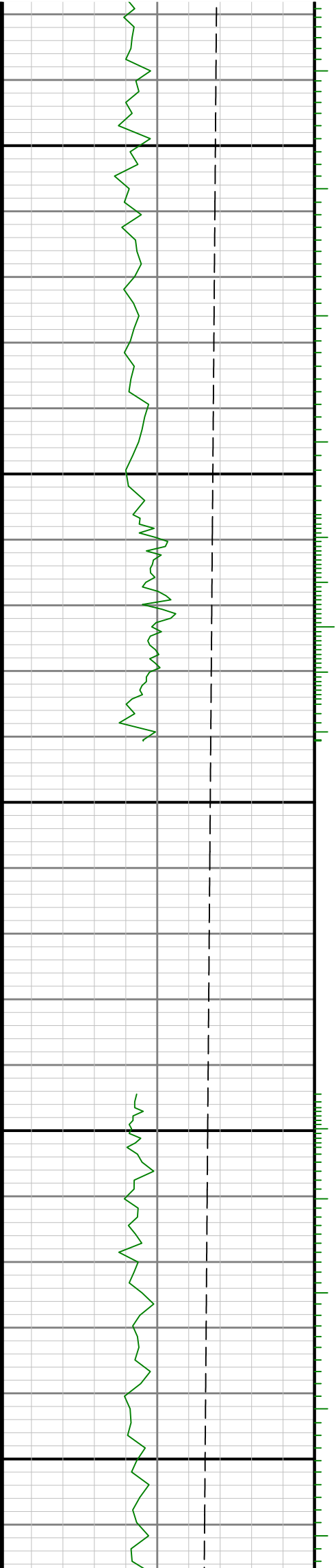


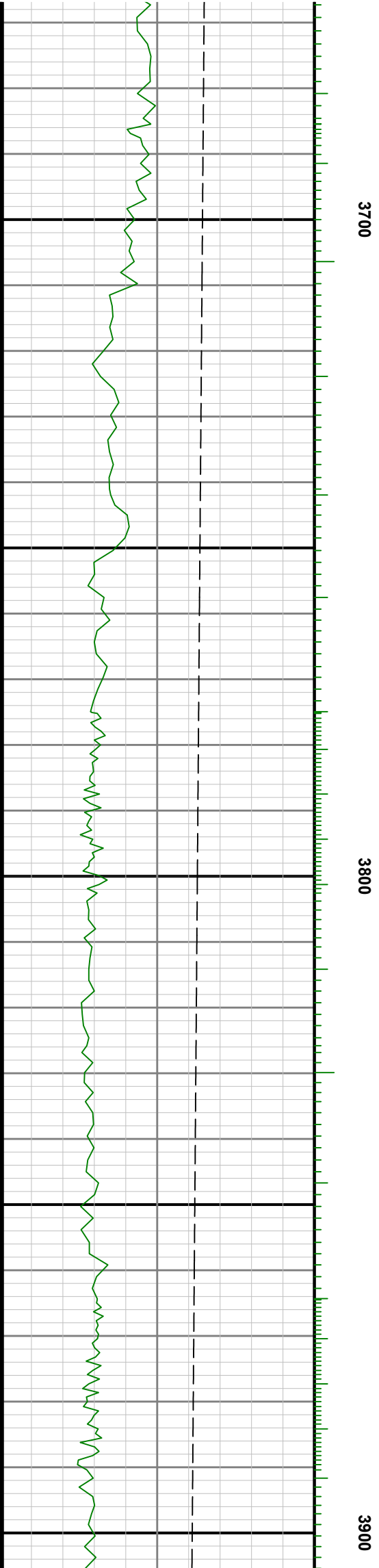
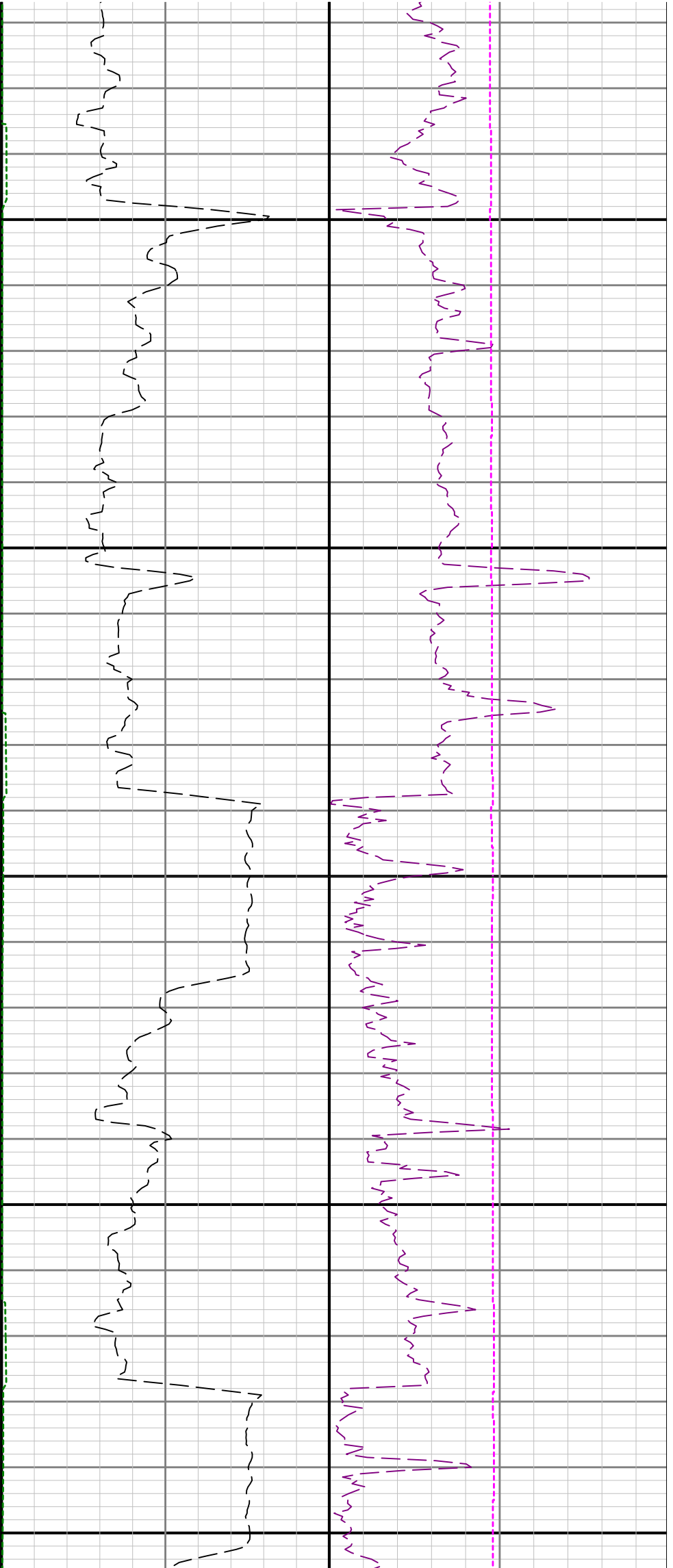


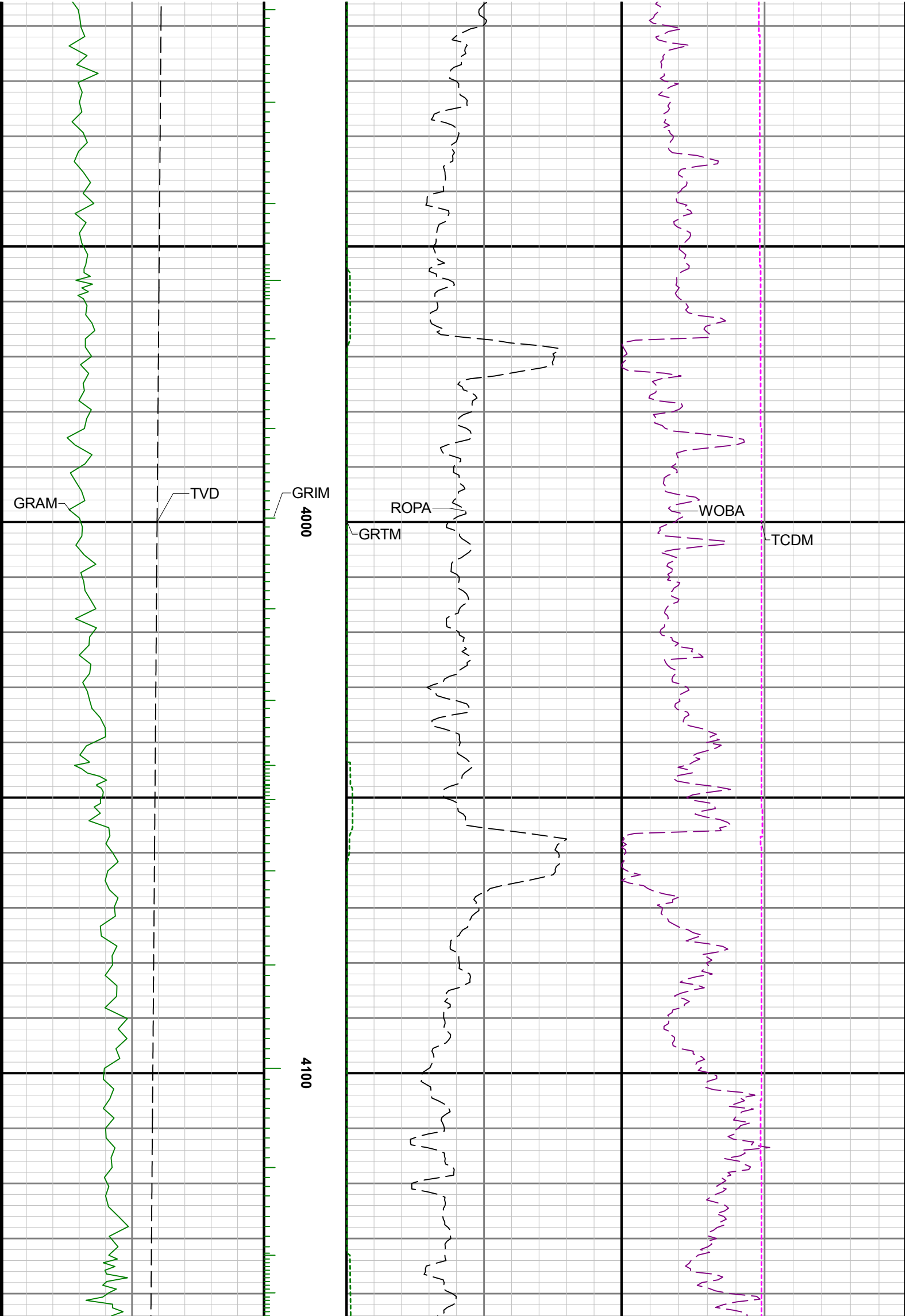


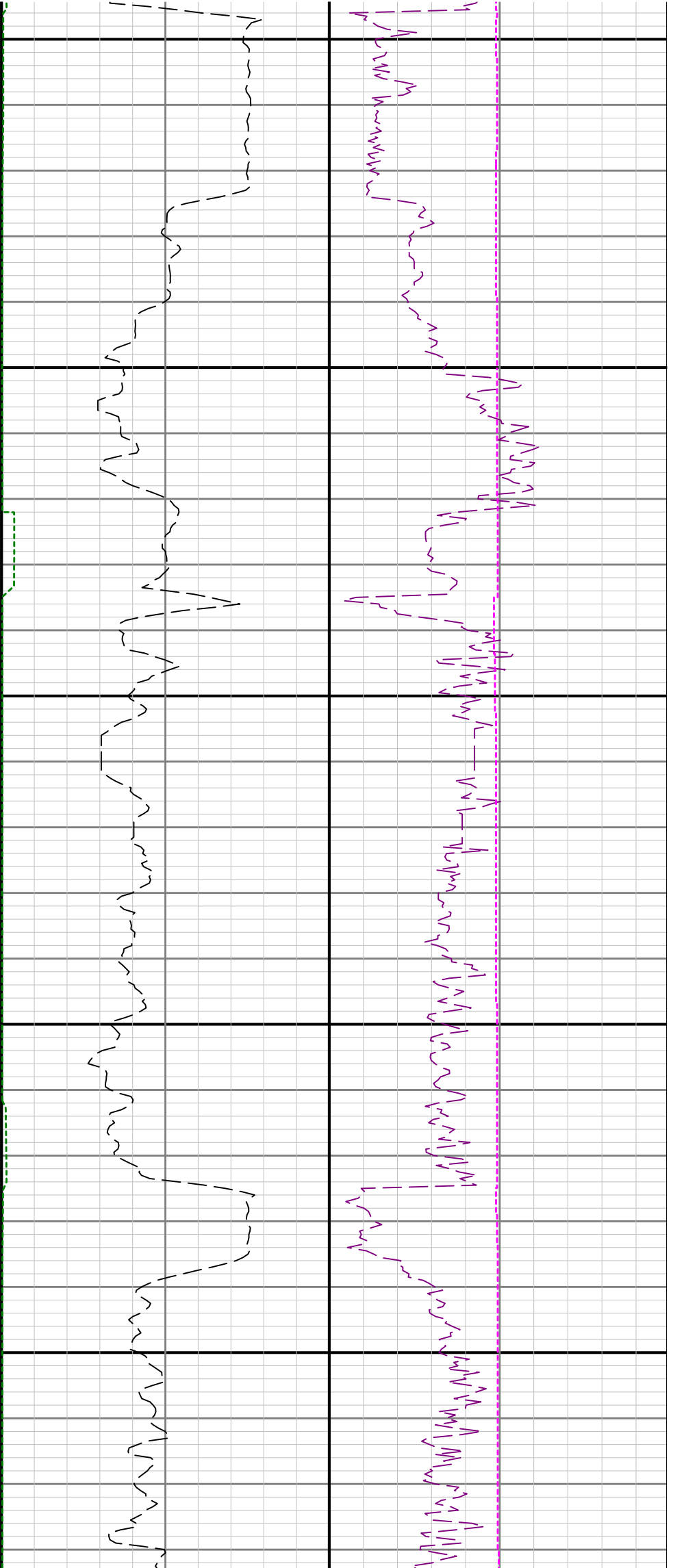
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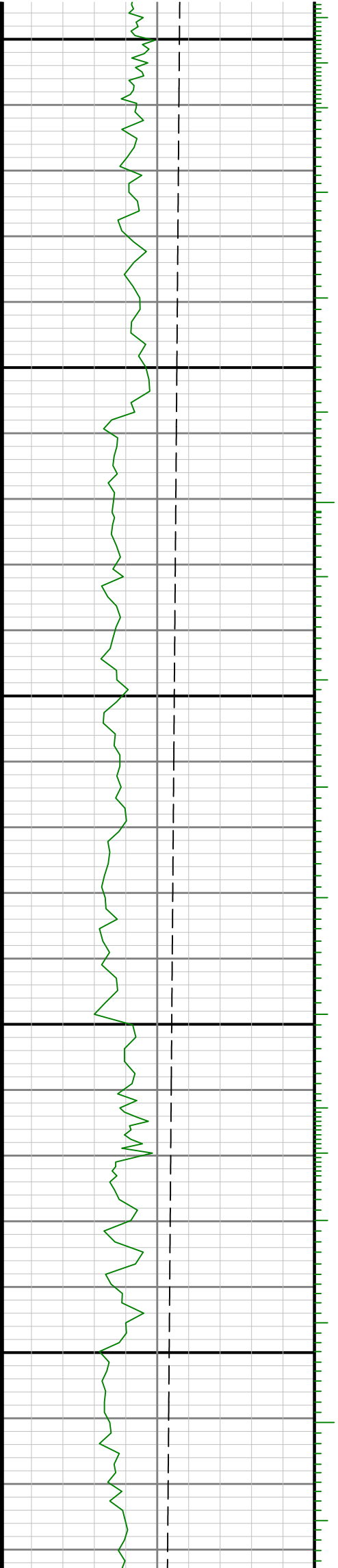


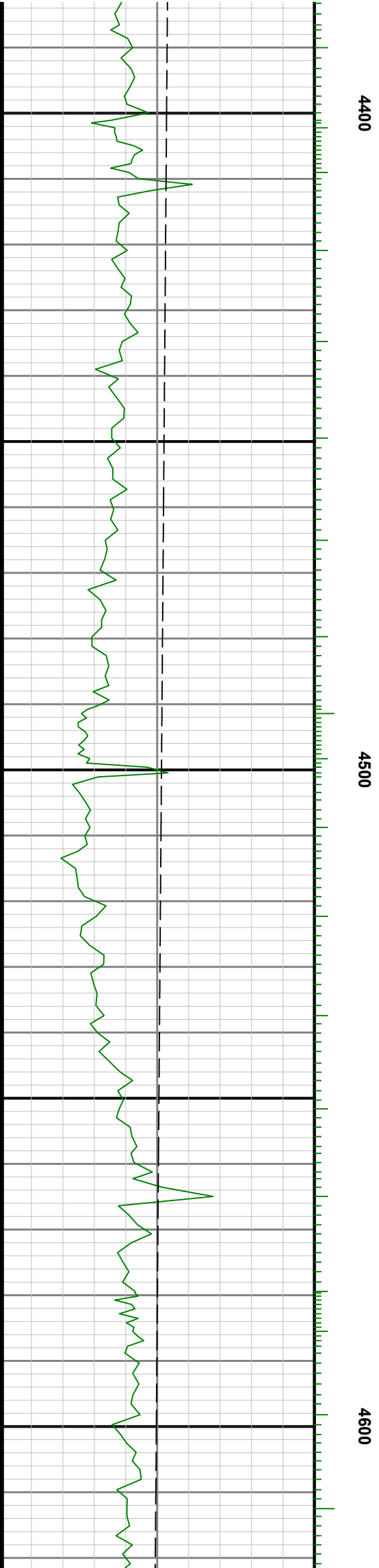
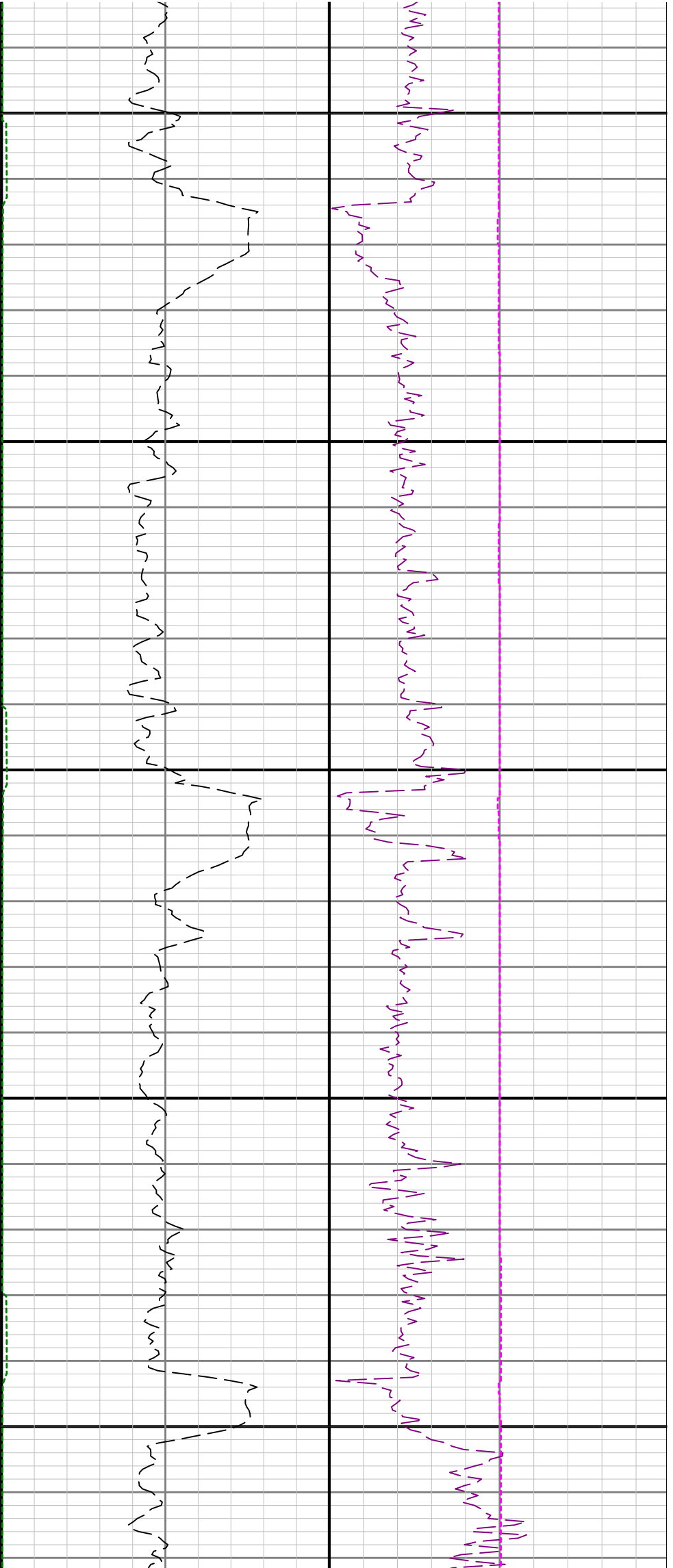


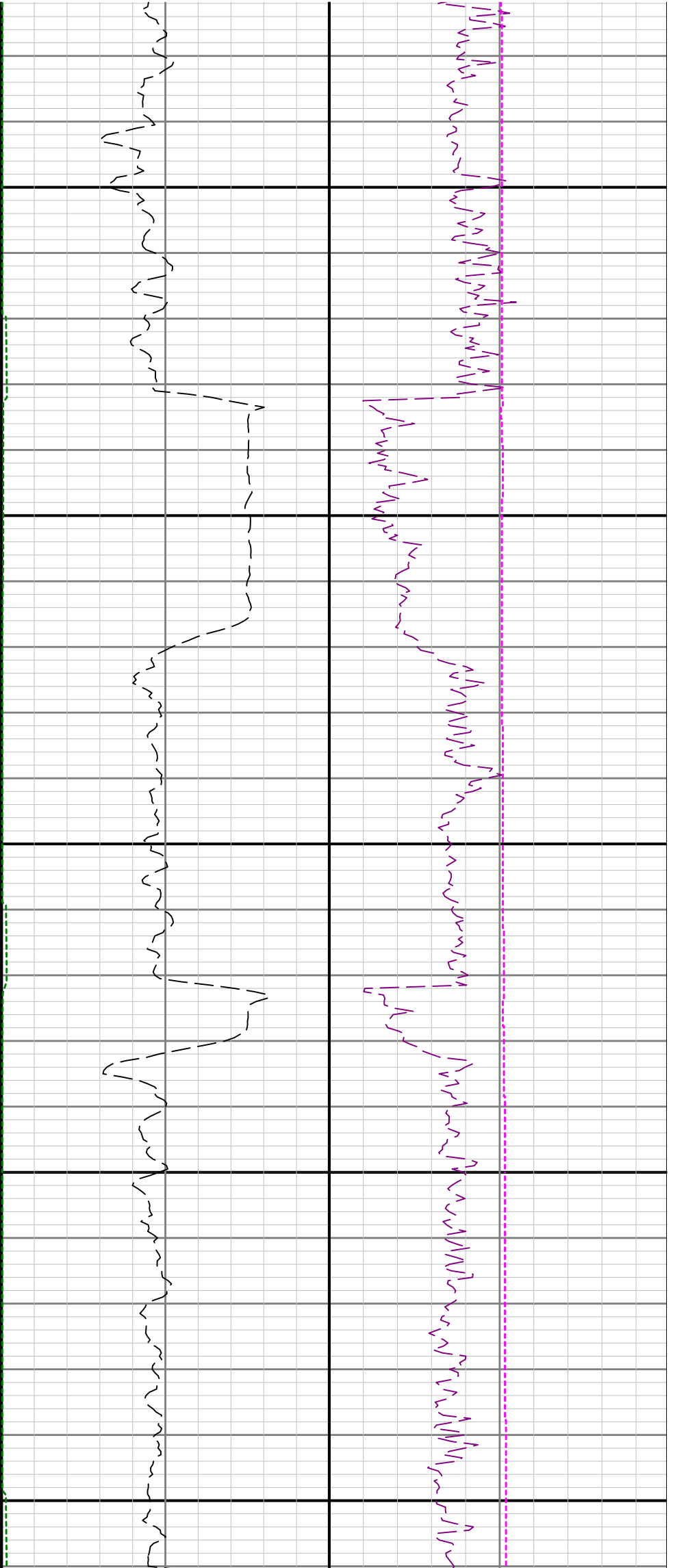


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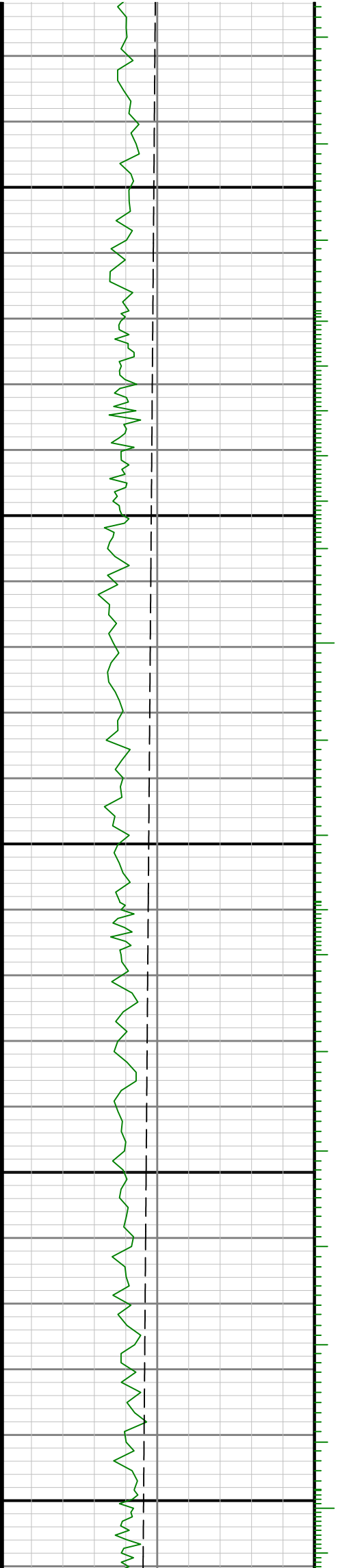


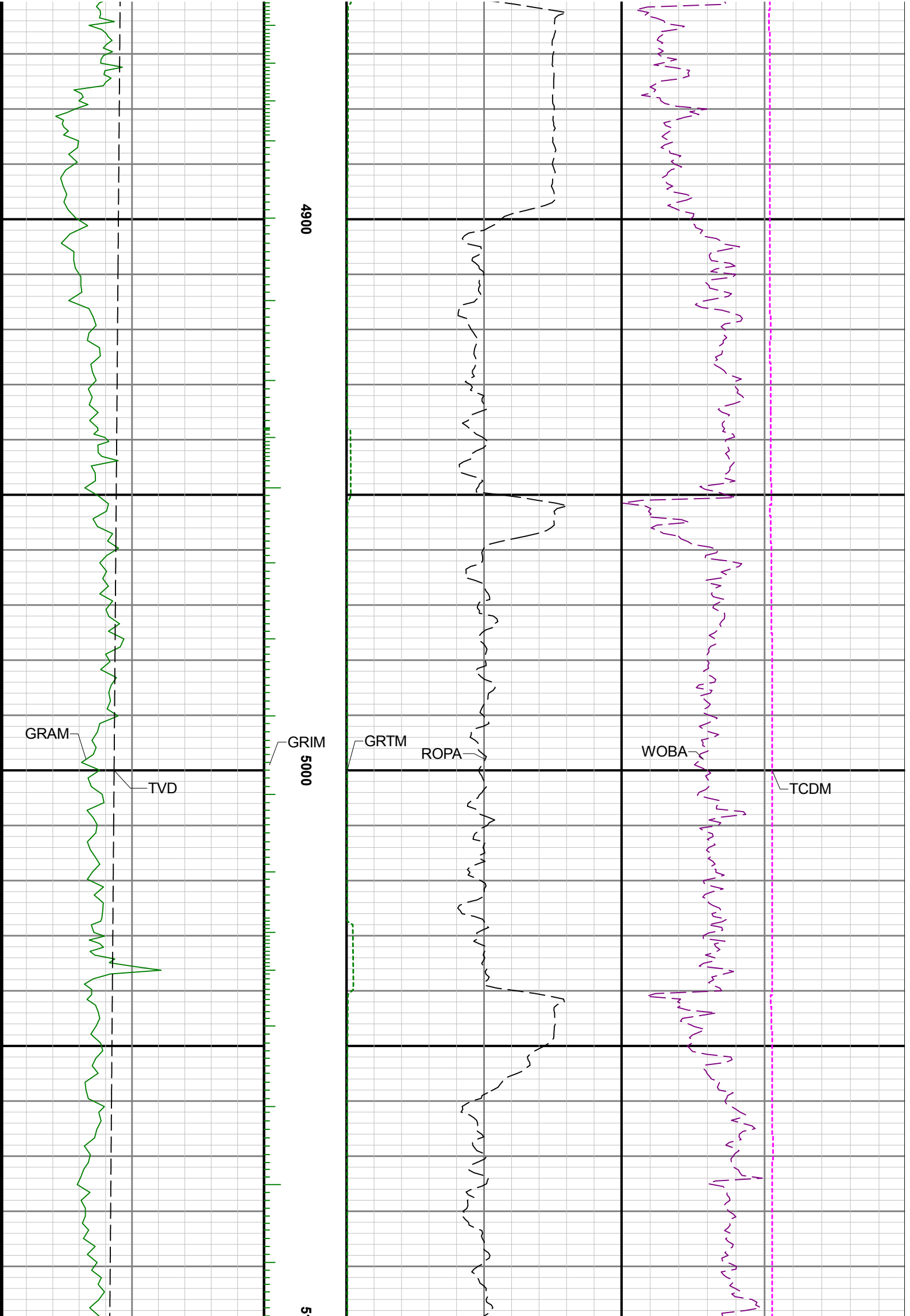


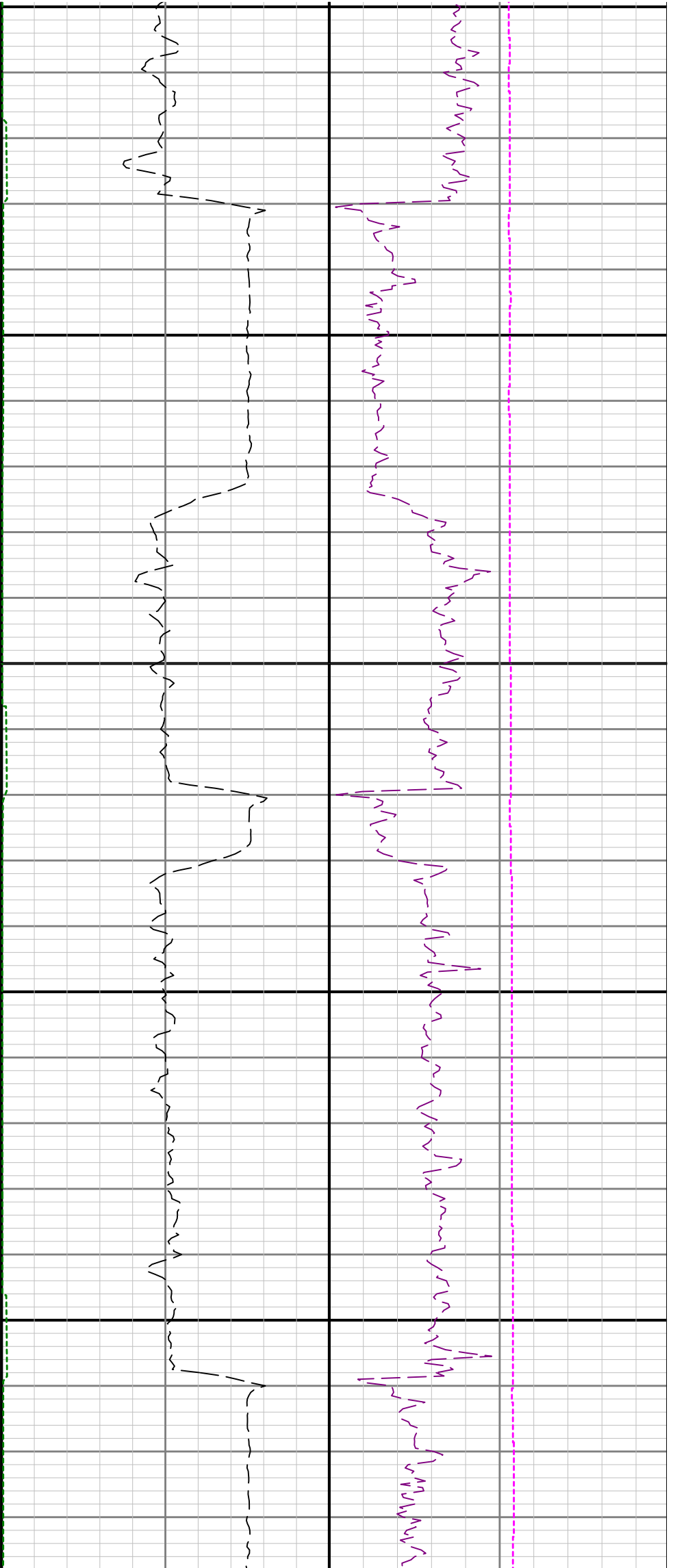


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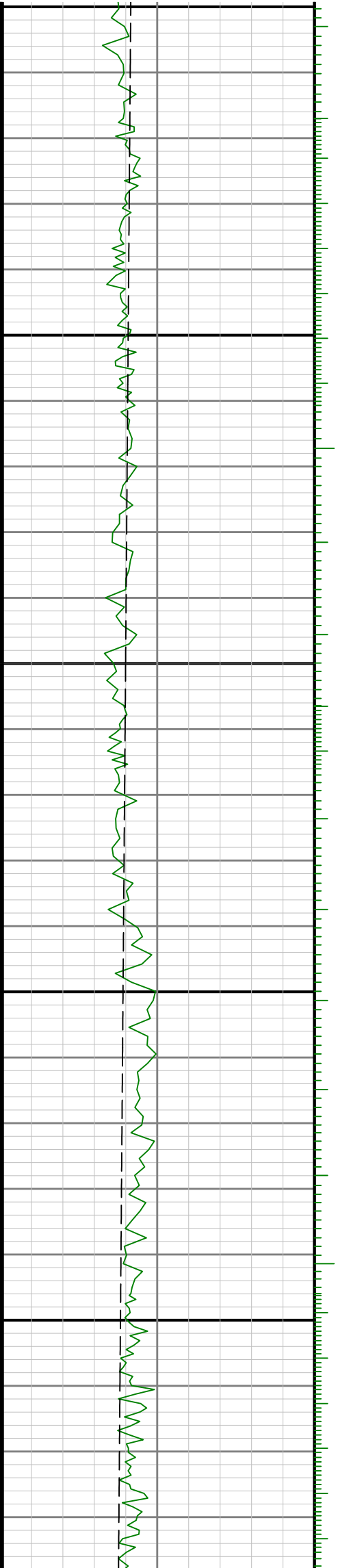


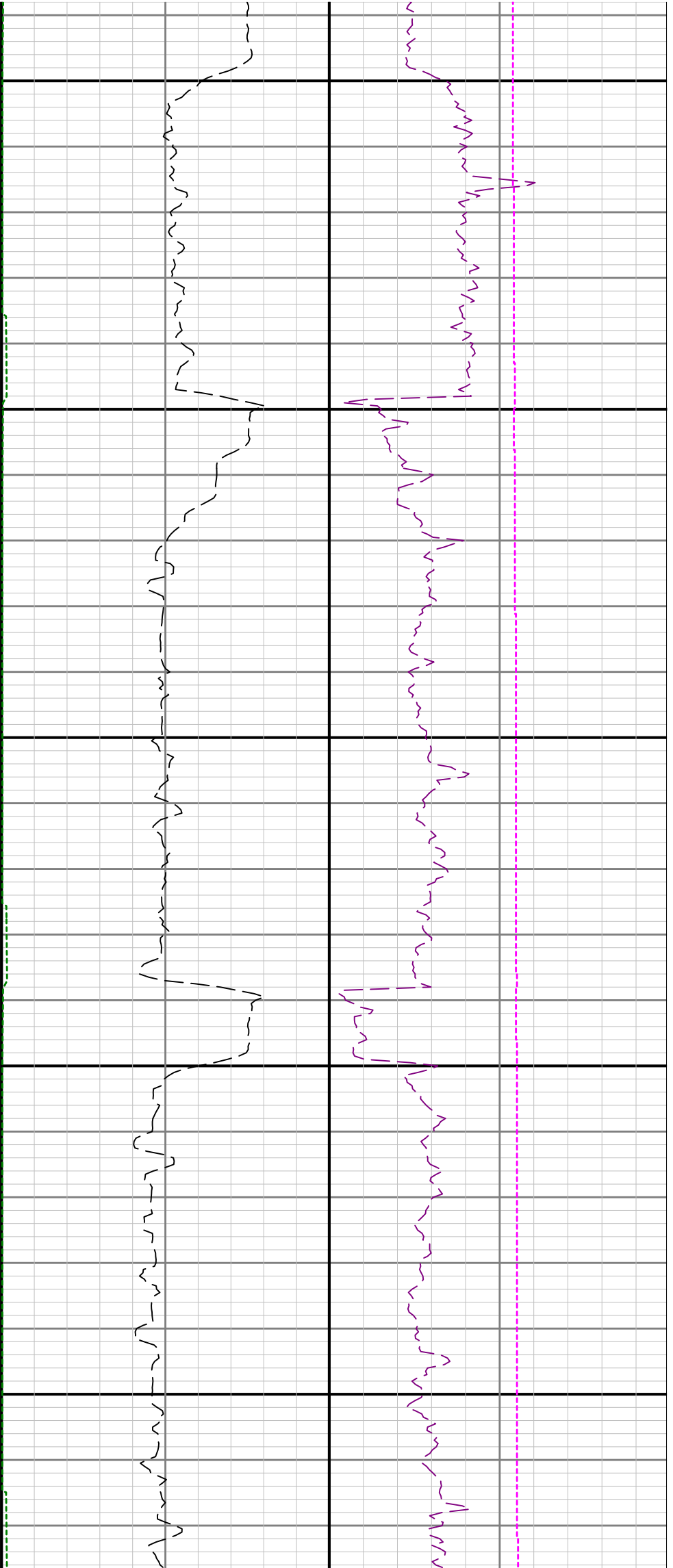


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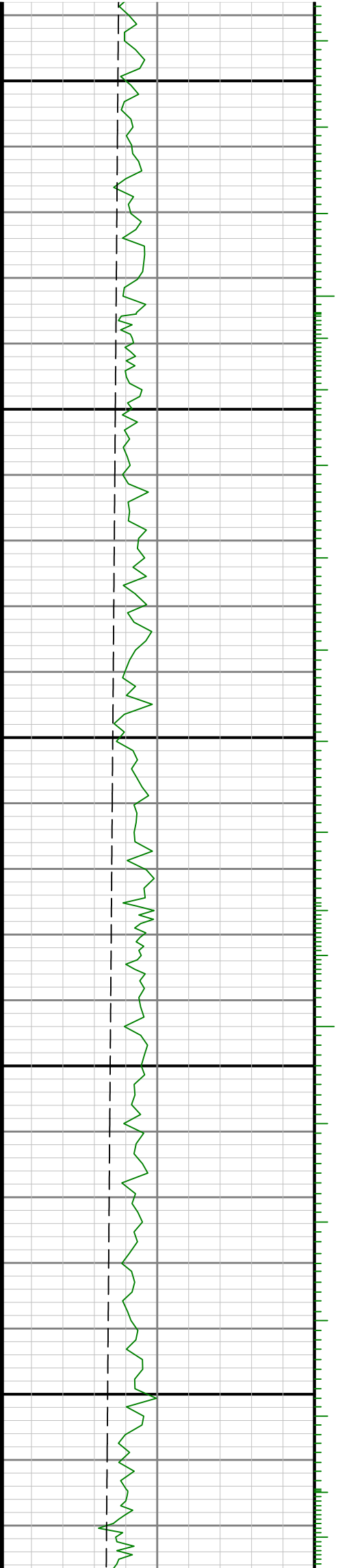
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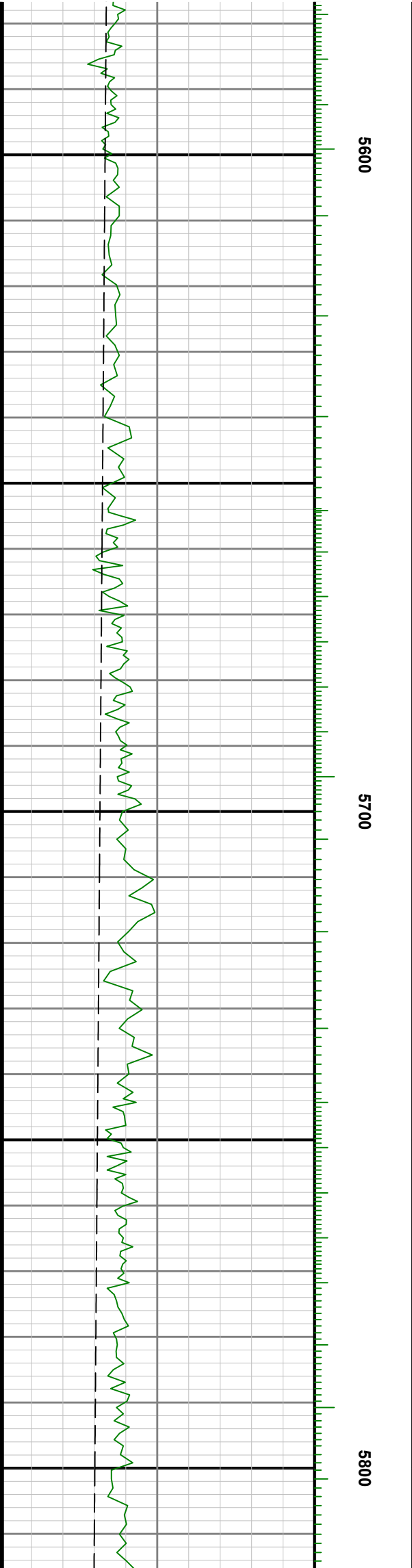
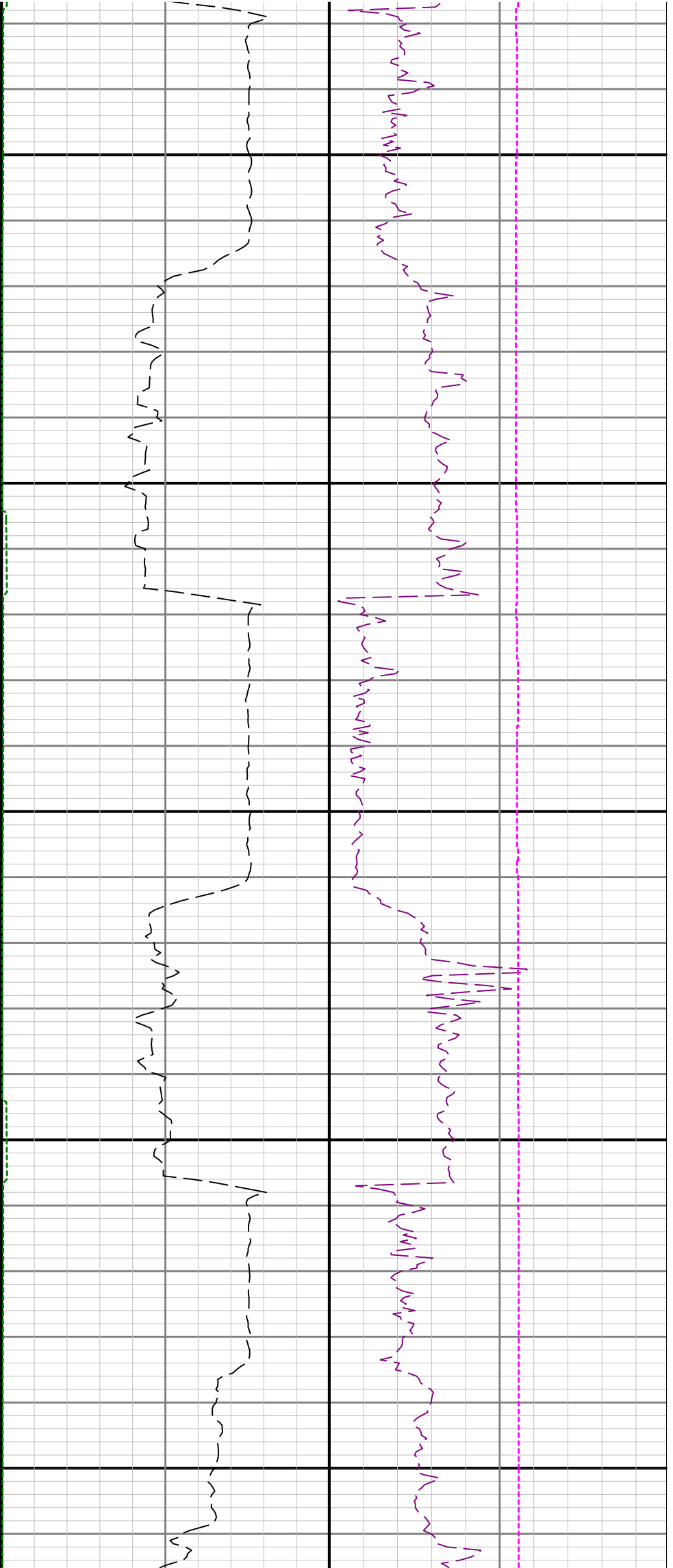


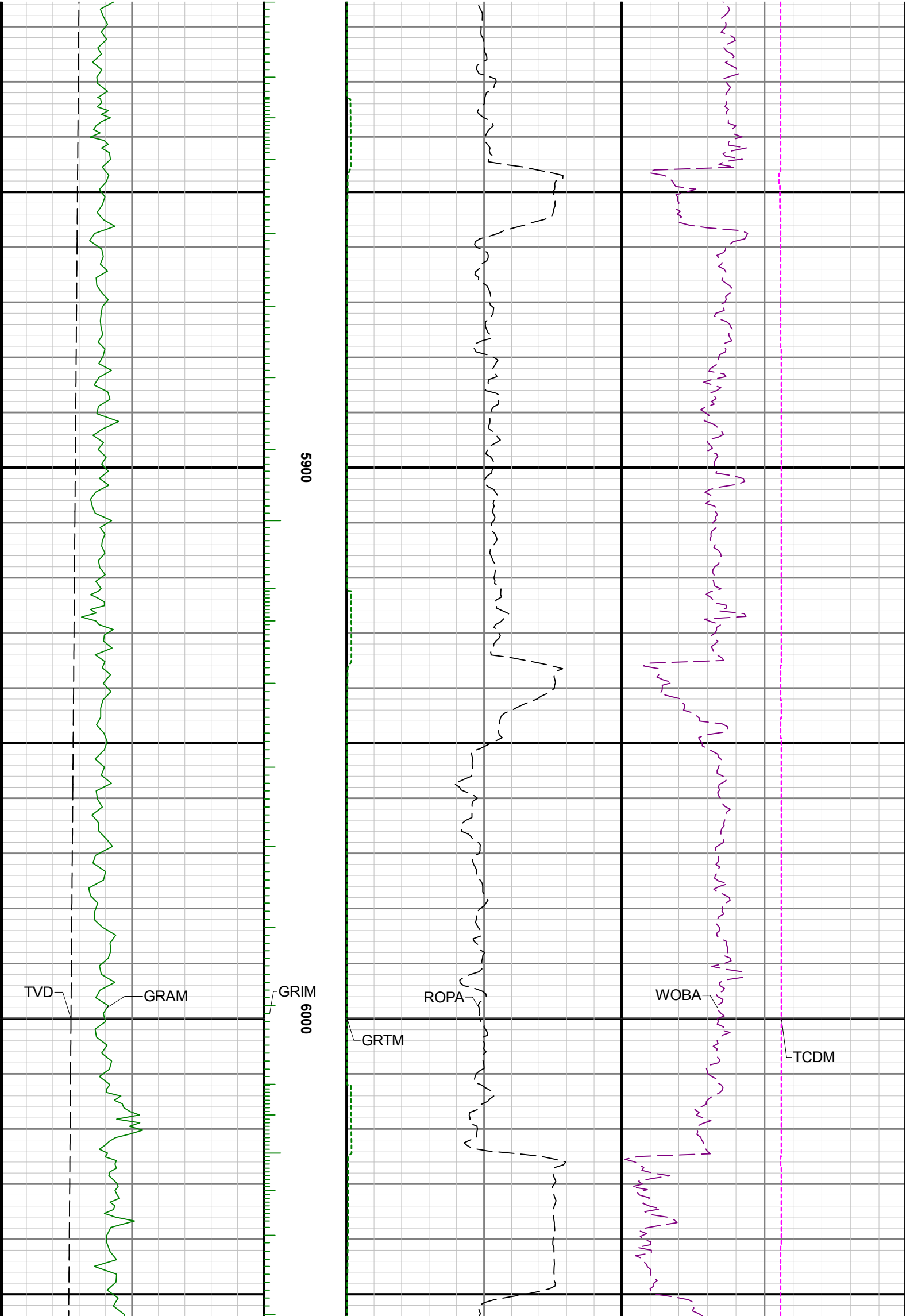


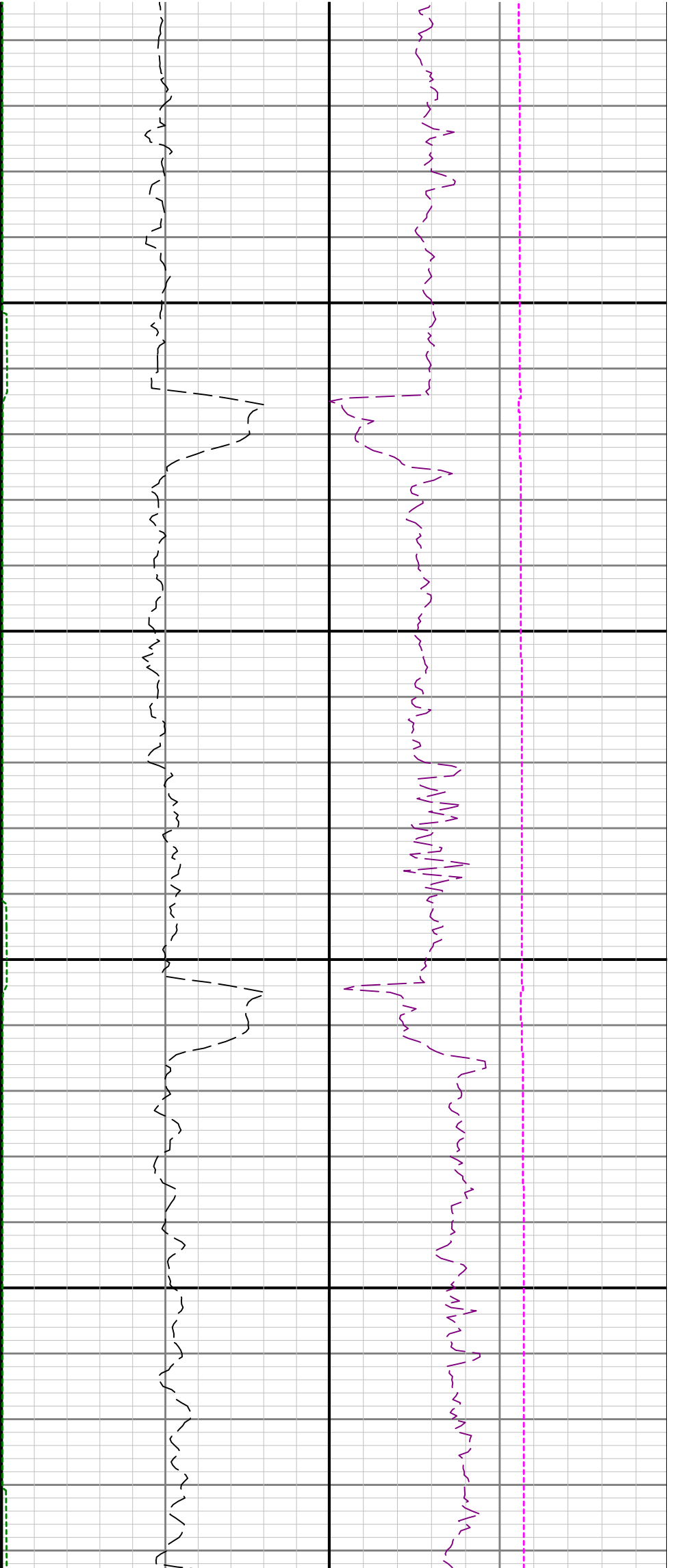
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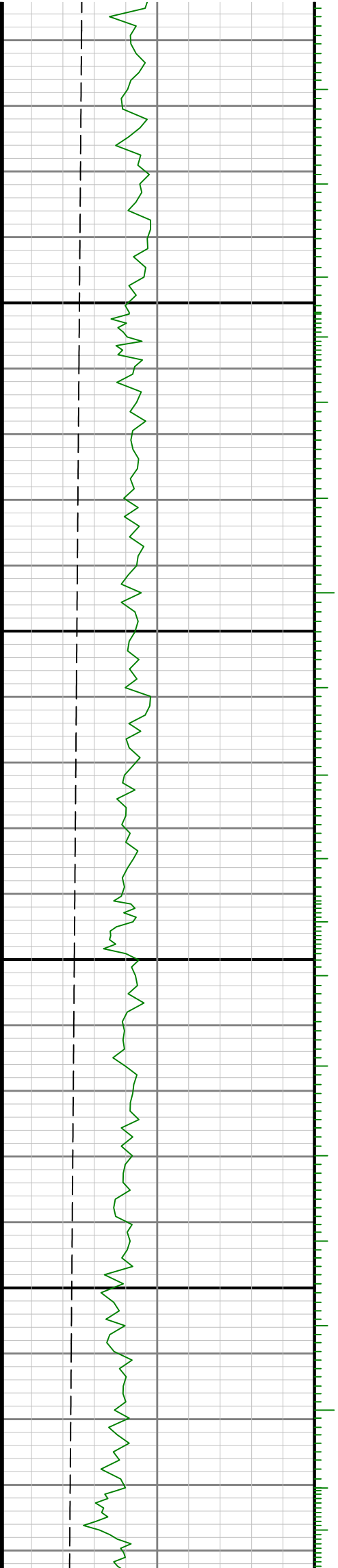


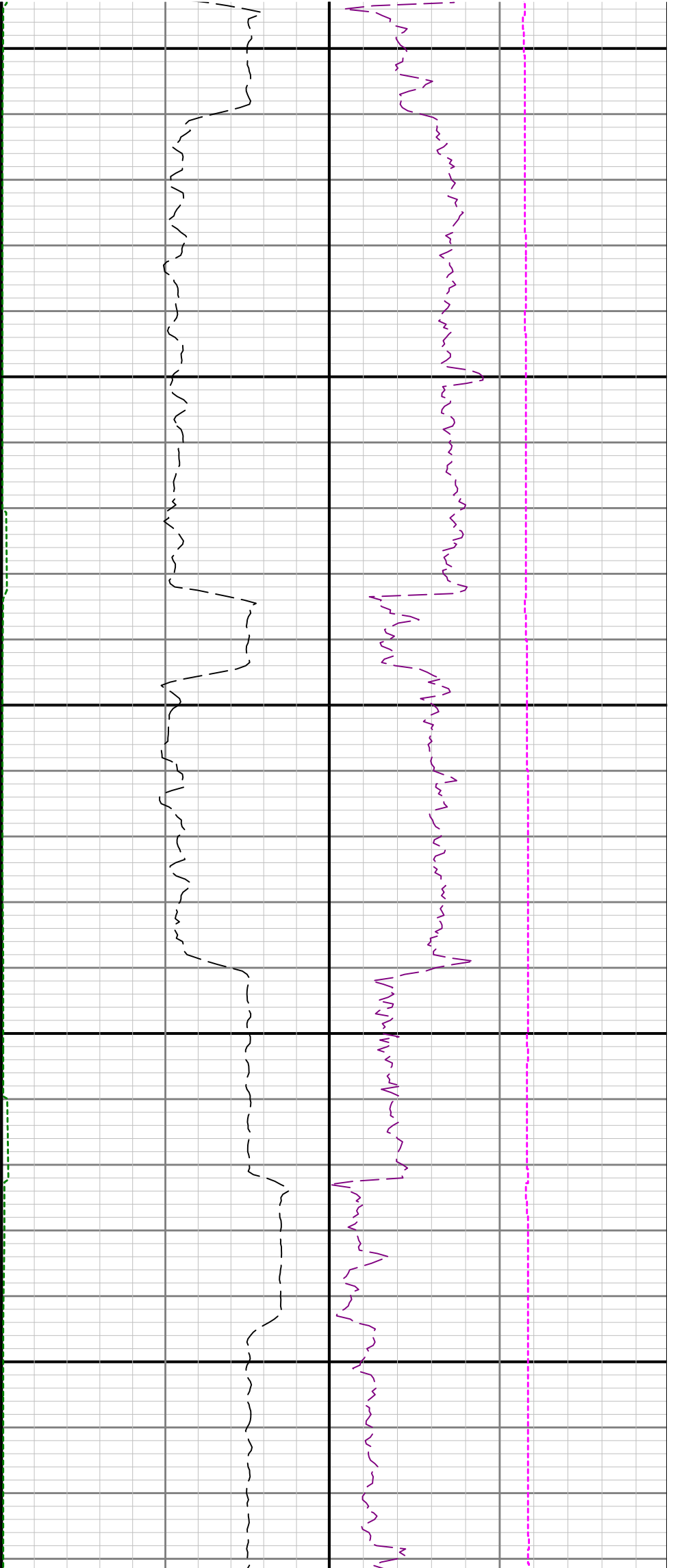




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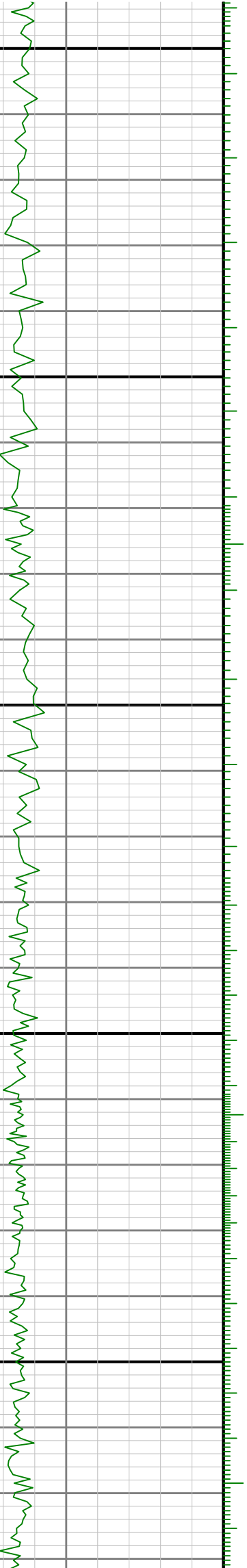


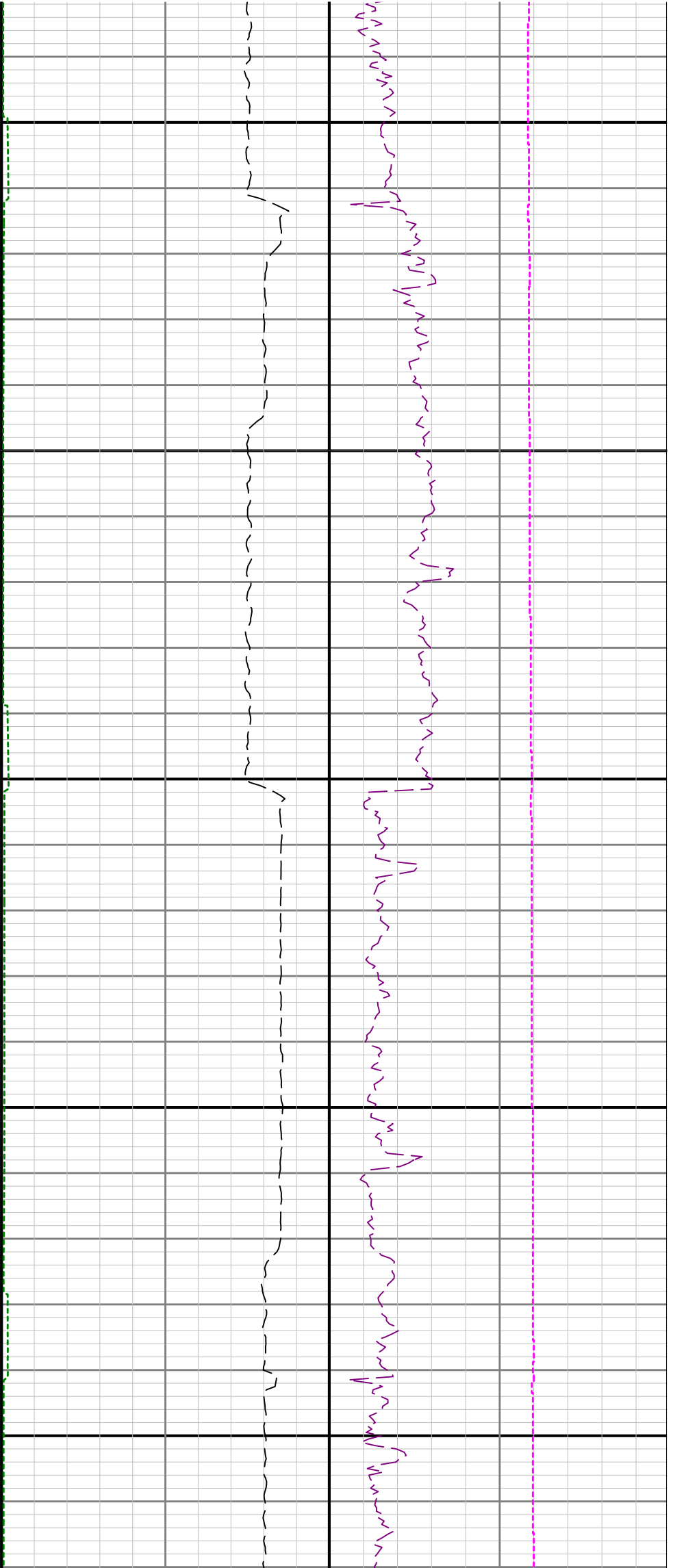


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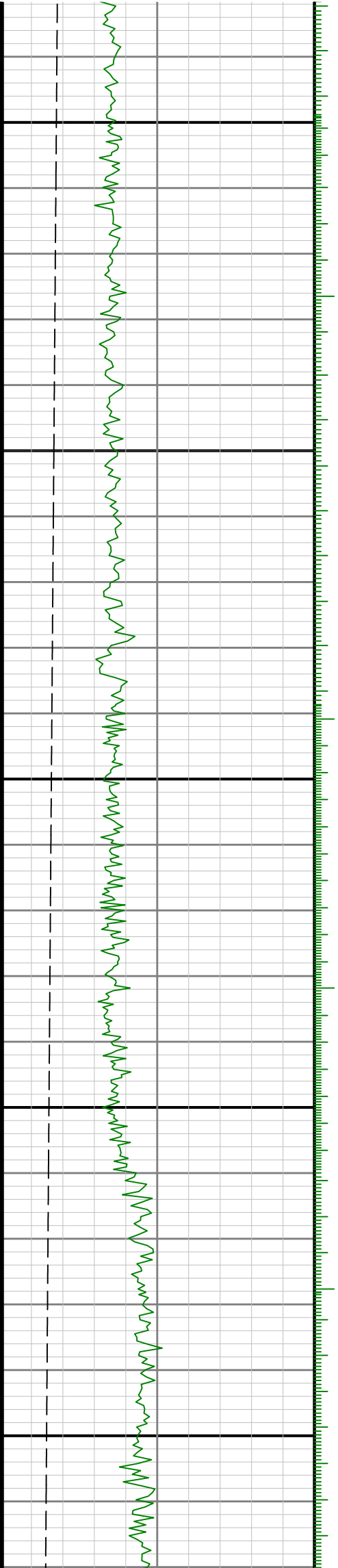
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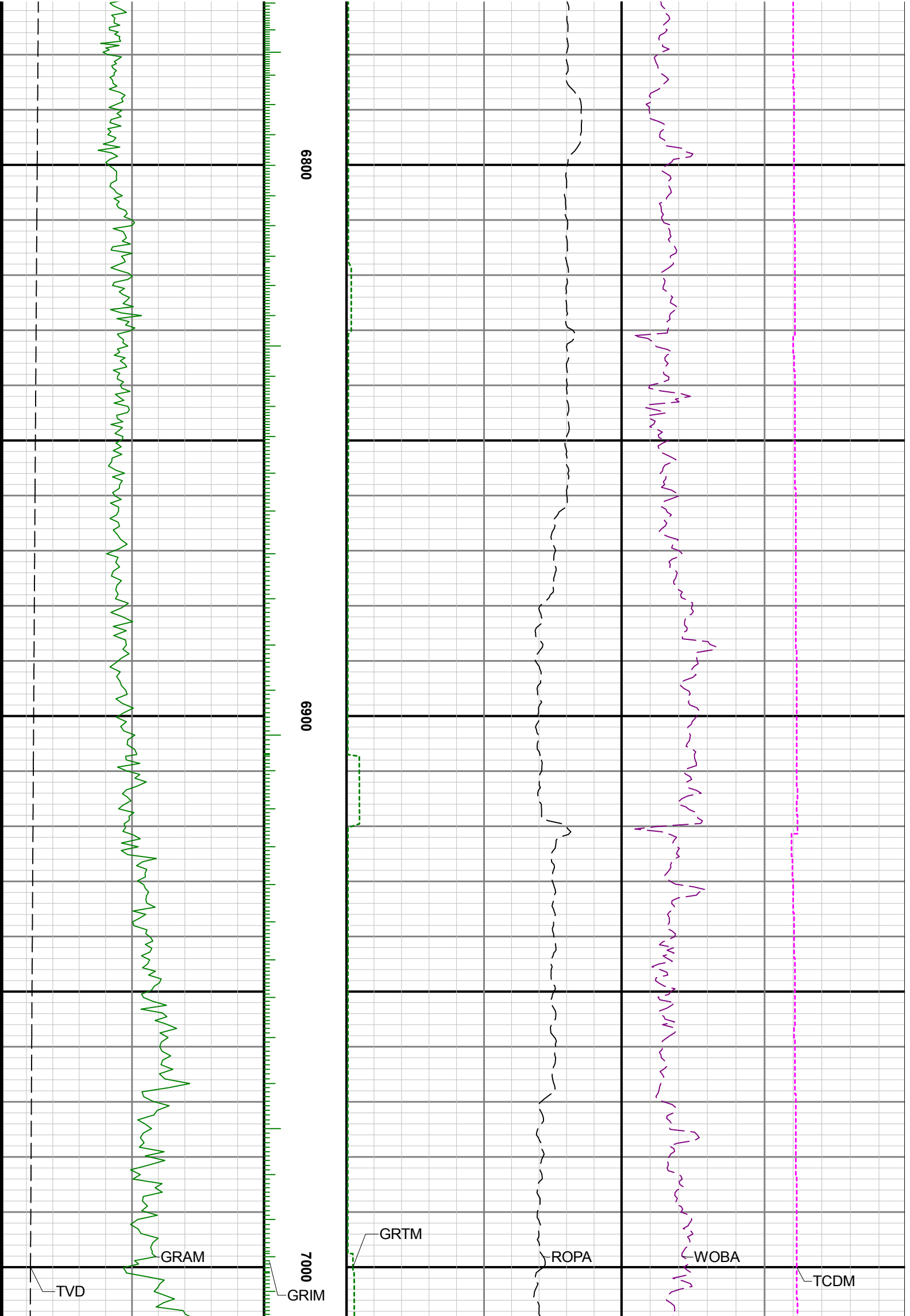


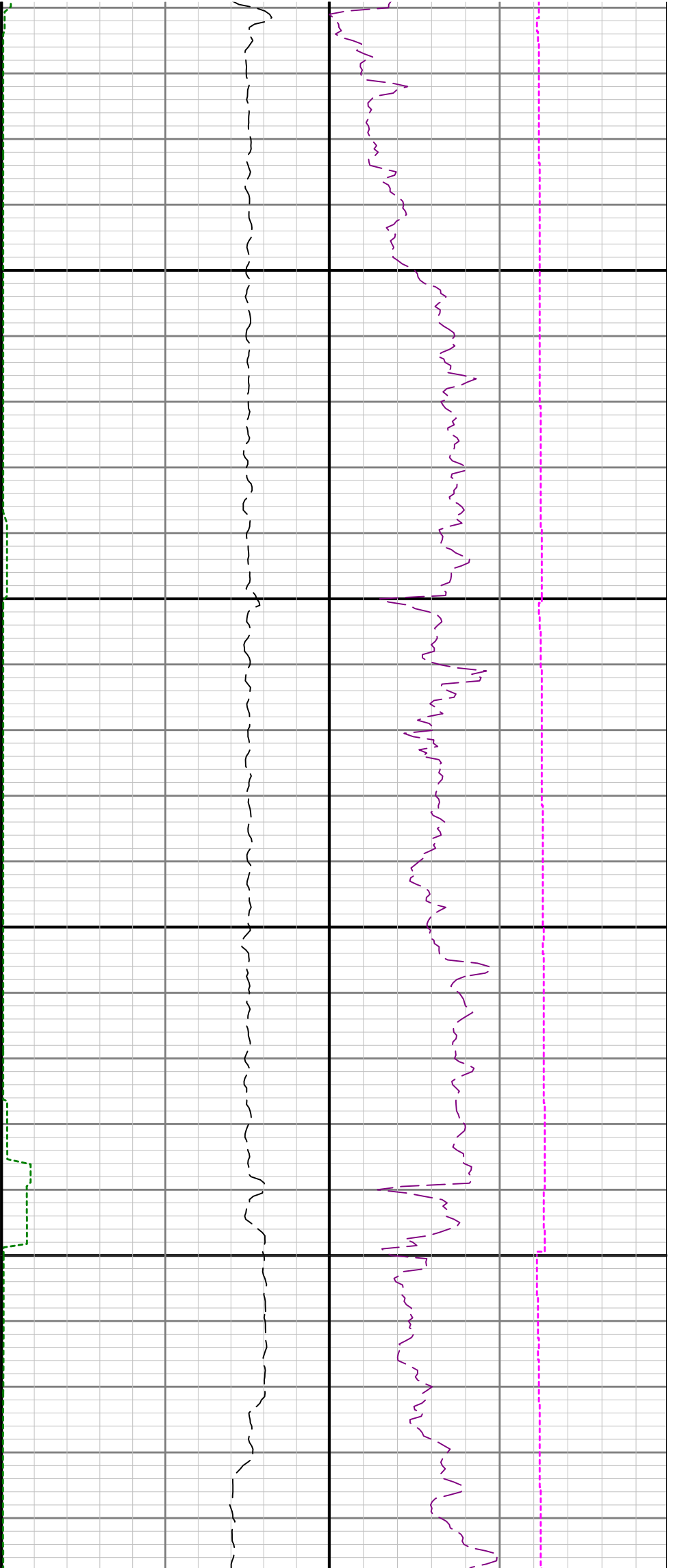


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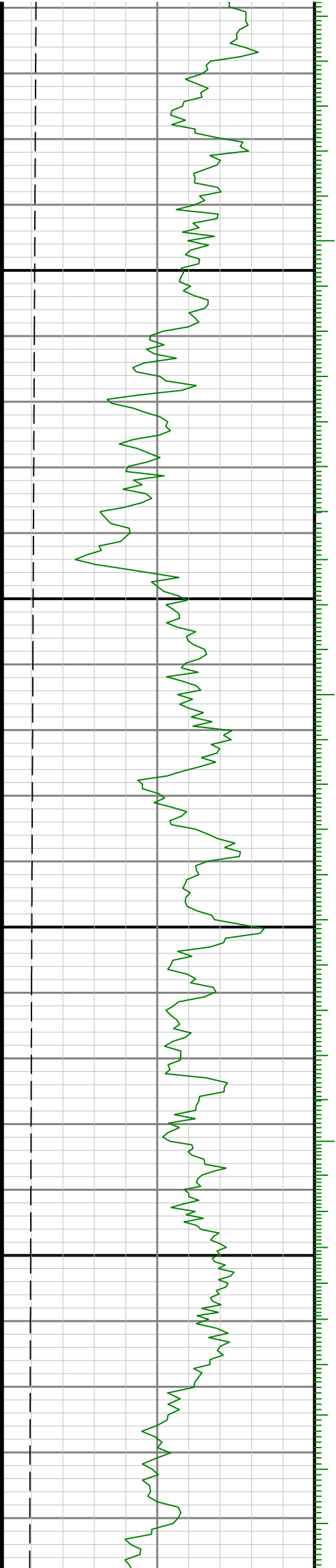


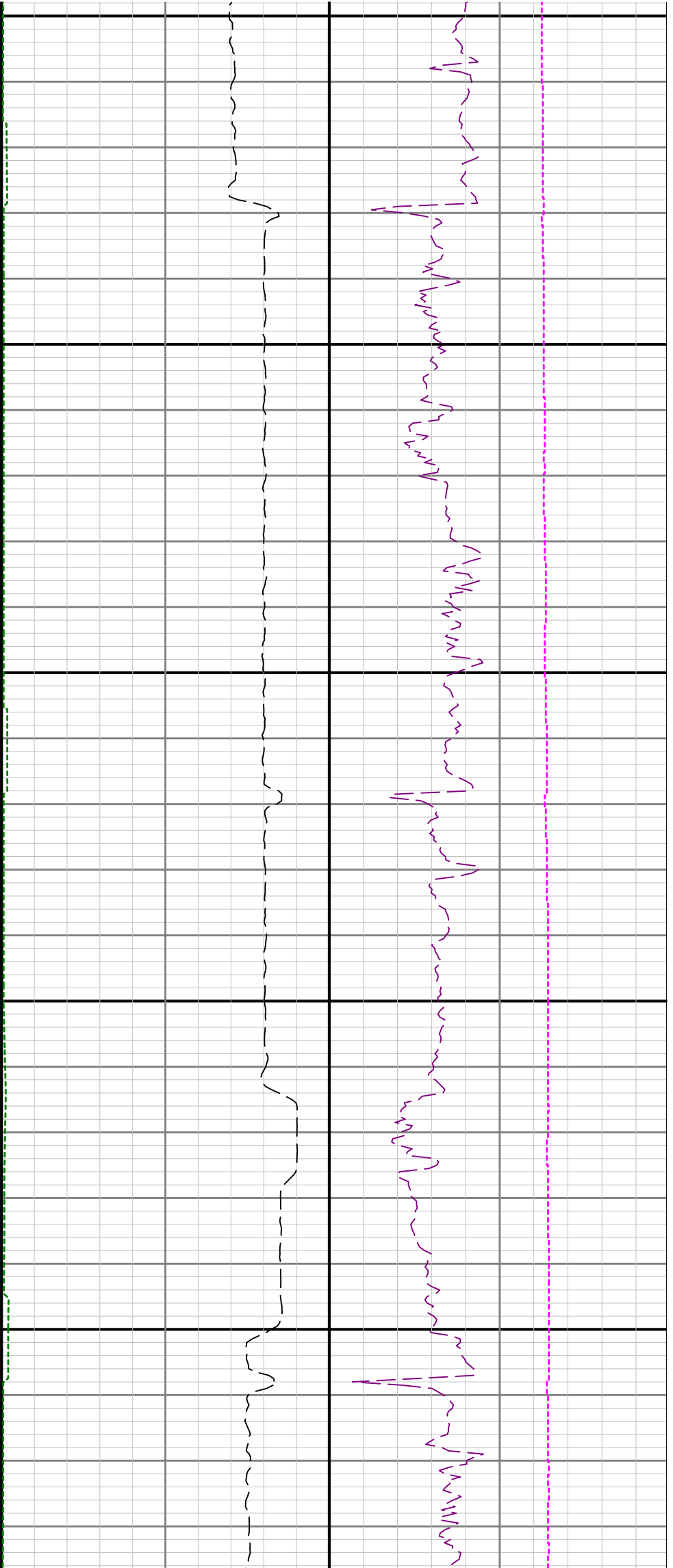




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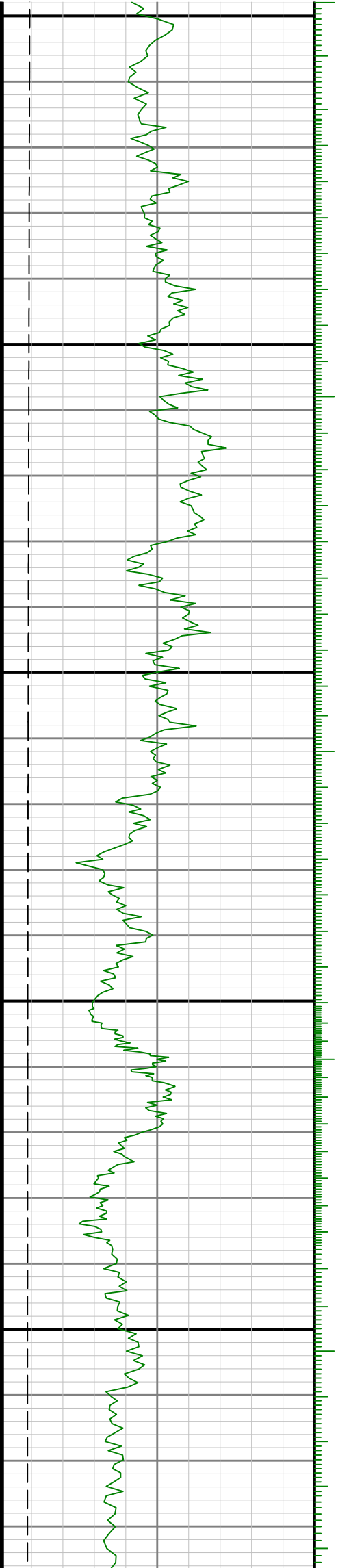
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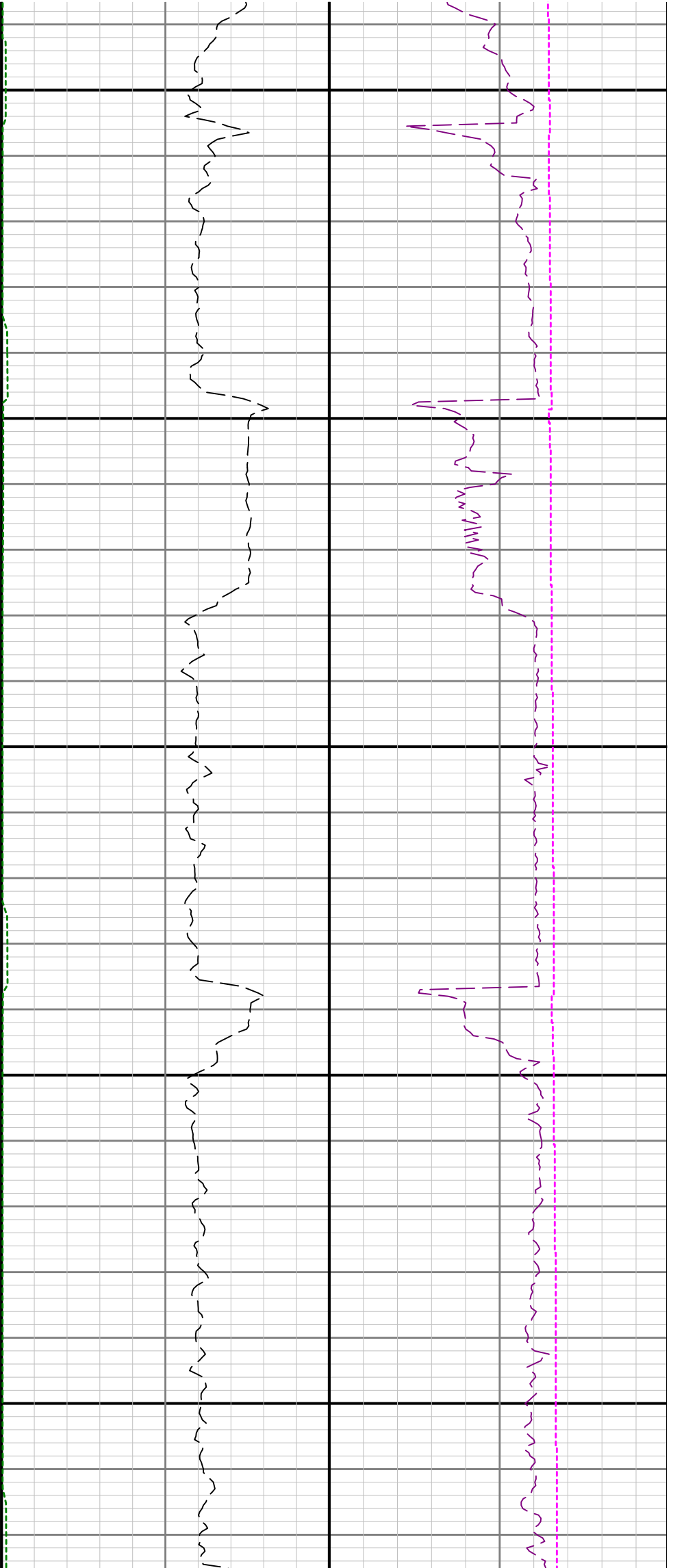




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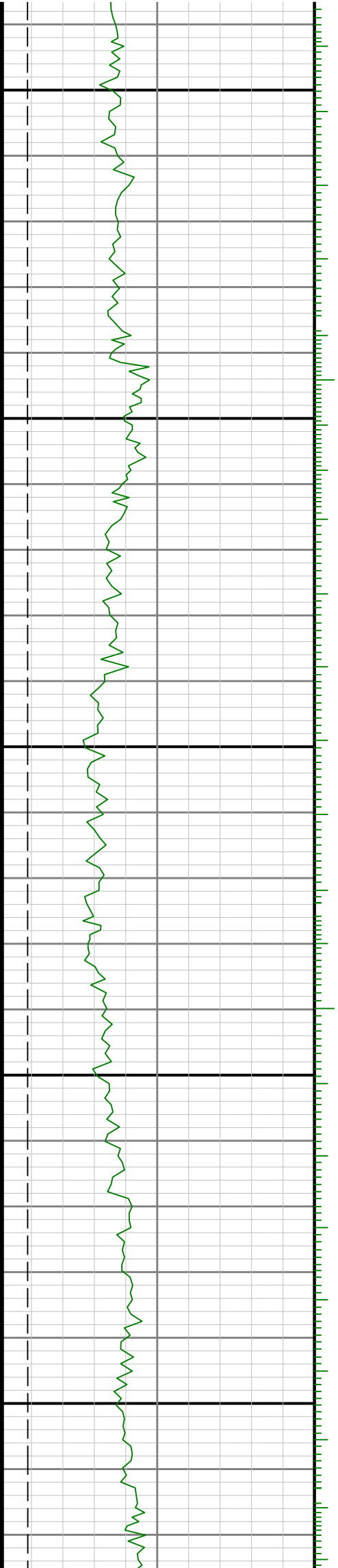


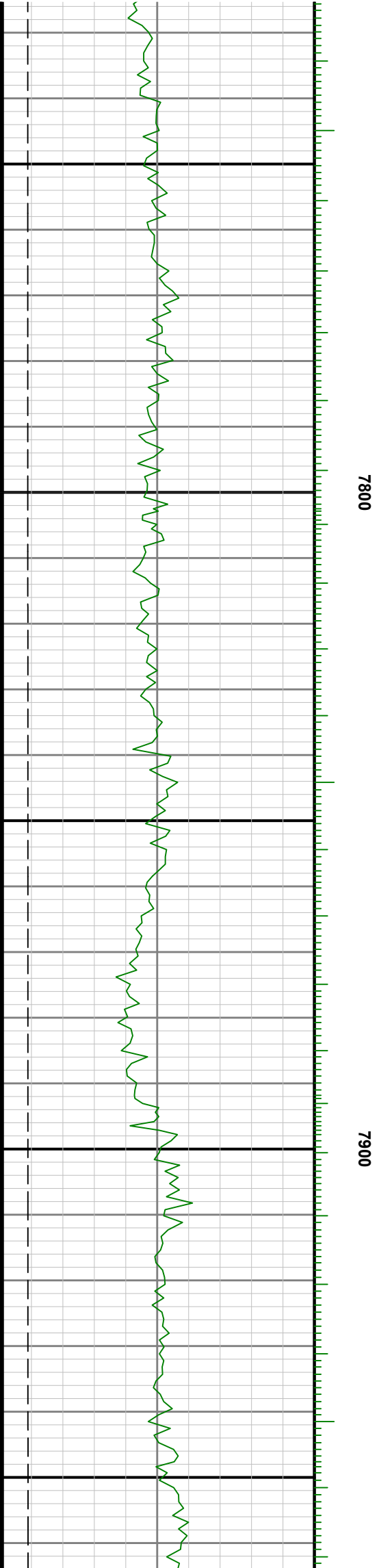
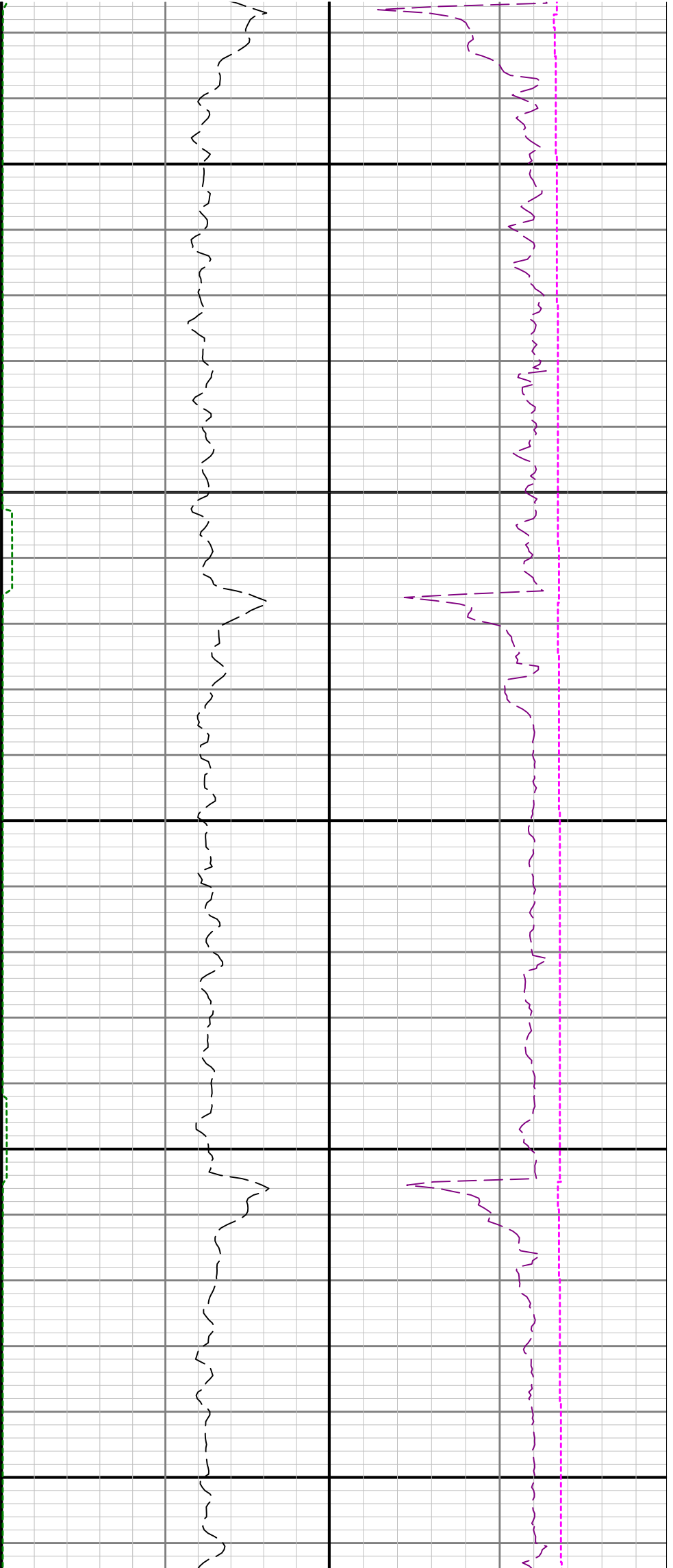


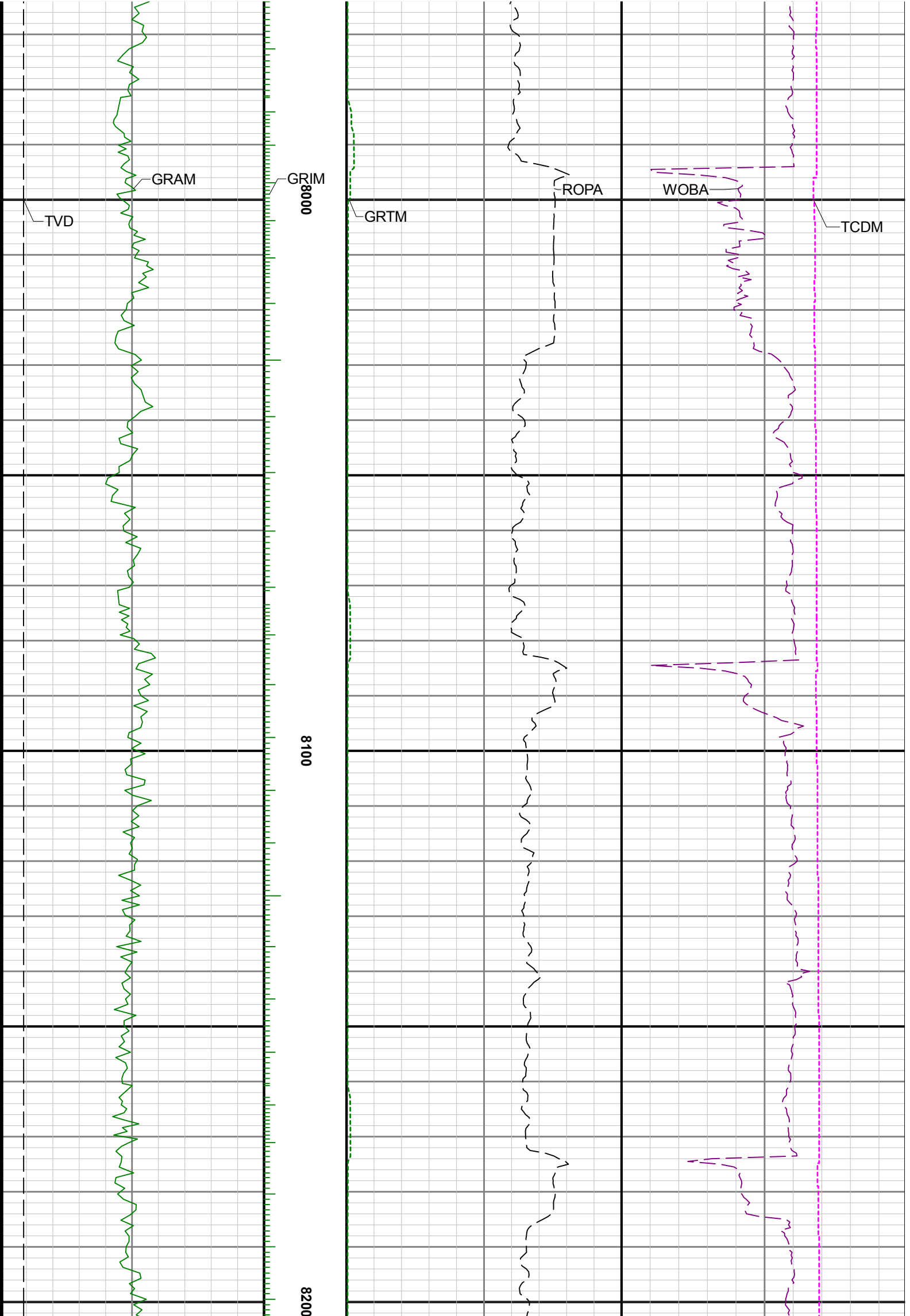
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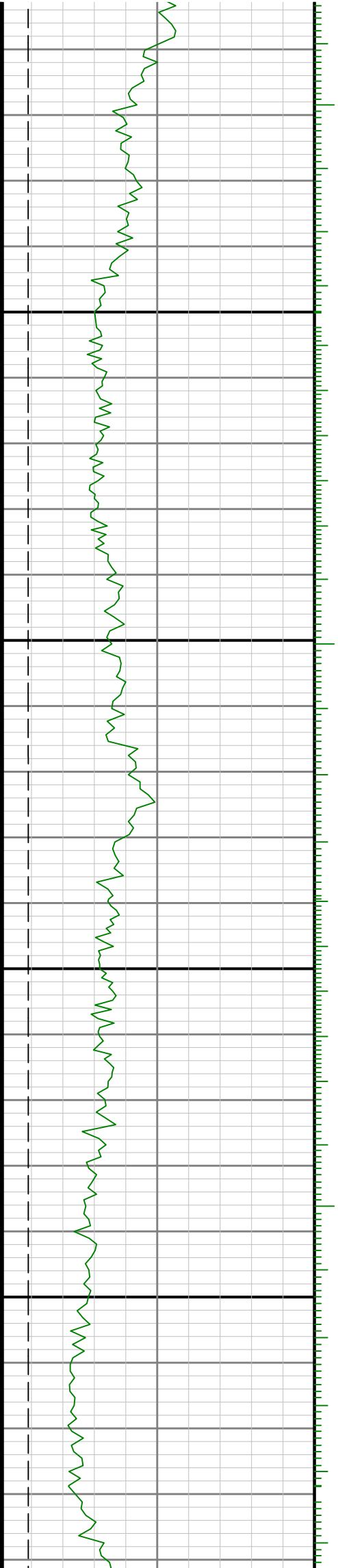


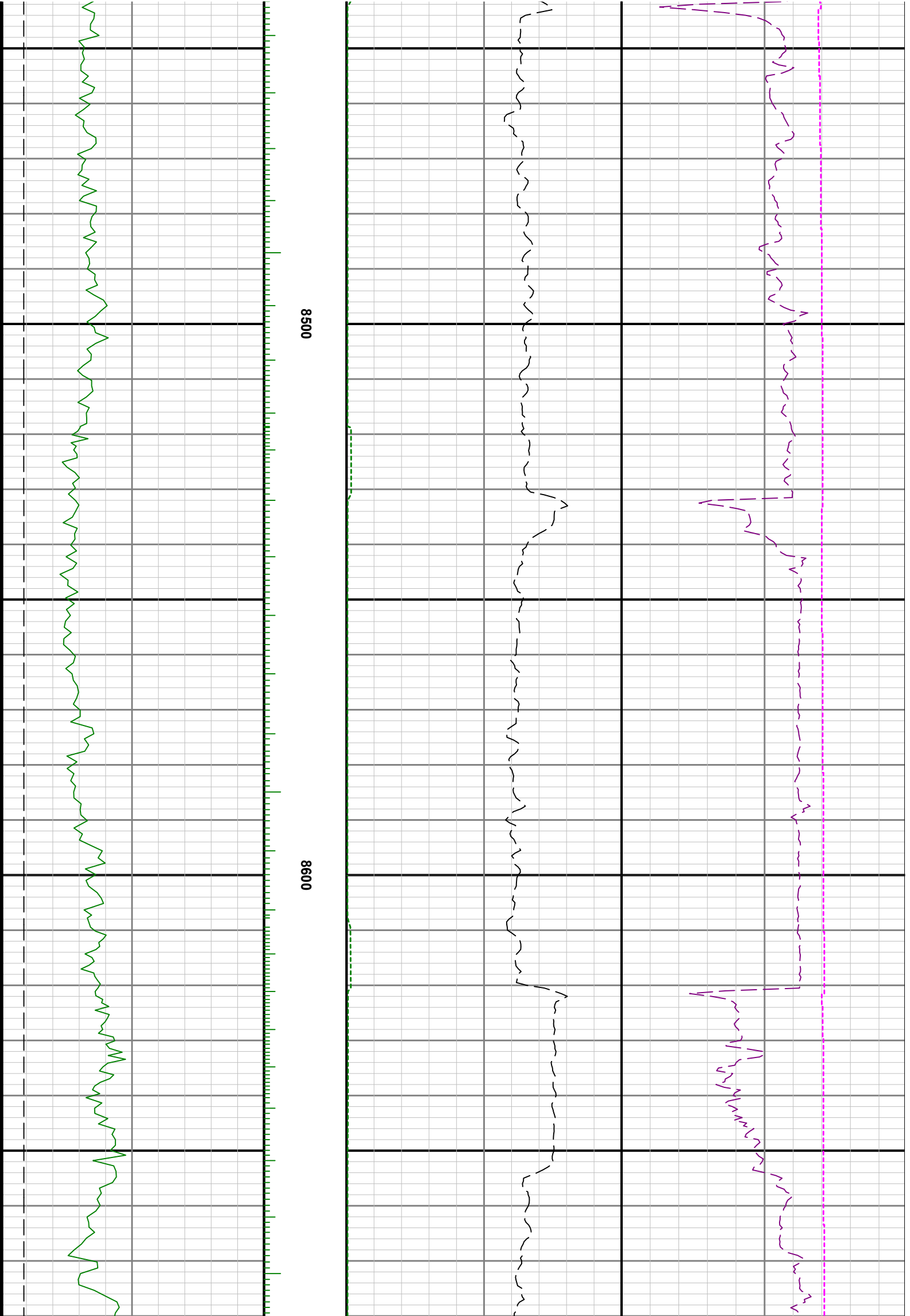


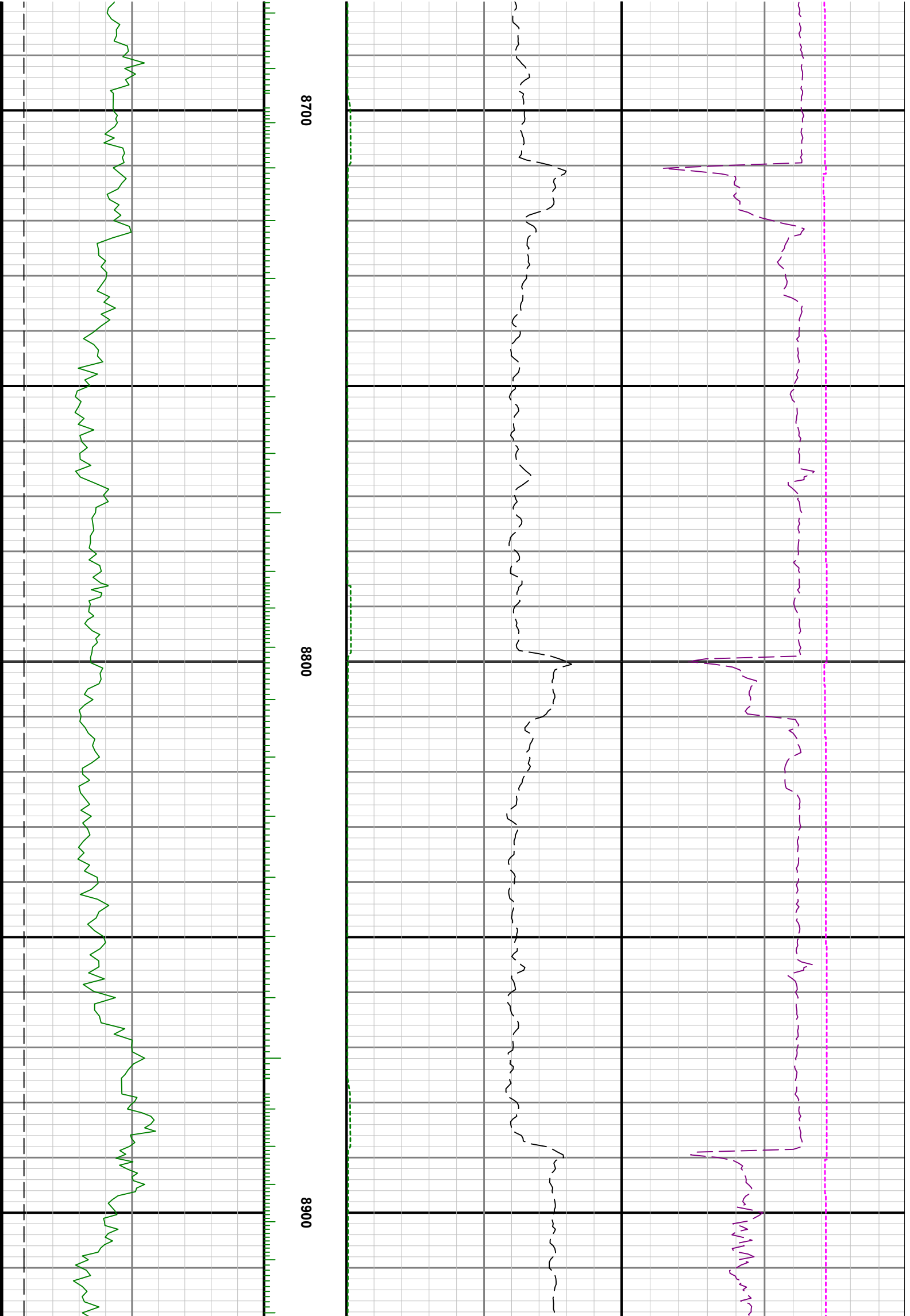


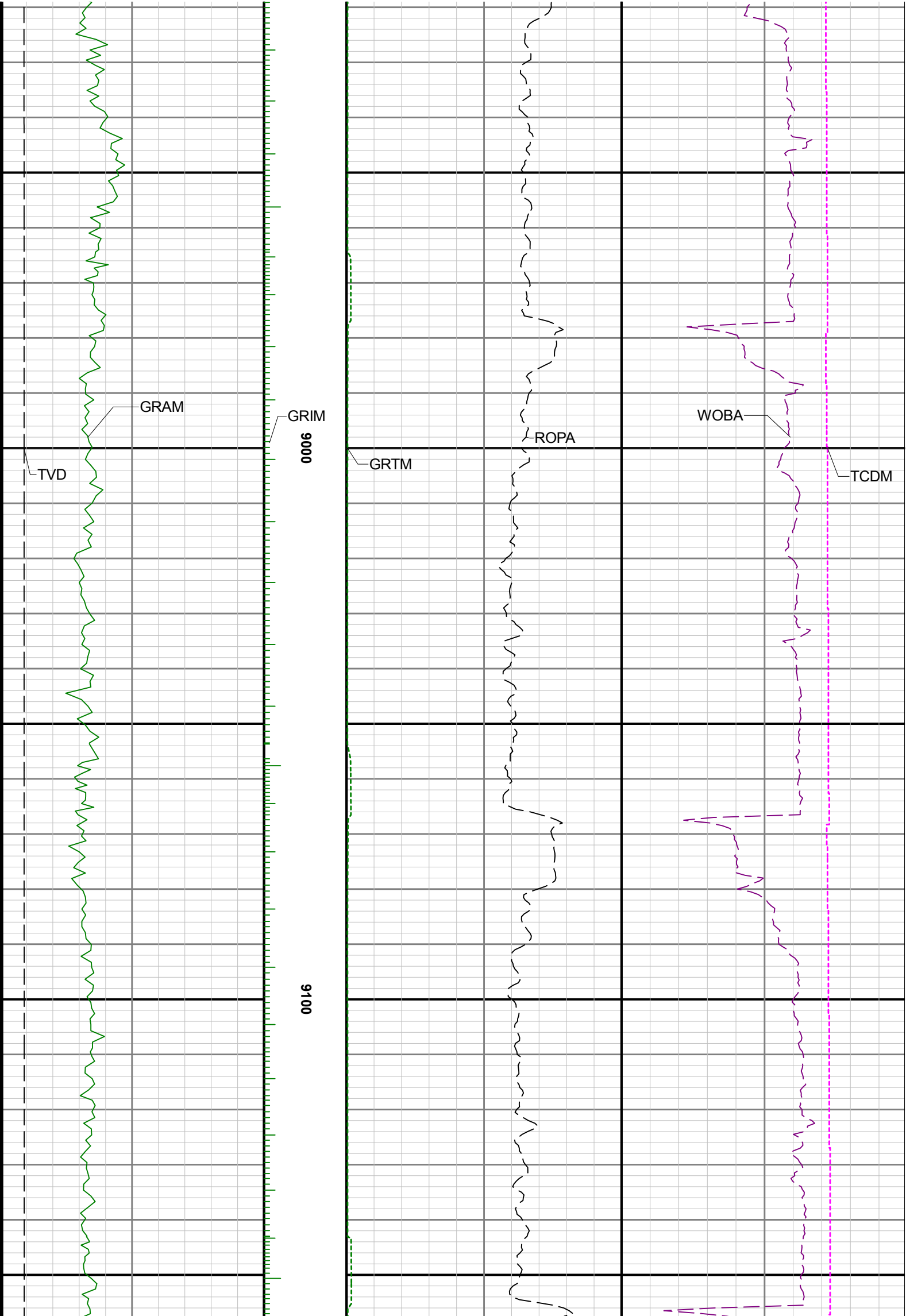
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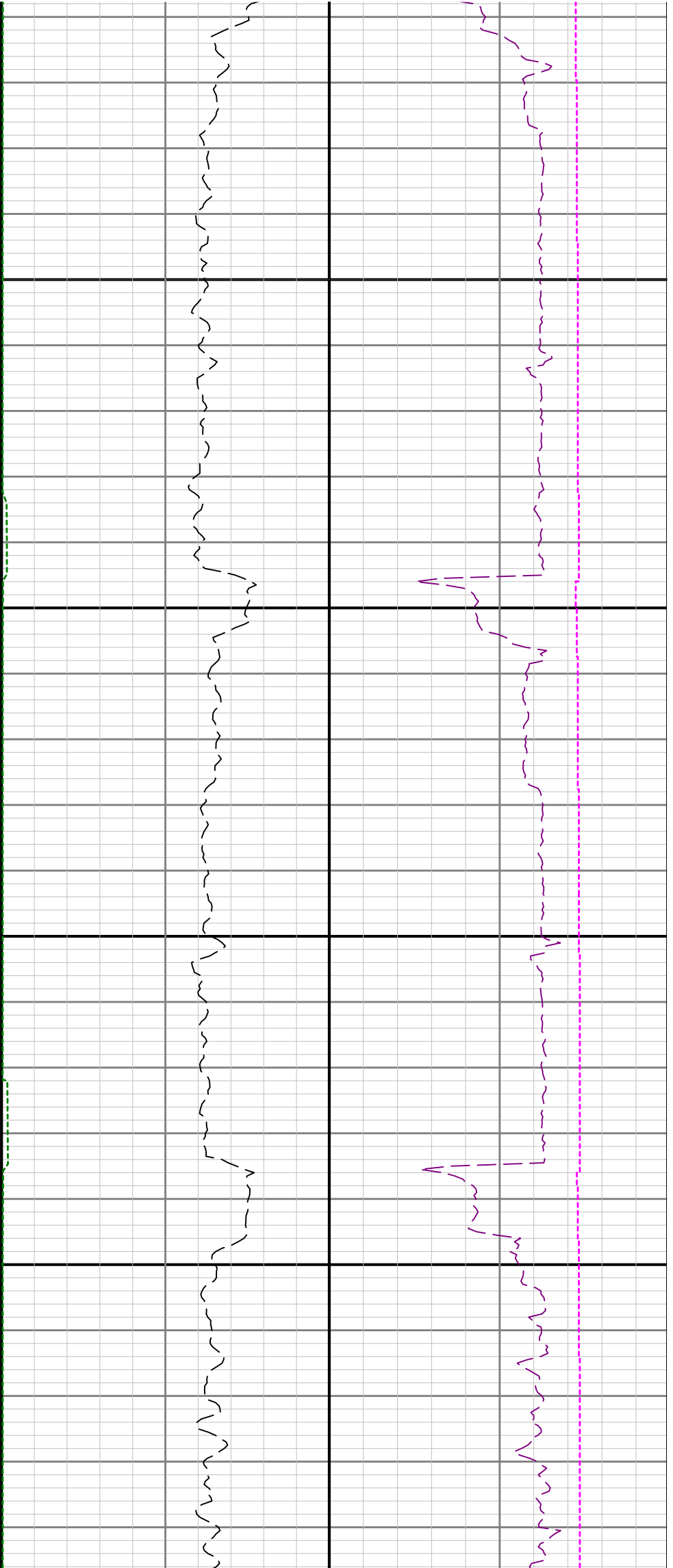
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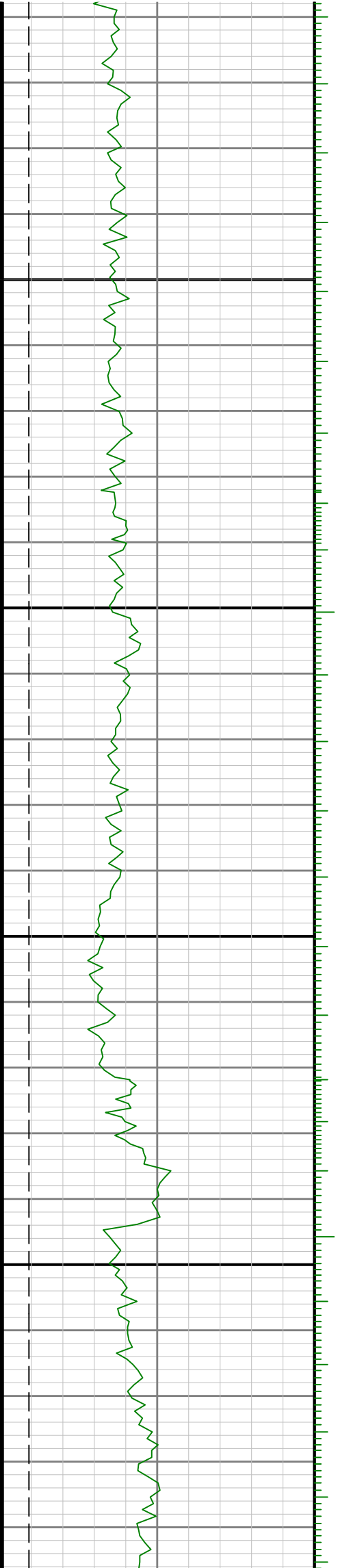


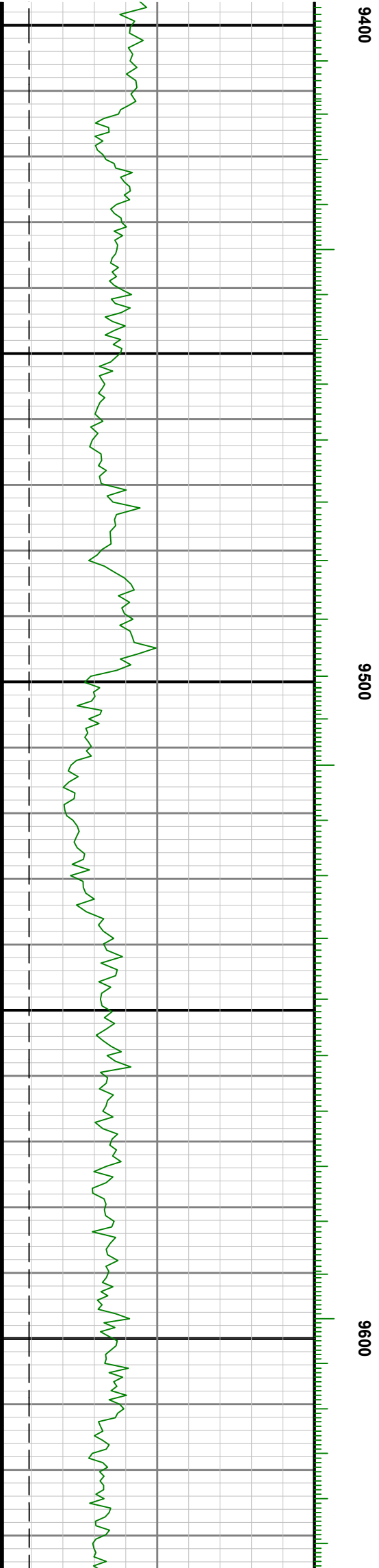
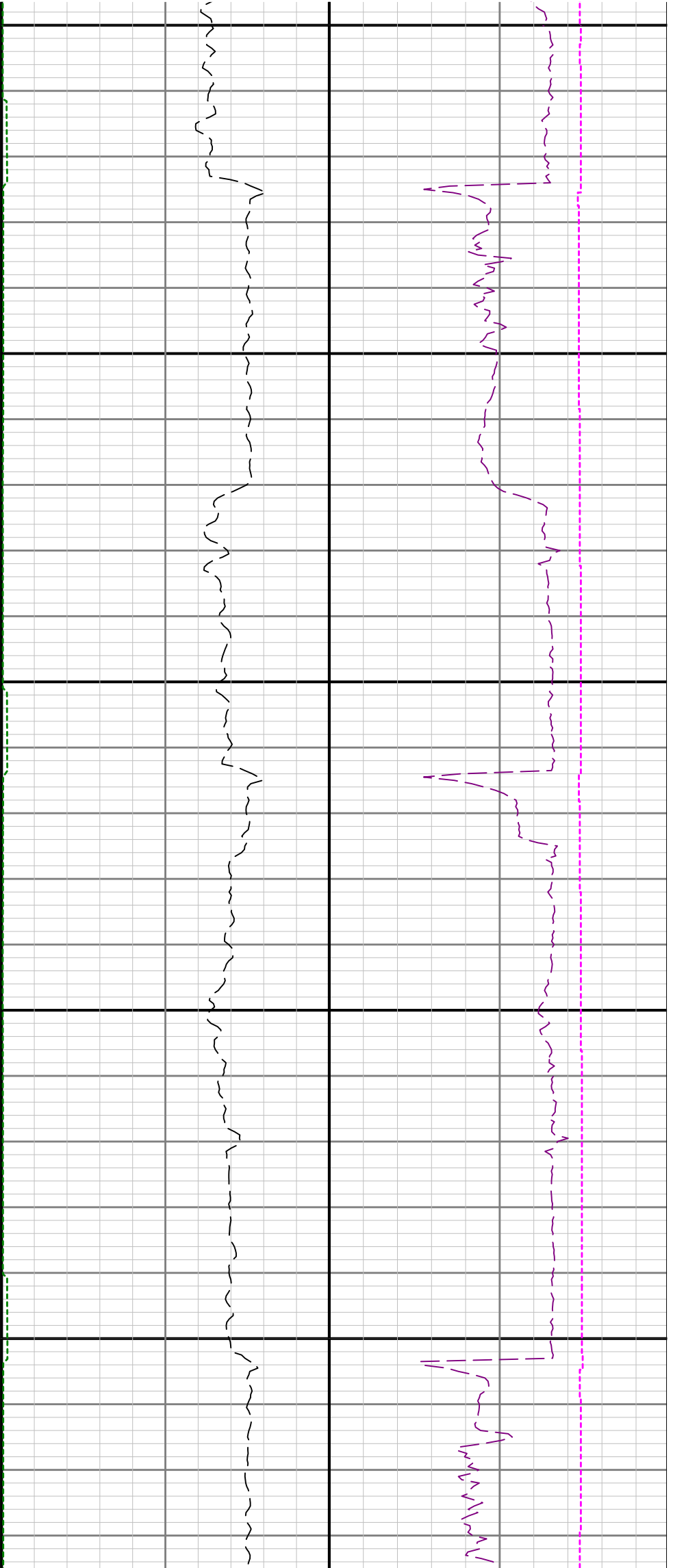




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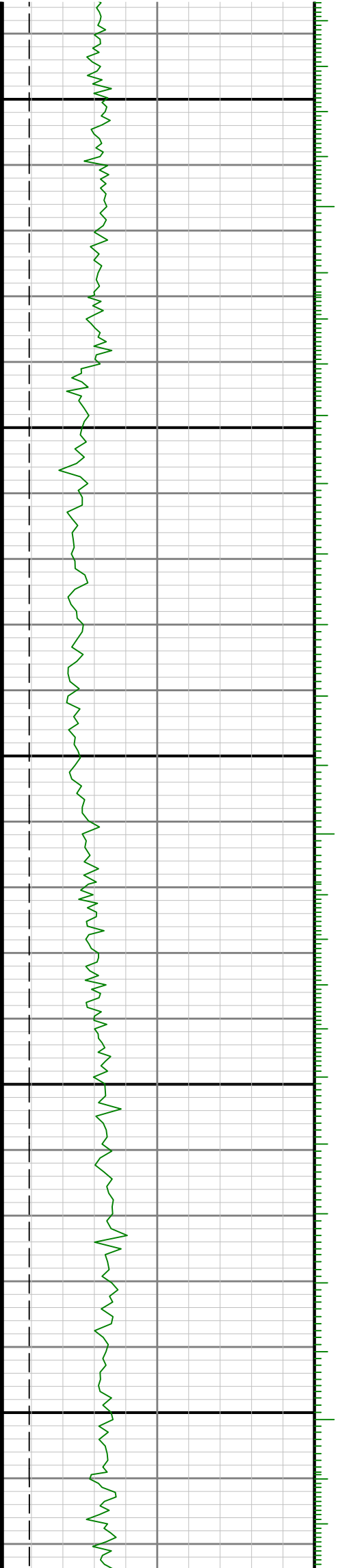


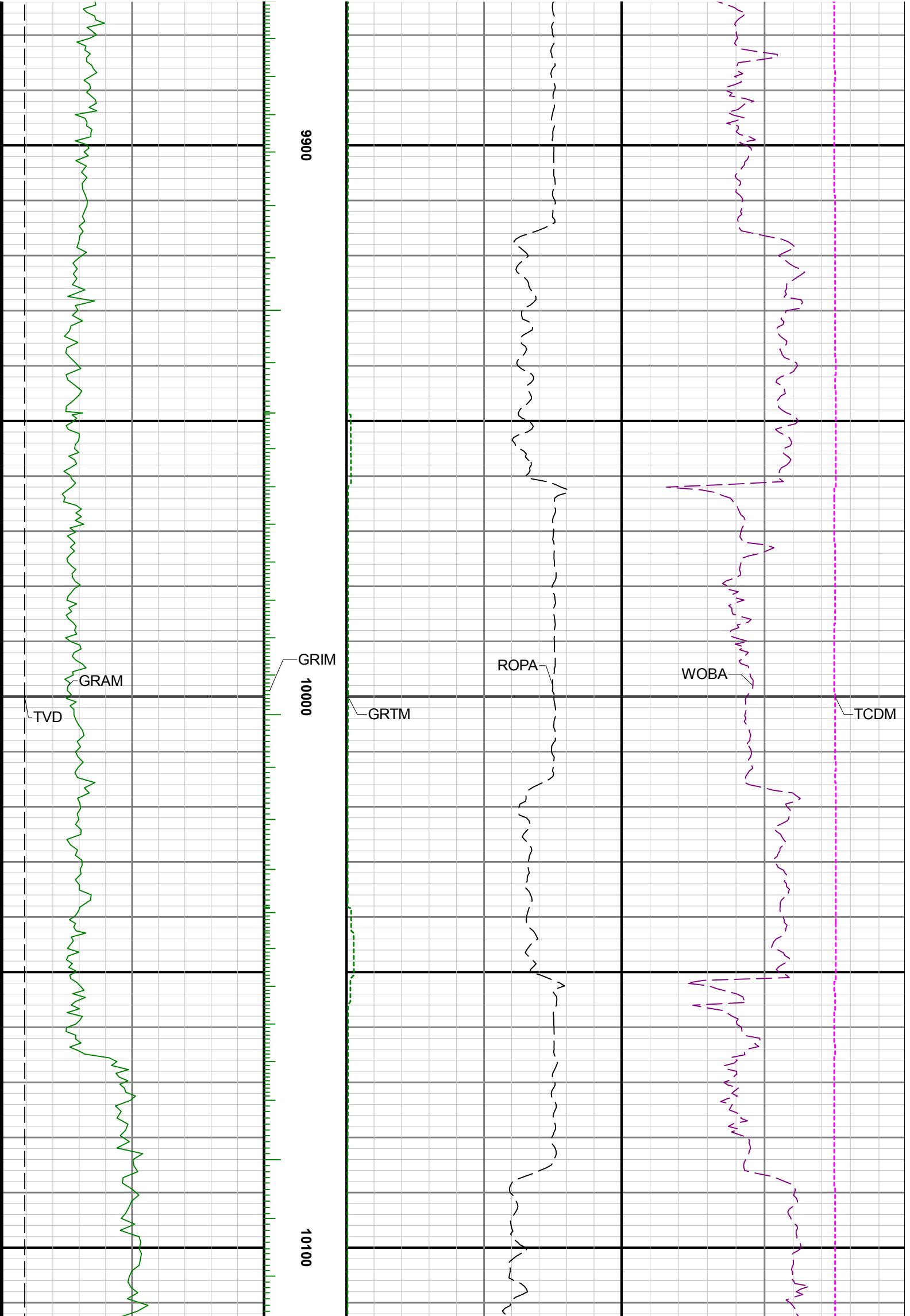


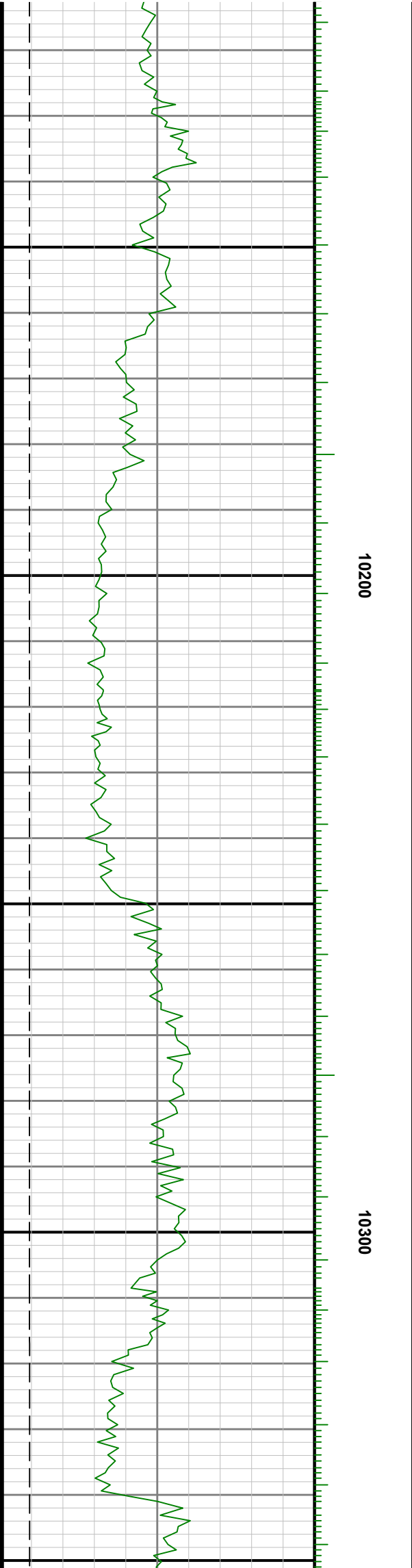
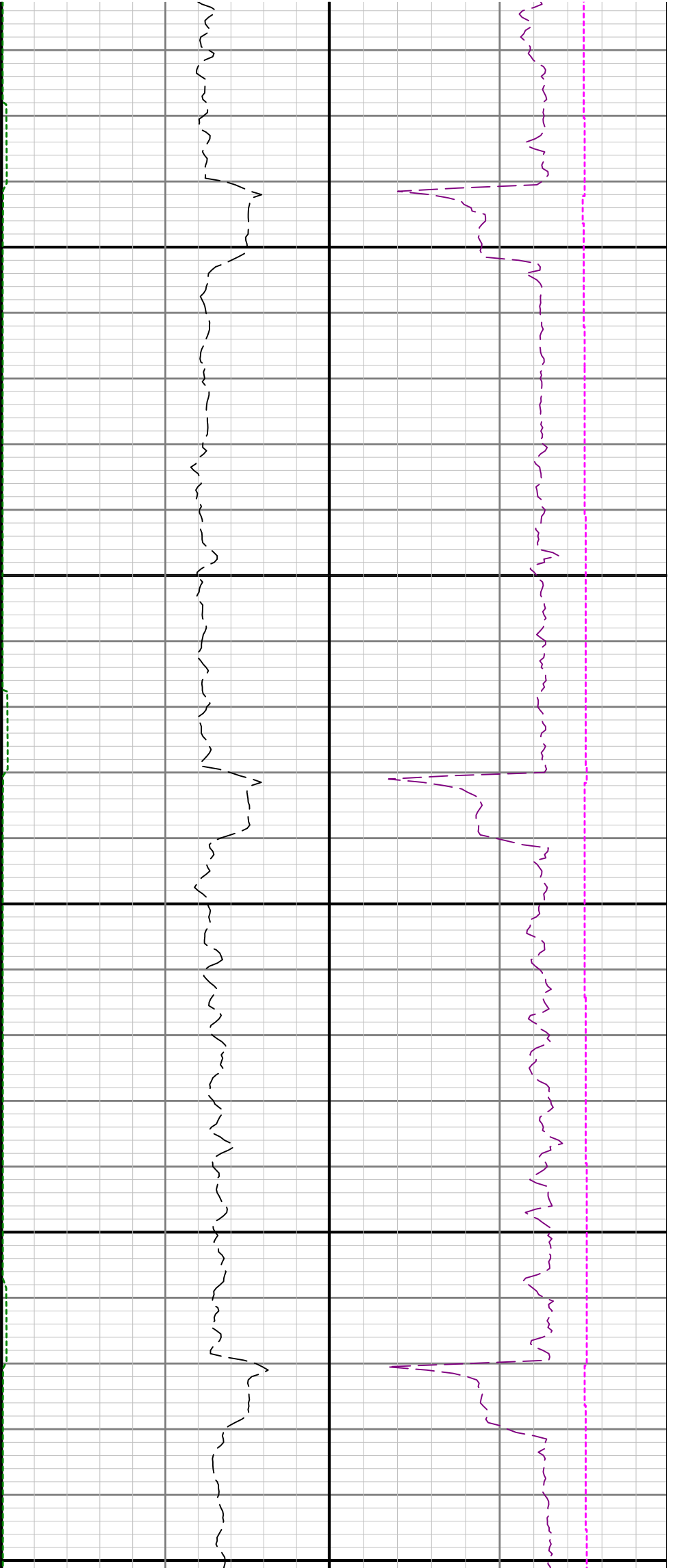


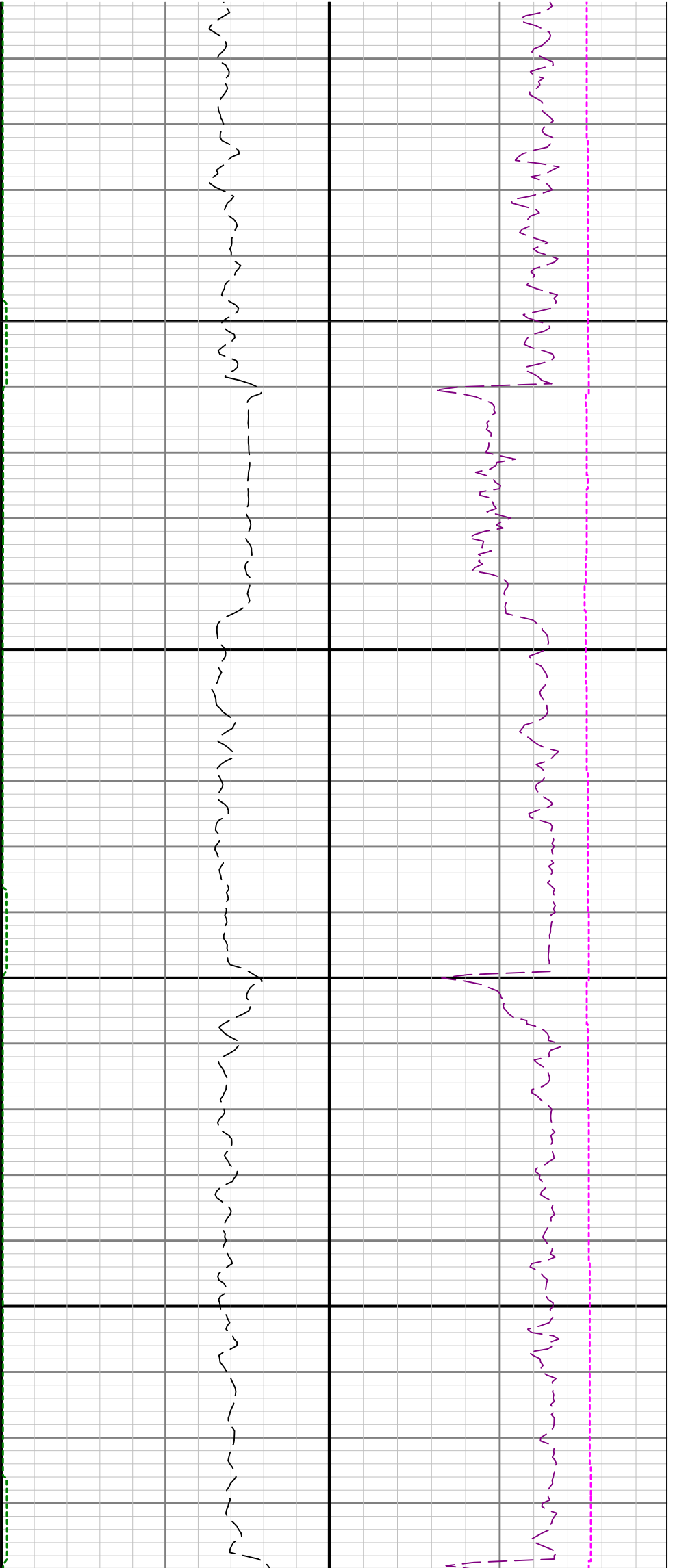
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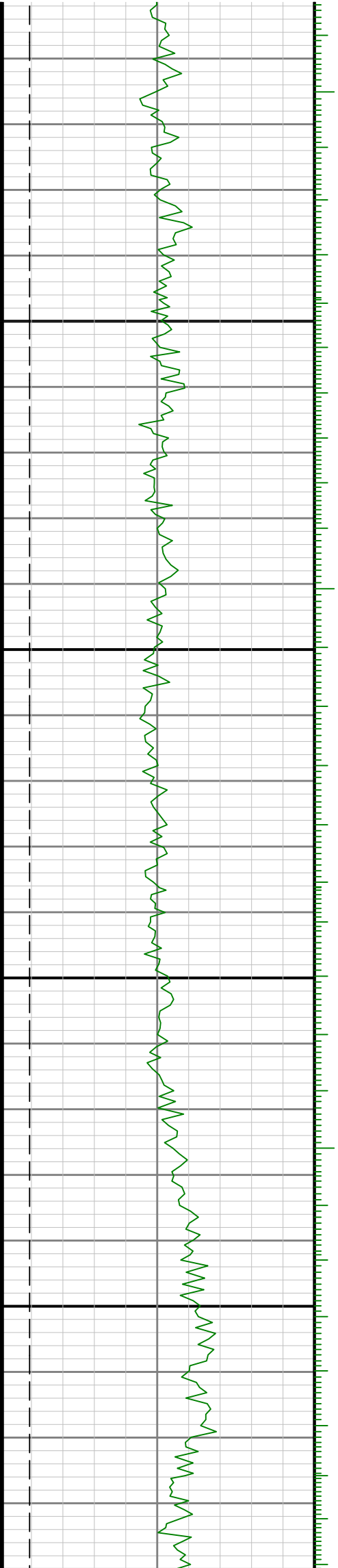


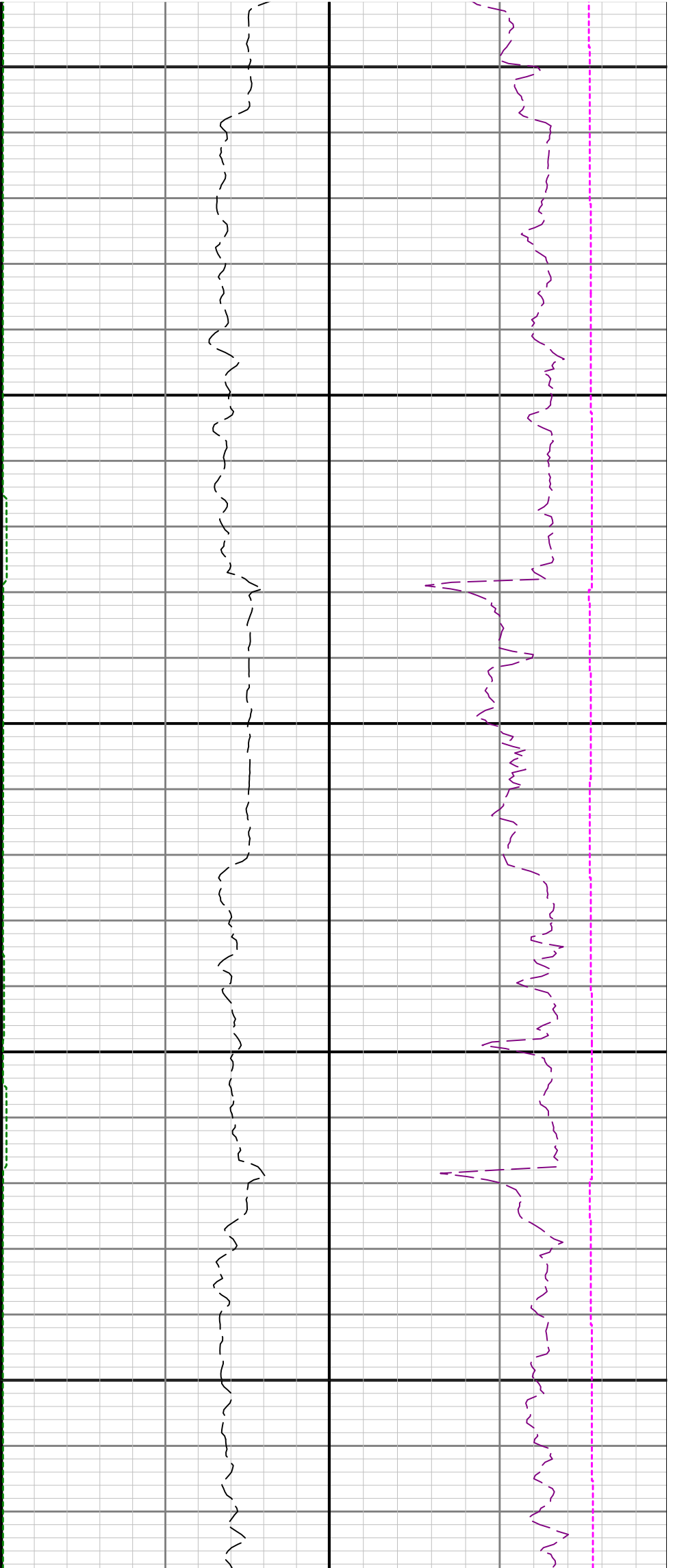




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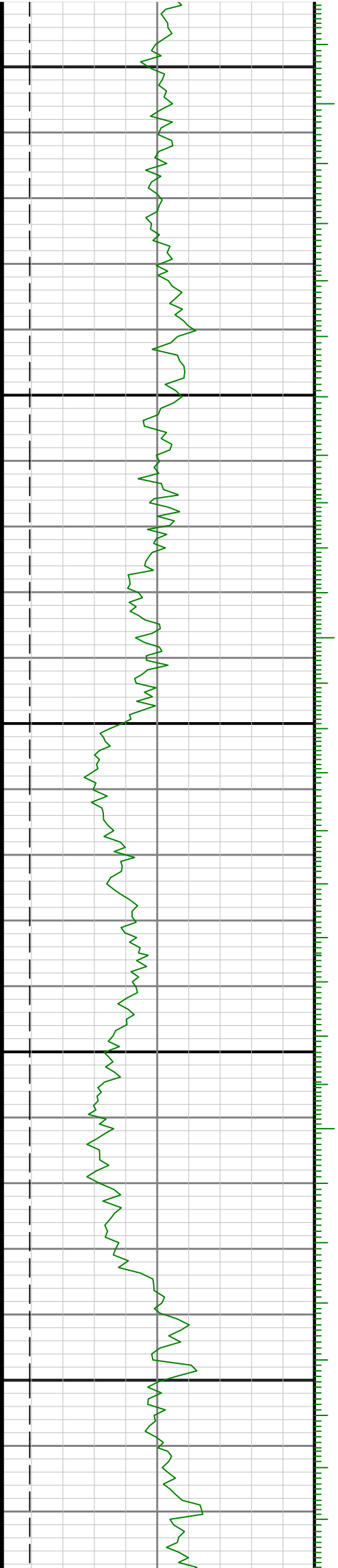


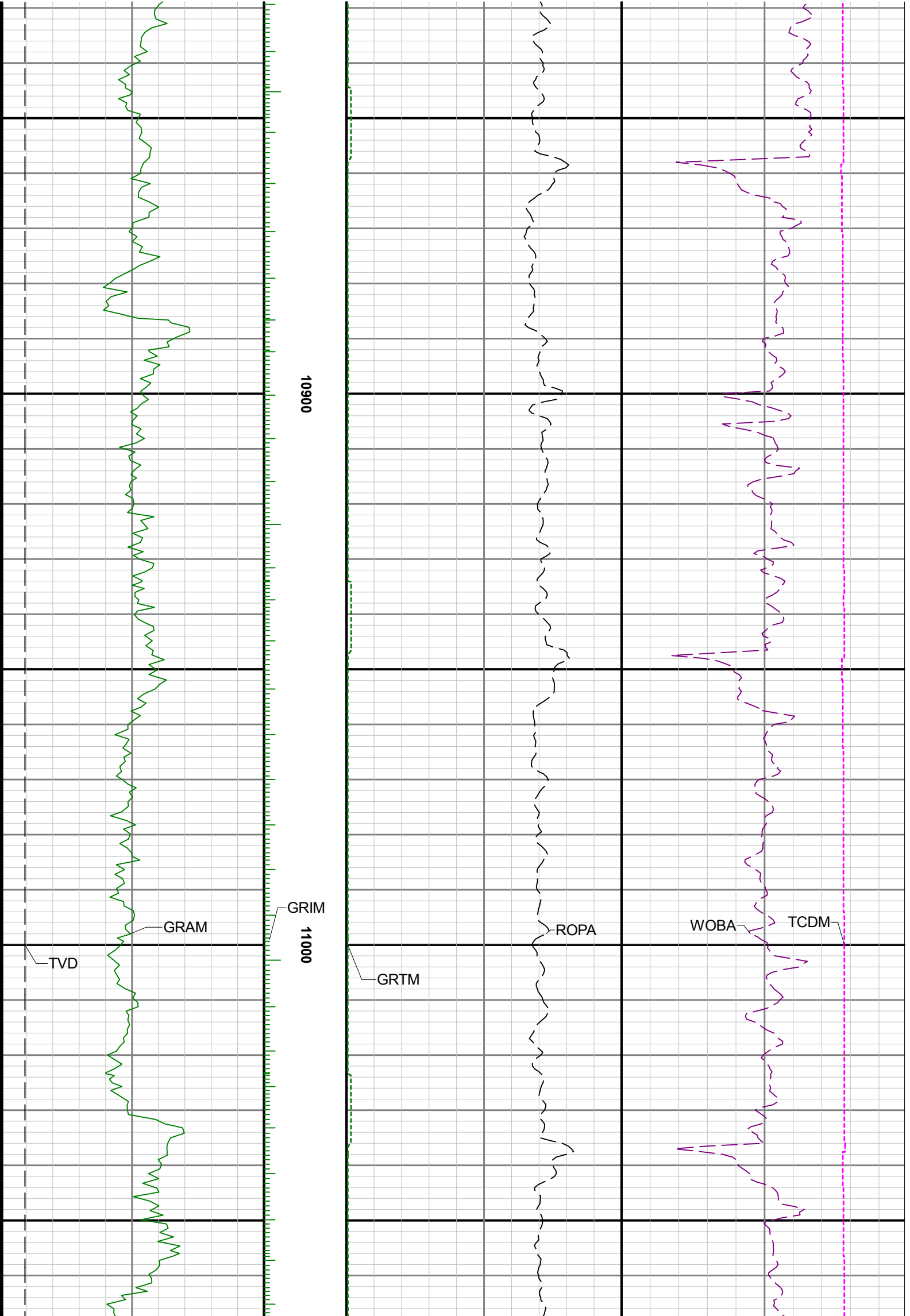


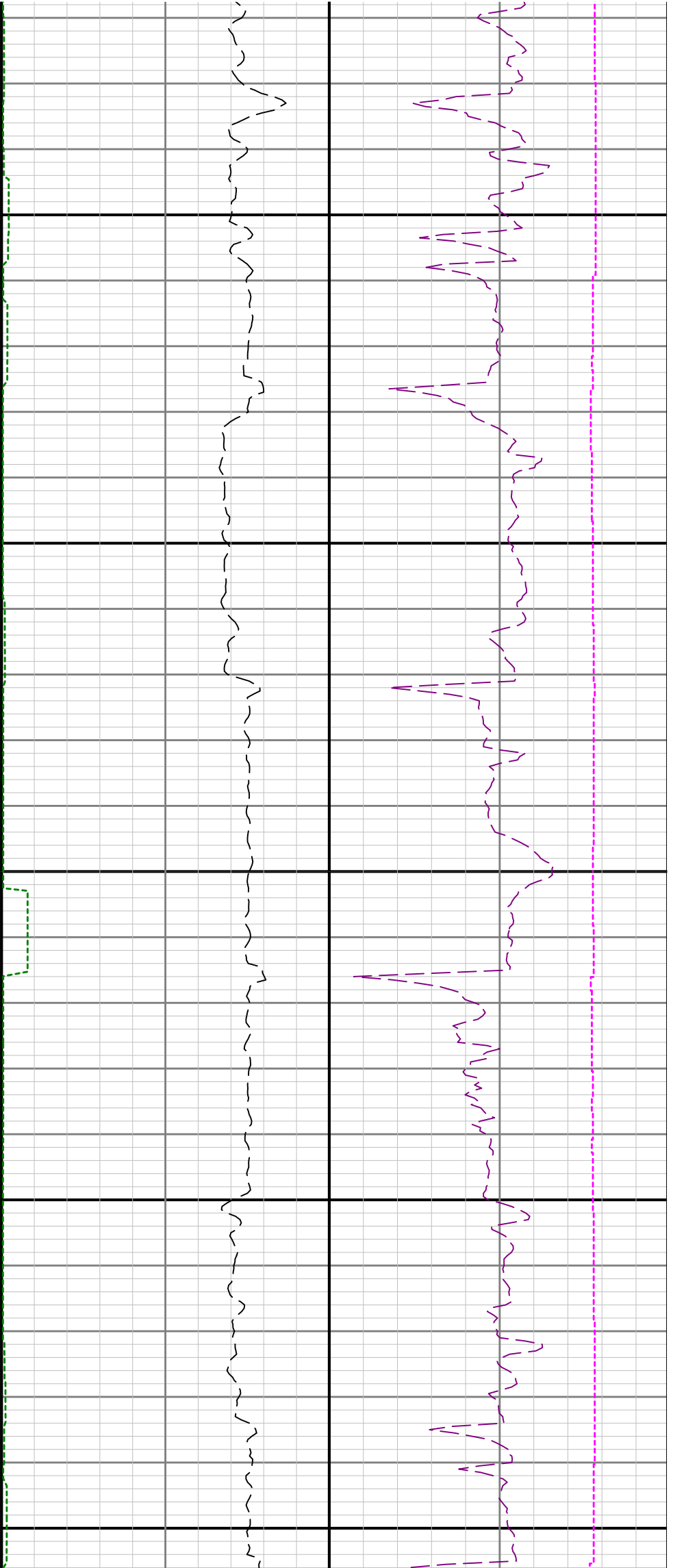
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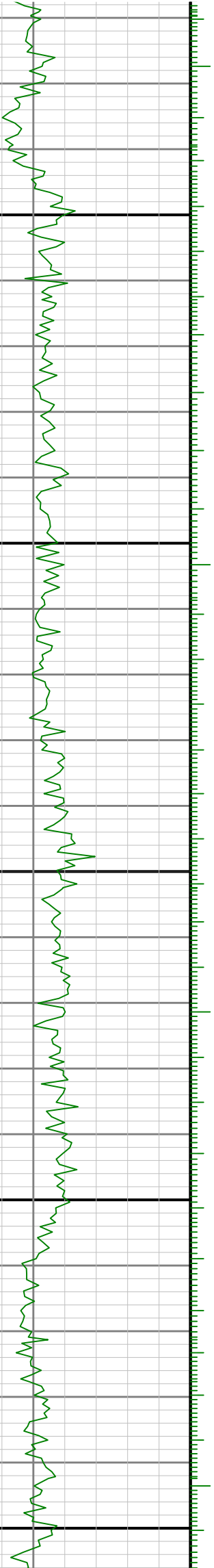


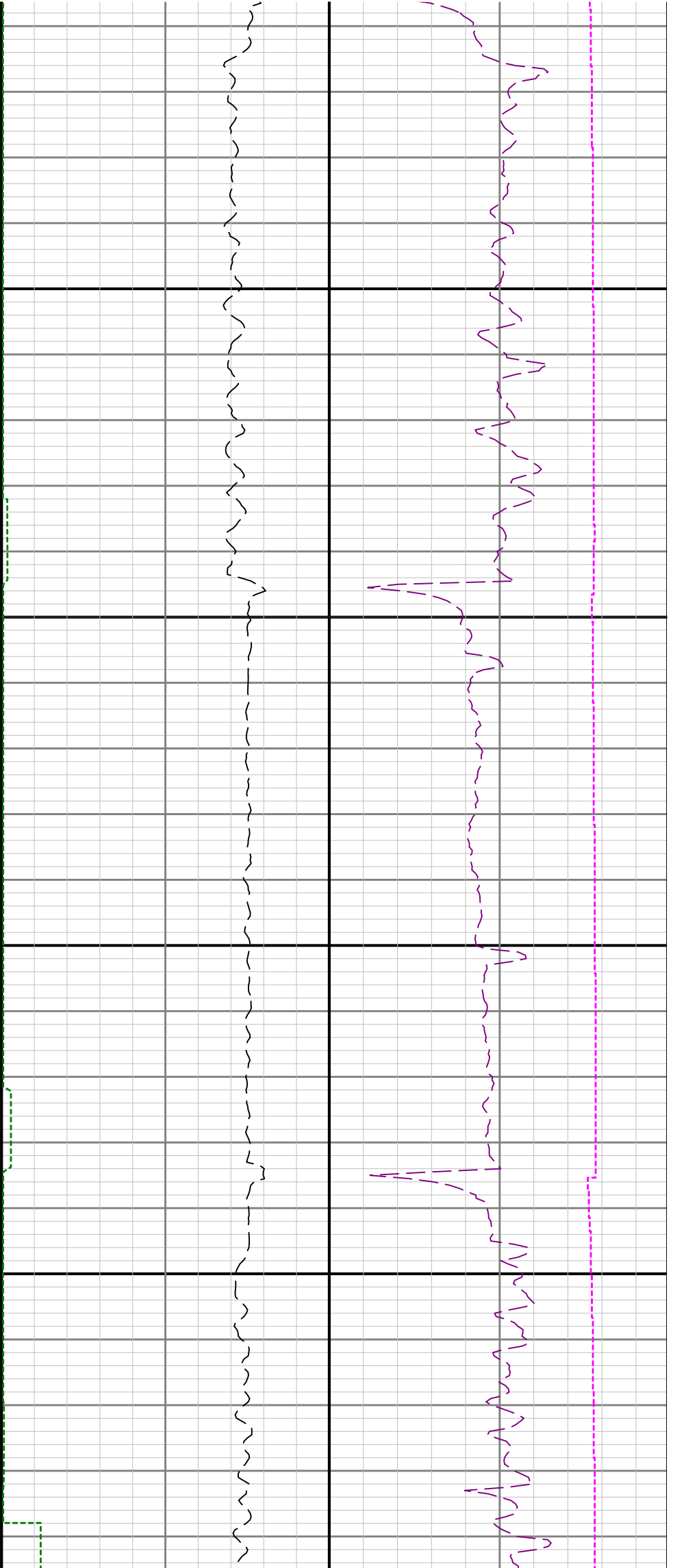


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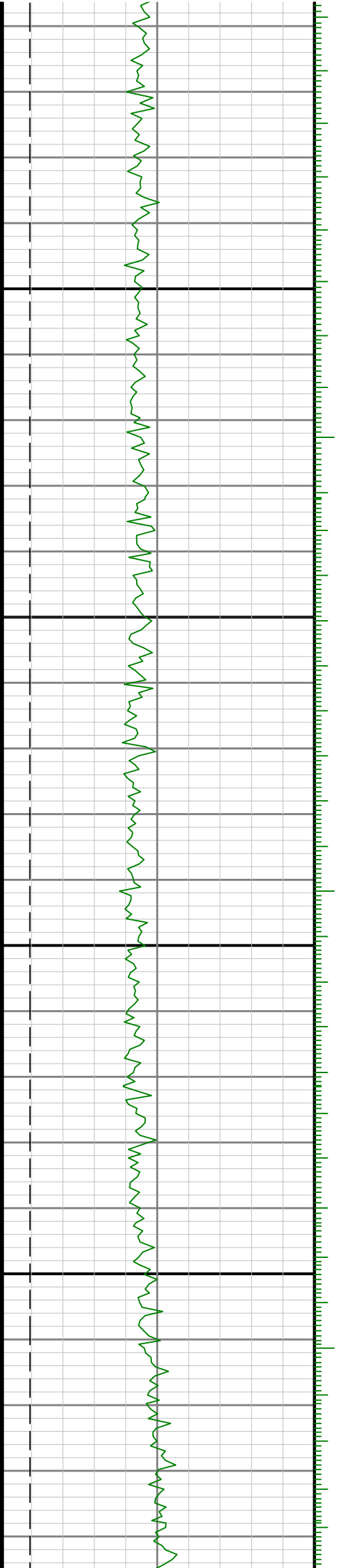
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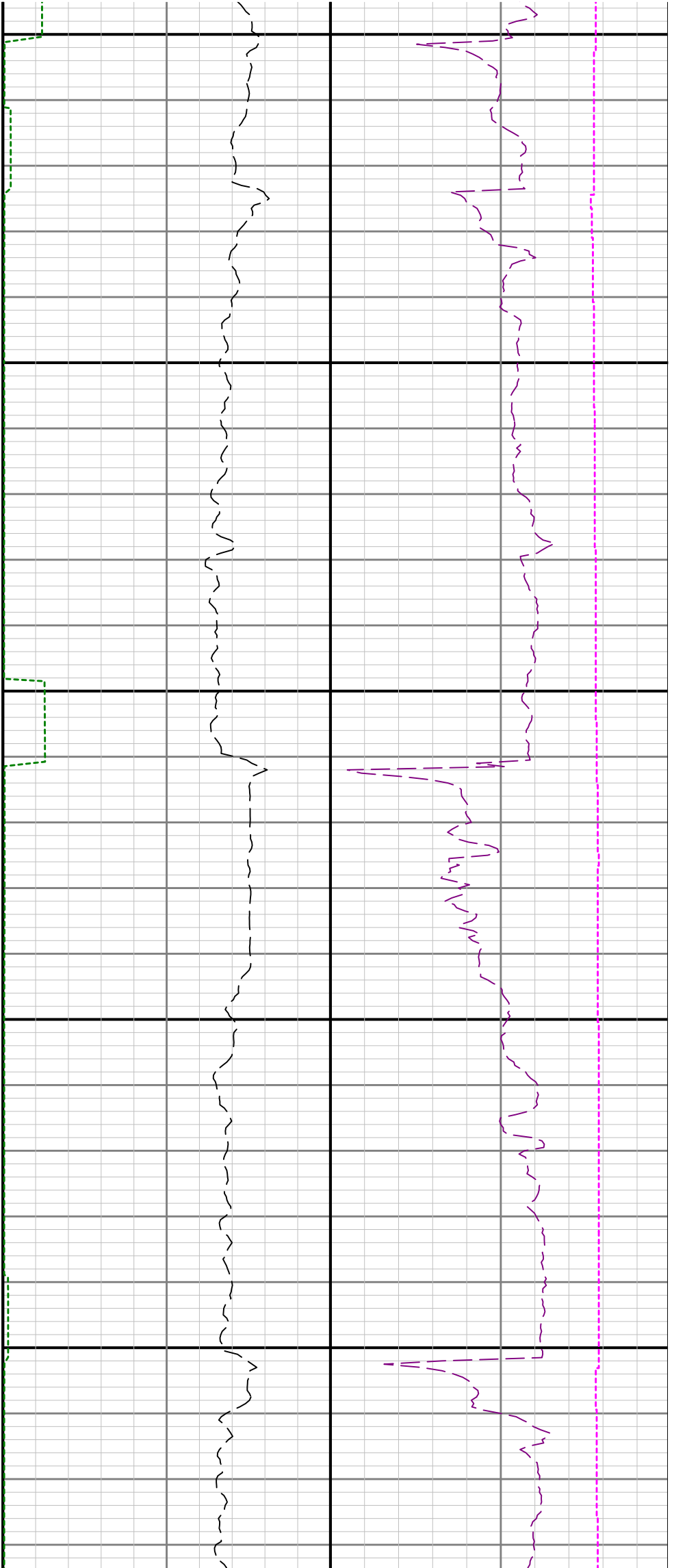




11400

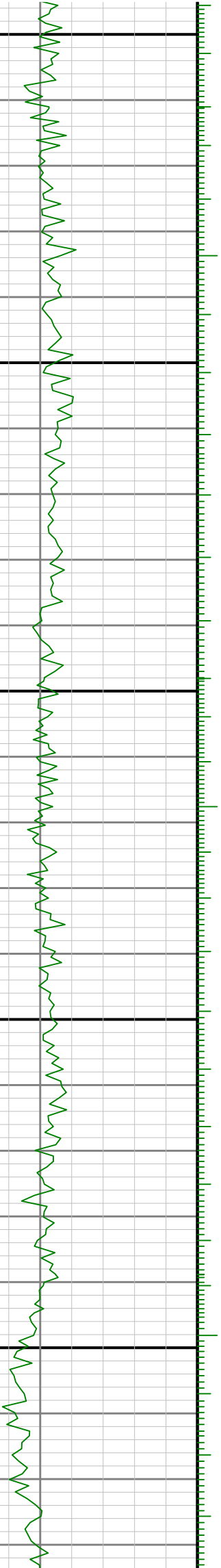
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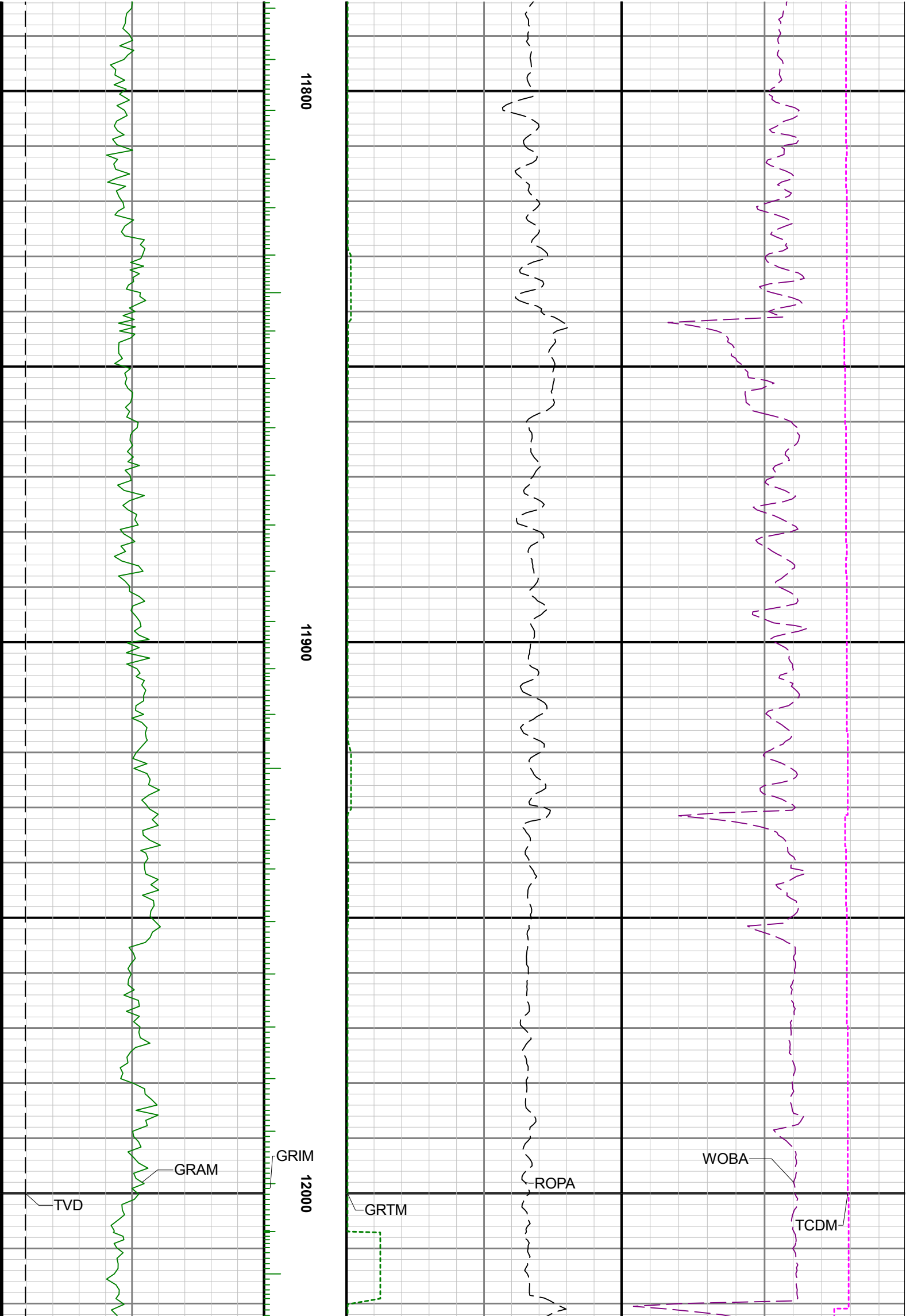


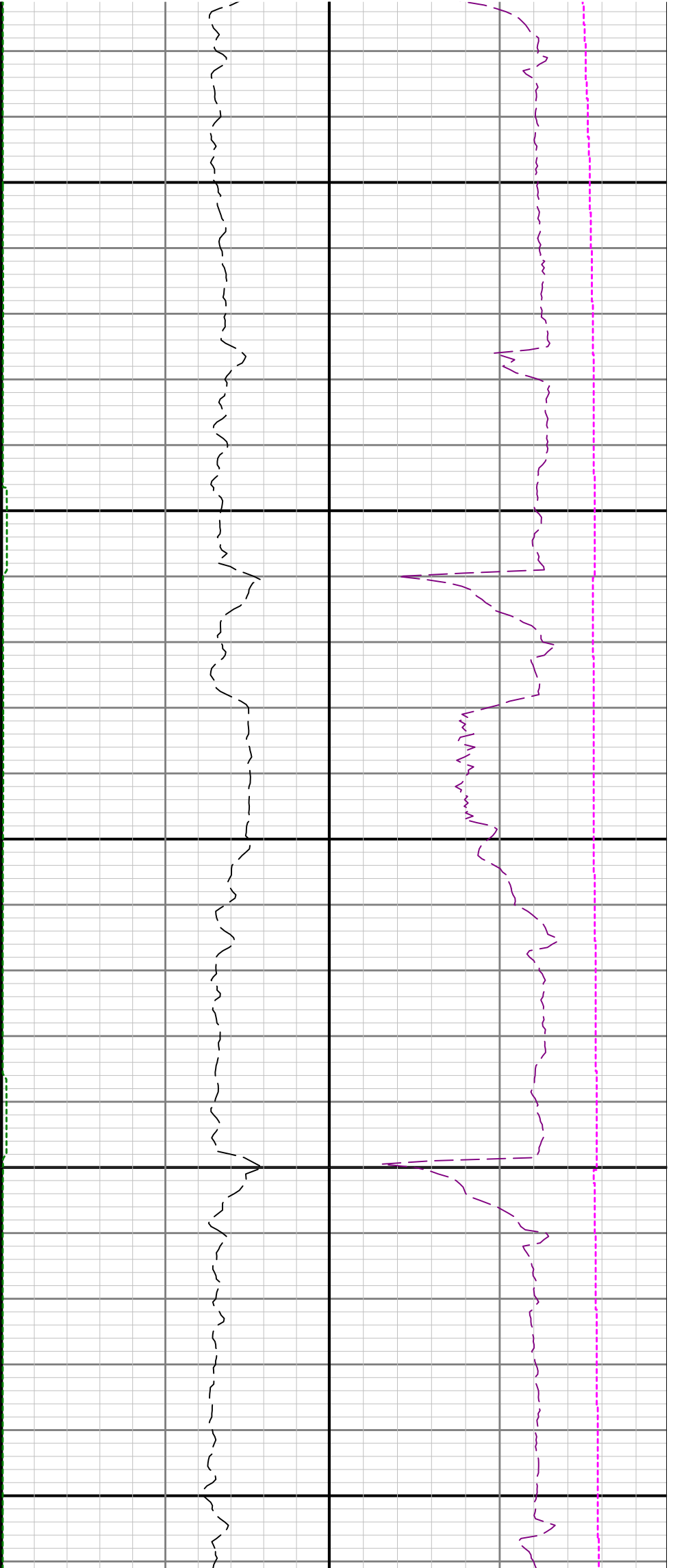


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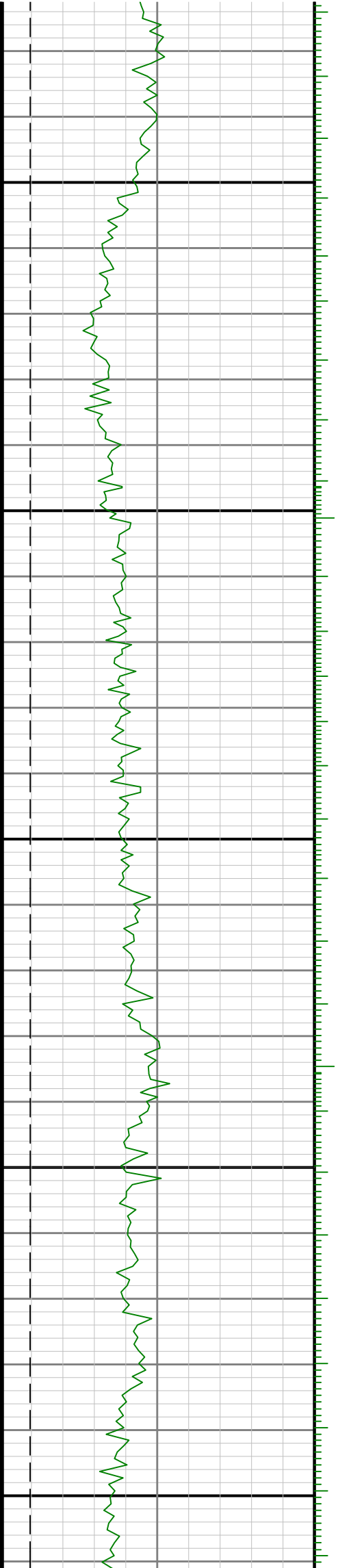


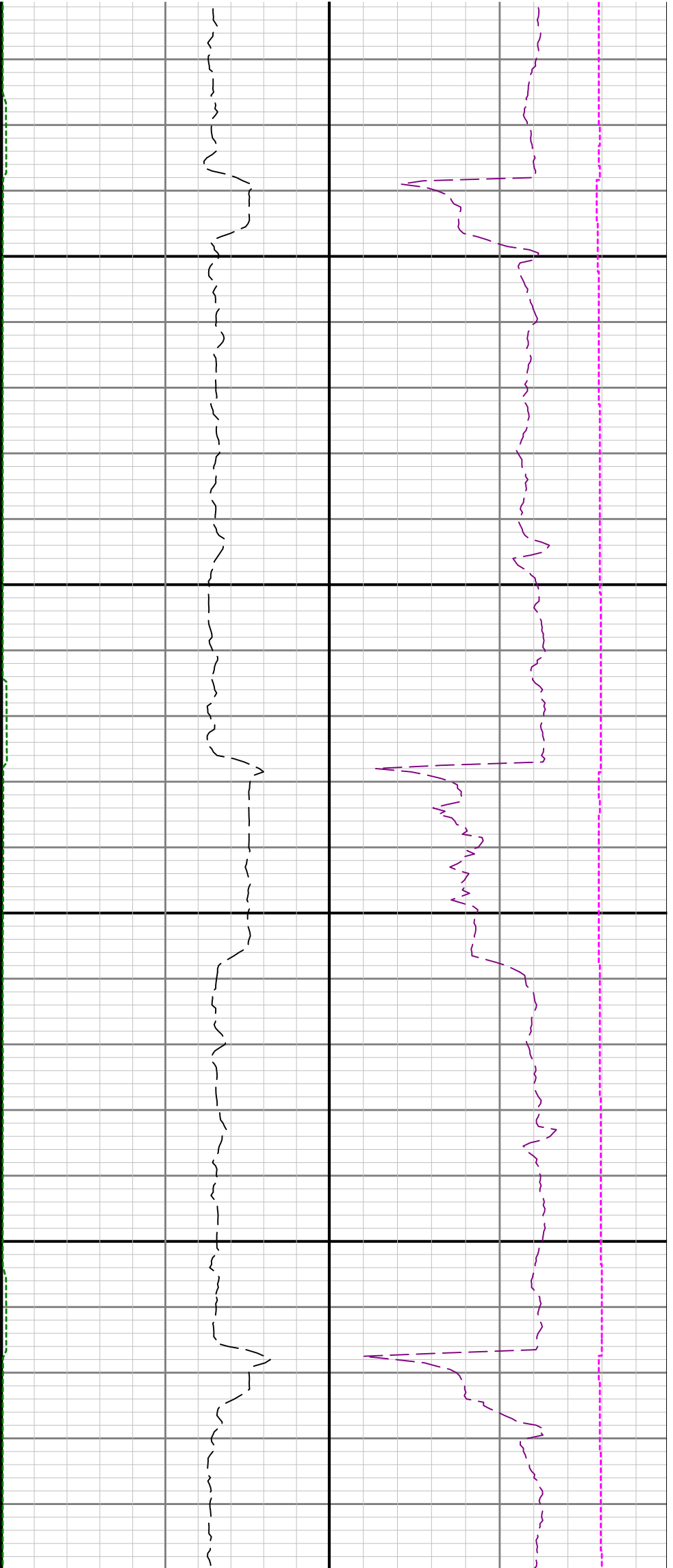




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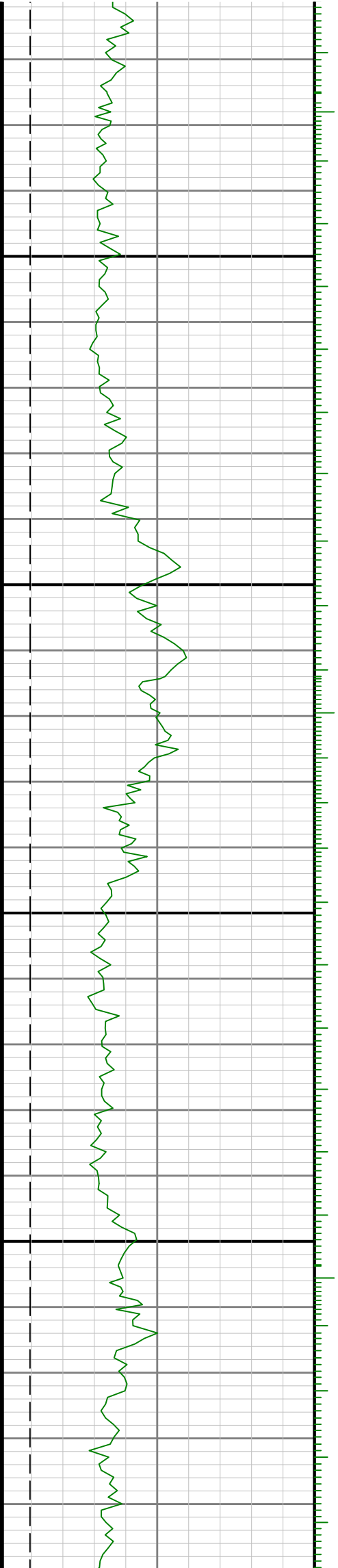


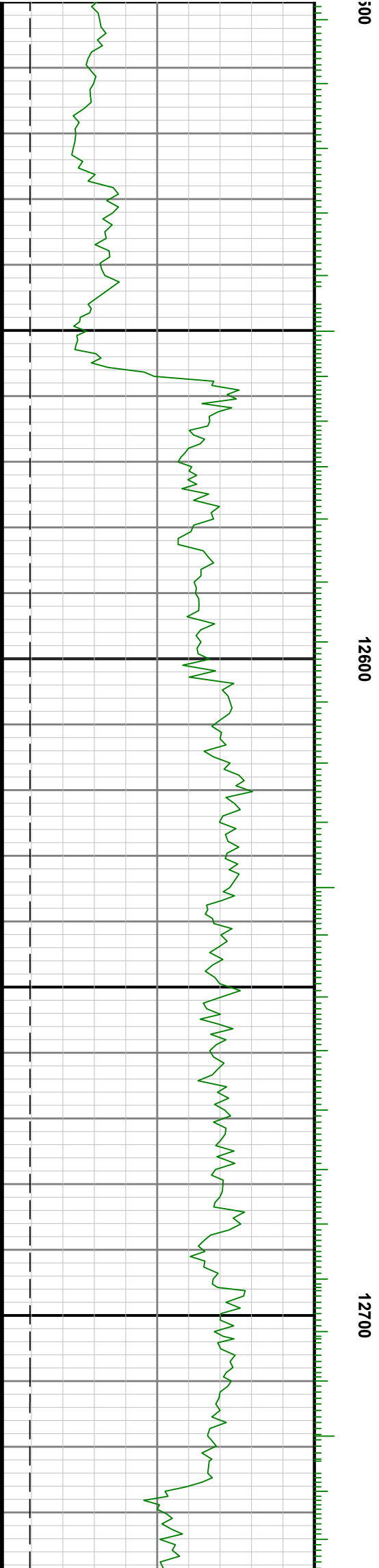
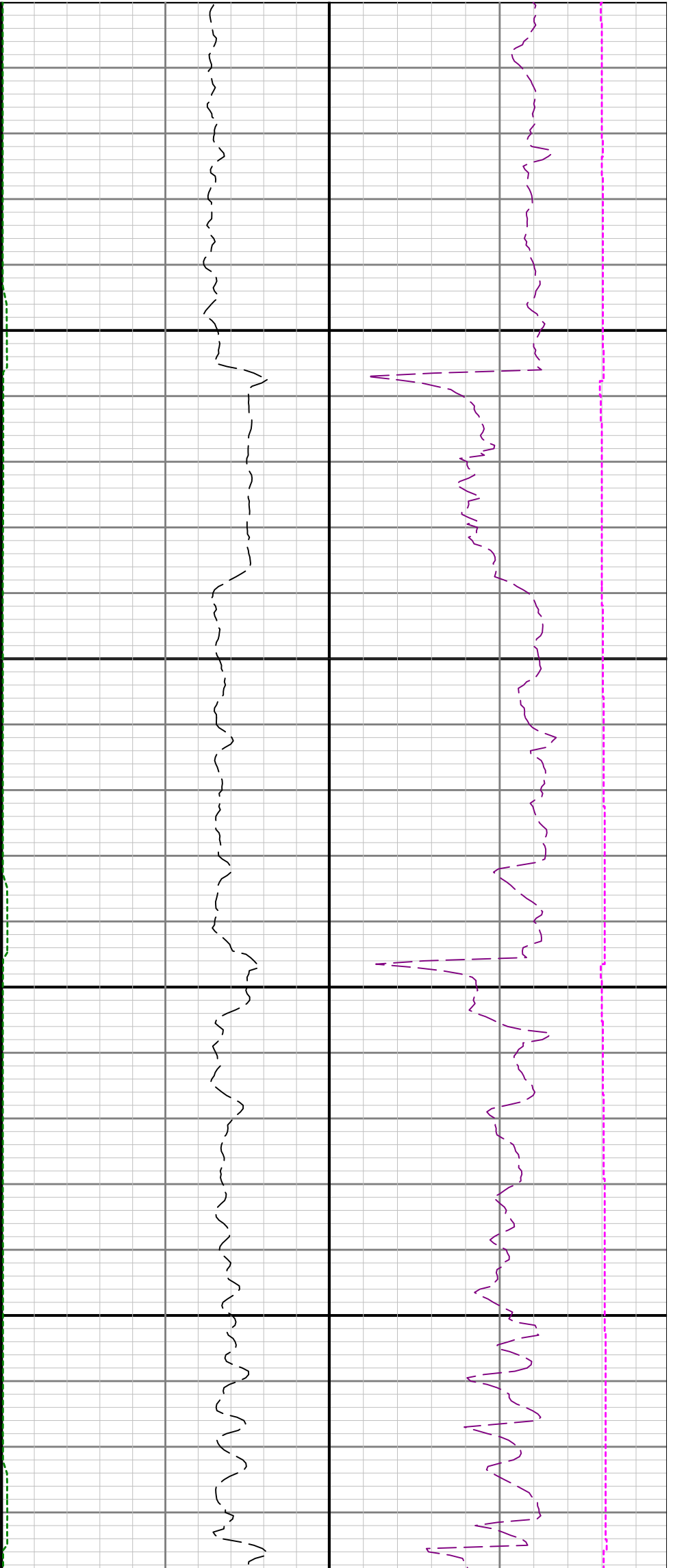


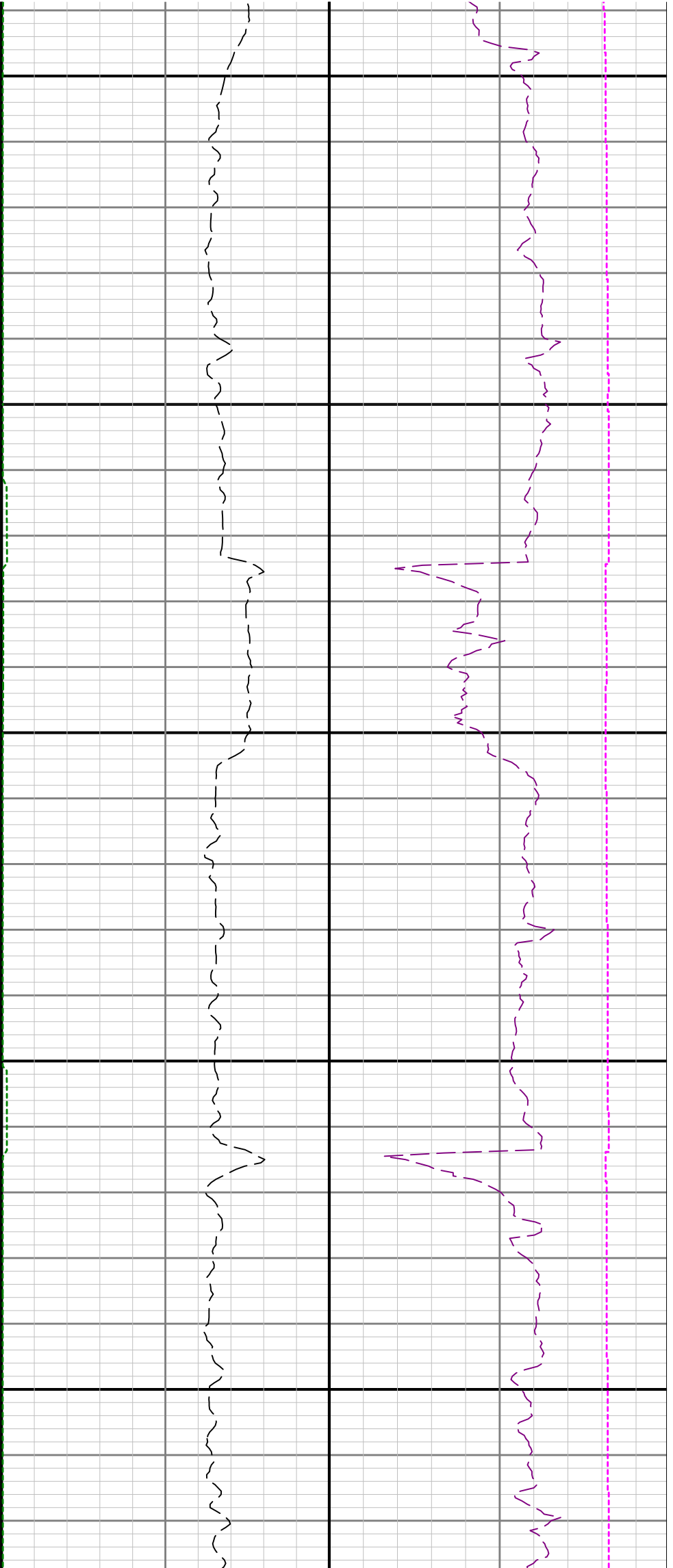
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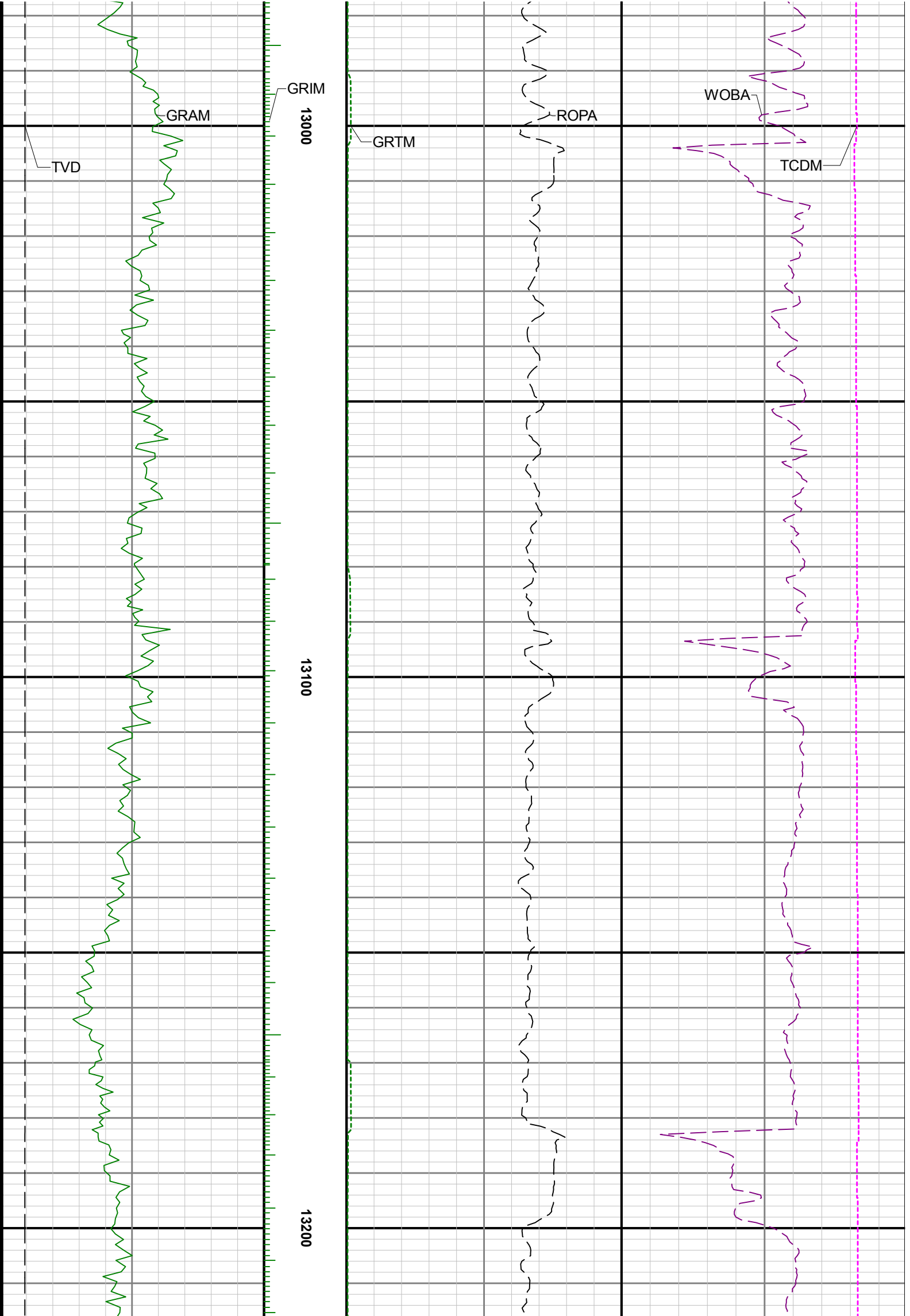


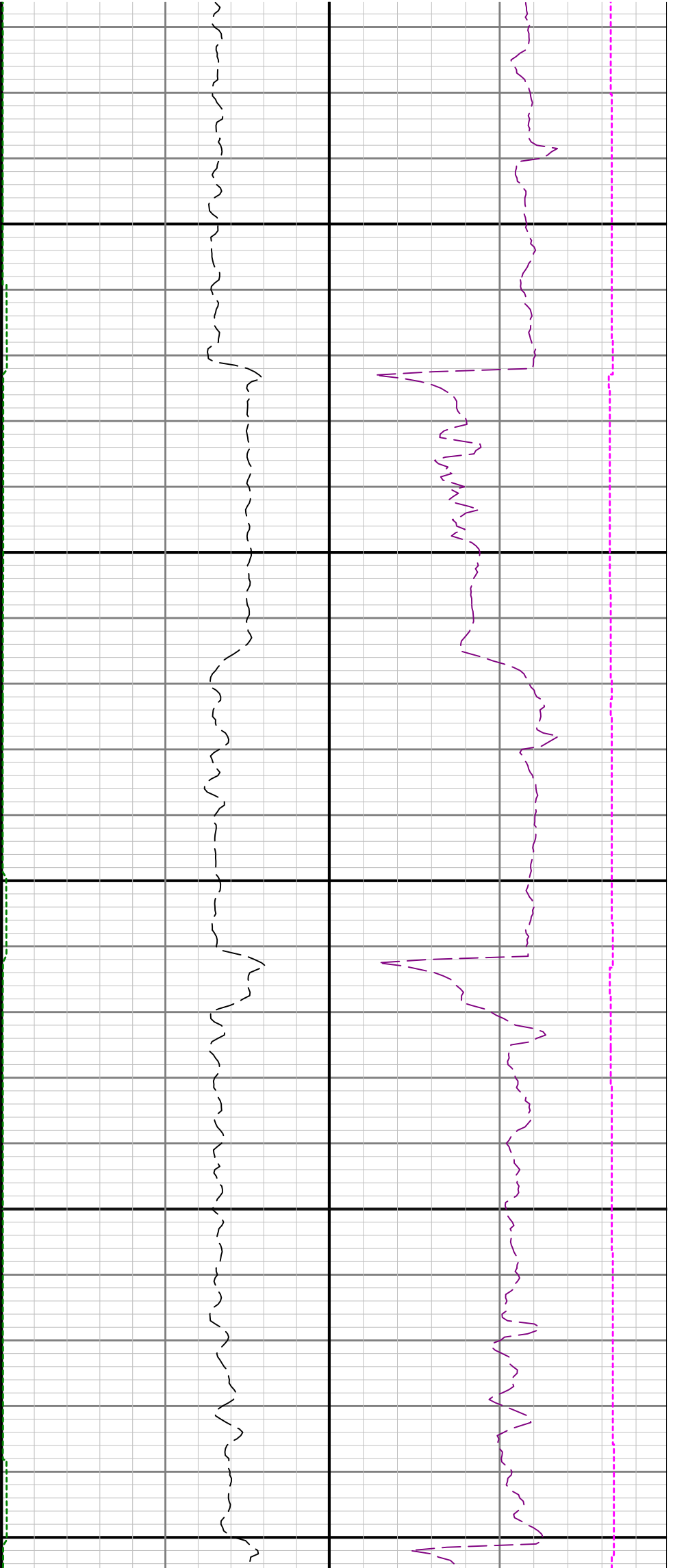




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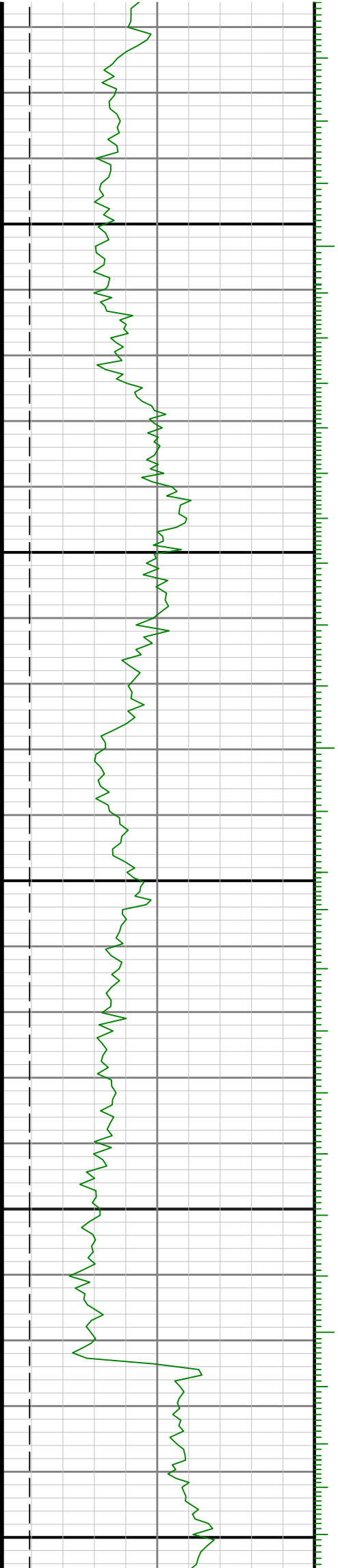
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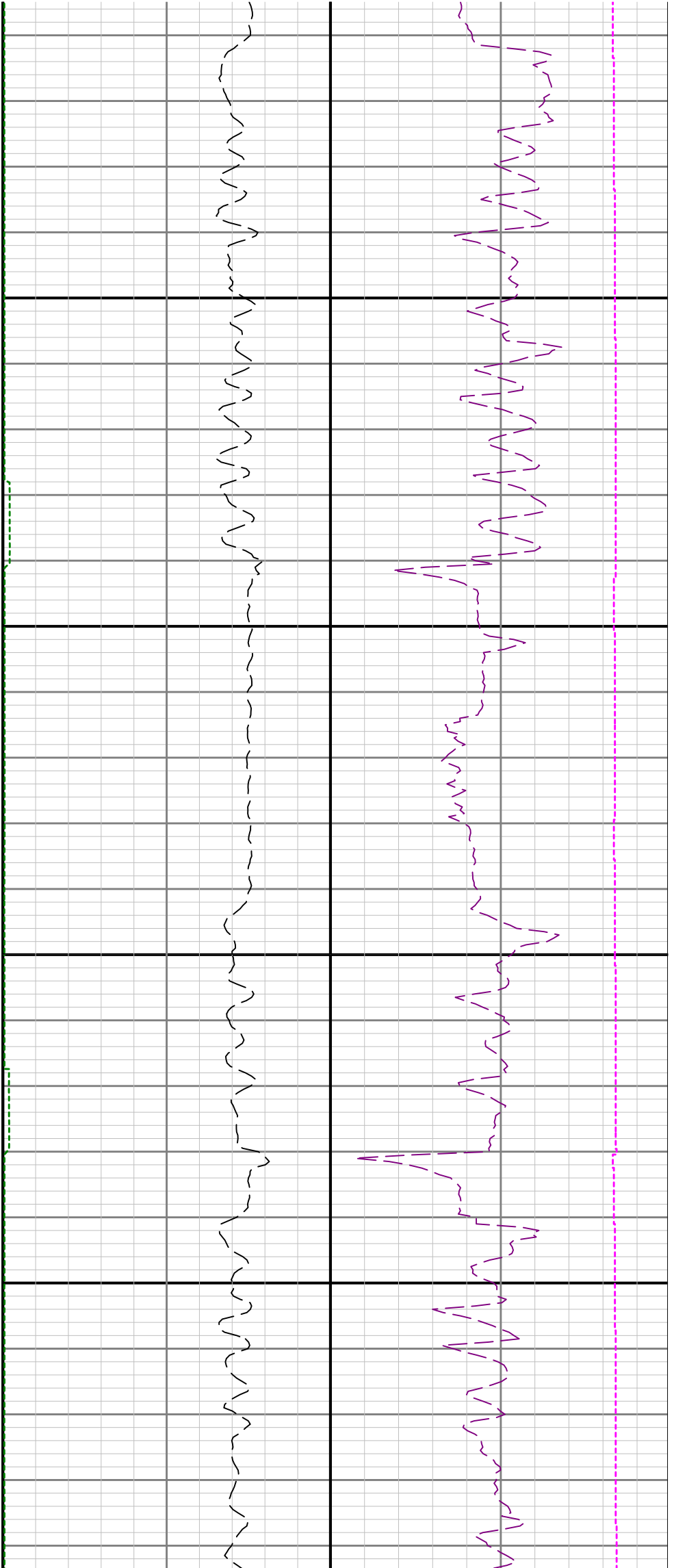




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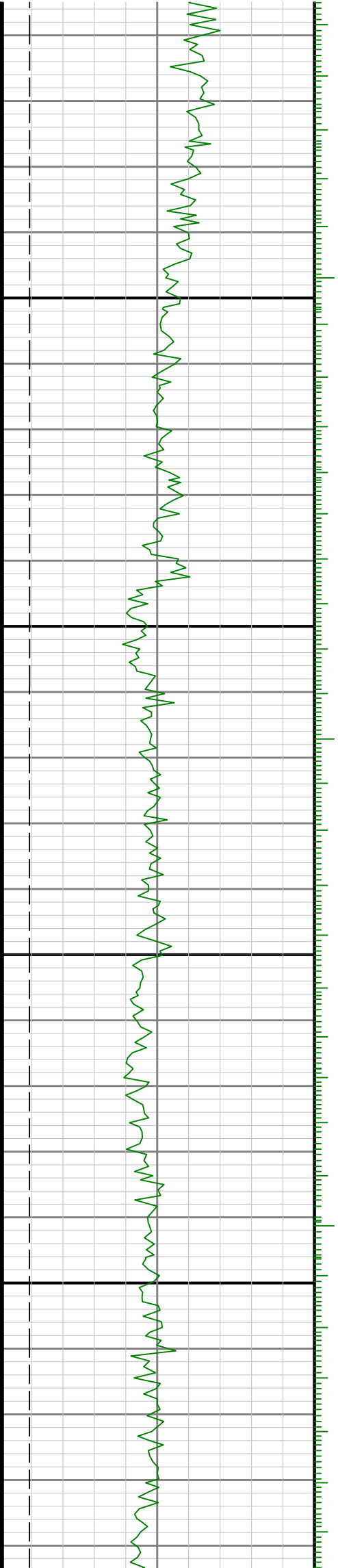
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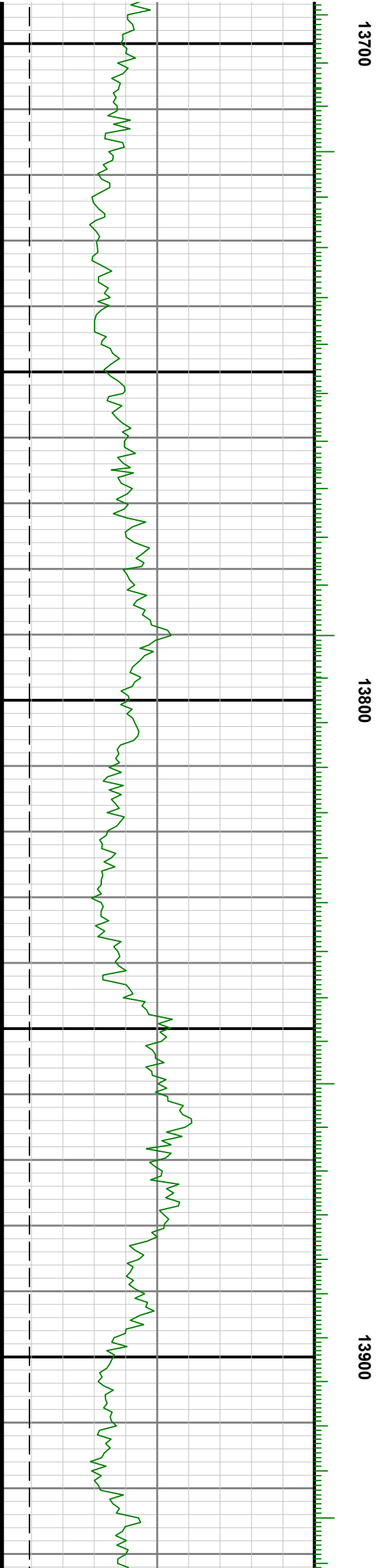
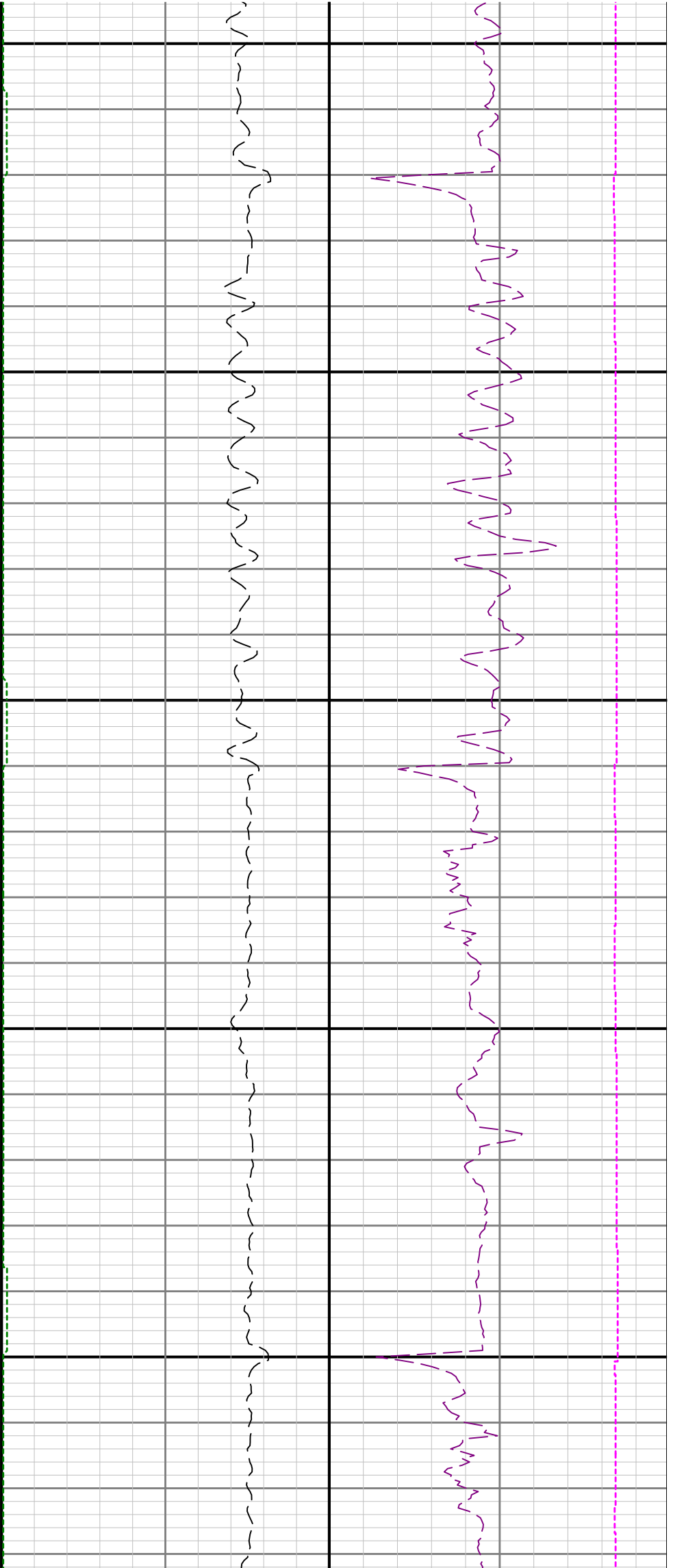


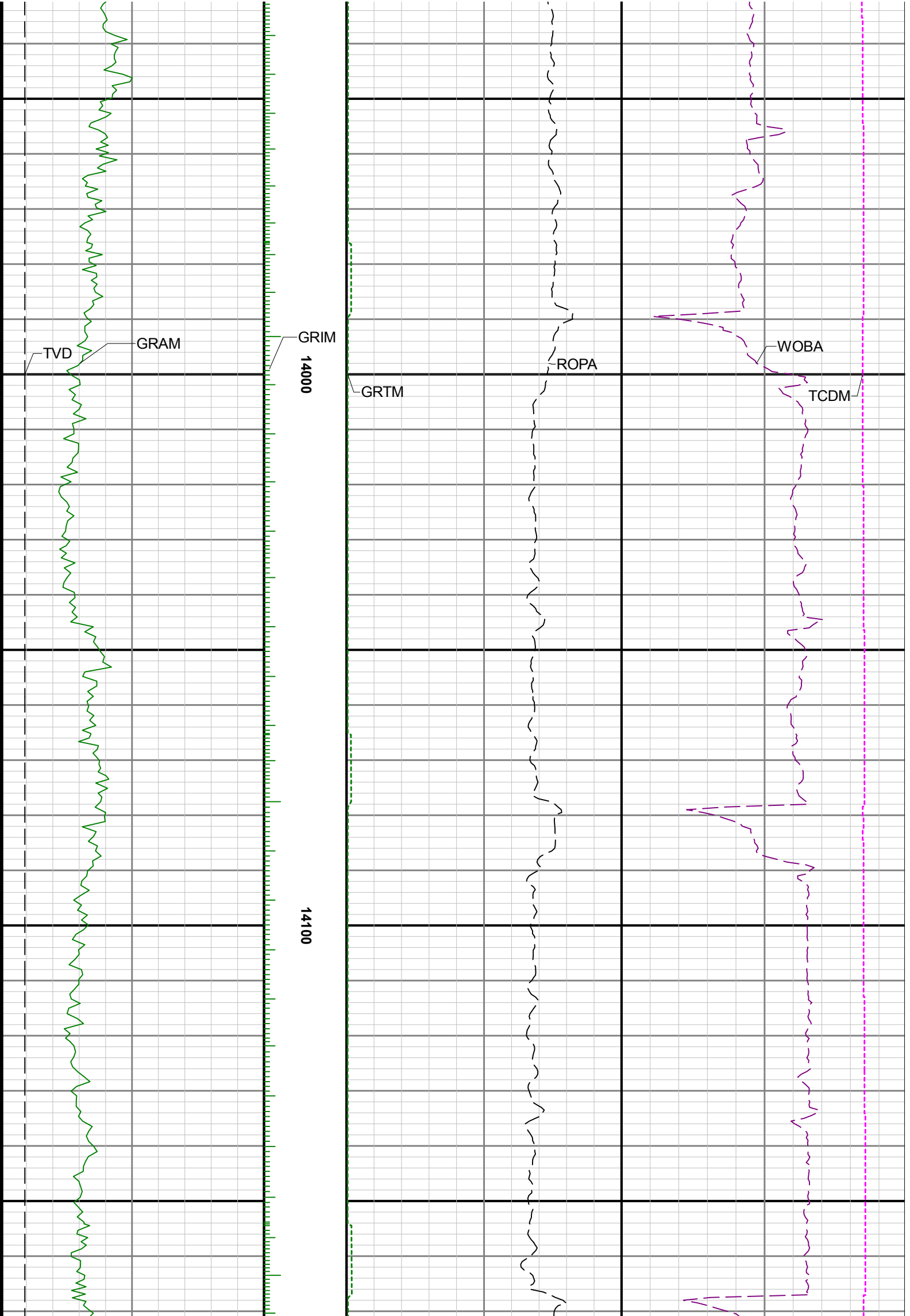


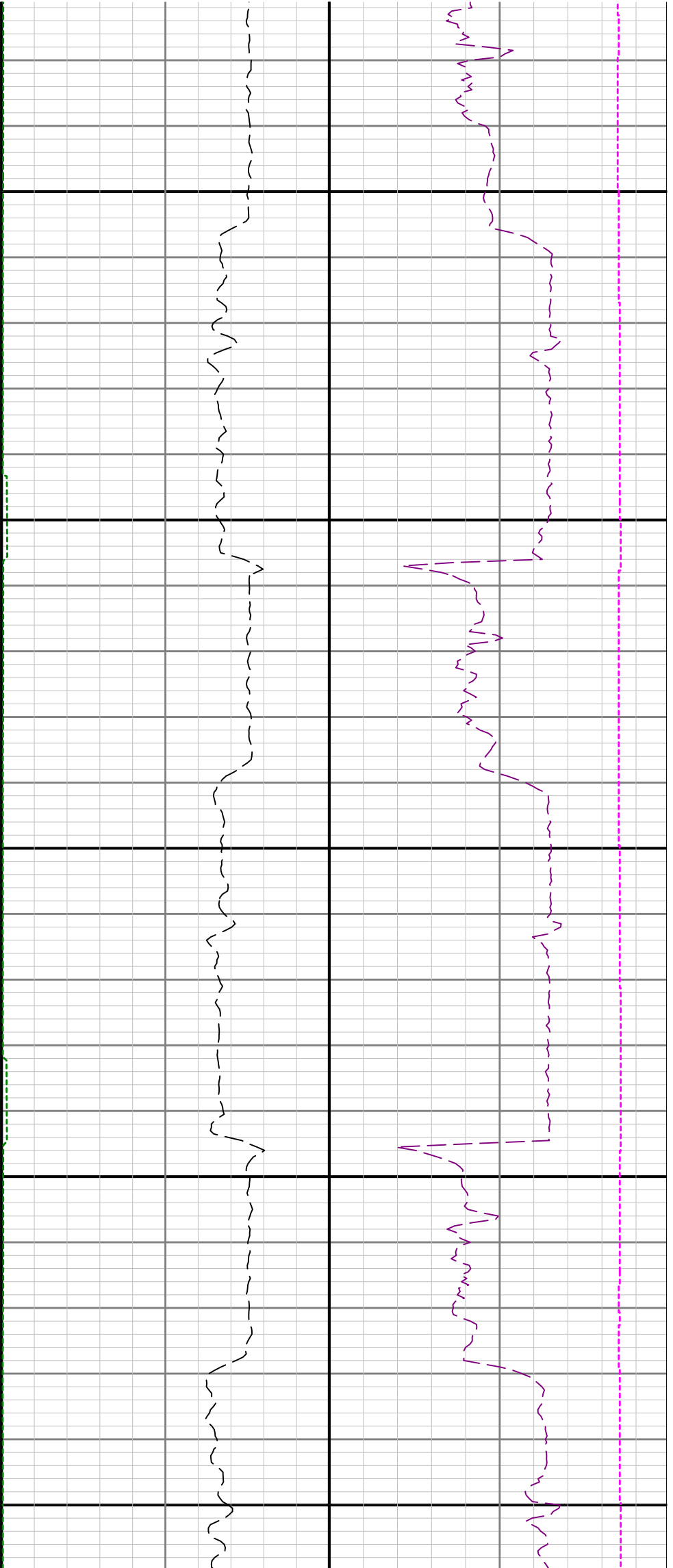
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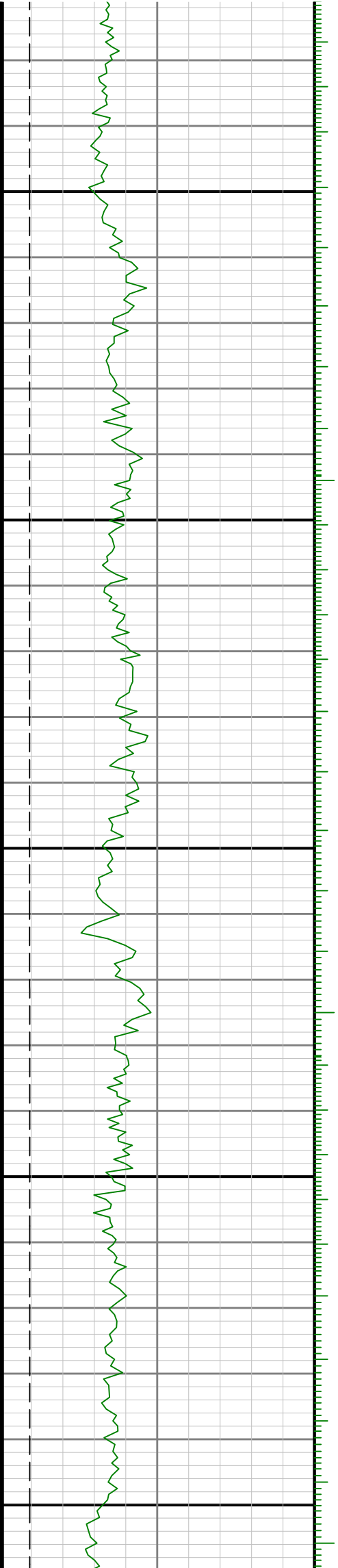


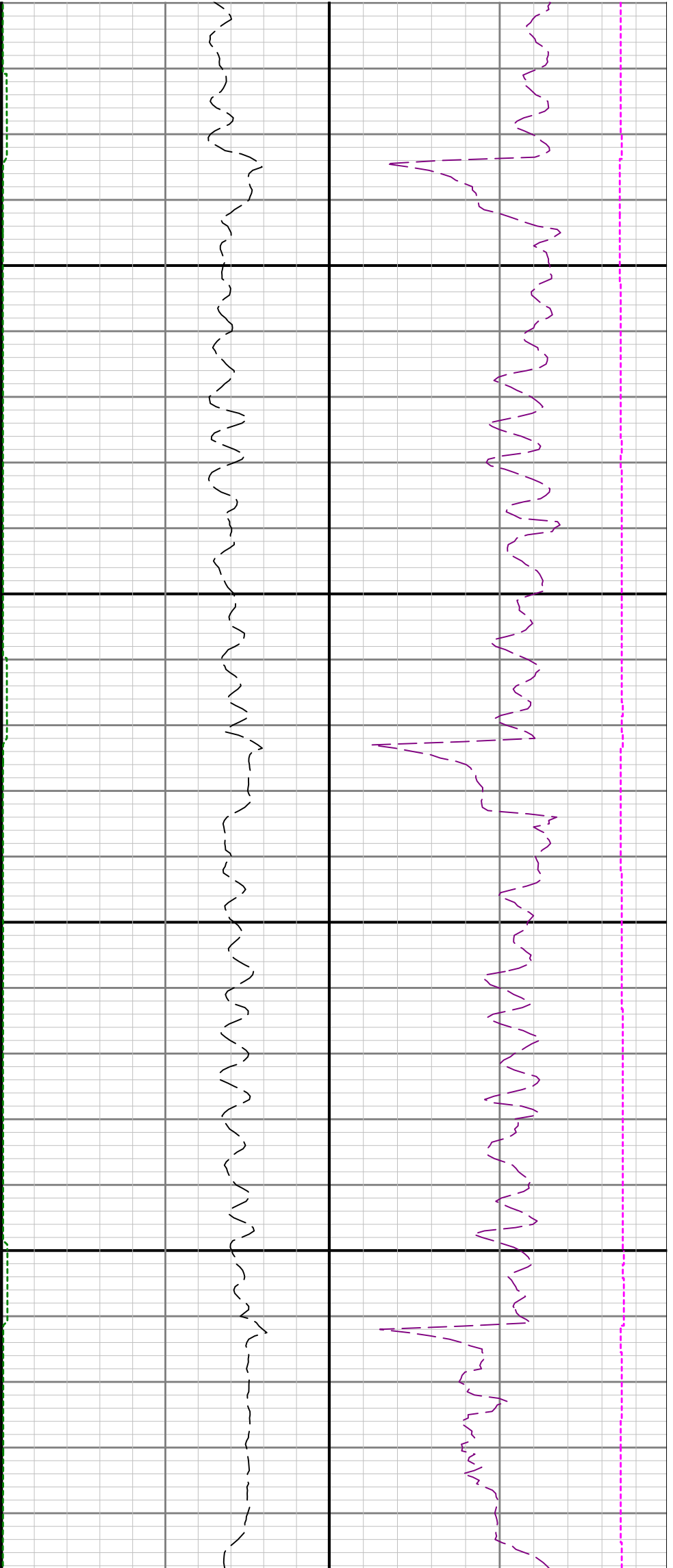


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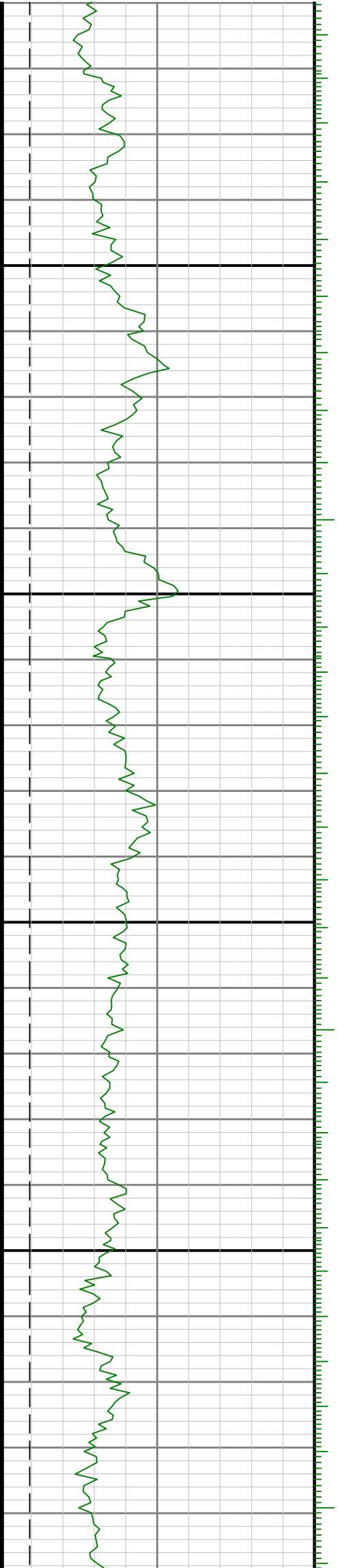
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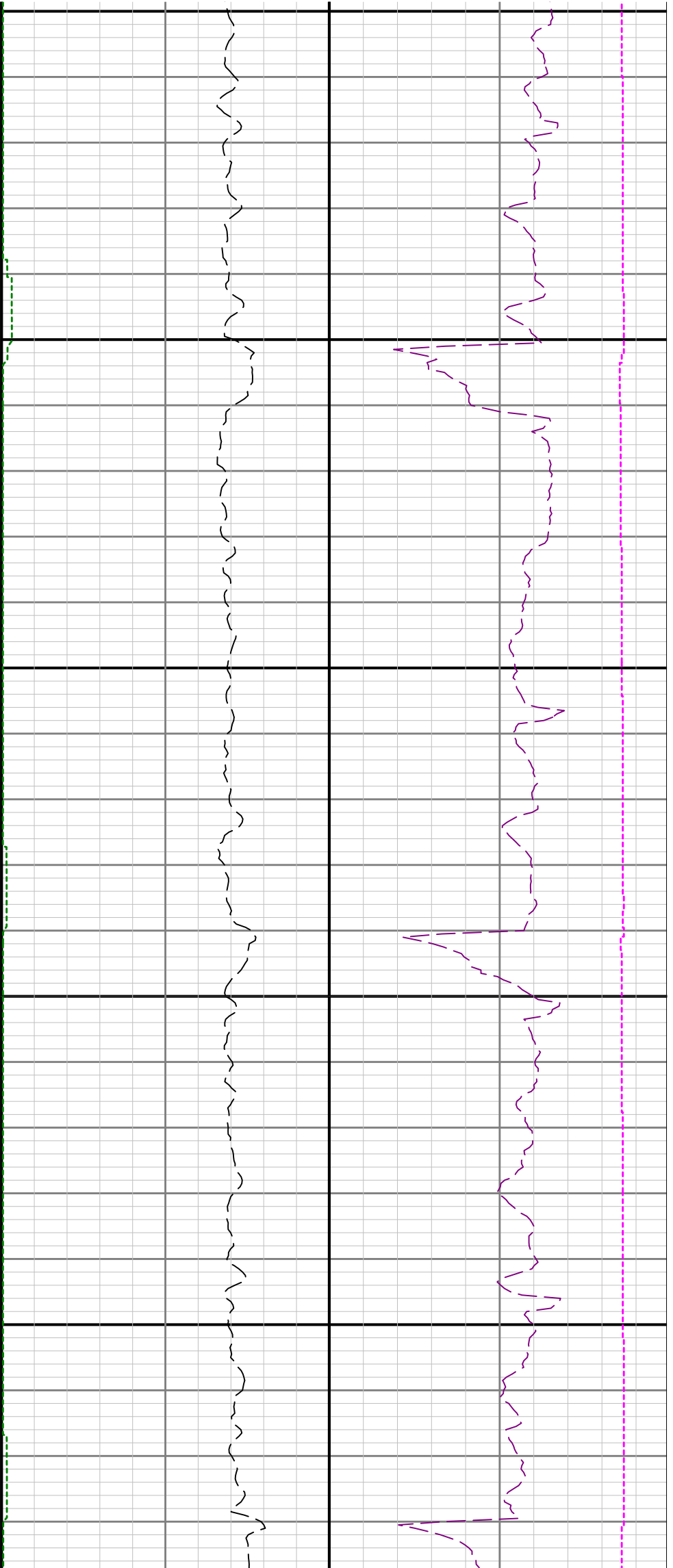




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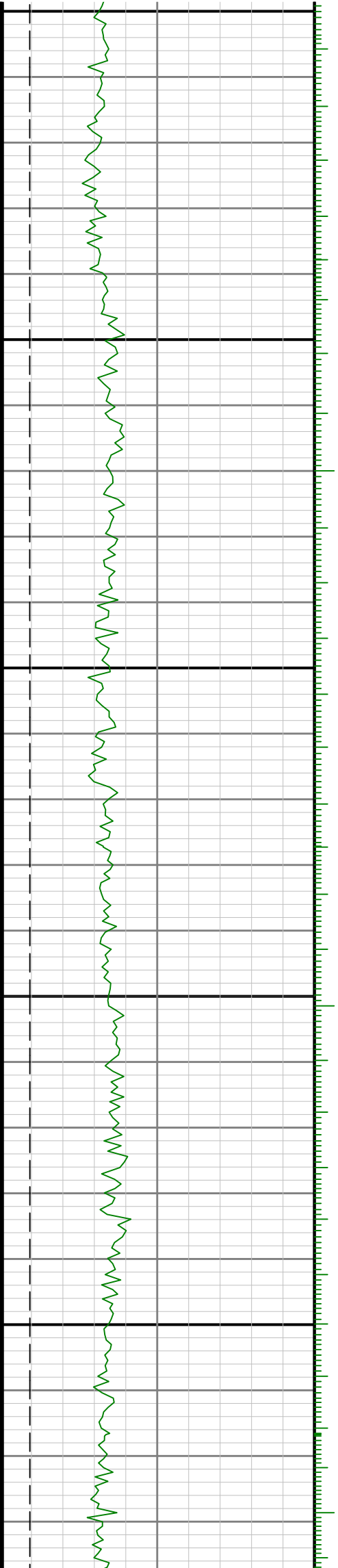
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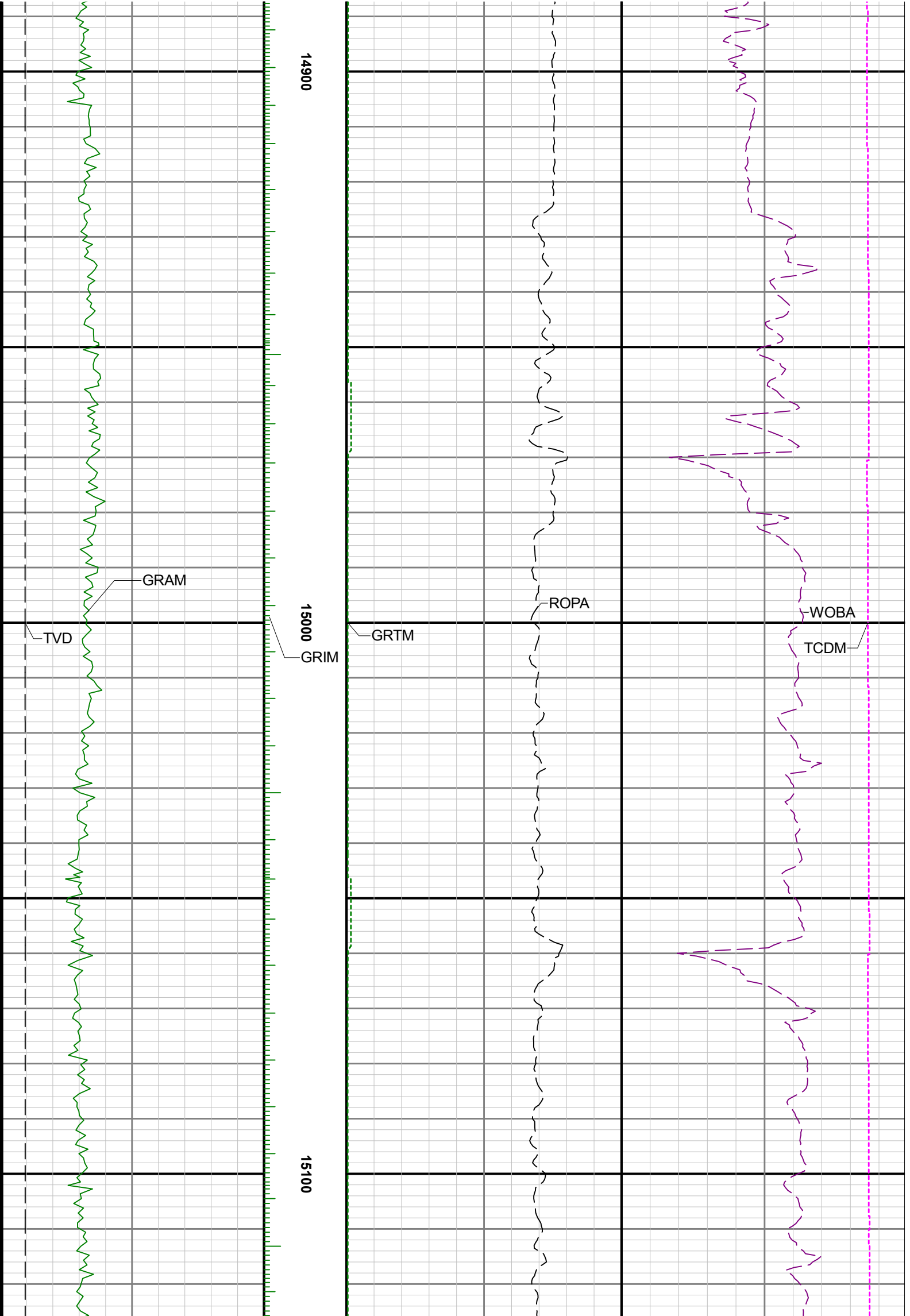


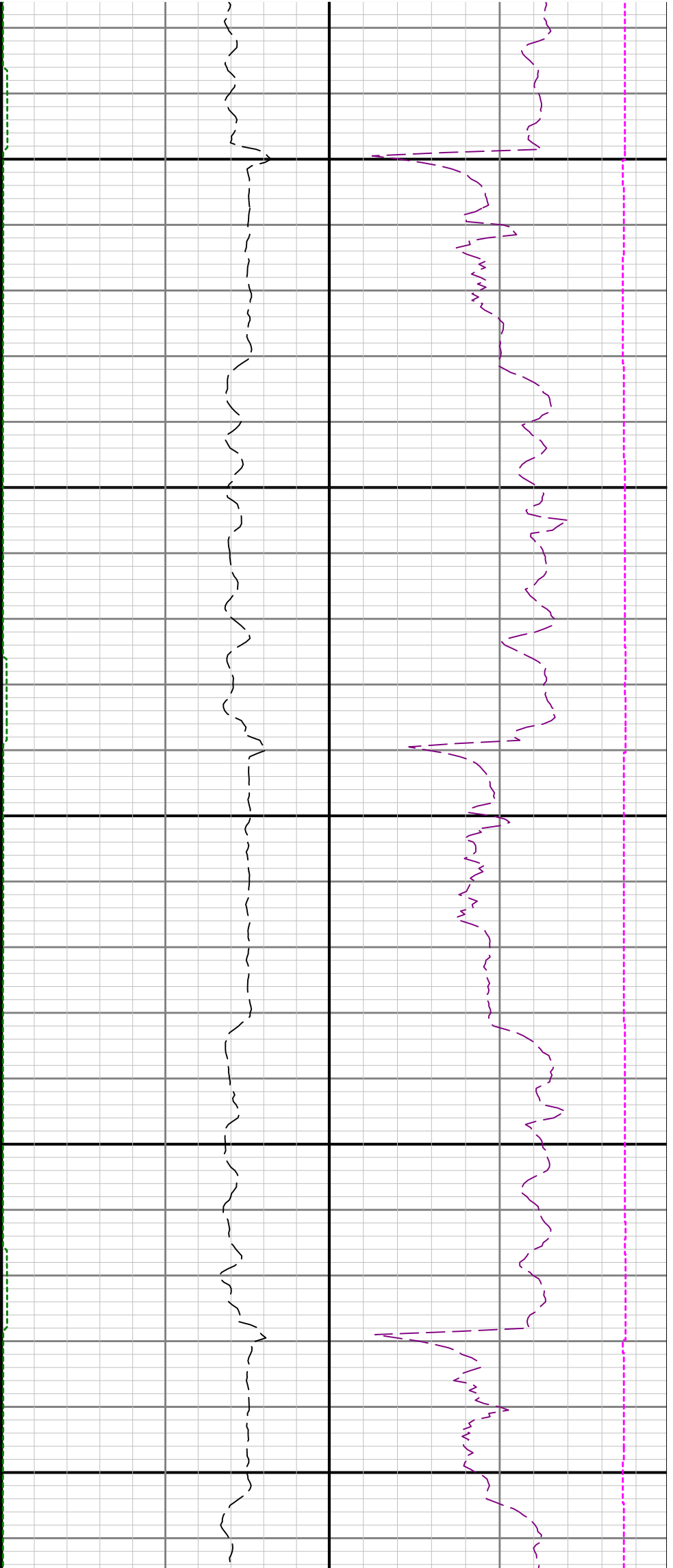


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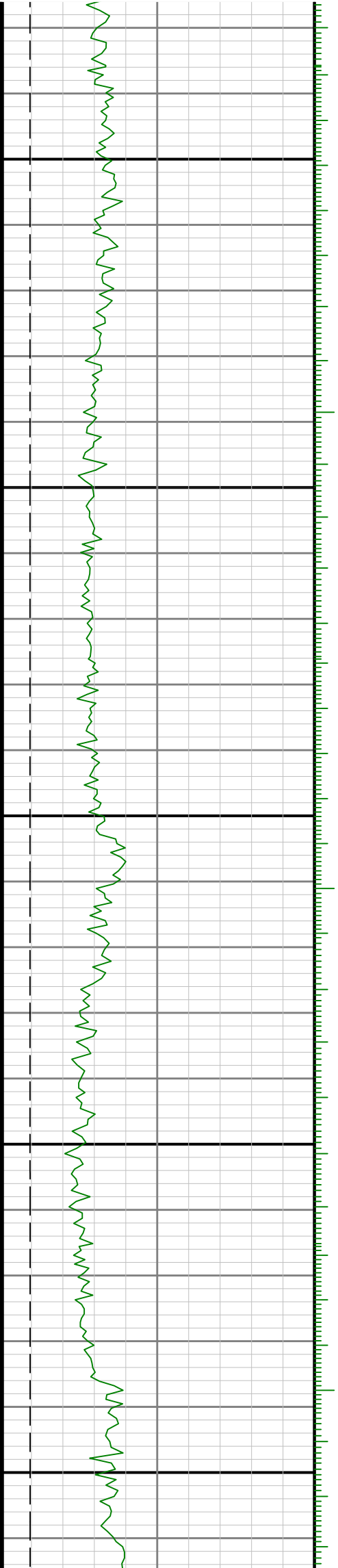


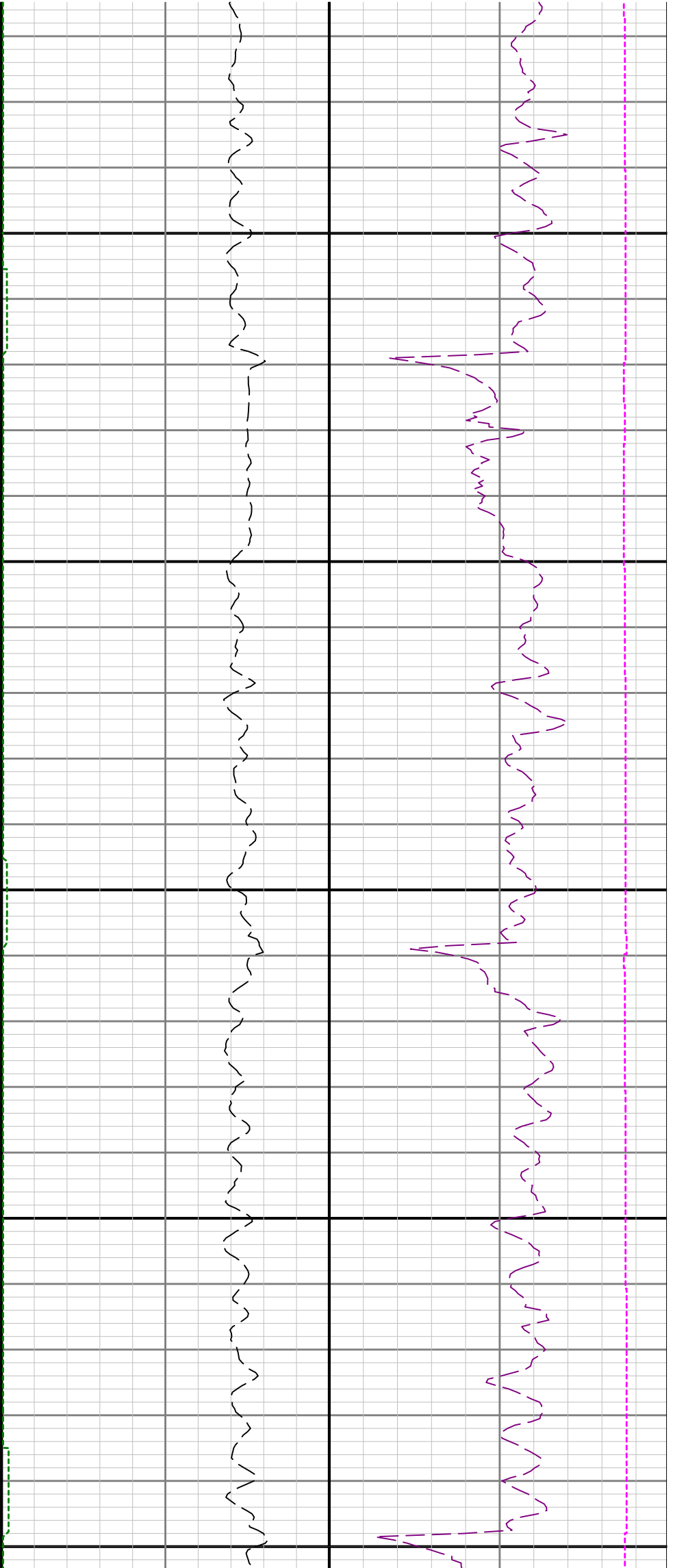




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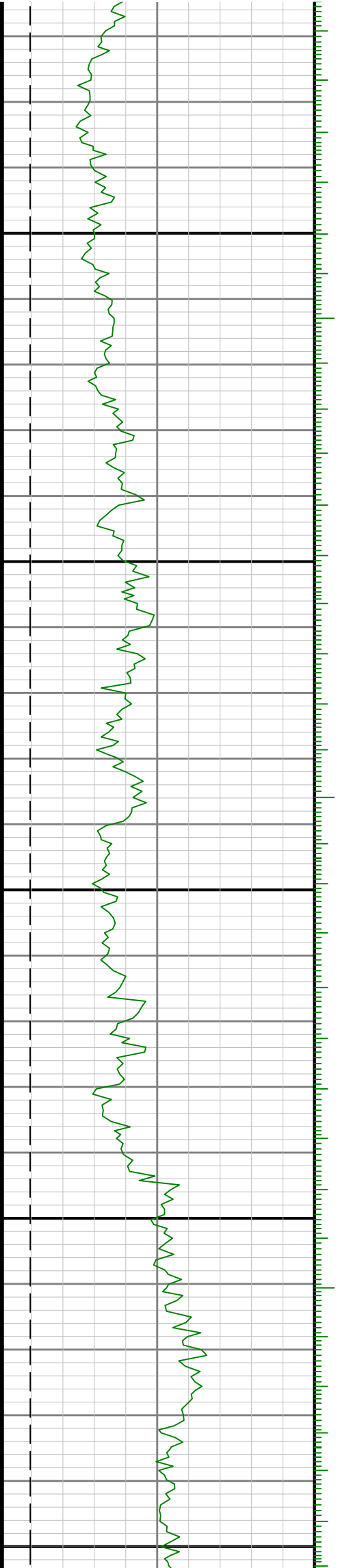


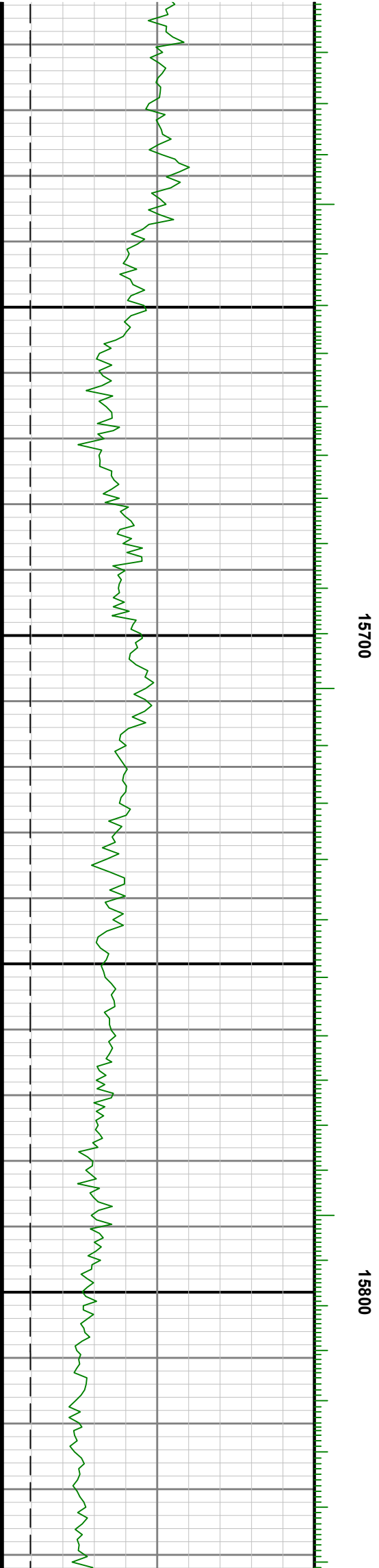
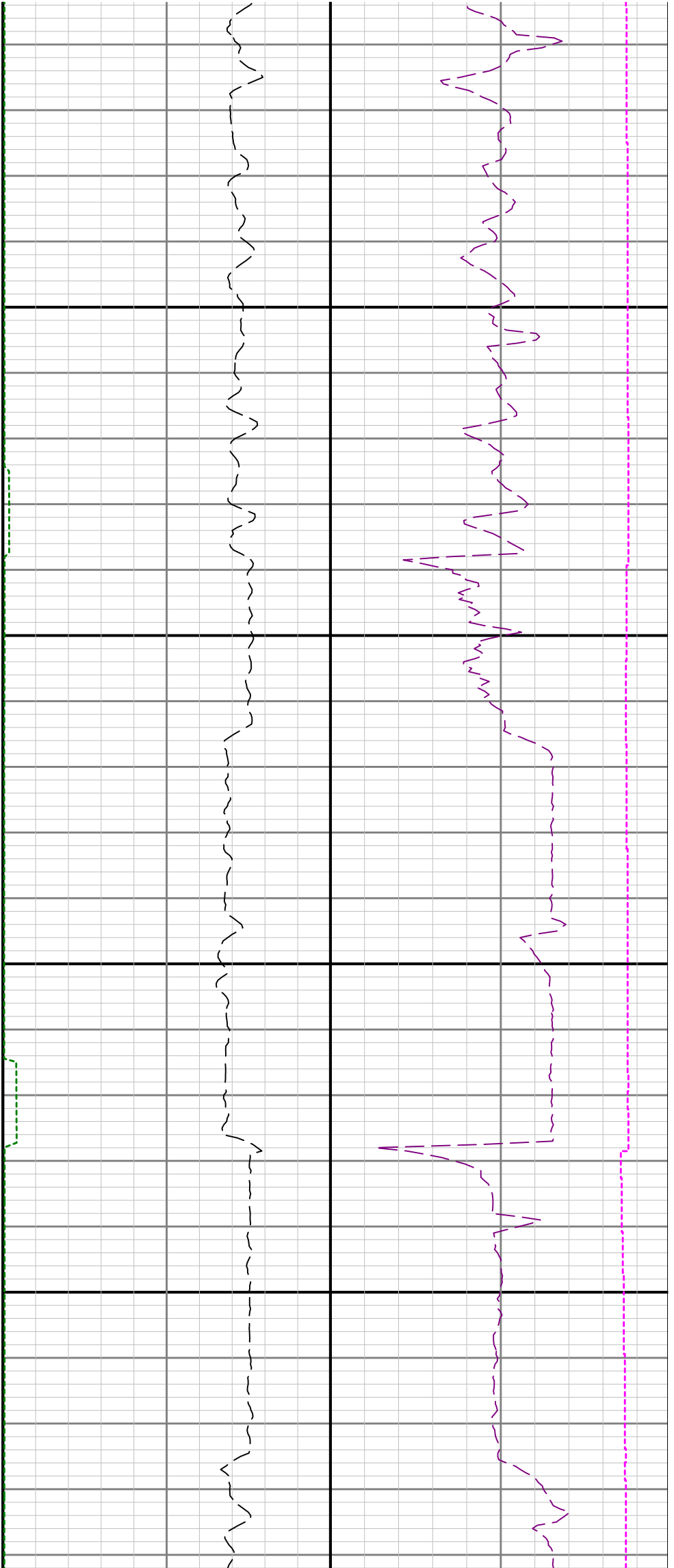


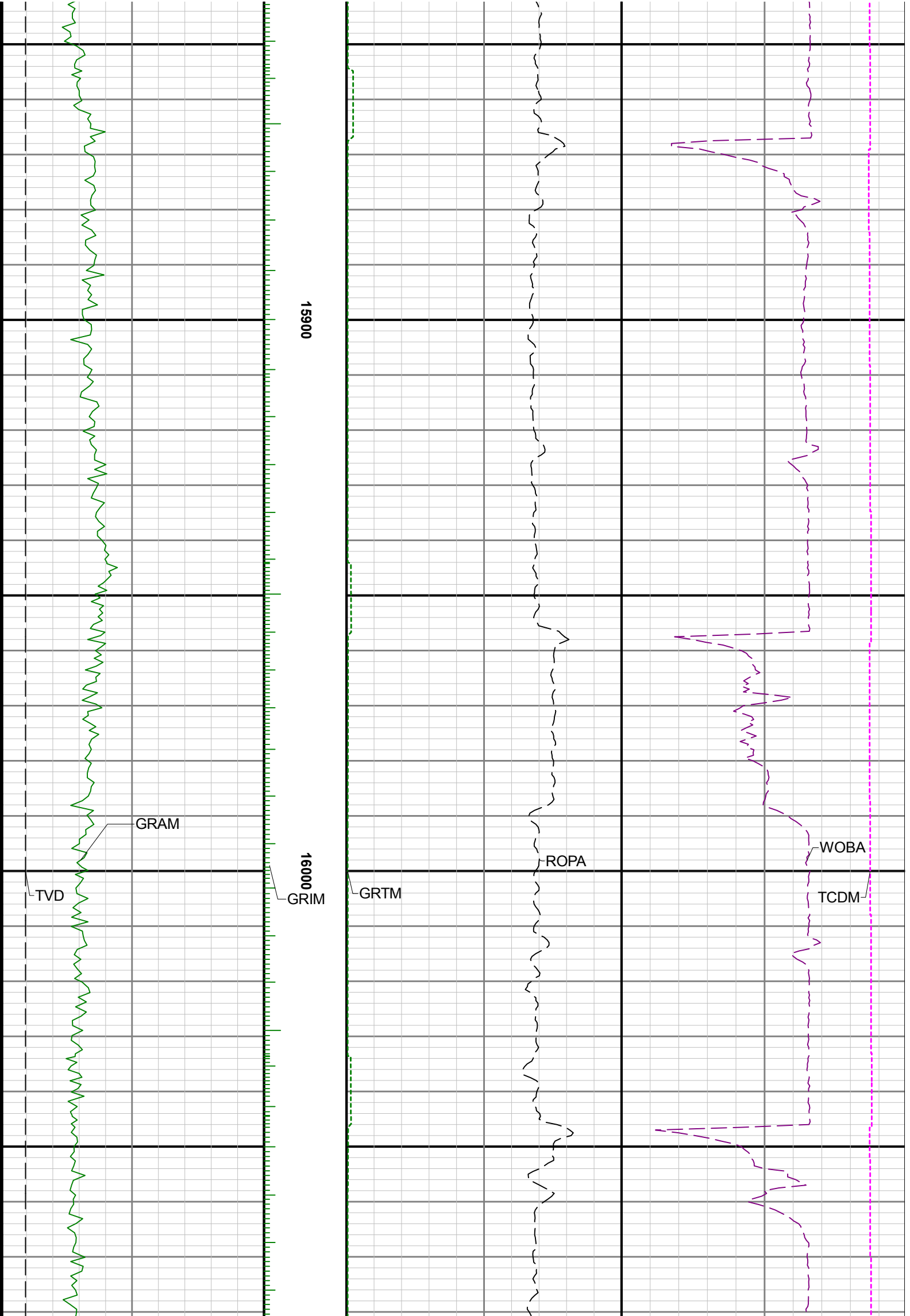
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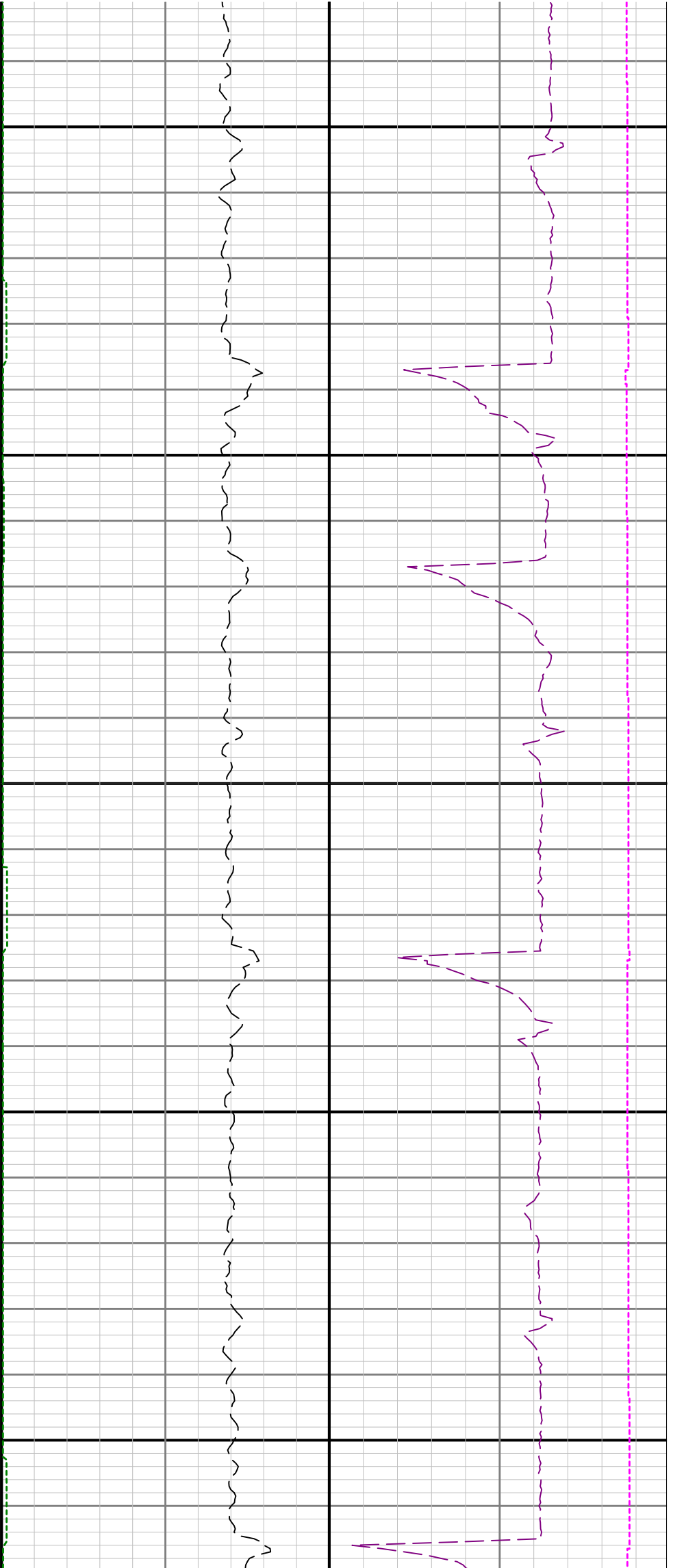
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16100

16200

16300

