



LWD MEMORY LOG

Gamma Ray

Scale:						
<div>1:240 MD</div>						Company: Anadarko
						Well: <div>COWBOY 21-1HZ</div>
Depth Reference:						Field: <div>Weld County</div>
<div>Driller's Depth</div>						County: <div>Weld</div>
Status:						State: <div>Colorado</div>
API No: 05123471060000 Job ID: 109372441						Surface Location: <div>Latitude: 040° 07' 28.834" N Longitude: 104° 53' 22.276" W</div>
Permanent Datum (P.D.): Mean Sea Level Log Measured From: Rig Floor						Elevation: 0.00 ft <div>Above P.D.</div> <div>TWN: 2N RGE: 67W</div>
Dates						Magnetic Field Reference <div>Dip Angle: (deg) Elev. DF: Elev. GL:</div>
Interval Drilled						
Date From: 2018-09-15 Date To: 2018-09-18 Spud Date: 2018-09-15	Top: (ft) Bottom: (ft)		1892.00 15706.00		Azi Reference North: True Total Magnetic Field Strength: (nT) Mag to Reference North Correction: (deg)	66.64 52265 8.29
Borehole Record						Casing Record
Hole Size (in)	From (ft)	To (ft)	Size (in)	Weight (lb/ft)	From (ft)	To (ft)
8.500	1892.00	15706.00	9.625	32.00	26.00	1882.00
Type	From (ft)	To (ft)	Hole Size (in)	Interval (ft)	Incl Azi (Start)	Incl Azi (End)
Oil Based Mud	1892.00	15706.00	8.500	13814.00	17.97 242.90	90.12 3.45
Acquisition System						
Baker Hughes Cadence Plot Studio	RT 4.2		Software Version		Rig: Precision 564 Contractor: Precision Drilling District: RMD	Other Unit: D&E

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Log Run Summary

Run No	Bit Run No.	Bit Size (in)	Bit Type	Bit Gauge Length (in)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Hours
						Top	Bottom	From	To	Start Logging	End Logging	
						(ft)	(ft)	(ft)	(ft)			
1	1	8.500	PDC	2.00	AutoTrak Curve	1892.00	15693.00	1892.00	15706.00	2018-09-15 21:18	2018-09-18 06:38	50.61

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Jeffery Roth	2018-09-14	2018-09-18	Matt Yule	2018-09-14	2018-09-18	Doug Rusco	2018-09-18	2018-09-18

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+ (%)
2018-09-14 20:11	1	2000.00	Oil Based Mud	9.0	70	N/A	5.0	70/30	Active Pit	31000	0.00

Mud Resistivity Record

Mud Resistivity Record				Surface			Downhole			
Date / Time	Run No.	Measured Depth (ft)	Surface Temp (degF)	Rm (ohm m)	Rmf (ohm m)	Rmc (ohm m)	BHCT (degF)	Rm @ BHCT (ohm m)	Rmf @ BHCT (ohm m)	Rmc @ BHCT (ohm m)


2018-09-18 18:39	1	15000.00	N/A	100.000	N/A	N/A	250.0	100.000	N/A	N/A
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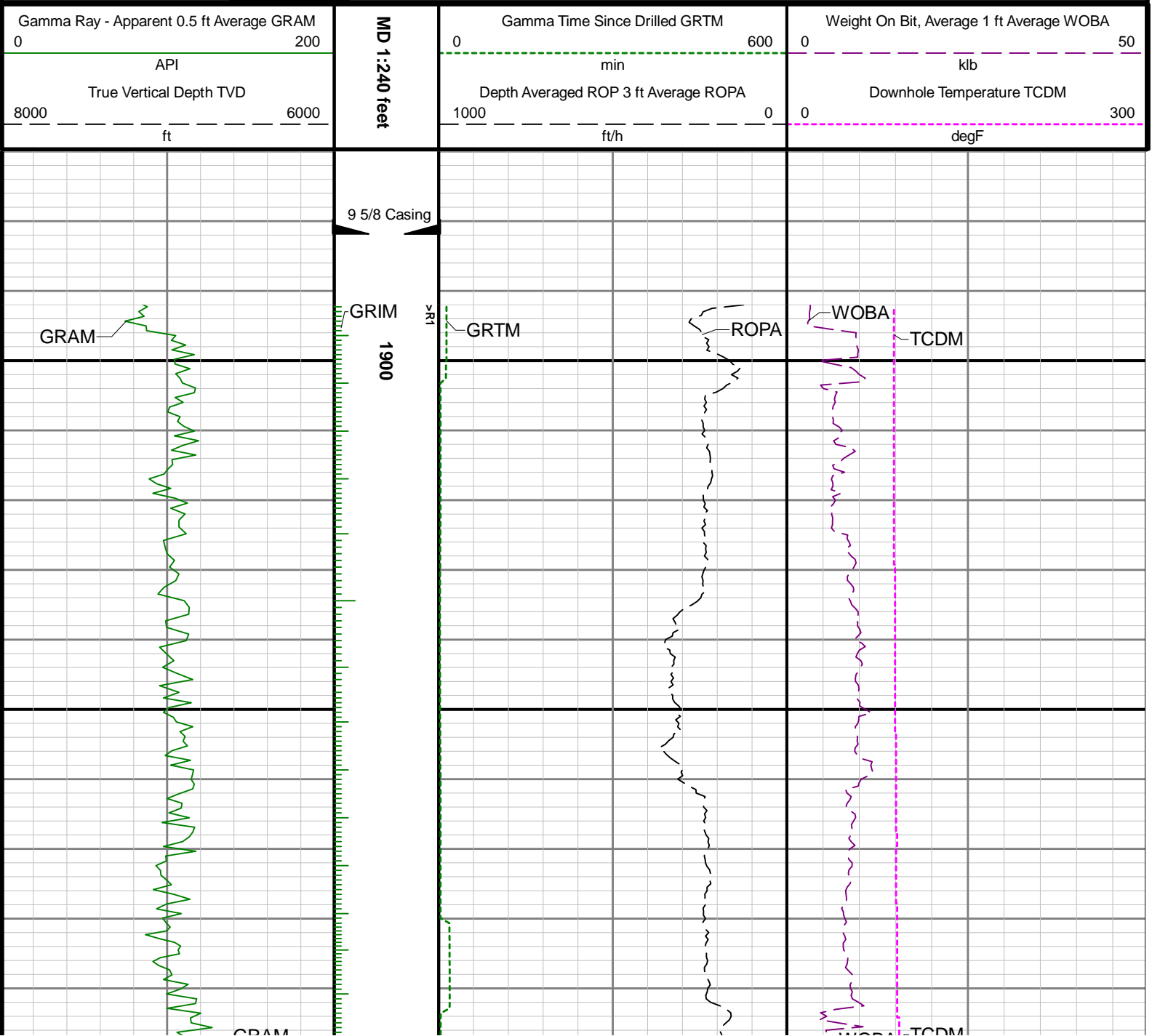
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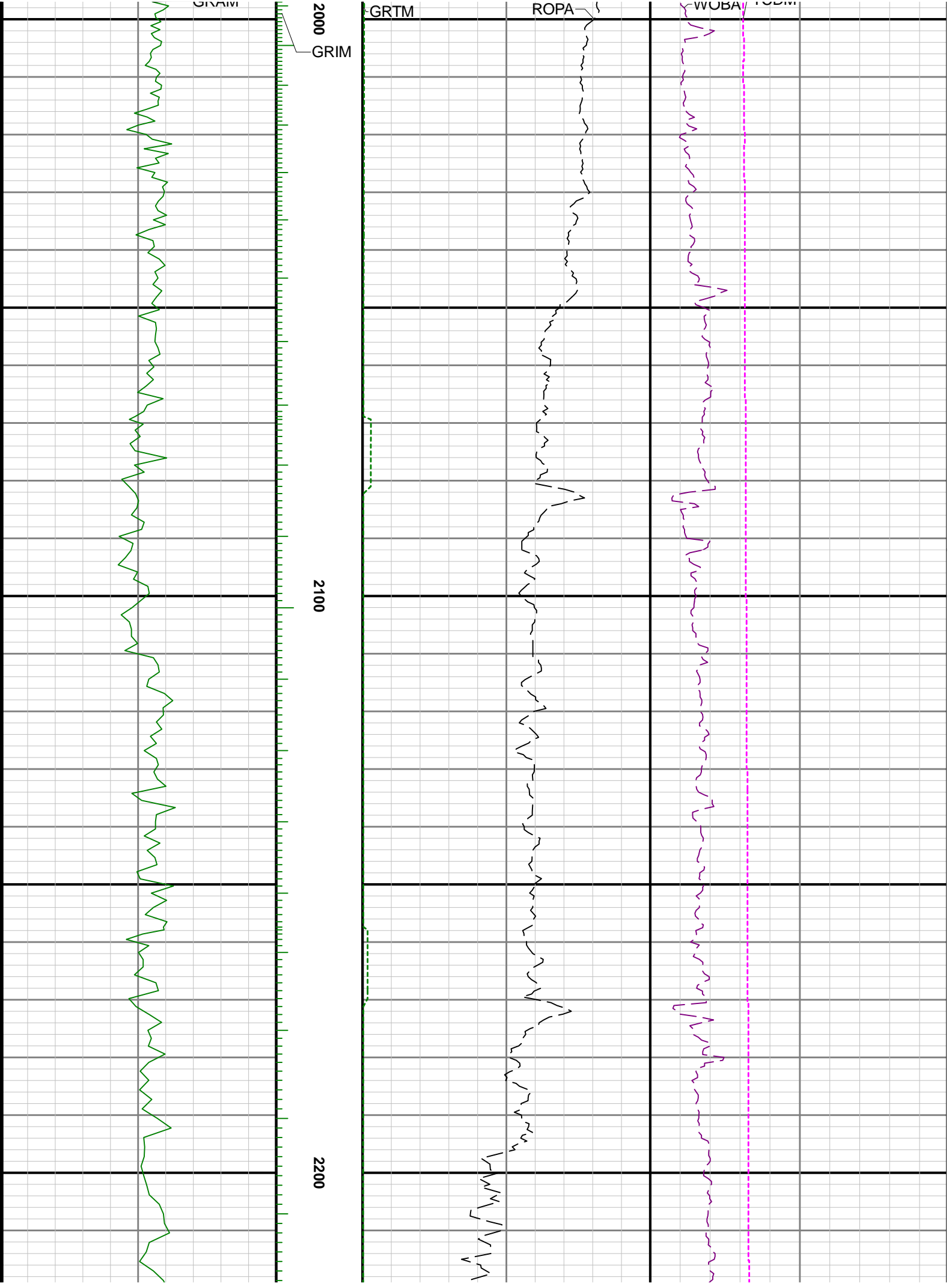
Run No.	Tool	Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)
1	ATC_SU	14381997	Near Bit VSS	5.93	6.73	7.000	4.330
1	ATC_SU	14381997	Near Bit Inclination	5.93	6.73	7.000	4.330
1	ATC_MWD	13012733	Gamma (single)	2.76	12.91	7.000	3.250
1	ATC_MWD	13012733	Directional (mag)	12.27	22.42	7.000	3.250

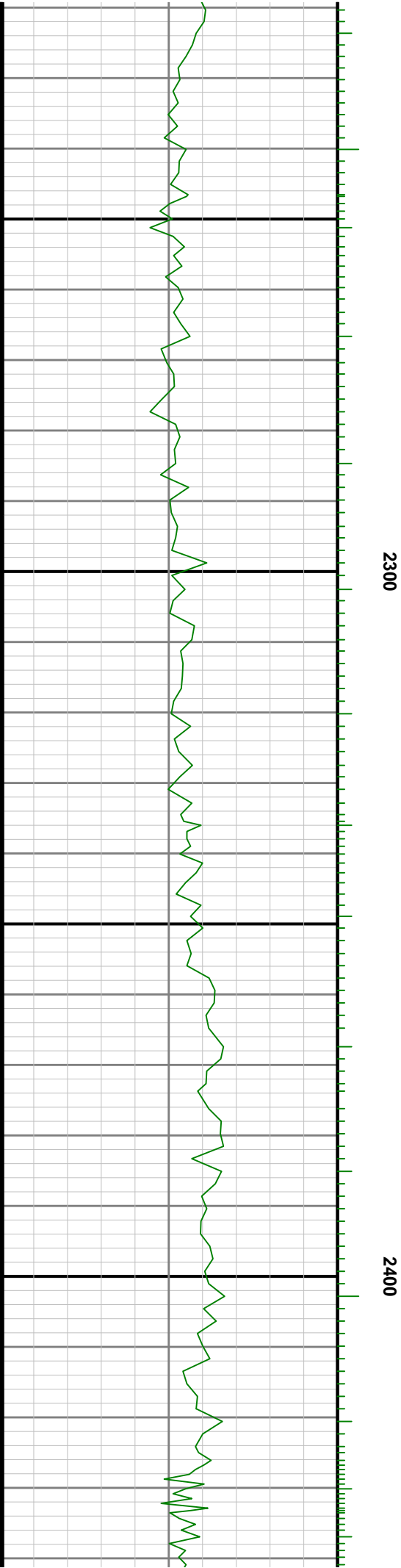
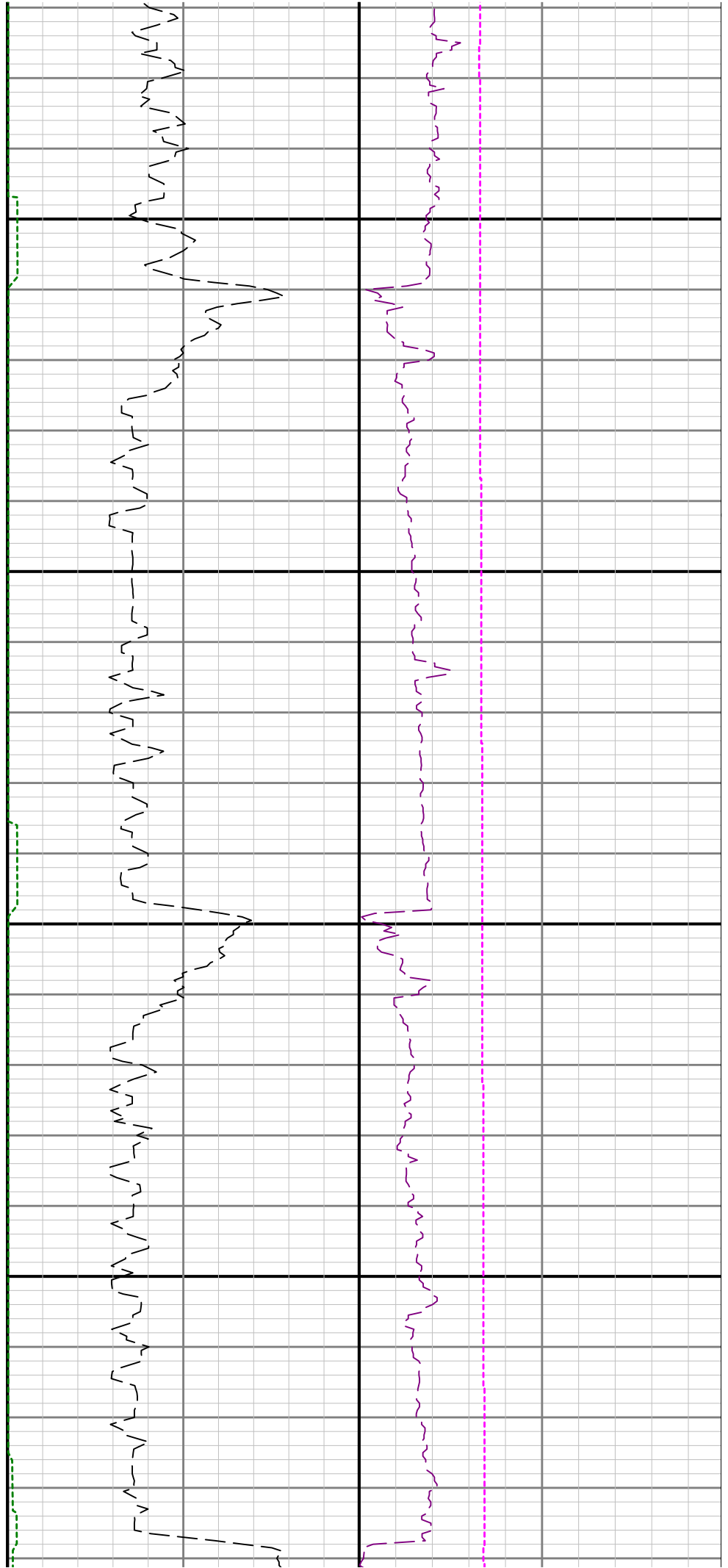
Service and Tool Mnemonics

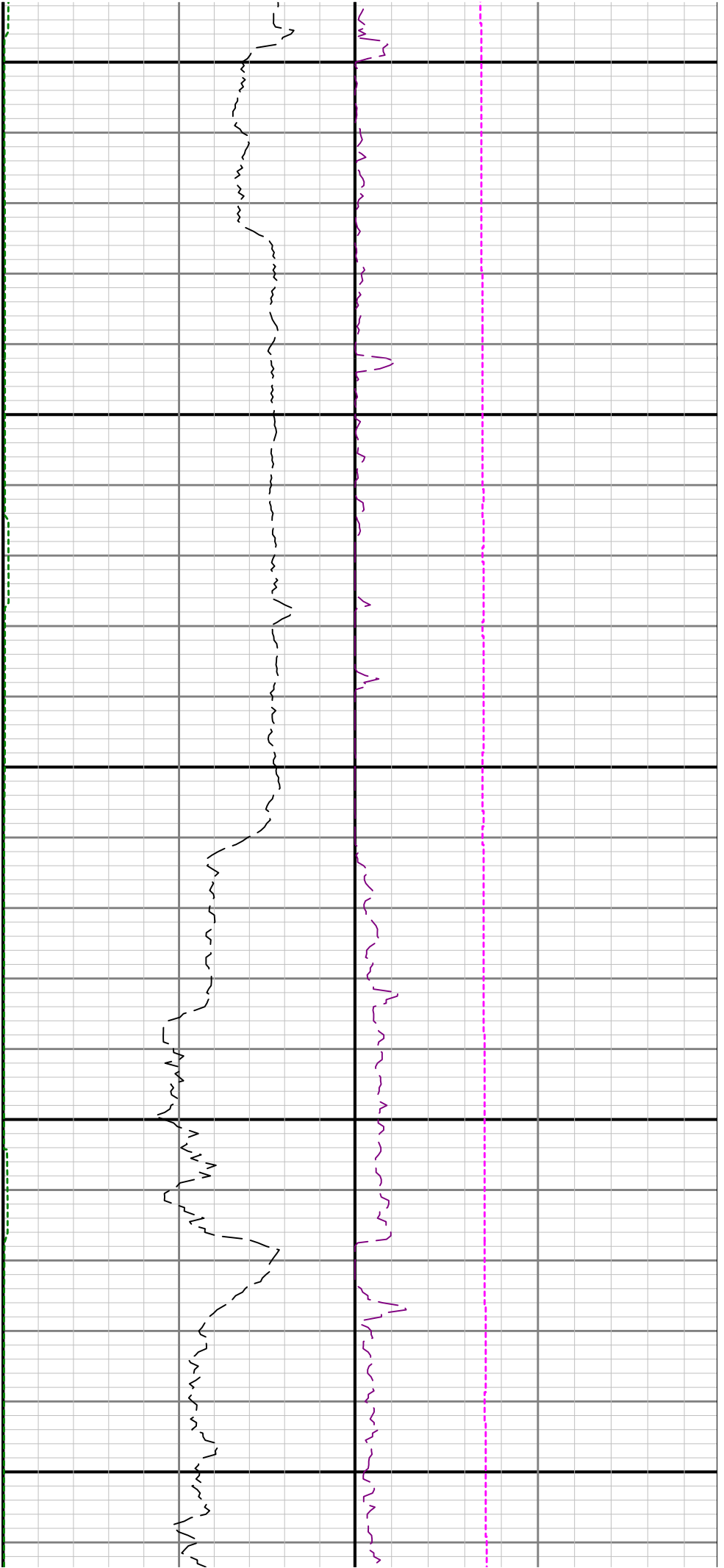
Mnemonic	Name	Description
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_LCPM	Auto Trak Curve LCPM

<div><div>BAKER HUGHES</div><div>a GE company</div></div> <div></div>	Company	Anadarko				
	Well	COWBOY 21-1HZ				
		Date From:	2018-09-15 19:28	Top:	1892.00 ft	
	Interval	Date To:	2018-09-18 09:17	Bottom:	15706.00 ft	
	Created	2018-09-19 12:44:26				



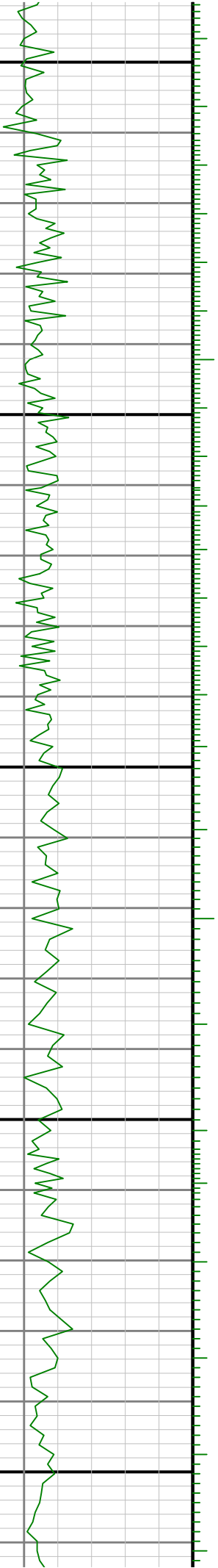


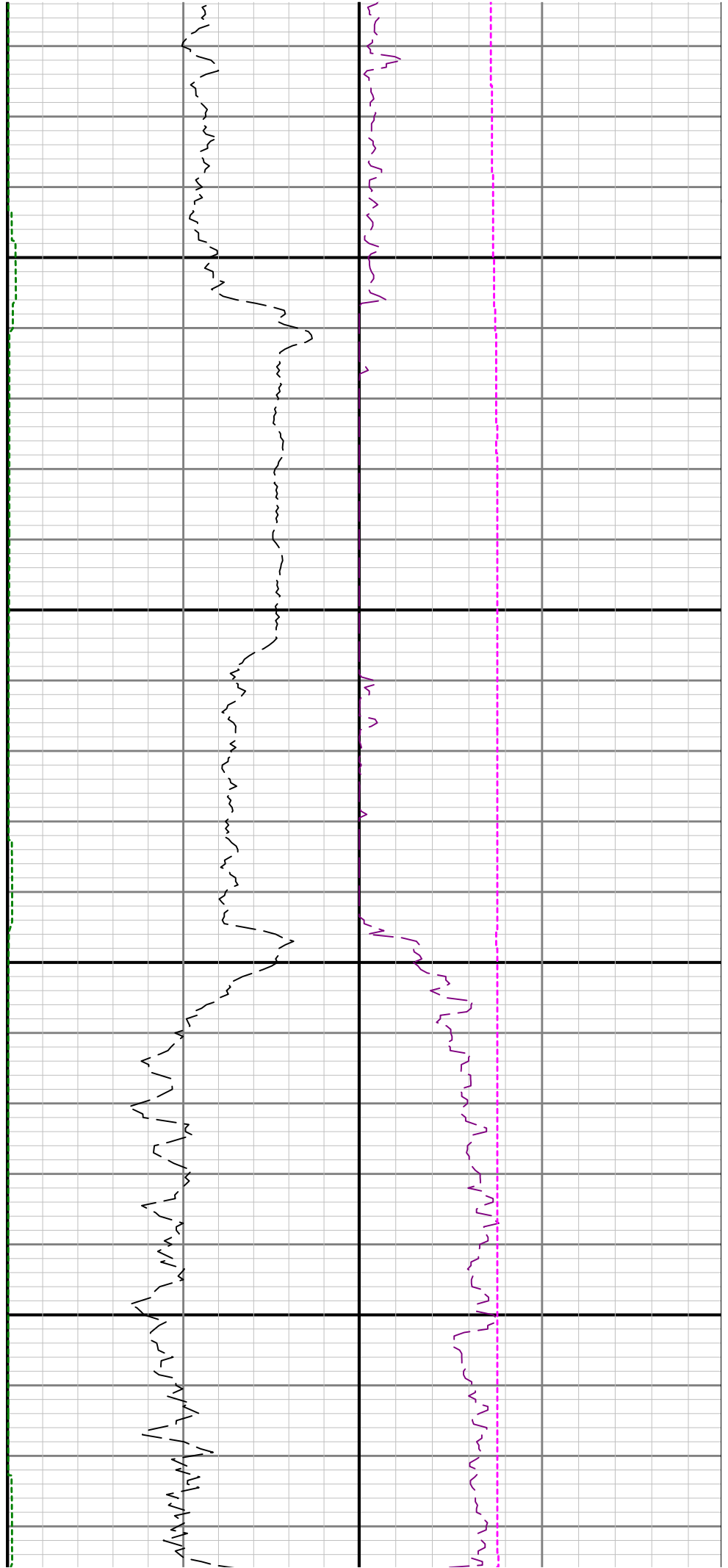




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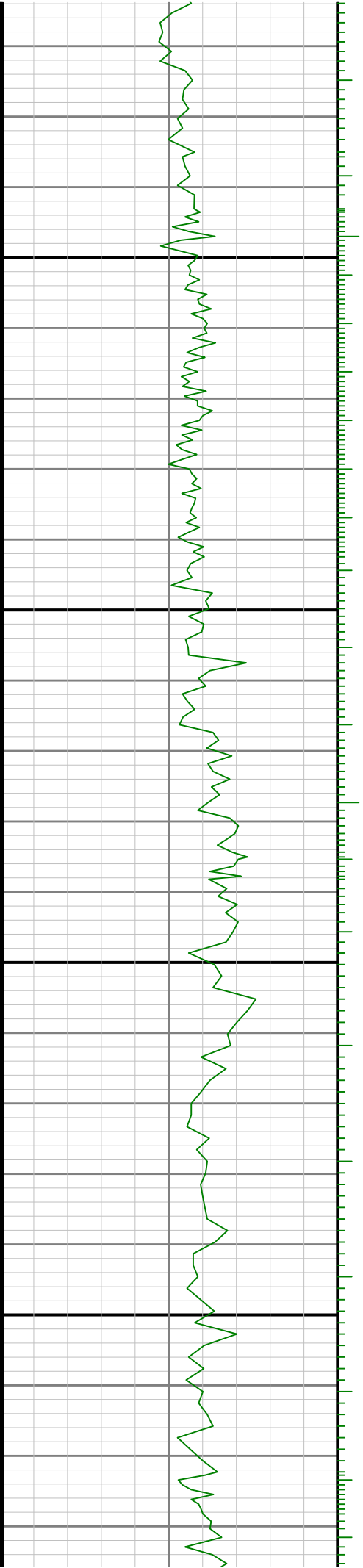
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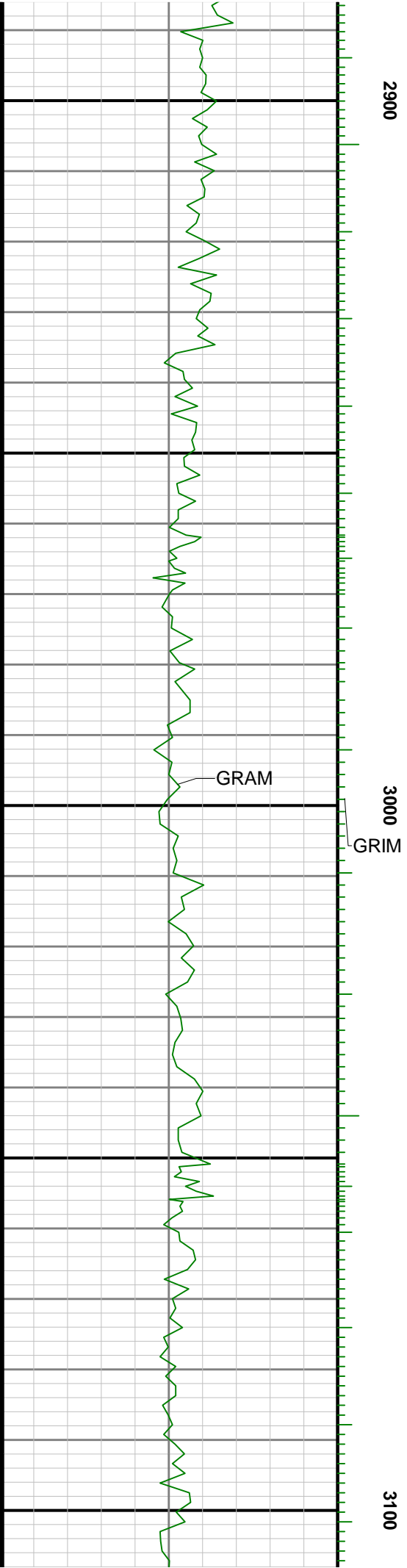
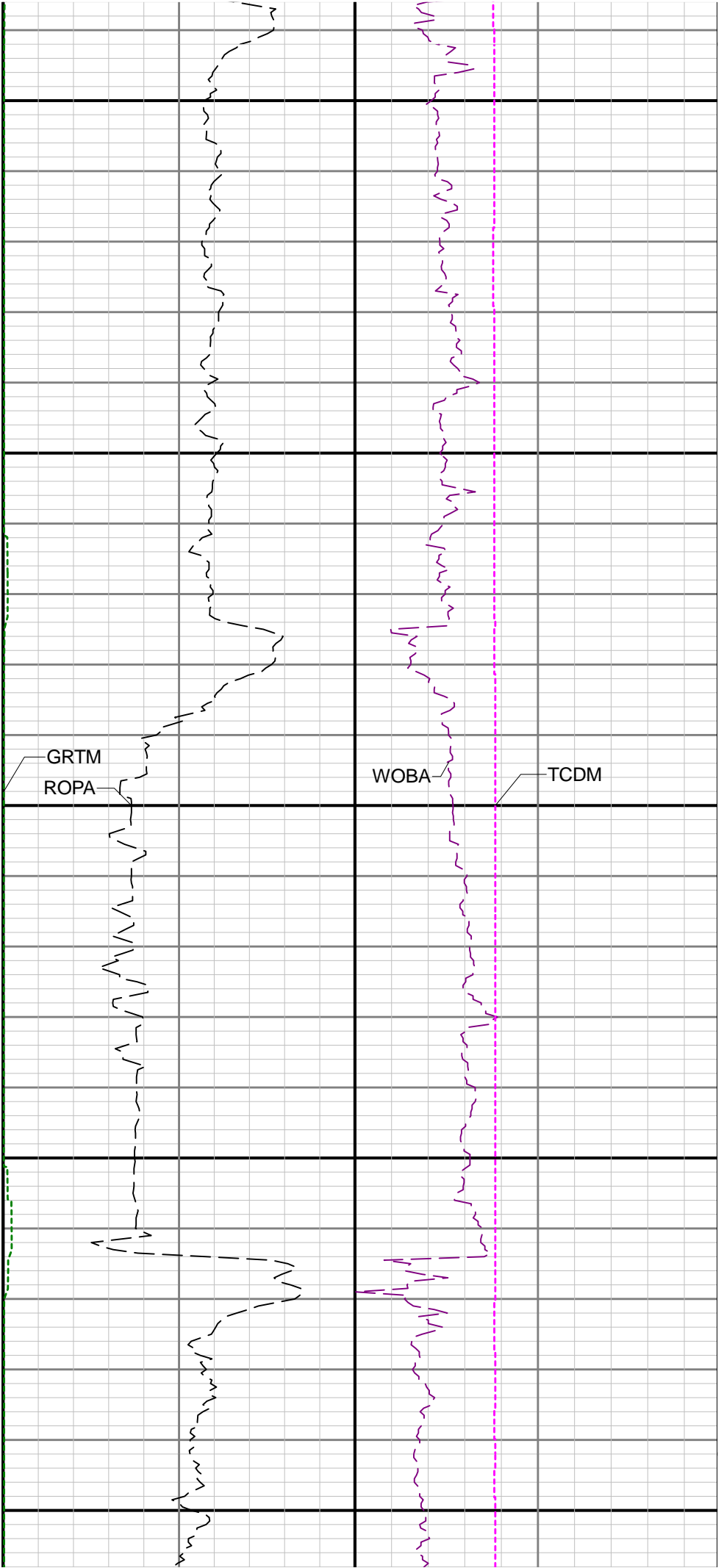


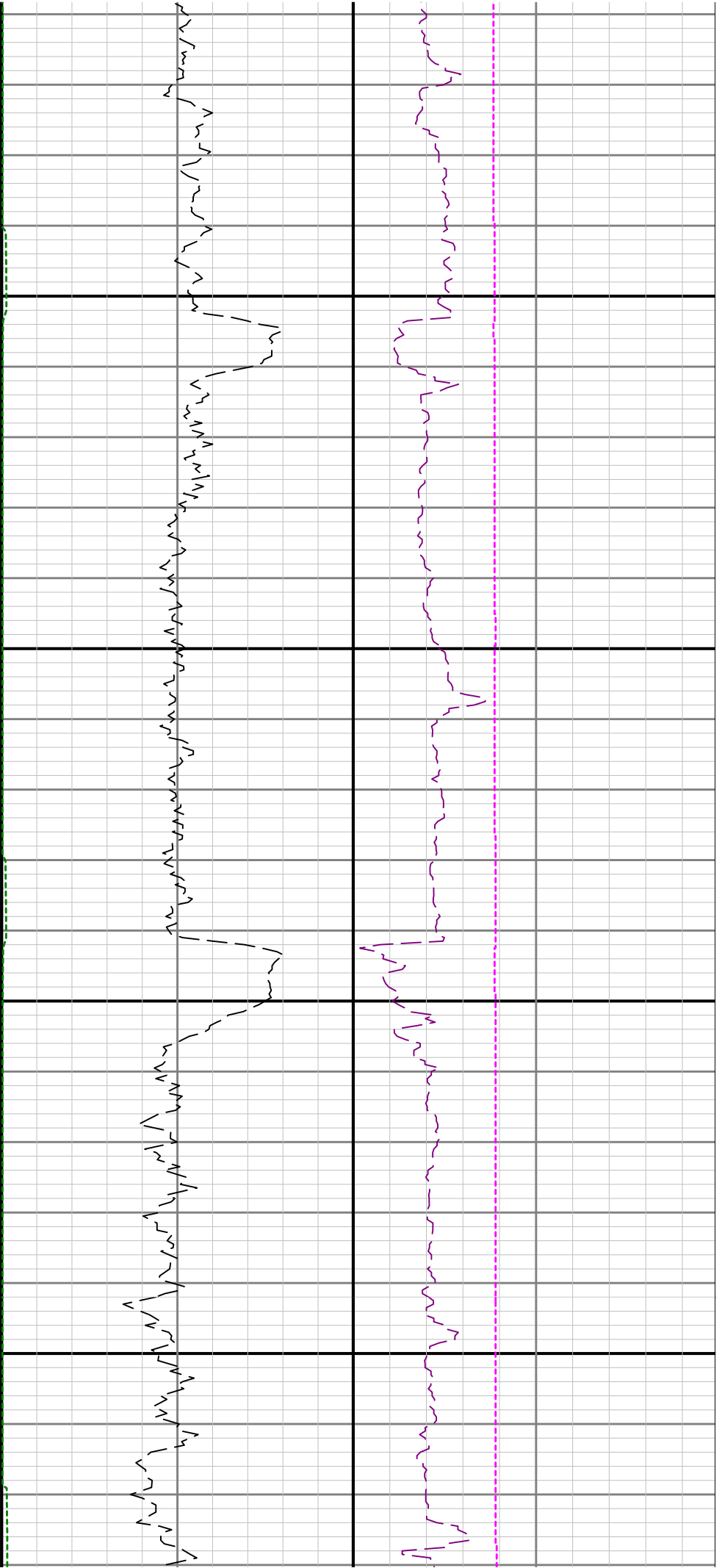


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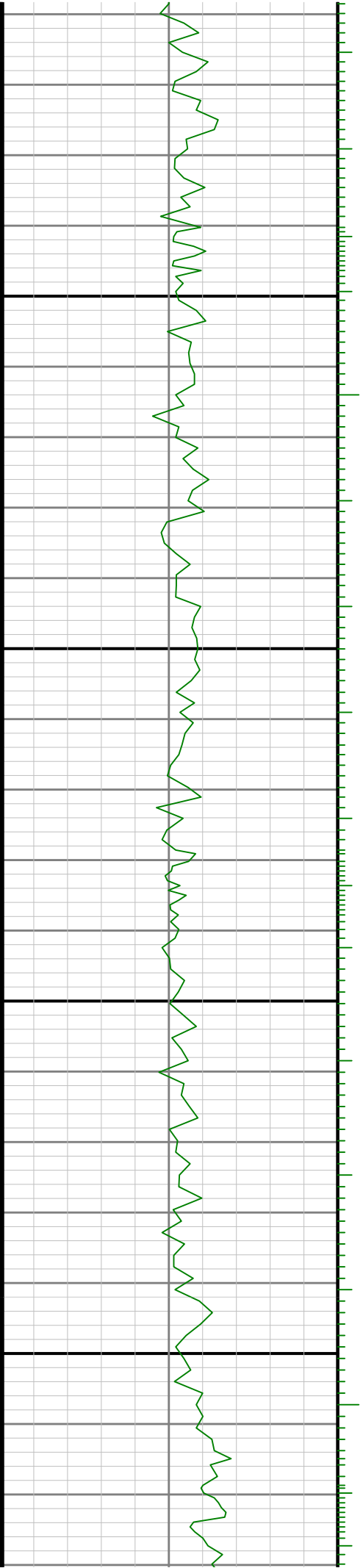


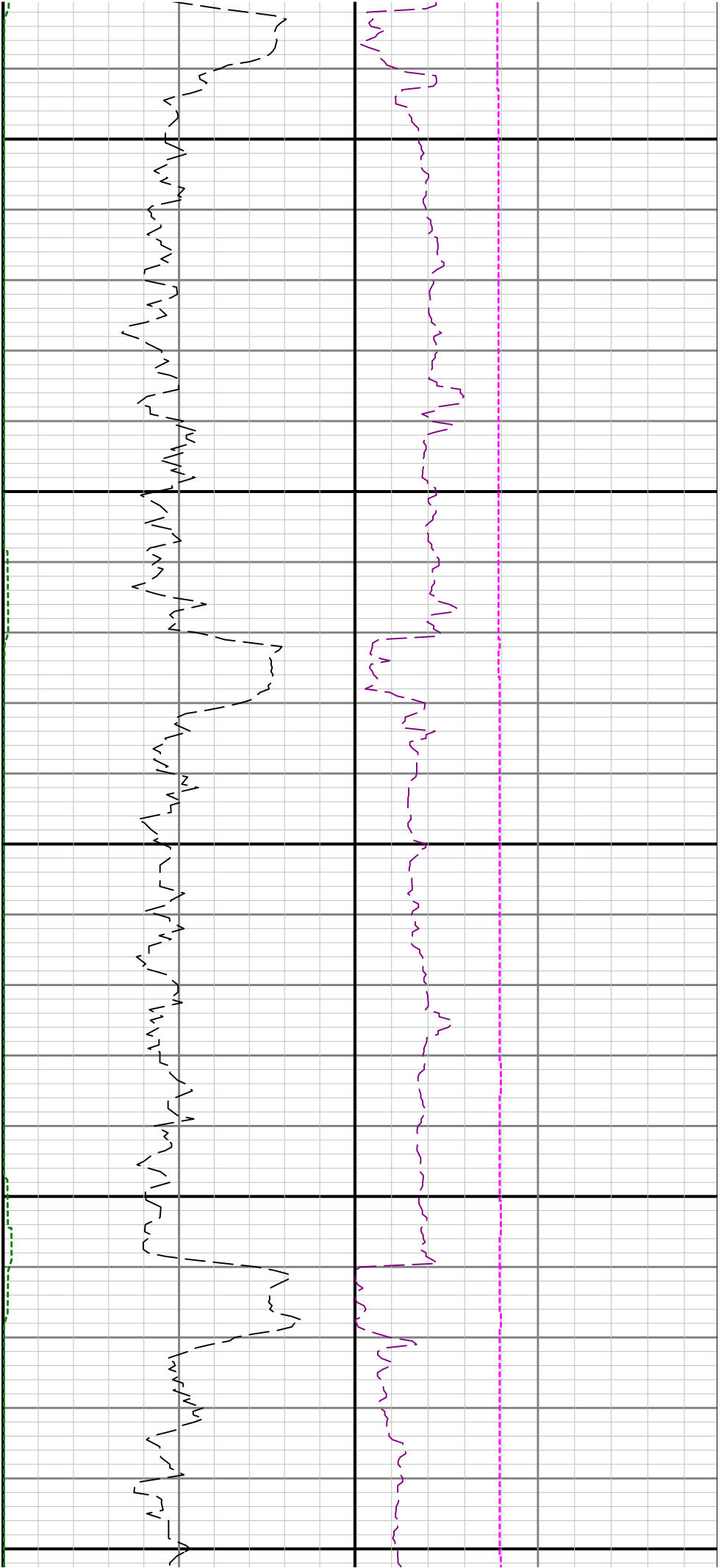




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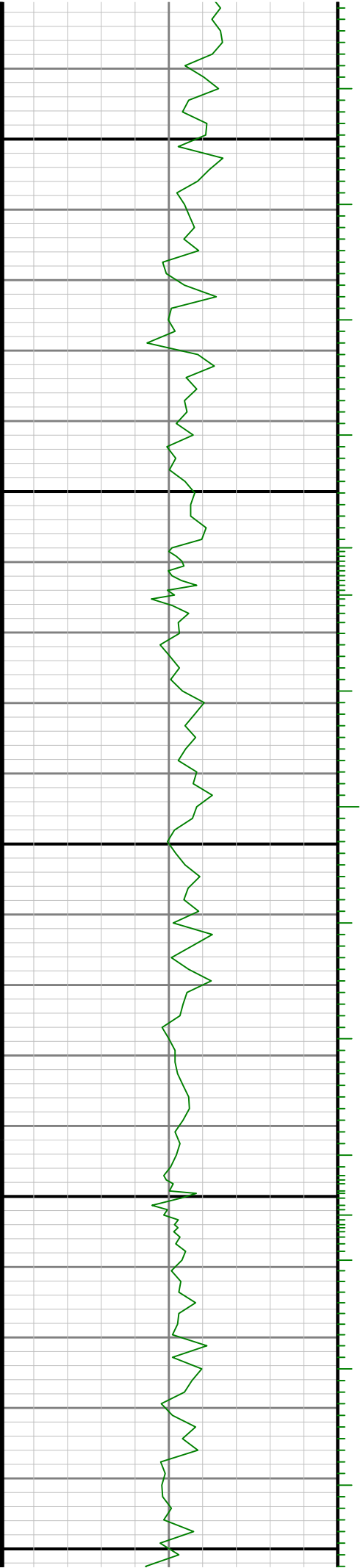
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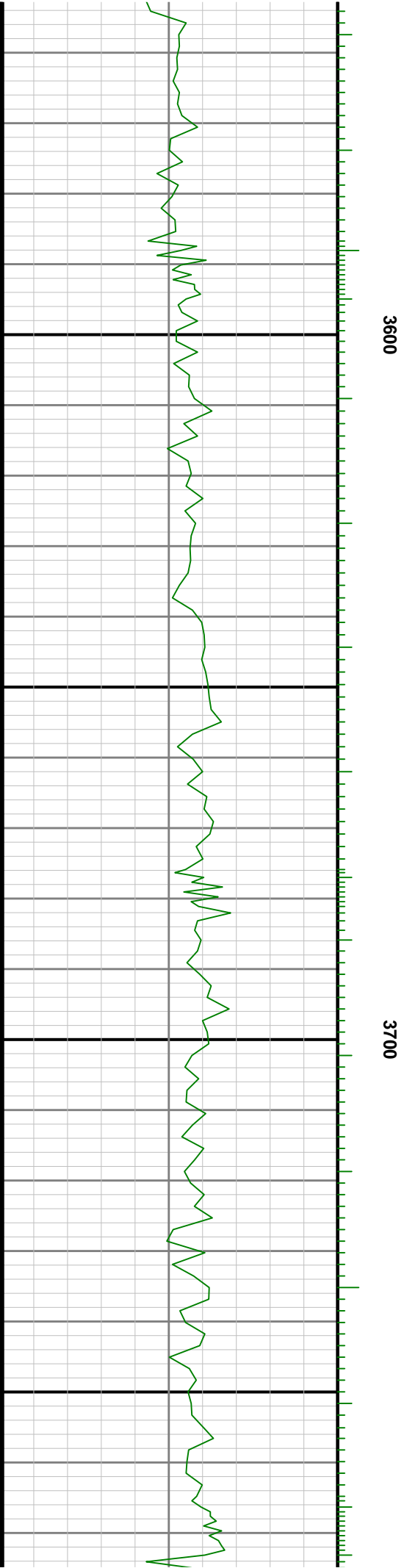
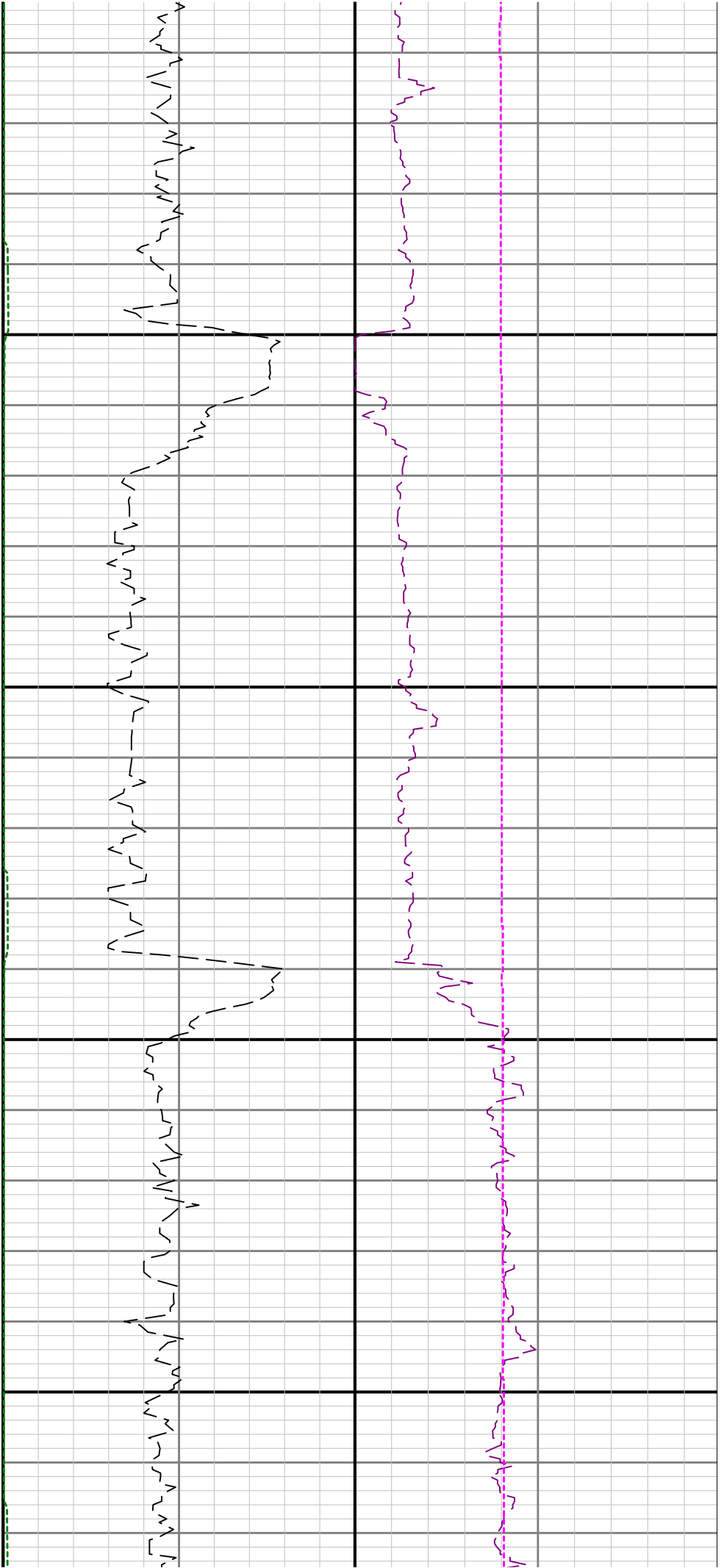


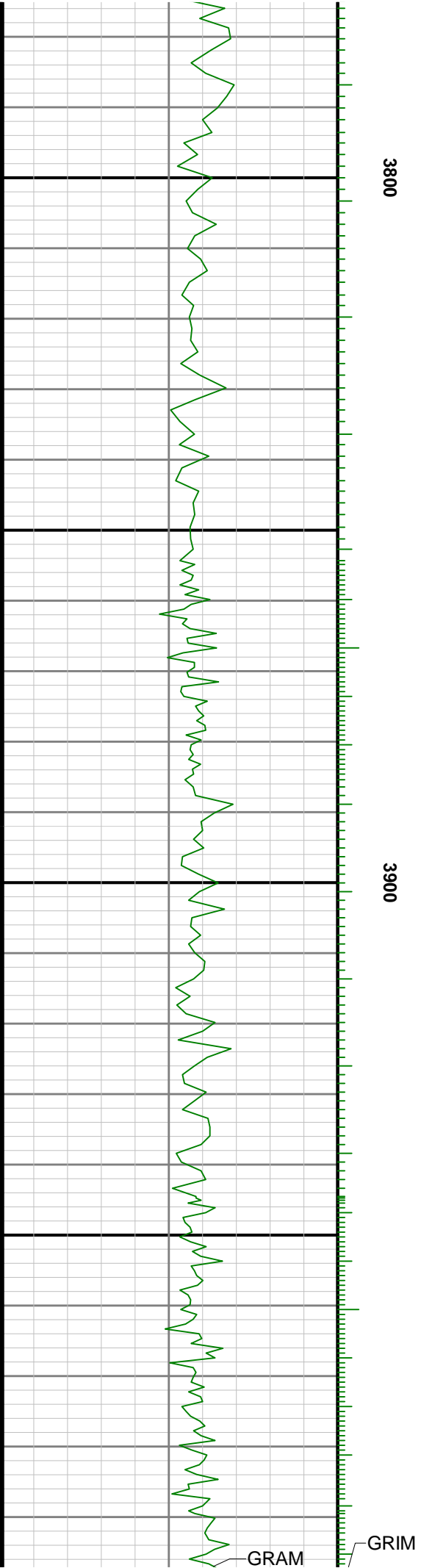
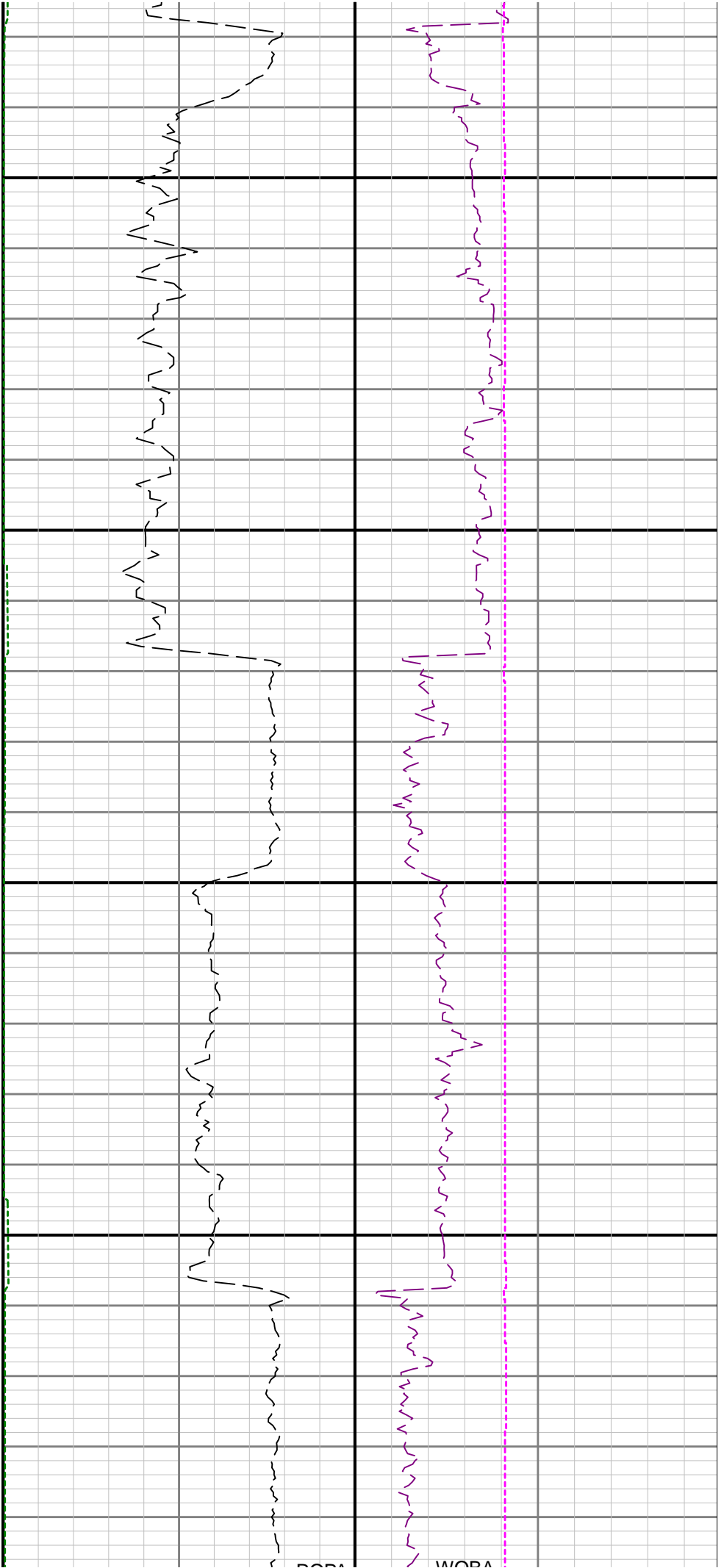


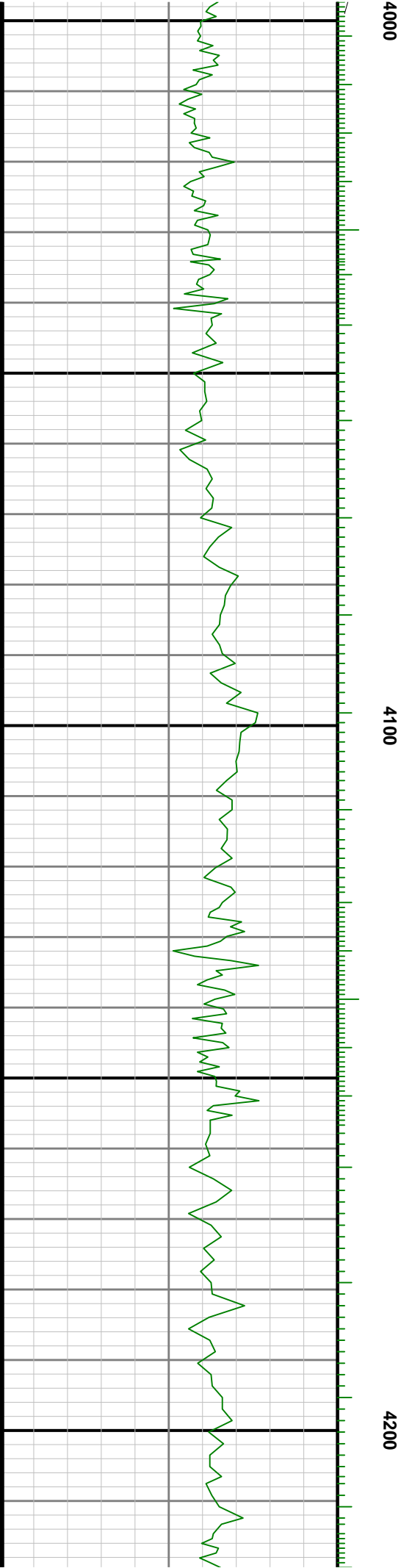
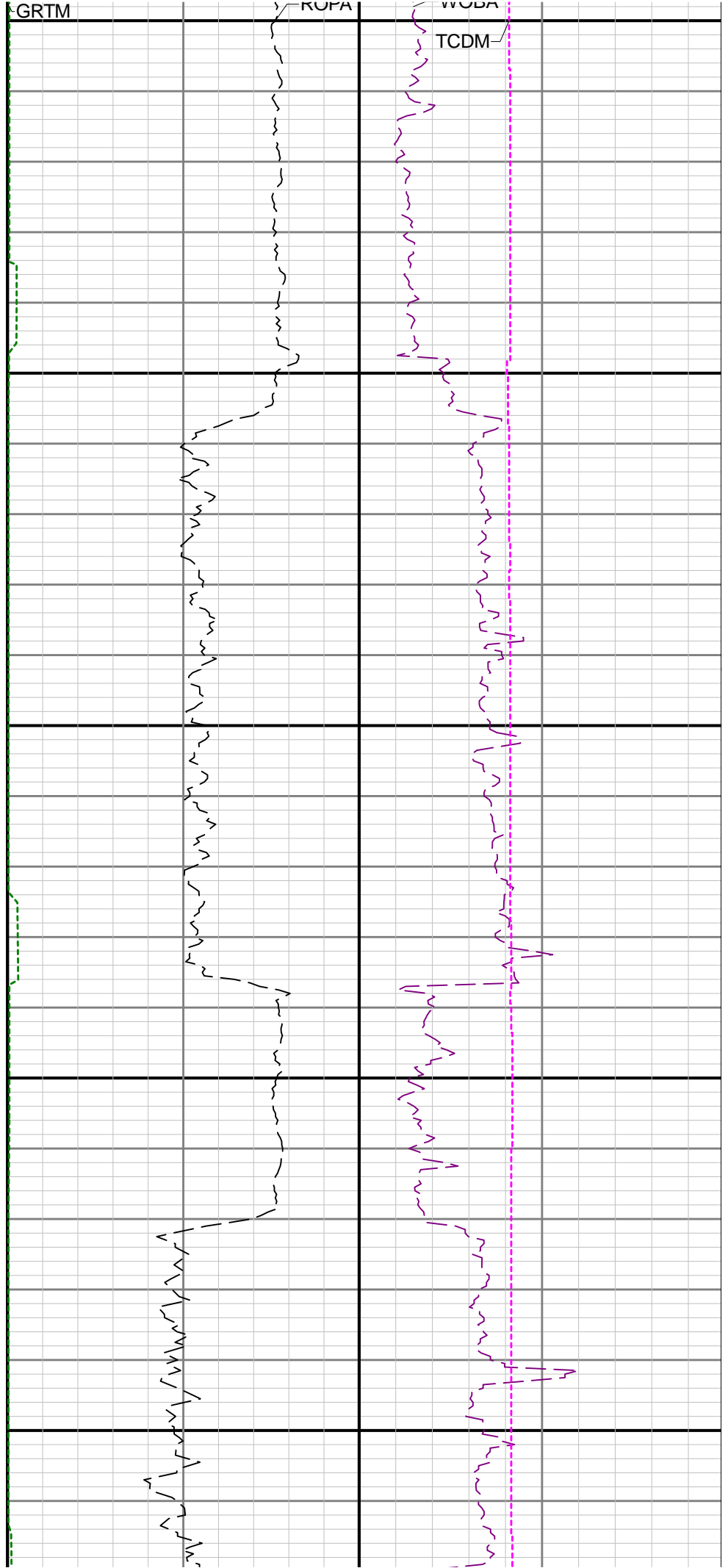
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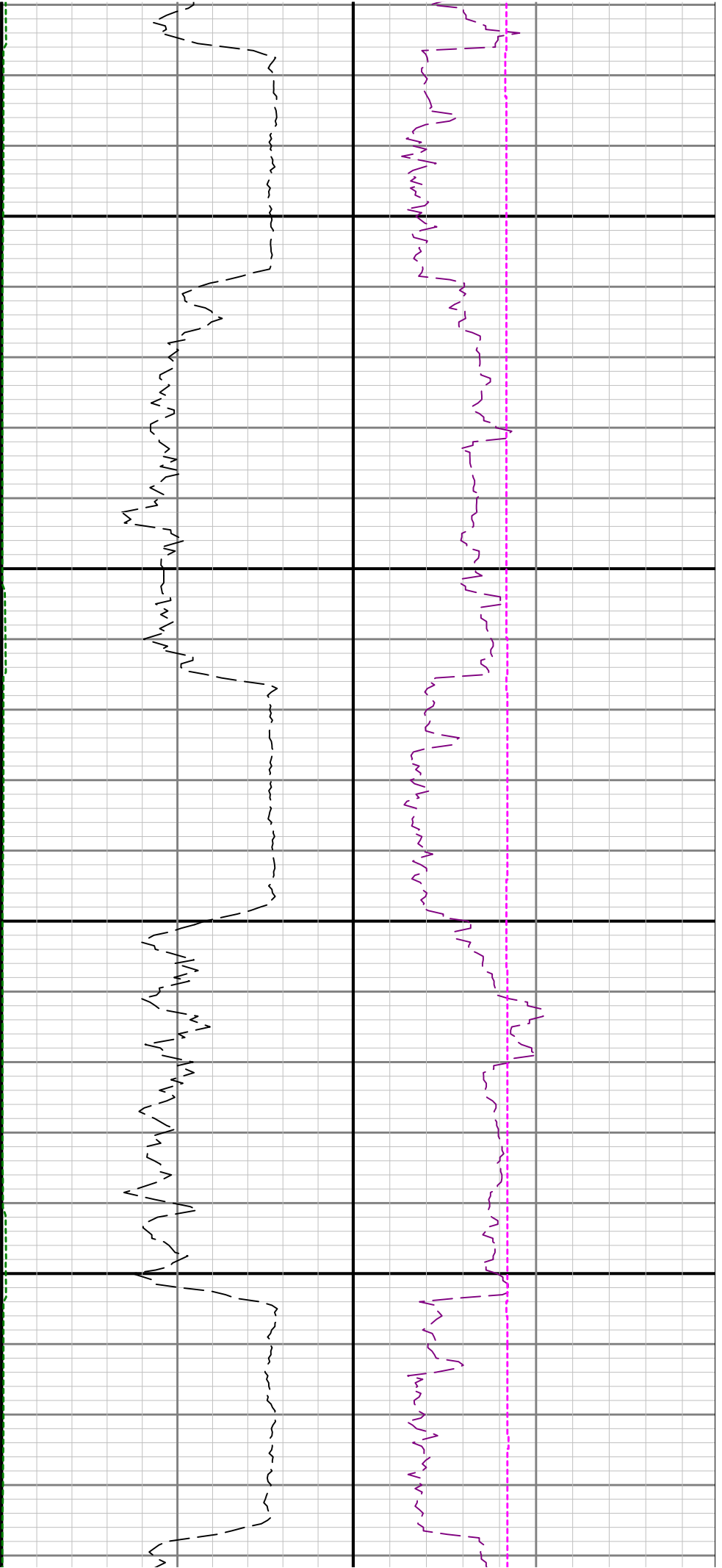
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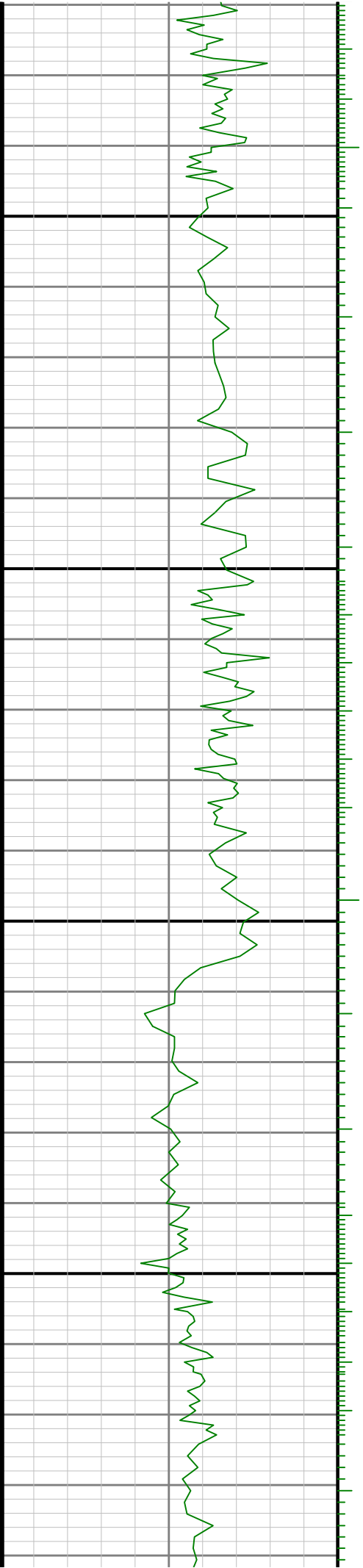


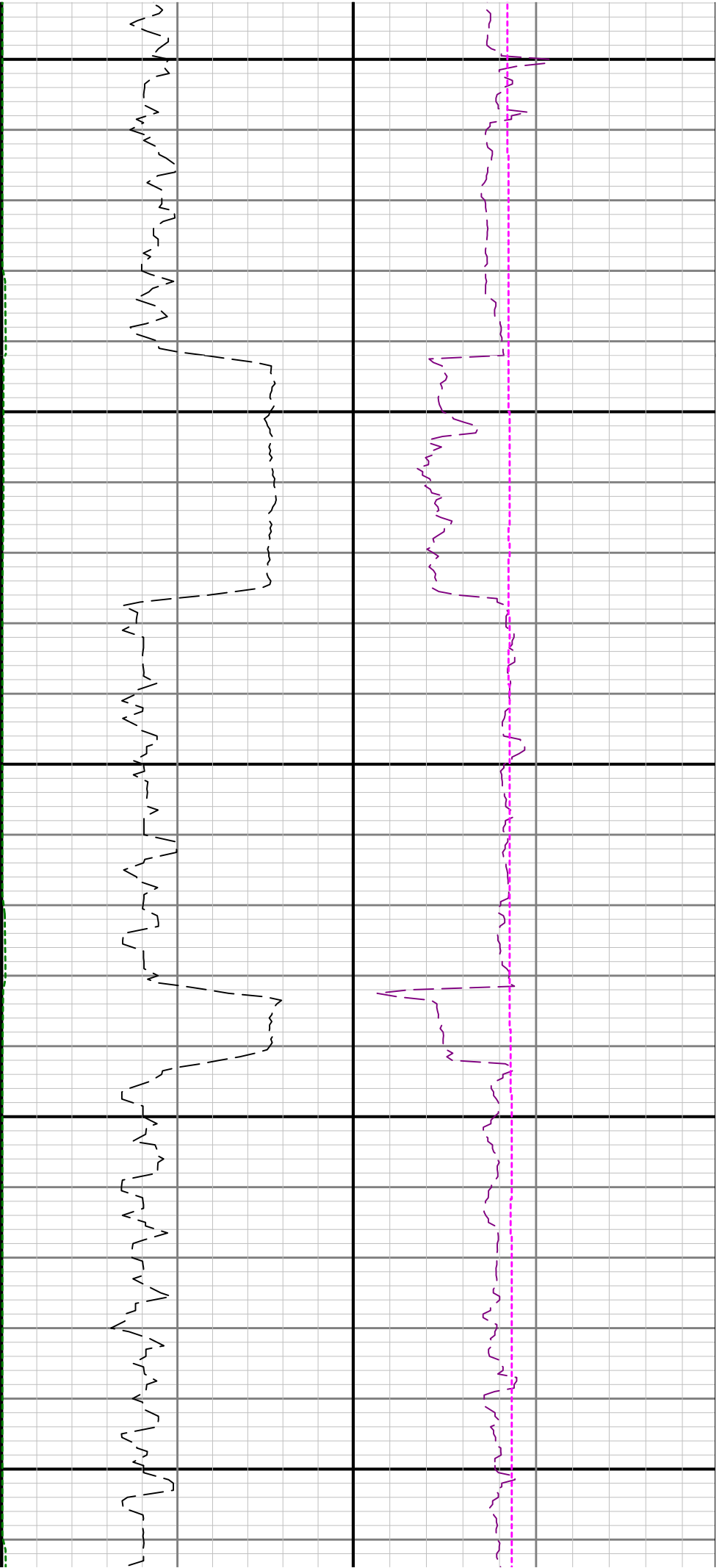




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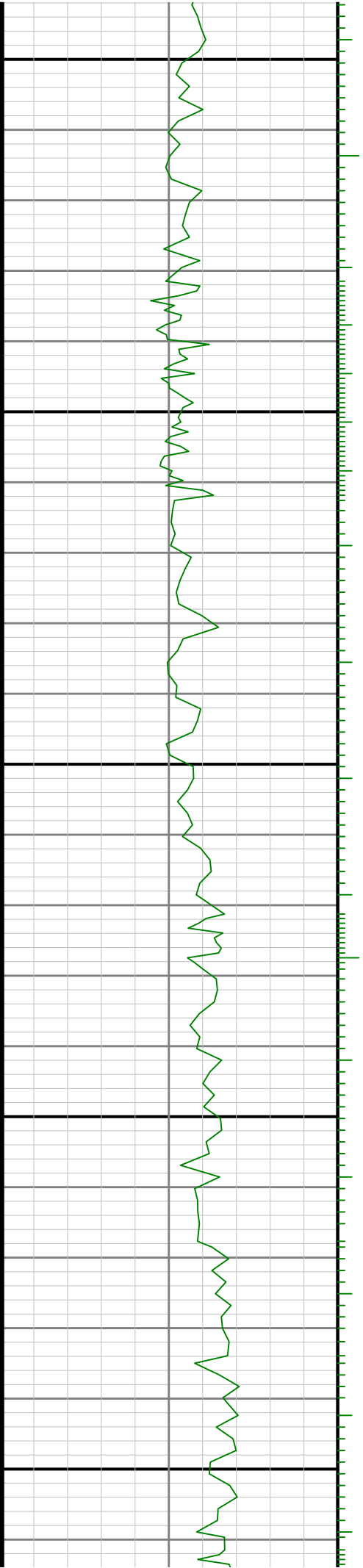
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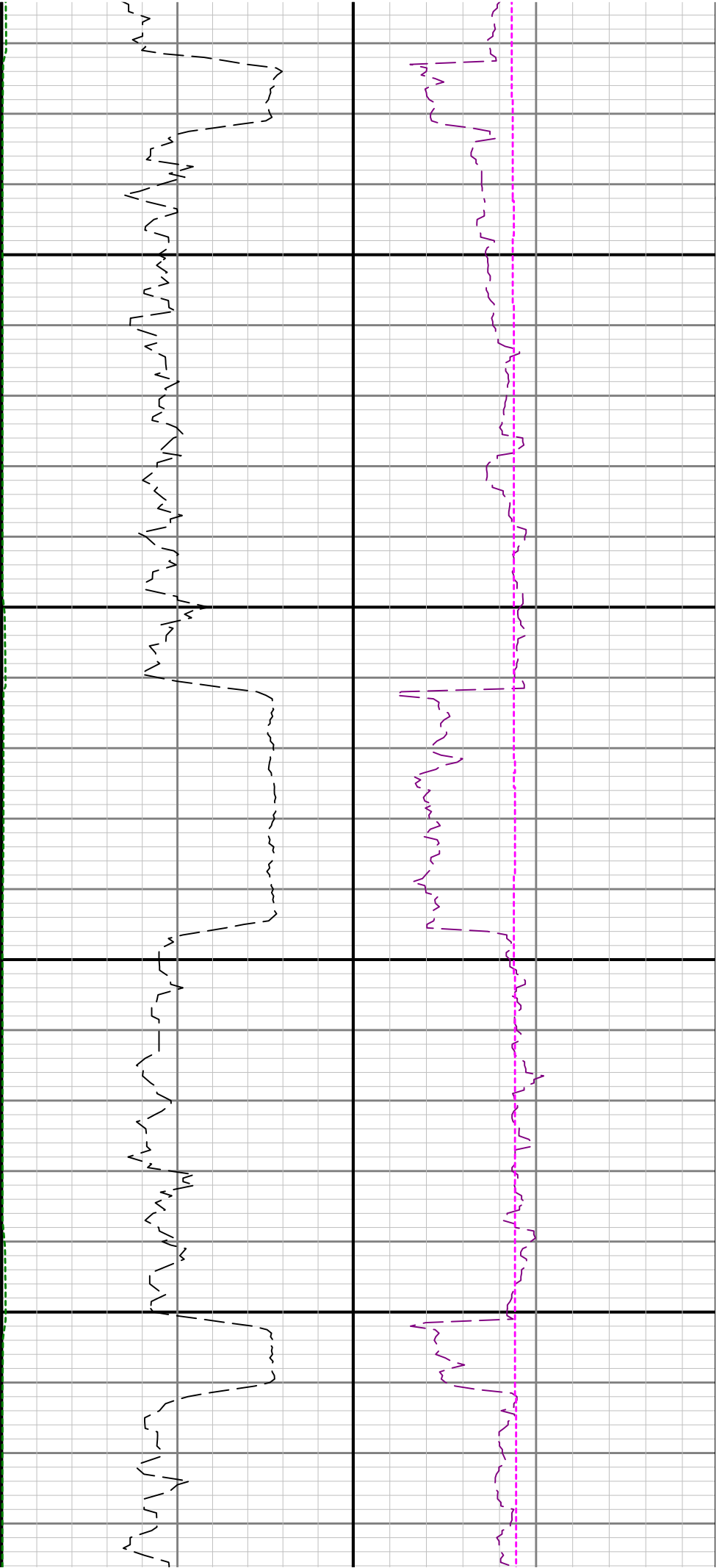




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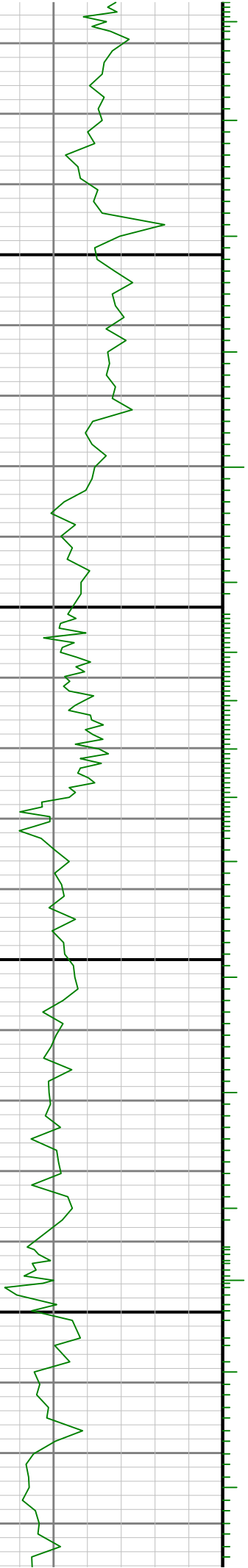
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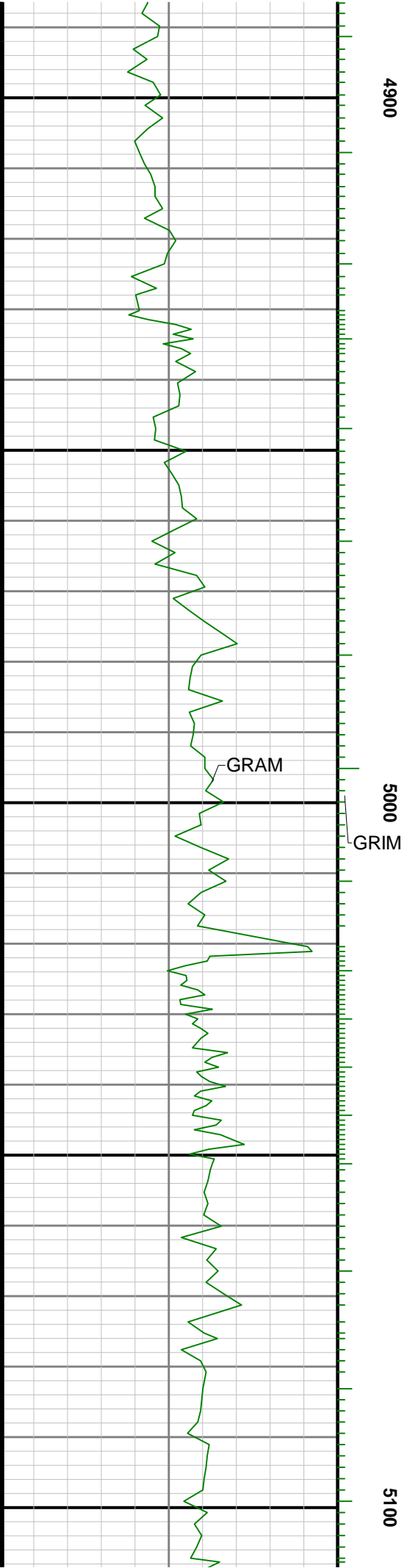
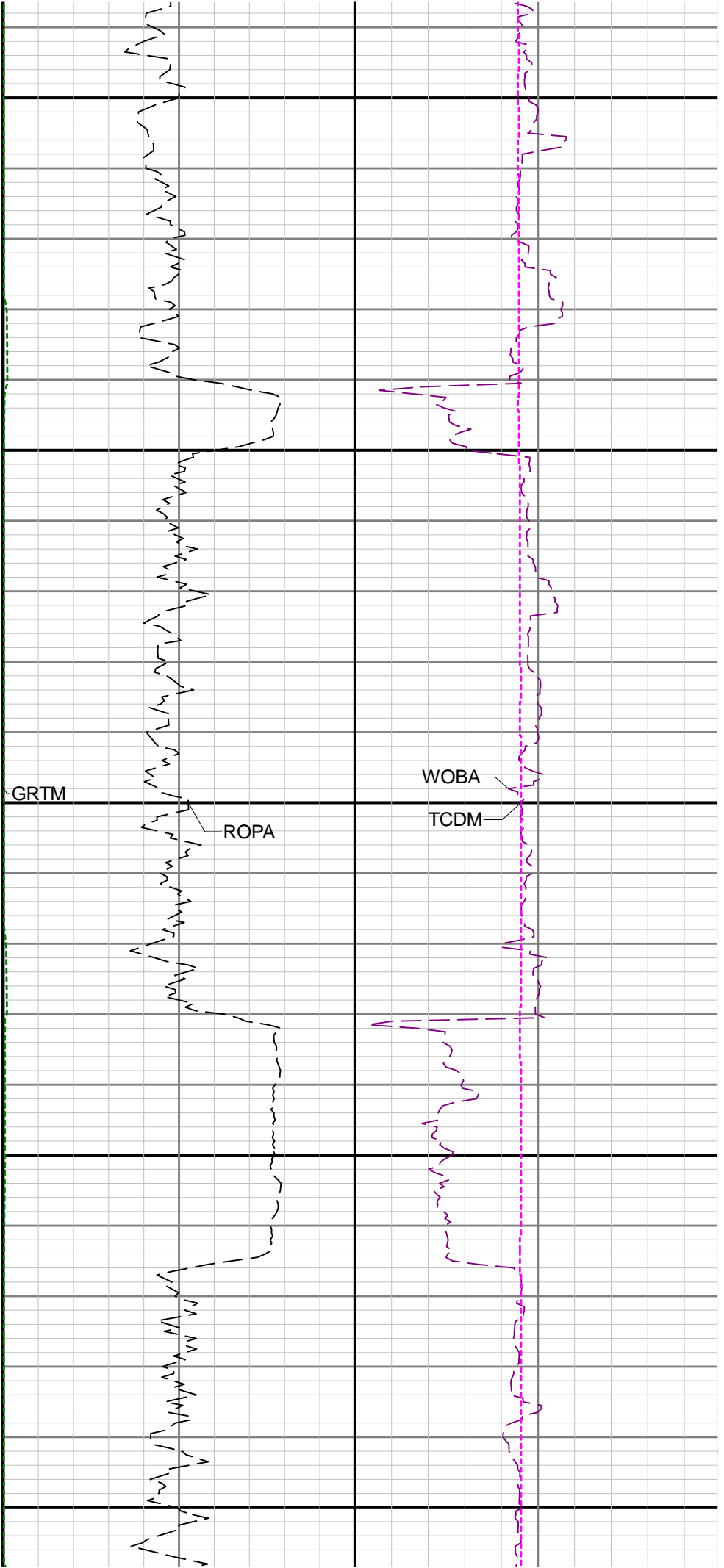


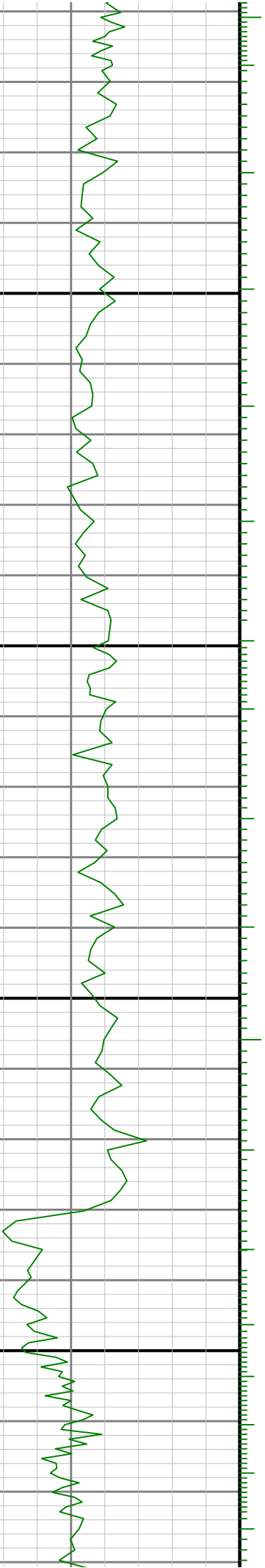
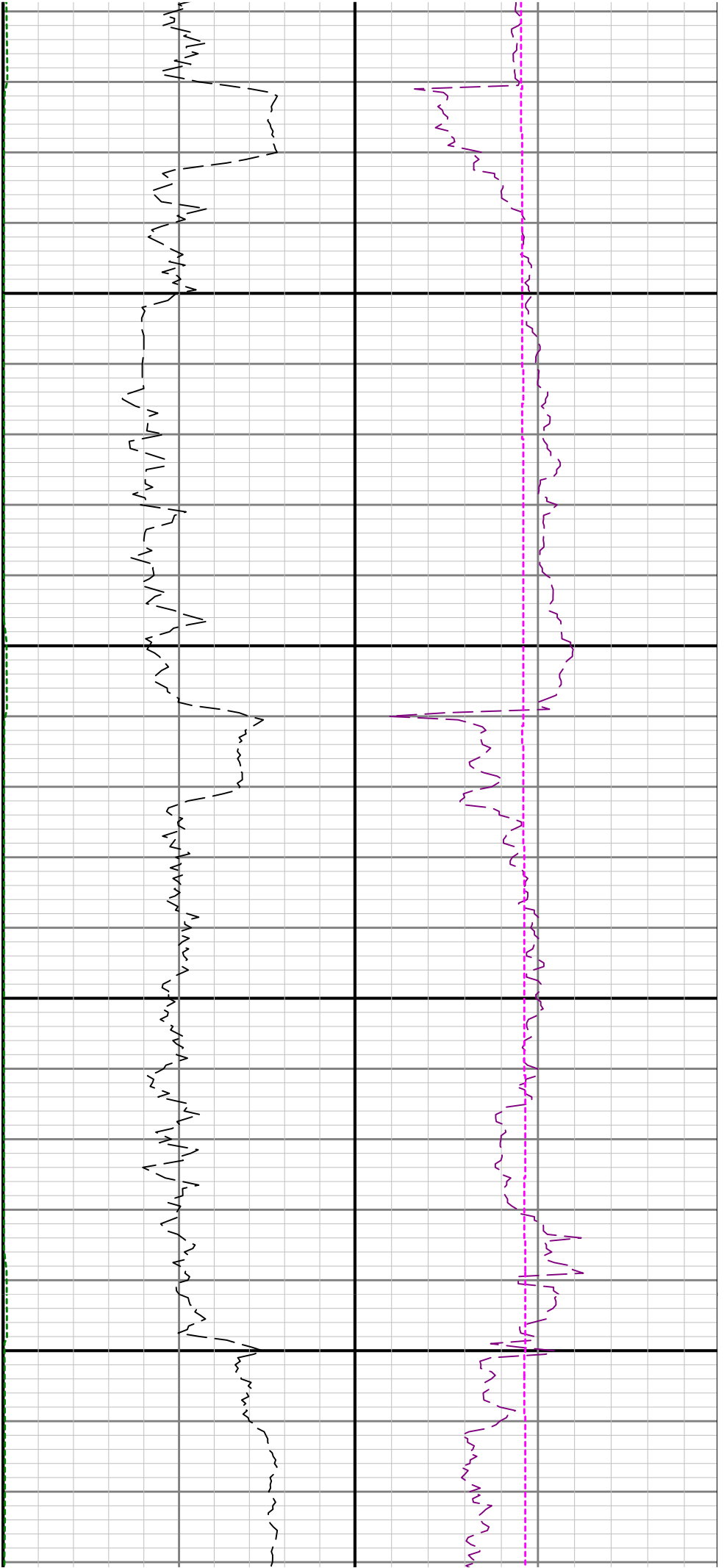


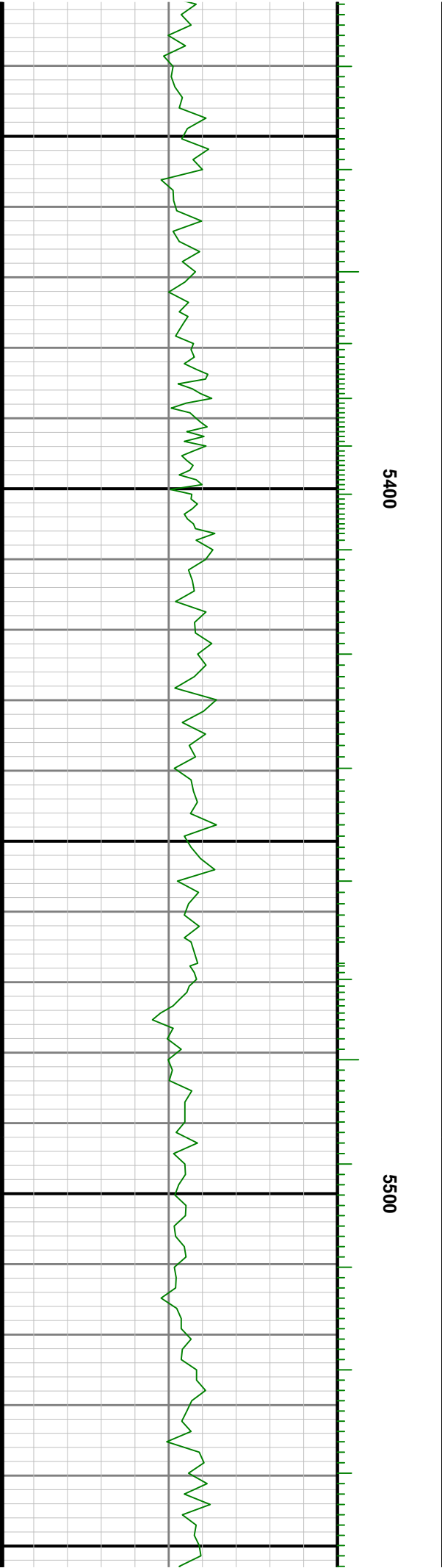
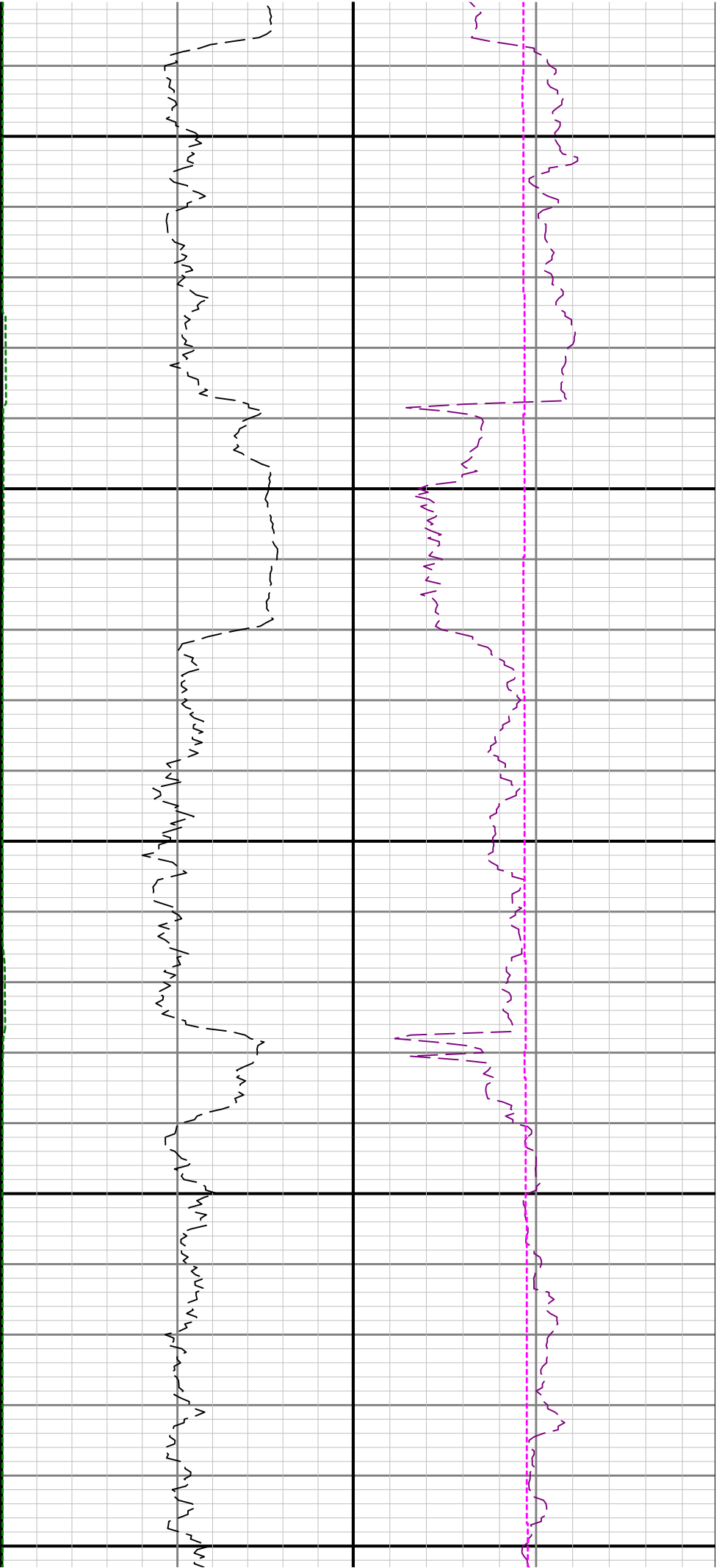
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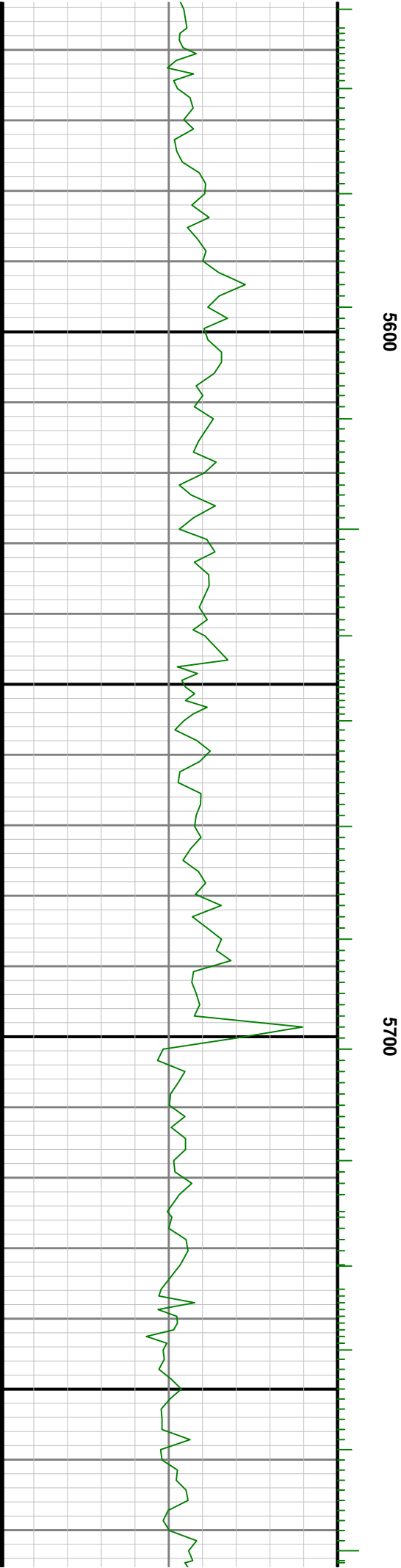
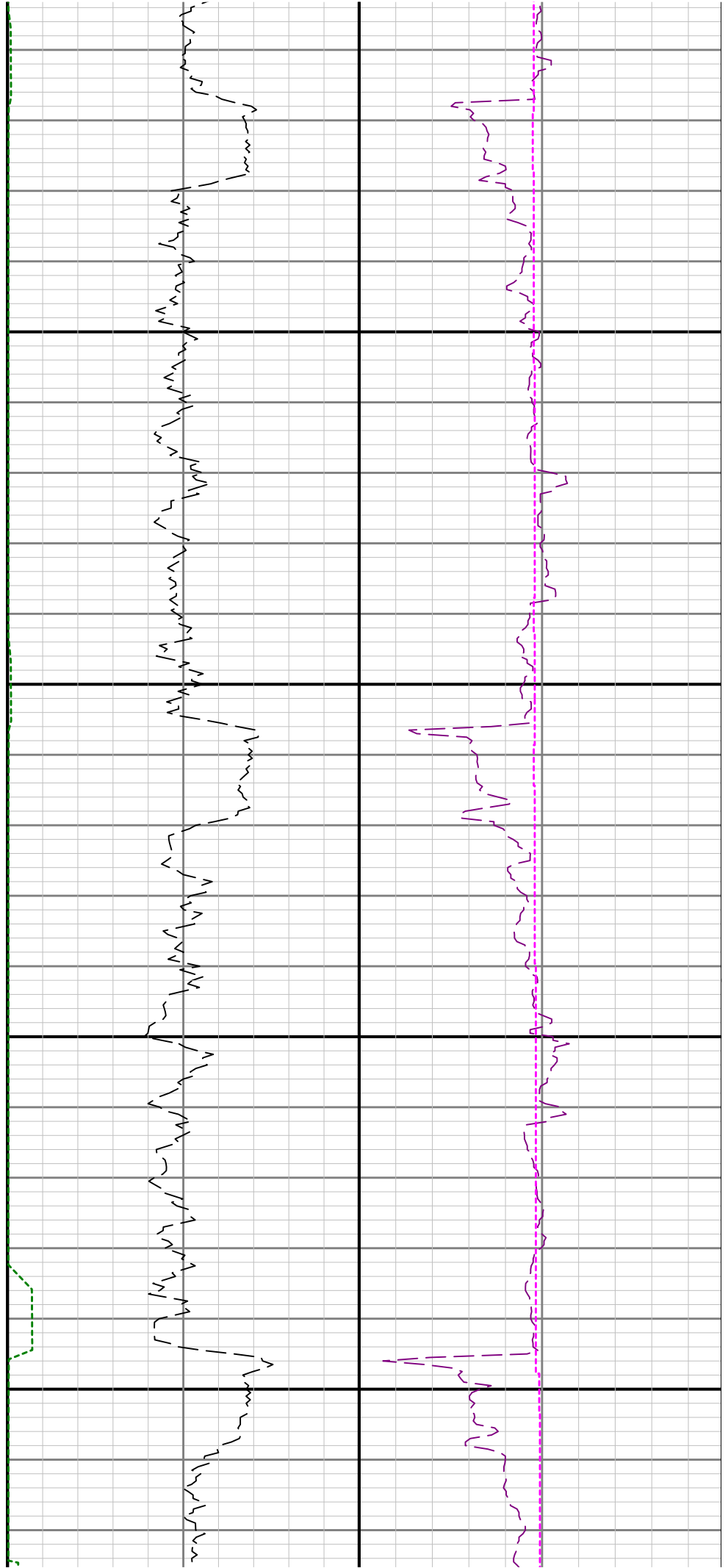
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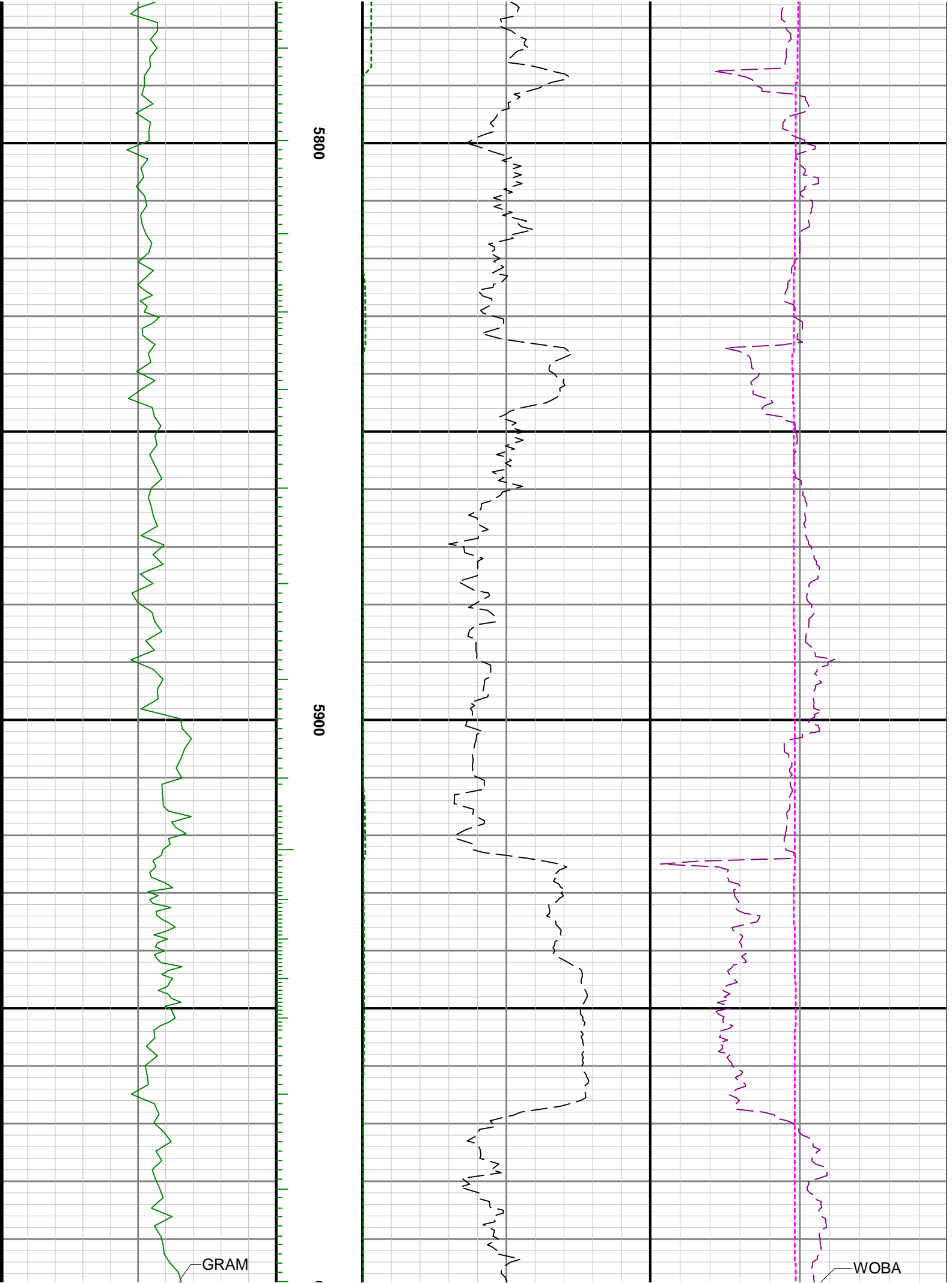


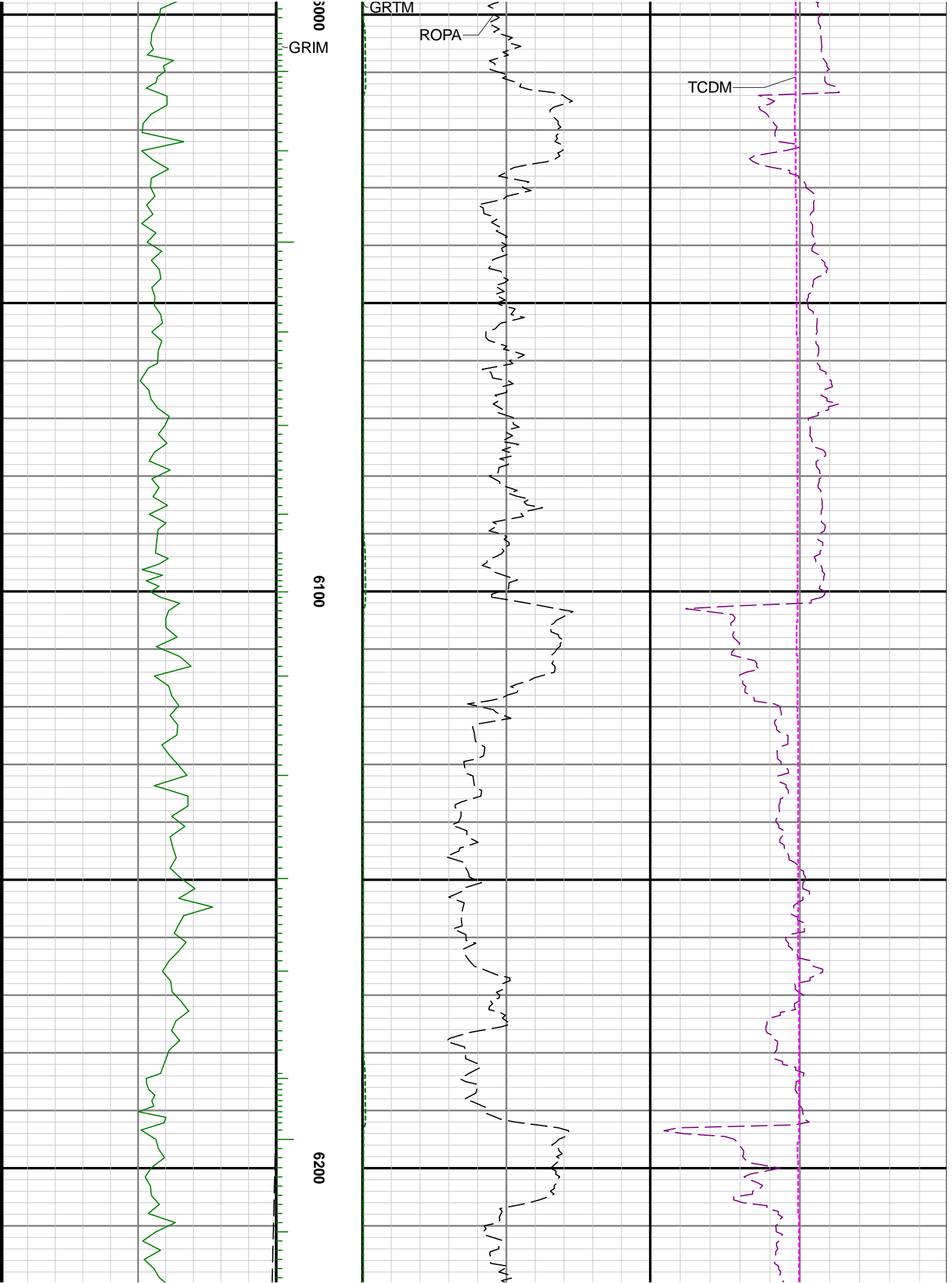


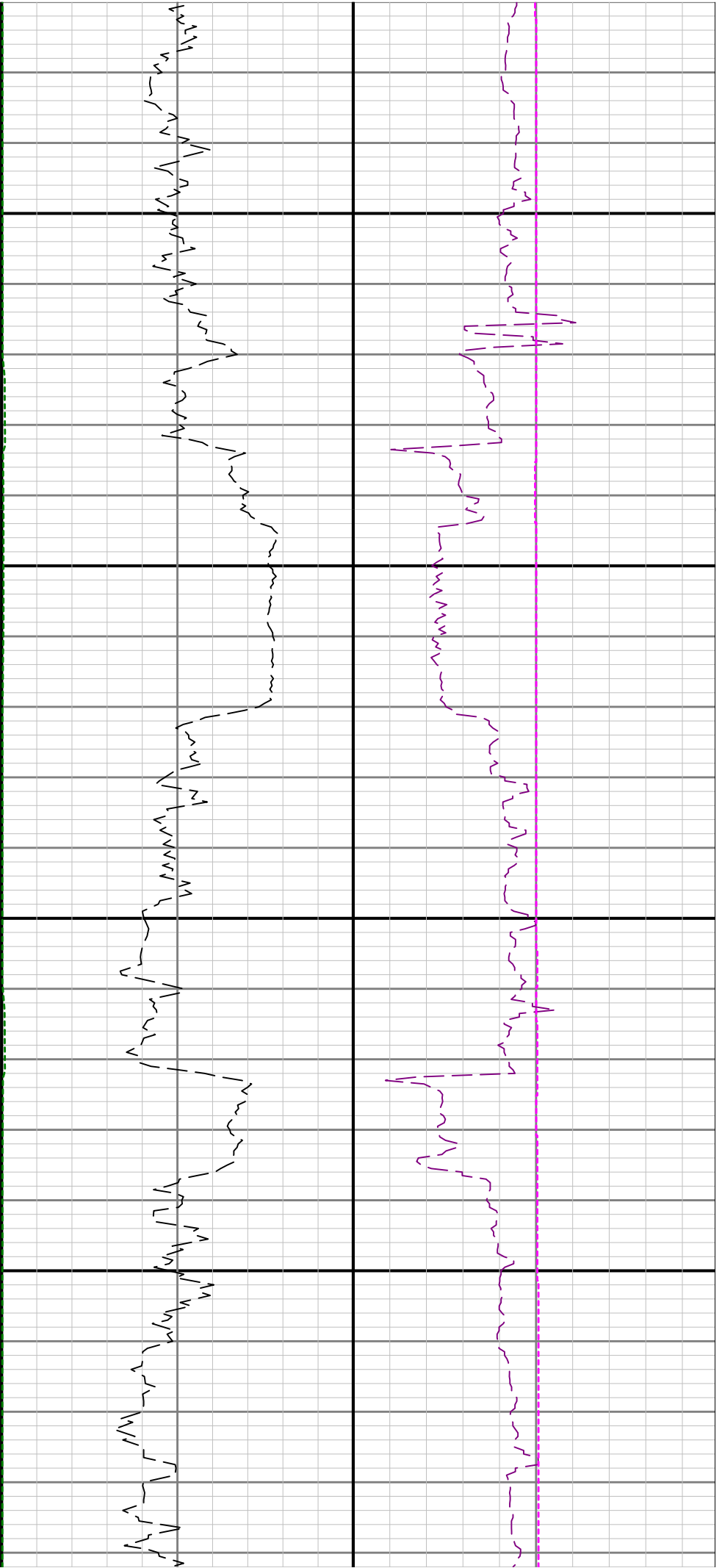








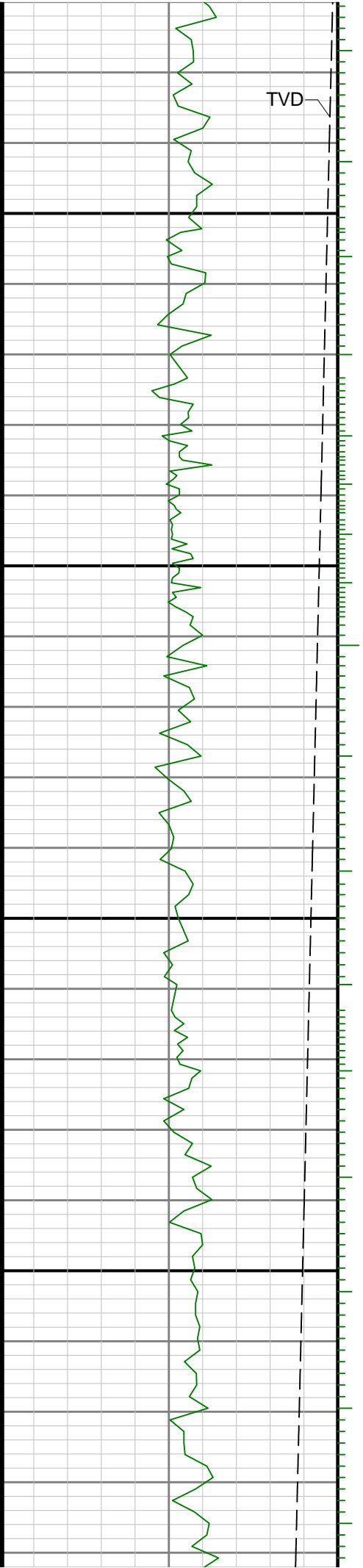


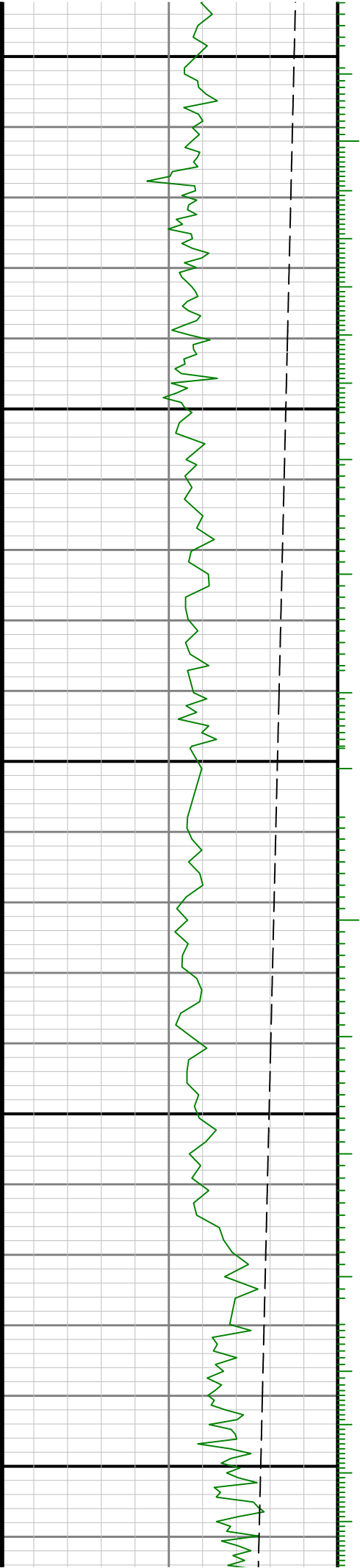


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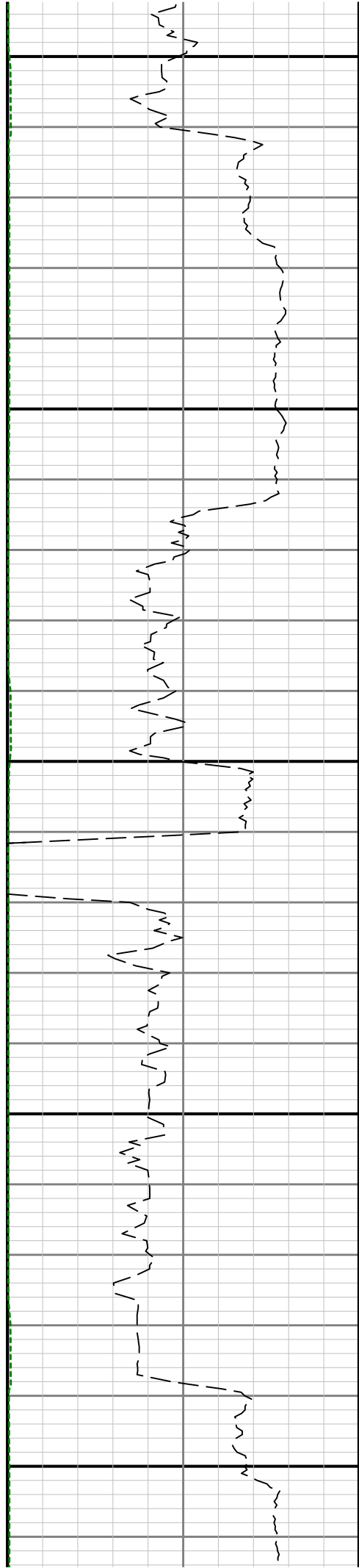
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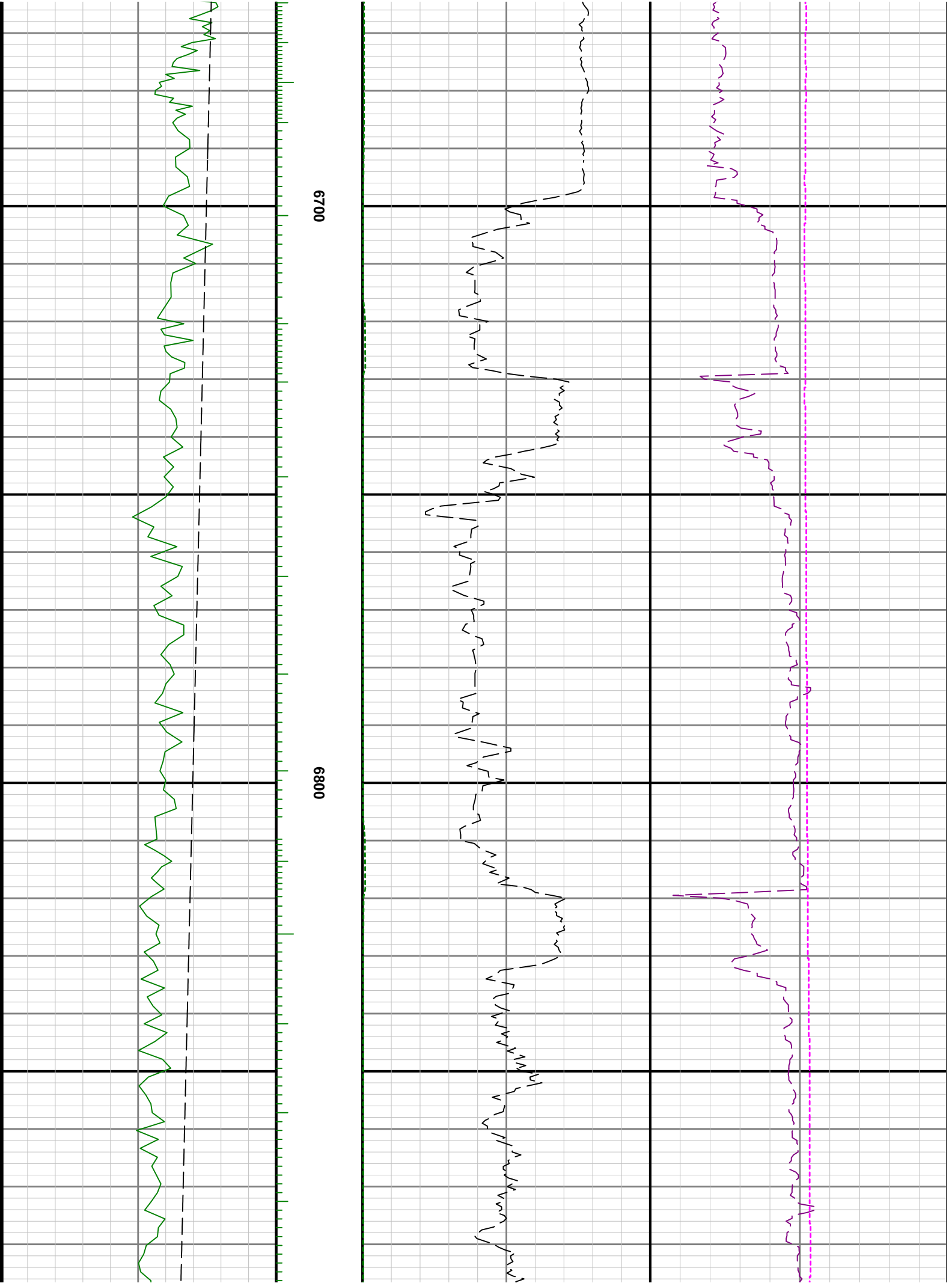


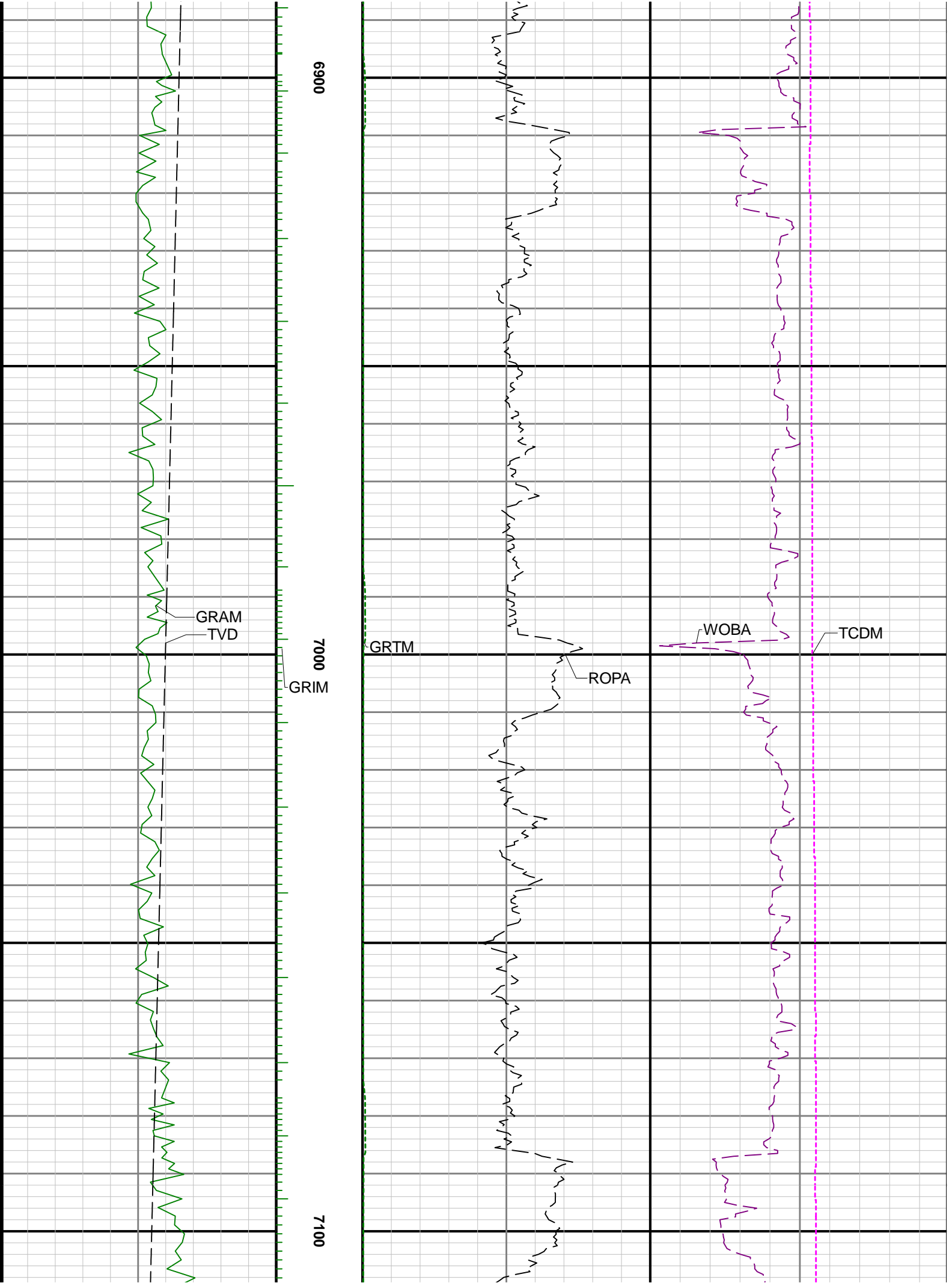


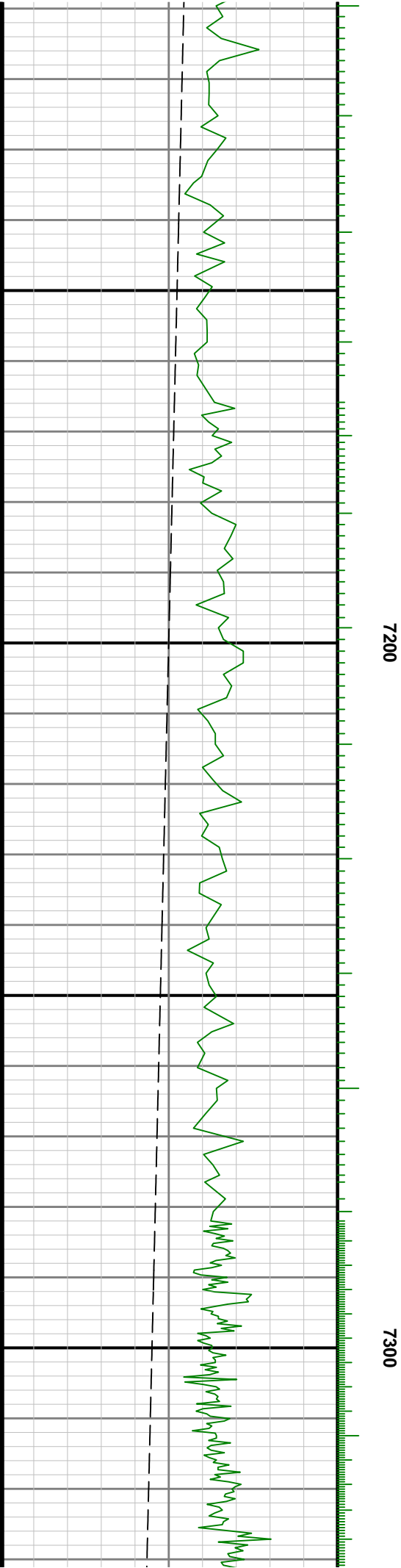
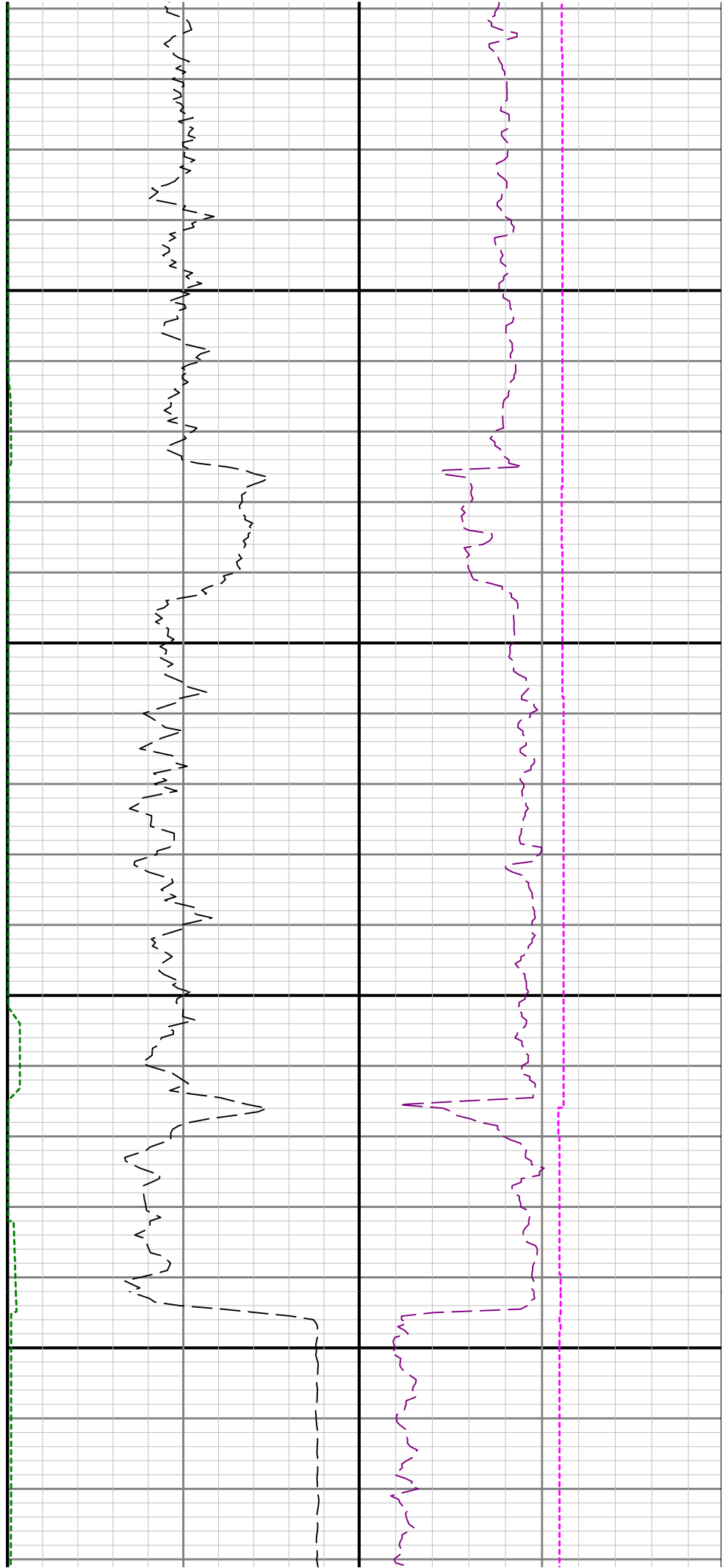
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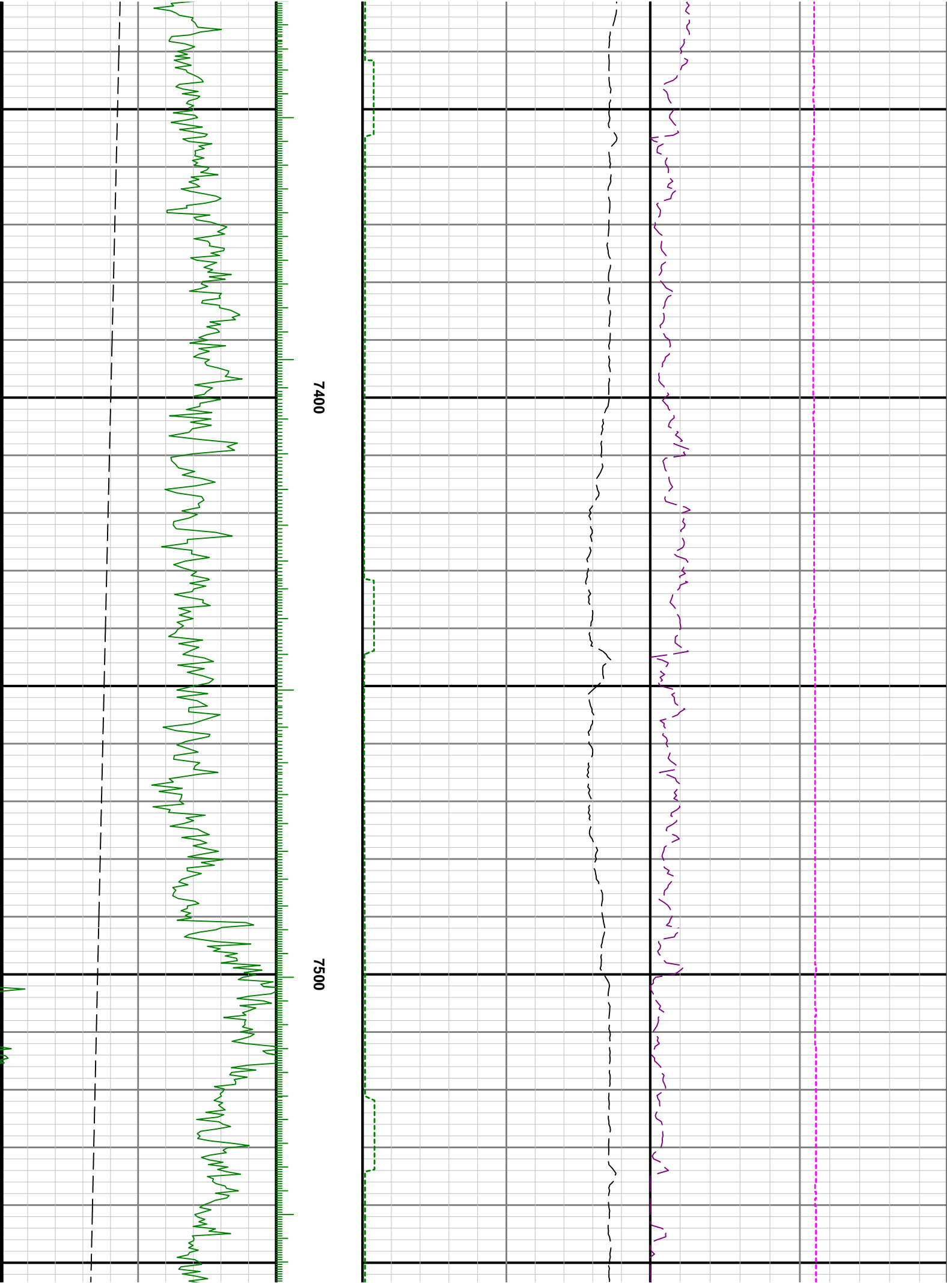
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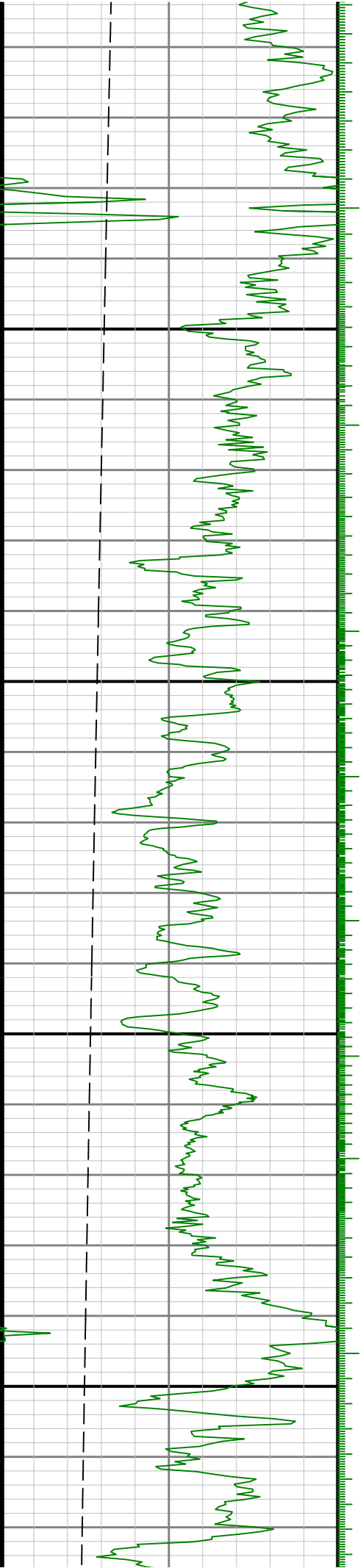










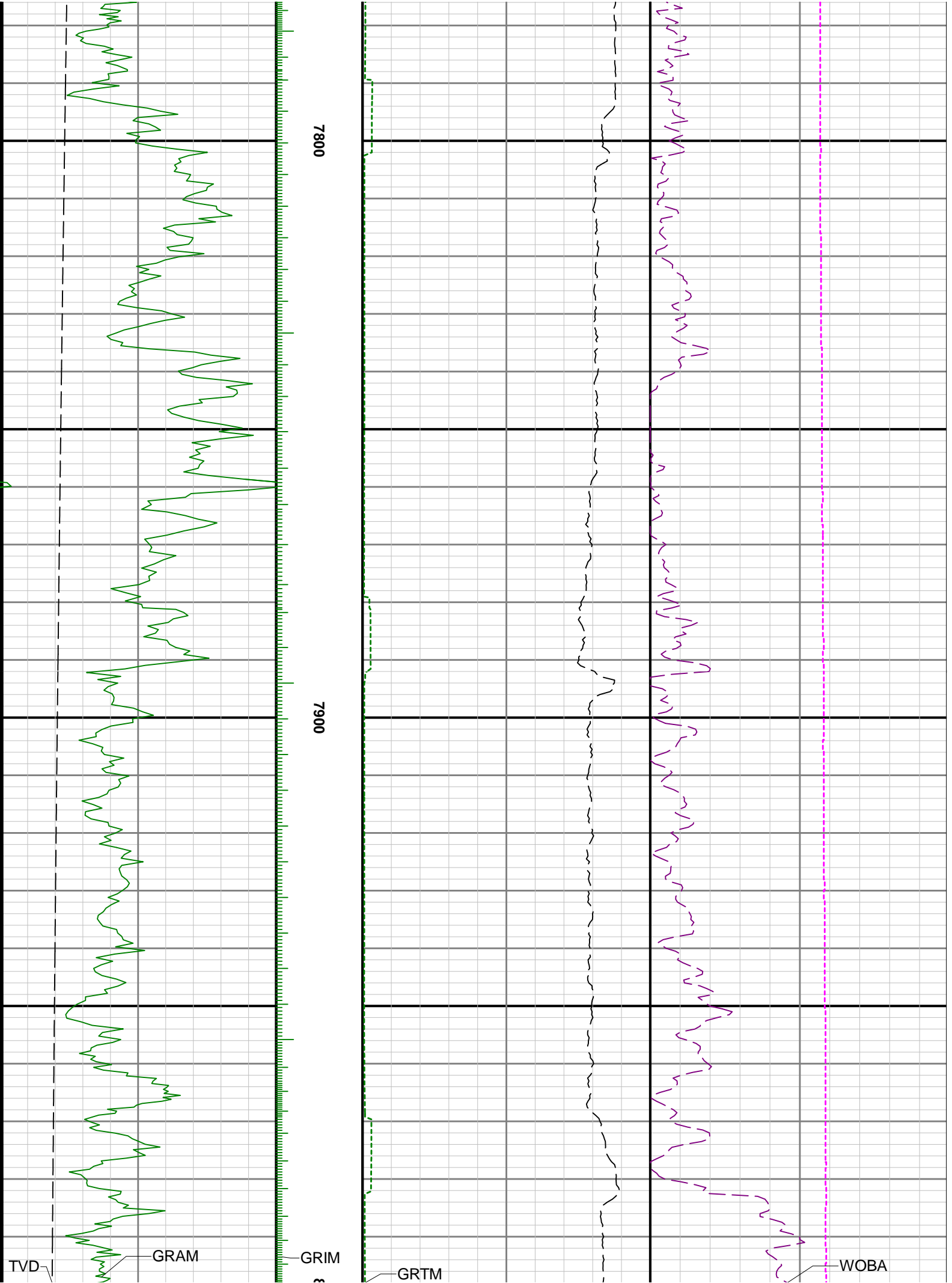


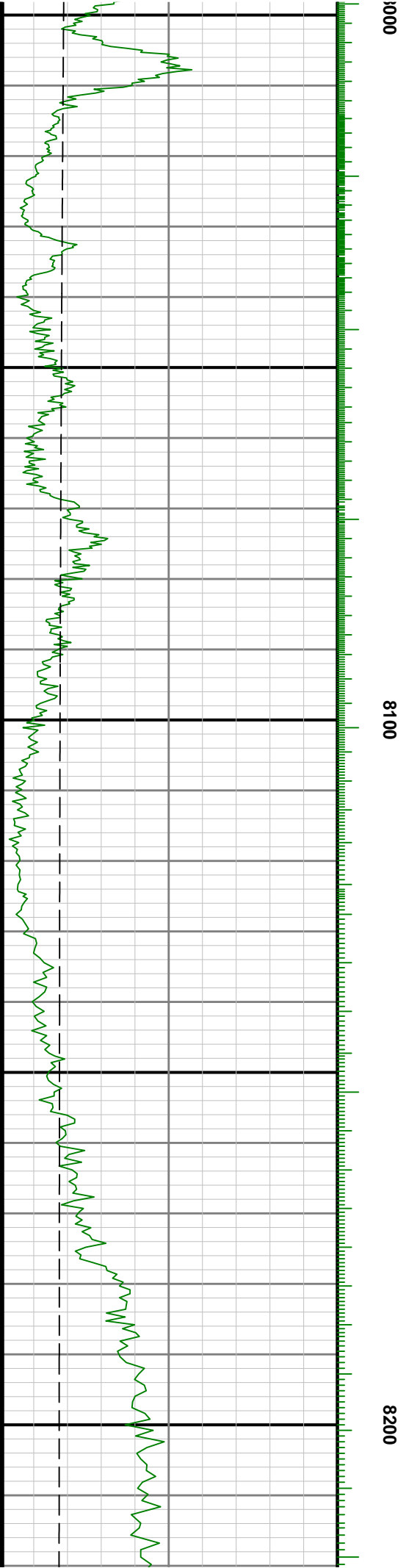
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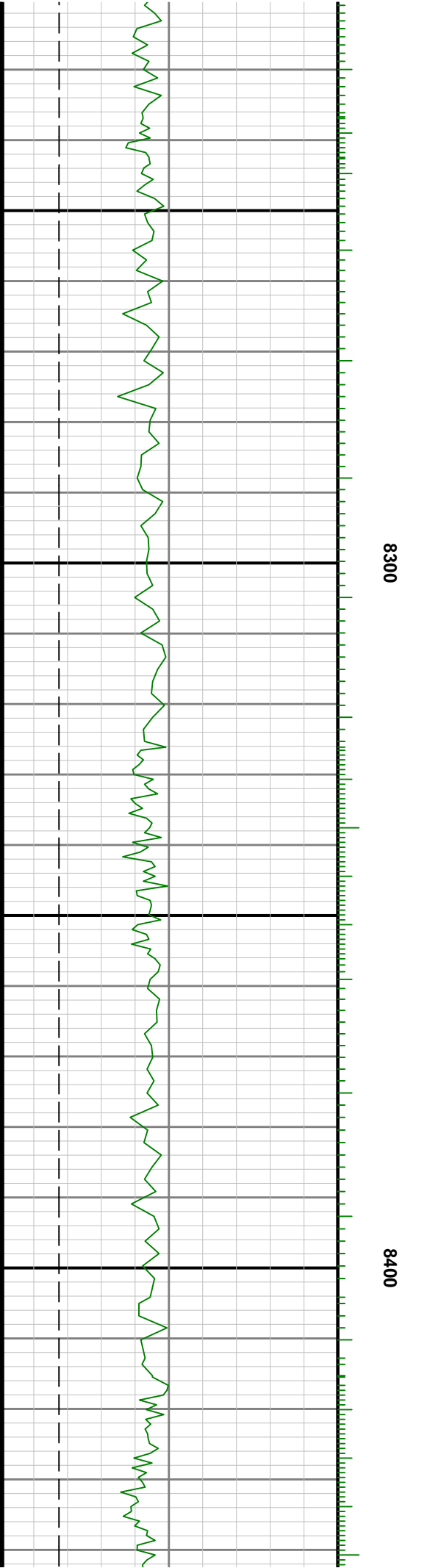
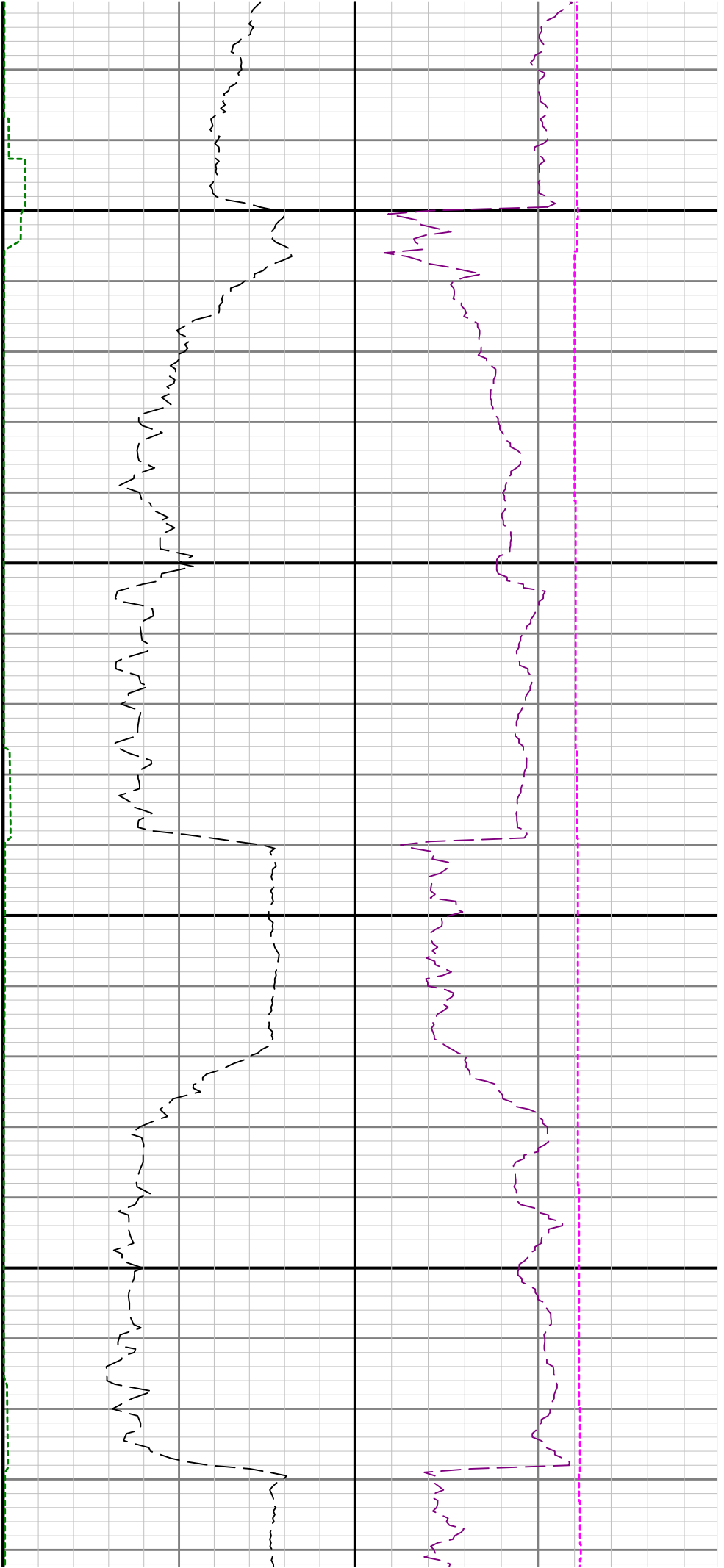
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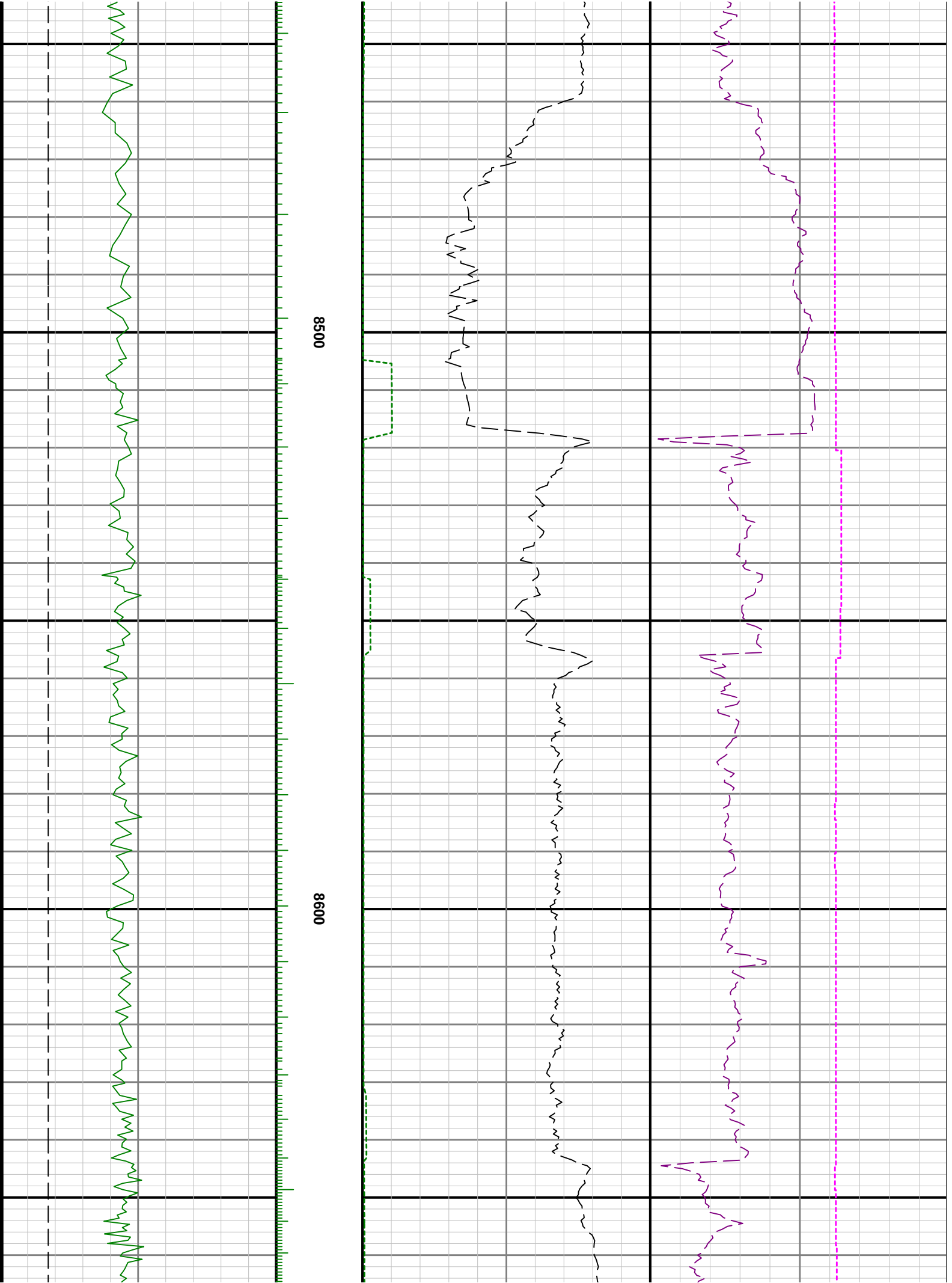
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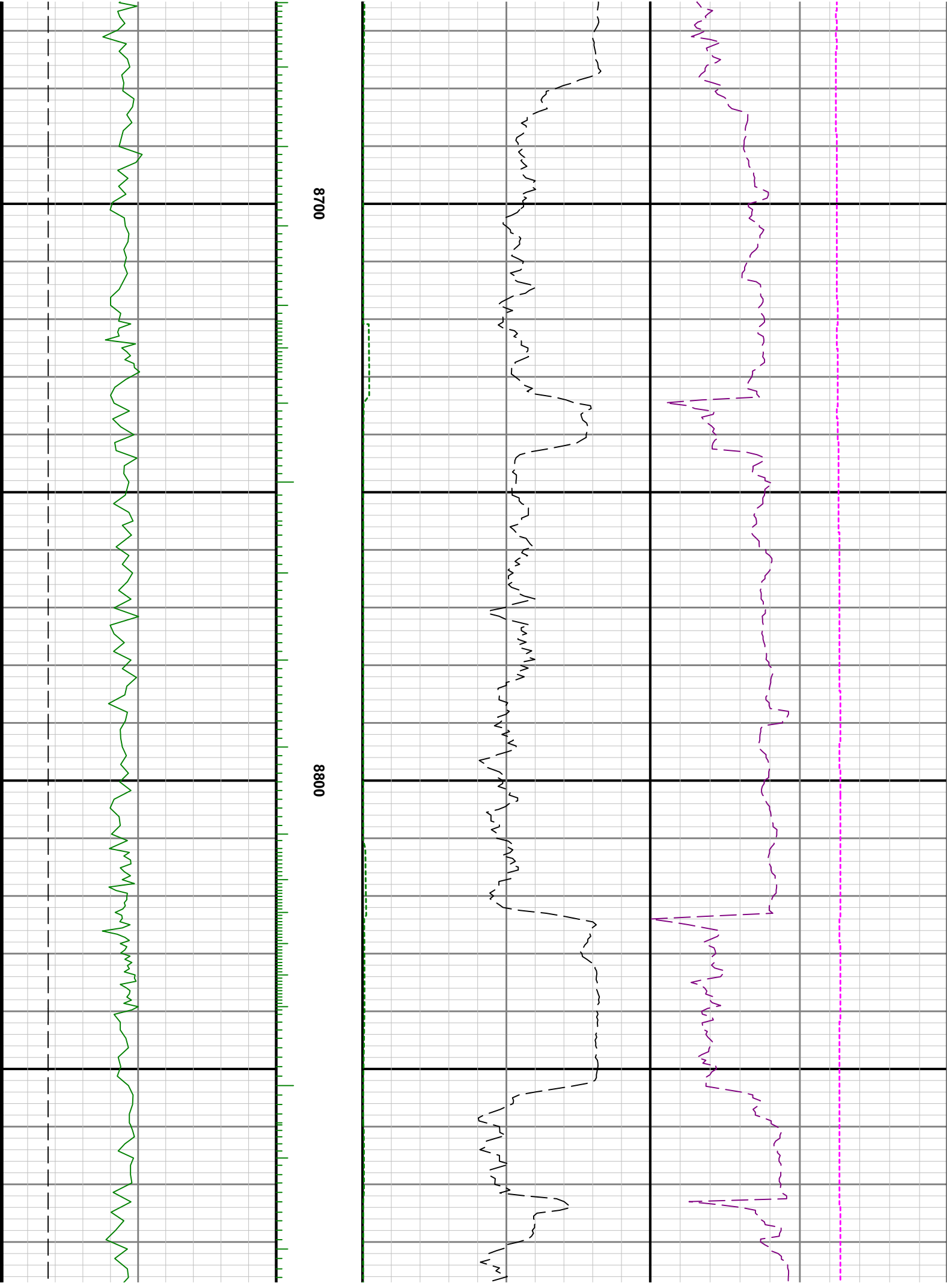


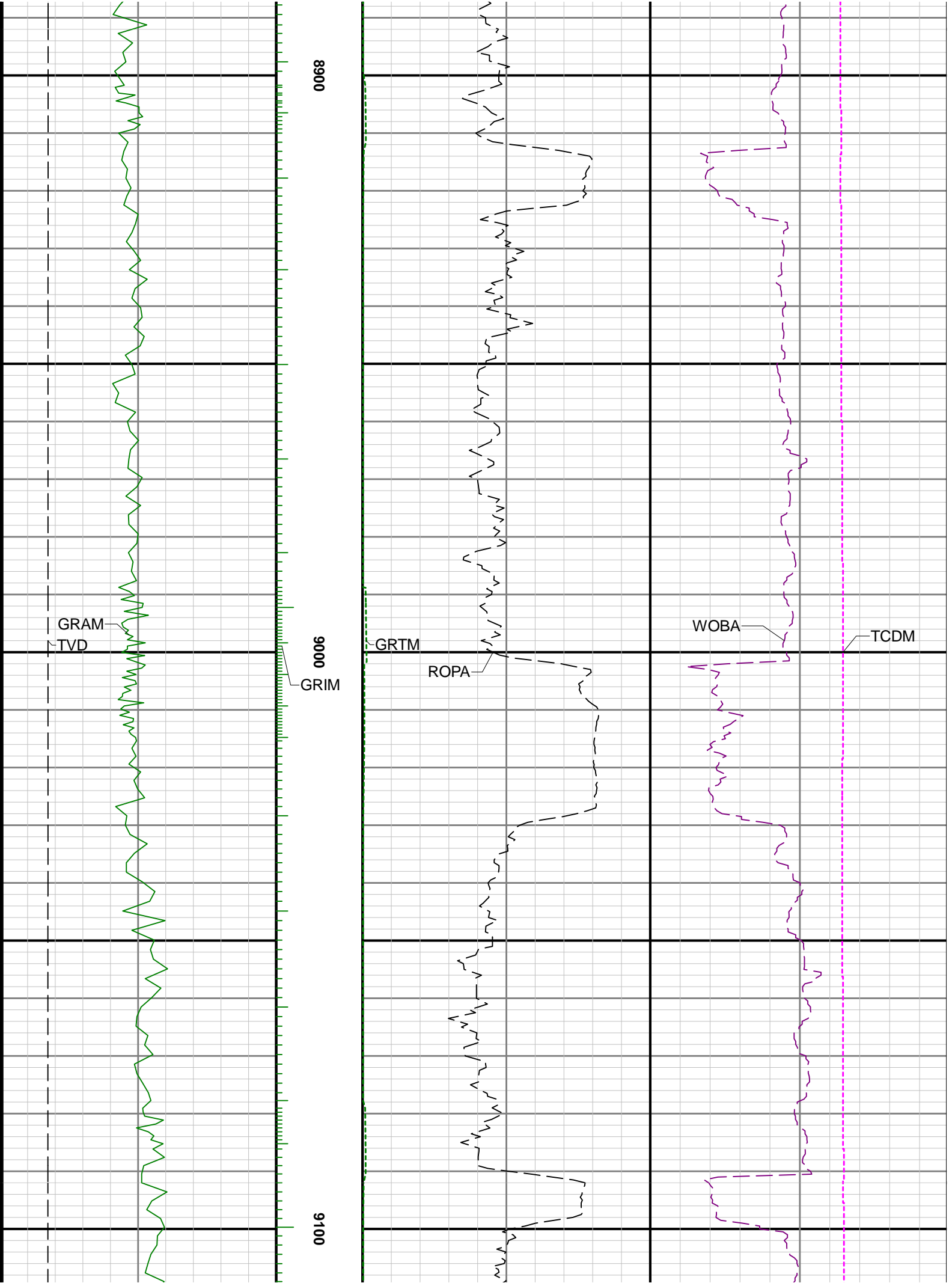


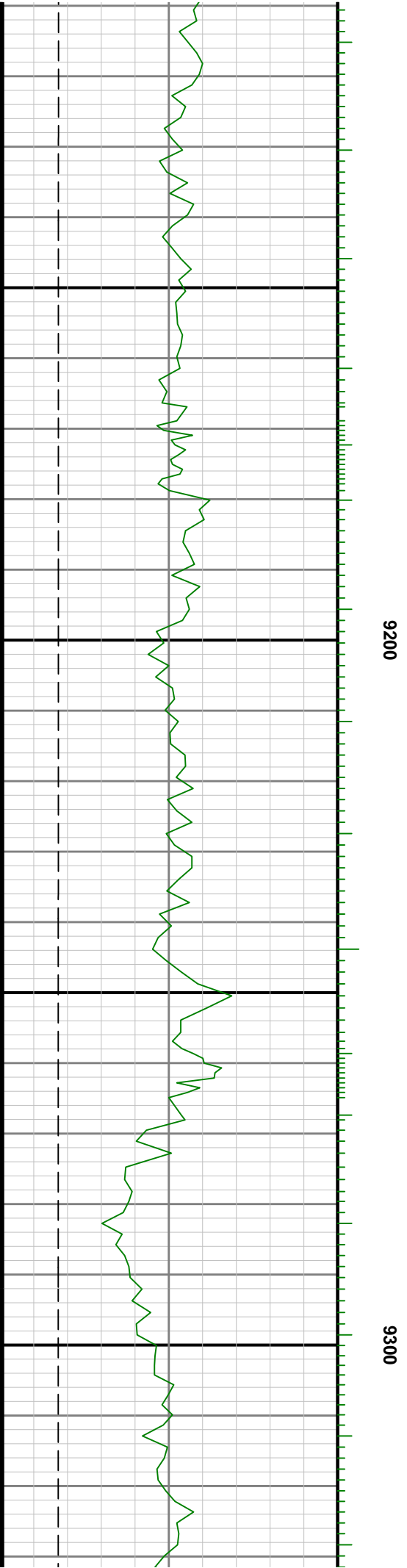
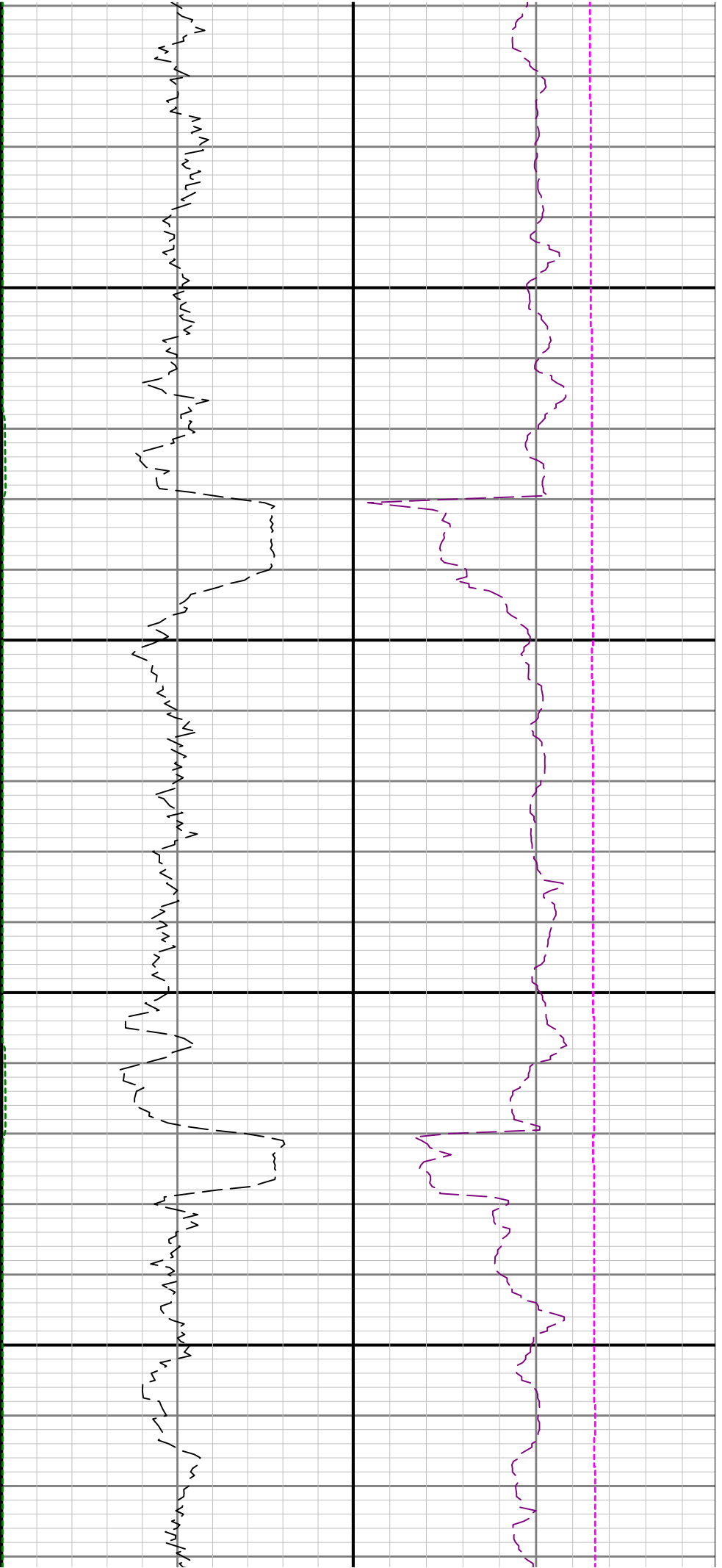


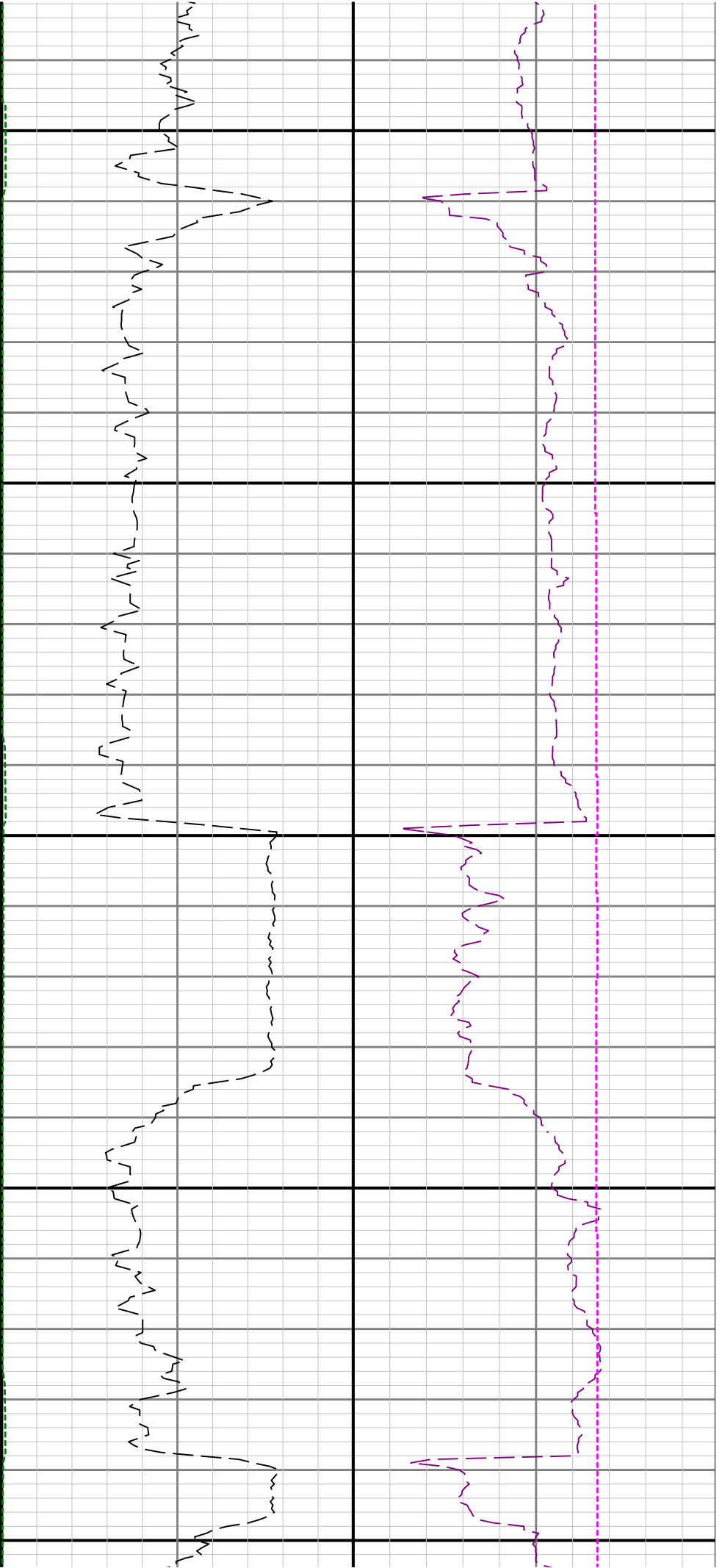






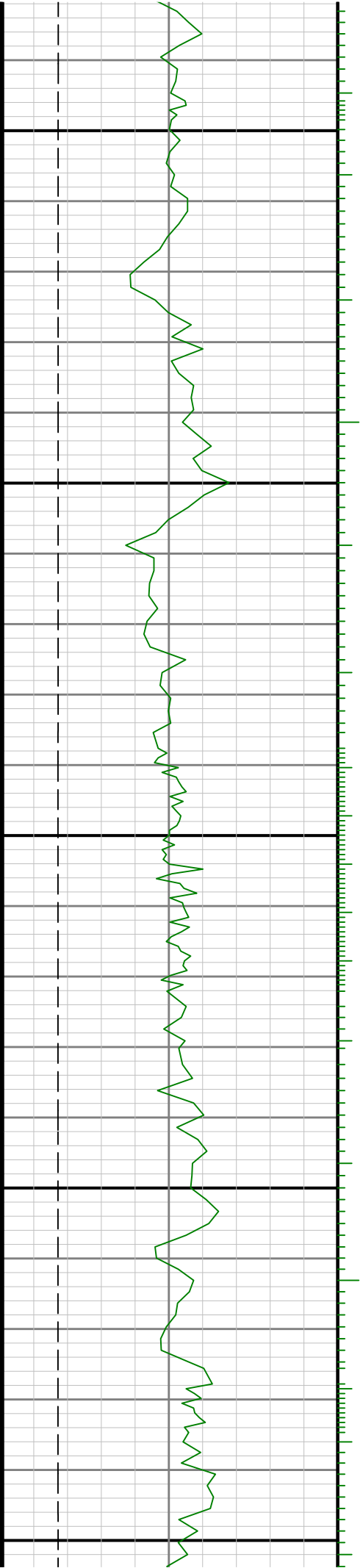


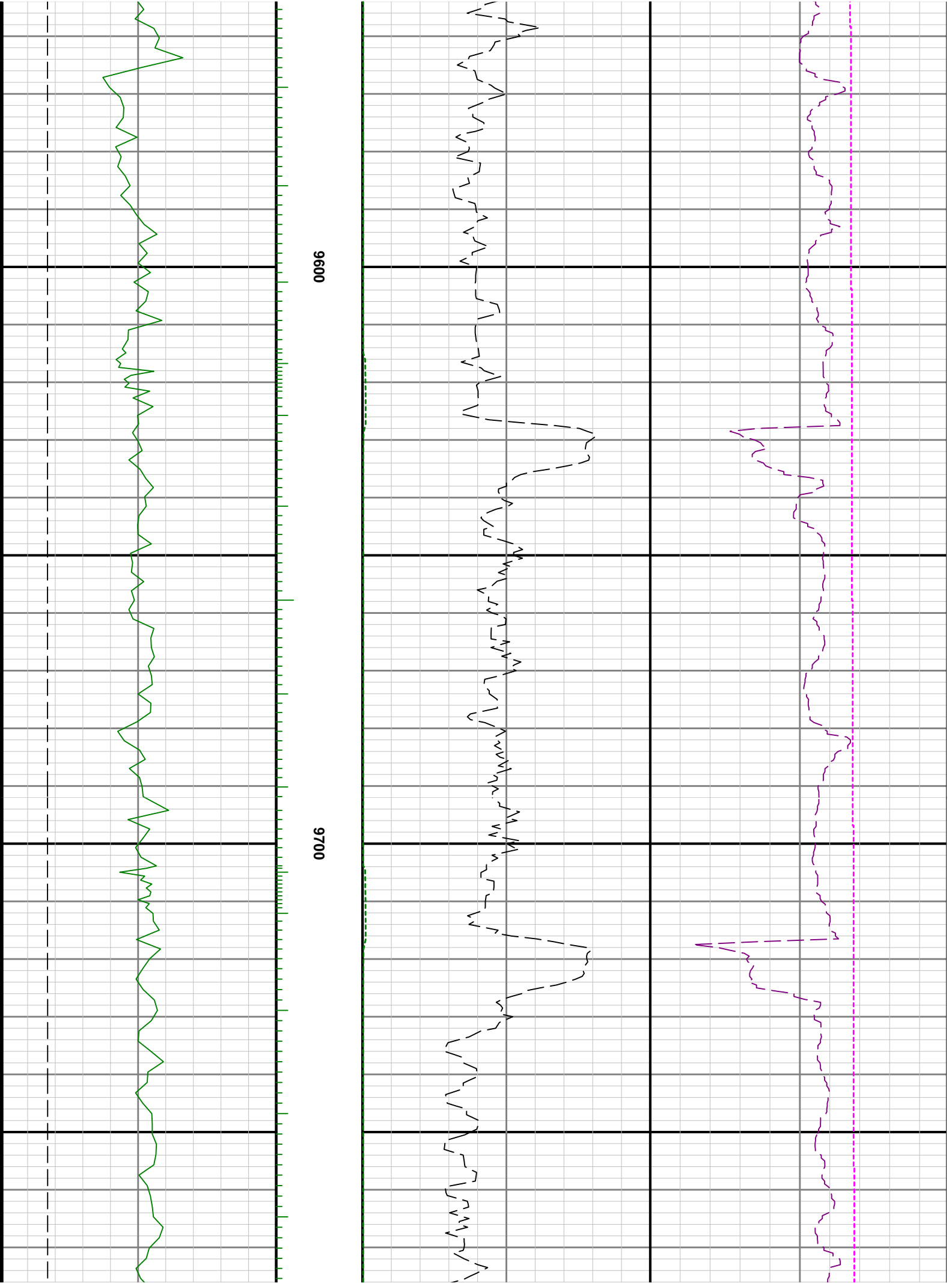


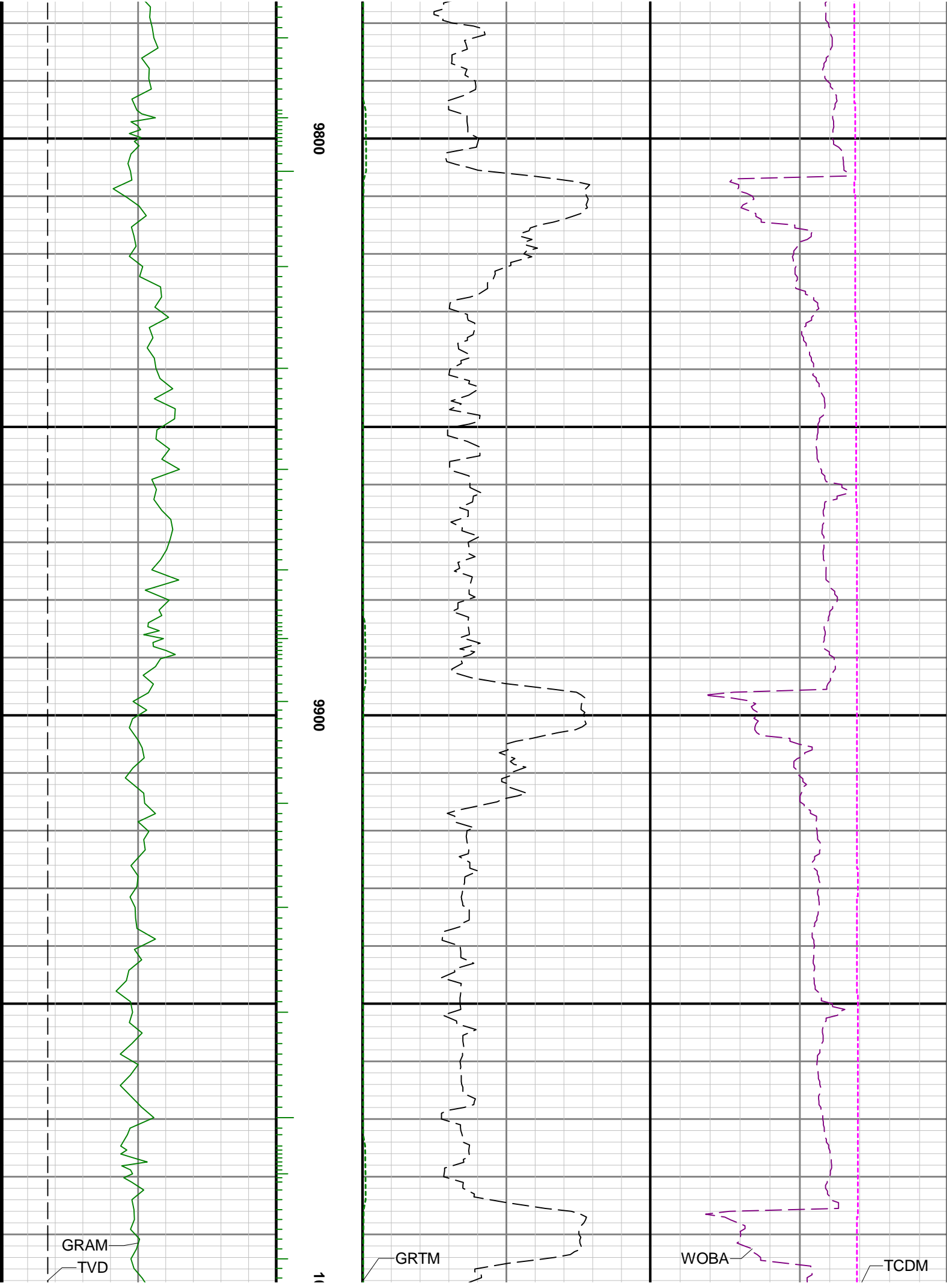


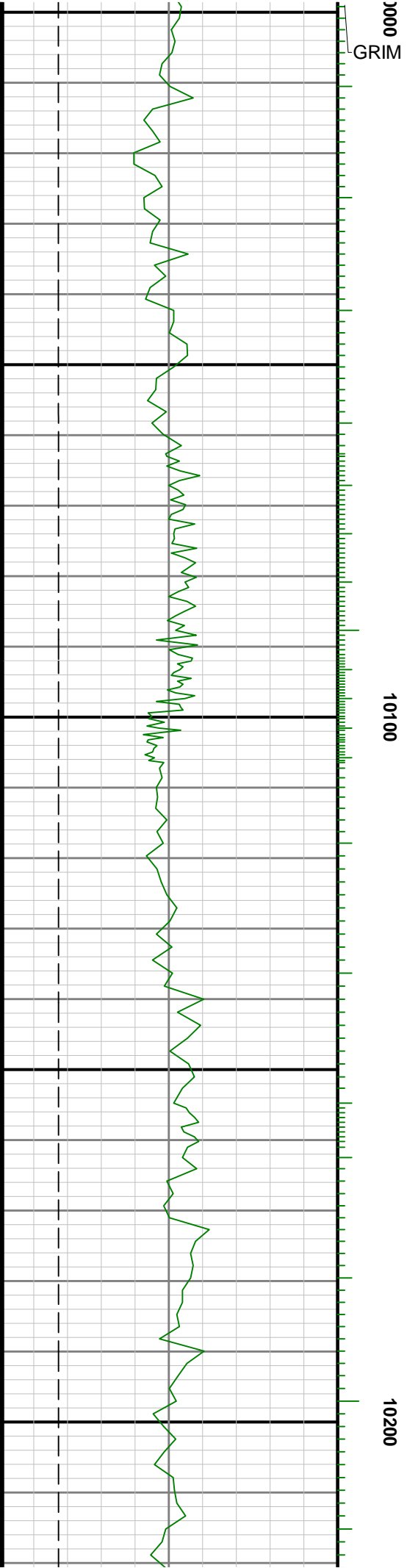
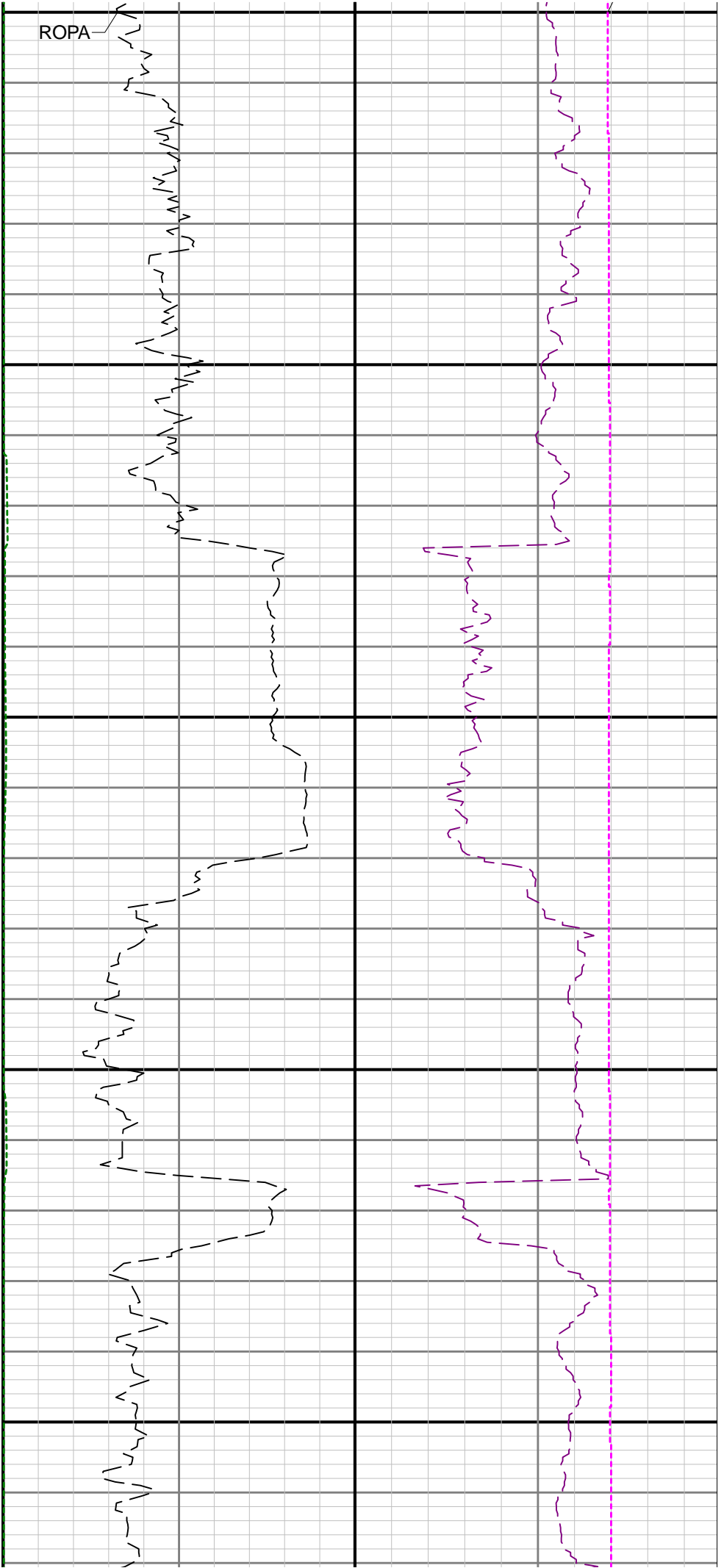
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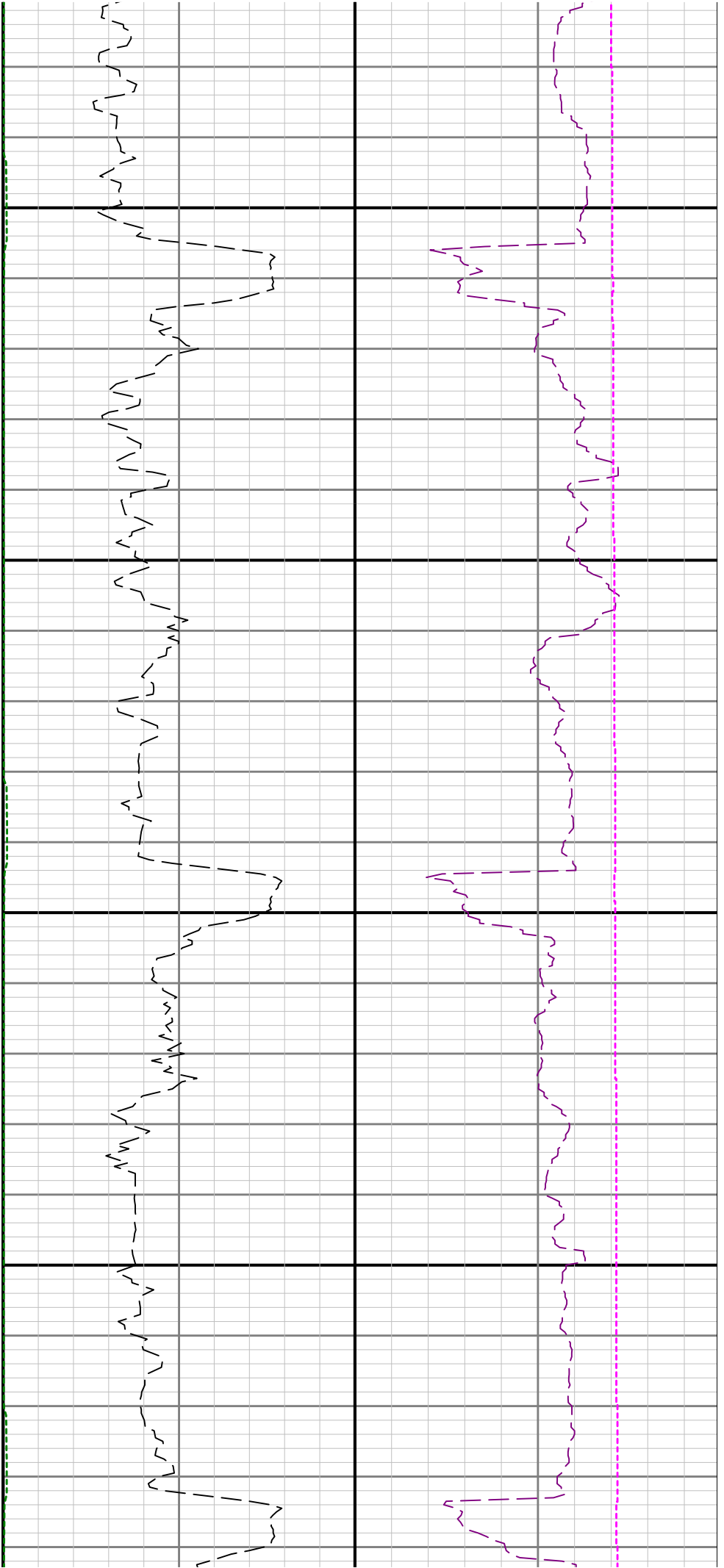
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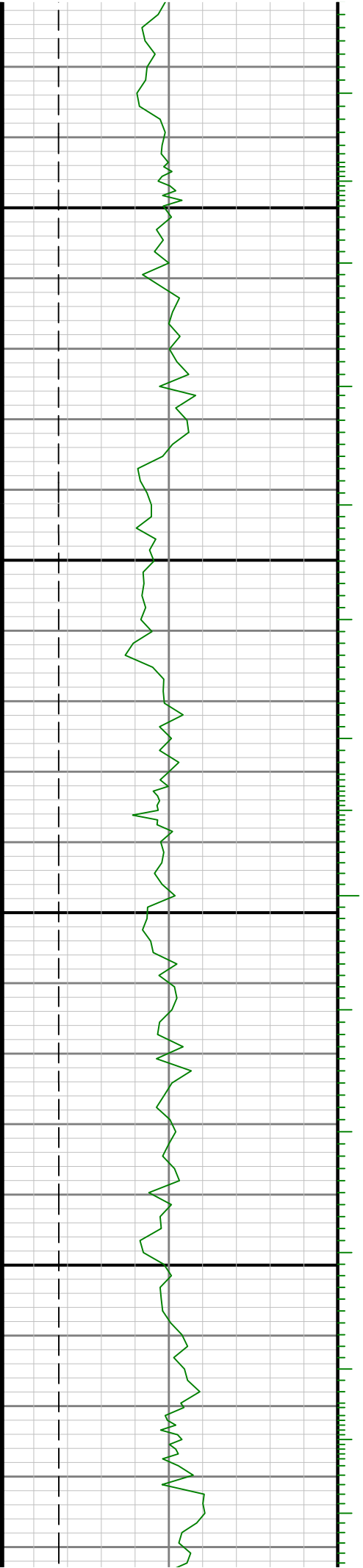


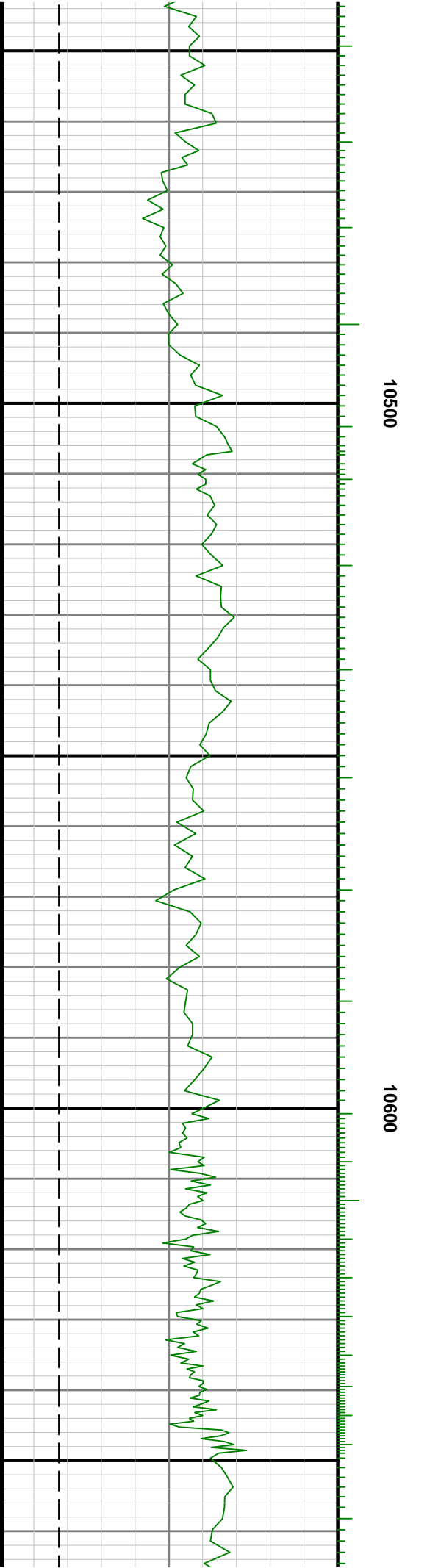
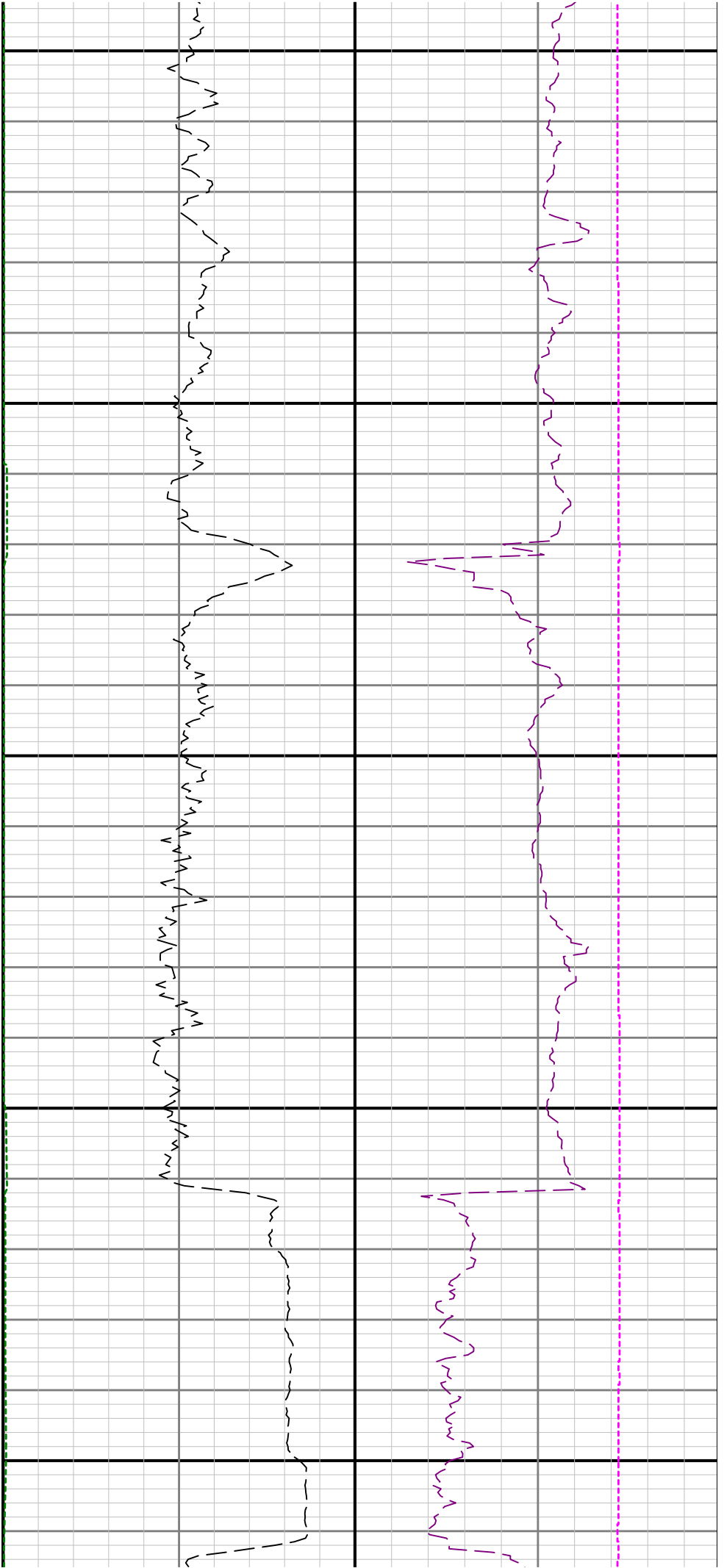


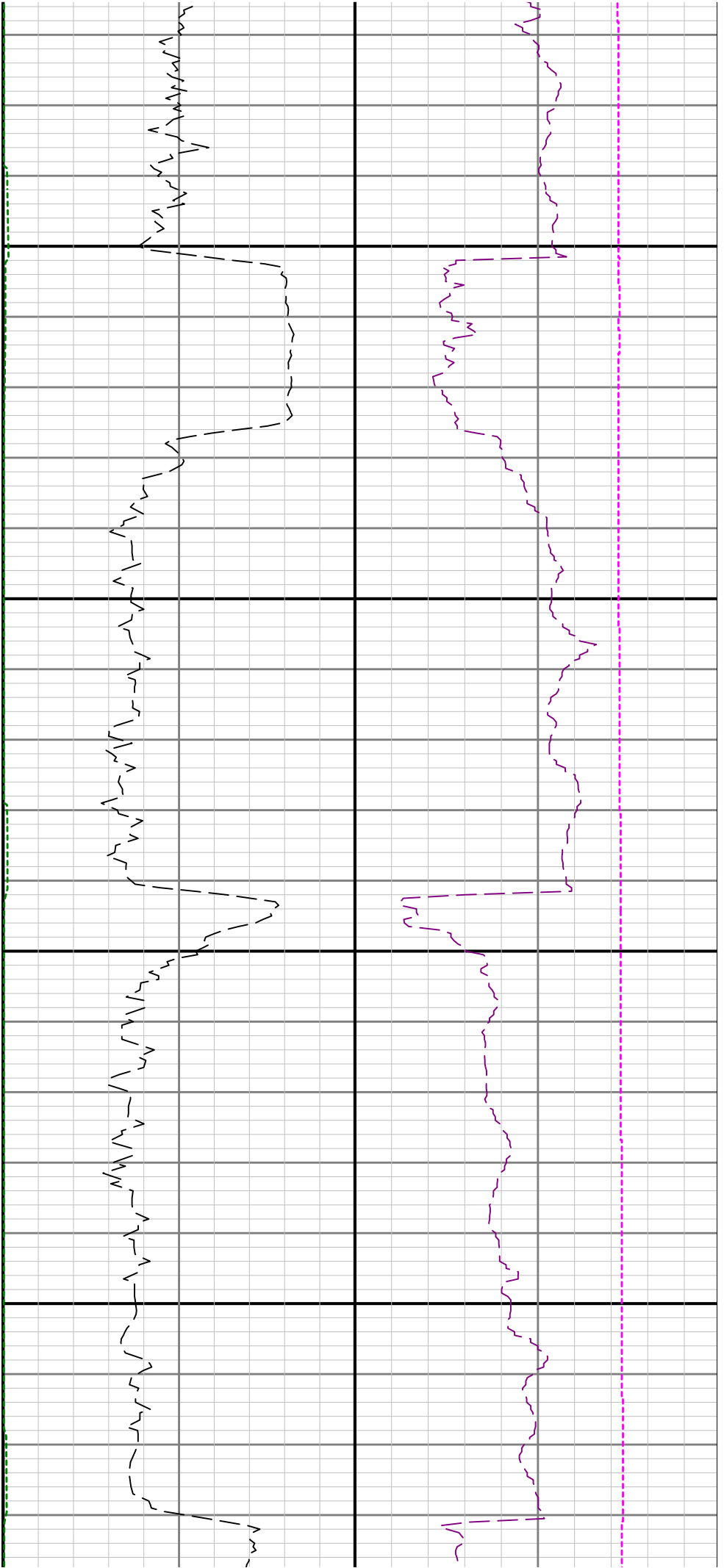


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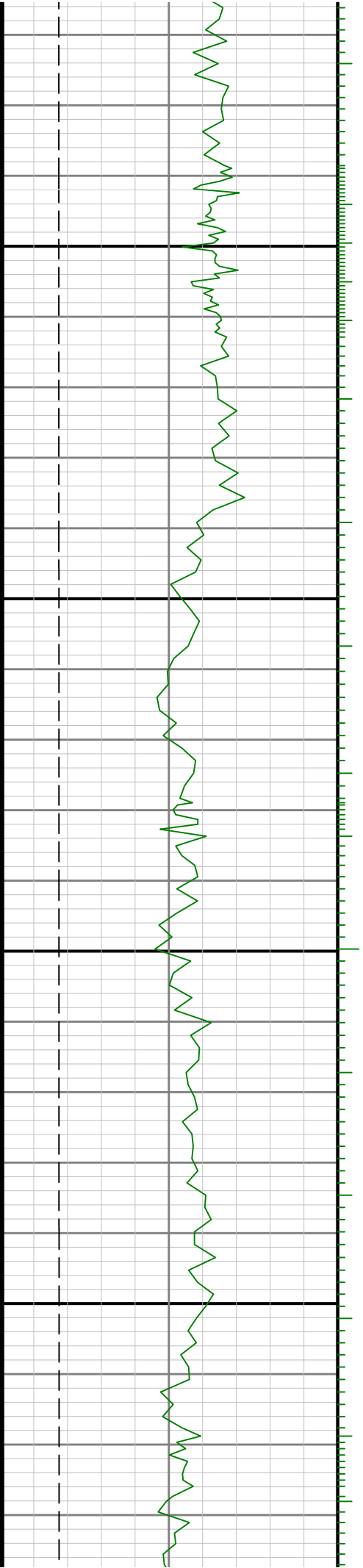


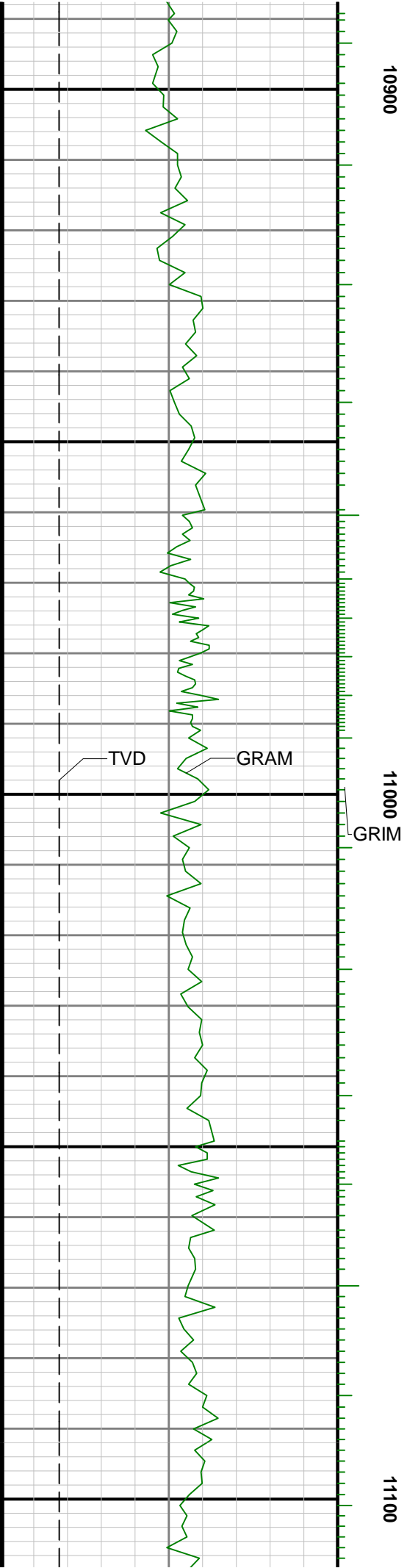
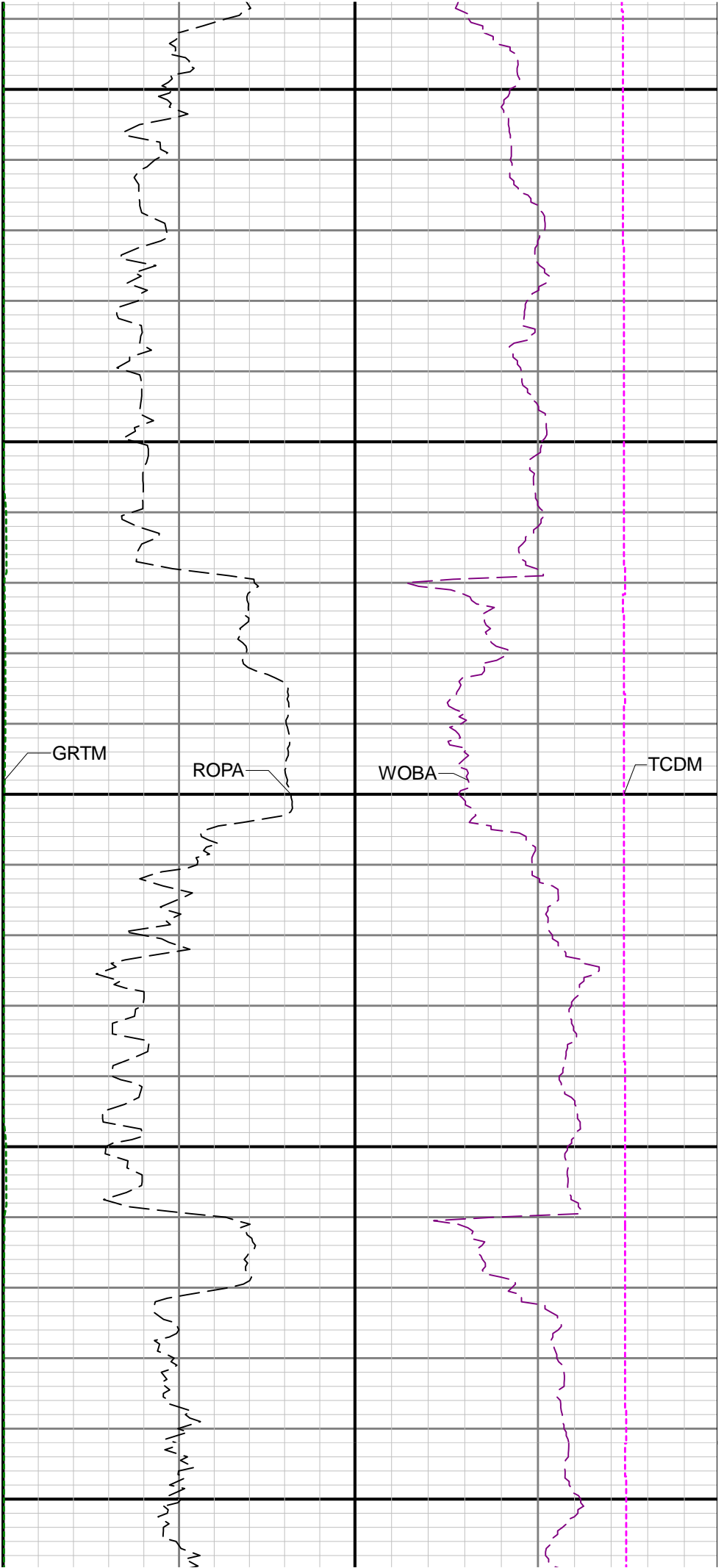


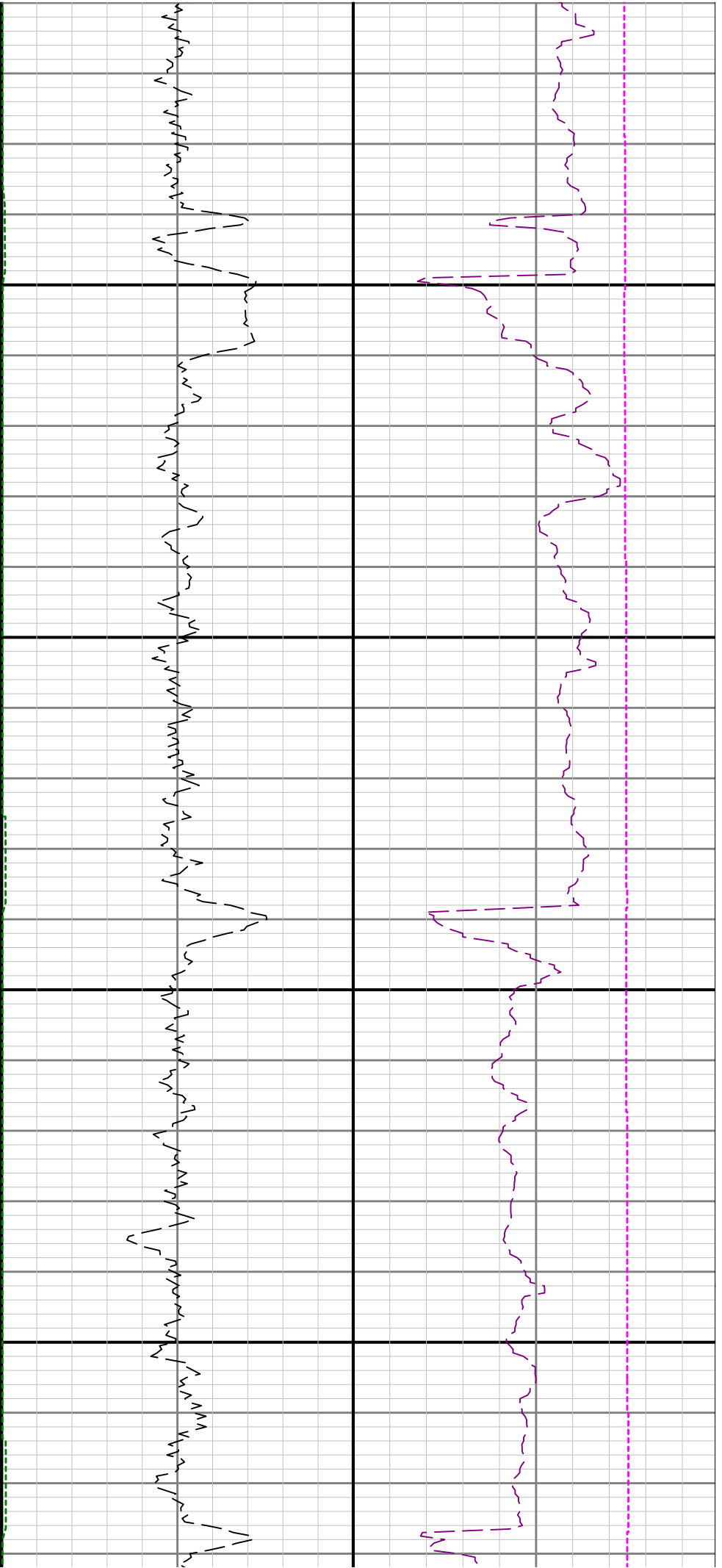


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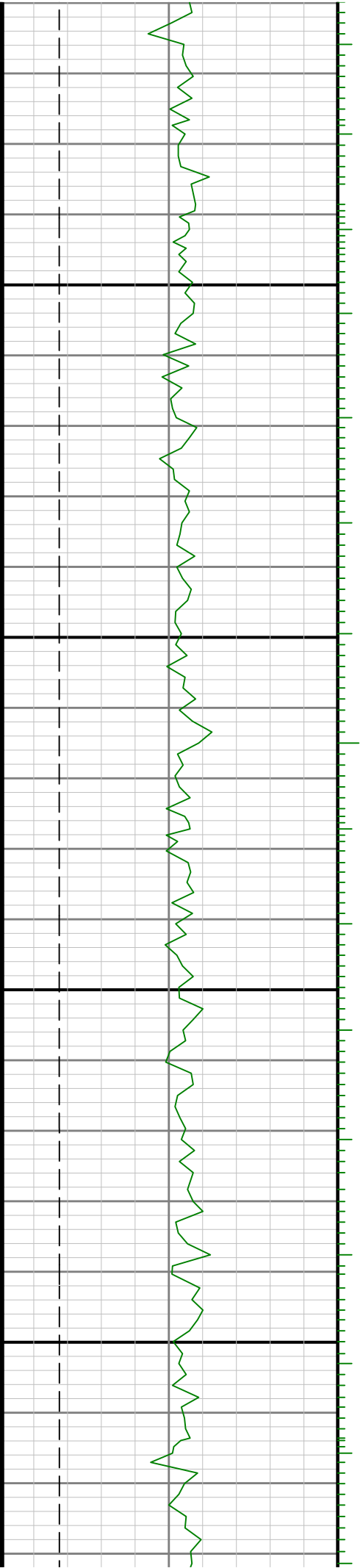


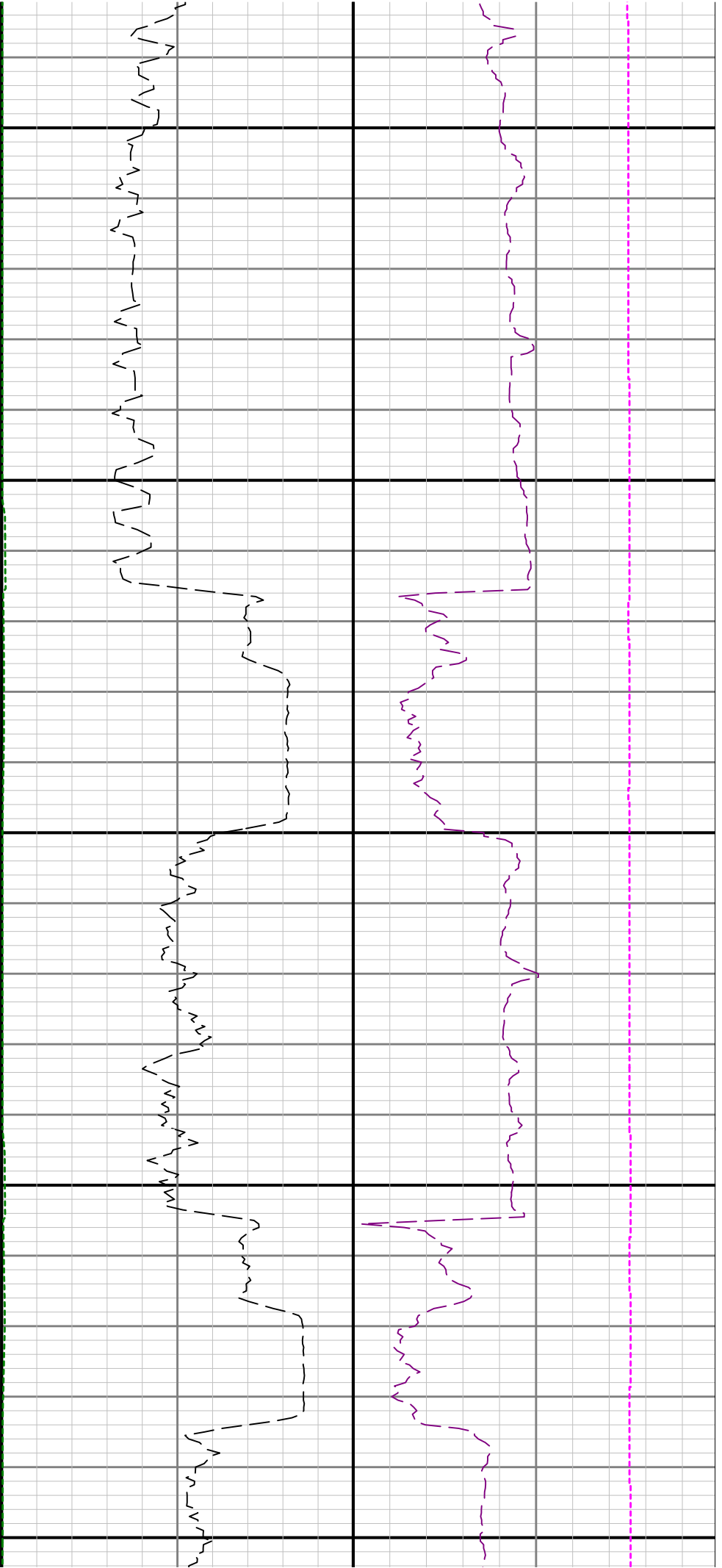




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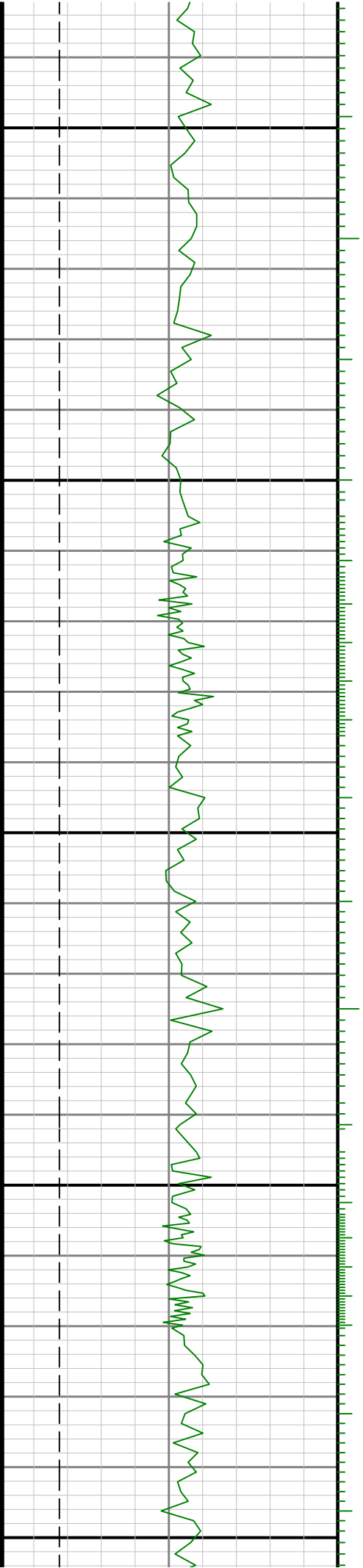
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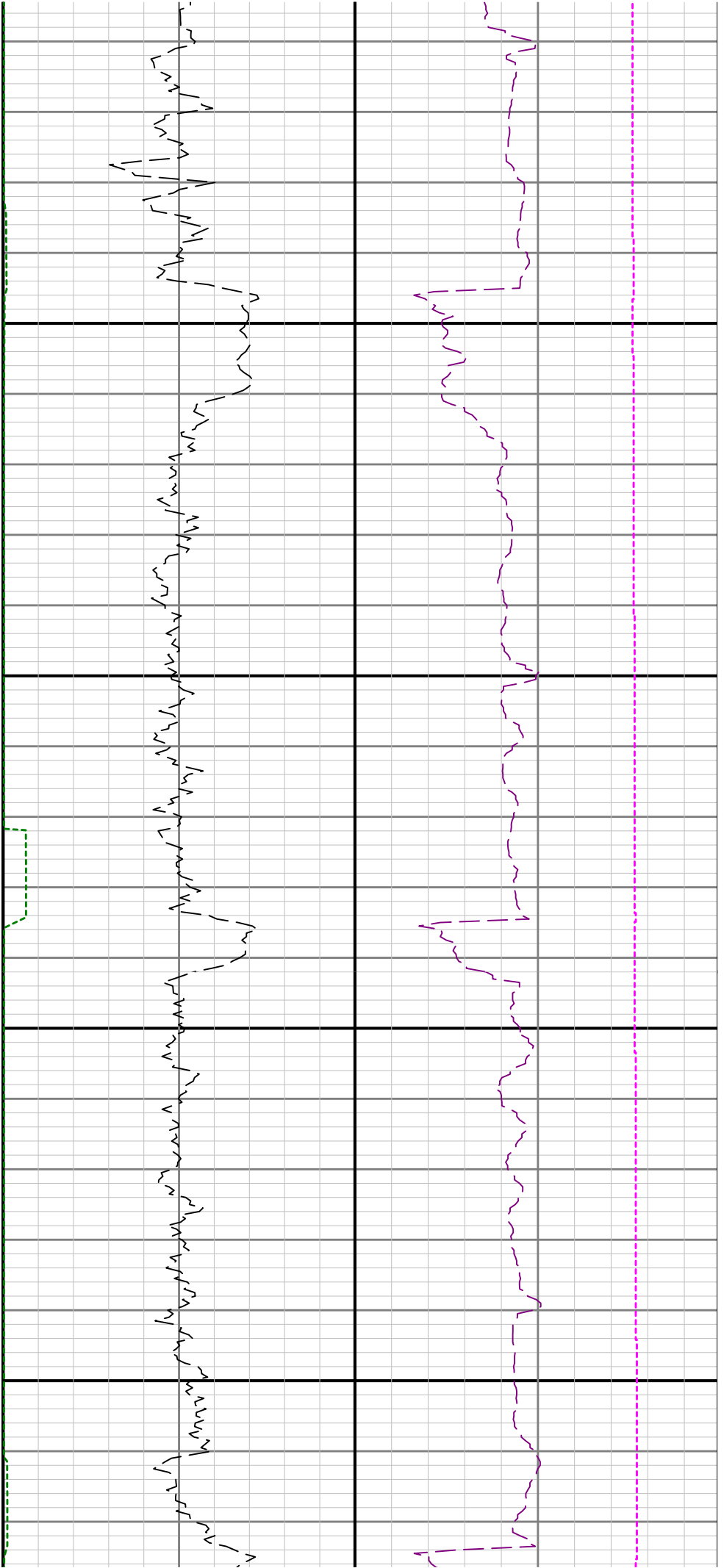




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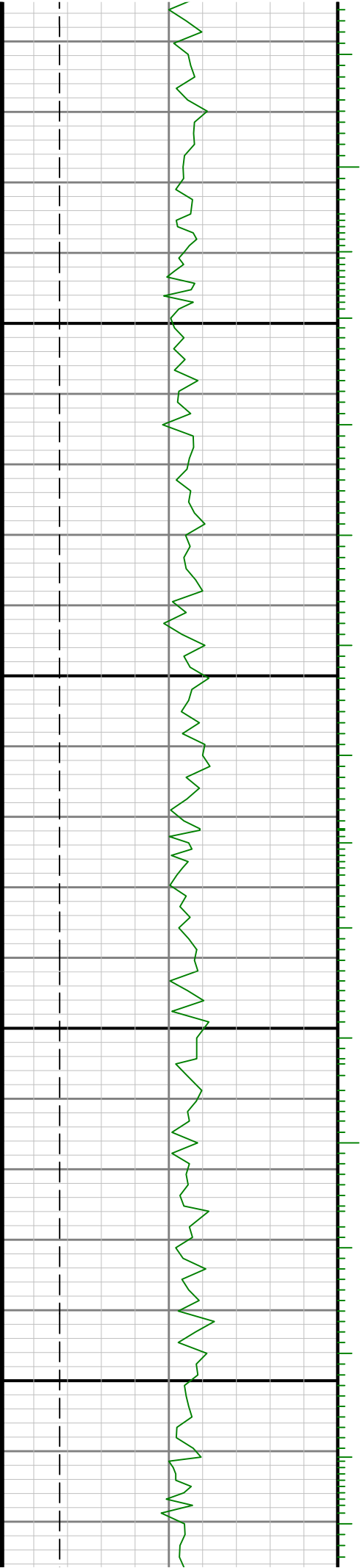
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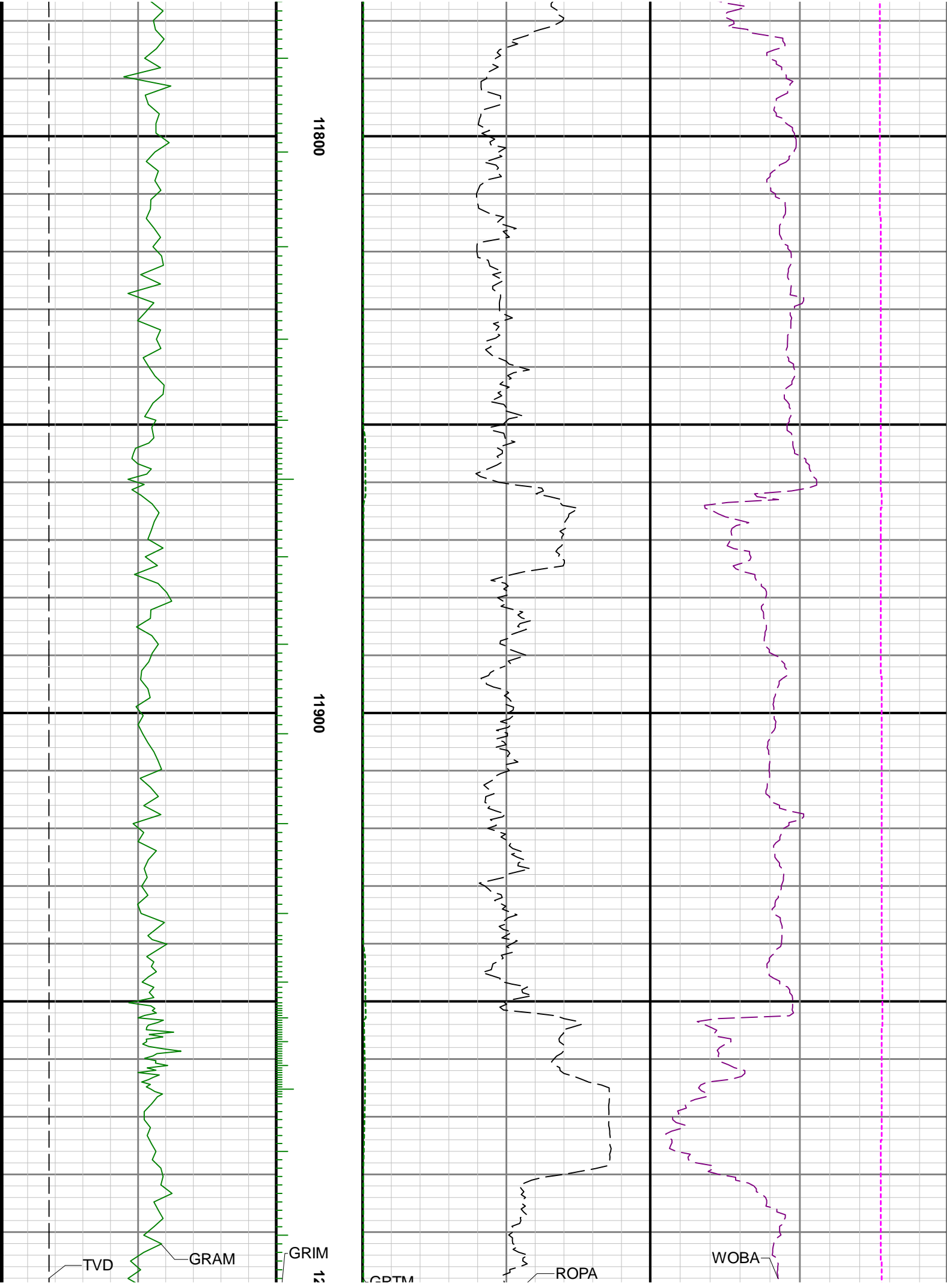


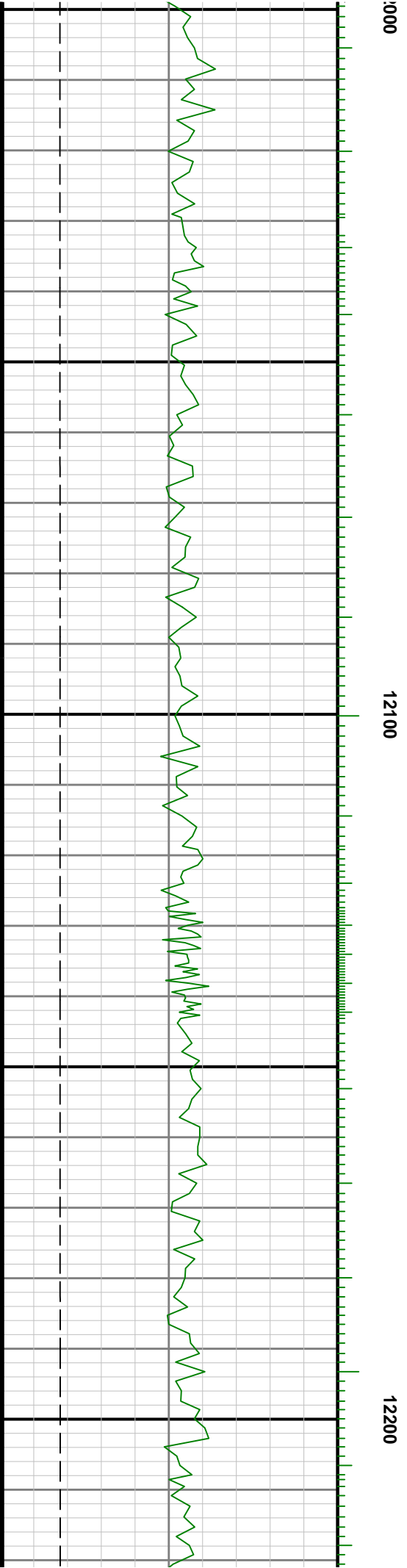
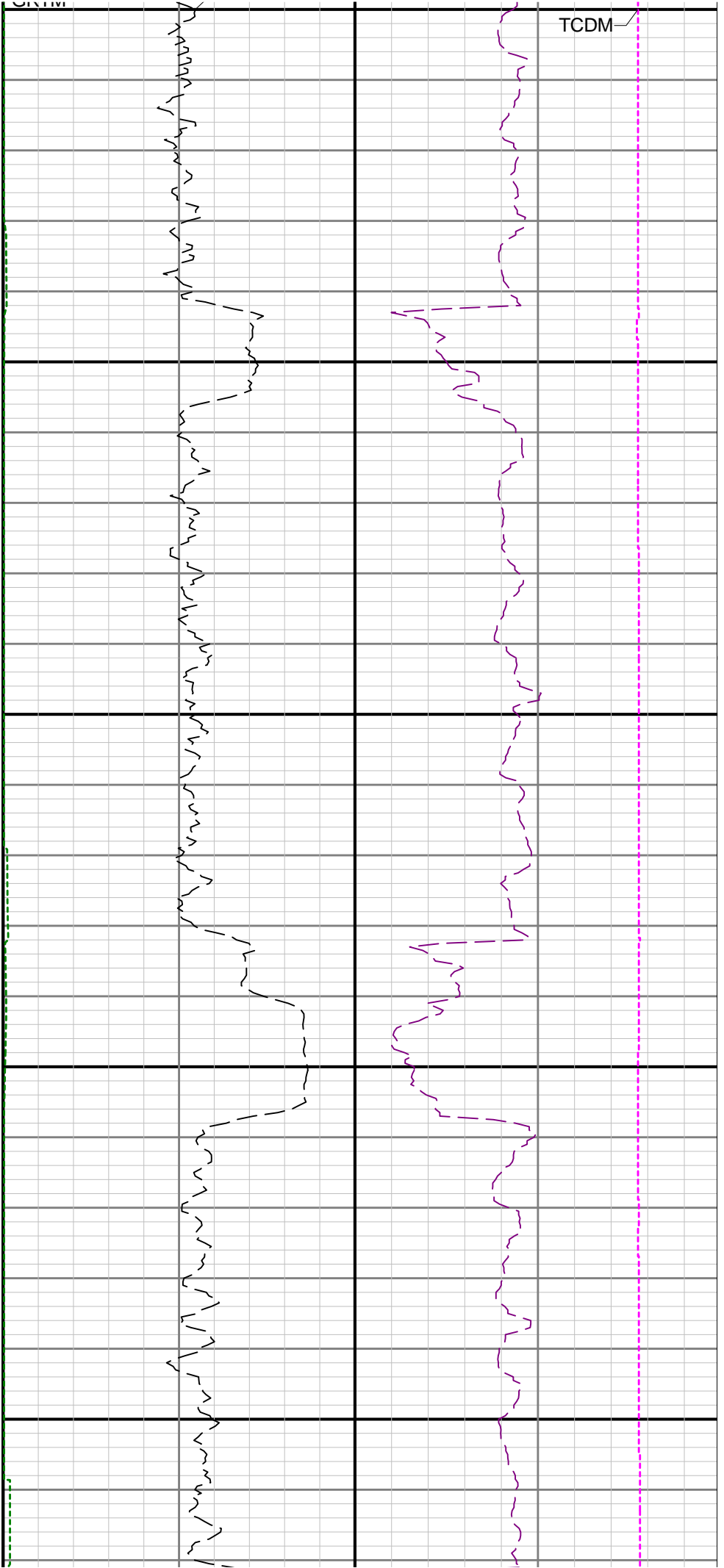


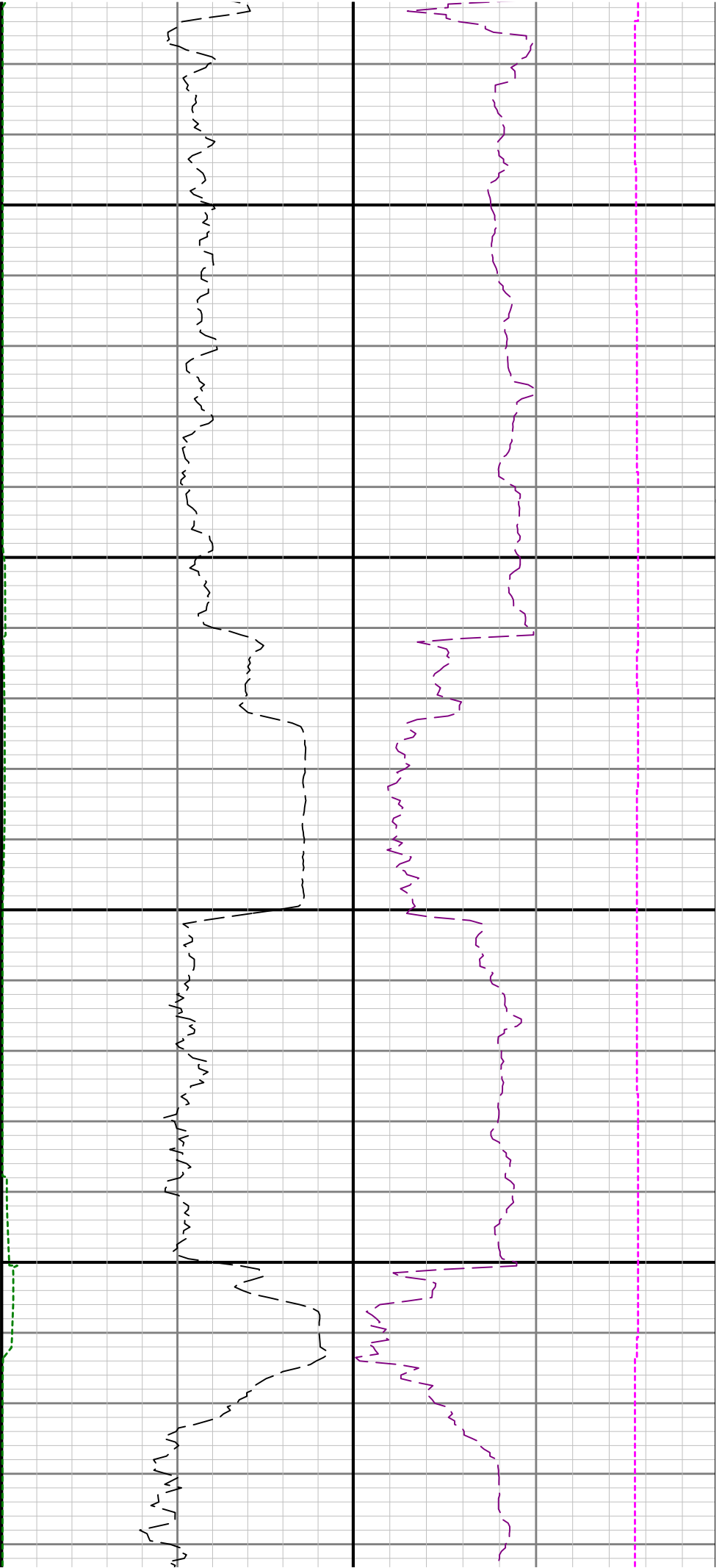
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11700



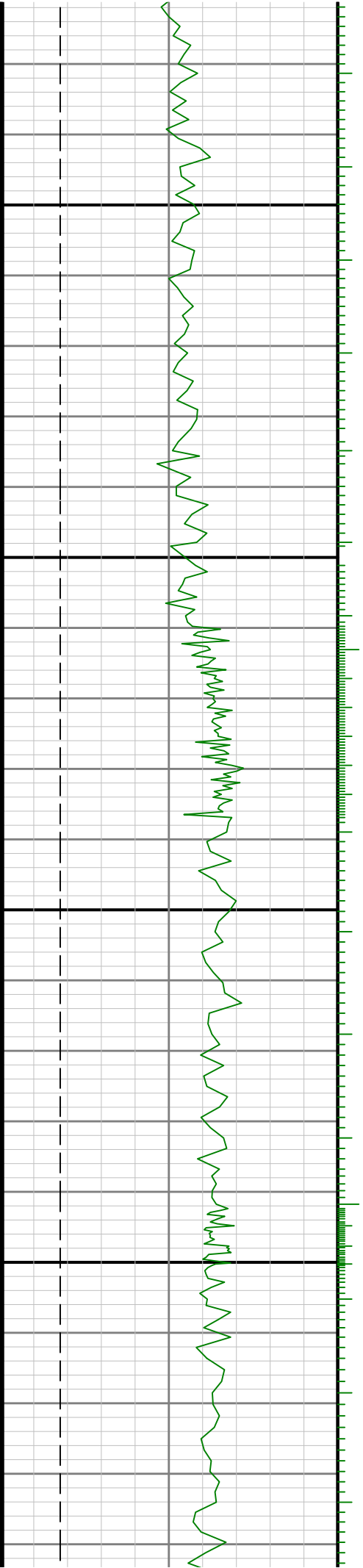


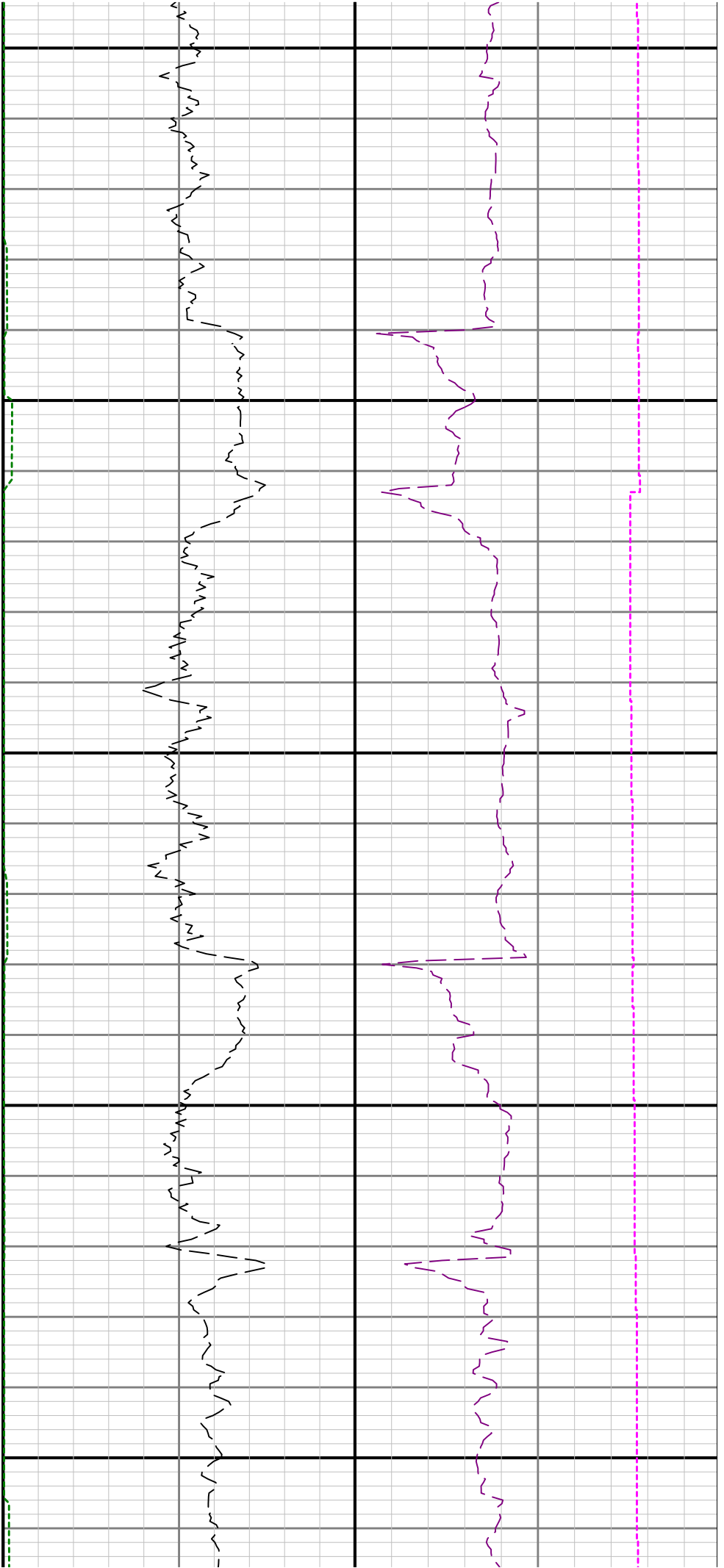




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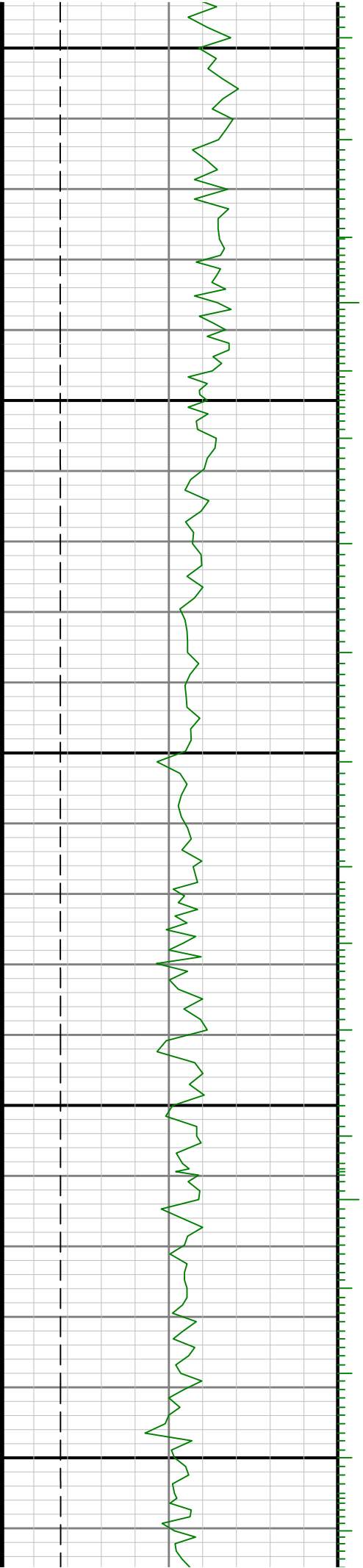
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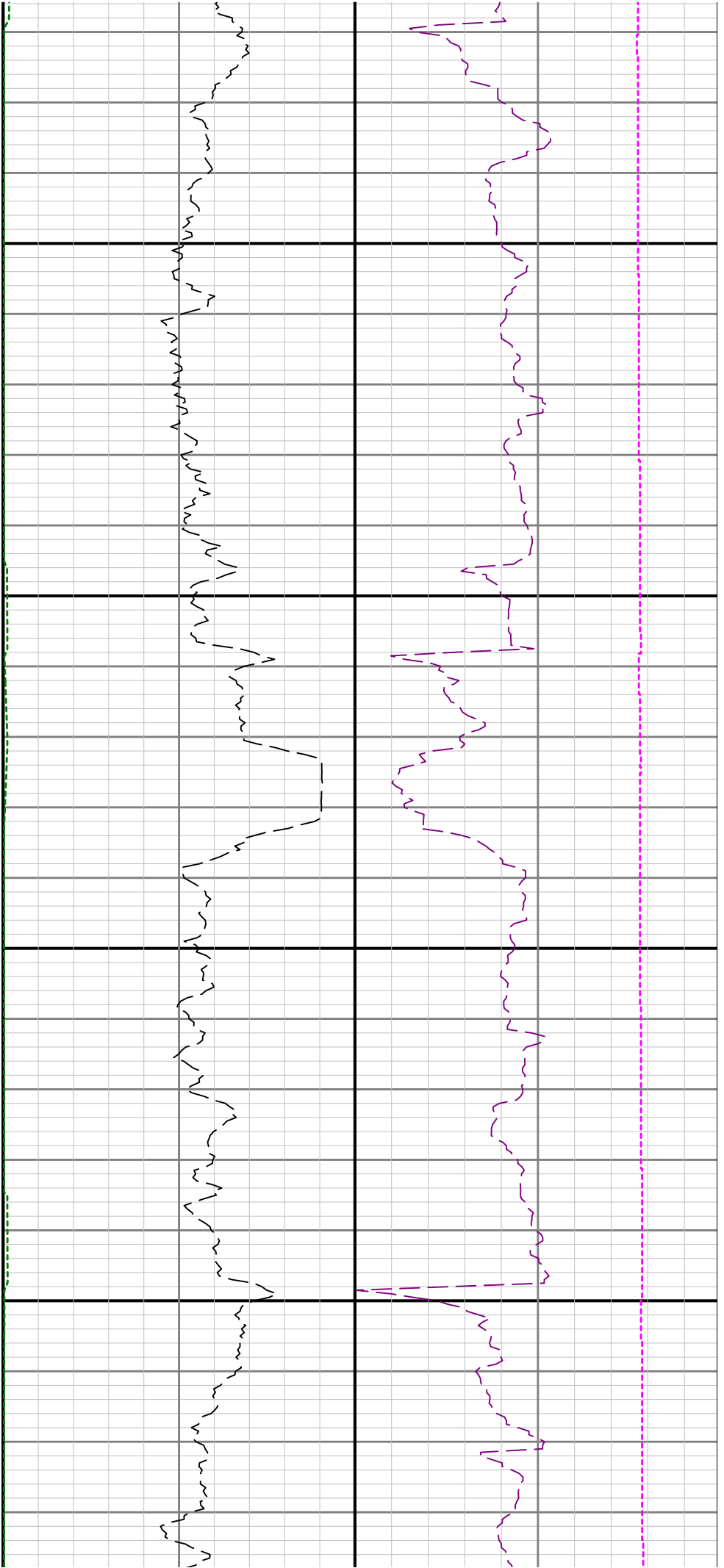




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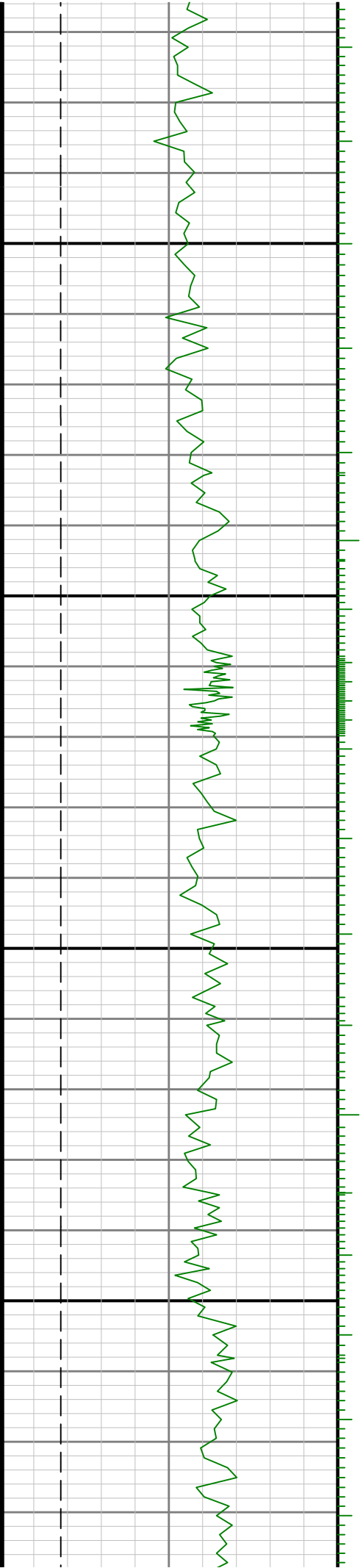
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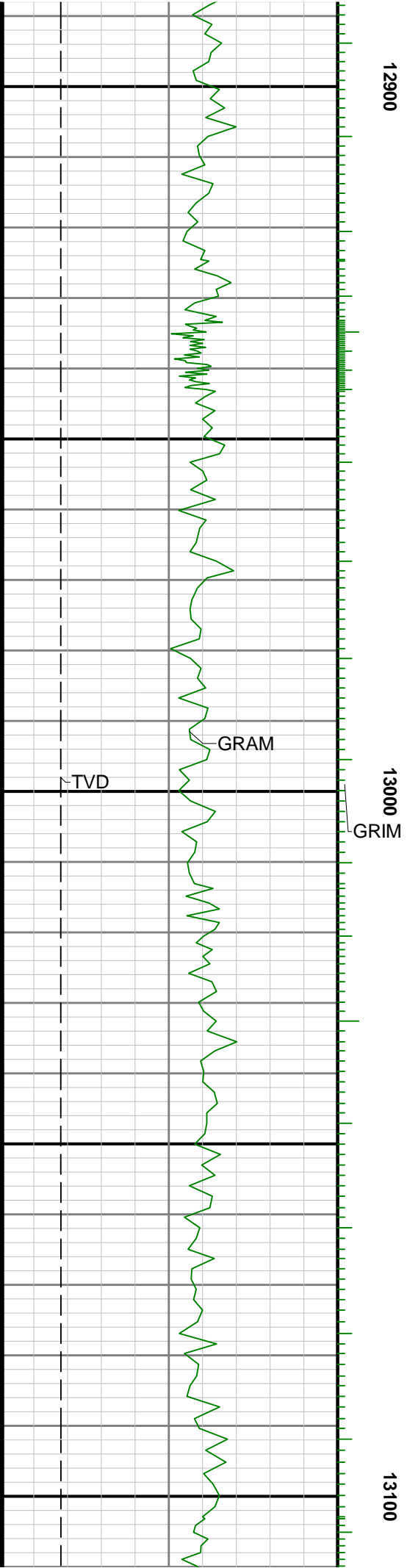
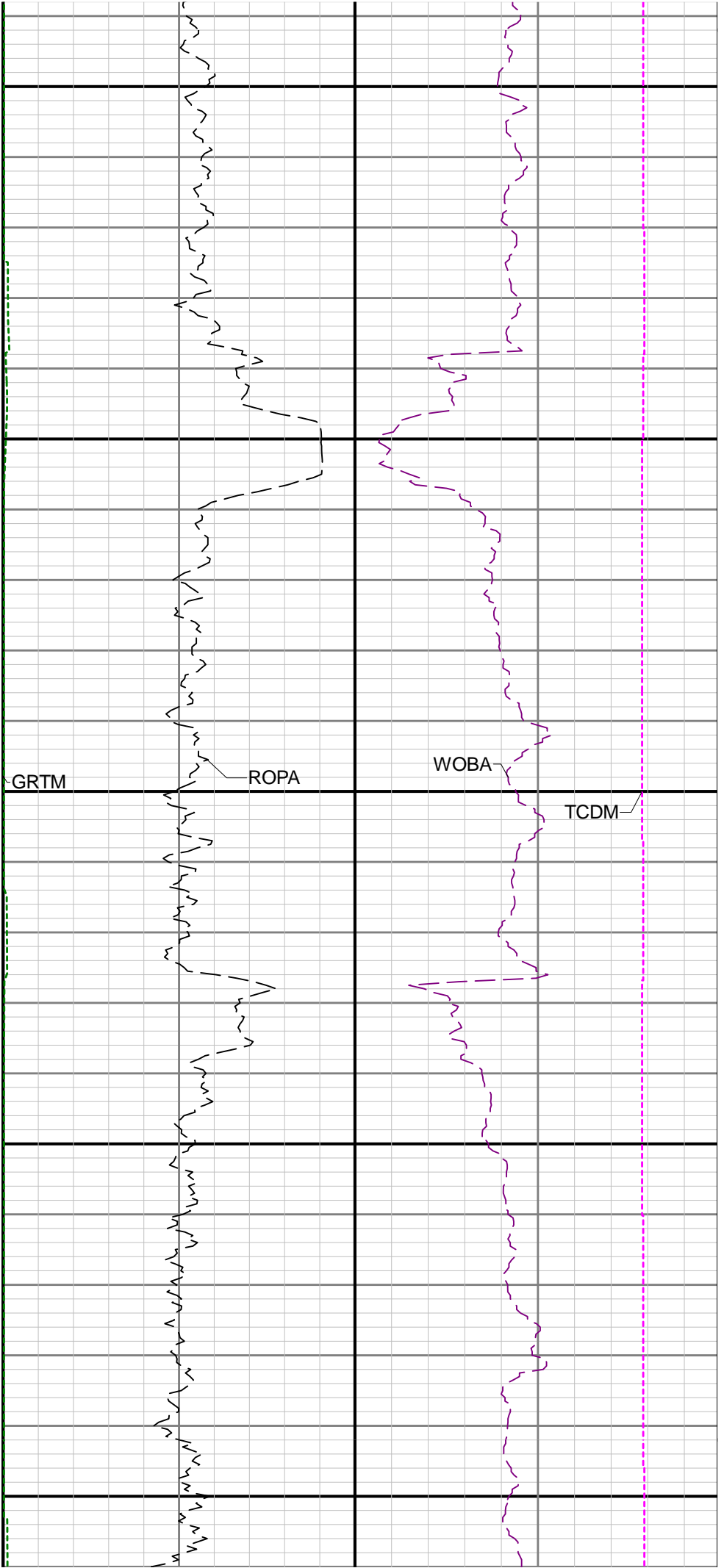


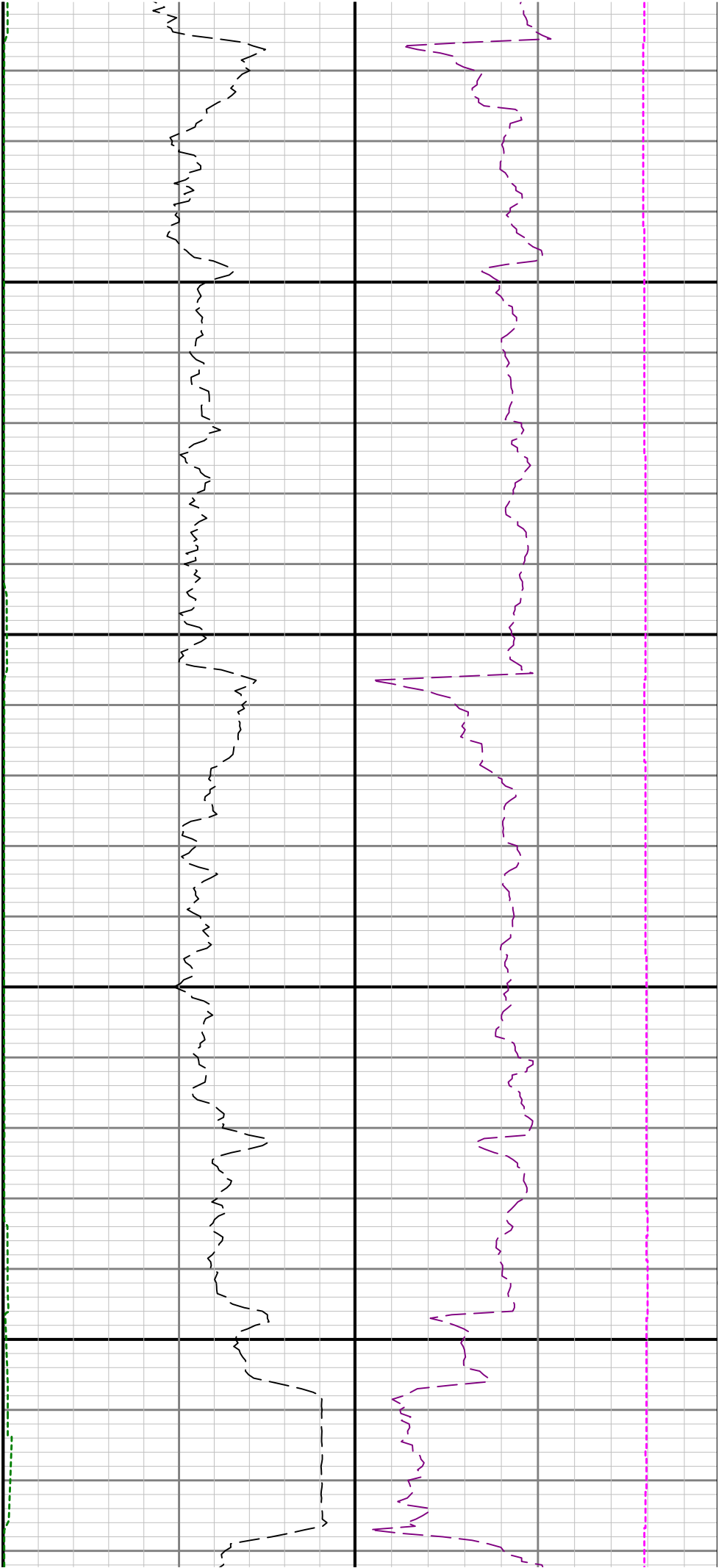


12700

12800

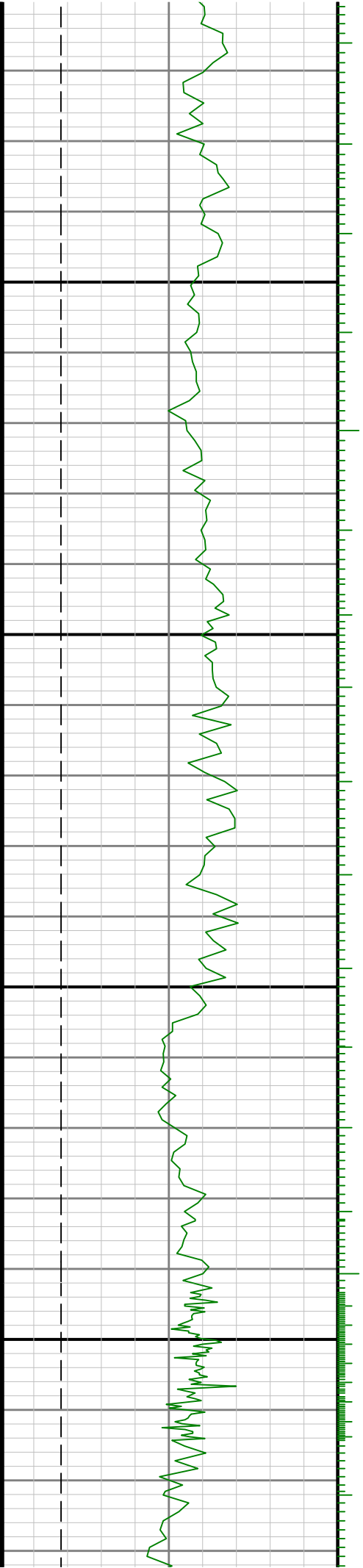


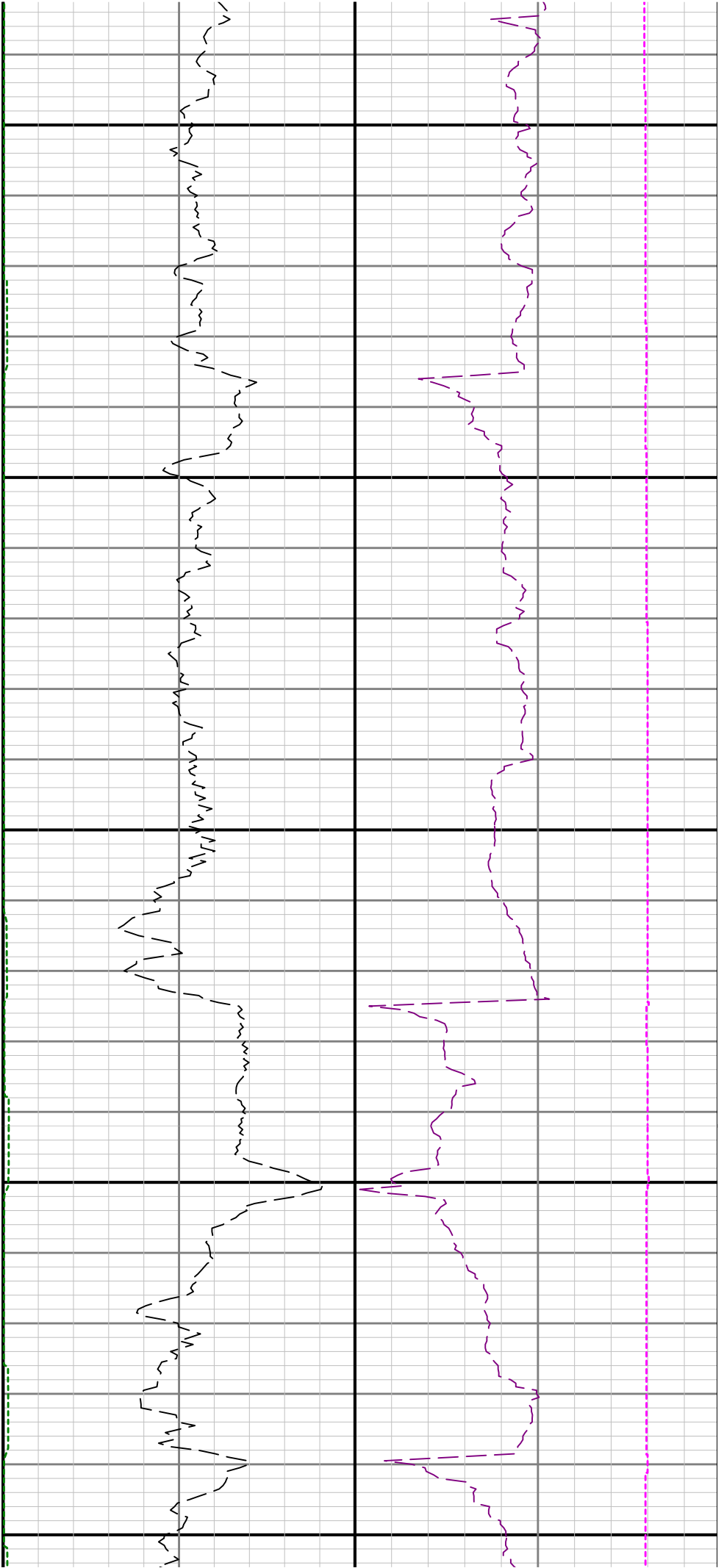




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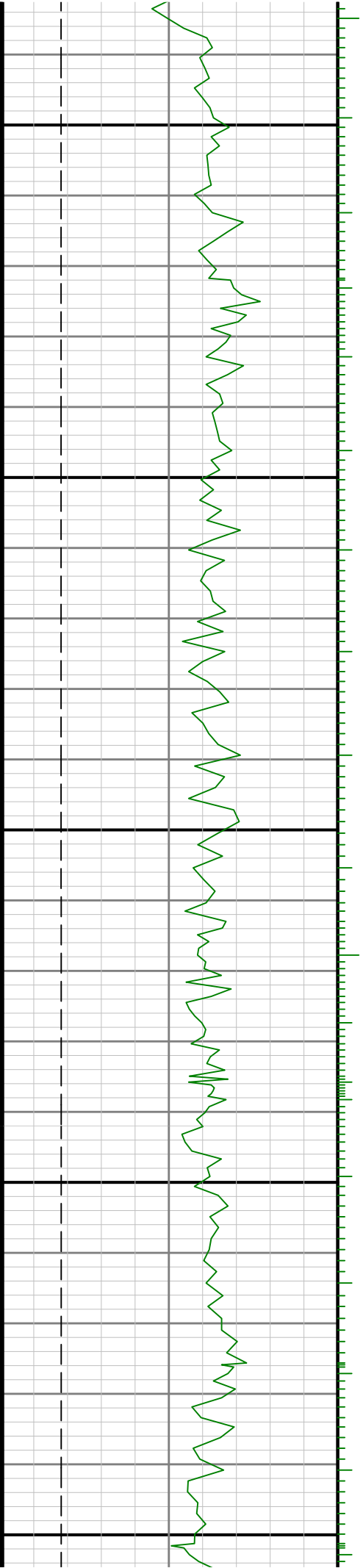
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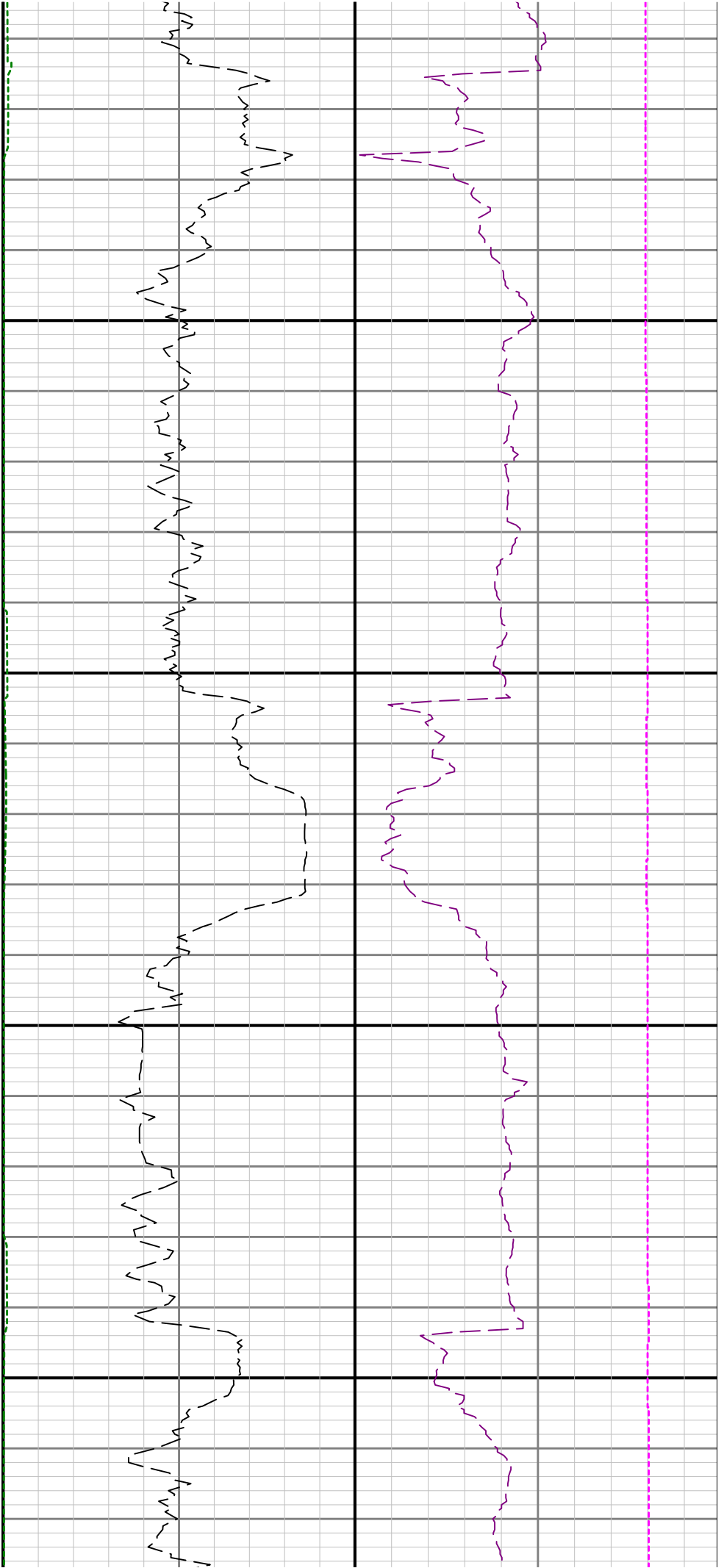




13400

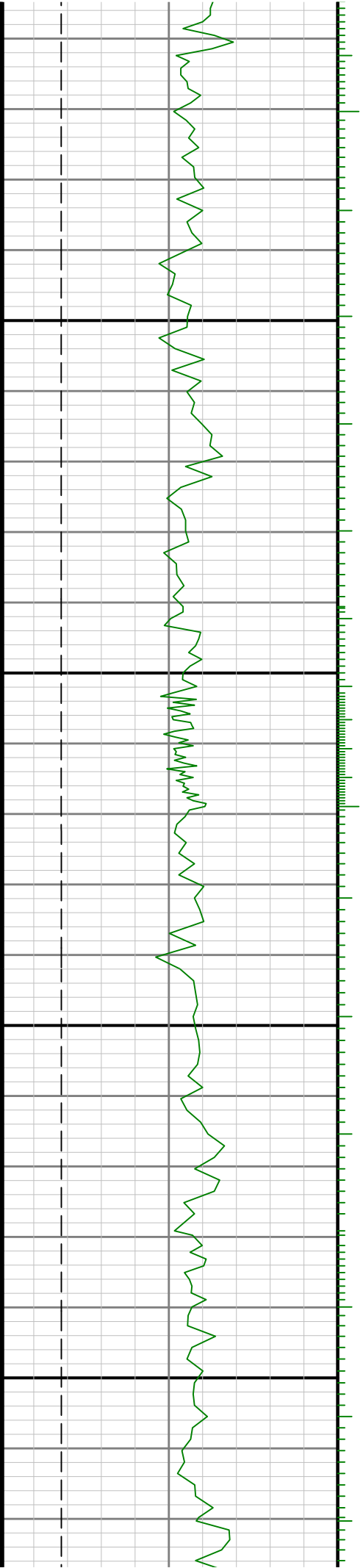
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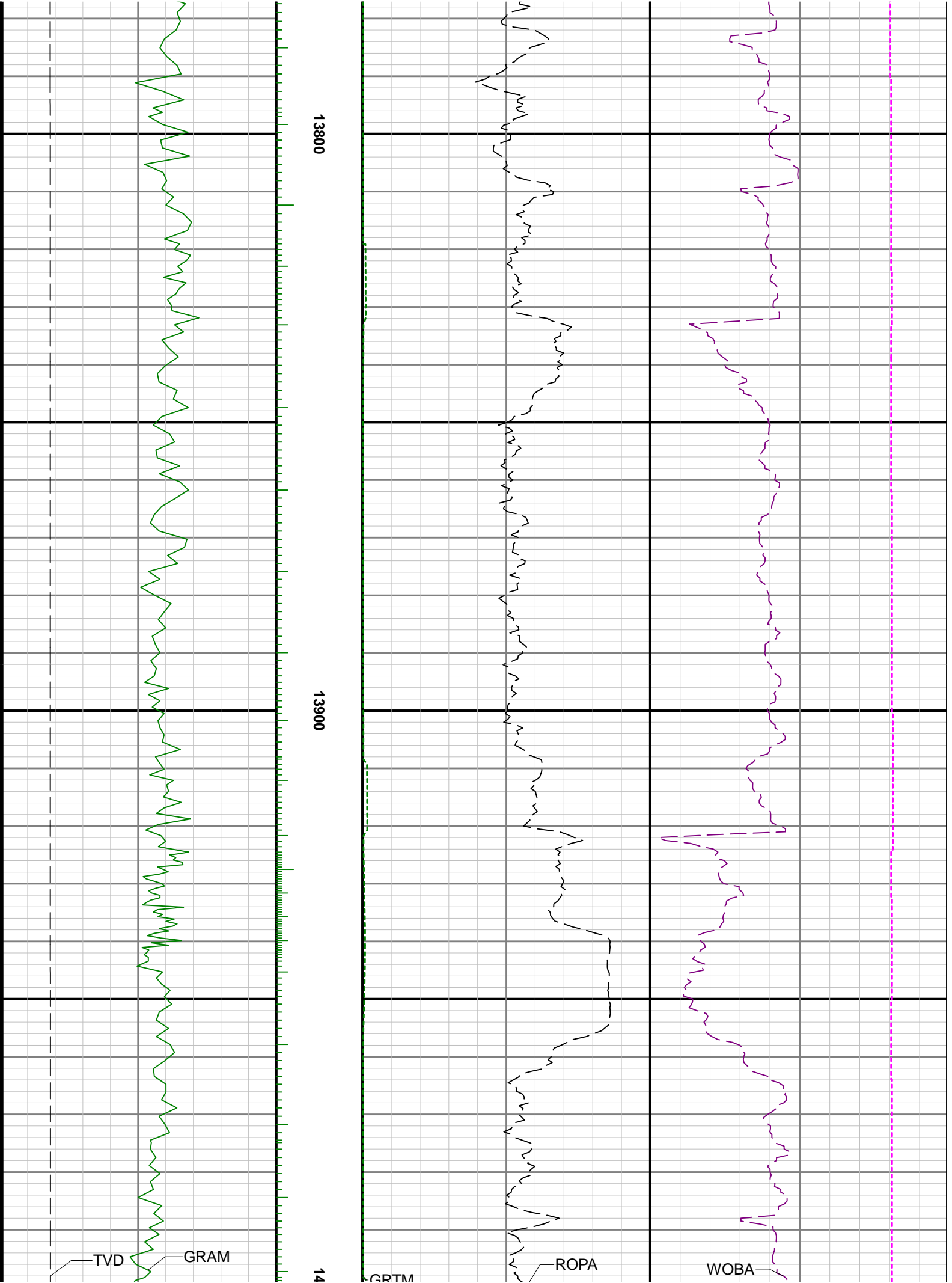


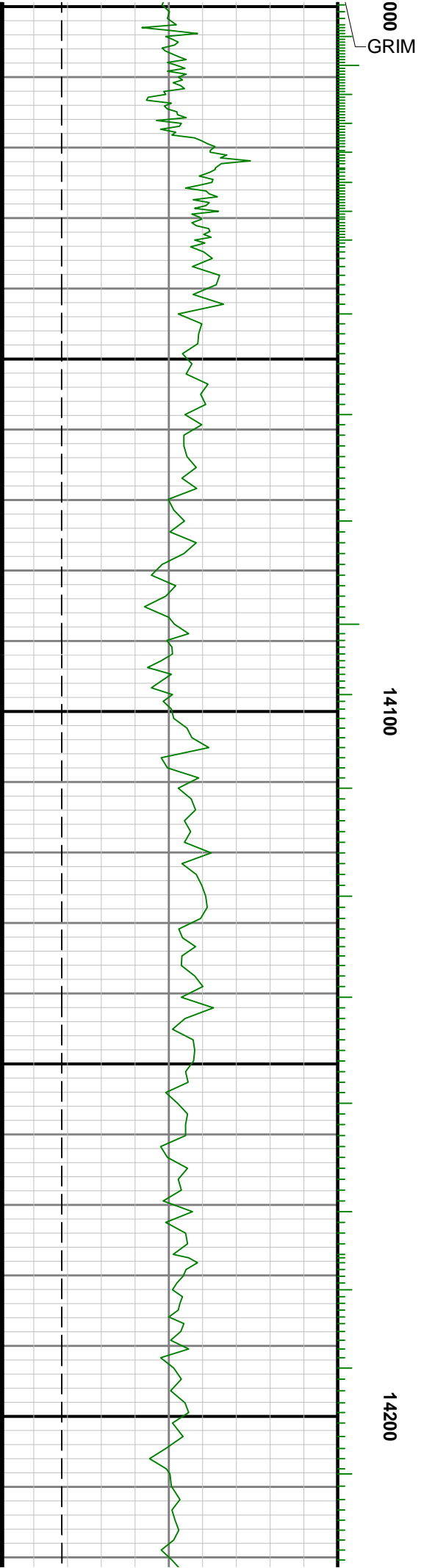
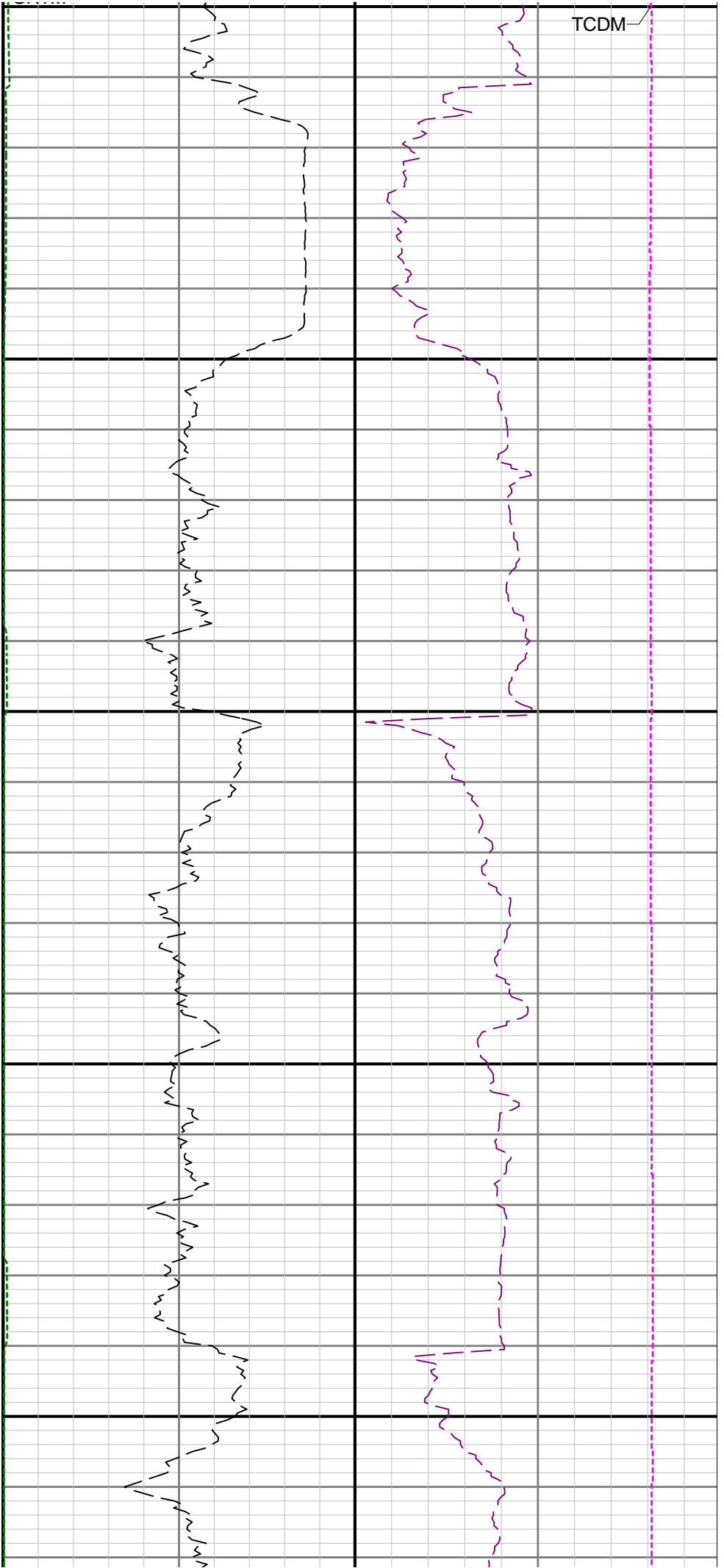


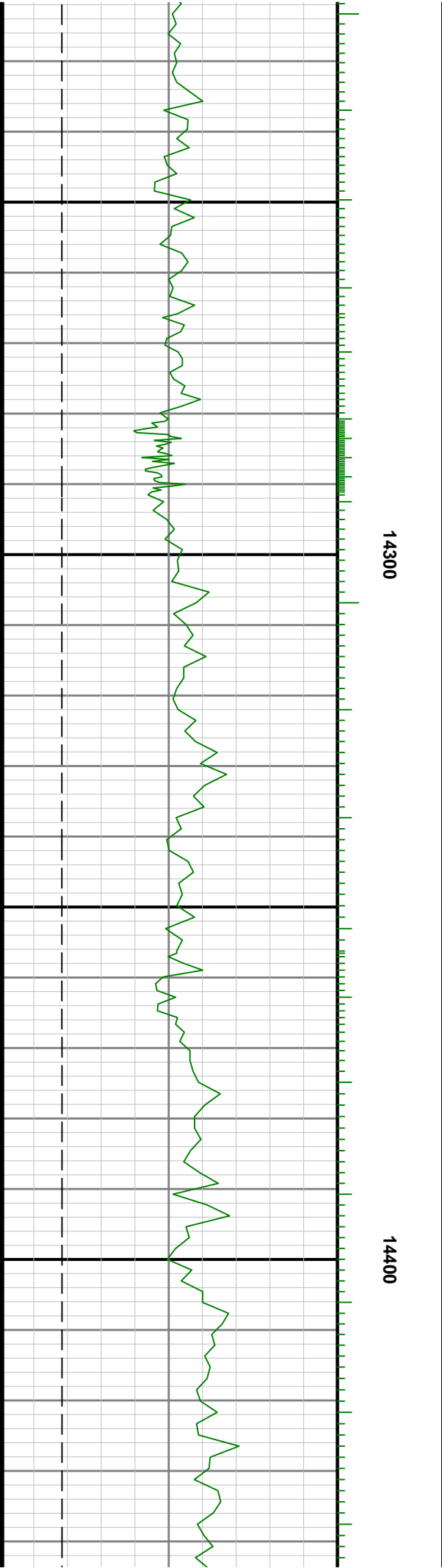
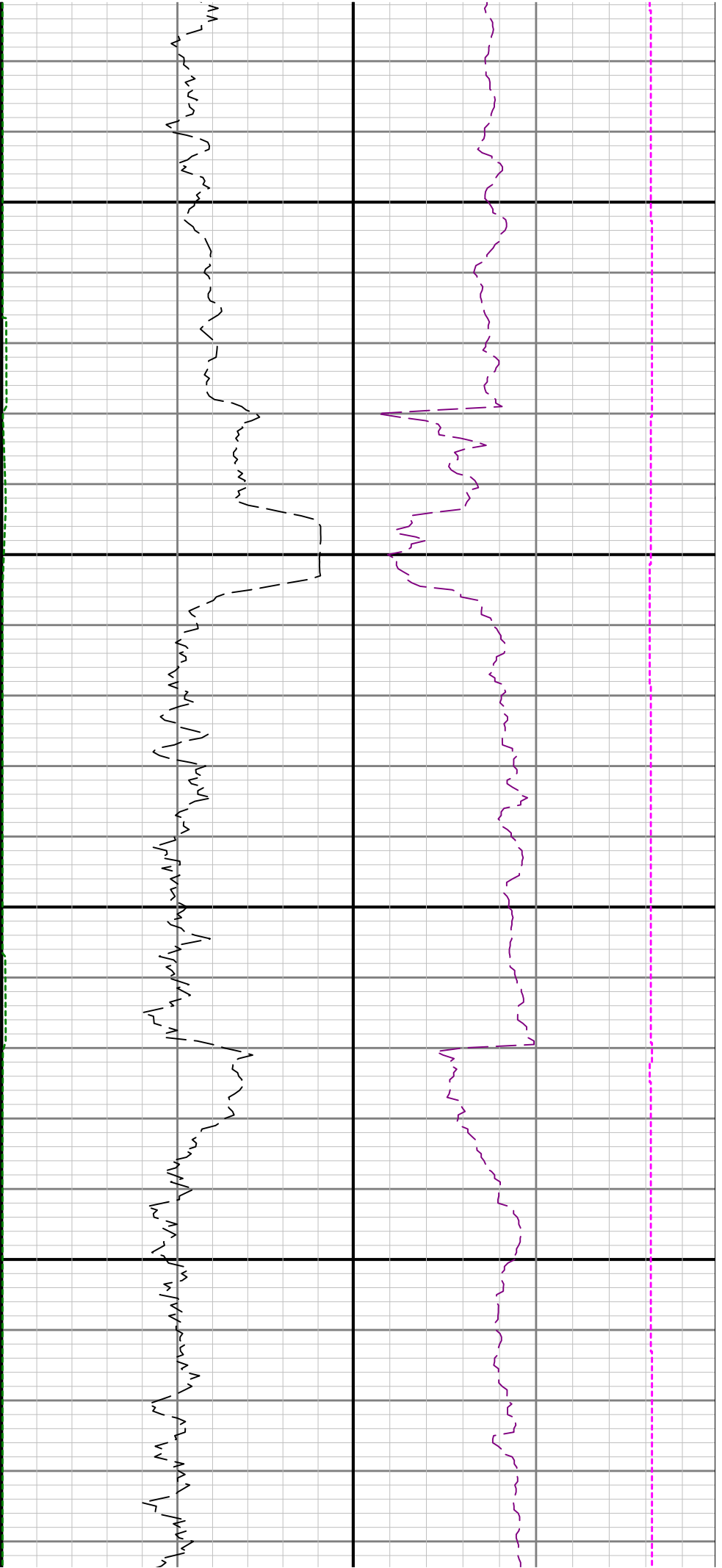
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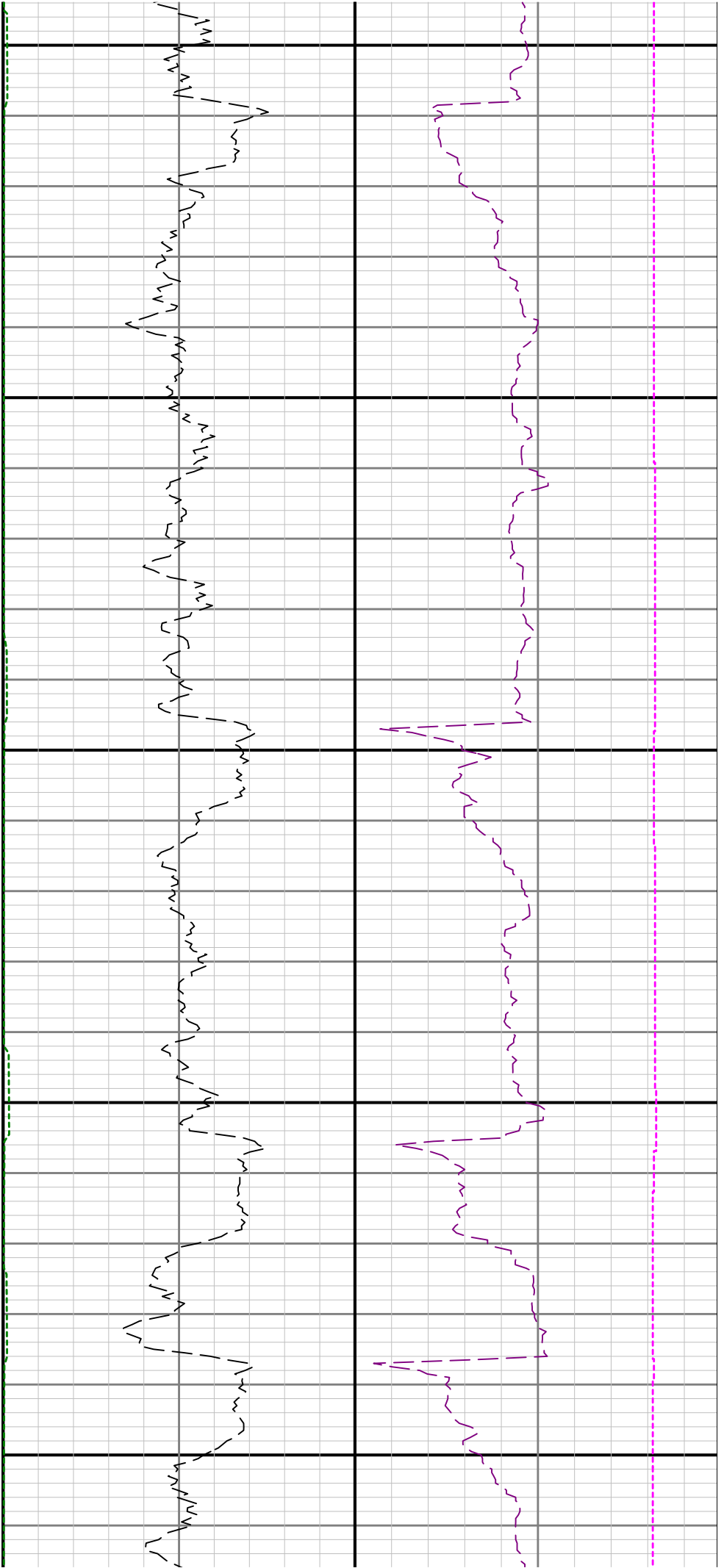
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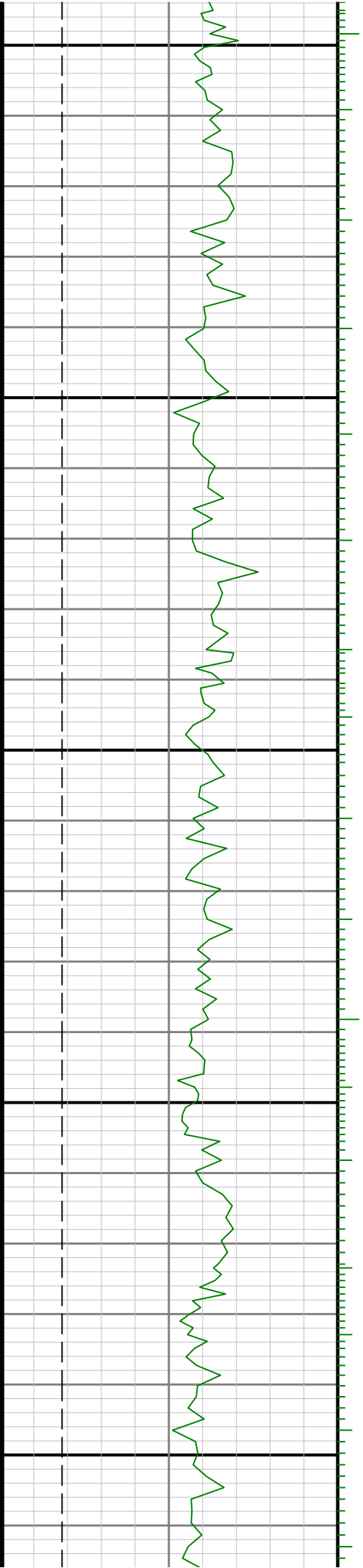


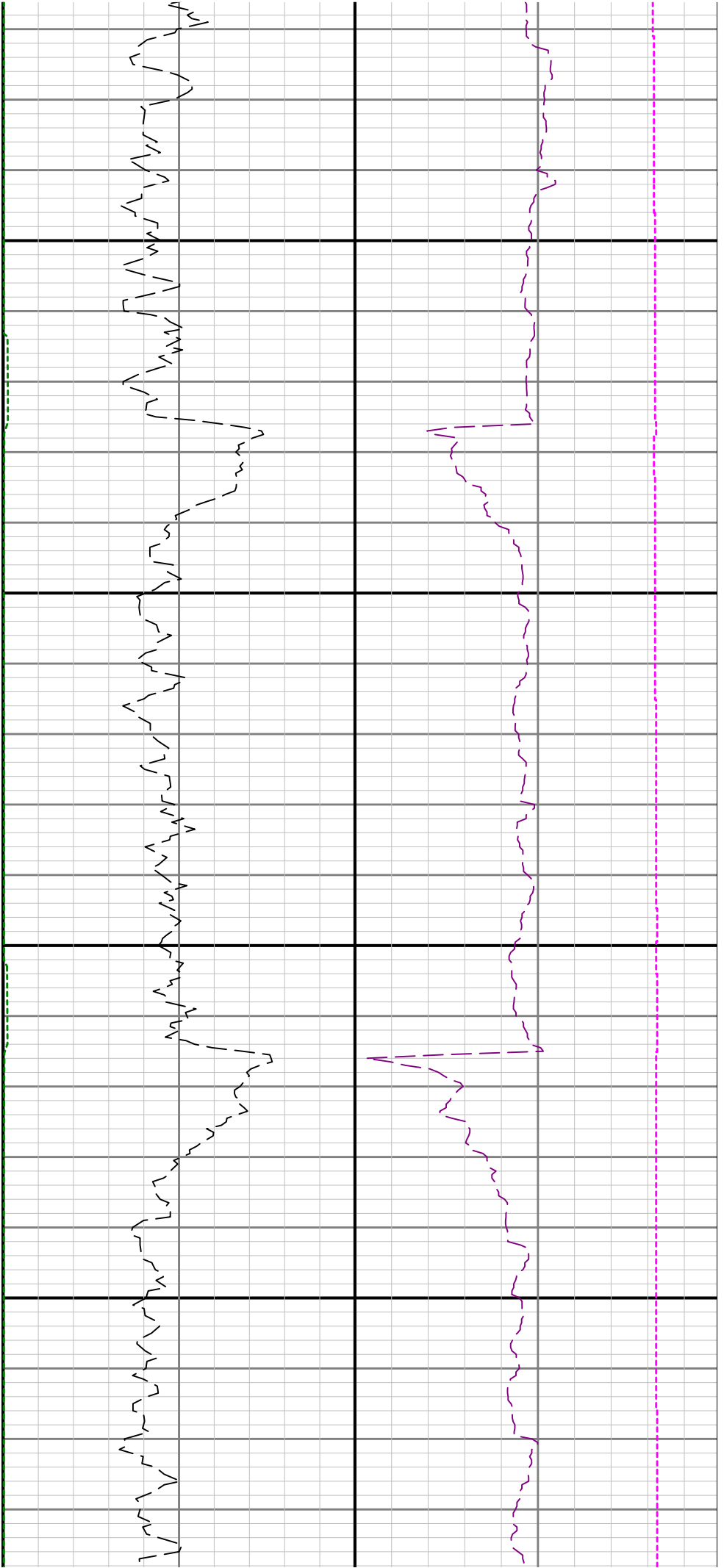




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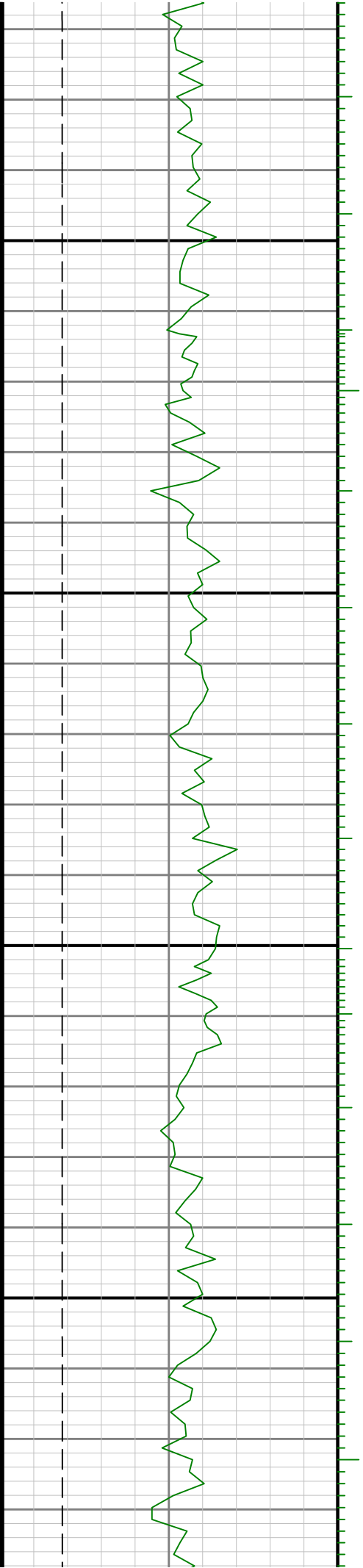
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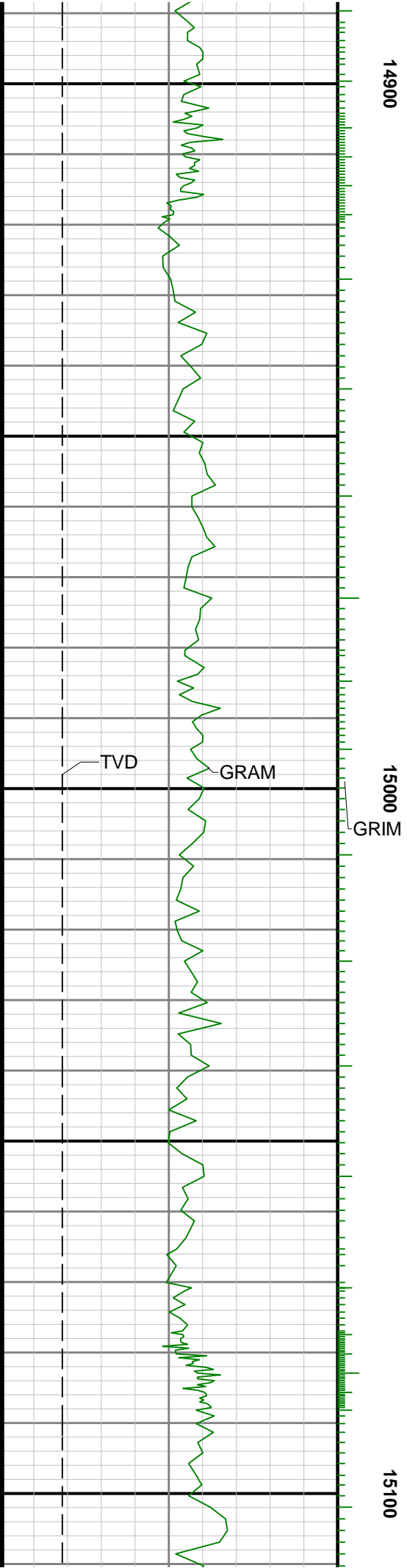
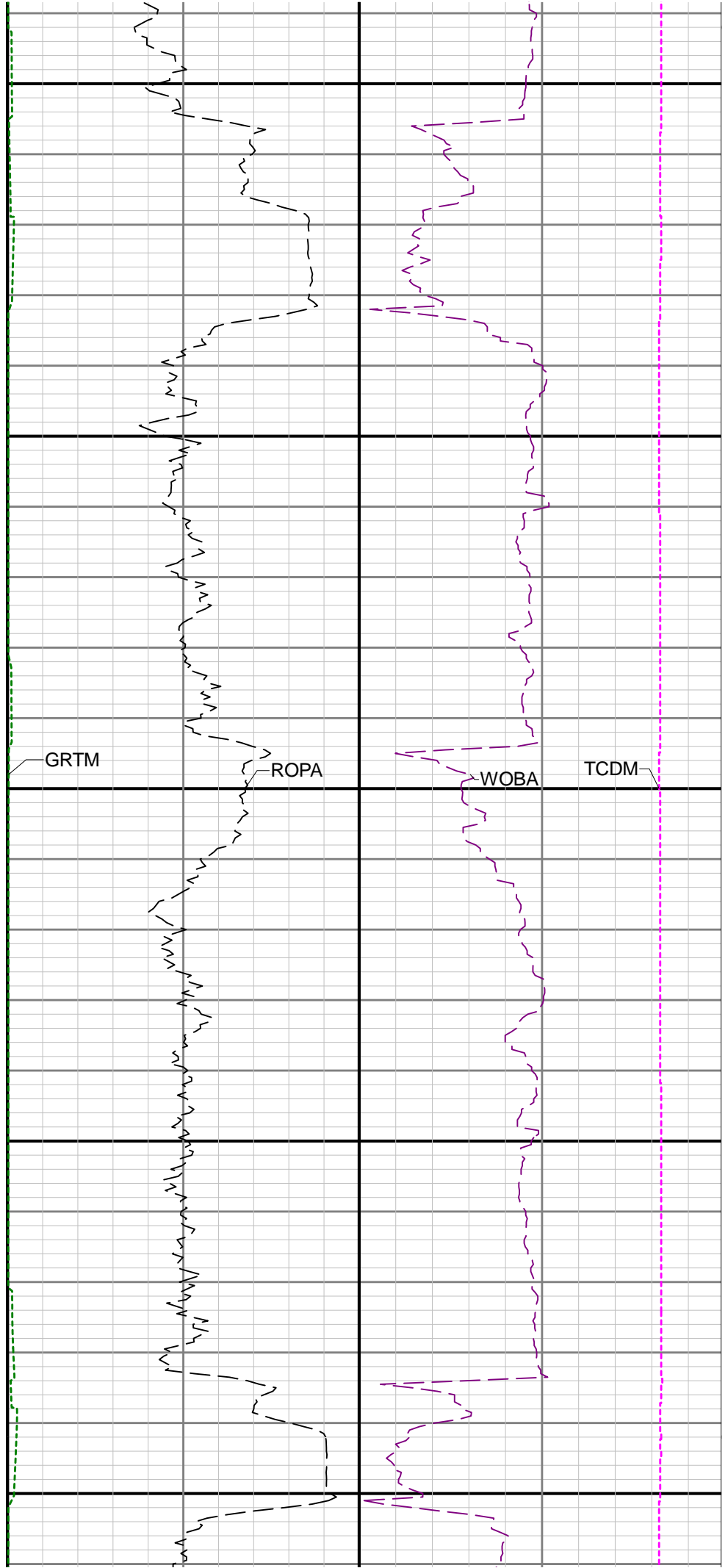


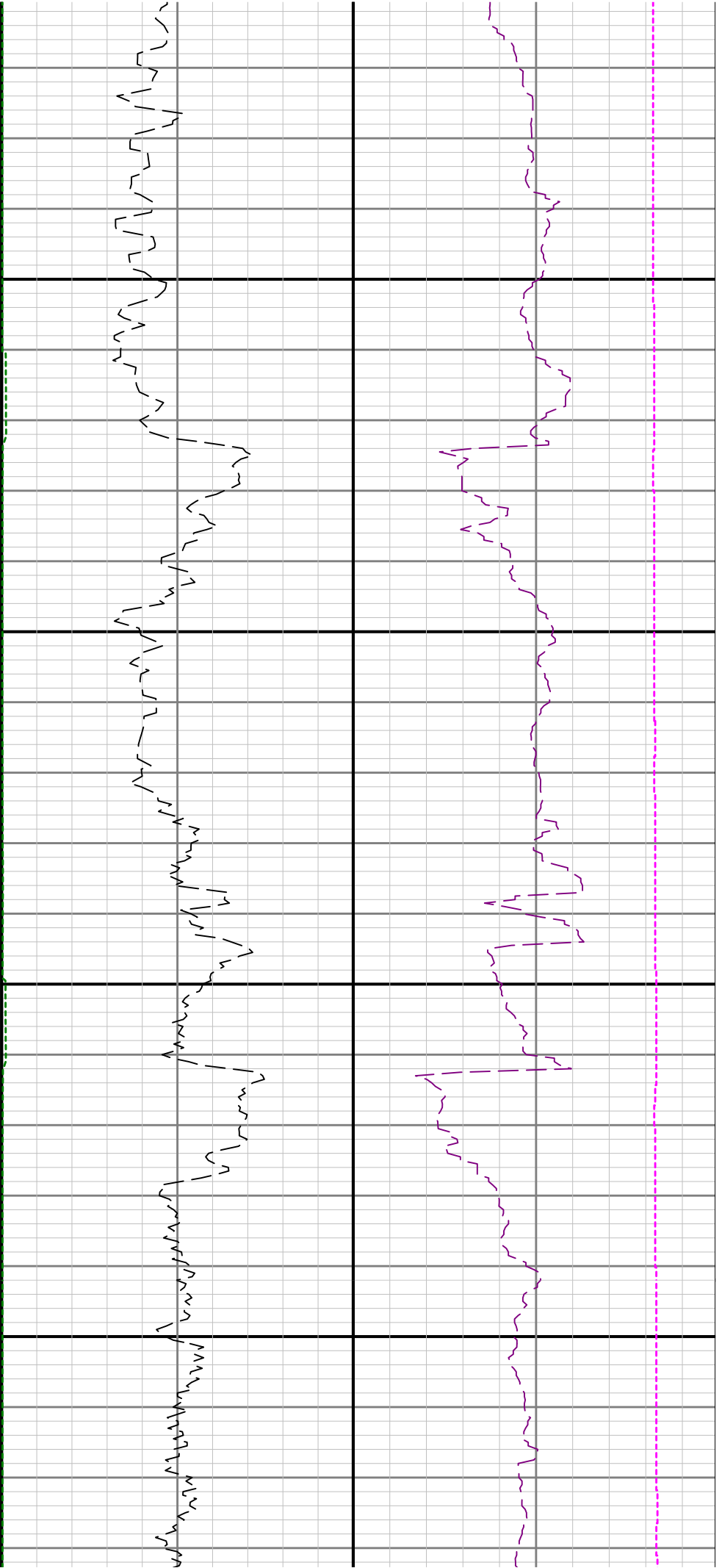


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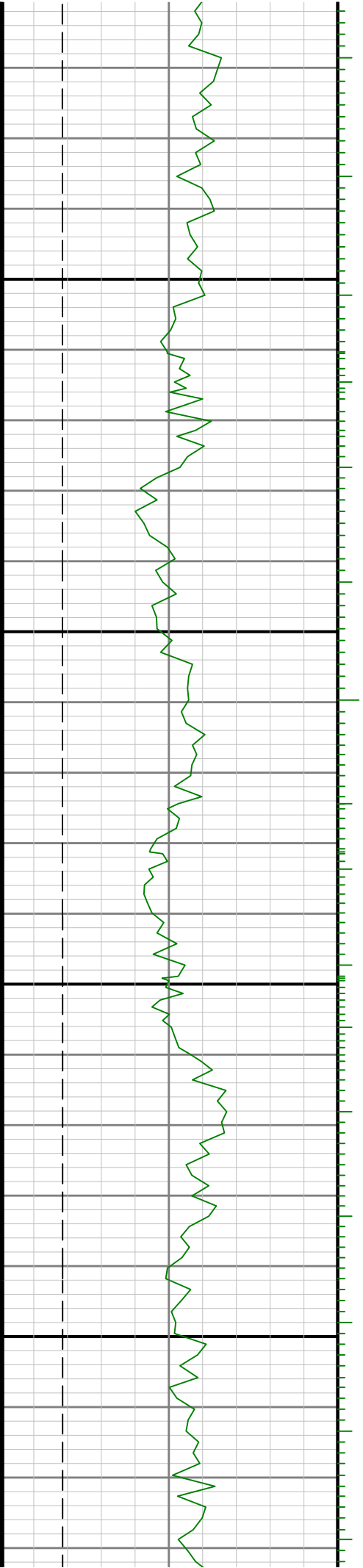


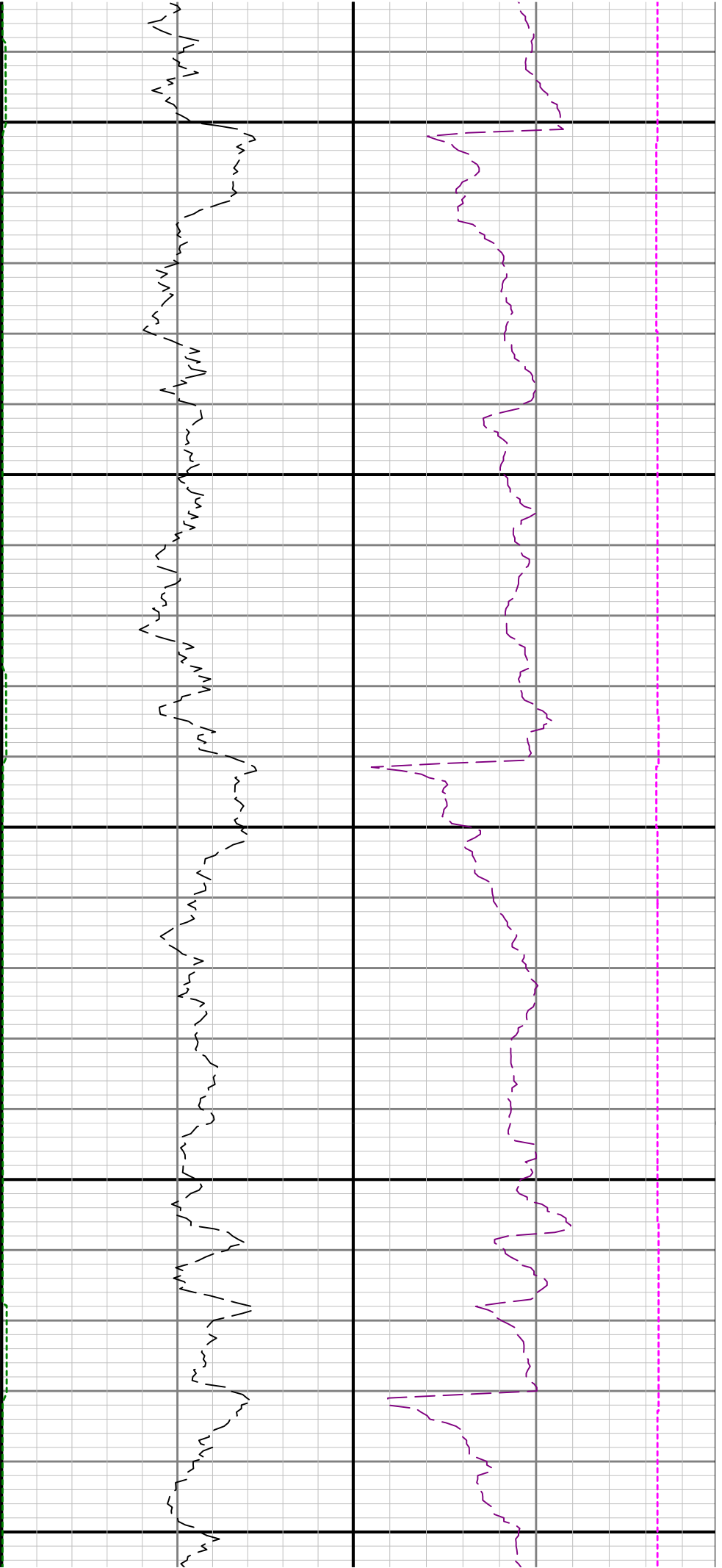




15200

15300





15400

15500

