




## REALTIME LOG

## Gamma Ray

REALTIME LOG									
<div><div><div><div>BAKER HUGHES</div><div>a GE company</div></div><div></div></div></div>				Gamma Ray					
Scale:		Company: Anadarko							
1:240 MD		Well: George 25-7HZ							
Depth Reference:		Field: Wattenburg							
Driller's Depth		County: Weld Country: United States							
State:		State: Colorado							
Status:		Surface Location:				Other Services:			
Final Print		Latitude: 040° 06' 37.073" N				Directional			
API No: 05123463290000		Longitude: 104° 36' 36.061" W							
Job ID: 9204300		SEC: 25		TWN: 2N		RGE: 65W			
Permanent Datum (P.D.): Ground Level		Elevation: 4900.00 ft		Elev. KB: 4917.00 ft		N/A			
Log Measured From: Rig Floor		Above P.D. 17.00 ft		Elev. DF: 4900.00 ft		Elev. GL: 4900.00 ft			
Dates		Interval Drilled				Magnetic Field Reference			
Date From: 2018-06-15		Top: (ft) 1889.00		Azi Reference North: True		Dip Angle: (deg) 66.57			
Date To: 2018-06-18		Bottom: (ft) 16150.00		Total Magnetic Field Strength: (nT) 52306					
Spud Date: 2018-06-15				Mag to Reference North Correction: (deg) 7.94					
Borehole Record									
Casing Record									
Hole Size (in)		From (ft)		To (ft)		Size (in)		Weight (lb/ft)	
13.500		17.00		1889.00		9.625		25.00	
7.875		1889.00		16150.00					
Mud Record									
Deviation Record									
Type		From (ft)		To (ft)		Hole Size (in)		Interval (ft)	
Diesel-Oil Based Mud		1889.00		16150.00		7.875		14261.00	
Acquisition System									
Software Version		RT 4.2		4.2.8155.1		Rig: XTreme 22		Contractor: XTreme	
Baker Hughes Cadence						District: RMD		Unit: D & E	
Plot Studio									

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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	7.875	PDC	2.00	Steerable	1899.00	16108.00	1889.00	16150.00	2018-06-15 23:05	2018-06-18 19:01	57.57

## Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Teni Onafowokan	2018-06-15	2018-06-17	Will Roth	2018-06-15	2018-06-19	Joshua Monroe	2018-06-18	2018-06-19

## 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+ (%)
2018-06-15 17:47	1	1889.00	Diesel-Oil Based Mud	9.2	14	N/A	N/A	75.6/24.4	Active Pit	33000	0.00
2018-06-16 18:00	1	6933.00	Diesel-Oil Based Mud	8.8	13	N/A	N/A	74.1/25.9	Active Pit	34000	0.00
2018-06-17 19:00	1	11682.00	Diesel-Oil Based Mud	8.9	14	N/A	N/A	73.6/26.4	Active Pit	36000	0.00
2018-06-18 18:00	1	16150.00	Diesel-Oil Based Mud	9.1	17	N/A	N/A	73.9/26.1	Active Pit	37000	0.00

## Equipment and Service Data

Run No.	Tool	Serial Number	Measurement	Sensor Offset	Bit Offset	Max O.D.	Min I.D.
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				(ft)	(ft)	(in)	(in)
1	NaviGamma	12366182	Gamma (single)	11.32	41.79	6.500	3.250
1	NaviGamma	12366182	VSS	14.74	45.21	6.500	3.250
1	NaviGamma	12366182	Directional (mag)	14.74	45.21	6.500	3.250

Service and Tool Mnemonics

Mnemonic	Name	Description
GAM	NaviGamma	Probe Based Gamma Module, NaviTrak Platform

Comments

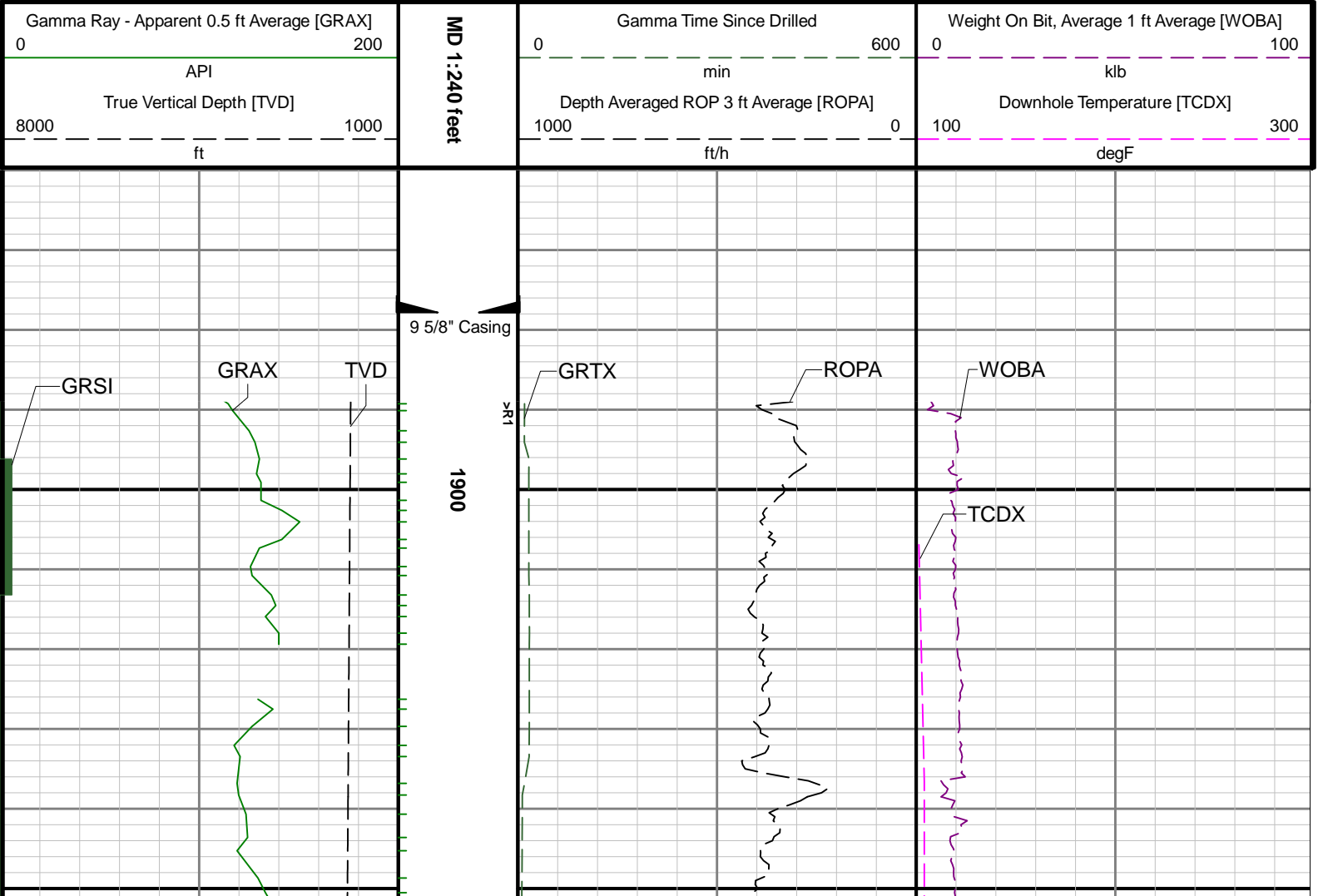
- 1
- Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
- 2
- A sliding indicator is shown to the left edge of track 1 as a heavy line. The indicator has been depth-shifted to the Gamma Ray sensor offset to correspond with Gamma Ray data acquired while sliding.
- 3
- Baker Hughes run 1 utilized 6.50 inch NaviGamma services (Gamma Ray and Directional) behind a 7 7/8 inch bit and steerable assembly from 1889 to 16150 feet MD (1838 to 6930 feet TVD).
- 4
- Numerous gaps are present throughout the log due to surveying while on bottom drilling ahead.
- 5
- Gamma Ray (GRAX) scale is presented 0 to 200 API per customer request.

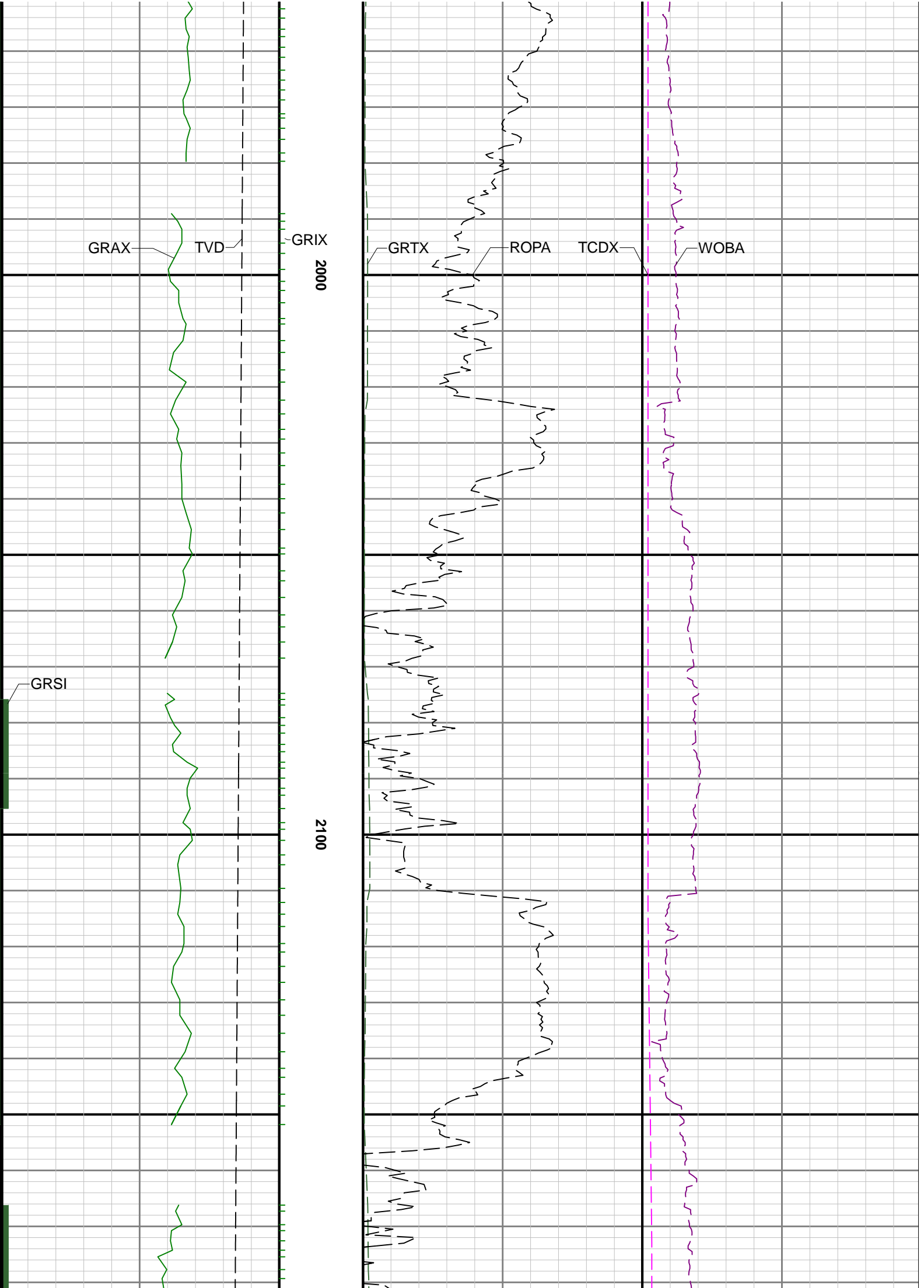
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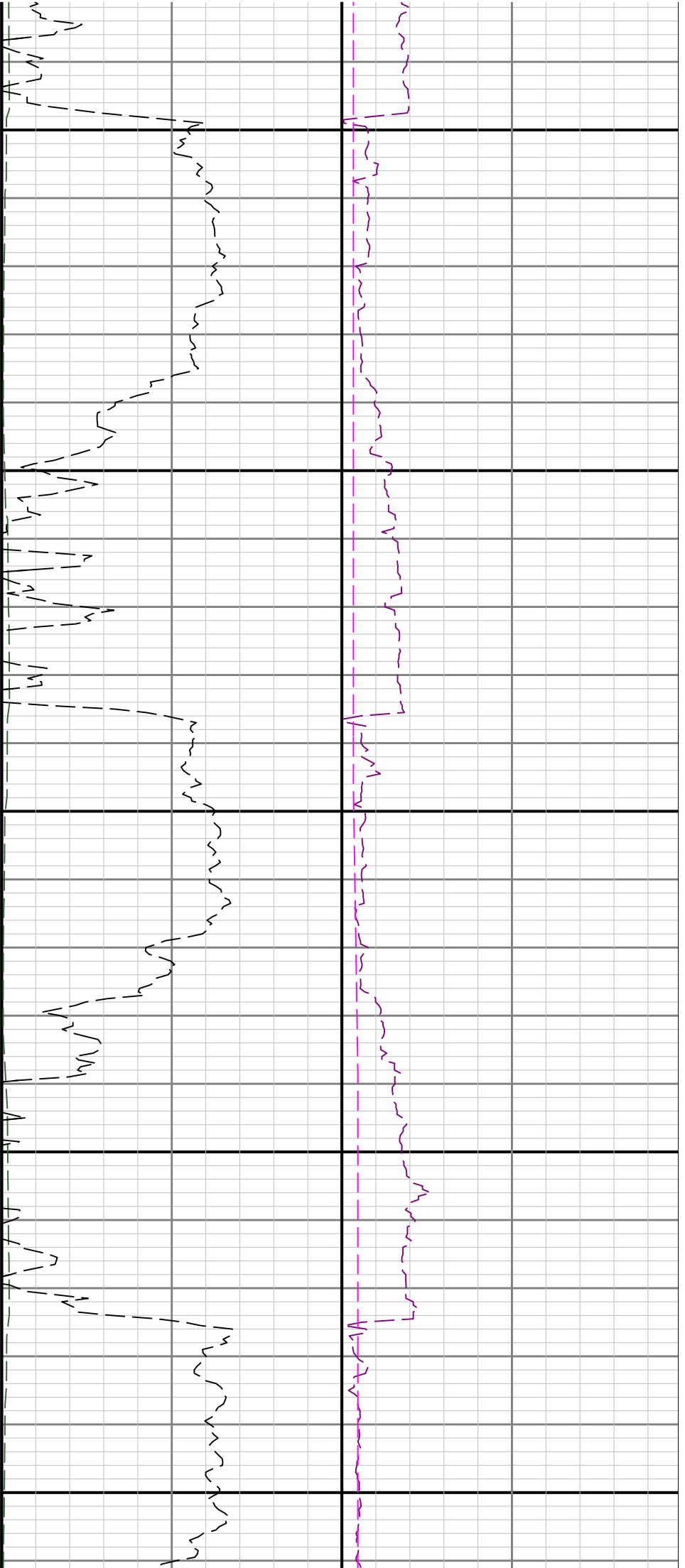
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	6575.00	7.875	1	The interval from 6564 to 6590 feet MD (6104 to 6131 feet TVD) was not logged due to depth jump.
2	16100.00	7.875	1	The interval from 16108 to 16150 feet MD (6930 feet TVD) was not logged due to sensor to bit offset at the end of Run 1.

Curve Mnemonics

Presented Curves	Description	Units
TCDX	Downhole Temperature	degF
ROPA	Depth Averaged ROP 3 ft Average	ft/h
TVD	True Vertical Depth	ft
WOBA	Weight On Bit, Average 1 ft Average	klb
GRAX	Gamma Ray - Apparent - Real-Time 0.5 ft Average	API
GRIX	Gamma Ray - Data Point Indicator - Real-Time	unitless
GRTX	Gamma Ray - Time Since Drilled - Real-Time	min
GRSI	Sliding Indicator Flag	unitless



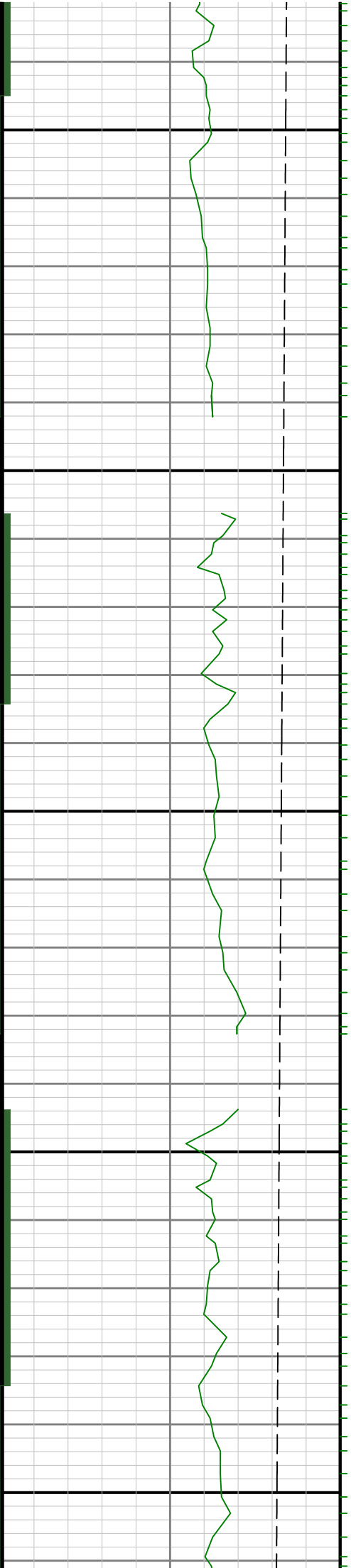


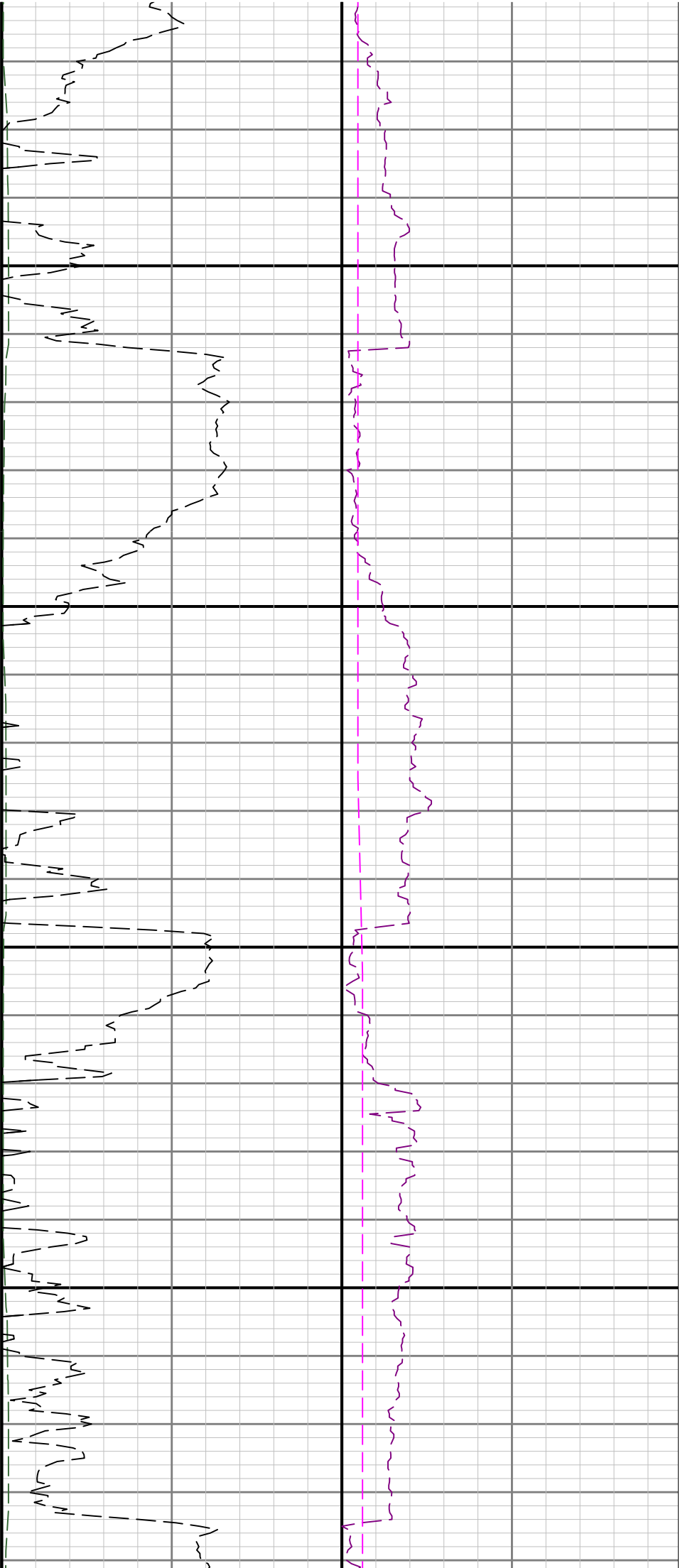


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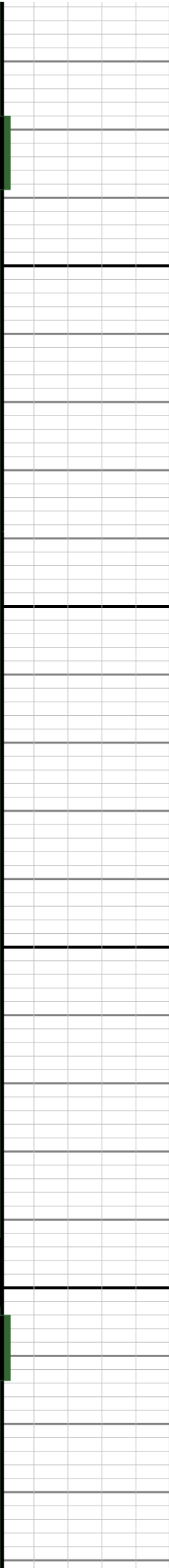
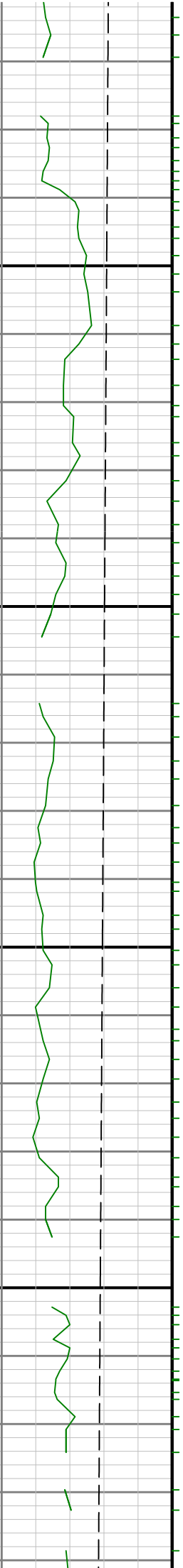
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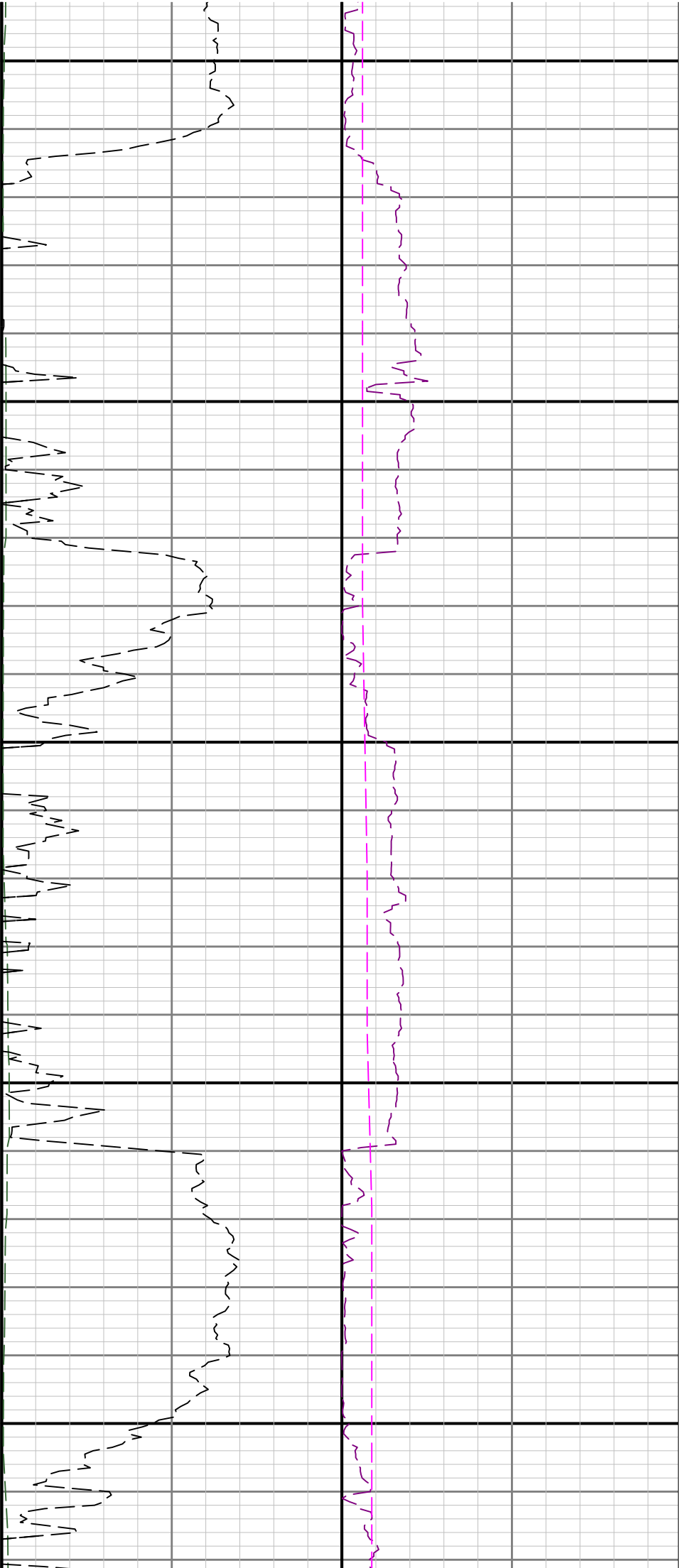




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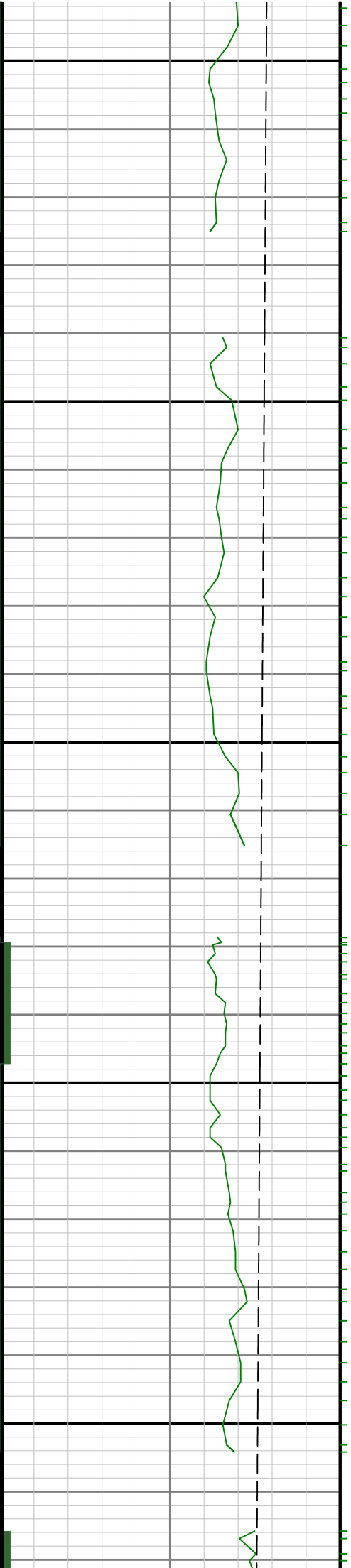
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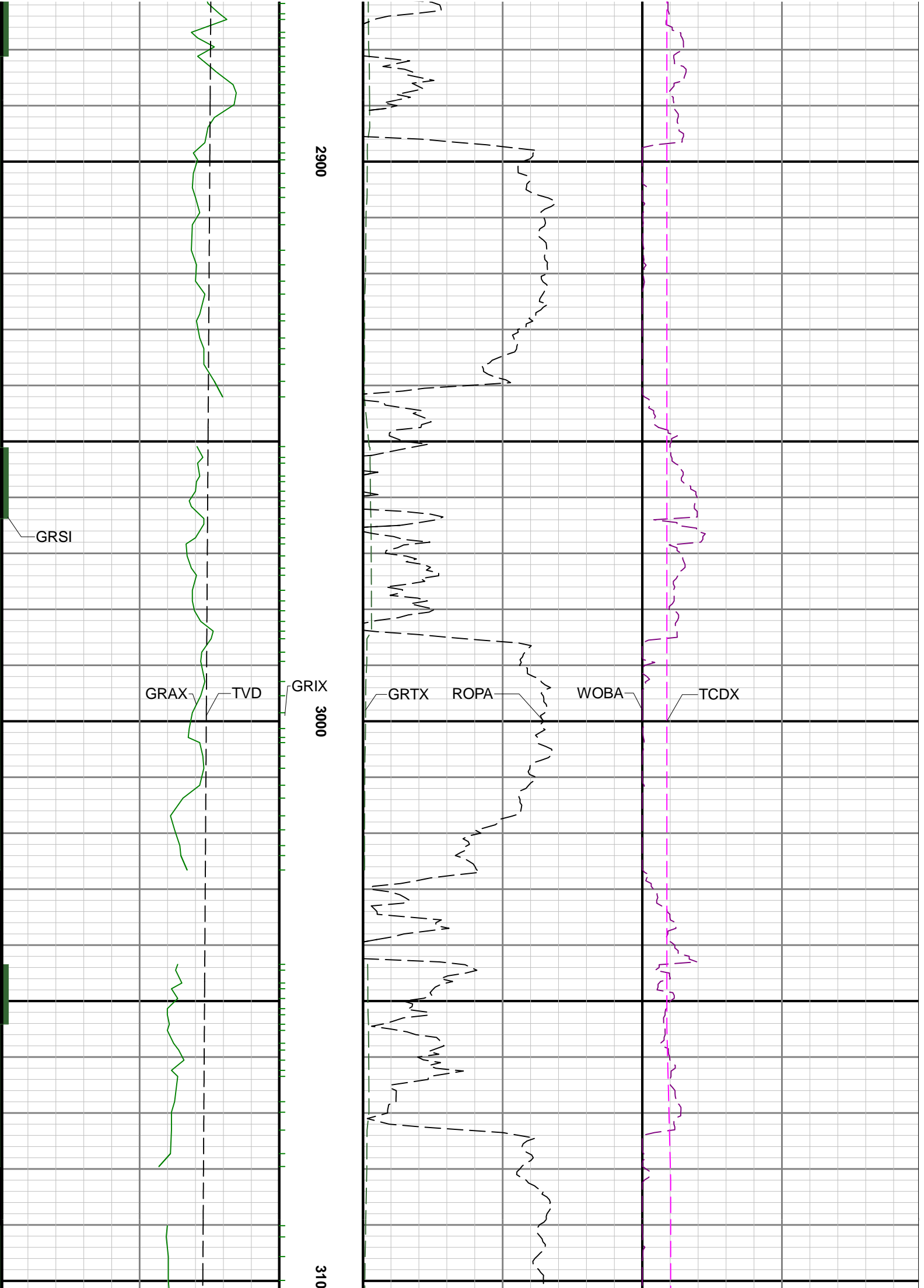


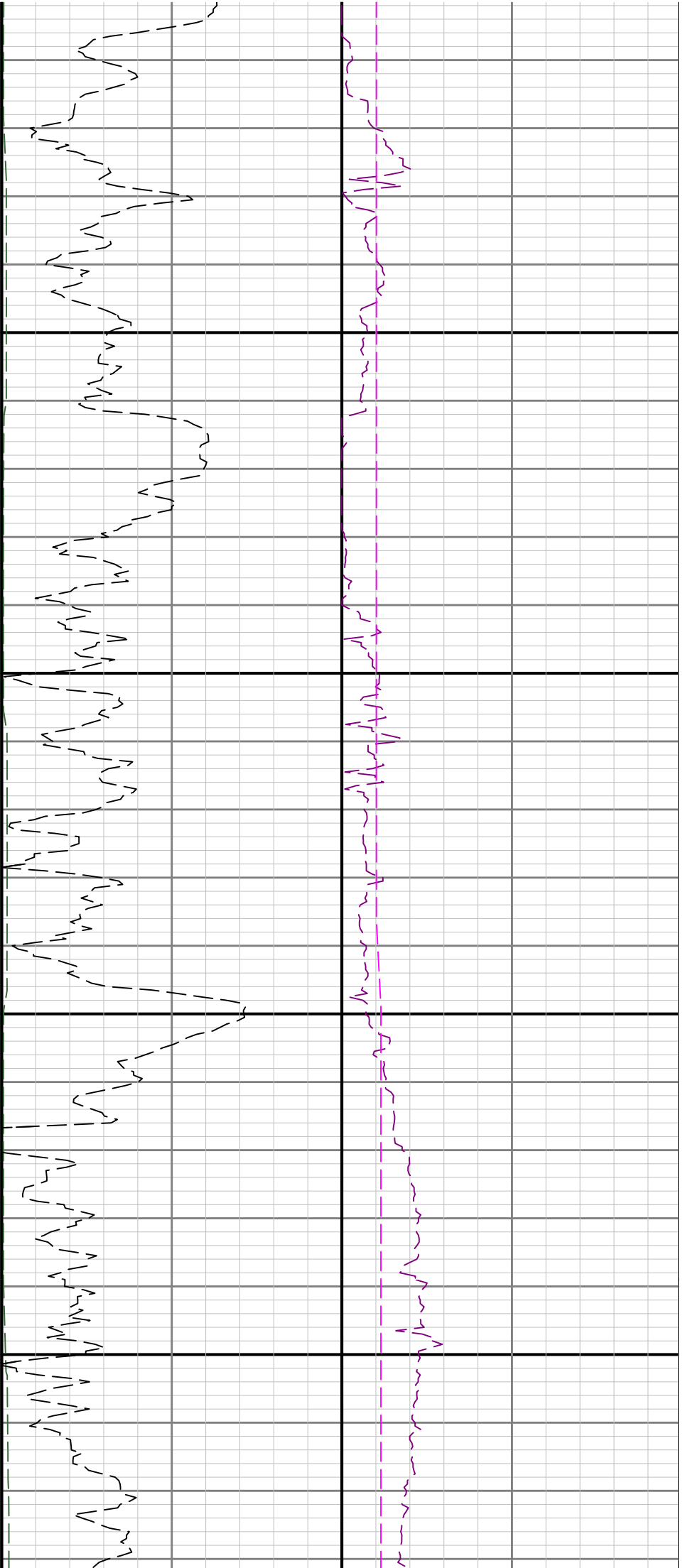


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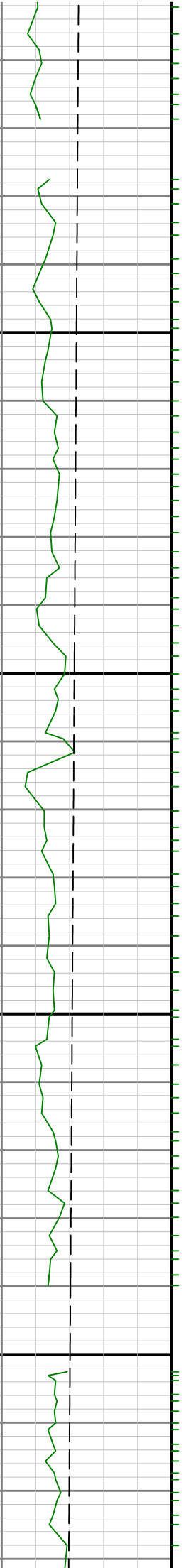
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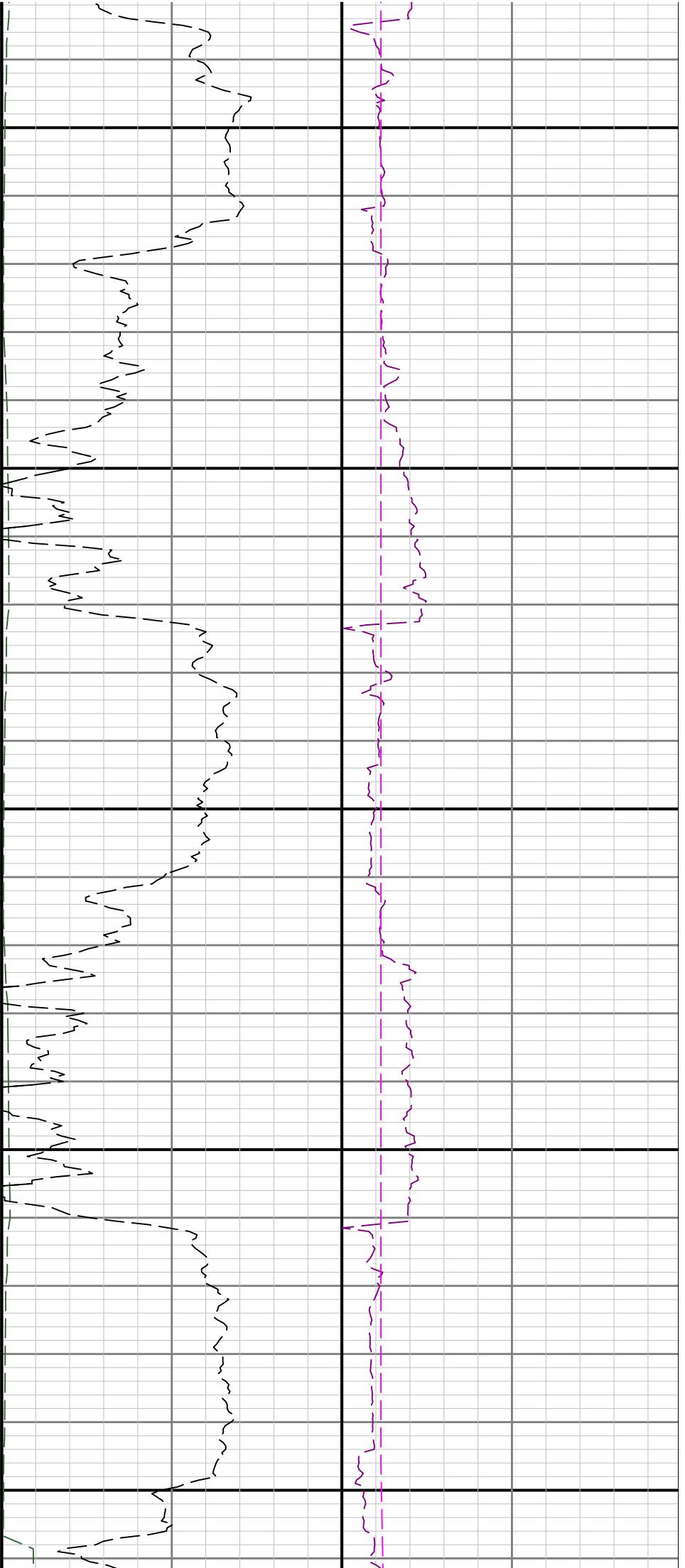




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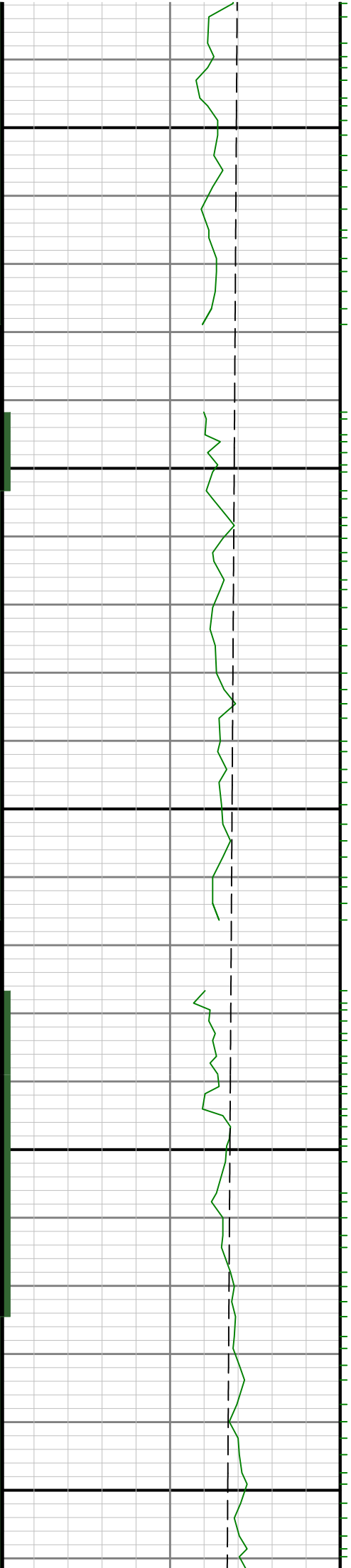


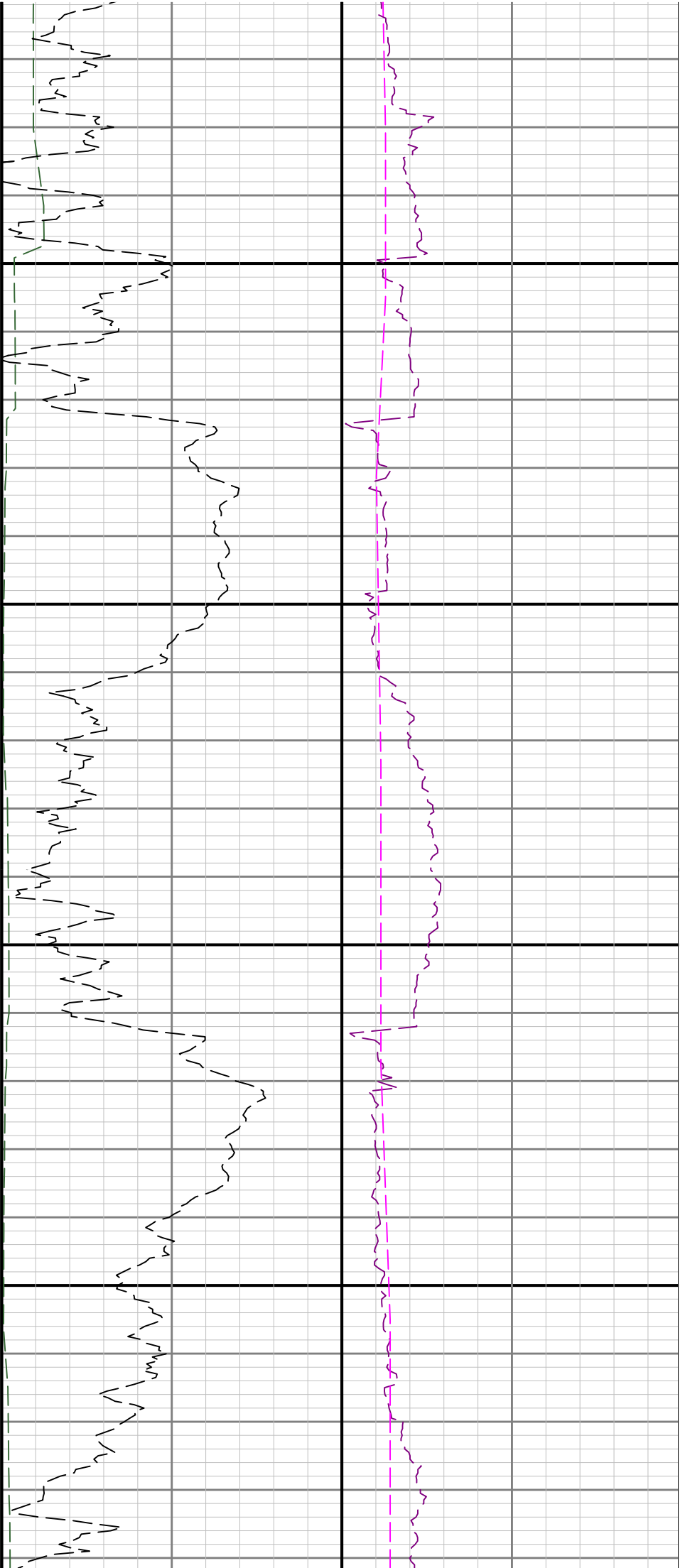




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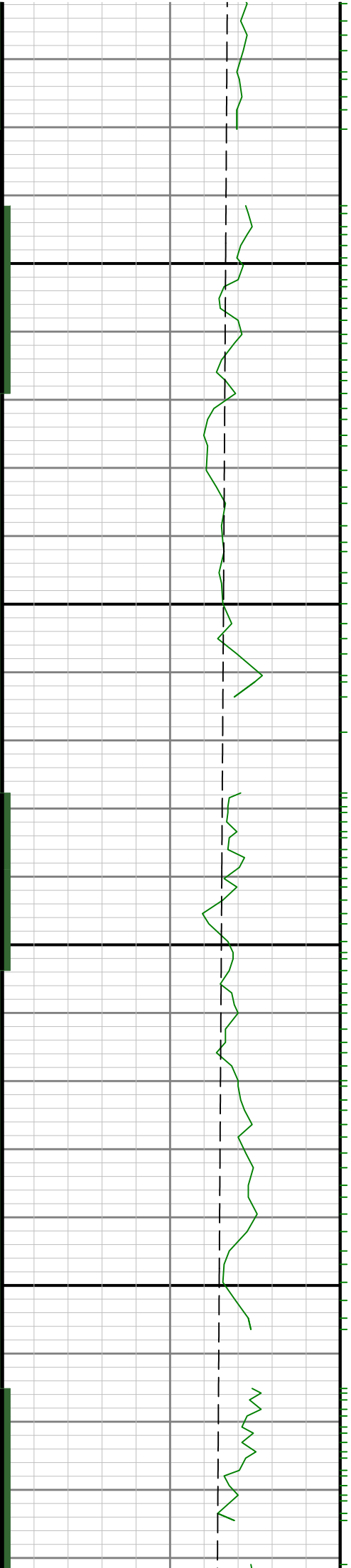
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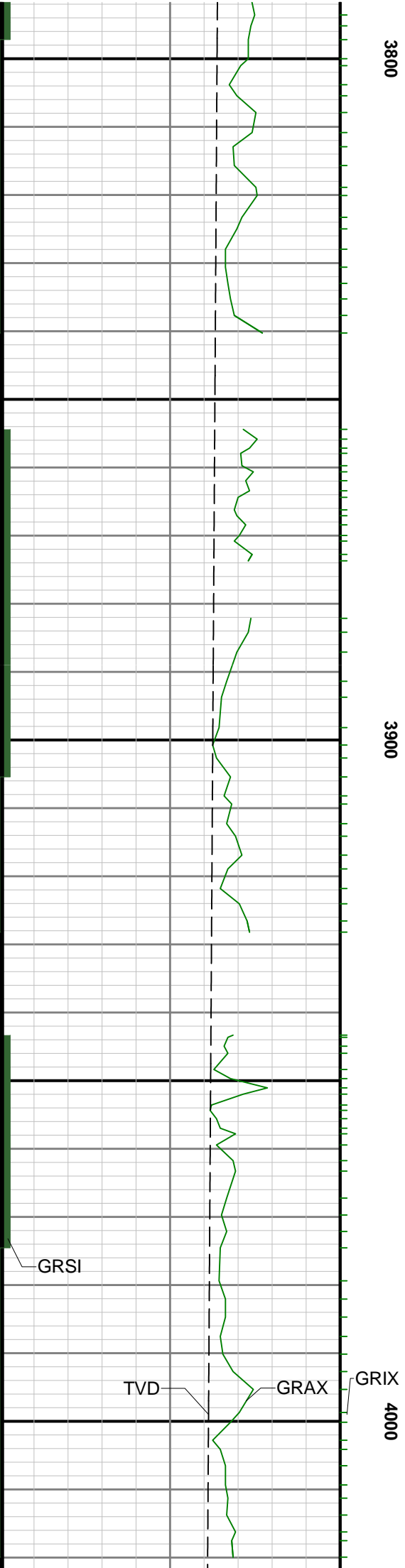
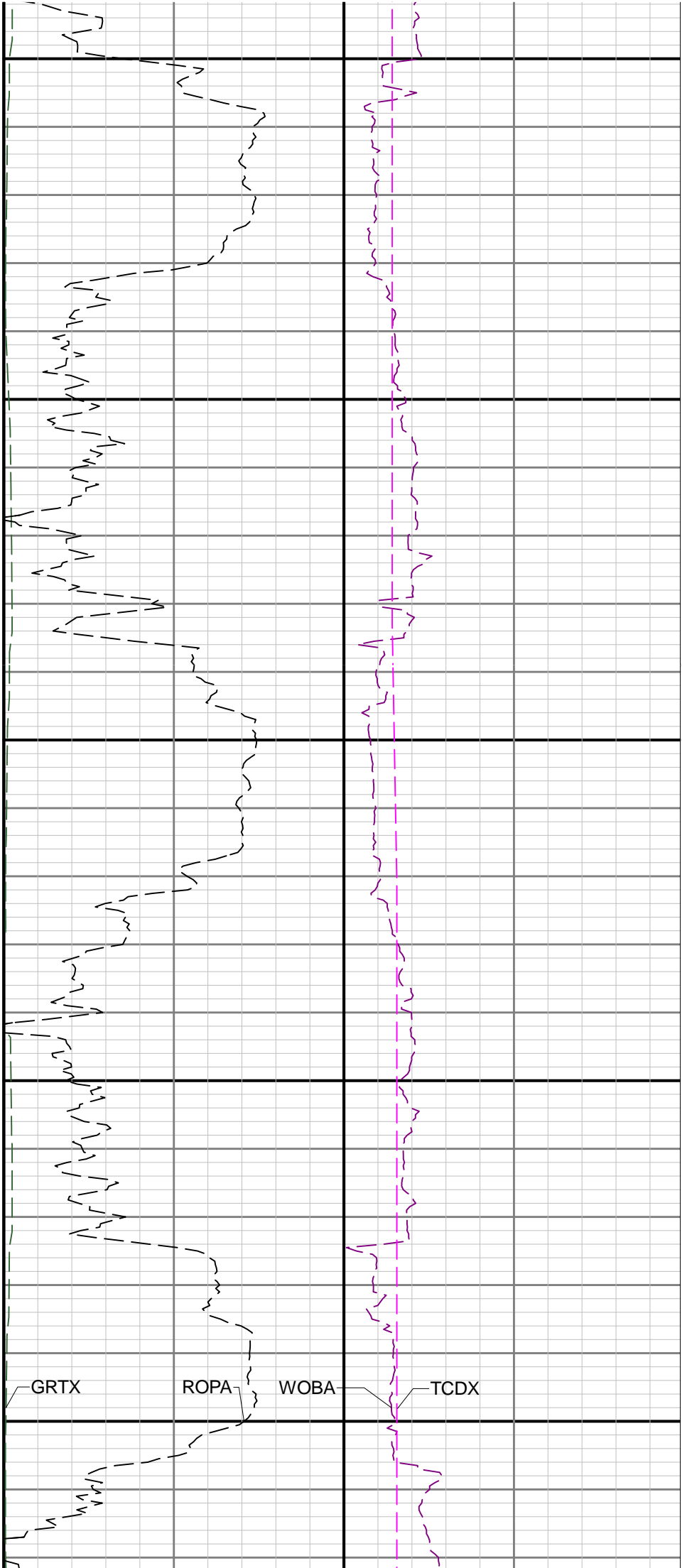


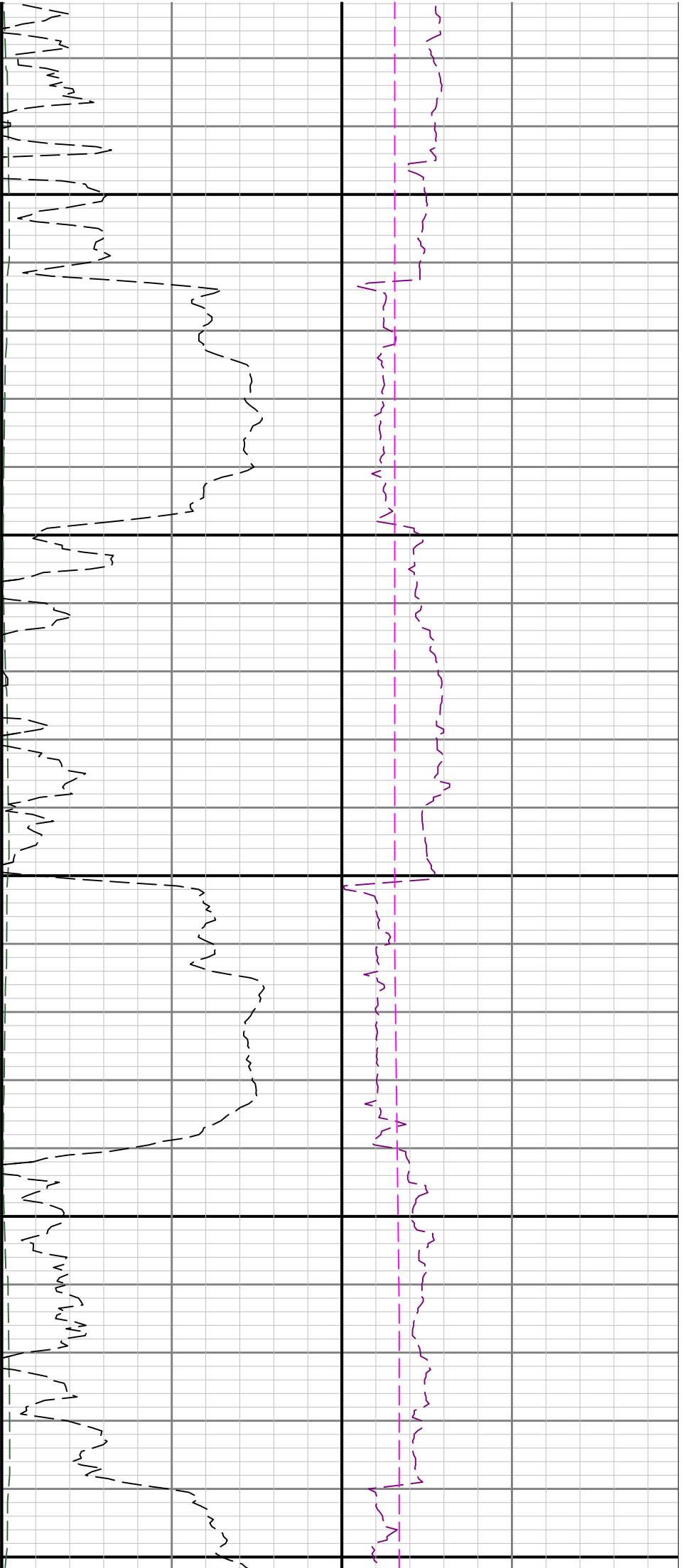


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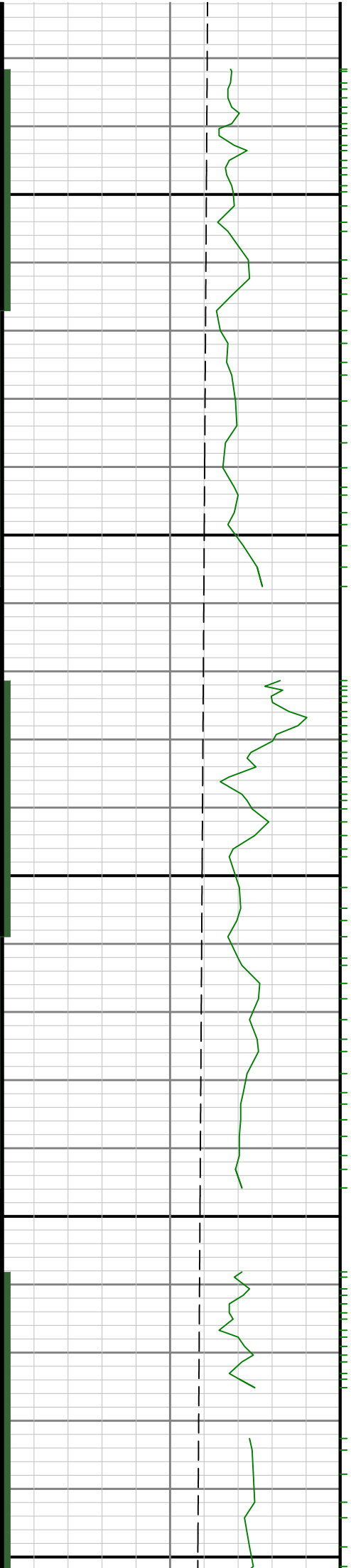




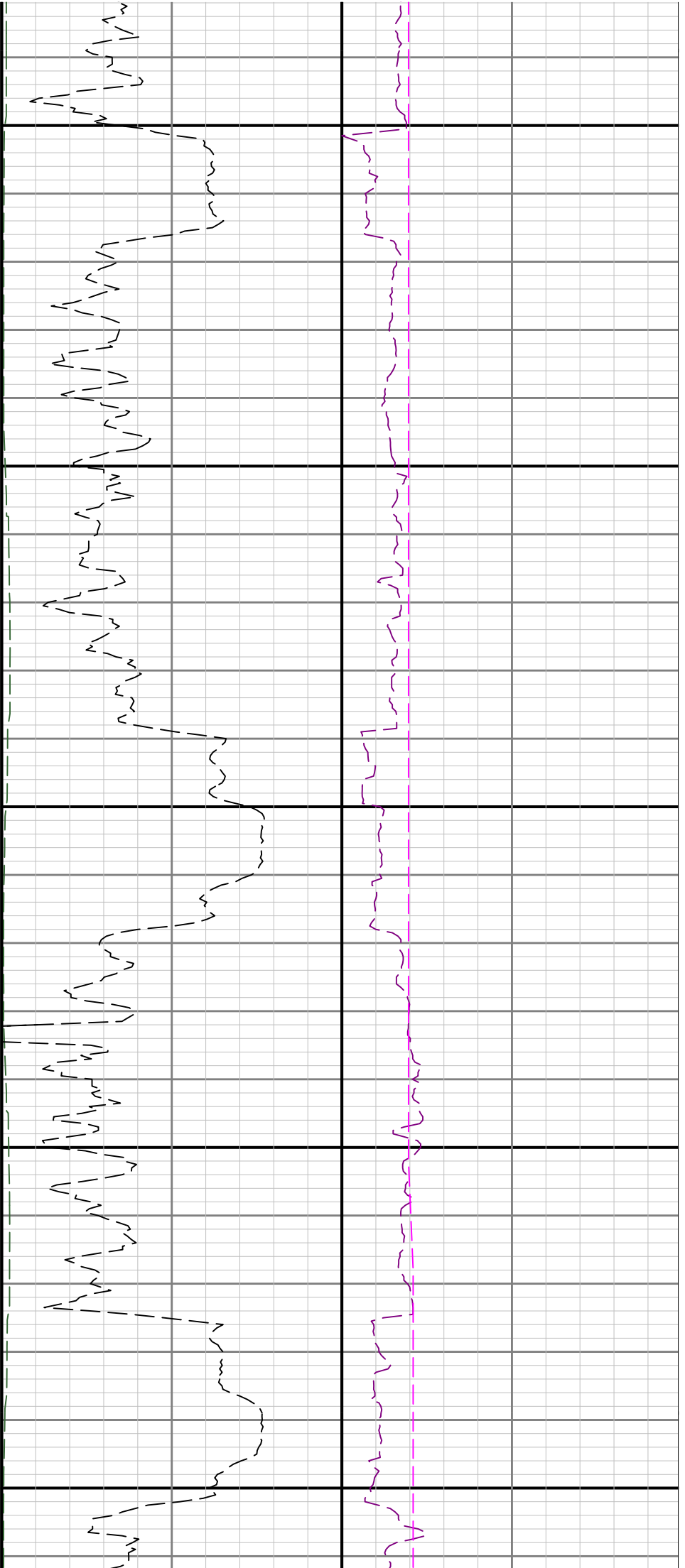


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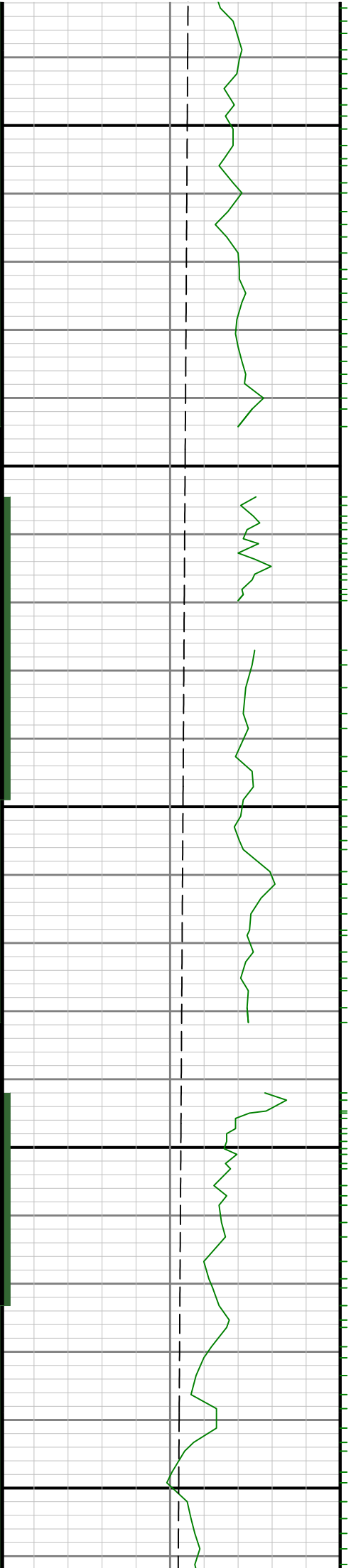


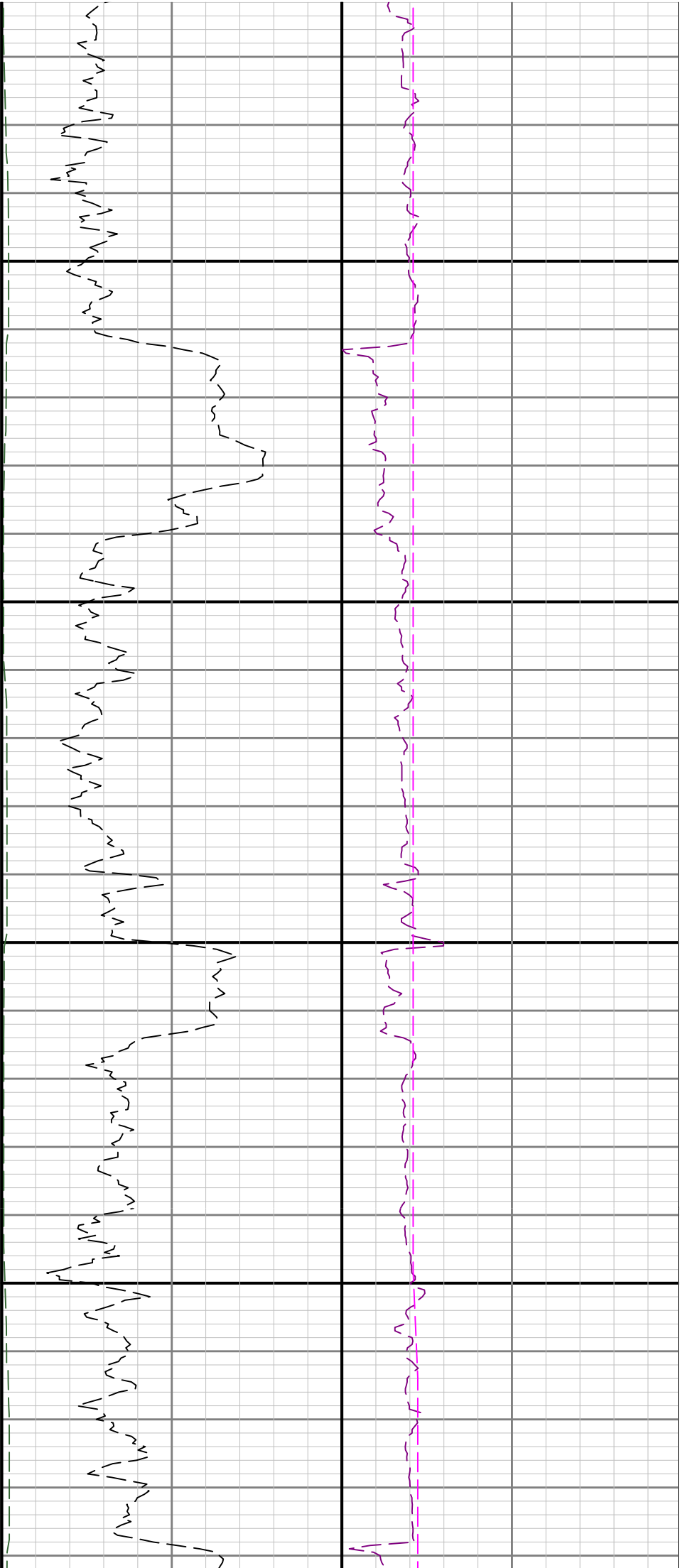


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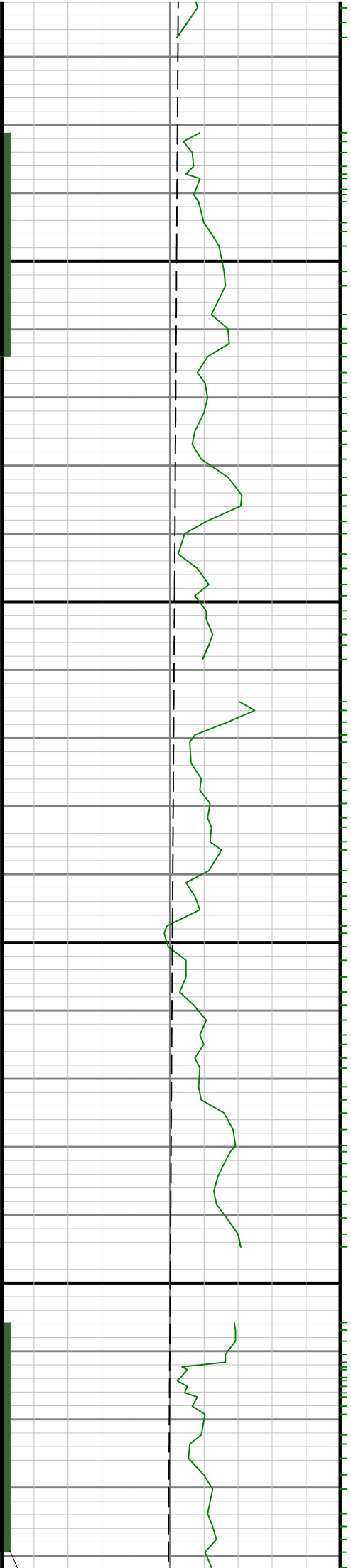
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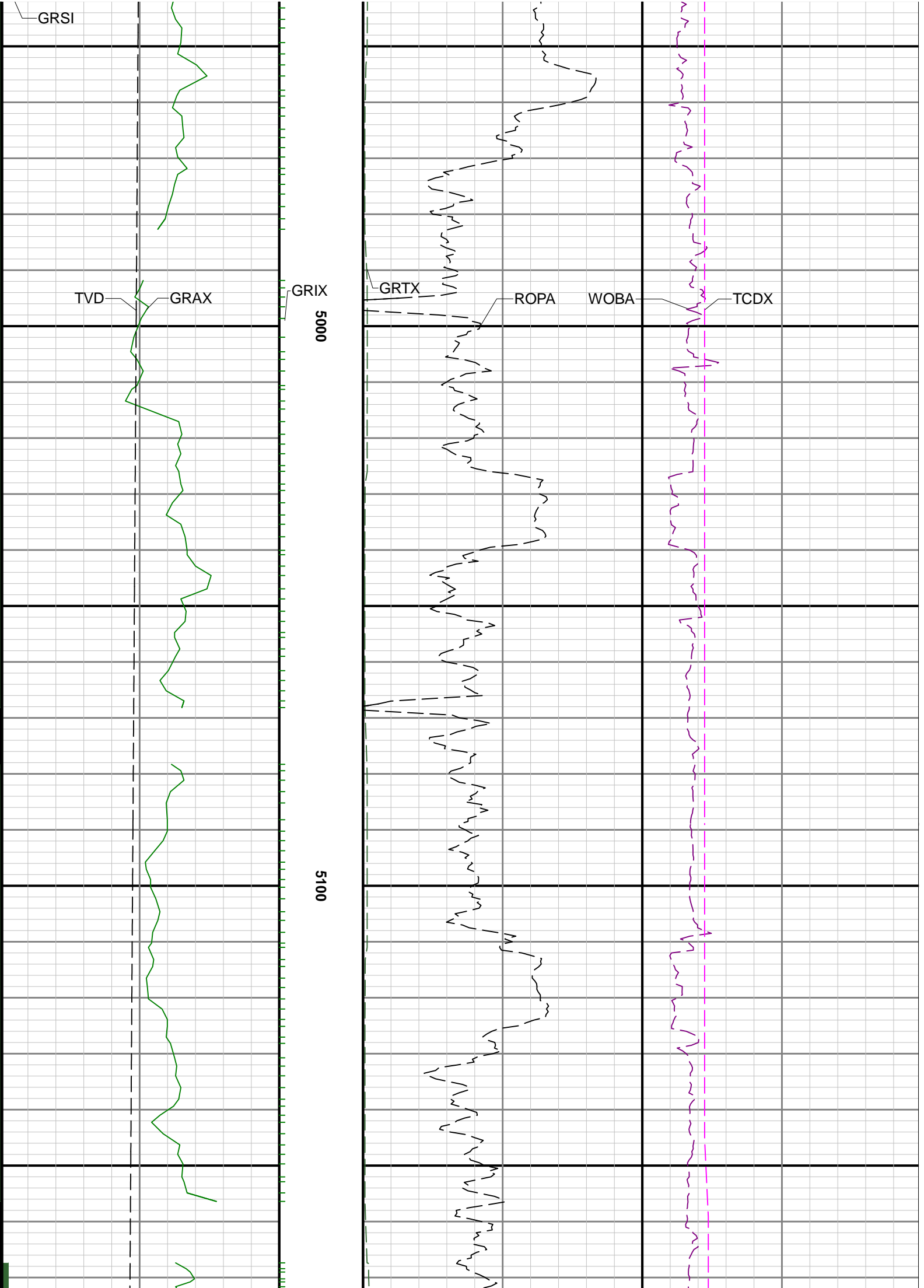




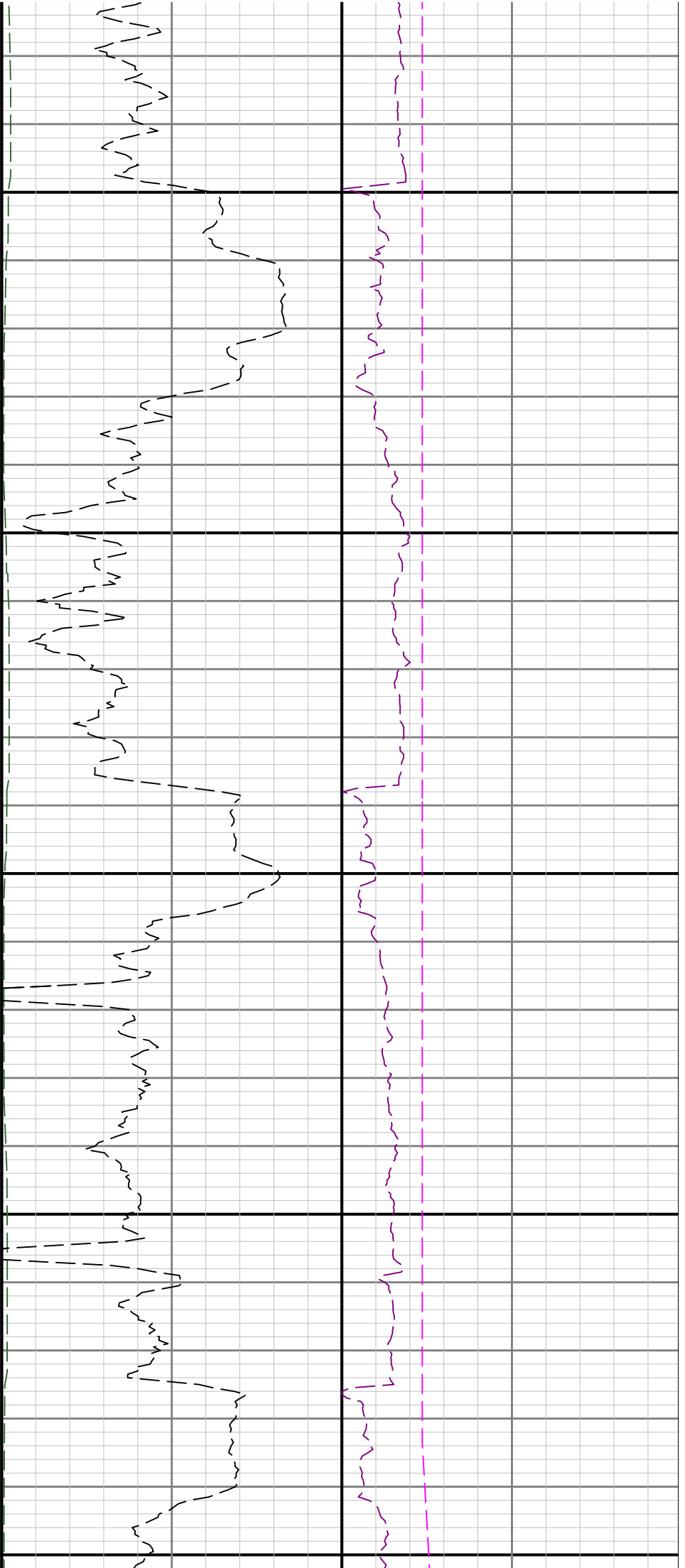
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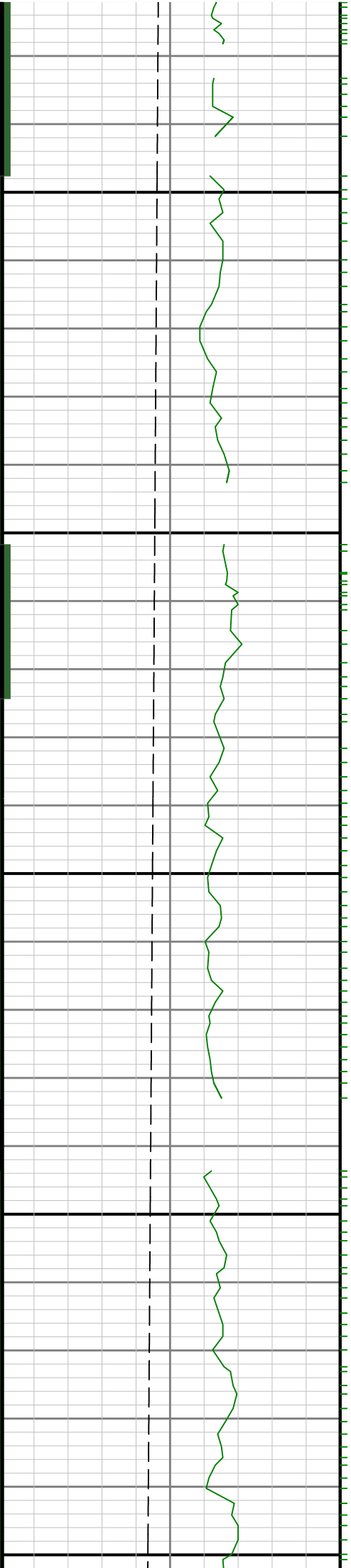


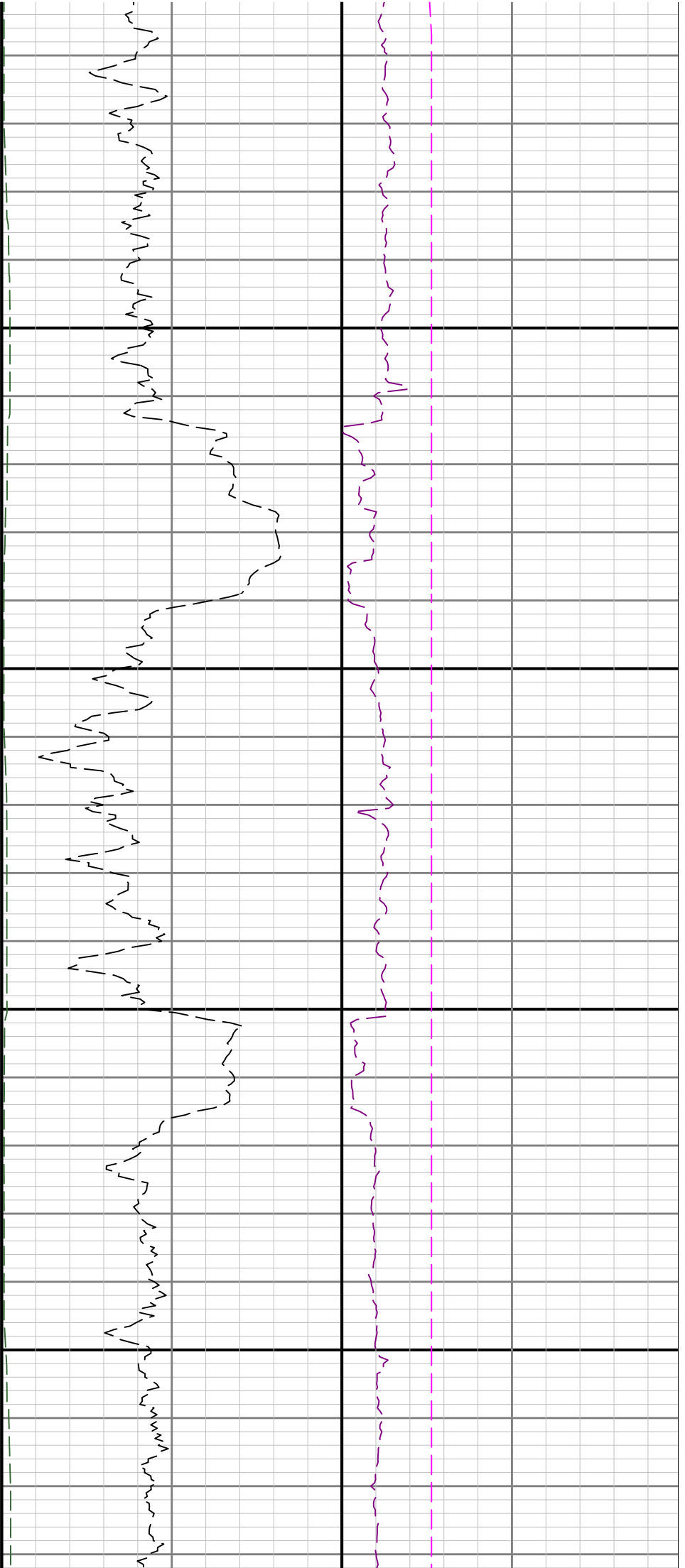


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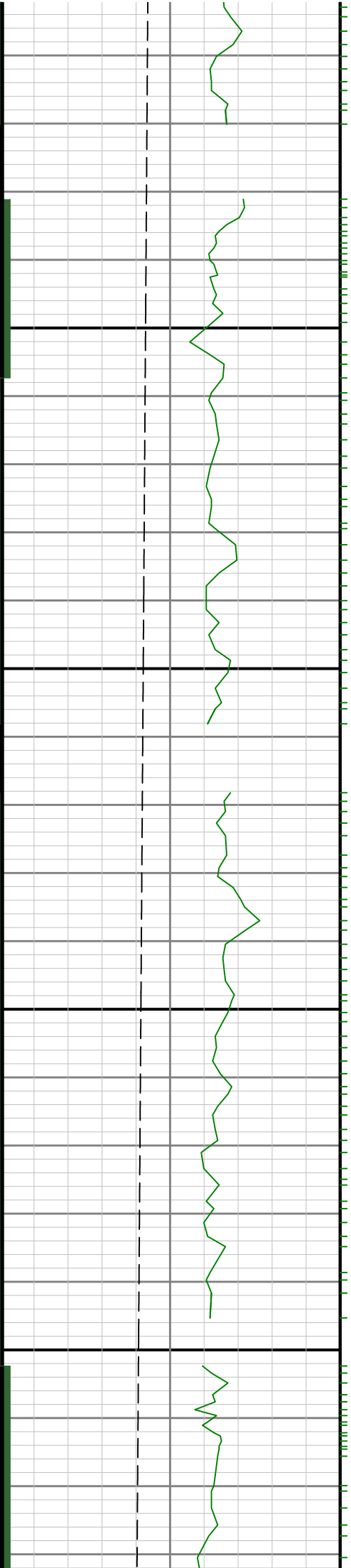
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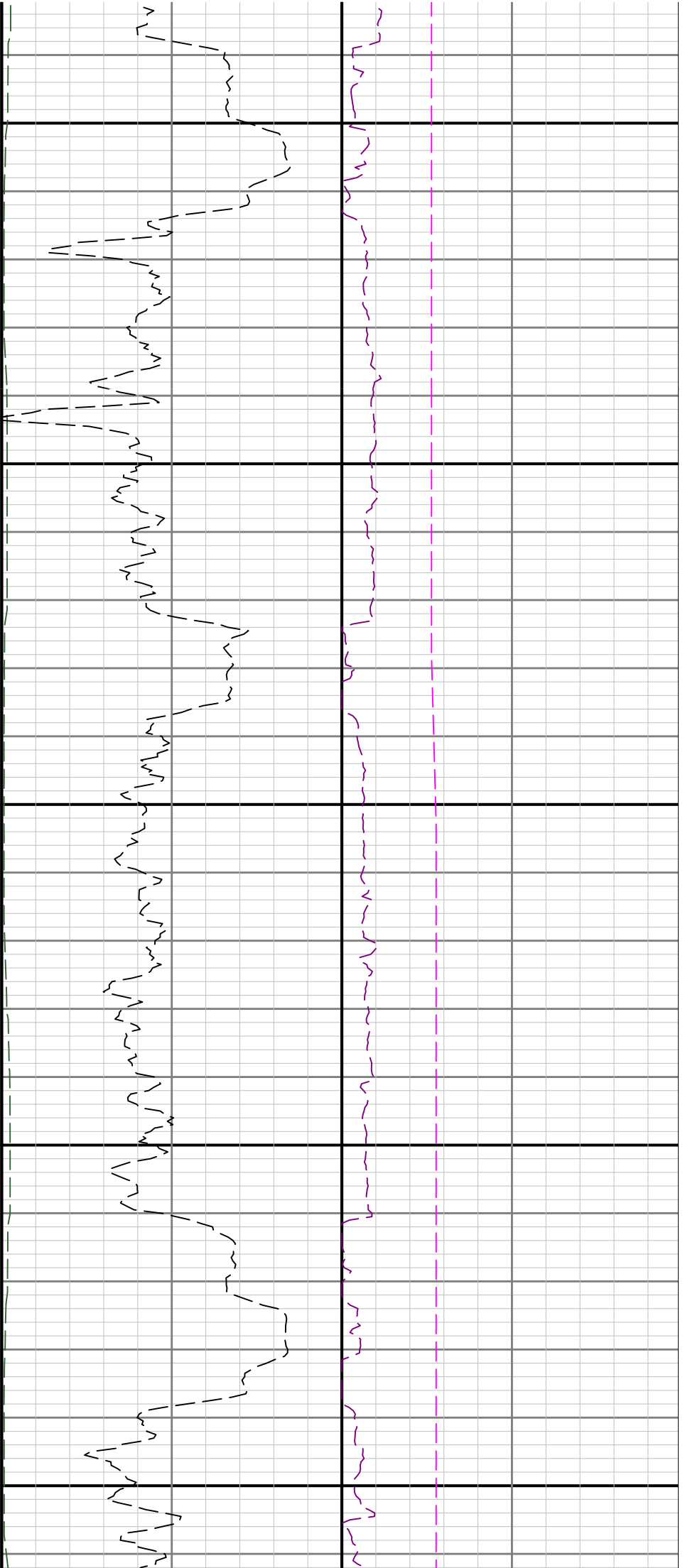




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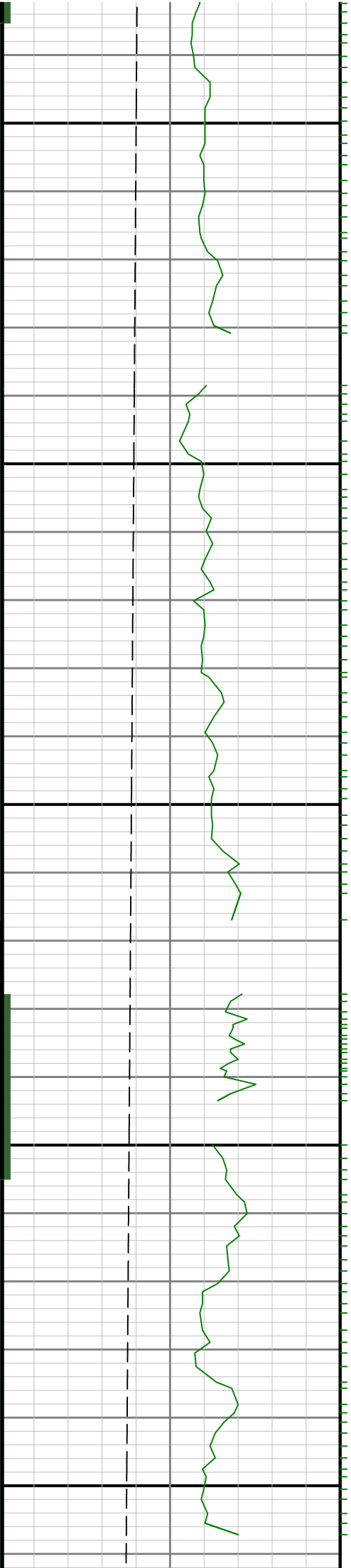
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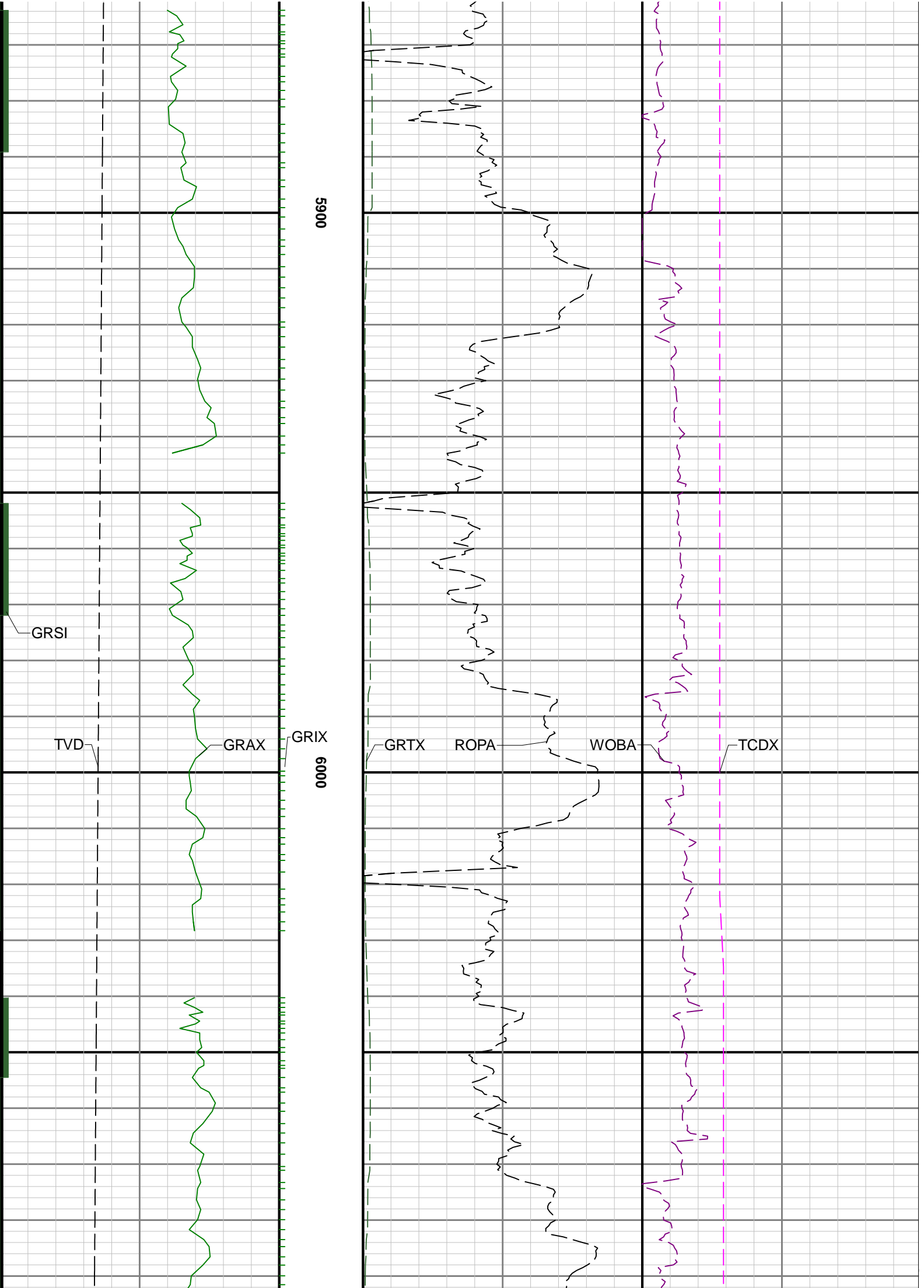


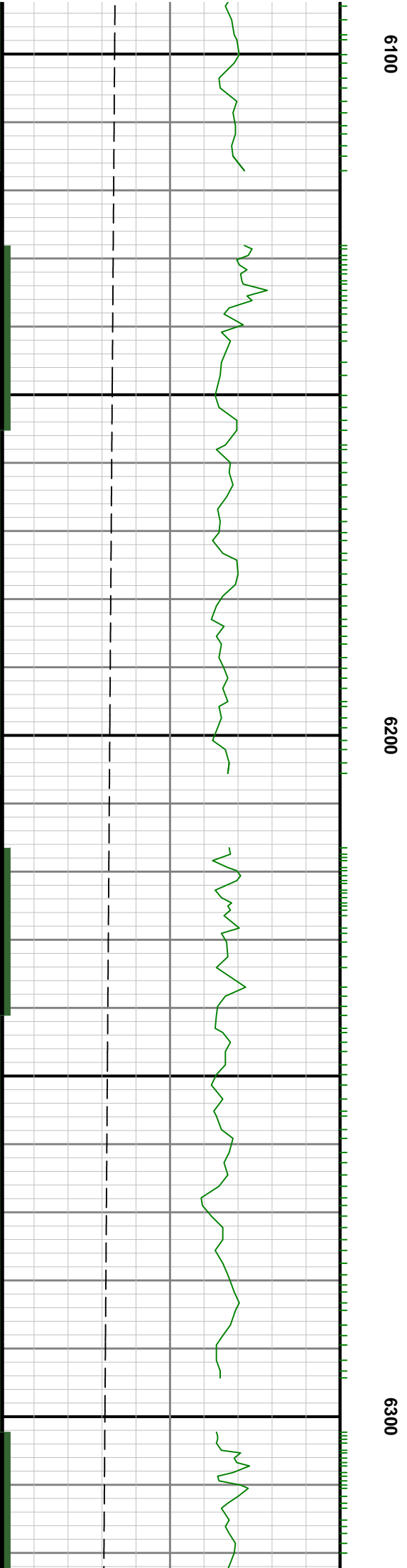
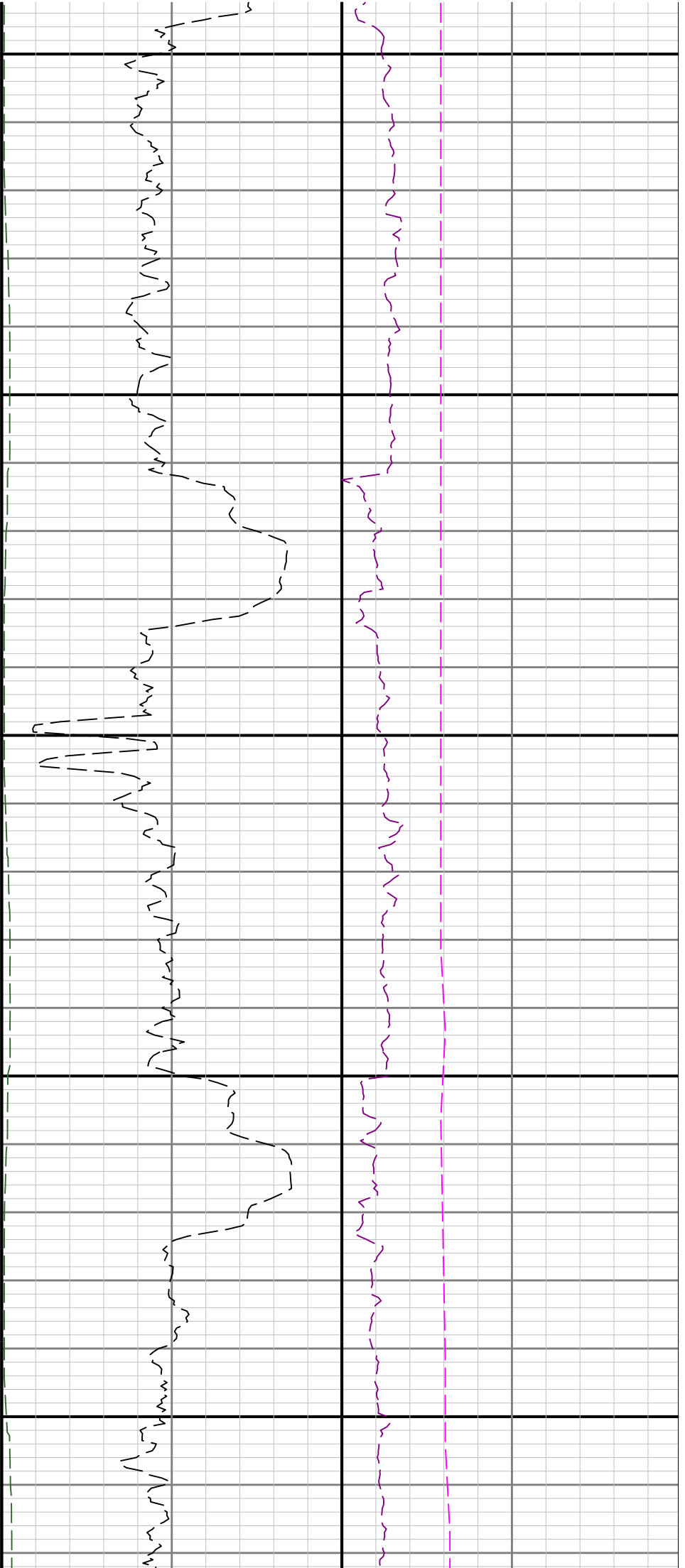


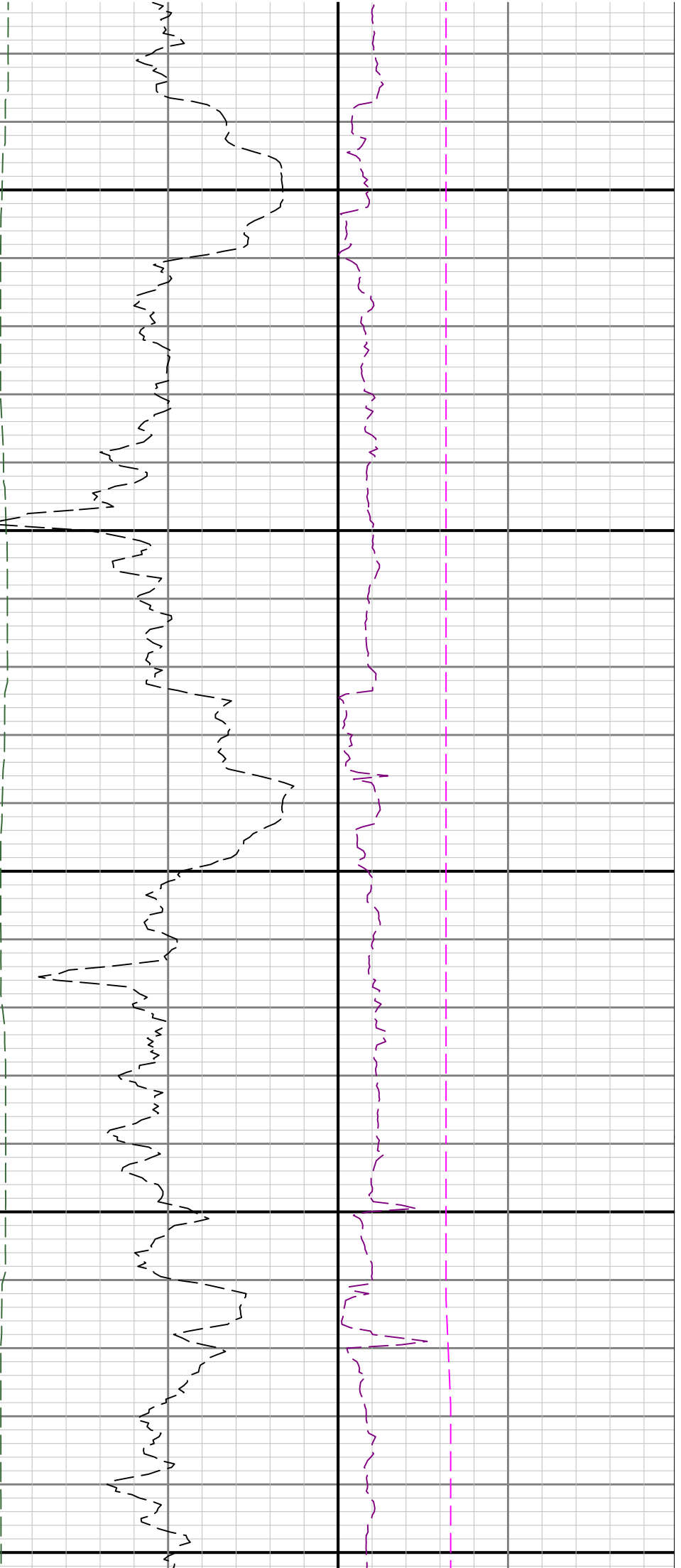
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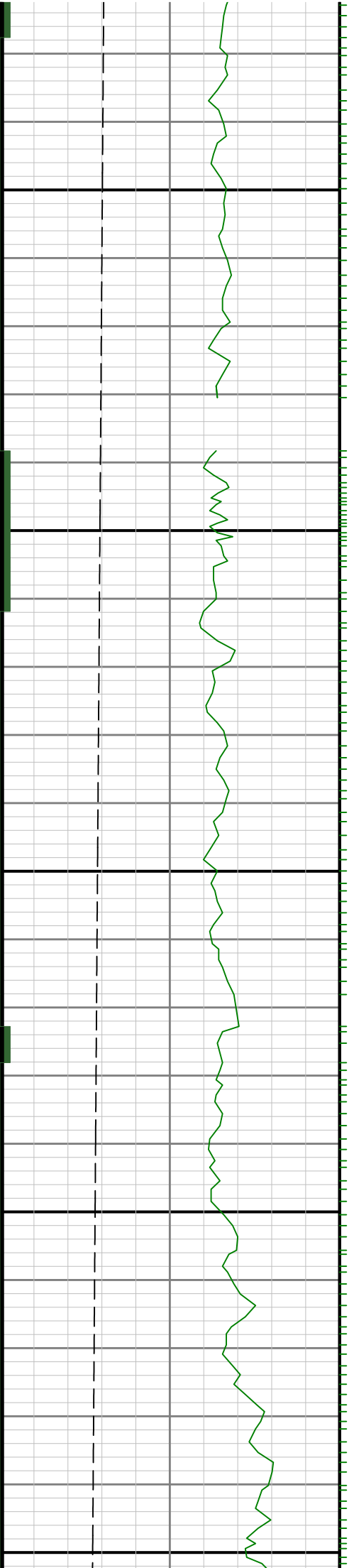


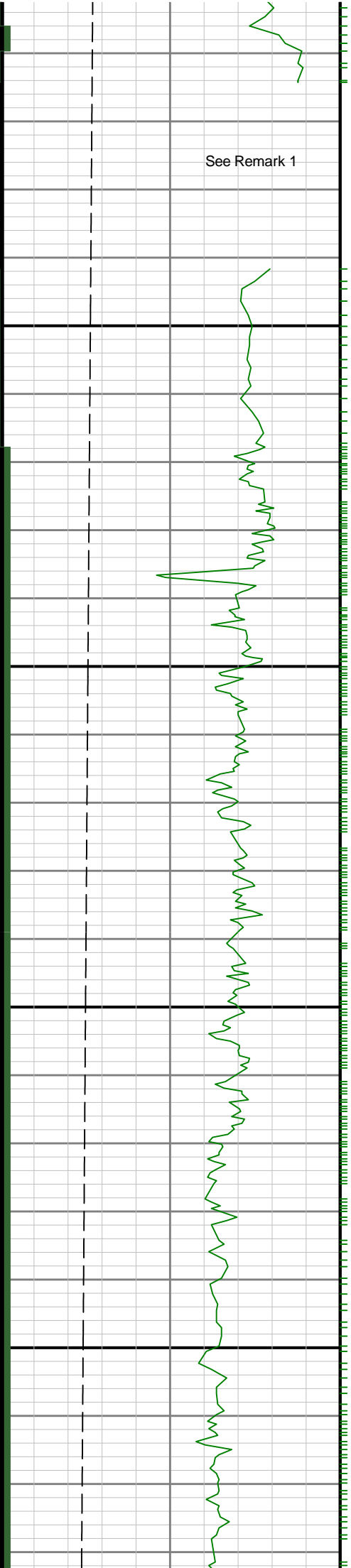




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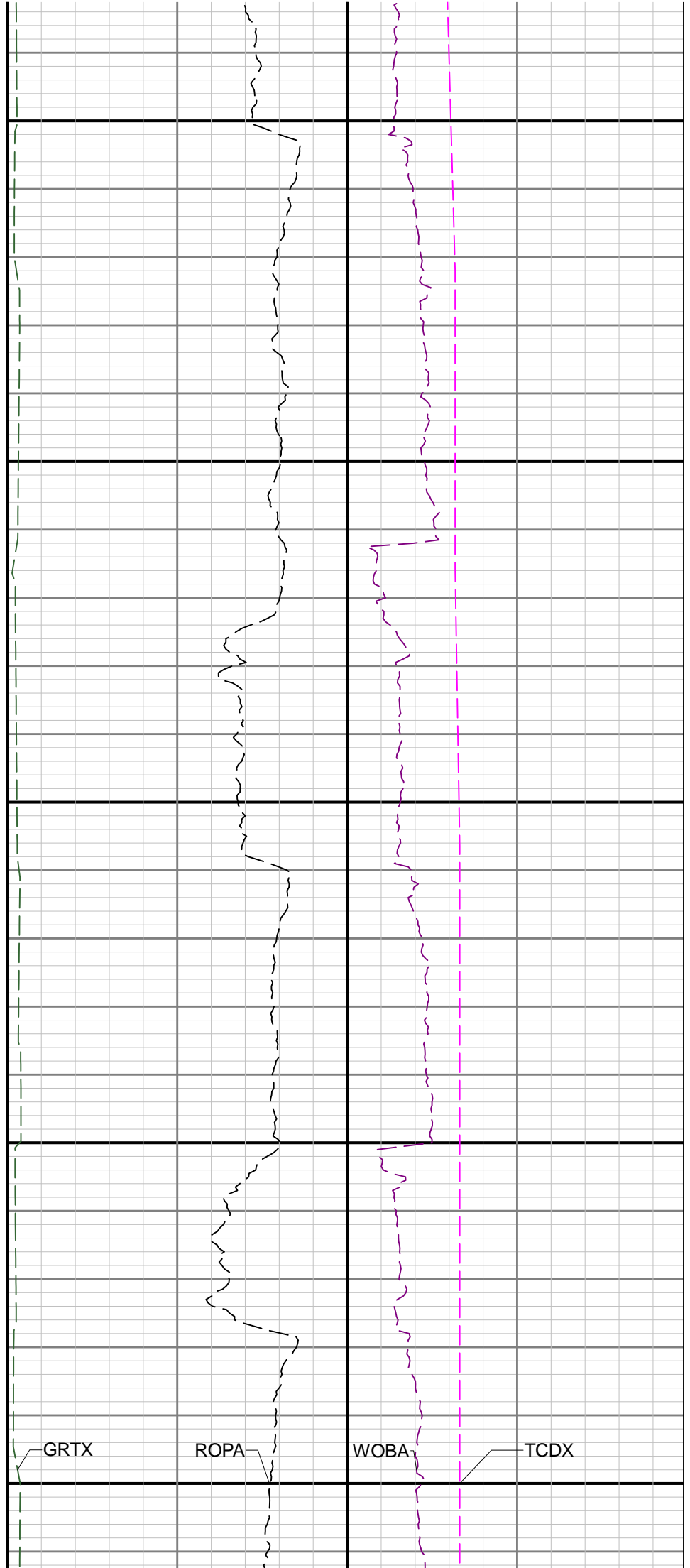
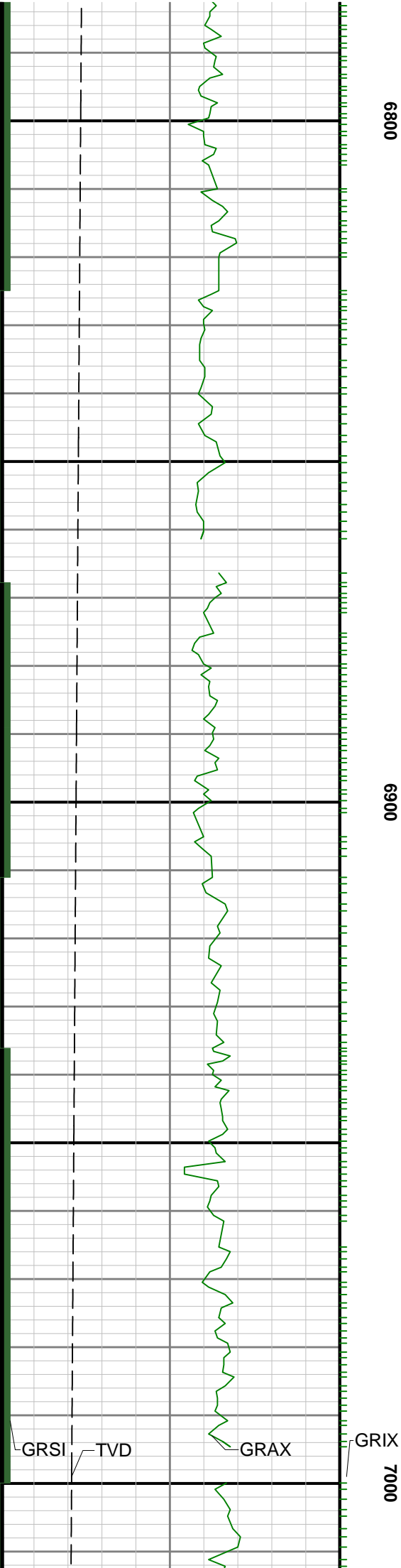


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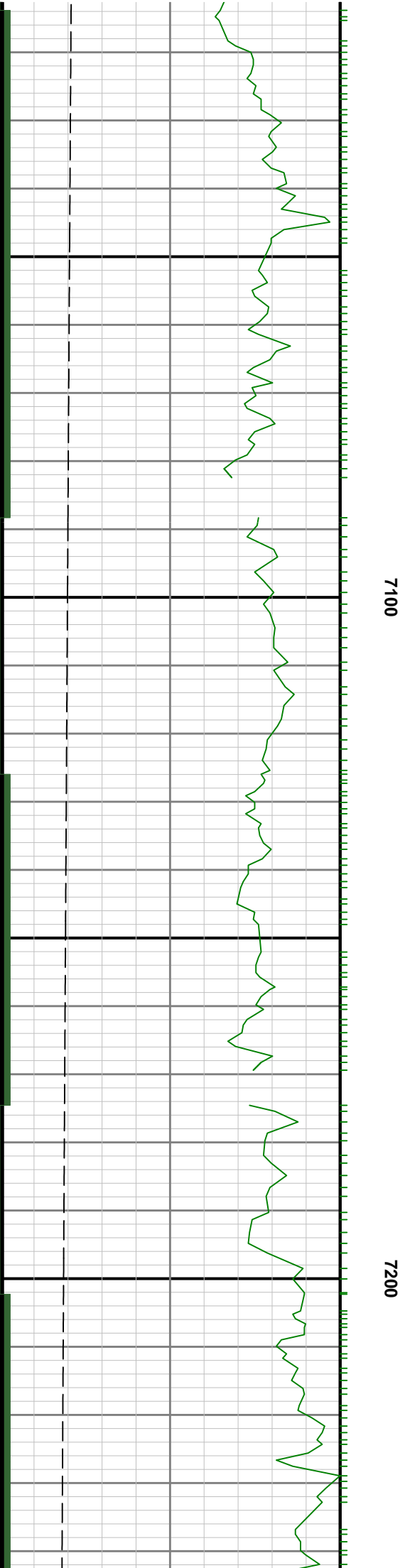
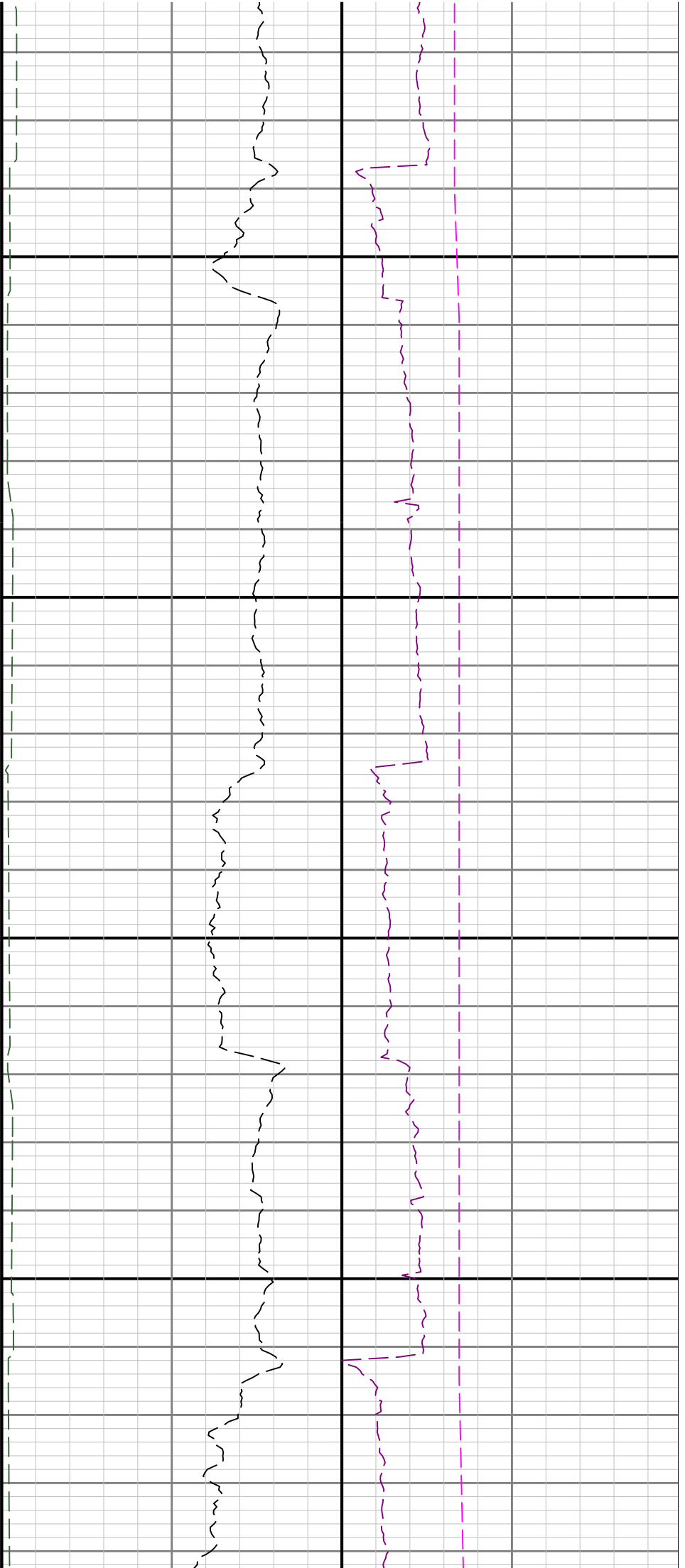
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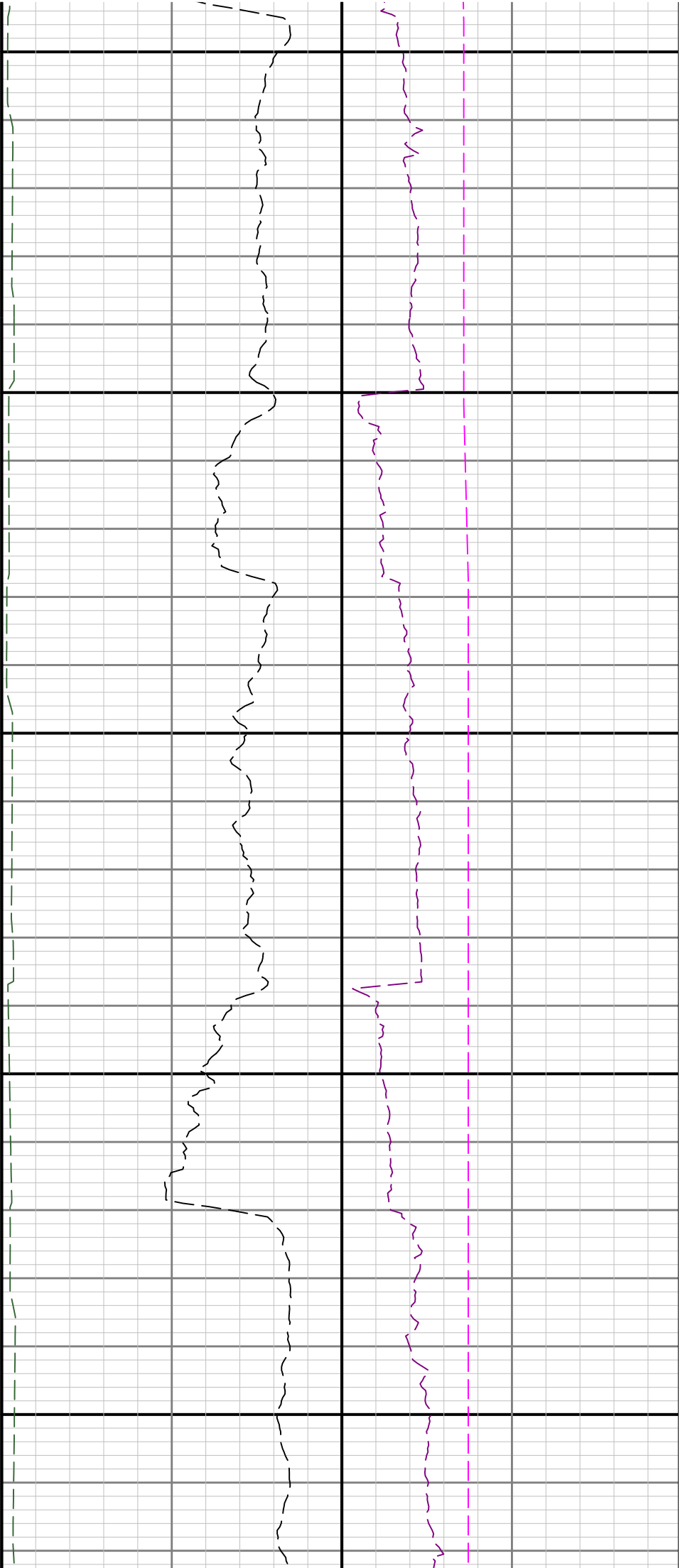
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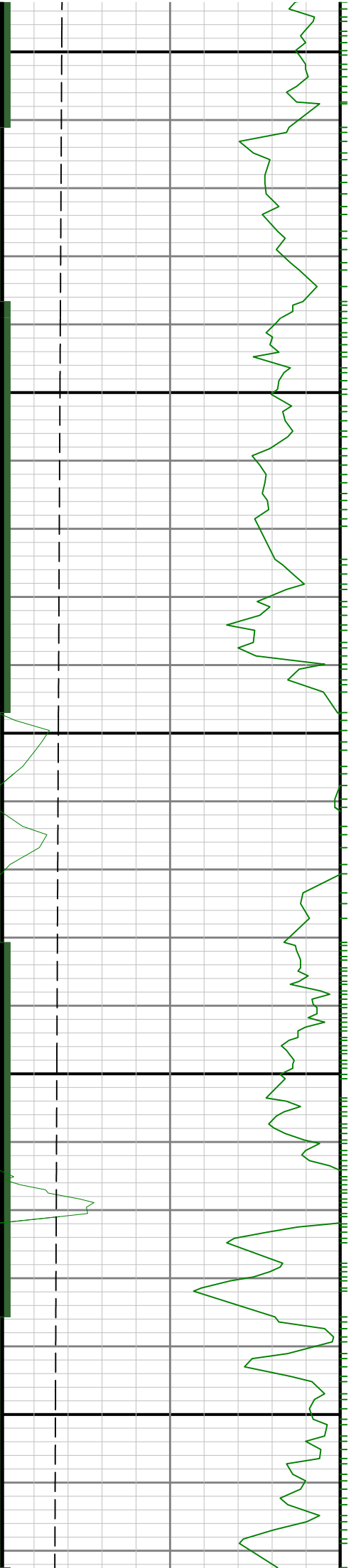


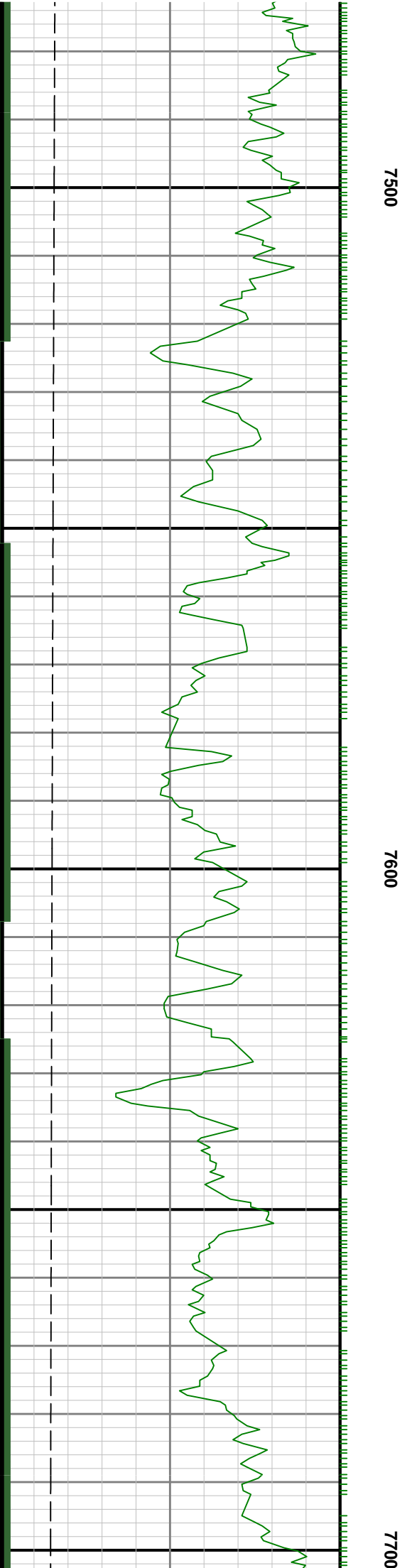


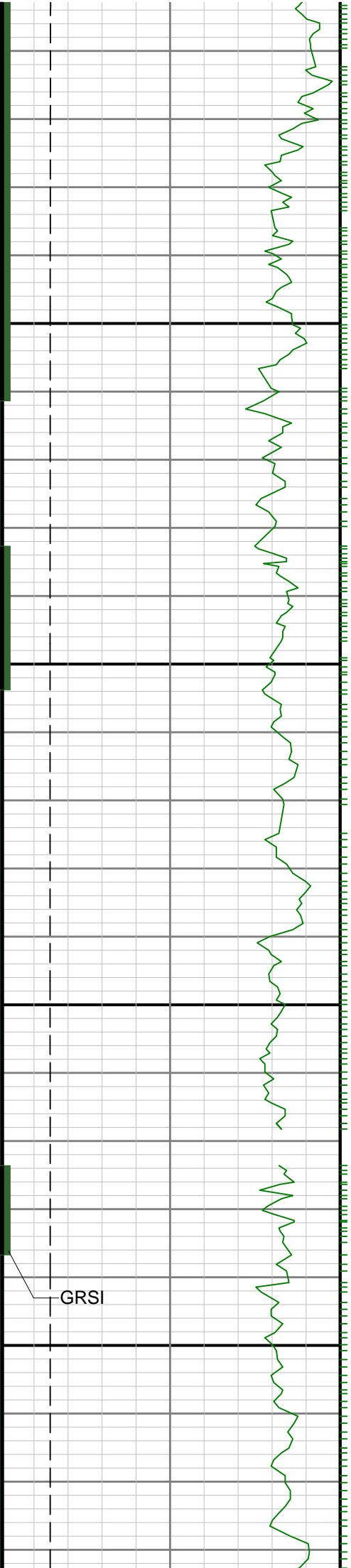


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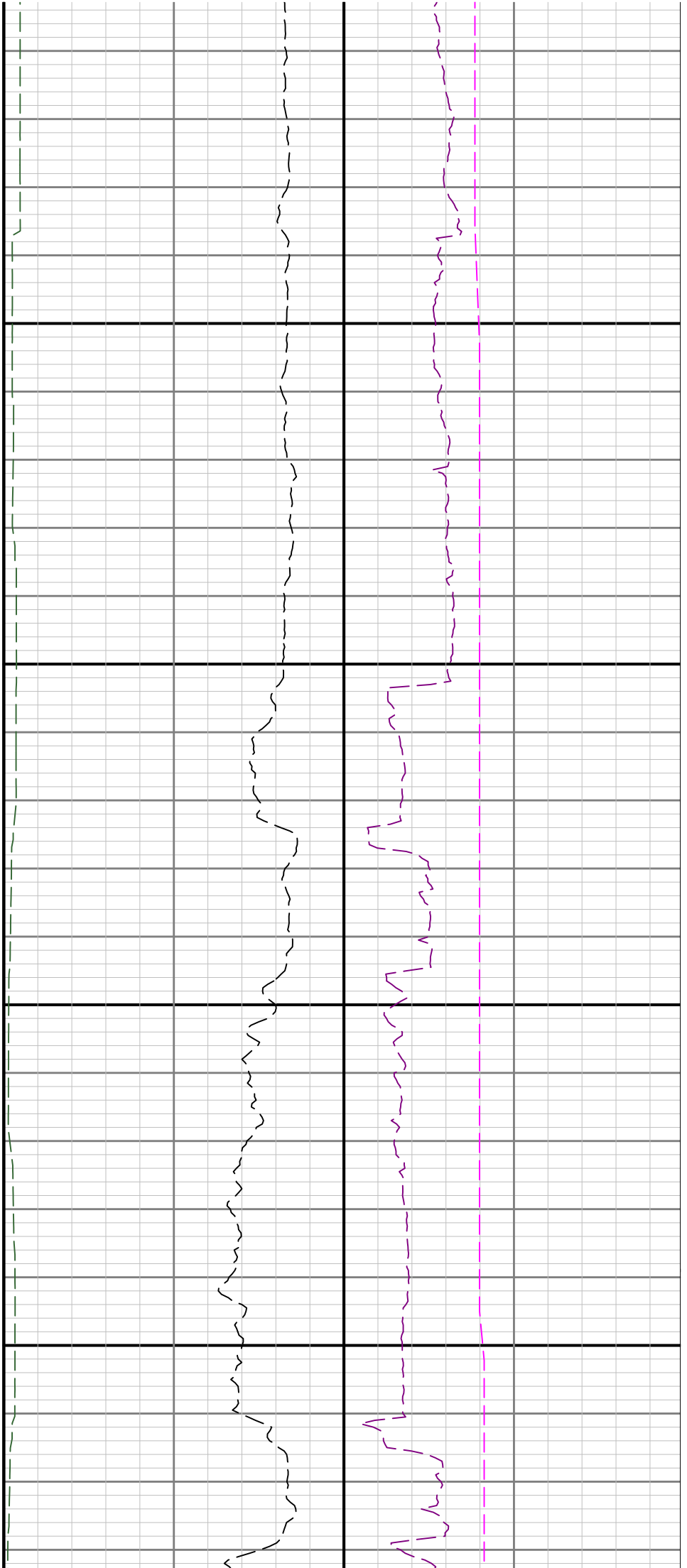




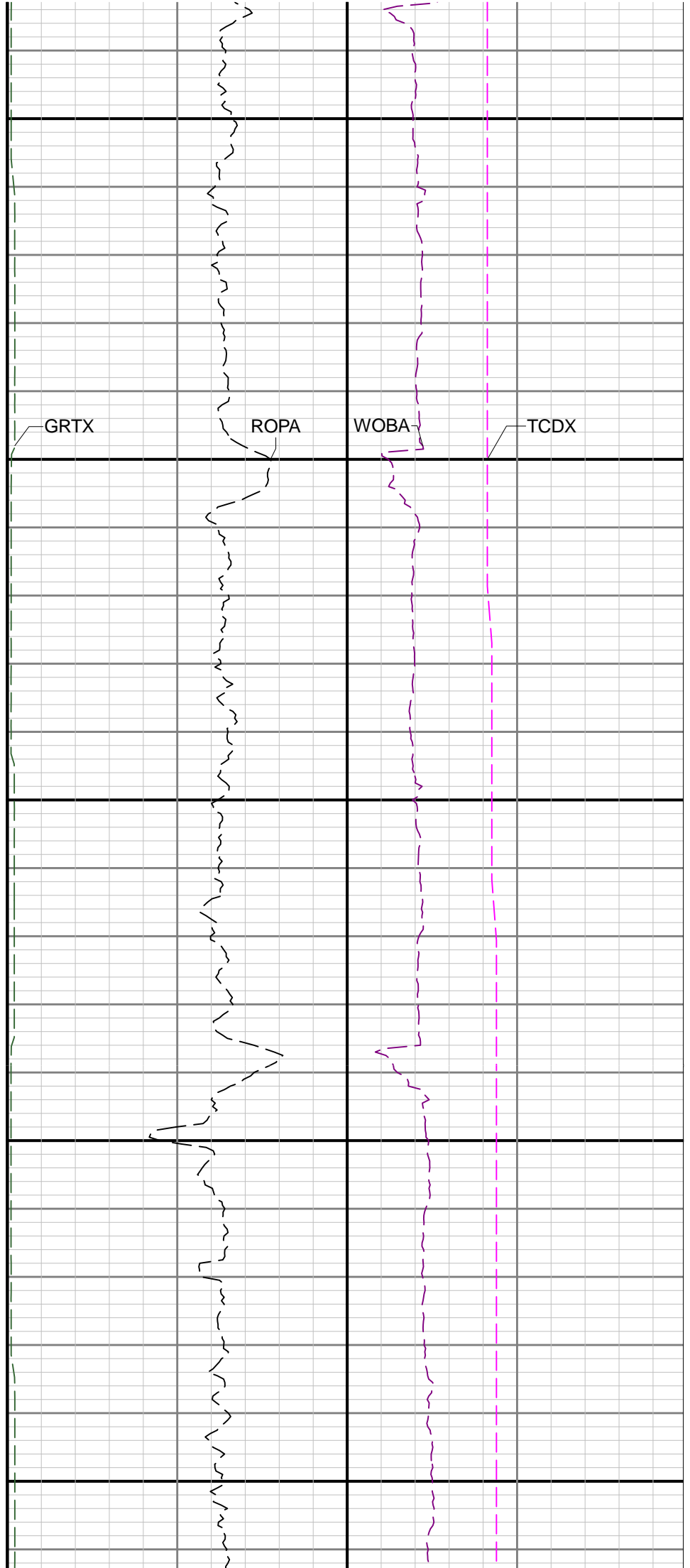
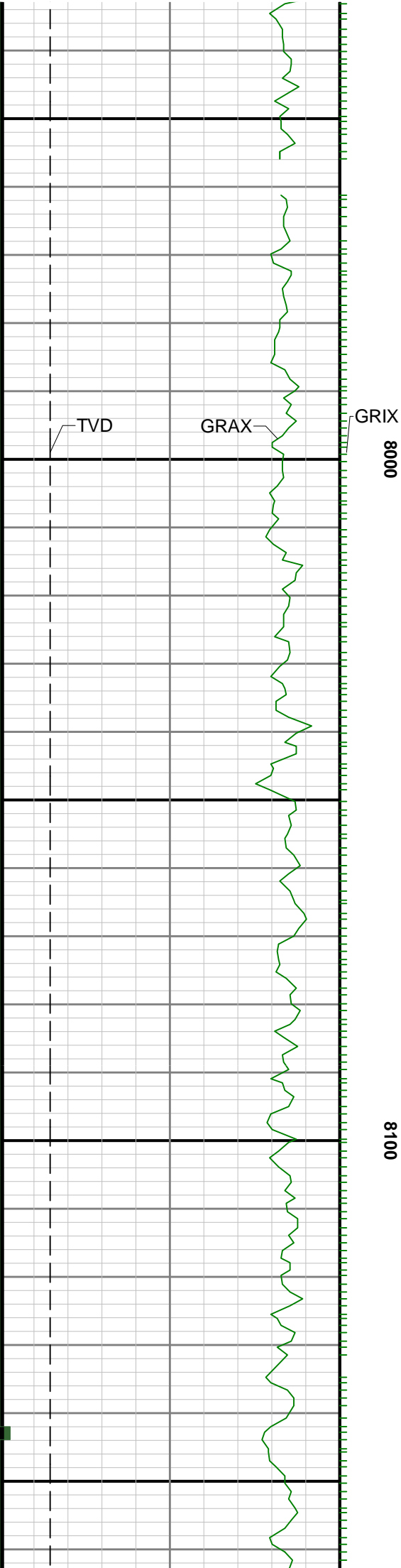


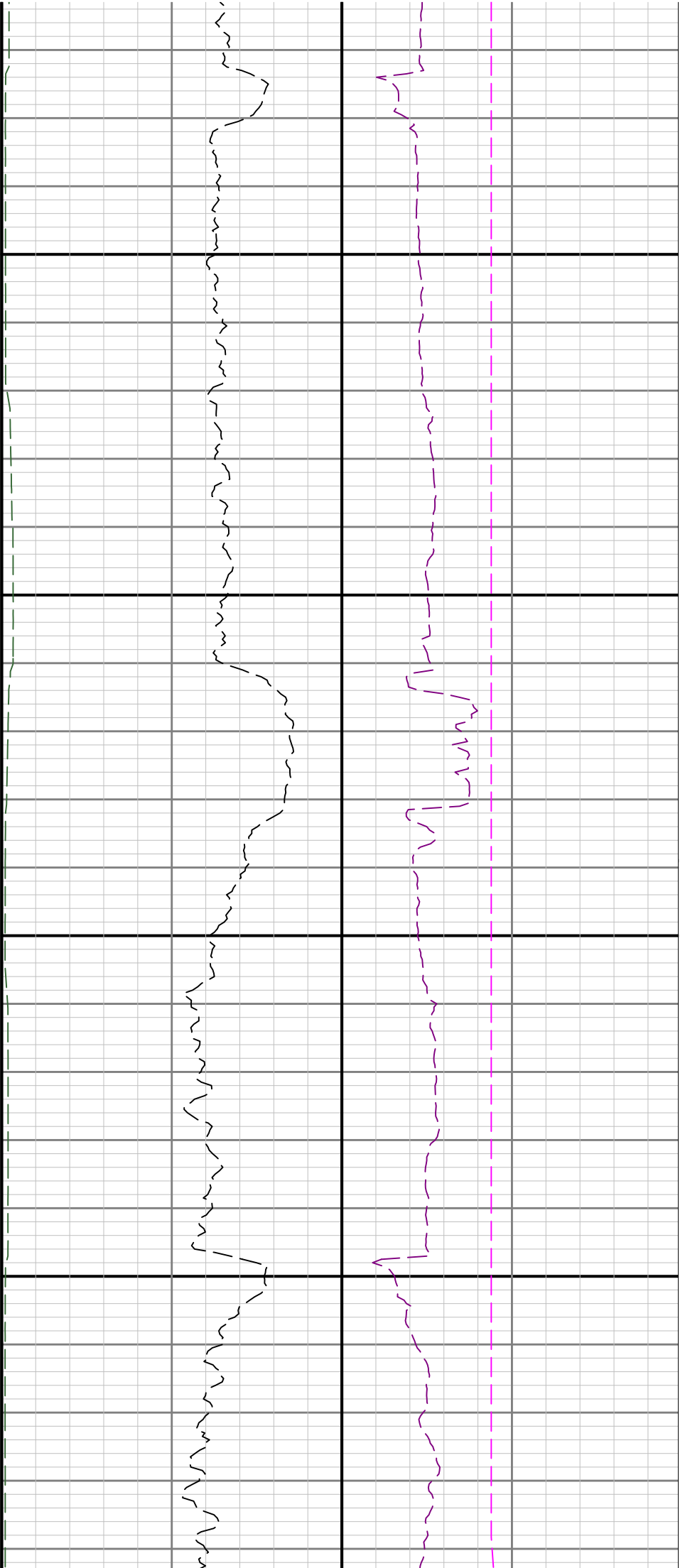
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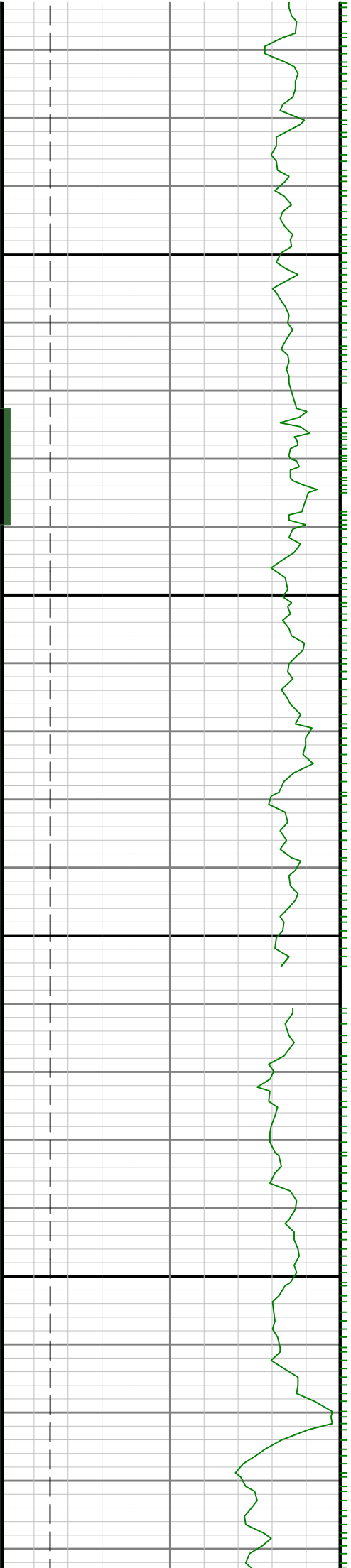
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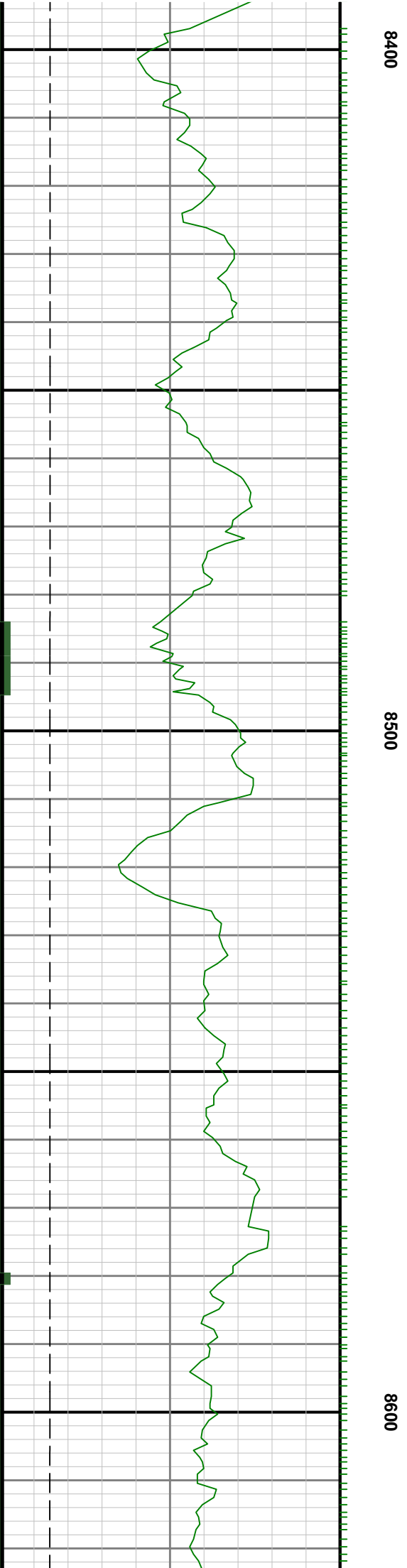
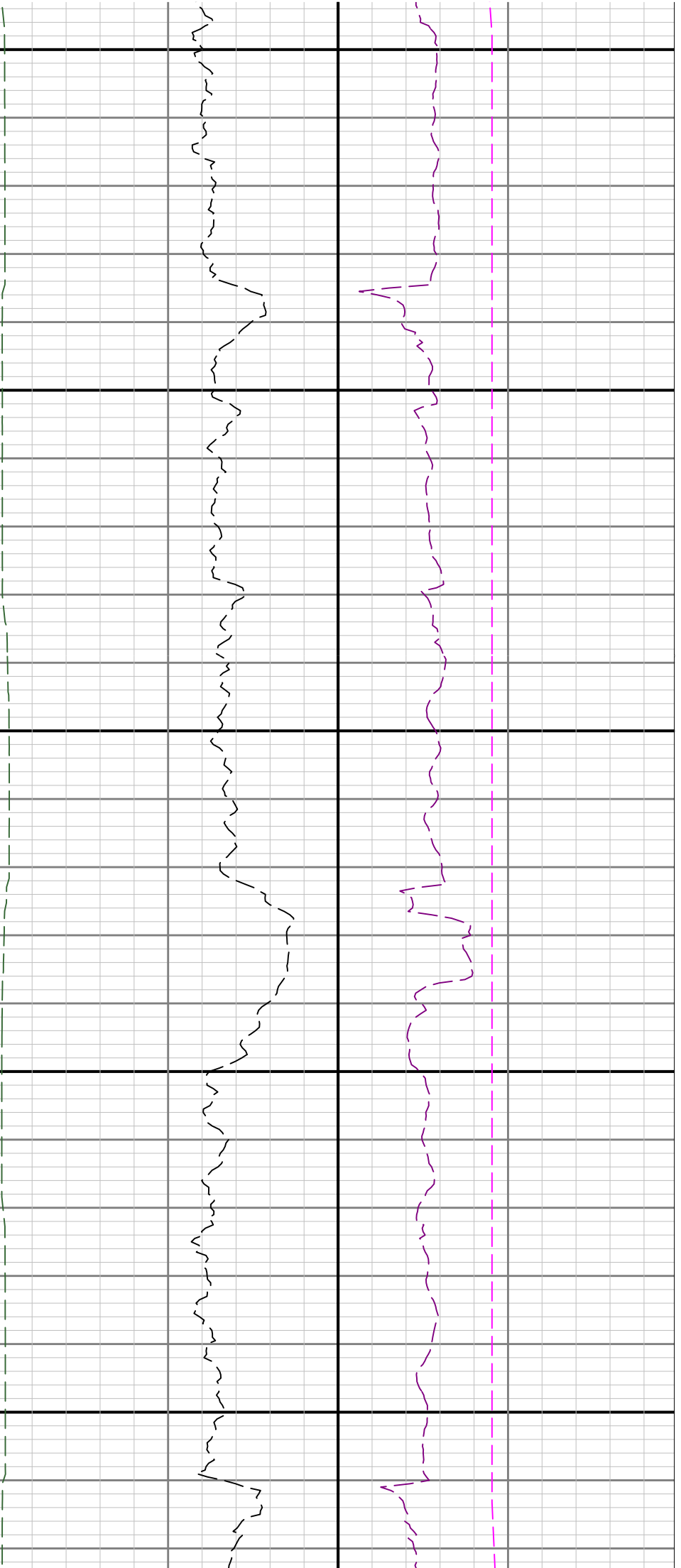


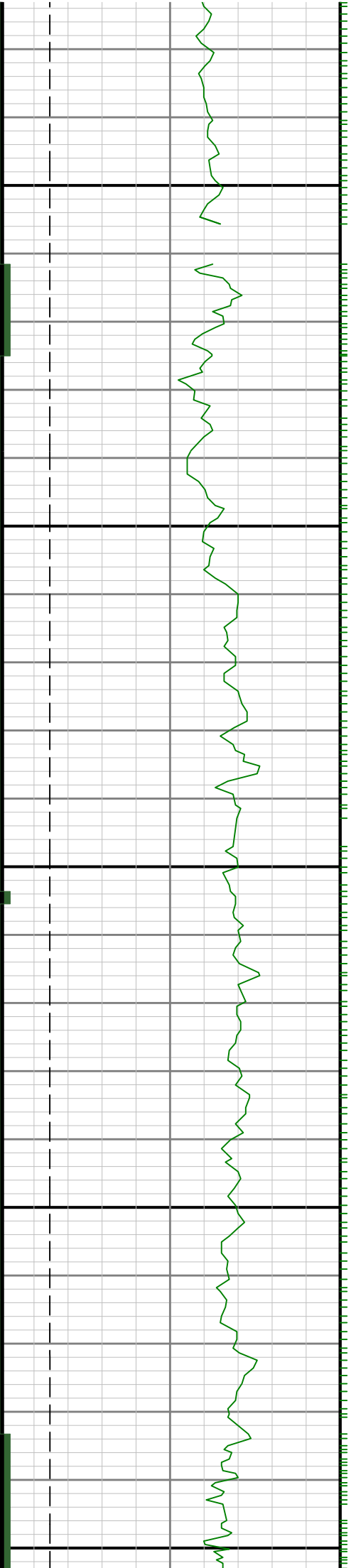


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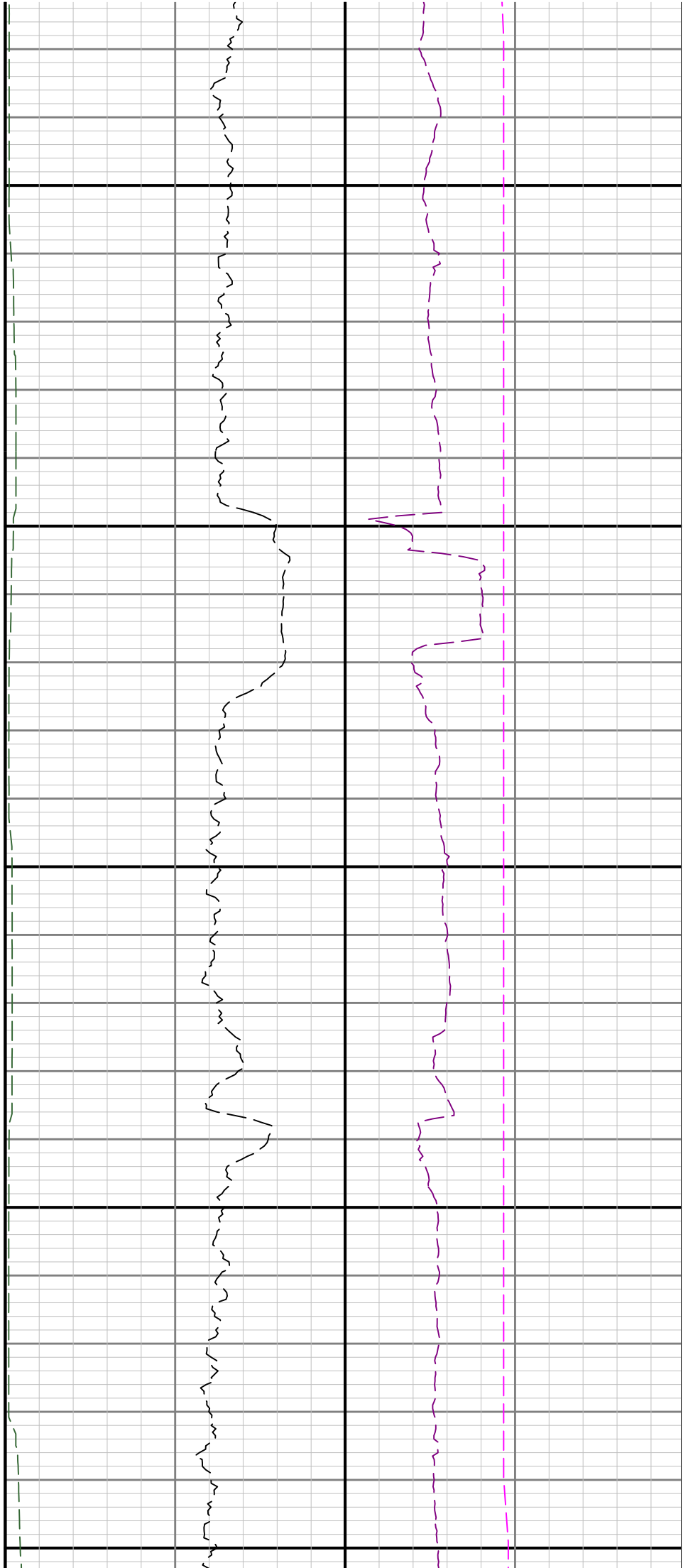




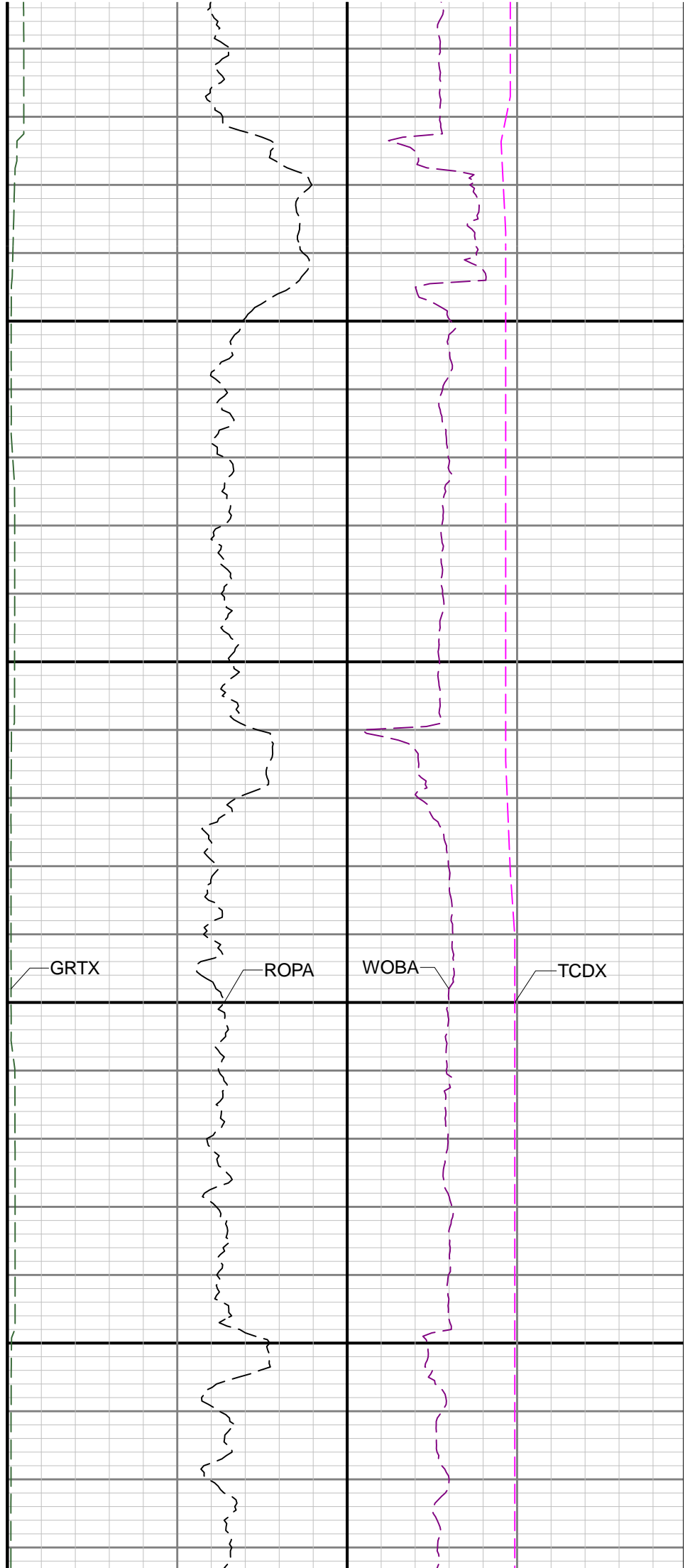
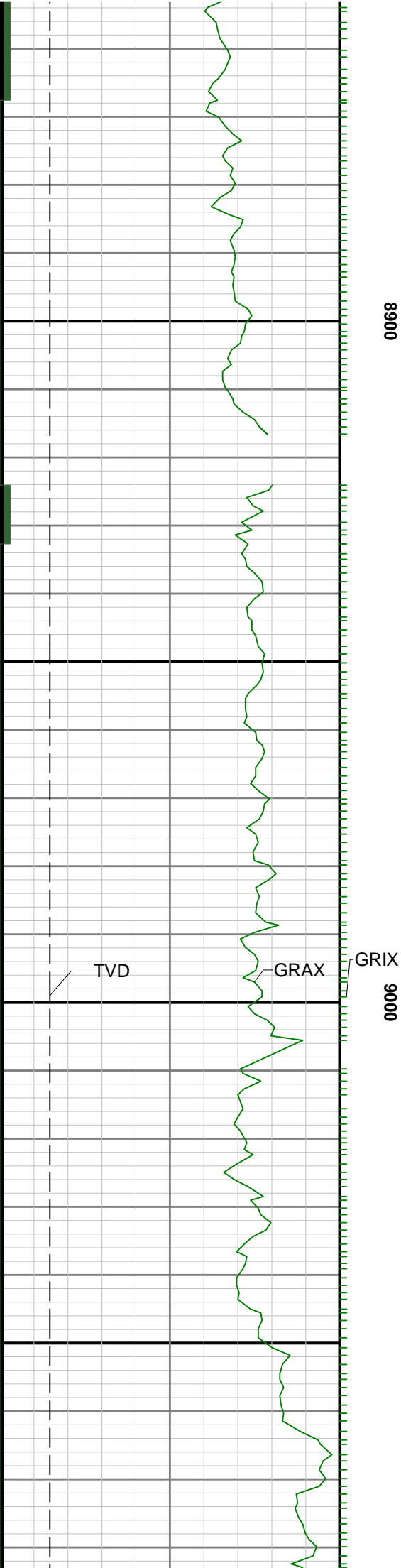


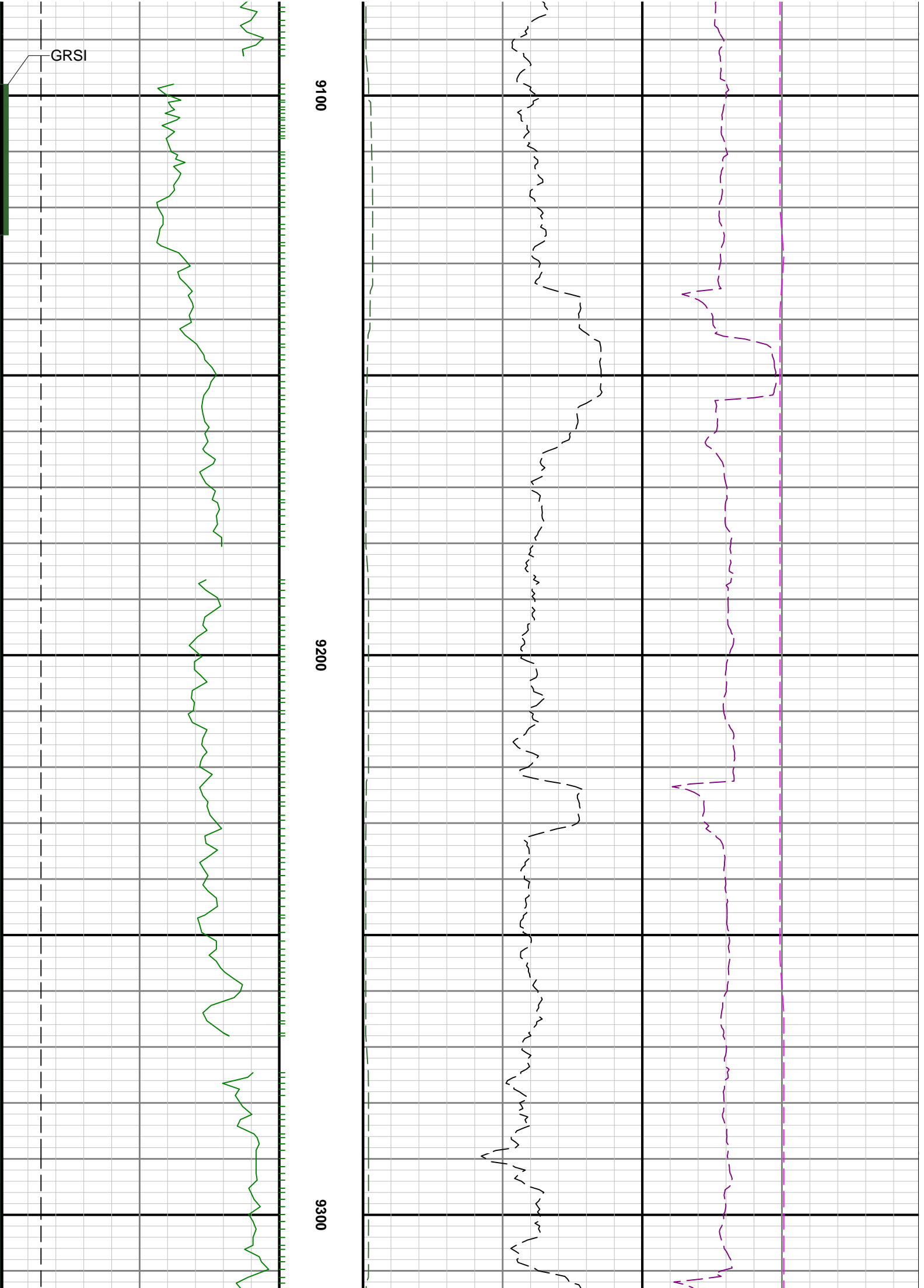
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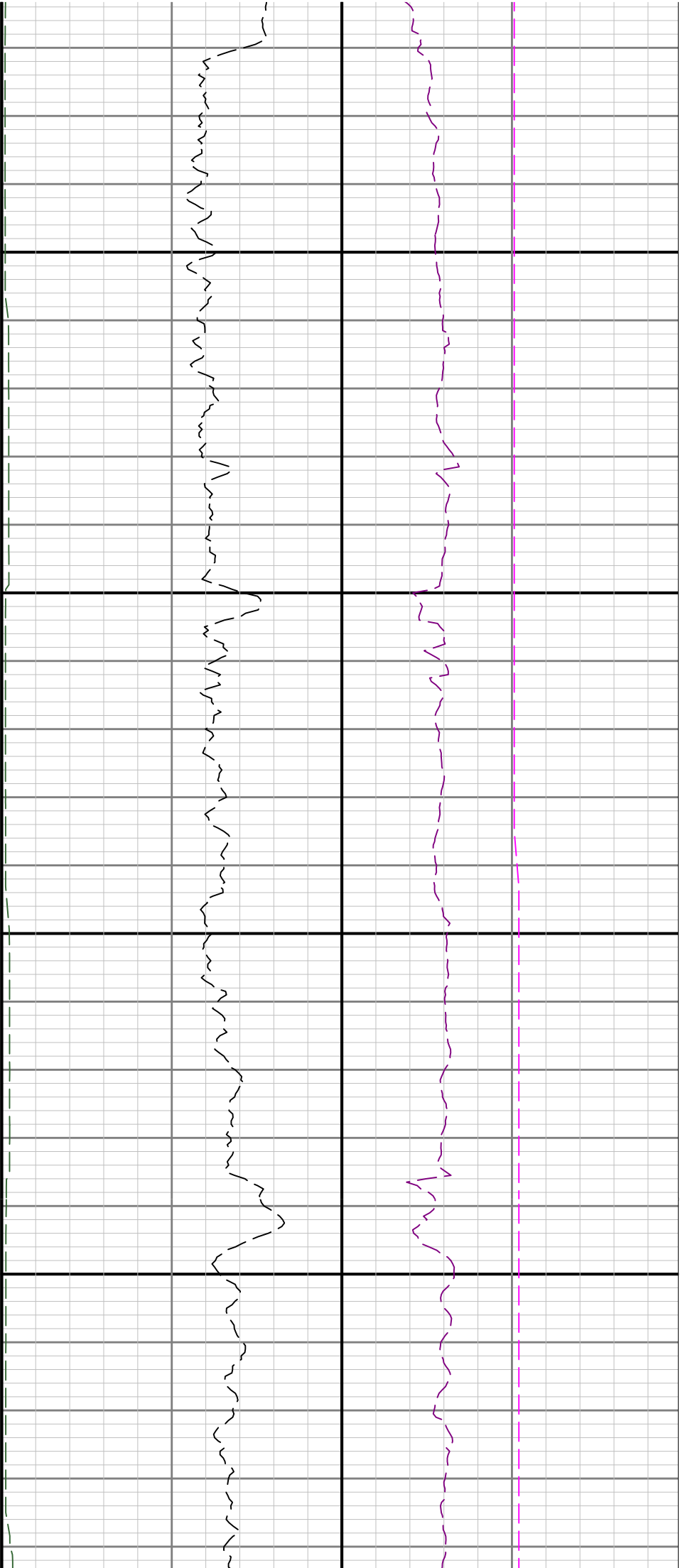
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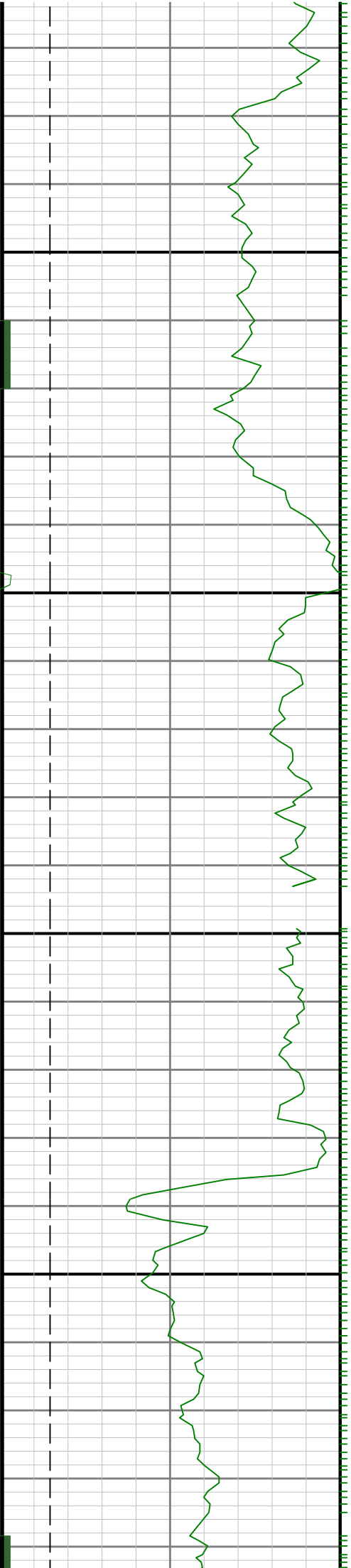


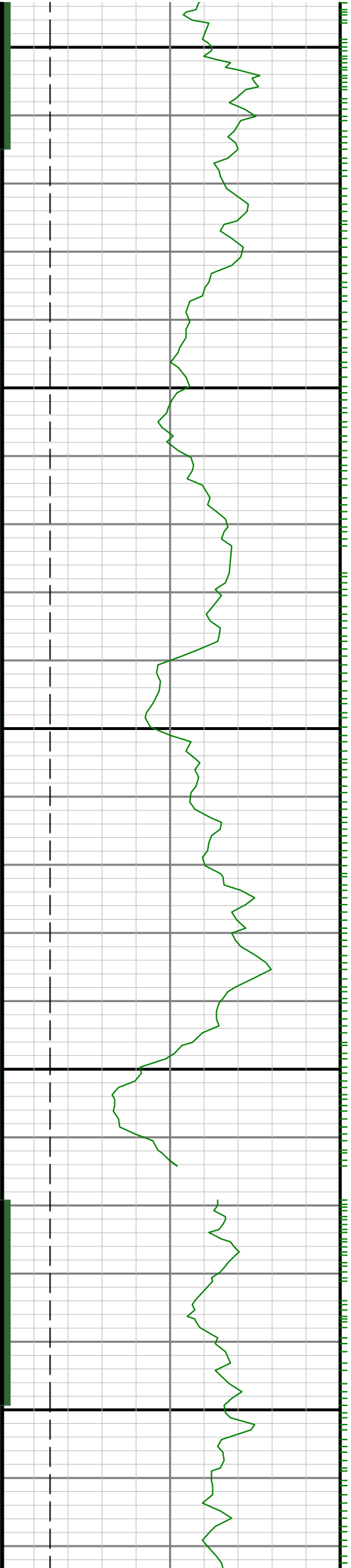




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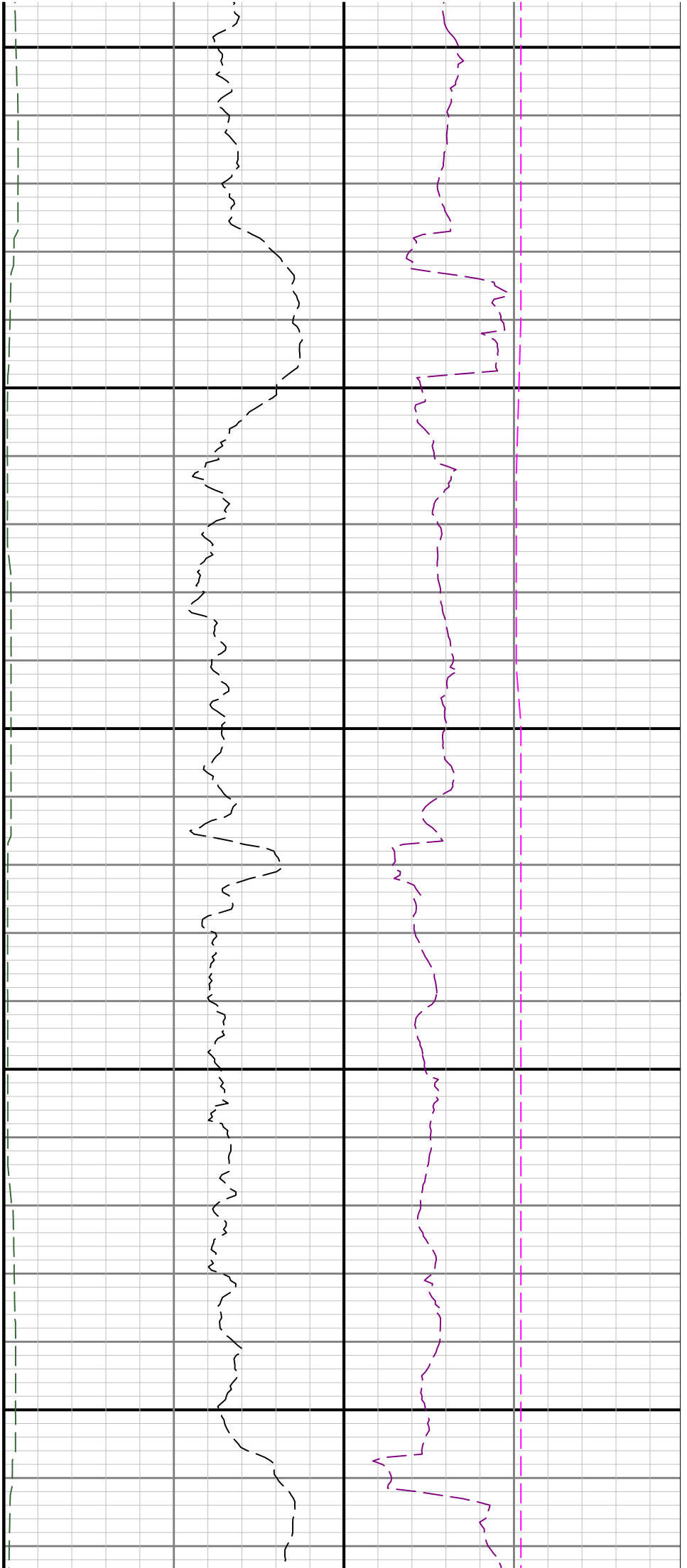
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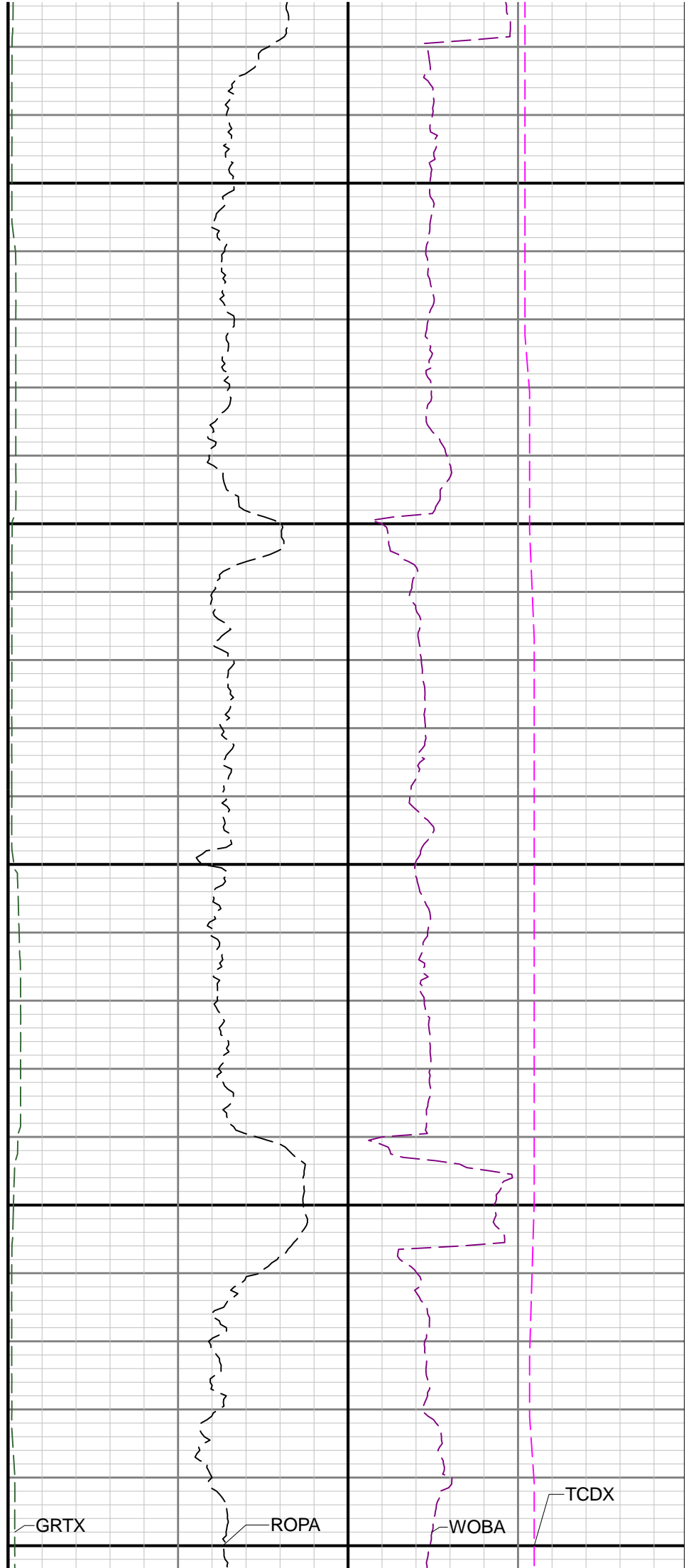
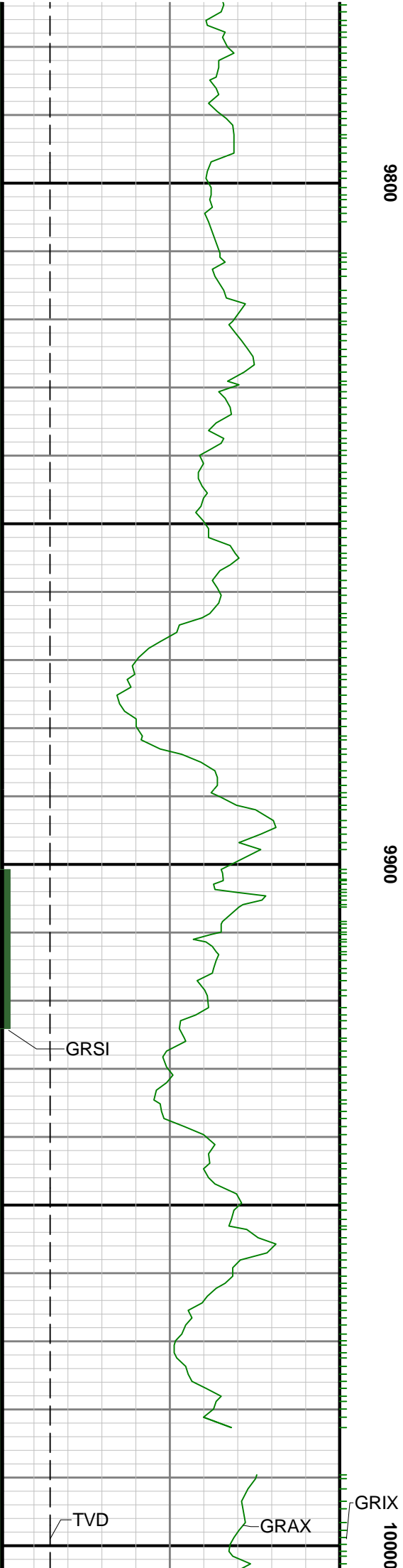


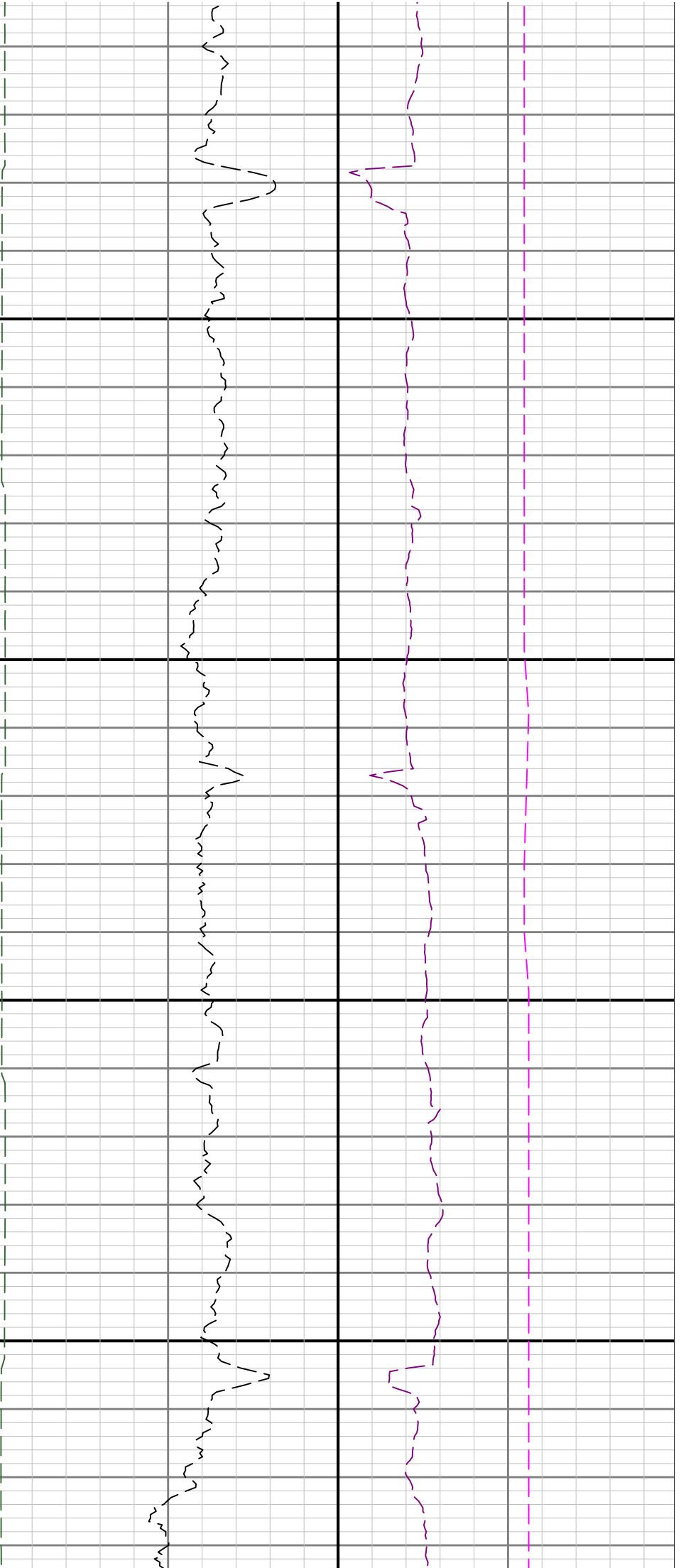


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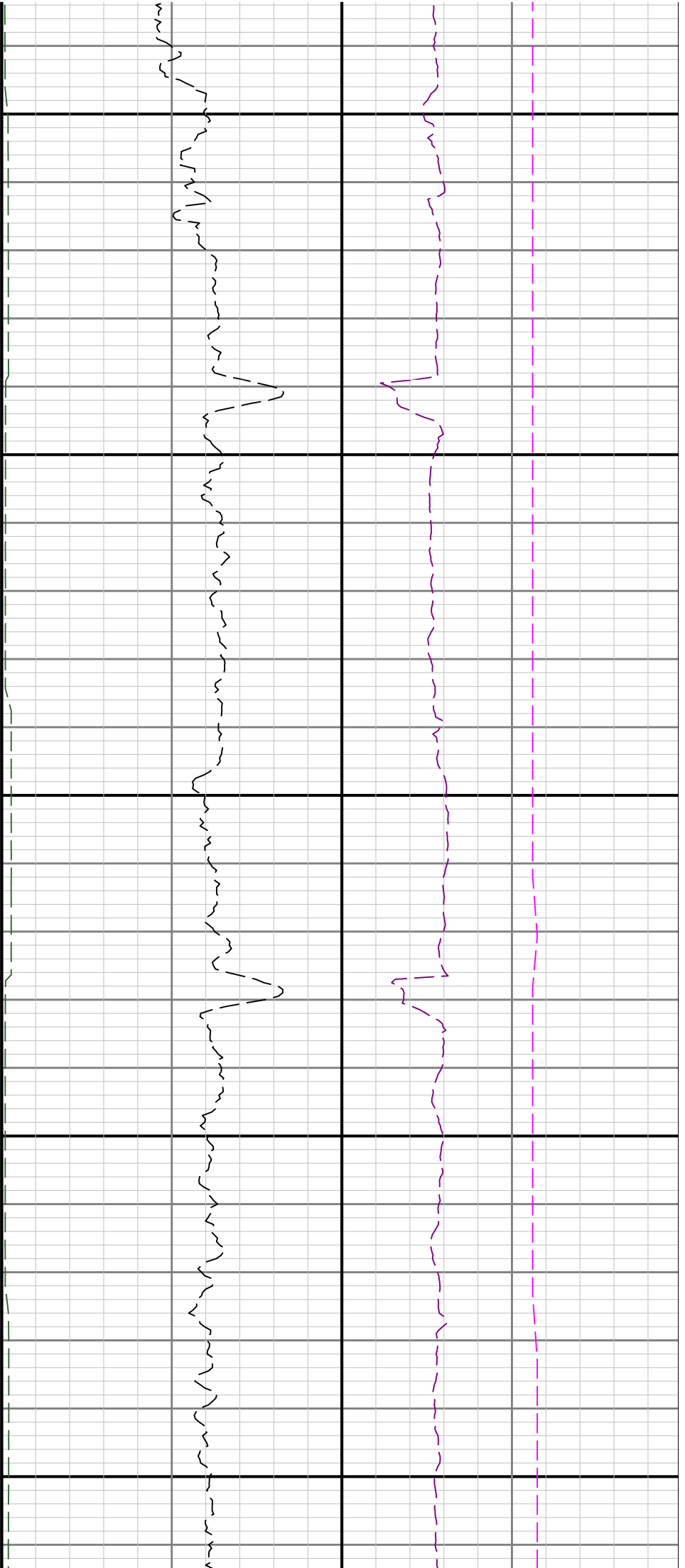






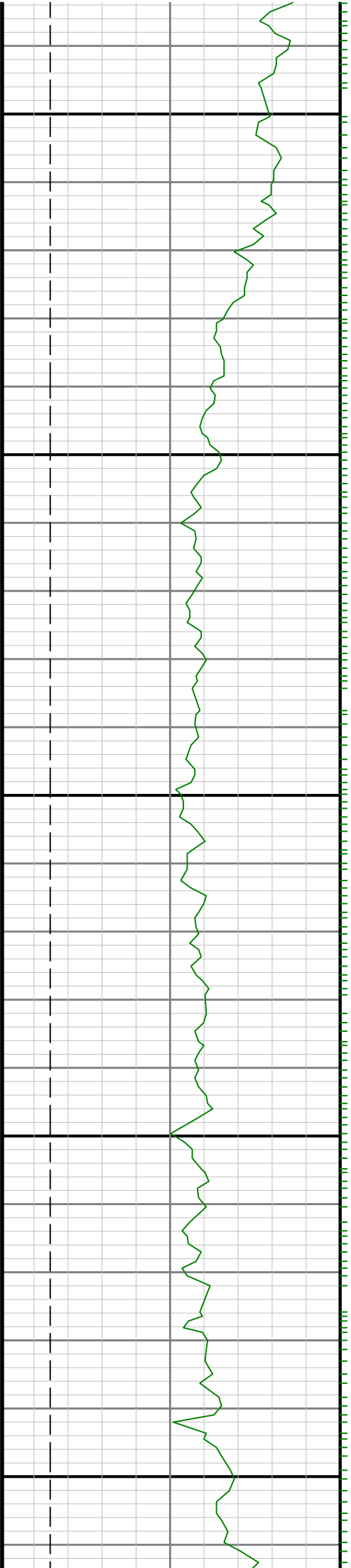
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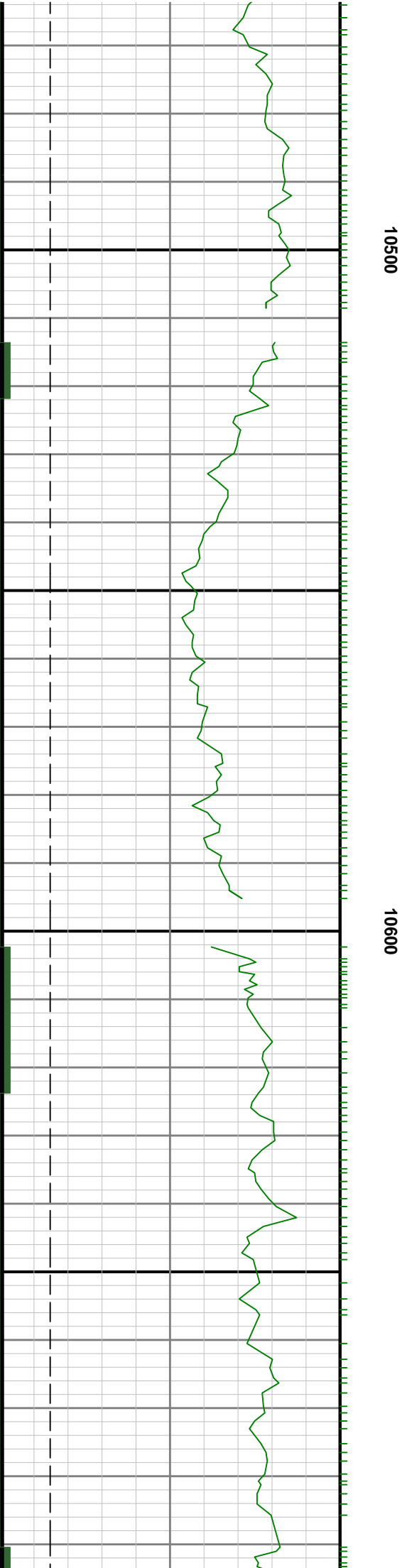
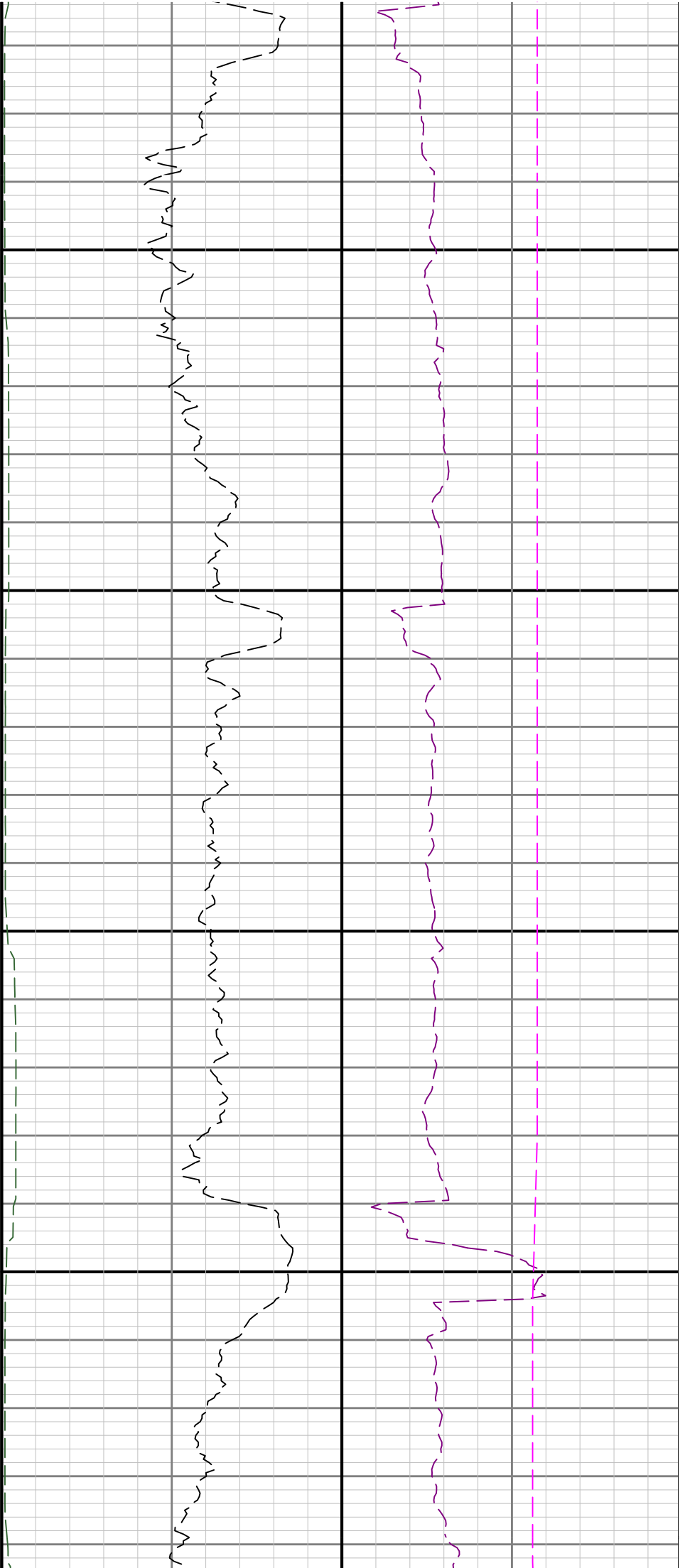
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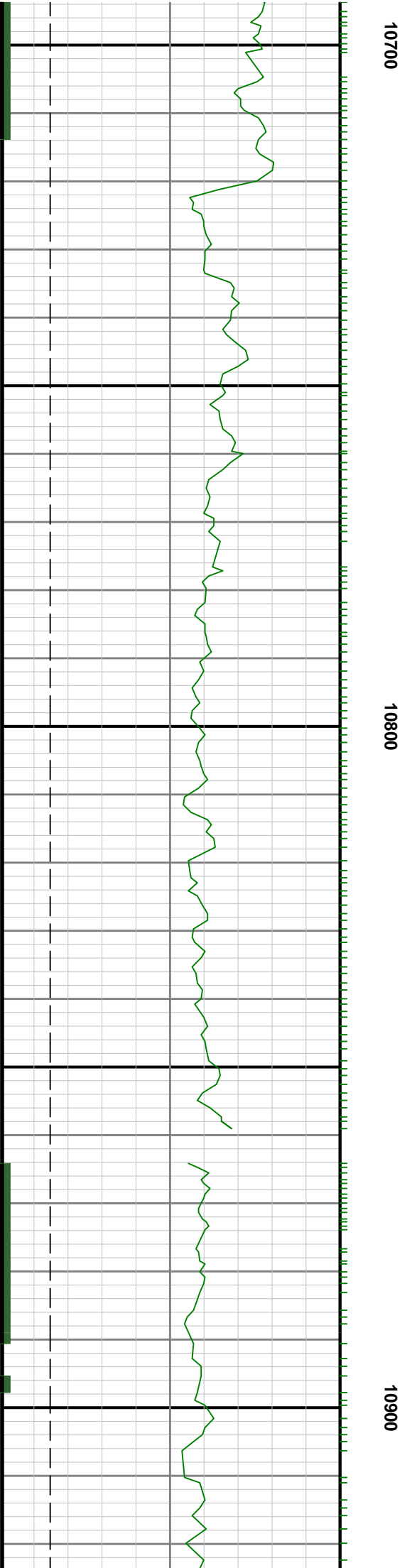
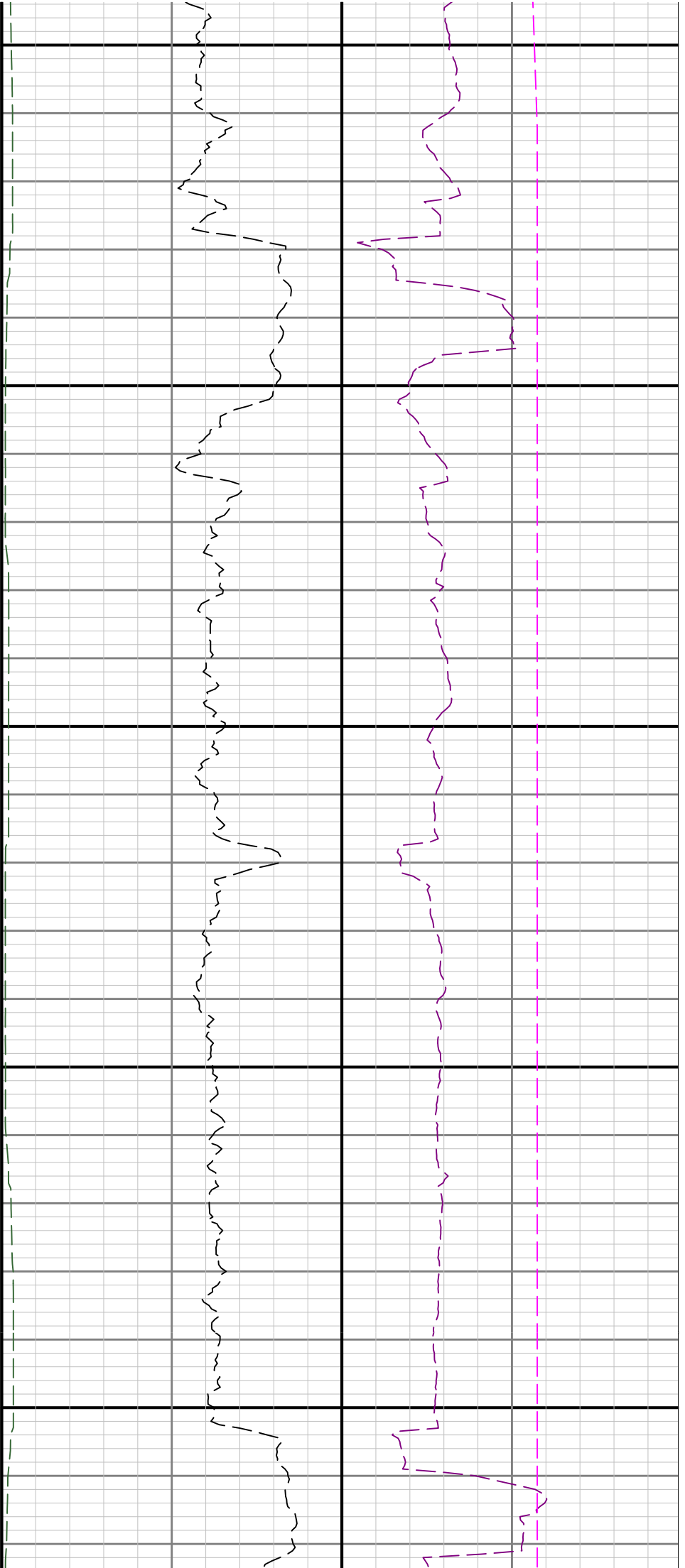
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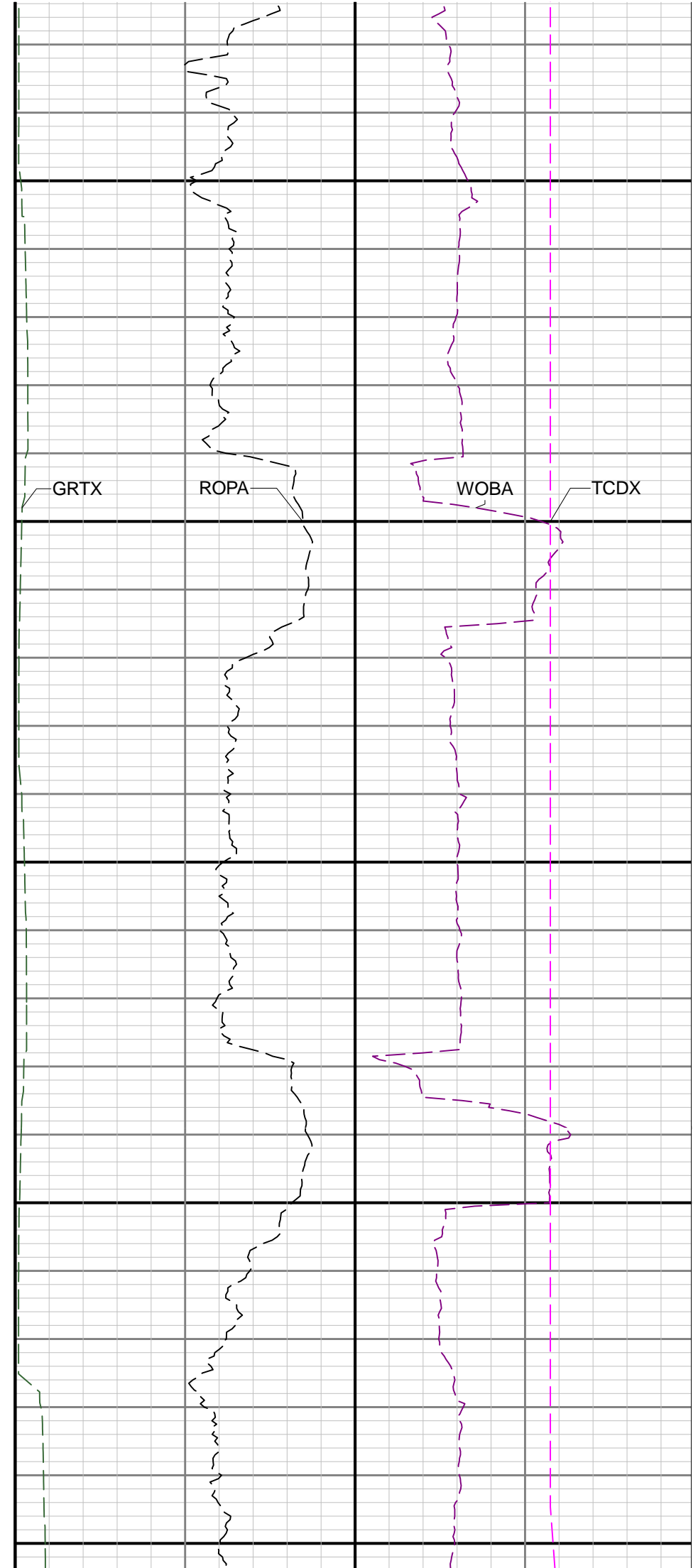
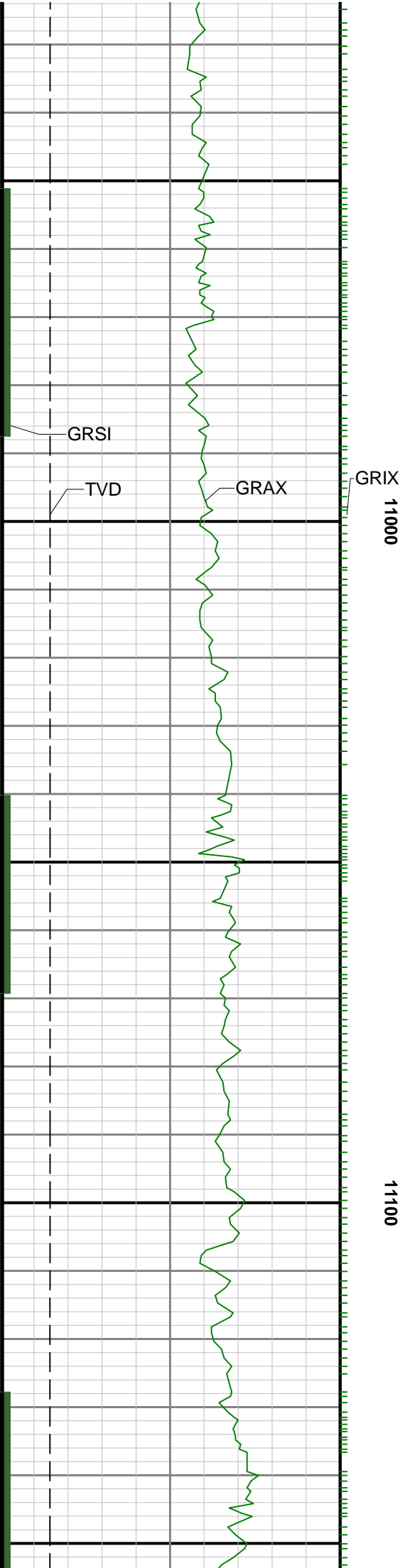
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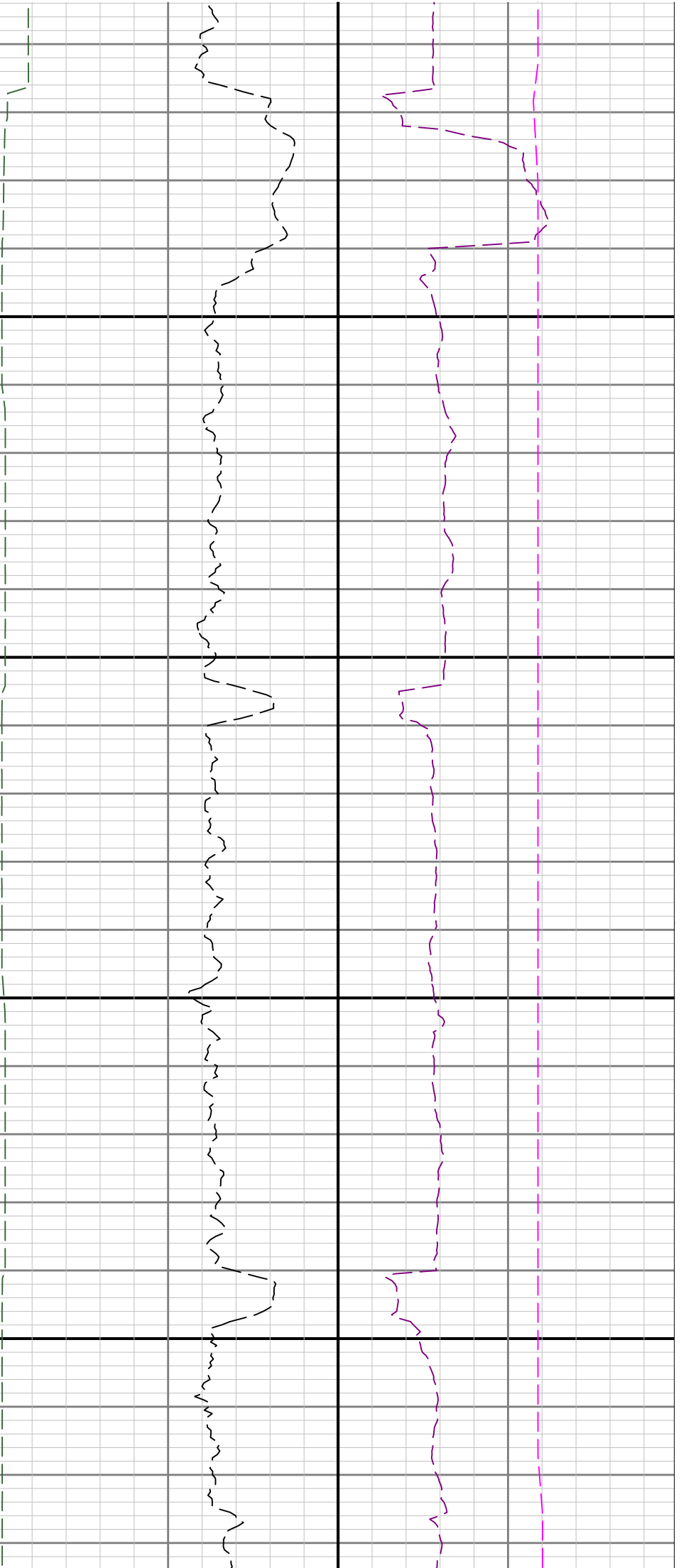






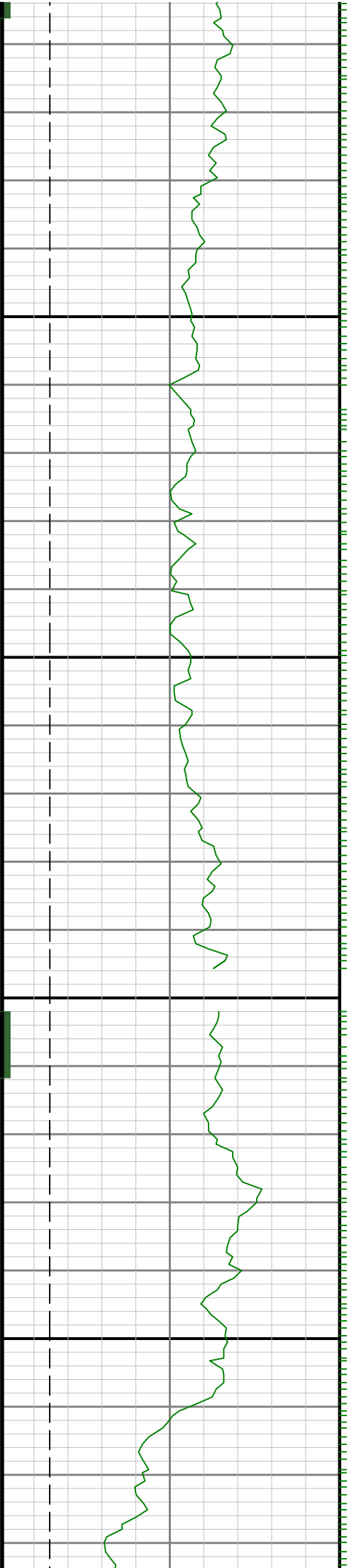


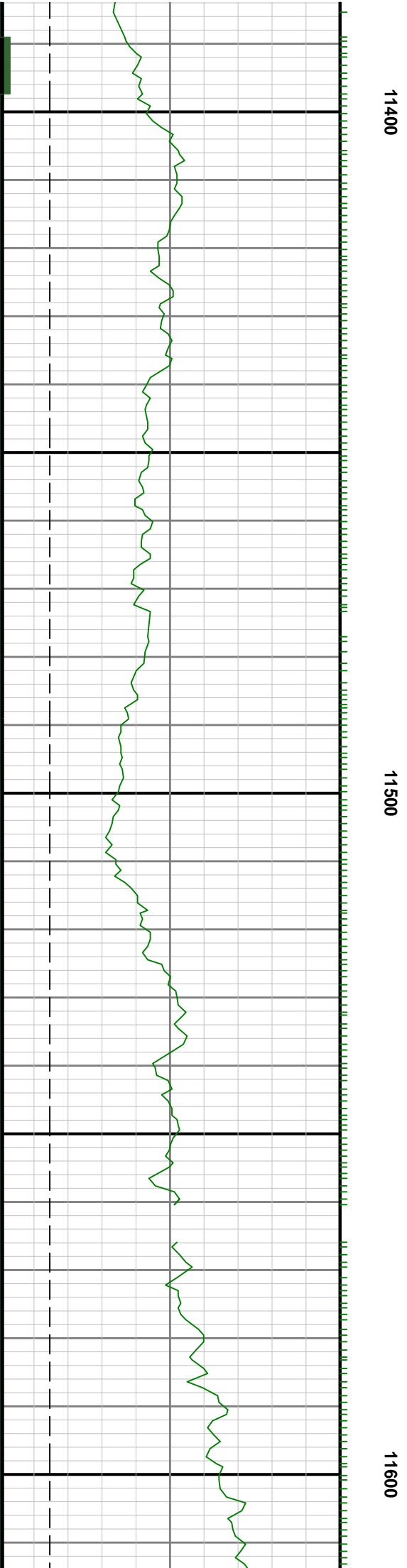
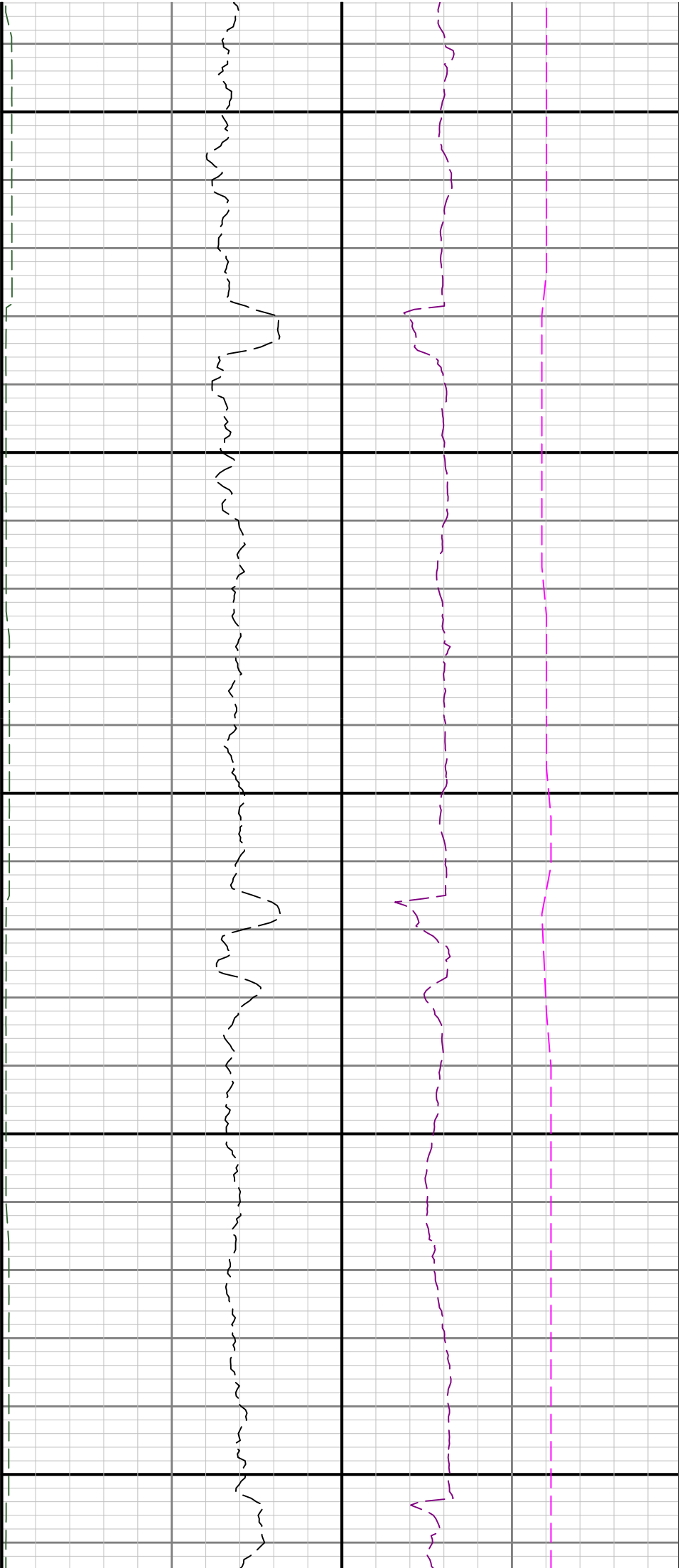


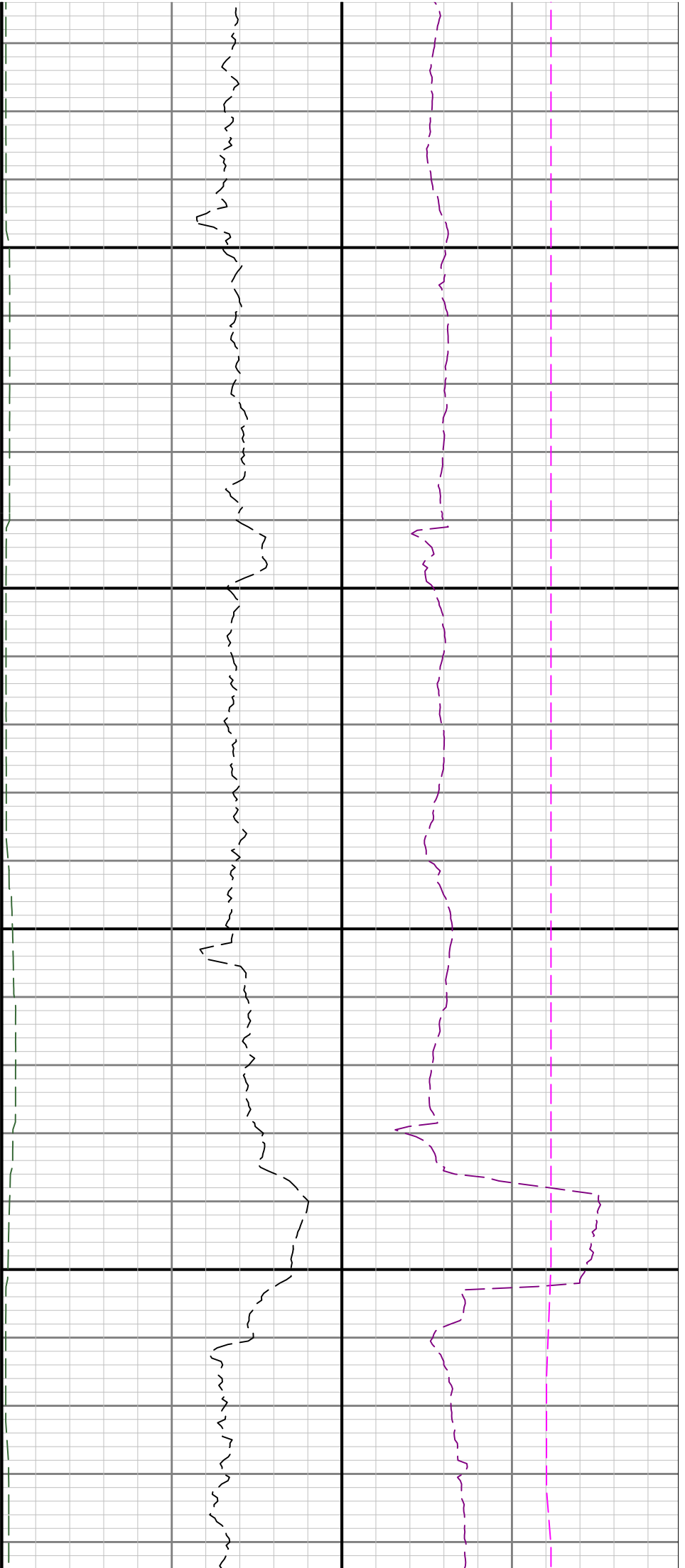


11200

11300

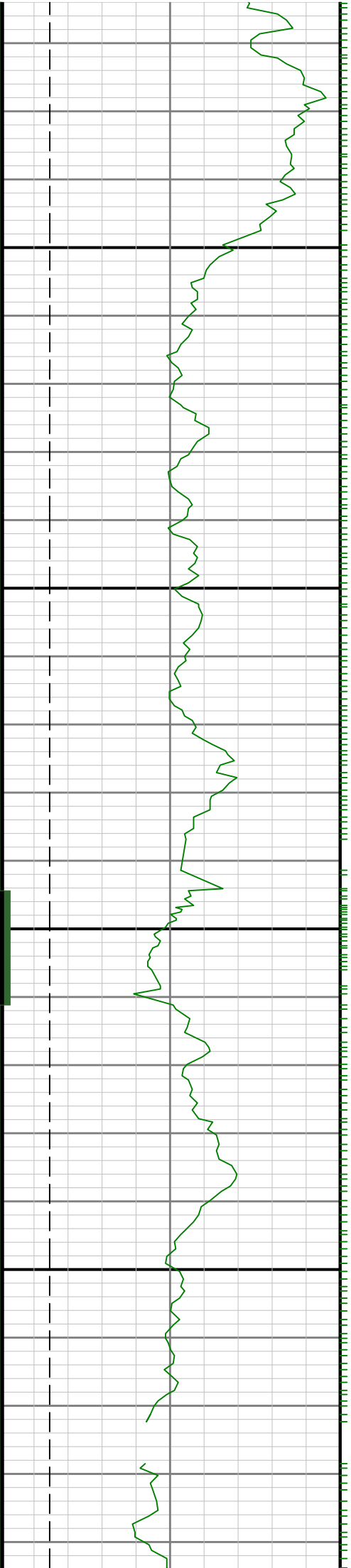


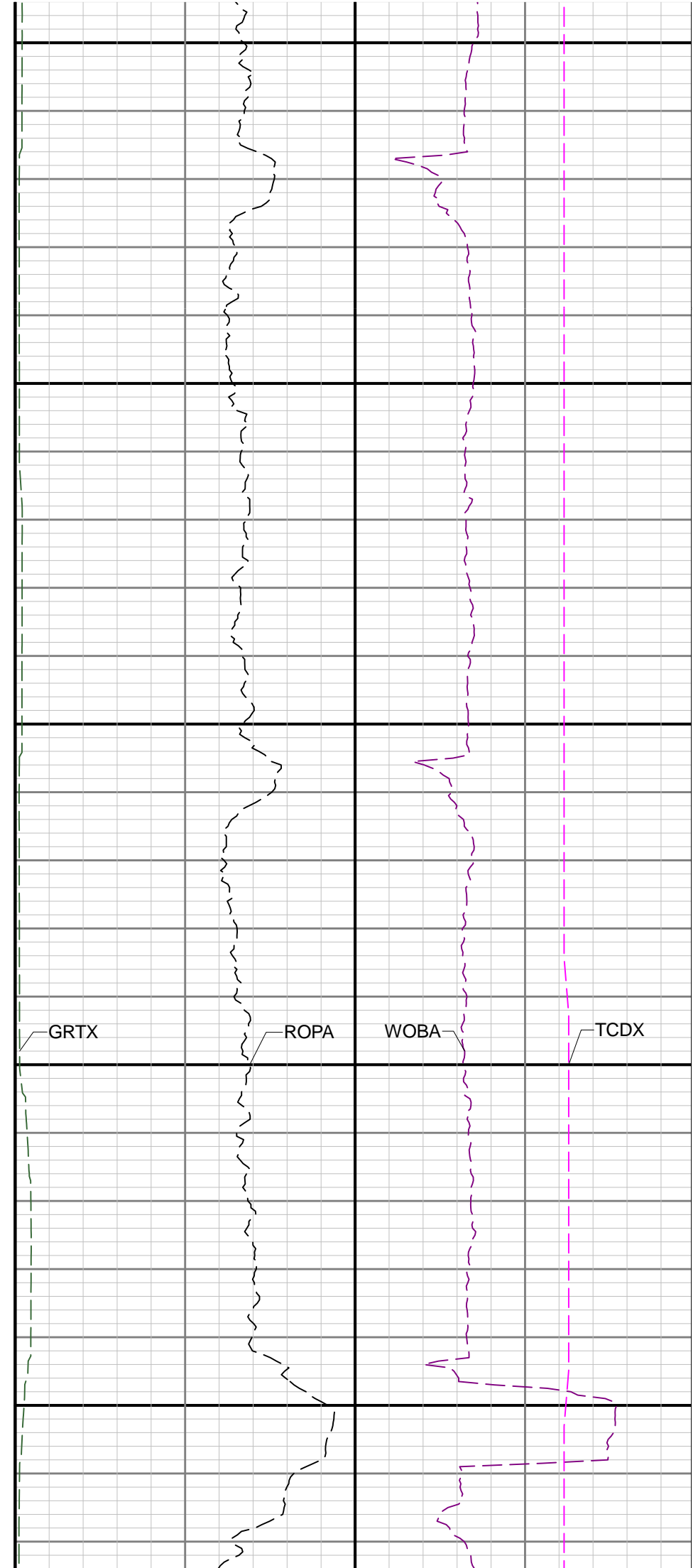
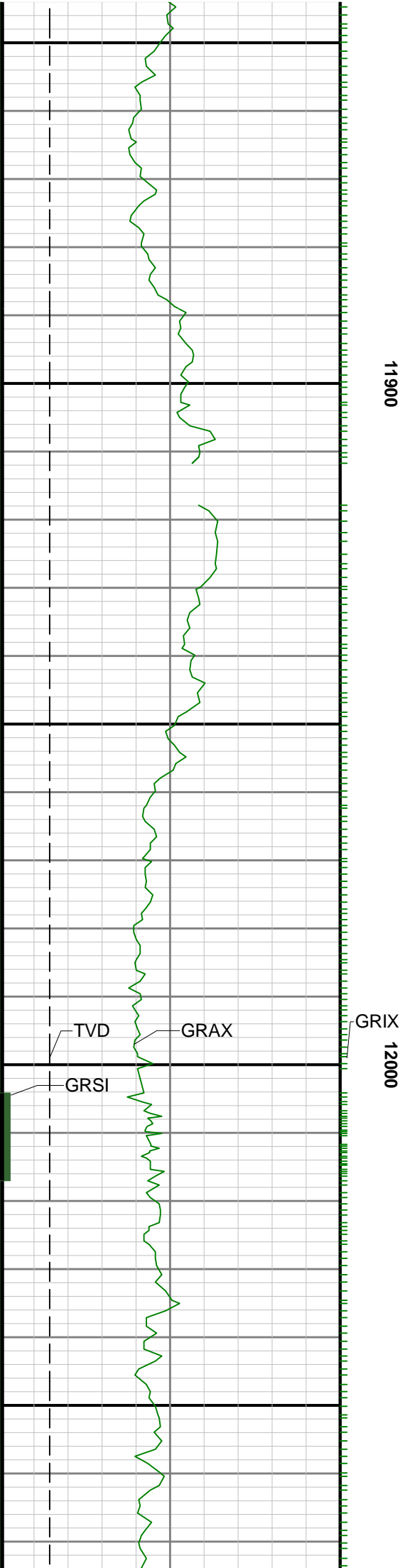


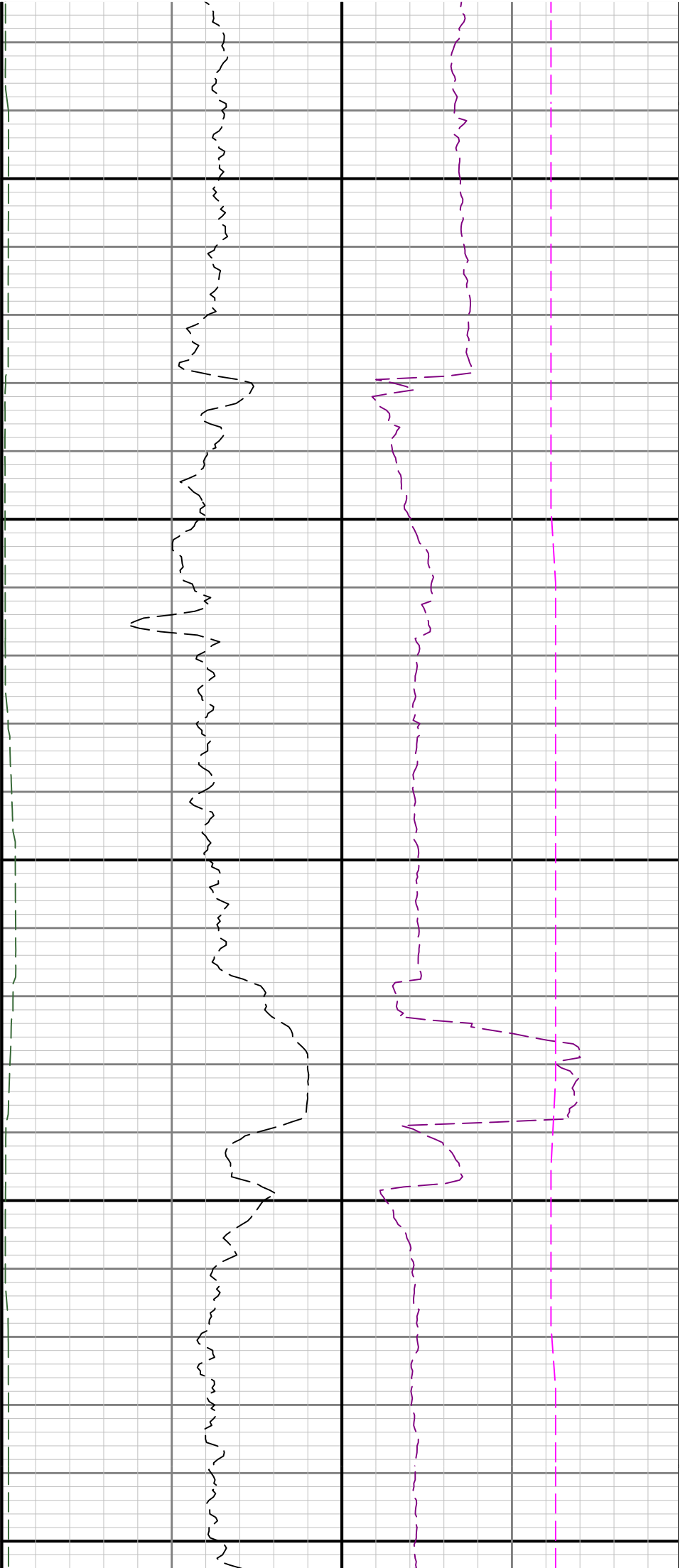


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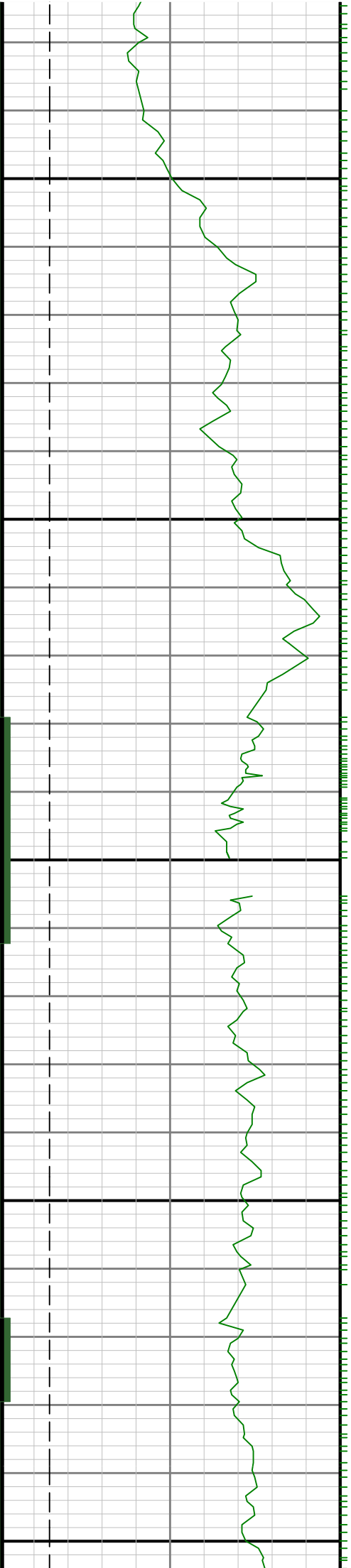


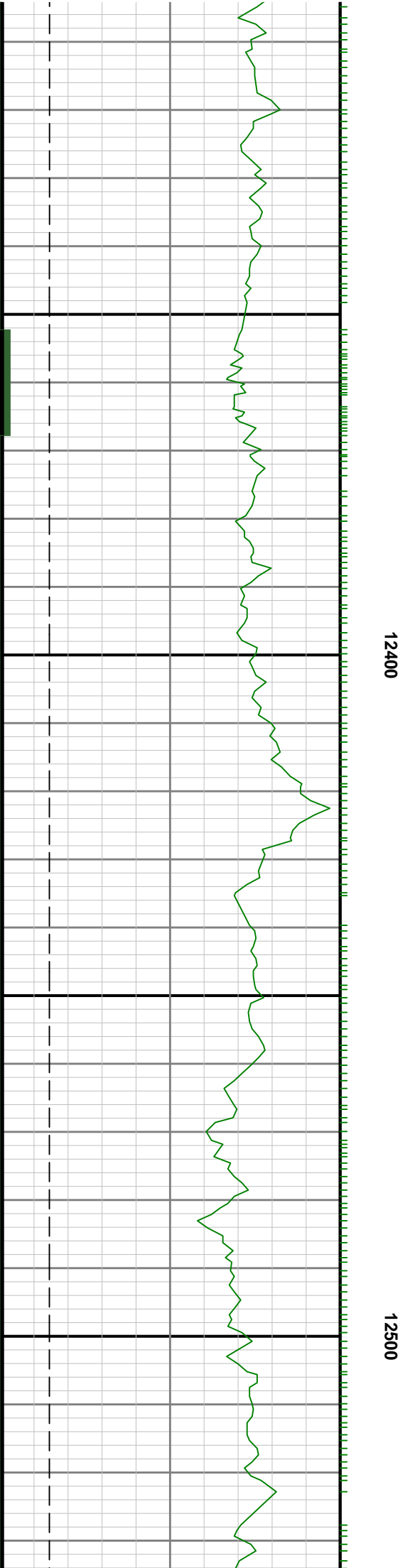
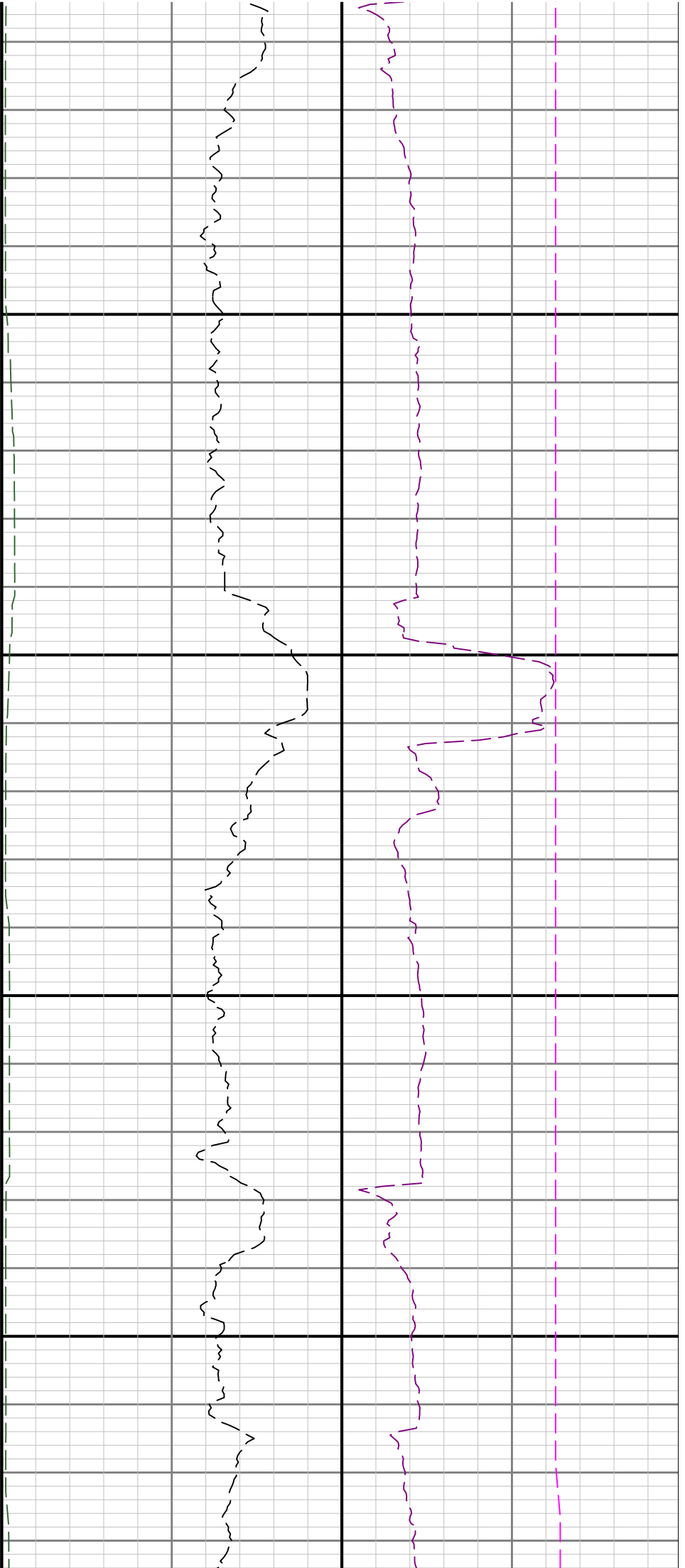


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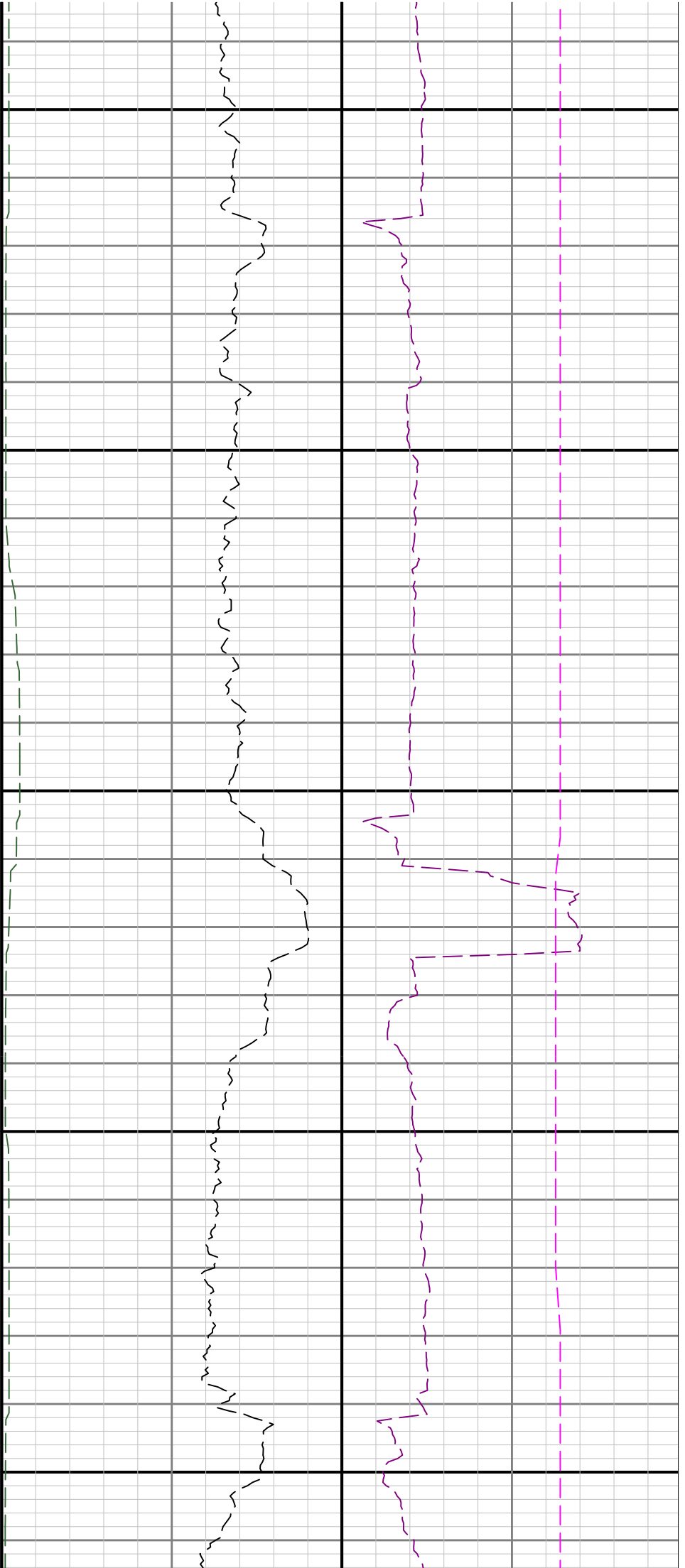
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12300



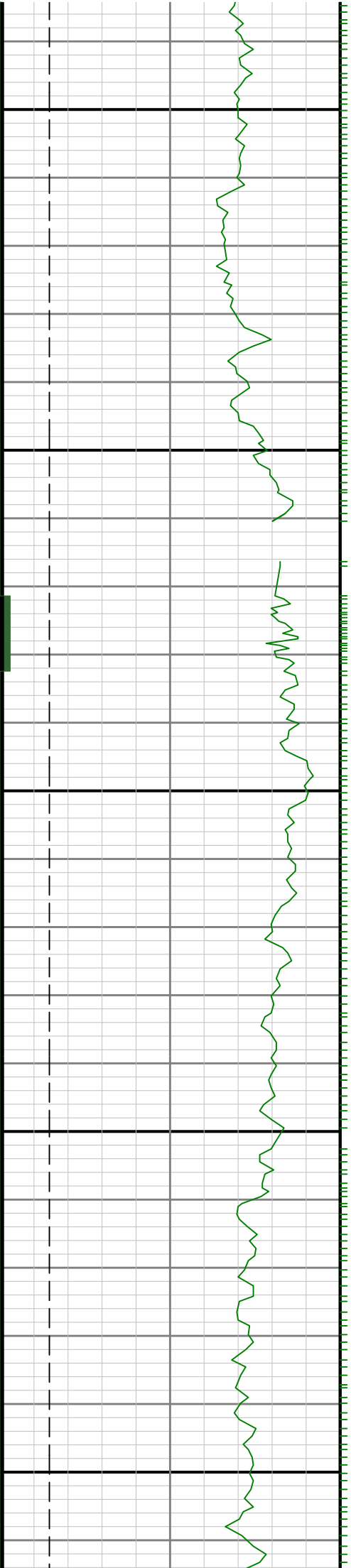


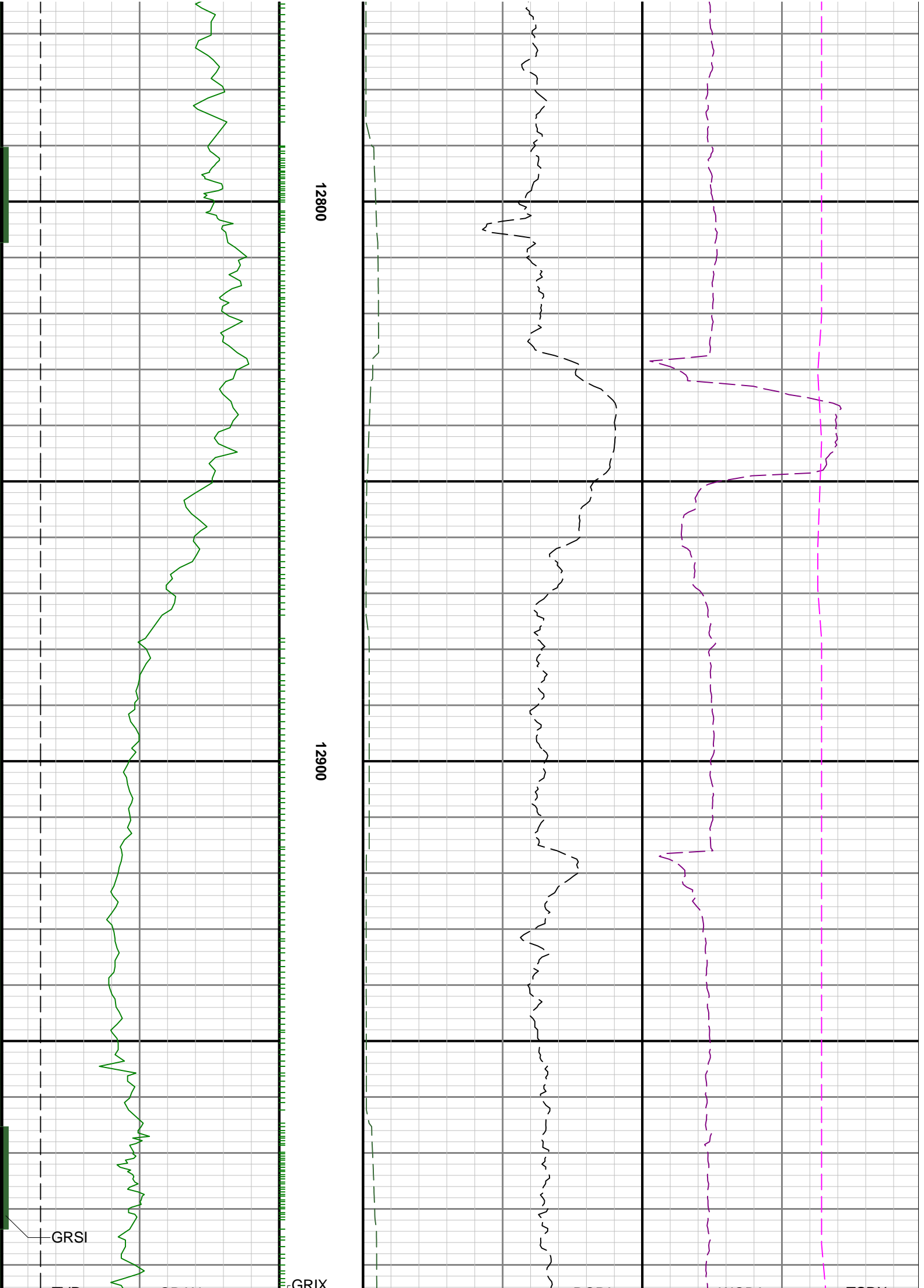


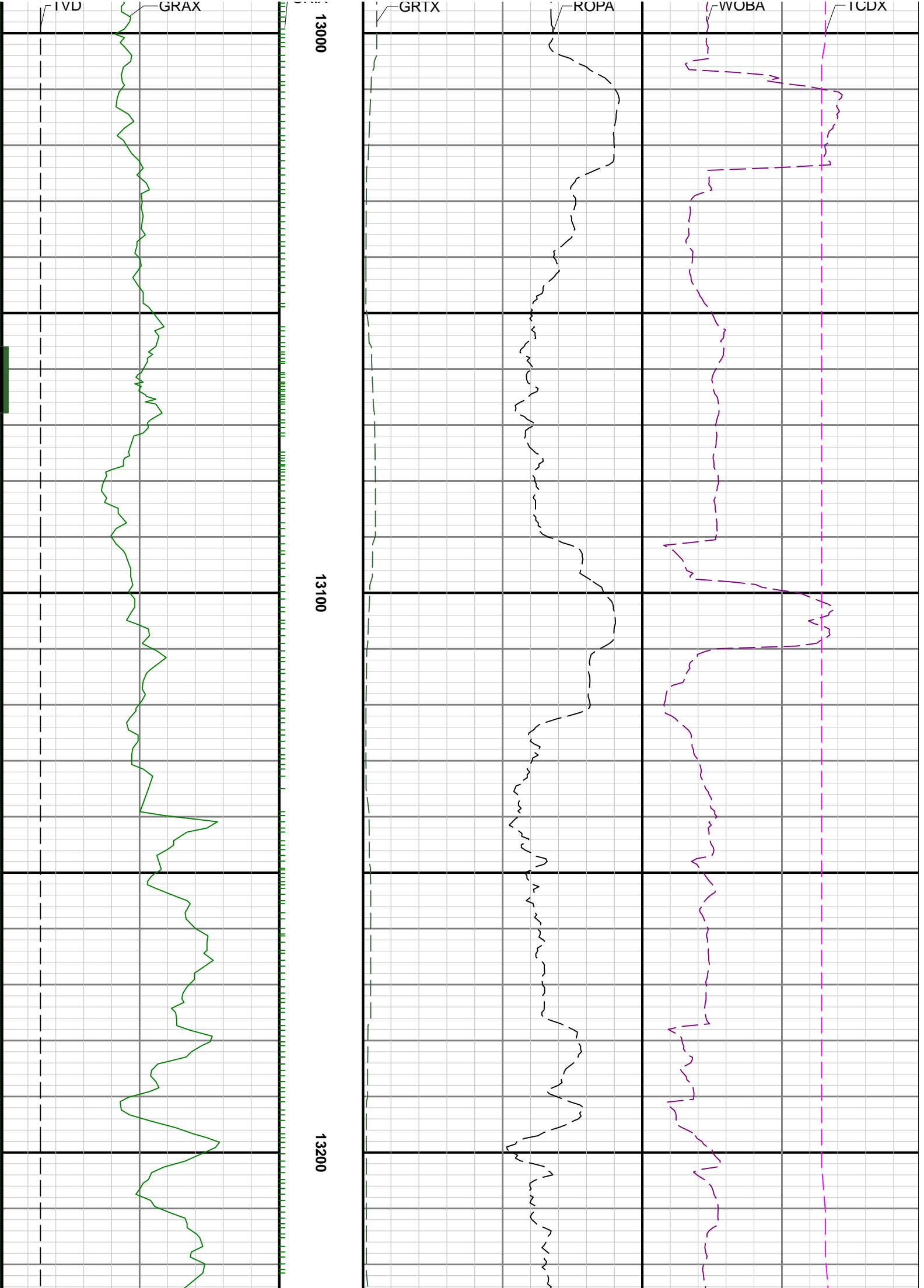


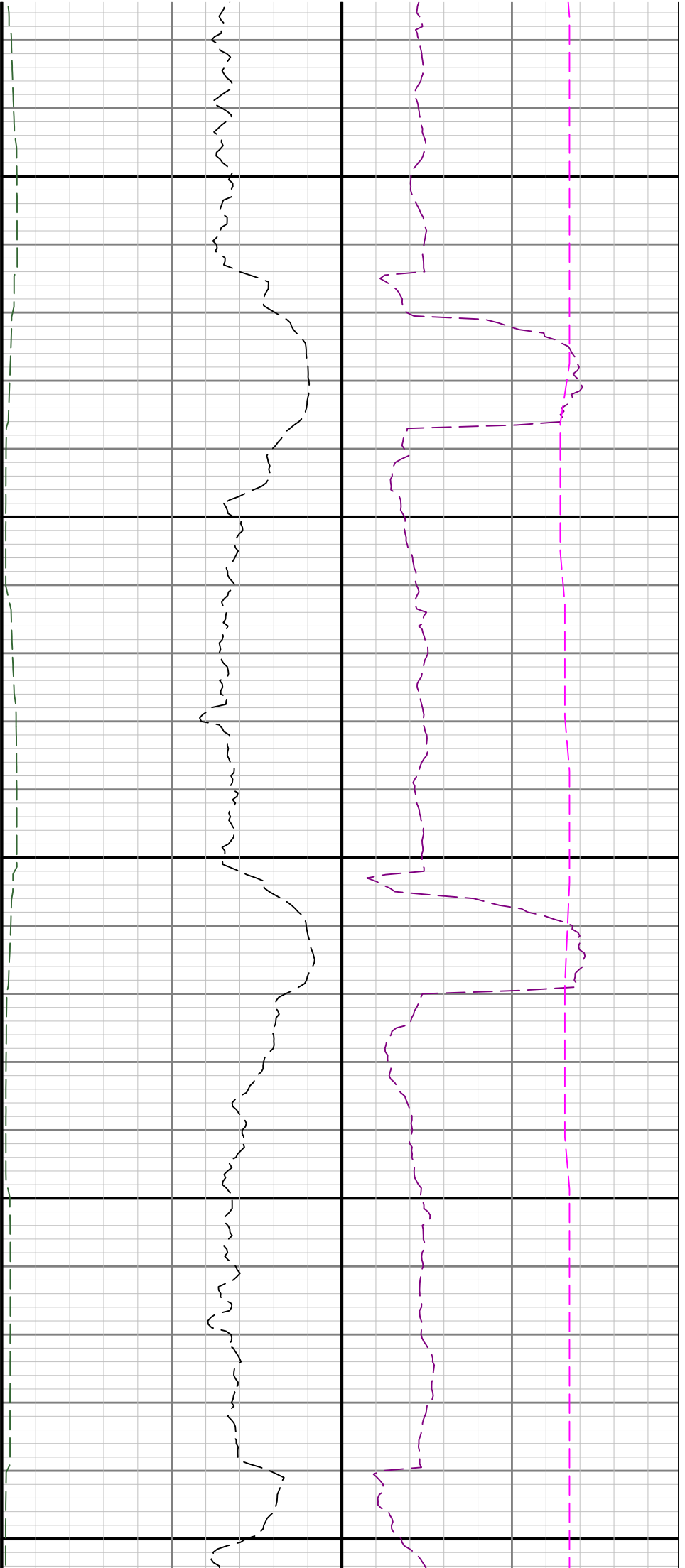
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12700



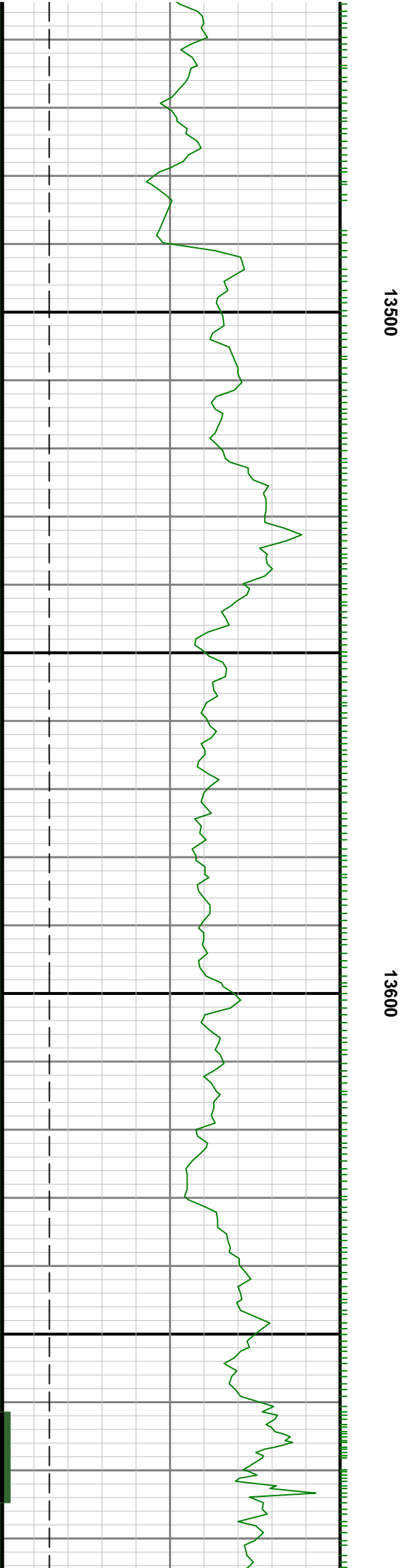


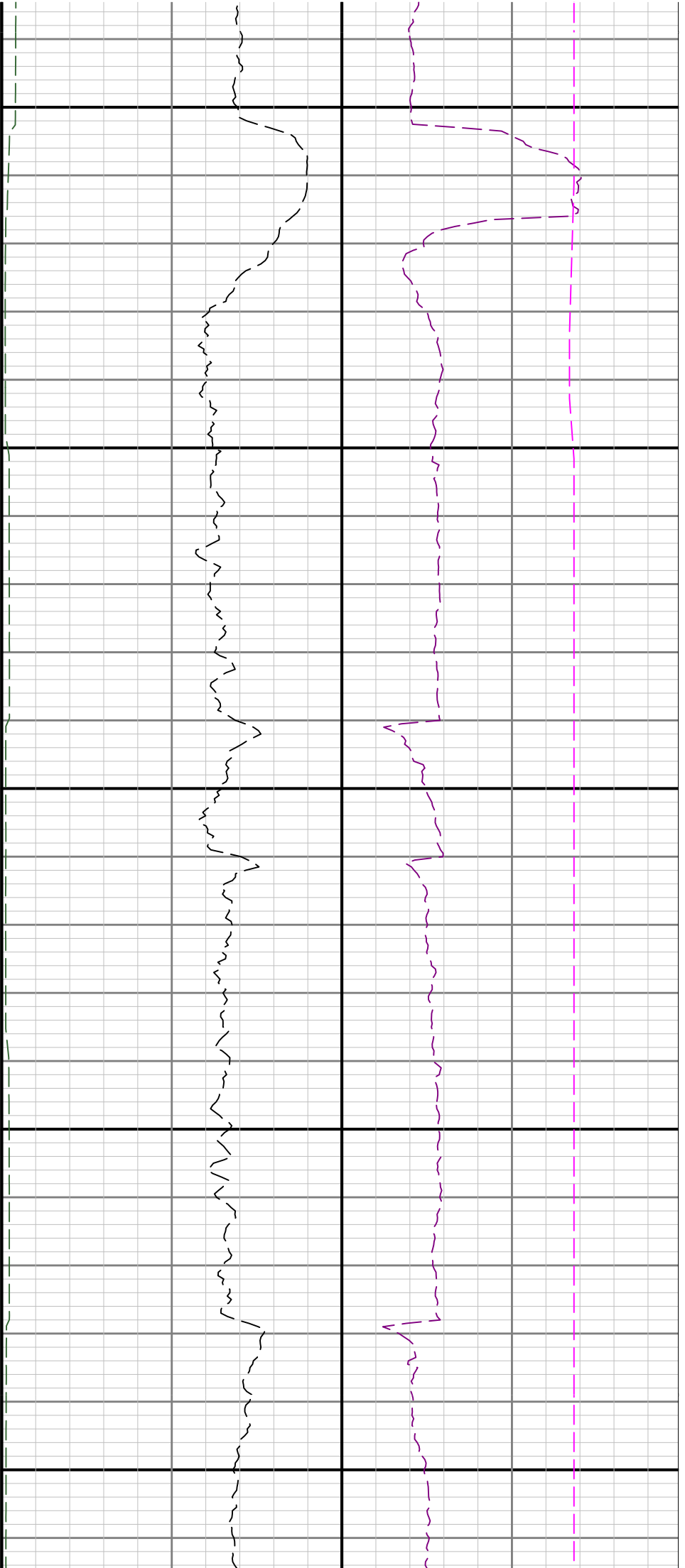




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13400

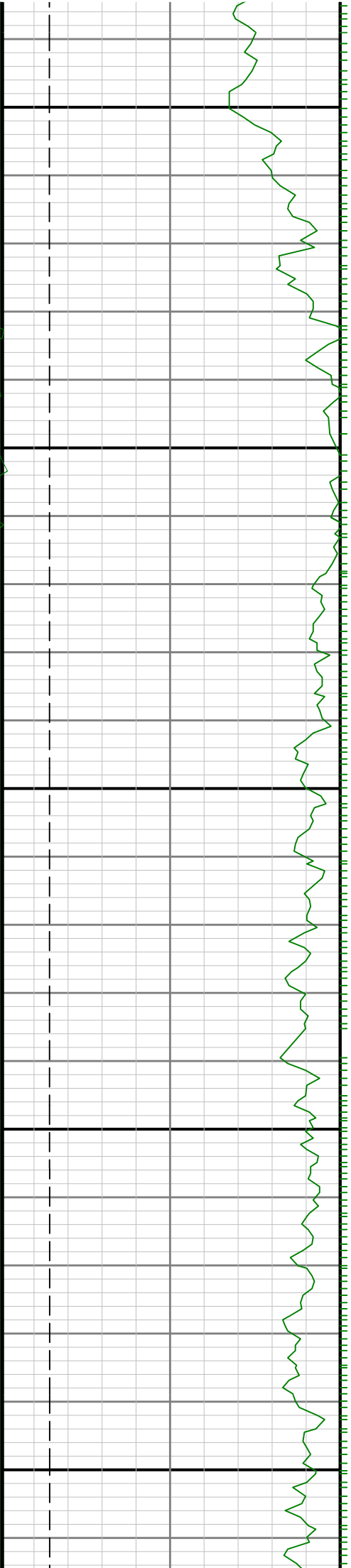


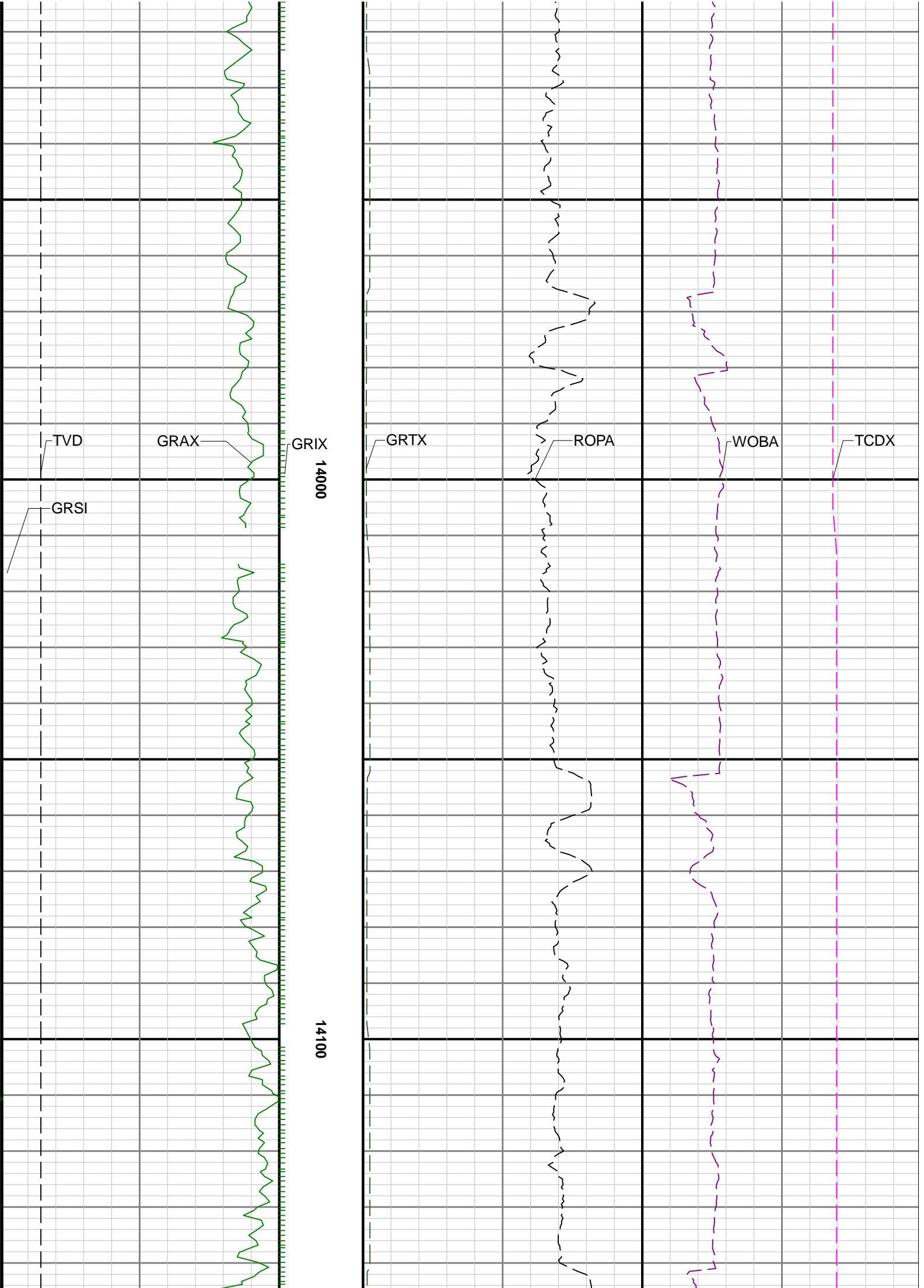


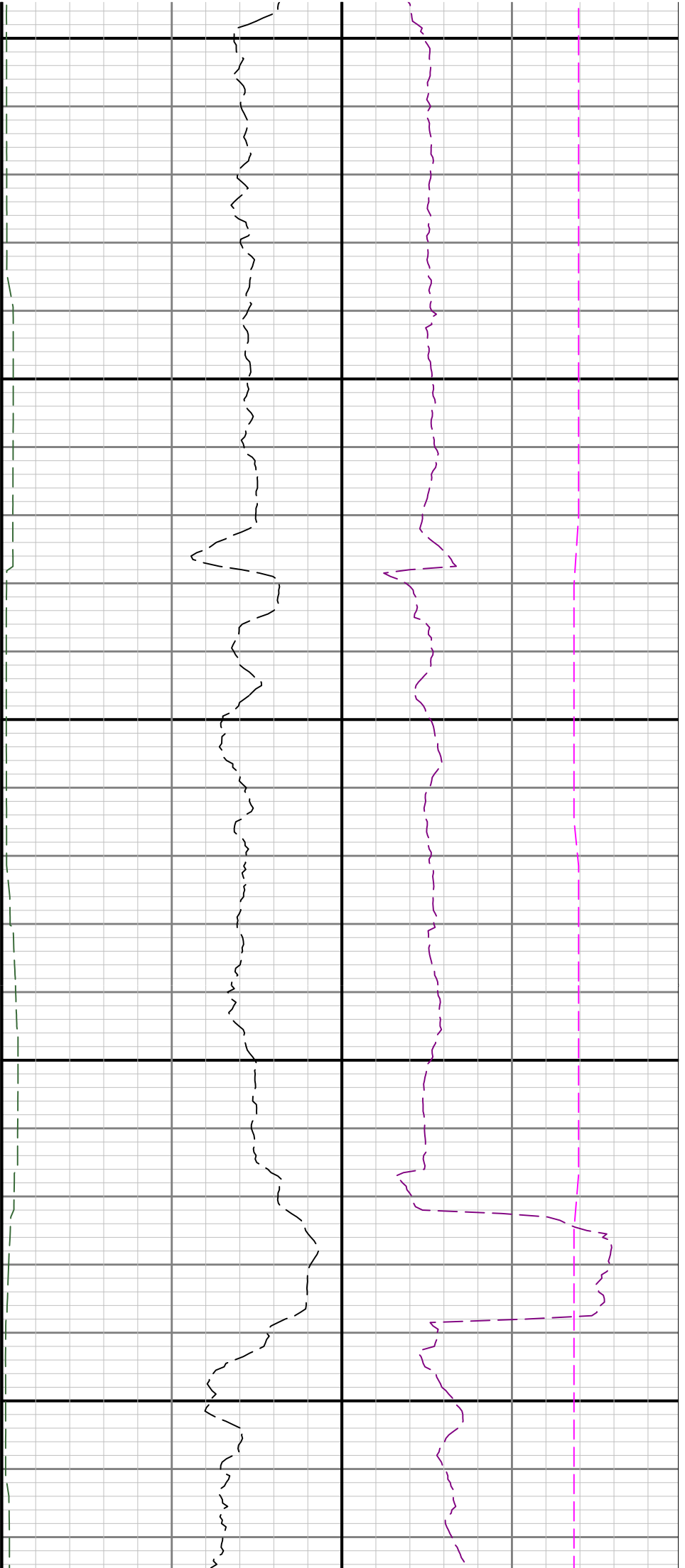
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13800

13900

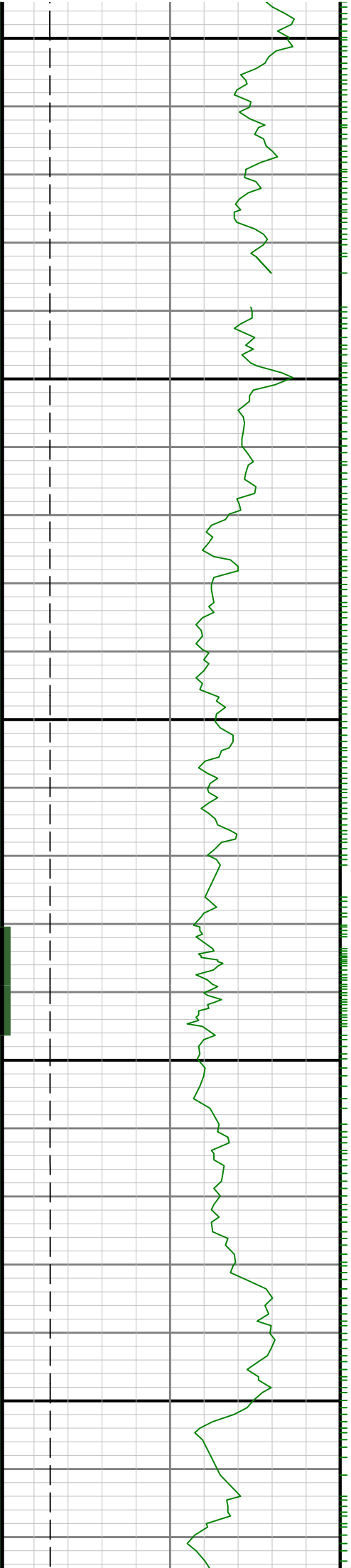






14200

14300



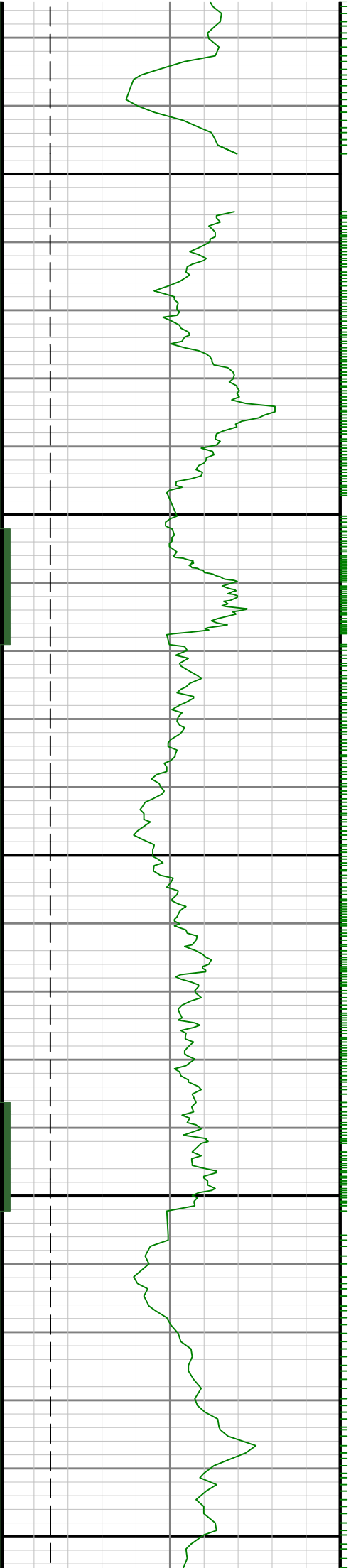


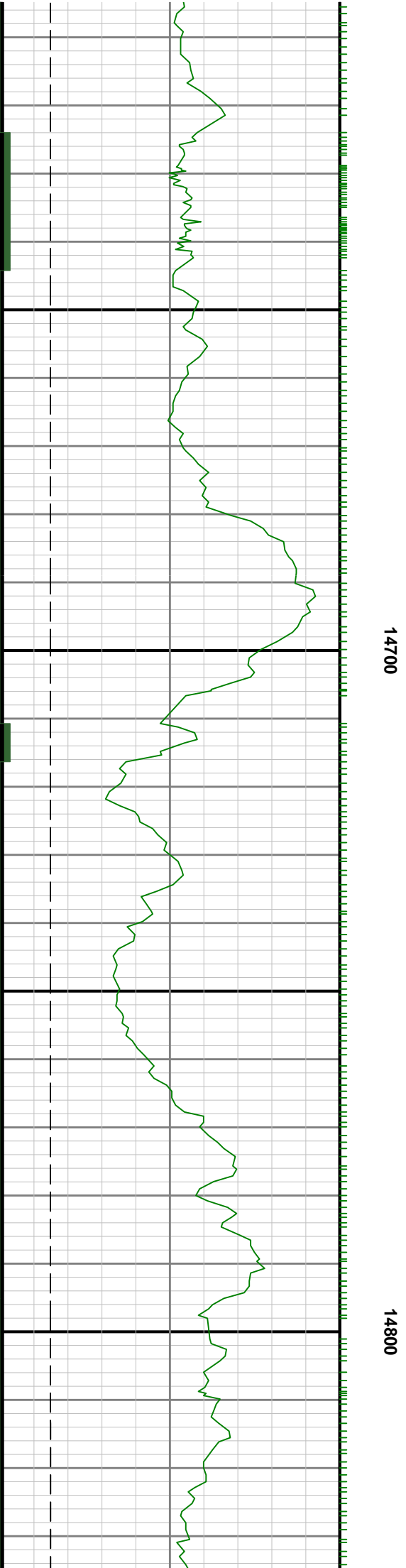
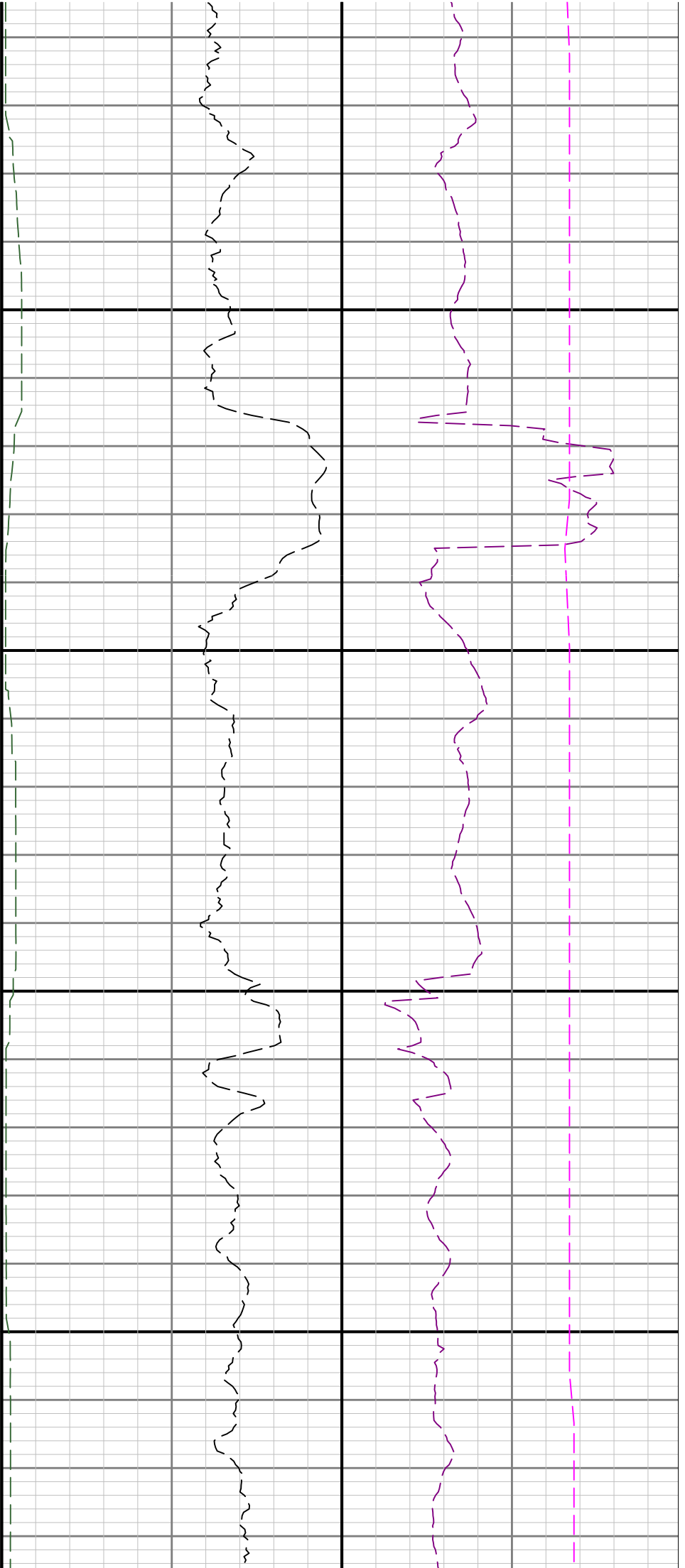


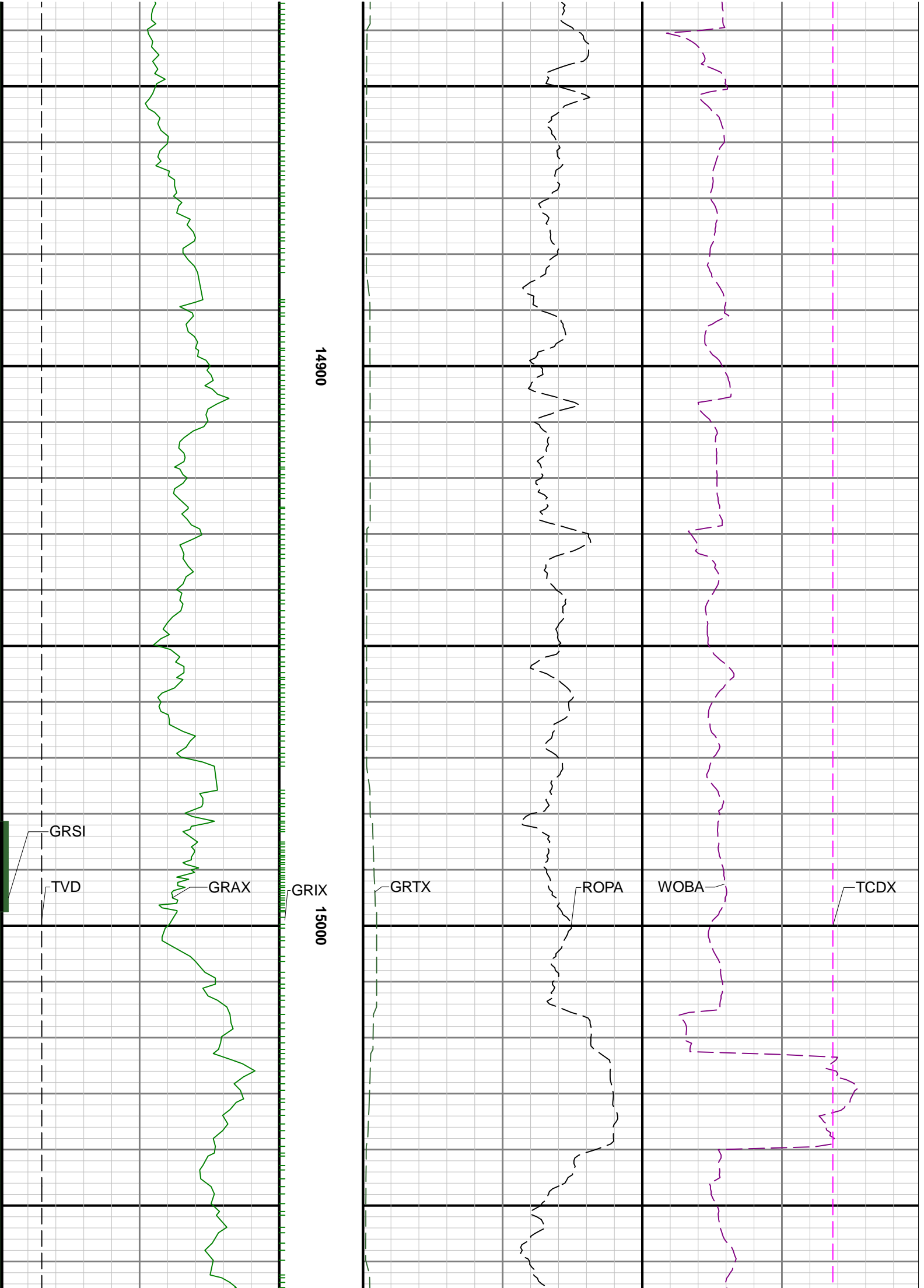
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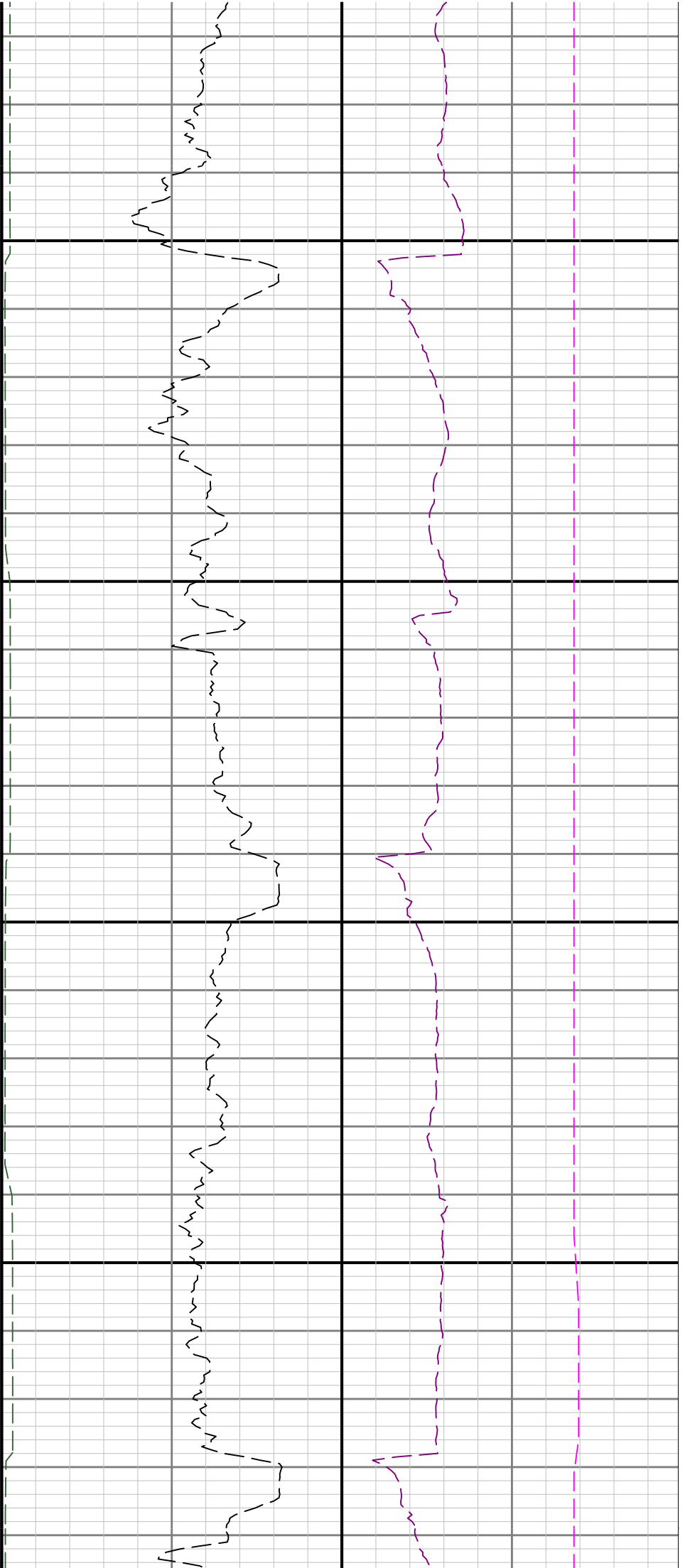
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14600



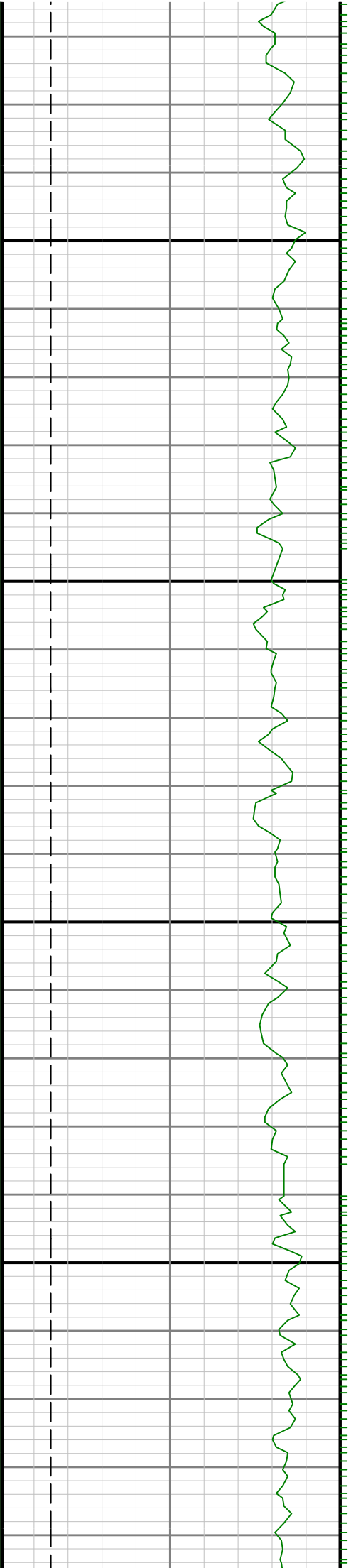


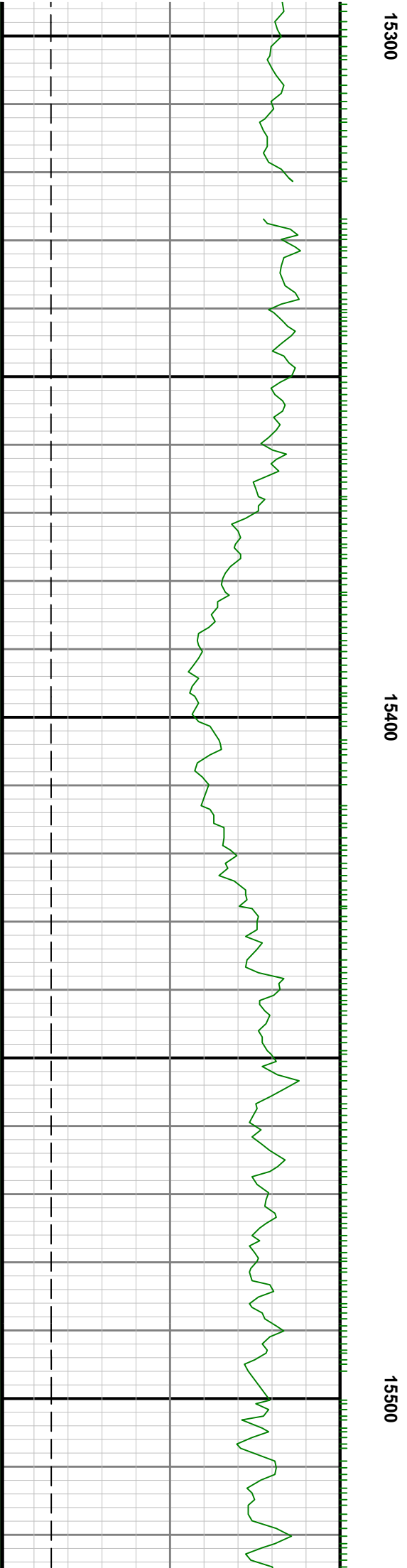
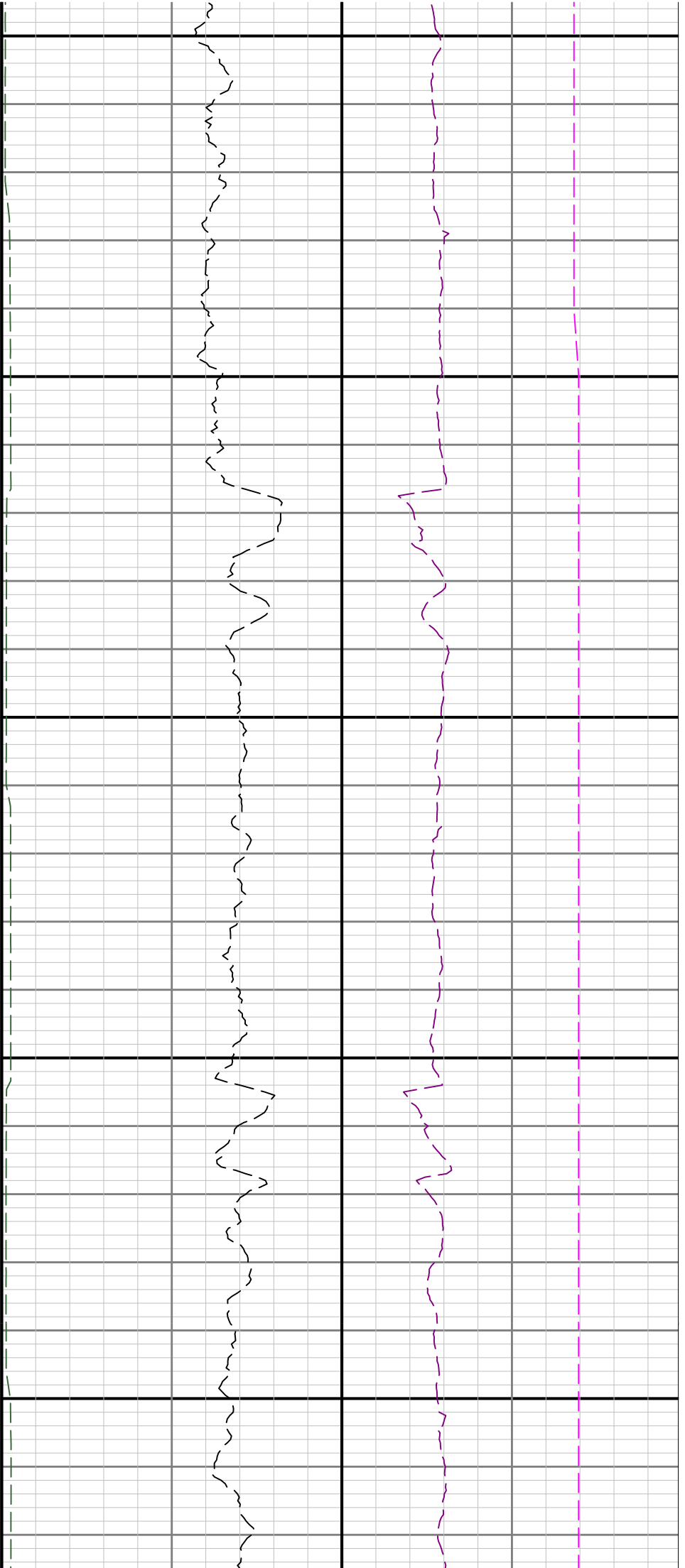


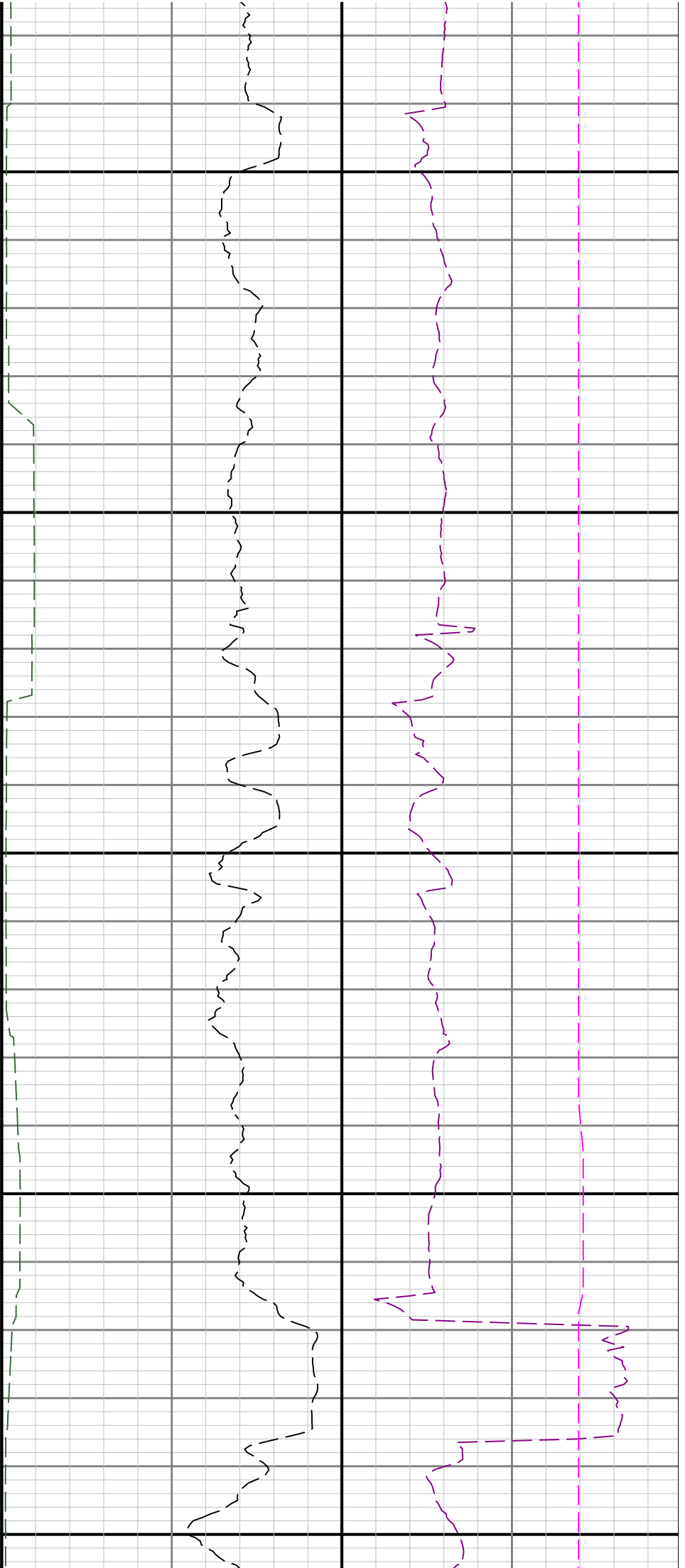


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15200

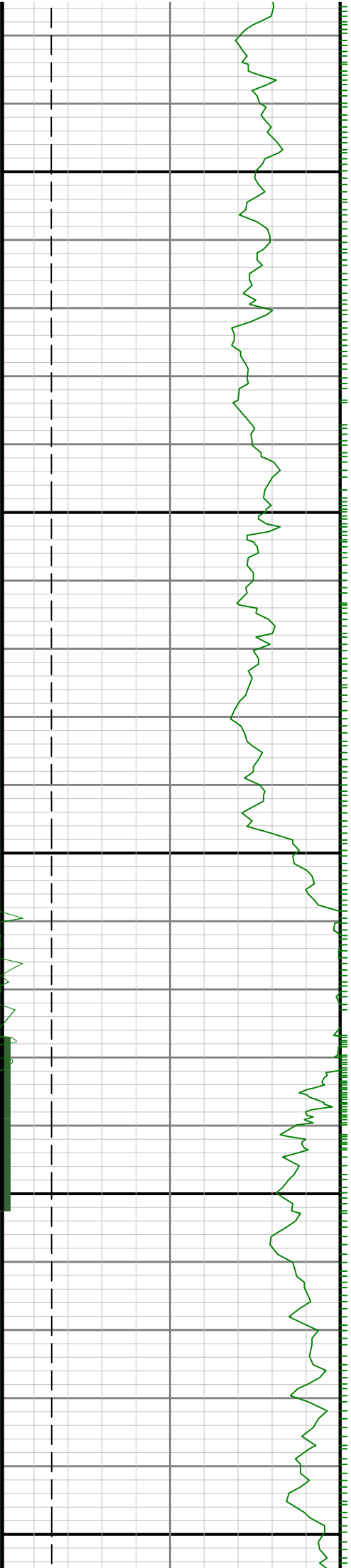


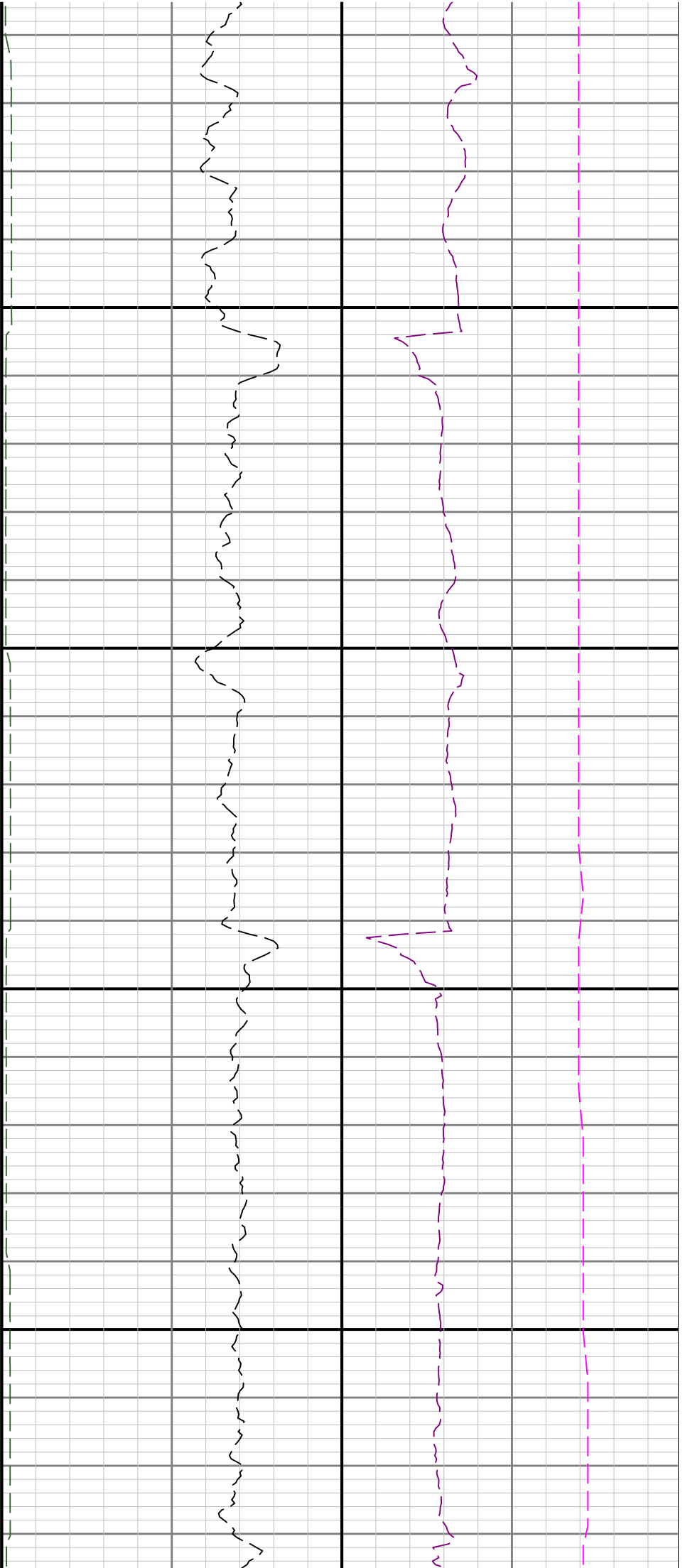




15600

15700





15800

15900

