



Gamma Ray

Scale:		Company: Anadarko	
1-240 MD		Well: SWARTZ 28N-12HZ	
Depth Reference:		Field: Wattenburg	
Driller's Depth		County: Weld	
Status:	State: Colorado		Country: United States
Final Print		Other Services:	
API No: 051234268400		Latitude: Longitude:	
Job ID: 8530179	SEC: 13 TWN: 2N RGE: 65W		Directional
Permanent Datum (P.D.): Mean Sea Level		Elevation: Above P.D.	Elev. KB: Elev. DF: Elev. GL:
Log Measured From: Rig Floor		4897.00 ft	N/A 4897.00 ft 4880.00 ft
Dates	Interval Logged		Magnetic Field Reference
Date From: 2017-05-27	Top: (ft) 6100.00		Azi Reference North: True Dip Angle: (deg) 66.79
Date To: 2017-05-29	Bottom: (ft) 17410.00		Total Magnetic Field Strength: (nT) 52403
Spud Date: 2017-05-26			Mag to Reference North Correction: (deg) 8.18 E
Borehole Record			
Hole Size (in)	From (ft)	To (ft)	Casing Record
9.625	17.00	1847.00	Size (in)
7.875	1847.00	17410.00	Weight (lb/ft)
			From (ft)
			To (ft)
Mud Record			
Type	From (ft)	To (ft)	Deviation Record
Diesel-Oil Based Mud	1847.00	17410.00	Hole Size (in)
			Interval (ft)
			Inc Az (Start)
			Inc Az (End)
Acquisition System			
Baker Hughes Cadence	RT4.1	Rig: XTreme Z2	Other
PlotStudio	4.1.7763.3	Contractor: XTrème	Unit: D & E
		District: RMD	

Run No.	Bit No.	Size (in)	Type	Gauge Length (in)	Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Hours
						Top (ft)	Bottom (ft)	From (ft)	To (ft)	Start Logging	End Logging	
1	1	7.875	PDC	2.50	Steerable	6100.00	17369.00	1847.00	17410.00	2017-05-27 11:42	2017-05-30 17:48	67.32

Crew

Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite
Teni Onafowokan		2017-05-26	2017-05-31	Will Roth		2017-05-26	2017-05-31				

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+ (%)
2017-05-27 05:57	1	1847.00	Diesel-Oil Based Mud	9.3	71	N/A	N/A	65.2/34.8	Active Pit	55000	0.00
2017-05-27 20:00	1	3887.00	Diesel-Oil Based Mud	9.3	16	N/A	N/A	66/34	Active Pit	47000	0.00
2017-05-28 20:00	1	8545.00	Diesel-Oil Based Mud	9.1	58	N/A	N/A	74.2/25.8	Active Pit	42000	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	NaviGamma	13640750	Gamma (single)	10.96	41.45	6.500	3.250
1	NaviGamma	12131653	Directional (mag)	13.38	43.87	6.500	3.250
1	NaviGamma	688	VSS	13.38	43.87	6.500	3.250

Service and Tool Mnemonics

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

Comments

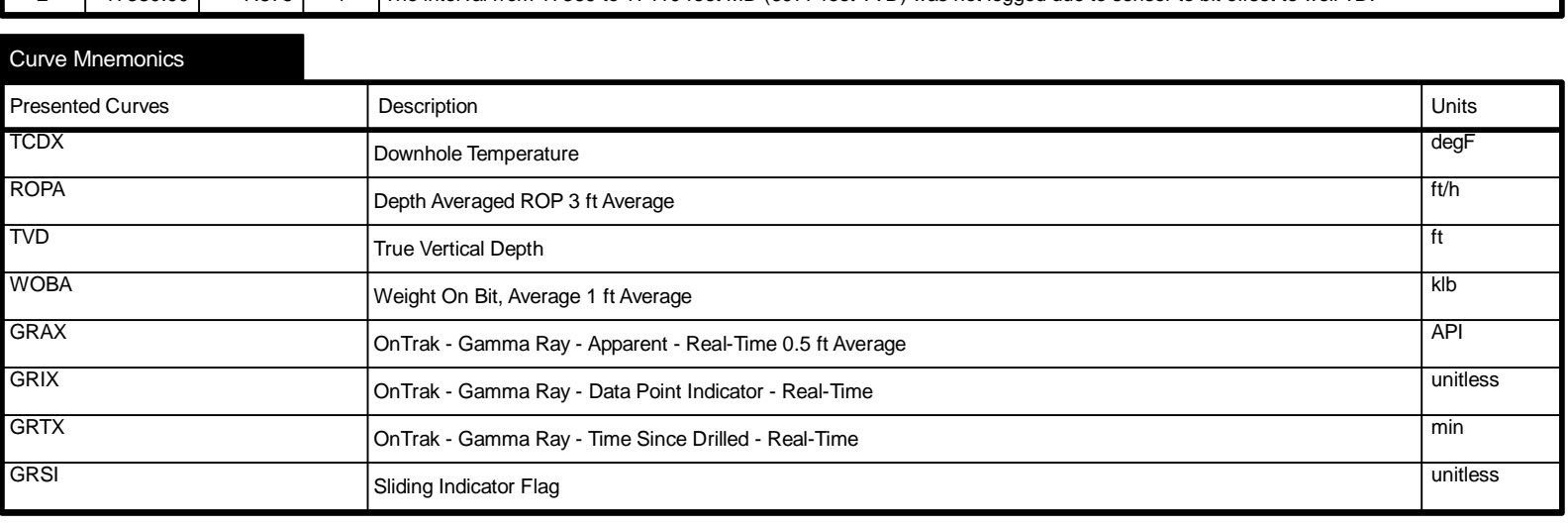
1	Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
2	A sliding indicator is shown to the left edge of track 1 as 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 6.5 inch NaviGamma services (Gamma and DIrectional) behind an 7 7/8 inch bit and steerable assembly from 1847 to 17410 feet MD (1829 to 6975 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.

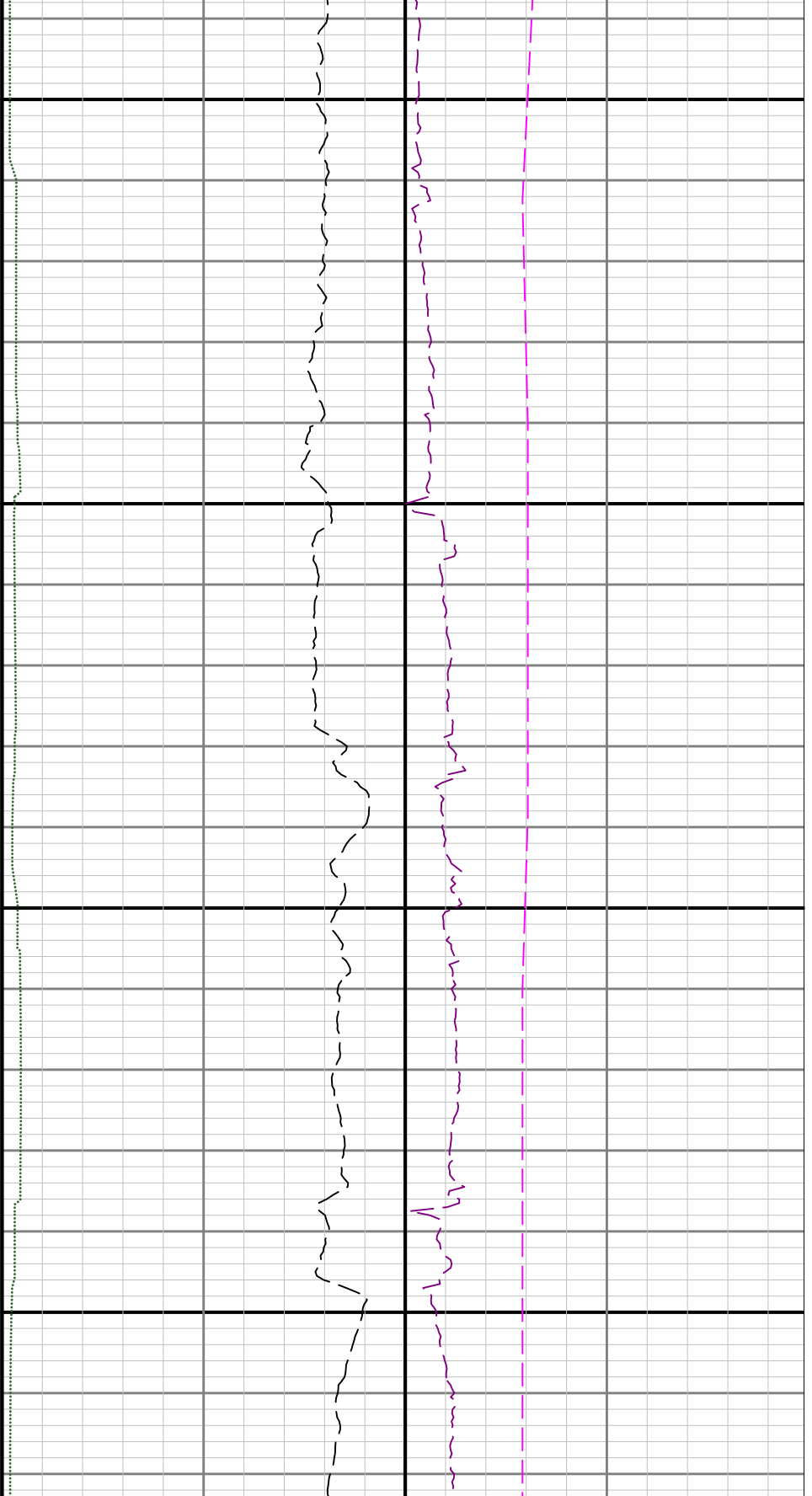
Remarks

Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	6100.00	7.875	1	Baker Hughes logging services began 6100 feet MD (6072 feet TVD) per customer request.
2	17380.00	7.875	1	The interval from 17369 to 17410 feet MD (6977 feet TVD) was not logged due to sensor to bit offset to well TD.

Curve Mnemonics

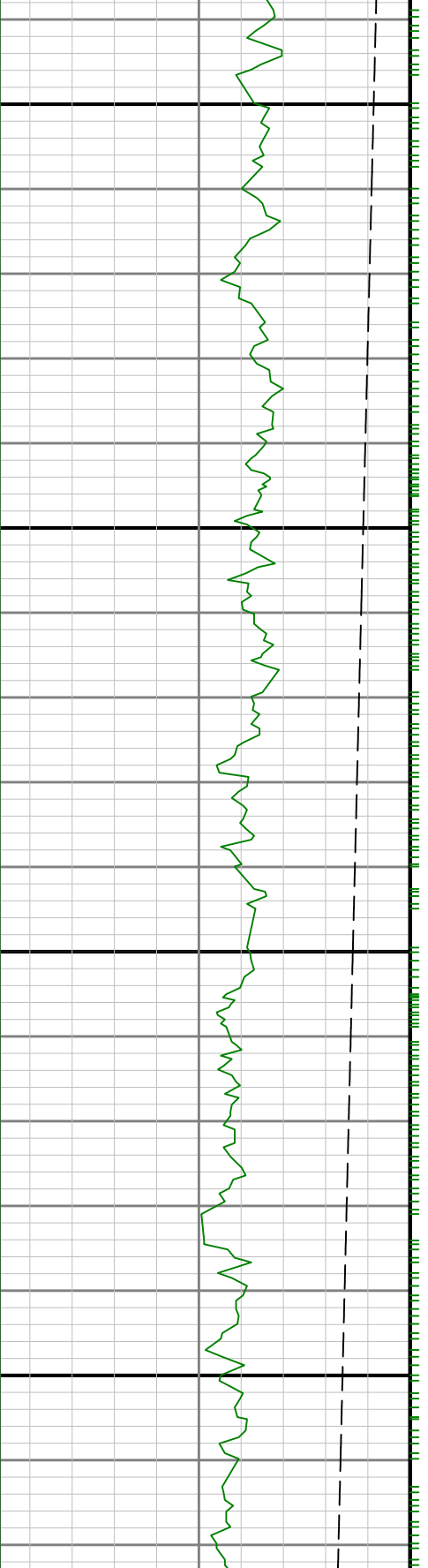
Curve Mnemonics





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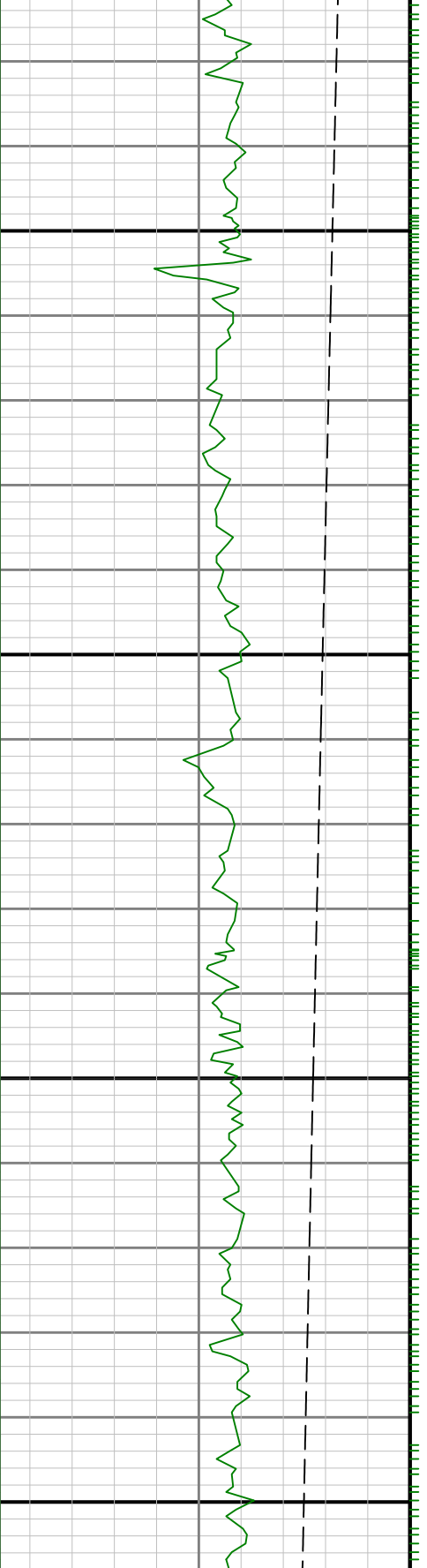
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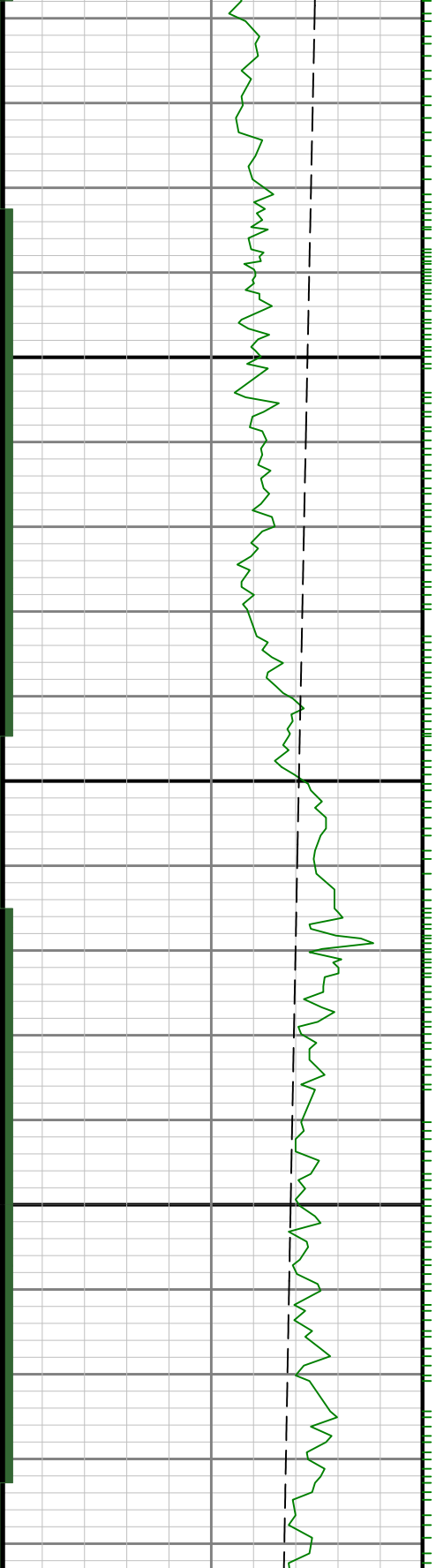




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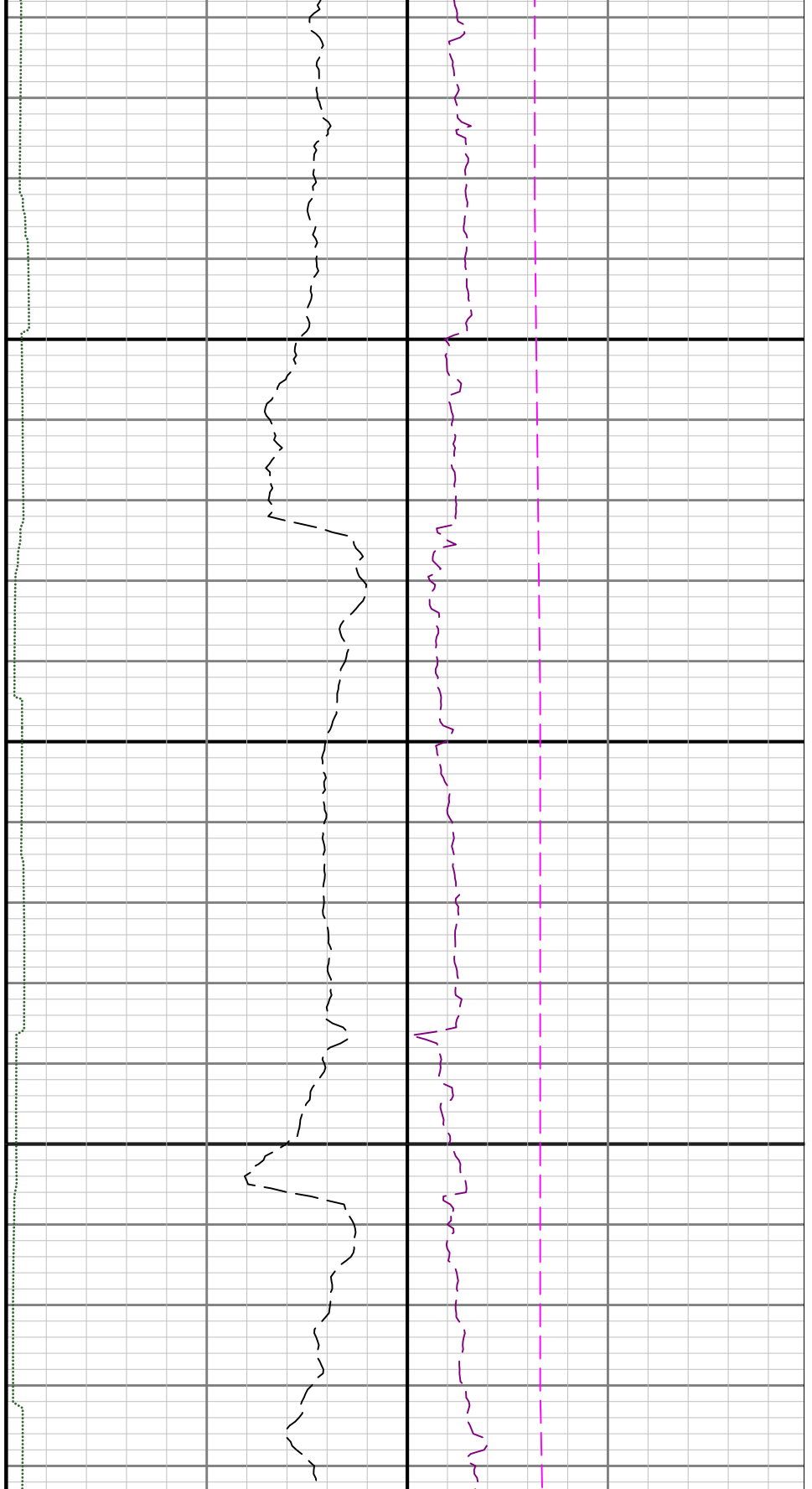
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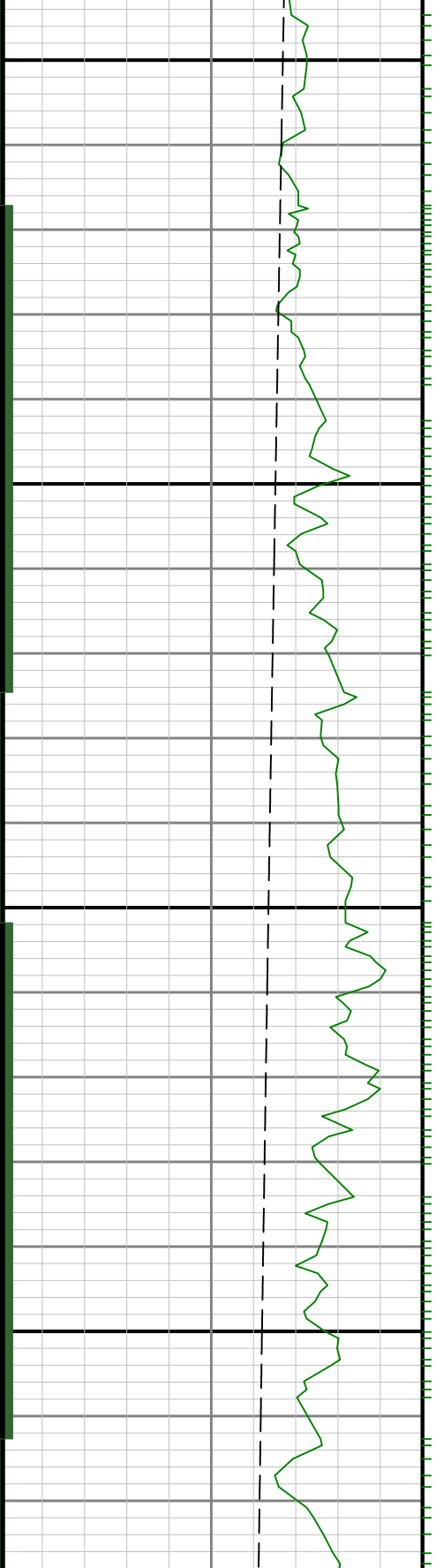




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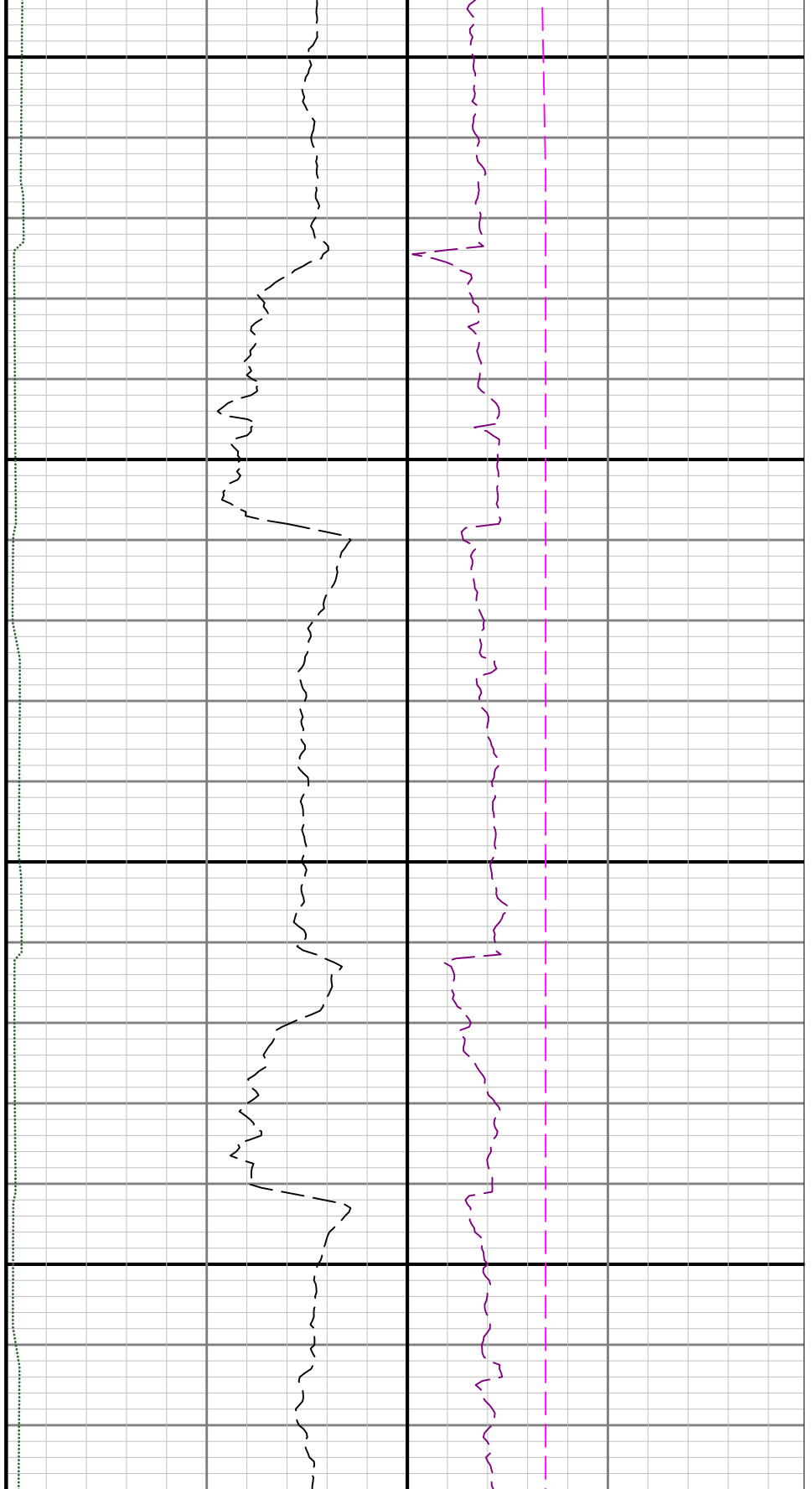
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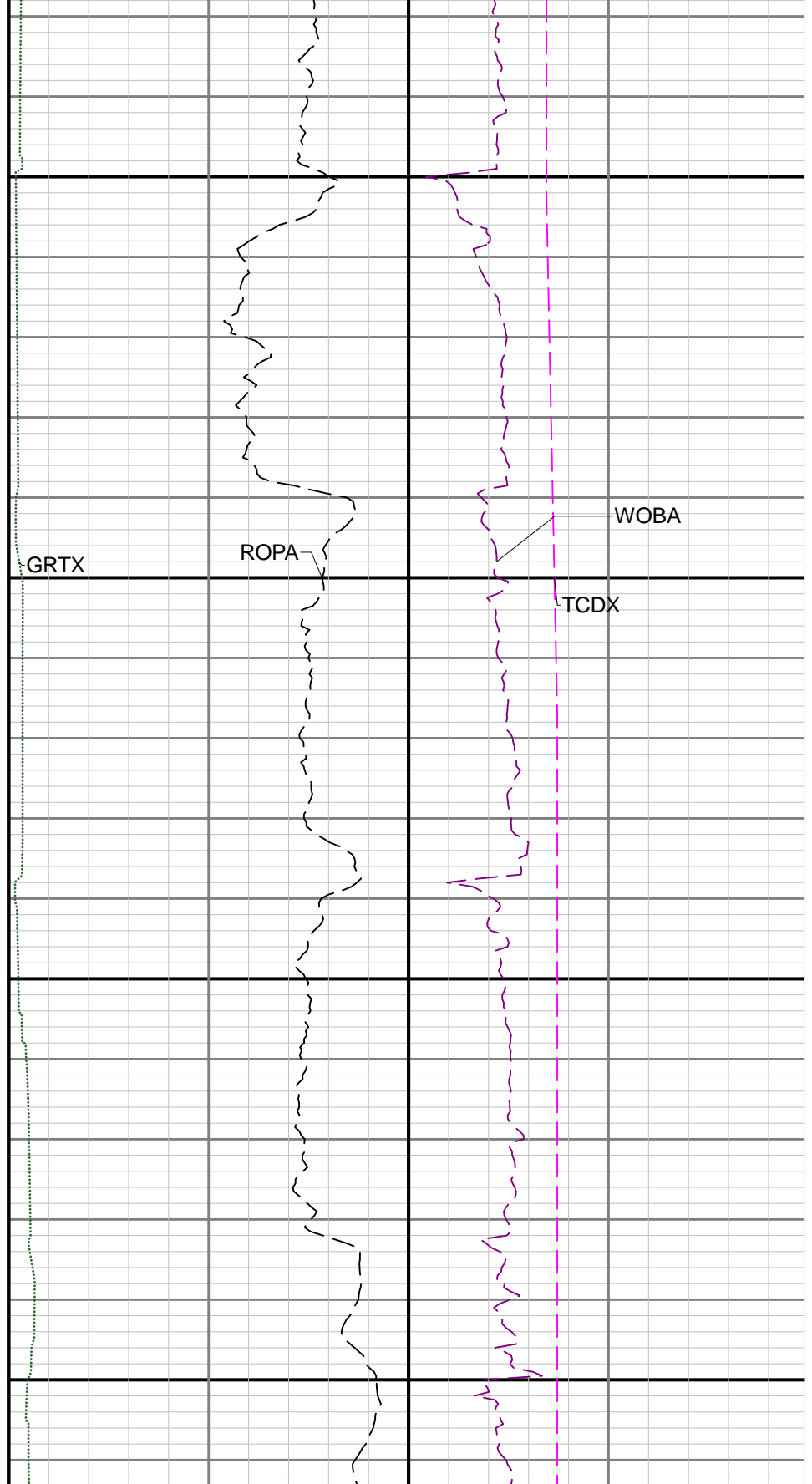
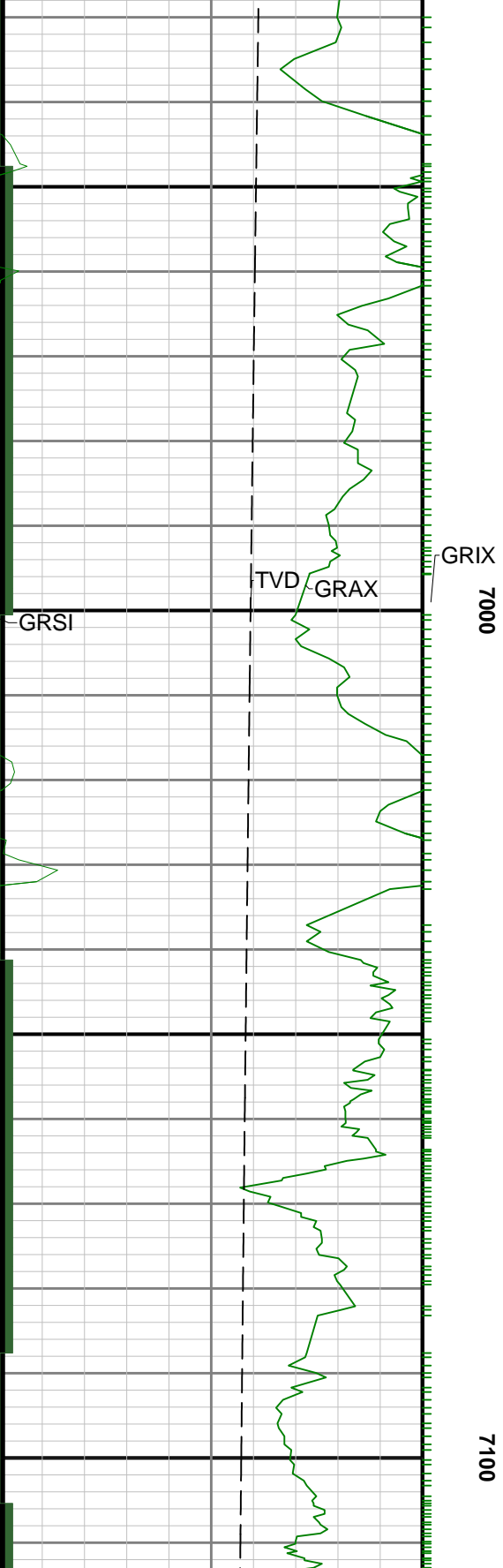


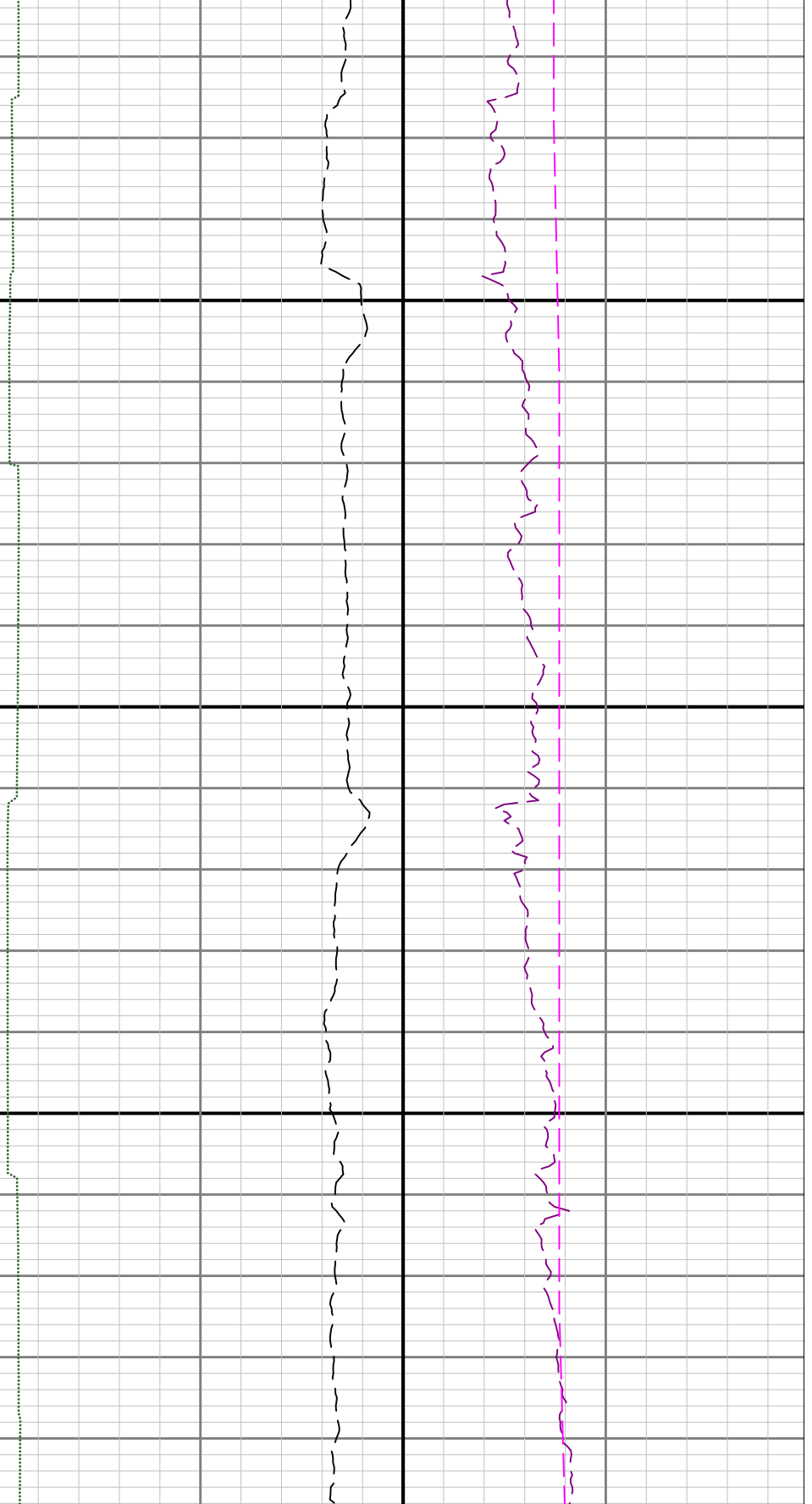


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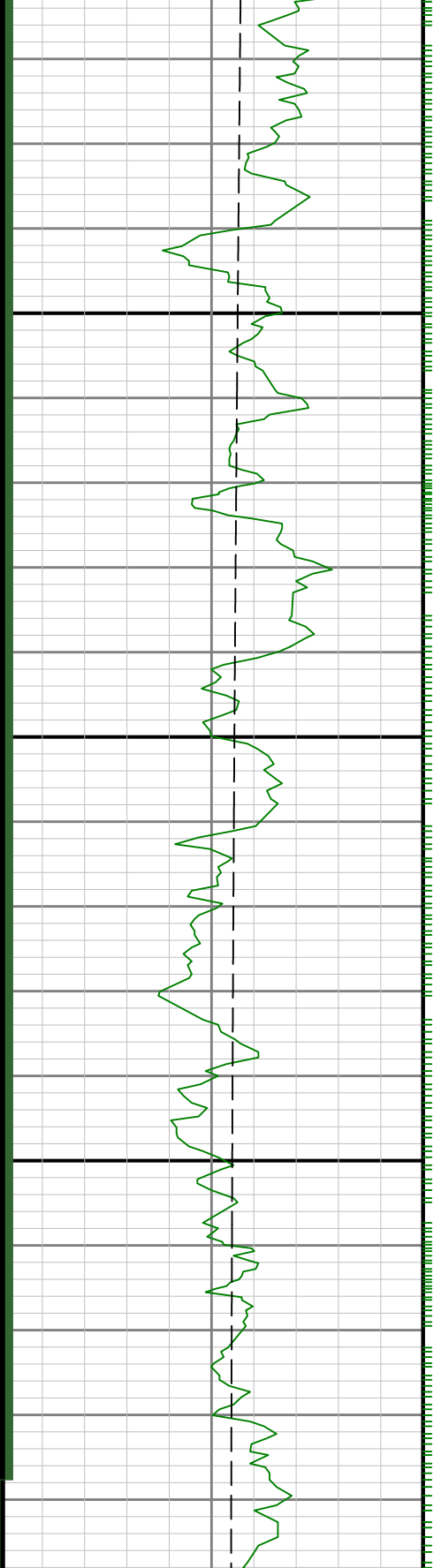
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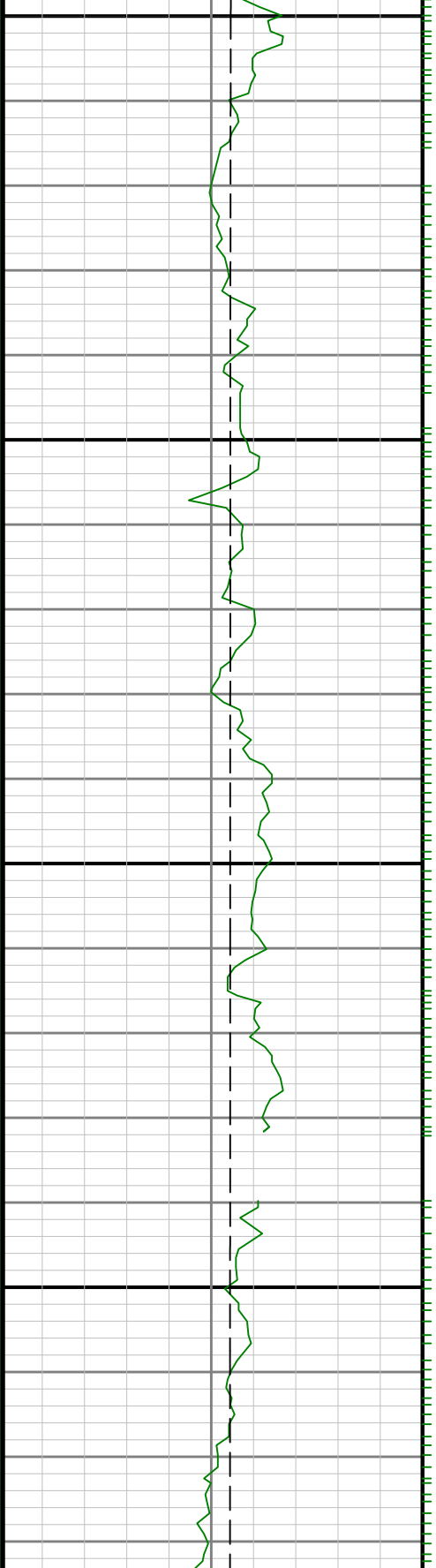
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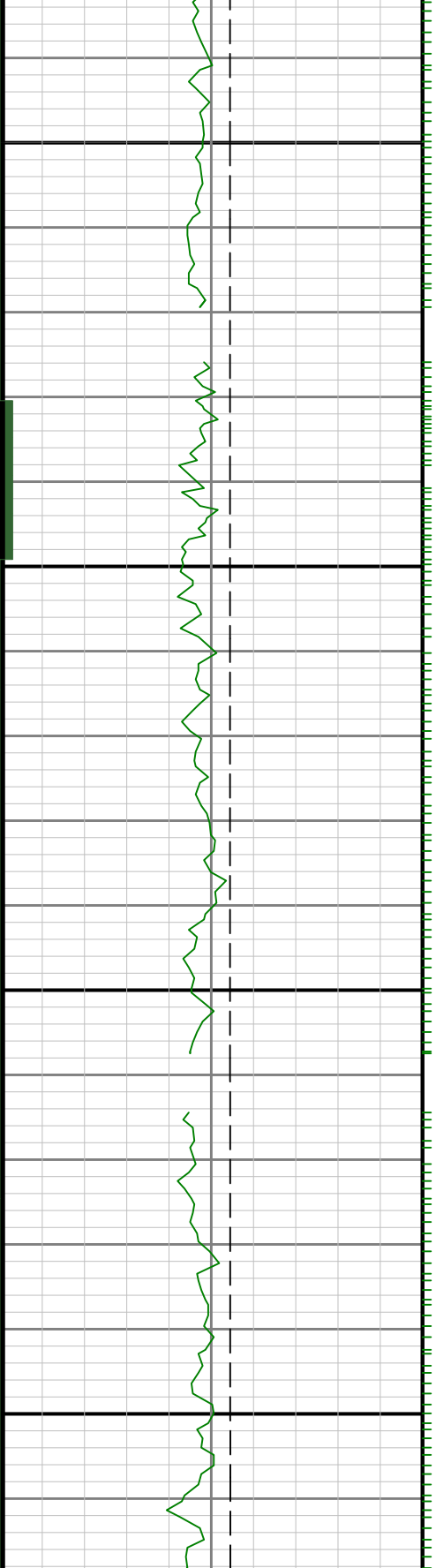
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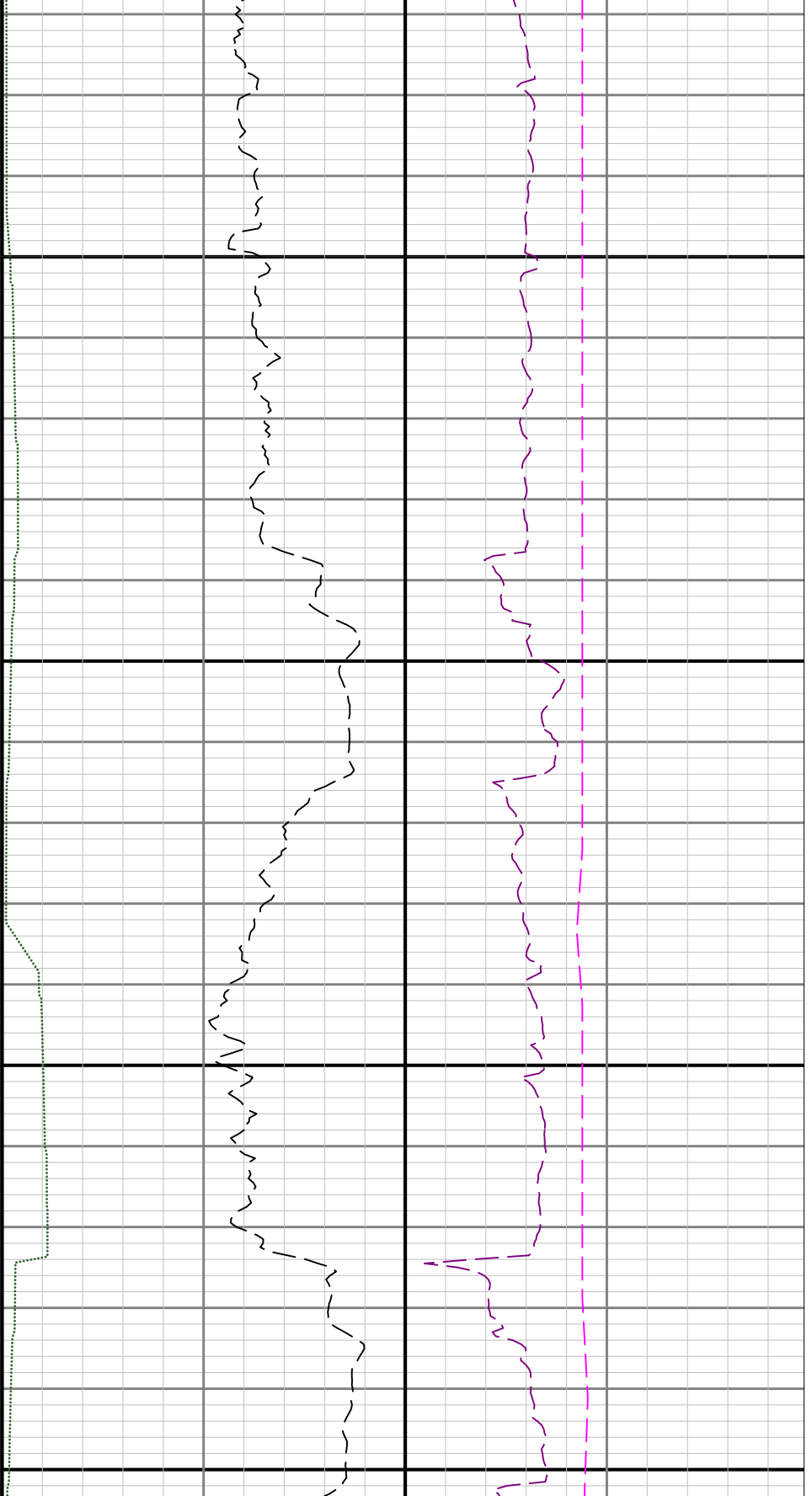




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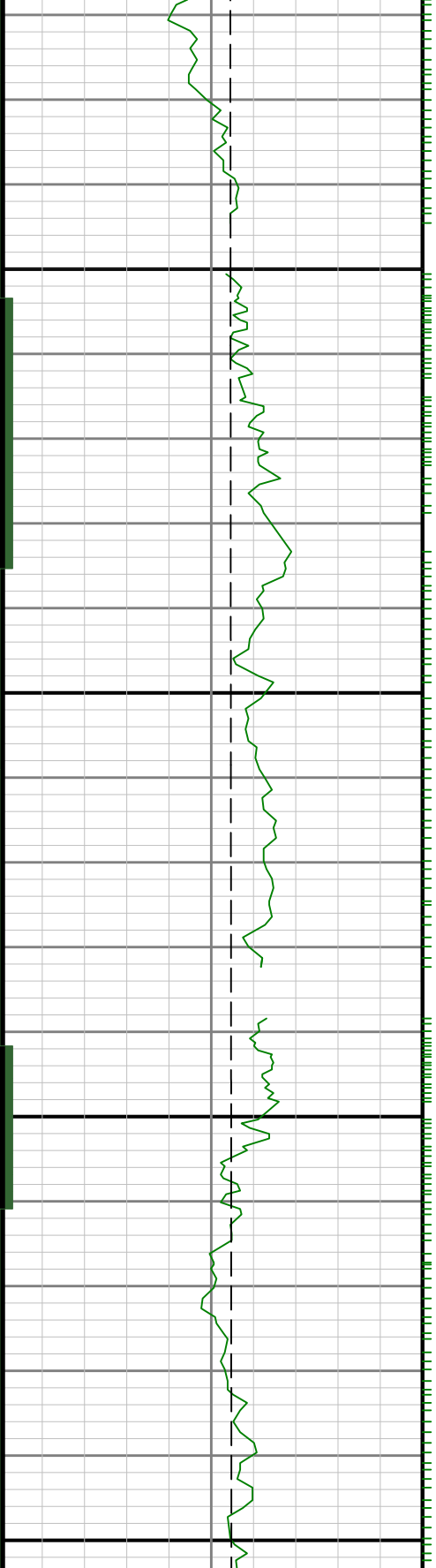
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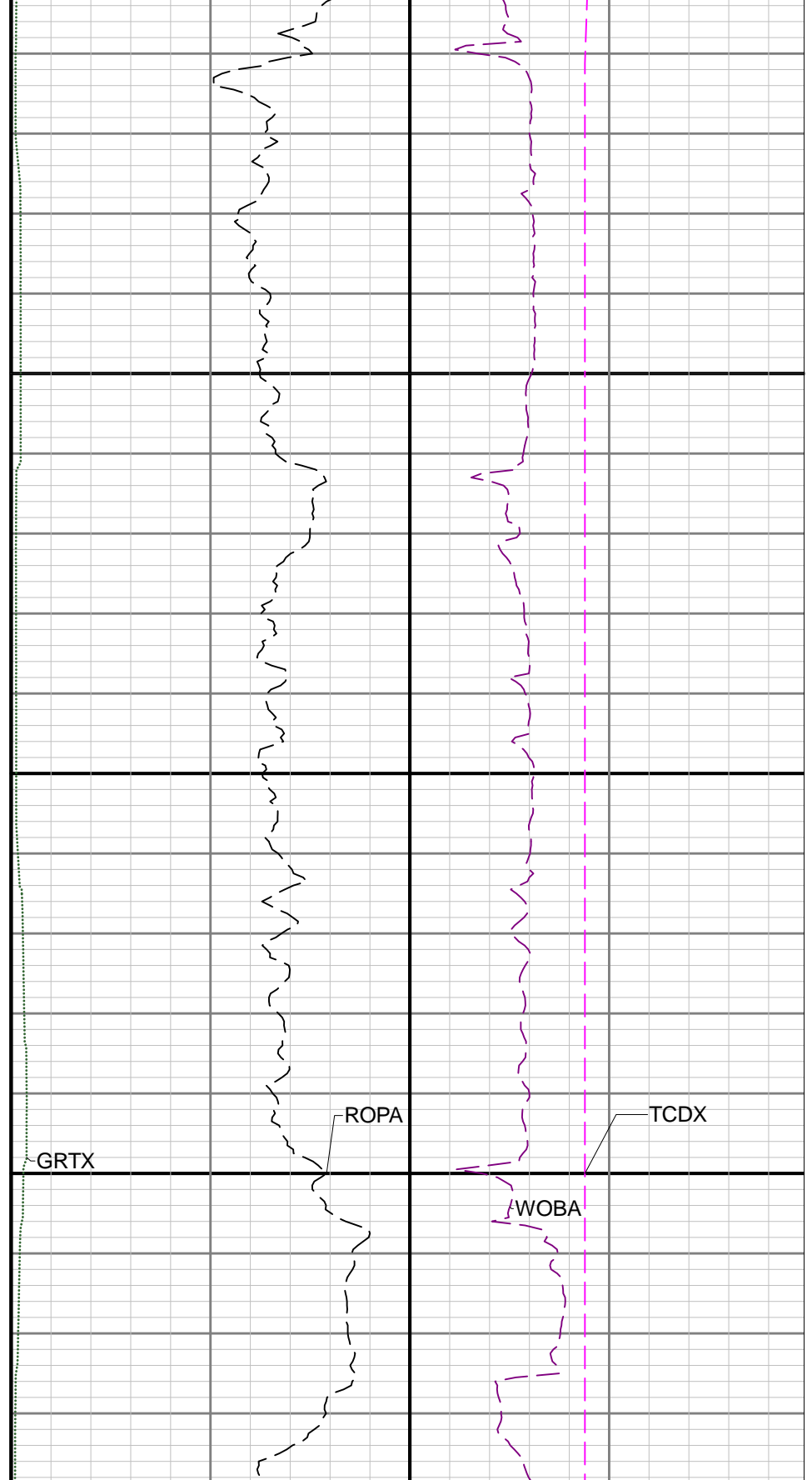
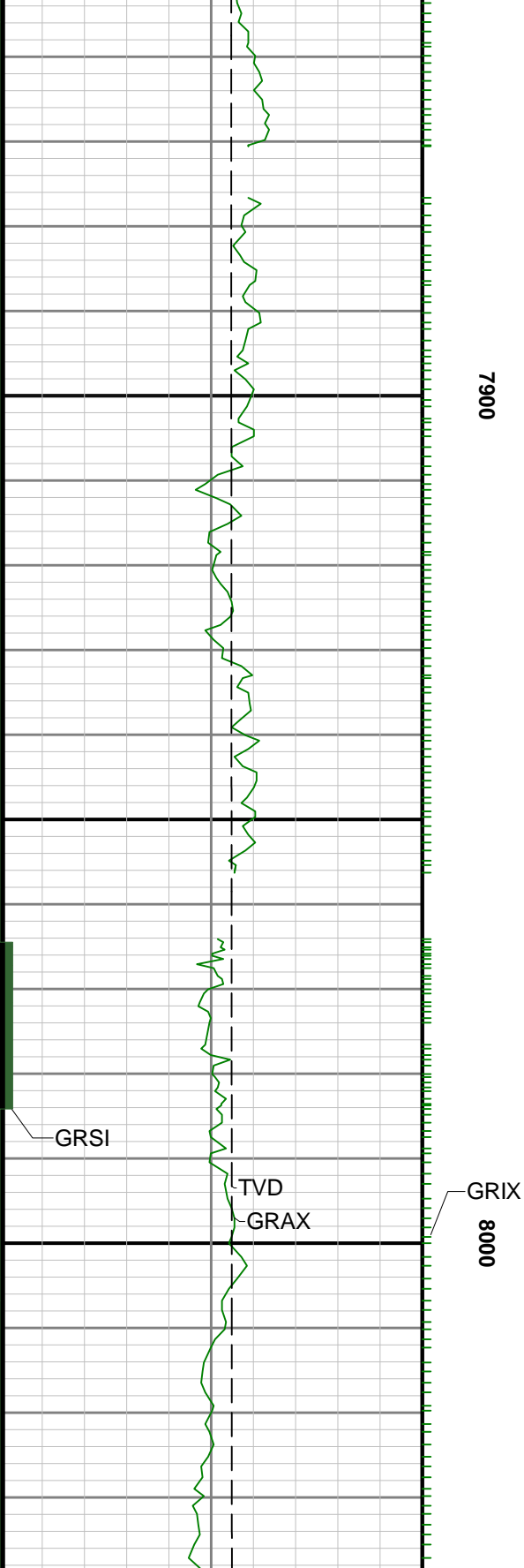


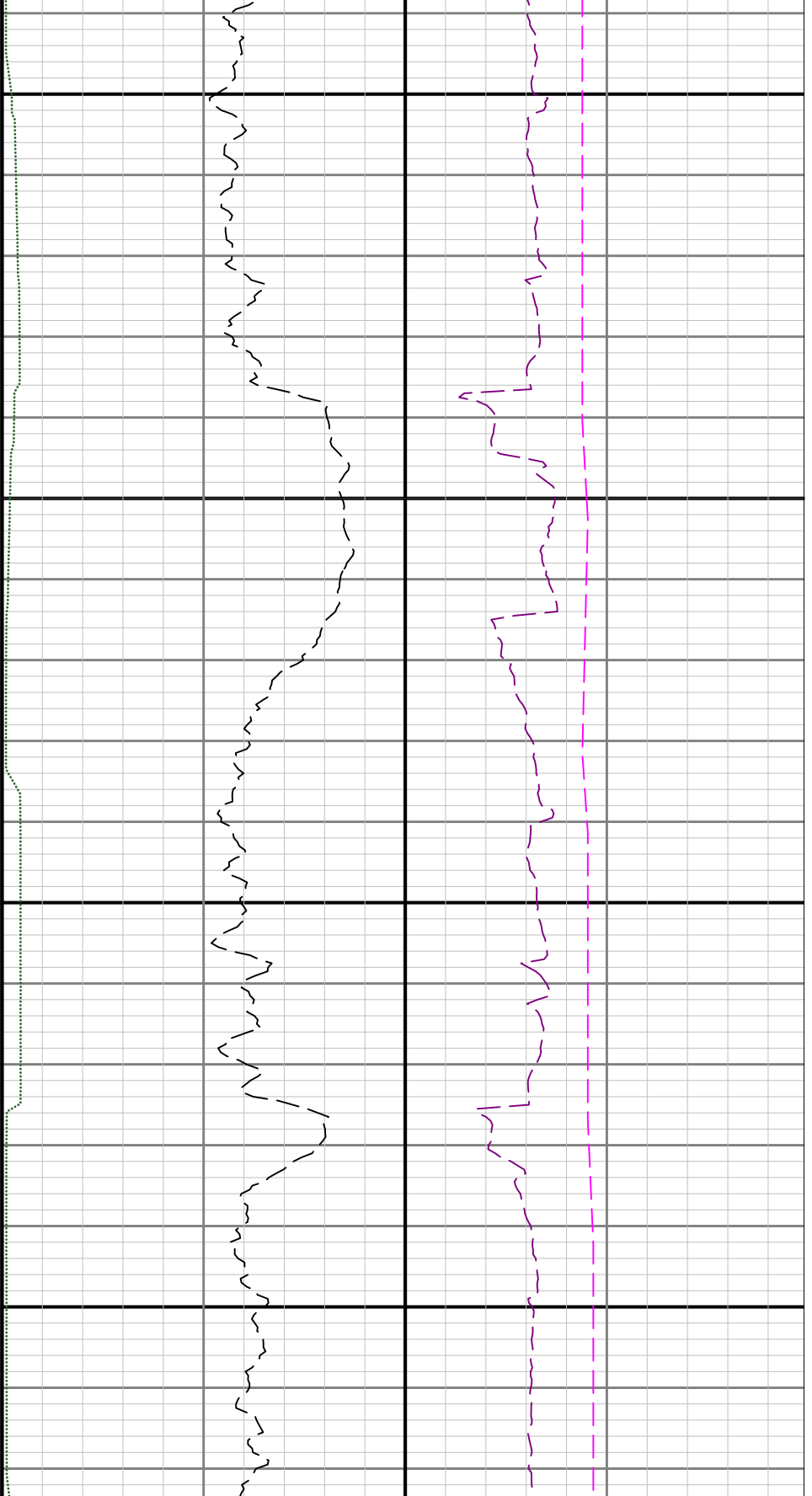


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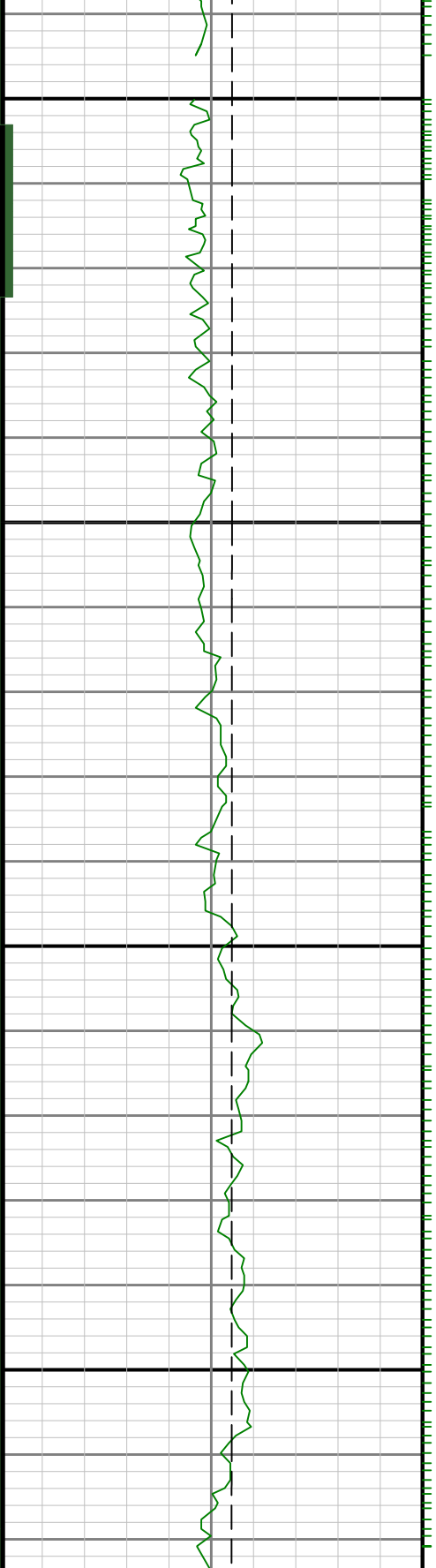


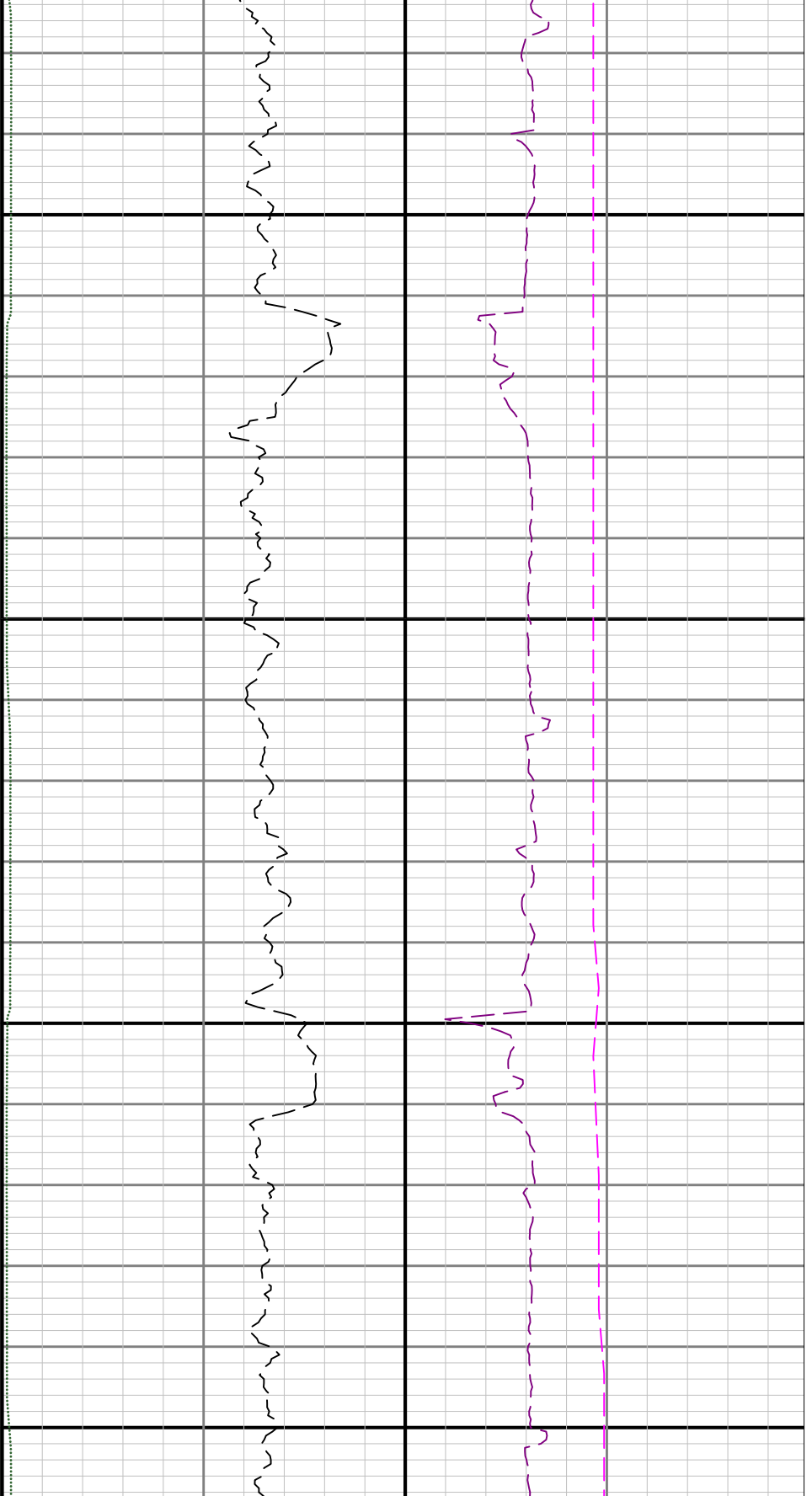




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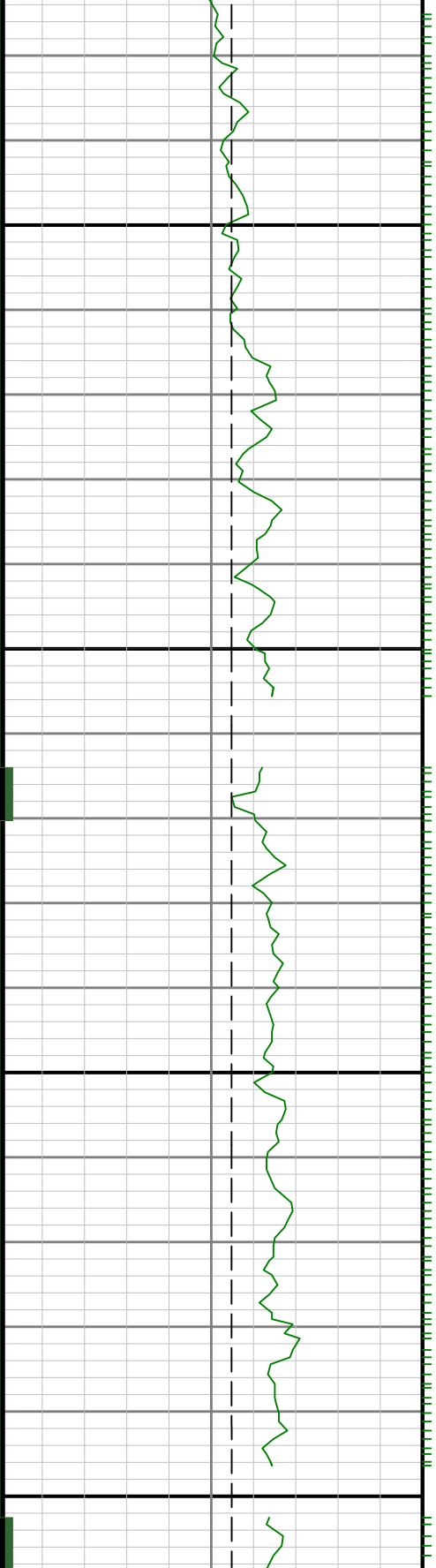
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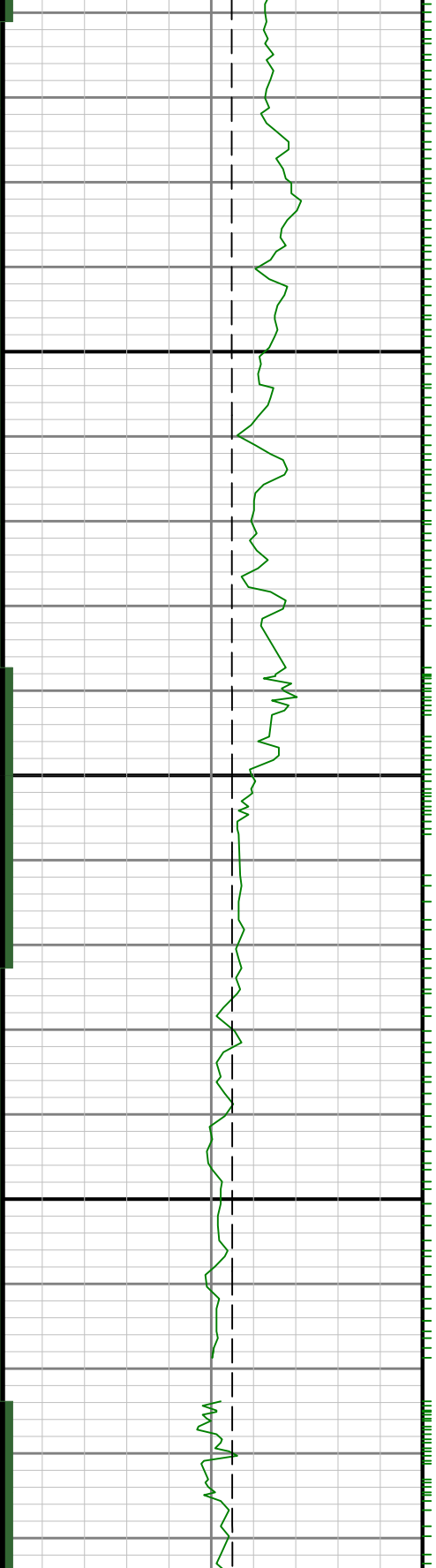




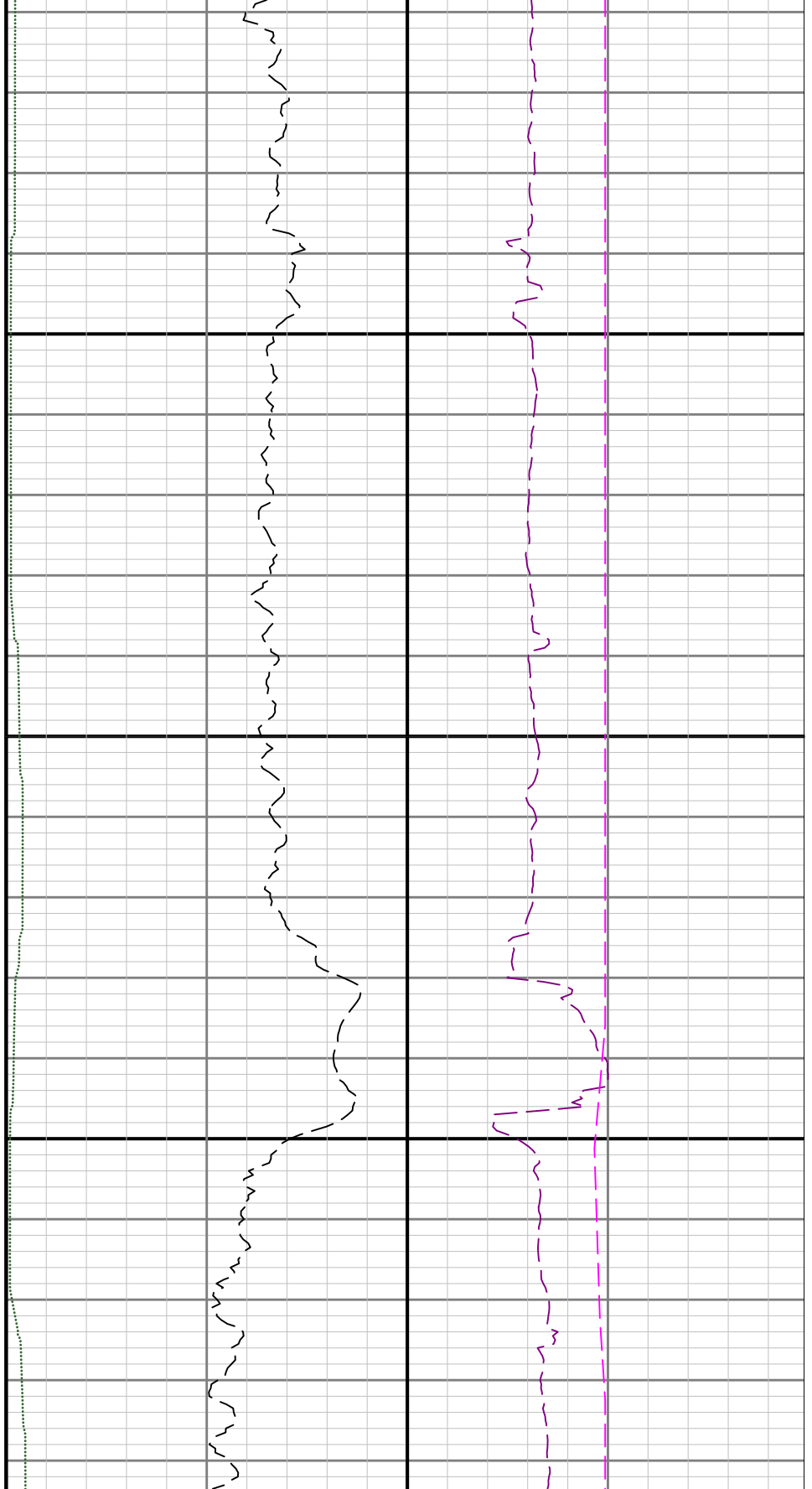
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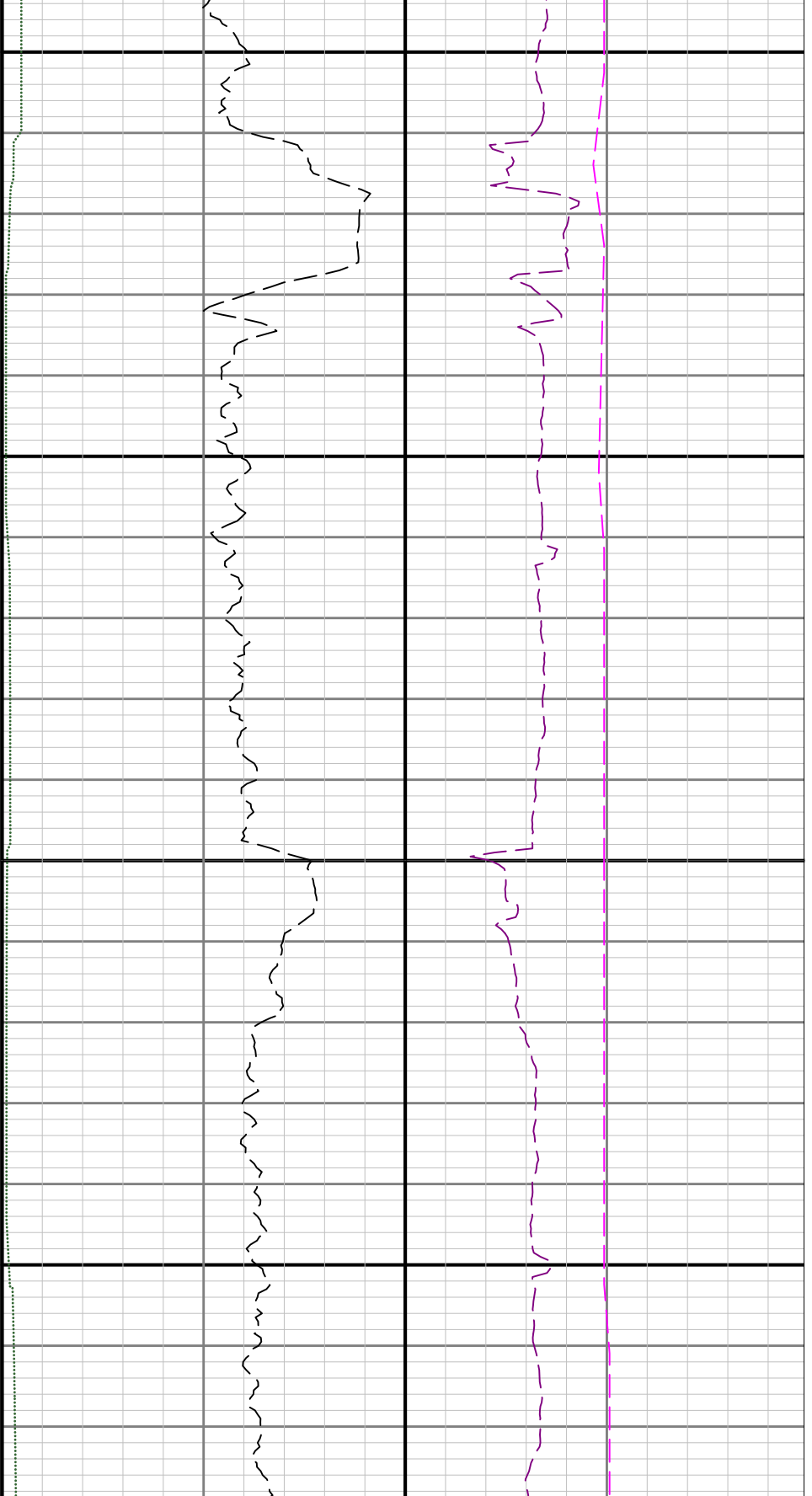
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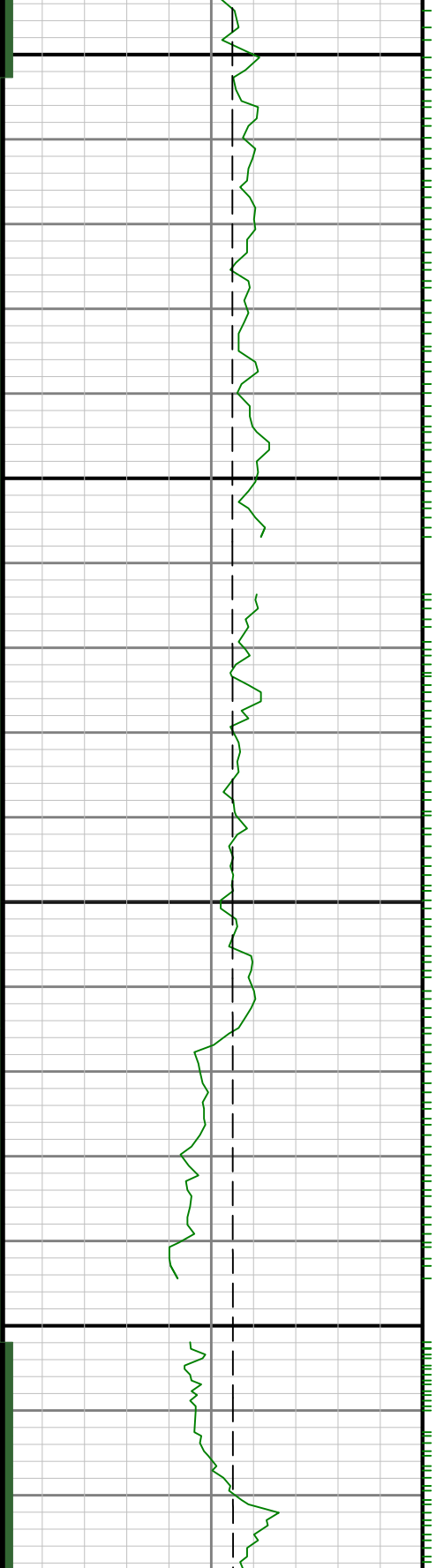
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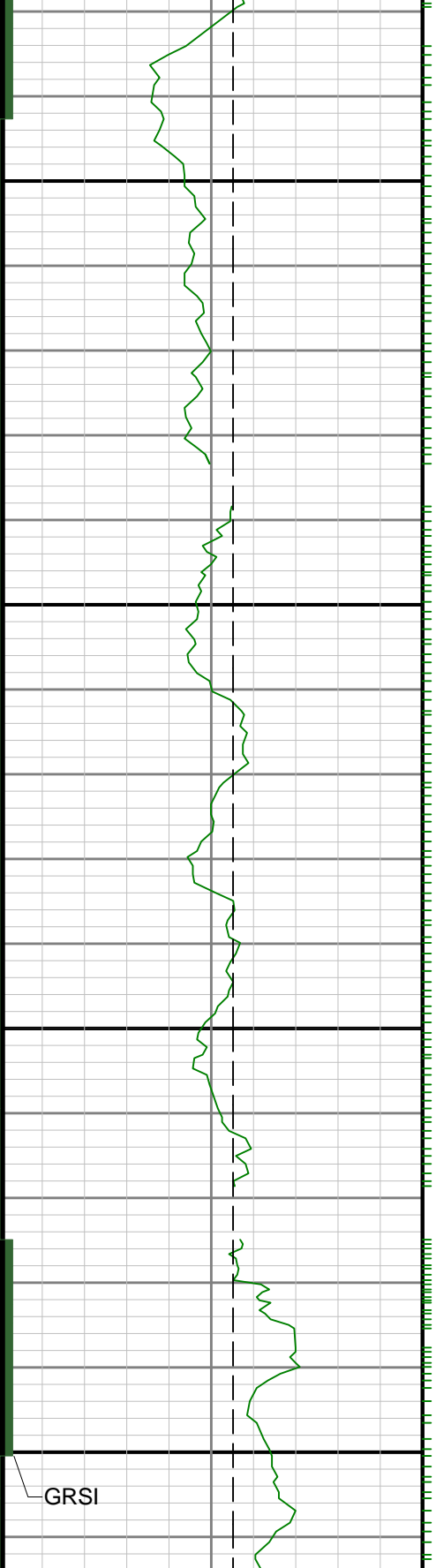




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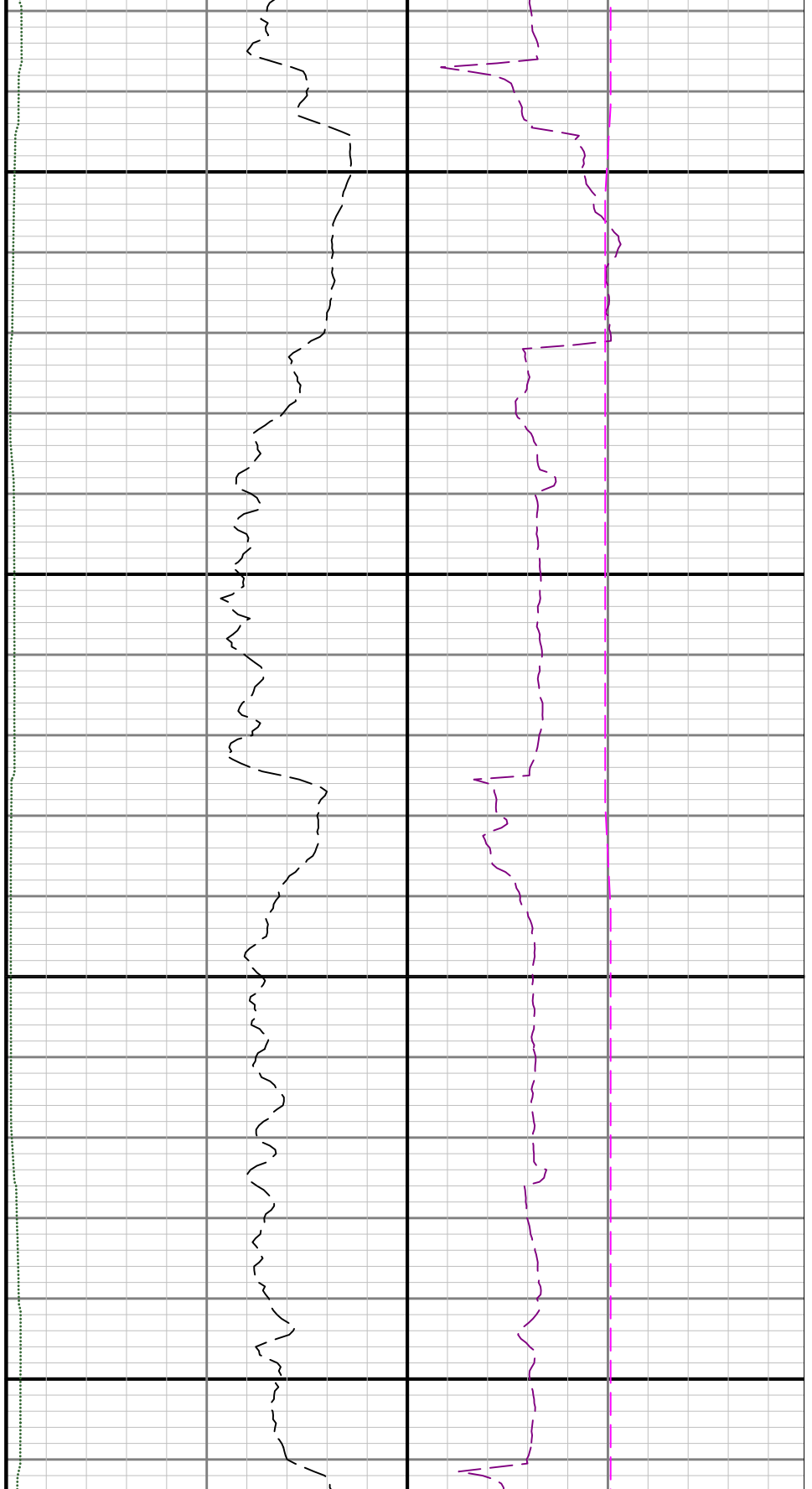
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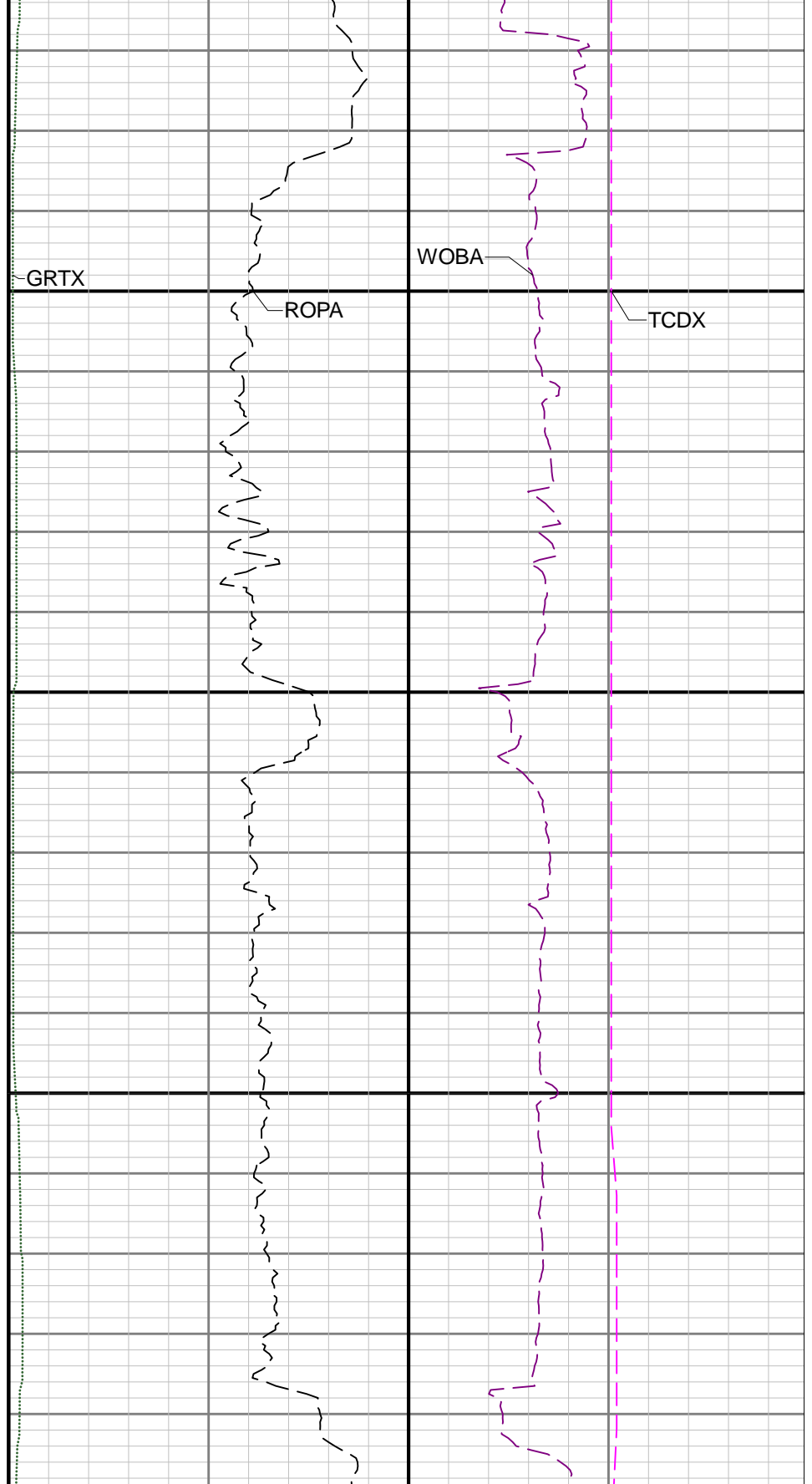
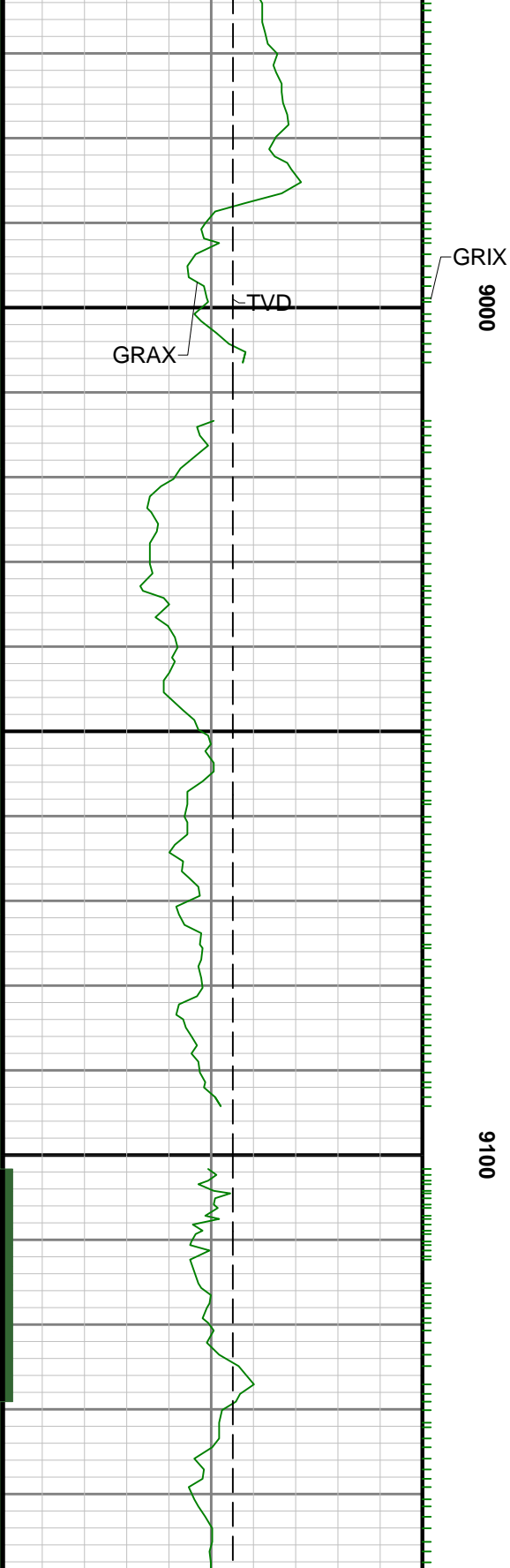


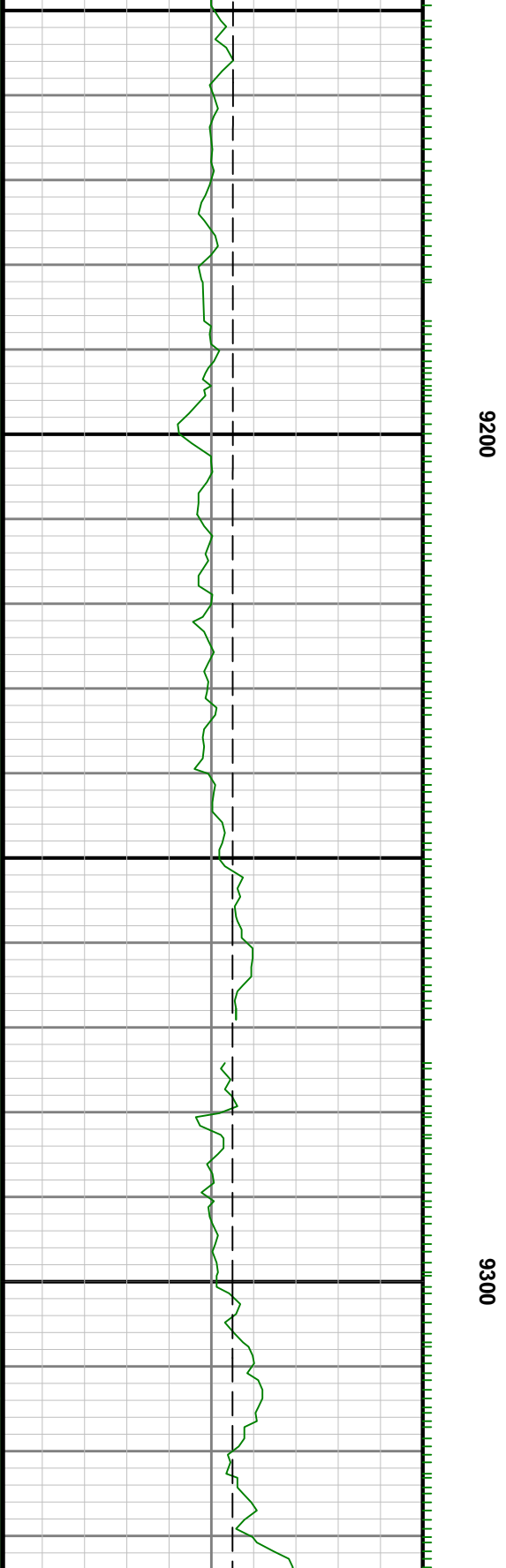
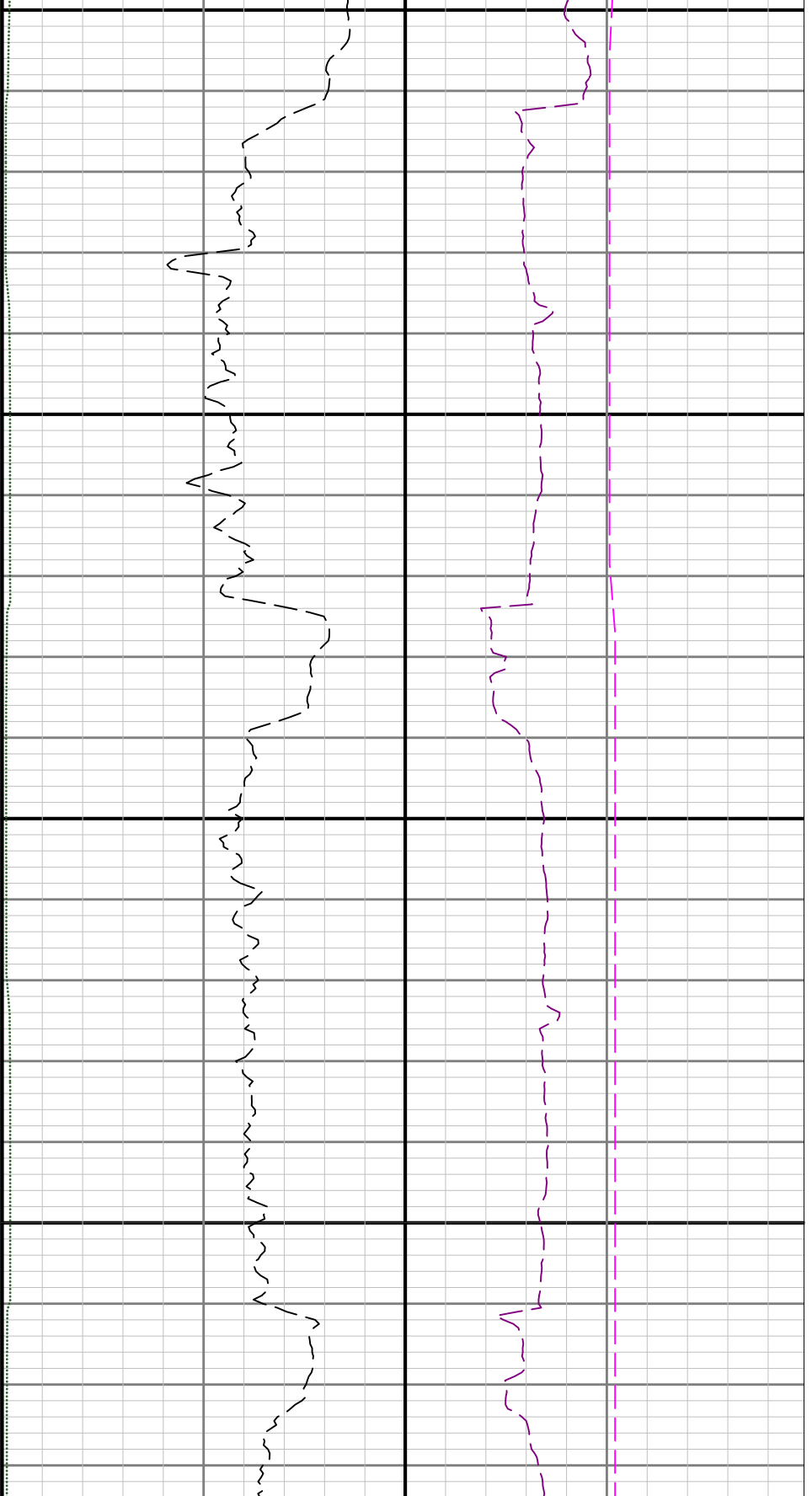


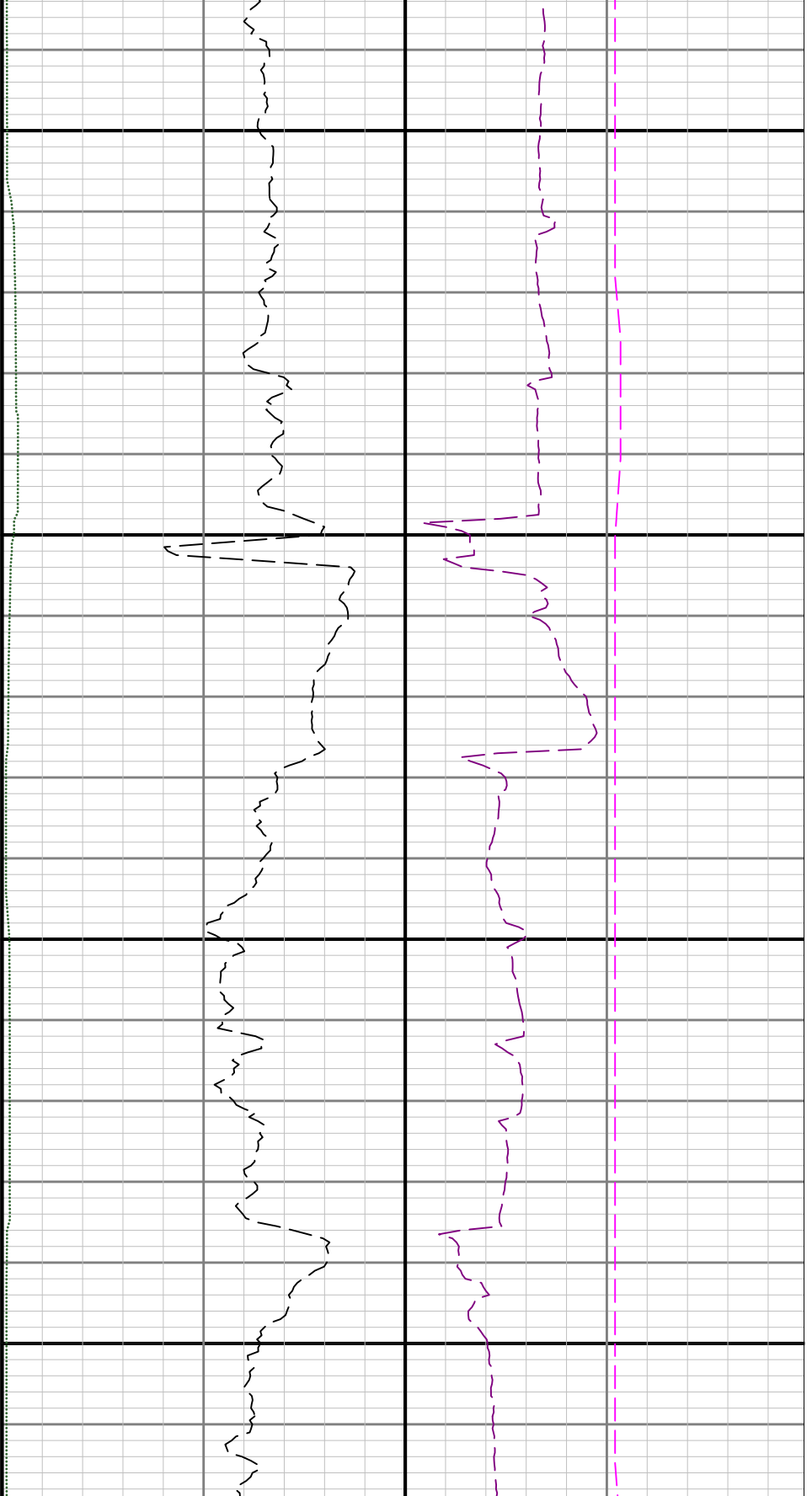
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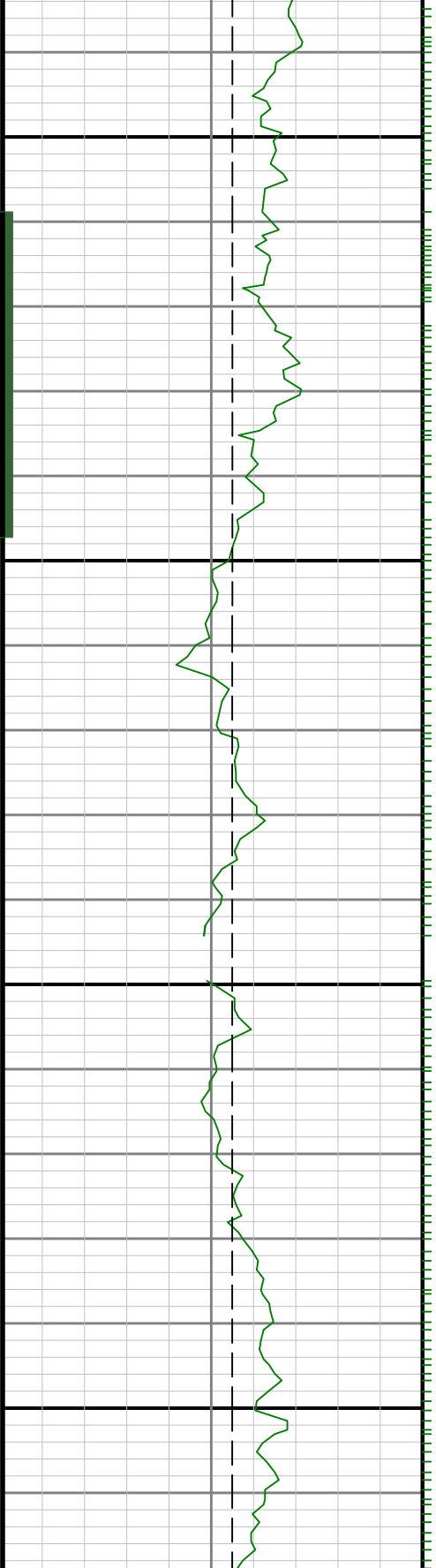


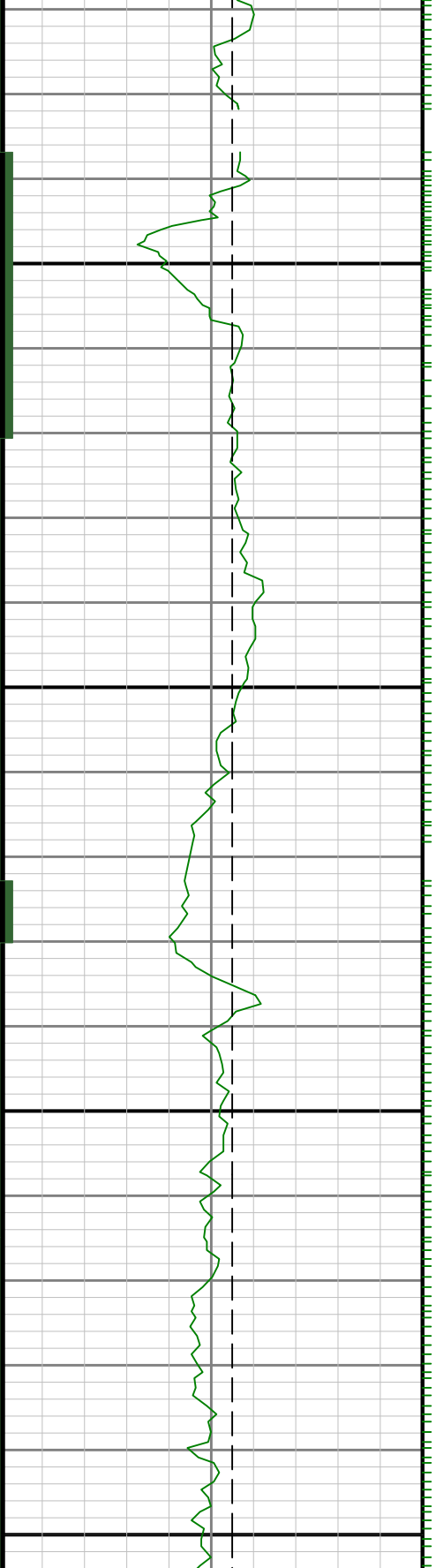




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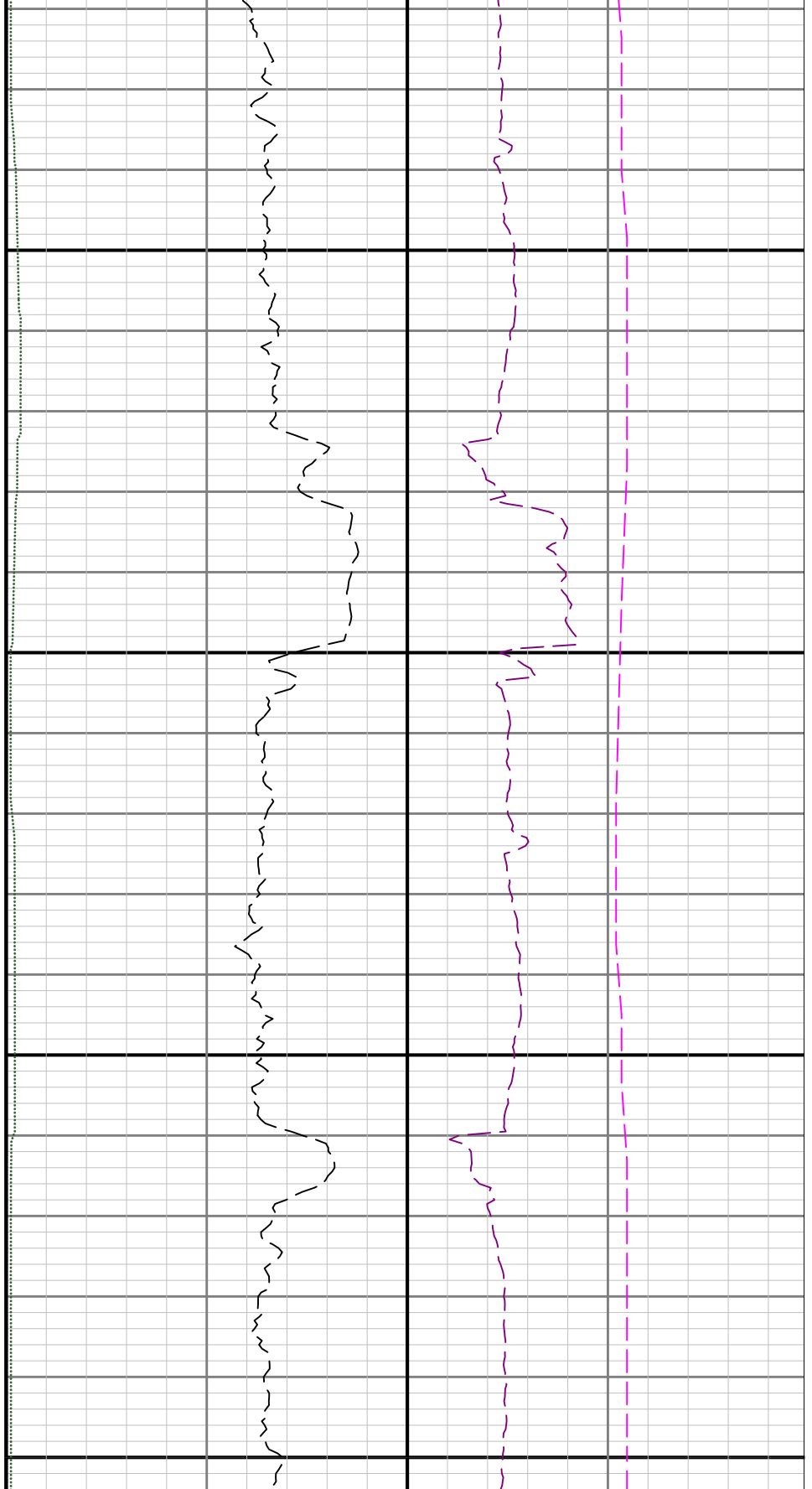
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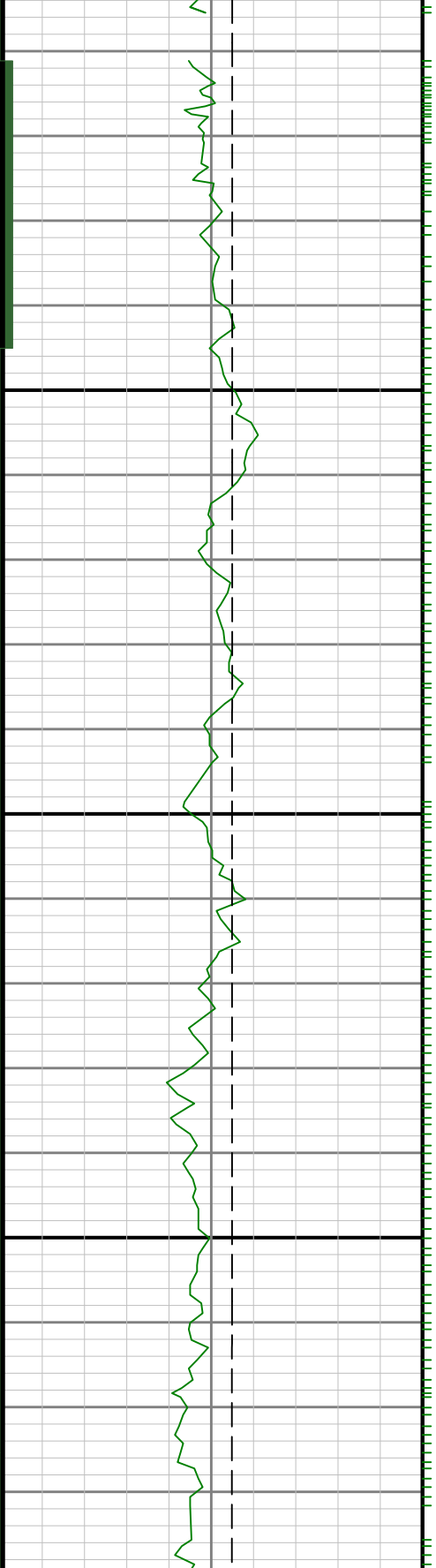




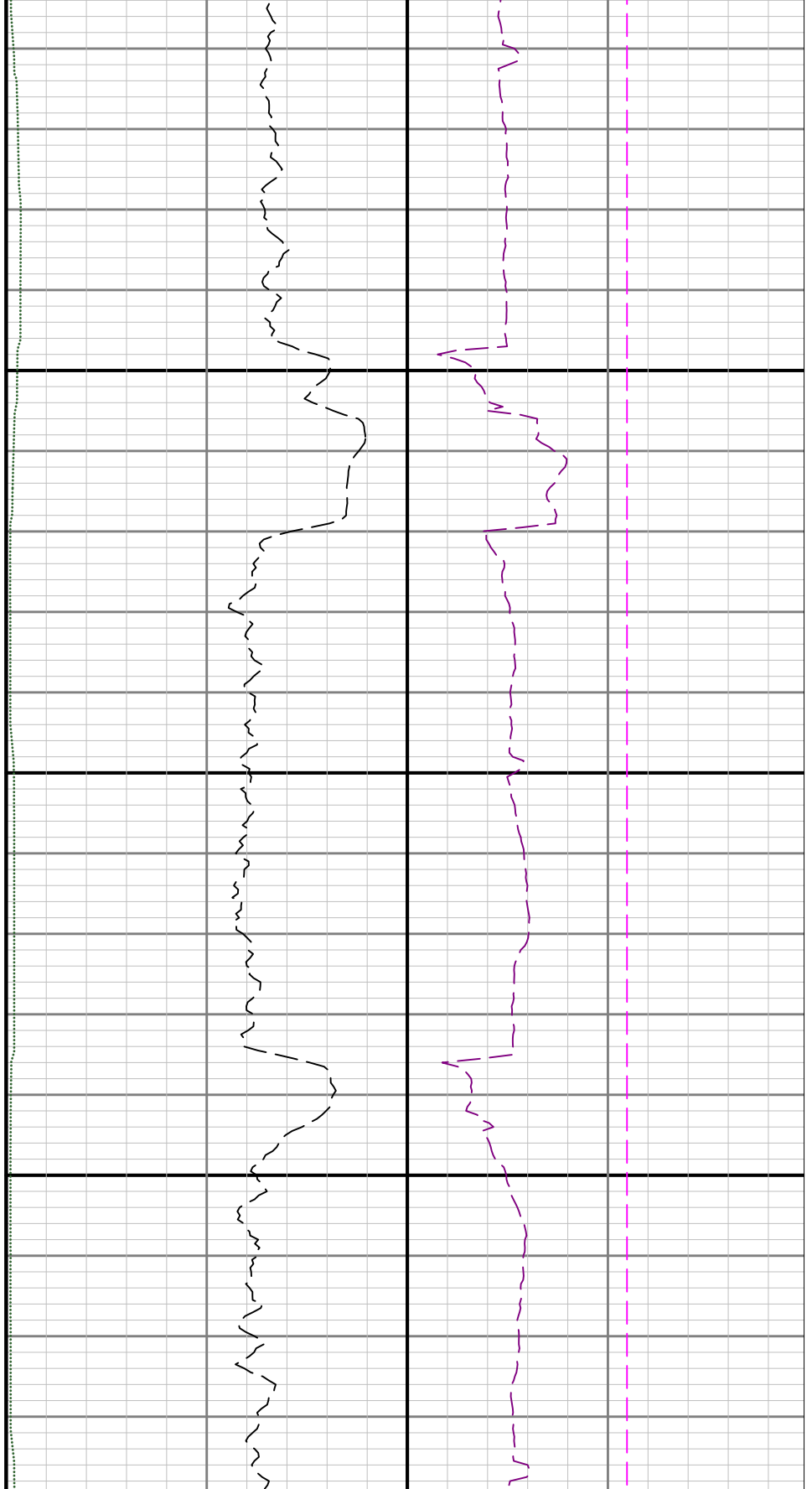
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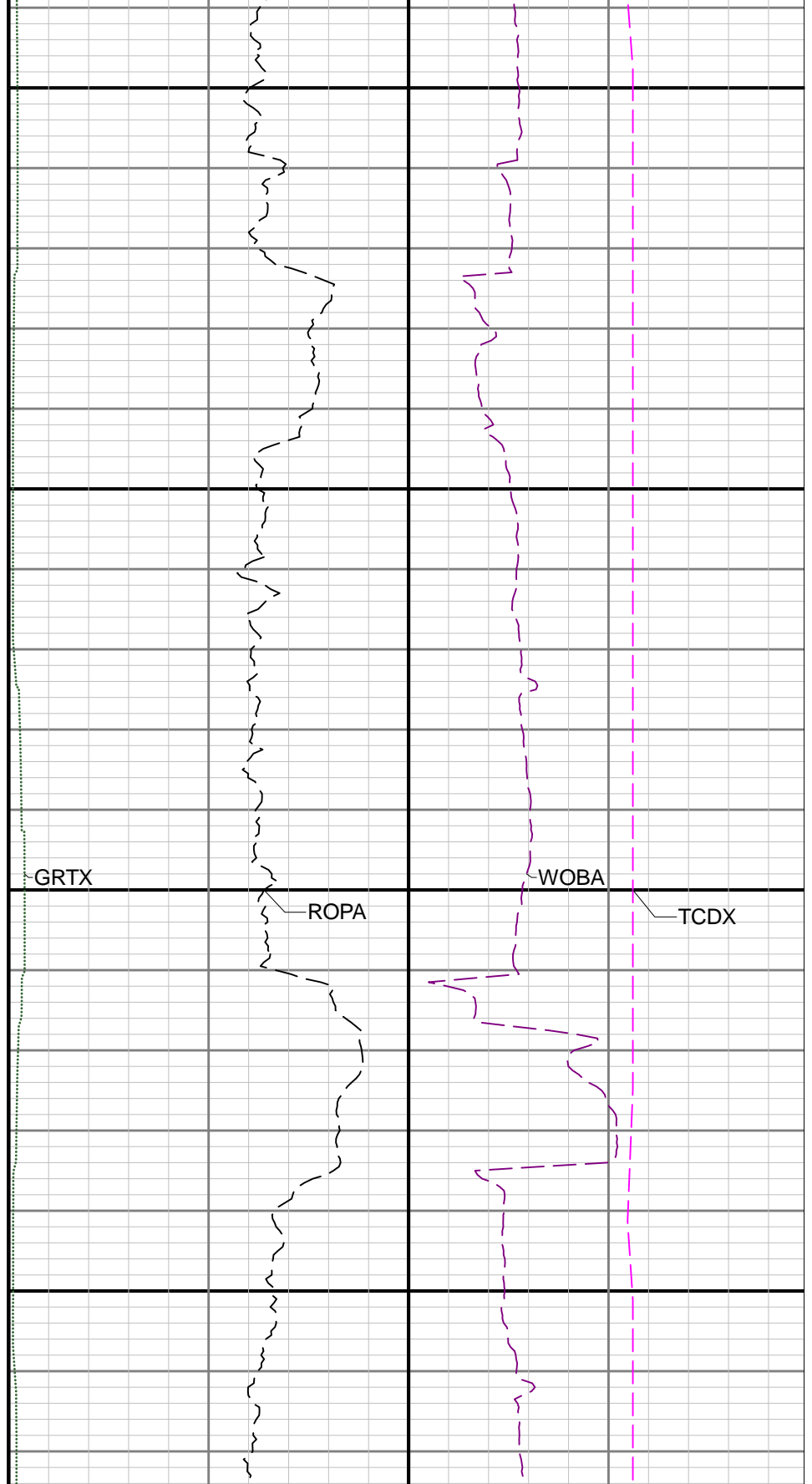
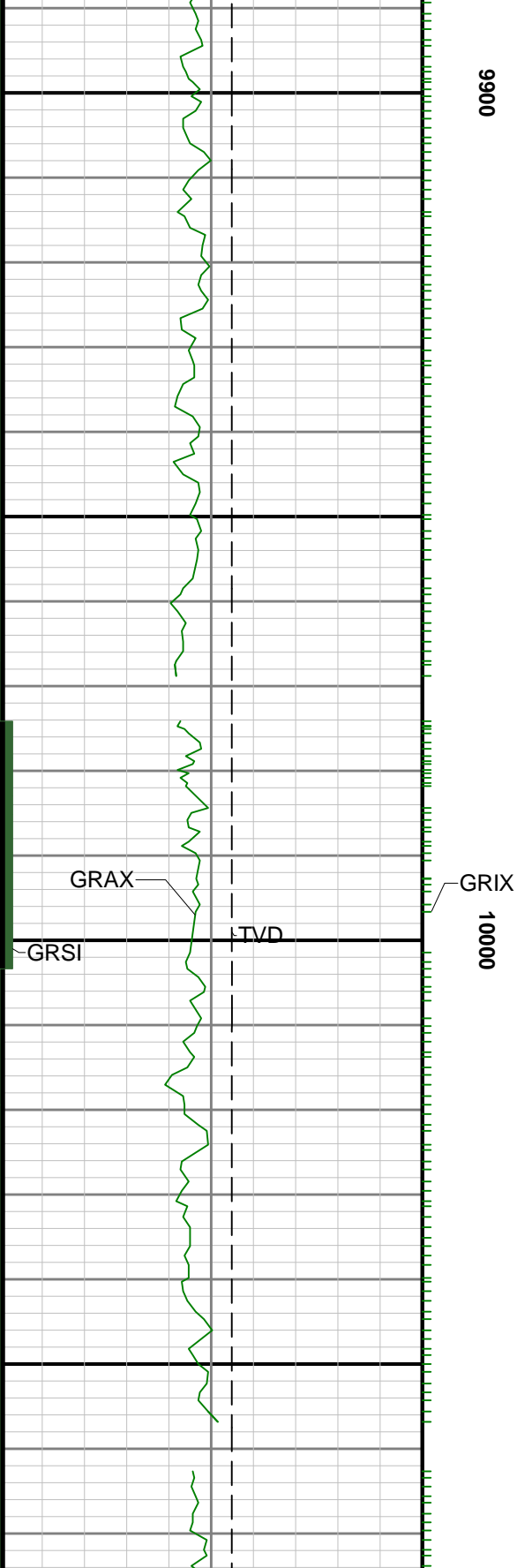
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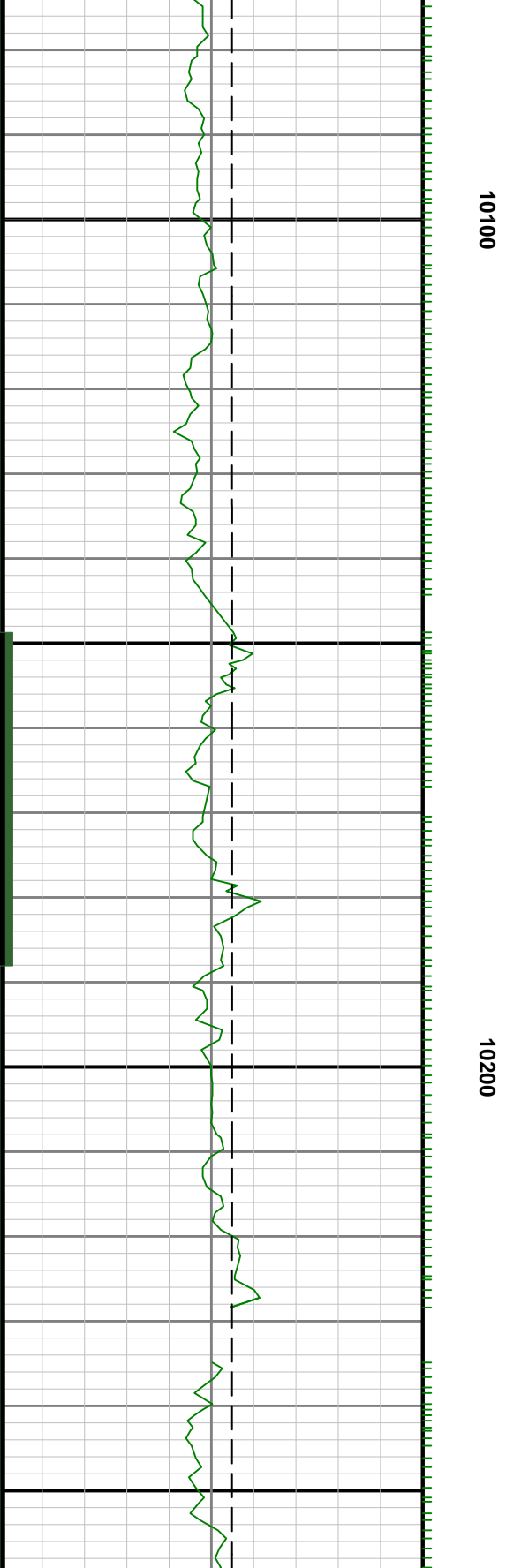
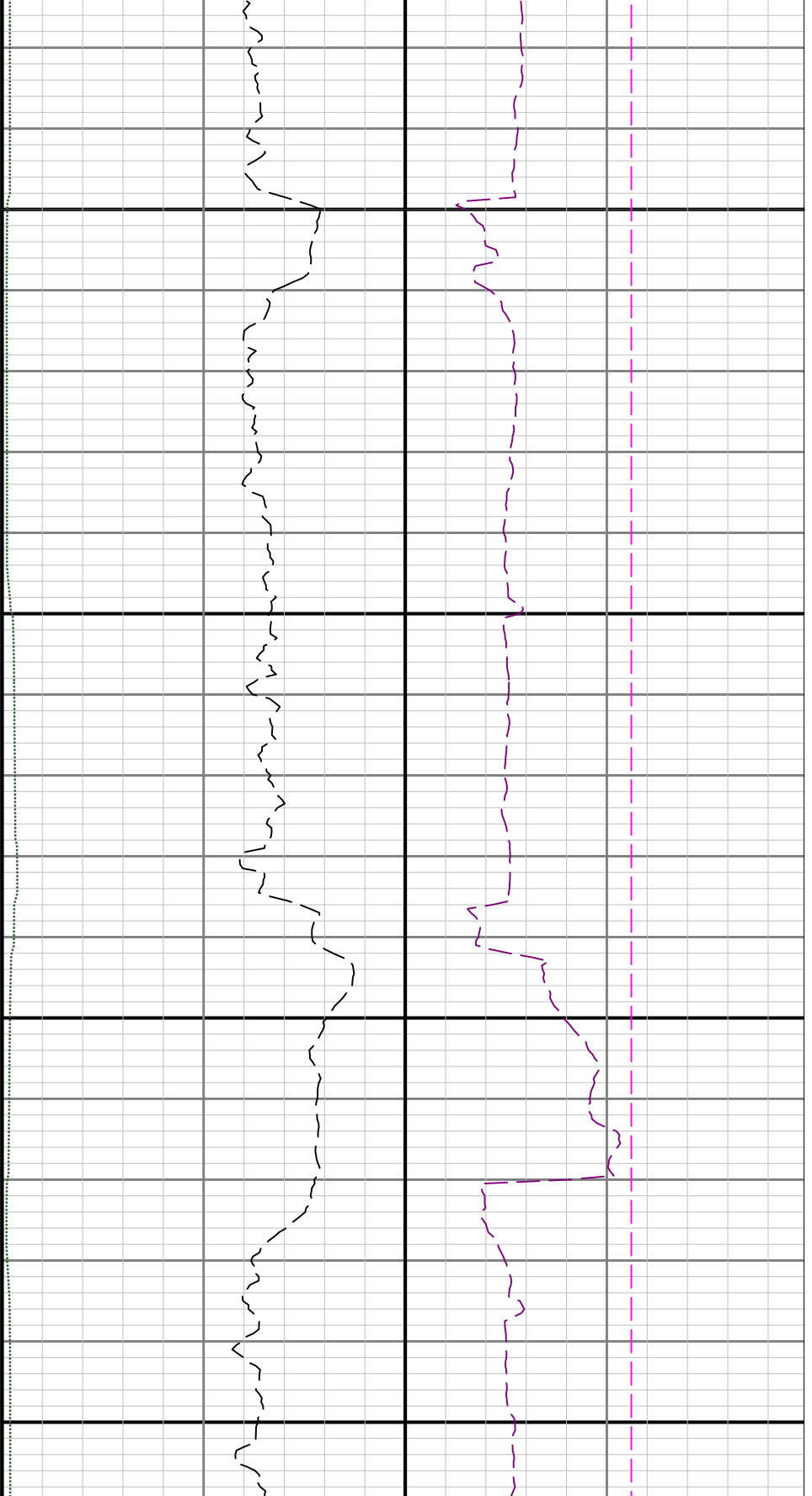


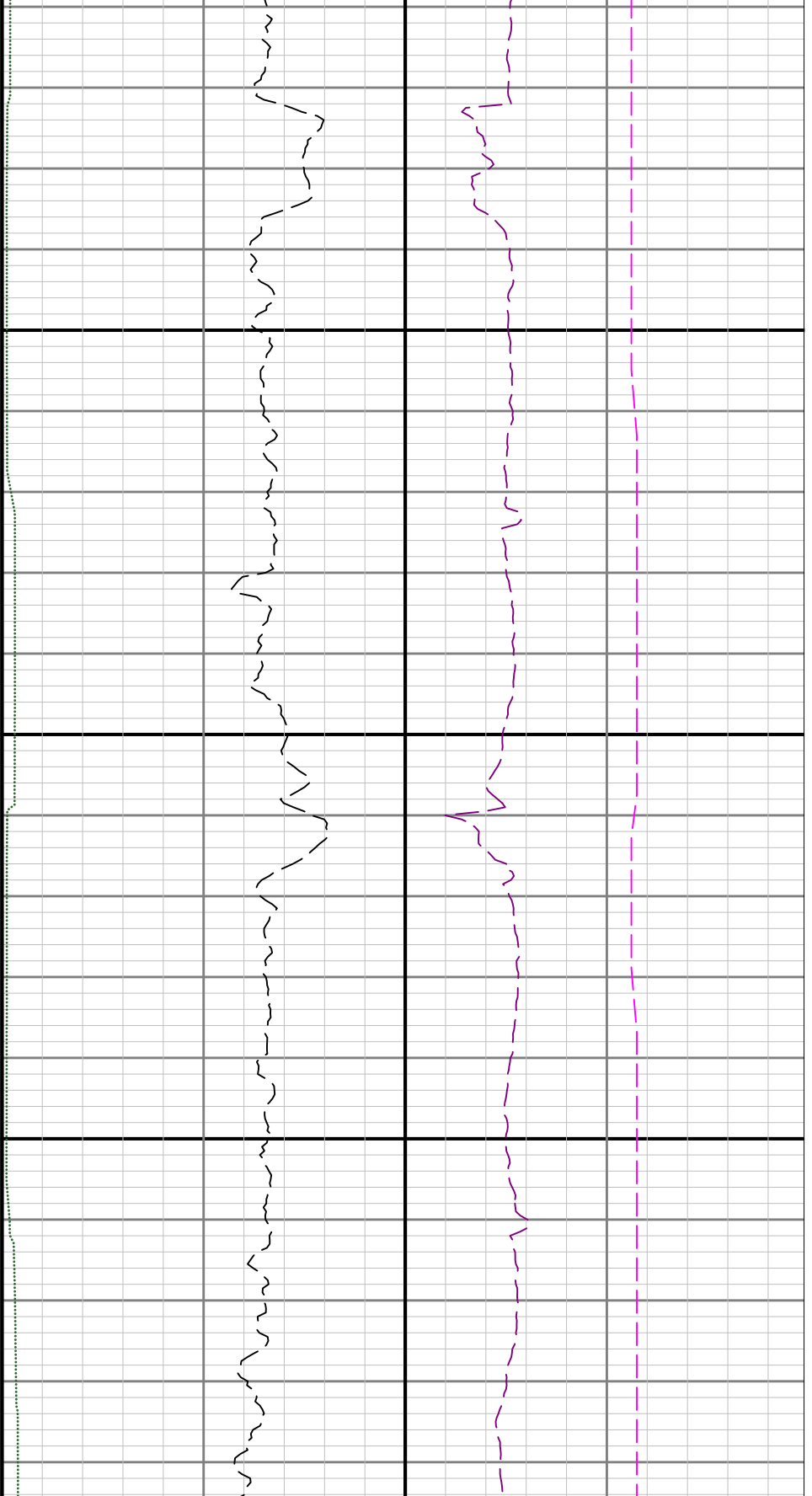


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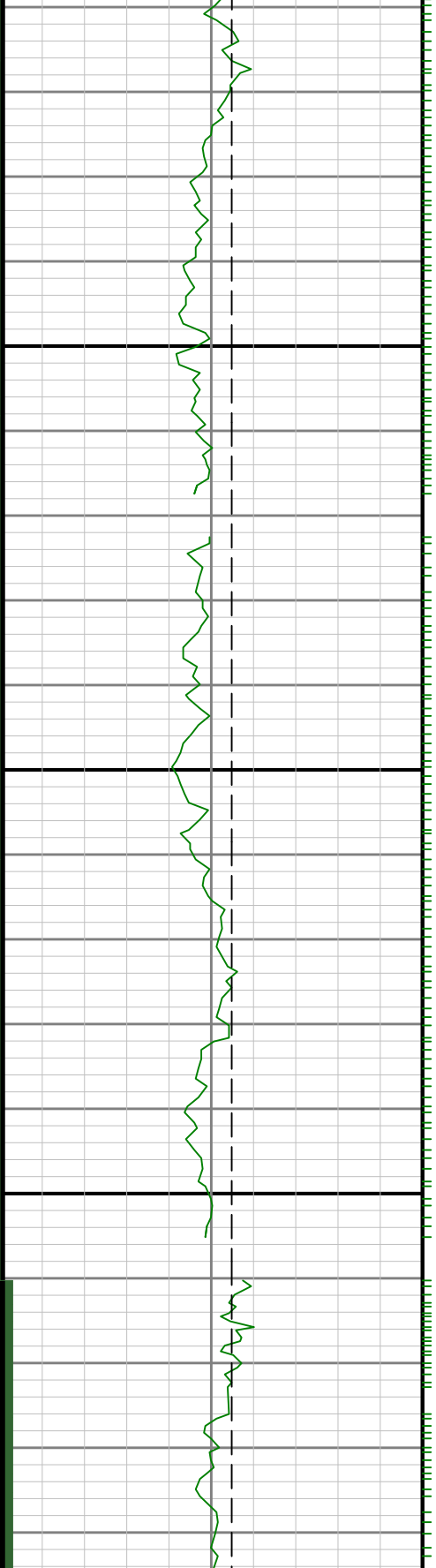


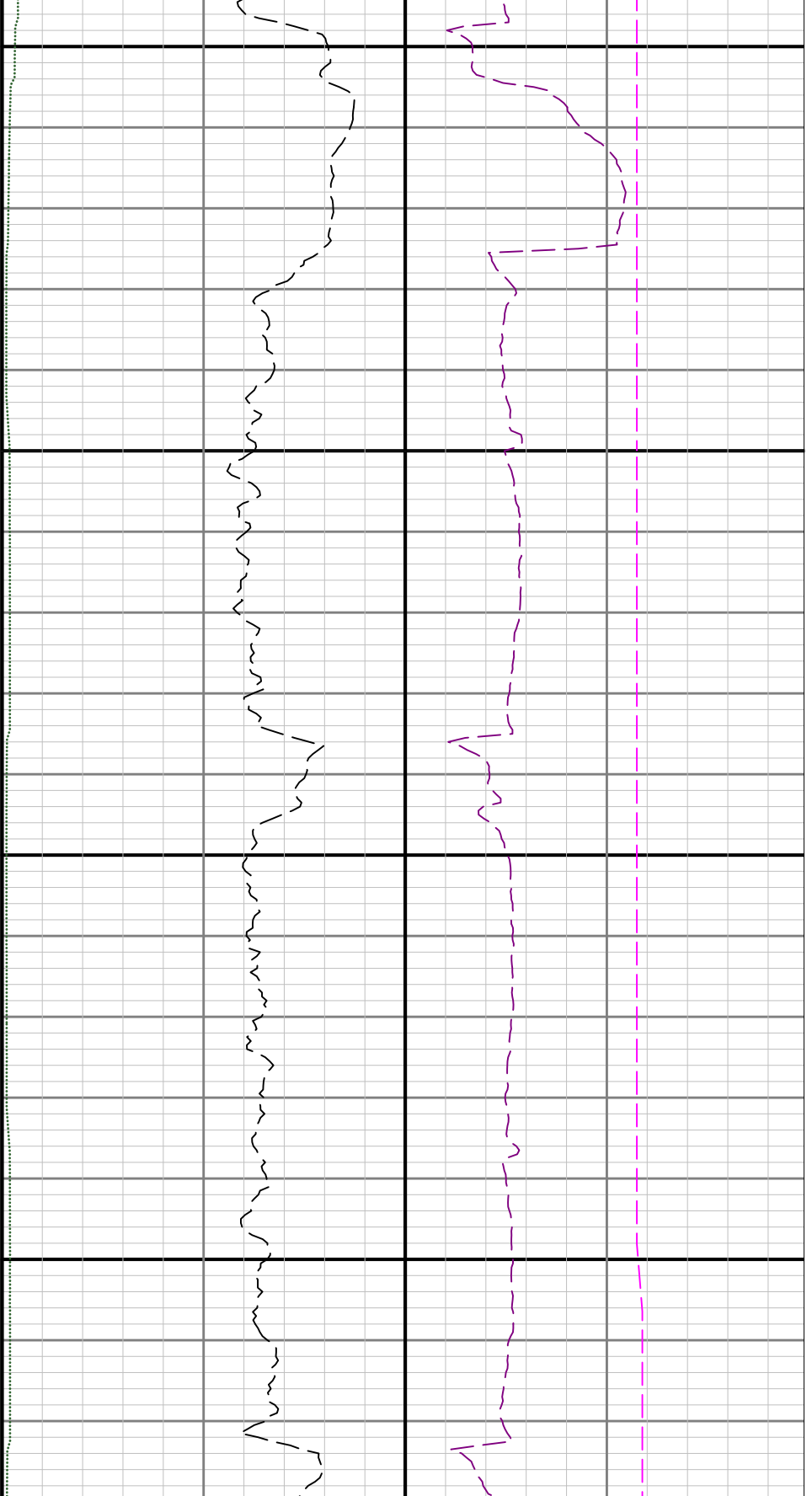




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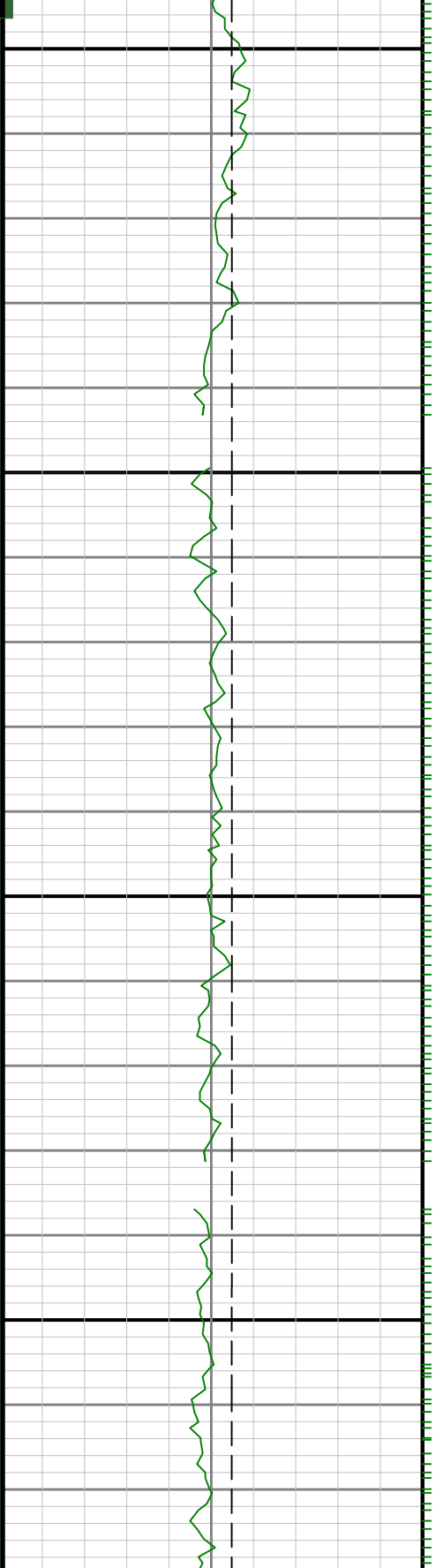
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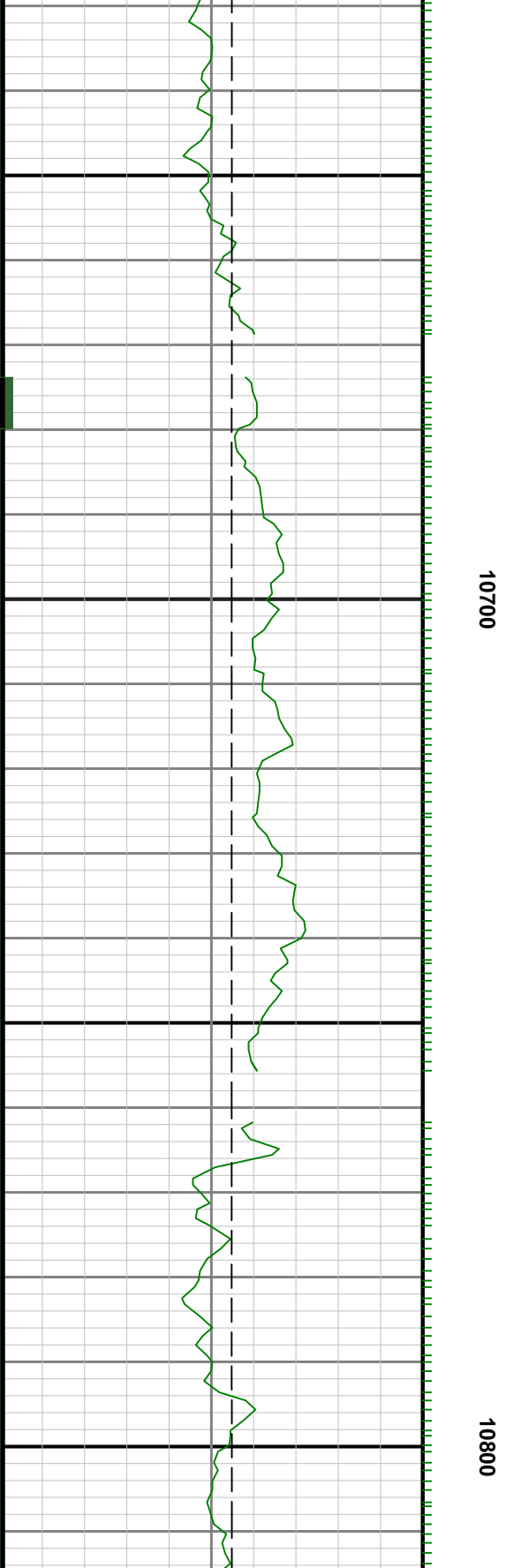
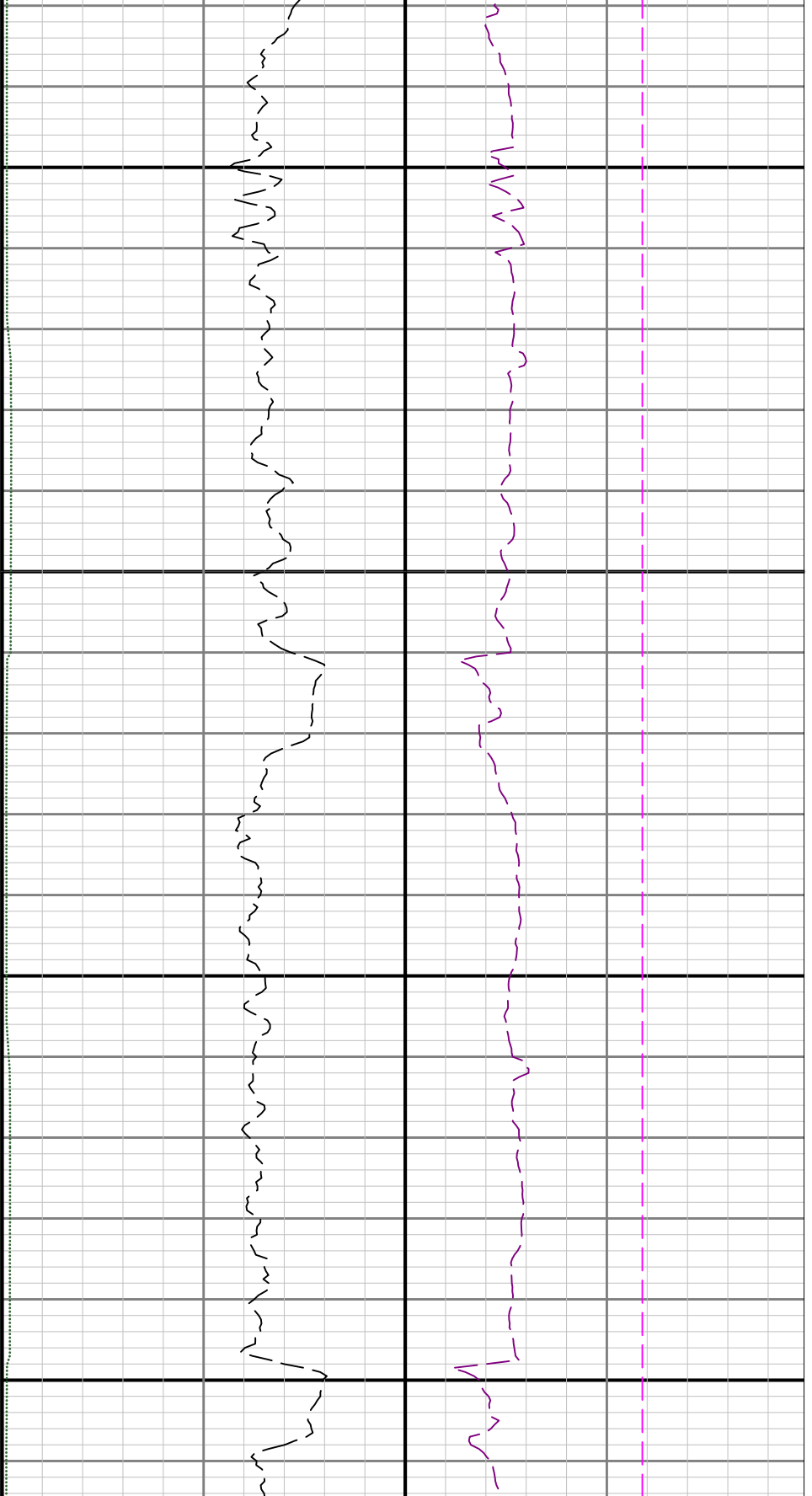


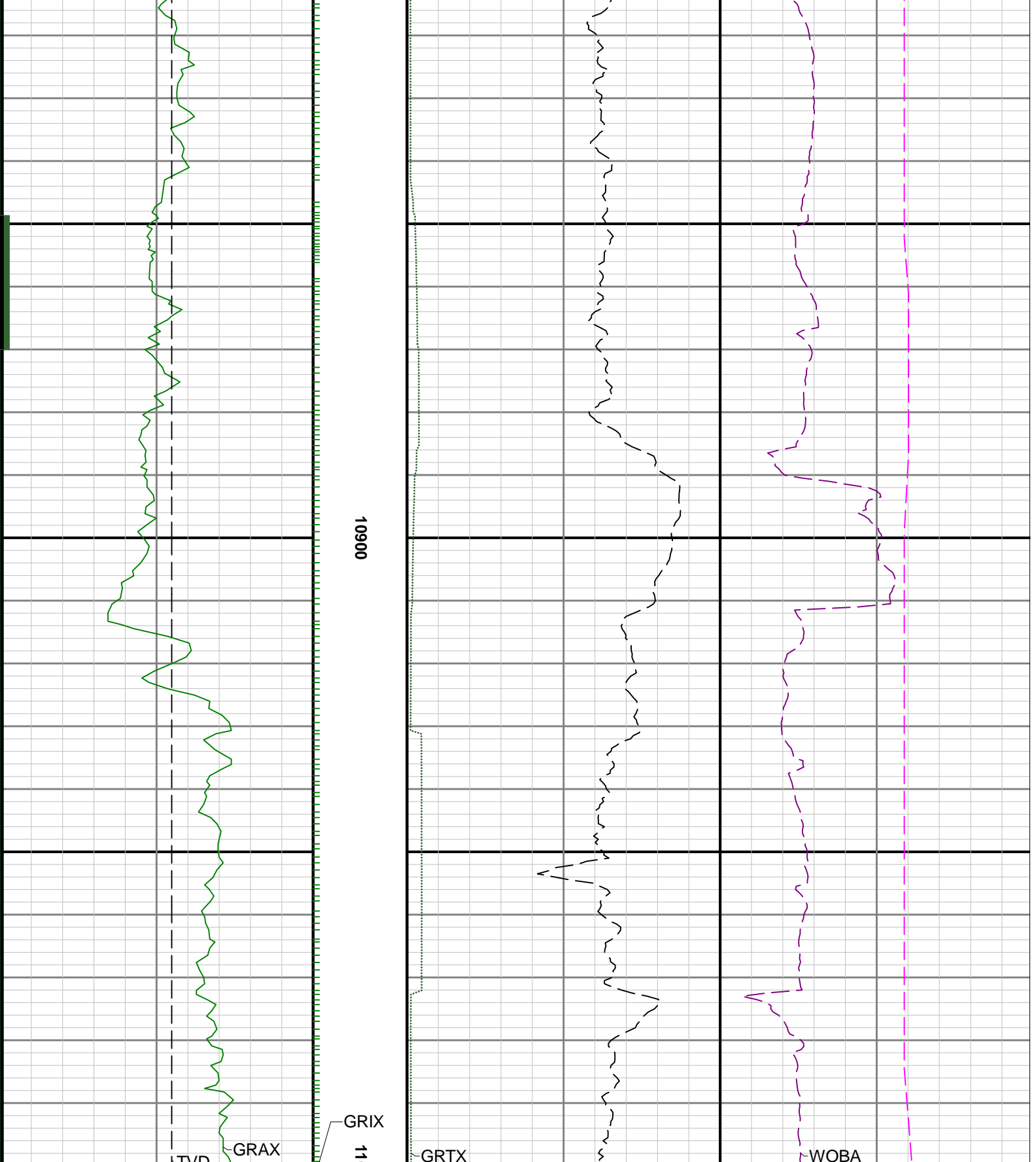


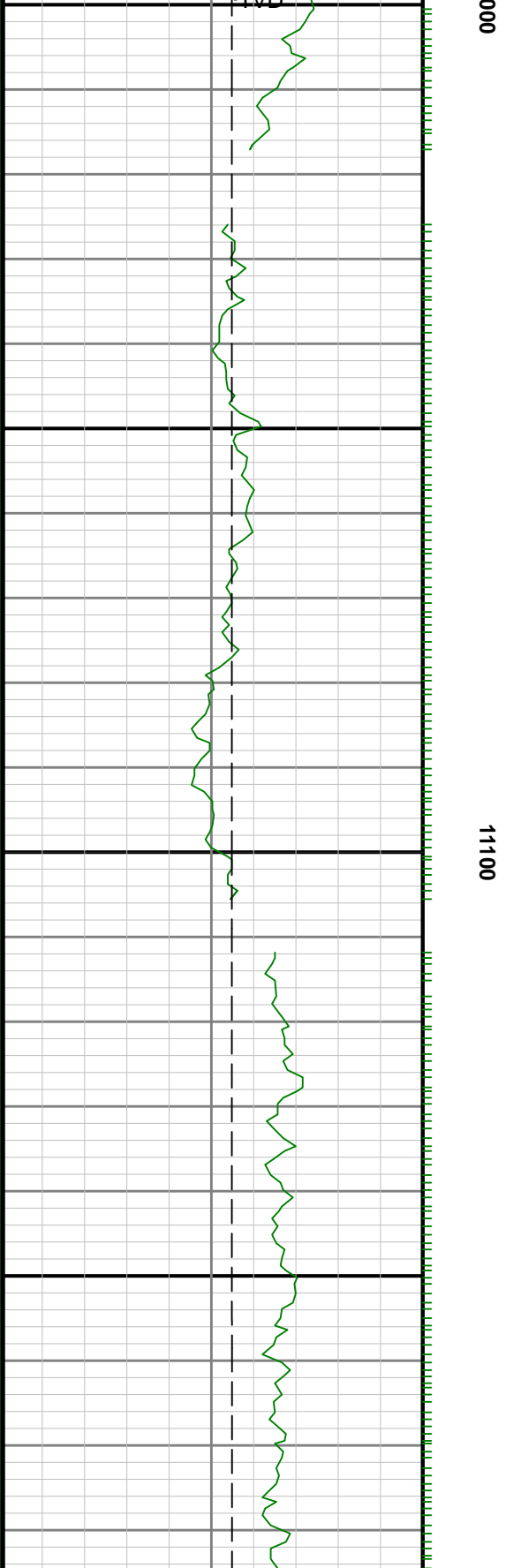
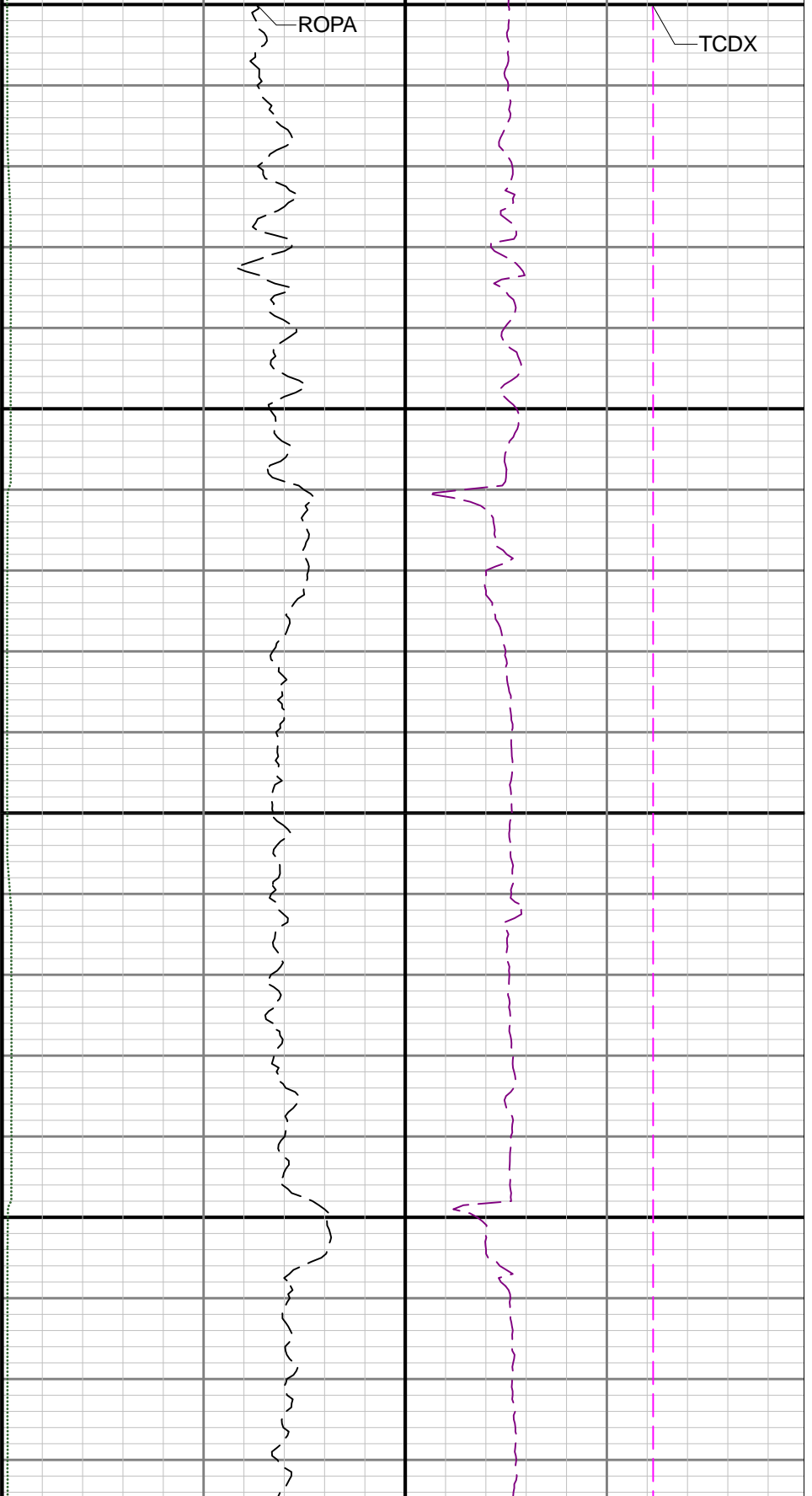
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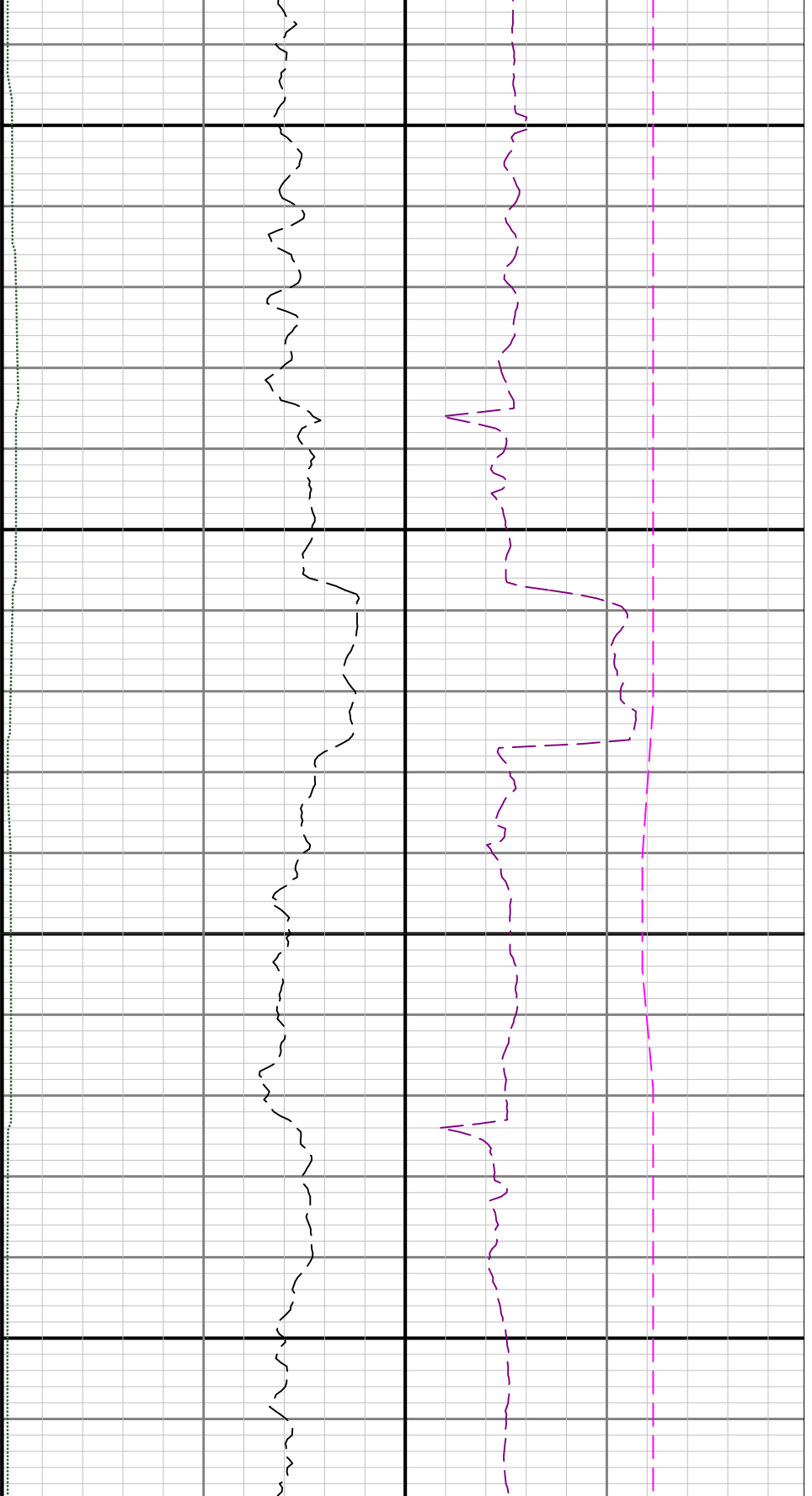
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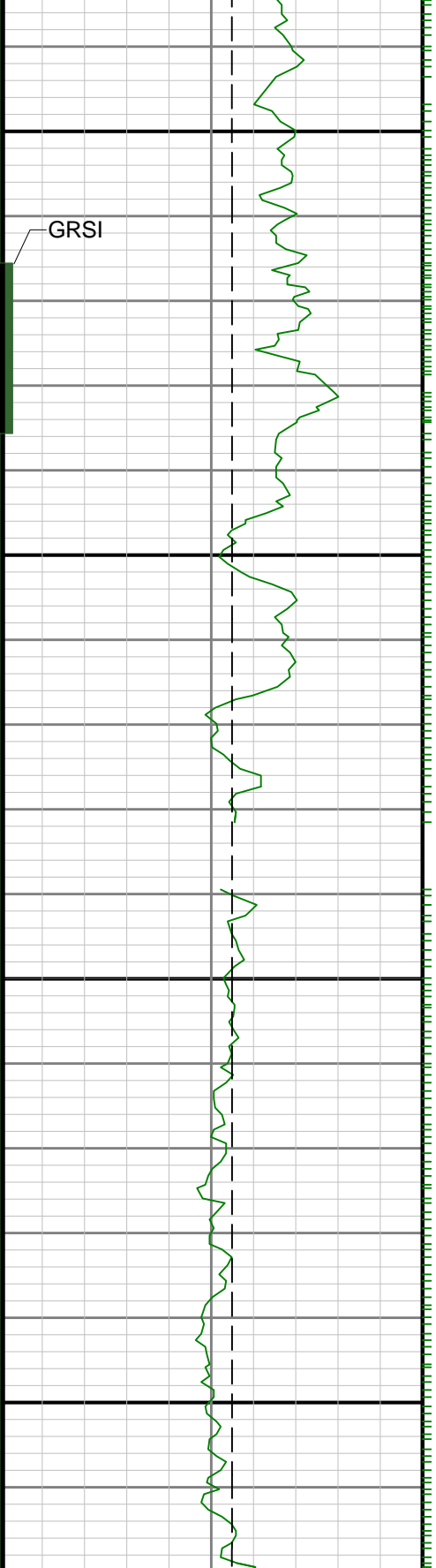


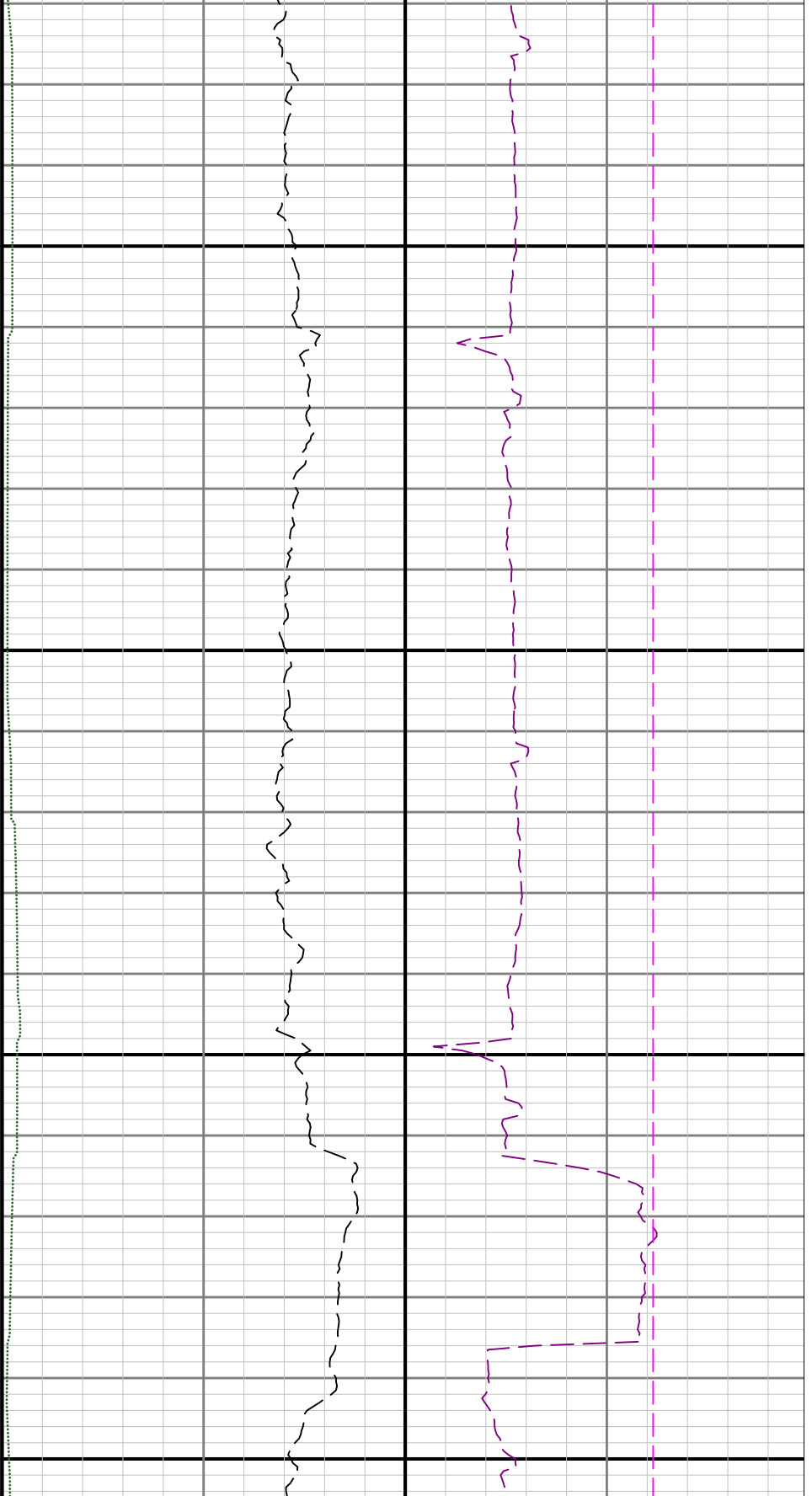


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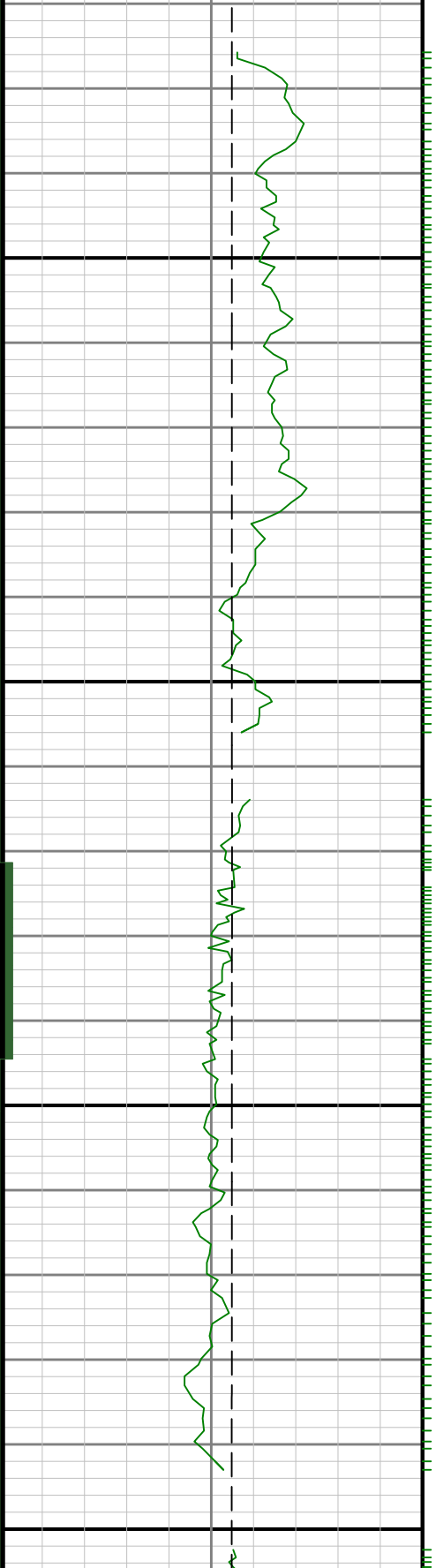
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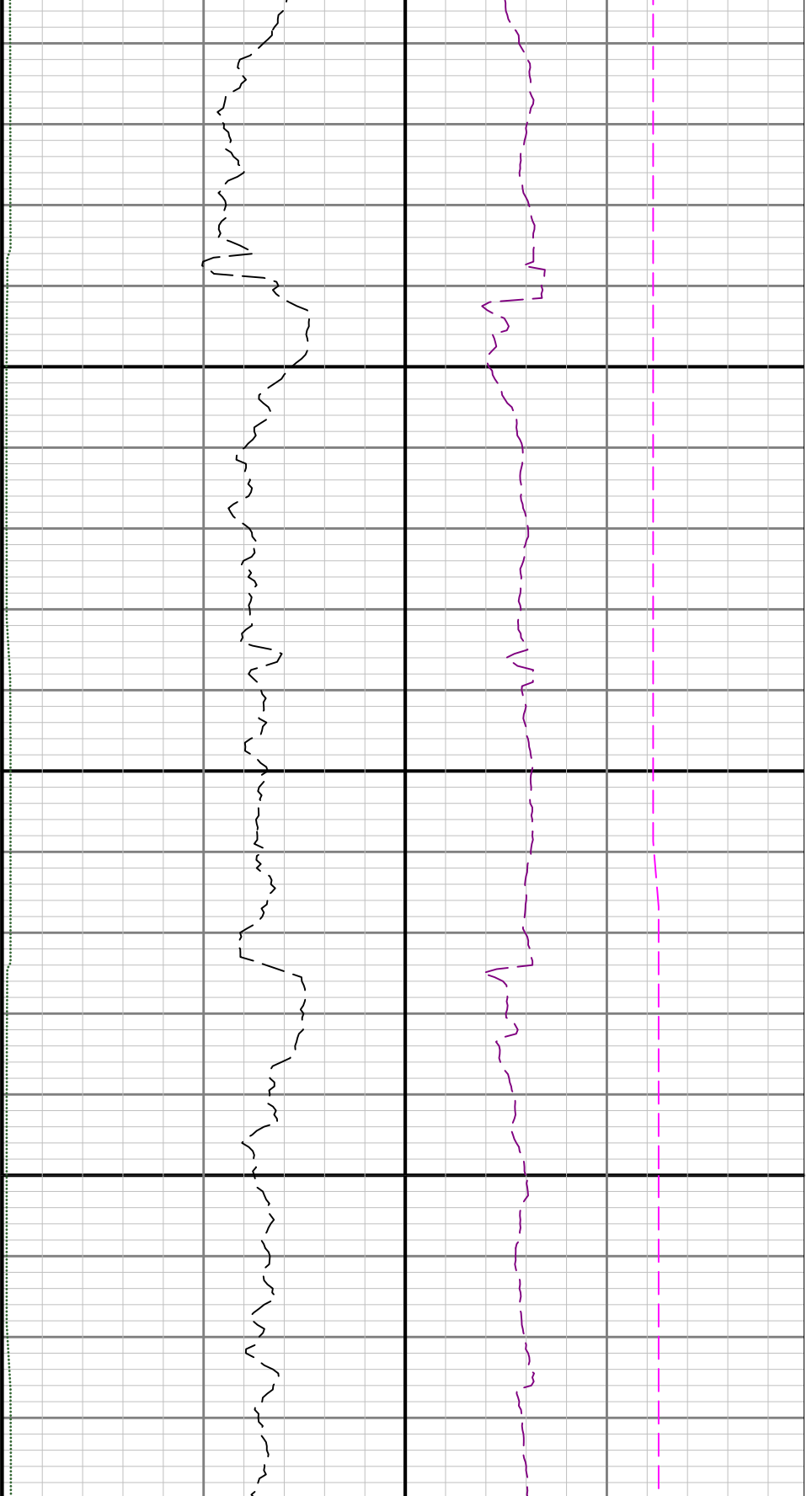




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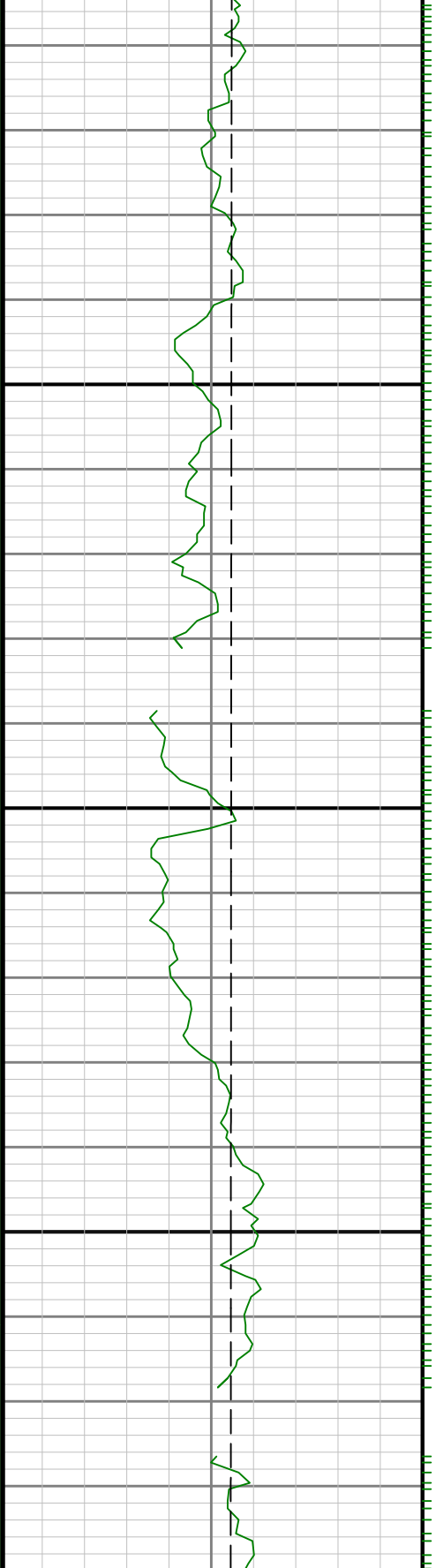
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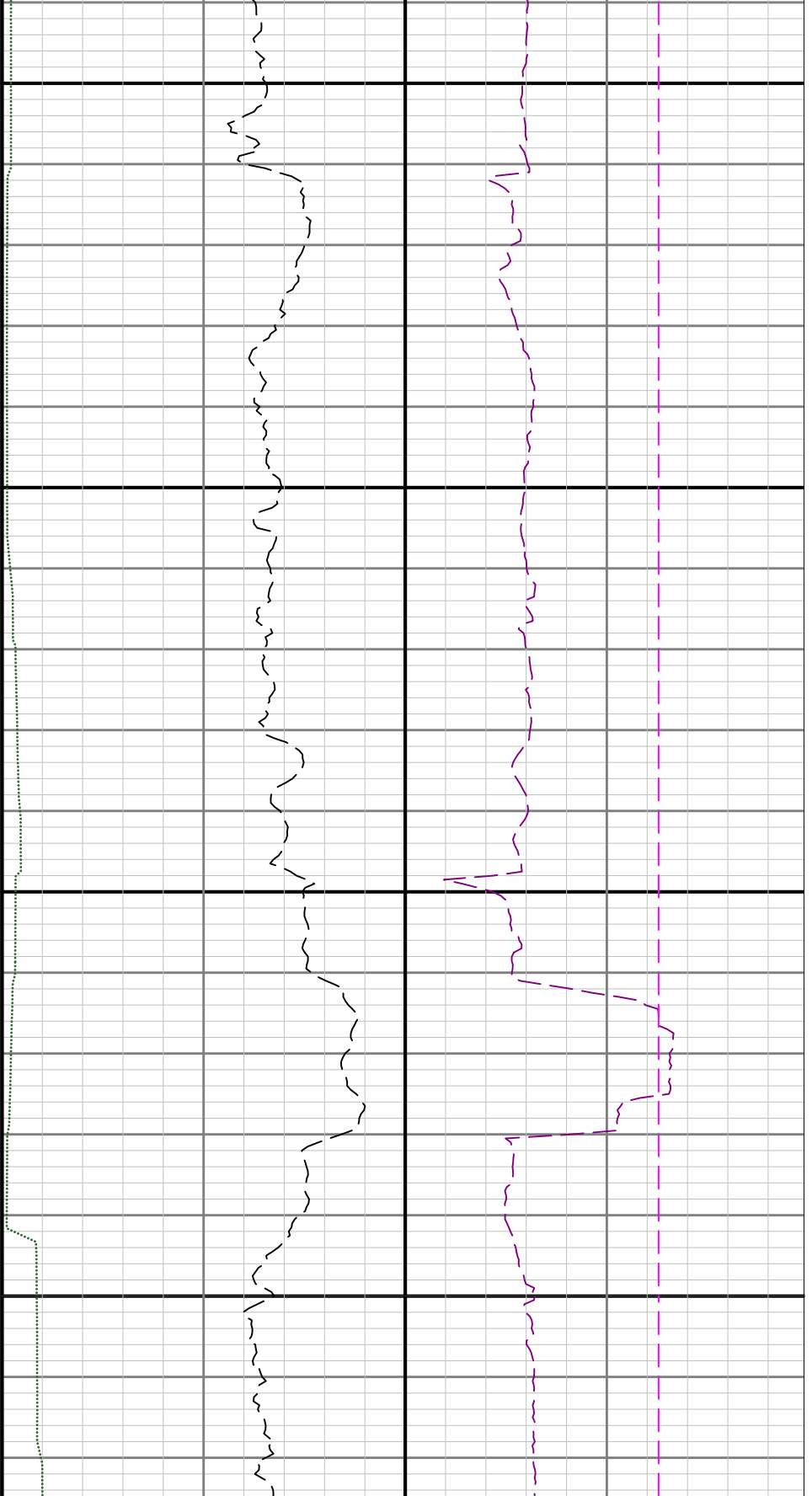




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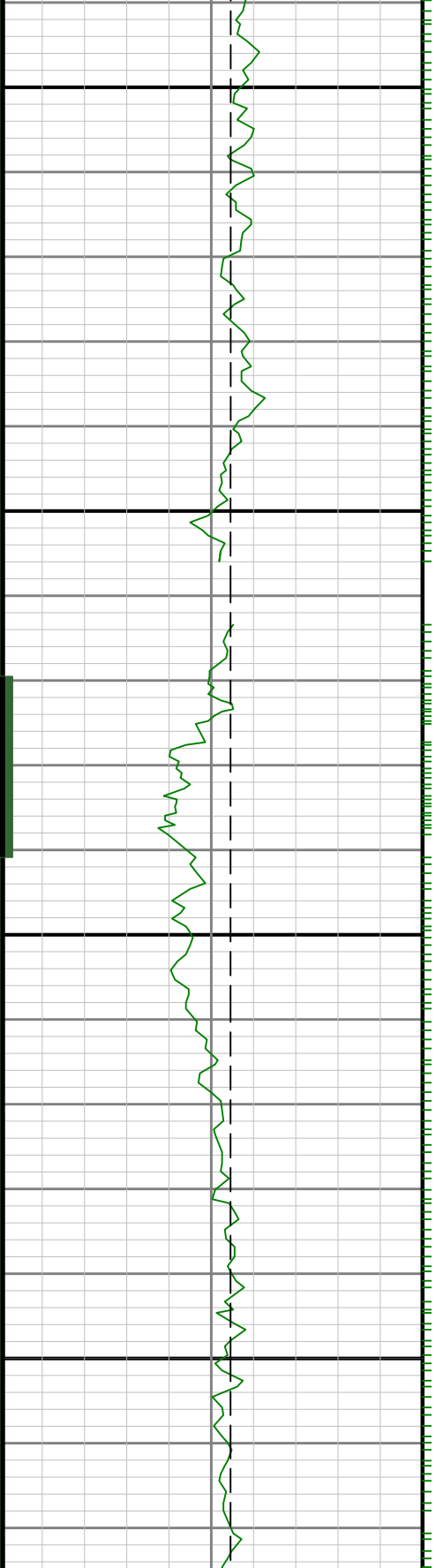
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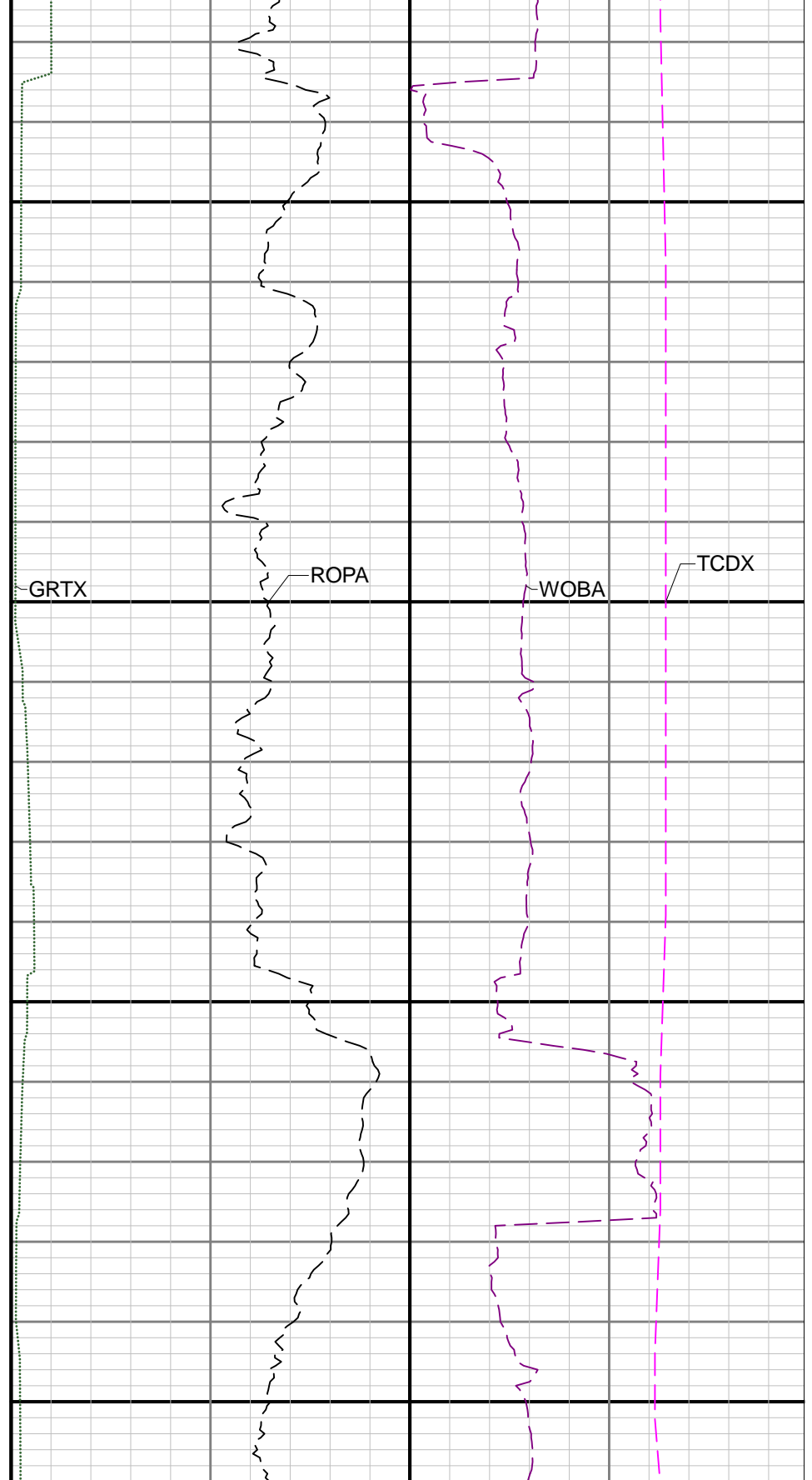
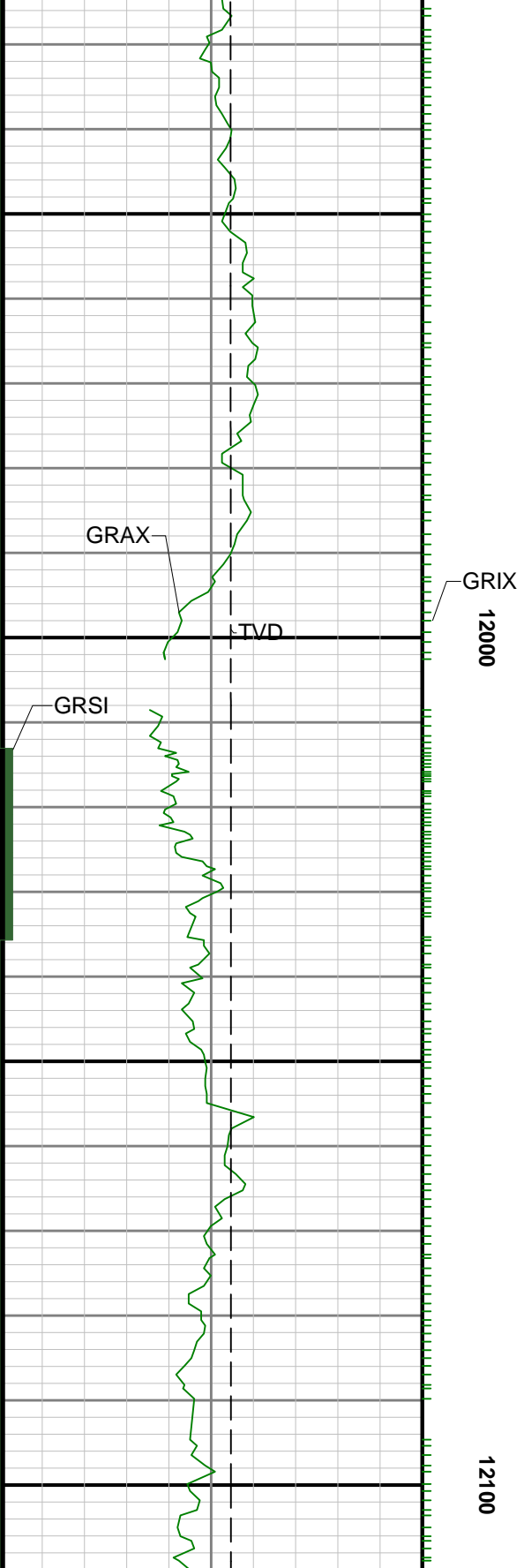


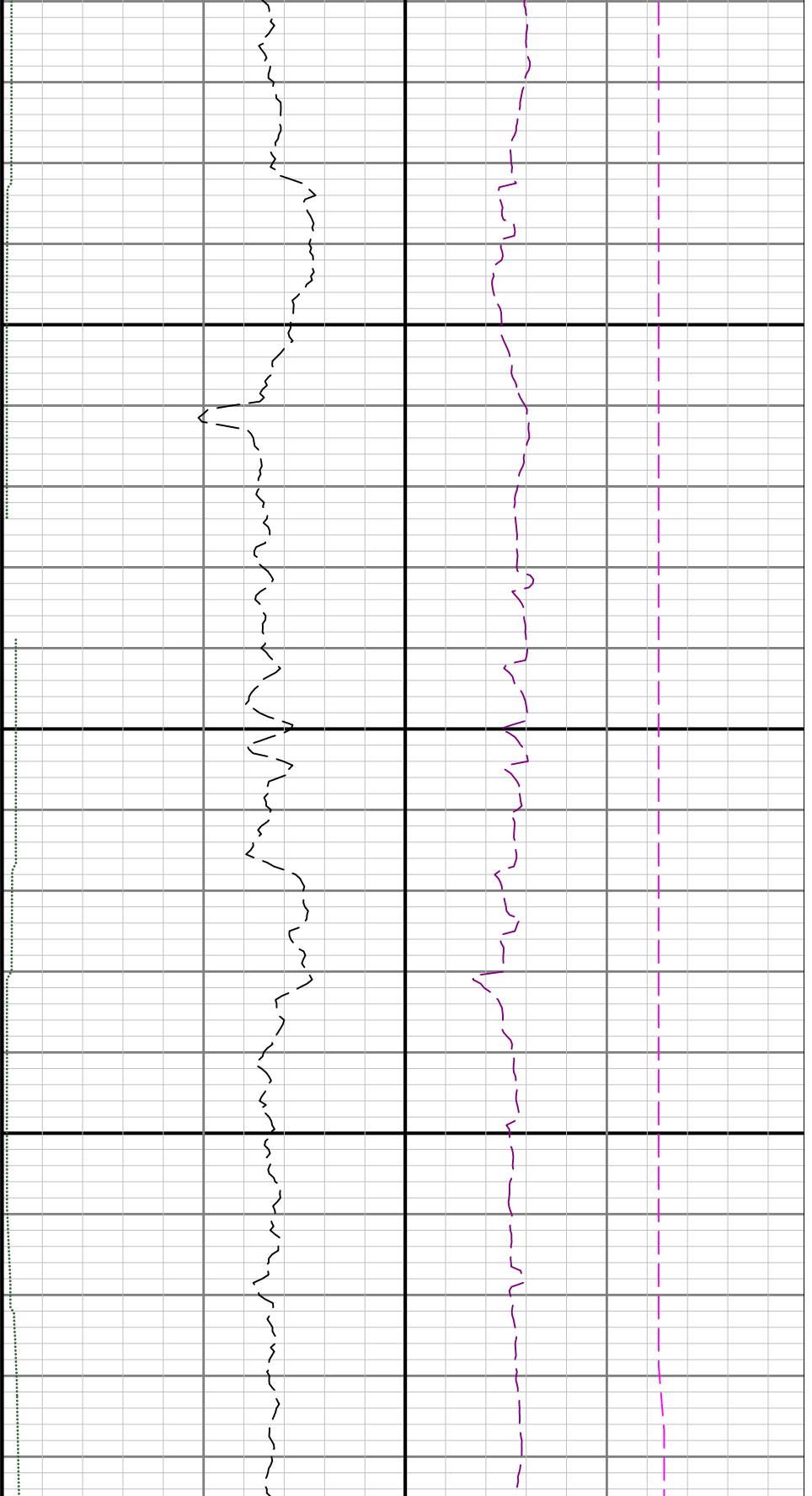


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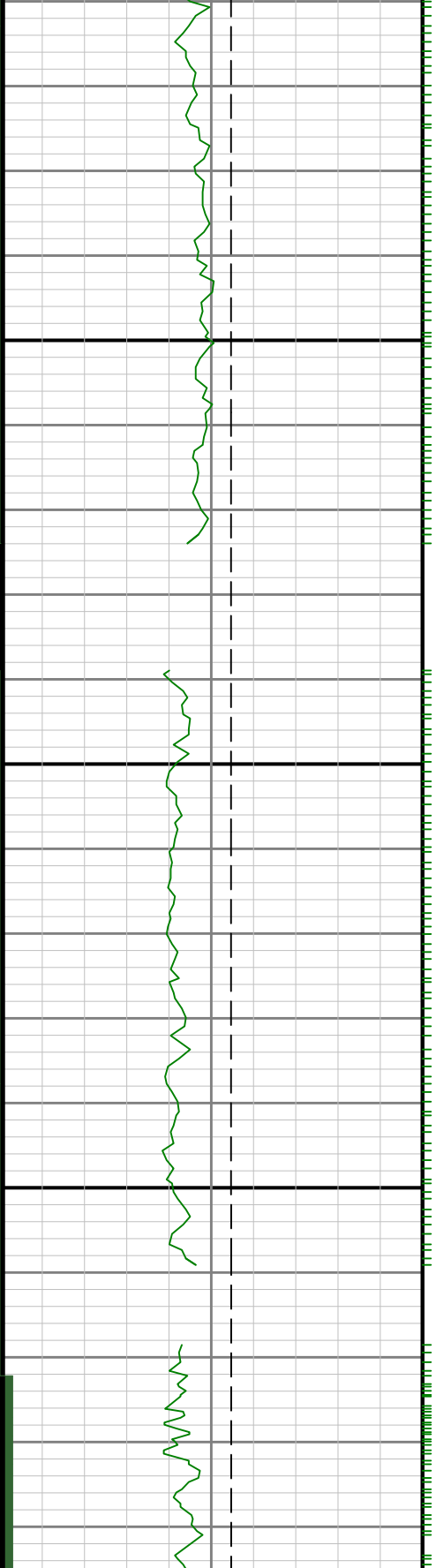
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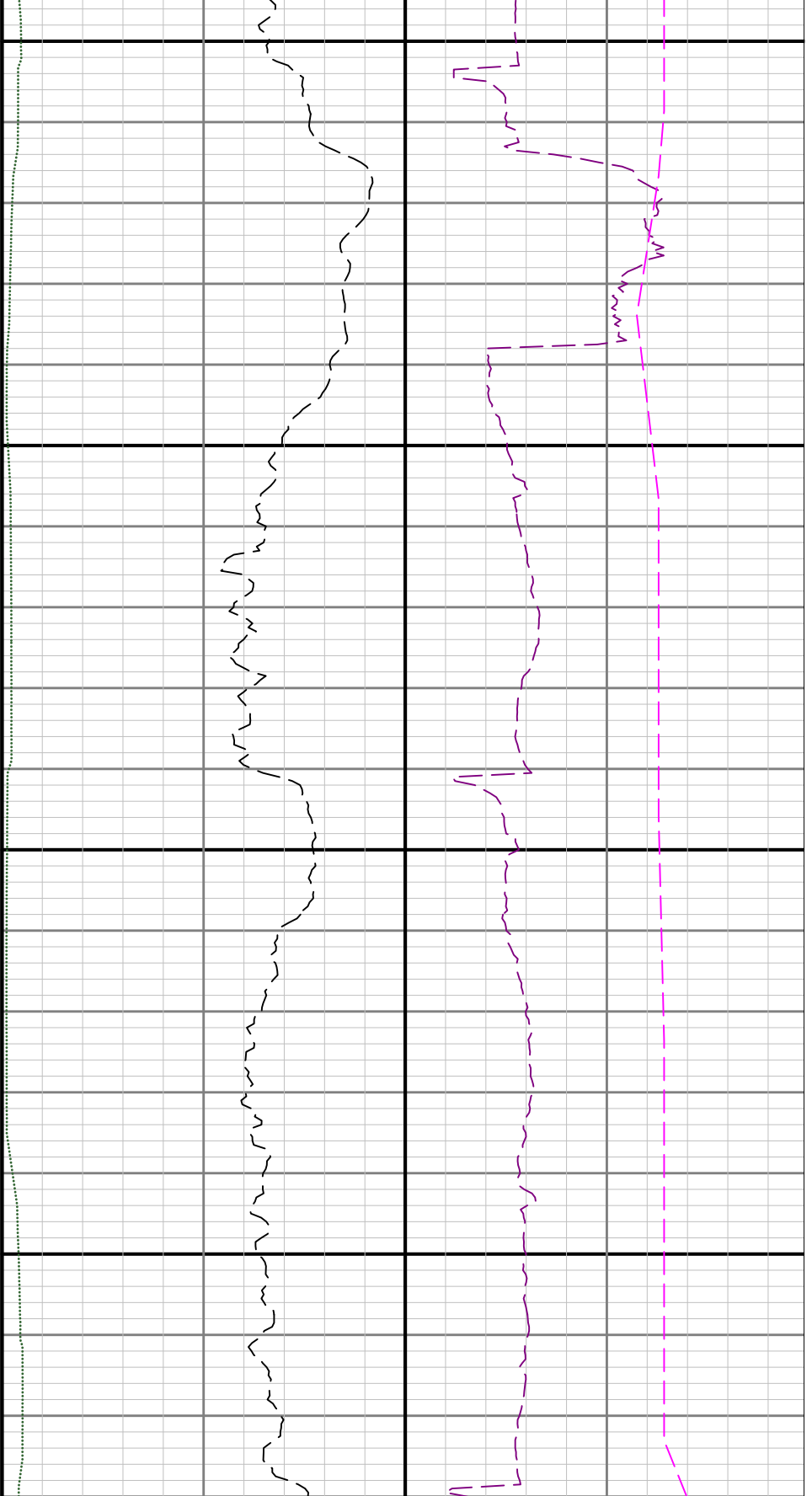






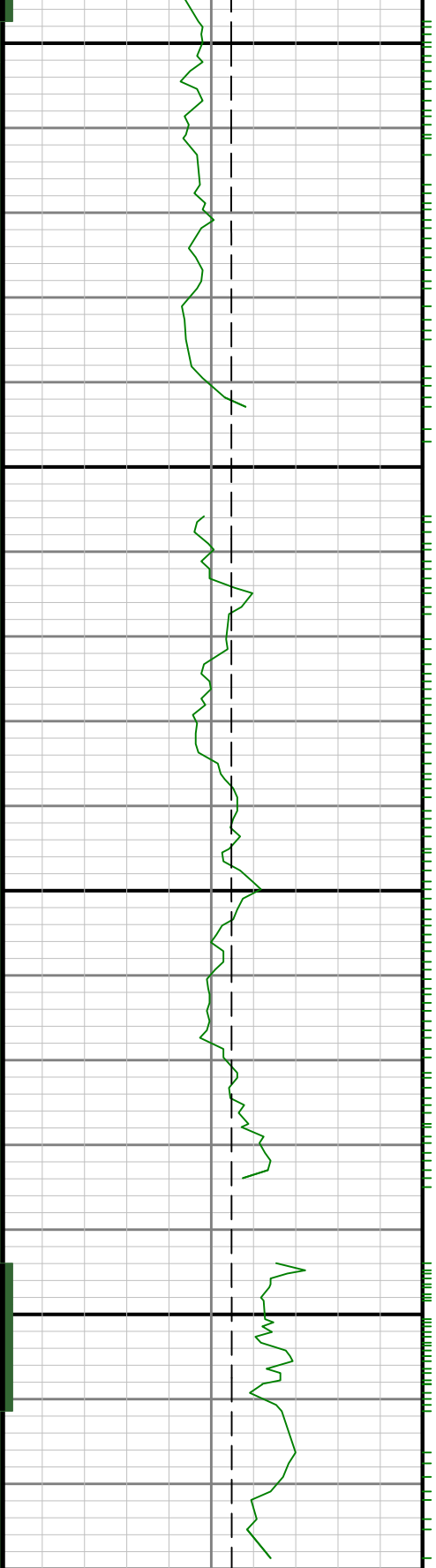
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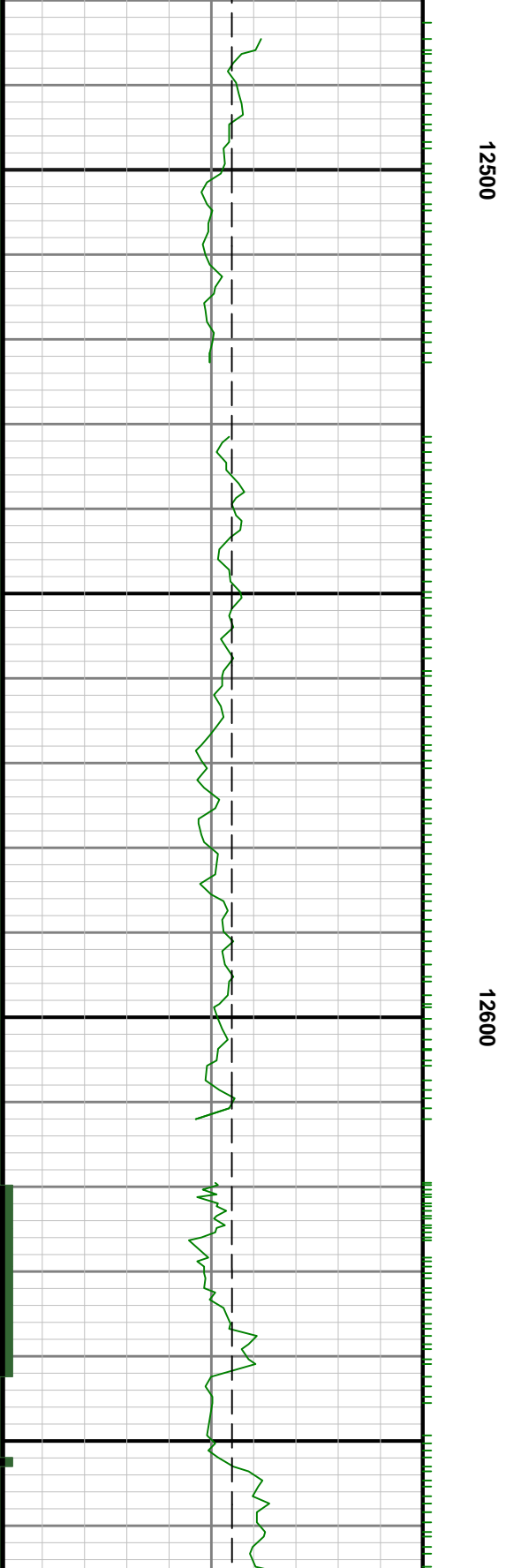
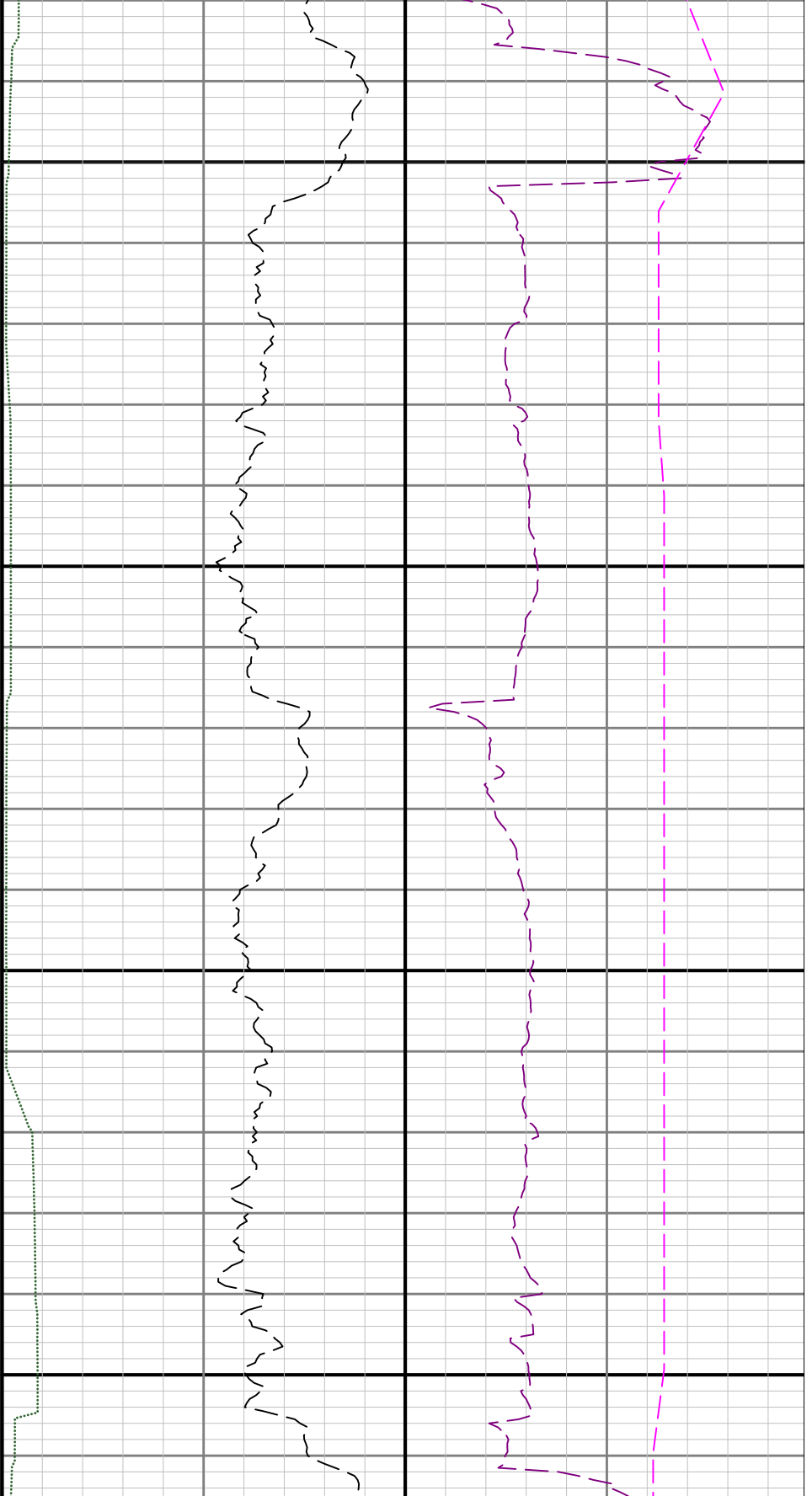


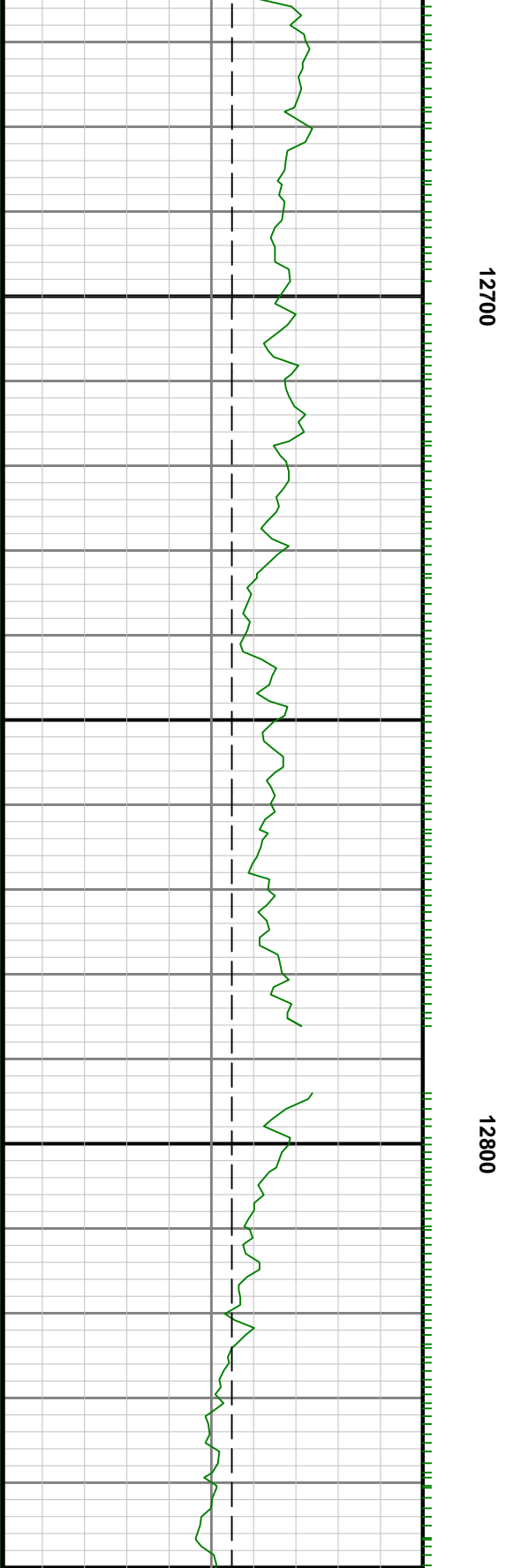
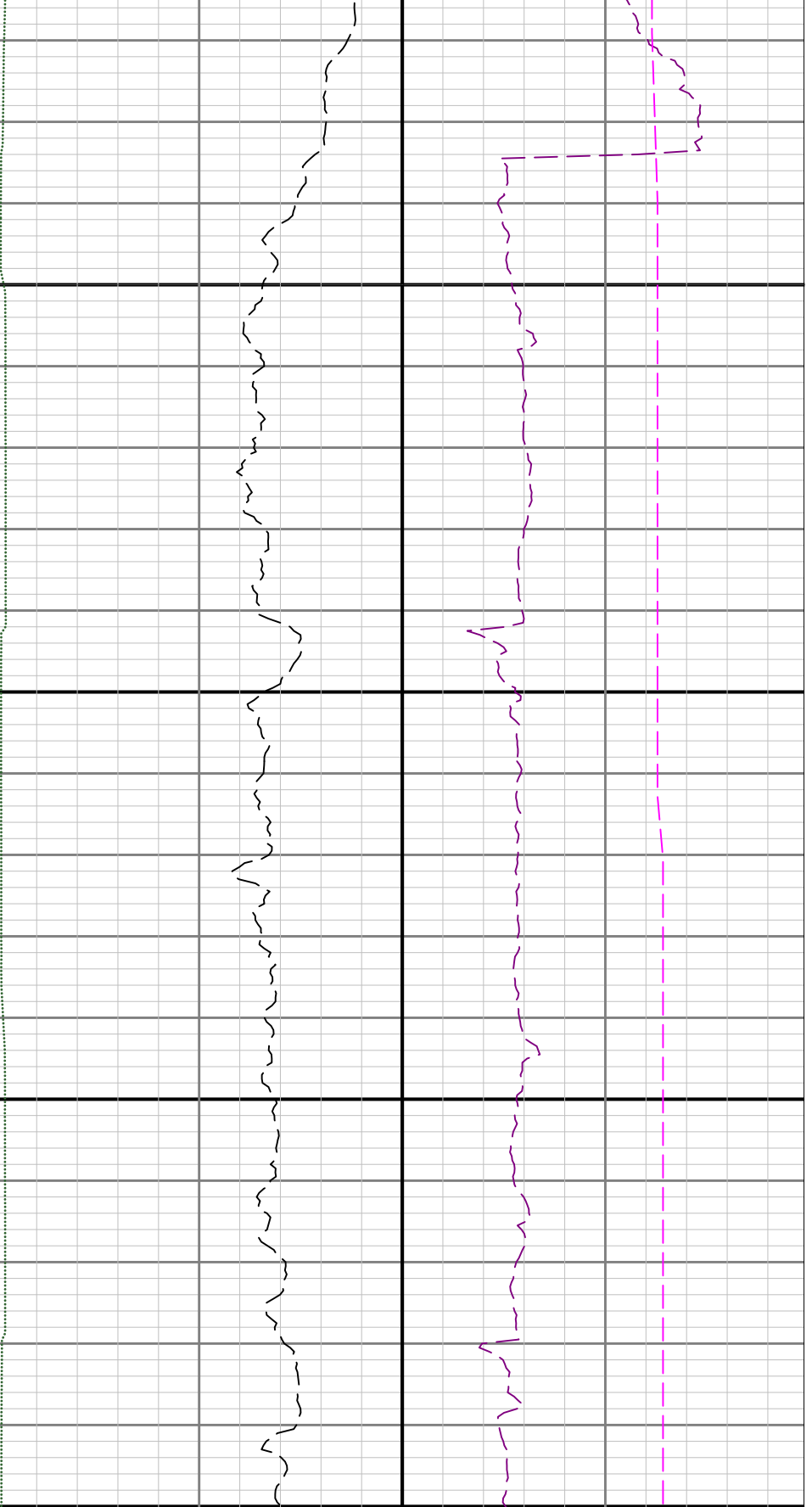


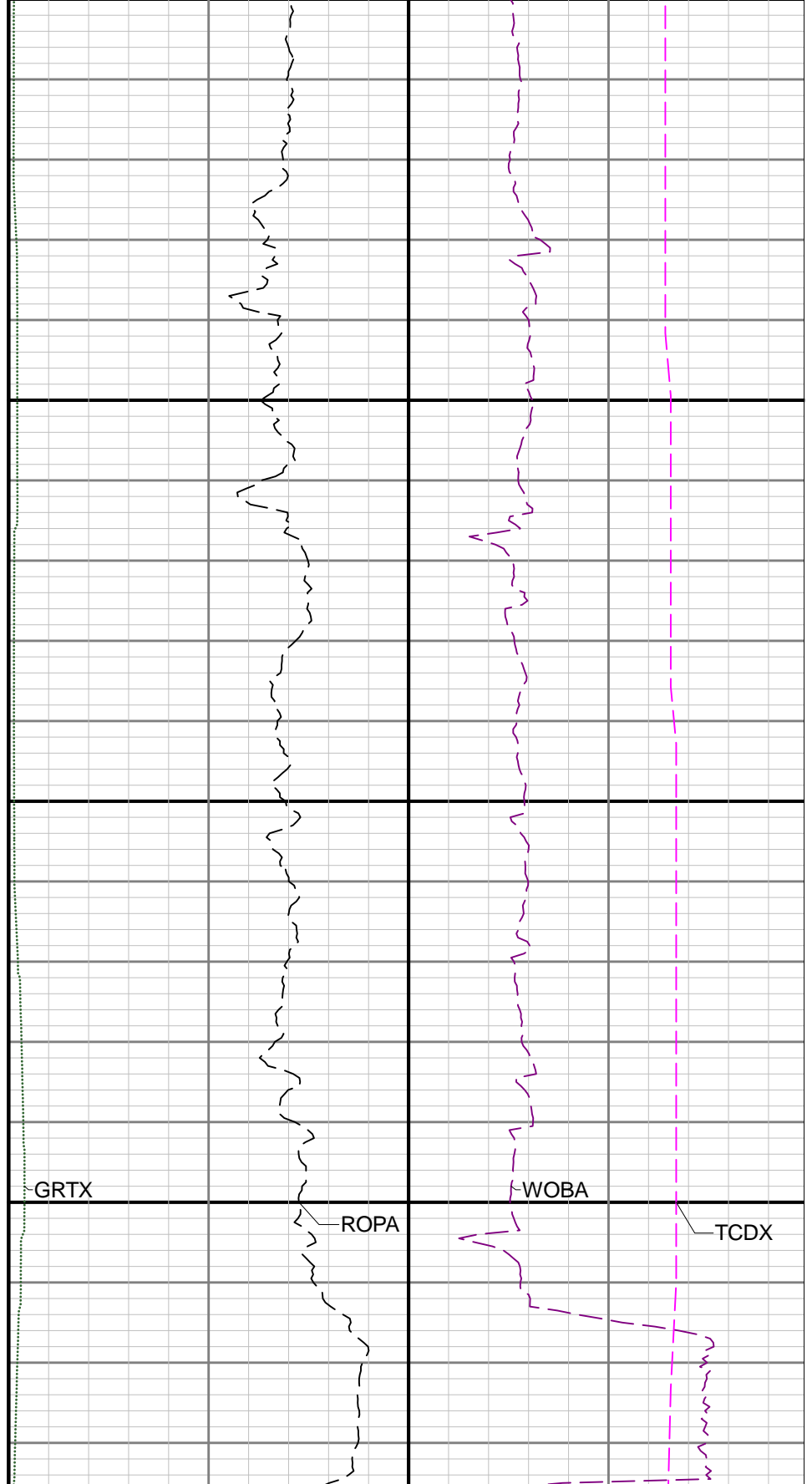
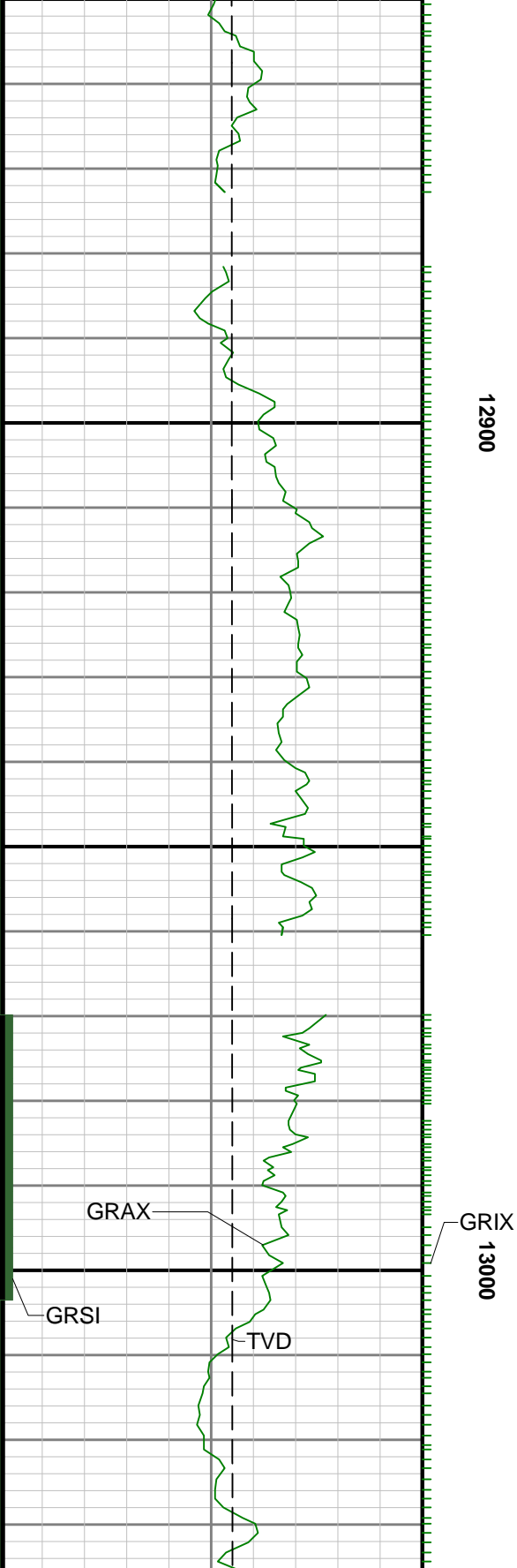
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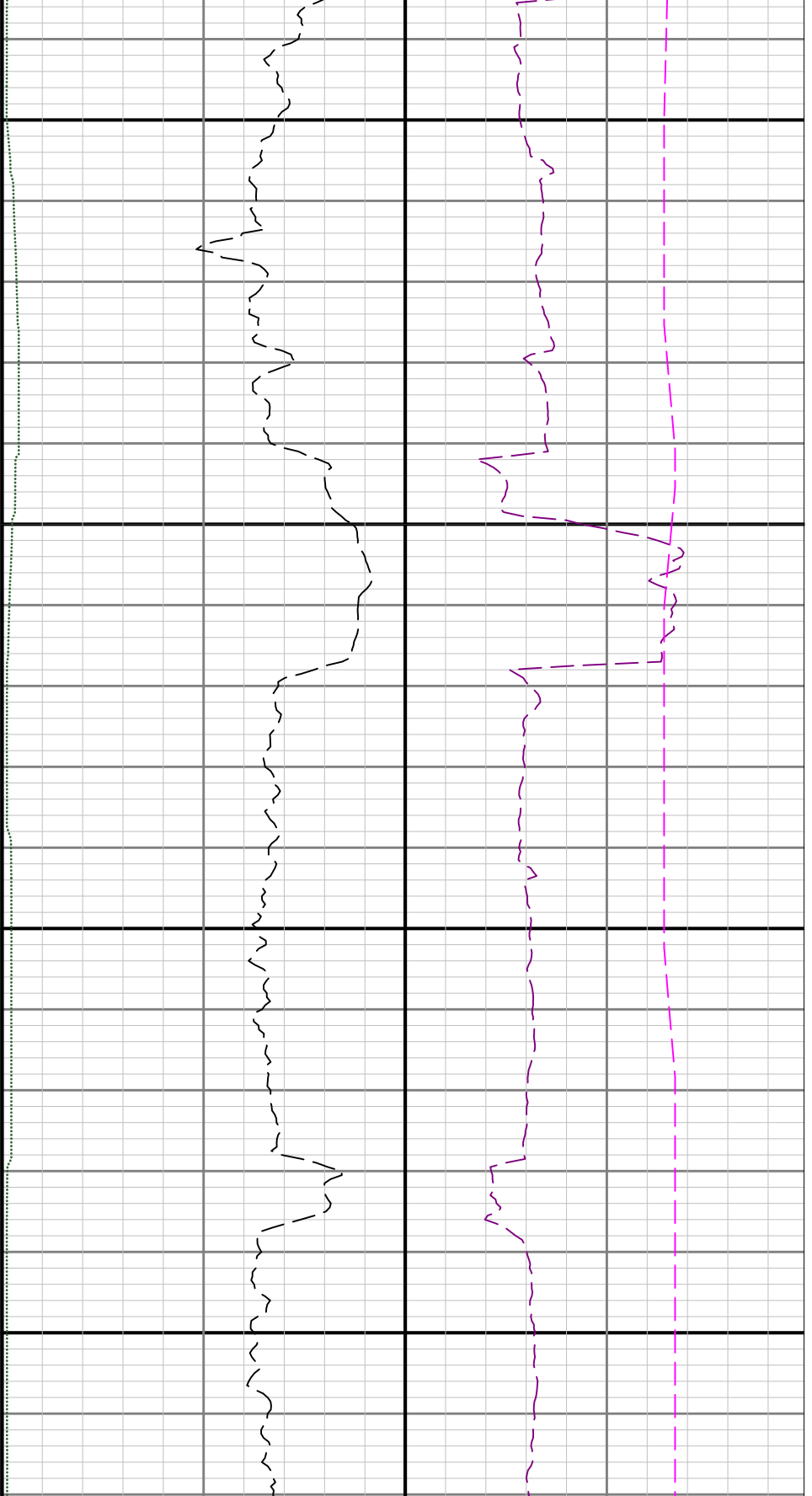
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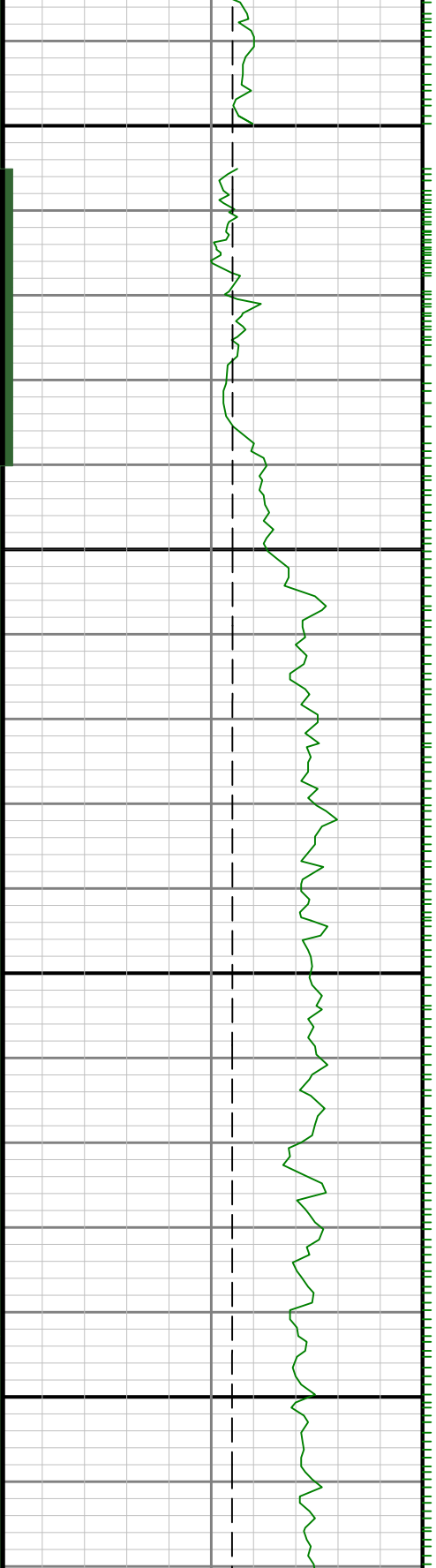


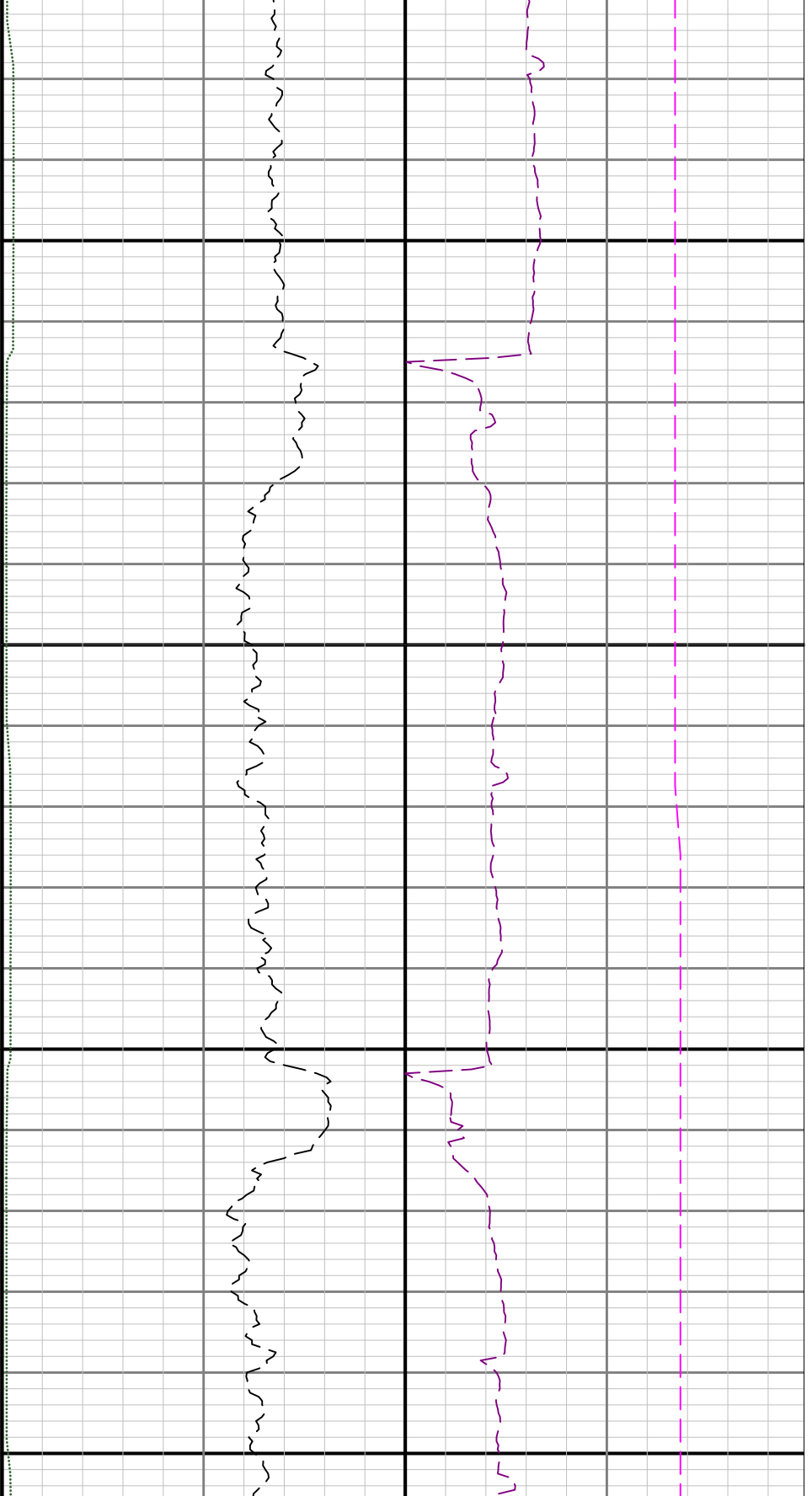




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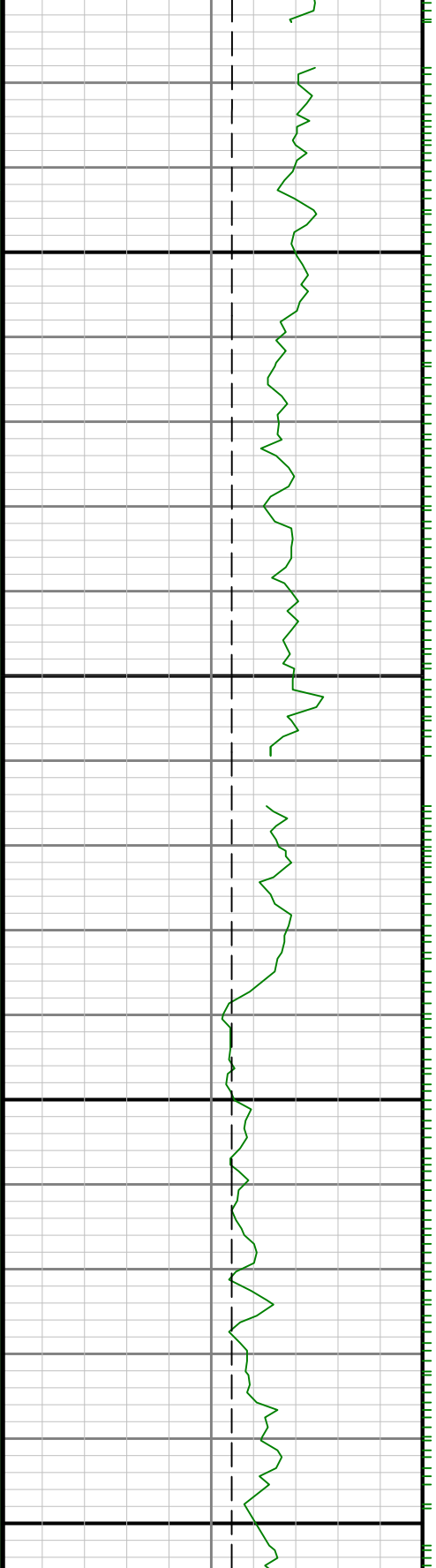
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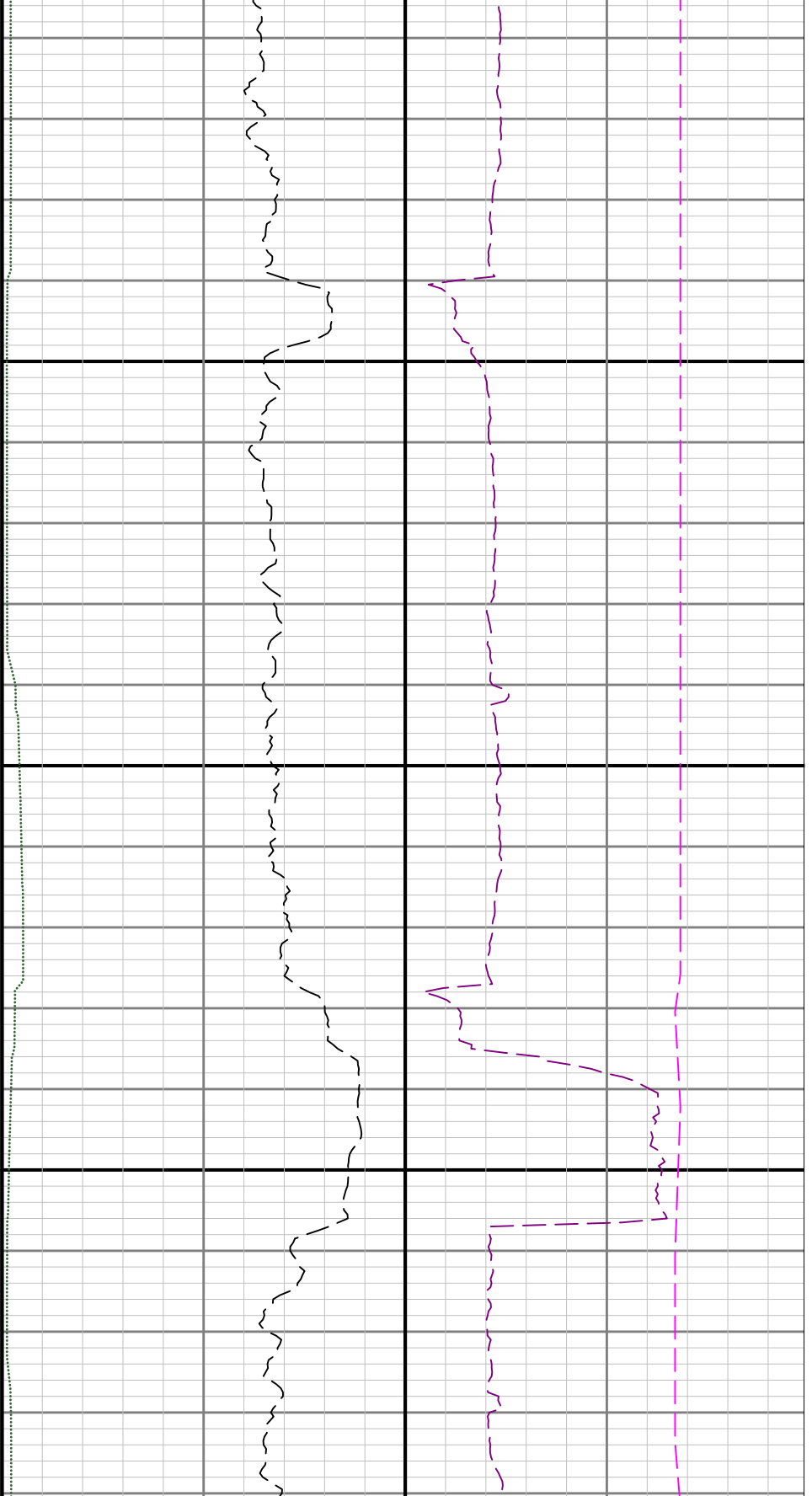




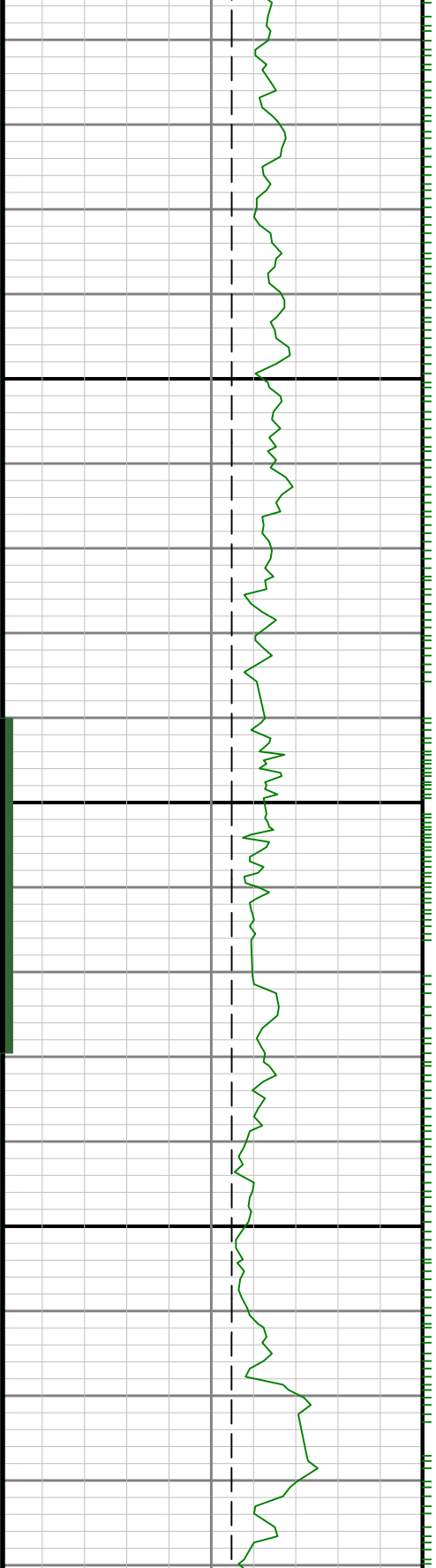
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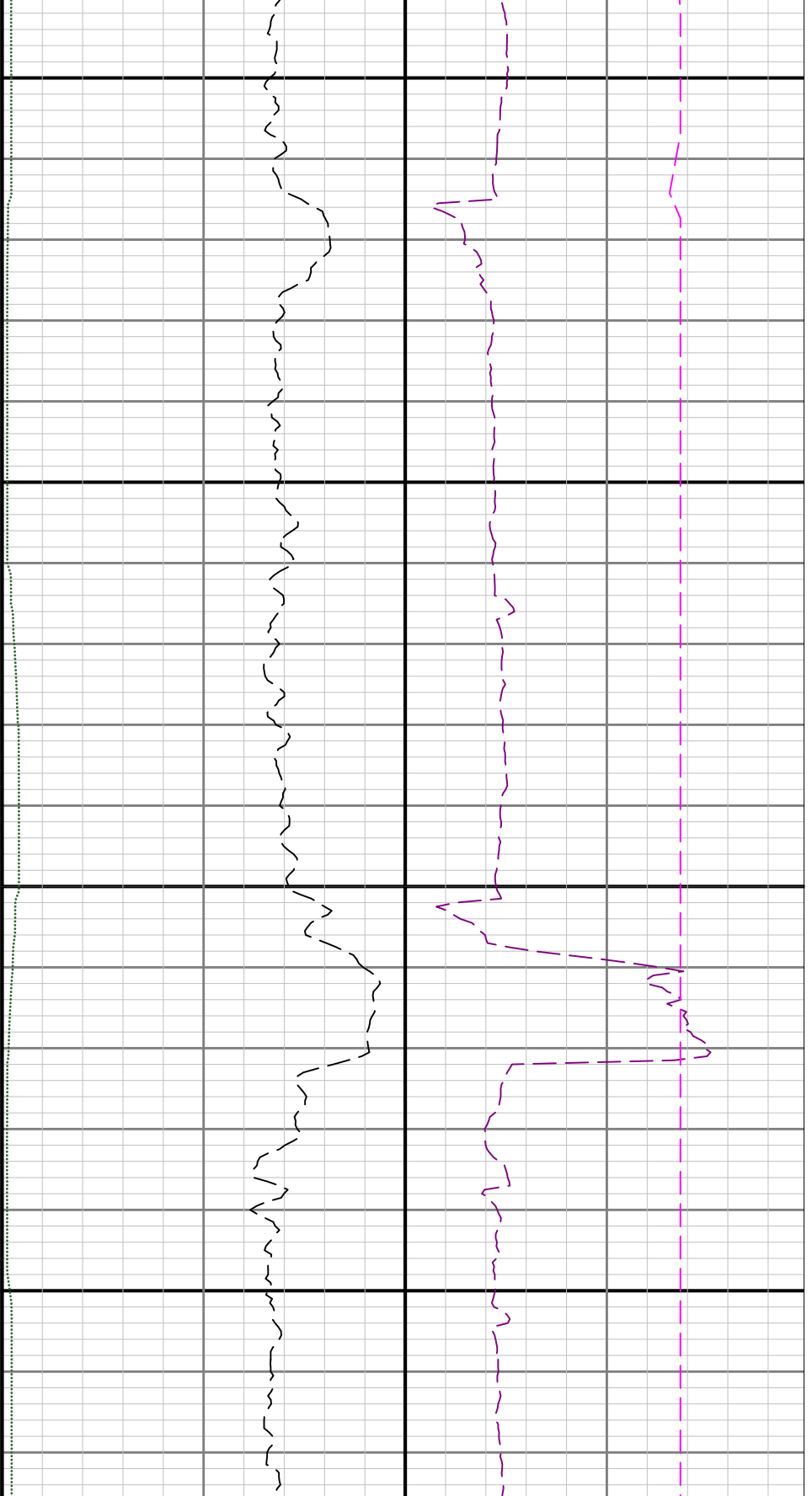
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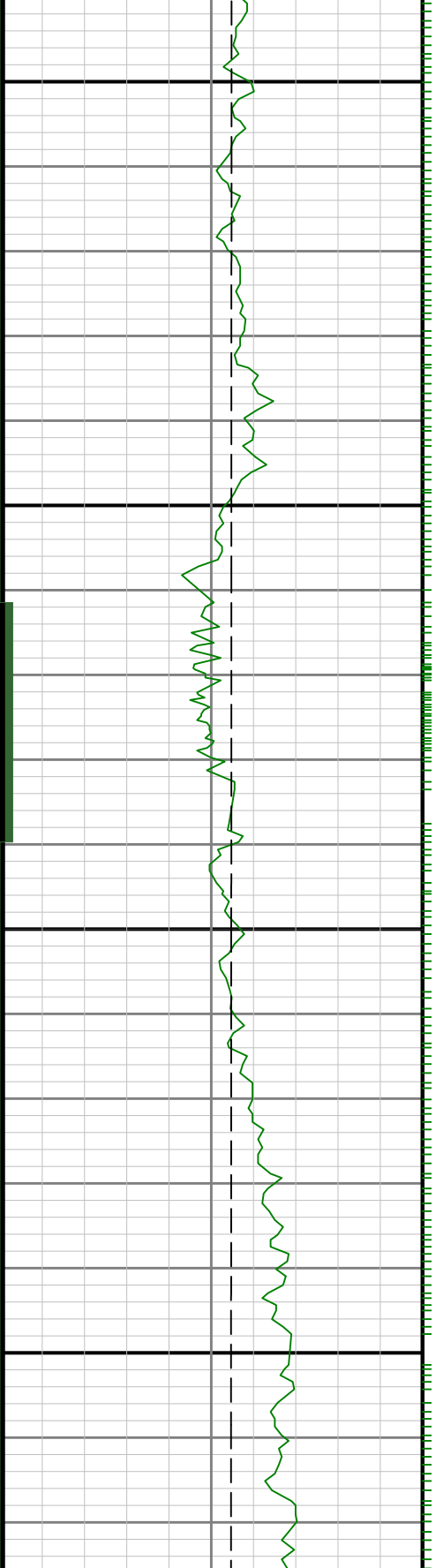
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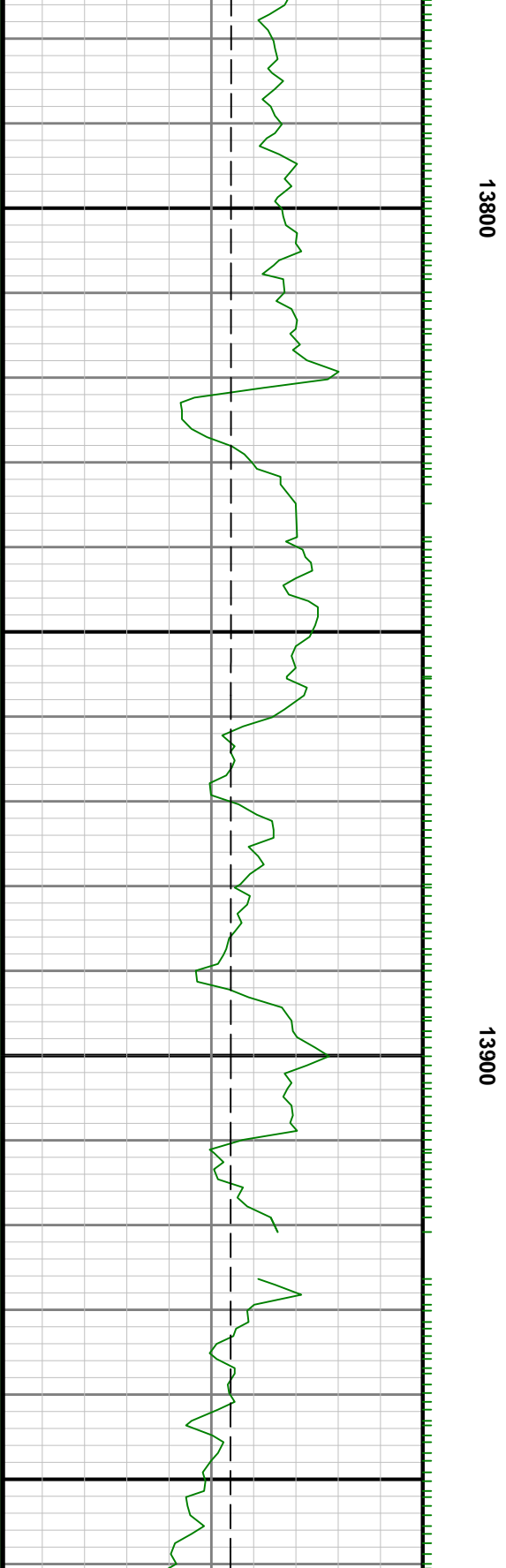
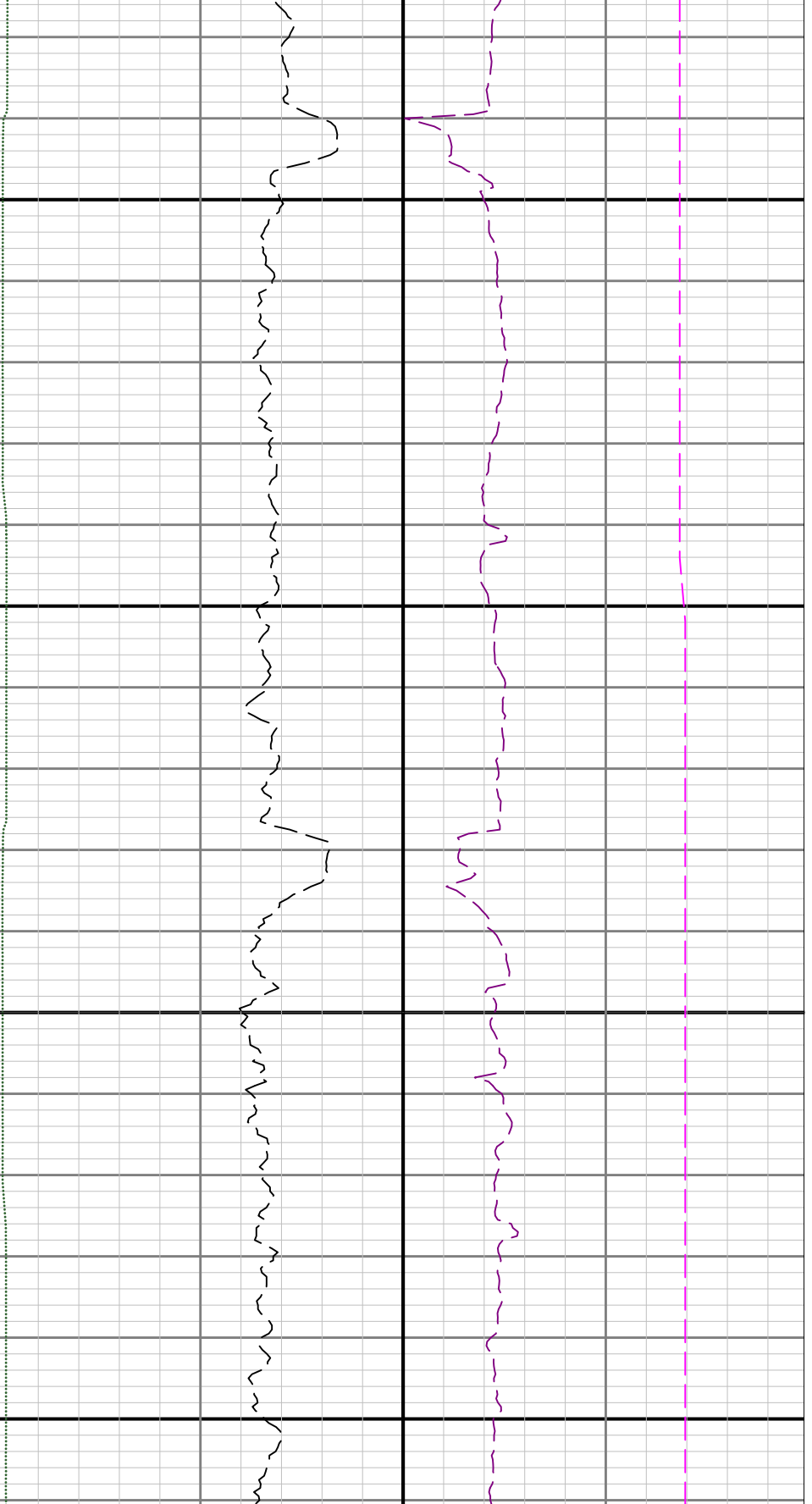


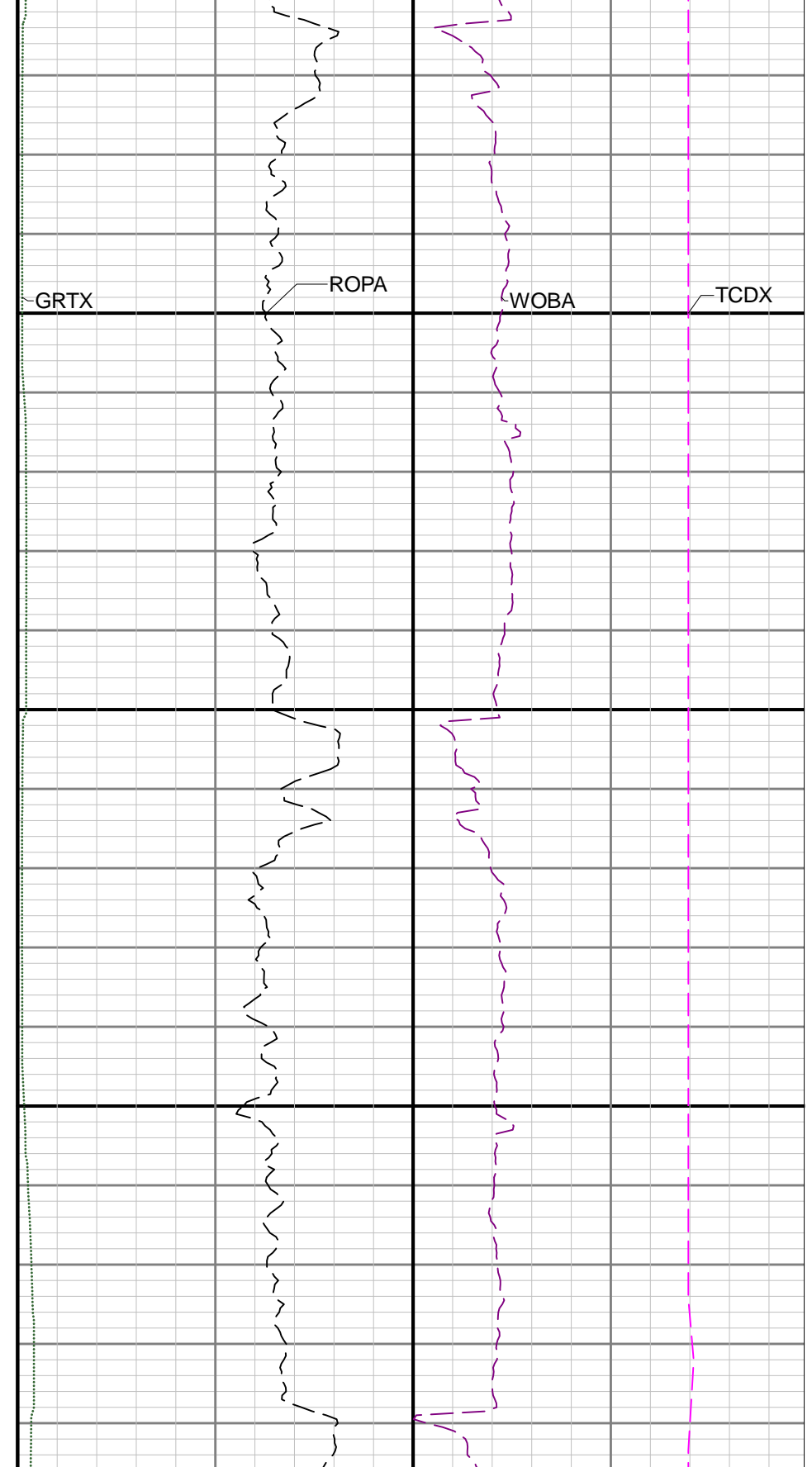
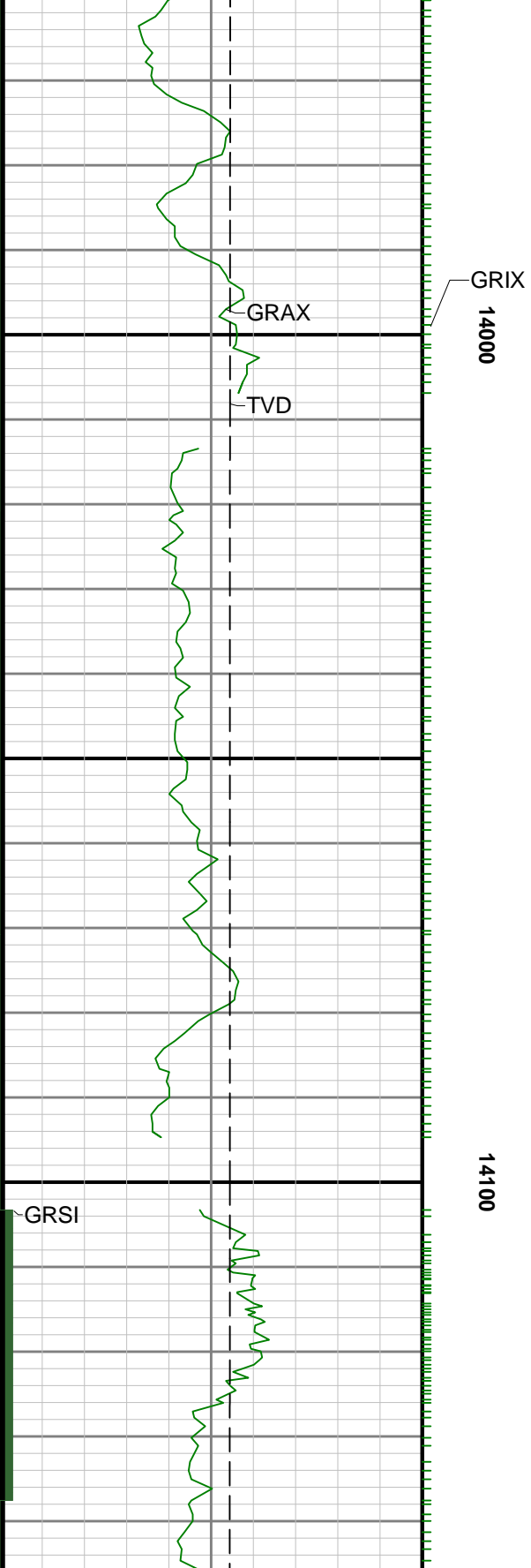


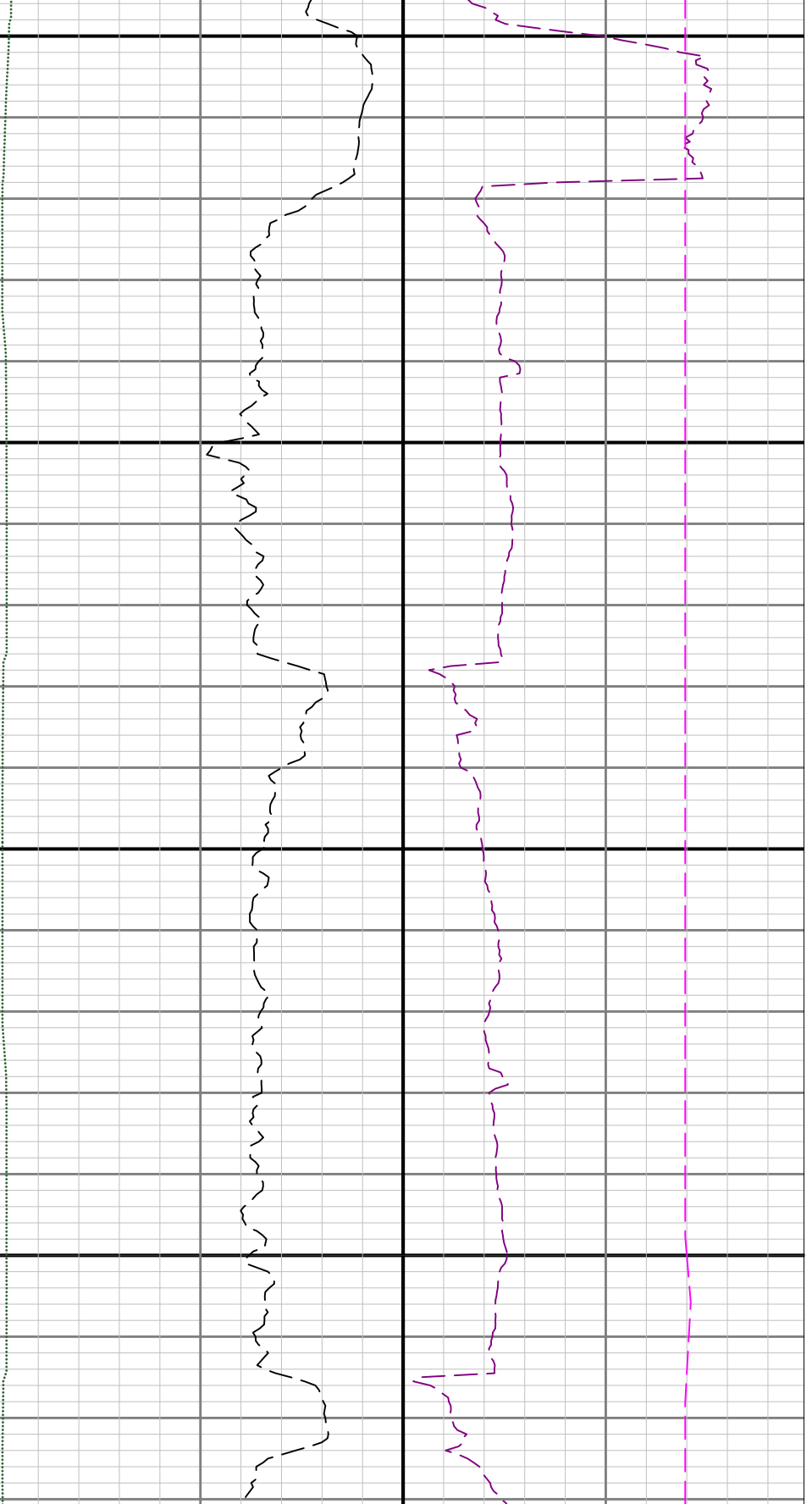
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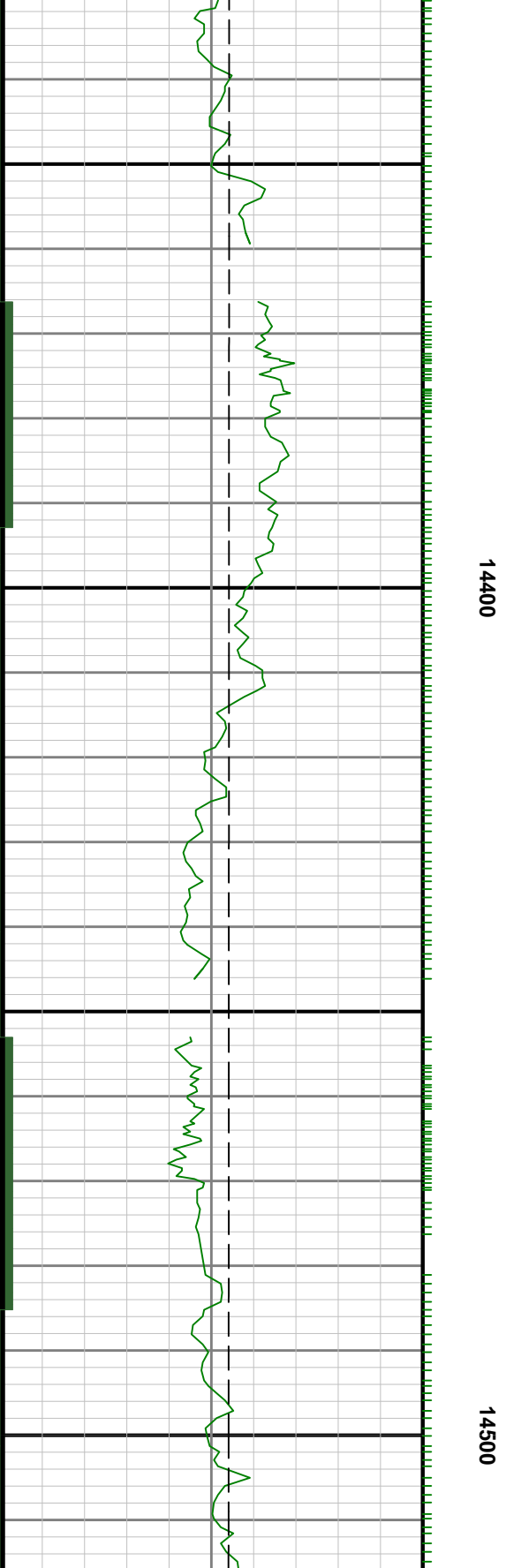
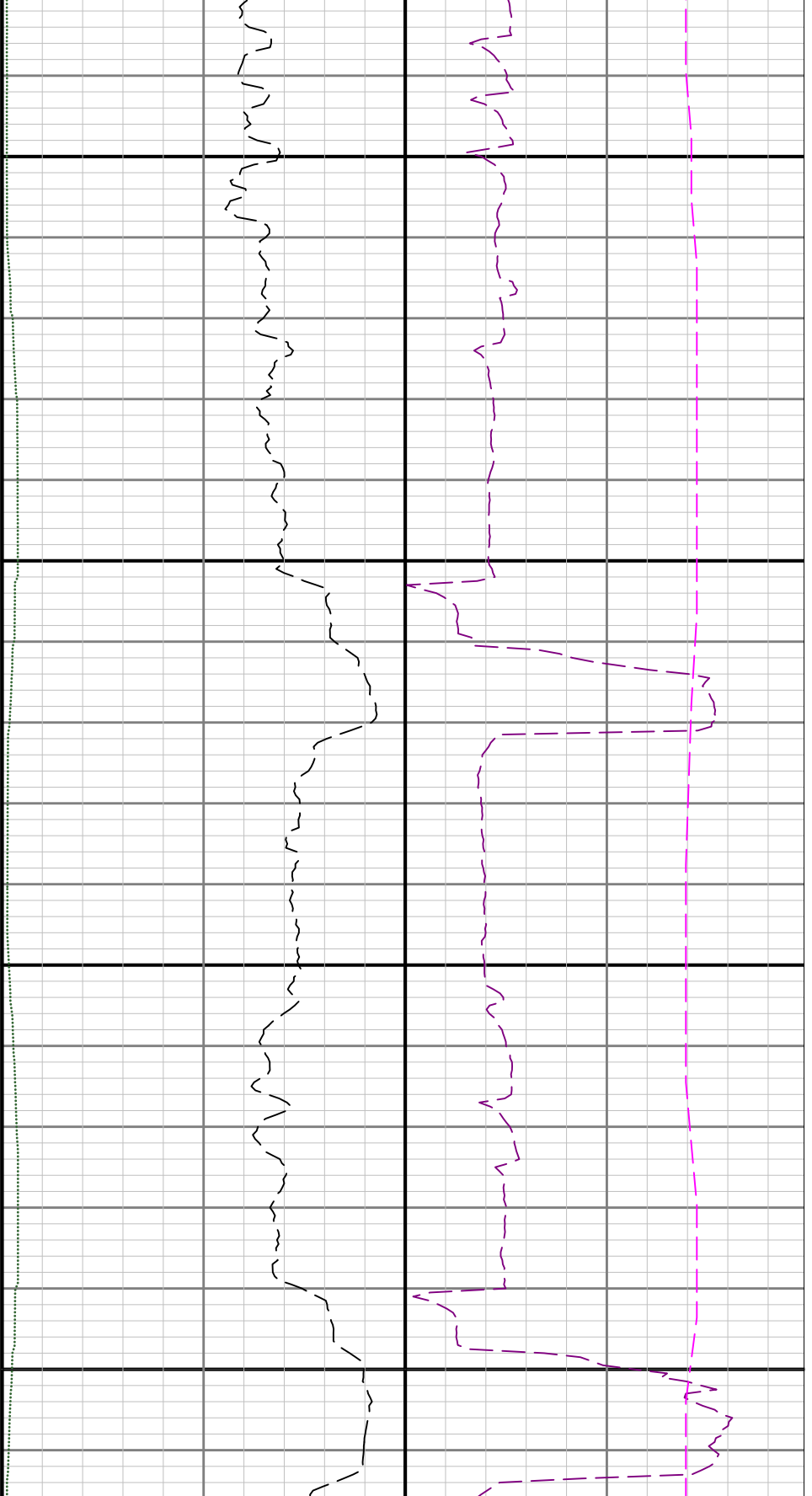






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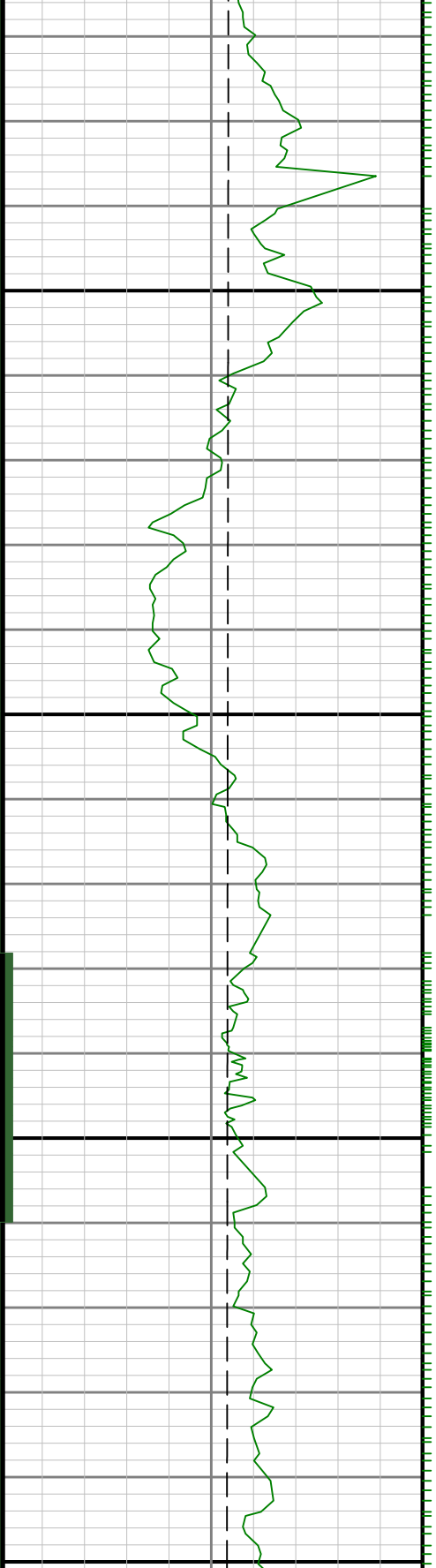
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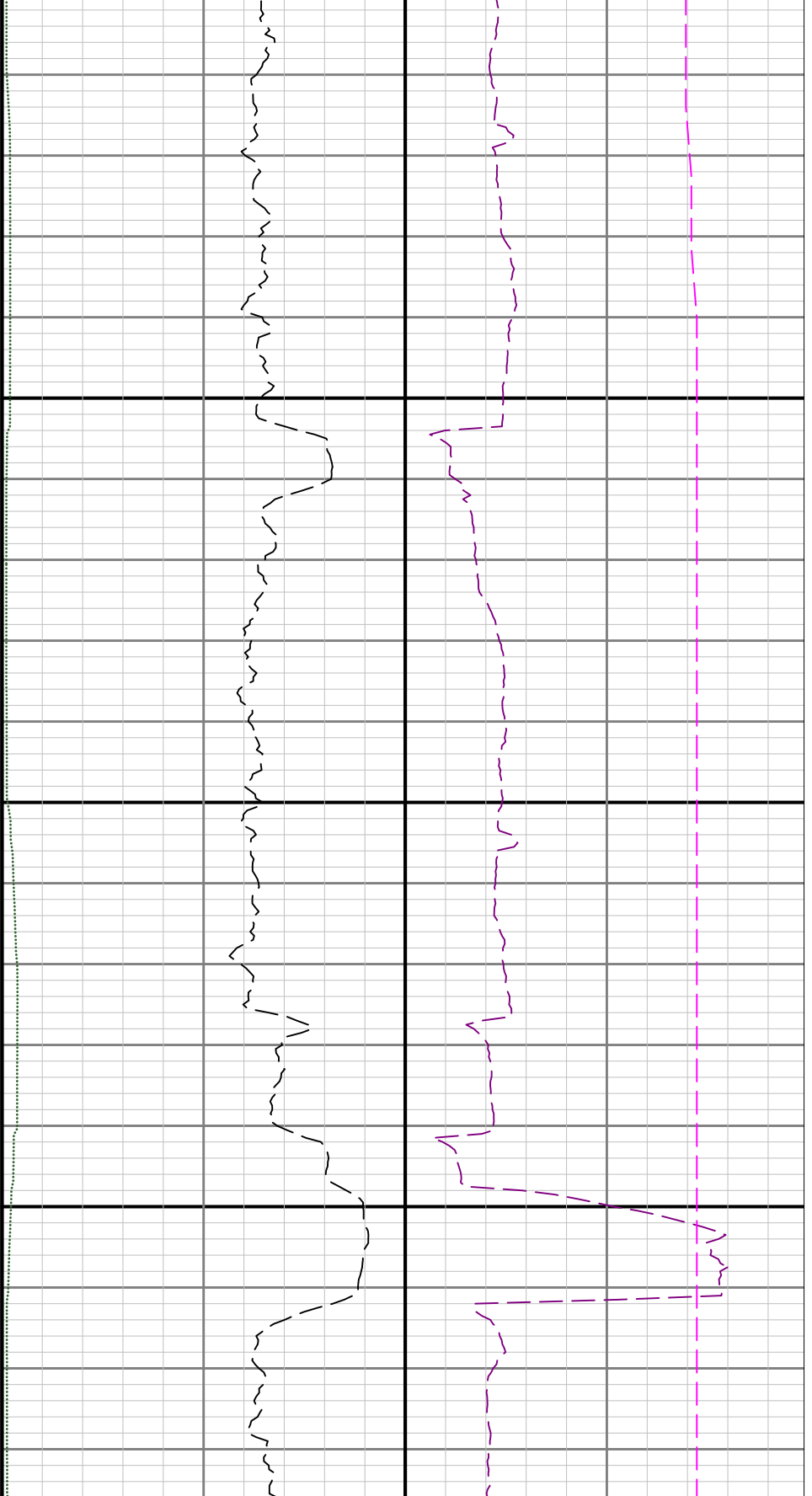




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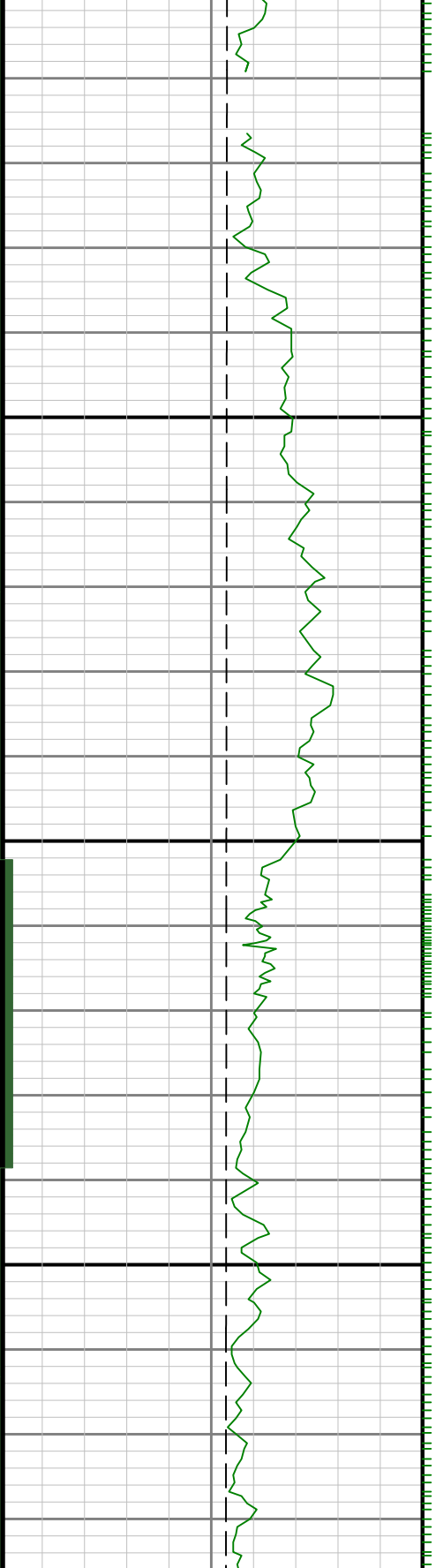
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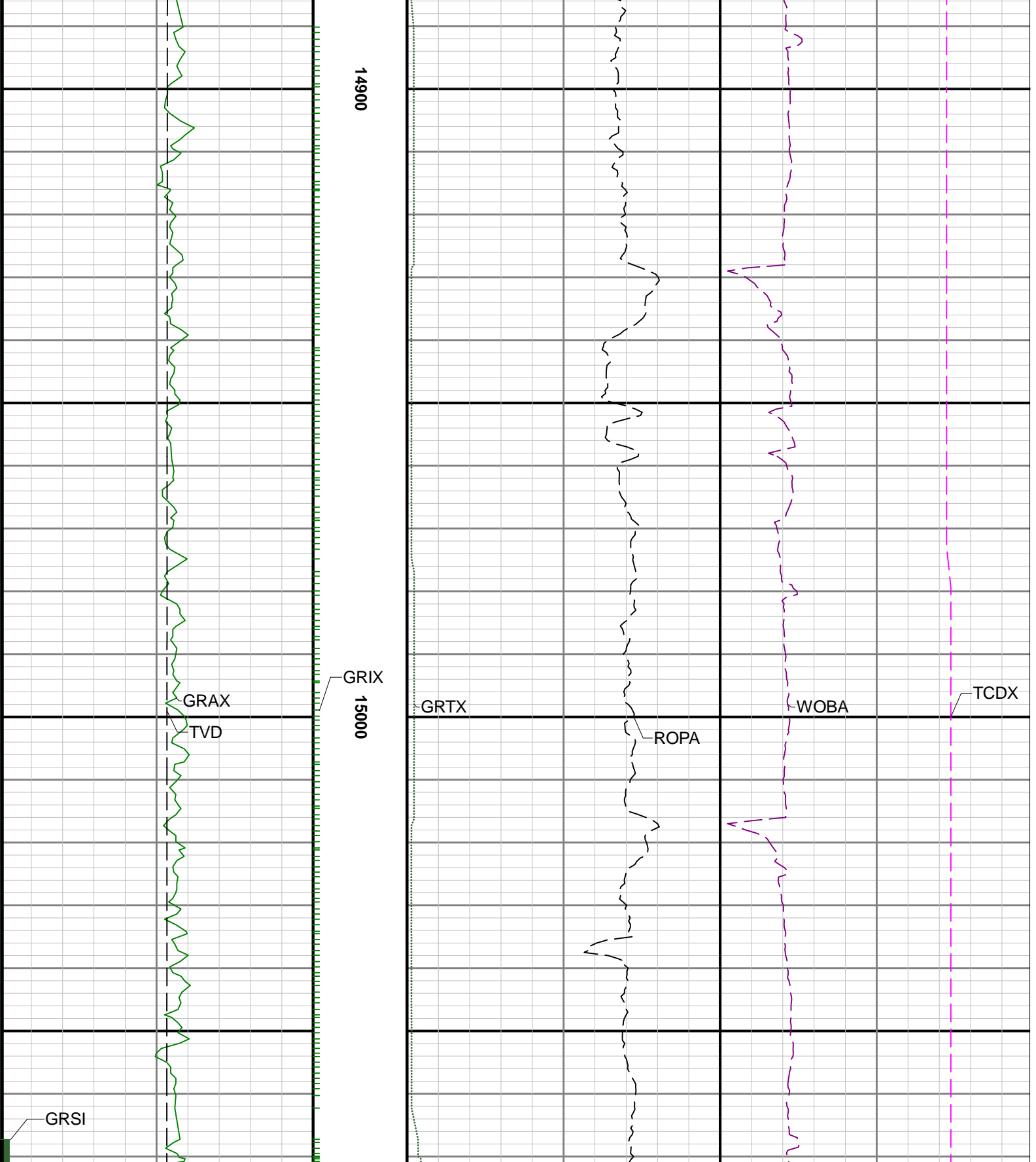


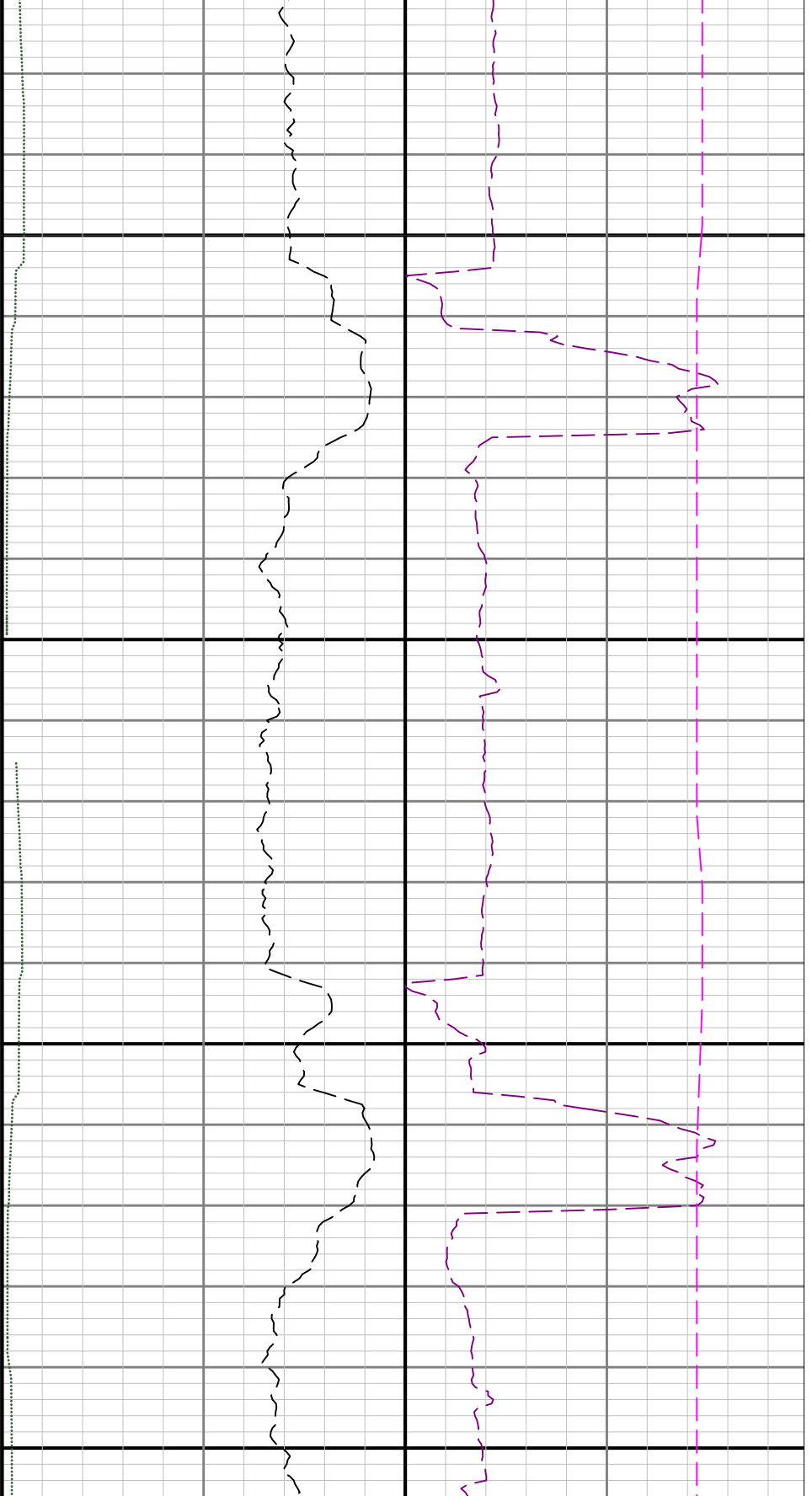


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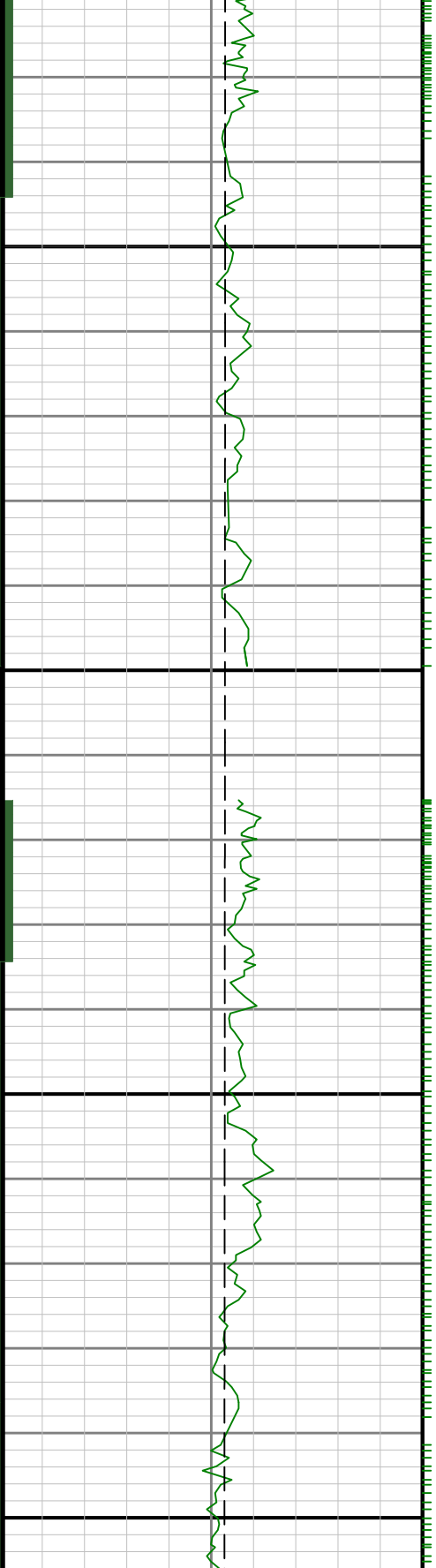


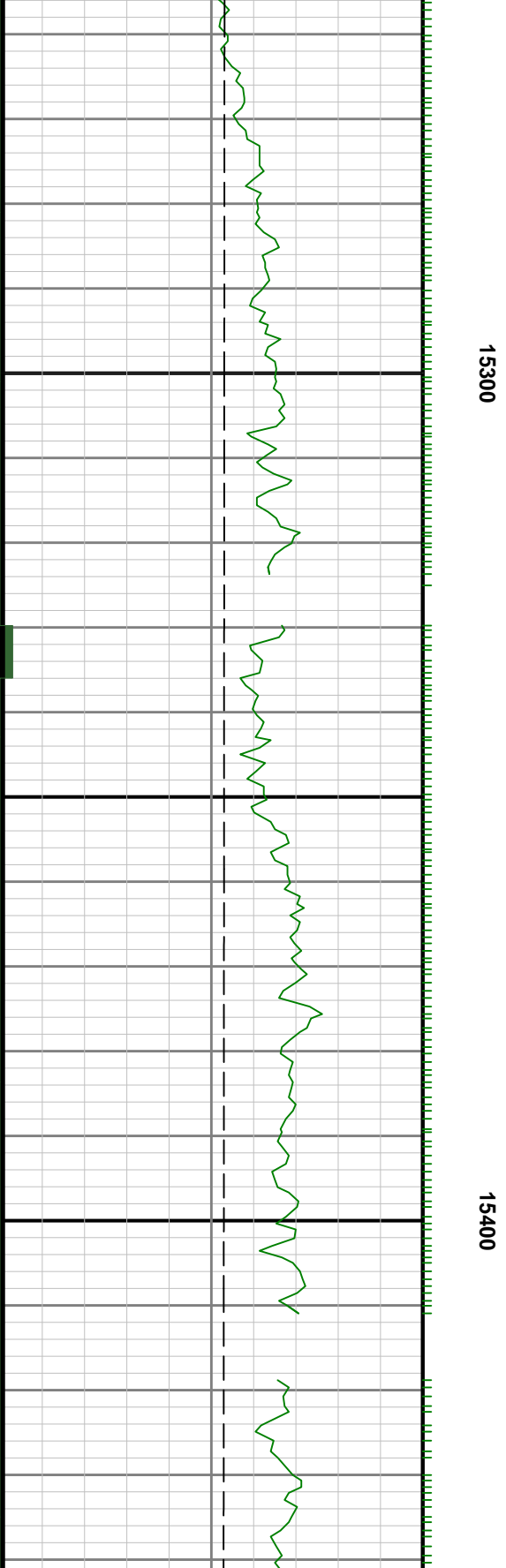
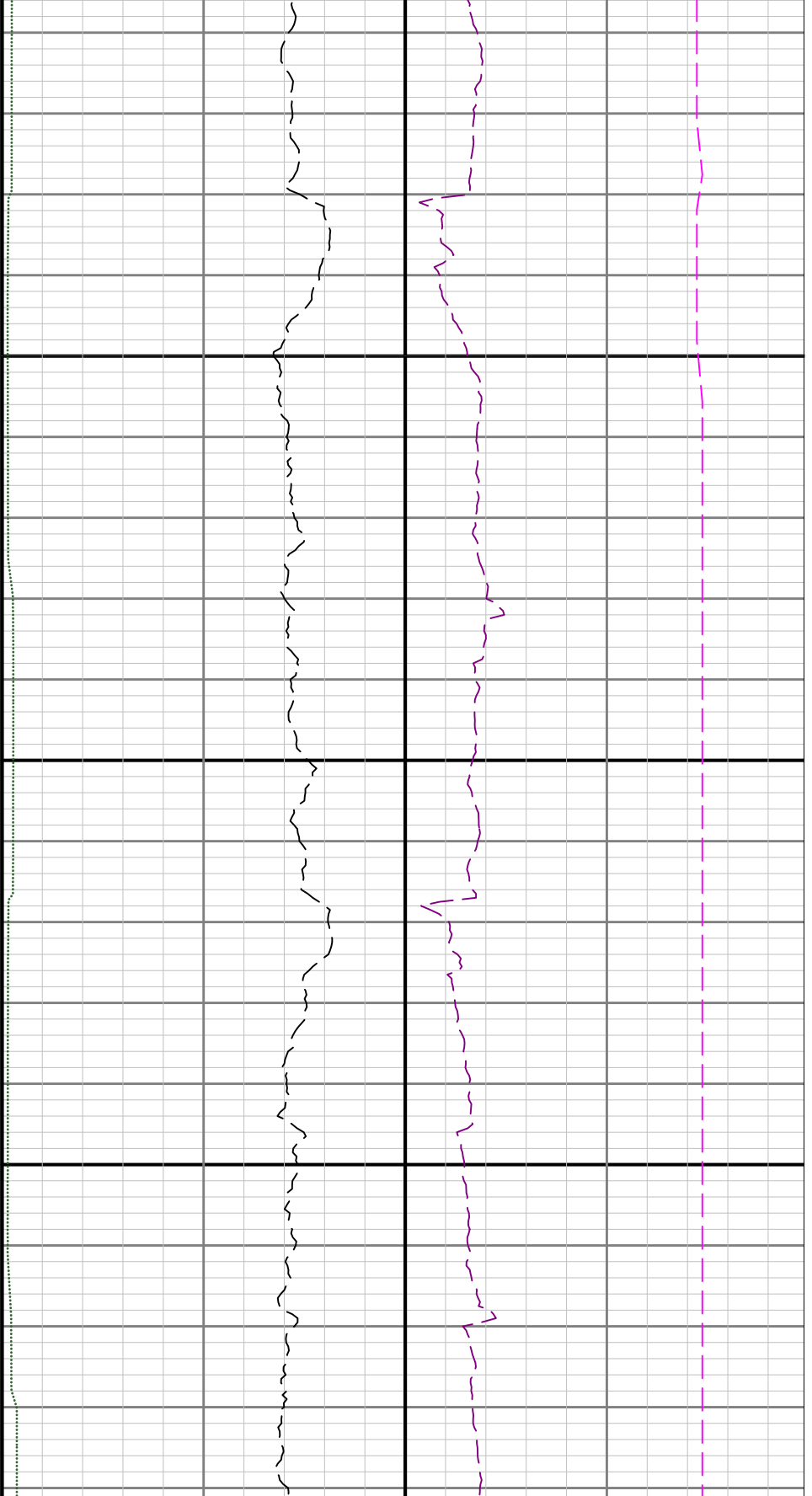


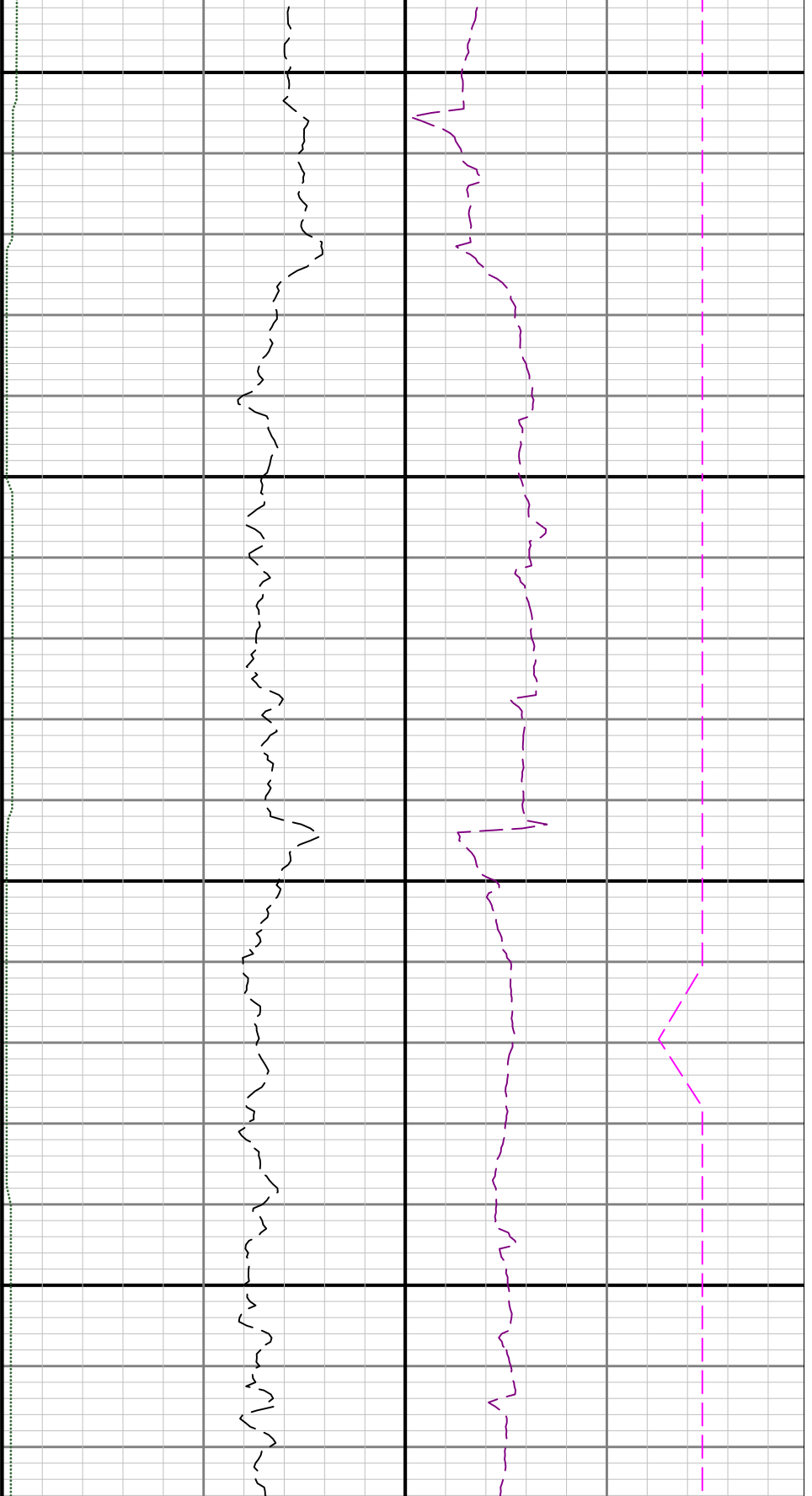


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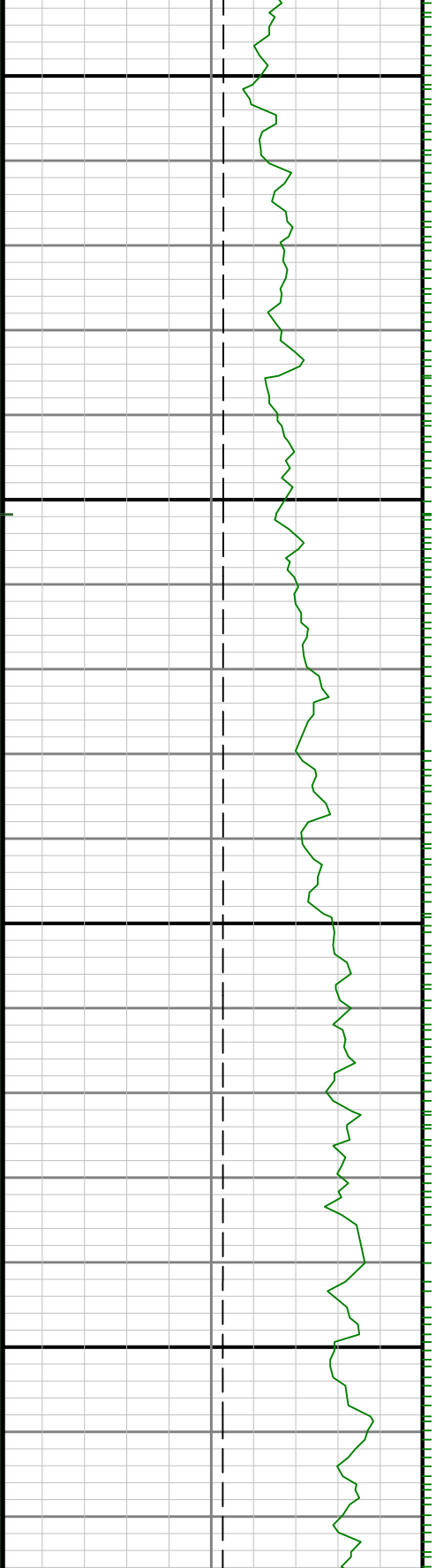


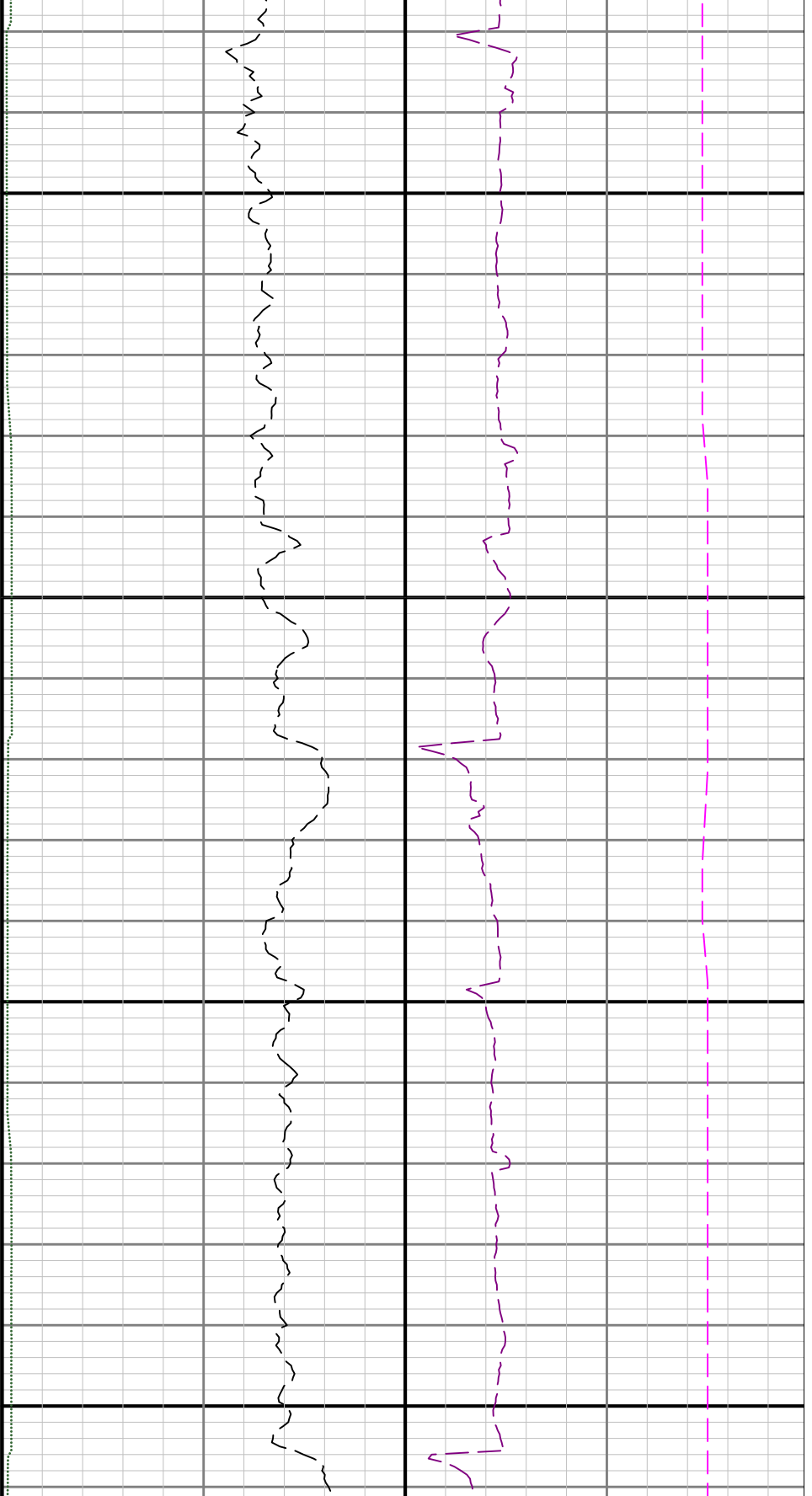




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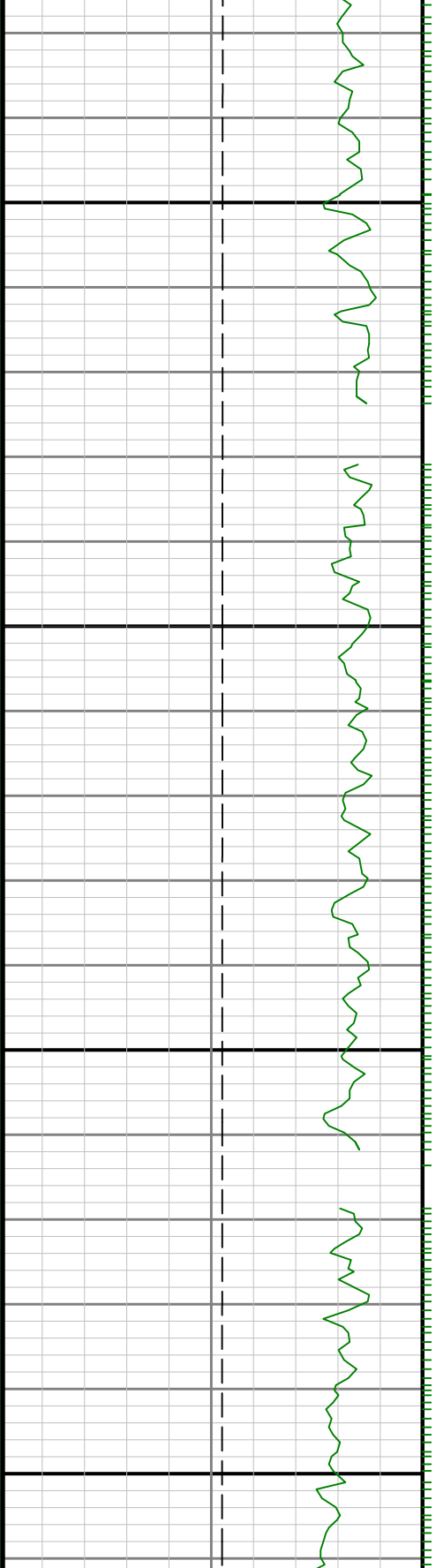
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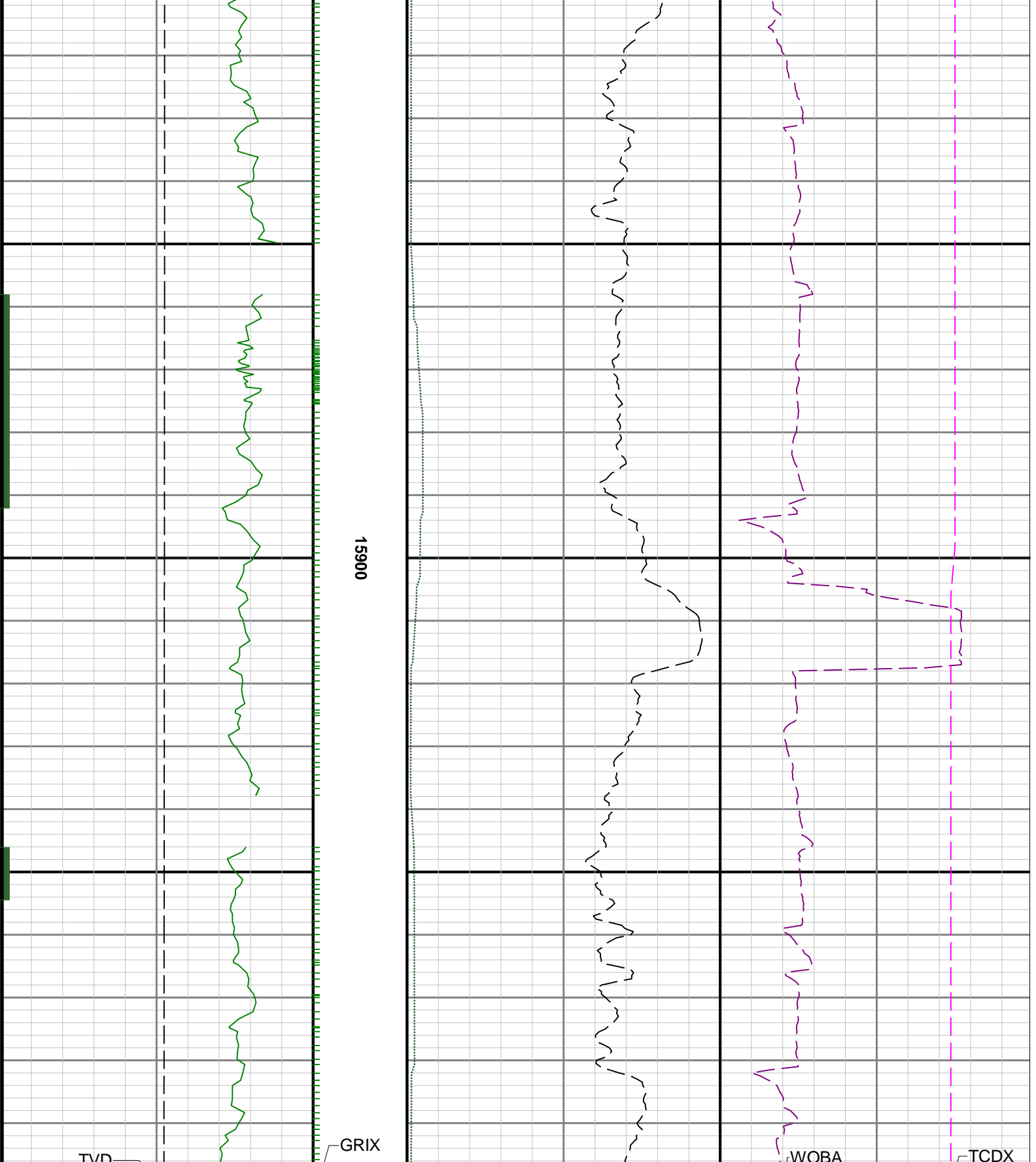




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15800





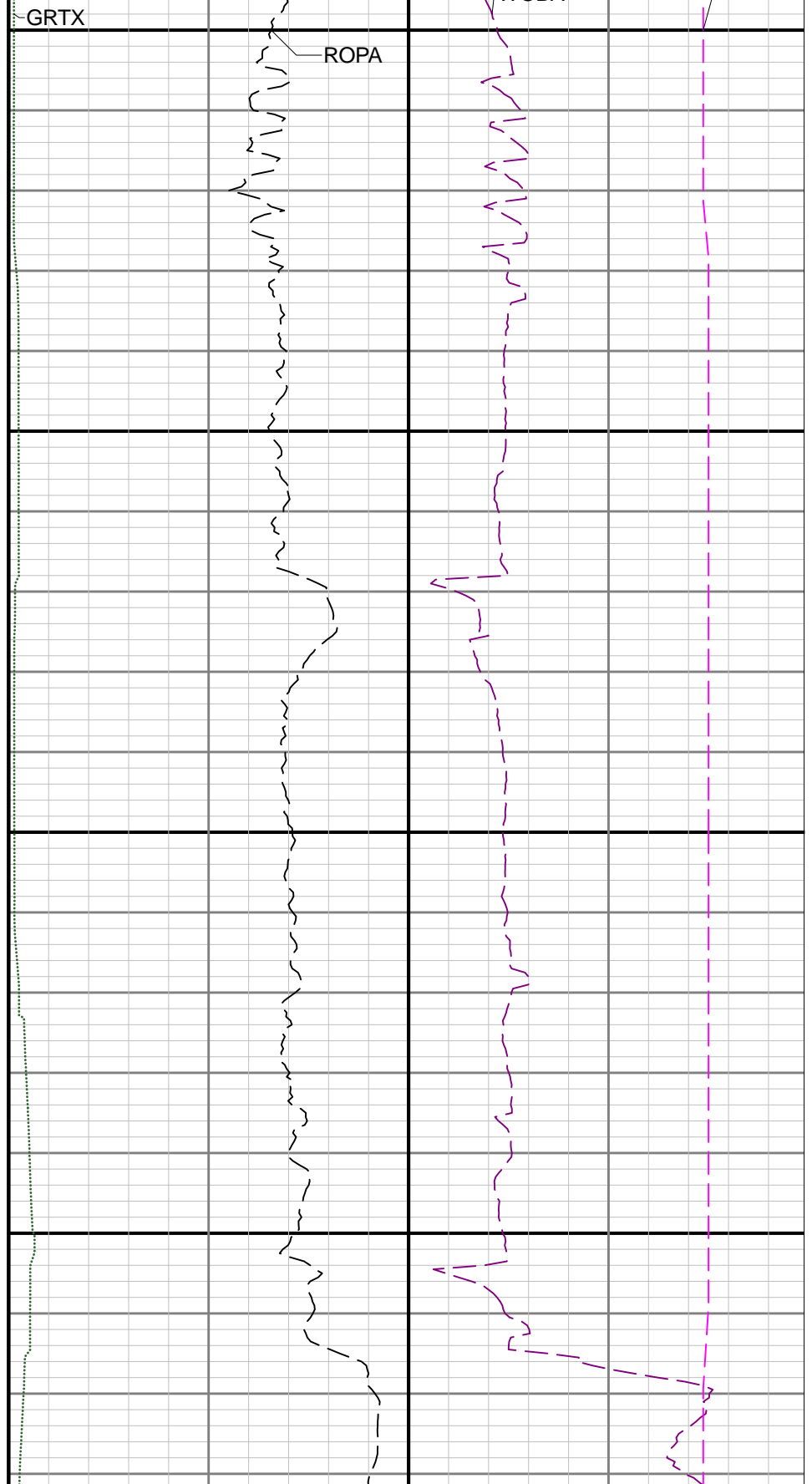
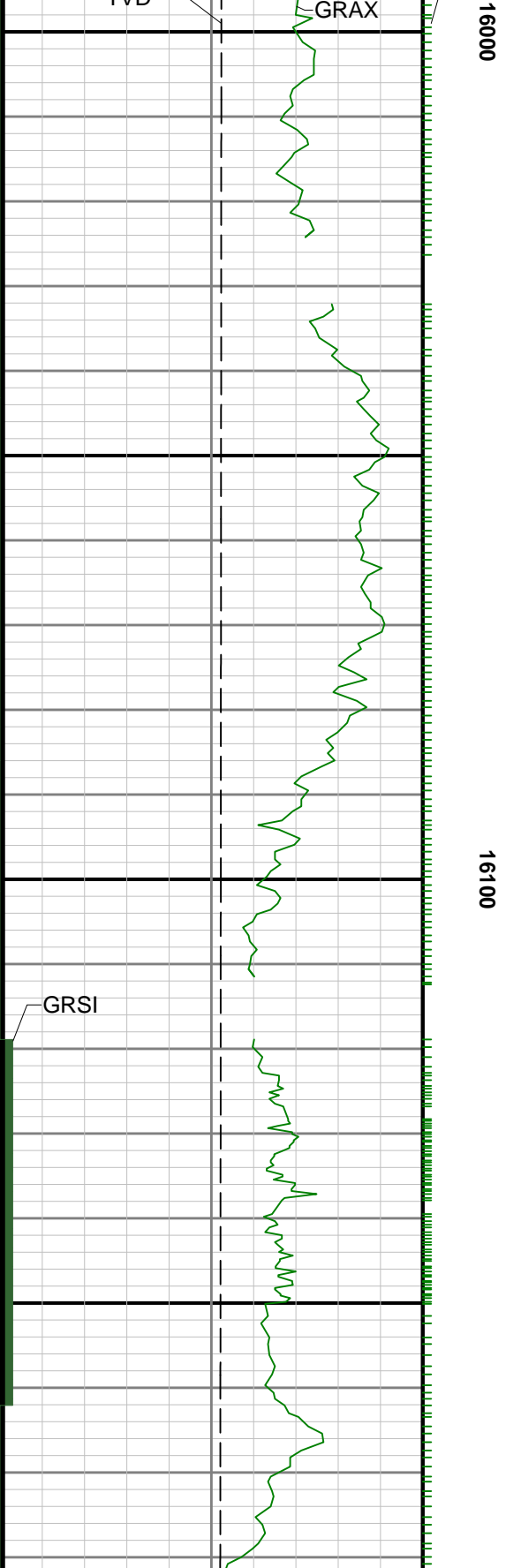
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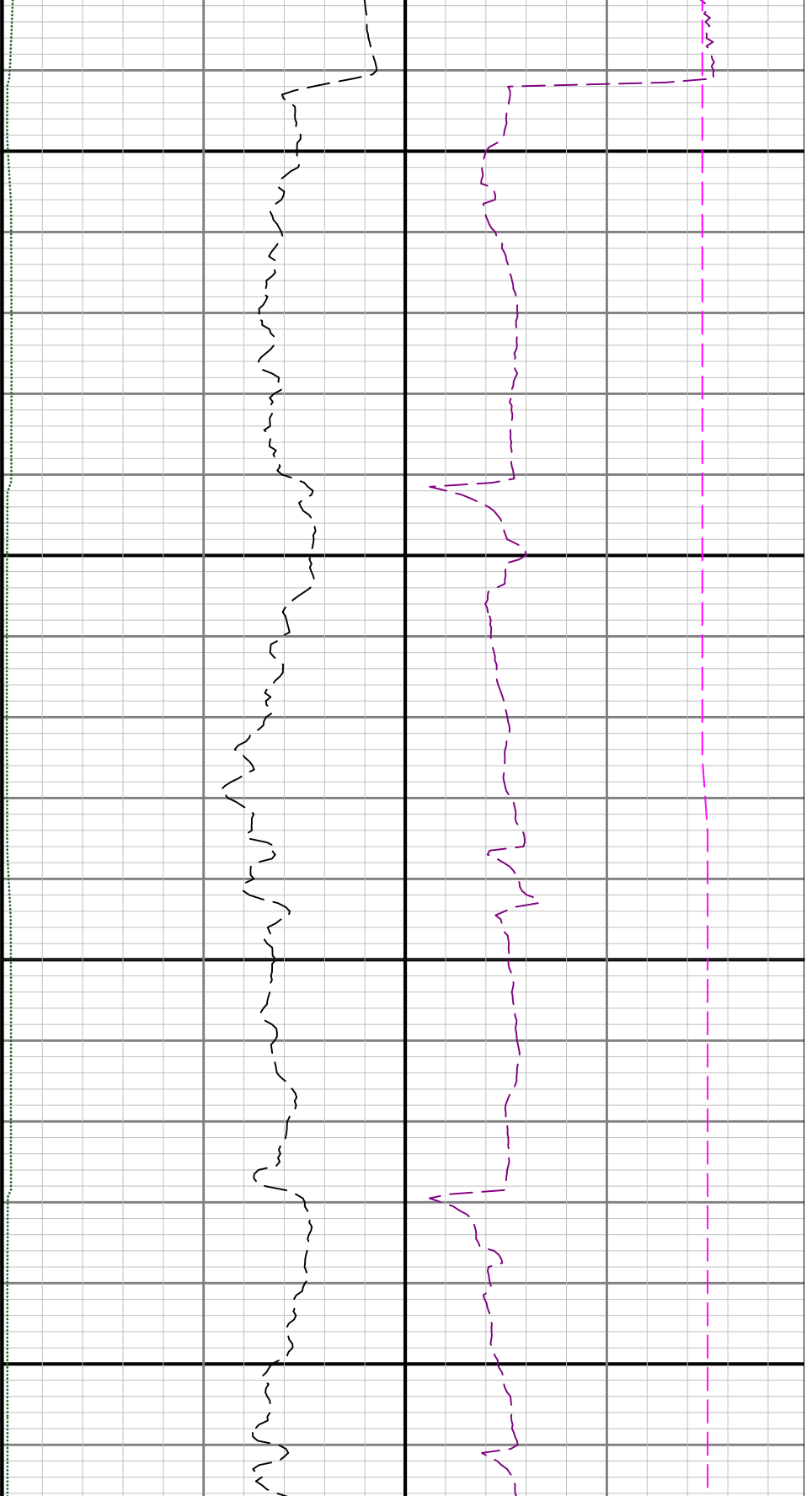
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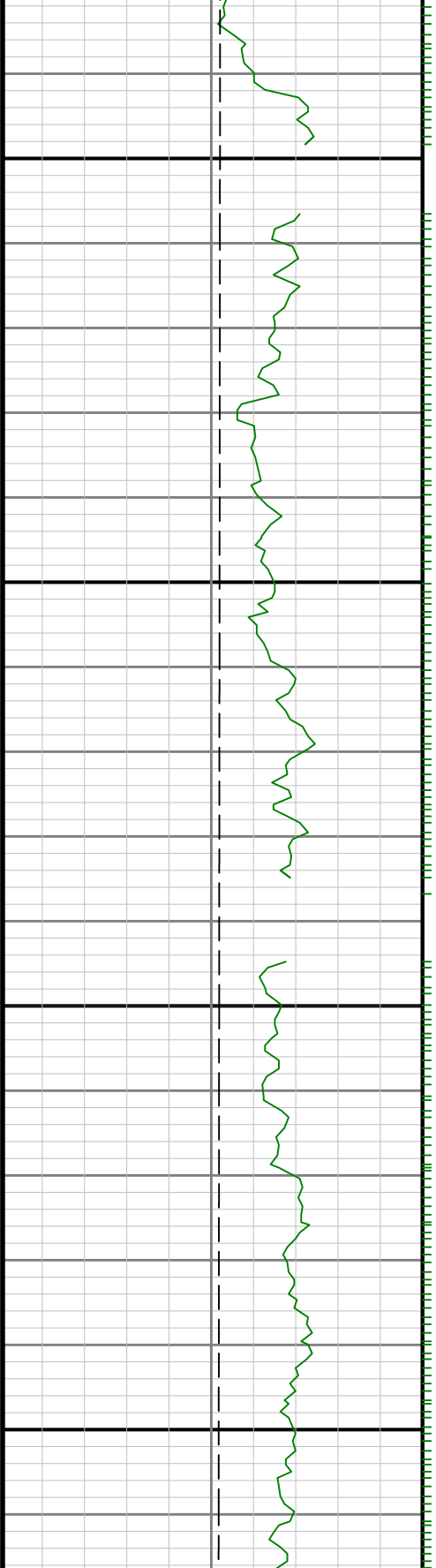
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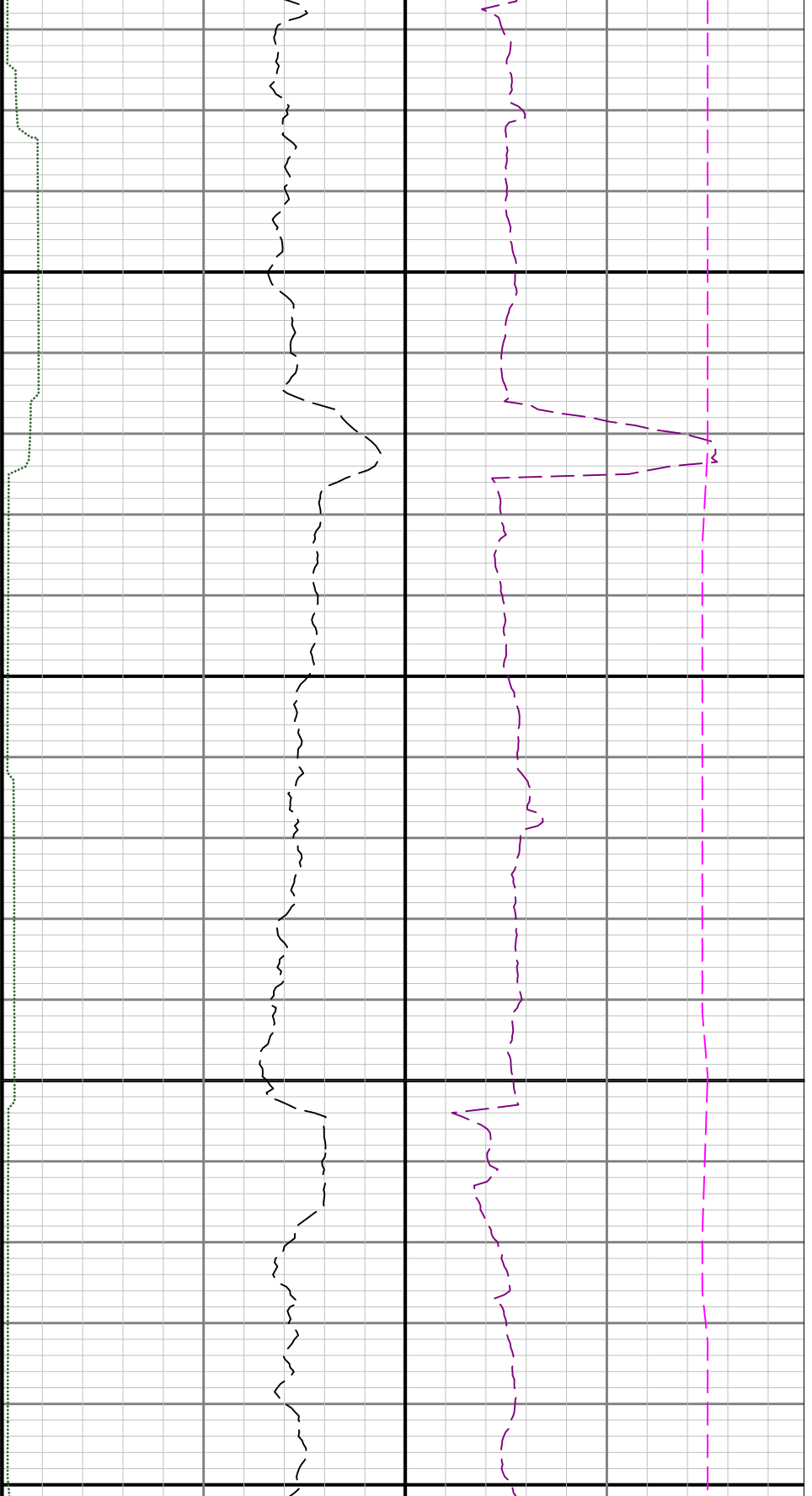




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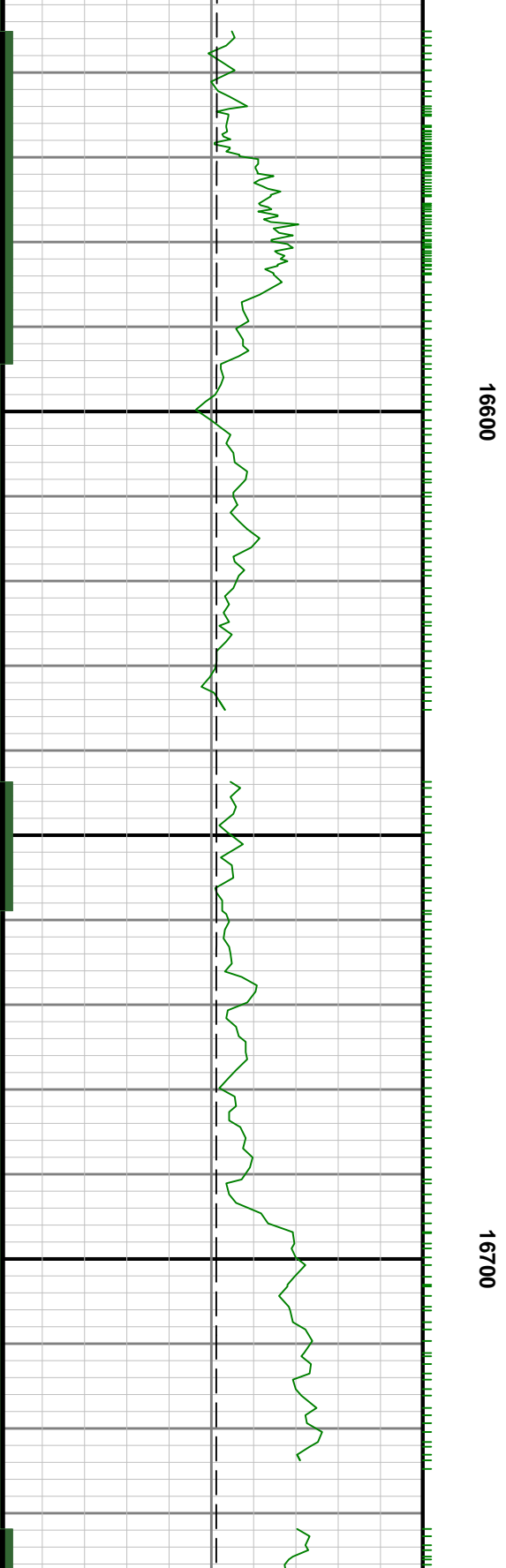
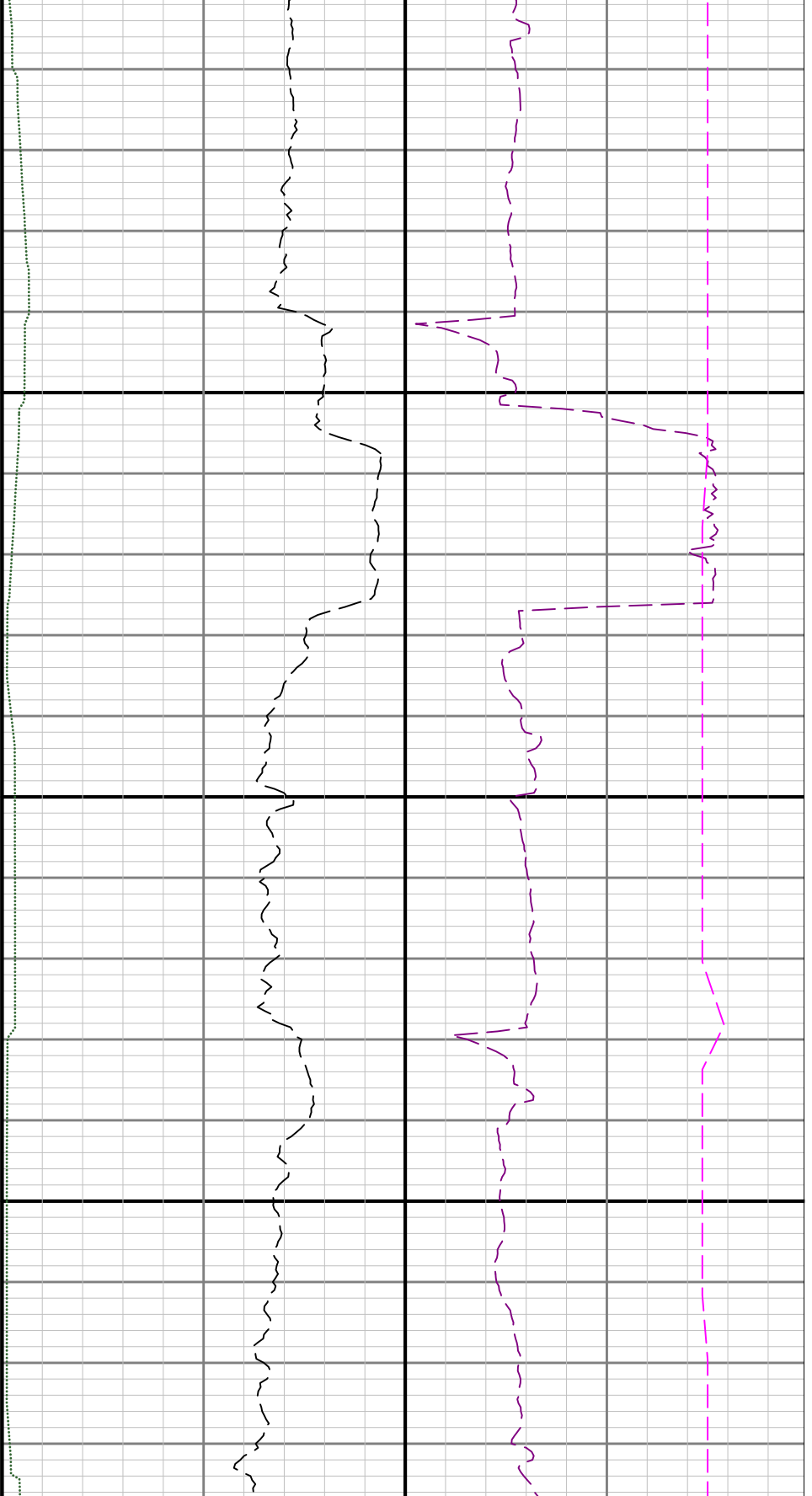


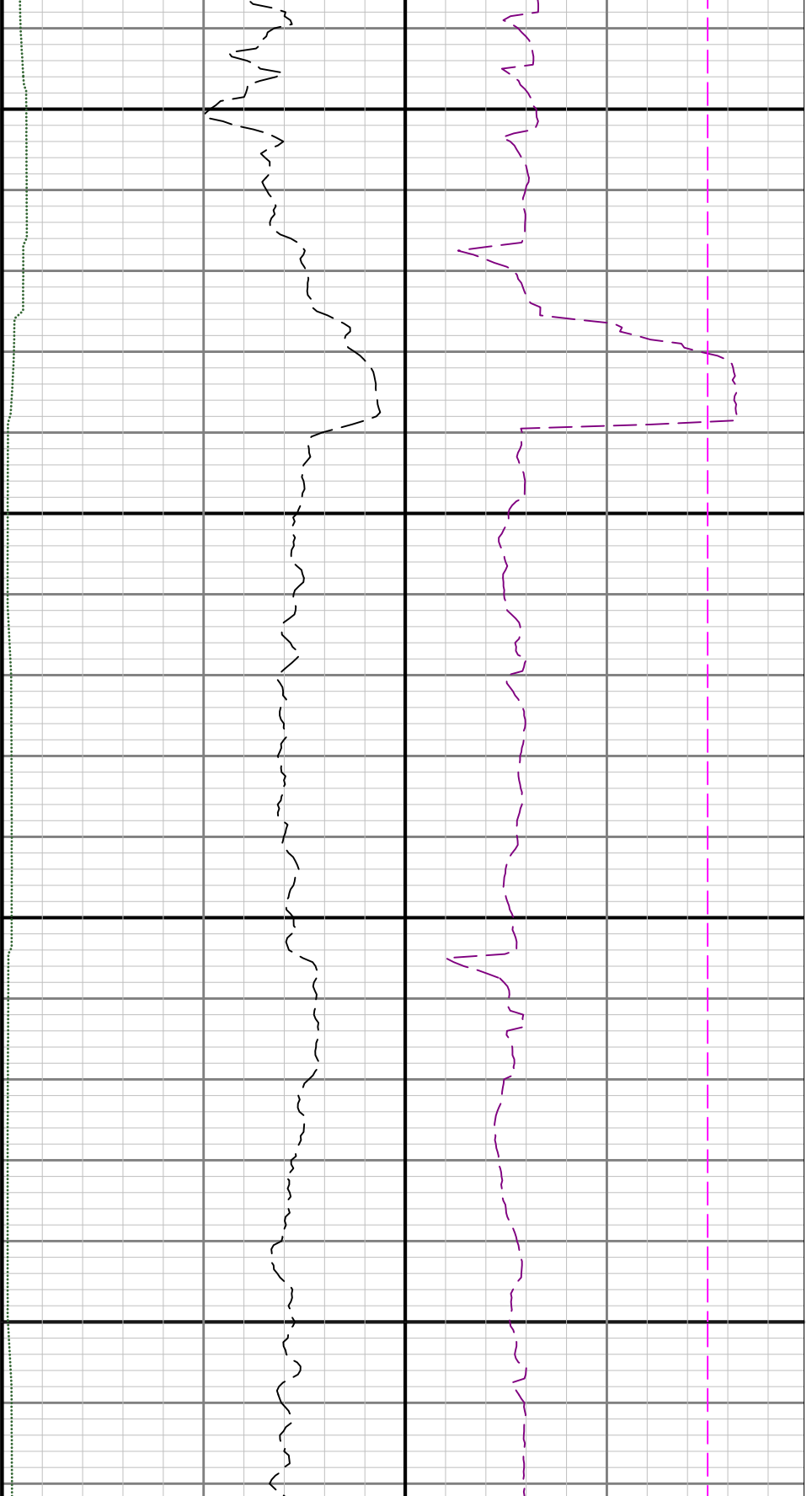


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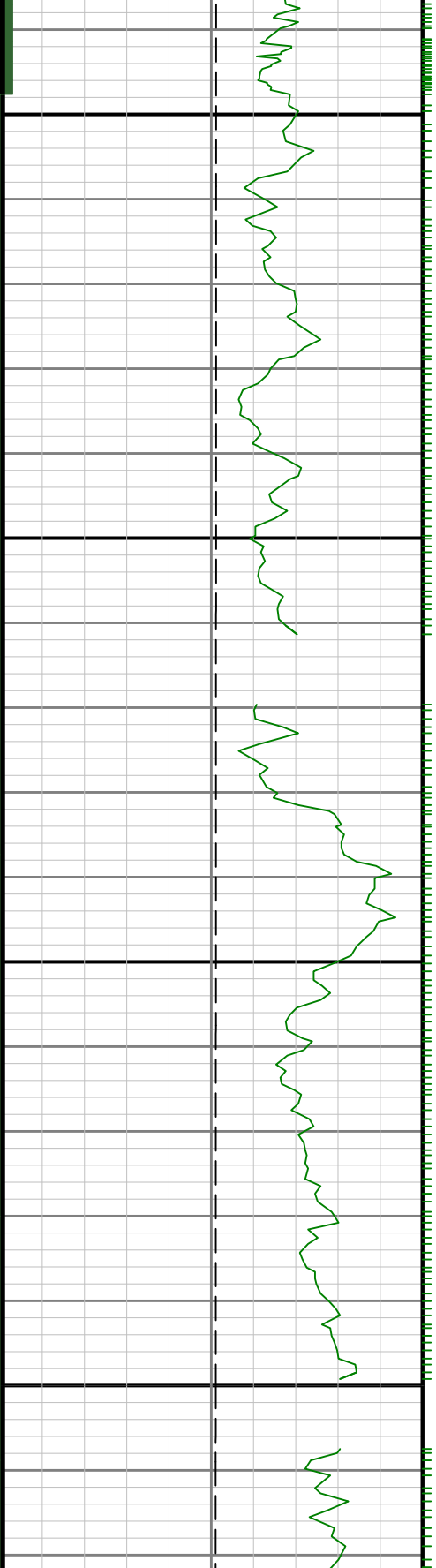


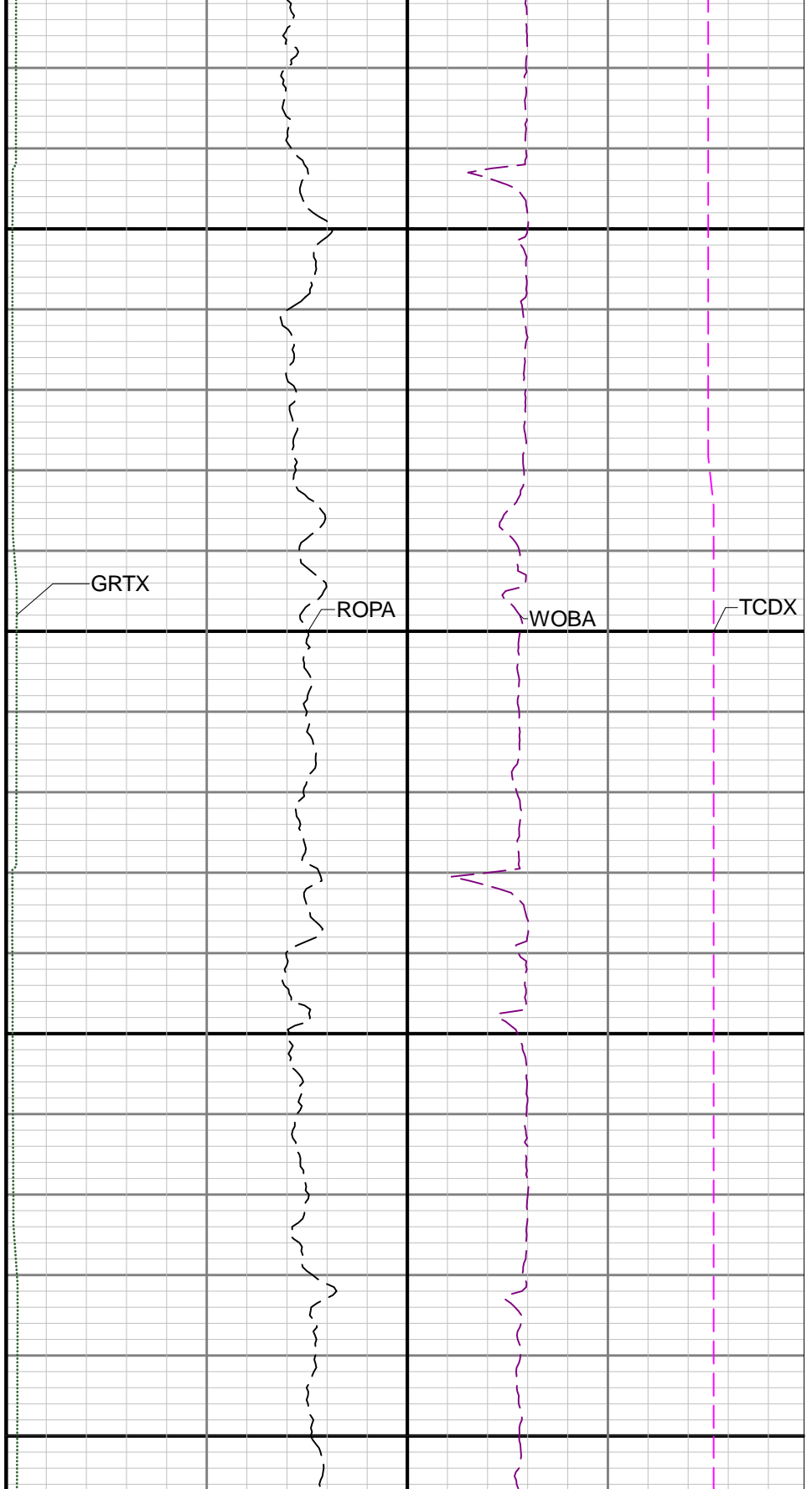
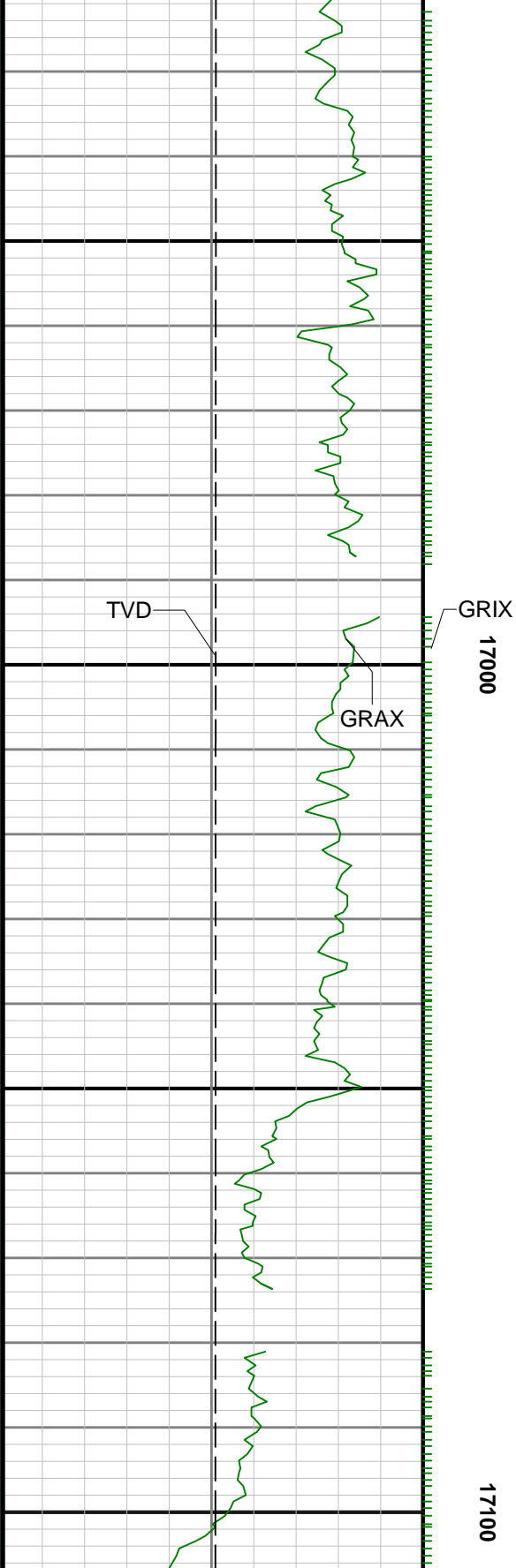


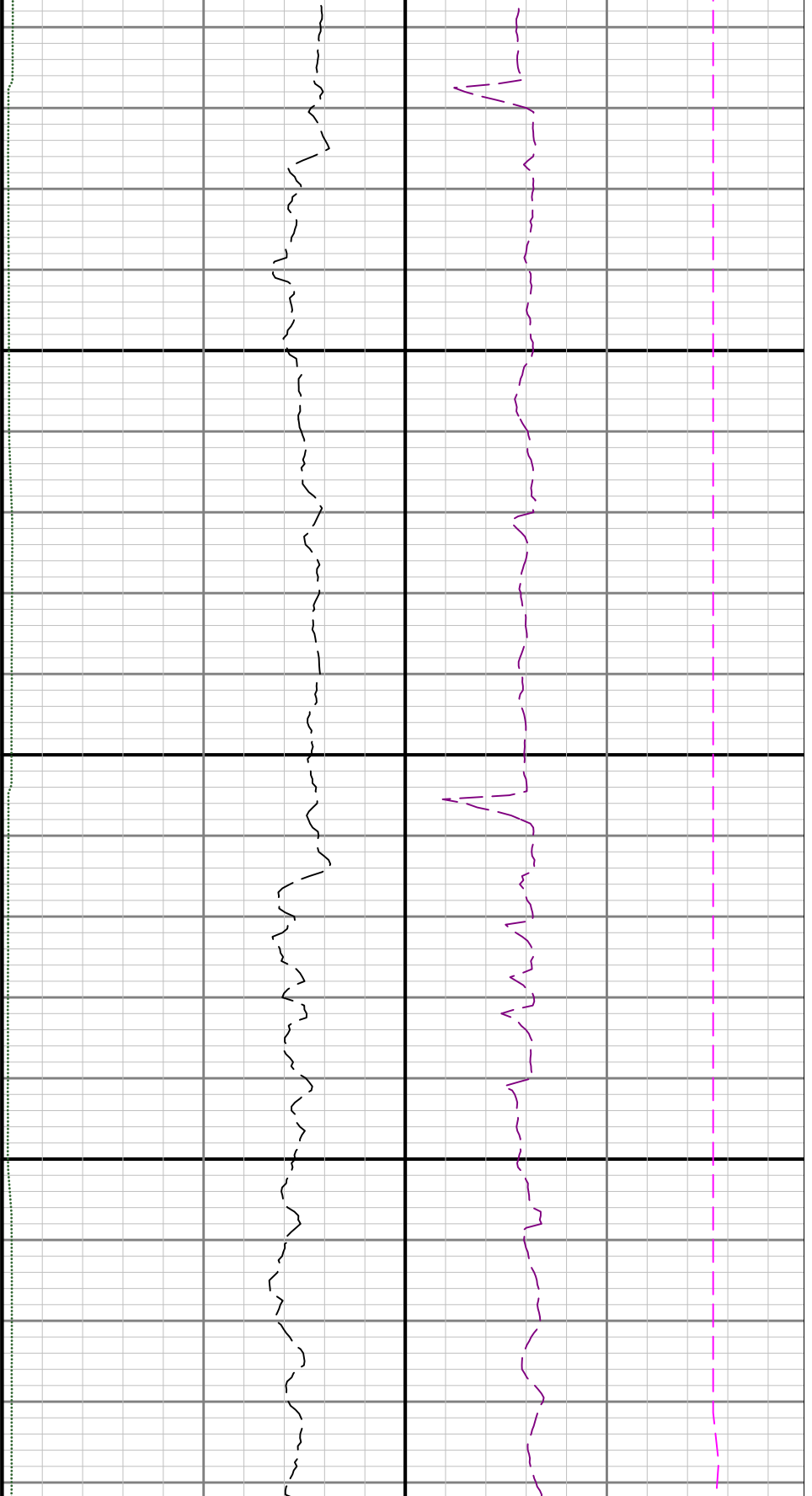


16800

16900







17200

