



Gamma Ray

Scale:

Company: Anadarko

1:240 MD

Well: Azul 13-2HZ

Depth Reference:

Field: Wattenburg

Driller's Depth

County: Weld Country: United States

State: Colorado

Status:

Final Print

Surface Location:

Latitude:

Longitude:

040° 02' 47.548" N
104° 43' 50.722" W

Other Services:

API No: 051234591500

Longitude:

104° 43' 50.722" W

Directional

Job ID: 9052541

SEC: 13 TWN: 1N RGE: 66W

Permanent Datum (P.D.): Ground Level

Elevation: 5071.00 ft

Elev. KB: 5088.00 ft

Log Measured From: Rig Floor

Above P.D. 17.00 ft

Elev. DF: 5071.00 ft

Elev. GL: 5071.00 ft

Dates

Interval Logged

Magnetic Field Reference

Date From: 2018-04-11

Top: (ft) 1877.00

Azi Reference North: True

Dip Angle: (deg) 66.27

Date To: 2018-04-13

Bottom: (ft) 12406.00

Total Magnetic Field Strength: (mT)

52300

Spud Date: 2018-04-11

Mag to Reference North Correction: (deg)

7.85 E

Borehole Record

Casing Record

Hole Size (in)	From (ft)	To (ft)	Size (in)	Weight (lb/ft)	From (ft)	To (ft)
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13.500	17.00	1877.00	9.625	25.00	17.00	1867.00
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7.875	1877.00	12447.00				
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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	1877.00	12447.00	7.875	10570.00	12.79 228.79	90.12 178.40
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Acquisition System

Software Version

Other

Baker Hughes Cadence

RT4.1

Rig: Xtreme 22

PlotStudio

4.1.7763.3

Contractor: Xtreme

Unit: D & E

District: RMA

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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)			
1	1	7.875	PDC	2.00	Steerable	1877.00	12406.00	1877.00	12447.00	2018-04-11 05:38	2018-04-13 01:36	37.01

Crew

Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite
Teni Onafowokan		2018-04-11	2018-04-13	Will Roth		2018-04-11	2018-04-13				

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+ (%)
2018-04-10 18:05	1	1877.00	Diesel-Oil Based Mud	9.2	15	N/A	N/A	74.4/25.6	Active Pit	40000	0.00
2018-04-11 19:00	1	5781.00	Diesel-Oil Based Mud	8.9	14	N/A	N/A	73.9/26.1	Active Pit	40000	0.00
2018-04-12 19:00	1	10521.00	Diesel-Oil Based Mud	9.1	14	N/A	N/A	75.1/24.9	Active Pit	38000	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	10341483	Gamma (single)	10.50	41.00	6.500	3.250
1	NaviGamma	10341483	Directional (mag)	13.92	44.42	6.500	3.250
1	NaviGamma	10341483	VSS	13.92	44.42	6.500	3.250

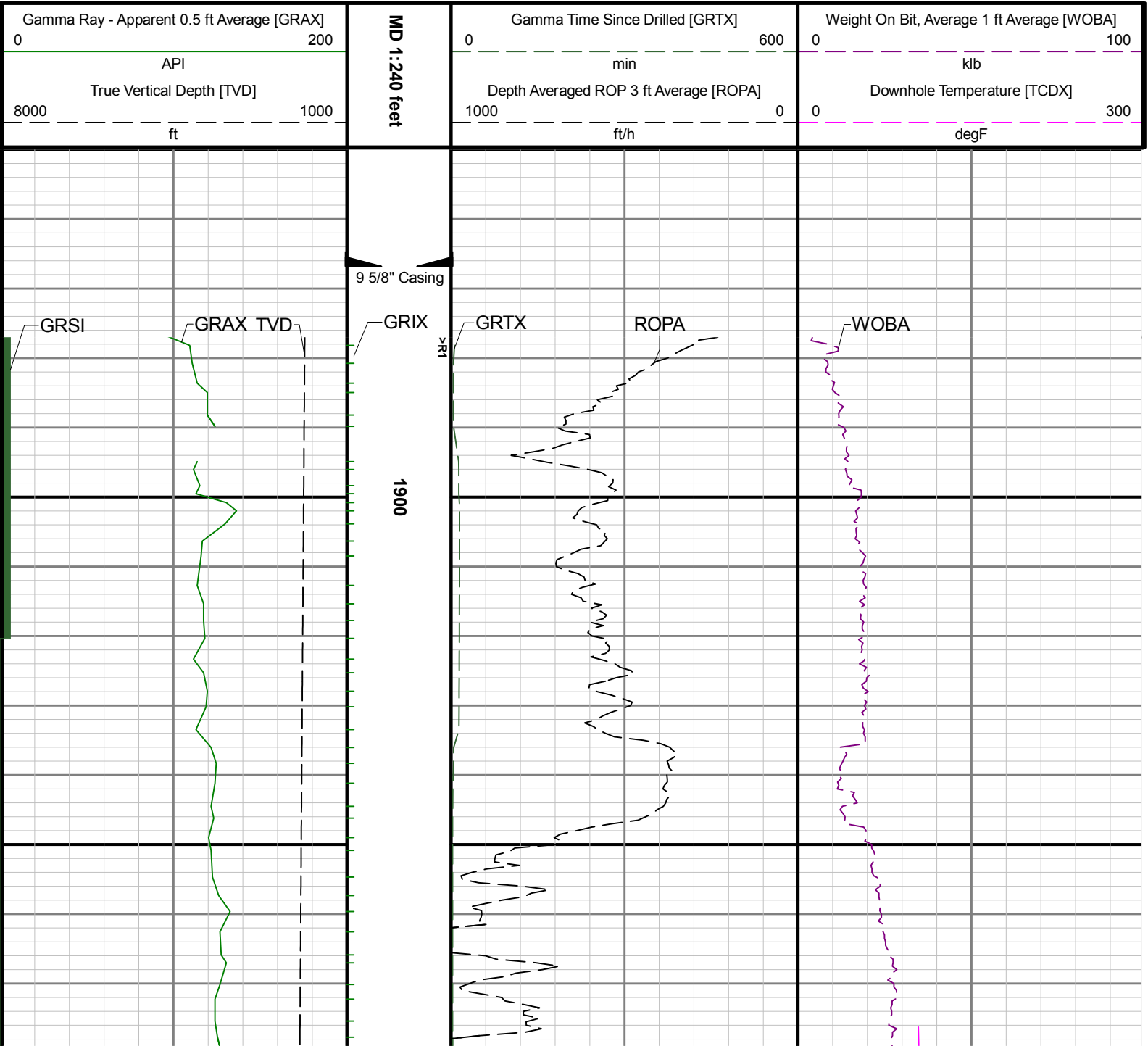
Service and Tool Mnemonics

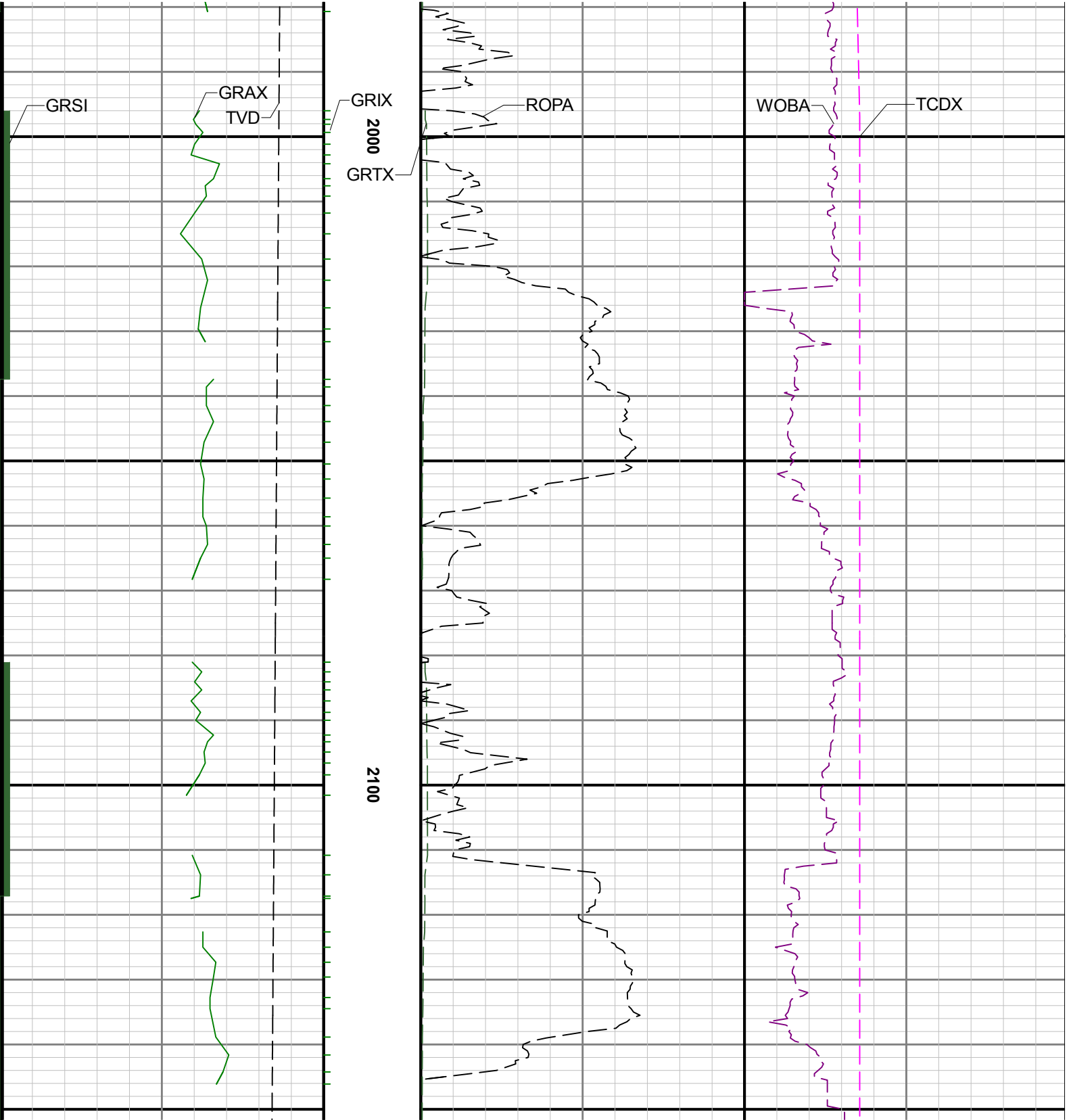
Mnemonic	Name	Description
GAM	NaviGamma	Probe Based Gamma Module, NaviTrak Platform

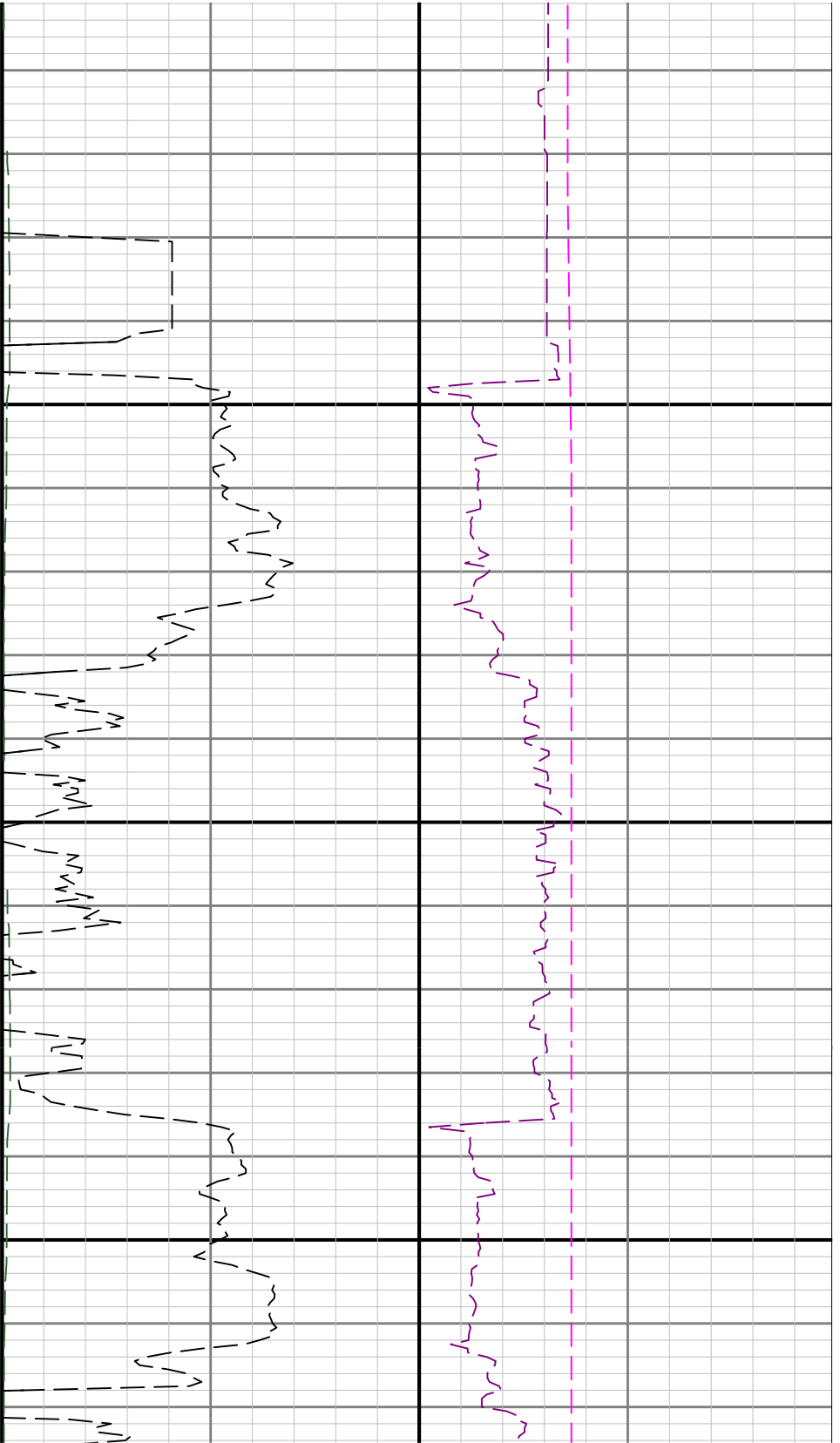
Comments

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 1877 to 12447 feet MD (1851 to 7581 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	12420.00	7.875	1	The interval from 12406 to 12447 feet MD (7581 feet TVD) was not logged due to sensor to bit offset at the end of Run 1.

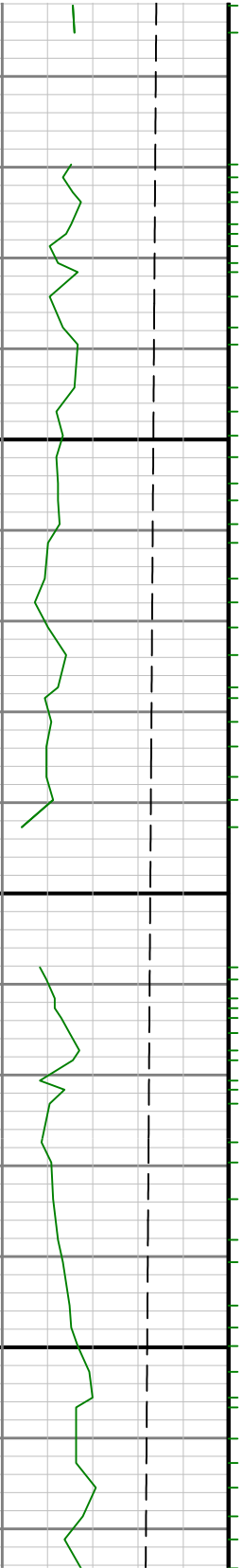


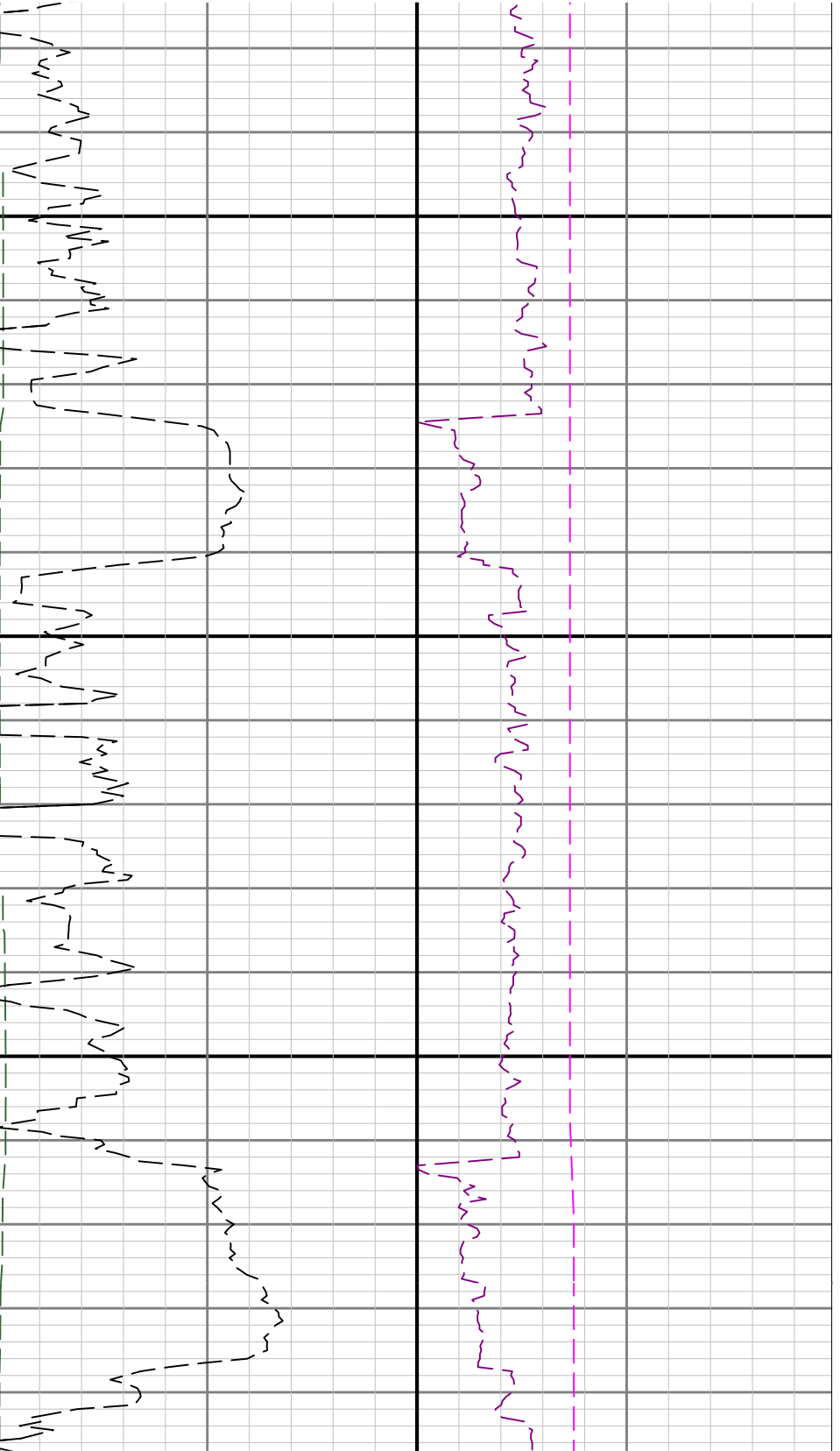




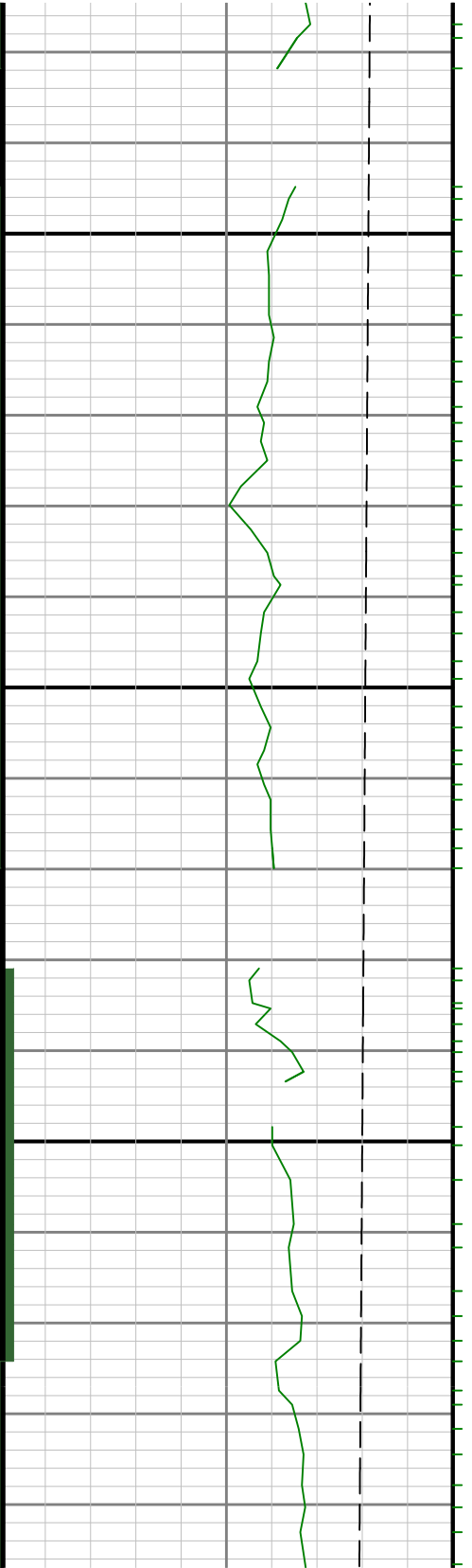
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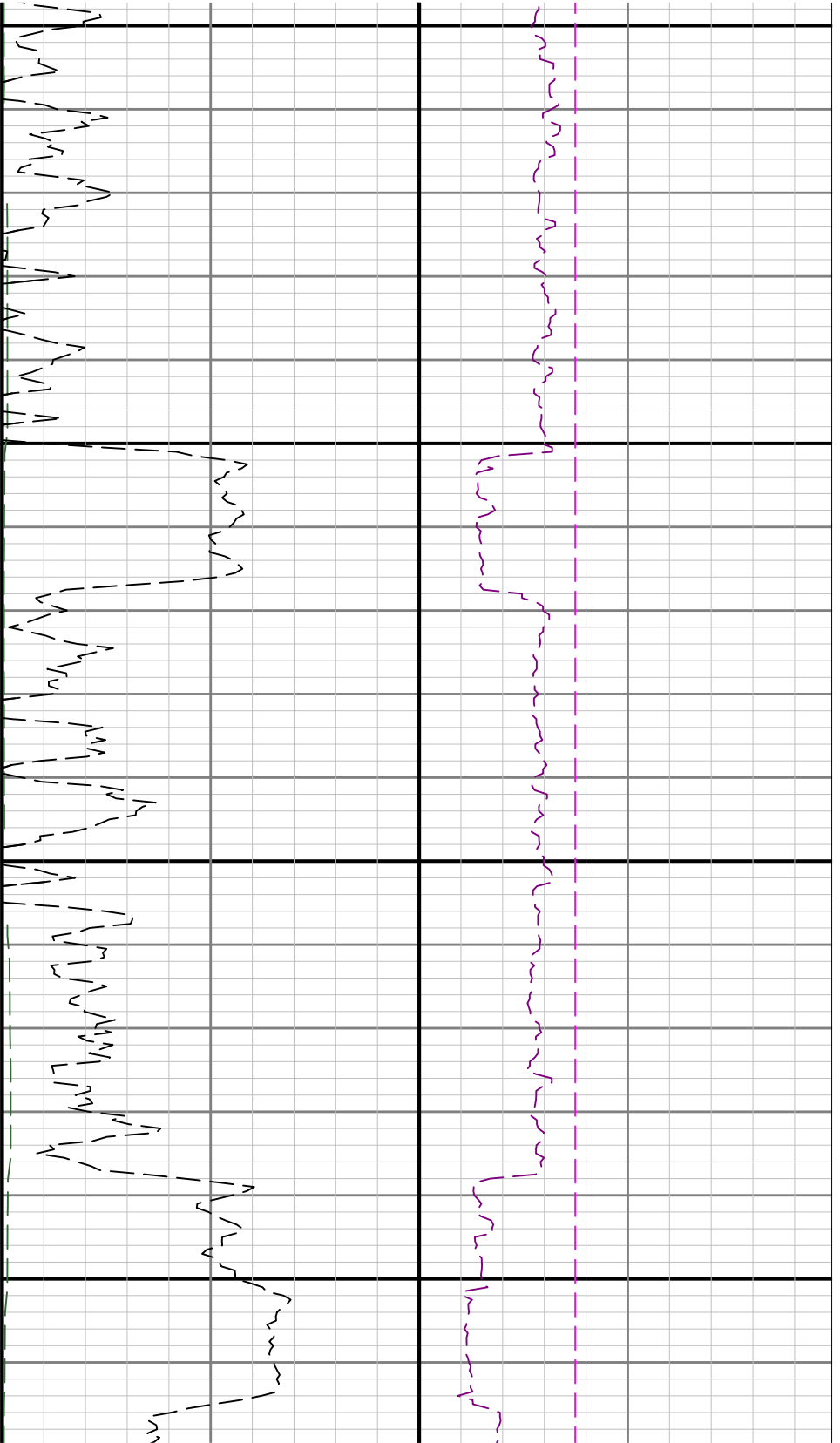
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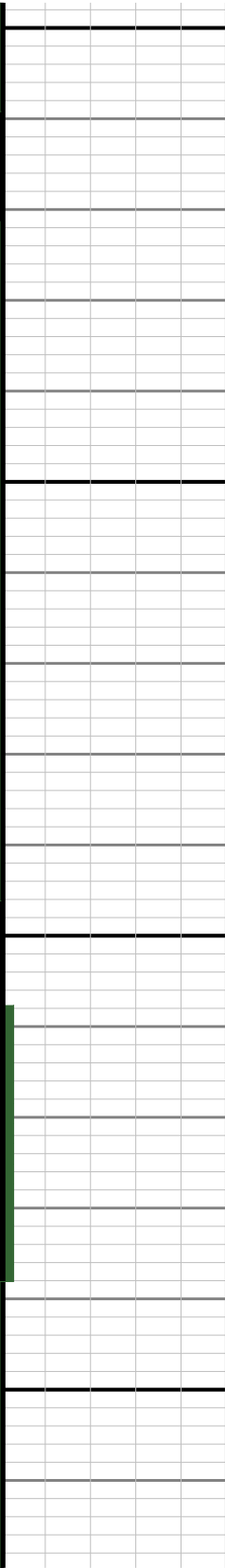
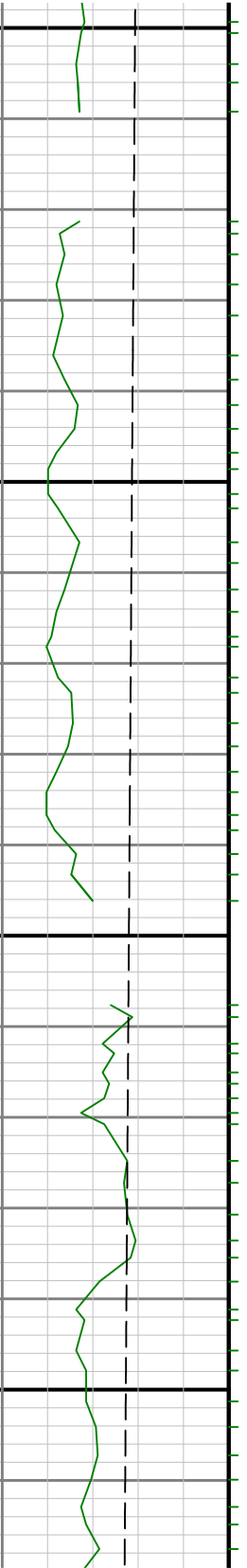
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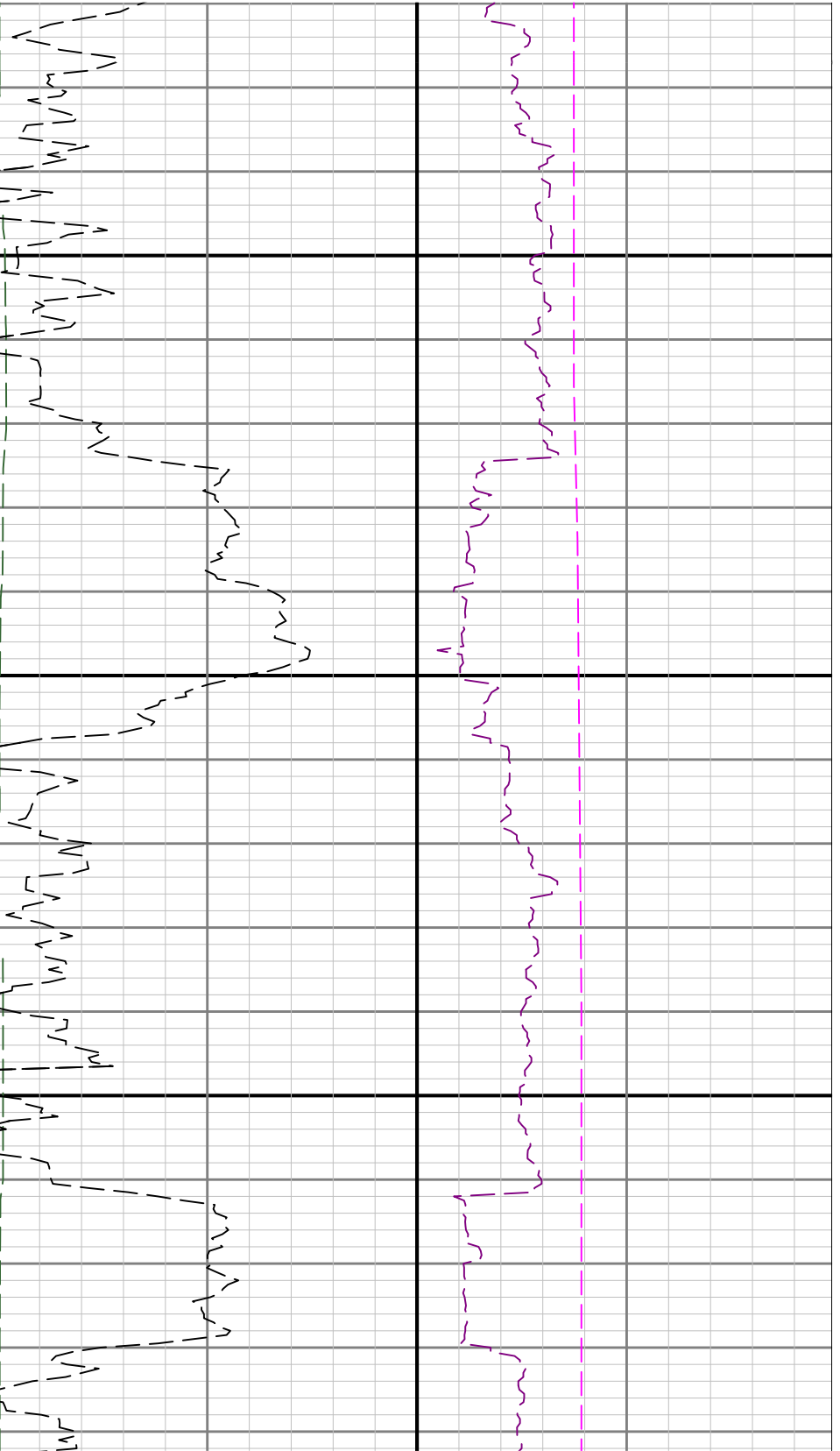




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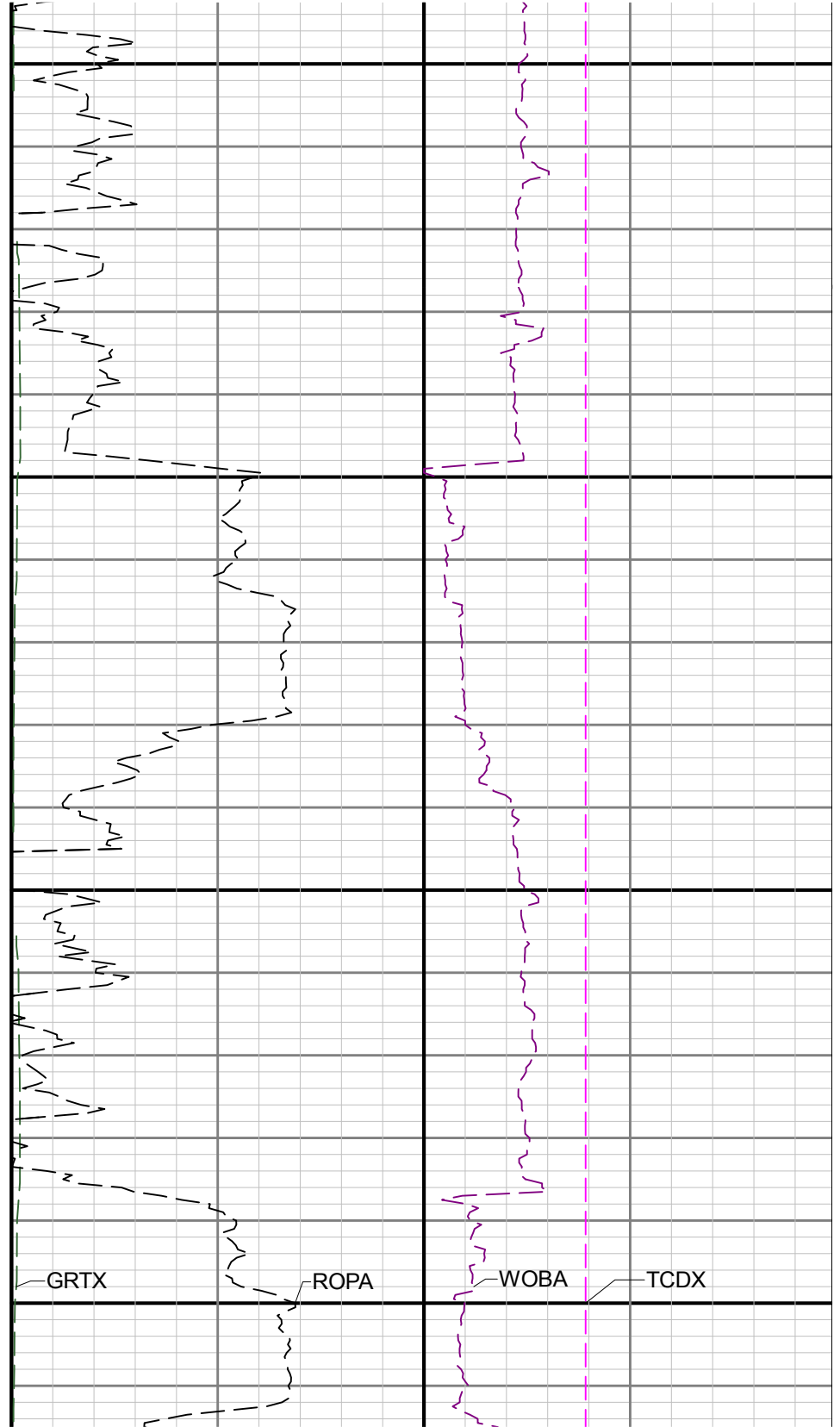
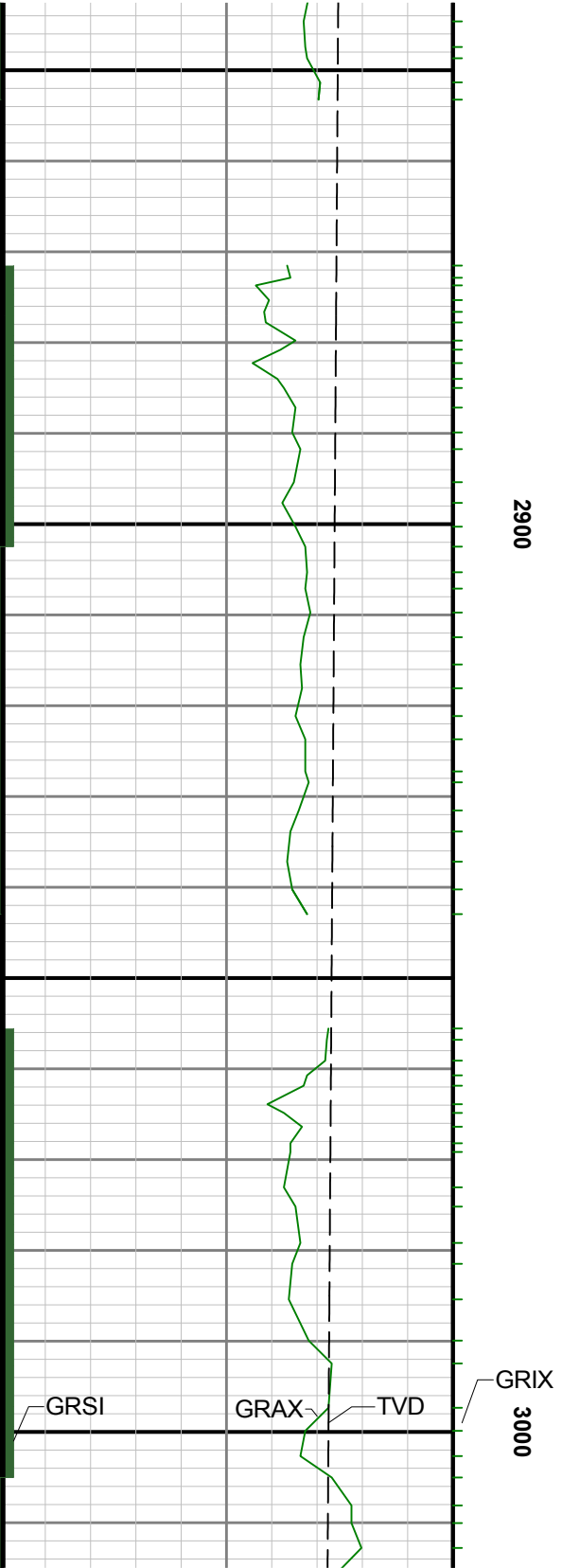


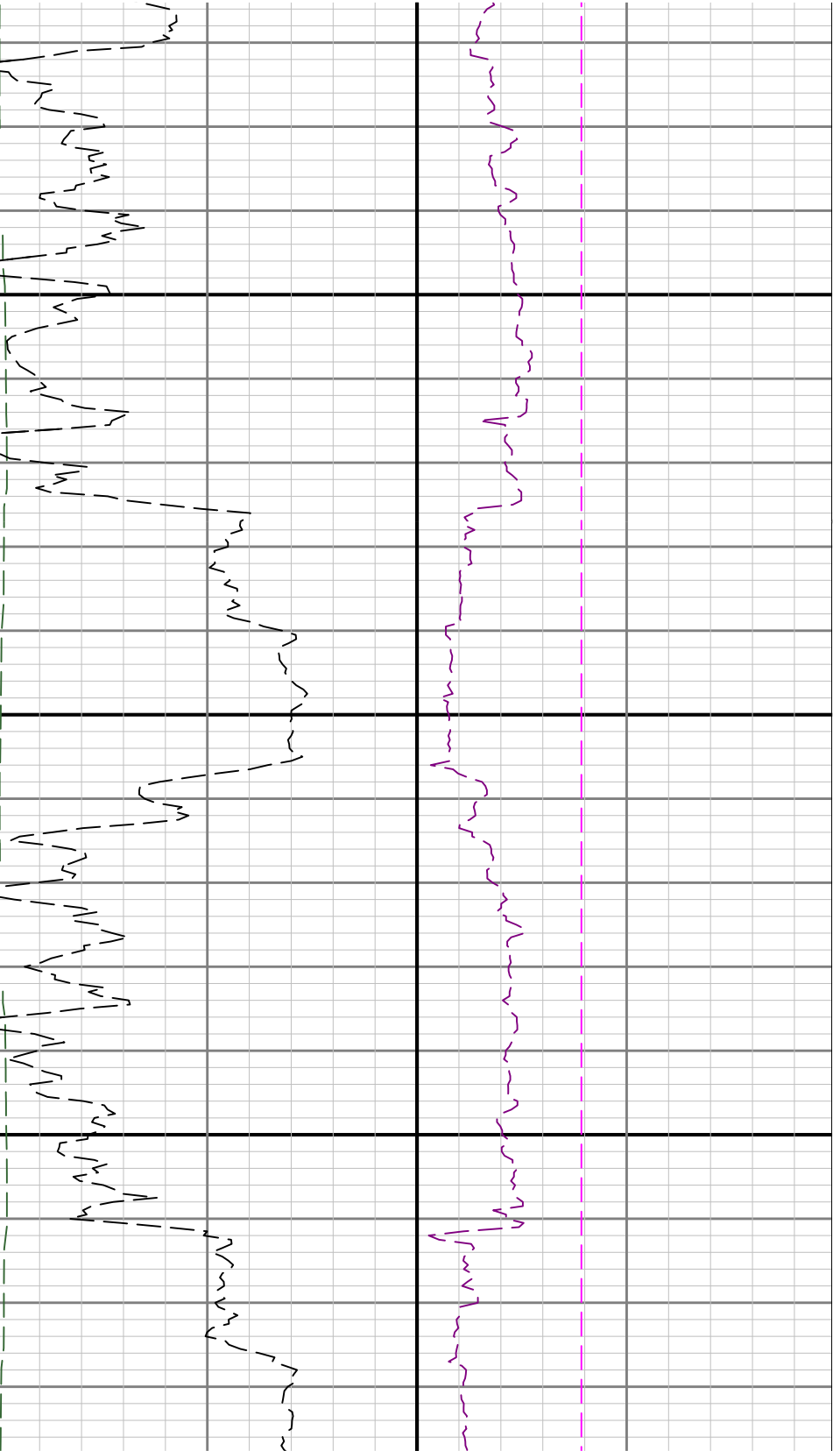


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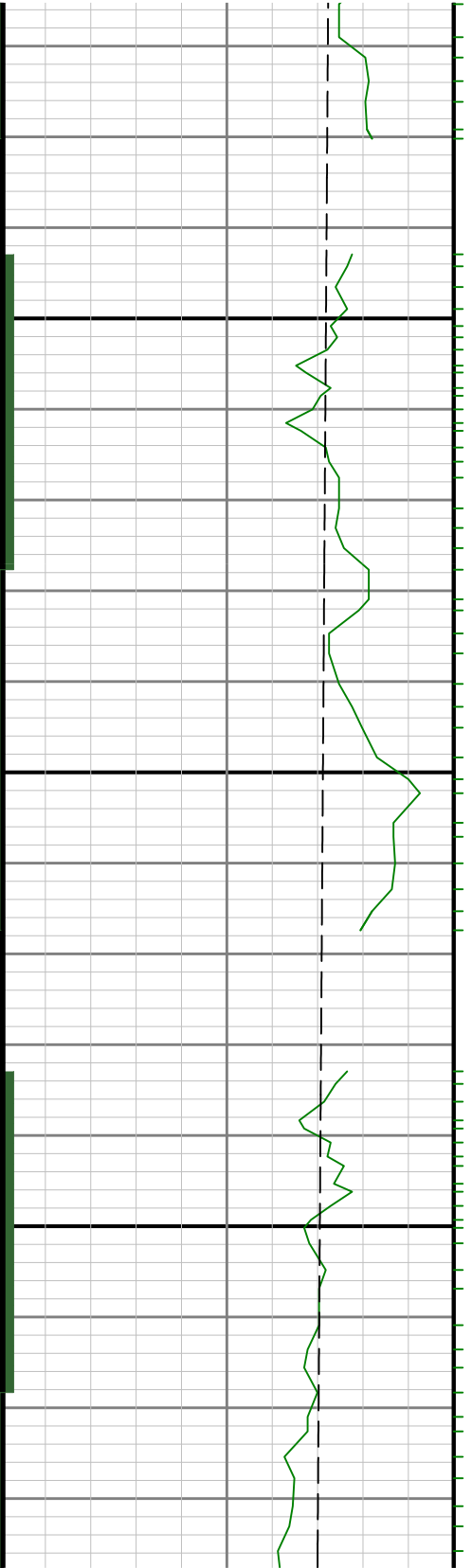
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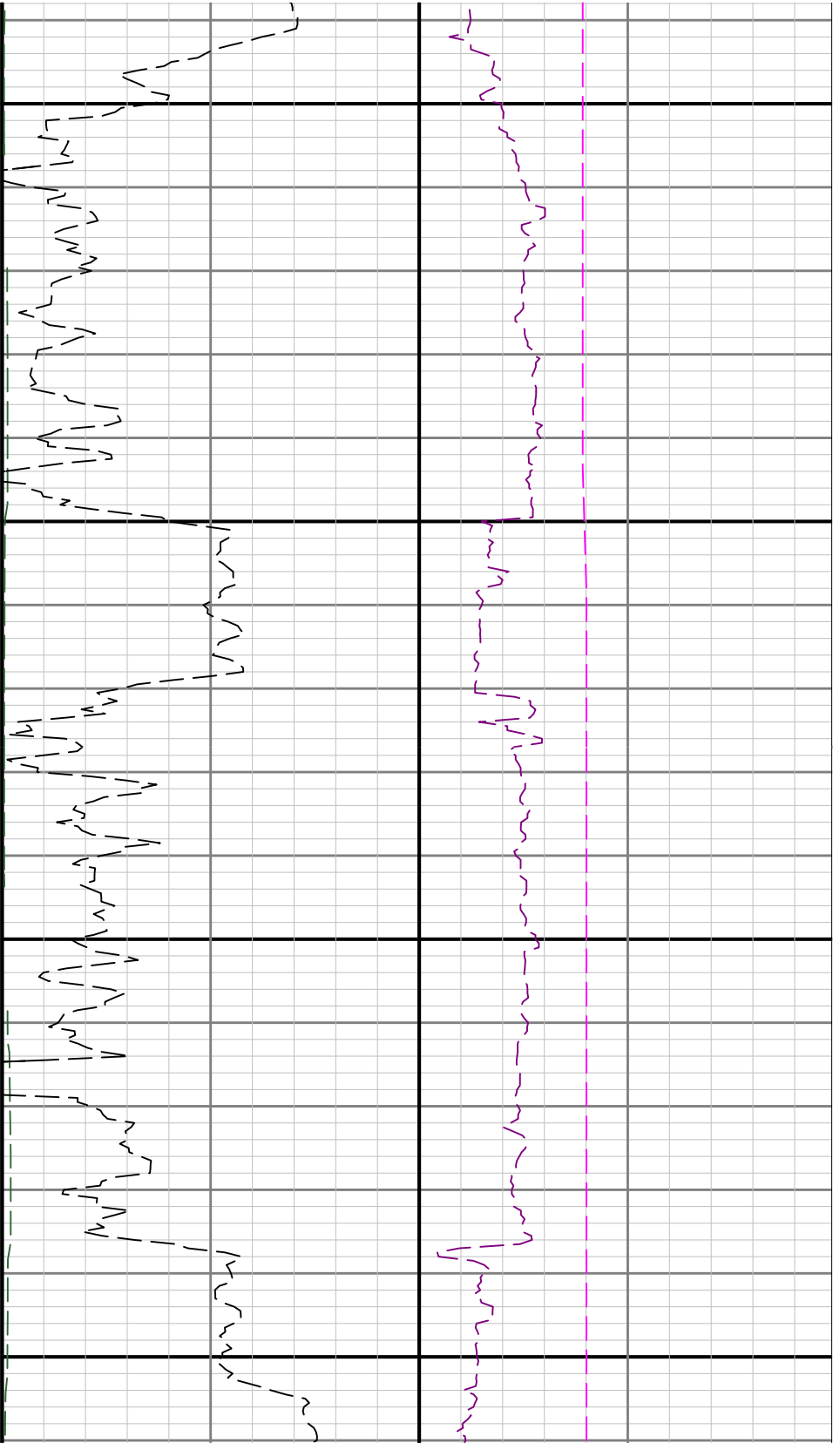






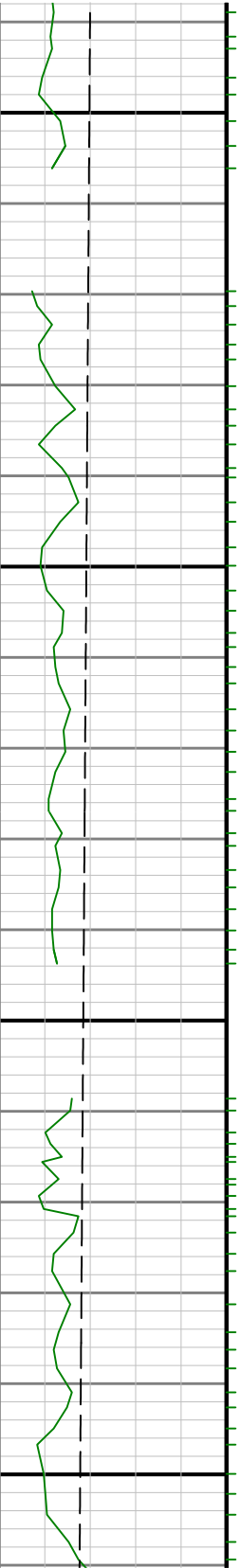
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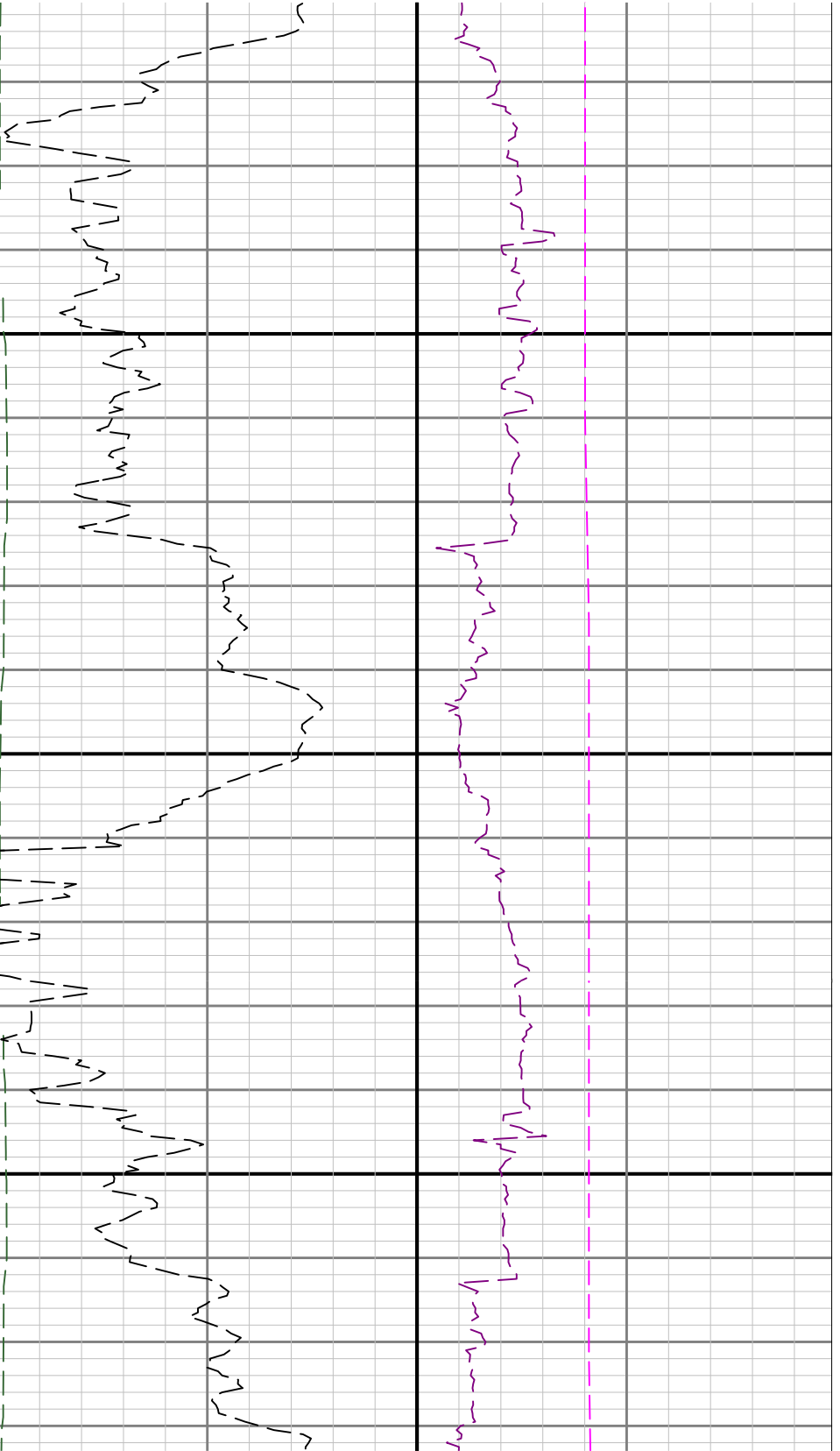




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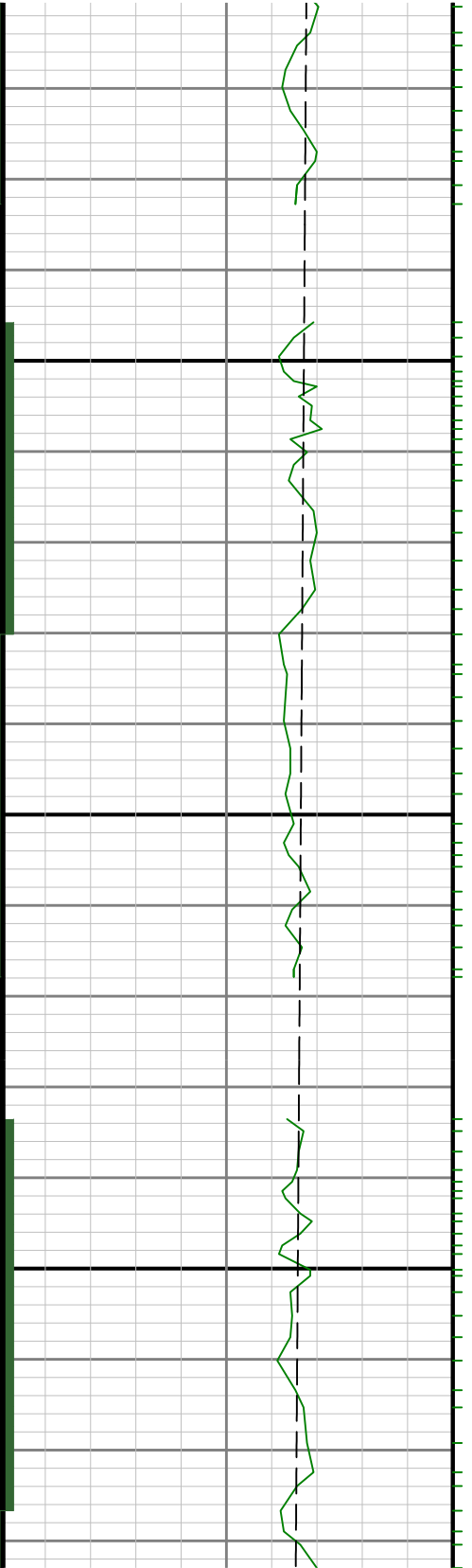
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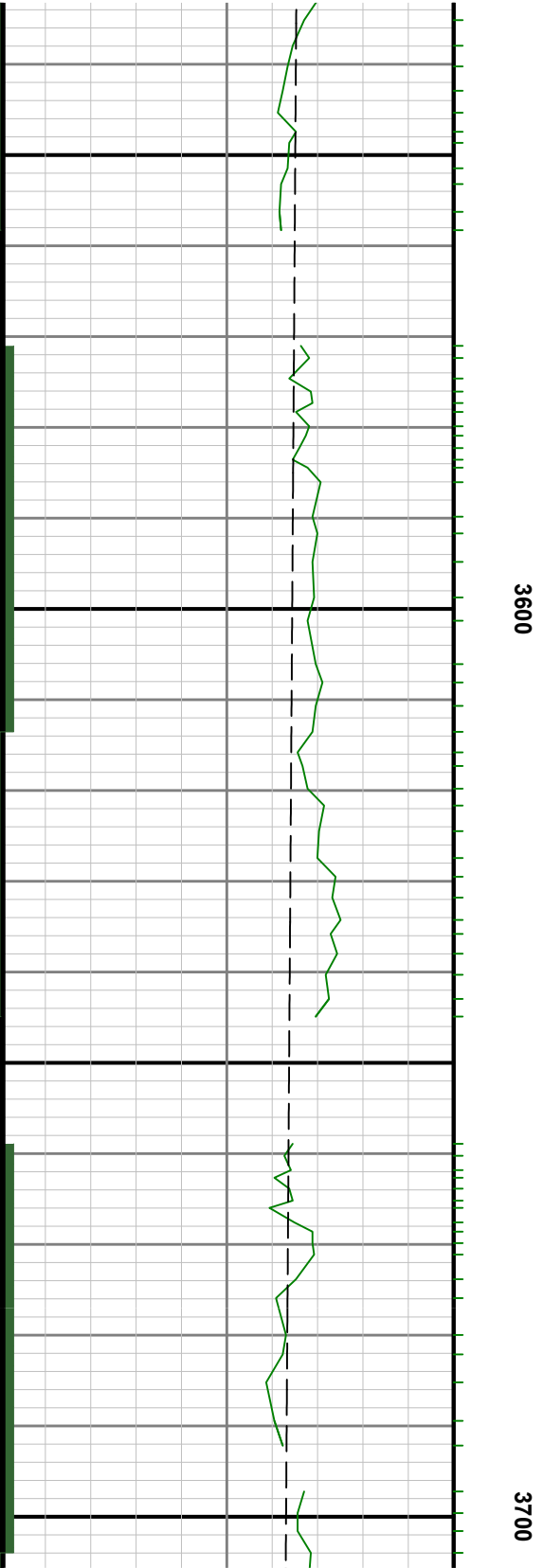
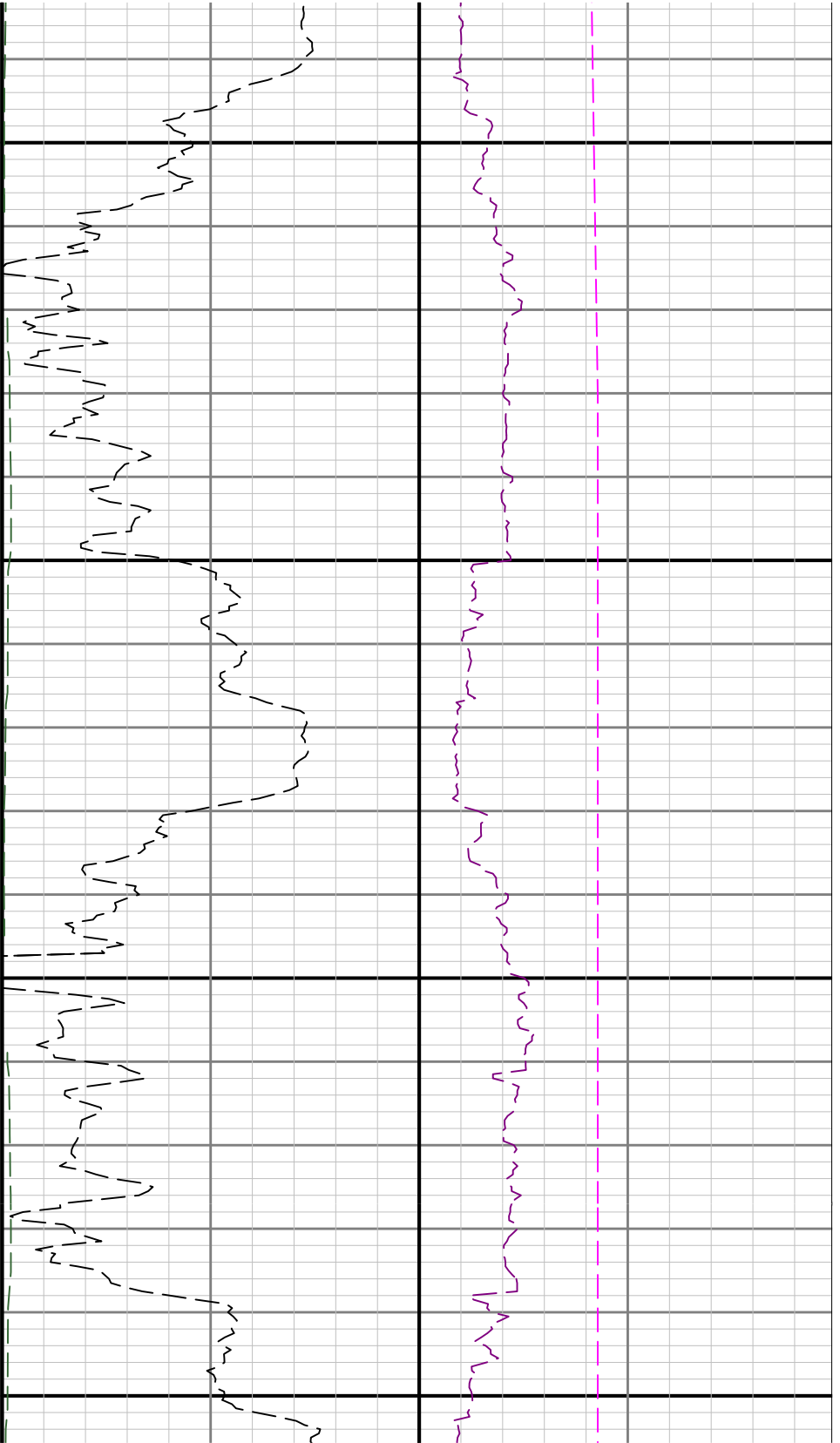


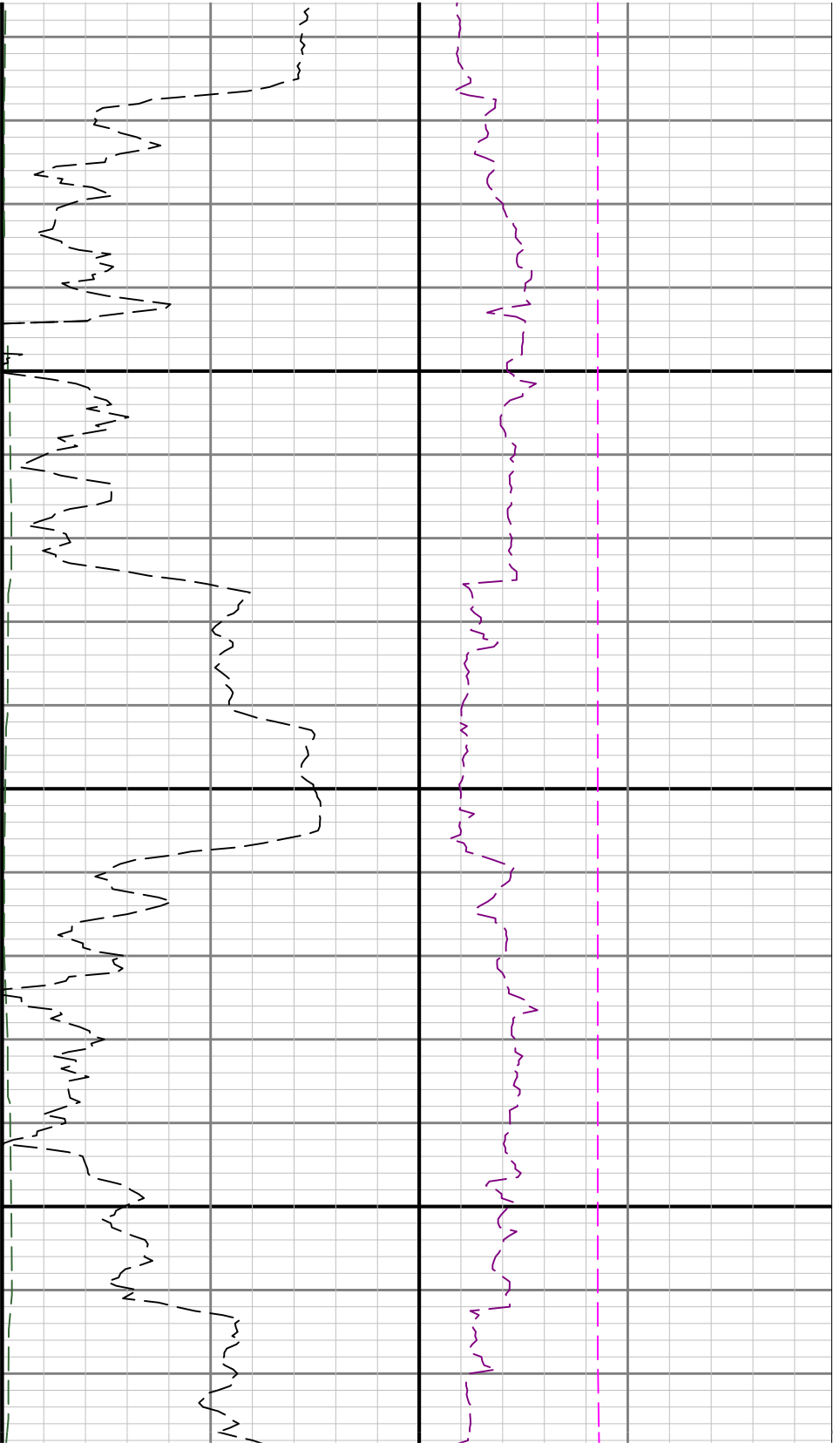


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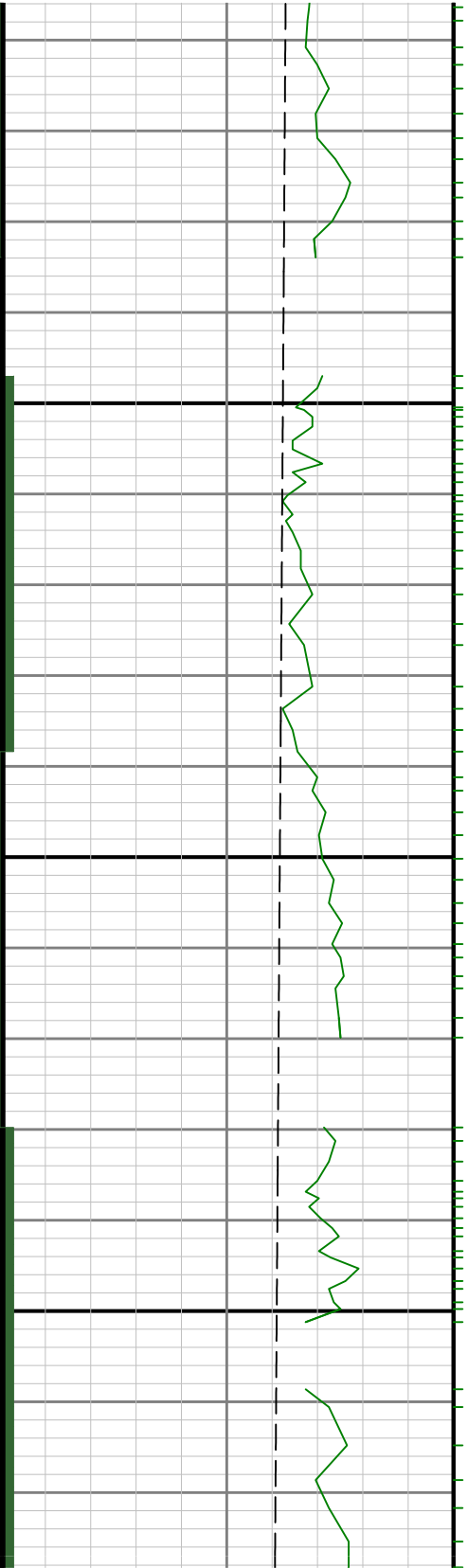
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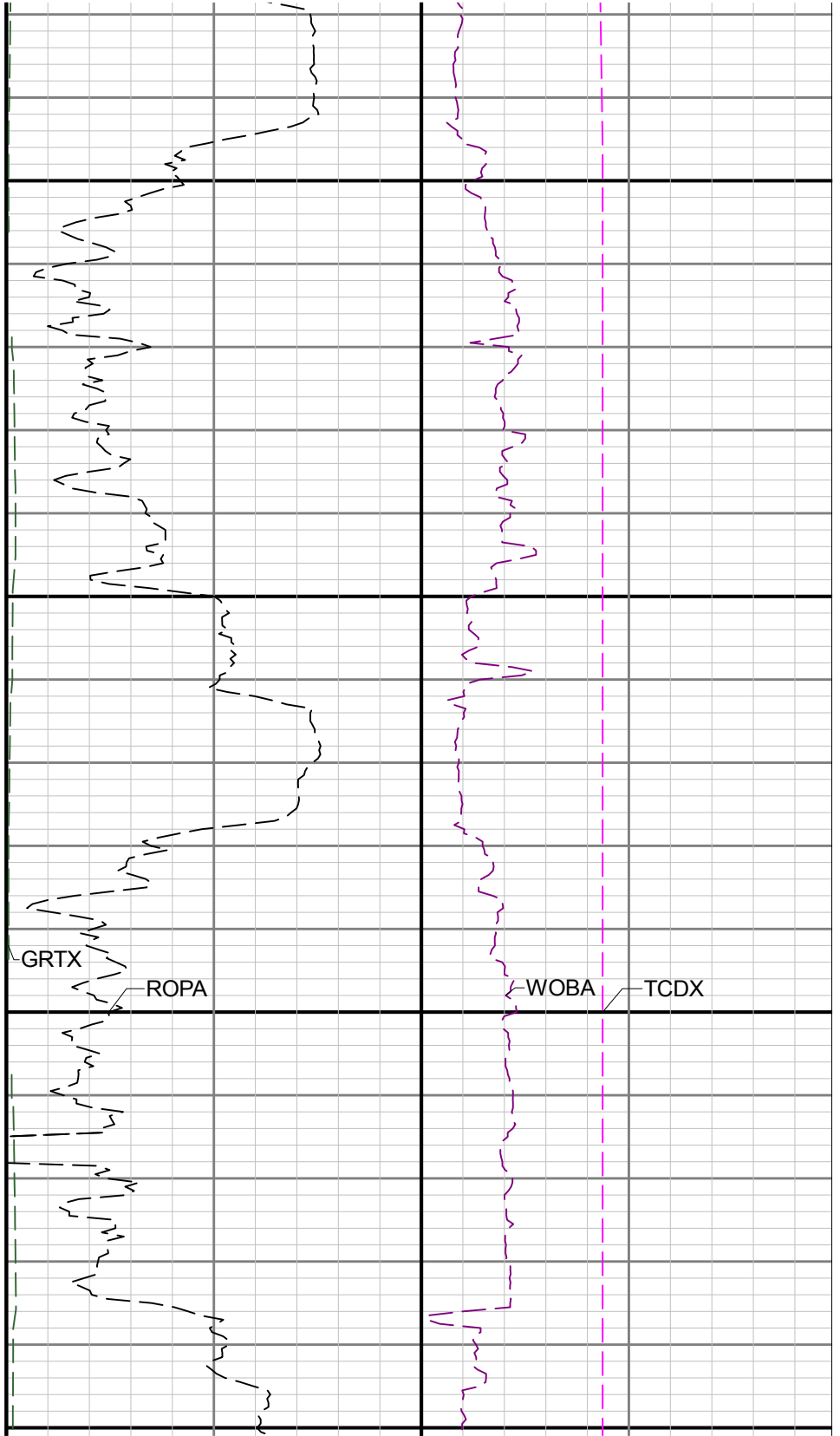
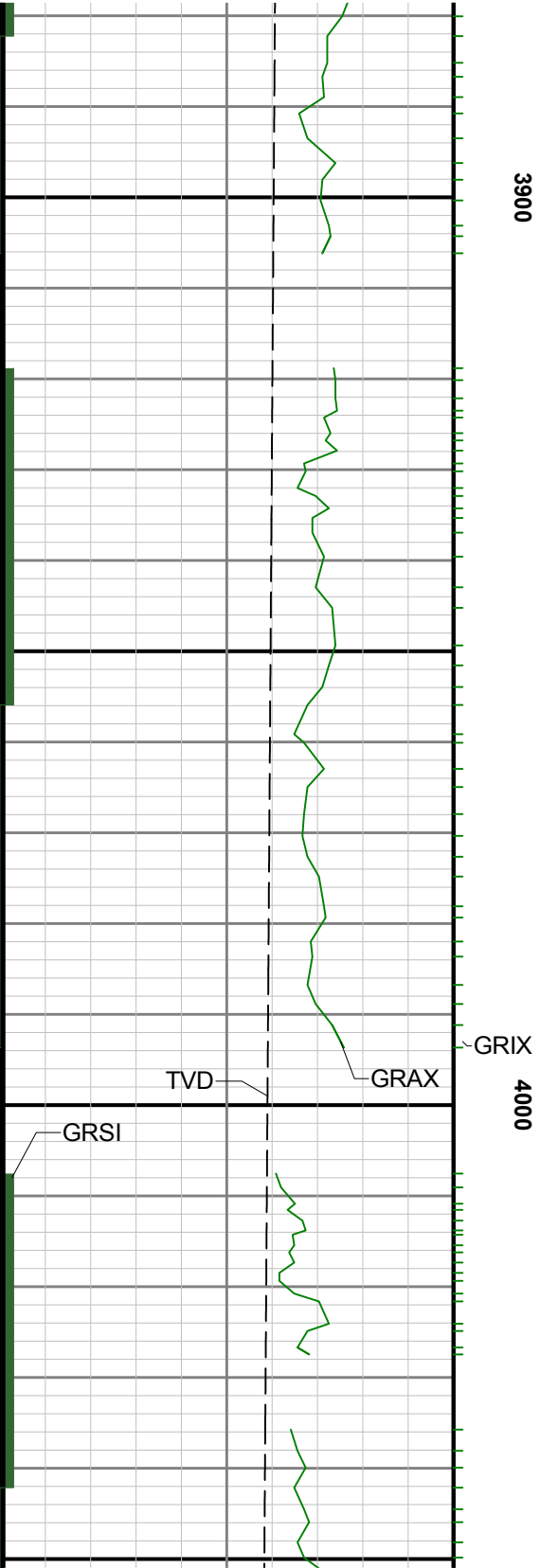


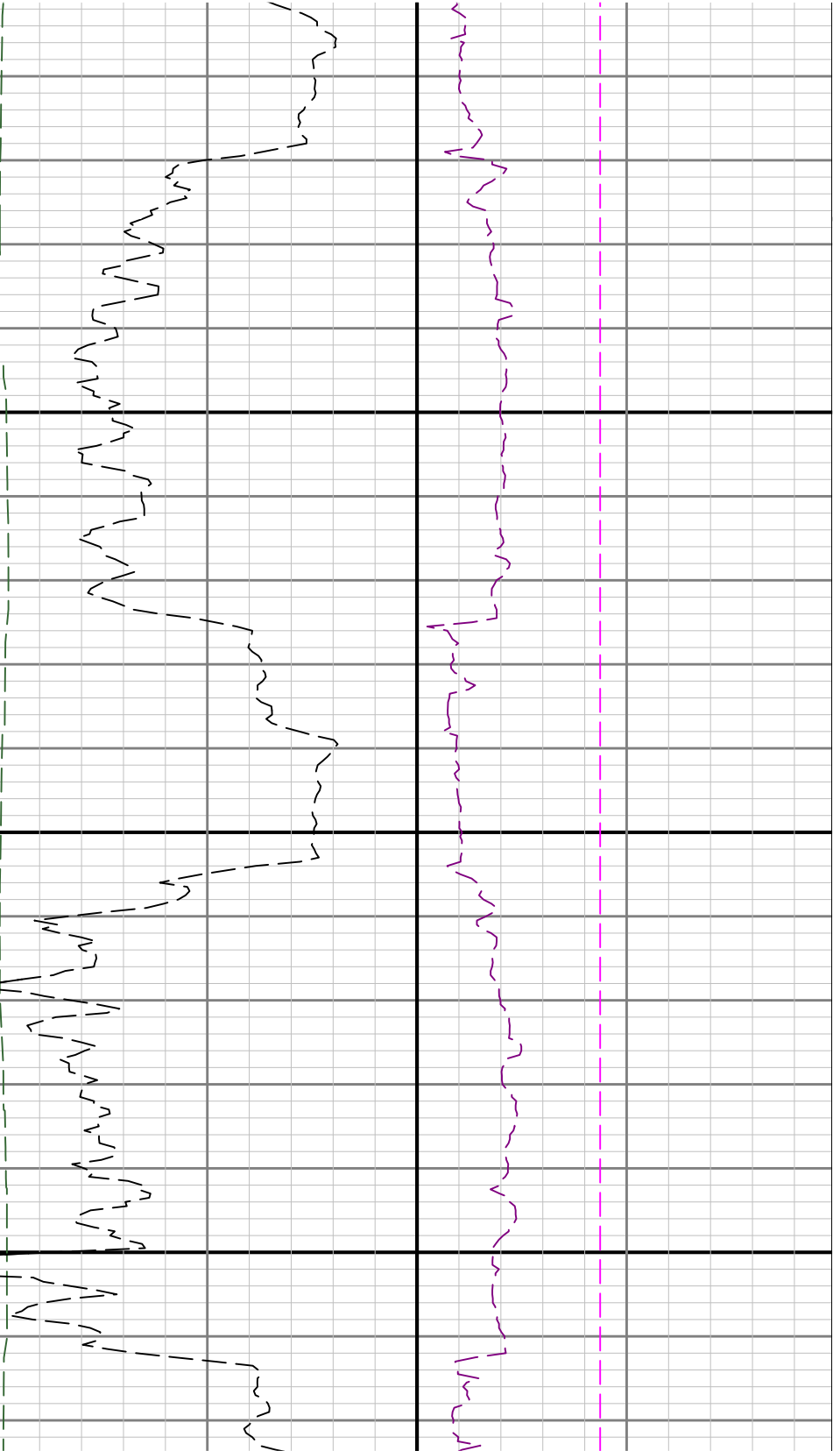




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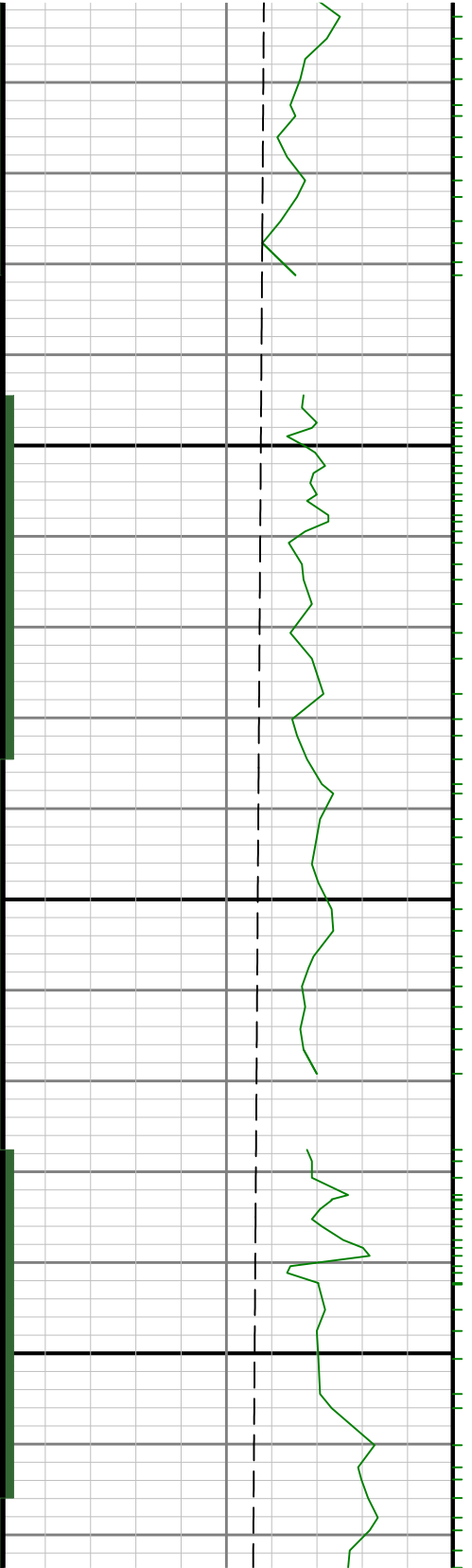


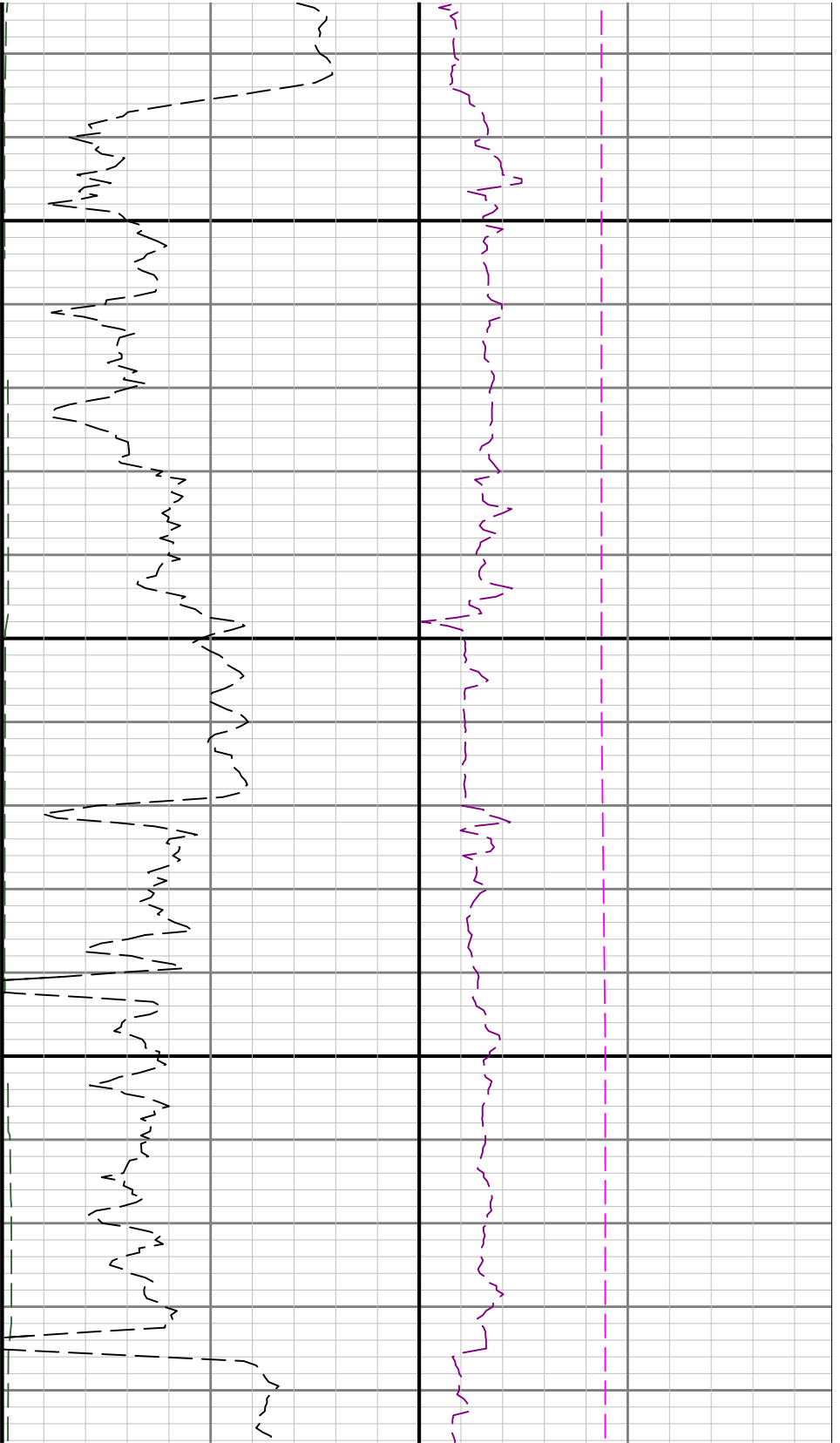




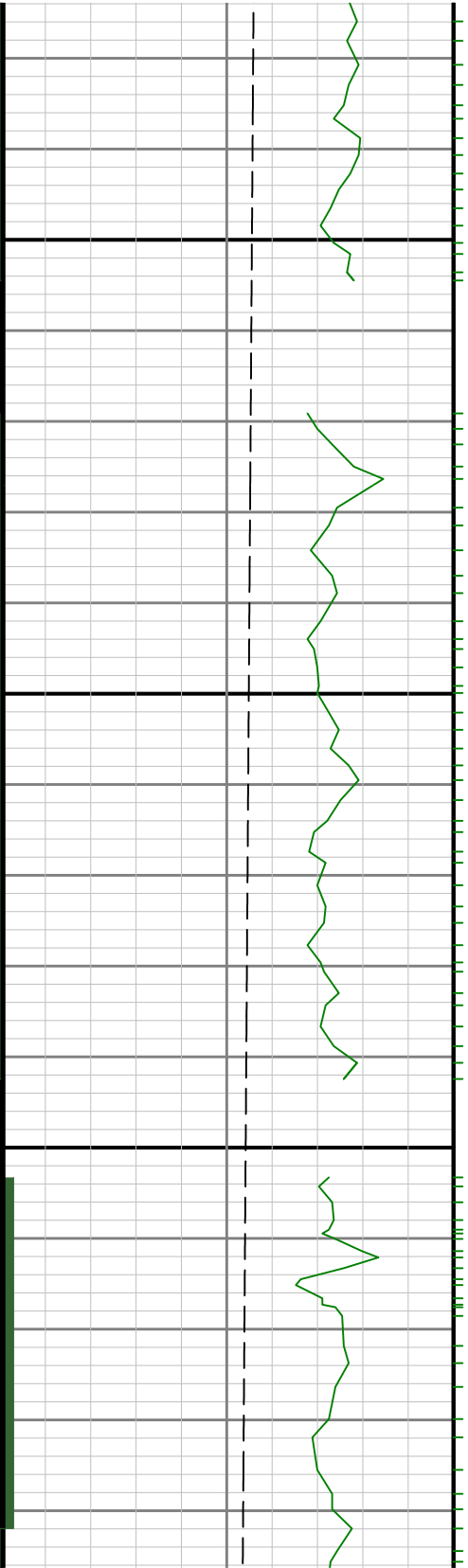
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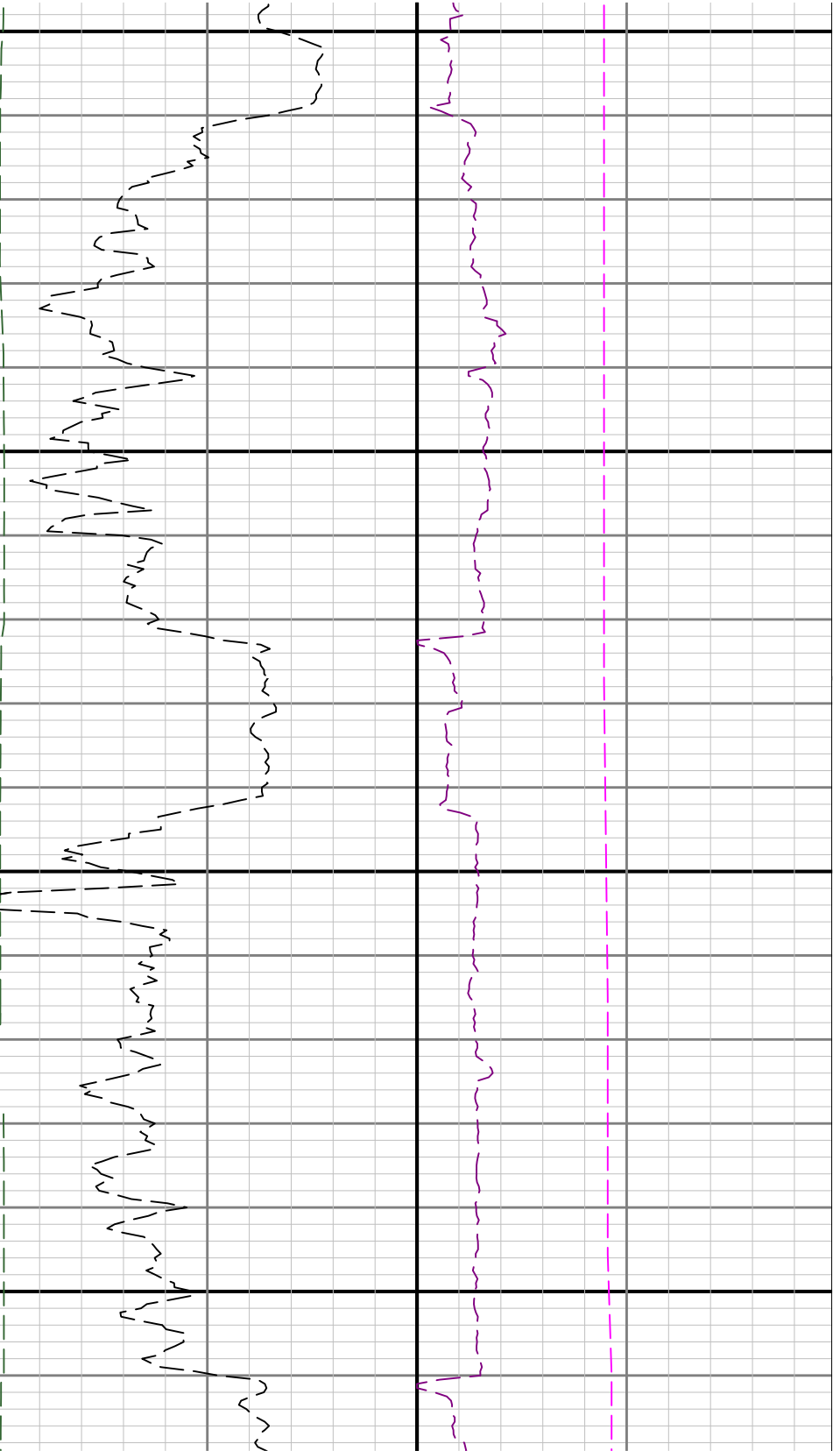
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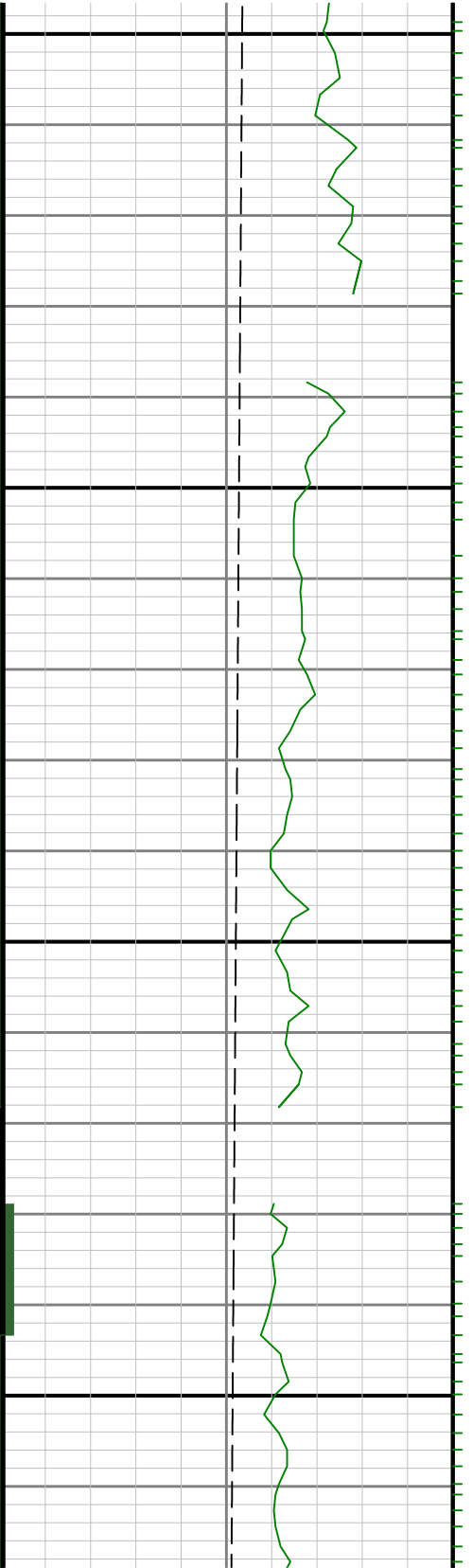
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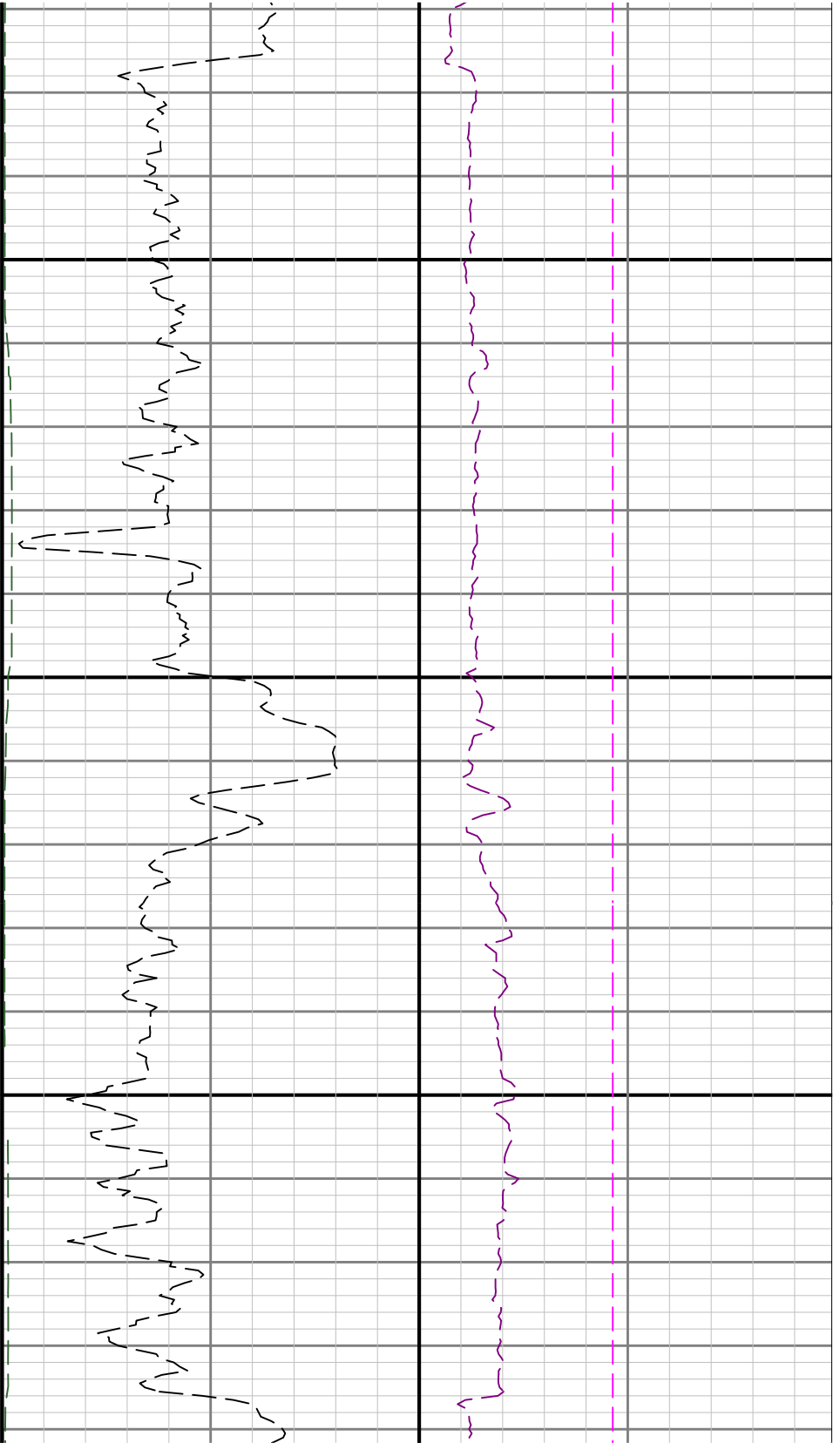


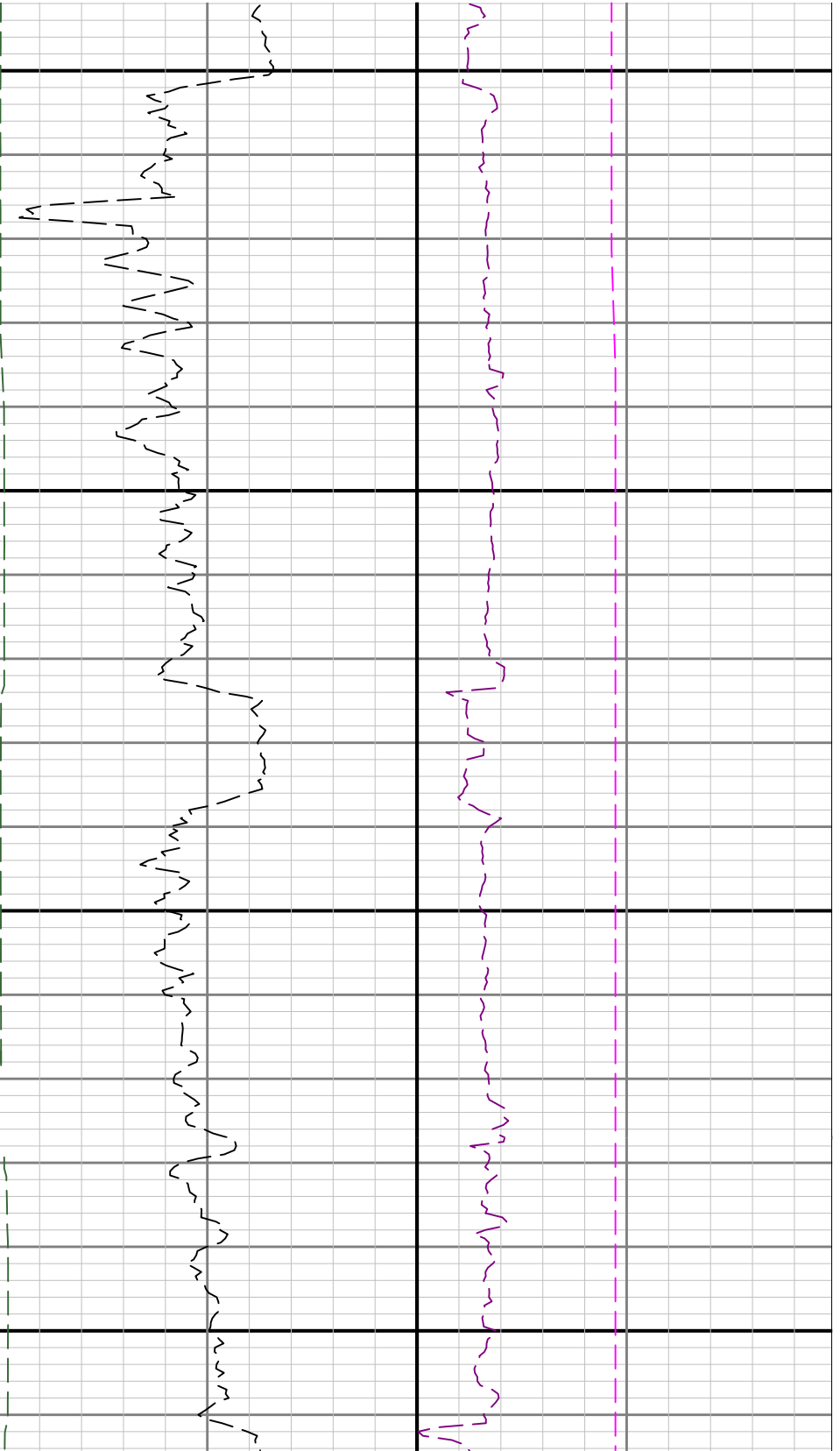


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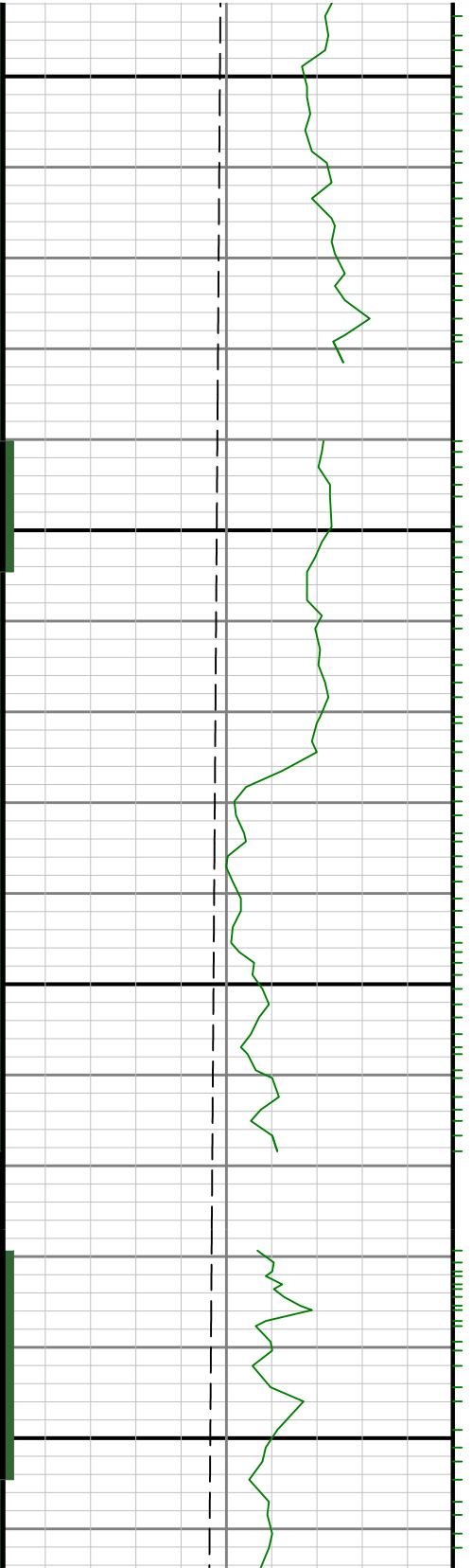


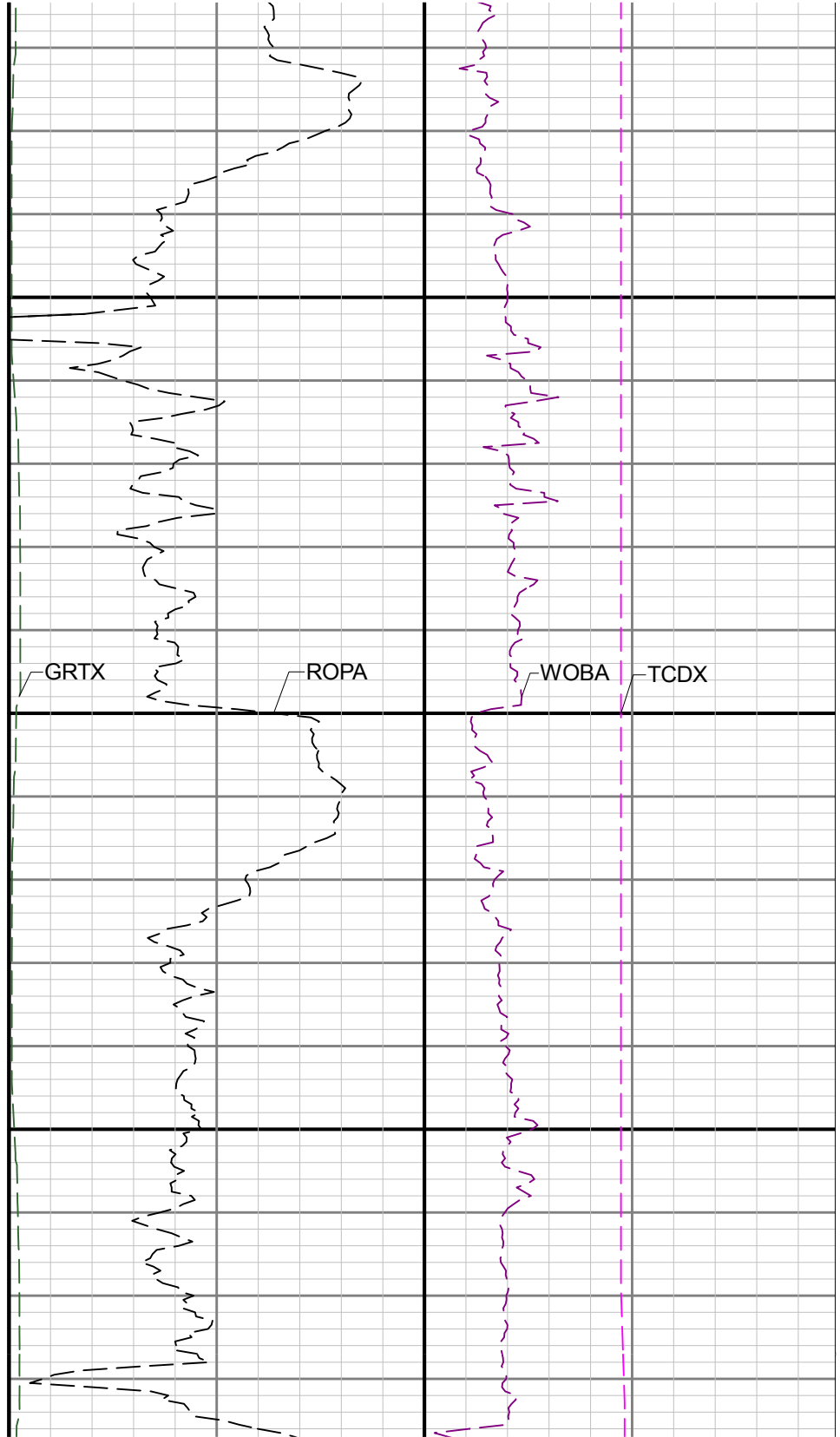
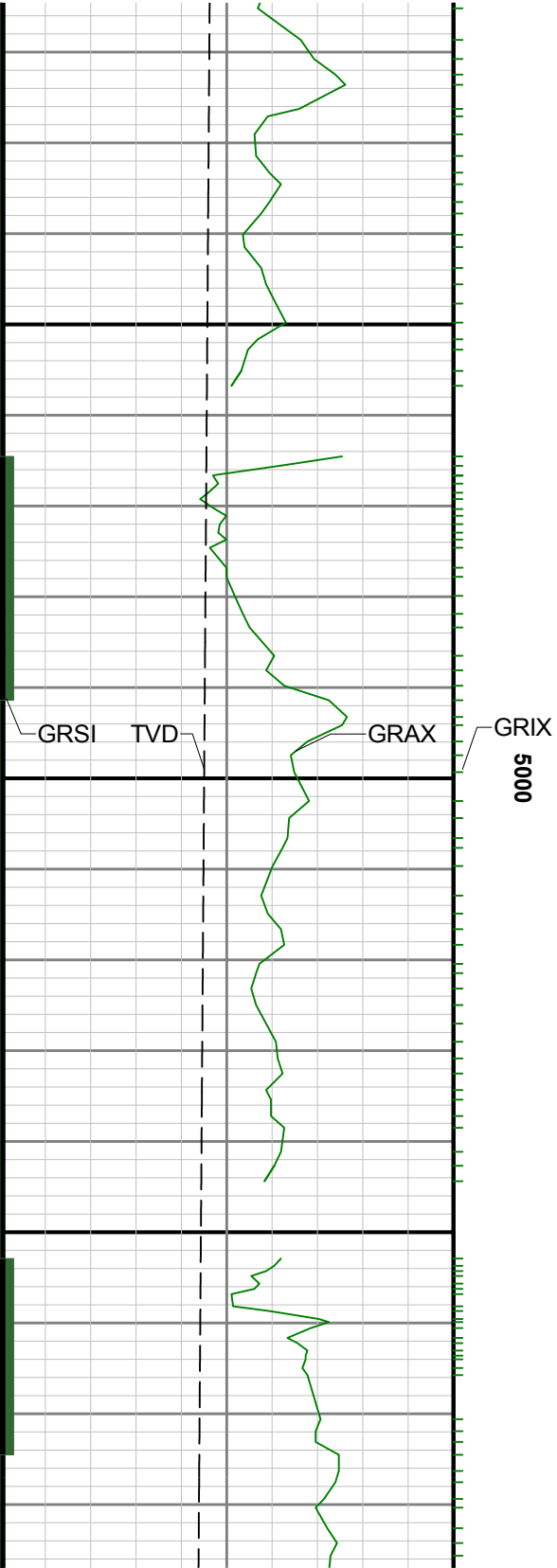


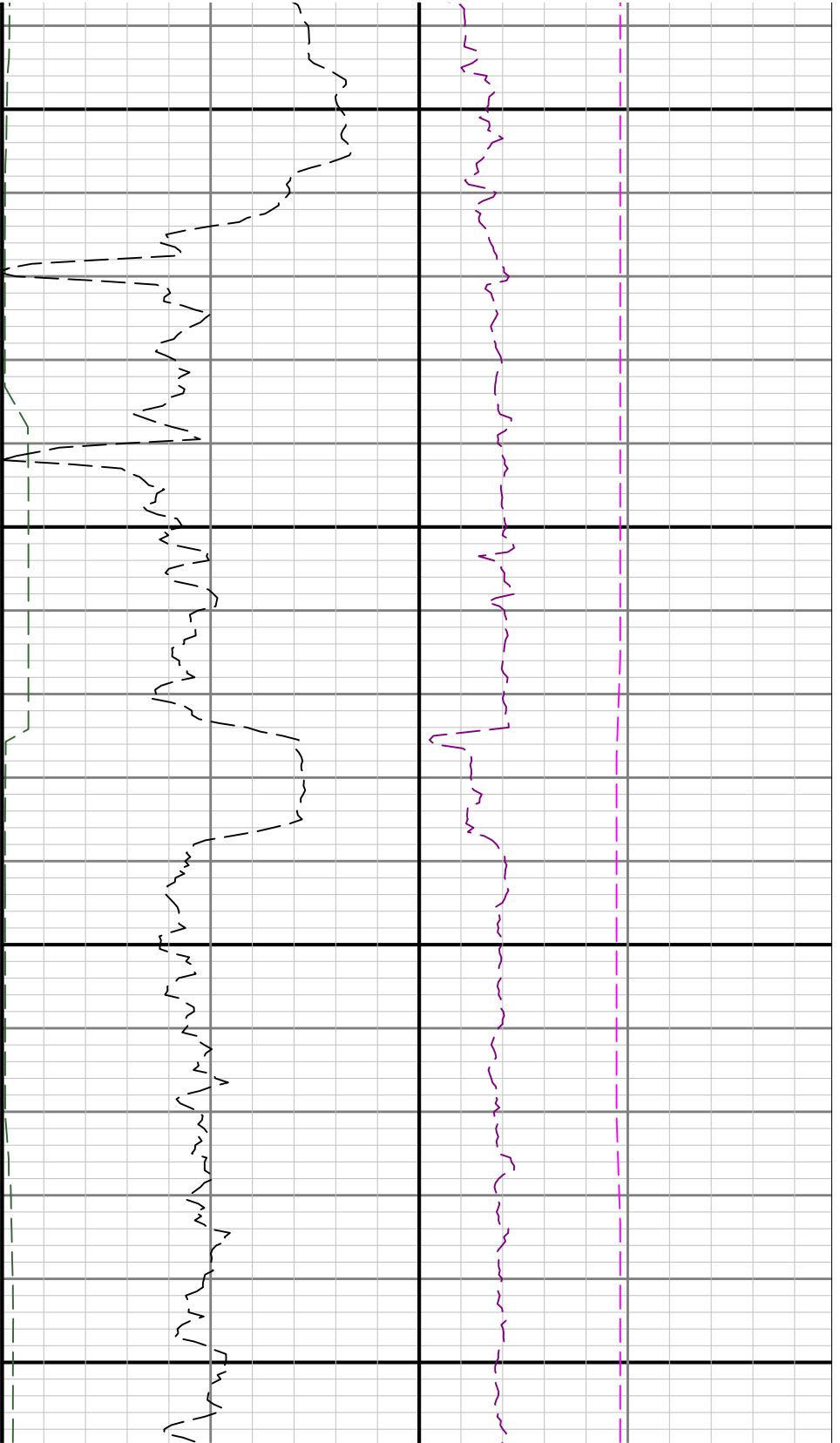


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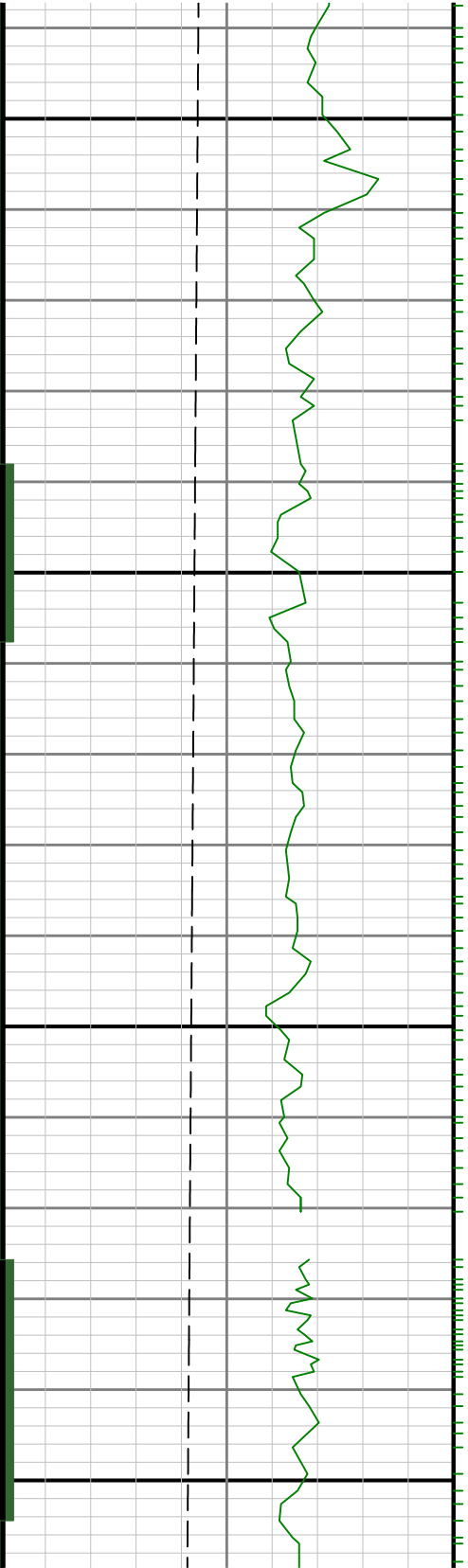


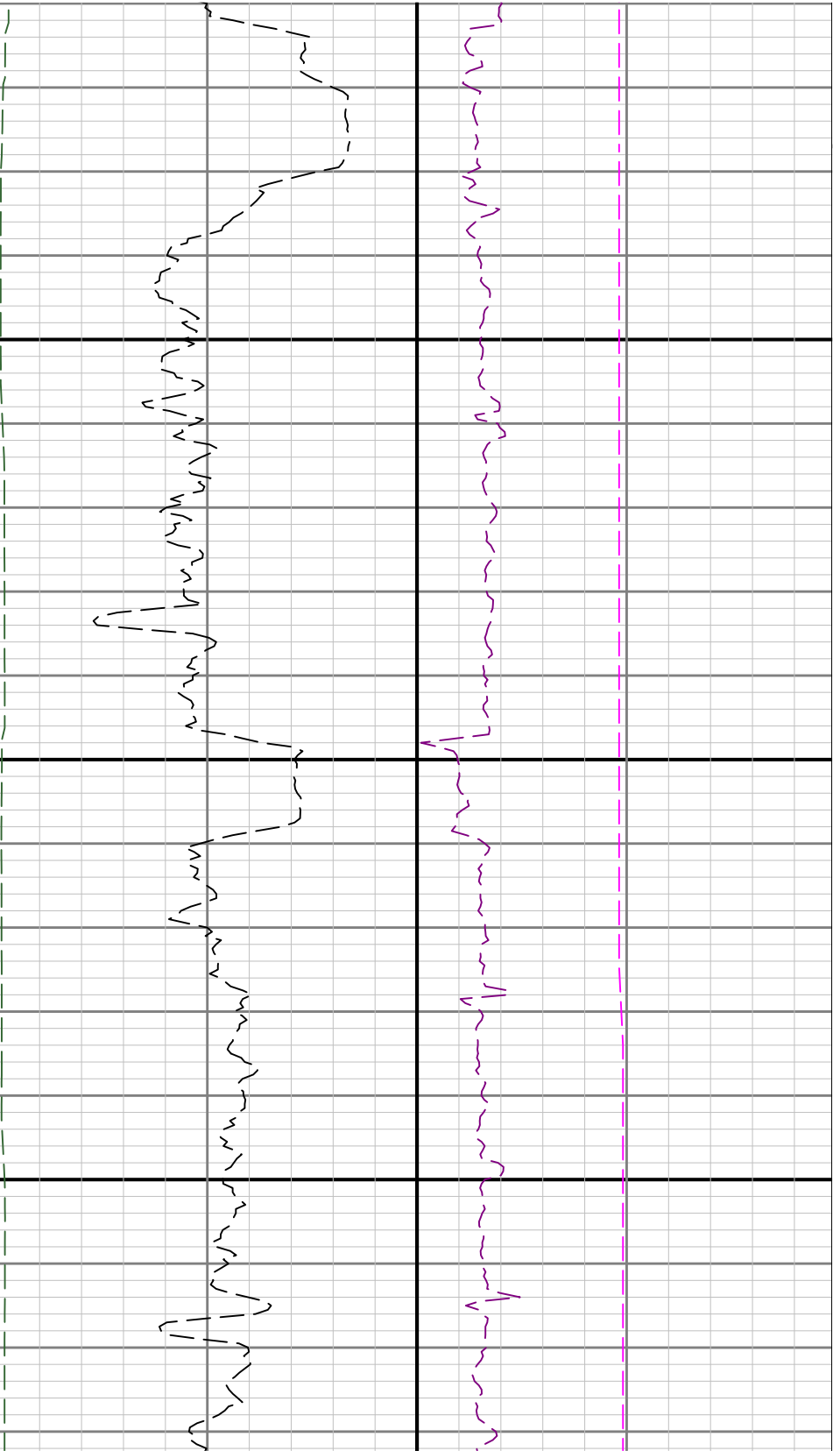




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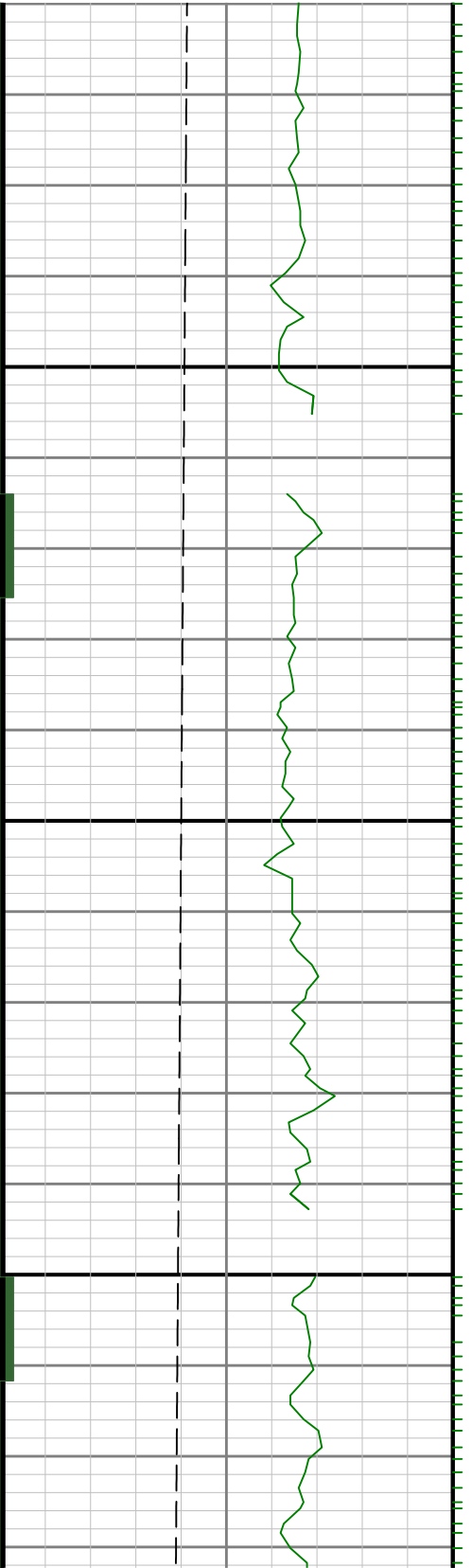
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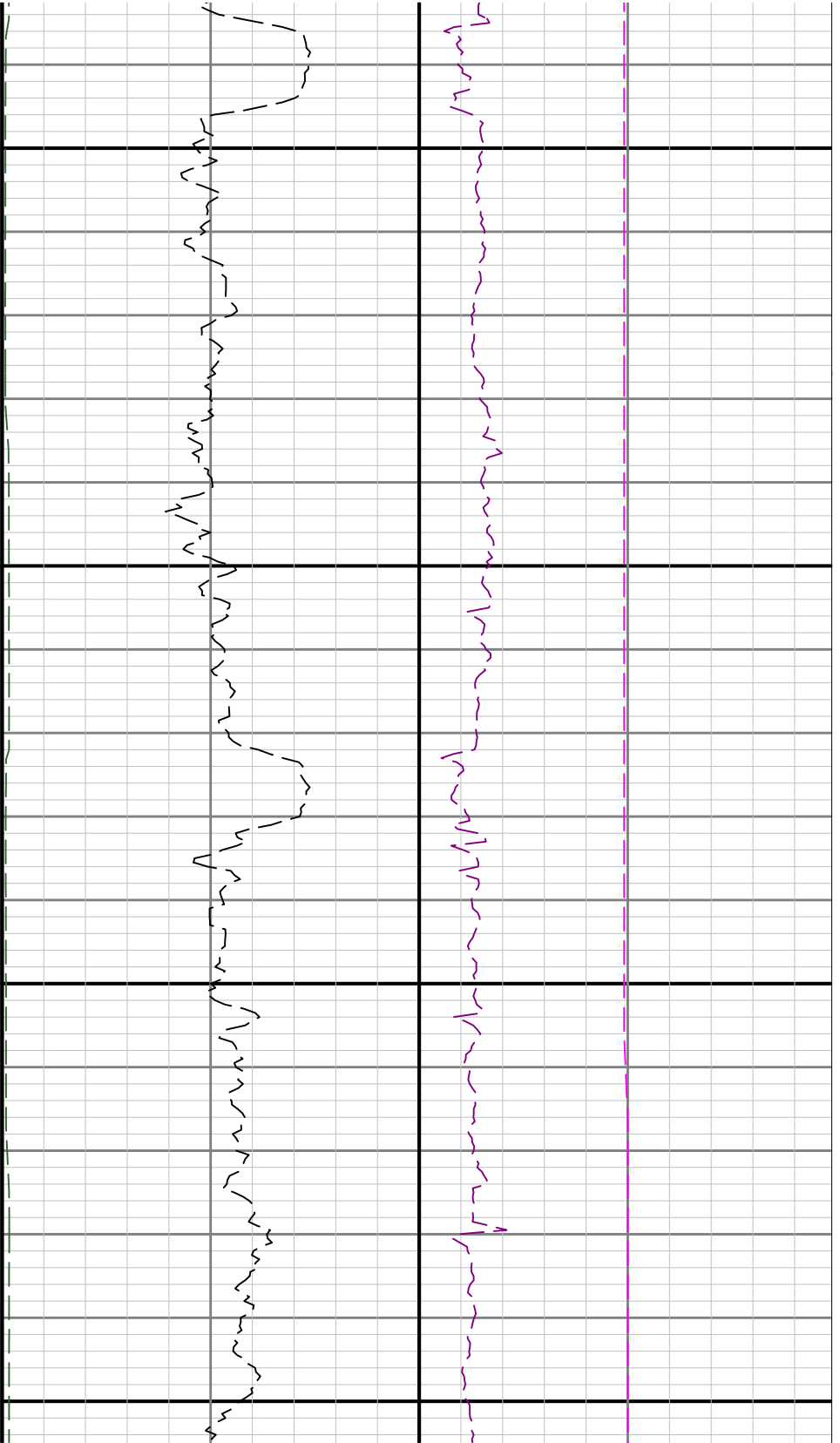




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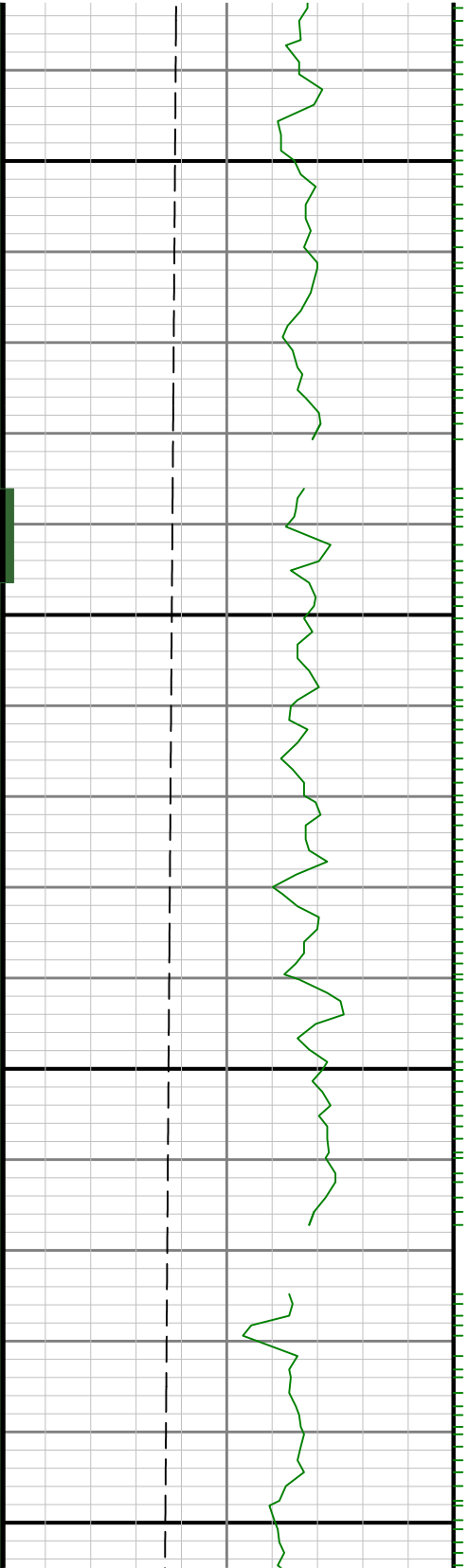
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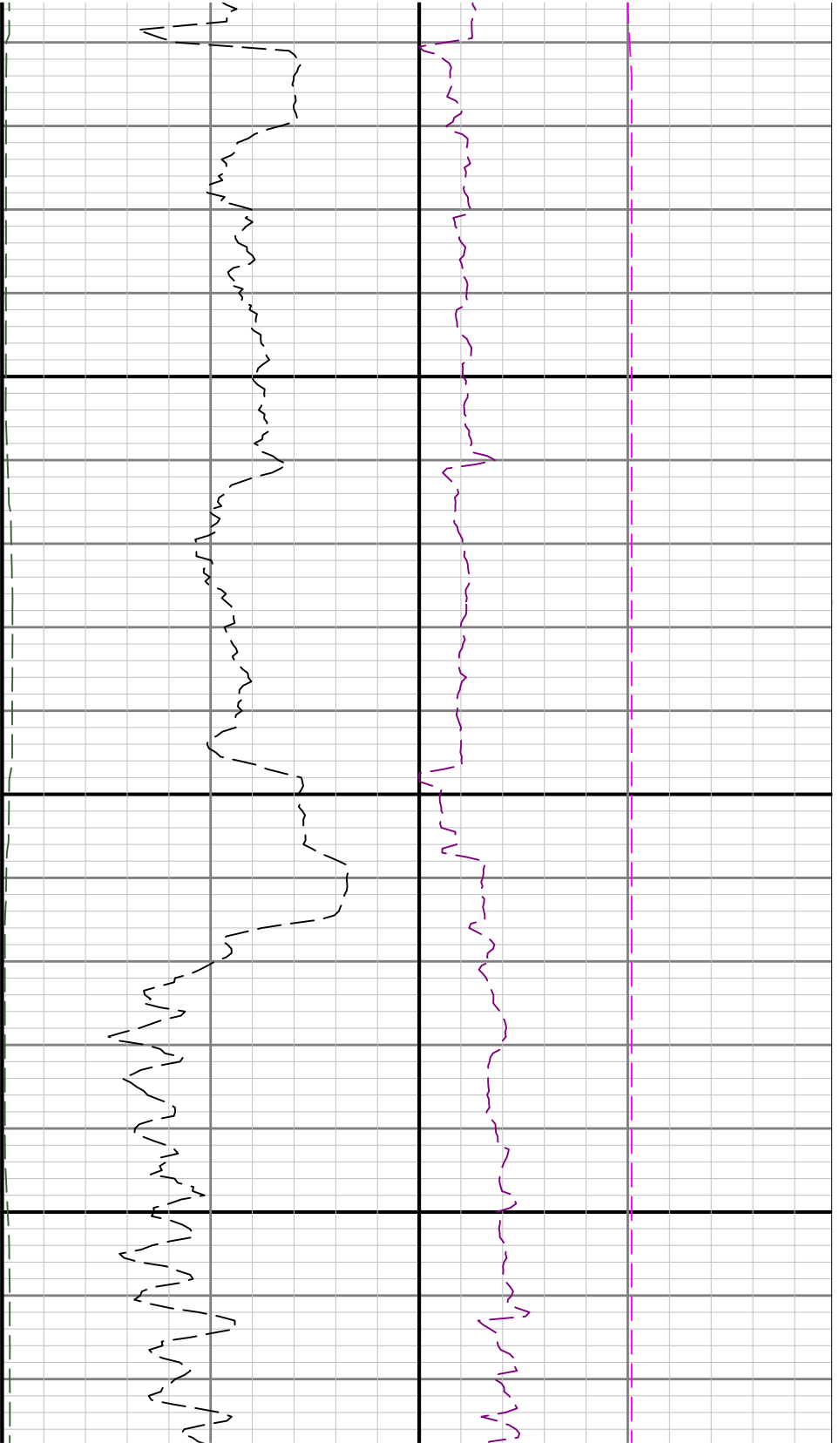




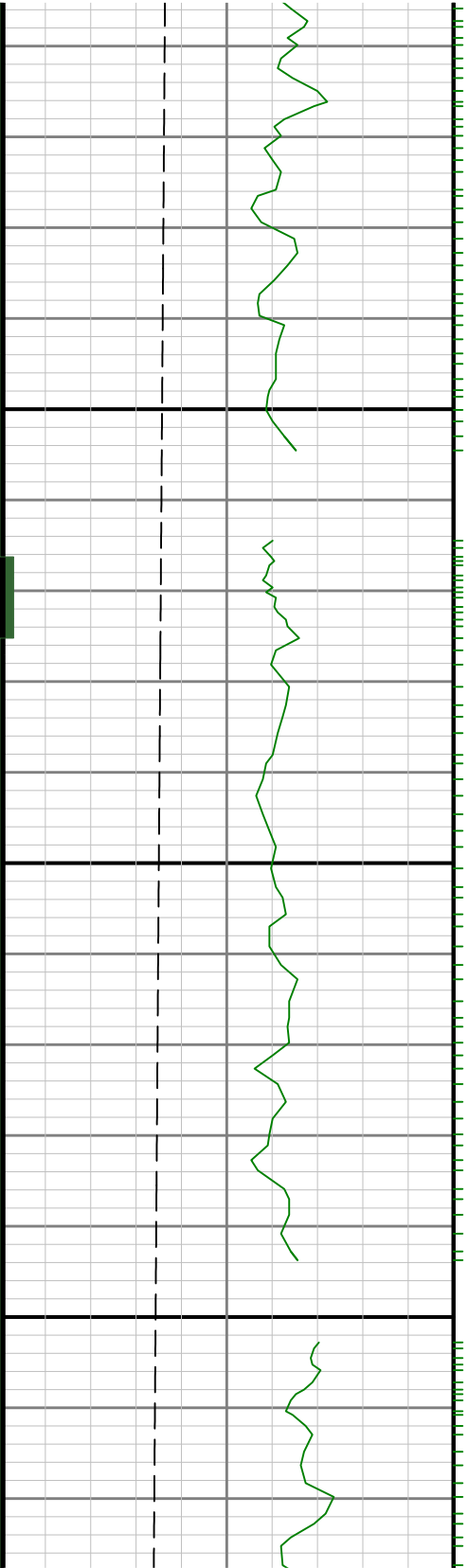
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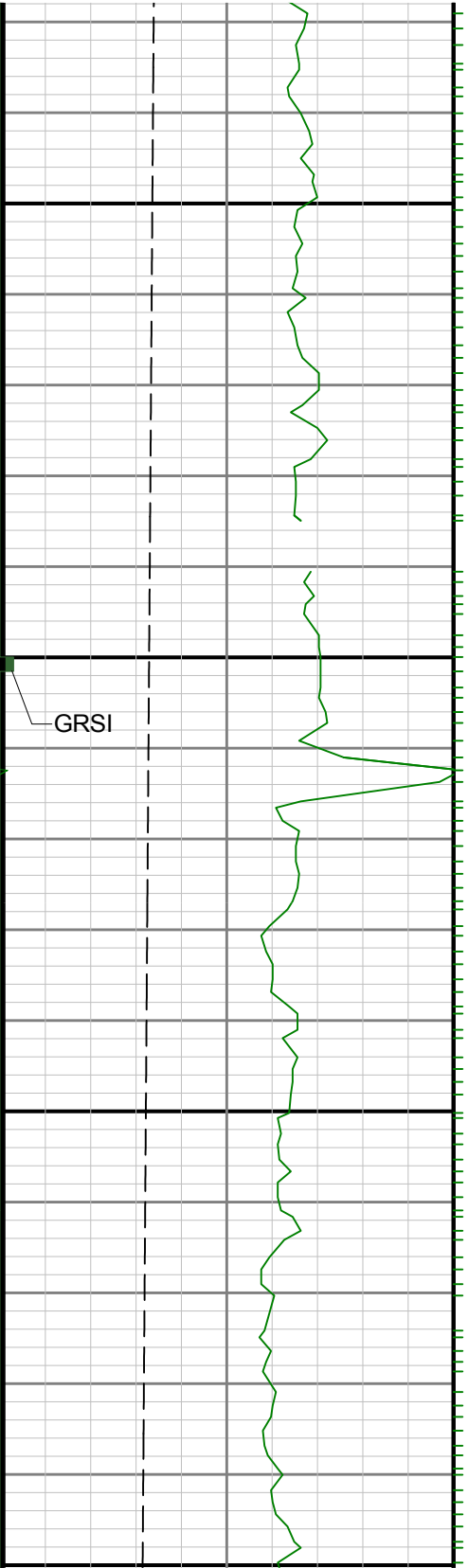
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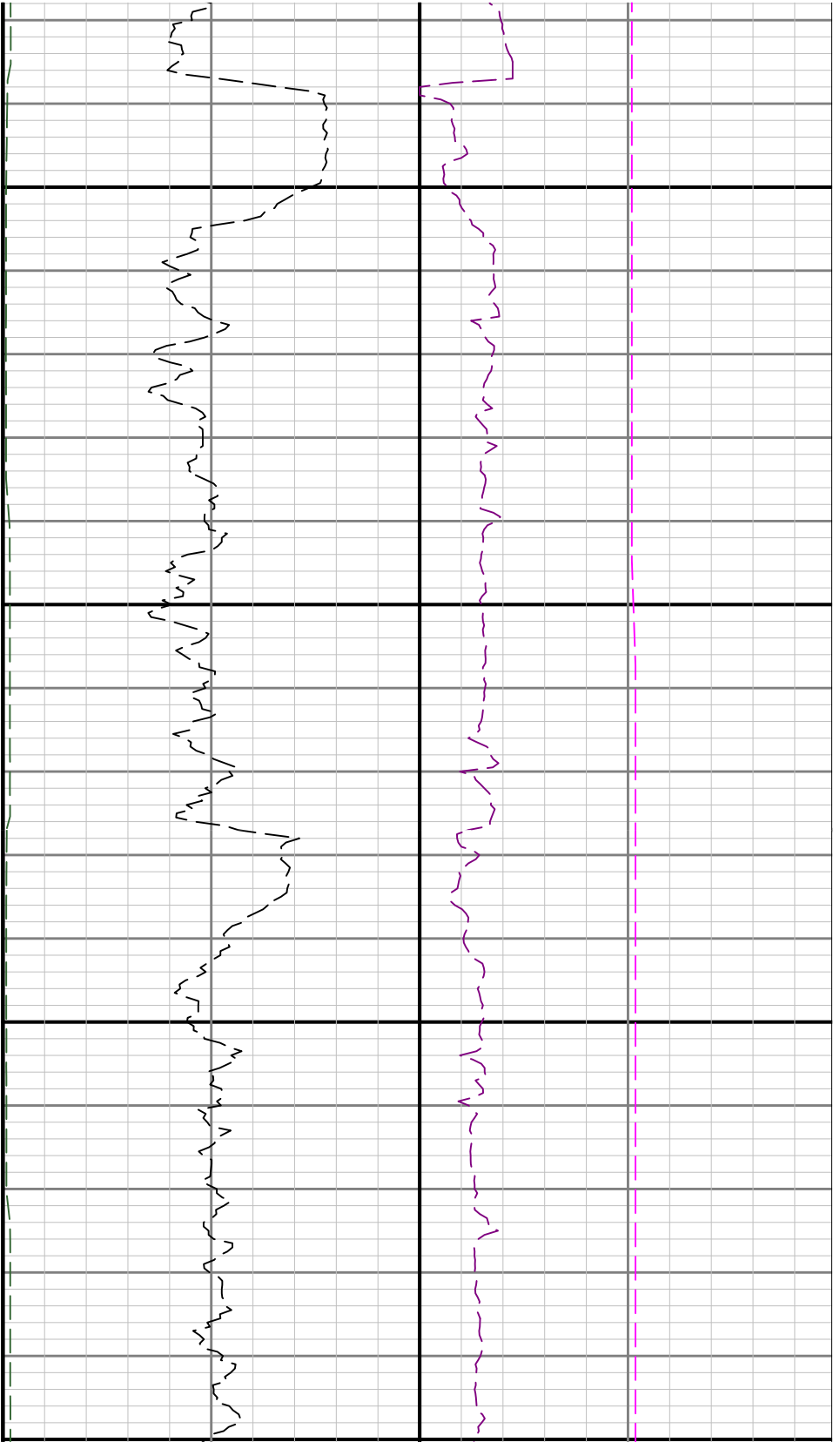
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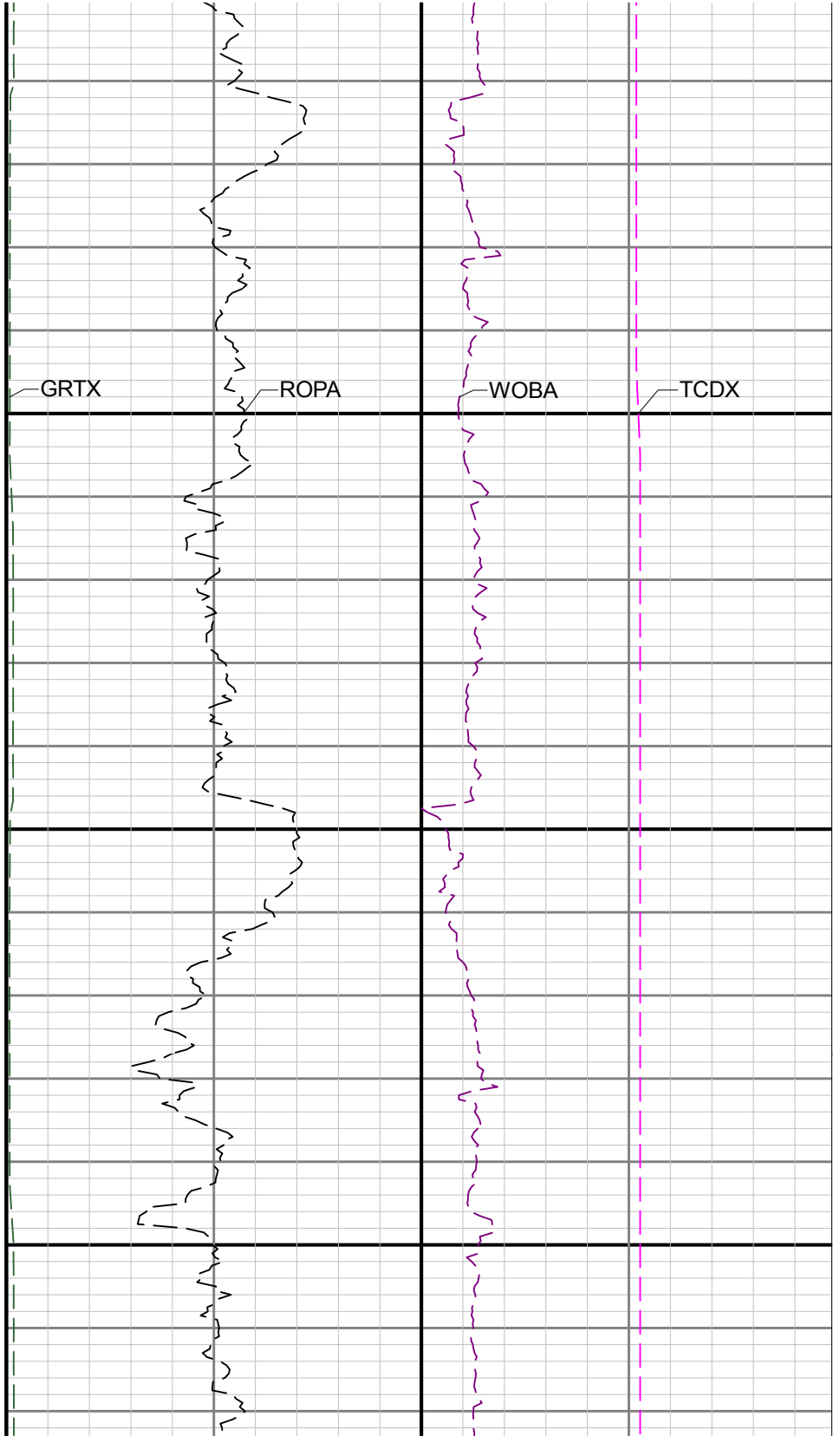
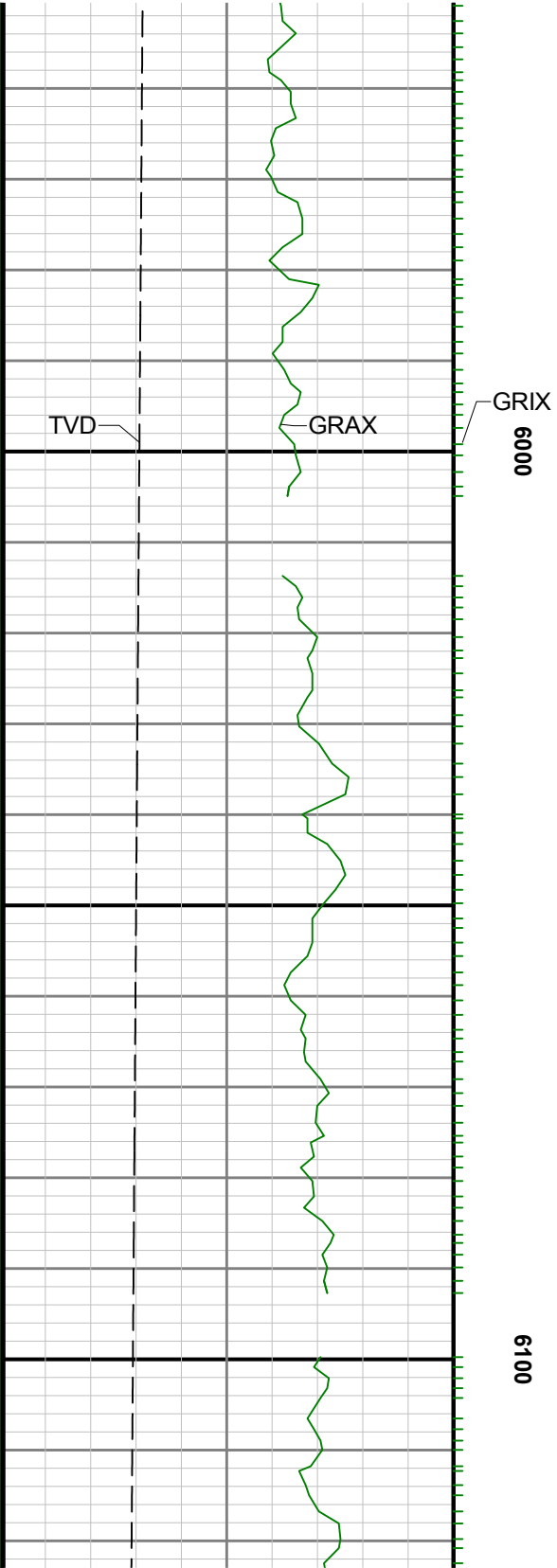


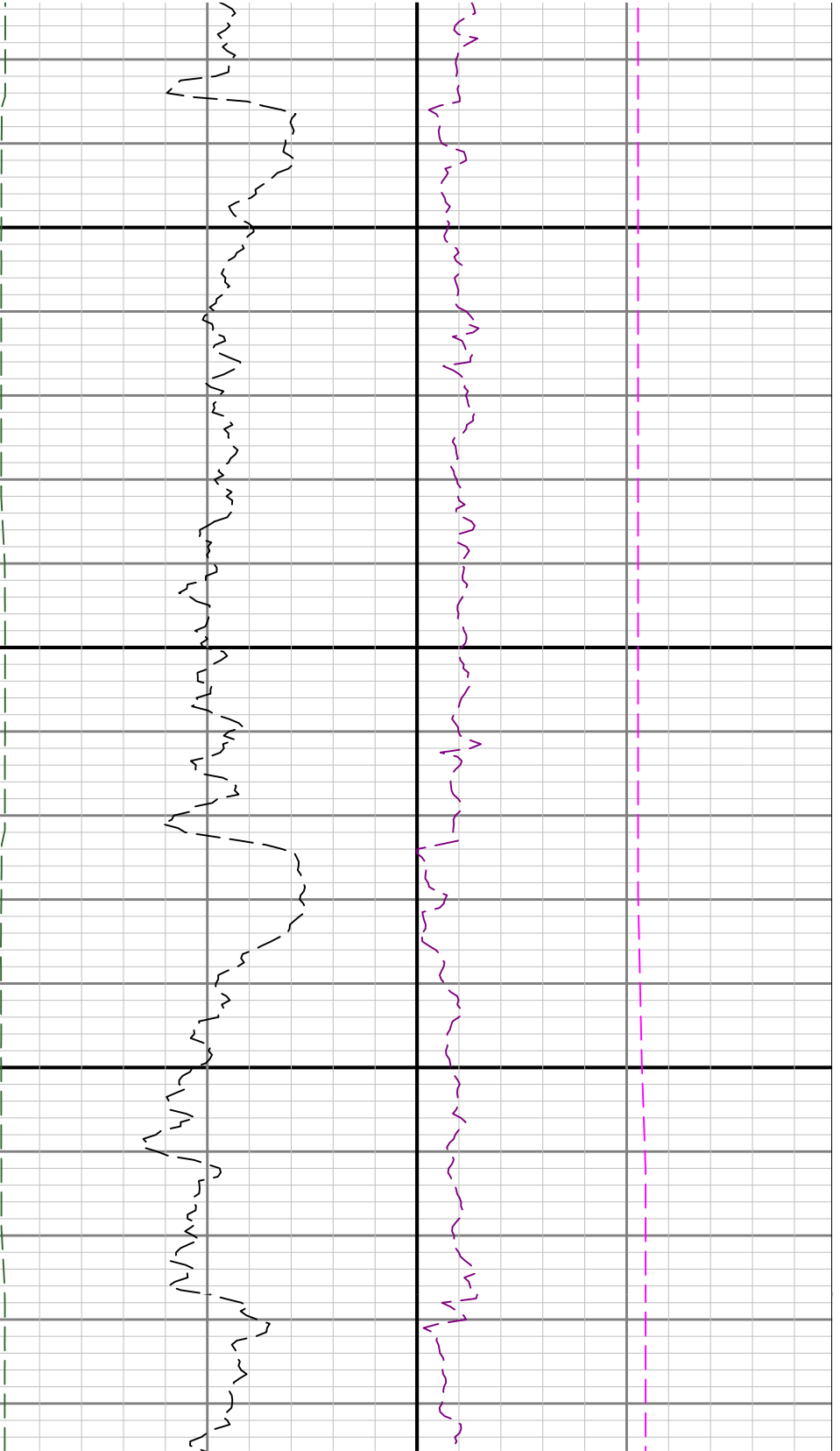


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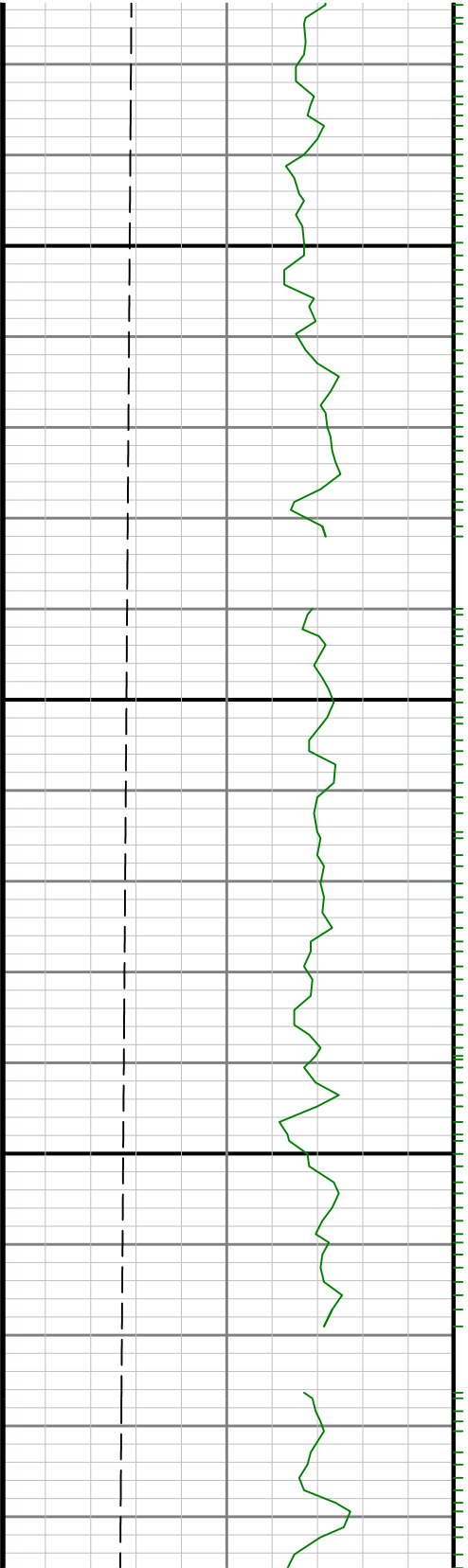
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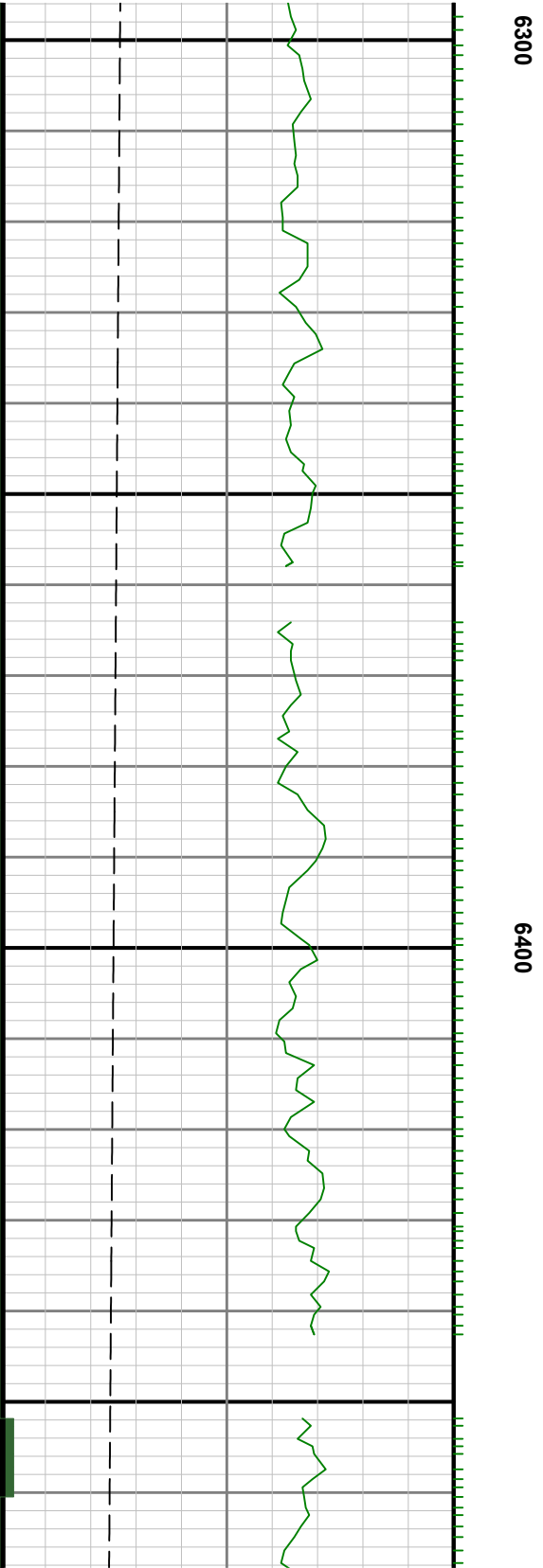
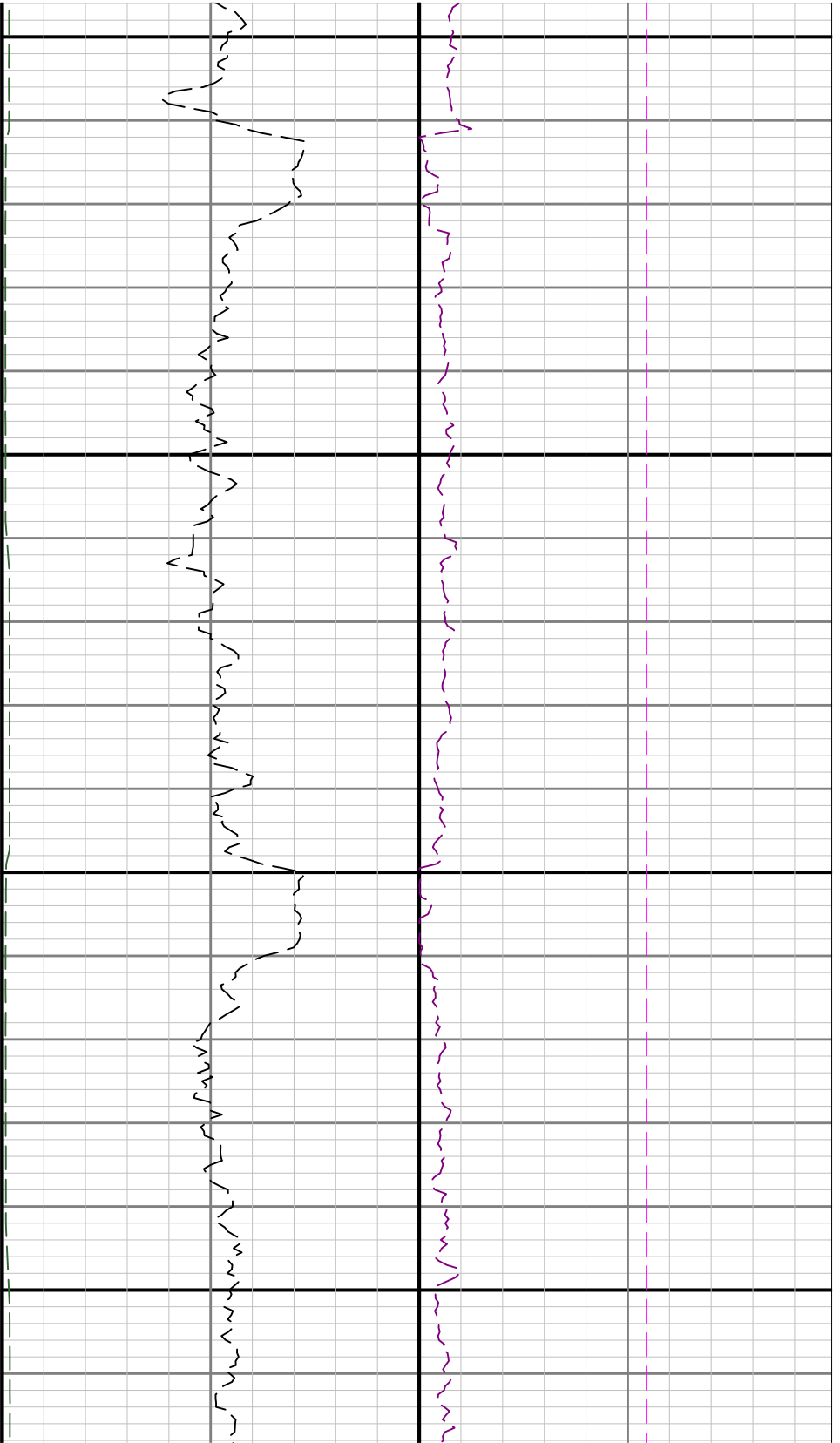


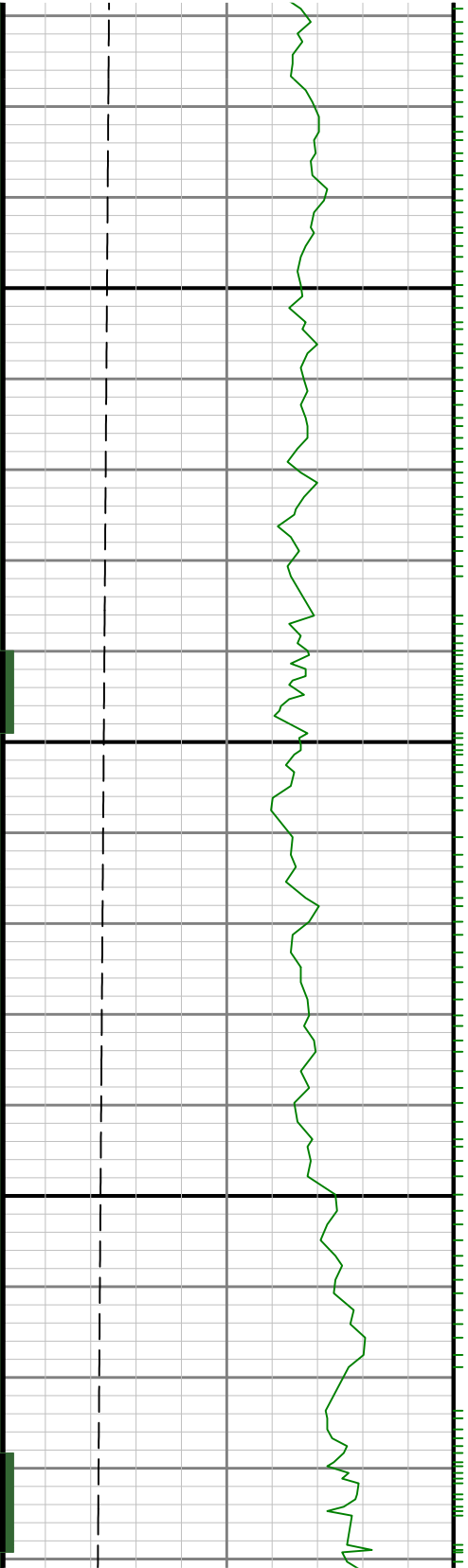




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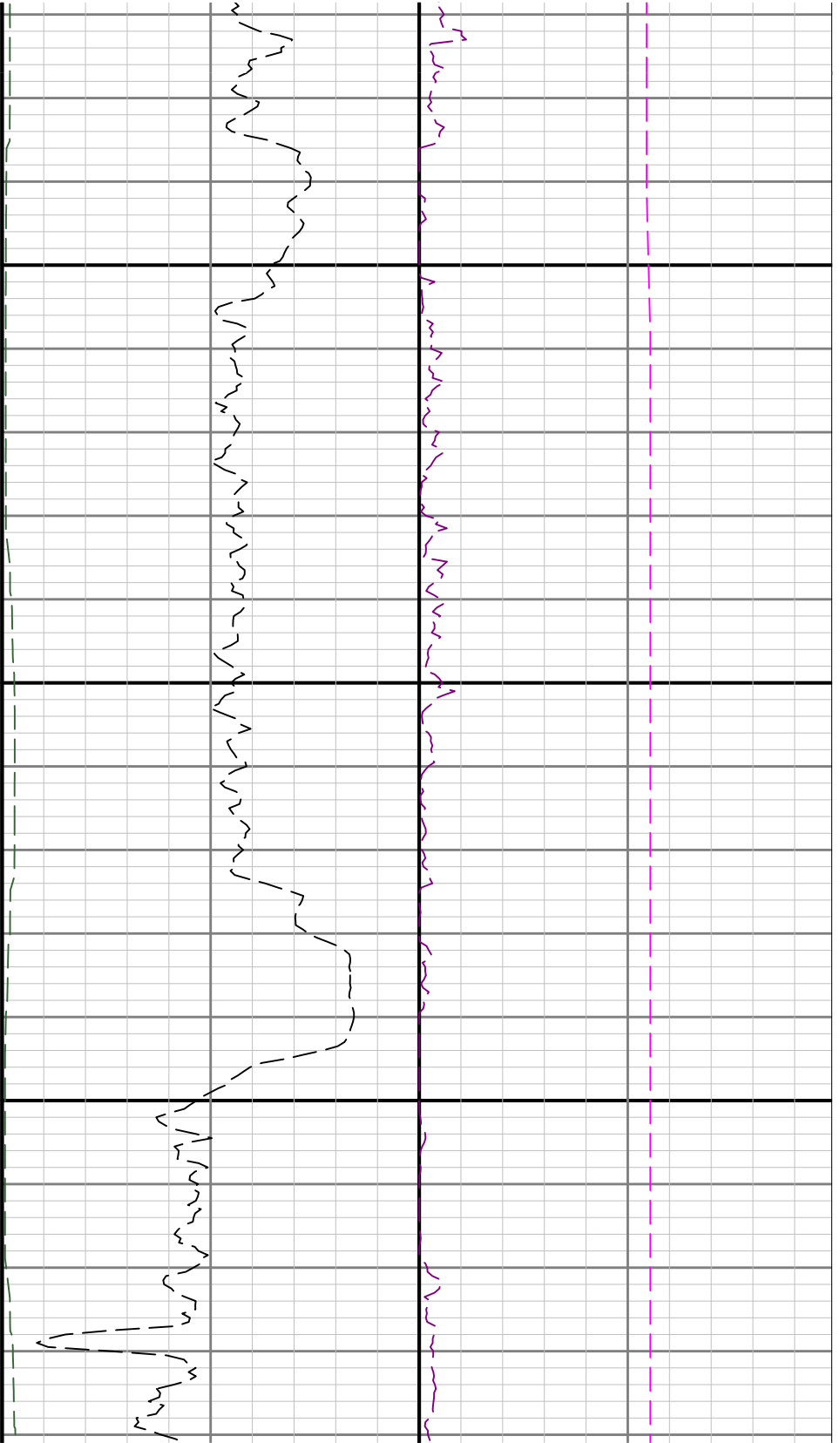


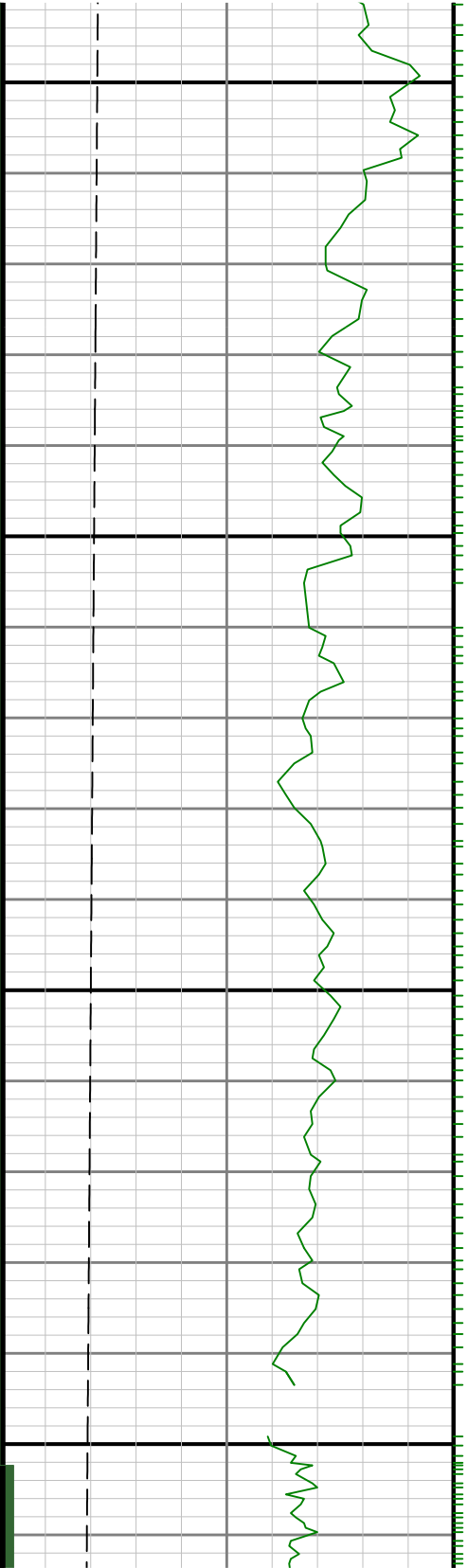




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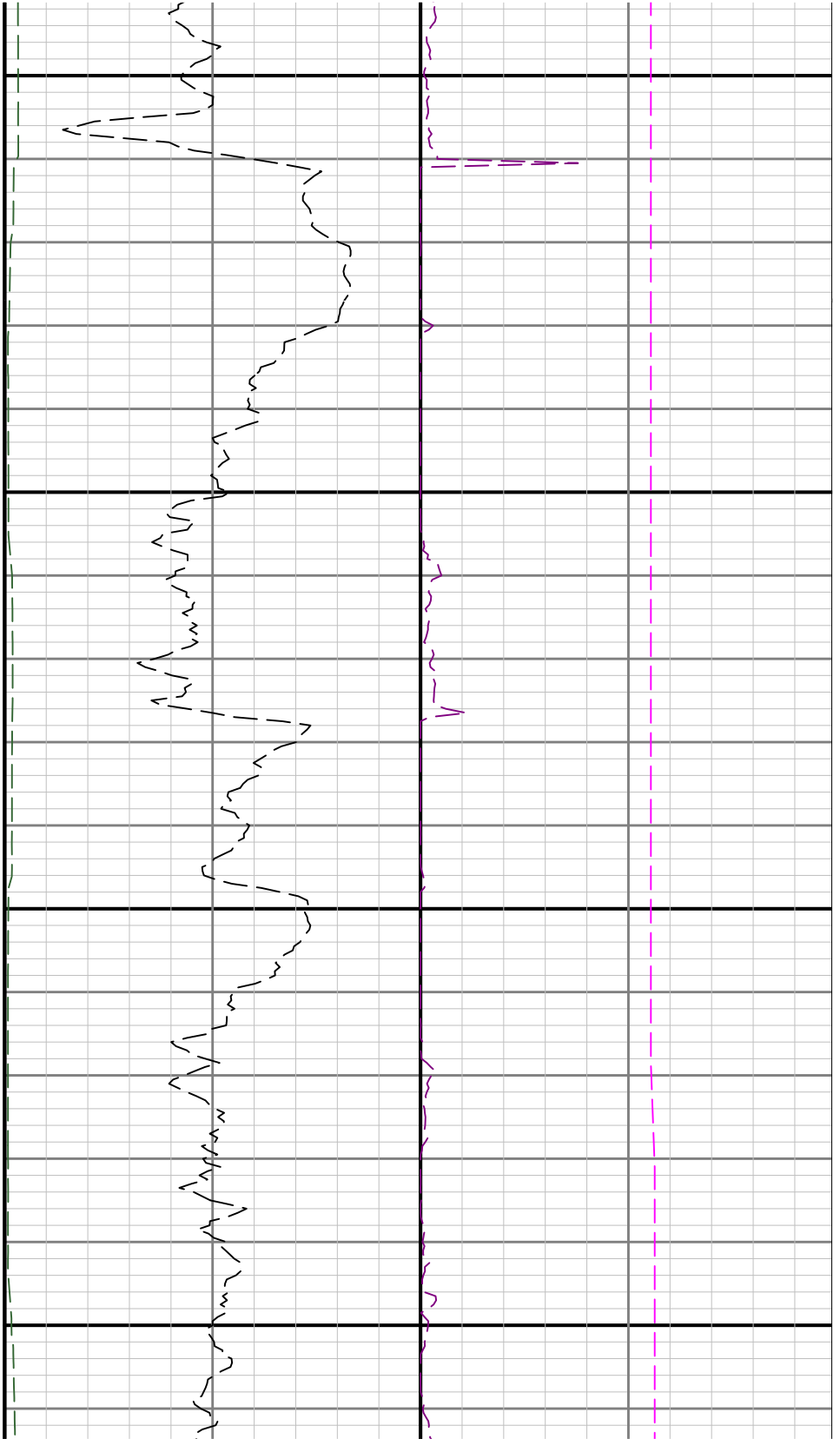
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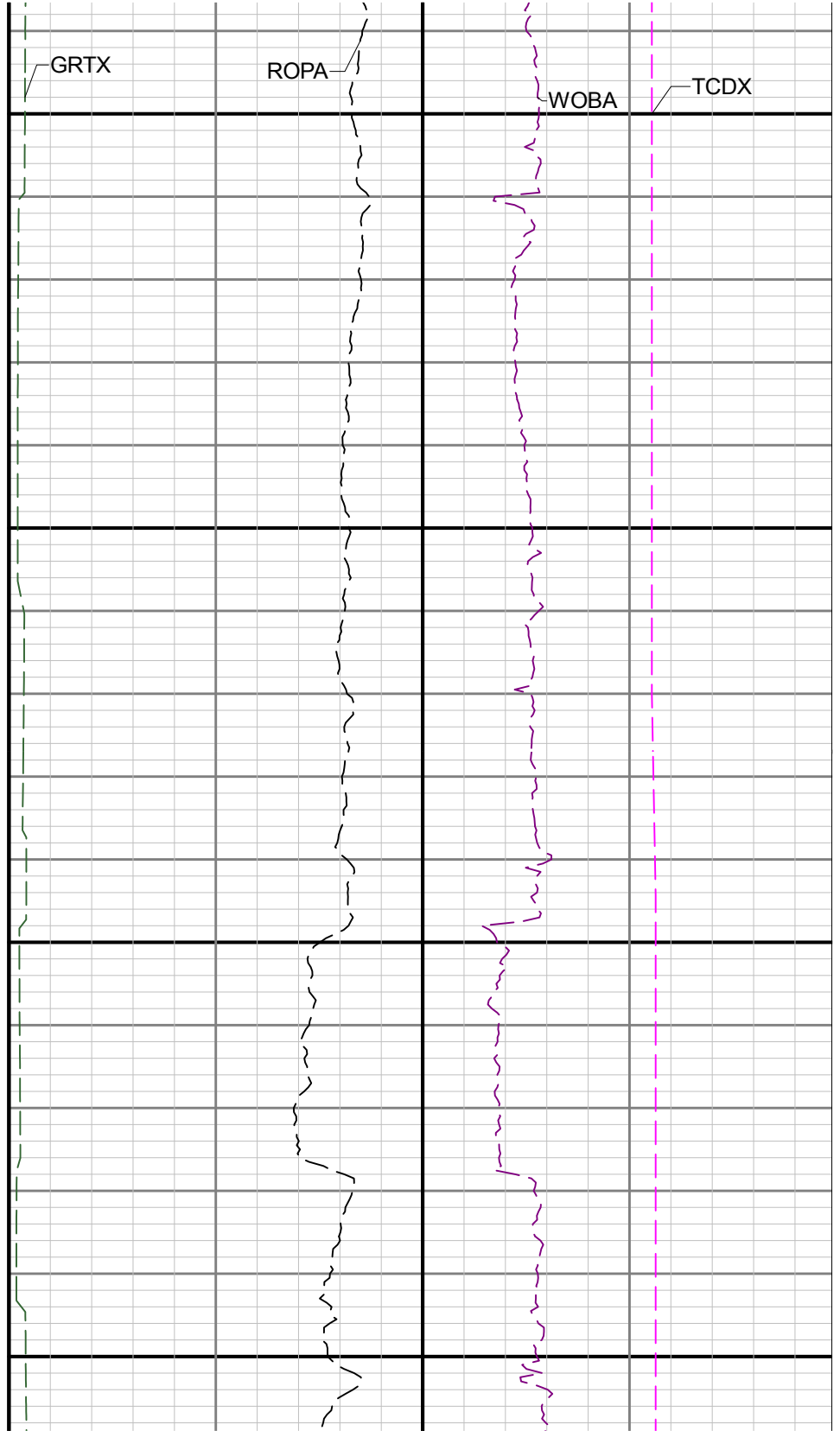
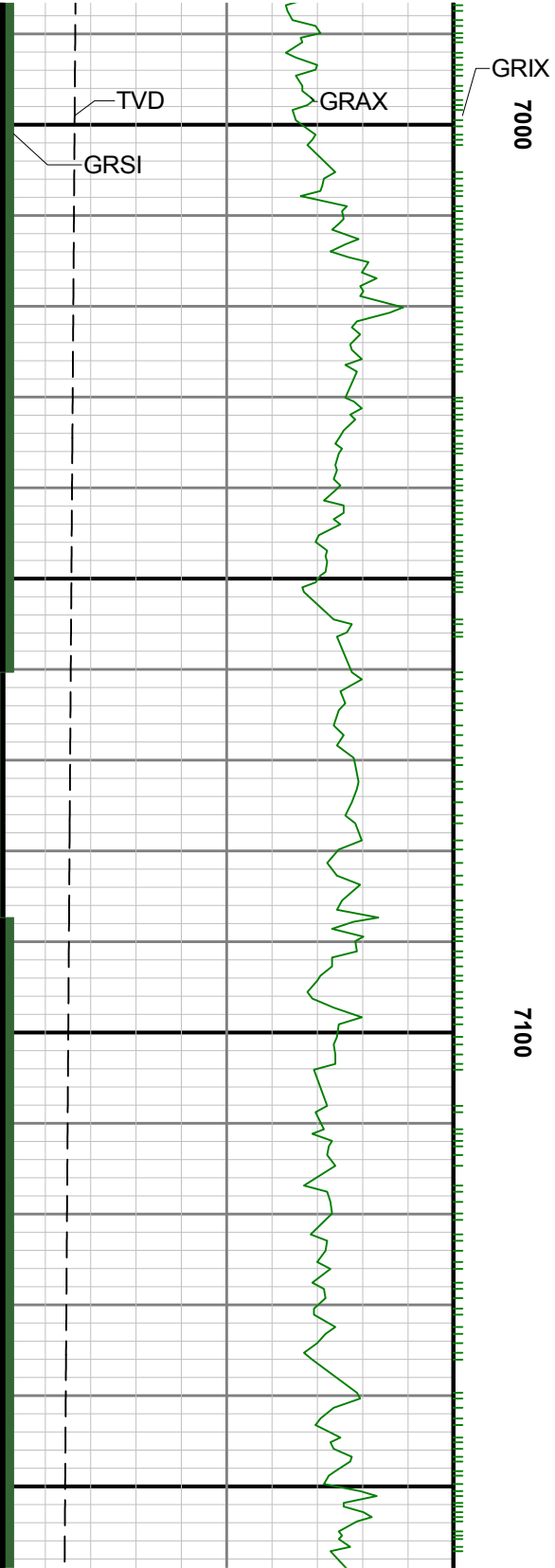


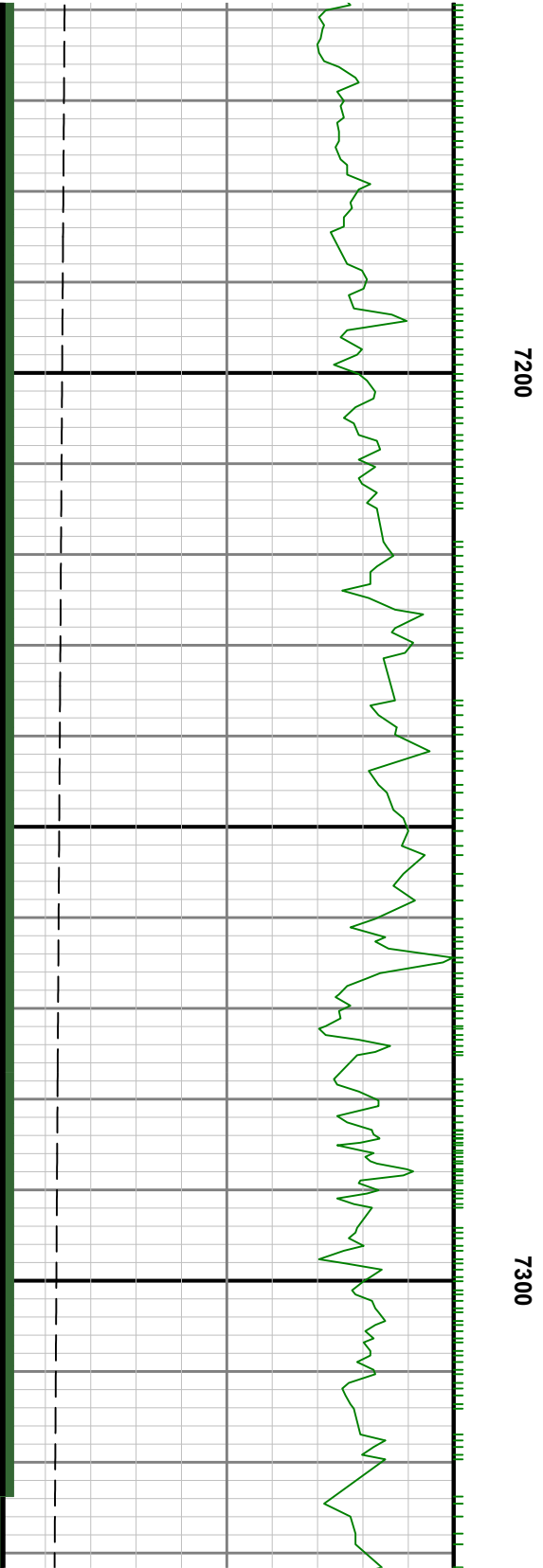
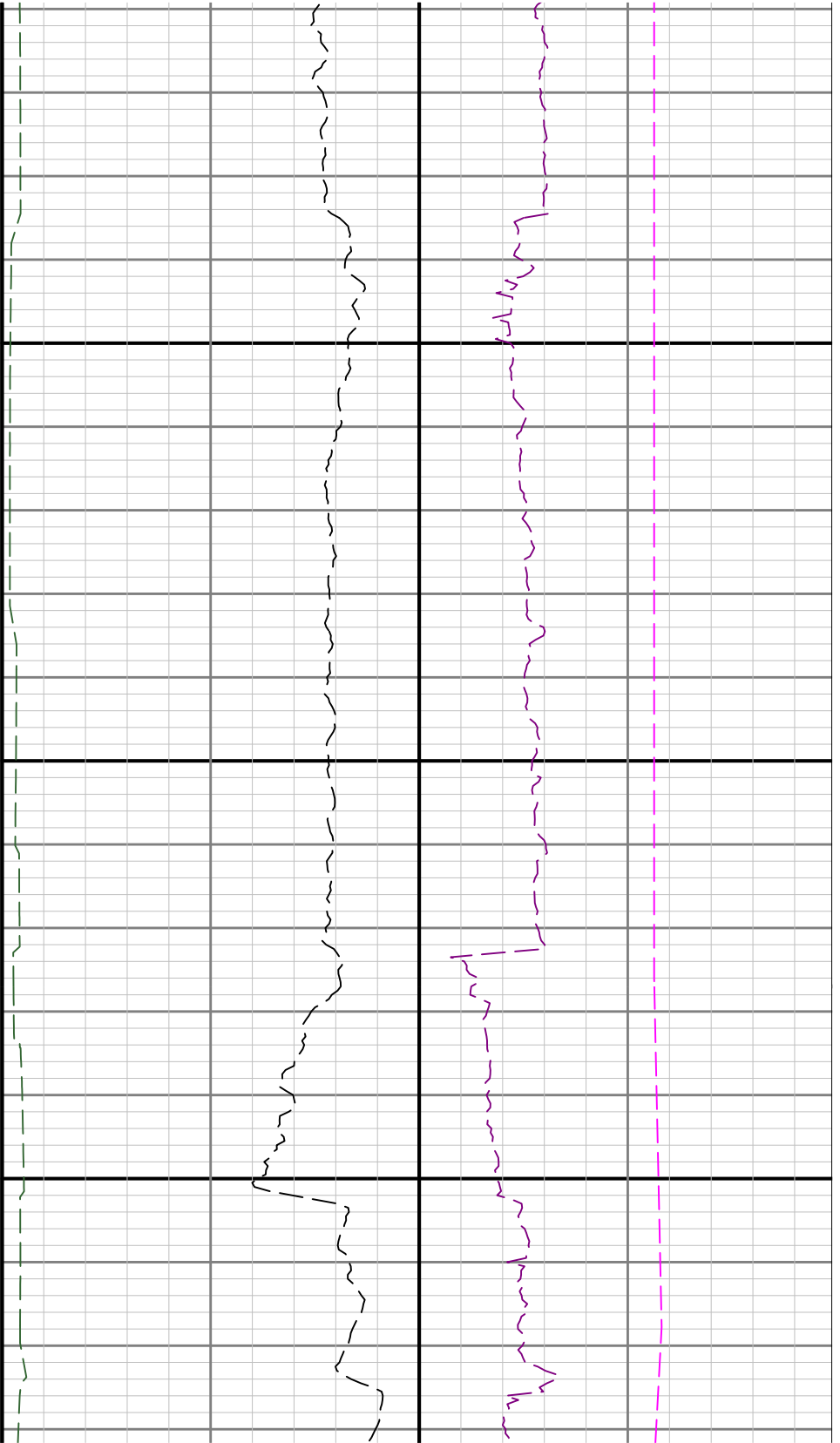


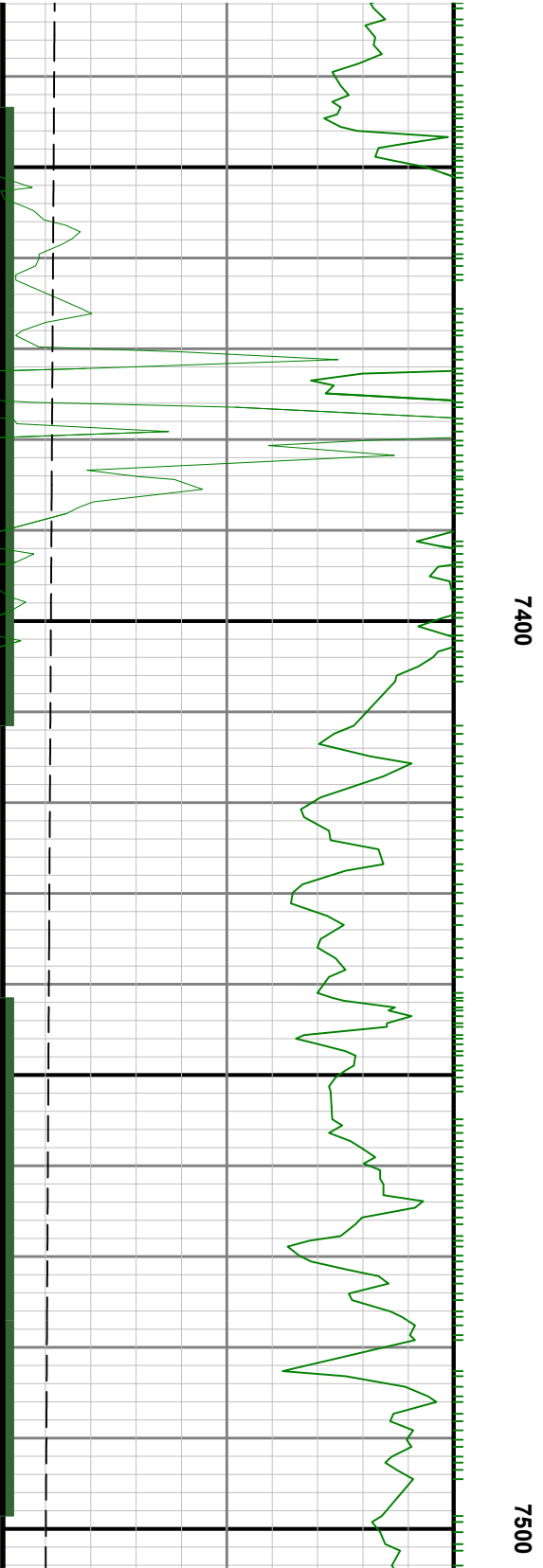
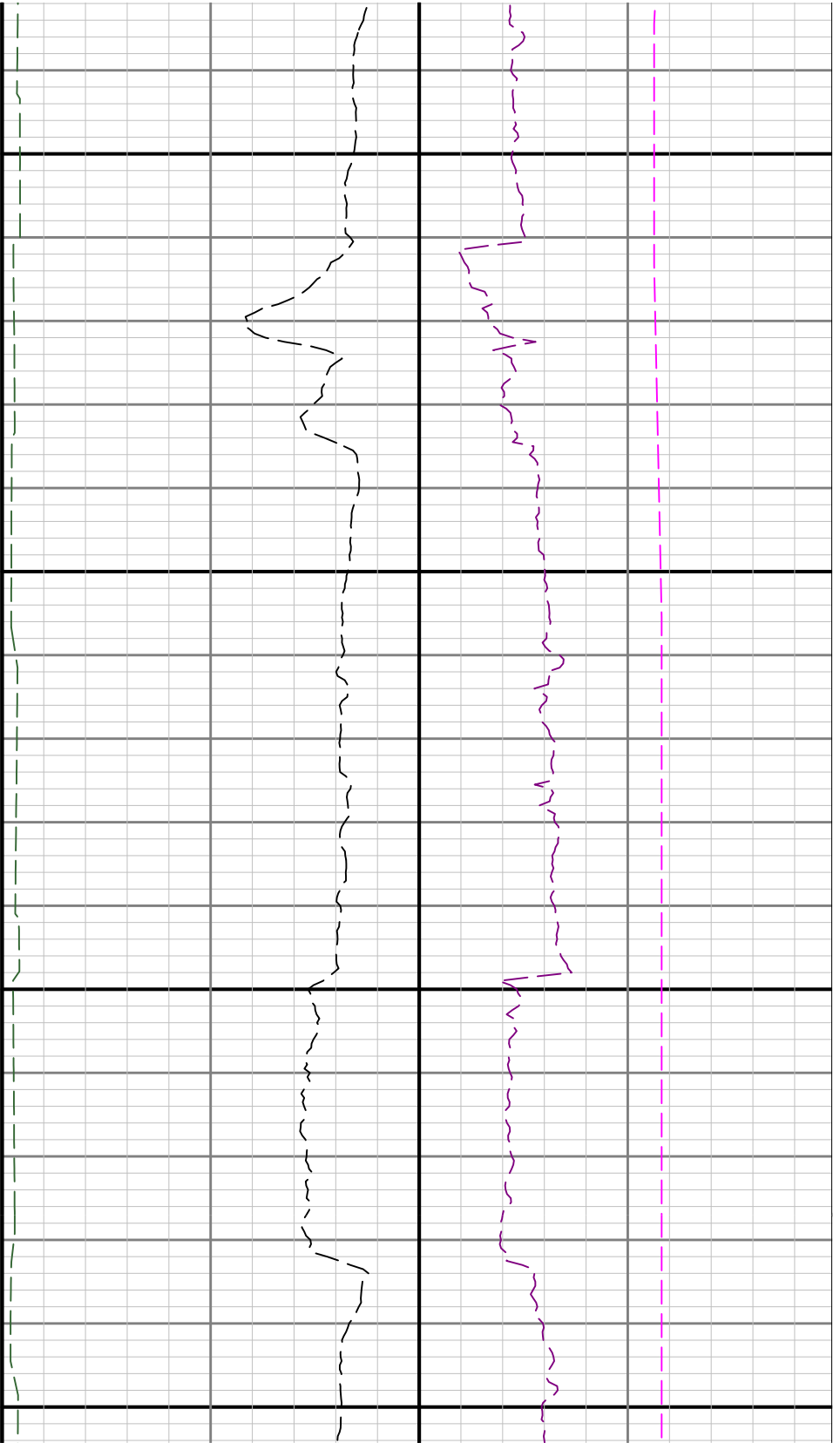
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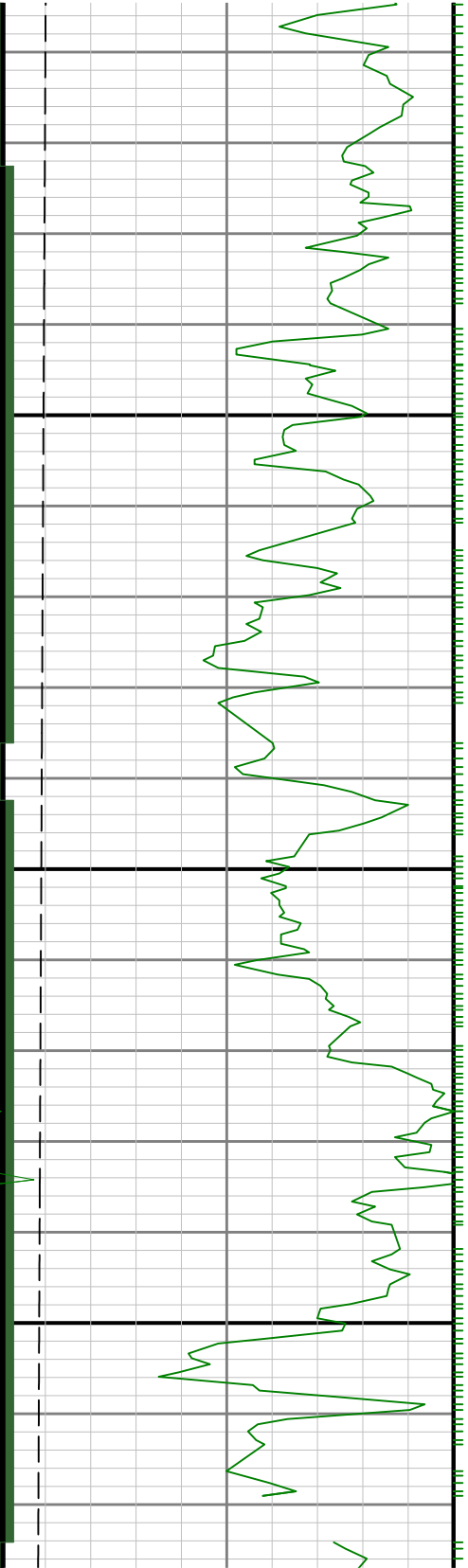
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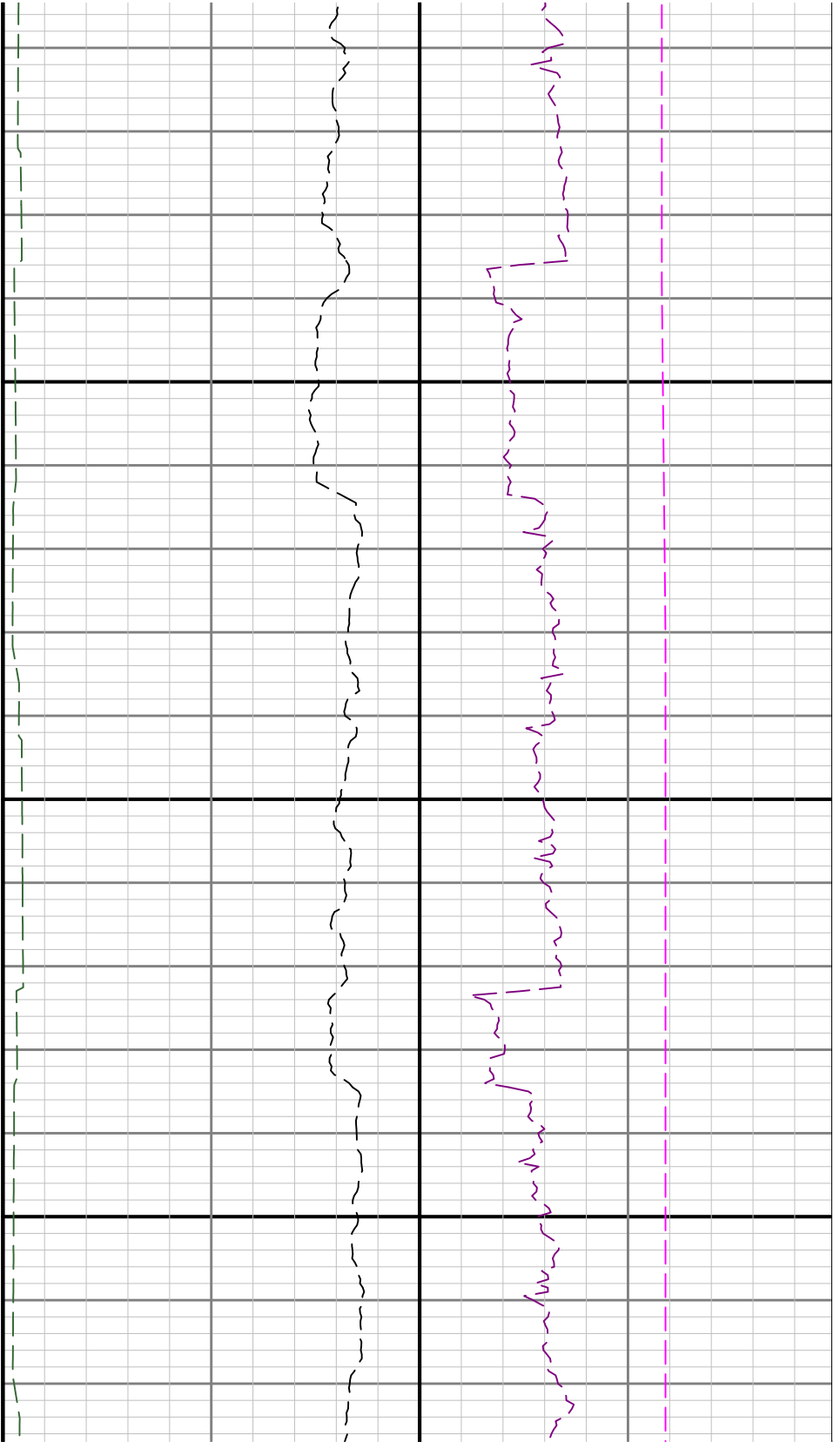


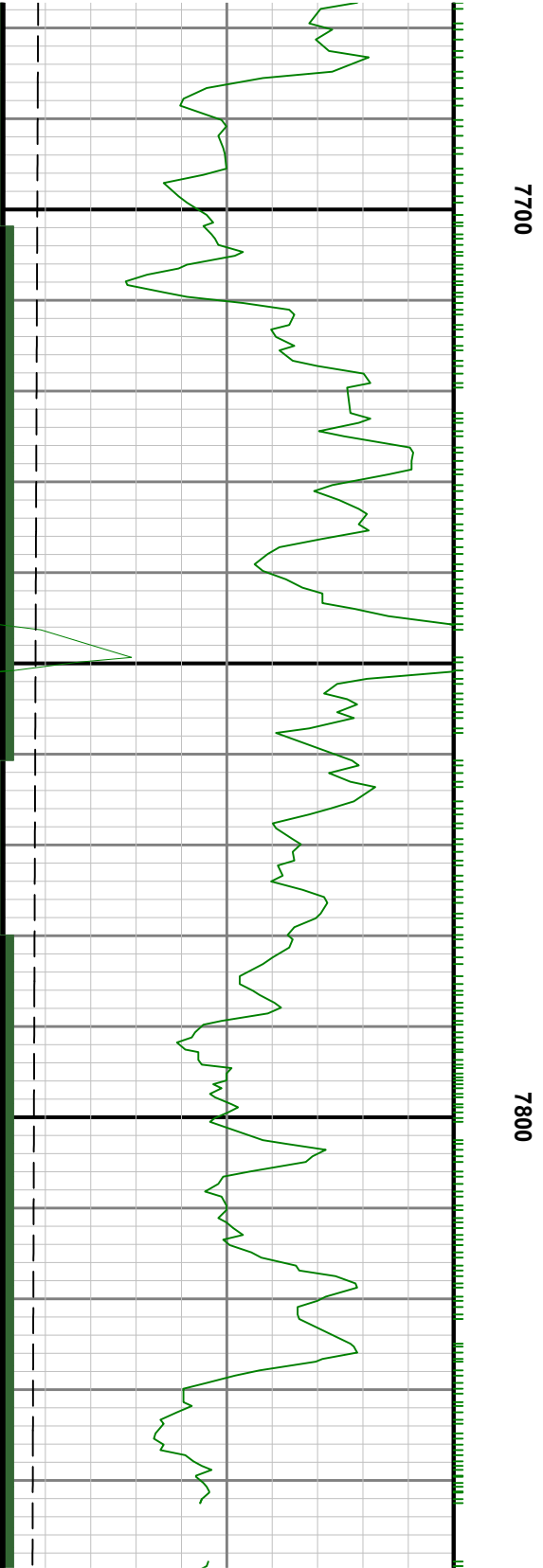
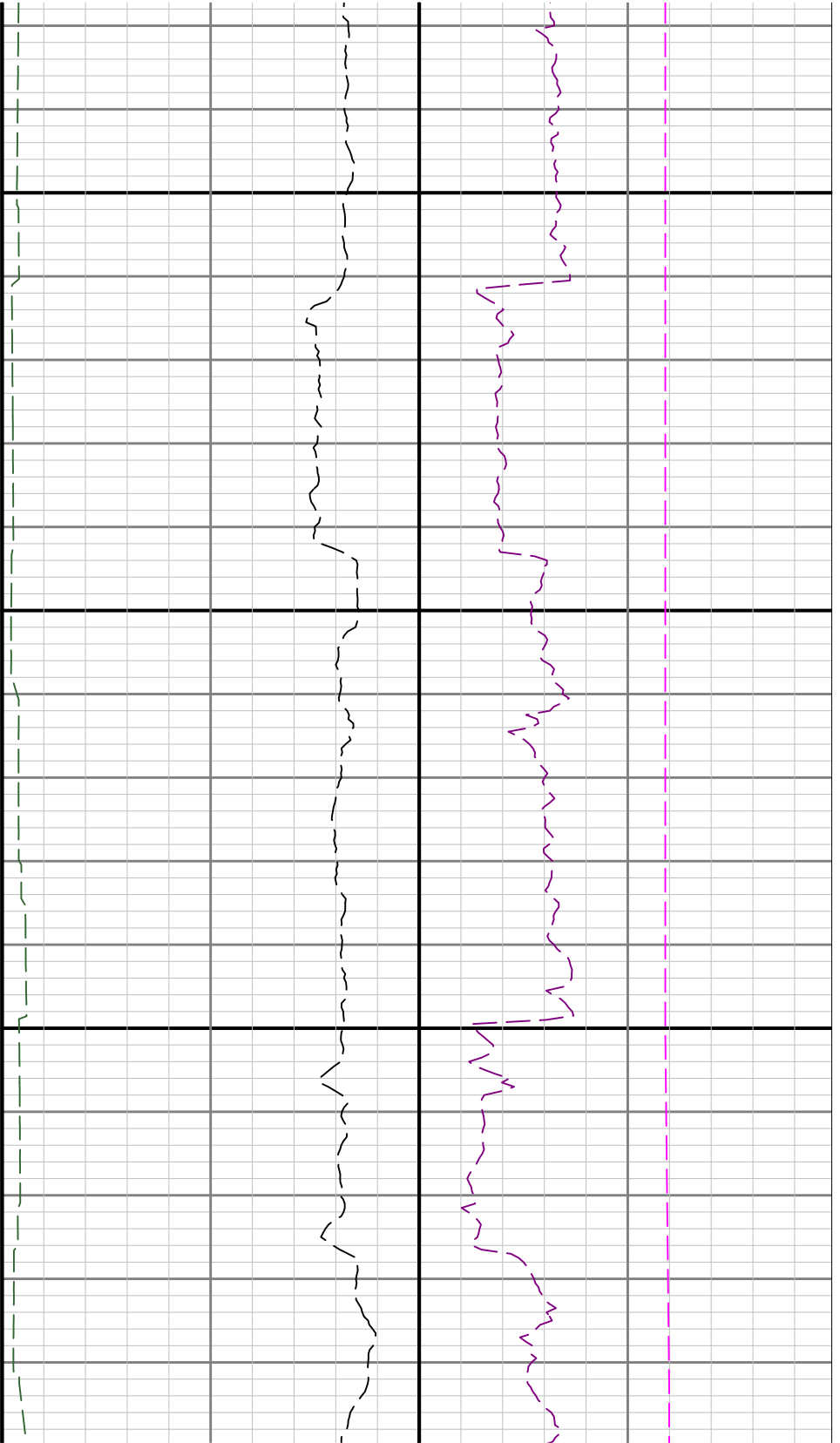


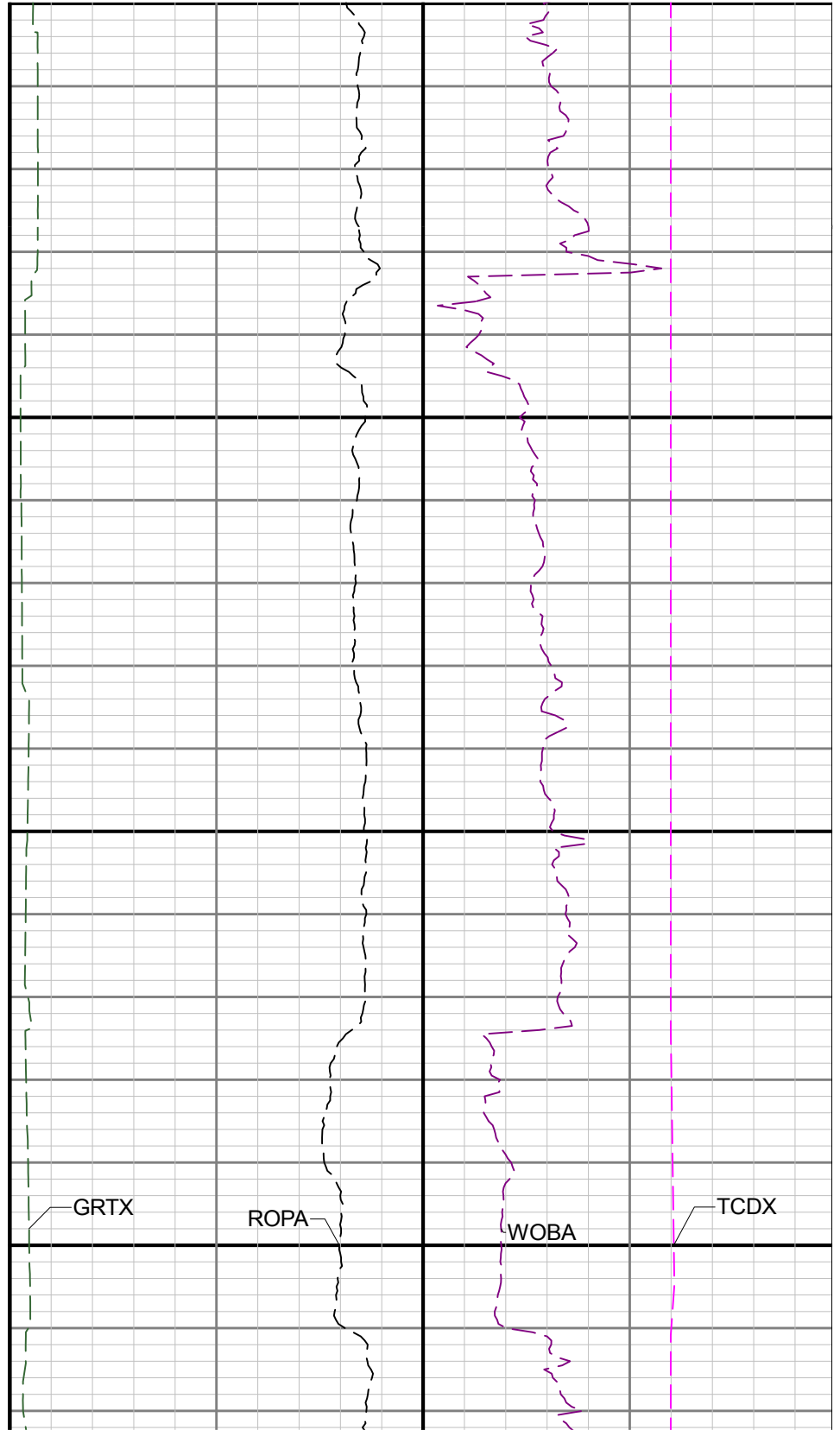
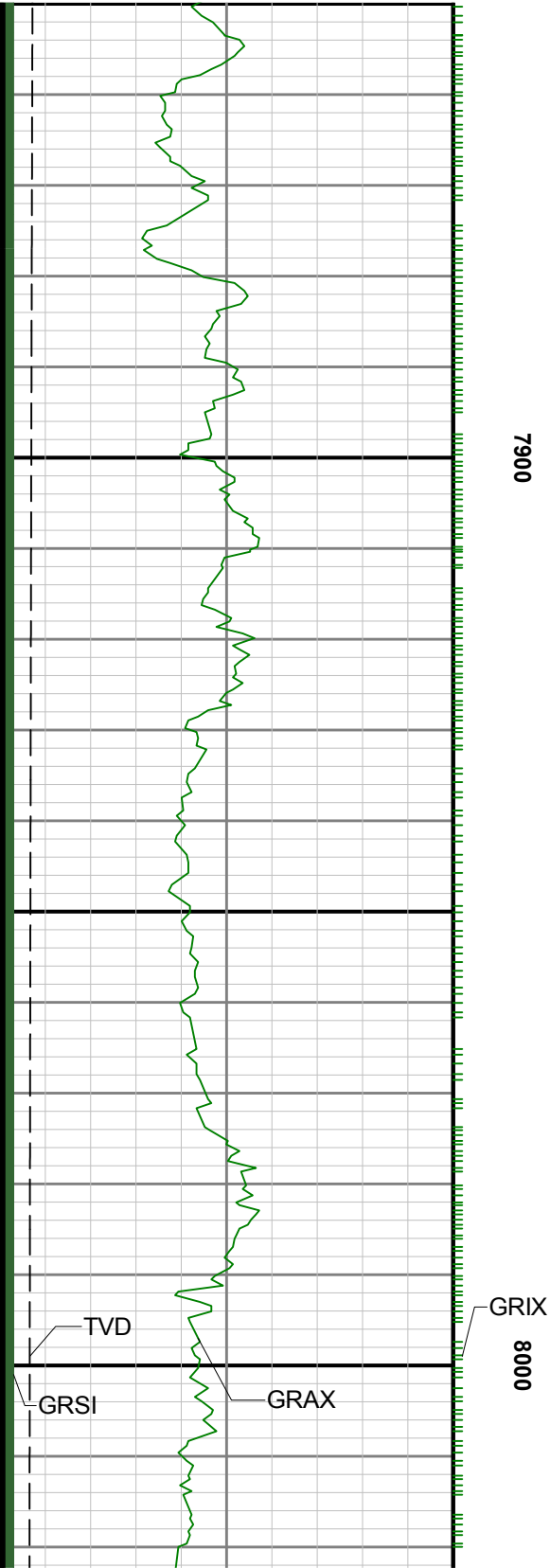


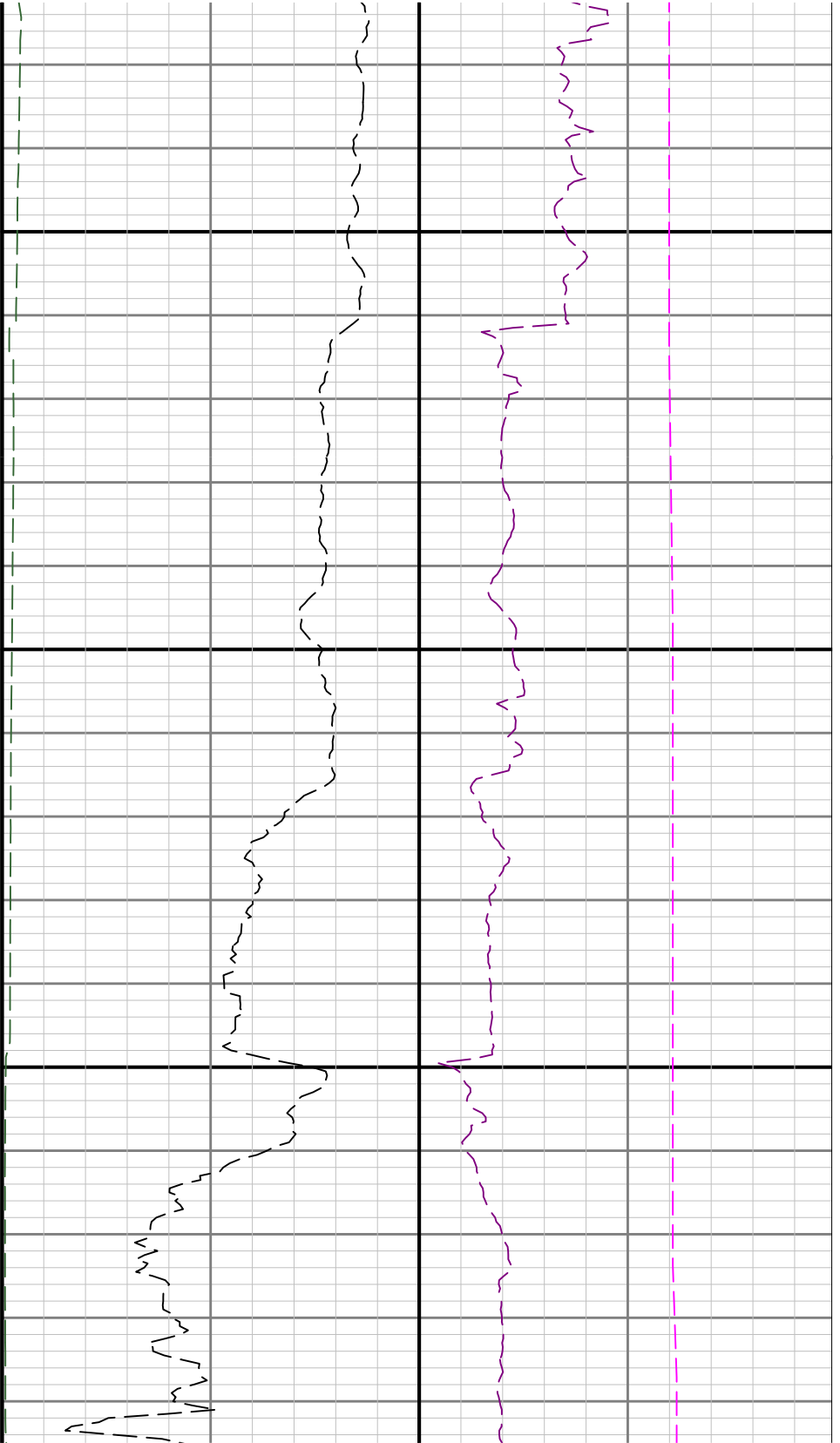


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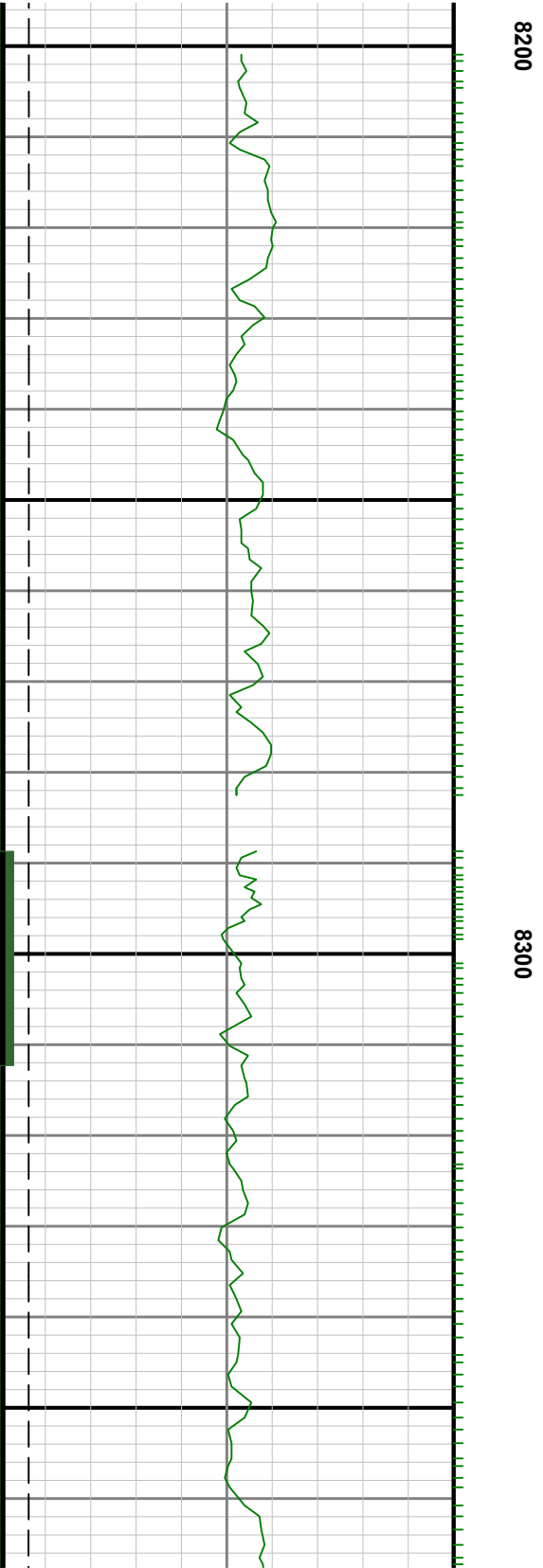
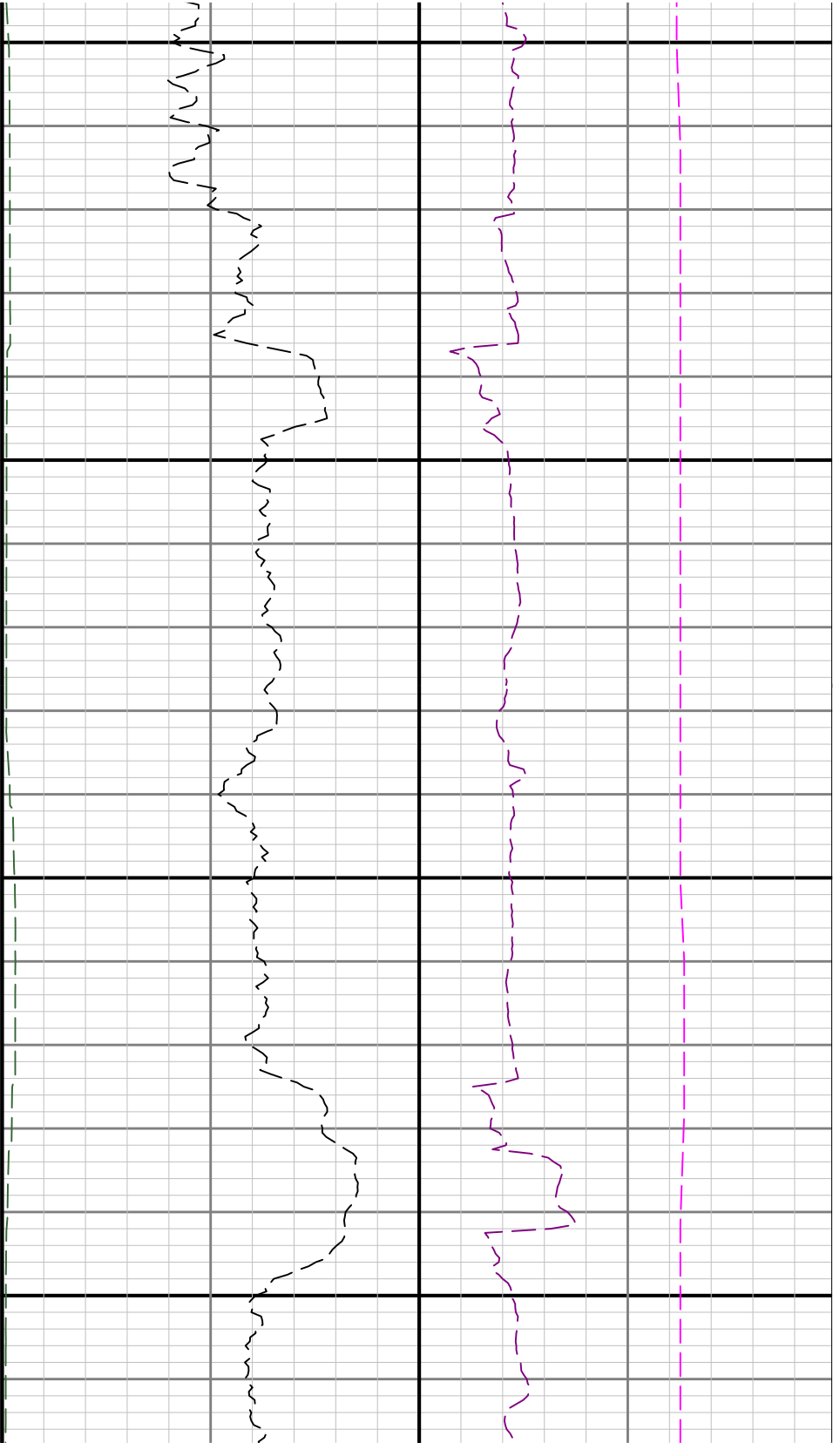


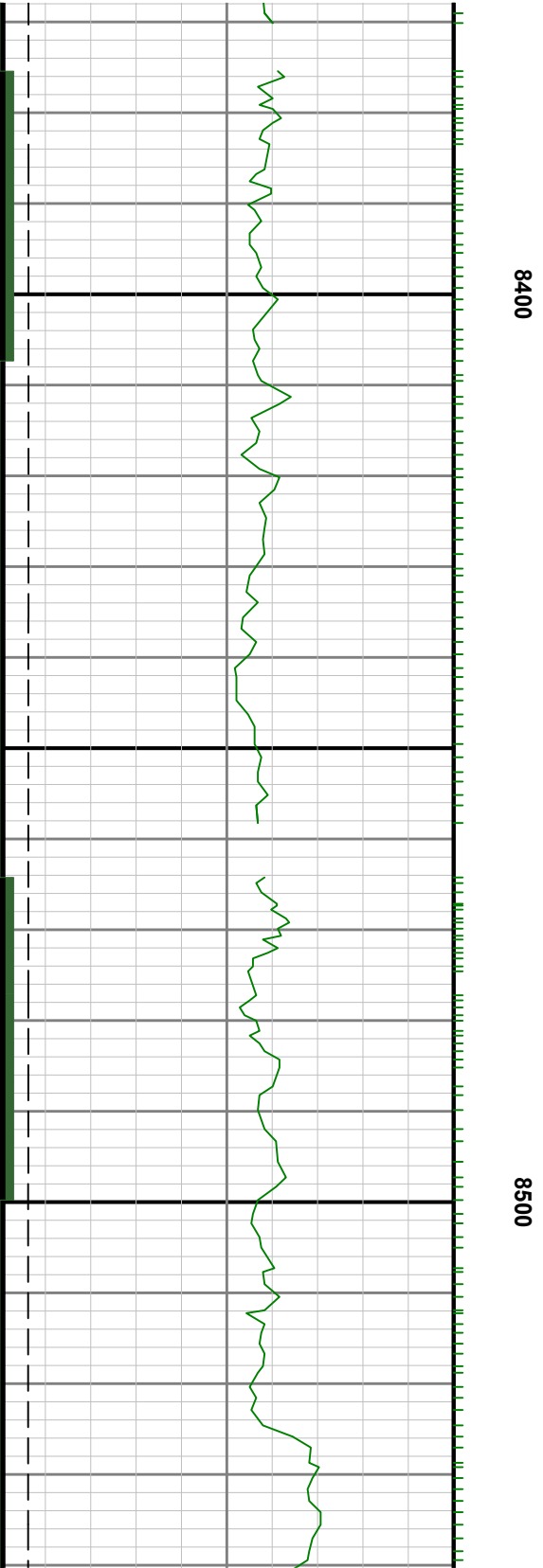
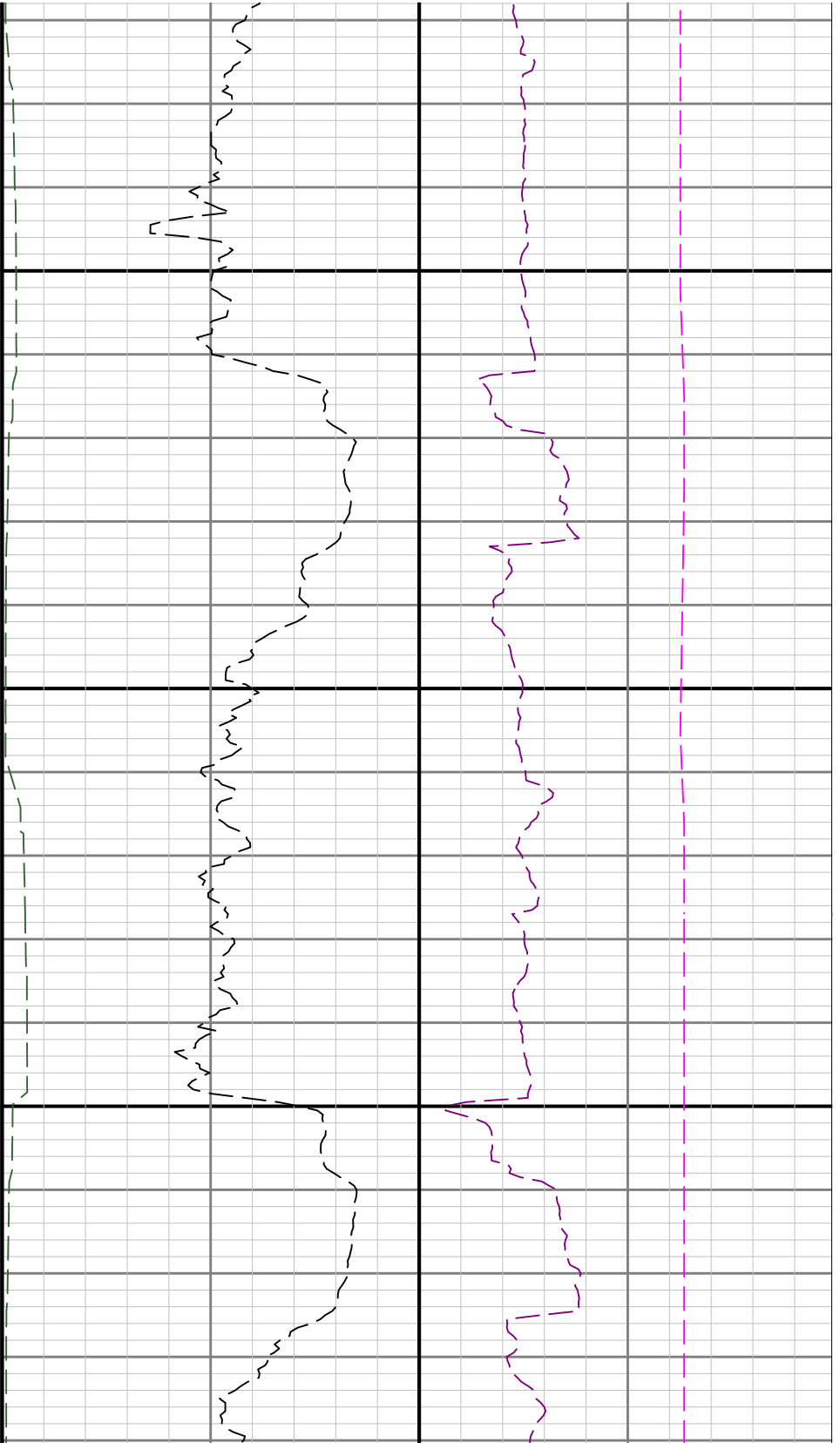


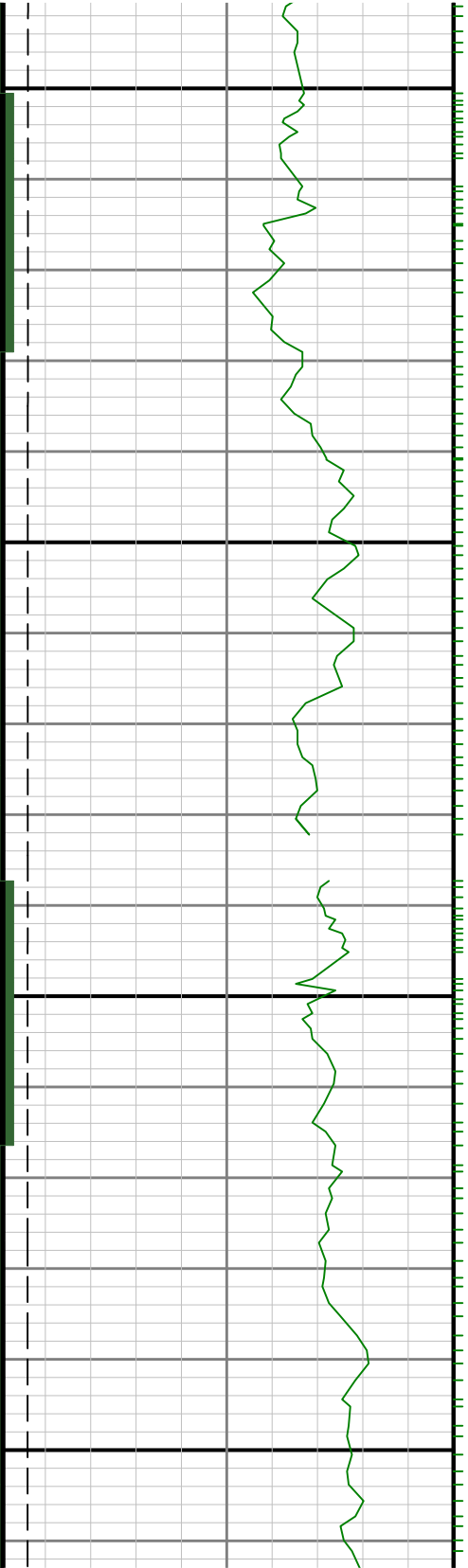


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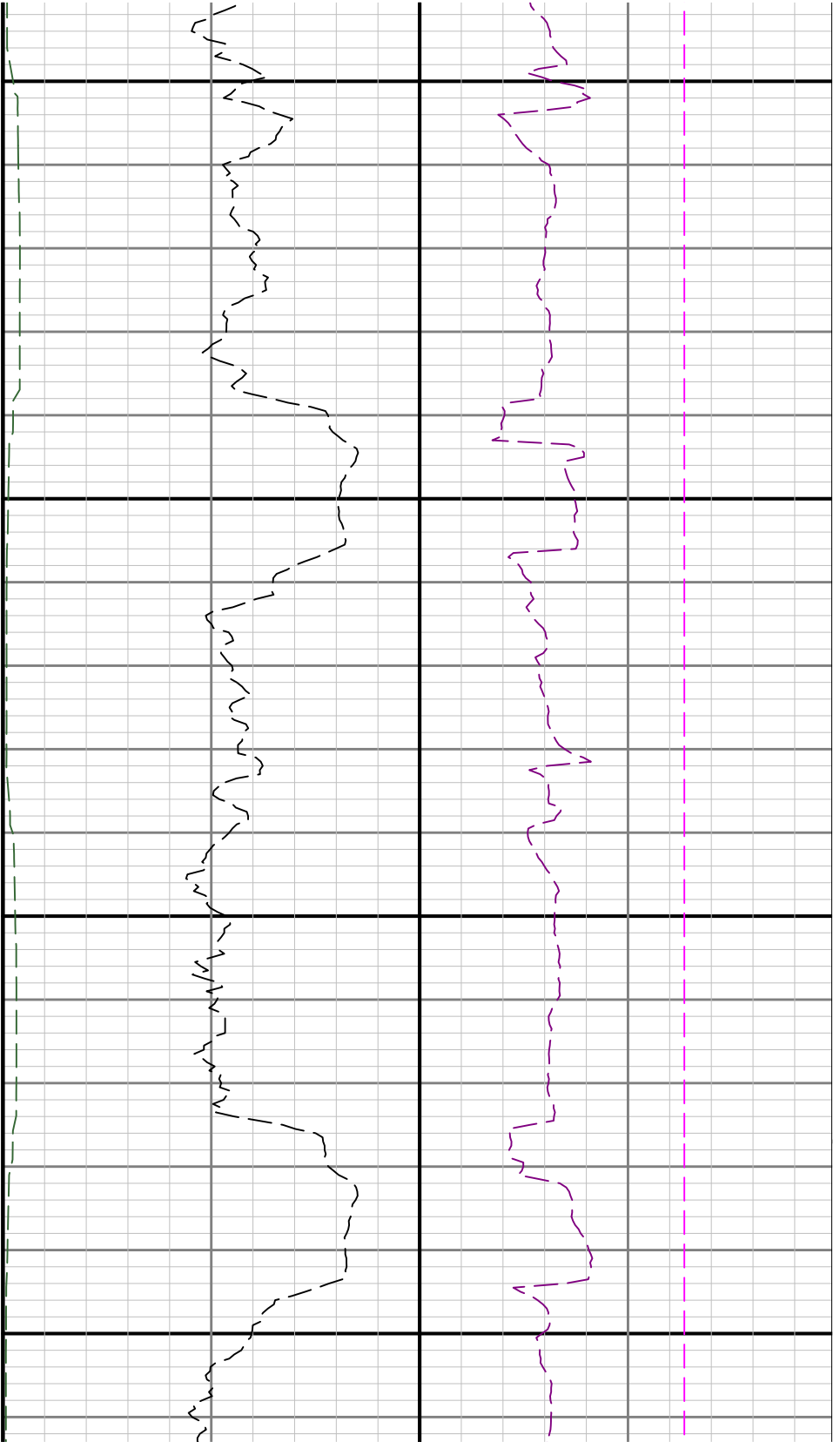


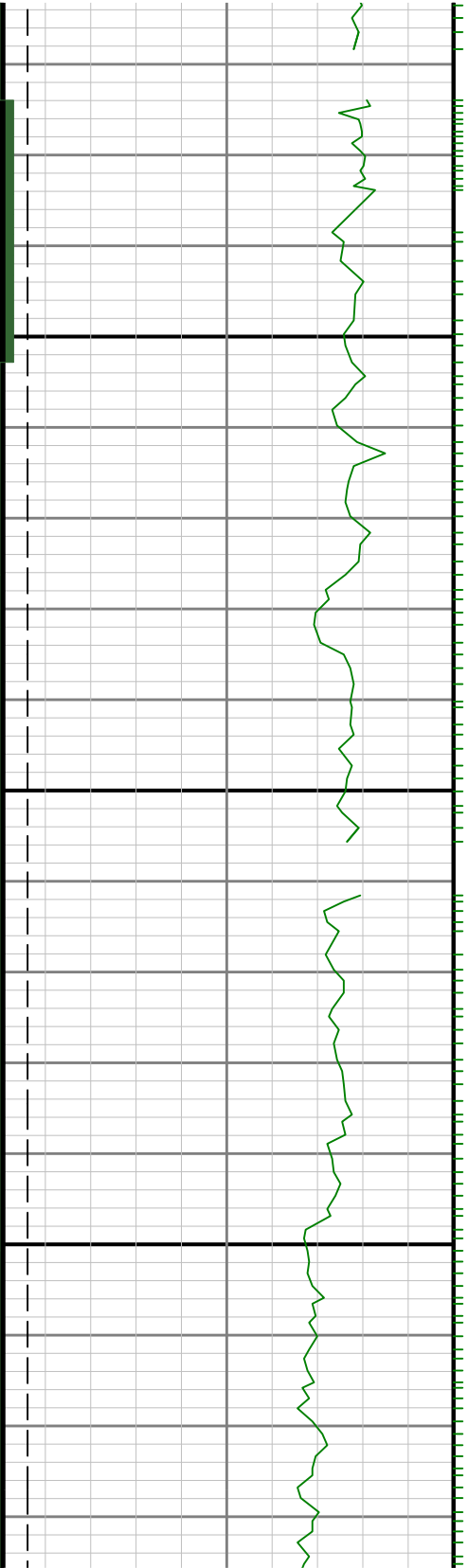




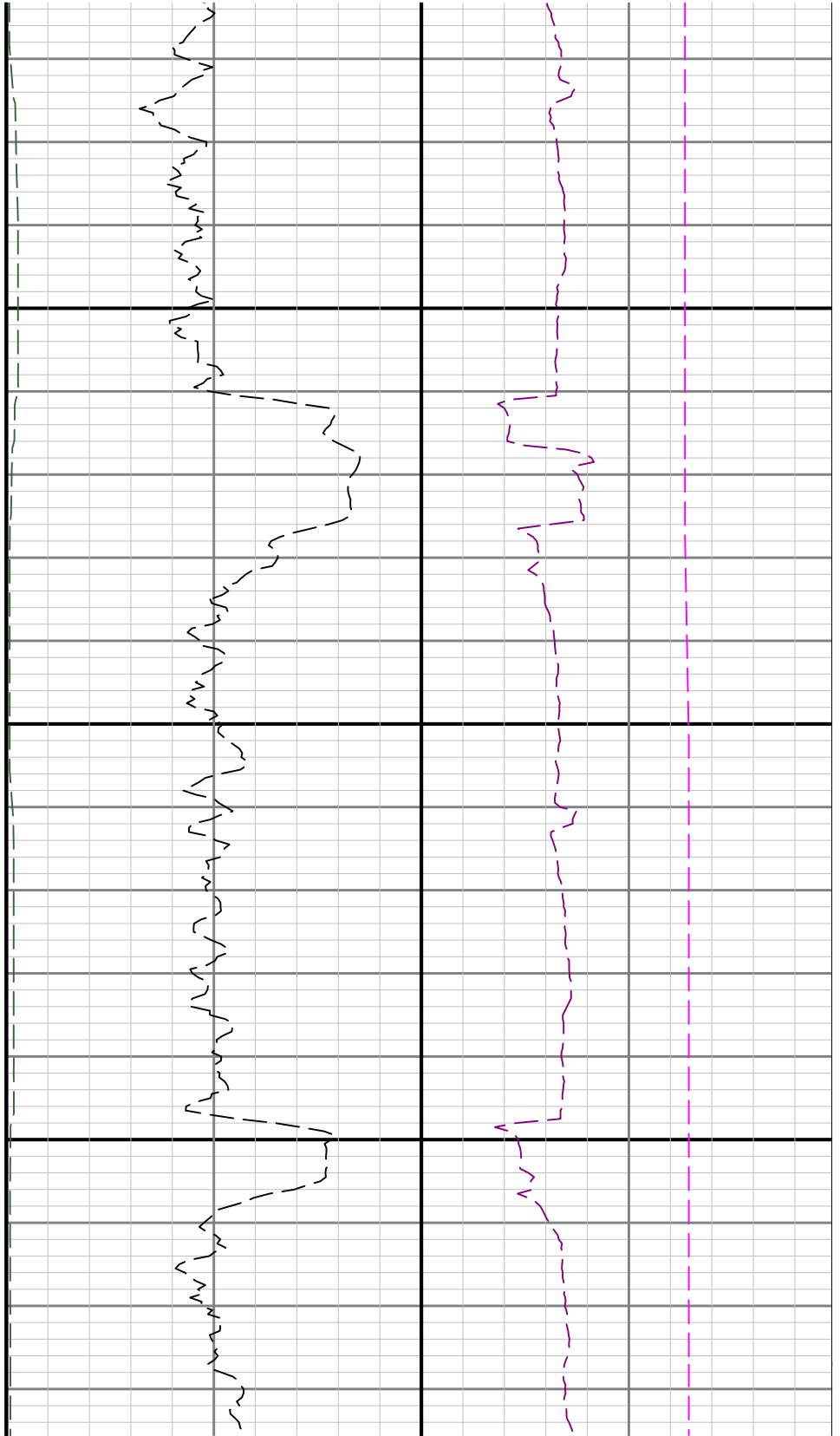
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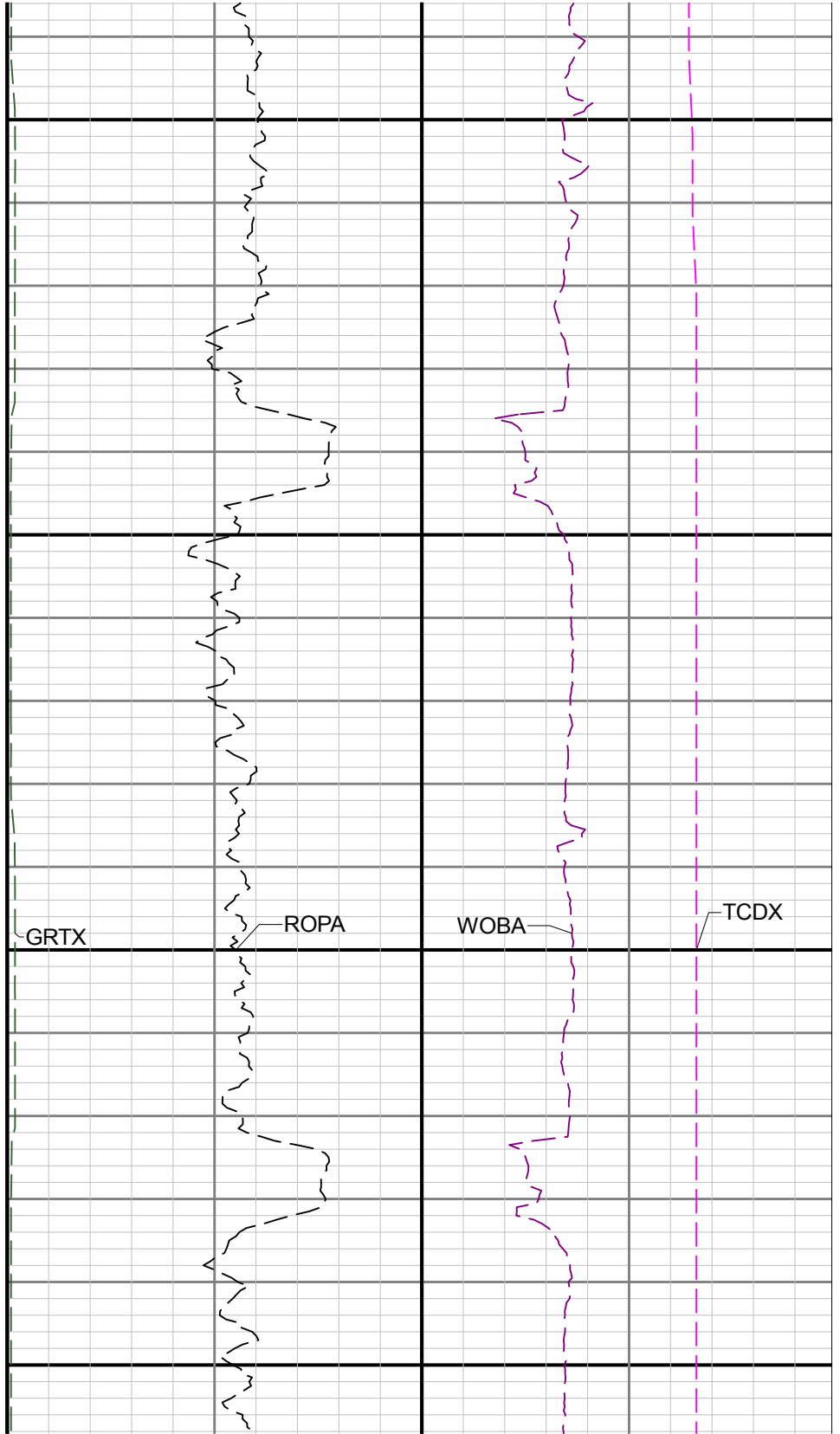
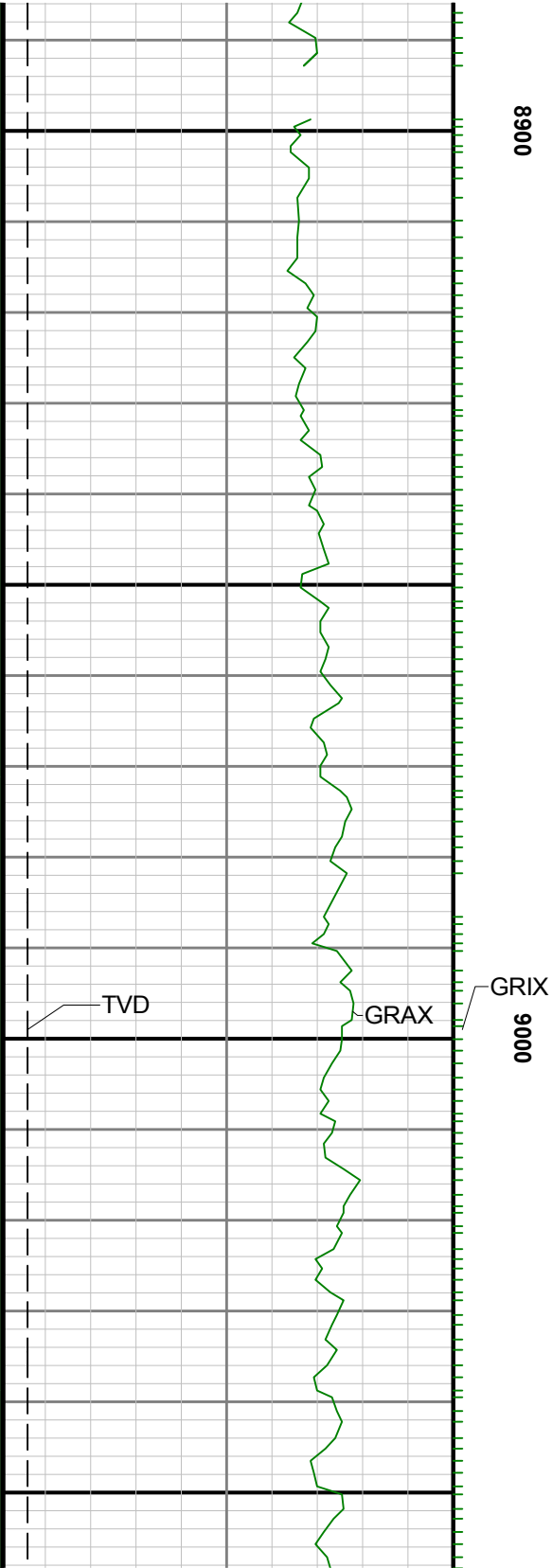
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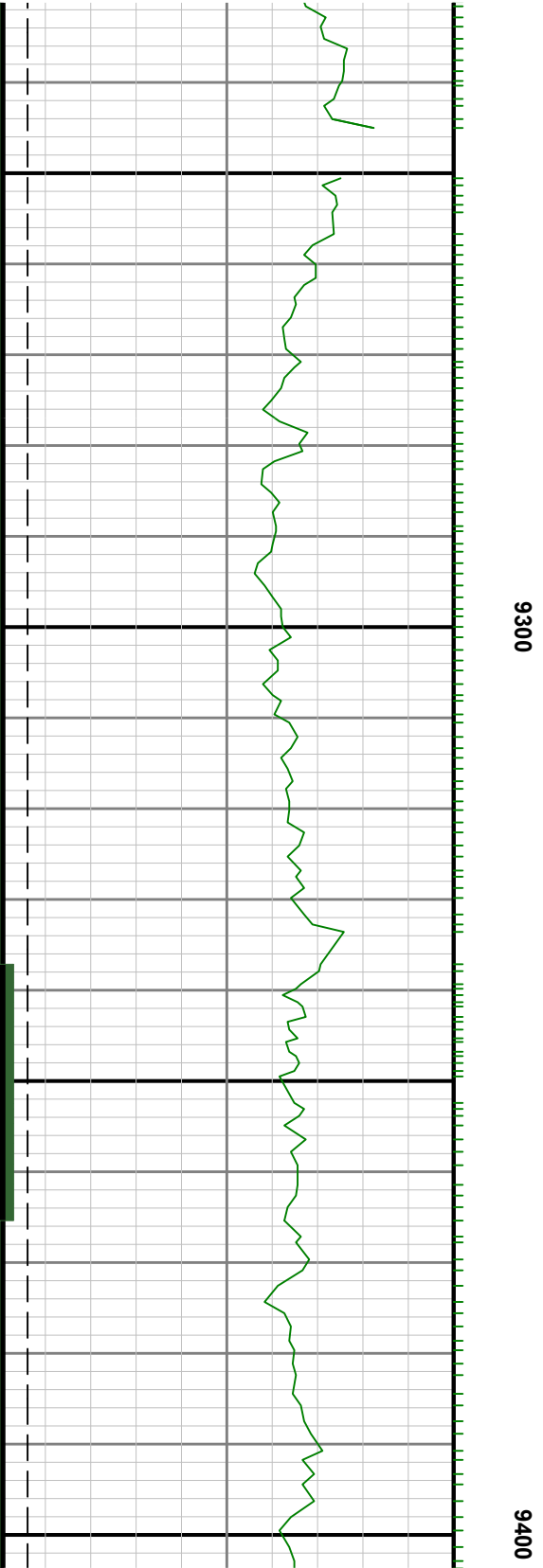
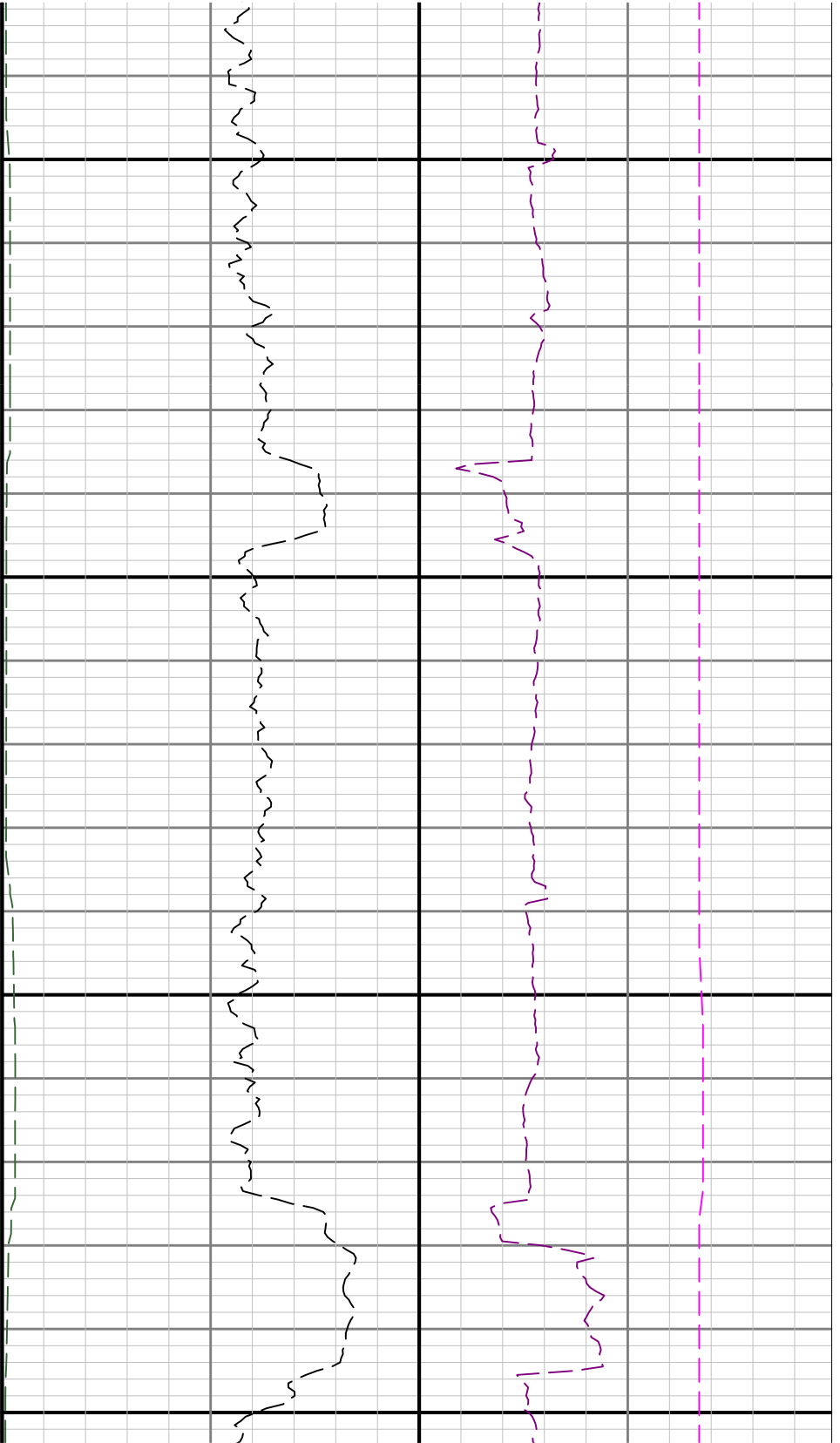


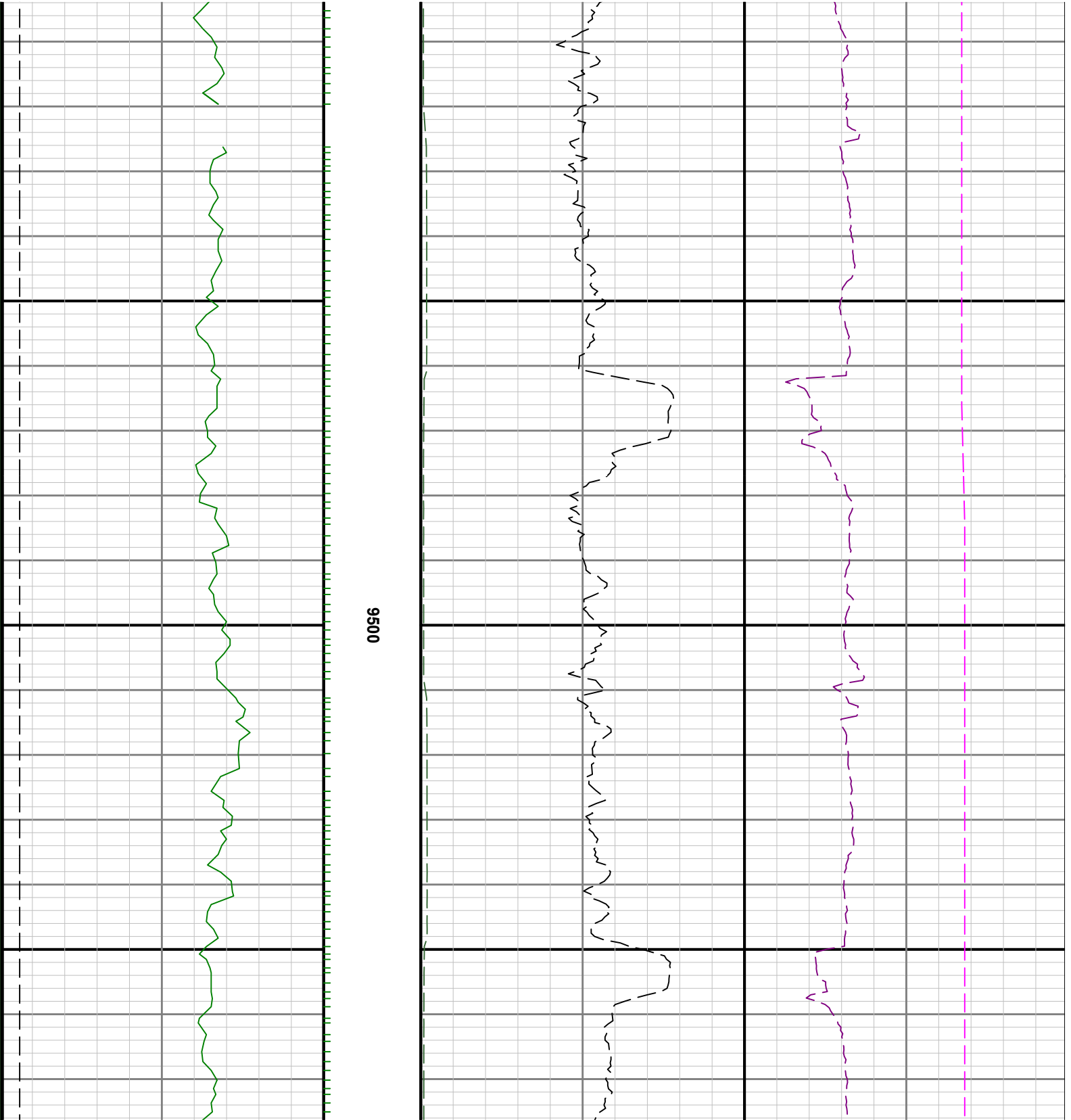




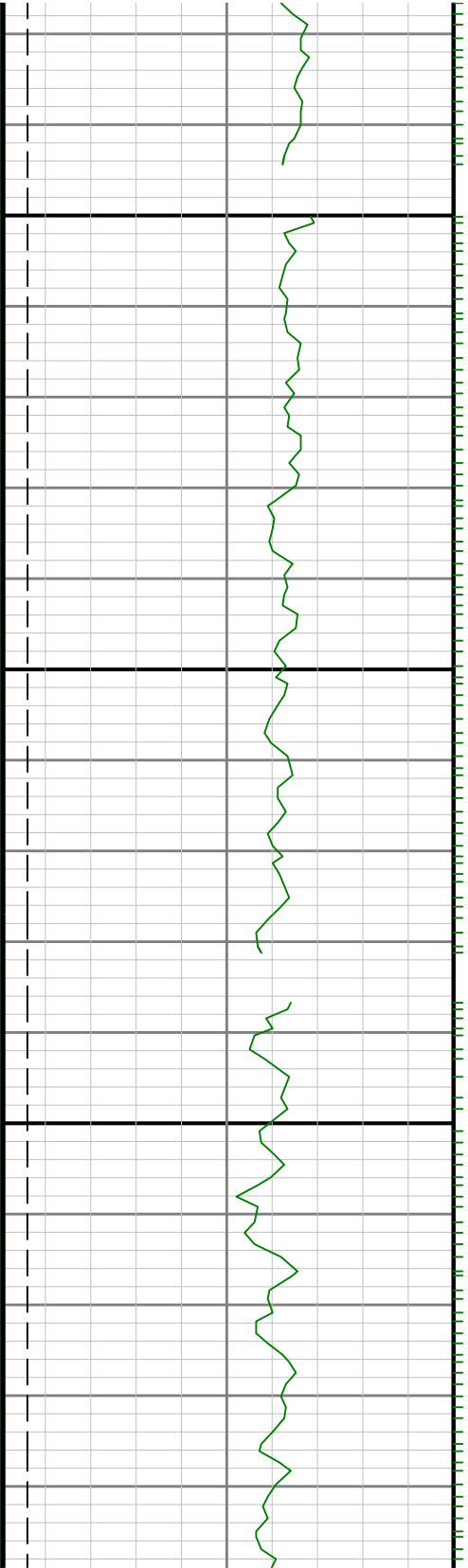
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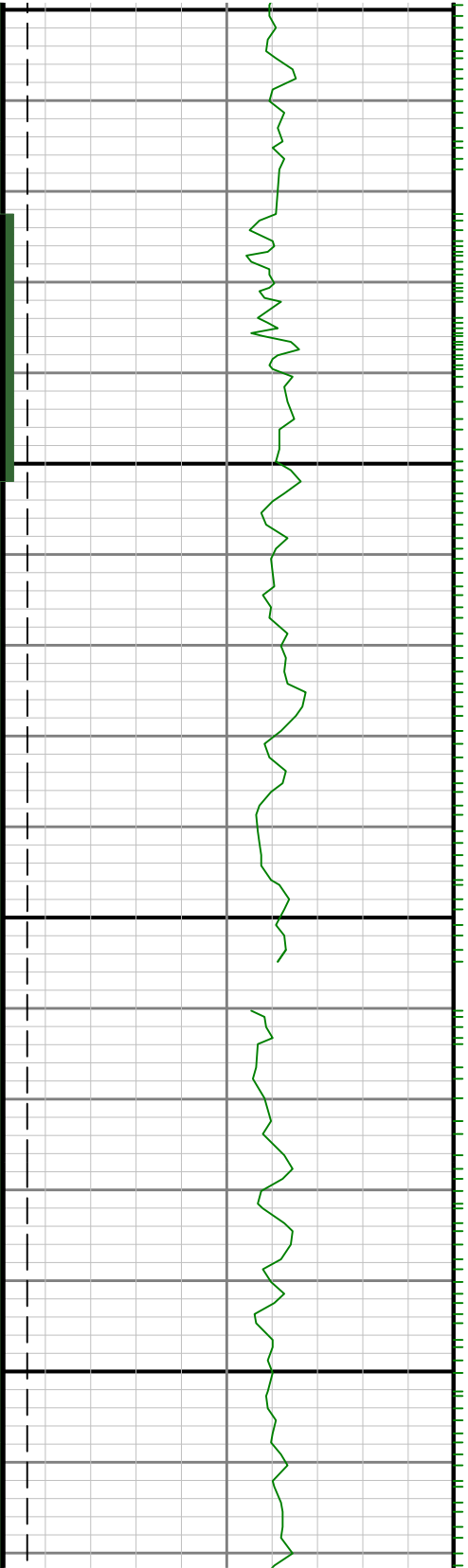
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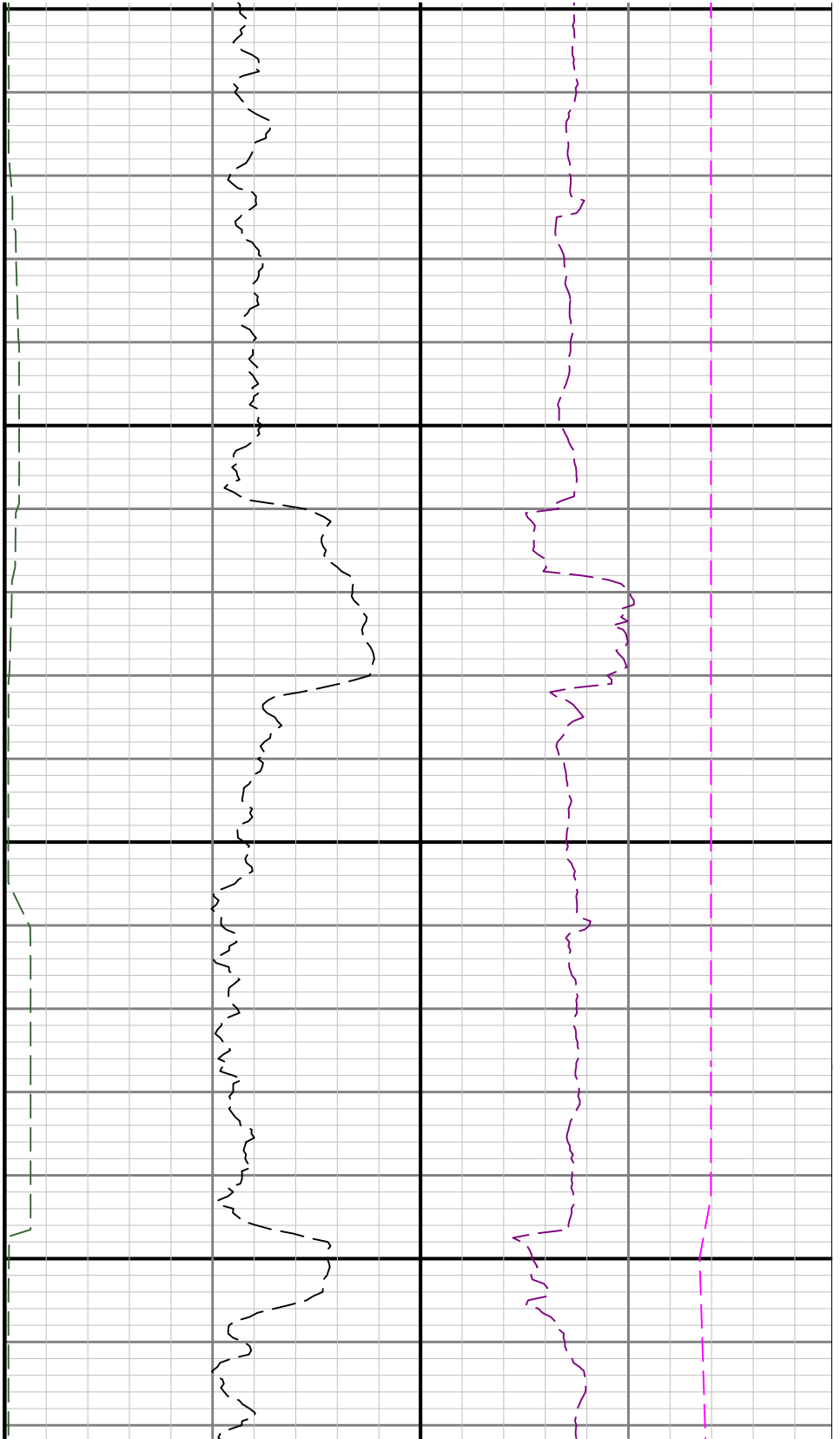
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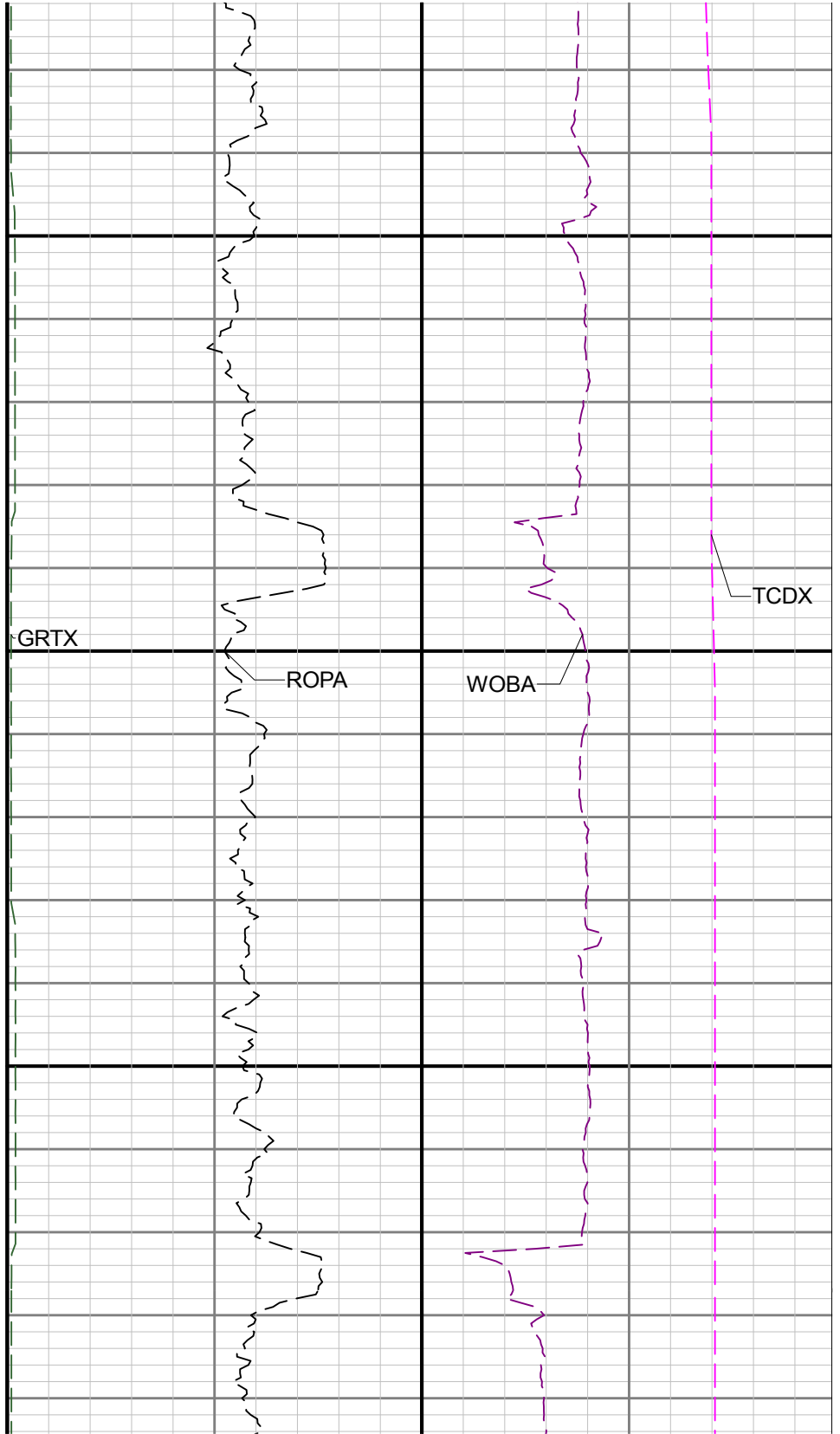
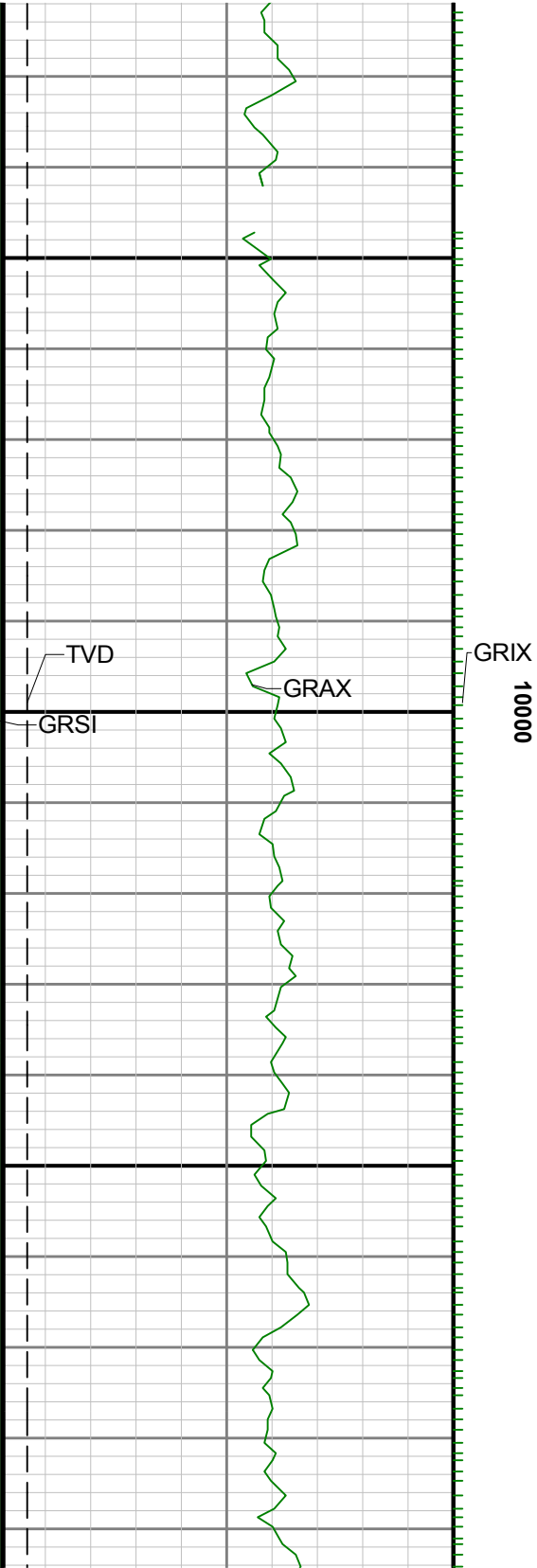


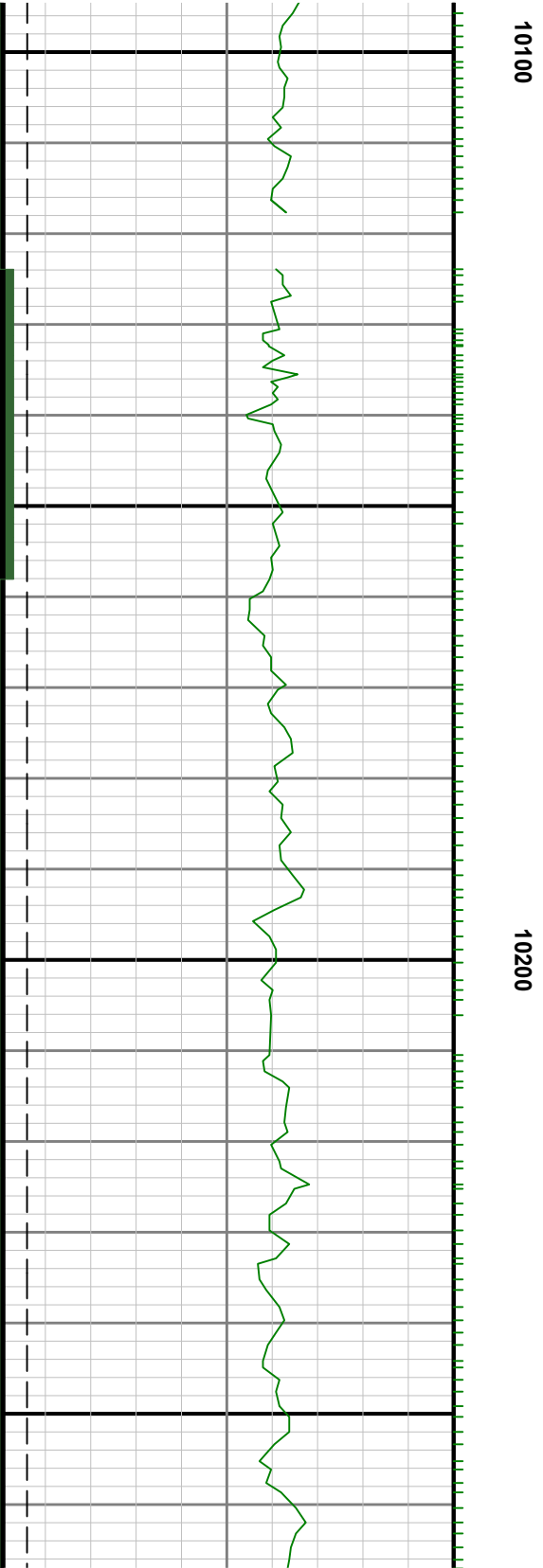
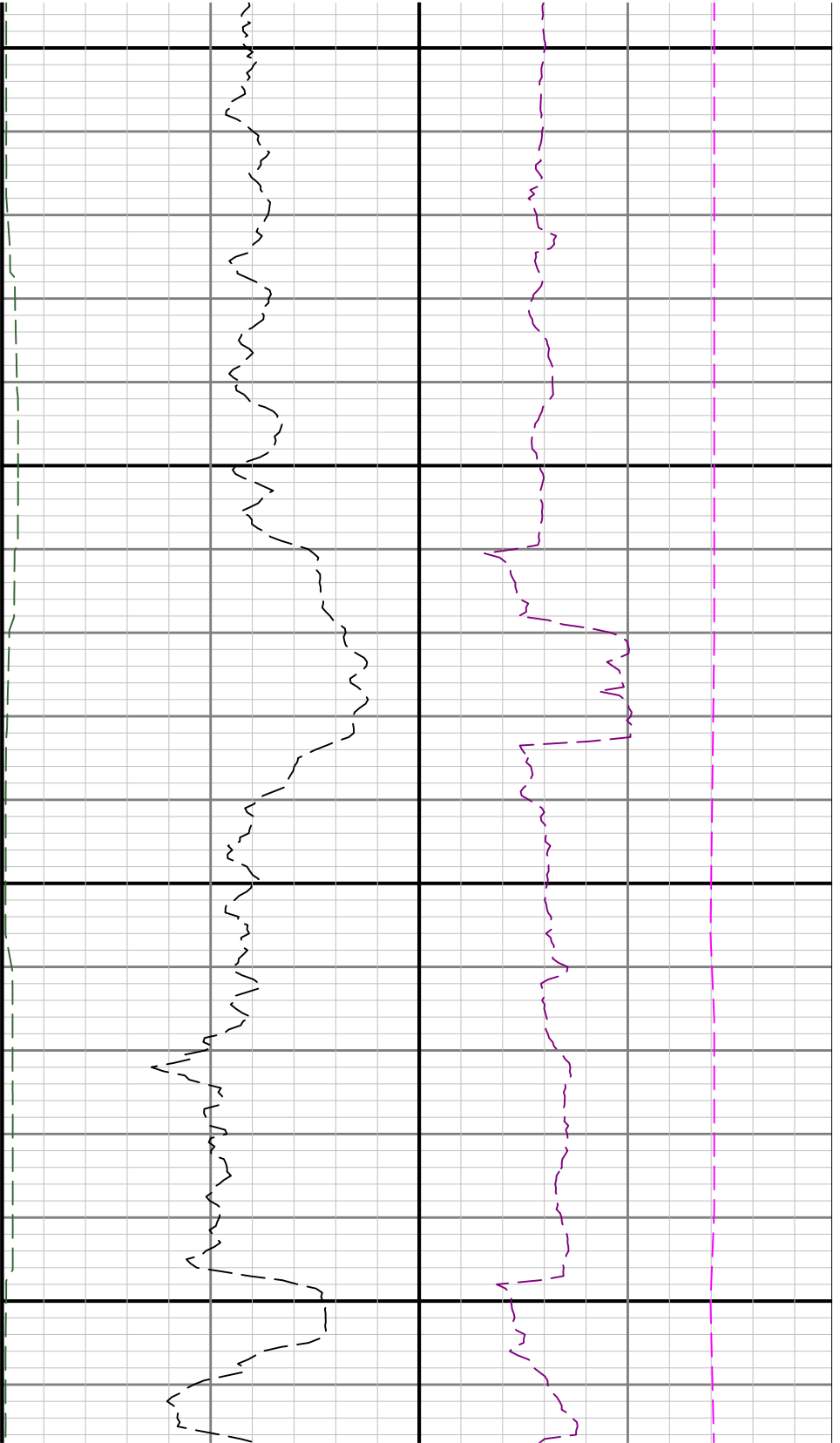


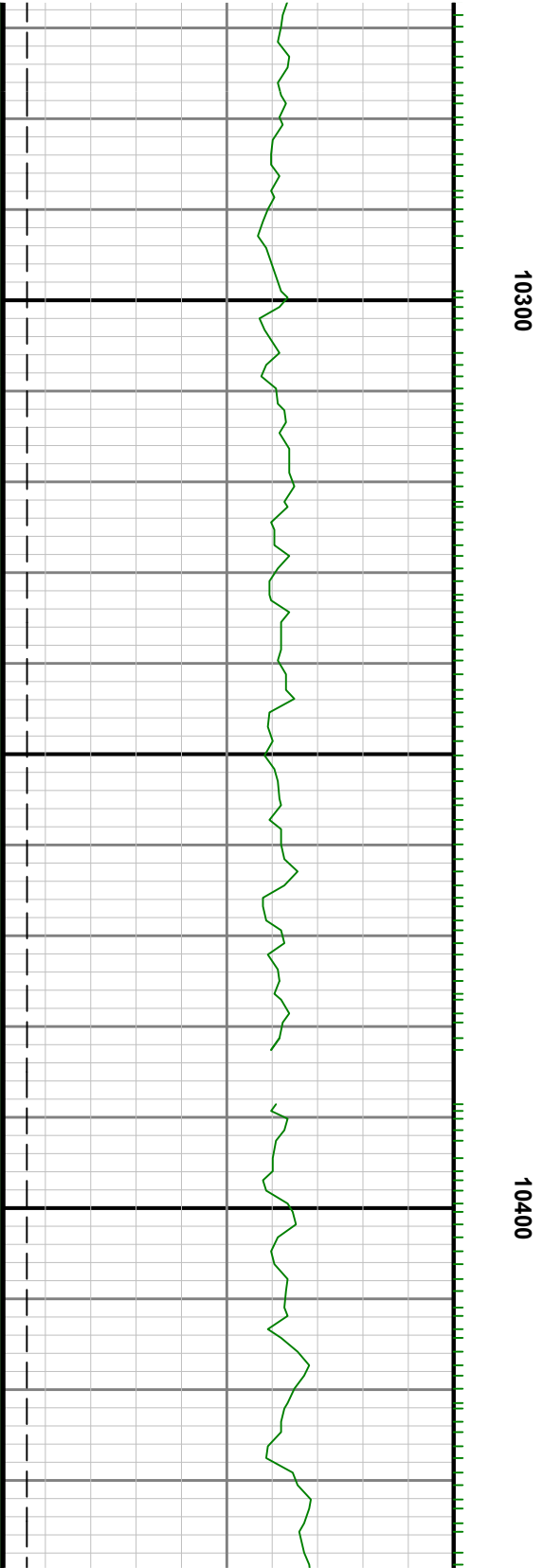
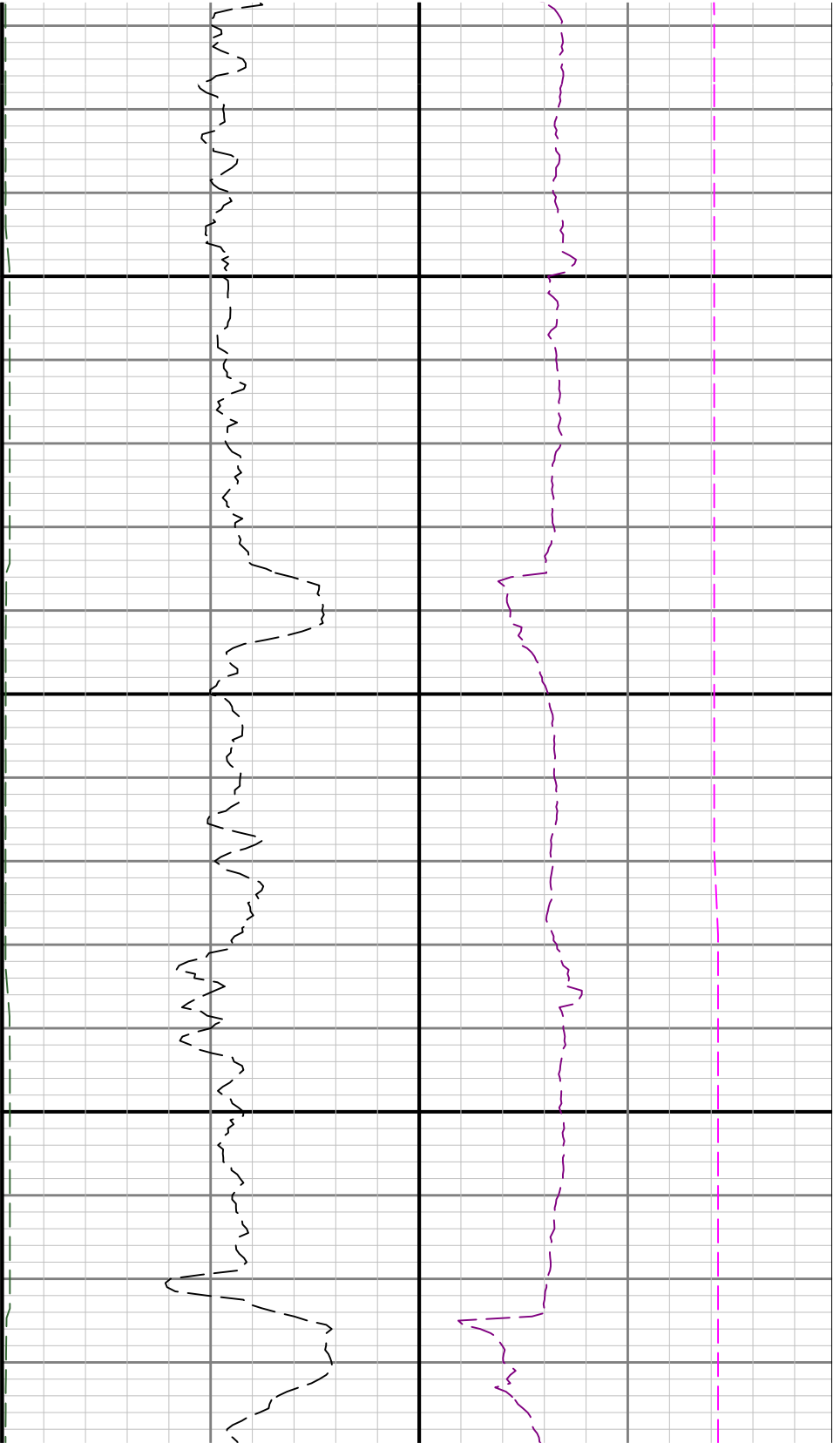
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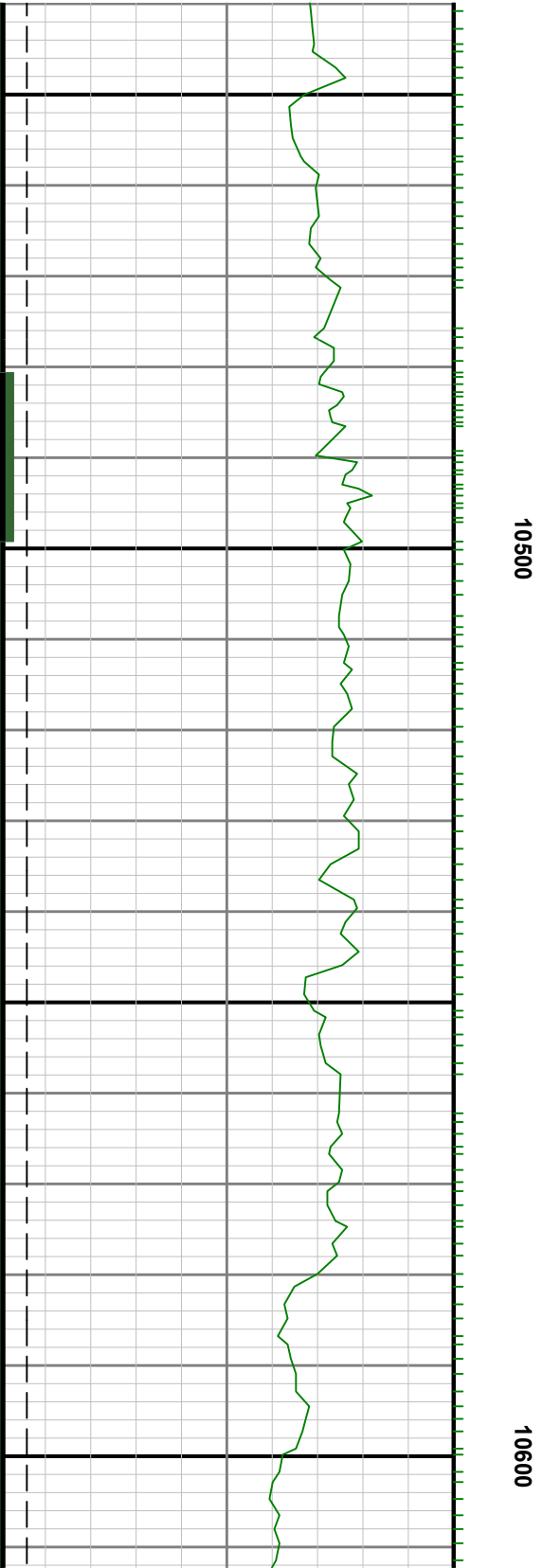
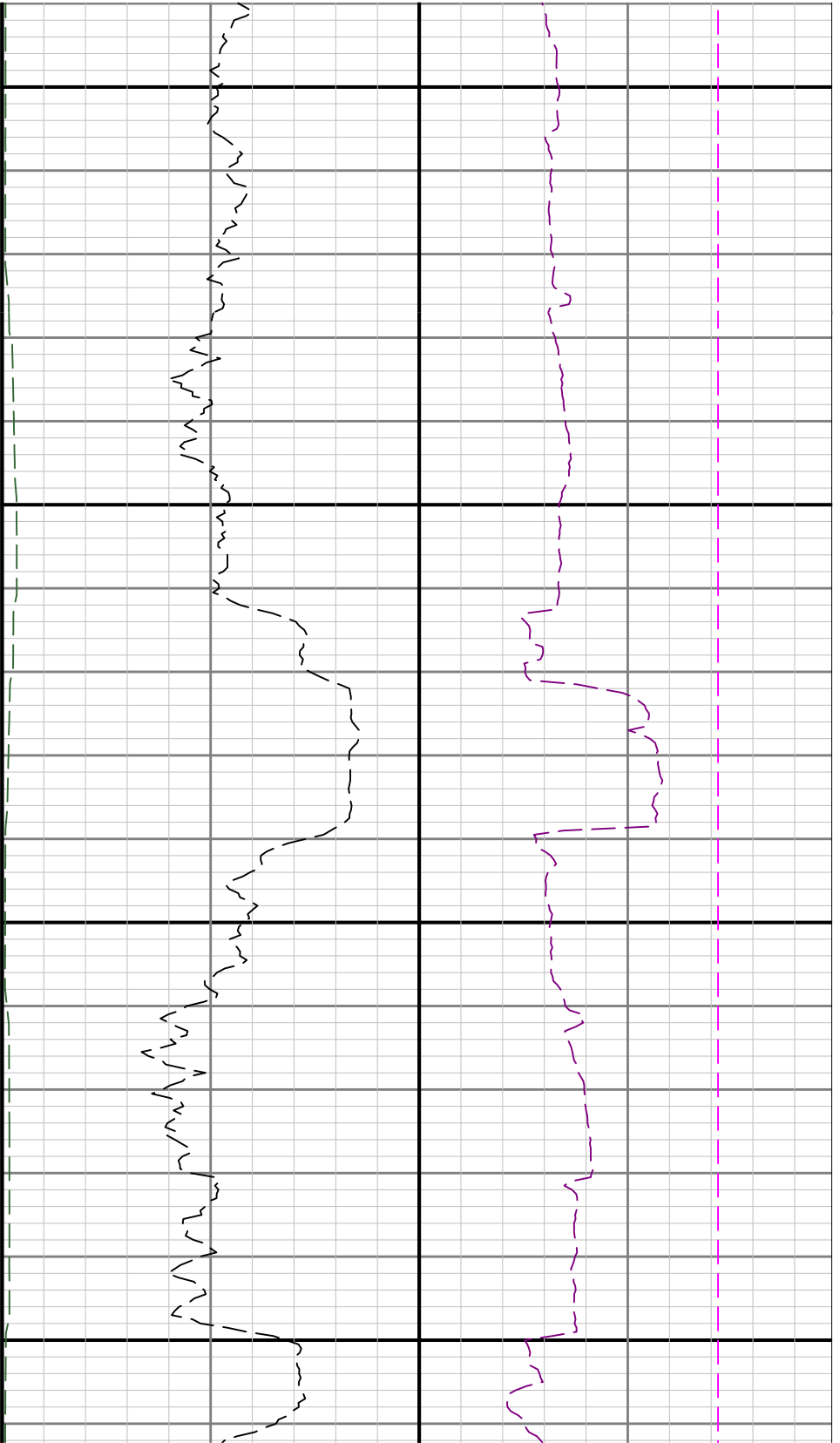
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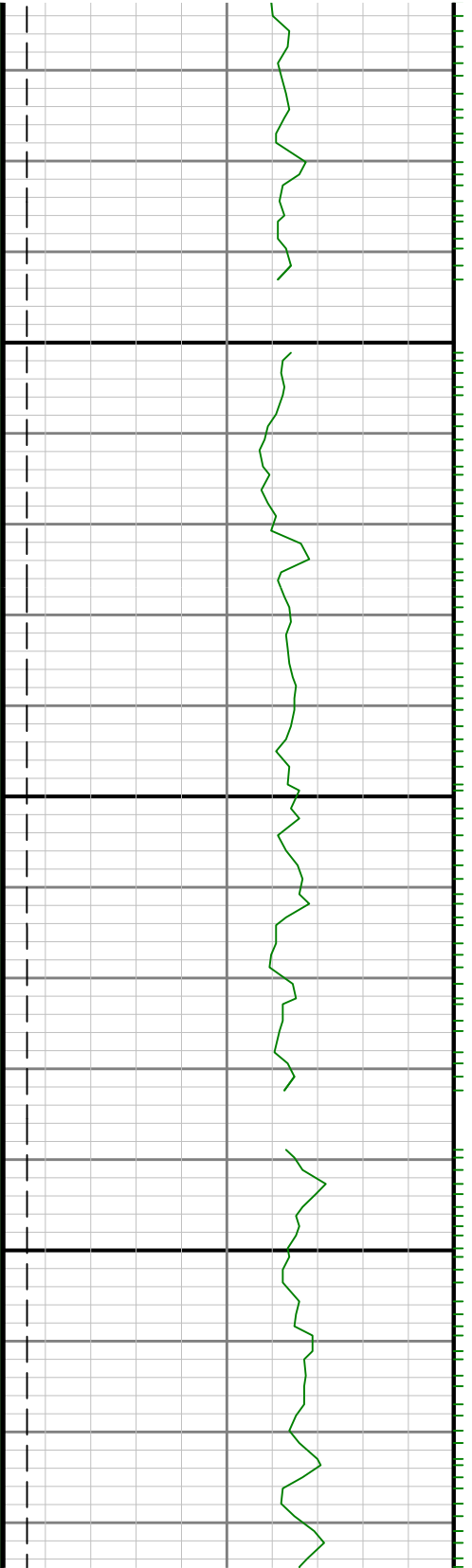
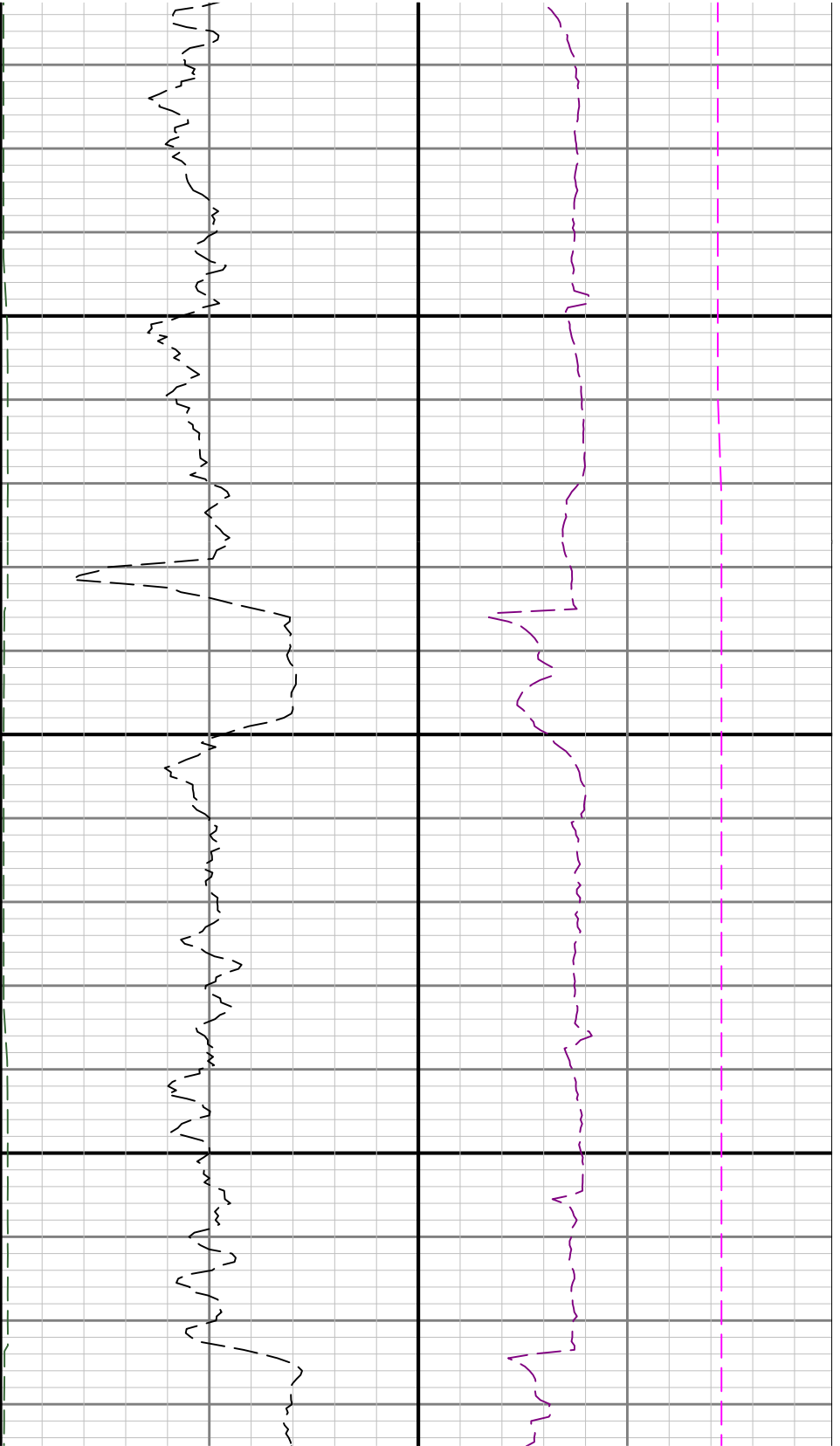


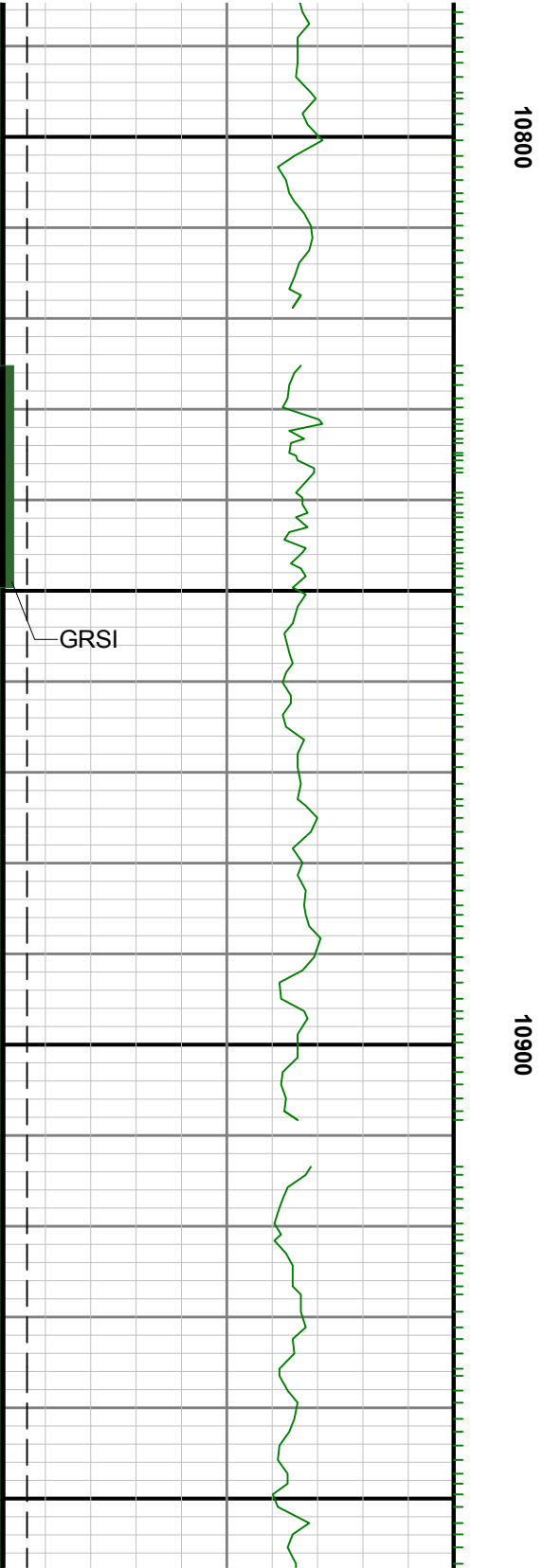
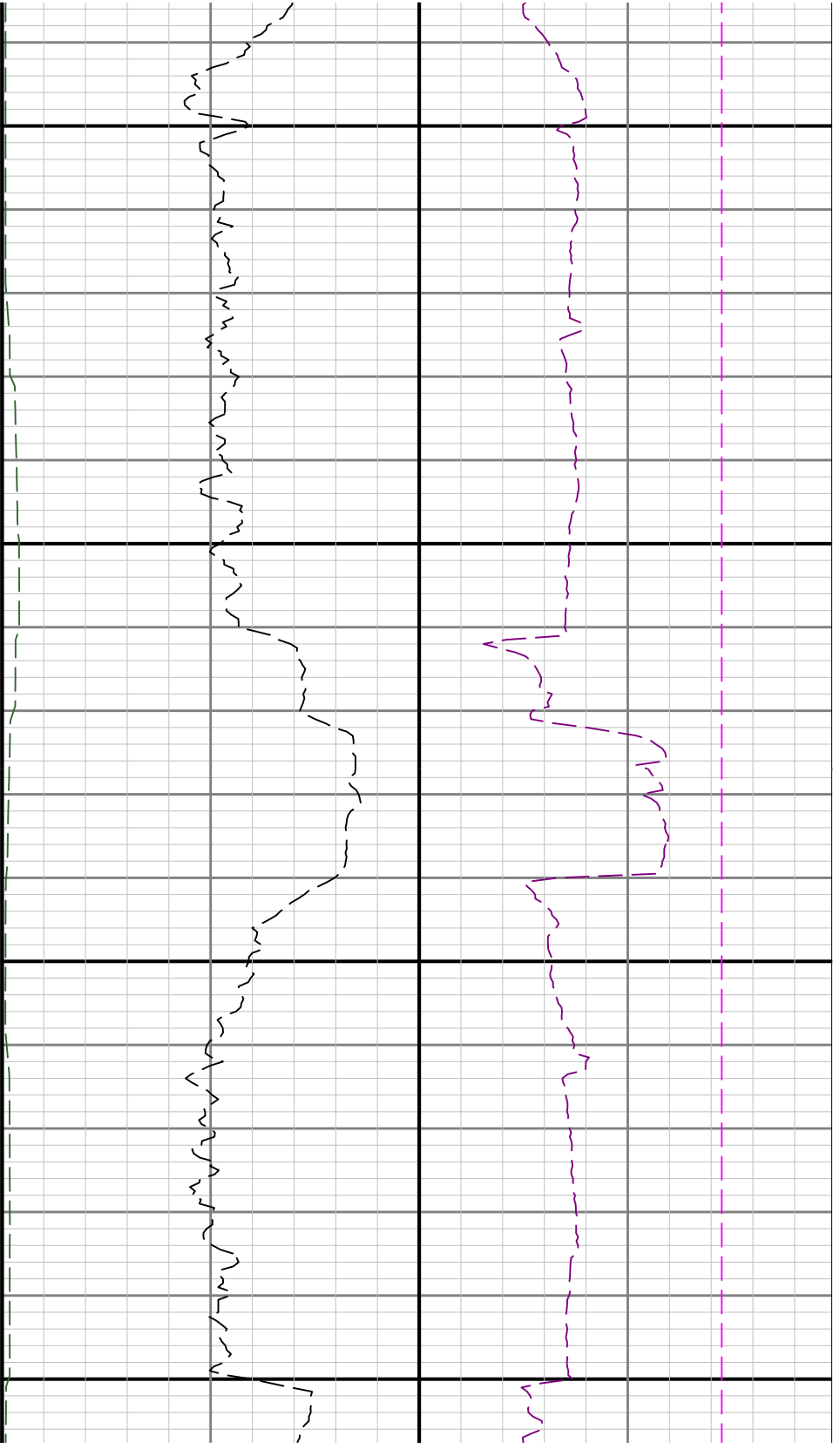


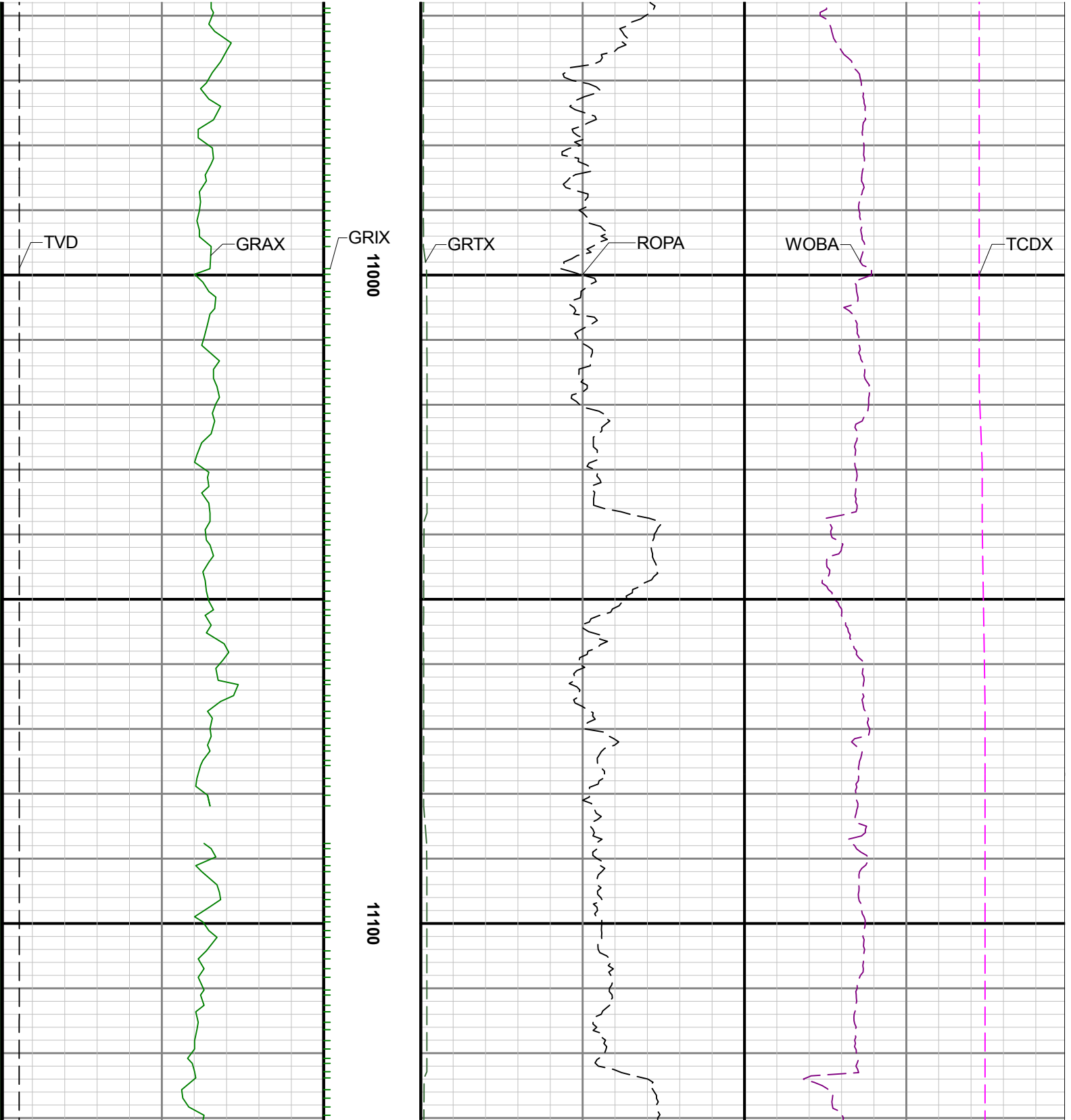


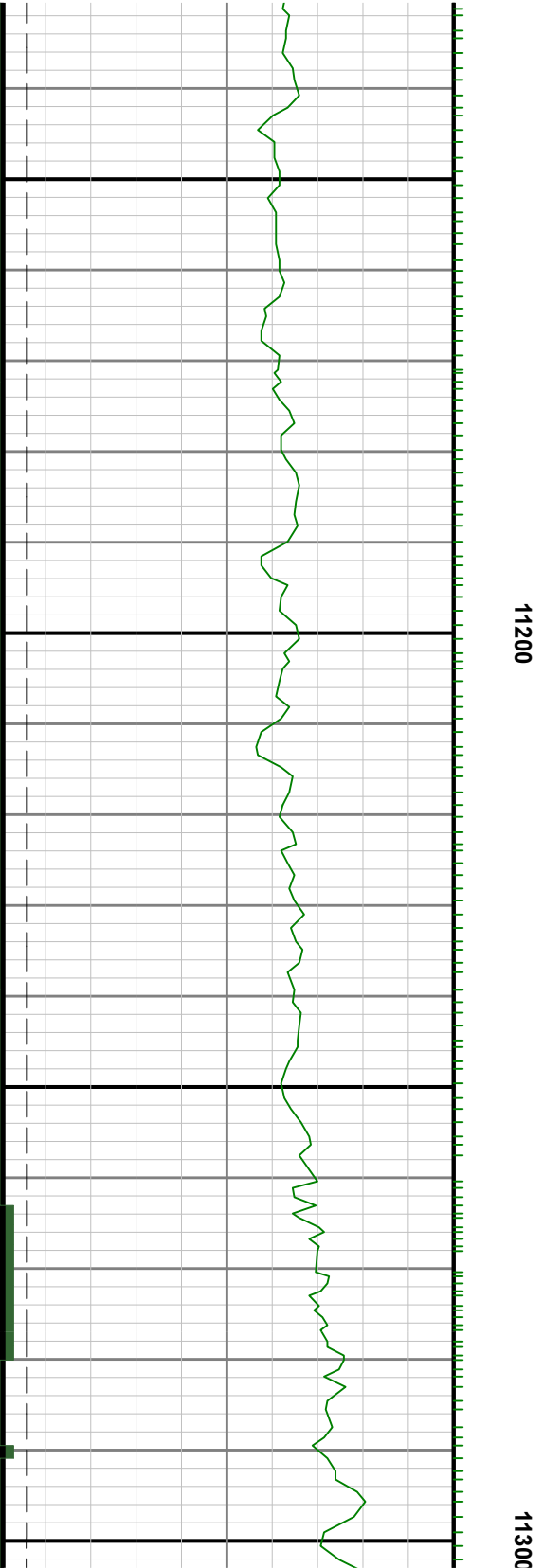
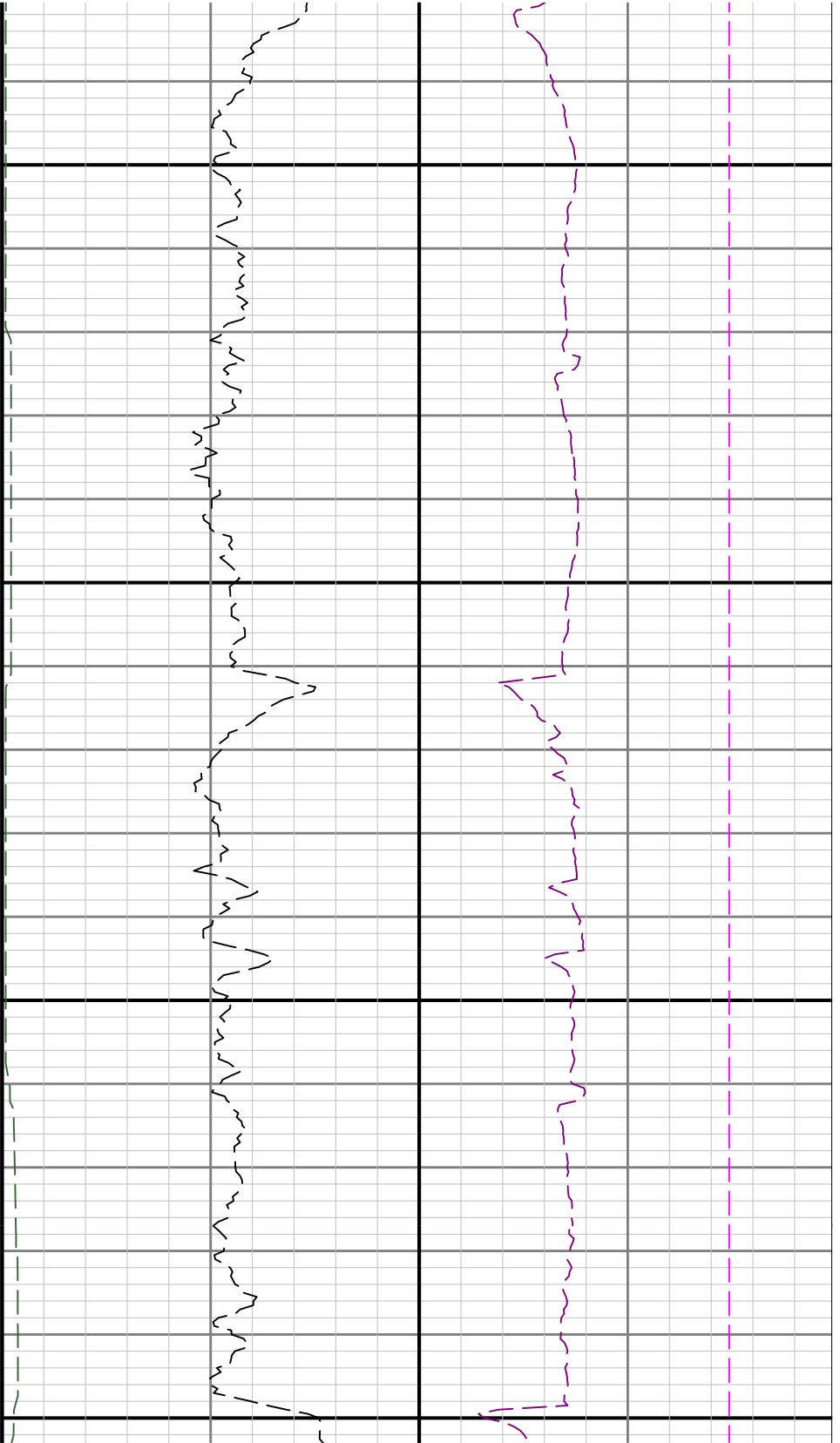


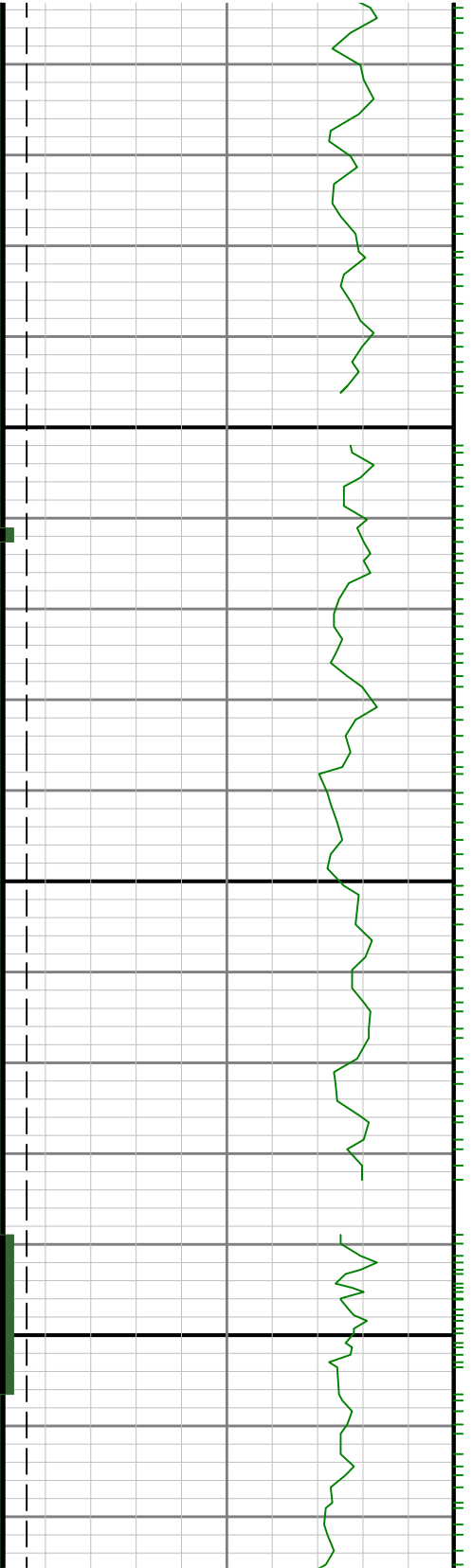
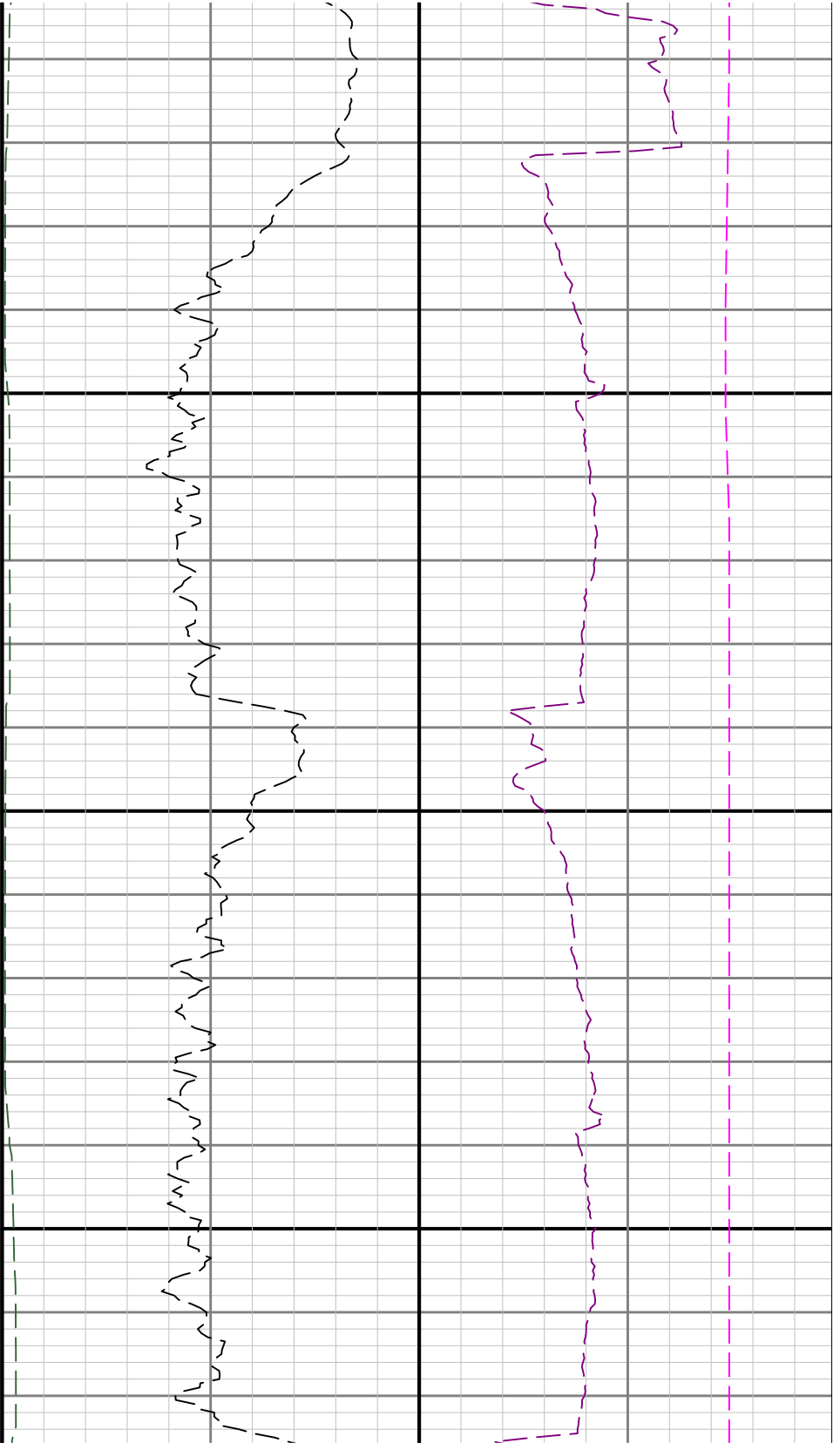


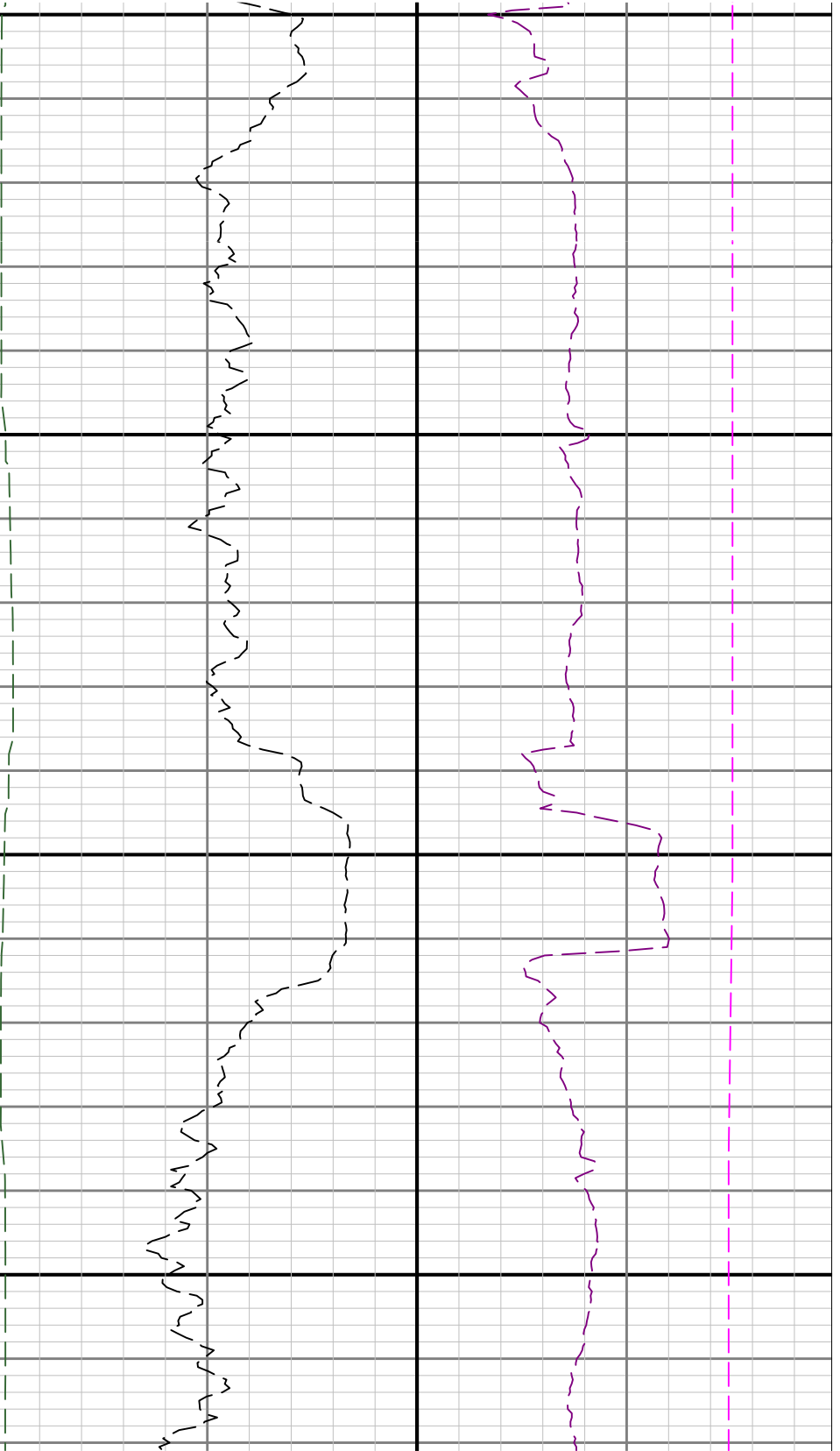












11700

11800

