

BAKER HUGHES				Realtime Log			
				Natural Fromation Evaluation Gamma Ray			
Scale:	1:240 Measured Depth			Company: Kerr-McGee Oil & Gas LP			
				Well: Benson Farms 12C-23HZ			
				Field: Weld County (Kerr McGee)			
Status:	Final Print			Surface Location:		Other Services:	
API Number: 051233939700				Latitude: 40° 12' 35.626" N Longitude: 104° 57' 37.980" W		Directional VSS	
				Section24 TWN: 3N Range66W			
Permanent Datum (P.D.): Ground Level				Elevation: 4957.00 ft.		Elevations: N/A	
Log Measured From: Drill Floor				16.00 ft.		Above P.D. 4973.00 ft.	
Depth Reference: Driller's Depth						GL: 4957.00 ft.	
Interval Logged		Dates		Magnetic Field Reference			
Top:	6814 ft.	Date From:	11/Jun/14	Dip Angle:	66.92 °	Azi Reference North:	True
Bottom:	13302 ft.	Date To:	20/Jun/14	Total		Mag to Reference	
		Spud Date:	11/Jun/14	Field Strength:	52637.9 nT	North Correction:	8.71 °
Borehole Record				Casing Record			
Hole Size	From	To	Size	Weight	From	To	
13.500 in.	Surface	1253 ft.	9.875 in.	36.00 lb/ft	Surface	1243 ft.	
8.750 in.	1253 ft.	7772 ft.	7.000 in.	26.00 lb/ft	Surface	7762 ft.	
6.125 in.	7772 ft.	13356 ft.					
Mud Record				Deviation Record			
Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)	
Drill Water	Surface	6938 ft.	13.500 in.	1253 ft.	0.0 ° / 241.7 °	0.9 ° / 228.4 °	
LSND	6938 ft.	13356 ft.	8.750 in.	6519 ft.	0.5 / 155.1 °	80.8 ° / 270.2 °	
			6.125 in.	5584 ft.	89.8 ° / 271.1 °	88.9 ° / 267.8 °	
					/	/	
					/	/	
					/	/	
Acquisition System				Software Version		Other	
Advantage	2.20U4		Rig: / Contractor:	Xtreme 24		/ Xtreme Drilling	
PATS	6.4.1.34		Job No:	6450141			
			District: / Unit:	RMD		/ D&E	

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Log Run Summary

LWD Run No.	BHA Run No.	Bit Run No.	Bit Size (in.)	Bit Type	Bit Gauge Length (in.)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time				Circ.
							Top (ft.)	Bottom (ft.)	From (ft.)	To (ft.)	Start	End	Time		
1	1	1	13.500	TriCone	N/A	Steerable	N/A	N/A	0	1253	11/Jun/14 09:00	12/Jun/14 04:00		13.2	
2	2	2	8.500	PDC	2.000	Steerable	N/A	N/A	1253	1308	13/Jun/14 14:00	13/Jun/14 19:10		1.6	
3	3	3	8.500	PDC	2.000	Steerable	6814	6925	1308	6981	13/Jun/14 23:00	15/Jun/14 23:30		31.3	
4	4	4	8.500	PDC	2.000	Steerable	6925	7721	6981	7772	16/Jun/14 01:30	16/Jun/14 21:45		10.5	
5	5	5	6.125	PDC	4.000	Steerable	7721	13302	7772	13356	17/Jun/14 21:30	20/Jun/2014 05:00		37.1	

Crew

Name		Arrive	Depart	Name		Arrive	Depart	Name		Arrive	Depart
		Wellsite	Wellsite			Wellsite	Wellsite			Wellsite	Wellsite

Osagie Otoikhine	11/Jun/14	20/Jun/14	Andrew Overbey	11/Jun/14	20/Jun/14			
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Mud Properties Record

Date / Time		LWD Run No.	Measured Depth (ft.)	Mud Type	Density (ppg)	Viscosity (sec/qt)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
11/Jun/14	18:00	1	500	Drill Water	8.7	30	8.0	N/A	0 / 97	Active Mud Pit	1200	N/A
13/Jun/14	18:00	2	1308	Drill Water	8.4	31	8.5	N/A	0 / 99.5	Active Mud Pit	1400	N/A
15/Jun/14	18:00	3	6938	LSND	9.8	43	9.5	N/A	0.5 / 92	Active Mud Pit	1400	N/A
16/Jun/14	18:00	4	7772	LSND	9.9	42	9.8	N/A	1 / 90.4	Active Mud Pit	1600	N/A
17/Jun/14	18:00	5	7772	LSND	9.7	42	9.3	N/A	1 / 91.5	Active Mud Pit	1600	N/A

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. Avg.	API
GRIX	Gamma Ray Data Density	point
GRSI	Gamma Ray Sliding Indicator	unitless
GRTX	Gamma Ray Time Since Drilled	min
ROPA	Rate of Penetration, 3.0 ft. Avg.	ft/hr
TCDX	Downhole Temperature	degF
TVD	True Vertical Depth	ft
WORA	Surface Weight on Bit, 1.0 ft. Avg.	kilbs

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12617354	Directional	69.52	6.750	2.688
1	SRIG	10585205	Gamma	66.10	6.750	2.688
2	DIR	12617354	Directional	60.13	6.750	2.688
2	SRIG	10585205	Gamma	56.71	6.750	2.688
3	DIR	11859501	Directional	60.63	6.750	2.813
3	SRIG	12578114	Gamma	57.59	6.750	2.813
4	DIR	12546345	Directional	56.08	6.750	2.688
4	SRIG	10242199	Gamma	52.70	6.750	2.688
5	DIR	11801247	Directional	58.07	4.750	2.500
5	SRIG	10658452	Gamma	54.69	4.750	2.500

Service and Tool Mnemonics

Mnemonic	Name	Description
DIR	Directional	Wellbore directional survey
SRIG	Inclination and Gamma	Probe based gamma ray and inclination module

Comments

1.) Depth measurements 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.) Baker Hughes run 1 utilized 6 3/4 inch NaviTrak services (Directional only) behind an 13 1/2 inch bit and steerable assembly from 0 to 1253 feet MD (0 to 1253 feet TVD).

3.) Baker Hughes runs 2 and 3 utilized 6 3/4 inch NaviTrak services (Directional only) behind an 8 3/4 inch bit and steerable assembly from 1253 to 6814 feet MD (1253 to 6704 feet TVD).

4.) Baker Hughes runs 3 and 4 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 8 3/4 inch bit and steerable assembly from 6814 to 7772 feet MD (6704 to 7337 feet TVD).

5.) Baker Hughes run 5 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 6 1/8 inch bit and steerable assembly from 7772 to 13356 feet MD (7337 to 7299 feet TVD).

5.) The interval from 0 to 6814 feet MD (0 to 6704 feet TVD) was not logged due to directional only services being provided through the straight-hole and nudge section for Baker Hughes runs 1, 2, and 3.

6.) The interval from 13302 to 13356 feet MD (7298 to 7299 feet TVD) was not logged due to sensor offset from bit at well TD.

7.) A sliding indicator is shown on the left edge of track 1 as a heavy line. This indicator has been depth-shifted to the gamma sensor offset to correspond with gamma data acquired while sliding.

Remarks

Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1	6926	8.750	4	The interval from 6926 to 6984 feet MD (6813 to 6868 feet TVD) was logged up to 18 hours after being drilled due to a trip out of hole for motor failure.
2	7720	6.120	5	The interval from 7720 to 7772 feet MD (7331 to 7337 feet TVD) was logged up to 24 hours after being drilled due to a trip out of hole for intermediate casing ops.

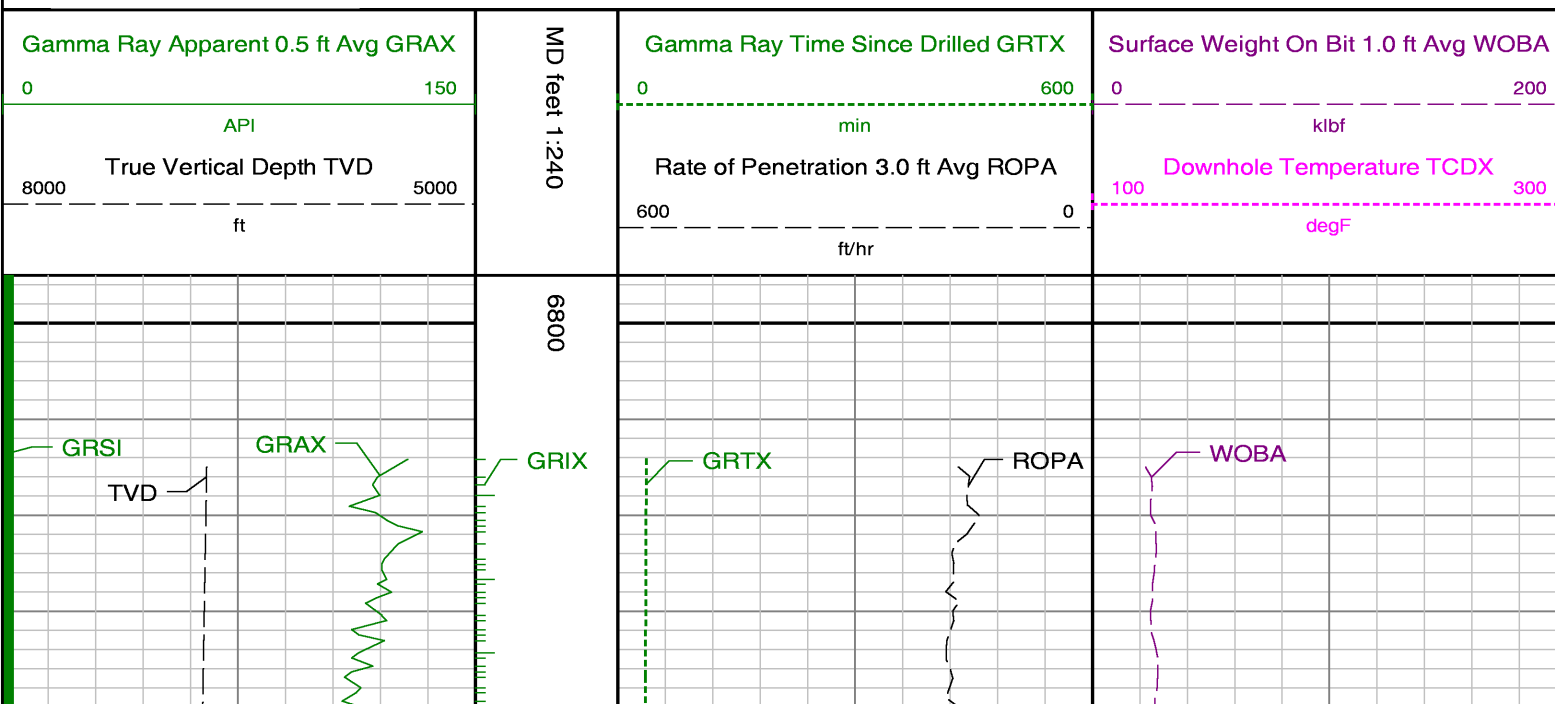


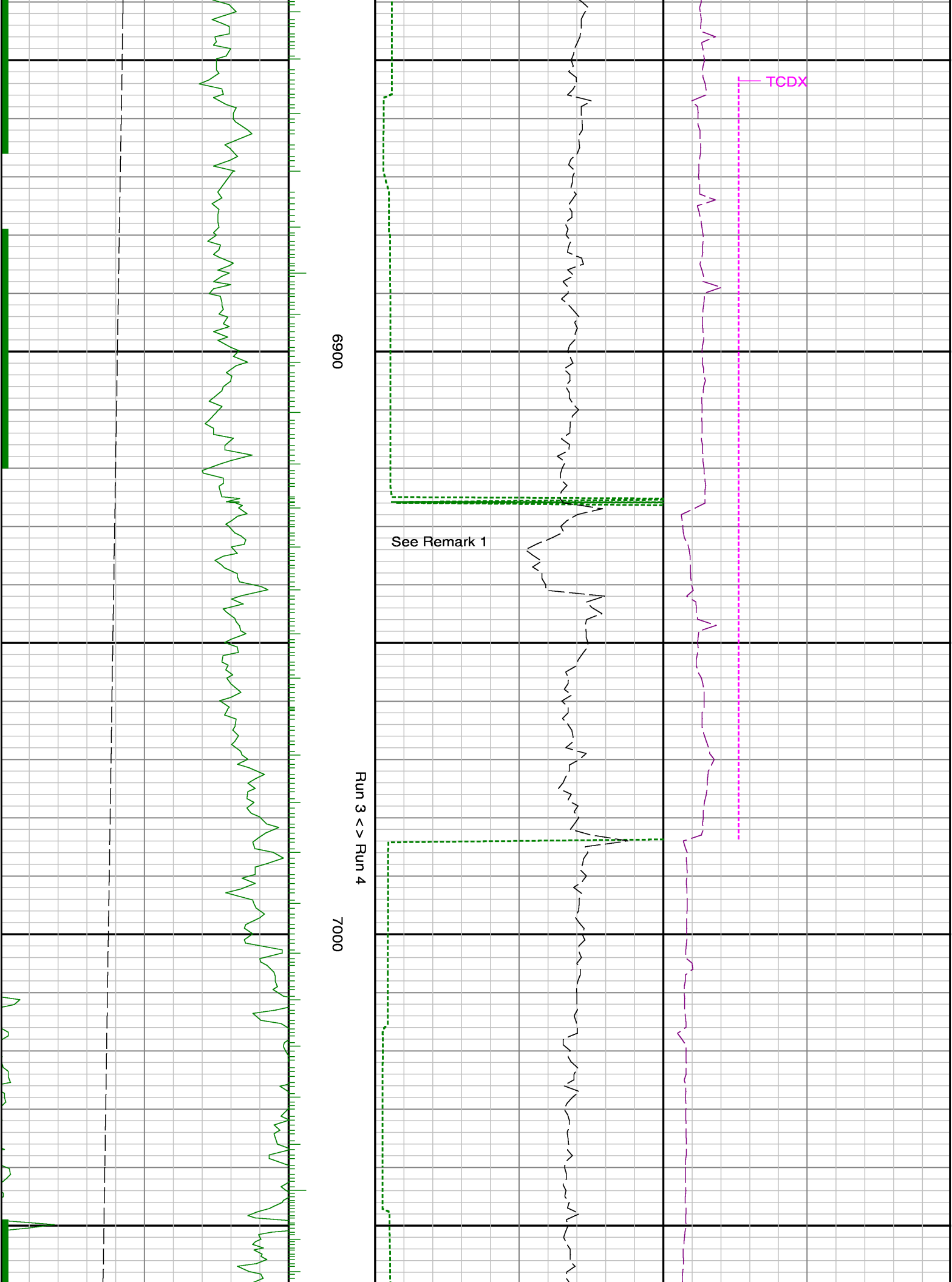
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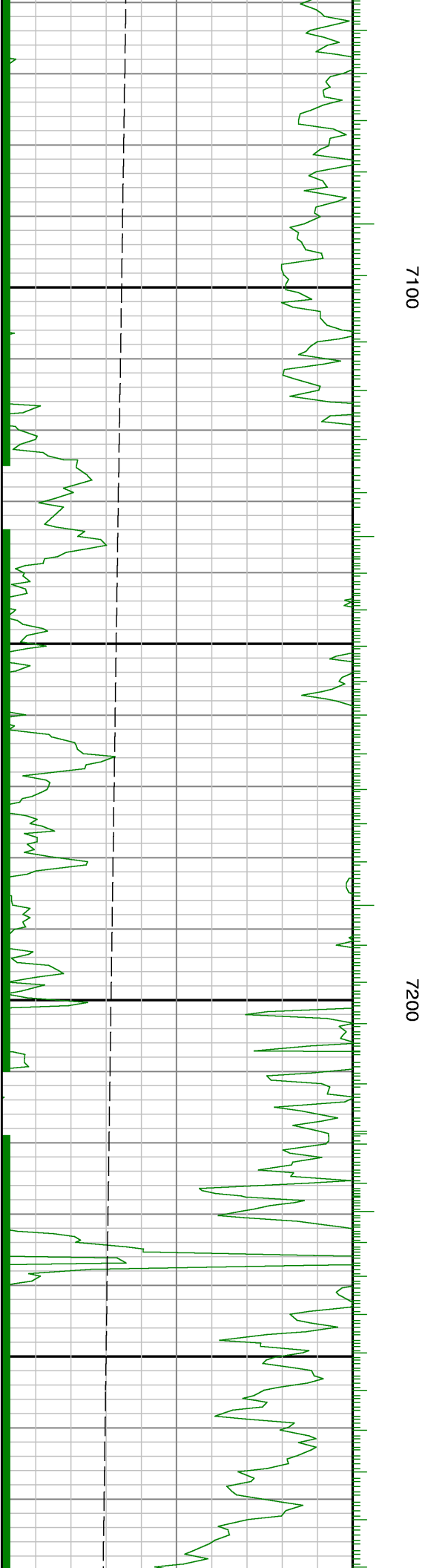
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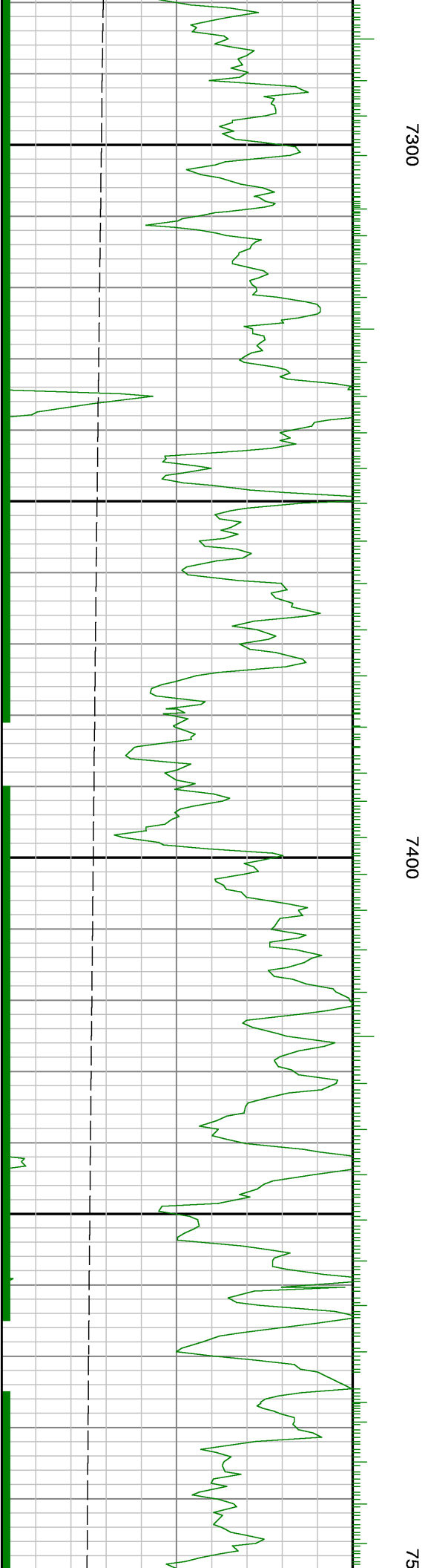
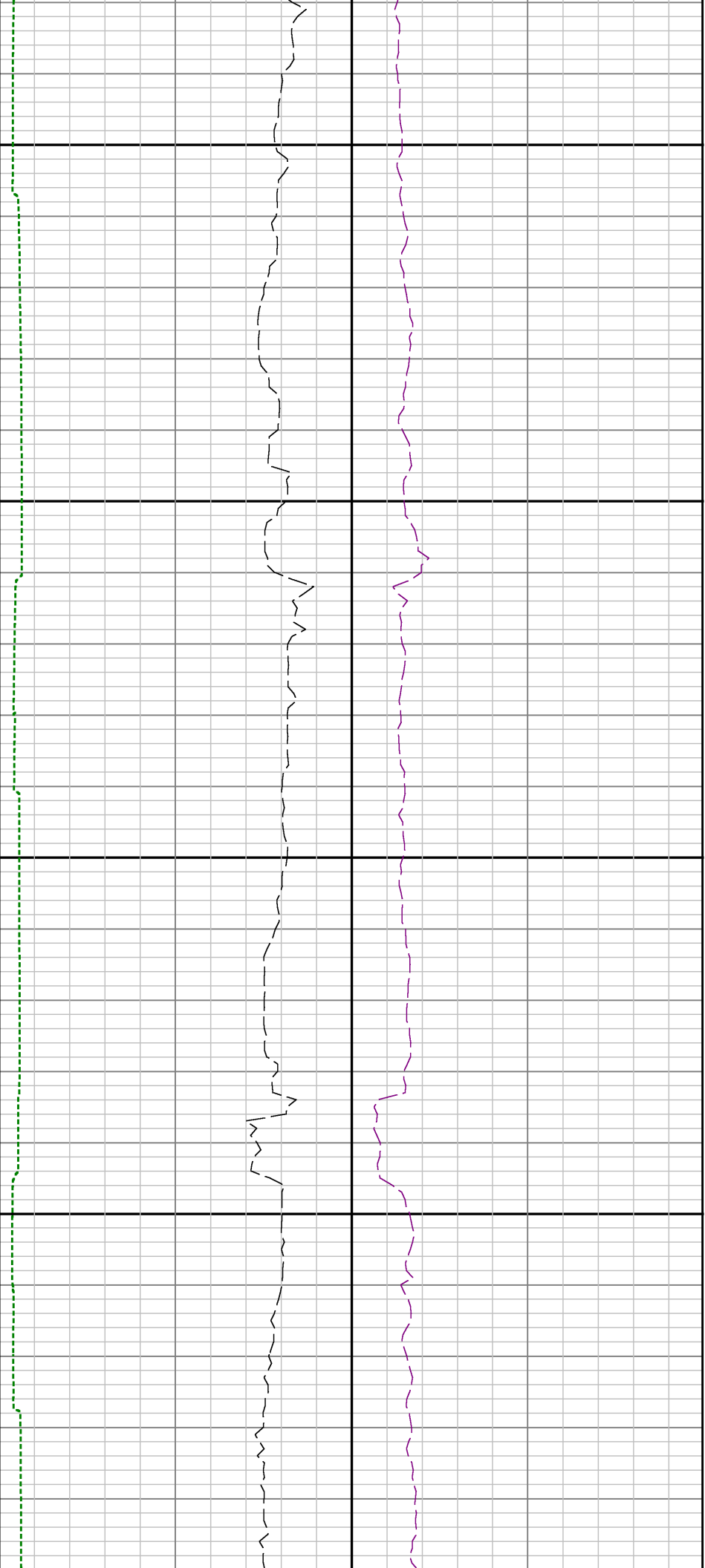
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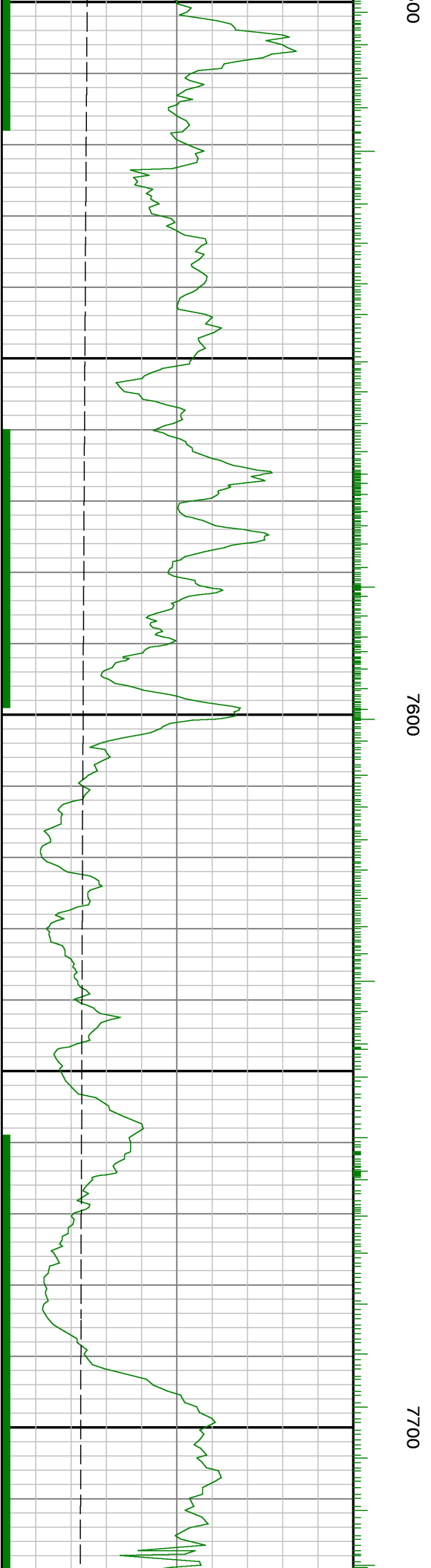
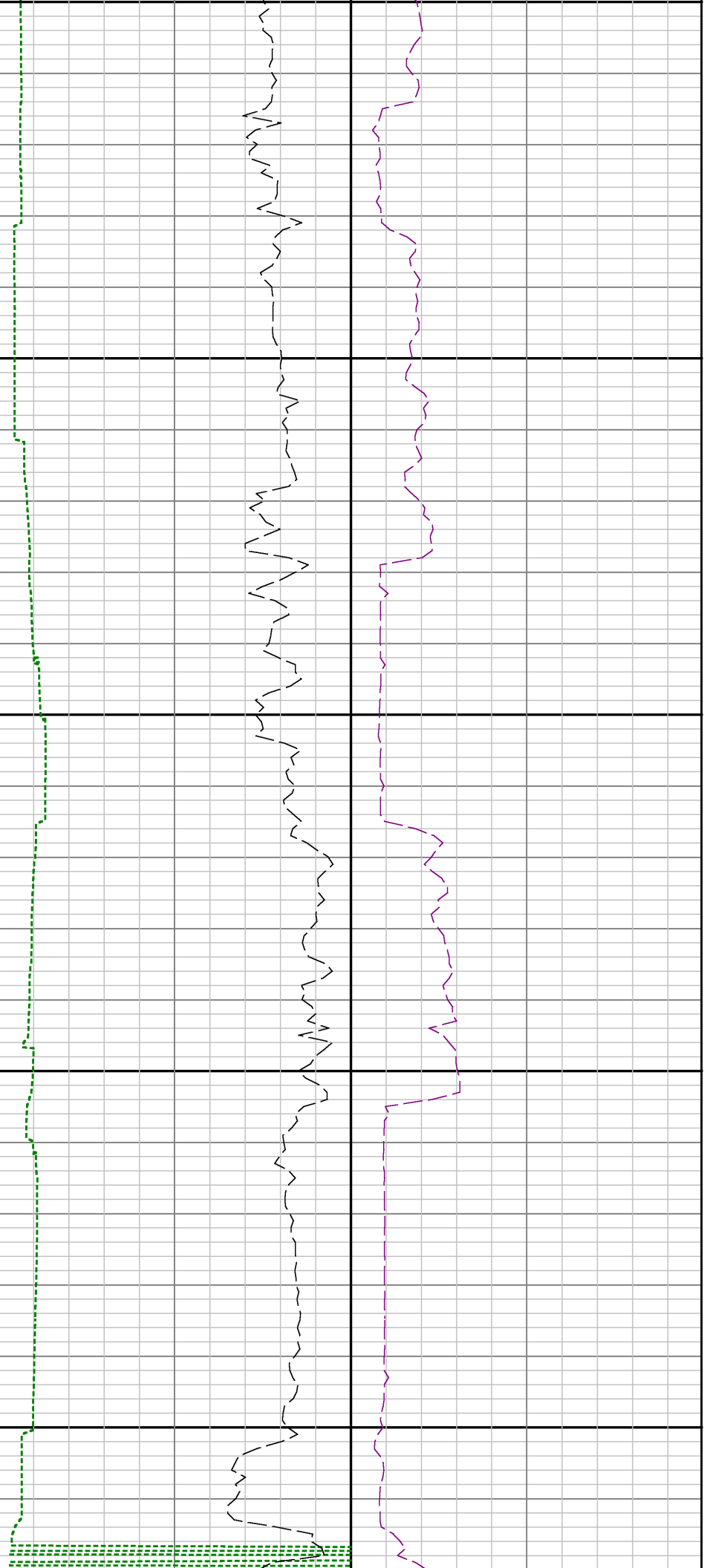
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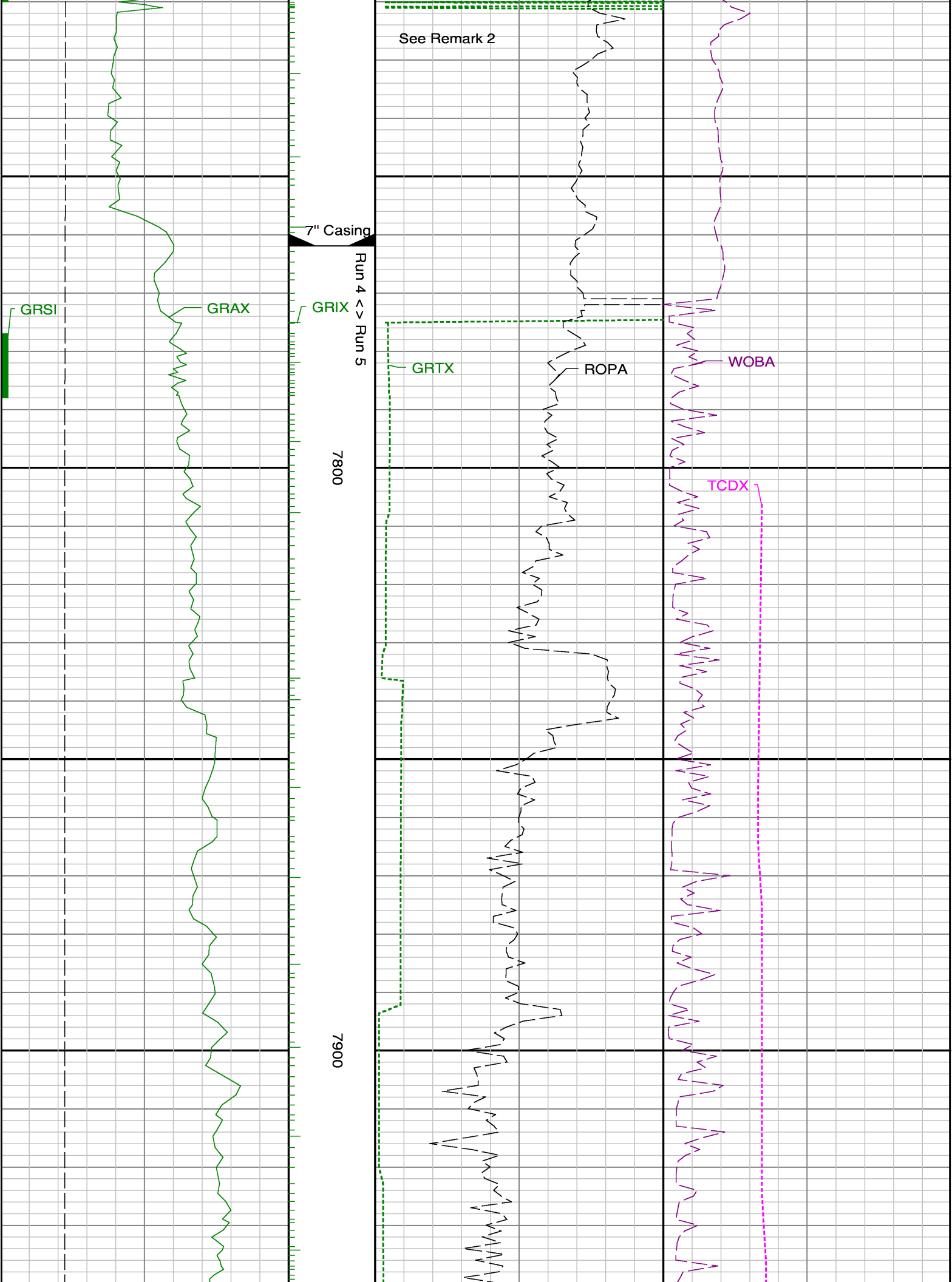


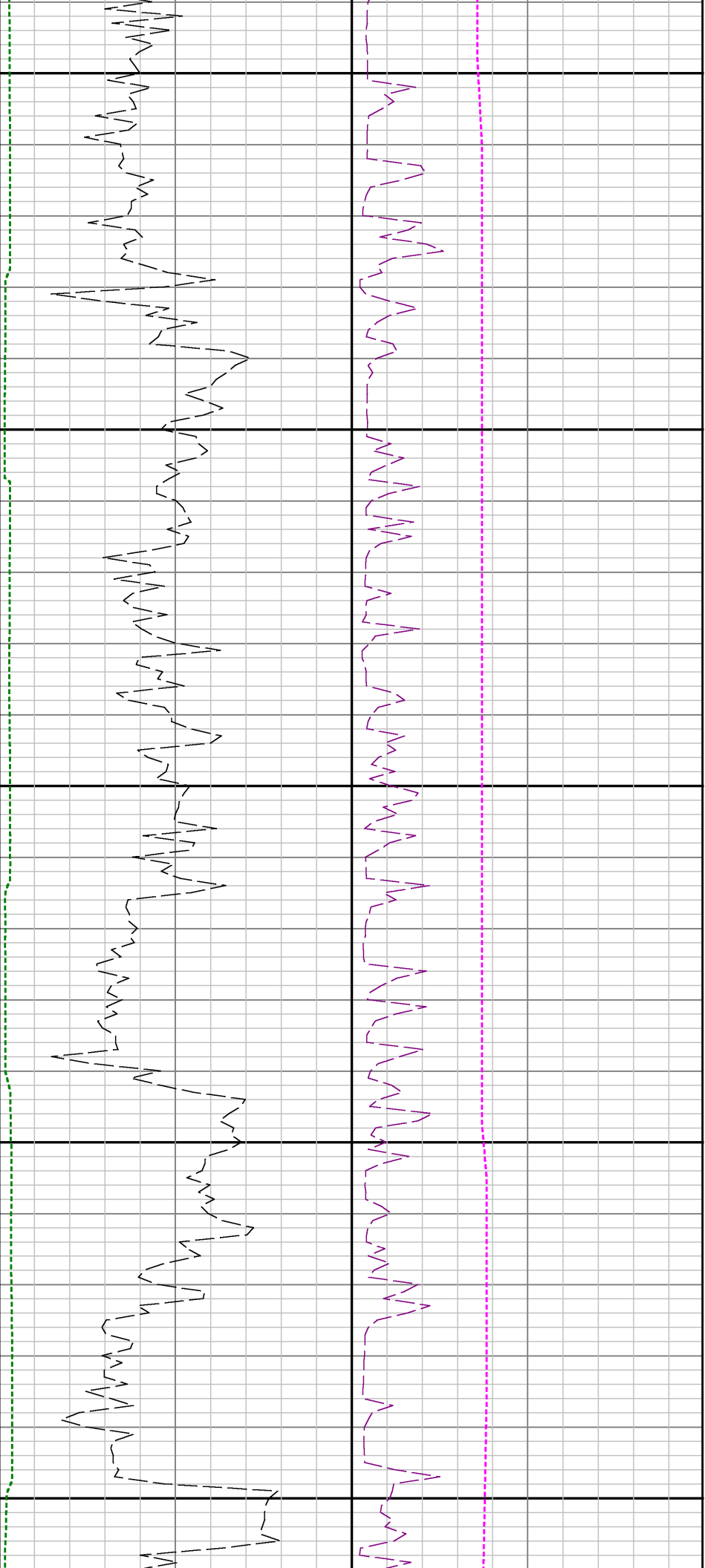






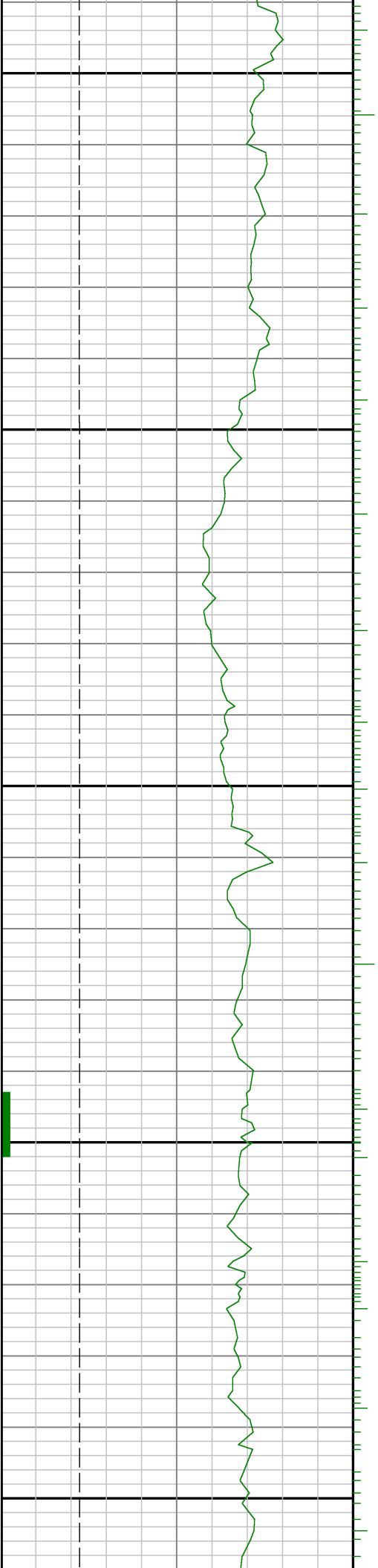


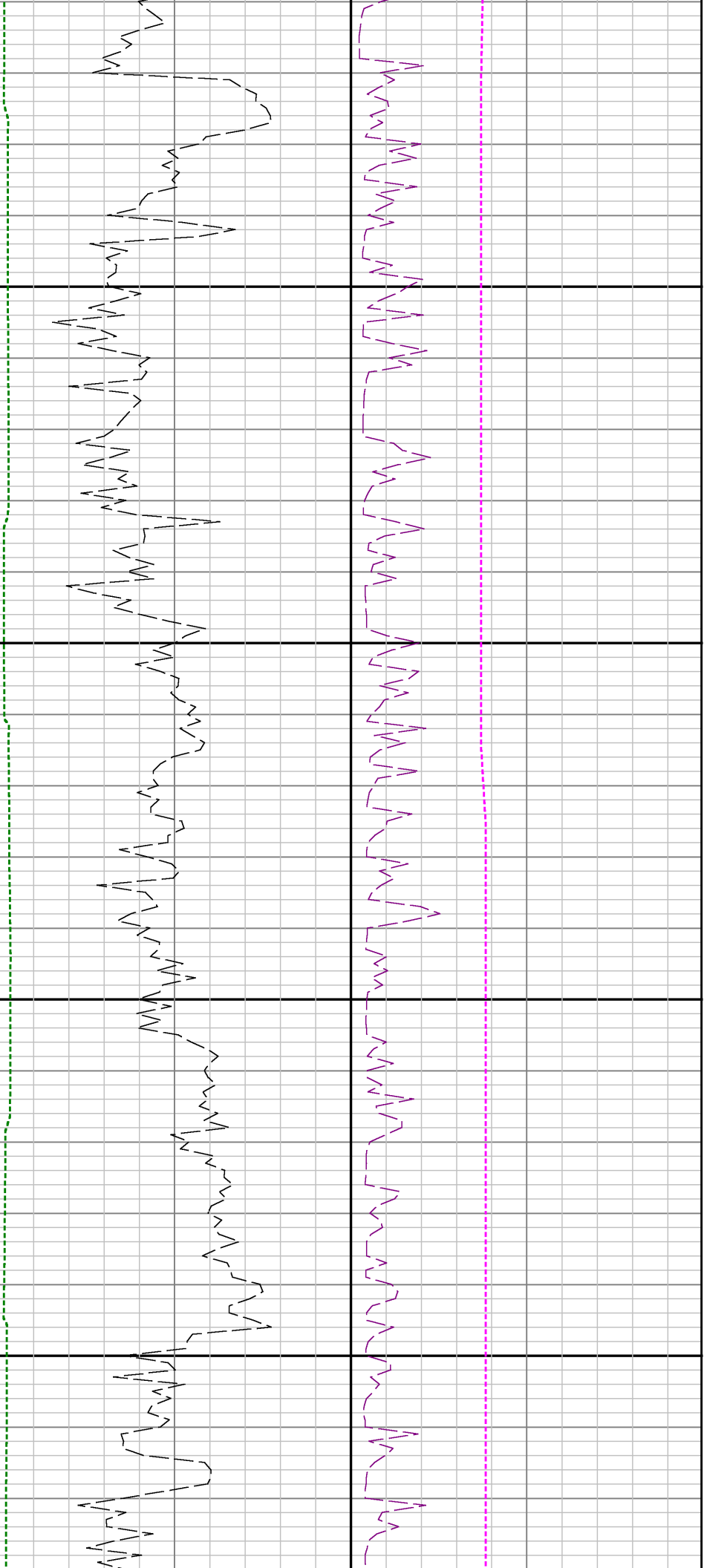




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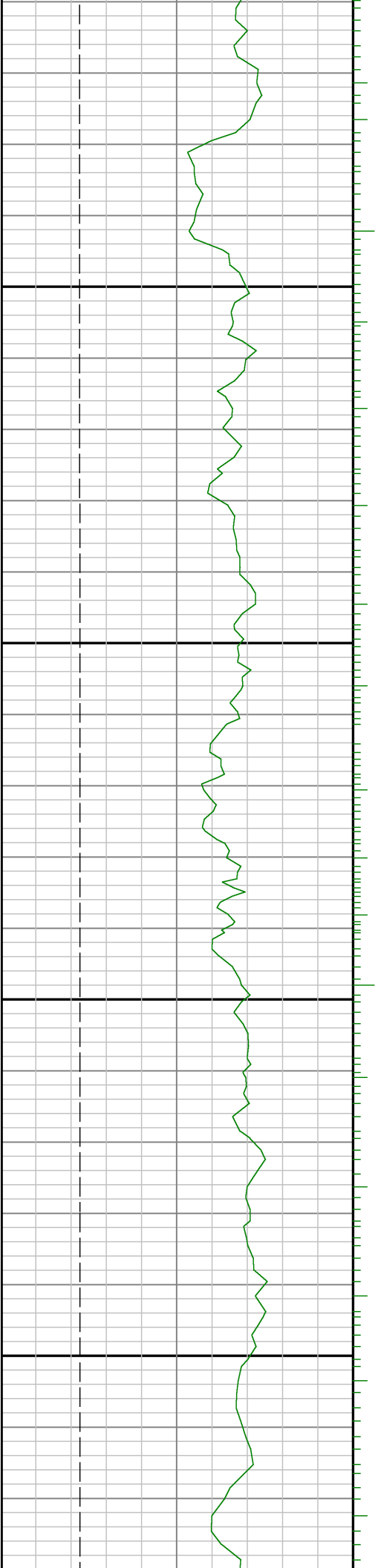
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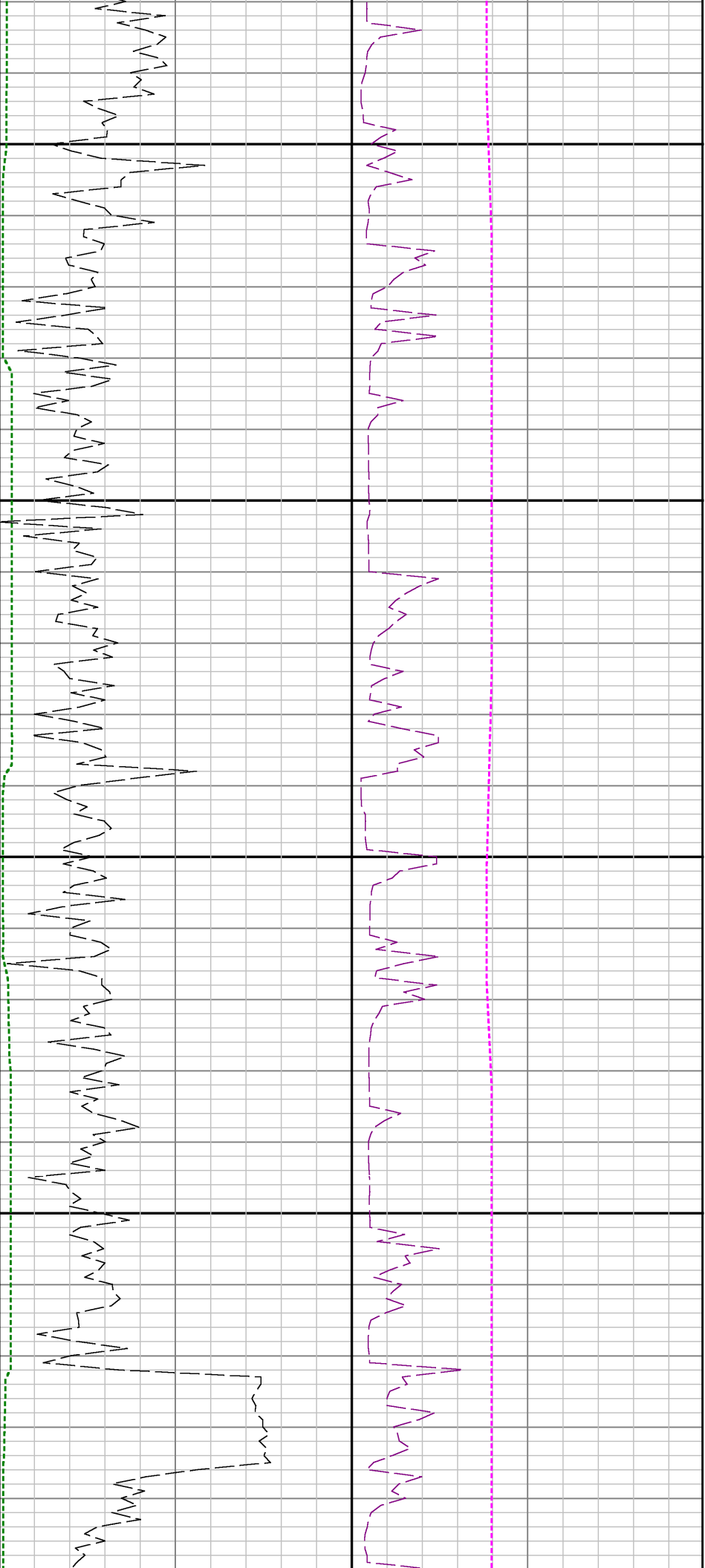




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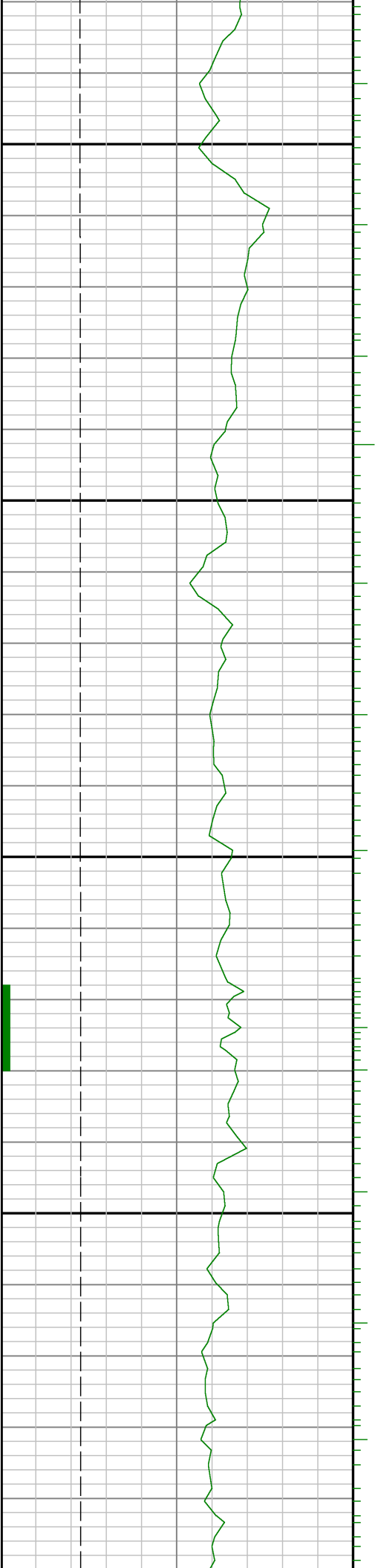


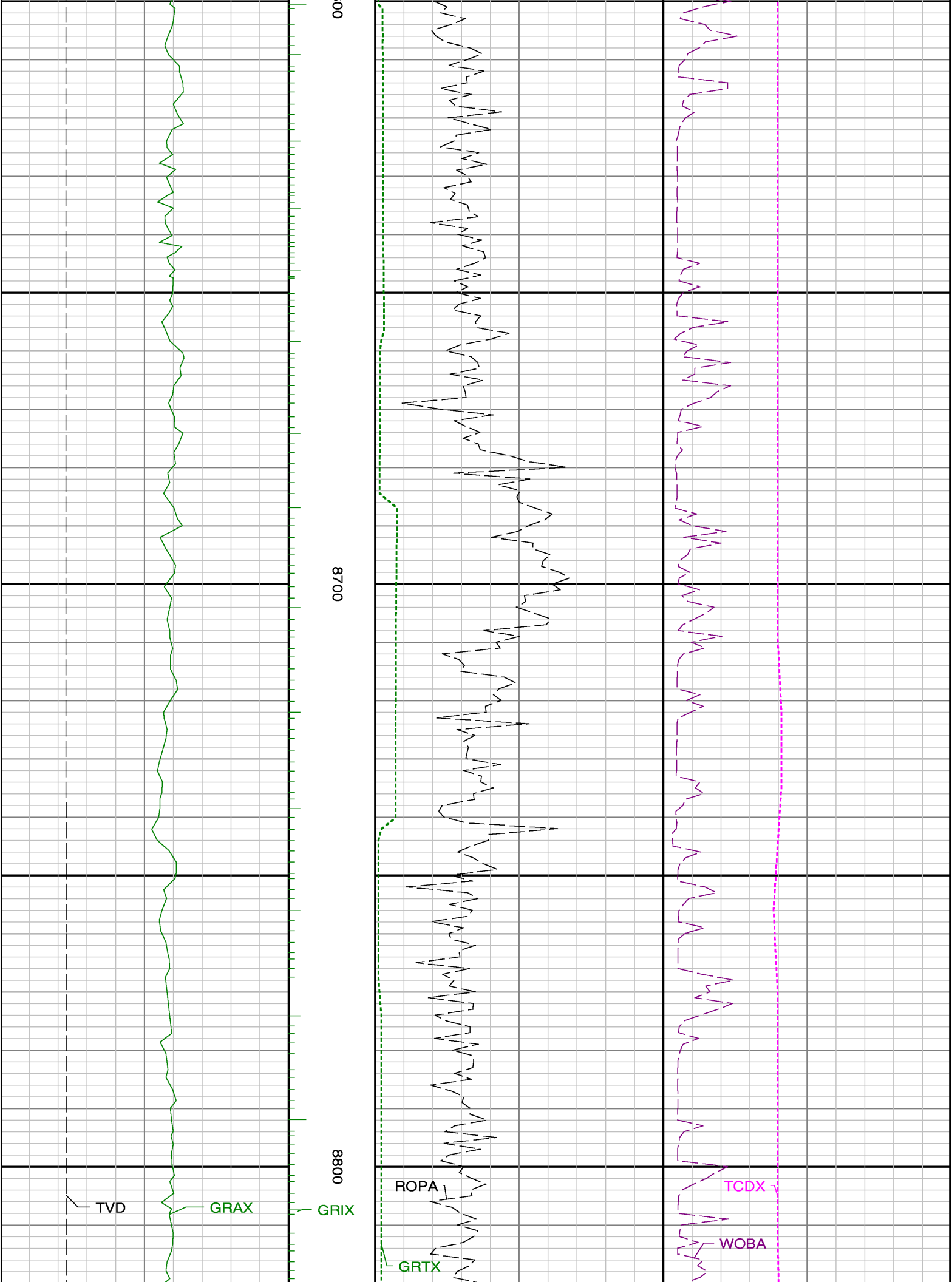


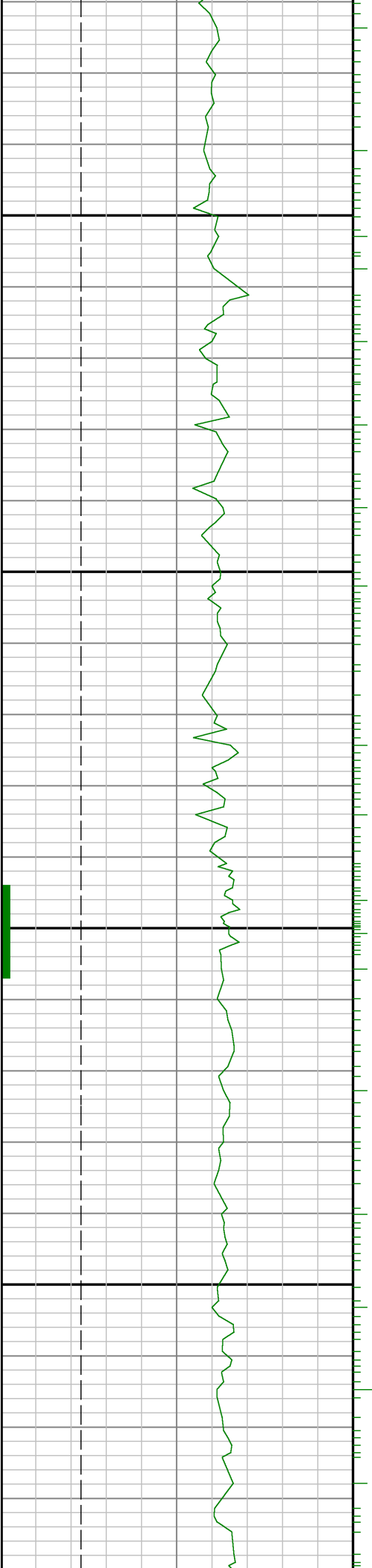
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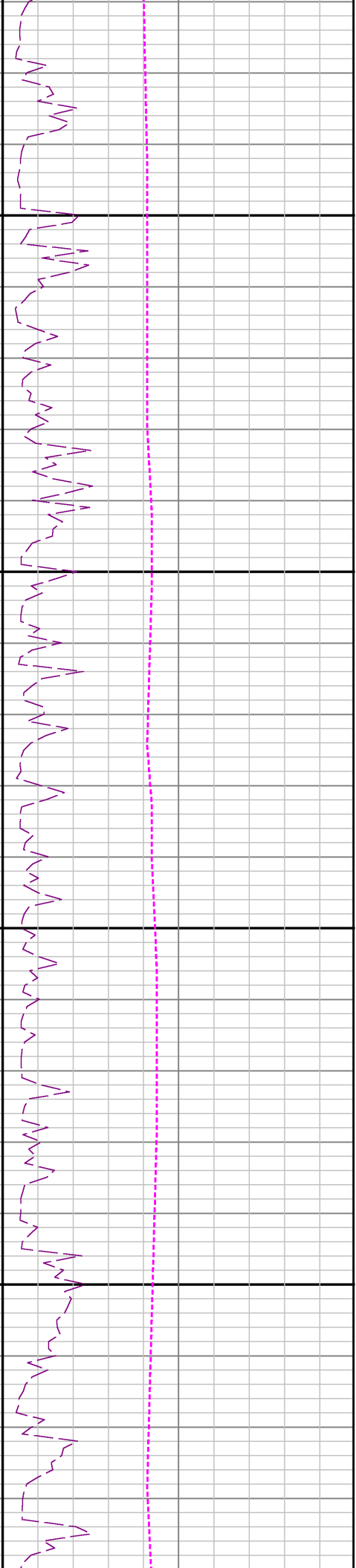
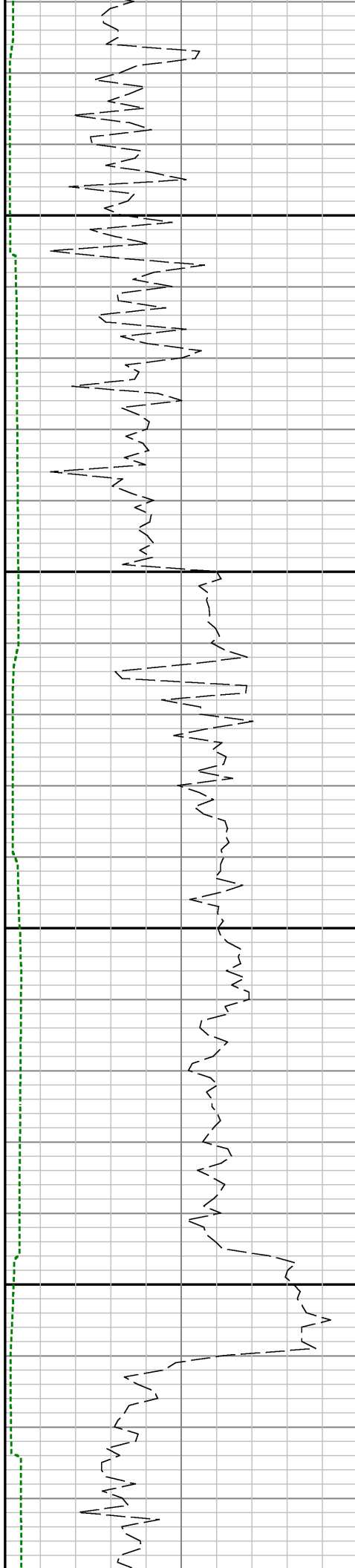


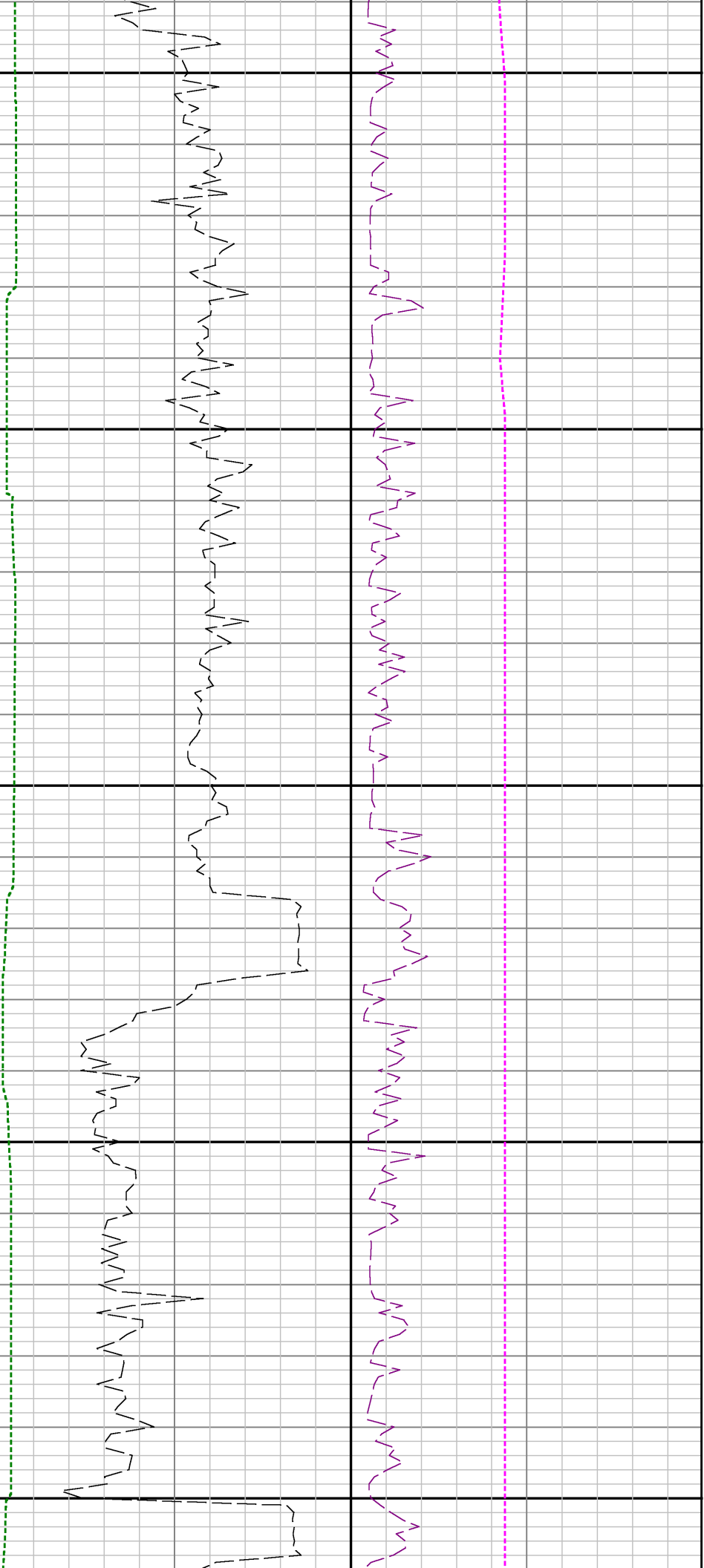




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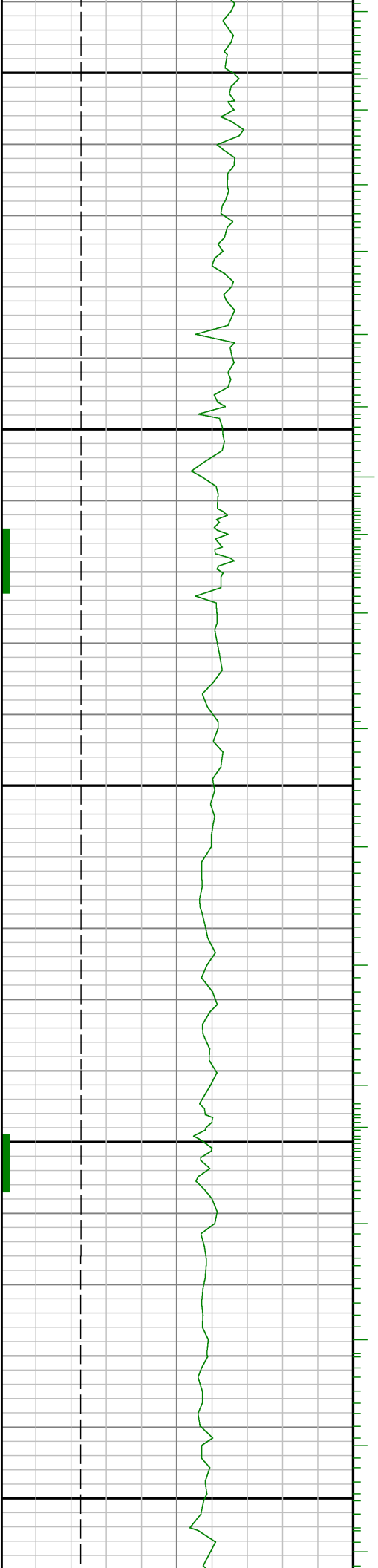
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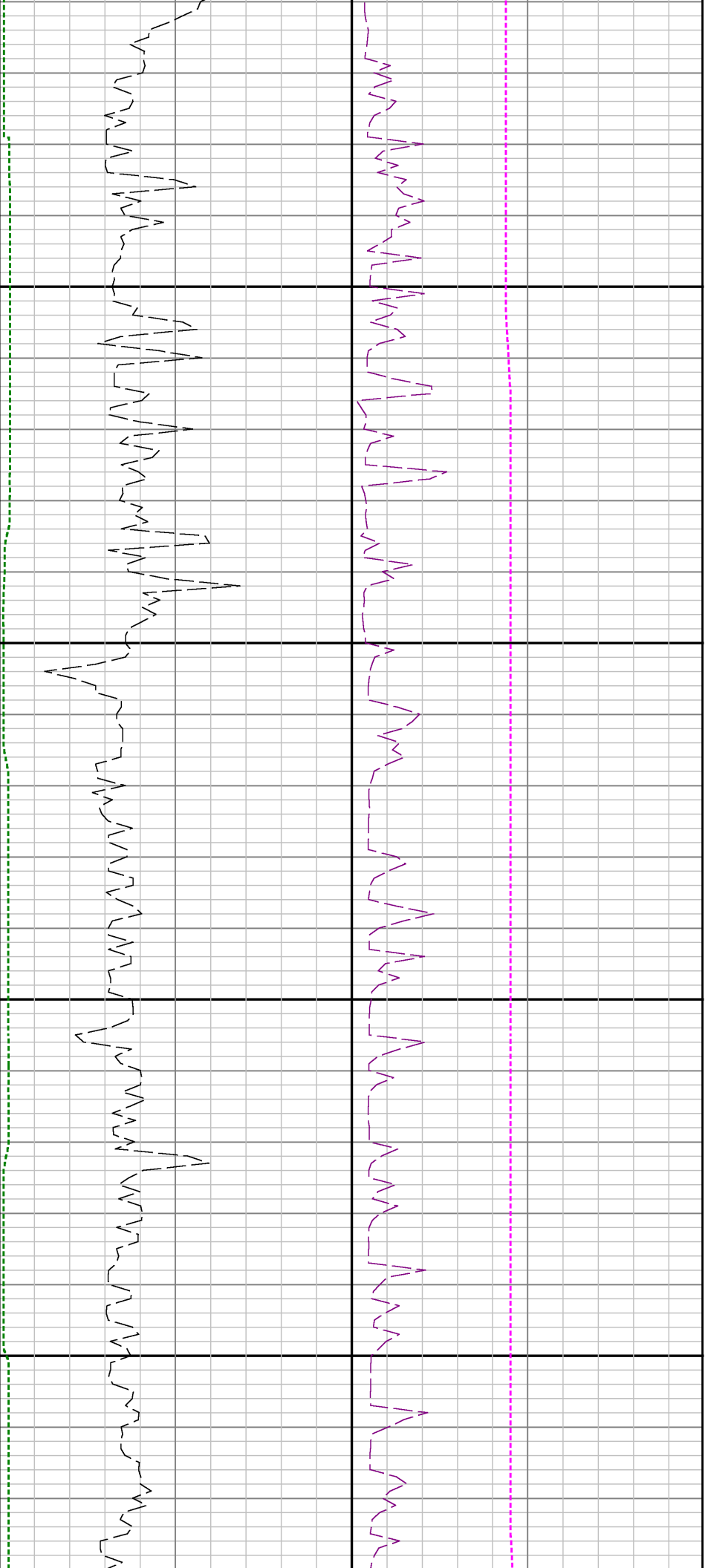




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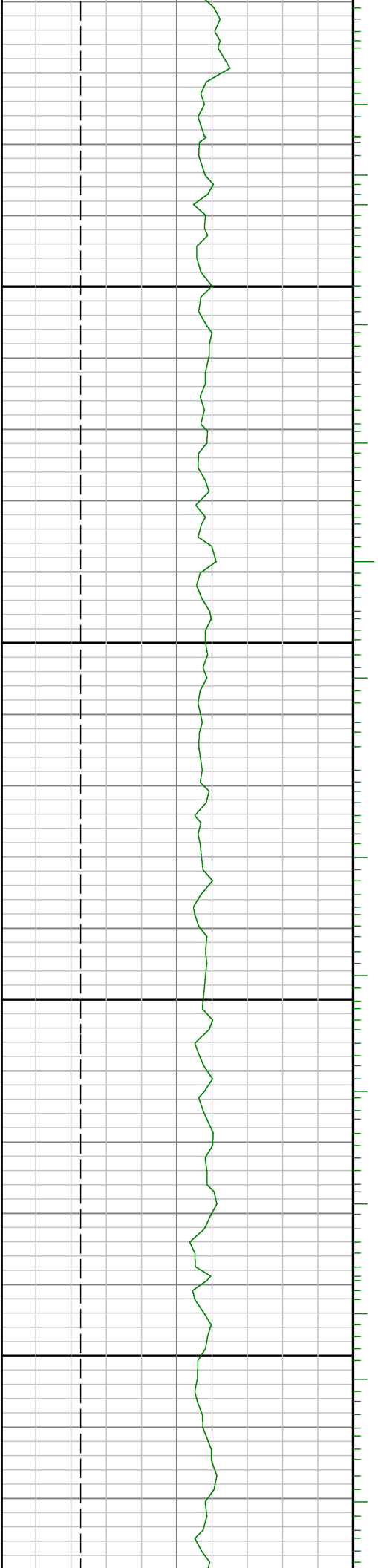
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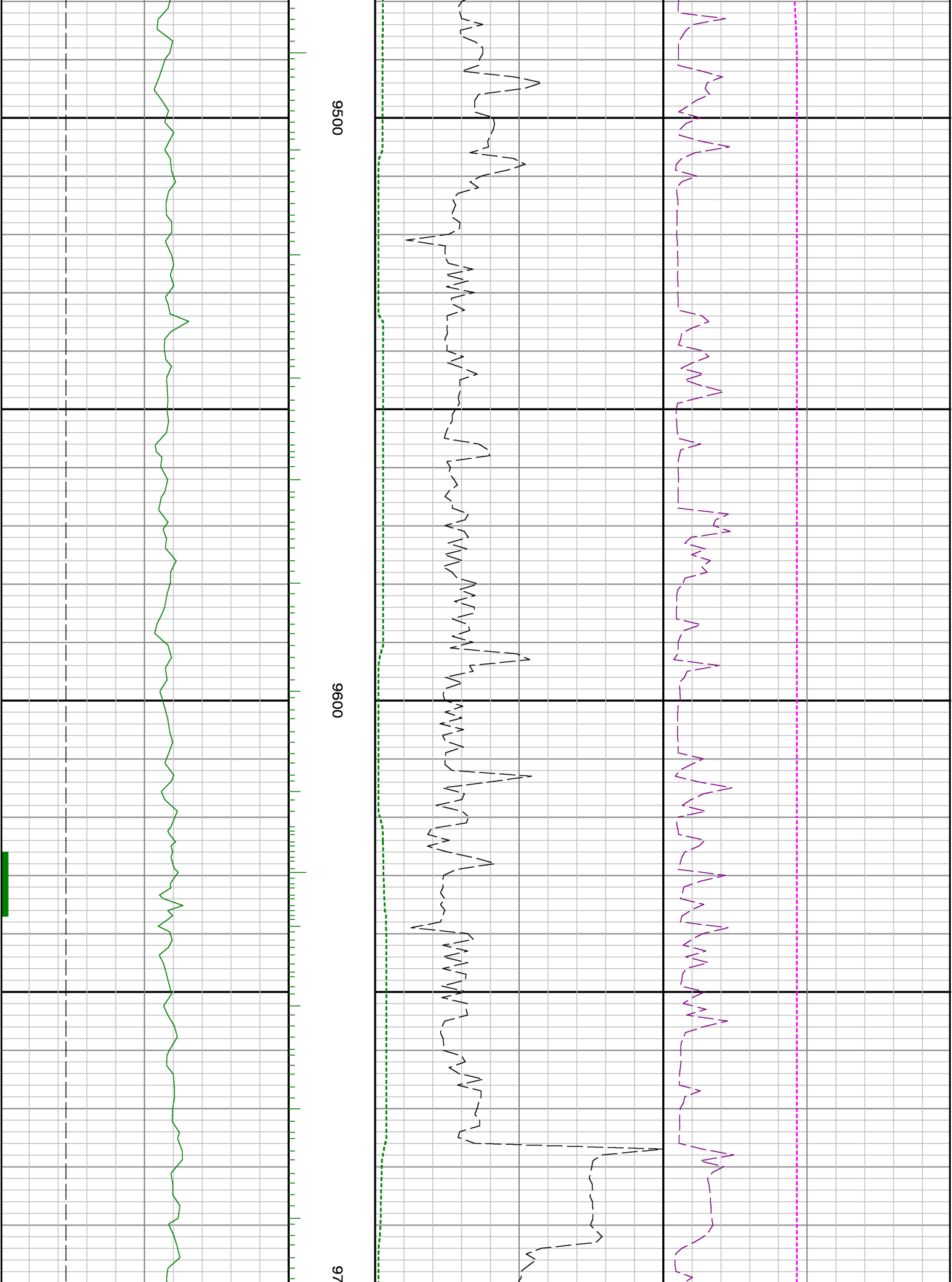


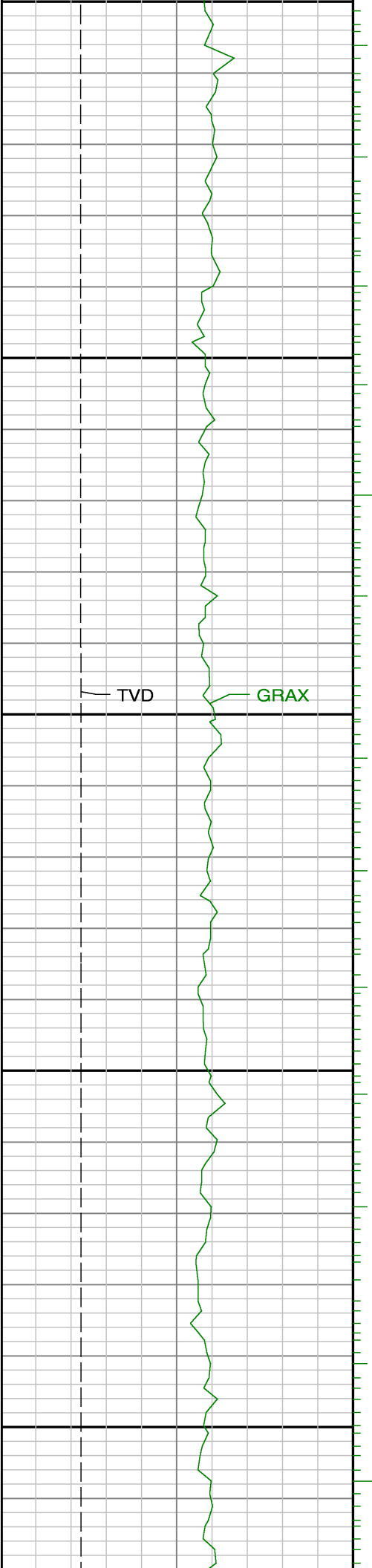


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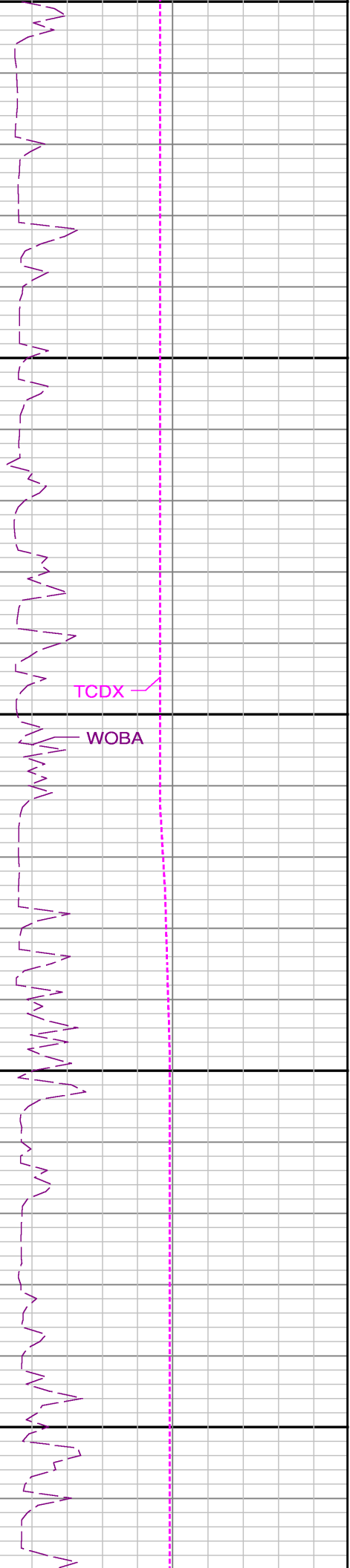
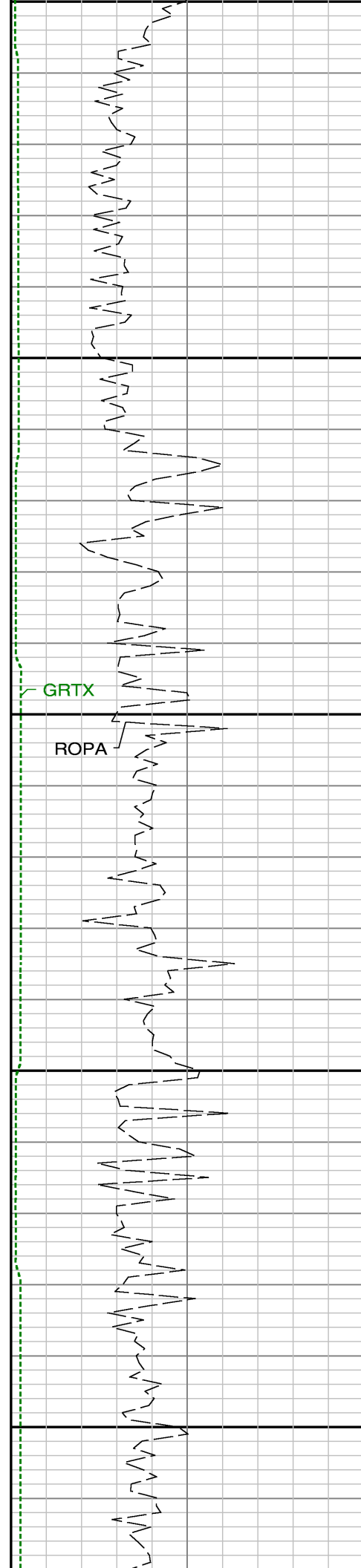


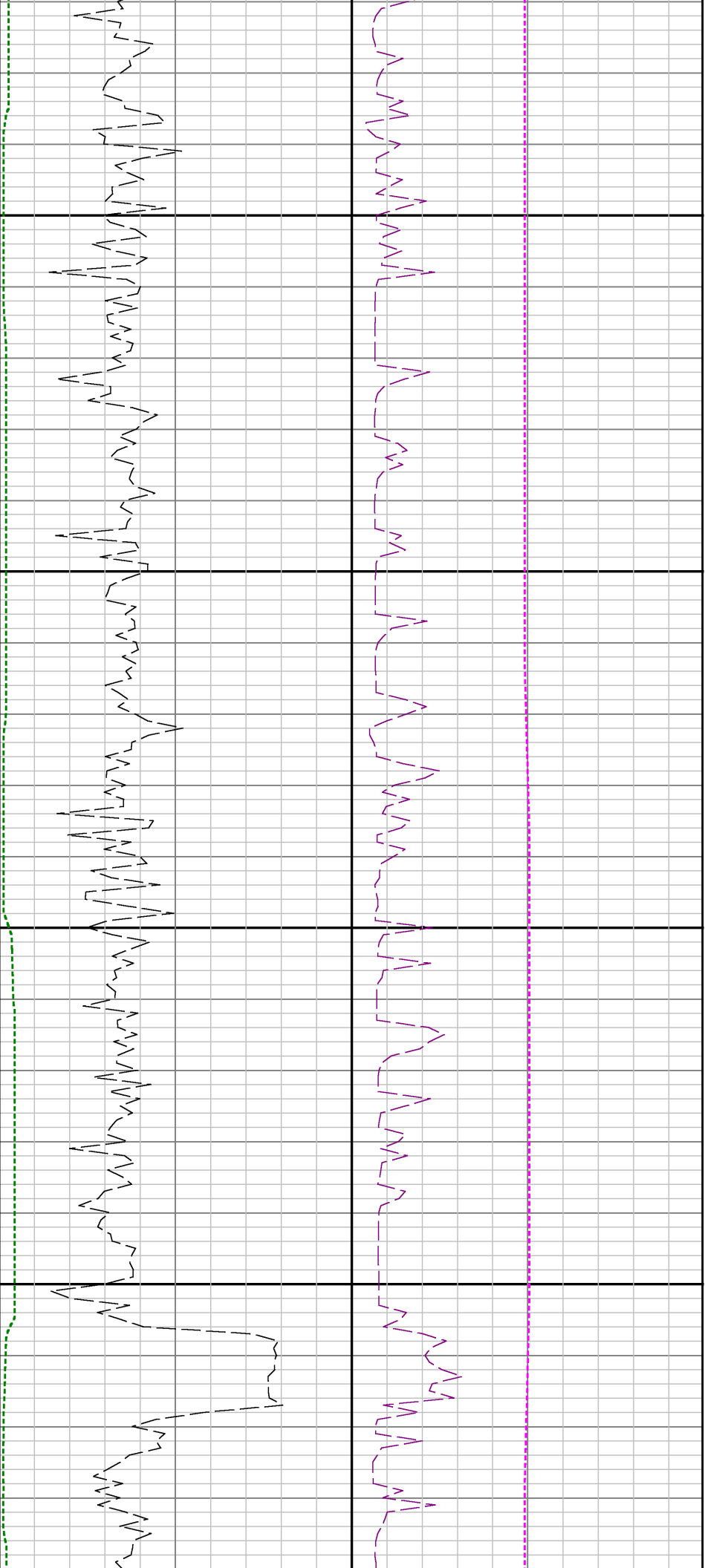


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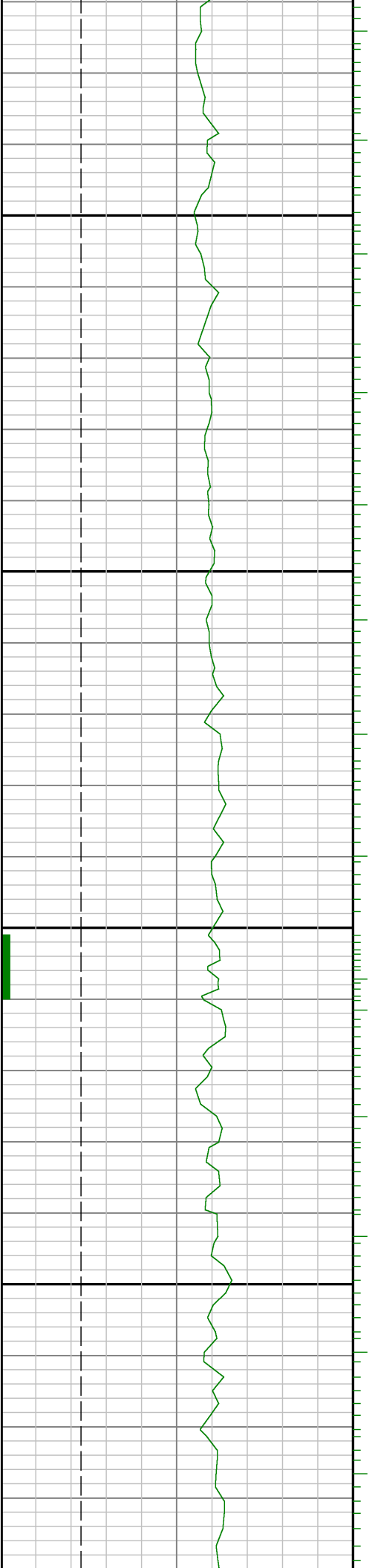
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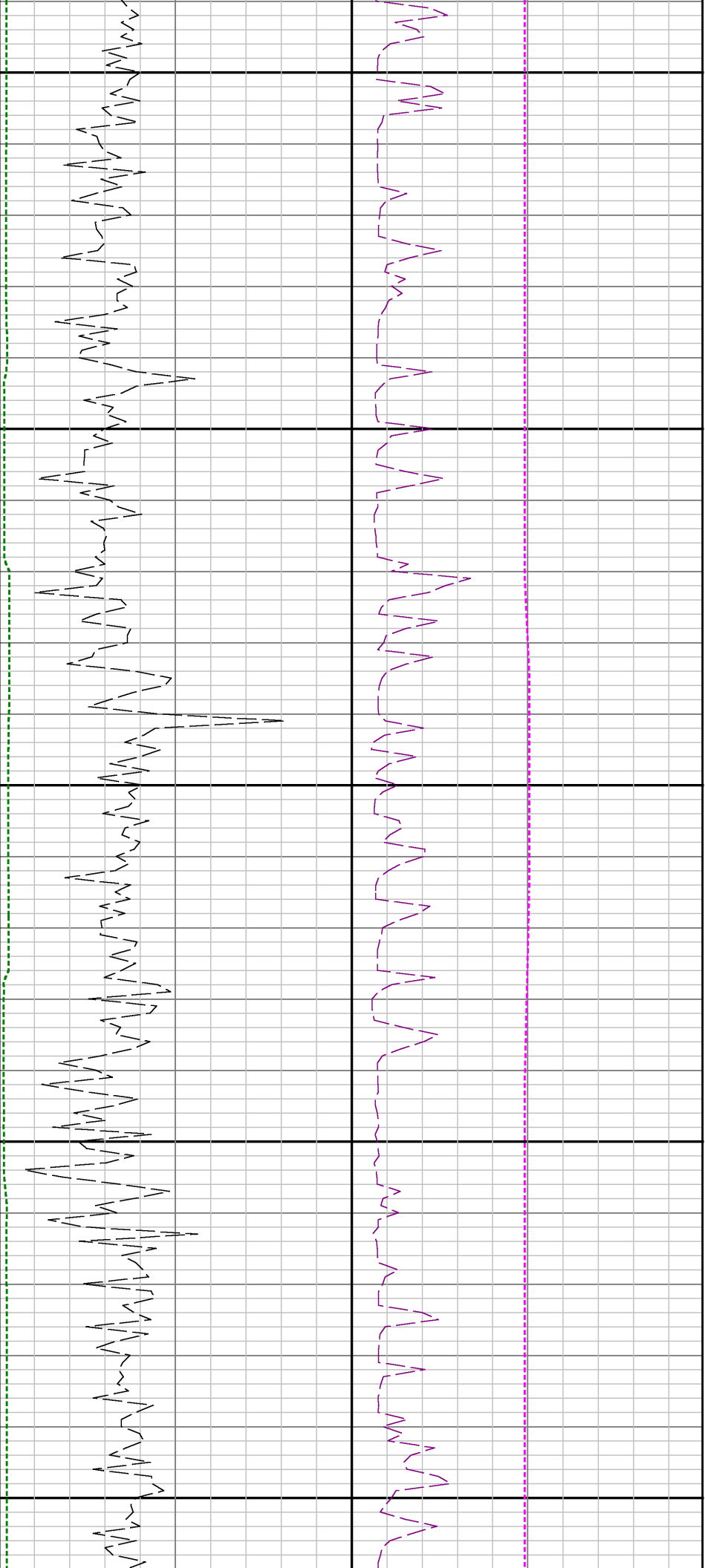




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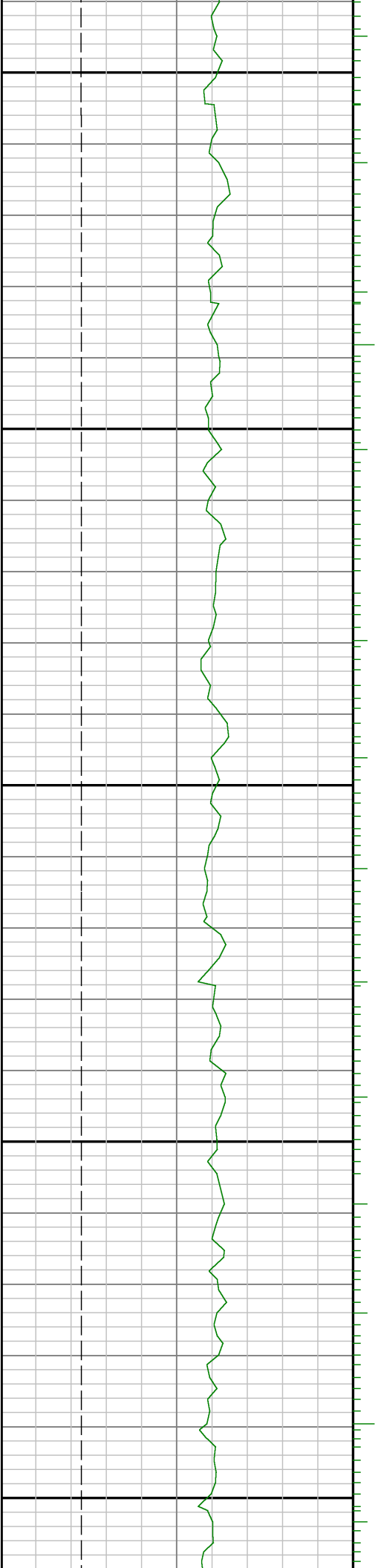
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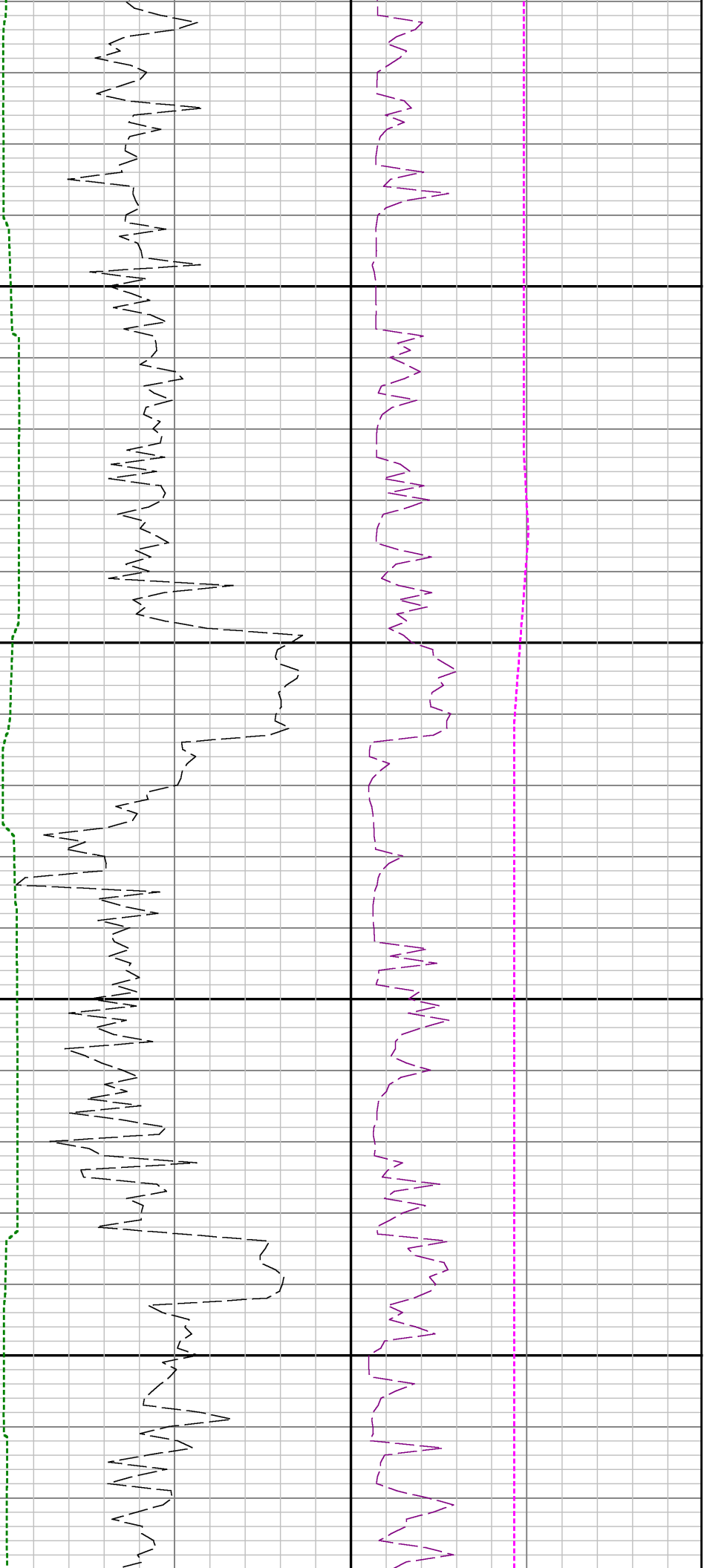




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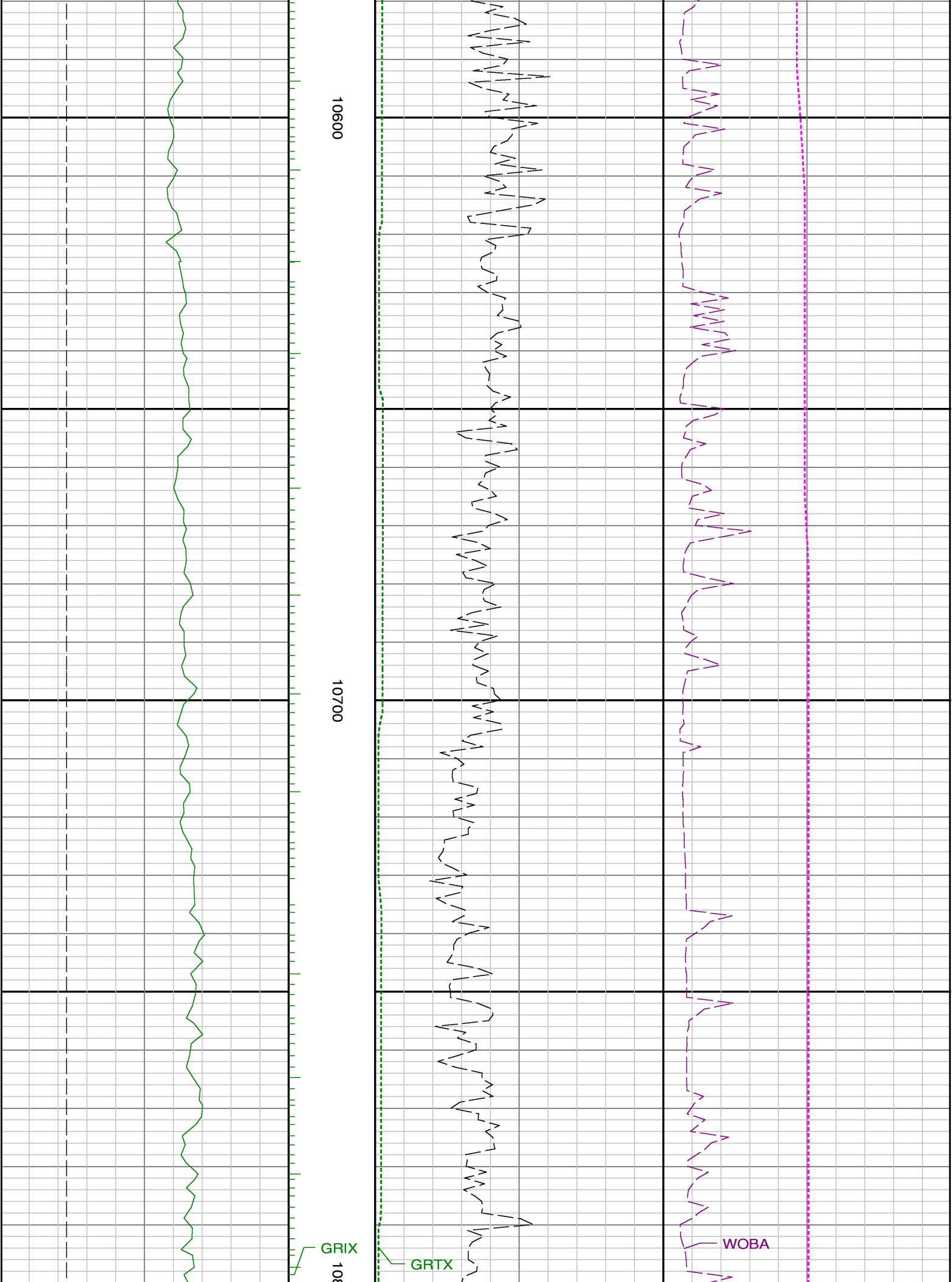
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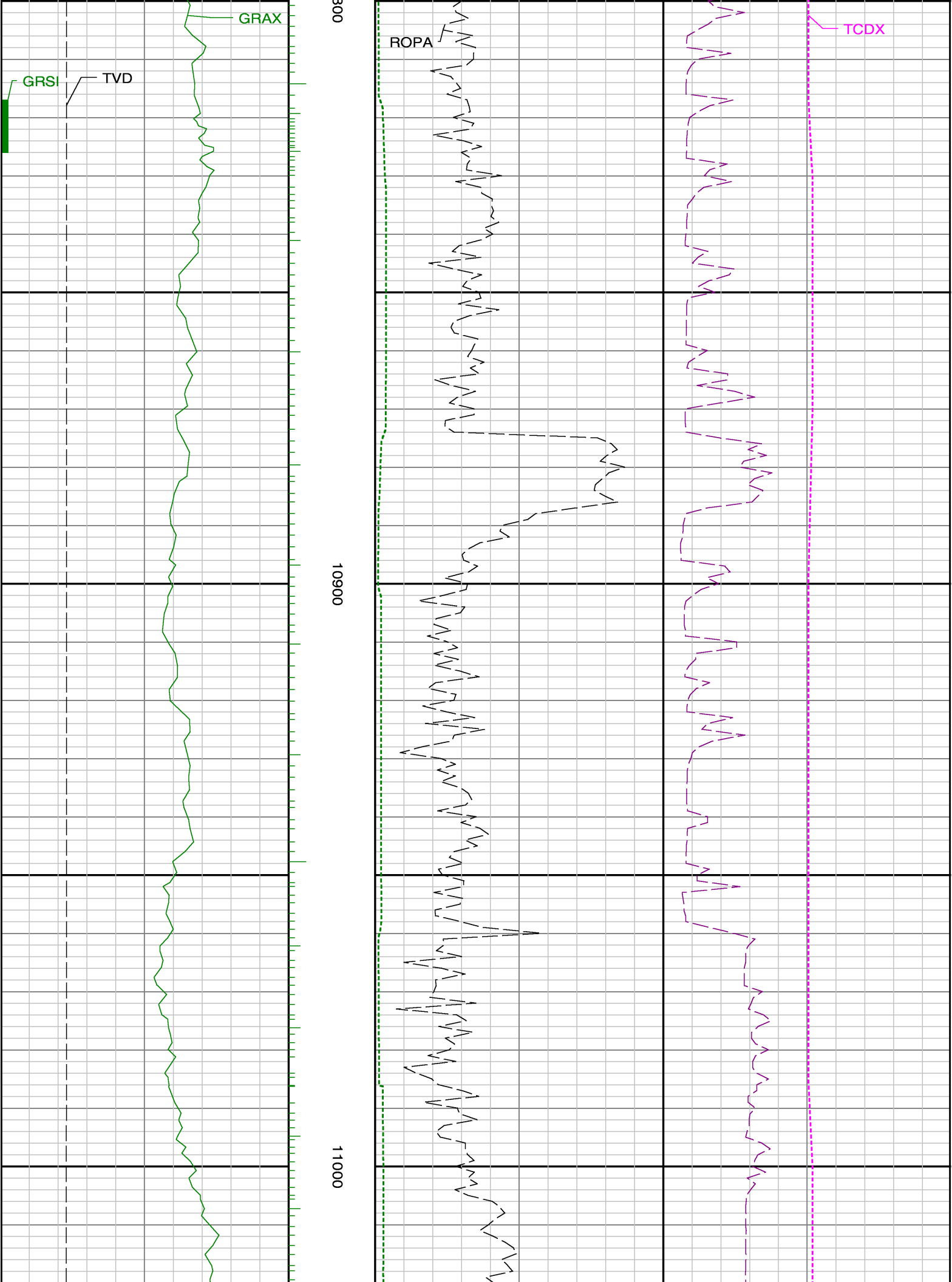


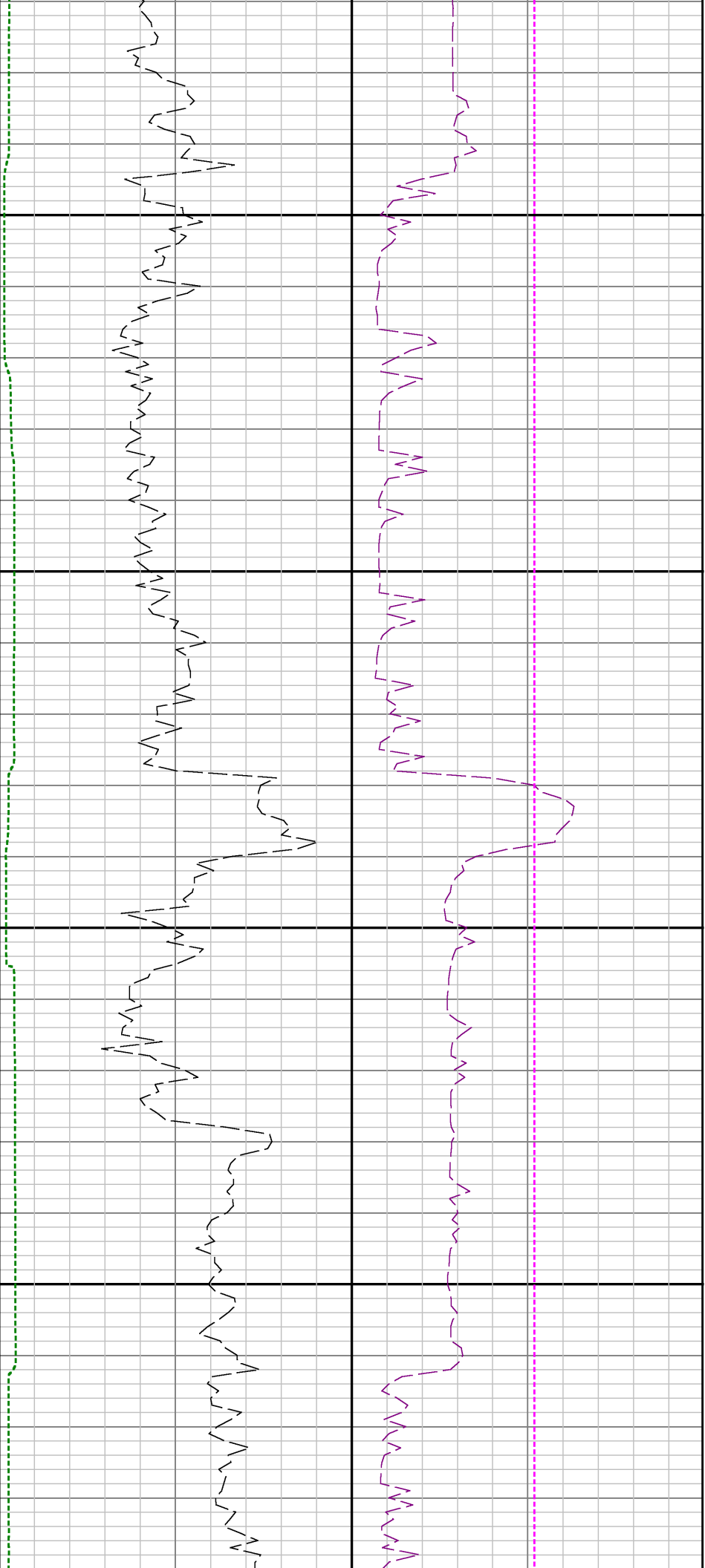


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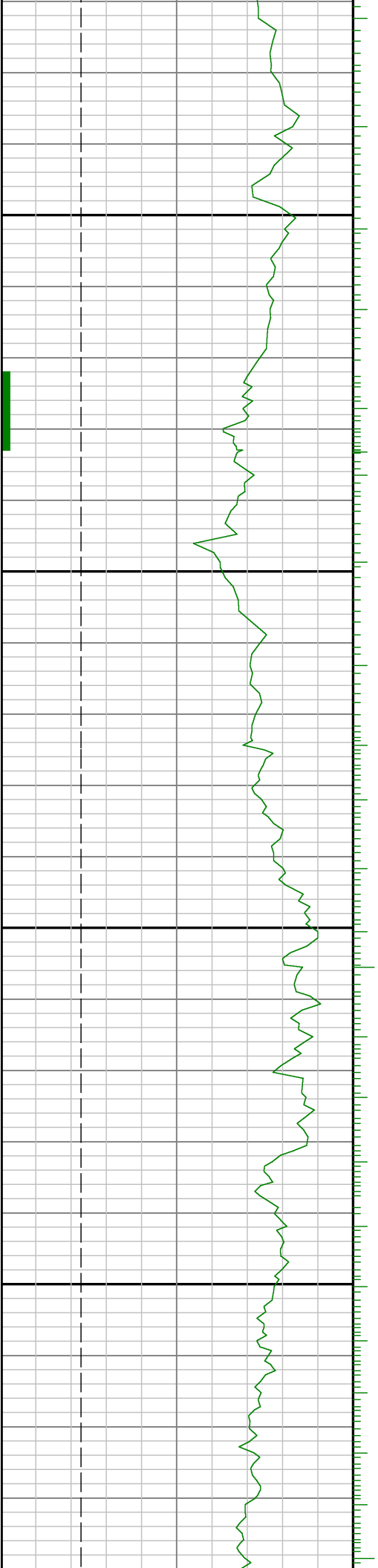


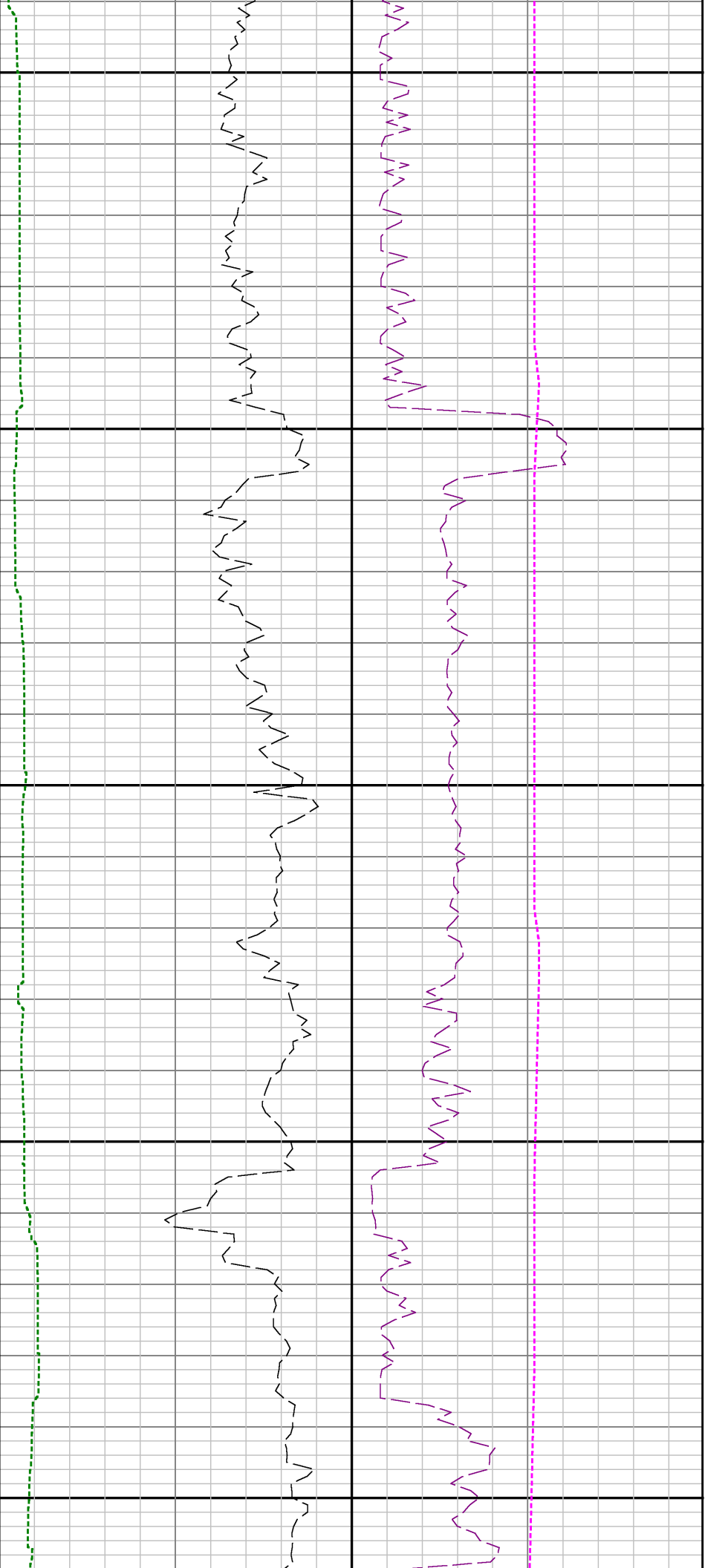




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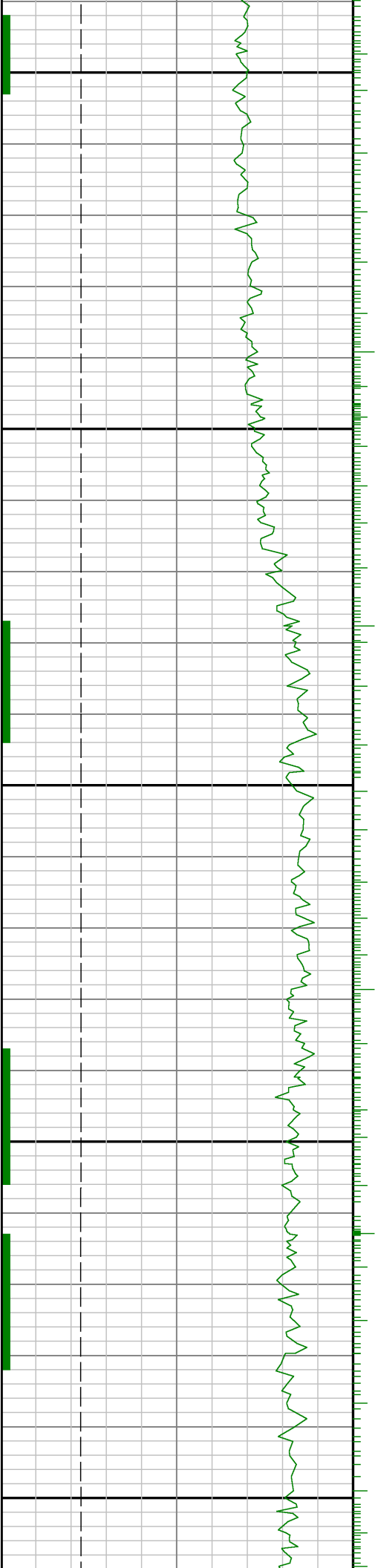
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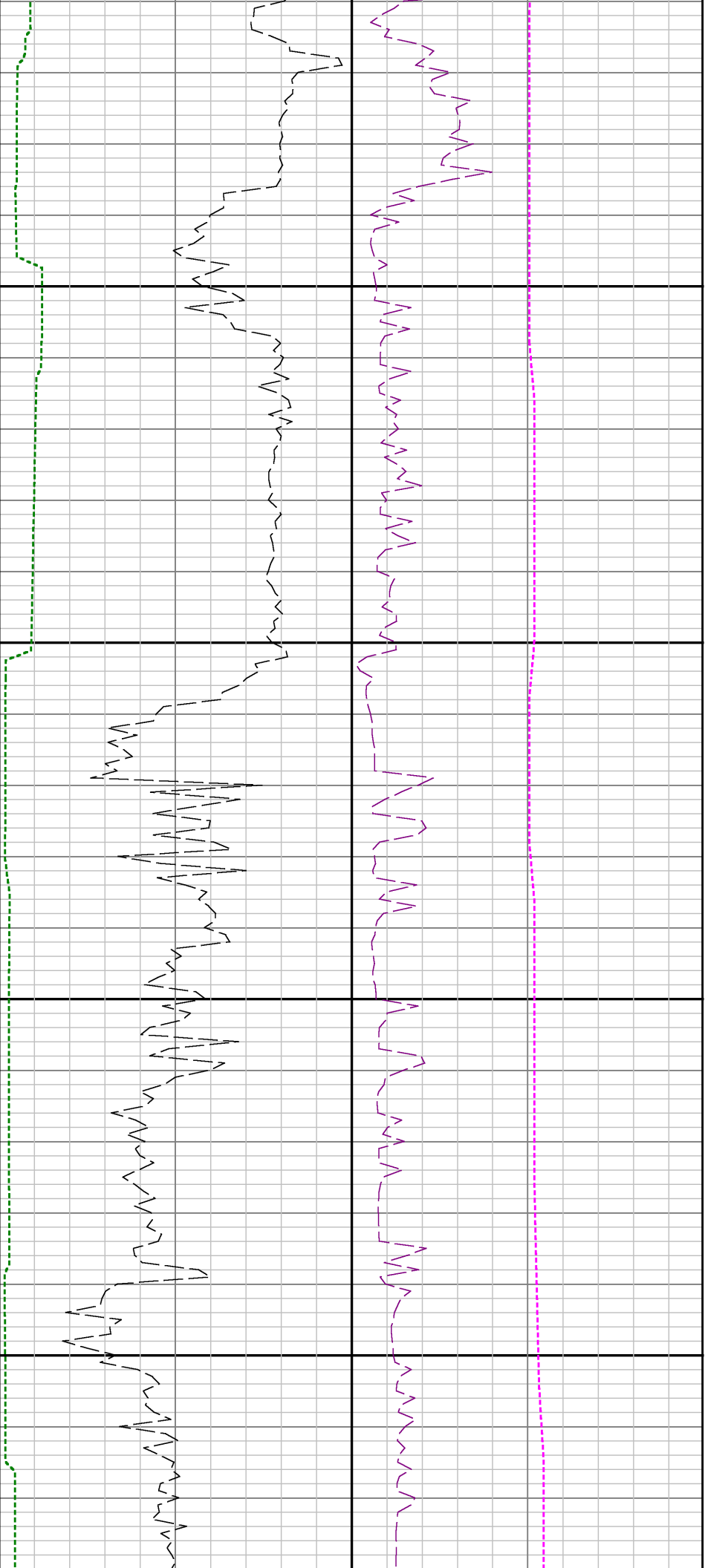




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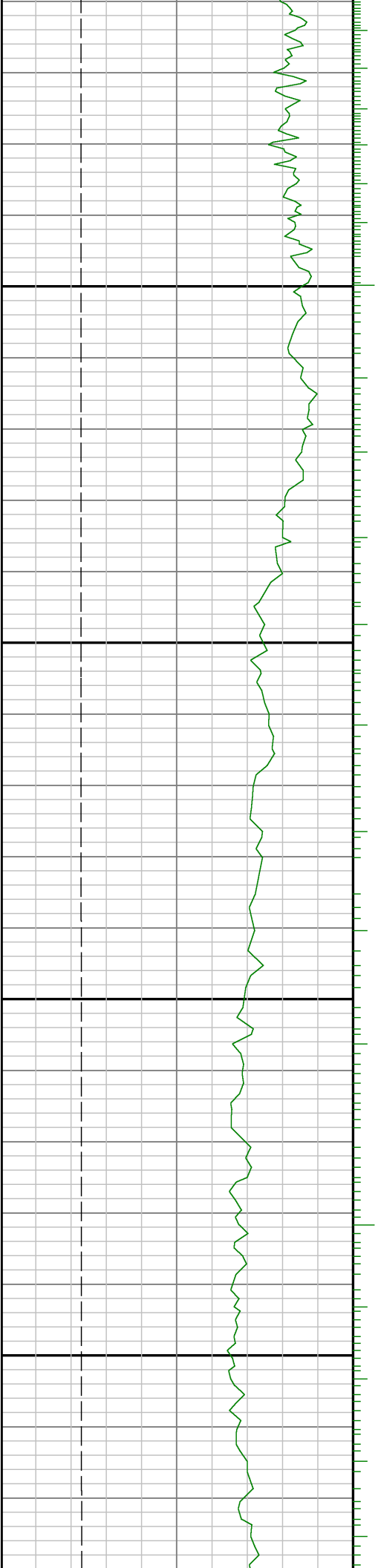
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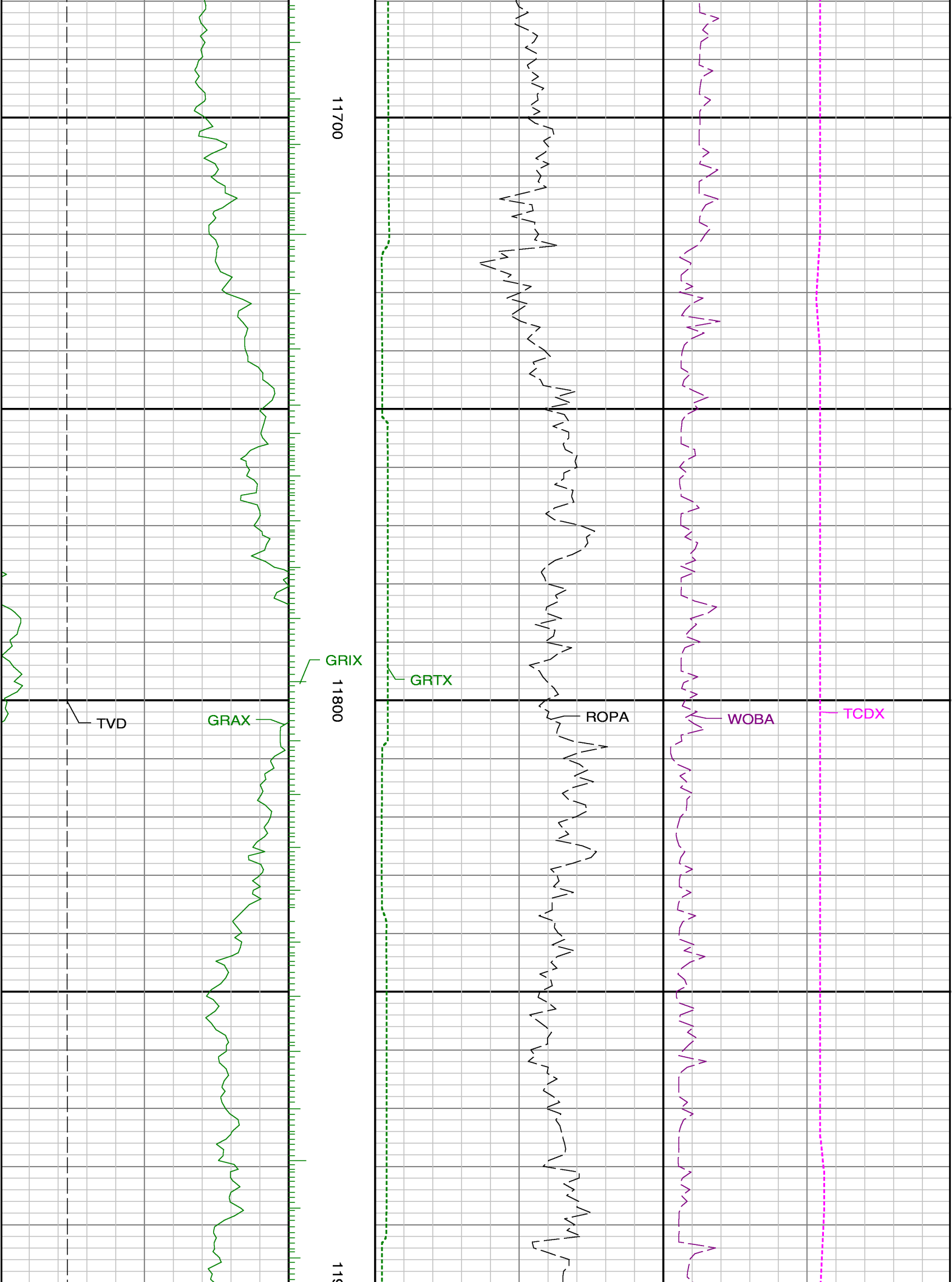


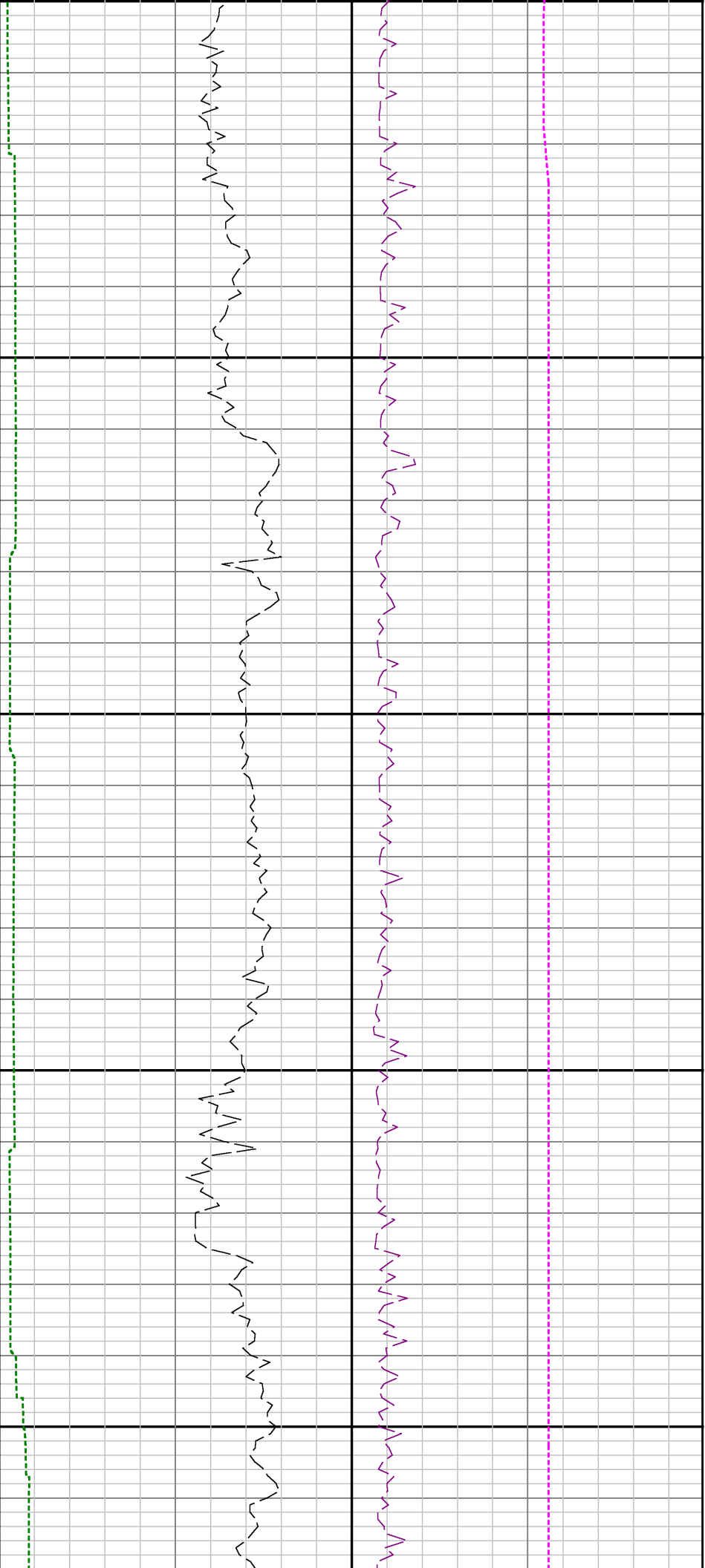


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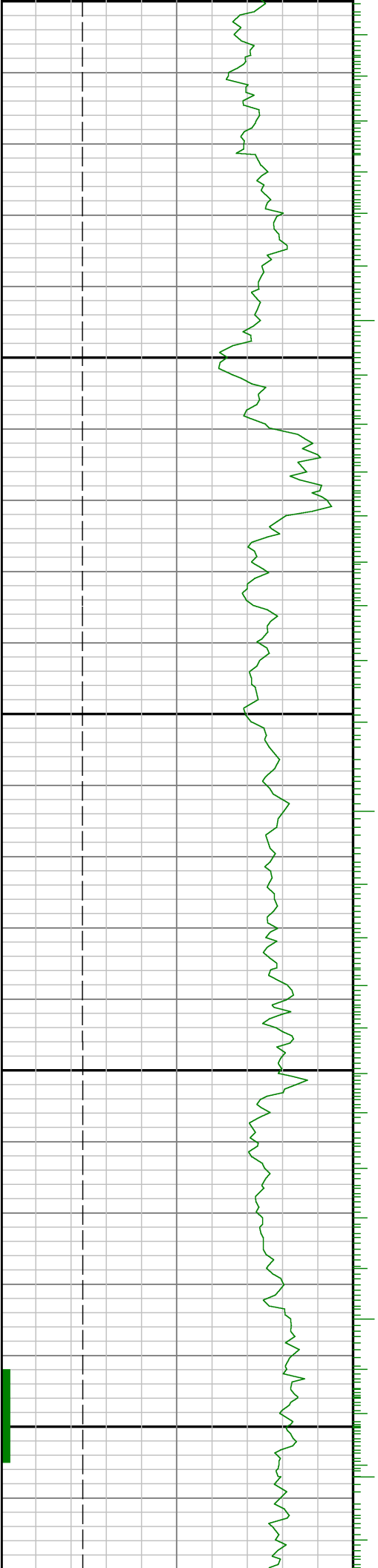


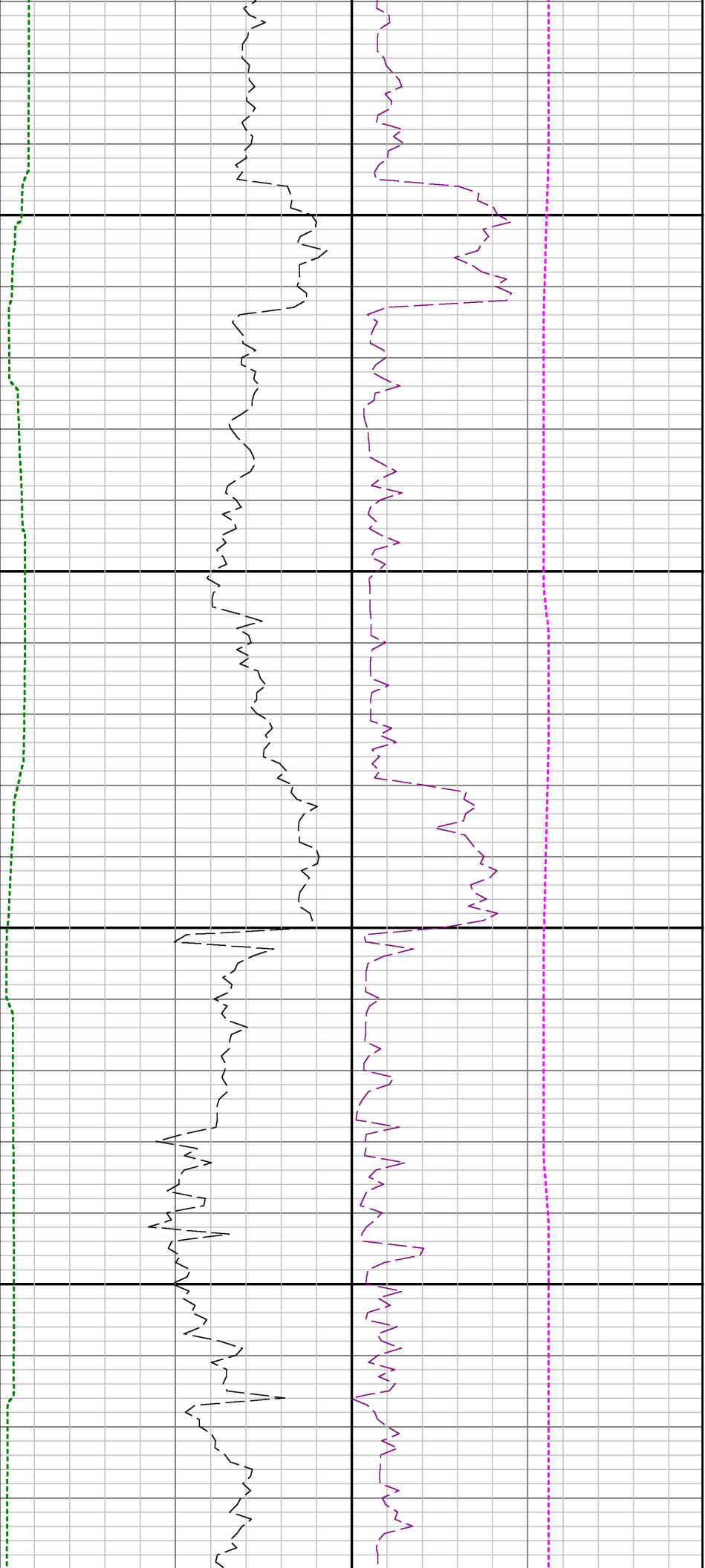


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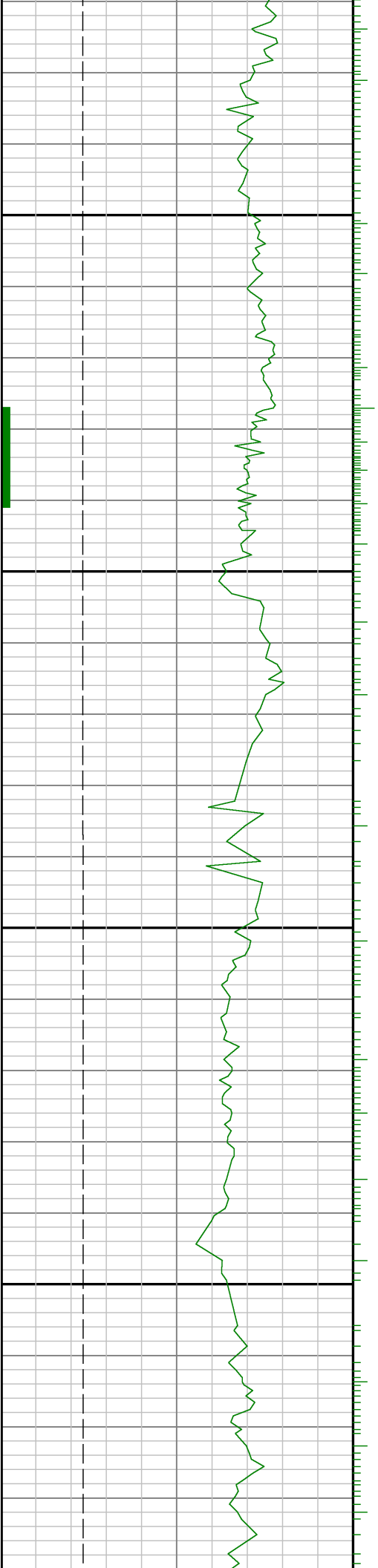
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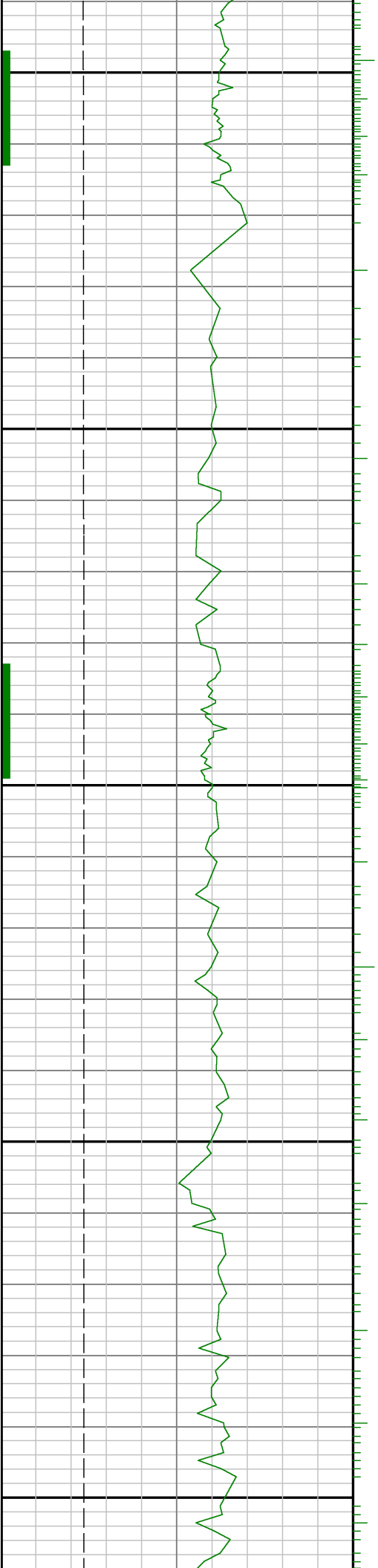
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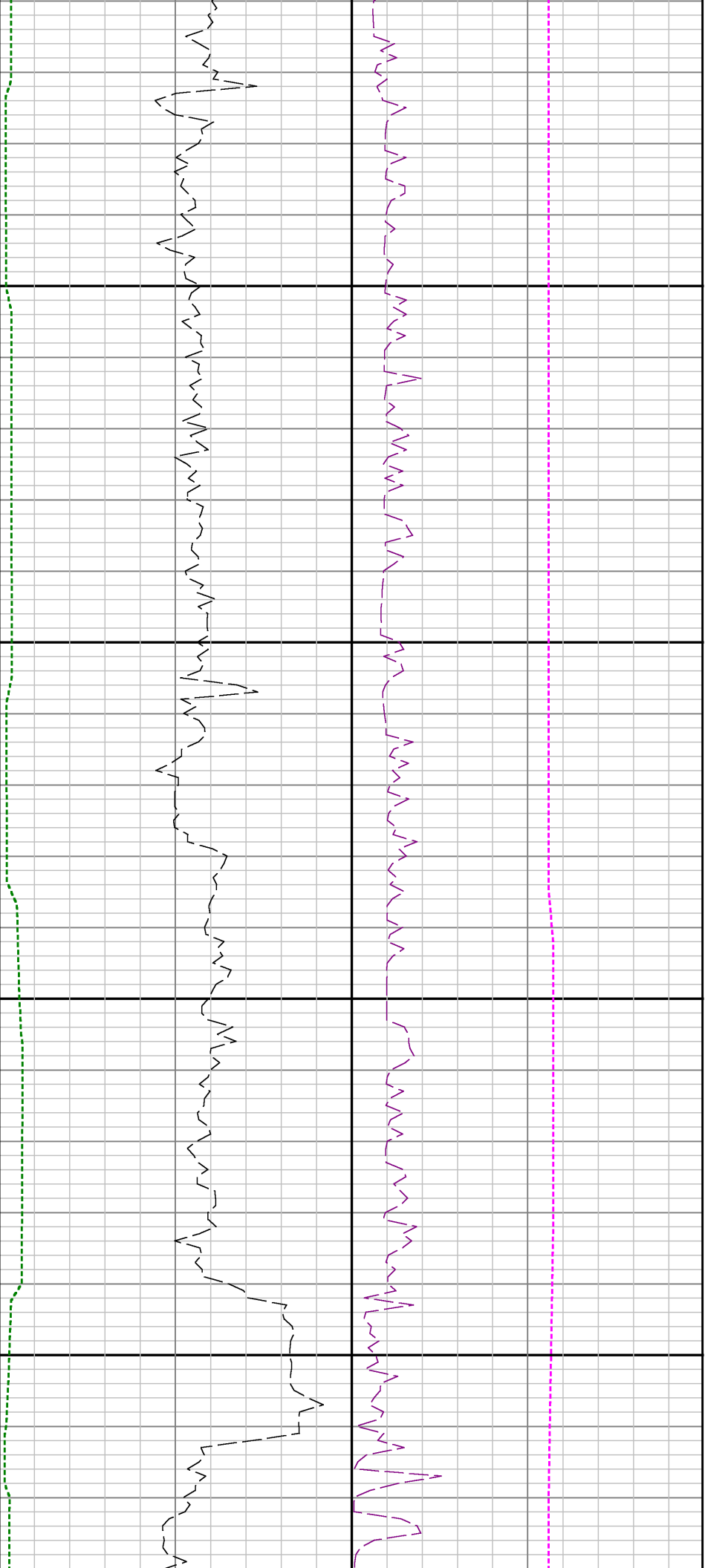




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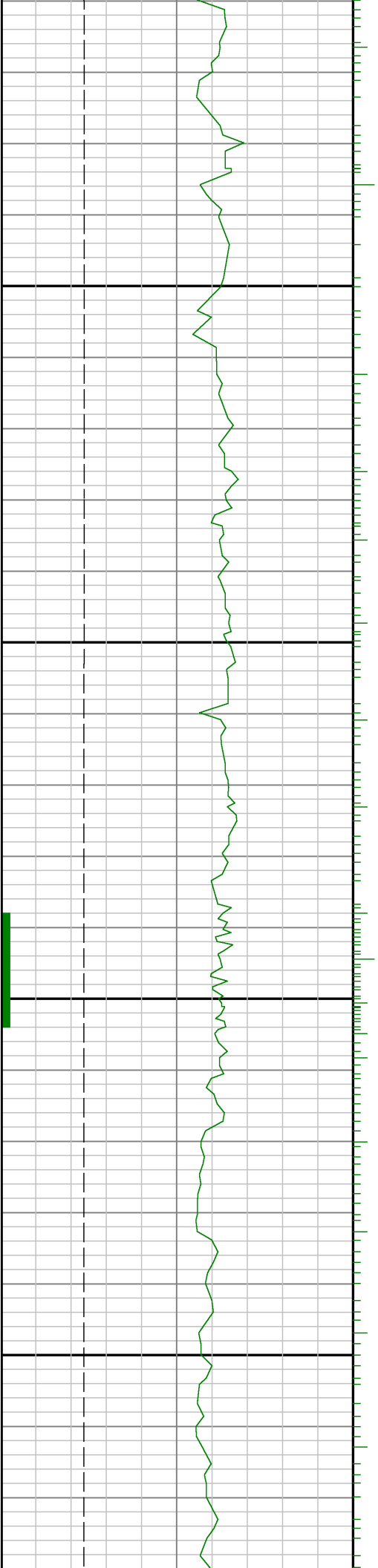
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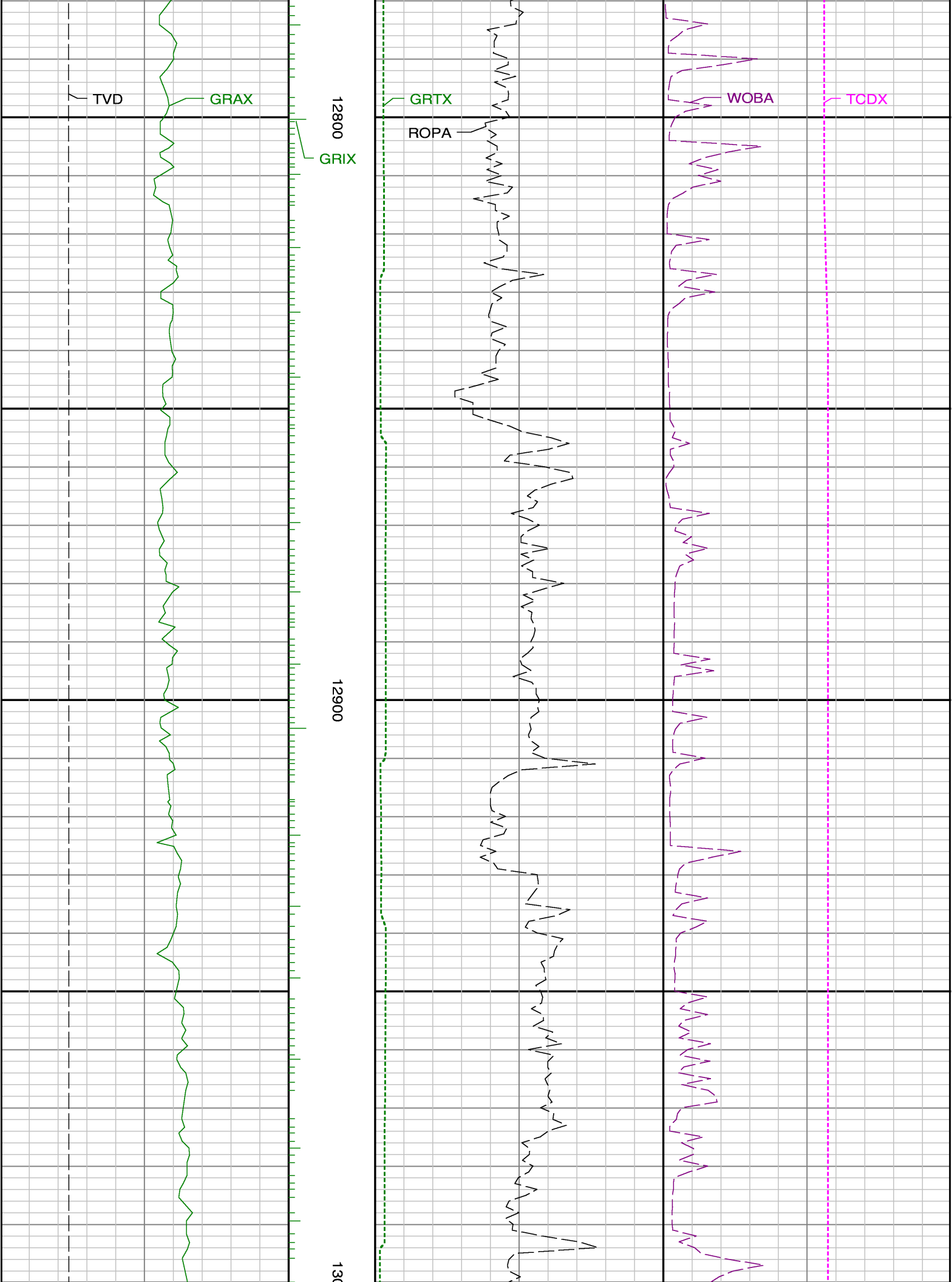


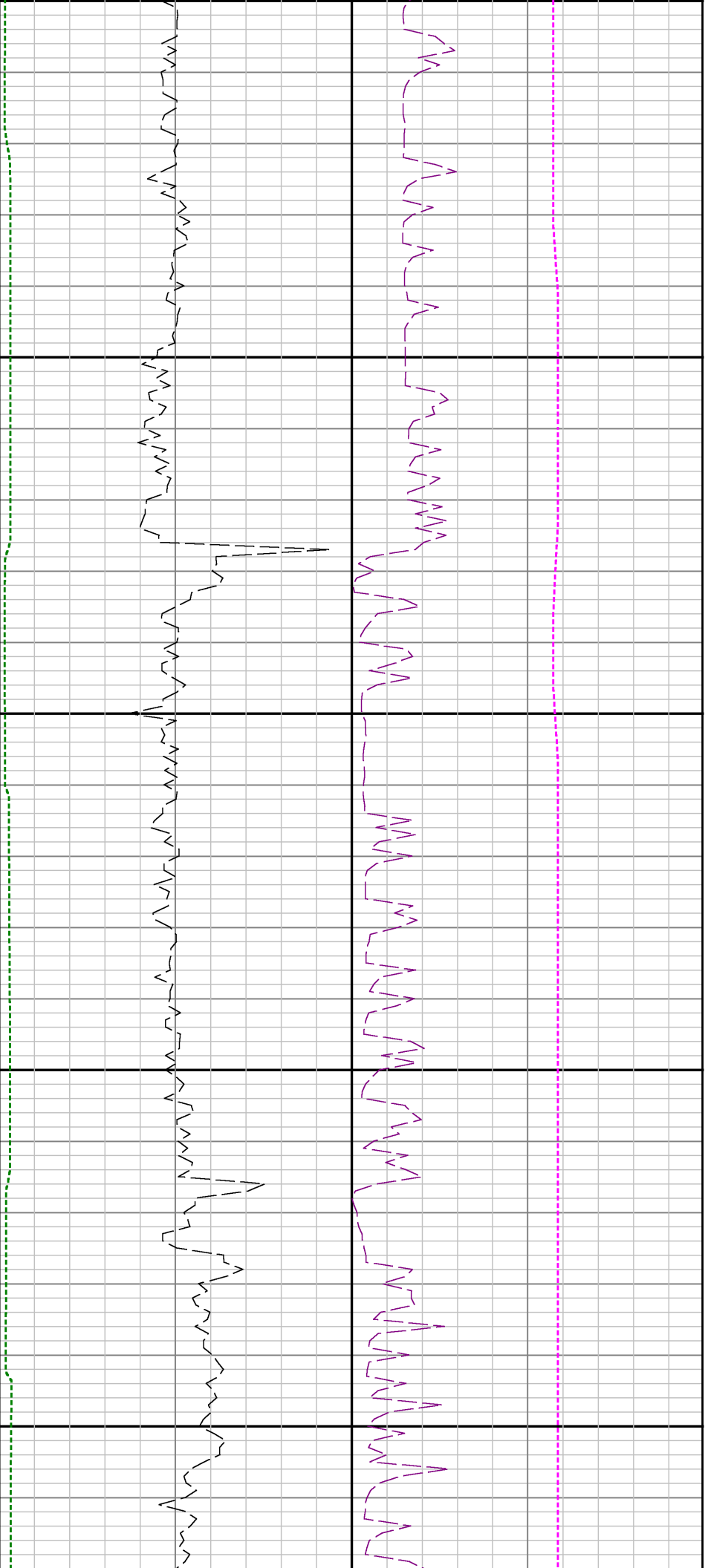


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