



Real Time Log

Natural Formation Evaluation

Scale: **Company: Anadarko**

1:240 **Well: Berry Farms 32N-8HZ**

Measured Depth **Field: Weld County (Kerr McGee)**

Region: RMD **Country: U.S.A.**

Status: **Final Print** Surface Location: Latitude: 40° 14' 37.280" N Longitude: 104° 54' 21.222" W Other Services: Directional VSS

API Number: 05-123-38894 SEC: 8 TWN: 3N RNC: 67W

Permanent Datum (P.D.): Ground Level Elevation: 4937.00 ft. Elevations: N/A

Log Measured From: Rig Floor 13.00 ft. Above P.D. KB: 4950.00 ft. DF: 4937.00 ft. GL:

Depth Reference: Driller's Depth

Interval Logged Dates Magnetic Field Reference

Top: 6459.0 ft. Date From: 04/May/2014 Dip Angle: 66.79° Azi Reference North: True

Bottom: 11824.0 ft. Date To: 11/May/2014 Total Mag to Reference

Spud Date: 04/May/2014 Field Strength: 52704.5 nT North Correction: 8.59°

Borehole Record Casing Record

Hole Size	From	To	Size	Weight	From	To
13.500 in.	0.0 ft.	830.0 ft.	9.625 in.	36.00 lb/ft	0.0 ft.	820.0 ft.
8.750 in.	830.0 ft.	7522.0 ft.	7.000 in.	26.00 lb/ft	820.0 ft.	7514.0 ft.
6.125 in.	7522.0 ft.	11887.0 ft.				

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Water Based	0.0 ft.	830.0 ft.	13.500 in.	830.0 ft.	0.0° / 0.0°	0.4° / 259.4°
Water Based	830.0 ft.	7522.0 ft.	8.750 in.	6692.0 ft.	0.2° / 206.7°	85.7° / 271.5°
Water Based	7522.0 ft.	11887.0 ft.	6.125 in.	4365.0 ft.	91.0° / 272.3°	90.5° / 271.4°
					/	/
					/	/
					/	/

Acquisition System Software Version

Other

Advantage	2.20U4	Rig: / Contractor:	Ensign 145	/ Ensign Drilling
PATS	6.4.1.34	Job No:	6329553	
		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. Time (hrs.)
							Top (ft.)	Bottom (ft.)	From (ft.)	To (ft.)	Start	End	
1	1	1	8.750	PDC	2.000	Steerable	N/A	N/A	830.0	952.0	05/May/2014 20:45	06/May/2014 04:00	2.4
2	2	2	8.750	PDC	2.000	Steerable	6459.0	7464.0	952.0	7522.0	06/May/2014 04:30	08/May/2014 08:45	32.9
3	3	3	6.125	PDC	3.000	Steerable	7464.0	11824.0	7522.0	11887.0	09/May/2014 06:00	11/May/2014 12:00	36.1

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Michael Gurnsey	05/May/2014	11/May/2014	Donald Delay	05/May/2014	11/May/2014			
Alexander Janorschke	08/May/2014	11/May/2014	Thanh Hoang Nguyen	06/May/2014	11/May/2014			

Peter Adebayo	05/May/2014	08/May/2014	Daniel Lee	05/May/2014	06/May/2014			
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Mud Properties Record

Date / Time	LWD Run No.	Measured Depth (ft.)	Mud Type	Density (ppg)	Viscosity (cp)	pH	Fluid Loss (cc/30min)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
07/May/2014 22:00	2	7311.0	Water Based Mud	10.1	13	9.3	5.0	0 / 92	Active Mud Pits	1800	N/A
08/May/2014 22:30	2	7522.0	Water Based Mud	10.2	14	9.2	4.0	1 / 90	Active Mud Pits	1800	N/A
09/May/2014 22:00	3	8381.0	Water Based Mud	10.0	11	9.0	4.0	2 / 89	Active Mud Pits	1800	N/A
10/May/2014 22:00	3	11650.0	Water Based Mud	10.2	13	9.4	4.5	2 / 88	Active Mud Pits	2000	N/A

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent 0.5 ft. avg.	API
GRIX	Gamma Ray Density	points
GRSI	Gamma Ray Slide Indicator	unitless
GRTX	Gamma Ray Time Since Drilled	min.
ROPA	Rate of Penetration, 3.0 ft. avg.	ft. / hr.
TCDX	Downhole Temperature	deg. F
TVD	True Vertical Depth, 3.0 ft. avg.	ft. / hr.
WOBA	Surface Weight on Bit, 1.0 ft. avg.	klbf.

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12887296	Directional	62.78	6.750	2.875
1	SRIG	12380940	Gamma	59.41	6.750	2.875
2	DIR	11814668	Directional	61.23	6.750	2.875
2	SRIG	11734840	Gamma	57.86	6.750	2.875
3	DIR	13051163	Directional	66.55	4.750	2.625
3	SRIG	12722372	Gamma	63.17	4.750	2.625

Service and Tool Mnemonics

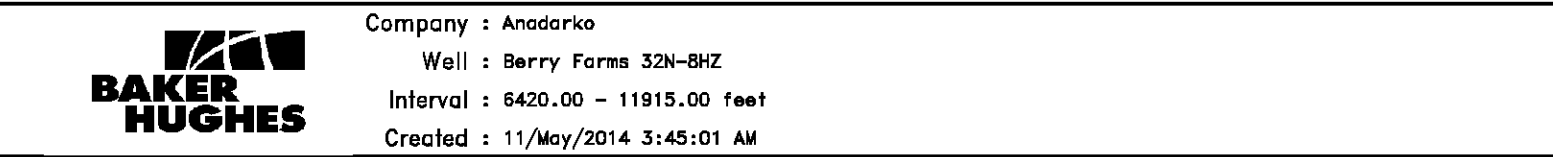
Mnemonic	Name	Description
DIR	Directional	Wellbore directional survey
SRIG	Inclination and Gamma	Probe based gamma ray and inclination module

Comments

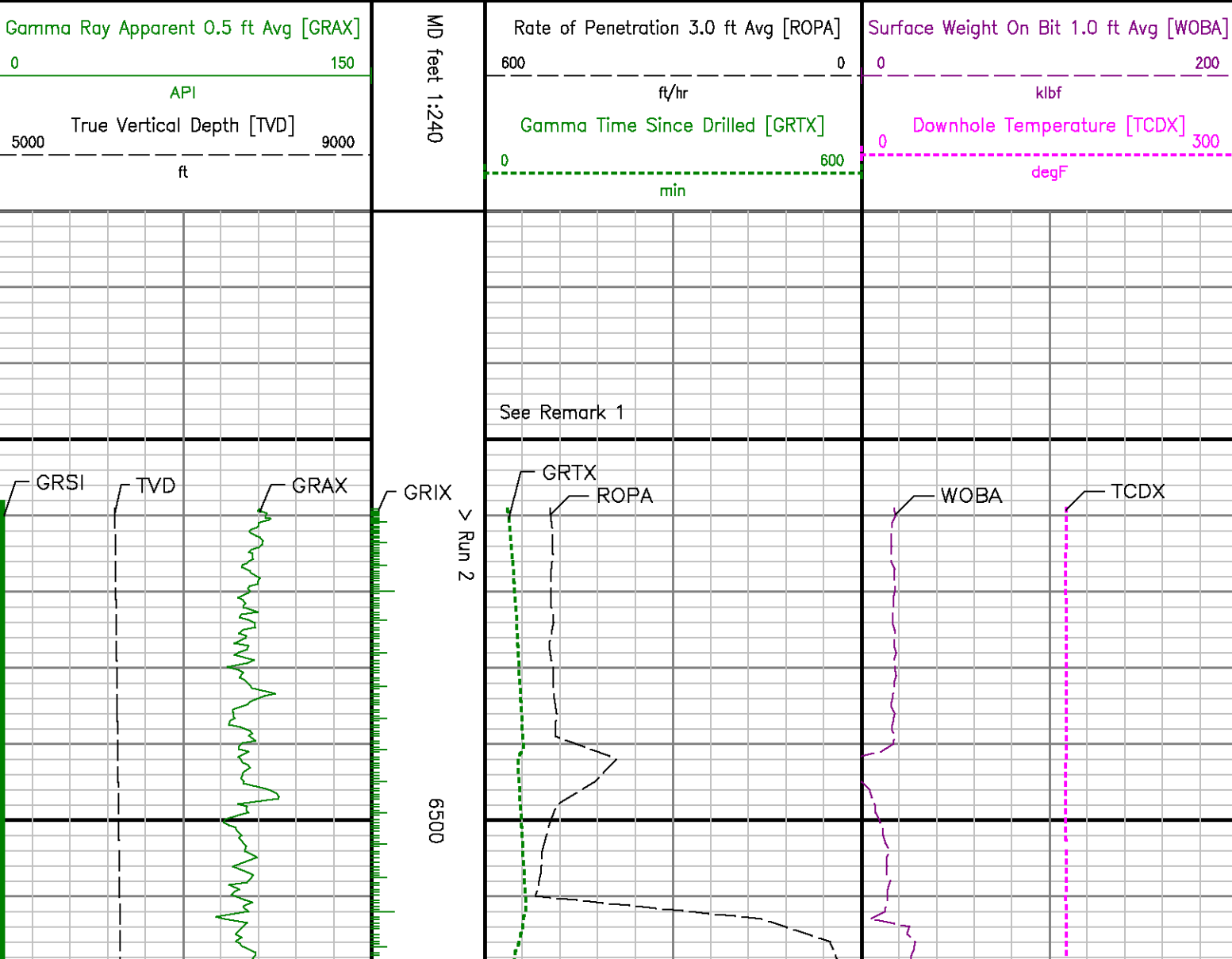
<p>1) Baker Hughes runs 1 and 2 utilized 6 1/2 inch NaviGamma services (VSS, Directional, Gamma Ray) behind an 8 3/4 inch bit and steerable assembly from 830 to 7522 feet MD (830 to 6939 feet TVD).</p> <p>2) Baker Hughes run 3 utilized 4 3/4 inch NaviGamma services (VSS, Directional, Gamma Ray) behind an 6 1/8 inch bit and steerable assembly from 7522 to 11887 feet MD (6939 to 6959 feet TVD).</p> <p>3) A sliding indicator is shown on the left side of track 1 as a heavy line. This indicator has been shifted to the Gamma Ray sensor offset to correspond with Gamma Ray data acquired while sliding.</p>
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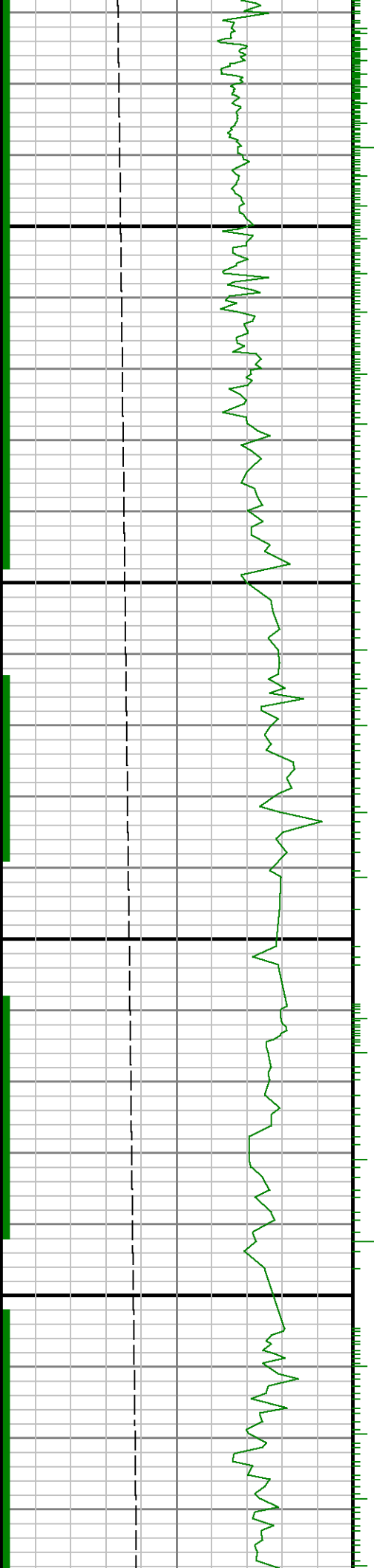
Remarks

Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1	6459	8.750	2	Logging services begin. No logging data prior to 6459 feet MD (6275 feet TVD) as per client request.
2	7522	6.125	2	The interval from 7464 to 7524 feet MD (6936 to 6939 feet TVD) was logged up to 38.4 hours after drilling due to casing and cementing operations.
3	11824	6.125	3	The interval from 11824 to 11887 feet MD (6960 to 6959 feet TVD) has no logging data due to sensor to bit offset at TD.



Created : 11/May/2014 3:45:01 AM

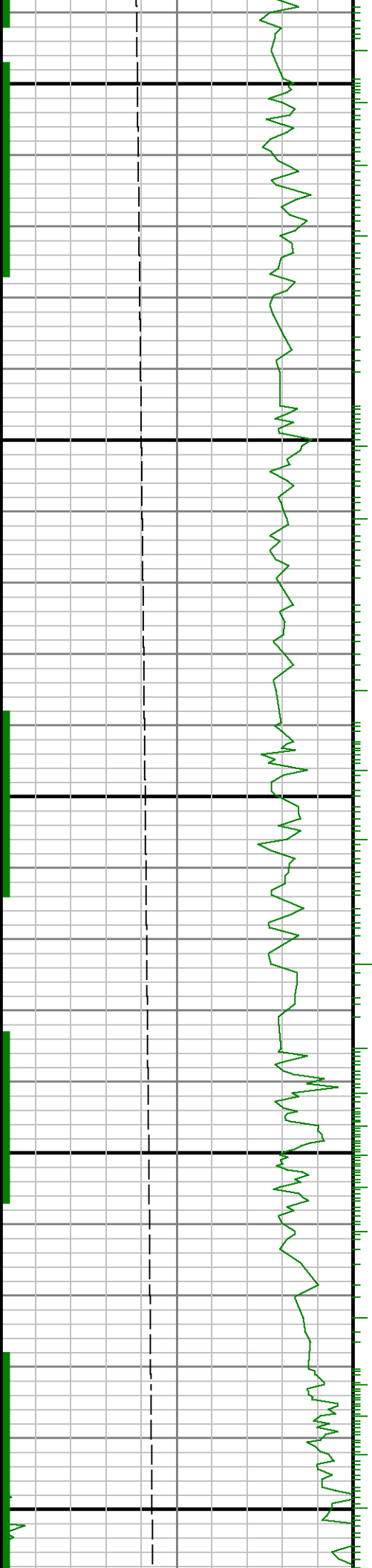




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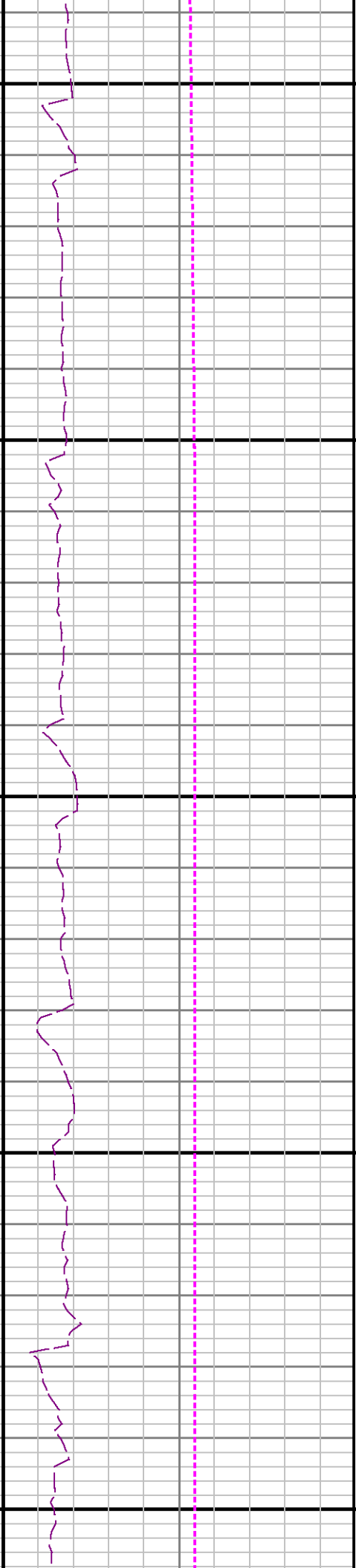
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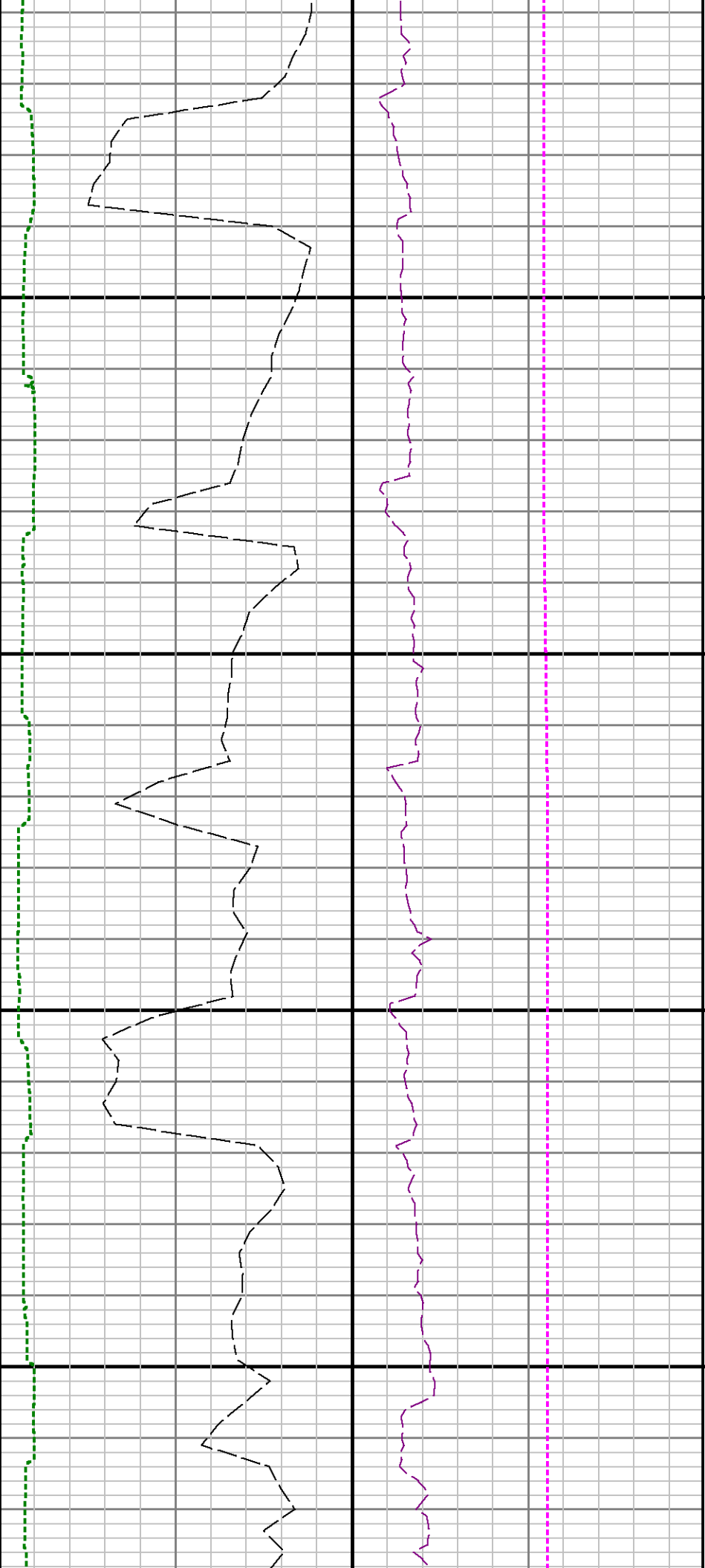




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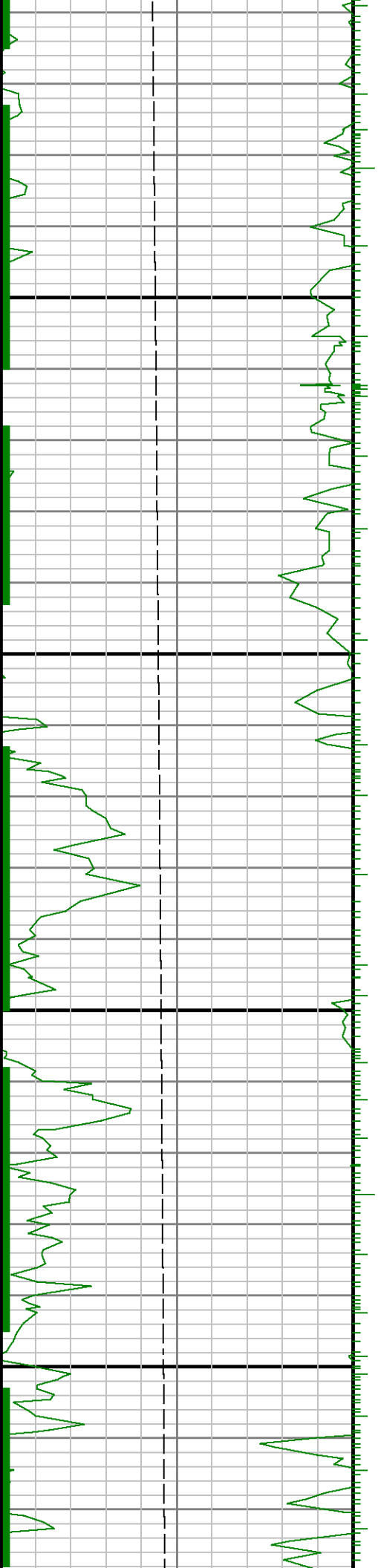
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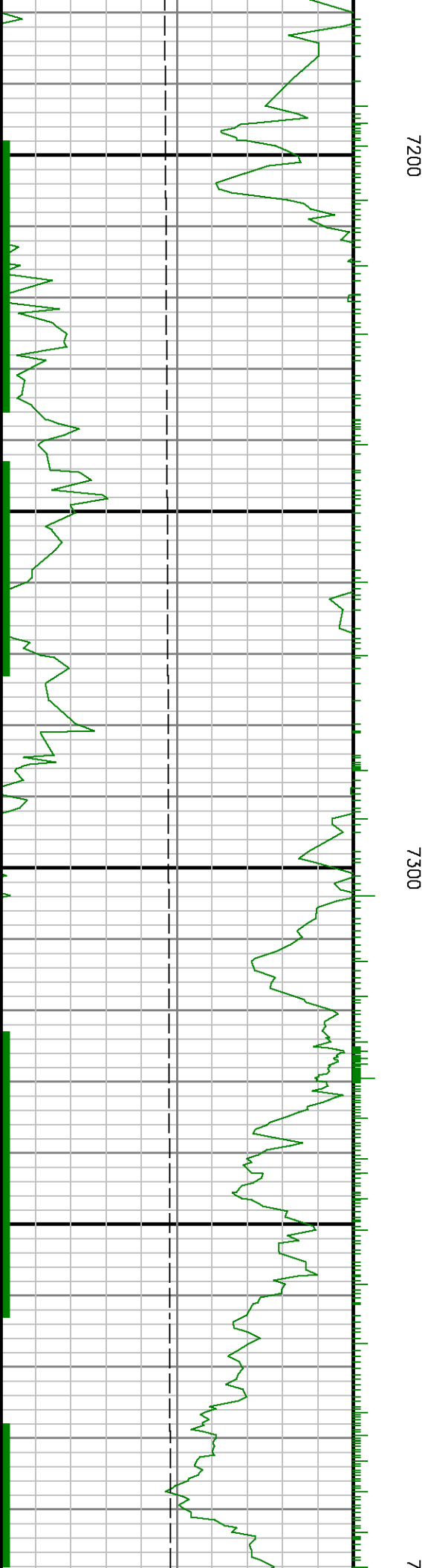
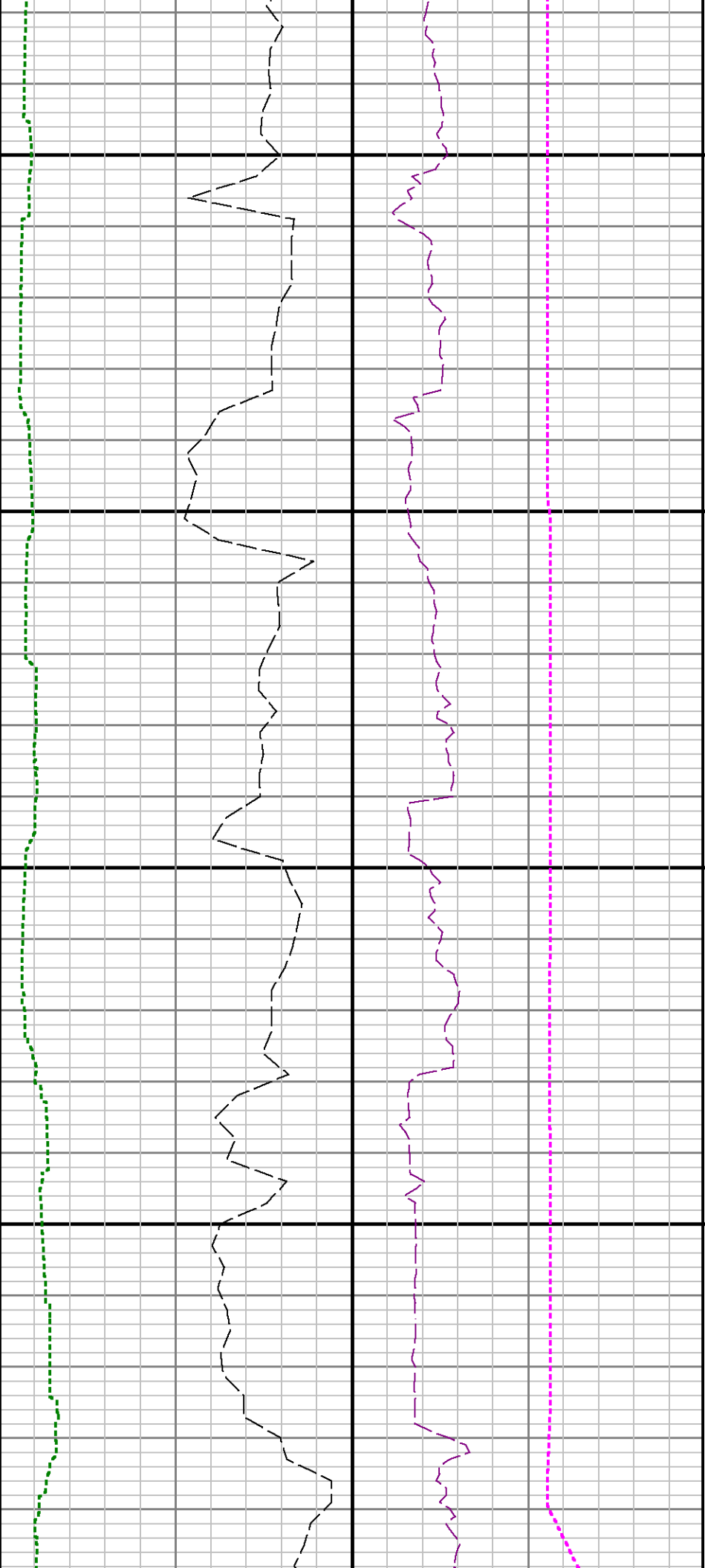


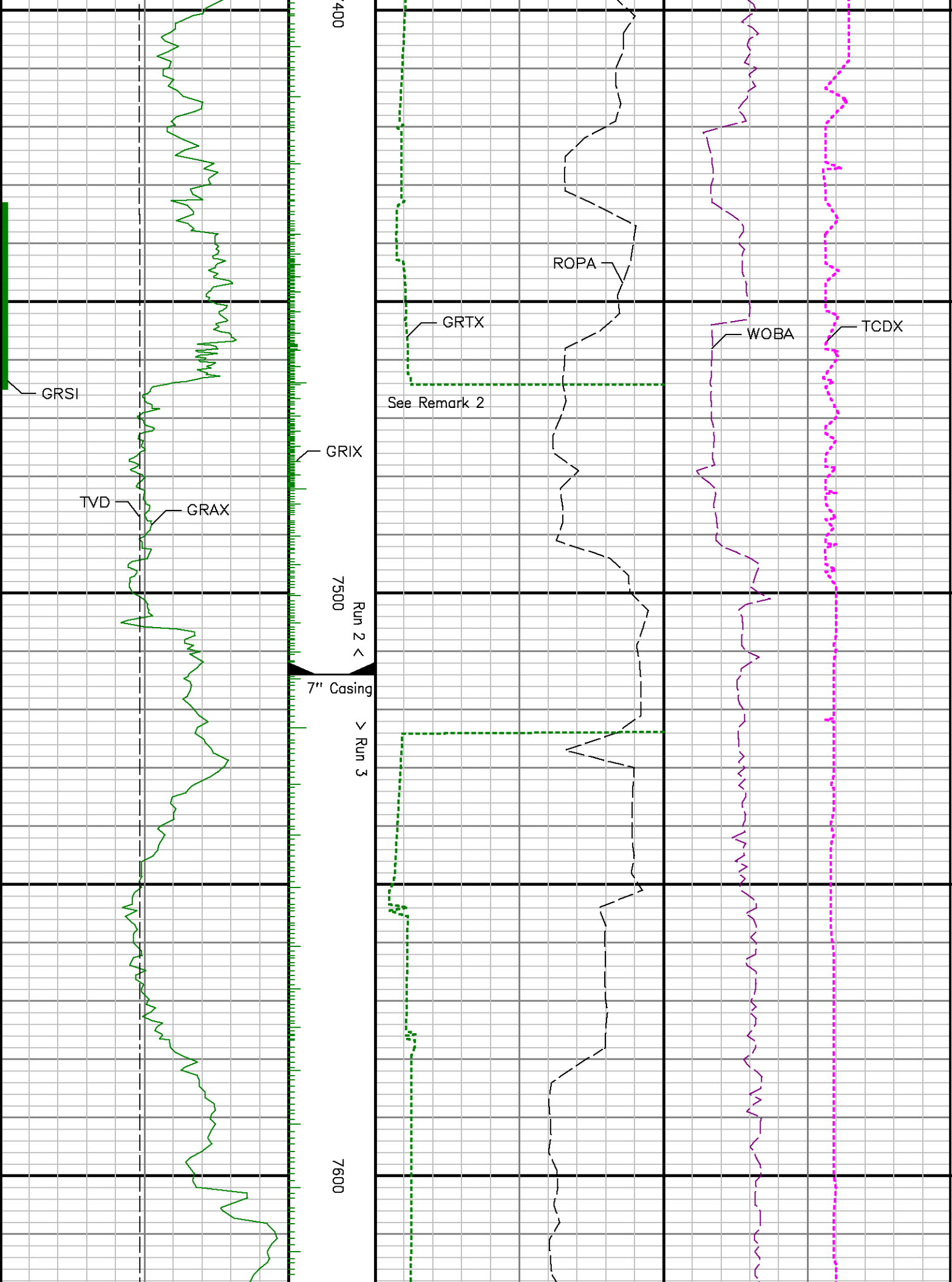


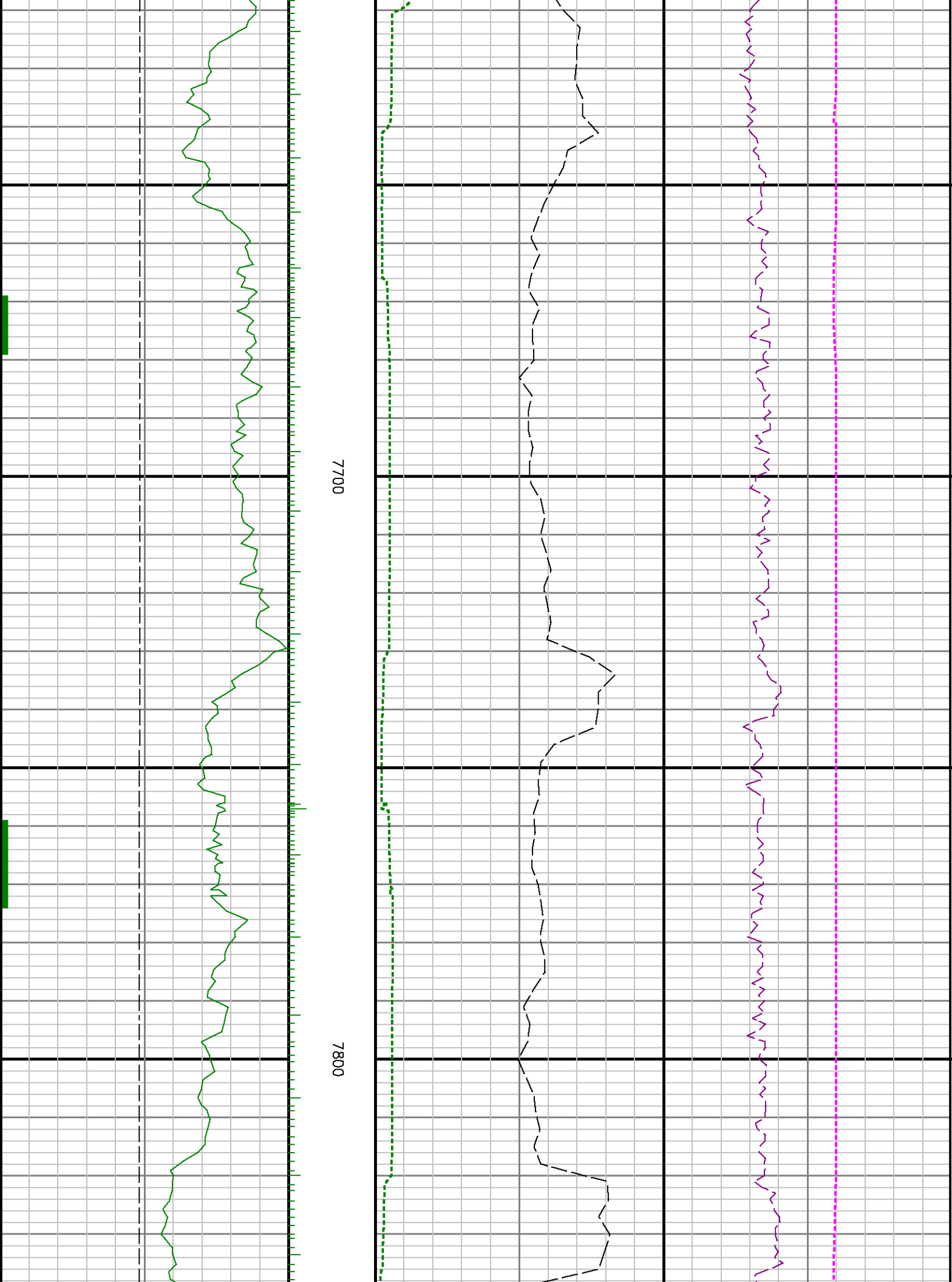
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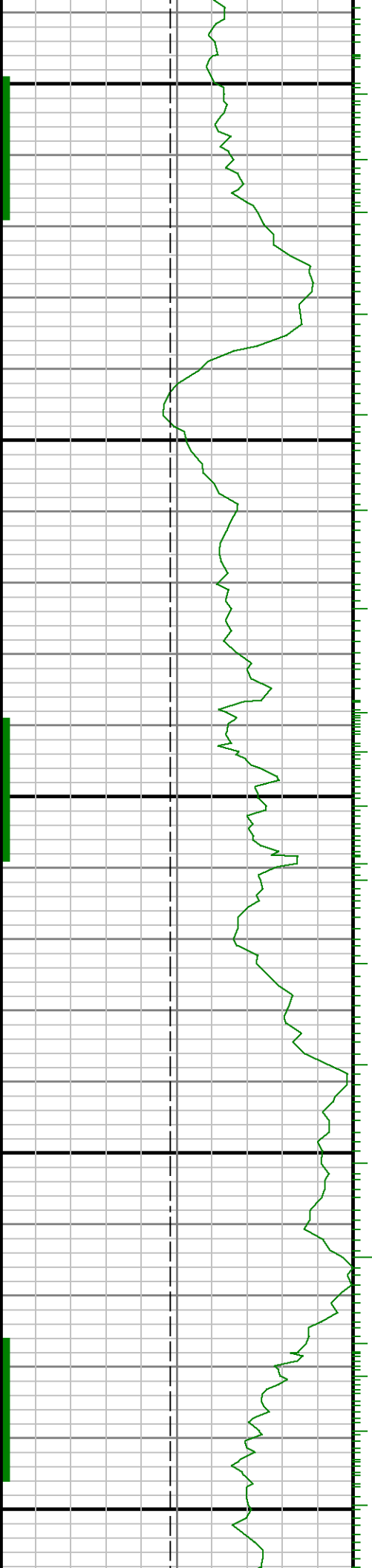
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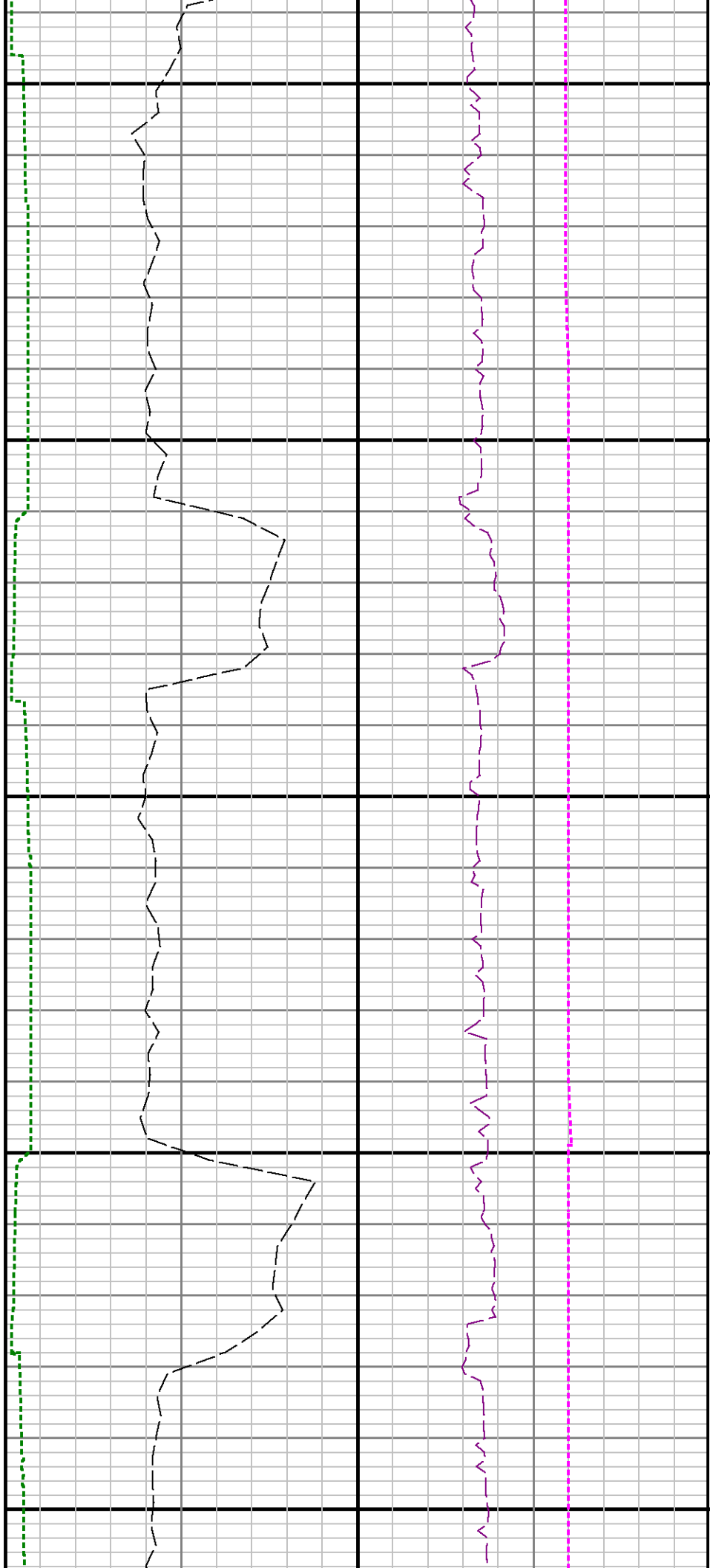






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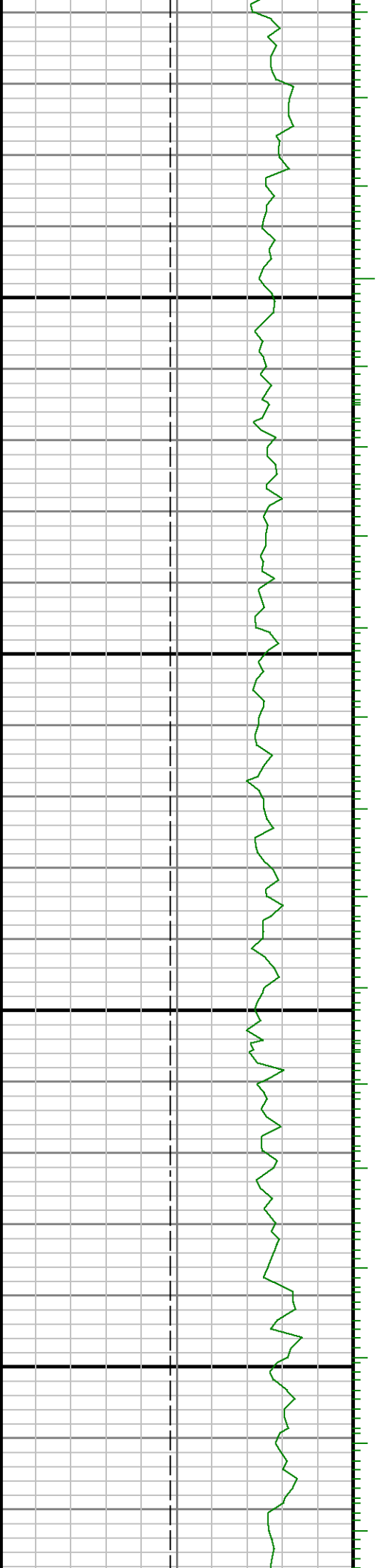
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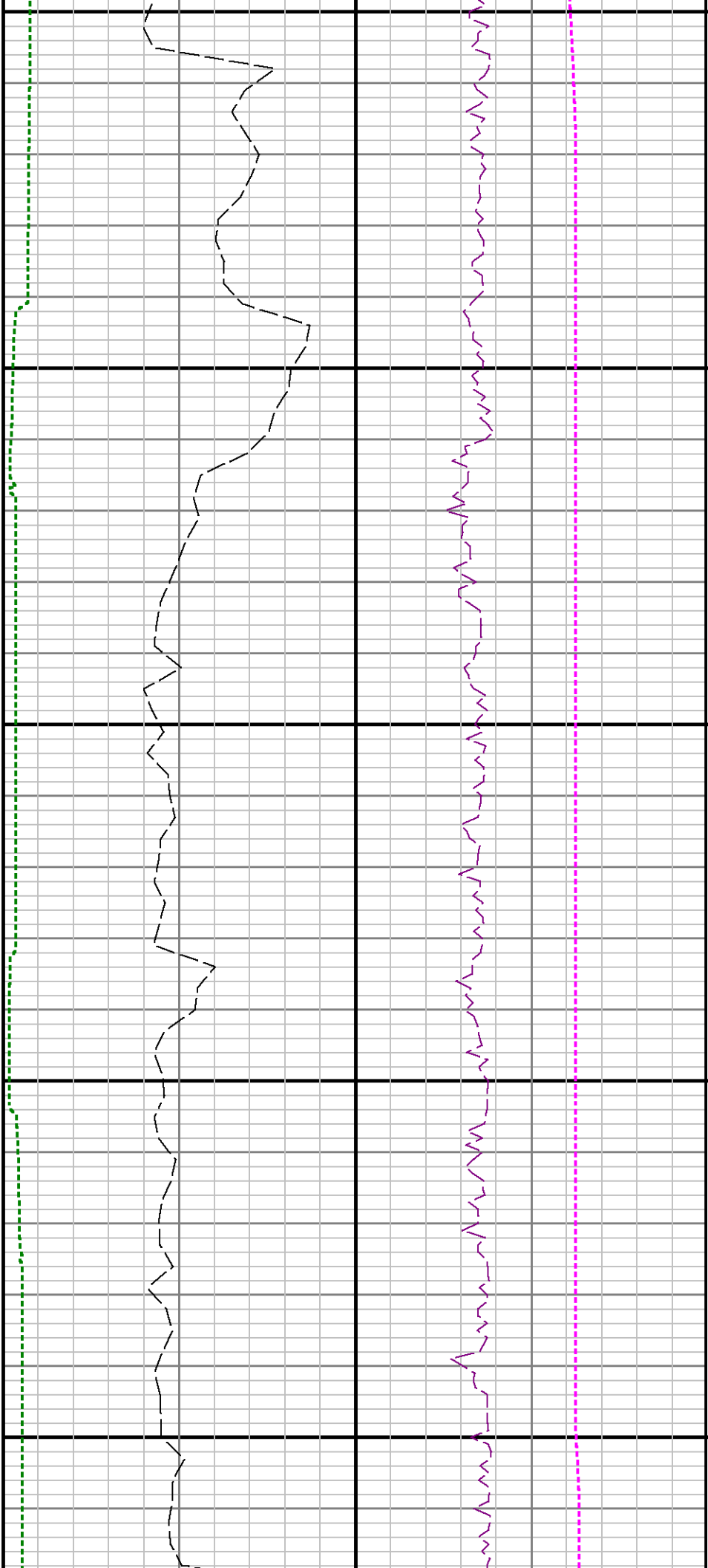


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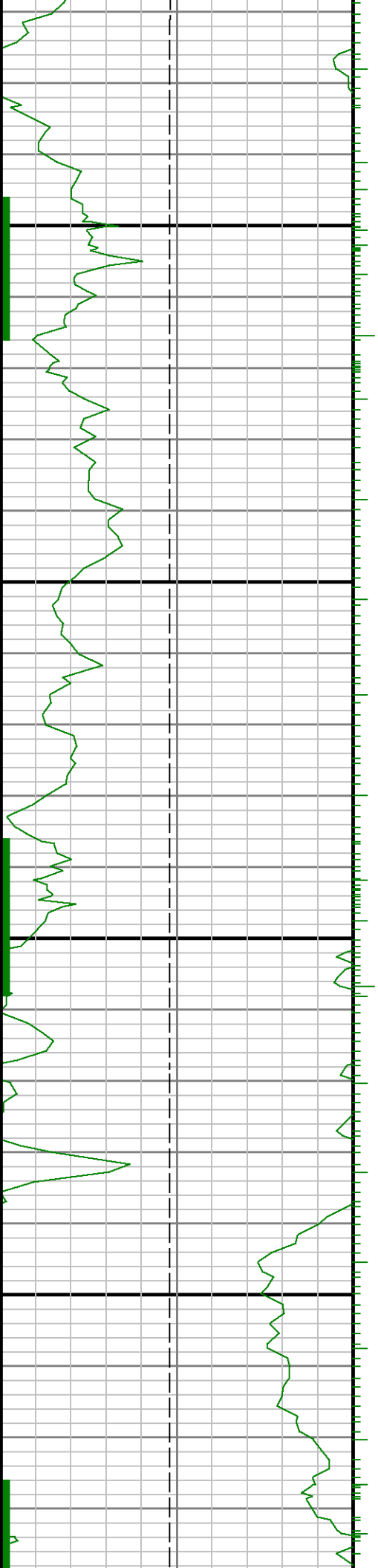


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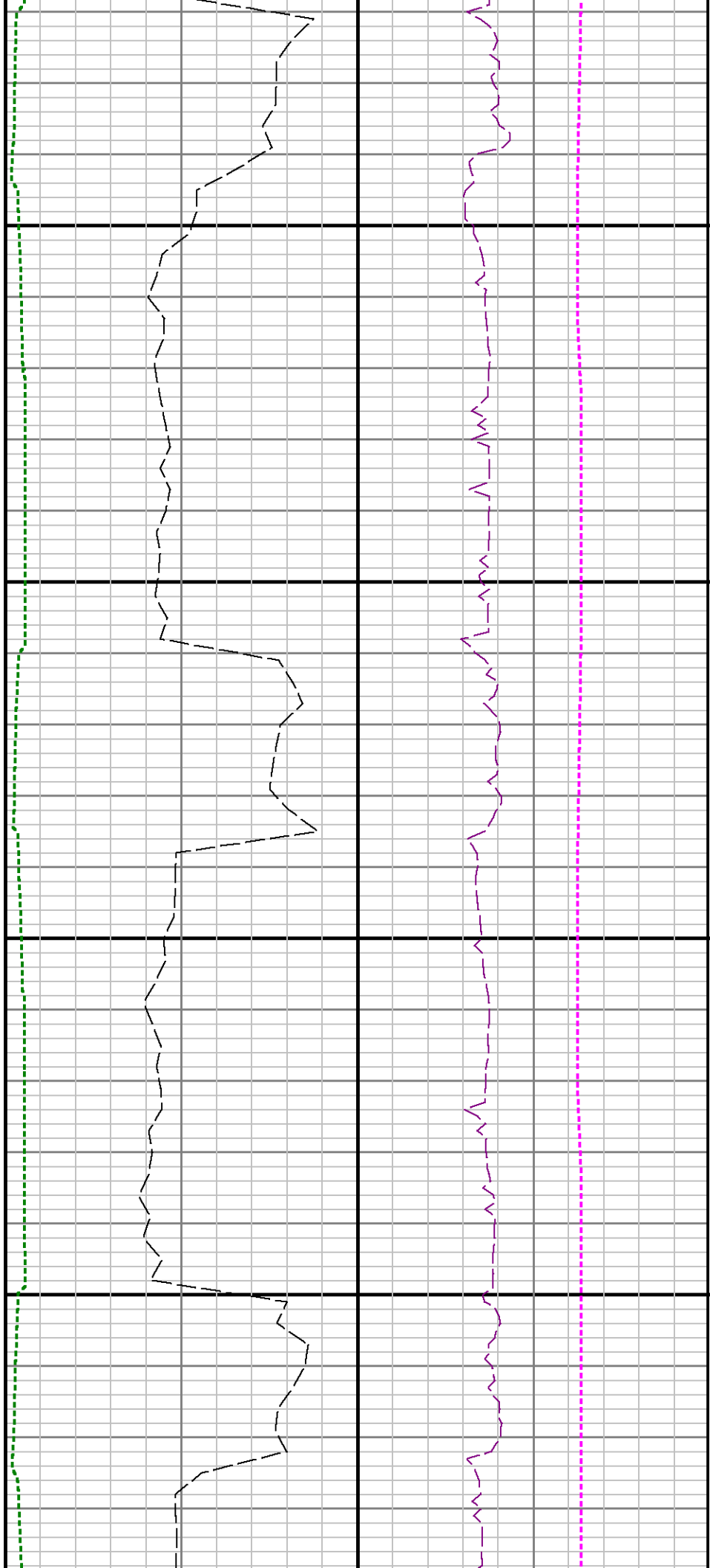
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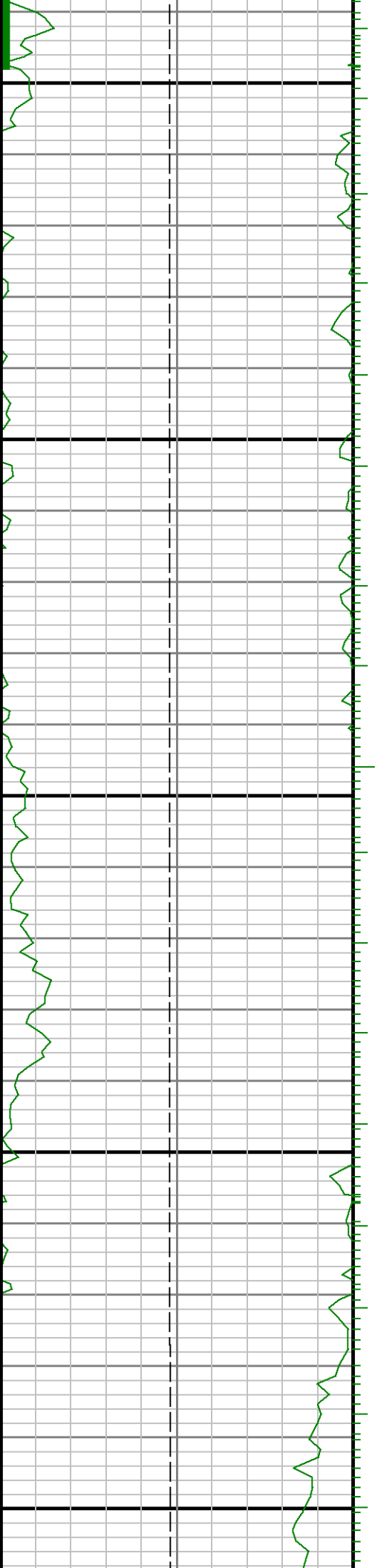
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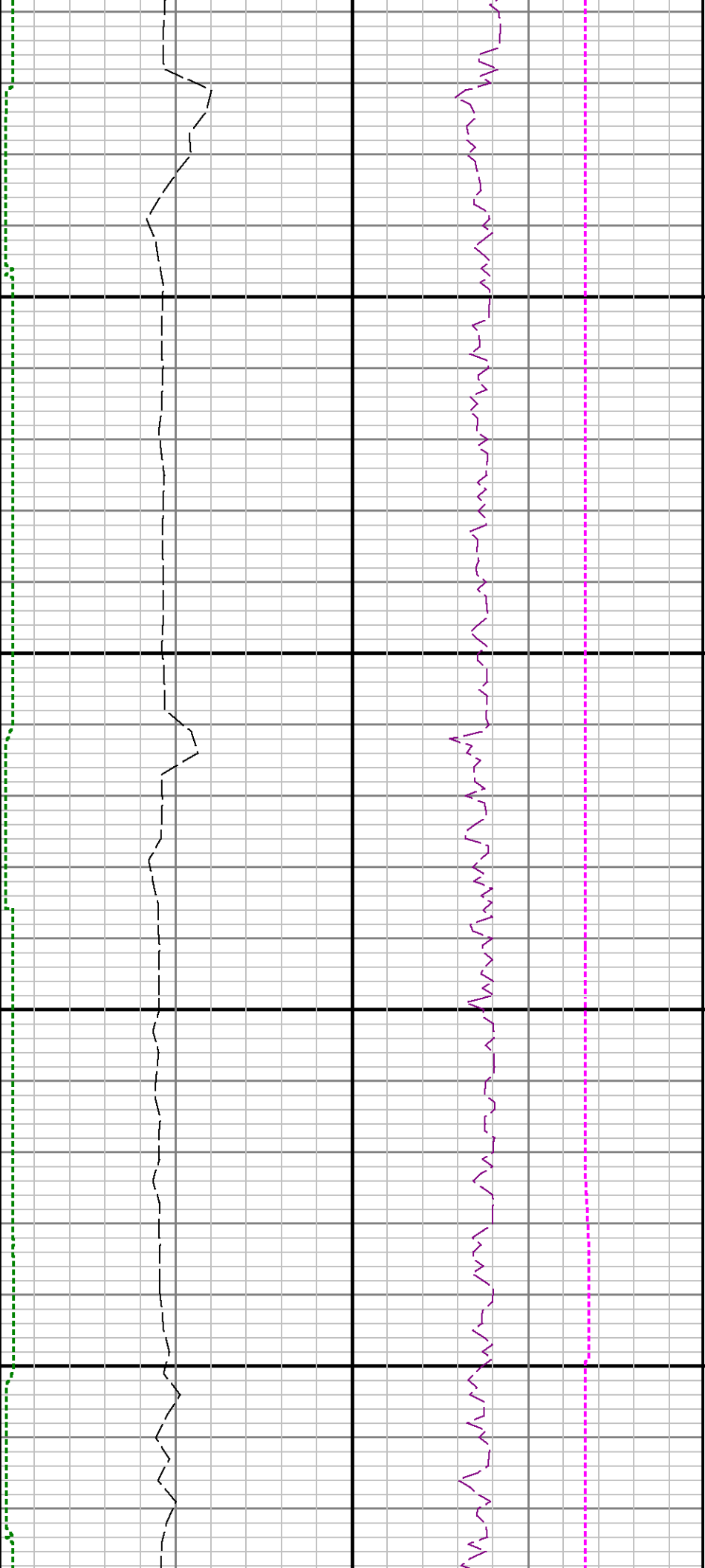




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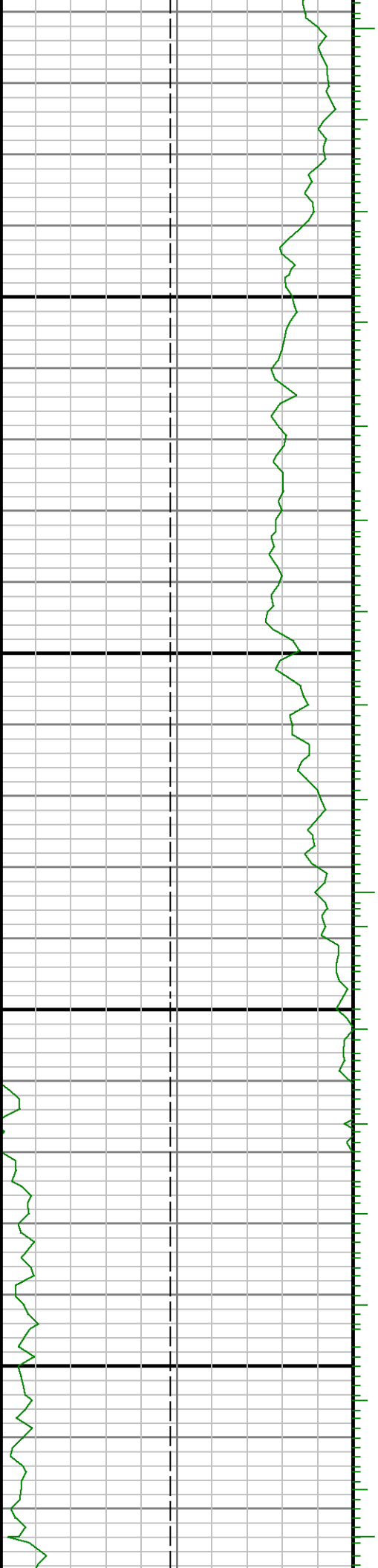
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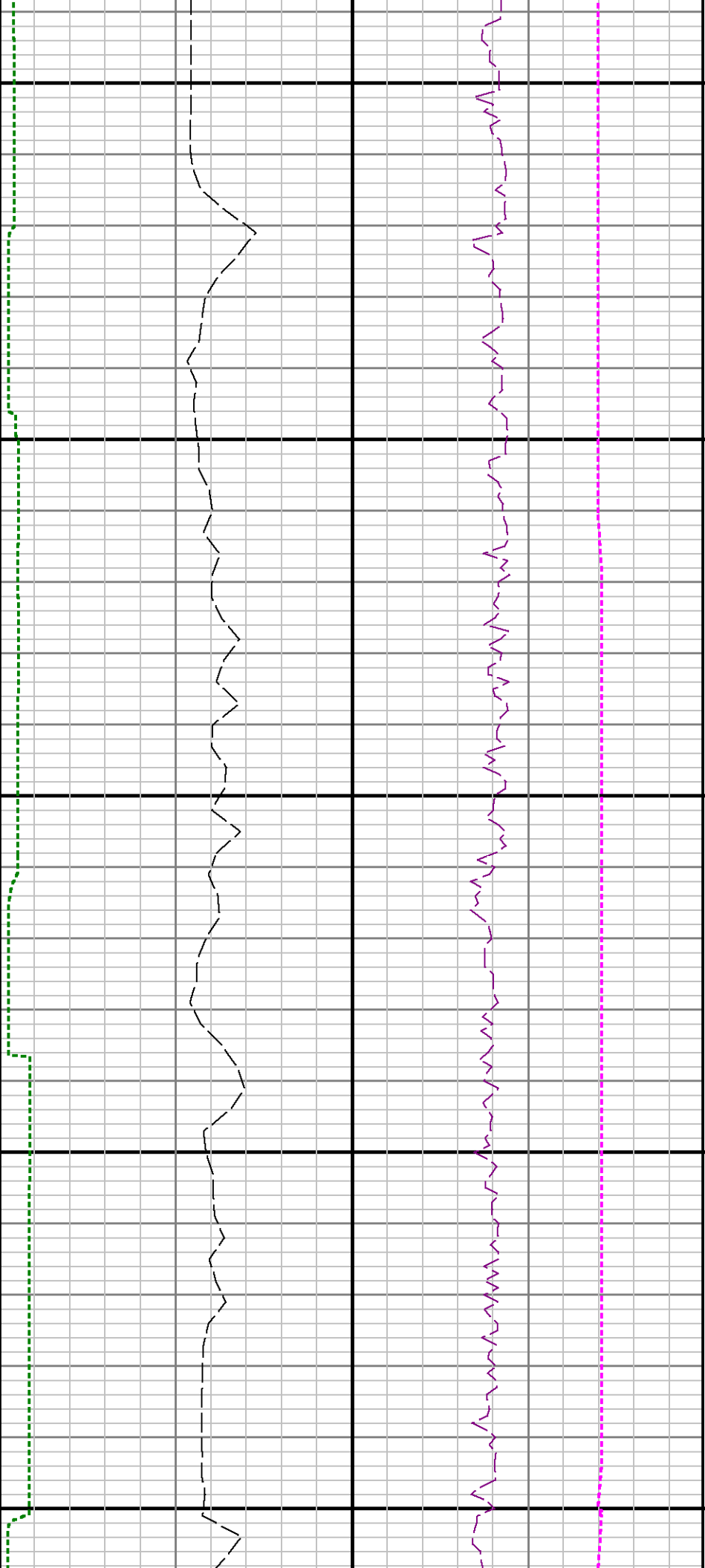
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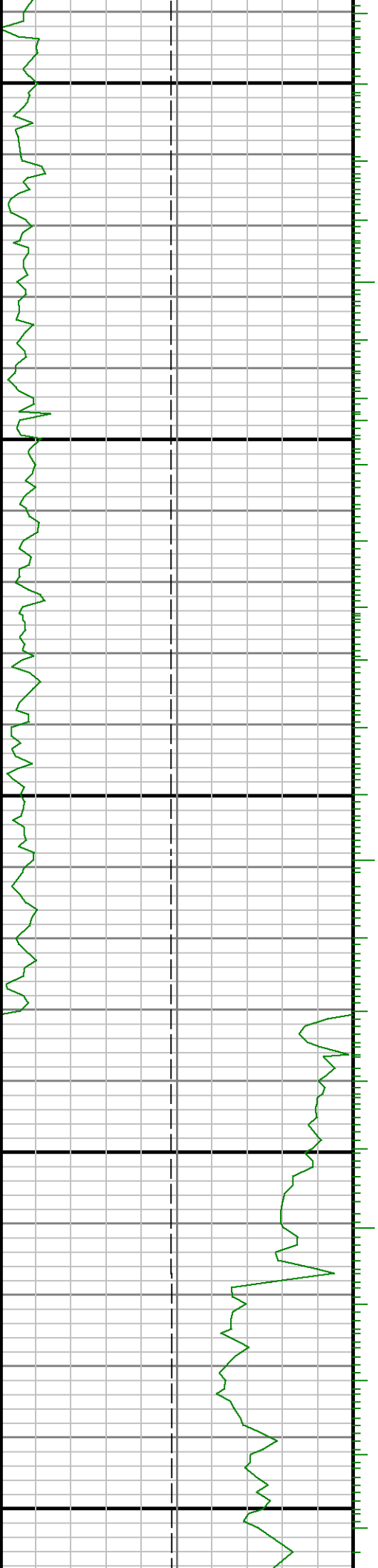


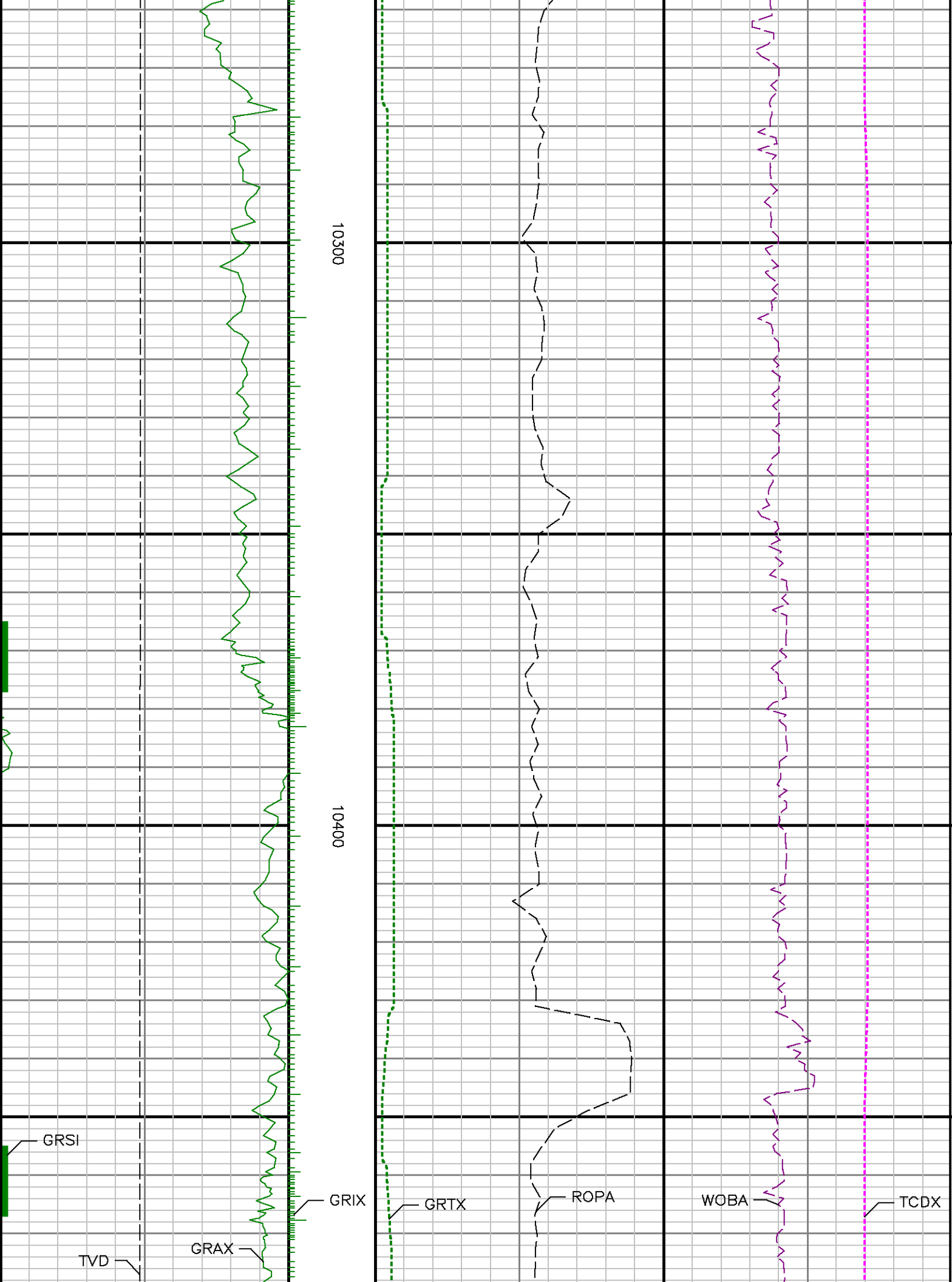




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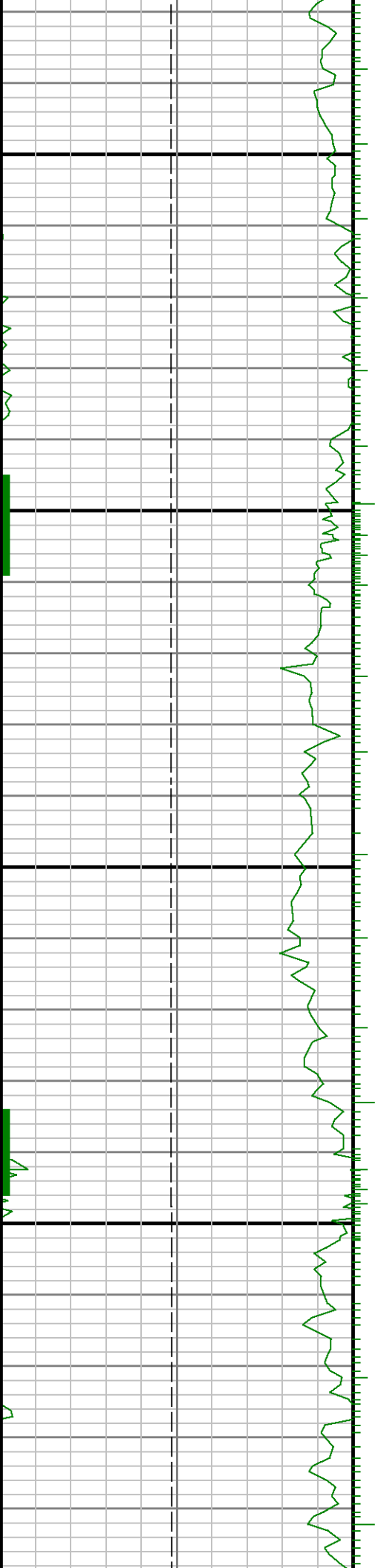


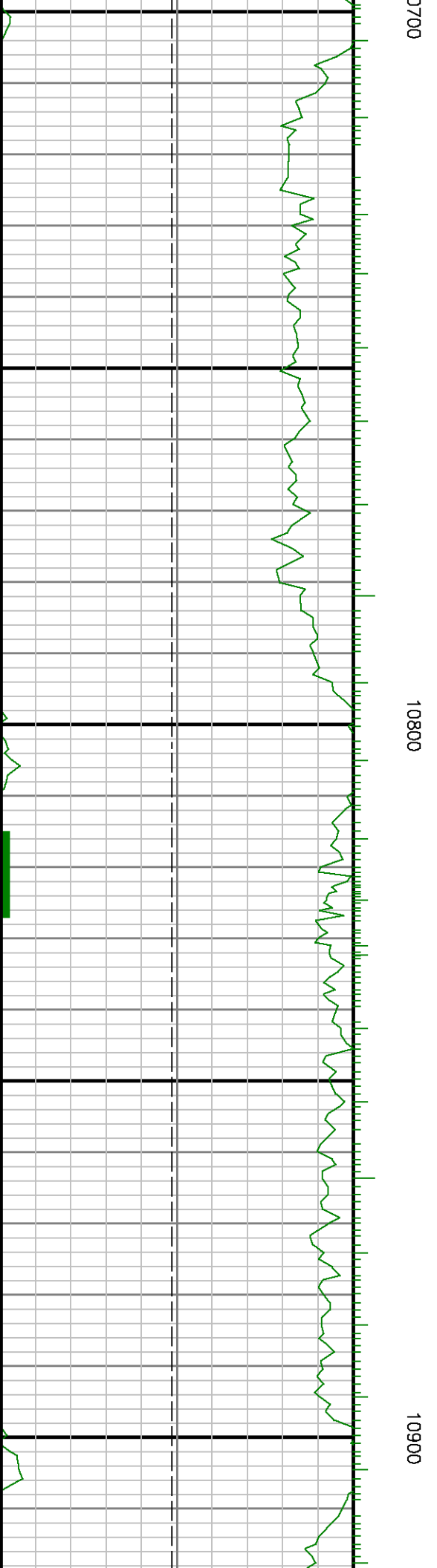


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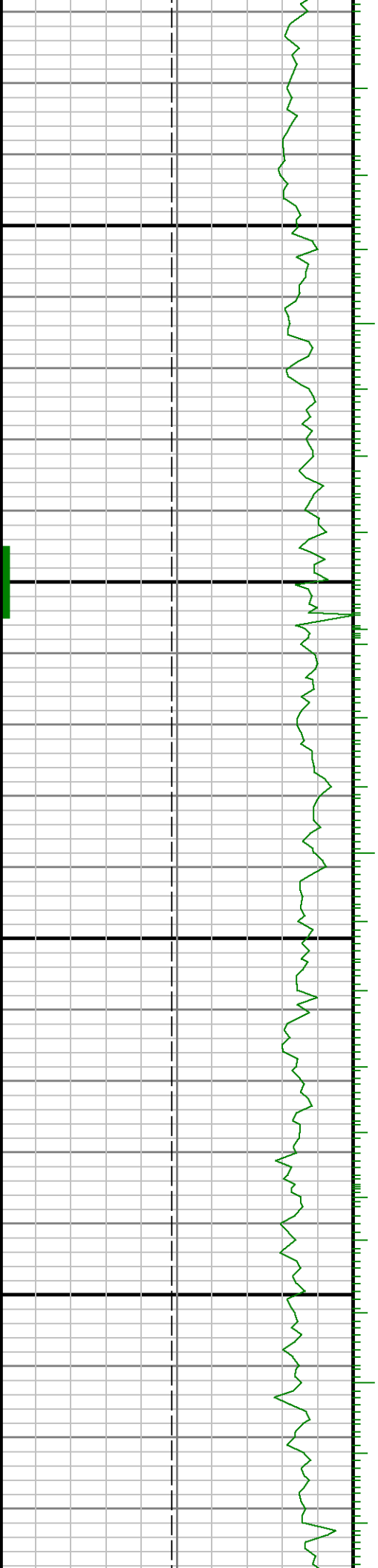






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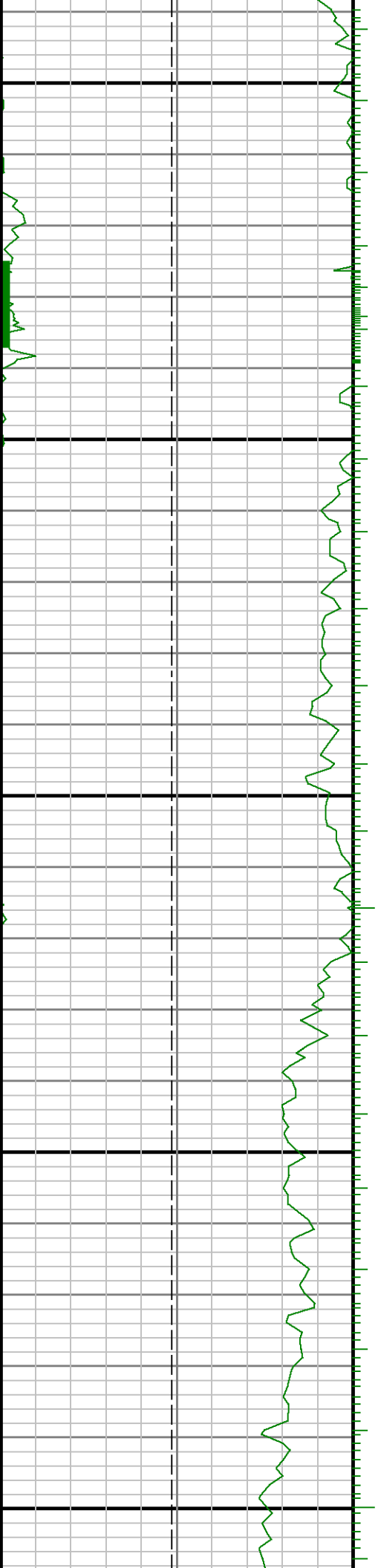
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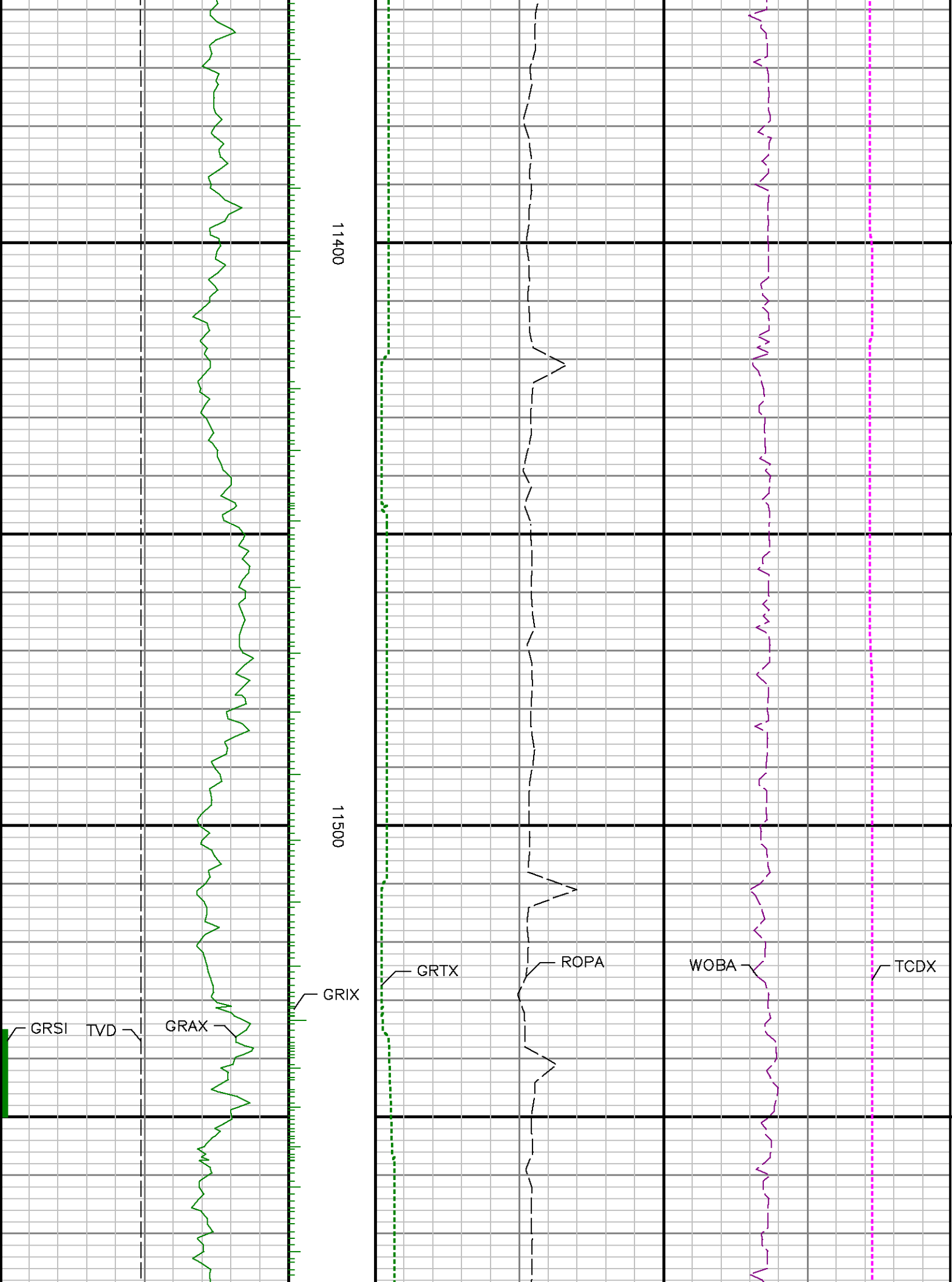




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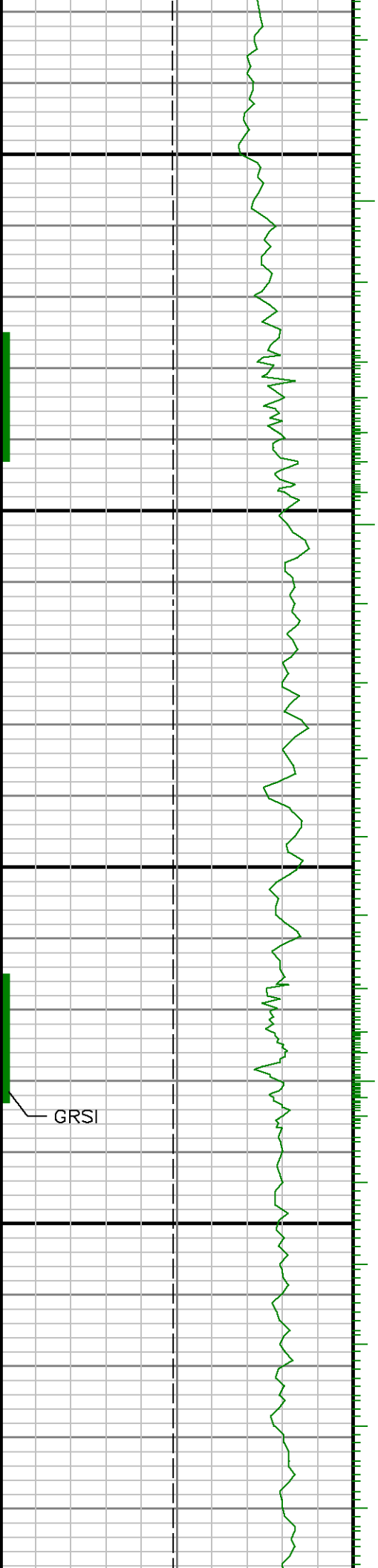




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GRSI

