



MD
1:240
Feet

MWD Gamma / ROP (5")

Client: *Whiting Oil & Gas Corporation*

Well Name: Razor Federal #12F-1301A

API/JUID: 05-123-38709

County: Weld

Permit #: 400503038

State: Colorado

Country: USA

Longitude: 103° 49' 6.23108 W

Latitude: 40° 51' 16.04828 N

Personnel

Company Representative

Kenny Wilkerson

Geologist

Kelly Bushing: 4957.80 ft

Permanent Datum: Mean Sea Level

Drilling Measured From: Kelly Bushing

Spud Date: -

Bottom Hole Temp: 235.4 °F

Log Start Depth: 0.00 ft

Log End Depth: 14150.00 ft

MWD Operator(s)

Robert Davis

Jaso Dubose

Comments:

Main Leg

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Operational Run Summary

1524097

	Run 1	Run 2	Run 3	Run 4	Run 5	
Run Start Depth (ft)	0.00	1867.36	6649.07	9425.43	13191.91	
Run End Depth (ft)	1867.36	6649.07	9425.43	13191.91	14150.65	
Run Start Date	10/2/2015	10/3/2015	10/5/2015	10/6/2015	10/8/2015	
Run Start Time	11:10 AM	5:37 PM	7:36 AM	9:25 PM	9:38 PM	
Run End Date	10/3/2015	10/4/2015	10/6/2015	10/8/2015	10/9/2015	
Run End Time	4:41 AM	8:50 PM	5:57 PM	2:47 PM	8:53 PM	

Tool Information Summary

1524097

	Run 1	Run 2	Run 3	Run 4	Run 5	
Gamma Probe Serial No		EGNF0094	EGNF0024	EGNF-0094	G0616	
Probe Cal Ratio	1	1	1	1.38	1.38	
Gamma Scale Factor	1	3.377778	3.378	3.859	6.5	
Tool Carrier ID (in)	3.500	2.750	3.630	3.000	2.688	
Tool Carrier OD (in)	8.000	6.500	5.130	5.125	4.750	
Survey-to-Bit (PTB) (ft)	49.86	61.52	53.77	53.77	56.21	
Gamma-to-Bit (GTB) (ft)	0.00	60.33	52.58	52.58	44.52	
Annular Pressure-to-Bit (APTB) (ft)	0.00	0.00	0.00	0.00	0.00	

Borehole Fluids and Measurements Summary

1524097

	Run 1	Run 2	Run 3	Run 4	Run 5	
Hole Size (in)	13.50	8.75	6.00	6.00	6.00	
Casing Start Depth (ft)	0.00	0.00	0.00	0.00	0.00	
Casing End Depth (ft)	0.00	1850.00	6616.00	6616.00	6616.00	
Casing Size (in)	0.000	0.625	2.000	2.000	2.000	

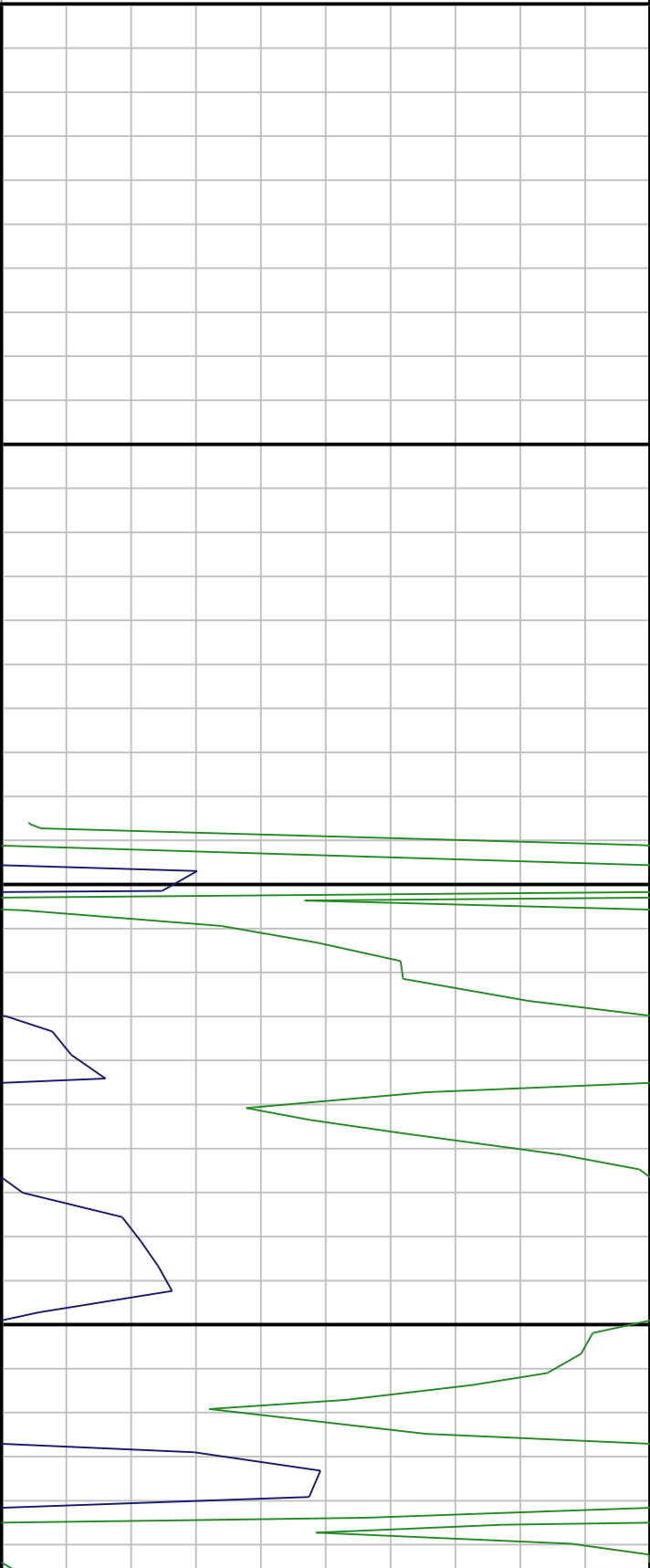
Casing Size (in)	0.000	9.625	7.000	7.000	7.000	
Mud Type	Fresh Water	Water-Based Mud (WBM)	Water-Based Mud (WBM)	Water-Based Mud (WBM)	Water-Based Mud (WBM)	
Mud Weight (lb/gal)	8.3	9.9	10.1	10.0	10.1	
Mud Viscosity (s)	28	40	40	42	40	
Weighting Agent	Light Mud	Barite	Barite	Barite	Barite	
Mud KCL Content (%)	0.000	0.000	0.000	0.000	0.000	

Log

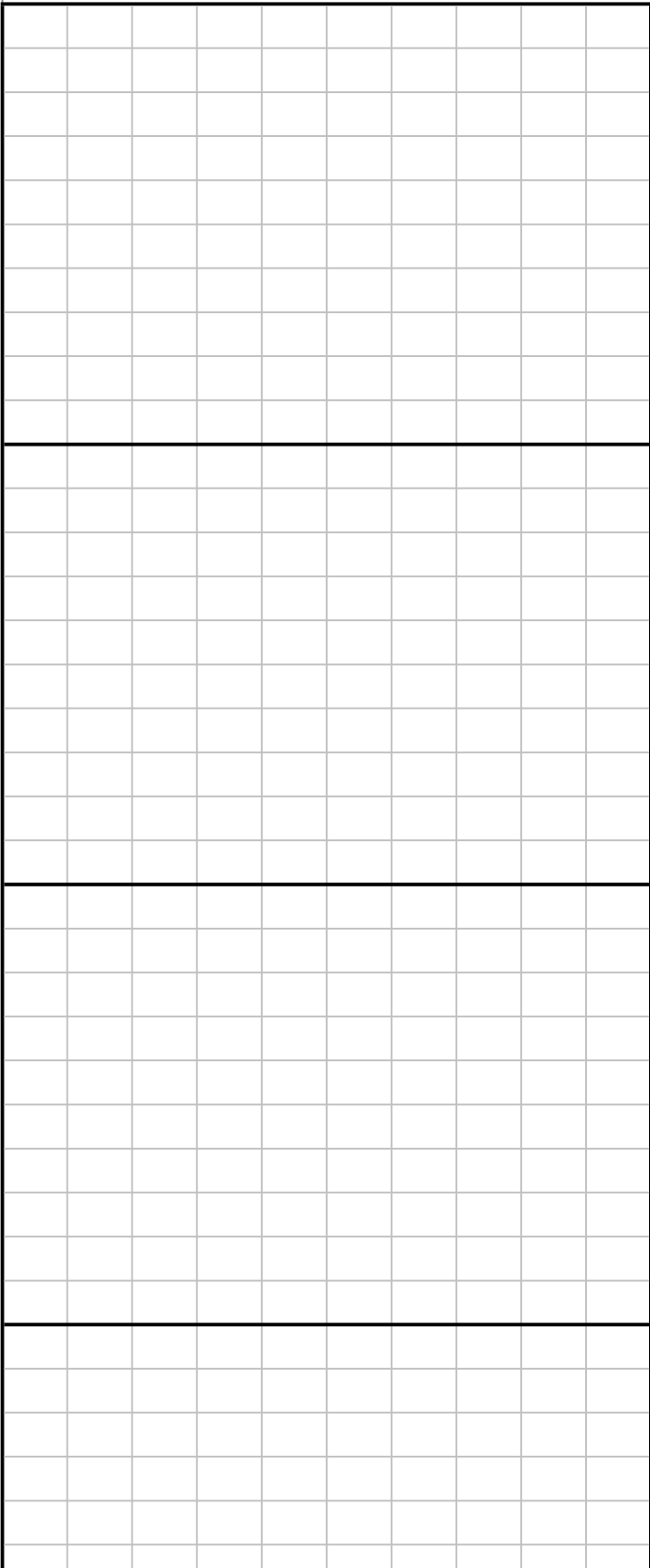
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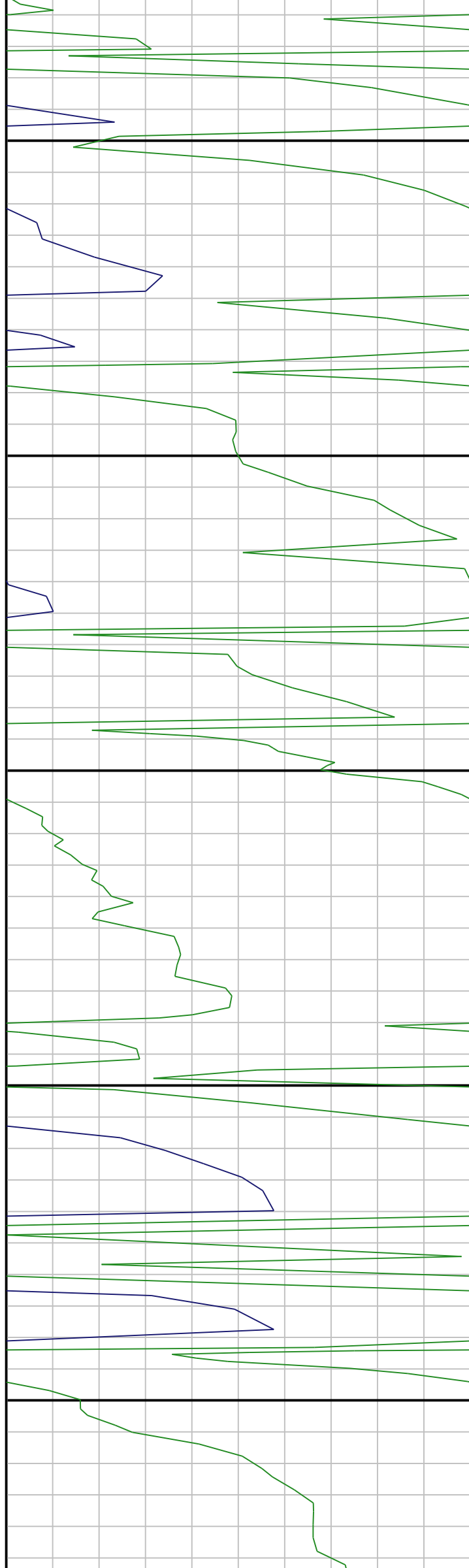
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	ROP	ROP
0	ft/hr	300
	ROP	ROP
300	ft/hr	600
	ROP	ROP
600	ft/hr	900
	ROP	ROP
900	ft/hr	1200



	Gamma	Gama
0	AAP	150
	Gamma	Gama
150	AAP	300
	Gamma	Gama
300	AAP	450
	Gamma	Gama
450	AAP	600





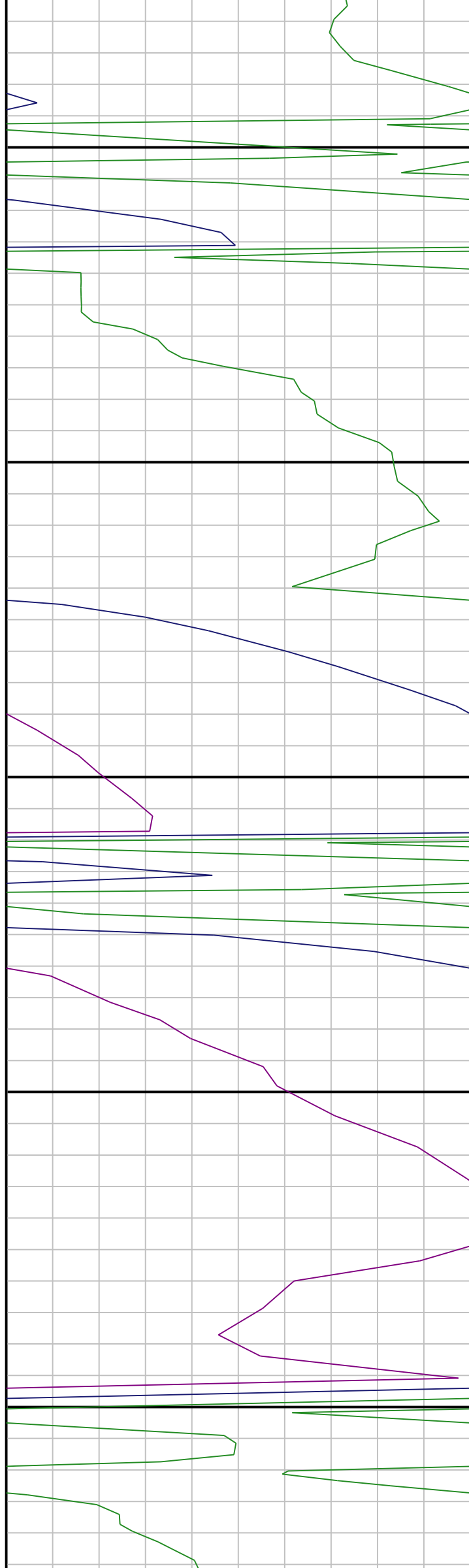
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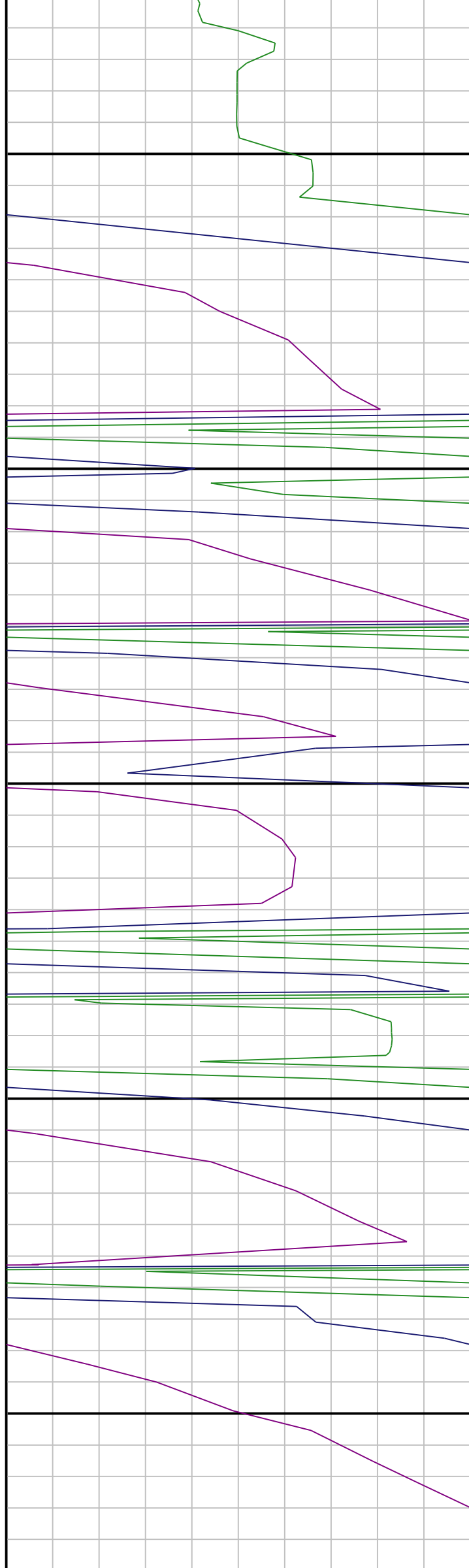
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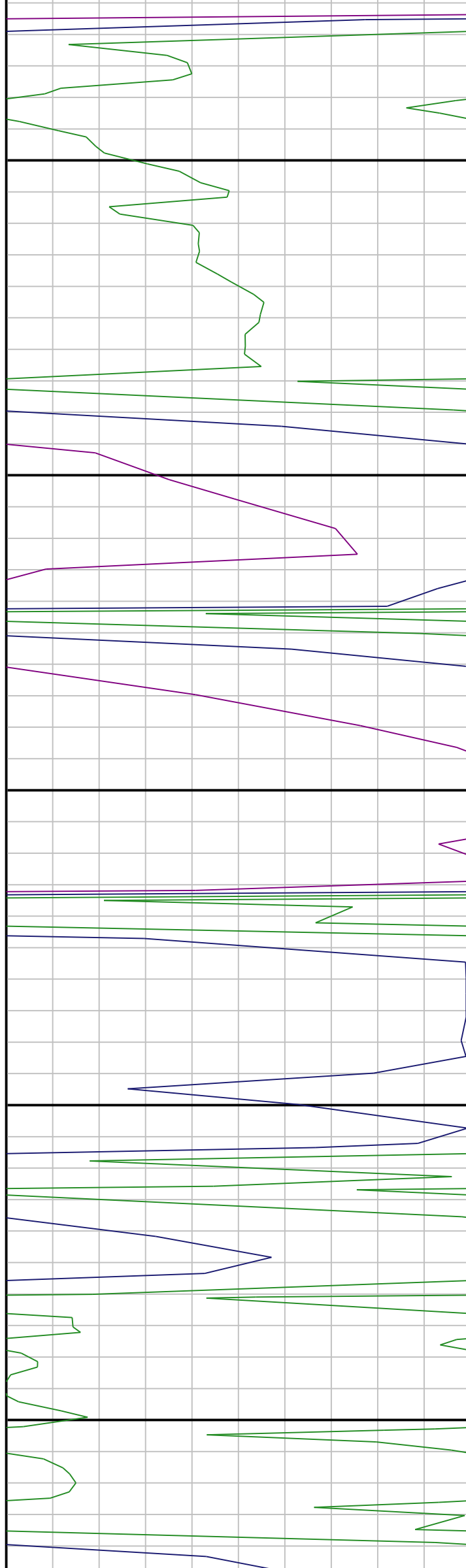
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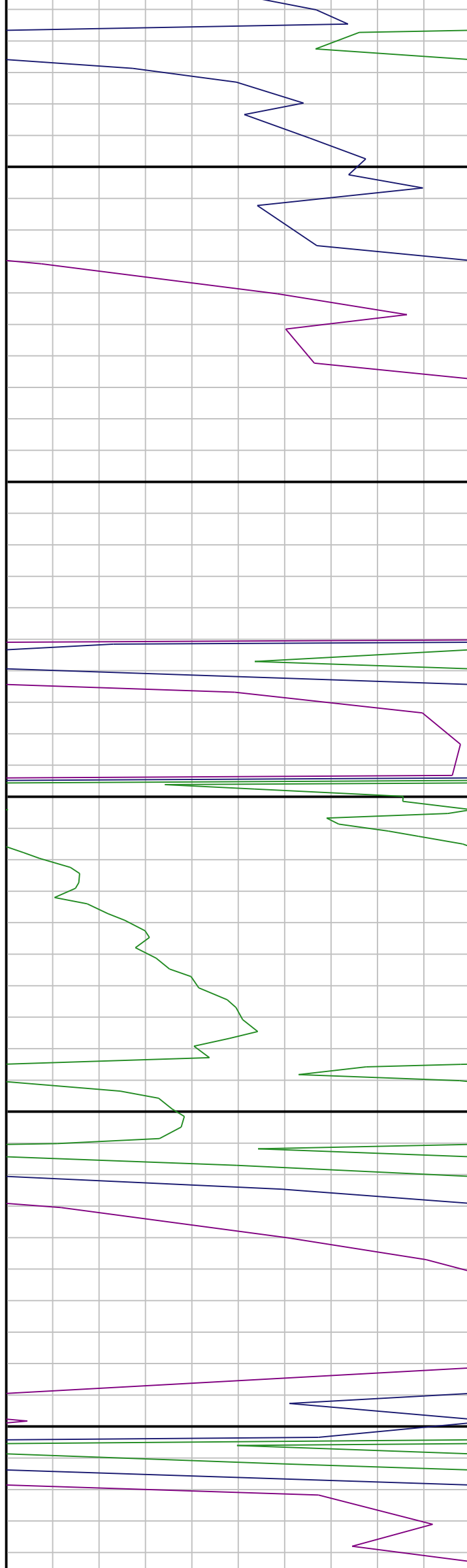
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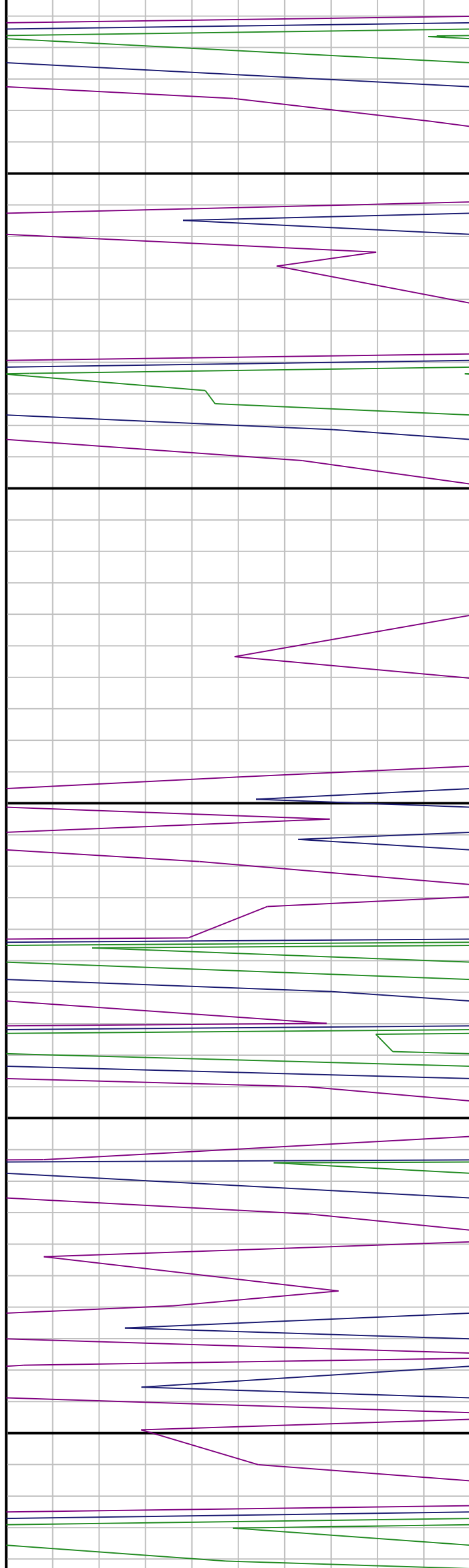
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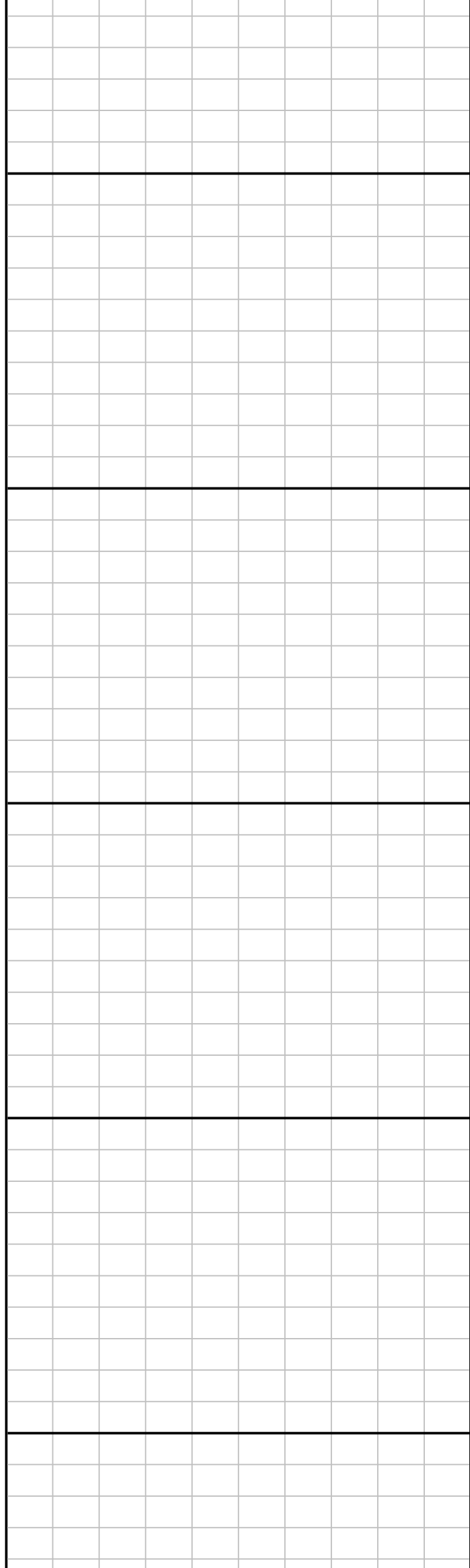
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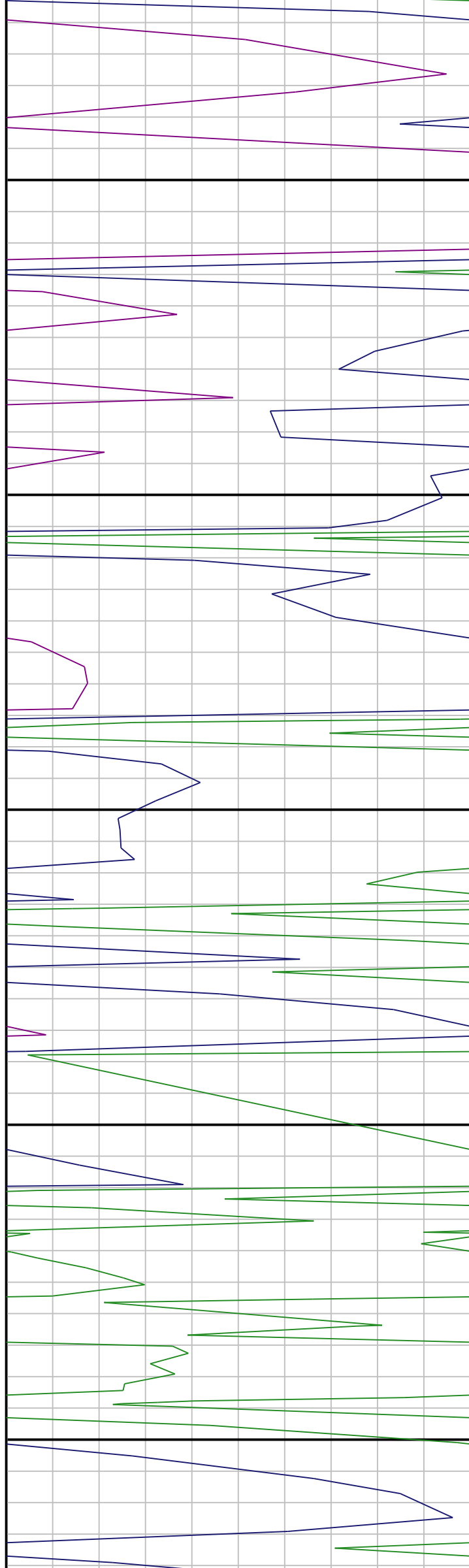
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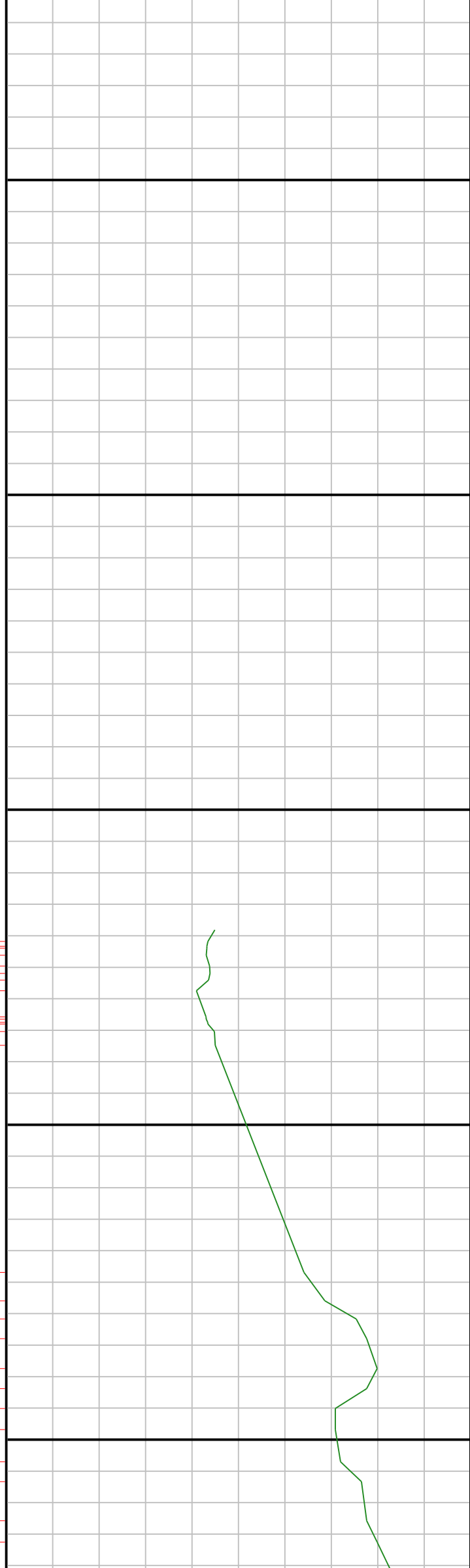
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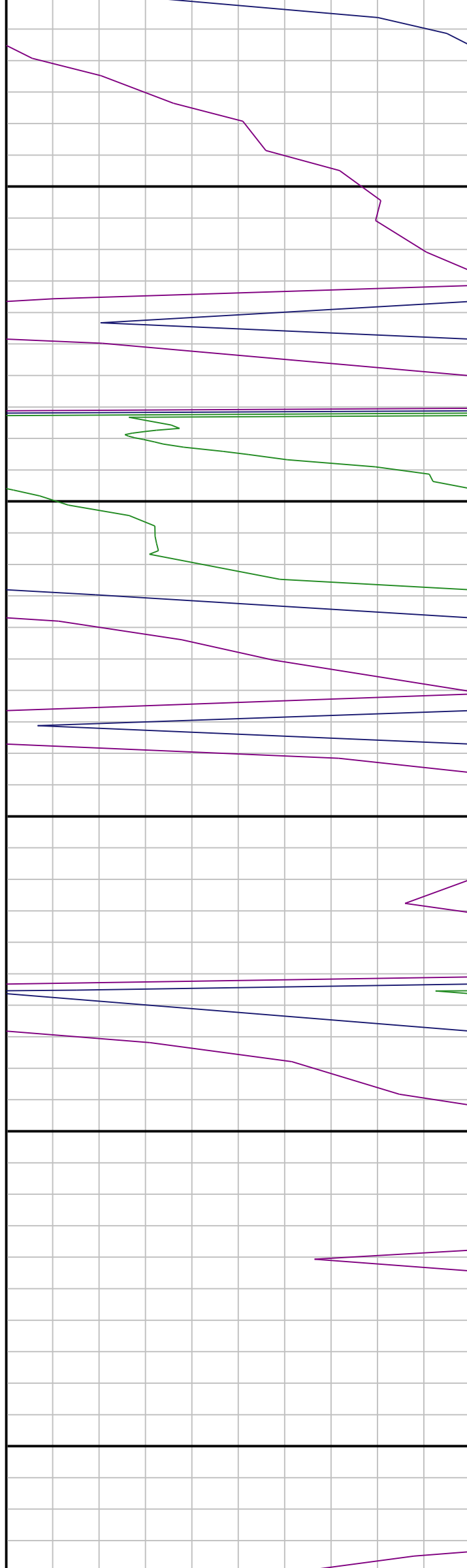
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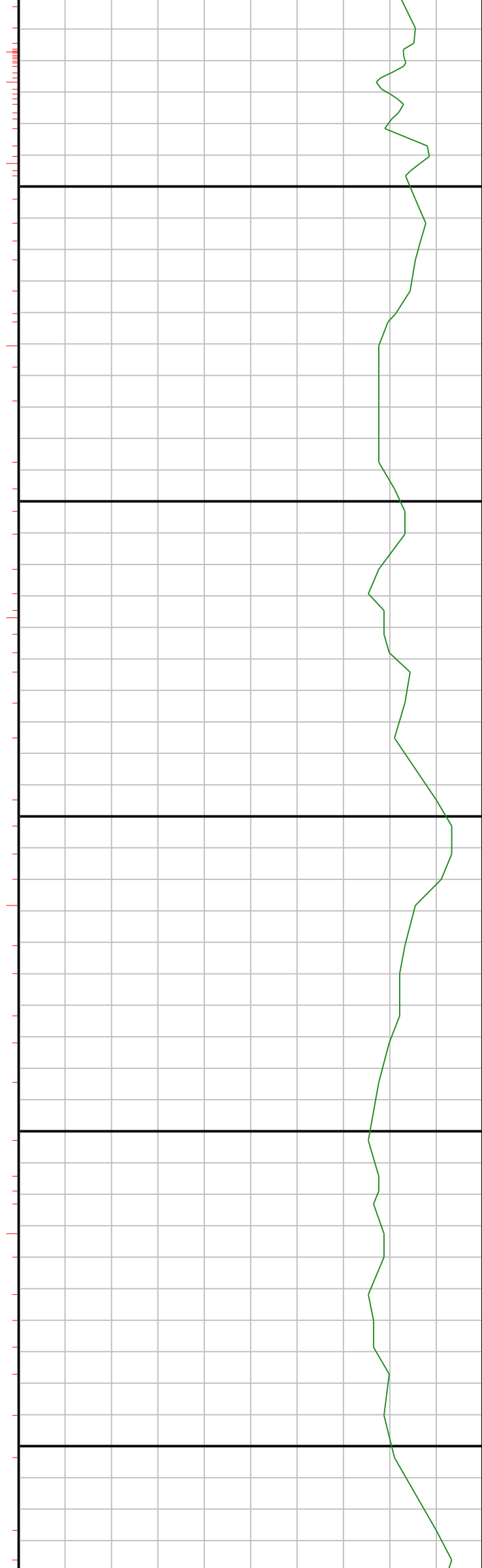
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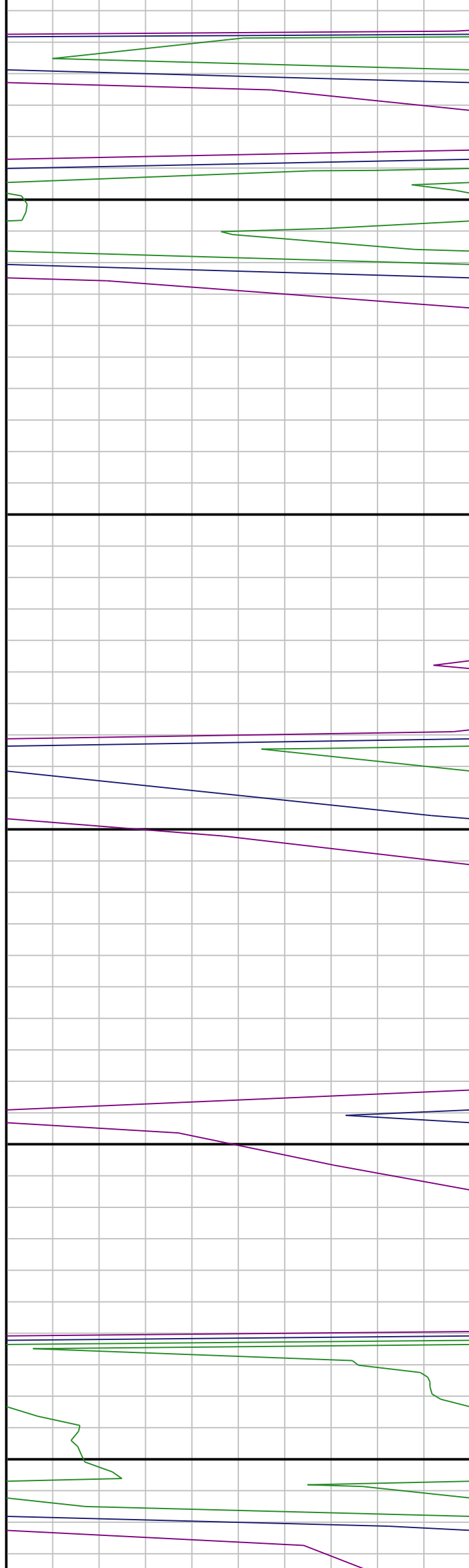
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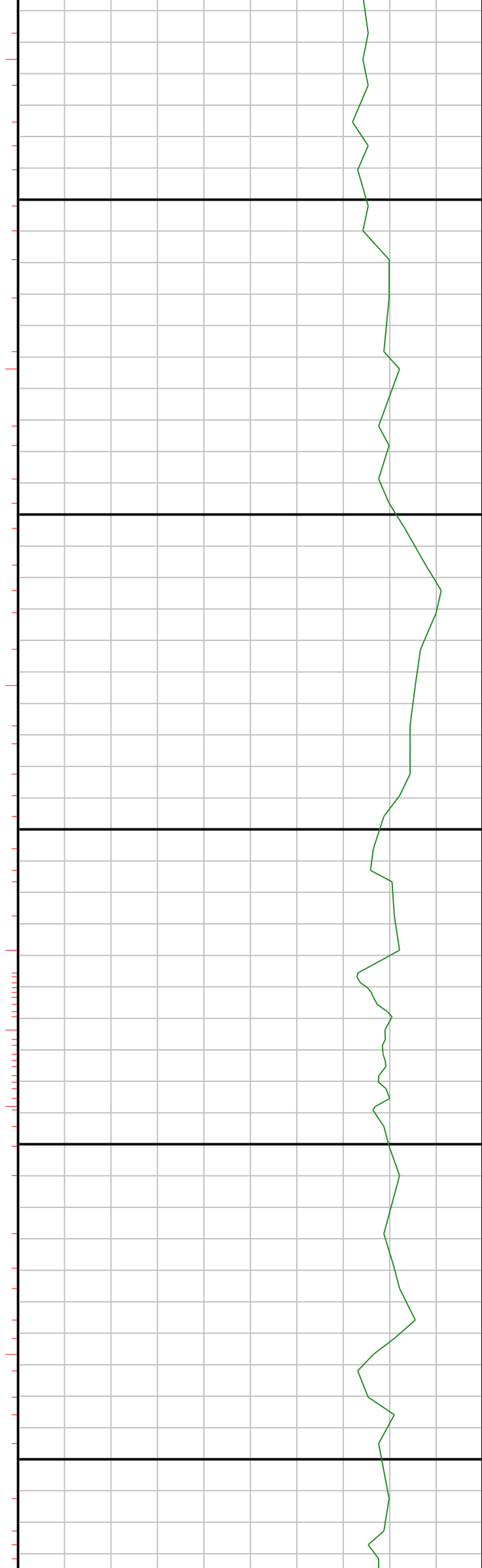
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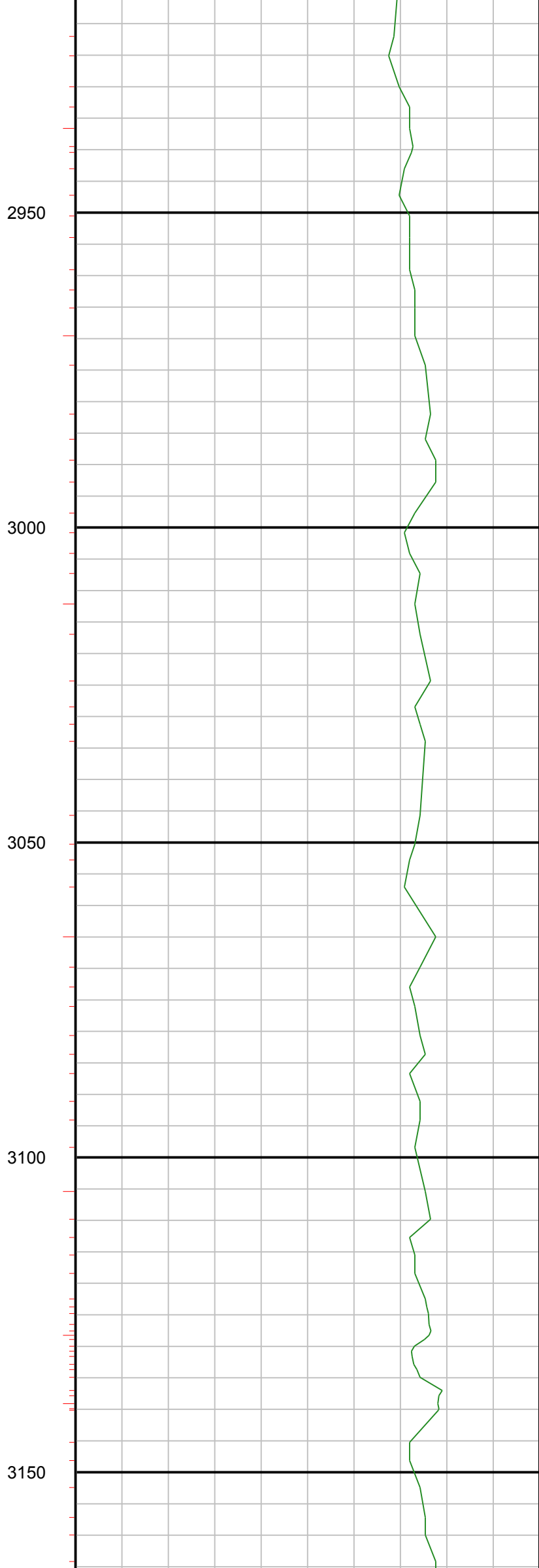
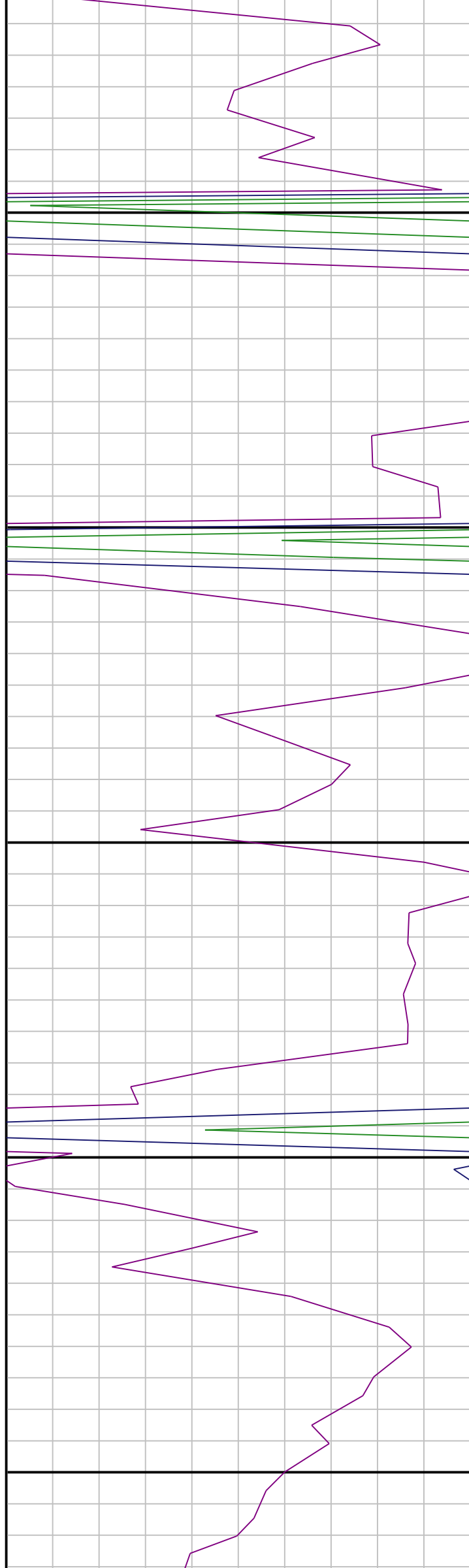
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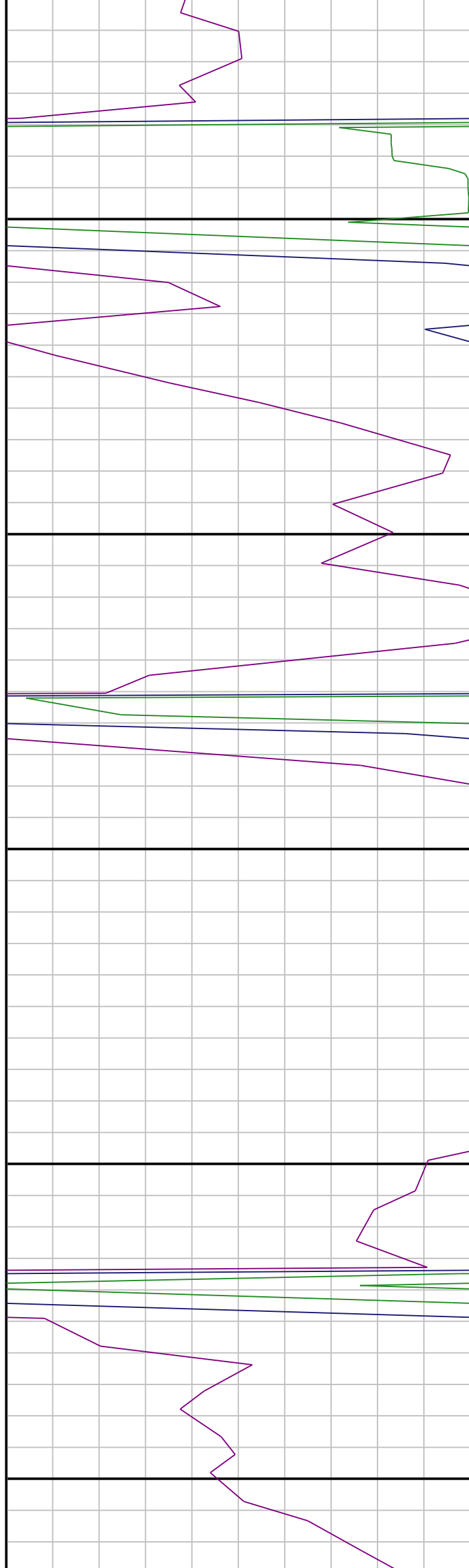
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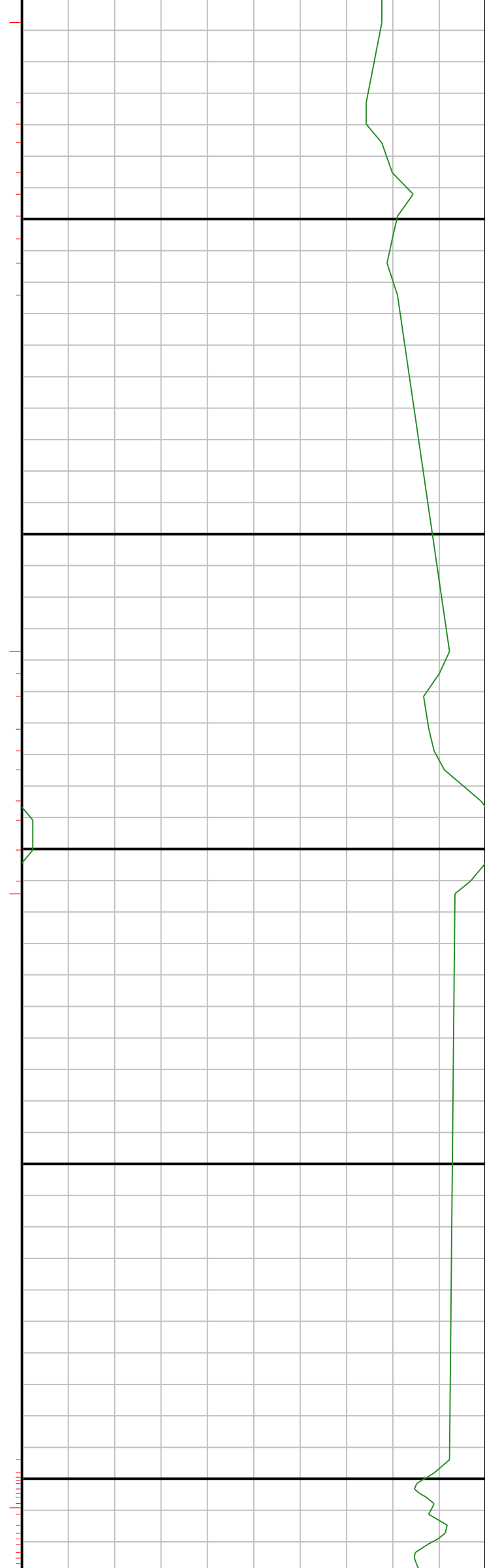
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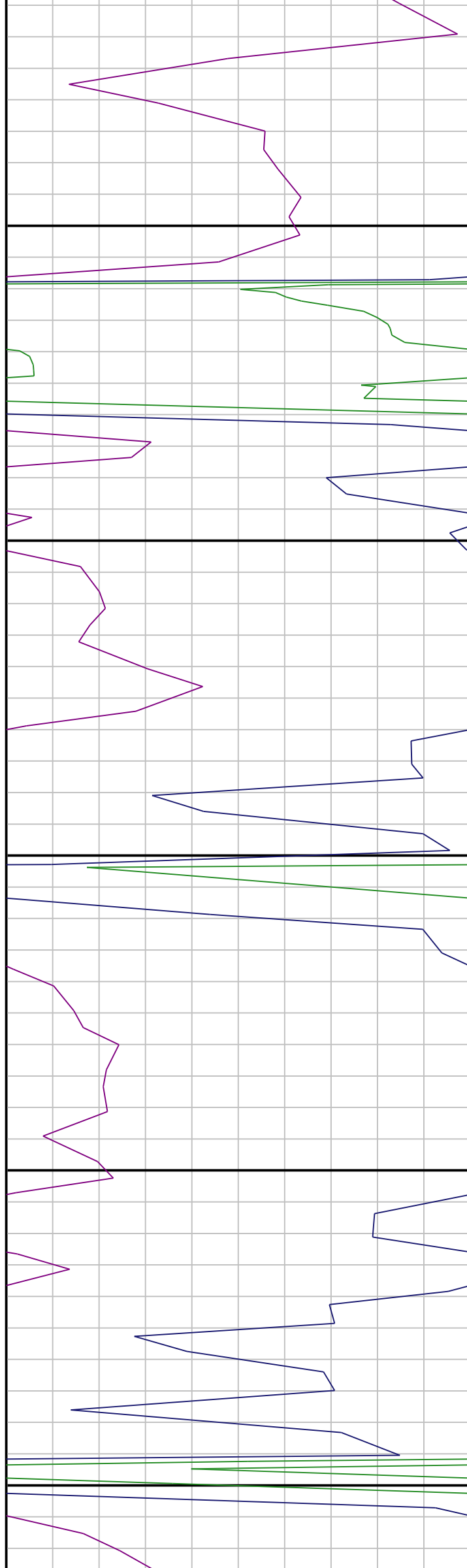
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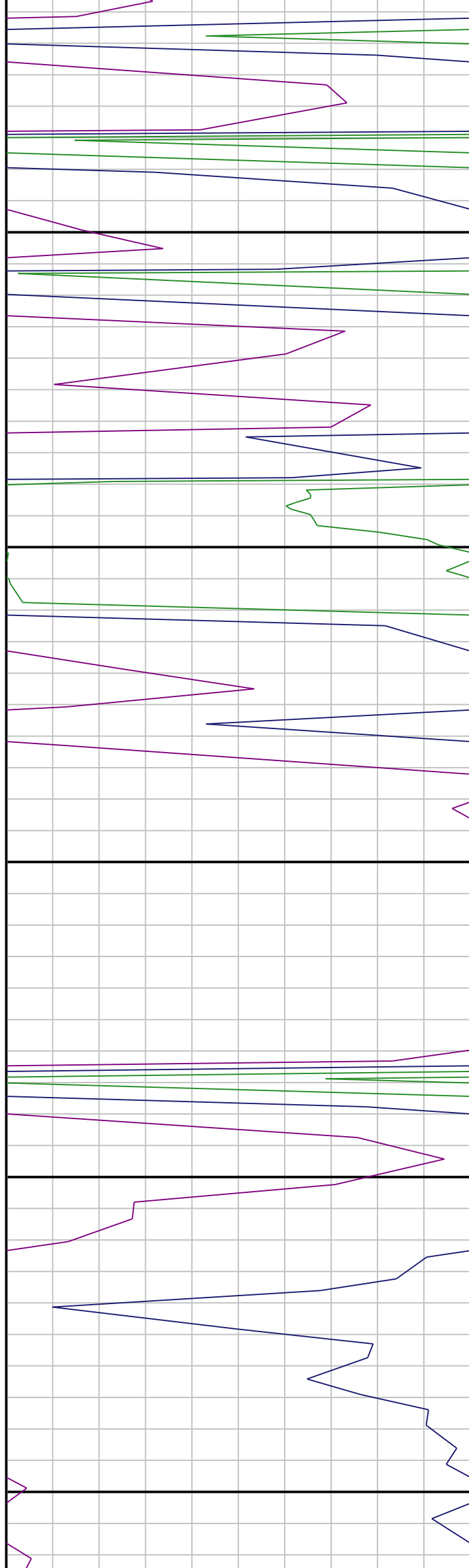
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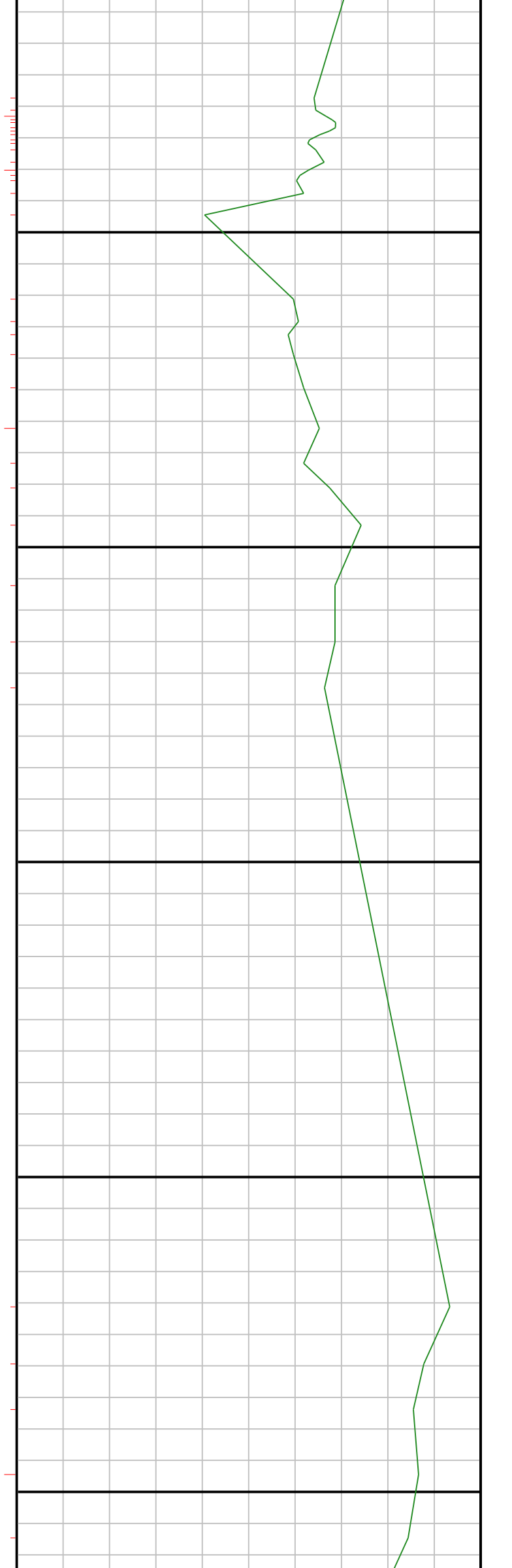
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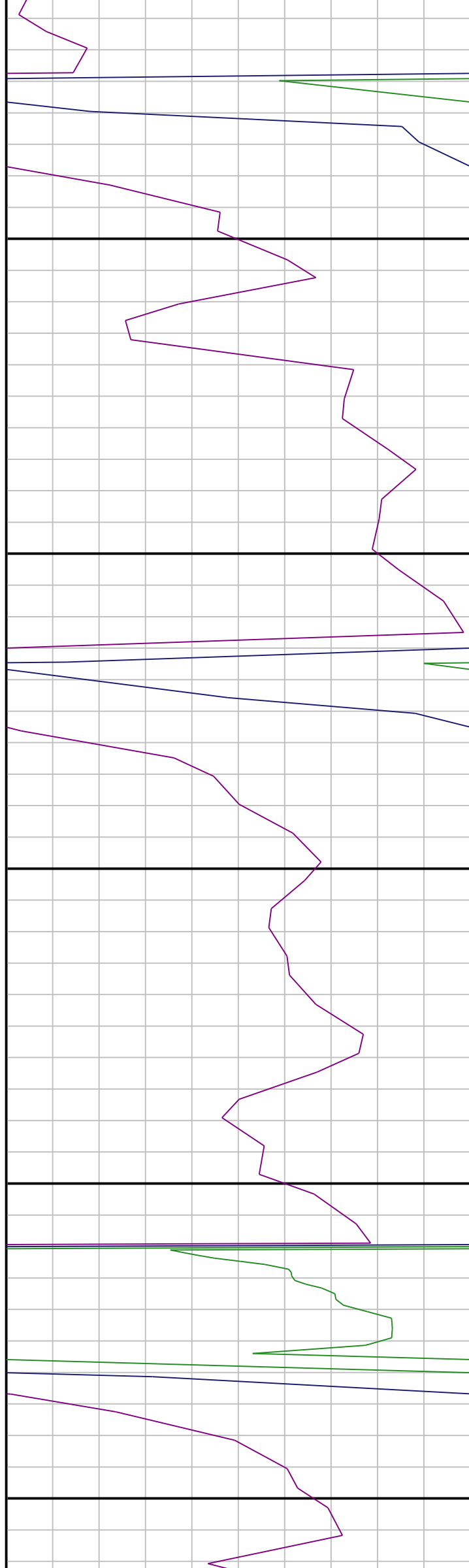
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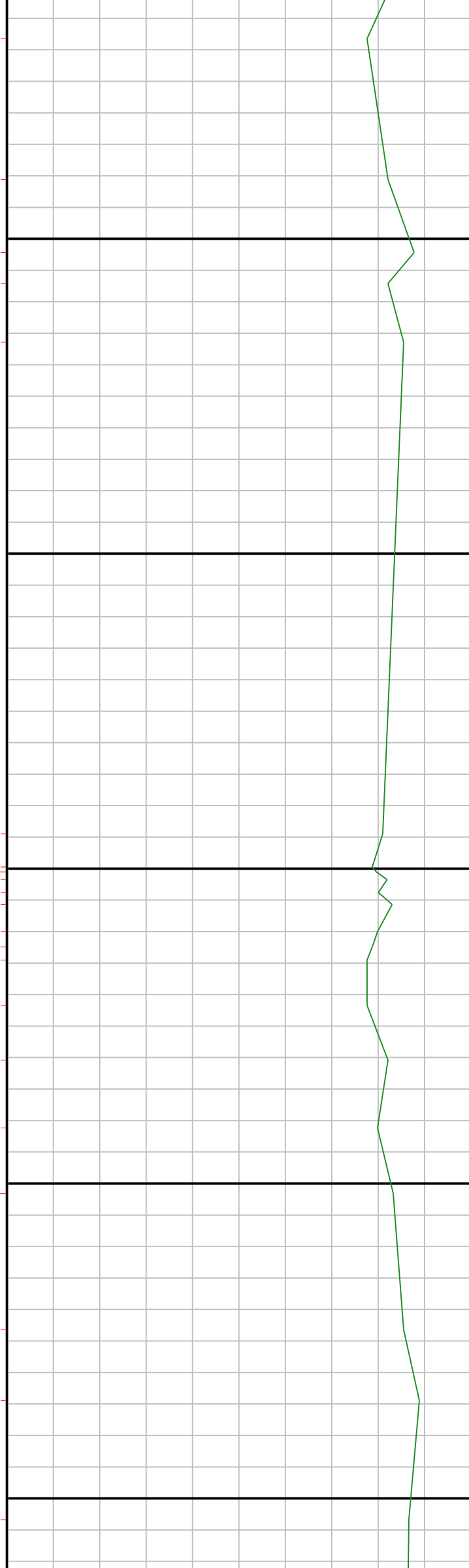
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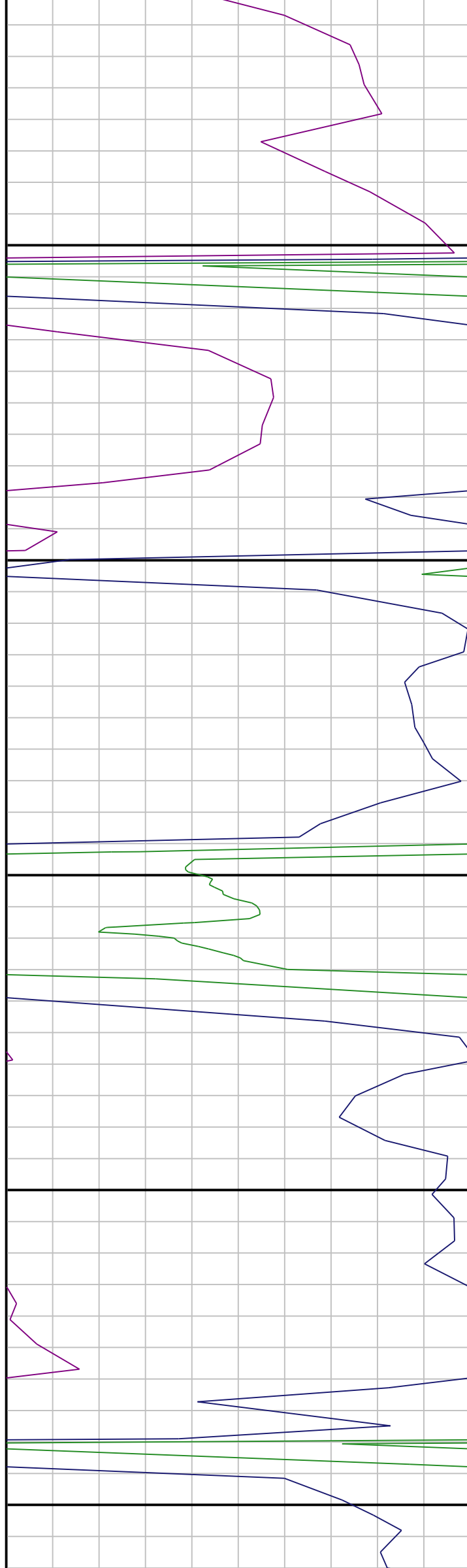
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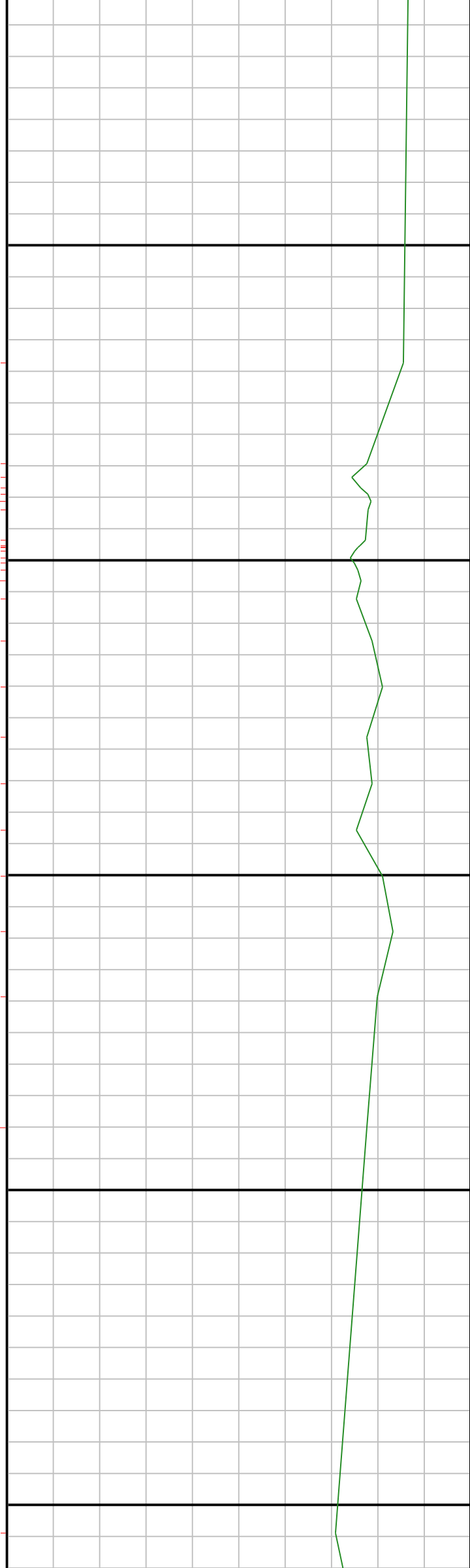
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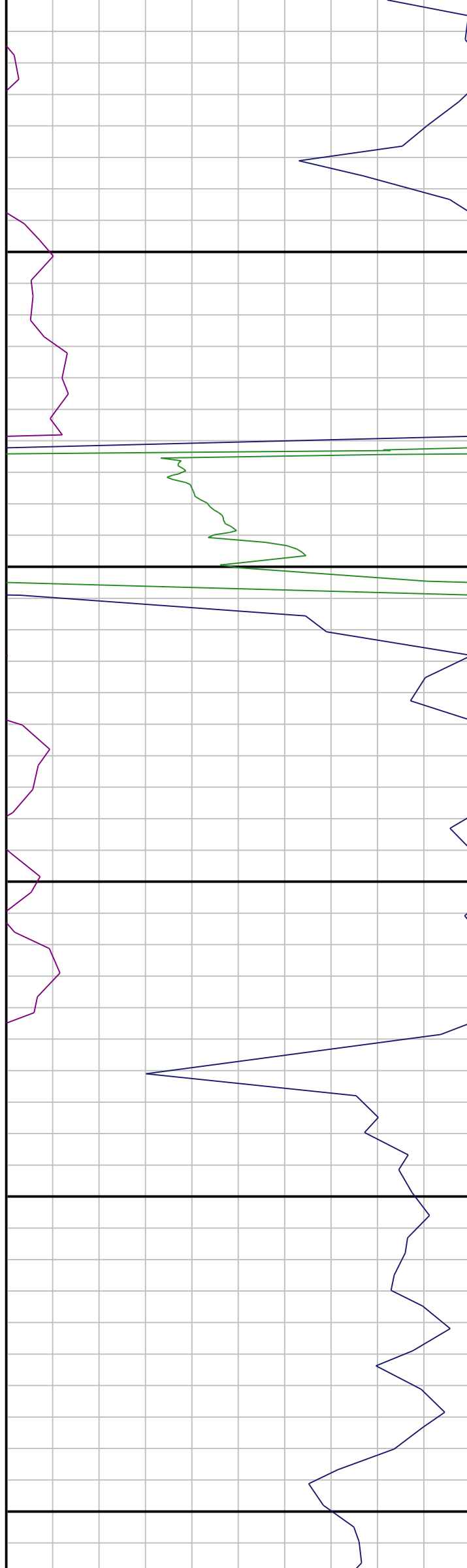
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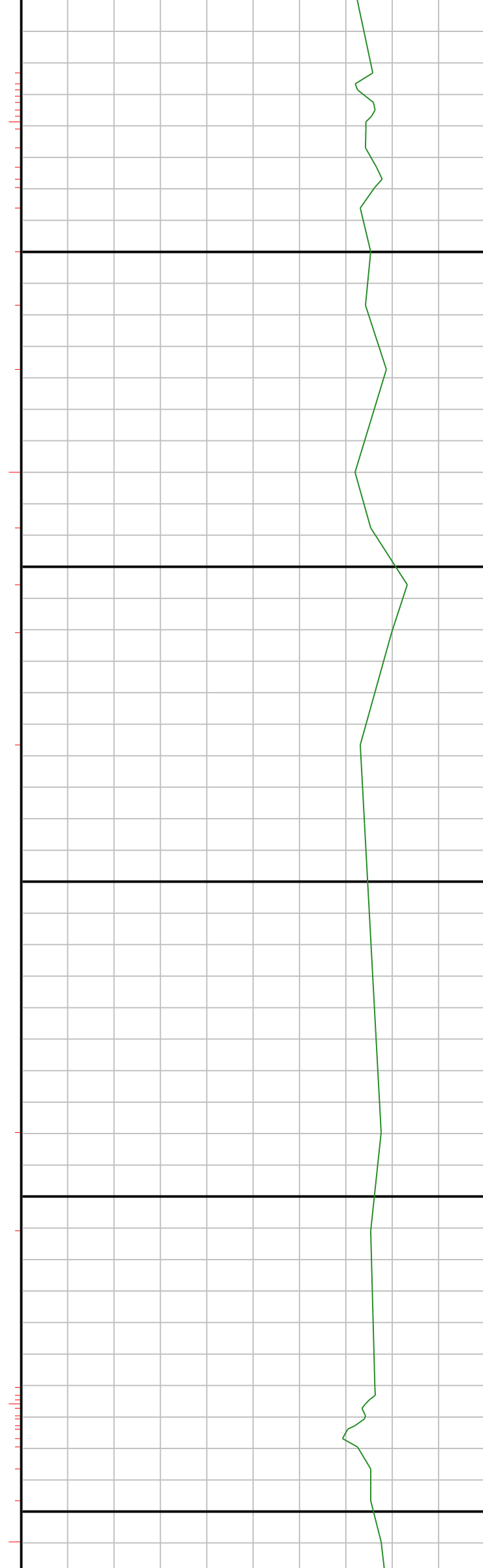
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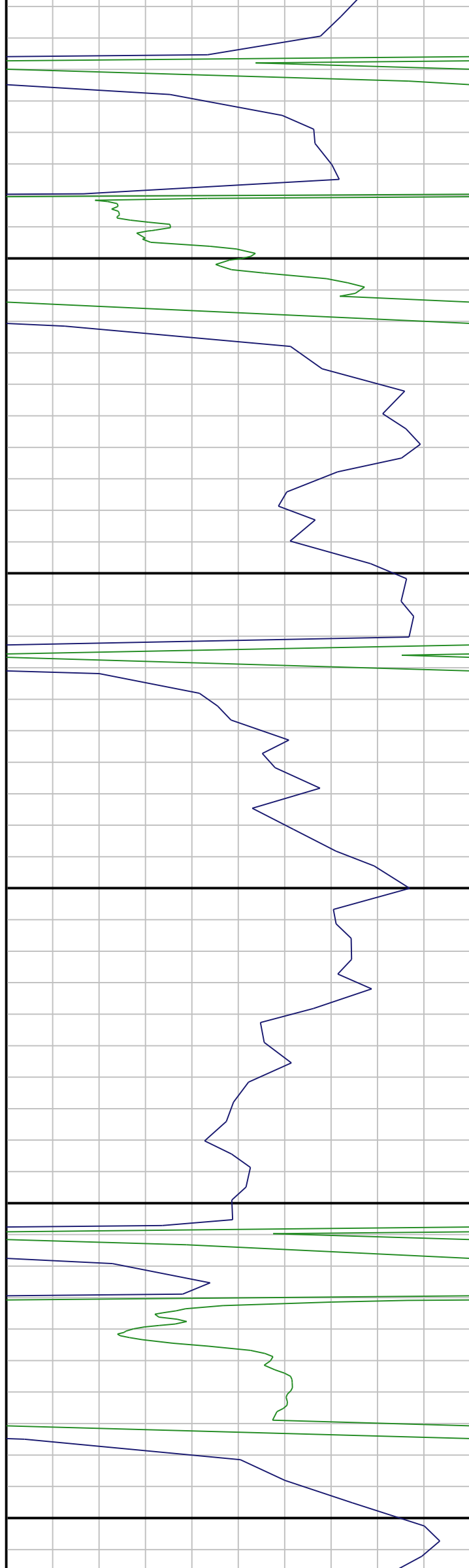
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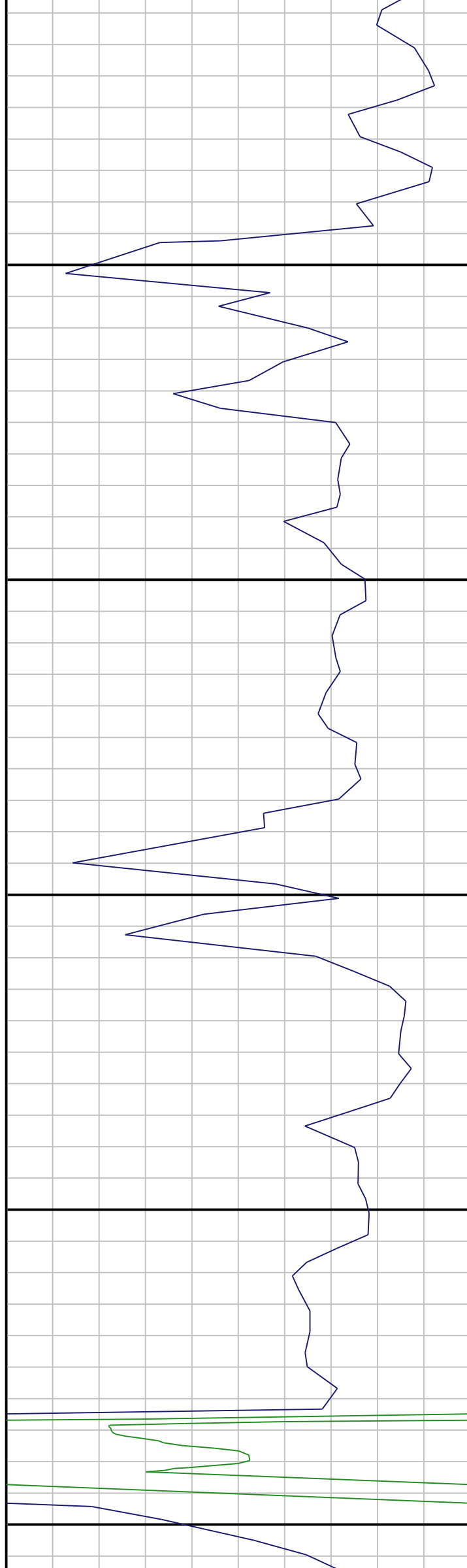
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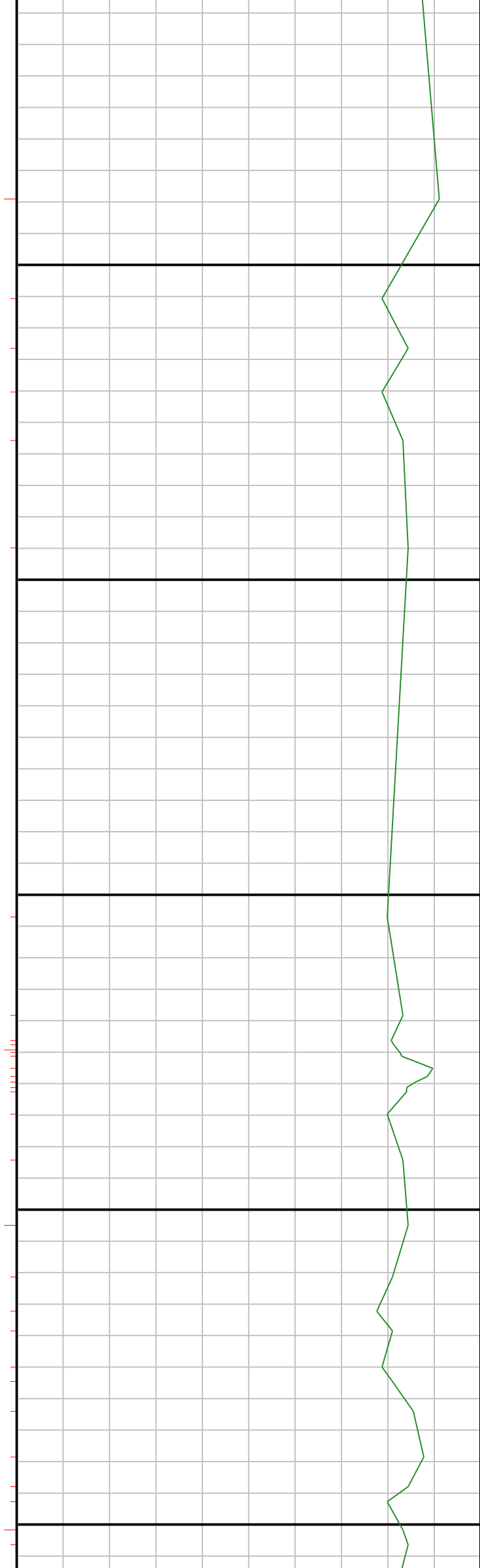
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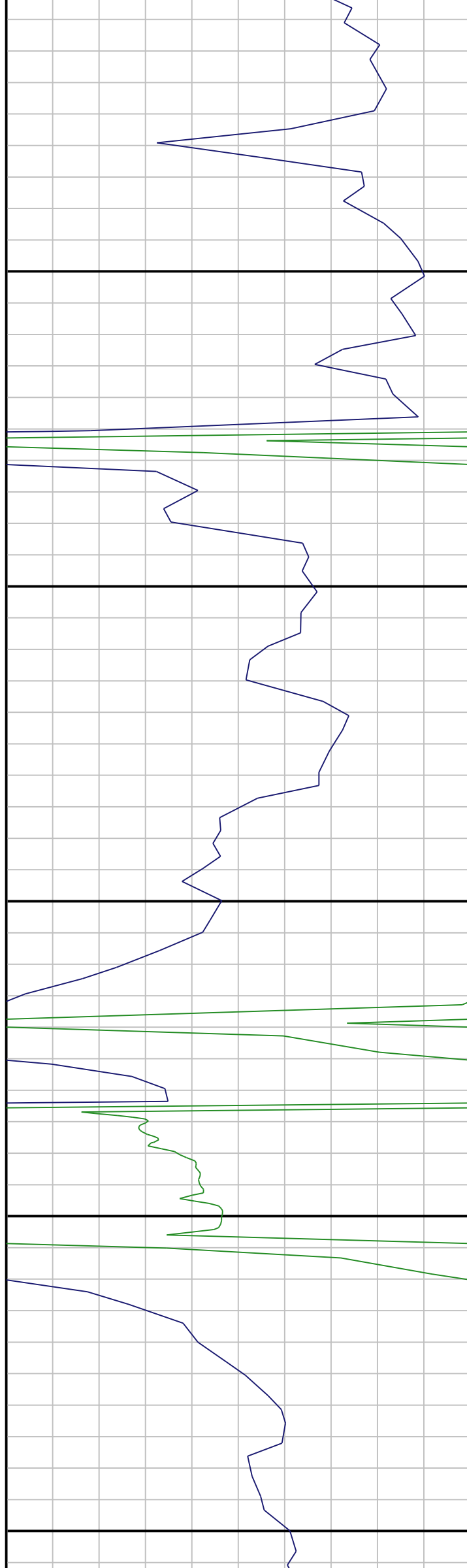
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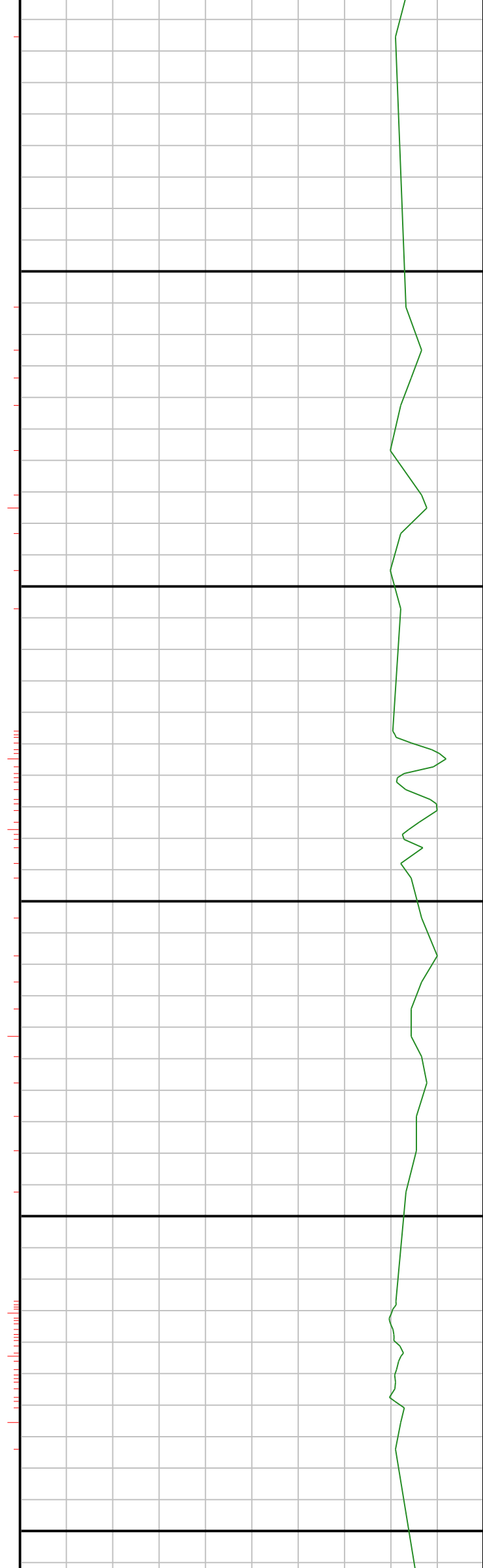
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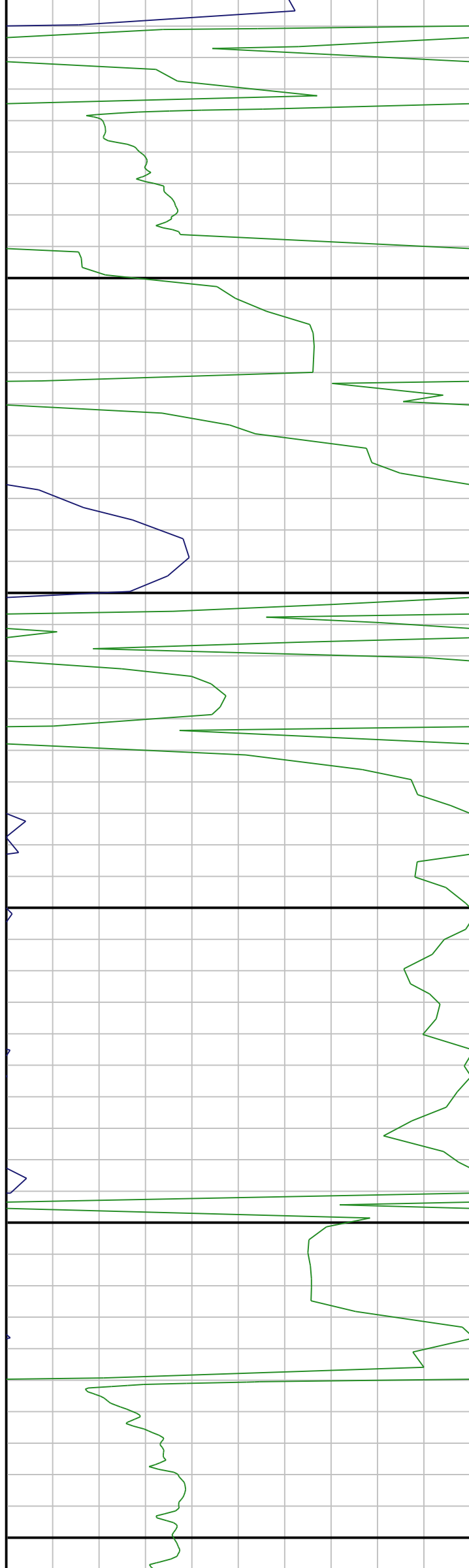
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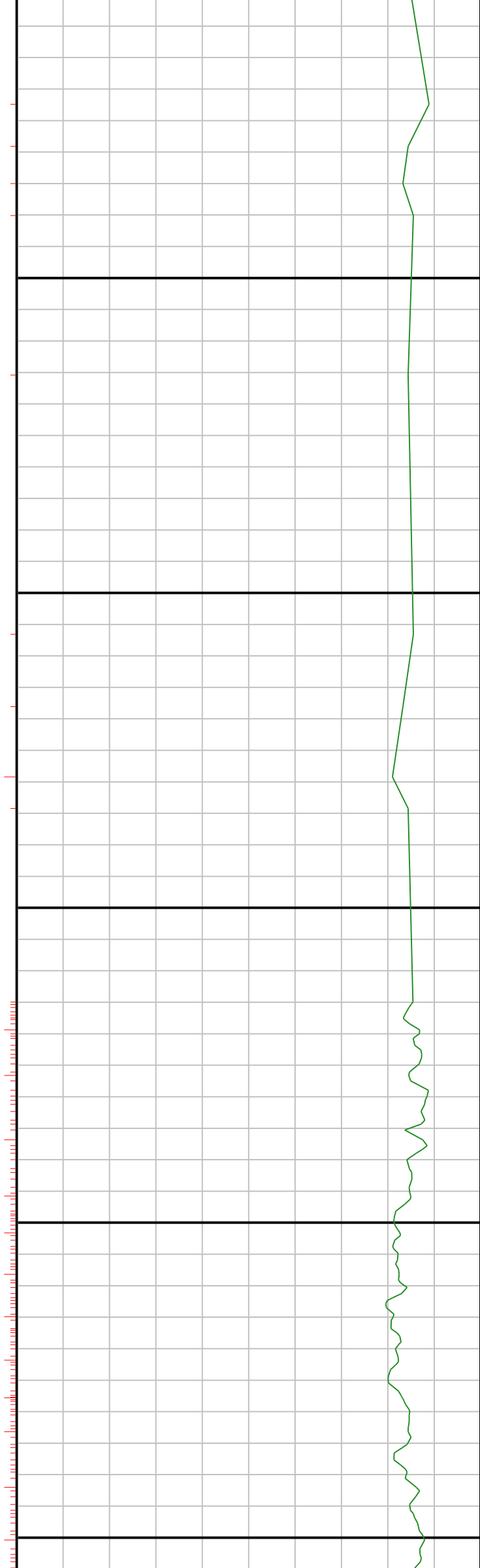
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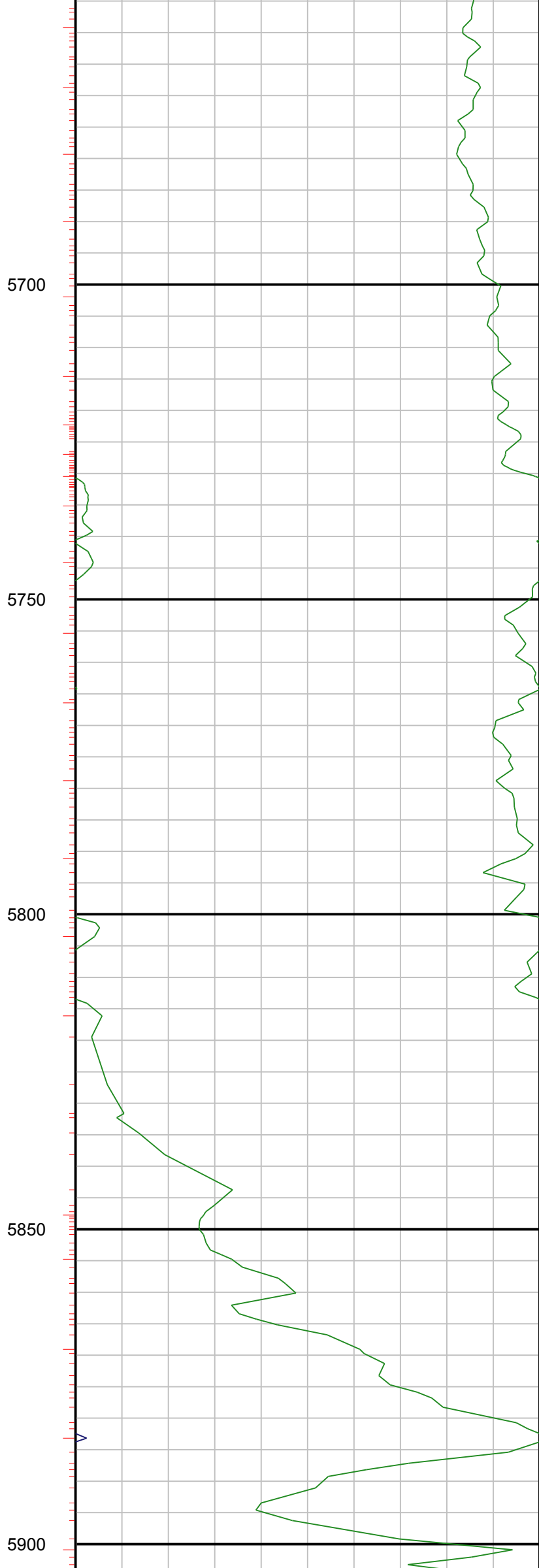
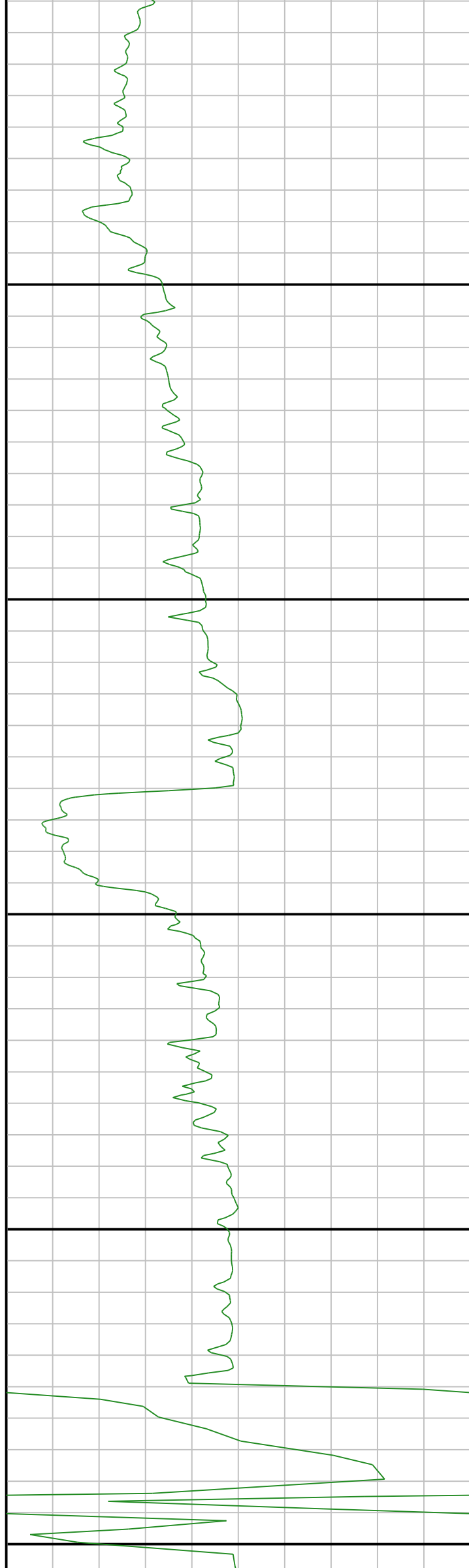
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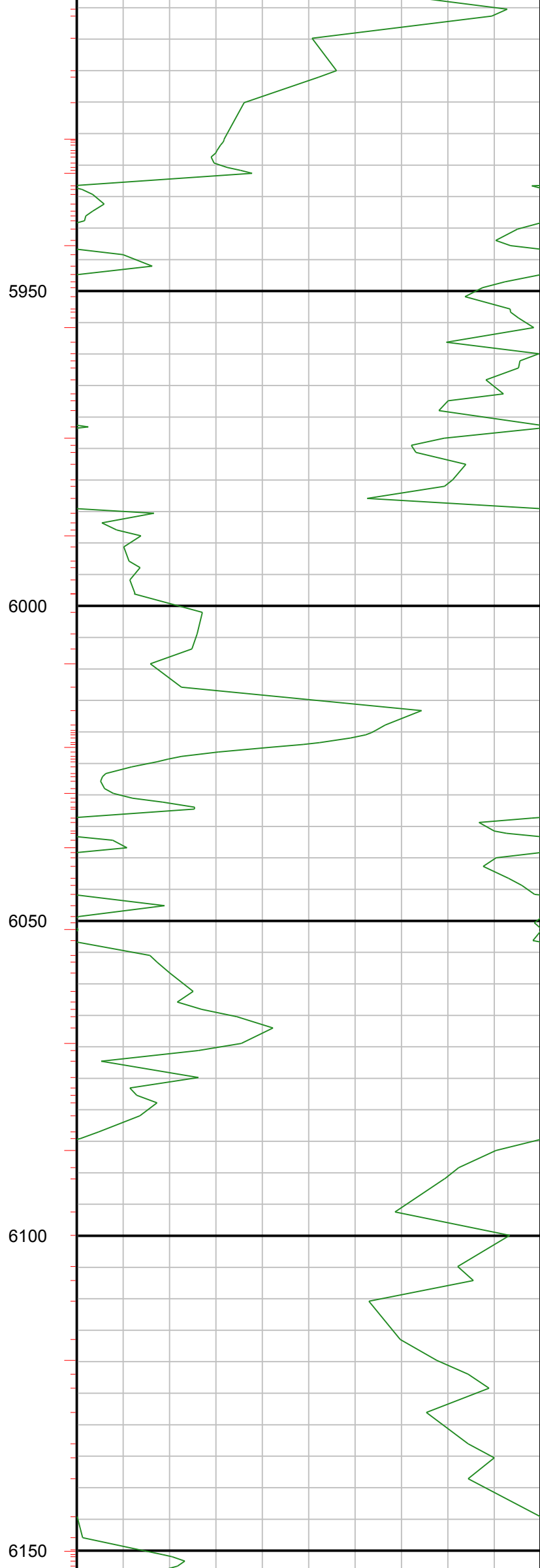
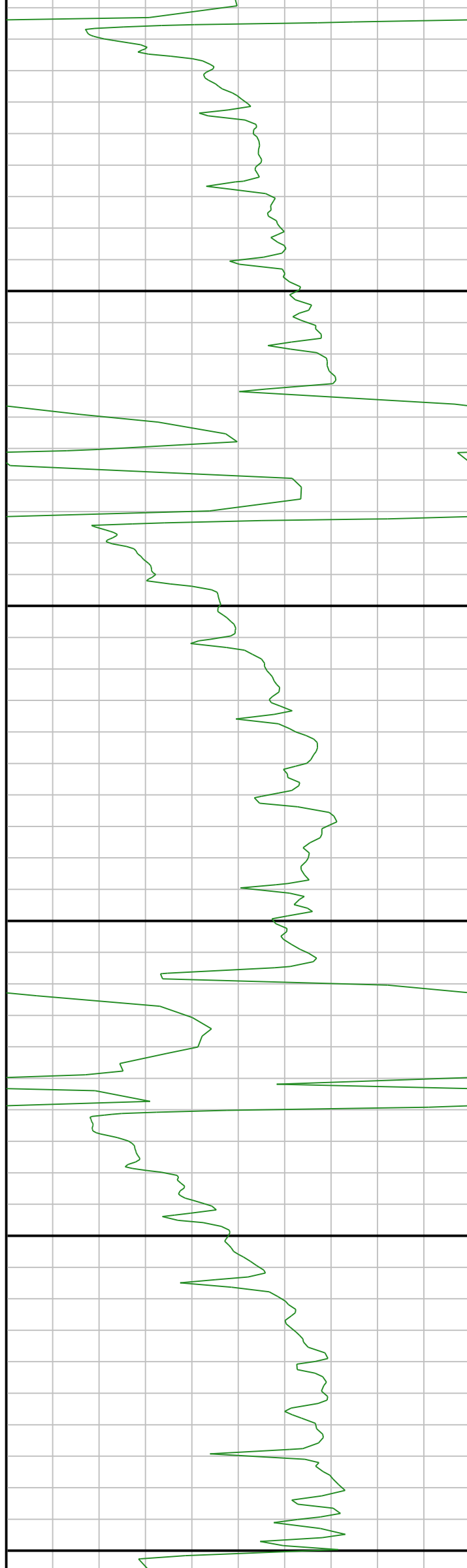
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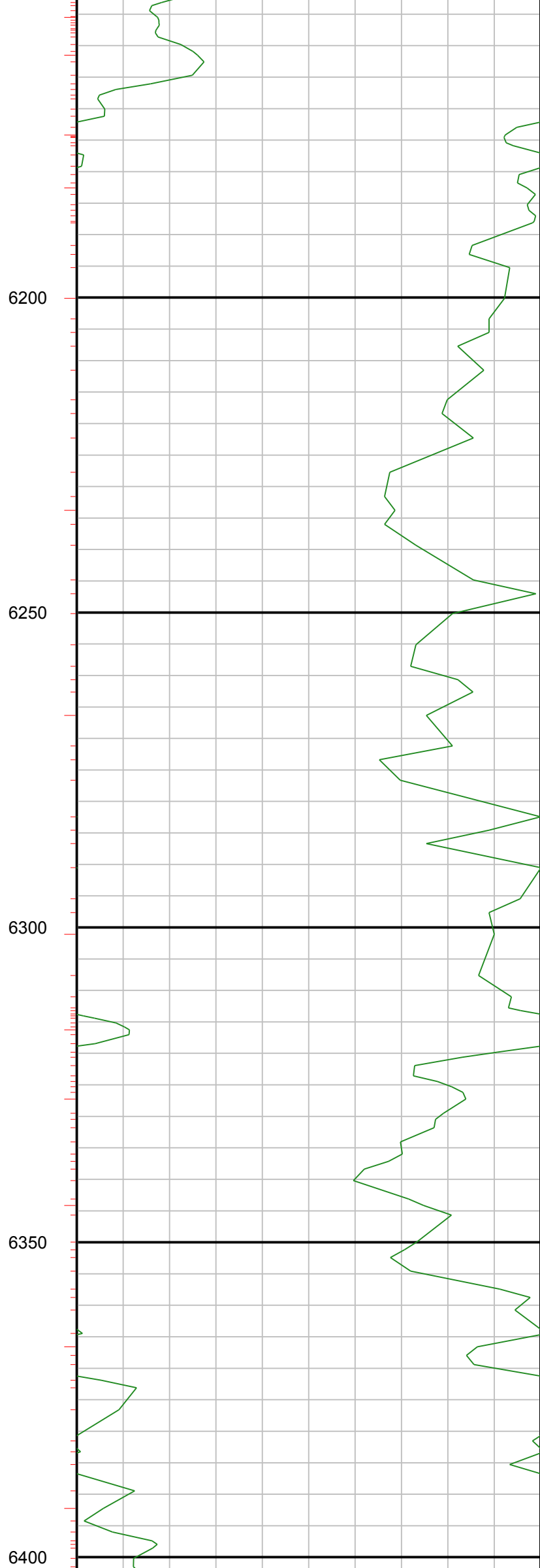
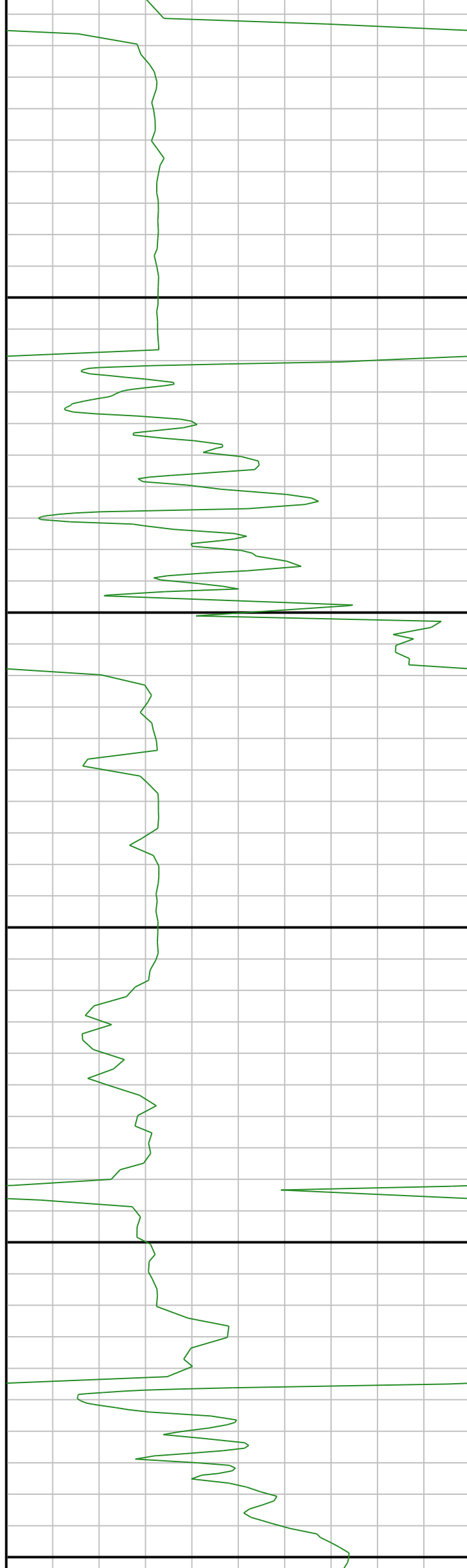
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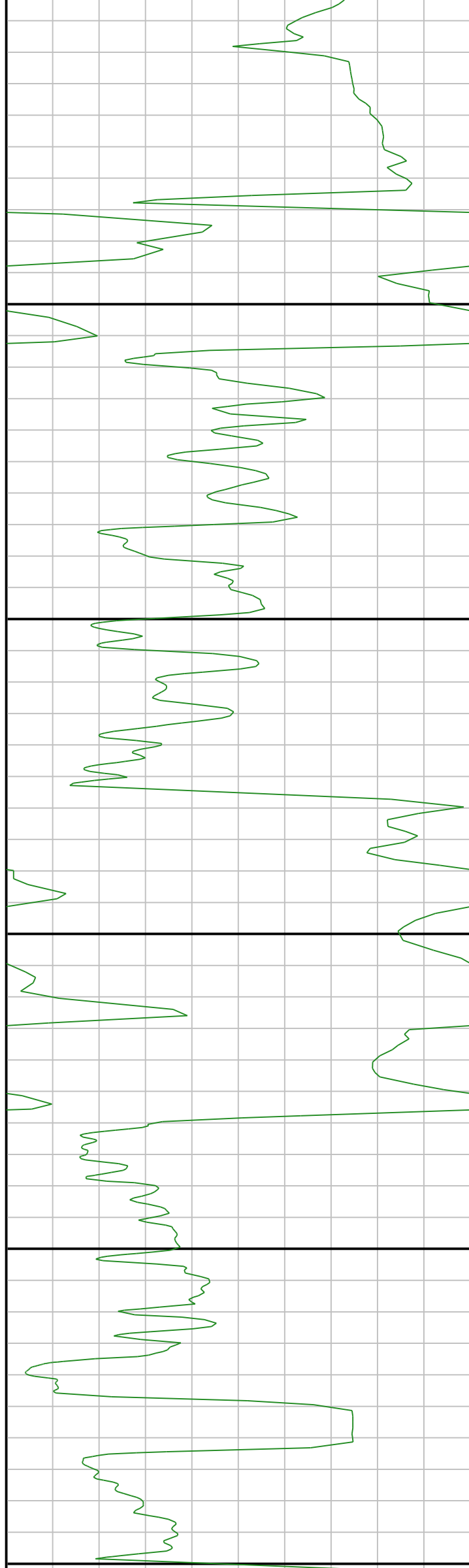
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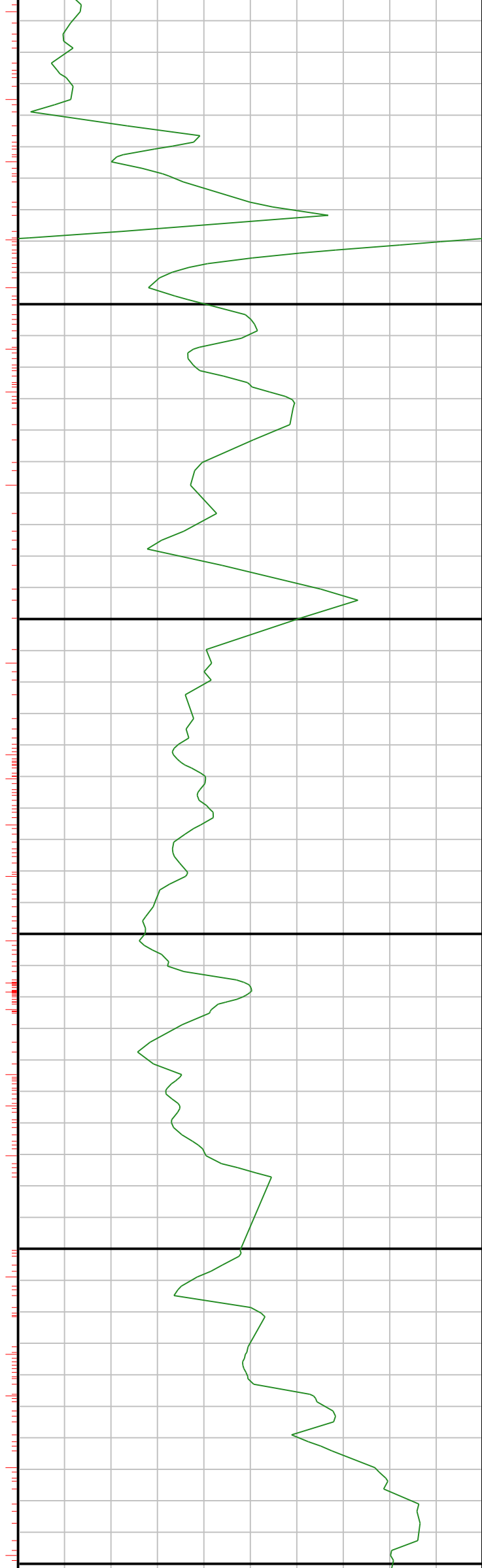
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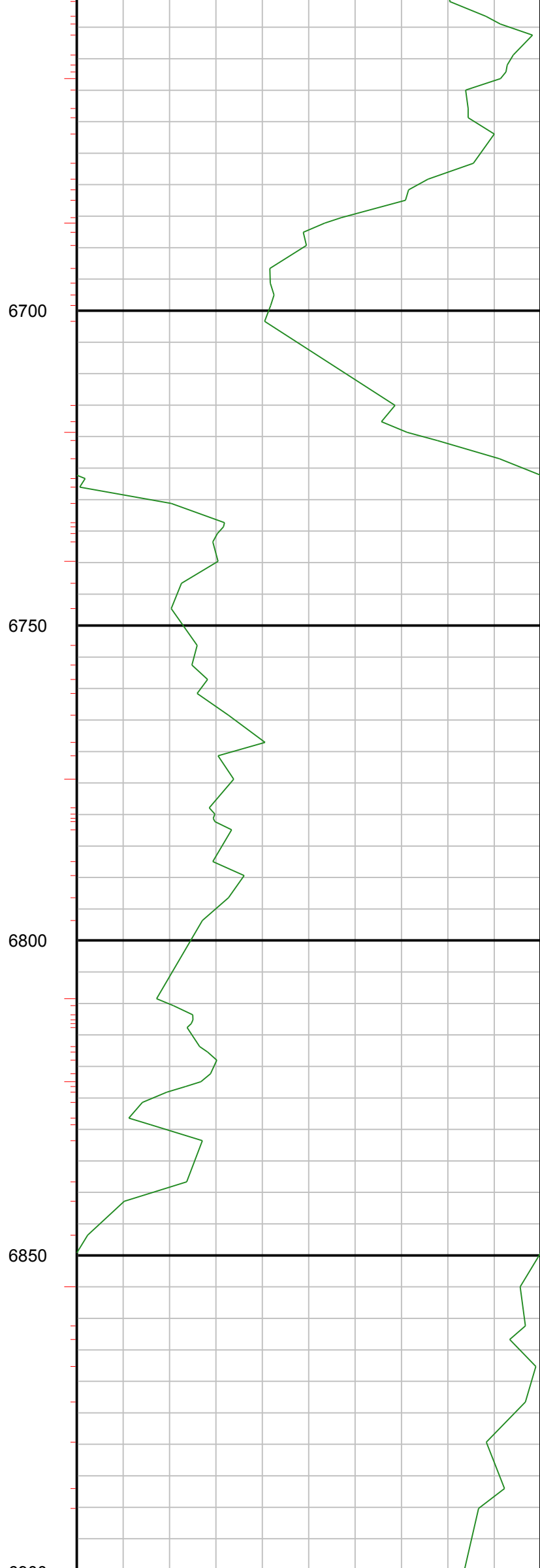
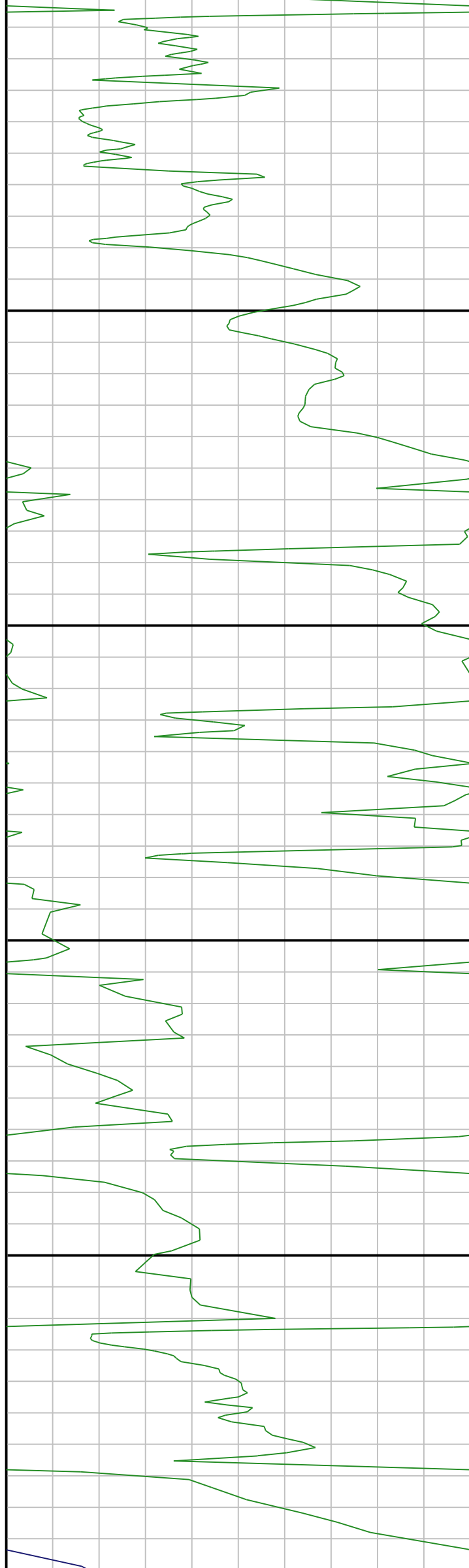
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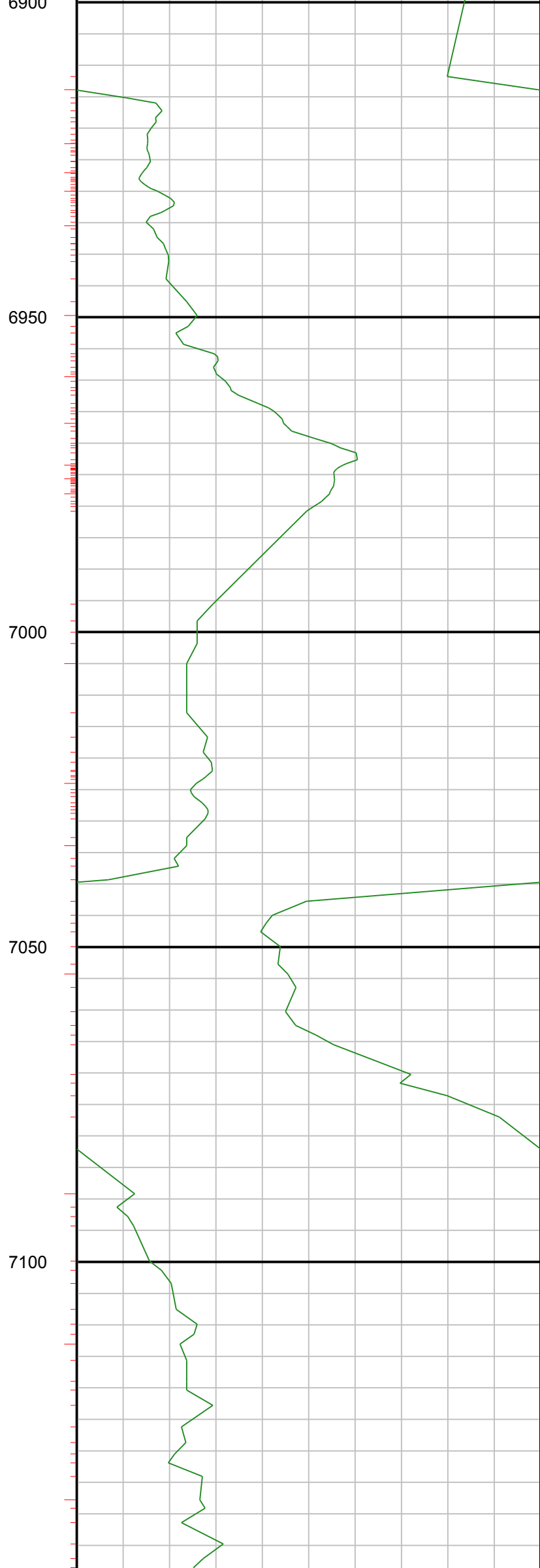
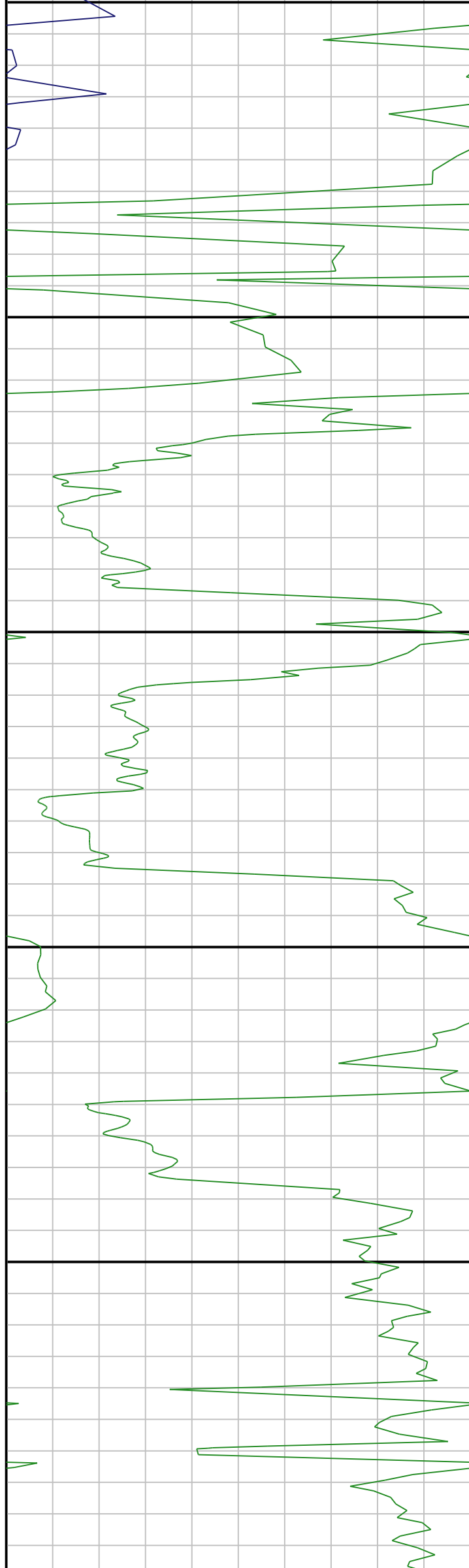
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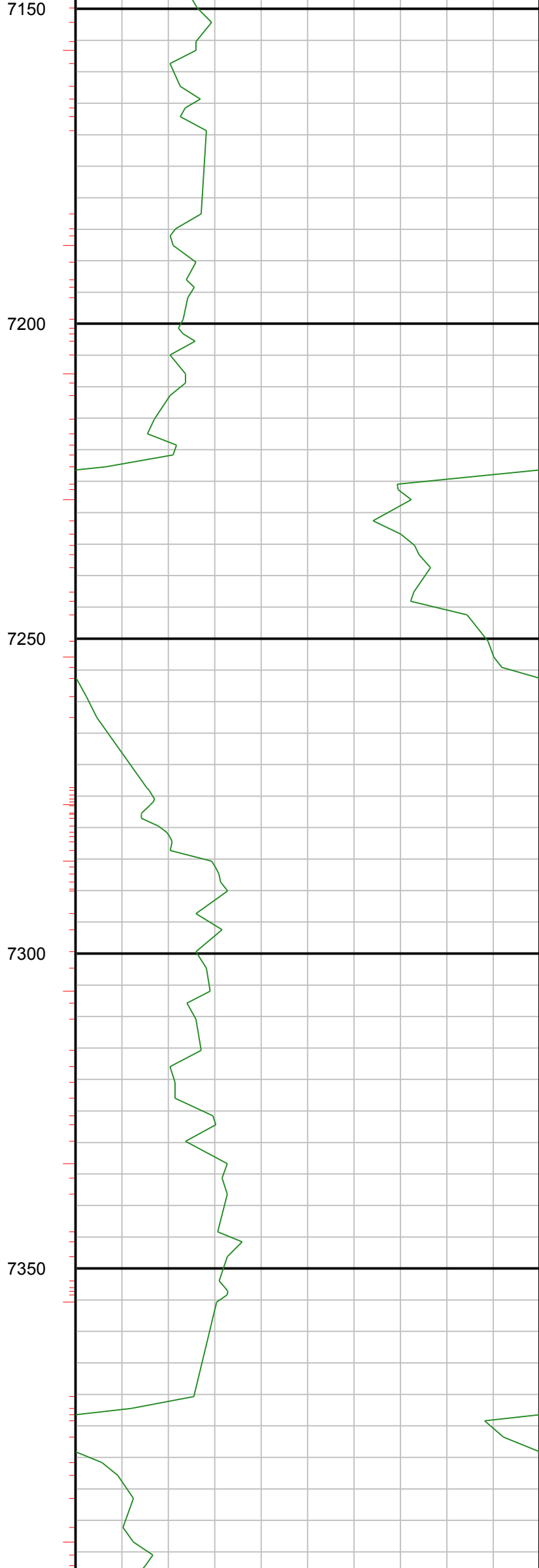
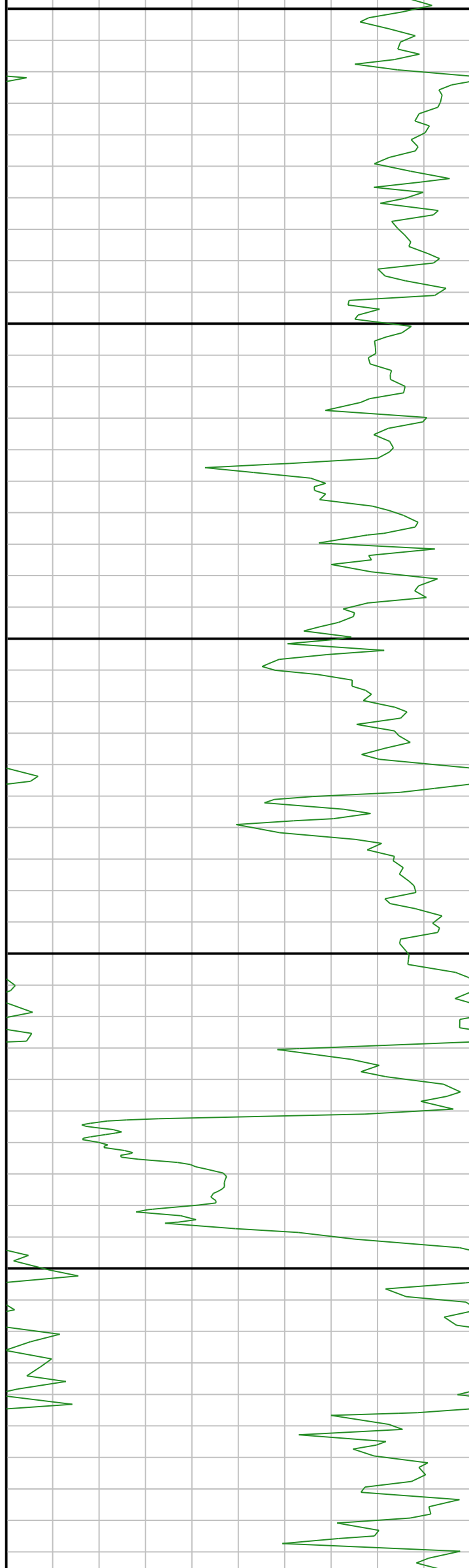
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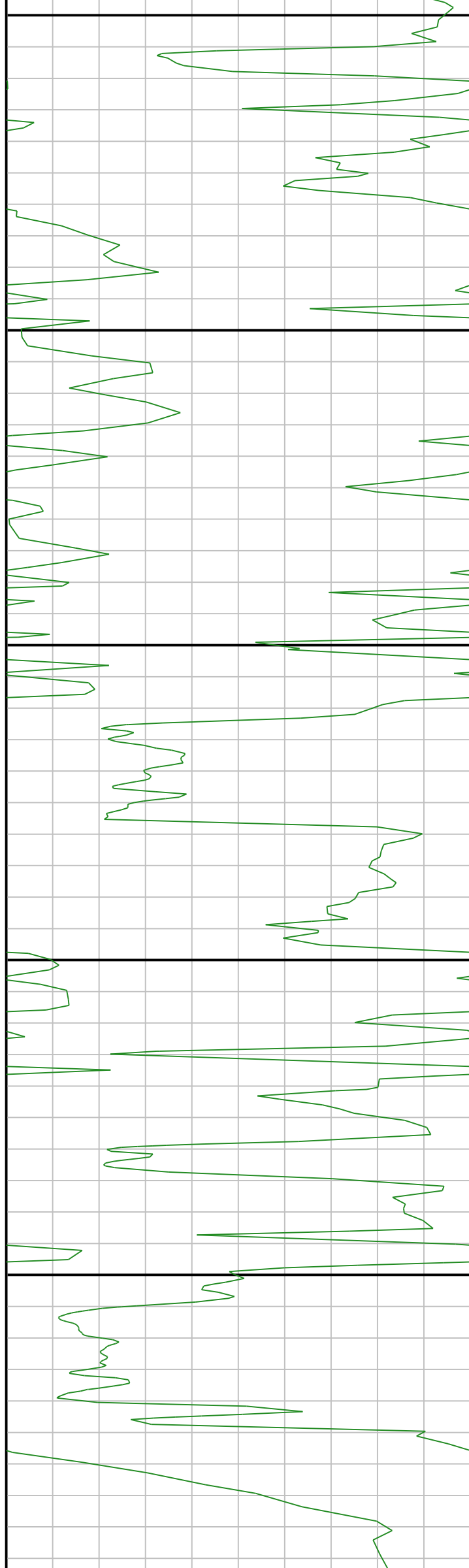
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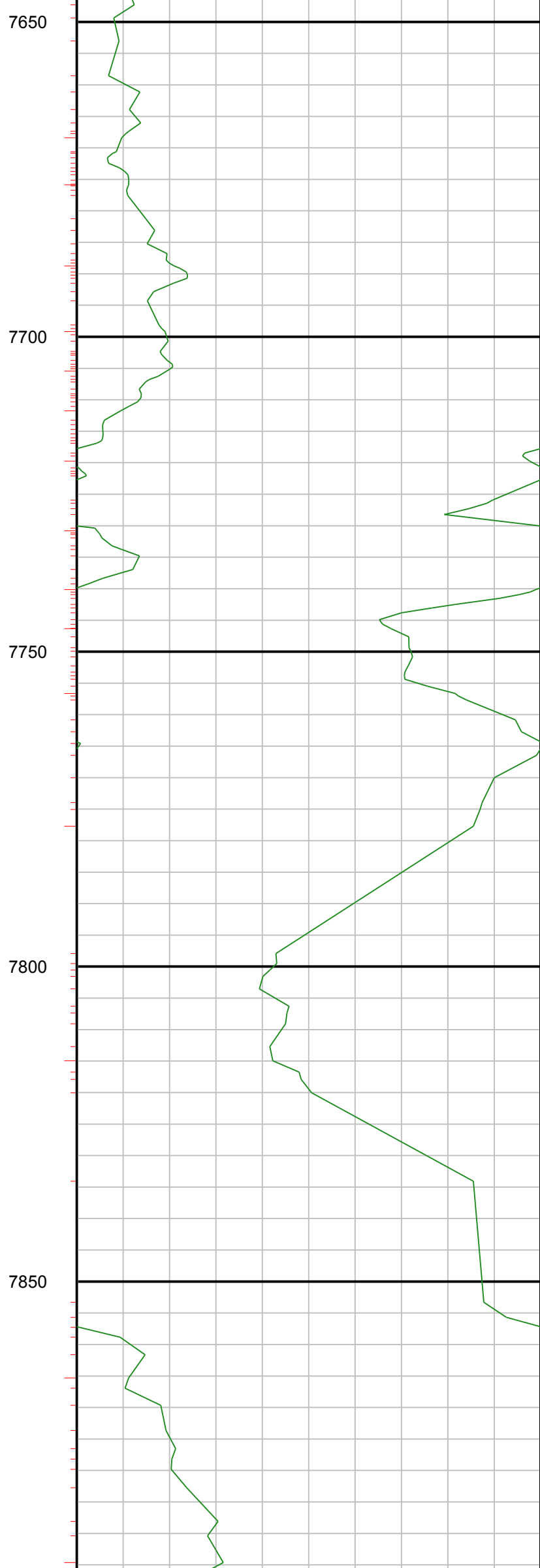
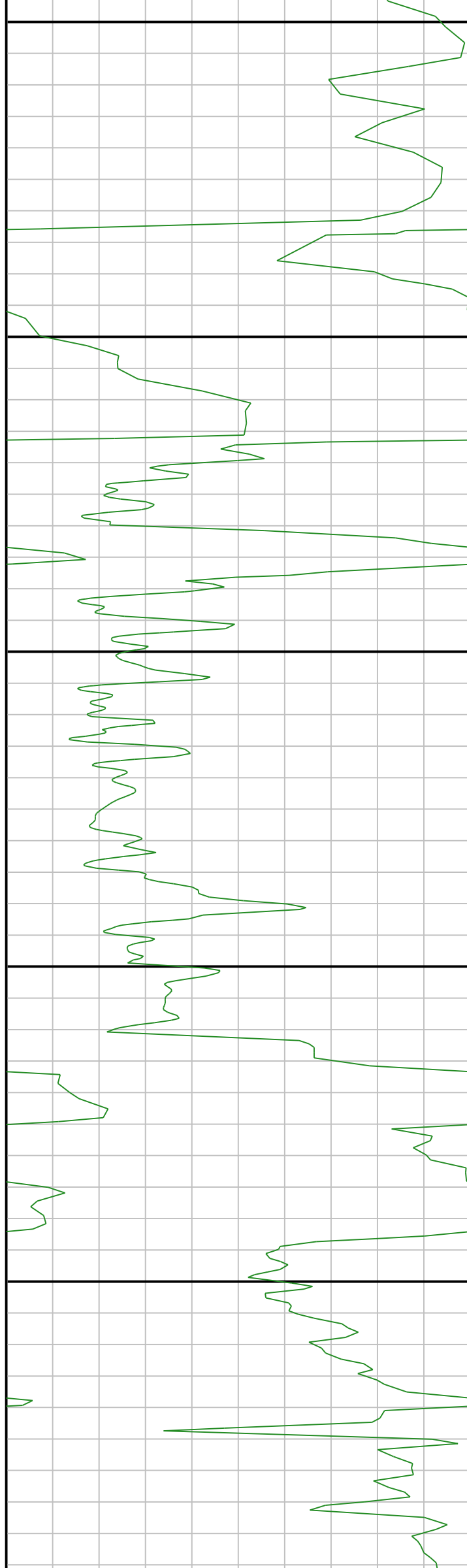


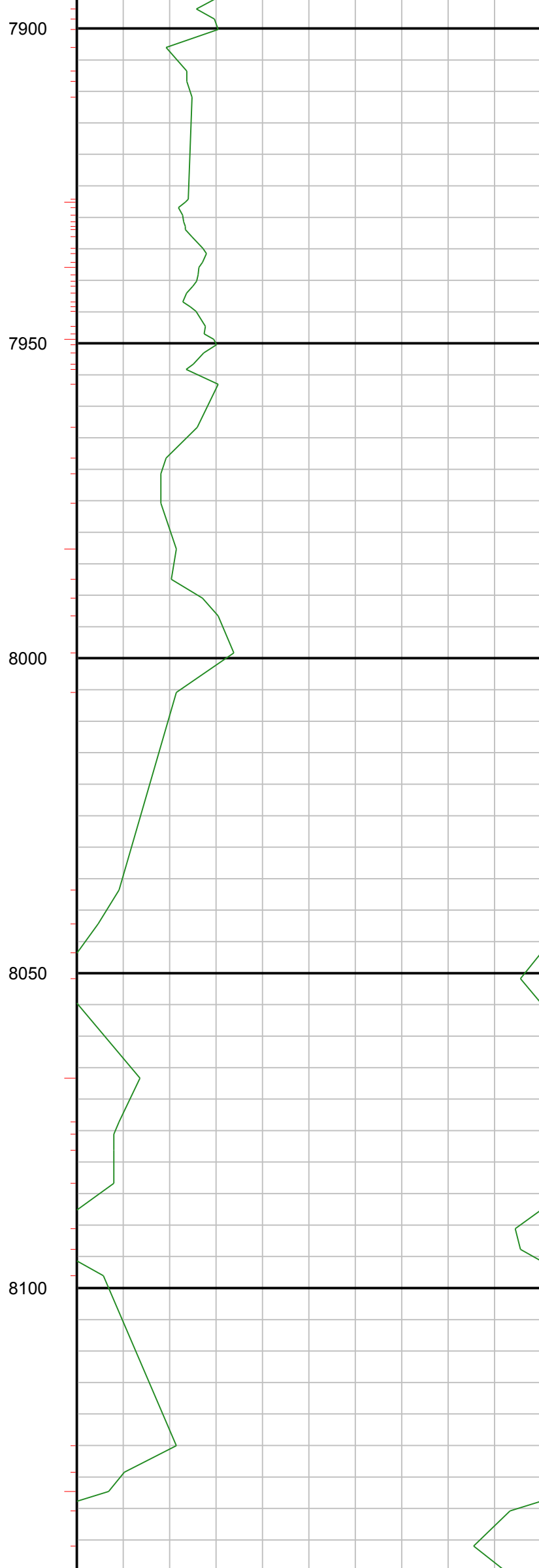
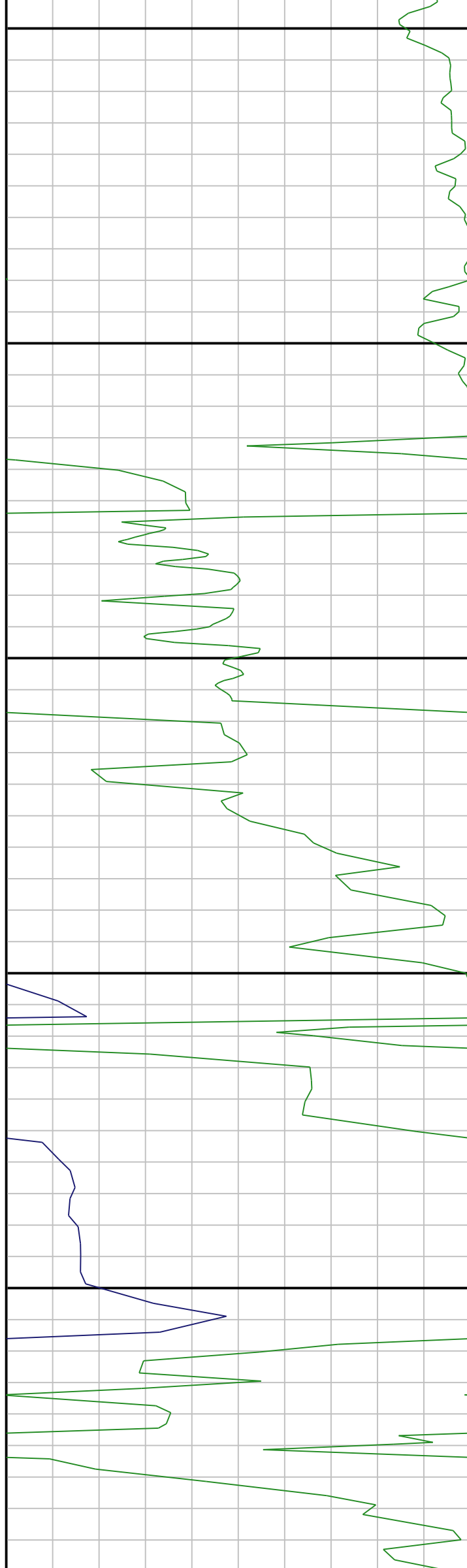


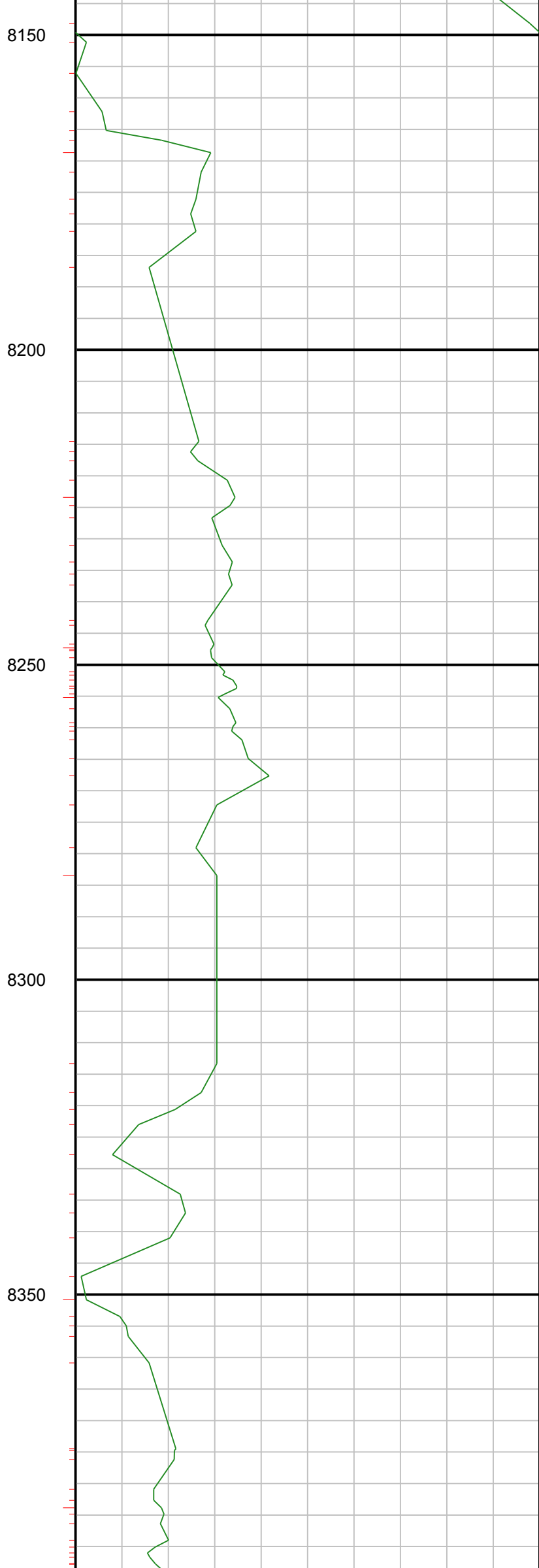
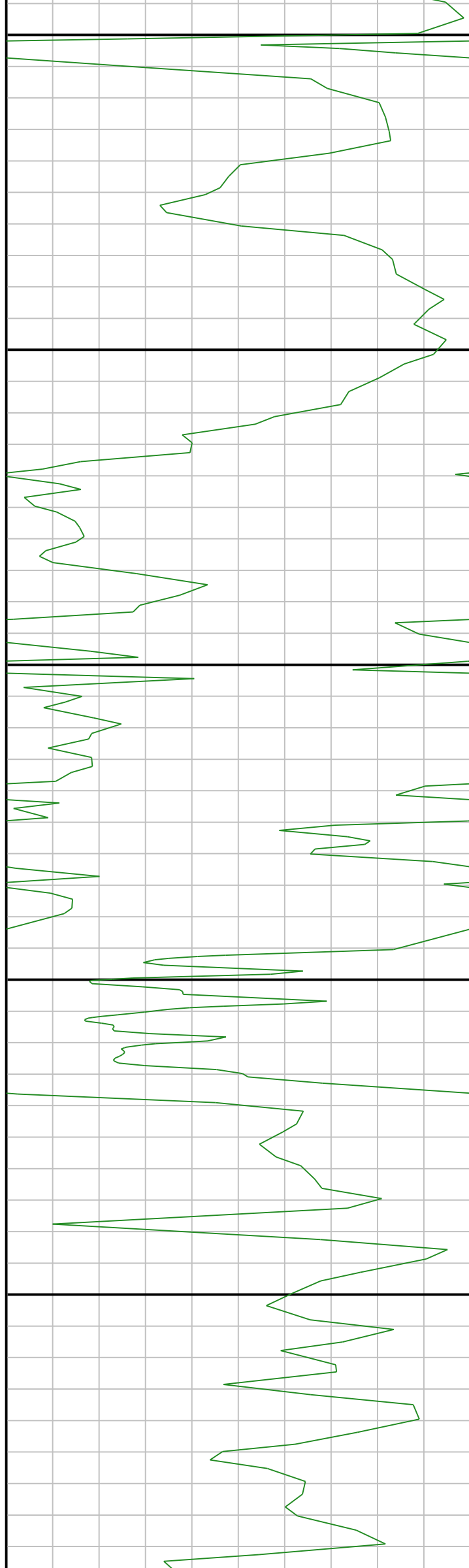


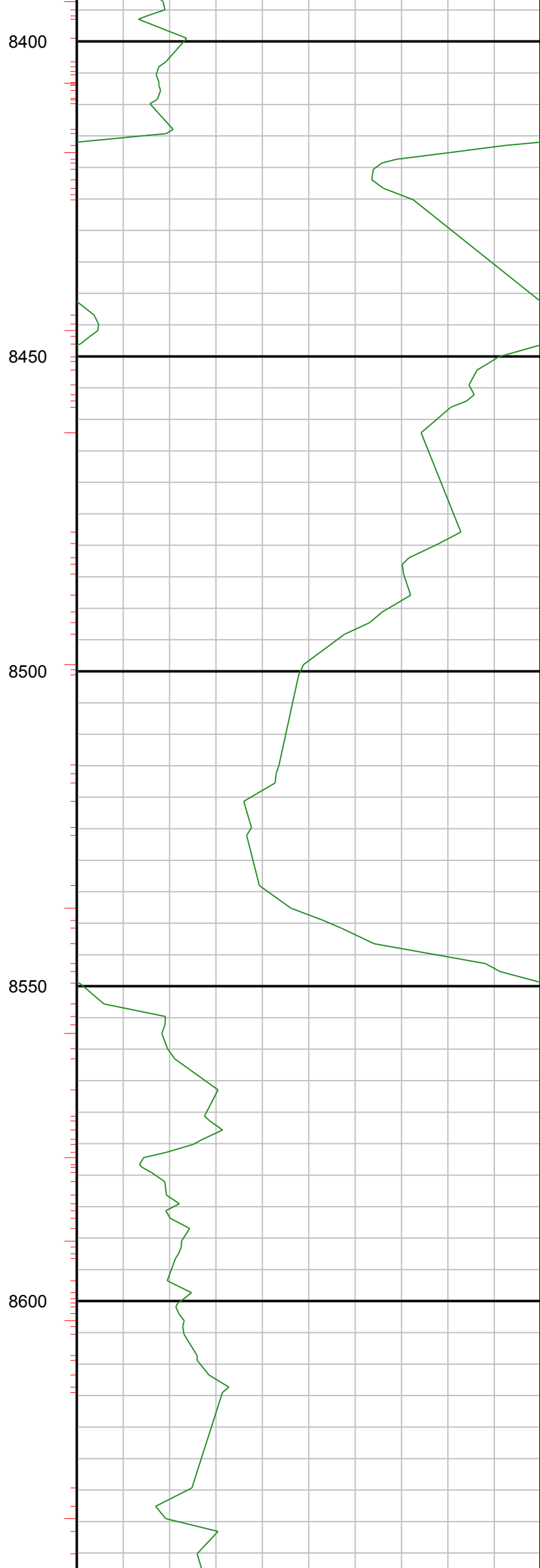
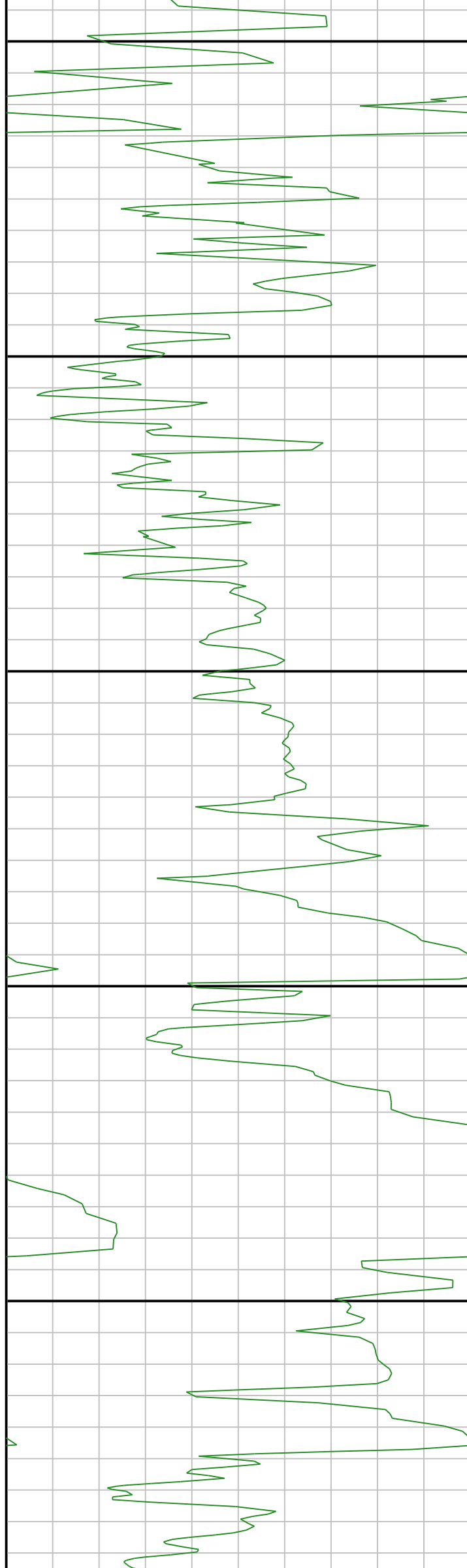


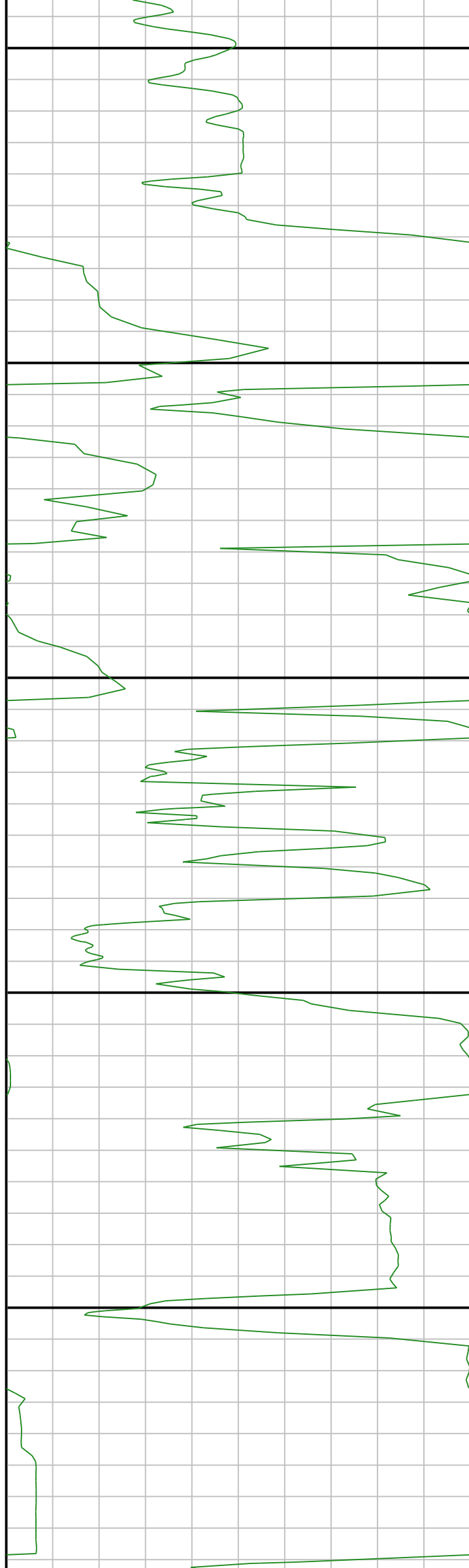












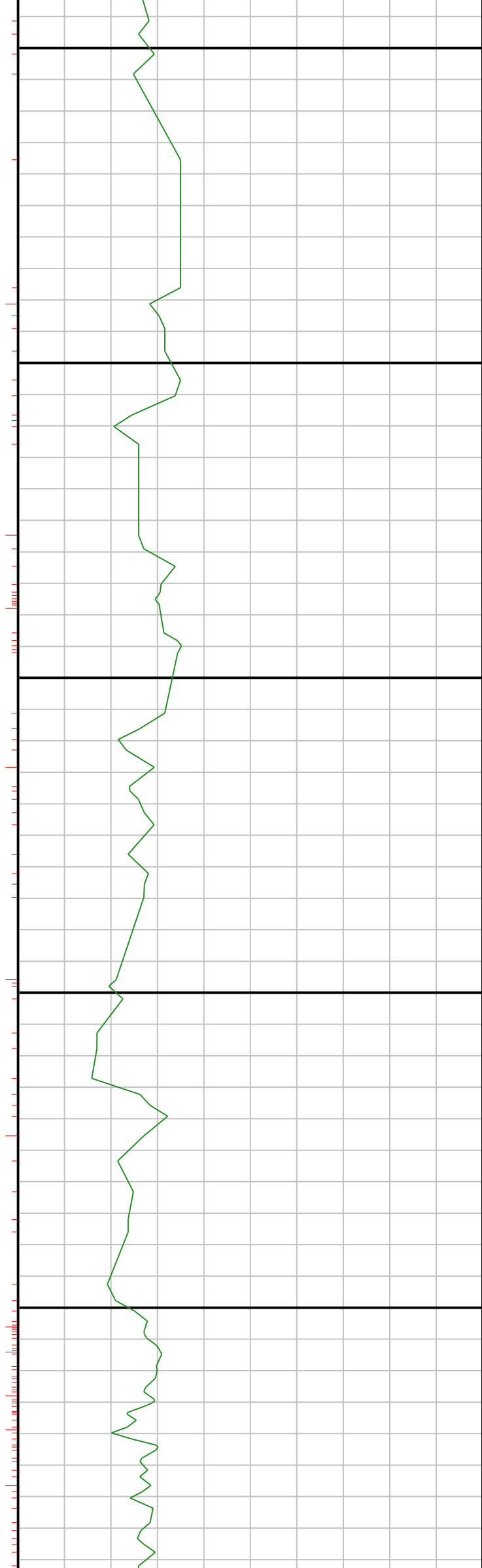
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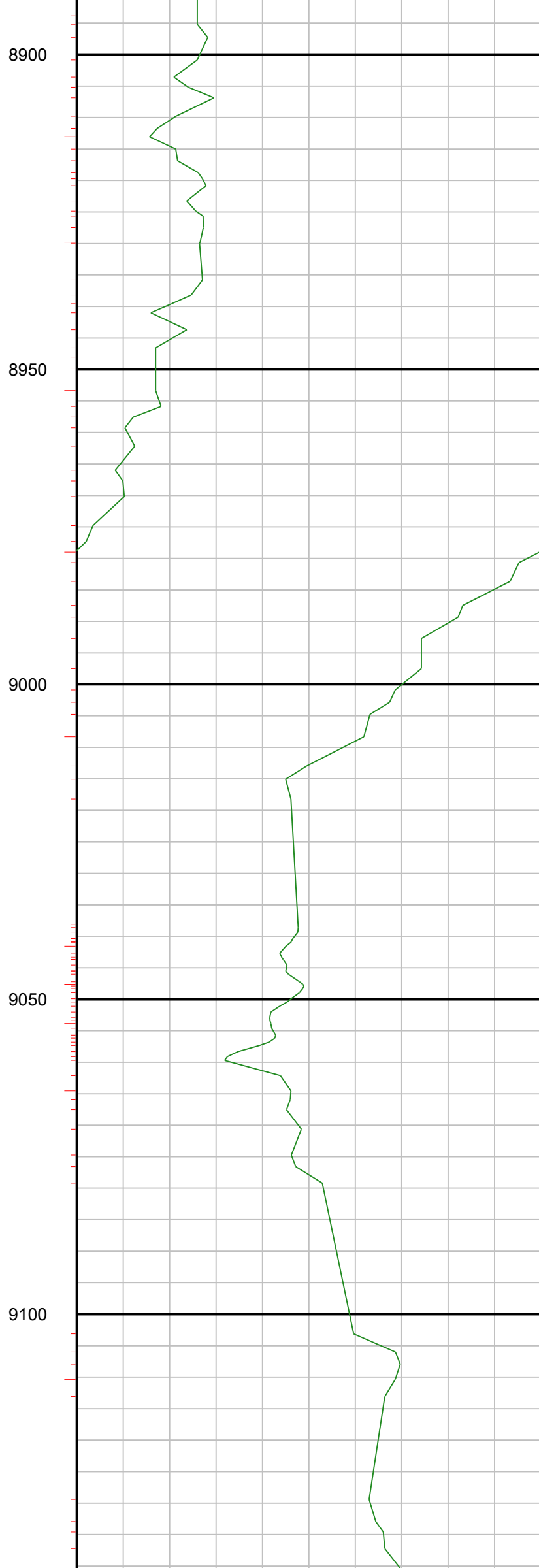
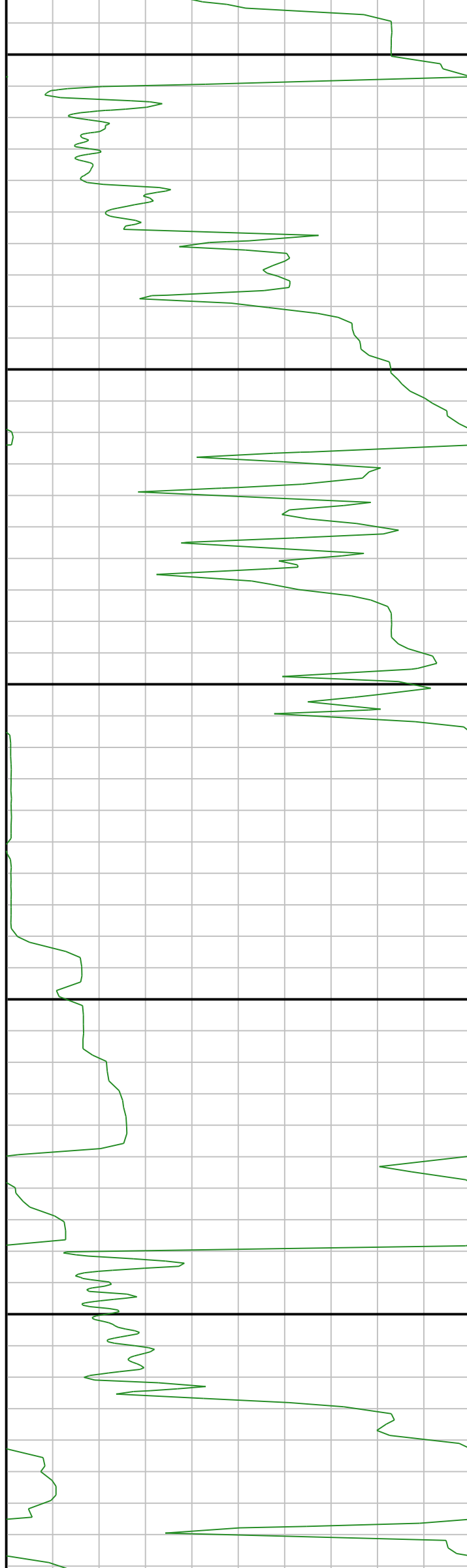
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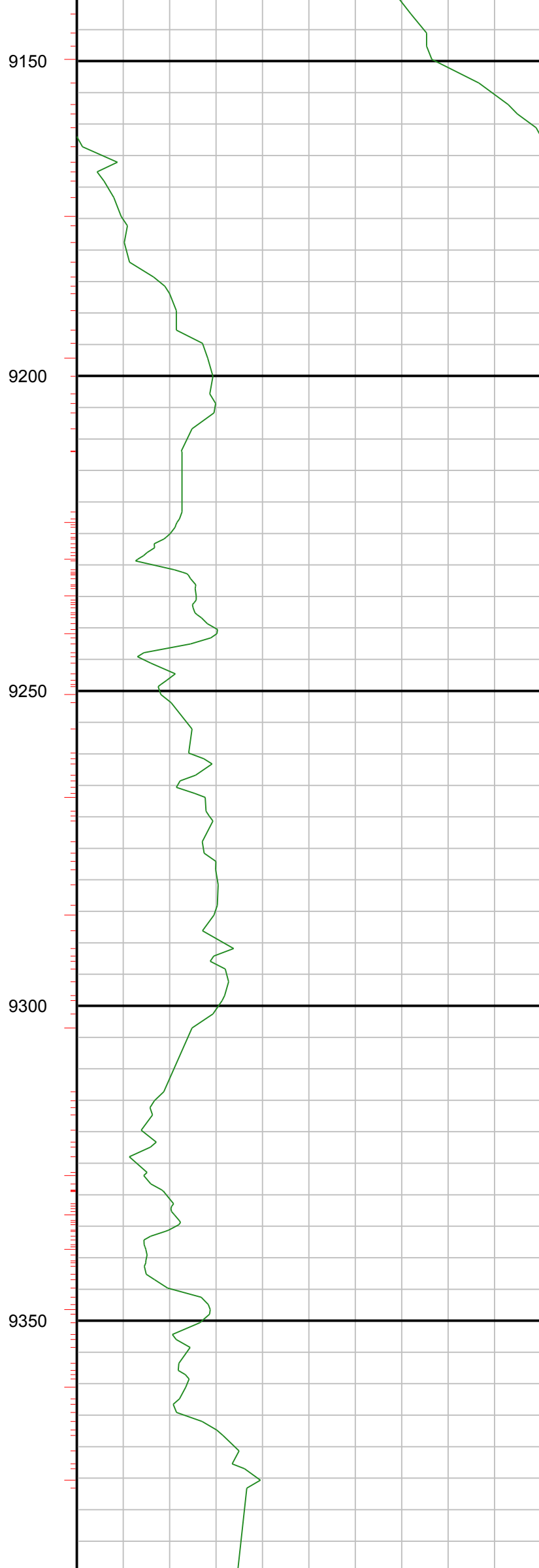
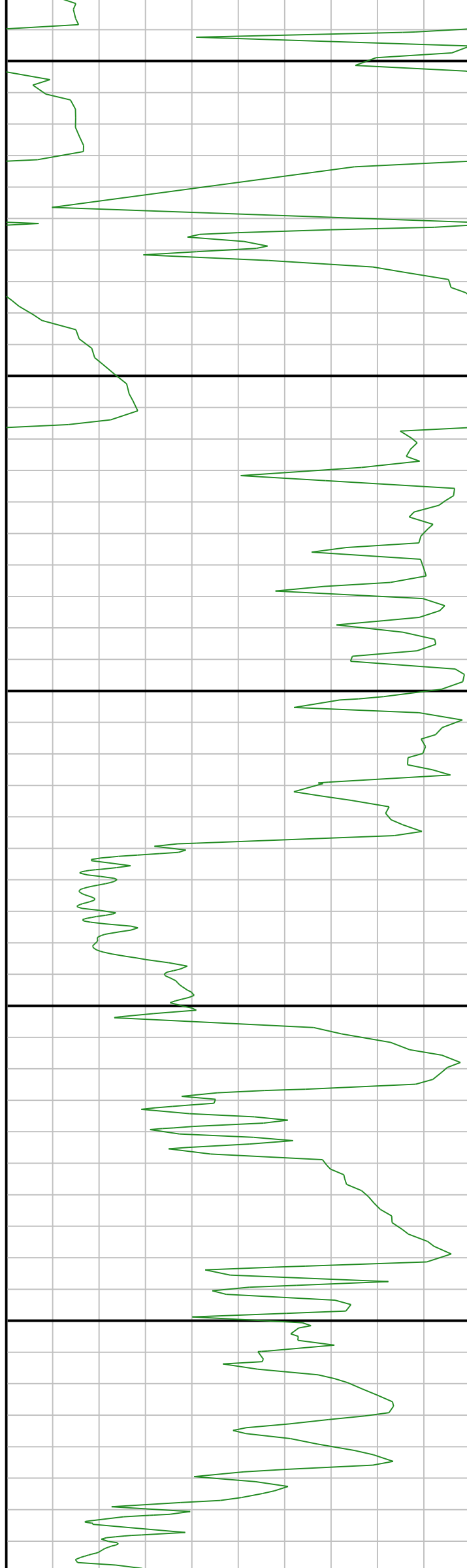
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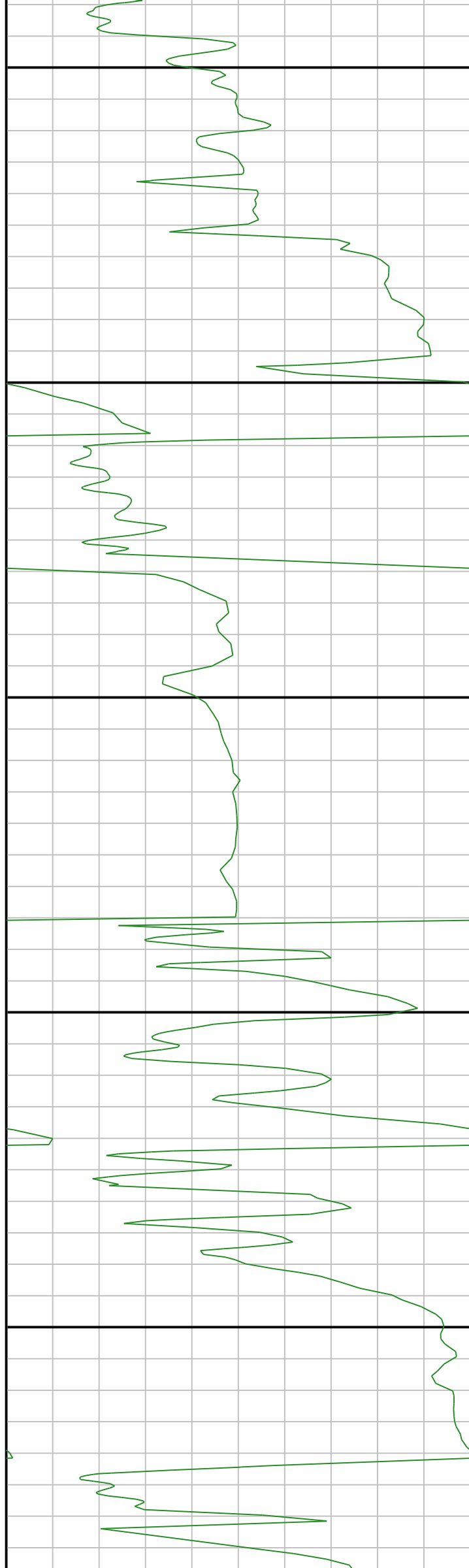
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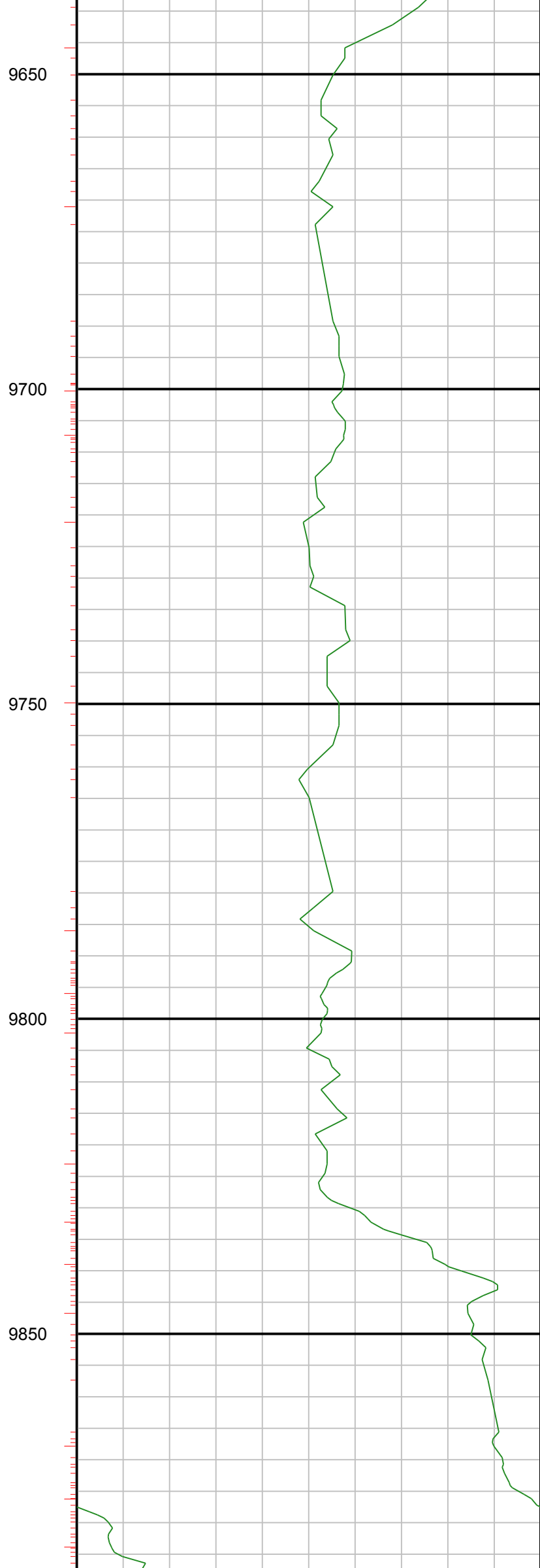
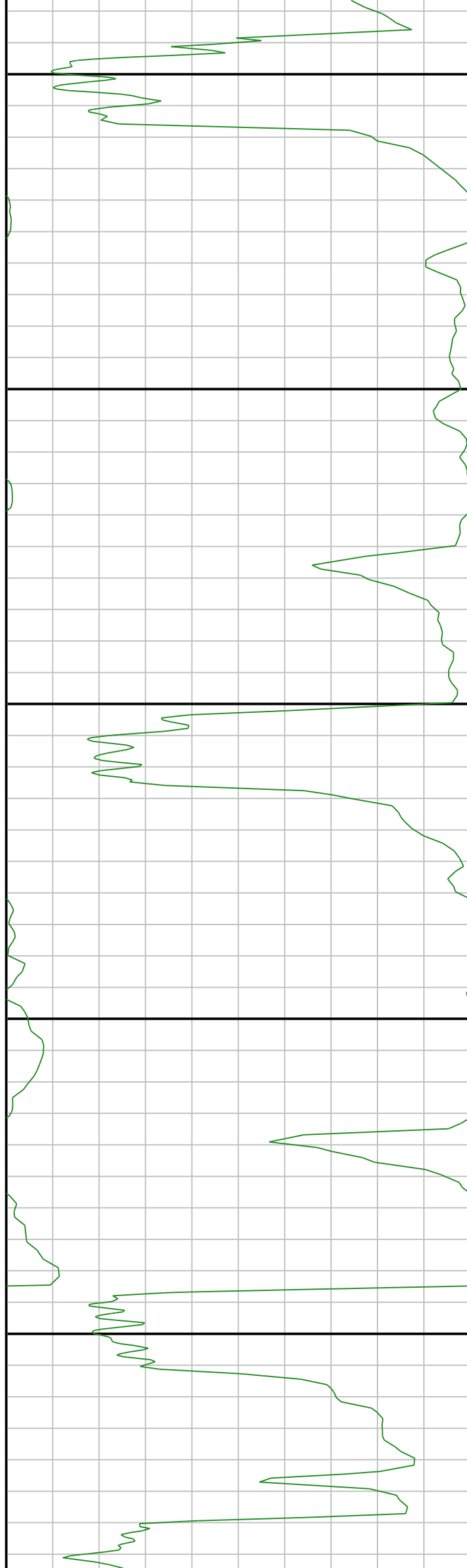
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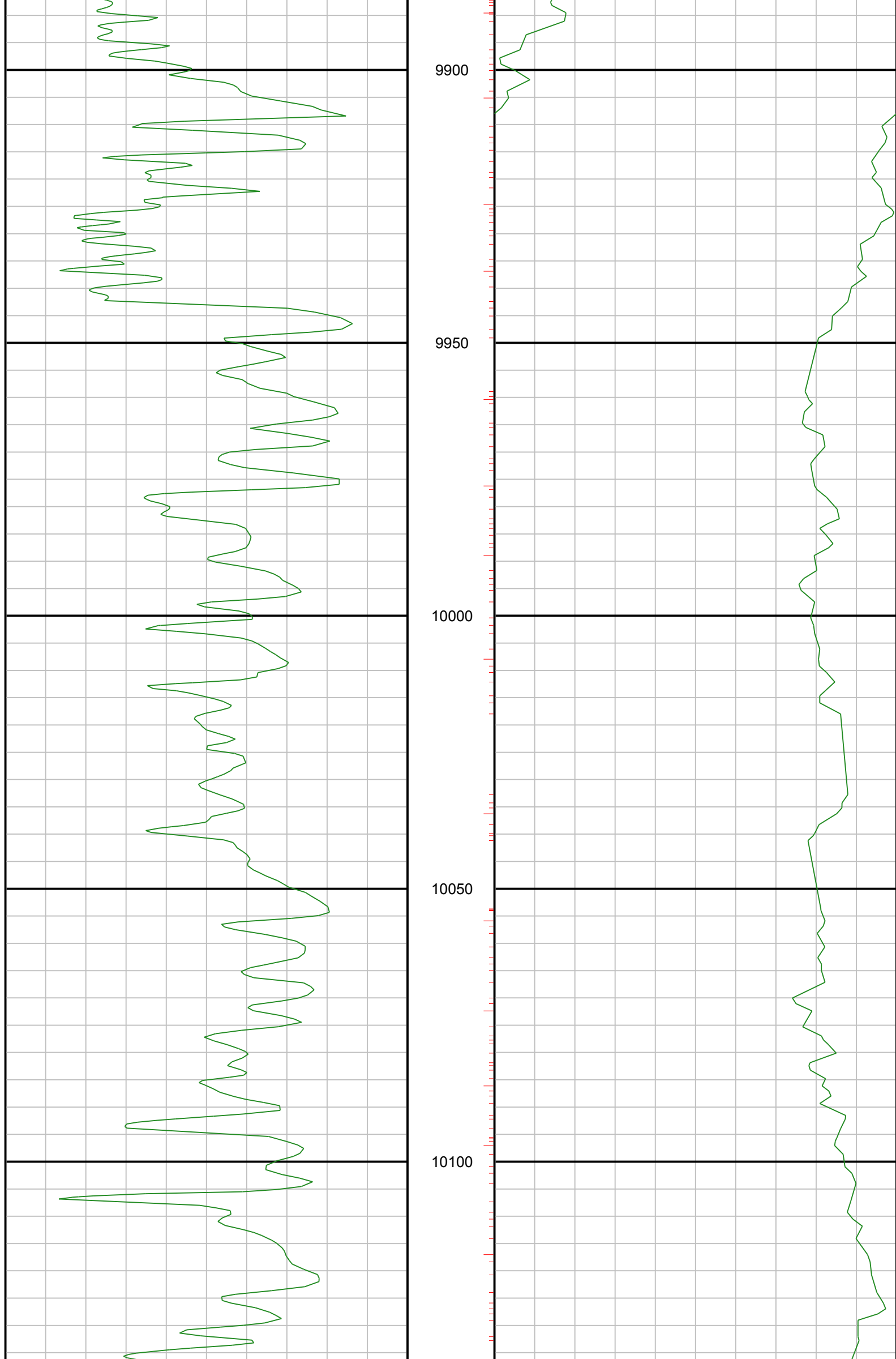


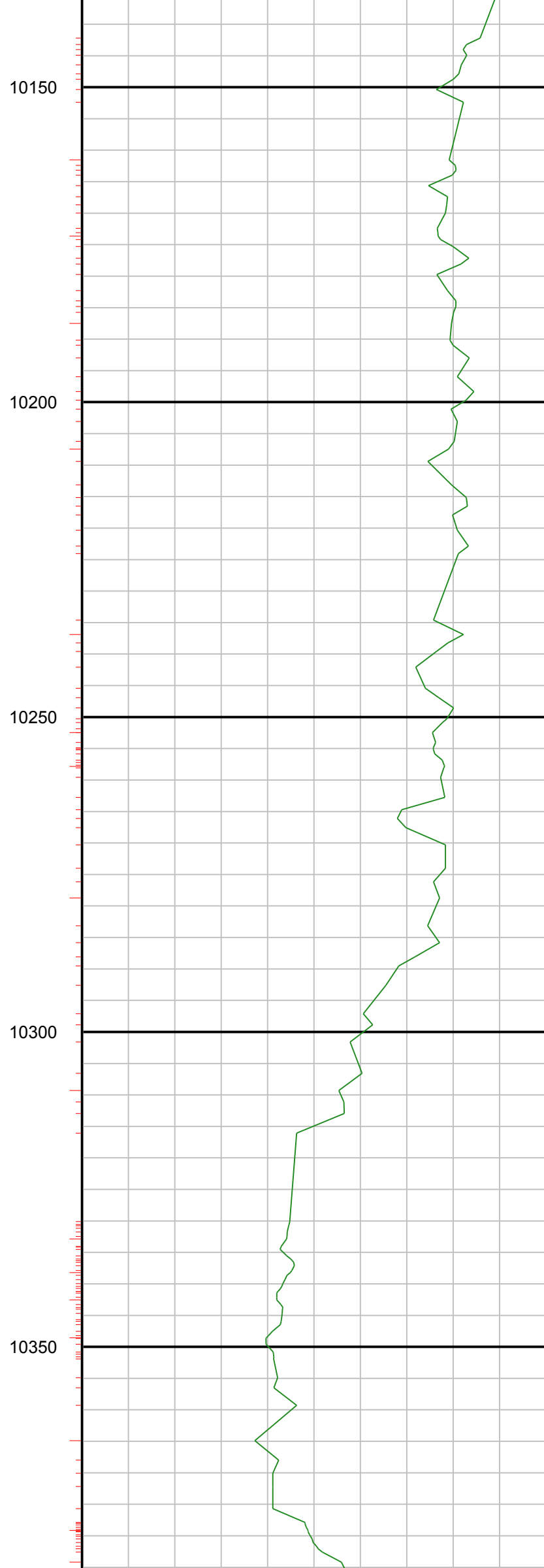
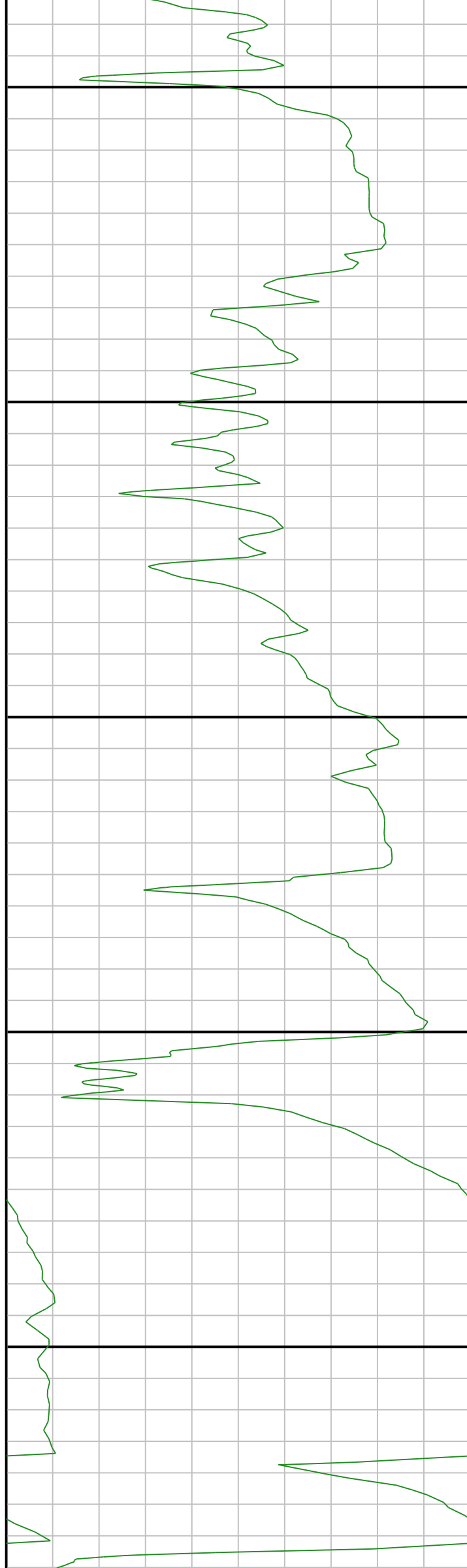


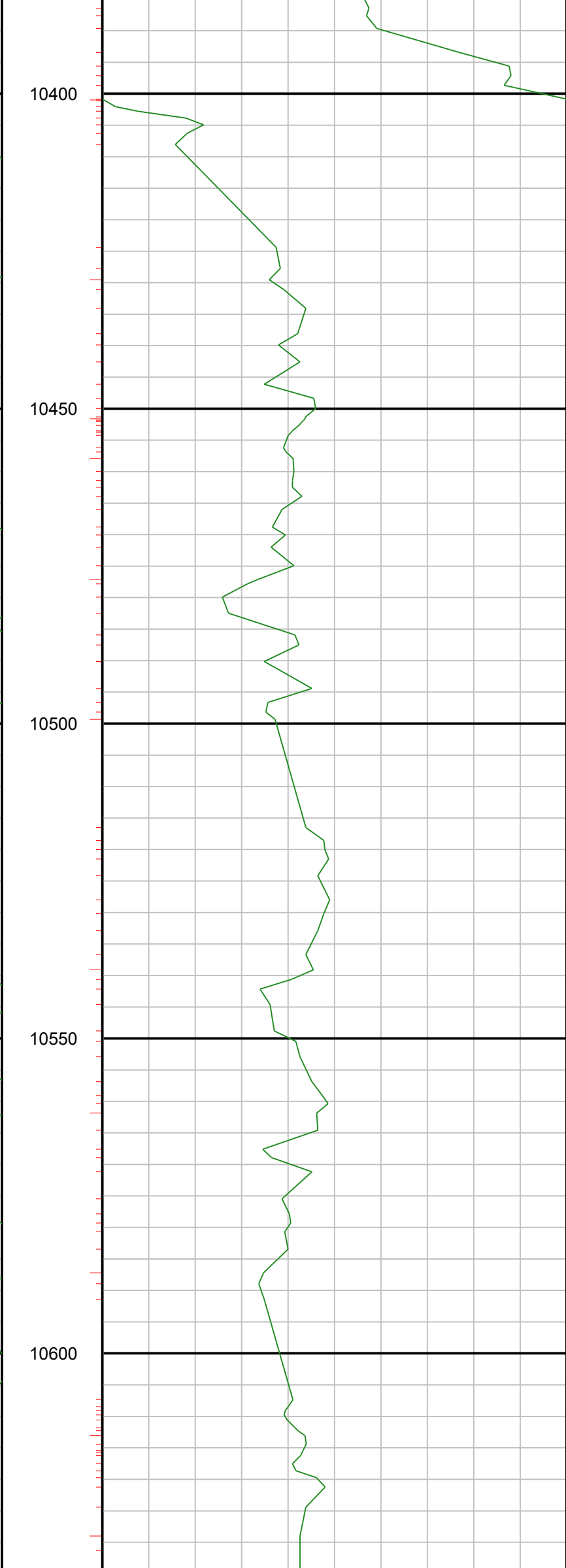


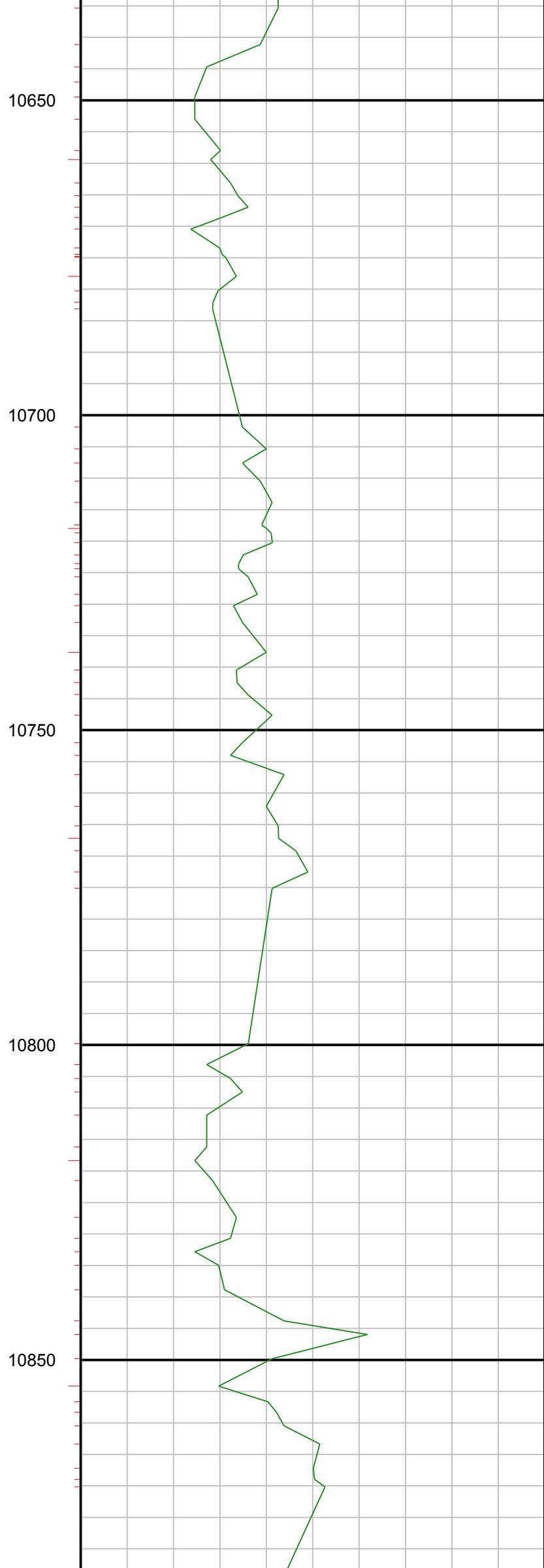
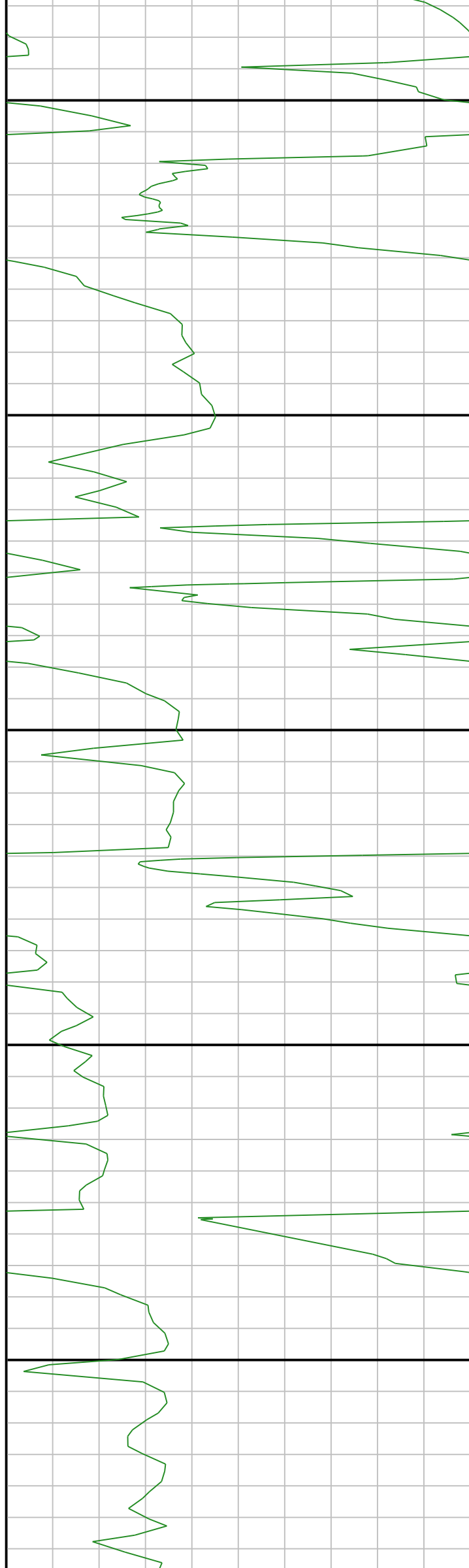


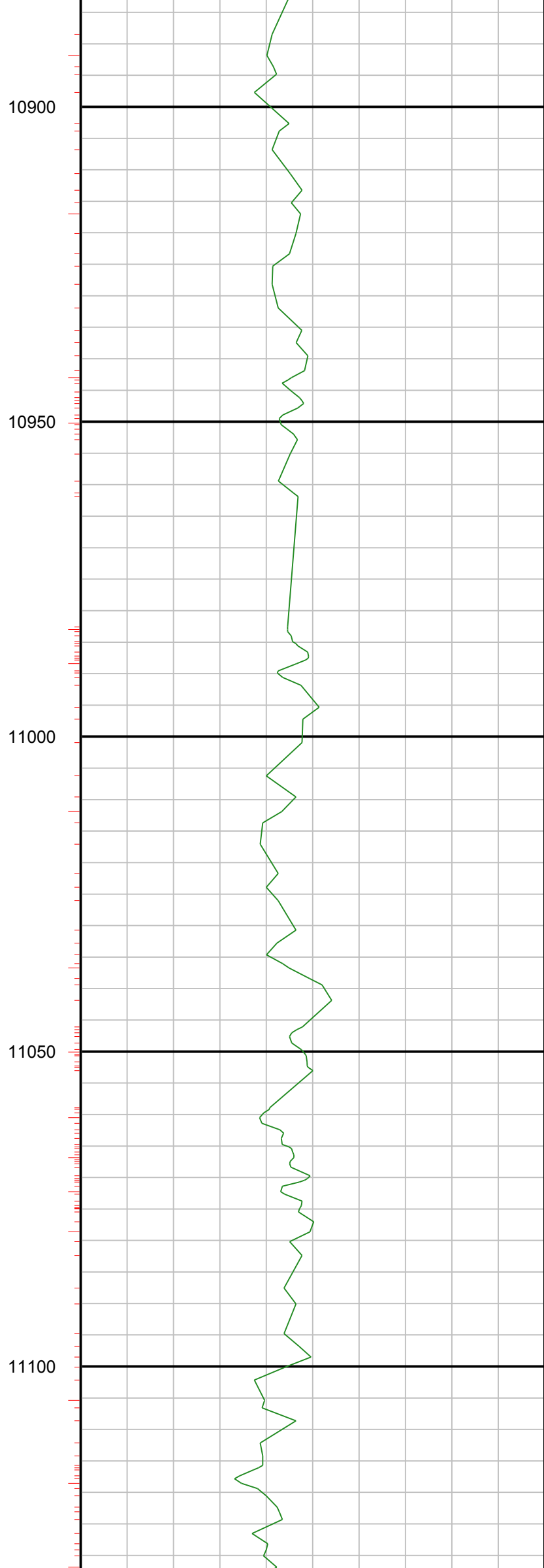
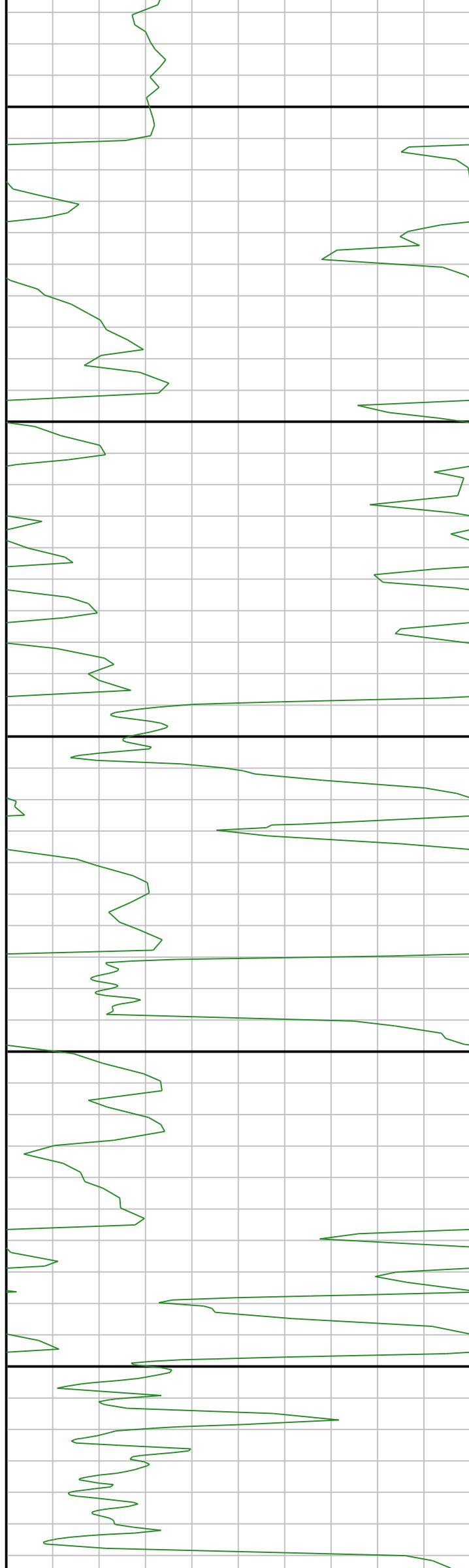














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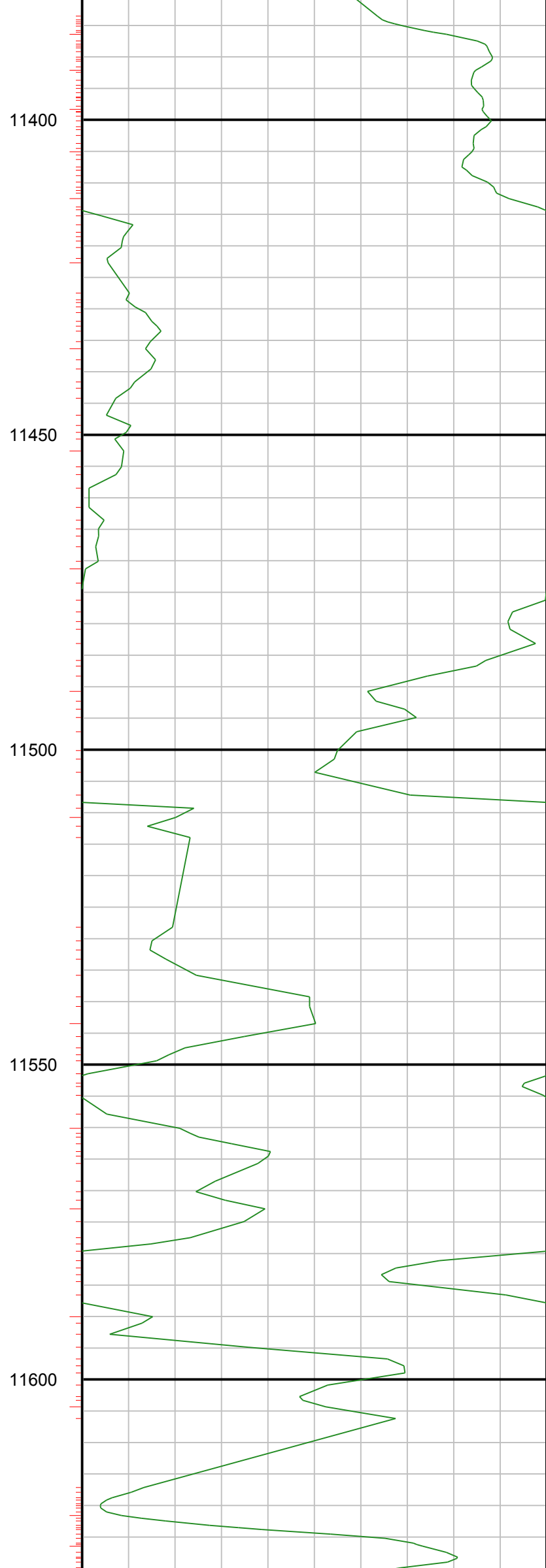
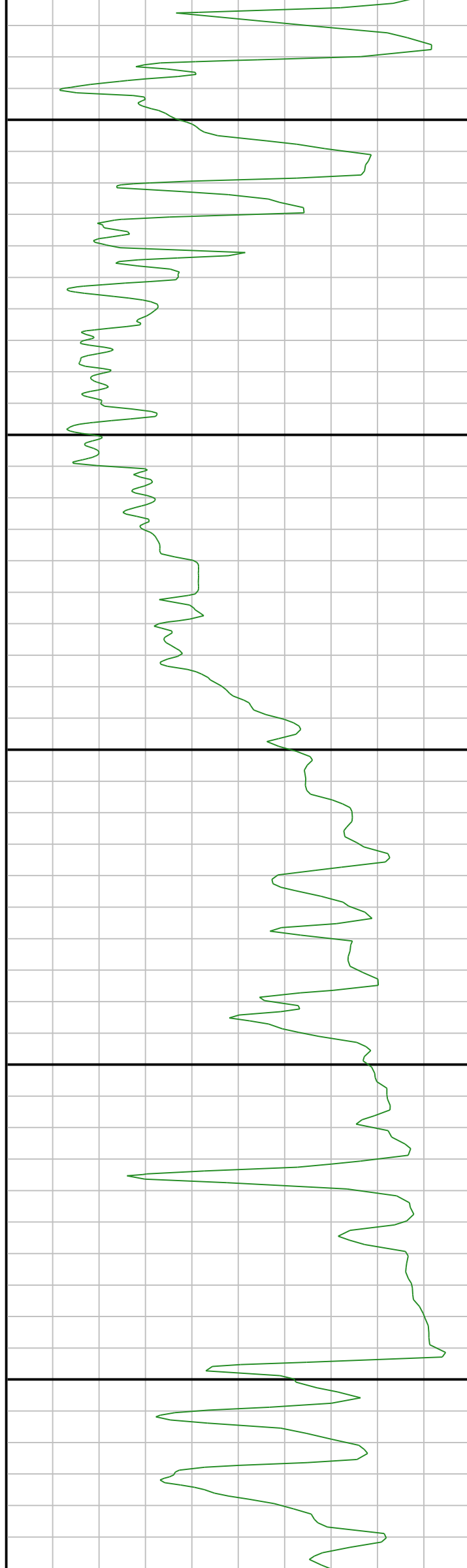
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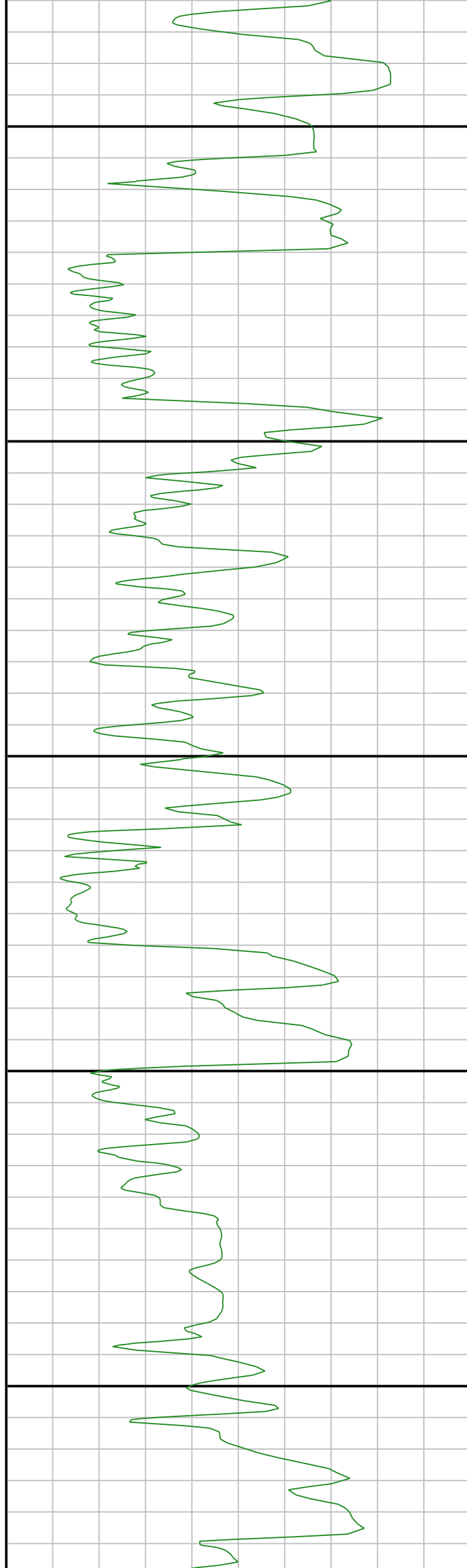
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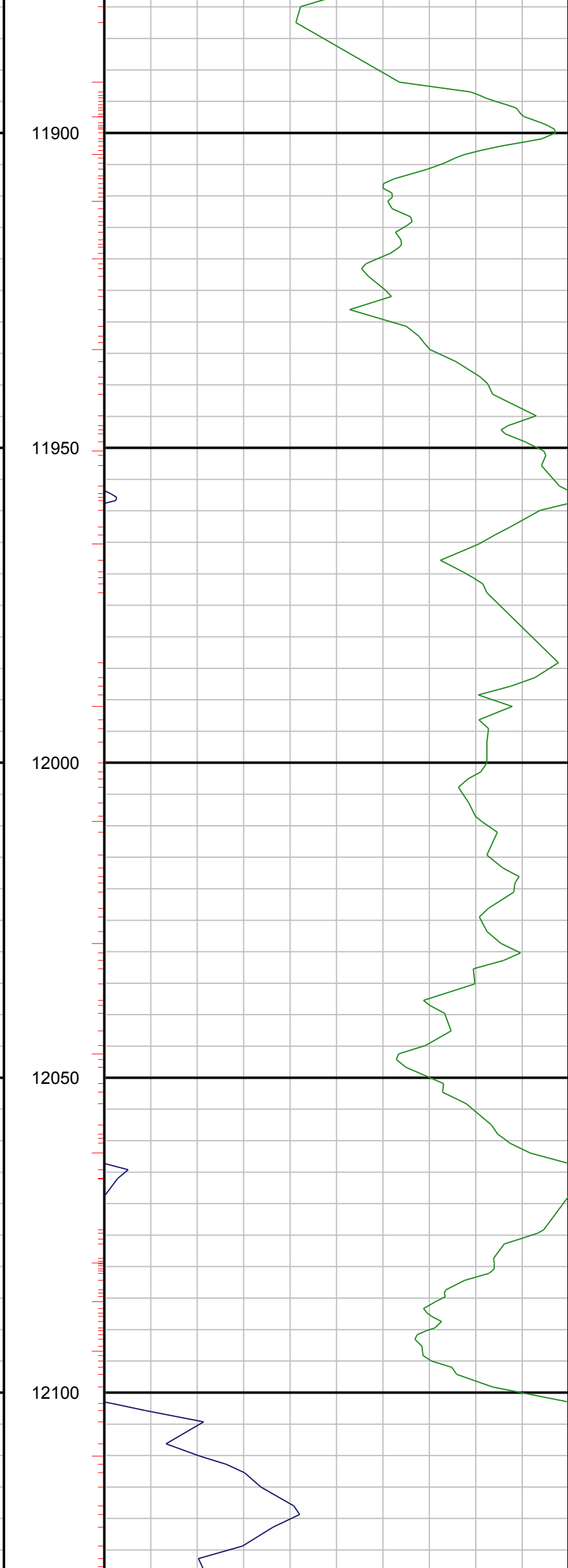
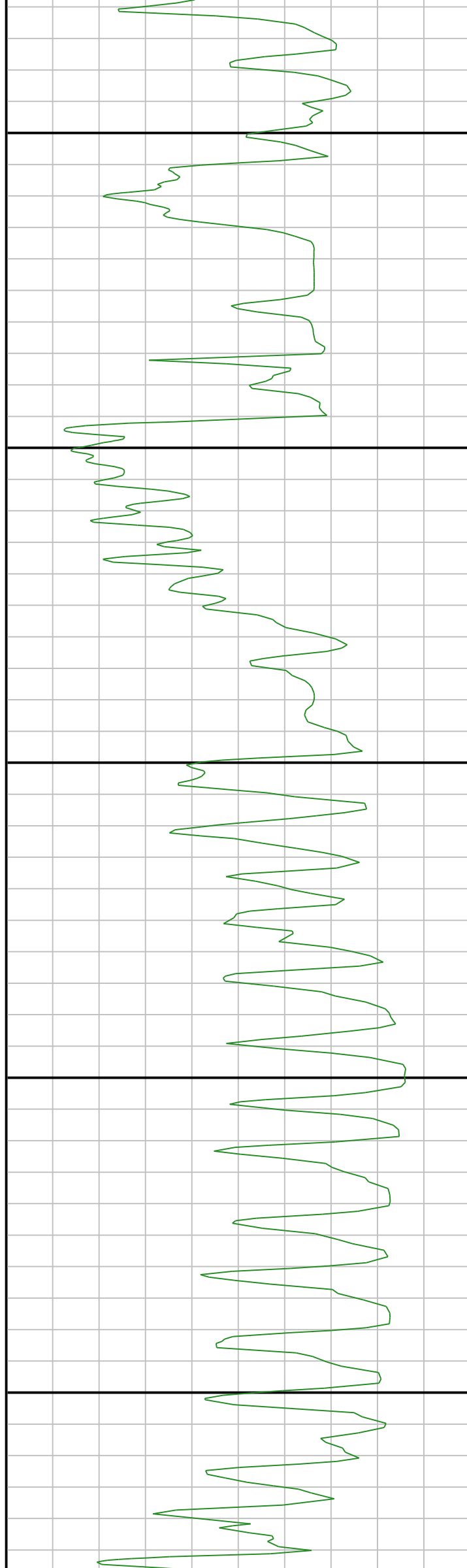
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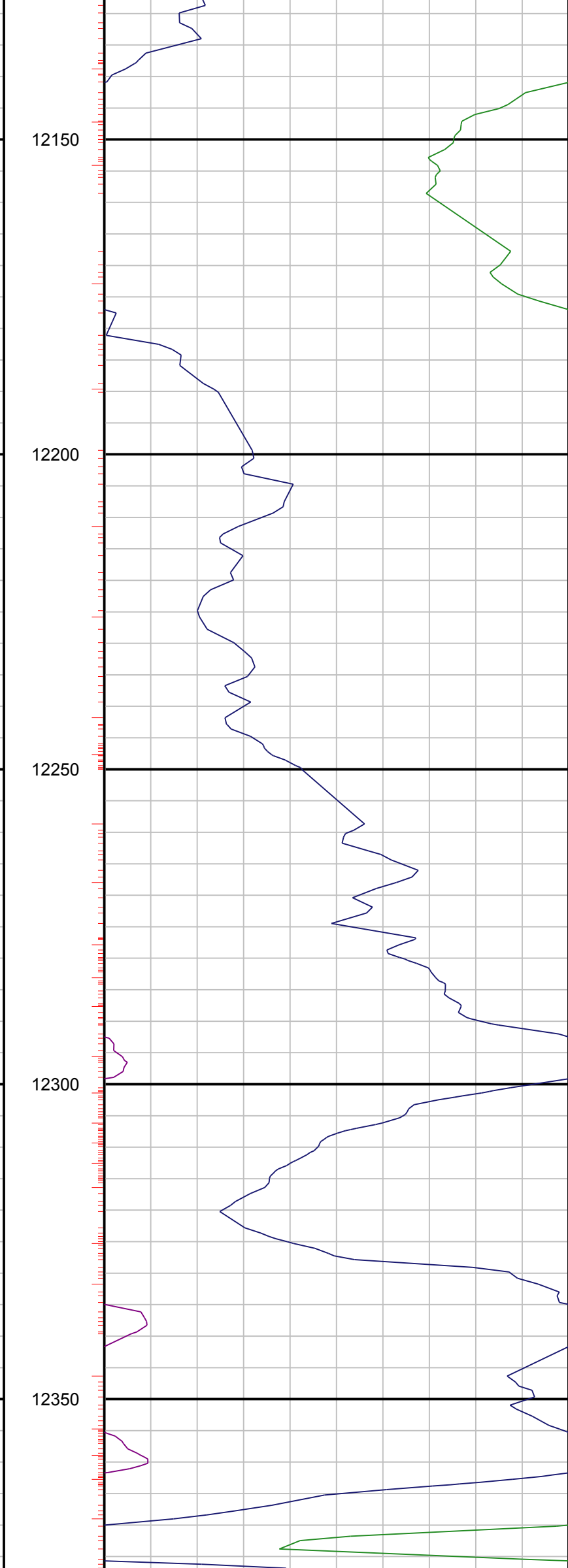
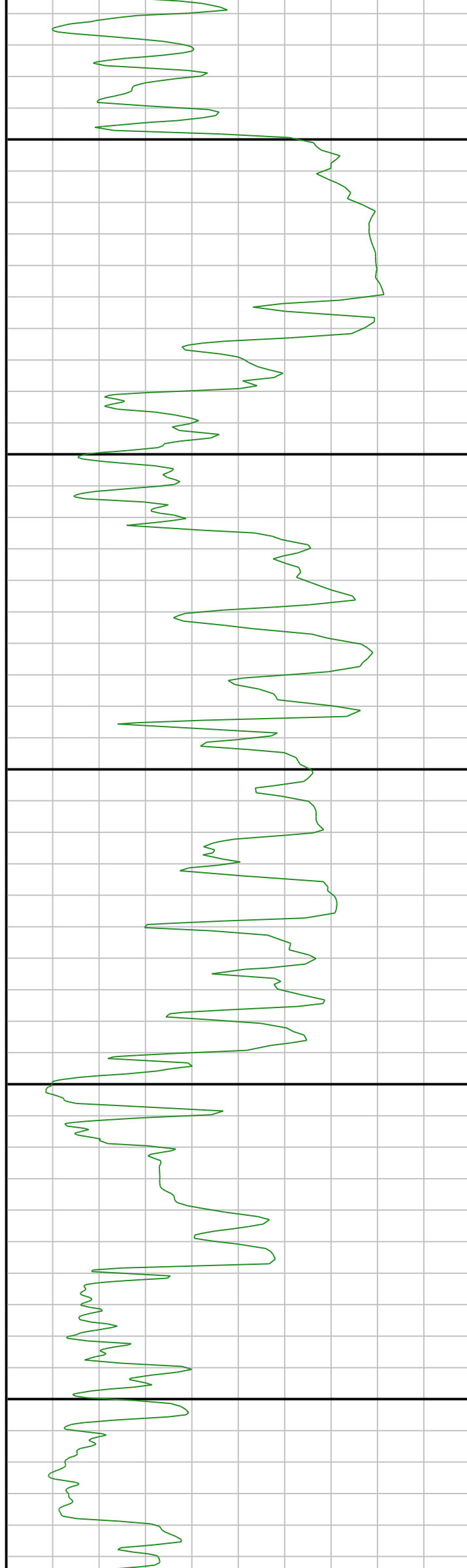
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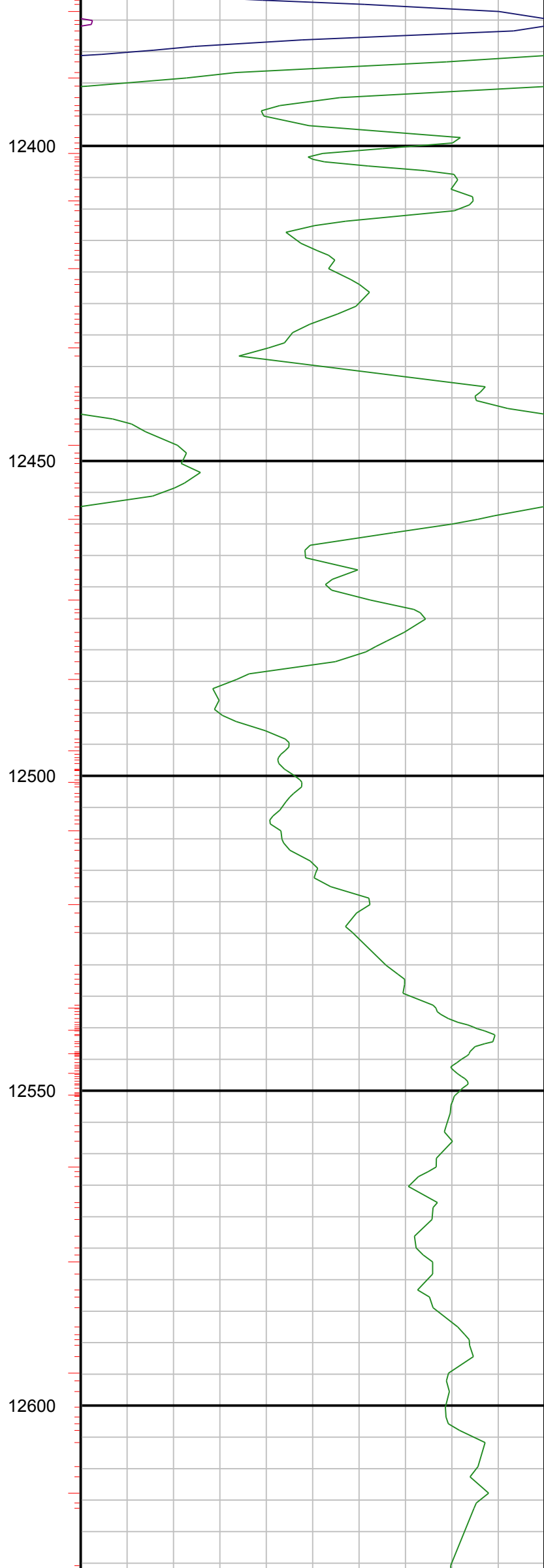
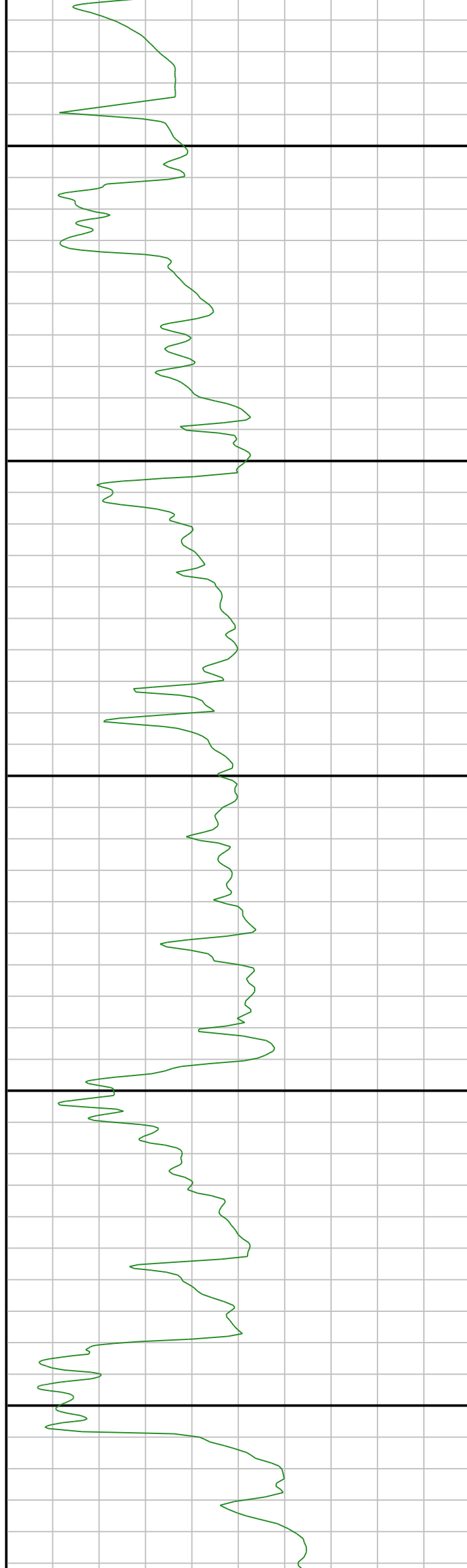


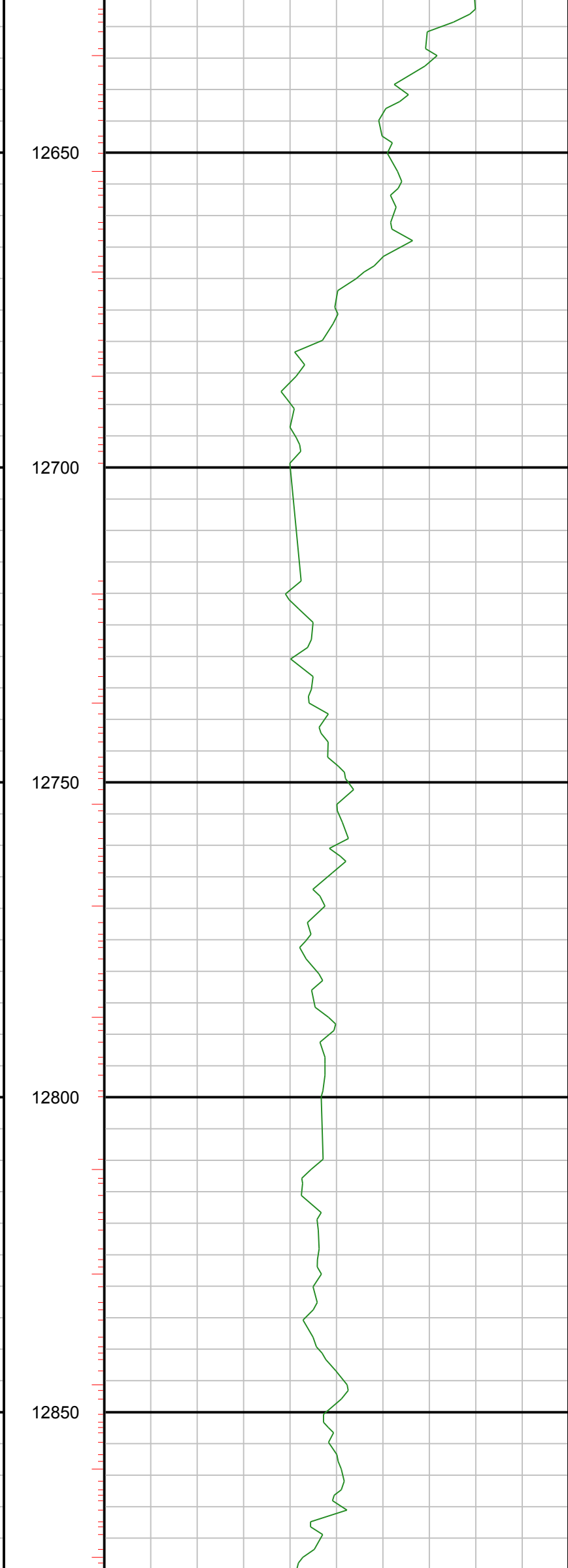
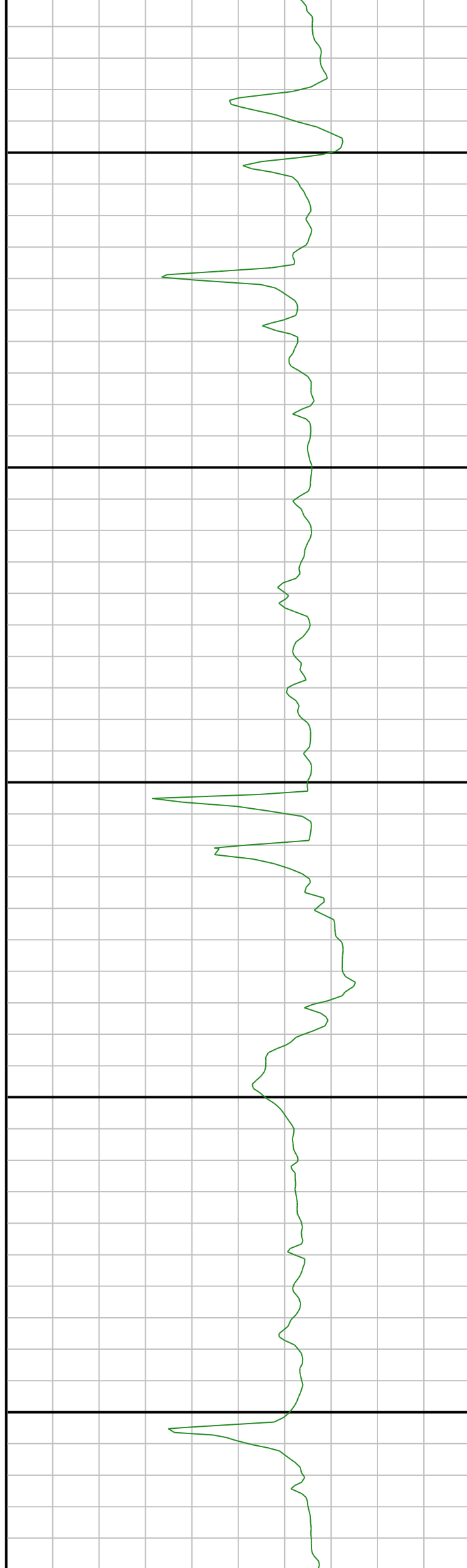


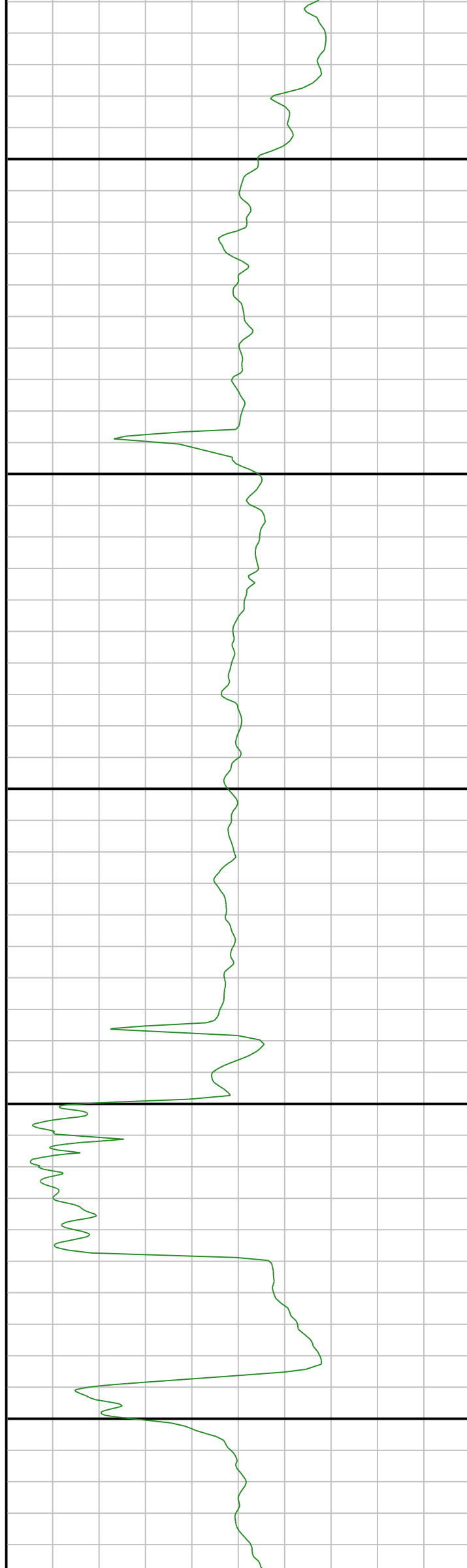












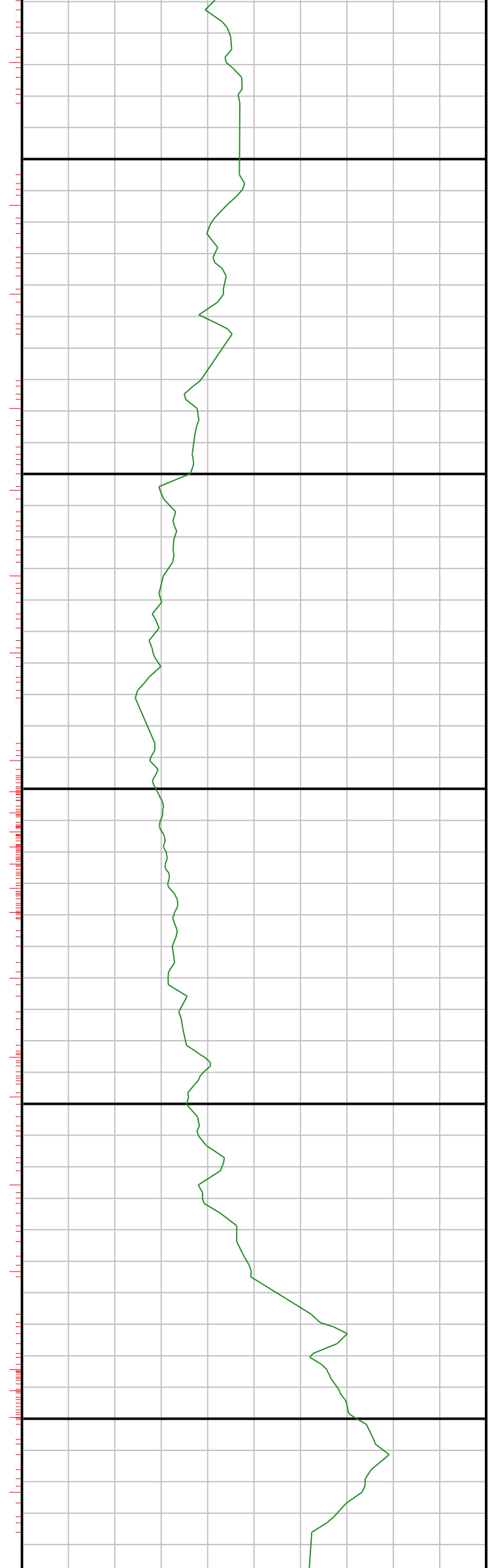
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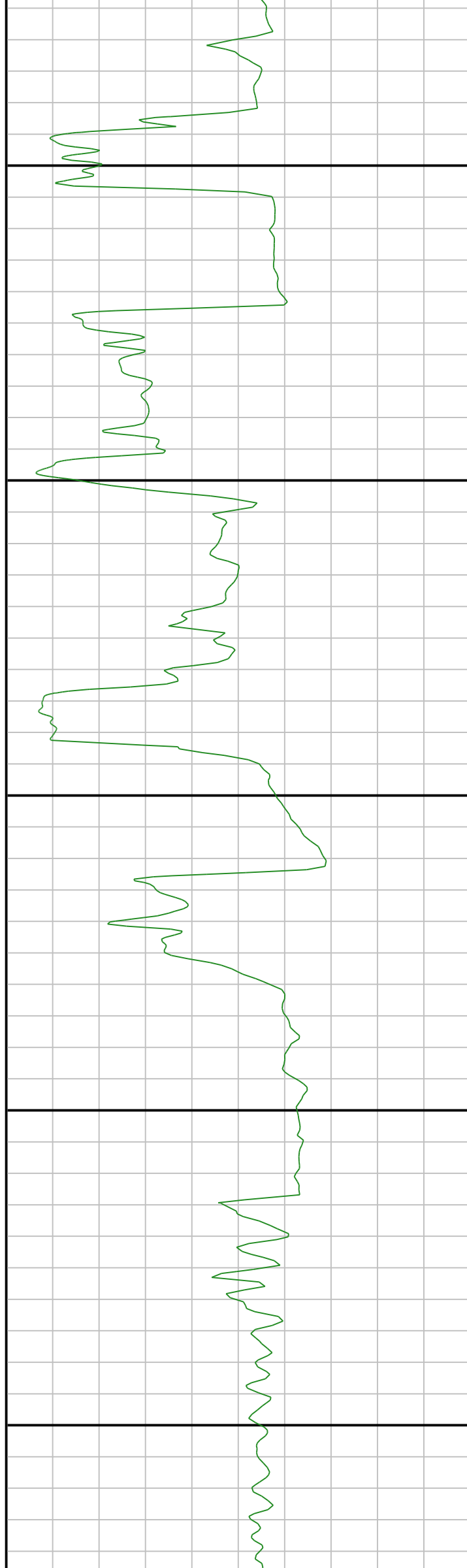
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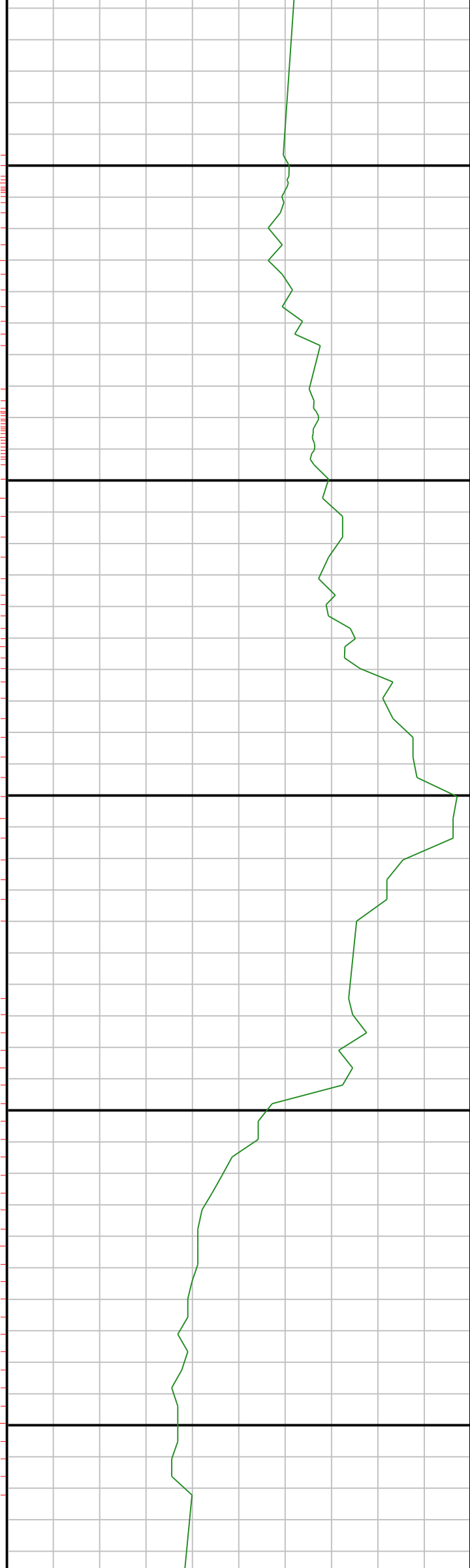
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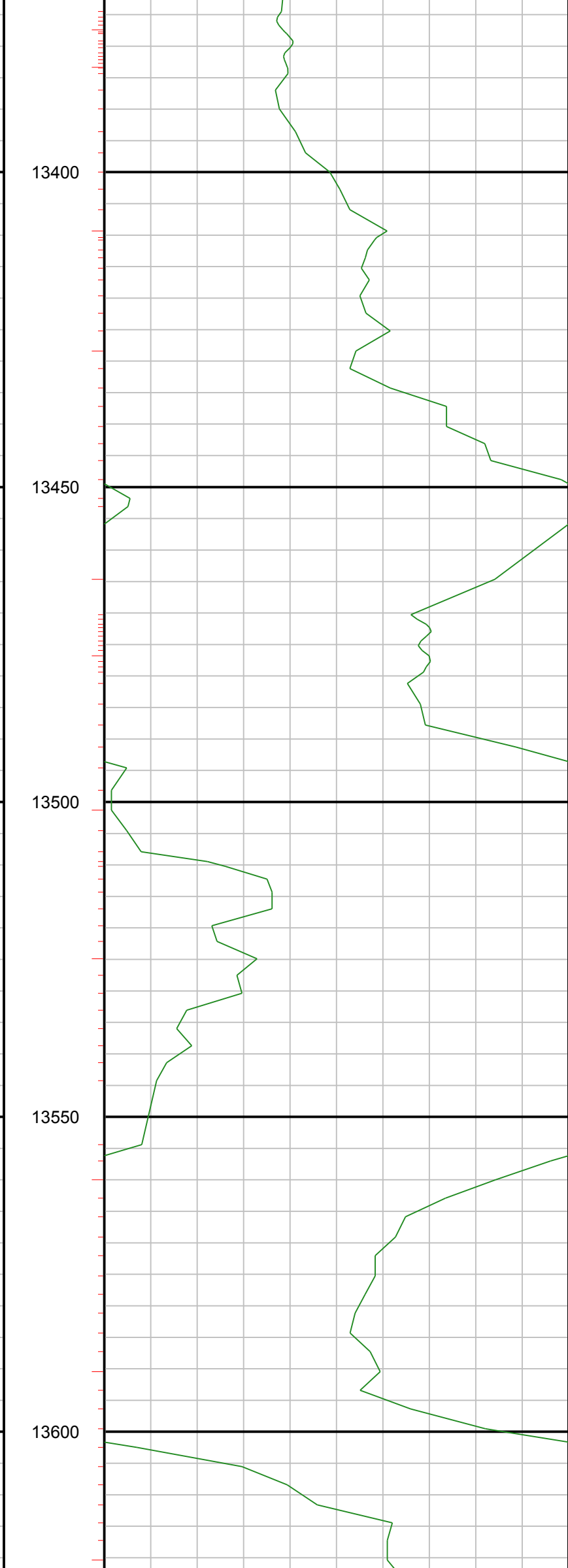
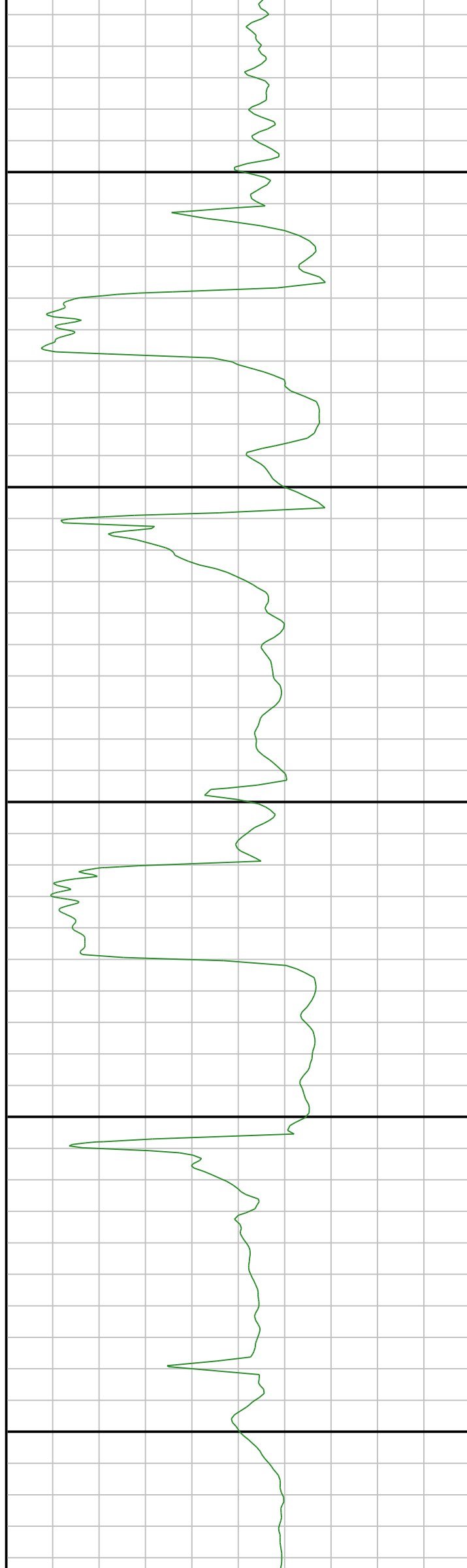
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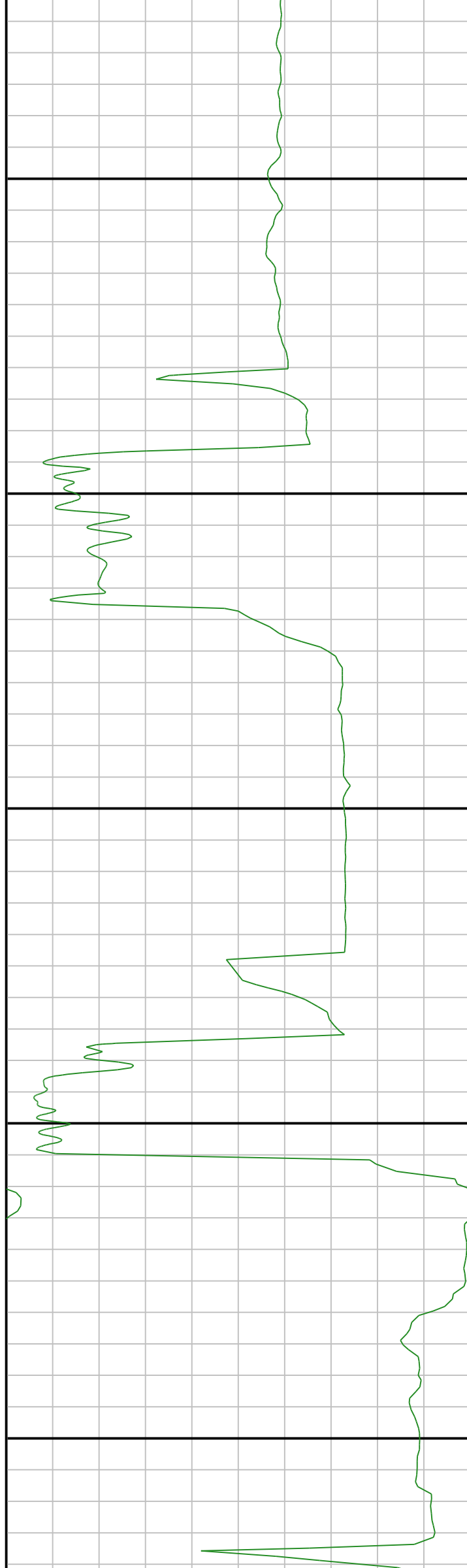
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13300

13350







13650

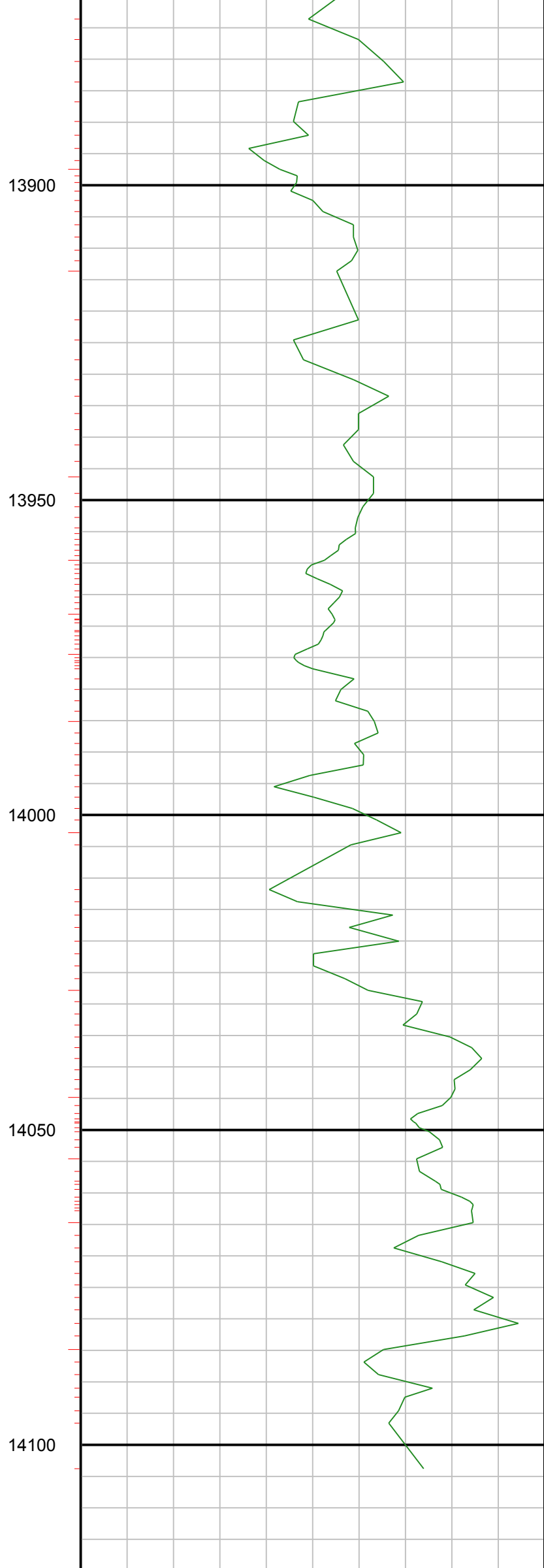
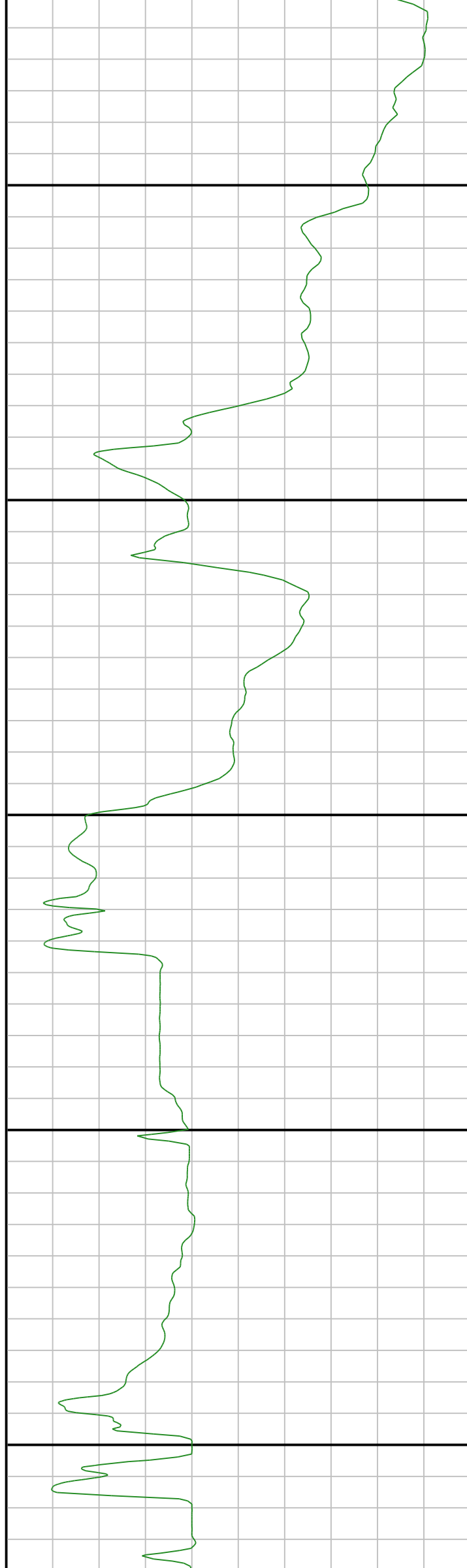
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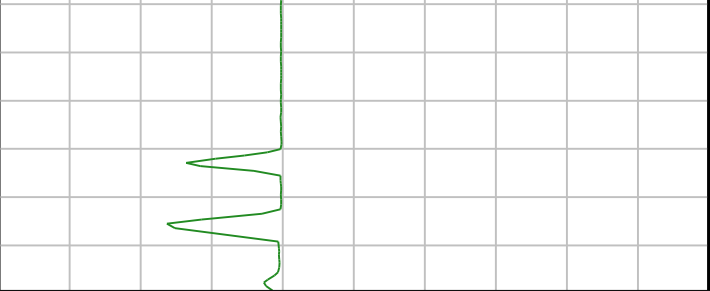
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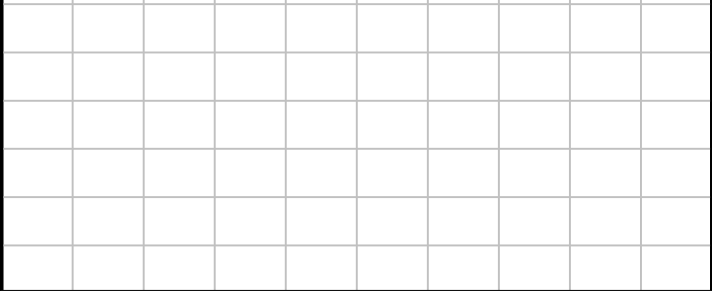






ROP		ROP
0	ft/hr	300
ROP		ROP
300	ft/hr	600
ROP		ROP
600	ft/hr	900
ROP		ROP
900	ft/hr	1200

14150



Gamma		Gama
0	AAPI	150
Gamma		Gama
150	AAPI	300
Gamma		Gama
300	AAPI	450
Gamma		Gama
450	AAPI	600