



Realtime Log

Natural Formation Evaluation
Gamma Ray

Scale:

1:240

Measured Depth

Company: Anadarko

Well: Grenemyer 14C-3HZ

Field: Weld County (Kerr McGee)

Region: Rocky Mountains State: Colorado

Status:

Field Print

Surface Location:

Latitude: 40° 0' 47.160" N

Longitude: 104° 52' 35.432" W

Other Services:

API Number:

051 233841 60000

SEC: 34

TWP: 1N

Range: 67W

Elevation: 5049.00 ft.

Elevations:

Permanent Datum (P.D.):

Ground Level

Elevation: 16.00 ft.

Rig Floor

Above P.D.

KB: N/A

Log Measured From:

Driller's Depth

GL: 5049.00 ft.

Interval Logged

Dates

Magnetic Field Reference

Top: 7098.0 ft. Date From: 23/Dec/2013 Dip Angle: 66.26° Azi Reference North: True

Bottom: 16648.0 ft. Date To: 12/Jan/2014 Total Mag to Reference

Spud Date: 22/Dec/2013 Field Strength: 52571.0 nT North Correction: 8.49°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
8.750 in.	1117.0 ft.	8185.0 ft.	9.625 in.	36.00 lb/ft	Surface	1106.0 ft.
6.125 in.	8185.0 ft.	16697.0 ft.	7.000 in.	26.00 lb/ft	Surface	8173.0 ft.

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
LSND	1117.0 ft.	8185.0 ft.	8.750 in.	90.0 ft.	0.5° / 61.0°	0.4° / 341.8°
Innovert	8185.0 ft.	16697.0 ft.	8.750 in.	45.0 ft.	0.4° / 341.8°	87.9° / 179.8°
			6.125 in.	85.0 ft.	87.9° / 179.8°	89.9° / 183.0°
					/	/
					/	/
					/	/
					/	/

Acquisition System

Software Version

Other

Advantage 2.20U4 Rig: Xtreme 24 / Xtreme Coil Drilling Corp

PATS 6.4.1.34 Job No: 6003619 / D&E

District / Unit: RMD

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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	7098.0	8132.0	7170.0	8185.0	23/Dec/2013 05:50	23/Dec/2013 20:30		34.1	
2	2	2	6.125	PDC	6.000	Steerable	8132.0	10633.0	8185.0	10687.0	06/Jan/2014 21:18	08/Jan/2014 03:36		30.4	
3	3	3	6.125	PDC	6.000	Steerable	10633.0	12496.0	10687.0	12544.0	09/Jan/2014 00:05	09/Jan/2014 19:45		20.1	
4	4	4	6.125	PDC	7.500	Steerable	12496.0	16648.0	12544.0	16697.0	10/Jan/2014 13:15	12/Jan/2014 22:50		56.2	

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Austin Small	20/Dec/2013	25/Dec/2013	Steven Cano	21/Dec/2013	22/Dec/2013	Osagie Otokhine	22/Dec/2013	25/Dec/2013

Austin Small	06/Jan/2014	13/Jan/2014	Steven Cano	06/Jan/2014	13/Jan/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)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
23/Dec/2013	18:00	1	7340.0	LSND	9.8	14	8.1	N/A	0.0/91.0	Active	1400	N/A
05/Jan/2014	18:00	2	8185.0	Innovert	9.7	17	N/A	N/A	61.8/38.2	Active	105,000	N/A
07/Jan/2014	06:00	2	9020.0	Innovert	9.2	12	N/A	N/A	64.1/35.9	Active	95,000	N/A
07/Jan/2014	18:00	2	10194.0	Innovert	9.4	13	N/A	N/A	62.9/37.1	Active	90,000	N/A
08/Jan/2014	18:00	2	10687.0	Innovert	9.3	15	N/A	N/A	61.1/38.9	Active	90,000	N/A
09/Jan/2014	06:00	3	11424.0	Innovert	9.4	13	N/A	N/A	60.6/39.4	Active	85,000	N/A
09/Jan/2014	18:00	3	12417.0	Innovert	9.7	18	N/A	N/A	61.4/68.6	Active	87,000	N/A
10/Jan/2014	18:00	4	12900.0	Innovert	9.4	16	N/A	N/A	62.6/37.4	Active	86,000	N/A
11/Jan/2014	06:00	4	13866.0	Innovert	9.5	16	N/A	N/A	62.2/37.8	Active	84,000	N/A
11/Jan/2014	18:00	4	14908.0	Innovert	9.6	16	N/A	N/A	61.7/38.3	Active	84,000	N/A
12/Jan/2014	06:00	4	15624.0	Innovert	9.5	16	N/A	N/A	61.9/38.1	Active	84,000	N/A
12/Jan/2014	18:00	4	16311.0	Innovert	9.4	16	N/A	N/A	61.4/38.6	Active	81,000	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	ft
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	12546344	Directional	55.64	6.750	3.250
1	SRIG	10658453	Gamma	52.27	6.750	3.250
2	DIR	11941435	Directional	53.88	4.750	2.813
2	SRIG	12023982	Gamma	50.50	4.750	2.813
3	DIR	12592563	Directional	52.30	4.750	2.813
3	SRIG	12041109	Gamma	48.92	4.750	2.813
4	DIR	11941434	Directional	52.00	4.750	2.813
4	SRIG	10662886	Gamma	48.62	4.750	2.813

Service and Tool Mnemonics

Comments	
	<p>1) Baker Hughes INTEQ run 1 utilized 6 1/2 inch NaviGamma(Gamma Ray and Directional) behind a 8 3/4 inch bit and steerable assembly from 7170 feet to 8185 feet MD (7151 feet to 7772 feet TVD).</p> <p>2) Baker Hughes INTEQ runs 2, 3, and 4 utilized 4 3/4 inch NaviGamma(Gamma Ray and Directional) behind a 6 1/8 inch bit and steerable assembly from 8185 feet to 16697 feet MD (7151 feet to 7791 feet TVD).</p> <p>3) 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 sensor offset to correspond with gamma data acquired while sliding.</p>



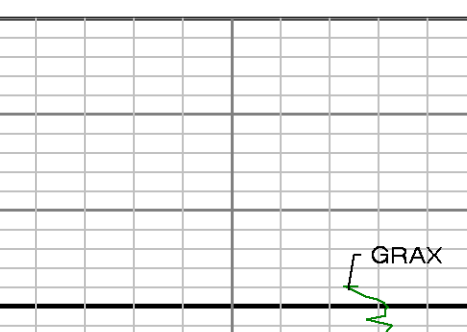
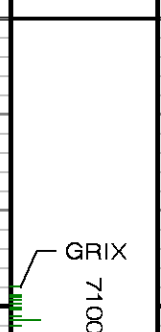
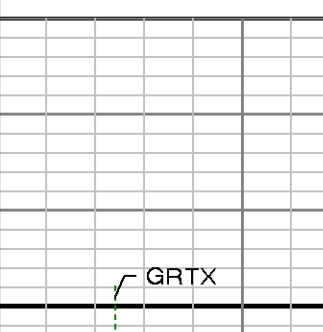
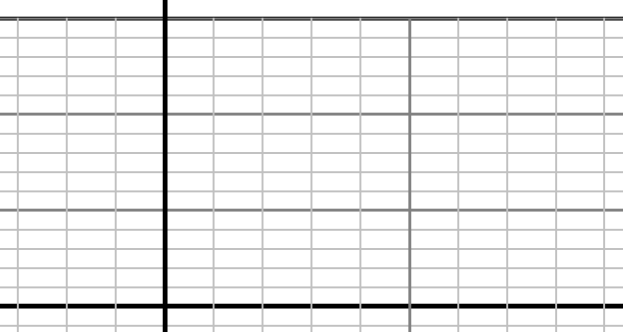
**BAKER
HUGHES**

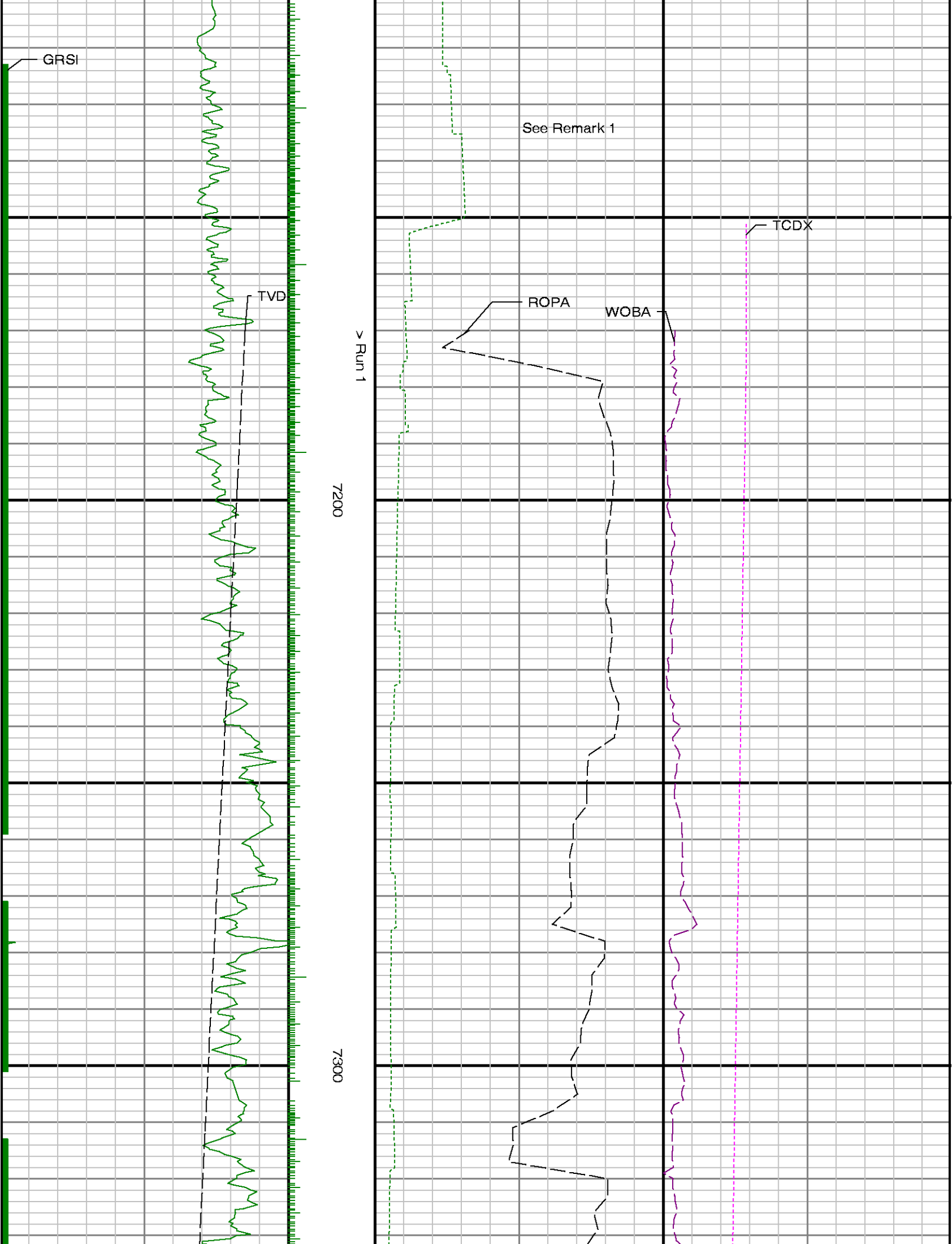
Company : Anadarko

Well : Grenemyer 14C-3HZ

Interval : 7070.00 - 16720.00 feet DOWN

Created : 11/Jan/2014 10:10:40 PM

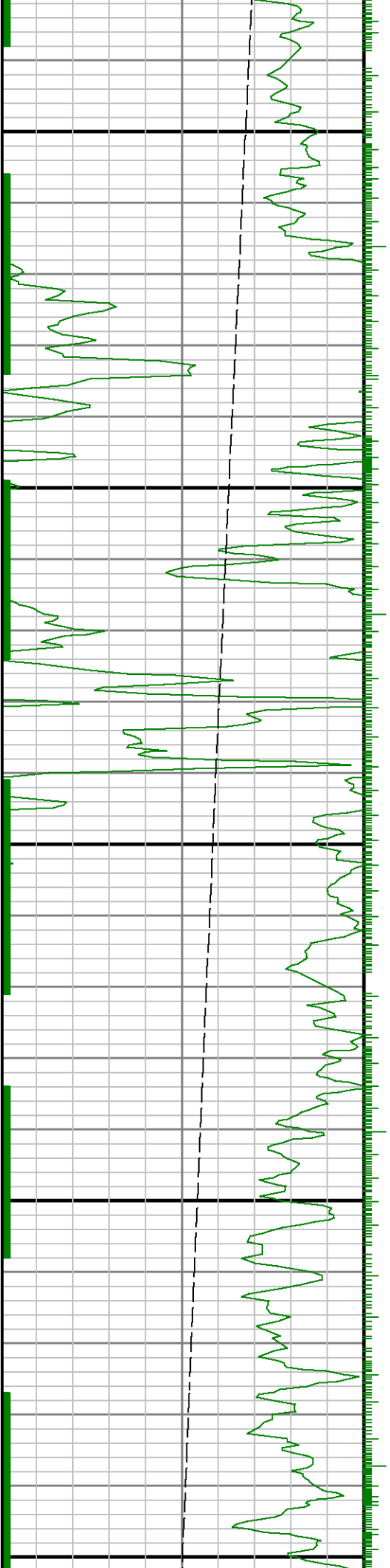
Gamma Ray Apparent 0.5 ft Avg [GRAX] 0 150 API True Vertical Depth [TVD] 8000 7000 ft	MD feet 1:240	Rate of Penetration 3.0 ft Avg [ROPA] 500 0 ft/hr Gamma Time Since Drilled [GRTX] 0 600 min	Surface Weight On Bit 1.0 ft Avg [WOBA] 0 150 klbf Downhole Temperature [TCDX] 100 300 degF
 <p>GRAX</p>	 <p>GRIX 7100</p>	 <p>GRTX</p>	

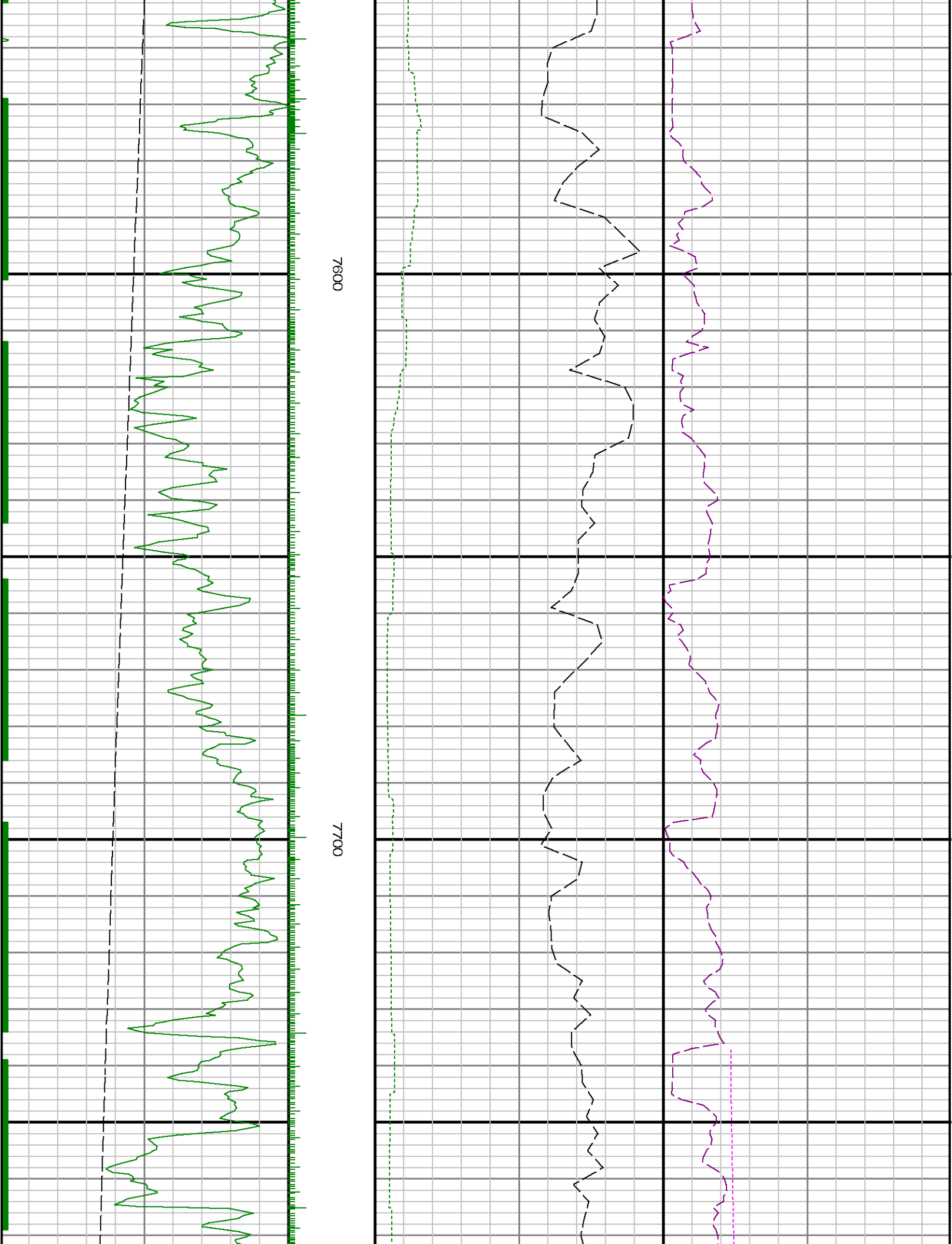


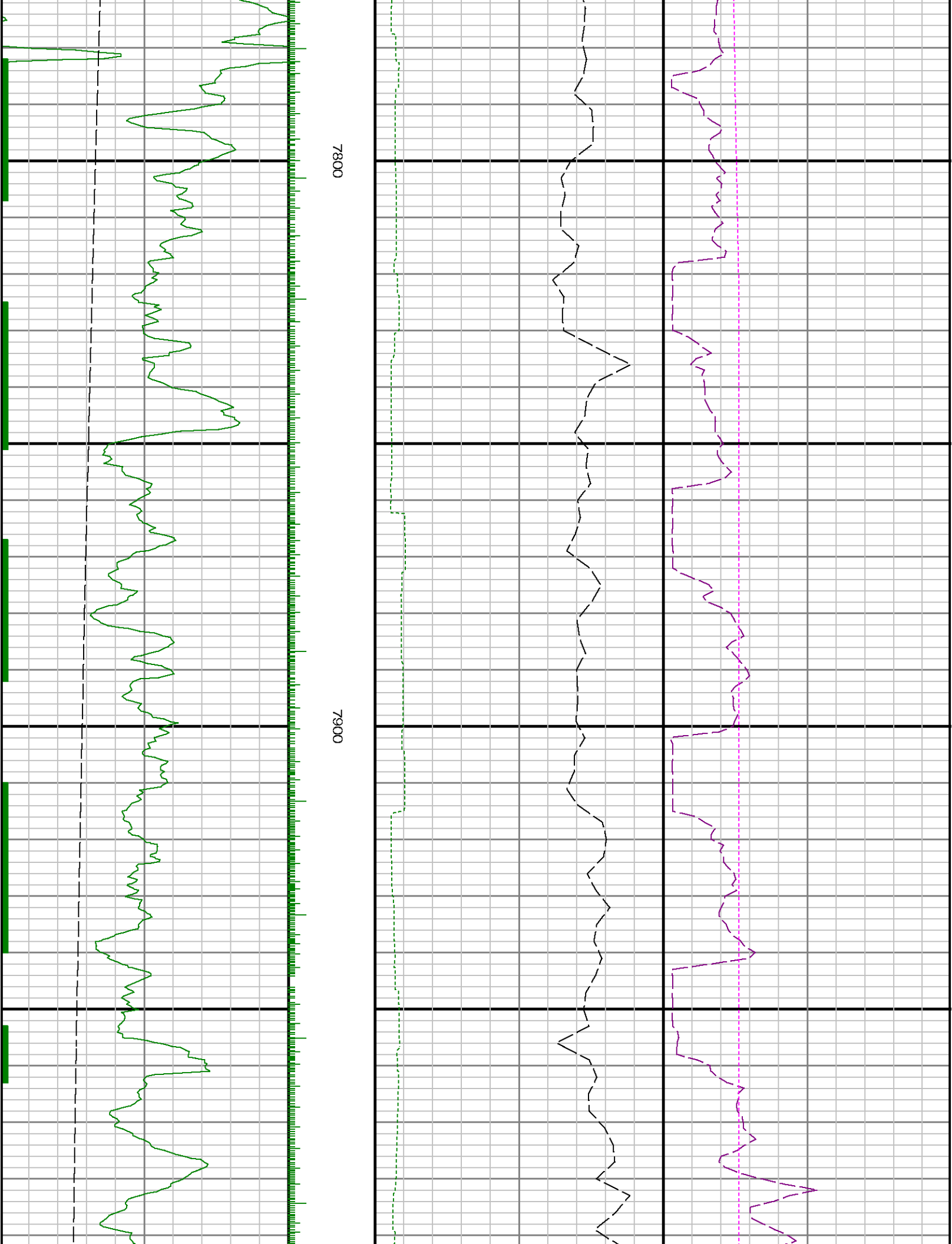


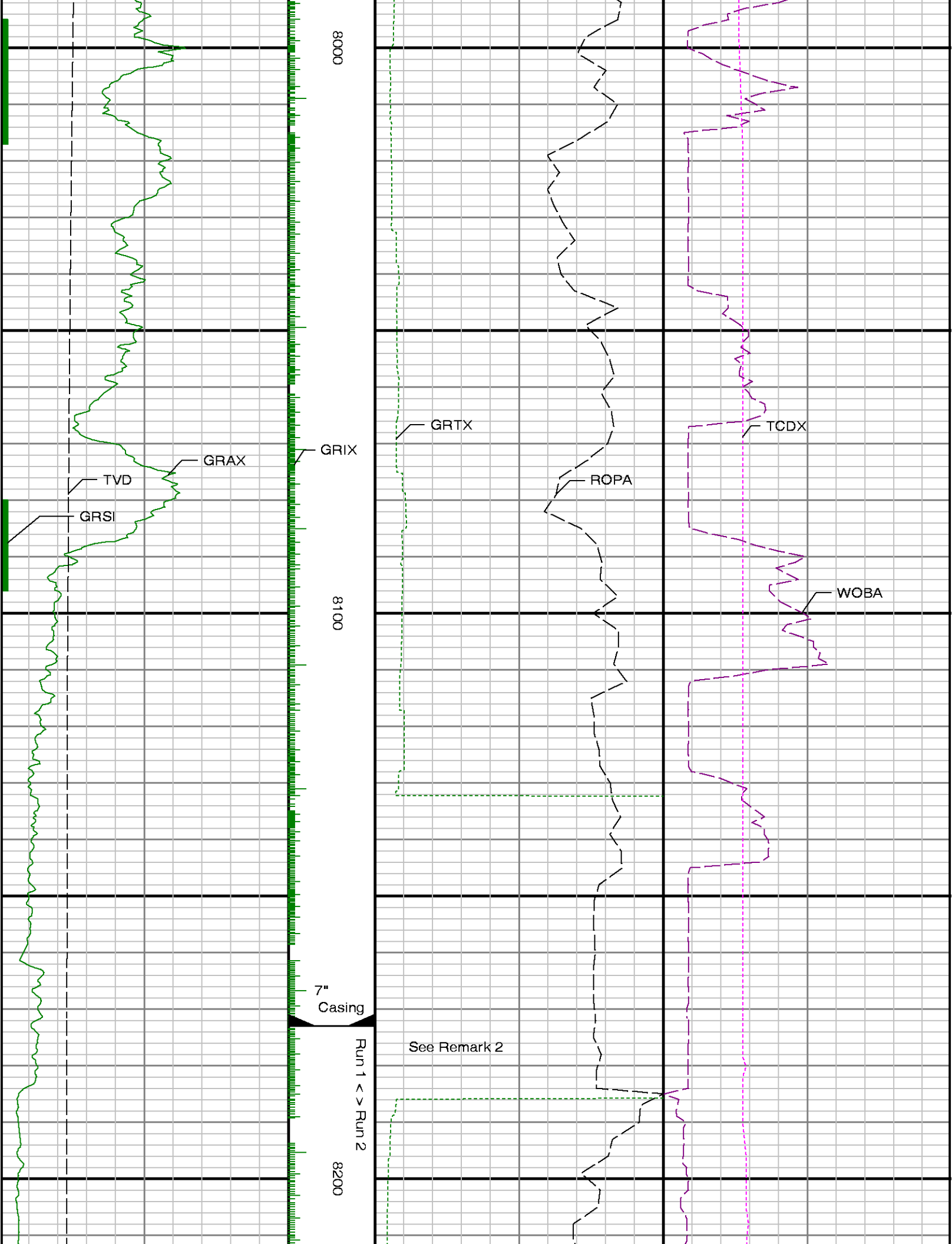
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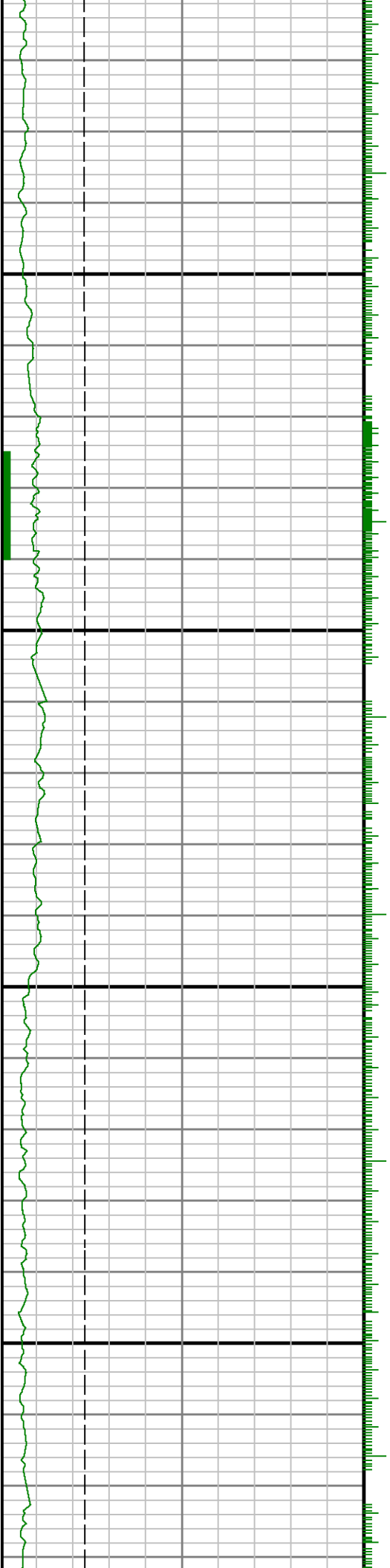


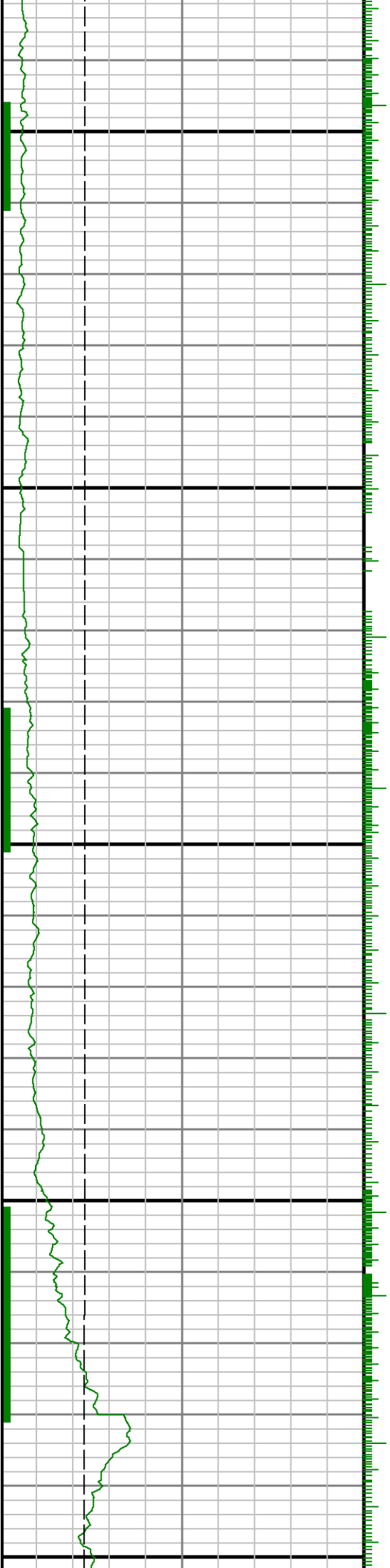




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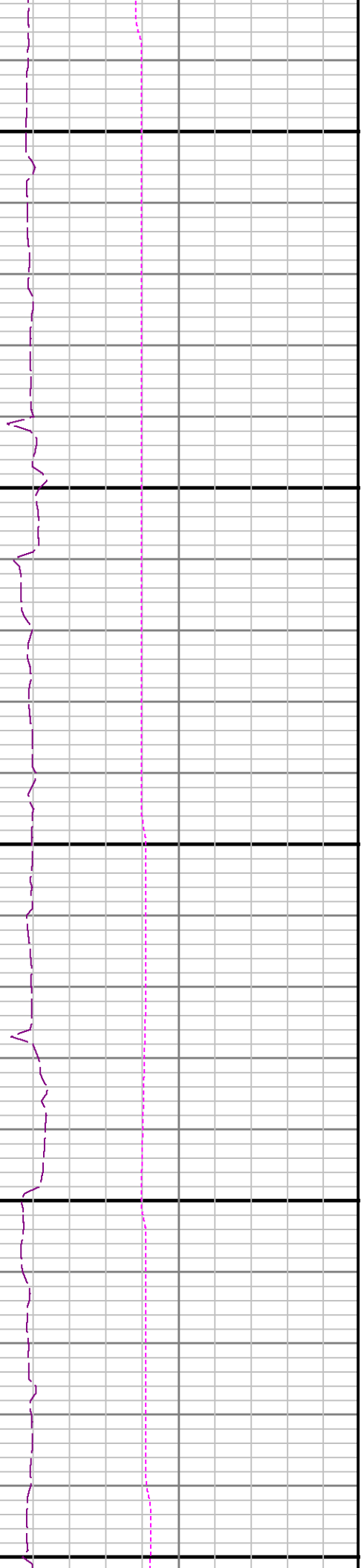
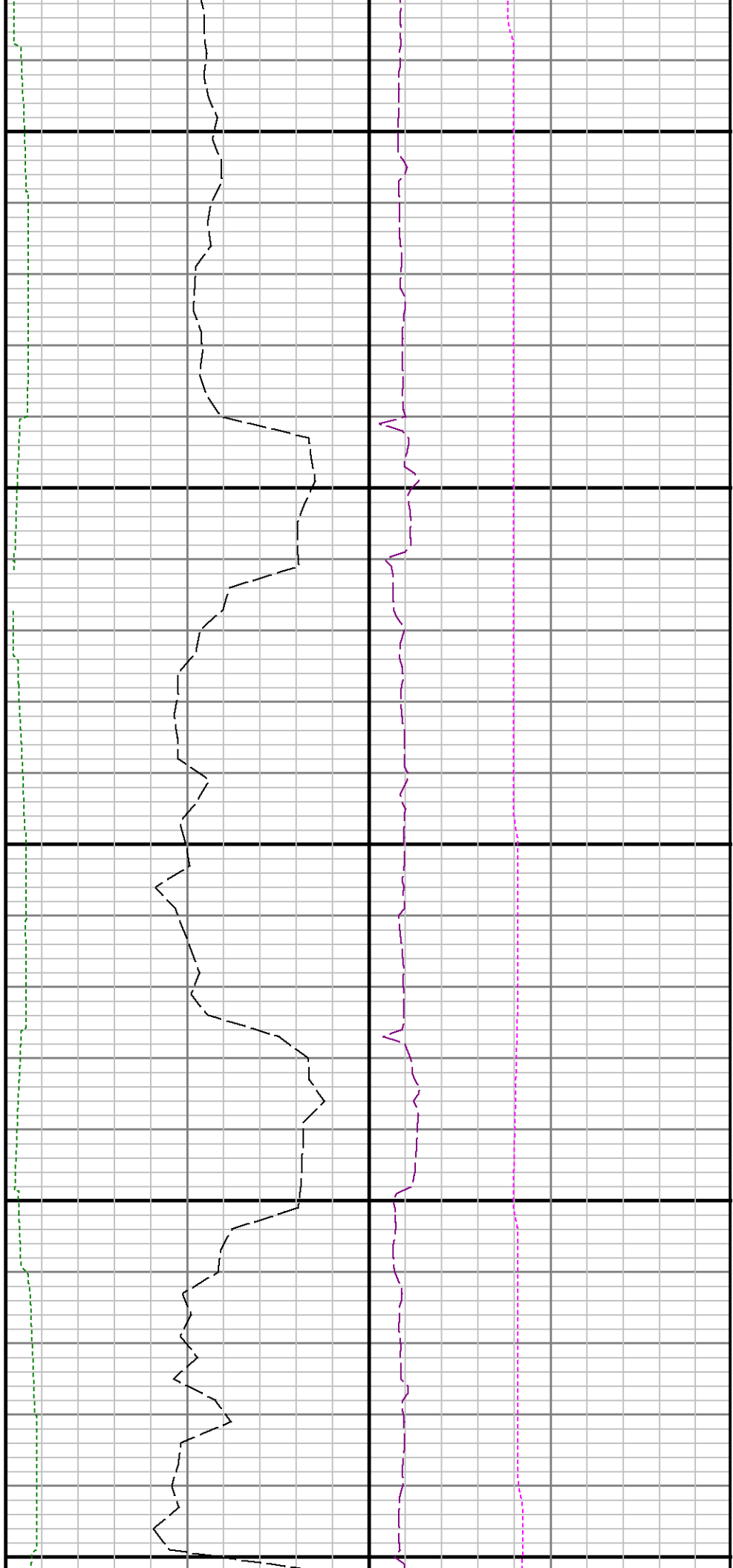
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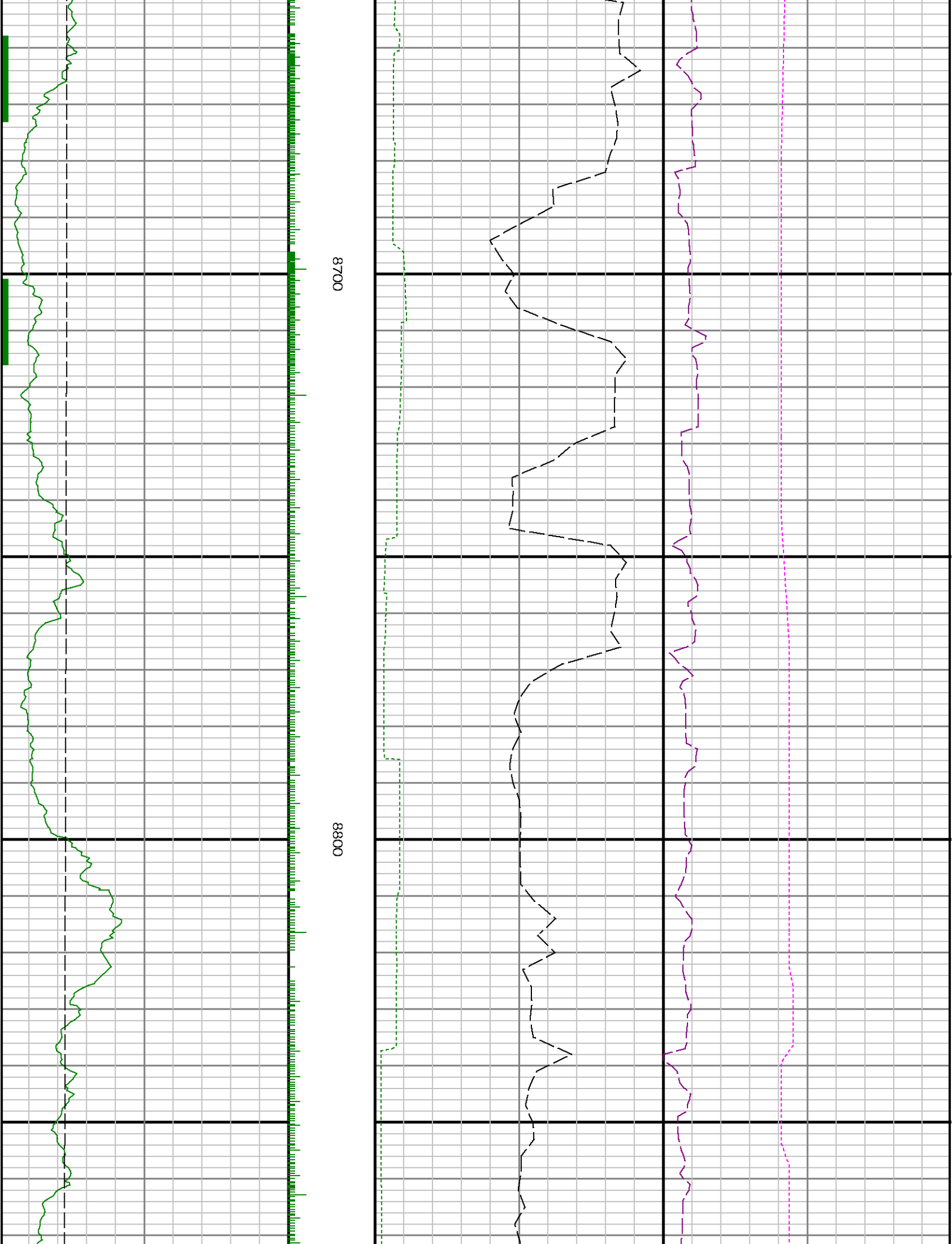


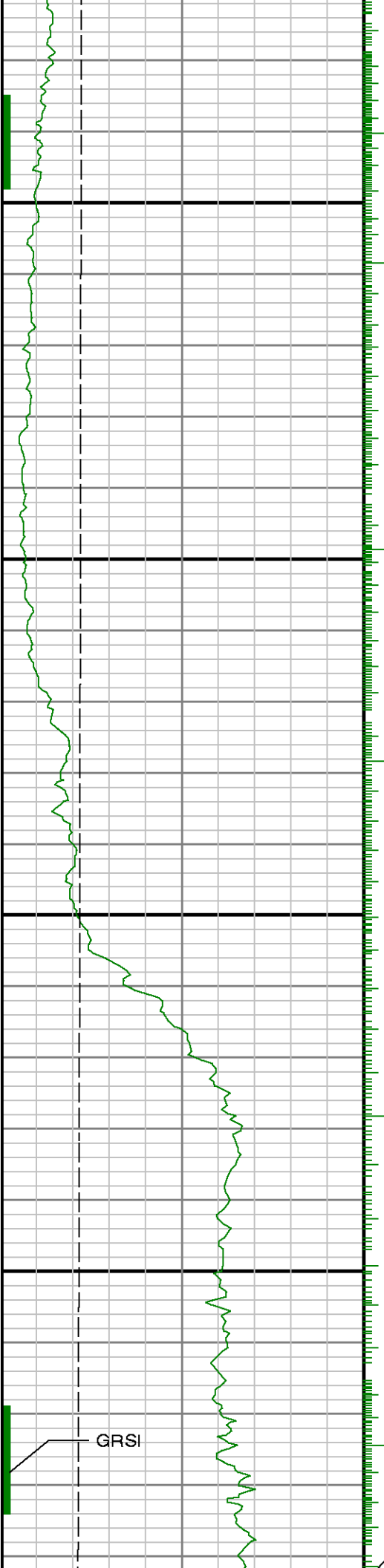


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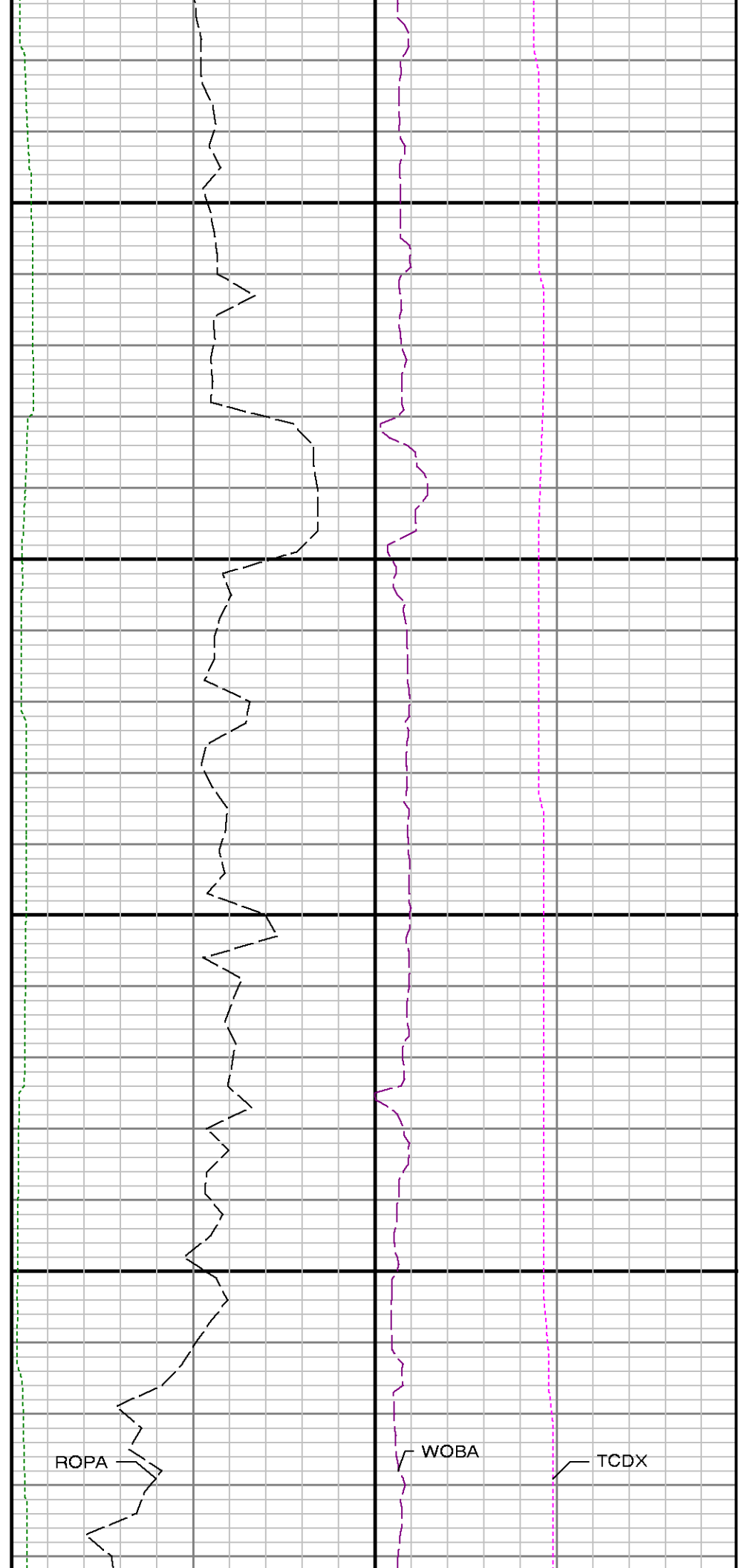


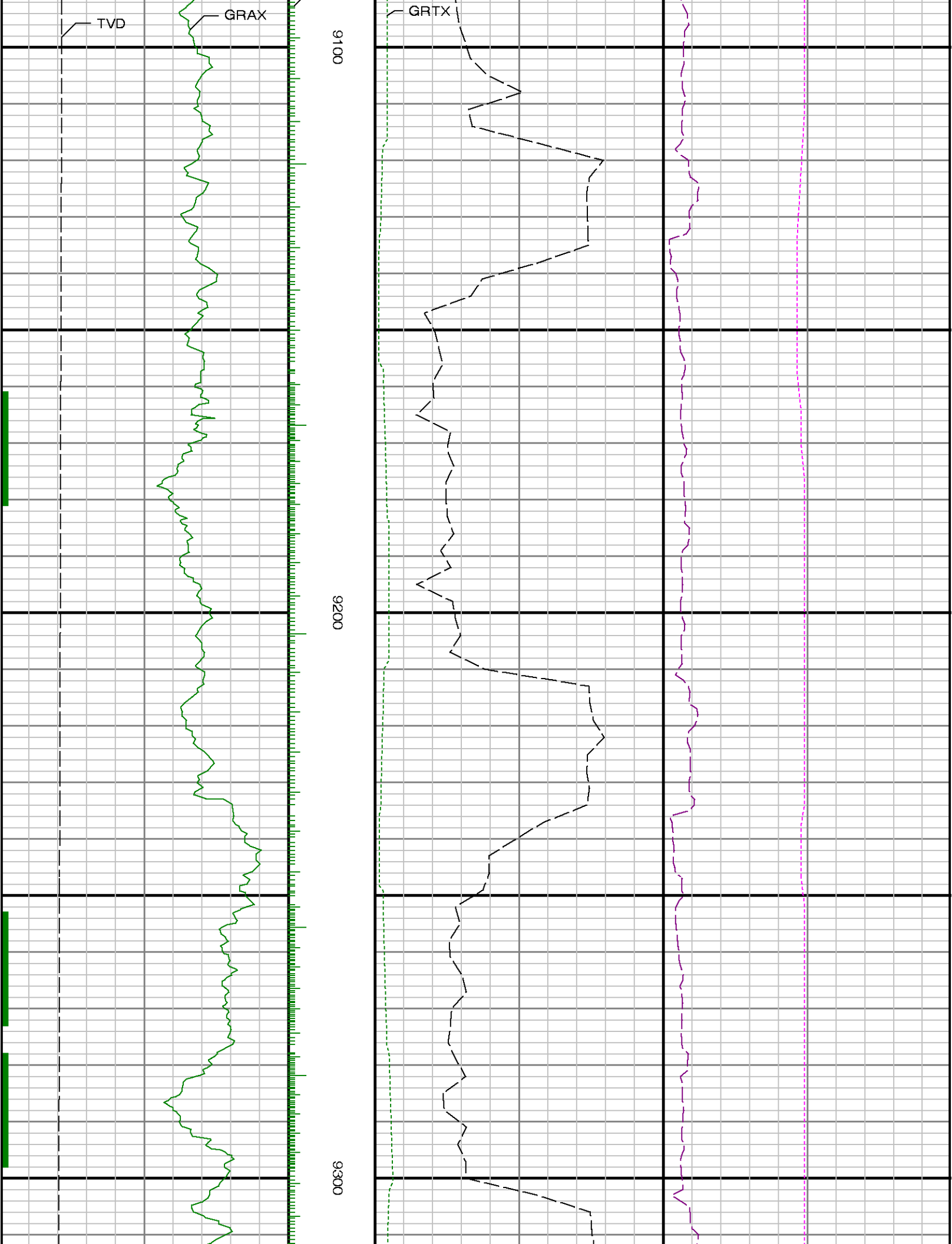




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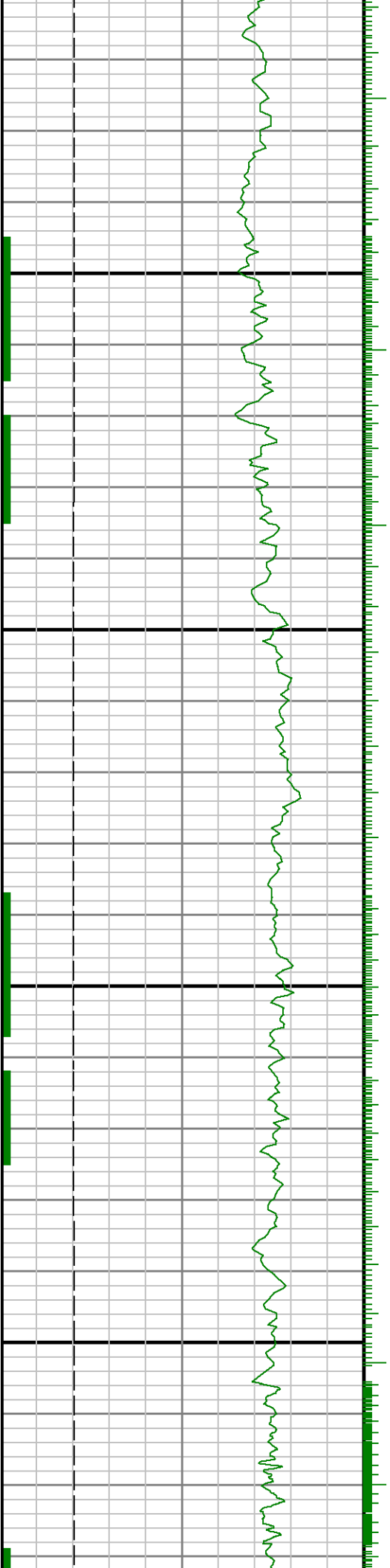


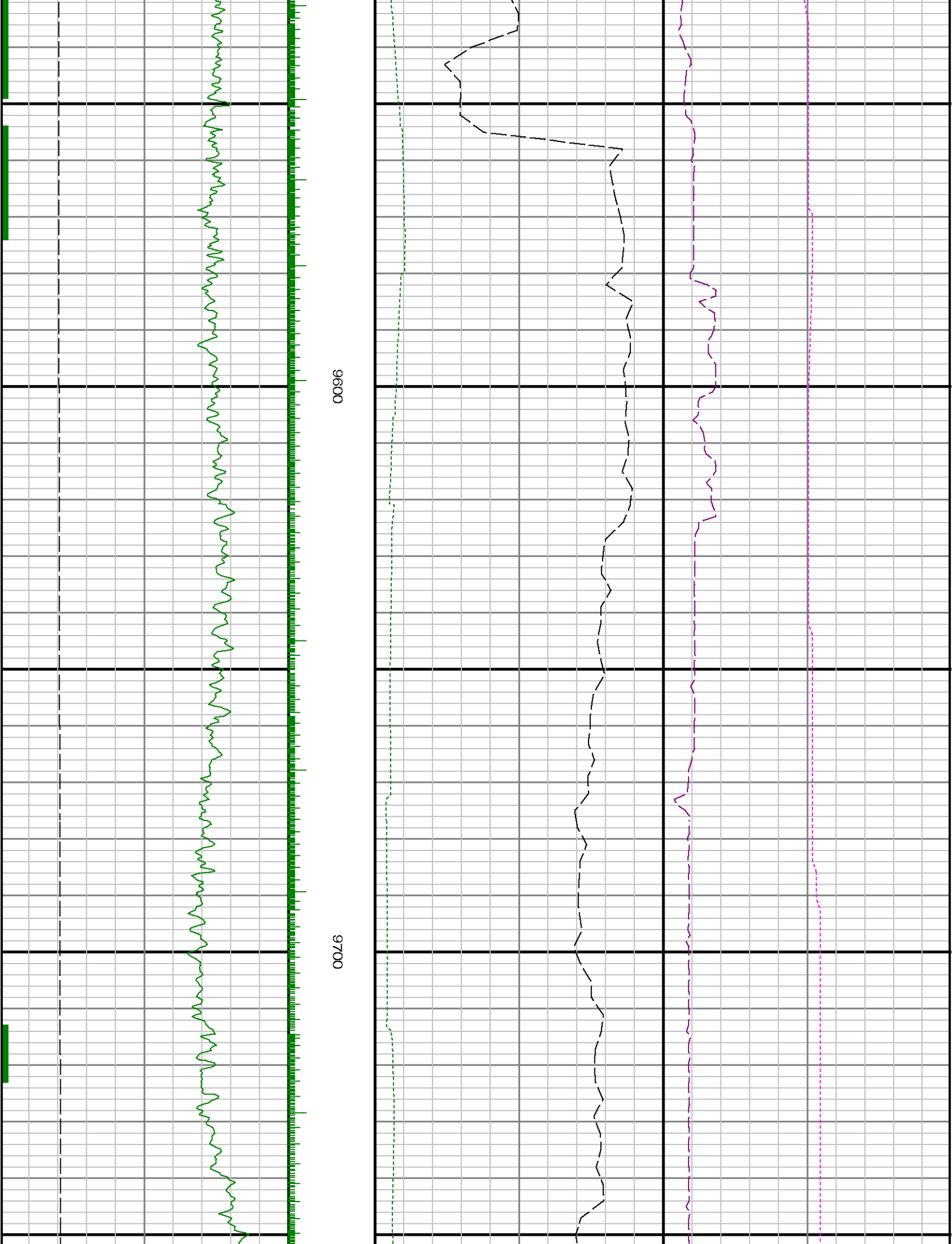


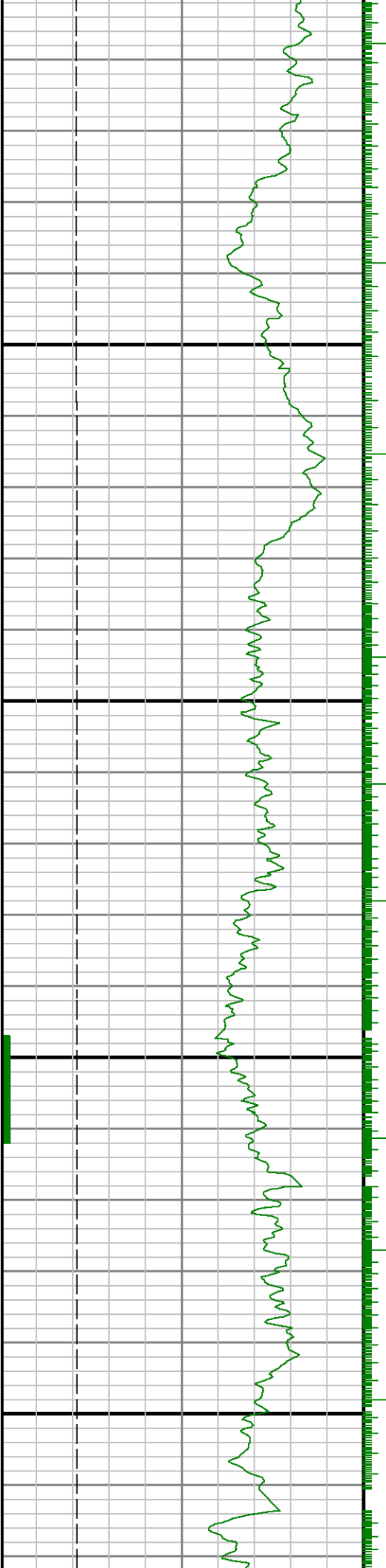


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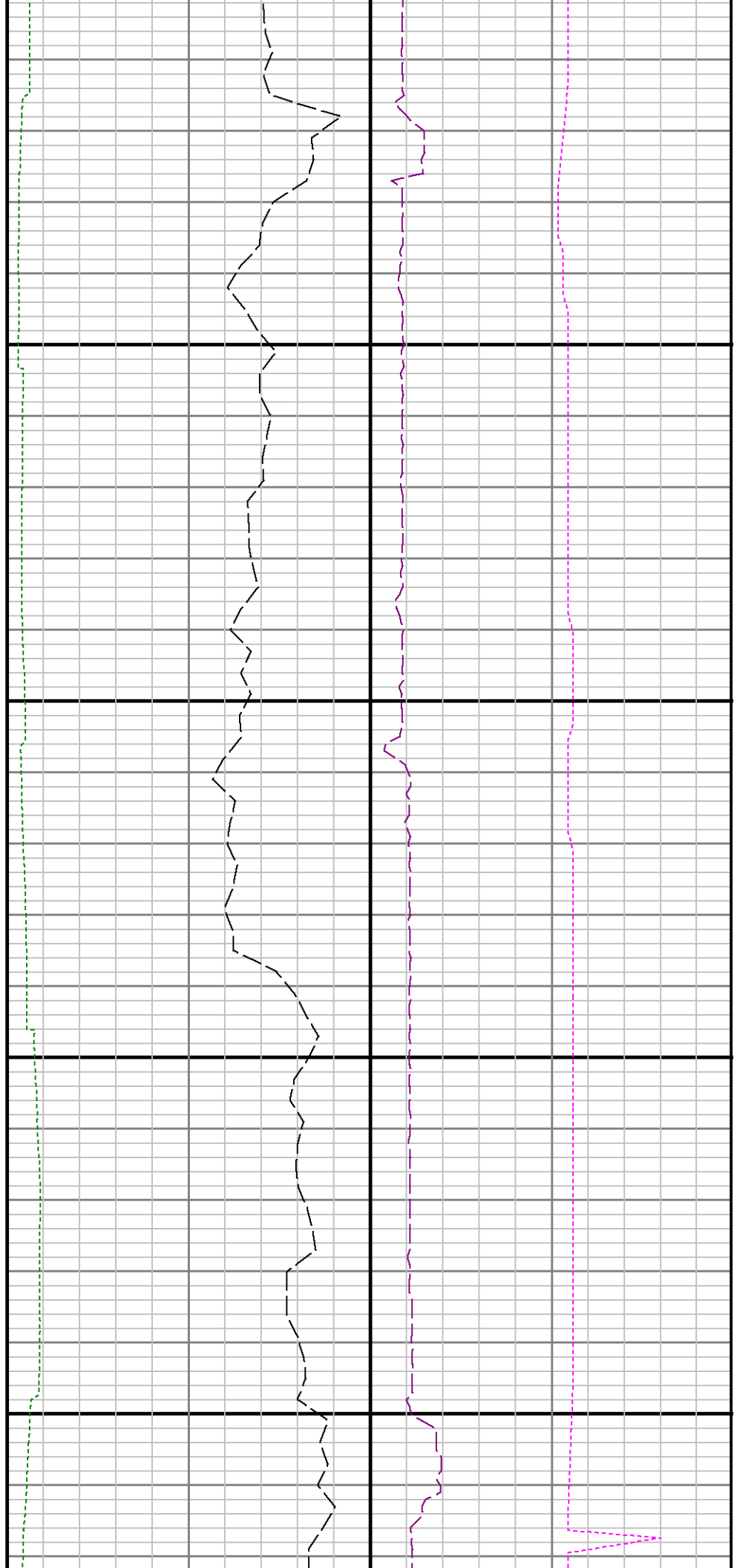


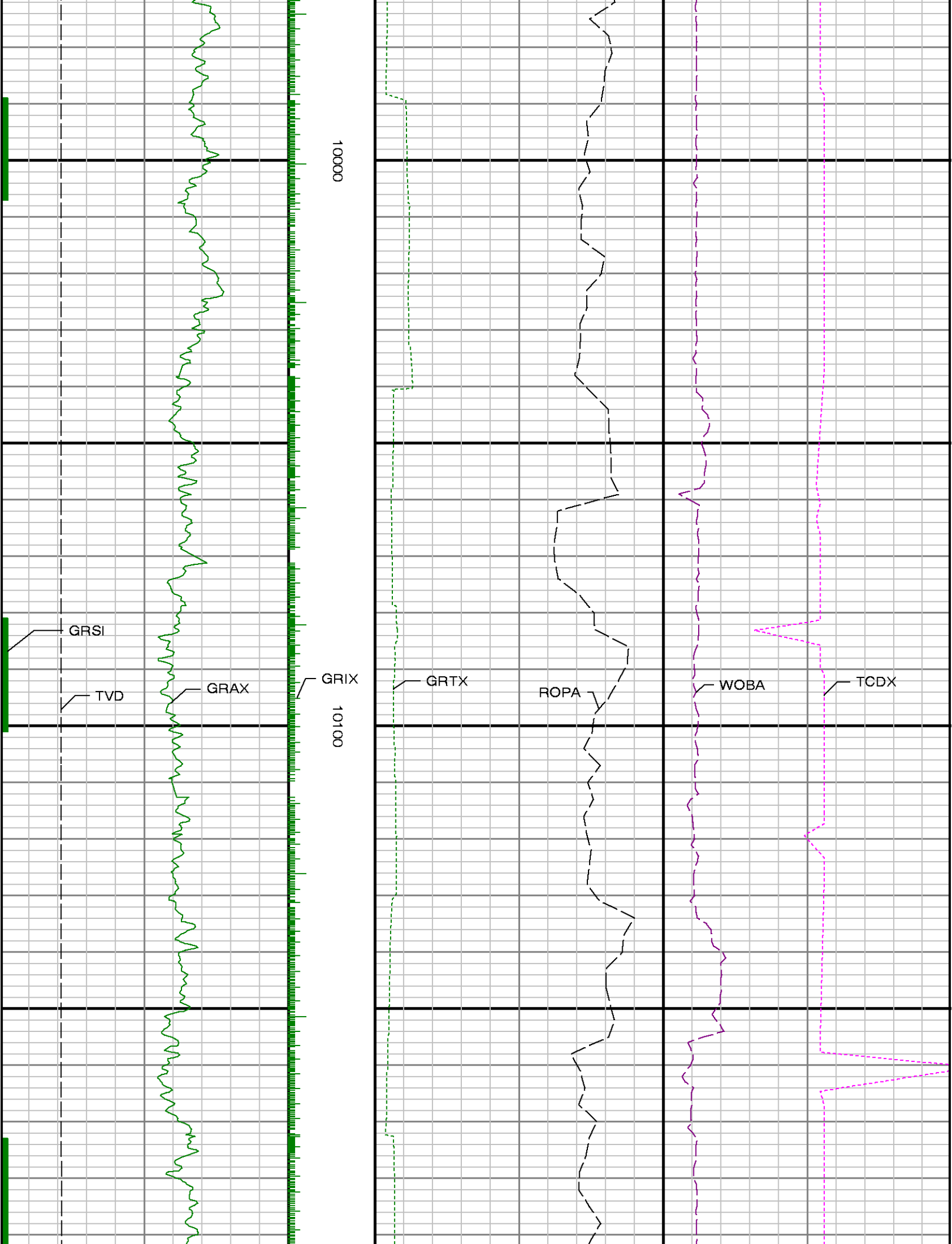


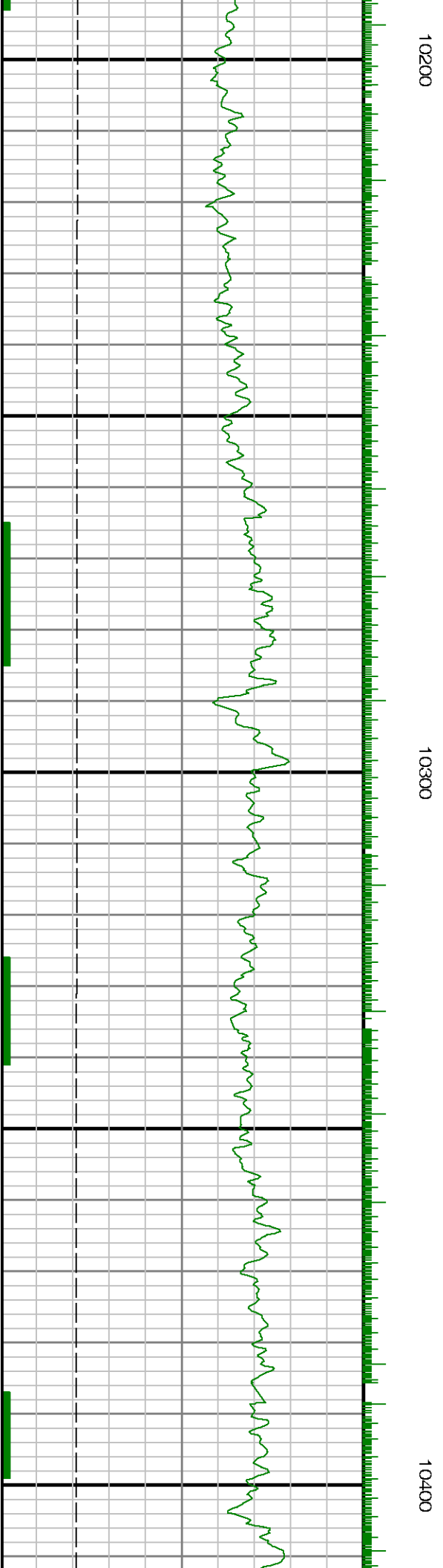
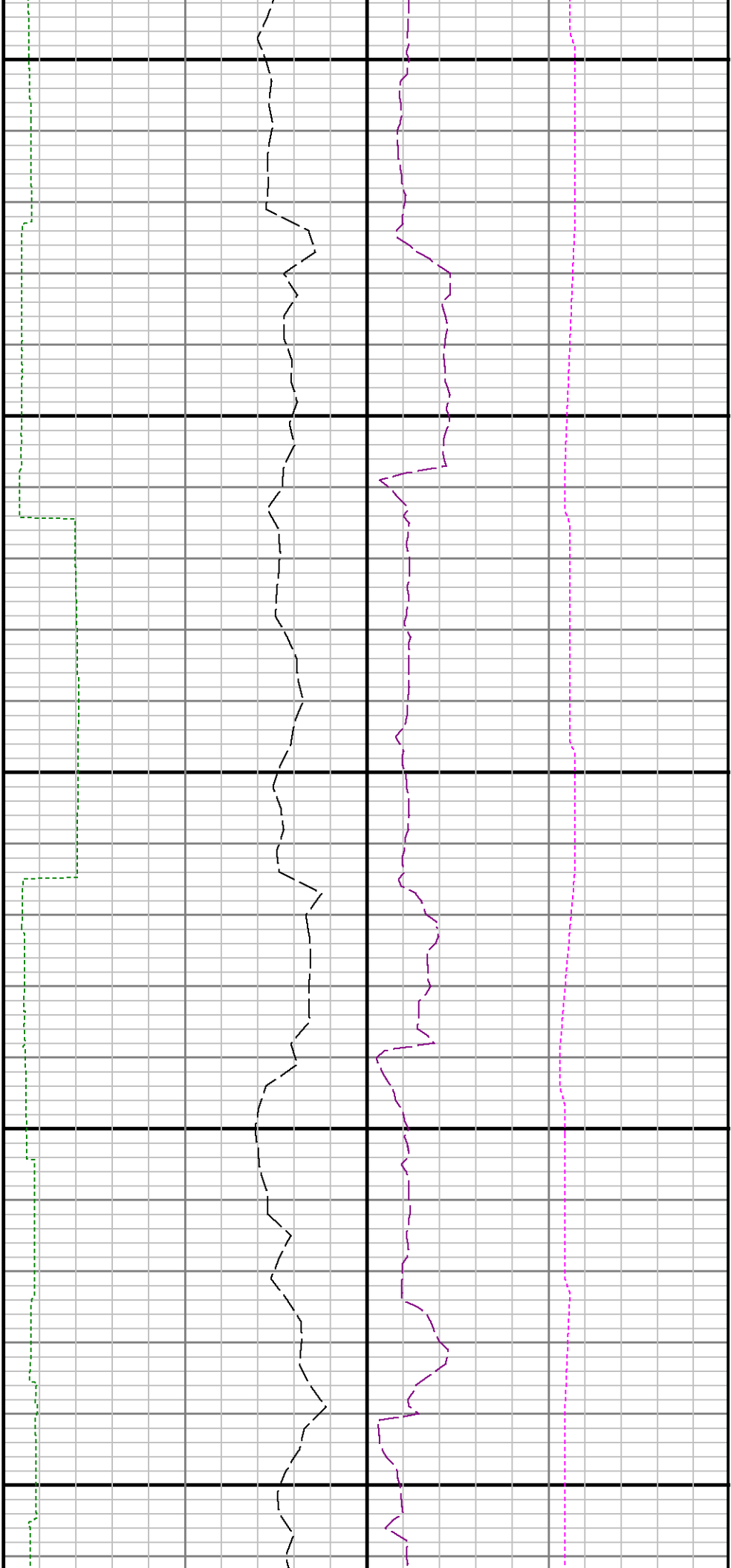


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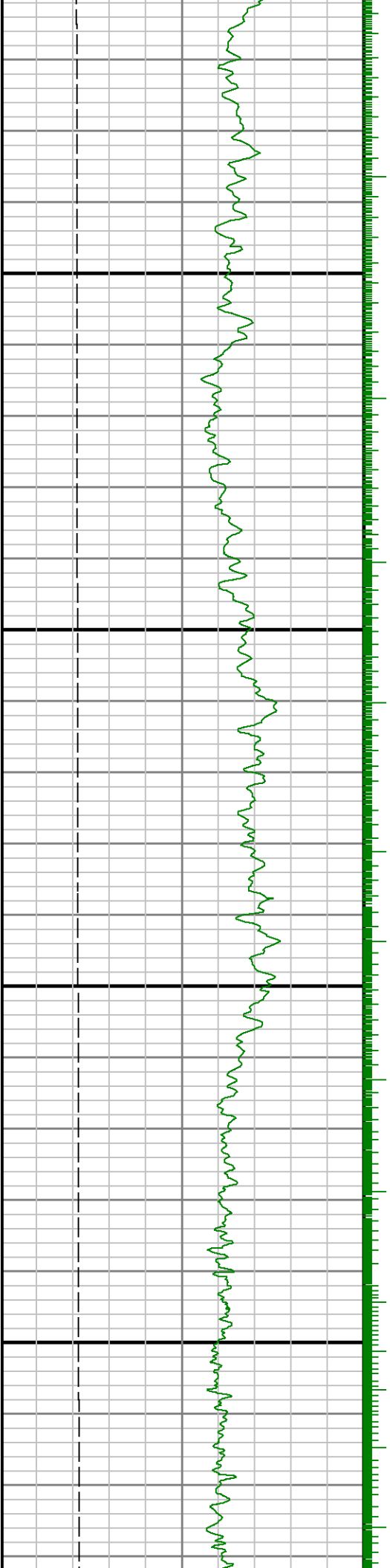


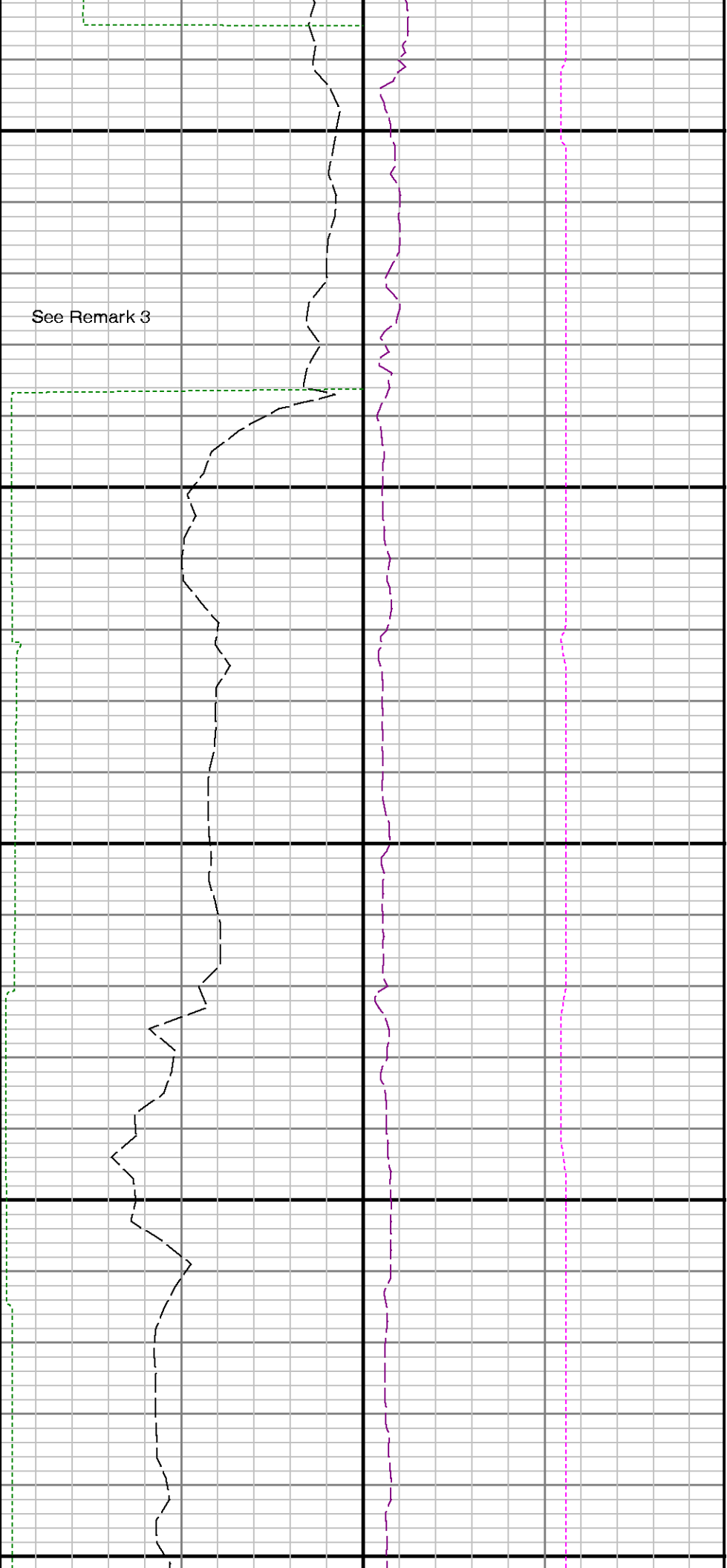




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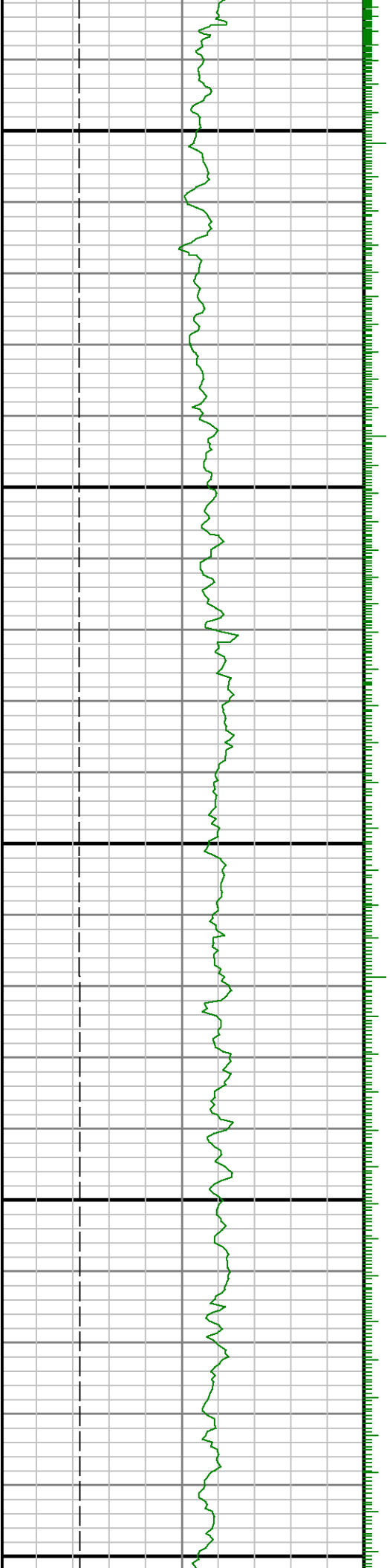


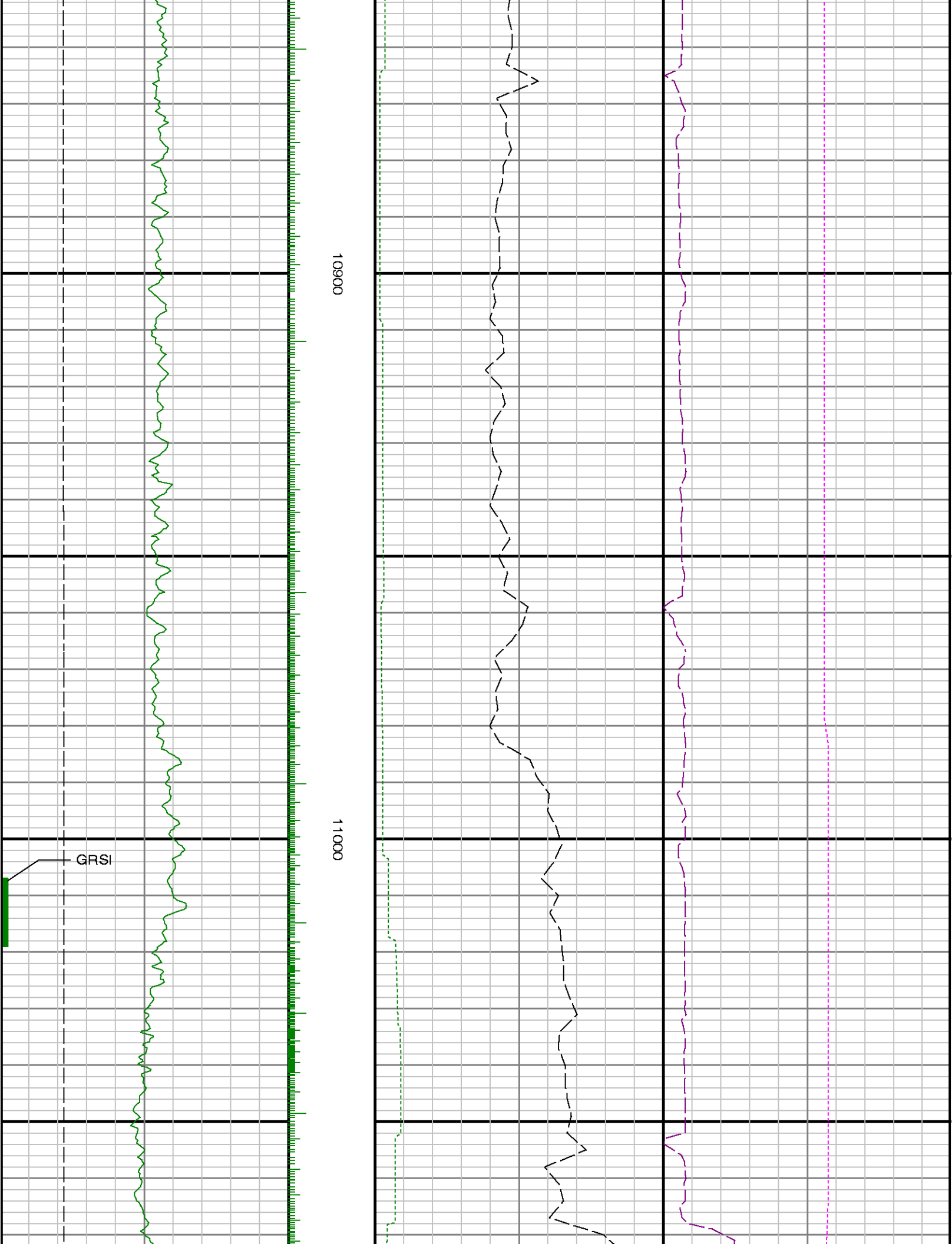


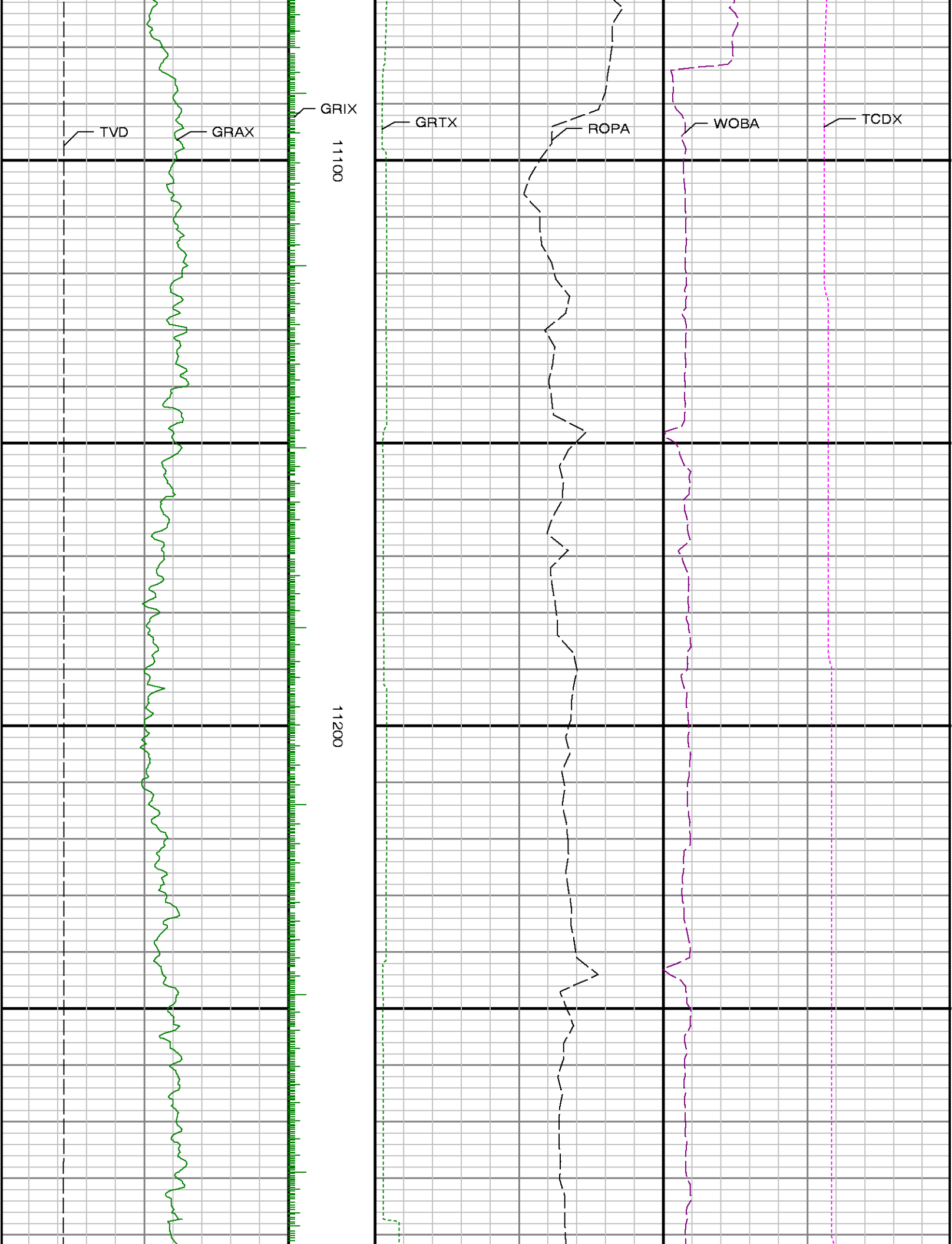
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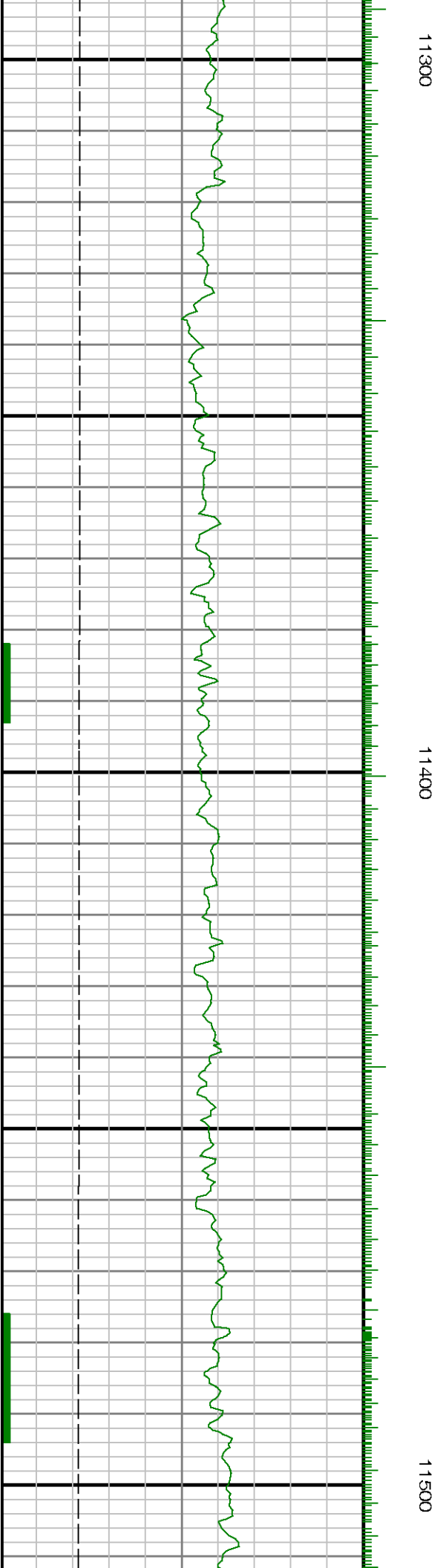
Run 2 < > Run 3
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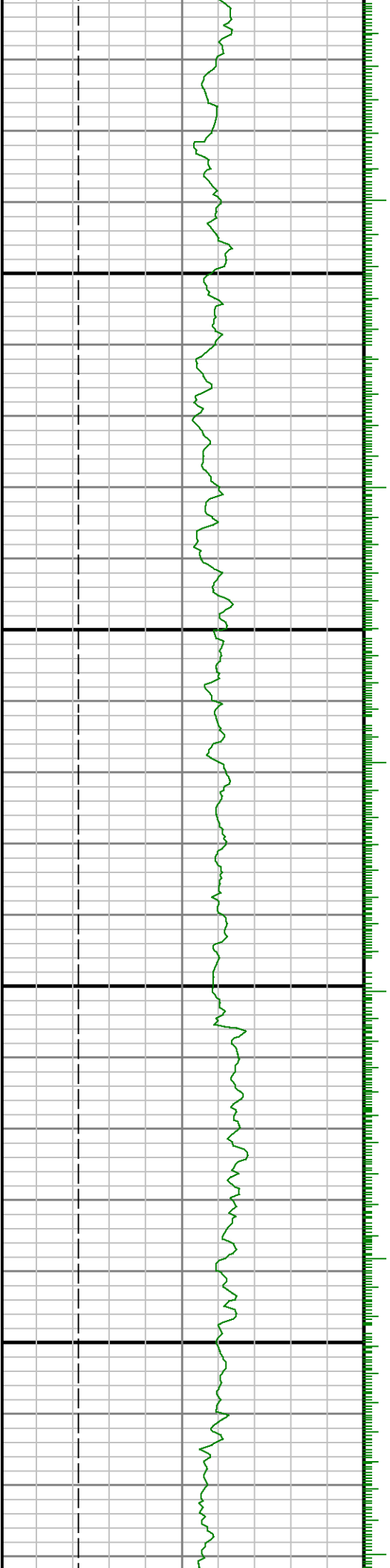


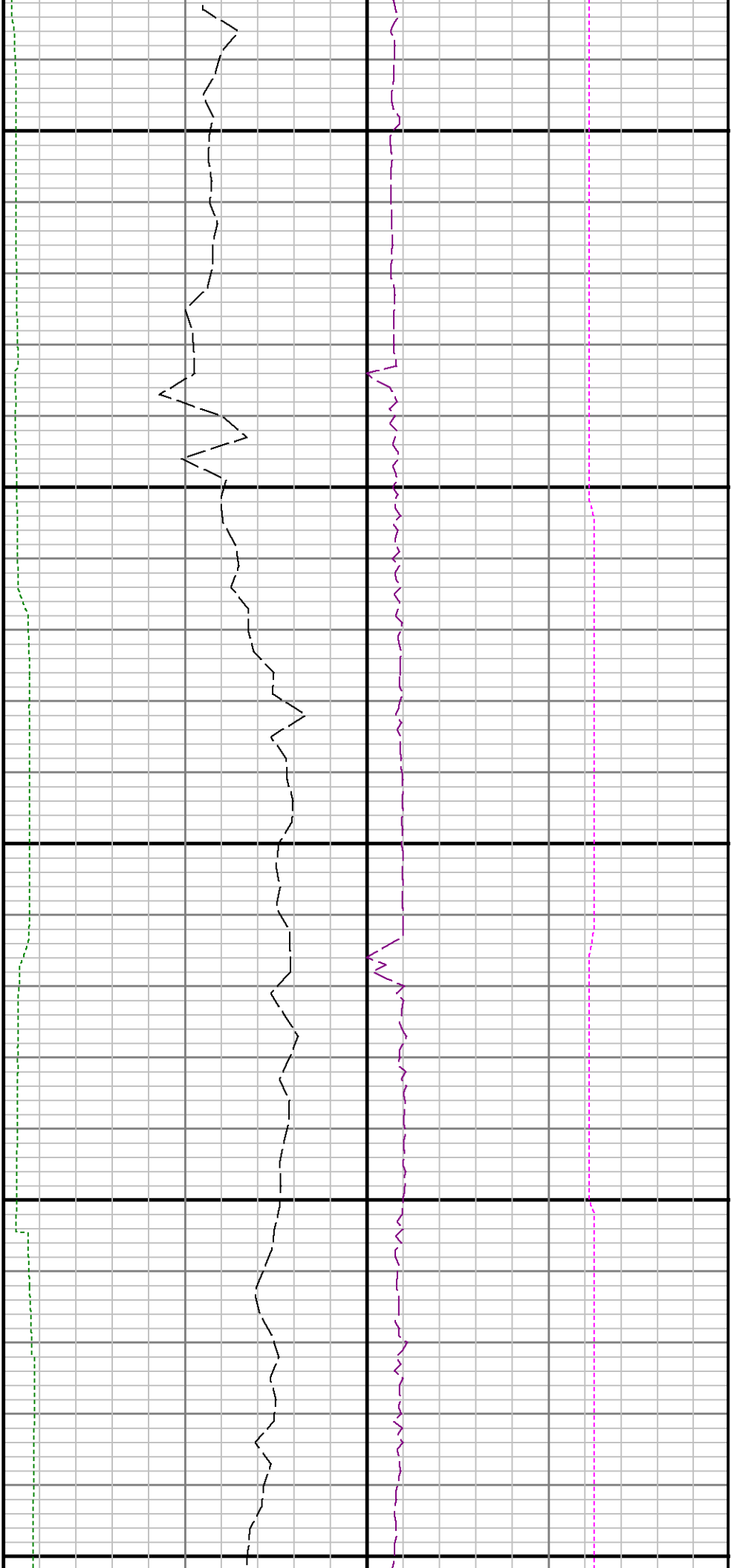




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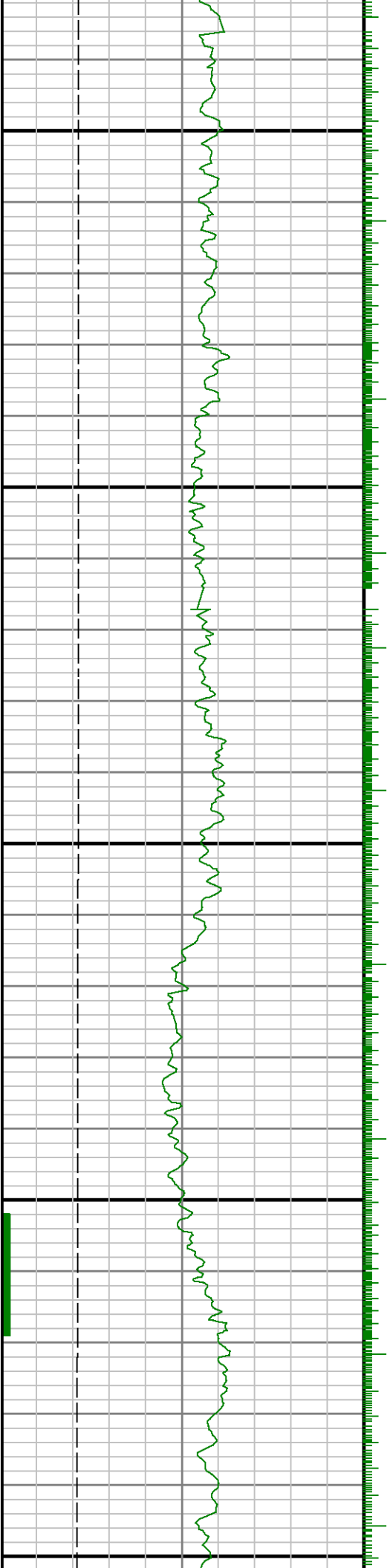
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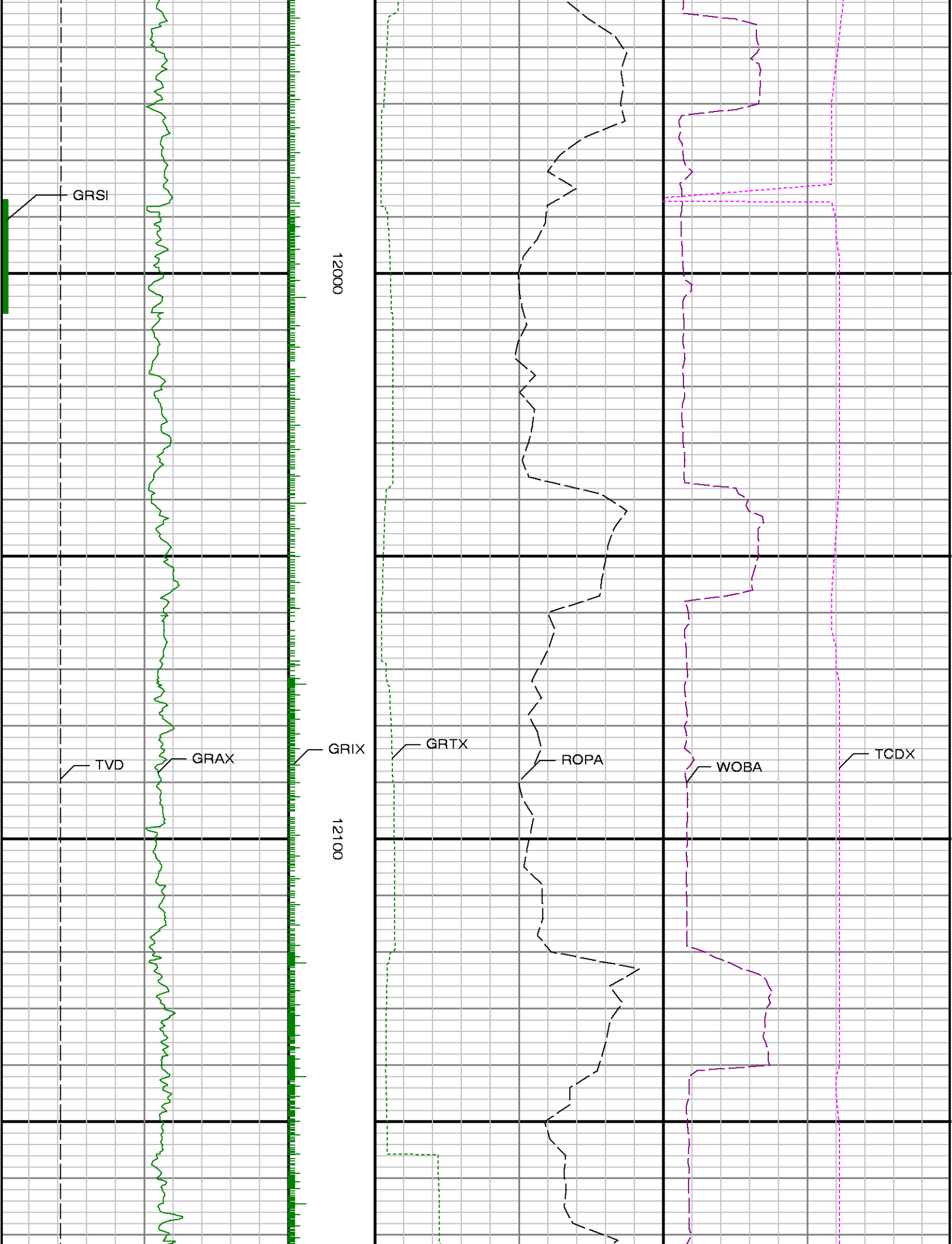




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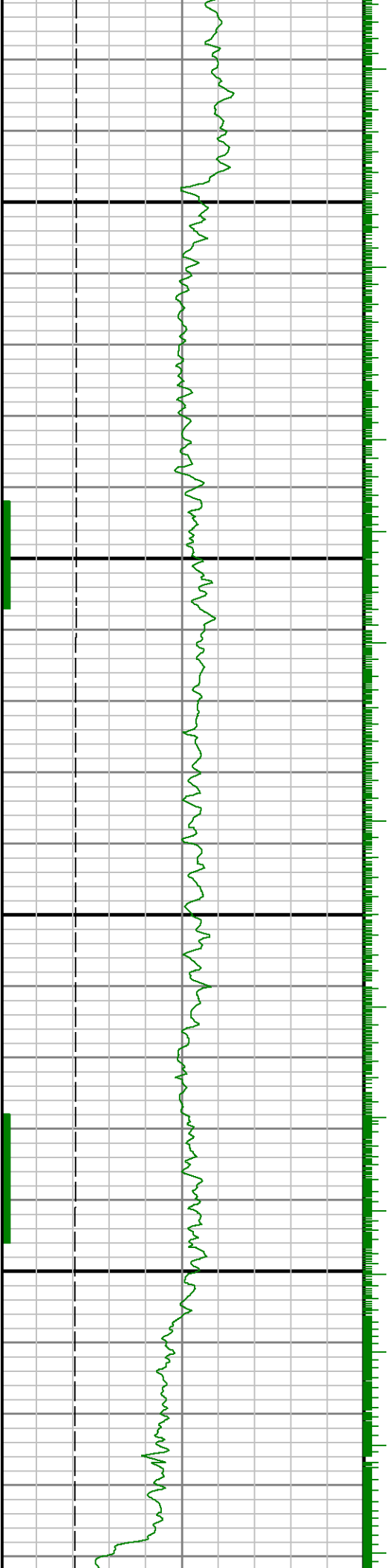






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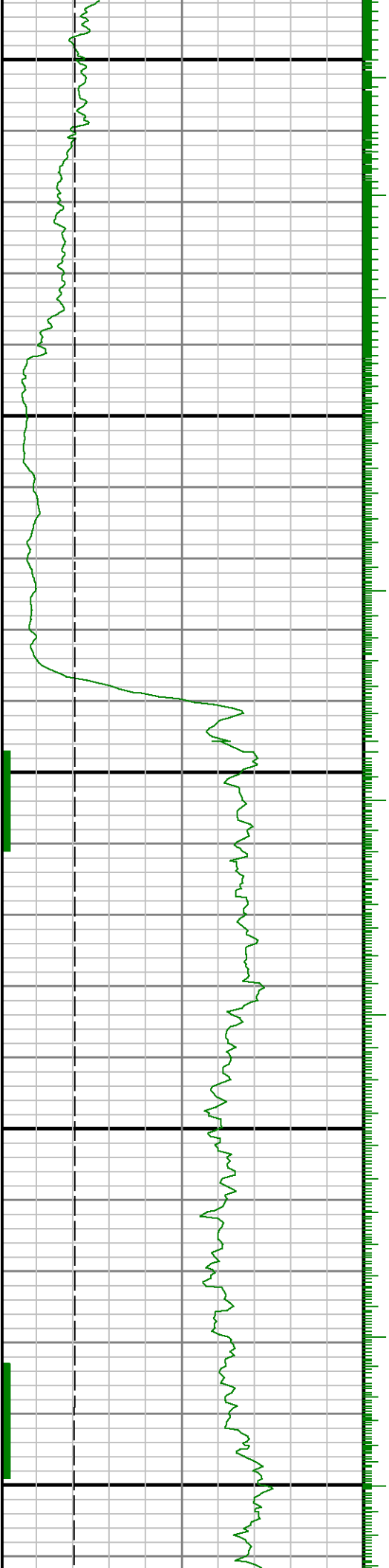
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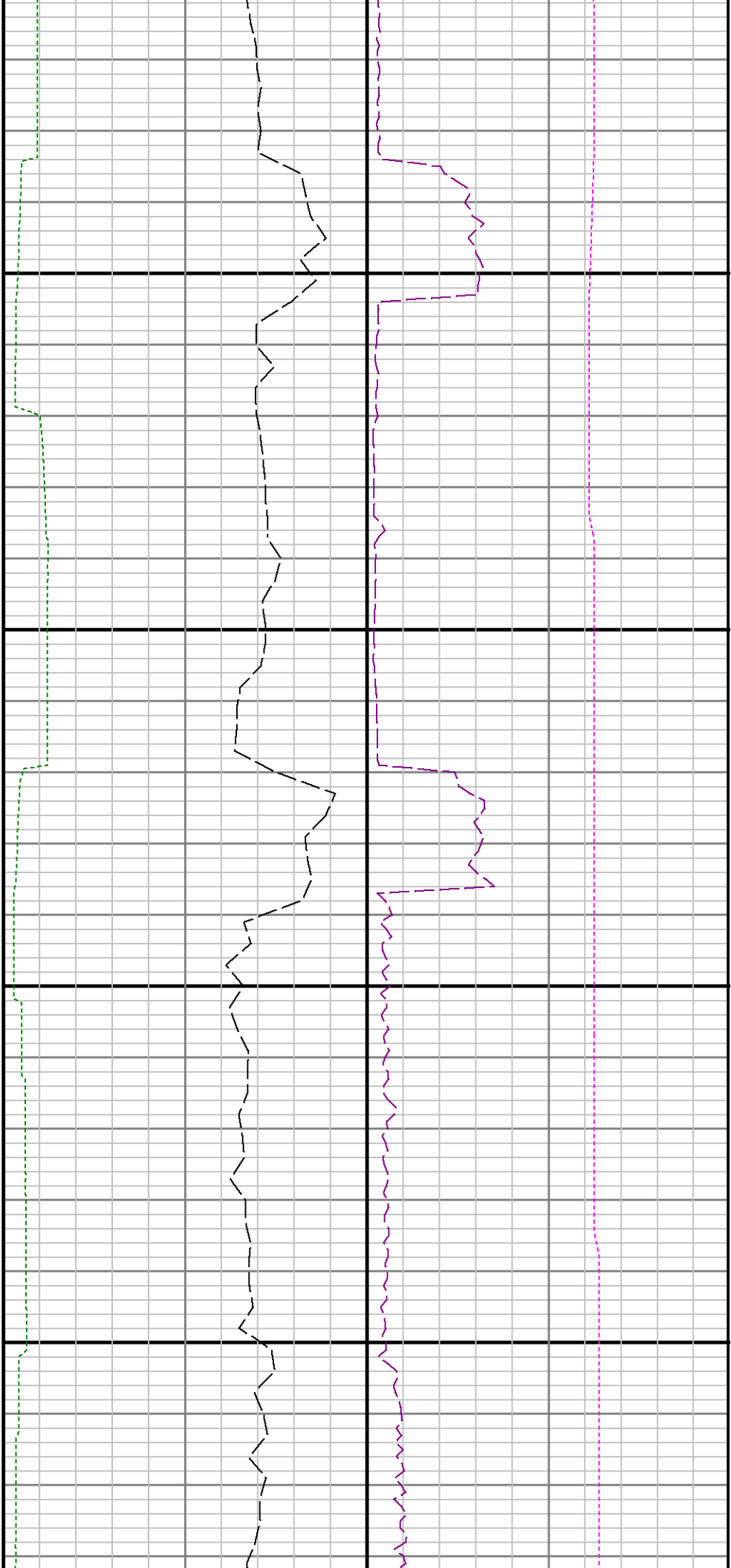
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Run 3 < > Run 4

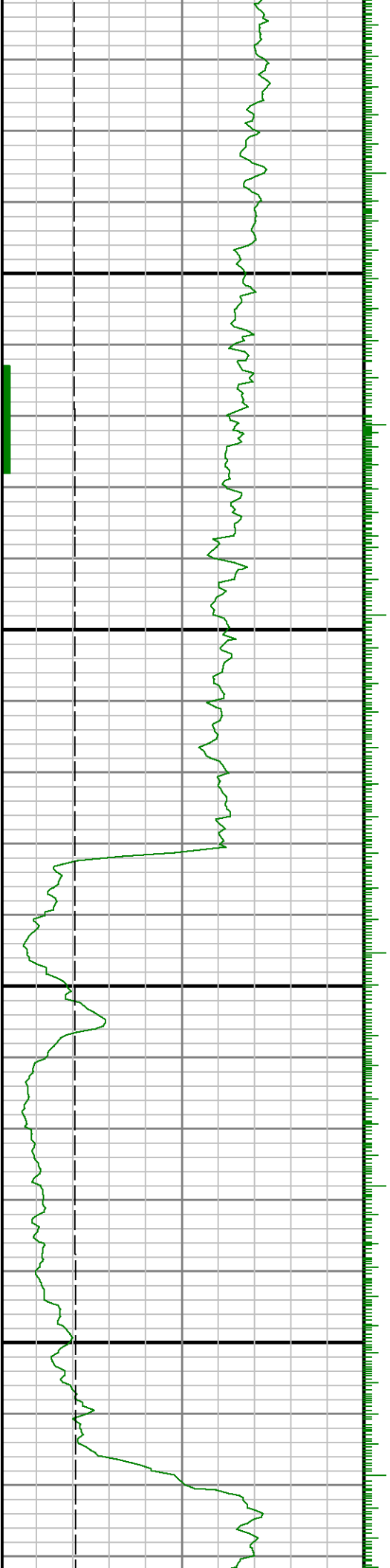
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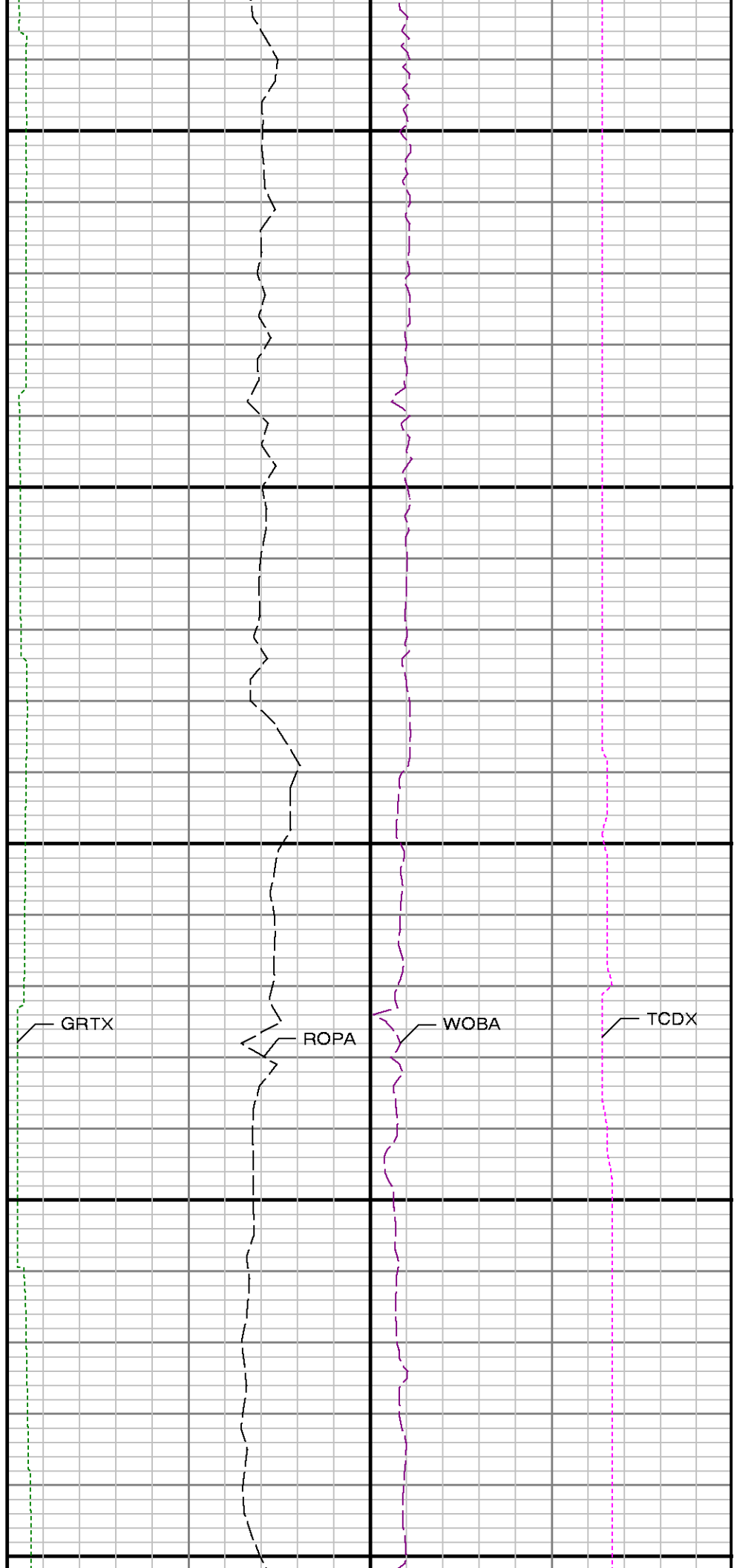
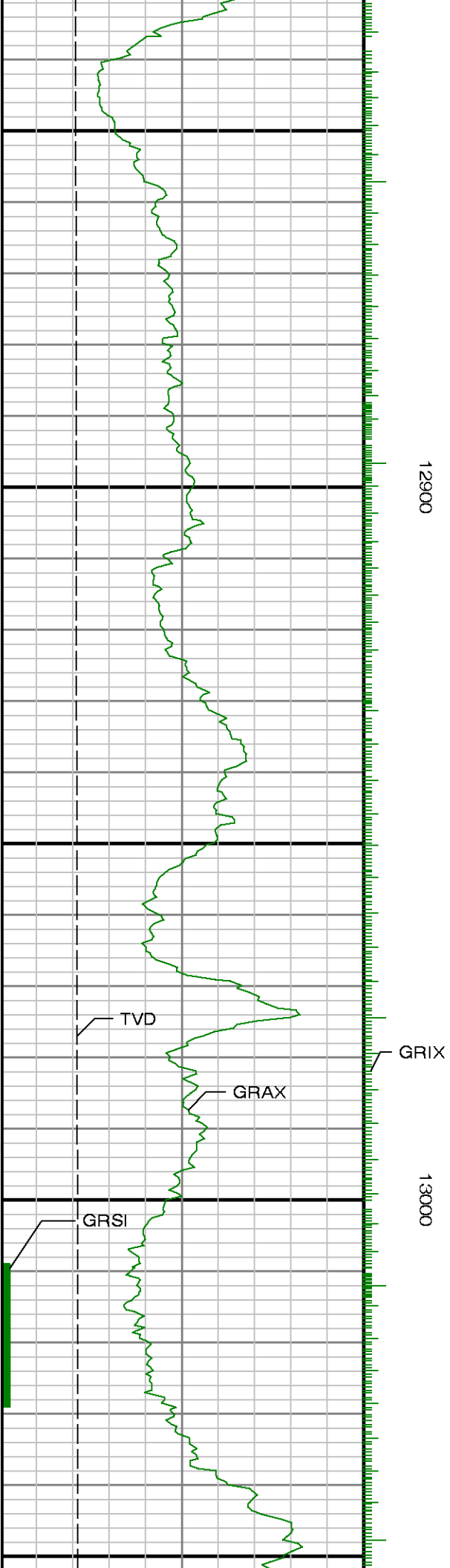




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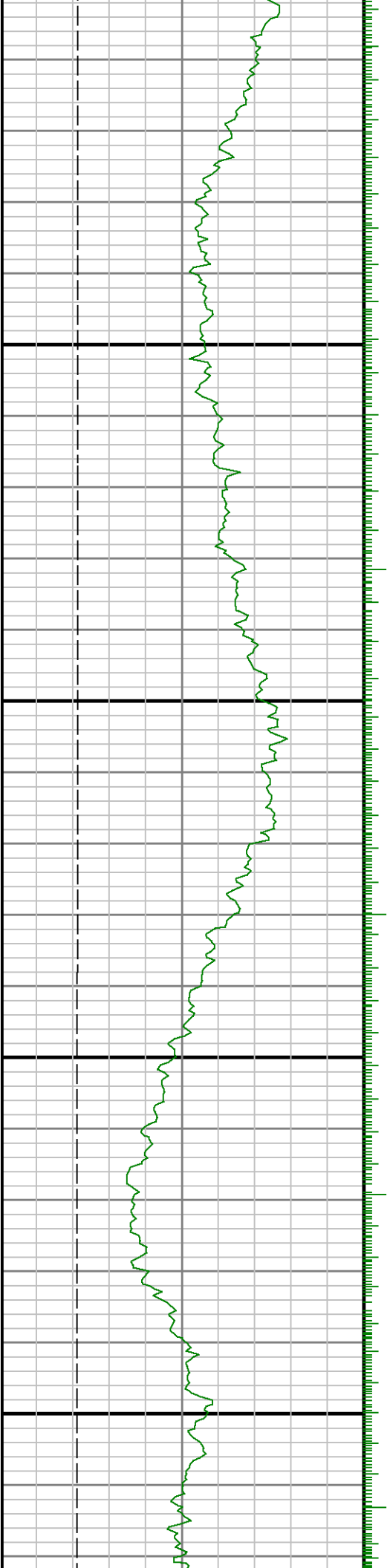






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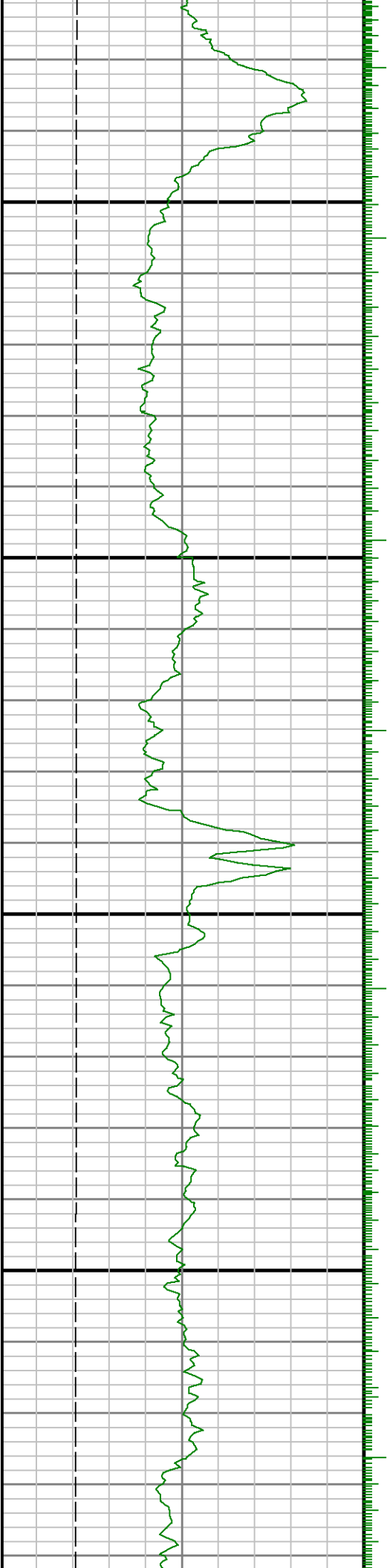
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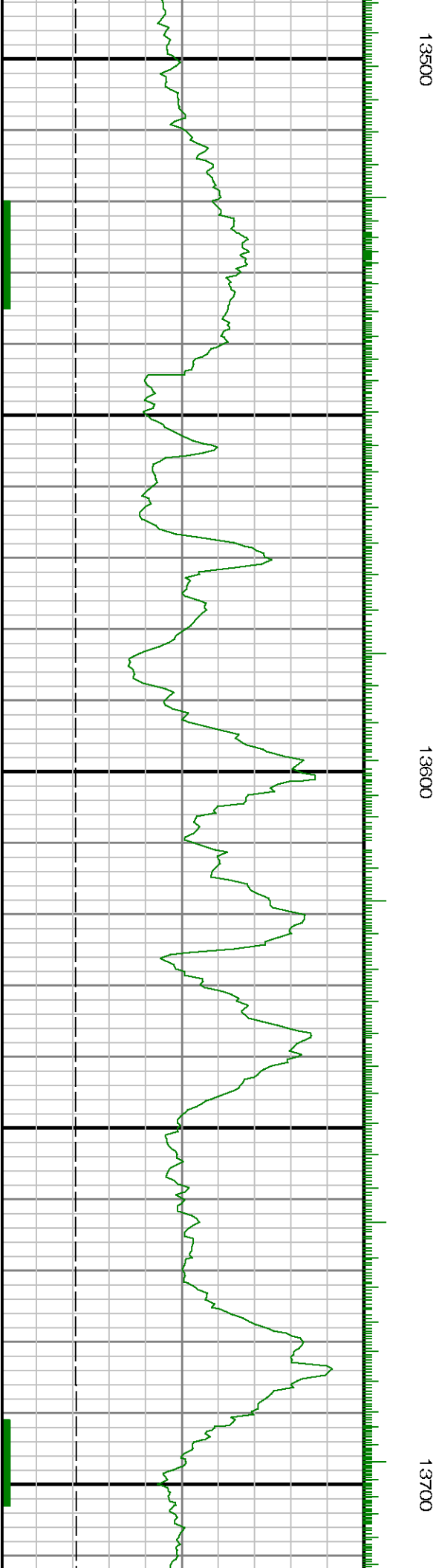




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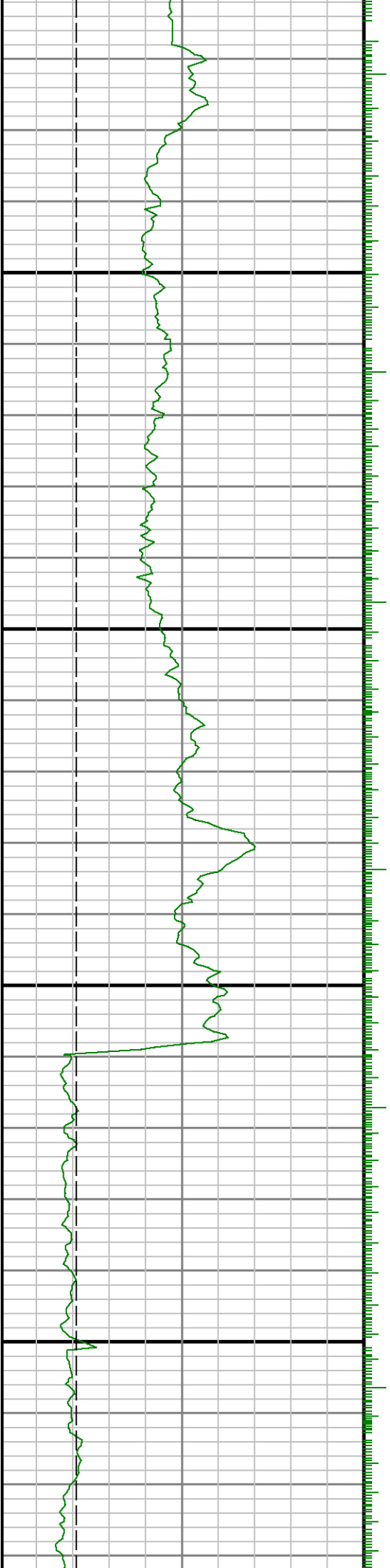


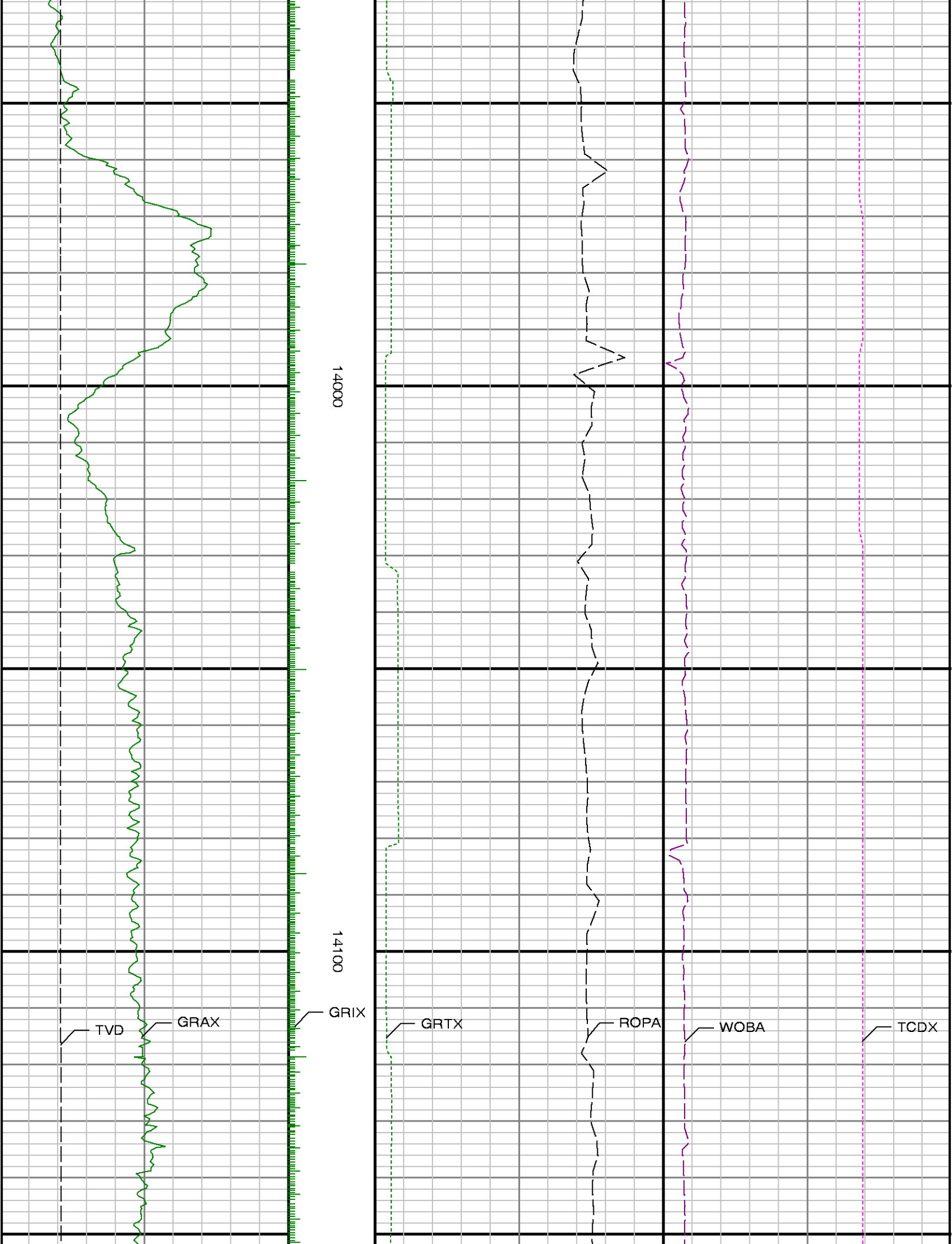




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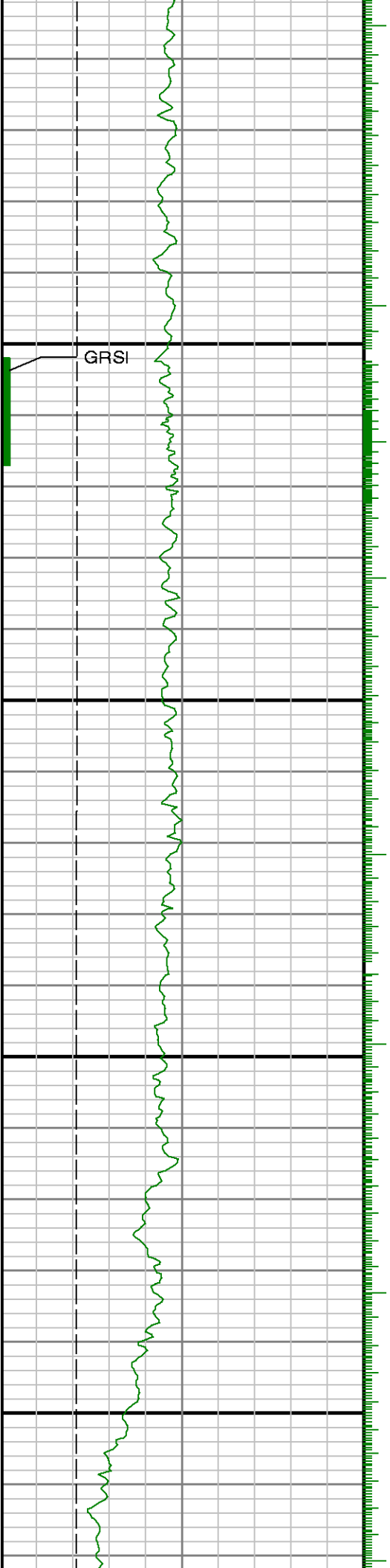


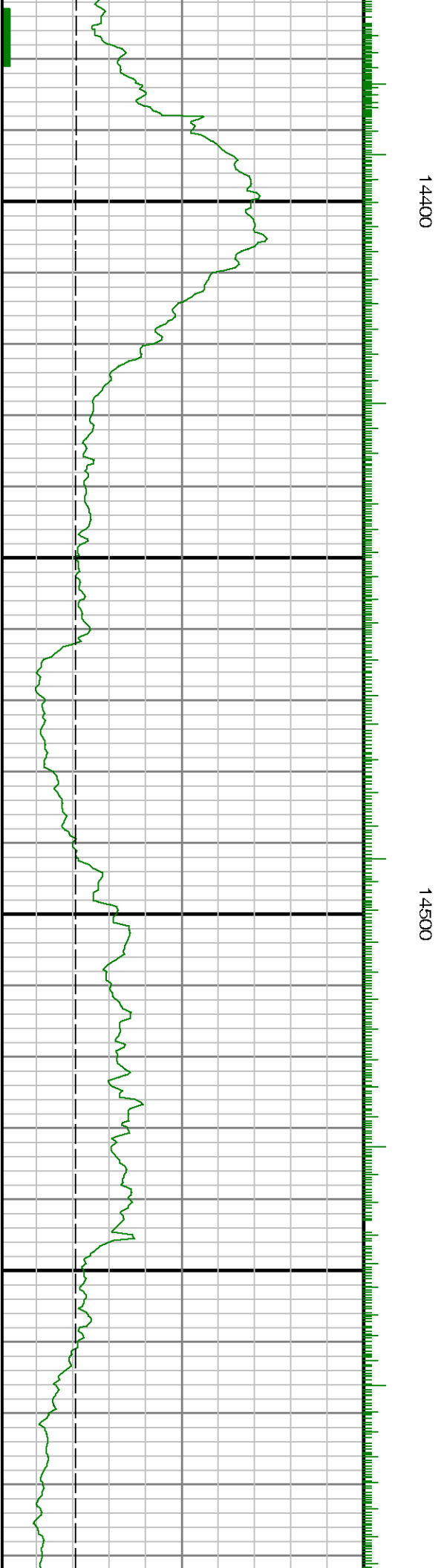


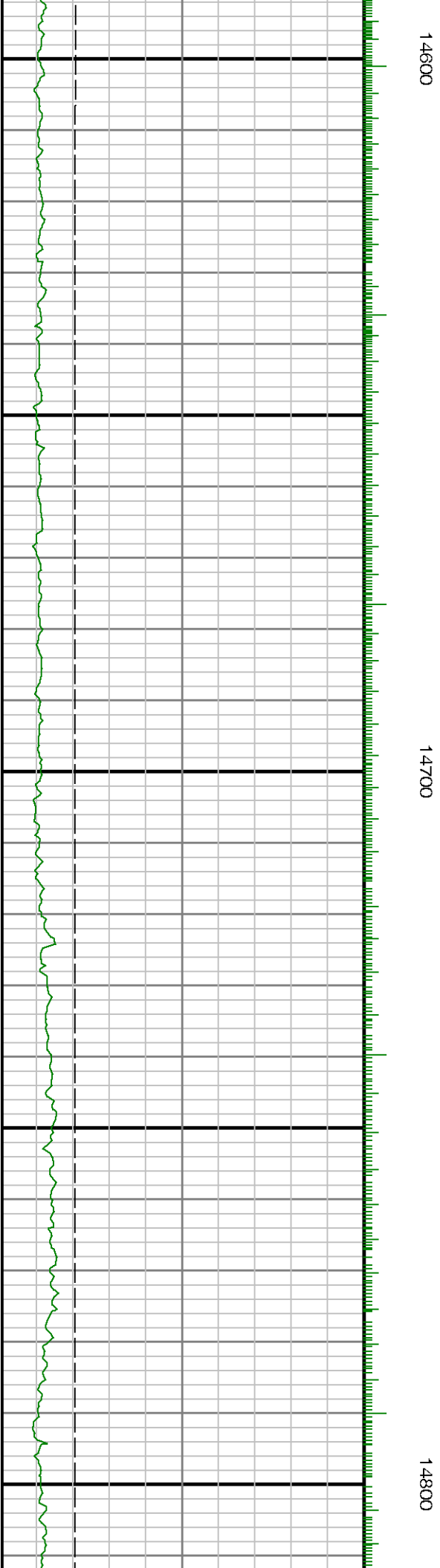
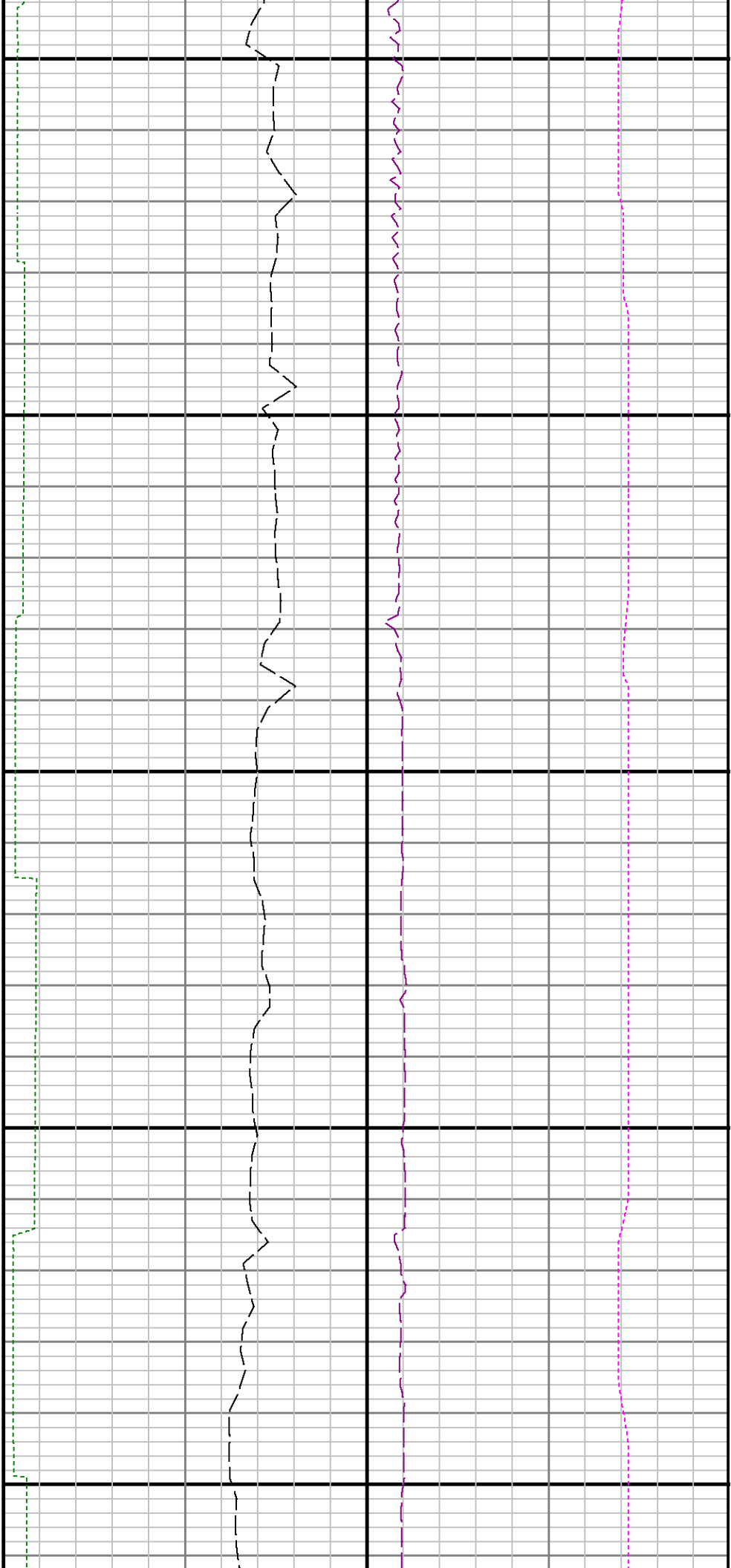
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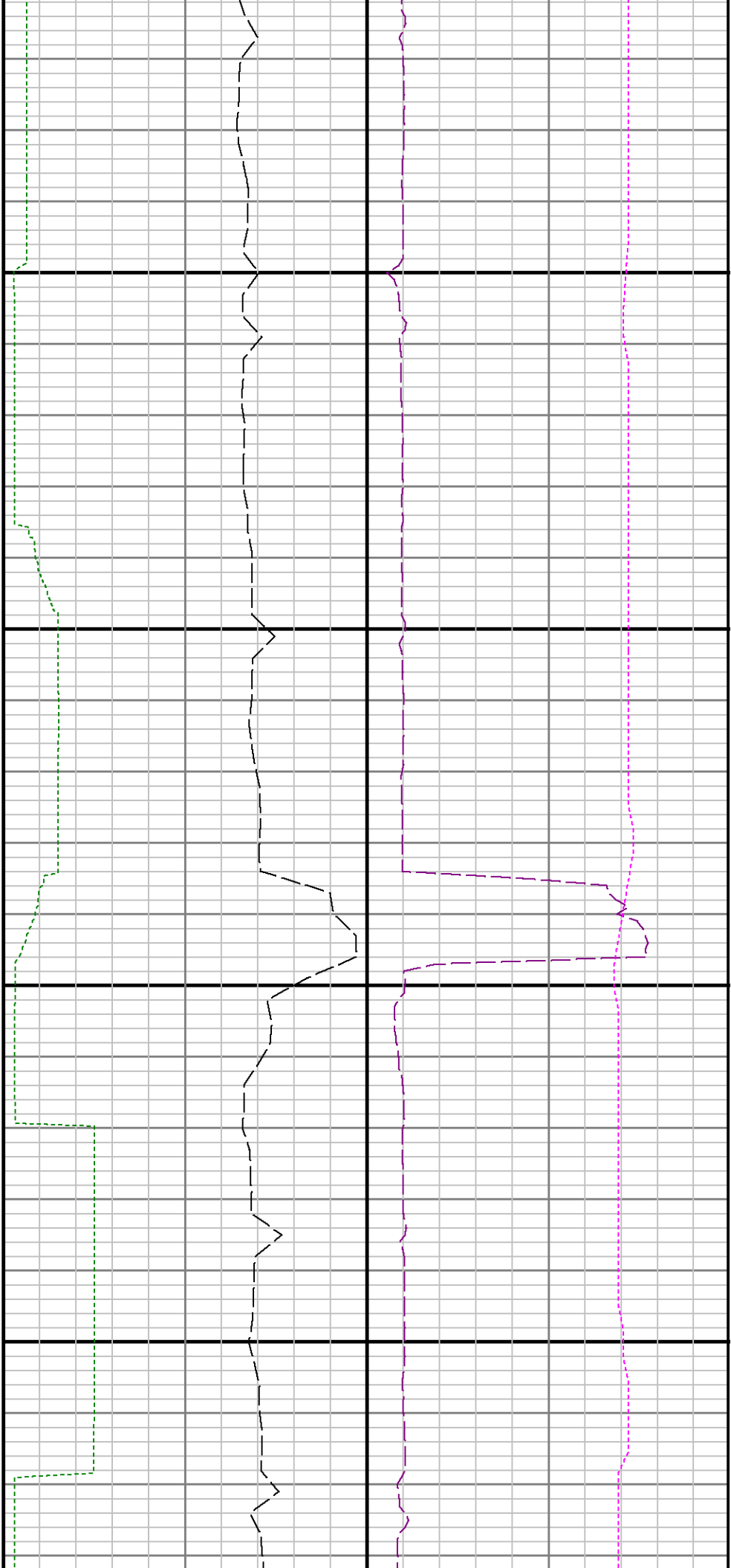
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GRSI



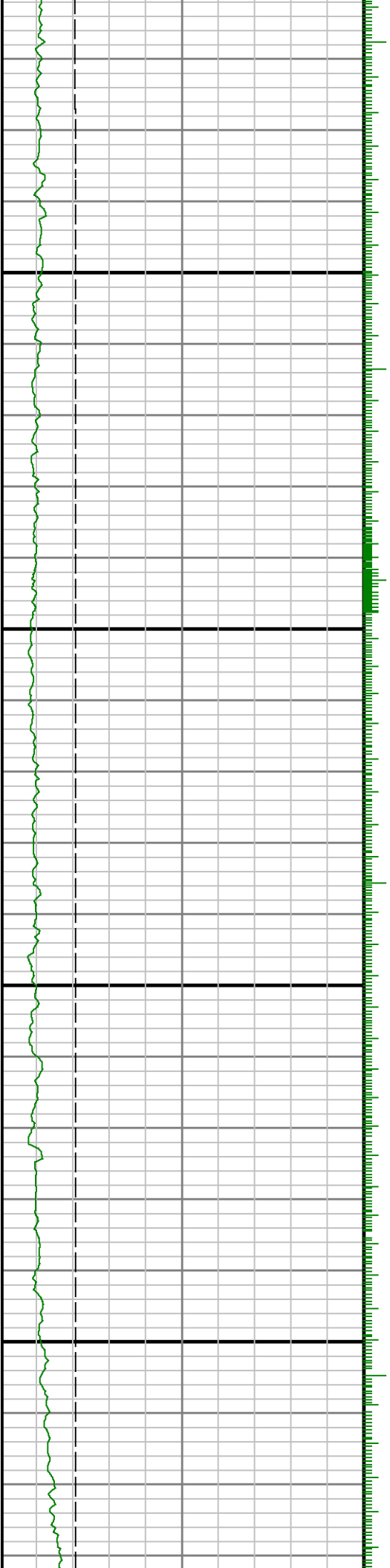


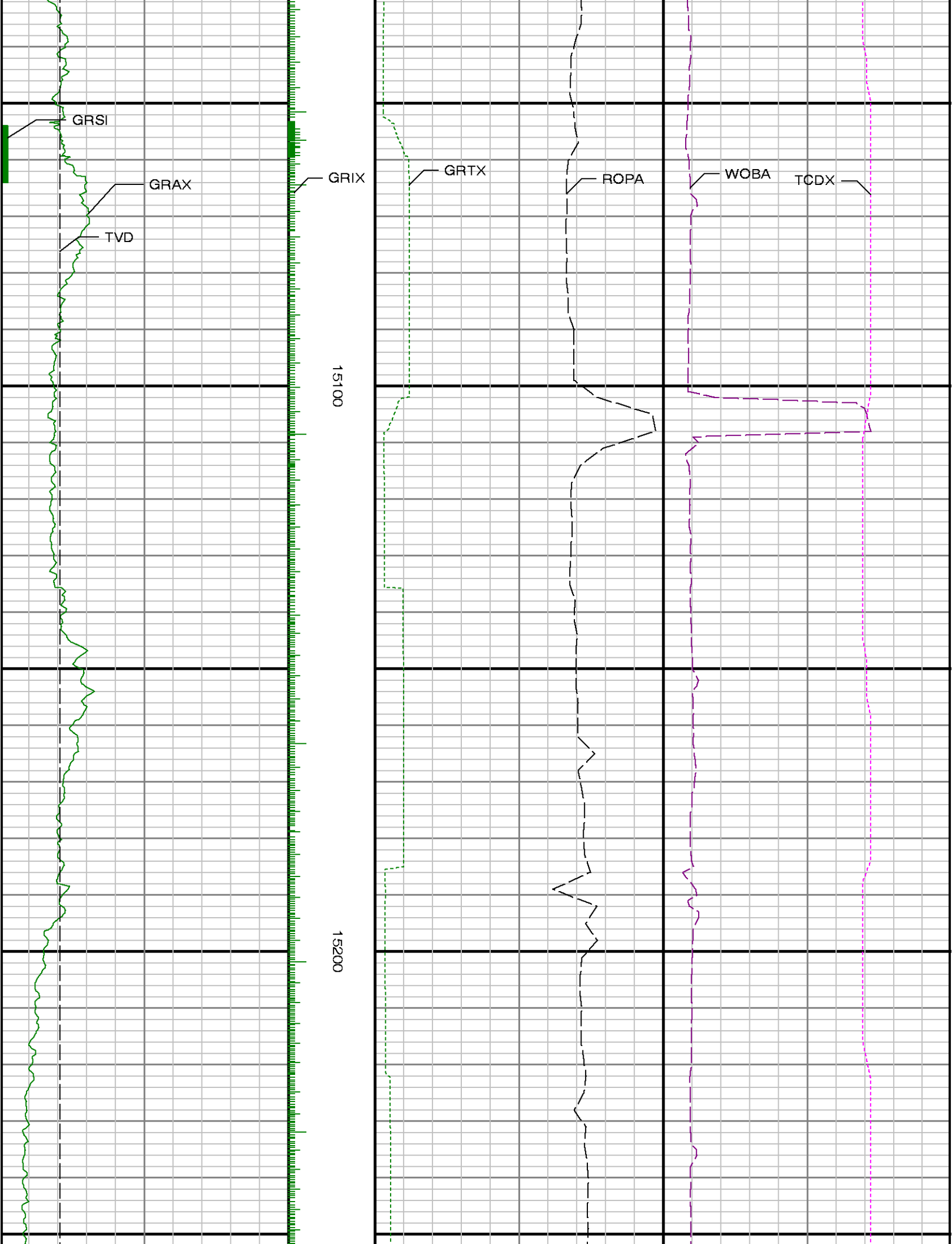


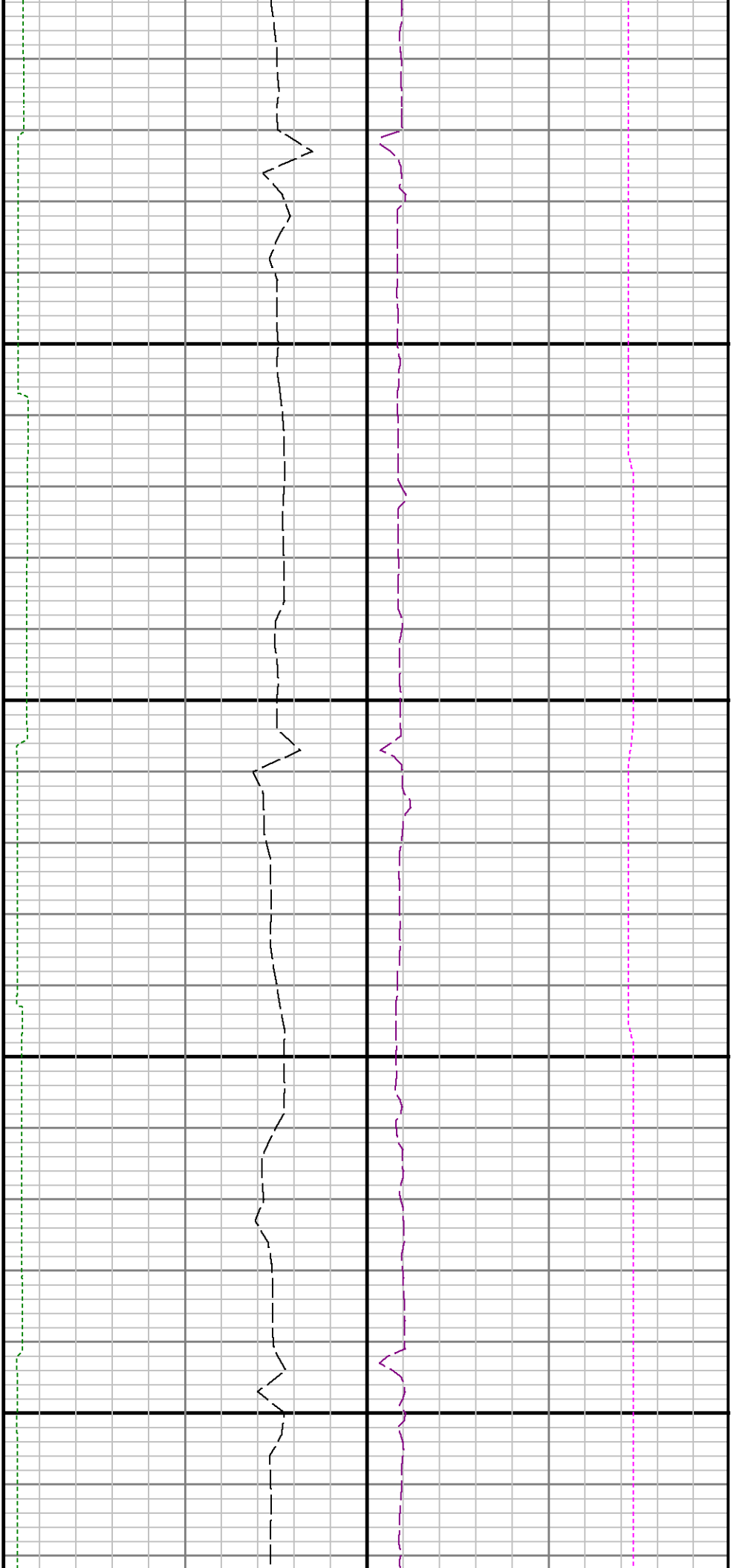


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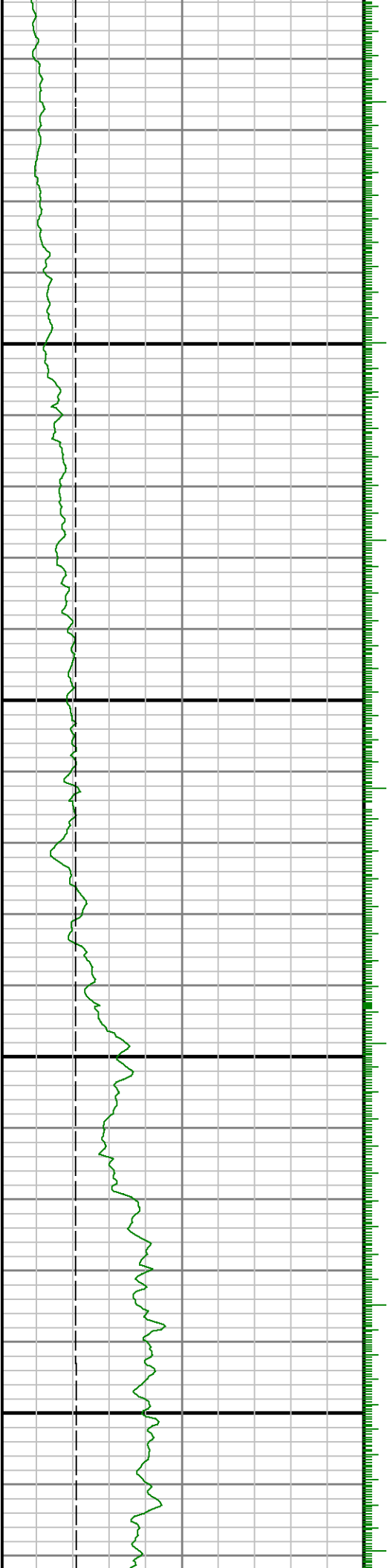






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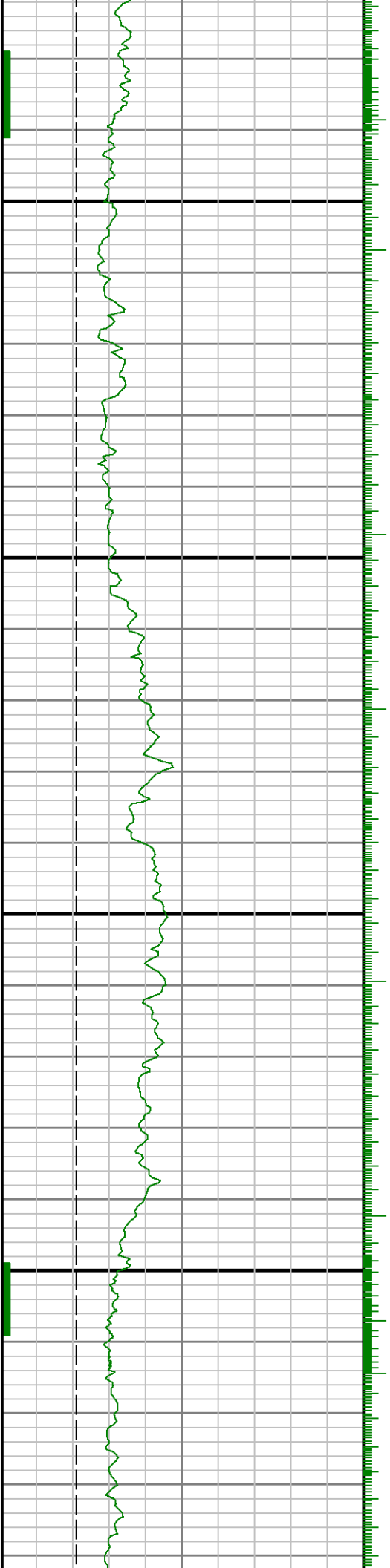
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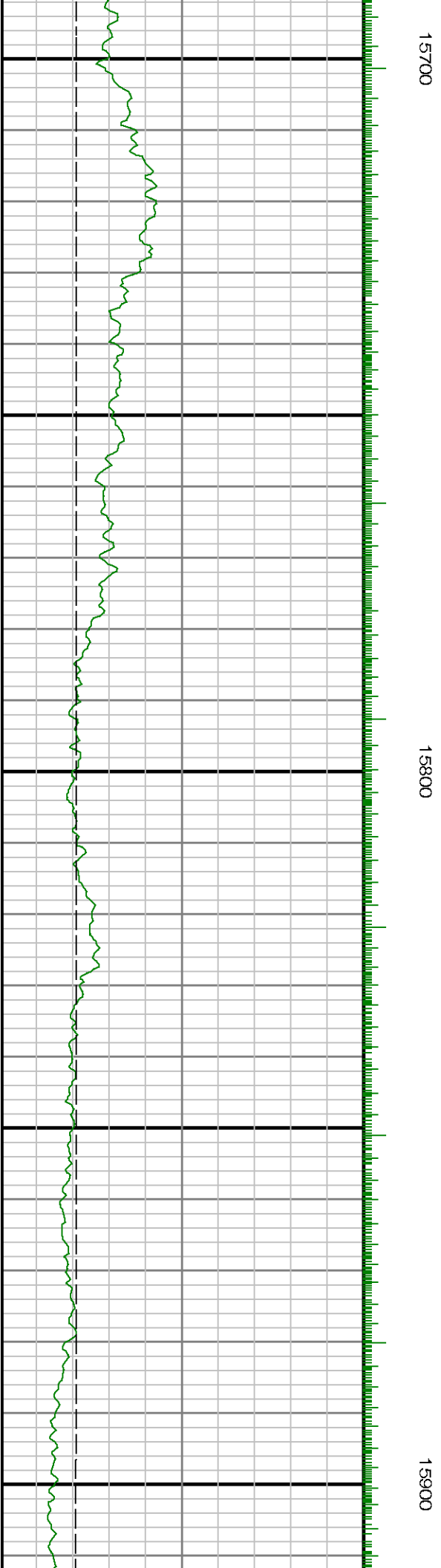
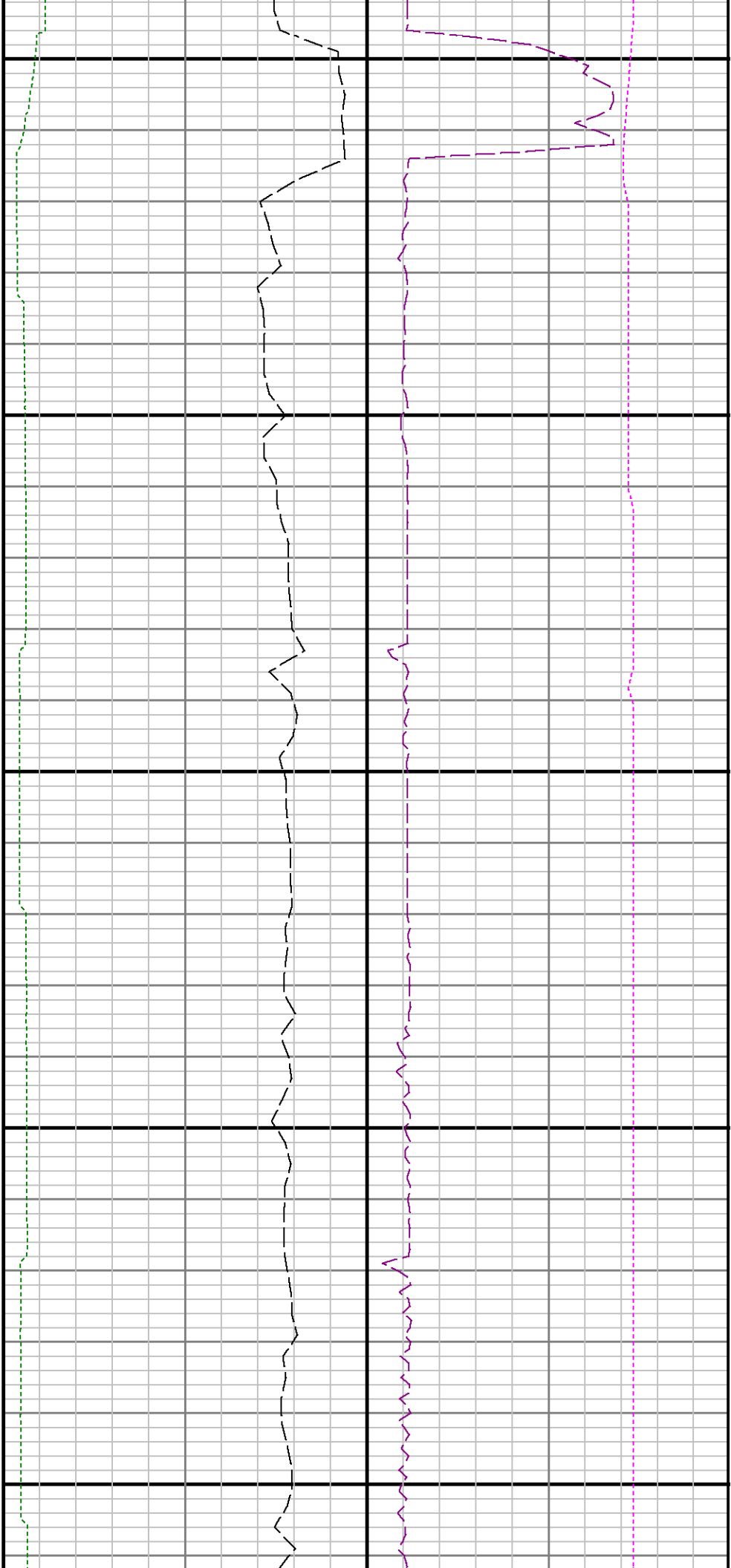


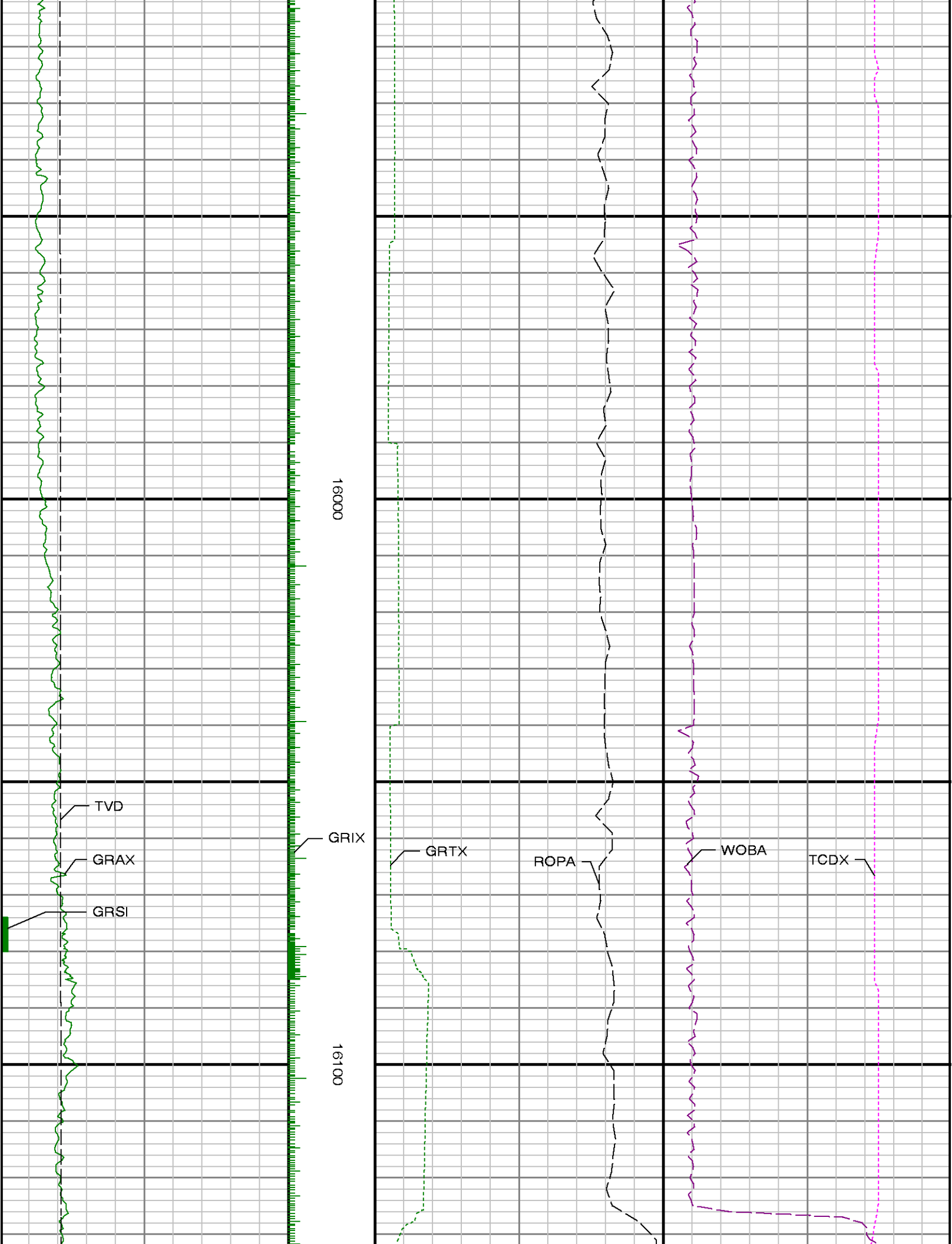


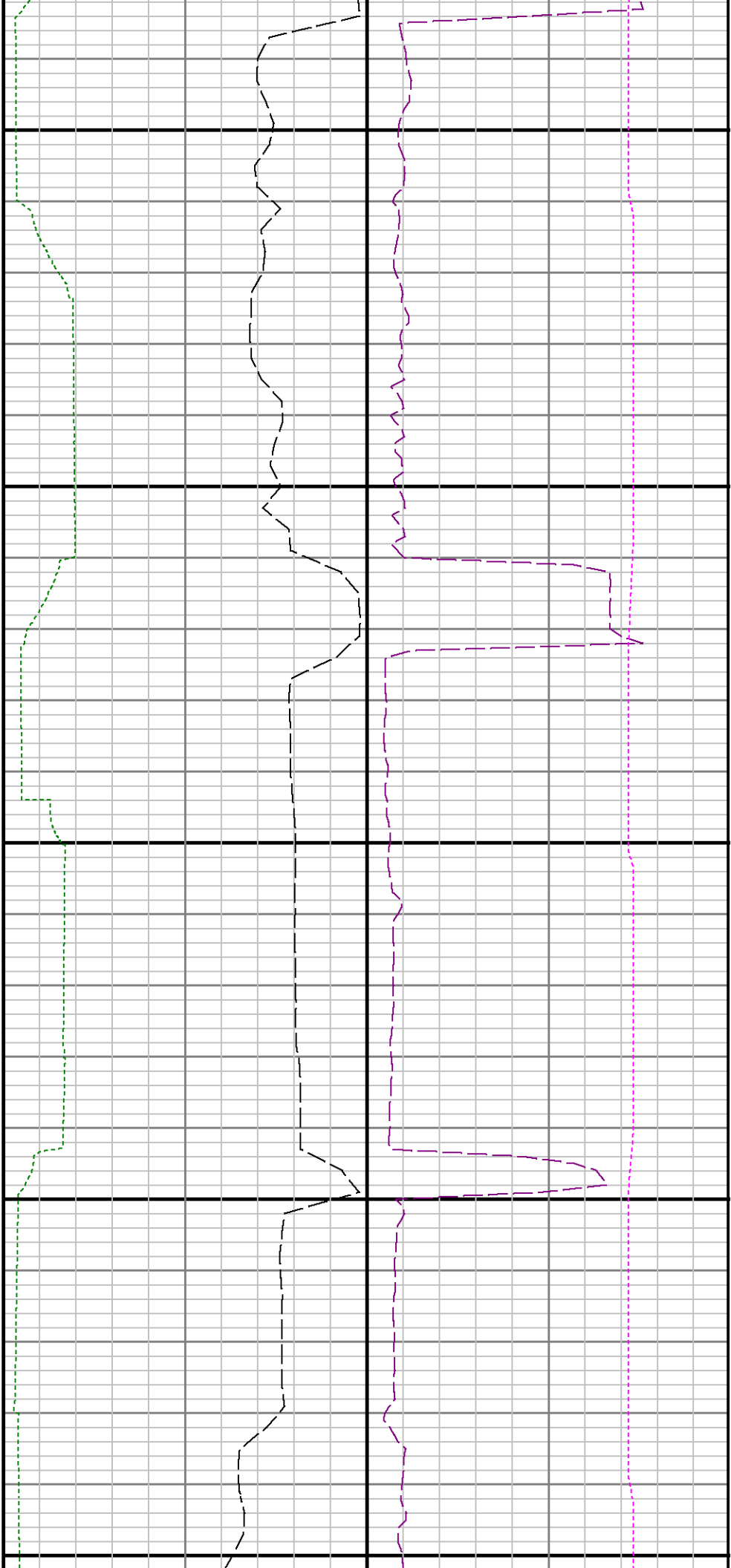
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15600









16200

16300

