



Natural Formation Evaluation  
Gamma Ray

Scale:

1:240 MD  
Measured Depth

Company: Anadarko  
Well: Encore 8C-12HZ  
Field: Larimer County  
County: Larimer State: Colorado

Status: Final Print

API Number: 05-069-06478-00

Surface Location: Latitude: 40° 25' 12.979" N Longitude: 104° 57' 47.117" W  
SEC: 12 TWP: 5N RNC: 68W  
Other Services: Directional VSS

Permanent Datum (P.D.): Ground Level Elevation: 4990.00 ft.

Log Measured From: Rig Floor 5006.00 ft. Above P.D. KB: N/A DF: 5006.00 ft. GL: 4990.00 ft.

Depth Reference: Driller's Depth

Interval Logged

Dates

Magnetic Field Reference

Top: 6870.0 ft. Date From: 12/Aug/15 Dip Angle: 66.77° Azi Reference North: True  
Bottom: 13986.0 ft. Date To: 15/Aug/15 Total Mag to Reference  
Spud Date: 12/Aug/15 Field Strength: 52775.0 nT North Correction: 8.59°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
13,500 in.	Surface	1867.0 ft.	9.625 in.	36.00 lb/ft	Surface	1857.0 ft.
8,500 in.	1867.0 ft.	13986.0 ft.				

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Oil Based Mud	Surface	13986.0 ft.	13,500 in.	1841.0 ft.	17.5° / 231.8°	88.2° / 87.4°
			8,500 in.	12145.0 ft.	88.2° / 87.4°	92.9° / 92.0°
					/	/
					/	/
					/	/
					/	/
					/	/

Acquisition System Software Version

Other

Advantage	2.20U4	Rig: Xtreme 23	/ Xtreme Coil Drilling Corp
PATS	6.4.1.34	Job No: 7422252	/ 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	2	8.500	PDC	0.250	Steerable	6870.0	13986.0	1857.0	13986.0	12/Aug/2015 21:40	15/Aug/2015 21:00	52.7

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Matthew Delmore	12/Aug/2015	15/Aug/2015				Hans Cary	12/Aug/2015	15/Aug/2015
Sumanth Belawadi	12/Aug/2015	15/Aug/2015				Scott Petterson	12/Aug/2015	15/Aug/2015

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+ (%)
12/Aug/2015	18:00	1	1865.0	Oil Based Mud	9.5	18	N/A	9.5	58.5 / 30.3	Active Mud Pit	63000	N/A
13/Aug/2015	06:00	1	3768.0	Oil Based Mud	9.4	14	N/A	10.0	58.0 / 31.0	Active Mud Pit	66000	N/A
13/Aug/2015	18:00	1	6910.0	Oil Based Mud	9.5	13	N/A	8.0	60.0 / 29.0	Active Mud Pit	65000	N/A
14/Aug/2015	06:00	1	9010.0	Oil Based Mud	9.6	14	N/A	8.0	60.0/28.0	Active Mud Pit	74000	N/A
14/Aug/2015	18:00	1	10812.0	Oil Based Mud	9.3	14	N/A	7.0	62.0/28.0	Active Mud Pit	73000	N/A
15/Aug/2015	06:00	1	12904.0	Oil Based Mud	9.4	13	N/A	6.4	62.0 / 27.0	Active Mud Pit	65000	N/A

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. Avg.	API
GRIX	Gamma Ray Data Density	points
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.
WOBA	Surface Weight on Bit, 1.0 ft. Avg.	klbs

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12440863	Directional	63.33	6.750	3.250
1	SRIG	12613300	Gamma	59.99	6.750	3.250

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 LWD run 1 utilized 6 3/4 inch NaviTrak Services (VSS, Directional) from 1857 to 6870 feet MD (1817.01 to 6516.67 feet TVD) and NaviGamma Services (VSS, Directional, Gamma Ray) from 6870 to 13986 feet MD (6516.67 to 7309.27 feet TVD) behind an 8 1/2 inch bit and steerable assembly.</p> <p>2.) A sliding indicator is shown on the left edge of track 1 as a heavy green line. This indicator has been depth-shifted to the gamma ray sensor offset to correspond with gamma ray data.</p> <p>3.) Depth measurements obtained from a depth control system not supplied or operated by Baker Hughes. Due to lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.</p>
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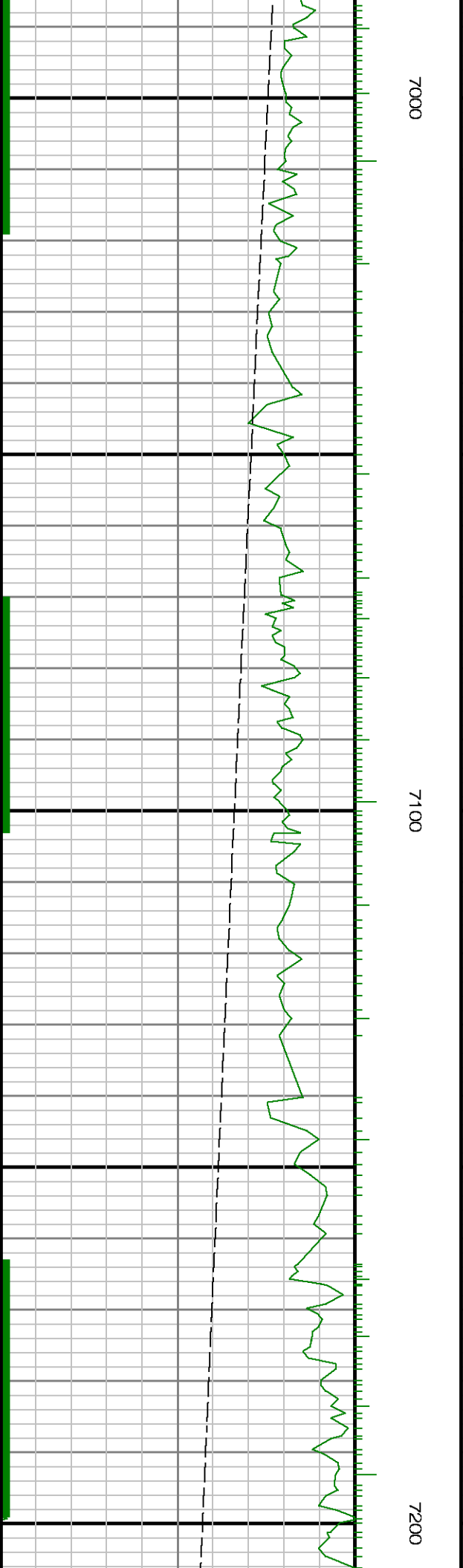
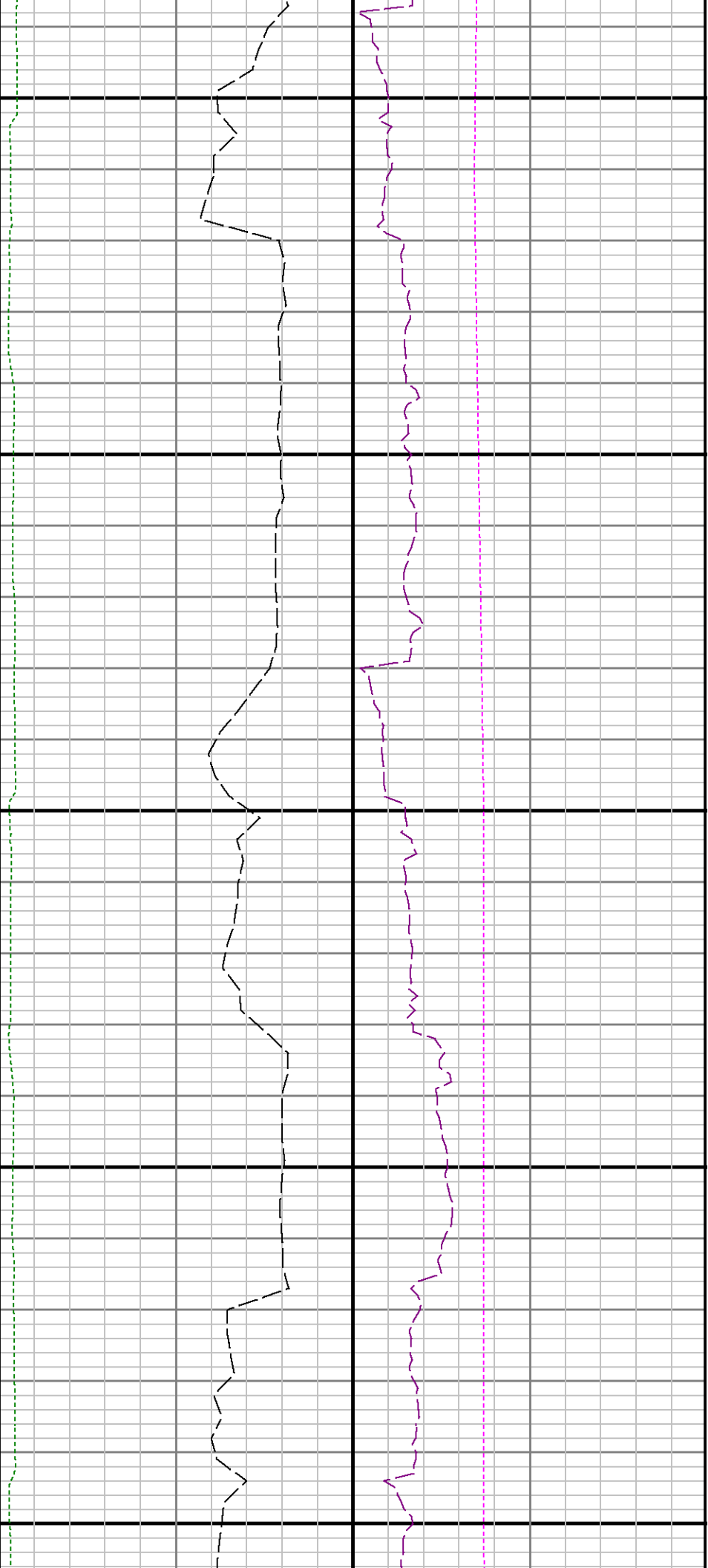
Remarks

Number	Measured Depth (ft)	Hole Section (in.)	LWD Run No.	Remark
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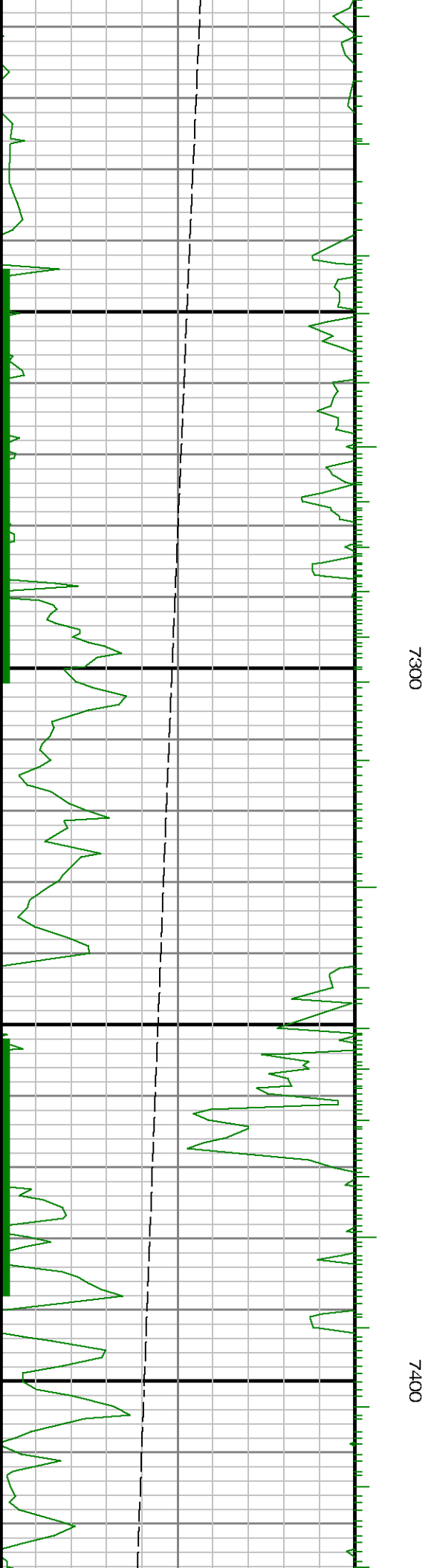


<div><div><div><div></div><div></div><div></div></div><div><div>BAKER</div><div>HUGHES</div></div></div><div><div>Company : Anadarko</div><div>Well : ENCORE 8C-12HZ</div><div>Interval : 6835.00 - 14015.00 feet</div><div>Created : 15/Aug/2015 11:55:23 AM</div></div></div>						
<div>Gamma Ray Apparent 0.5 ft Avg GRAX</div> <div>0150</div> <div>API</div> <div>True Vertical Depth TVD</div> <div>74006400</div> <div>ft</div>		MD feet 1:240	<div>Rate of Penetration 3.0 ft Avg ROPA</div> <div>10000</div> <div>ft/hr</div> <div>Gamma Time Since Drilled GRTX</div> <div>0600</div> <div>min</div>		<div>Surface Weight On Bit 1.0 ft Avg WOBA</div> <div>0100</div> <div>klbf</div> <div>Downhole Temperature TCDX</div> <div>100300</div> <div>degF</div>	
<div>GRSI</div> <div>TVD</div> <div>GRAX</div>		<div>GRIX</div> <div>&gt; Run 1</div> <div>6900</div>	<div>GRTX</div> <div>ROPA</div>		<div>WOBA</div> <div>TCDX</div>	

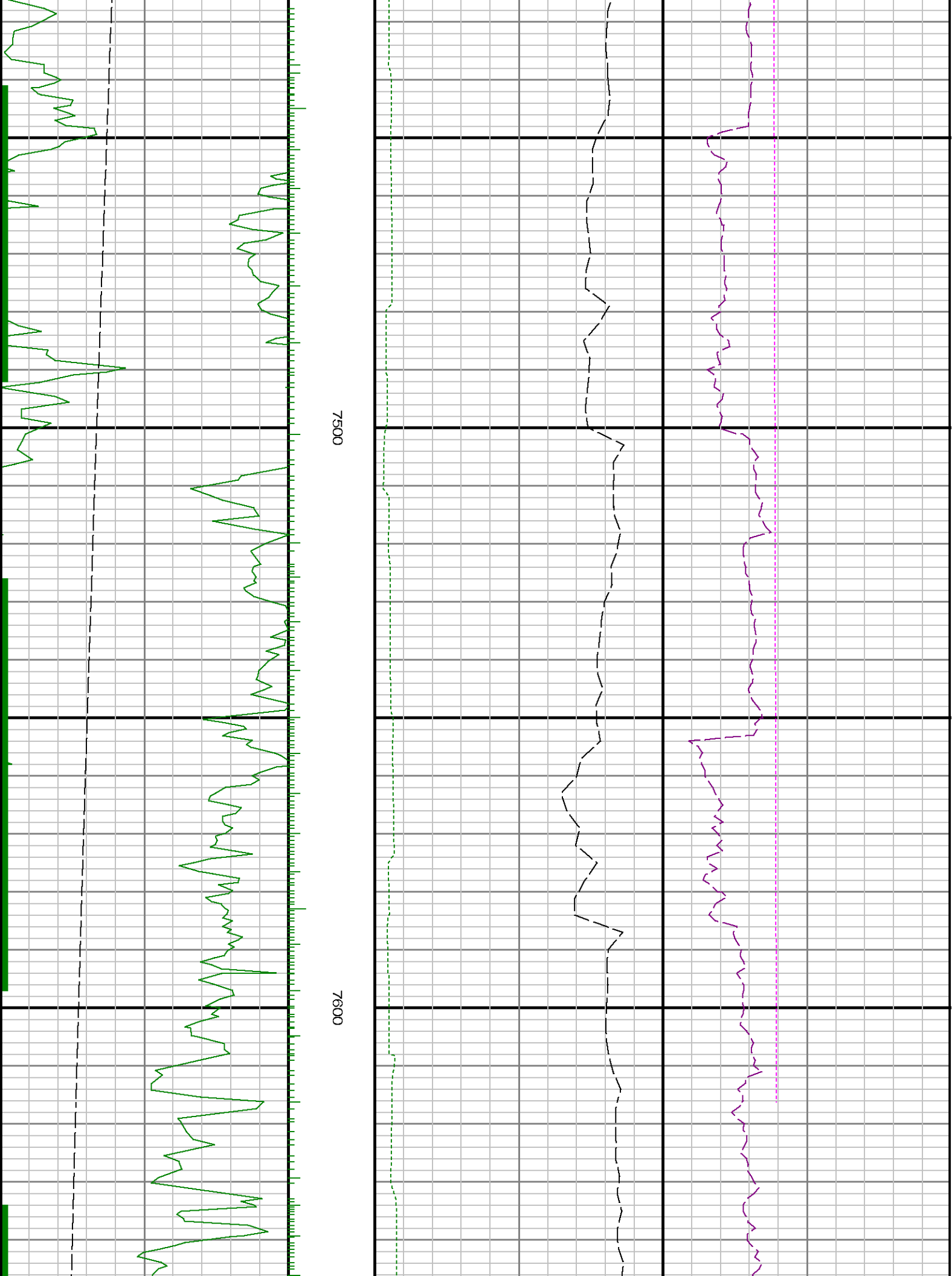




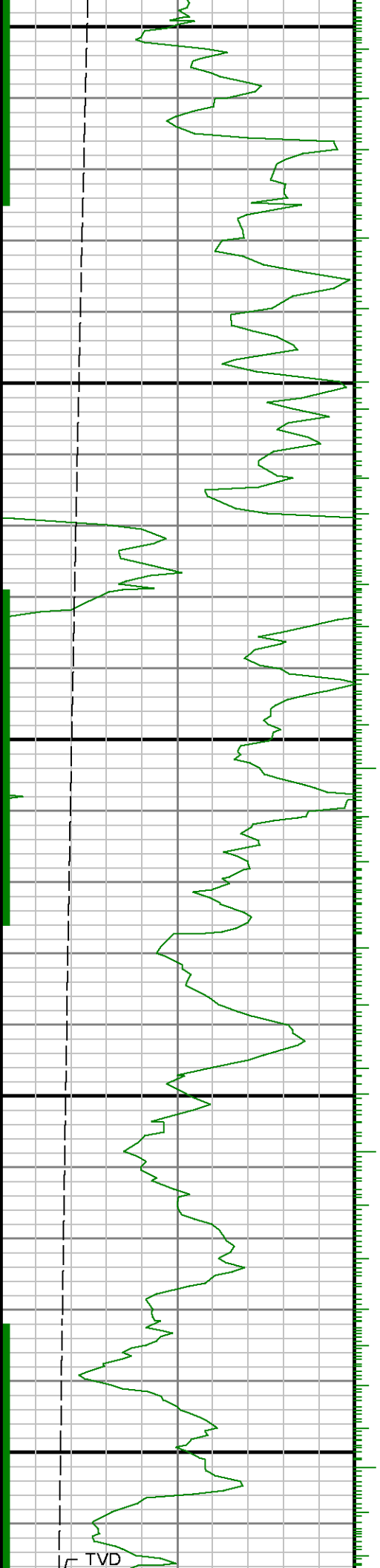






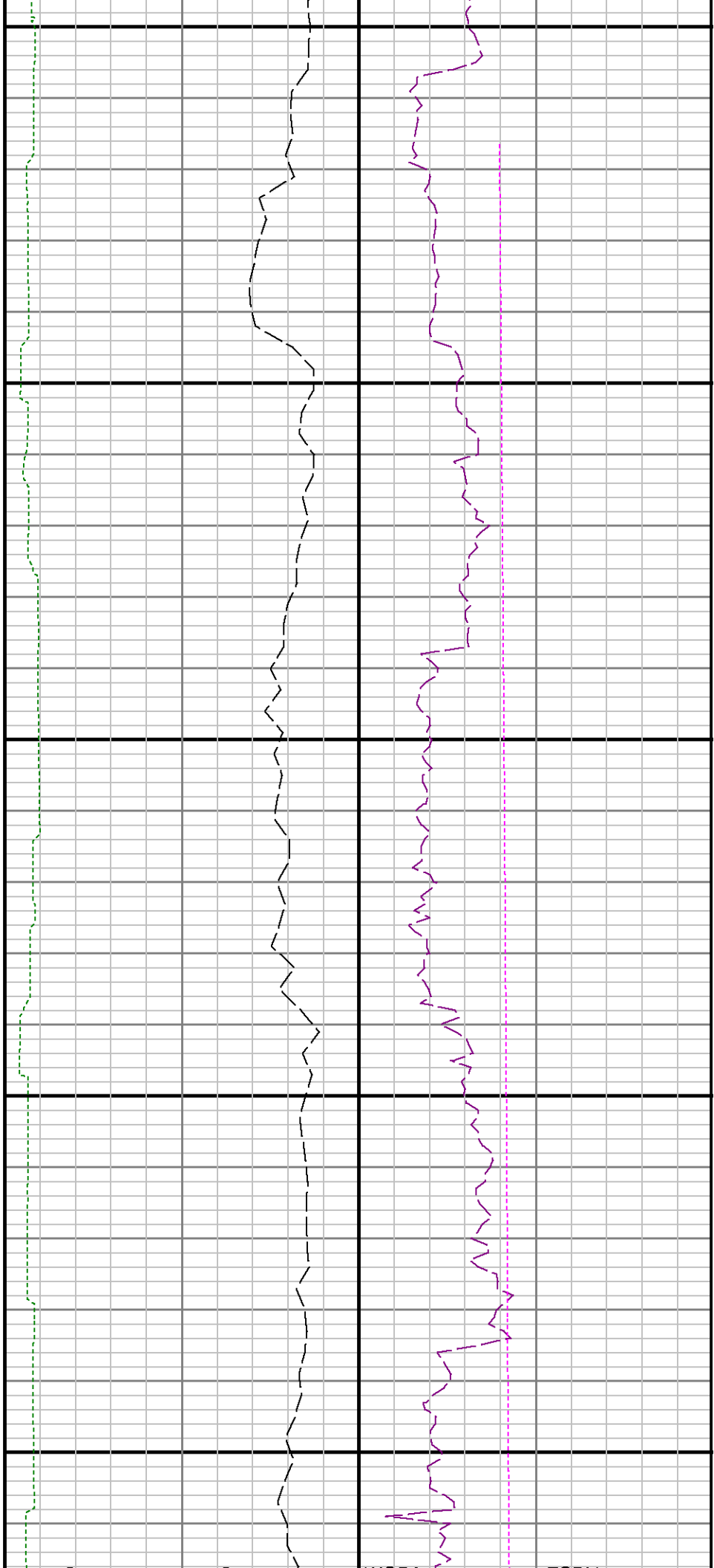




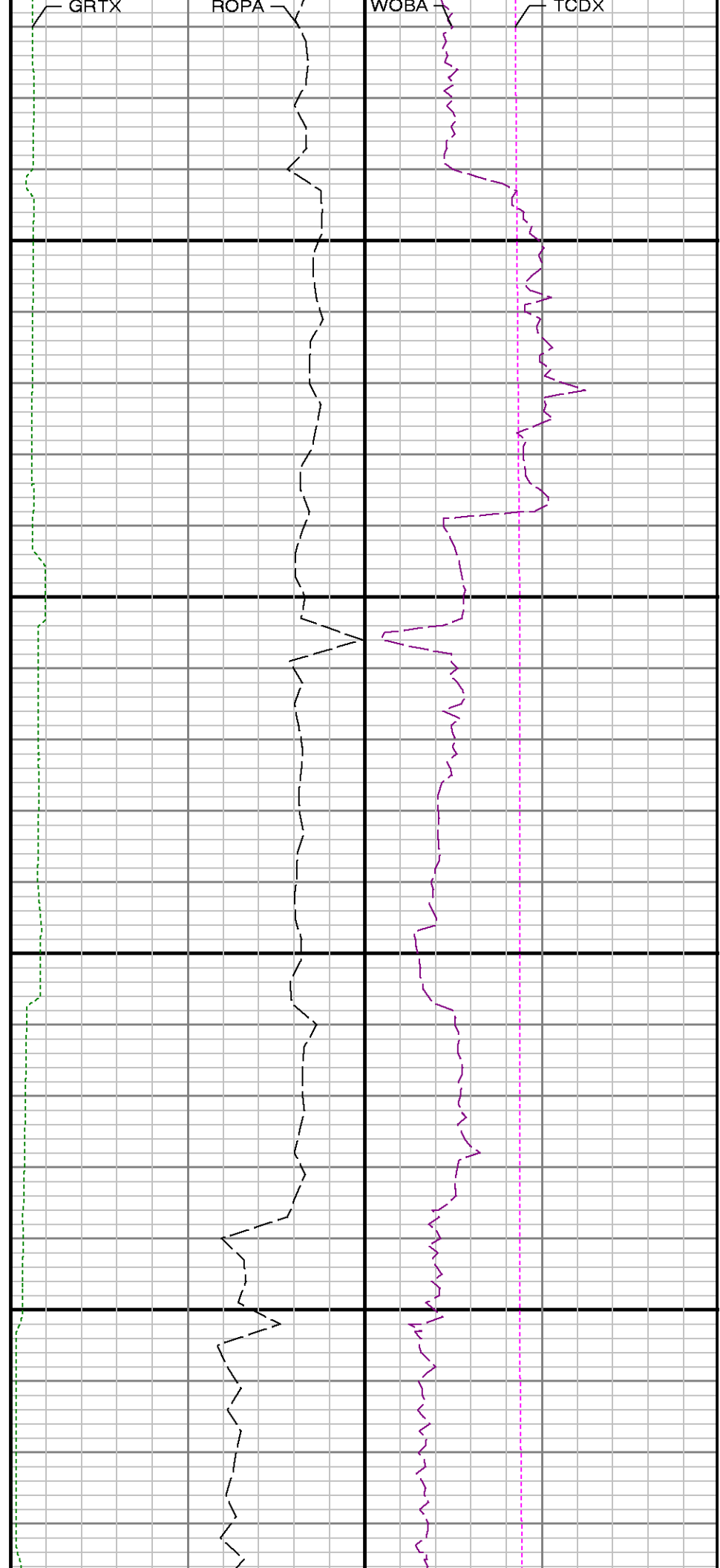
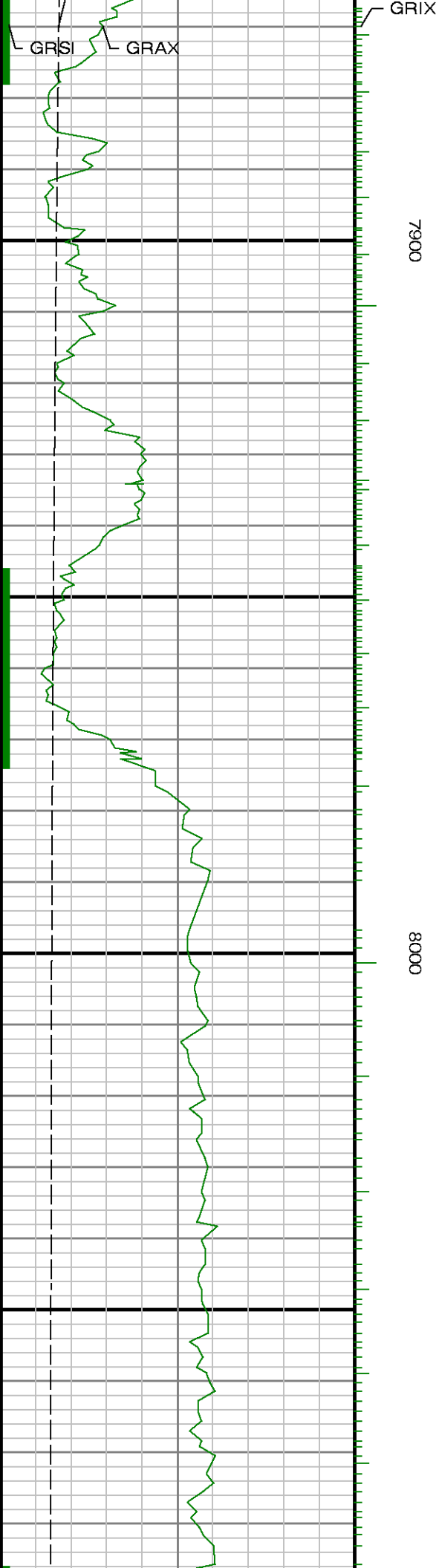


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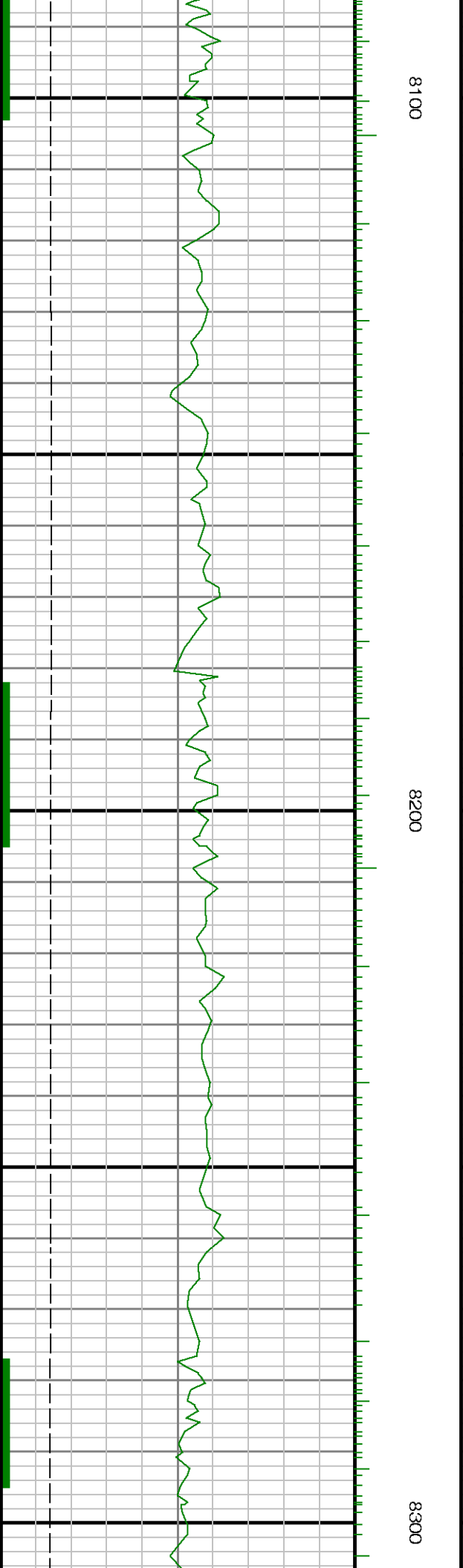
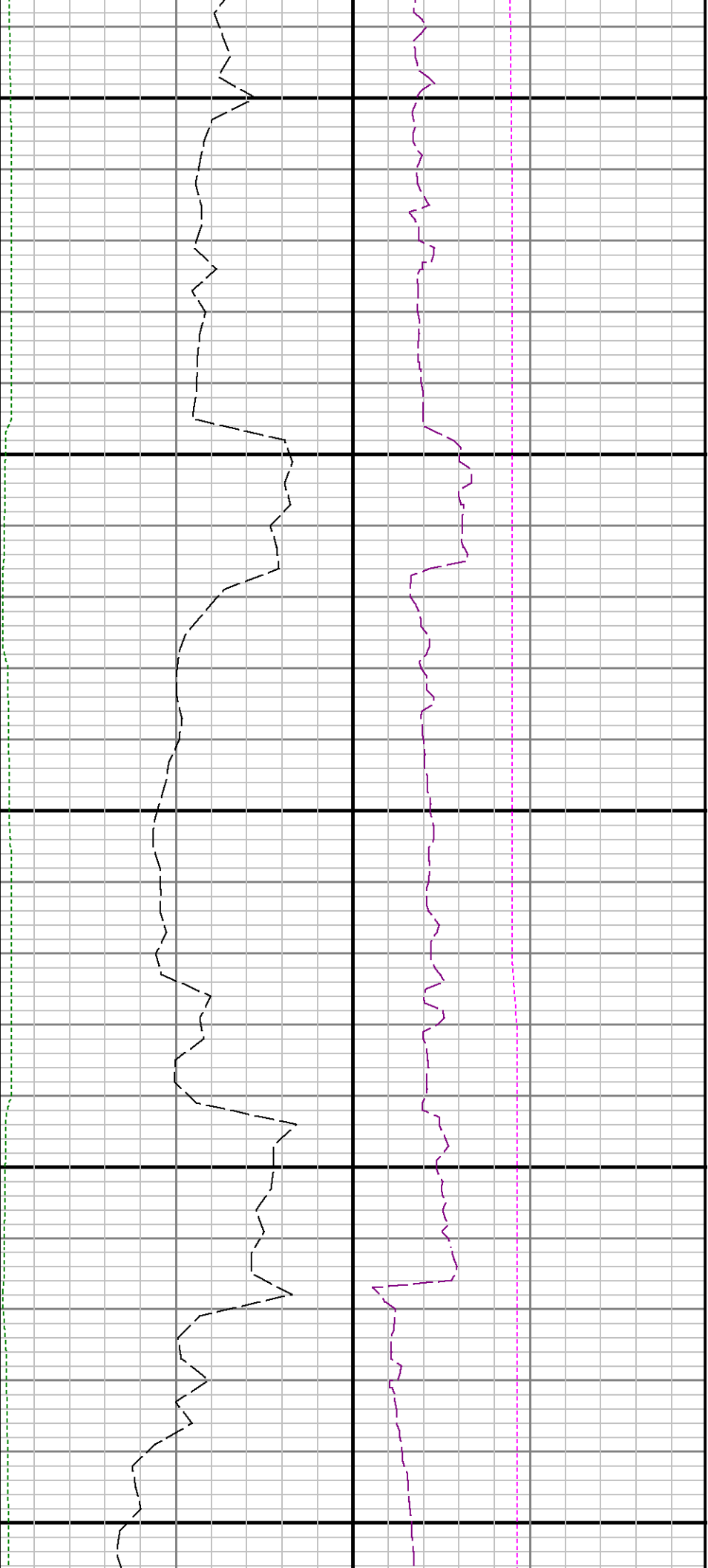
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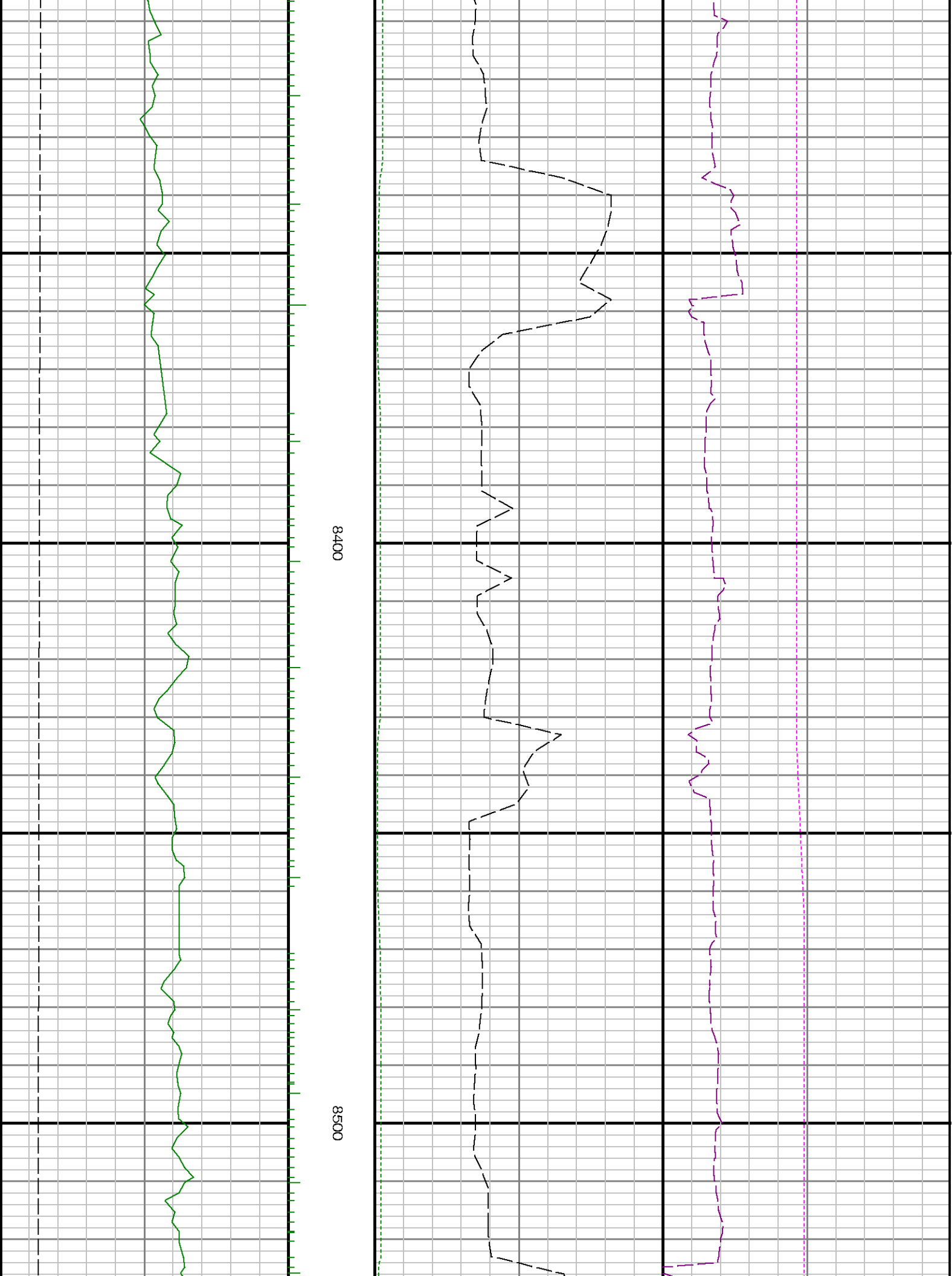




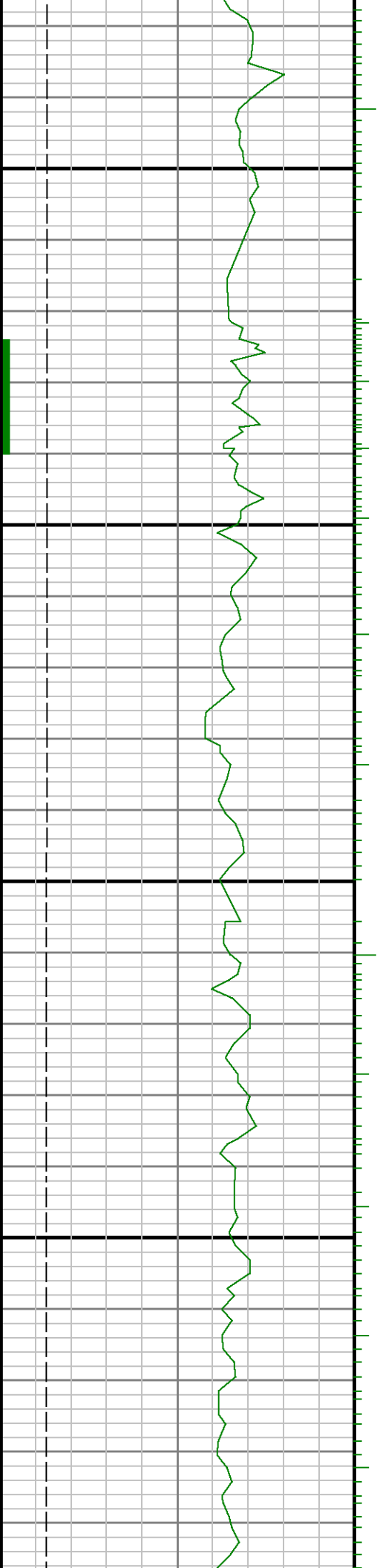






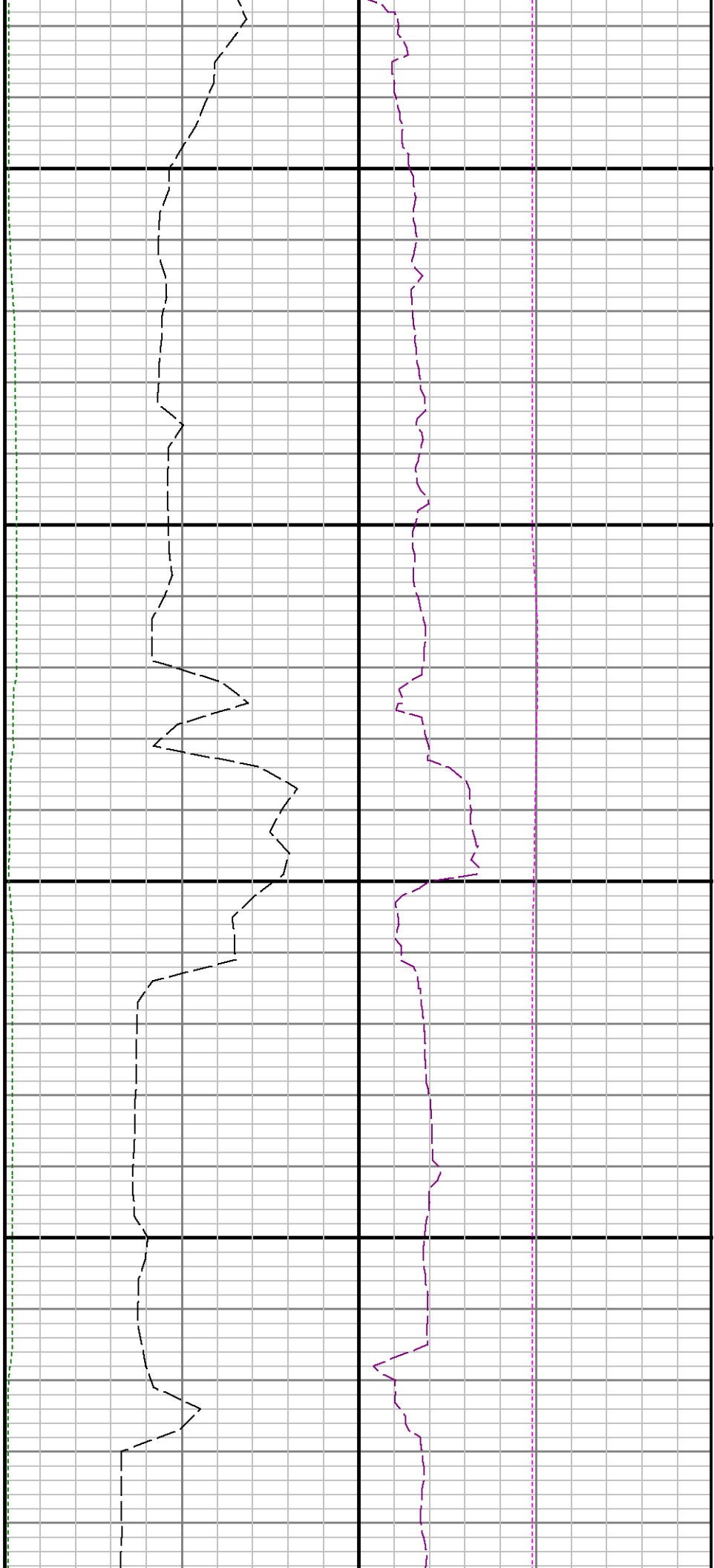




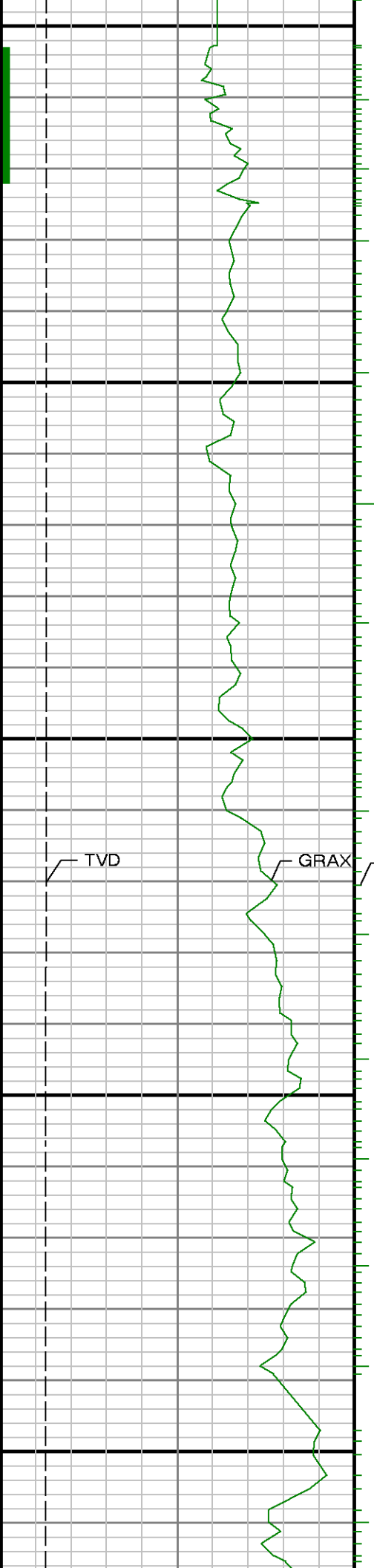


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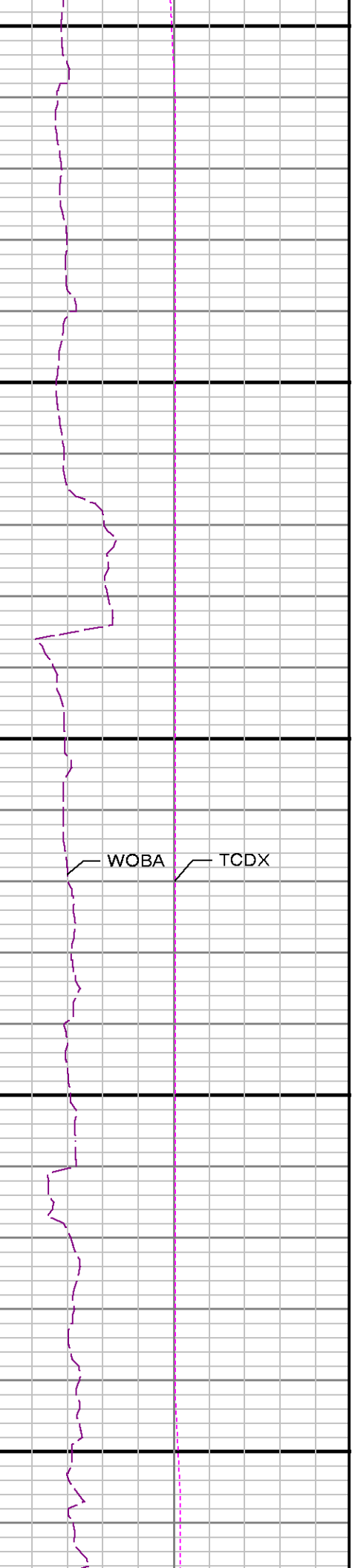
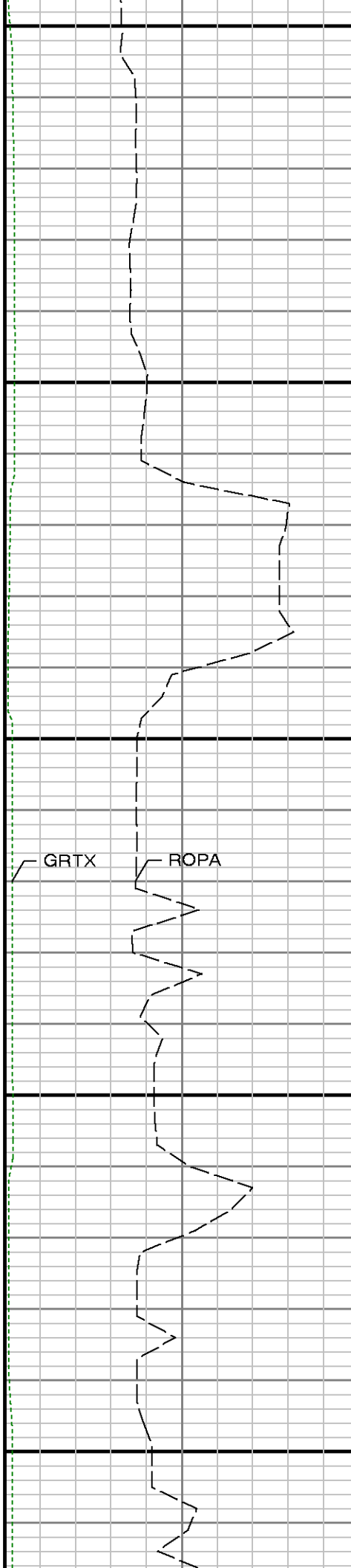




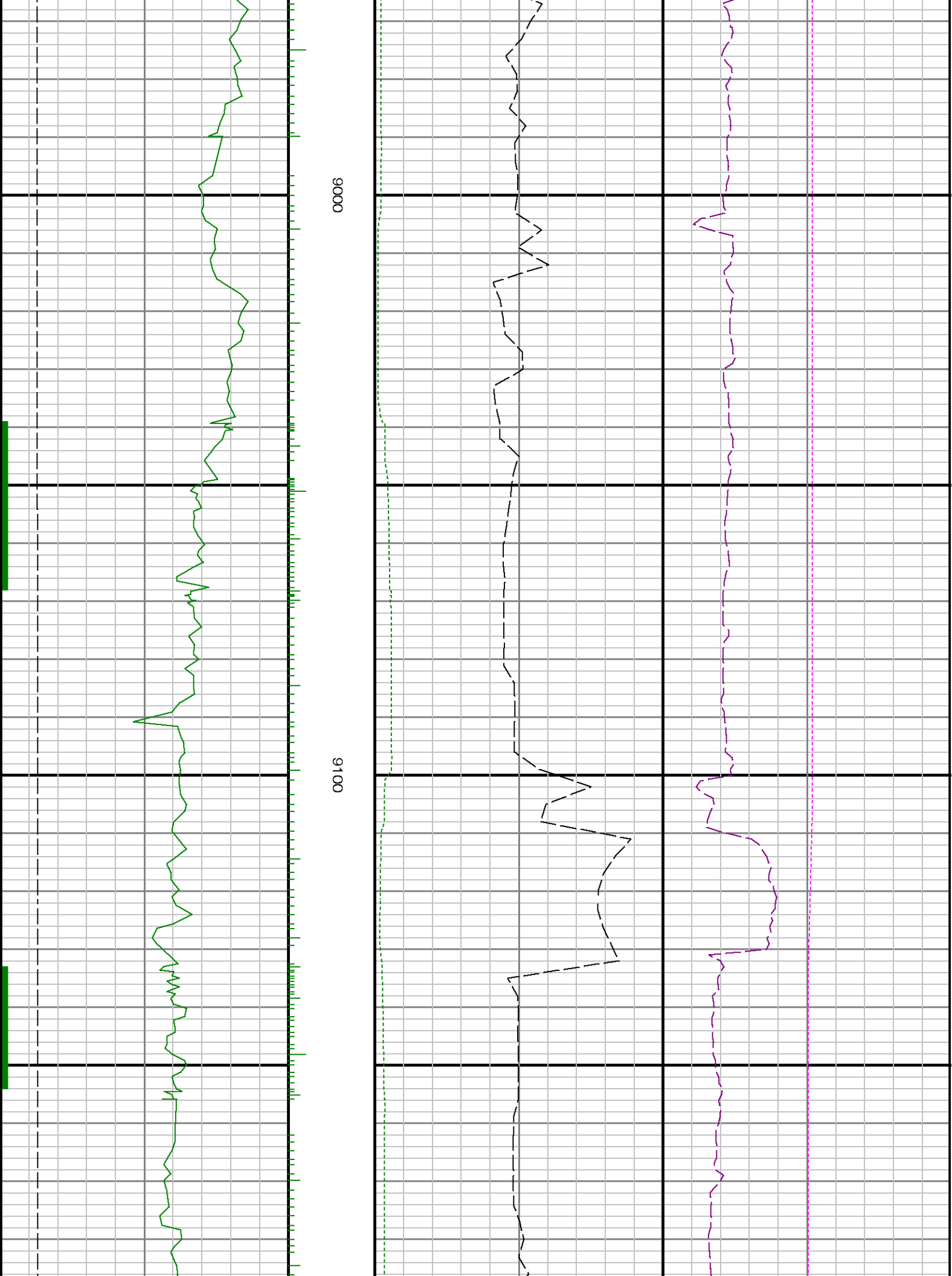


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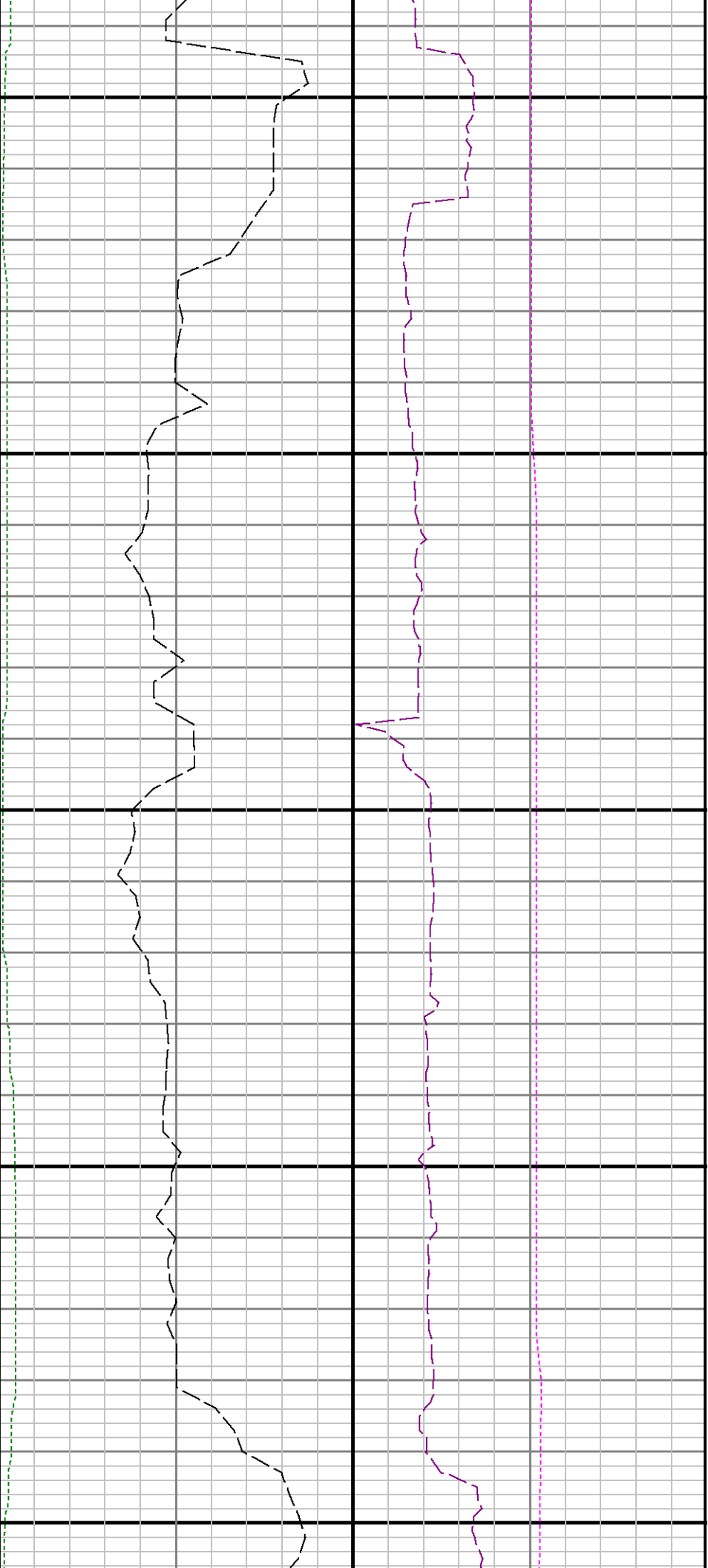
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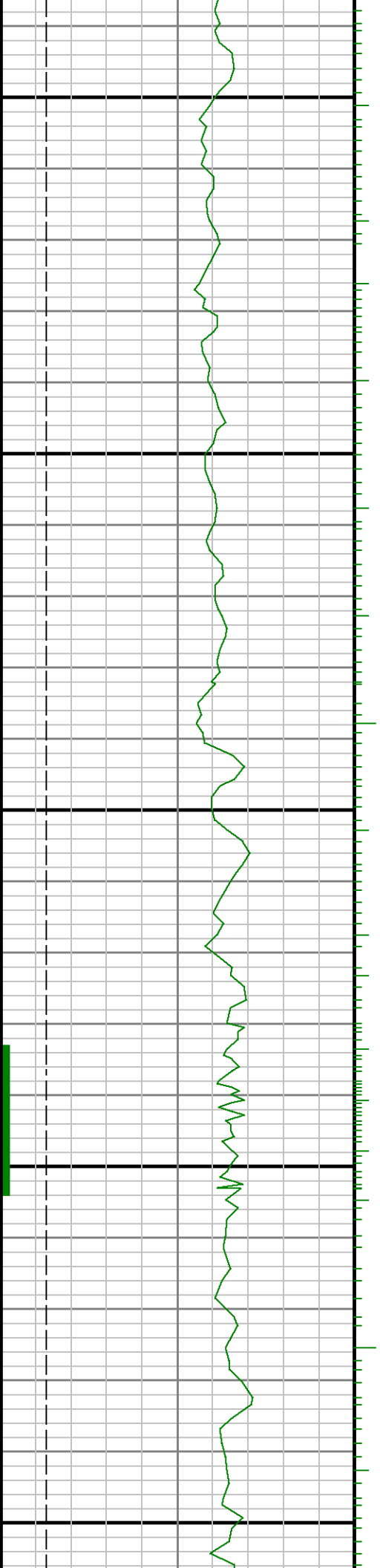




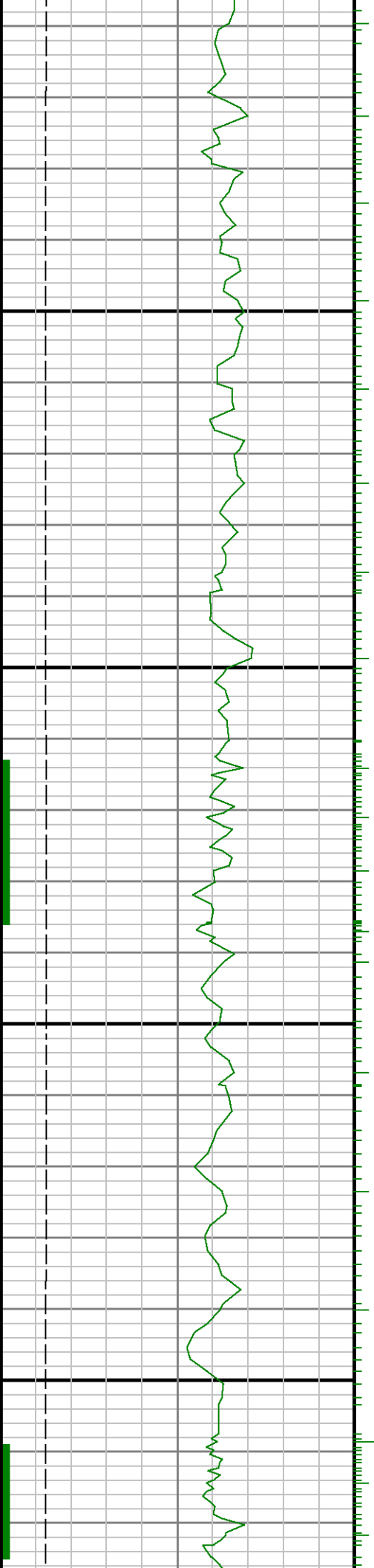
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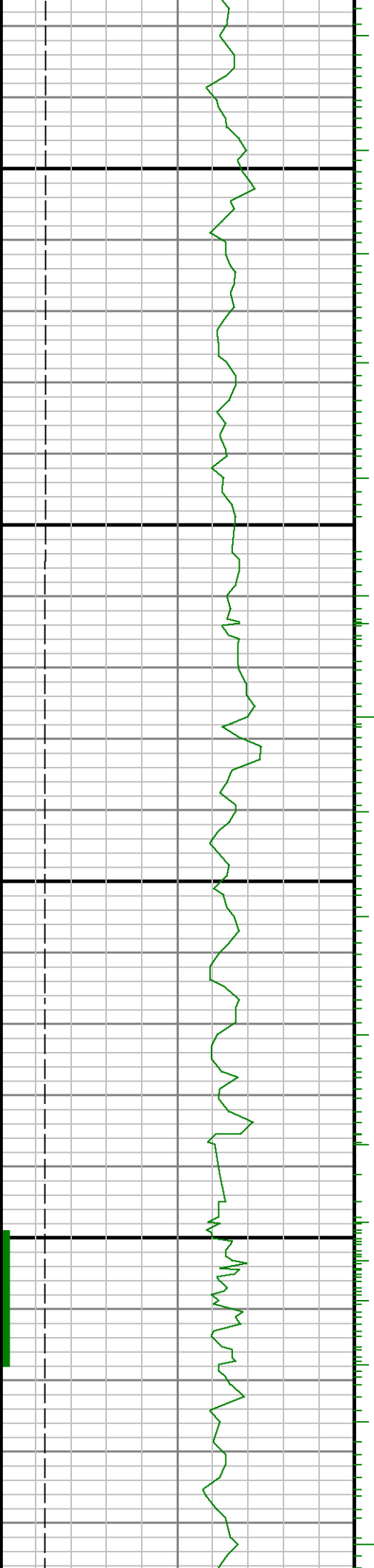


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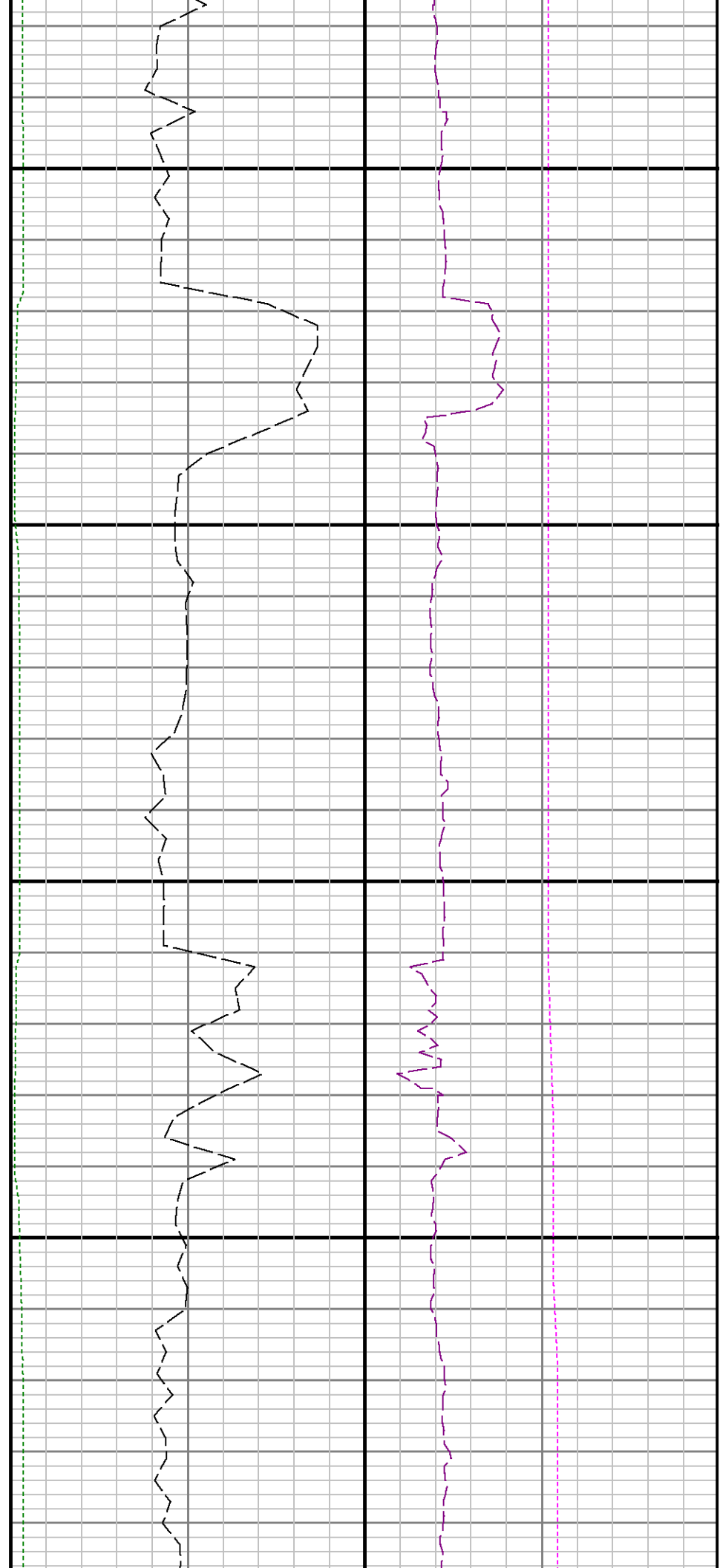




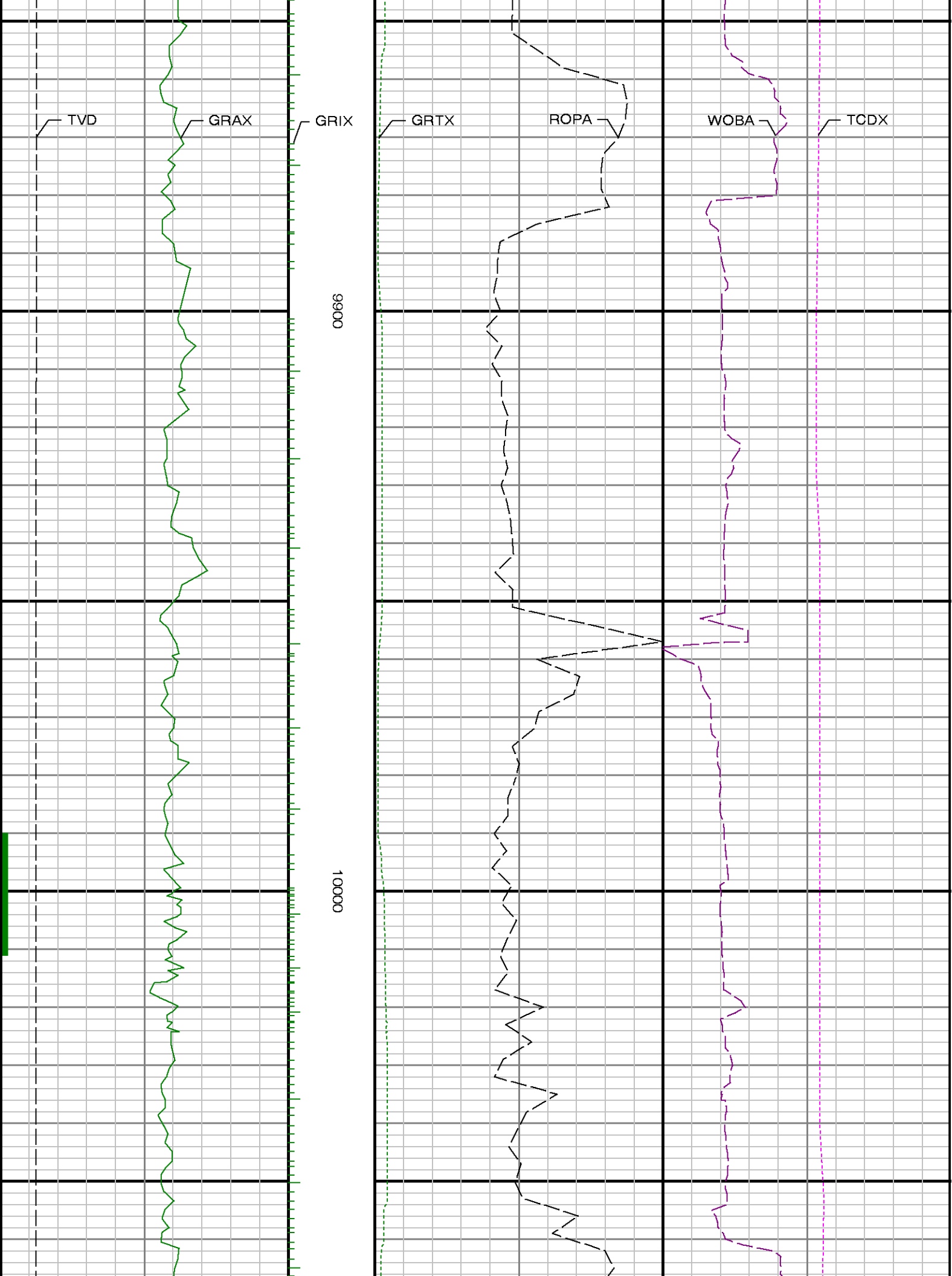


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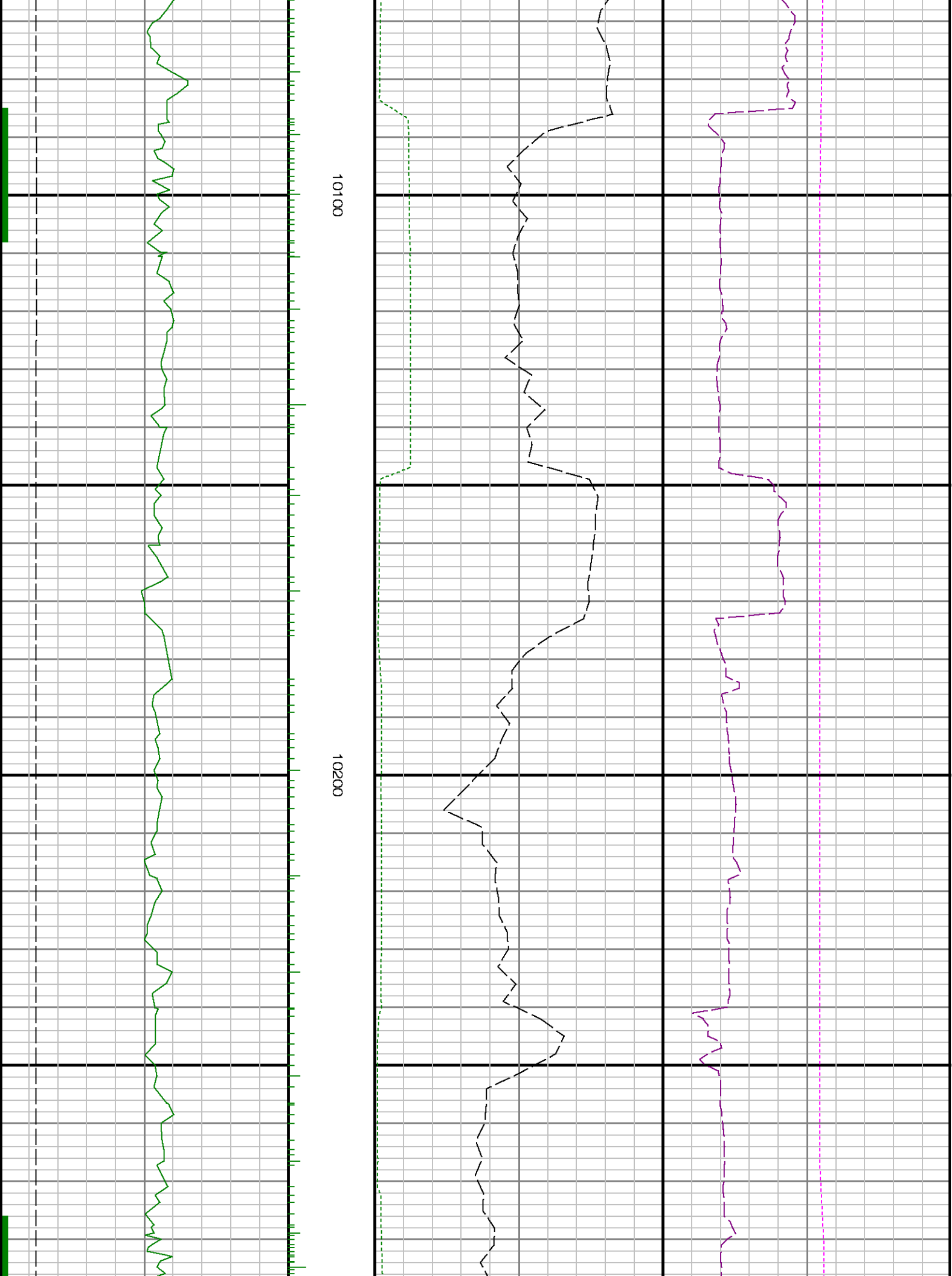
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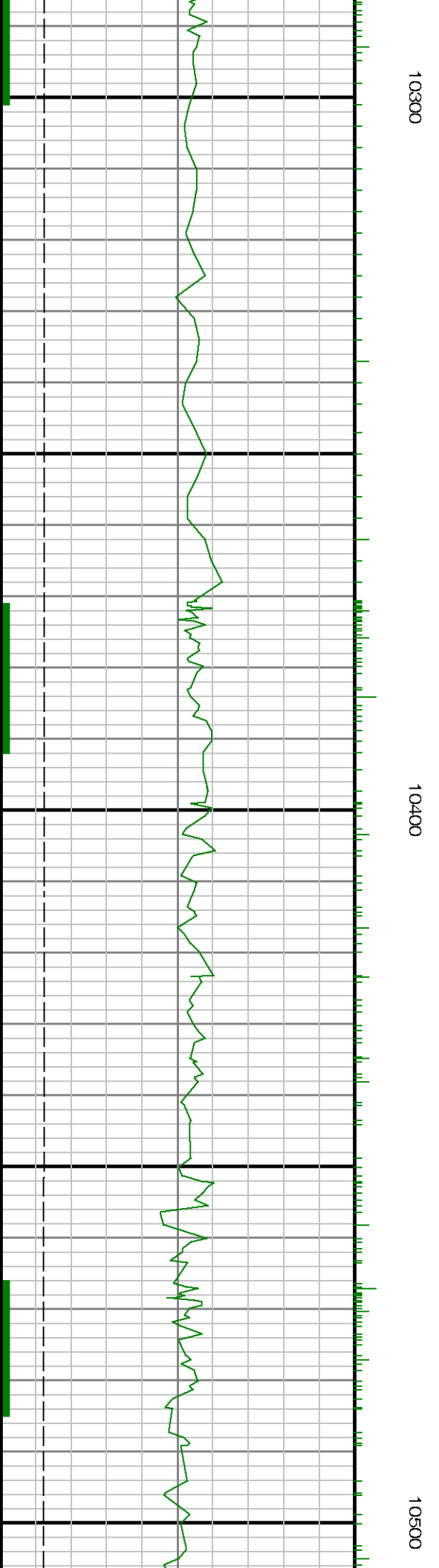
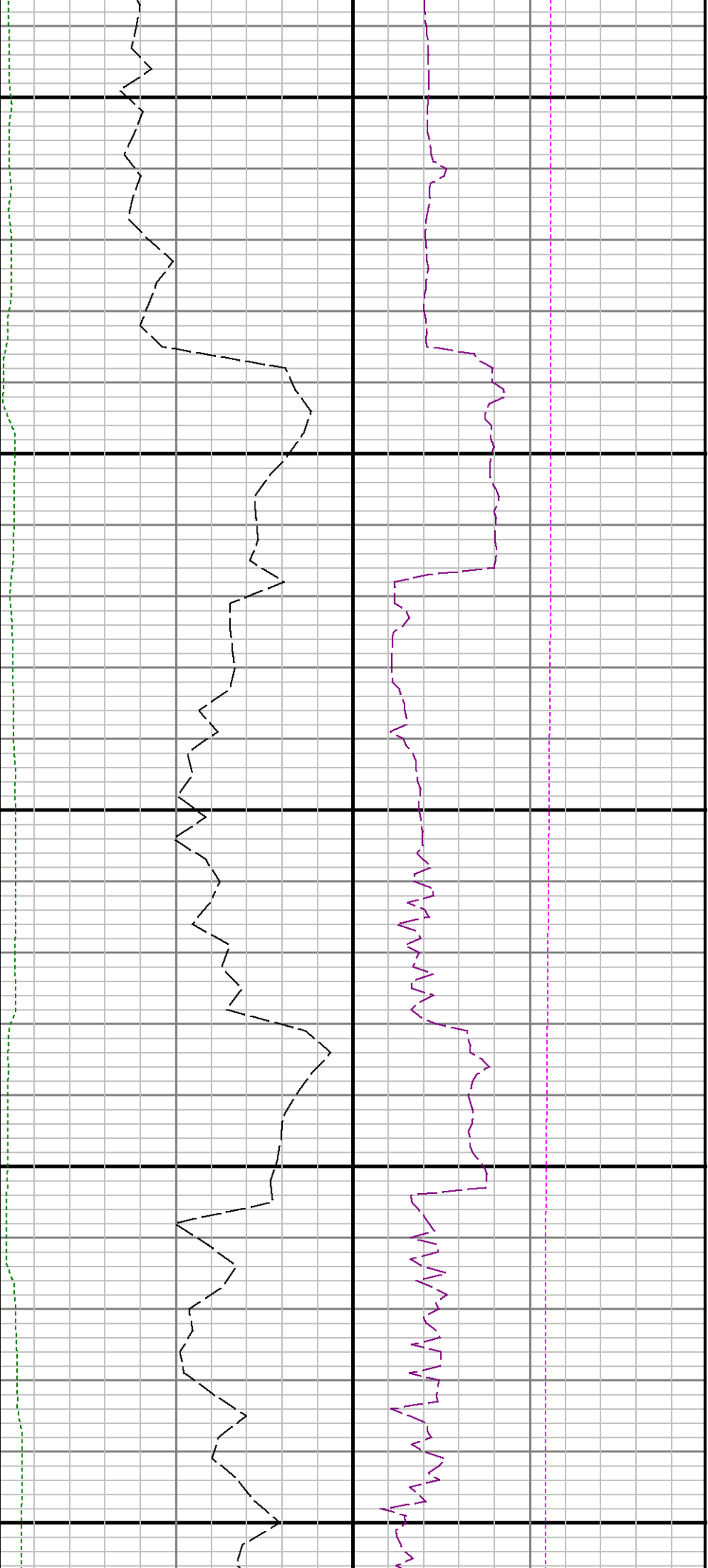




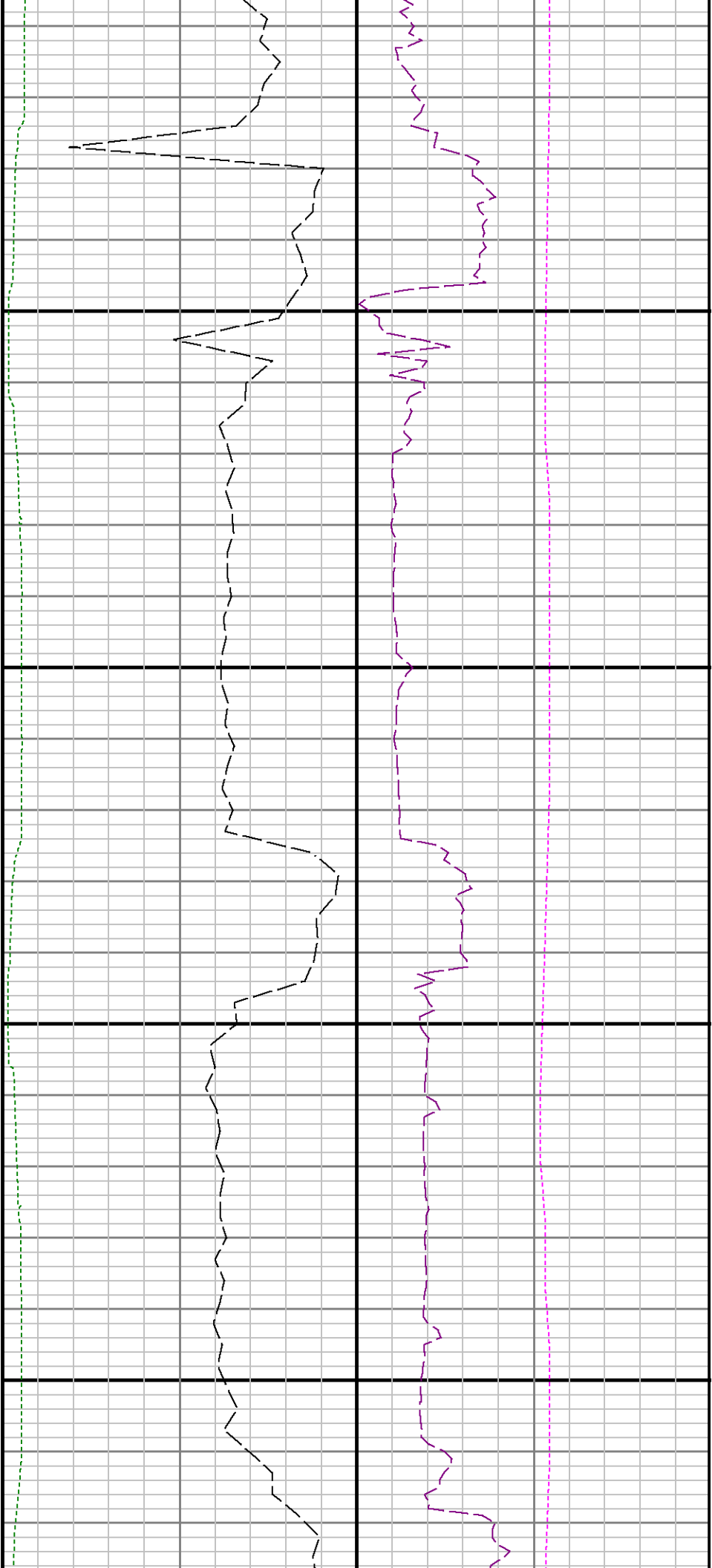






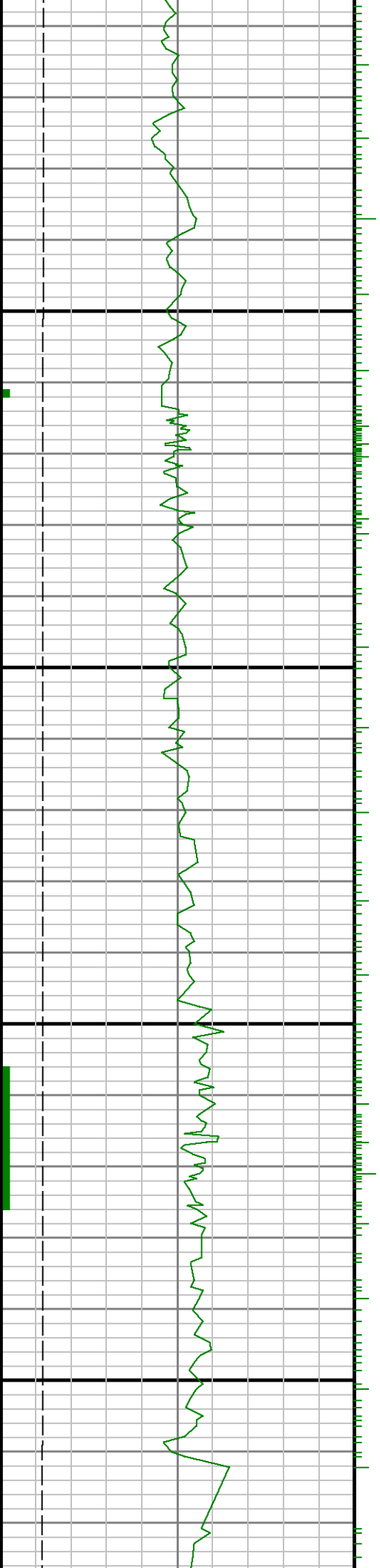




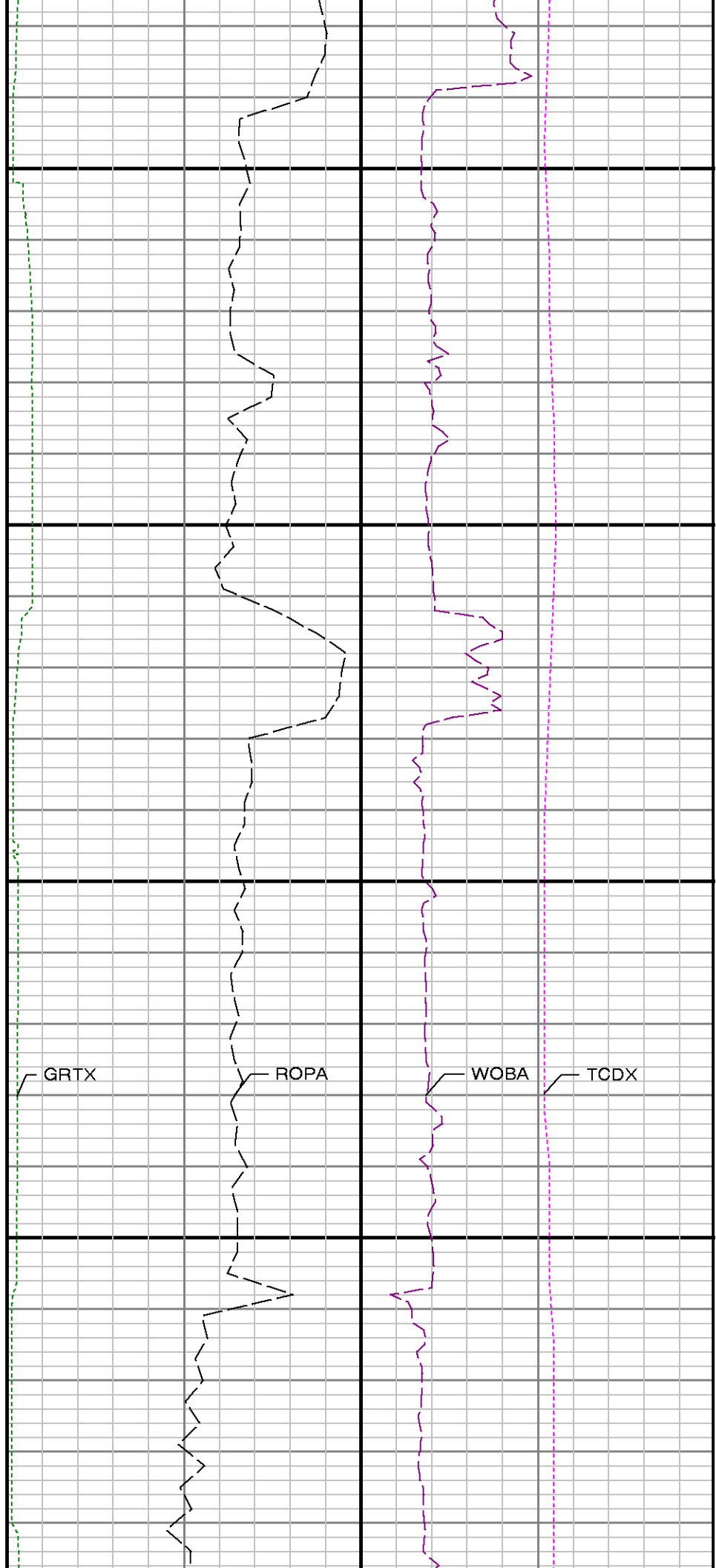
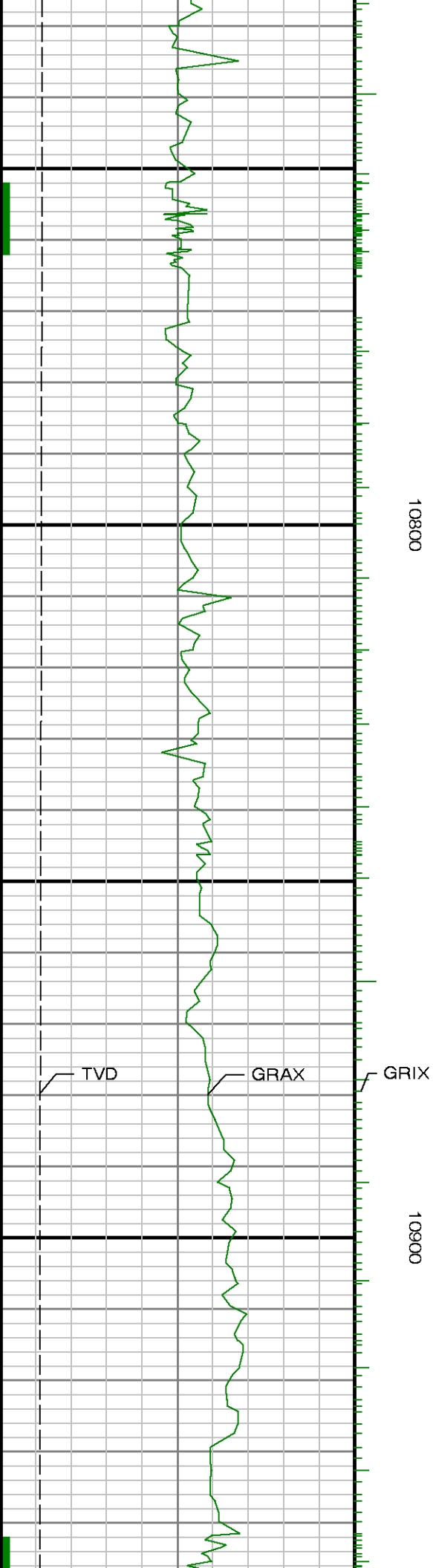


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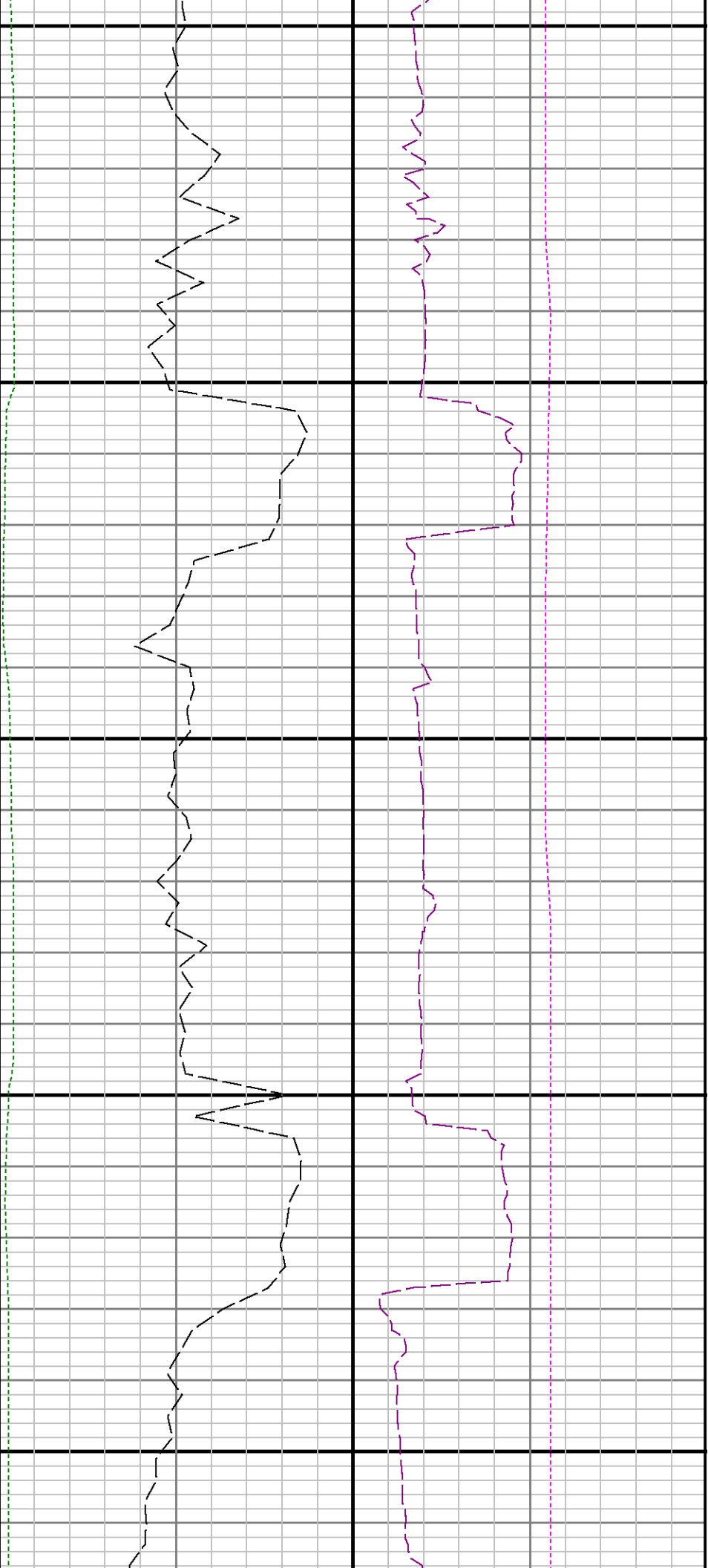
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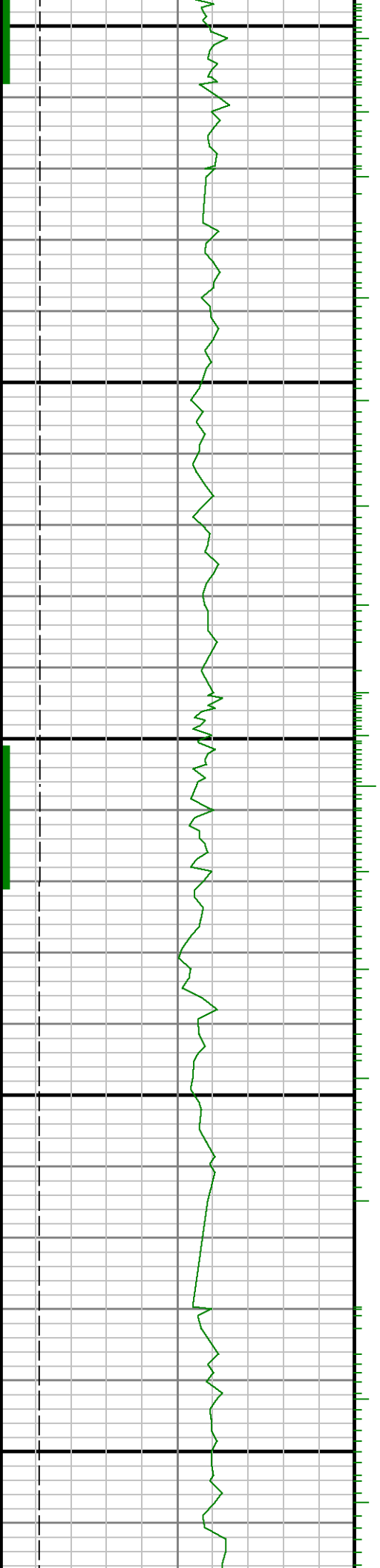






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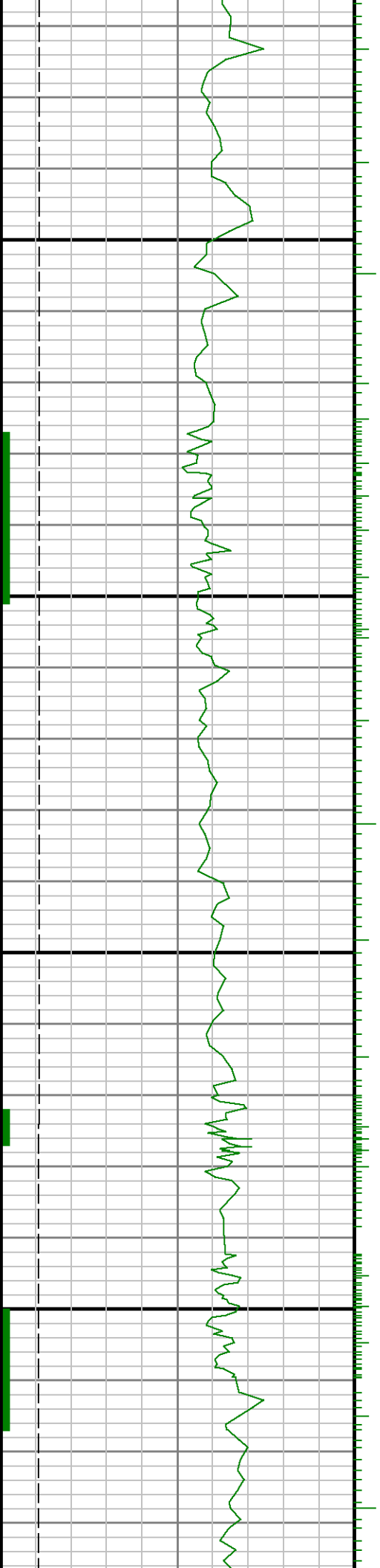




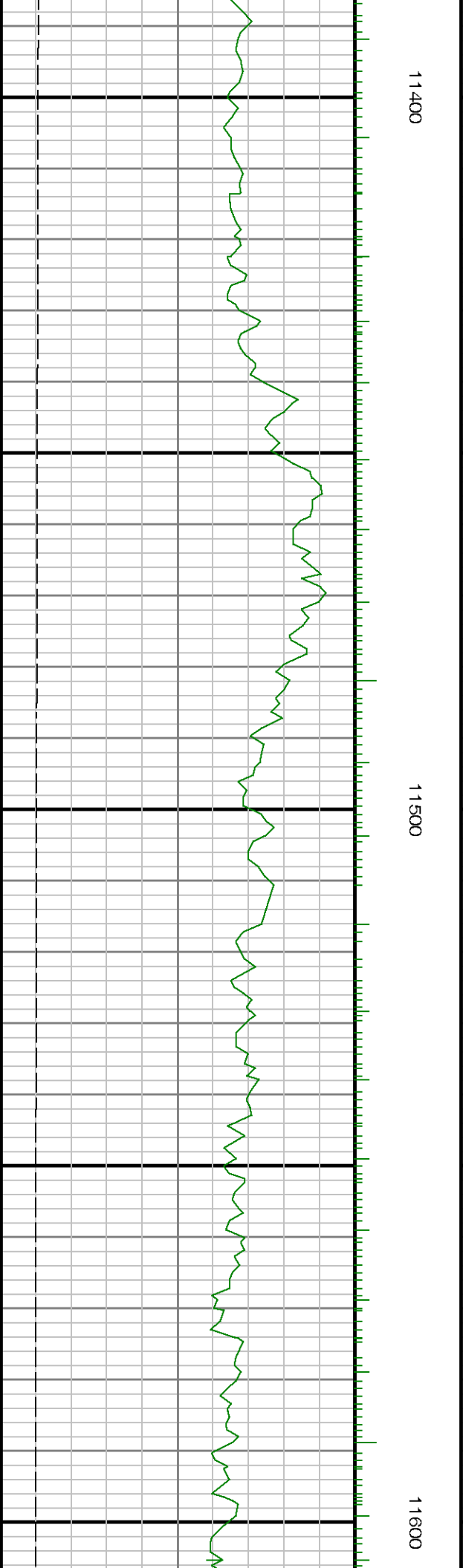
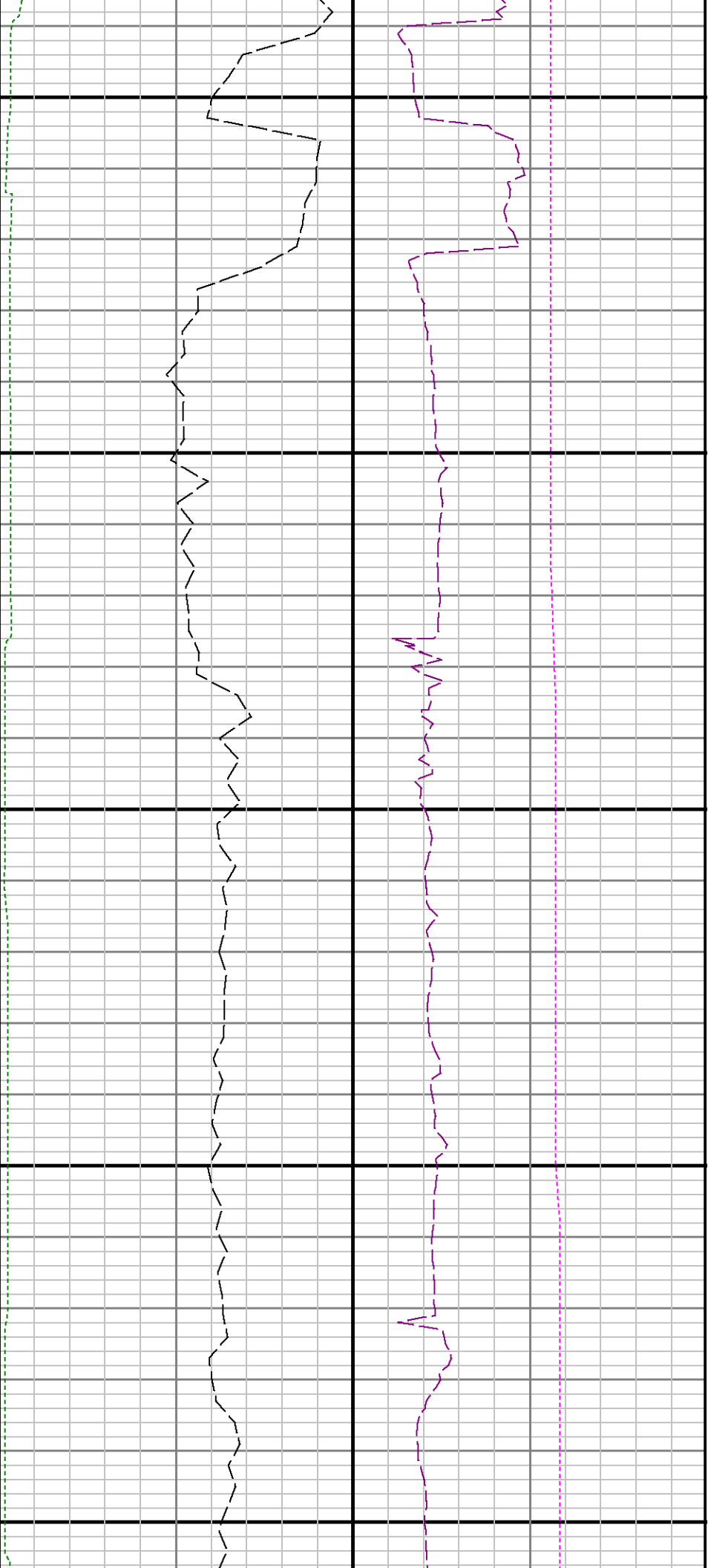


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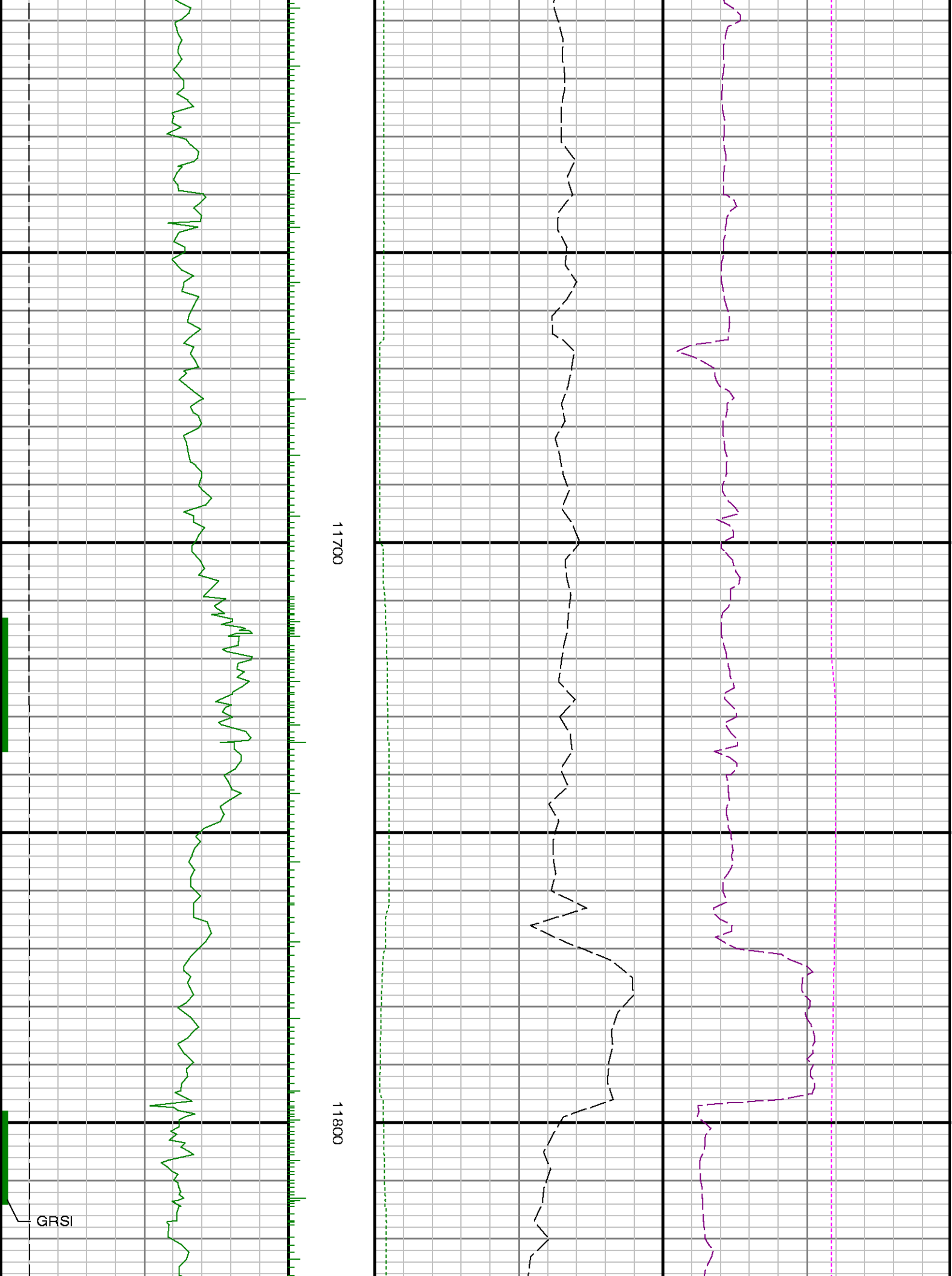
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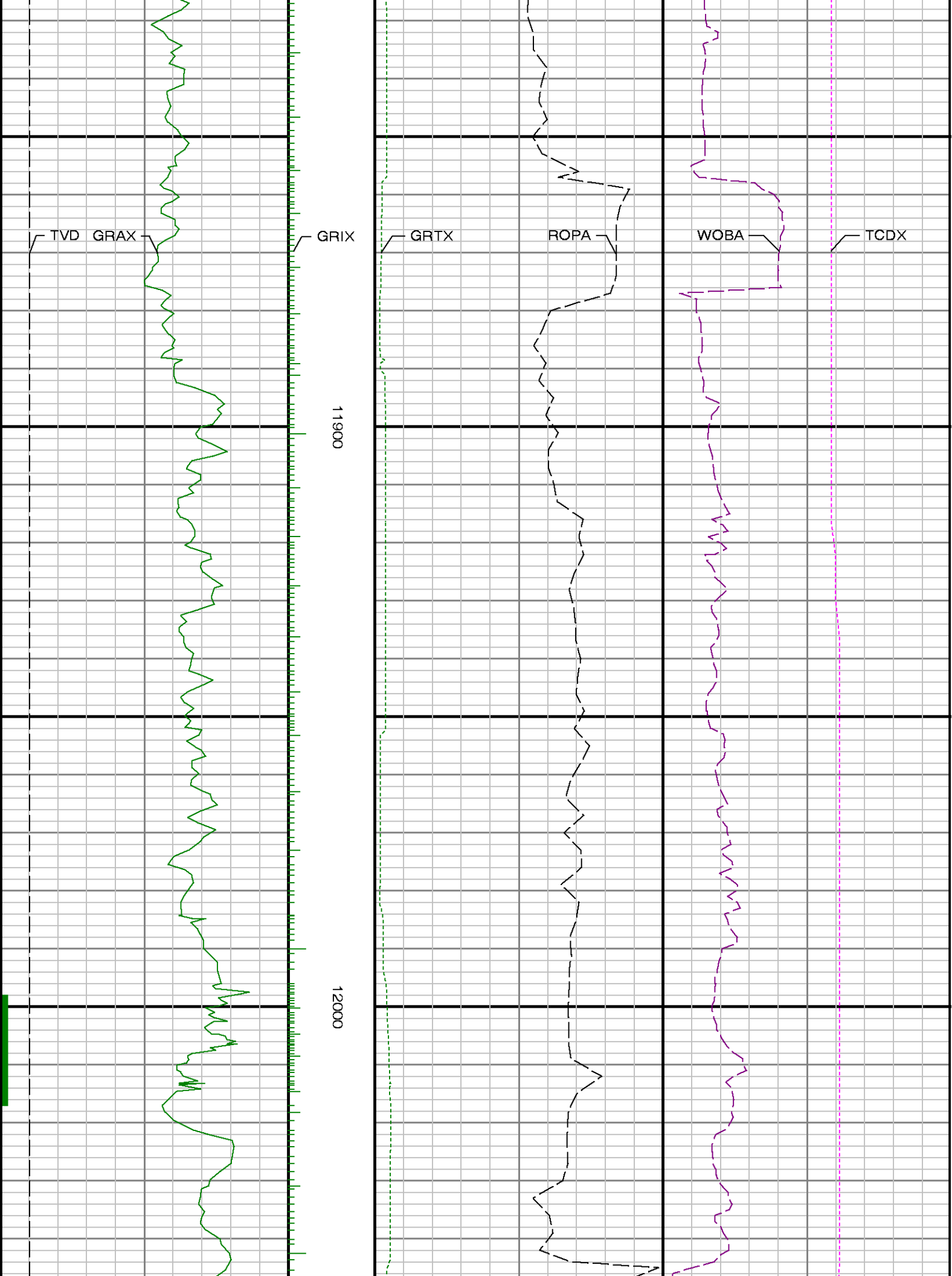










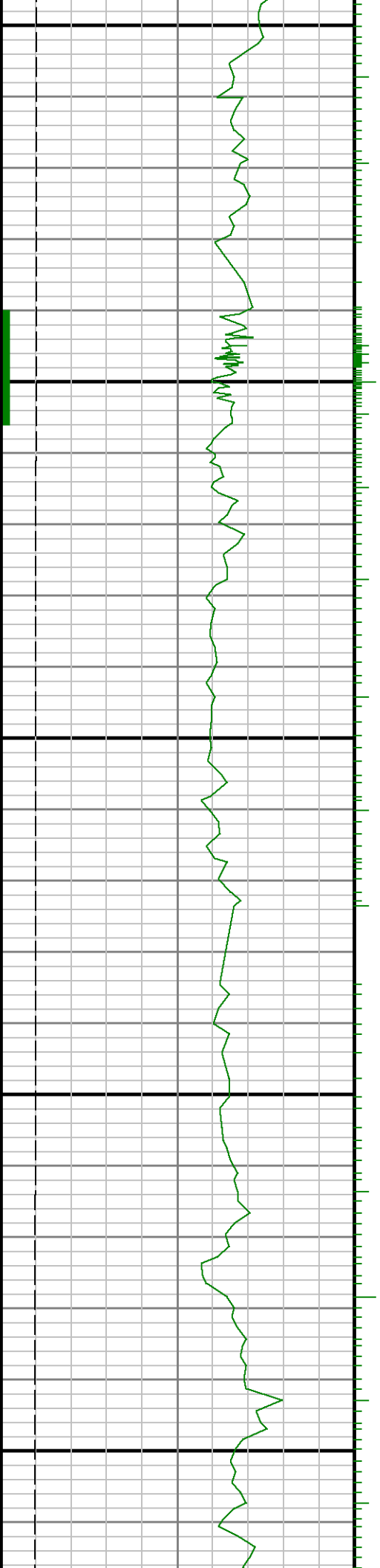




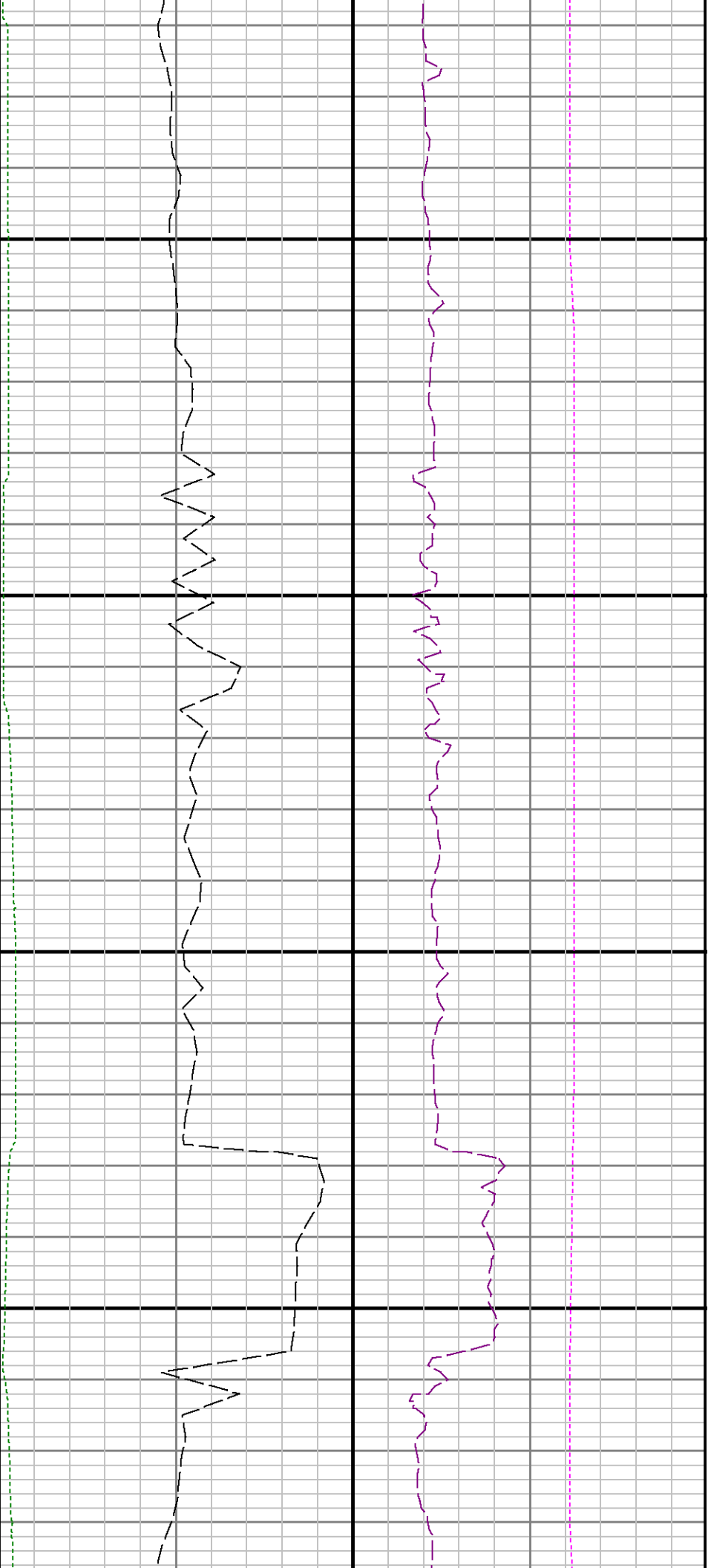


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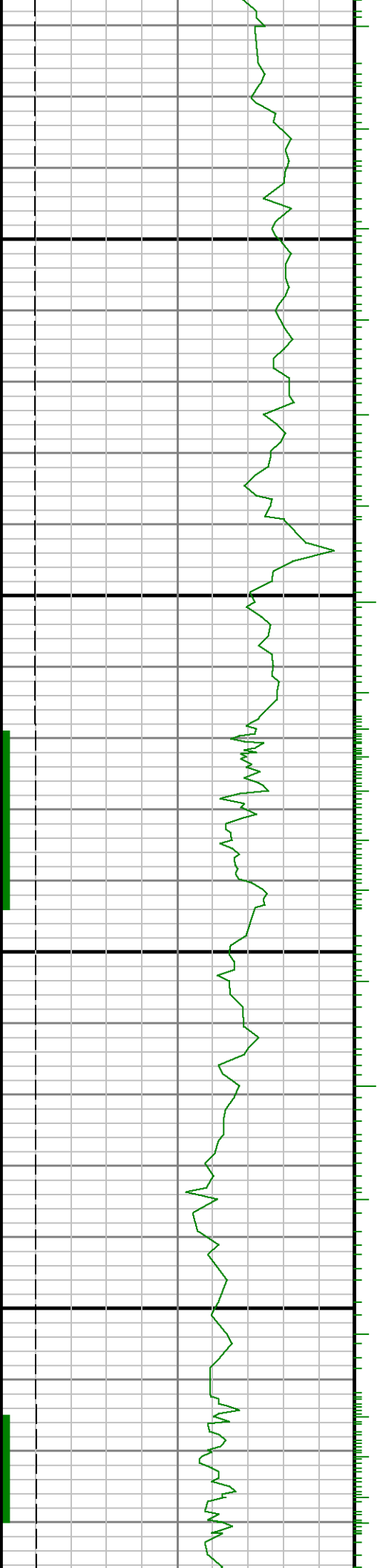




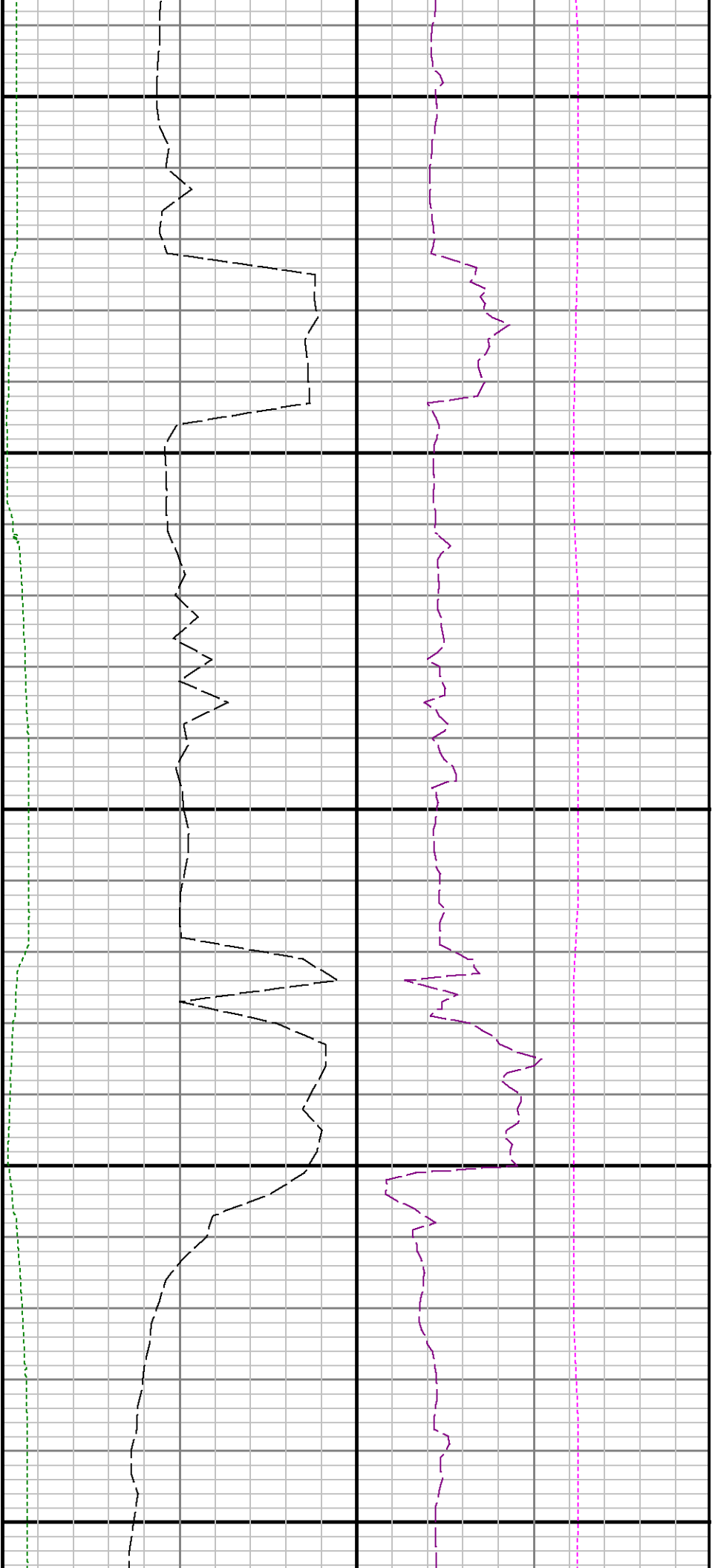


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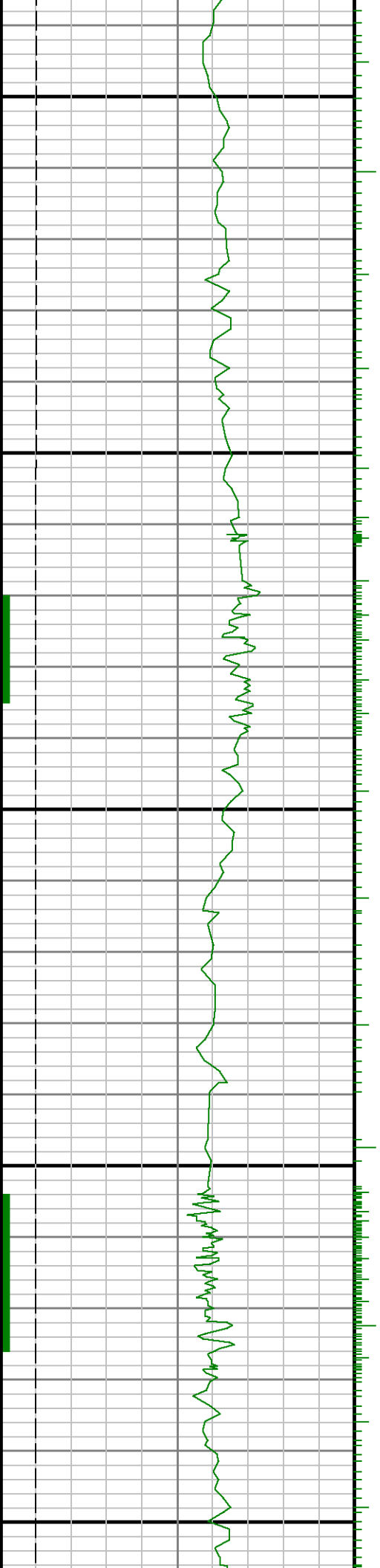




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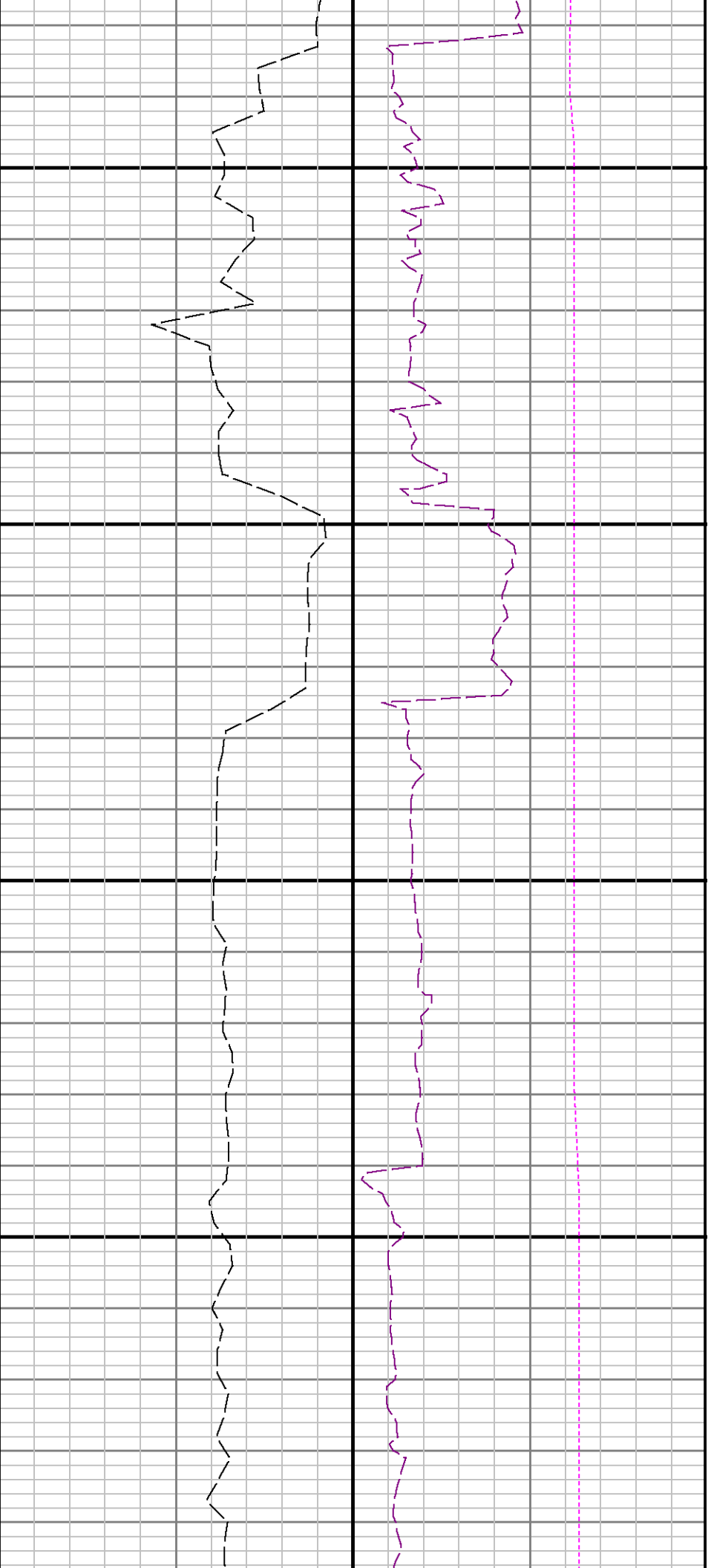
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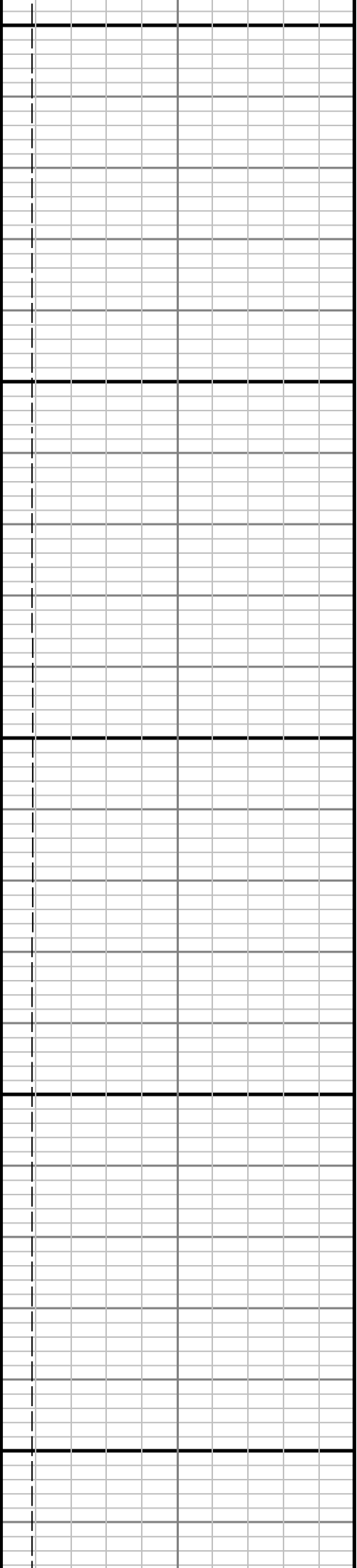
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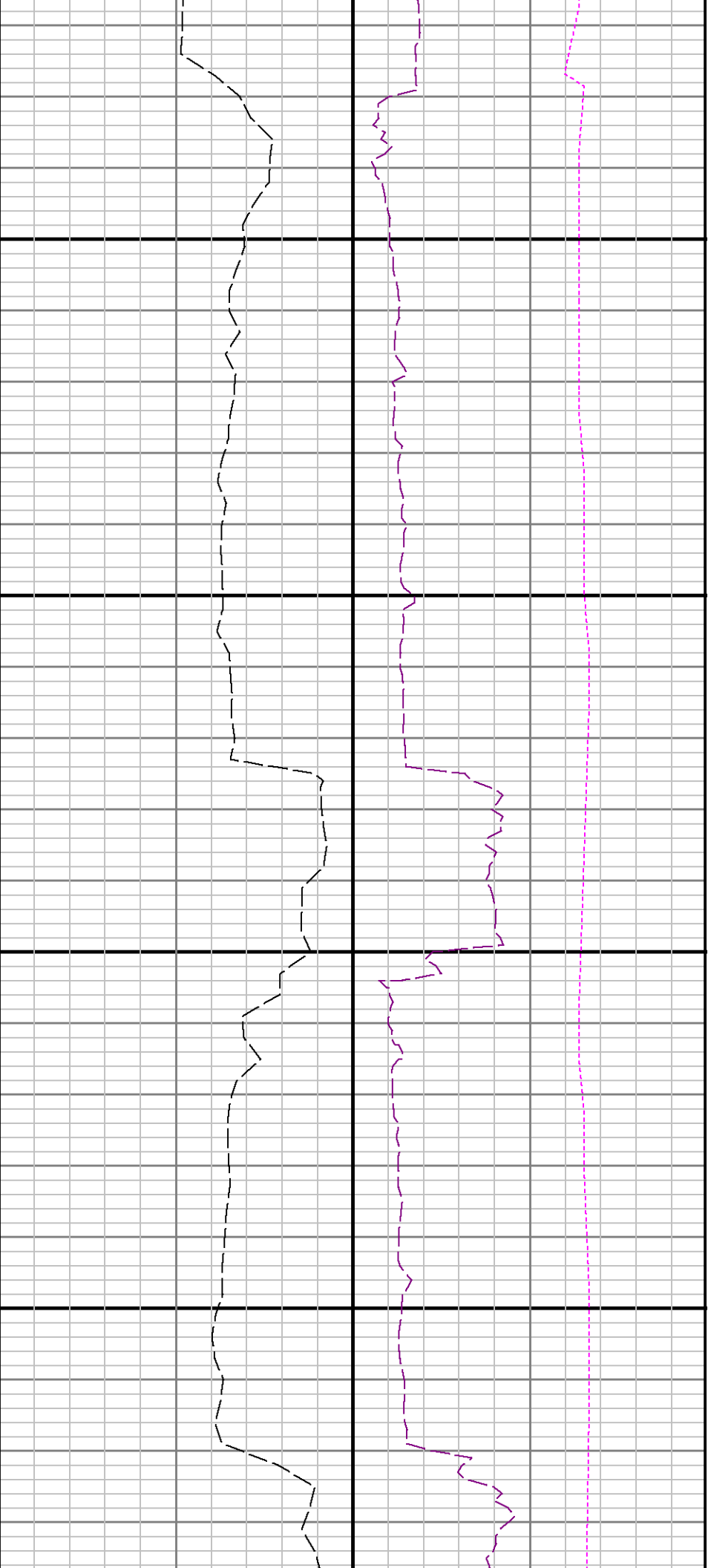


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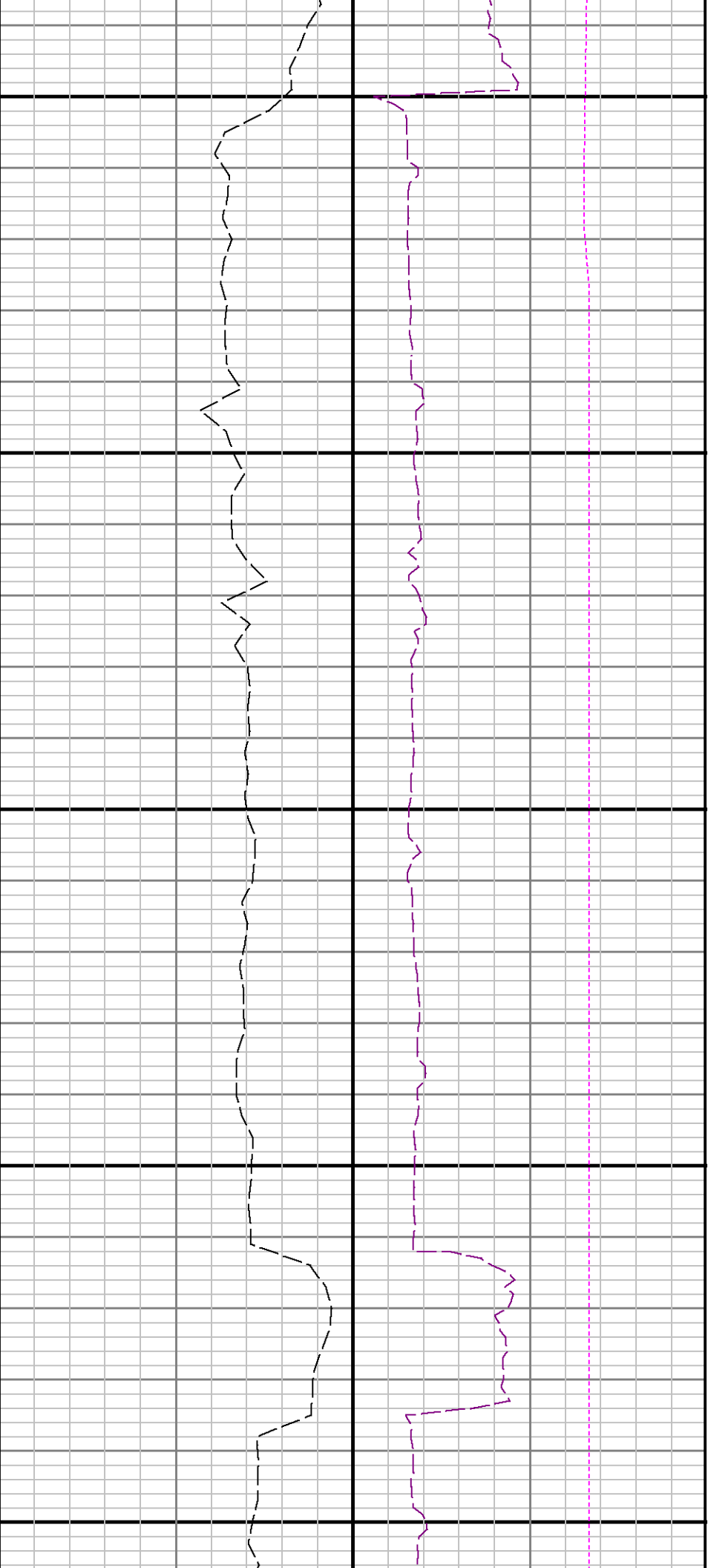




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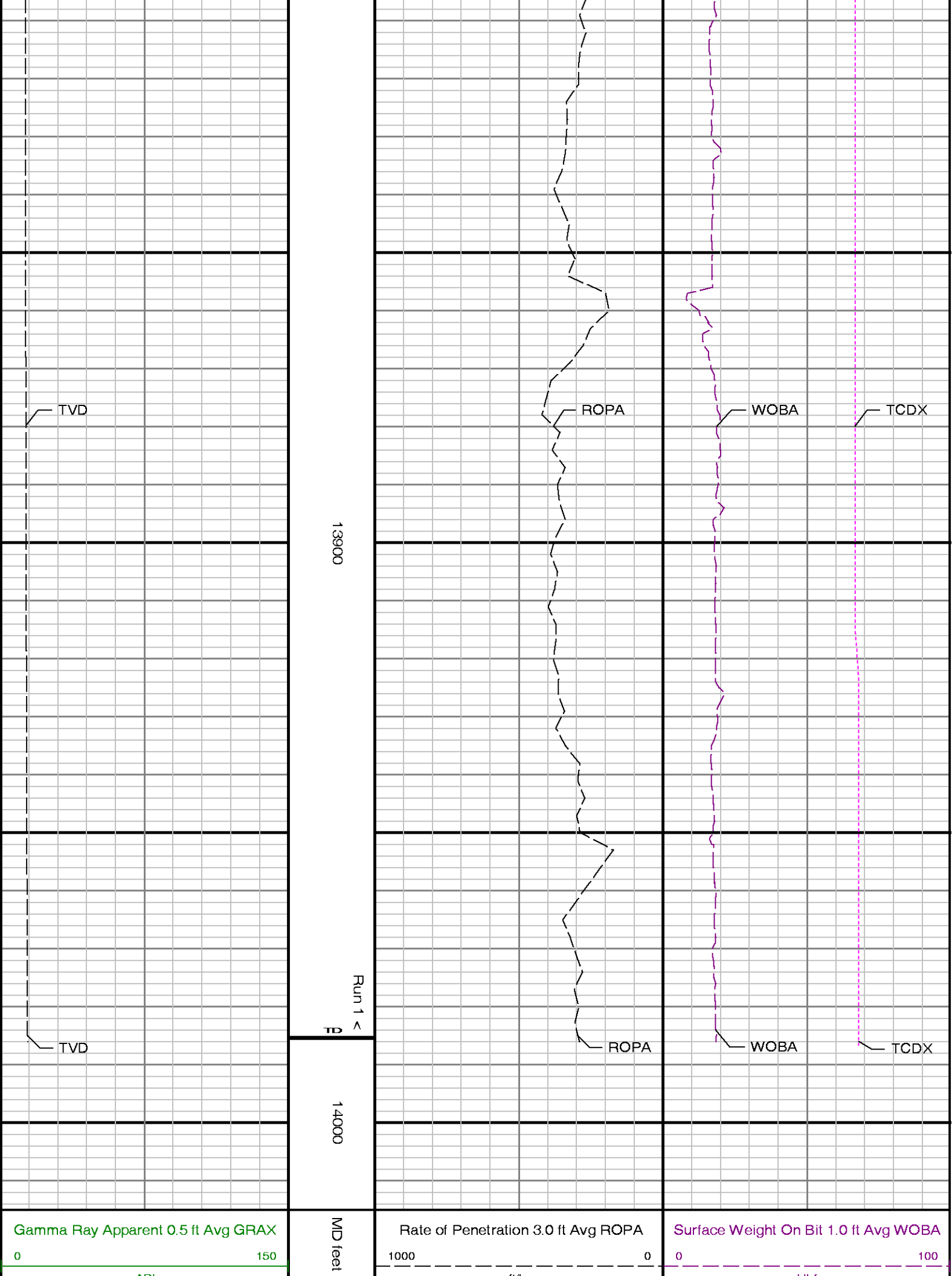


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<div>API</div> <div>True Vertical Depth TVD</div> <div>74006400</div> <div>ft</div>	<div>1:240</div>	<div>ft/hr</div> <div>Gamma Time Since Drilled GRTX</div> <div>0600</div> <div>min</div>	<div>kibf</div> <div>Downhole Temperature TCDX</div> <div>100300</div> <div>degF</div>
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