



Realtime Log

Natural Formation Evaluation
Gamma Ray

Scale: 1:240 Measured Depth

Company: Kerr-Mcgee Oil & Gas Onshore LP

Well: Benson Farms 32C-23HZ

Field: Weld County (Kerr Mcgee)

Region: Continental US Country: United States

Surface Location:

Latitude: 40° 12' 36.810" N

Longitude: 104° 57' 38.002" W

Other Services:

Directional
VSS

Status: Final Print

API Number: 05123393950000

Section 24

TWN: 3N

Range 68W

Permanent Datum (P.D.): Ground Level Elevation: 4957.00 ft.

Log Measured From: Rig Floor 16.00 ft. Above P.D.

Depth Reference: Driller's Depth KB: N/A
DF: 4973.00 ft.
GL: 4957.00 ft.

Interval Logged

Dates

Magnetic Field Reference

Top: 6808.0 ft. Date From: 17/Jul/14 Dip Angle: 66.92° Azi Reference North: True
Bottom: 13236.0 ft. Date To: 22/Jul/14 Total Mag to Reference
Spud Date: 17/Jul/14 Field Strength: 52614.5 nT North Correction: 8.70°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
8.750 in.	1251.0 ft.	7790.0 ft.	9.265 in.	36.00 lb/ft	Surface	1241.0 ft.
6.125 in.	7790.0 ft.	13292.0 ft.	7.000 in.	26.00 lb/ft	Surface	7790.0 ft.

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Drill Water	1251.0 ft.	7790.0 ft.	8.750 in.	85.0 ft.	0.3° / 205.2°	81.9° / 270.1°
LSND	7790.0 ft.	13292.0 ft.	6.125 in.	85.0 ft.	81.9° / 270.1°	89.3° / 267.7°
					/	/
					/	/
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Acquisition System

Software Version

Other

Advantage	2.20U4	Rig / Contractor:	Xtreme 24	/ Advance Drilling
PATS	6.4.1.34	Job No:	6450083	
		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	Bottom	From	To	Start		End		
1	1	1	8.750	PDC	2.000	Steerable	6808.0	7732.0	6866.0	7790.0	17/Jul/14	18:30	19/Jul/14	14:00	31.5
2	2	2	6.125	PDC	6.000	Steerable	7734.0	13236.0	7790.0	13292.0	20/Jul/14	10:00	22/Jul/14	14:00	35.9

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Osagie Otoikhine	16/Jul/14	23/Jul/14	Andrew Overbey	16/Jul/14	23/Jul/14			

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+
17/Jul/14 18:00	1	1251.0	Drill Water	8.4	29	8.1	N/A	0.3/99.0	Active Pits	1200	N/A
19/Jul/14 18:00	1	7790.0	LSND	9.8	45	9.6	N/A	0.5/92.0	Active Pits	1800	N/A
21/Jul/14 18:00	2	11996.0	LSND	9.3	43	9.5	N/A	2.0/92.5	Flowline	1800	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 (m.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12617359	Directional	61.28	6.750	2.813
1	SRIG	12586749	Gamma	57.91	6.750	2.813
2	DIR	11983381	Directional	59.28	4.750	2.813
2	SRIG	12041110	Gamma	55.90	4.750	2.813

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 Run 1 utilized a 6 1/2 inch NaviGamma (Directional and Gamma Ray) tool behind an 8 3/4 inch bit and steerable assembly from 6866 feet to 7790 feet MD (6755 feet to 7325 feet TVD).</p> <p>2.) Baker Hughes Run 2 utilized a 4 3/4 inch NaviGamma (Directional and Gamma Ray) tool behind a 6 1/8 inch bit and steerable assembly from 7790 feet to 13292 feet MD (7325 feet to 7315 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 depth-shifted to the Gamma Ray sensor offset to correspond with Gamma Ray data acquired while sliding.</p>

Remarks

Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1	6803	8.750	1	The interval from surface to 6808 feet MD (6697 feet TVD) was not logged since logging services began at kick off point

1	6800	0.750	1	The interval from surface to 6800 feet MD (6807 feet TVD) was not logged since logging services began at kick on point.
2	7741	8.750	1	The Interval from 7732 feet to 7790 feet MD (7320 feet to 7325 feet TVD) was logged more than 10 hours after drilling due to tripping for casing and picking up lateral BHA.
3	13268	6.125	2	The interval from 13236 feet to 13292 feet MD (7314 feet to 7315 feet TVD) was not logged due to bit sensor offset at TD.

Curve Mnemonics

Curve	Description	Units
GRAX	Gamma Ray - Apparent	API
GRIX	Gamma Ray - Data Point Indicator	unitless
GRSI	Gamma Slide Ind.	
GRTX	Gamma Ray Time Since Drilled	min
ROP_AVG	Depth Averaged ROP	ft/hr
TCDX	Downhole Temperature	degF
TVD	True Vertical Depth	ft
WOB_AVG	AVERAGE Weight On Bit	klbf

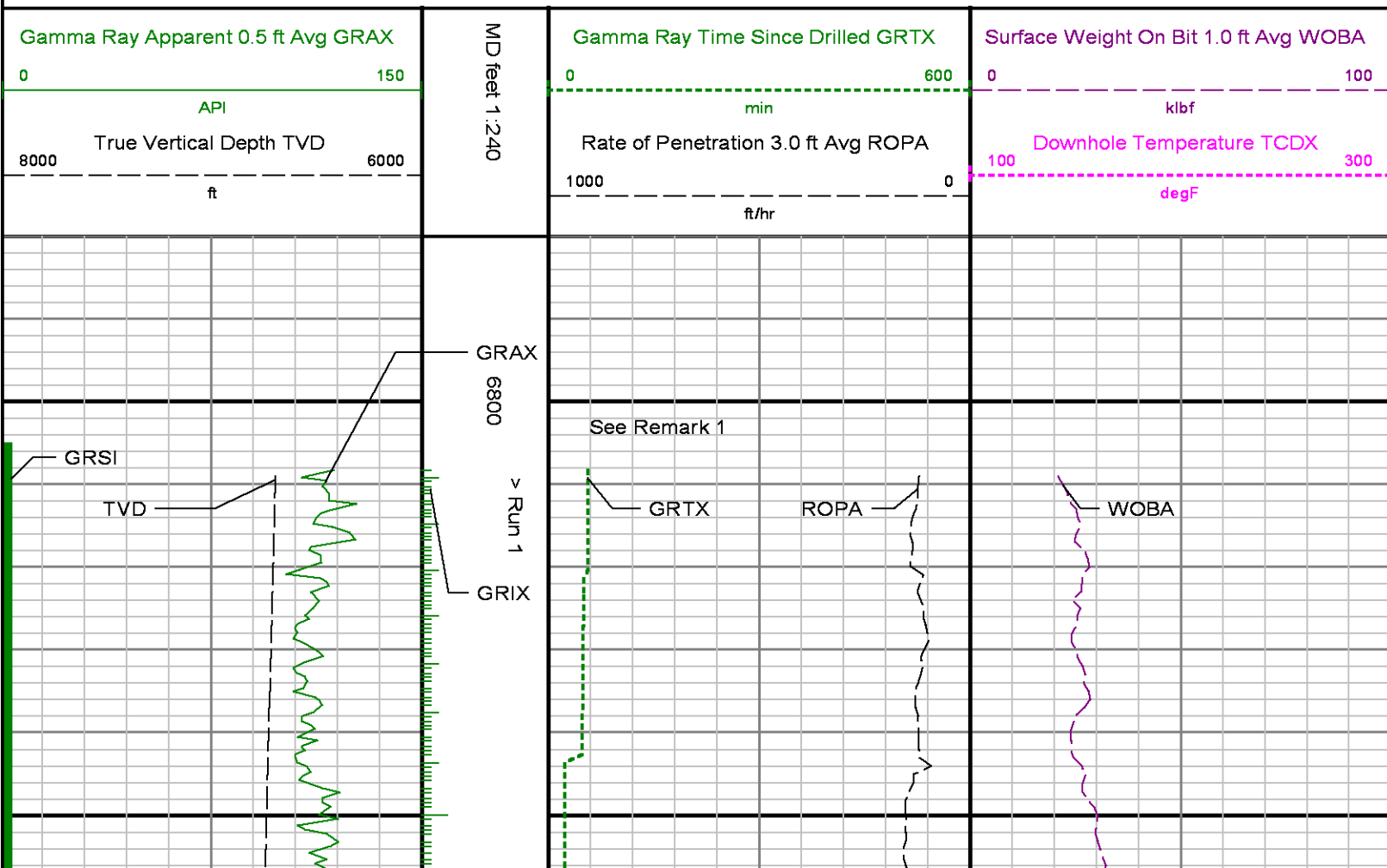


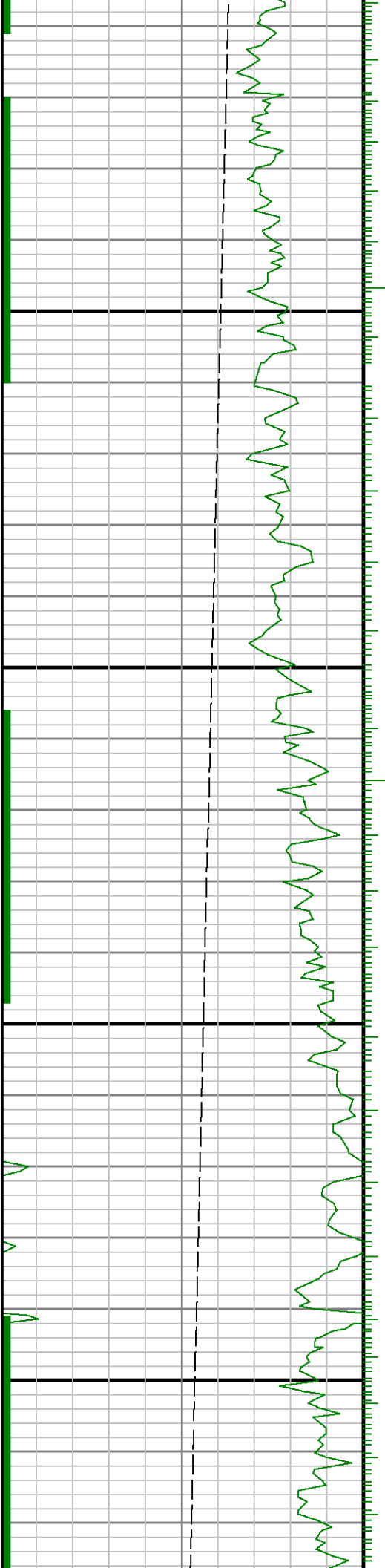
Company : Kerr-Mcgee Oil & Gas Onshore LP

Well : Benson Farms 32C-23HZ

Interval : 6780.00 - 13315.00 feet

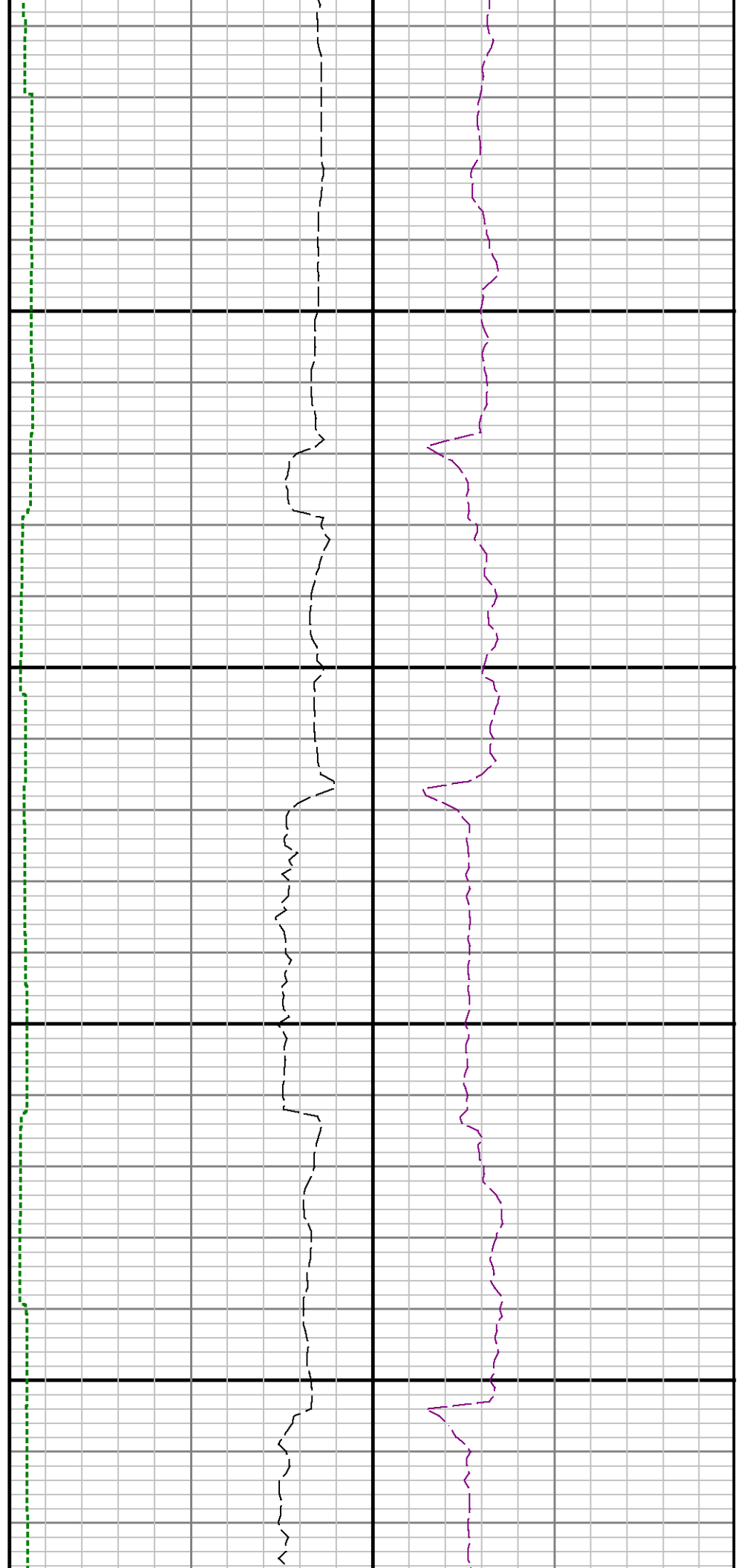
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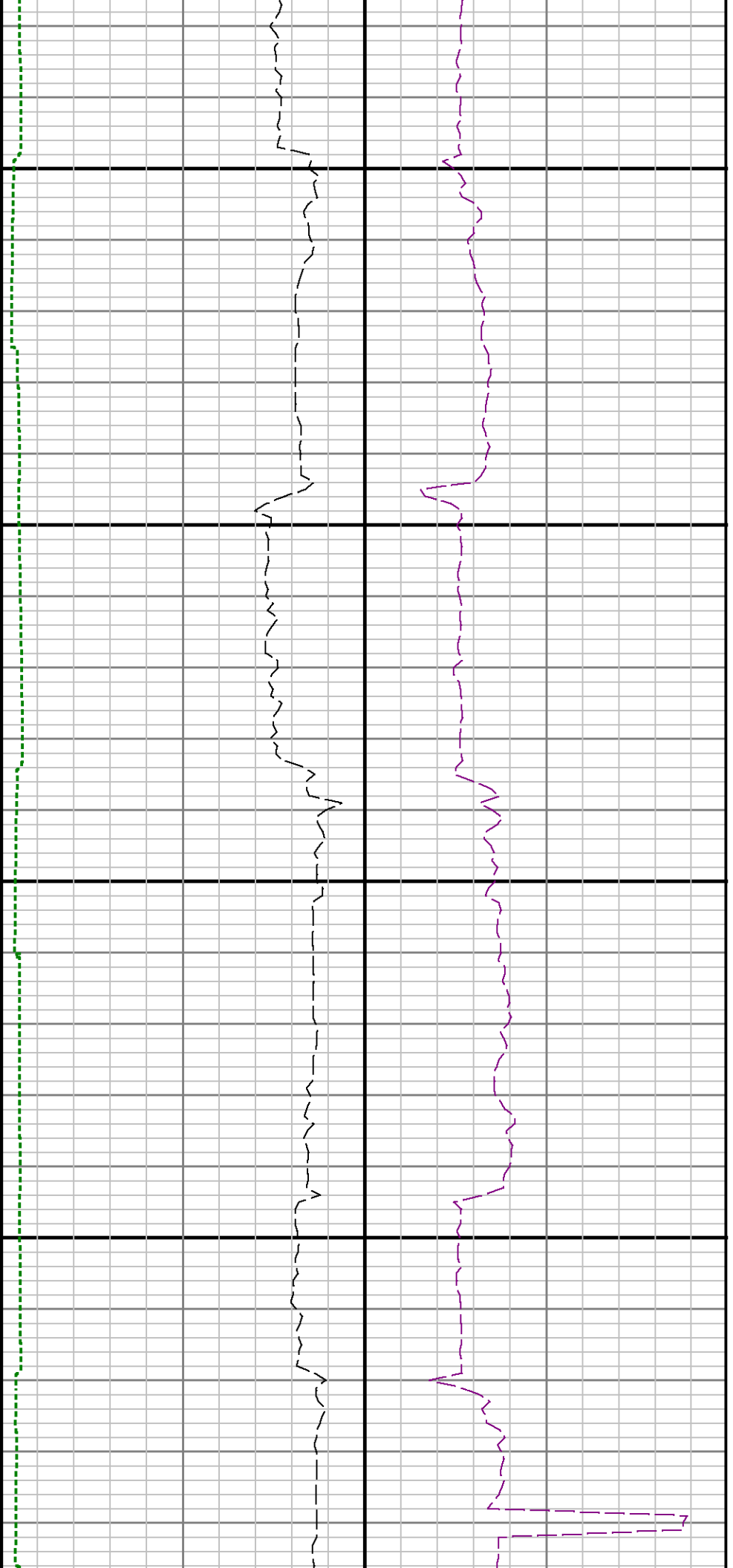




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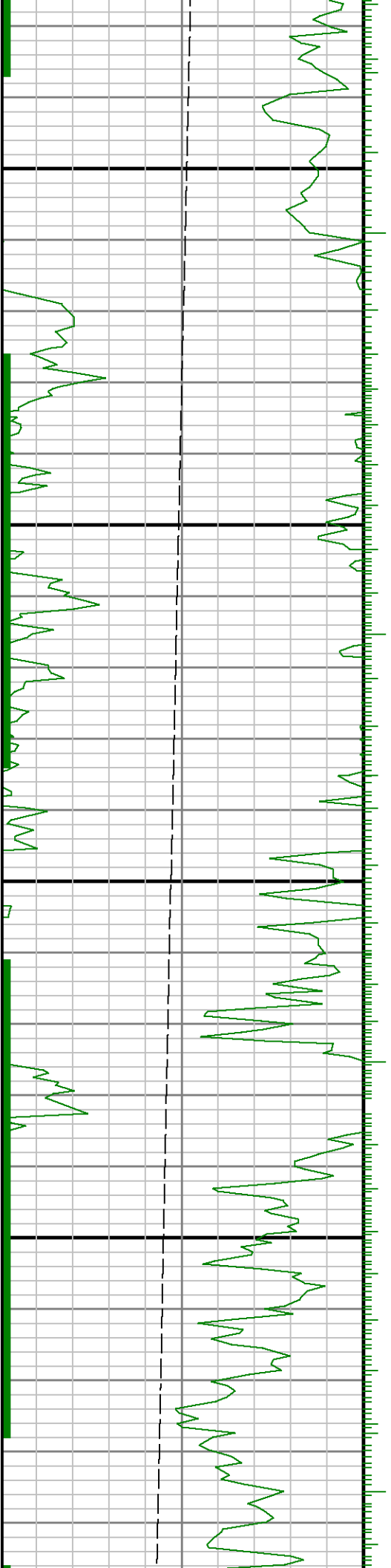
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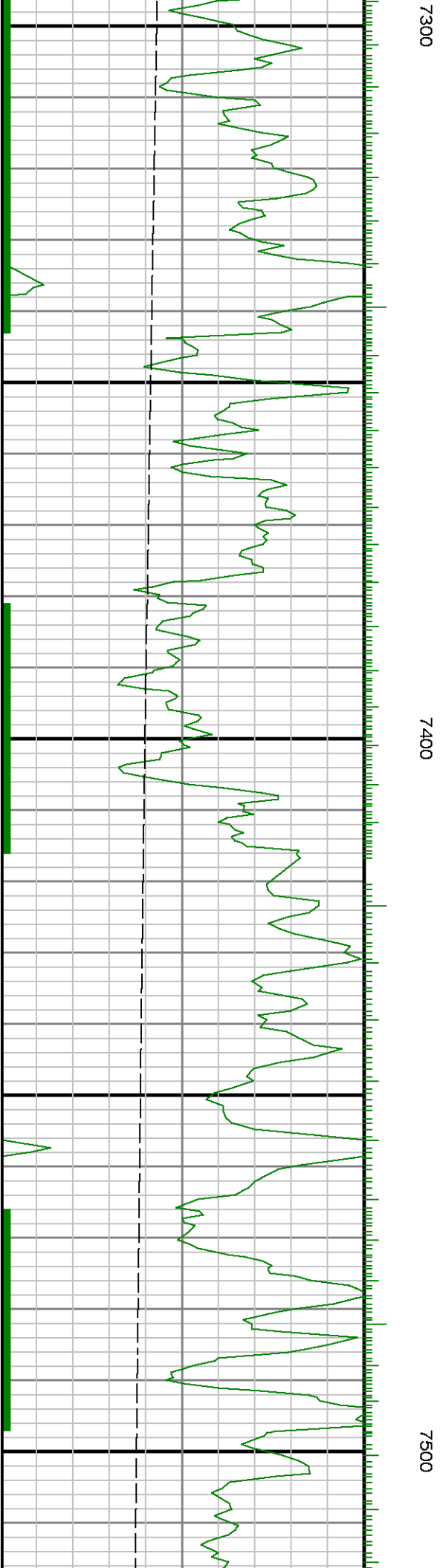
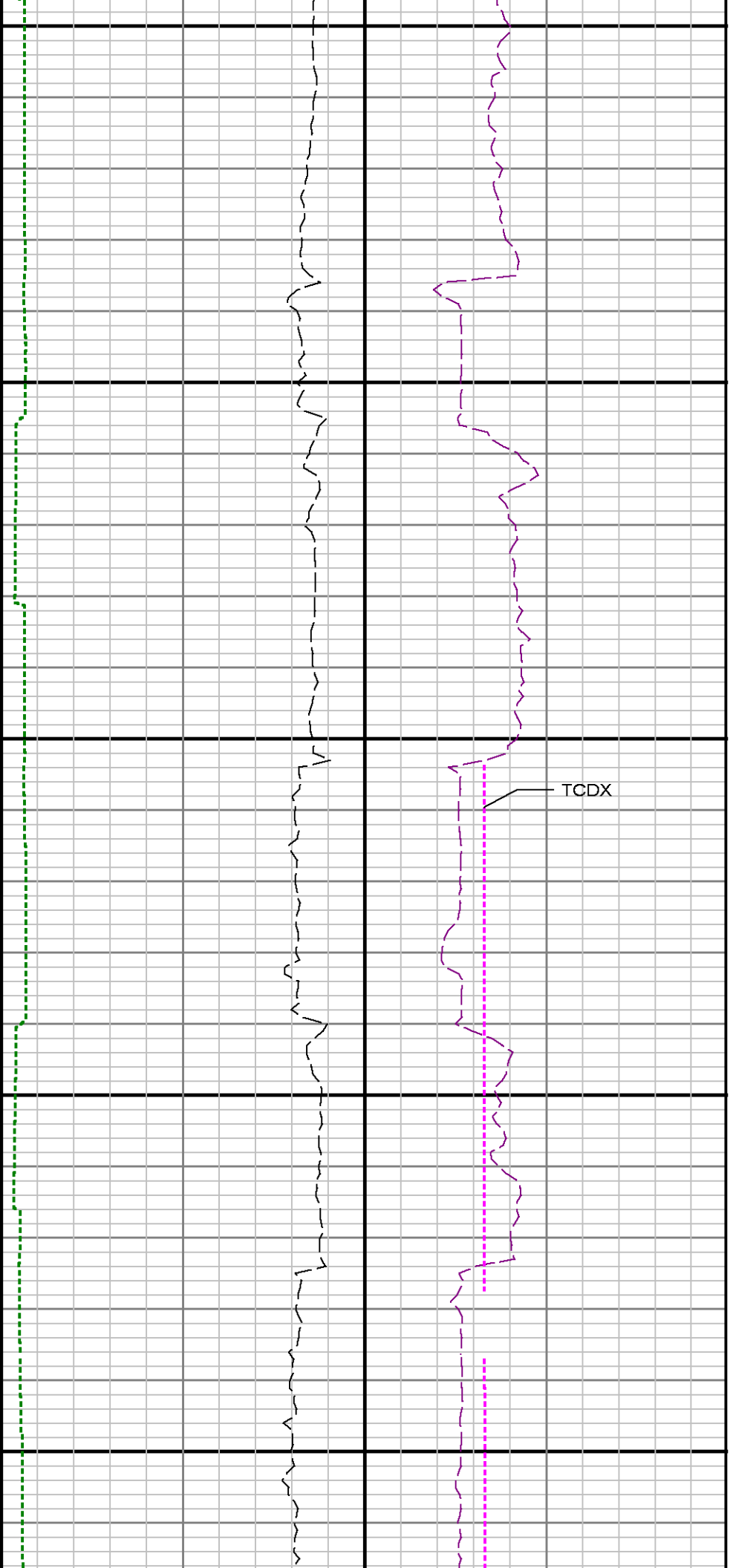


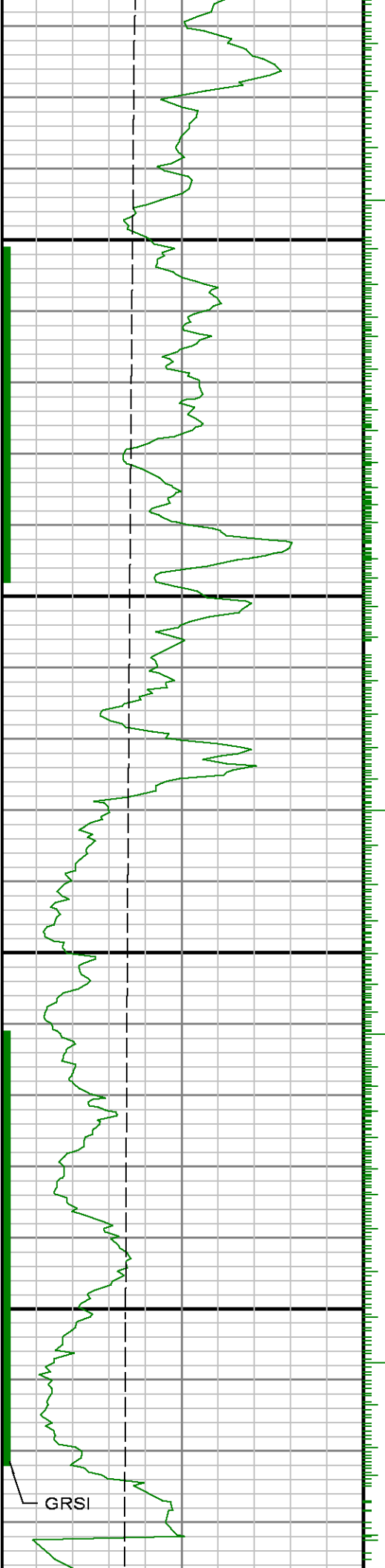


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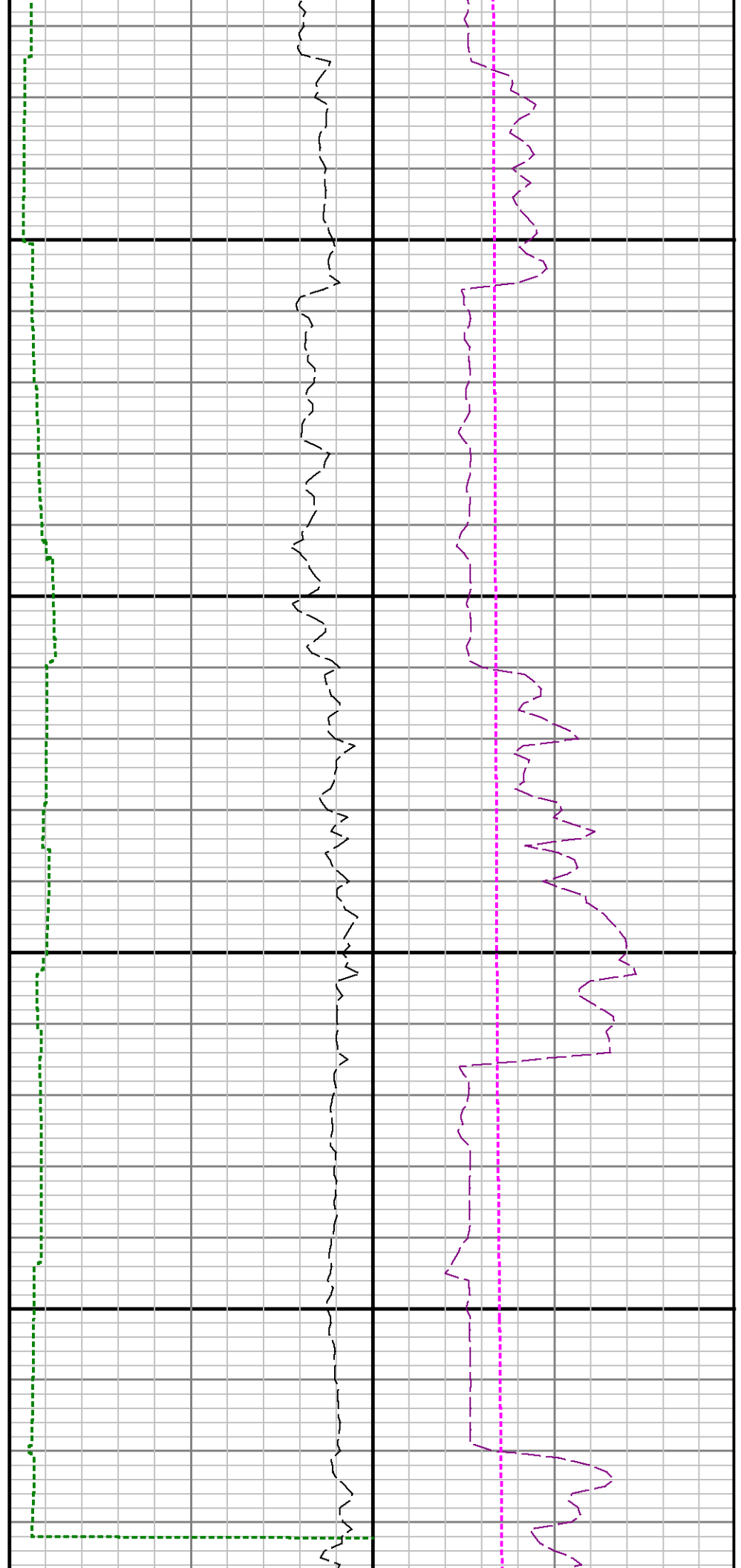




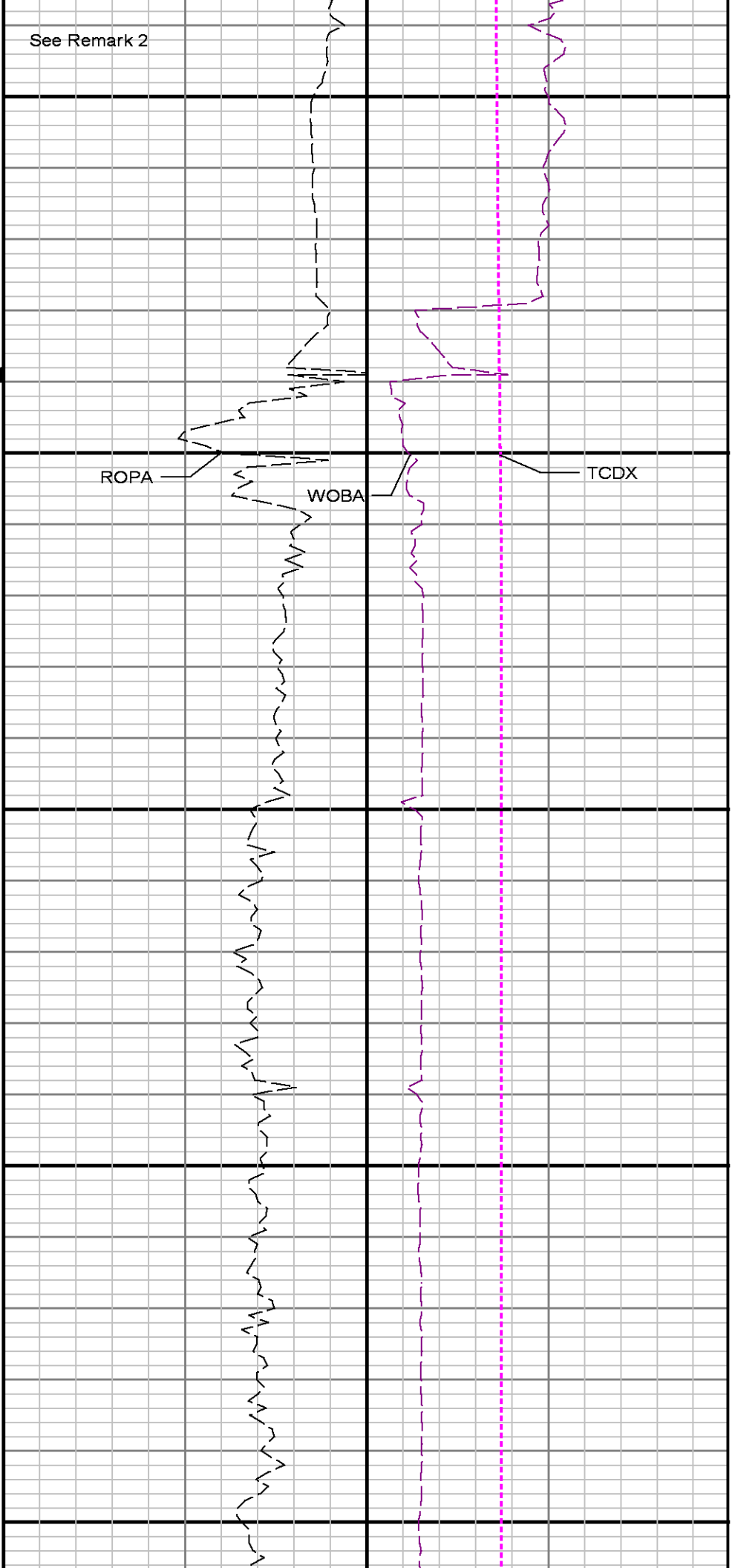
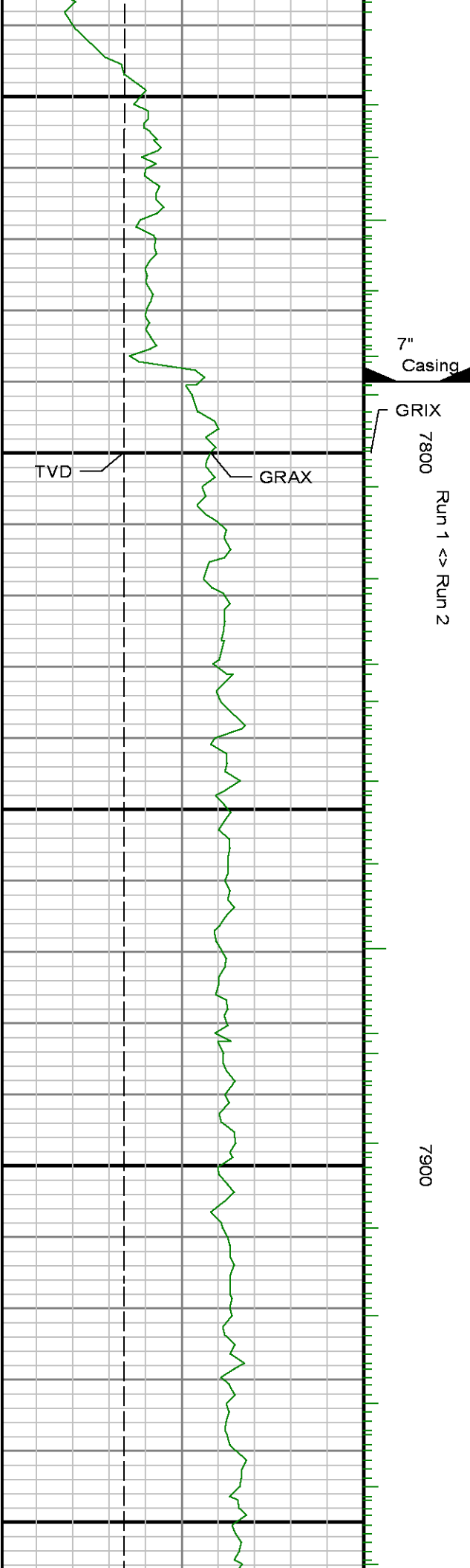


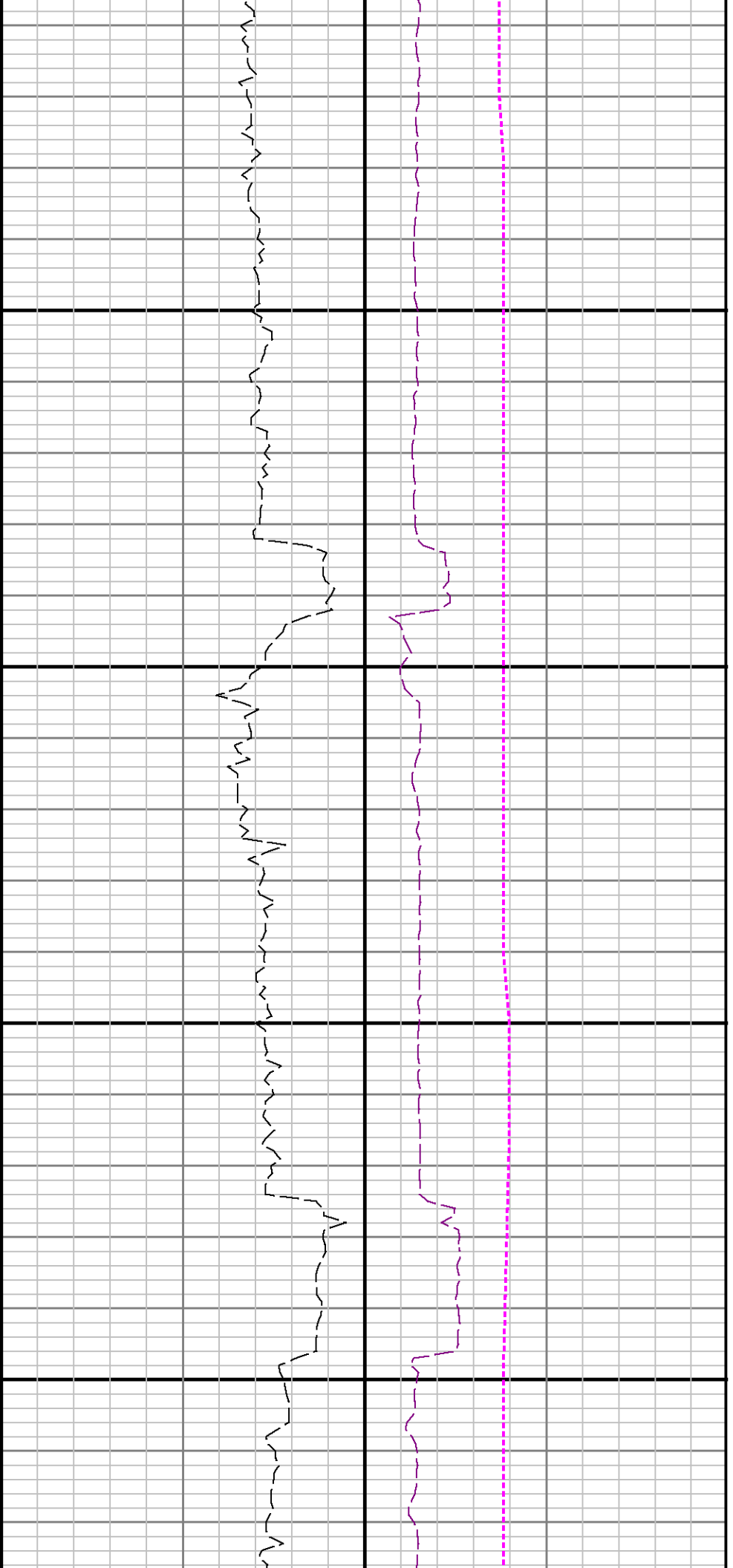
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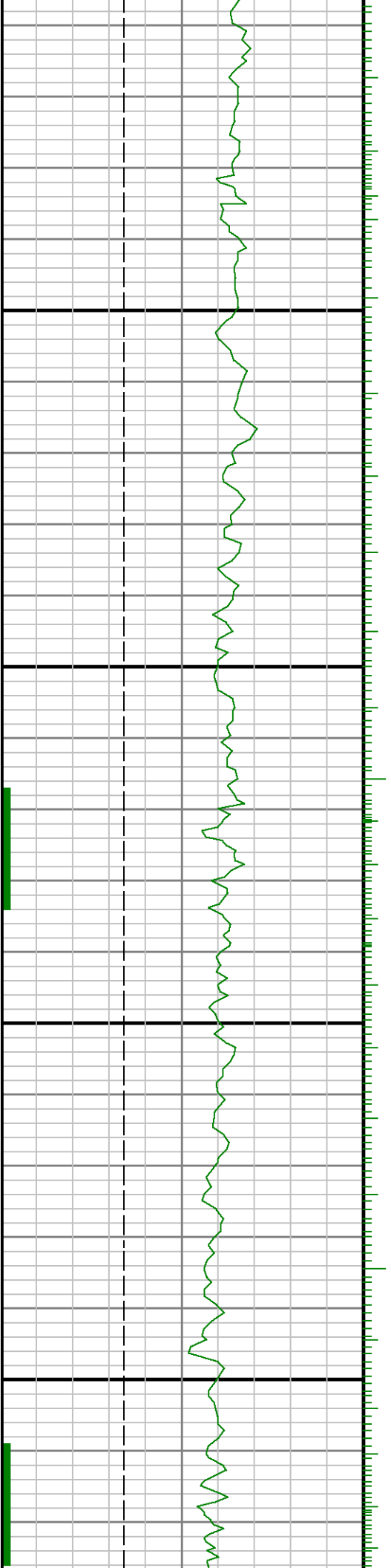
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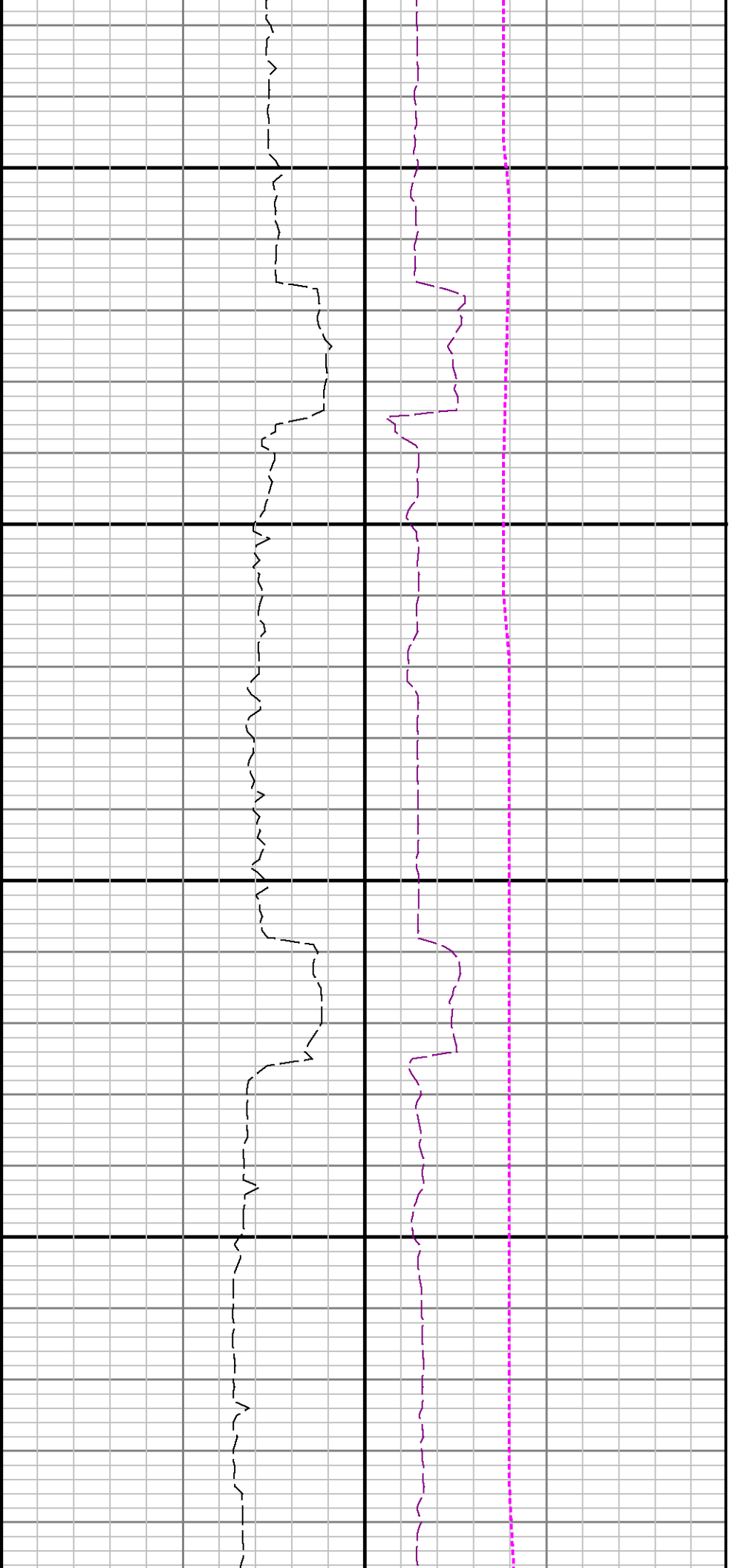




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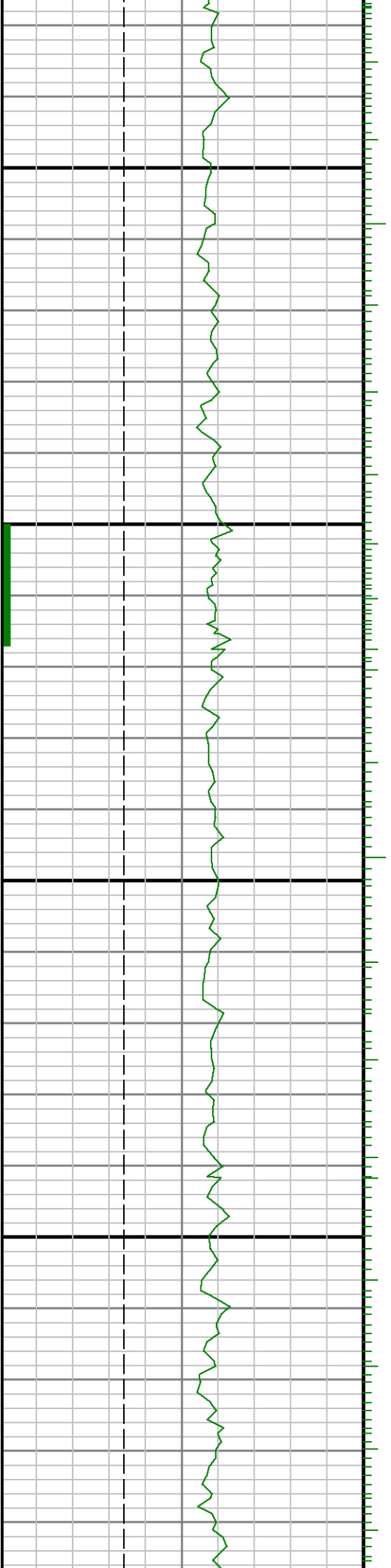
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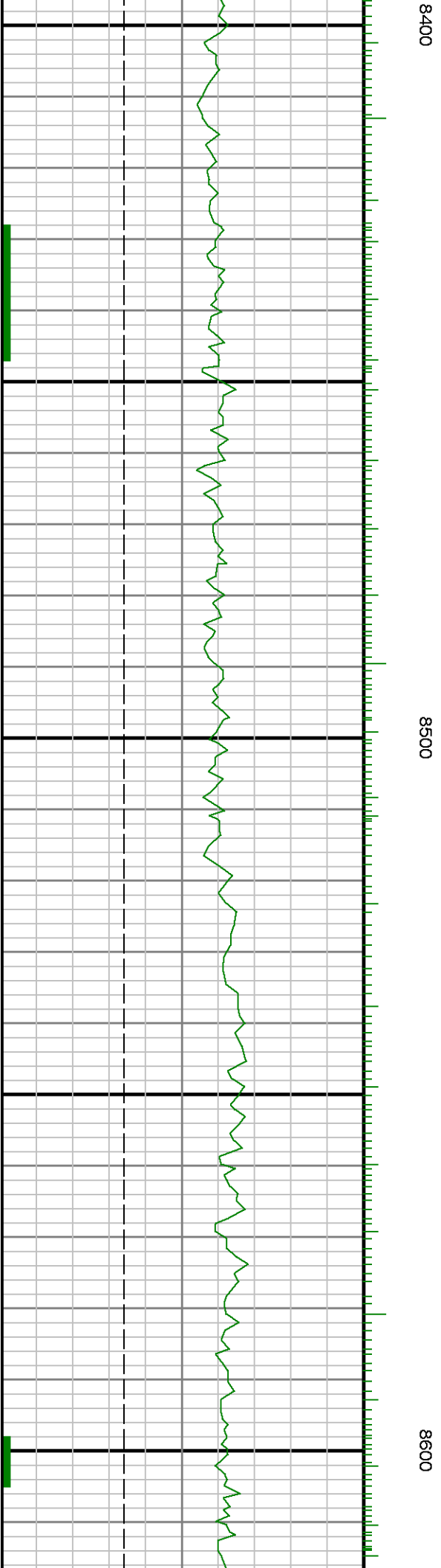
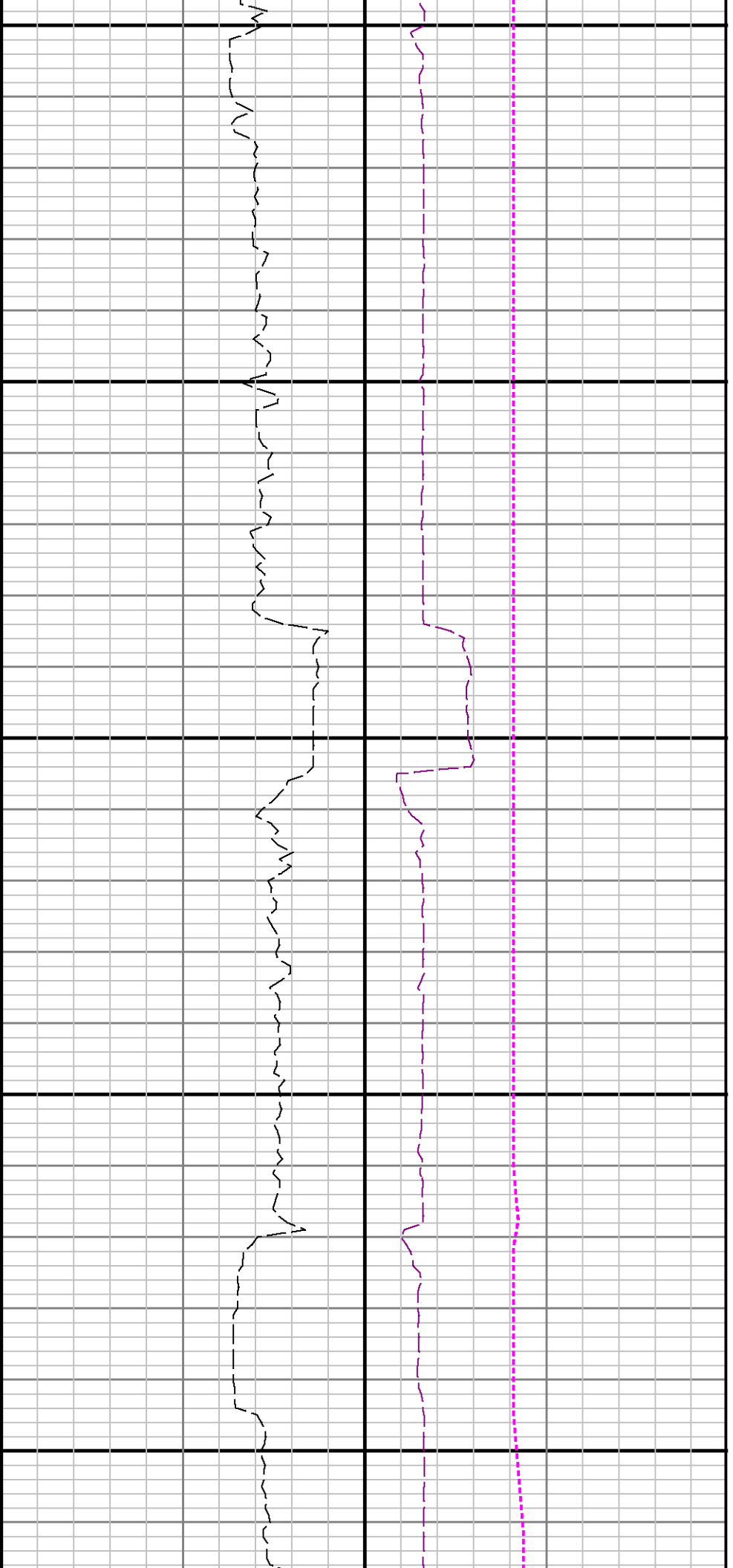


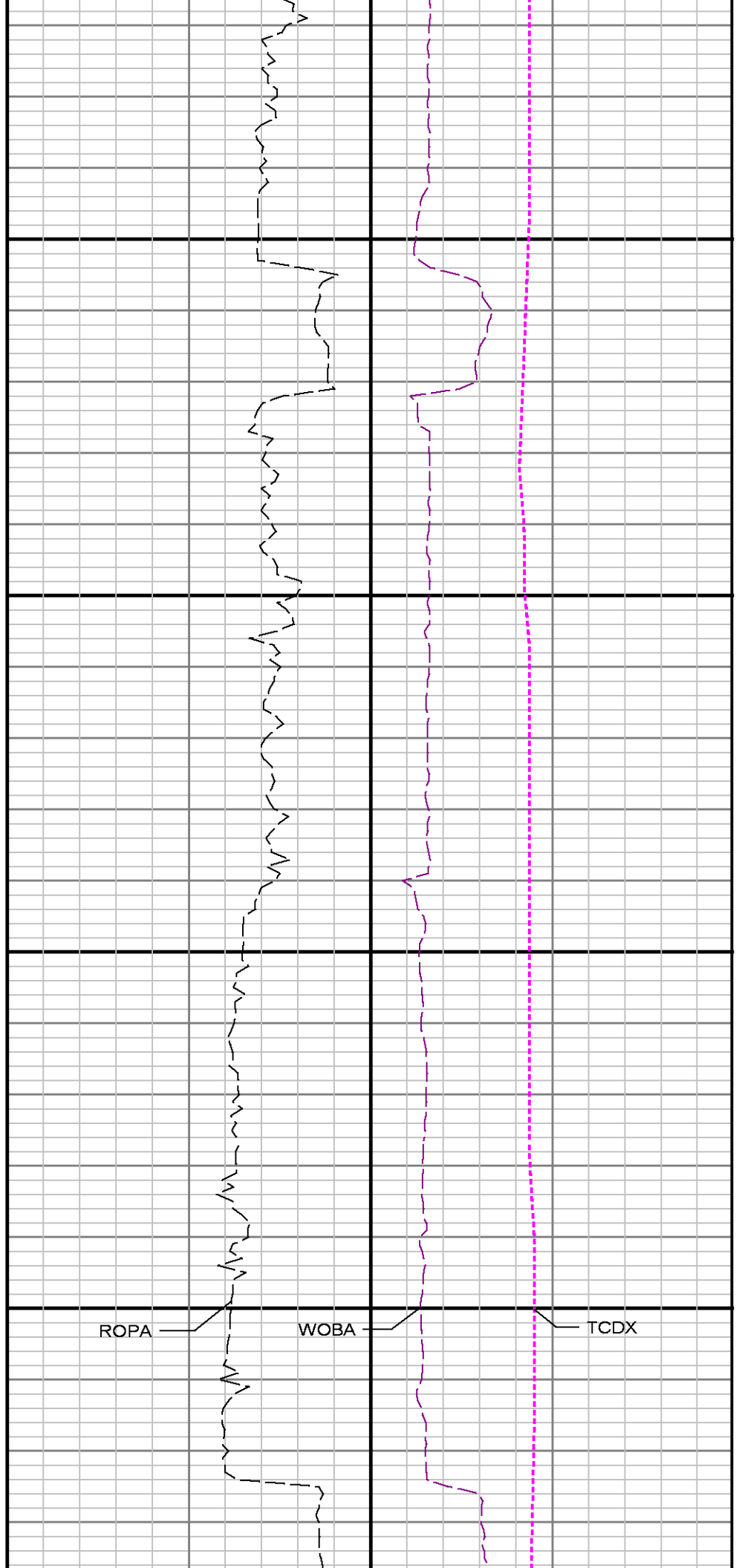
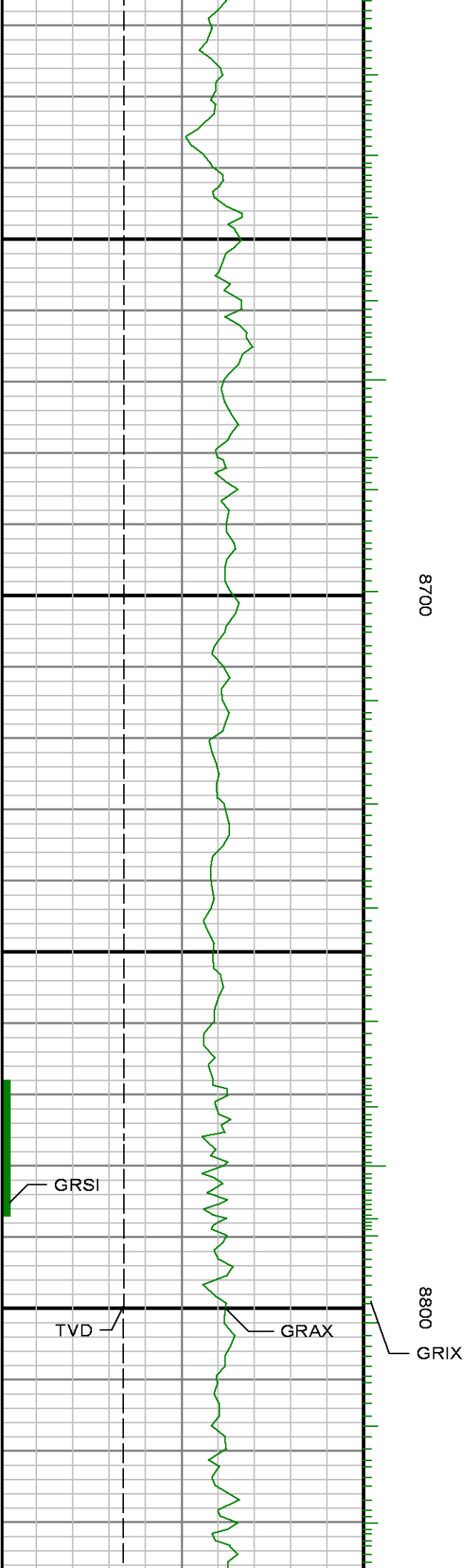


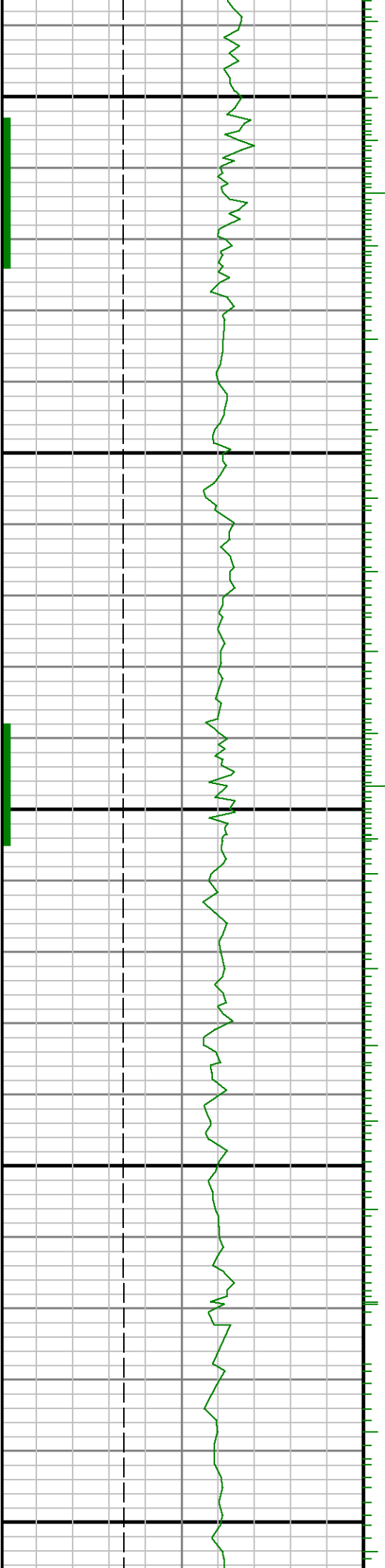
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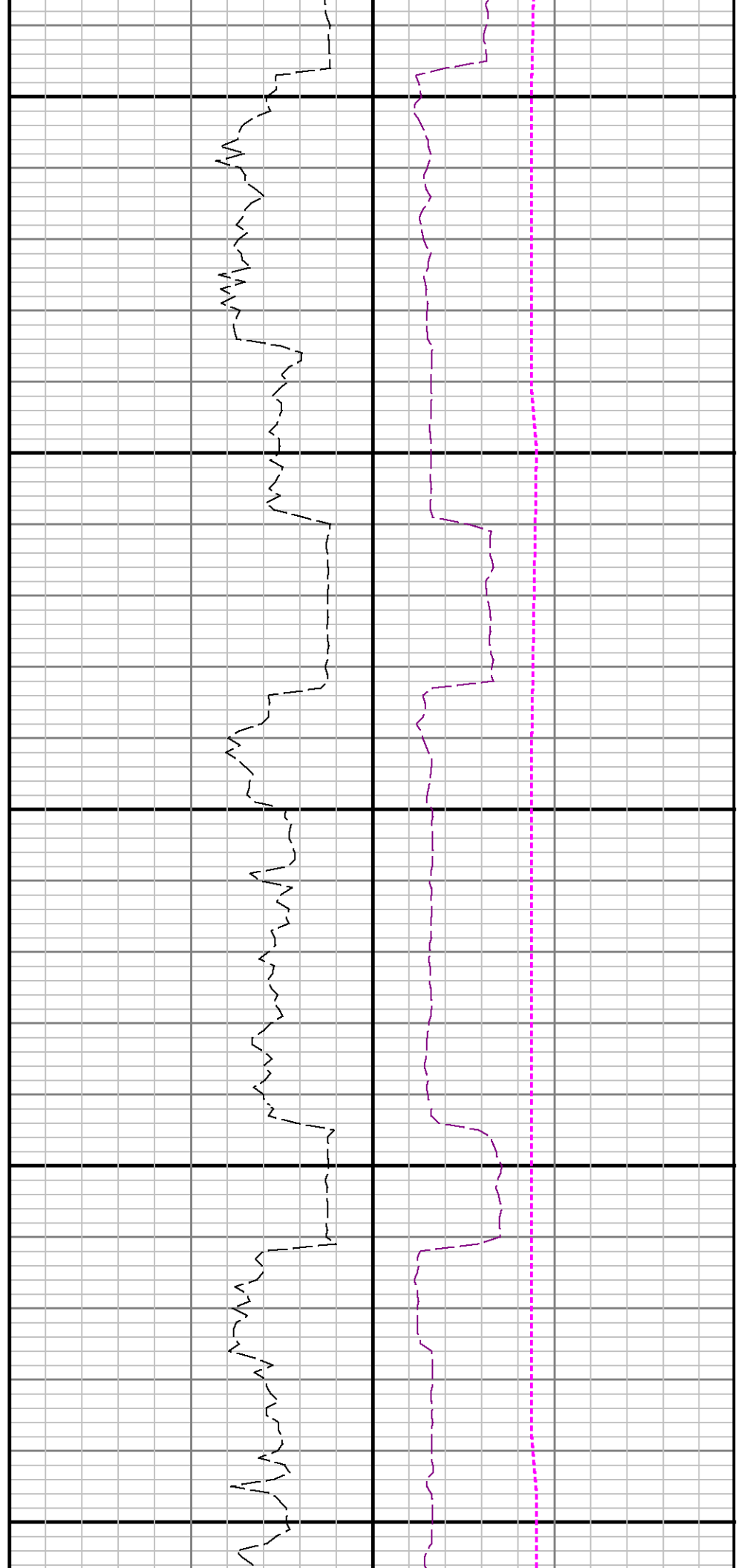


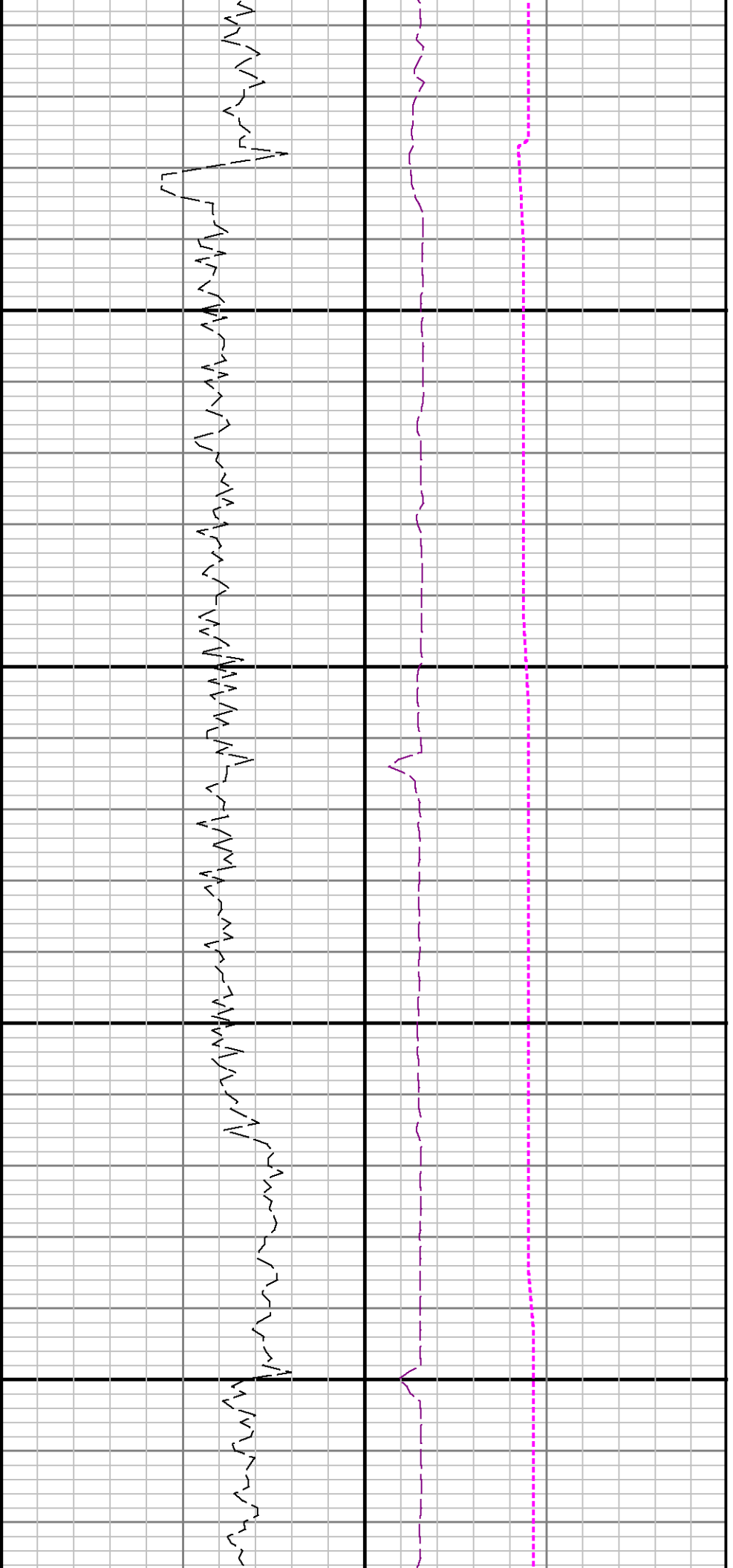




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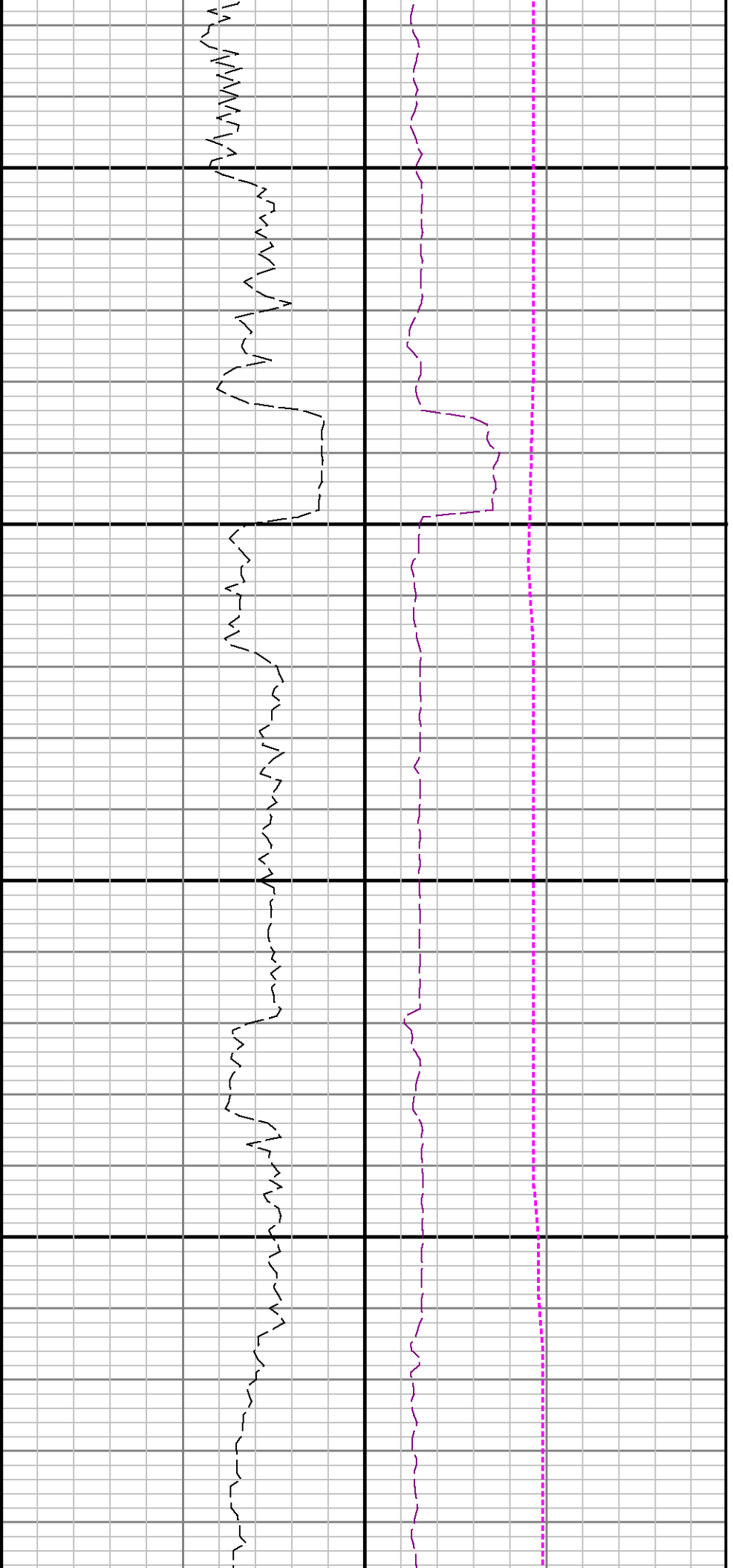
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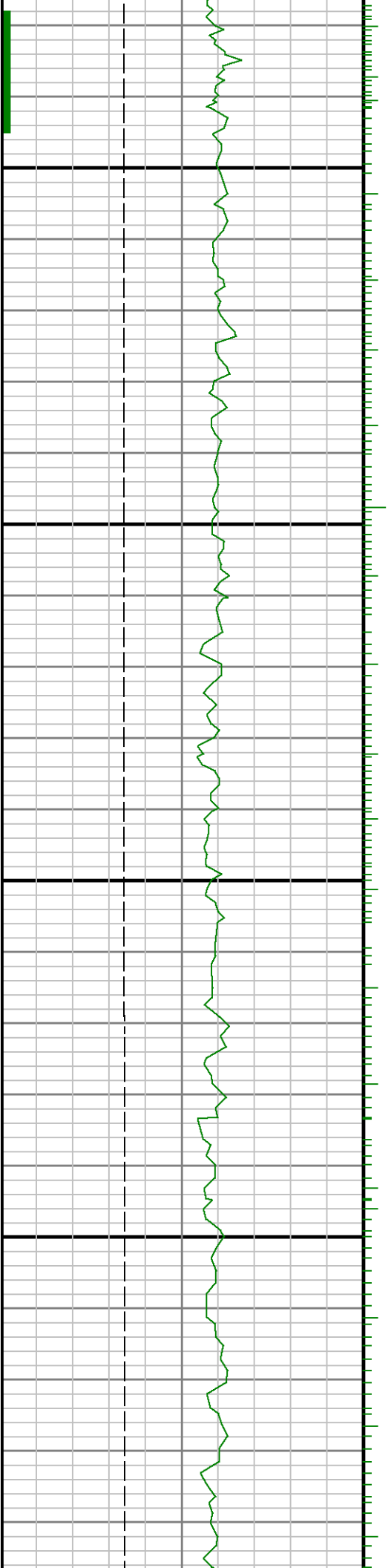
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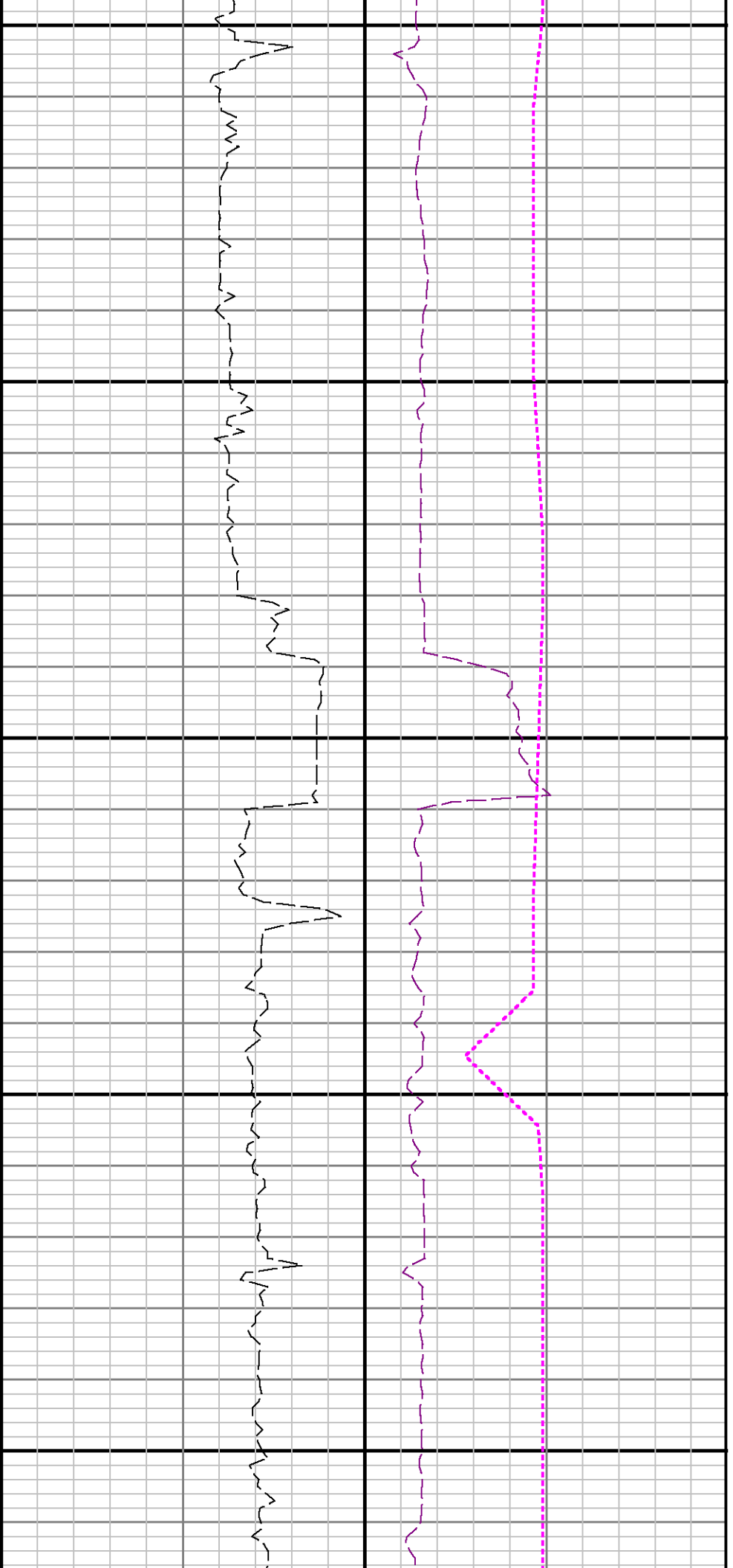
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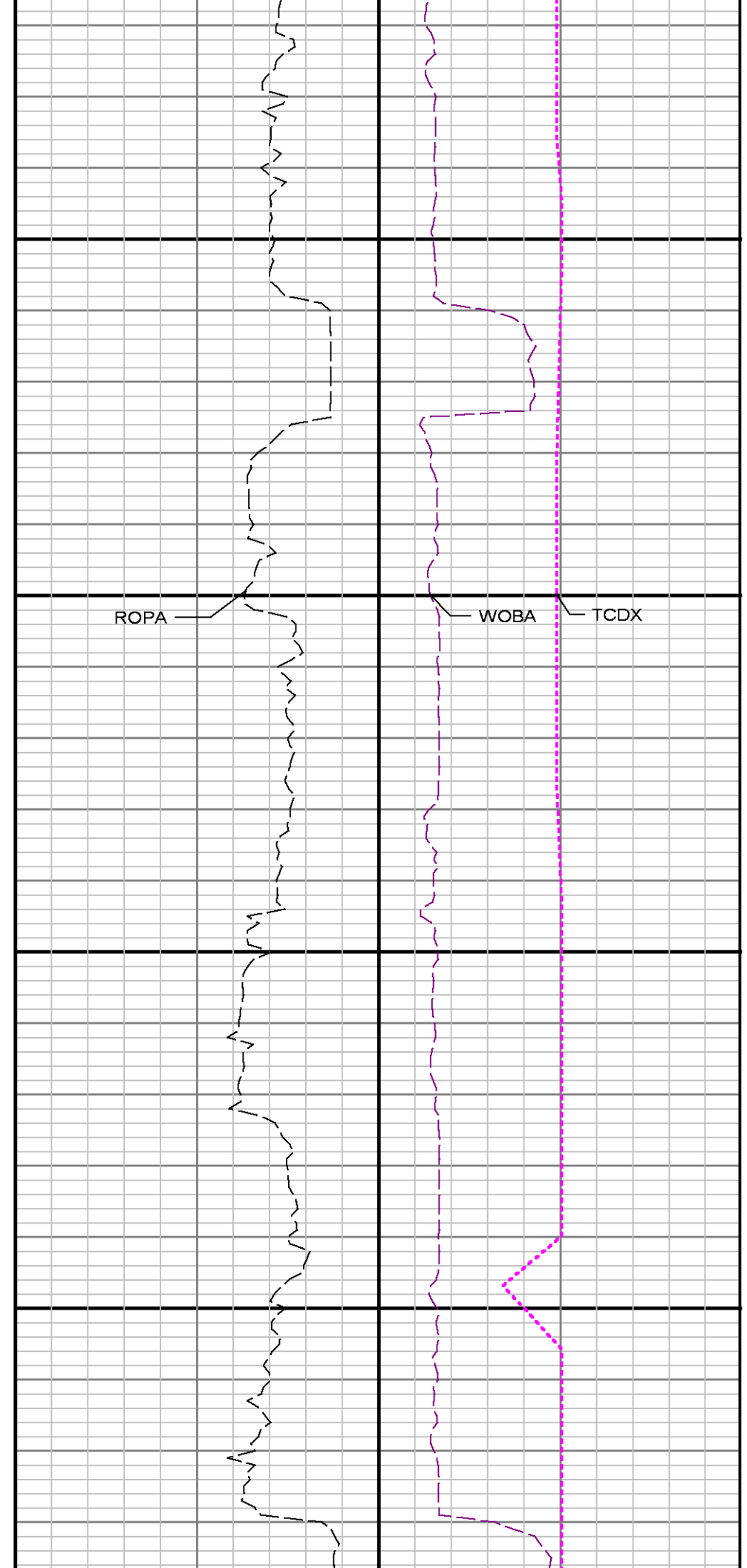
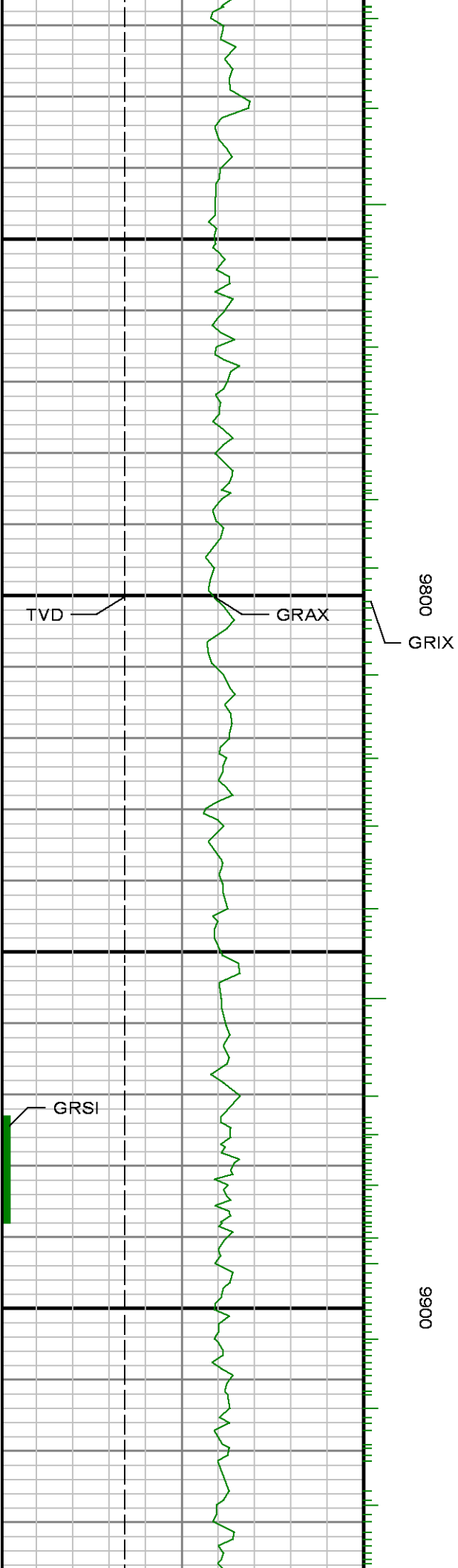




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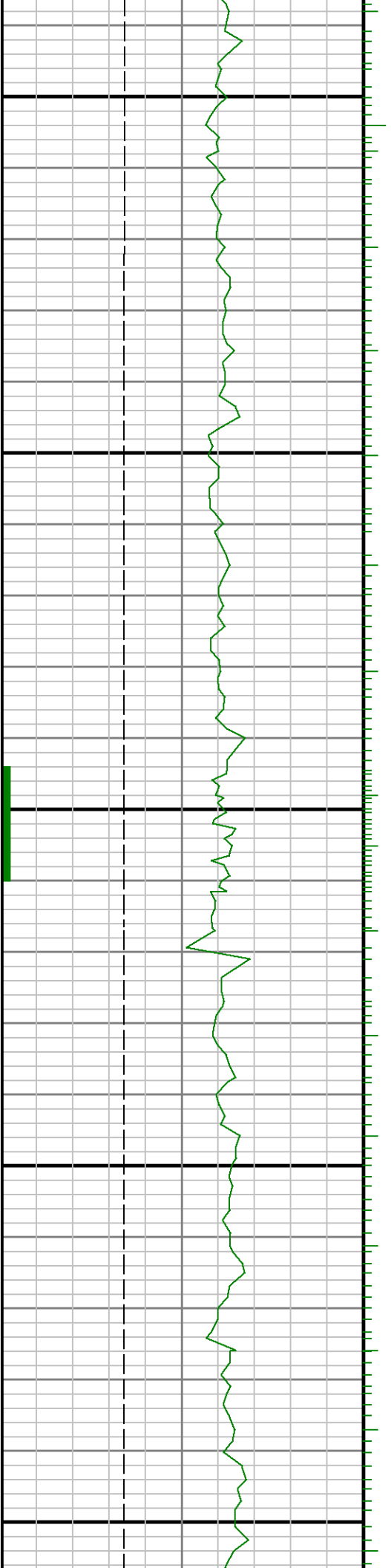
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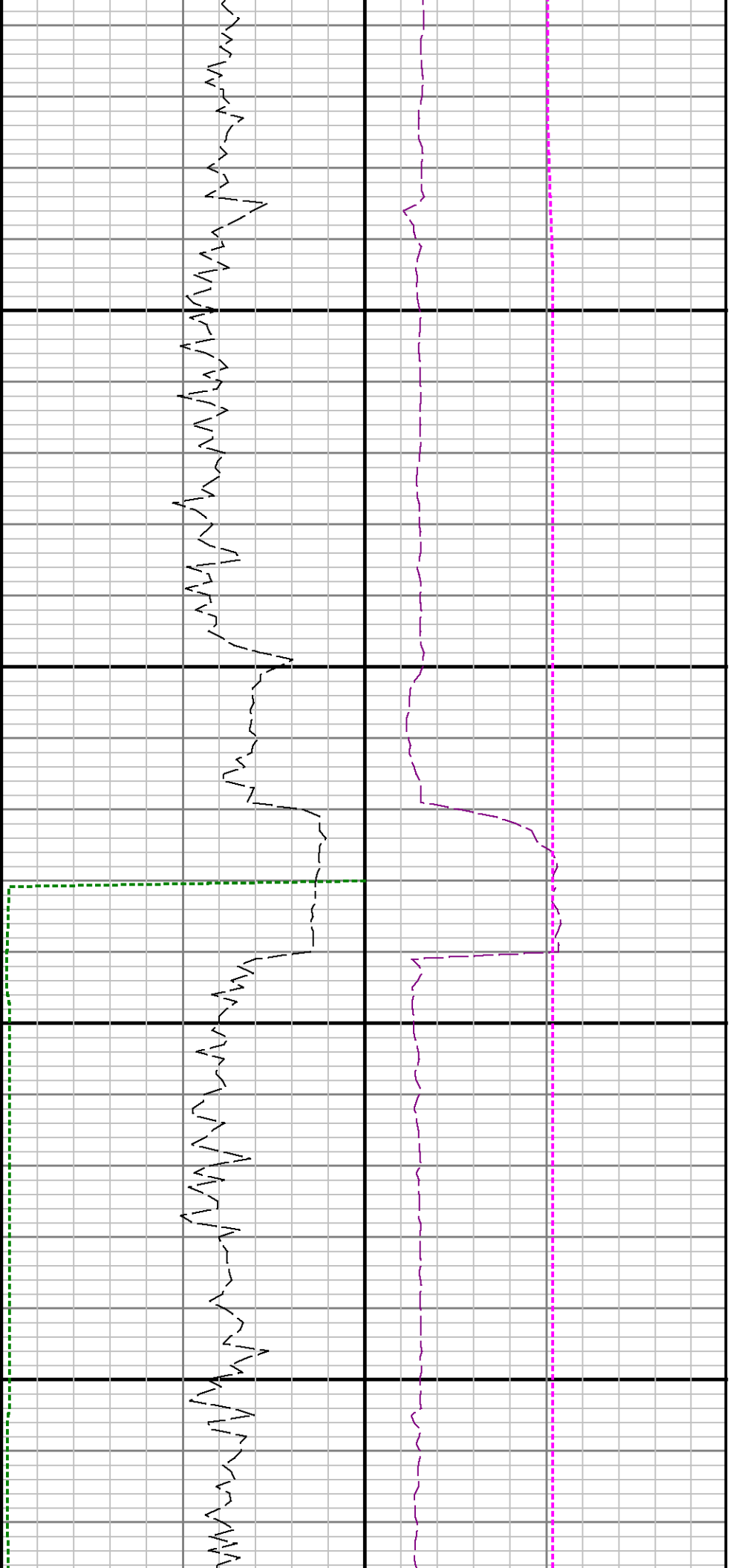




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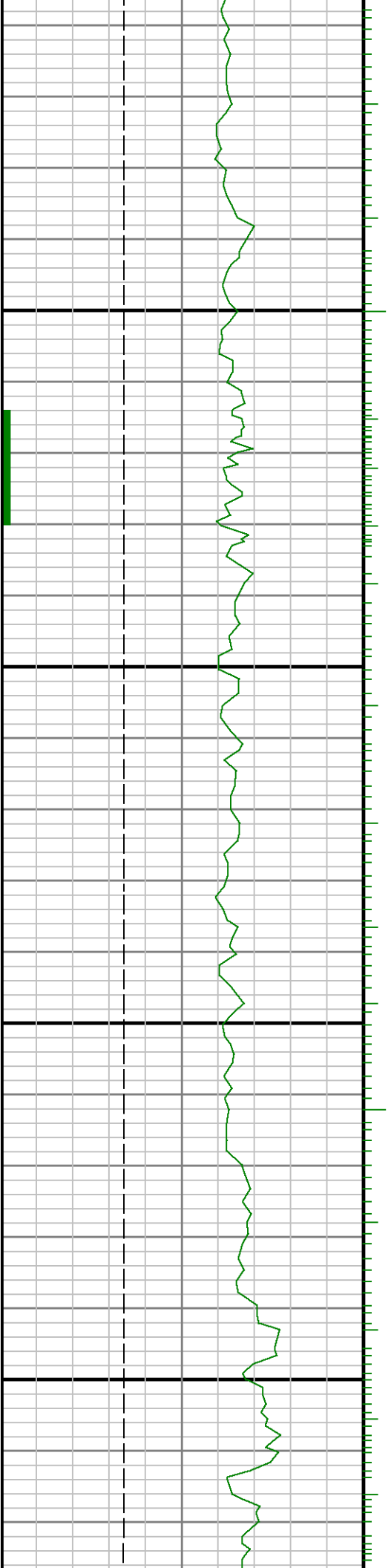
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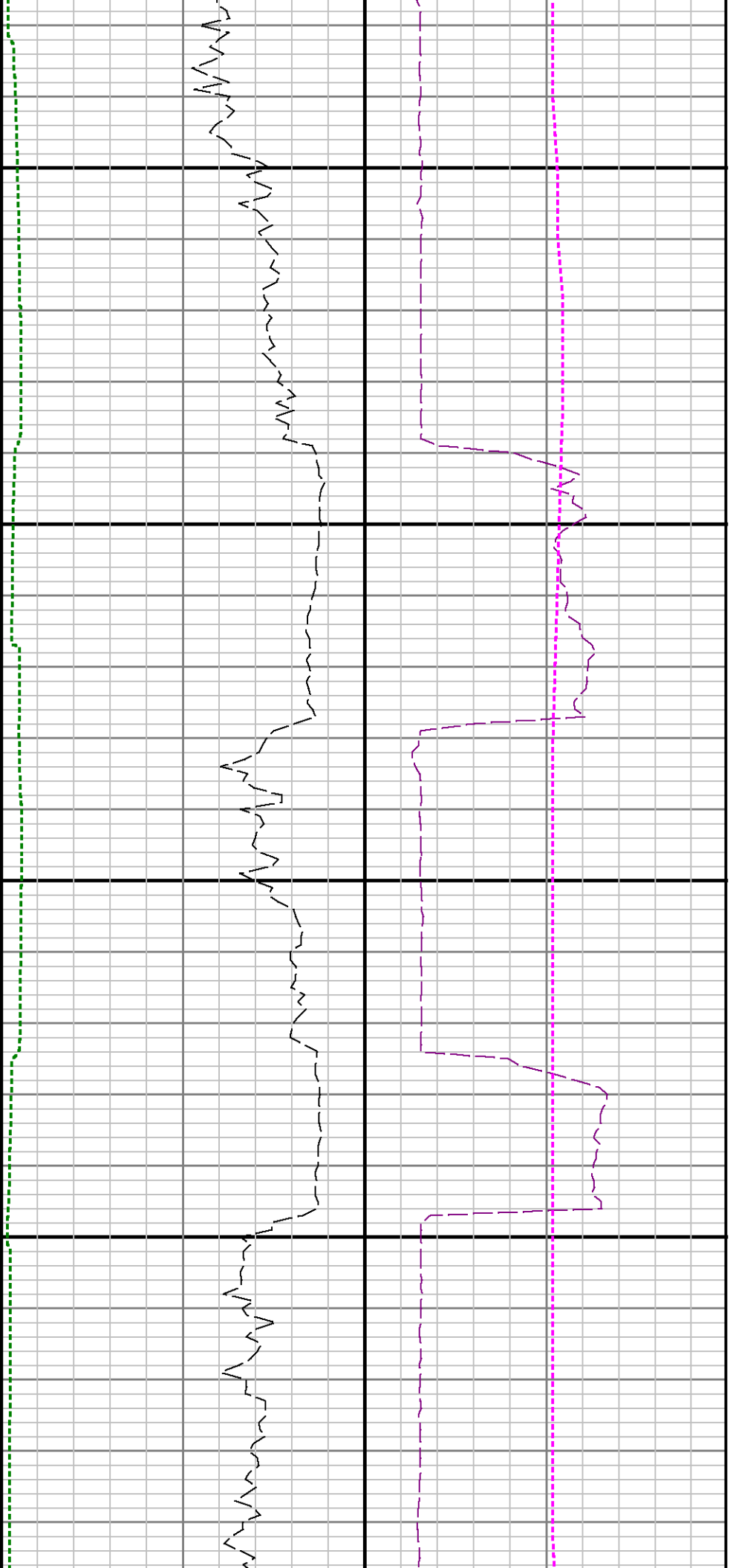




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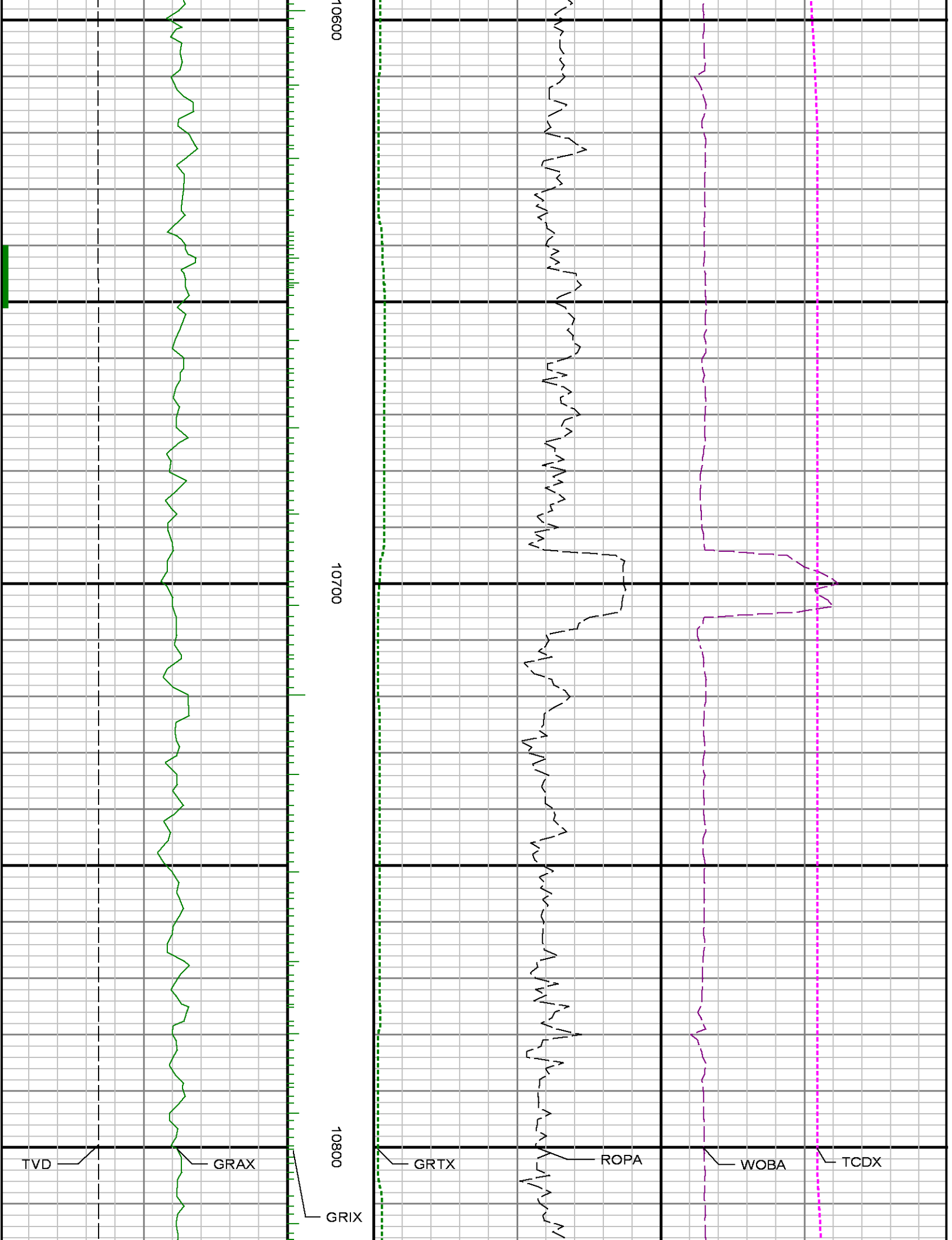
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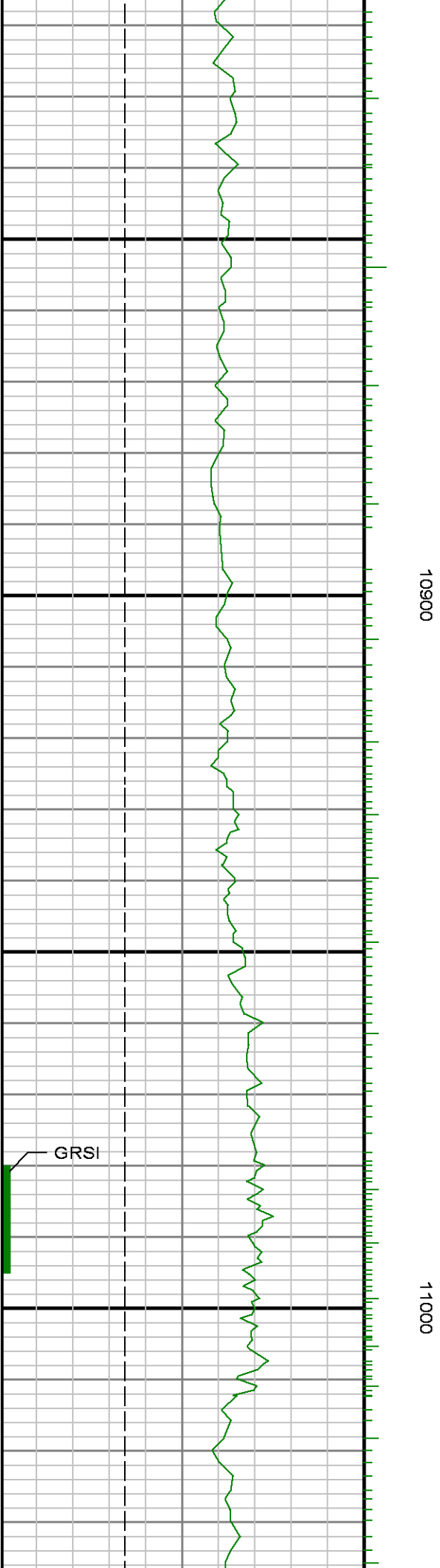
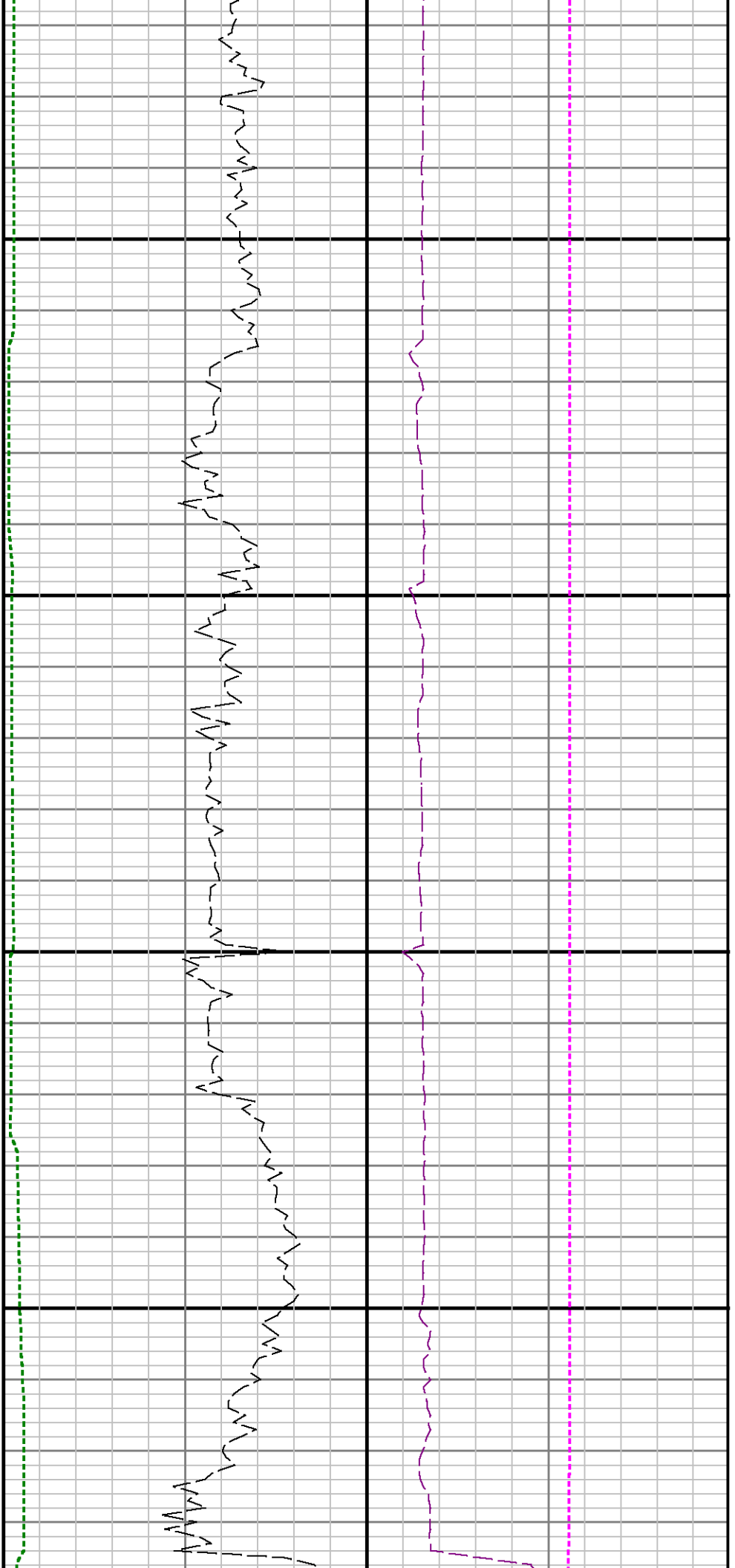




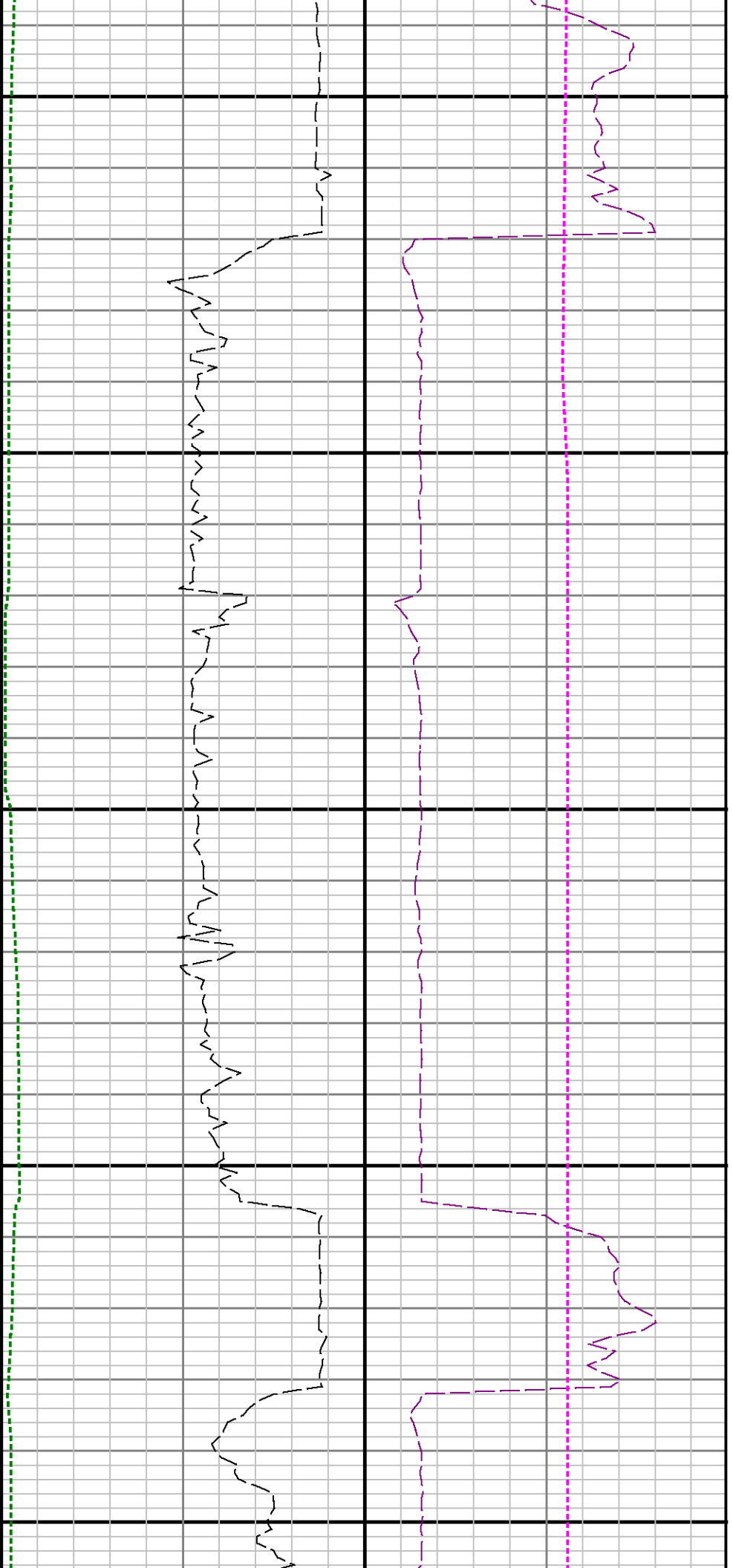
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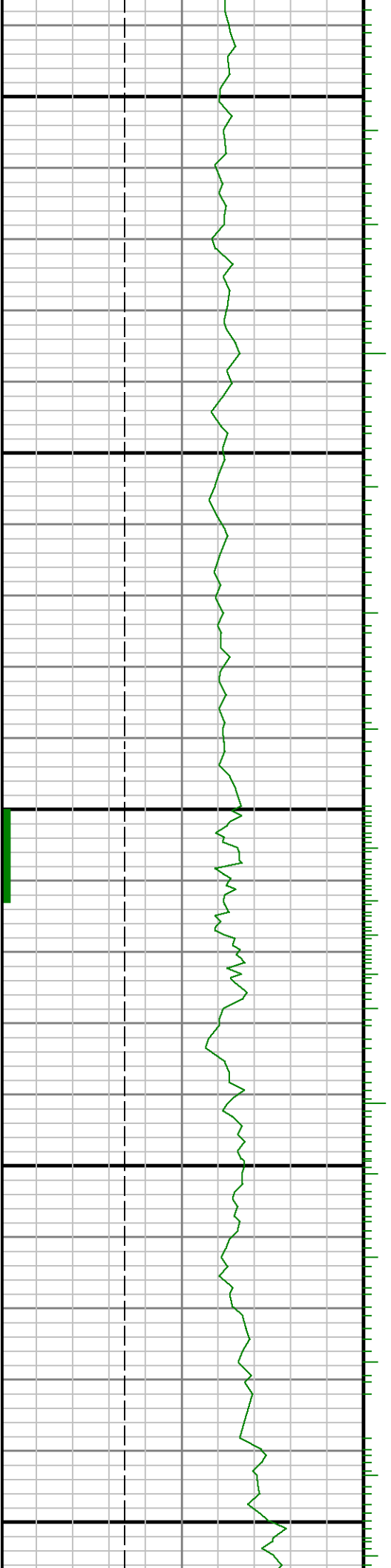


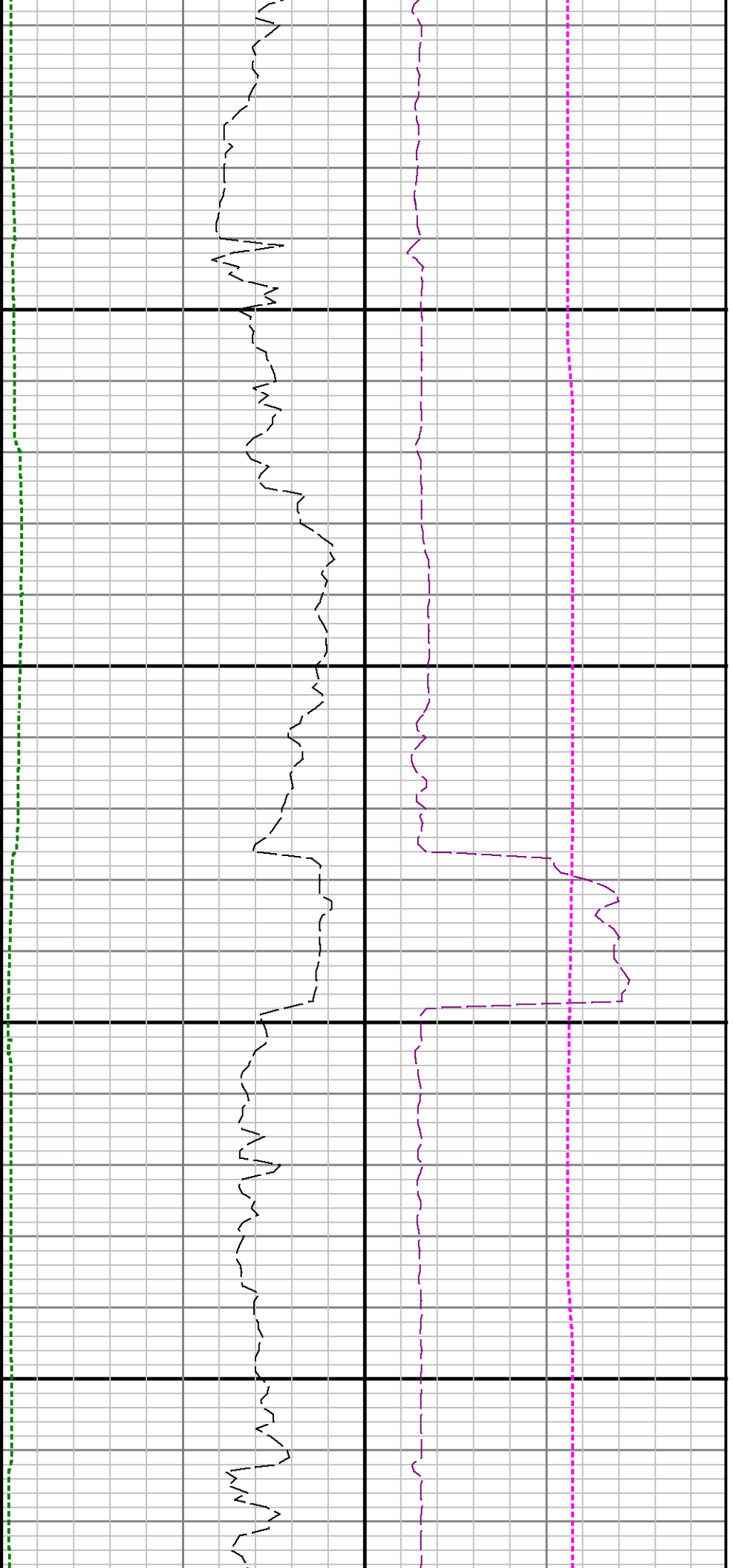
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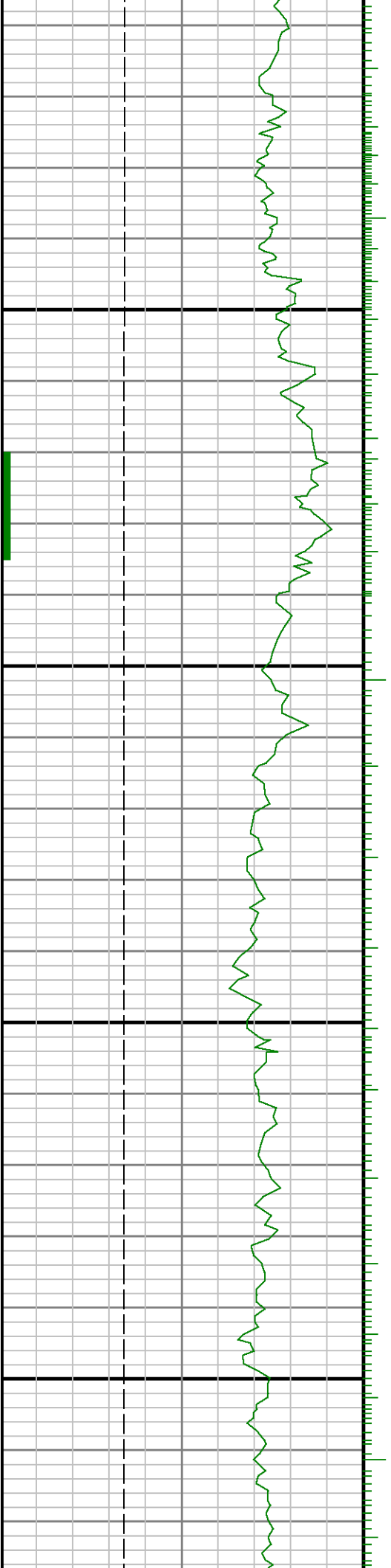
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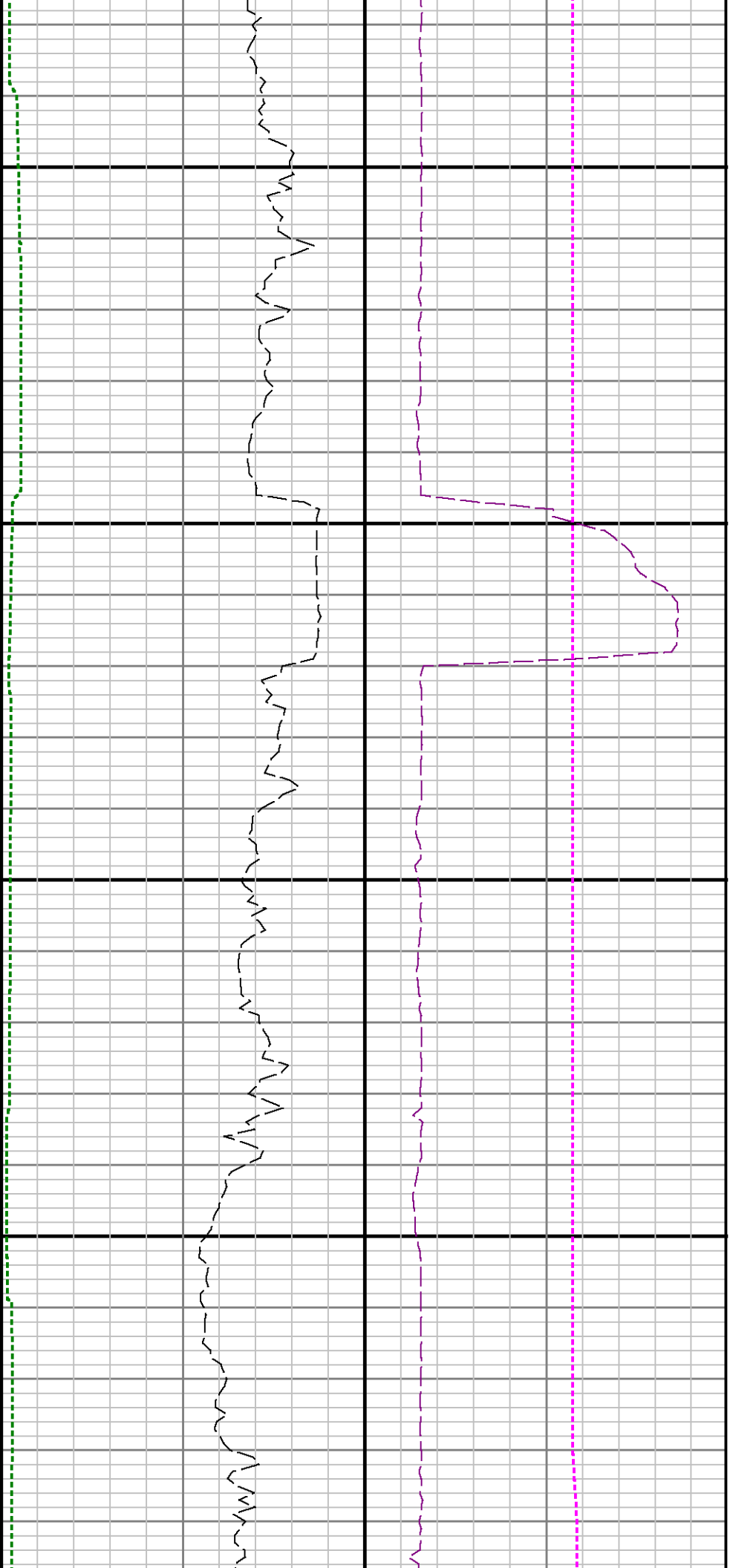




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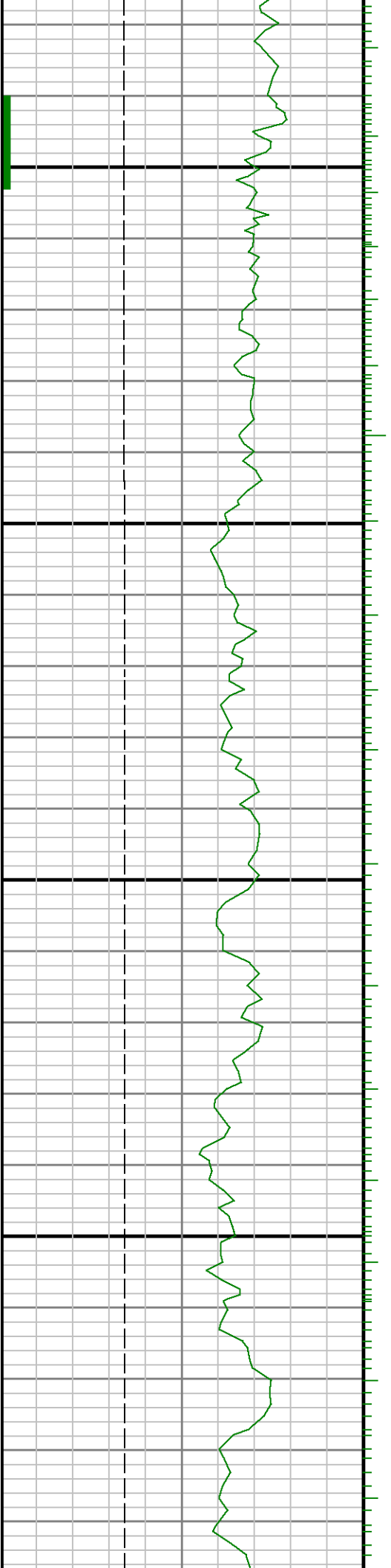
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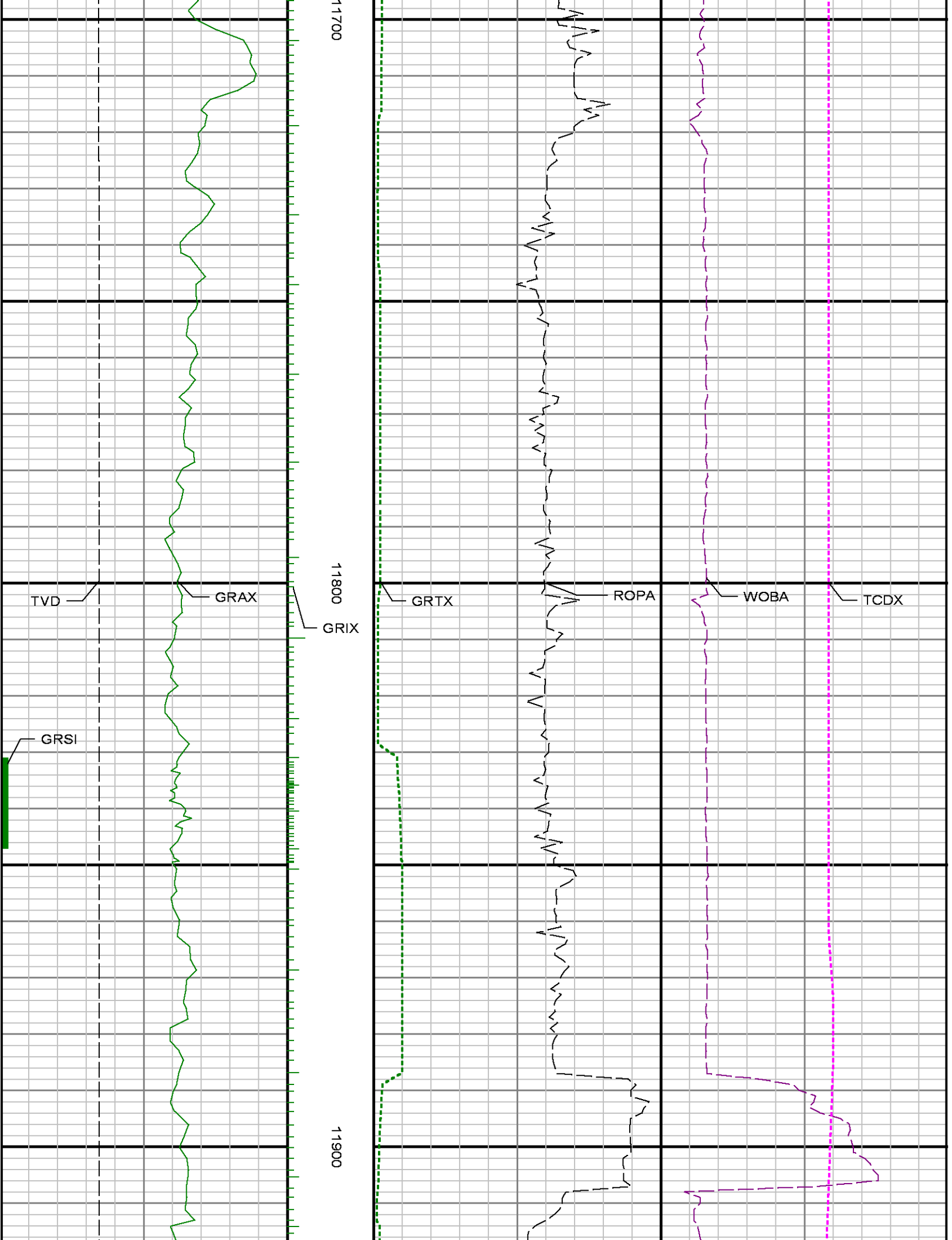




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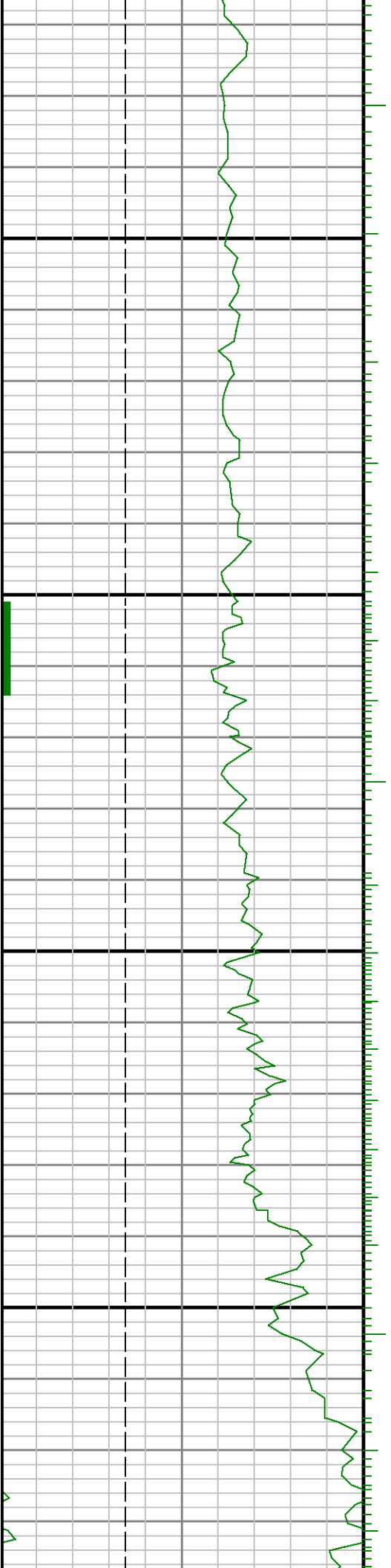


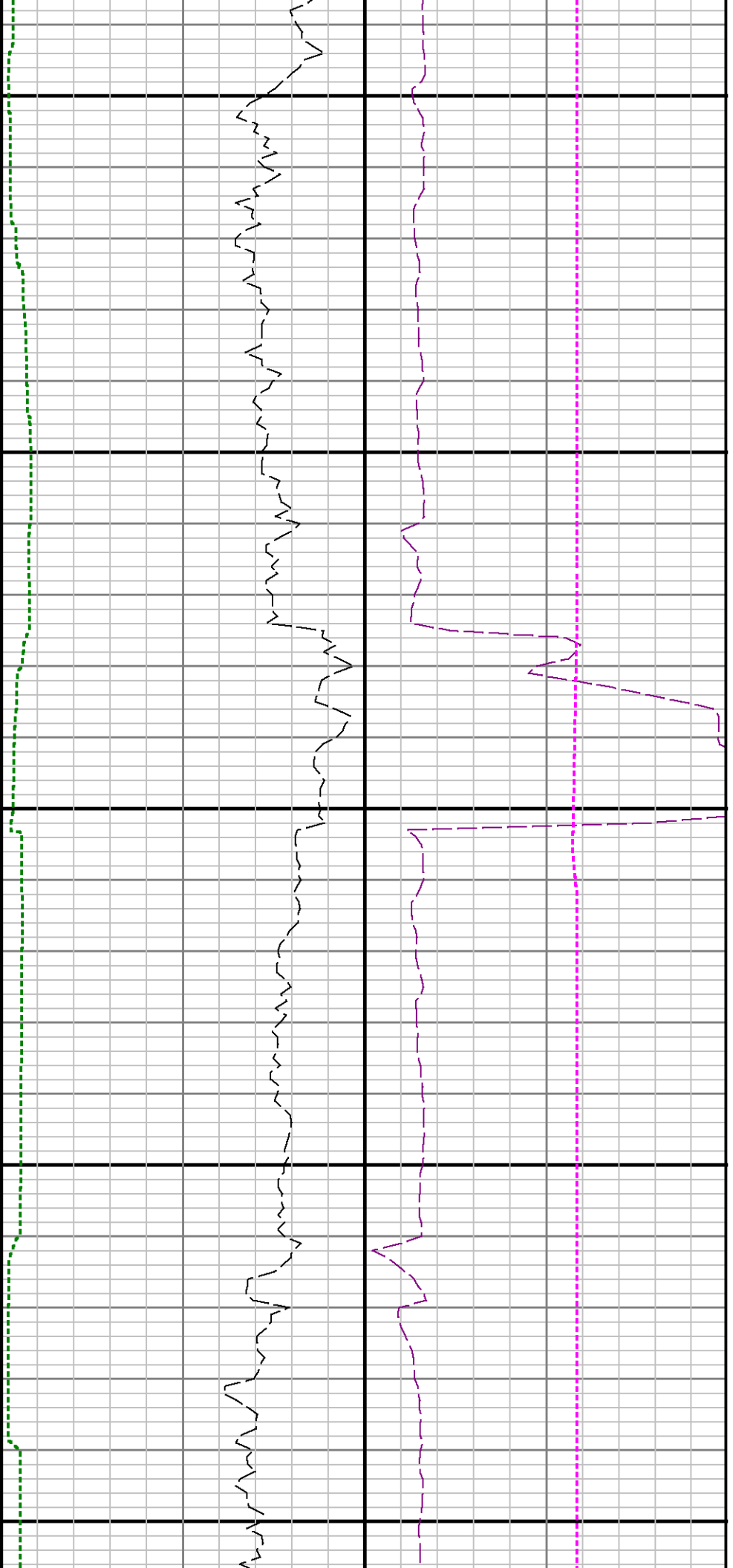




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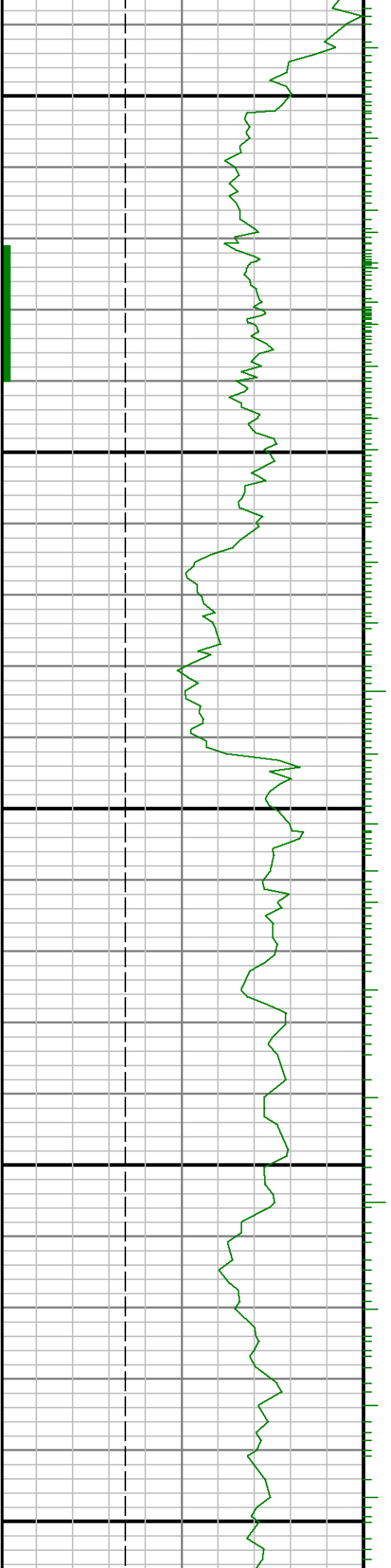
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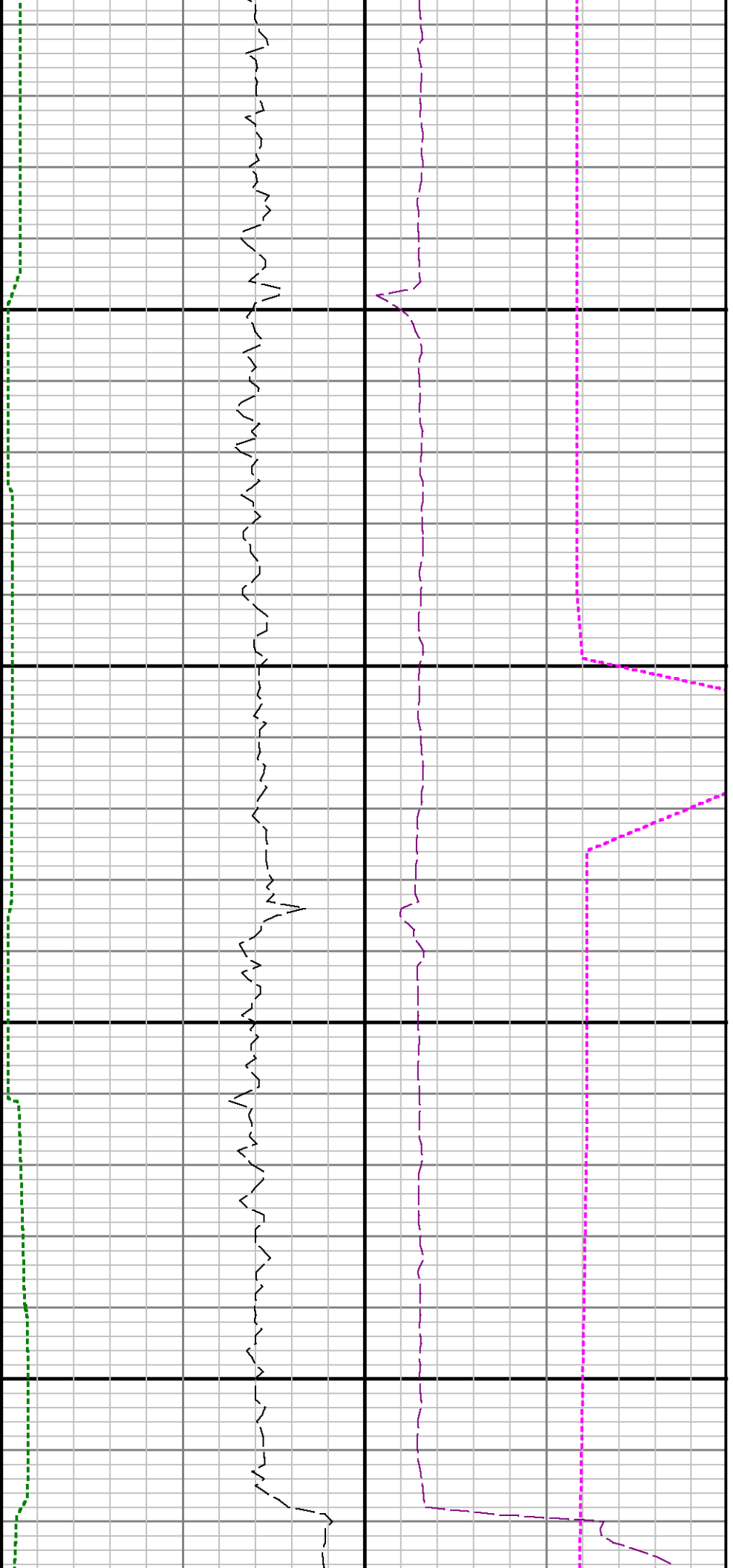




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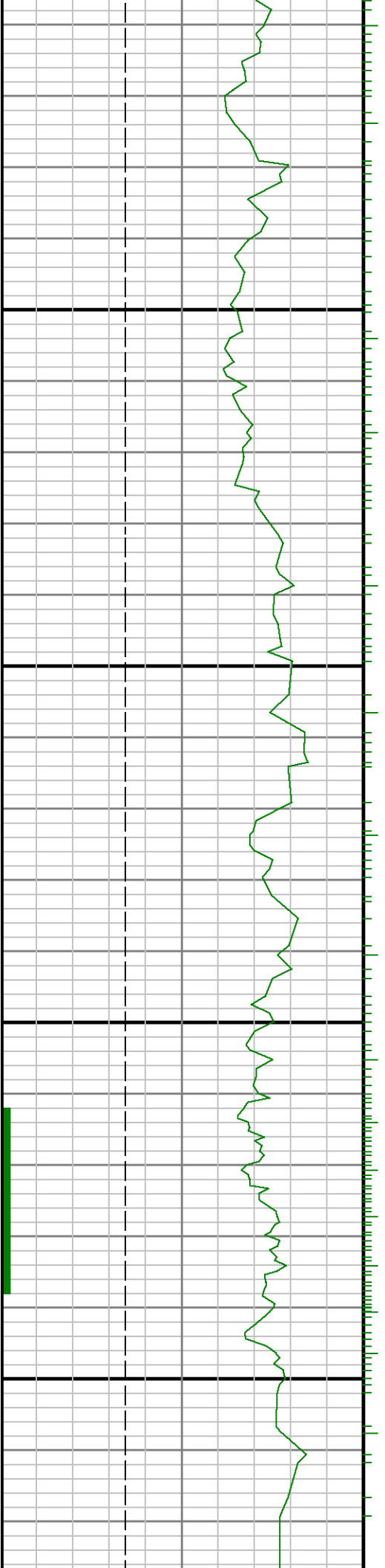
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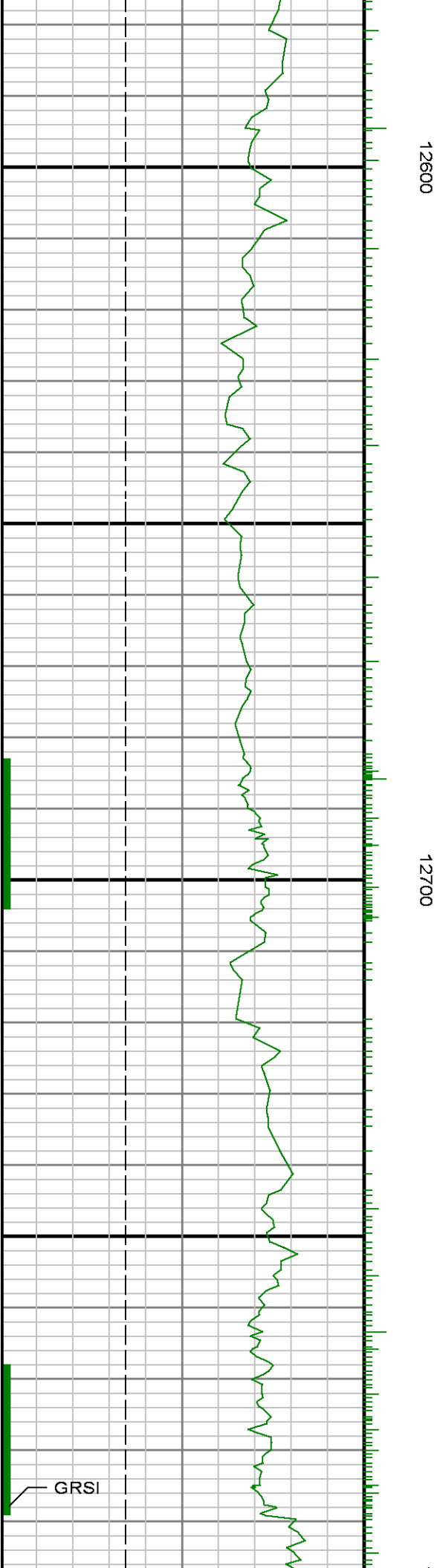
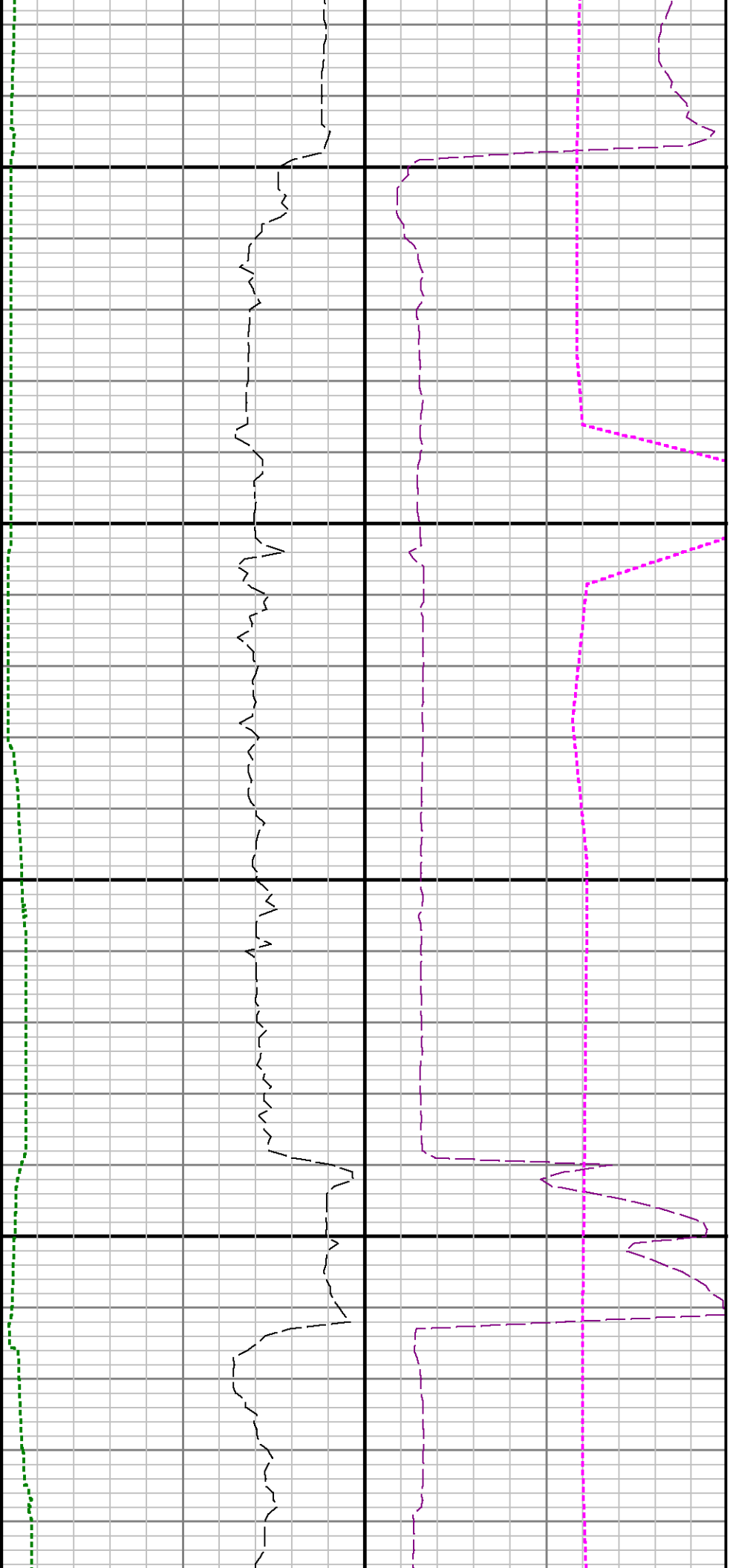


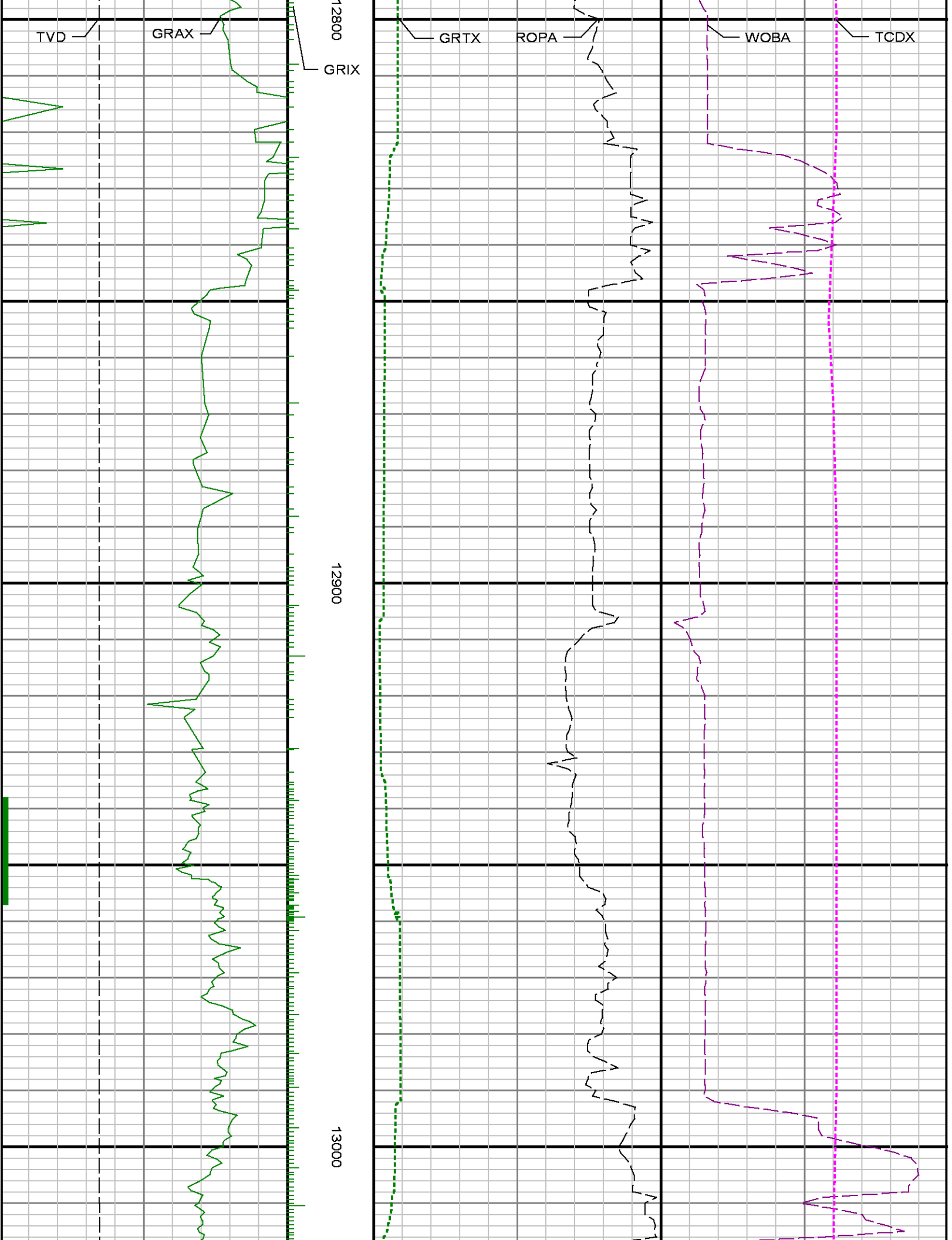


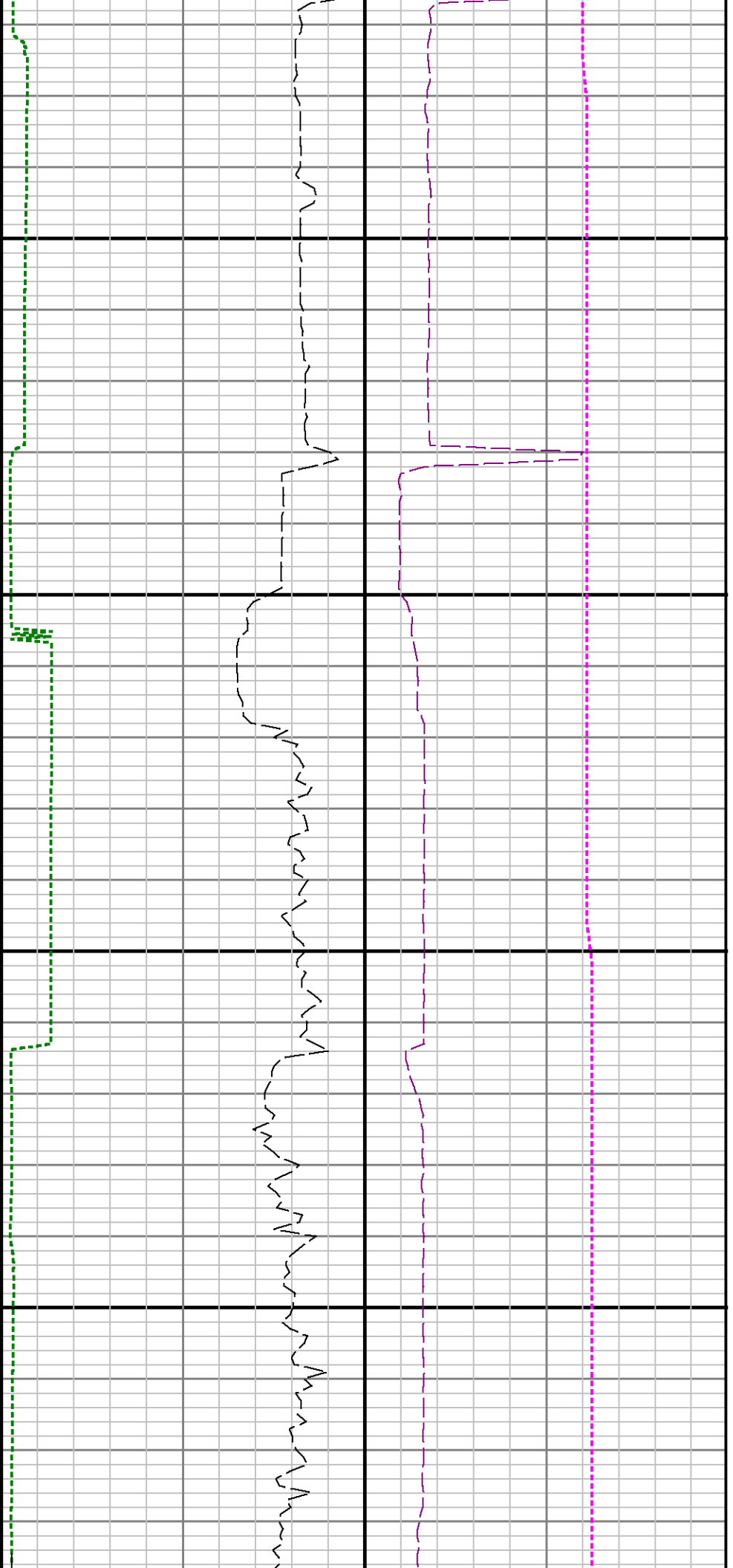
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