



Natural Formation Evaluation
Gamma Ray

Scale:

Company: Bonanza Creek

Well: North Platte Federal F-J-22HNC

Field: Weld County

County: Weld State: Colorado

Measured Depth
1:240

Status: Surface Location: Other Services:

Final Print

Latitude: 40° 23' 24.630" N
Longitude: 104° 25' 36.541" W

API Number: 05-123-40198-00

SEC: 22 TWP: 5N RNG: 63W

Directional
VSS

Permanent Datum (P.D.): Ground Level Elevation: 4662.00 ft.

Log Measured From: Rig Floor 4679.00 ft. Above P.D.

Depth Reference: Driller's Depth KB: N/A
DF: 4679.00 ft.
GL: 4662.00 ft.

Interval Logged

Dates

Magnetic Field Reference

Top: 6040.0 ft. Date From: 14/May/15 Dip Angle: 66.95° Azi Reference North: True

Bottom: 11150.0 ft. Date To: 16/May/15 Total Mag to Reference

Spud Date: 13/May/15 Field Strength: 52678.8 nT North Correction: 8.27°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
13.500 in.	Surface	498.0 ft.	9.625 in.	36.00 lb/ft	Surface	488.0 ft.
8.750 in.	488.0 ft.	7022.0 ft.	7.000 in.	26.00 lb/ft	Surface	7011.0 ft.
6.125 in.	7011.0 ft.	11150.0 ft.				

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Fresh Water	Surface	5000.0 ft.	13.500 in.	481.0 ft.	0.0° / 6.1°	0.6° / 59.8°
Water Based Mud	5000.0 ft.	11150.0 ft.	8.750 in.	6534.0 ft.	0.6° / 59.8°	87.5° / 180.2°
			6.125 in.	4139.0 ft.	87.4° / 180.2°	90.4° / 180.1°
					/	/
					/	/
					/	/

Acquisition System Software Version

Other

Advantage	2.20U4	Rig: Xtreme 22	/ Xtreme Coil Drilling Corp
PAIS	6.4.1.34	Job No: 7236293	
		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	2	8.750	PDC	2.500	Steerable	6040.0	7022.0	498.0	7022.0	14/May/2015 00:15	15/May/2015 16:45	25.8
2	2	3	6.125	PDC	6.996	Steerable	6980.0	11150.0	7022.0	11150.0	16/May/2015 15:45	18/May/2015 15:00	26.4

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Emily Cazzell	13/May/2015	15/May/2015	Matthew Delmore	16/May/2015	18/May/2015	Robert Dix	13/May/2015	17/May/2015
Mary Ronat	13/May/2015	16/May/2015	David Campbell	16/May/2015	18/May/2015	Nate Krehmeyer	13/May/2015	18/May/2015
						Darell Smith	18/May/2015	18/May/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+ (%)
14/May/2015 20:30	1	5530.0	Water Based Mud	9.3	7	8.8	N/A	0 / 95	Active Mud Pit	1800	N/A
16/May/2015 07:00	2	7022.0	Water Based Mud	8.4	1	8.5	N/A	0 / 99	Active Mud Pit	1800	N/A
17/May/2015 08:00	2	8451.0	Water Based Mud	8.6	4	9.1	N/A	0 / 98	Active Mud Pit	1800	N/A
18/May/2015 08:00	2	11150.0	Water Based Mud	9.1	9	9.1	N/A	0 / 95	Active Mud Pit	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 (ft)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12546347	Directional	46.55	6.750	3.250
1	SRIG	ZSGM1260695	Gamma	43.17	6.750	3.250
2	DIR	12373456	Directional	53.40	4.750	2.750
2	SRIG	12600748	Gamma	50.03	4.750	2.750

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 498 to 6040 ft. MD (497.99 to 5968.86 ft. TVD) and NaviGamma Services (VSS, Directional, Gamma Ray) from 6040 to 7022 ft. MD (5968.86 to 6563.73 ft. TVD) behind an 8 3/4 inch bit and steerable assembly.</p> <p>2.) Baker Hughes LWD run 2 utilized 4 3/4 inch NaviGamma Services (VSS, Directional, Gamma Ray) from 7022 to 11150 ft. MD (6563.73 ft. to 6557.00 TVD) behind an 6 1/8 inch bit and steerable assembly.</p> <p>3.) A sliding indicator is shown on the left edge 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.</p> <p>4.) Depth measurements obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.</p>
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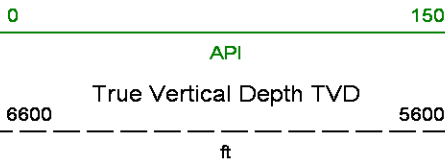
Remarks

Number	Measured Depth (ft)	Hole Section (in.)	LWD Run No.	Remark
1	7000	6.125	2	The interval from 6980 to 7022 ft. MD (6561.80 to 6563.80 ft. TVD) was logged up to 42.10 hours after being drilled due to a trip out of the hole to lay down the vertical/curve assembly, casing operations, and to pick the lateral assembly.
2	11125	6.125	2	The interval from 11106 to 11150ft. MD (6557.30 to 6557.00 ft. TVD) does not contain Gamma logging data due to the bit to sensor offset.



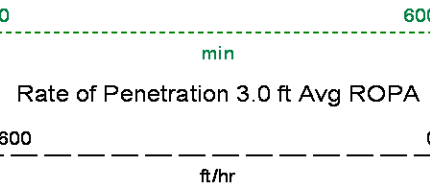
Company : Bonanza Creek
Well : North Platte Federal F-J-22HNC
Interval : 6005.00 - 11185.00 feet
Created : 17/May/2015 4:21:46 PM

Gamma Ray Apparent 0.5 ft Avg GRAX

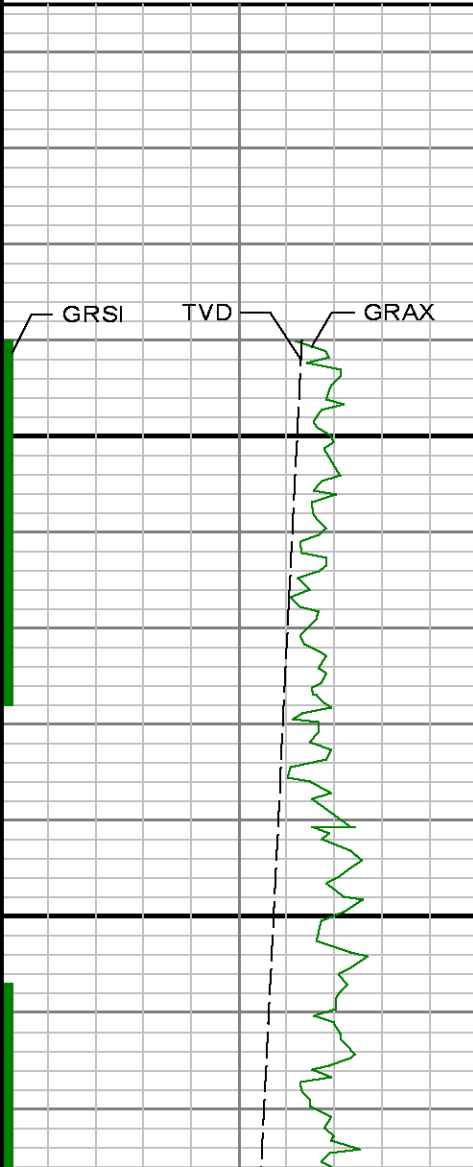
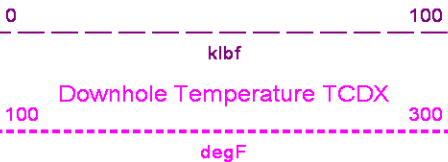


MD feet 1:240

Gamma Ray Time Since Drilled GRTX

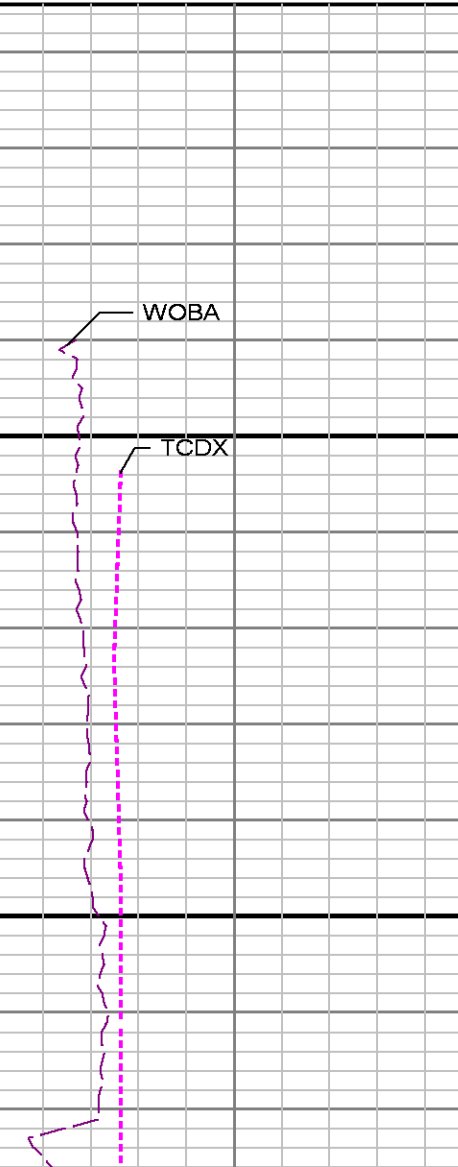


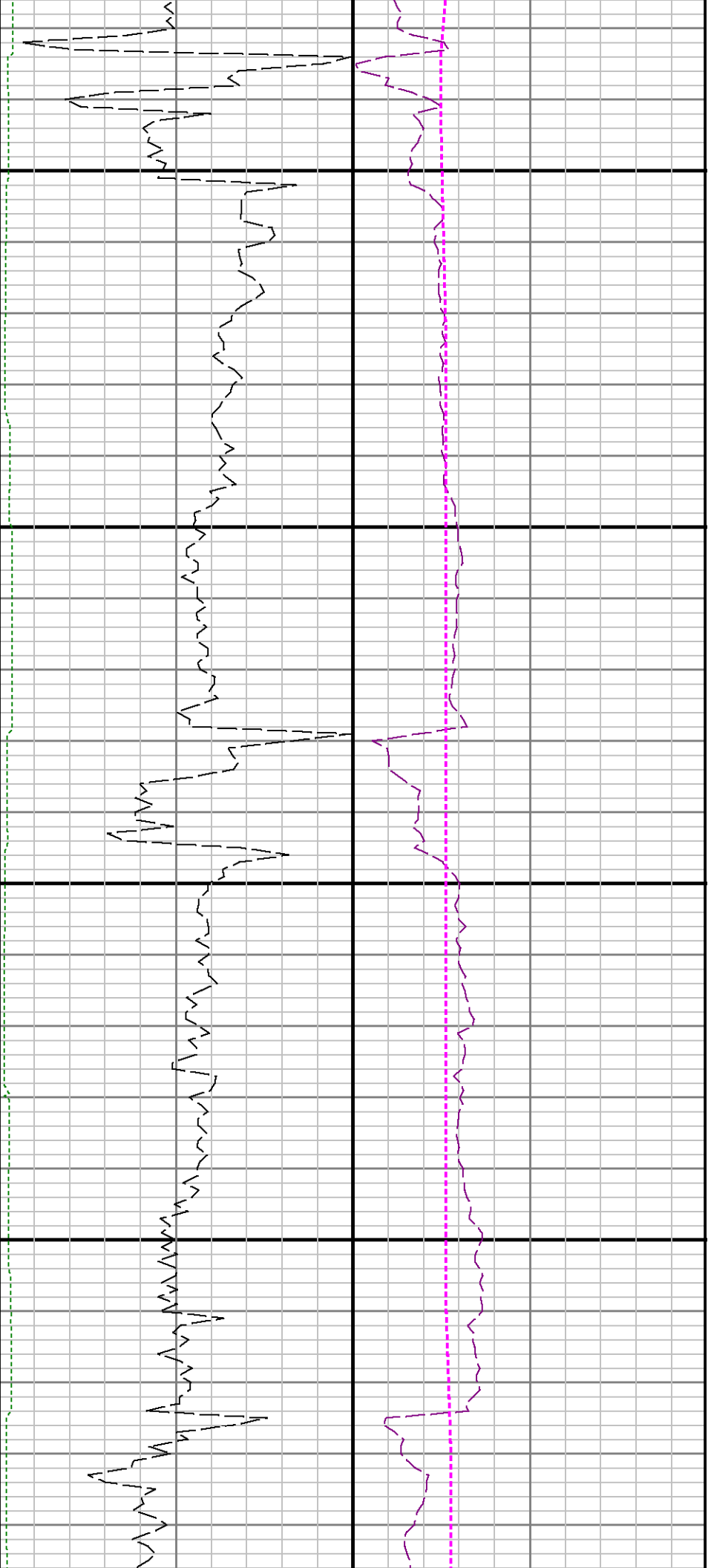
Surface Weight On Bit 1.0 ft Avg WOBA



> Run 1

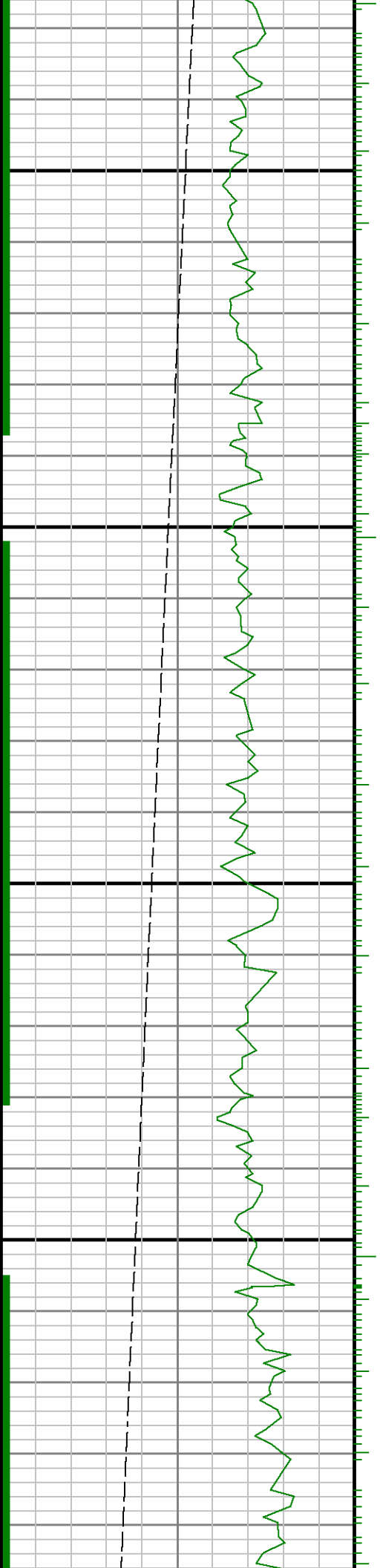
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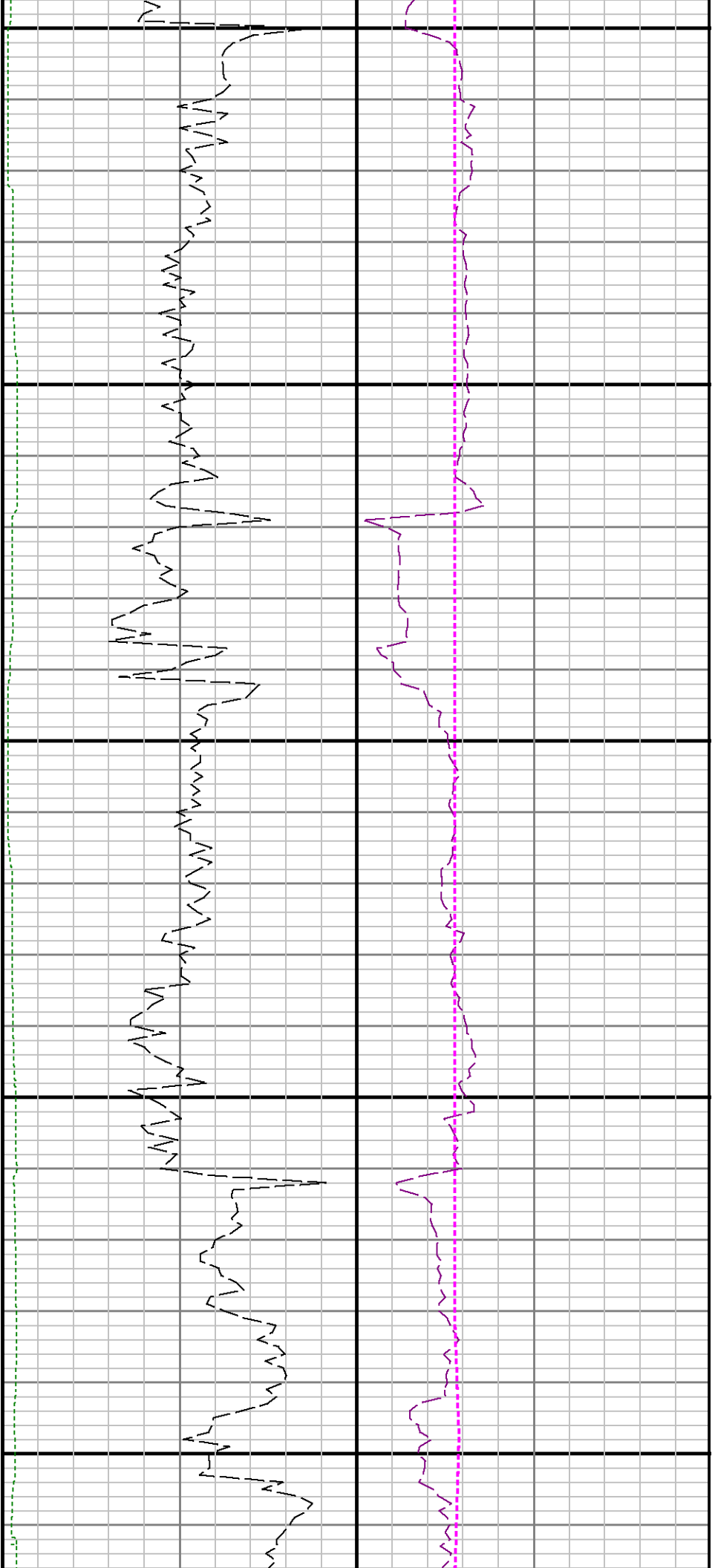




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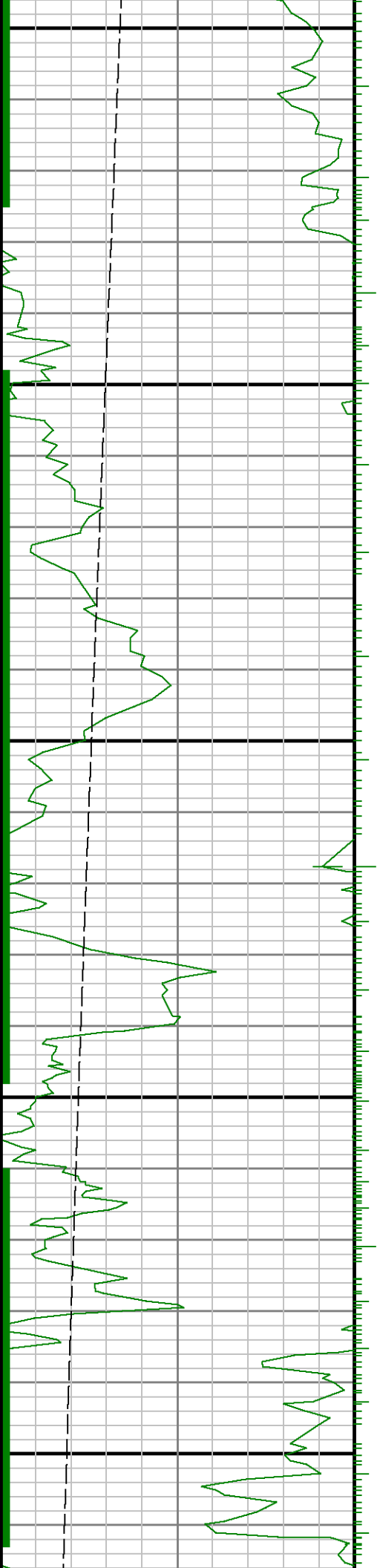
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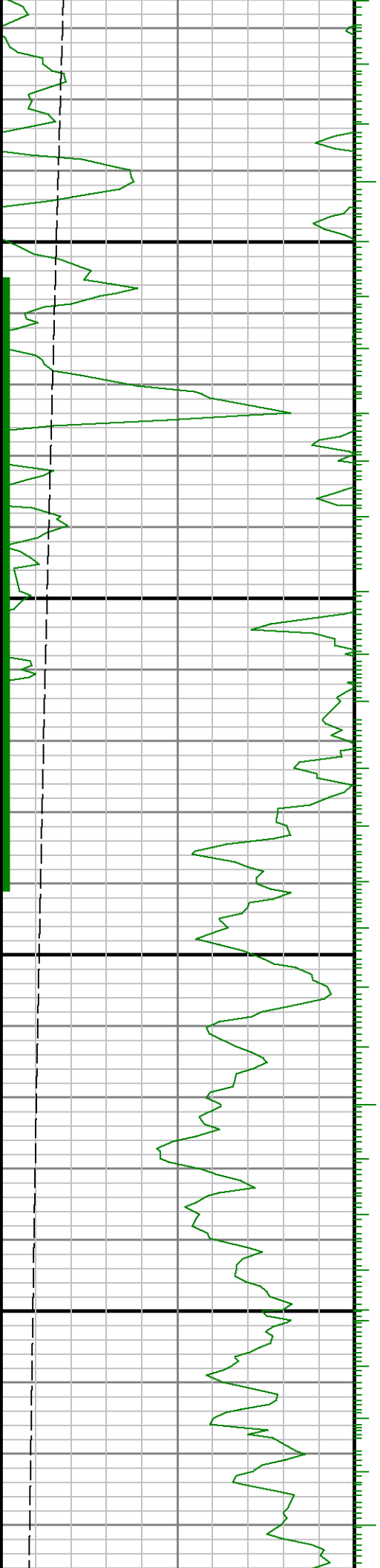




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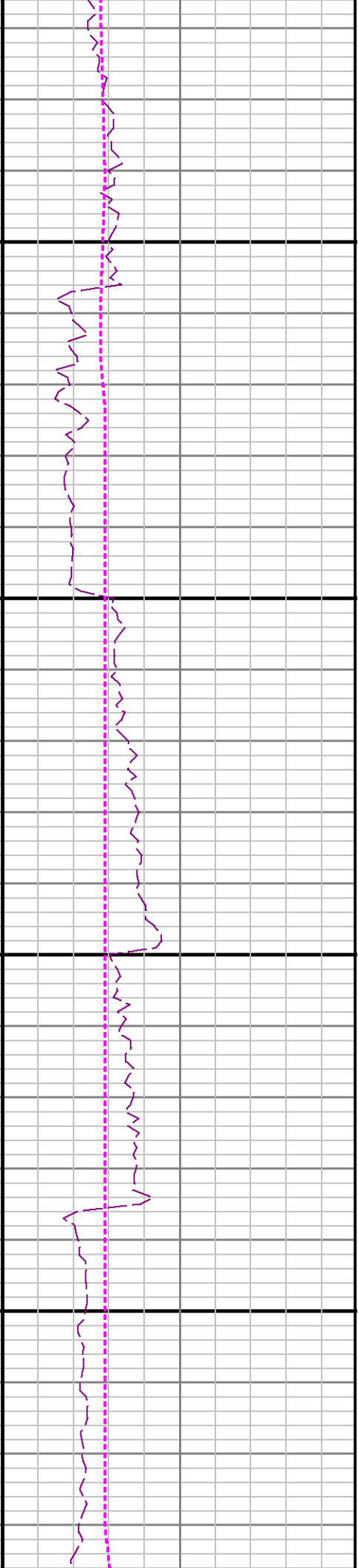
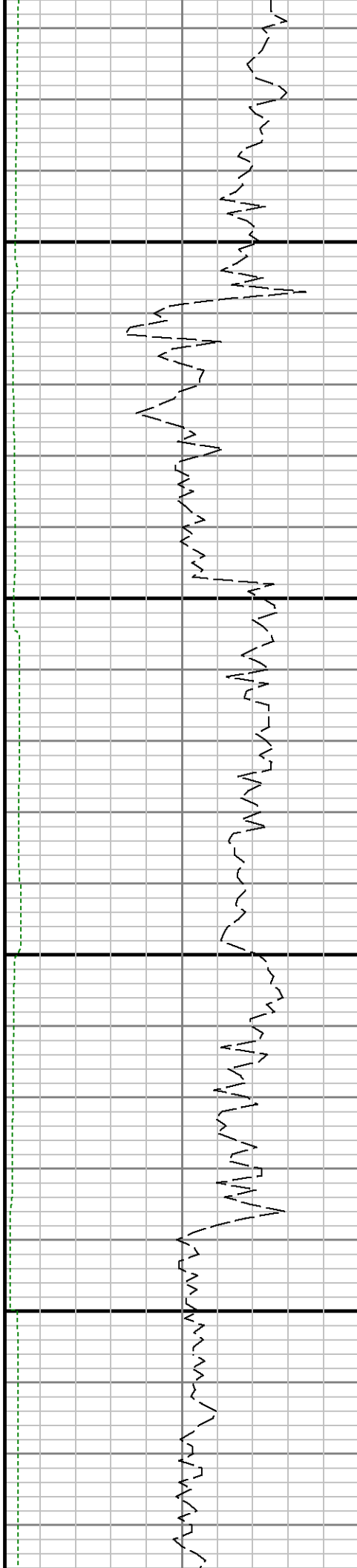
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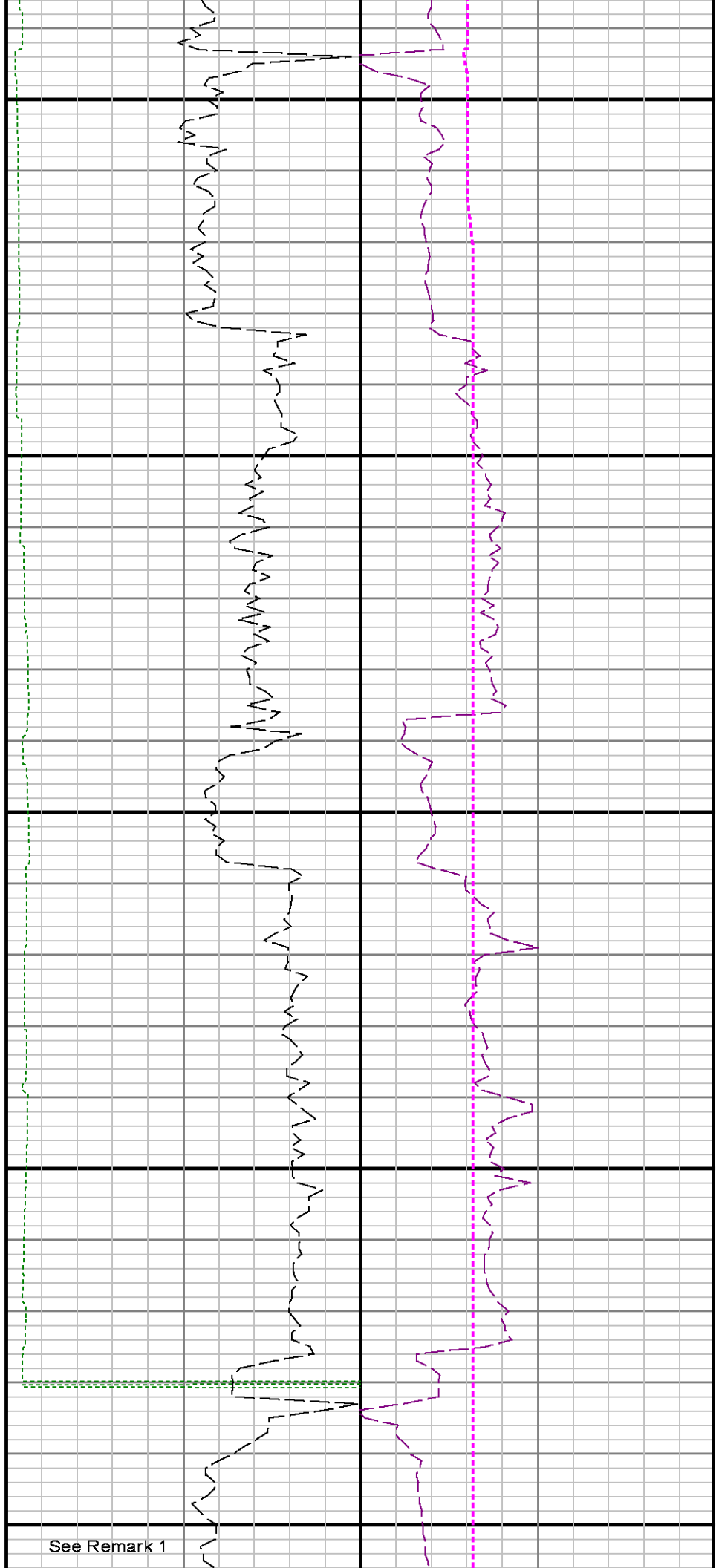
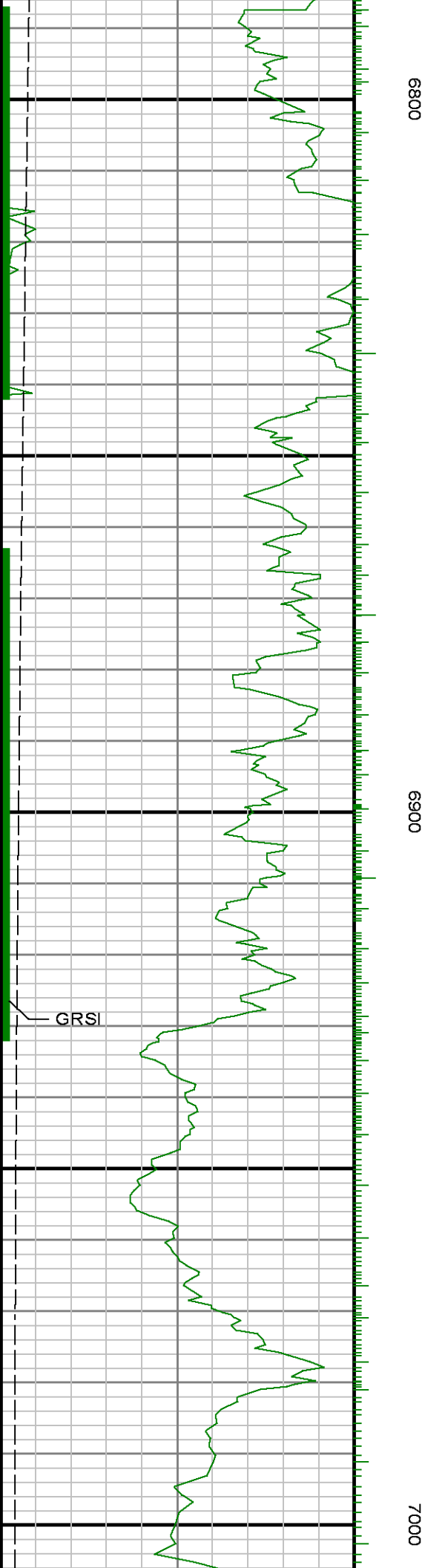




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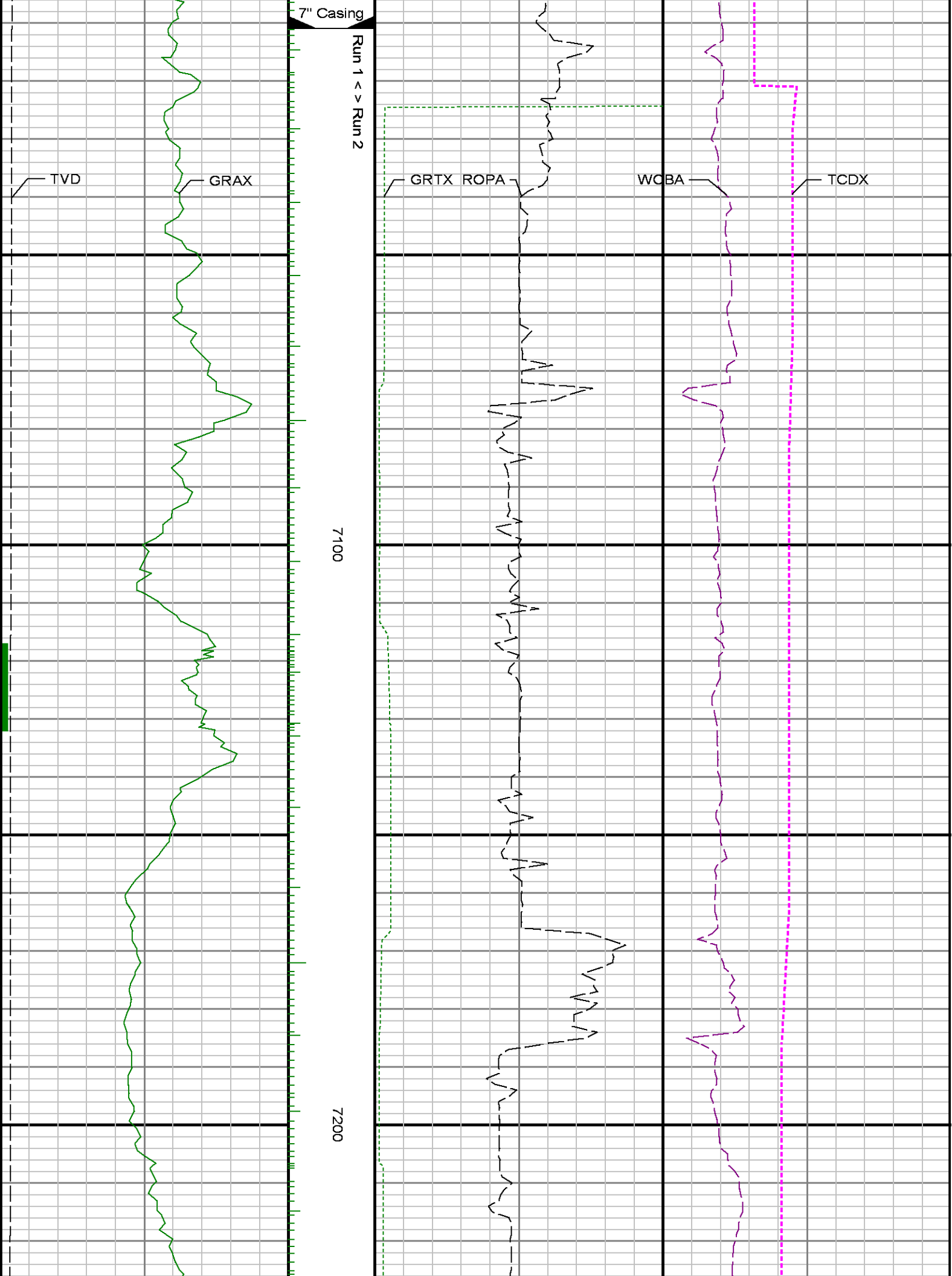
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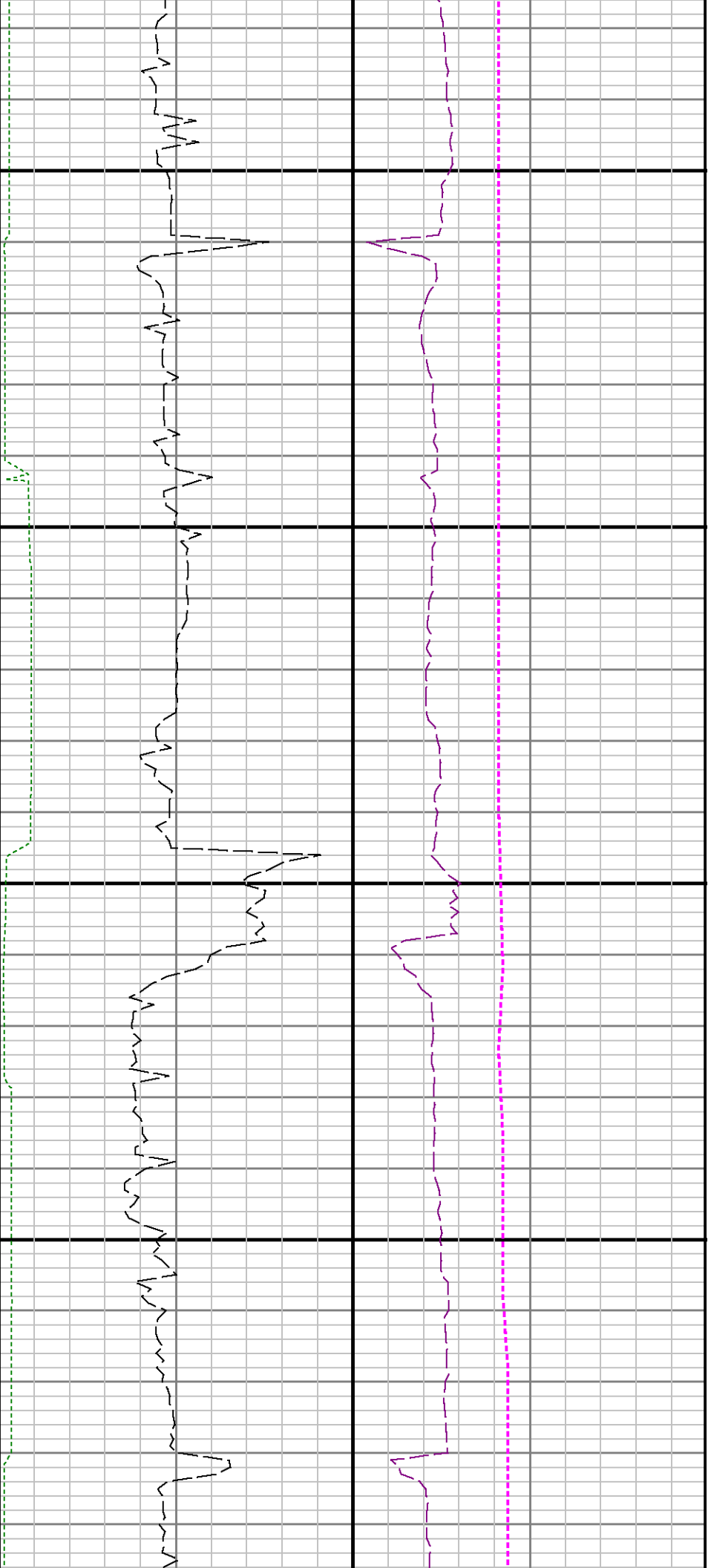




7" Casing

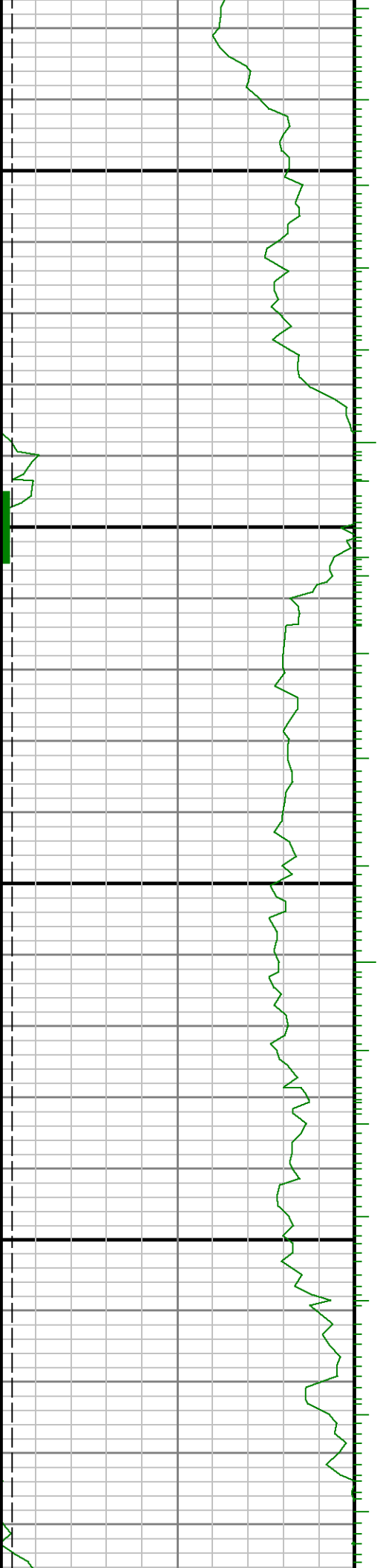
Run 1 < > Run 2

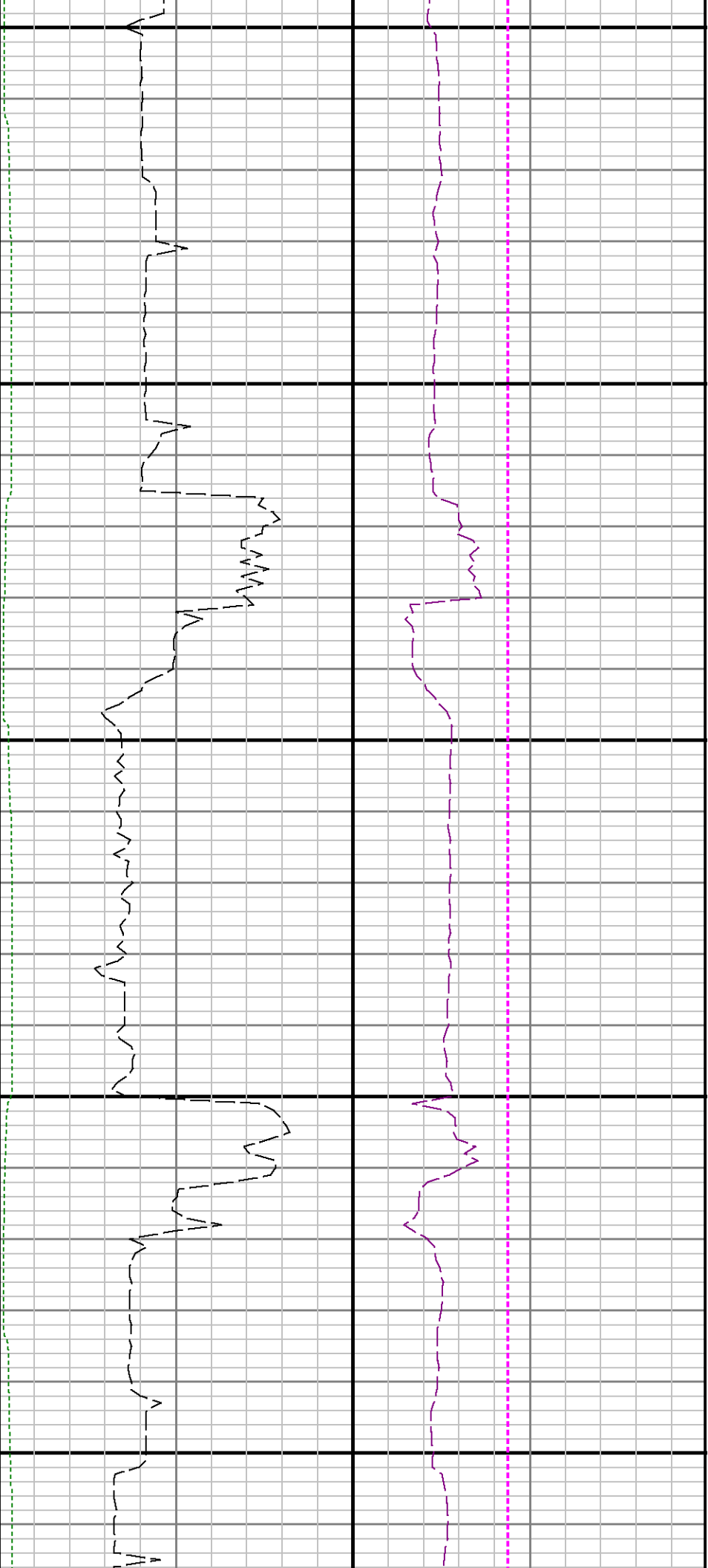




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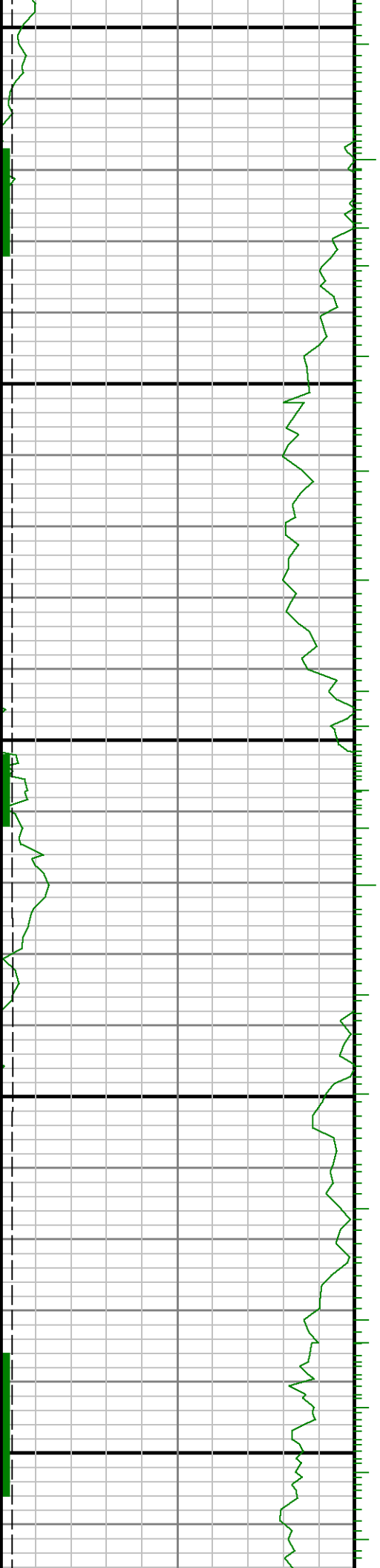
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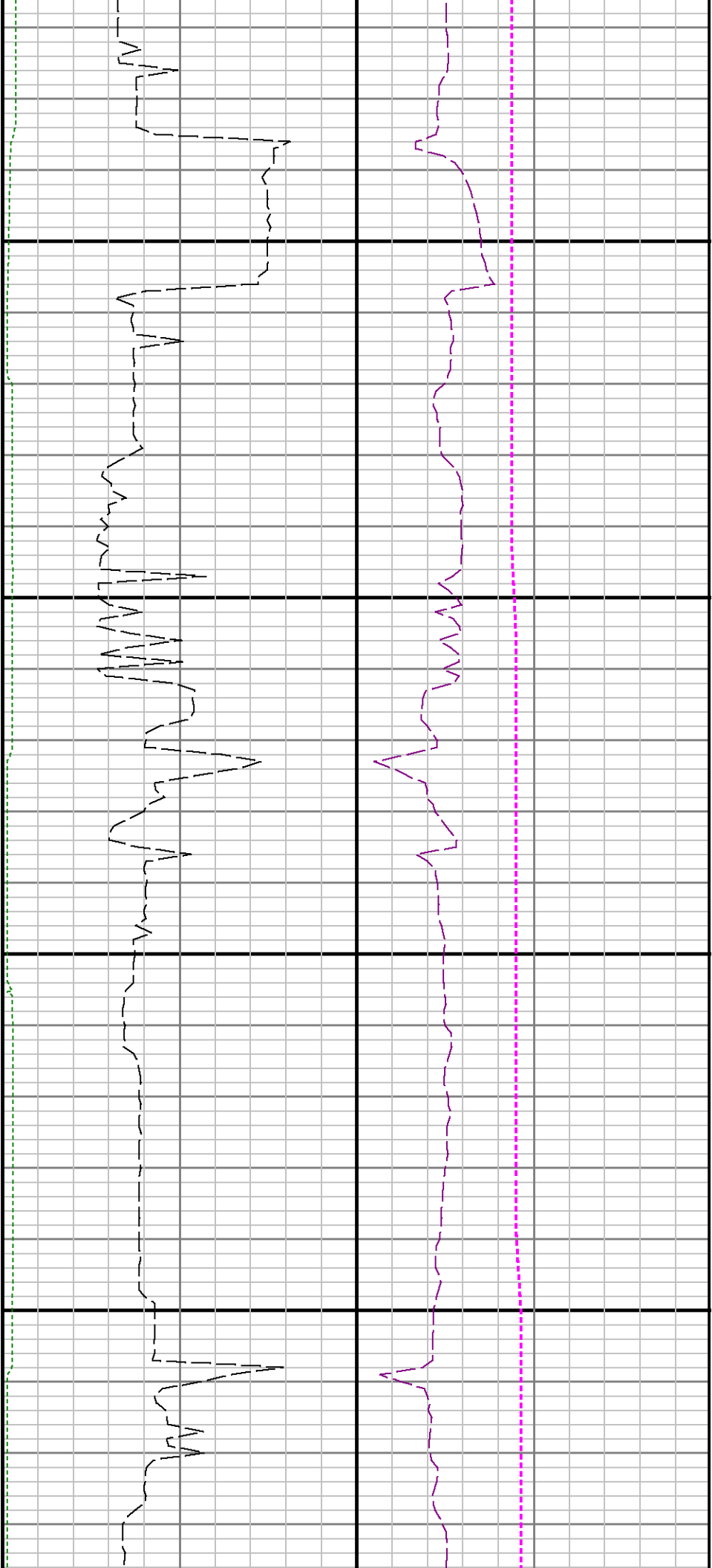




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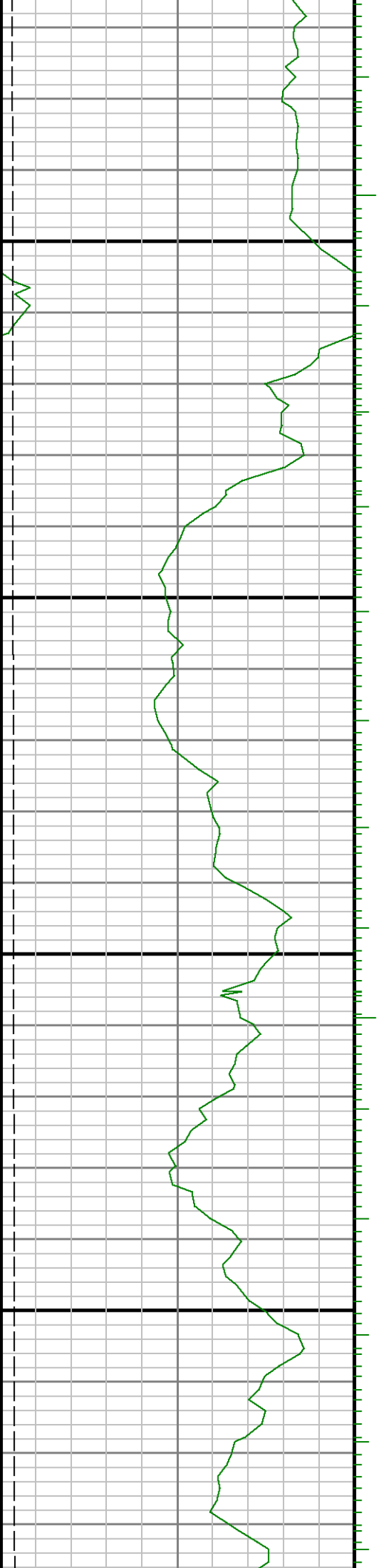
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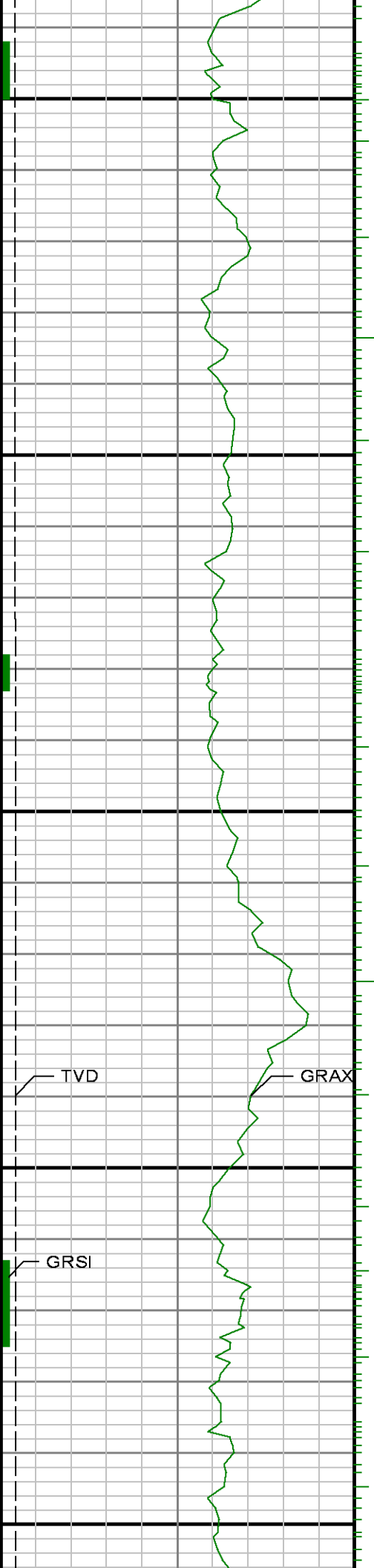




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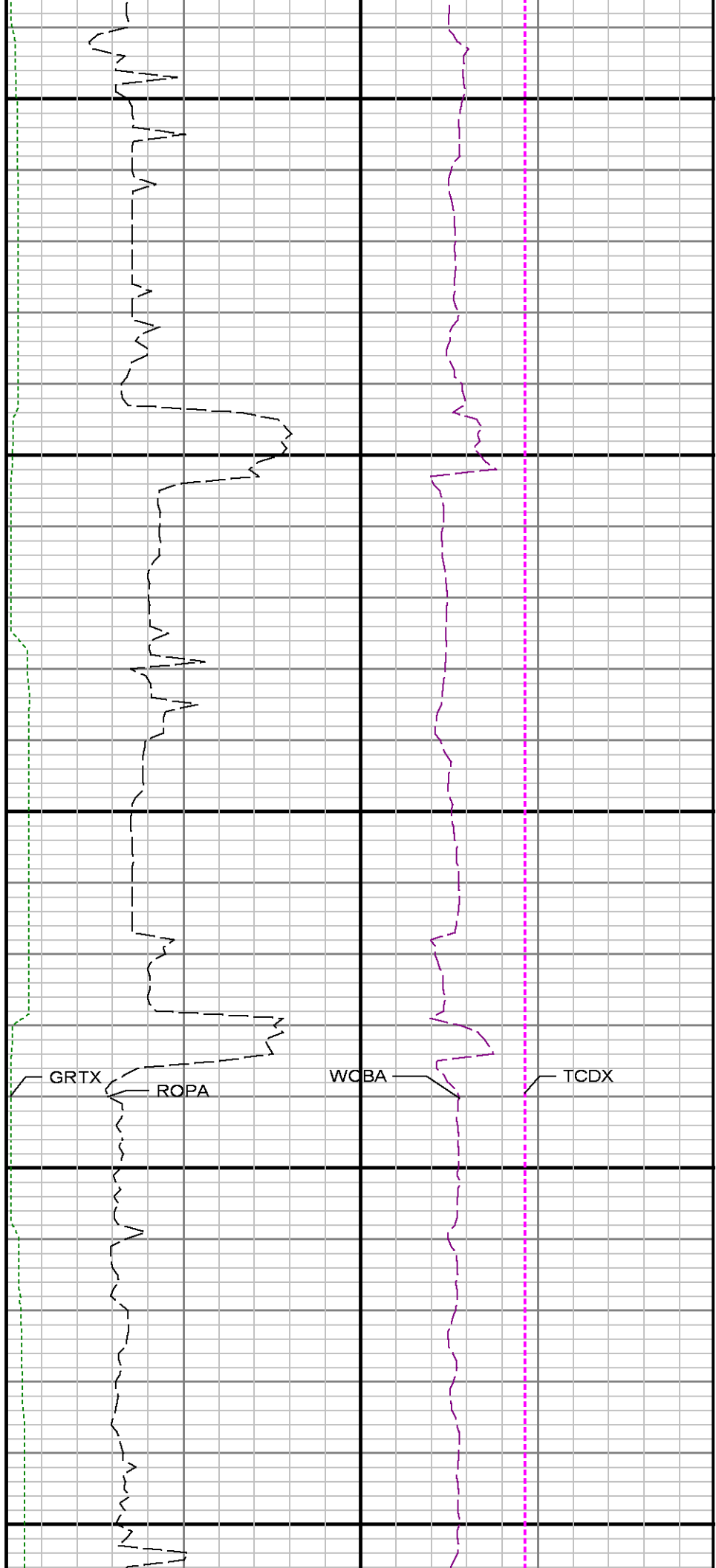




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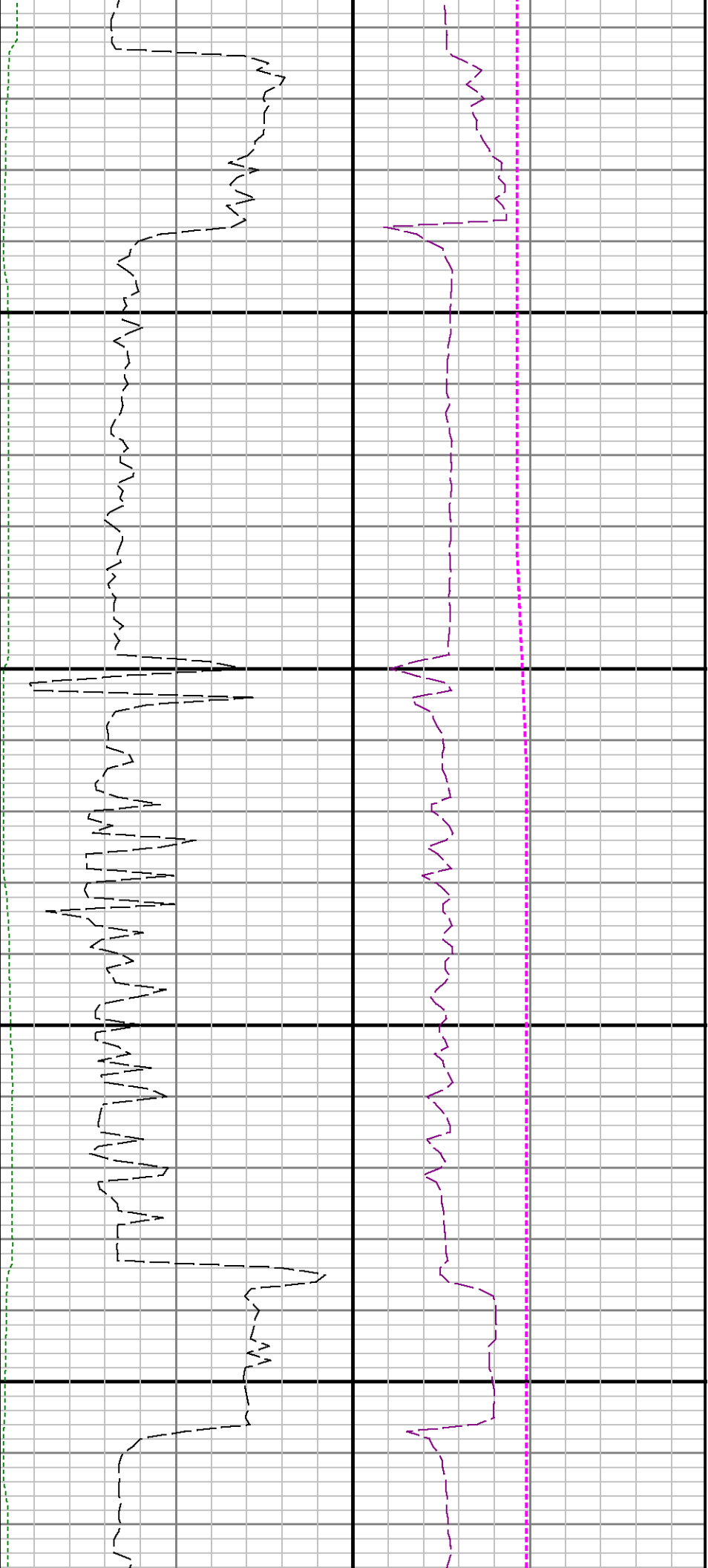


GRTX

ROPA

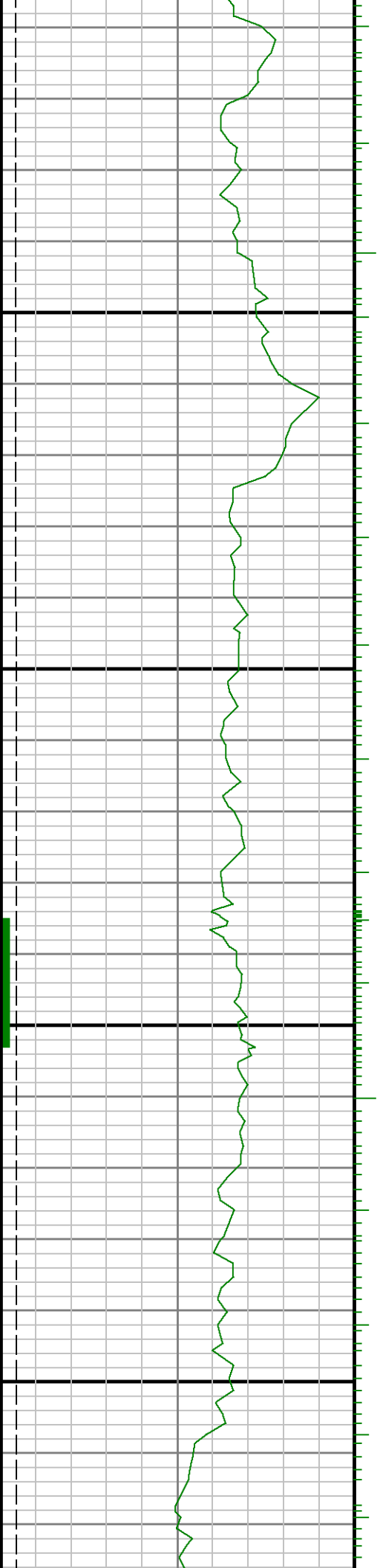
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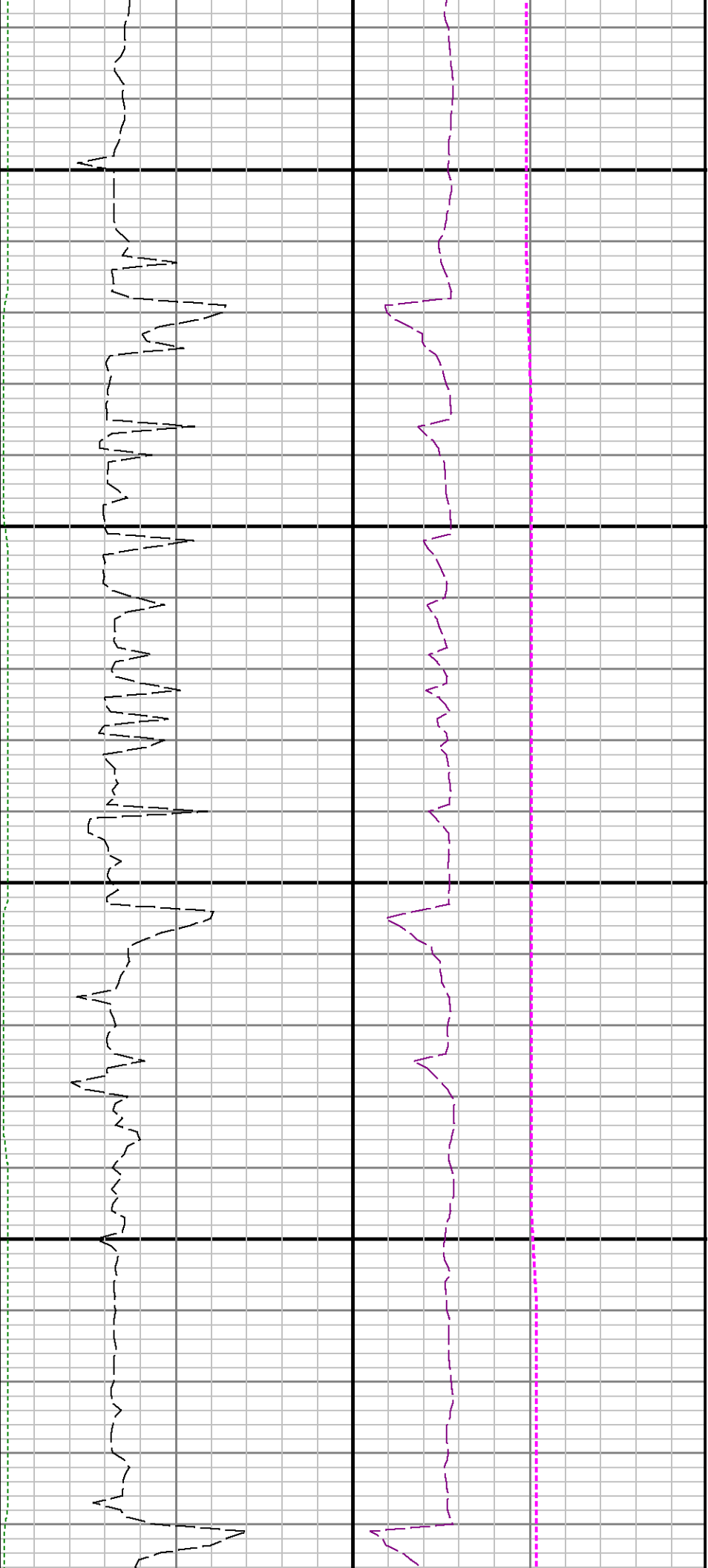
TCDX



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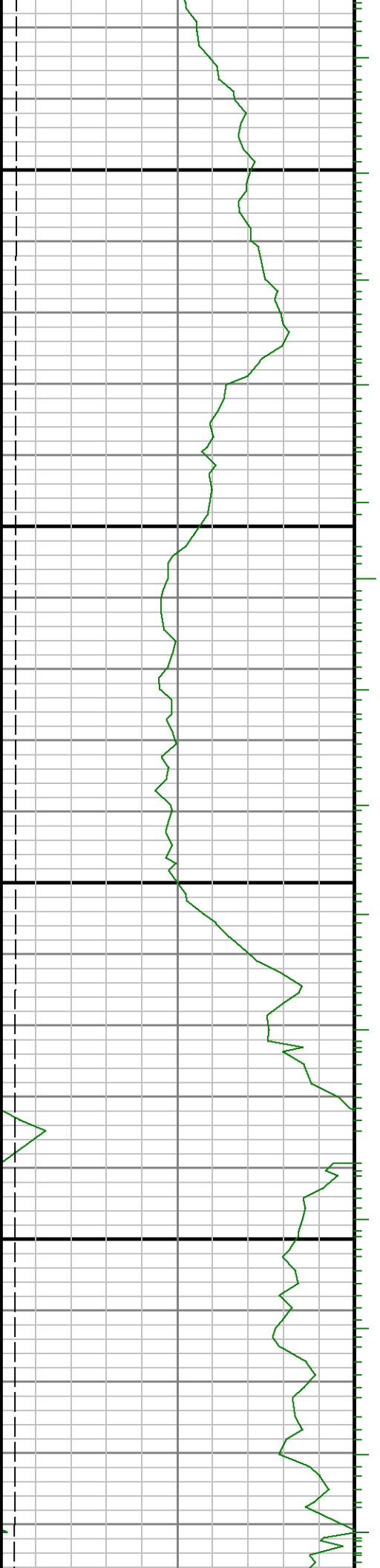
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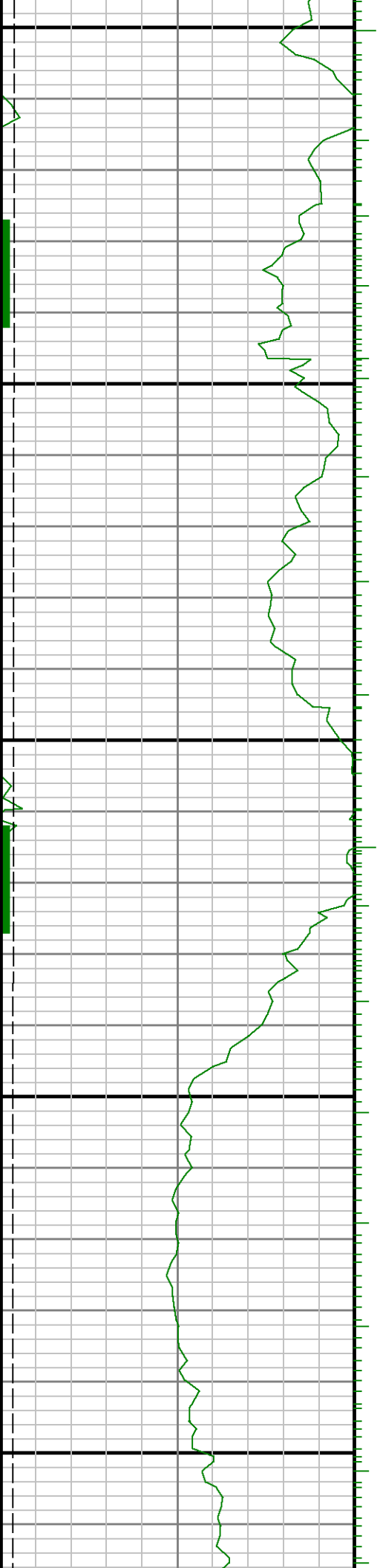




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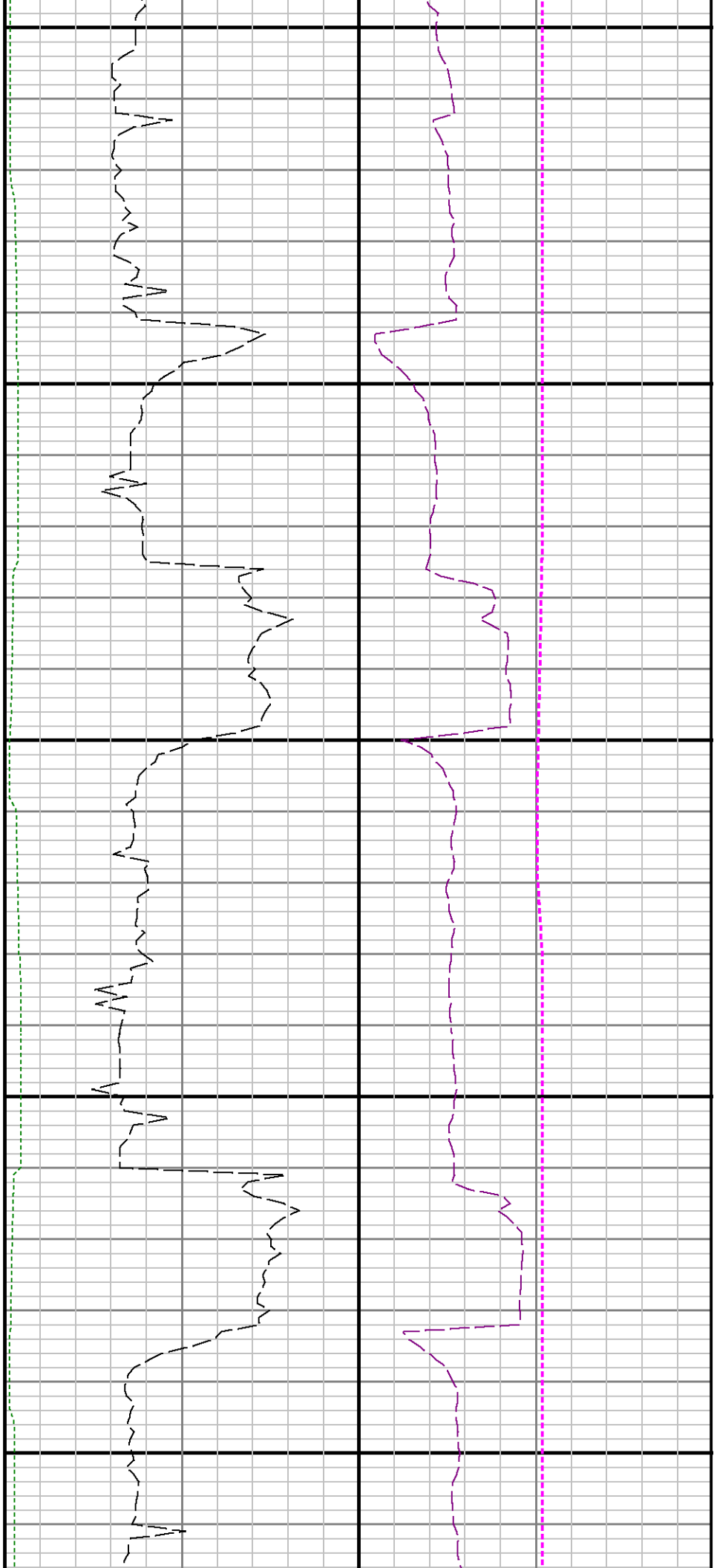
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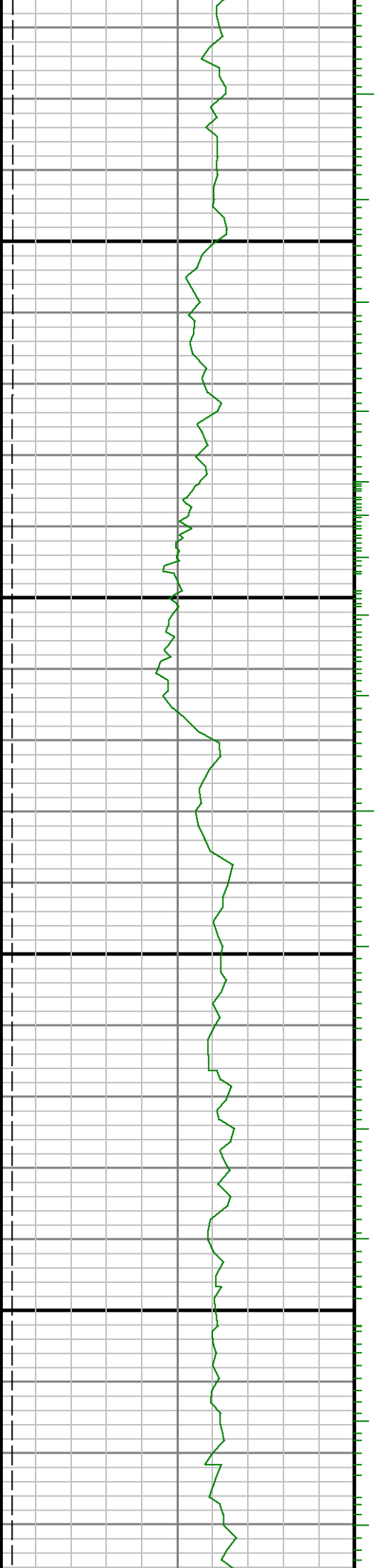




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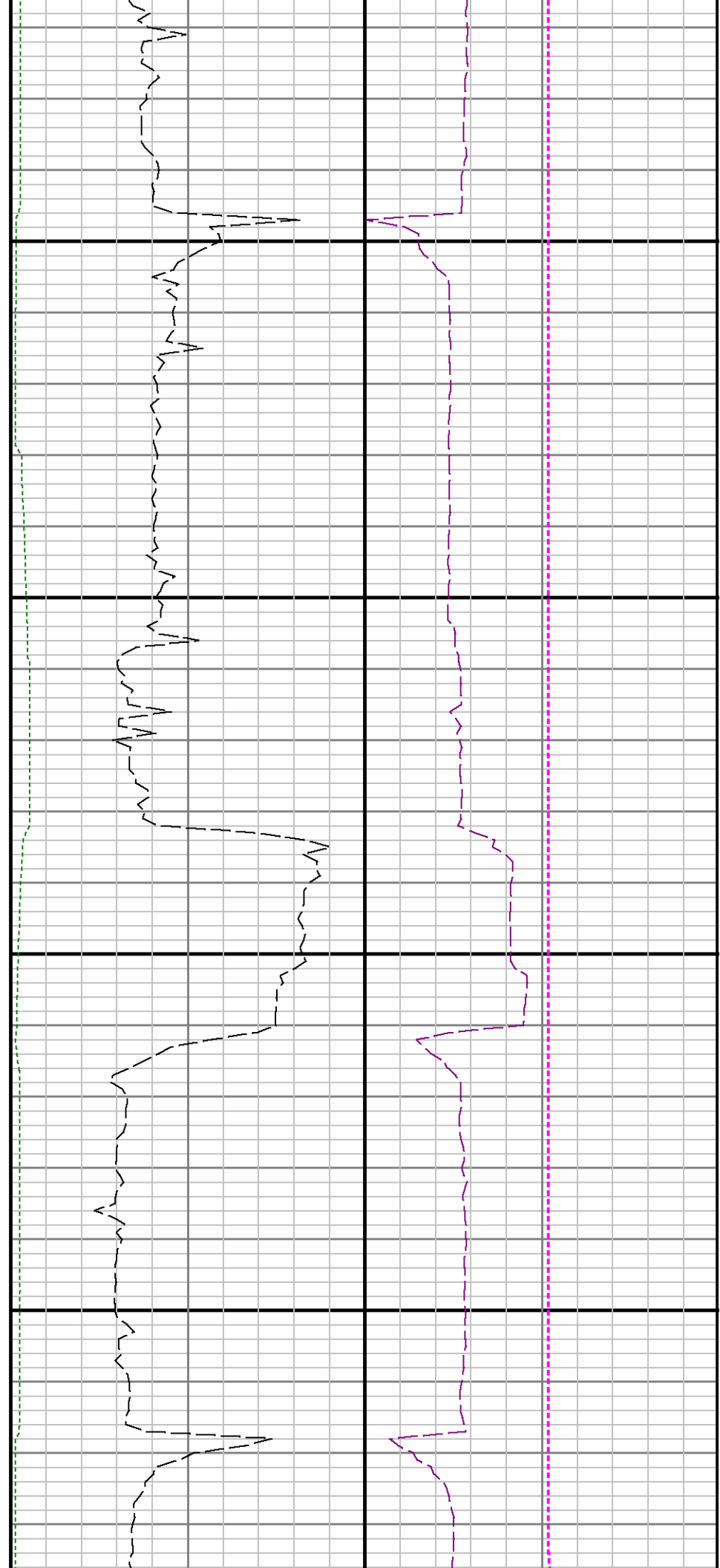
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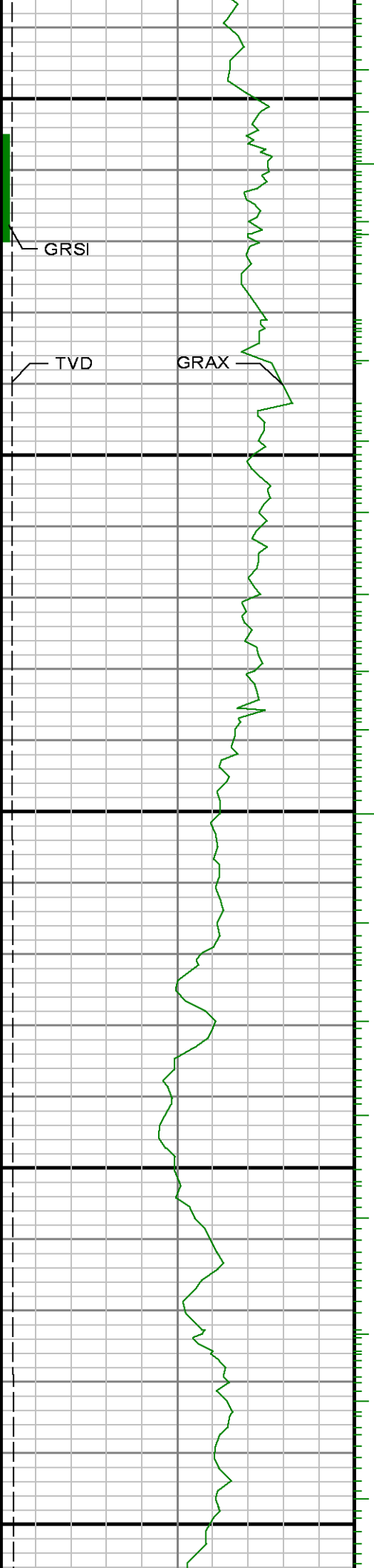




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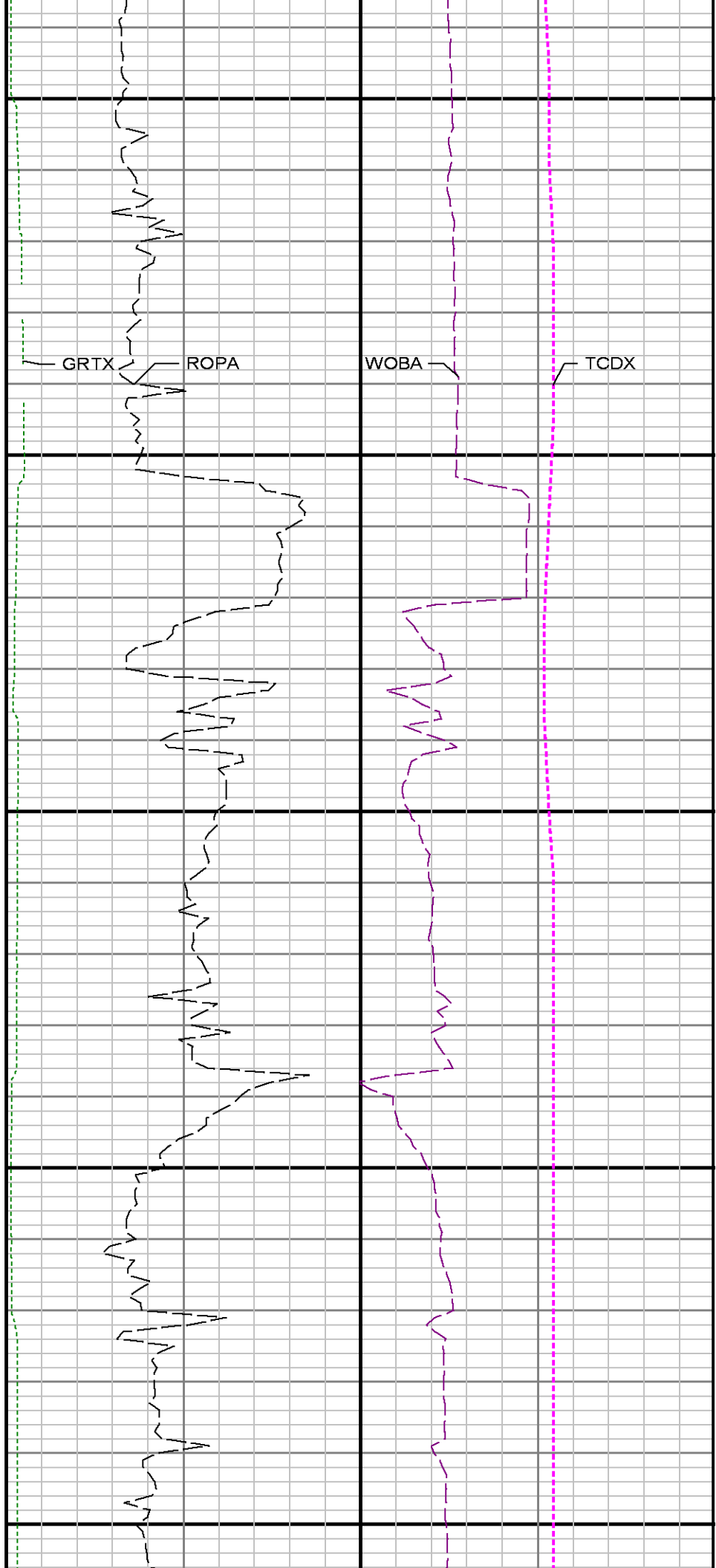




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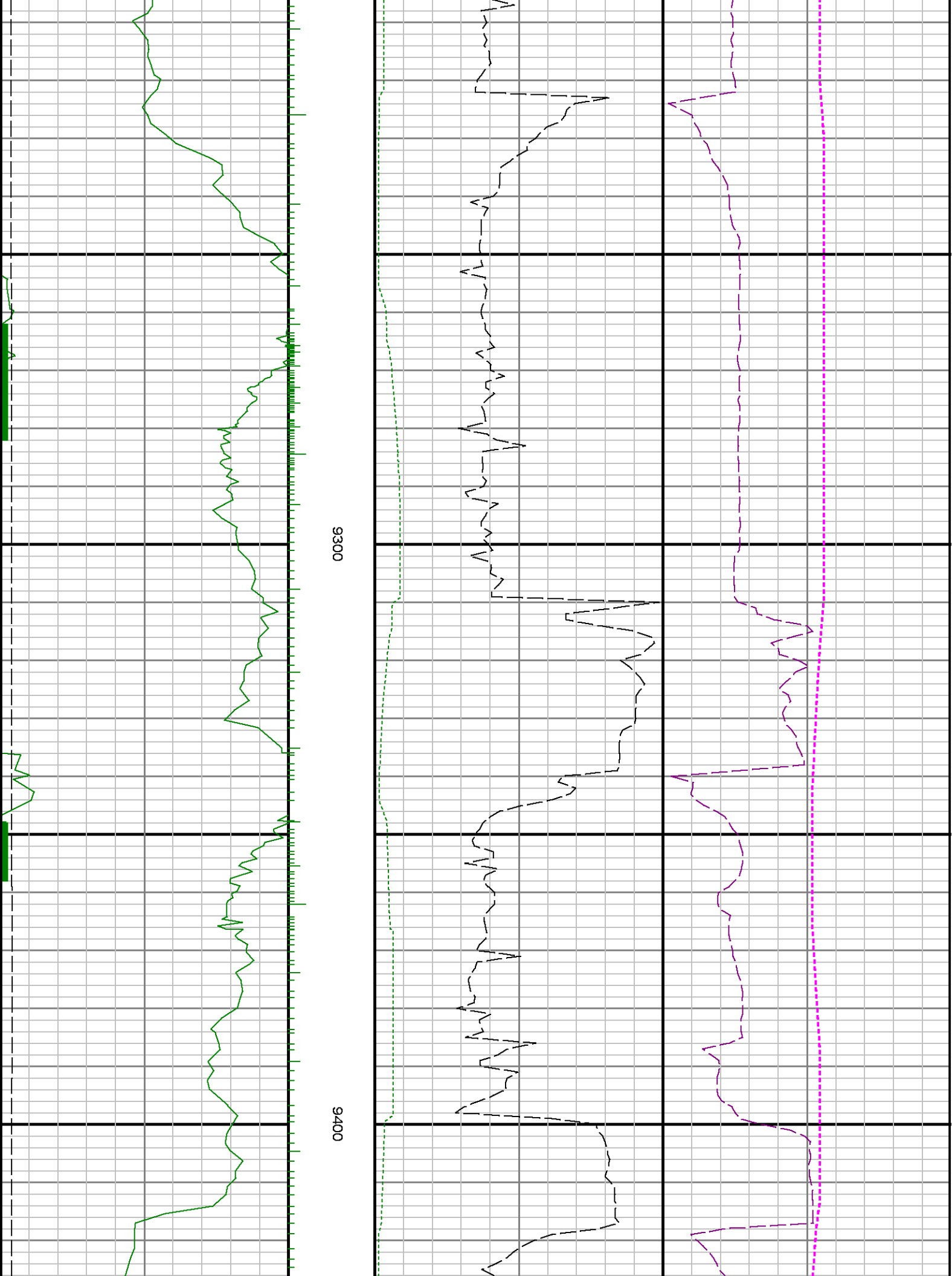


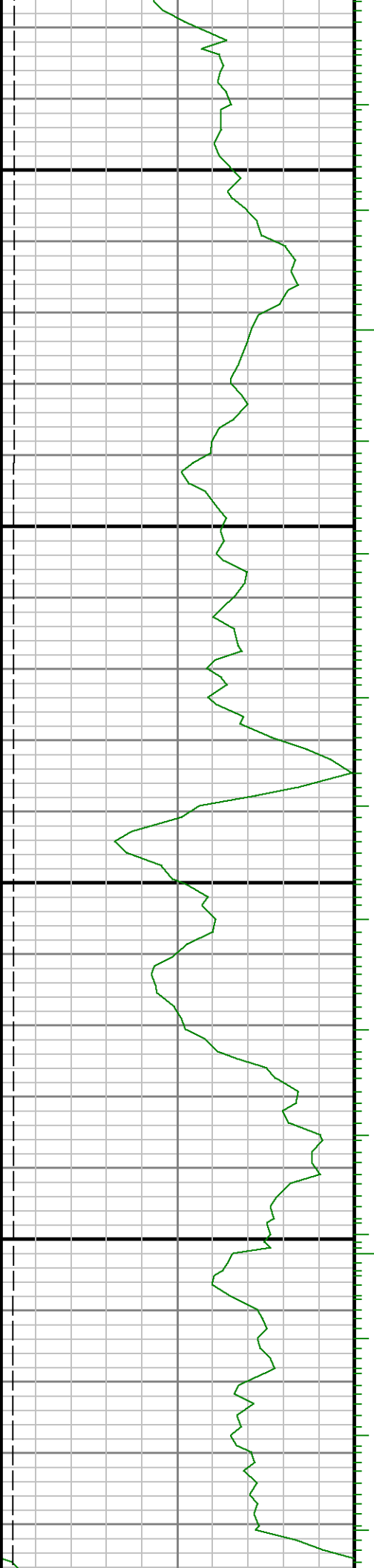
GRTX

ROPA

WOBA

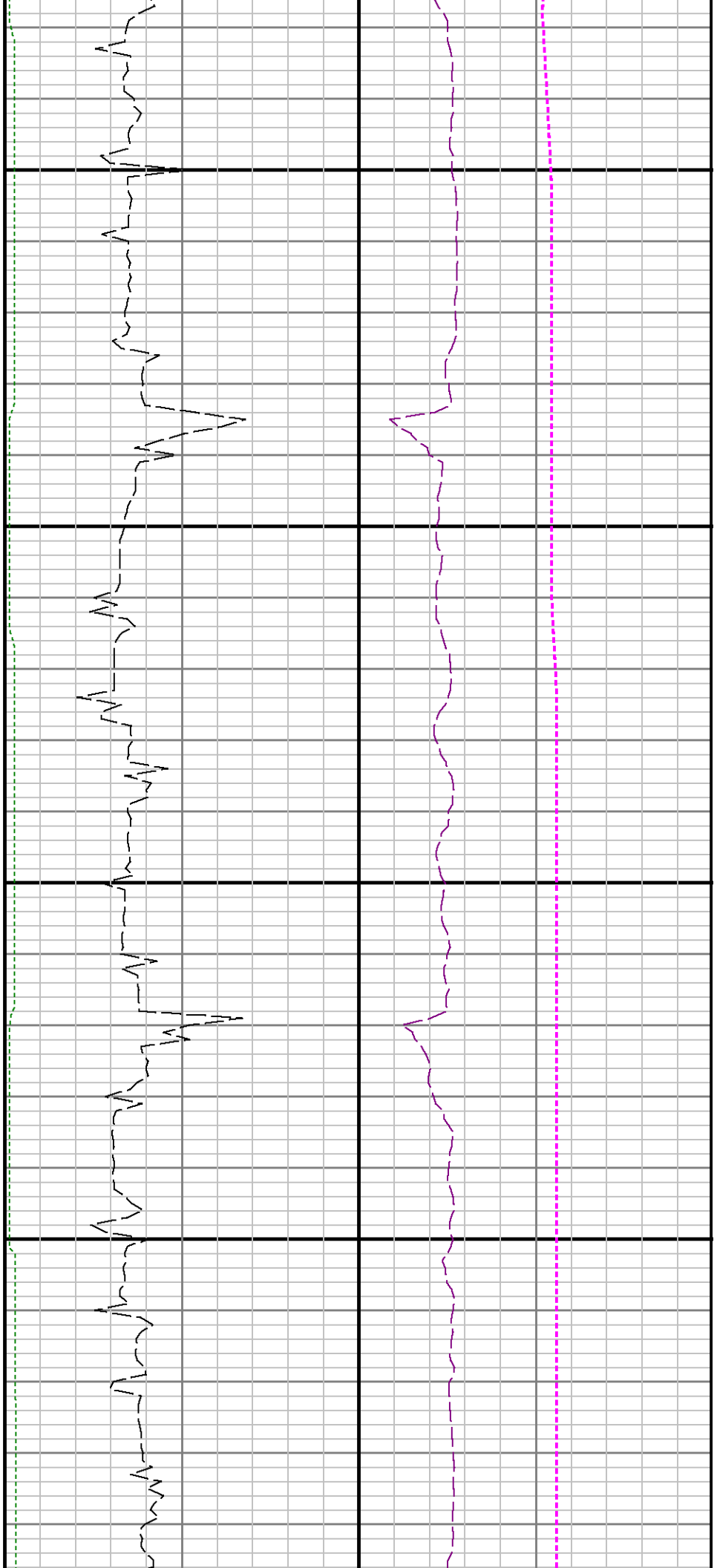
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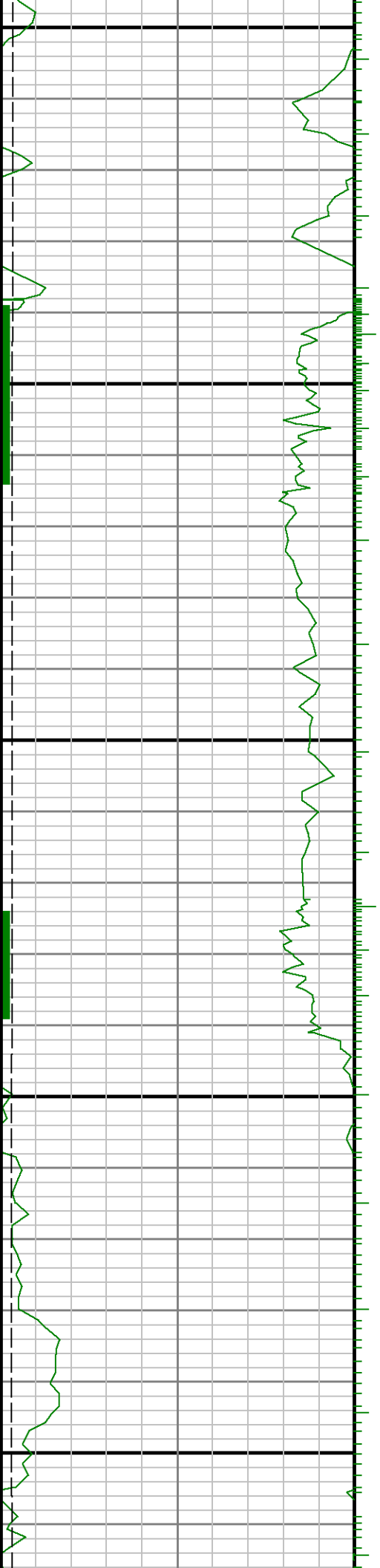




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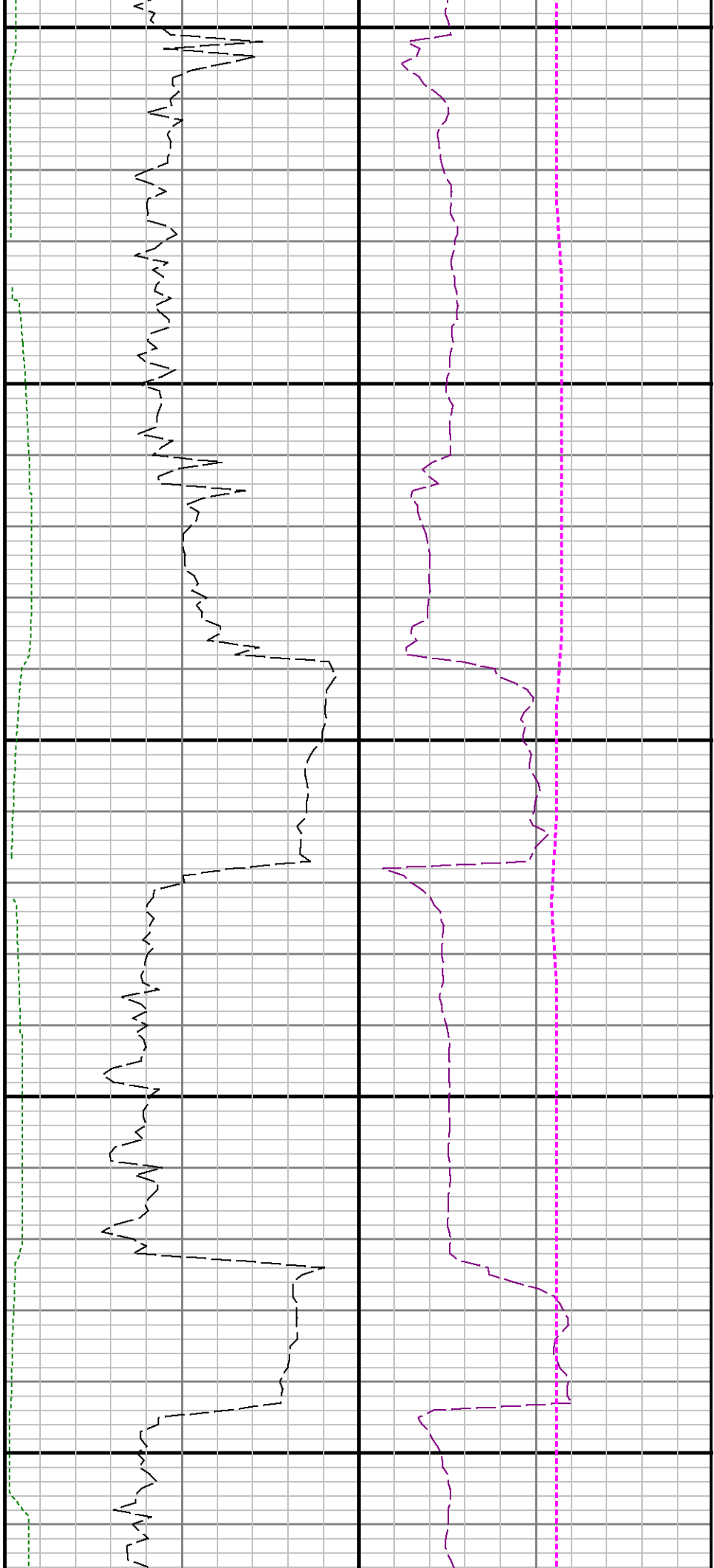
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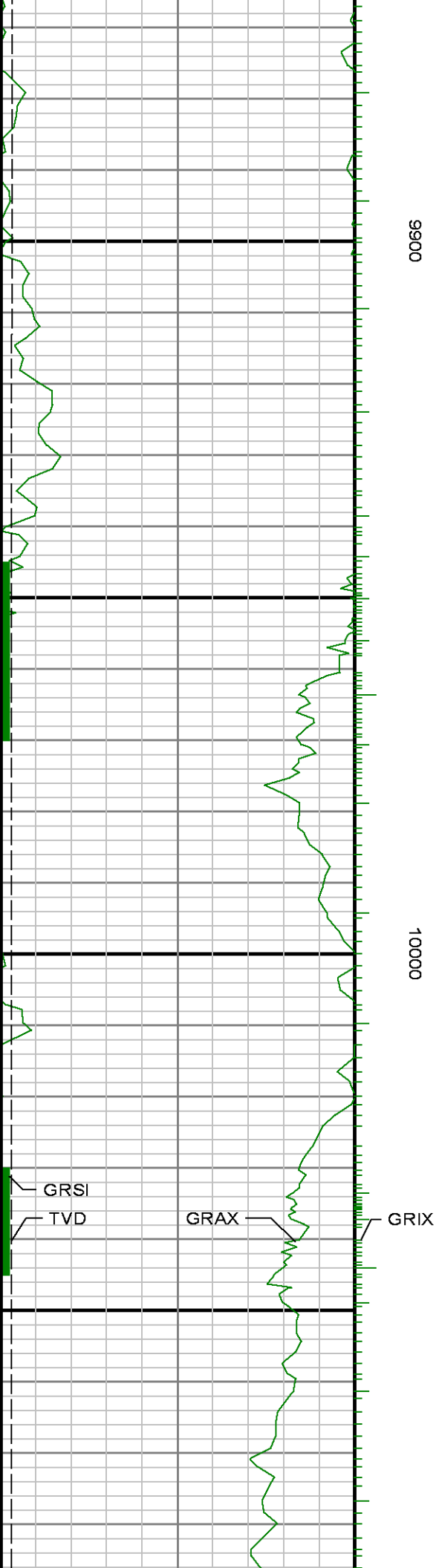


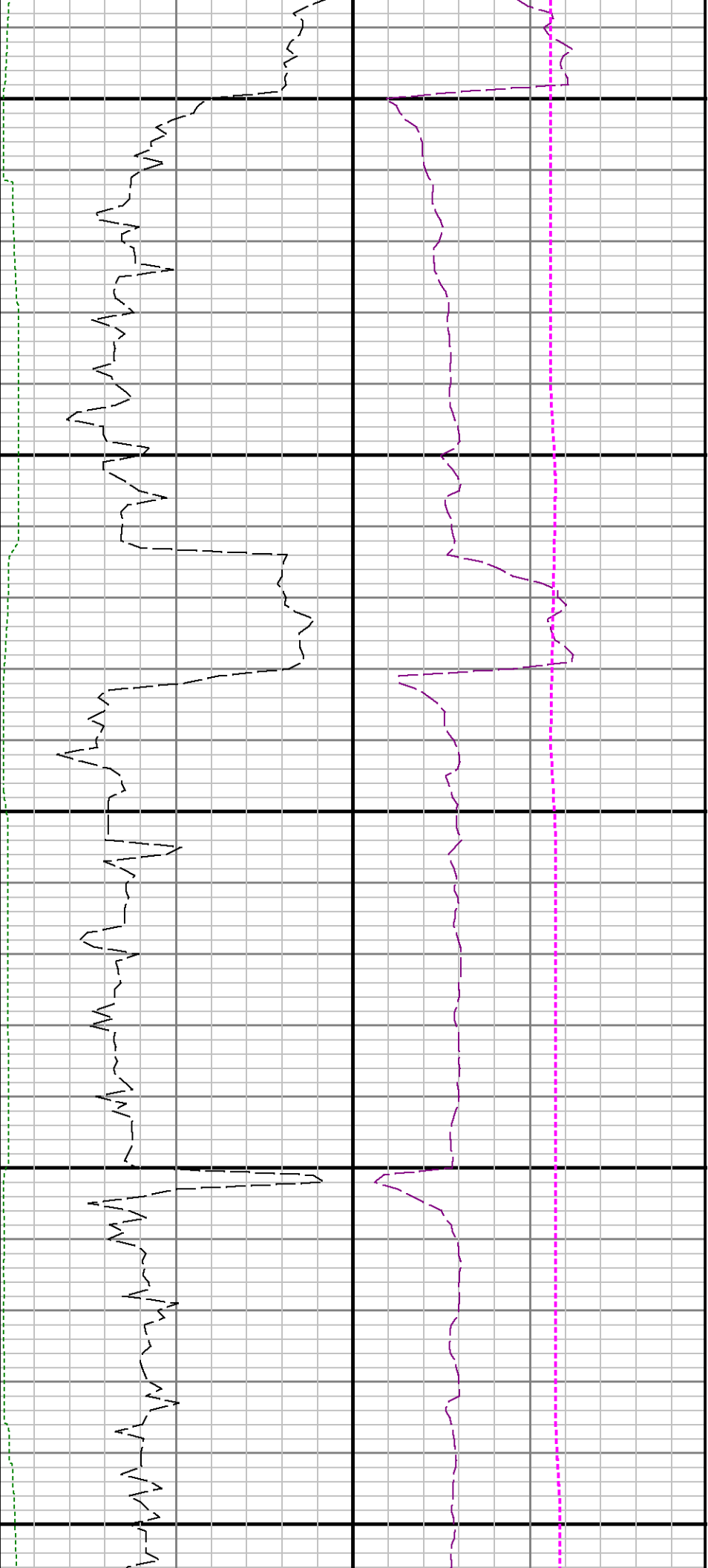


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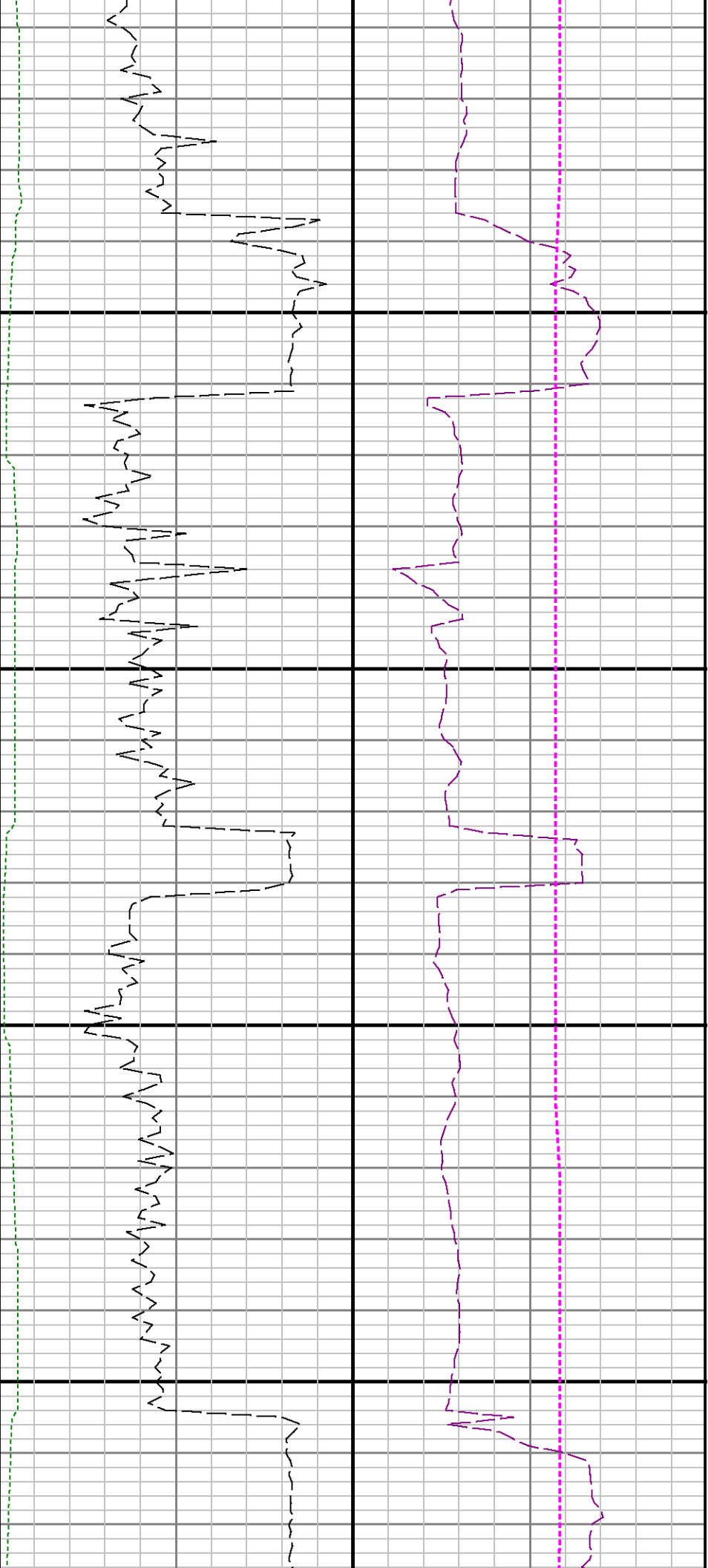




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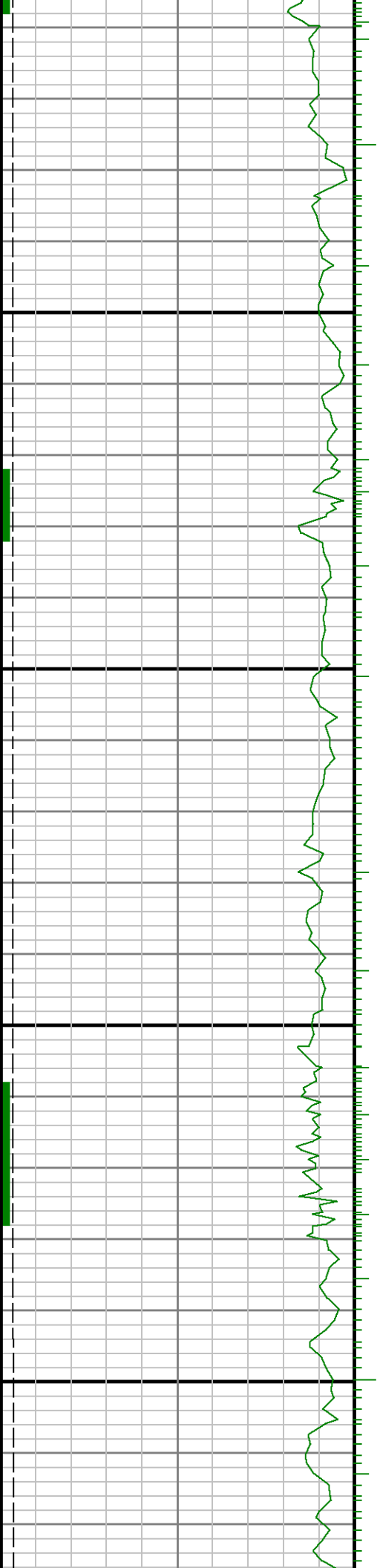
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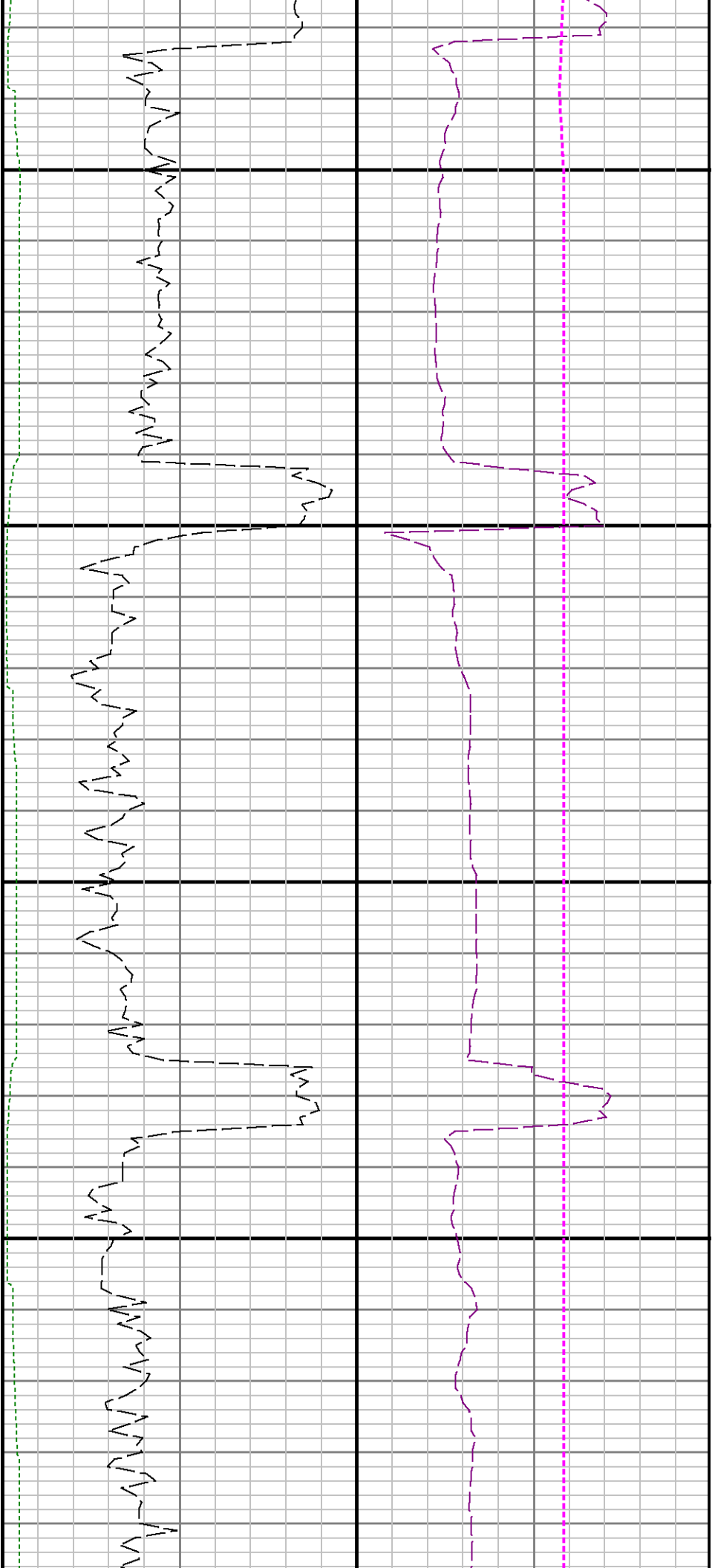
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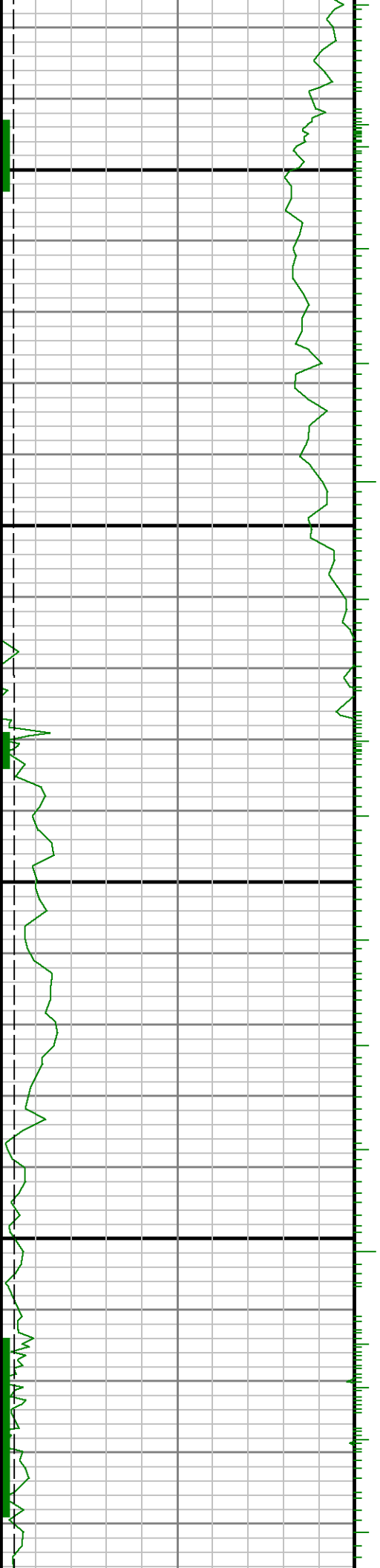
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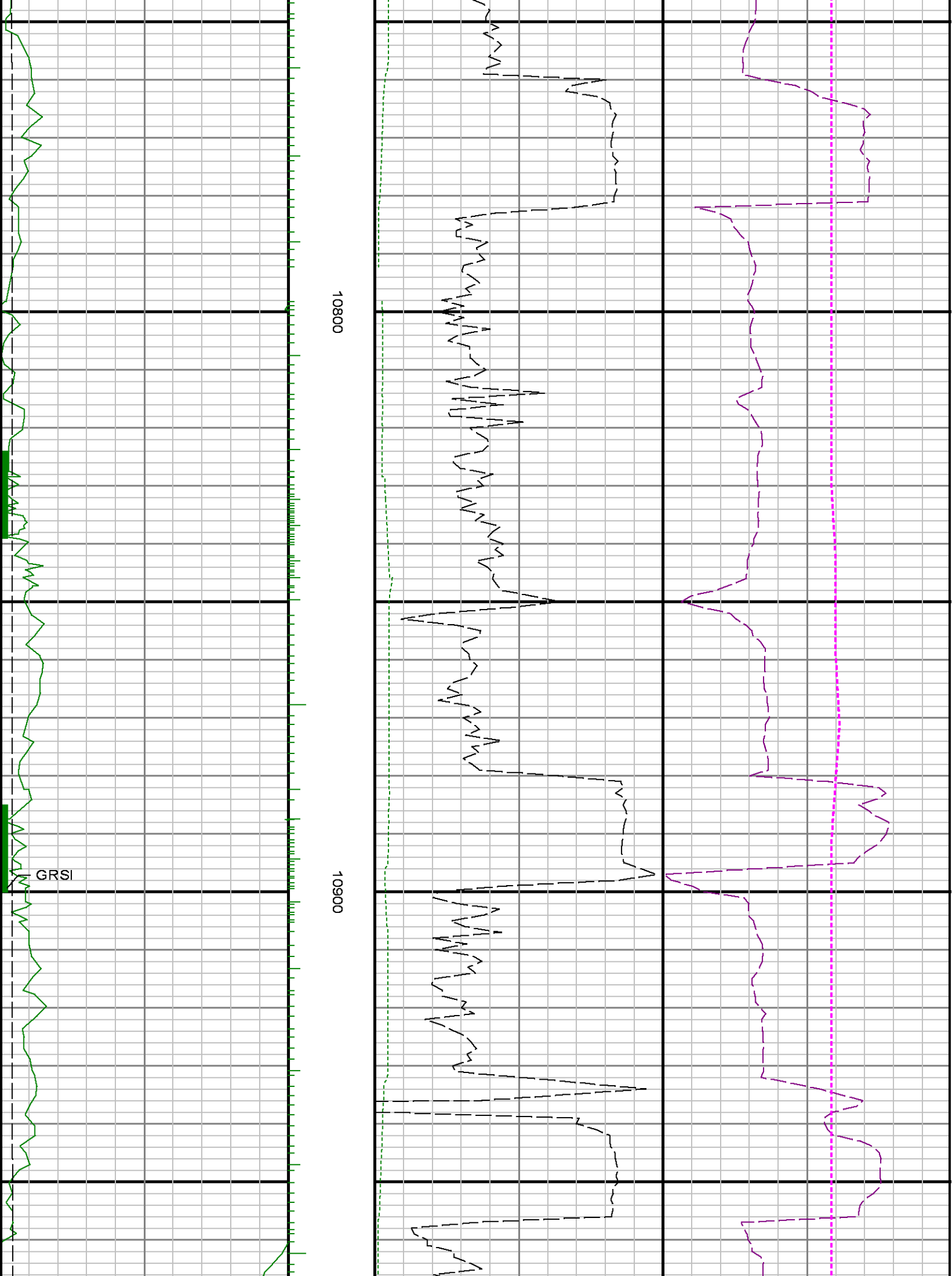


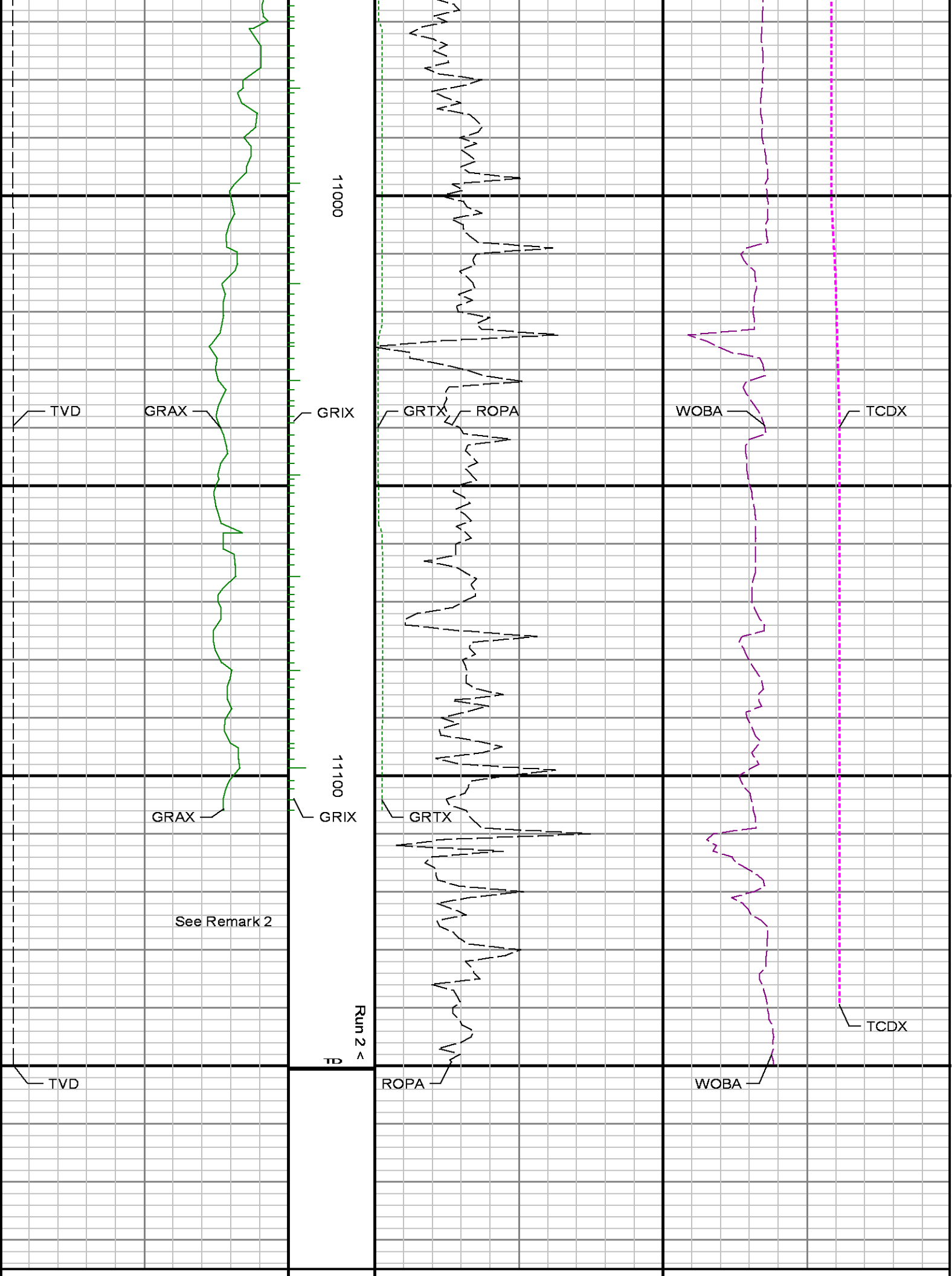


10600

10700







Gamma Ray Apparent 0.5 ft Avg GRAX	MD feet 1:240	Gamma Ray Time Since Drilled GRTX	Surface Weight On Bit 1.0 ft Avg WOBA
0150		0600	0100
API		min	klbf
True Vertical Depth TVD		Rate of Penetration 3.0 ft Avg ROPA	Downhole Temperature TCDX
66005600		6000	100300
ft		ft/hr	degF