



Realtime Log

Natural Formation Evaluation
Gamma Ray

Scale:

Company: Anadarko

Well: Berry Farms 31N-8HZ

Measured Depth 1:240
Field: Weld County (Kerr McGee)

Region: RMD Country: U.S.A.

Status: Final Print

API Number: 05-123-38895

Surface Location:

Latitude: 40° 14' 37.871" N

Longitude: 104° 54' 21.222" W

SEC: 8

TWN: 3N

RNG: 67W

Other Services:

Directional VSS

Elevations:

N/A

KB:

DF:

GL:

4833.00 ft.

4820.00 ft.

Permanent Datum (P.D.): Ground Level

Elevation:

4820.00 ft.

KB:

DF:

GL:

4833.00 ft.

4820.00 ft.

Log Measured From: Rig Floor

Elevation:

13.00 ft.

KB:

DF:

GL:

4833.00 ft.

4820.00 ft.

Depth Reference: Driller's Depth

Elevation:

13.00 ft.

KB:

DF:

GL:

4833.00 ft.

4820.00 ft.

Interval Logged

Dates

Magnetic Field Reference

Top: 6346.0 ft. Date From: 24 May 2014 Date To: 28 May 2014 Dip Angle: 66.83° Azi Reference North: True

Bottom: 11697.0 ft. Date To: 28 May 2014 Total

Spud Date: 22 May 2014

Field Strength: 52550.0 nT

North Correction: 8.55°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
12.250 in.	0.0 ft.	840.0 ft.	9.625 in.	36.00 lb/ft	0.0 ft.	838.0 ft.
8.750 in.	840.0 ft.	7350.0 ft.	7.000 in.	26.00 lb/ft	0.0 ft.	7325.0 ft.
6.125 in.	7350.0 ft.	11758.0 ft.				

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Water Based	0.0 ft.	7350.0 ft.	8.750 in.	45.0 ft.	0.7° / 255.2°	87.2° / 270.7°
Water Based	7350.0 ft.	11758.0 ft.	6.125 in.	90.0 ft.	87.2° / 270.7°	89.3° / 273.1°
					/	/
					/	/
					/	/
					/	/
					/	/

Acquisition System

Software Version

Other

Advantage	2.20U4	Rig / Contractor:	Ensign 145	/ Ensign Drilling
PAIS	6.4.1.34	Job No:	6329582	/ 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	1.000	Steerable	6346.0	6292.0	6346.0	7350.0	24 May 2014 04:52	25 May 2014 02:56	22
2	2	2	6.125	PDC	6.000	Steerable	6292.0	11697.0	7350.0	11758.0	26 May 2014 17:21	28 May 2014 14:17	44

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Michael Gurnsey	22 May 2014	29 May 2014	Nathan Leopold	22 May 2014	27 May 2014			
Alexander Janorschke	22 May 2014	29 May 2014	Jimmy Nguyen	22 May 2014	29 May 2014			
Jason Weltin	22 May 2014	29 May 2014	Jason Williams	27 May 2014	29 May 2014			

Mud Properties Record

Date / Time		LWD Run No.	Measured Depth (ft.)	Mud Type	Density (ppg)	Viscosity (cp)	pH	Fluid Loss (cc/30min)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
24 May 2014	22:00	1	7260.0	Water Based Mud	10.2	12	9.2	4.5	1/90	Suction	1,100	N/A
26 May 2014	22:30	2	7927.0	Water Based Mud	10.2	11	9.3	4.5	2/90	Suction	1,200	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	deg. F
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	11641825	Directional	60.21	6.750	2.625
1	SRIG	11892056	Gamma	56.83	6.750	2.625
2	DIR	12479858	Directional	67.01	4.750	2.688
2	SRIG	ZSGM5324	Gamma	63.63	6.750	2.625

Service and Tool Mnemonics

Mnemonic	Name	Description
DIR	Directional	Wellbore directional survey
SRIG	Inclination and Gamma	Probe based gamma ray and inclination module

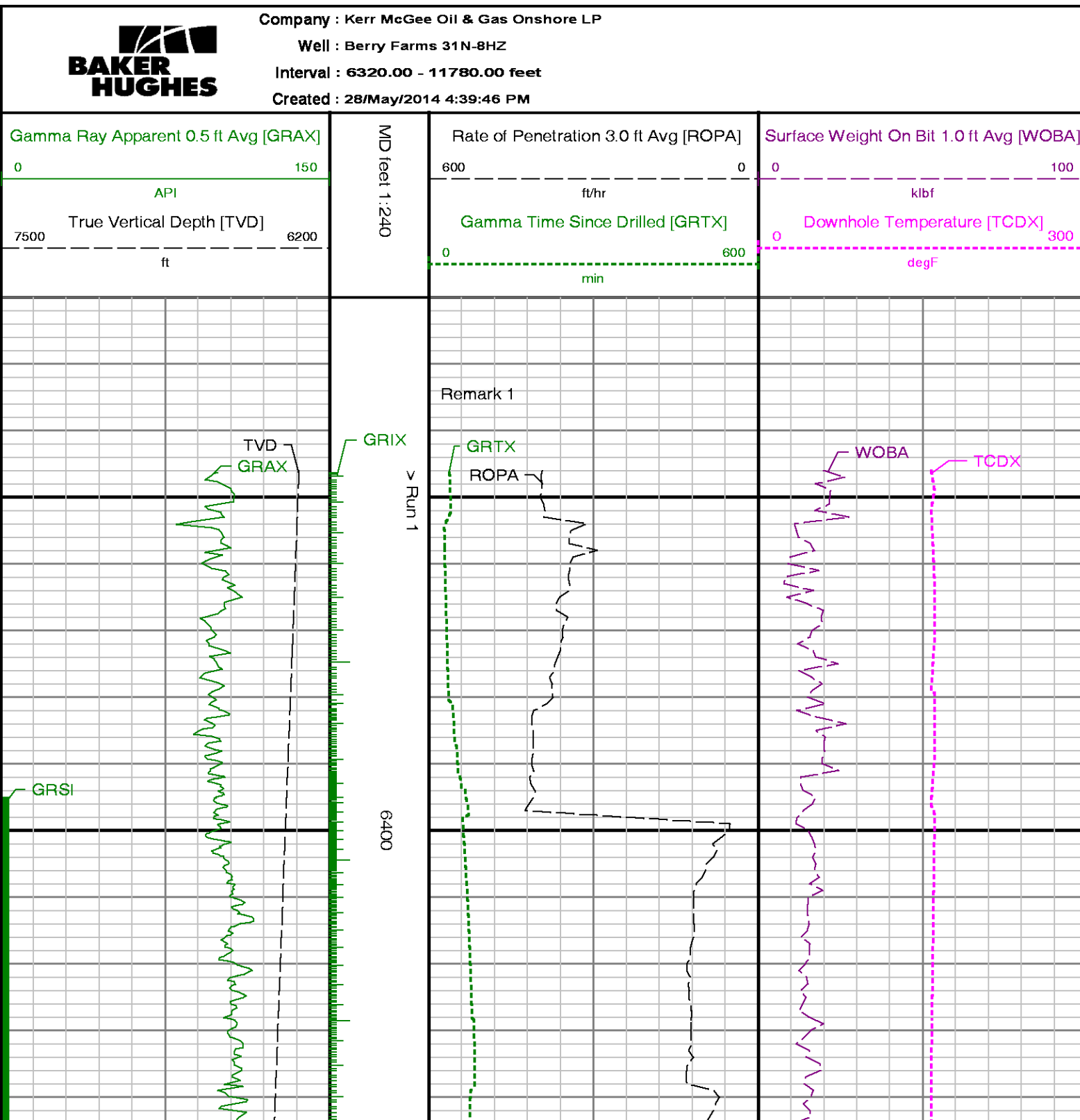
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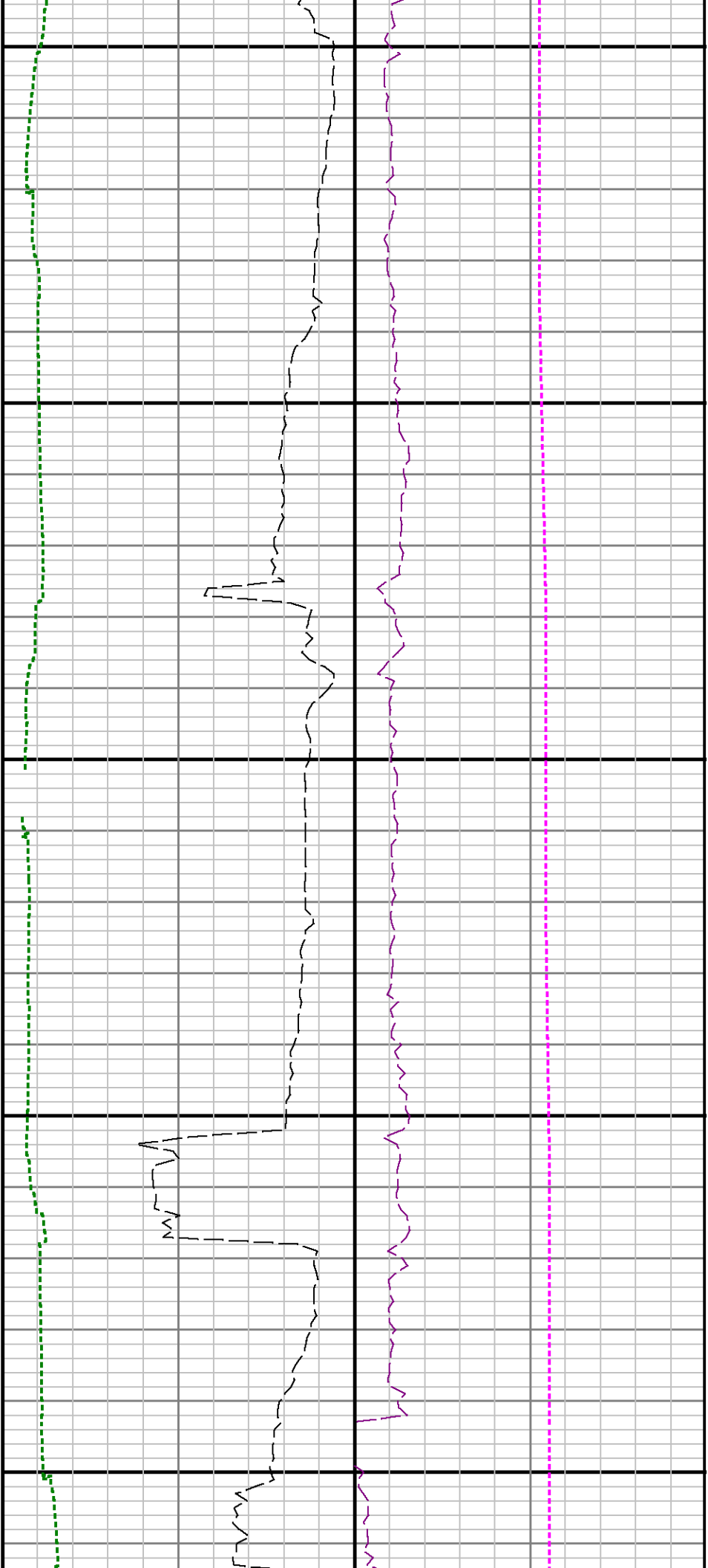
<p>1. Depth measurements were obtained from a depth tracking system not supplied or operated by Baker Hughes. Due to lack of control by Baker Hughes LWD logging engineers, depth calibrations could not be independently verified and the unverified depths as supplied to Baker Hughes are being used to present logging data.</p> <p>2. Baker Hughes run 1 utalized a 6.75 inch NaviGamma (Gamma Ray and Directional) tool behind a 8.75 inch bit and steerable assembly from 6346 feet to 7350 feet MD (6320 feet to 6938 feet TVD).</p> <p>3. Baker Hughes run 2 utalized a 4.75 inch NaviGamma (Gamma Ray and Directional) tool behind a 6.125 inch bit and steerable assembly from 7350 feet to 11758 feet MD (6938 feet to 6950 feet TVD).</p> <p>4. A sliding indicator is shown on the left side of track 1 as a heavy line. This indicator has been shifted to the gamma ray sensor offset to corrspond with gamma ray data aquired while sliding.</p>

Remarks

Number	Measured	Hole	LWD	Remark
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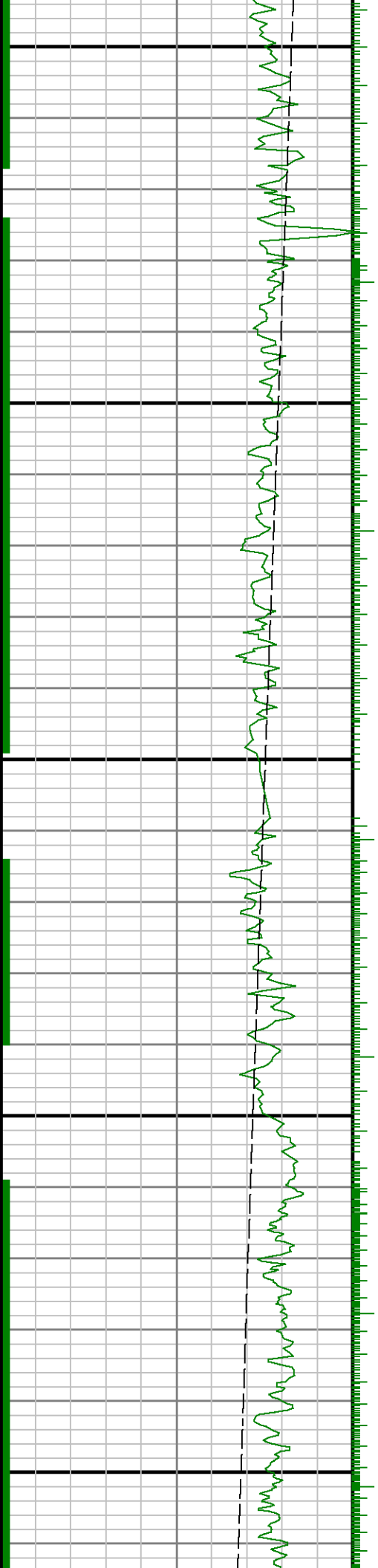
	Depth (ft.)	Section (in.)	Run No.	
1	6346	8.750	1	The interval from surface to 6343 feet MD (6317 feet TVD) was not logged since logging services began at kickoff point
2	7292	8.750	1	The interval from 7292 feet to 7350 feet MD (6938 feet to 6940 feet TVD) was logged up to 38 hours after being drilled due to tripping to run casing, cement and lateral assembly.
3	11697	6.125	2	The interval from 11697 feet to 11758 feet MD (6949 feet to 6950 feet TVD) was not logged due to offset to bit at TD.

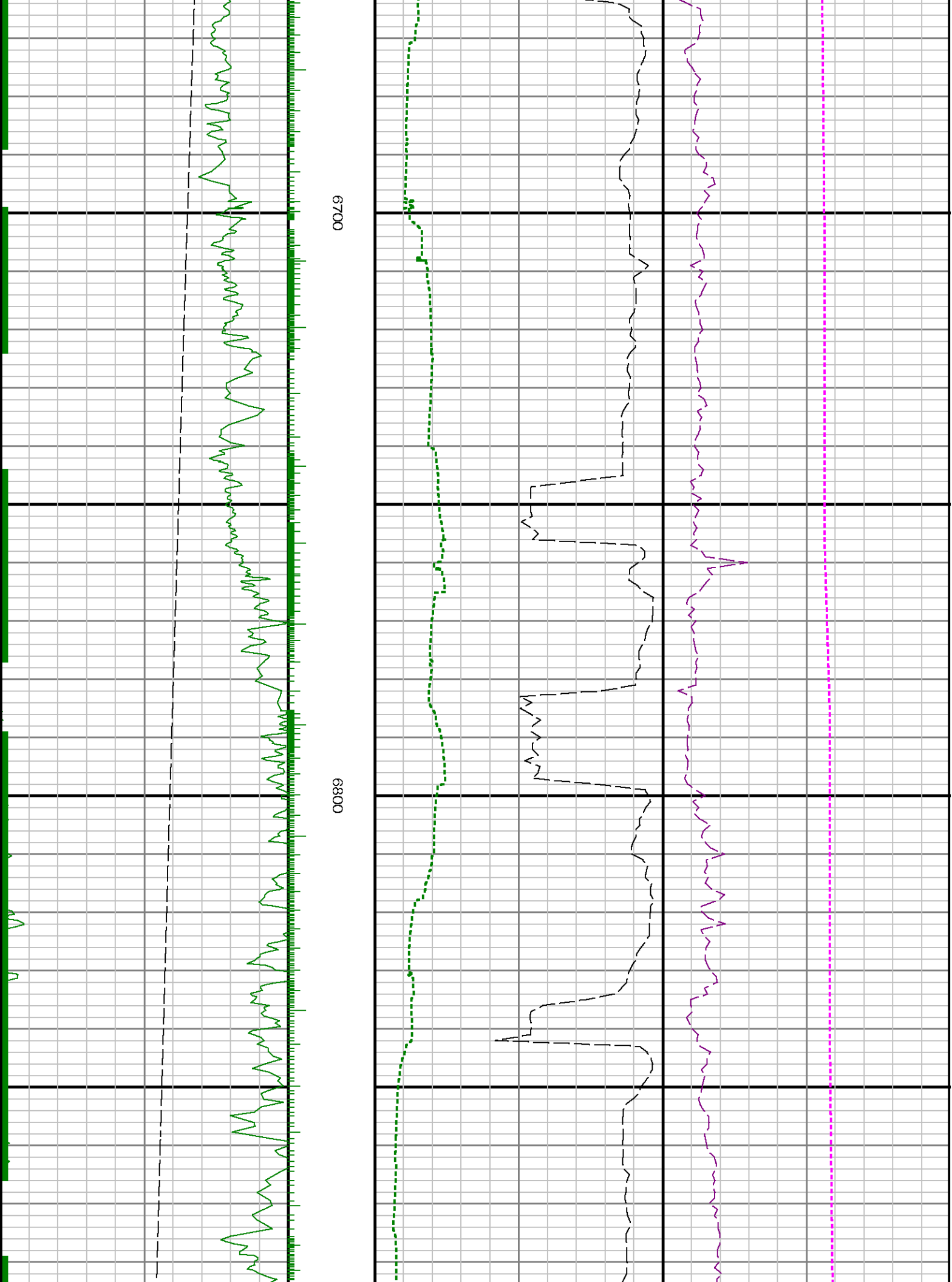


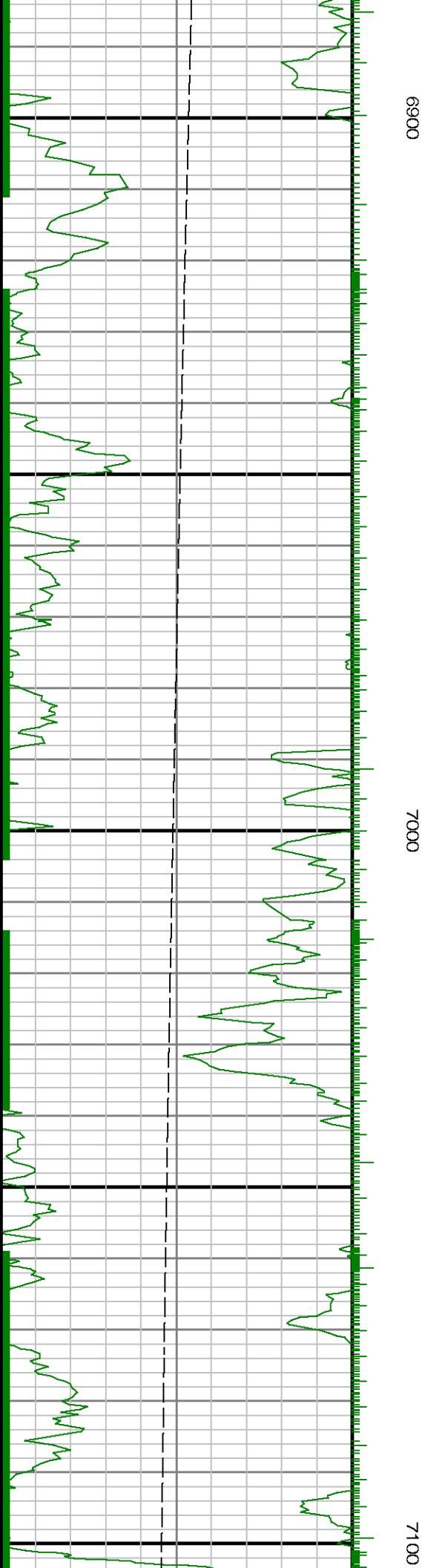
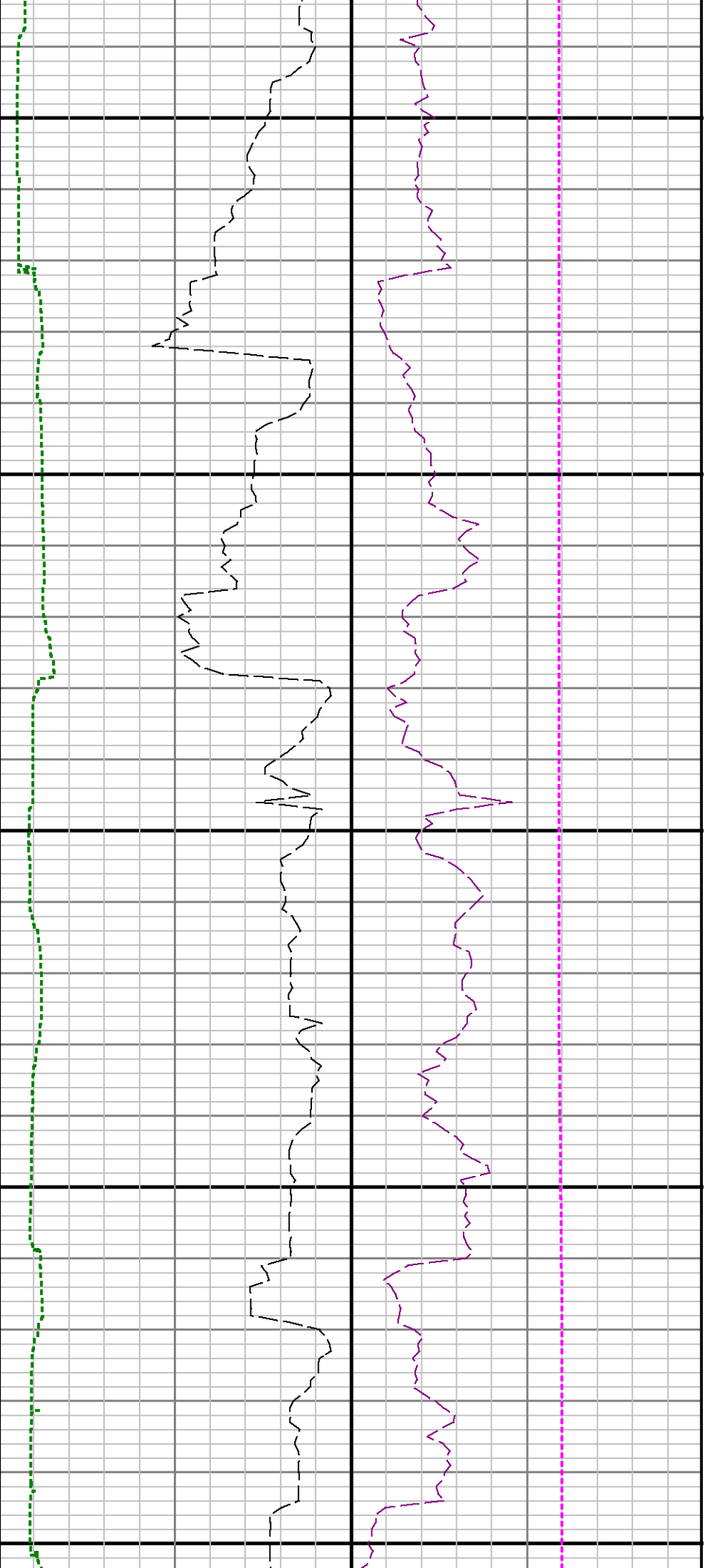


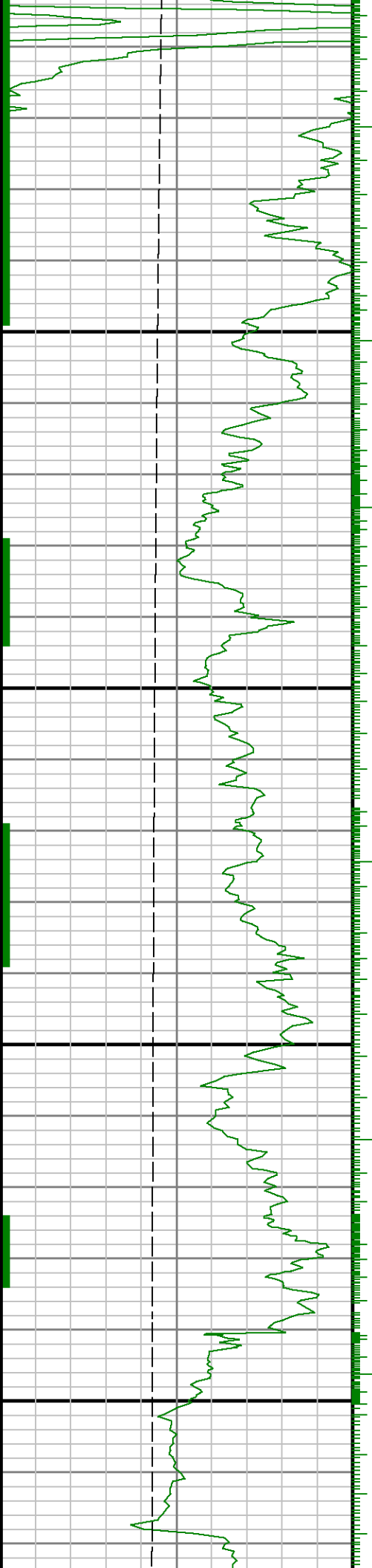
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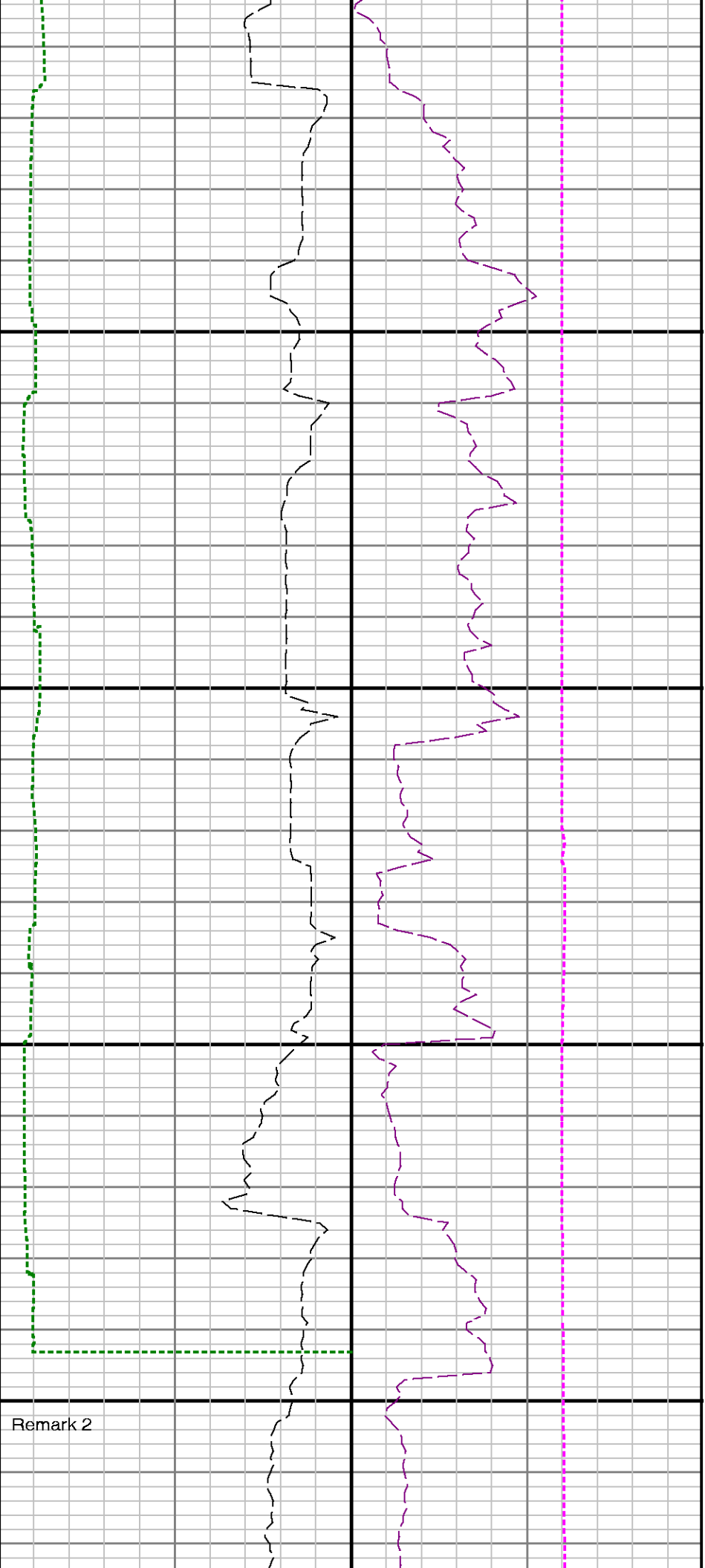




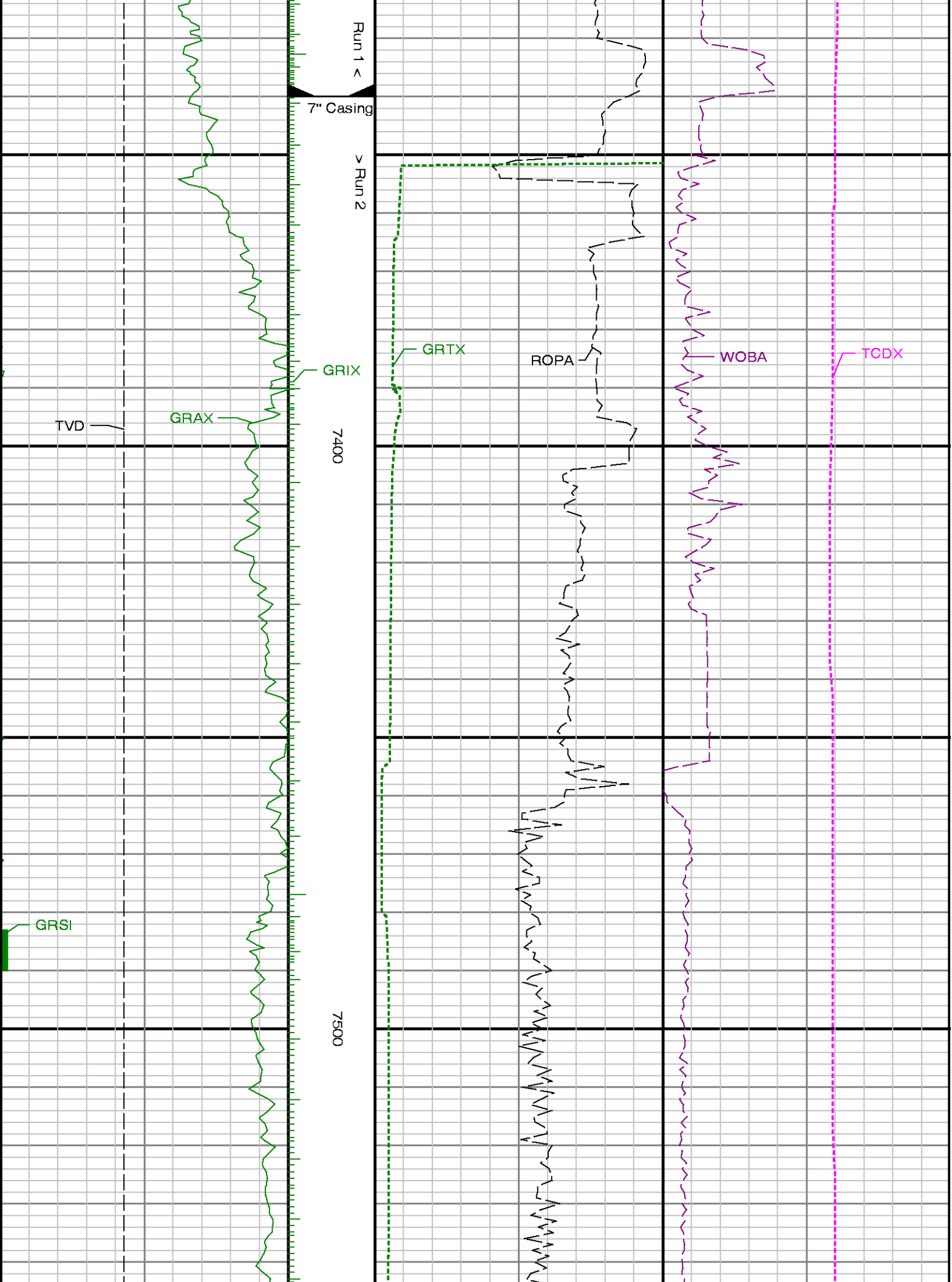


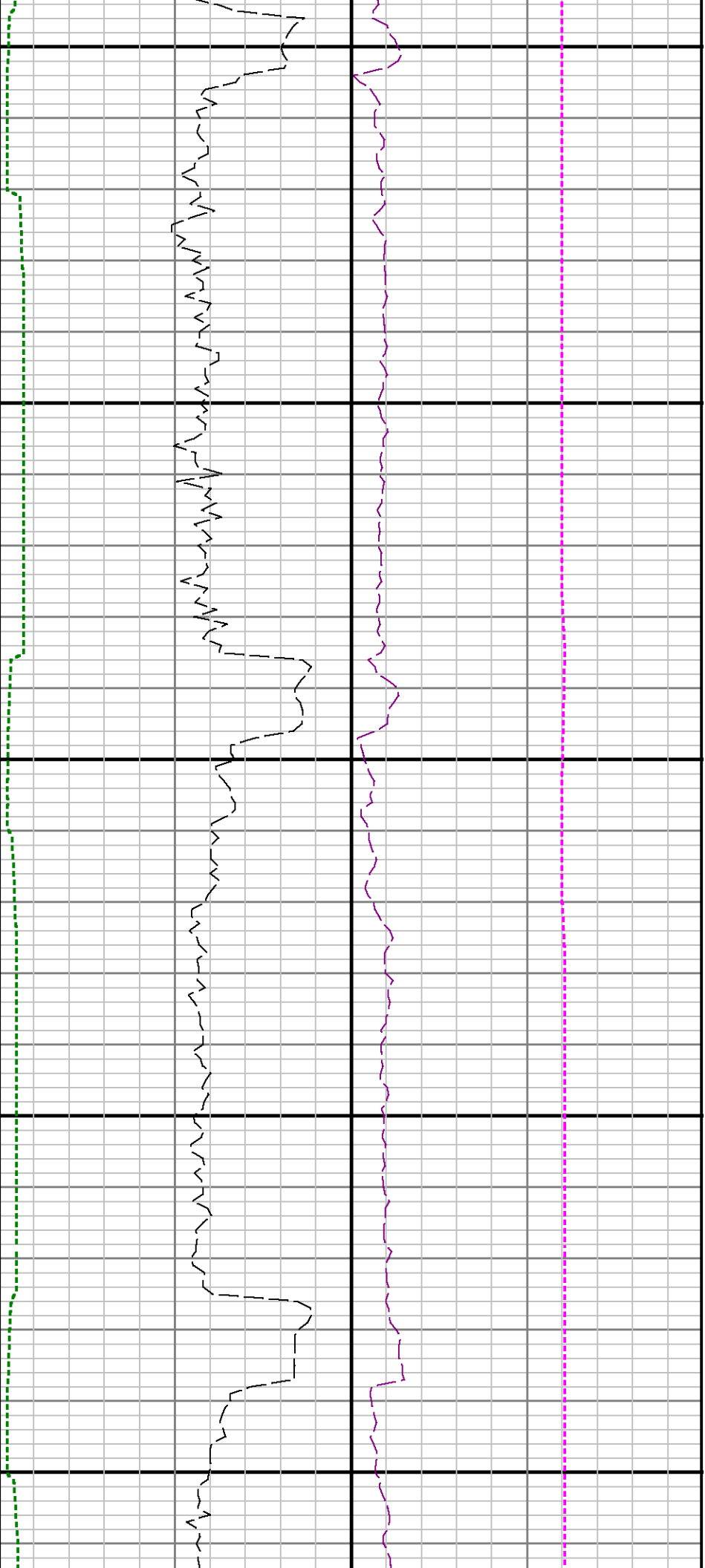
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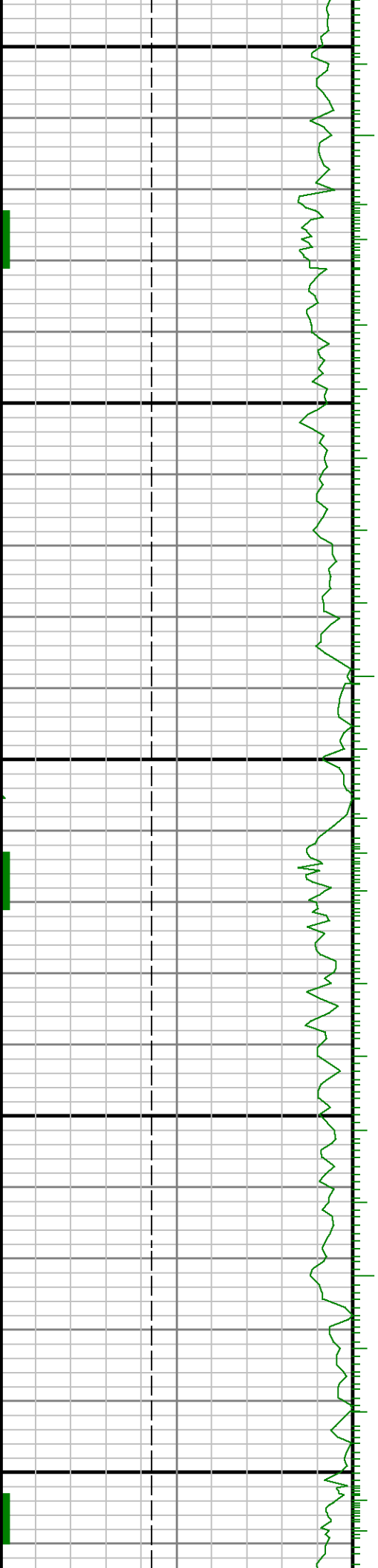
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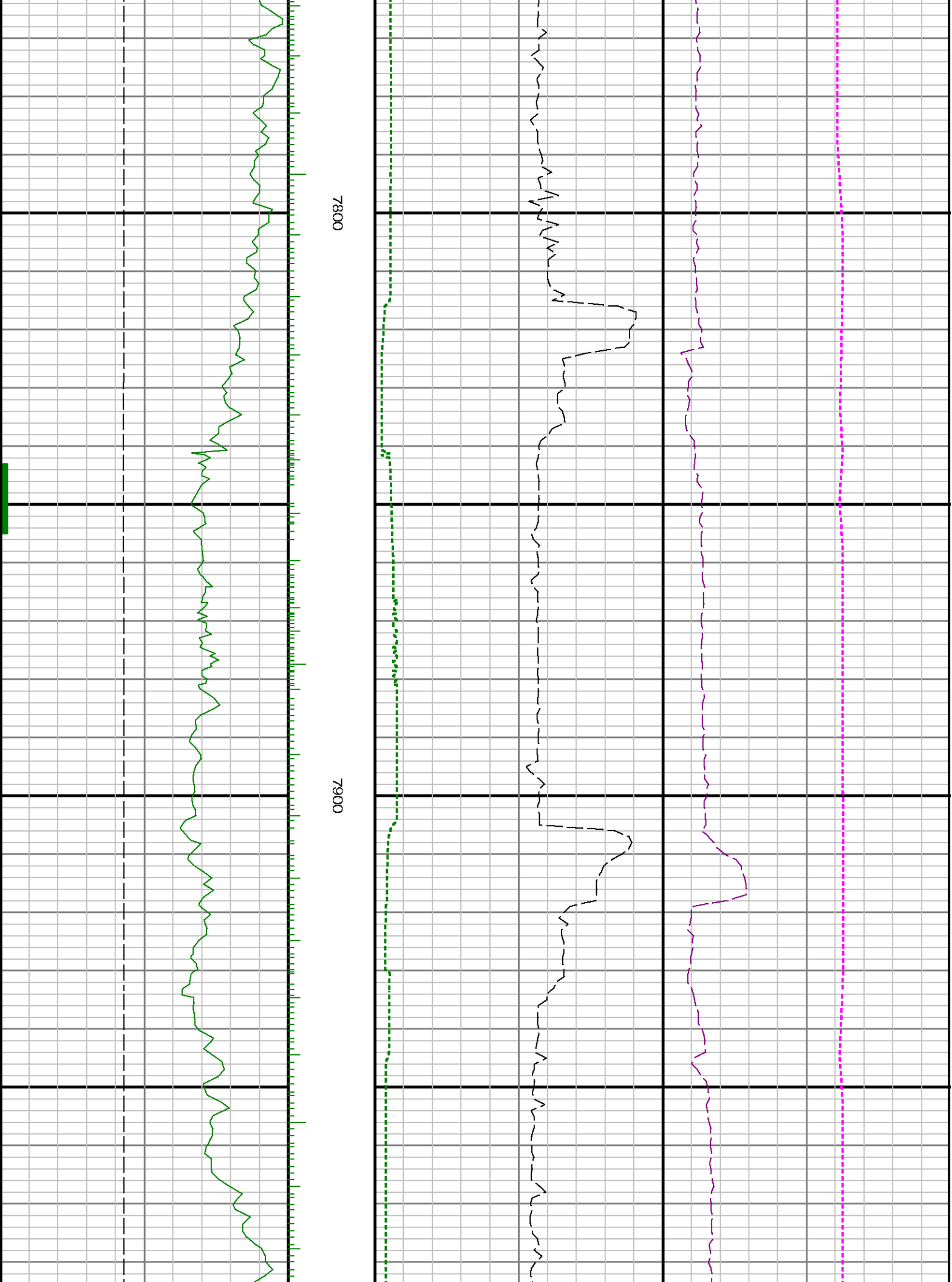


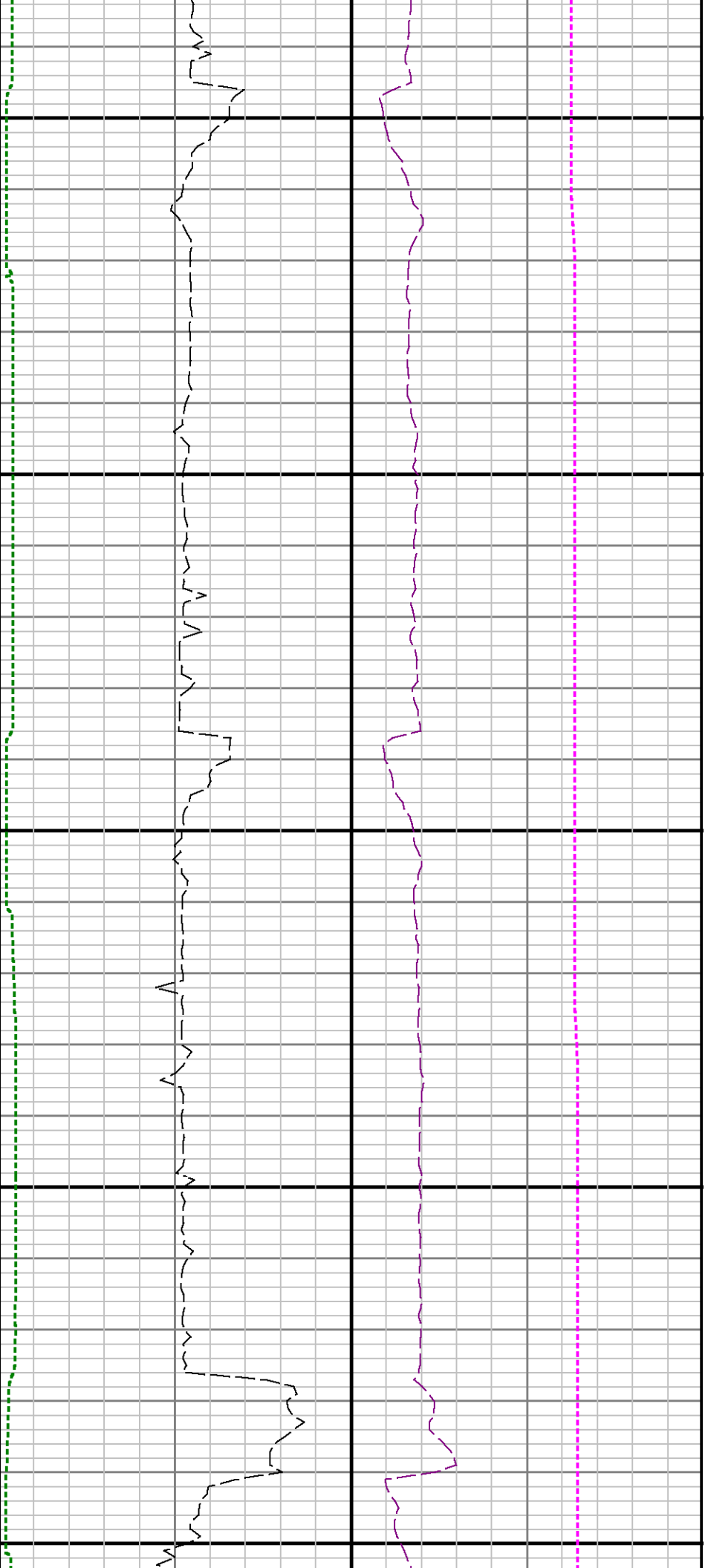


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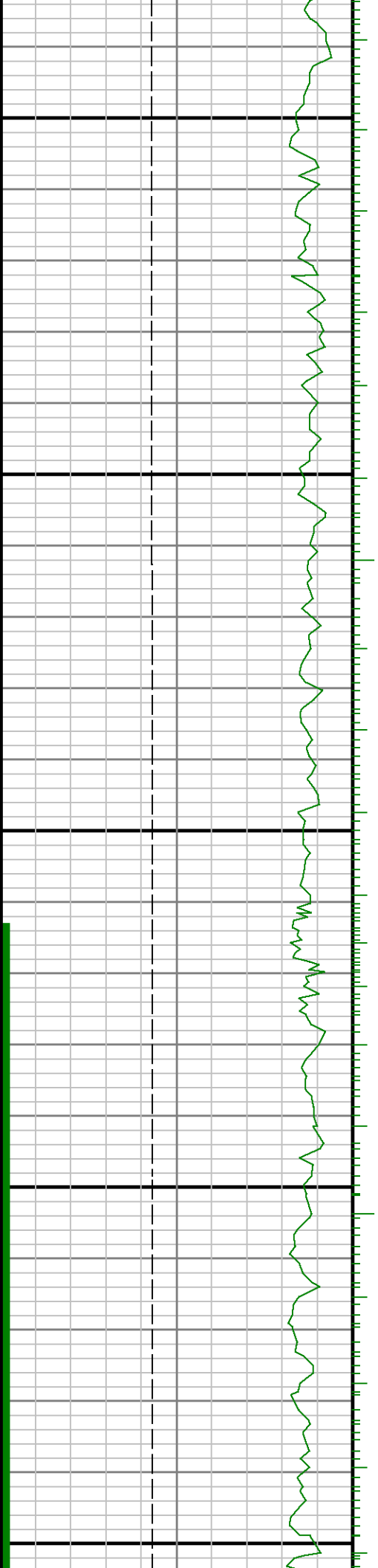


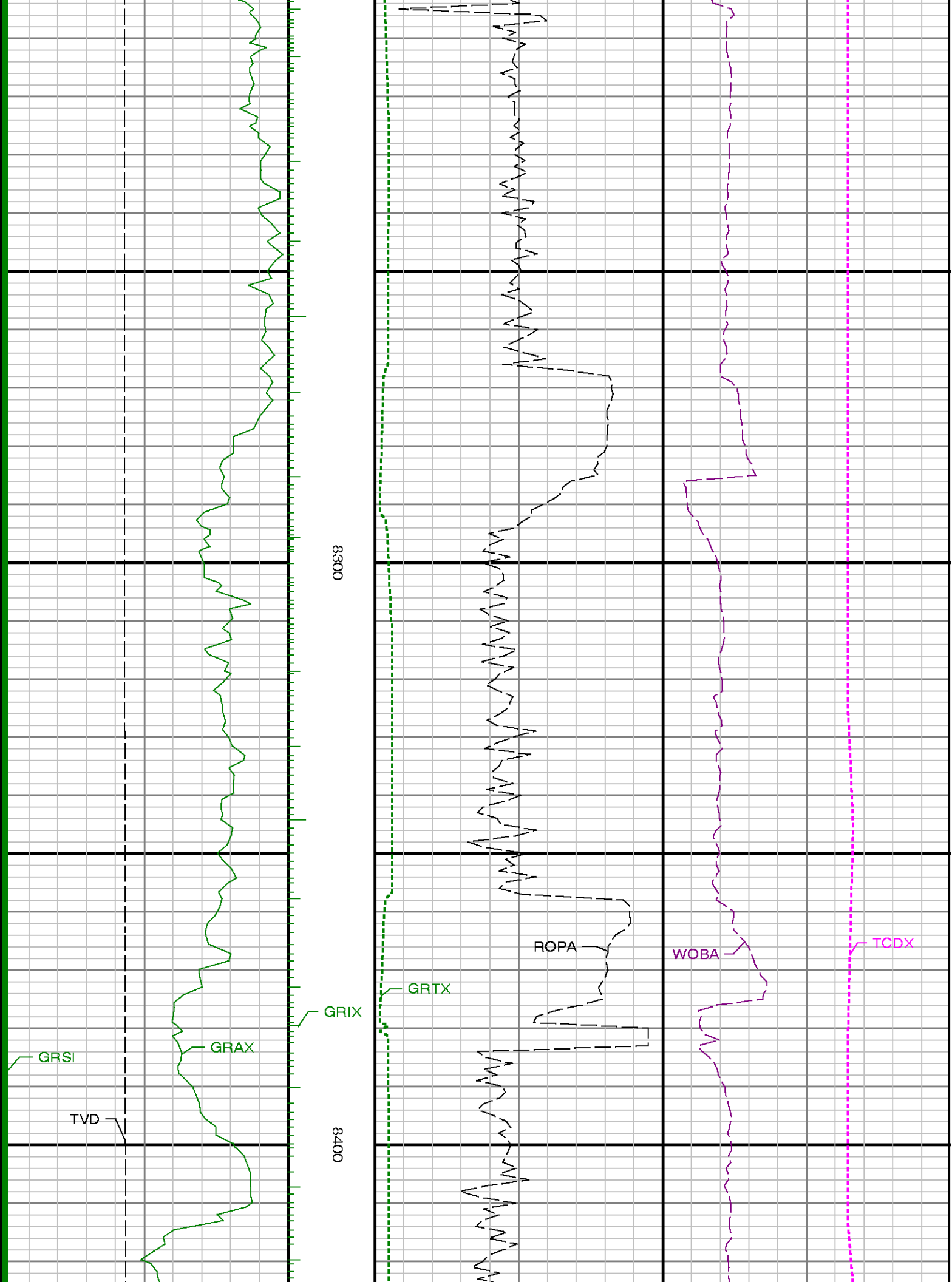


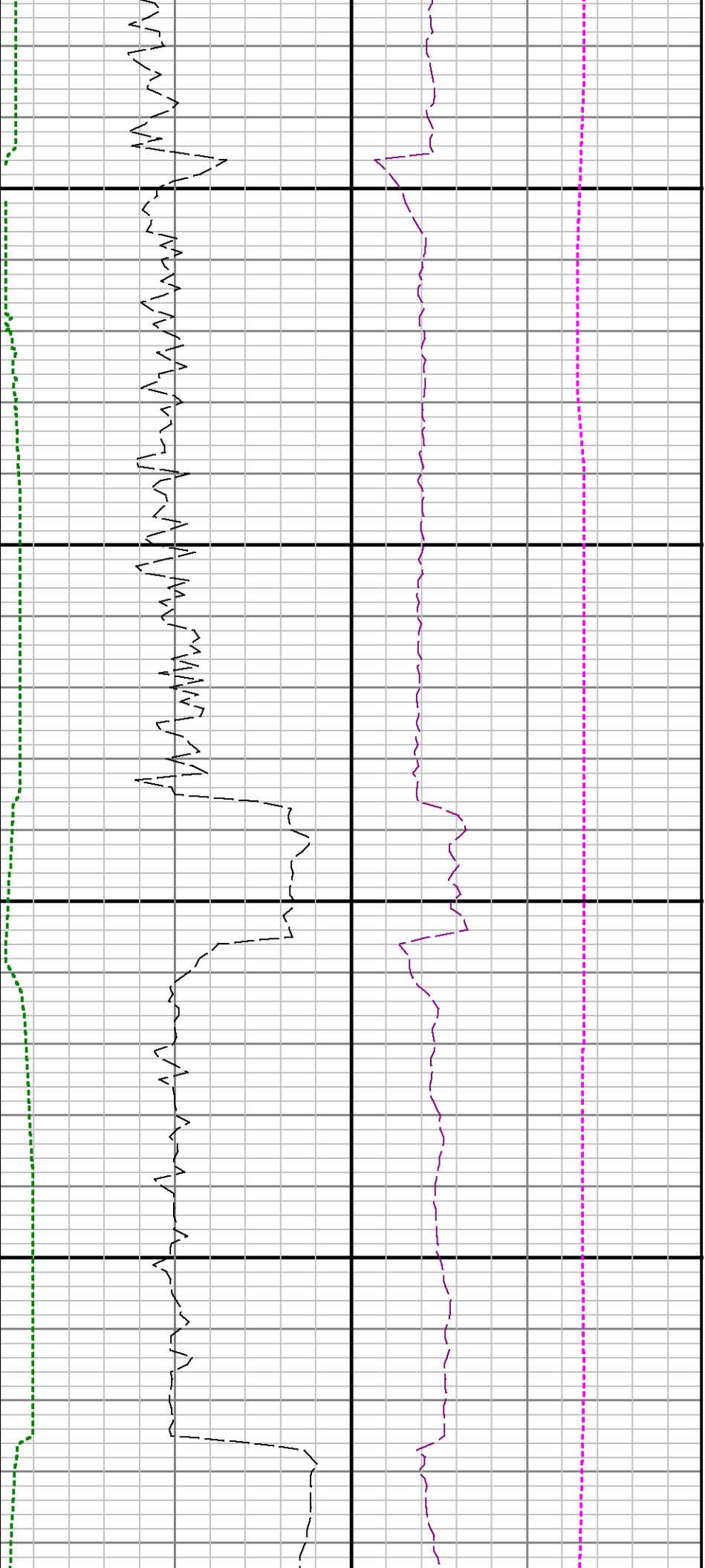
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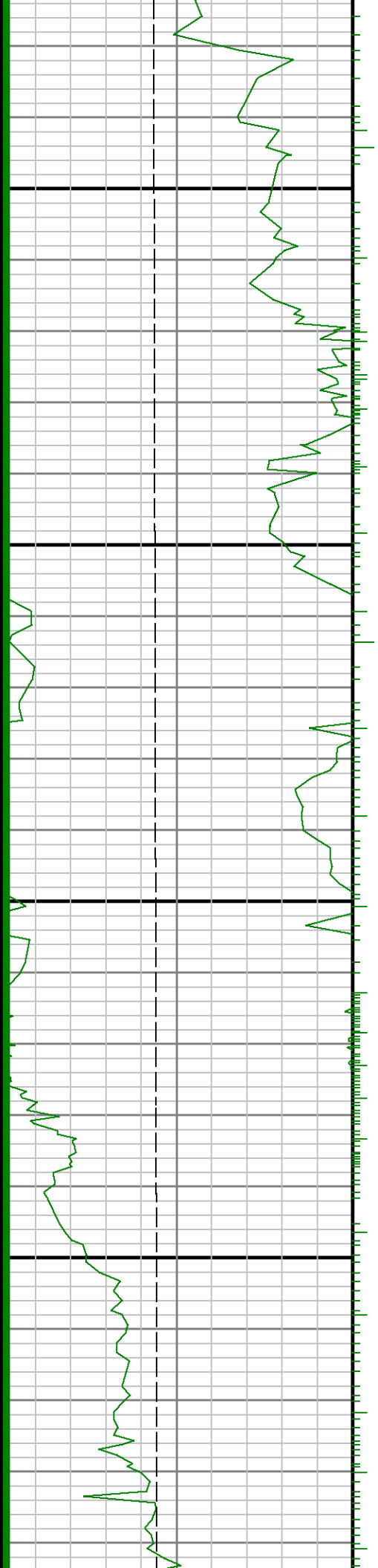


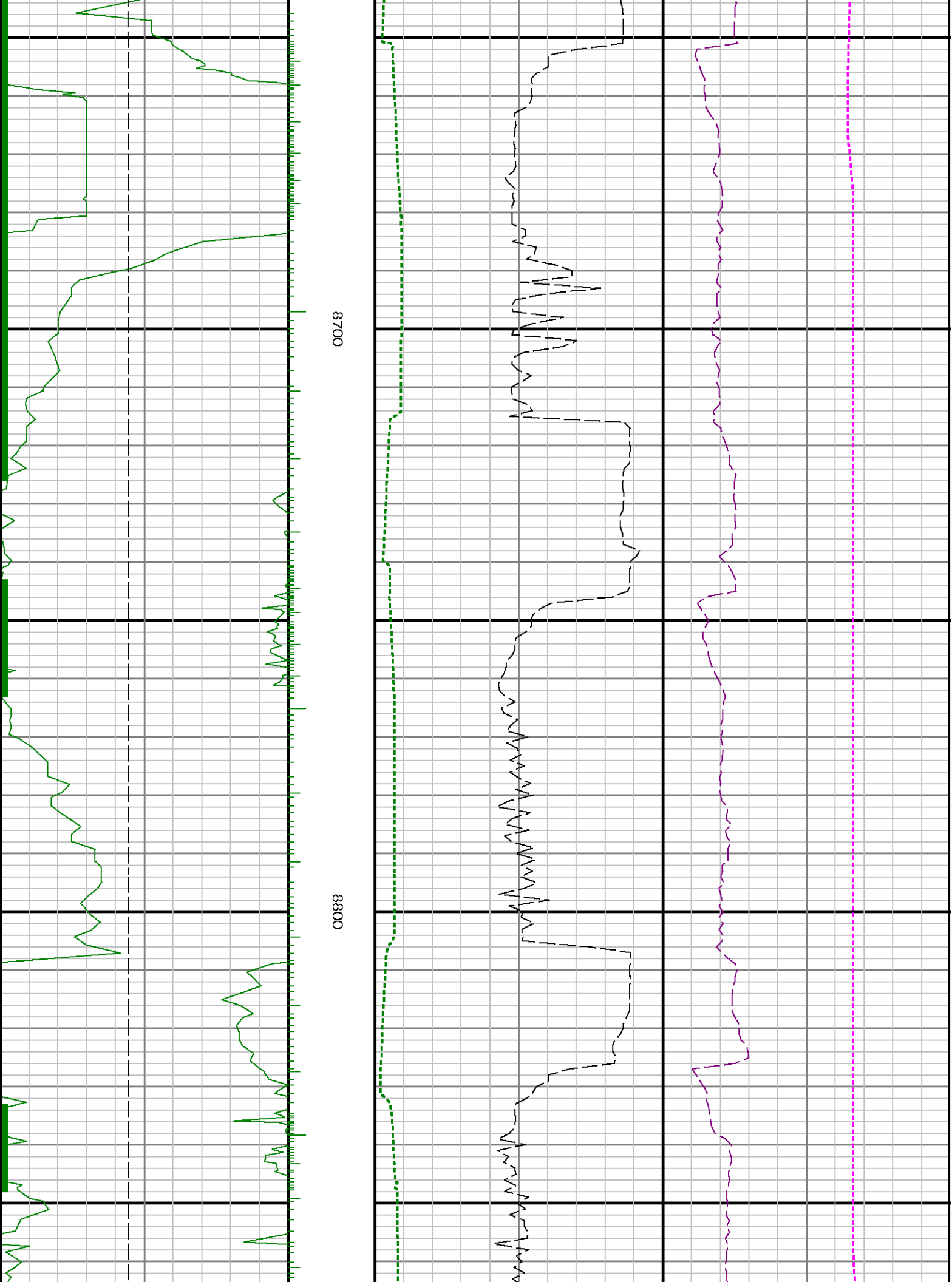


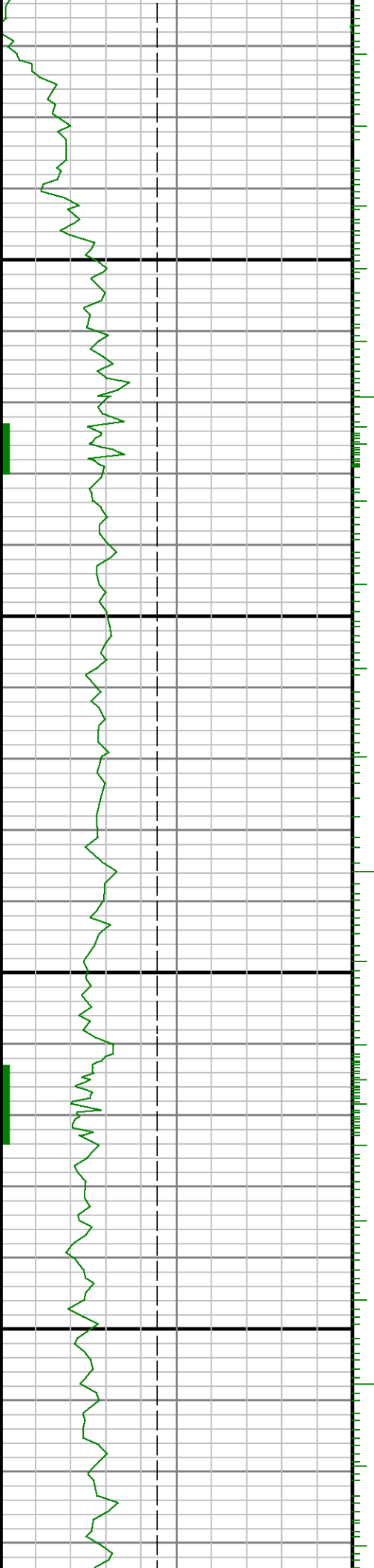


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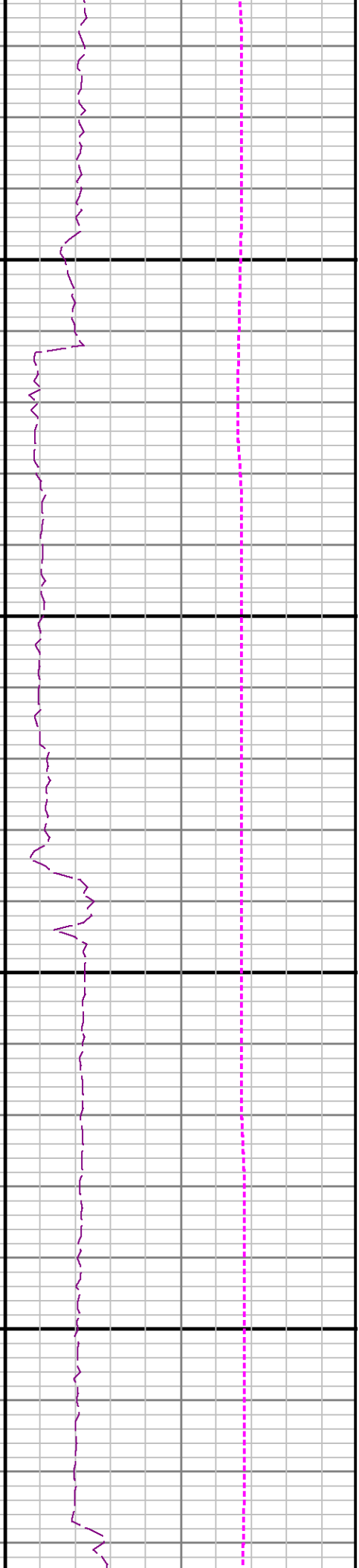
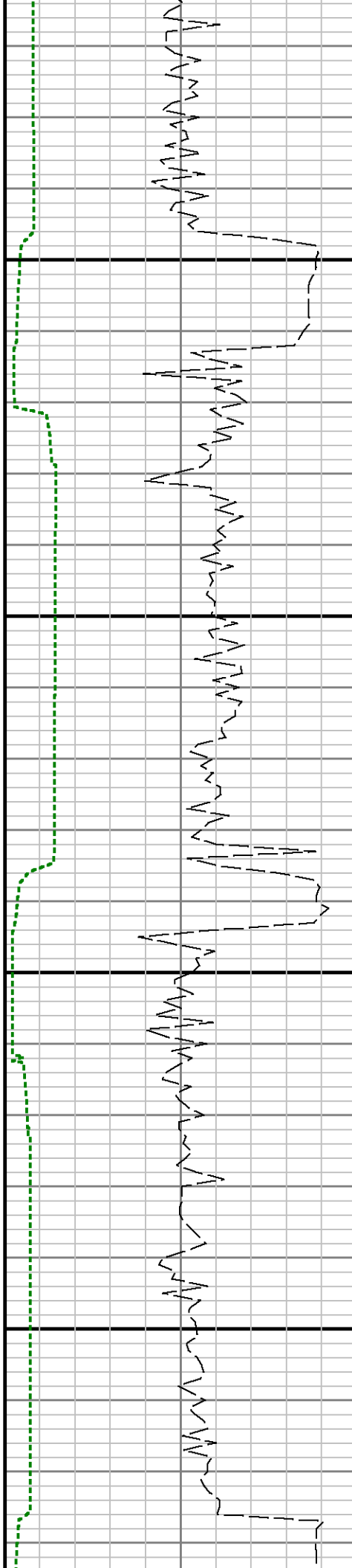


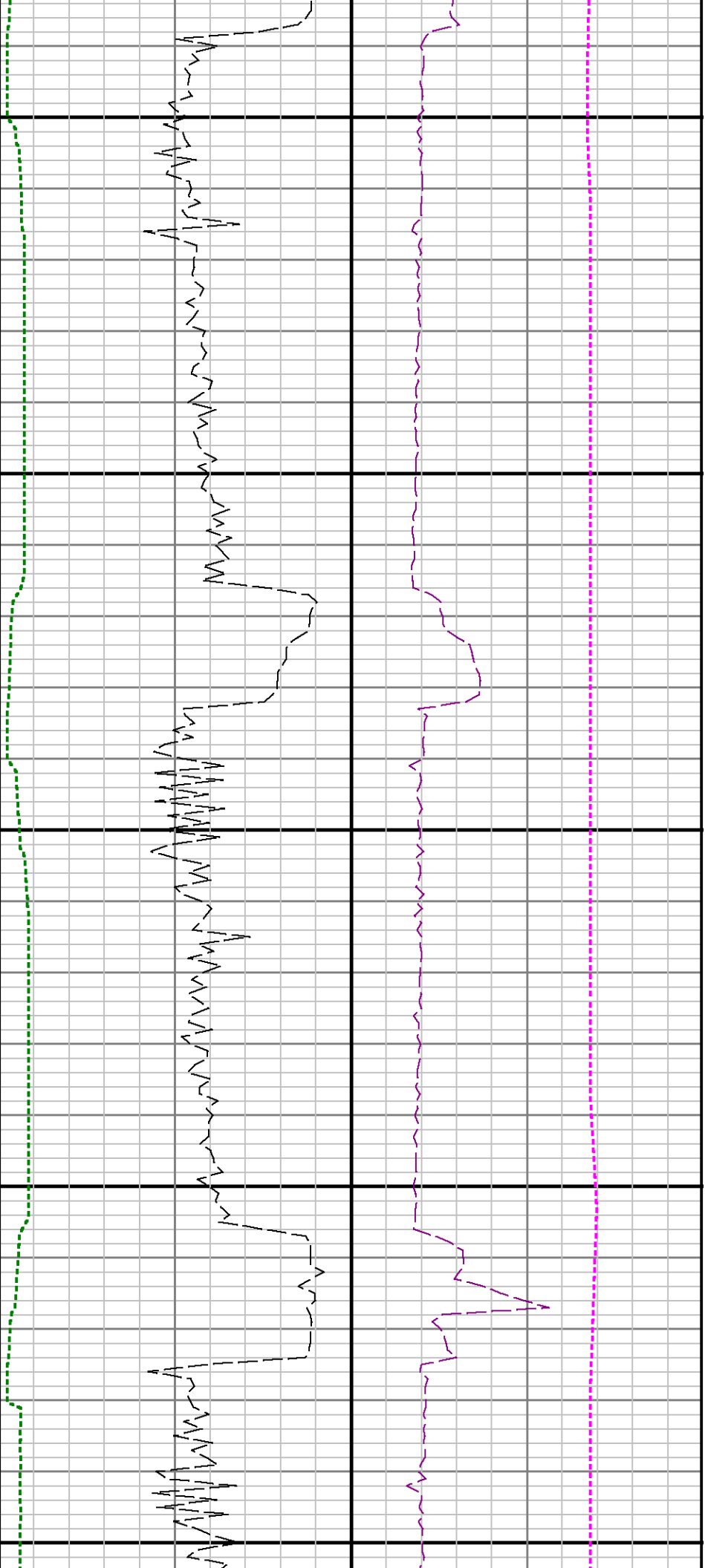




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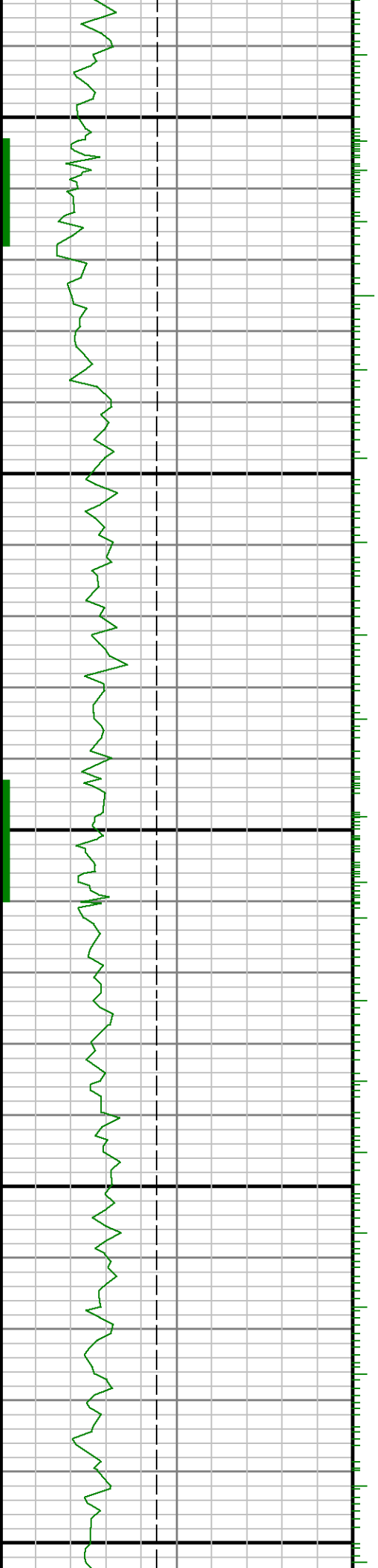


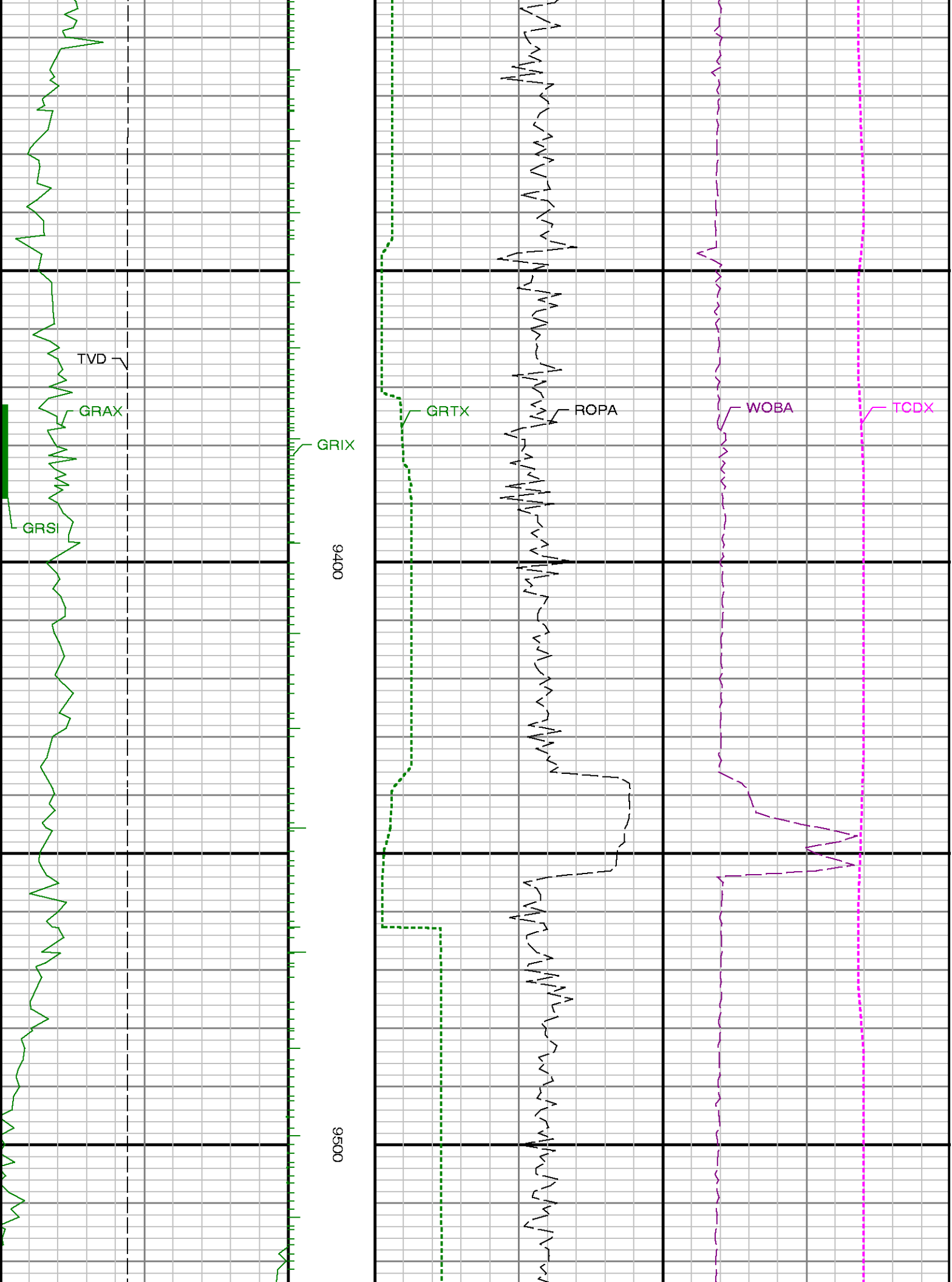


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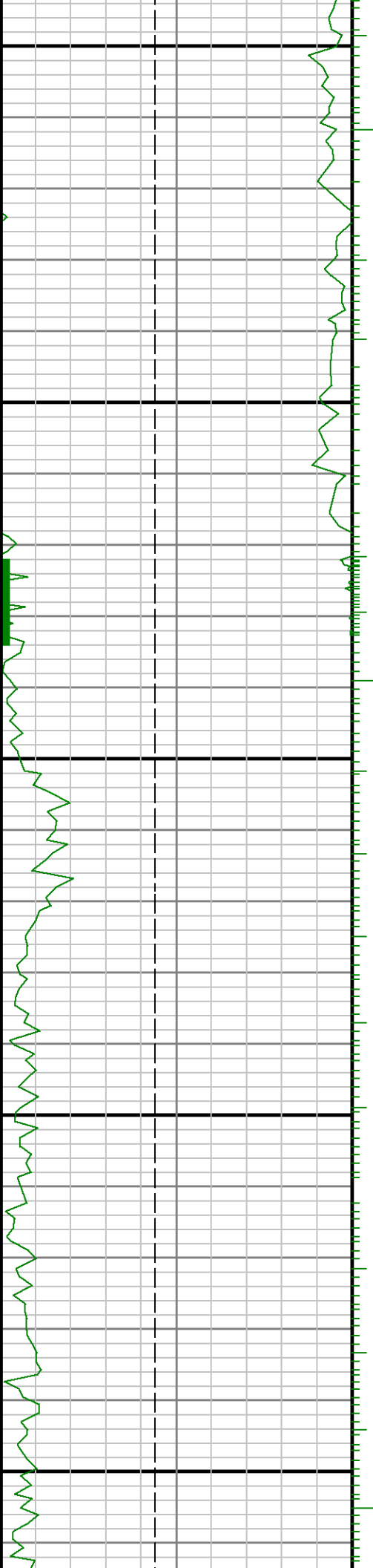
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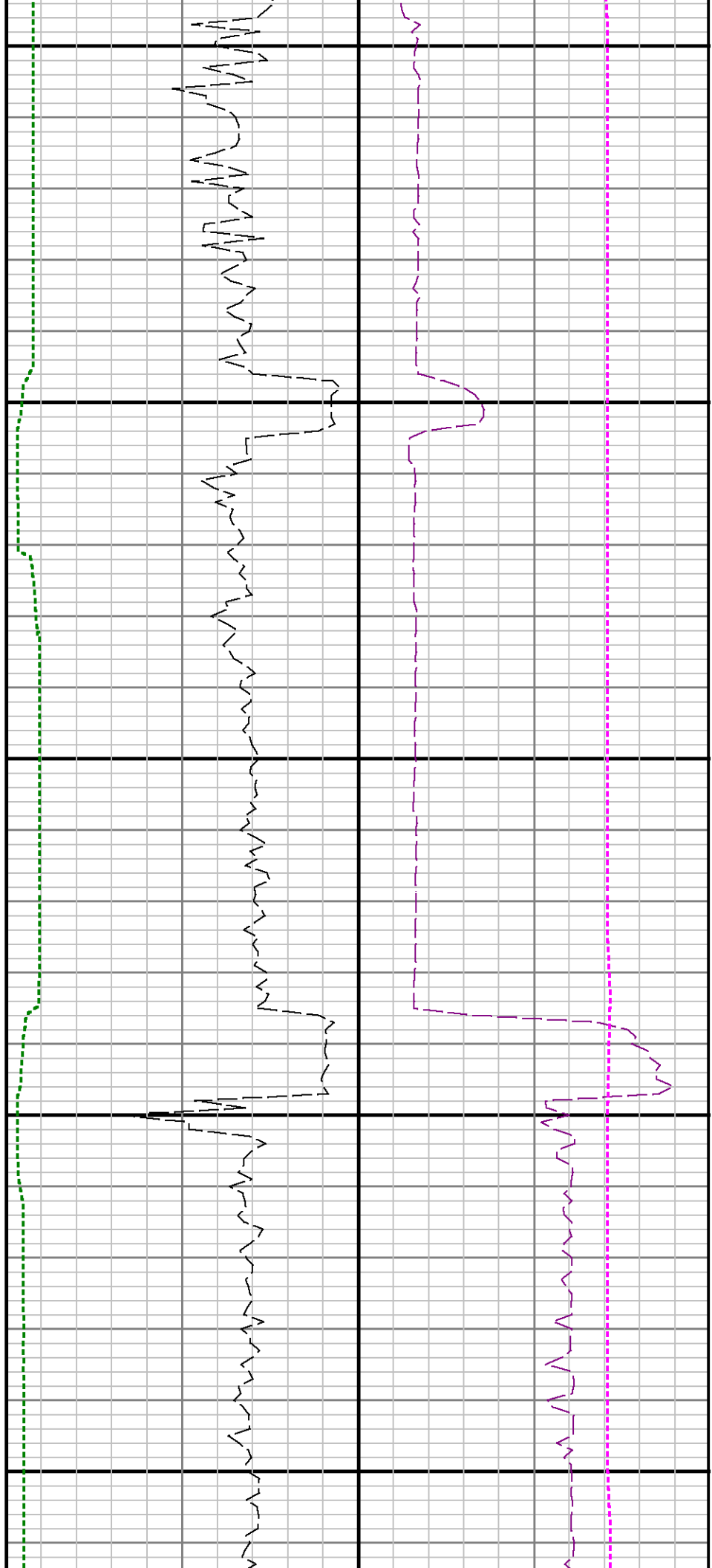


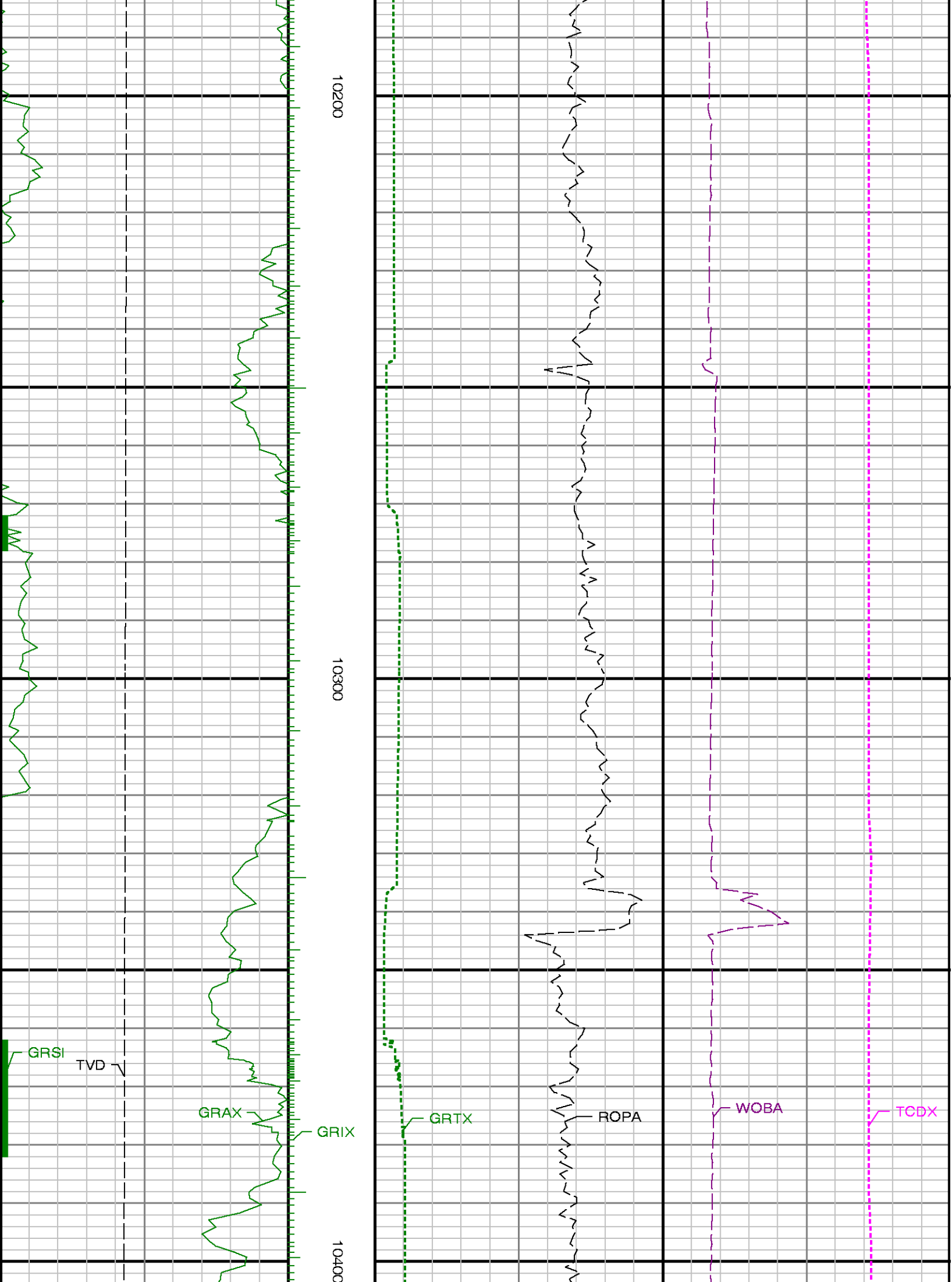


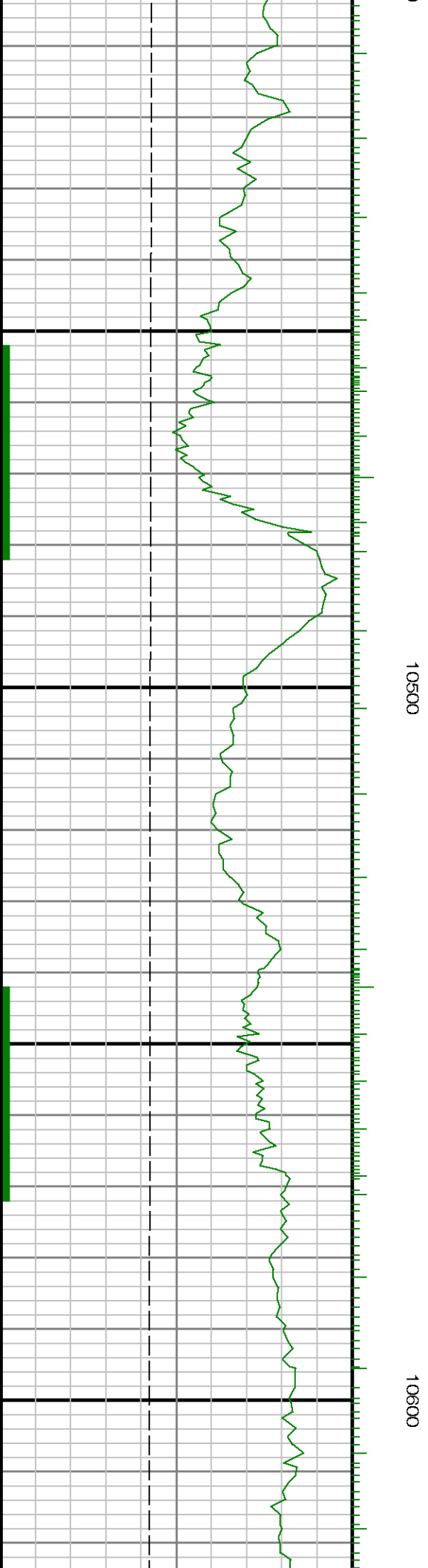
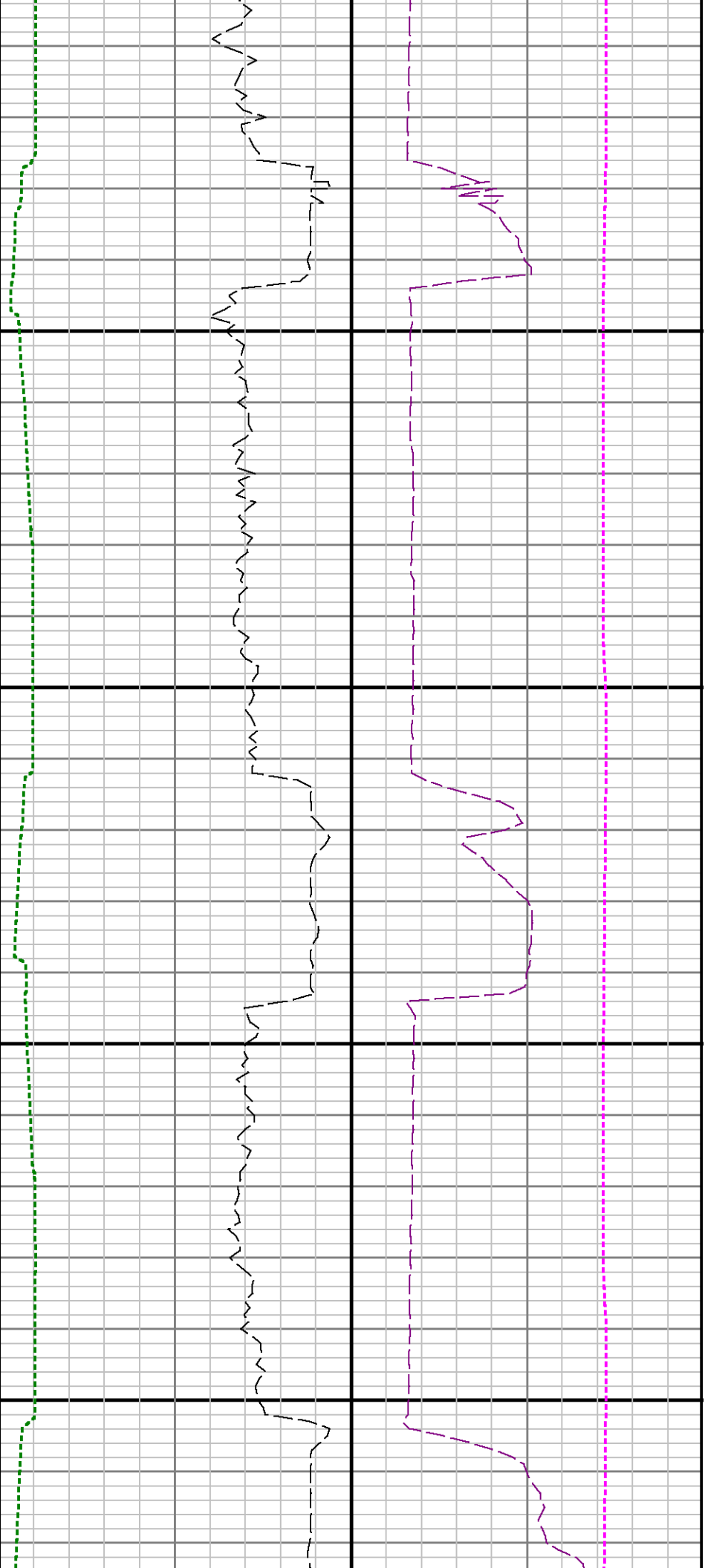


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