



Realtime Log

Natural Formation Evaluation
Gamma Ray

Scale:

Company: Anadarko

1:240

Well: Brotemarkle 3N-13HZ

Measured Depth

Field: Weld County (Kerr McGee)

County: Weld State: Colorado

Status:

Final Print

Surface Location:

Latitude: 40° 13' 7.972" N
Longitude: 104° 43' 38.737" W

Other Services:

API Number:
05-123-36399-00

SEC: 13 TWP: 3N RNG: 66W

Directional
VSS

Permanent Datum (P.D.): Ground Level

Elevation: 5032.00 ft.

Elevations: N/A

Log Measured From:

Rig Floor 5048.00 ft. Above P.D.

KB: N/A
DF: 5048.00 ft.
GL: 5032.00 ft.

Depth Reference: Driller's Depth

Interval Logged

Dates

Magnetic Field Reference

Top: 6650 ft. Date From: 31/Mar/14 Date To: 06/Apr/14 Dip Angle: 66.85° Azl Reference North: True

Bottom: 11706 ft. Date To: 06/Apr/14 Total Mag to Reference

Spud Date: 31/Mar/14 Field Strength: 52562.0 nT North Correction: 8.56°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
13.500 in.	0 ft.	1312 ft.	9.625 in.	36.00 lb/ft	Surface	1300 ft.
8.750 in.	1312 ft.	7605 ft.	7.000 in.	26.00 lb/ft	Surface	7595 ft.
6.125 in.	7605 ft.	11753 ft.				

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Fresh Water	1312 ft.	11753 ft.	13.500 in.	1312 ft.	0.0° / 0.0°	0.6° / 357.3°
			8.750 in.	6293 ft.	0.2° / 284.3°	81.0° / 359.9°
			6.125 in.	4148 ft.	81.0° / 359.9°	90.3° / 2.4°
					/	/
					/	/
					/	/
					/	/

Acquisition System Software Version

Other

Advantage	2.20U4	Rig:	Xtreme 6	/ Xtreme Coil Drilling Corp
PAITS	6.4.1.34	Job No:	6262207	
		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		
							(ft.)	(ft.)	(ft.)	(ft.)					
1	1	2	8.750	PDC	6.000	Steerable	6650	7564	1312	7605	31/Mar/2014 20:00	2/Apr/2014 22:19		39.5	
2	2	3	6.125	PDC	2.000	Steerable	NA	NA	7605	8135	4/Apr/2014 18:53	4/Apr/2014 23:00		5.5	
3	3	3RR	6.125	PDC	2.000	Steerable	8086	11706	8135	11753	5/Apr/2014 11:39	6/Apr/2014 10:07		14.5	

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Matthew Delmore	31/Mar/2014	3/Apr/2014	Stephen Gray	31/Mar/2014	5/Apr/2014	Nathan Leopold	3/Apr/2014	6/Apr/2014
David Campbell	5/Apr/2014	6/Apr/2014						

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	12617354	Directional	48.05	6.750	3.250
1	SRIG	12679499	Gamma	44.63	6.750	3.250
2	DIR	12546343	Directional	49.55	5.000	2.688
2	SRIG	10585205	Gamma	46.17	5.000	2.688
3	DIR	12592568	Directional	49.74	5.000	2.688
3	SRIG	12613300	Gamma	46.36	5.000	2.688

Service and Tool Mnemonics

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

Comments

1.) Baker Hughes LWD run 1 utilized 6 3/4 inch NaviGamma Services (Gamma Ray and Directional) to drill from 1312 to 7605 ft. MD (1312 to 7238 ft. TVD) behind a steerable assembly and an 8 3/4 inch bit.
2.) Baker Hughes LWD runs 2 and 3 utilized 4 3/4 inch NaviGamma Services (Directional and Gamma Ray) to drill the horizontal section from 7605 to 11753 ft. MD behind a steerable assembly and a 6 1/8 inch bit.
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.
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.

Remarks

Number	Measured Depth (ft)	Hole Section (in.)	LWD Run No.	Remark
1	7570	6.125	2	The interval from 7564 to 8086 feet MD was not logged due to a gamma sensor malfunction.
2	8090	6.125	3	The interval from 8086 to 8136 feet MD was logged up to 12.6 hours after being drilled due to a trip to replace the MWD tool.

3

11710

6.125

3

The interval from 11706 to 11753 feet MD has no formation evaluation data due to sensor to bit offset at TD.



Company : Anadarko

Well : Brotemarkle 3N-13HZ

Interval : 6640.00 - 11760.00 feet

Created : 06/Apr/2014 10:10:19 AM

Gamma Ray Apparent 0.5 ft Avg GRAX

0 150

API

True Vertical Depth TVD

7500 6500

ft

MD feet 1:240

Rate of Penetration 3.0 ft Avg ROP_AVG

500 0

ft/hr

Gamma Time Since Drilled GRTX

0 600

min

Surface Weight On Bit 1.0 ft Avg WOB_AVG

0 100

klbf

Downhole Temperature TCDX

100 300

degF

GRAX

TVD

GRIX

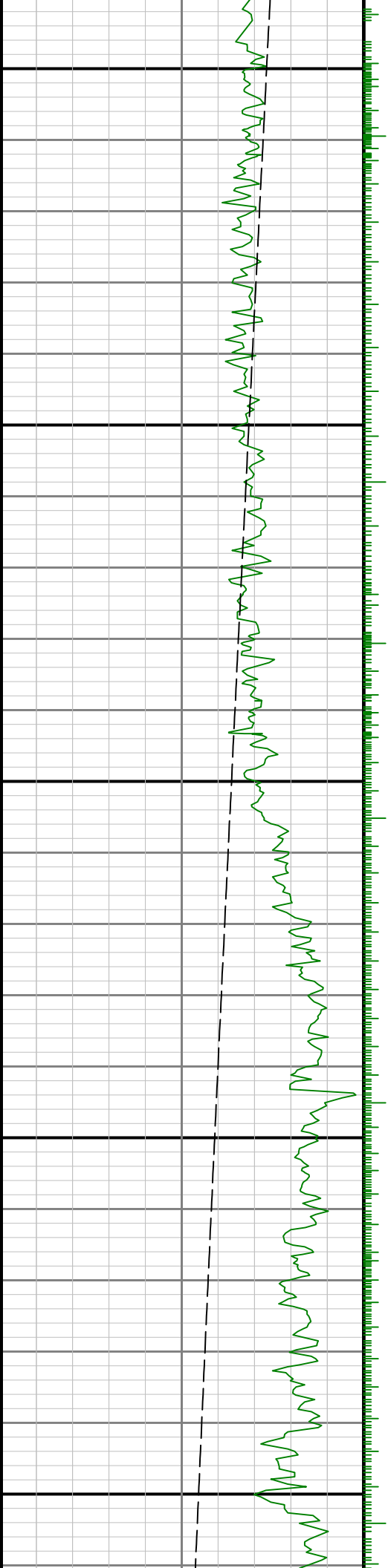
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GRTX

ROP_AVG

WOB_AVG

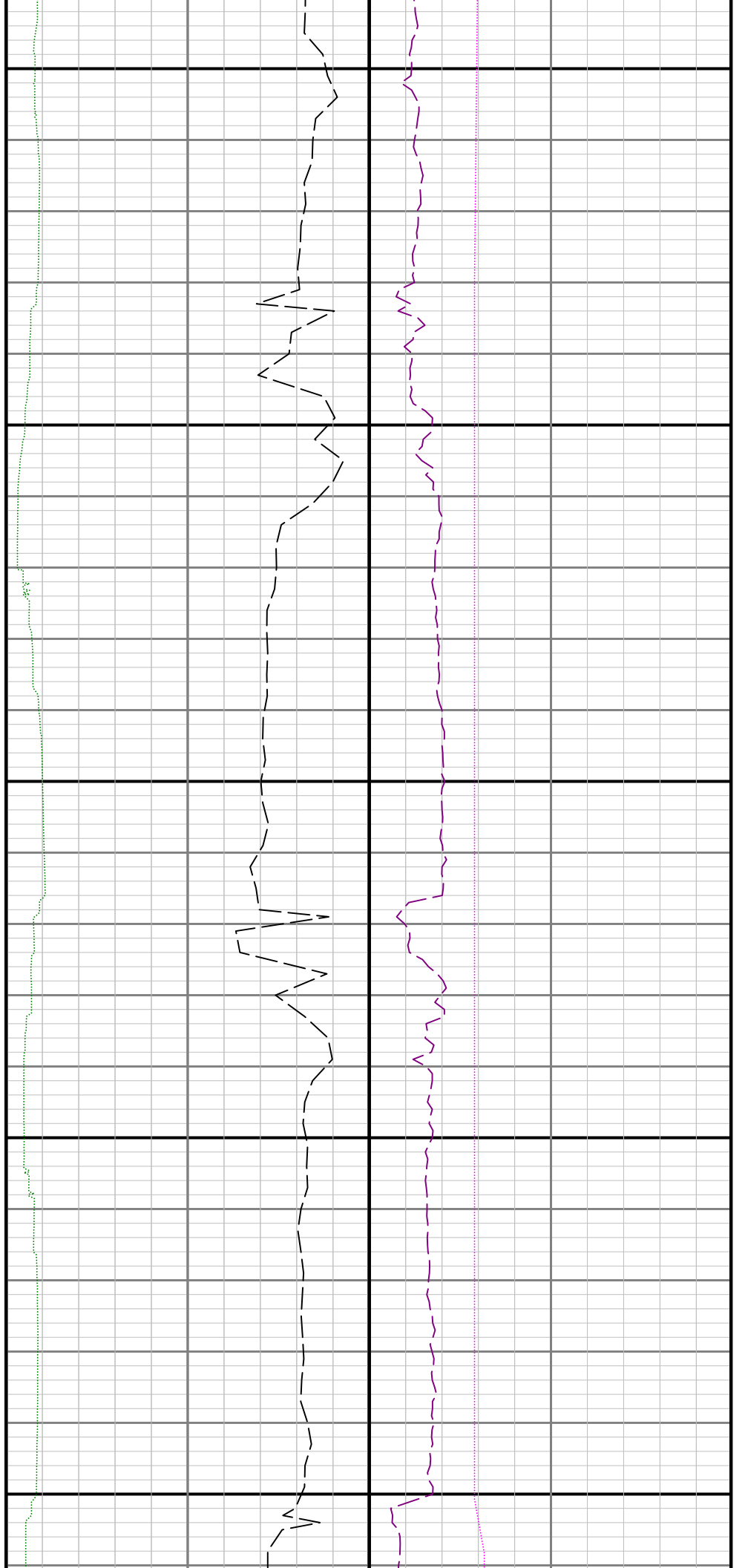
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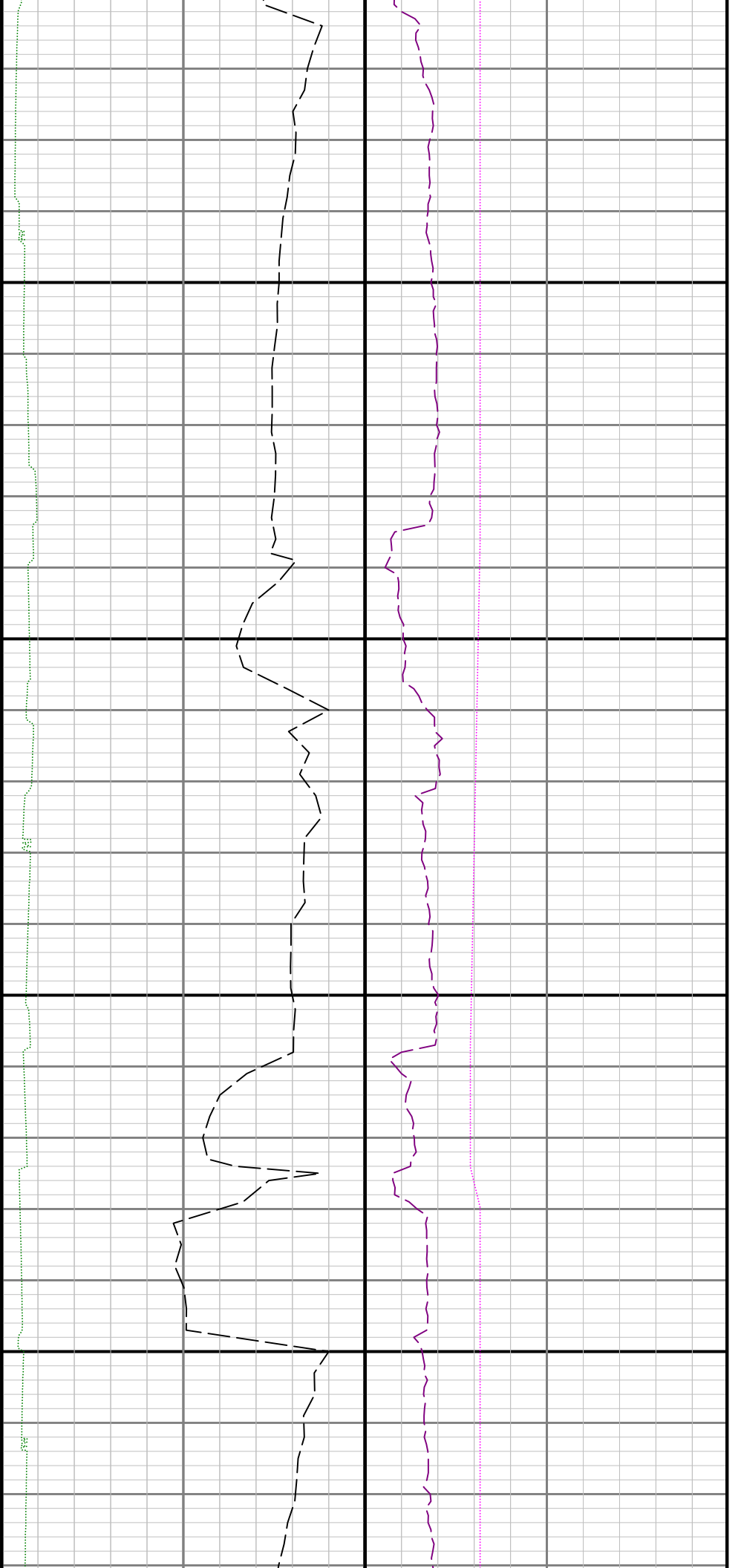


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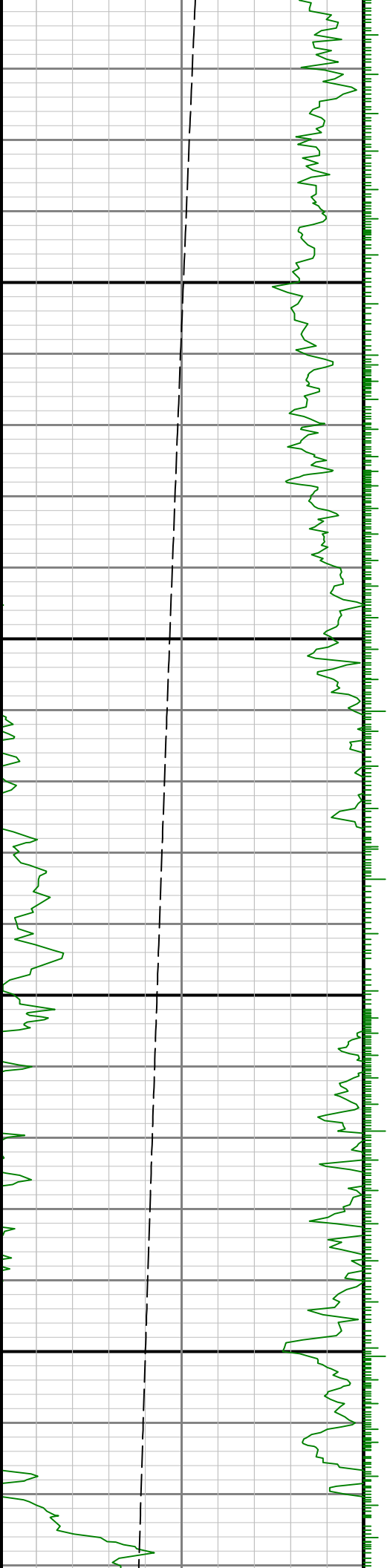
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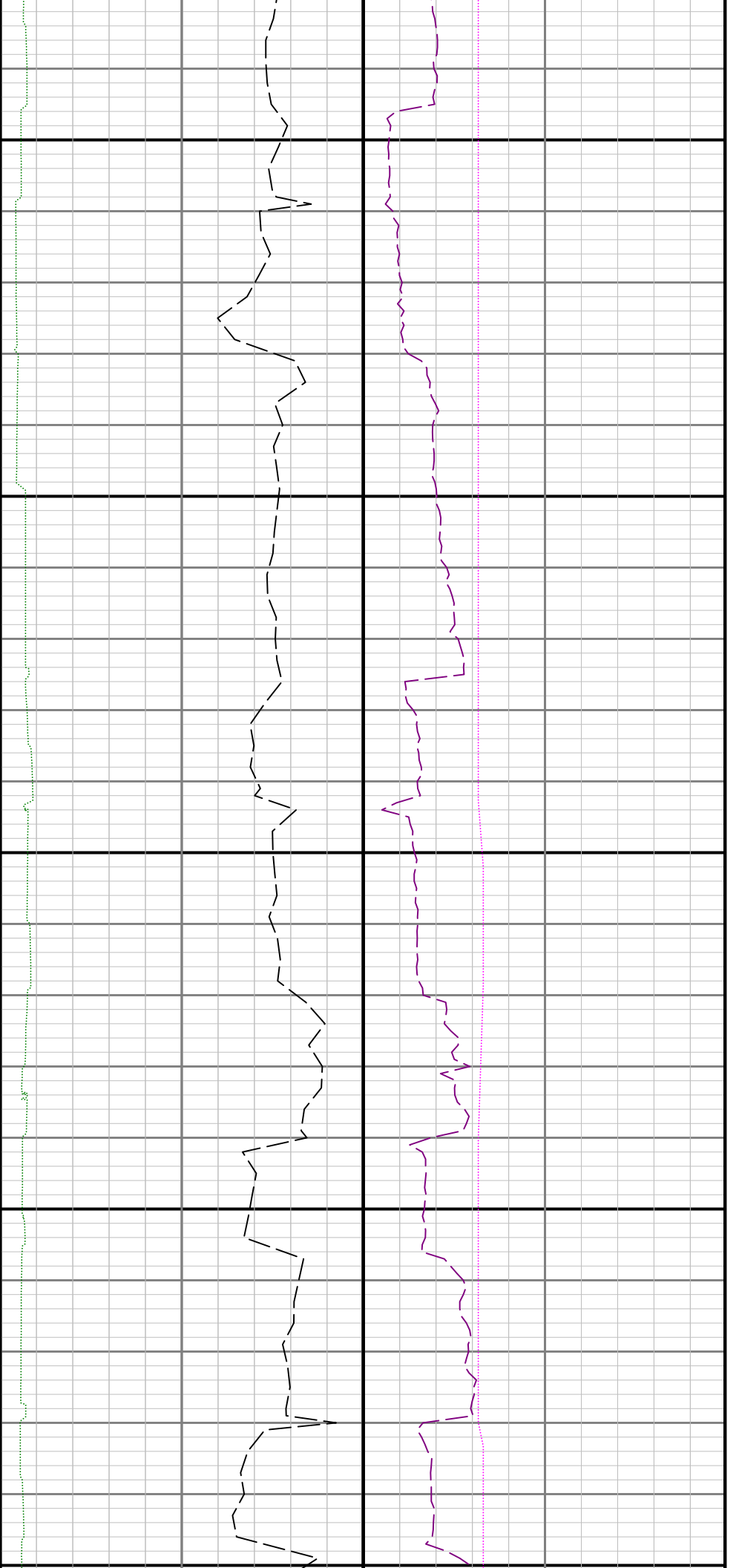




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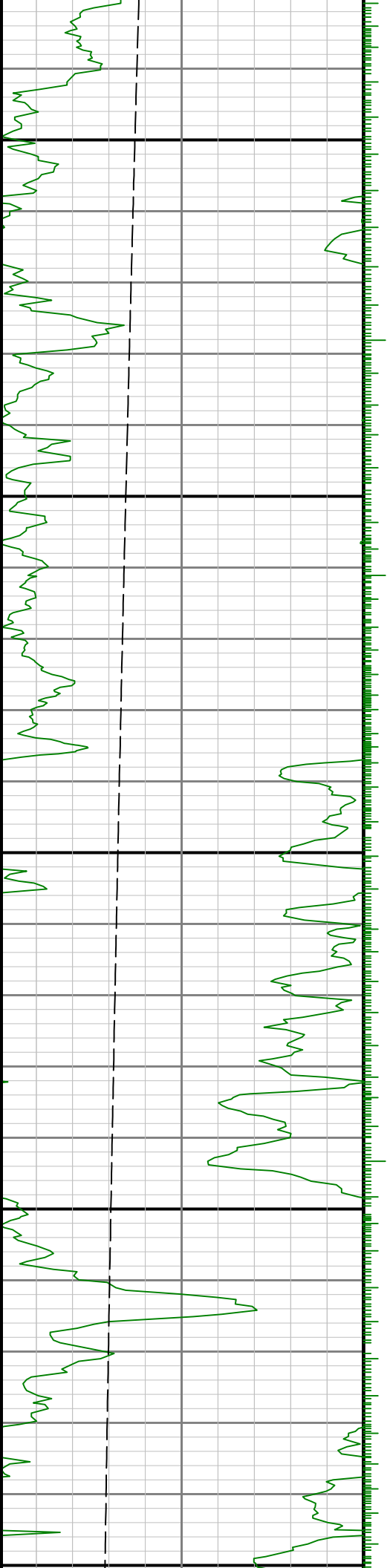
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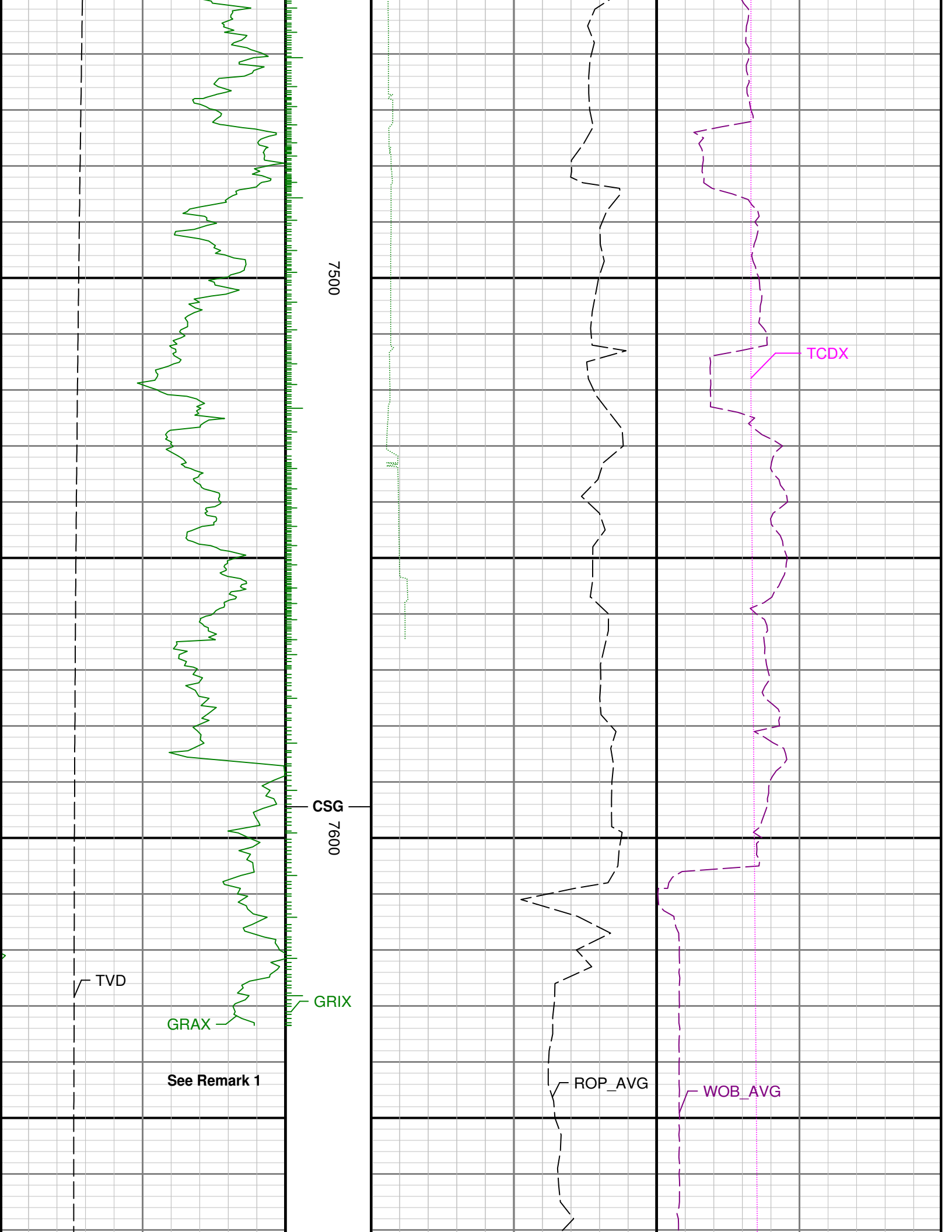


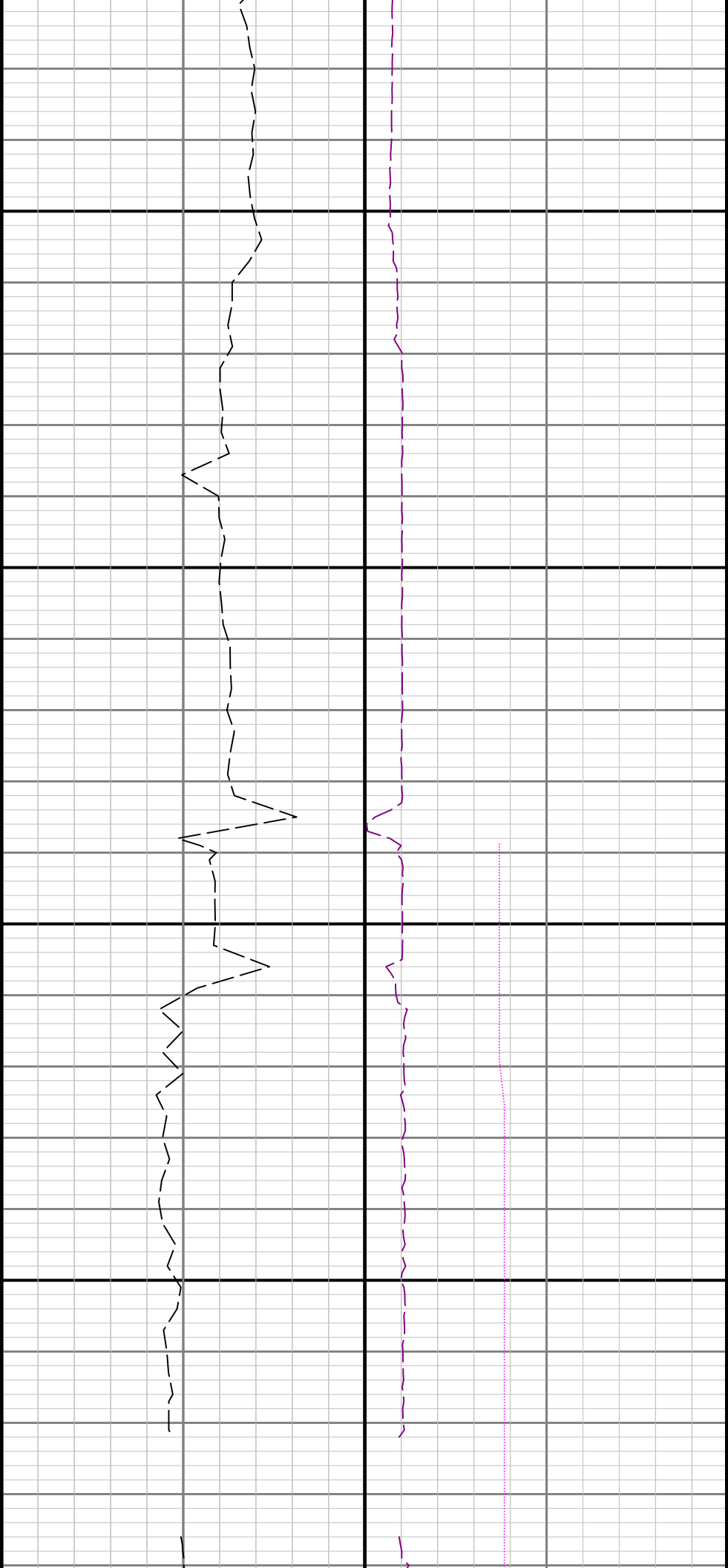


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7400

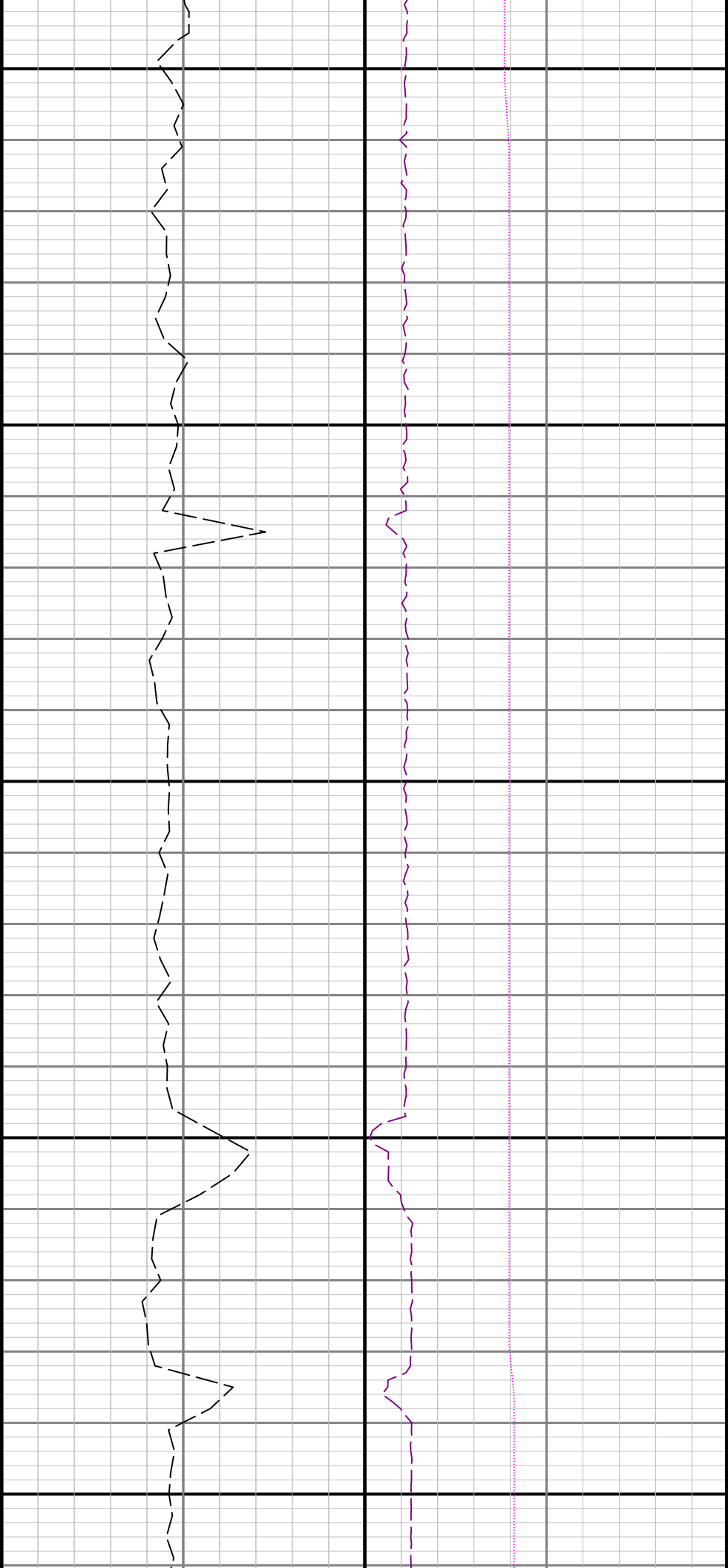






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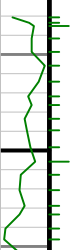
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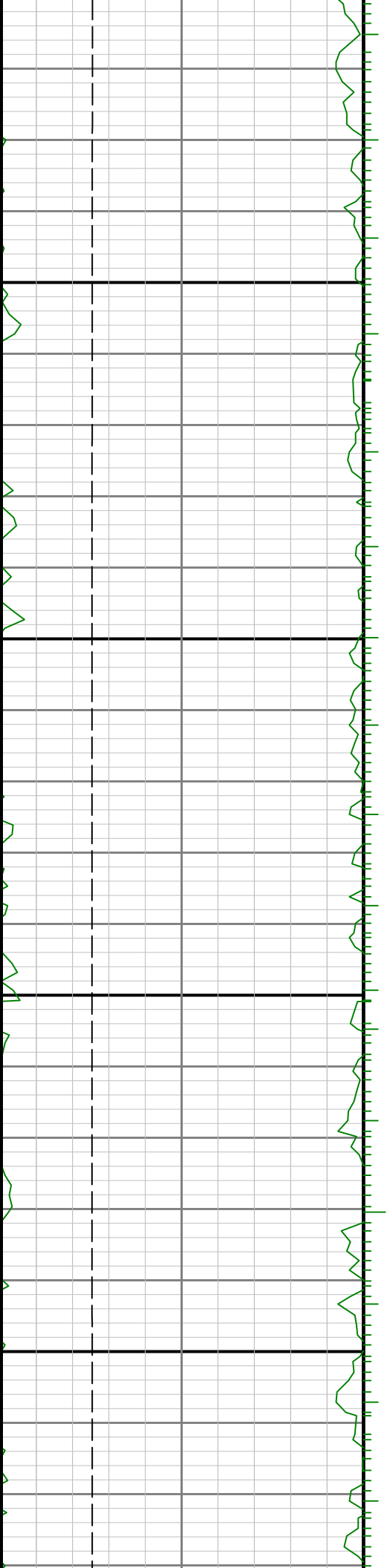


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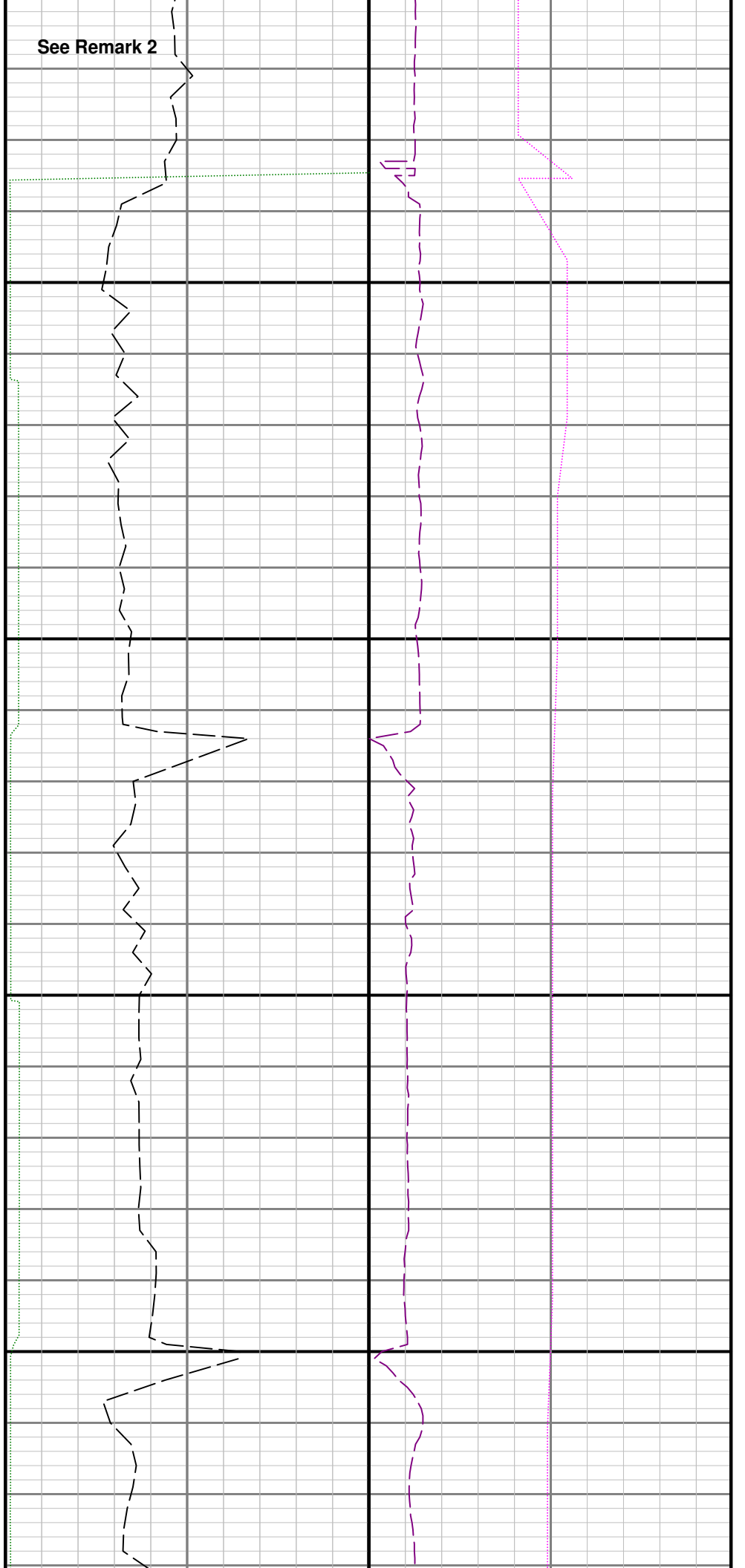
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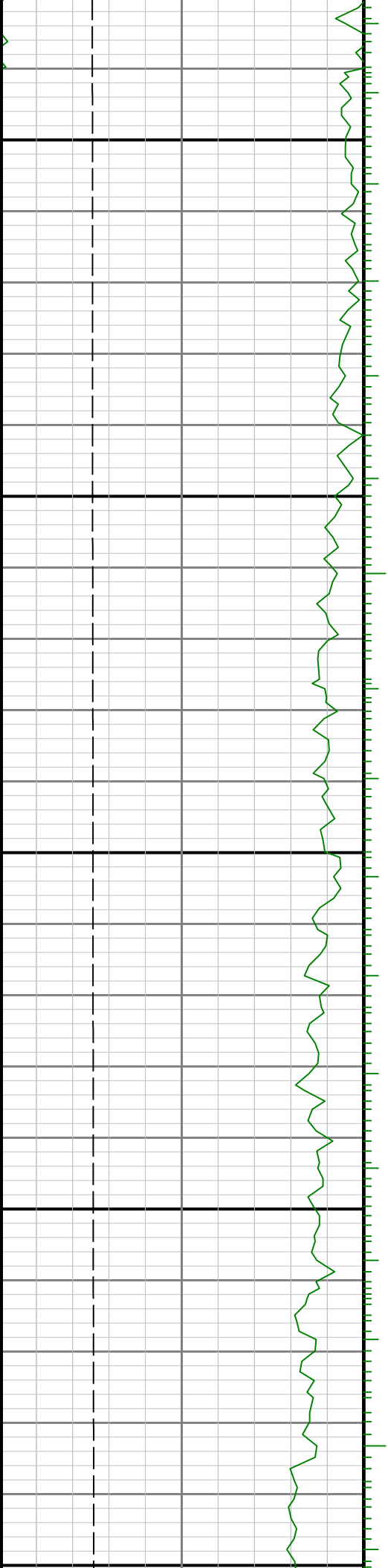




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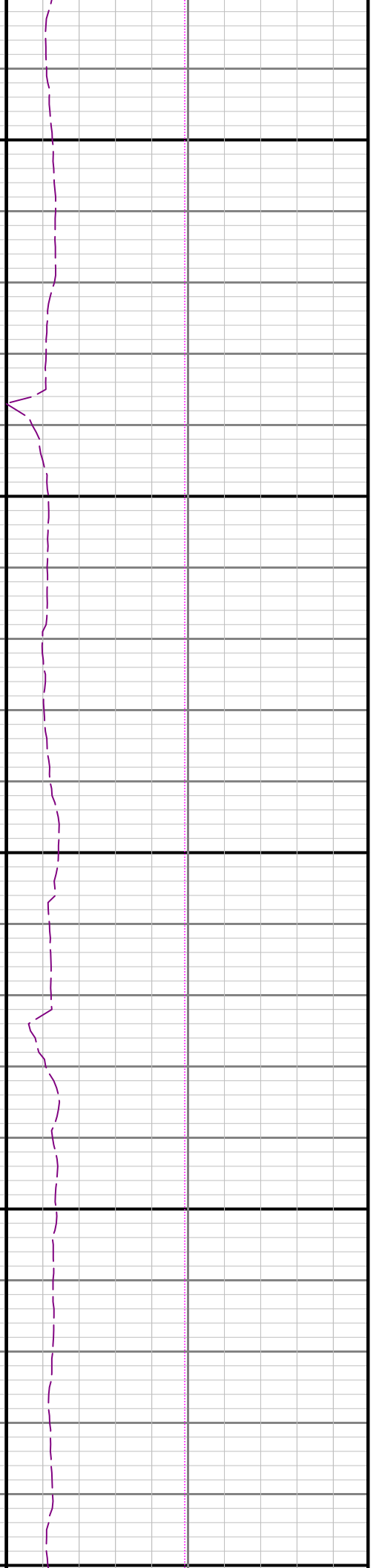
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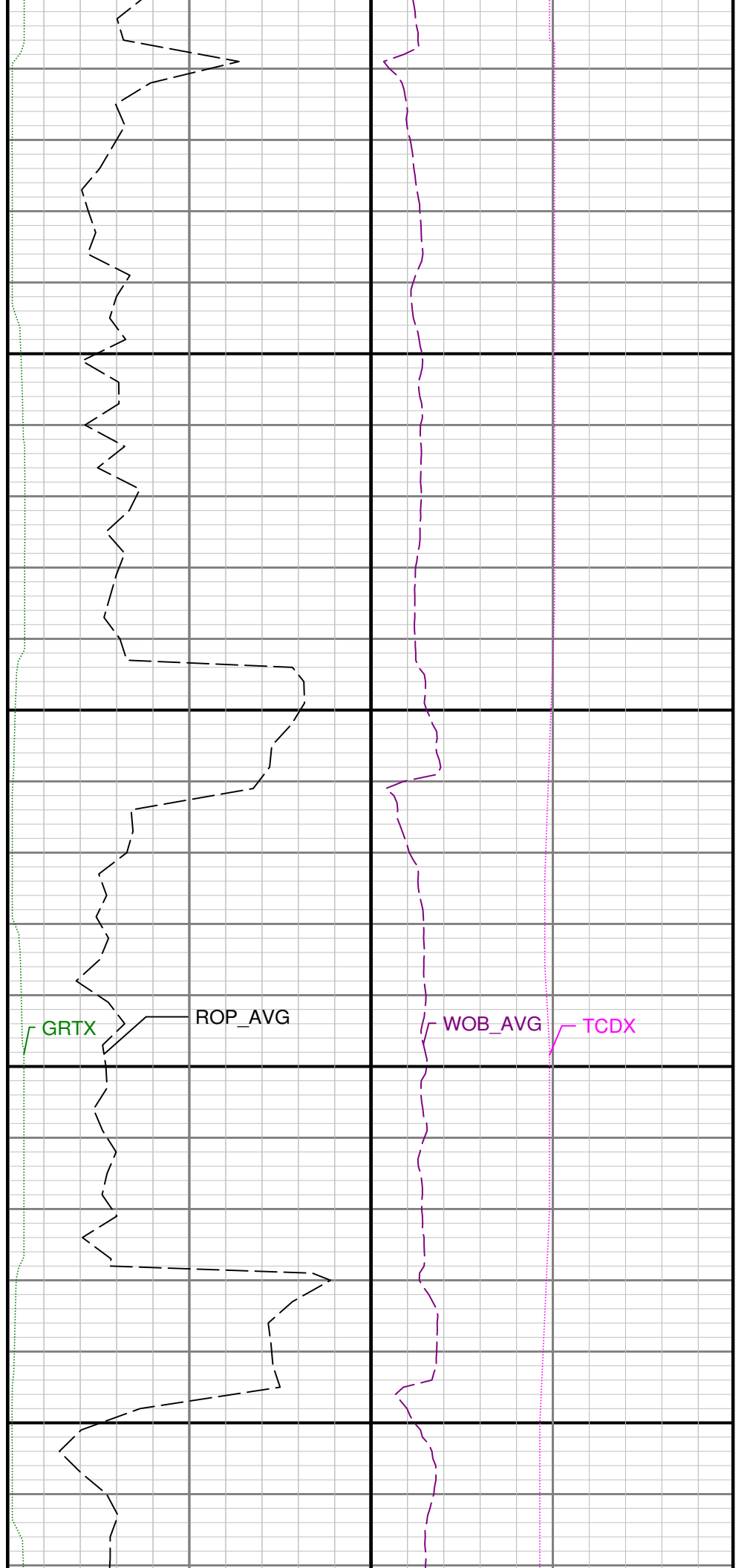
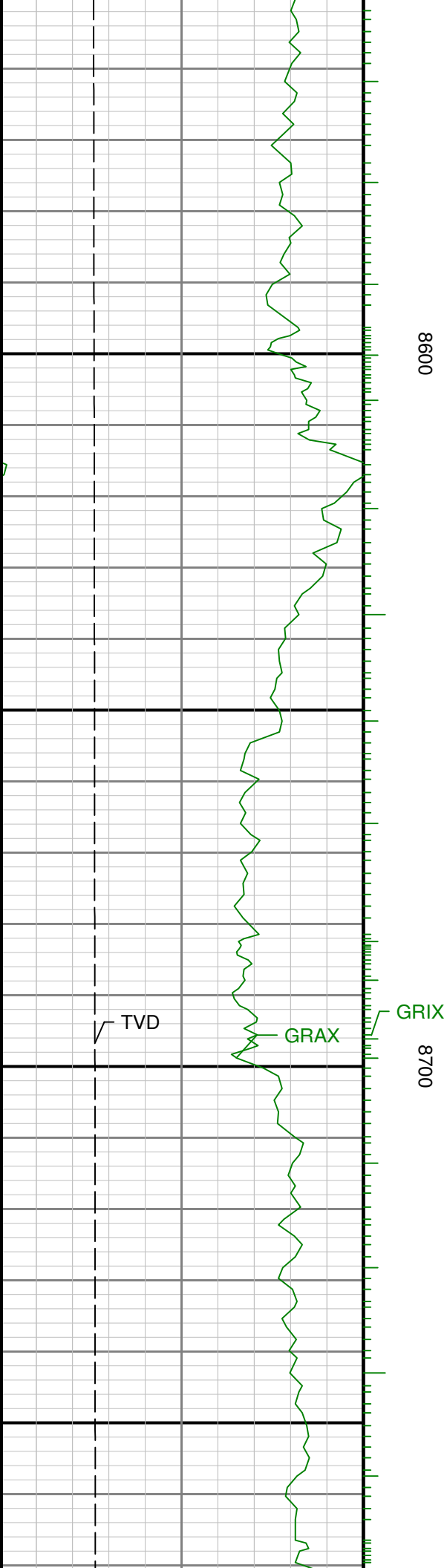


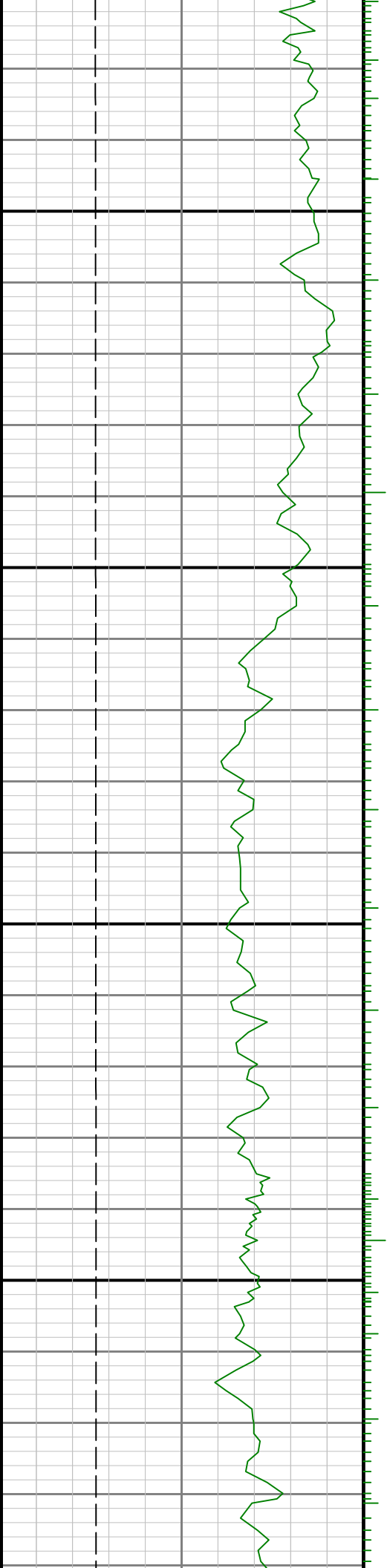


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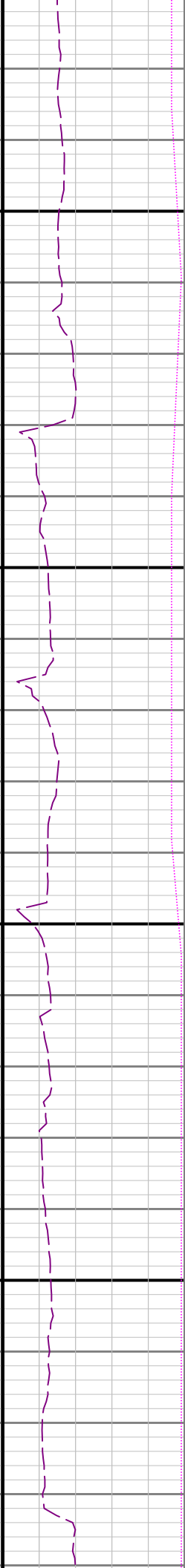
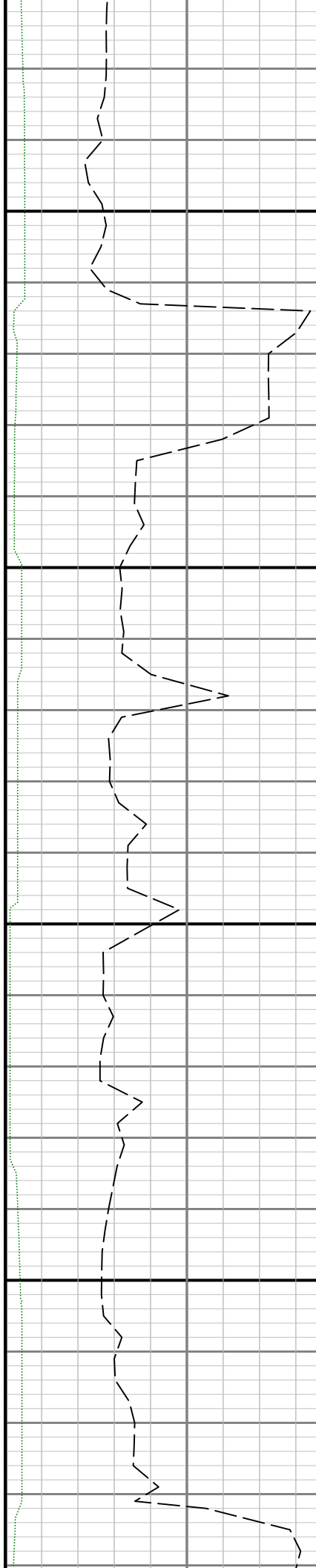


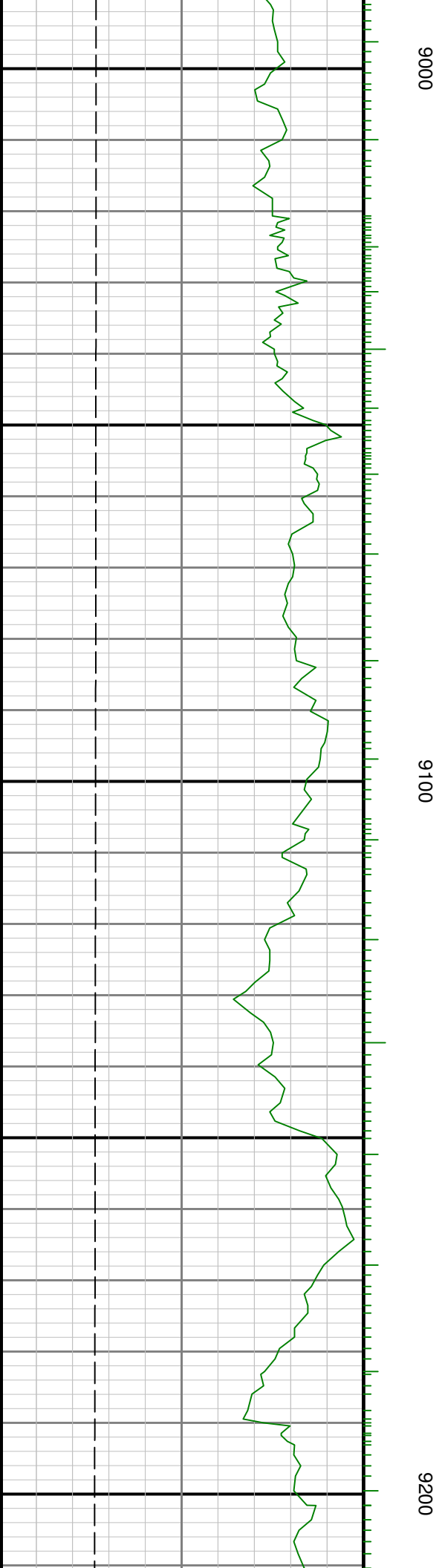
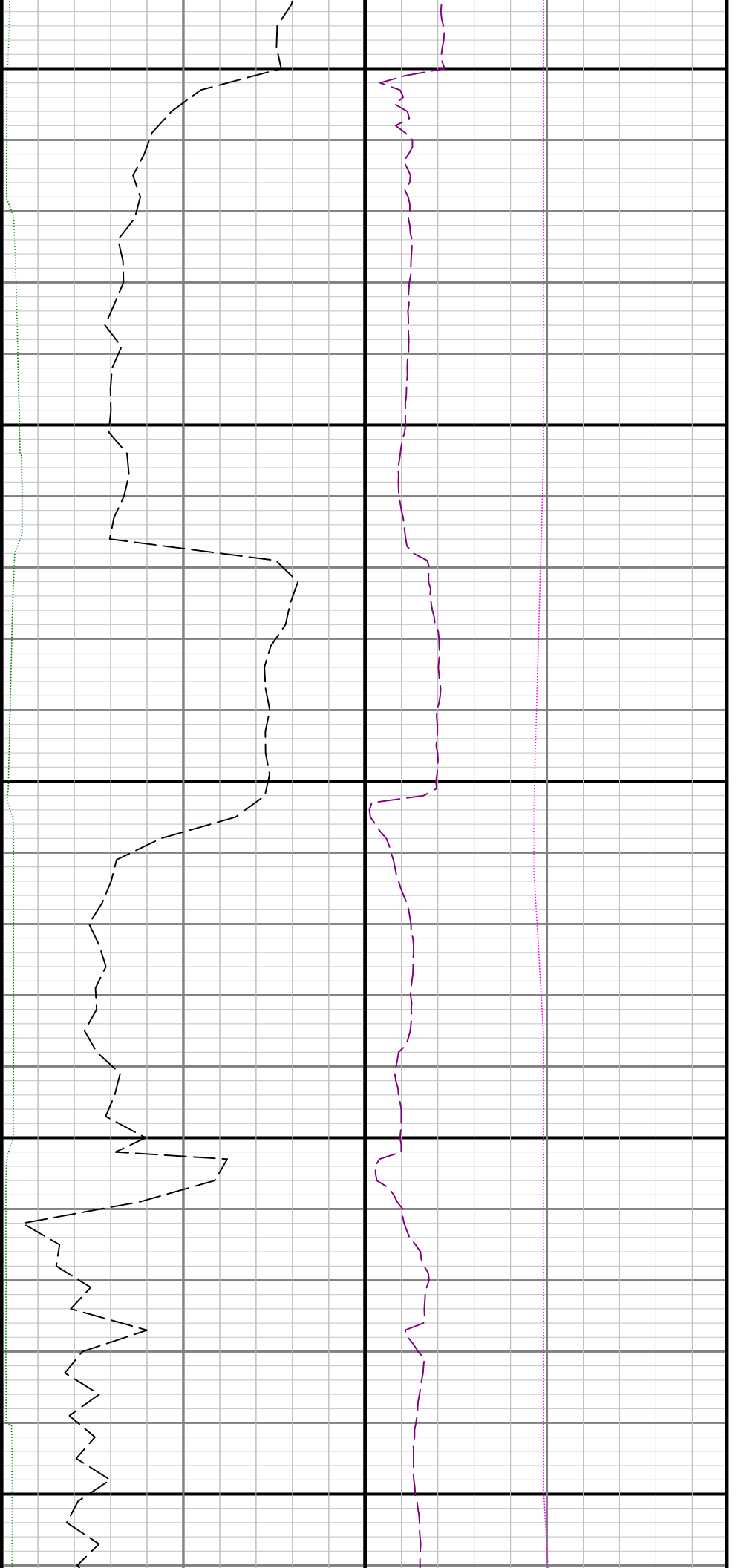


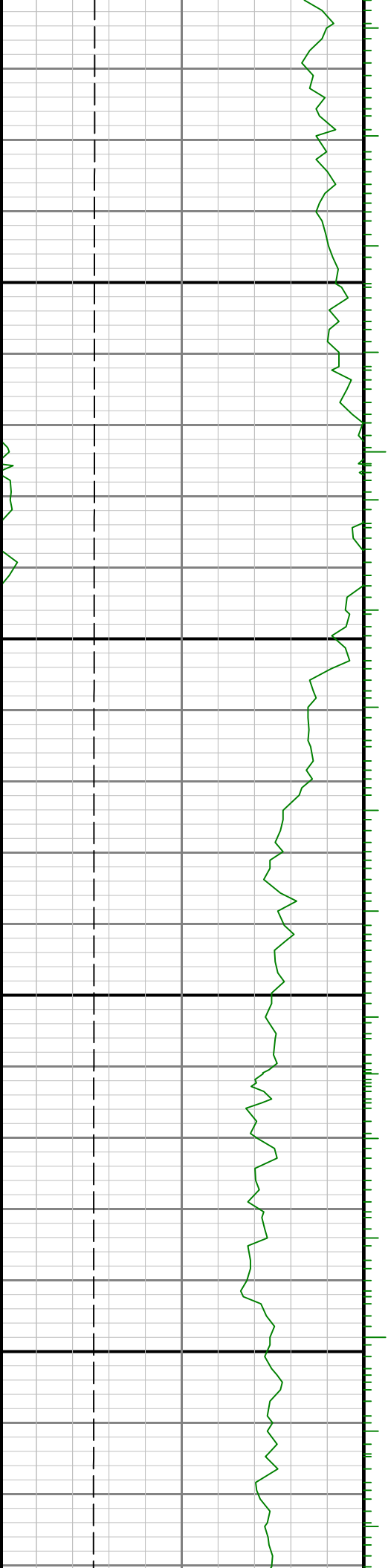


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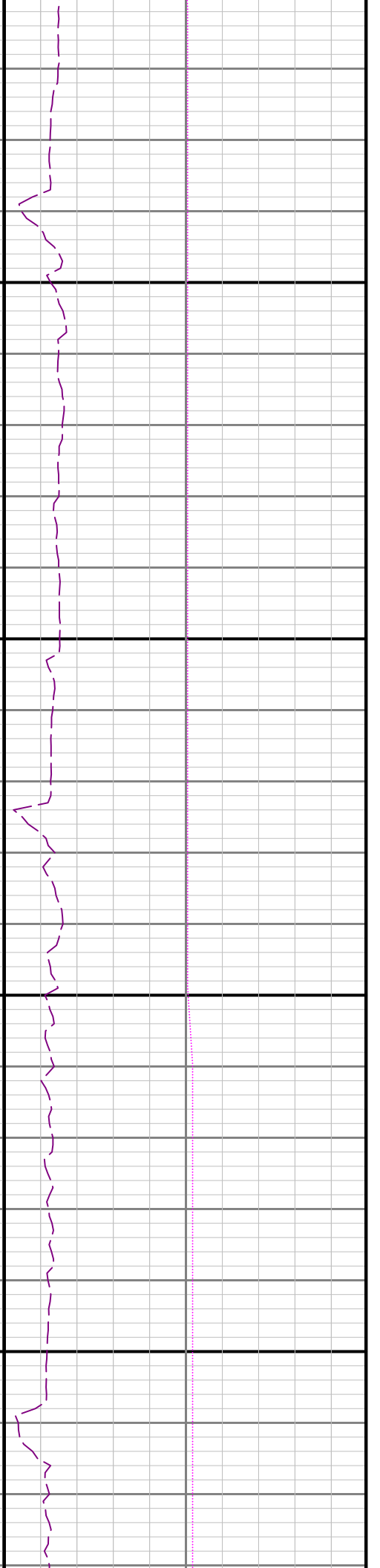
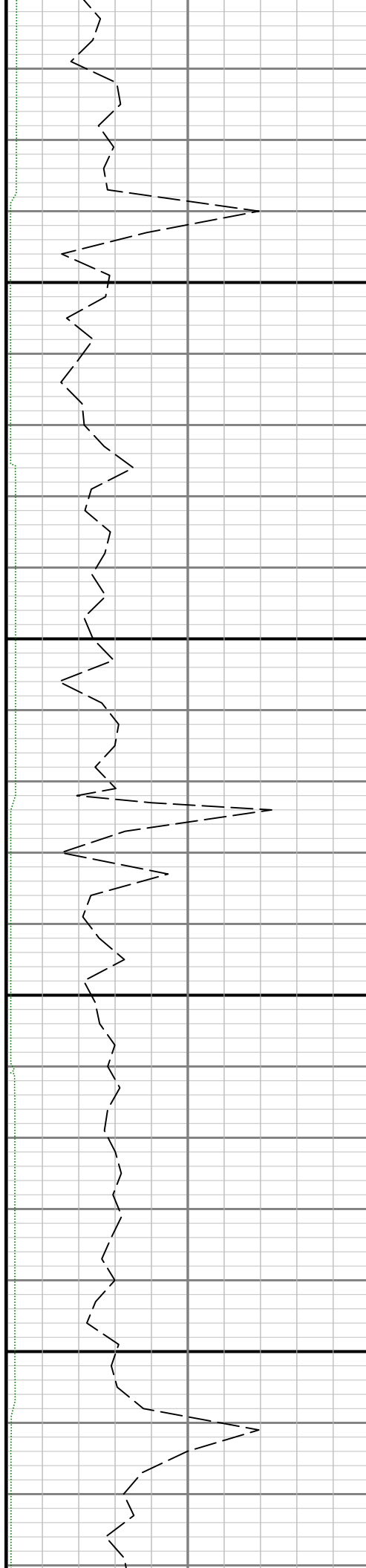


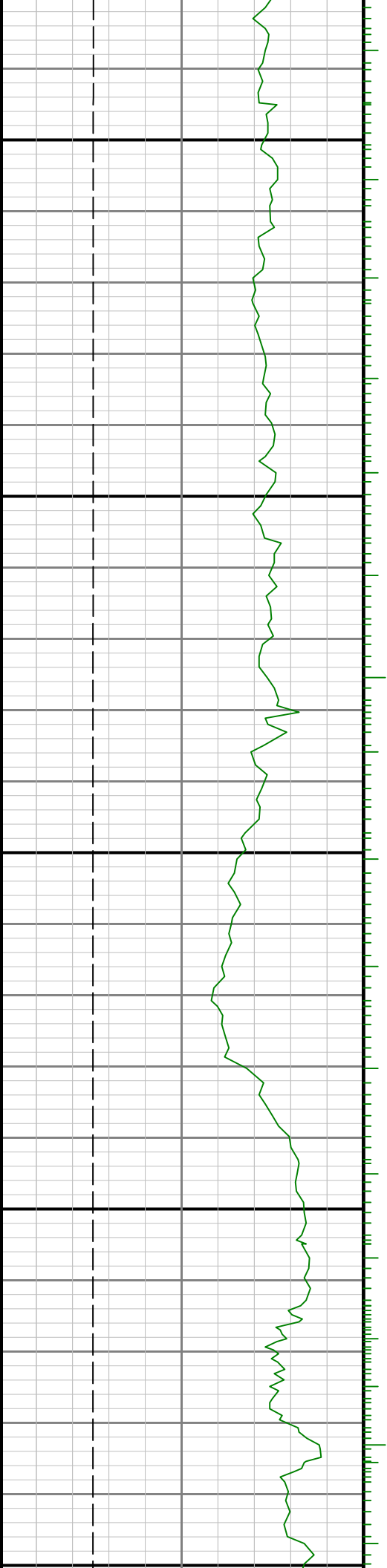




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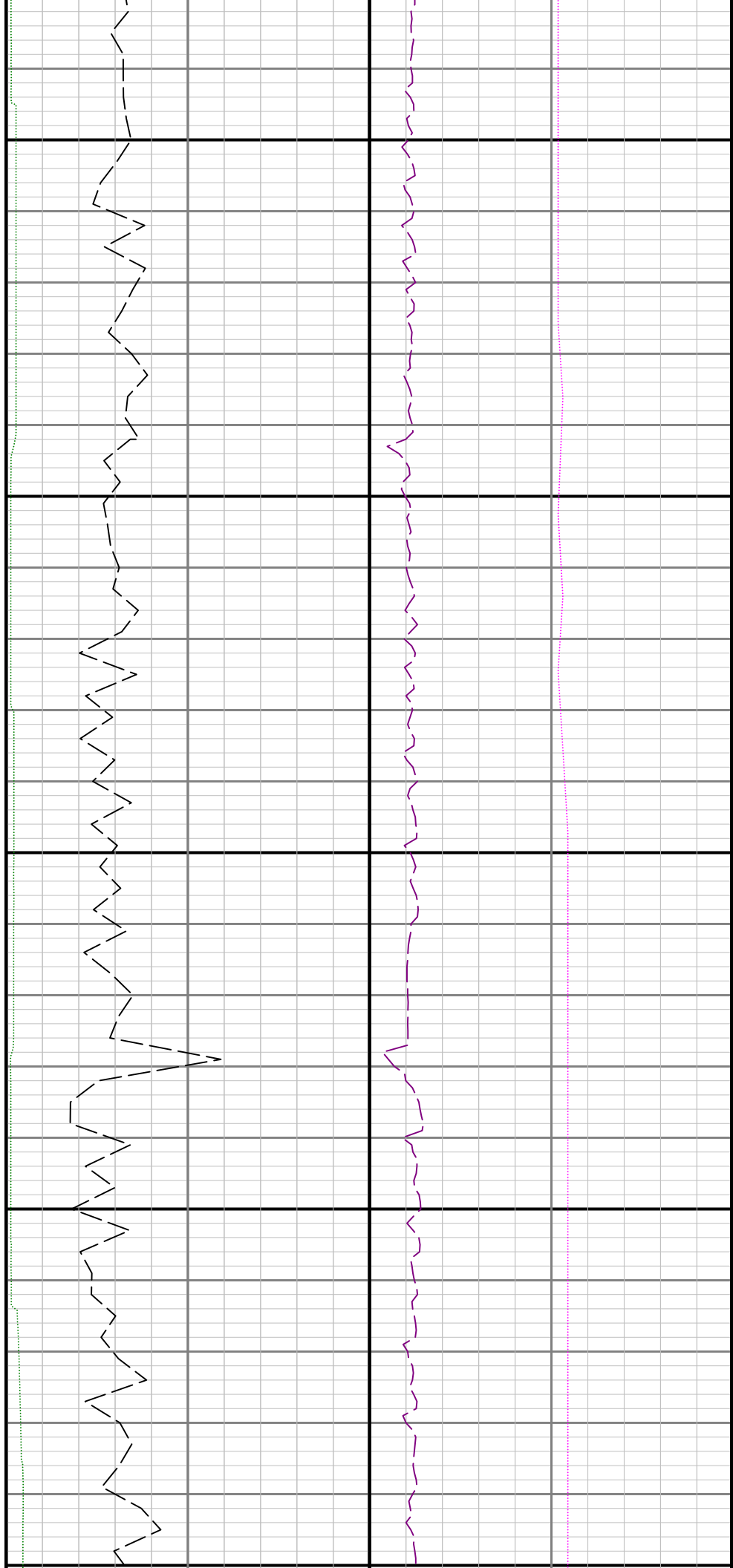
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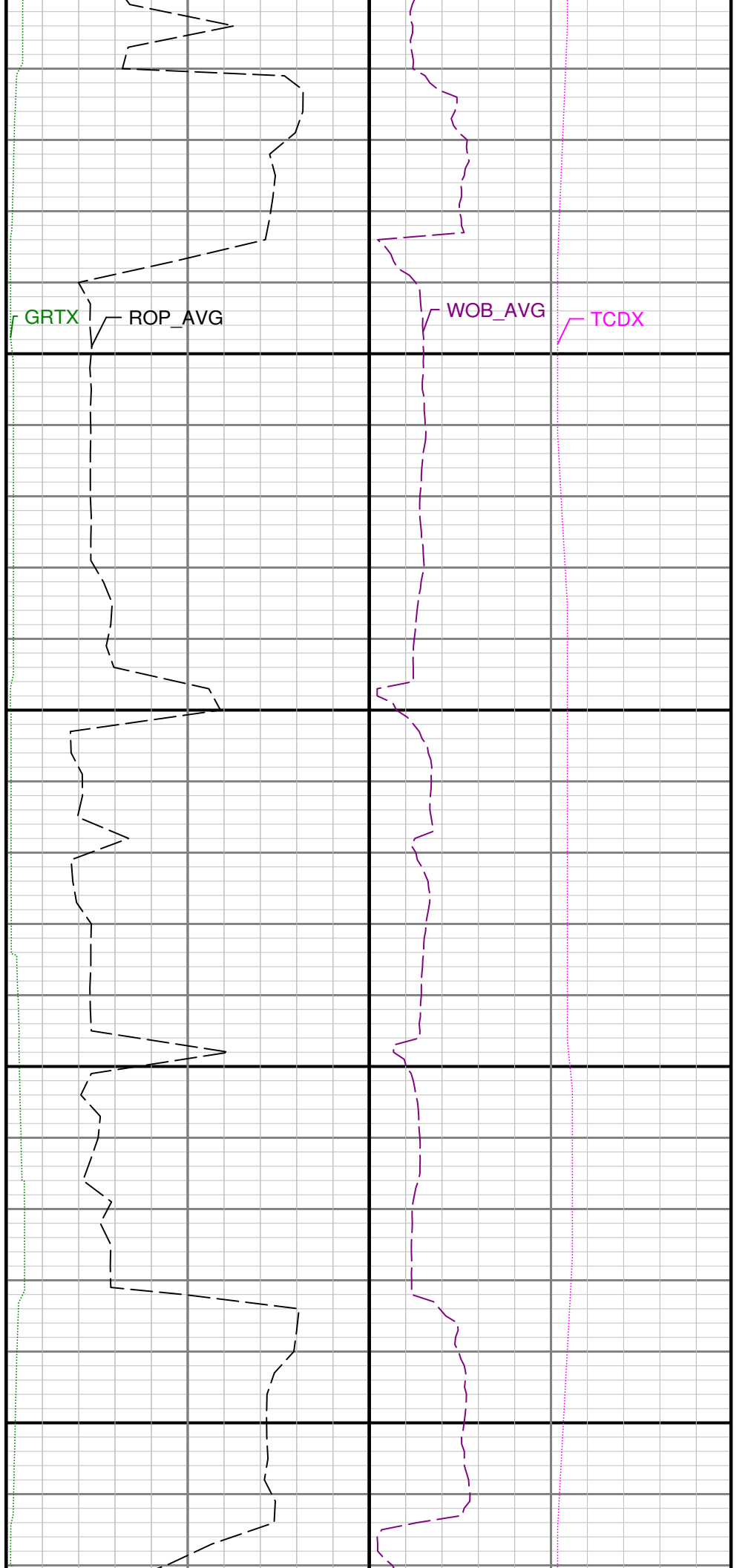
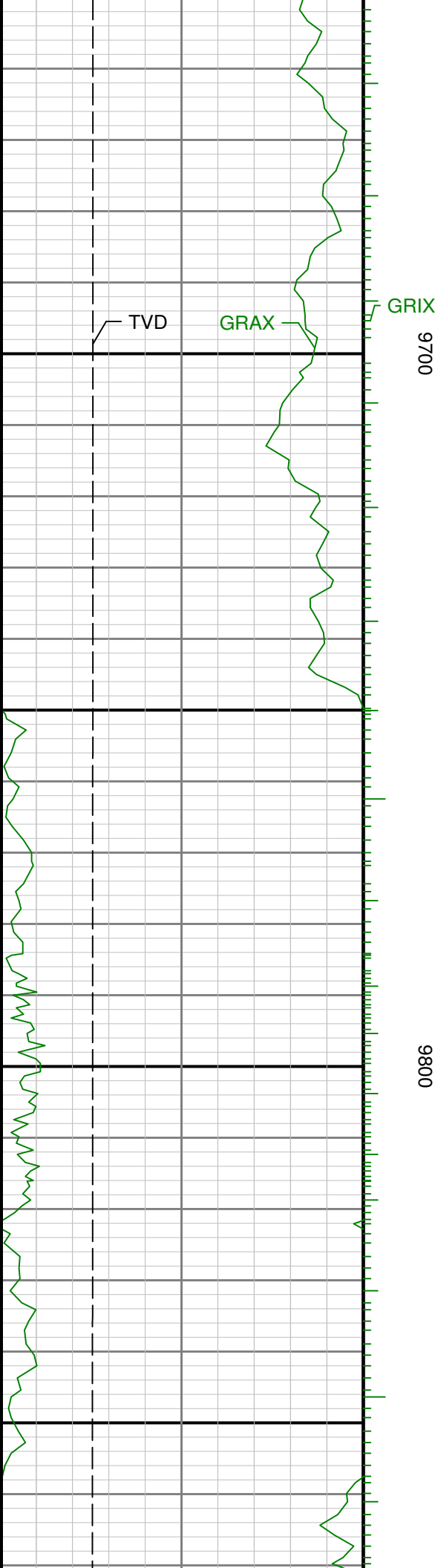


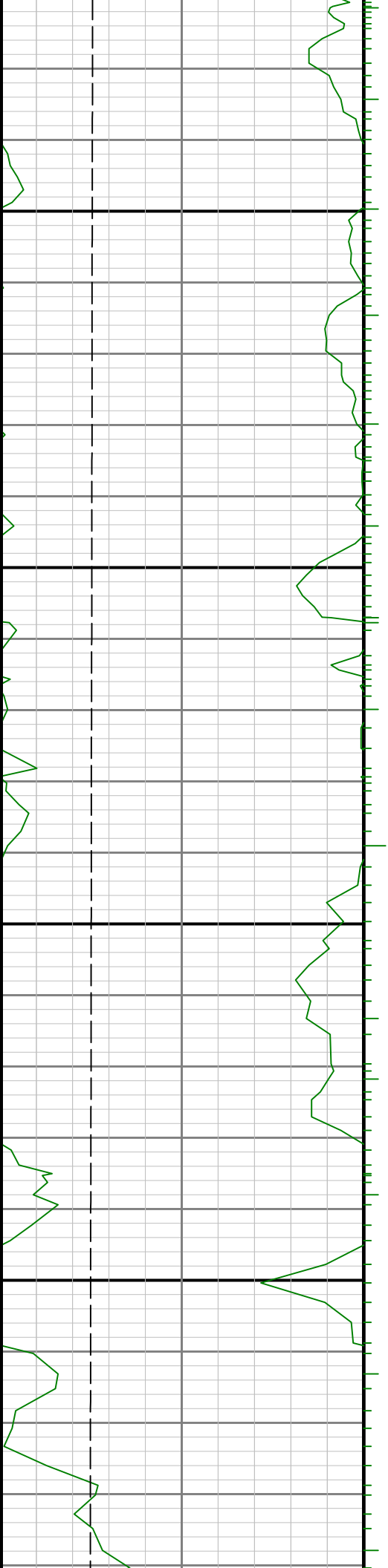


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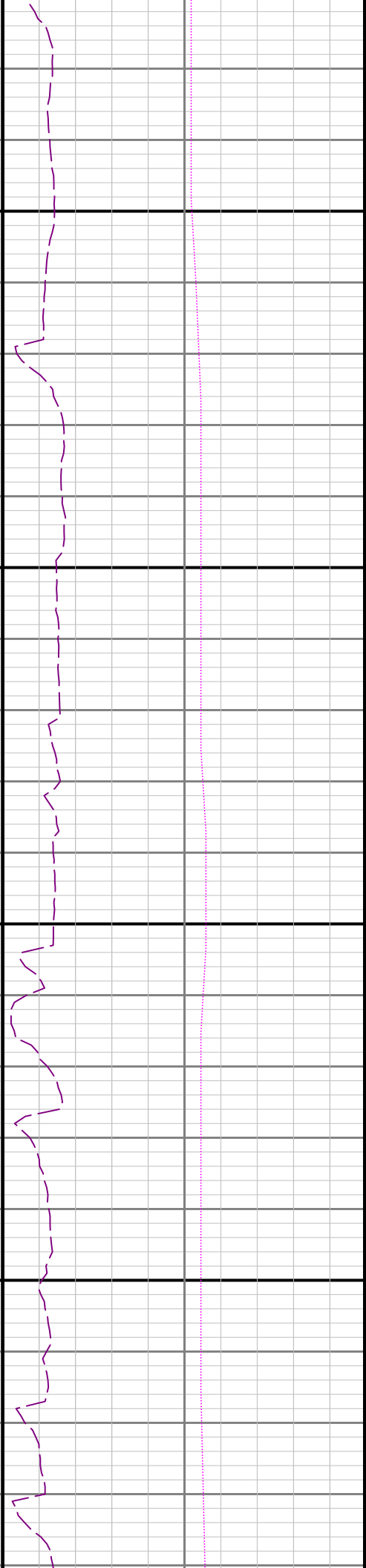
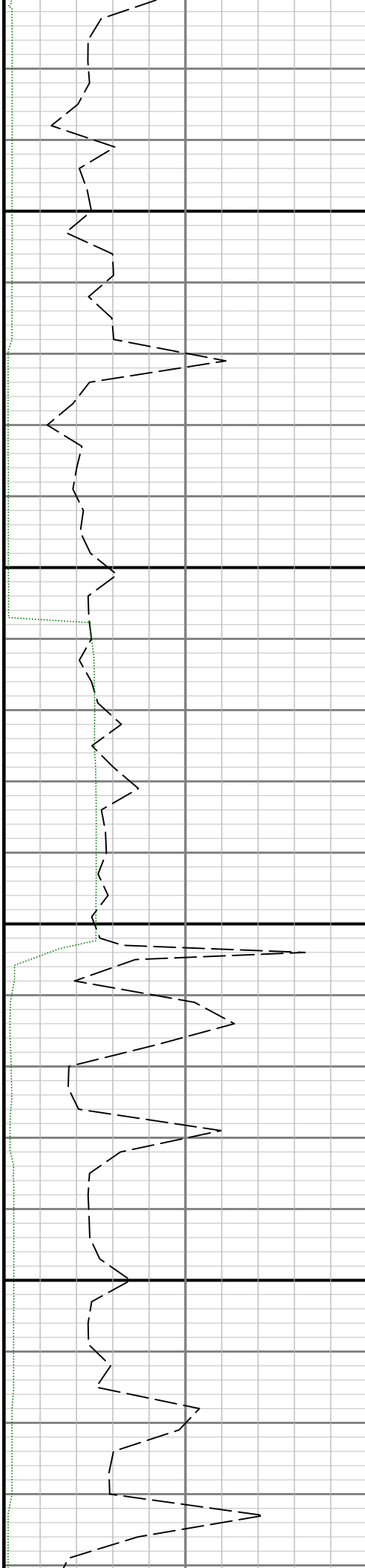


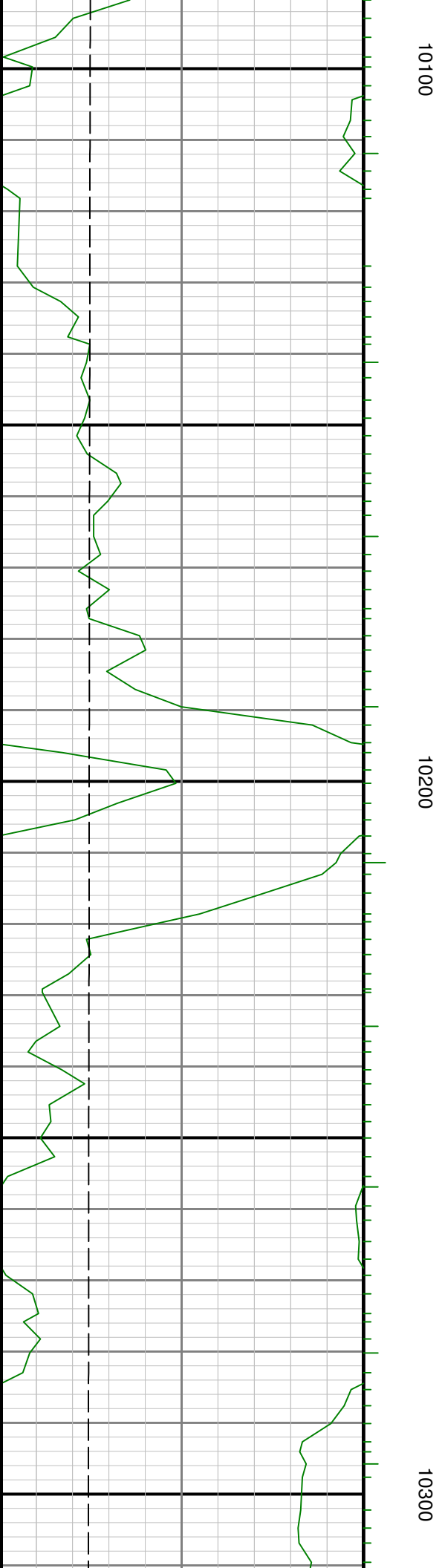
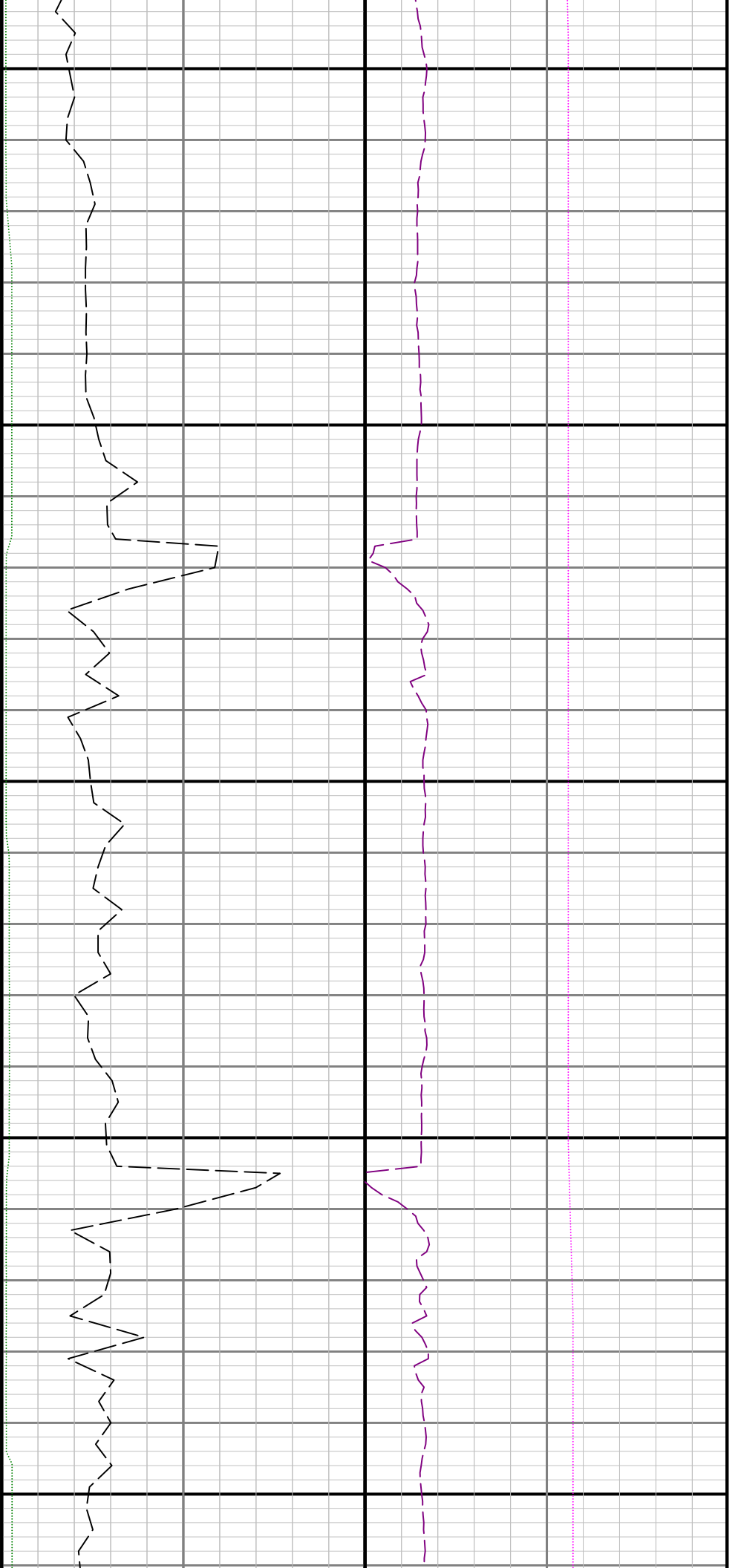


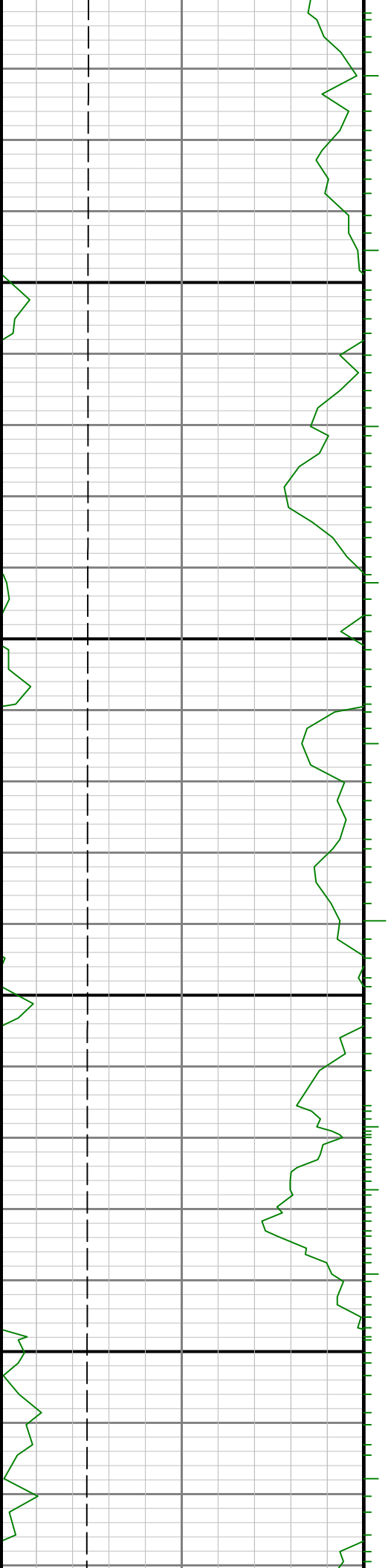


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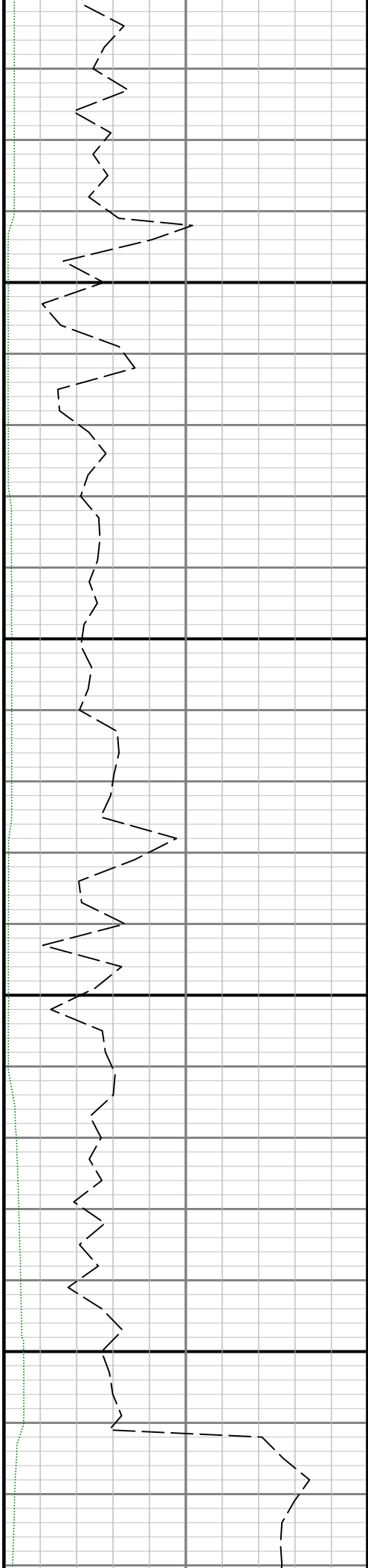


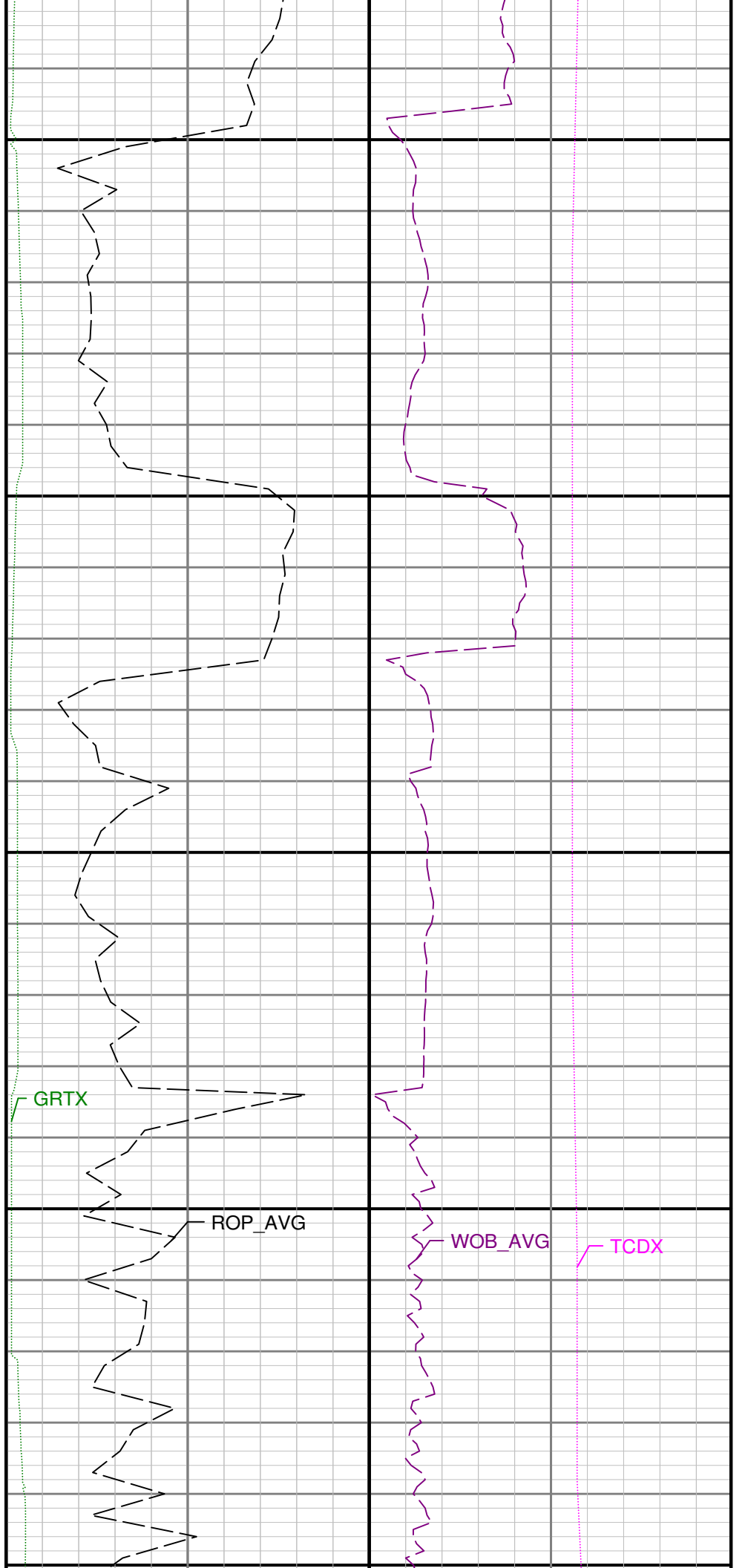
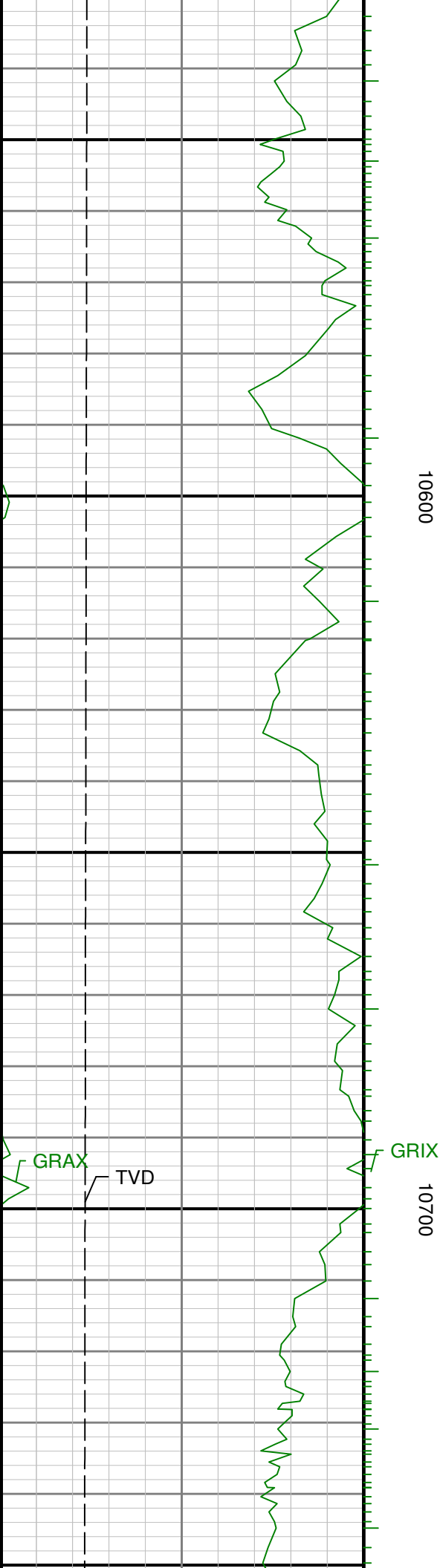


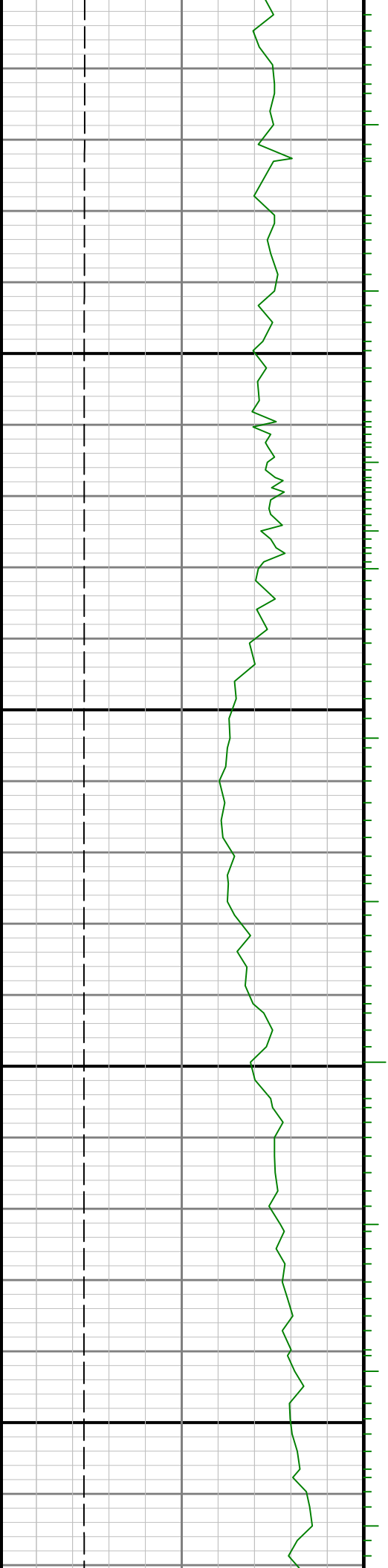


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