



LWD MEMORY LOG

Gamma Ray

Scale: 1:240 MD

Company: SRC Energy

Well: Falken 4N-14C-S

Field: Weld County

County: Weld County

State: Colorado

Country: United States

Status: Final Print

API No: 05-123-45124

Job ID: 8728785

Permanent Datum (P.D.): Ground Level

Log Measured From: Rig Floor

Elevation: 4810.00 ft

Above P.D. 25.00 ft

Elev. KB: 4835.00 ft

Elev. DF: 4810.00 ft

Elev. GL: 4810.00 ft

Directional

Other Services:

Driller's Depth

Interval Logged

Magnetic Field Reference

Date From: 2017-09-05

Date To: 2017-12-20

Spud Date: 2017-09-05

Top: (ft) 1804.01

Bottom: (ft) 13278.64

Azi Reference North: True

Total Magnetic Field Strength: (mT) 52594

Mag to Reference North Correction: (deg) 7.36 E

Dip Angle: (deg) 66.92

Borehole Record

Casing Record

Hole Size (in)

From (ft)

To (ft)

Size (in)

Weight (lb/ft)

From (ft)

To (ft)

13.500

25.00

1804.00

9.625

36.00

25.00

1747.00

8.500

1804.00

13278.00

13.500

1804.01

0.24

13.68

23.61

151.12

89.11

278.92

8.500

11474.63

23.61

151.12

89.11

278.92

8.500

11474.63

Deviation Record

Mud Record

Type

From (ft)

To (ft)

Hole Size (in)

Interval (ft)

Inc | Azi (Start)

Inc | Azi (End)

Diesel-Oil Based Mud

1804.00

13278.00

13.500

1804.01

0.24

13.68

23.61

151.12

8.500

11474.63

23.61

151.12

89.11

278.92

8.500

11474.63

23.61

151.12

89.11

278.92

Acquisition System

Software Version

RT4.1

PlotStudio

Other

Rig: PD 562

Contrador: Precision Drilling

District: RMA

Unit: D&E

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Log Run Summary

Run No	Bit Run	Bit Size	Bit Type	Bit Gauge	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Hours
						Top	Bottom	From	To	Start Logging	End Logging	

No.	Run No.	Size (in)	Type	Gauge Length (in)	Type	Top (ft)	Bottom (ft)	From (ft)	To (ft)	Start Logging	End Logging	Hours
2	2	8.500	PDC	3.00	AutoTrak Curve	1804.00	1804.00	1804.00	13278.00	2017-12-17 01:35	2017-12-20 16:55	58.02

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Garrett Gerdson	2017-12-15	2017-12-21						

Mud Properties Record

Date / Time	Run No.	Measured Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2017-12-18 03:00	2	6806.00	Diesel-Oil Based Mud	9.8	62	N/A	14.0	70/30	Active Pit	32000	0.00
2017-12-18 15:00	2	7799.00	Diesel-Oil Based Mud	9.8	62	N/A	14.0	69/31	Active Pit	33000	0.00
2017-12-19 15:00	2	8604.00	Diesel-Oil Based Mud	9.8	60	N/A	12.0	71/29	Active Pit	35000	0.00
2017-12-20 03:00	2	10978.00	Diesel-Oil Based Mud	9.8	59	N/A	12.0	72/28	Active Pit	41000	0.00
2017-12-21 03:00	2	13278.00	Diesel-Oil Based Mud	9.9	57	N/A	14.0	71/29	Active Pit	39000	0.00

Equipment and Service Data

Run No.	Tool	Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)
2	ATC_SU	12161973	Near Bit VSS	5.93	6.73	7.000	4.330
2	ATC_SU	12161973	Near Bit Inclination	5.93	6.73	7.000	4.330
2	ATC_MWD	14179563	Gamma (single)	2.76	12.90	7.000	3.250
2	ATC_MWD	14179563	Directional (mag)	12.27	22.41	7.000	3.250

Service and Tool Mnemonics

Mnemonic	Name	Description
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_LCPM	Auto Trak Curve LCPM

Comments


1	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.
2	Baker Hughes LWD Run 1 utilized 8 inch APS EM Services (Directional only) behind a 13 1/2 inch bit and steerable assembly from surface to 1804 feet MD (surface to 1735 feet TVD). No logging data was acquired during this run.
3	Baker Hughes LWD Run 2 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly from 1804 to 13278 feet MD (1735 to 7169 feet TVD).
4	Gamma Ray Curve (GRAM) is presented 0 to 300 API per customer request.

Remarks

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

Curve Mnemonics

Presented Curves	Description	Units
ROPA	Depth Averaged ROP 3 ft Average	ft/h
TVD	True Vertical Depth	ft
WOBA	Weight On Bit, Average 1 ft Average	klb
GRAM	OnTrak - Gamma Ray - Apparent - Memory 0.5 ft Average	API
GRIM	OnTrak - Gamma Ray - Data Point Indicator - Memory	unitless
GRTM	OnTrak - Gamma Ray - Time Since Drilled - Memory	min
TCDM	Downhole Temperature	degF



Company

Well

Interval

Created

SRC Energy

Falken 4N-14C-S

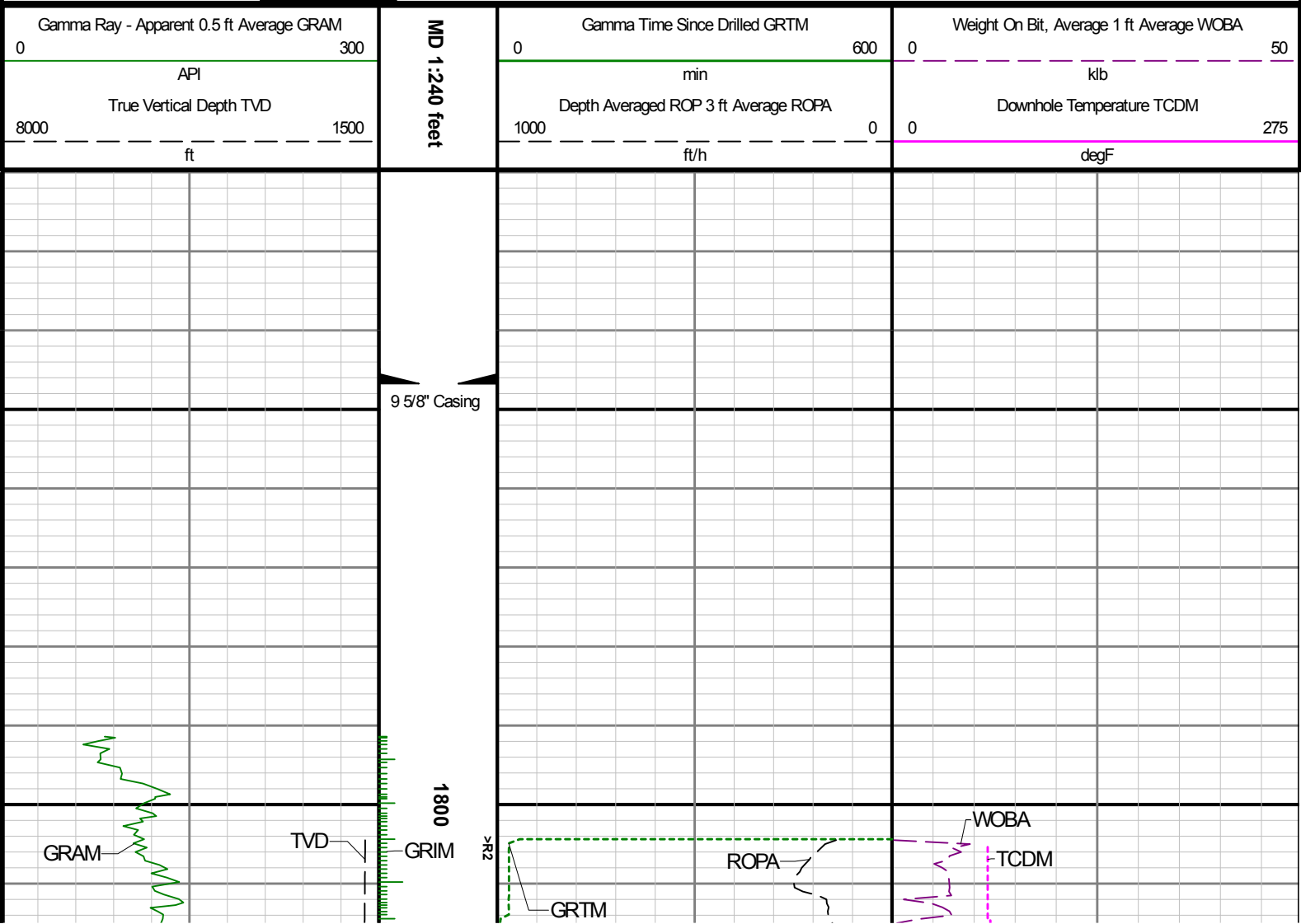
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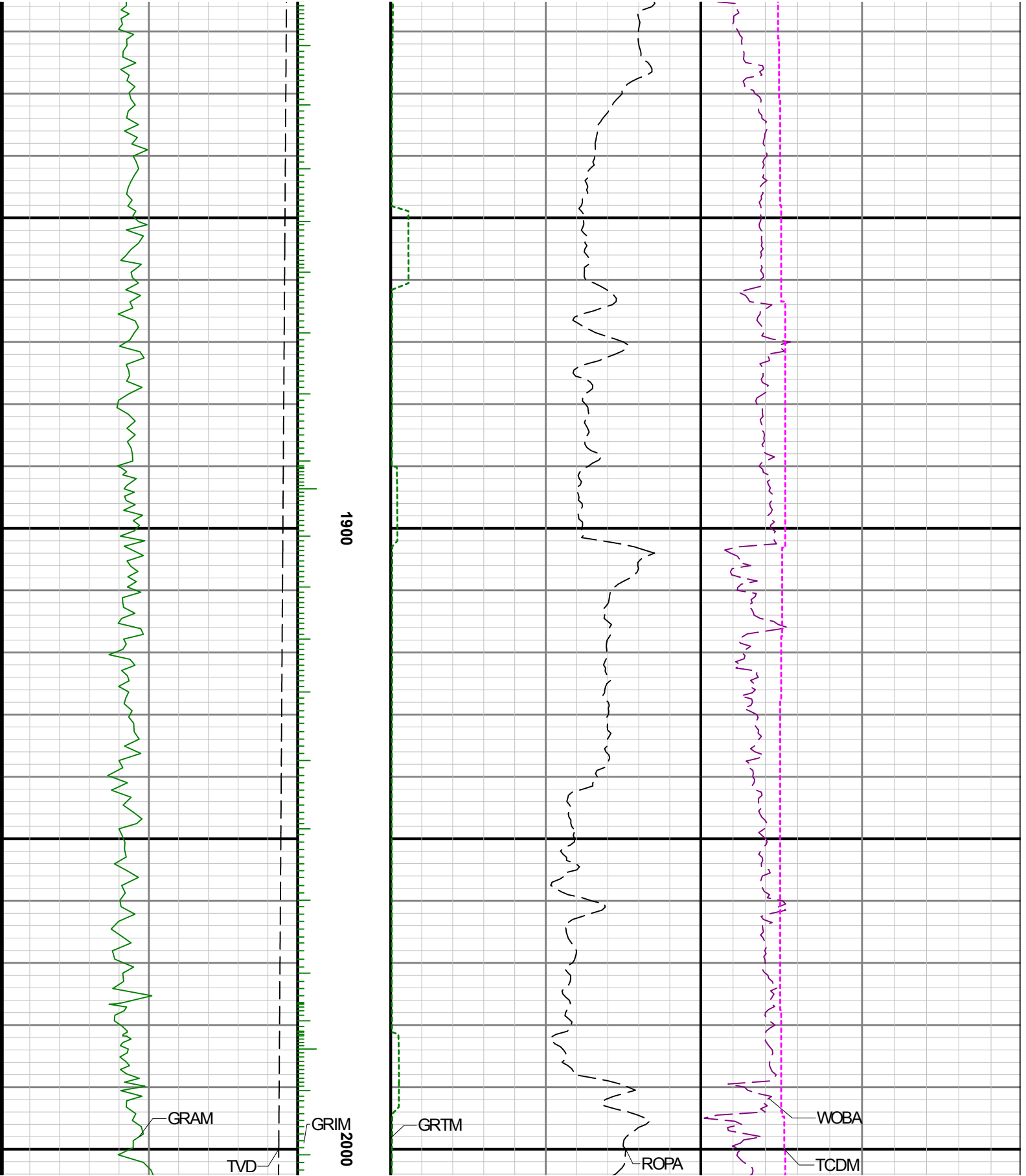
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2017-12-21 21:33:14

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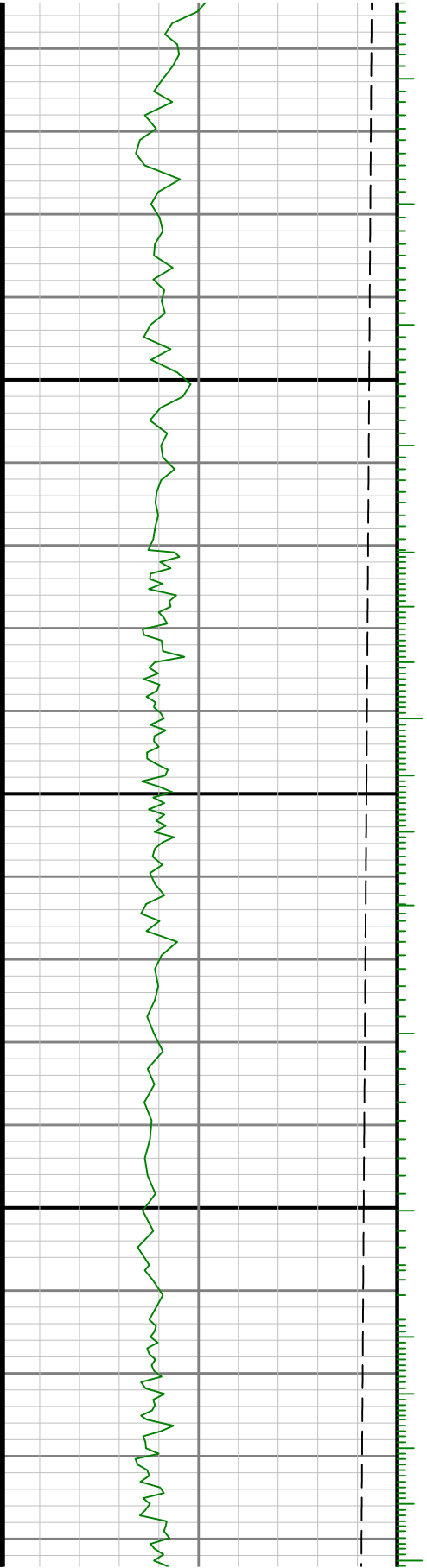
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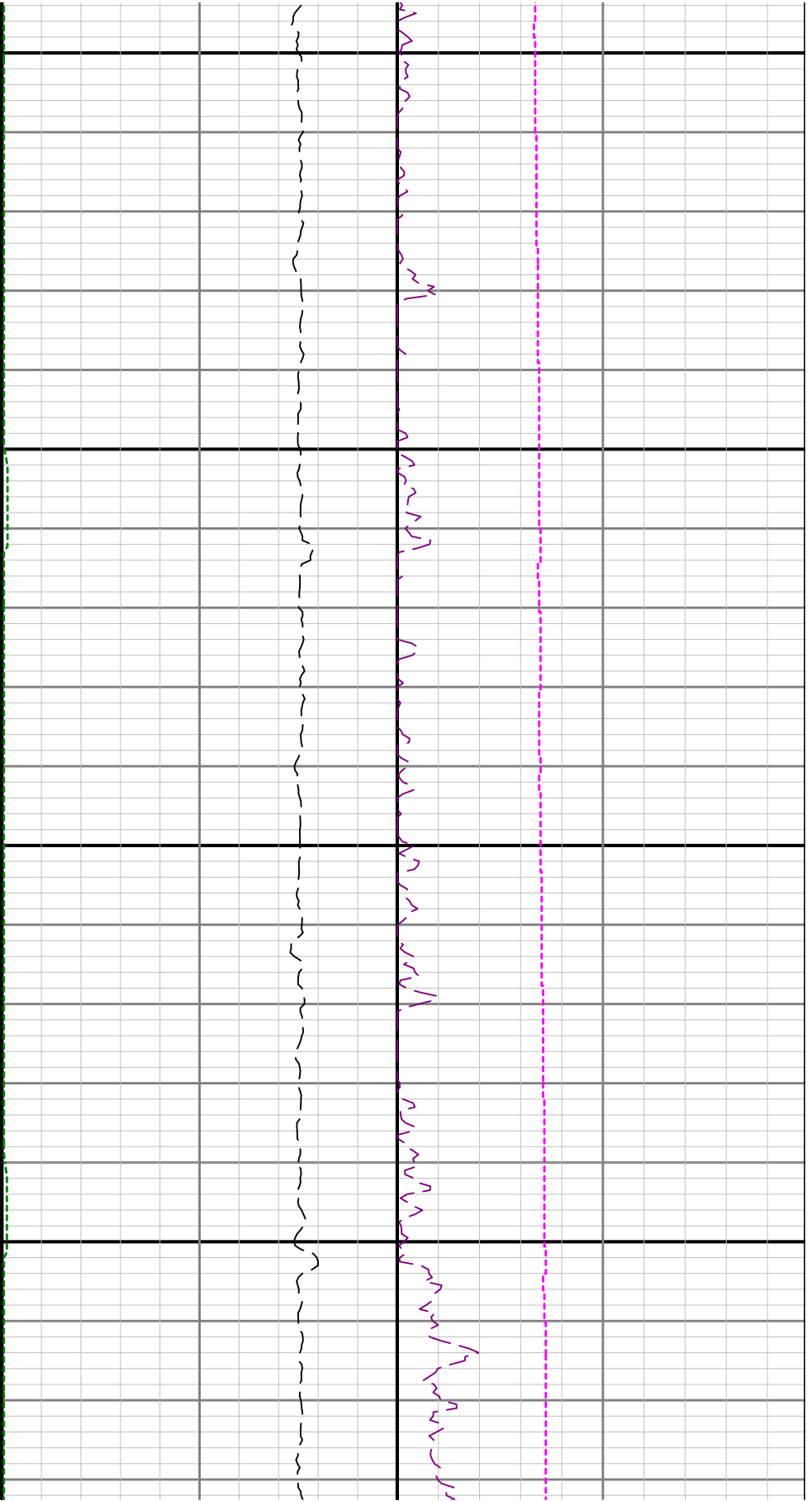






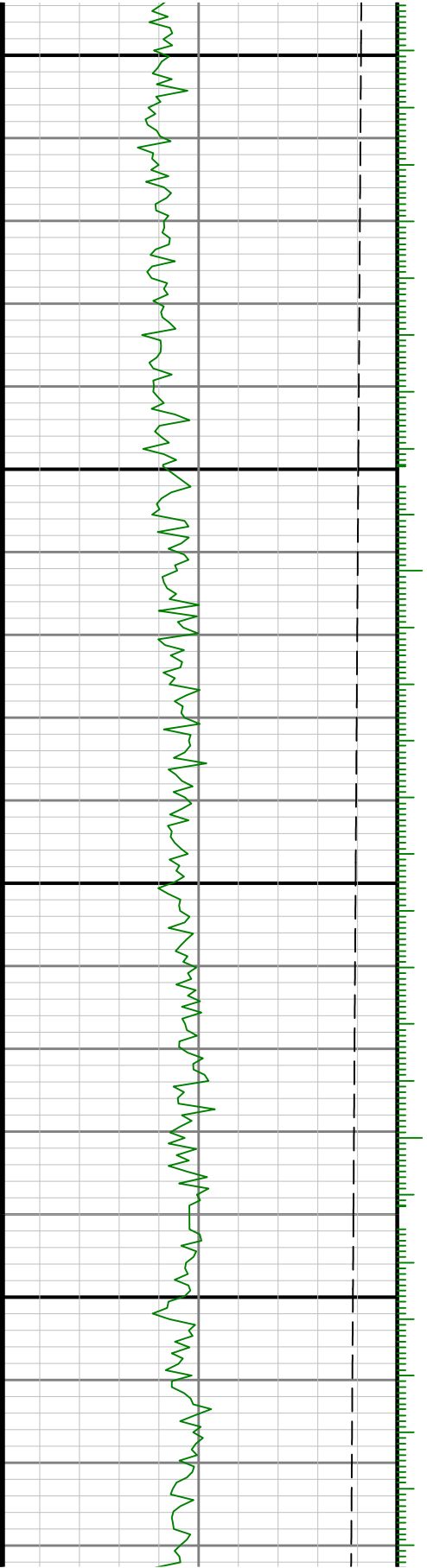
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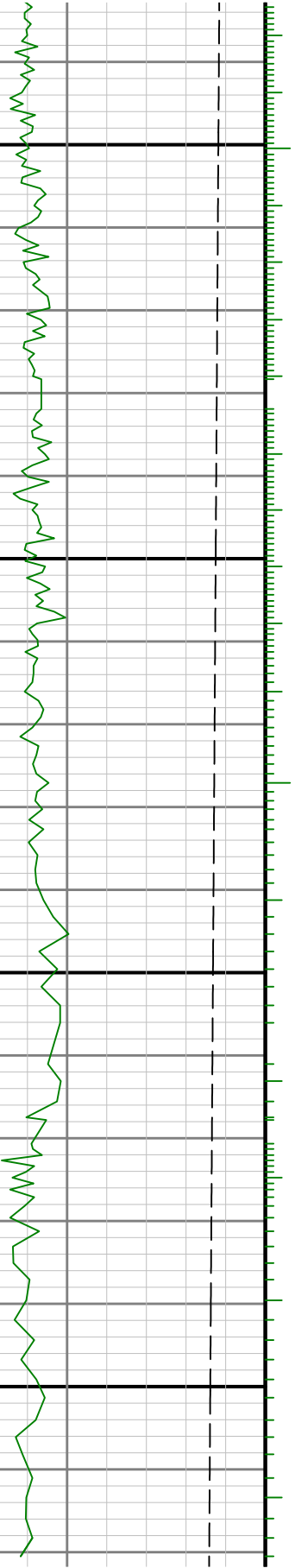
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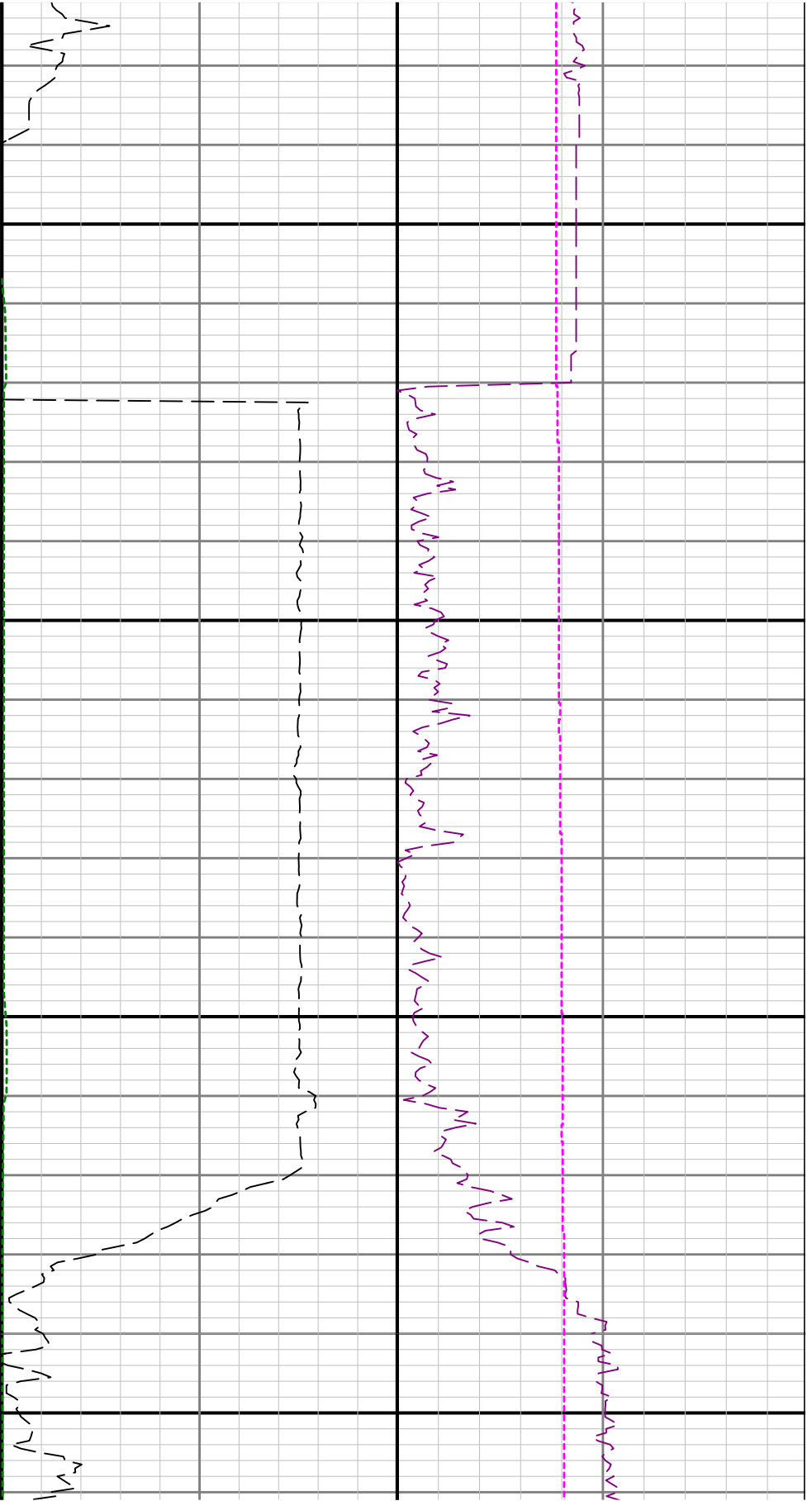




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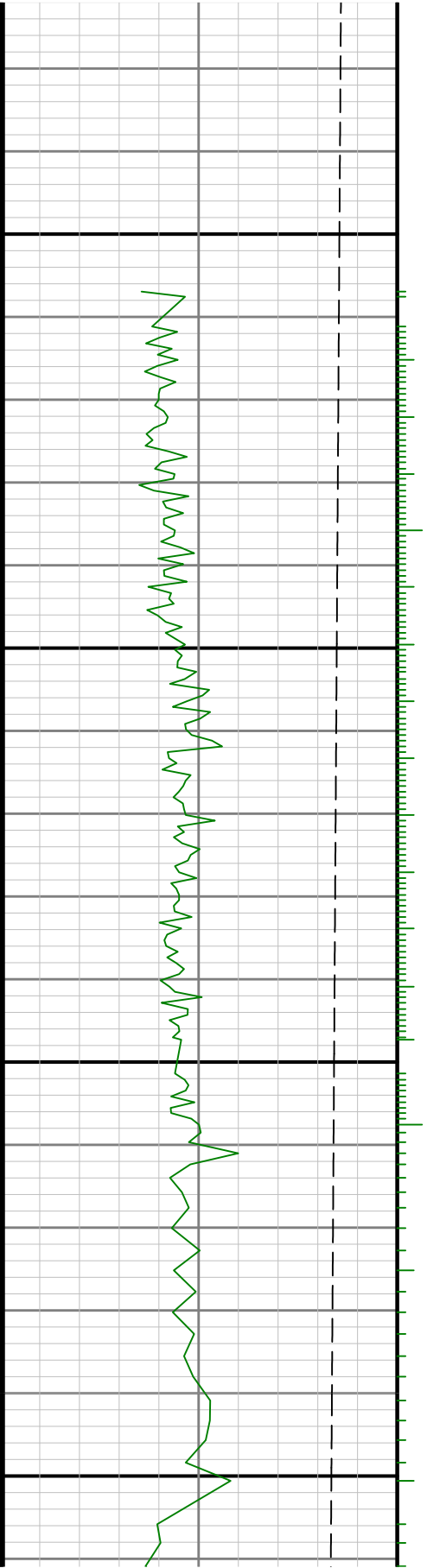
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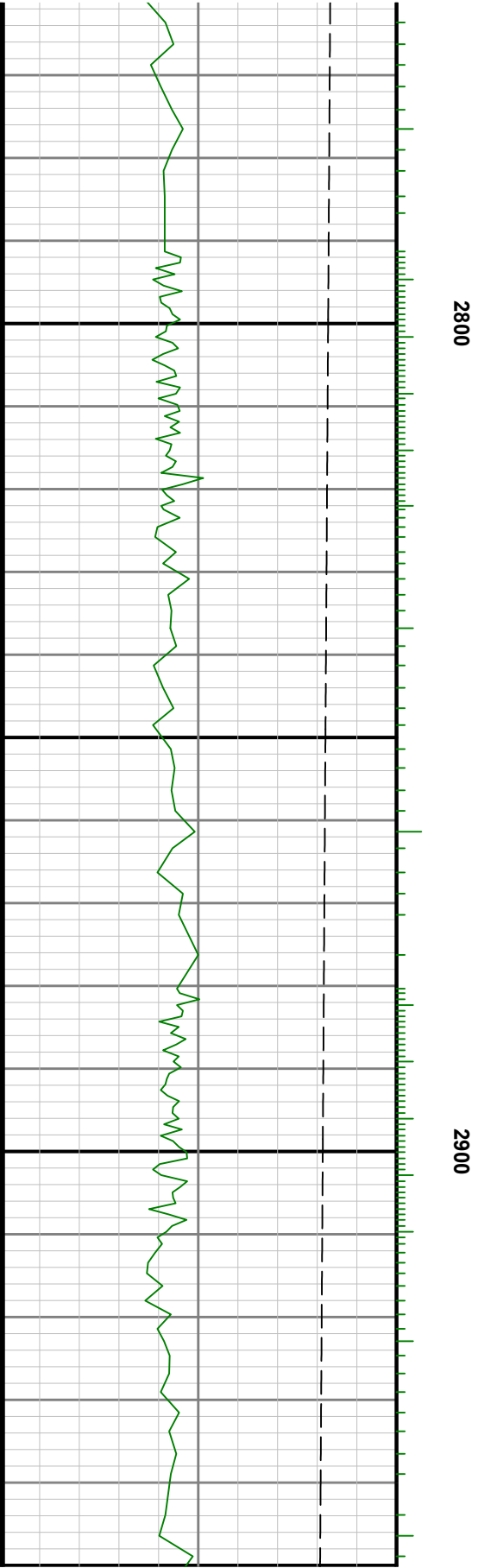
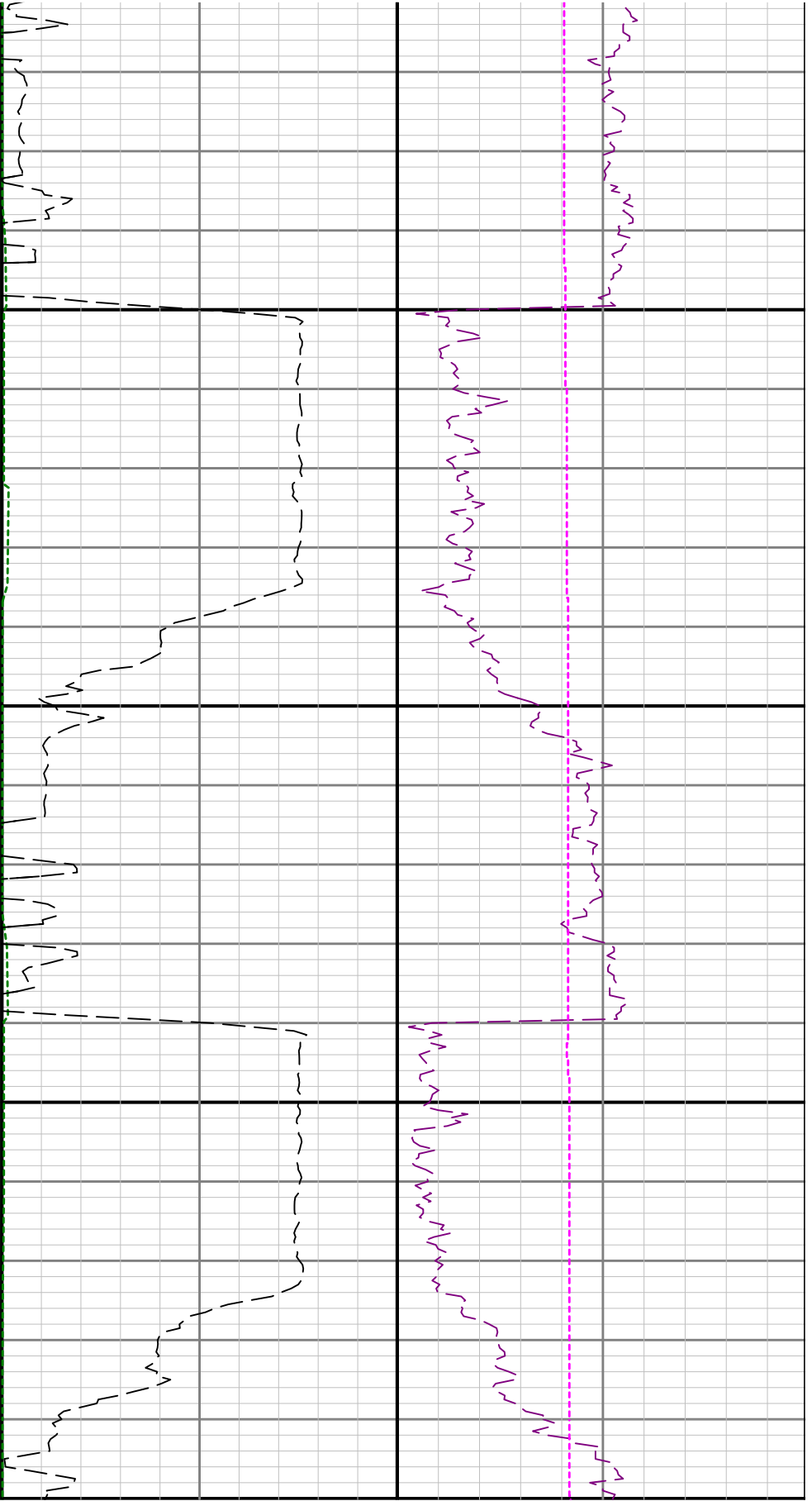


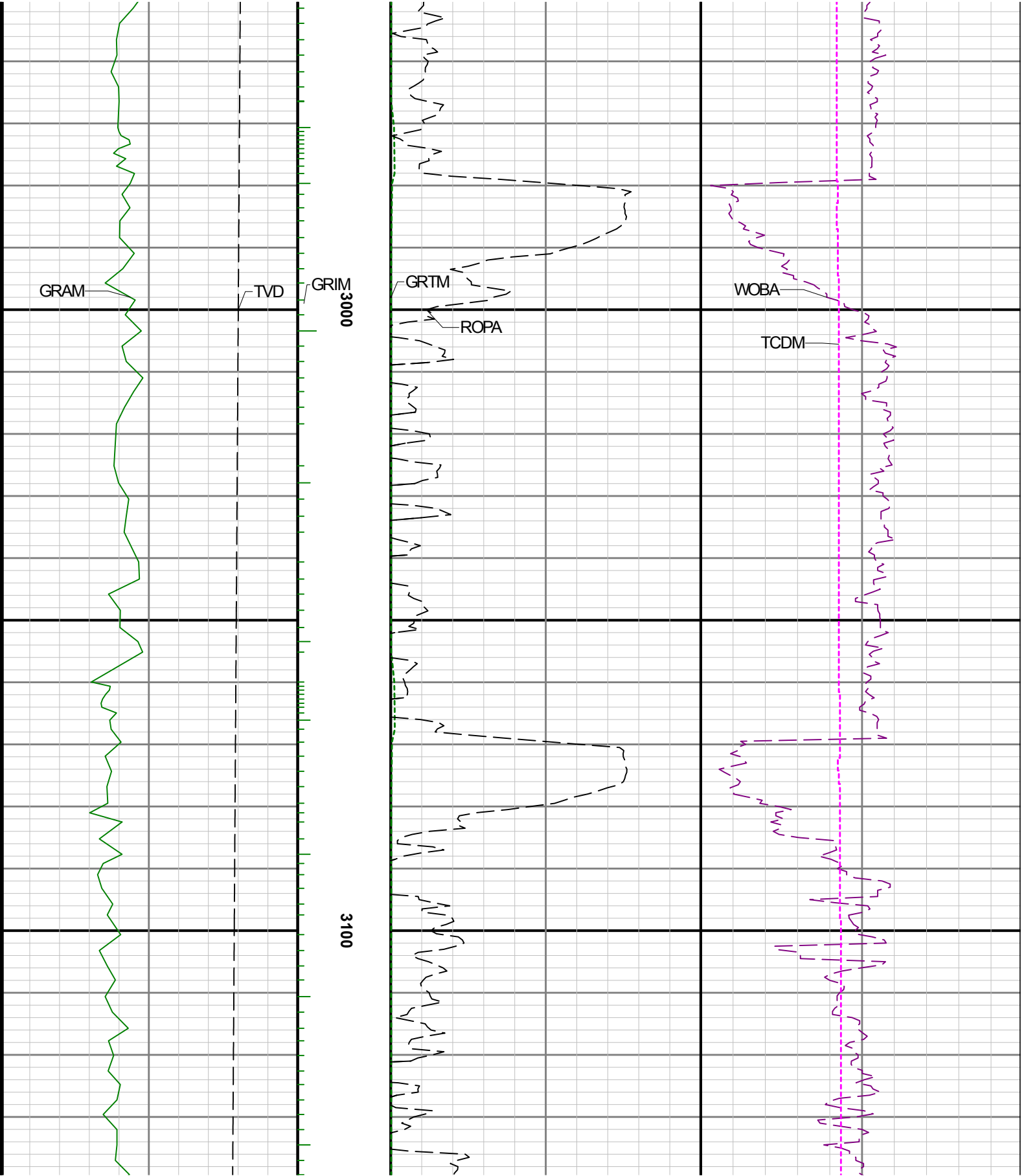
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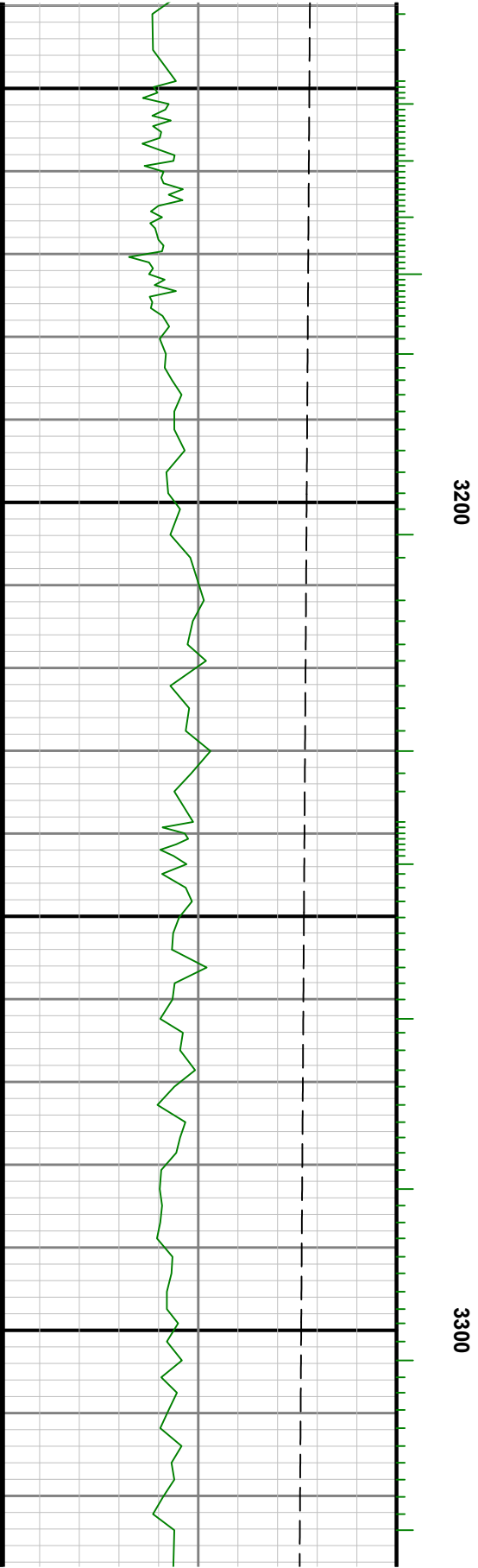
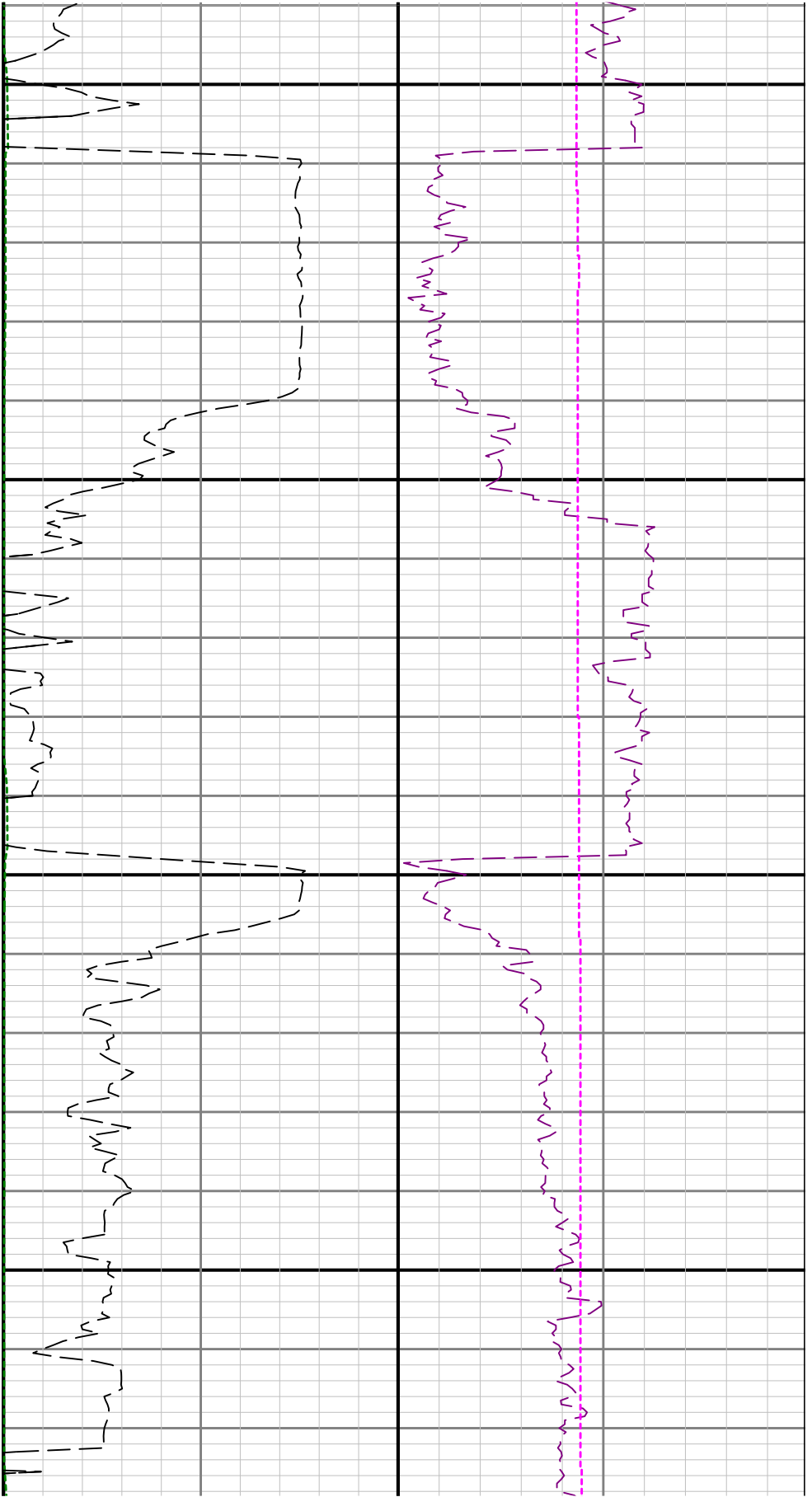
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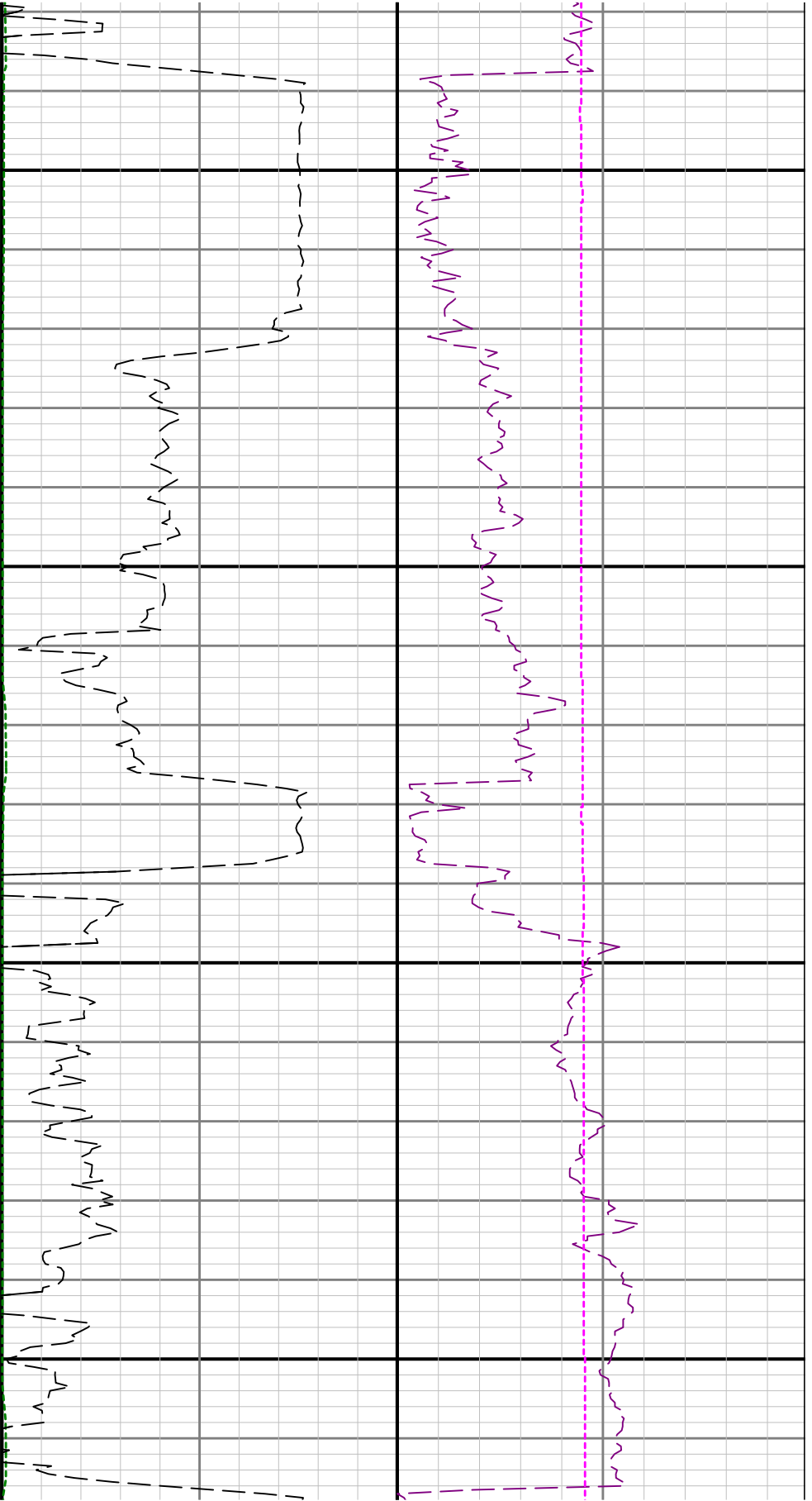






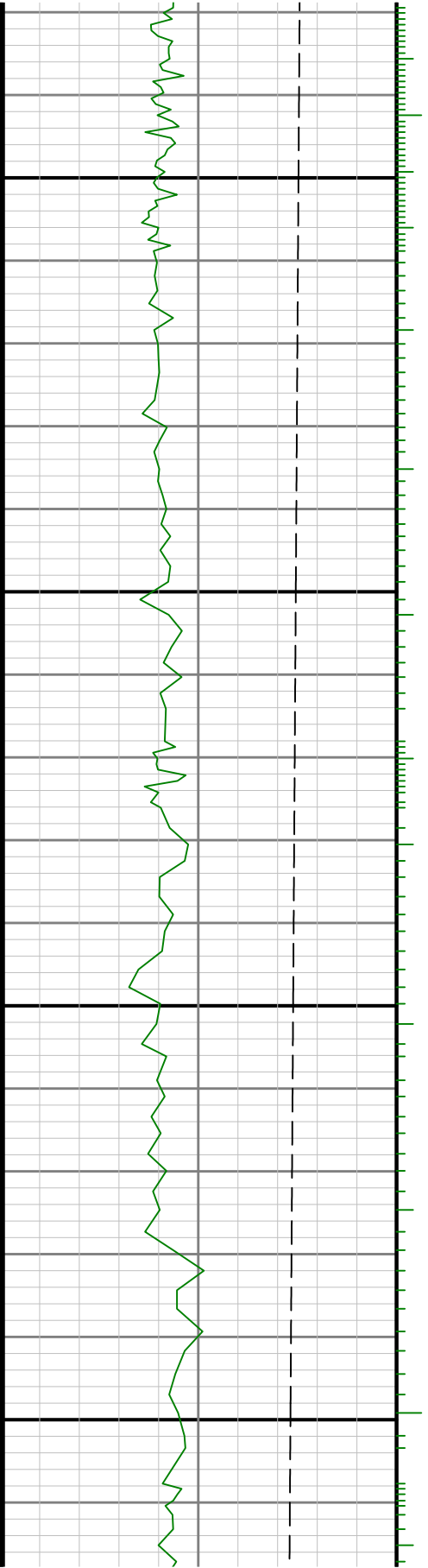


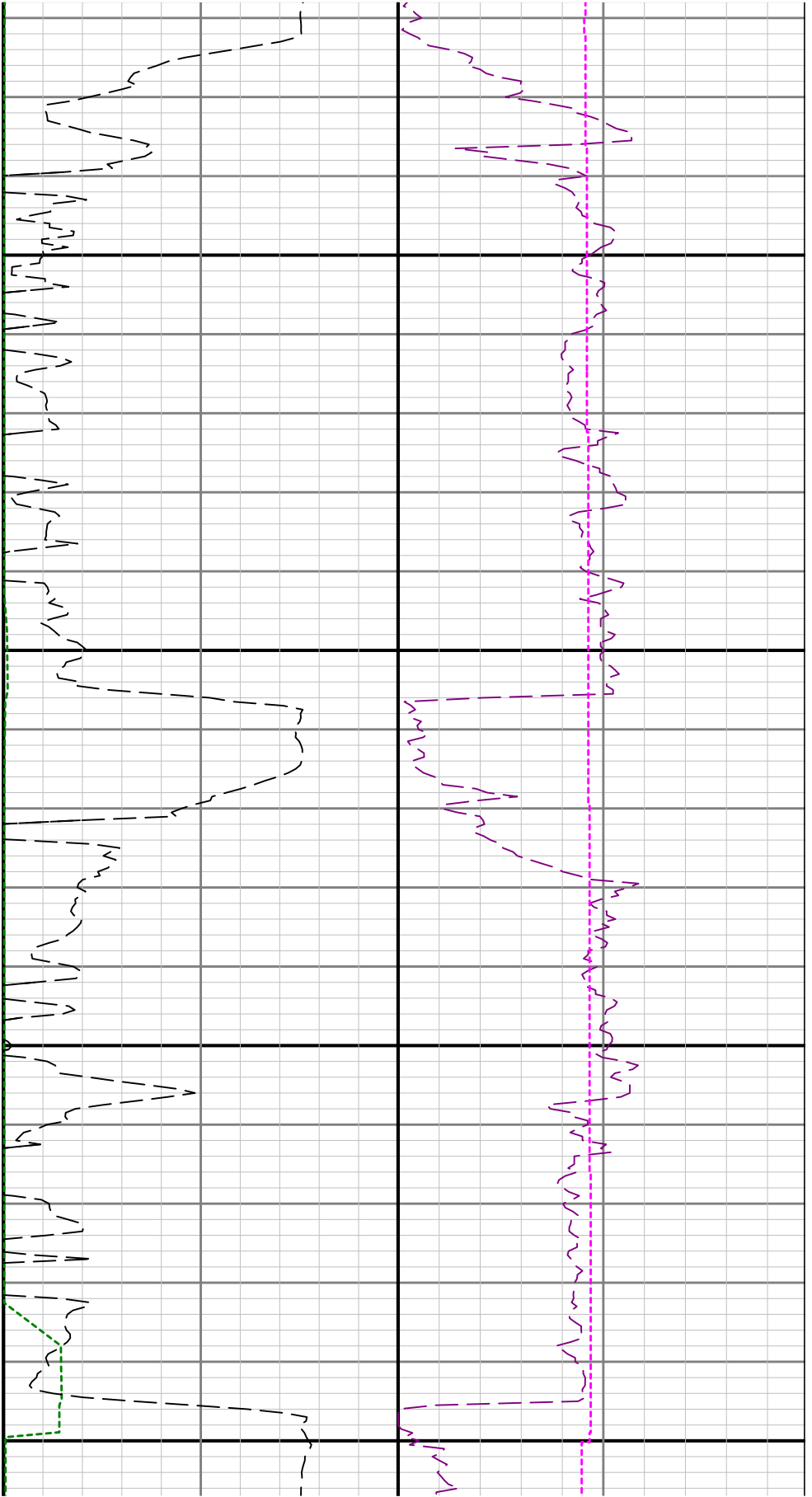




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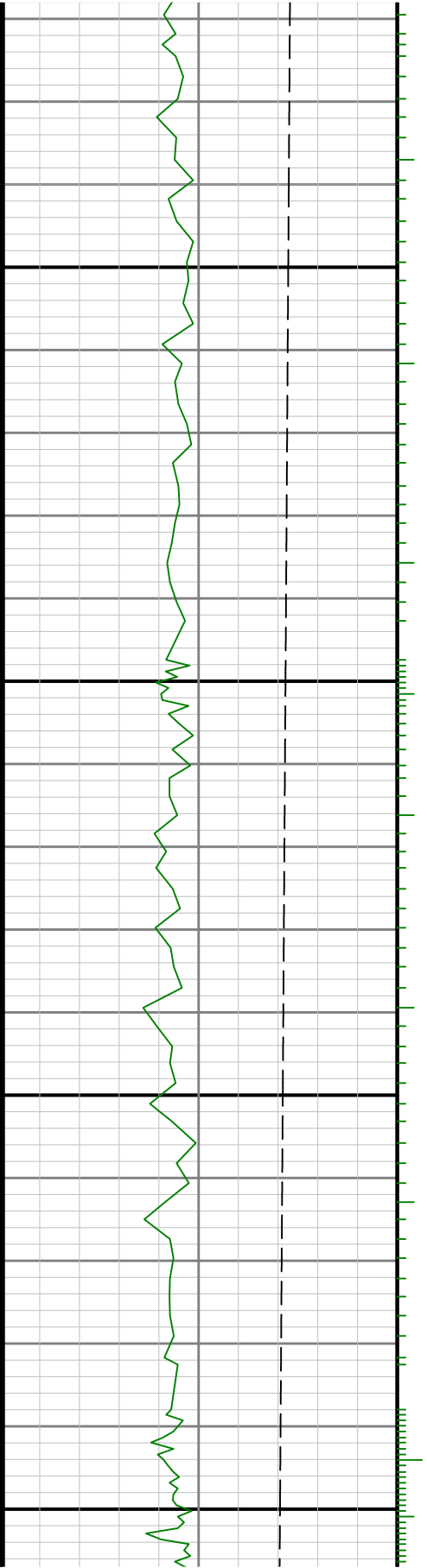
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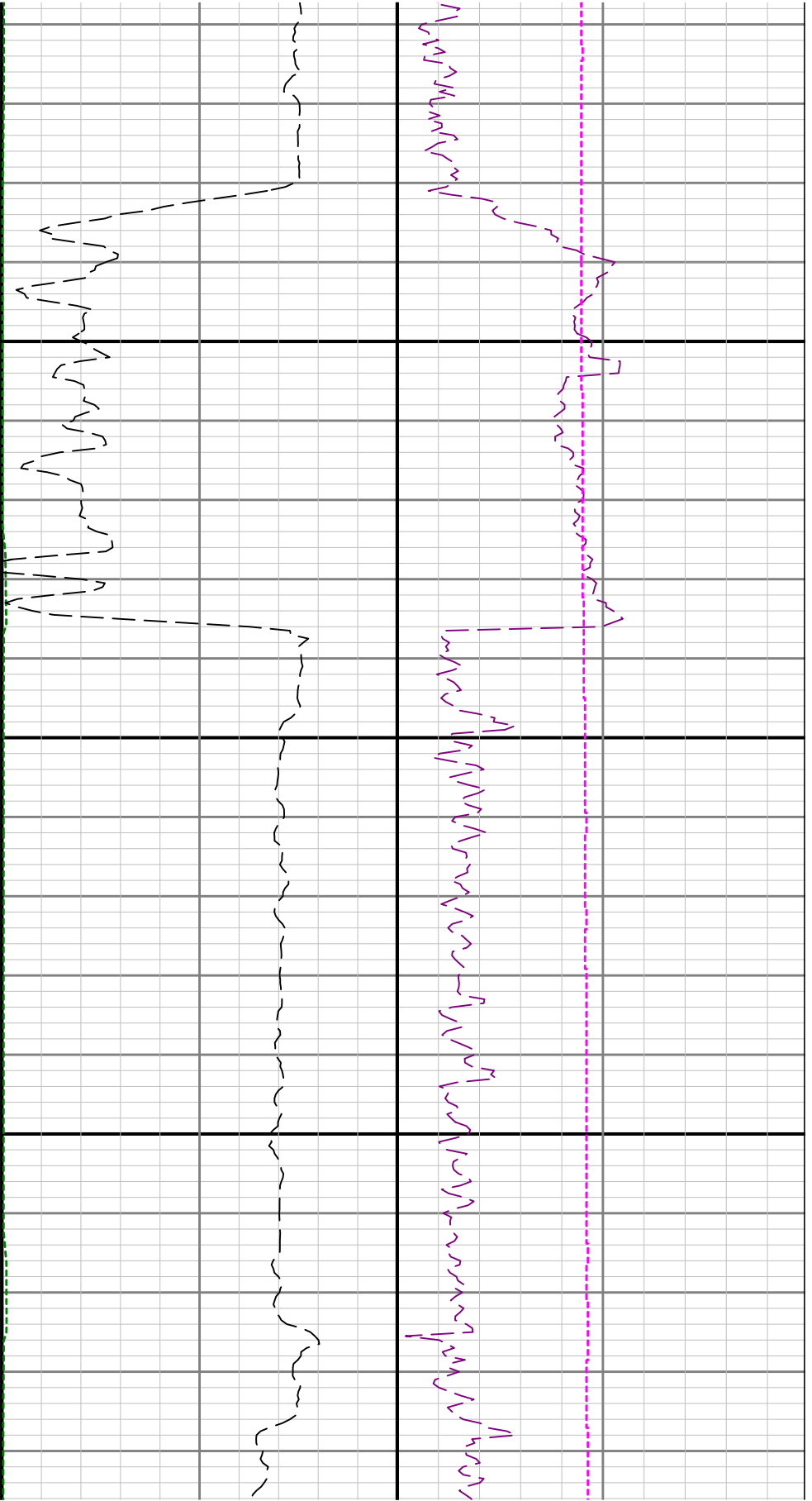




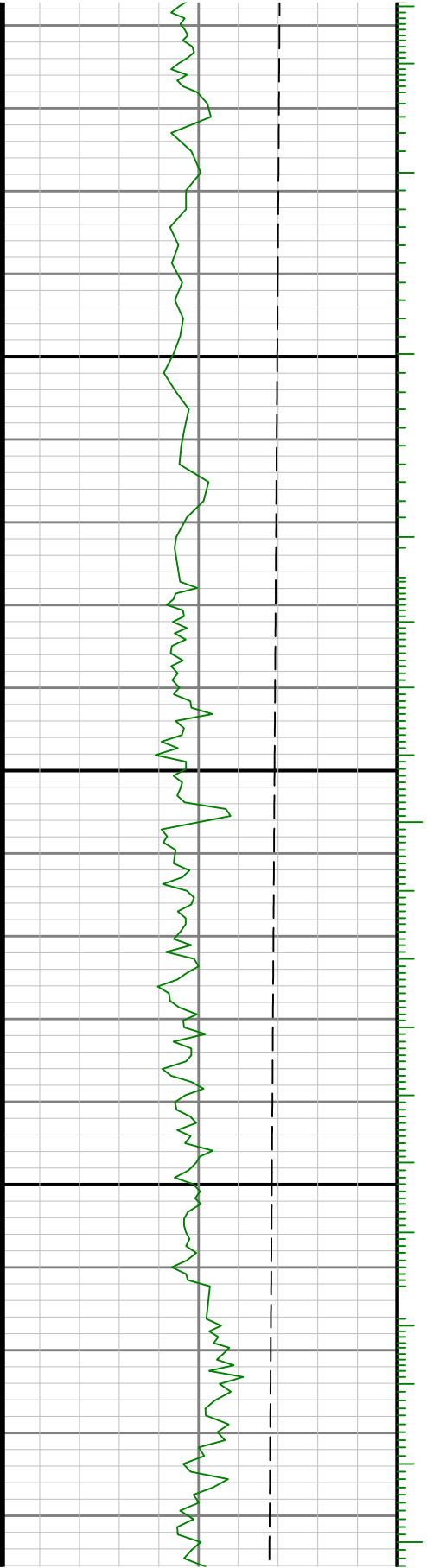
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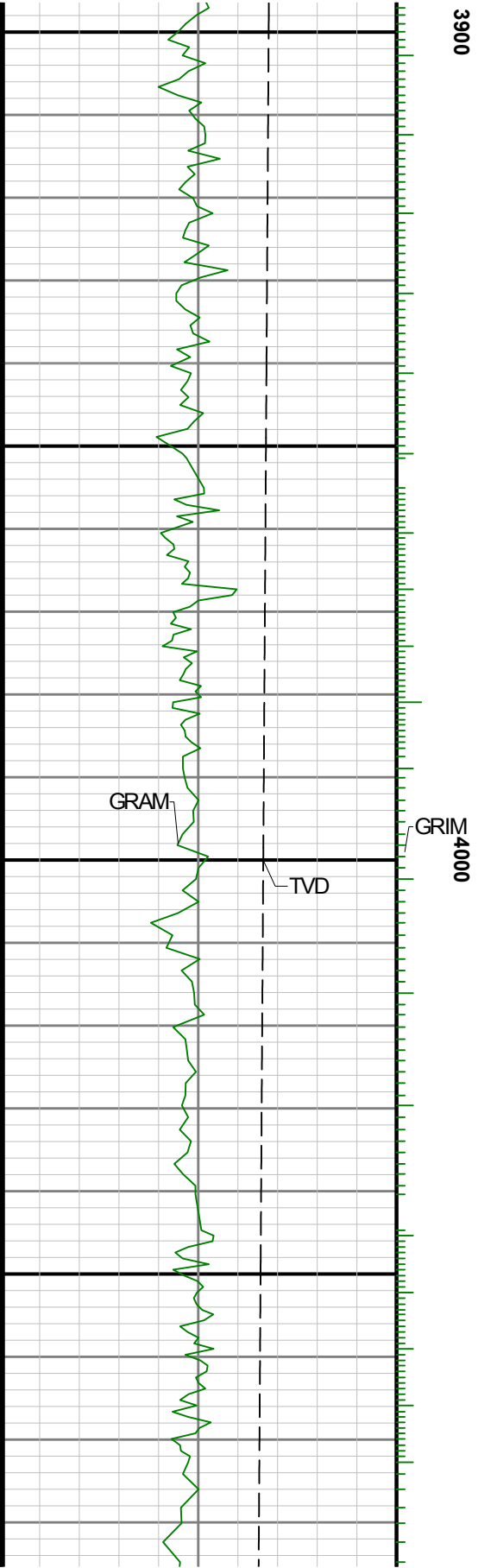
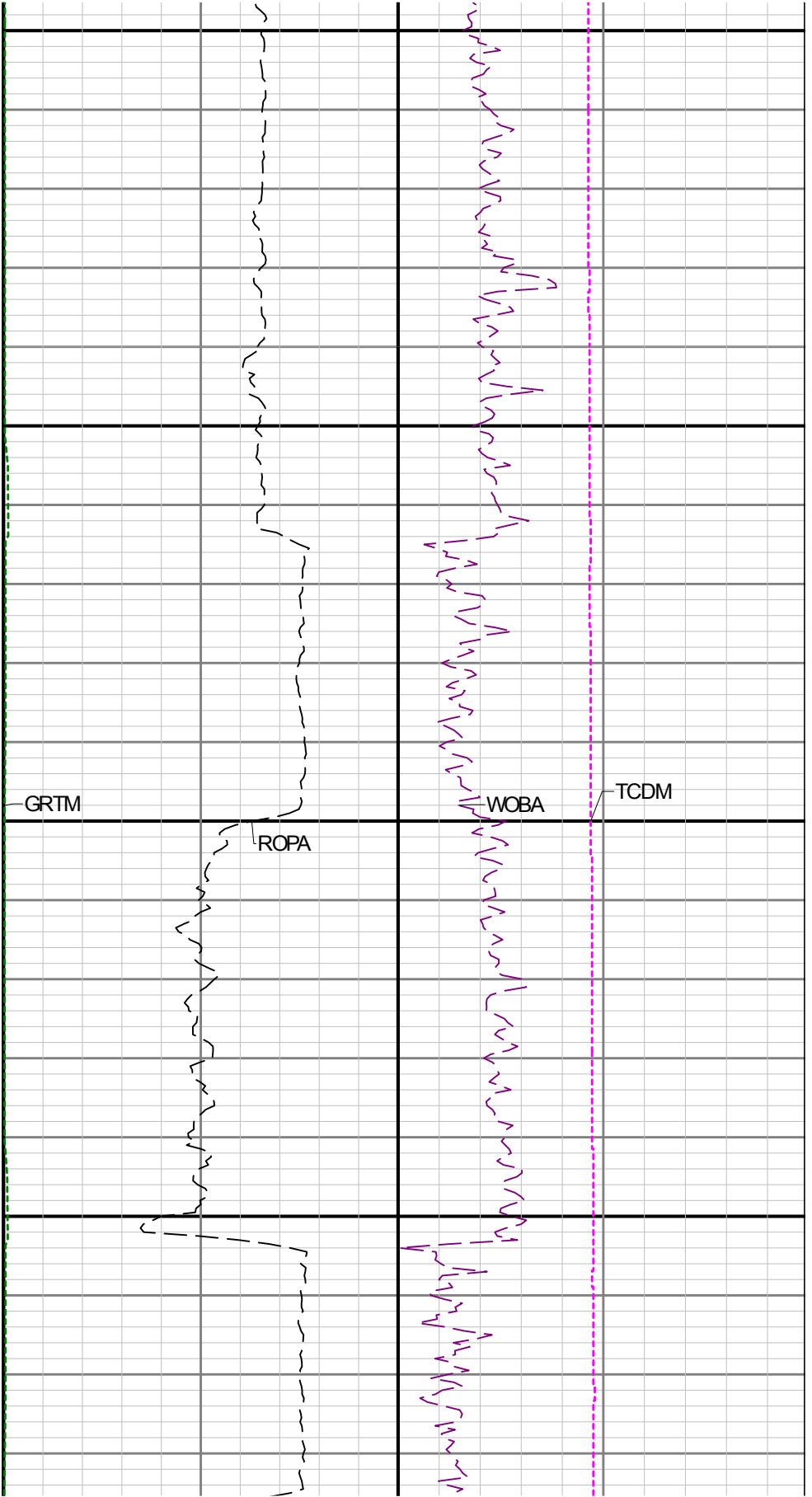
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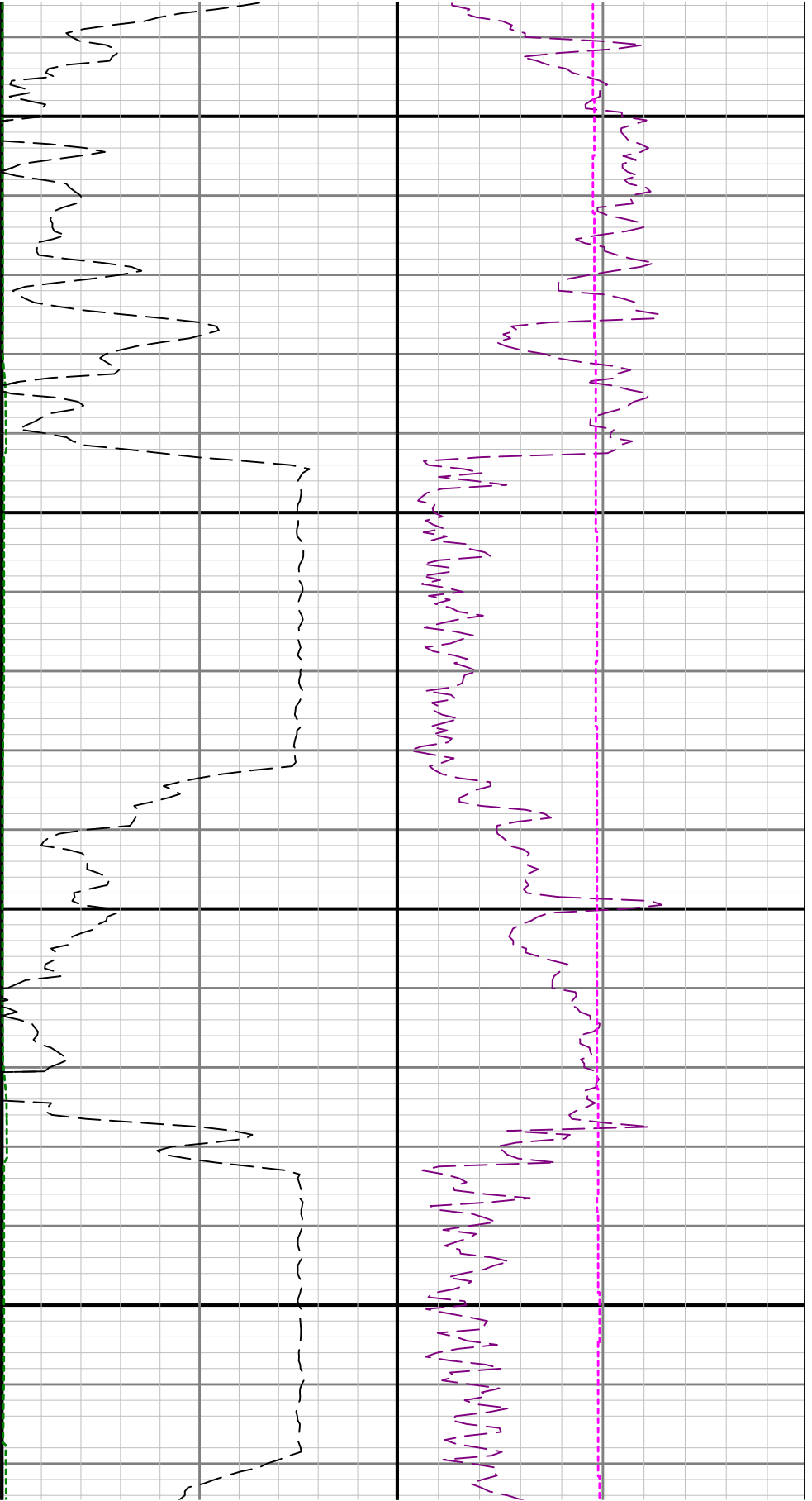




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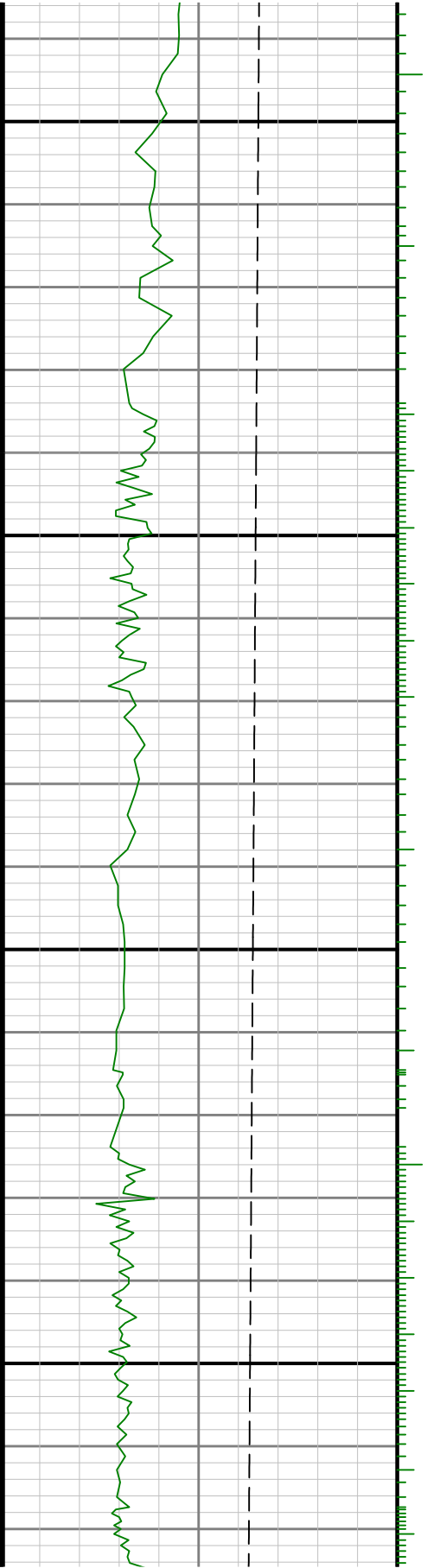




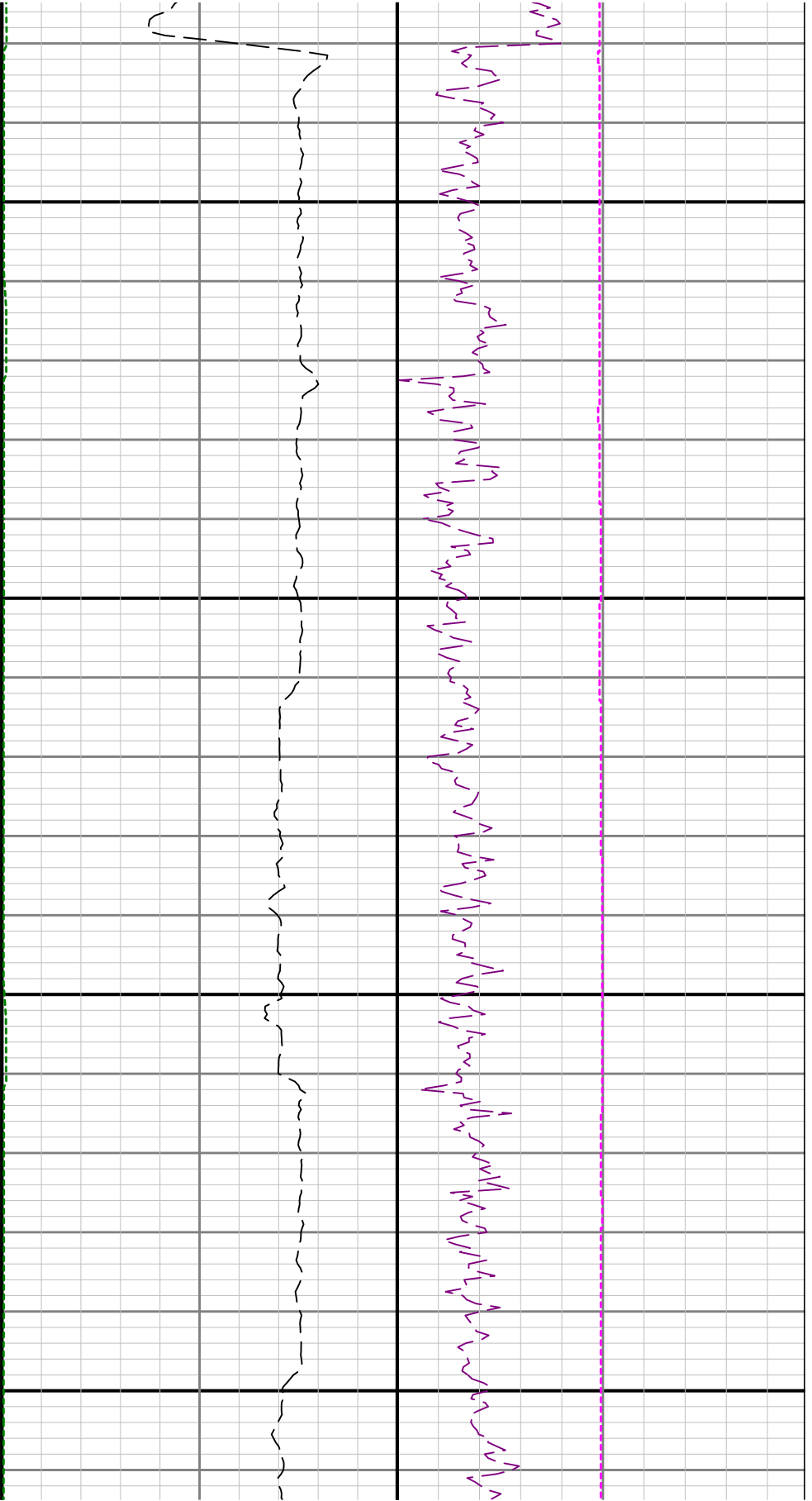


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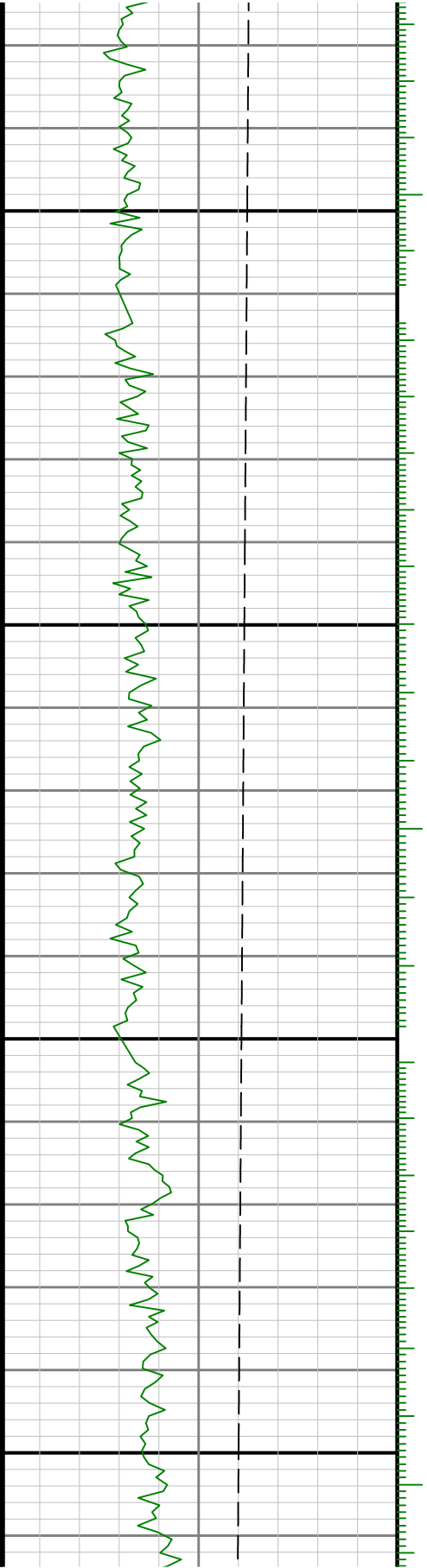


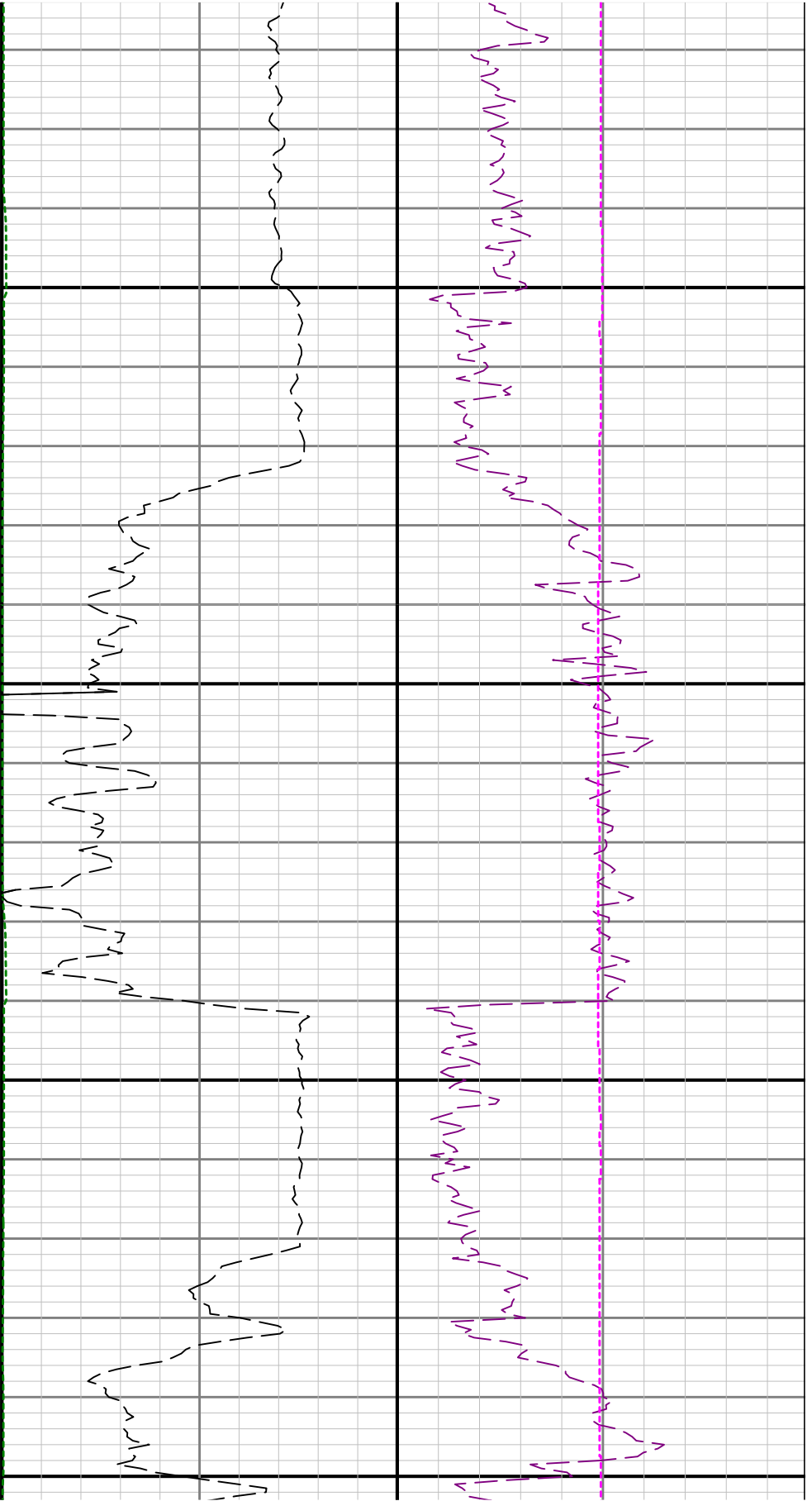




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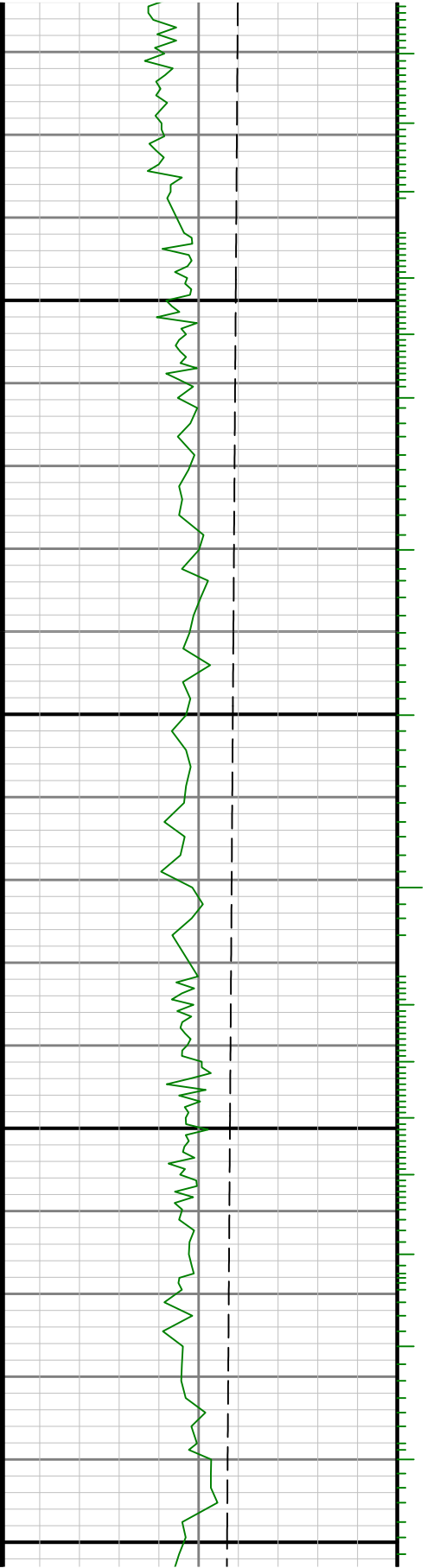
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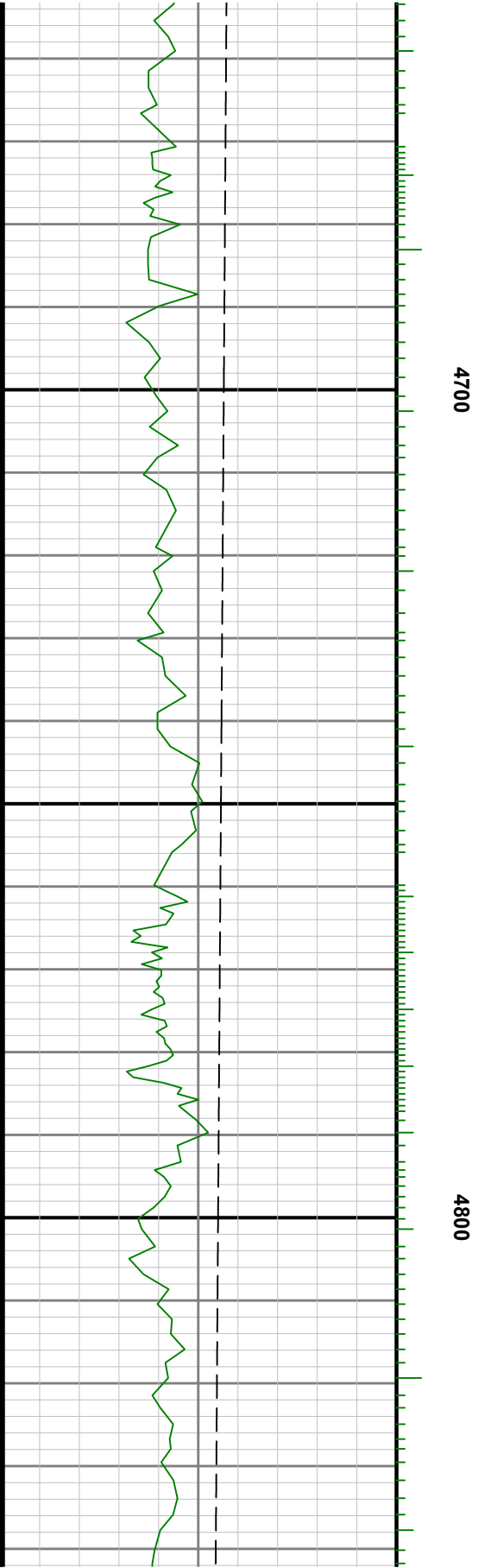
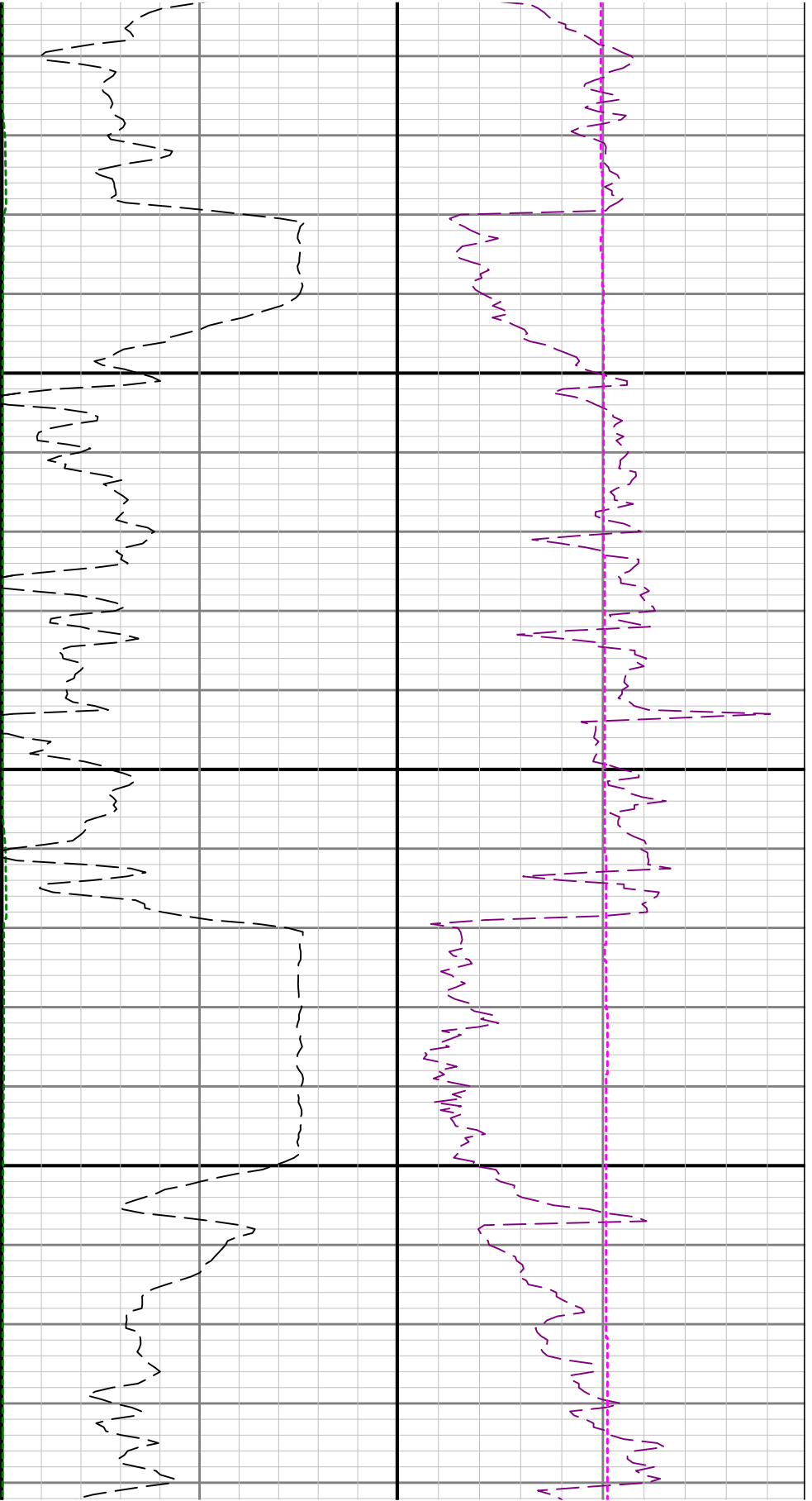


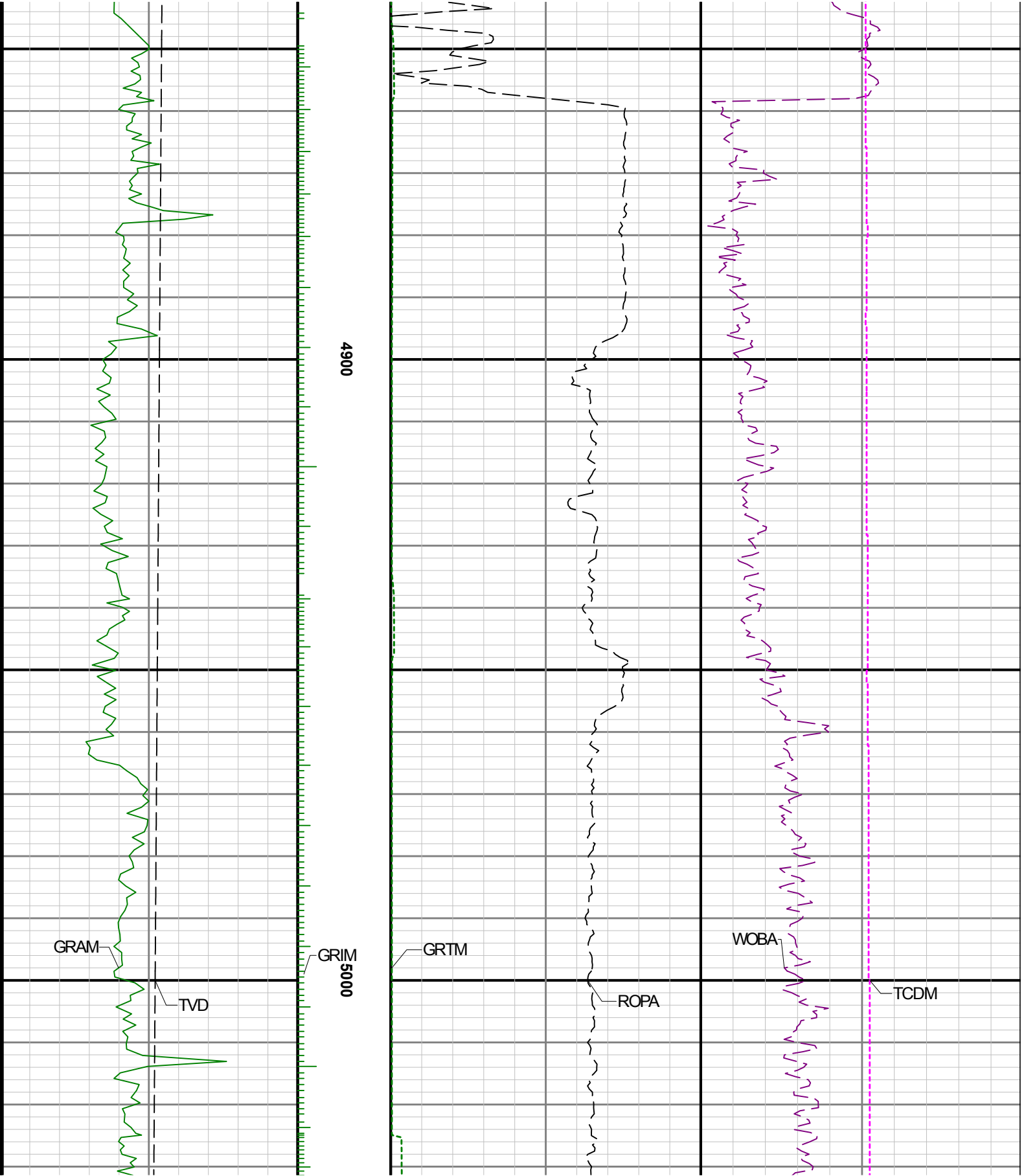


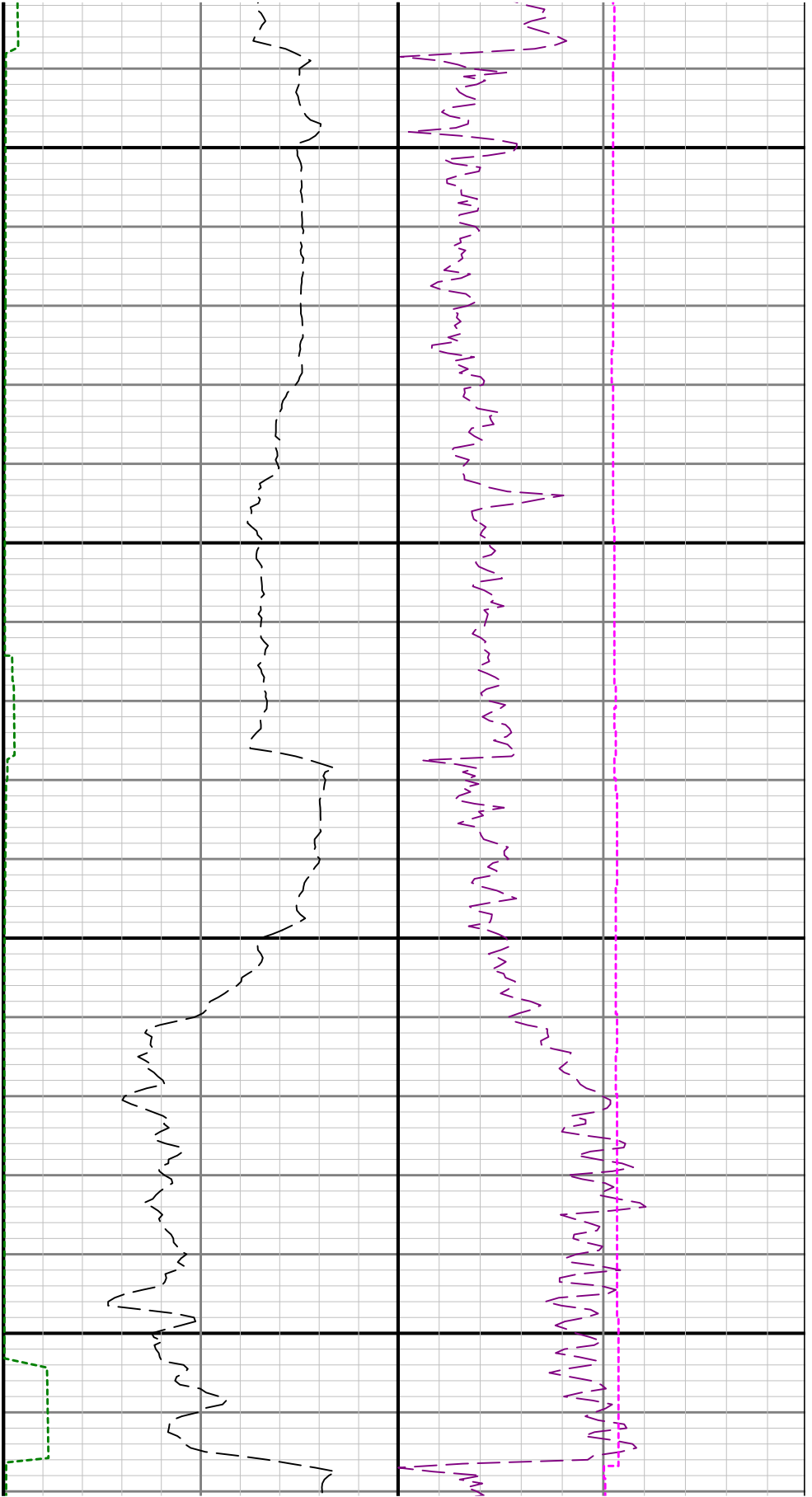
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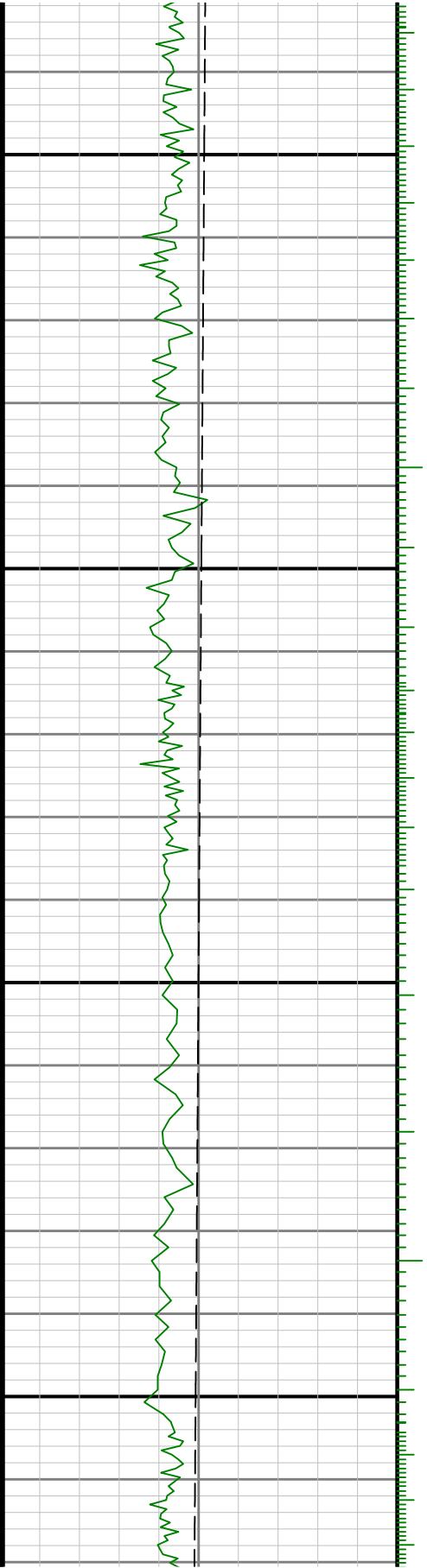






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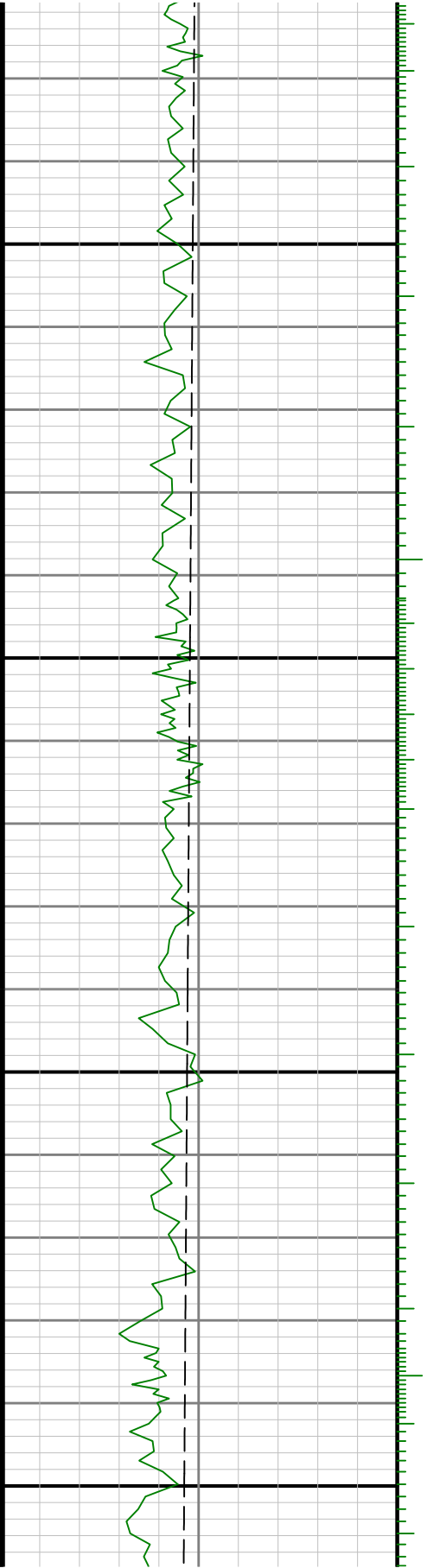
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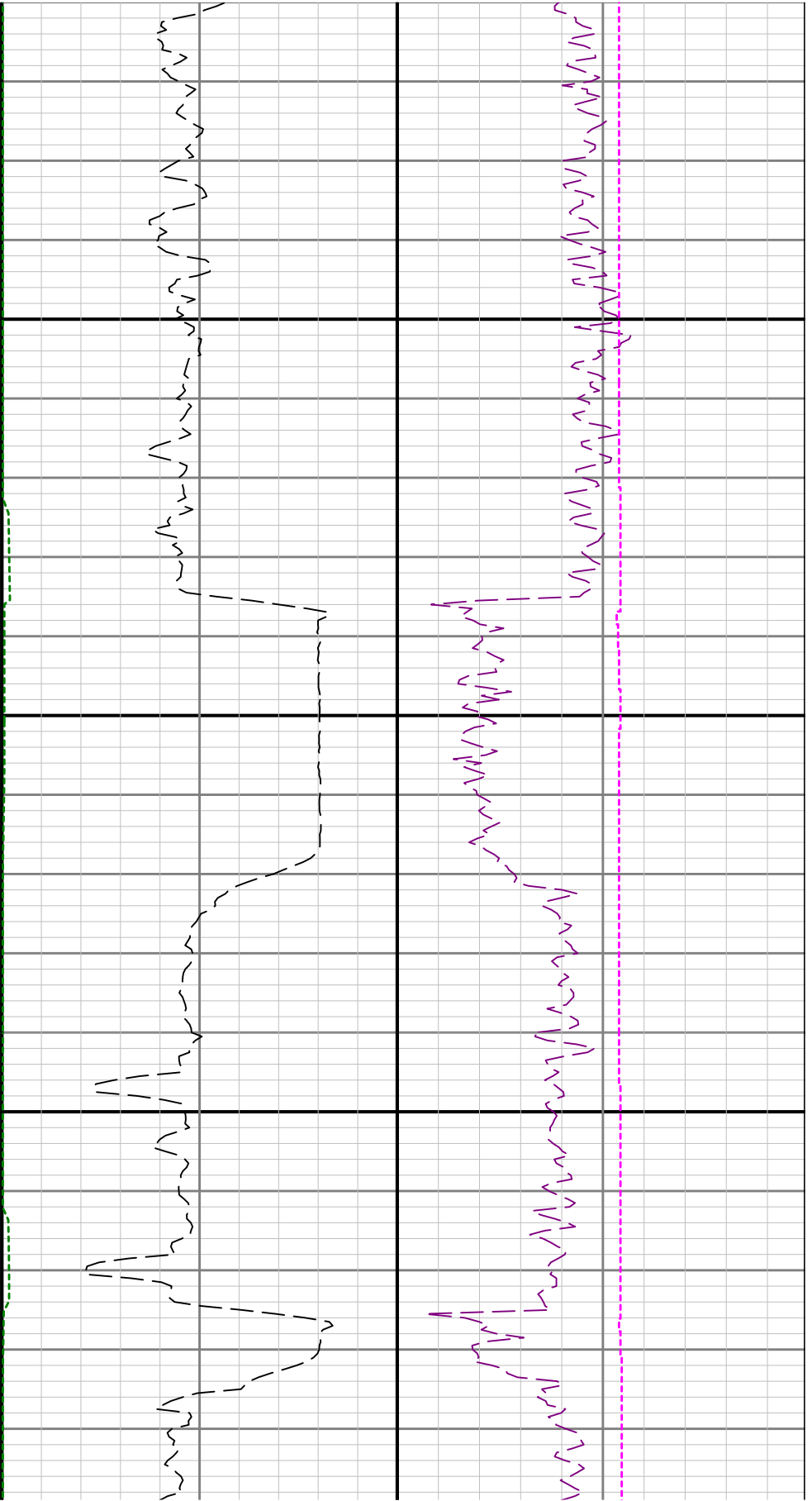




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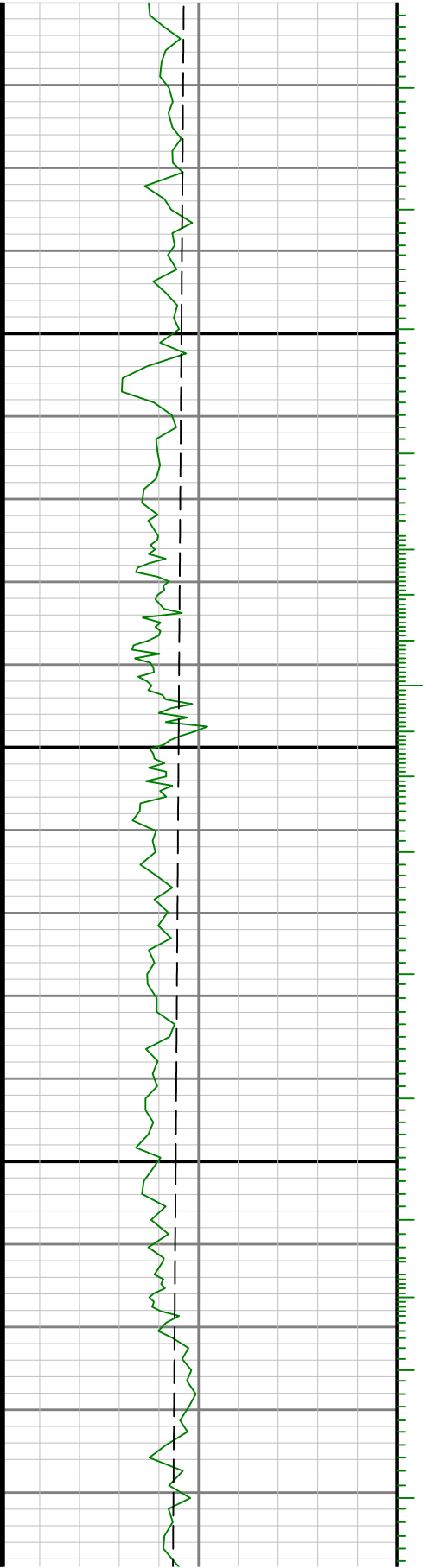
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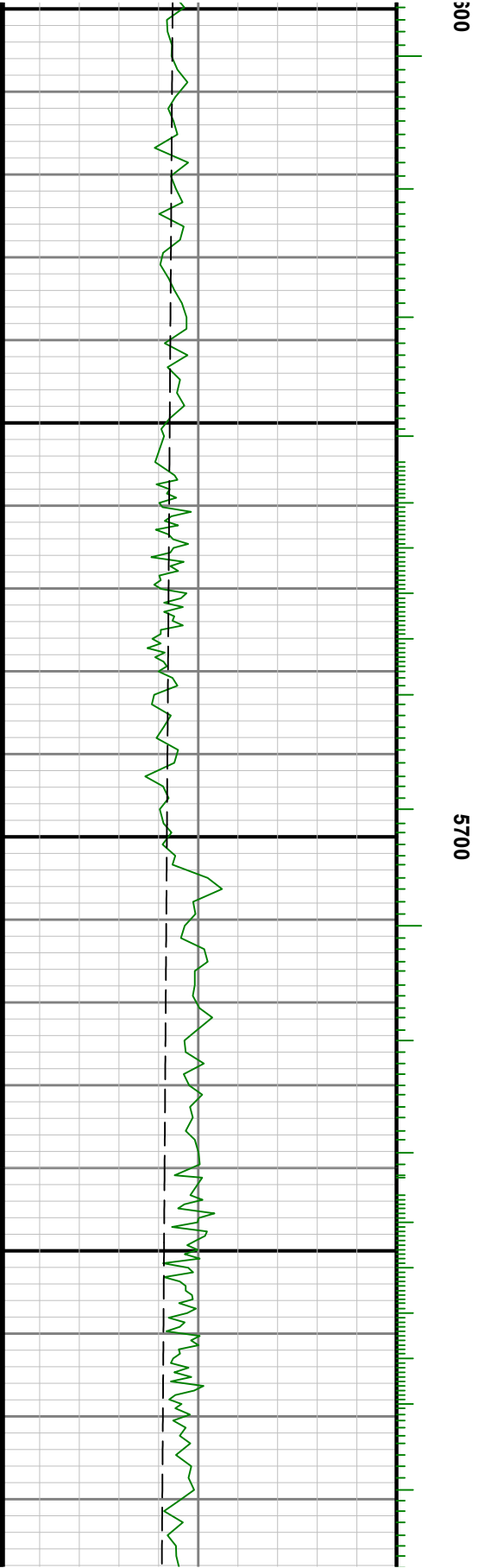
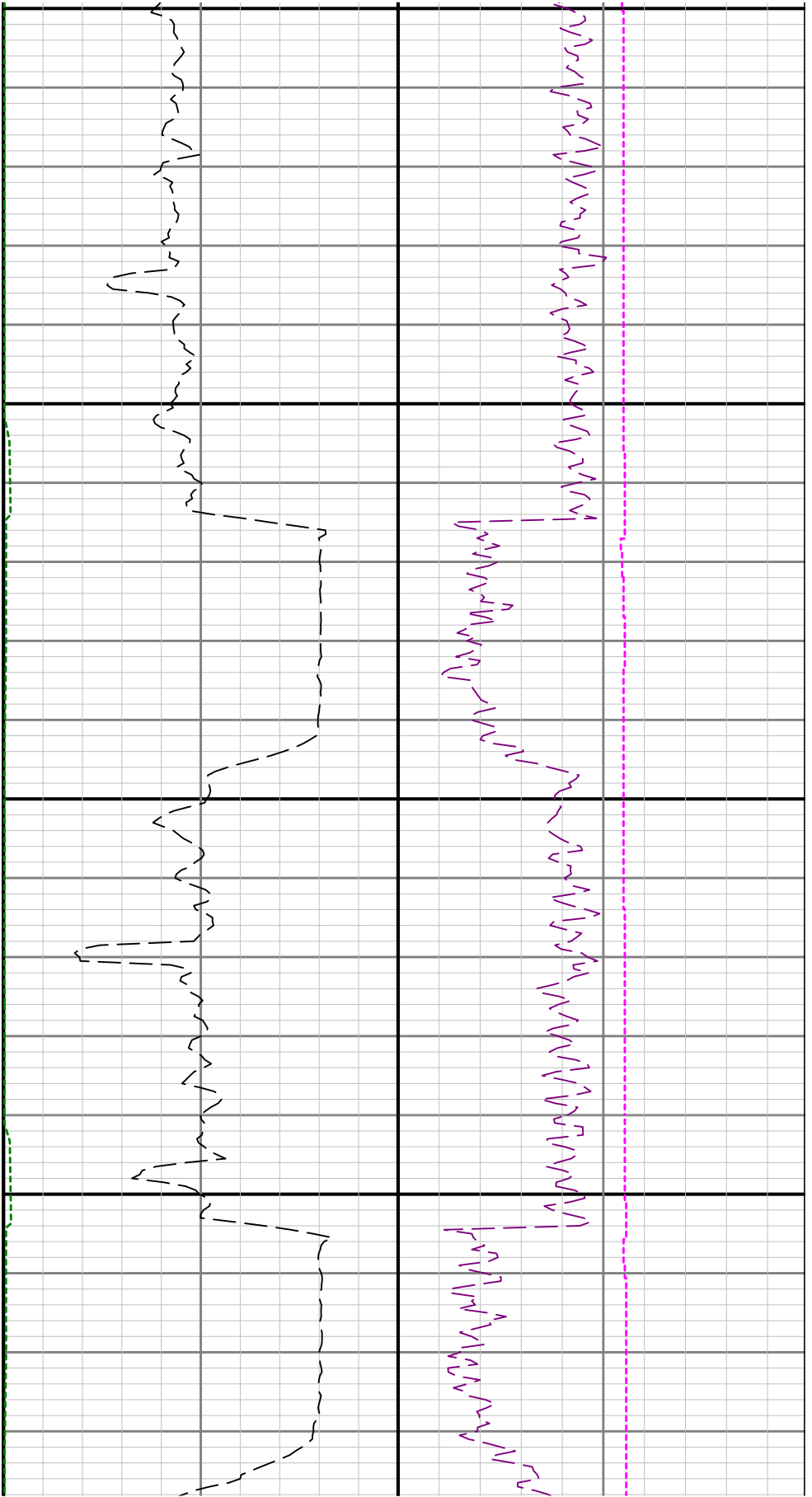




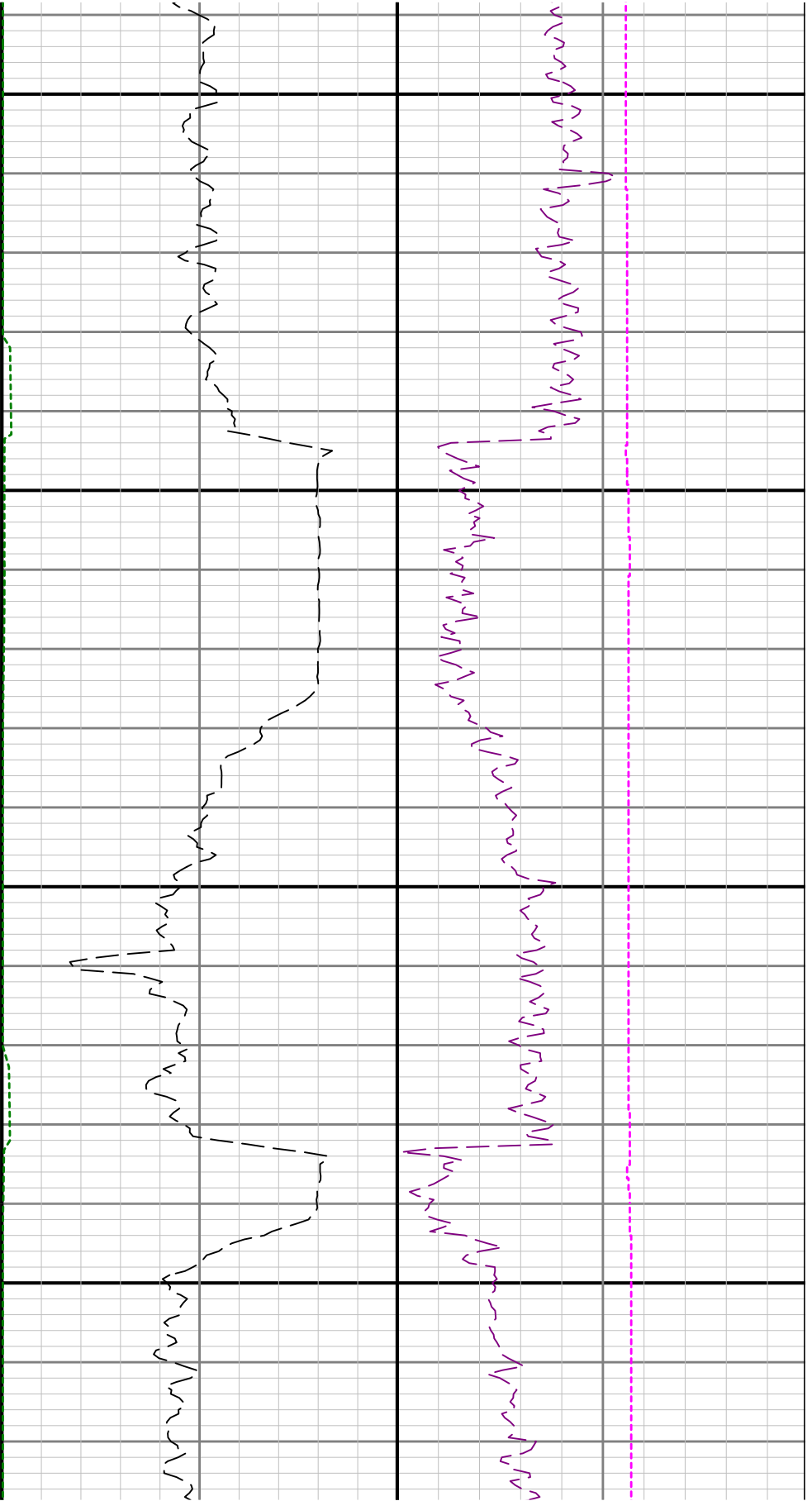
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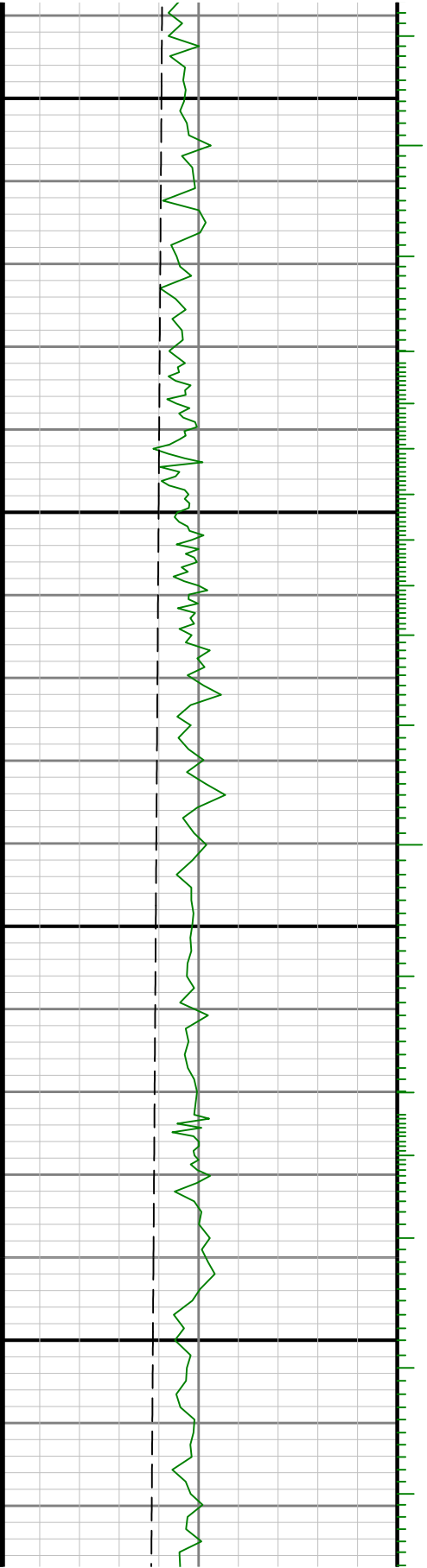


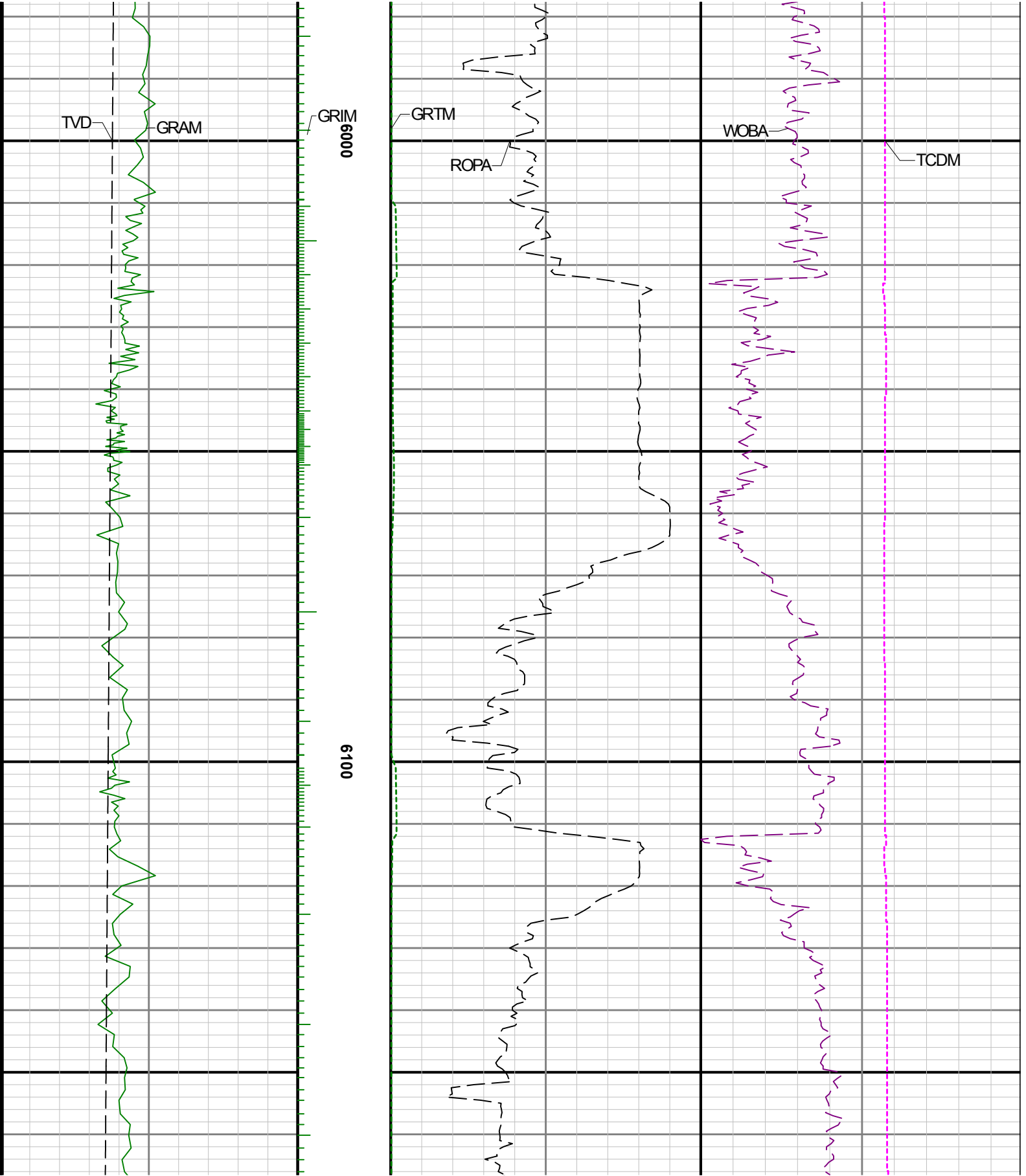


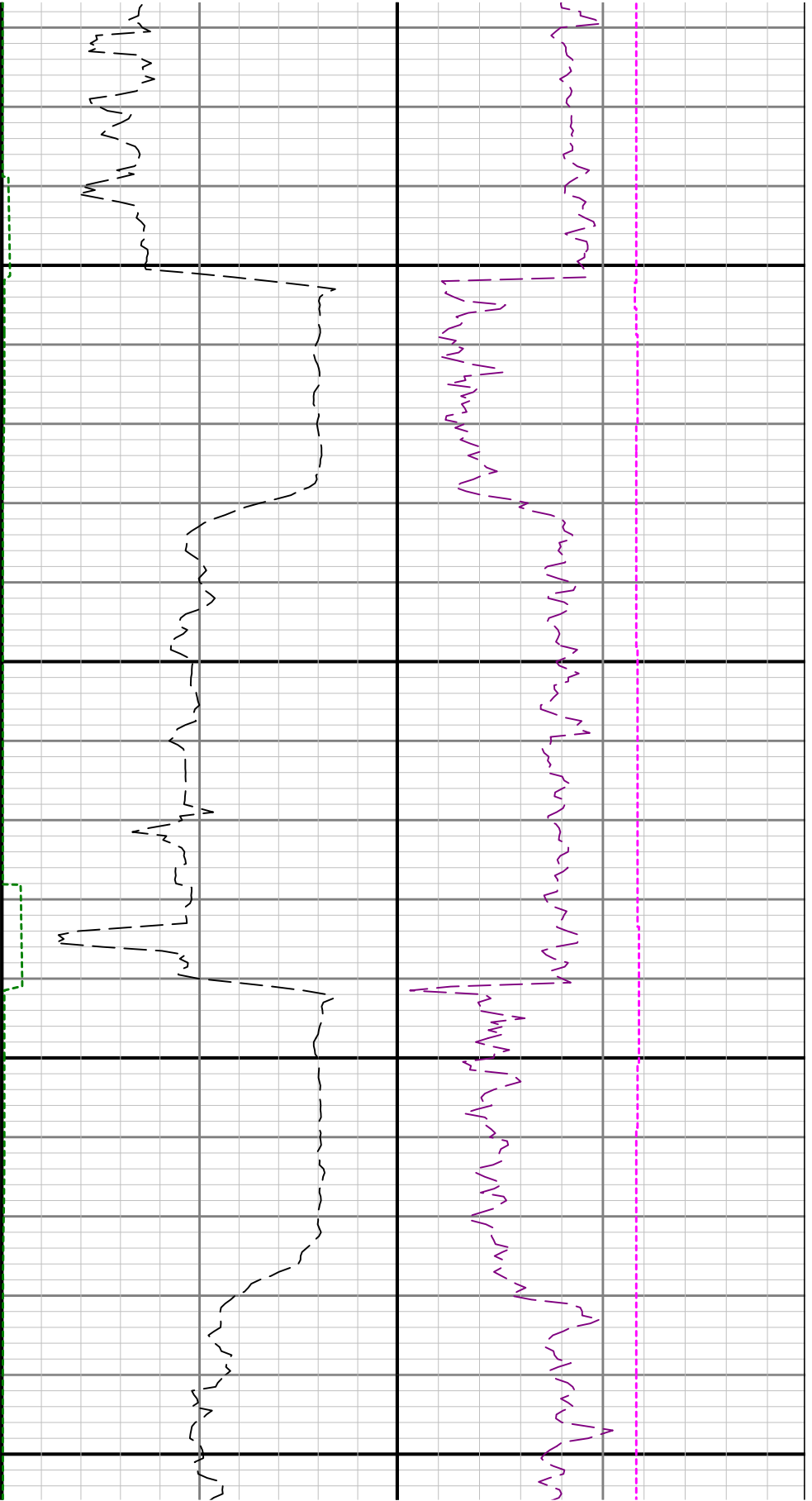


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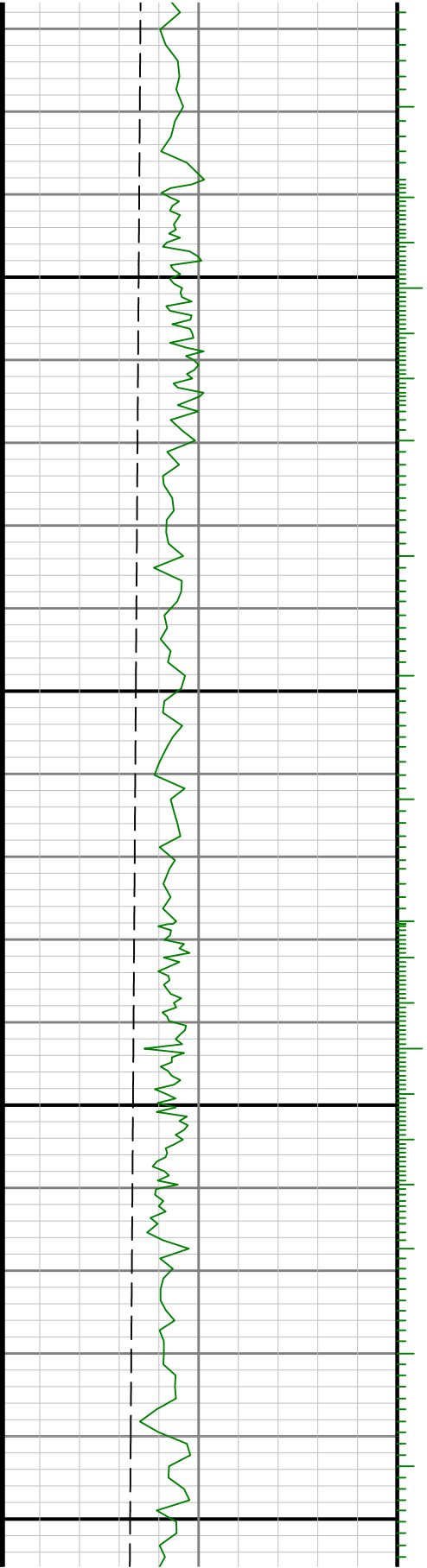


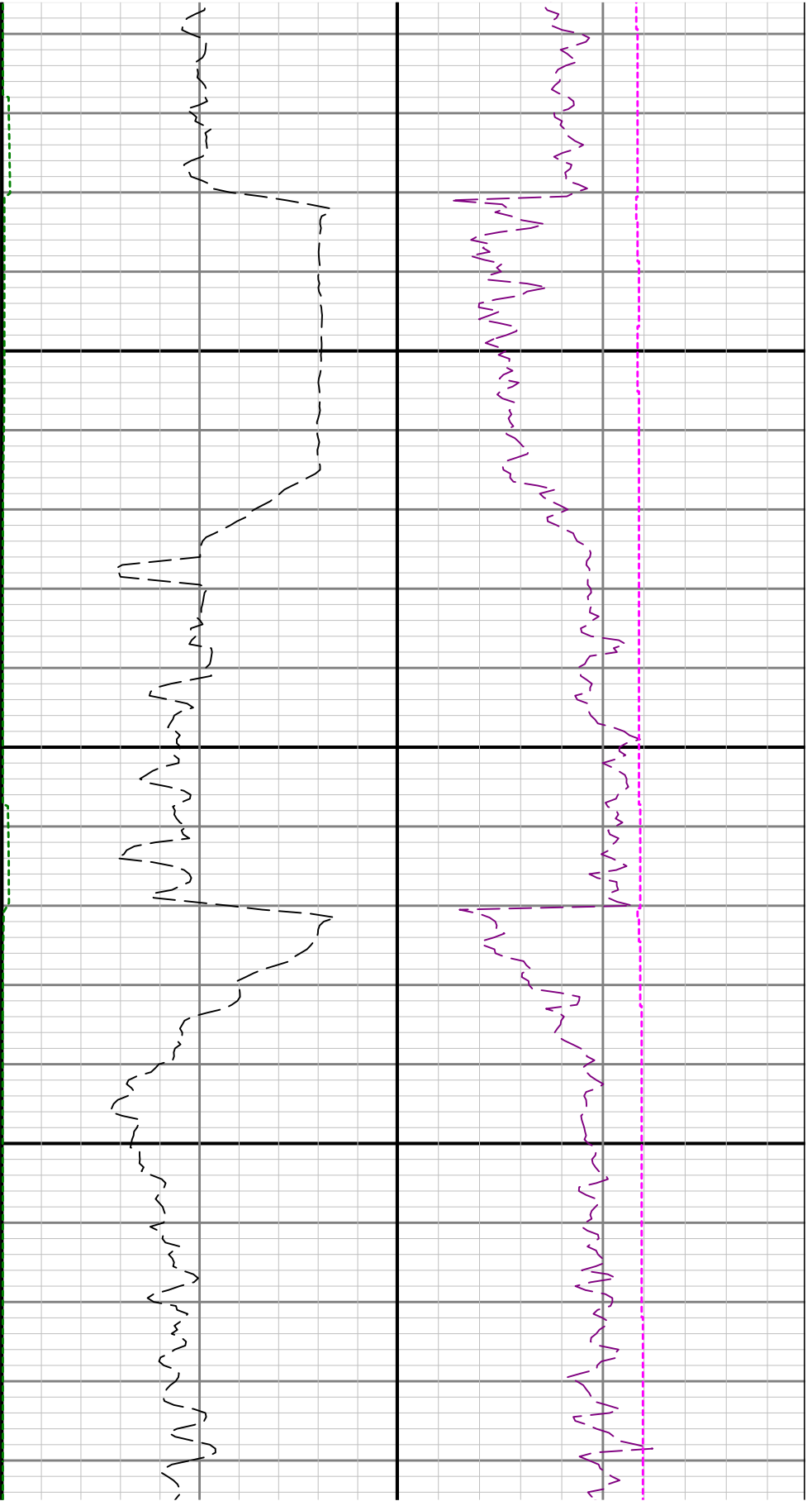




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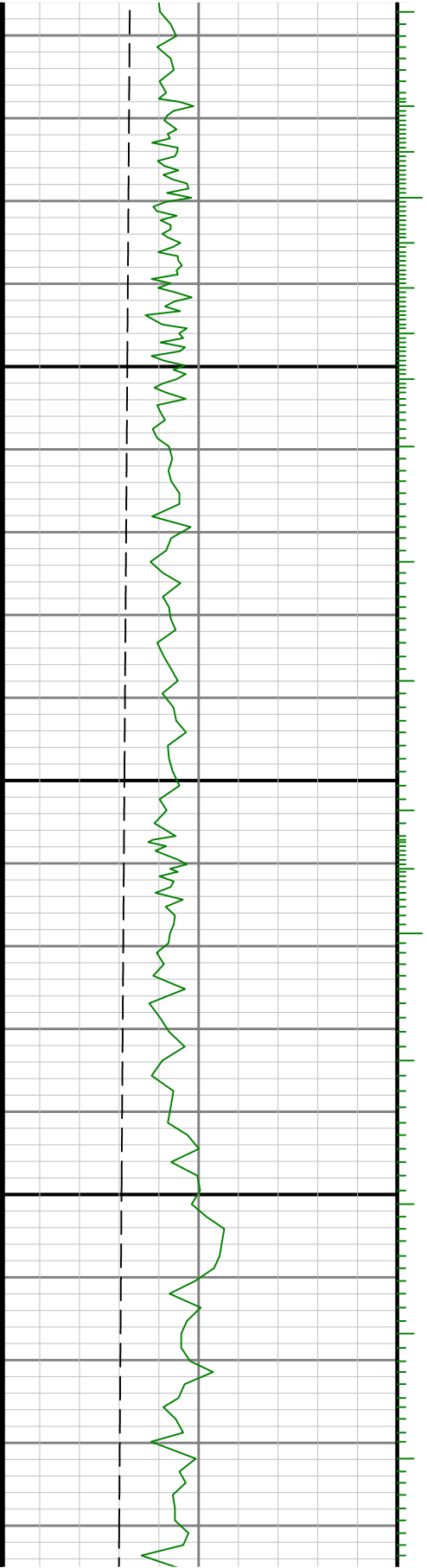
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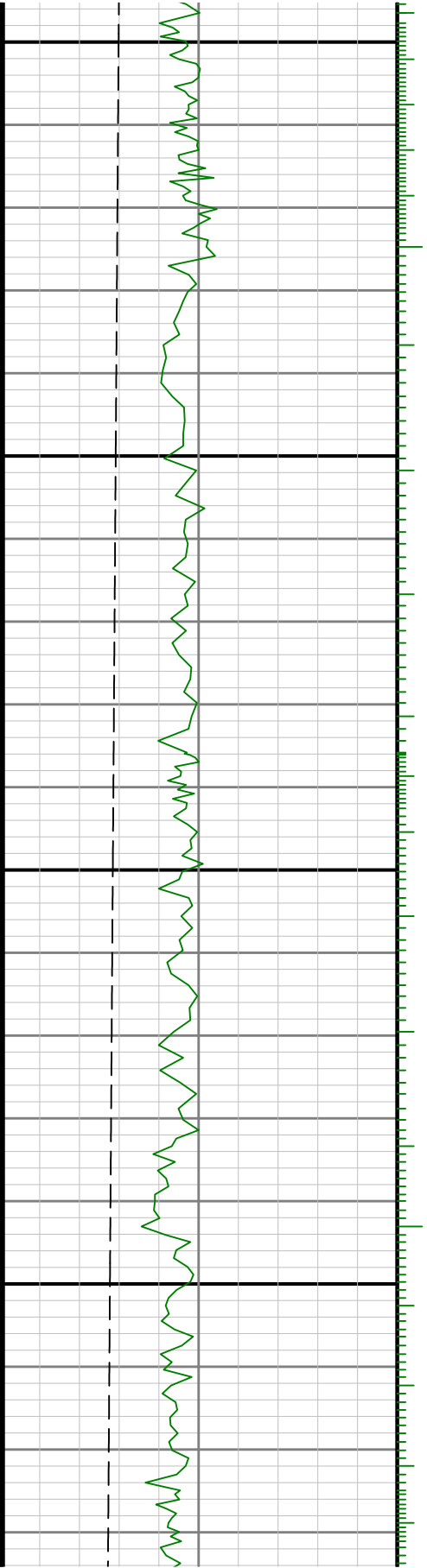




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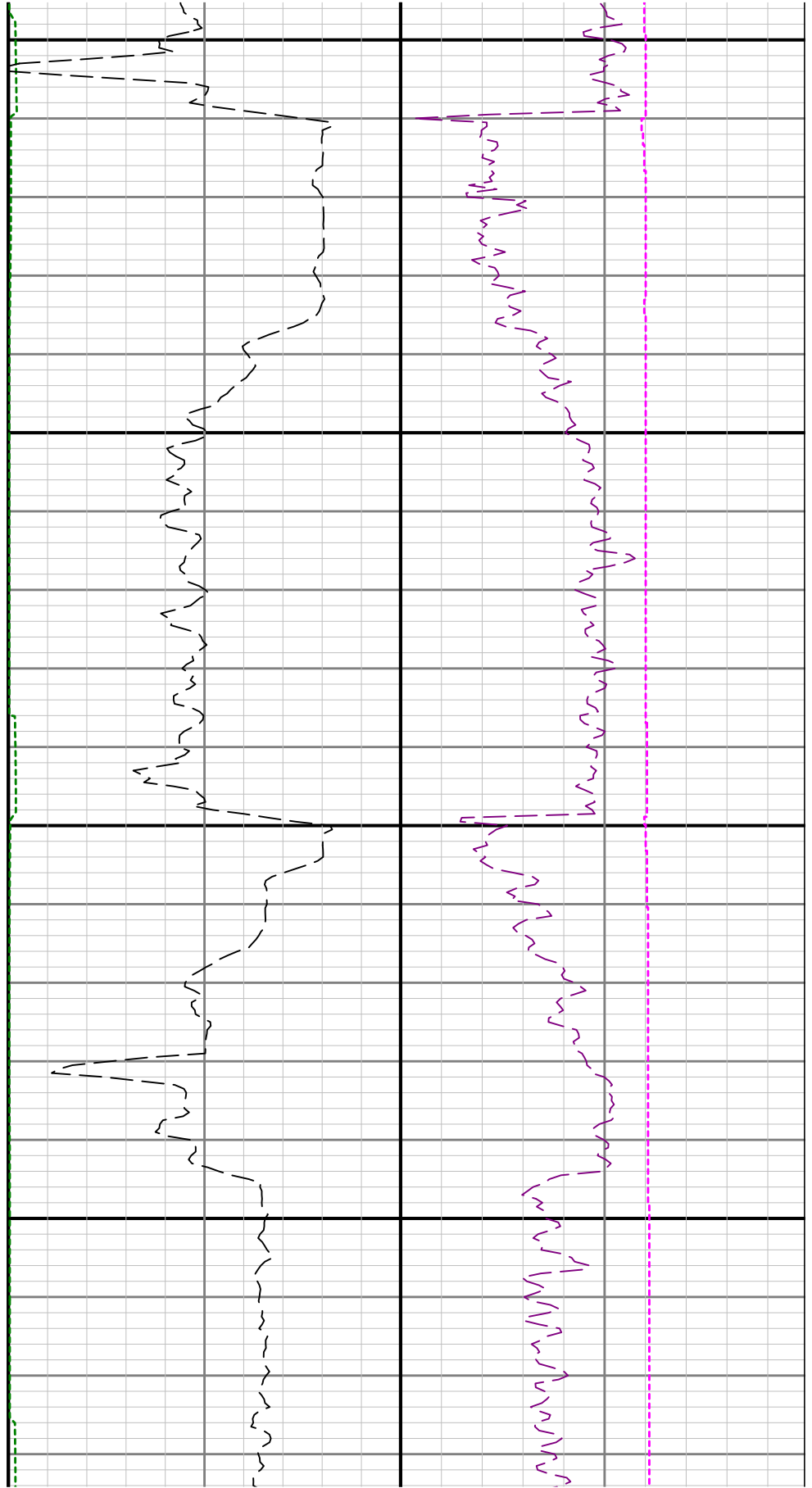
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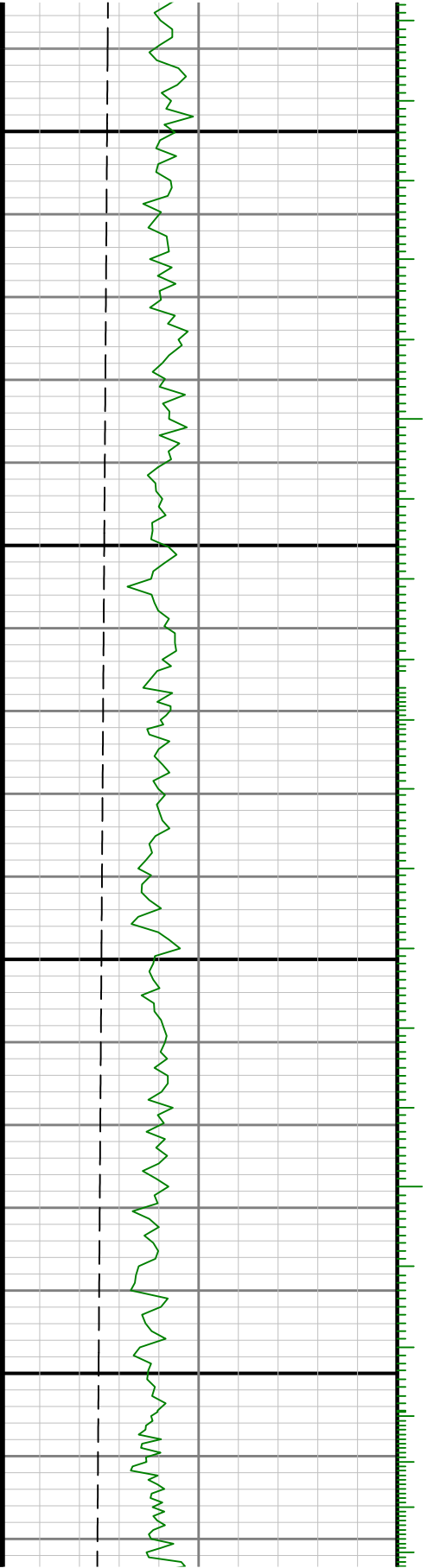




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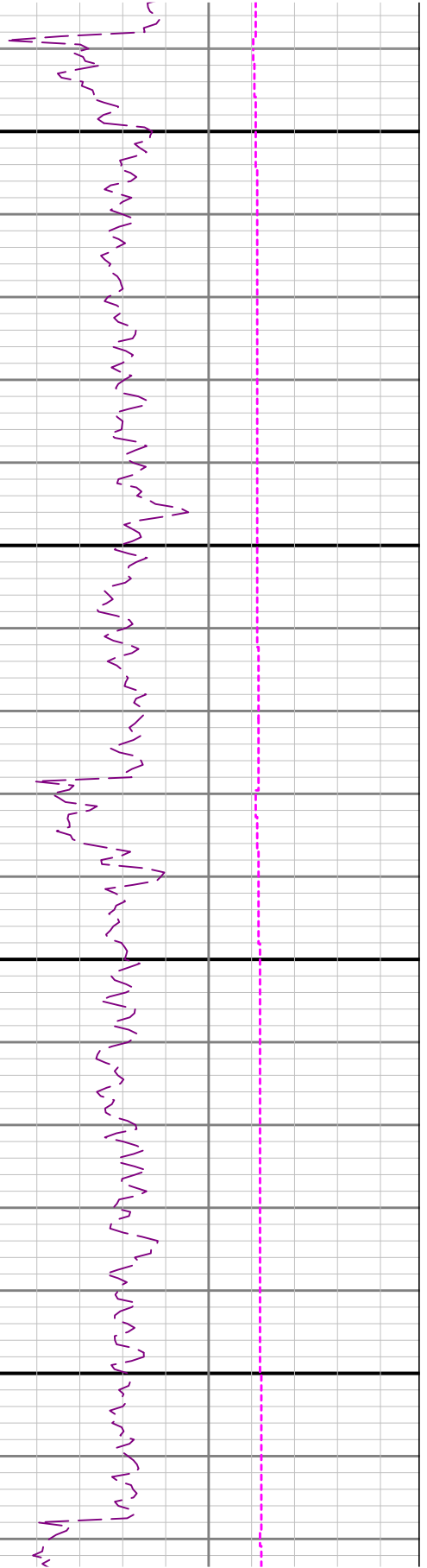
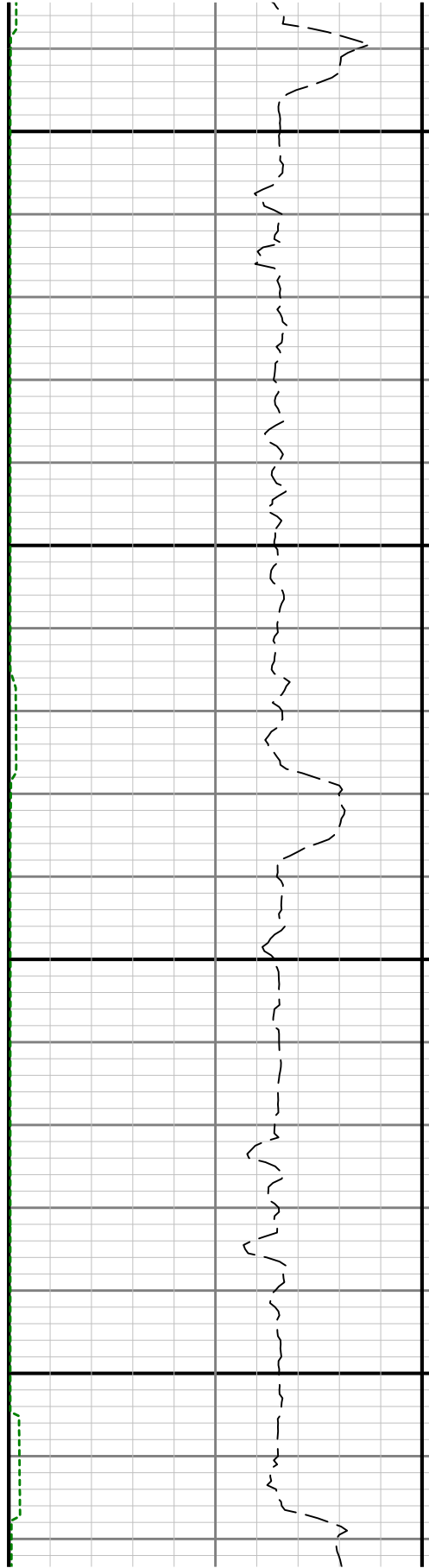
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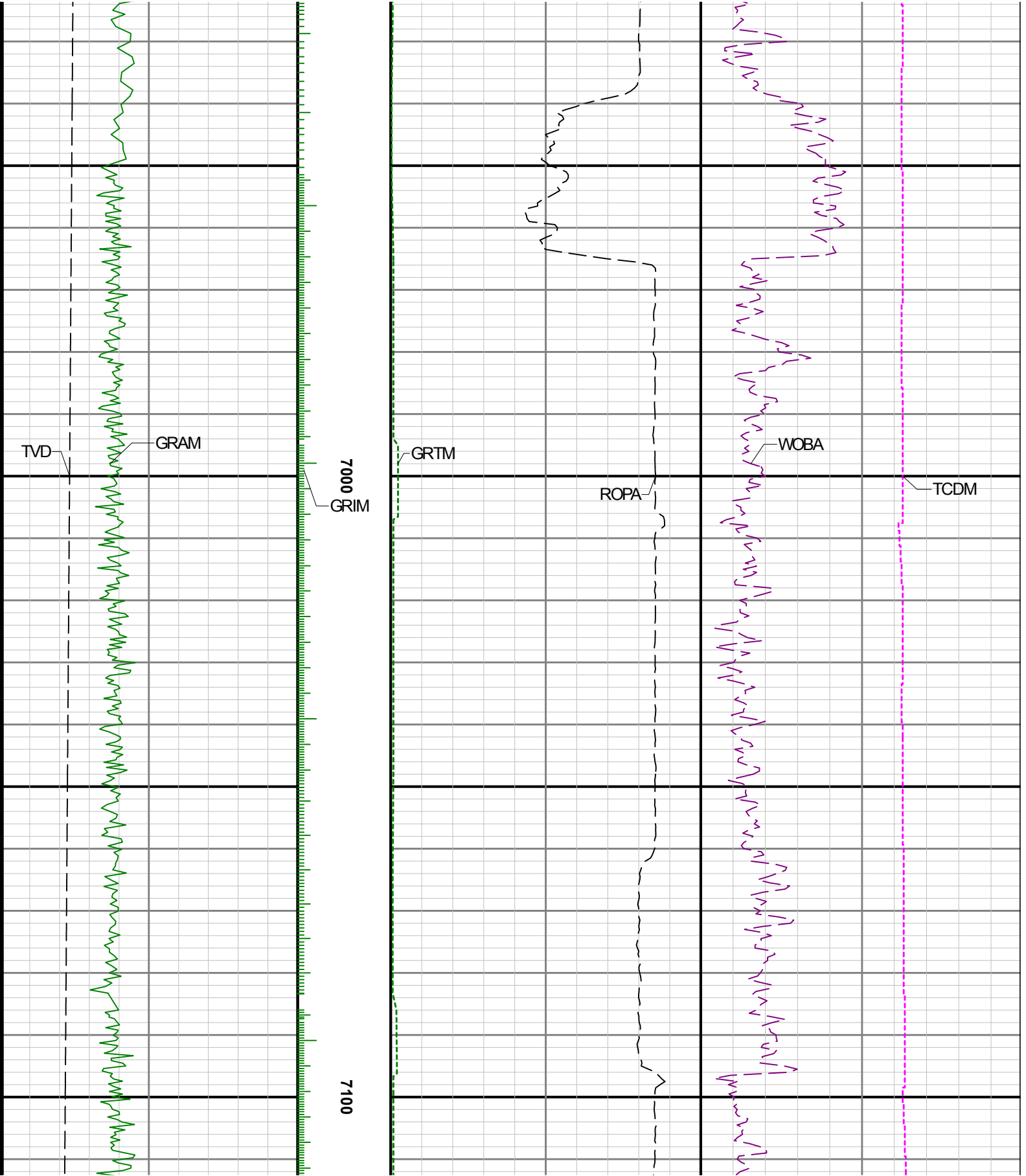


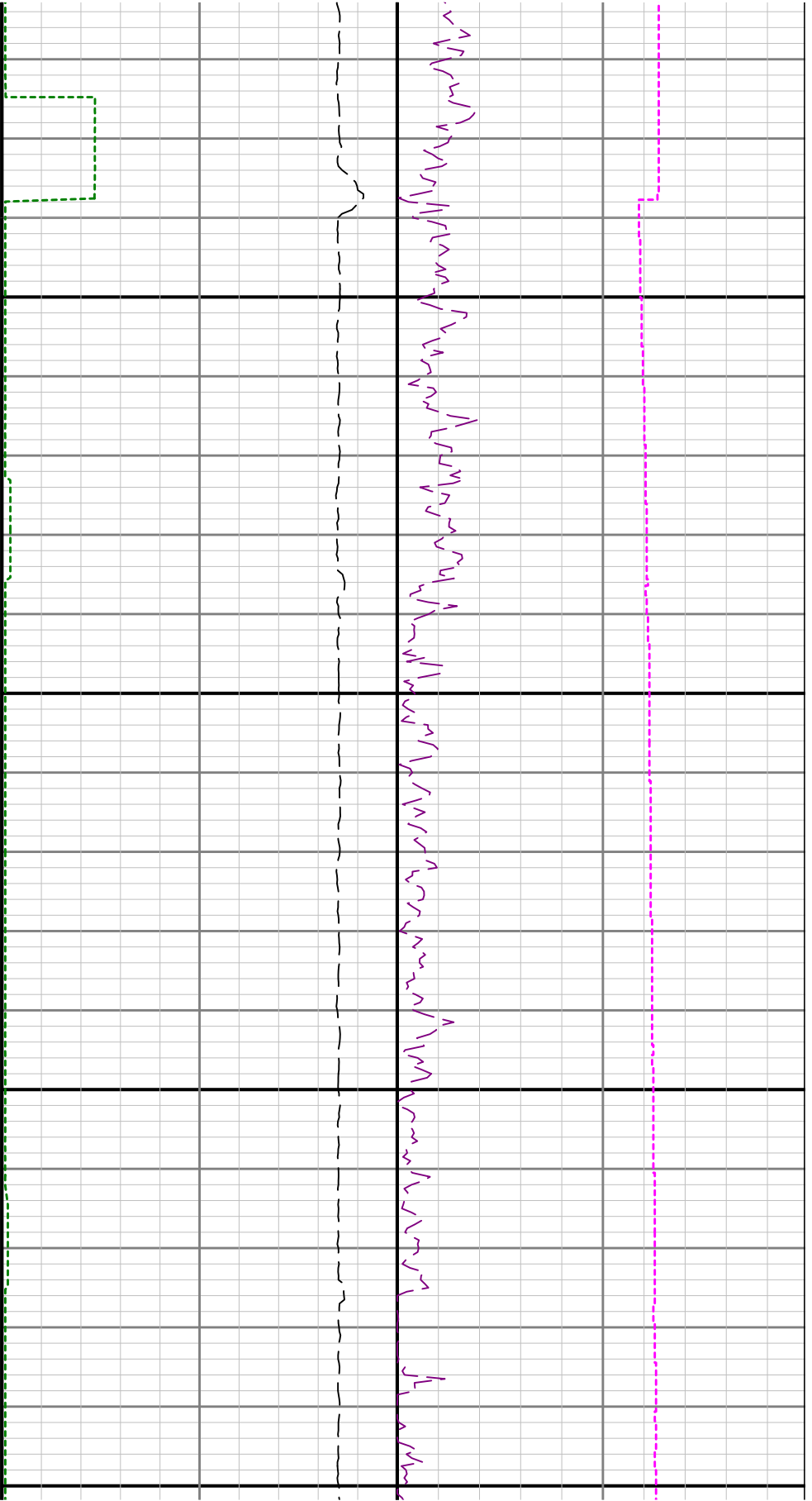


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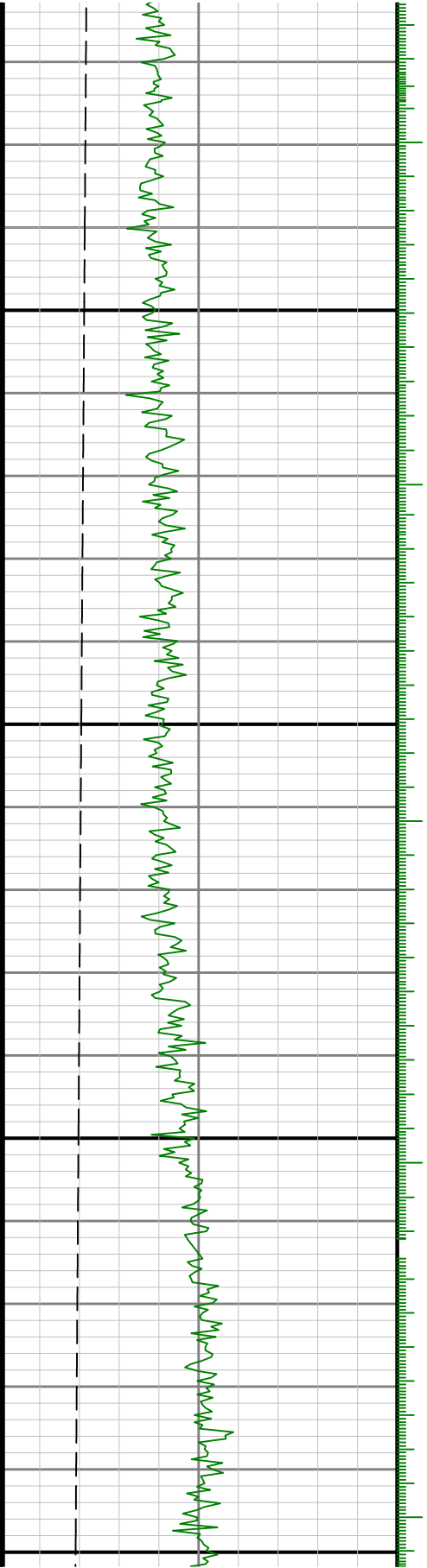




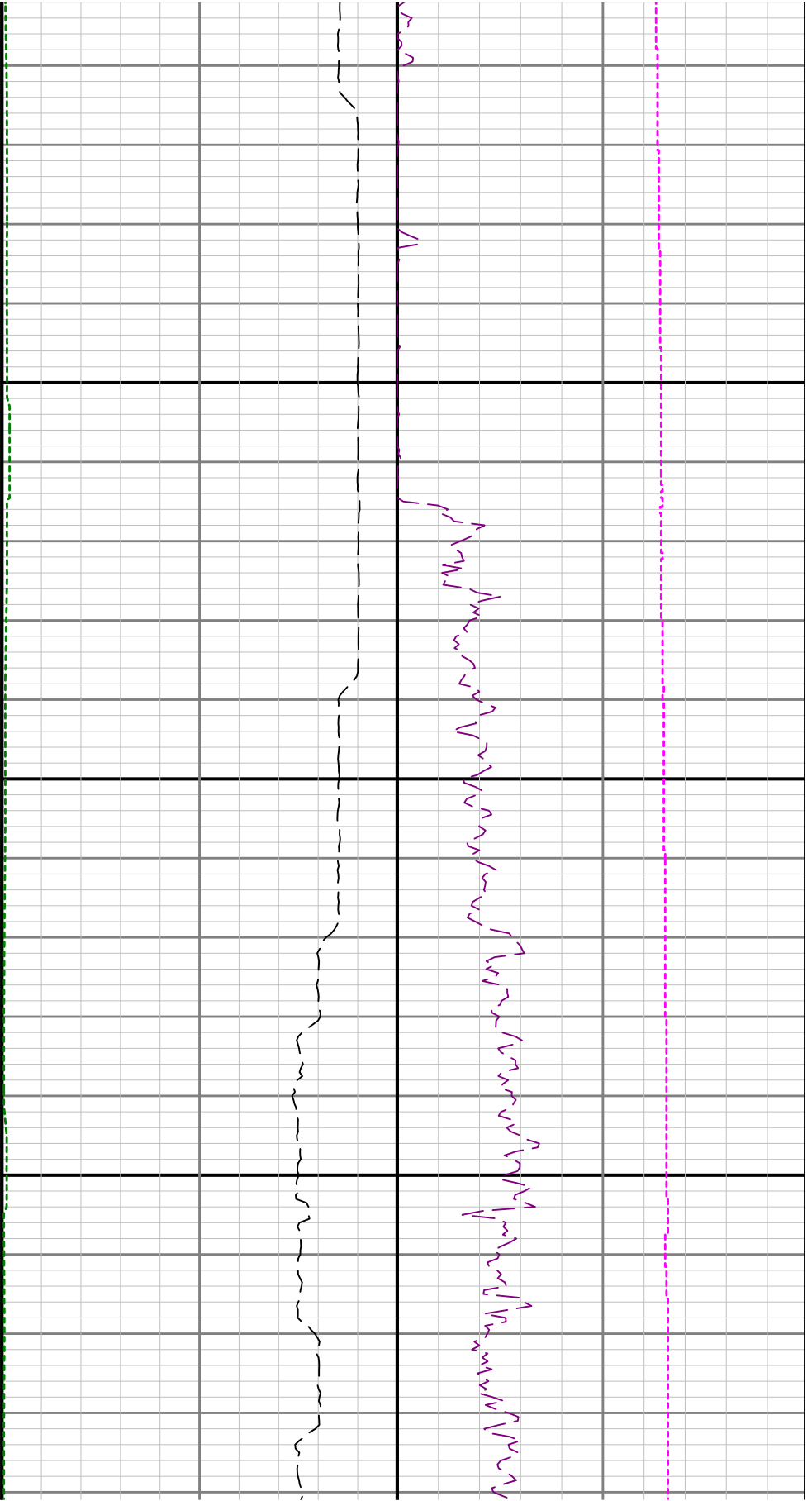


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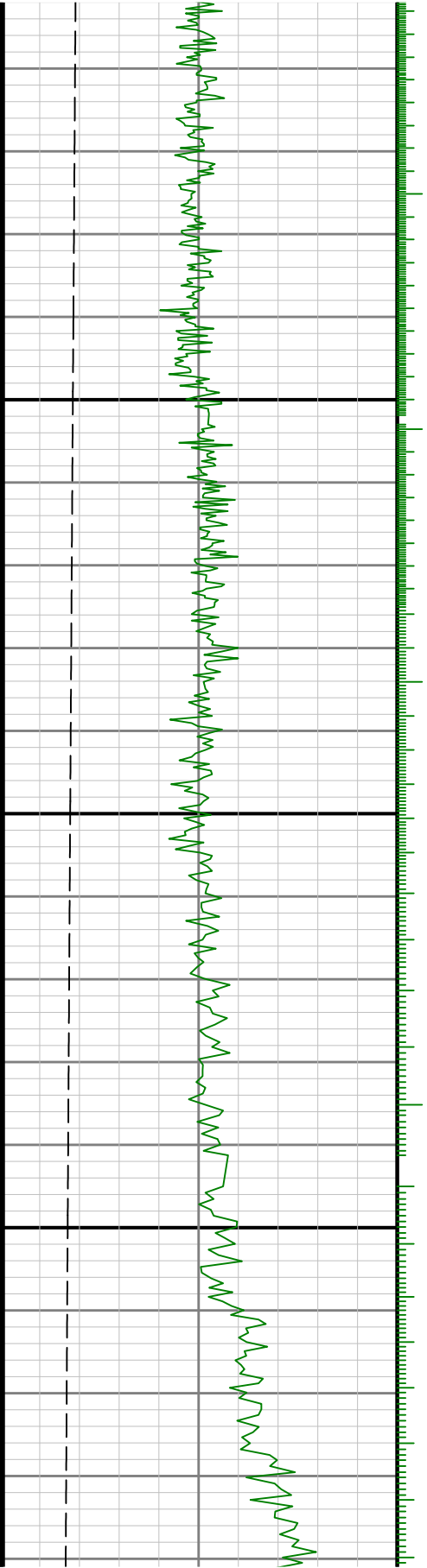


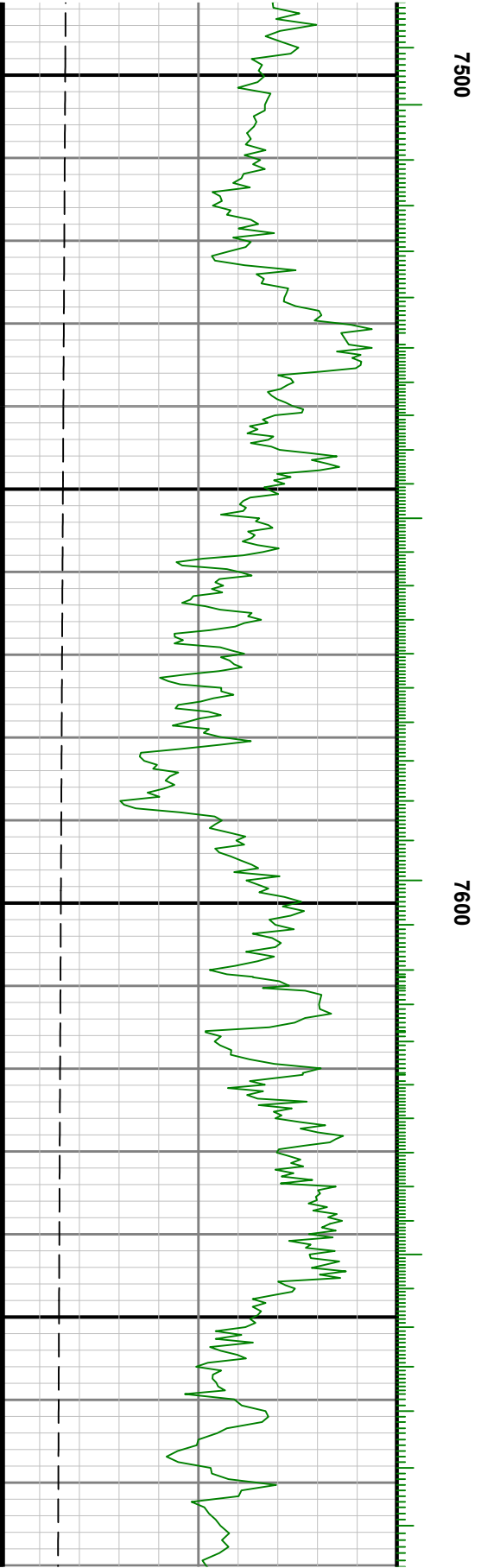
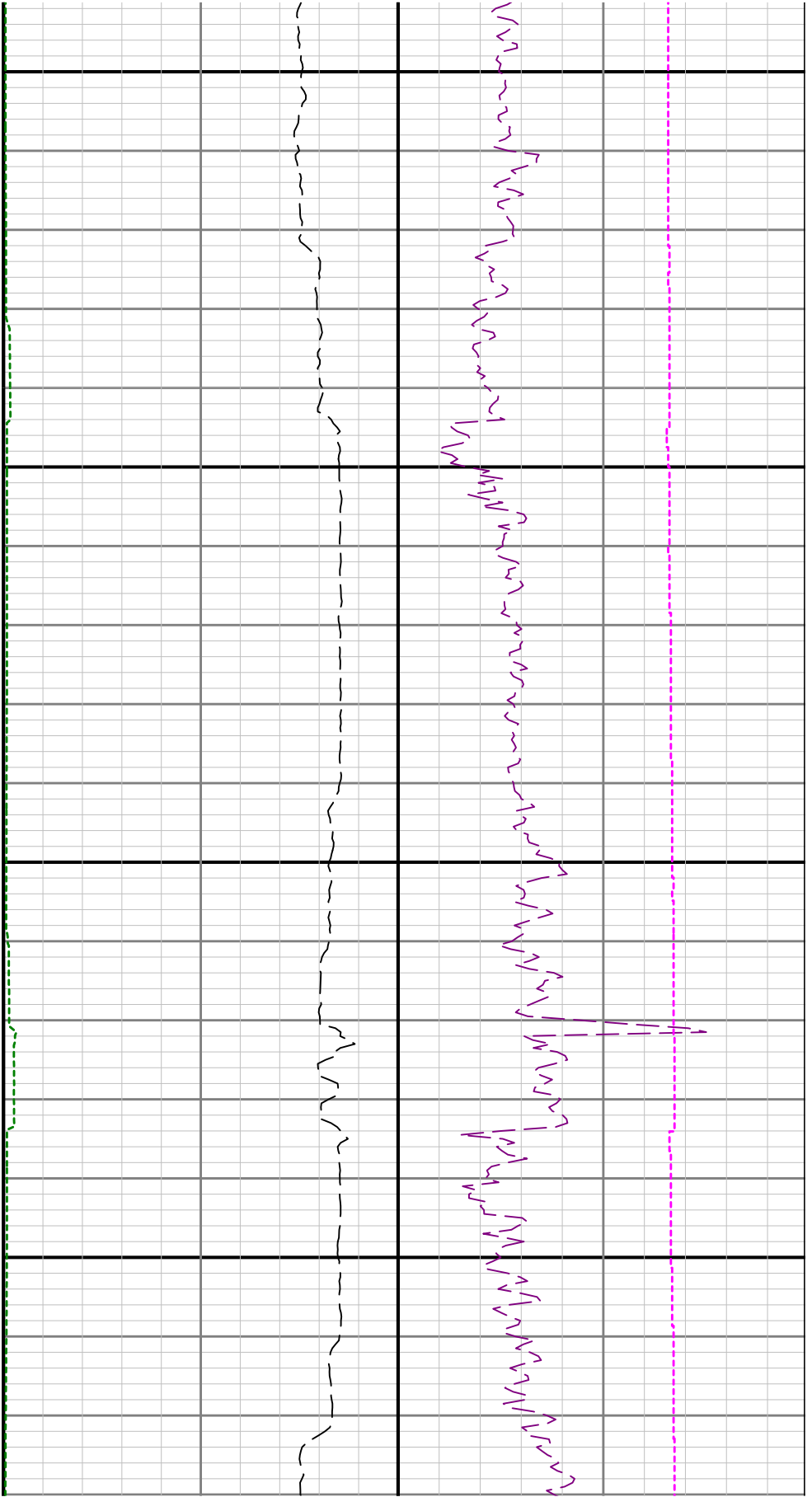


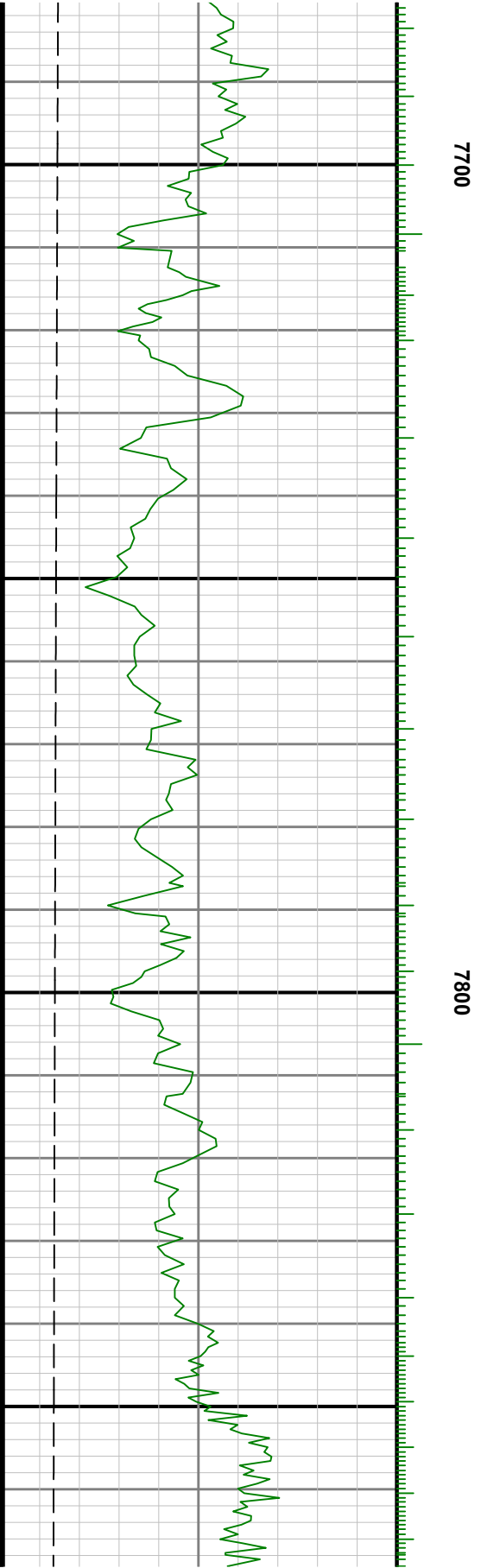
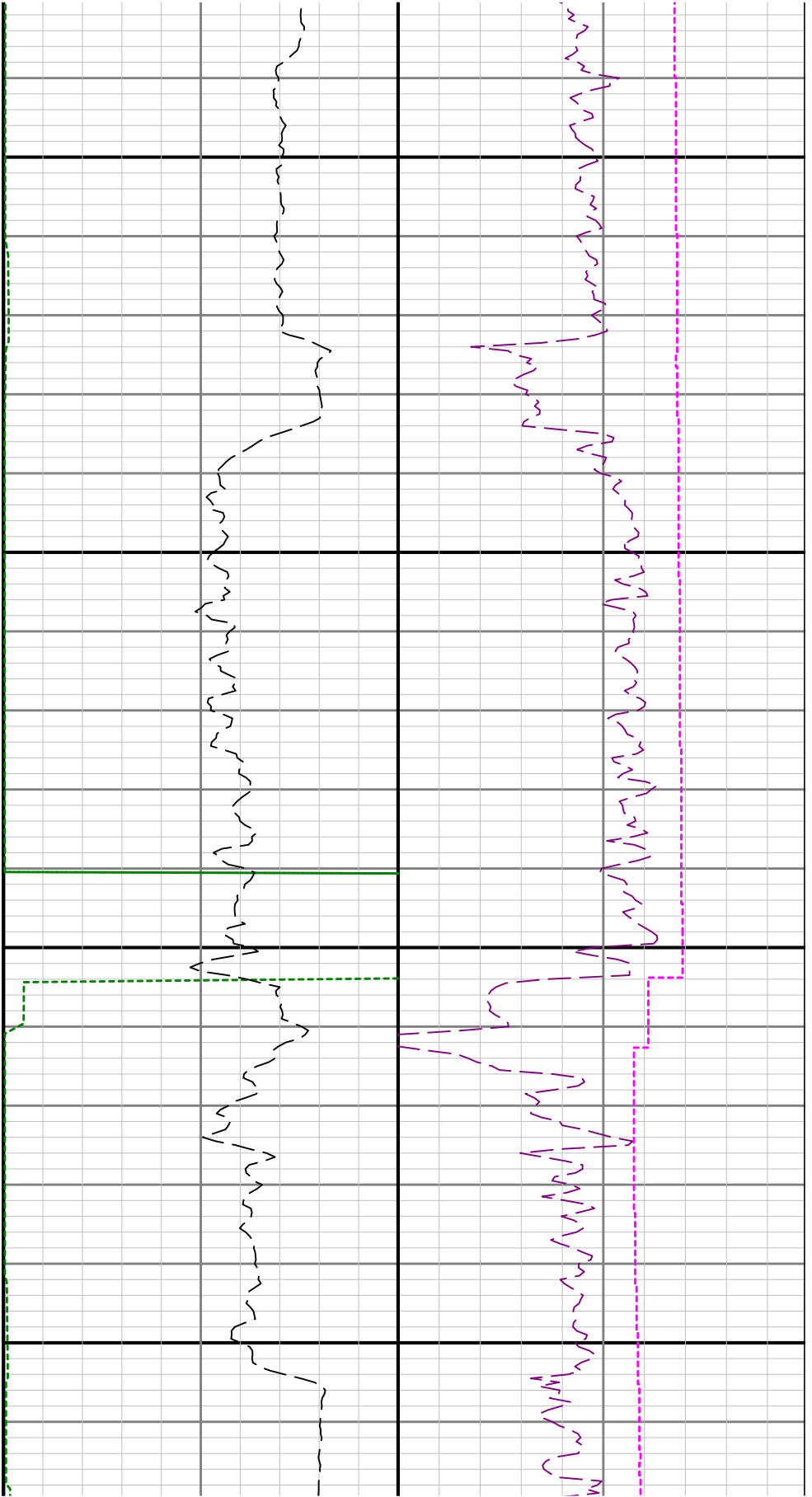


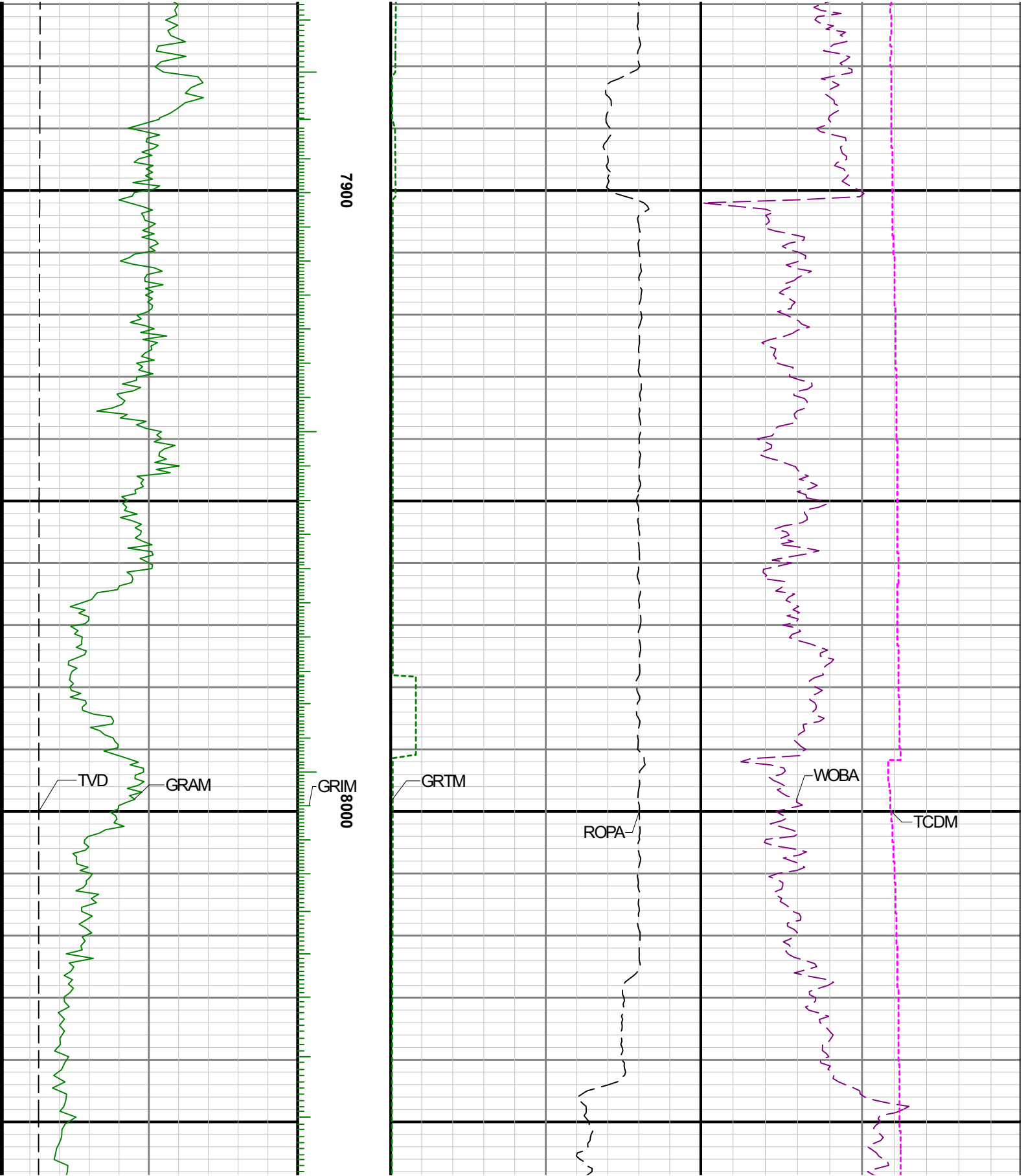
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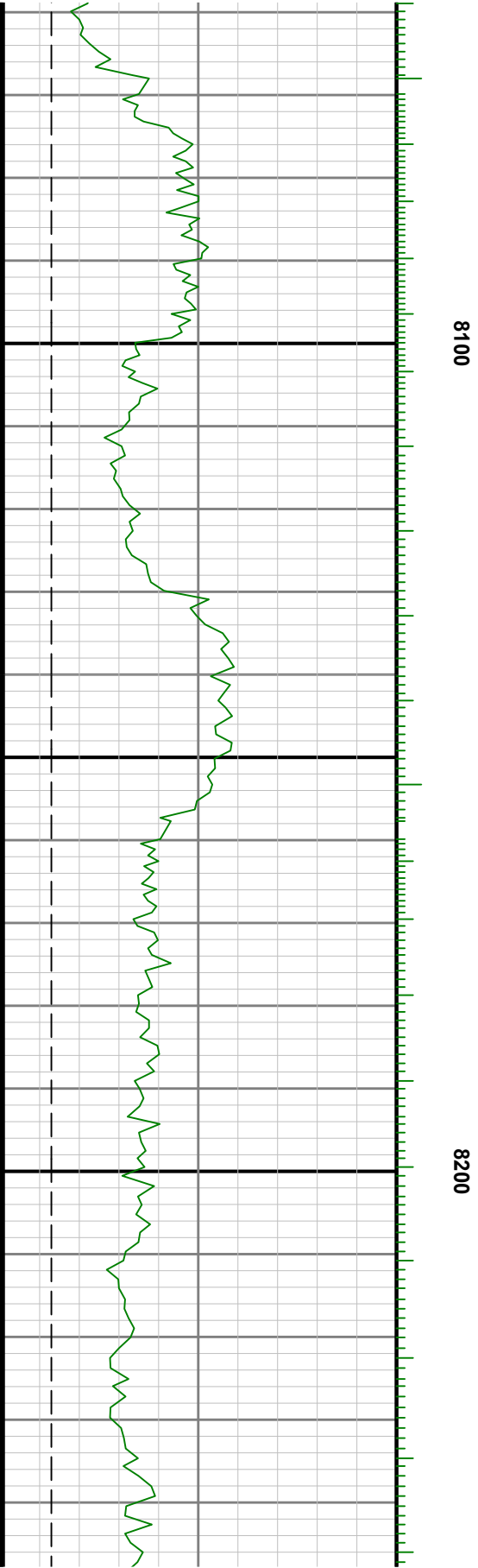
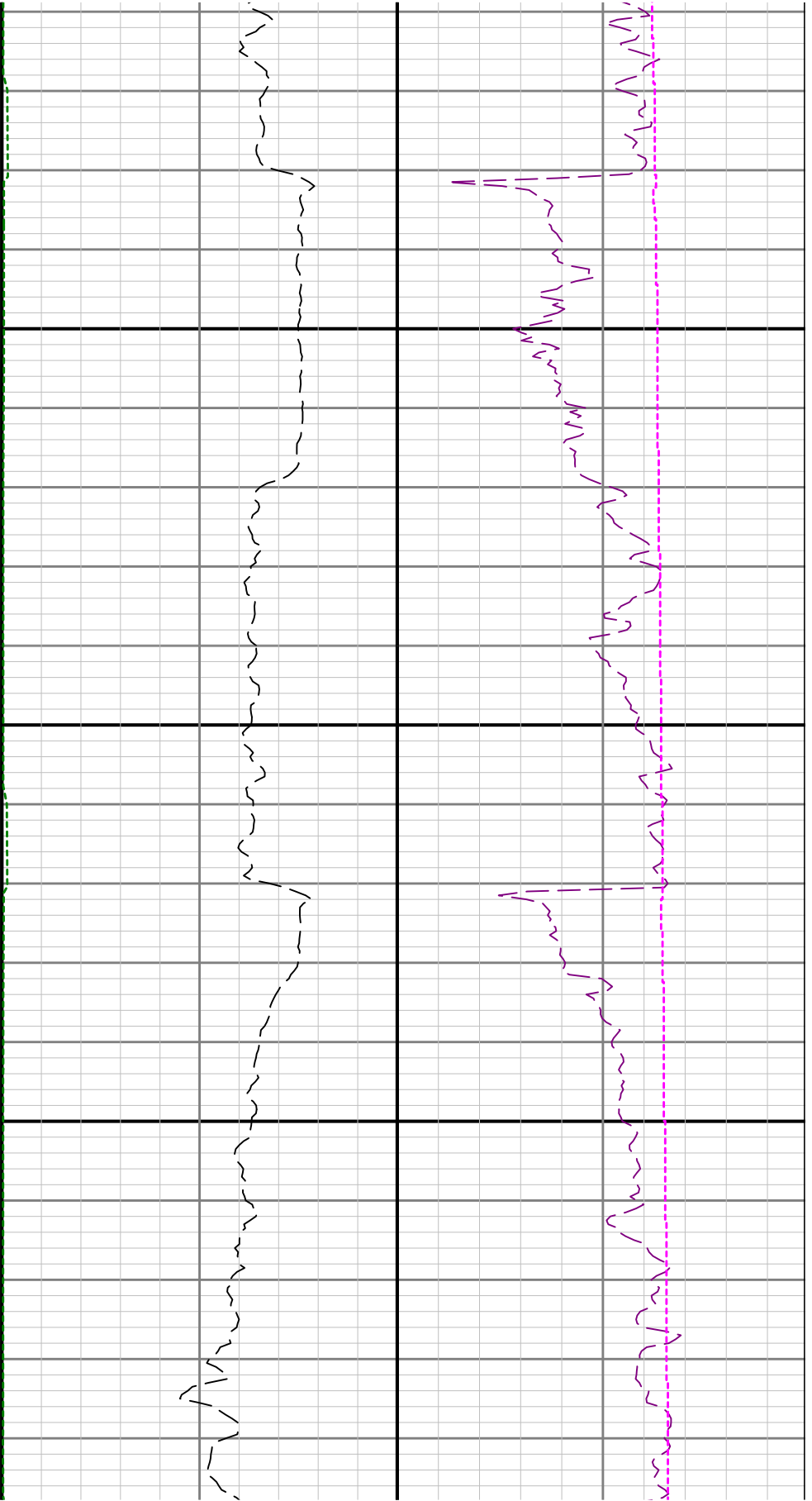
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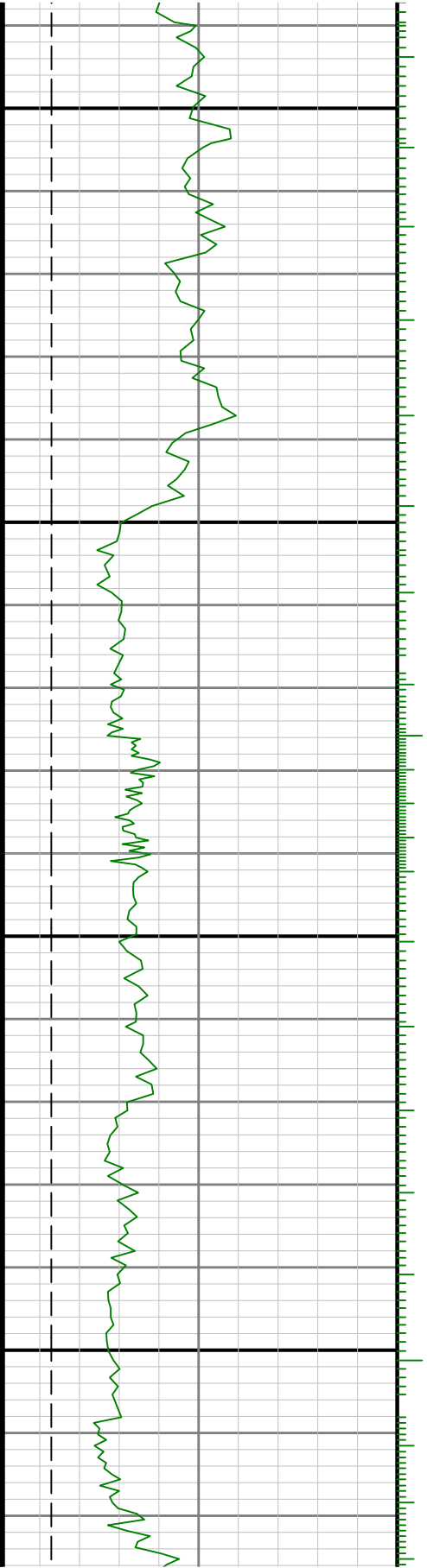






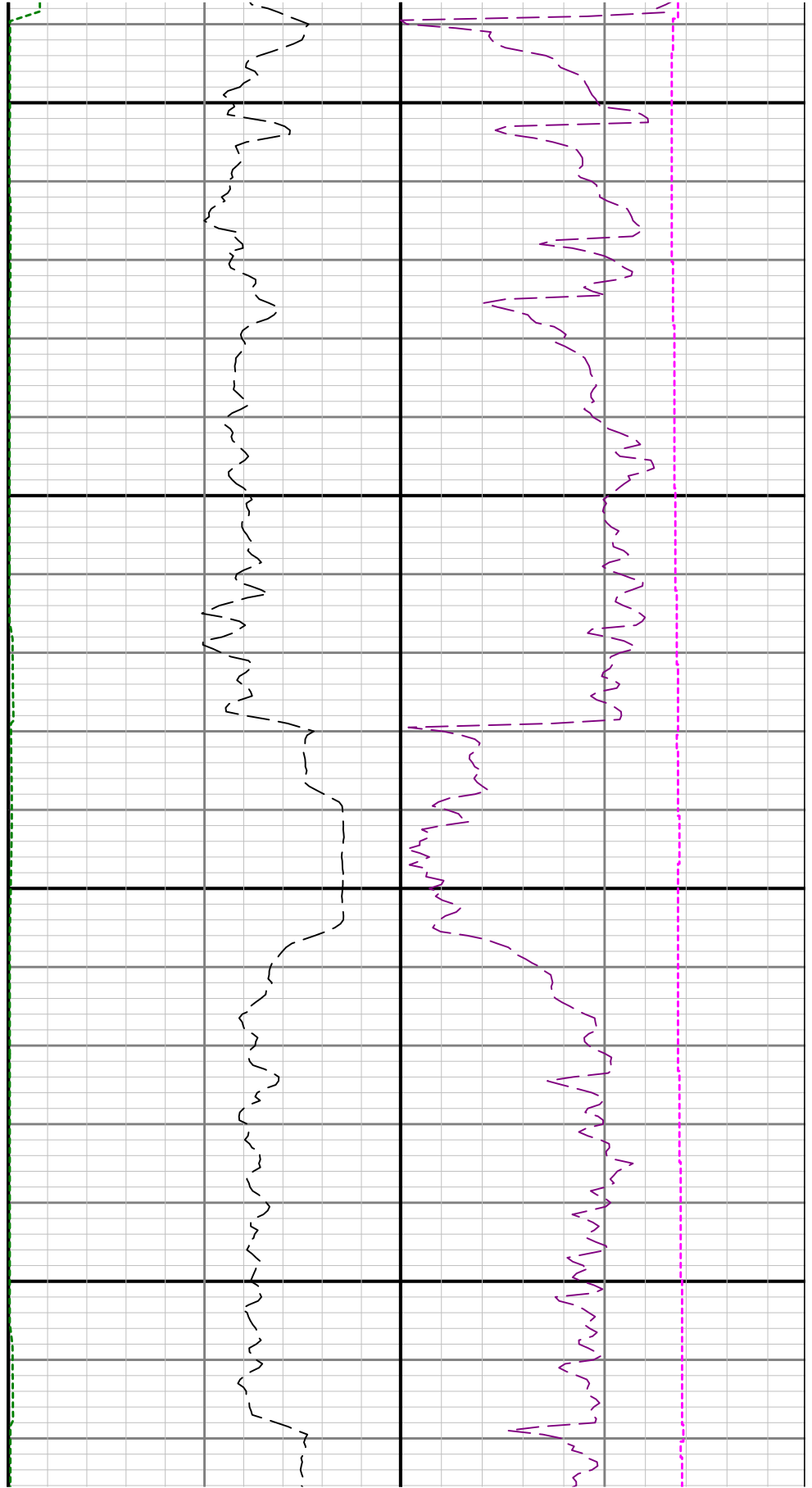


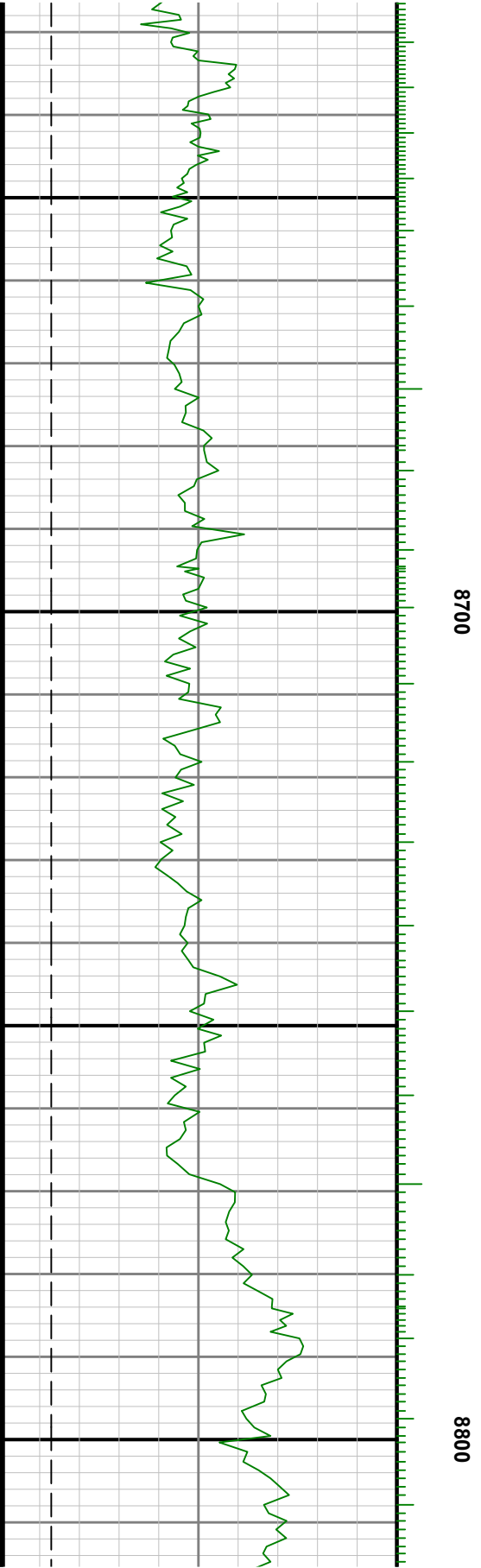
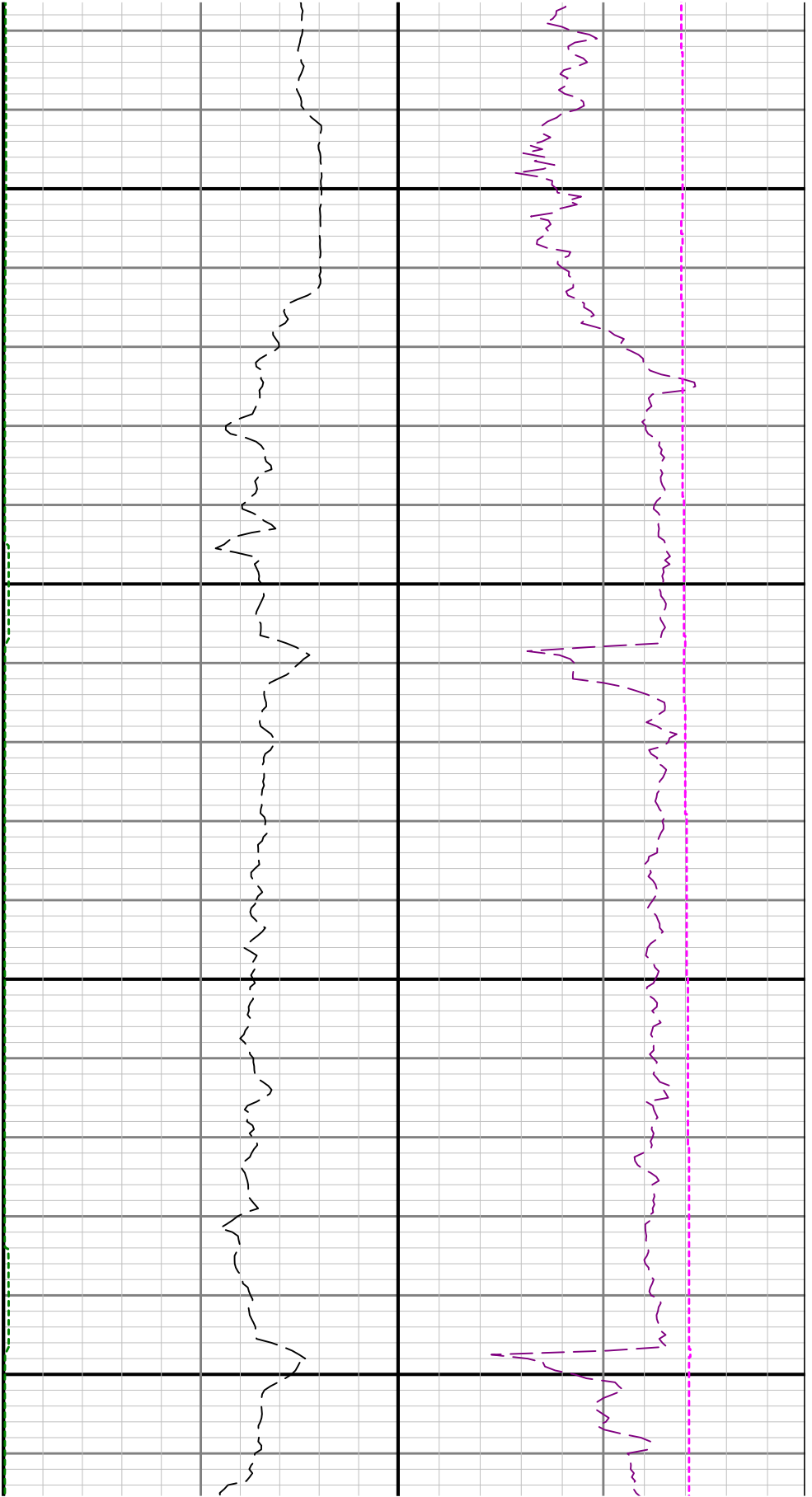




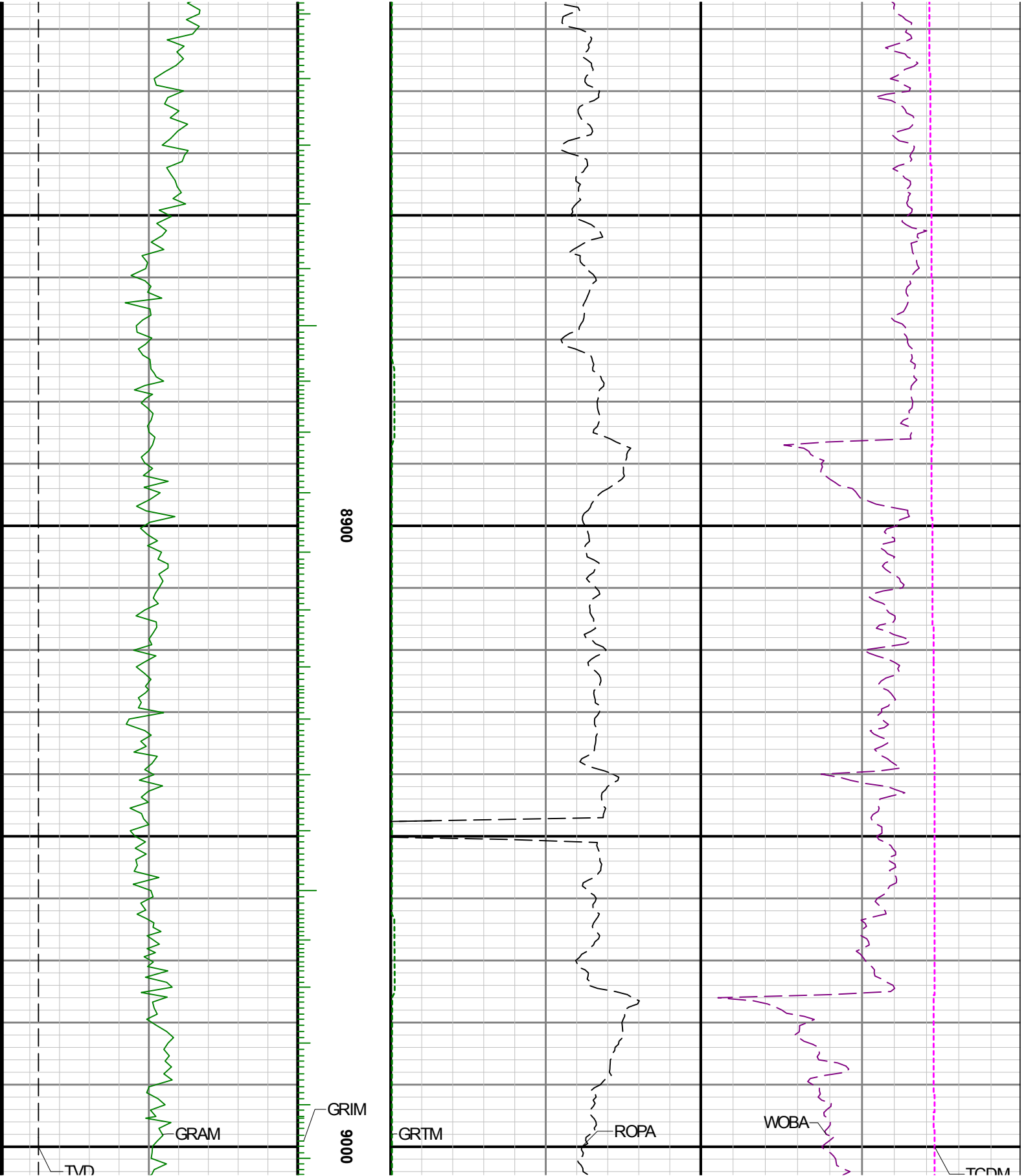
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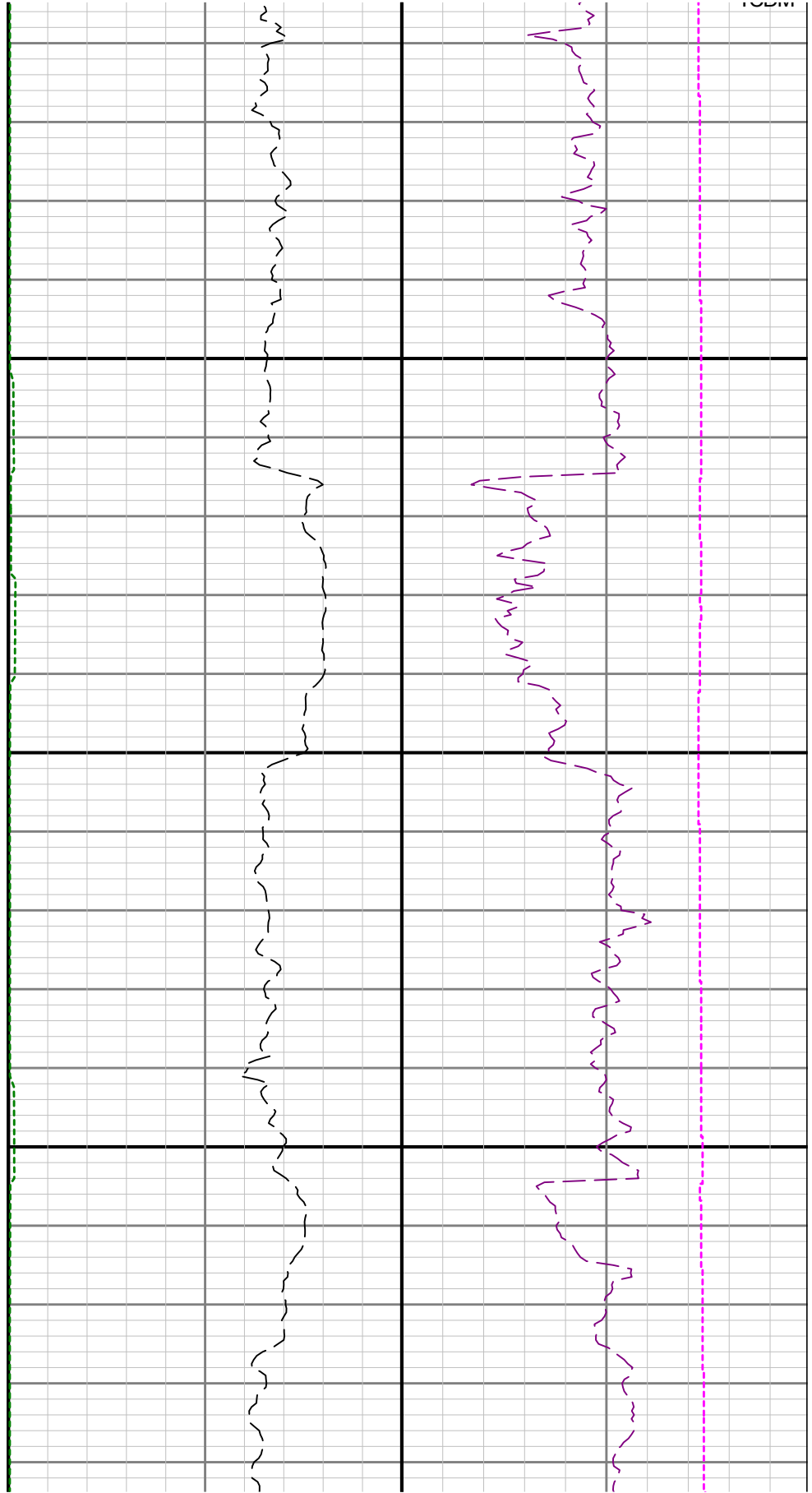
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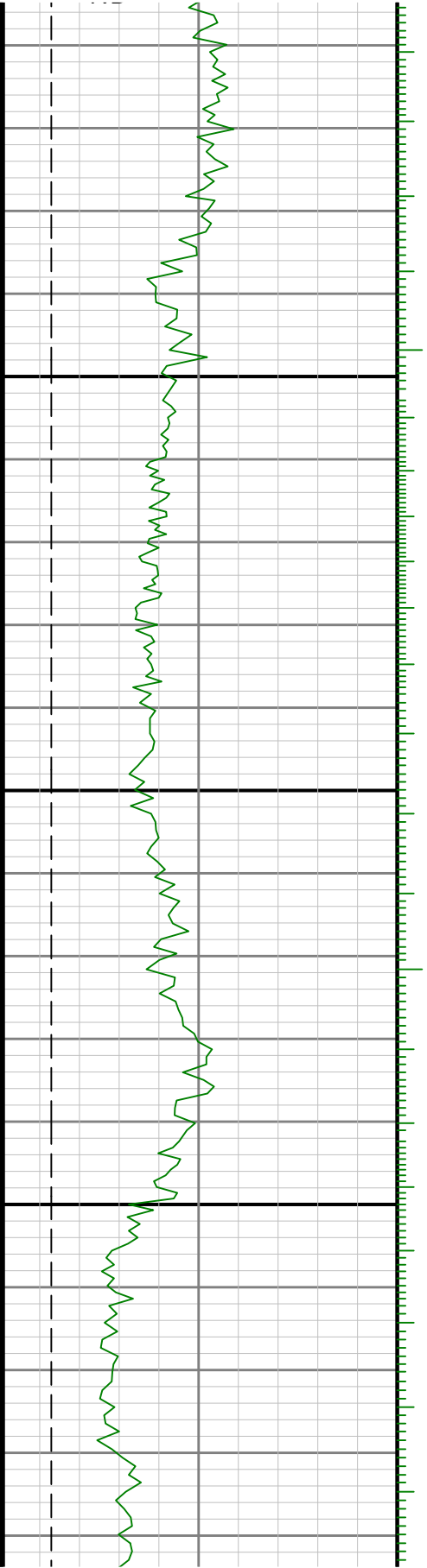


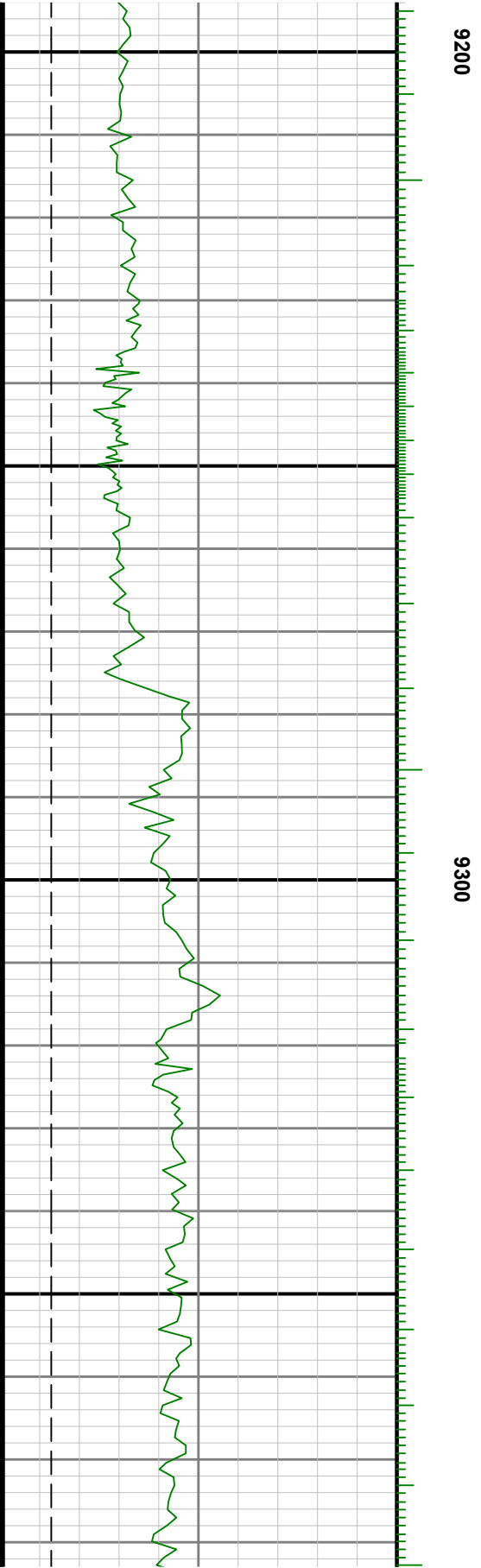
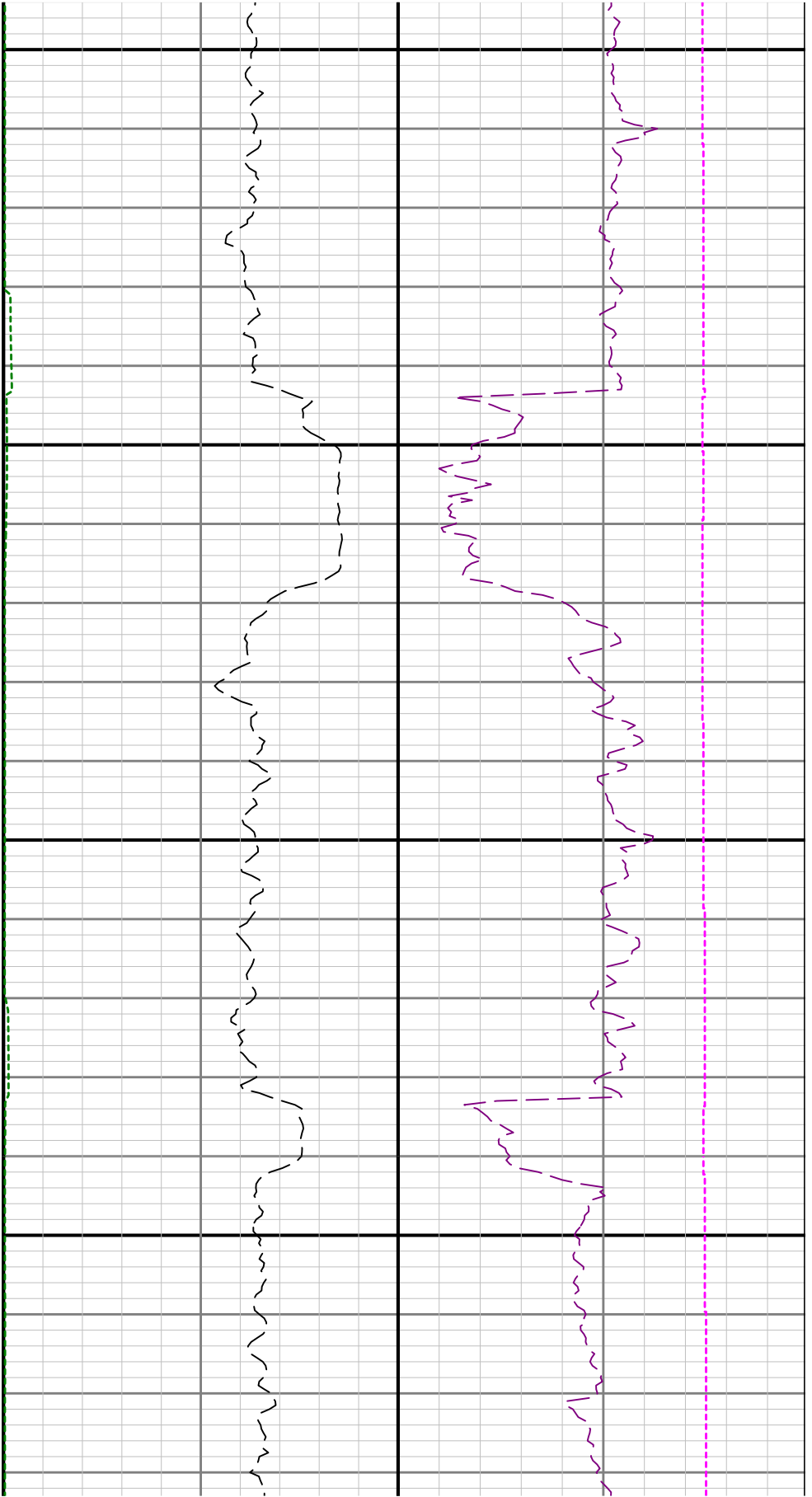


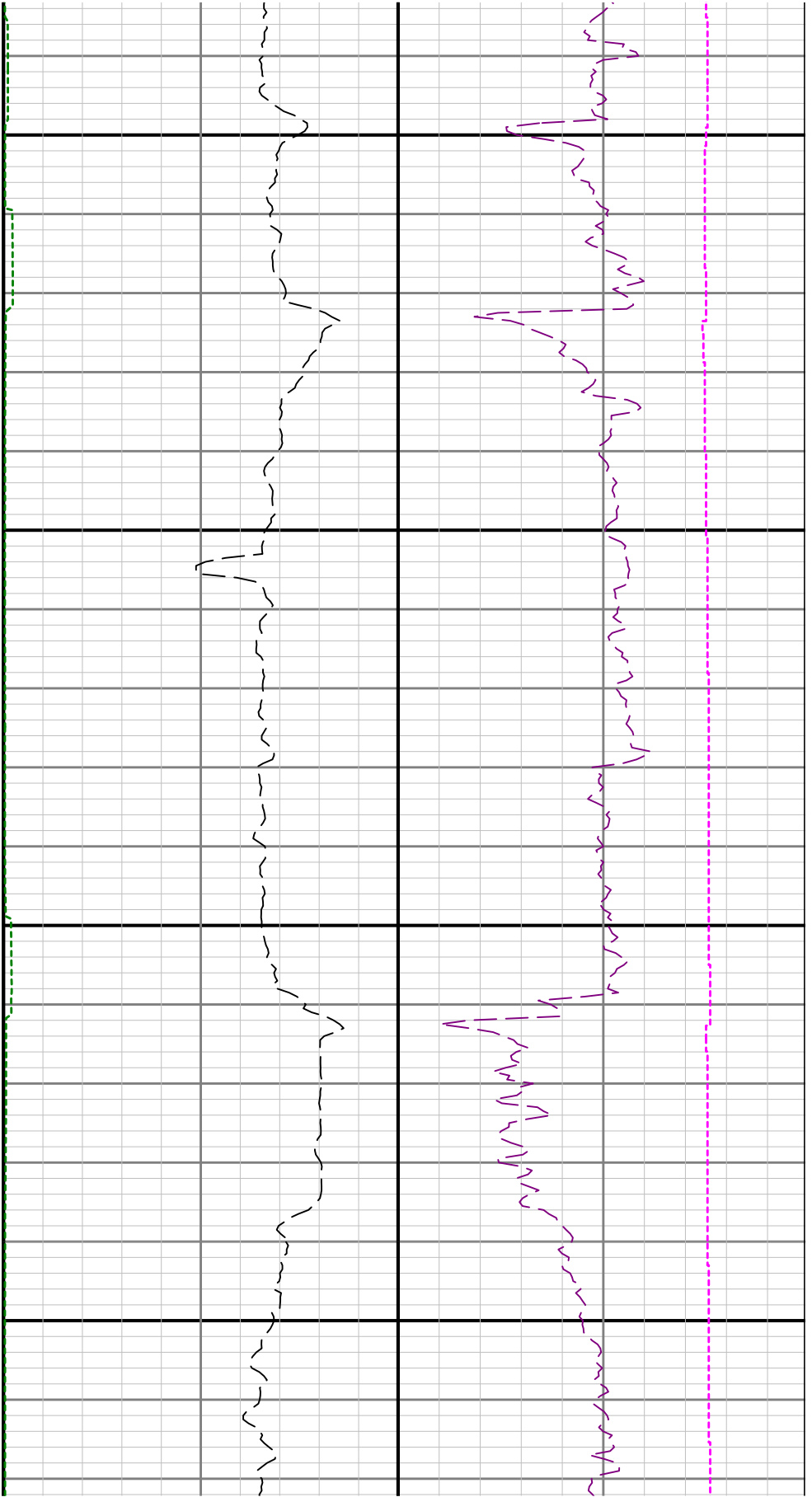




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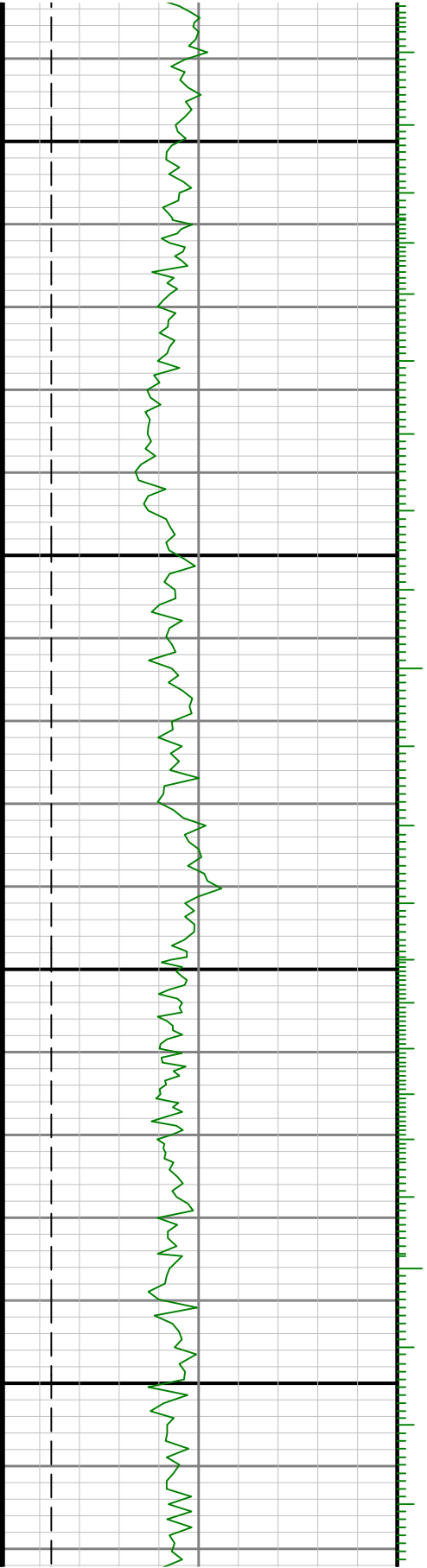


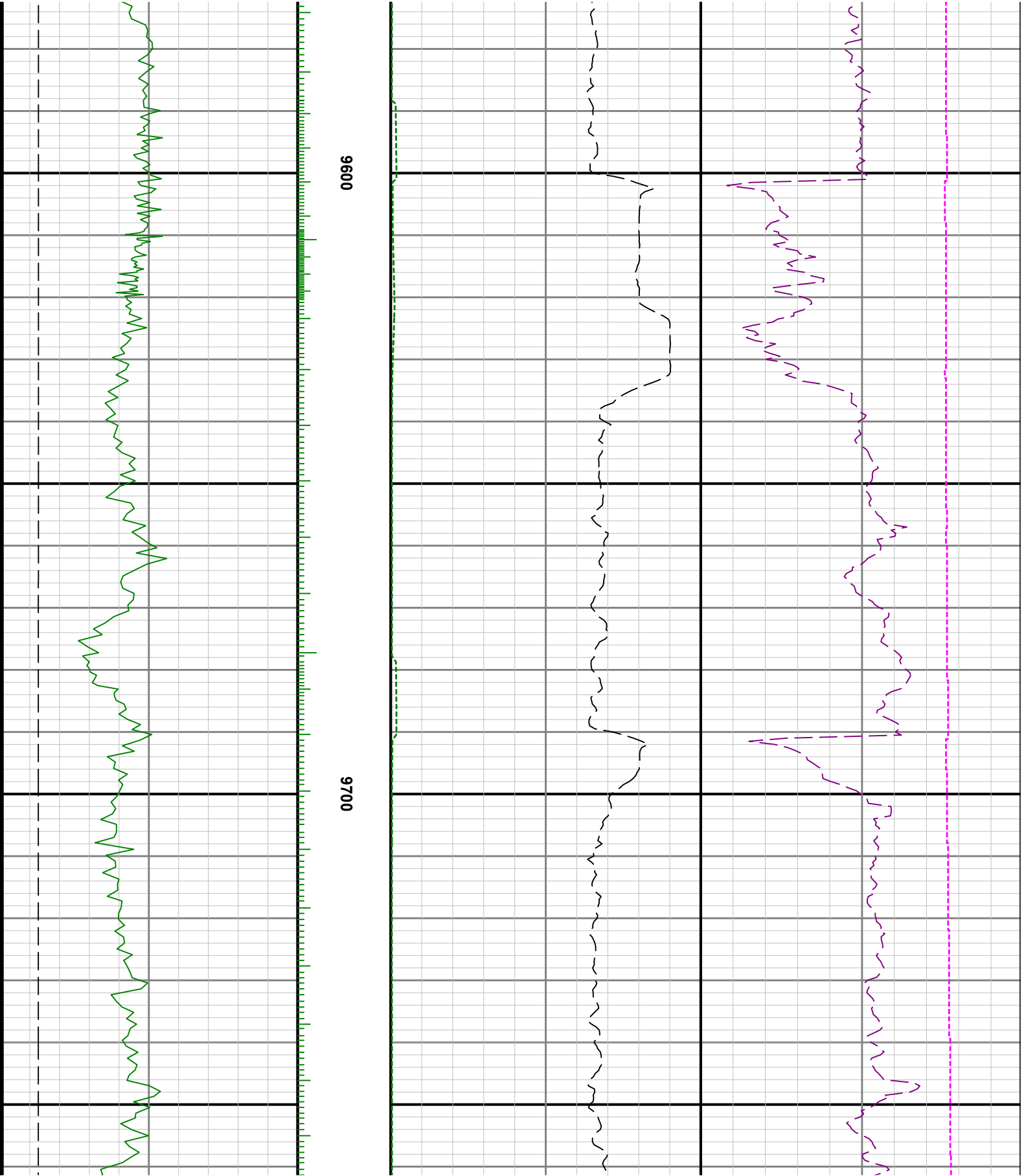


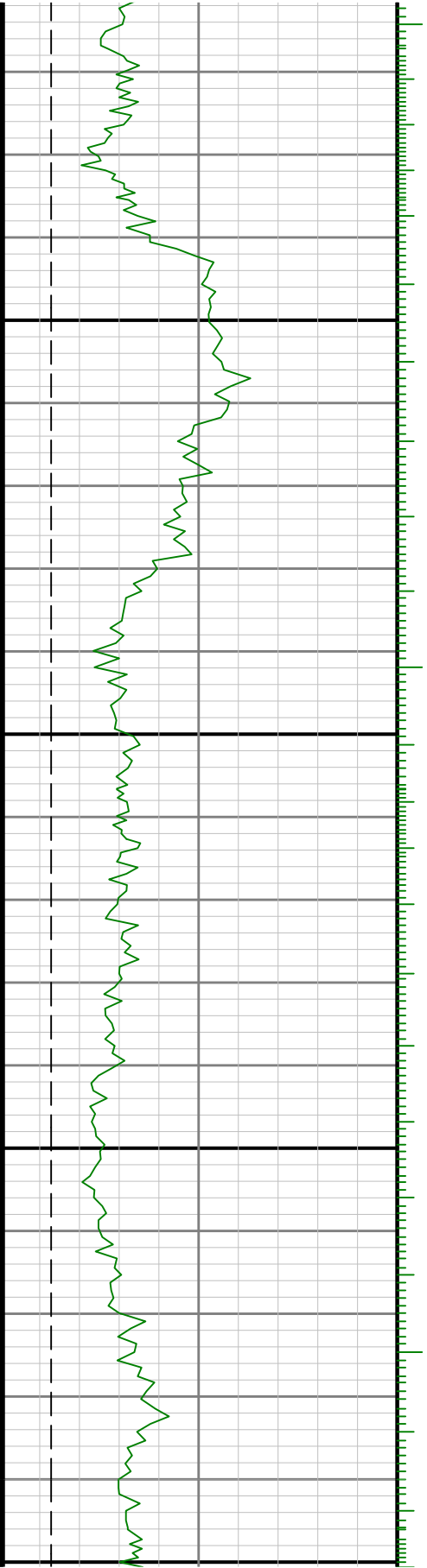


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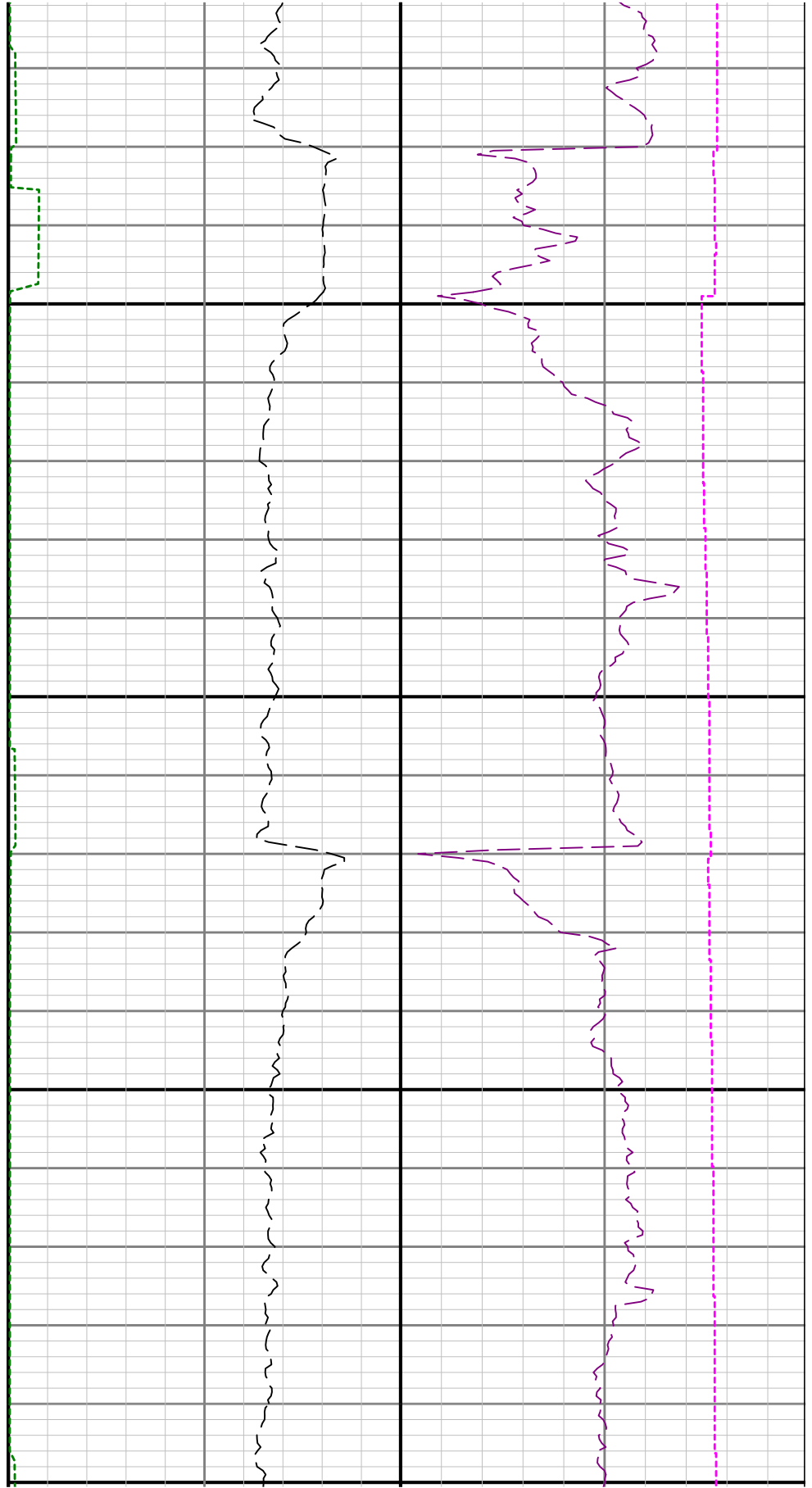


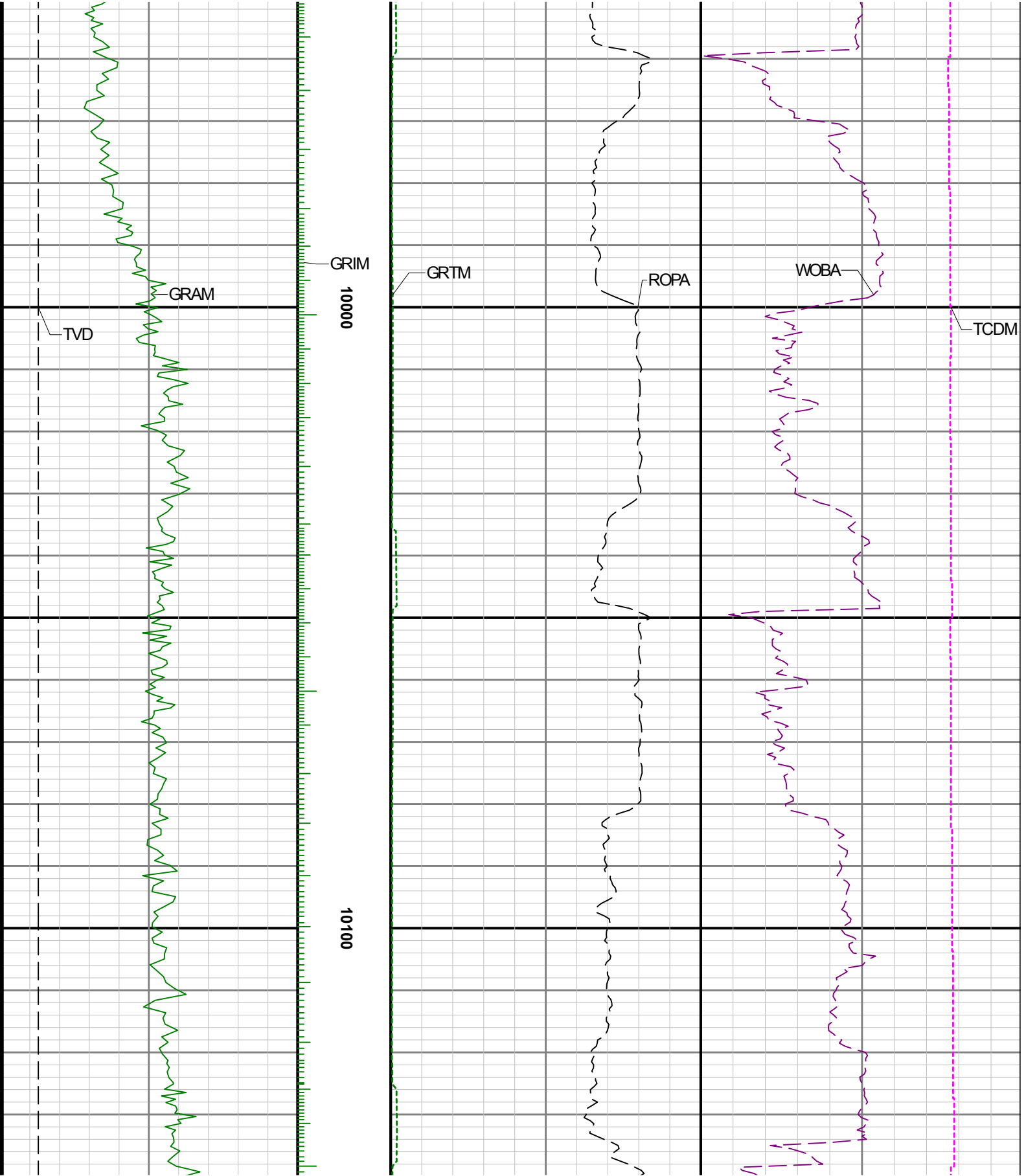


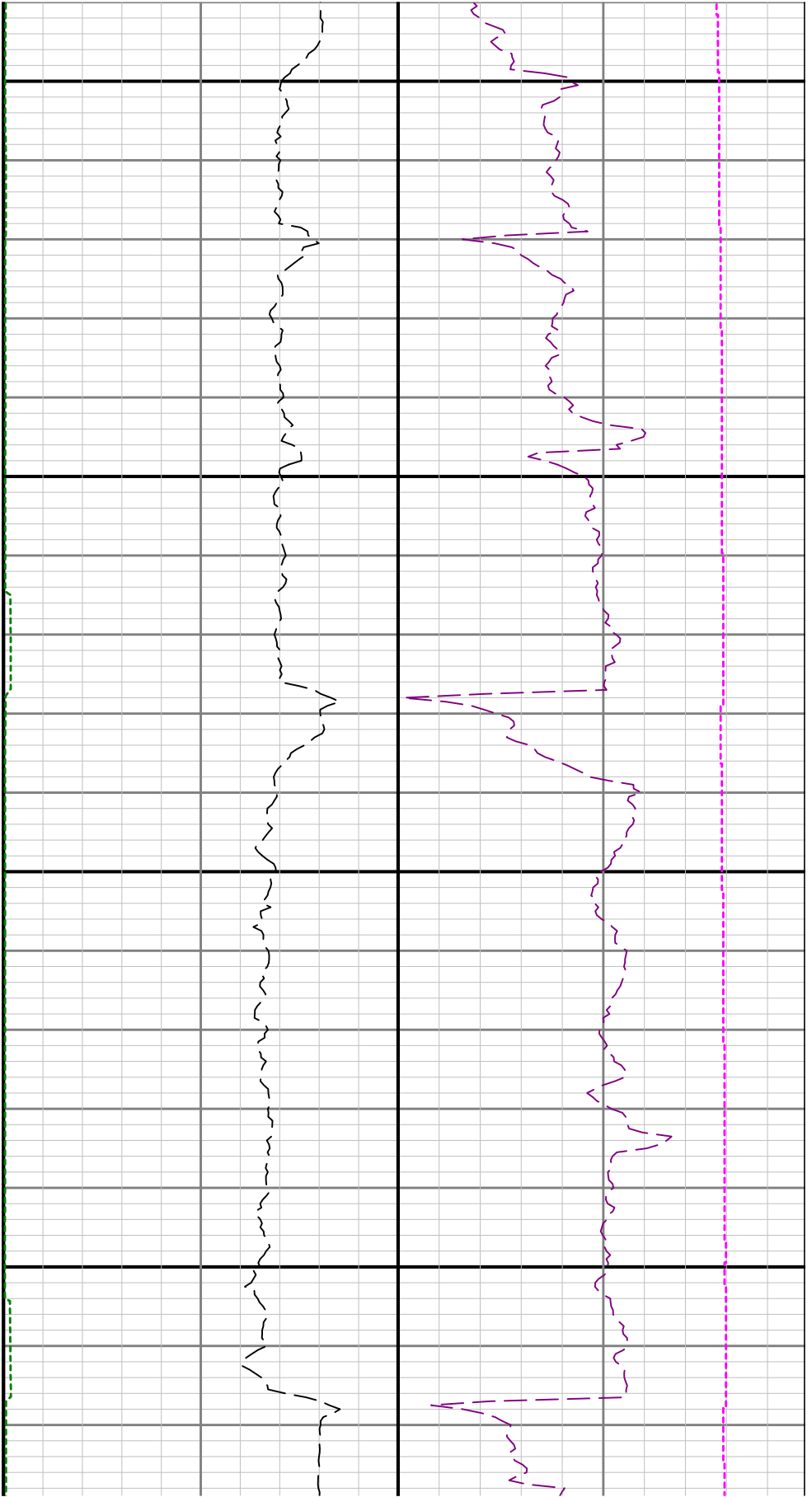


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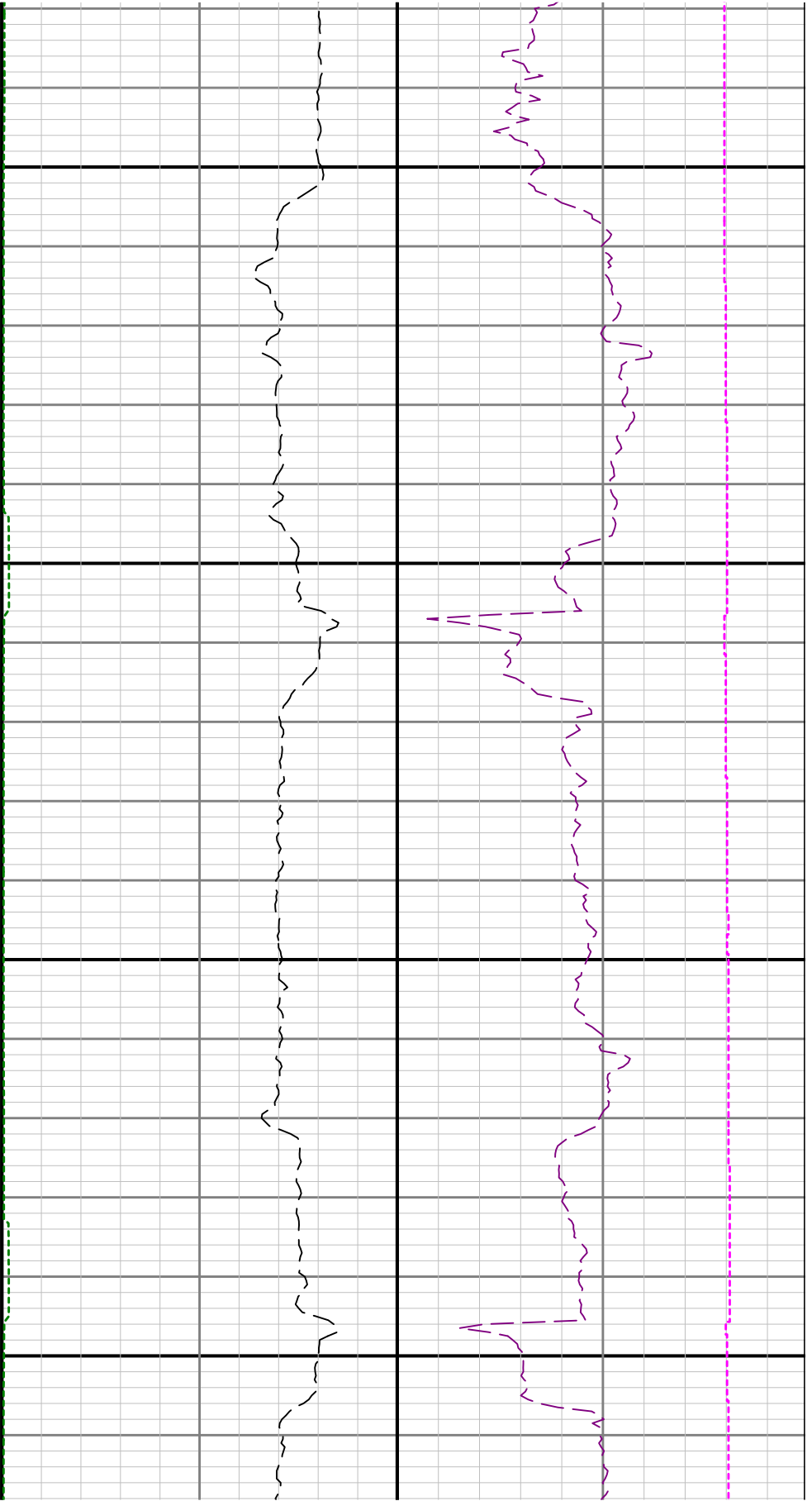




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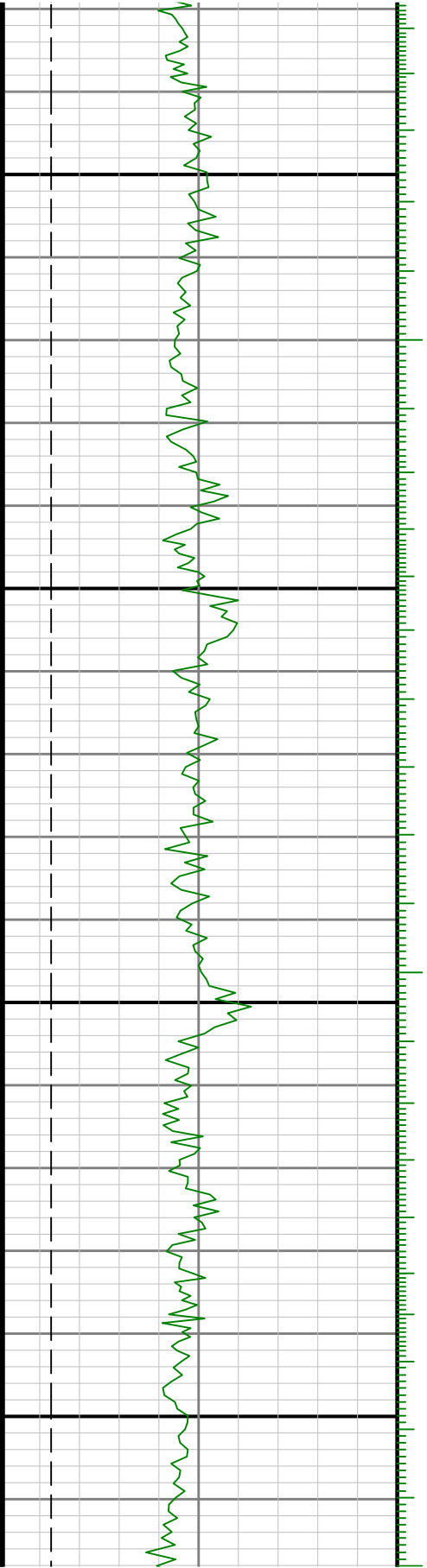
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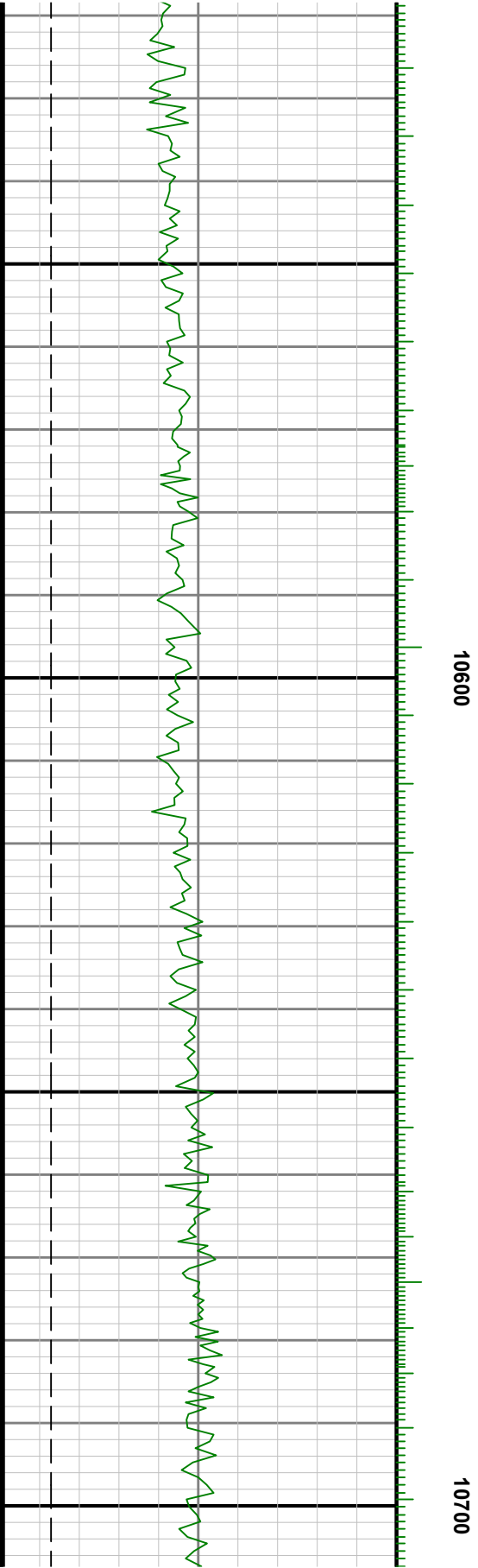
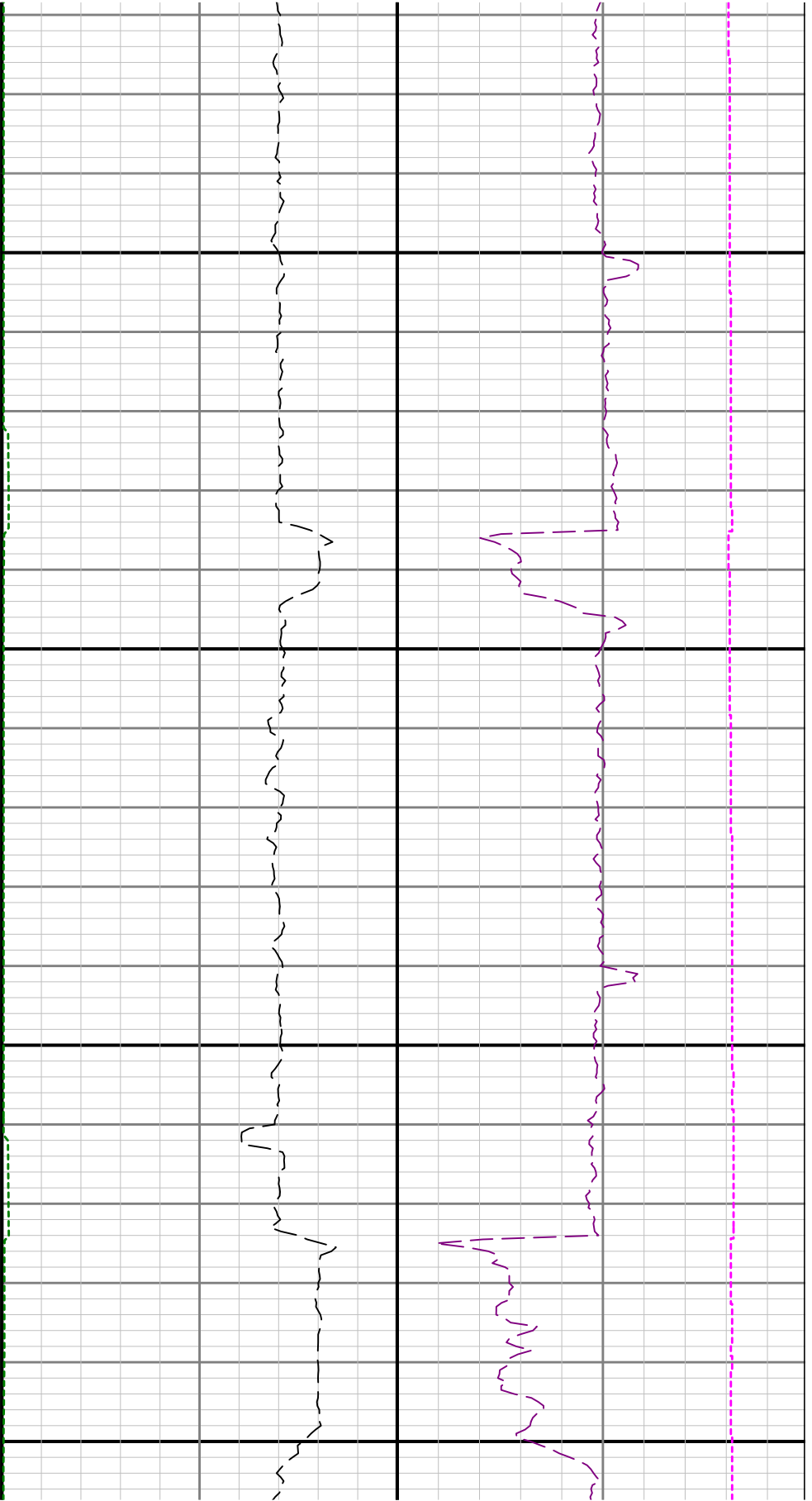


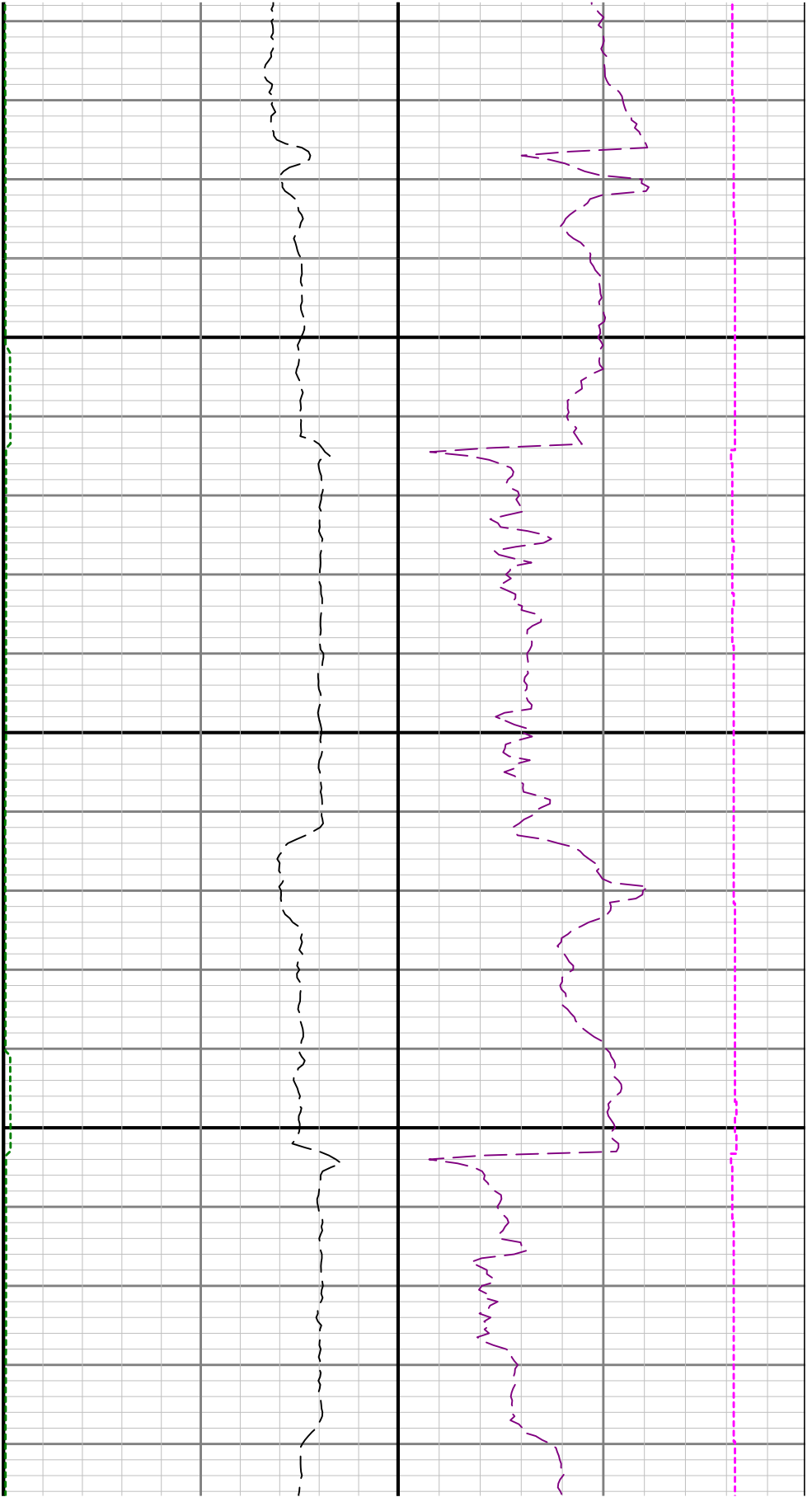


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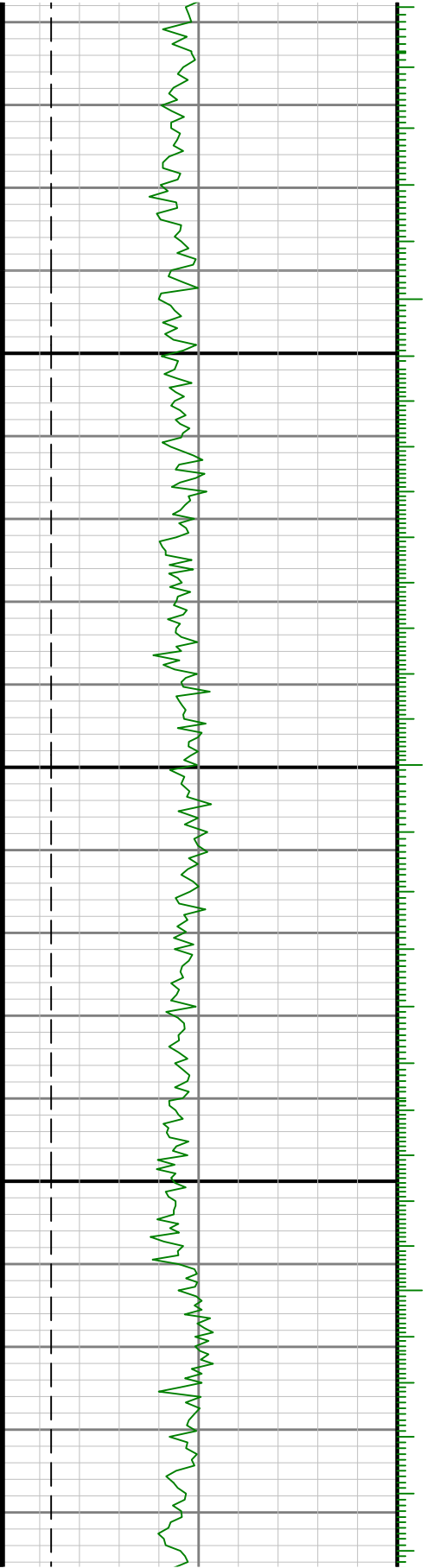
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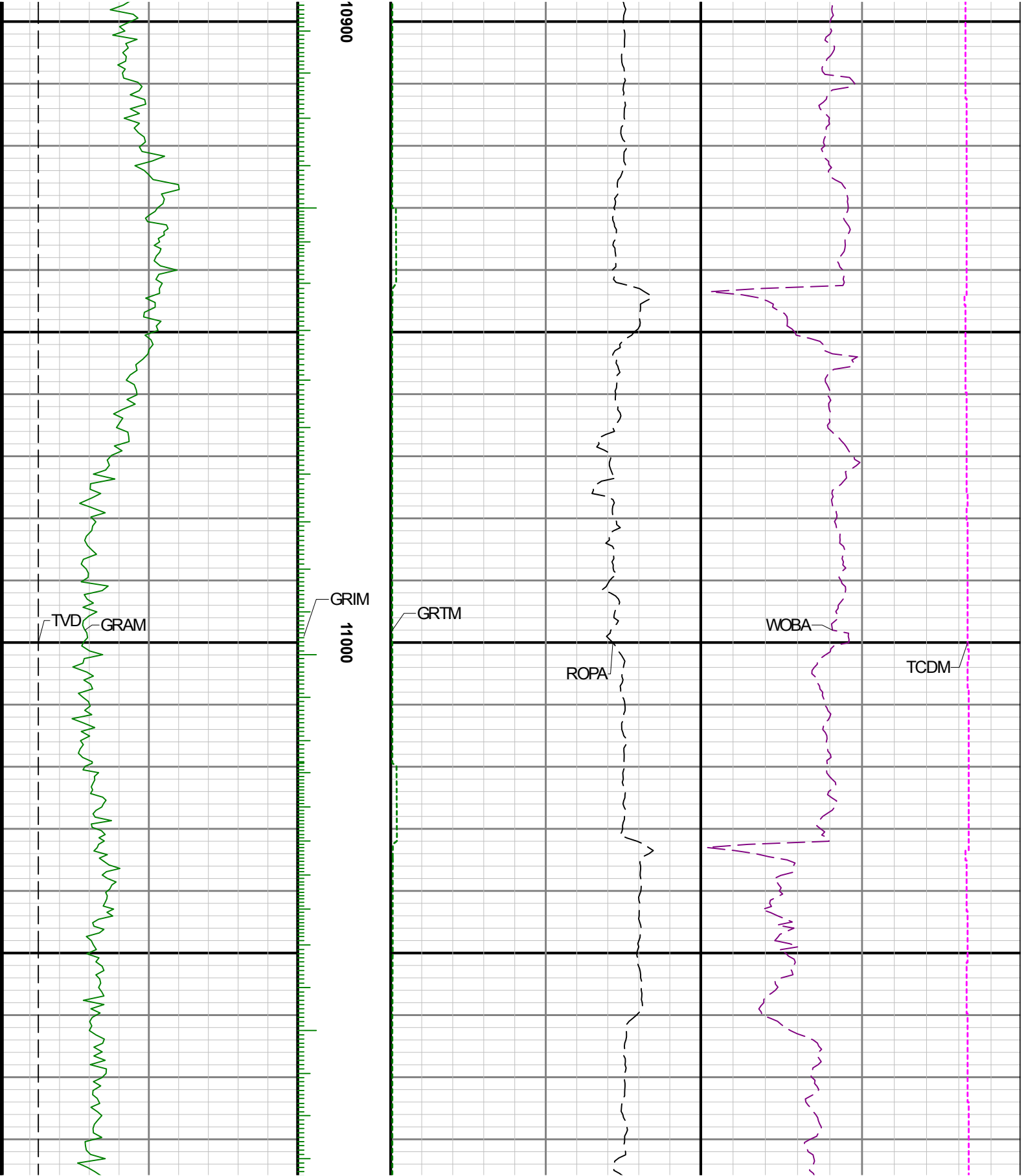


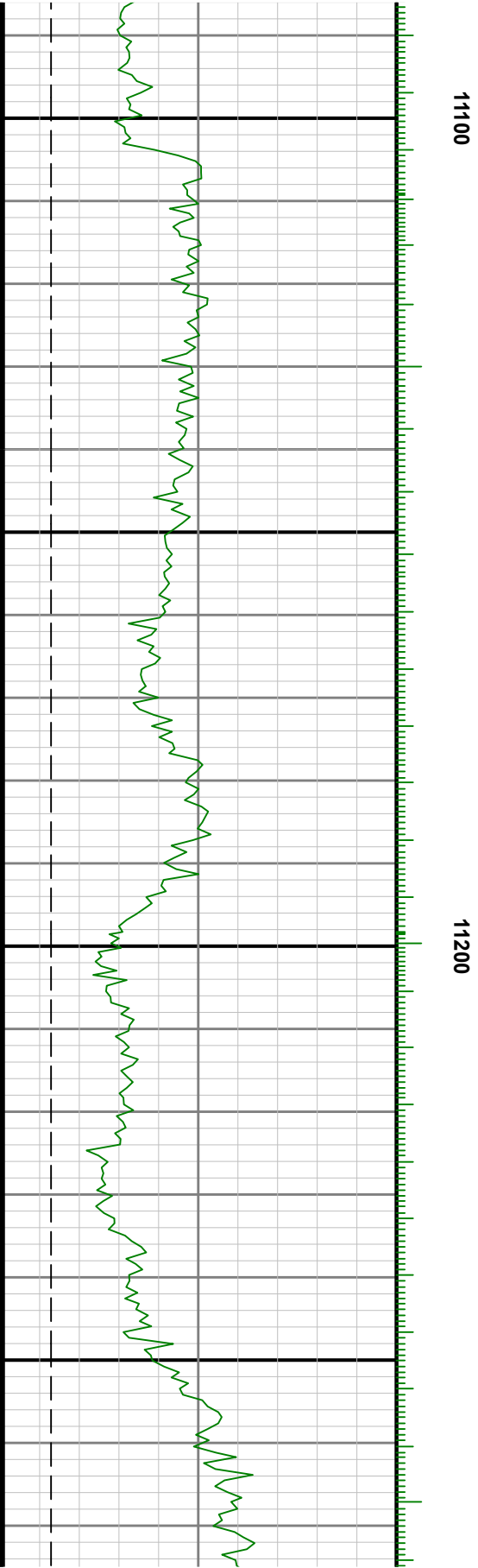
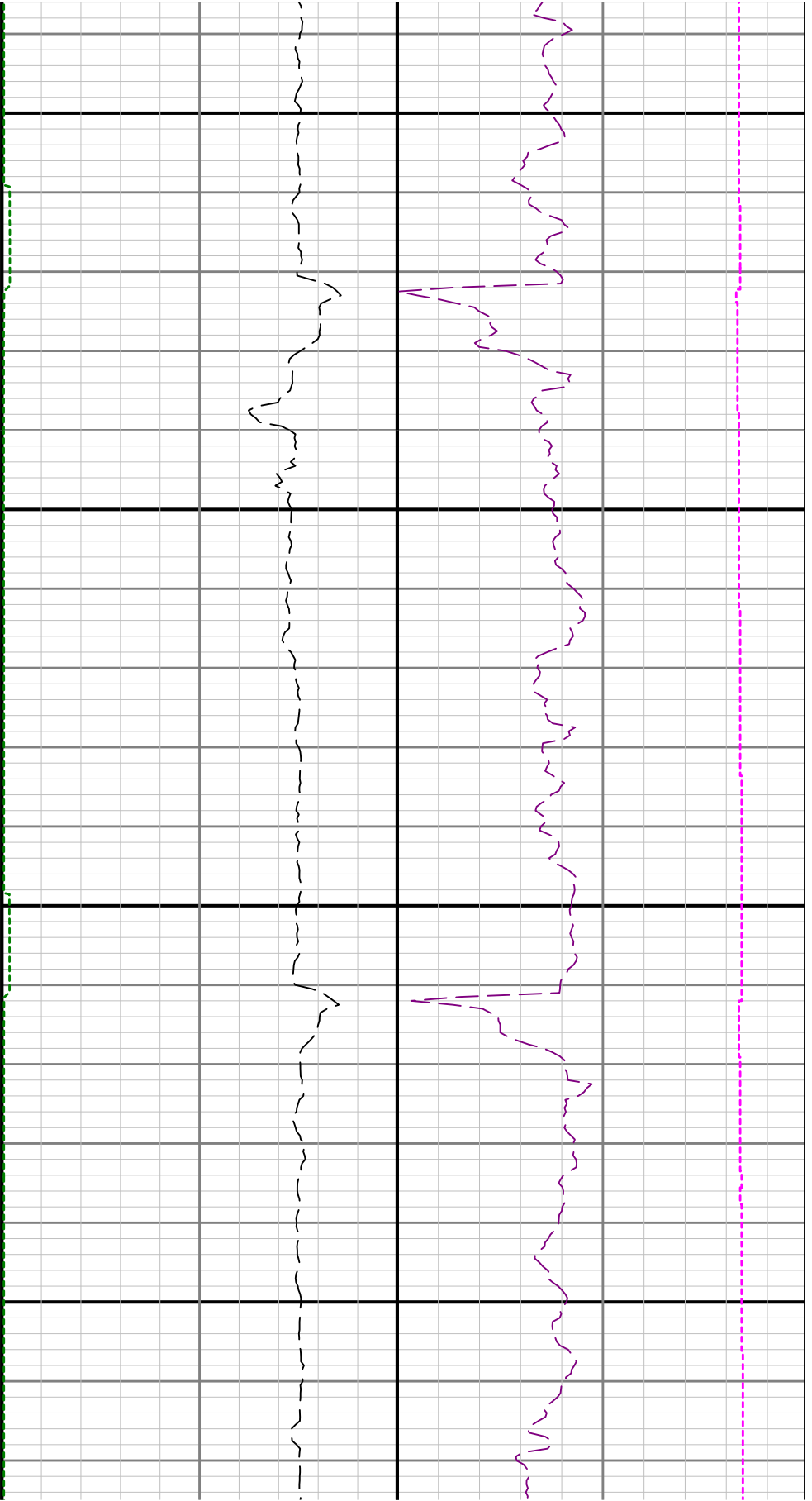


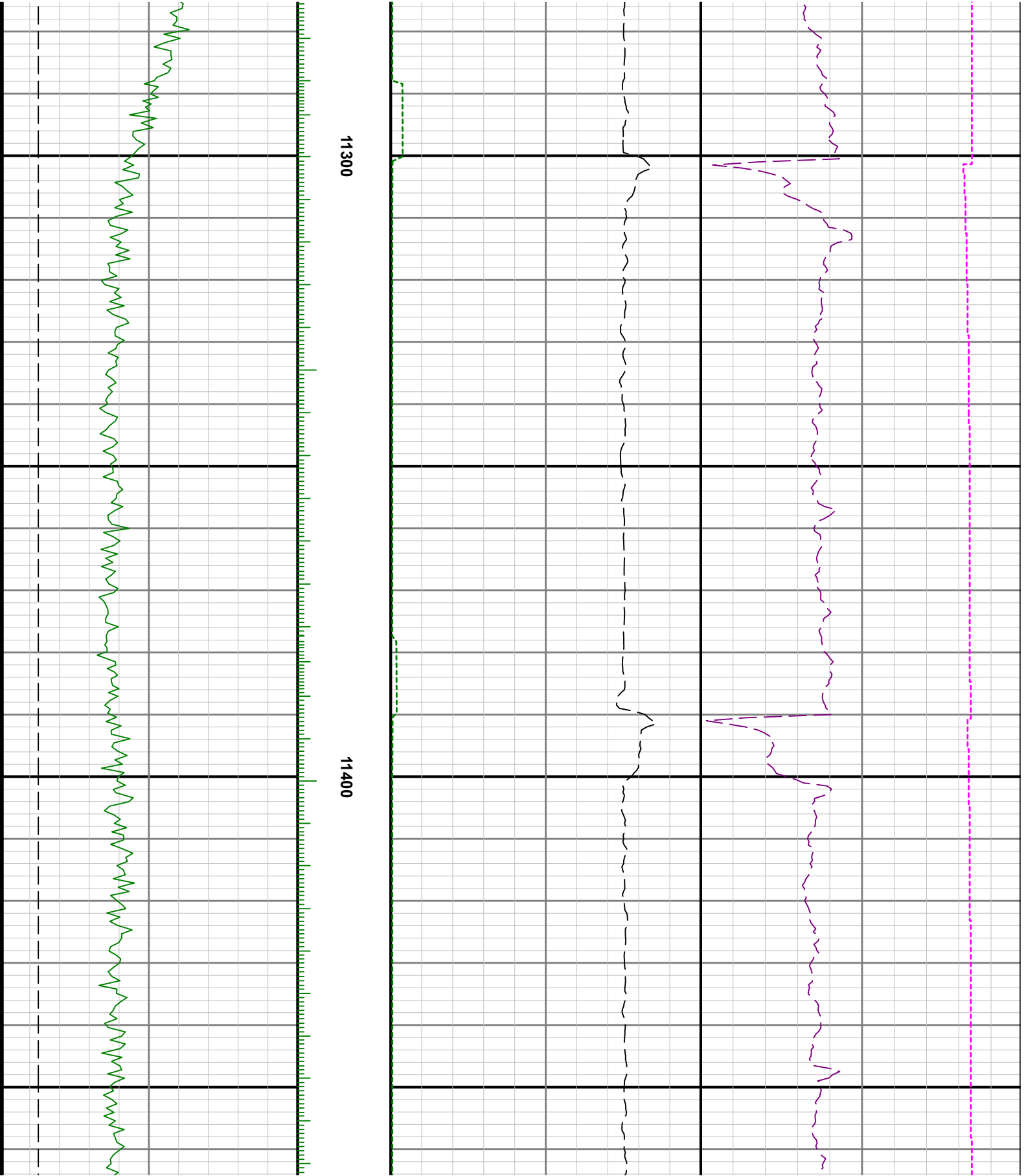


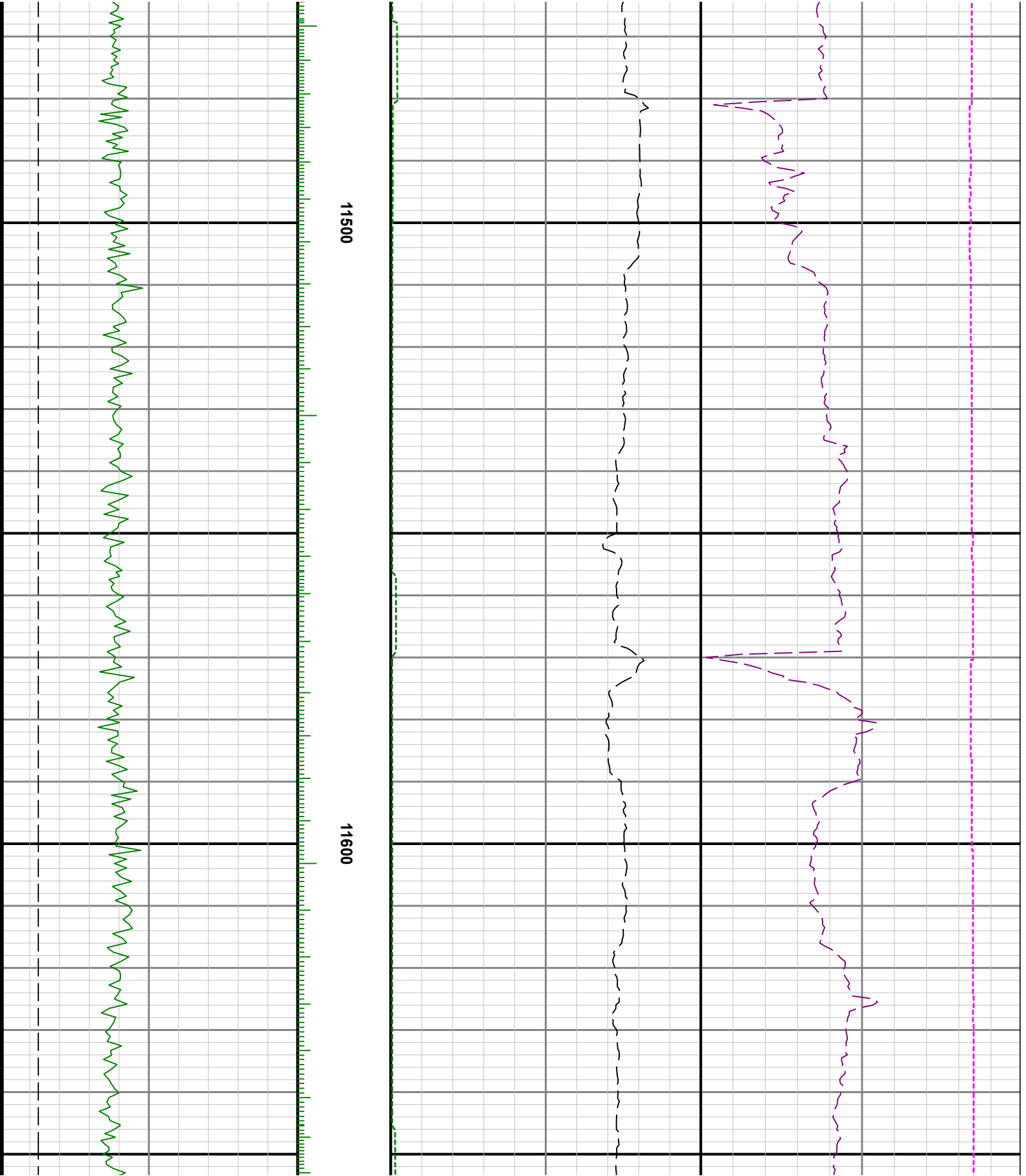
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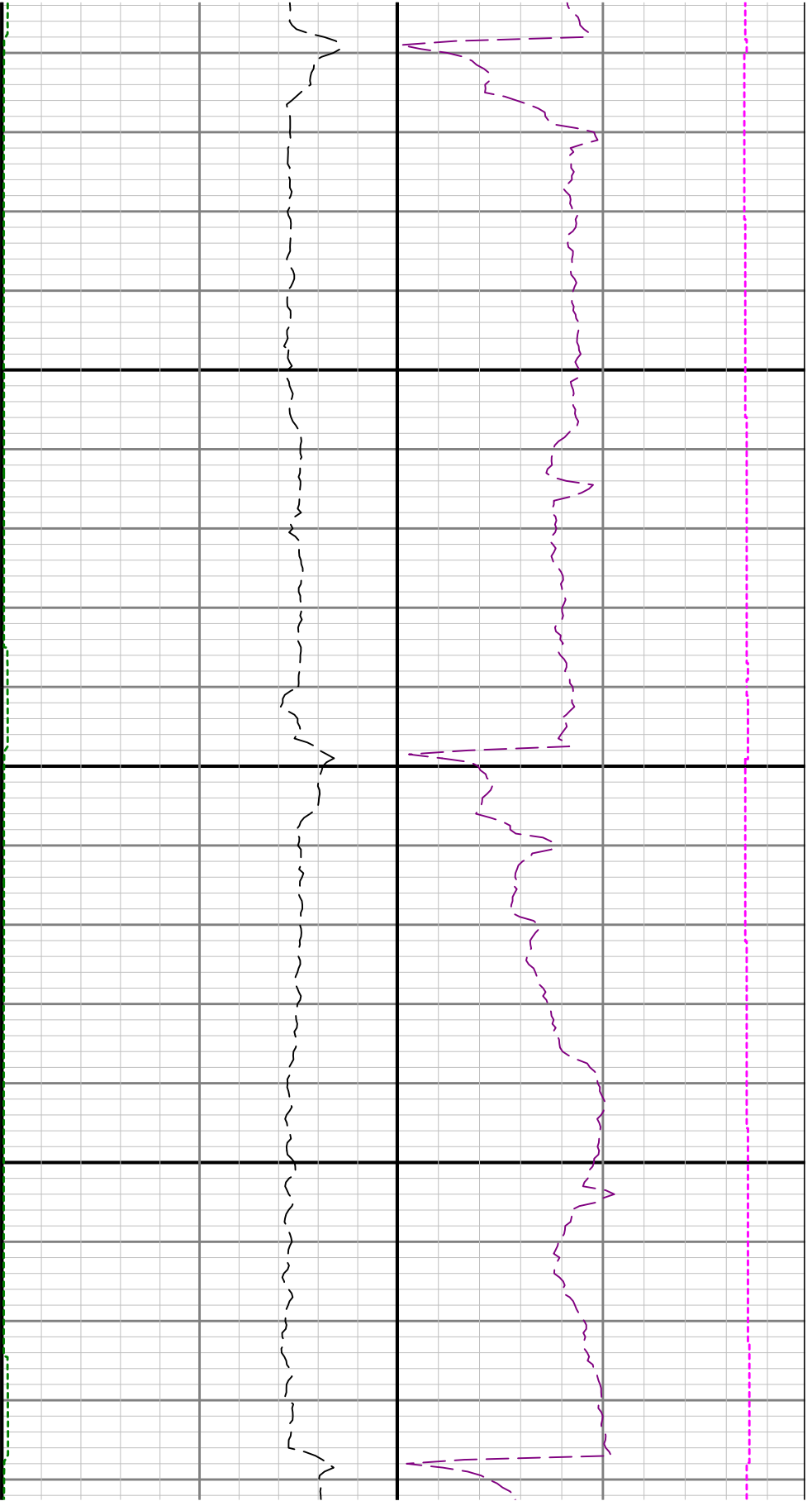








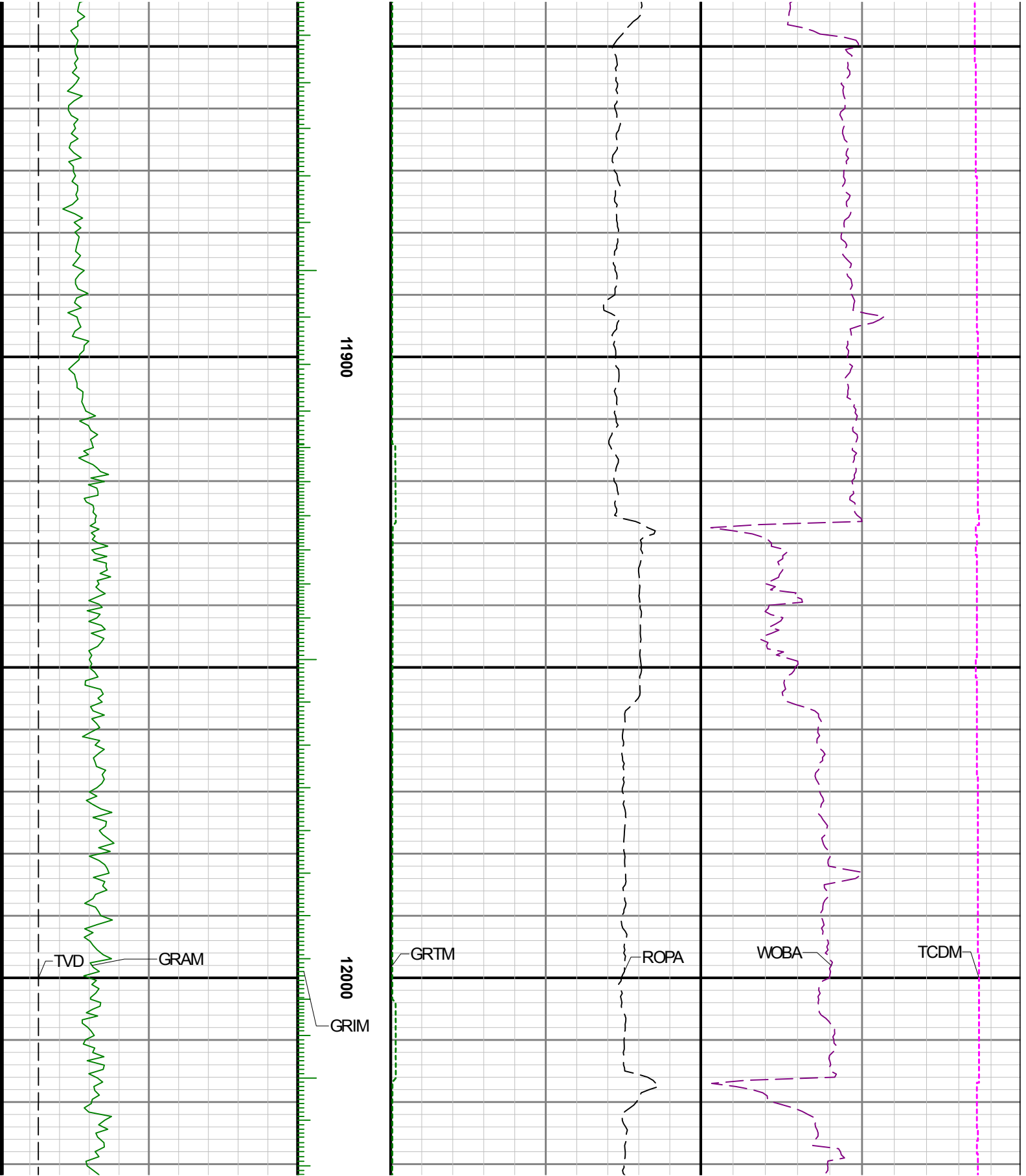


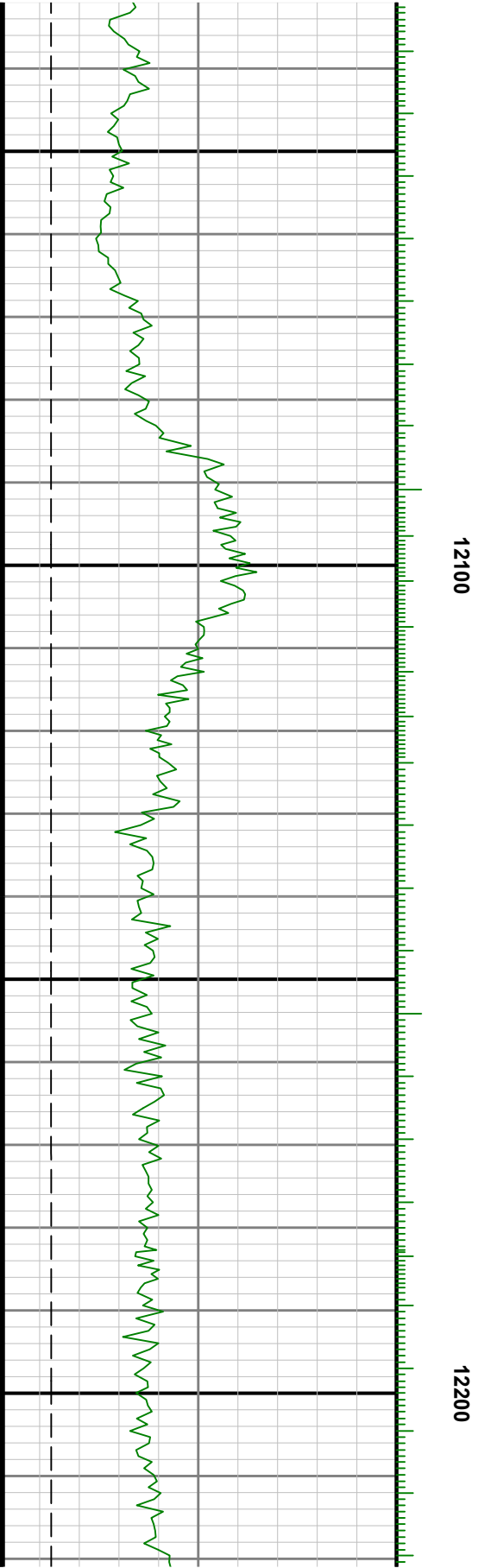
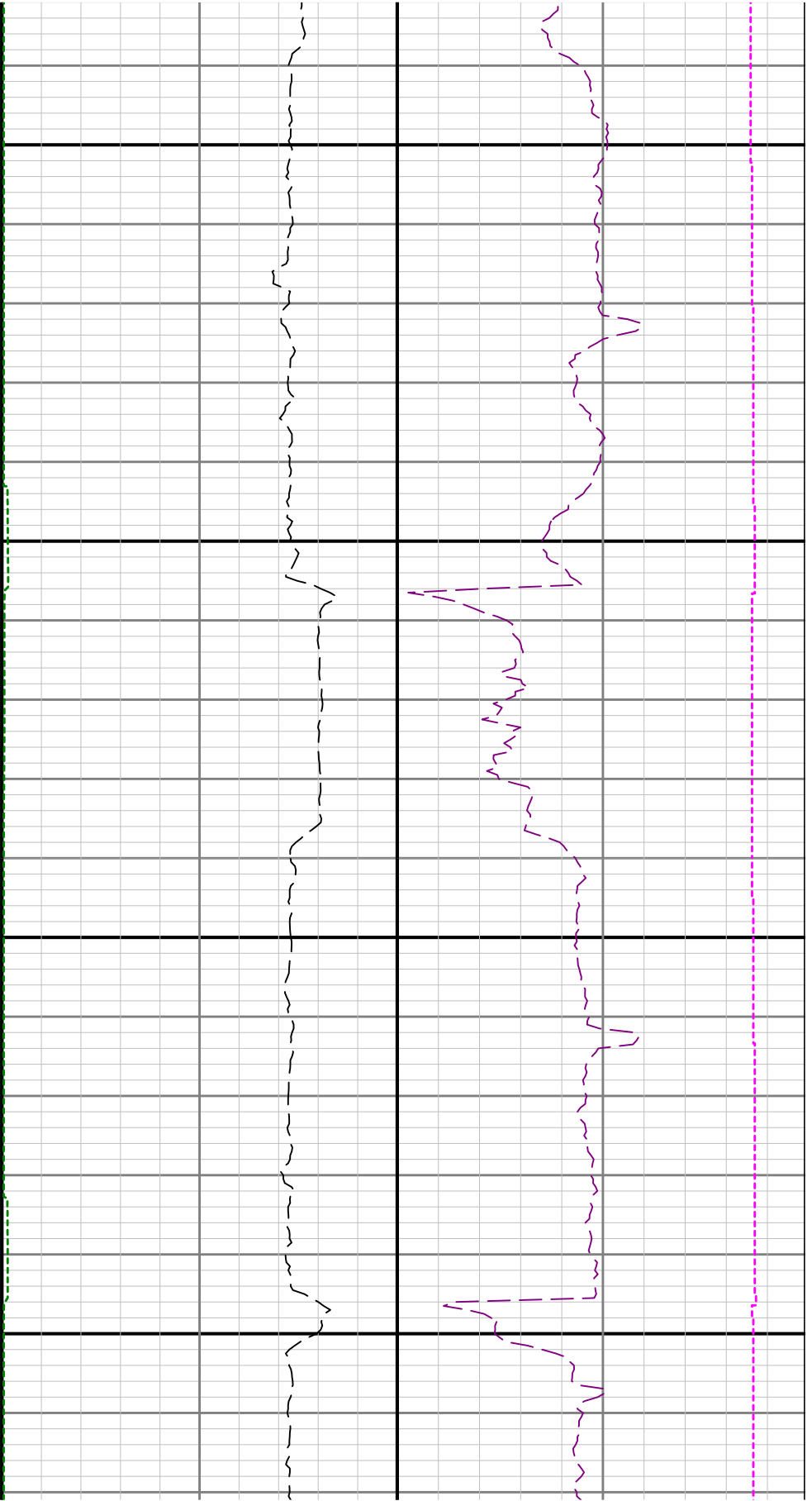


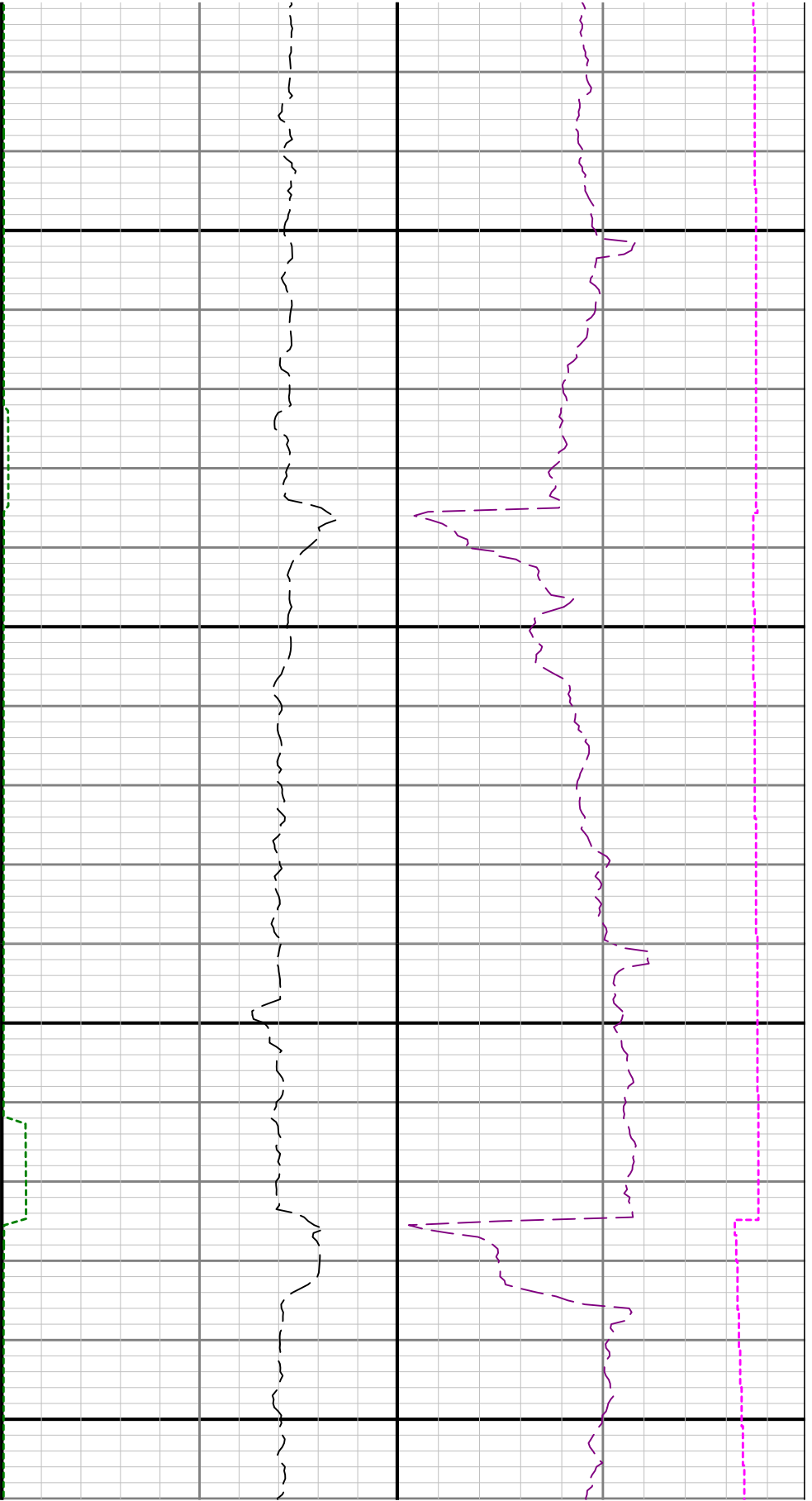
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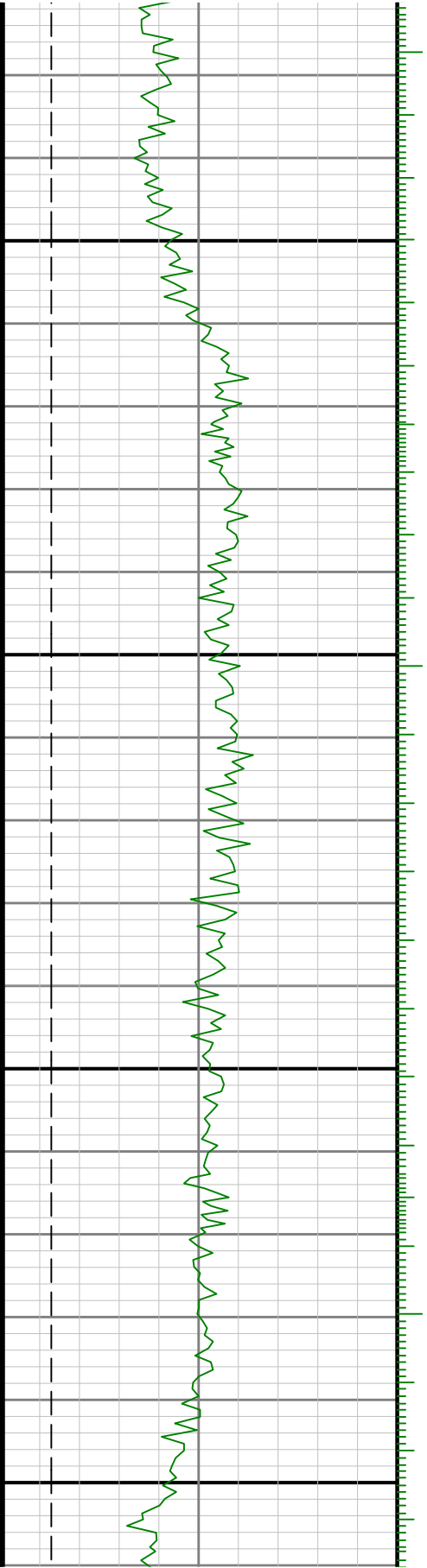


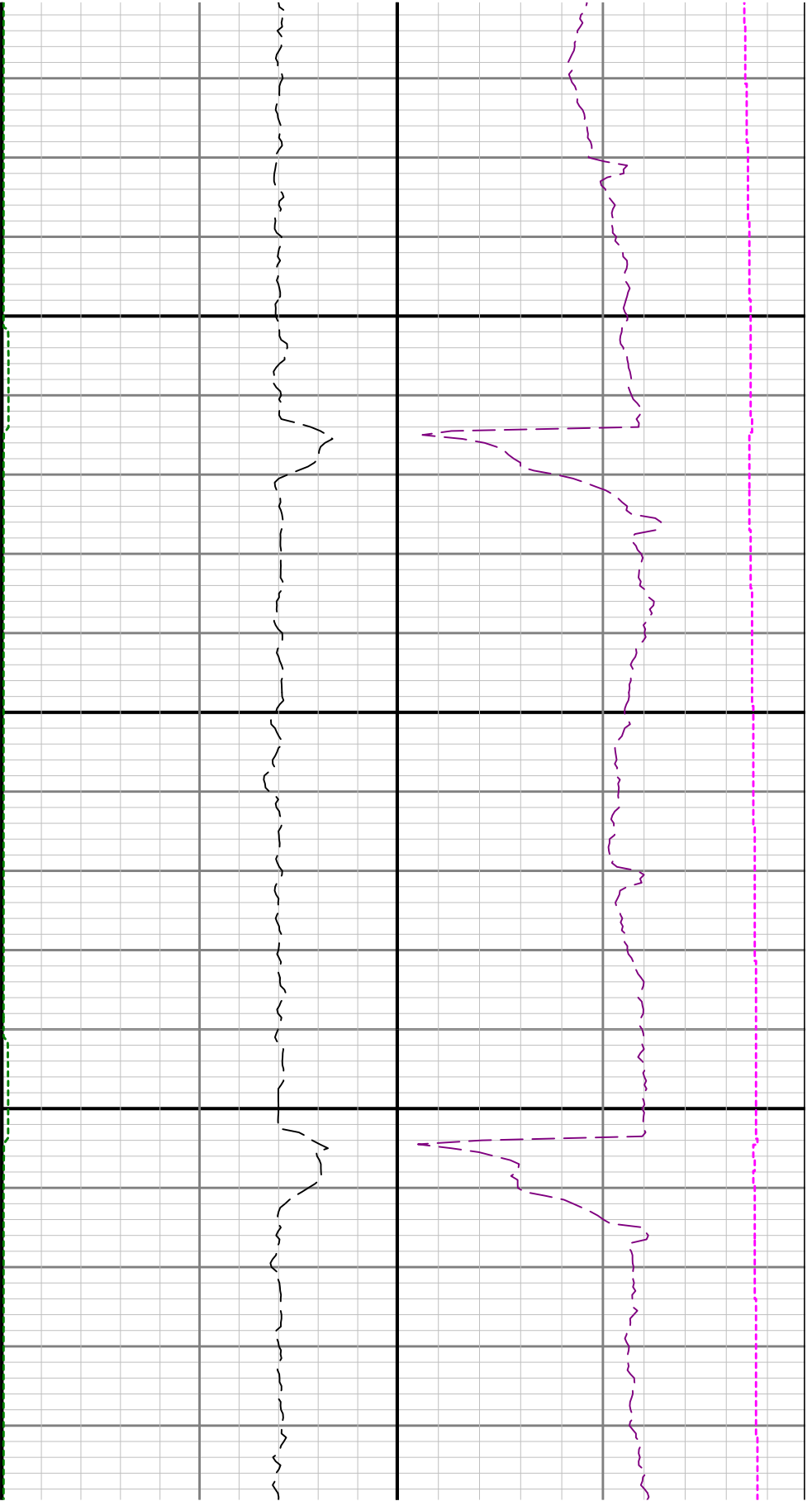




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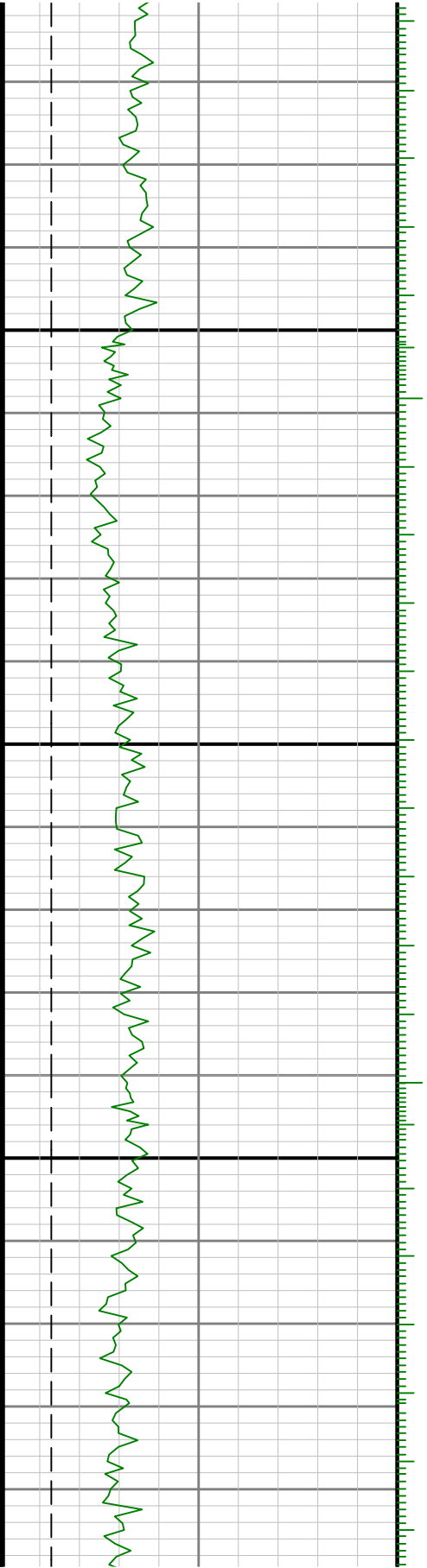
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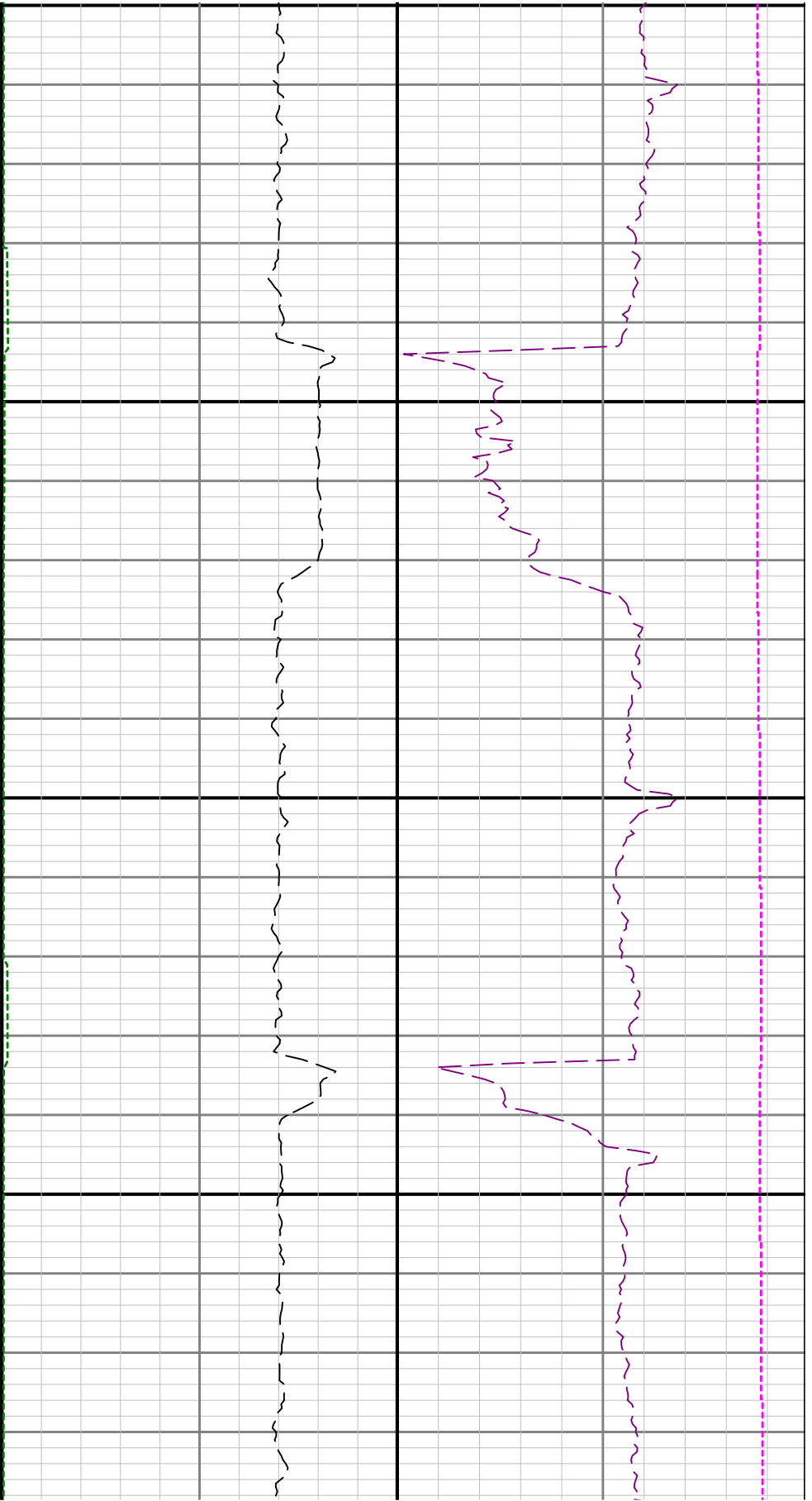




12500

12





600

12700

