



Real Time Log

Natural Formation Evaluation

Scale:

Company: Anadarko

1:240

Well: Badding 34N-2HZ

Measured Depth

Field: Weld County

Region: RMD

Country: United States

Status:

Final Print

API Number:

05-123-38287-00

Surface Location:

Latitude: 40° 5' 38.105" N

Longitude: 104° 45' 2.495" W

Other Services:

Directional VSS

SEC: 35 TWN: 2N RNG: 66W

Permanent Datum (P.D.): Ground Level

Elevation: 5114.00 ft.

Log Measured From: Rig Floor

13.00 ft.

Above P.D.

Elevations: N/A

KB: 5127.00 ft.

DF: 5114.00 ft.

GL: 5114.00 ft.

Depth Reference:

Drillers Depth

GL:

Interval Logged

Dates

Magnetic Field Reference

Top: 6737.0 ft. Date From: 06/Dec/2013 Dip Angle: 66.61° Azi Reference North: True

Bottom: 15137.0 ft. Date To: 13/Dec/2013 Total Mag to Reference

Spud Date: 06/Dec/2013 Field Strength: 52963.0 nT North Correction: 8.34°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
13.500 in.	0.0 ft.	1258.0 ft.	9.625 in.	36.00 lb/ft	0.0 ft.	1248.0 ft.
8.750 in.	1258.0 ft.	7768.0 ft.	7.000 in.	26.00 lb/ft	1248.0 ft.	7758.0 ft.
6.125 in.	7768.0 ft.	15188.0 ft.				

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Water Based	1258.0 ft.	7768.0 ft.	8.750 in.	6510.0 ft.	1.2° / 359.2°	86.4° / 183.7°
Water Based	7768.0 ft.	15188.0 ft.	6.125 in.	7420.0 ft.	86.4° / 183.7°	89.7° / 180.0°
					/	/
					/	/
					/	/
					/	/
					/	/

Acquisition System

Software Version

Other

Advantage	2.20U4	Rig / Contractor:	Ensign 145	/ Advance Drilling
PATS	6.4.1.34	Job No:	5994944	
		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	1	8.750	PDC	1.000	Steerable	6737.0	7712.0	1258.0	7768.0	06/Dec/2013 00:30	09/Dec/2013 03:45	44.5
2	2	2	6.125	PDC	3.000	Steerable	7712.0	15137.0	7768.0	15188.0	10/Dec/2013 01:00	13/Dec/2013 19:00	45.9

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Michael Gurnsey	06/Dec/2013	13/Dec/2013	Donald Delay	06/Dec/2013	13/Dec/2013			
Alexander Janorschke	06/Dec/2013	13/Dec/2013	Thanh Hoang Nguyen	06/Dec/2013	13/Dec/2013			
Peter Adebayo	06/Dec/2013	13/Dec/2013						

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+ (%)
06/Dec/2013 22:30	1	3749.0	Water Based Mud	8.6	3	8.5	N/A	0 / 99	Active Mud Pits	1600	N/A
07/Dec/2013 22:00	1	6811.0	Water Based Mud	9.5	10	8.5	5.5	1 / 93	Active Mud Pits	1600	N/A
08/Dec/2013 22:00	1	7768.0	Water Based Mud	10.1	11	8.5	6.0	1 / 91	Active Mud Pits	1700	N/A
09/Dec/2013 22:00	1	7768.0	Water Based Mud	9.7	8	8.5	5.5	1 / 92	Active Mud Pits	1200	N/A
10/Dec/2013 22:00	2	8401.0	Water Based Mud	9.5	10	8.5	4.5	2 / 93	Active Mud Pits	1200	N/A
11/Dec/2013 22:00	2	11952.0	Water Based Mud	9.5	12	8.5	4.5	2 / 93	Active Mud Pits	1100	N/A
12/Dec/2013 21:30	2	15013.0	Water Based Mud	9.4	12	8.5	4.5	2 / 93	Active Mud Pits	1100	N/A

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. avg.	API
GRIX	Gamma Ray Density	points
GRSI	Gamma Ray Slide 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, 3.0 ft. avg.	ft. / hr.
WOBA	Surface Weight on Bit, 1.0 ft. avg.	klbf.

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12456790	Directional	56.84	6.750	2.875
1	SRIG	12622668	Gamma	53.46	6.750	2.875
2	DIR	12440863	Directional	54.48	4.750	2.625
2	SRIG	12595025	Gamma	51.10	4.750	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

Comments

1) Baker Hughes Run 1 utilized 6 1/2 inch NaviGamma (directional and gamma ray) services with a bent motor to drill 8 3/4 inch hole from 1258-7768 ft MD (1258-7344 ft TVD).
2) Baker Hughes Run 2 utilized 4 3/4 inch NaviGamma (directional and gamma ray) services with a bent motor to drill 6 1/8 inch hole from 7768-15188 ft MD (7344-7367 ft TVD).
3) 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 correspond with Gamma Ray data acquired while sliding.

4) Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes INTEQ. Due to lack of control by Baker Hughes INTEQ logging engineers, depth calibrations and measurements could not be independently verified, and the unverified depths as supplied to INTEQ are being used to present logging data.

Remarks

Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1	6736	8.750	1	The interval from surface to 6736 feet MD (6671 feet TVD) was not logged since logging services began at curve kick off point during run 1.
2	7718	6.125	2	The interval from 7718 feet to 7768 feet MD (7341 to 7163 feet TVD) was logged up to 45.7 hours after being drilled due to casing and cementing operations and to pick up lateral tools.
3	15188	6.125	2	In the interval from 15138 to 15188 feet MD (7367 to 7339 ft TVD), GRAX and GRTX was not logged due to Gamma Ray sensor to bit offset upon completing the lateral section.

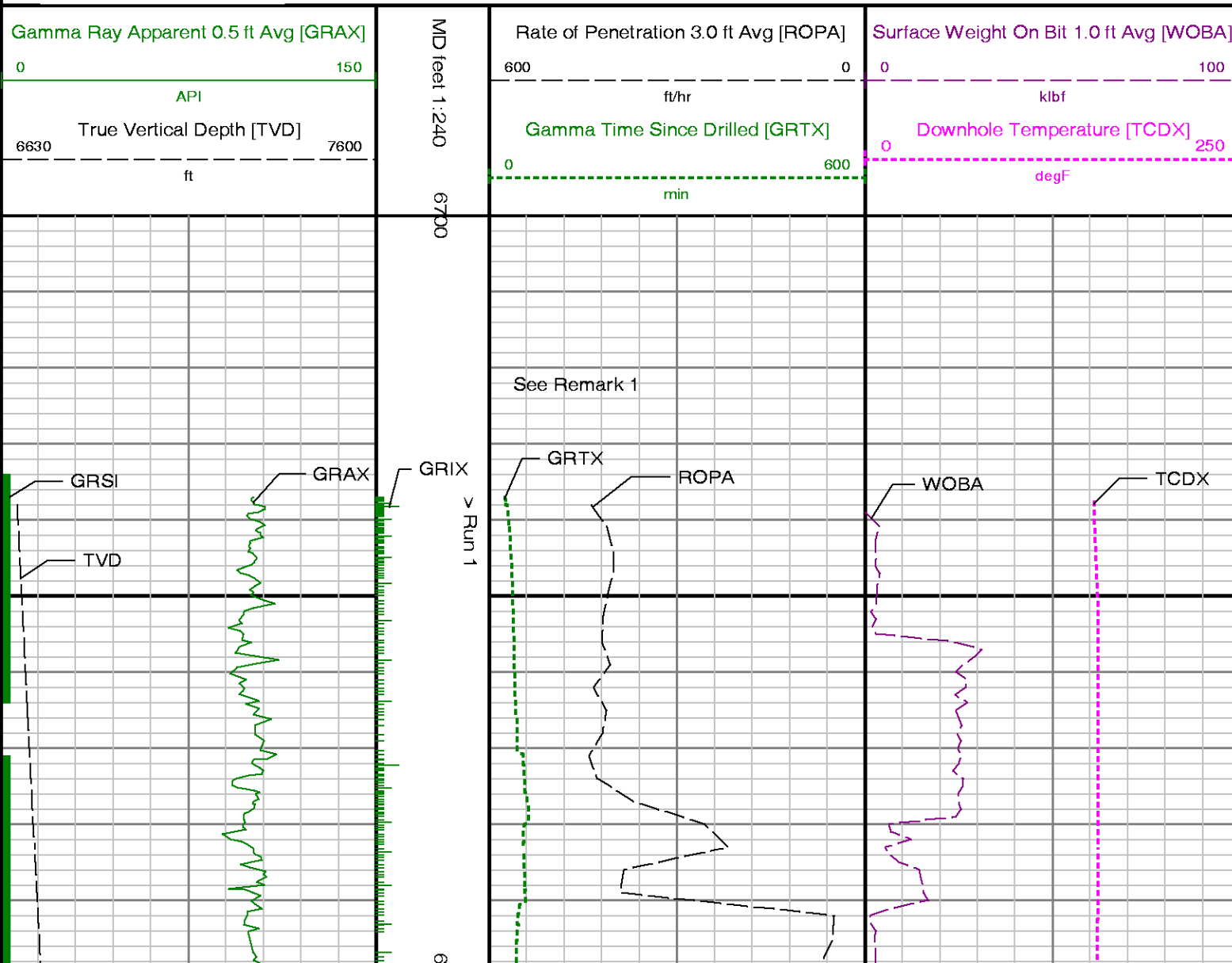


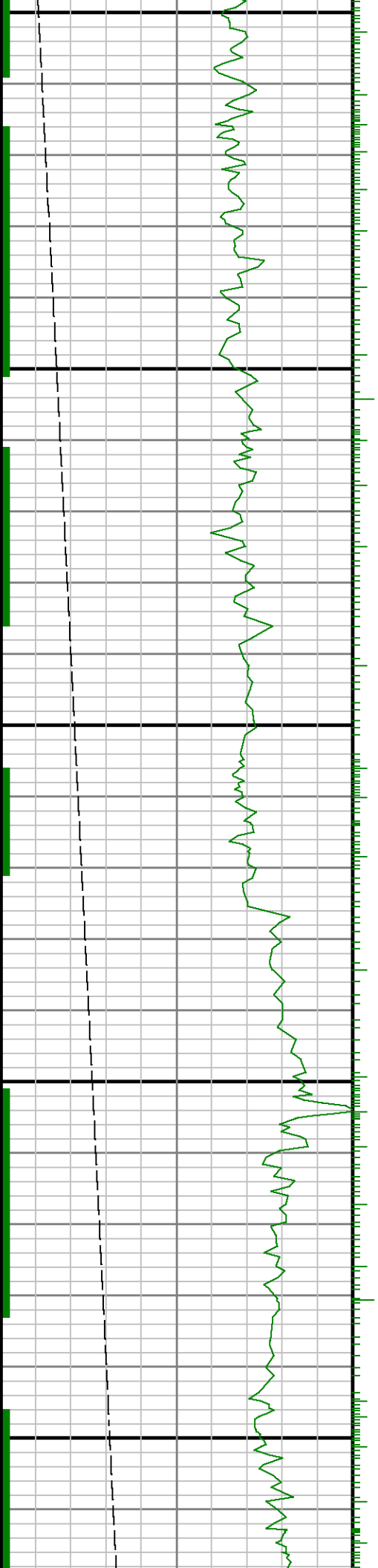
Company : Anadarko

Well : Badding 34N-2HZ

Interval : 6700.00 - 15200.00 feet

Created : 13/Dec/2013 11:06:07 AM

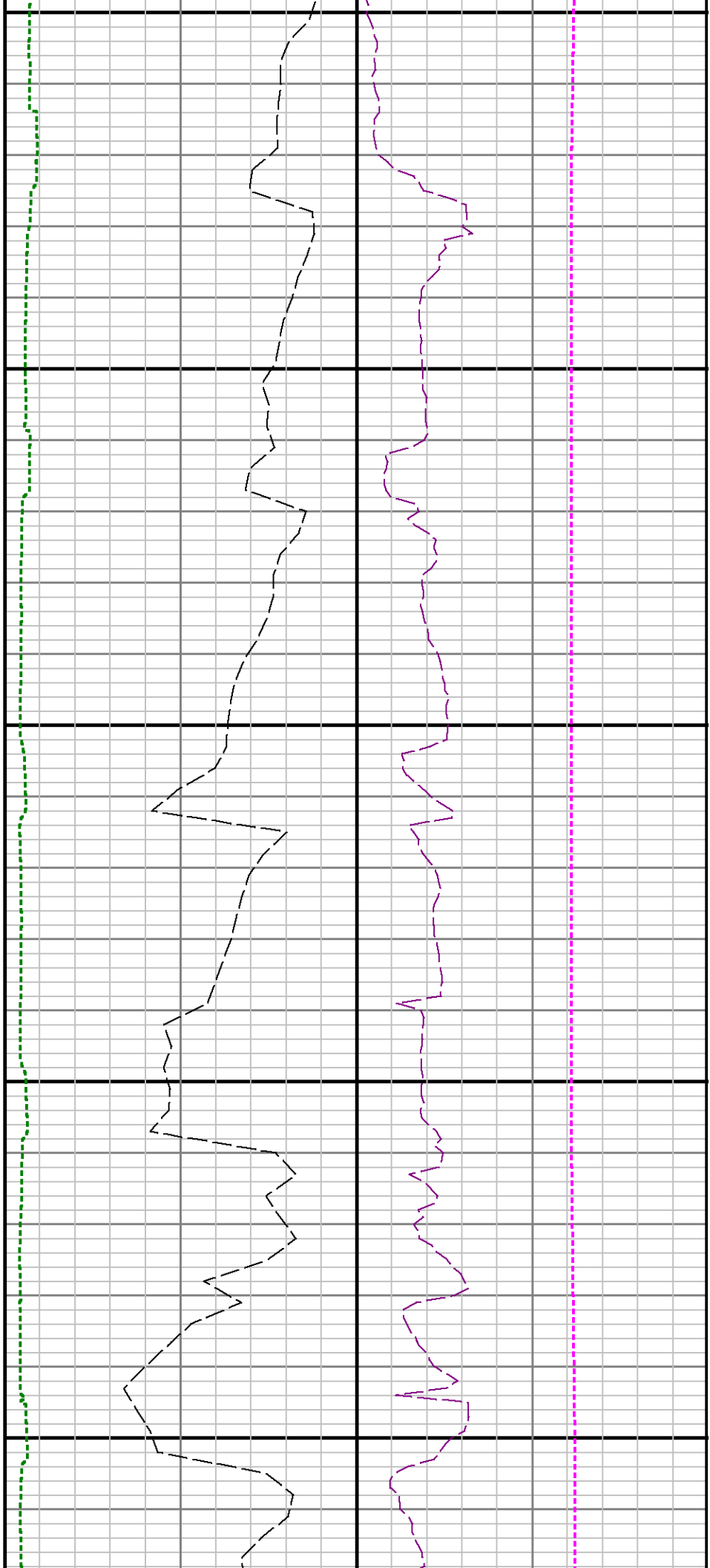


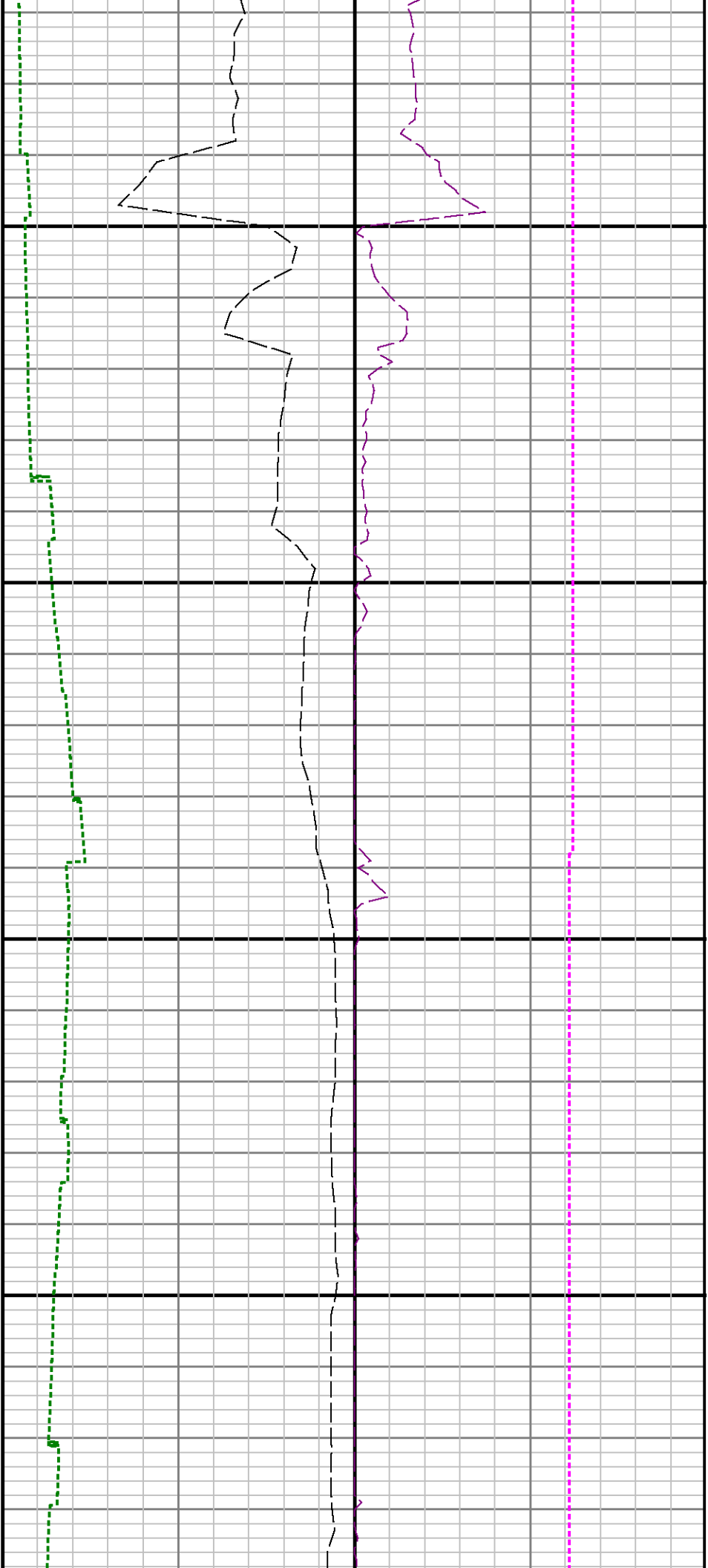


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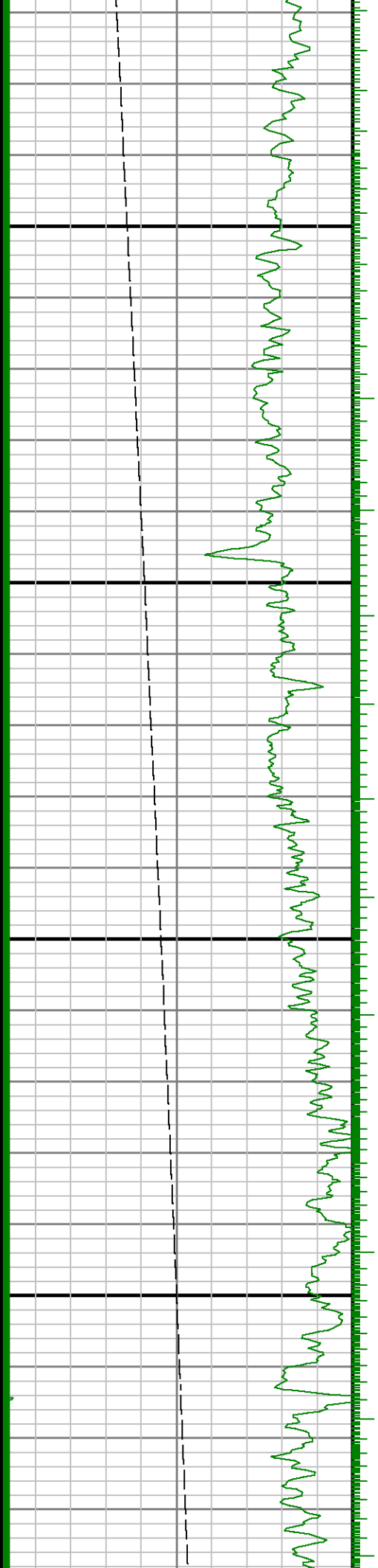
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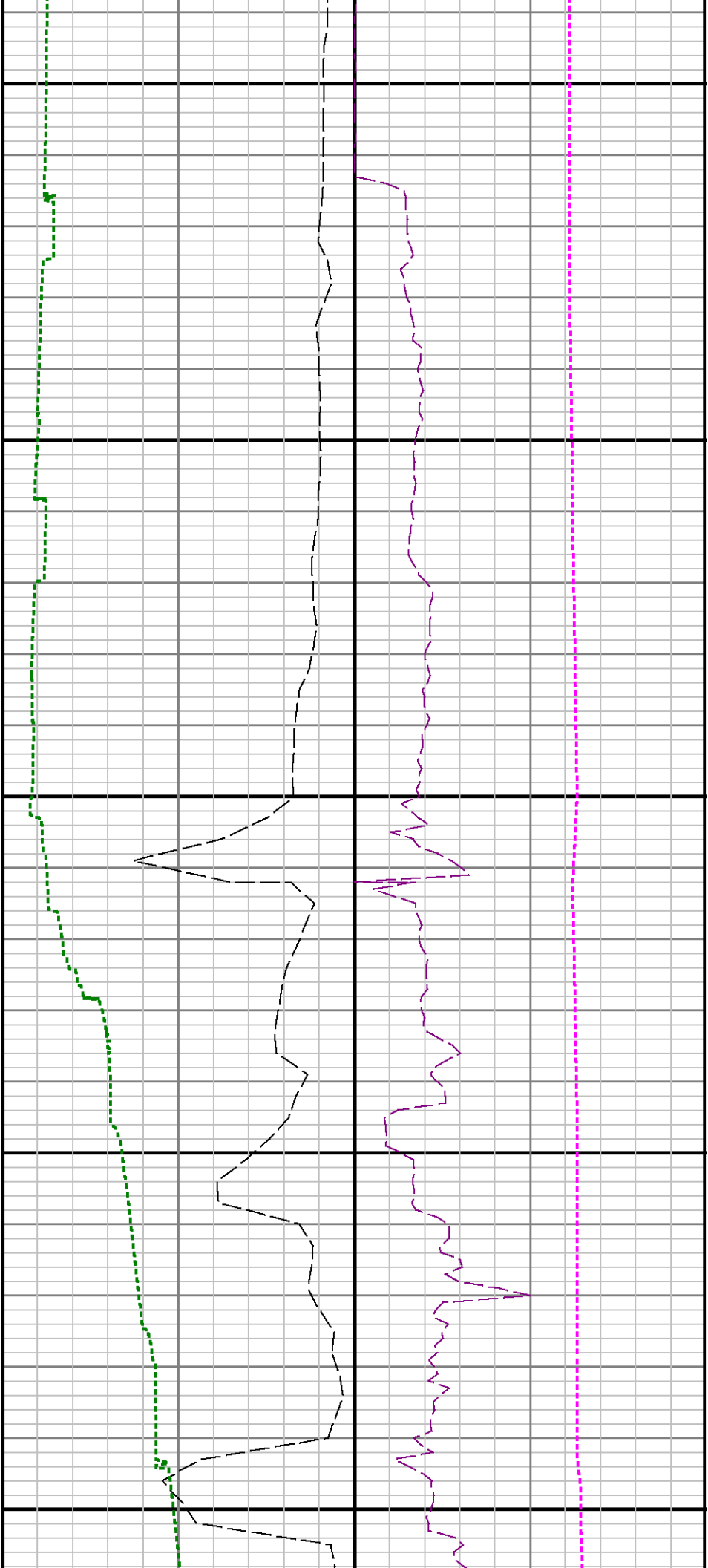




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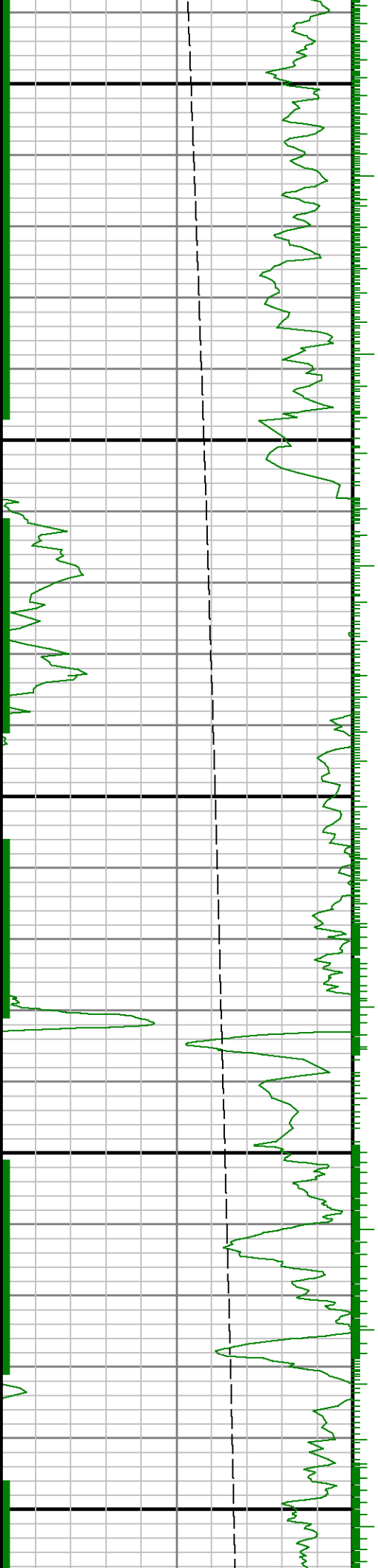
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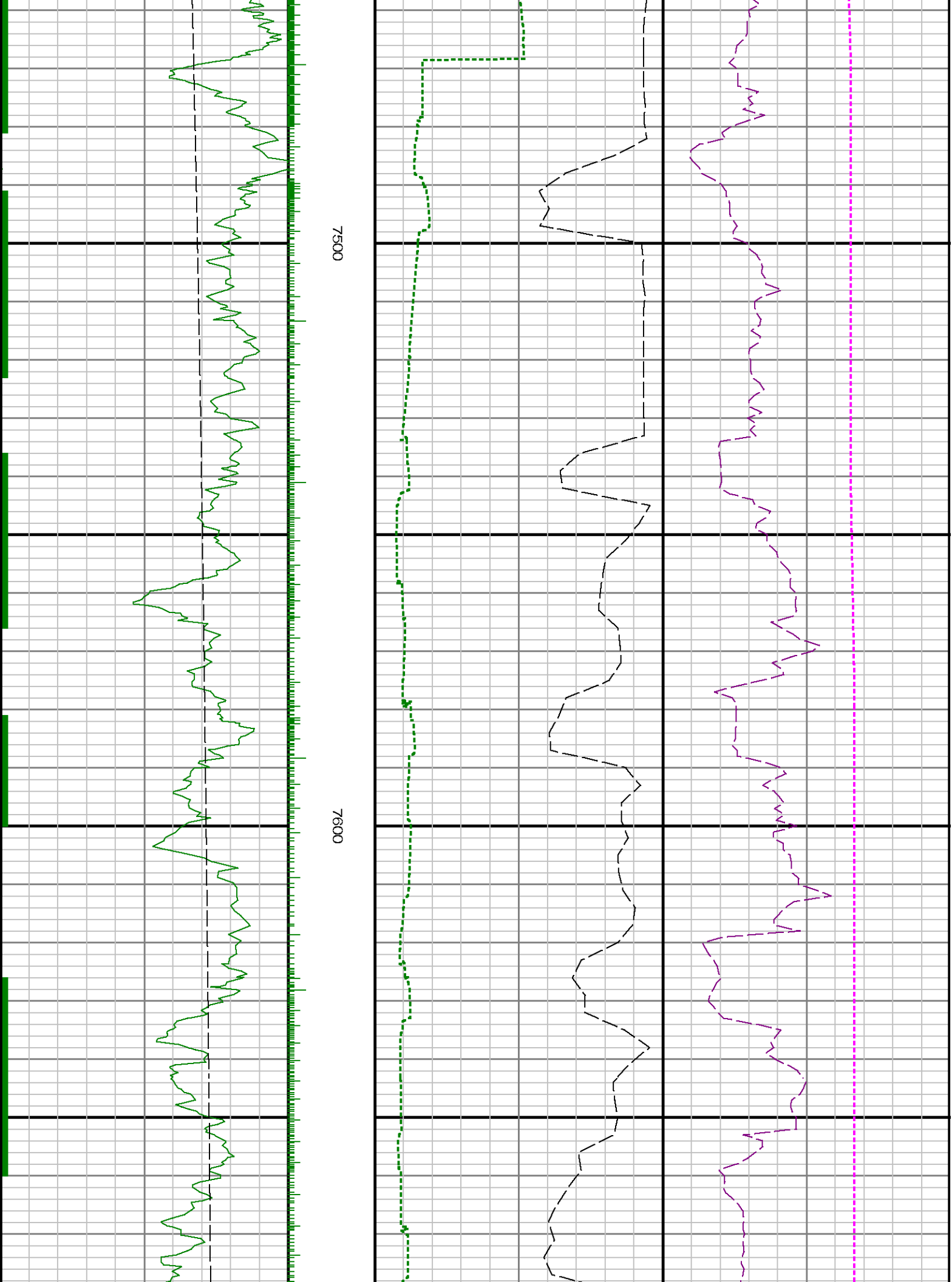


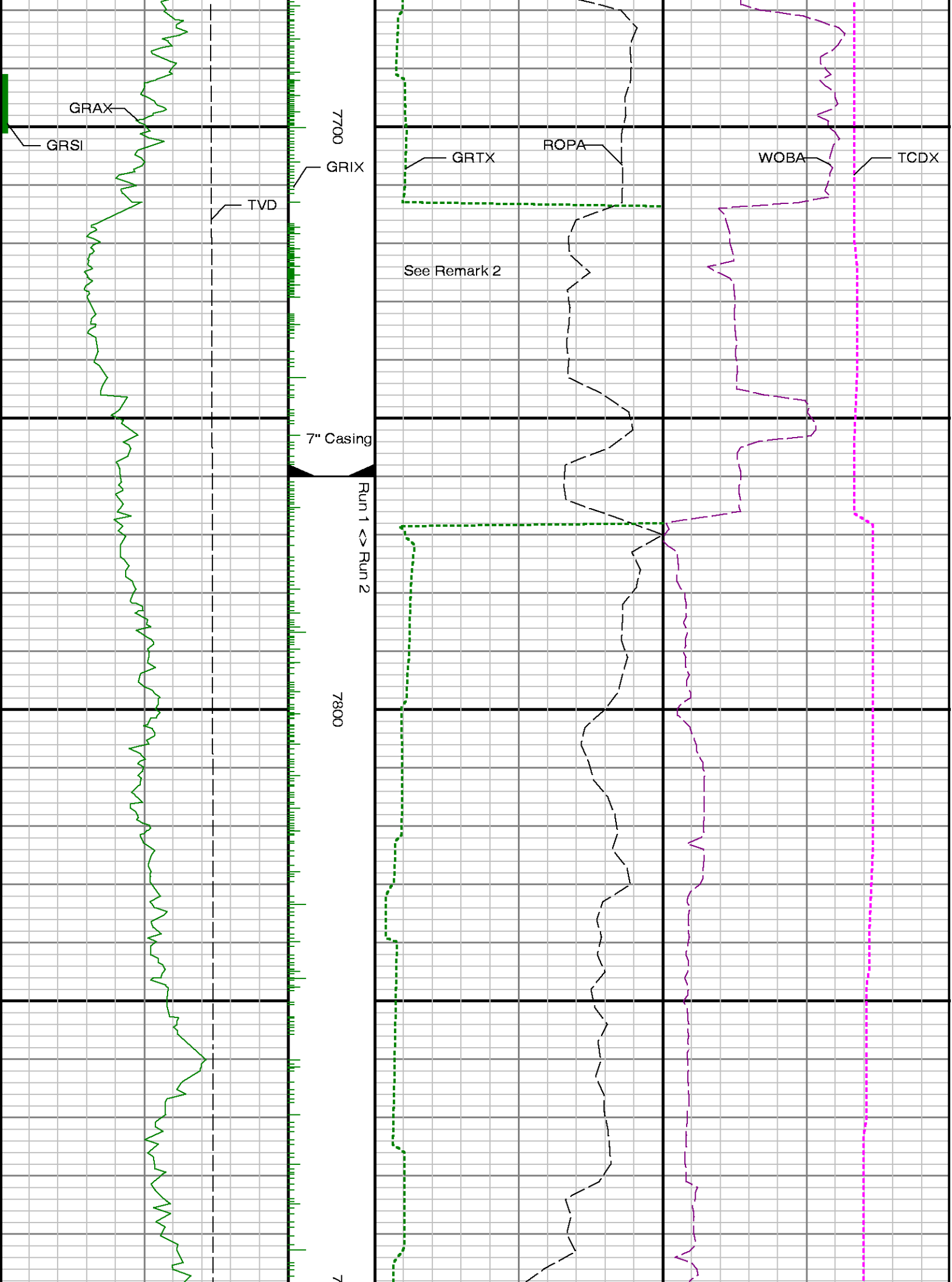


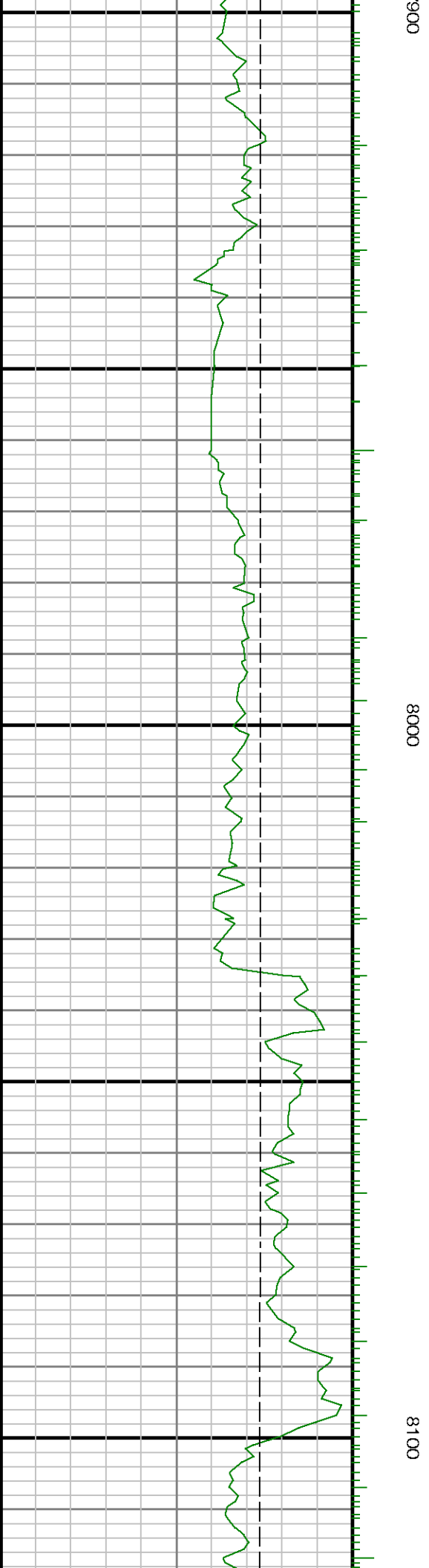
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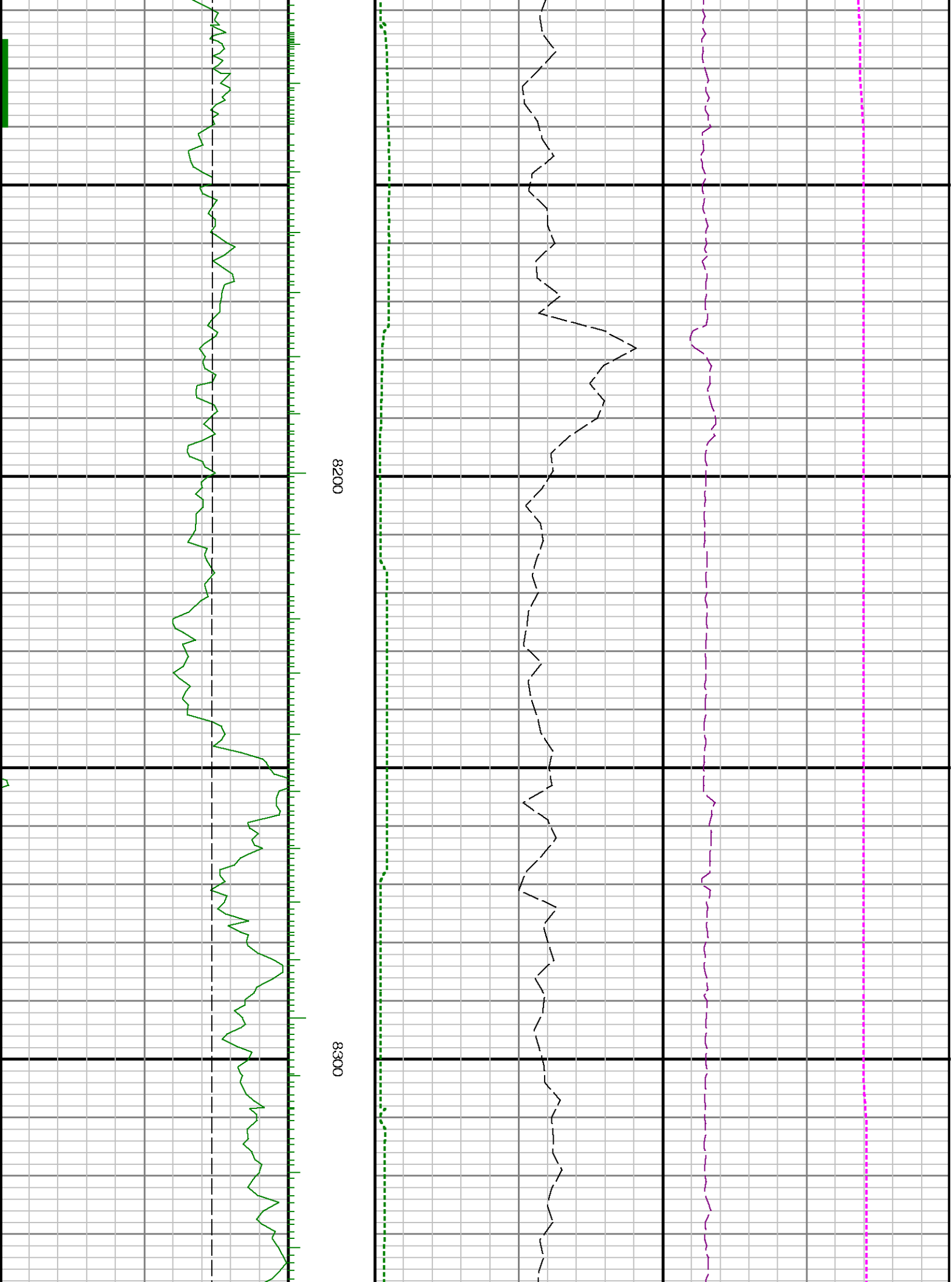
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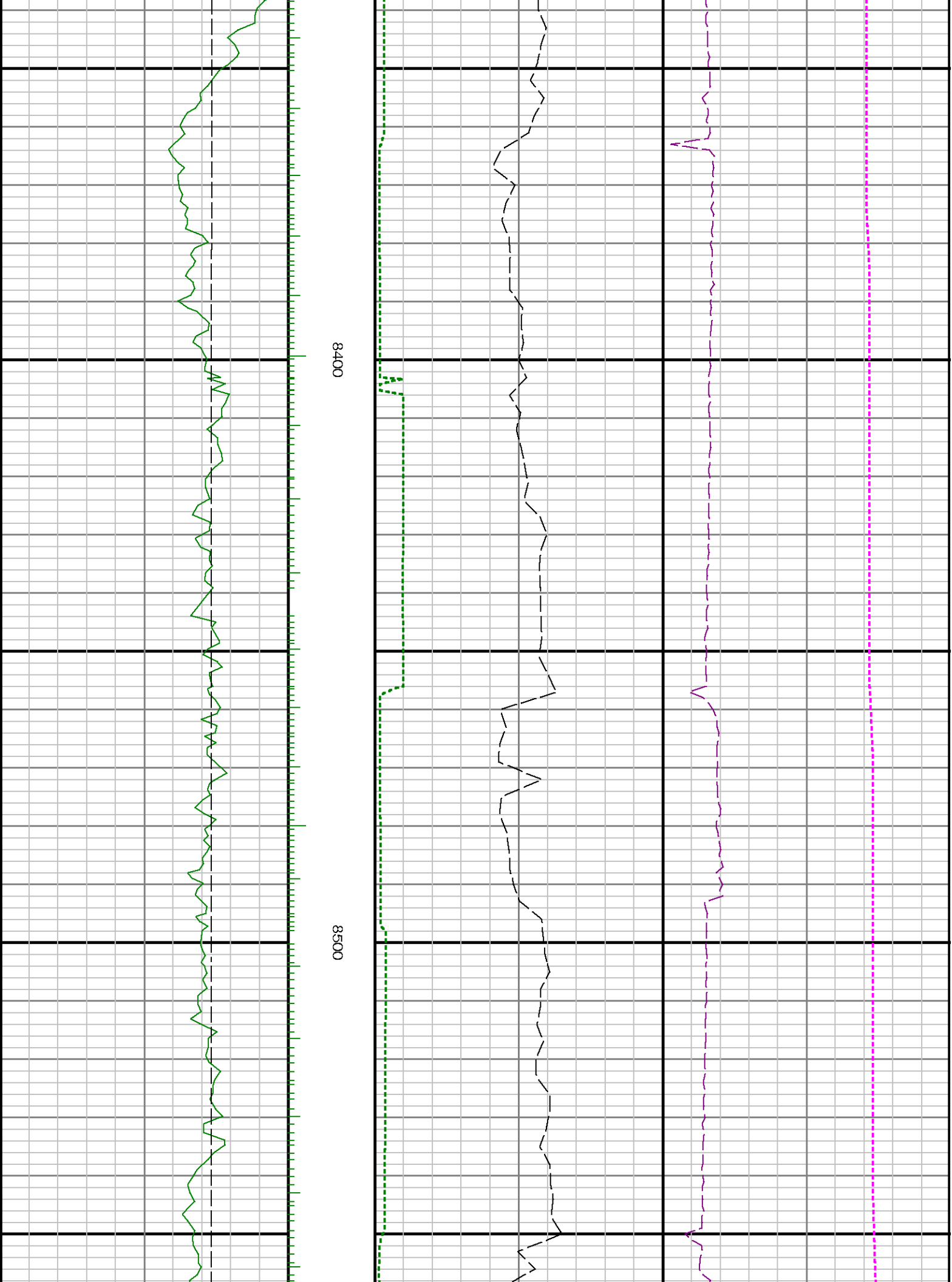


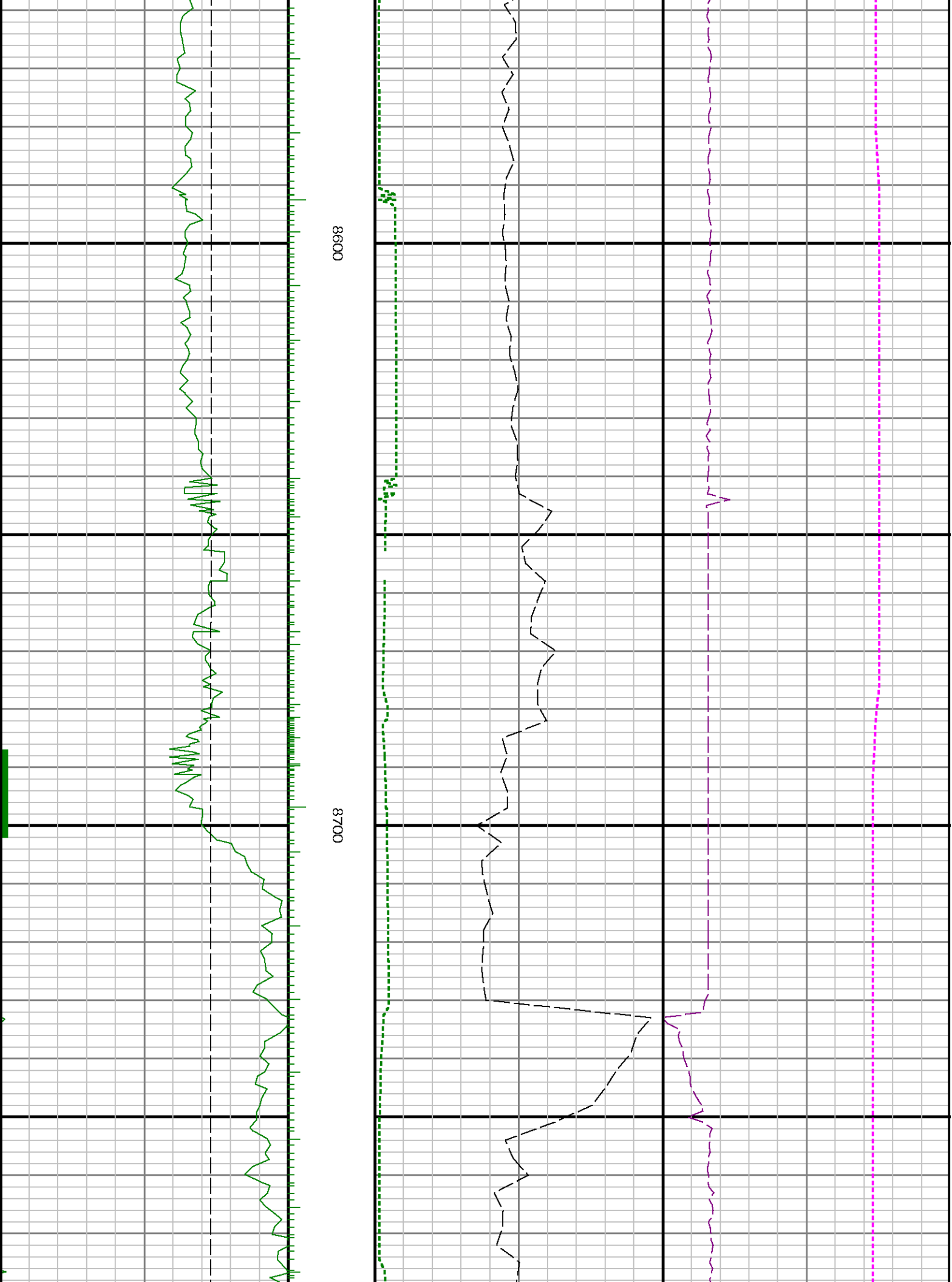


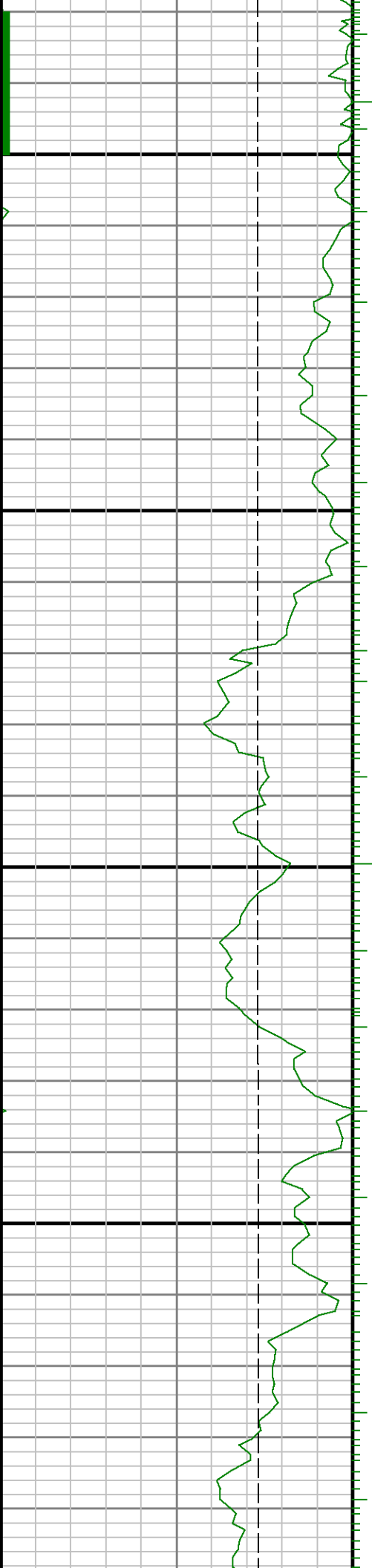








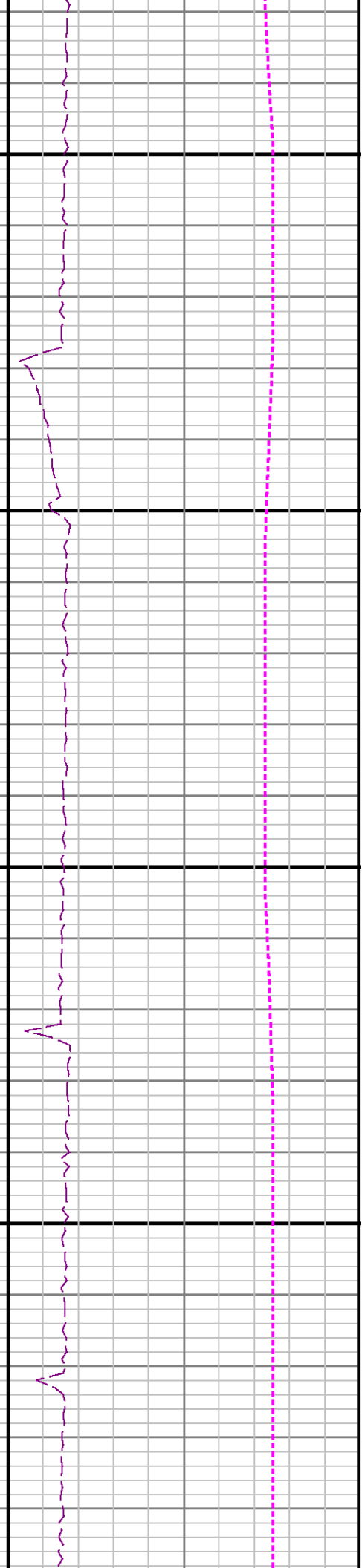
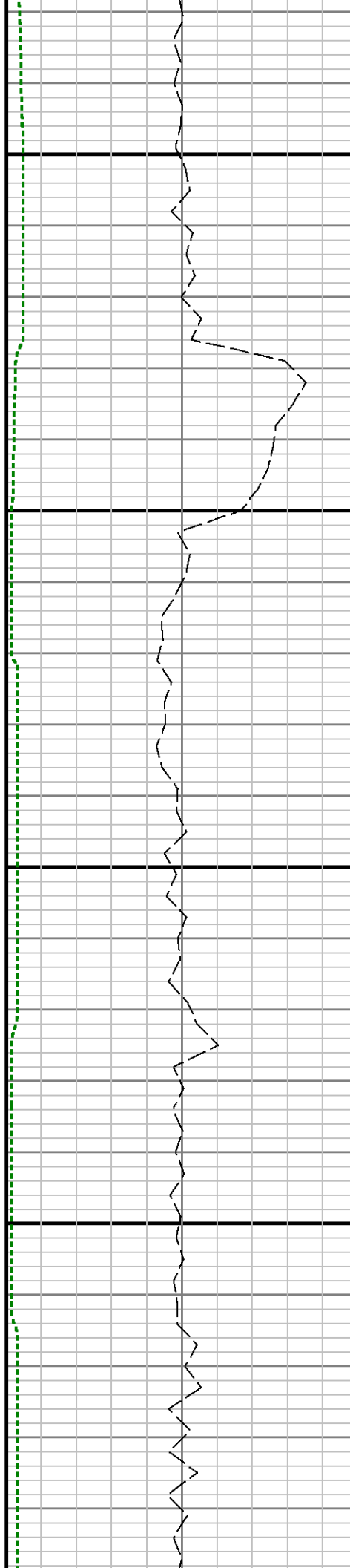


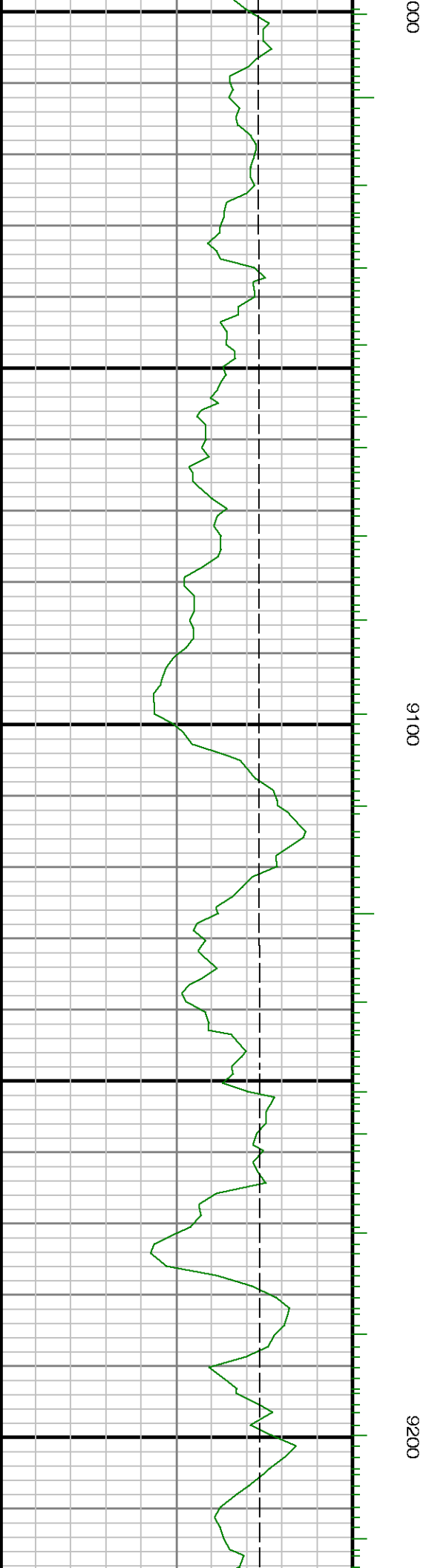
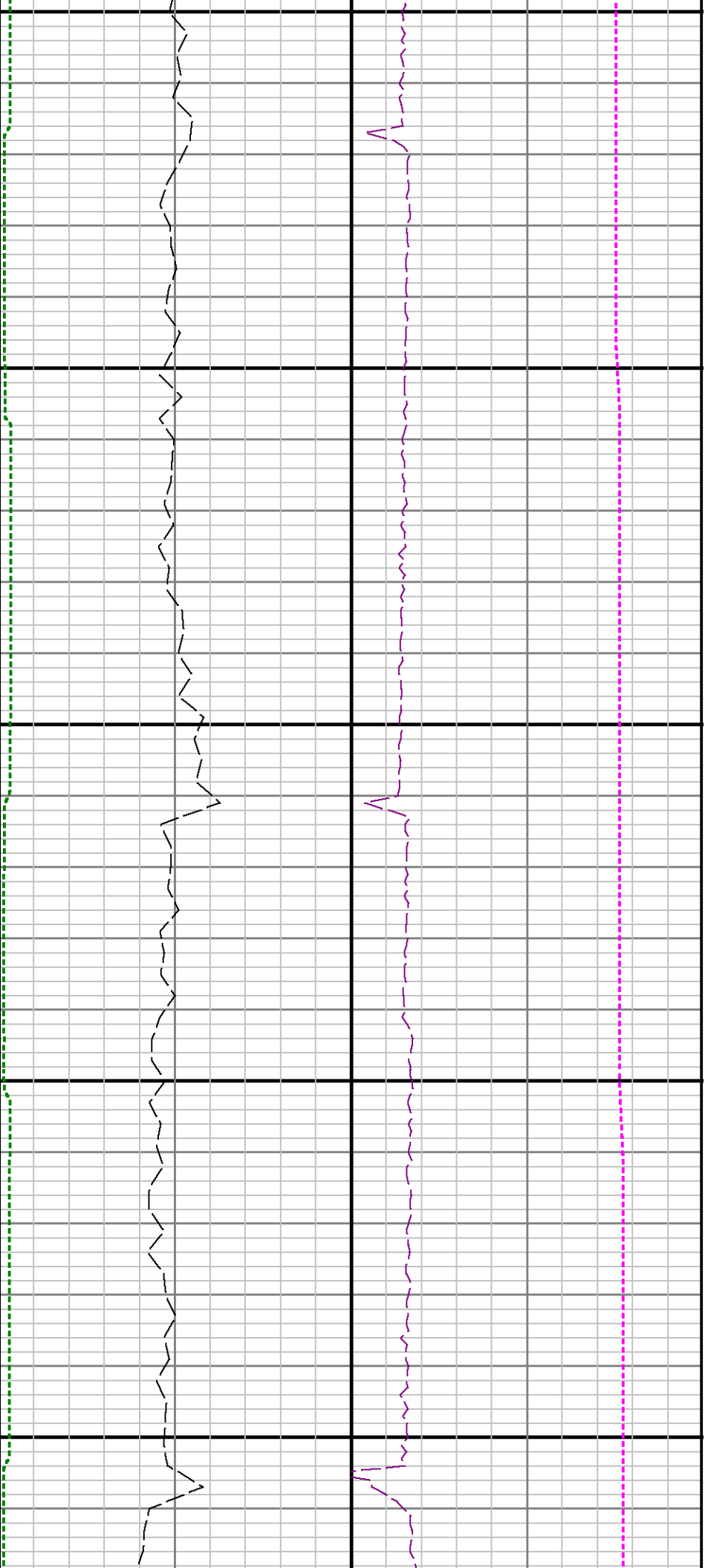


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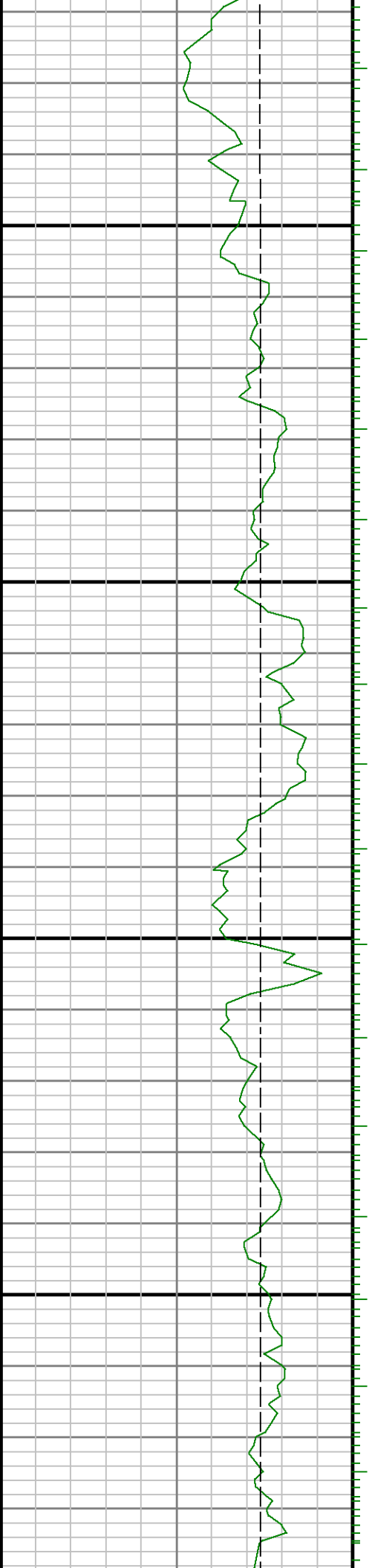


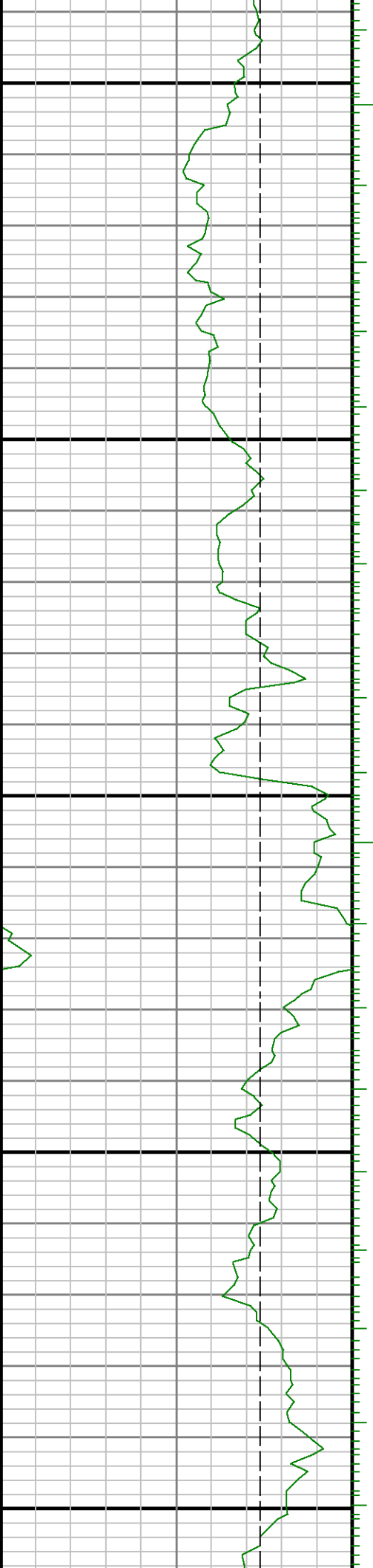




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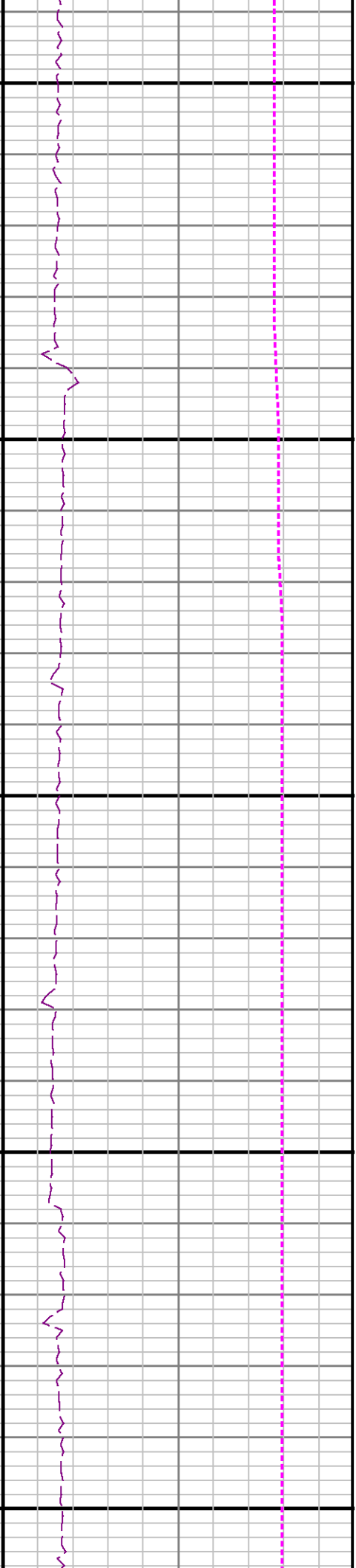
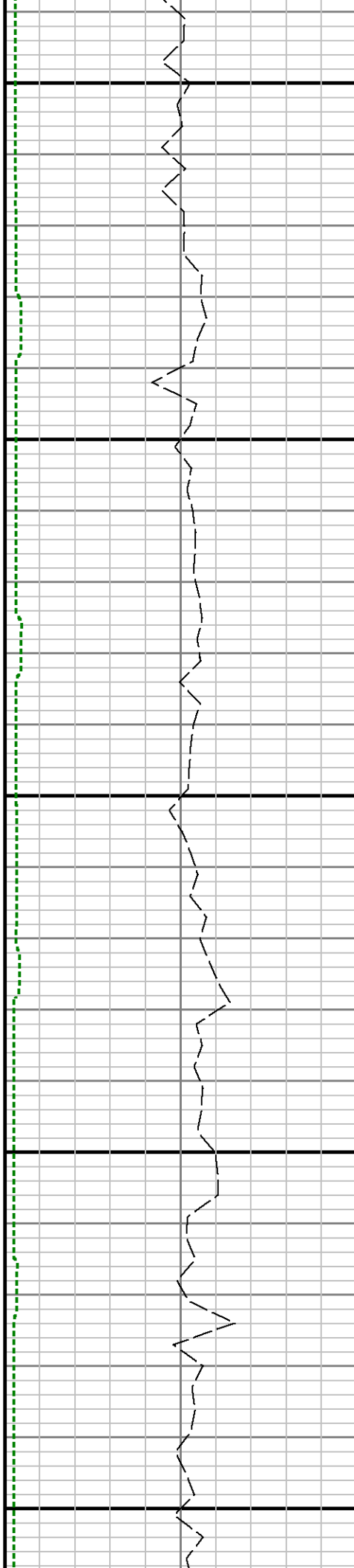
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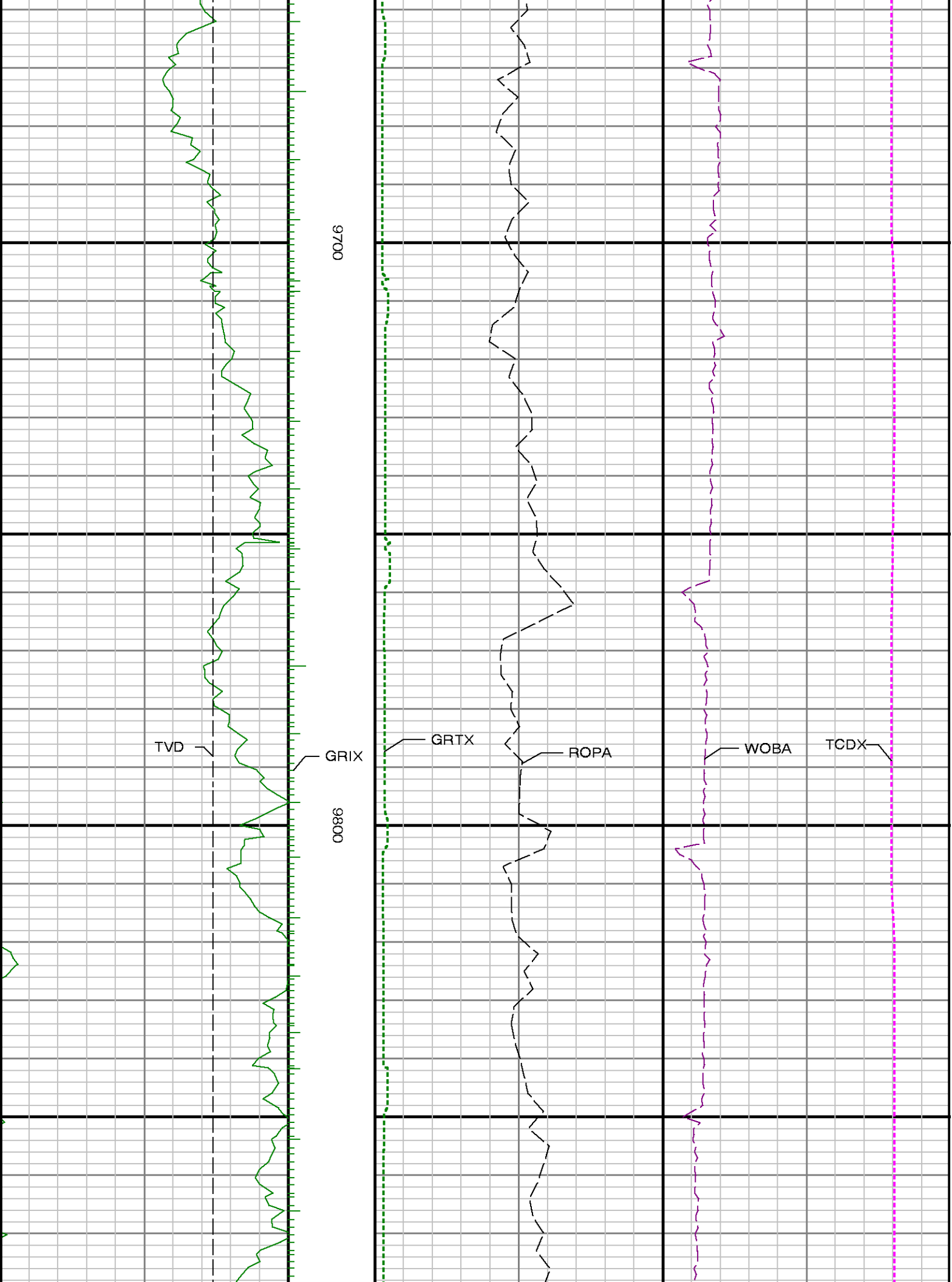


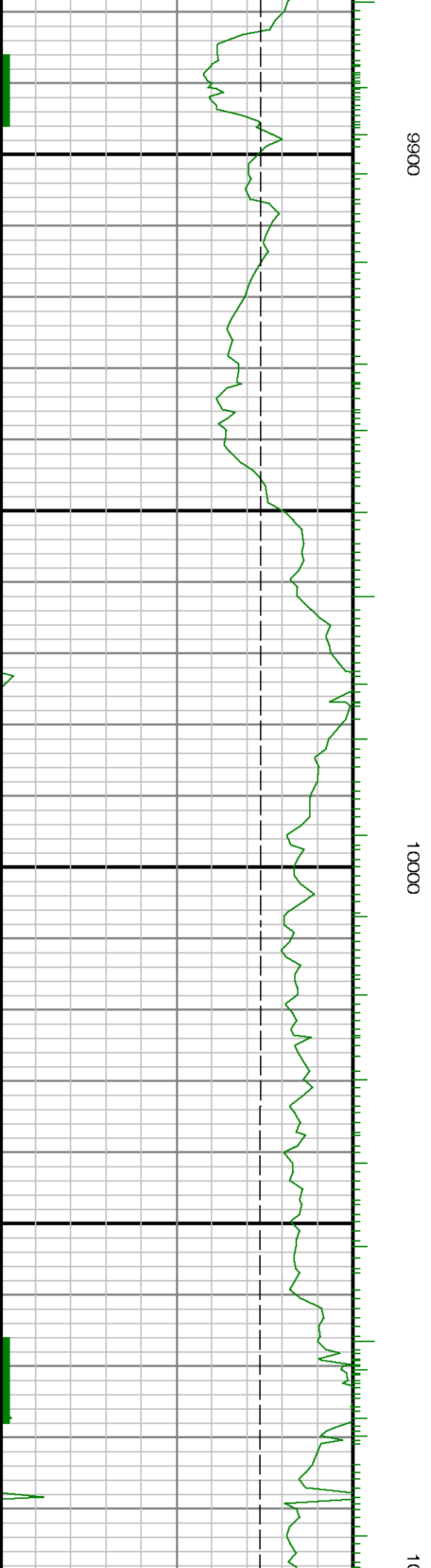
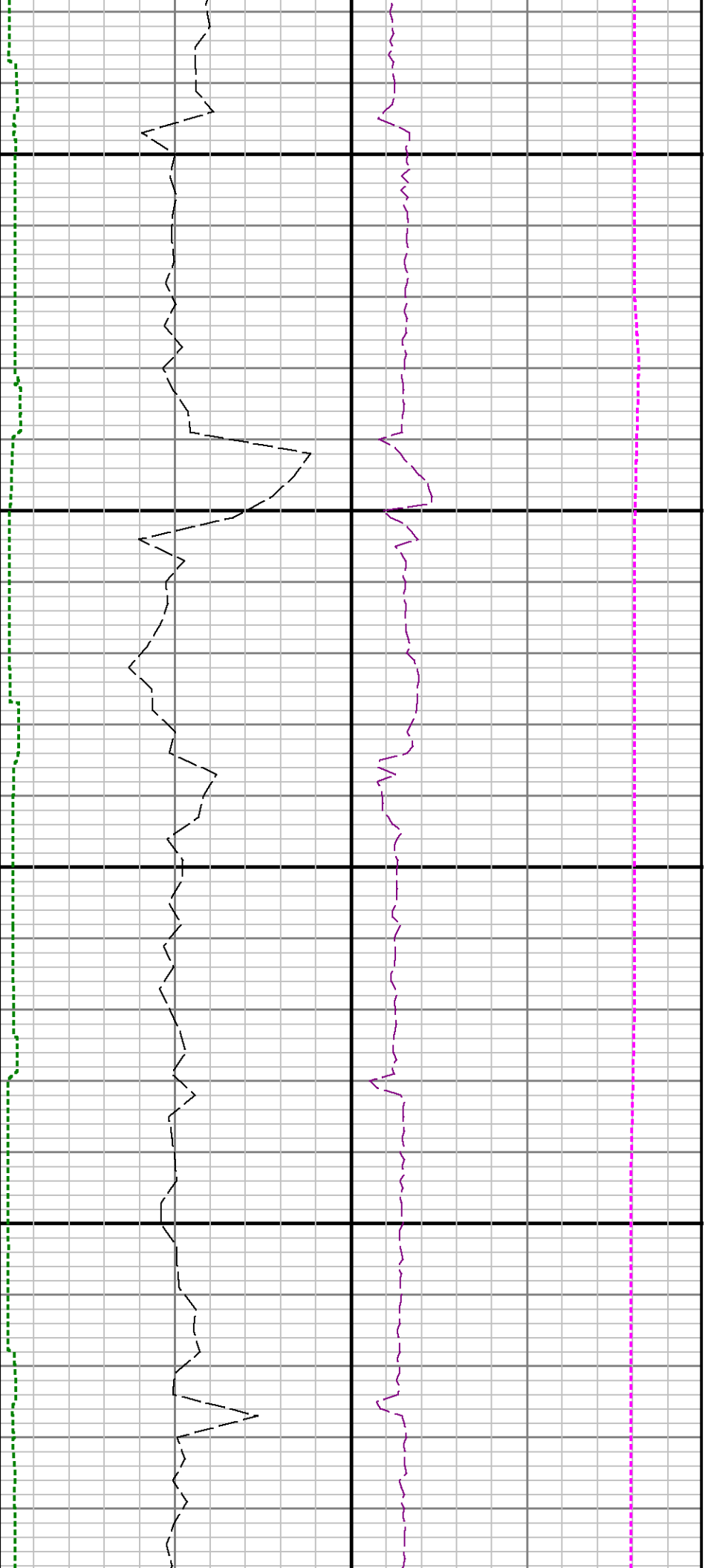


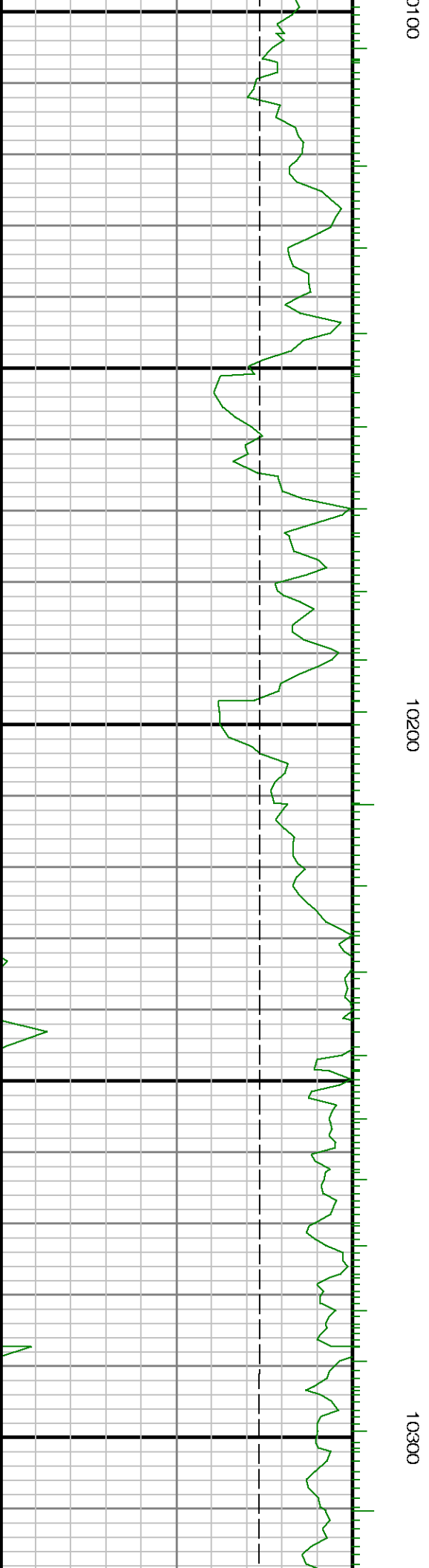
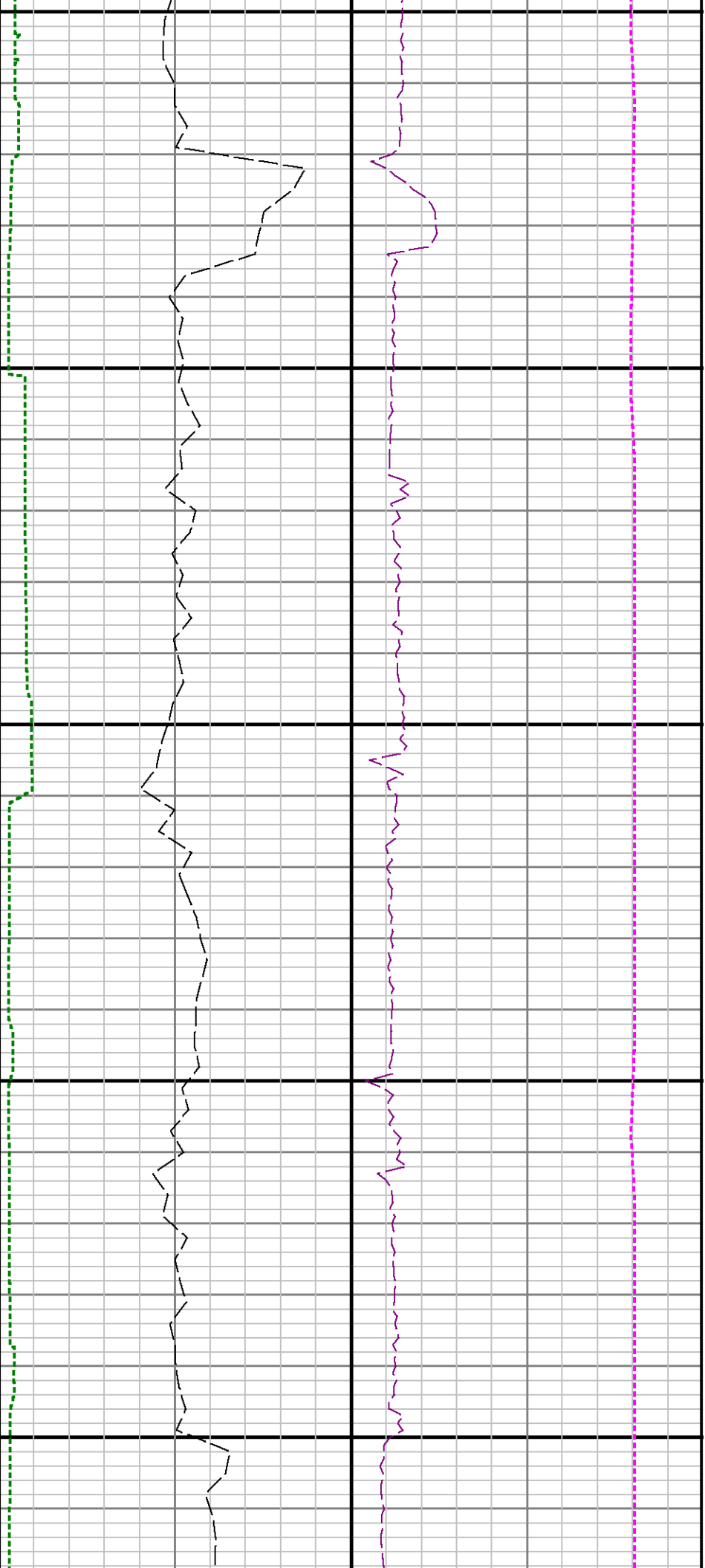
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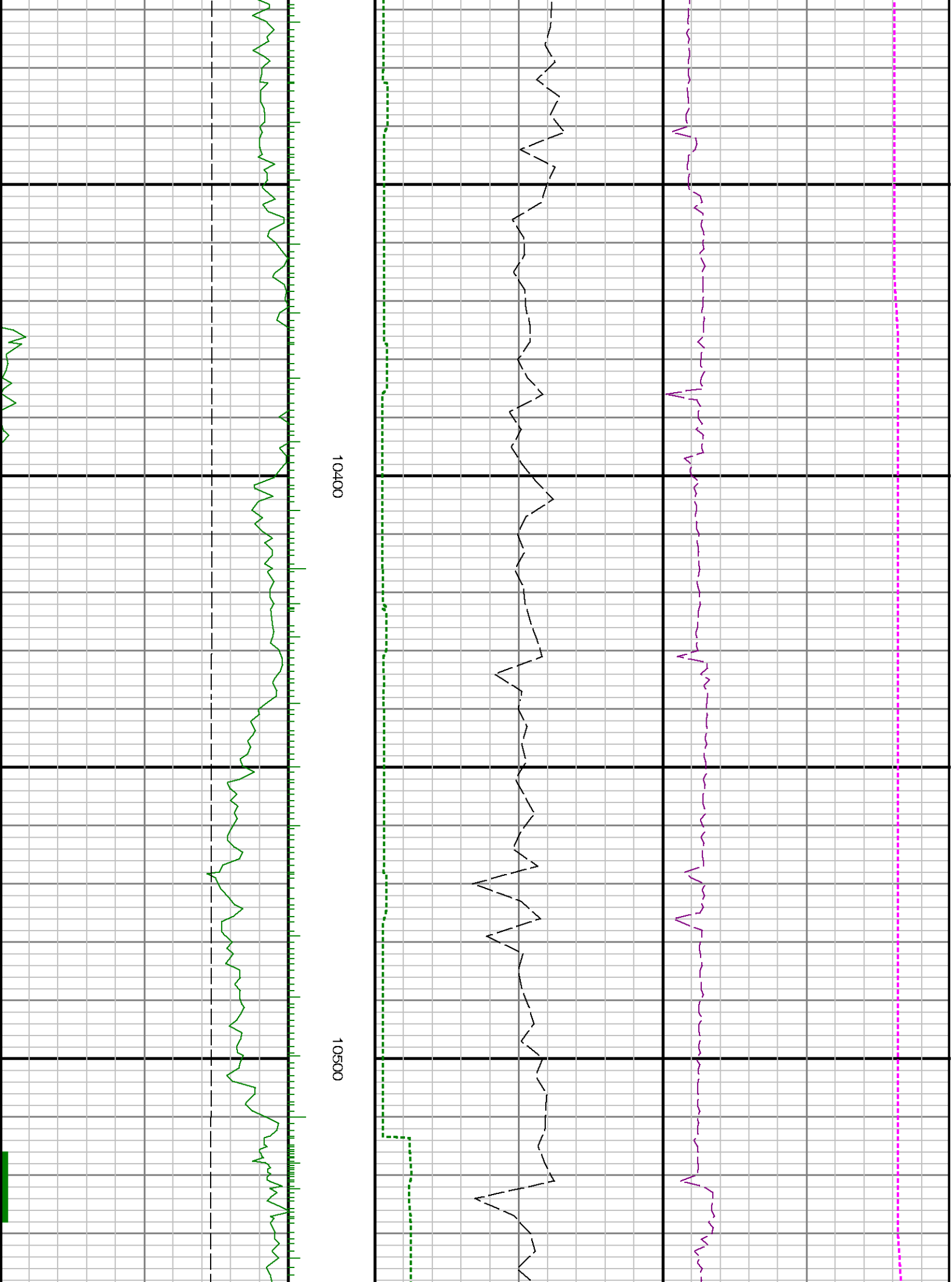
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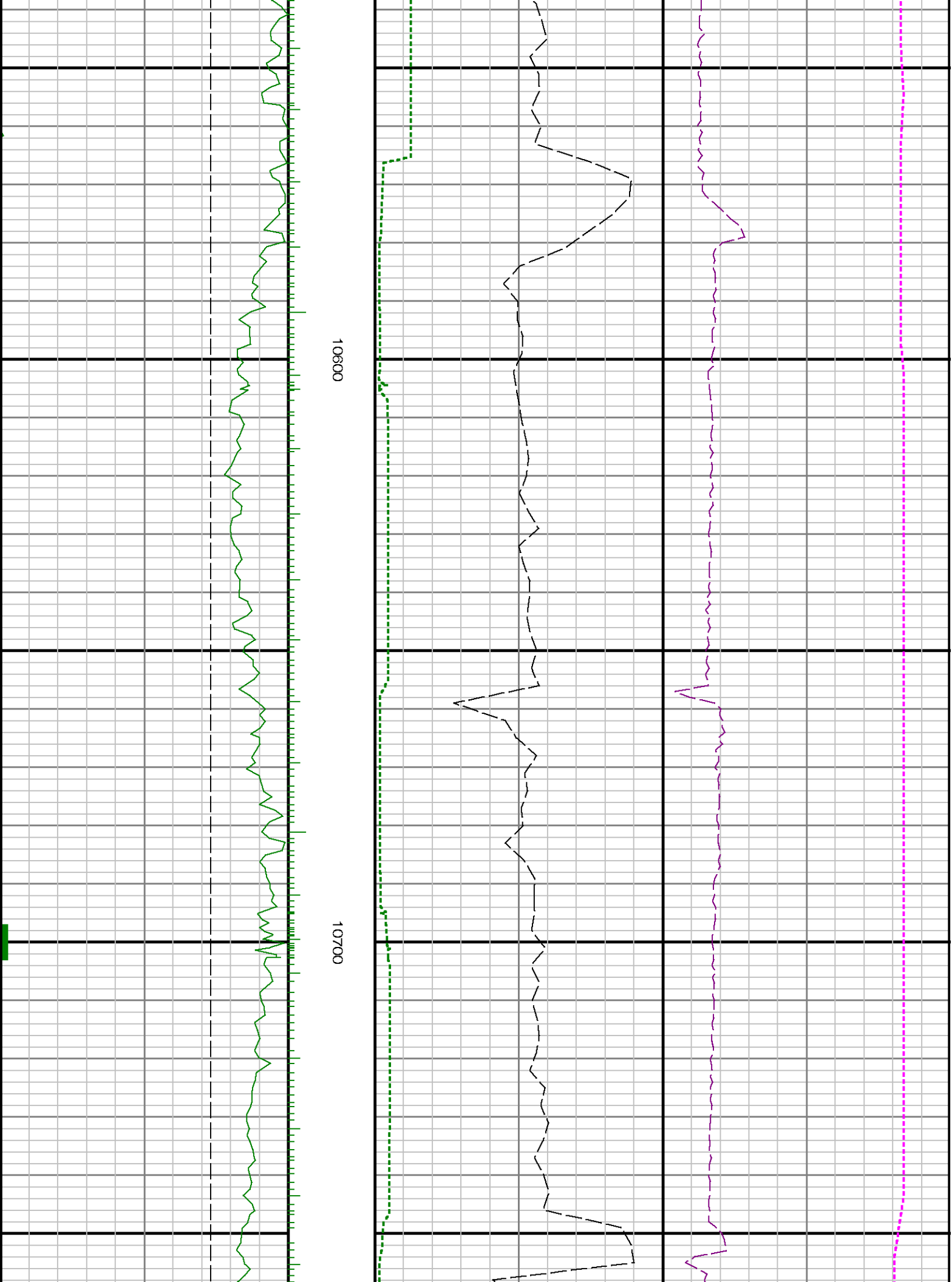


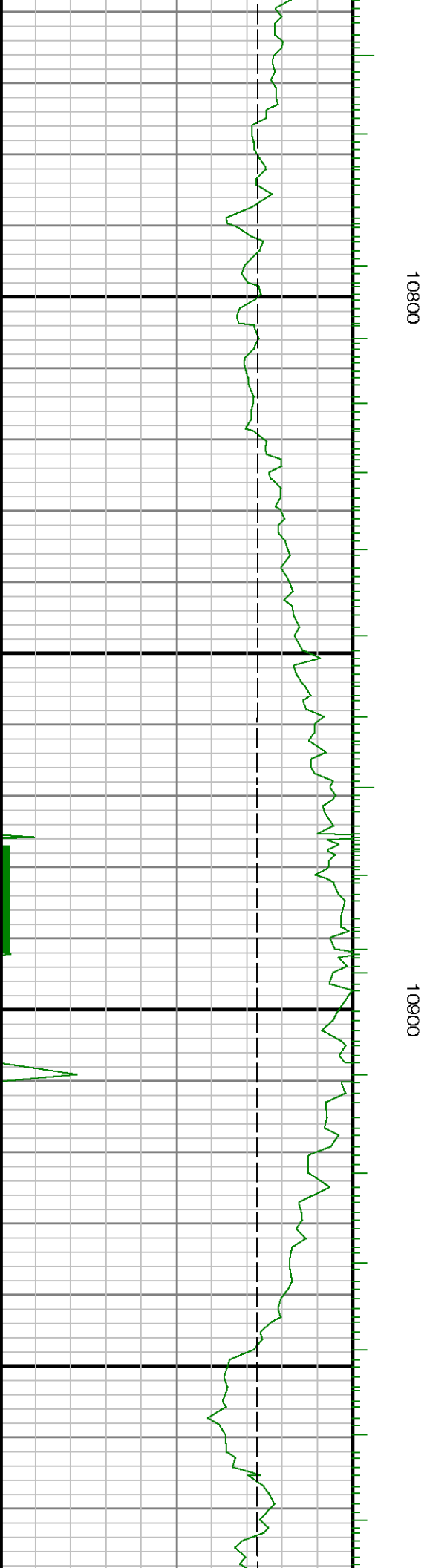
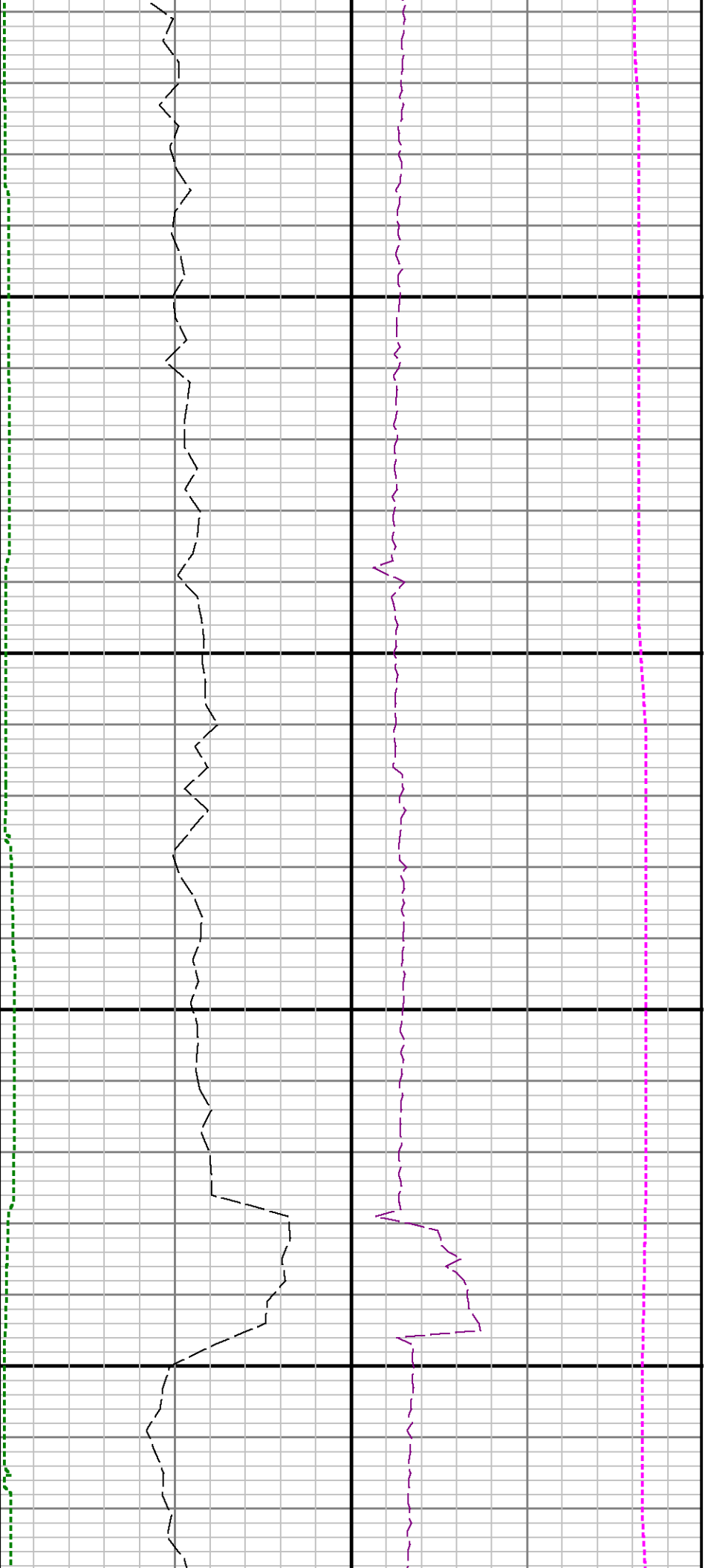










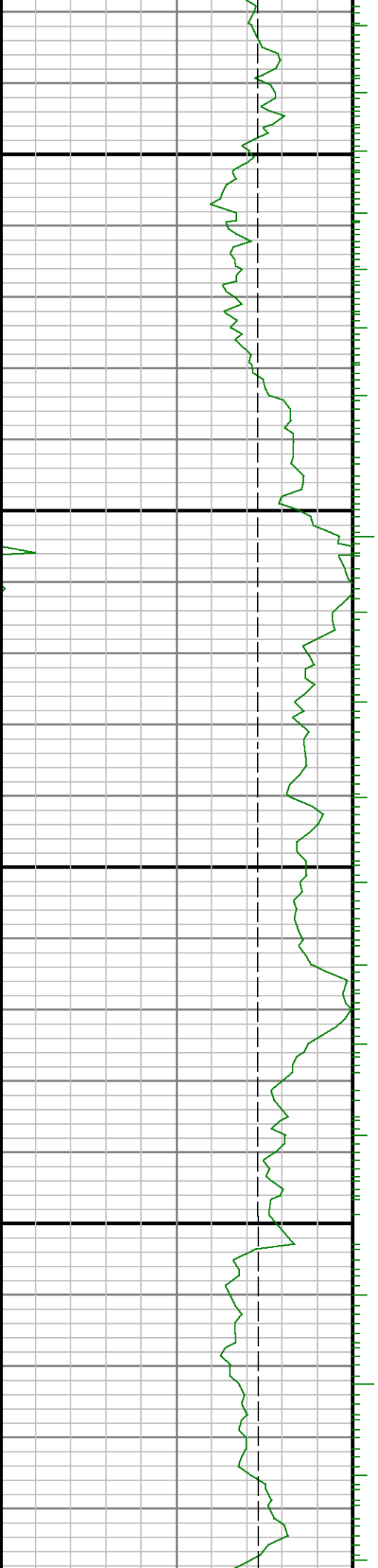


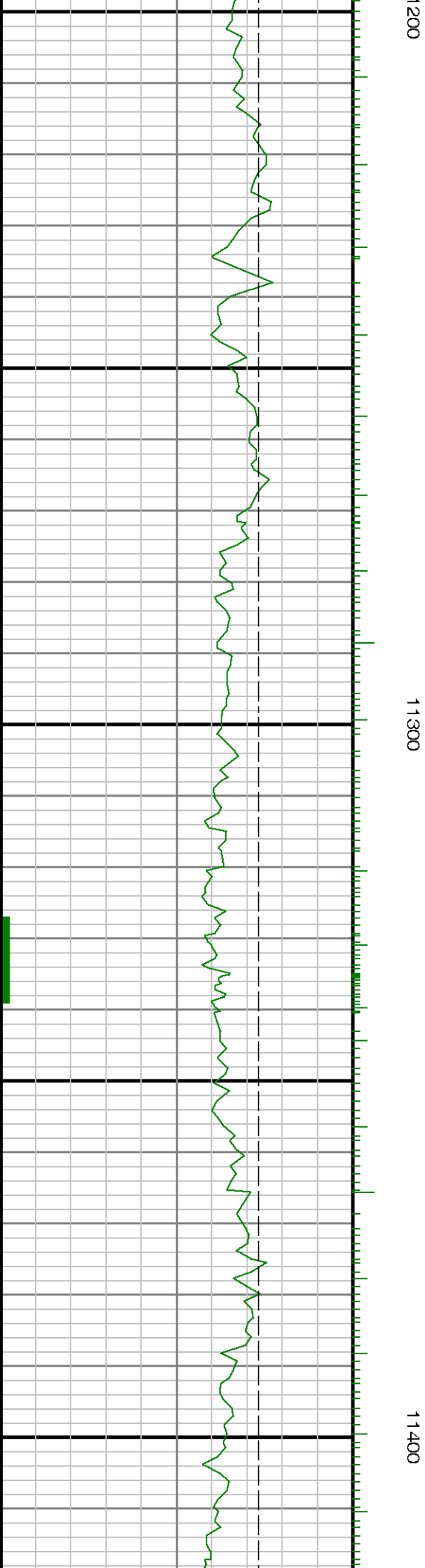
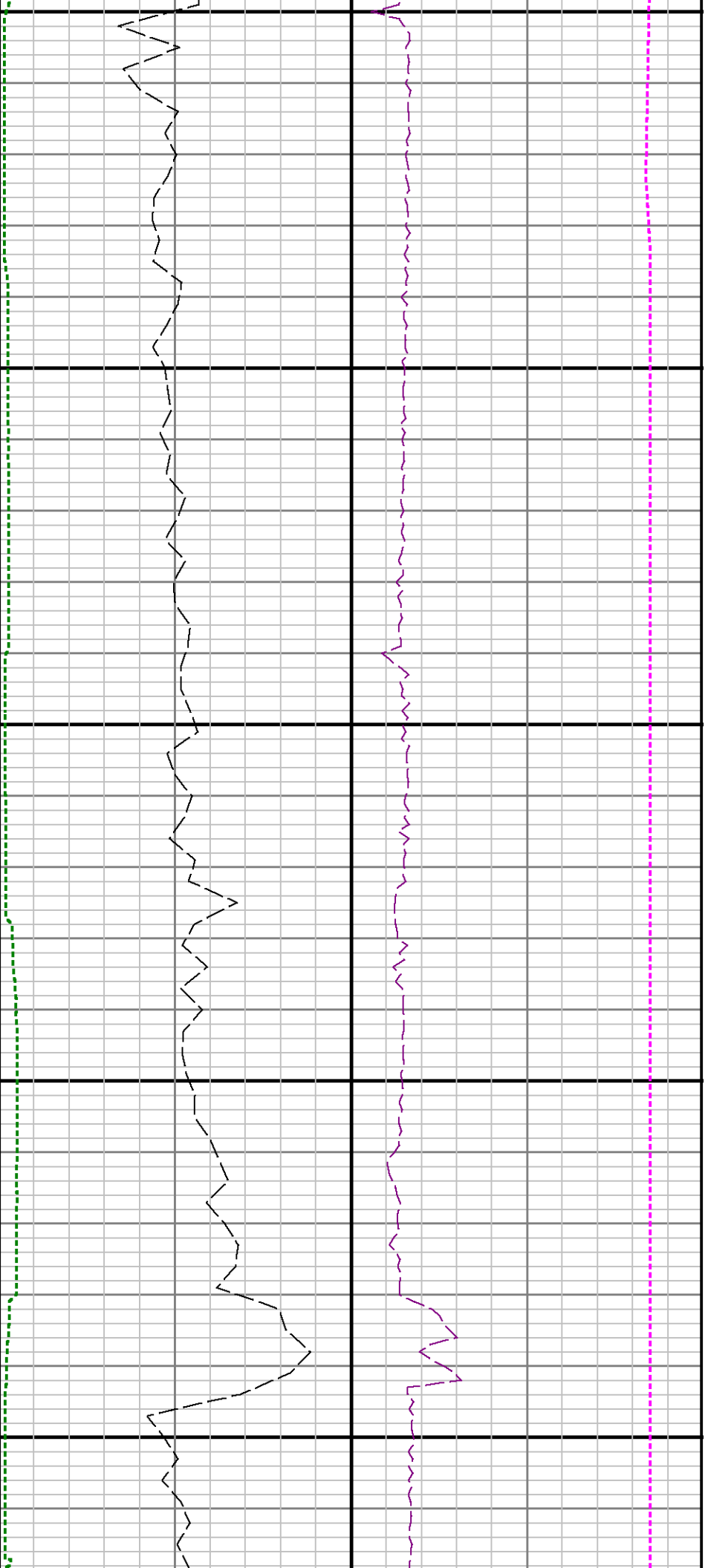


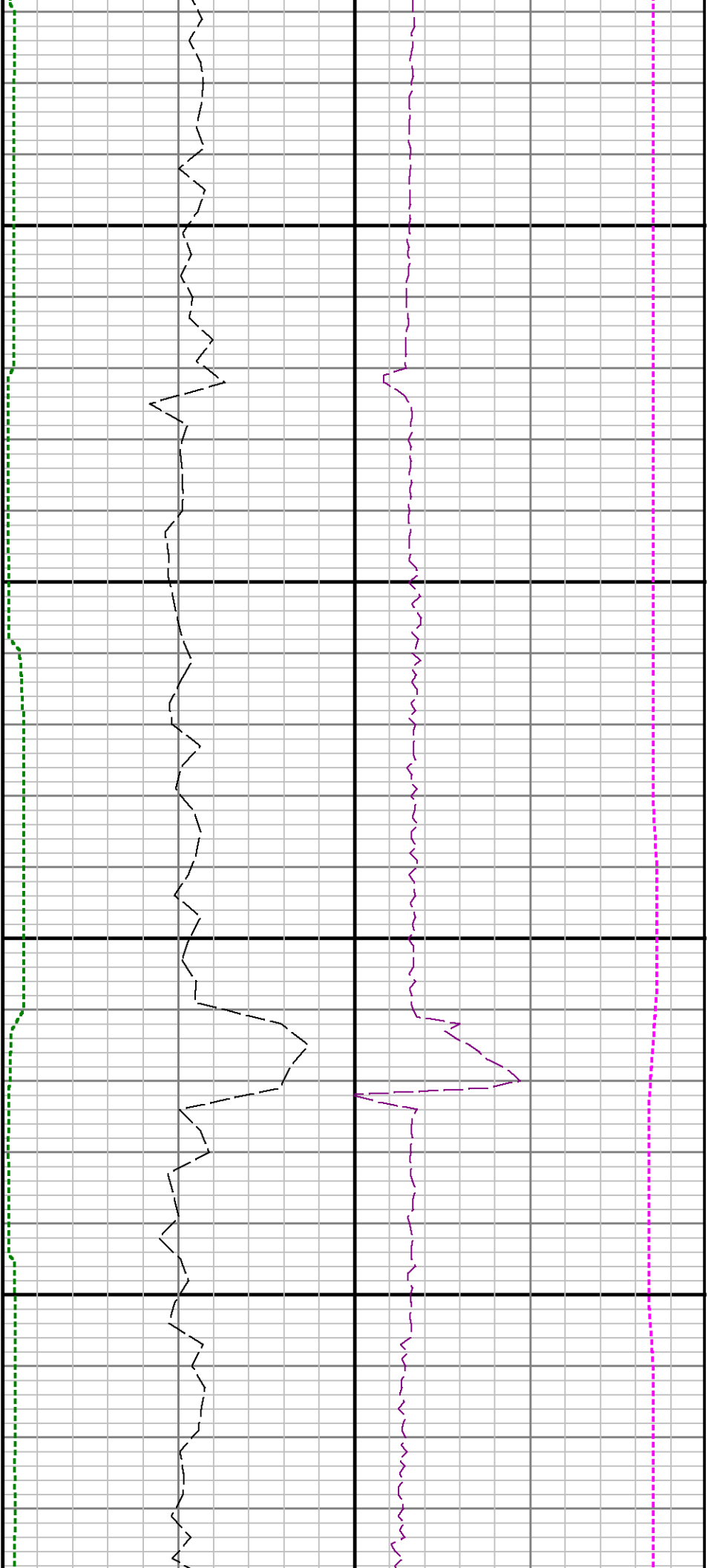
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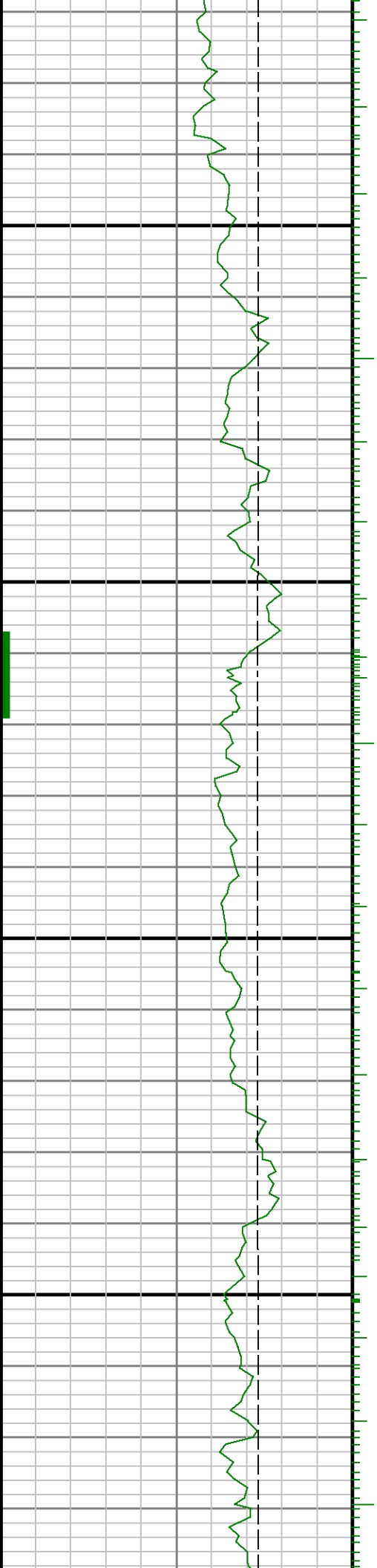


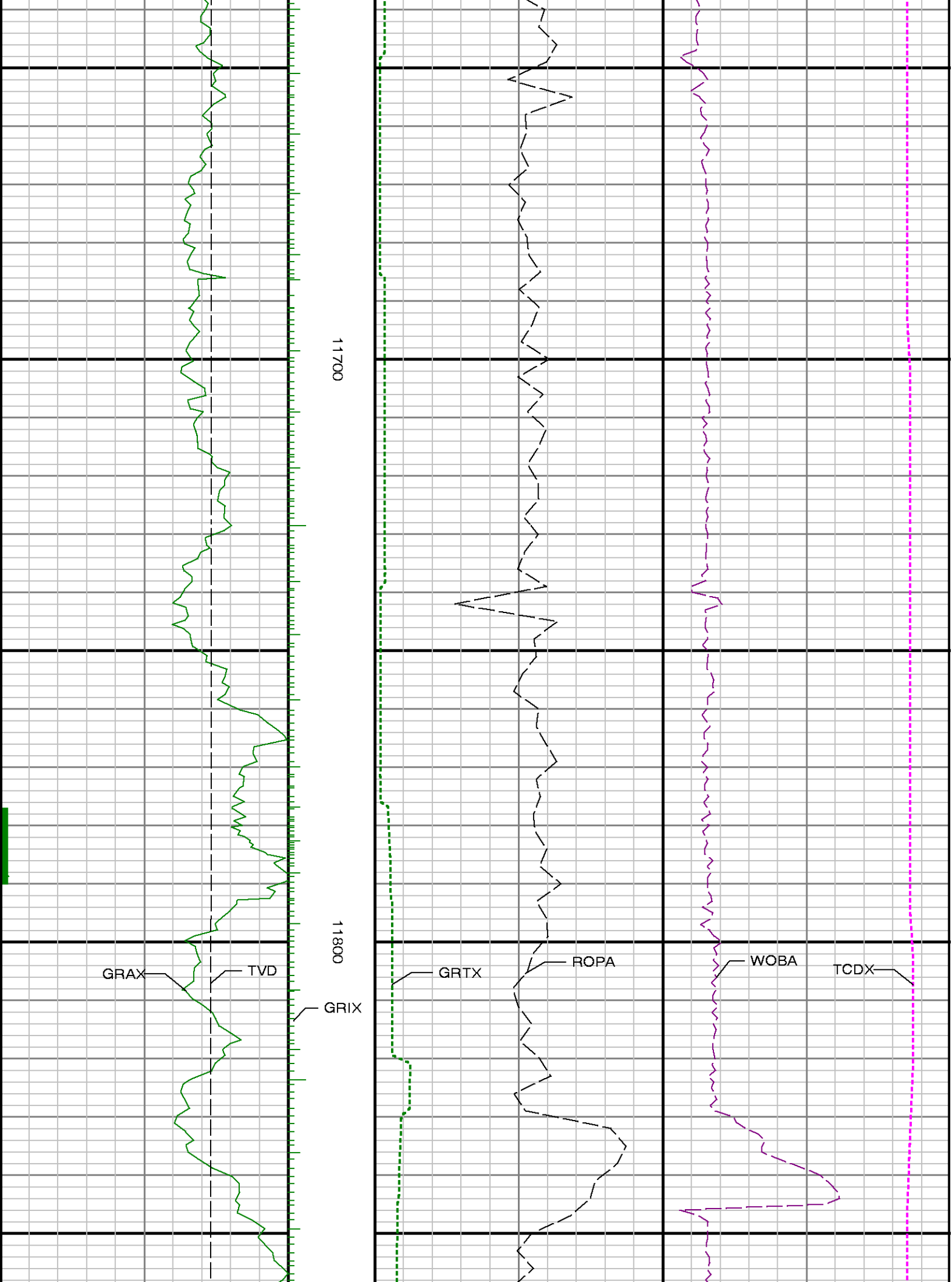


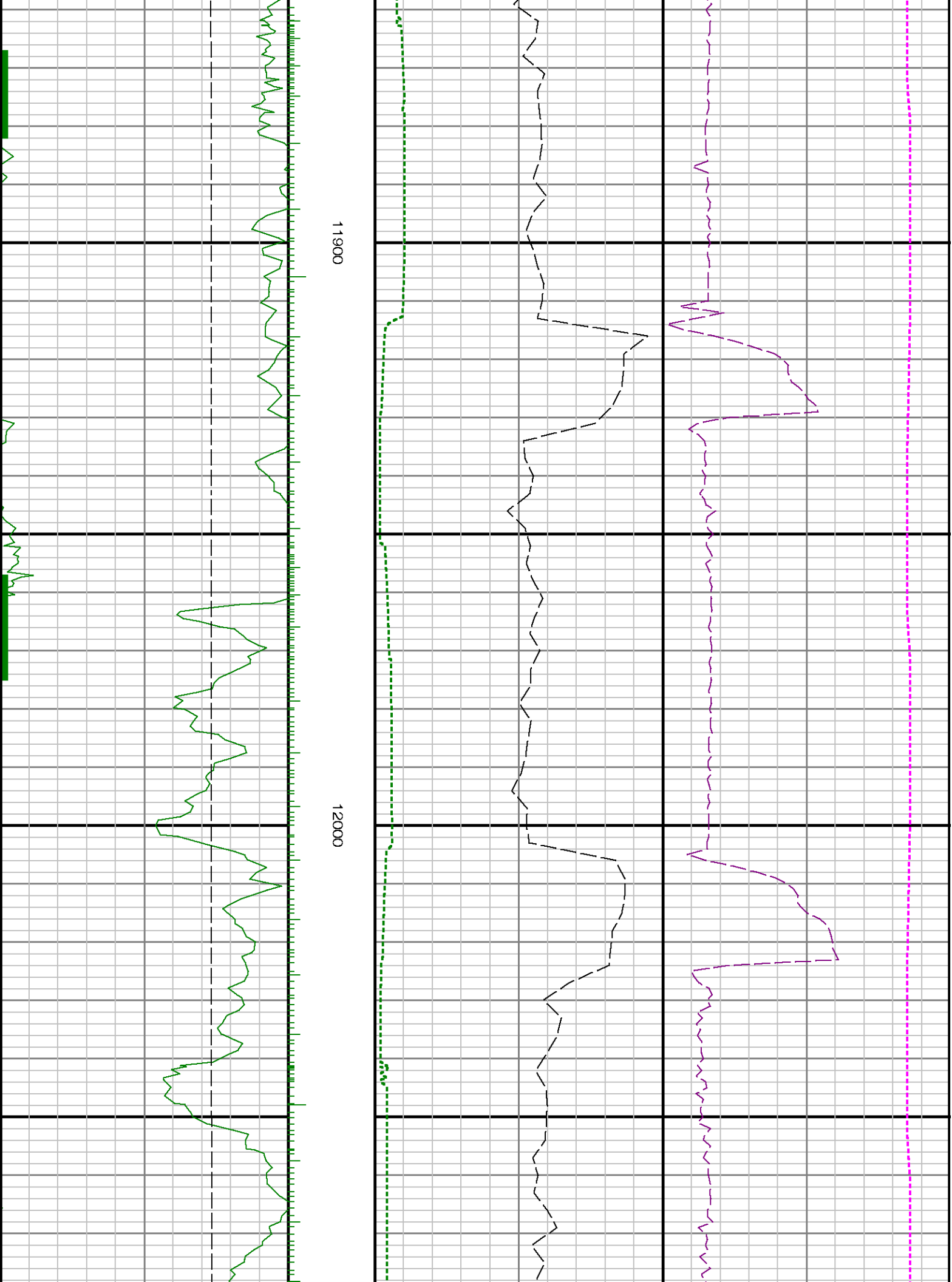


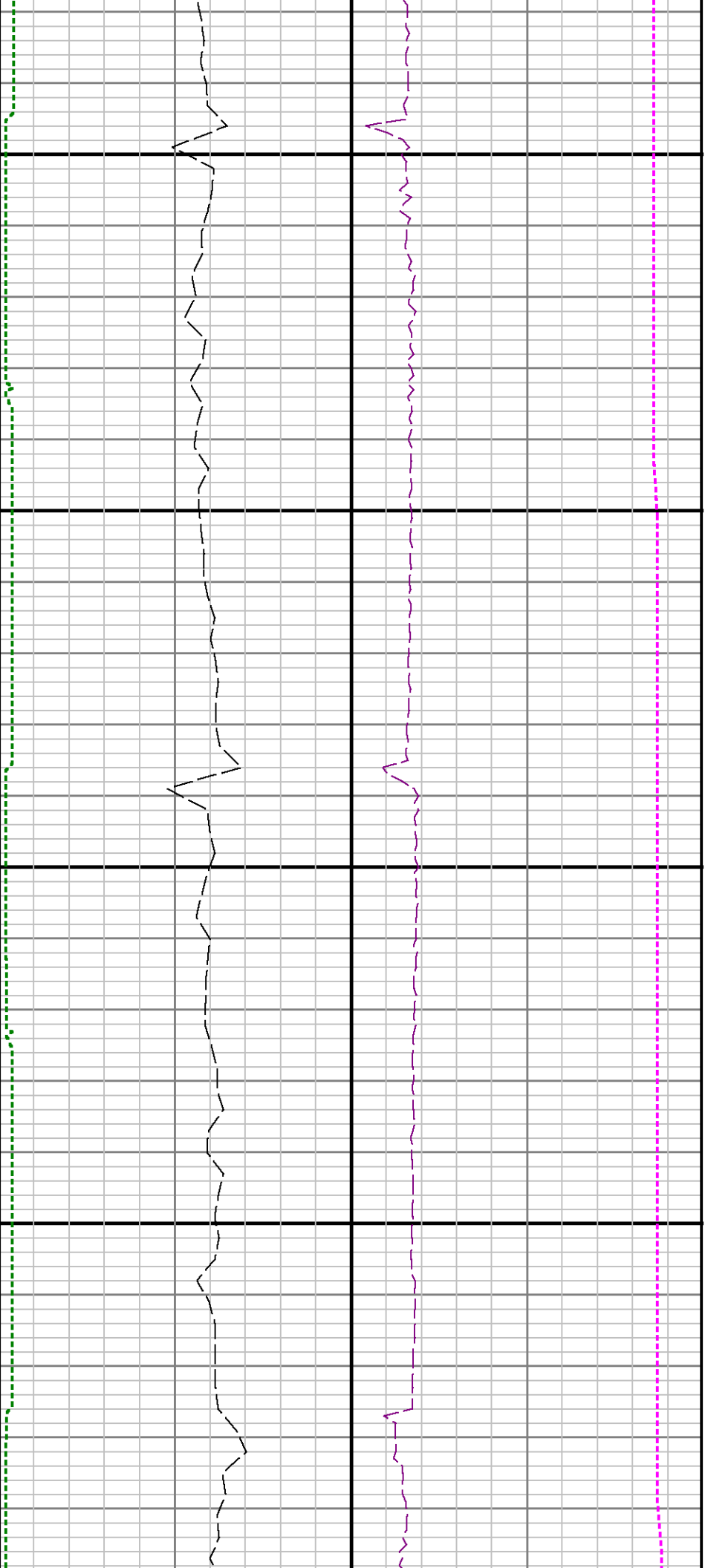
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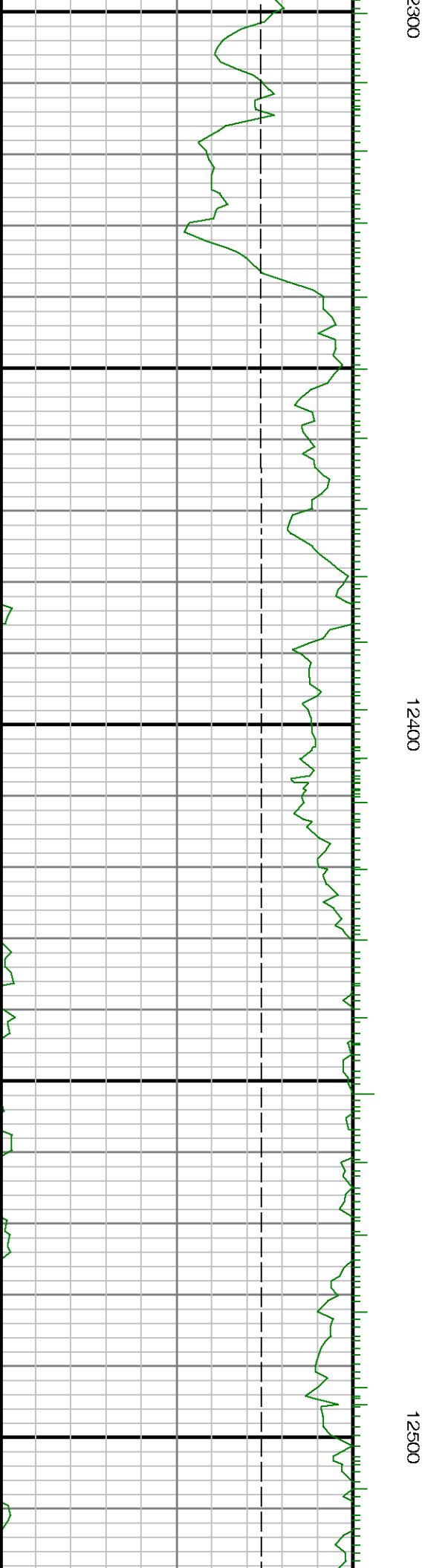


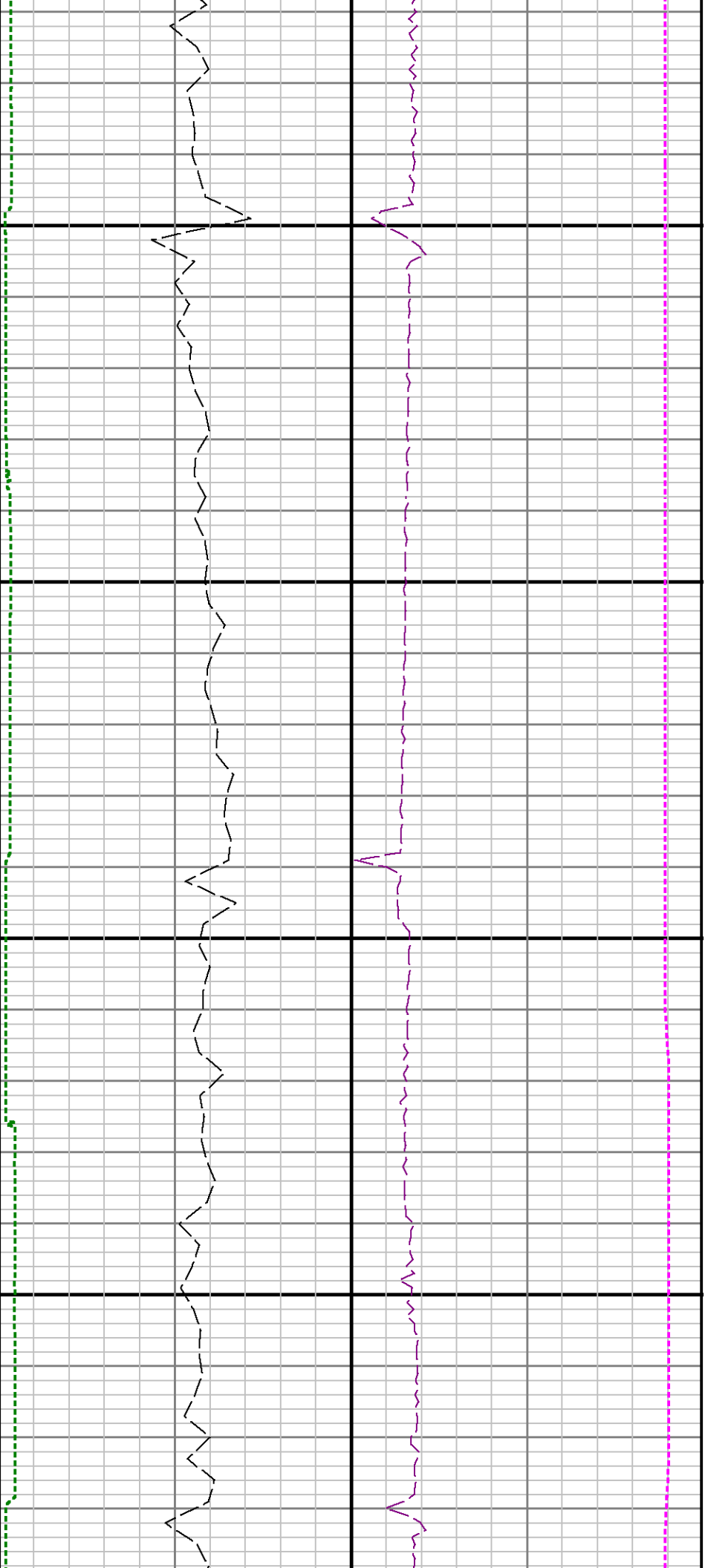


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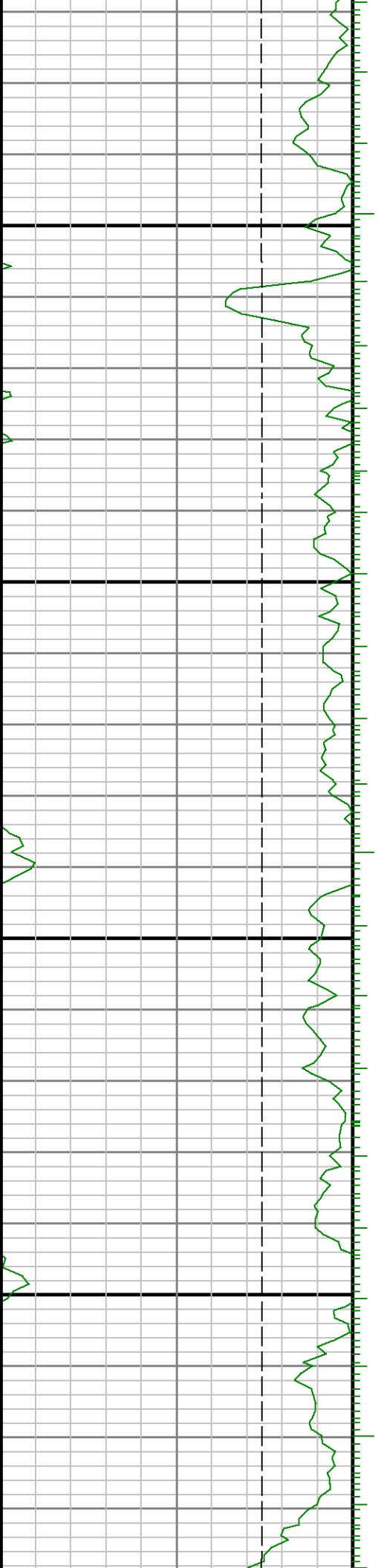
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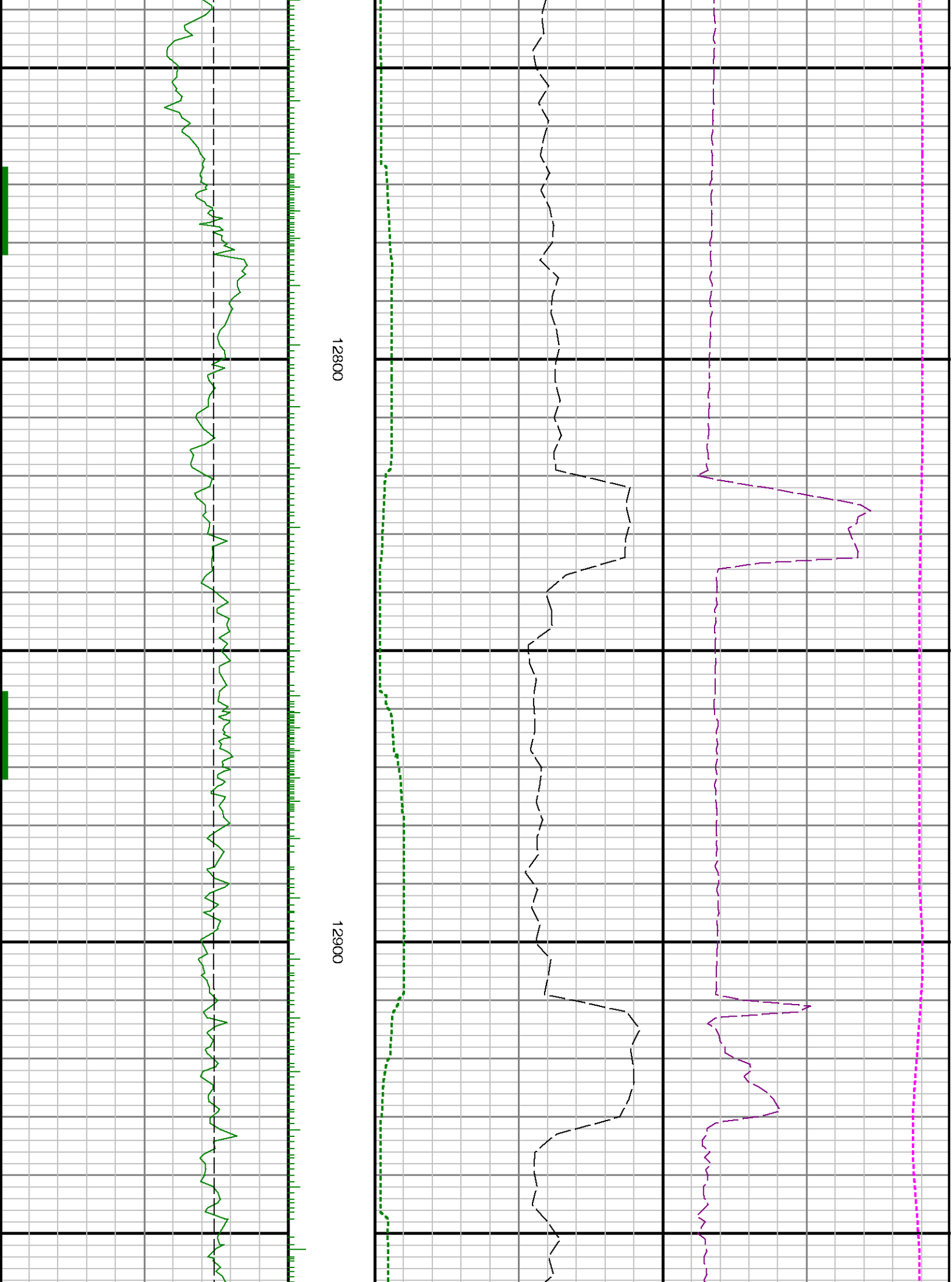


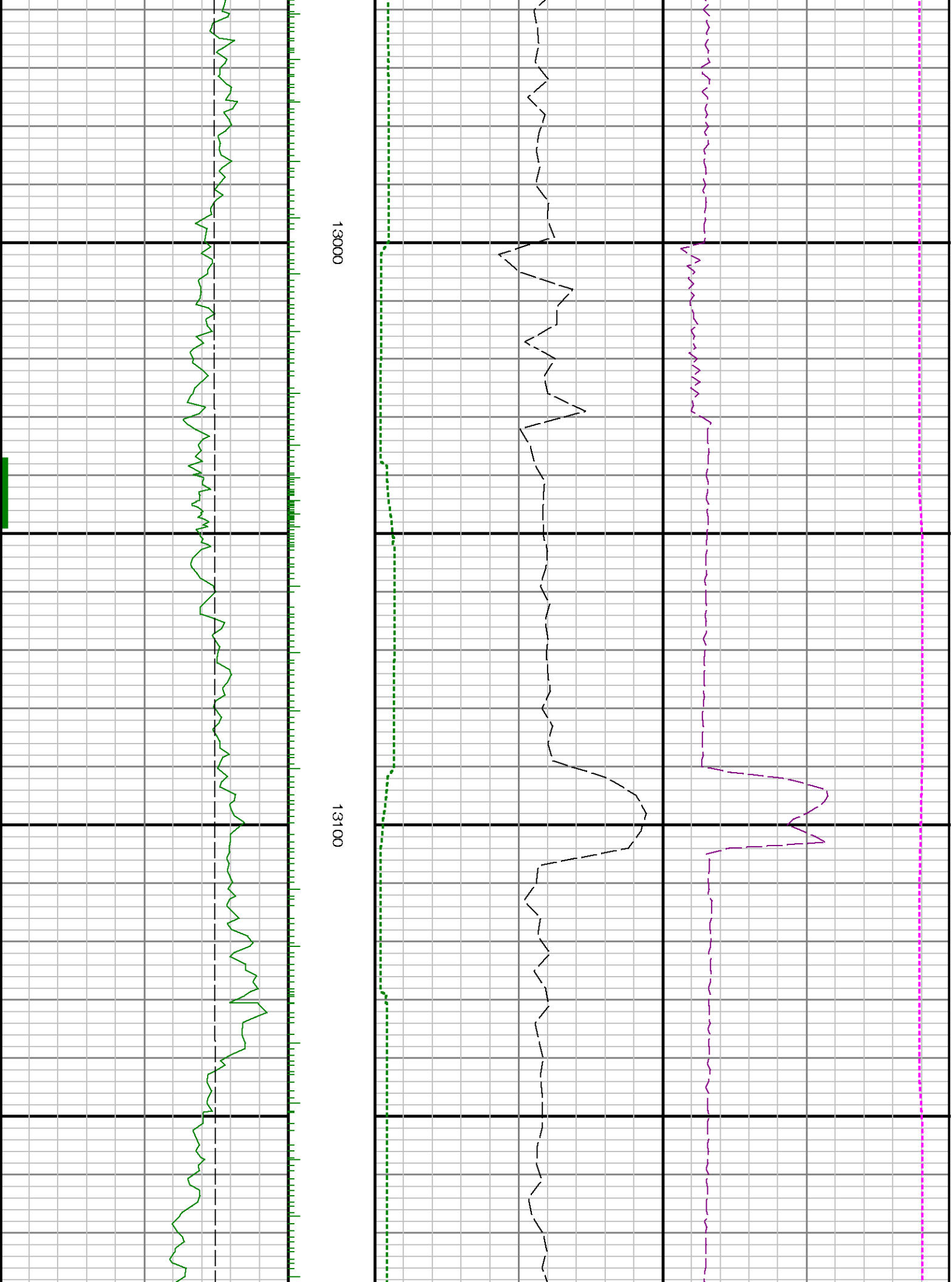


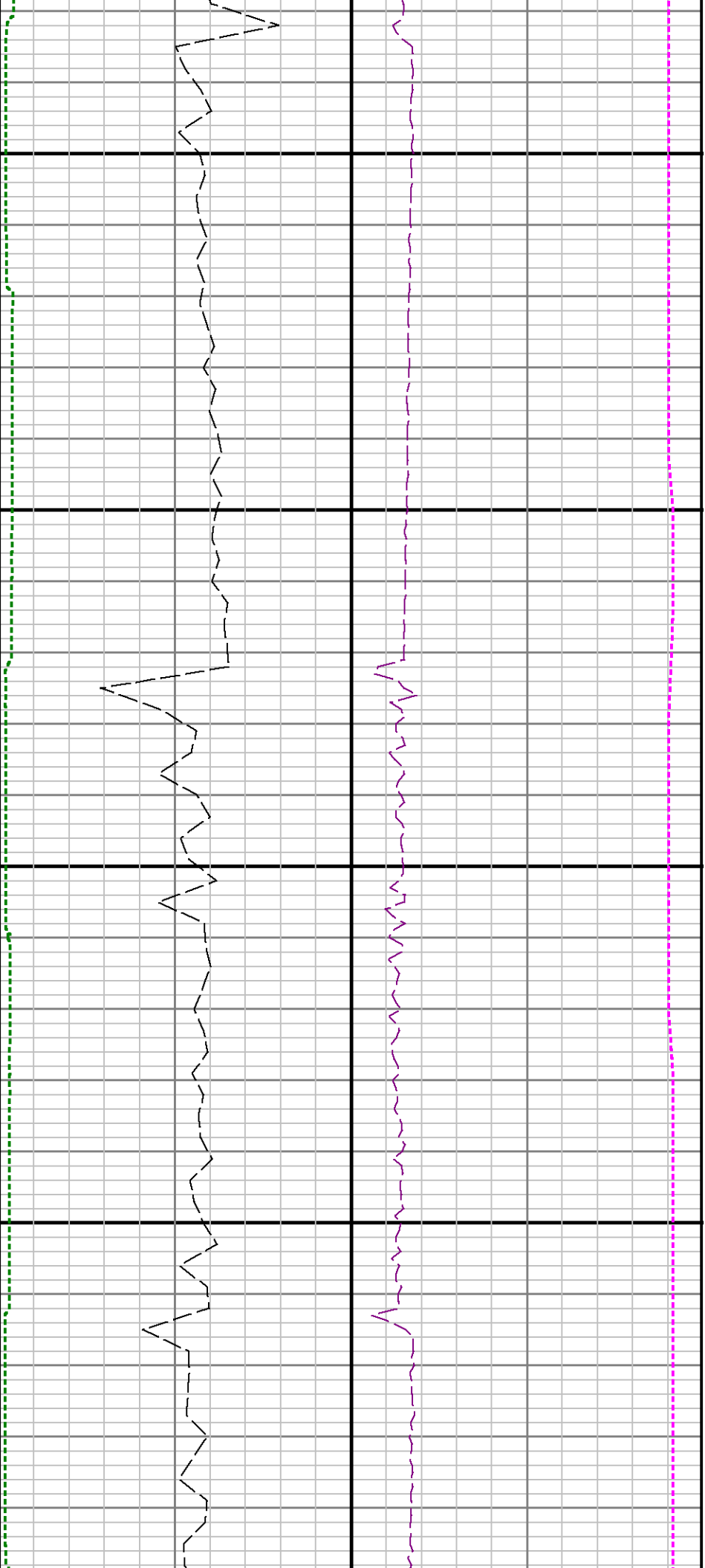
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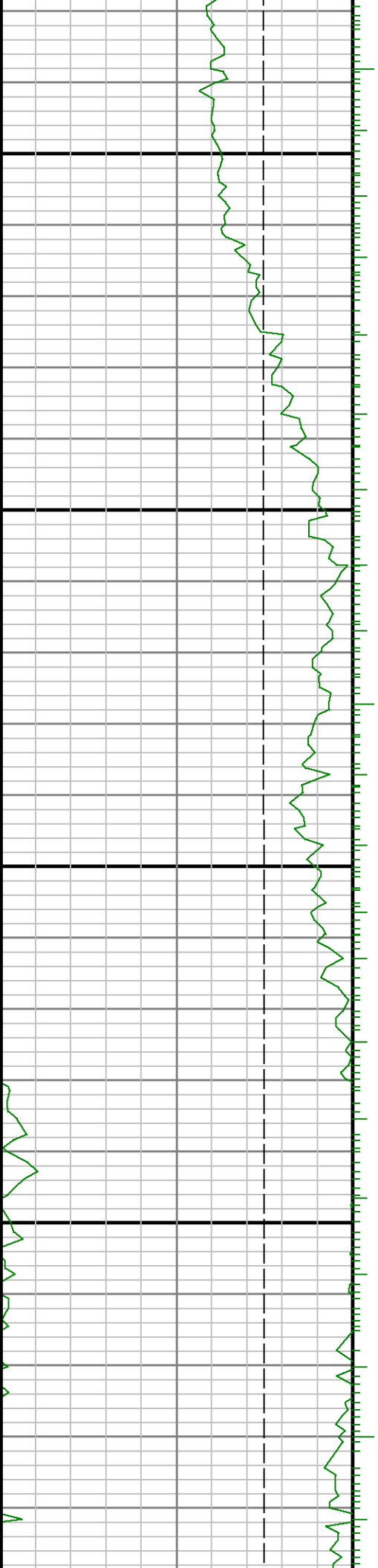


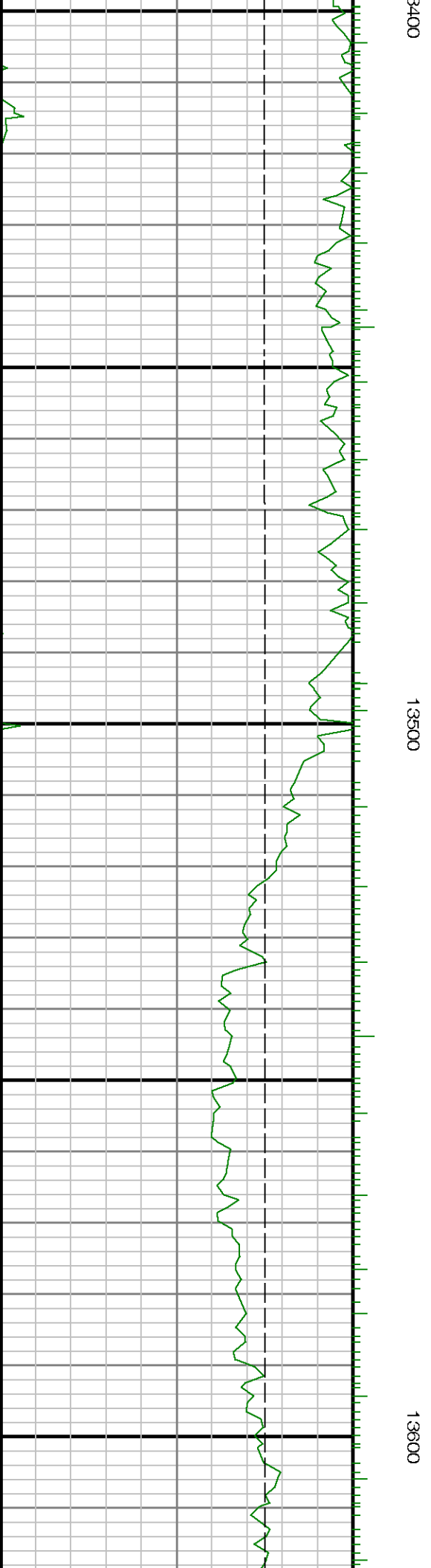
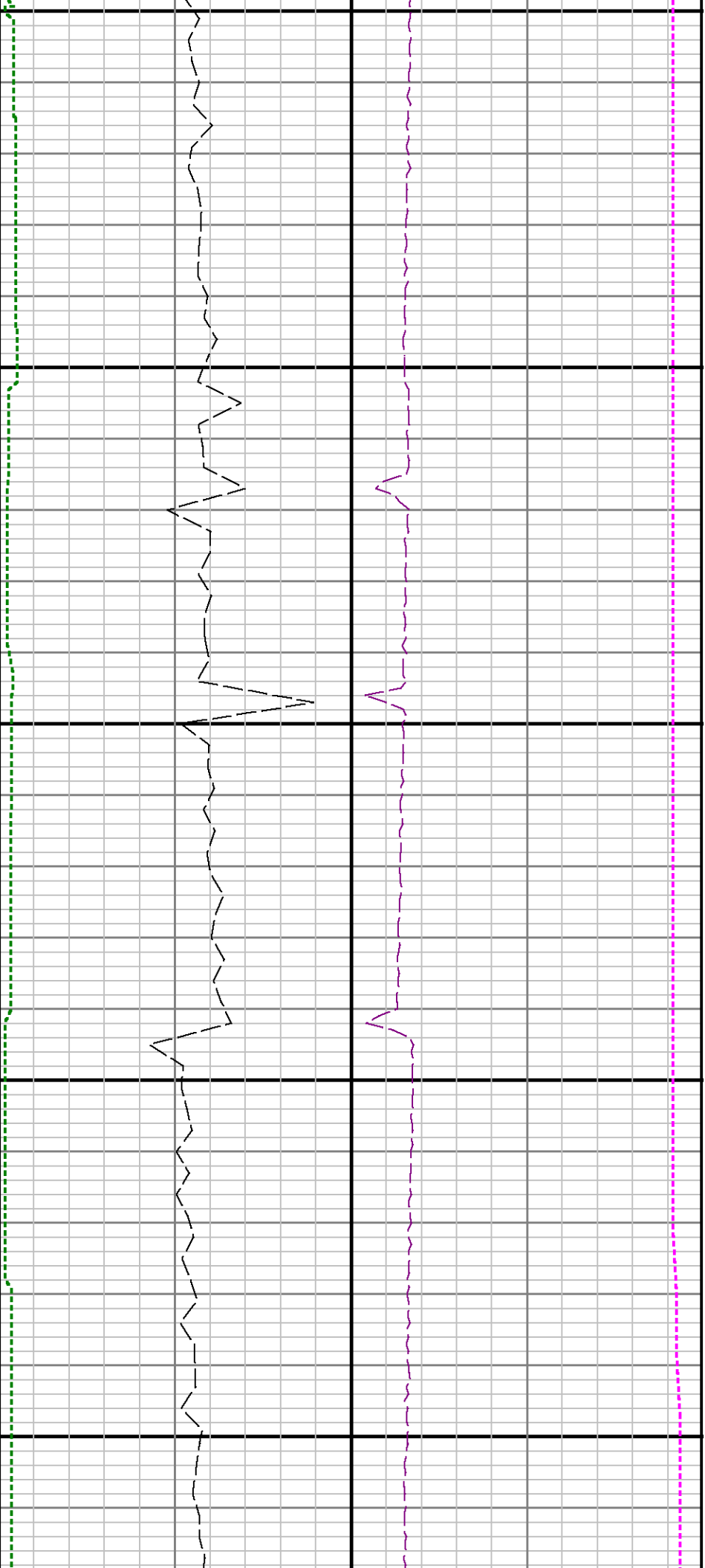


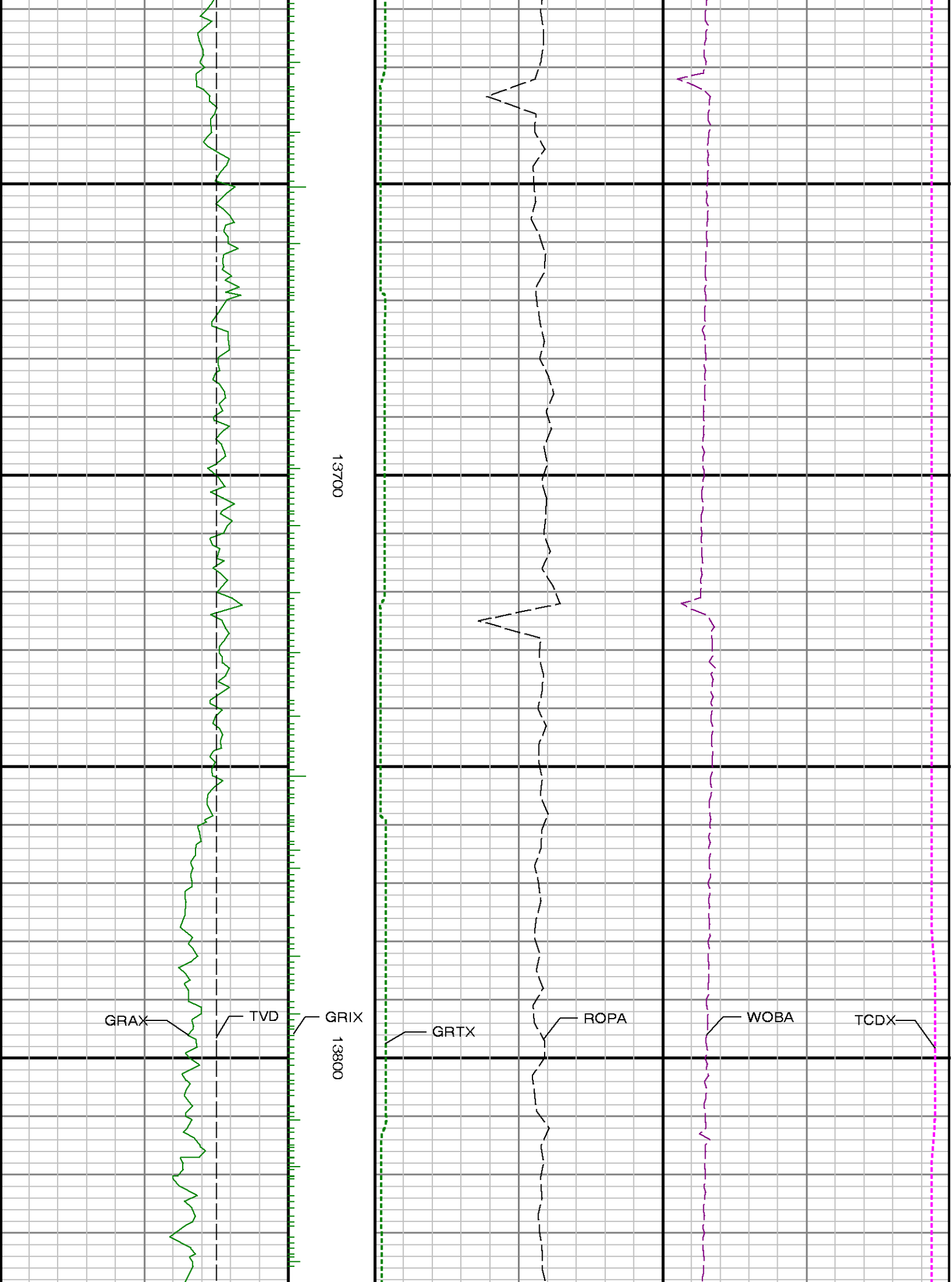
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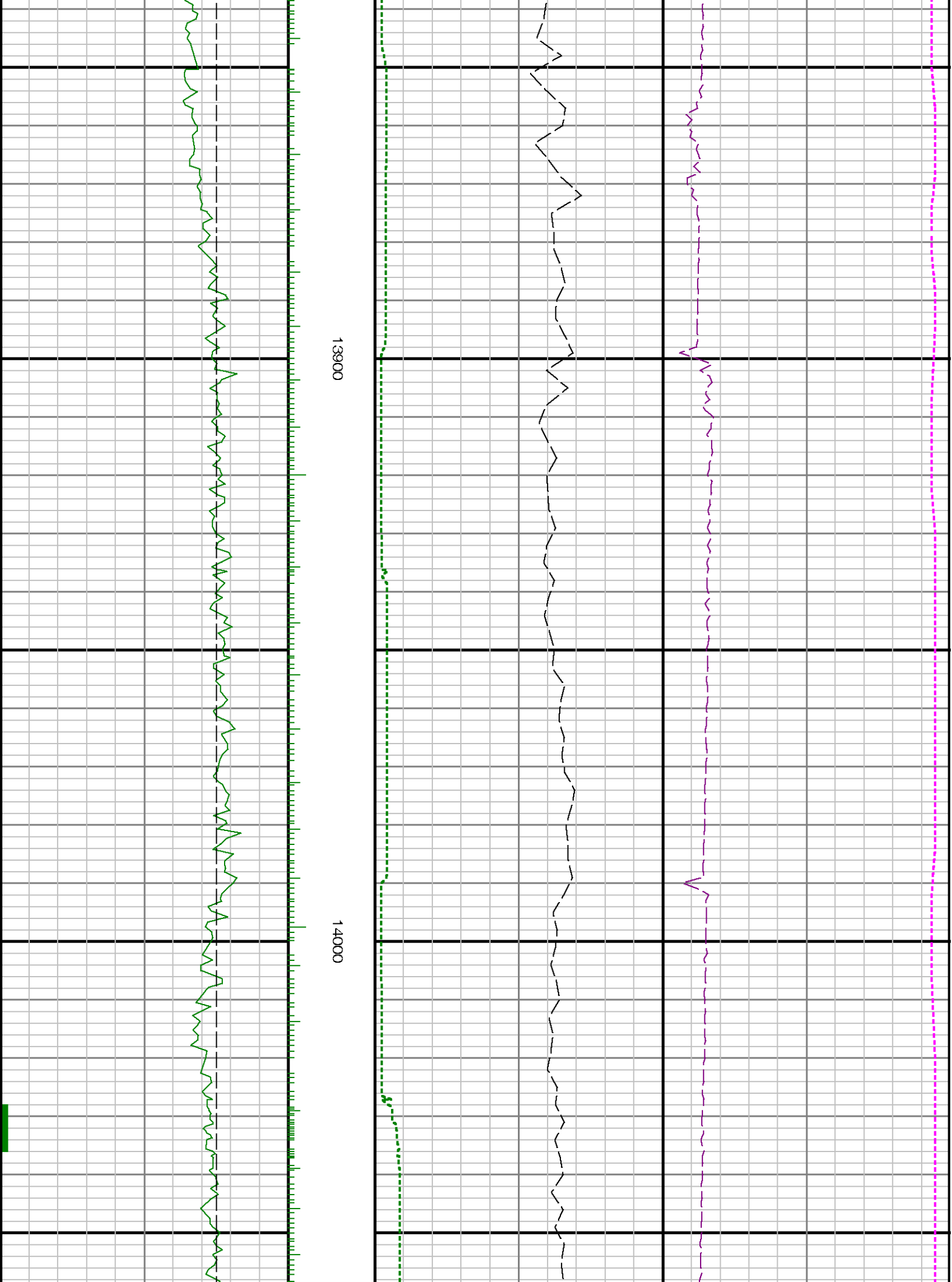
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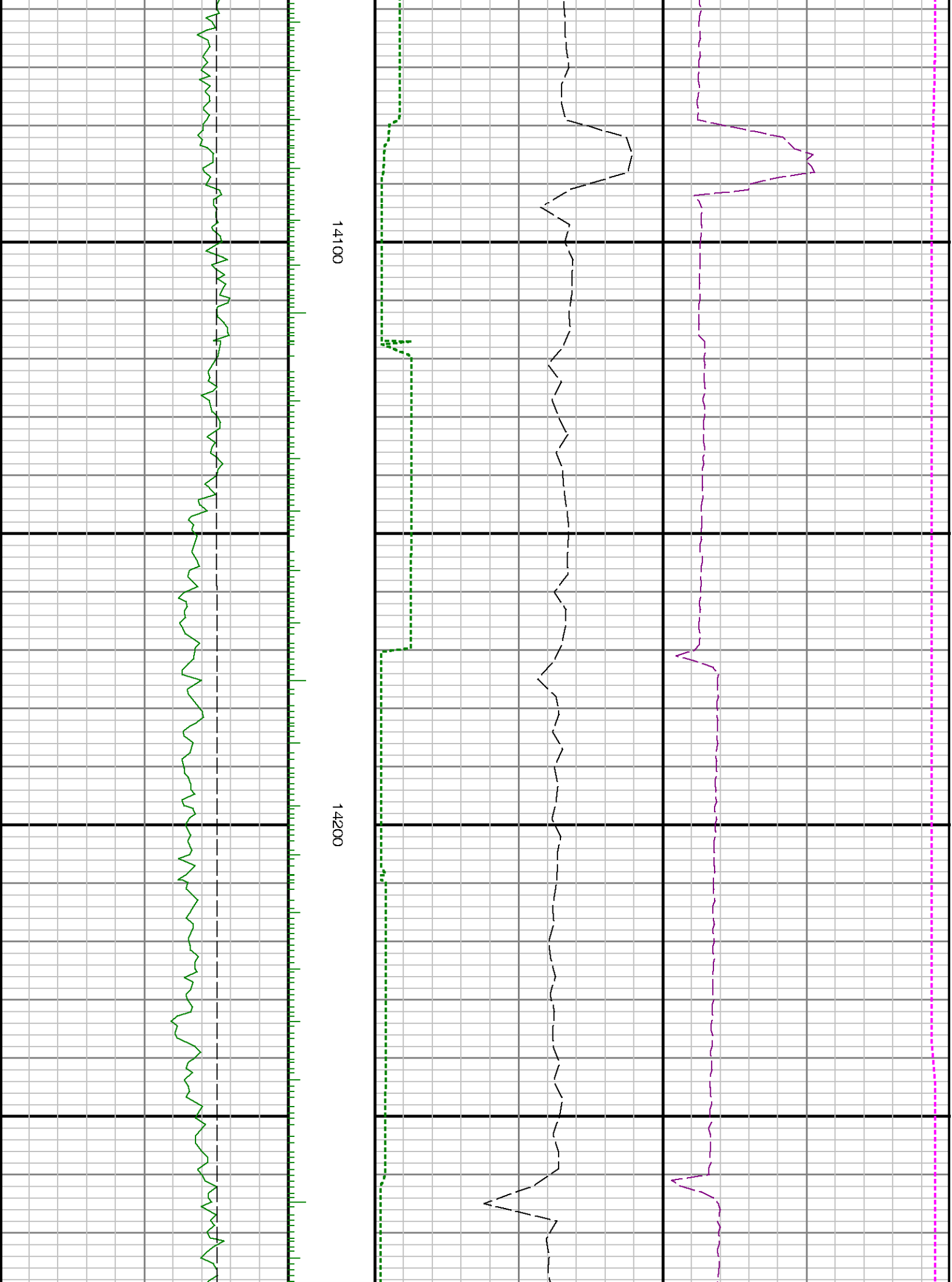
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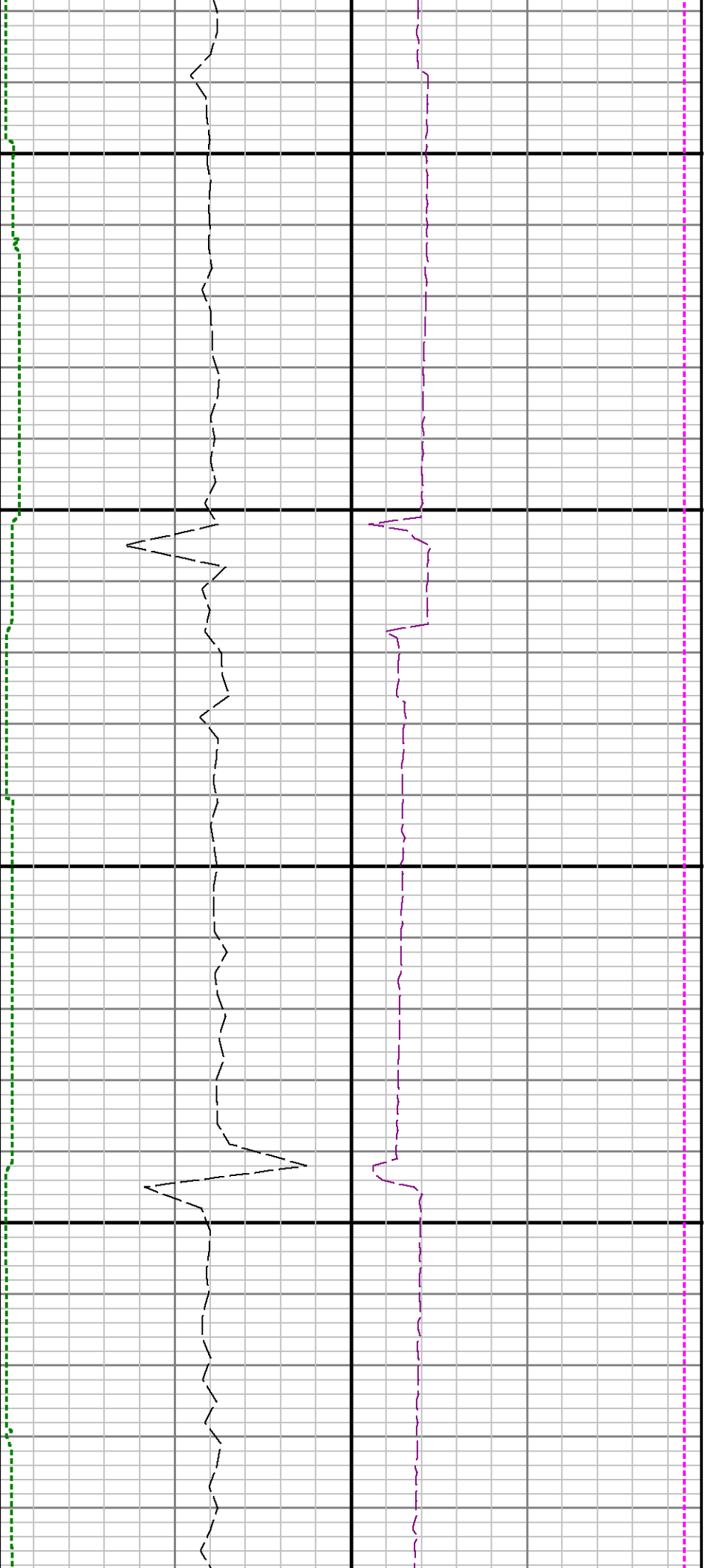








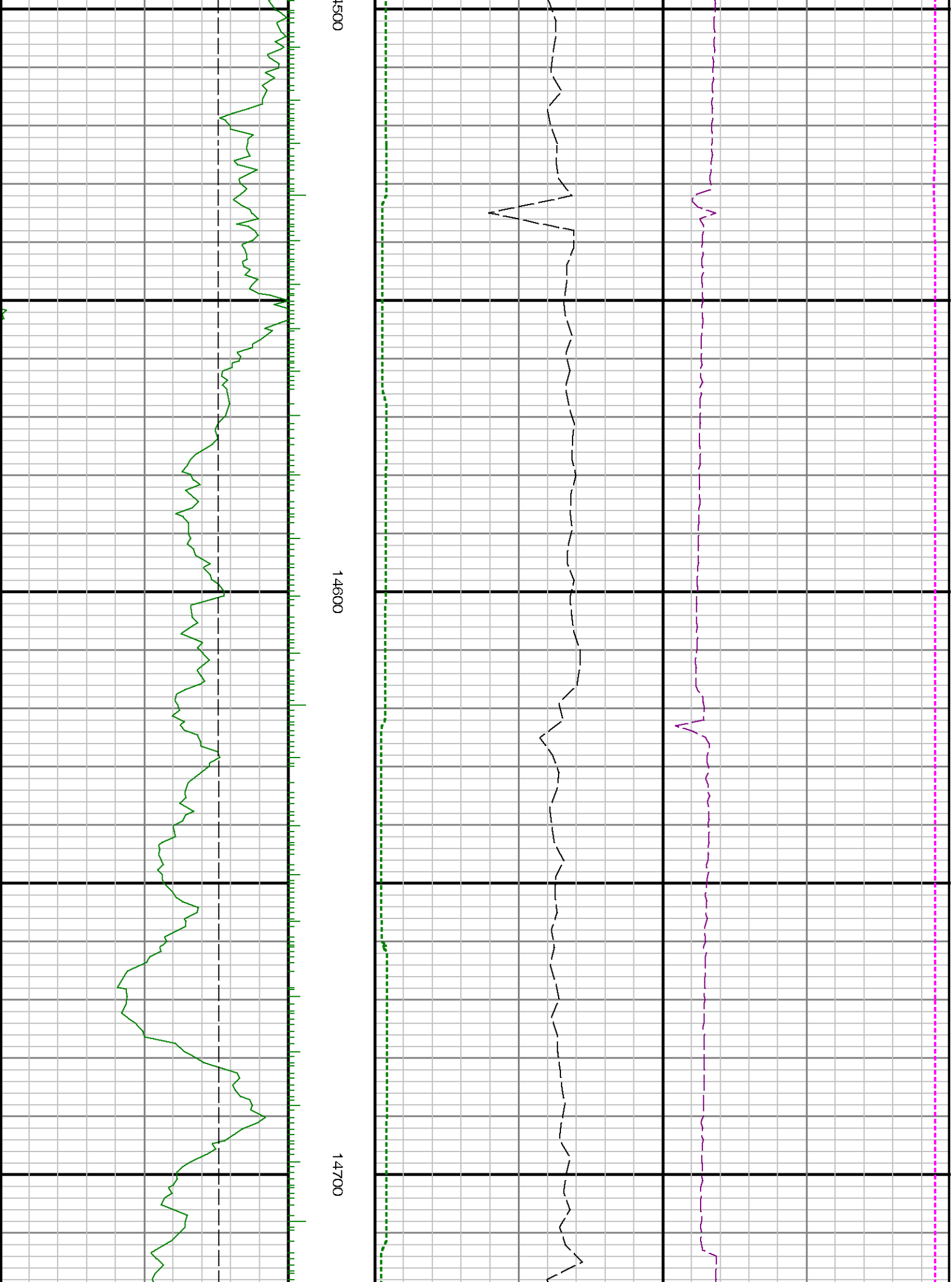


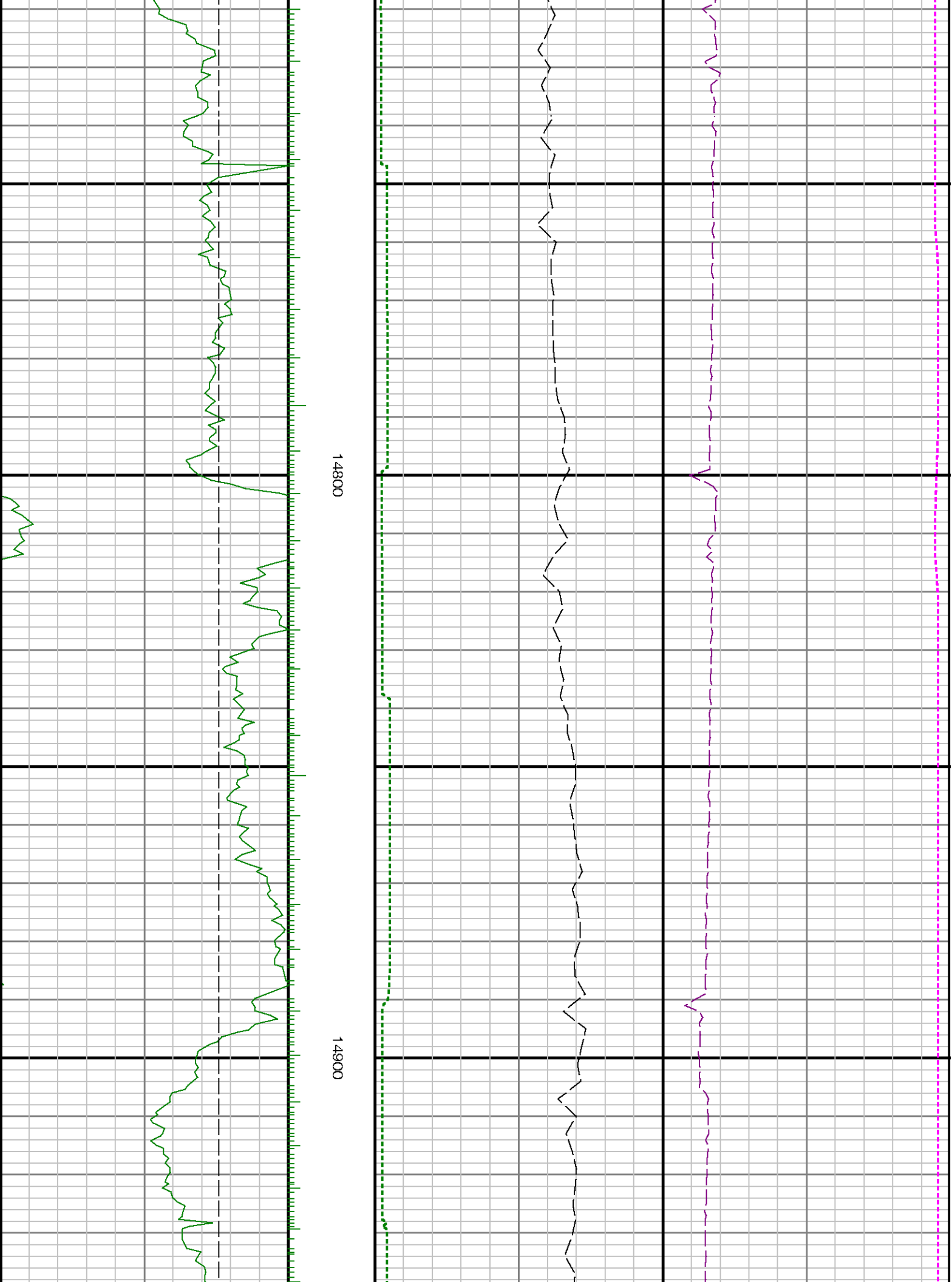


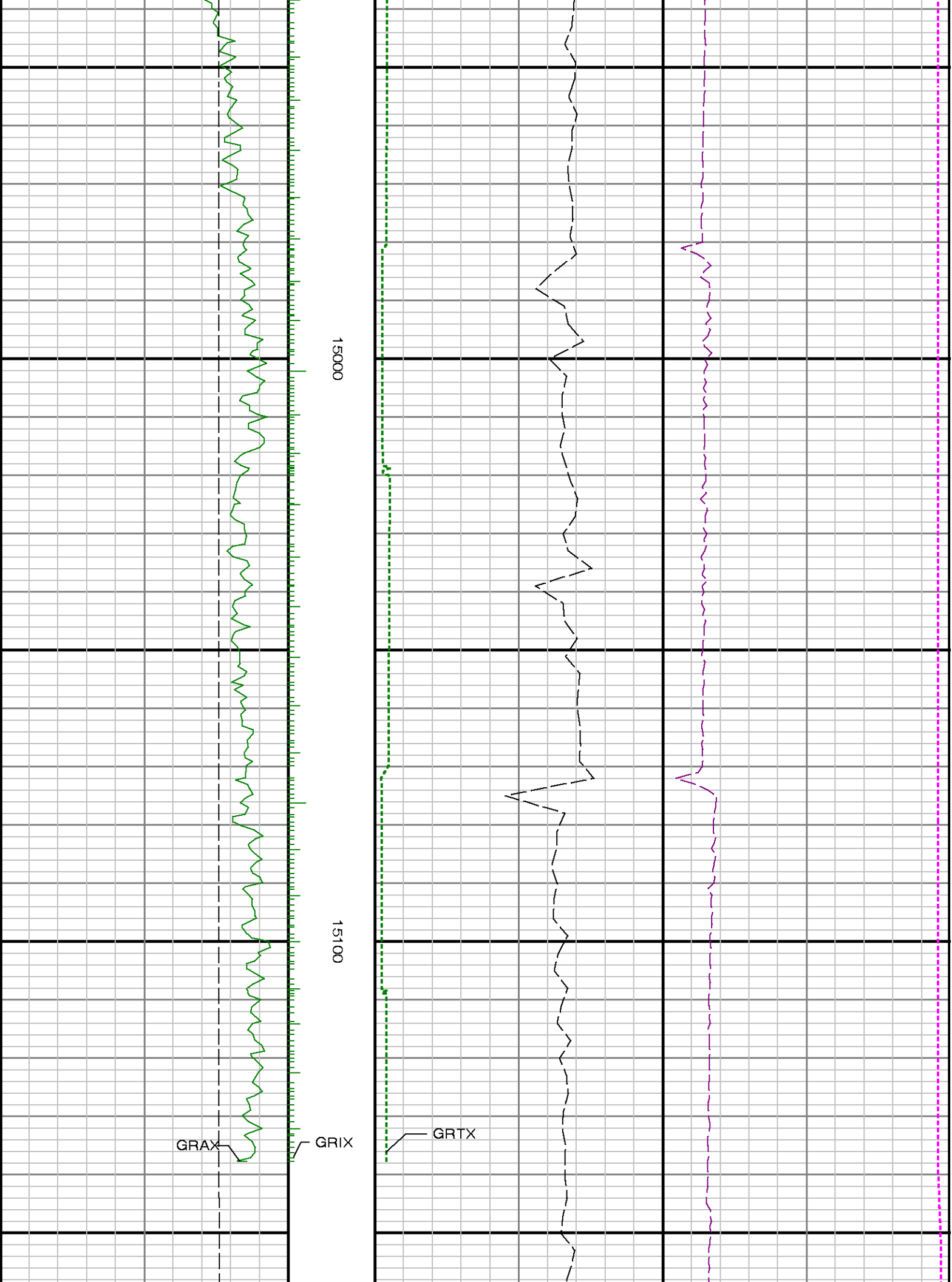
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<div>TVD</div>	<div>Run 2 <</div>	<div>See Remark 3</div> <div>ROPA</div>	<div>WOBA</div> <div>TCDX</div>
<div>Gamma Ray Apparent 0.5 ft Avg [GRAX]</div> <div>0150</div> <div>API</div> <div>True Vertical Depth [TVD]</div> <div>66307600</div> <div>ft</div>	<div>152000D feet 1:240</div>	<div>Rate of Penetration 3.0 ft Avg [ROPA]</div> <div>6000</div> <div>ft/hr</div> <div>Gamma Time Since Drilled [GRTX]</div> <div>0600</div> <div>min</div>	<div>Surface Weight On Bit 1.0 ft Avg [WOBA]</div> <div>0100</div> <div>klbf</div> <div>Downhole Temperature [TCDX]</div> <div>0250</div> <div>degF</div>