



Realtime Log

Natural Formation Evaluation
Gamma Ray

Scale:

1:240

MEASURED DEPTH

Company: Kerr-McGee Oil & Gas Onshore LP

Well: Hansen State 26C-36HZ

Field: Weld County (Kerr McGee)

Region: Continental US State : Colorado

Status:

Final Print

Surface Location:

Latitude: 40° 11' 15.947" N

Longitude: 104° 58' 38.154" W

Other Services:

Directional
VSS

API Number:

051233919500

Section 35

TWN: 3N

Range 68W

Permanent Datum (P.D.): Mean Sea Level

Elevation: 4952.00 ft.

Elevations: N/A ft.

Log Measured From: Kelly Bushing

4952.00 ft. Above P.D.

KB: N/A ft.
DF: 4952.00 ft.
GL: 4927.00 ft.

Depth Reference: Driller's Depth

Interval Logged

Dates

Magnetic Field Reference

Top: 6600 ft. Date From: 17/Oct/14 Dip Angle: 66.87 ° Azi Reference North: True

Bottom: 16951 ft. Date To: 28/Oct/14 Total Mag to Reference

Spud Date: 16/Oct/14 Field Strength: 52646.9 nT North Correction: 8.65 °

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
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8.750 in.	1183 ft.	7594 ft.	9.600 in.	36.00 lb/ft	Surface	1183 ft.
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6.125 in.	7594 ft.	16951 ft.	7.000 in.	26.00 lb/ft	Surface	7643 ft.
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Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
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Water Based Mud	Surface	16951 ft.	8.750 in.	Vert/Curve	0.4 ° / 250.2 °	88.7 ° / 88.9 °
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			6.125 in.	Lateral	88.7 ° / 88.9 °	87.7 ° / 89.1 °
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Acquisition System Software Version

Other

Advantage 2.20U4 Rtg: / Contractor: Xtreme 24 / Xtreme Drilling

PATS 6.4.1.34 Job No.: 6689514 / 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	Bottom	From	To	Start			End	
							(m.)	(m.)	(m.)	(m.)					
1	1	1	8.750	PDC		Steerable	6600	7594	1183	7653	19/Oct/2014 07:17	19/Oct/2015 23:40	35.2		
2	2	2	6.125	PDC		Steerable	7595	11648	7654	11713	21/Oct/2014 21:30	23/Oct/2015 08:50	33.9		
3	3	3	6.125	PDC		Steerable	11650	16893	11714	16951	24/Oct/2014 04:32	27/Oct/2050 19:00	71.3		

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite

Dusty Zinc	10/21/14	10/28/14	Adam Harris	10/15/14	10/20/14	Dale Miranda	10/24/14	10/28/14
Kyle Ritter	10/15/14	10/28/14	Abdullah AlDossary	10/18/14	10/28/14	Osagie Otoikhine	10/15/14	10/23/14
Andrew Overby	10/15/14	10/18/14						

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. Avg.	API
GRTX	Gamma Ray Time Since Drilled	Min.
GRIX	Gamma Ray Density, Points	unitless
GRSI	Gamma Ray Slide Indicator	unitless
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.	K. lbs.

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (m.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12546347	Directional	61.51	6.750	2.813
1	SRIG	12578112	Gamma	58.14	6.750	2.813
2	DIR	11625186	Directional	68.23	4.750	2.813
2	SRIG	12673191	Gamma	64.85	4.750	2.813
3	DIR	13051158	Directional	61.93	4.750	2.813
3	SRIG	12376064	Gamma	58.55	4.750	2.813

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 INTEQ run 1 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 3/4 inch bit and steerable assembly from 1183 to 7653 ft MD (1182 to 7273 ft TVD).
(2) Baker Hughes INTEQ run 2 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 6 3/4 inch bit and steerable assembly from 7654 to 11713 ft MD (7273 to 7285 ft TVD).
(2) Baker Hughes INTEQ run 3 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 6 3/4 inch bit and steerable assembly from 11714 to 16951 ft MD (7285 to 7294 ft TVD).
(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.
(5) A sliding indicator is shown to the left side of track 1 as a heavy line and corresponds to the Gamma Ray sensor offset from the bit.

Remarks

Number	Measured Depth (m.)	Hole Section (in.)	LWD Run No.	Remark
1	6603	8.750	1	Began logging Gamma from the top of the build section at 6600 ft MD (6568 ft TVD).
2	7603	8.750	2	The interval from 7594 to 7652 ft MD (7270 to 7273 ft TVD) was logged up to 45 hours after tripping out of hole to pick up lateral assembly for run 2.
3	11654	6.750	3	The interval from 11648 to 11712 ft MD (7286 to 7285 ft TVD) was logged up to 19 hours after tripping out of hole to pick up a slick lateral assembly for run 3.
4	15137	6.750	3	The interval from 15133 to 15193 ft MD (7292 to 7293 ft TVD) was logged up to 14 hours after tripping to 3000' MD to pick up agitator.
5	16887	6.750	3	The interval from 16887 to 16951 ft MD (7291 to 7294 ft TVD) was not logged due to Gamma Ray sensor offset.

Curve Mnemonics

Curve	Description	Units
GRAX	Gamma Ray - Apparent	API
GRIX	Gamma Ray - Data Point Indicator	unitless
GRSI	Gamma Slide Ind.	unitless
GRTX	Gamma Ray Time Since Drilled GRTX	min
ROP_AVG	Depth Averaged ROP	ft/hr
TCDX	Downhole Temperature	degF
TVD	True Vertical Depth TVD	ft
WOB_AVG	AVERAGE Weight On Bit	klbf

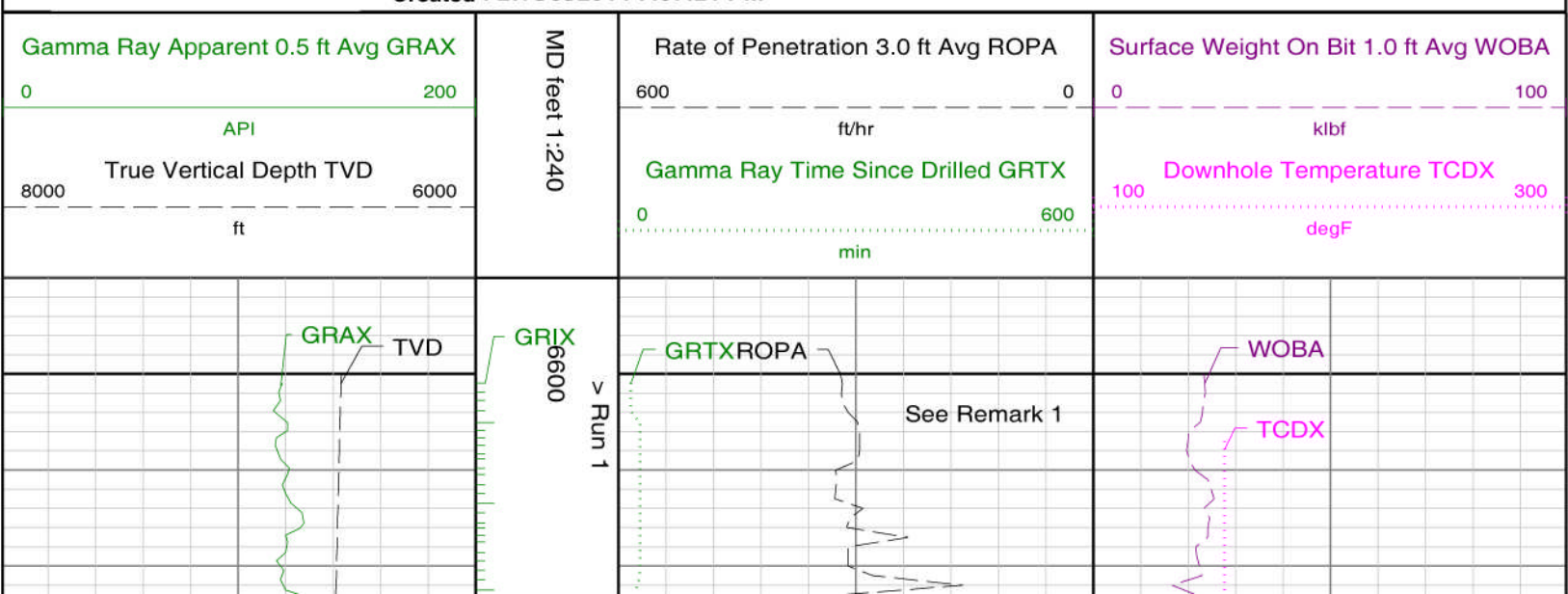


Company : Kerr-McGee Oil & Gas Onshore LP

Well : Hansen State 26C-36HZ

Interval : 6590.00 - 16953.63 feet

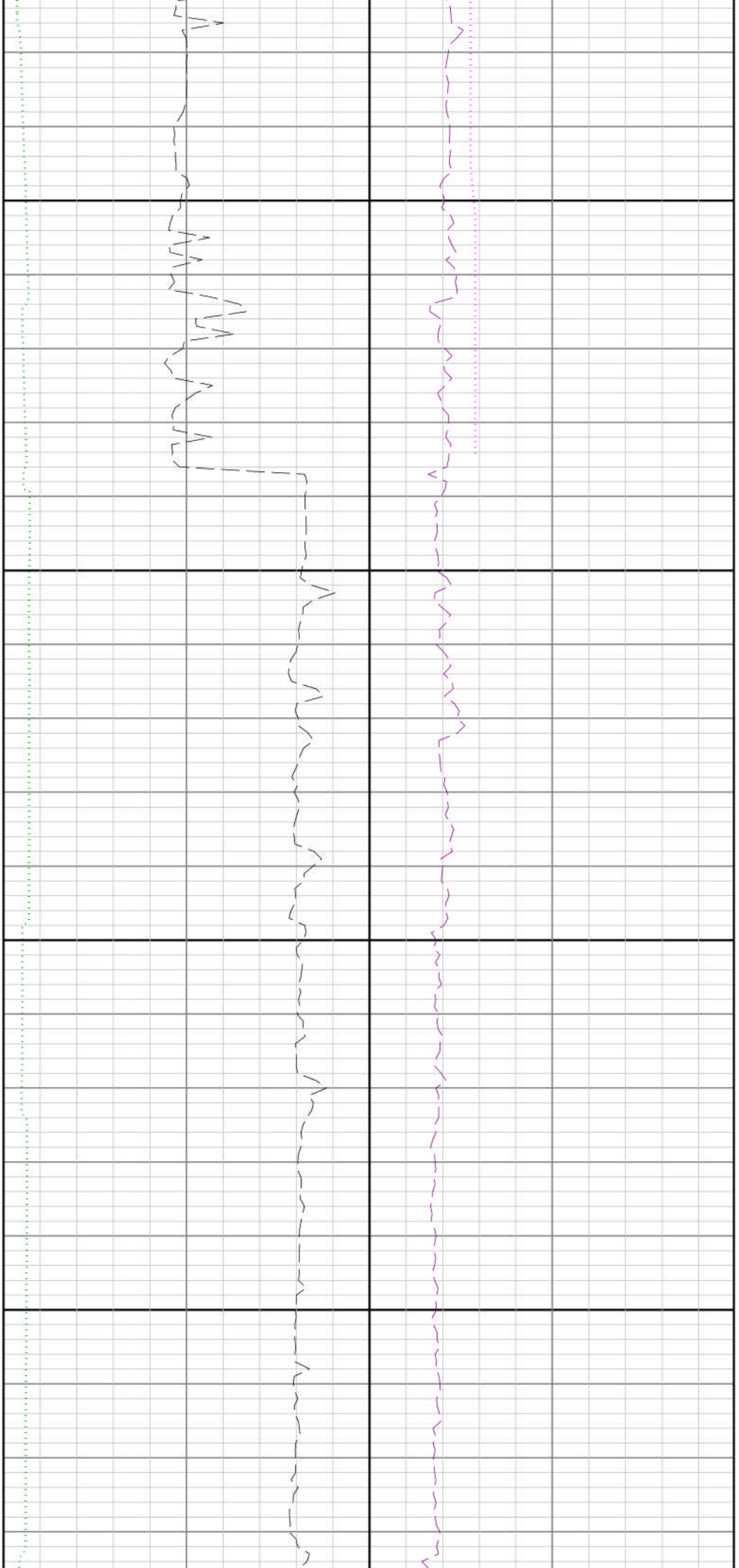
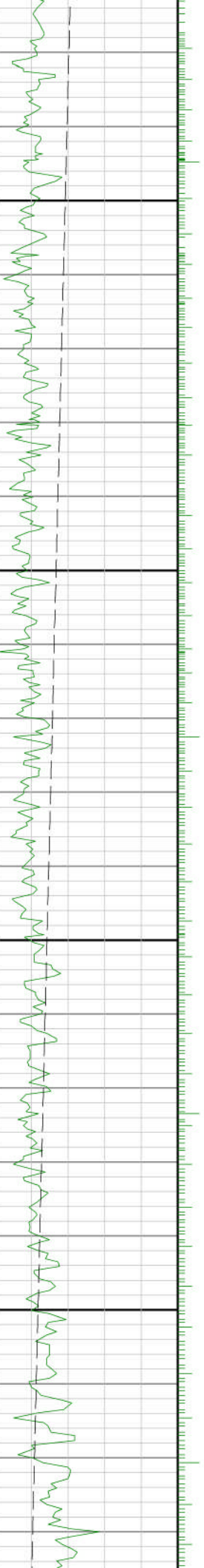
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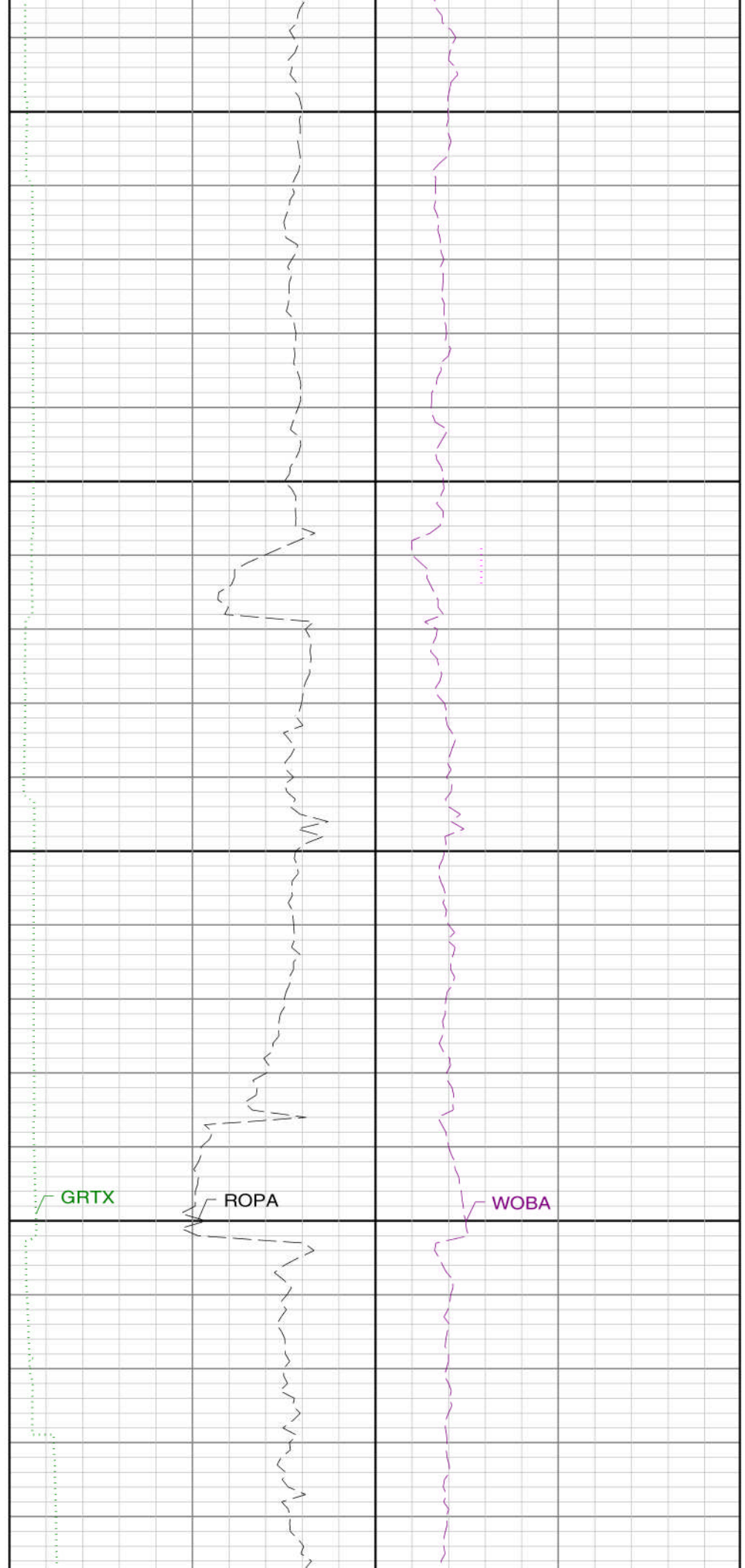
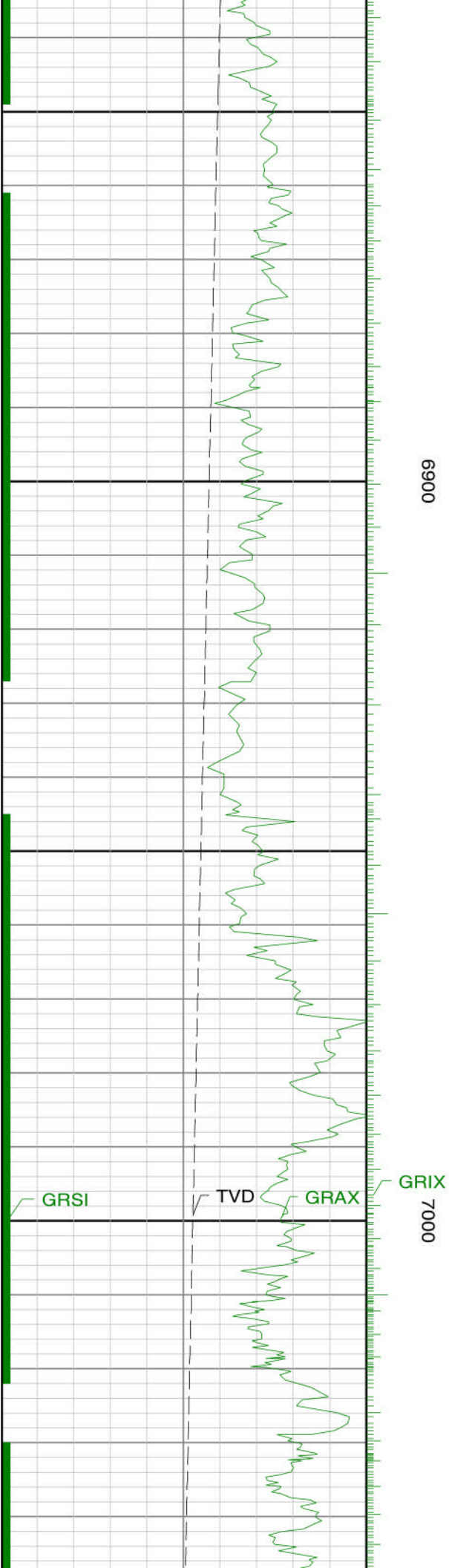


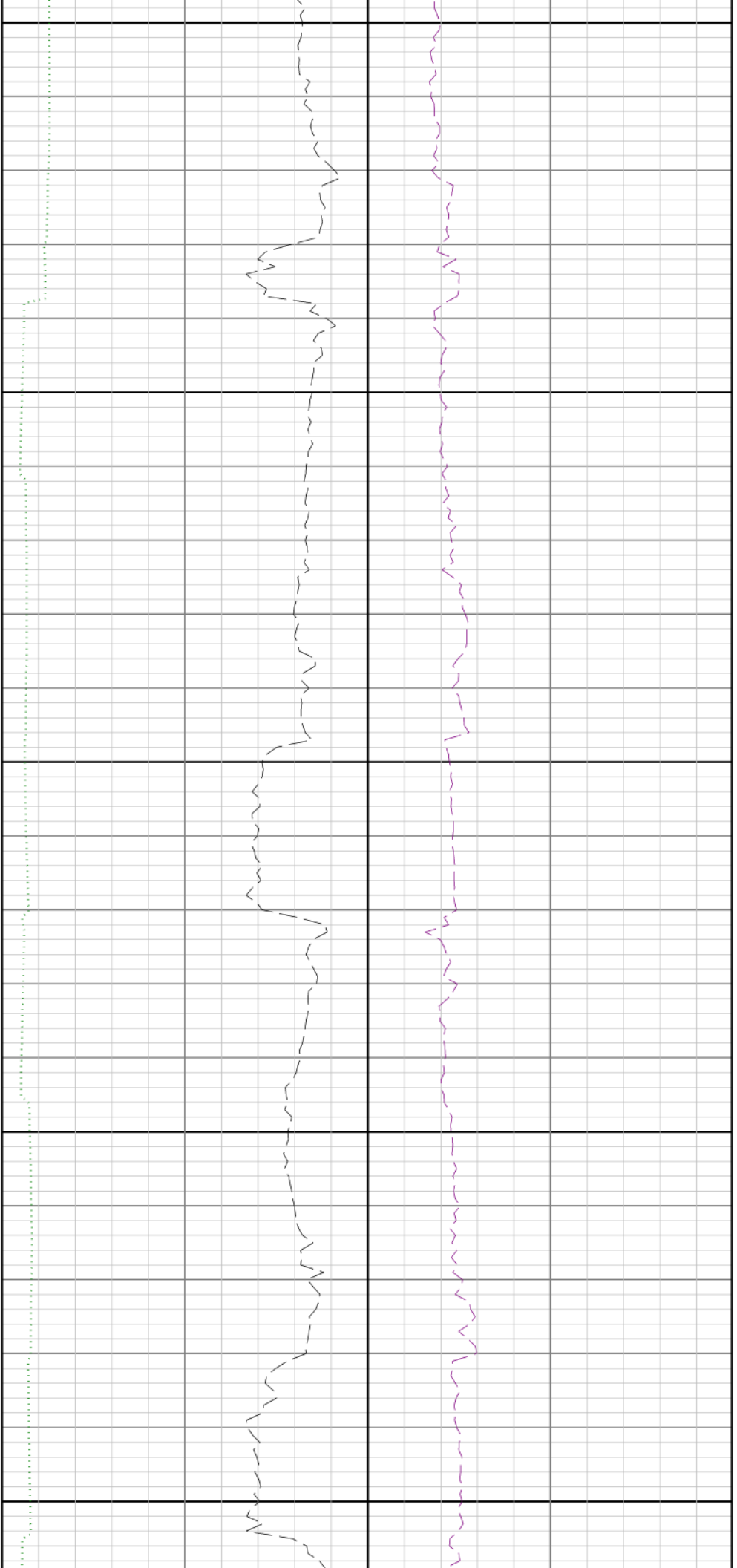
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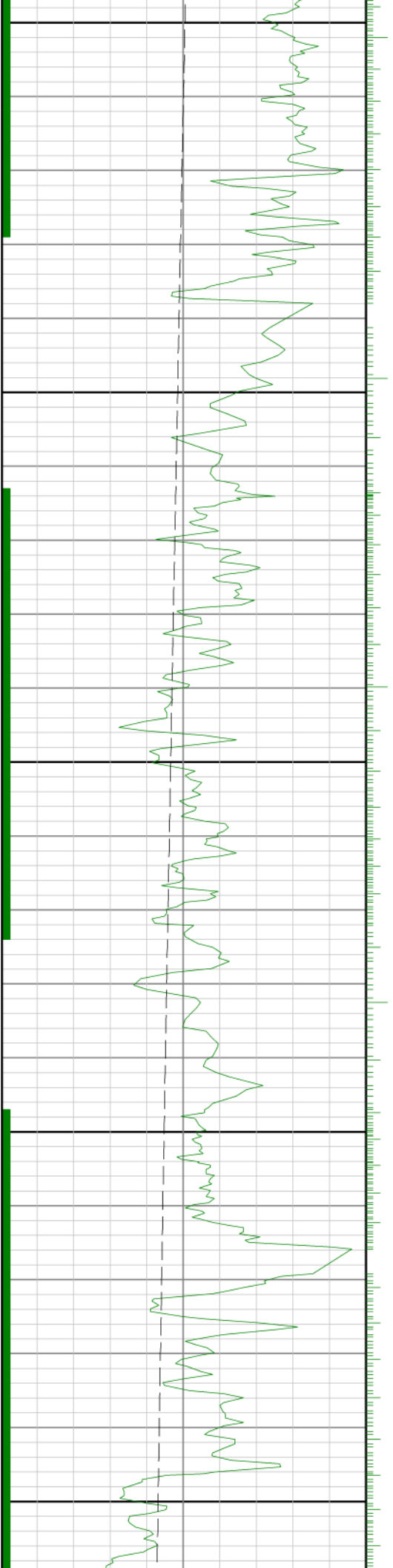


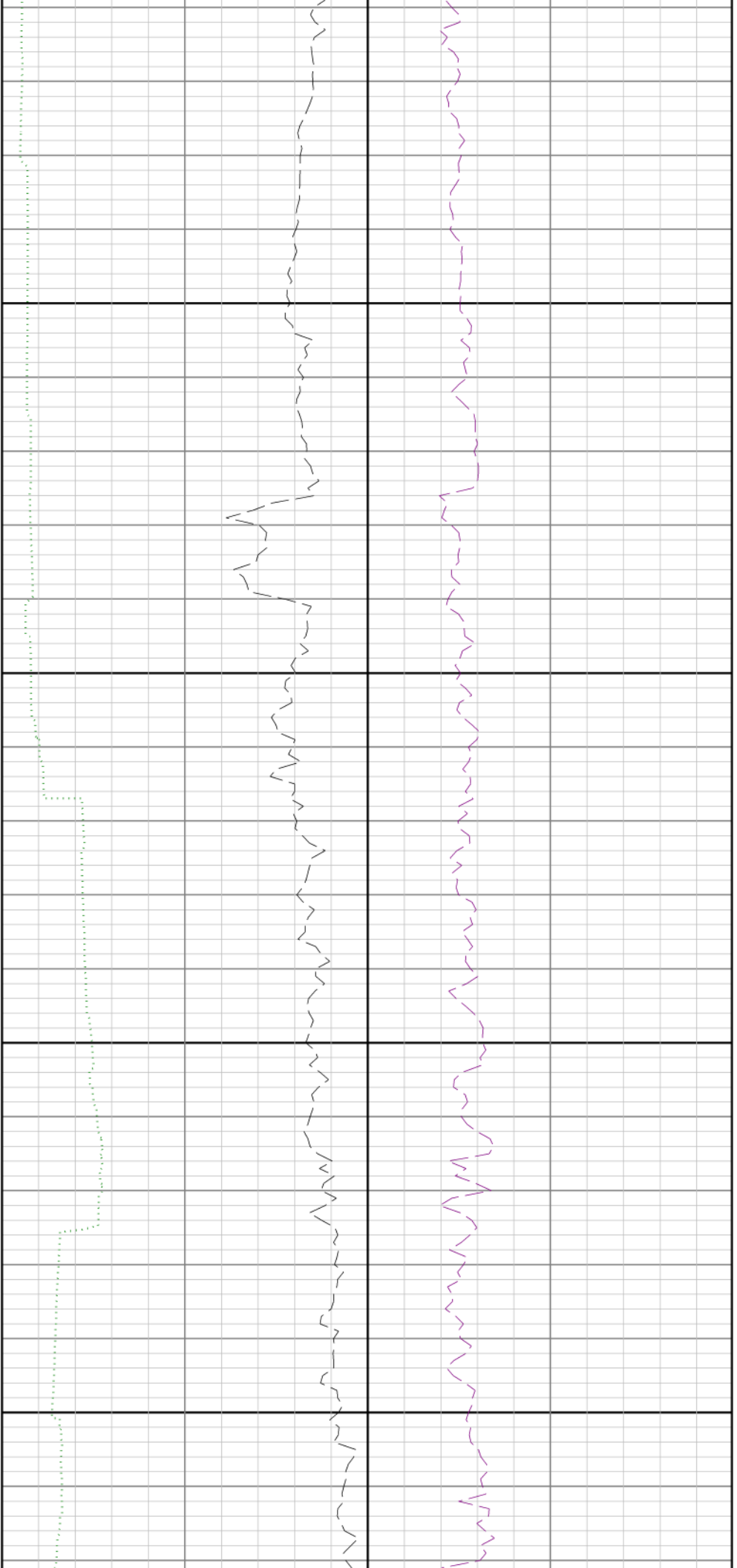




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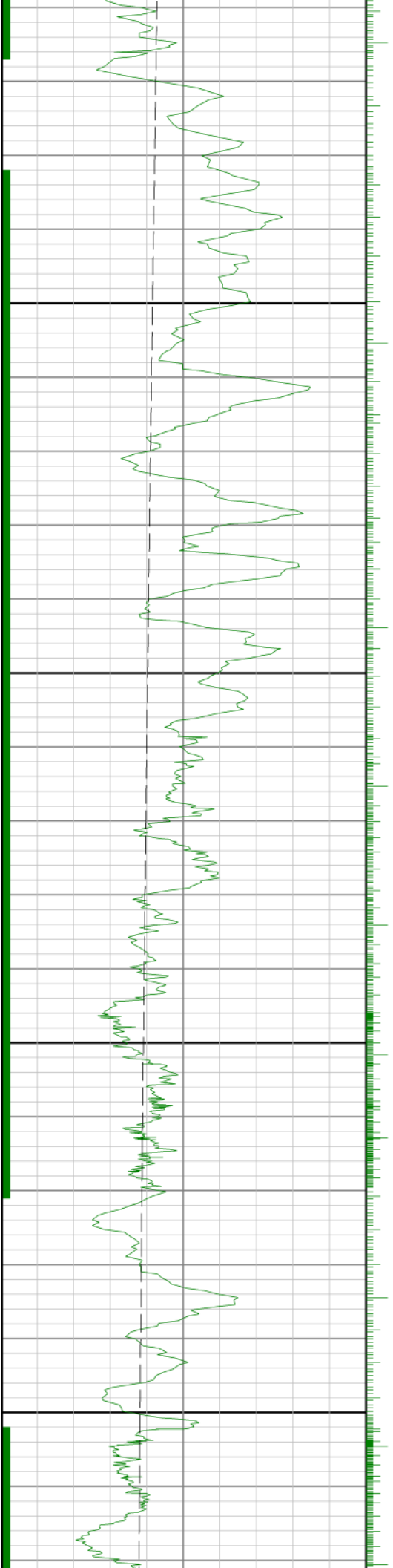
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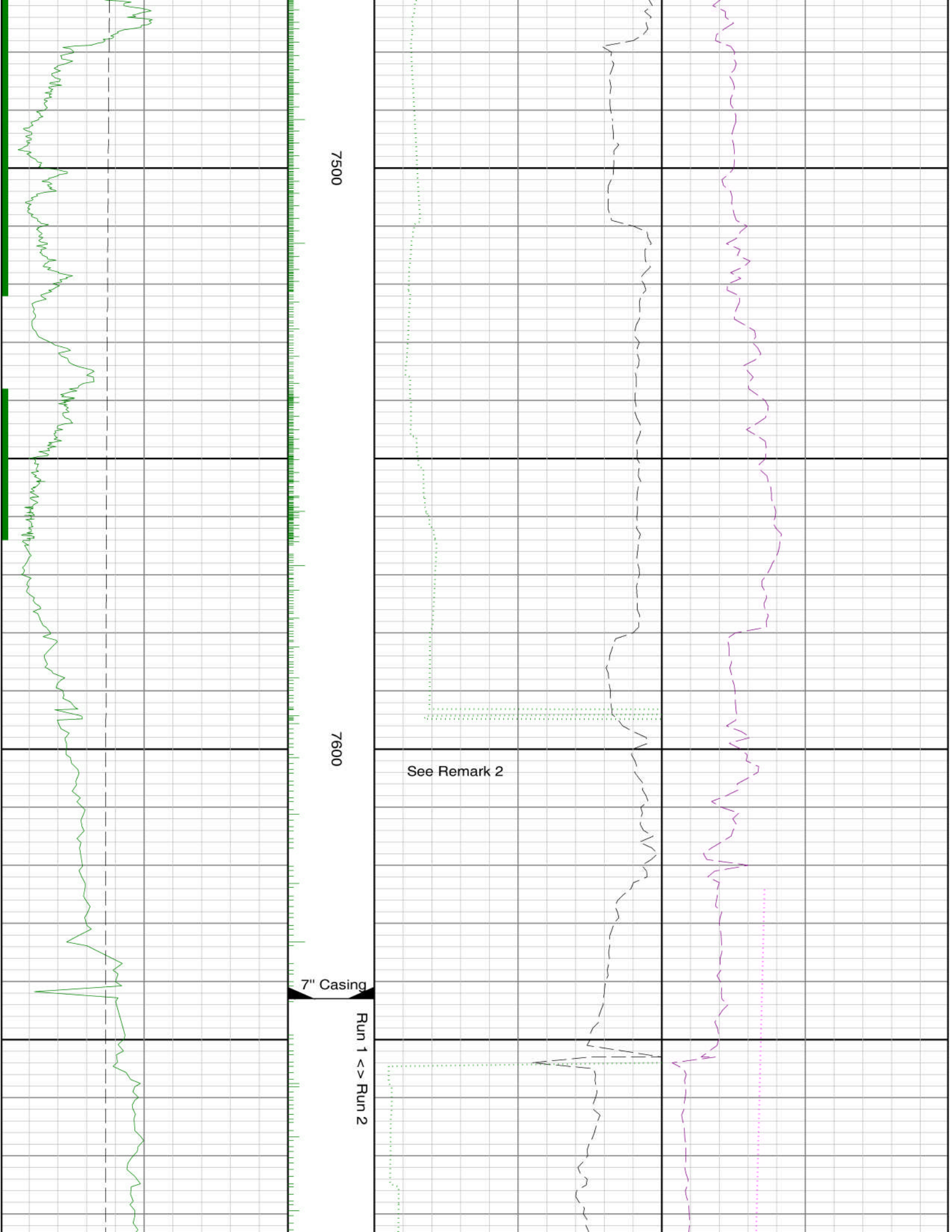


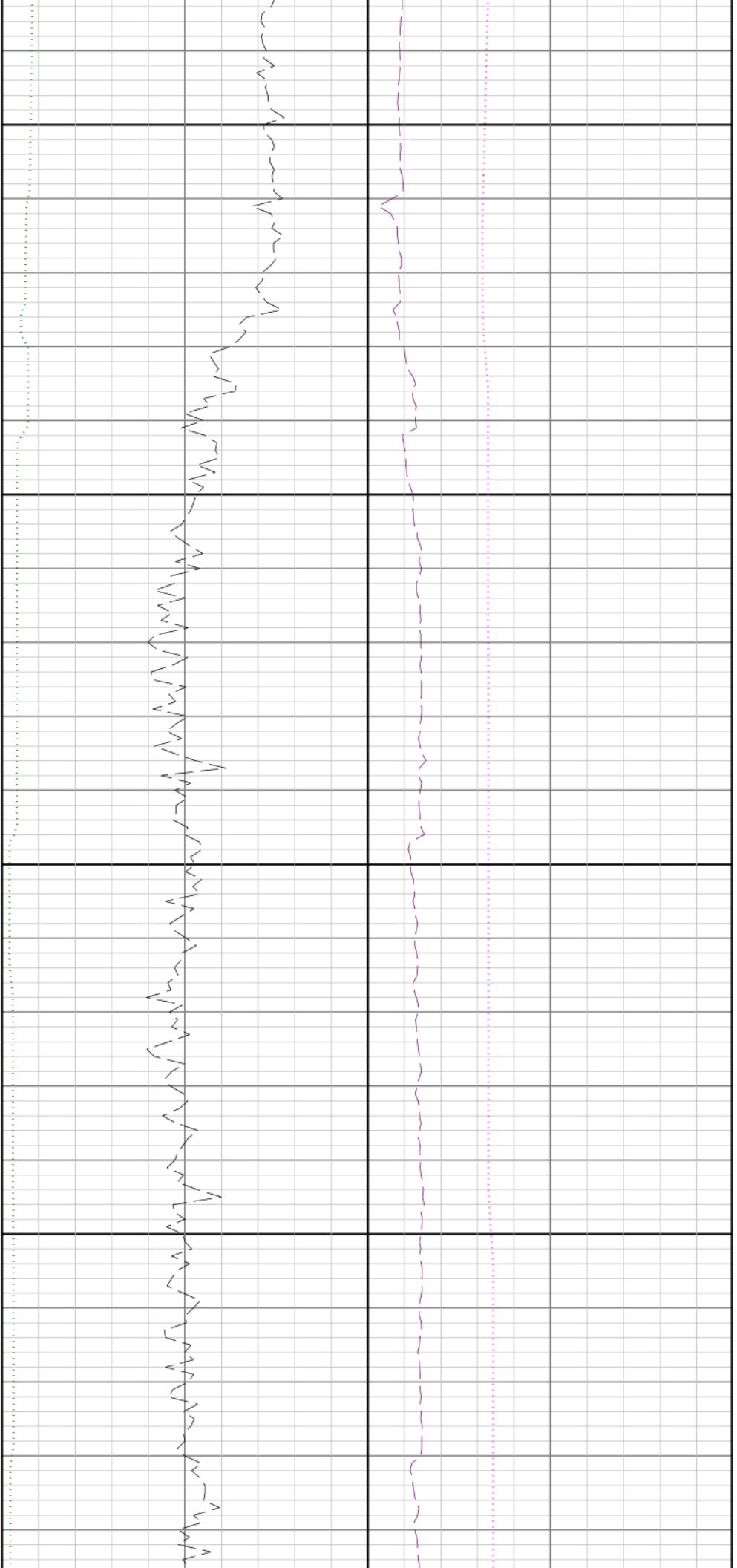


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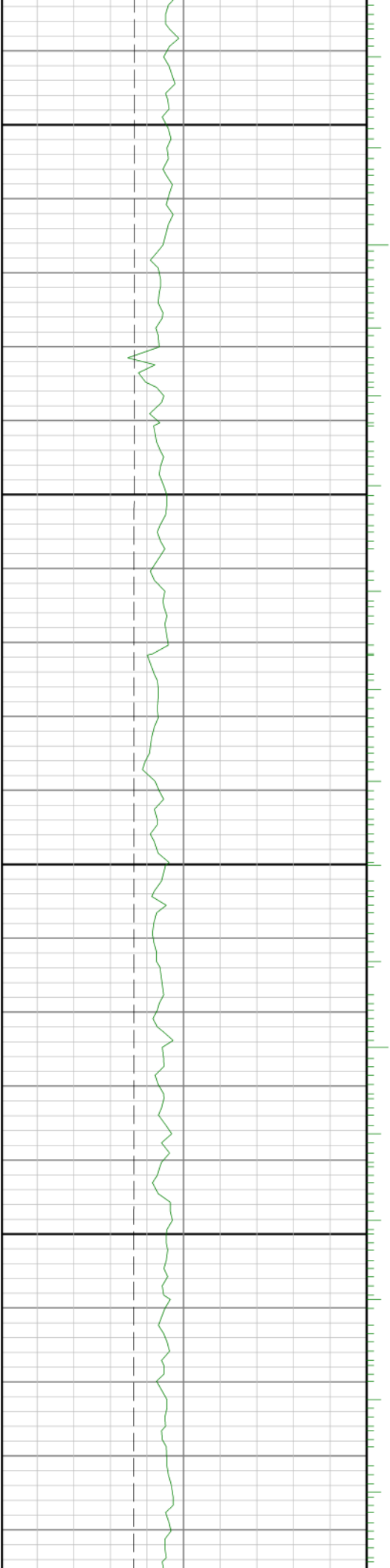


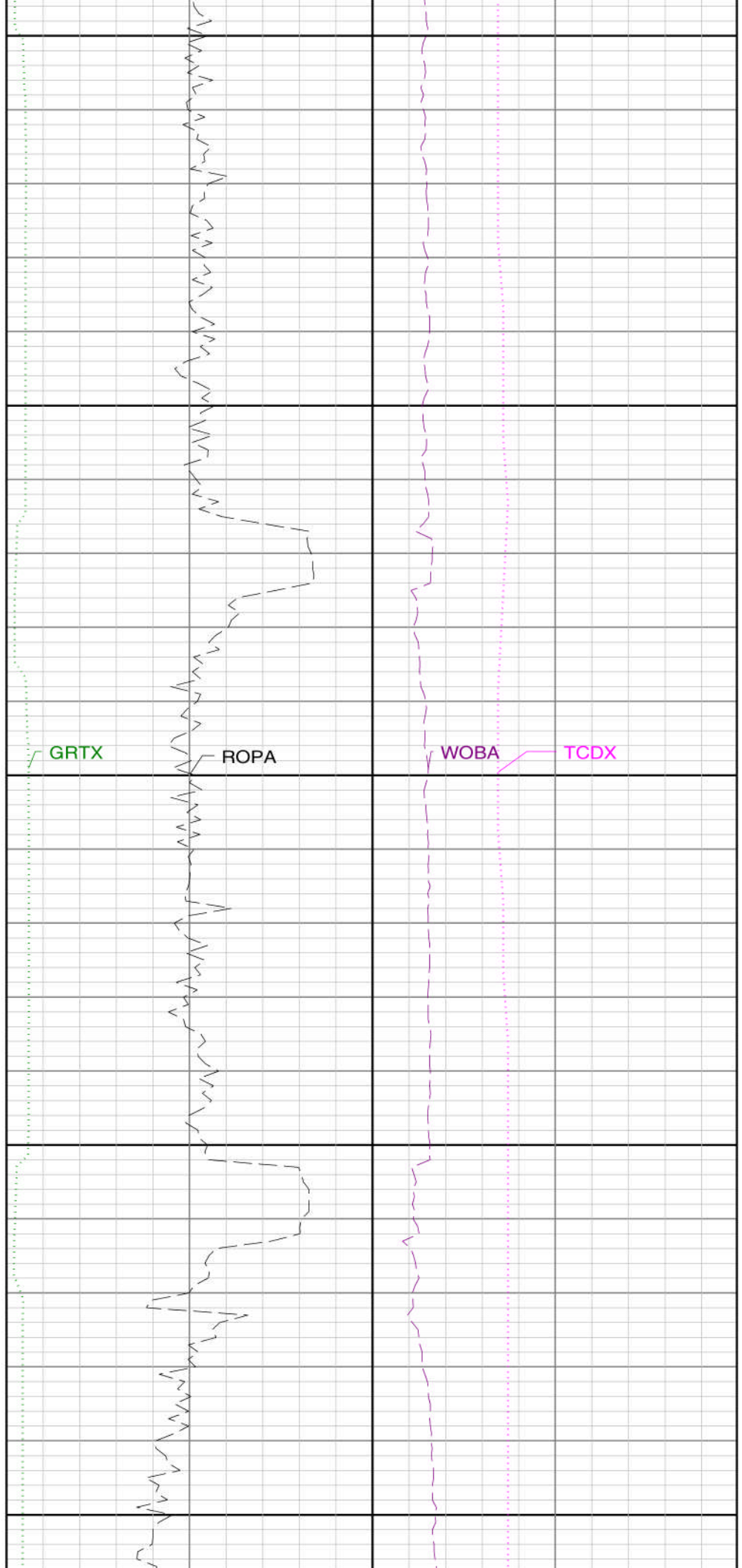
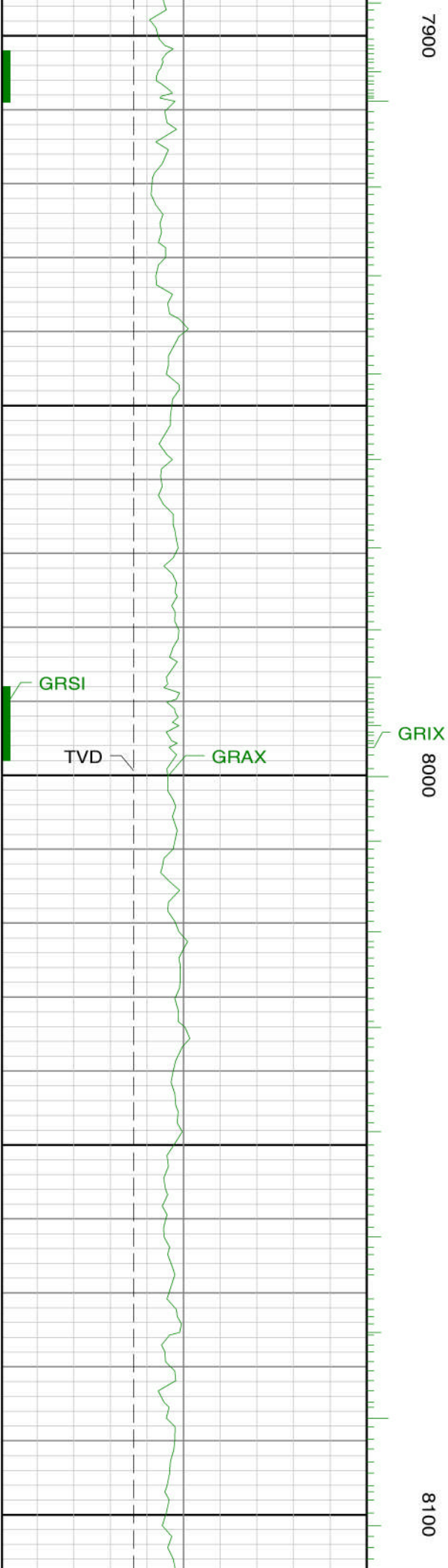


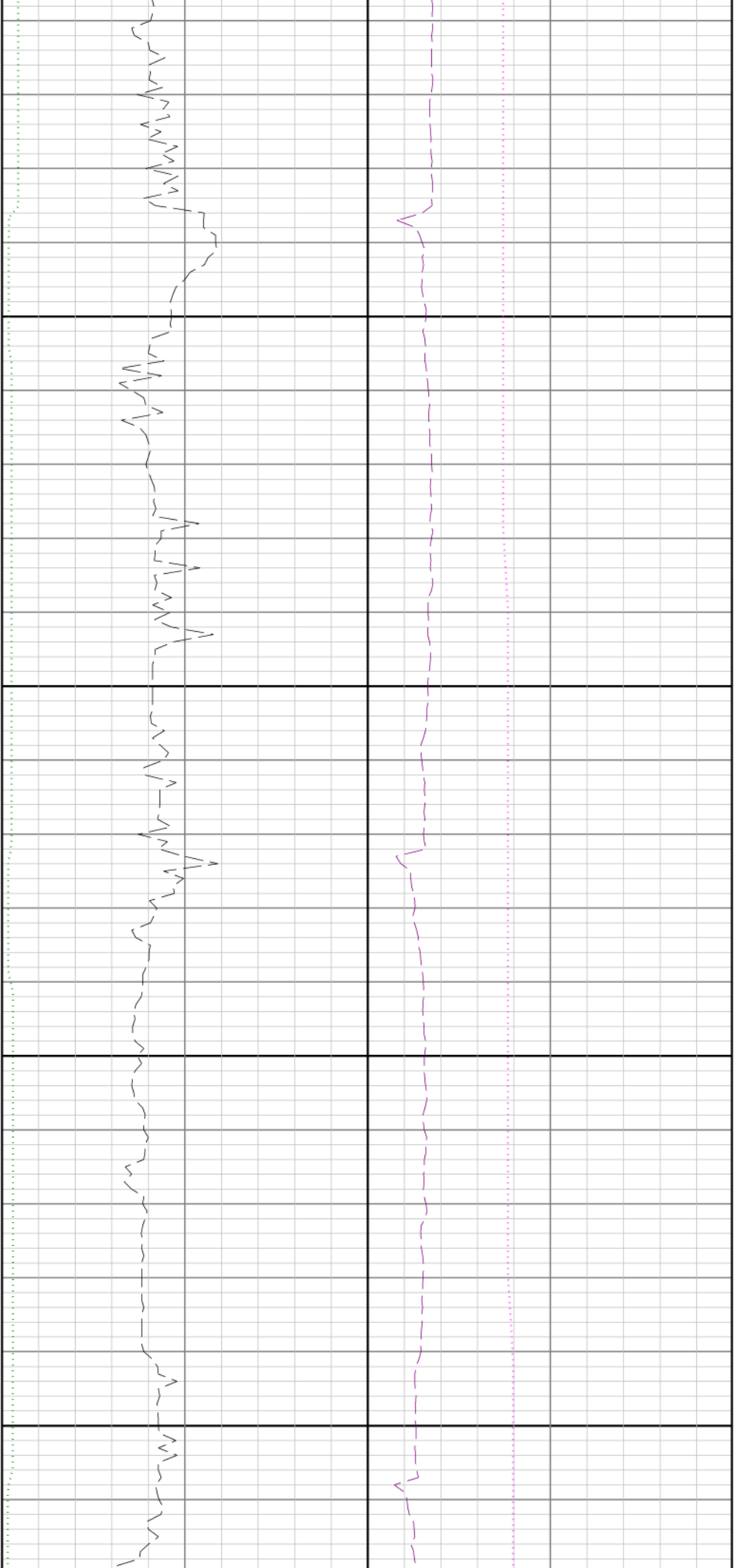


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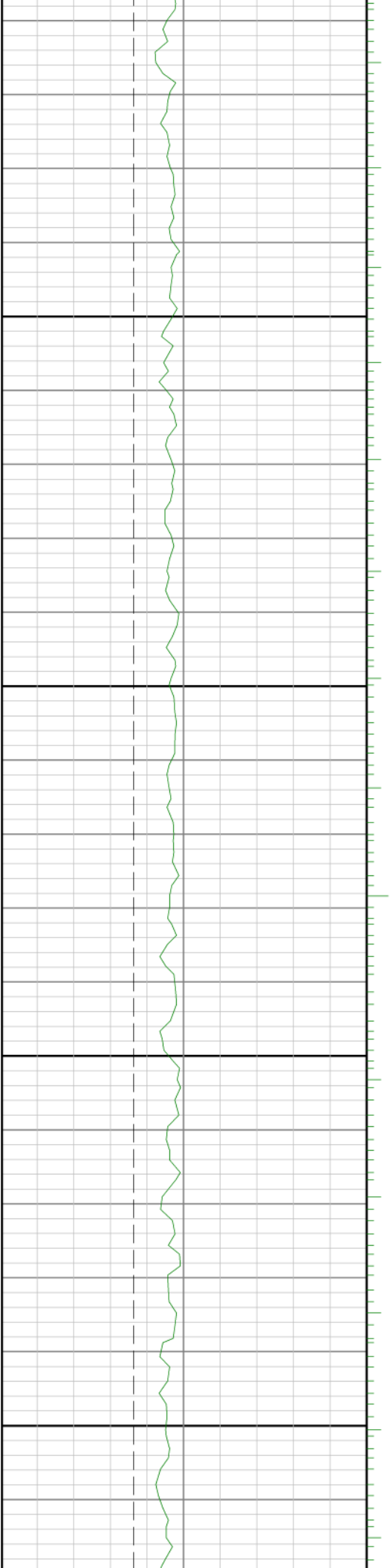


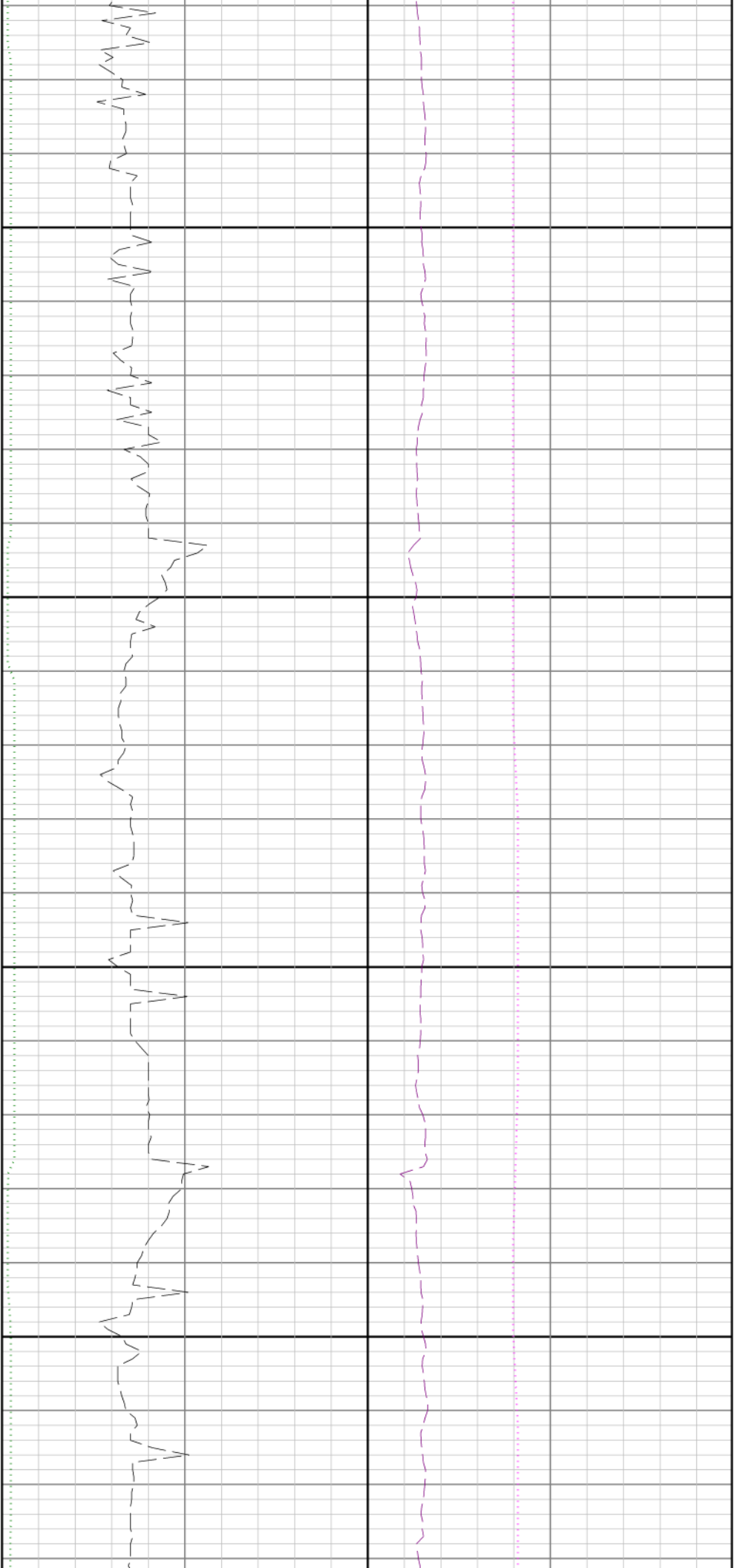




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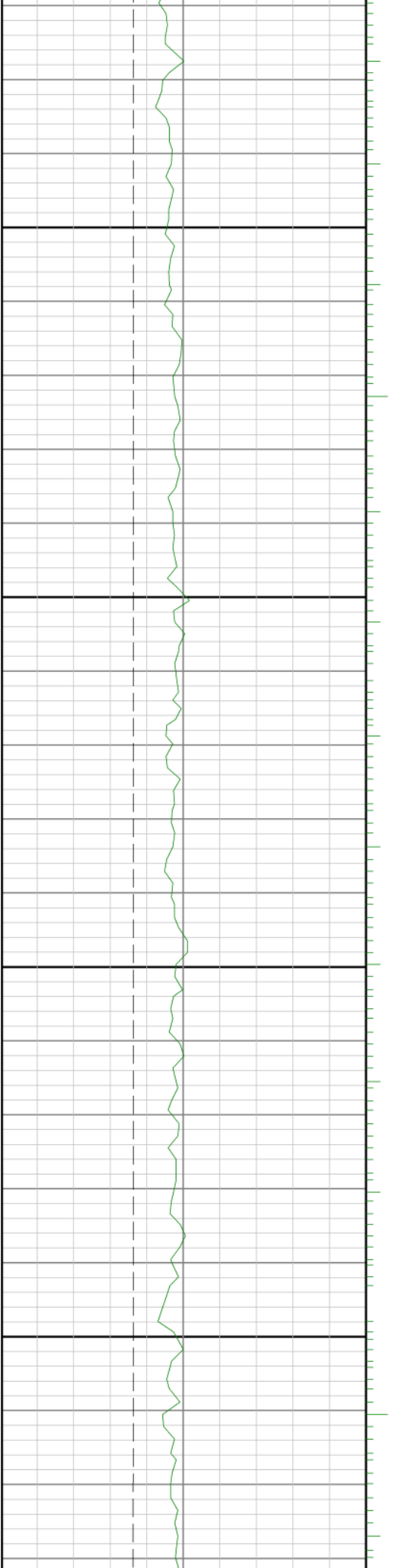
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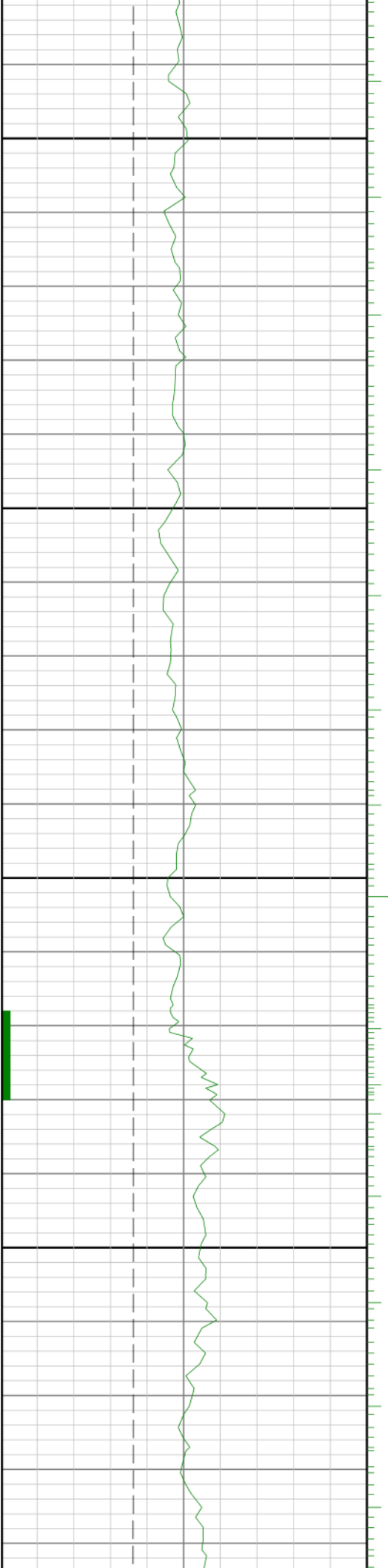




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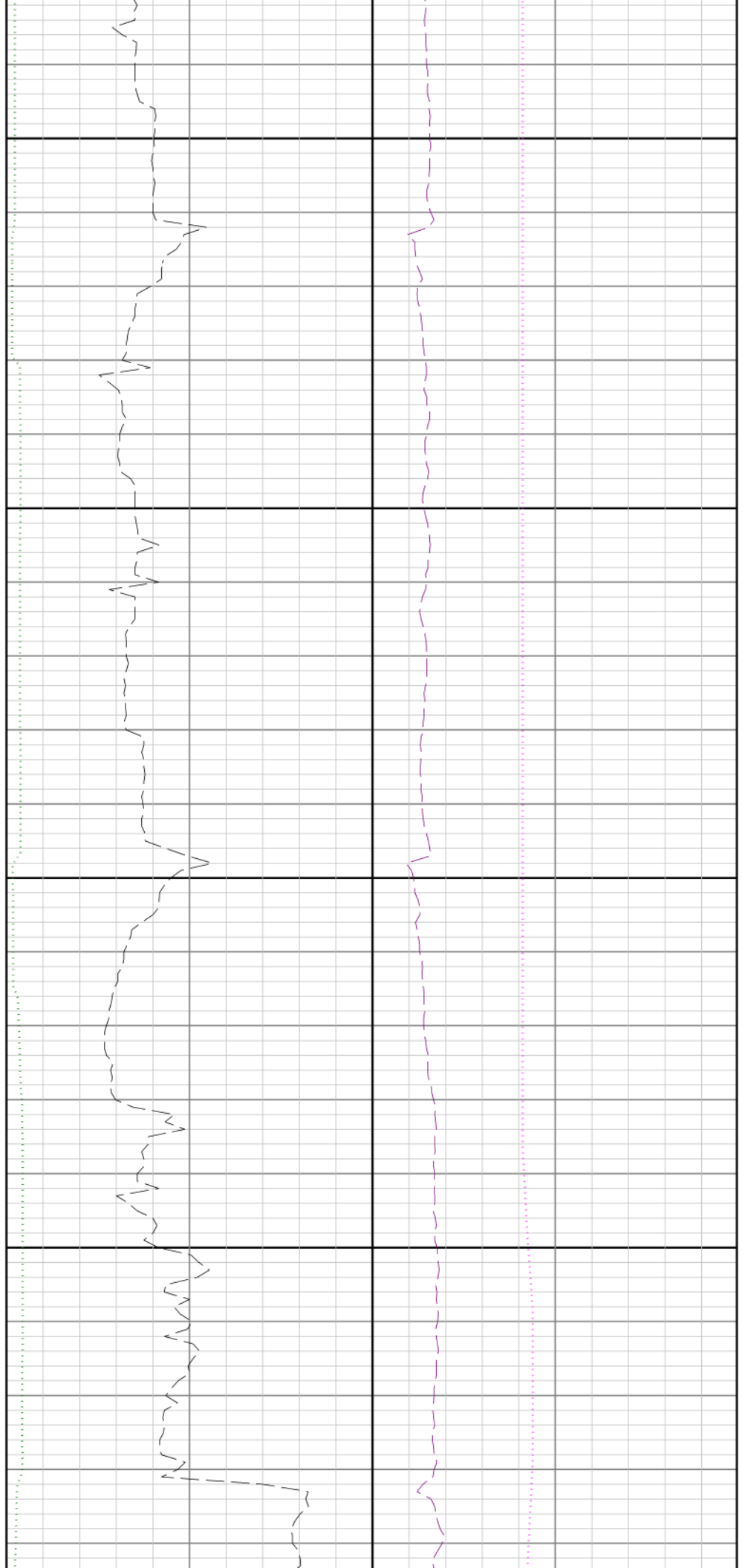
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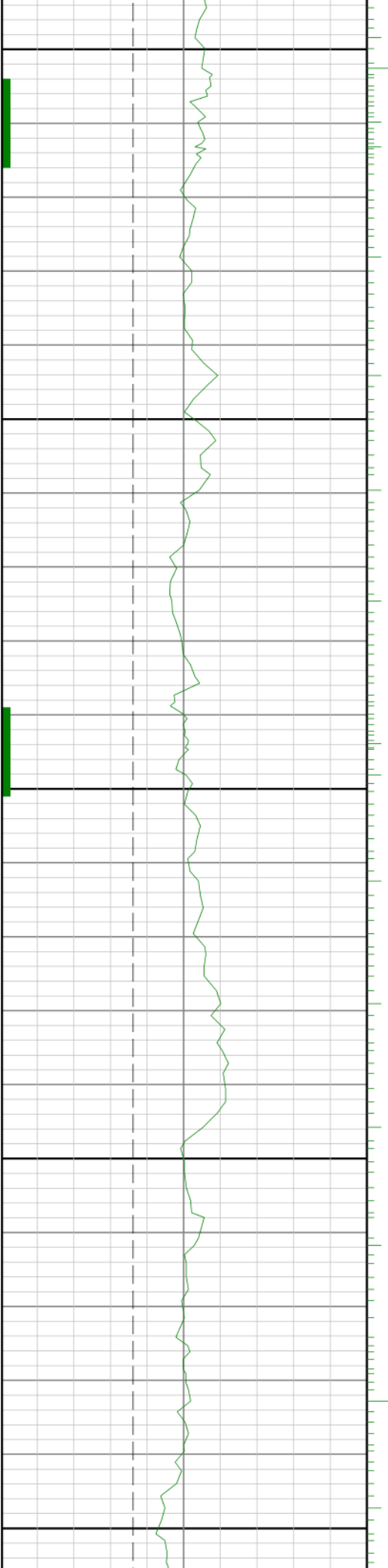




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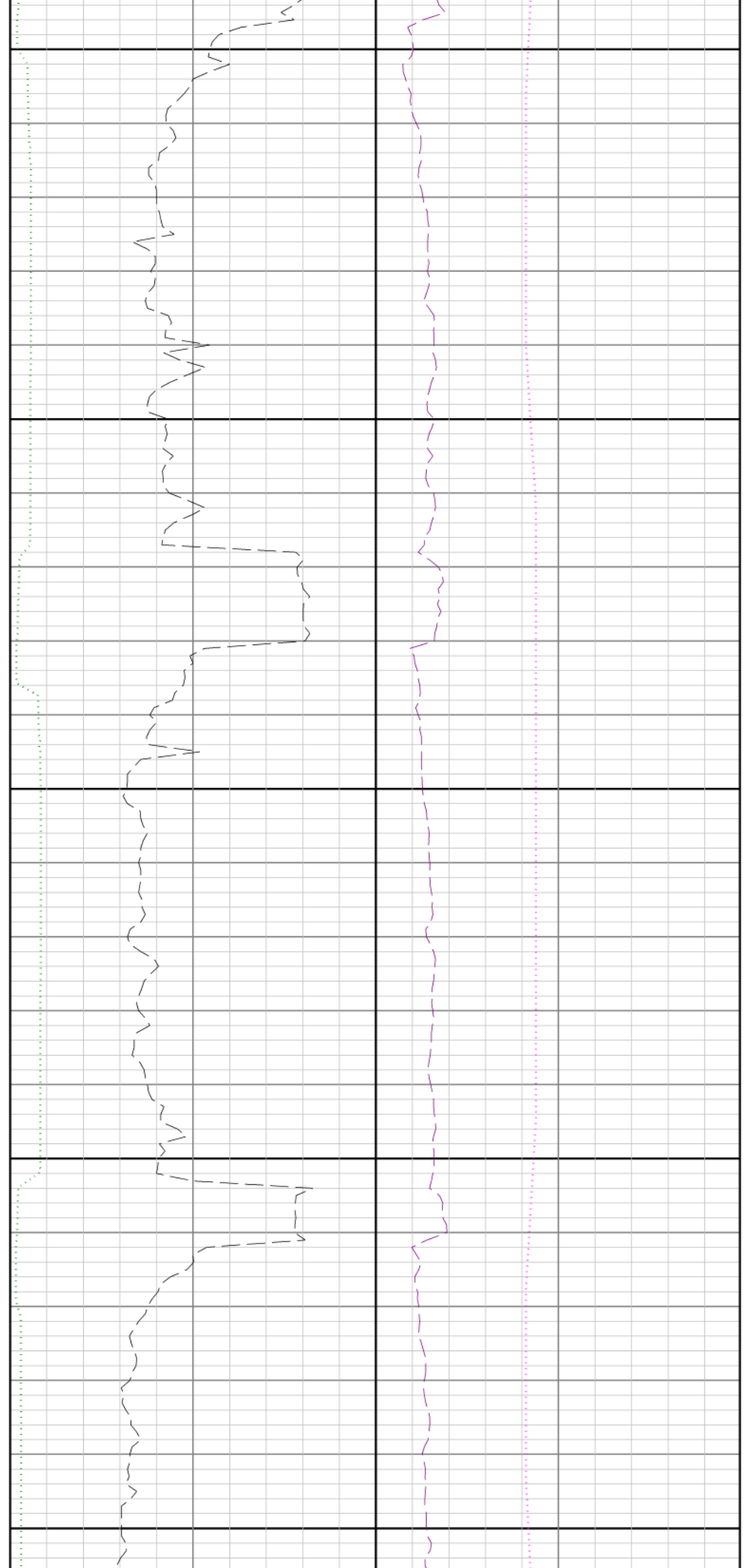
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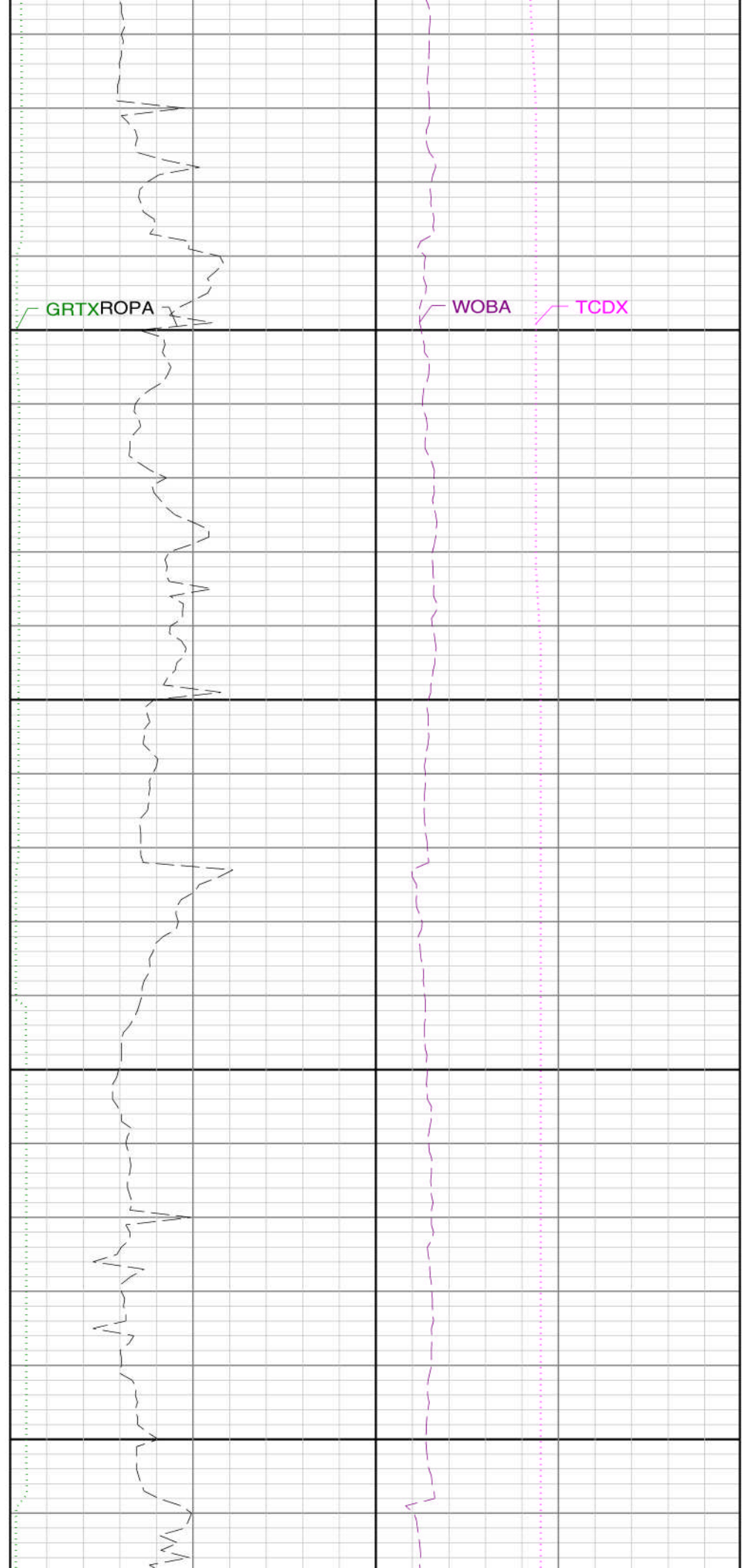
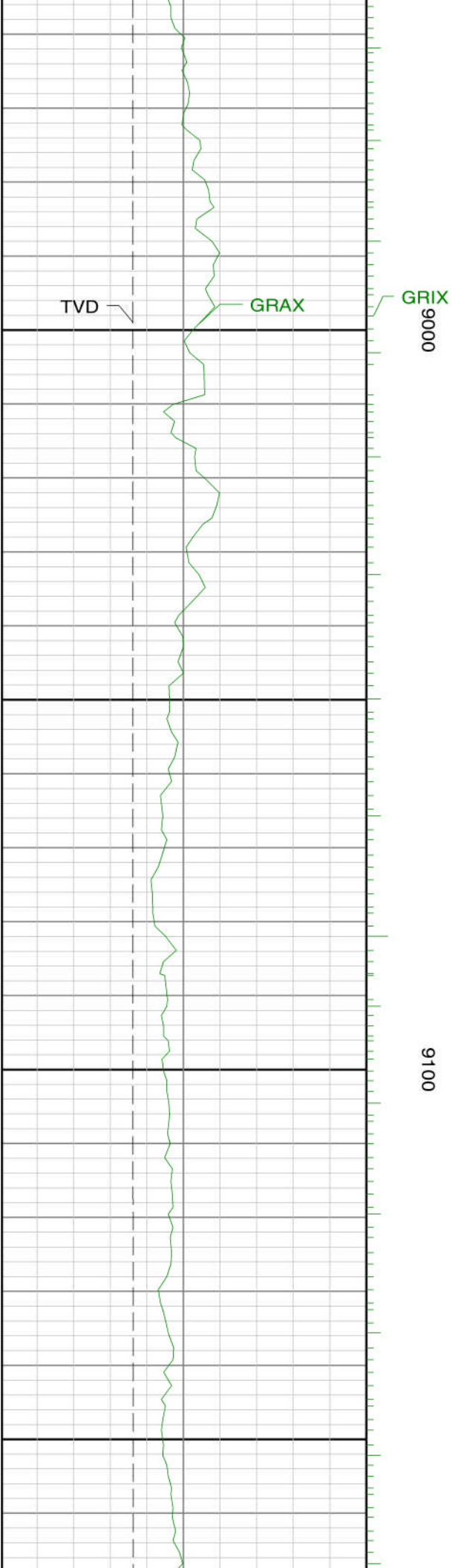


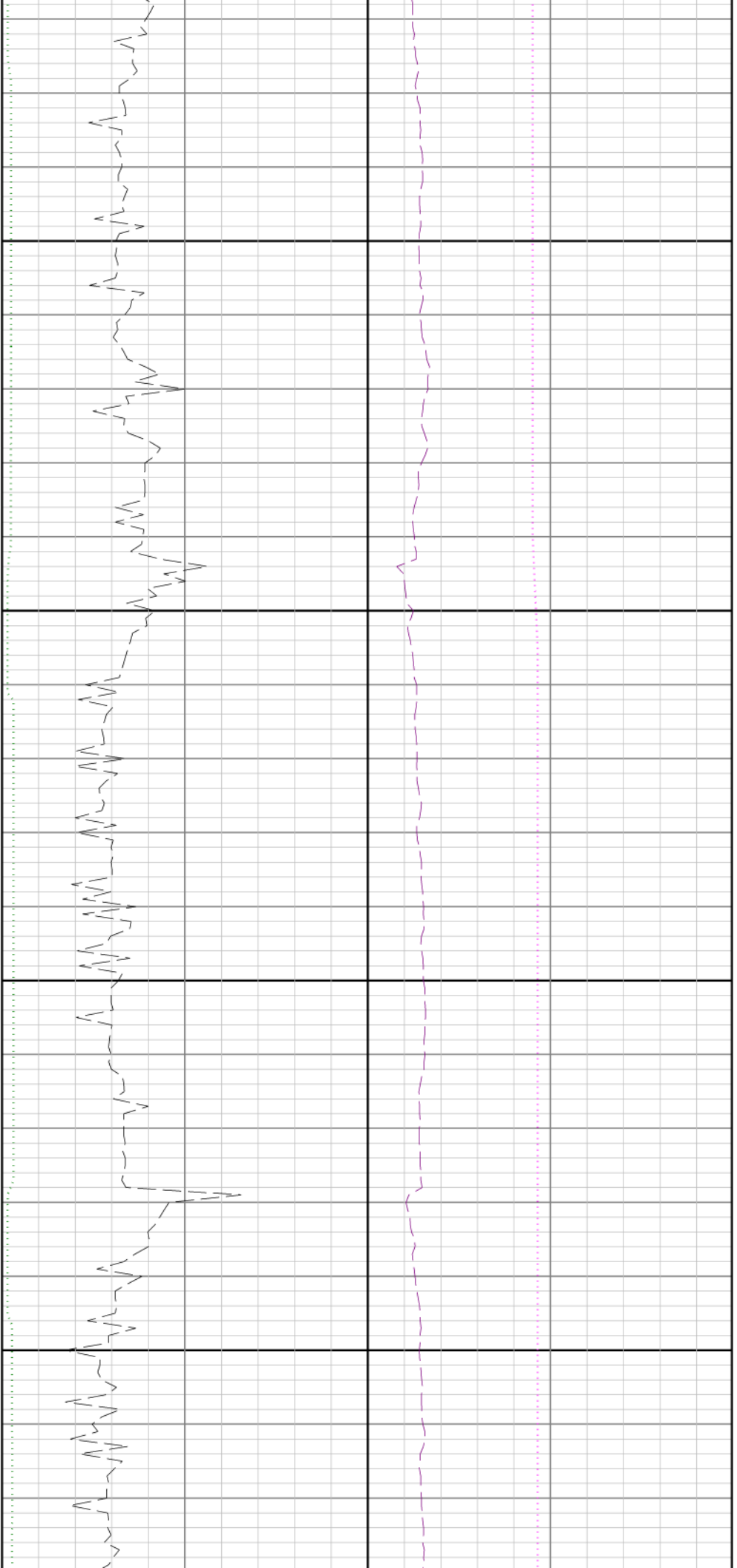


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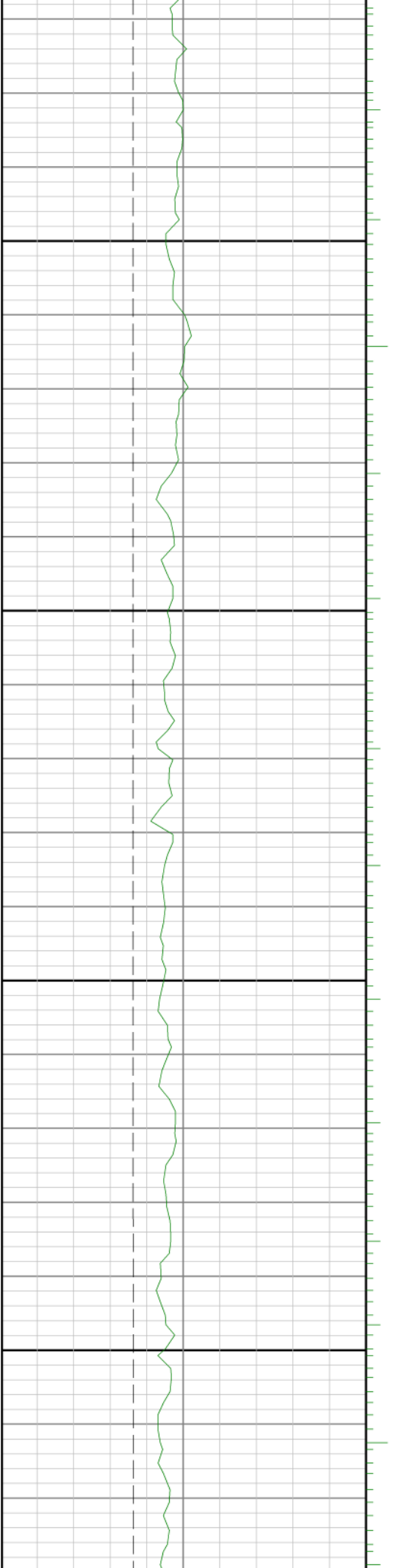


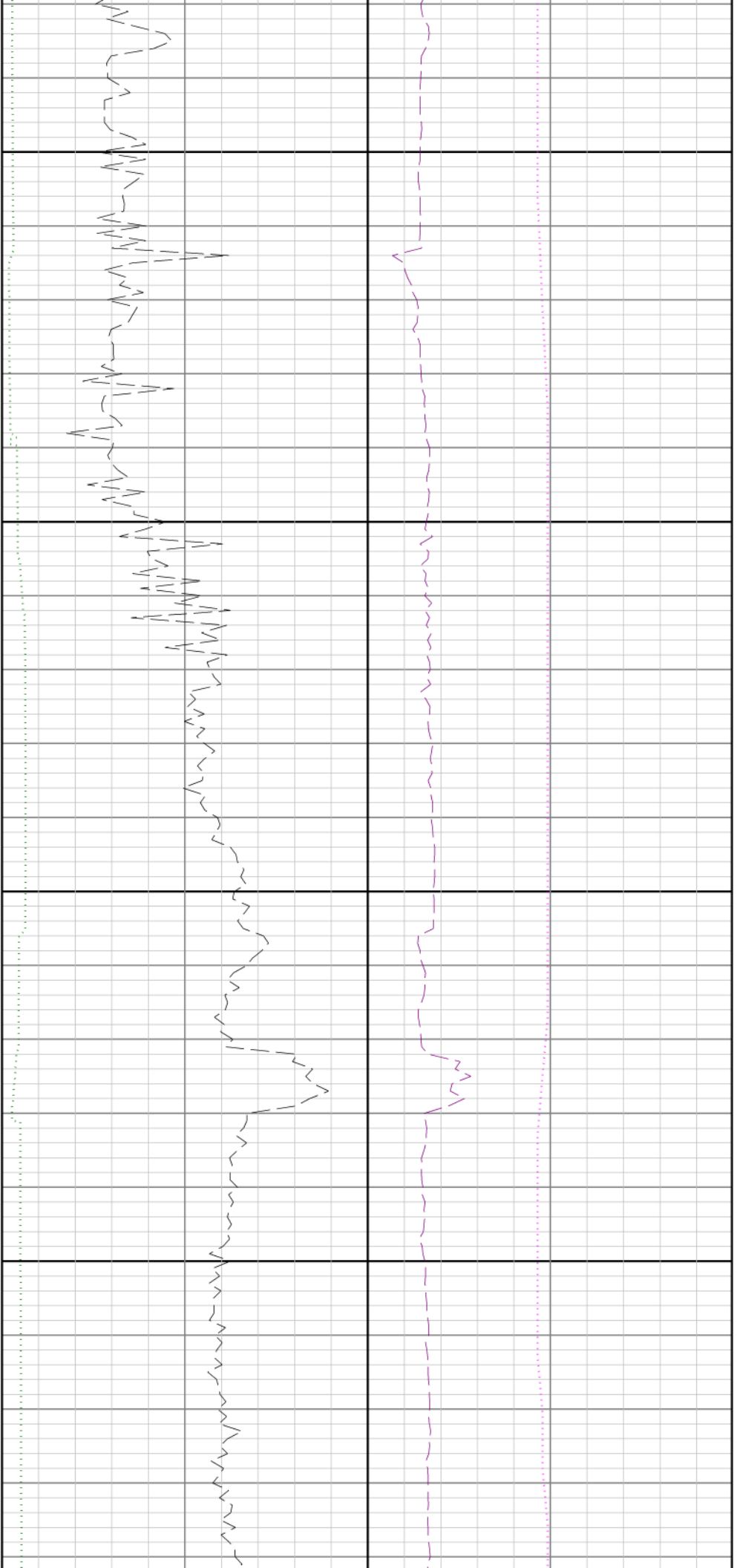




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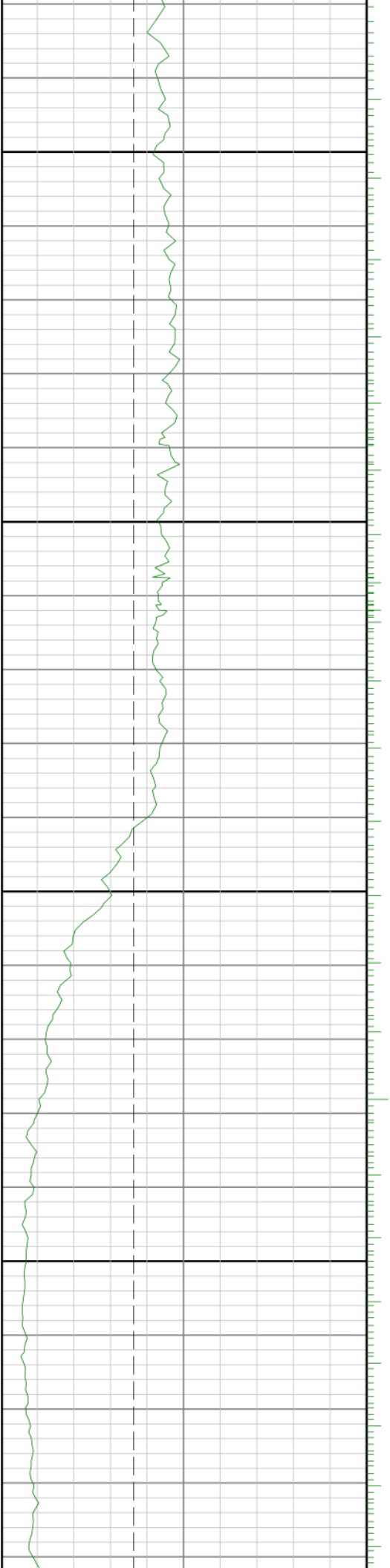
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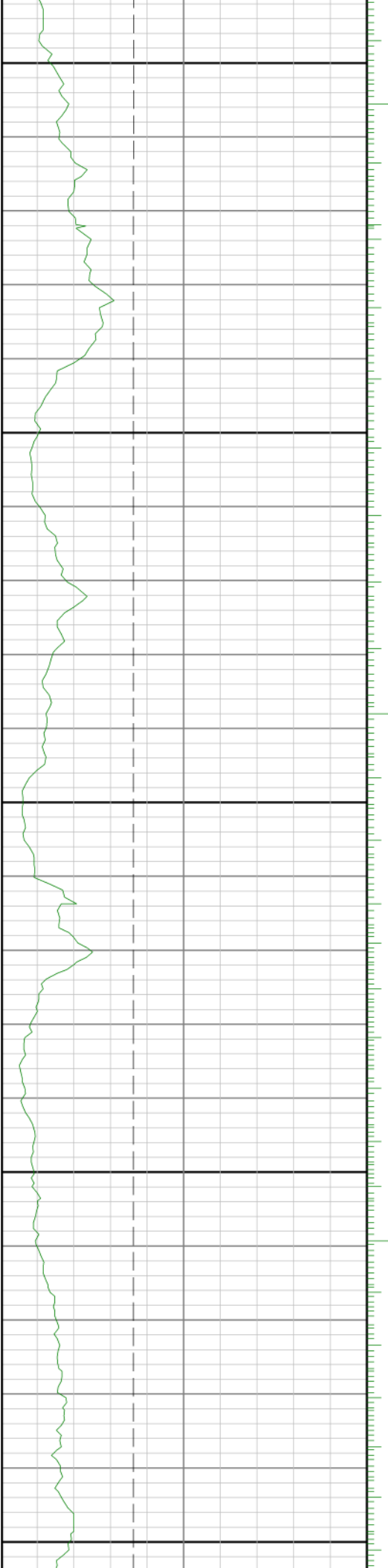




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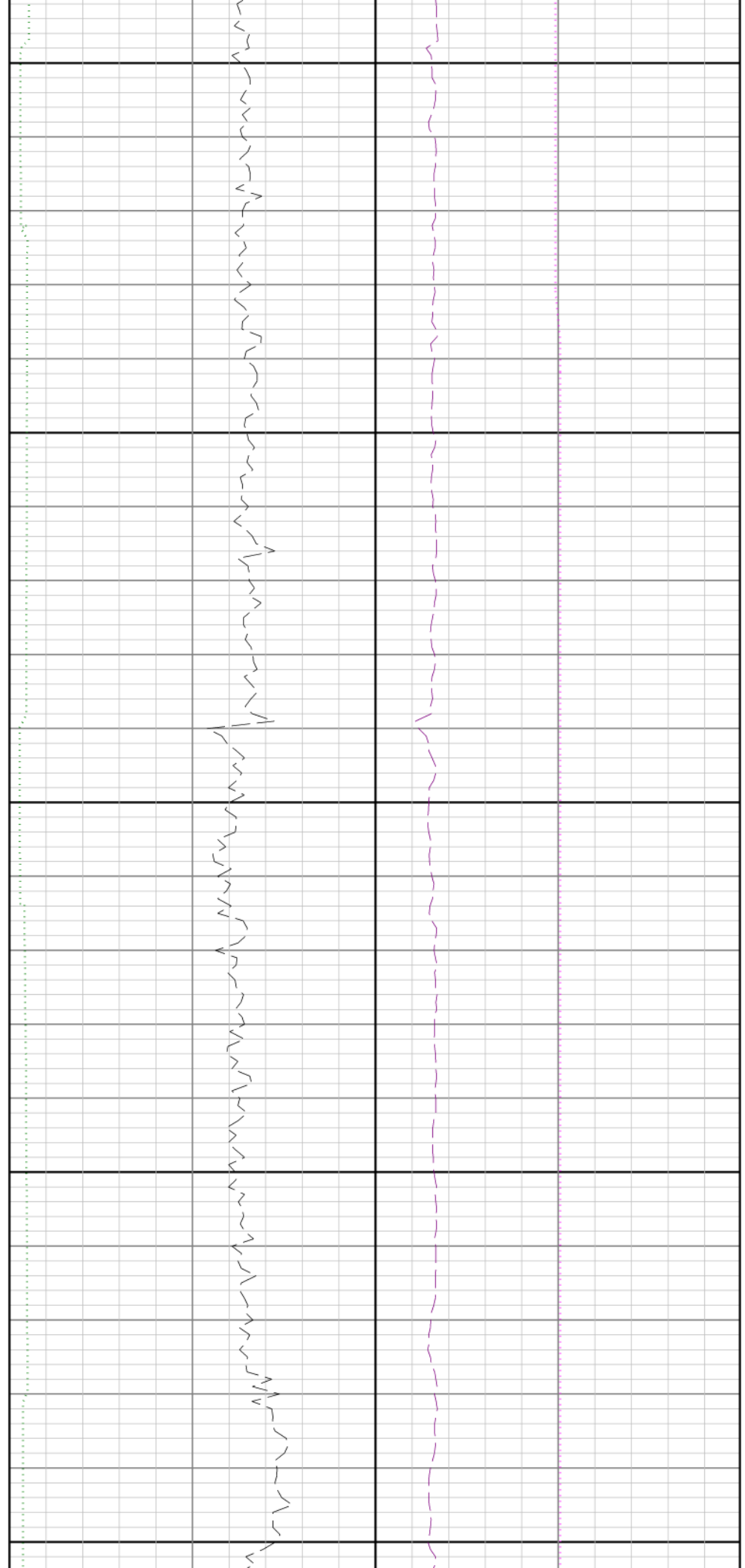


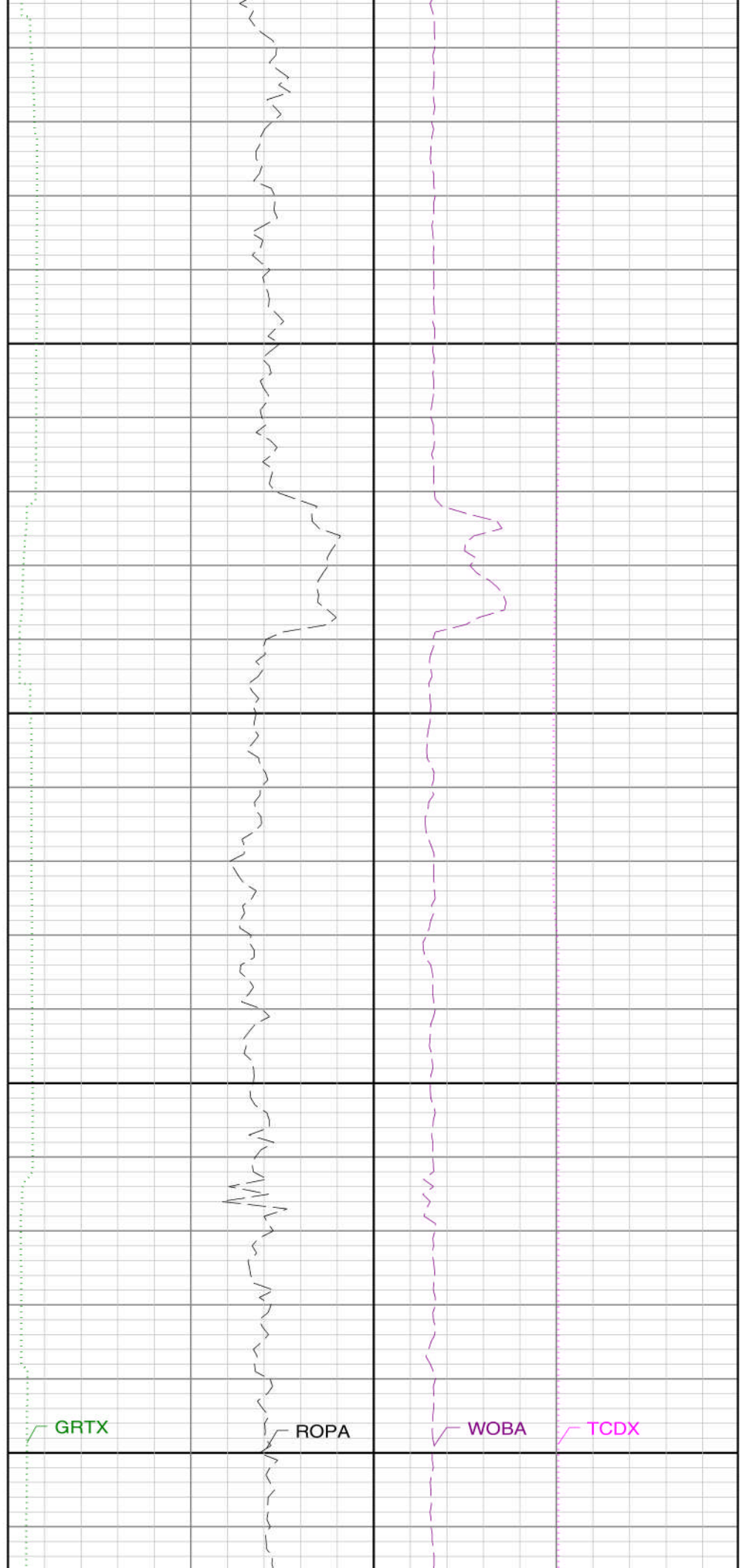
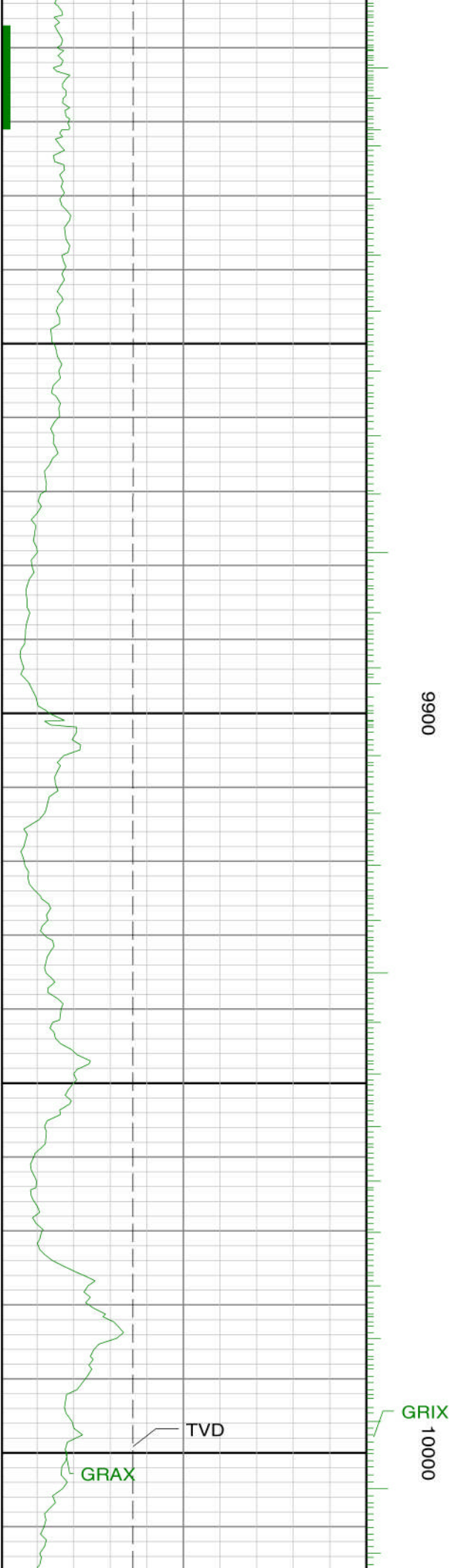


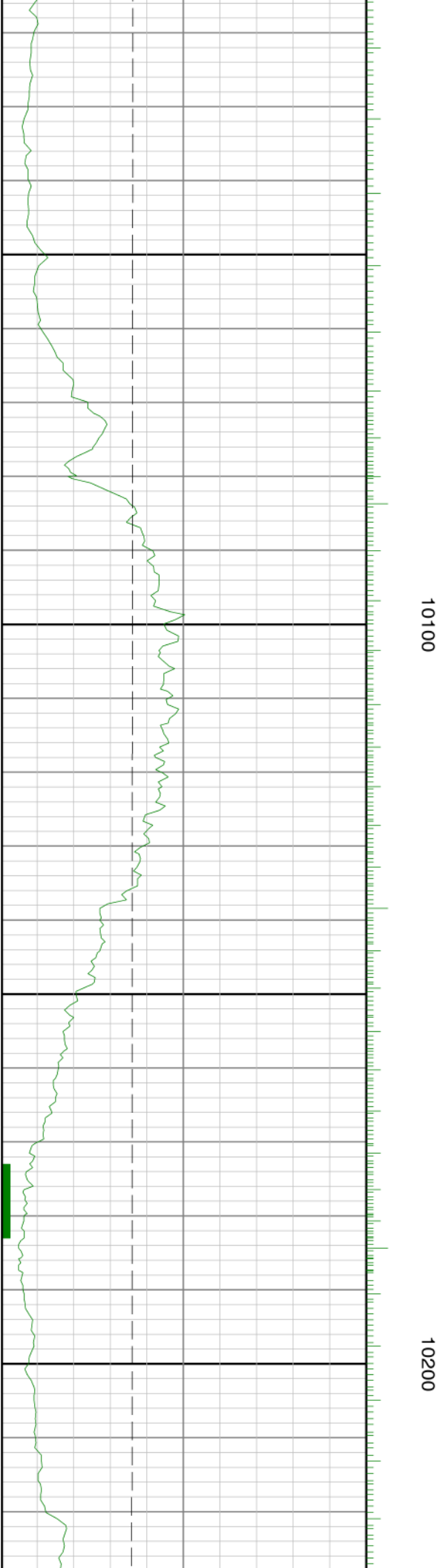
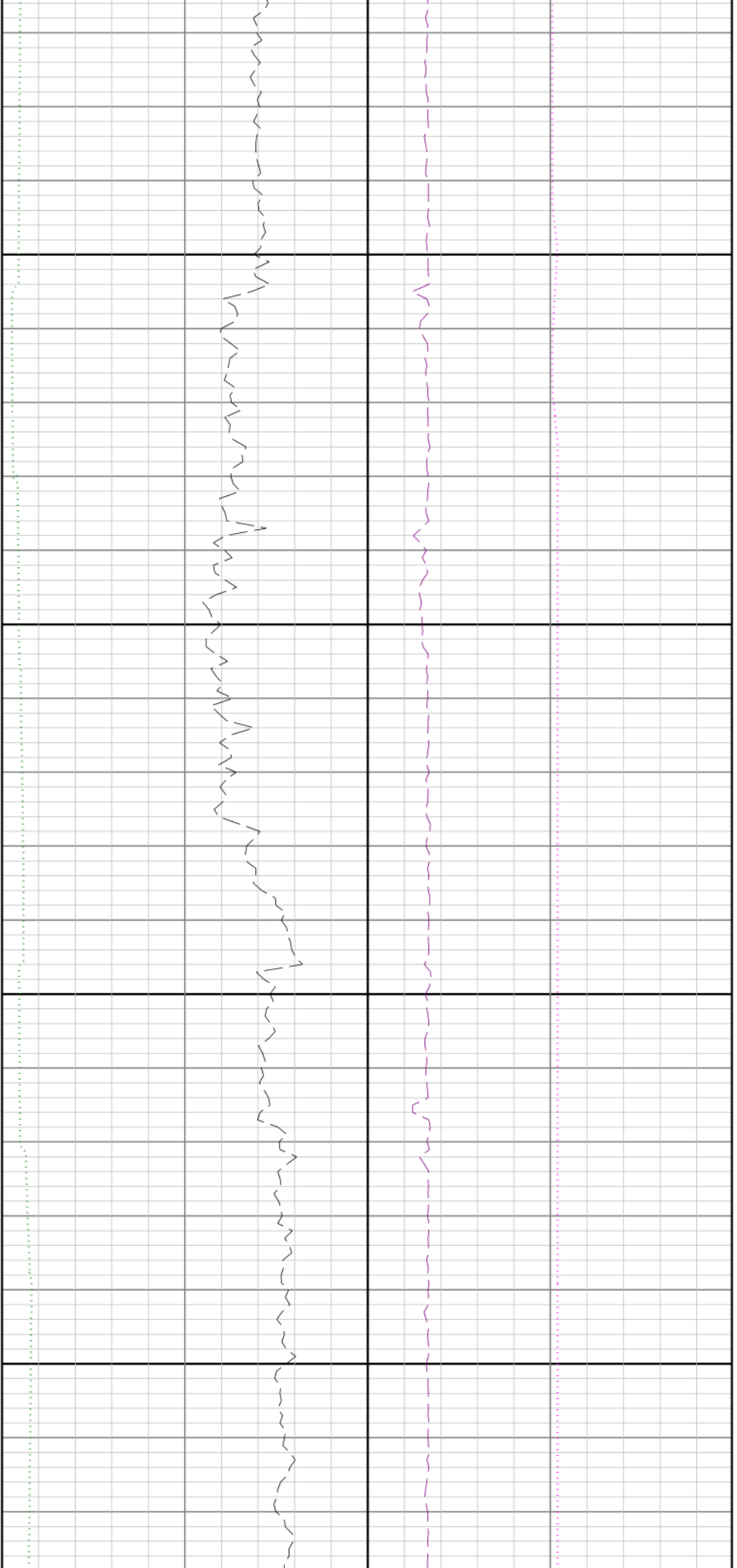
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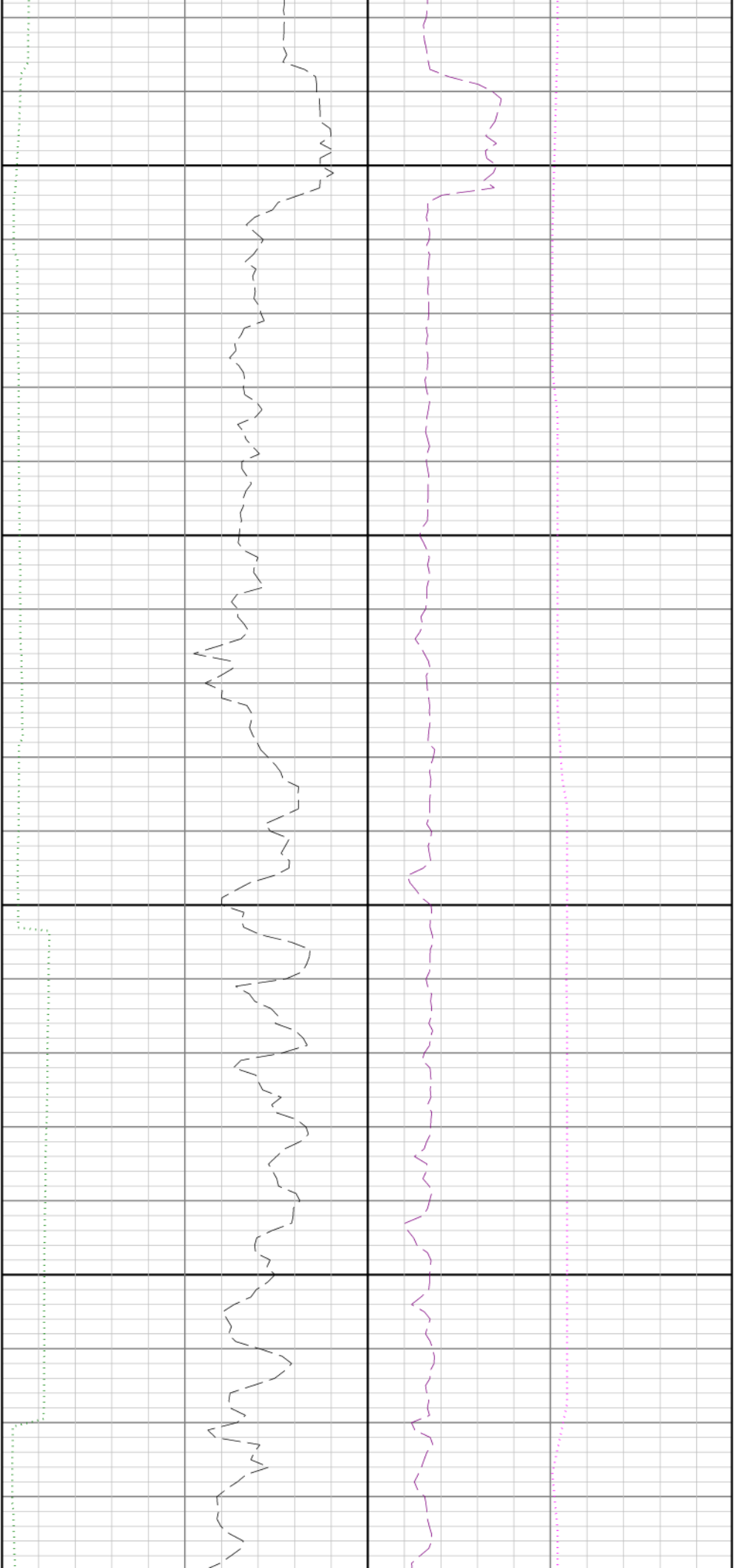
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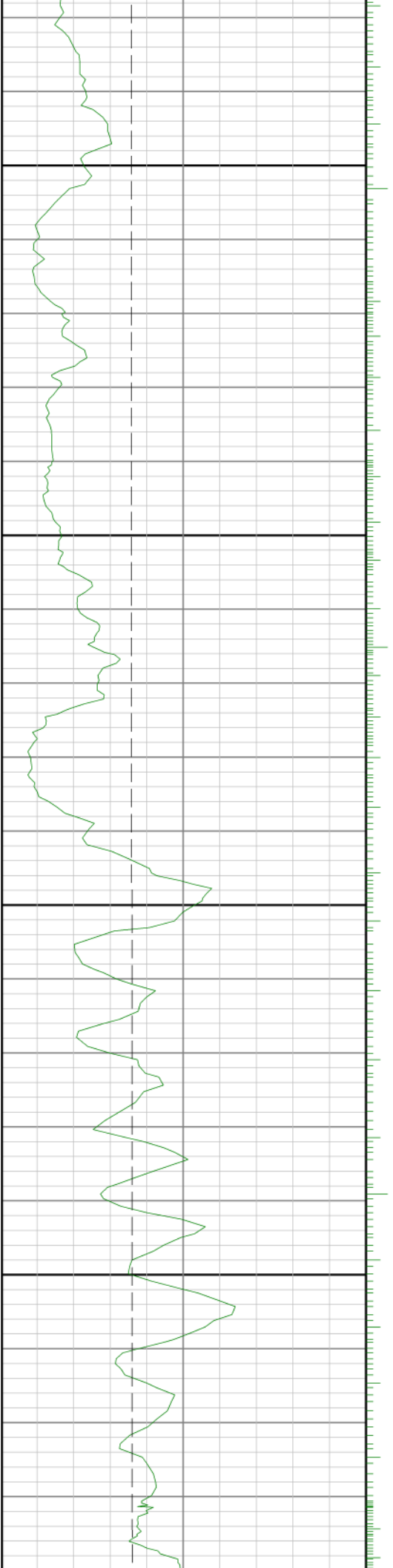


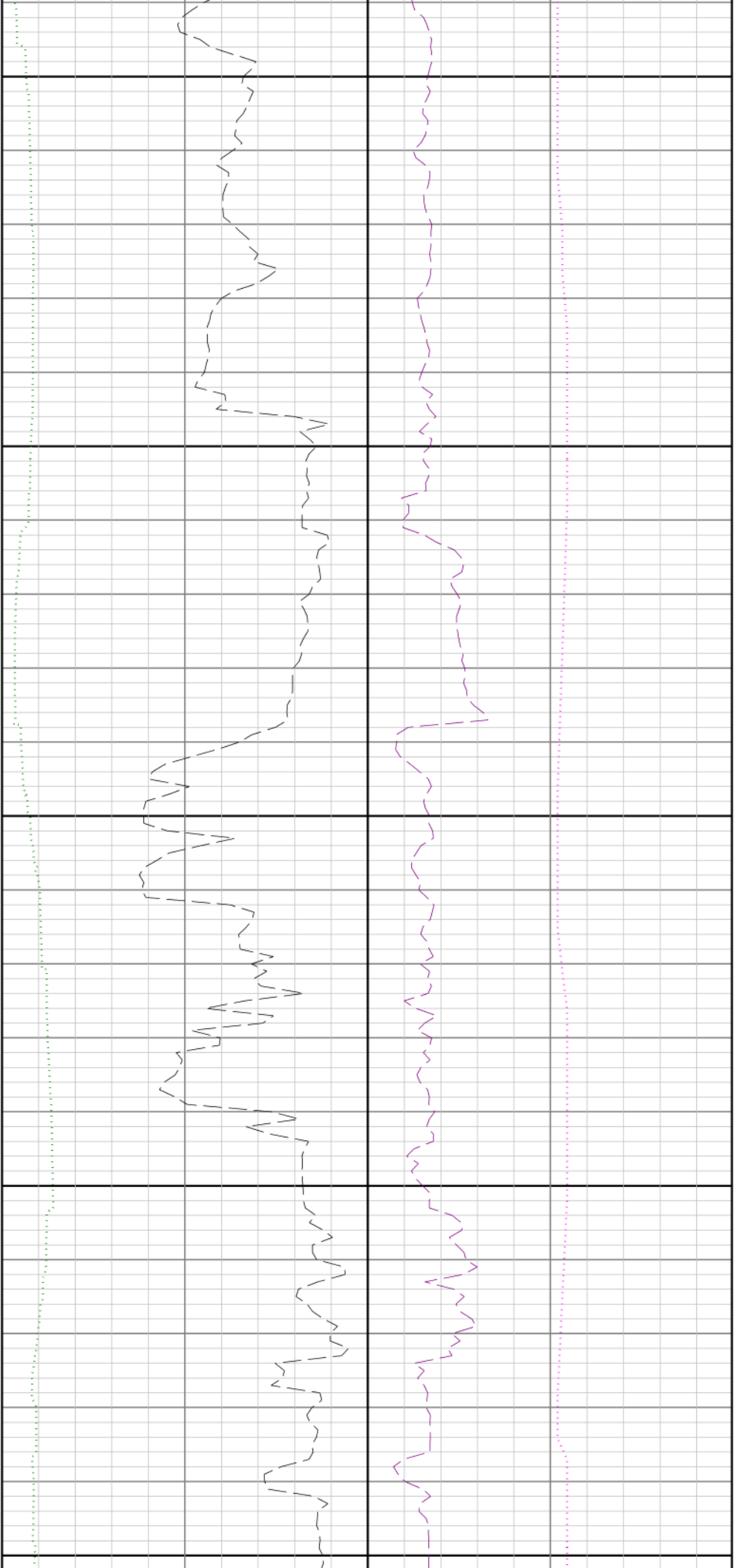




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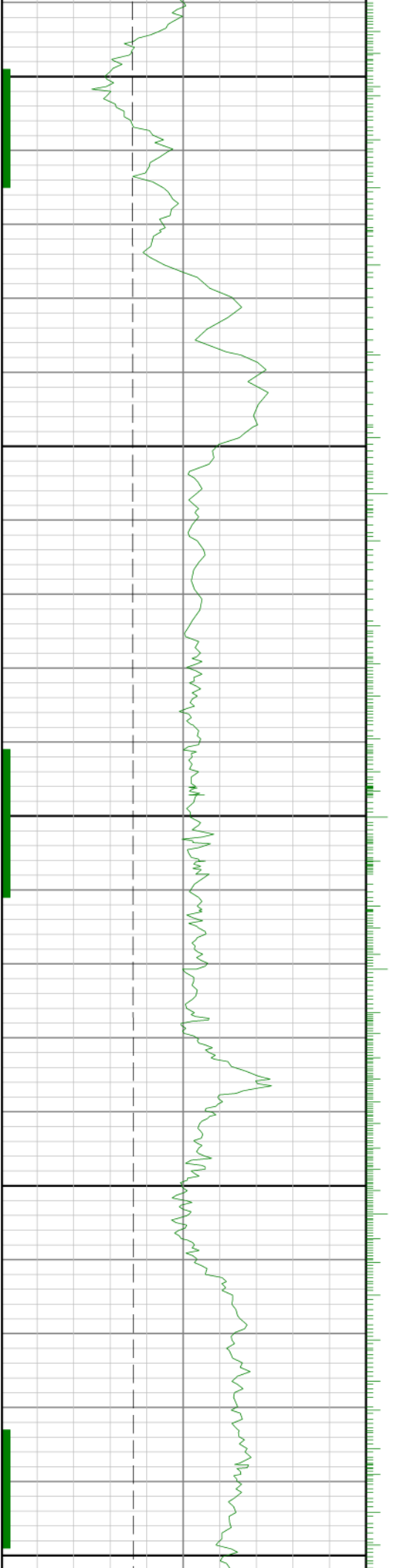
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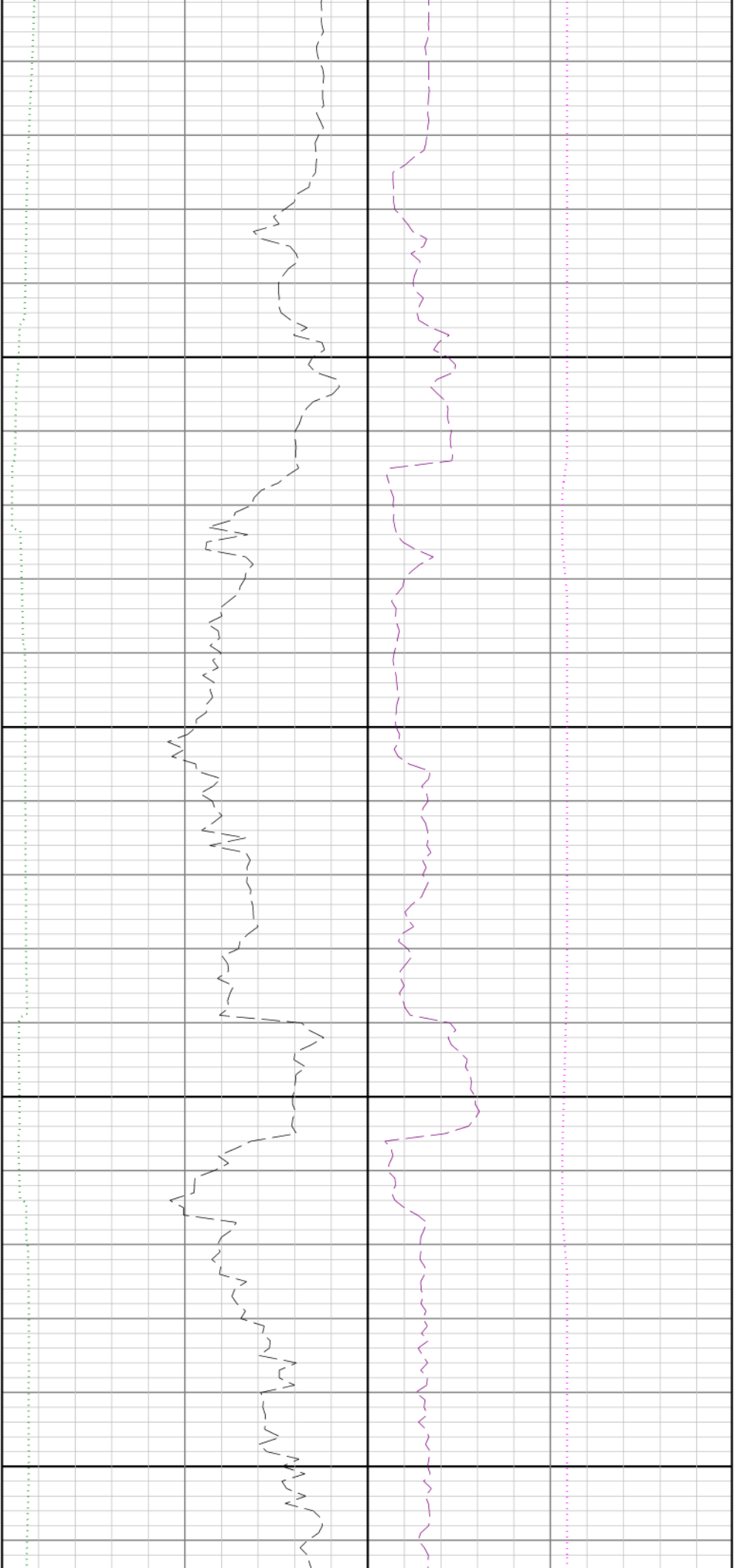




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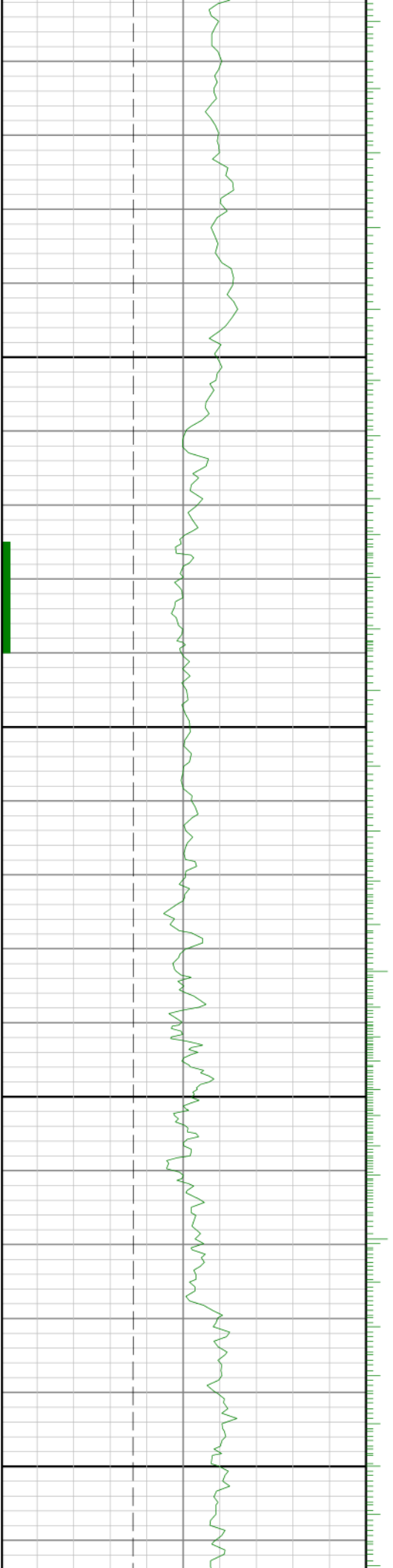
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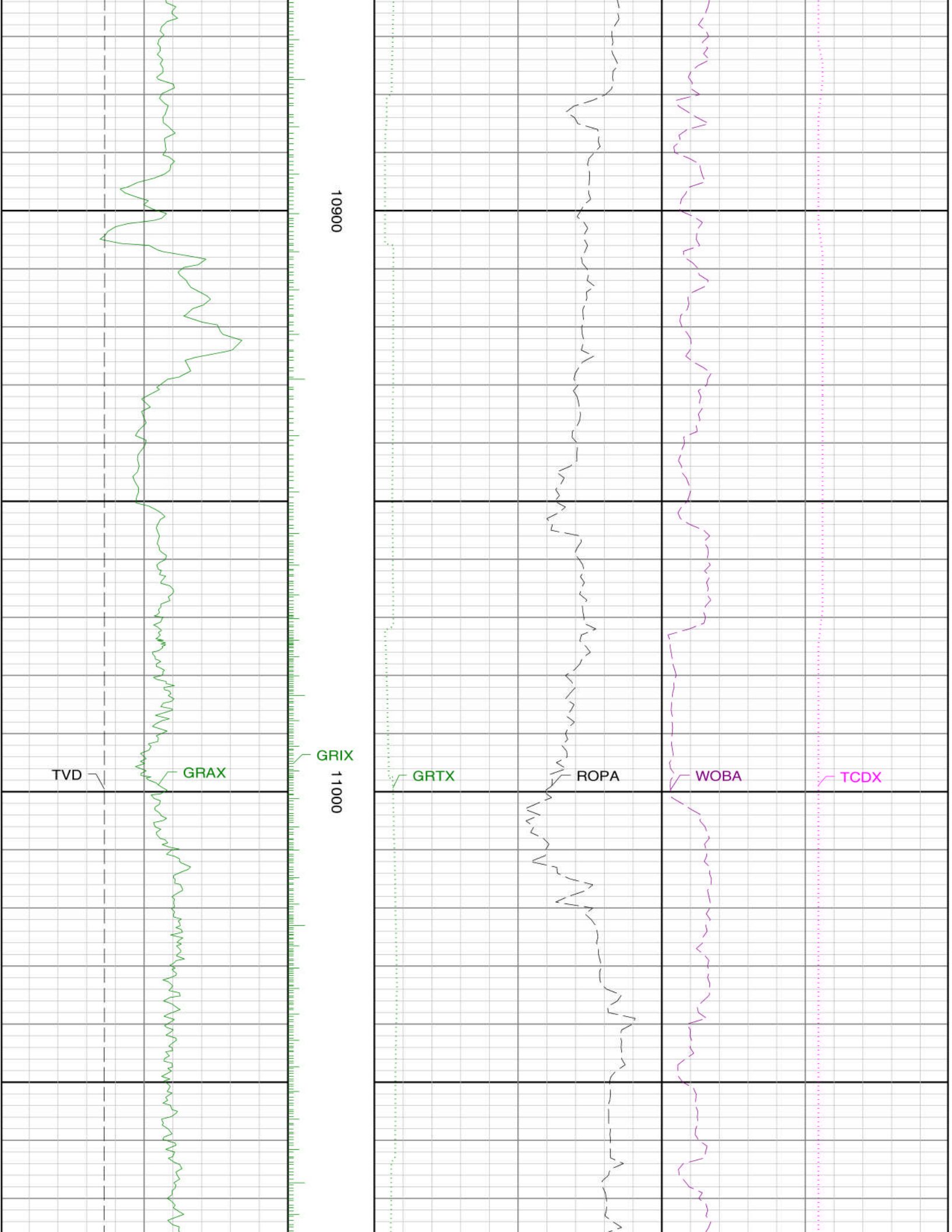


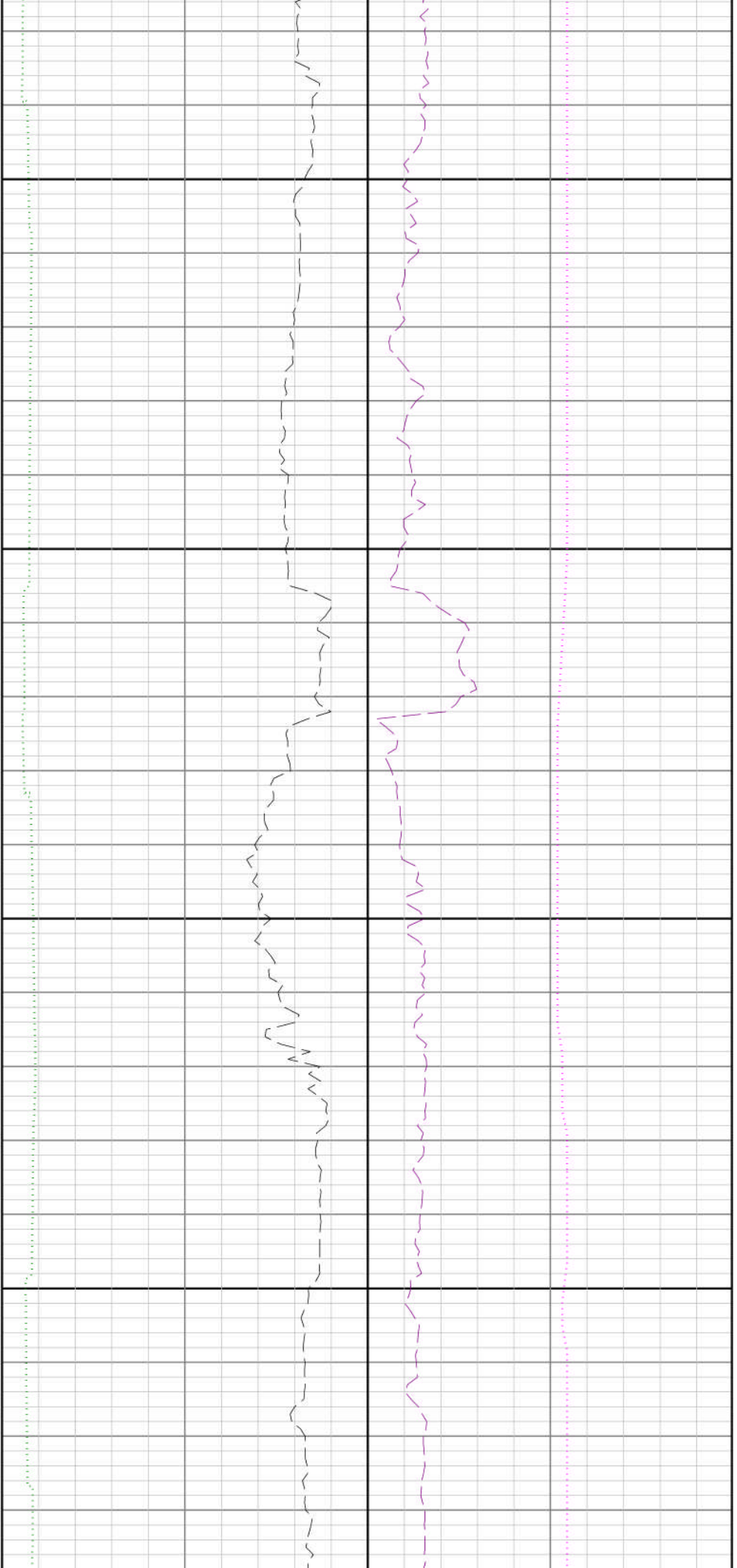


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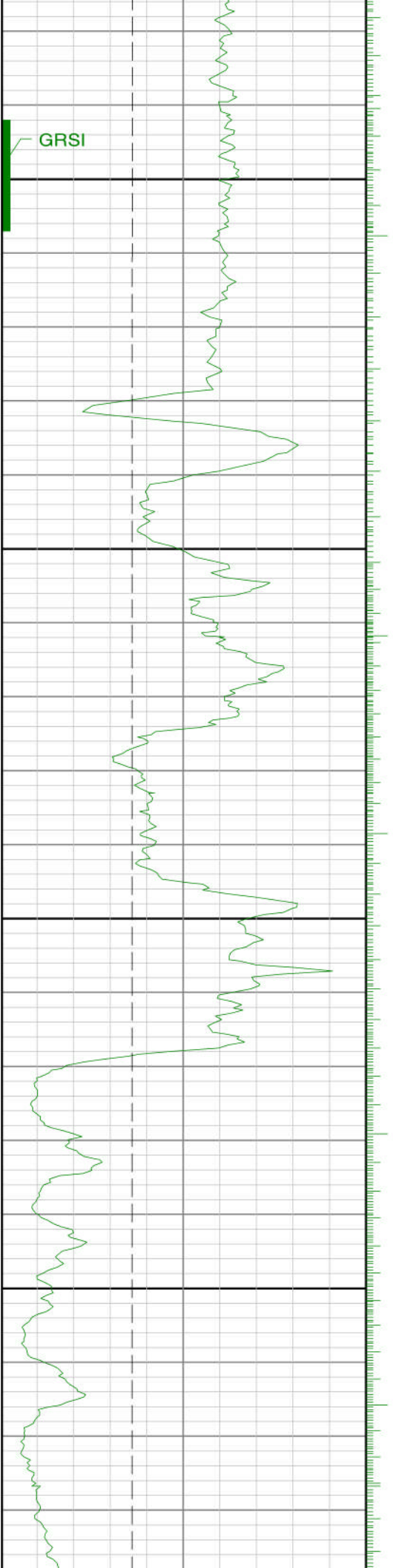


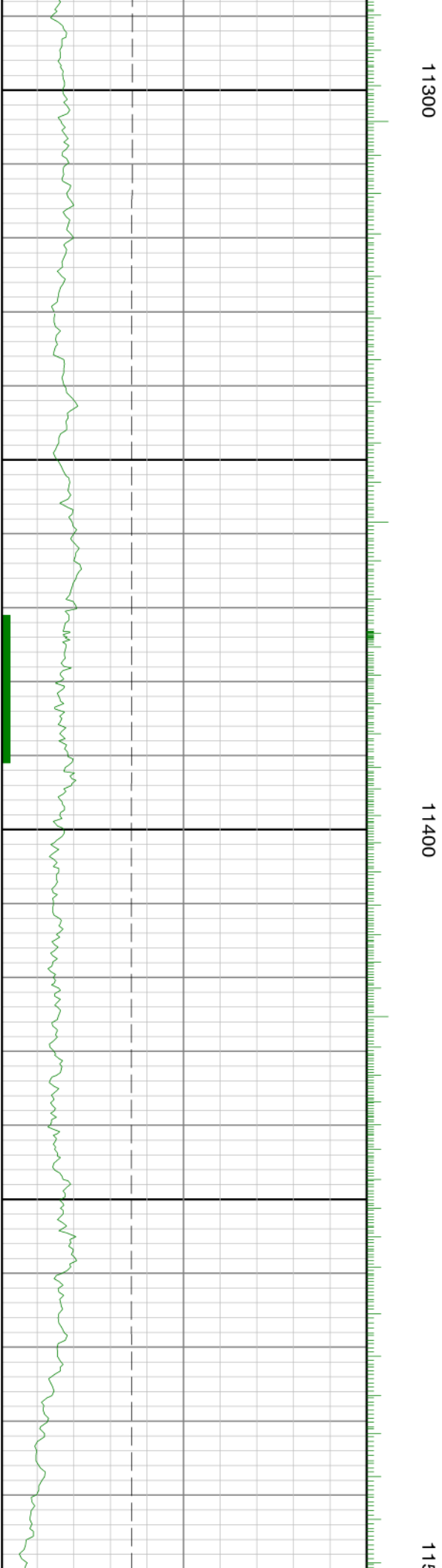
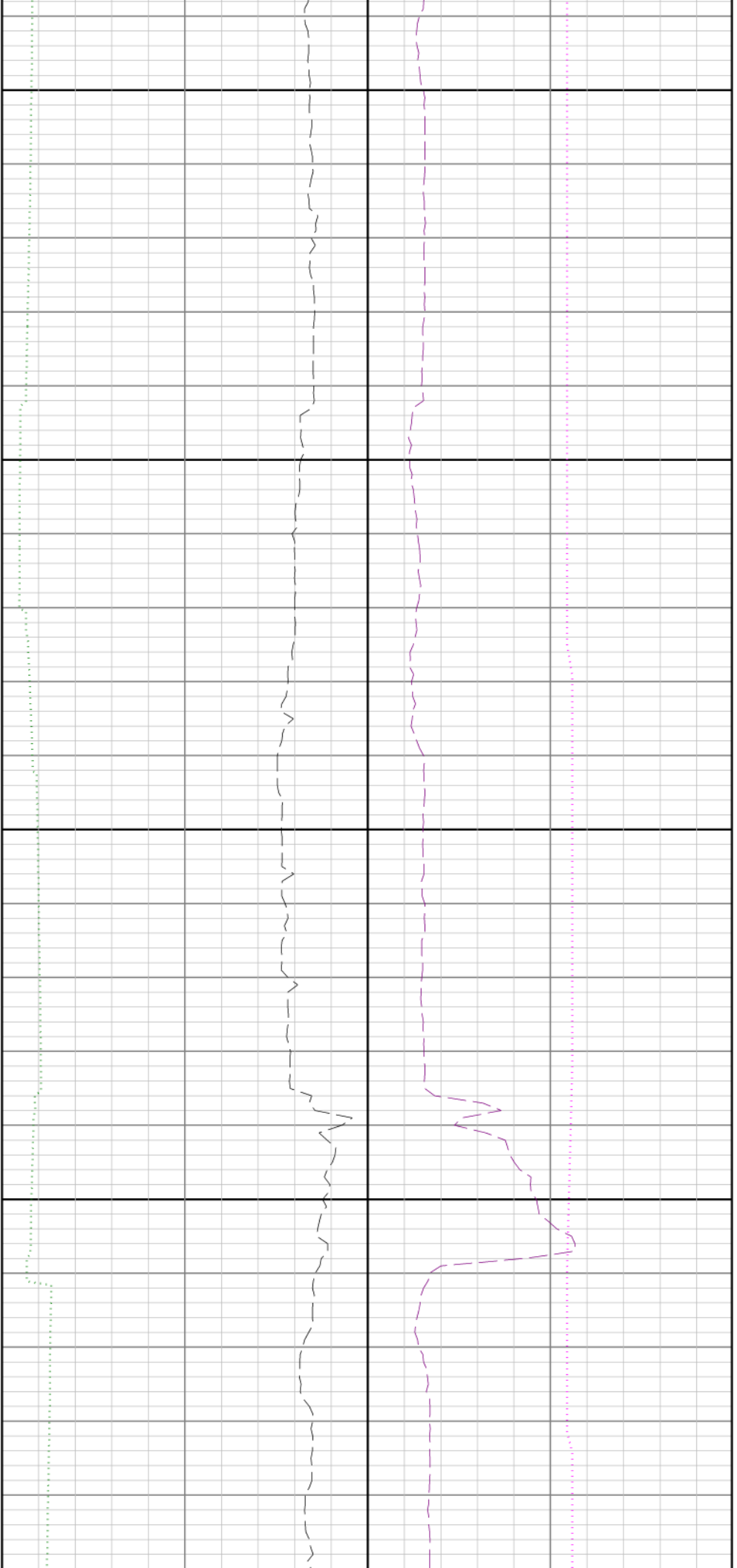


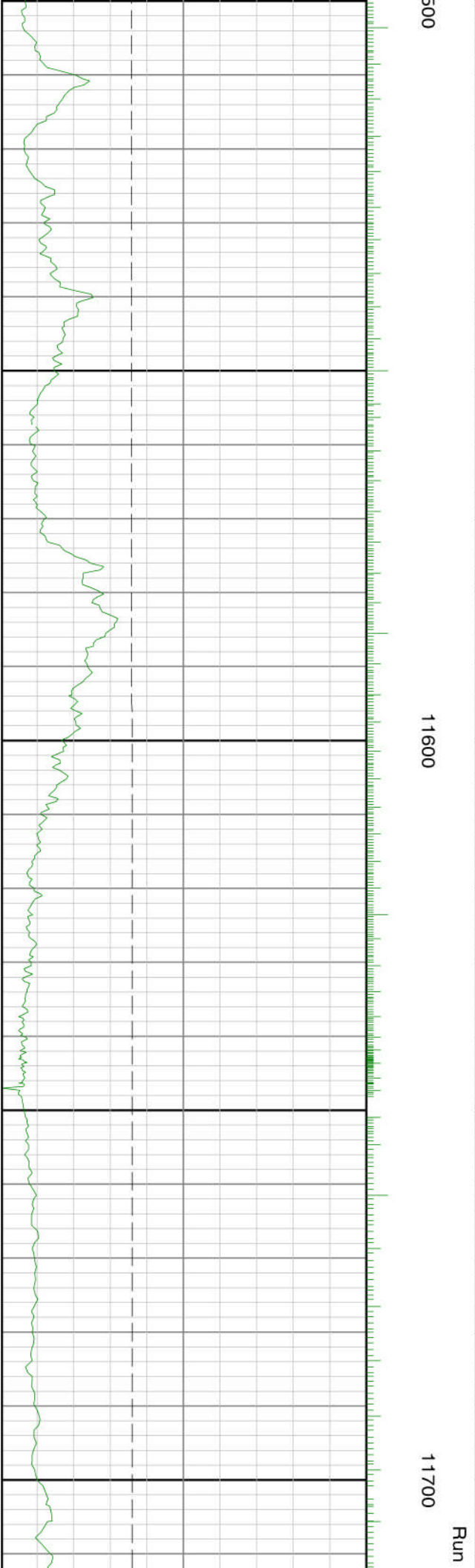
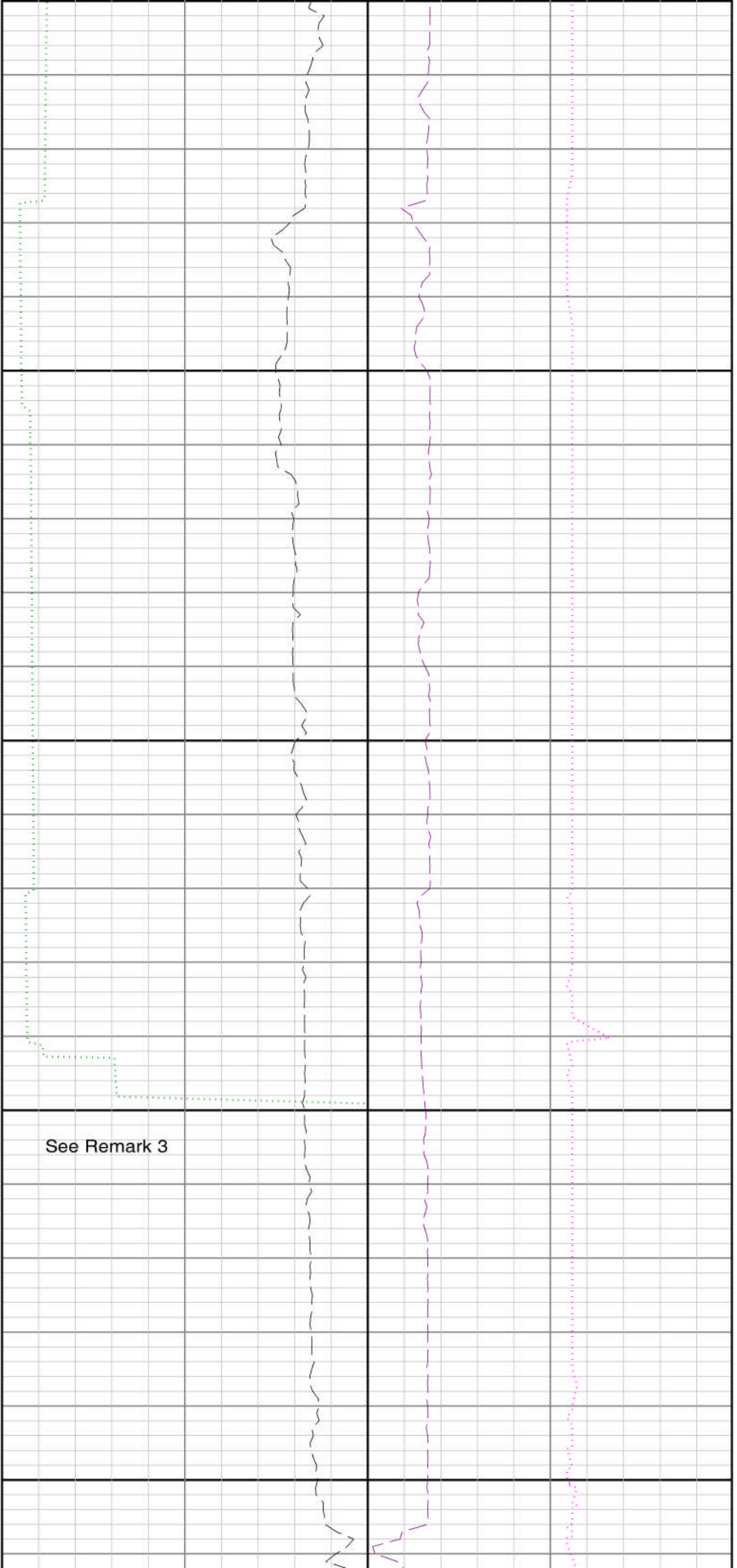


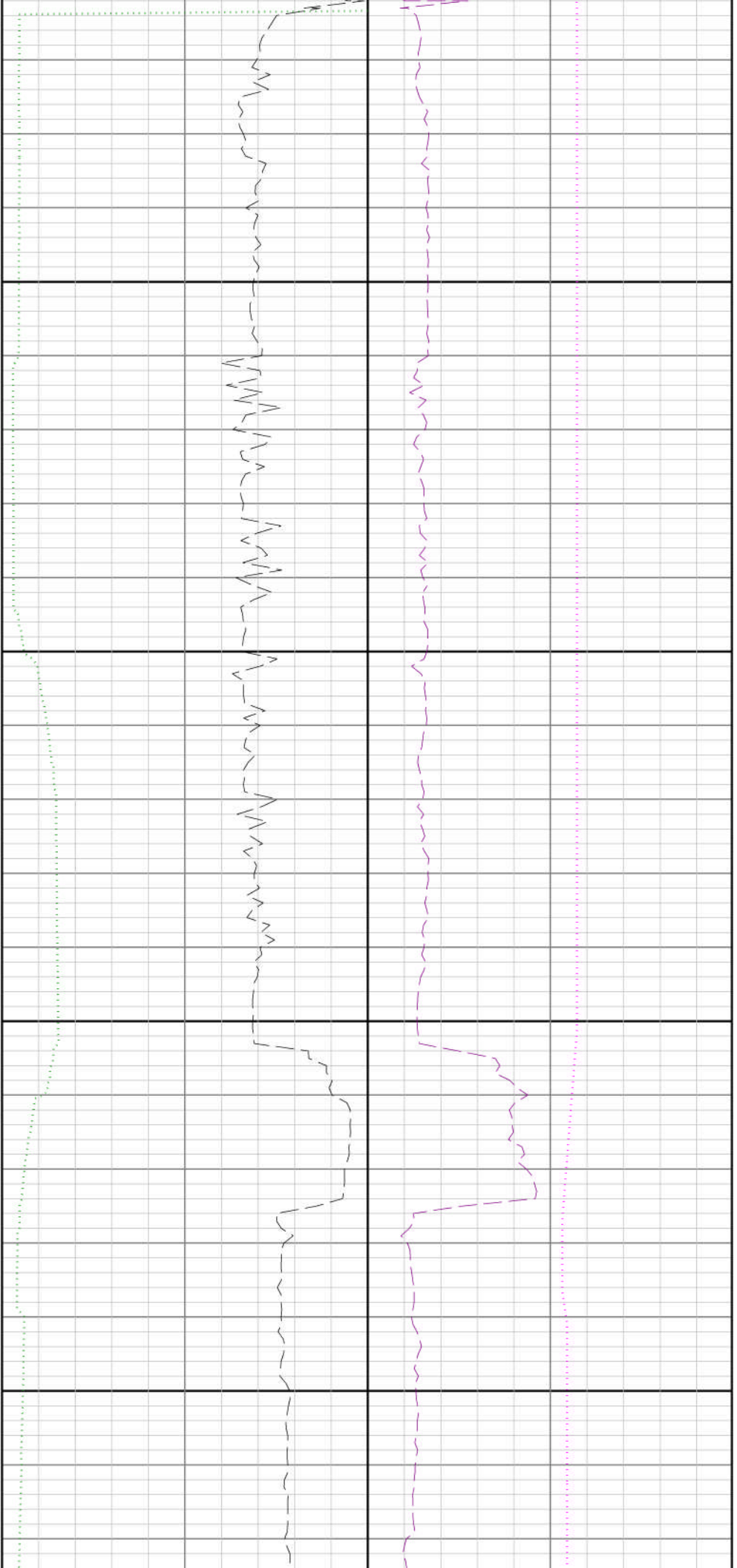
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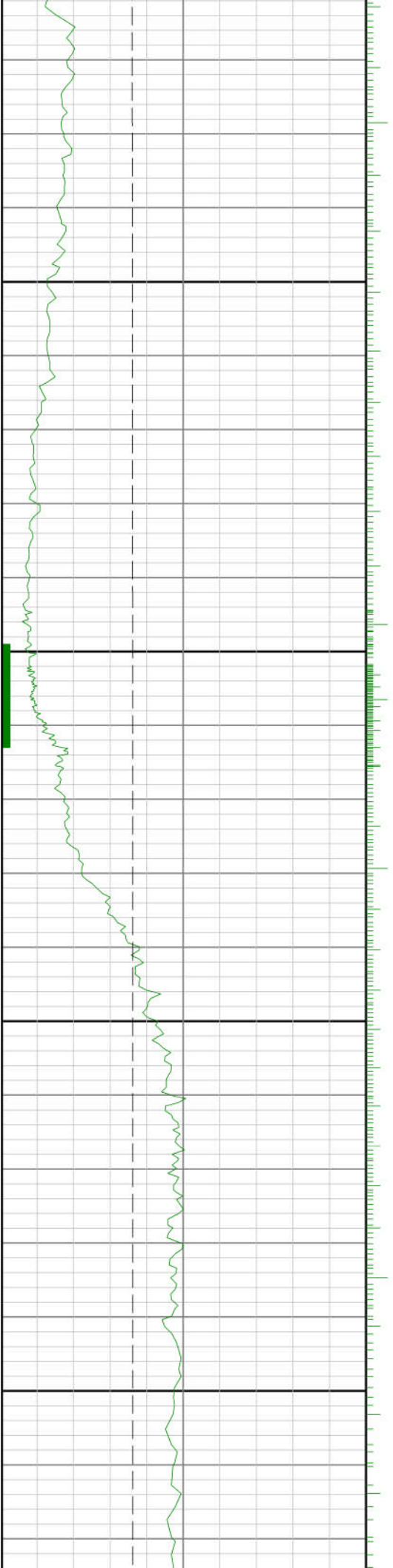


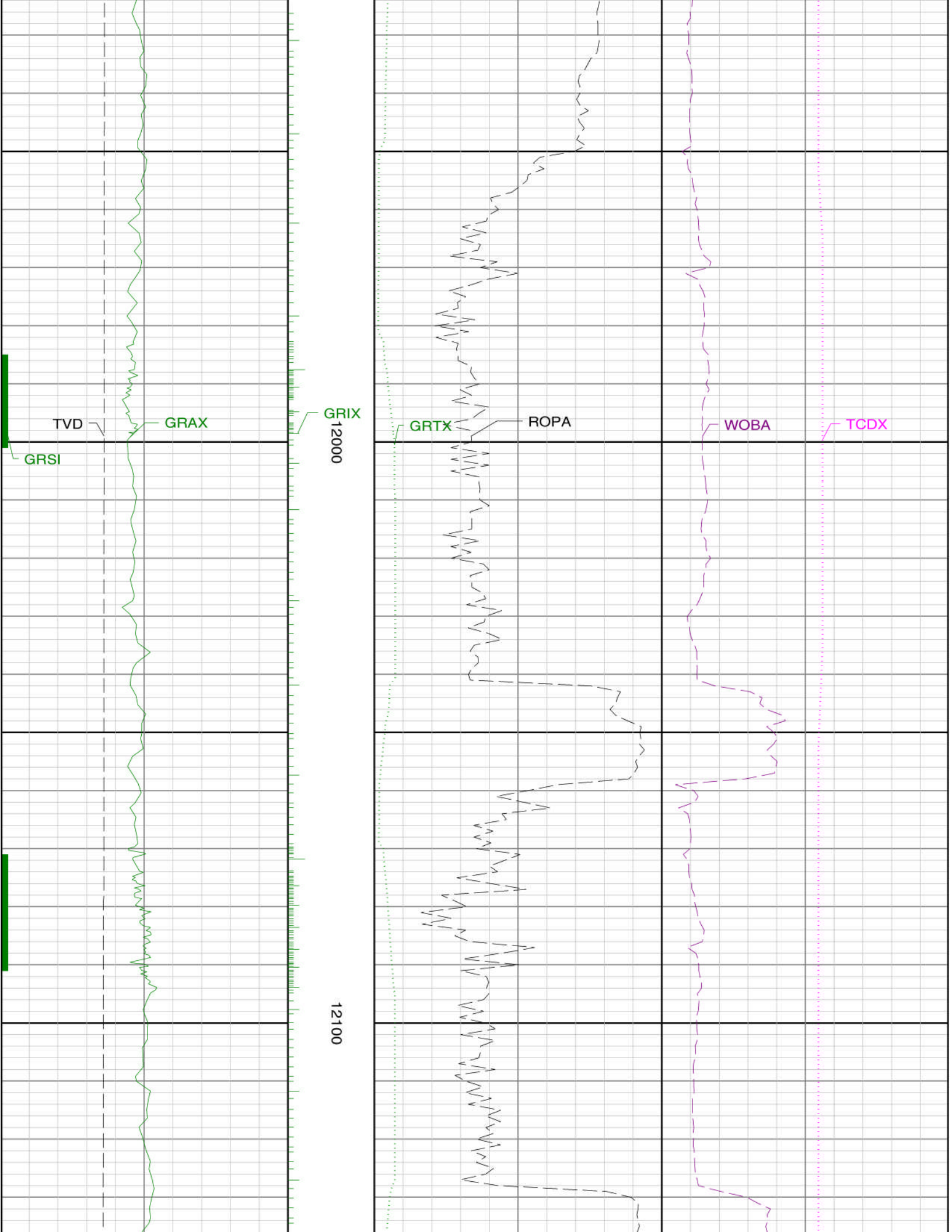


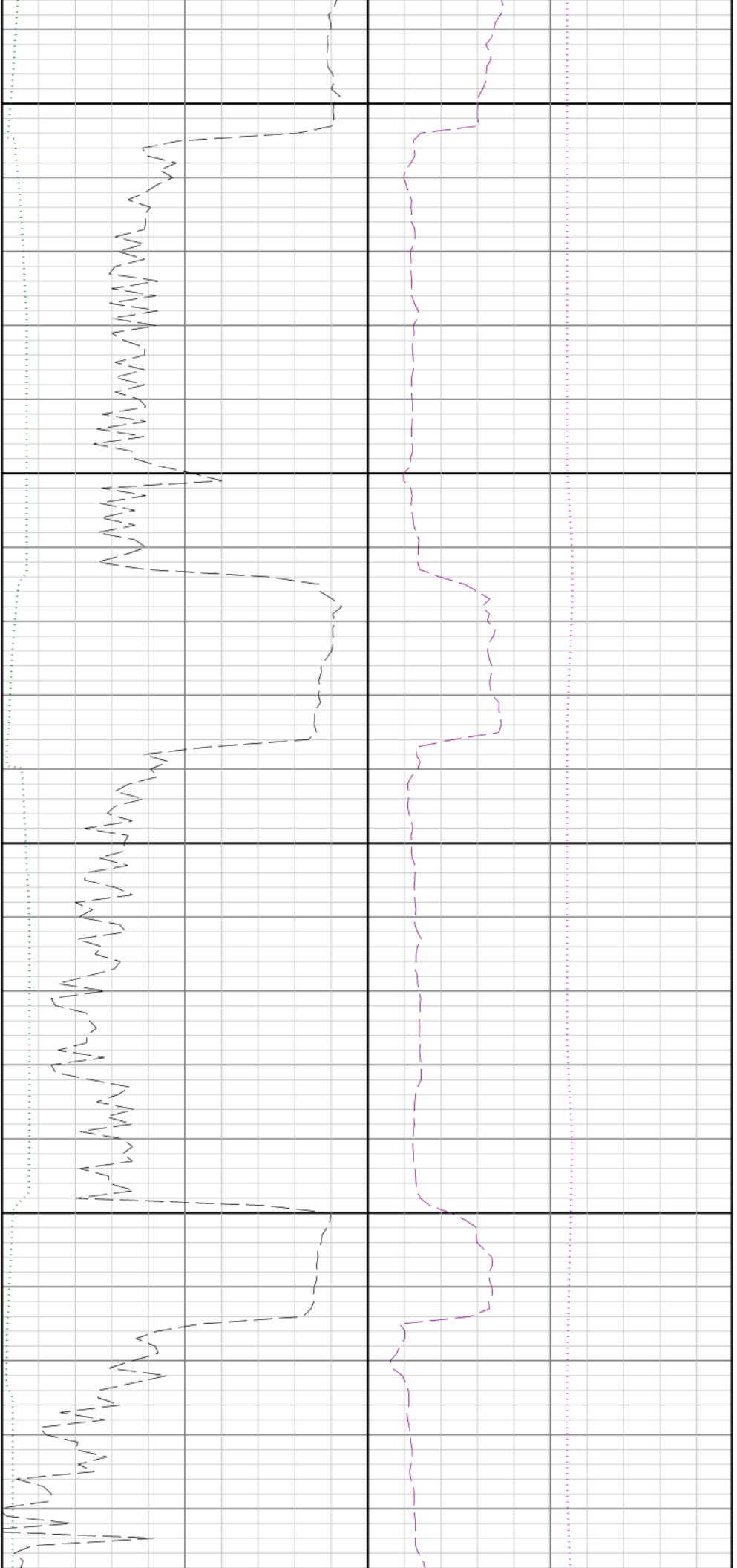
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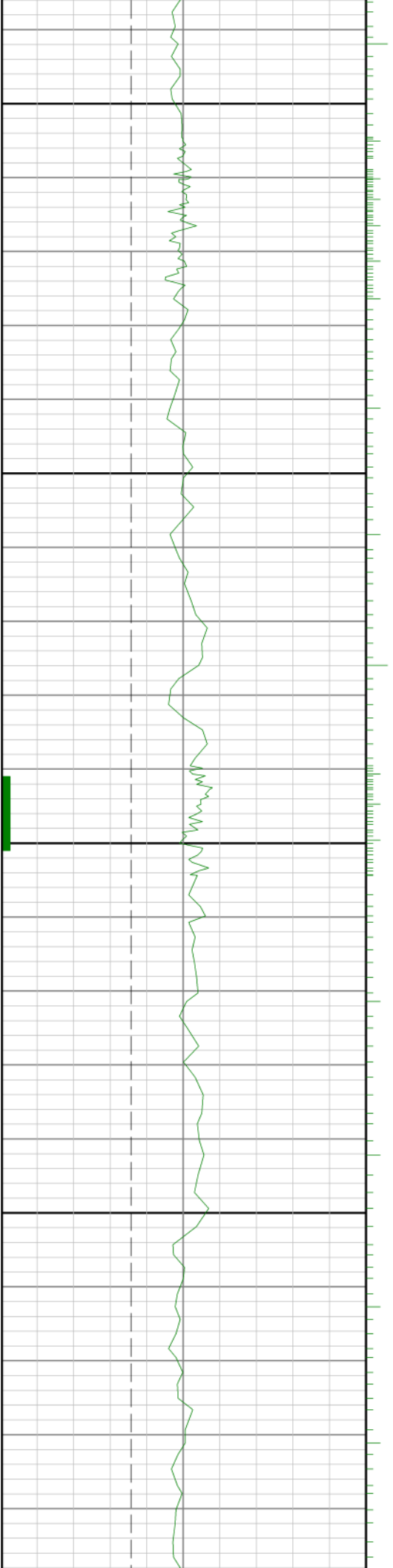


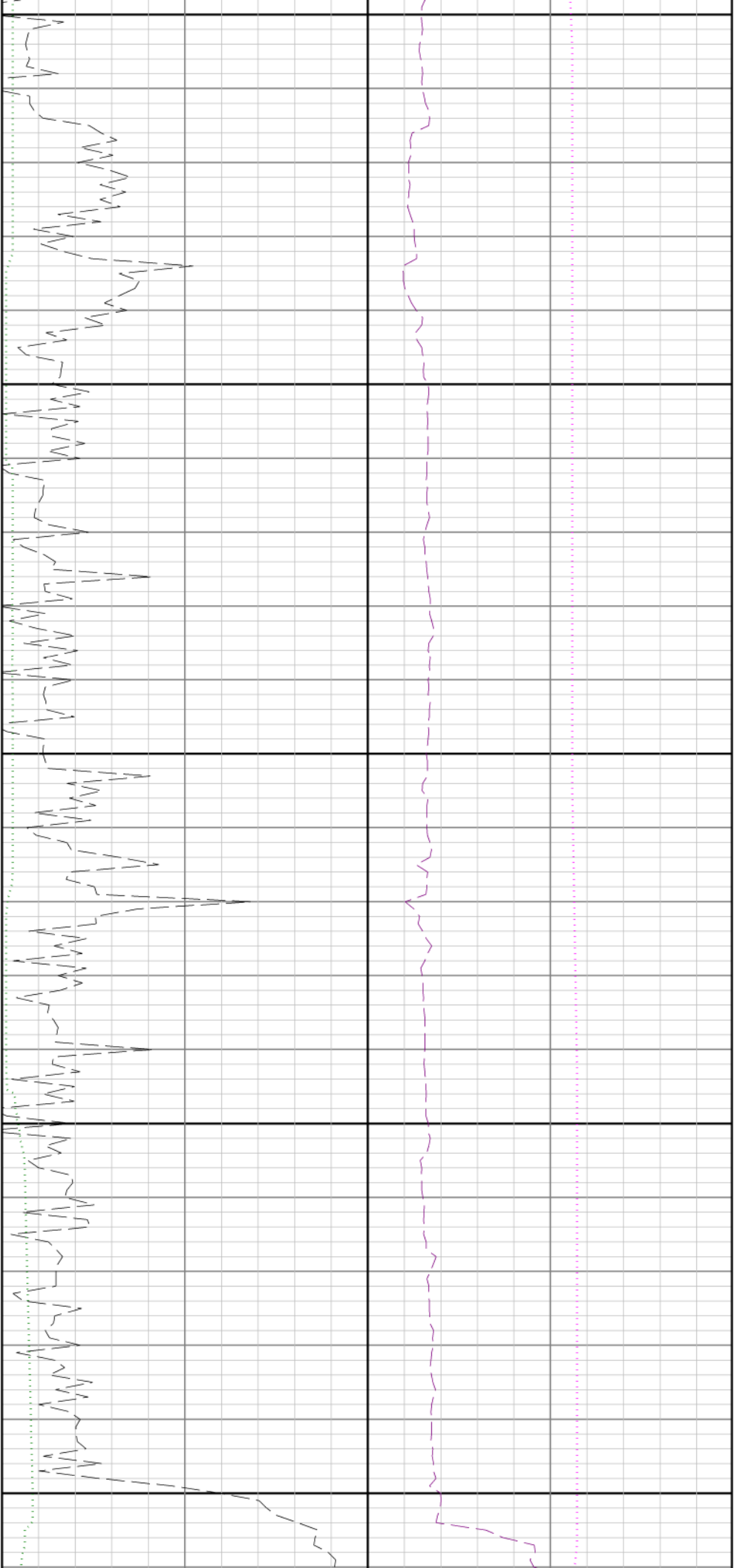




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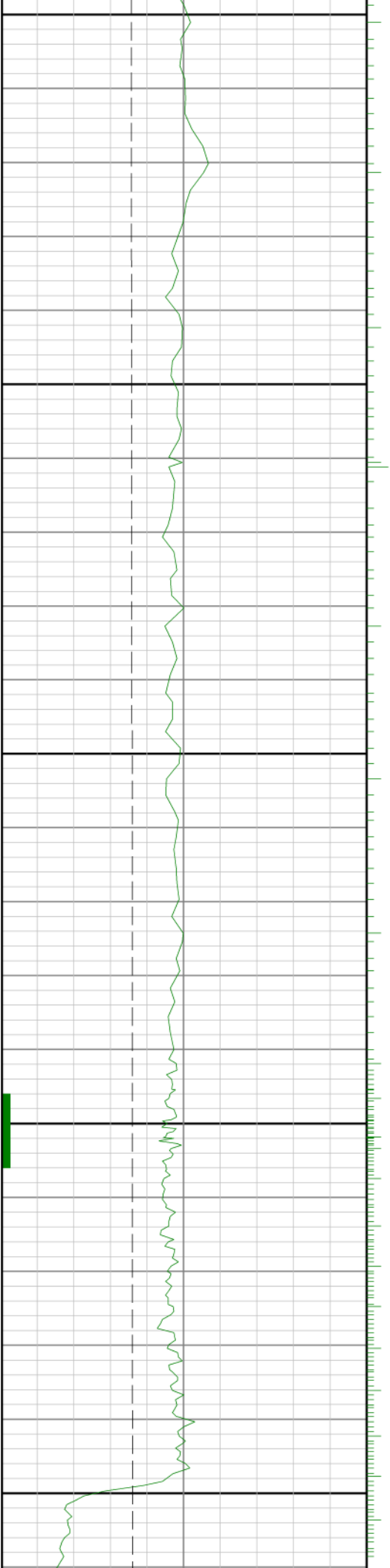
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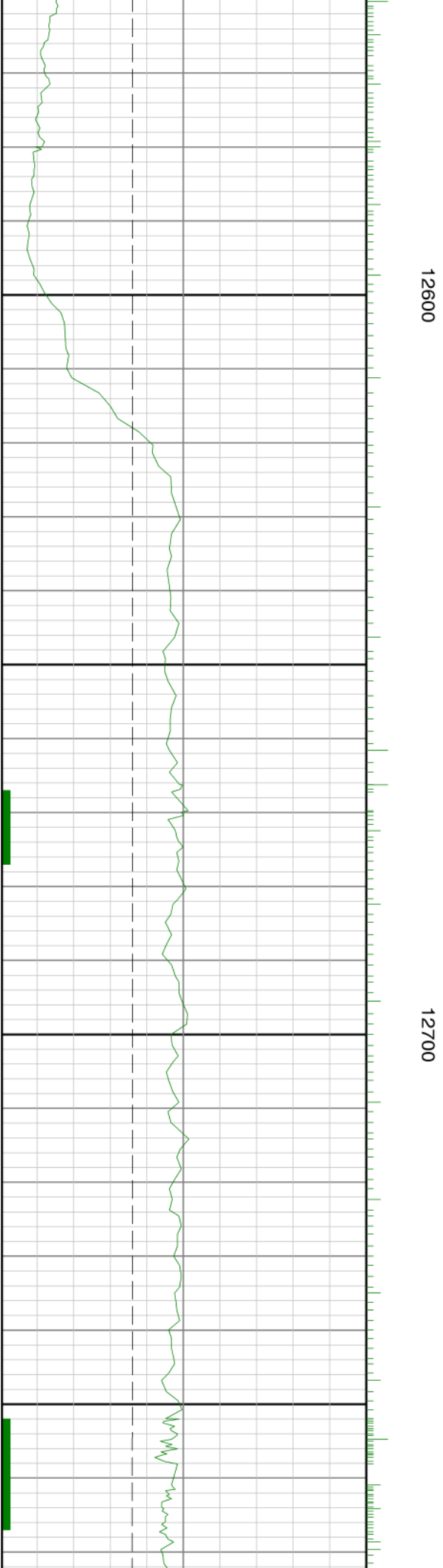
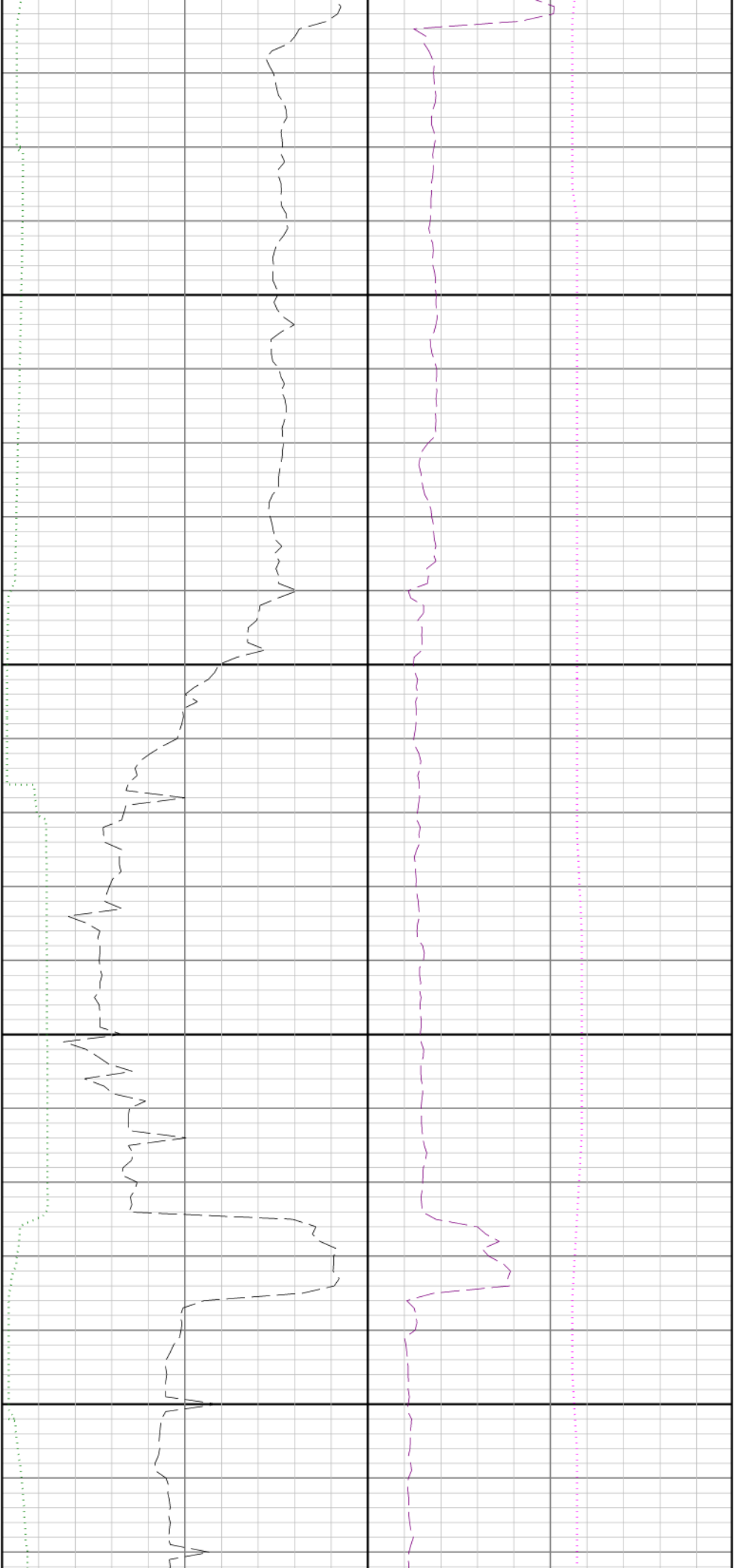


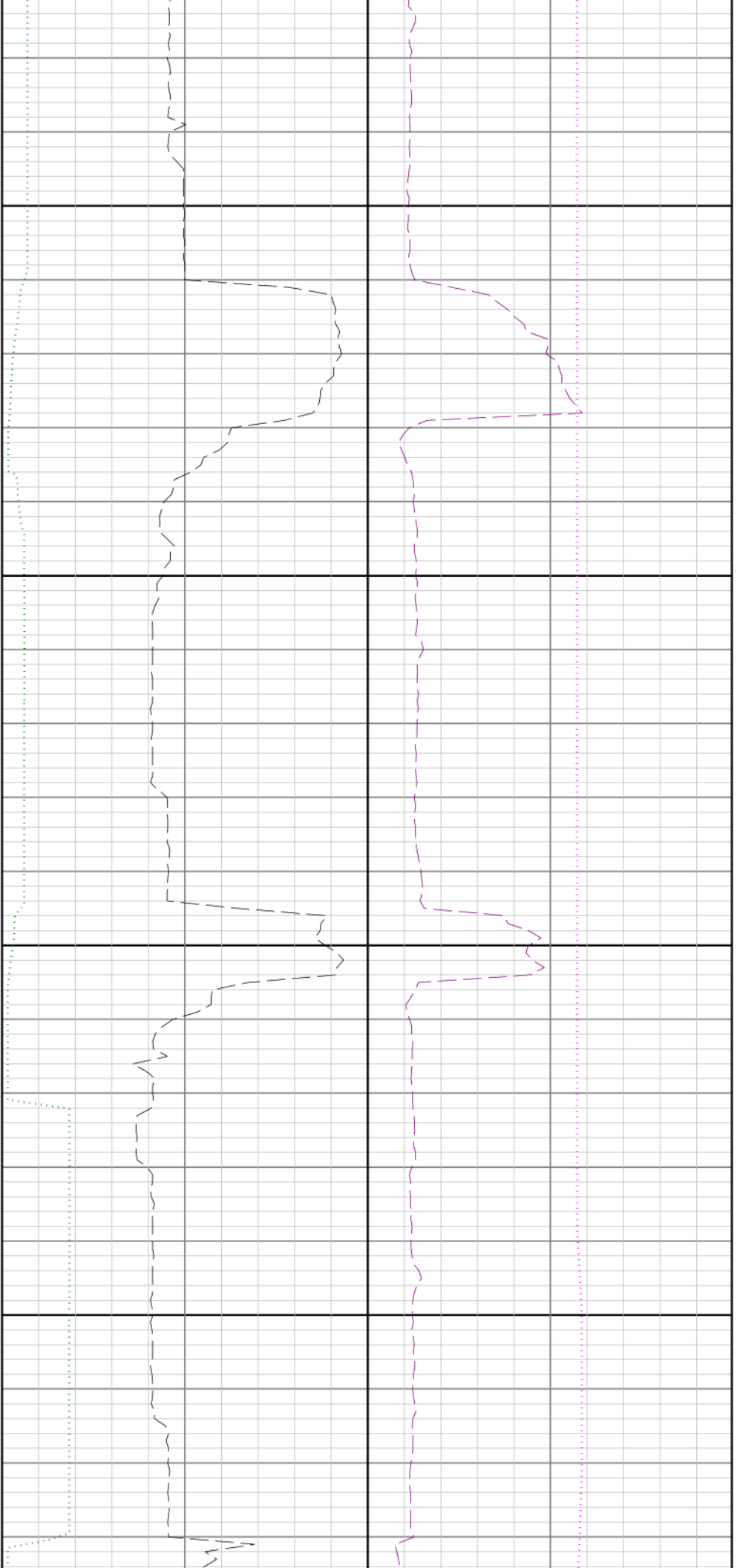


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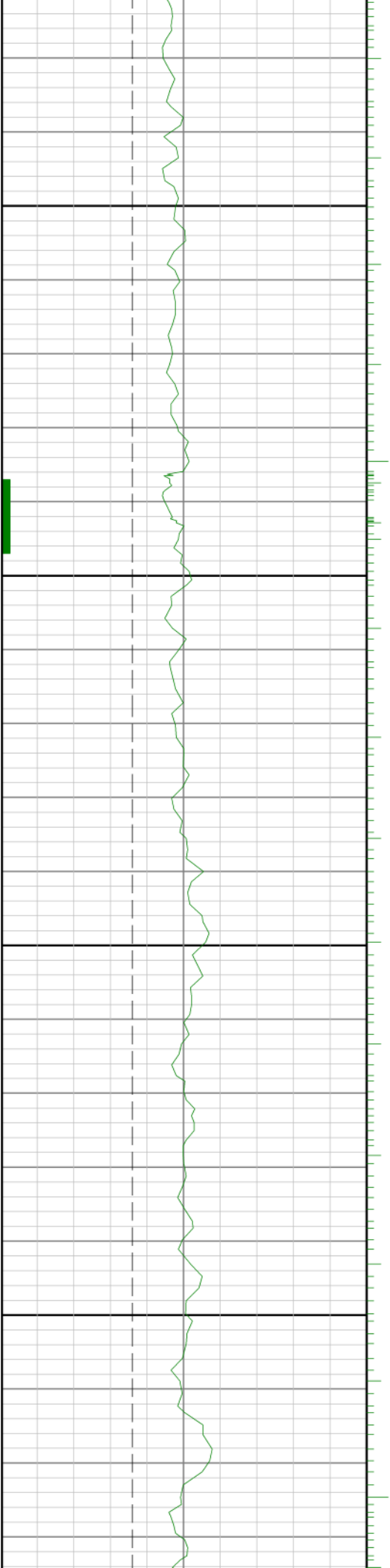


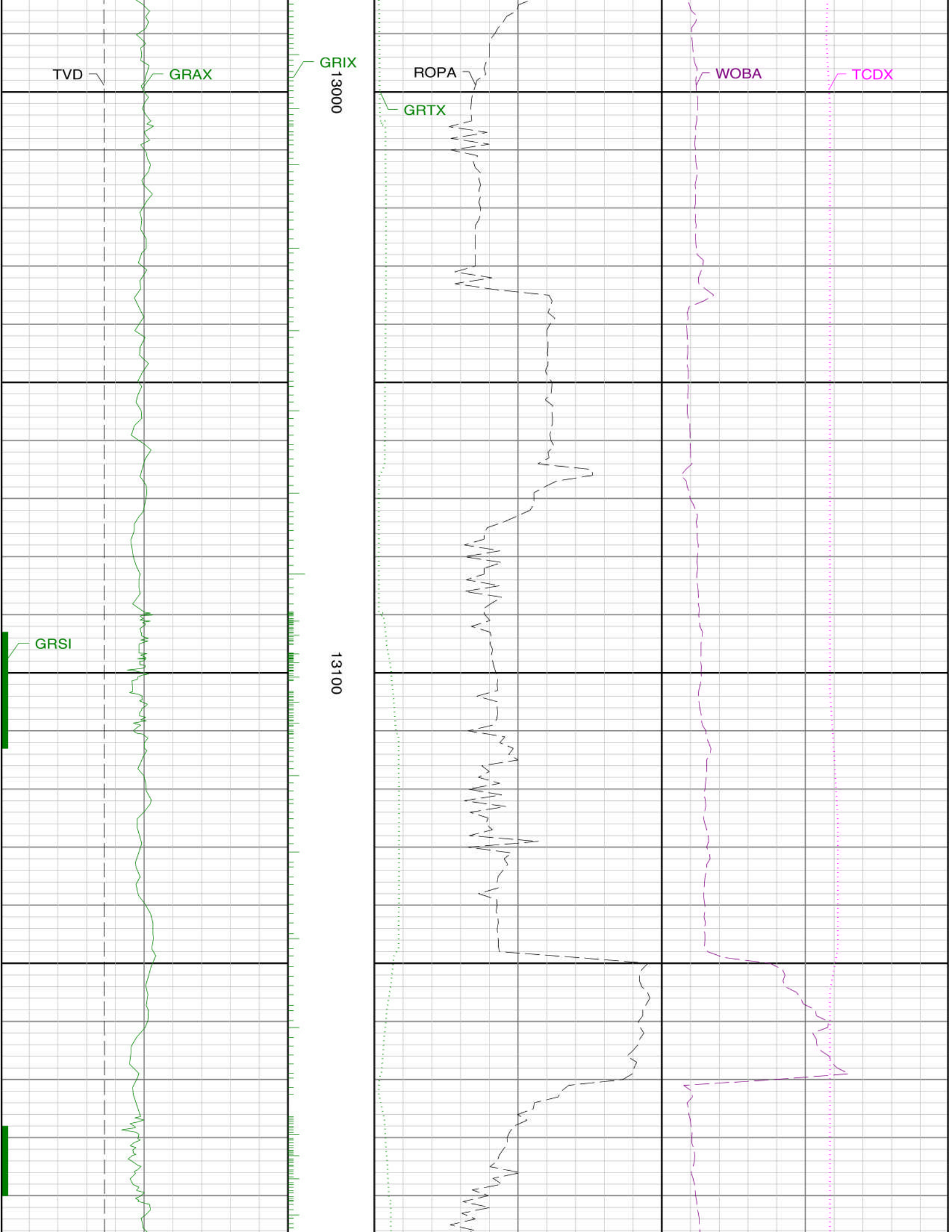


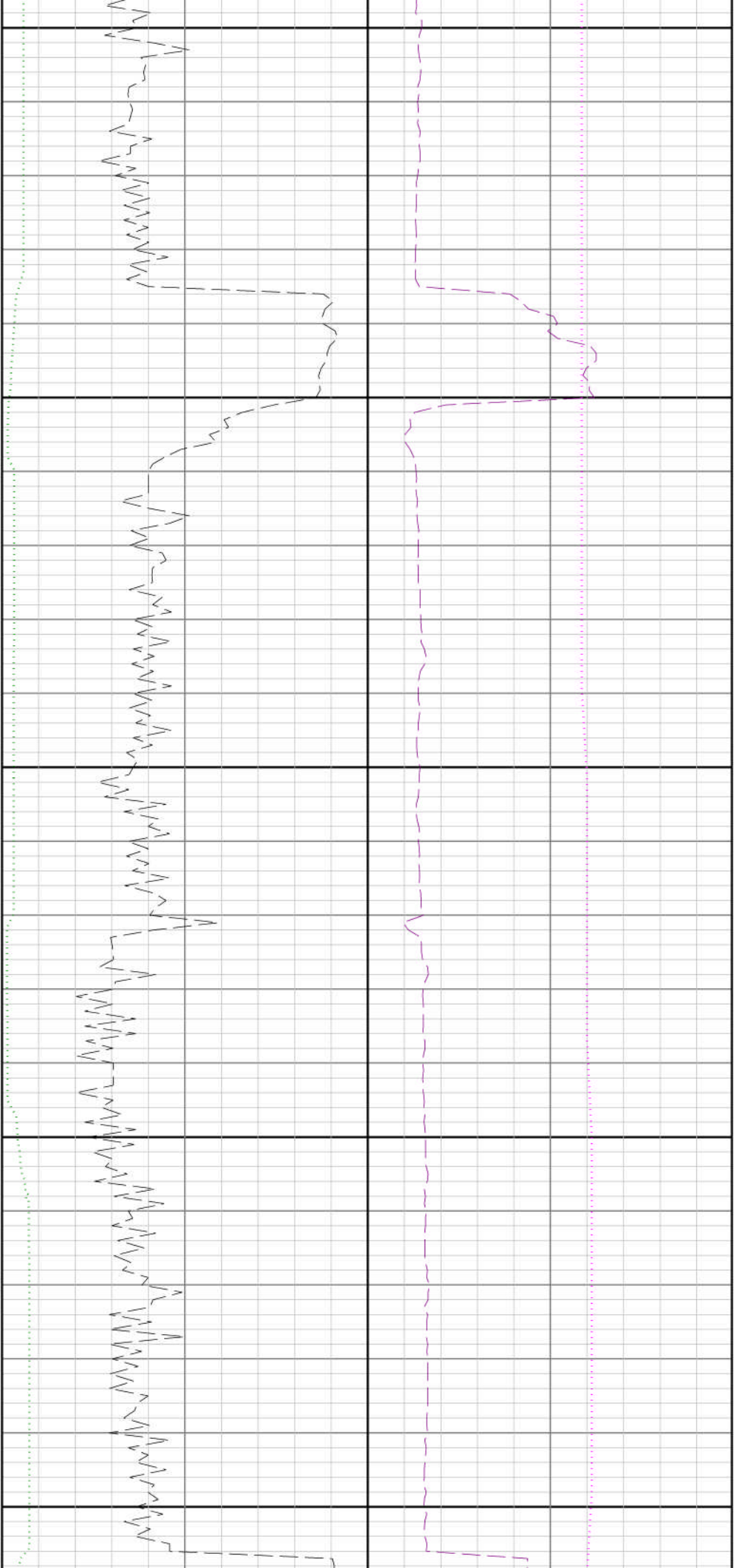


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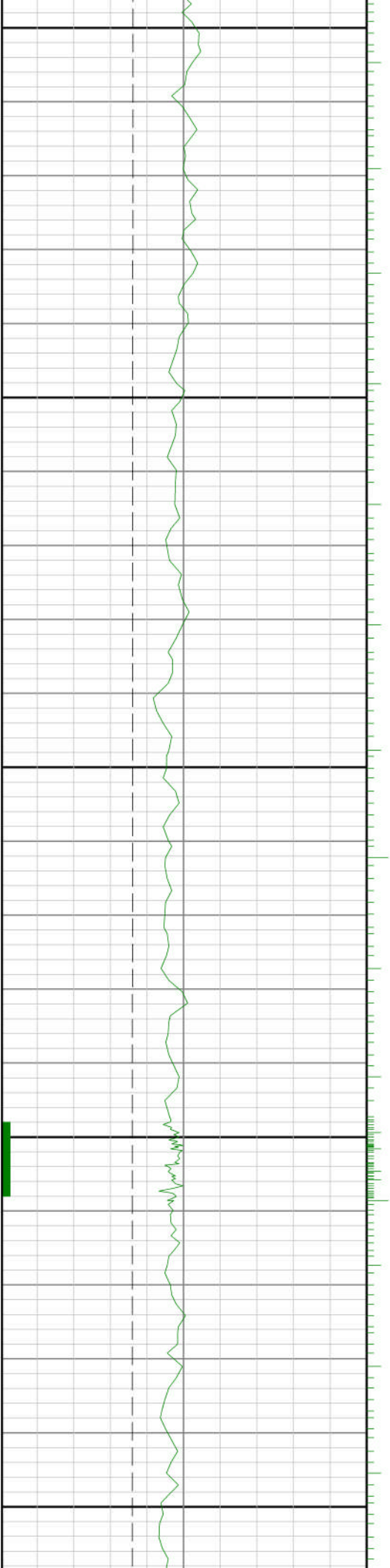




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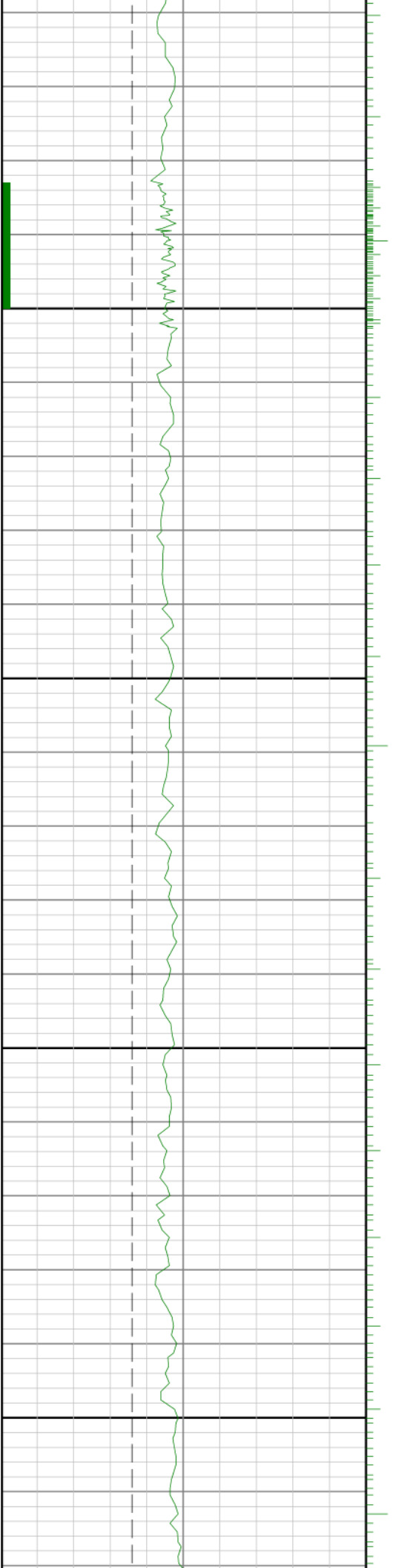
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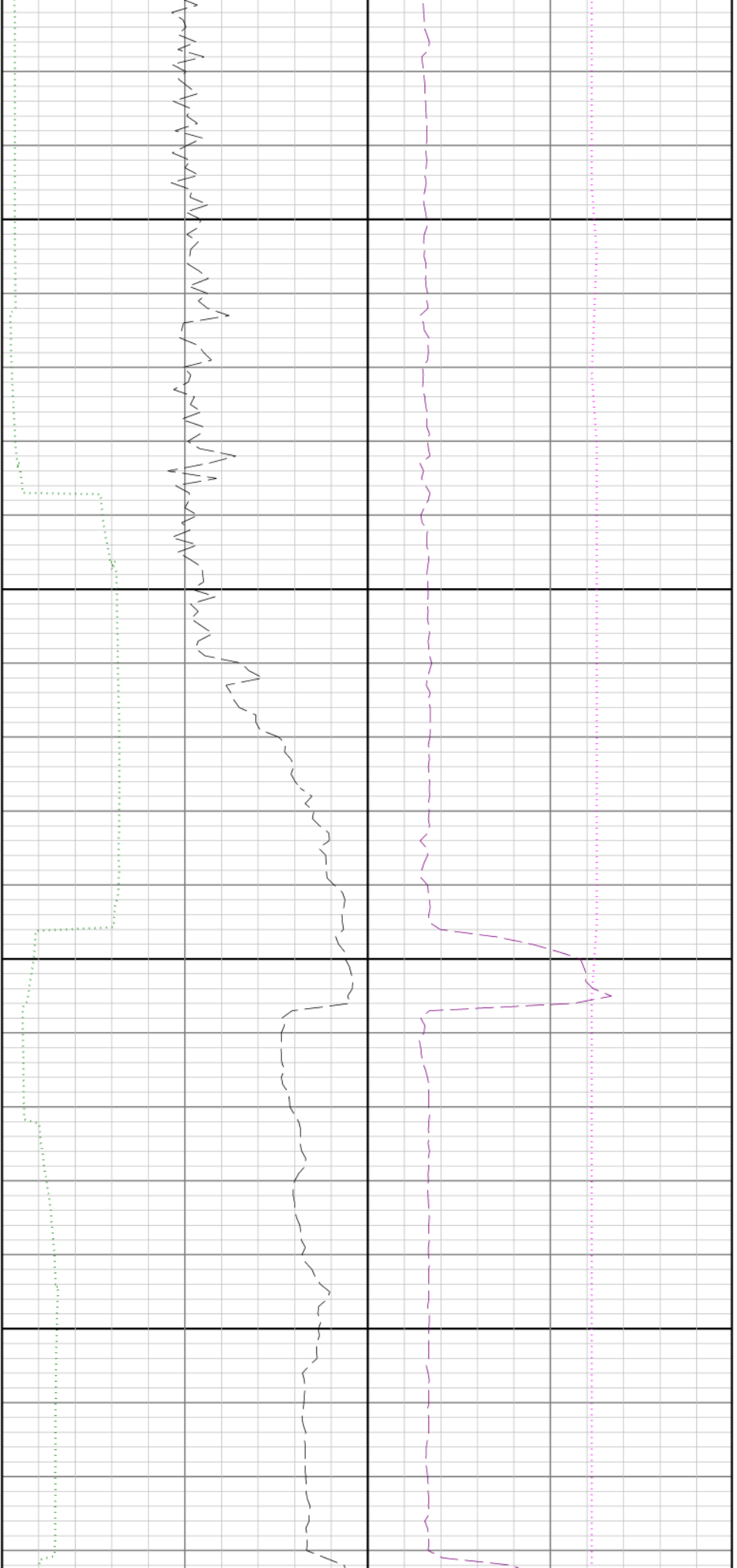




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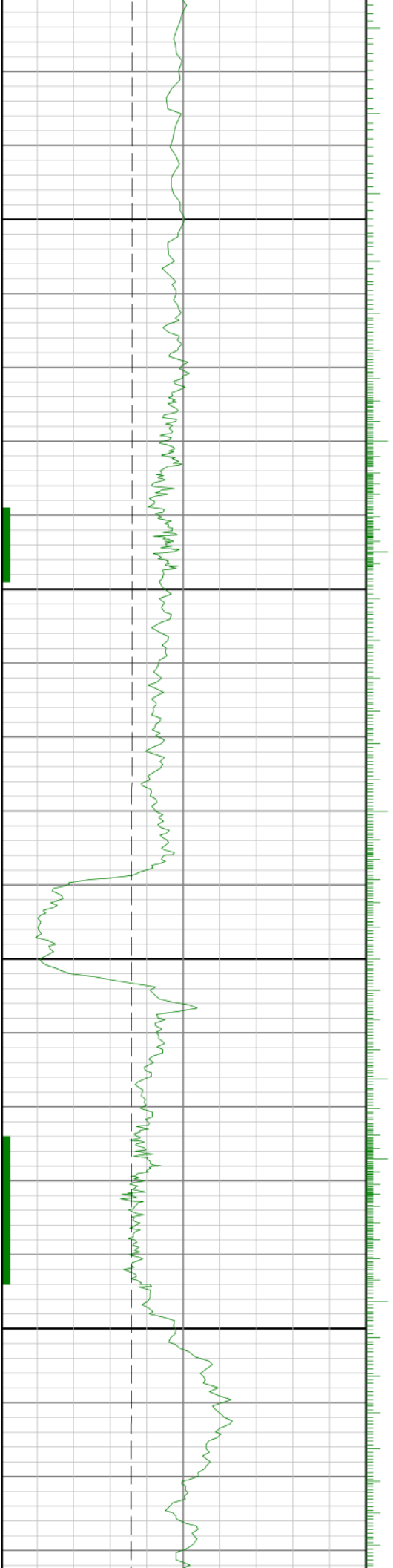
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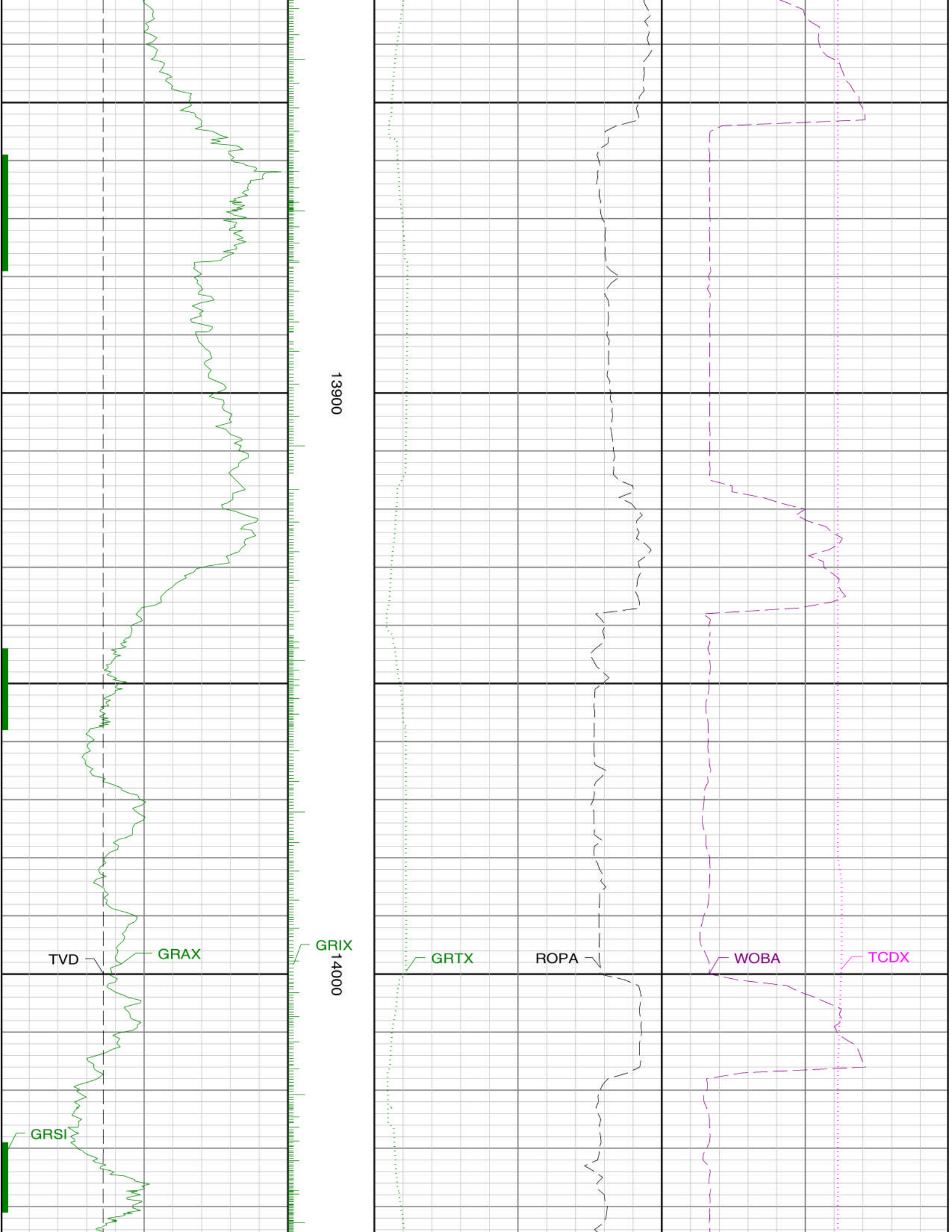


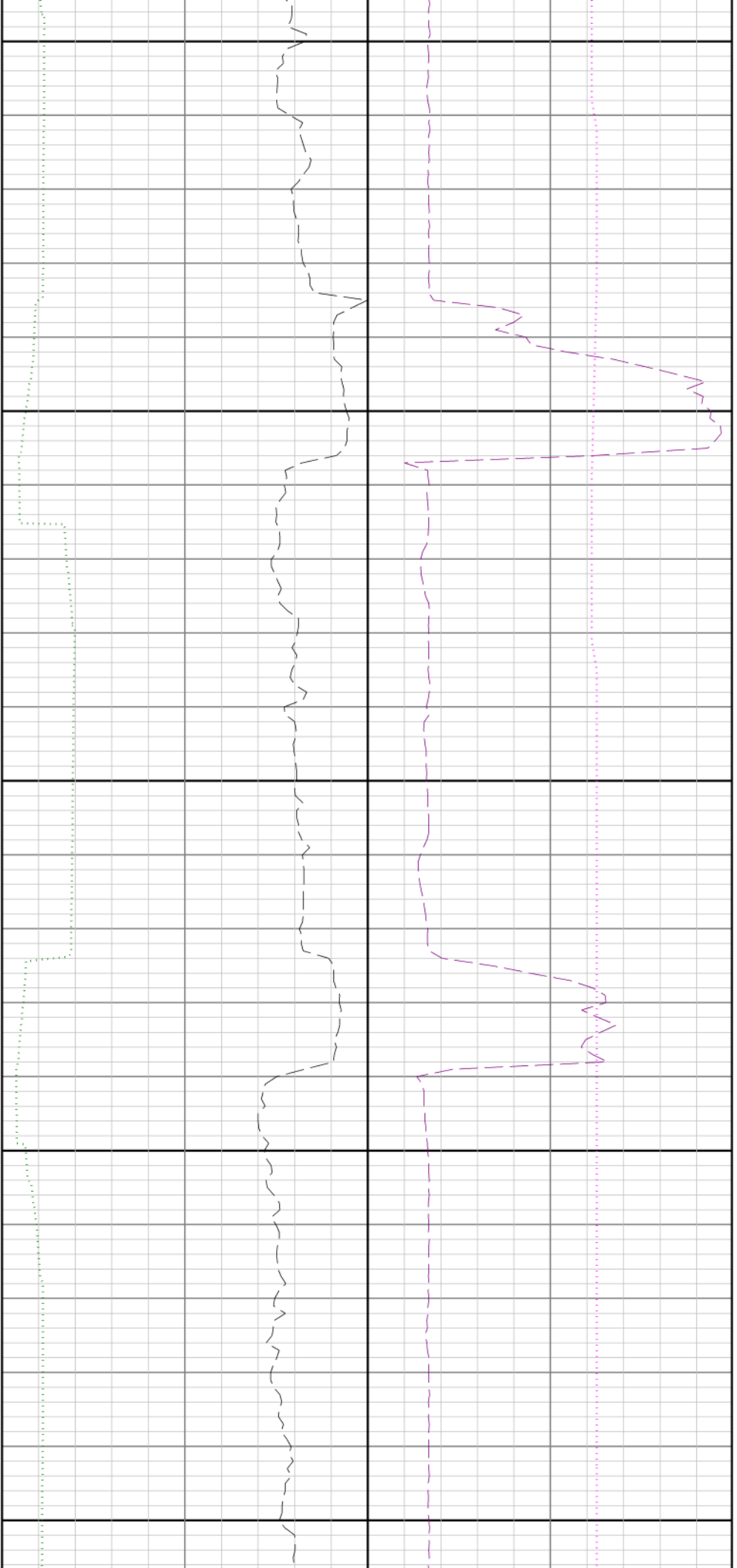


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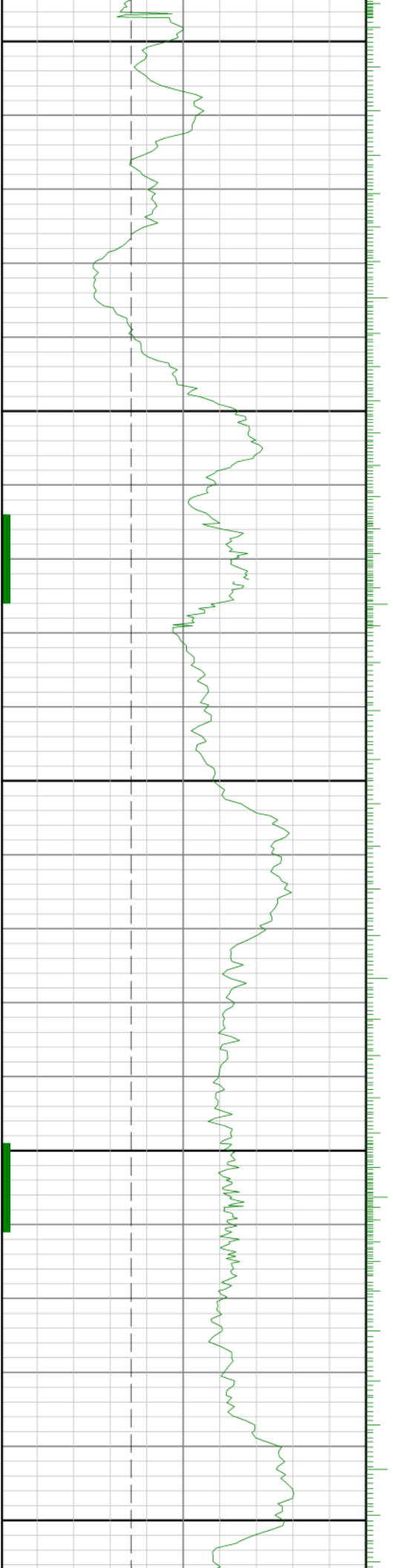


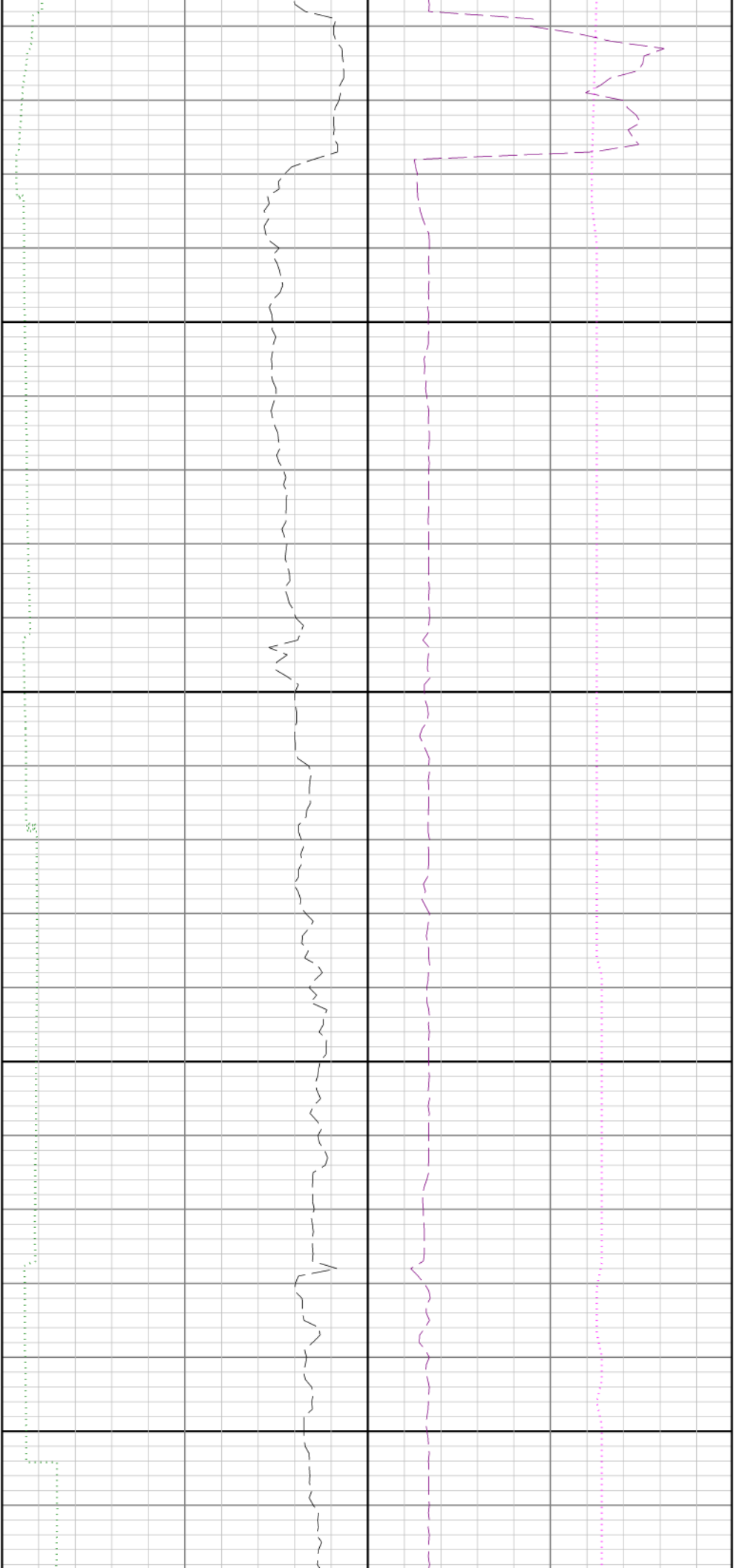




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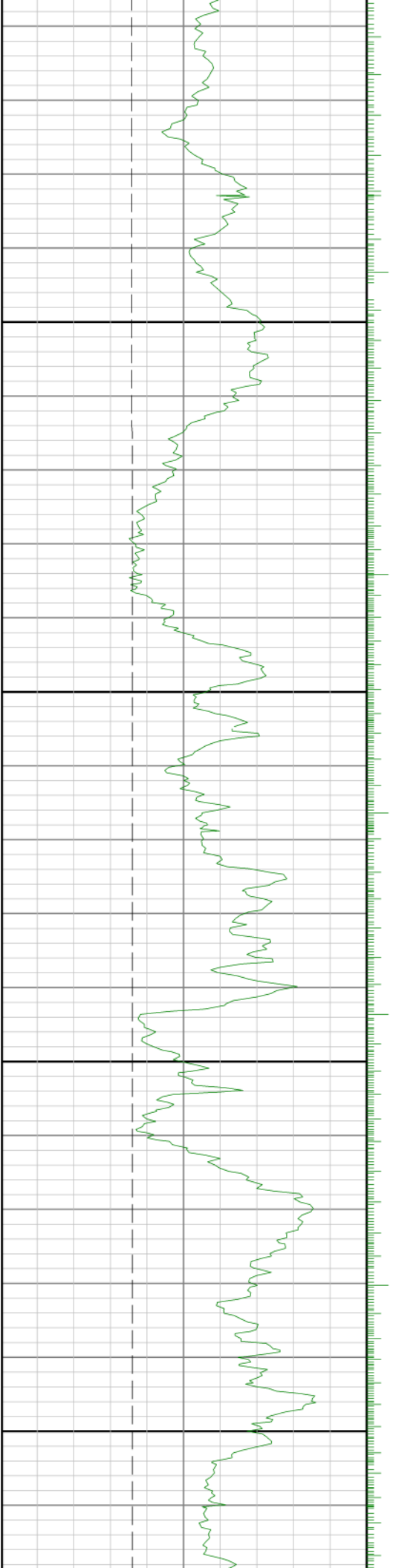
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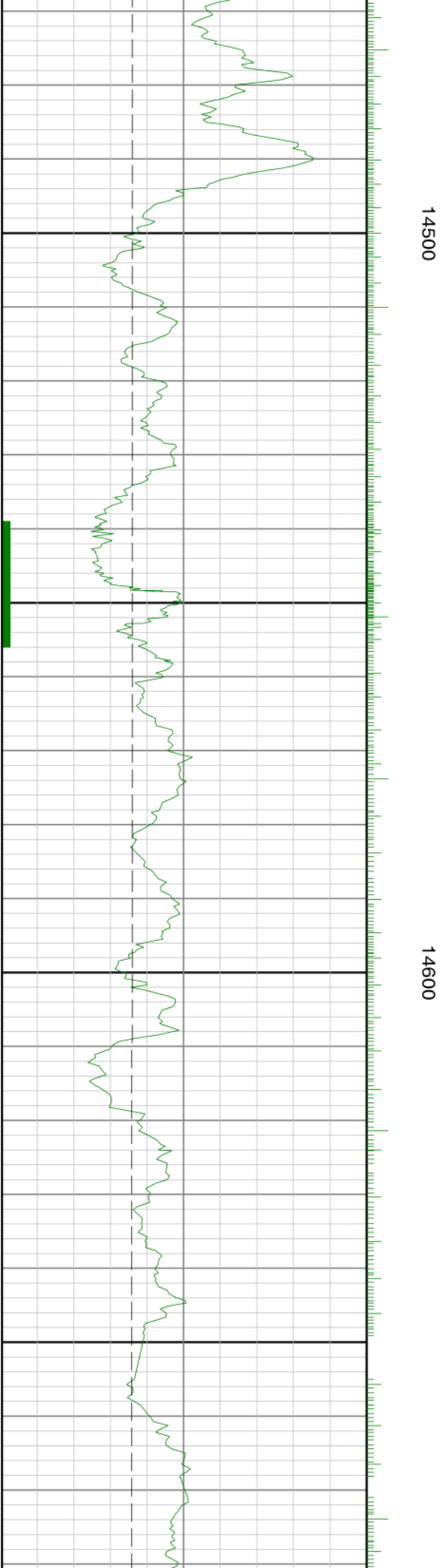
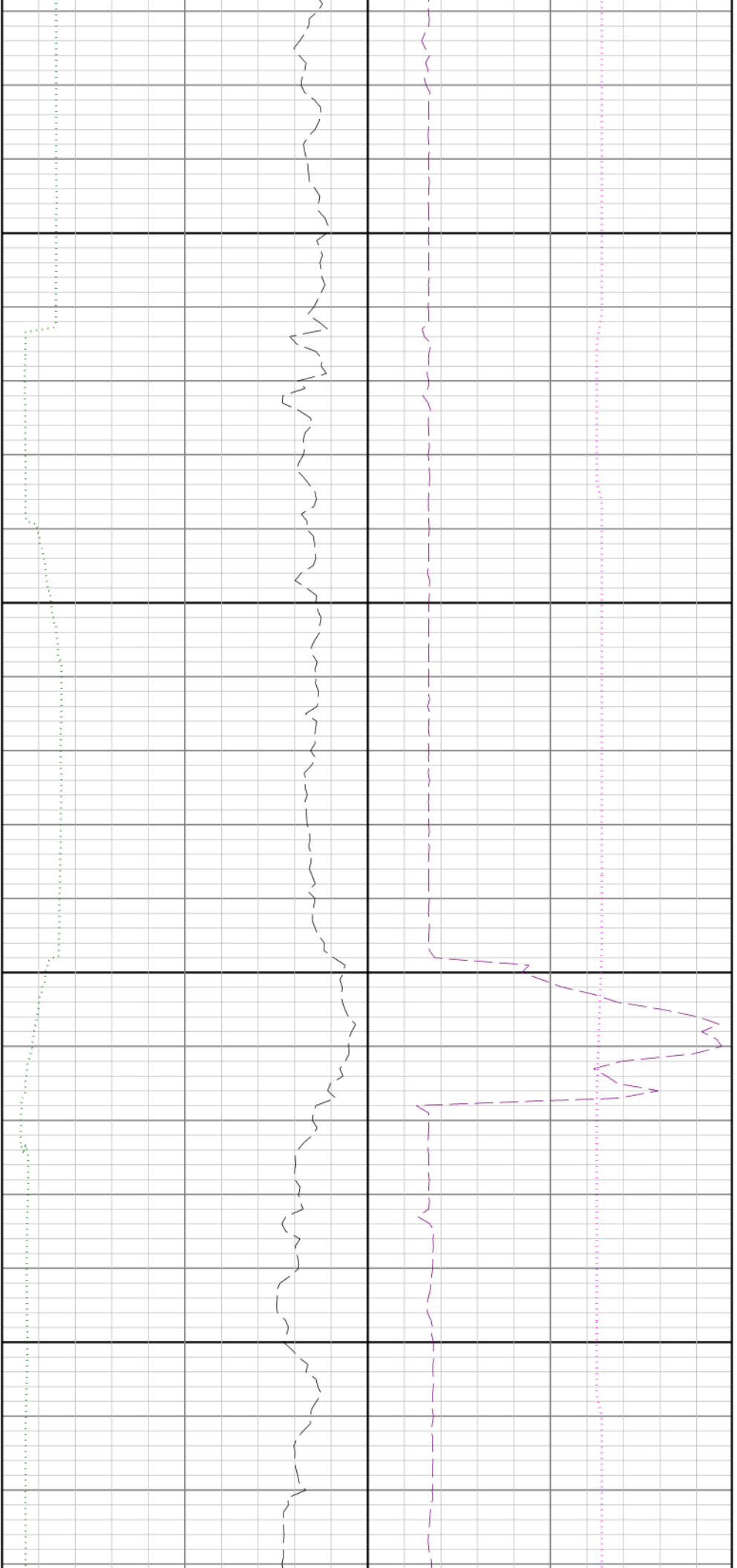


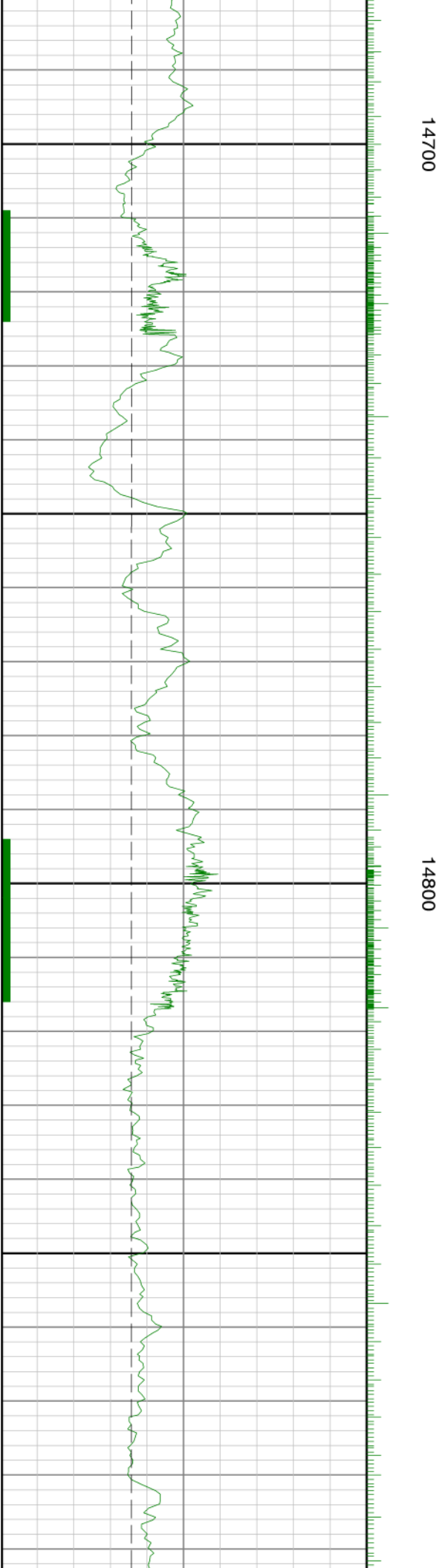
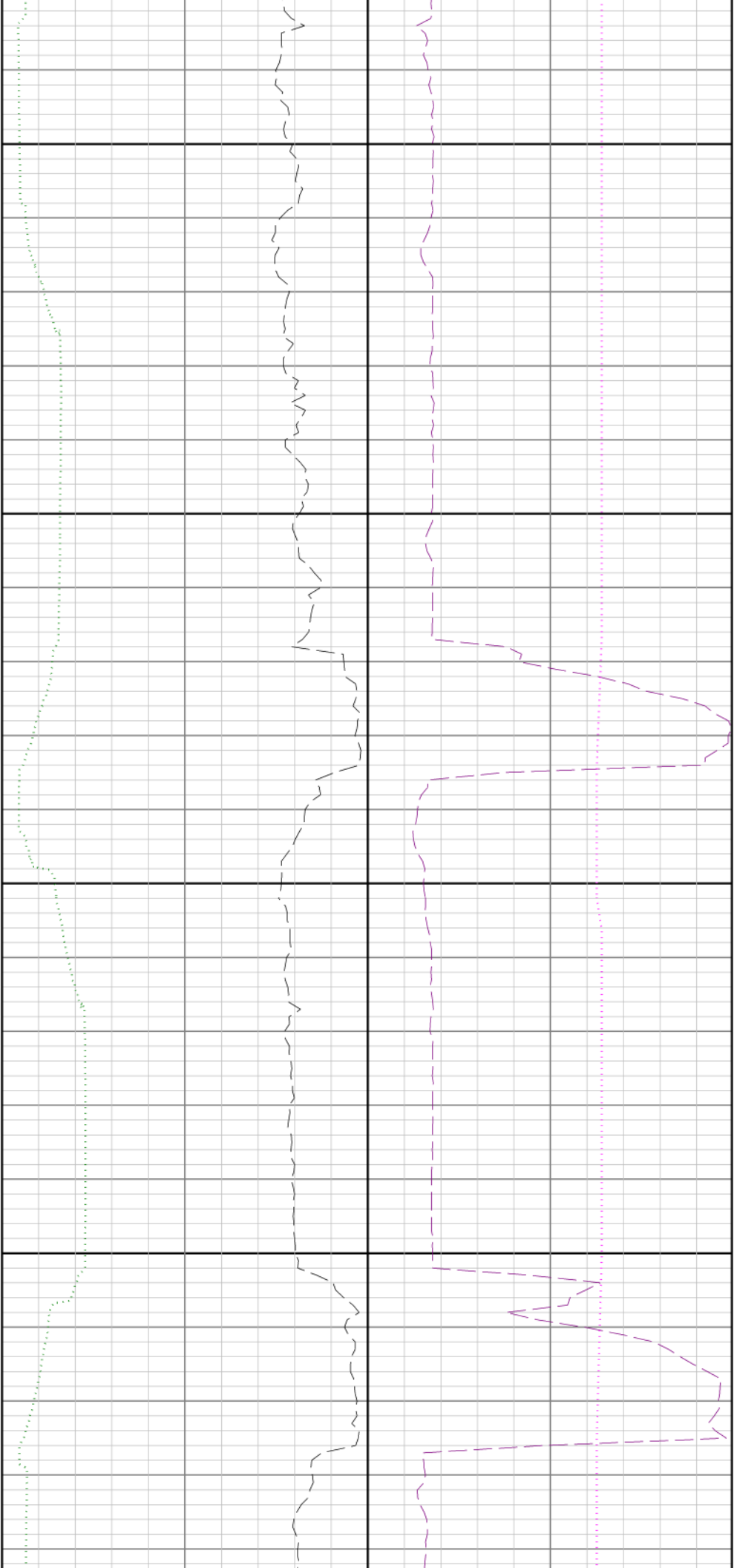


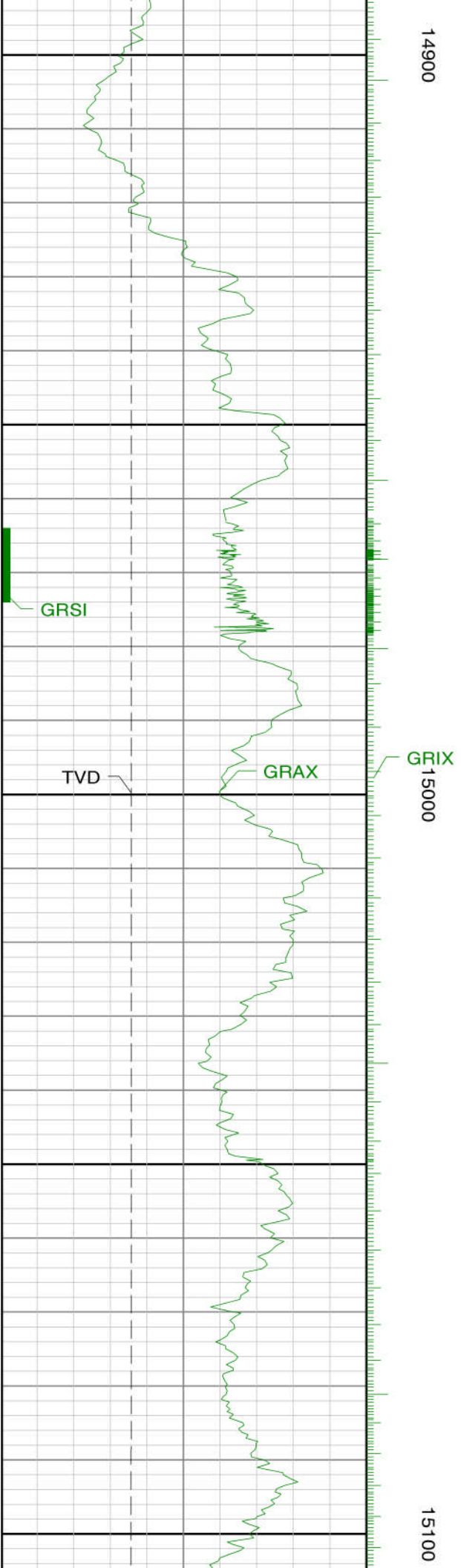
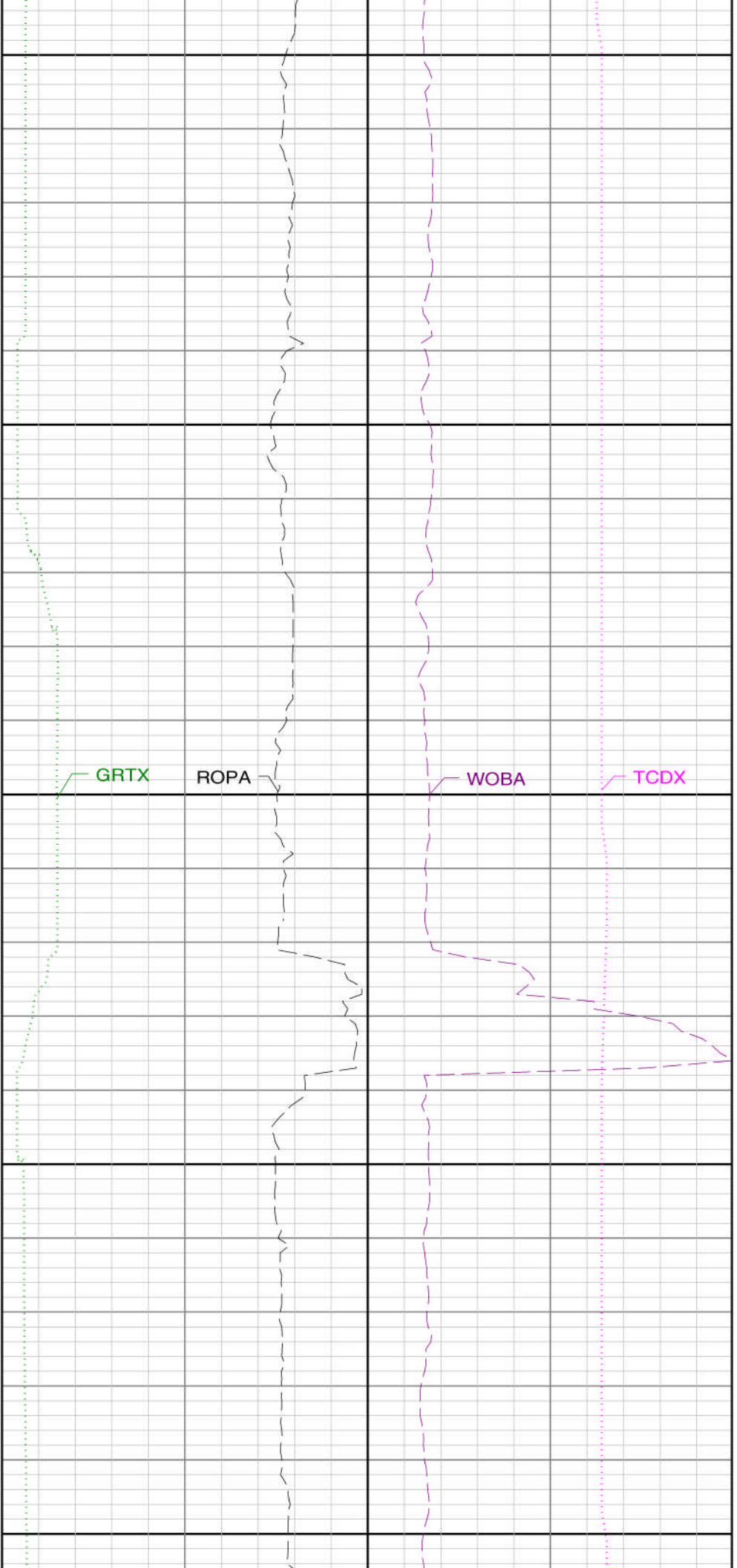
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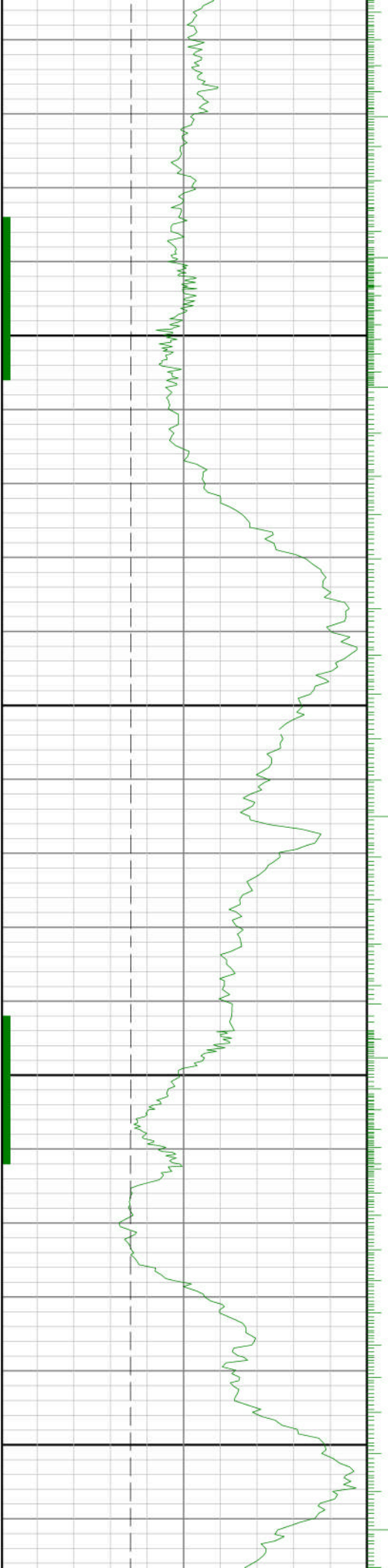
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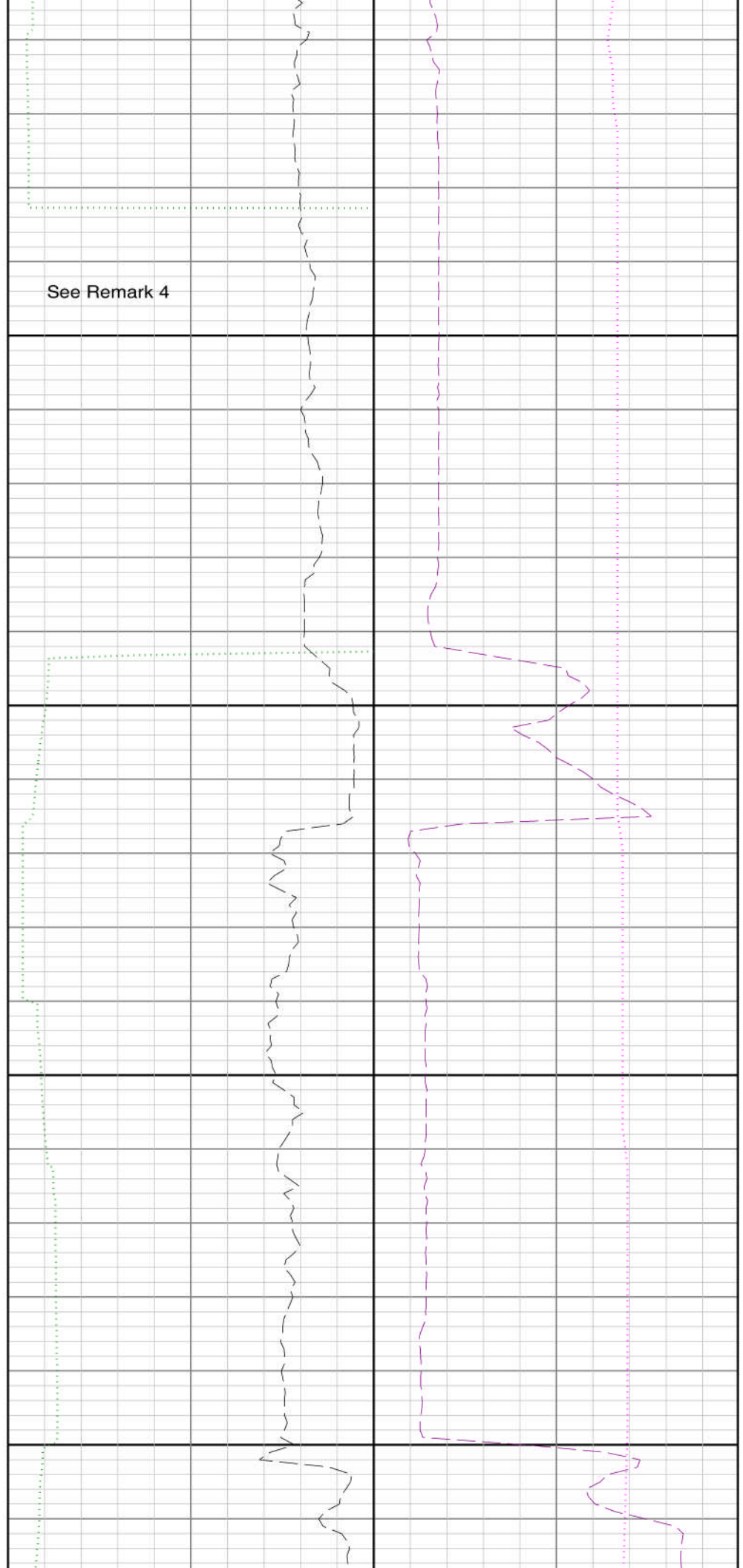


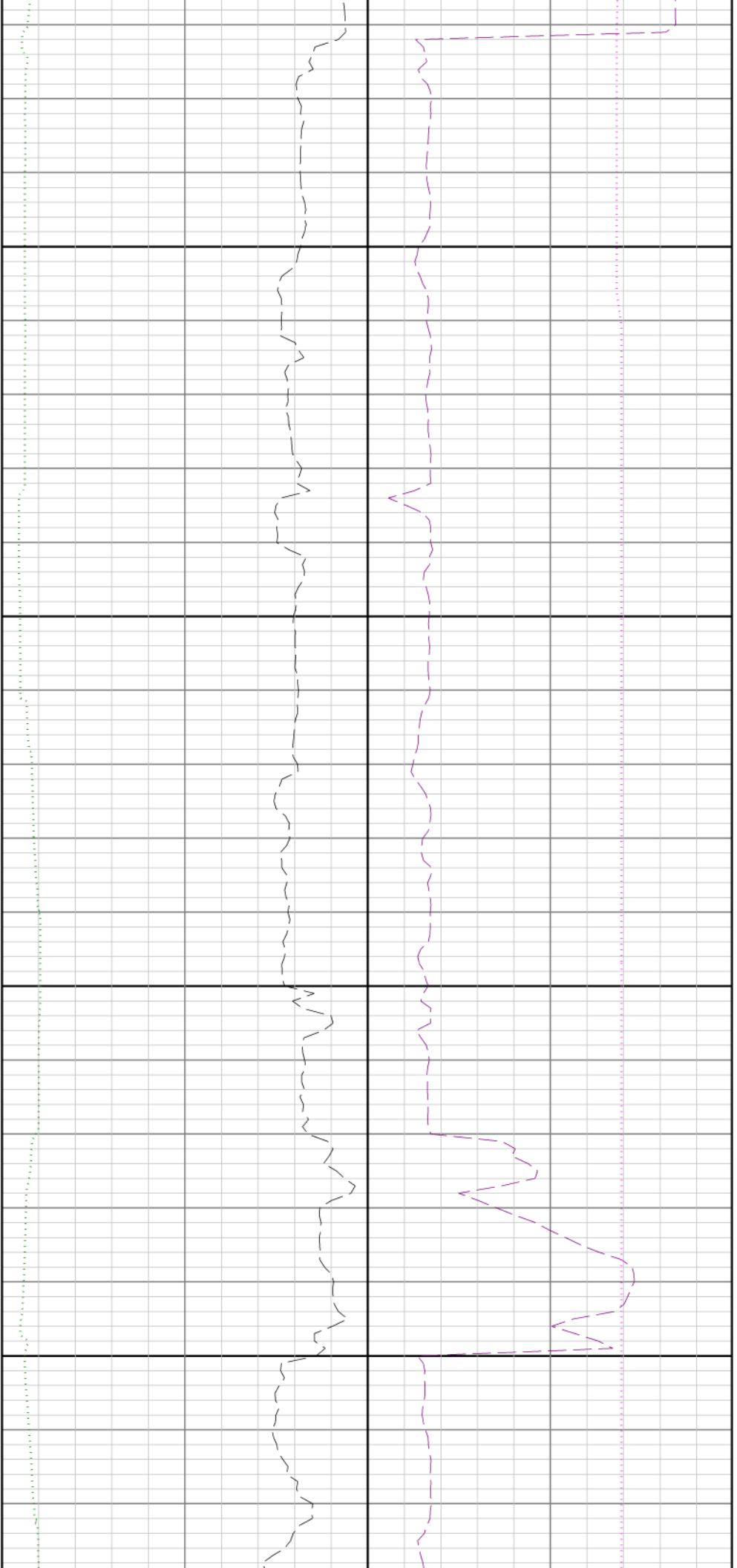




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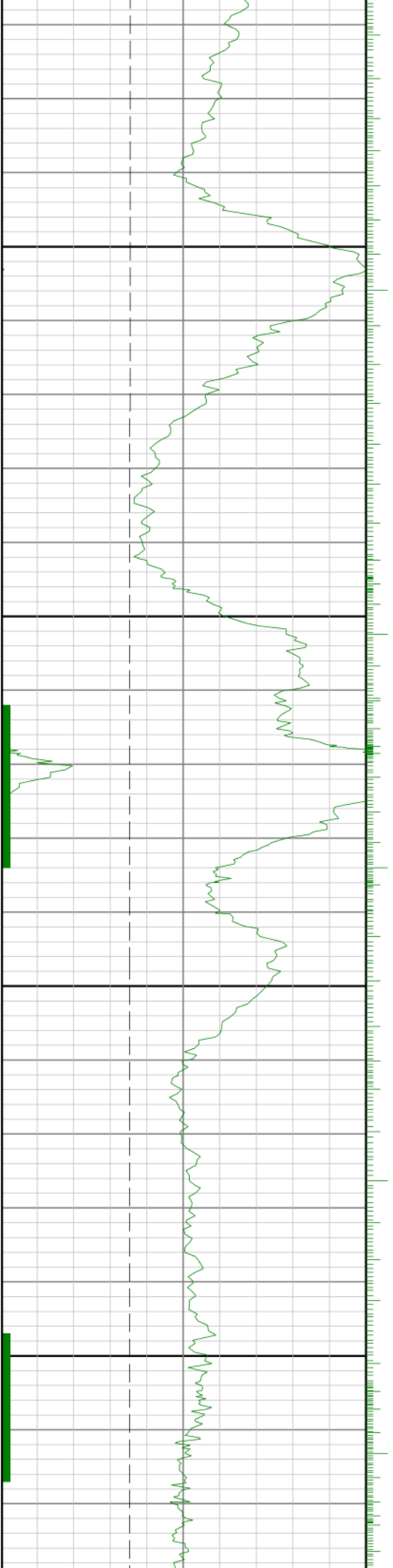
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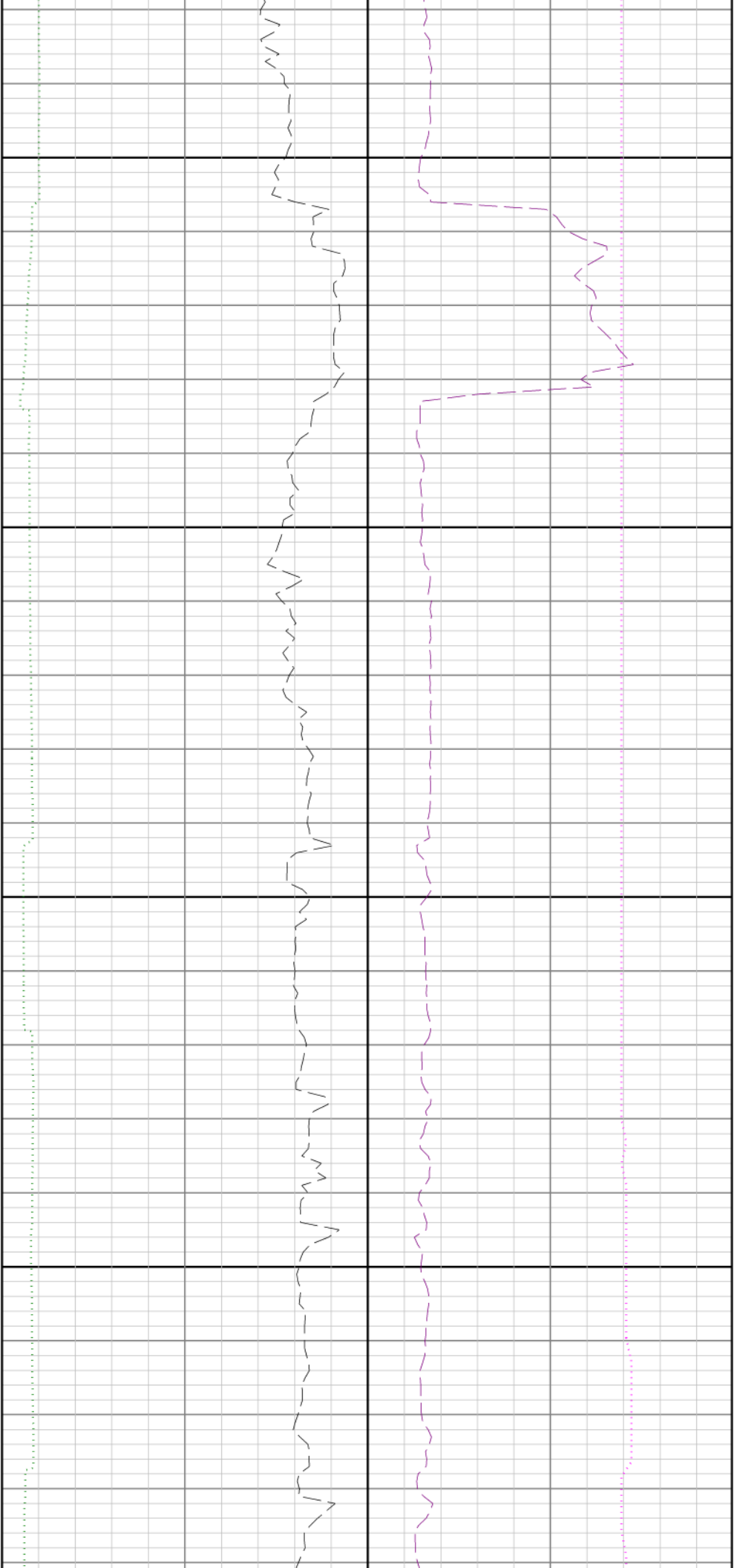




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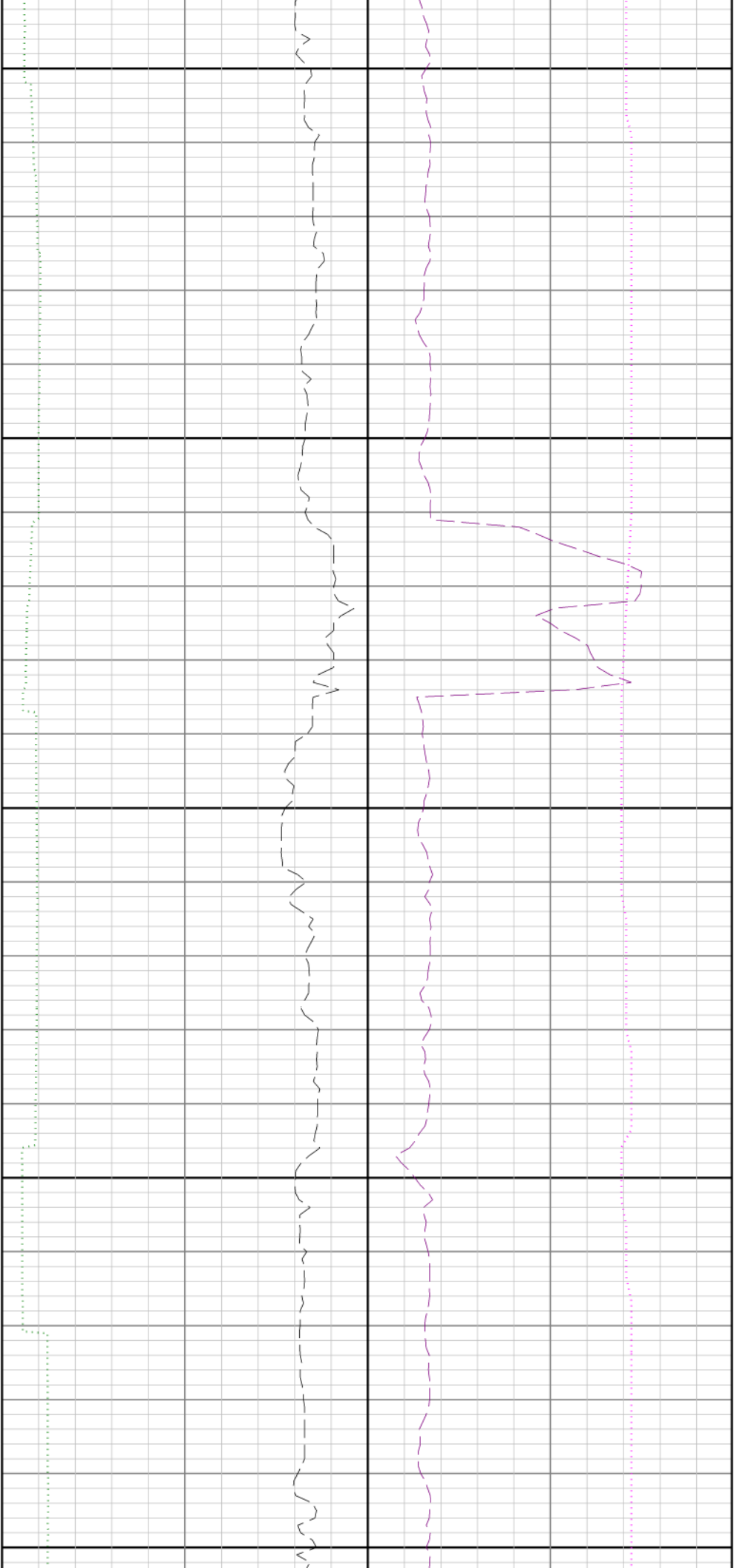
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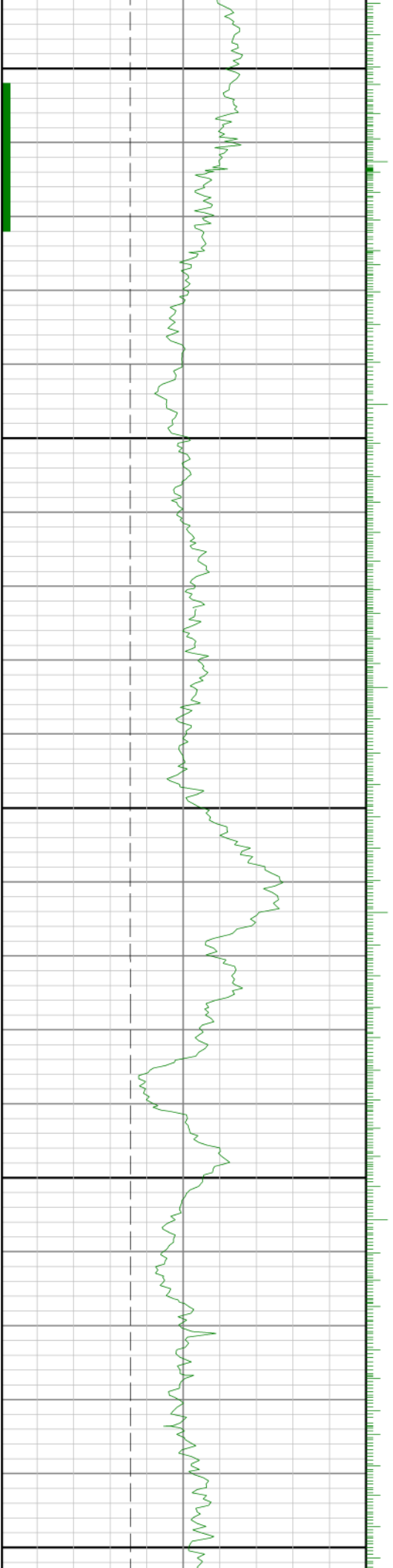
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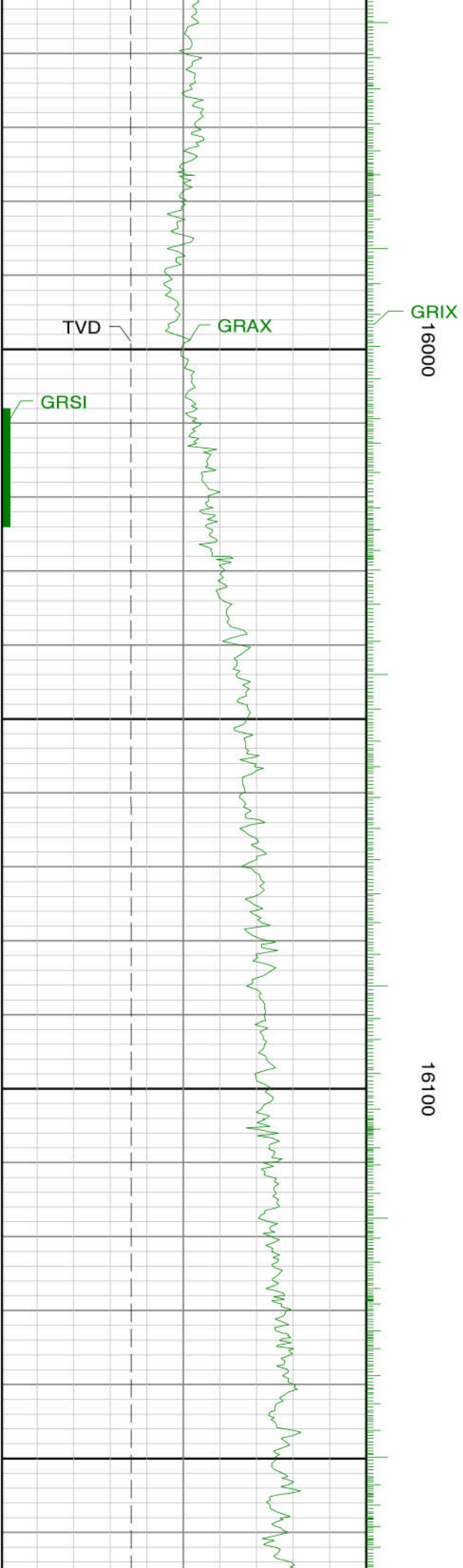
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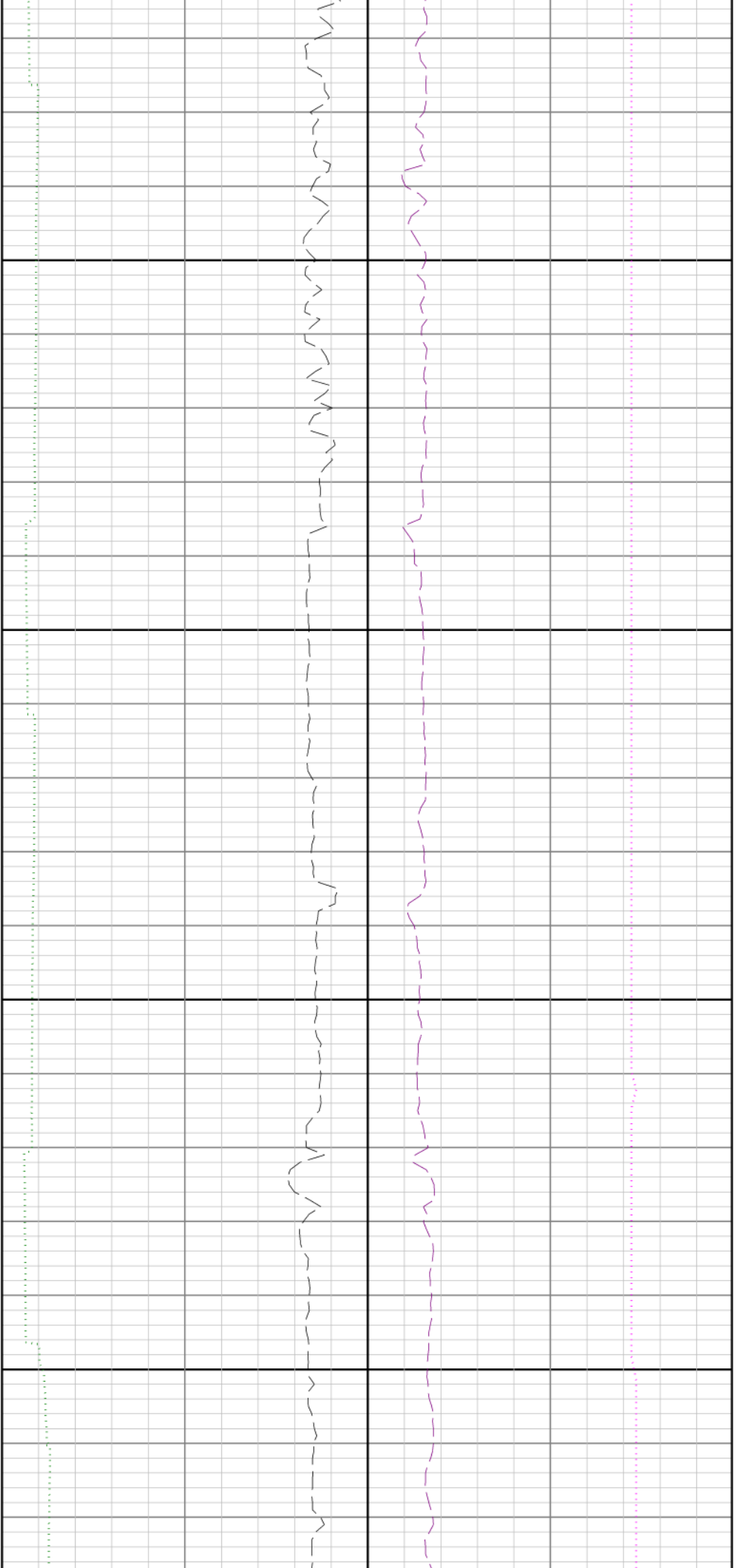


15800

15900

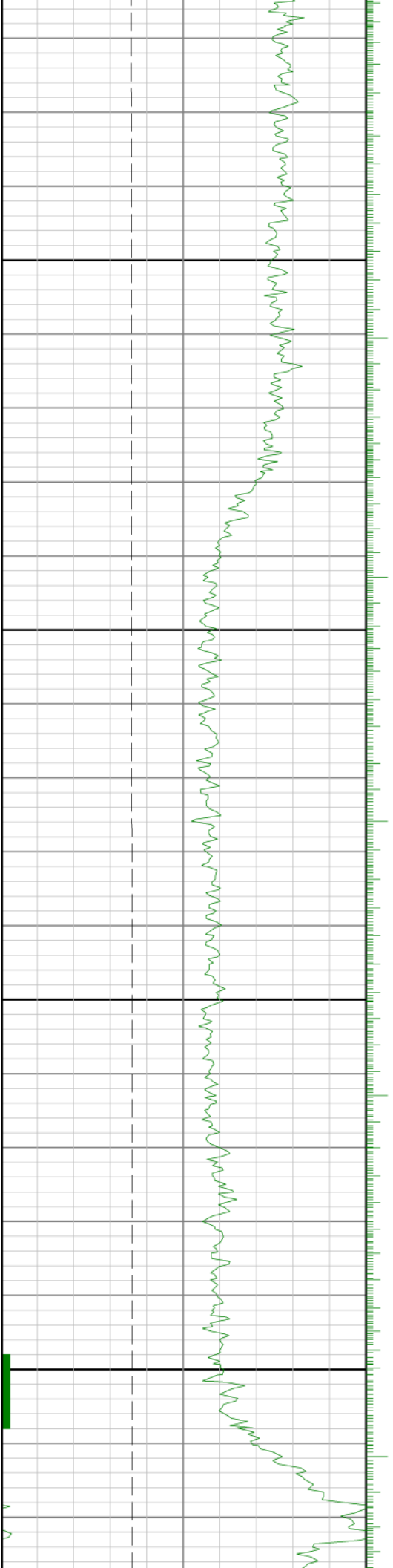


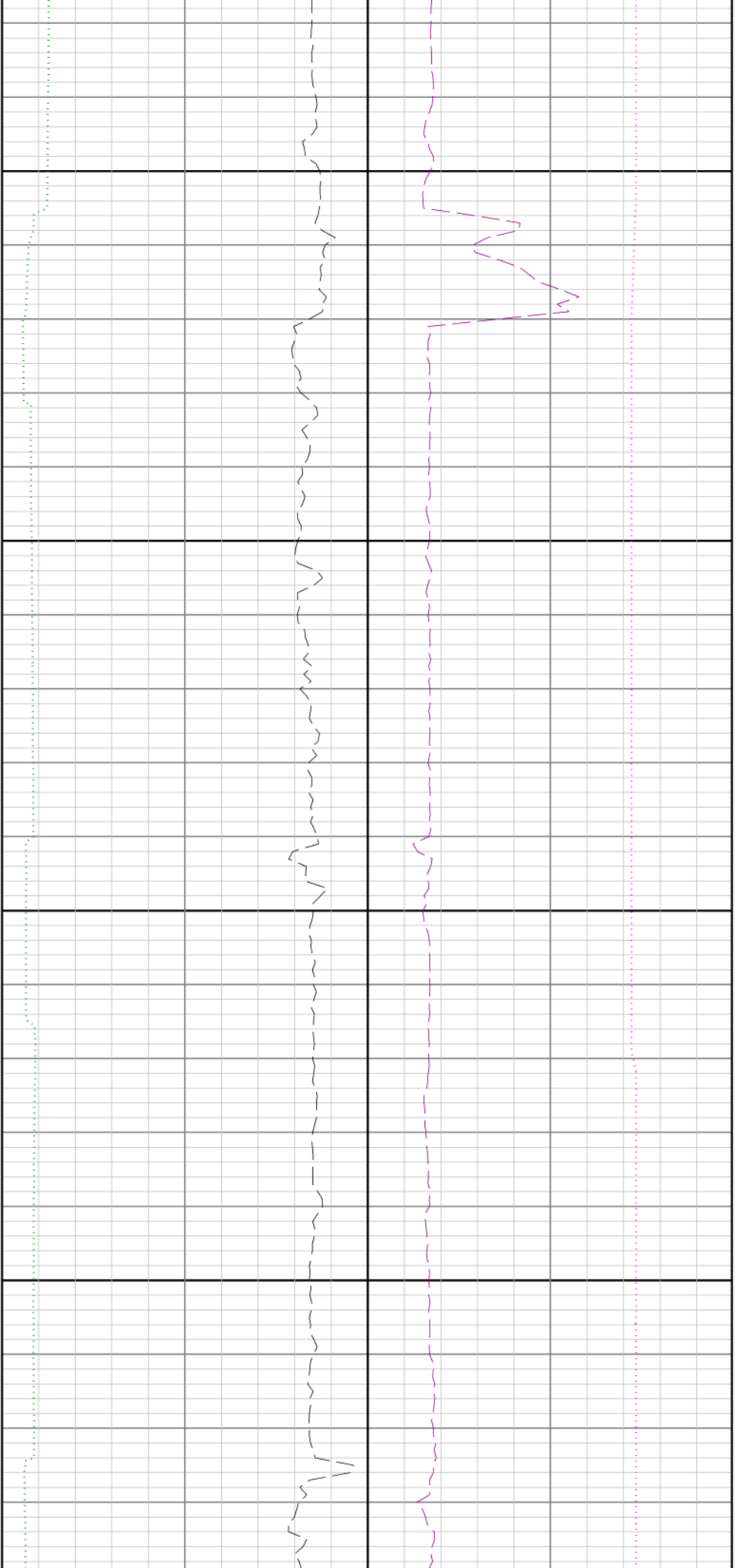




16200

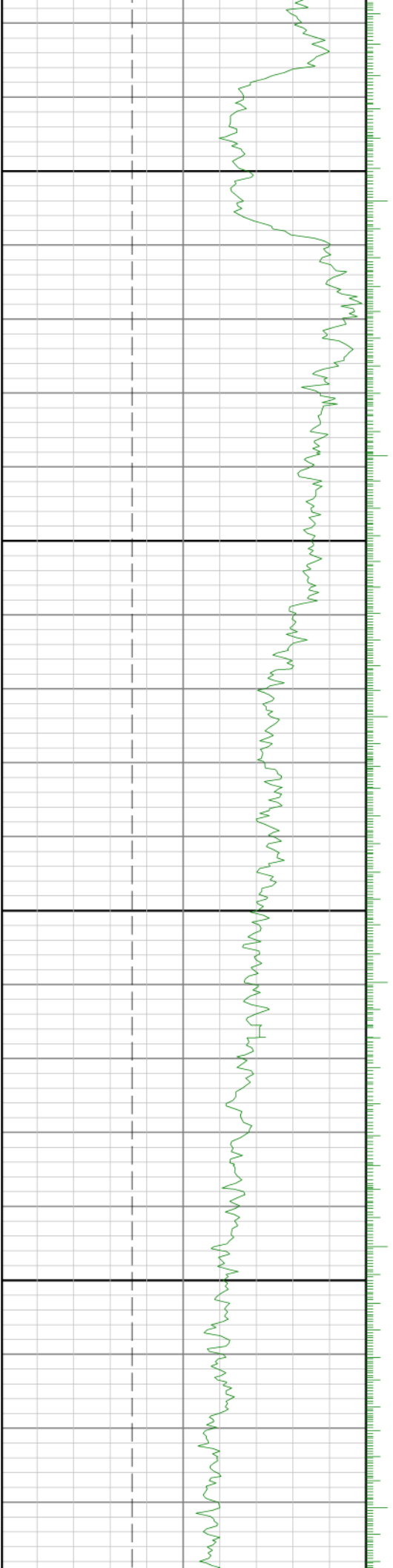
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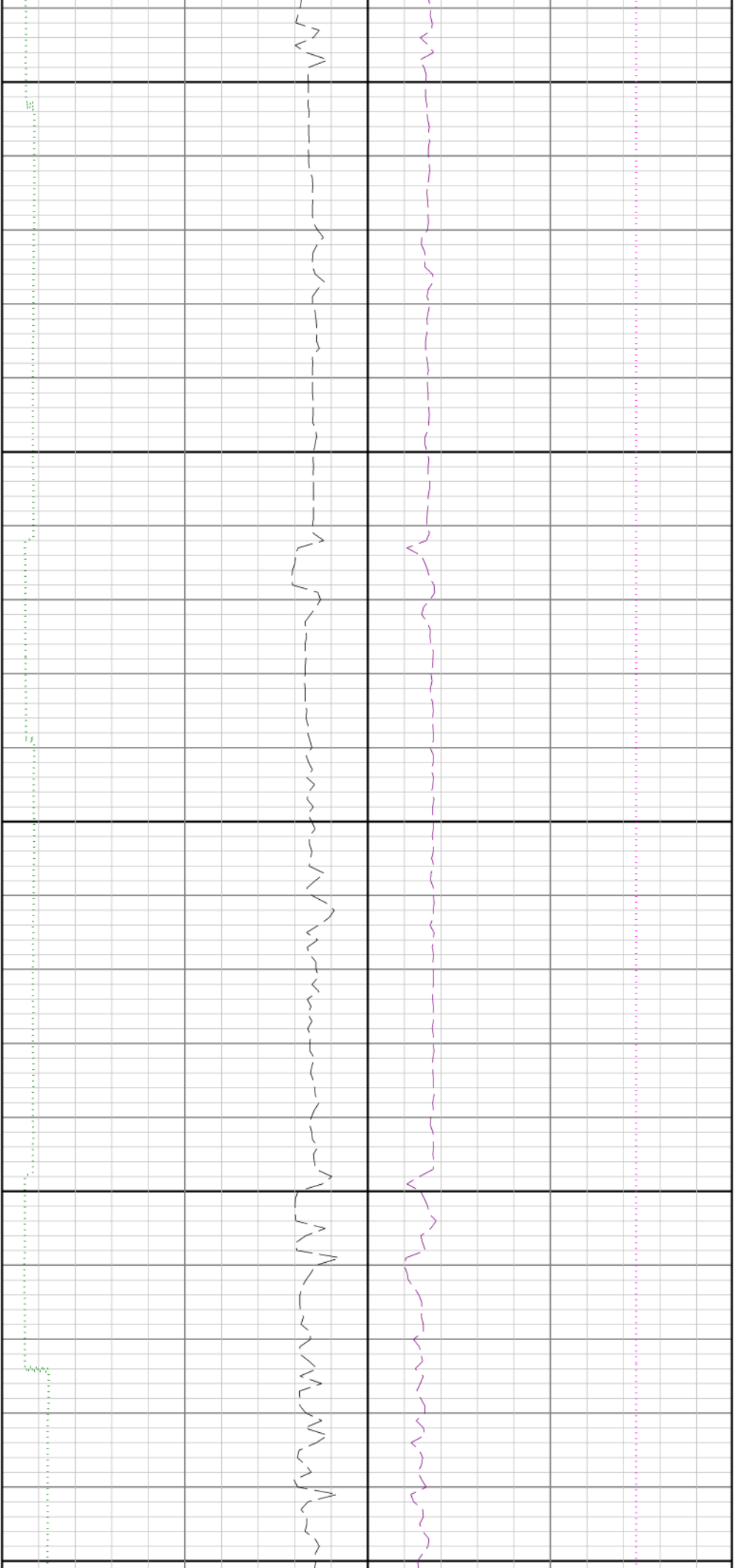




16400

16500





16600

16700

16800

