



Realtime Log

Natural Formation Evaluation  
Gamma Ray

Scale: 1:240 Measured Depth

Company: Kerr McGee Oil & Gas Onshore LP

Well: Benson Farms 11N-19HZ

Field: Weld County (Kerr McGee)

Region: Continental US Country: United States

Surface Location:

Latitude: 40° 12' 36.515" N

Longitude: 104° 57' 37.994" W

Other Services:

Directional  
VSS

Status: Final Print

API Number: 051233939800

Section 24

TWN: 3N

Range 68W

Ground Level

Elevation: 4957.00 ft.

Above P.D.

Elevations: N/A

Rig Floor

16.00 ft.

KB: 4973.00 ft.

DF: 4957.00 ft.

Driller's Depth

GL: 4957.00 ft.

Permanent Datum (P.D.):

Log Measured From:

Depth Reference:

Interval Logged

Dates

Dip Angle: 66.92°

Azi Reference North: True

Magnetic Field Reference

Top: 6422.0 ft.

Date From: 09/Jul/14

Date To: 14/Jul/14

Total

Field Strength: 52826.4 nT

North Correction: 8.69°

Bottom: 14252.0 ft.

Spud Date: 09/Jul/14

Borehole Record

Casing Record

Hole Size

From

To

Size

Weight

From

To

8.750 in.

1254.0 ft.

7518.0 ft.

9.265 in.

36.00 lb/ft

Surface

1229.0 ft.

6.125 in.

7518.0 ft.

14306.0 ft.

7.000 in.

26.00 lb/ft

Surface

7518.0 ft.

Mud Record

Deviation Record

Type

From

To

Hole Size

Interval

Inc / Az (Start)

Inc / Az (End)

Drill Water

1254.0 ft.

7518.0 ft.

8.750 in.

85.0 ft.

0.5° / 238.5°

0.7° / 340.8°

LSND

7518.0 ft.

14306.0 ft.

6.125 in.

85.0 ft.

0.7° / 340.8°

83.8° / 85.4°

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Acquisition System Software Version

Other

Advantage

2.20U4

Rig / Contractor: Xtreme 24

/ Xtreme Drilling

PATS

6.4.1.34

Job No: 6450025

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.
							Top	Bottom	From	To	Start		End		Time
							(ft.)	(ft.)	(ft.)	(ft.)					
1	1	1	8.750	PDC	2.000	Steerable	6422.0	7460.0	6480.0	7518.0	09/Jul/14	05:00	11/Jul/14	02:30	23.4
2	2	2	6.125	PDC	6.000	Steerable	7464.0	14252.0	7518.0	14306.0	11/Jul/14	23:45	14/Jul/14	15:00	47.2

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Osagie Otoikhine	08/Jul/14	14/Jul/14	Andrew Overbey	08/Jul/14	14/Jul/14	Troy Clay	11/Jul/14	13/Jul/14

Mud Properties Record

Date / Time	LWD Run No.	Measured Depth (ft.)	Mud Type	Density (ppg)	Viscosity (sec/qt)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
09/Jul/14 18:00	1	3043.0	Drill Water	8.7	37	8.0	N/A	0.0/97.0	Flowline	1000	N/A
11/Jul/14 18:00	1	7518.0	LSND	9.9	44	9.3	N/A	0.0/92.0	Active Pits	1000	N/A
13/Jul/14 18:00	2	12570.0	LSND	9.2	46	9.6	N/A	0.0/94.0	Active pits	1300	N/A

### Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent 0.5 ft AVG	API
GRIX	Gamma Ray Data Density	points
GRSI	Gamma Ray Sliding Indicator	unitless
GRTX	Gamma Ray Time Since Drilled	min.
ROPA	Rate of Penetration, 3.0 ft Avg	ft/hr
TCDX	Downhole Temperature	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 (m.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	11670150	Directional	61.24	6.750	2.750
1	SRIG	12722376	Gamma	57.86	6.750	2.750
2	DIR	12546374	Directional	57.66	4.750	2.500
2	SRIG	12131378	Gamma	54.28	4.750	2.500

### Service and Tool Mnemonics

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

### Comments

<p>1.) Baker Hughes Run 1 utilized a 6 1/2 inch NaviGamma (Directional and Gamma Ray) tool behind an 8 3/4 inch bit and steerable assembly from 6480 feet to 7518 feet MD (6466 feet to 7153 feet TVD).</p> <p>2.) Baker Hughes Run 2 utilized a 4 3/4 inch NaviGamma (Directional and Gamma Ray) tool behind a 6 1/8 inch bit and steerable assembly from 7518 feet to 14306 feet MD (7153 feet to 7154 feet TVD).</p> <p>3.) A sliding indicator is shown on the left side 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 acquired while sliding.</p>
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### Remarks

Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1	6408	8.750	1	The interval from surface to 6422 feet MD (6408 feet TVD) was not logged since logging services began at kick off point

	6400	8.750	1	The interval from surface to 6422 feet MD (6400 feet TVD) was not logged since logging services began at kick on point.
2	7486	8.750	1	The interval from 7463 feet to 7523 feet MD (7150 feet to 7154 feet TVD) was logged more than 9 hours after drilling due to tripping for casing and picking up lateral BHA.
3	13080	6.125	2	The interval from 14252 feet to 14306 feet MD (7154 feet to 7154 feet TVD) was not logged due to bit sensor offset at TD.

### Curve Mnemonics

Curve	Description	Units
GRAX	Gamma Ray - Apparent	API
GRIX	Gamma Ray - Data Point Indicator	unitless
GRSI	Gamma Slide Ind.	
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

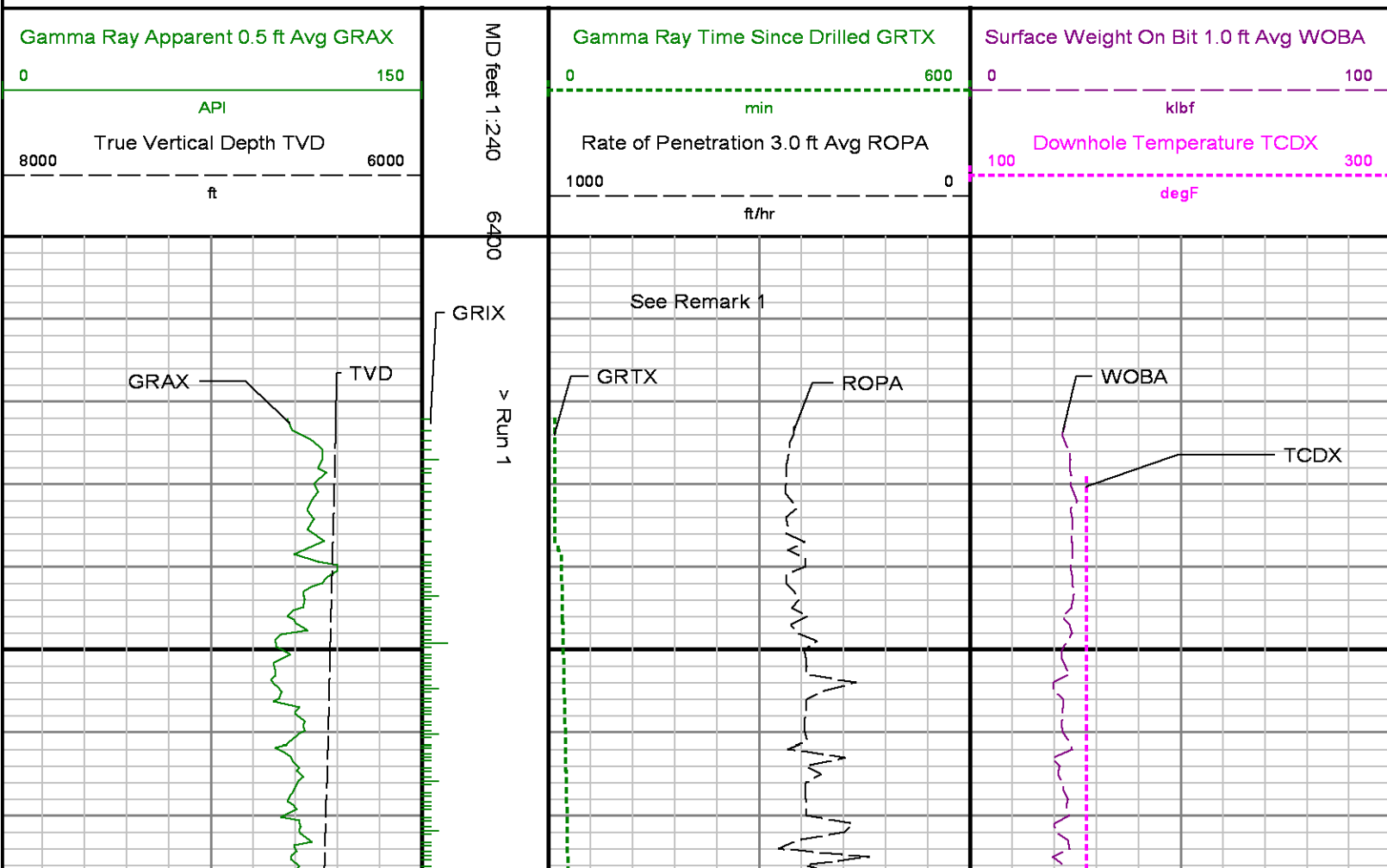


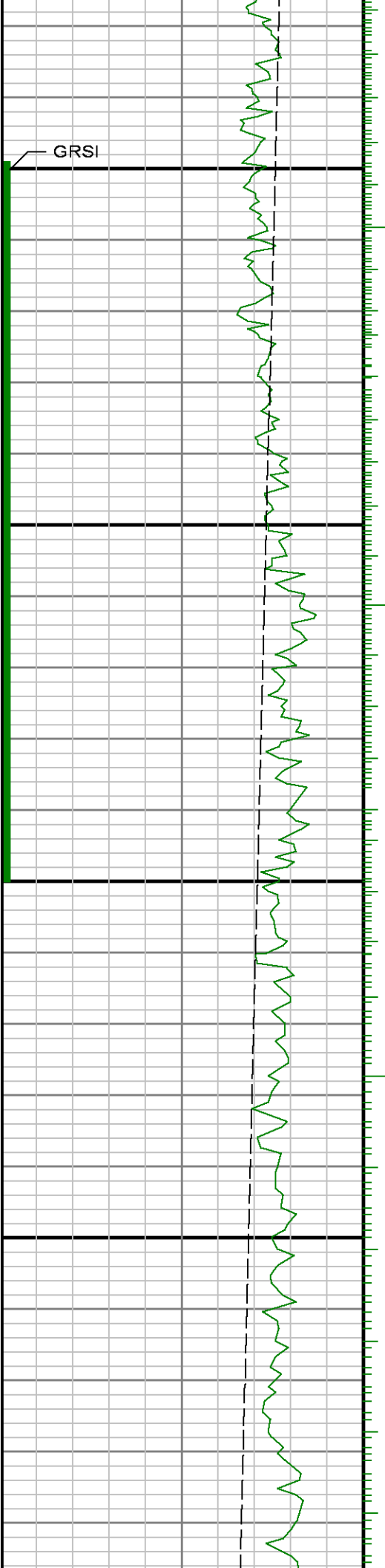
Company : Kerr McGee Oil & Gas Onshore LP

Well : Benson Farms 11N-19HZ

Interval : 6400.00 - 14325.00 feet

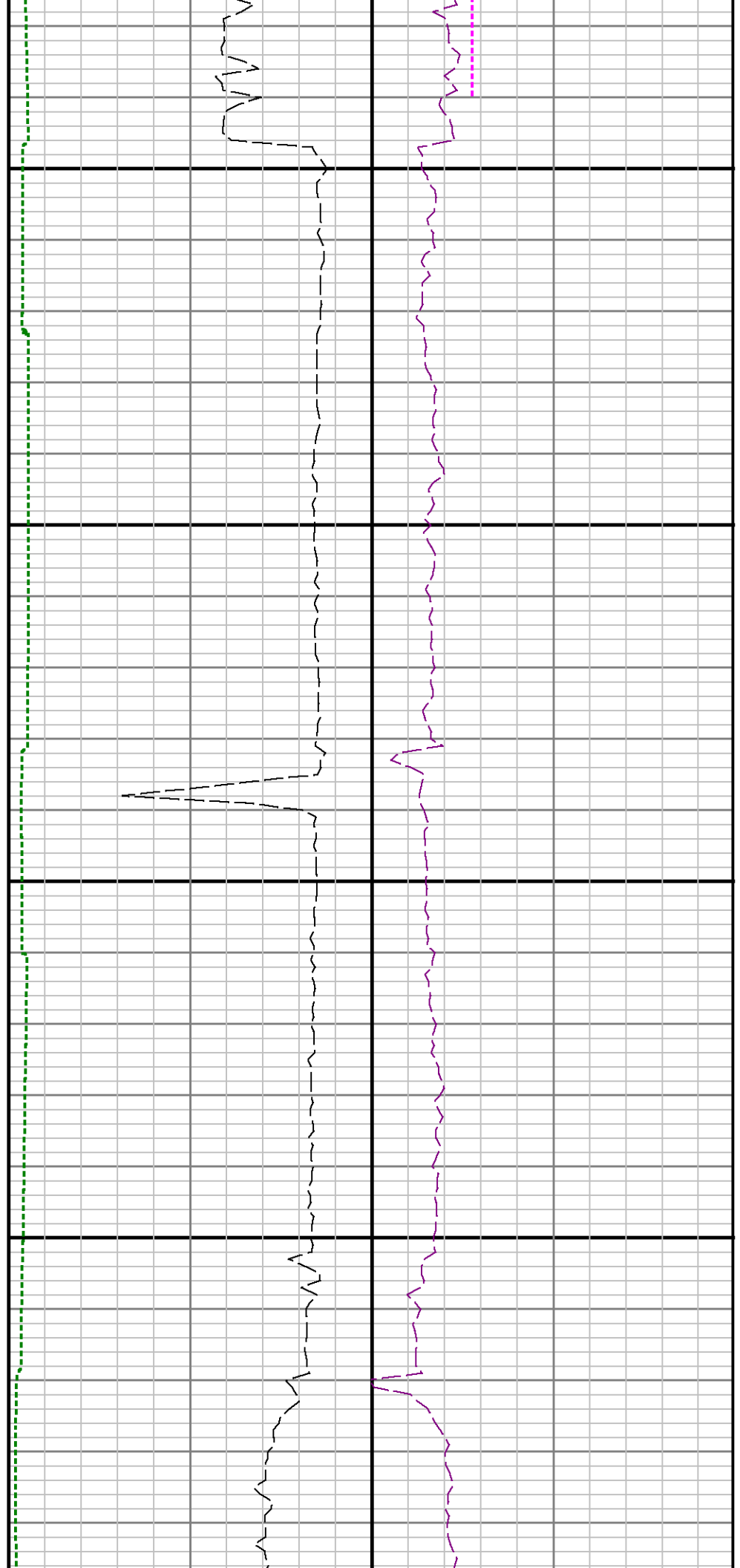
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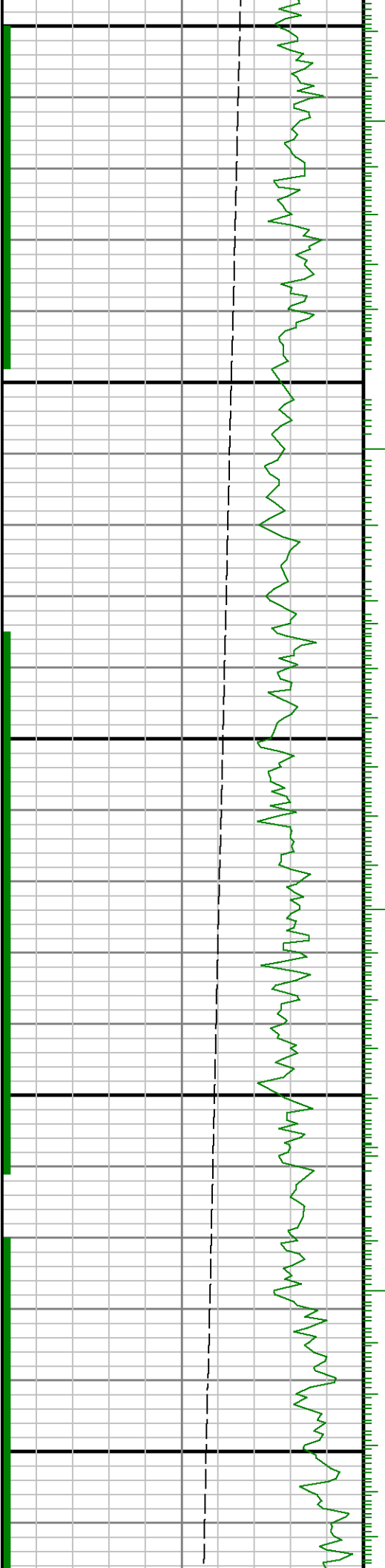




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6600



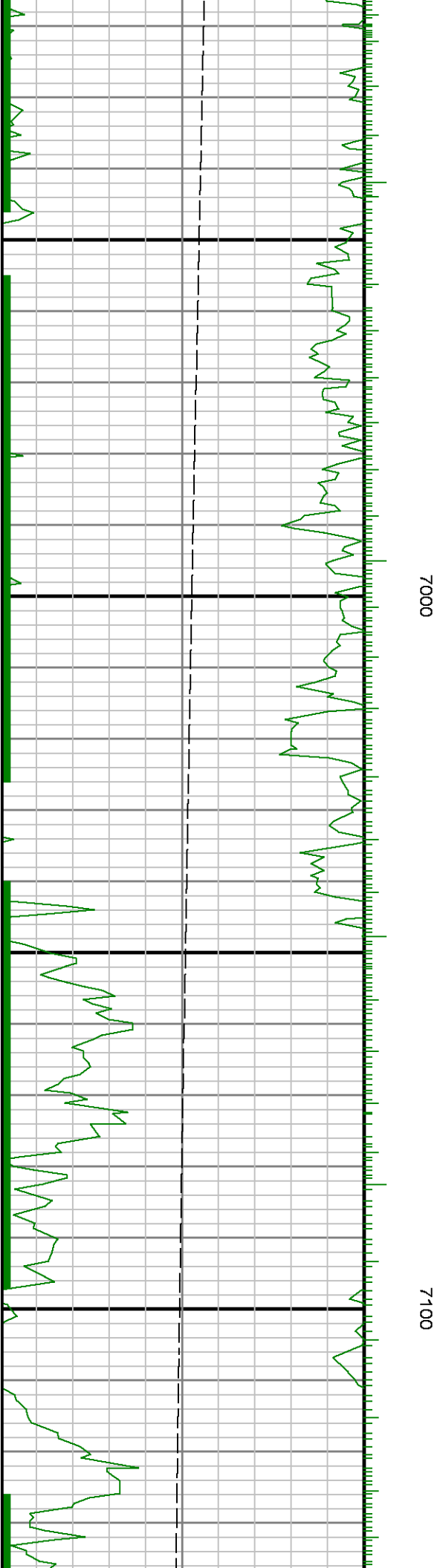
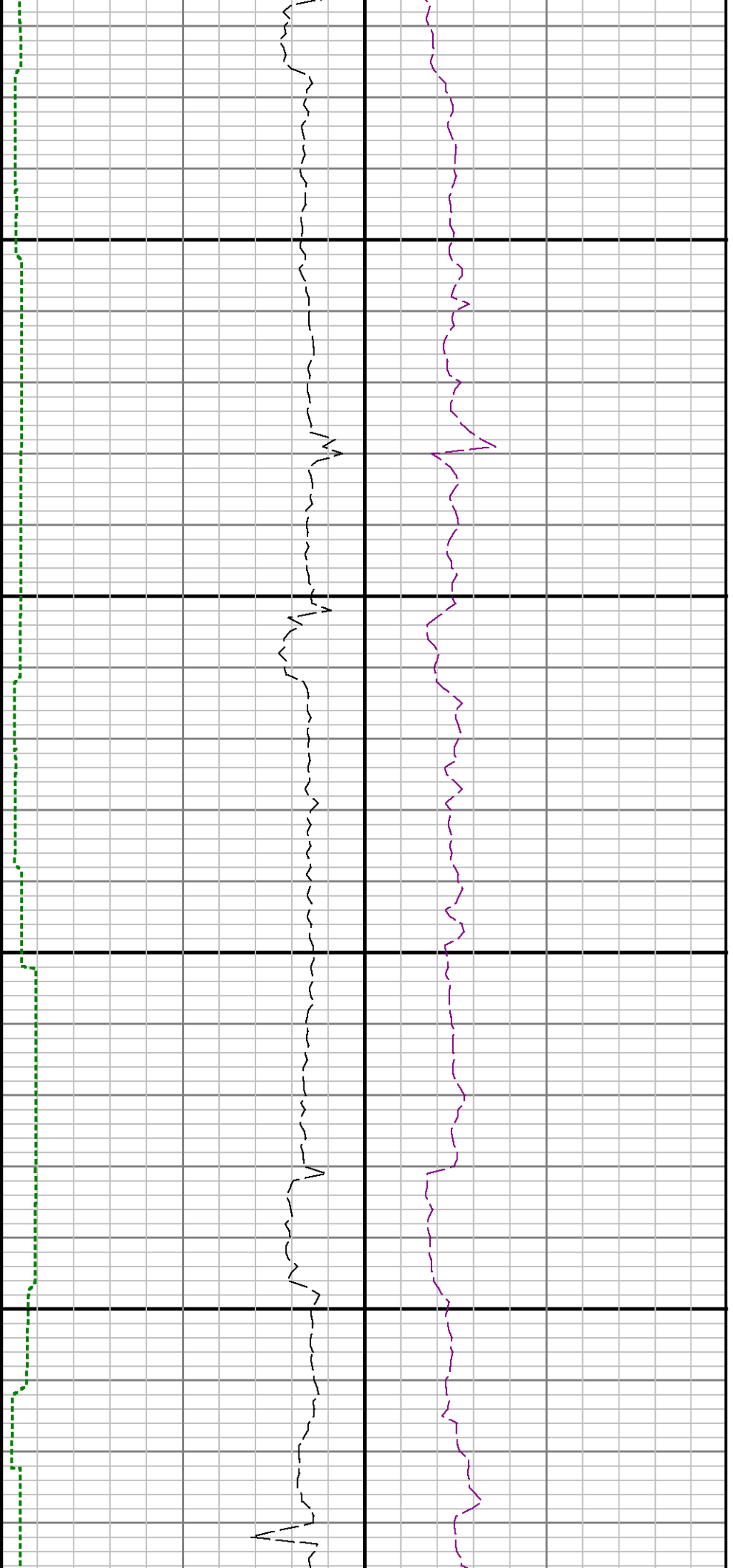


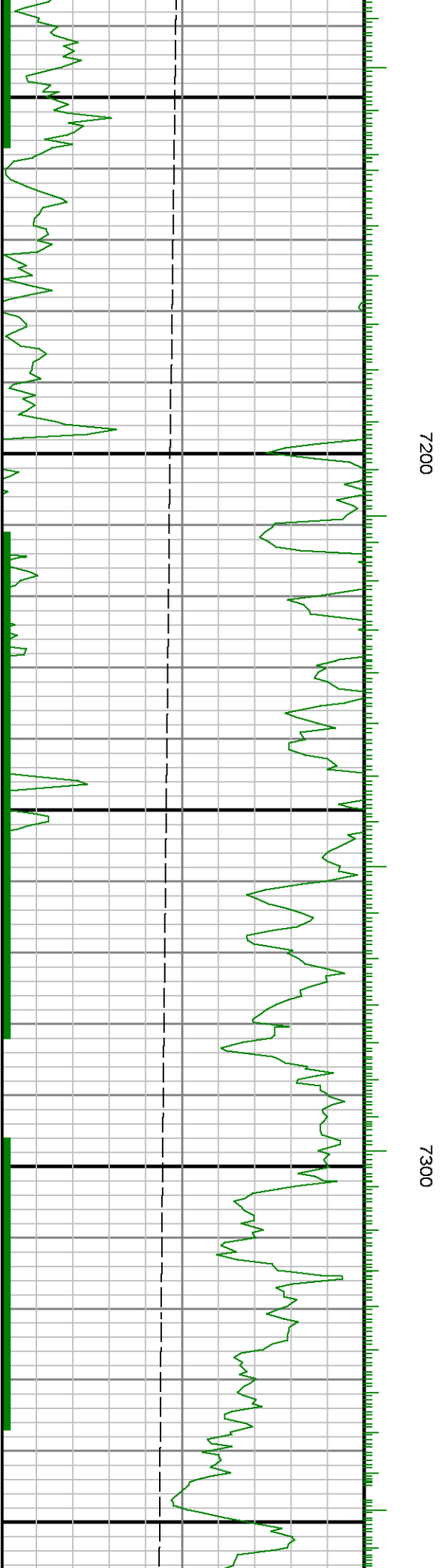
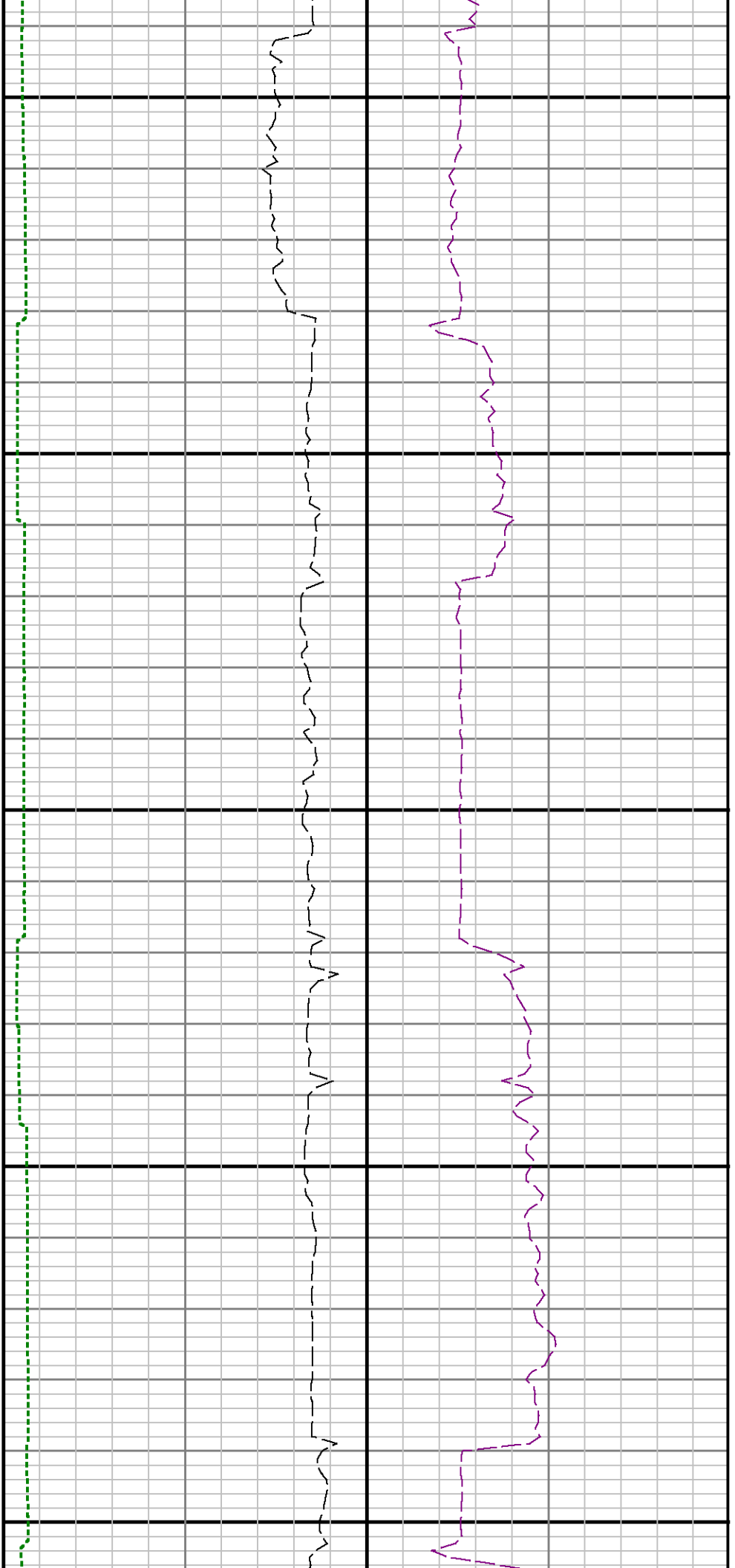
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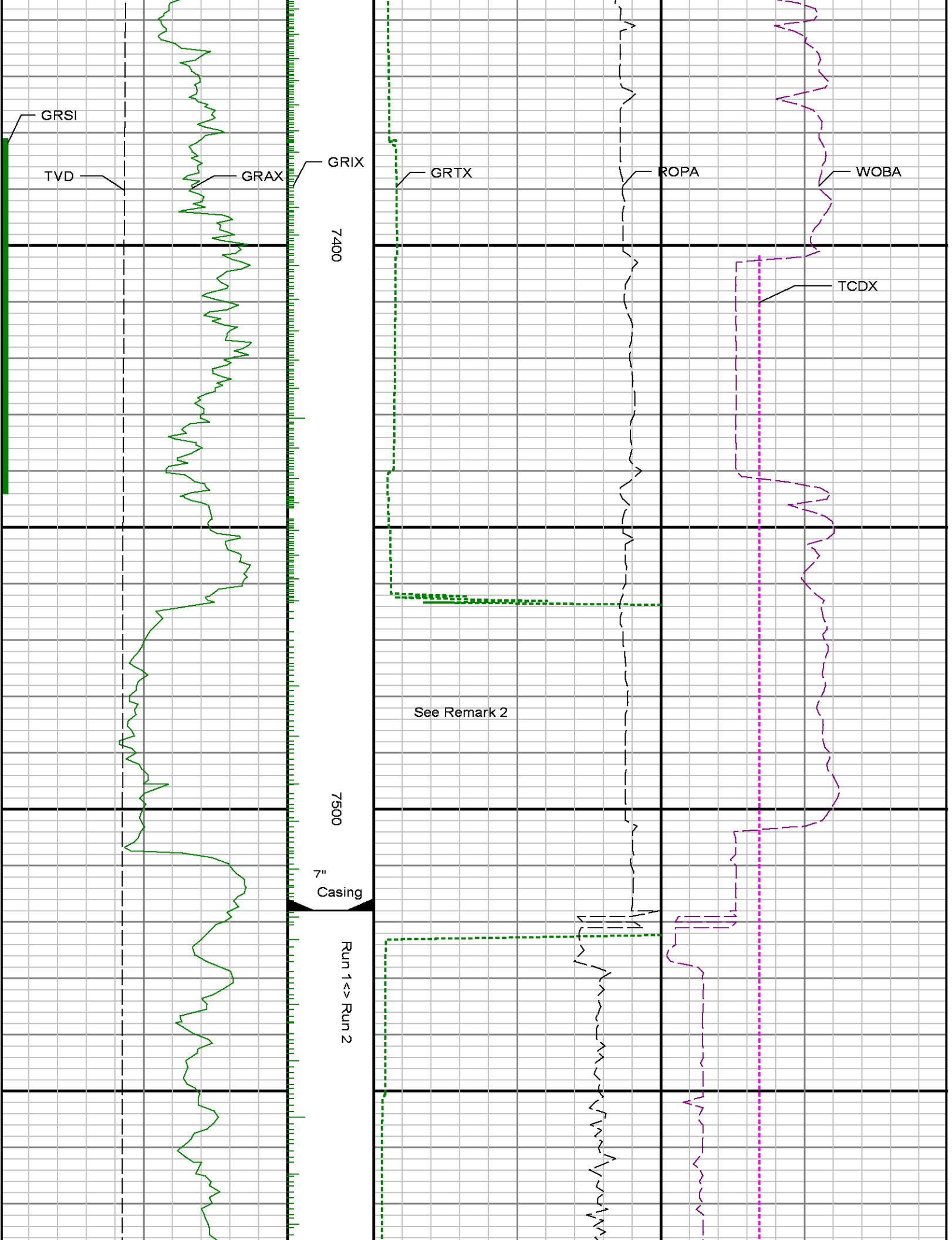
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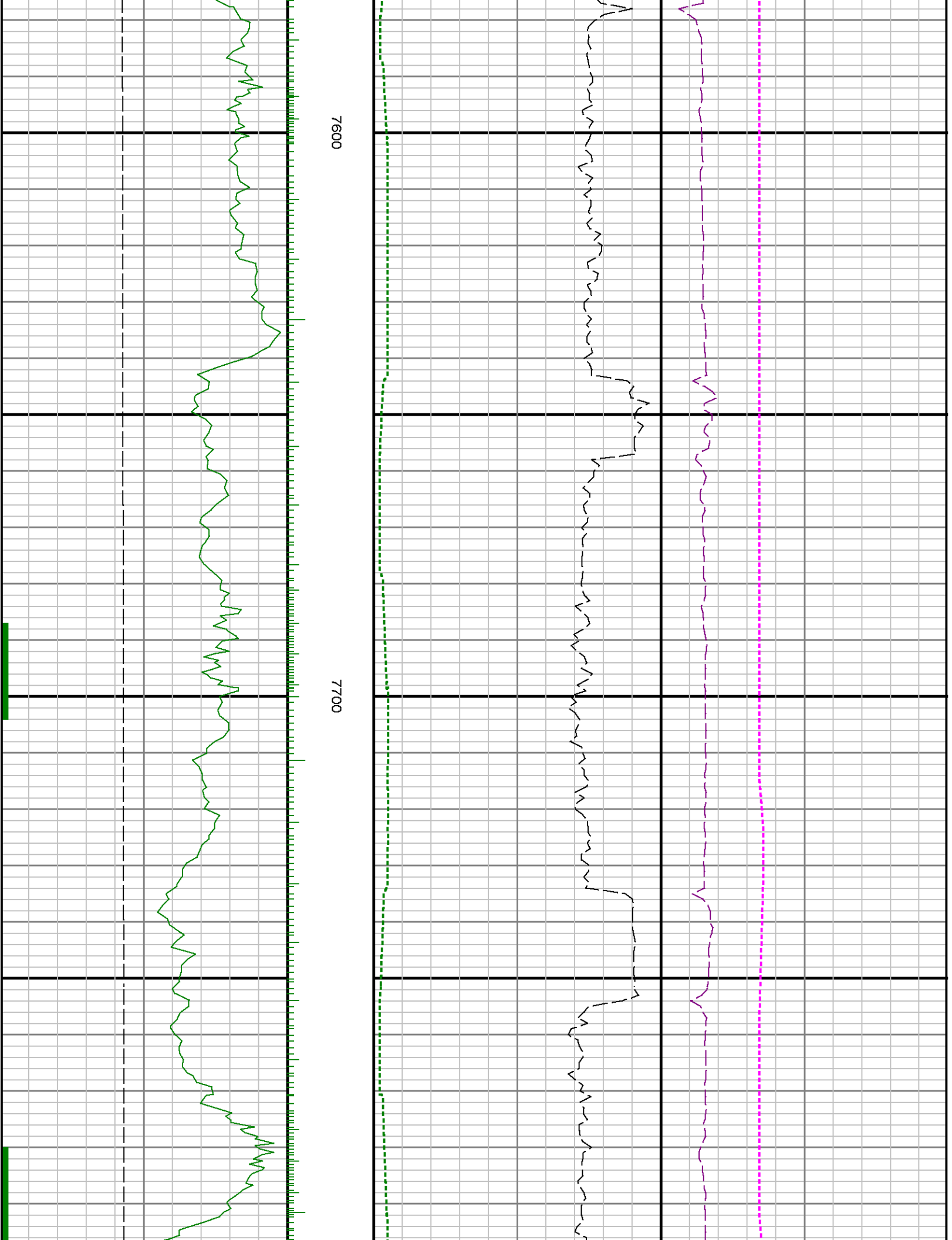


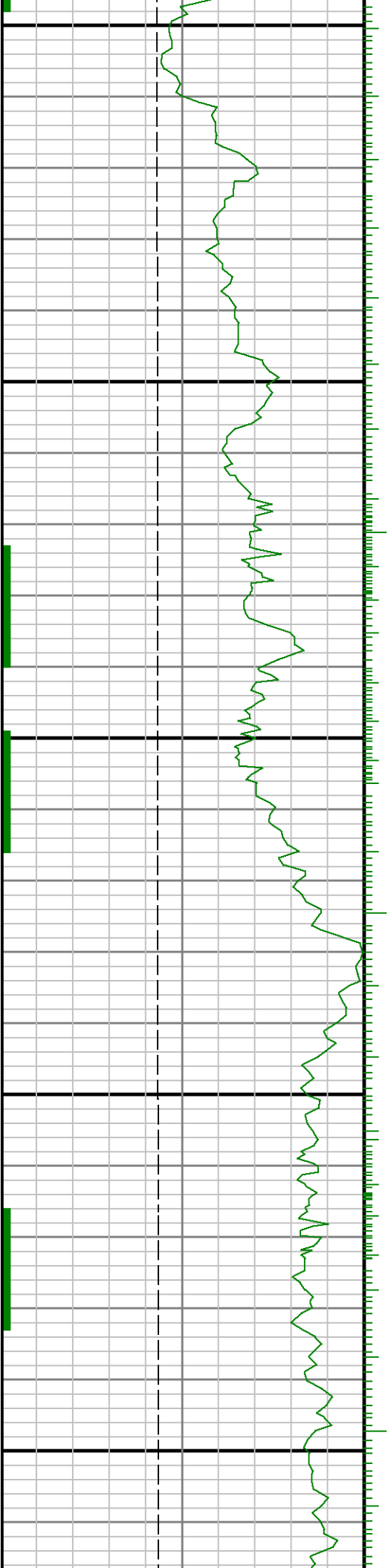








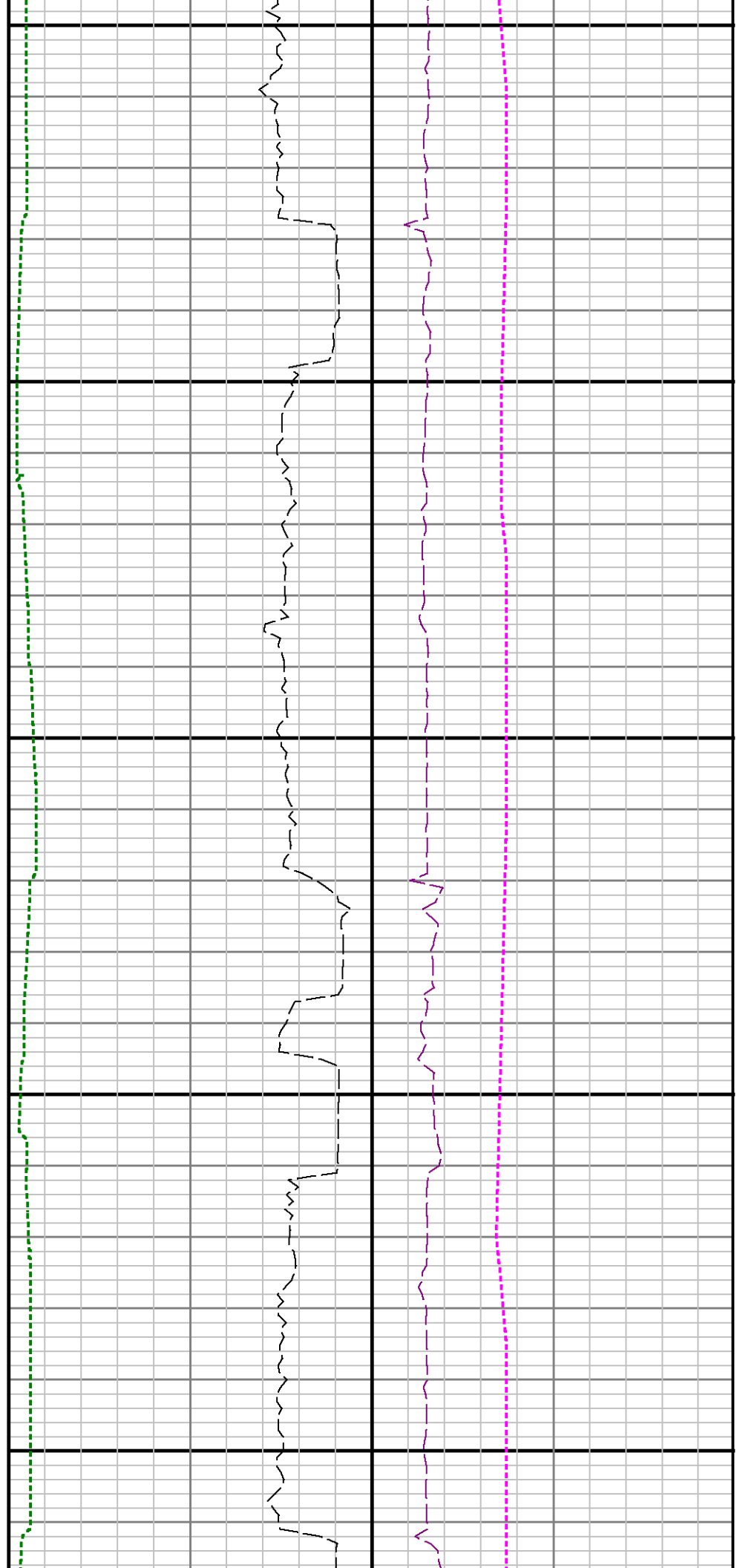




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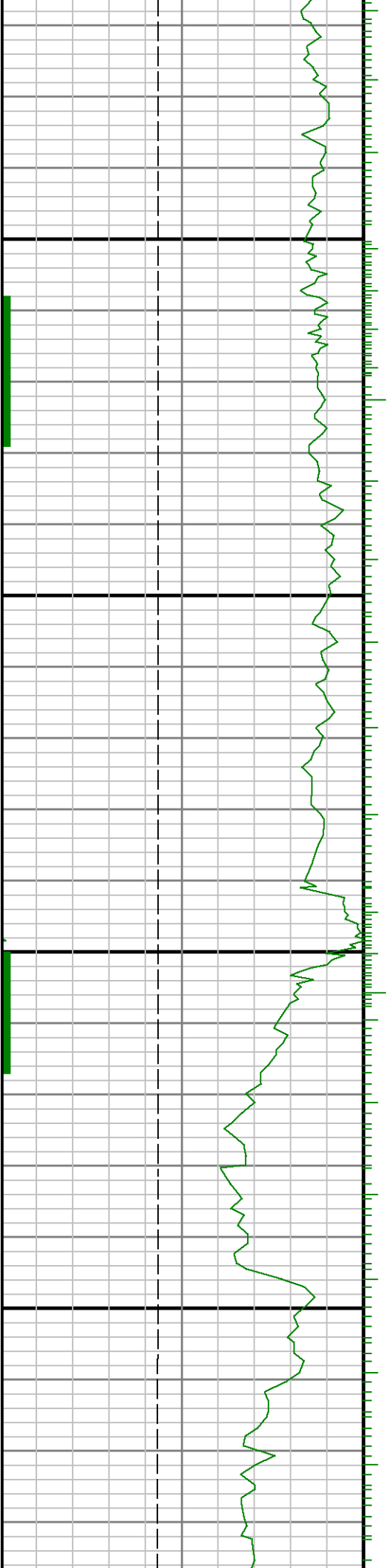
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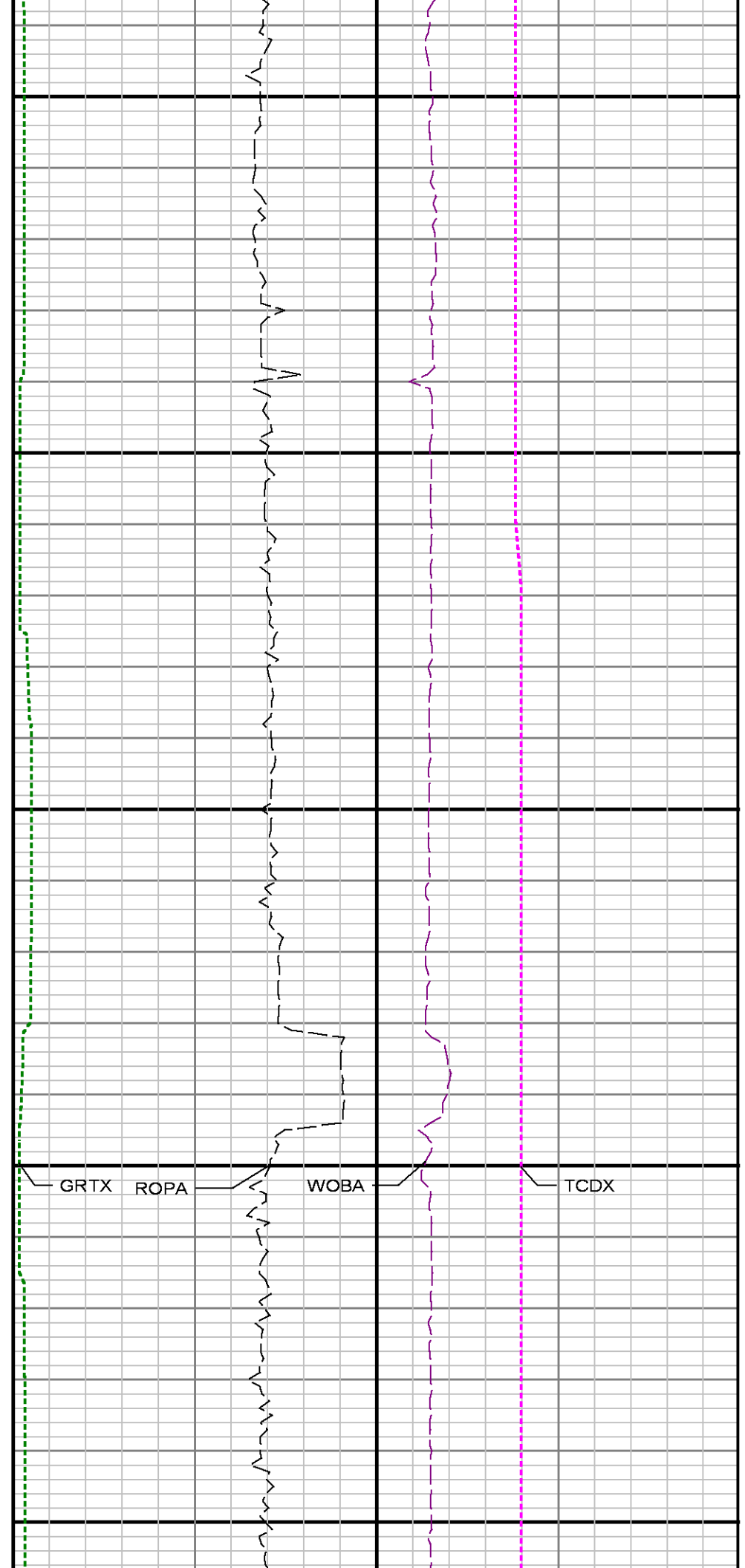
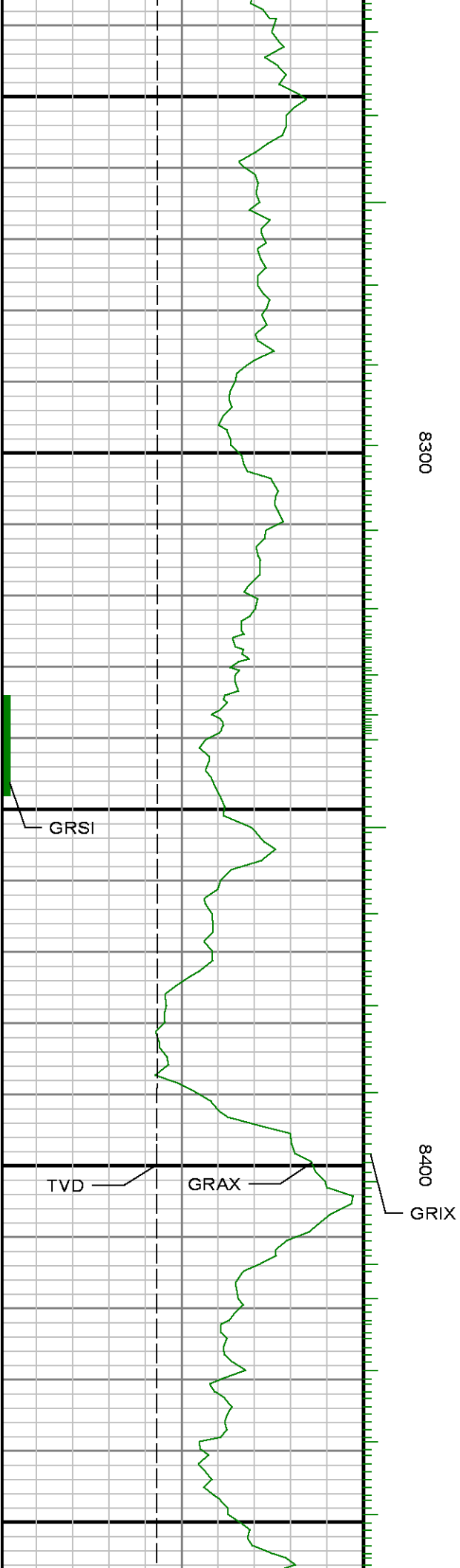


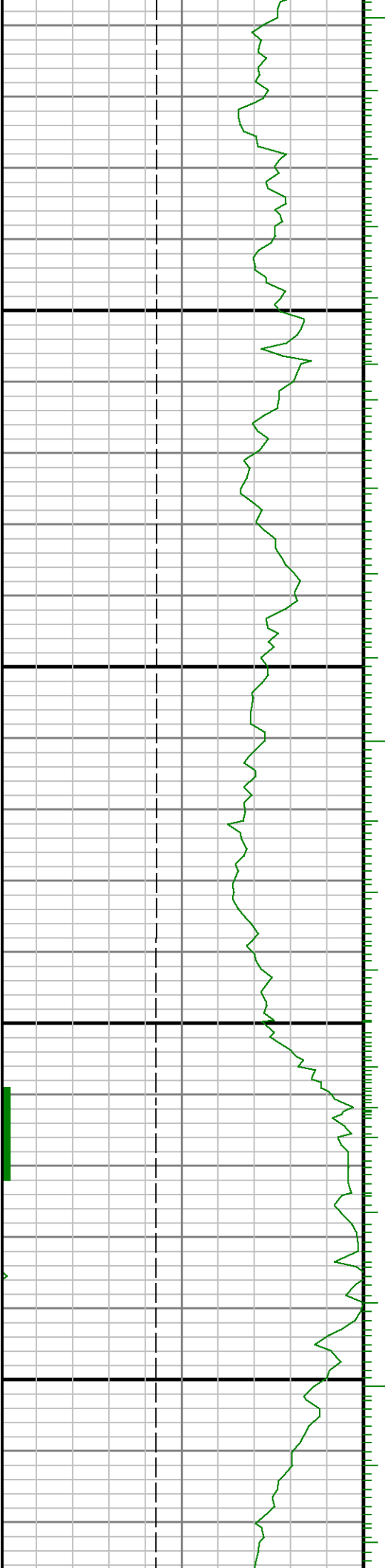


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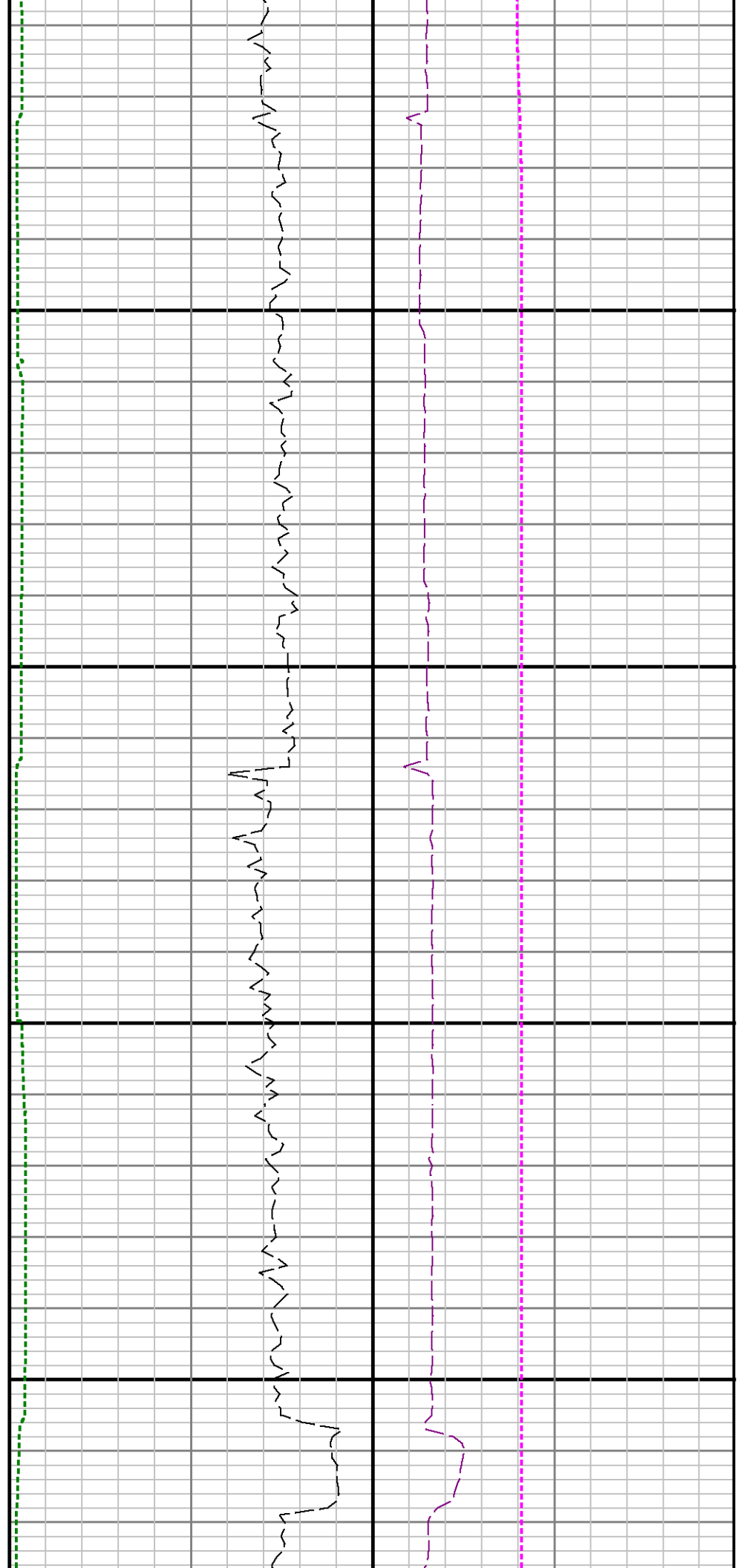


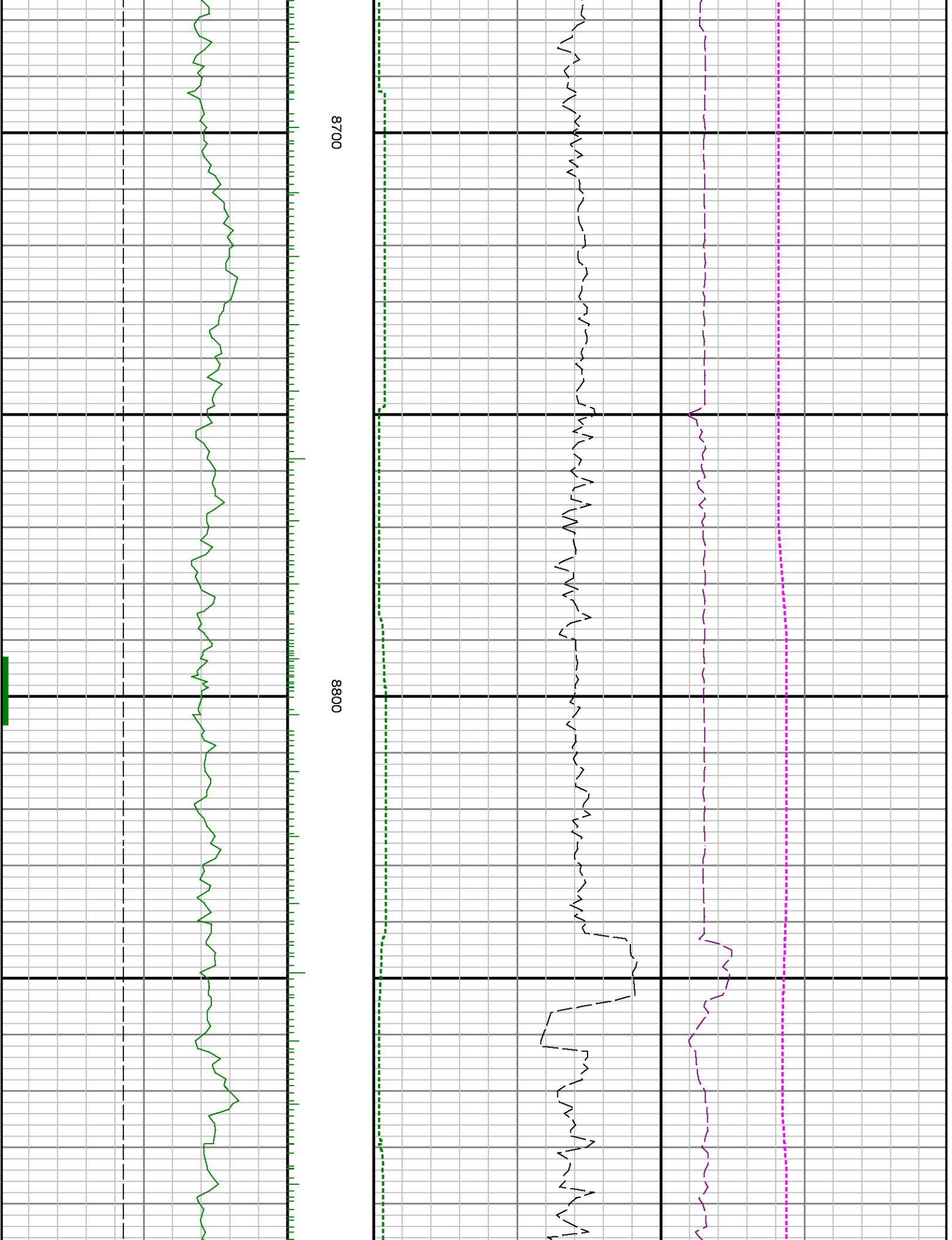


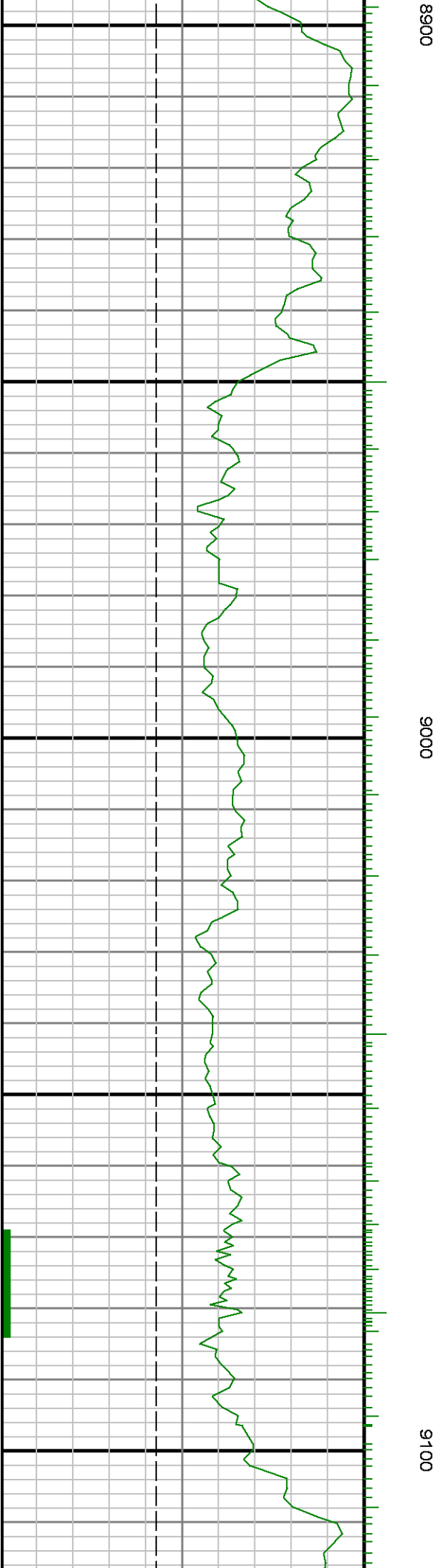
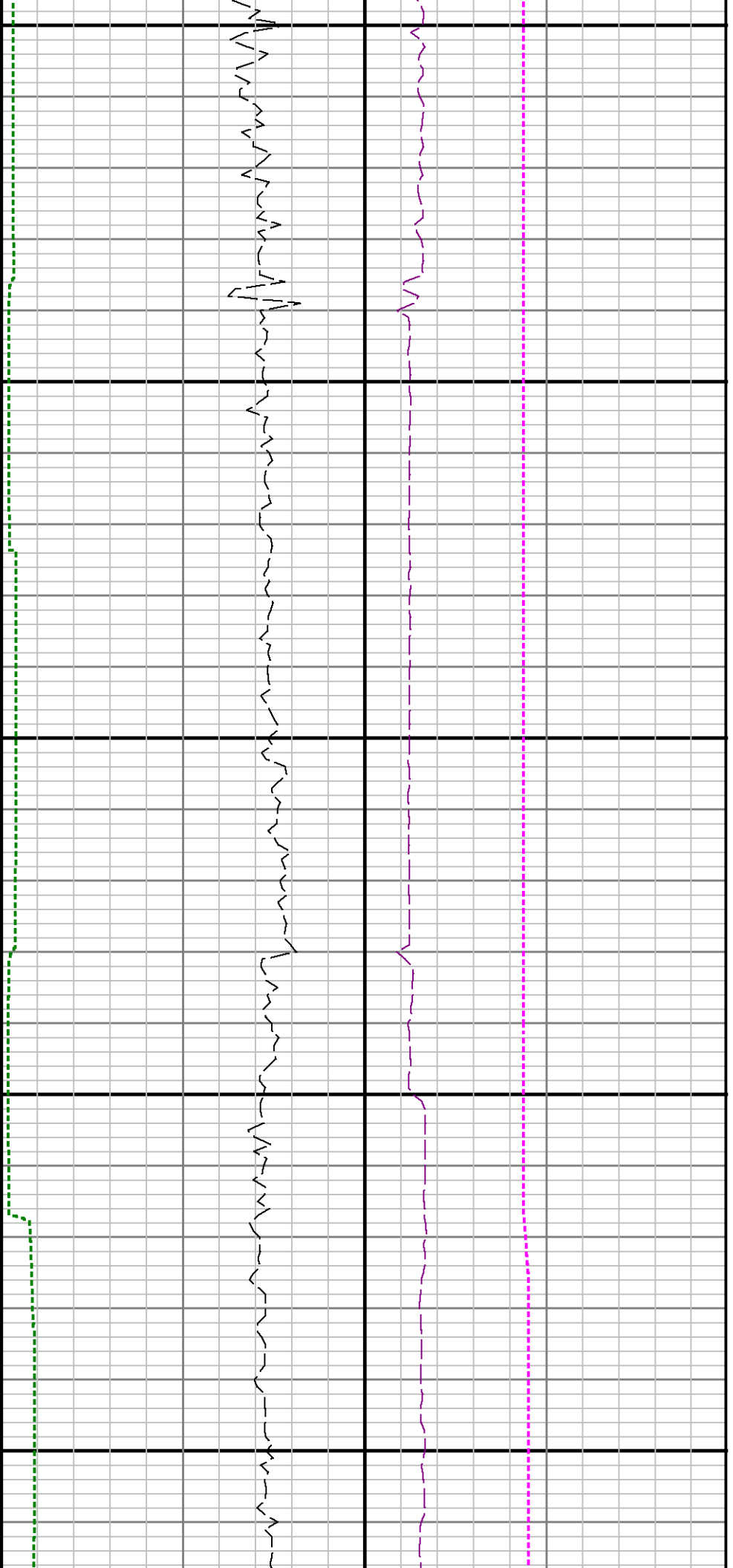


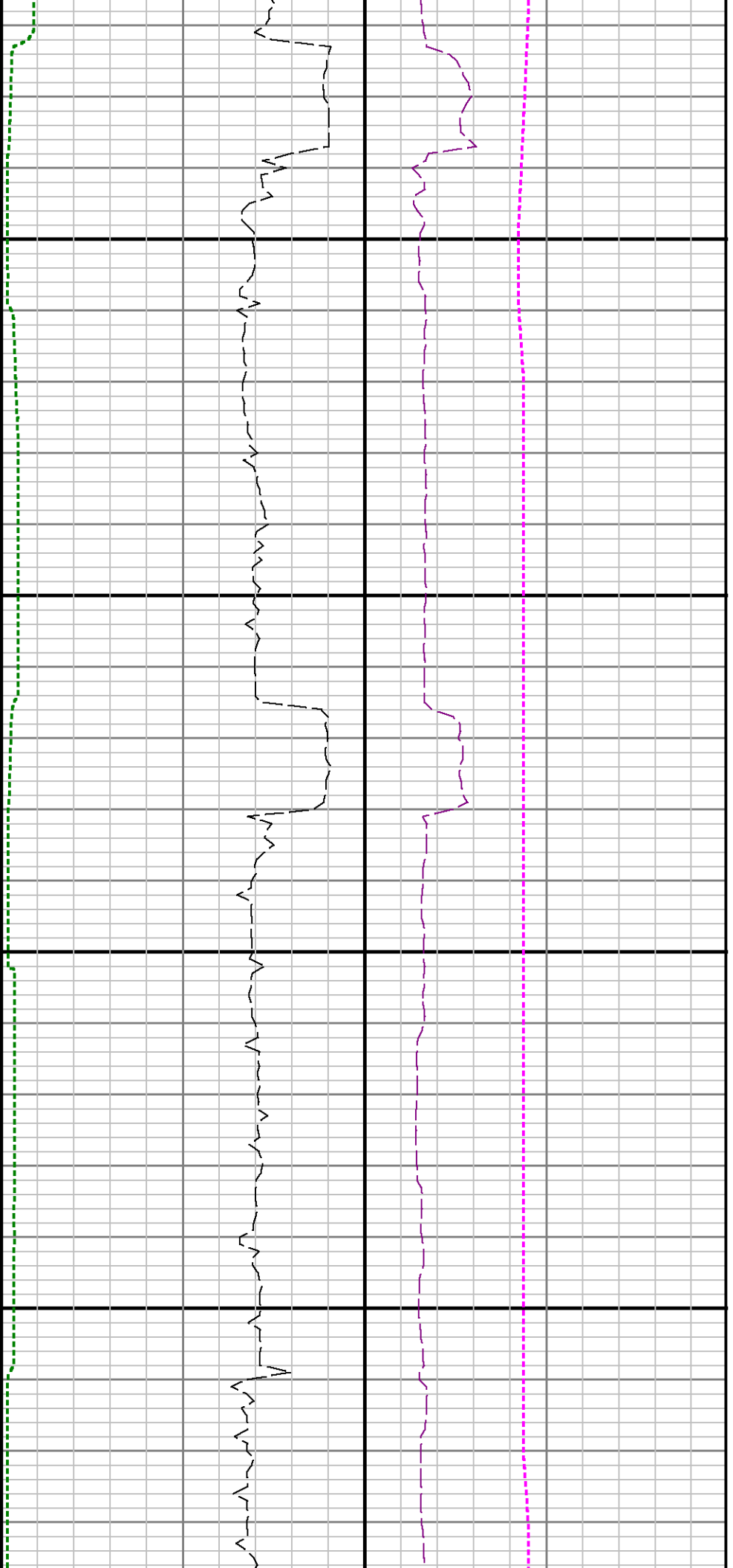
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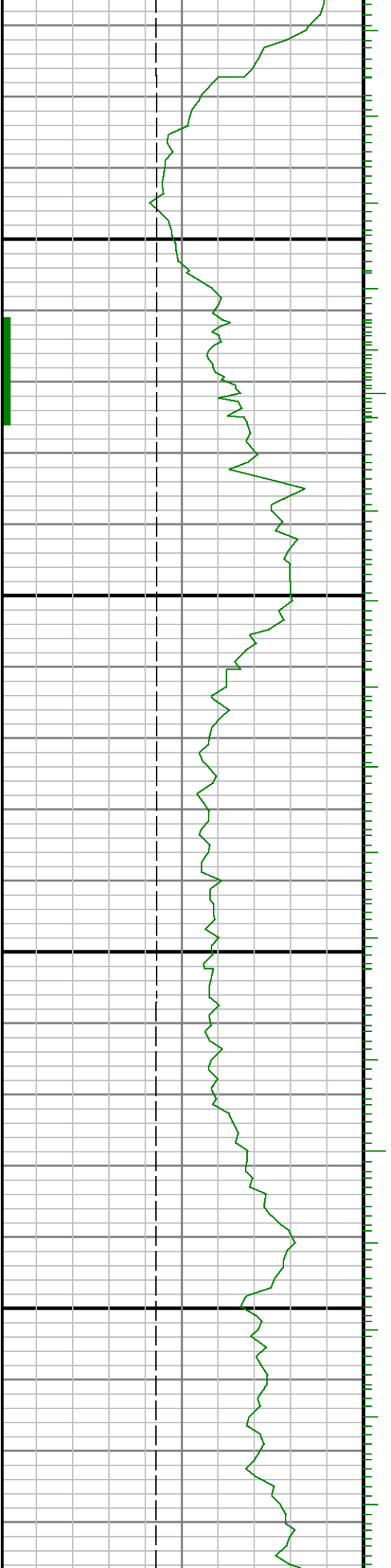




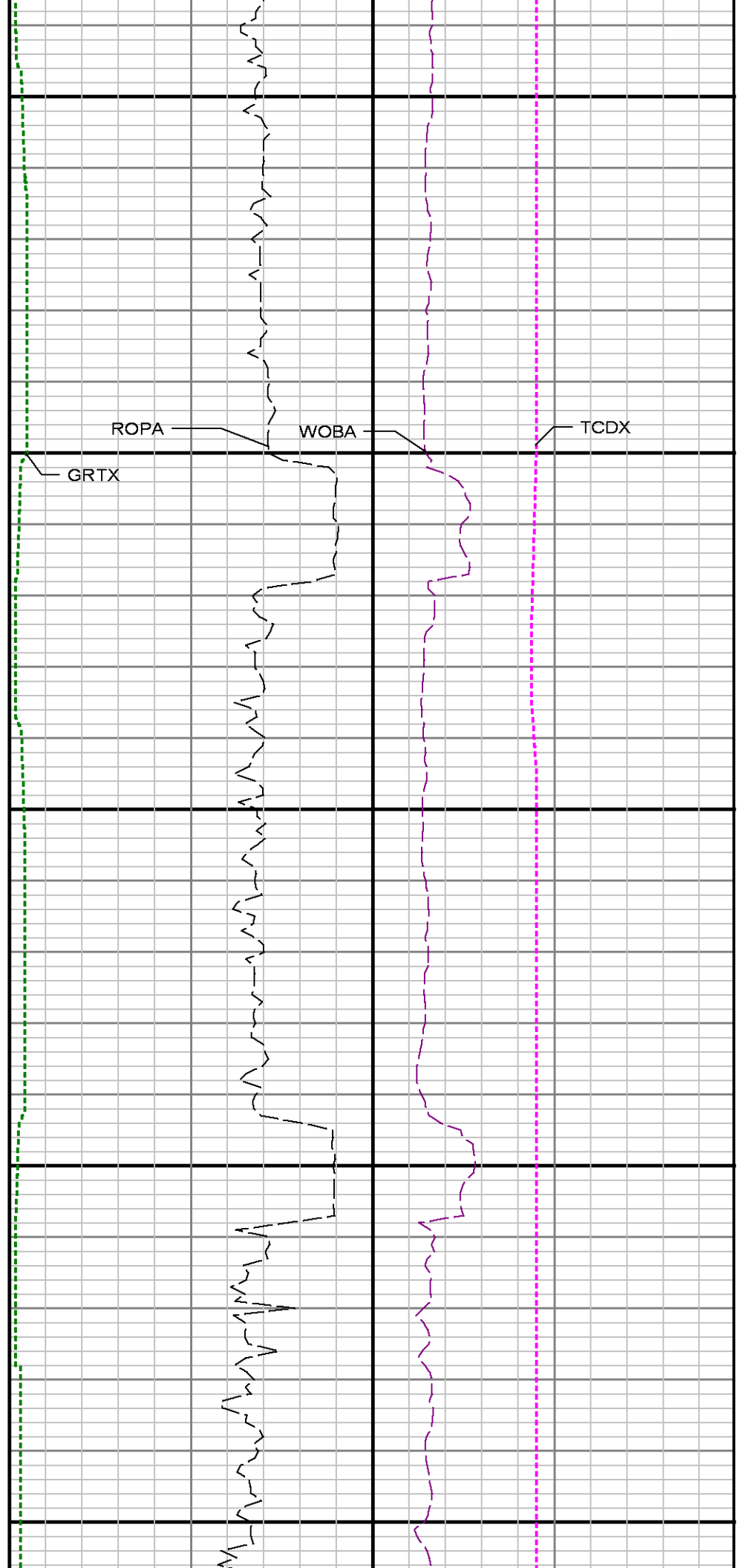
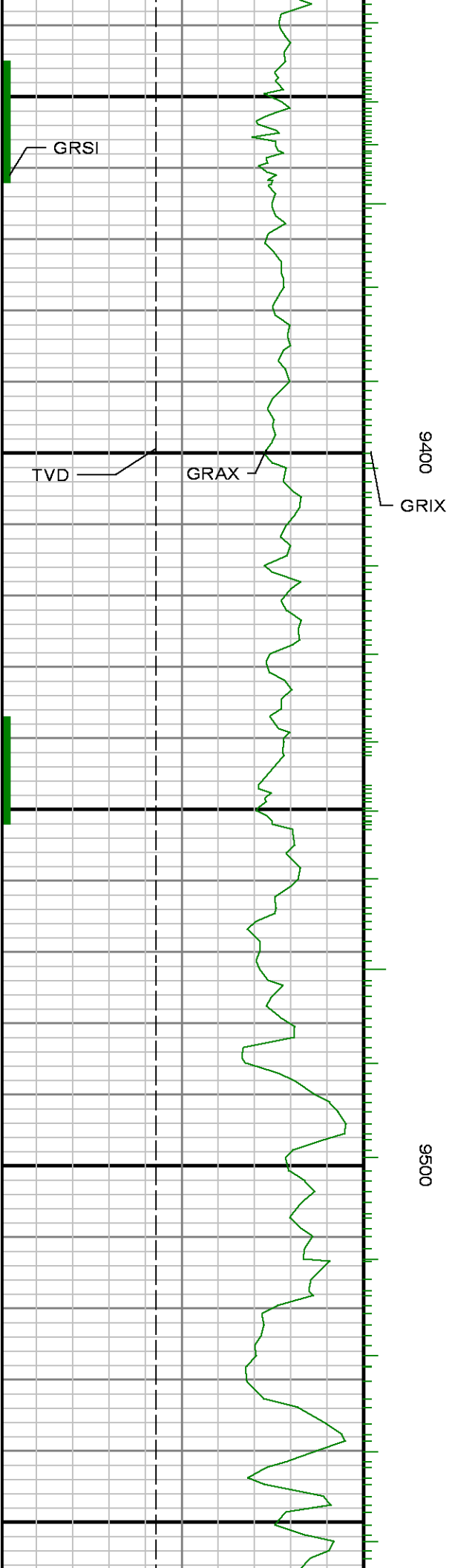


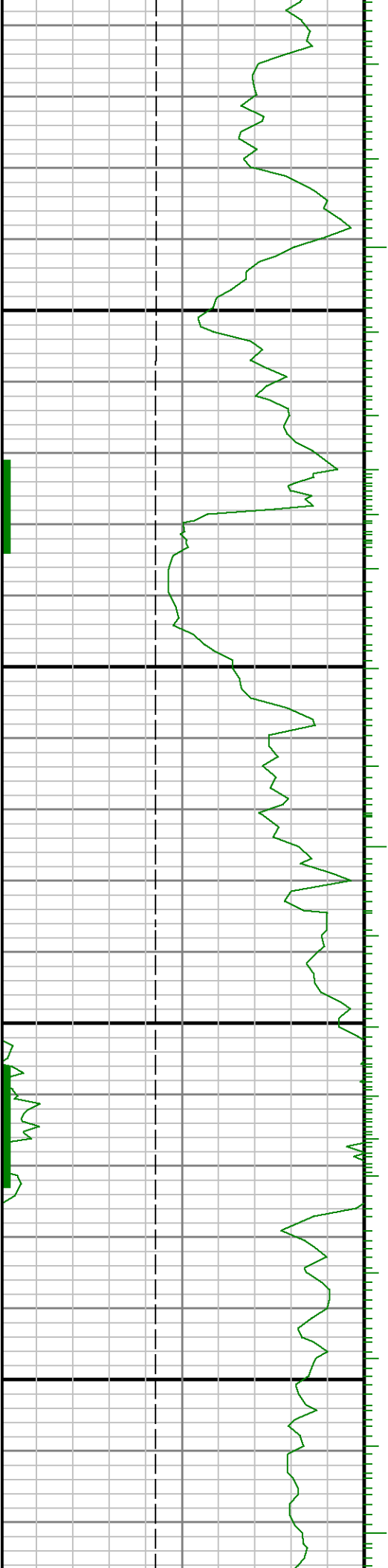
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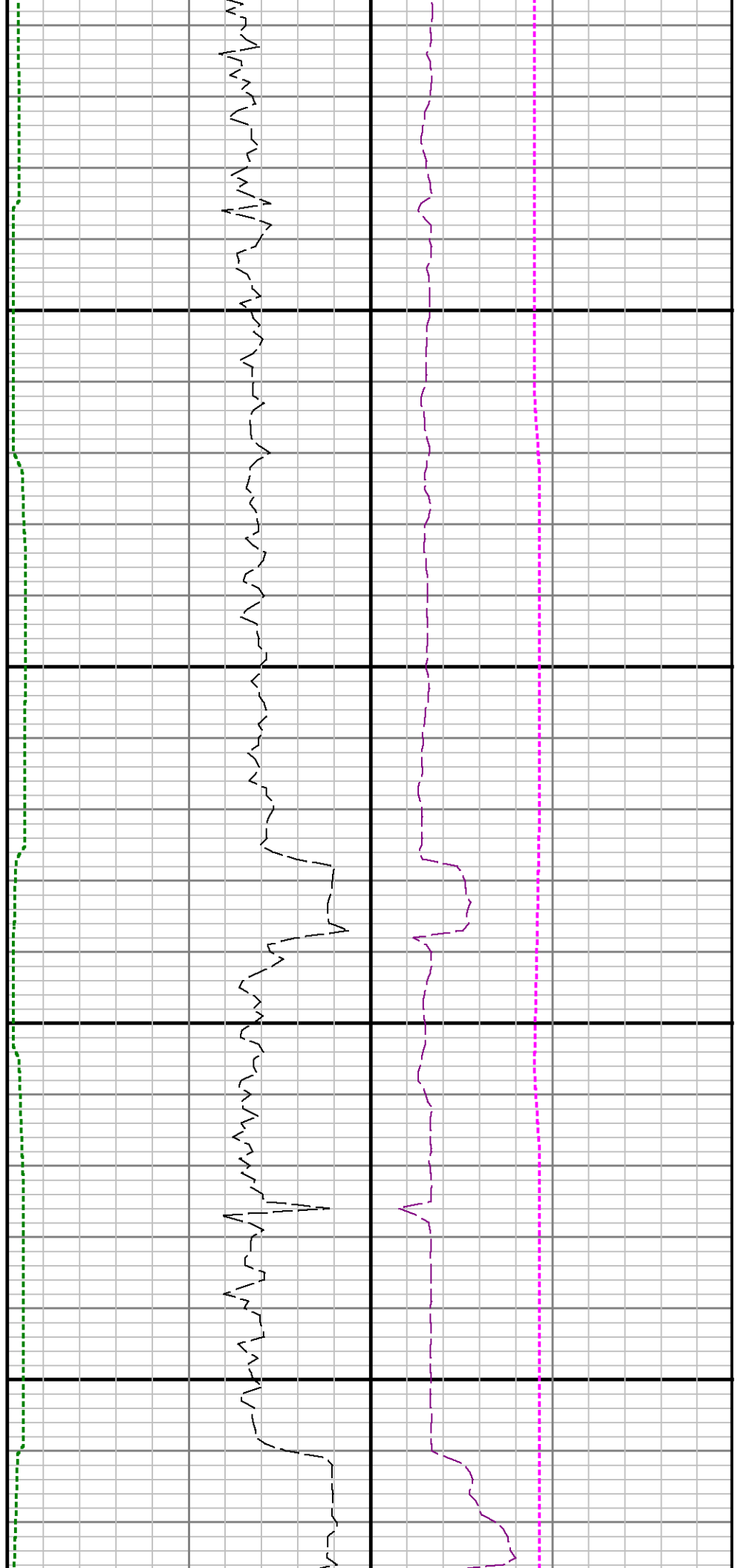


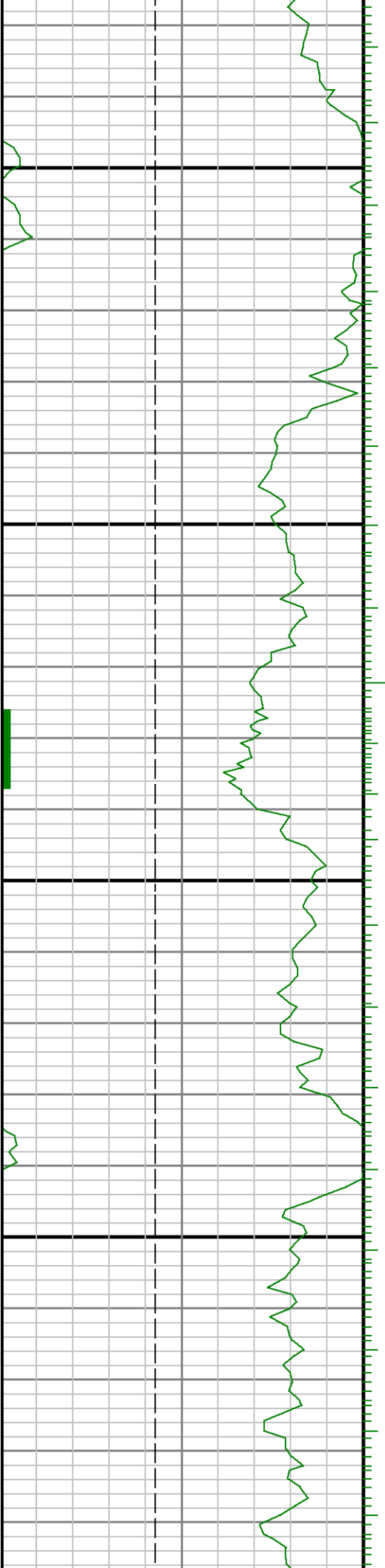




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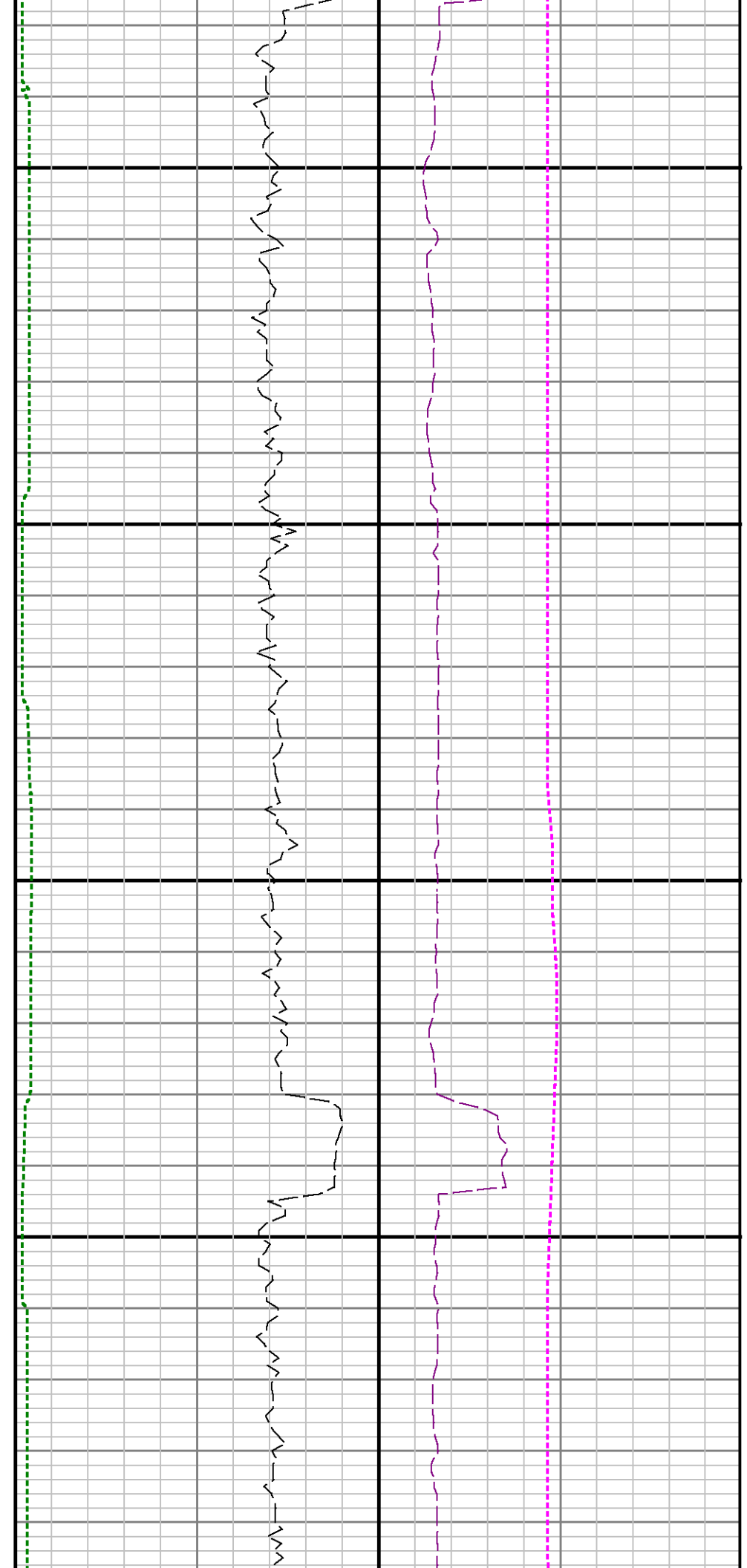
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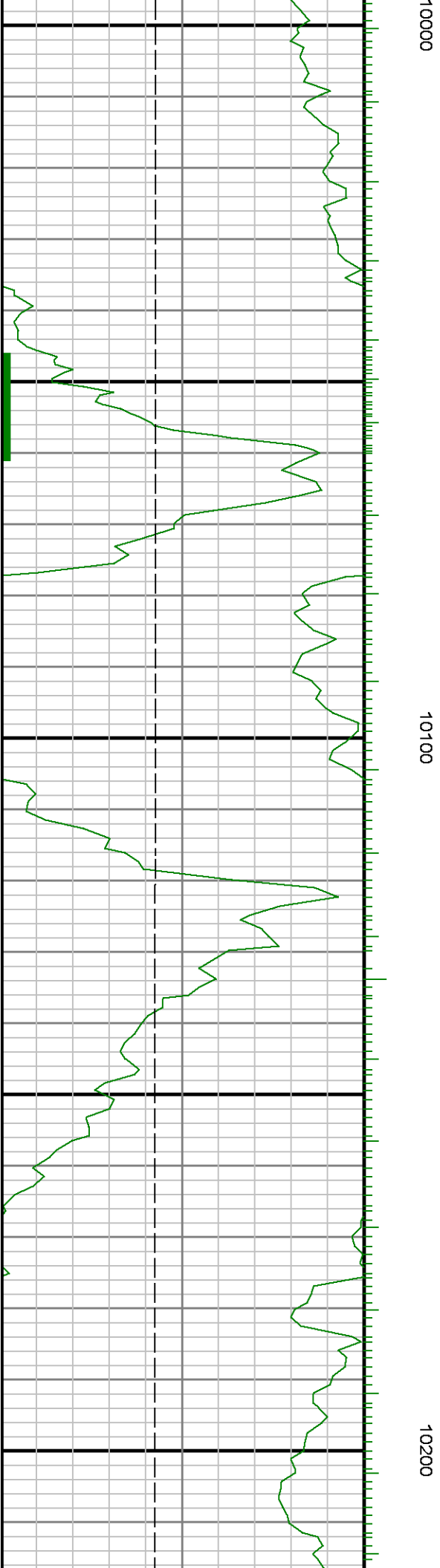
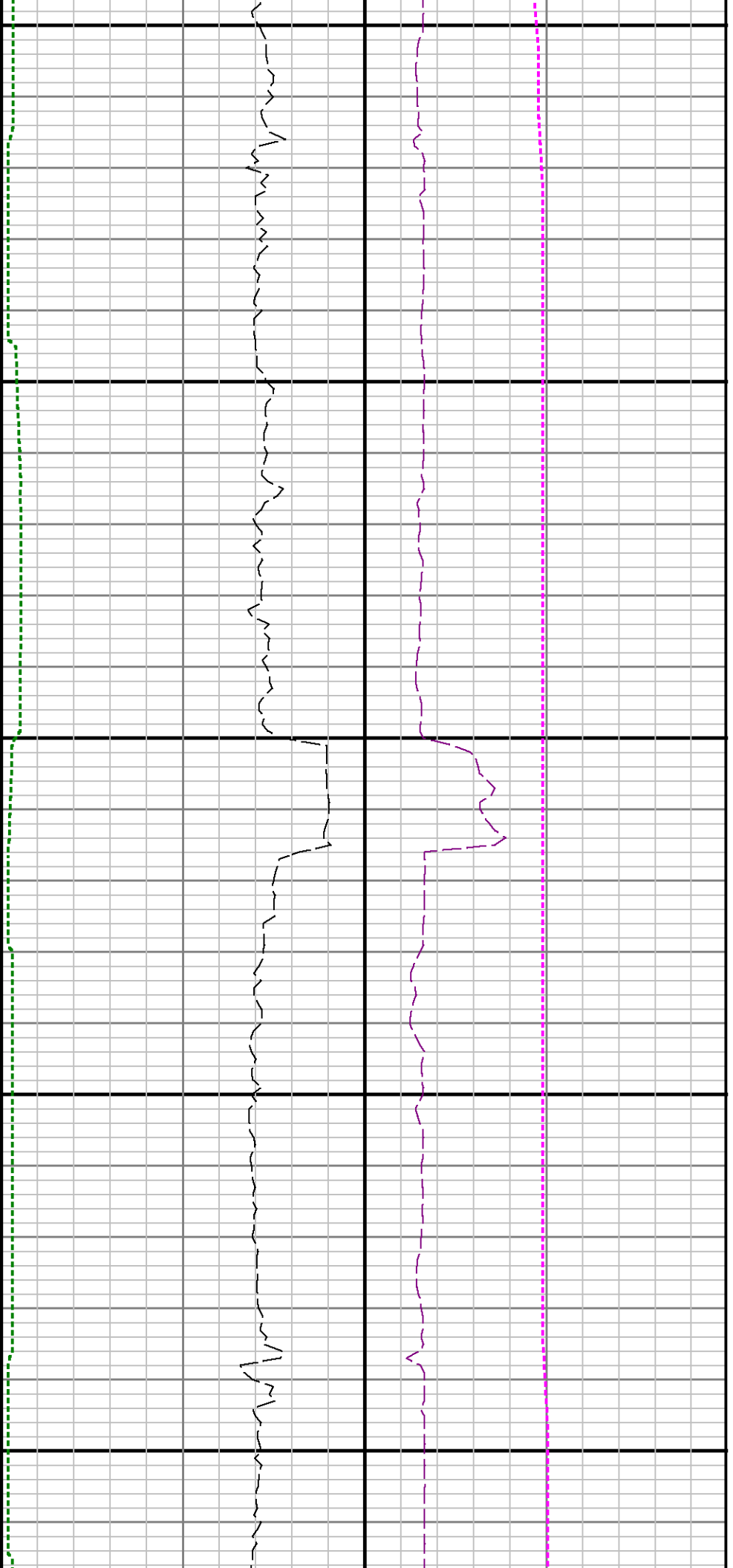


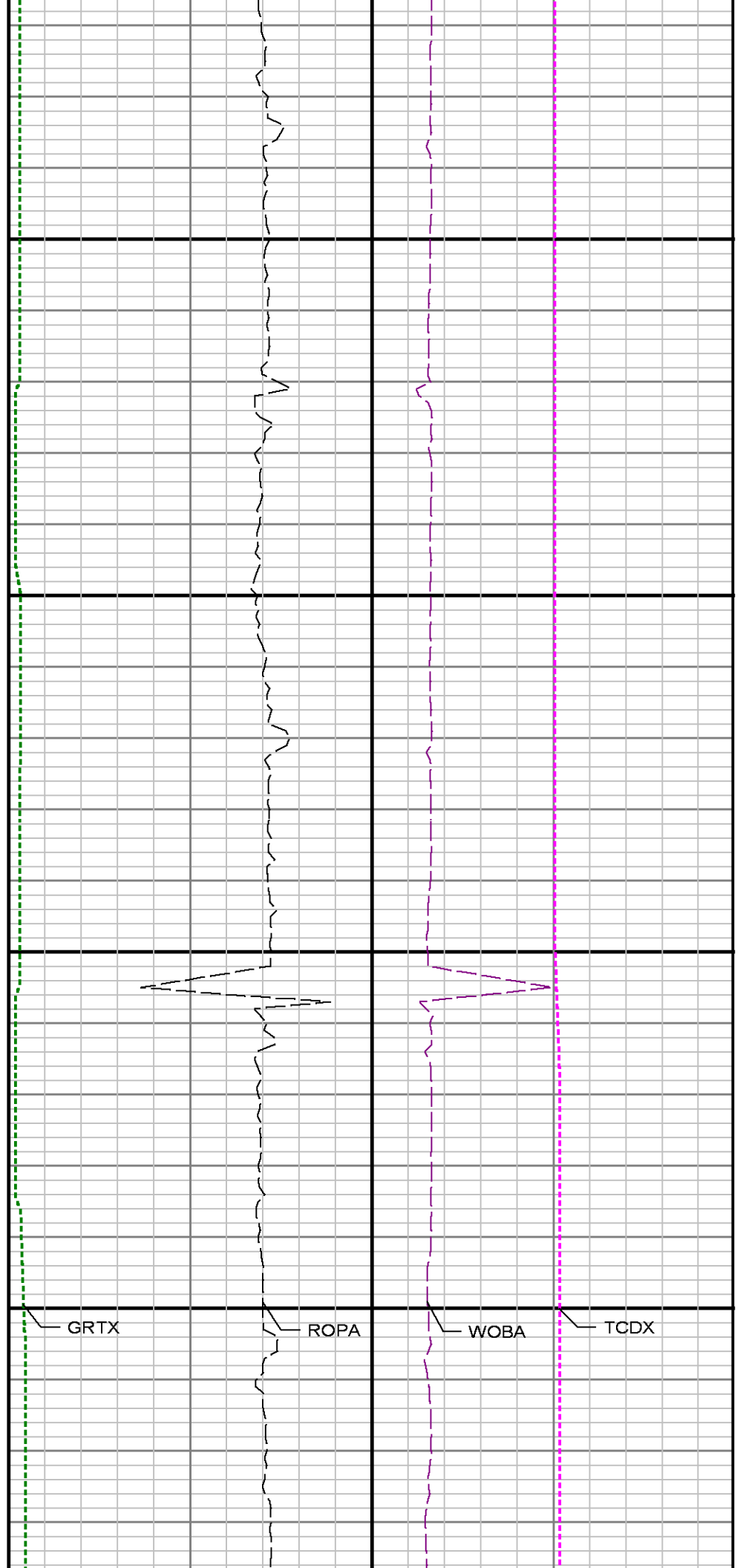
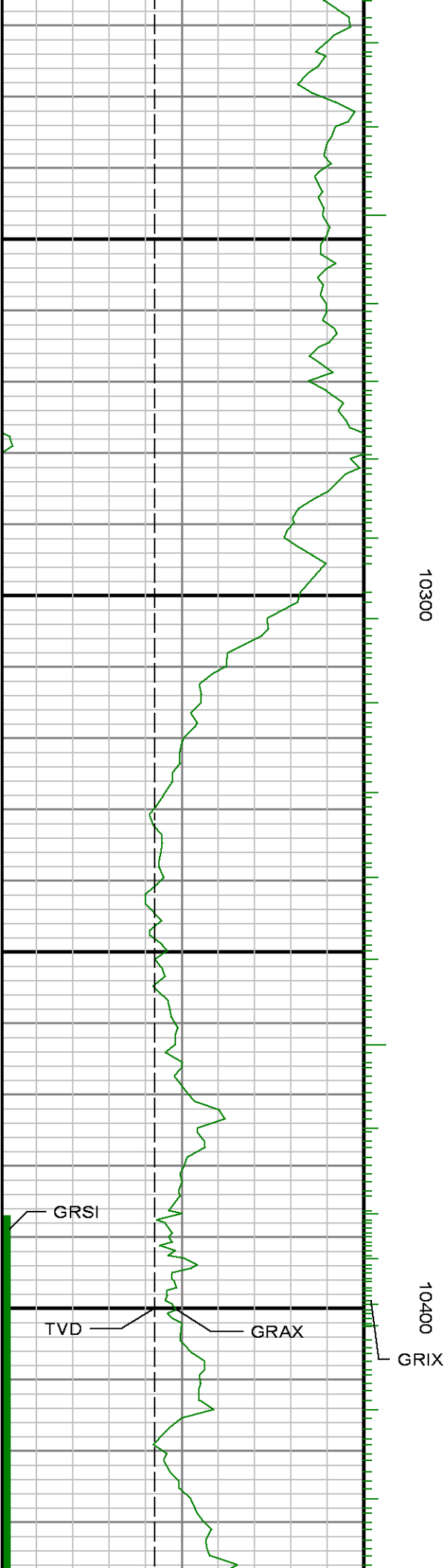


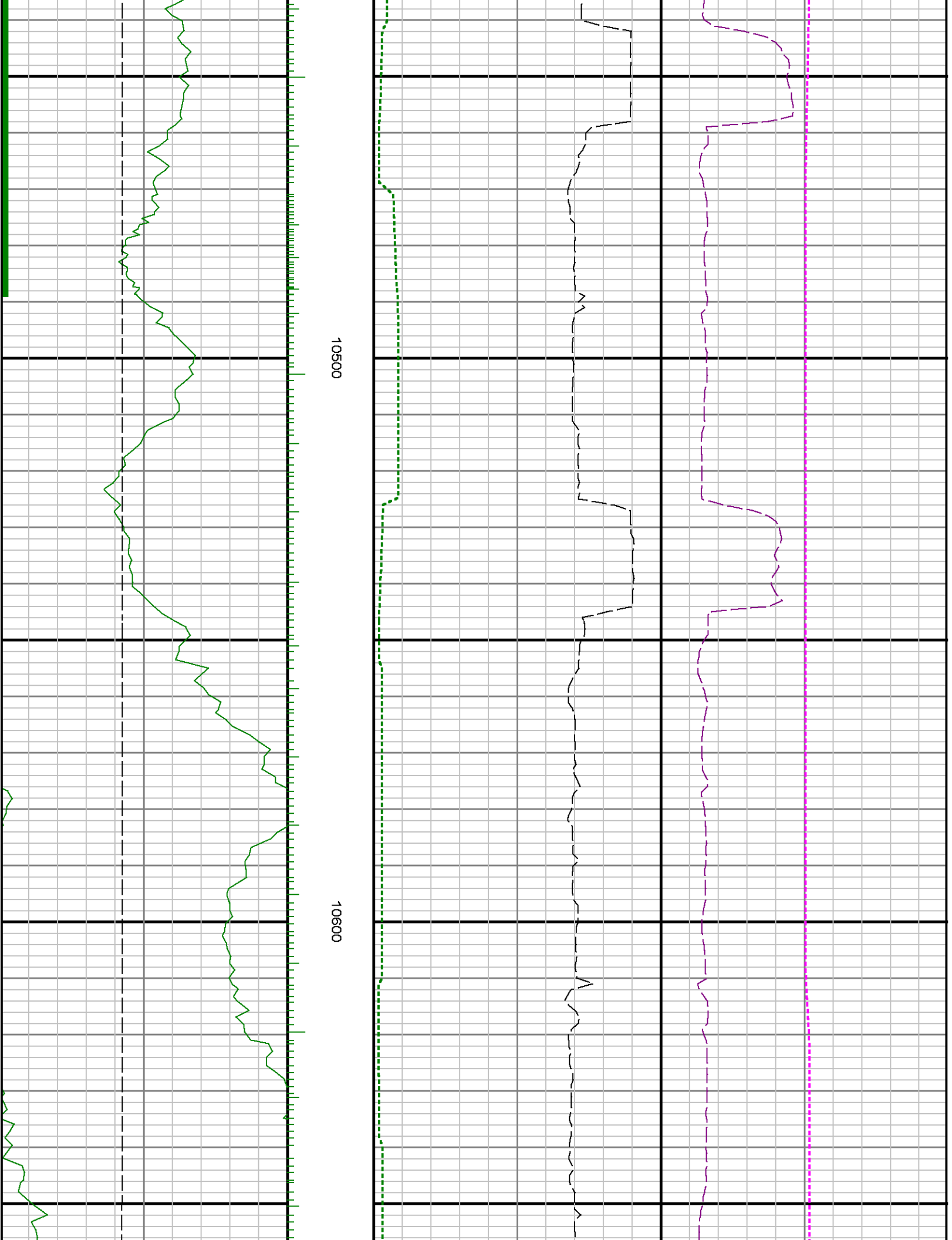
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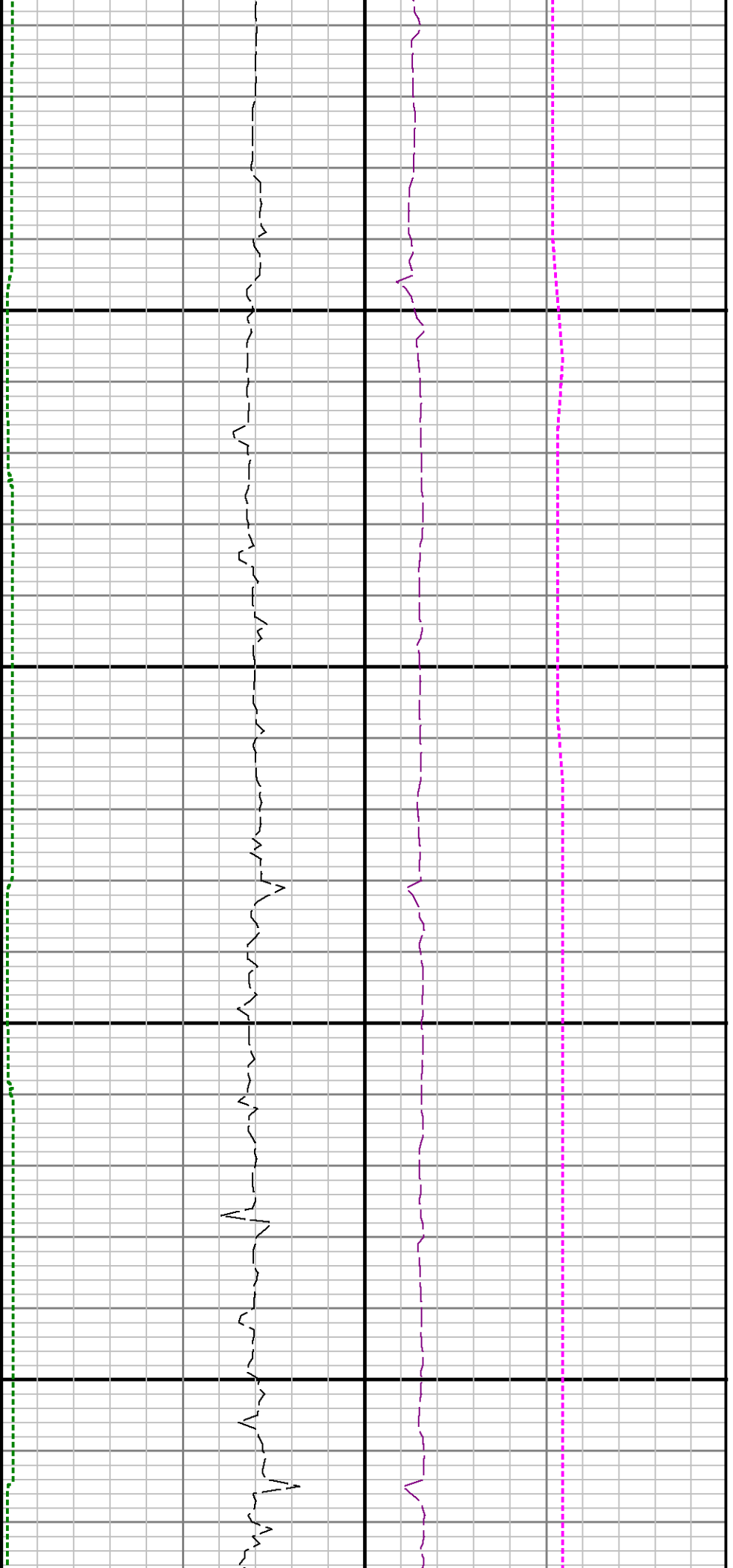
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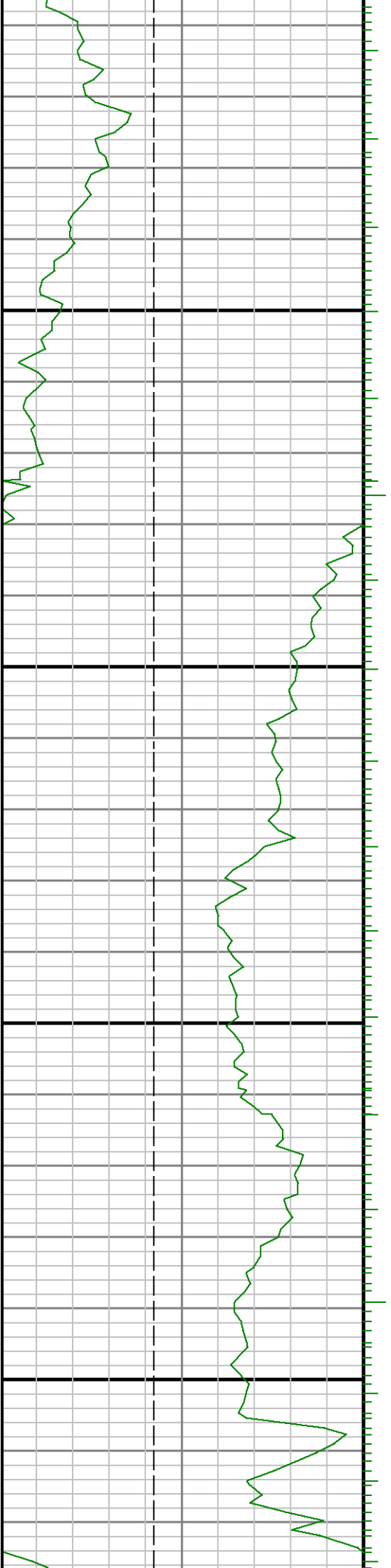


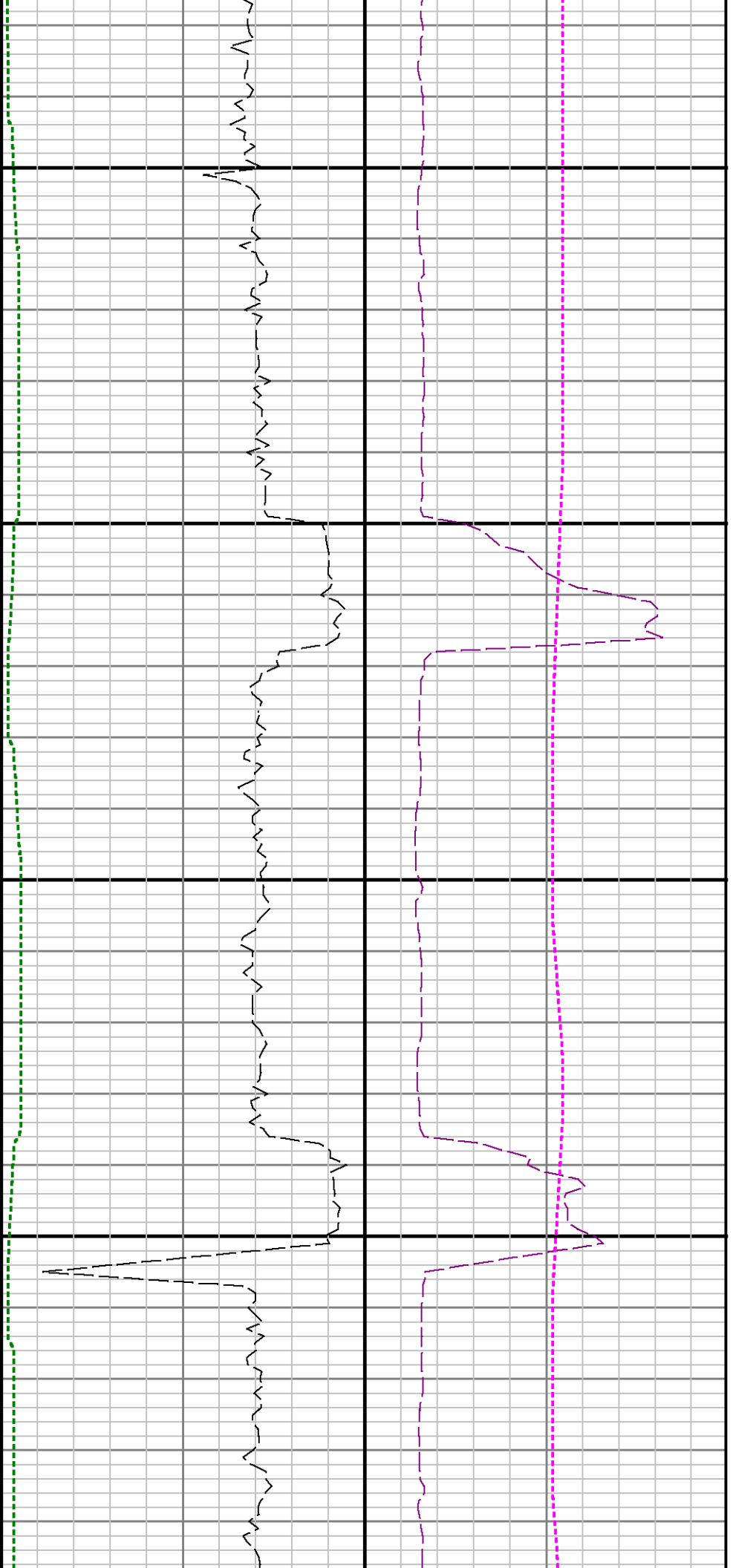




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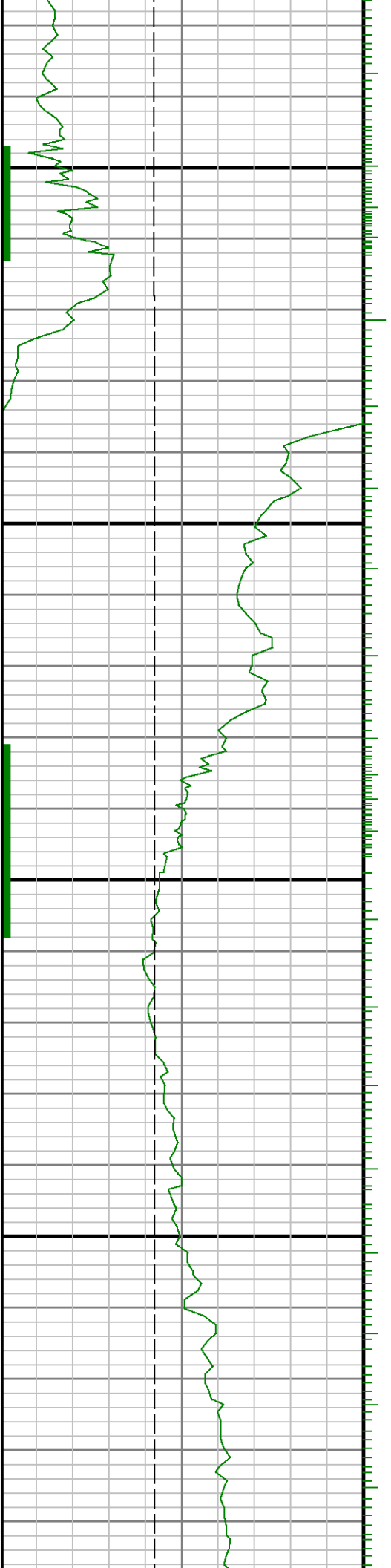
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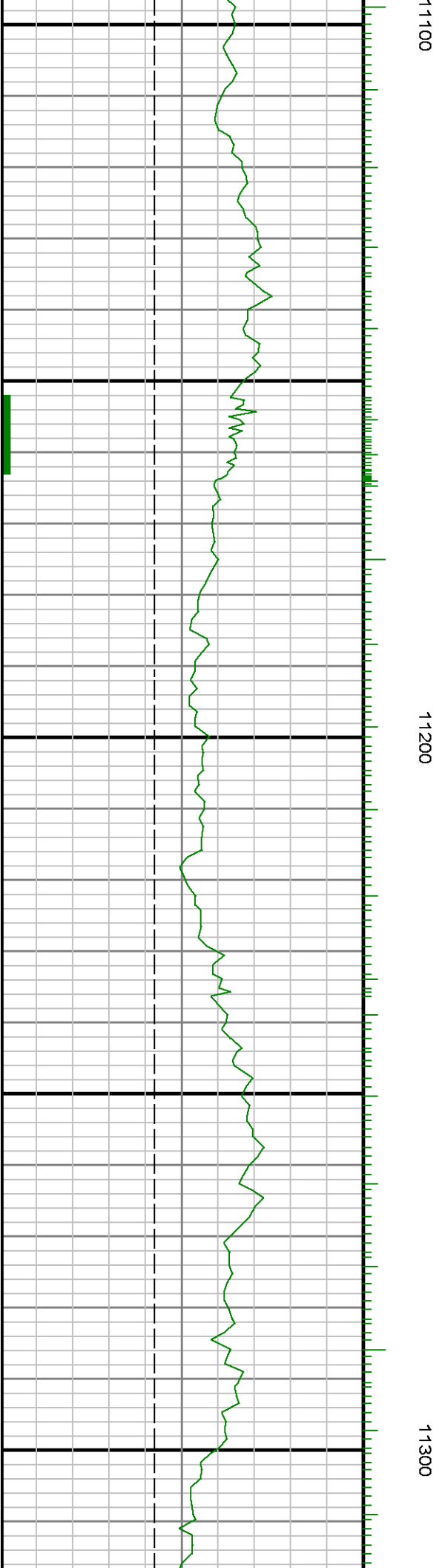
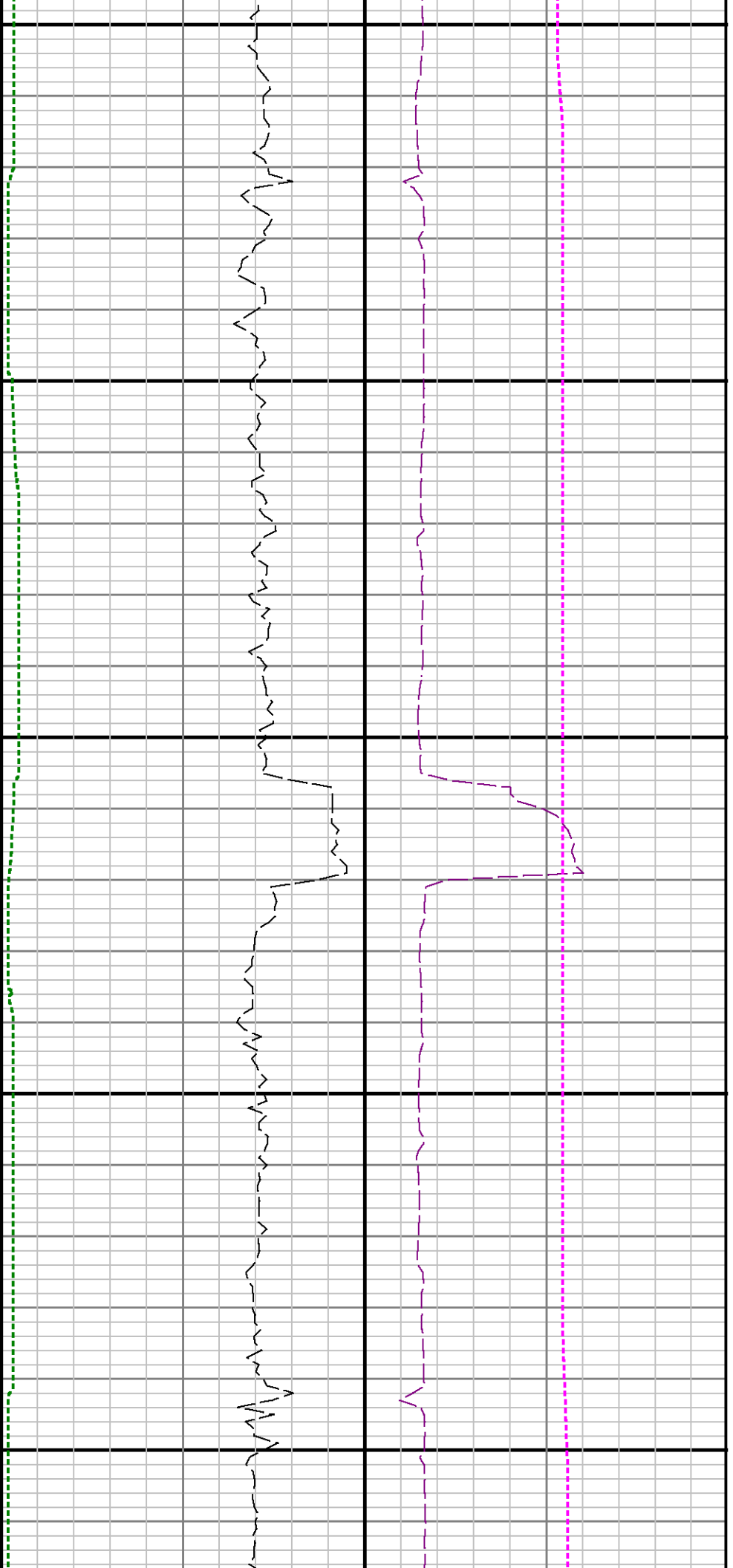


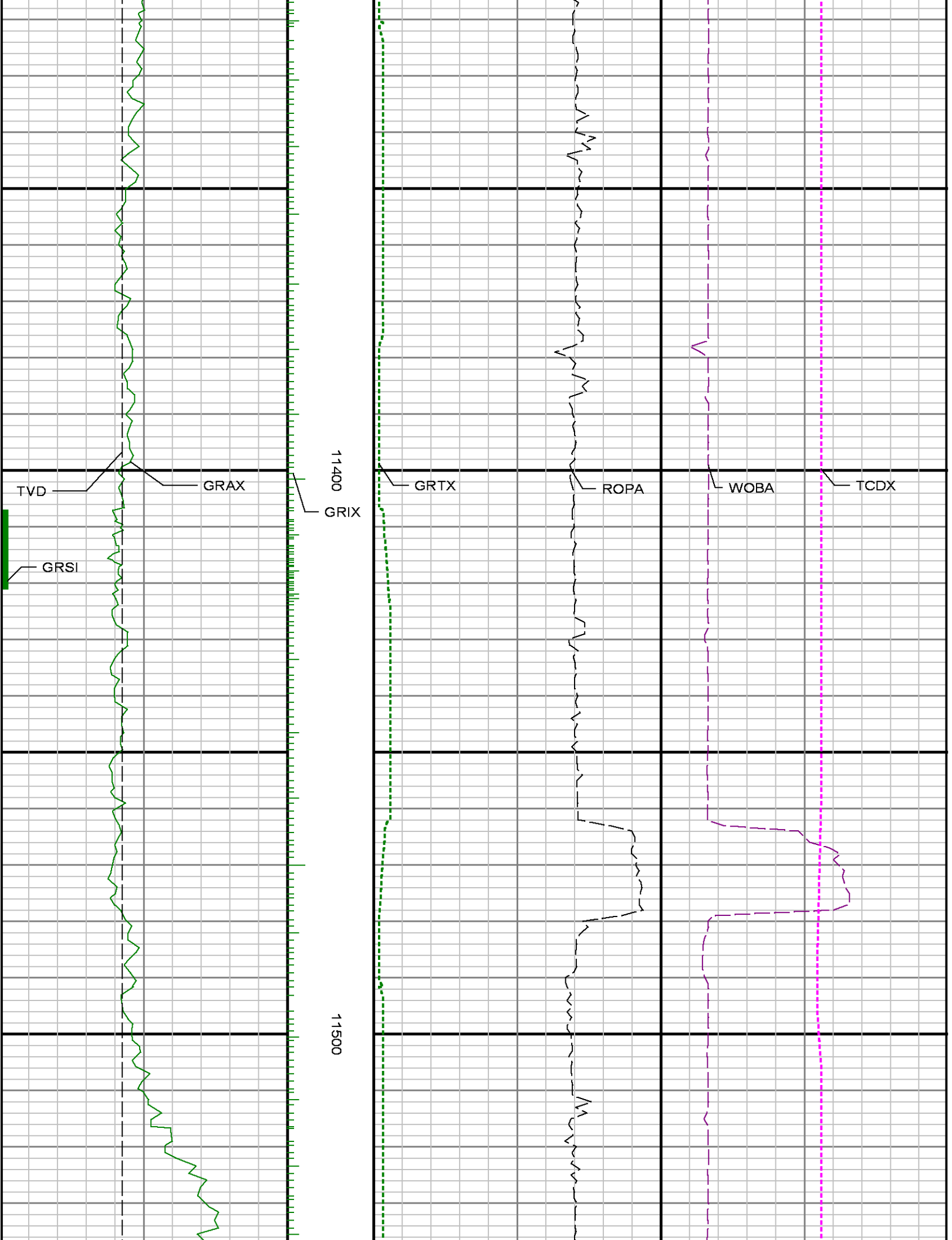
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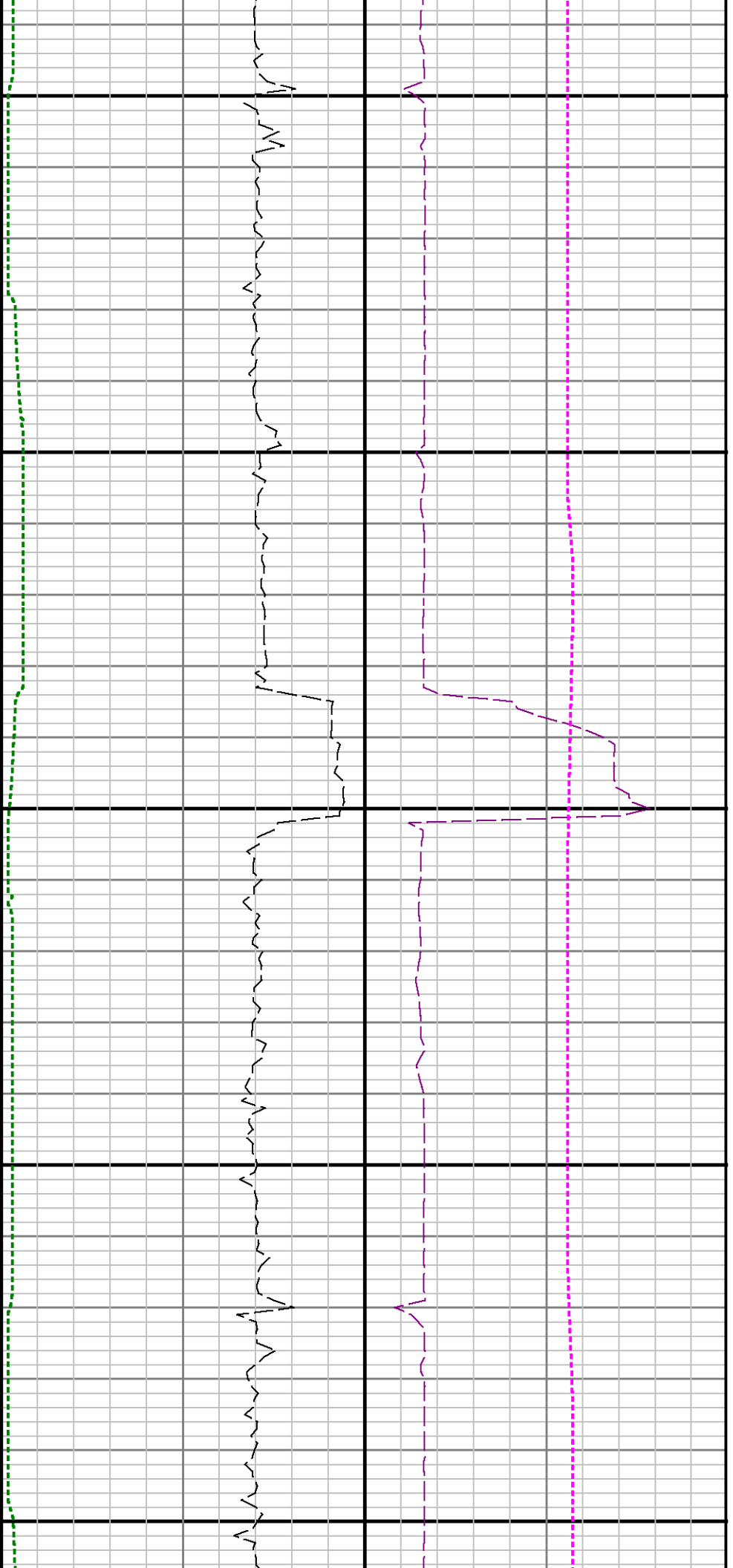
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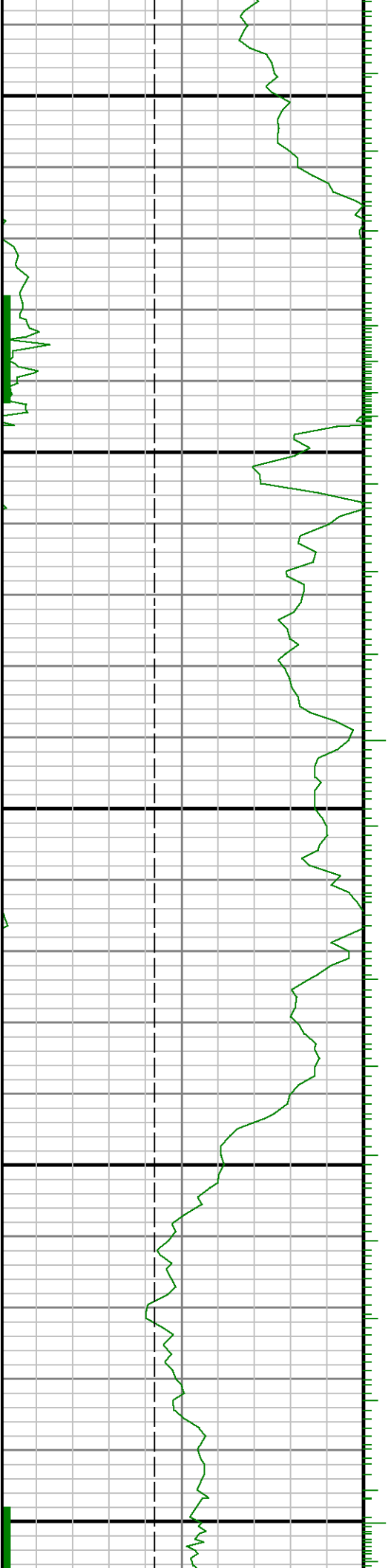


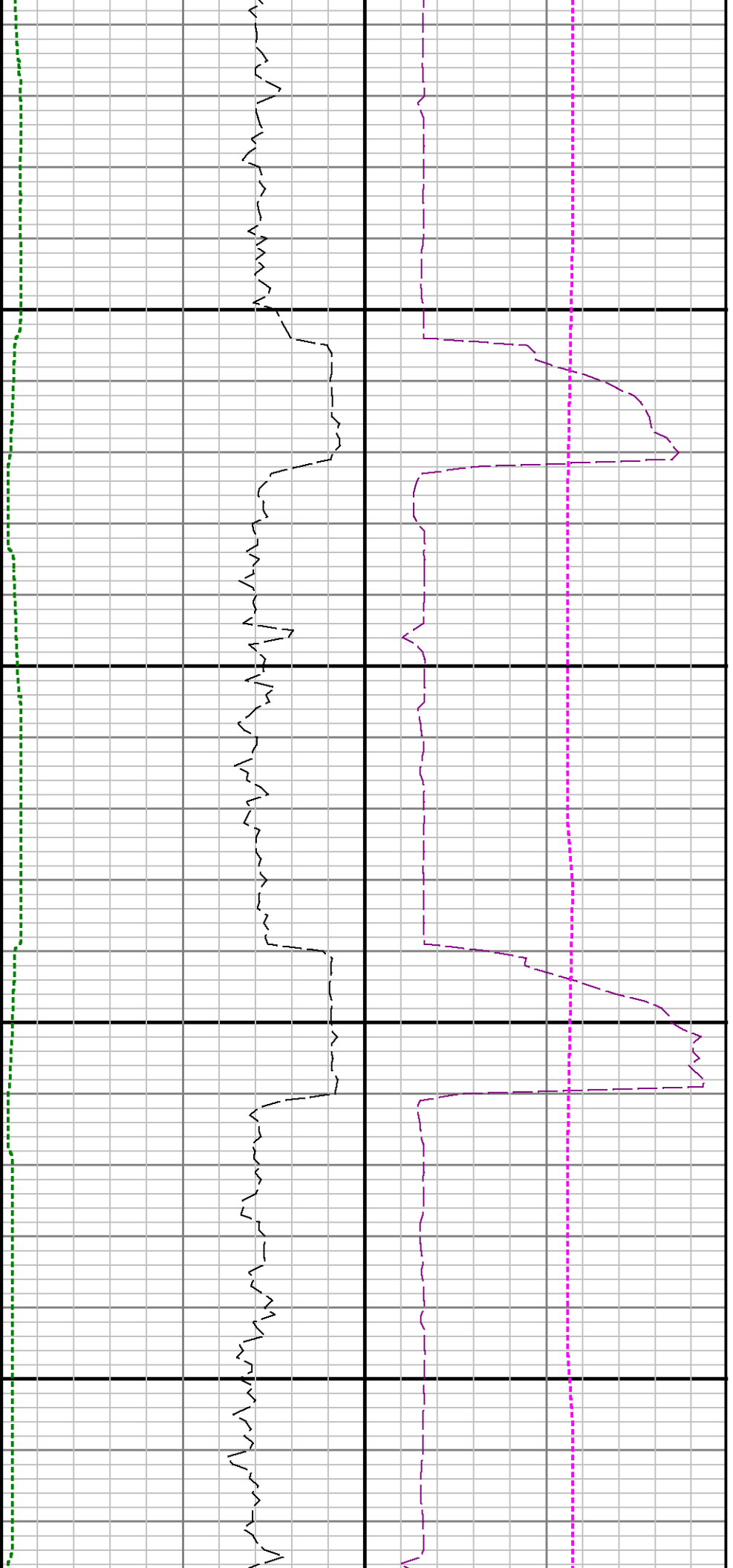




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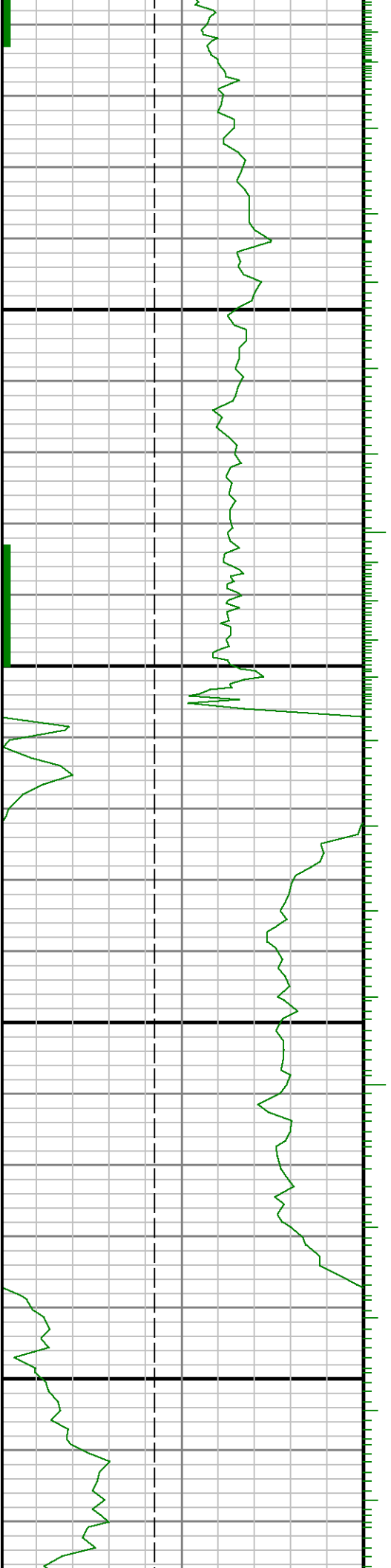
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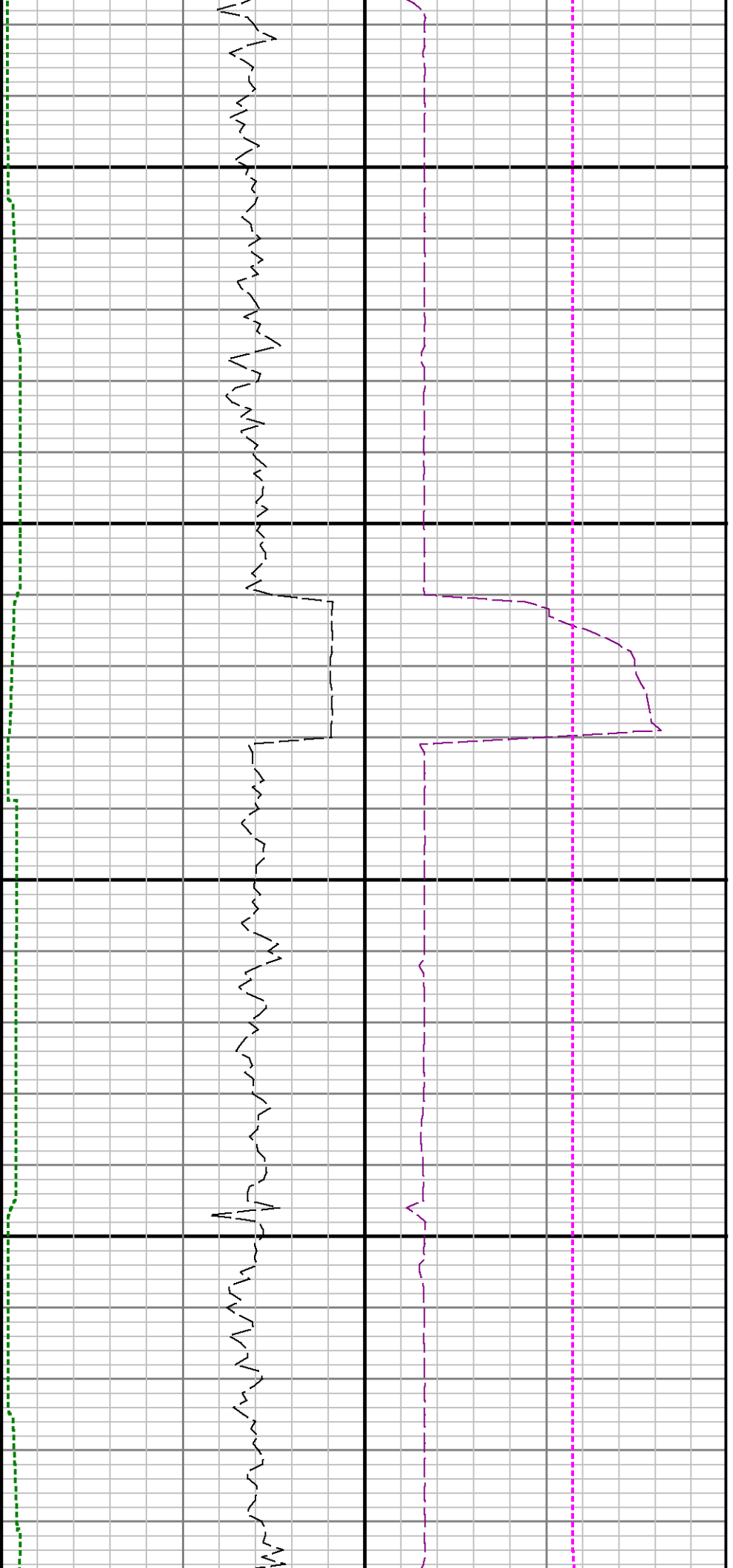




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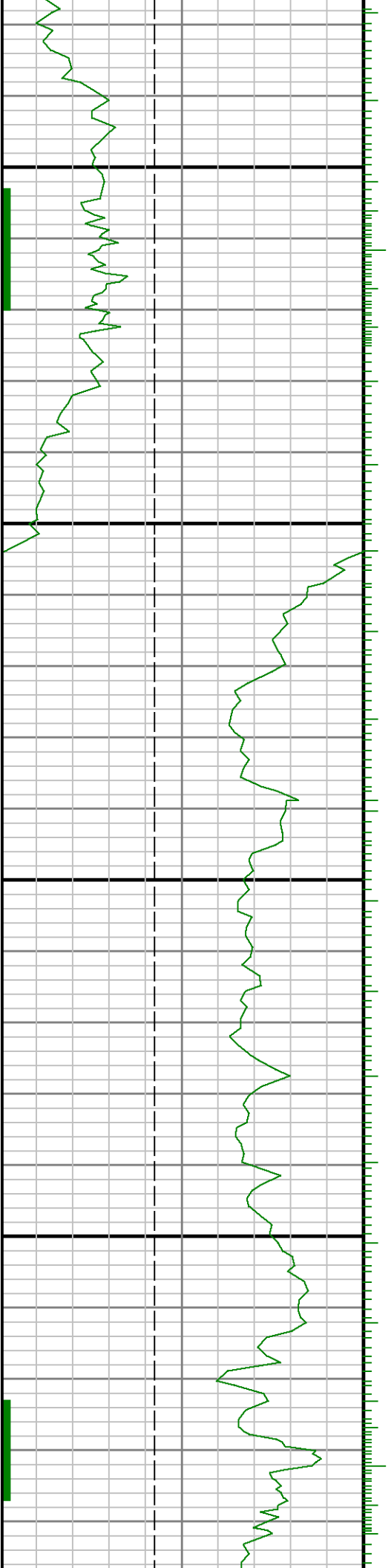
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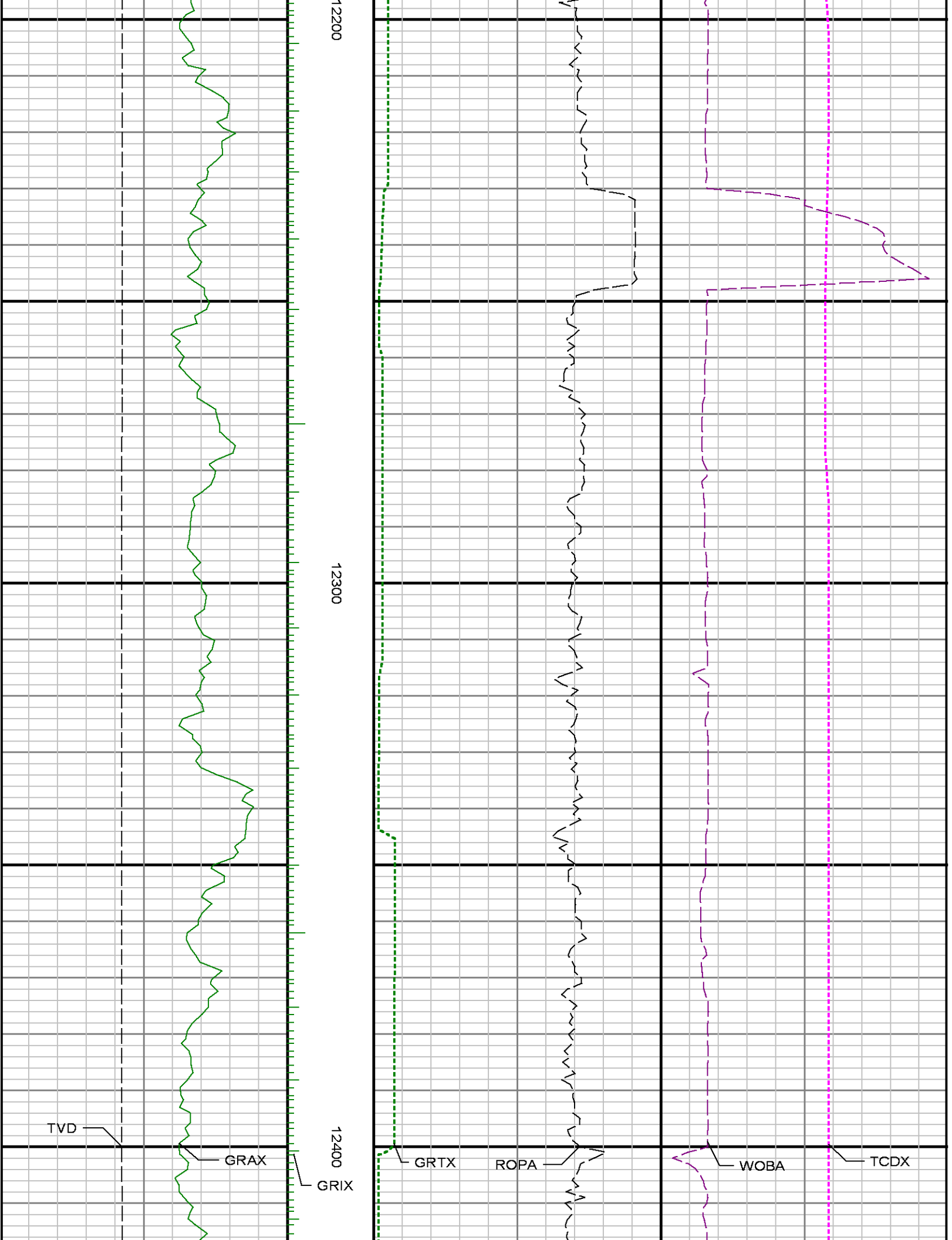


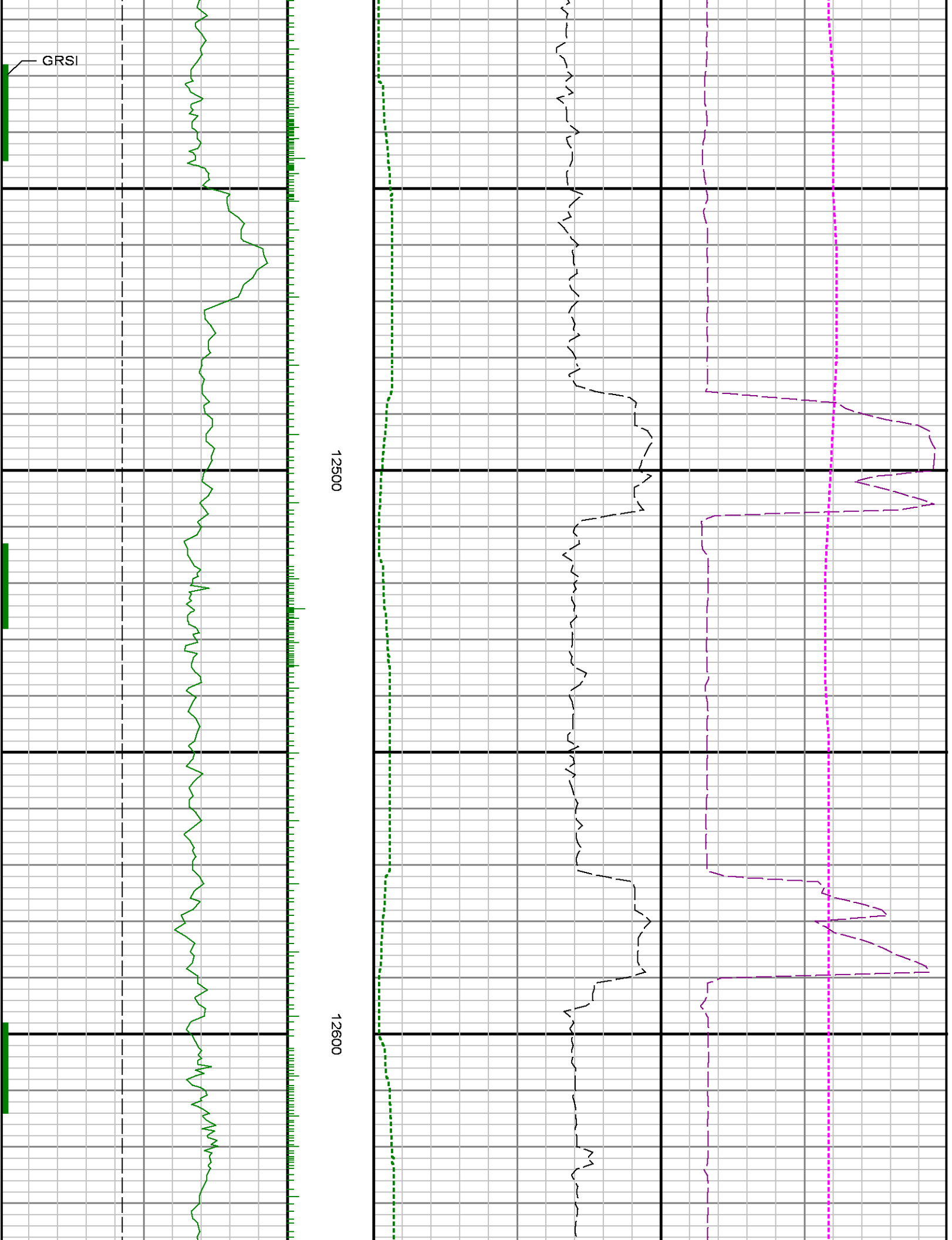


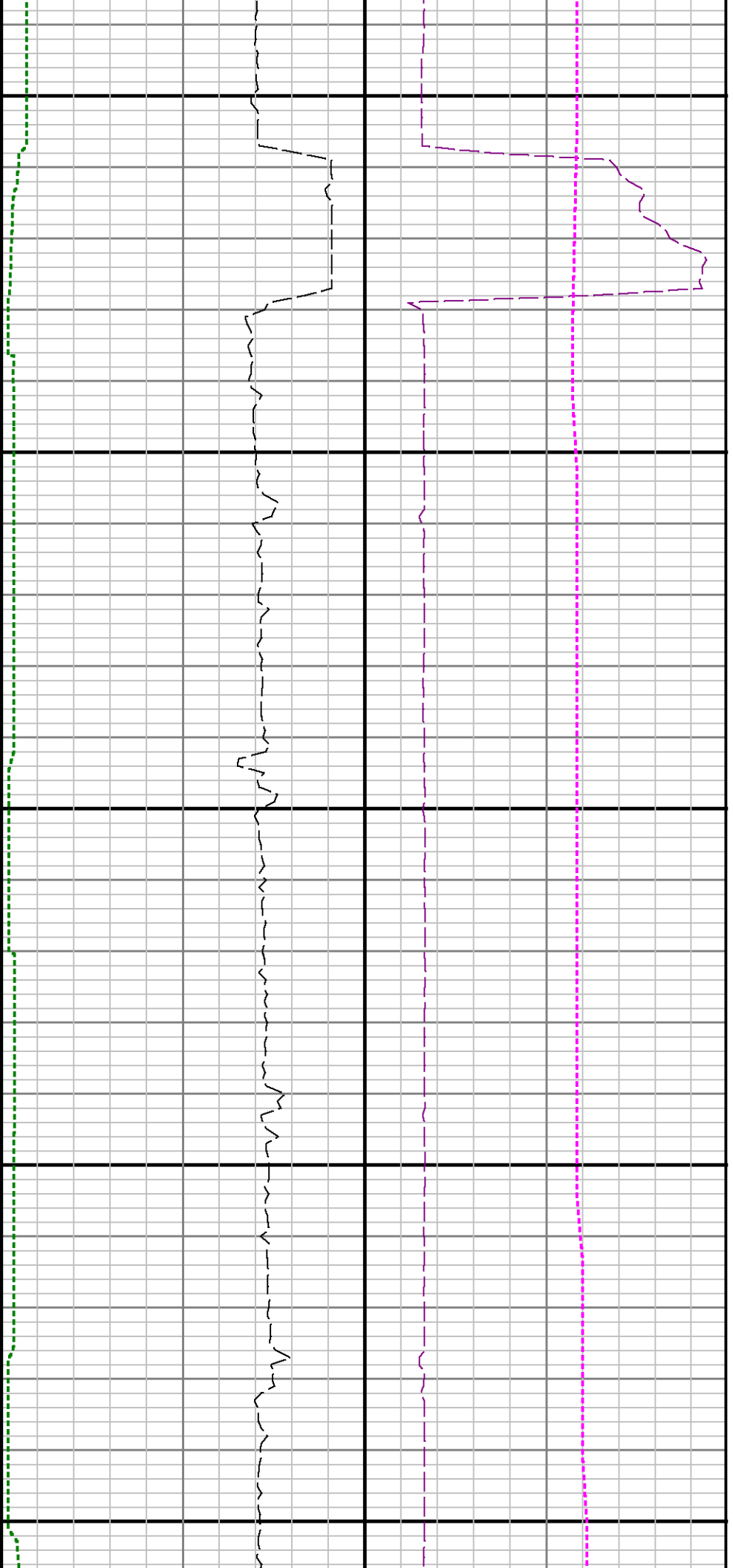
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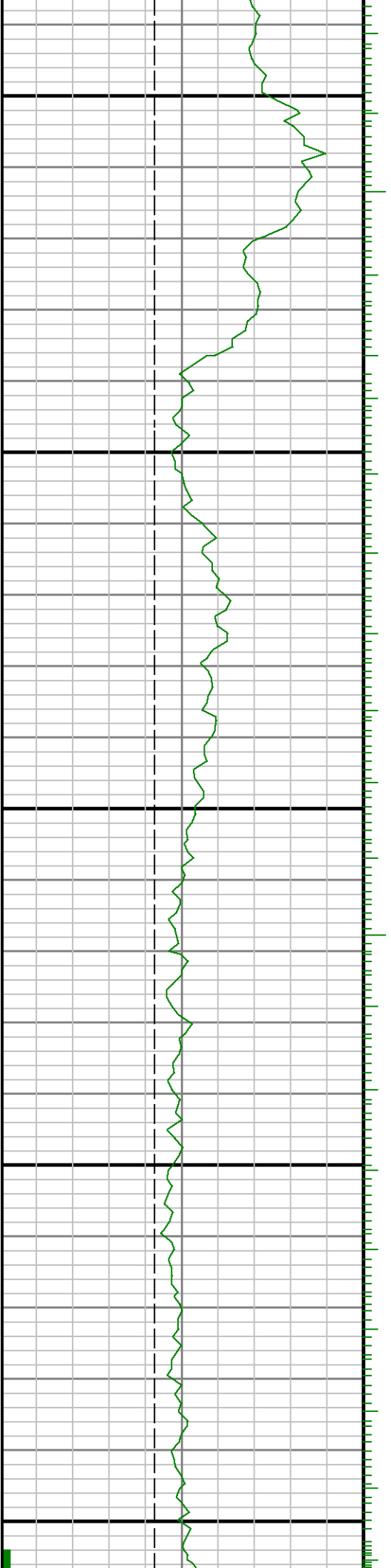




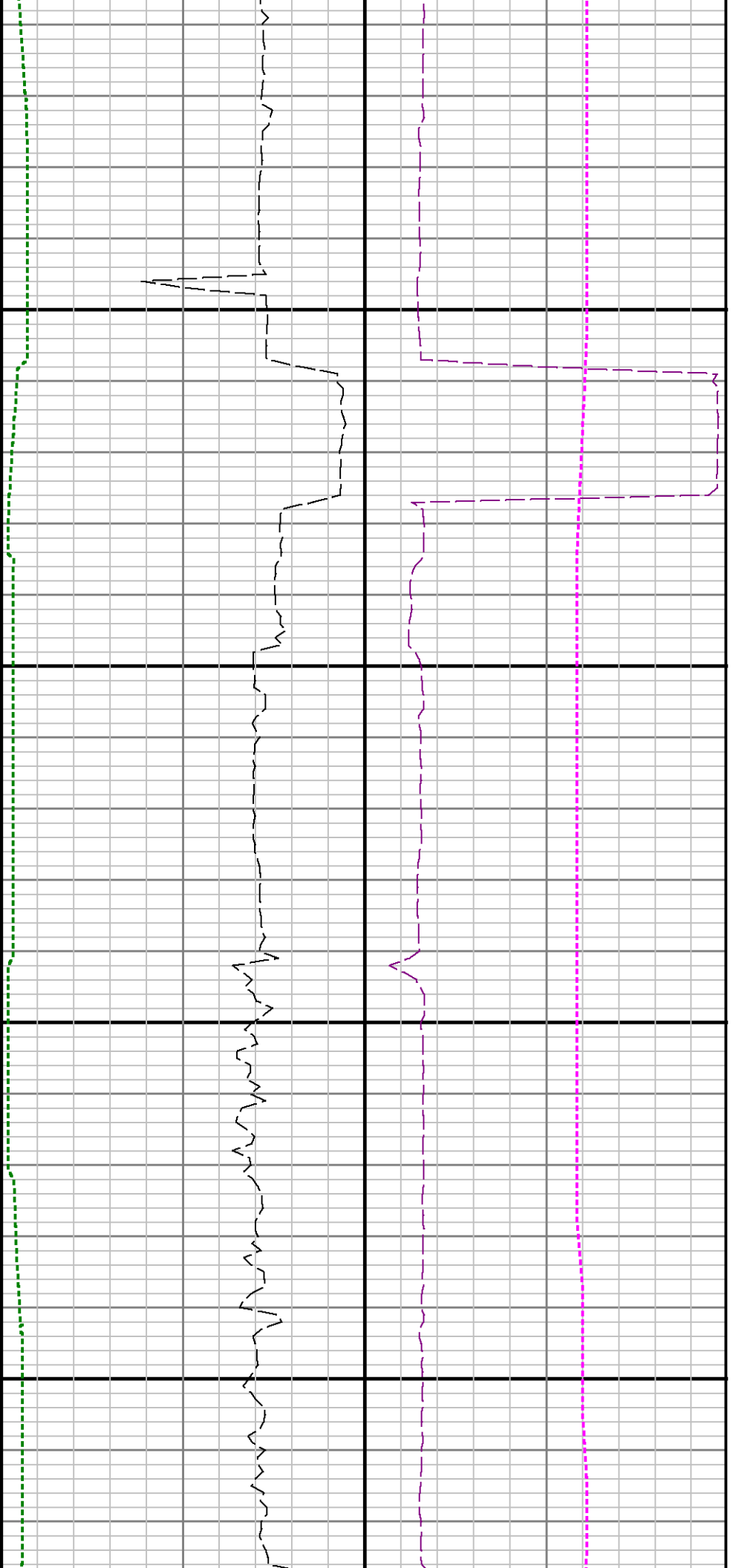


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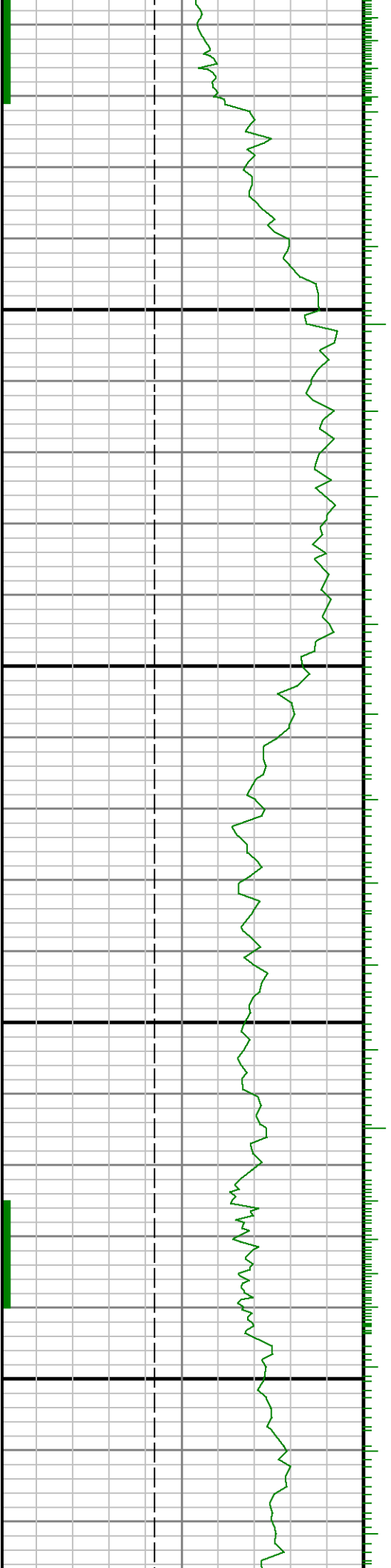


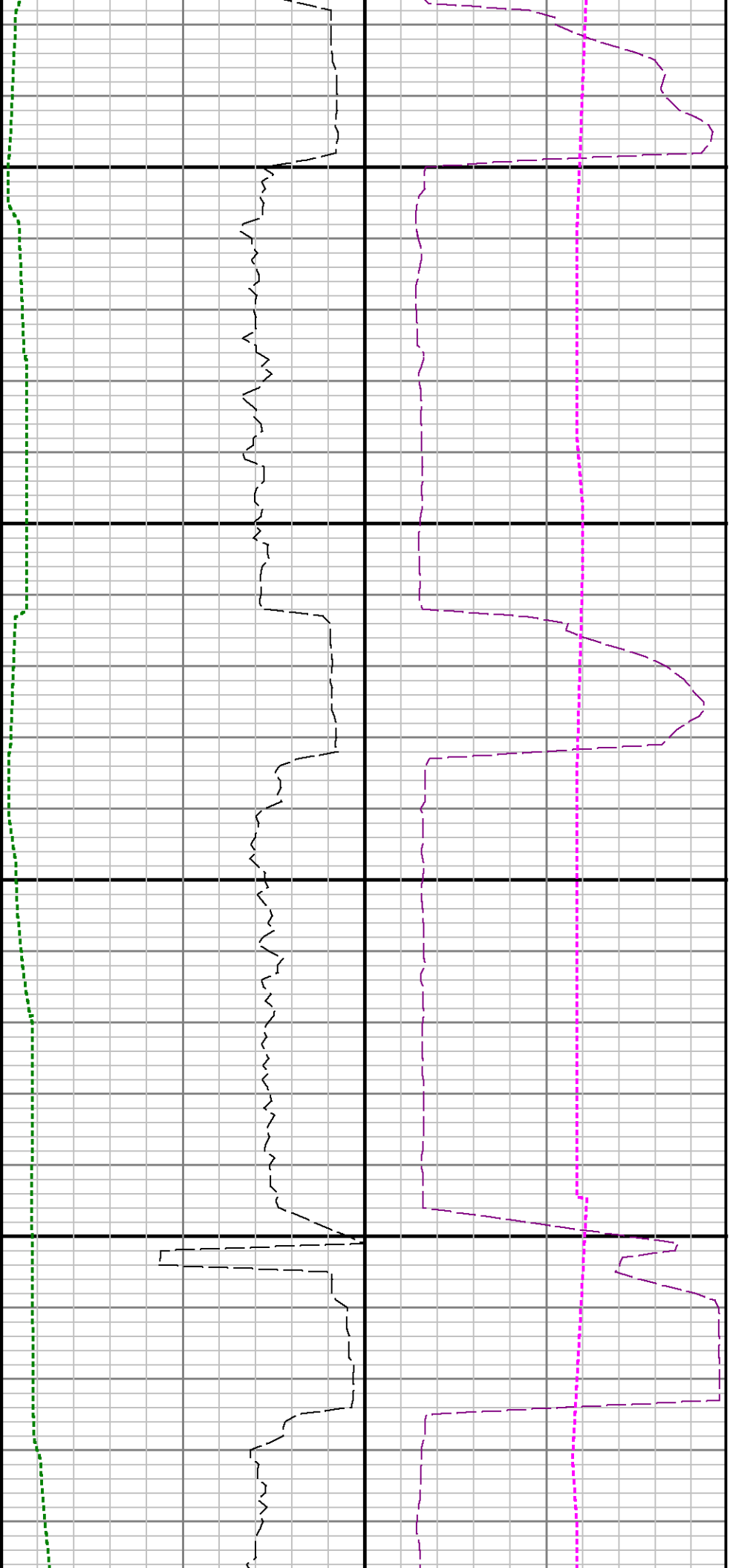




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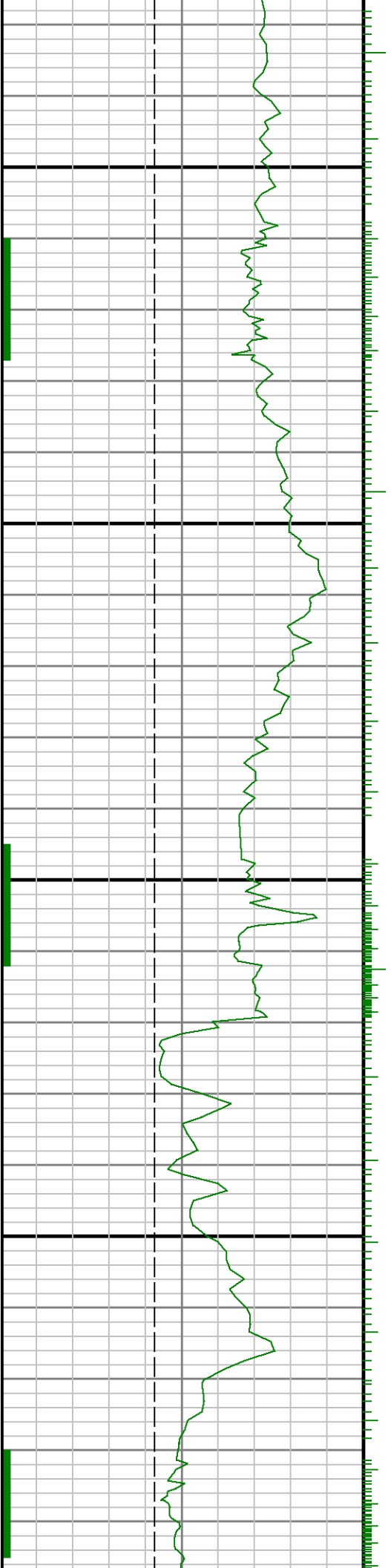
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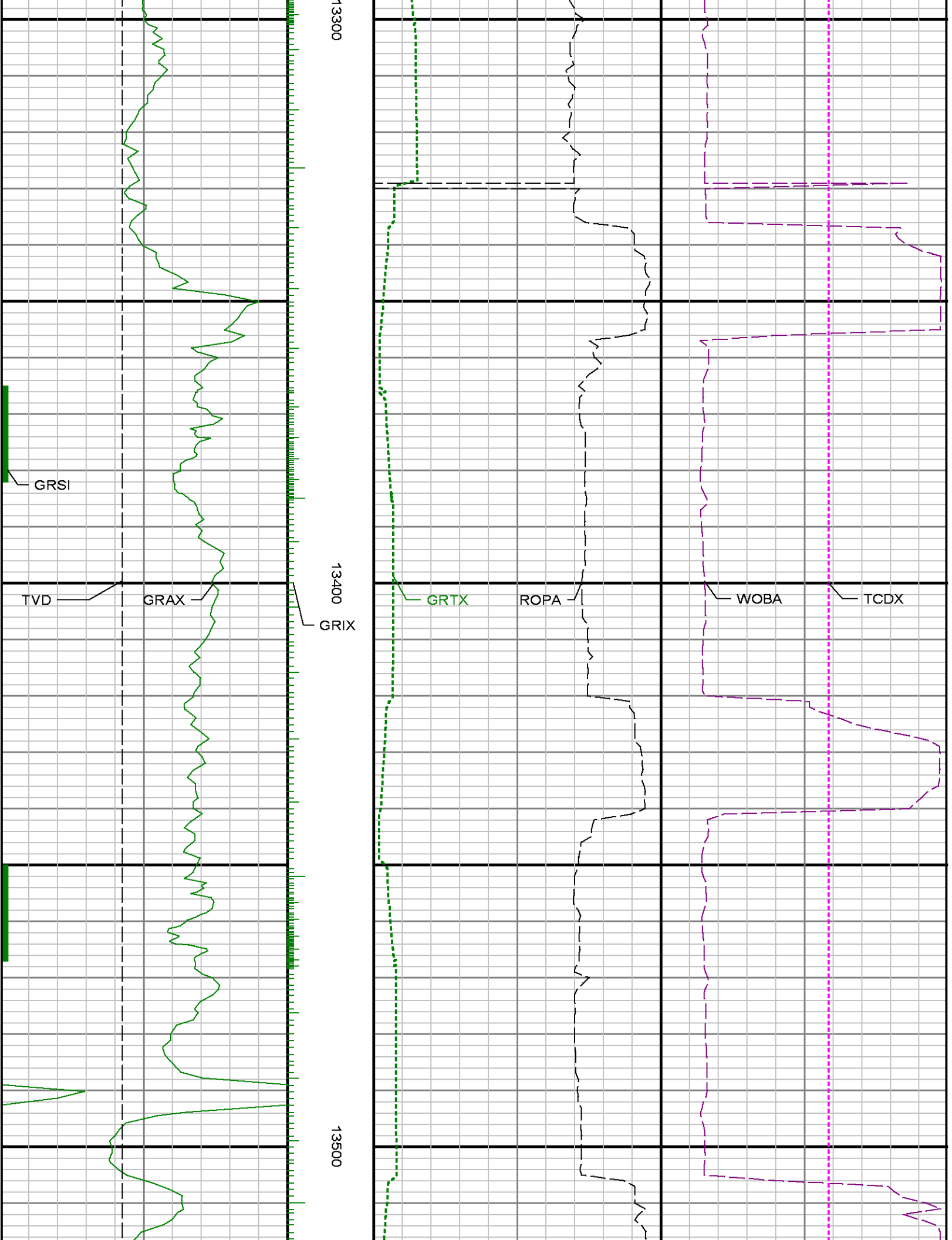


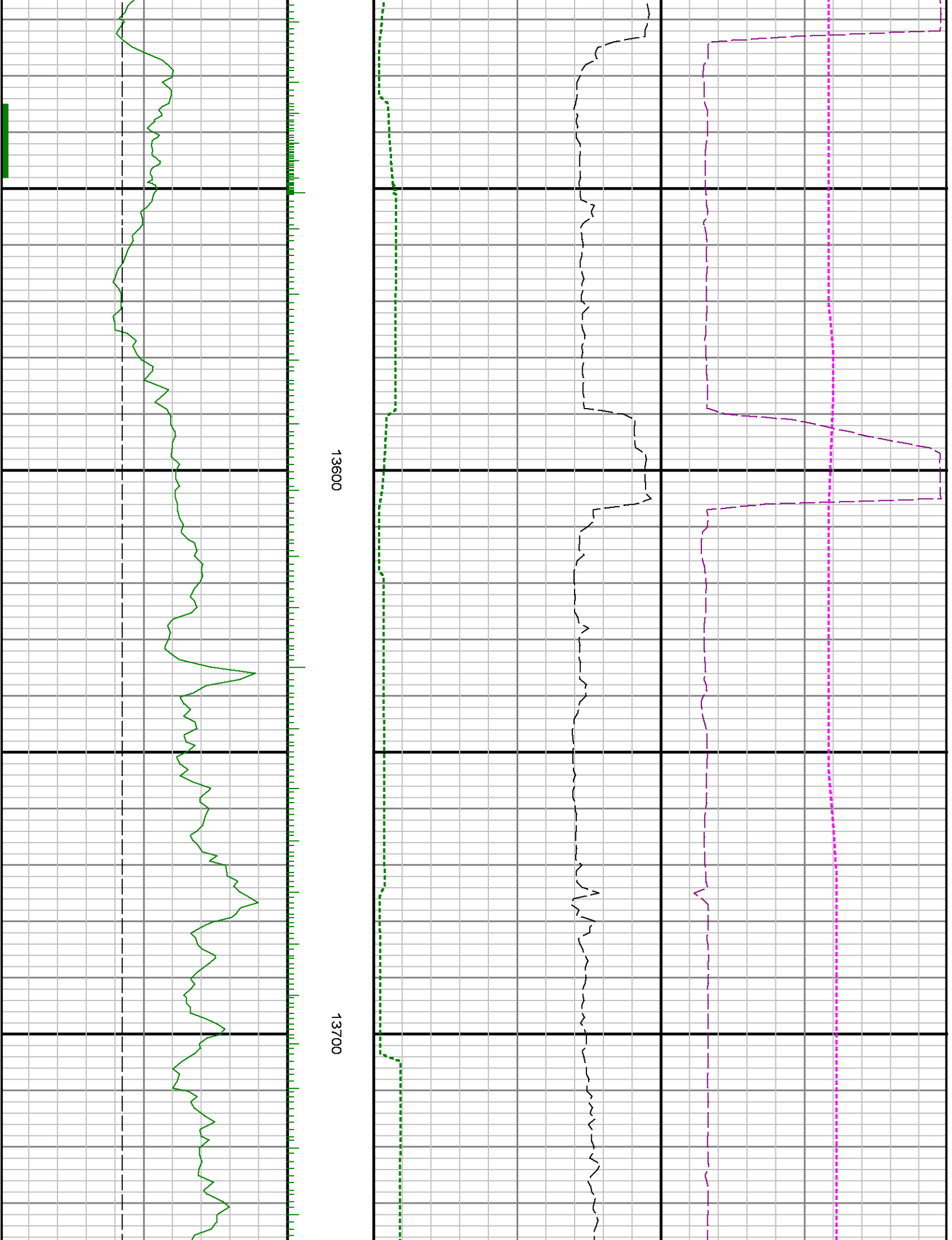


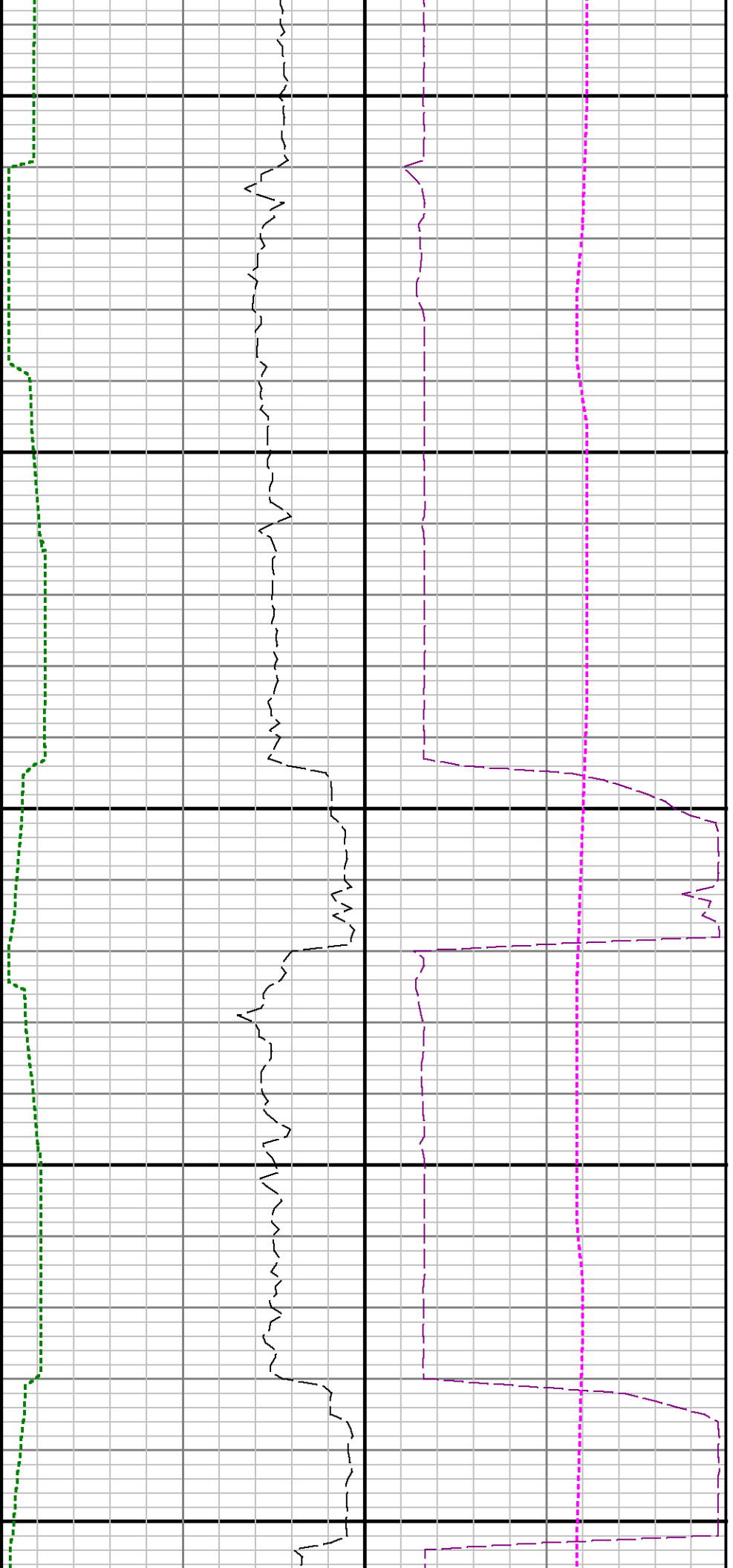
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