



Realtime Log

Natural Formation Evaluation
Gamma Ray

Scale:

Company: Anadarko

1:240

Well: Viper Pyro 41N-14HZR

MEASURED DEPTH

Field: Weld County

Region: Continental US State: Colorado

Status: Surface Location: Other Services:

Final Print

Latitude: 40° 13' 50.693" N

API Number: 051234165300

Longitude: 104° 53' 7.066" W

Section: 15 TWN: 3S Range: 67W

Directional
VSS

Permanent Datum (P.D.): Ground Level Elevation: 4794.00 ft.

Elevations: N/A

Log Measured From: Rig Floor 20.00 ft. Above P.D.

KB: 4814.00 ft.

Depth Reference: Driller's Depth

DF: 4794.00 ft.

GL:

Interval Logged Dates Magnetic Field Reference

Top: 6200.0 ft. Date From: 18/Aug/15 Date To: 25/Aug/15 Dip Angle: 66.87° Az: Reference North: True

Bottom: 16806.0 ft. Date To: 25/Aug/15 Total Mag to Reference

Spud Date: 18/Aug/15 Field Strength: 52449.0 nT North Correction: 8.41°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
12.750 in.	Surface	850.0 ft.	9.625 in.	36.00 lb/ft	Surface	840.0 ft.
8.750 in.	850.0 ft.	7373.0 ft.	7.000 in.	26.00 lb/ft	Surface	7363.0 ft.
6.125 in.	7373.0 ft.	16806.0 ft.				

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Oil Based	Surface	16806.0 ft.	12.750 in.	850.0 ft.	0.0° / 0.0°	9.4° / 179.4°
			8.750 in.	6523.0 ft.	10.8° / 177.4°	84.2° / 92.4°
			6.125 in.	16806.0 ft.	89.7° / 90.3°	88.0° / 89.7°
					/	/
					/	/
					/	/
					/	/

Acquisition System Software Version

Other

Advantage	2.20U4	Rig / Contractor: Precision 462	/ Precision Drilling
PAIS	6.4.1.34	Job No: 7343600	/ D & E
		District / Unit: RMD	

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Log Run Summary

LWD	BHA	Bit	Bit	Bit	Bit	Assembly	Logged Interval		Bit Depth Interval		Date / Time				Circ.
Run	Run	Run	Size	Type	Gauge	Type	Top	Bottom	From	To	Start		End		Time
No.	No.	No.	(in.)		(in.)		(ft.)	(ft.)	(ft.)	(ft.)					(hrs.)
1	1	1	8.750	PDC	3.500	Mud Motor	N/A	N/A	850.0	4382.0	18/Aug/15	15:58	19/Aug/15	21:30	11.7
2	2	2	8.750	PDC	3.500	Mud Motor	6200.0	7313.0	4382.0	7373.0	19/Aug/15	22:55	21/Aug/15	12:45	21.6
3	3	3	6.125	PDC	3.000	Mud Motor	7313.0	16746.0	7373.0	16806.0	22/Aug/15	08:45	25/Aug/15	22:56	69.2

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Donald Delay	18/Aug/15	26/Aug/15	Mike Gurnsey	18/Aug/15	22/Aug/15	Ken Perry	18/Aug/15	26/Aug/15
Andy King	18/Aug/15	26/Aug/15	Bill Herbers	22/Aug/15	26/Aug/15			

Mud Properties Record

Date / Time	LWD Run No.	Measured Depth (ft.)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
19/Aug/2015 17:00	1	4379.0	MEGADRIL	9.4	70	N/A	4.4	73/27	Suction	N/A	N/A
20/Aug/2015 17:00	2	6563.0	MEGADRIL	9.5	62	N/A	3.6	75/25	Suction	N/A	N/A
22/Aug/2015 17:00	3	7606.0	MEGADRIL	9.7	98	N/A	3.4	69/31	Suction	N/A	N/A
24/Aug/2015 17:00	3	13654.0	MEGADRIL	10.3	82	N/A	2.8	74/26	Suction	N/A	N/A

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. Avg.	API
GRTX	Gamam Ray Time Since Drilled	min.
GRIX	Gamma Ray Data Density	points
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.	klbs.

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	11814673	Directional	62.19	6.770	3.250
1	SRIG	13153890	Gamma	58.85	6.770	3.250
2	DIR	11814673	Directional	62.16	6.770	3.250
2	SRIG	13153890	Gamma	58.82	6.770	3.250
3	DIR	12323368	Directional	63.64	4.750	2.750
3	SRIG	12023992	Gamma	60.30	4.750	2.750

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 Runs 1 & 2 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 3/4 inch bit and steerable assembly from 850 to 7373 feet MD (847.3 to 6935.04 feet TVD).
2.) Baker Hughes Run 3 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 6 1/8 inch bit and steerable assembly from 7373 to 16806 feet MD (6935.04 to 7091 feet TVD).
3.) Depth measurements were 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.
4.) A sliding indicator is shown on the left edge of track 1 as a heavy line. This indicator has been depth shifted to the Gamma Ray sensor offset to correspond with

Remarks

Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1	7335	8.750	2	The interval from 7313 to 7373 feet MD (6931.44 to 6935.04 feet TVD) was logged up to 40 hours after being drilled due to casing operations.
2	16760	6.125	3	The interval from 16746 to 16806 feet MD (7089 to 7091 feet TVD) contains no logging data due to sensor offset from the bit at well TD.

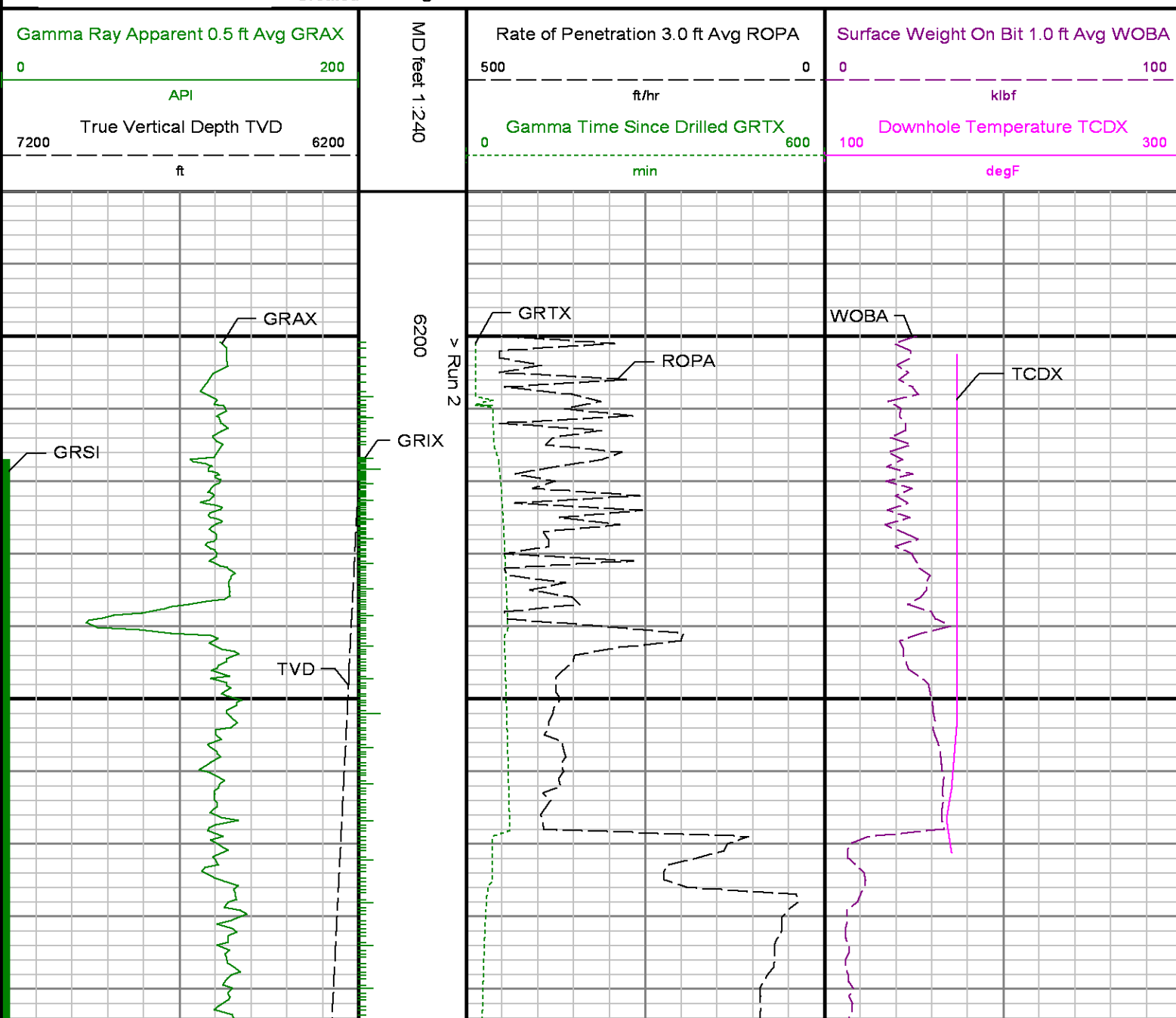


Company : Anadarko

Well : Viper Pyro 41N-14HZR

Interval : 6180.00 - 16830.00 feet

Created : 26/Aug/2015 12:28:22 AM

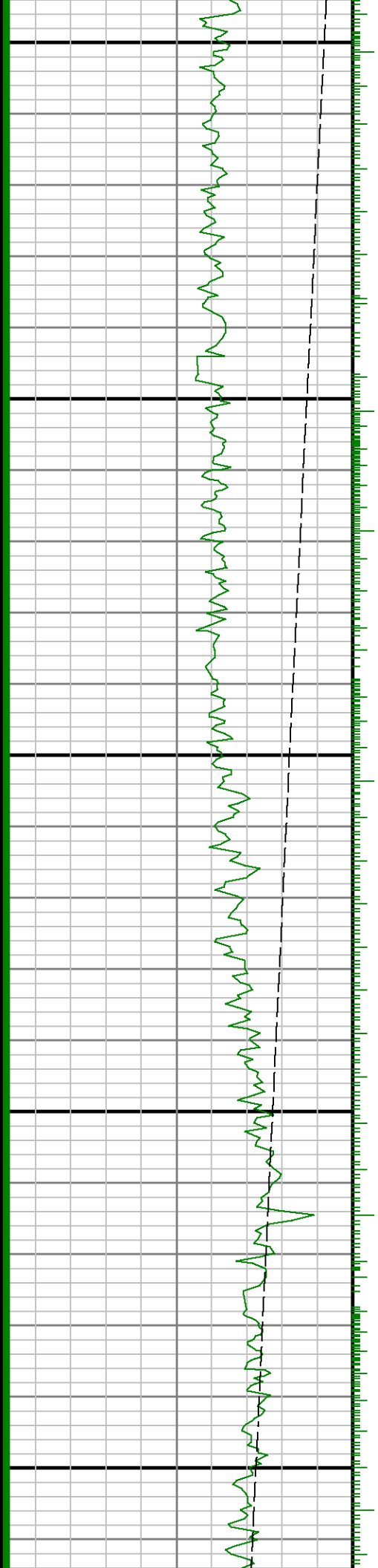


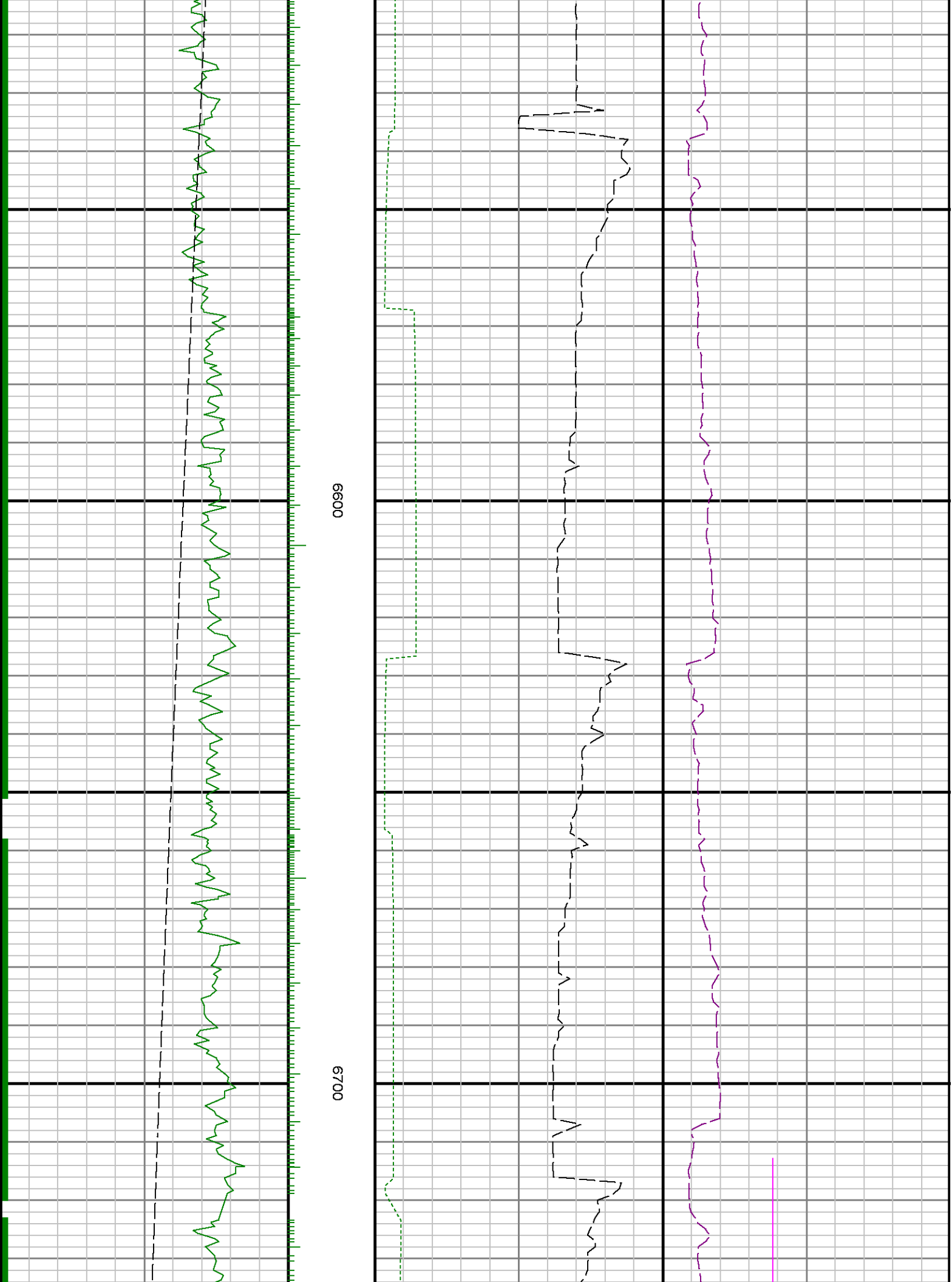


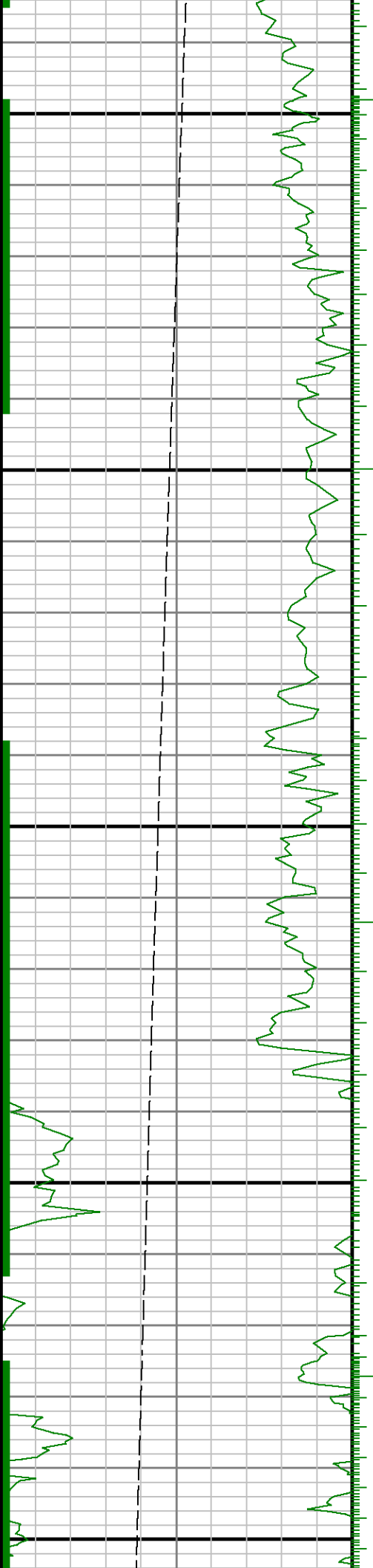
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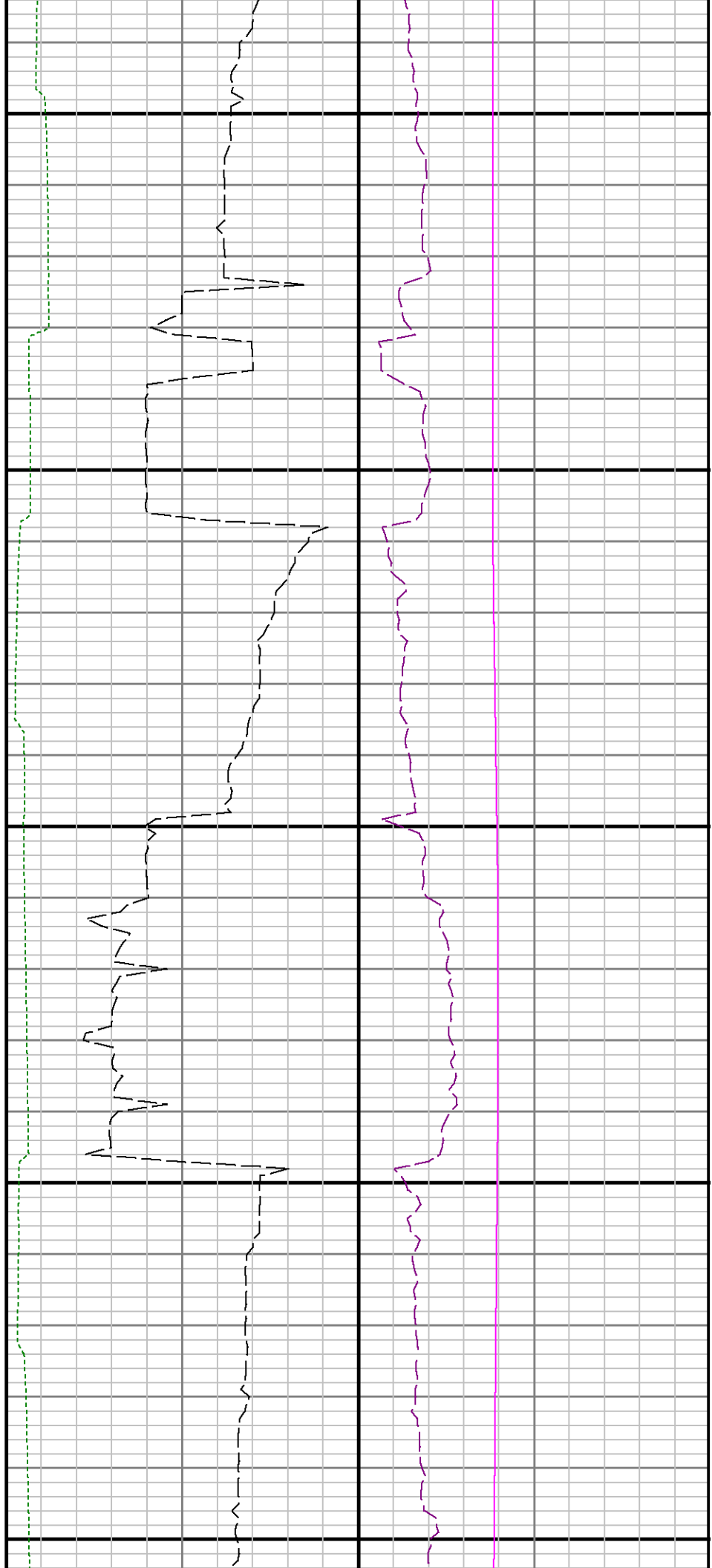


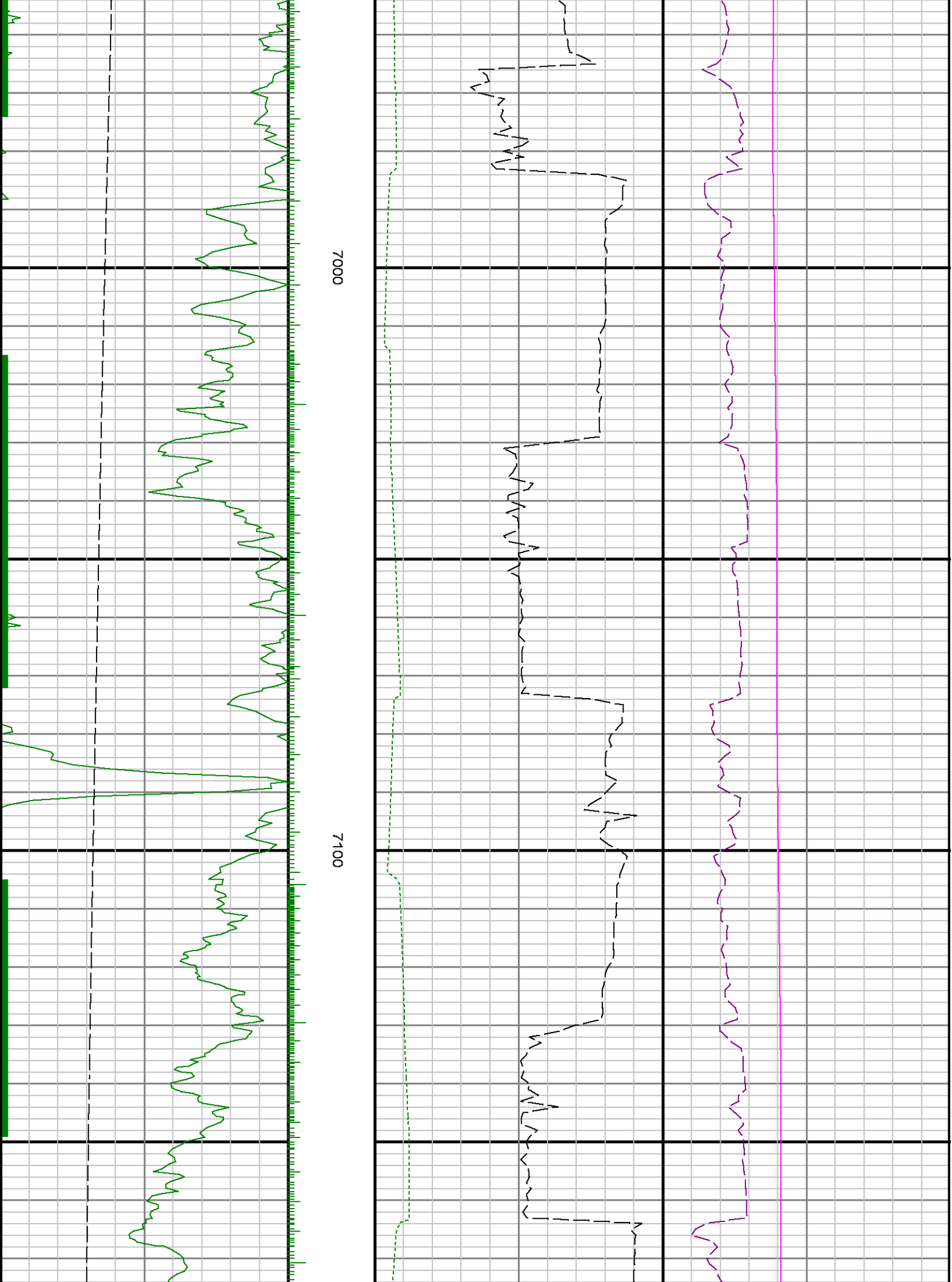


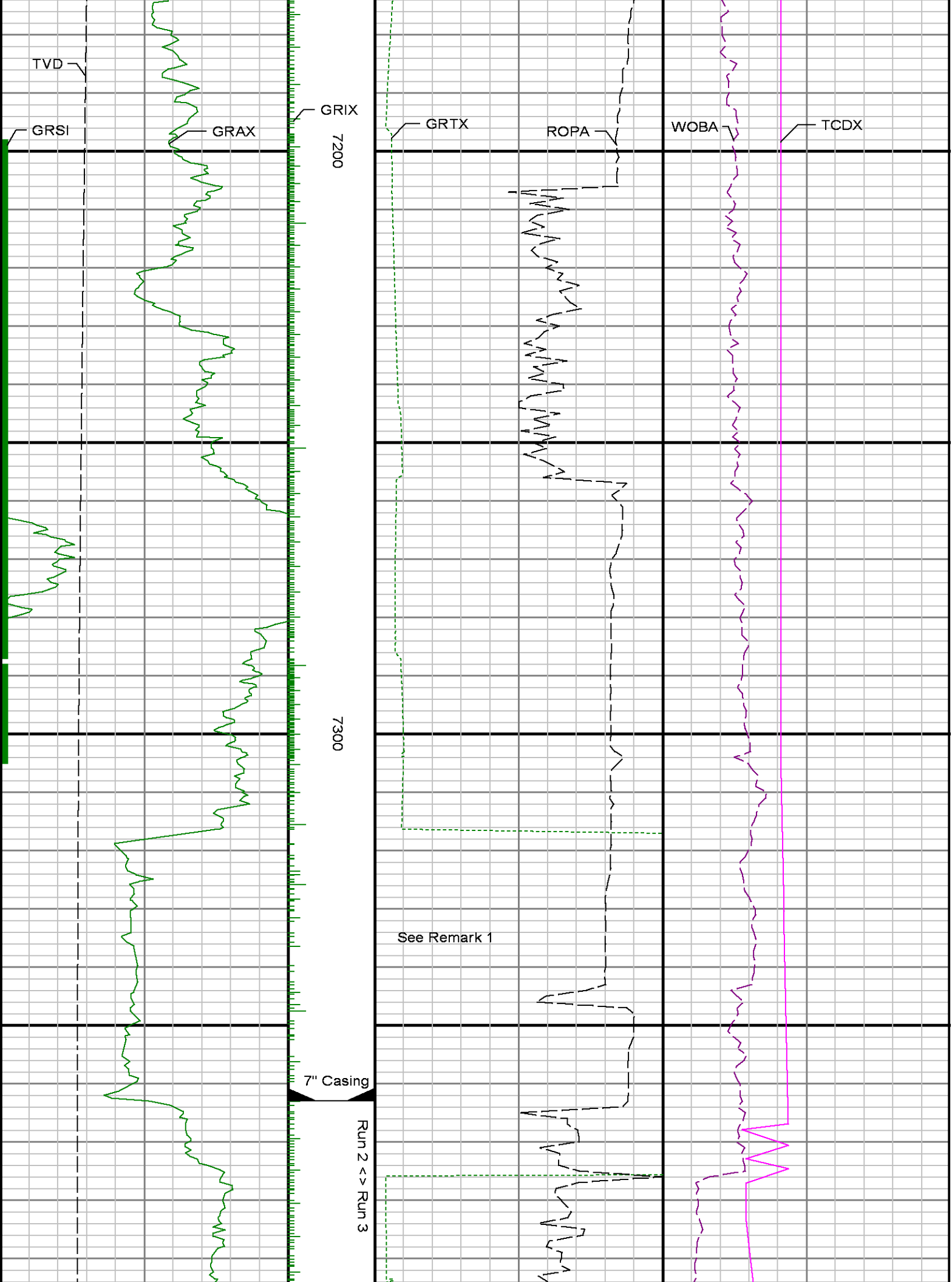


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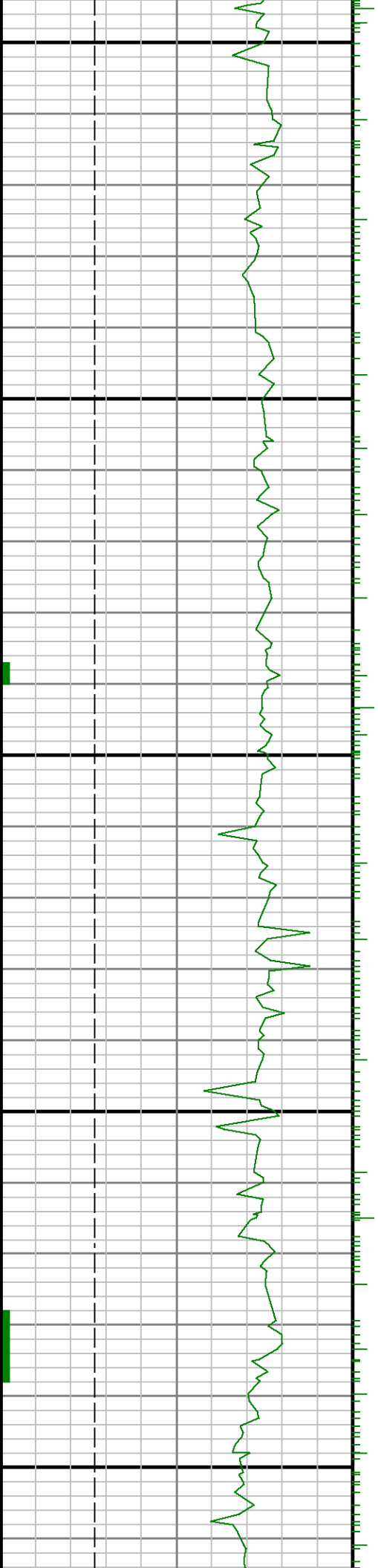


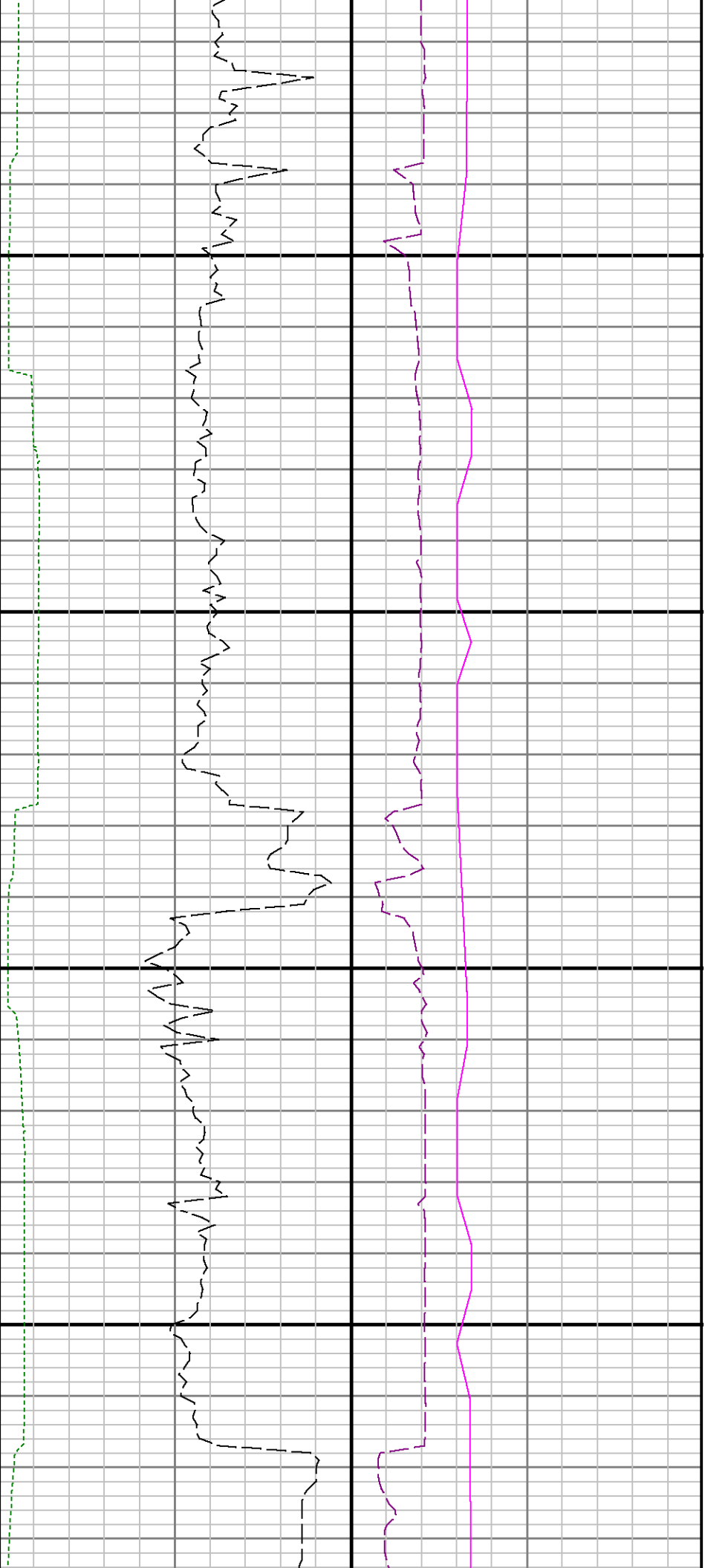


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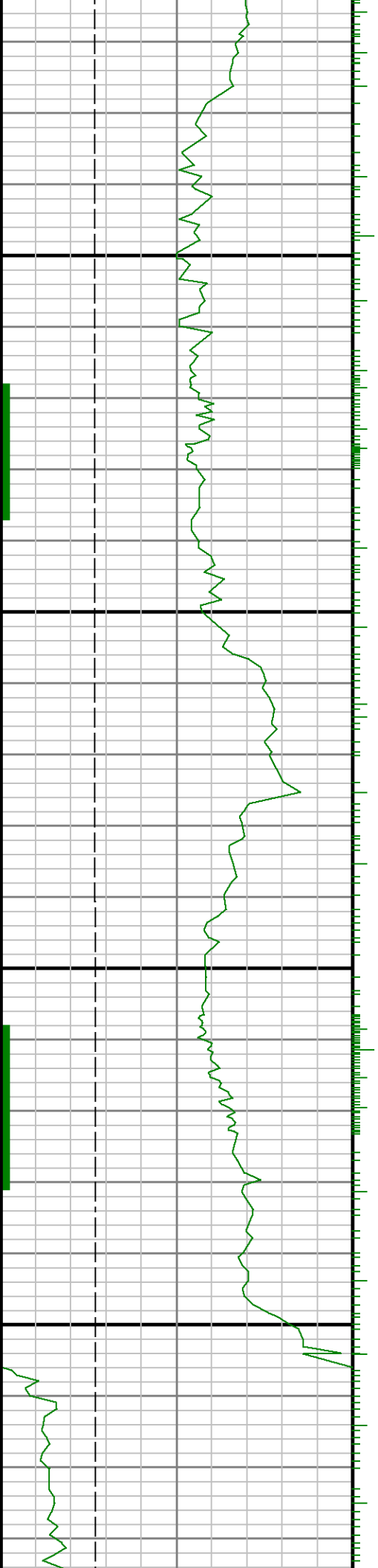
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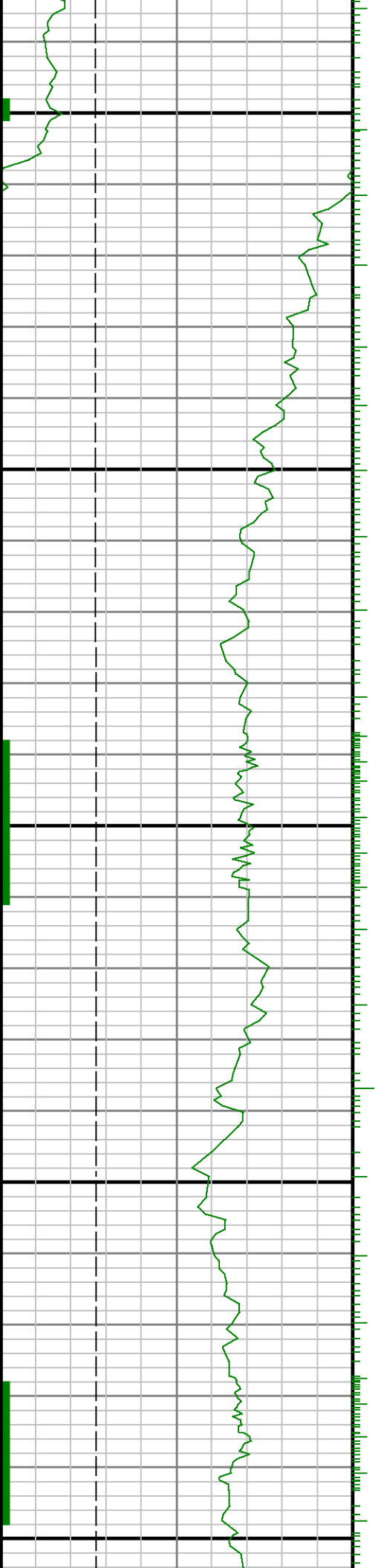
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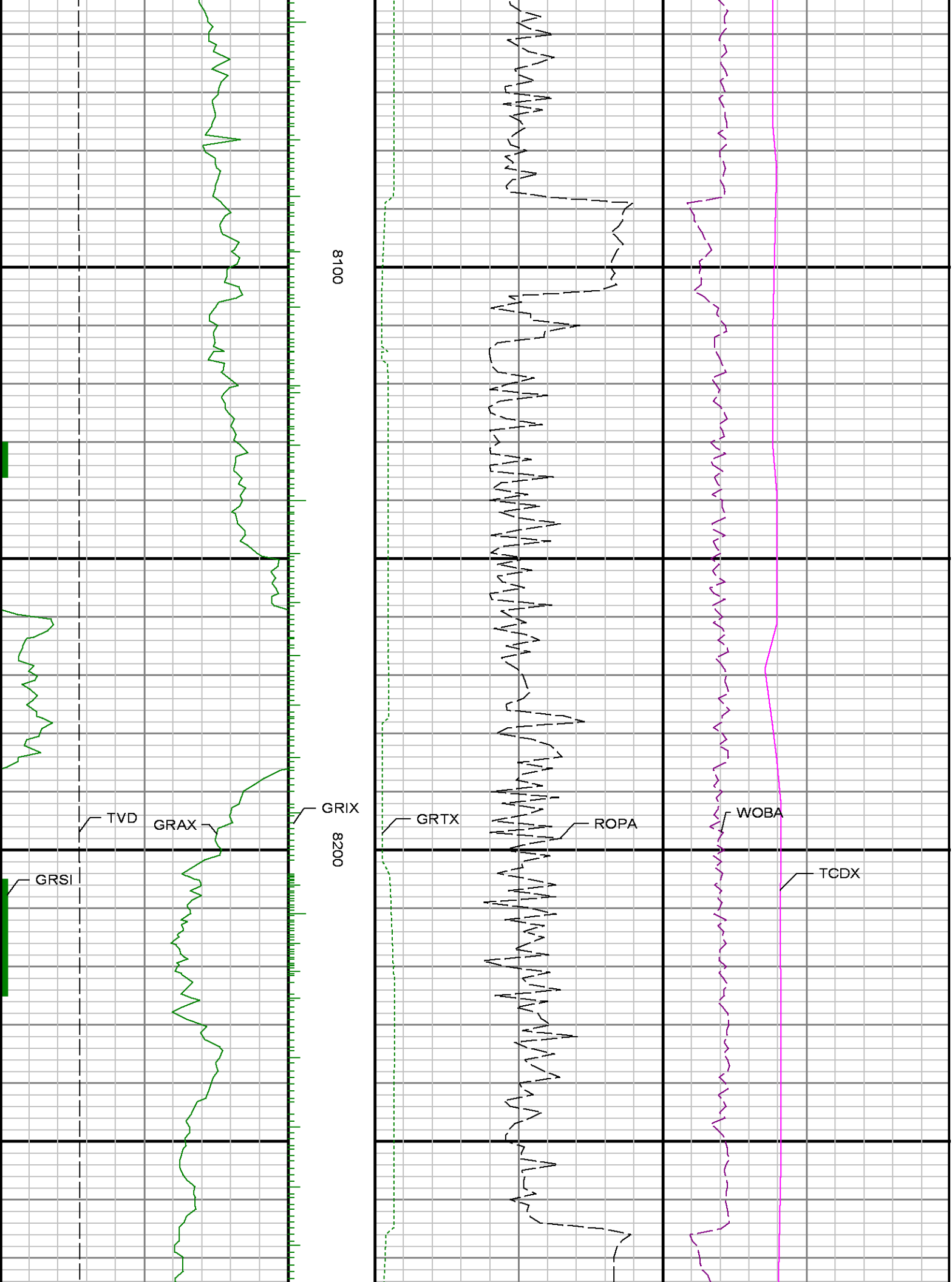




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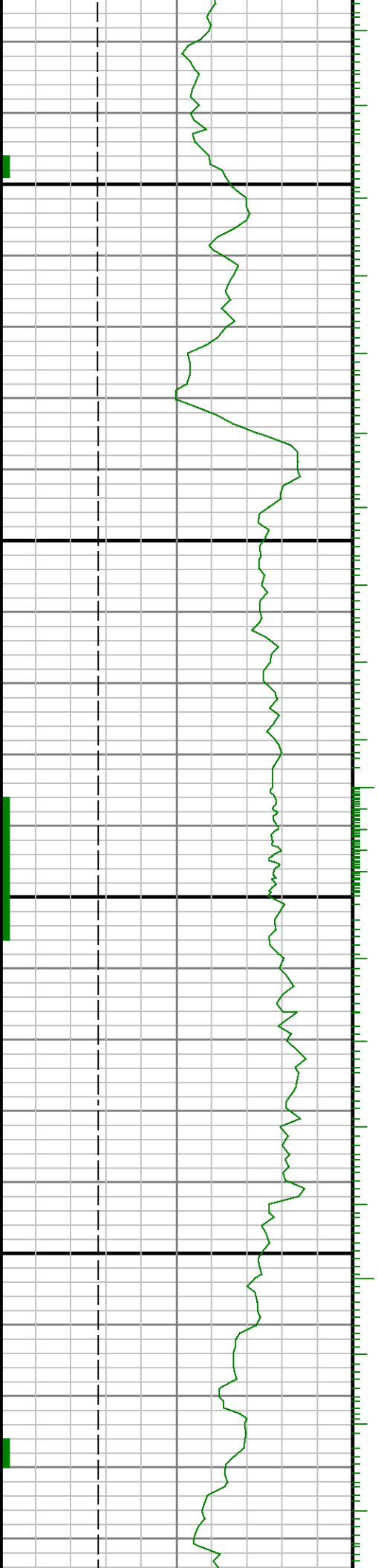


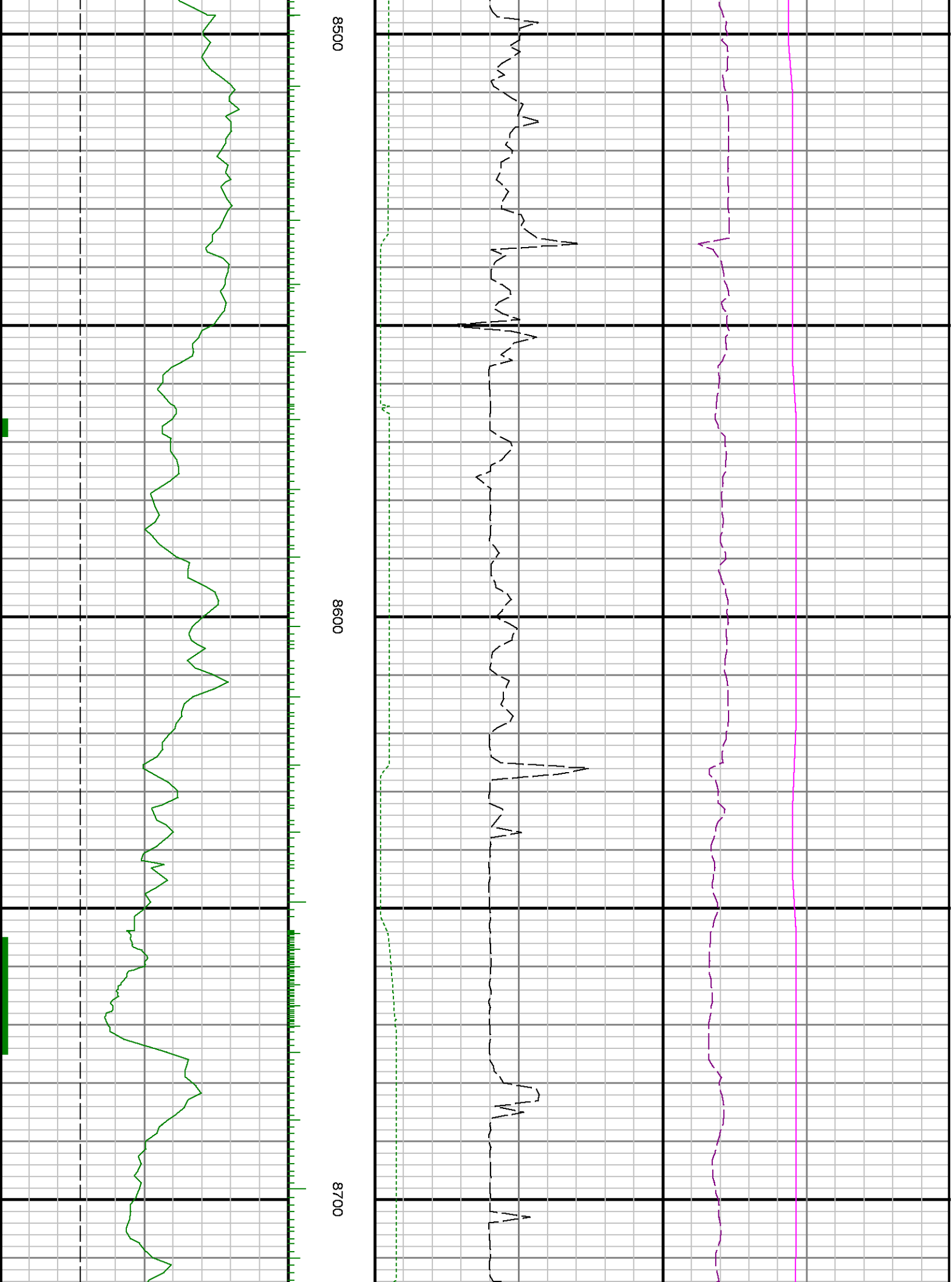


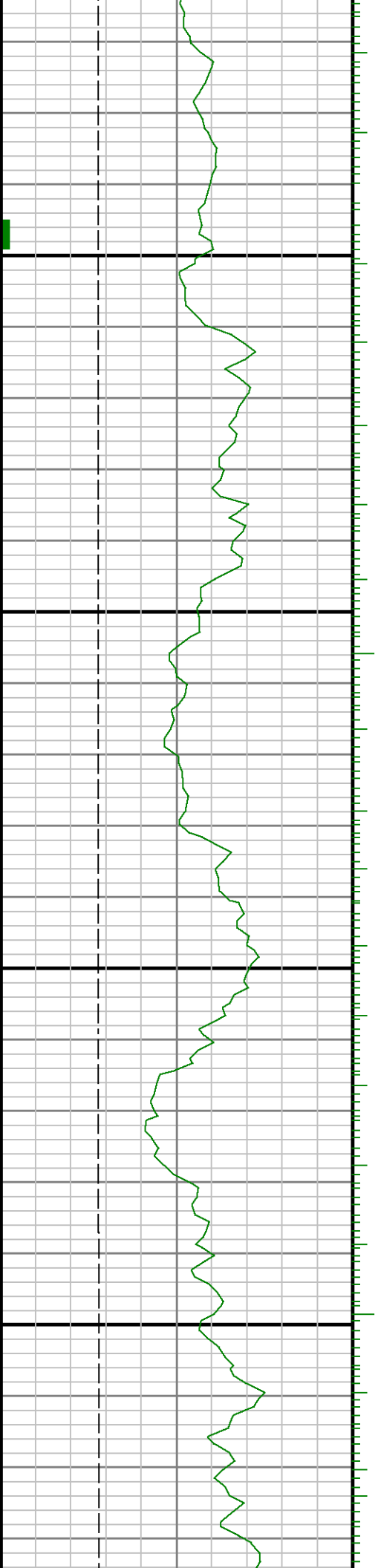


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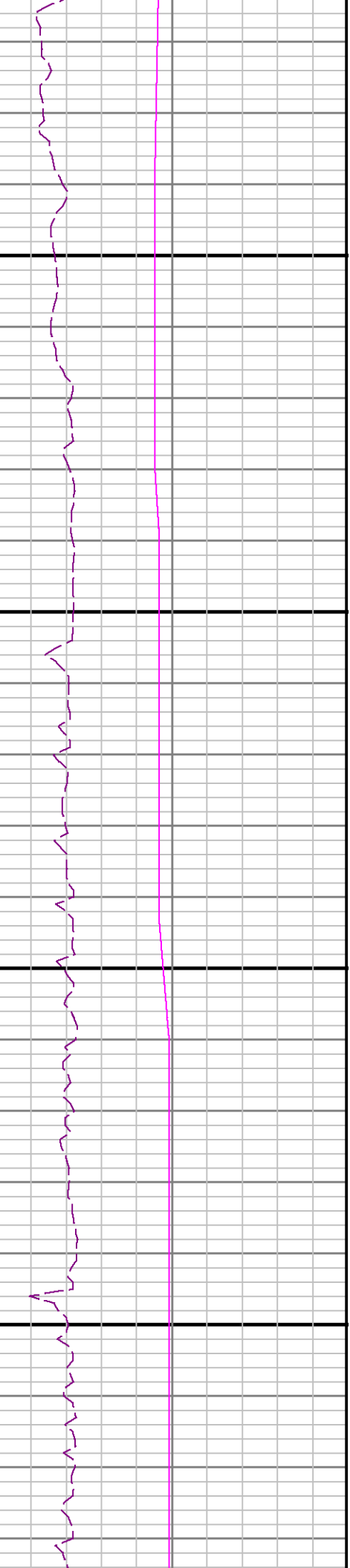
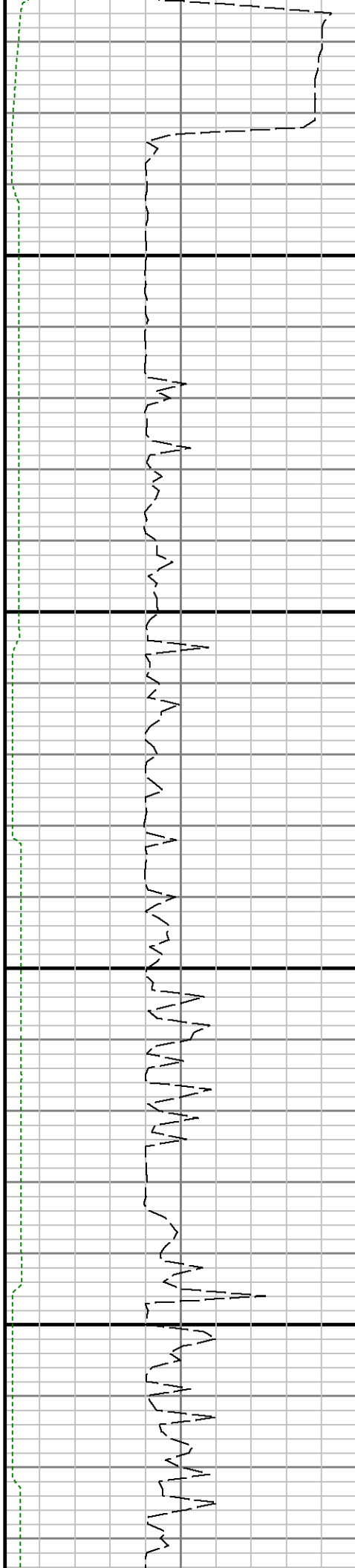


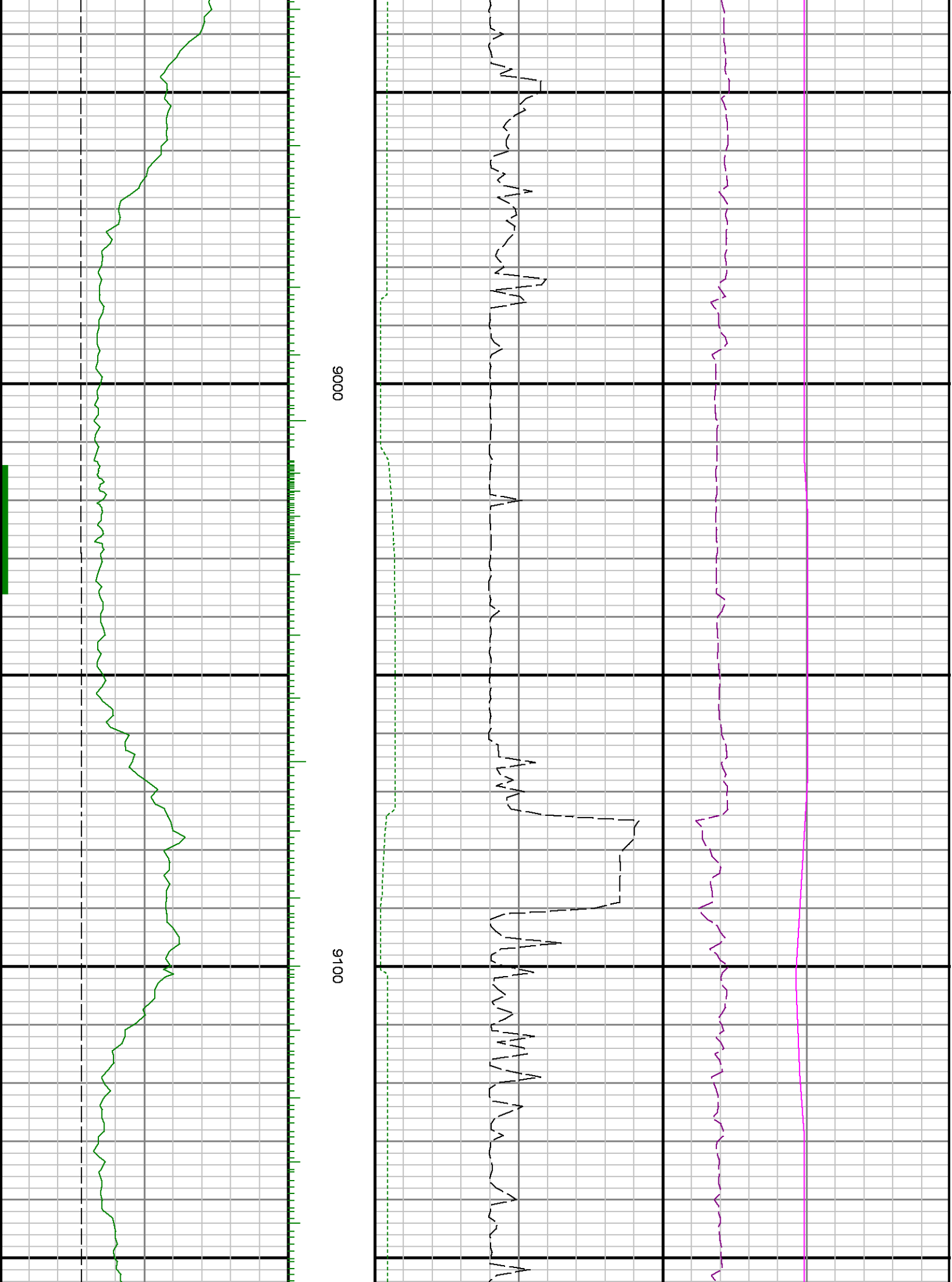


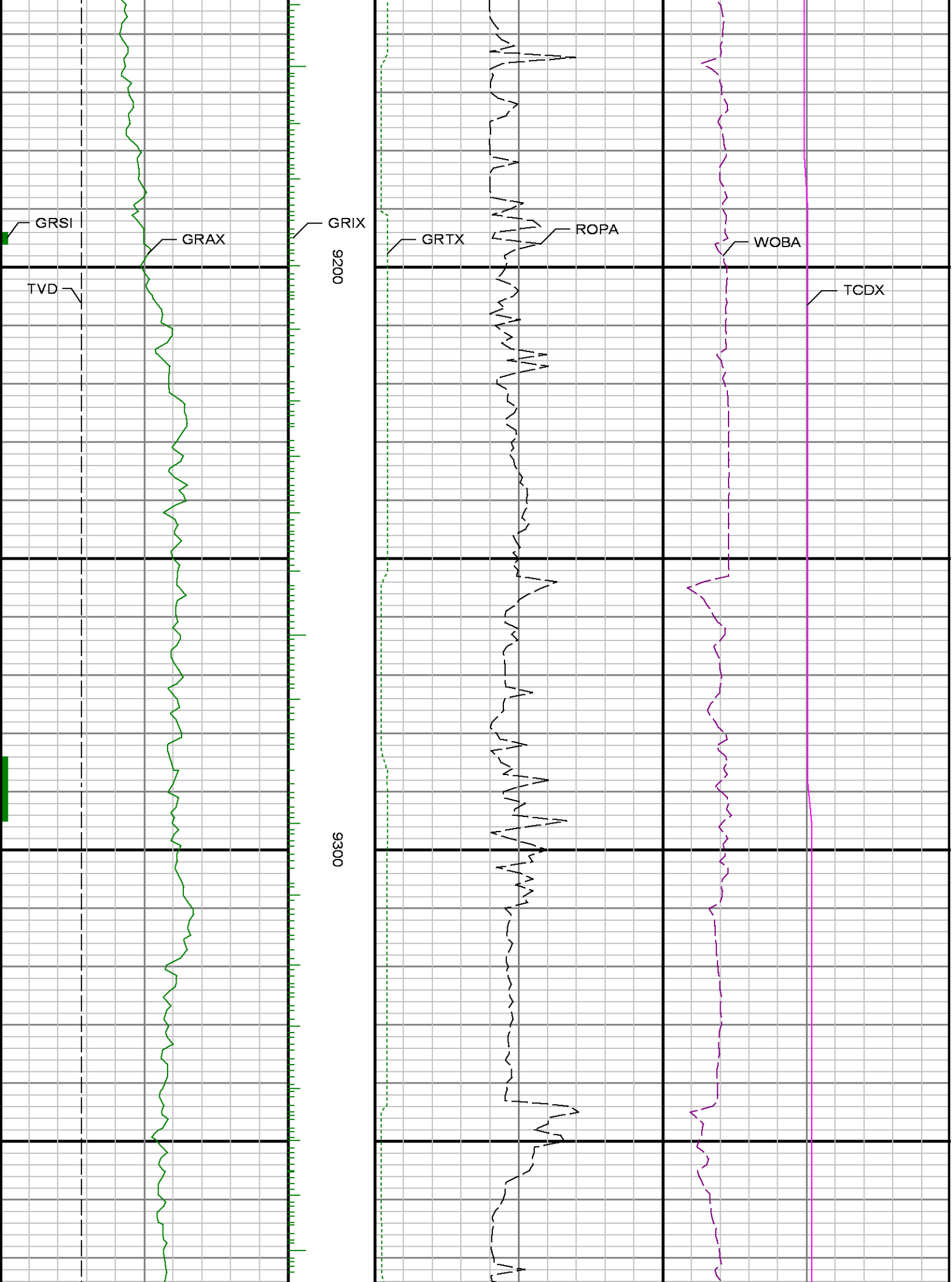


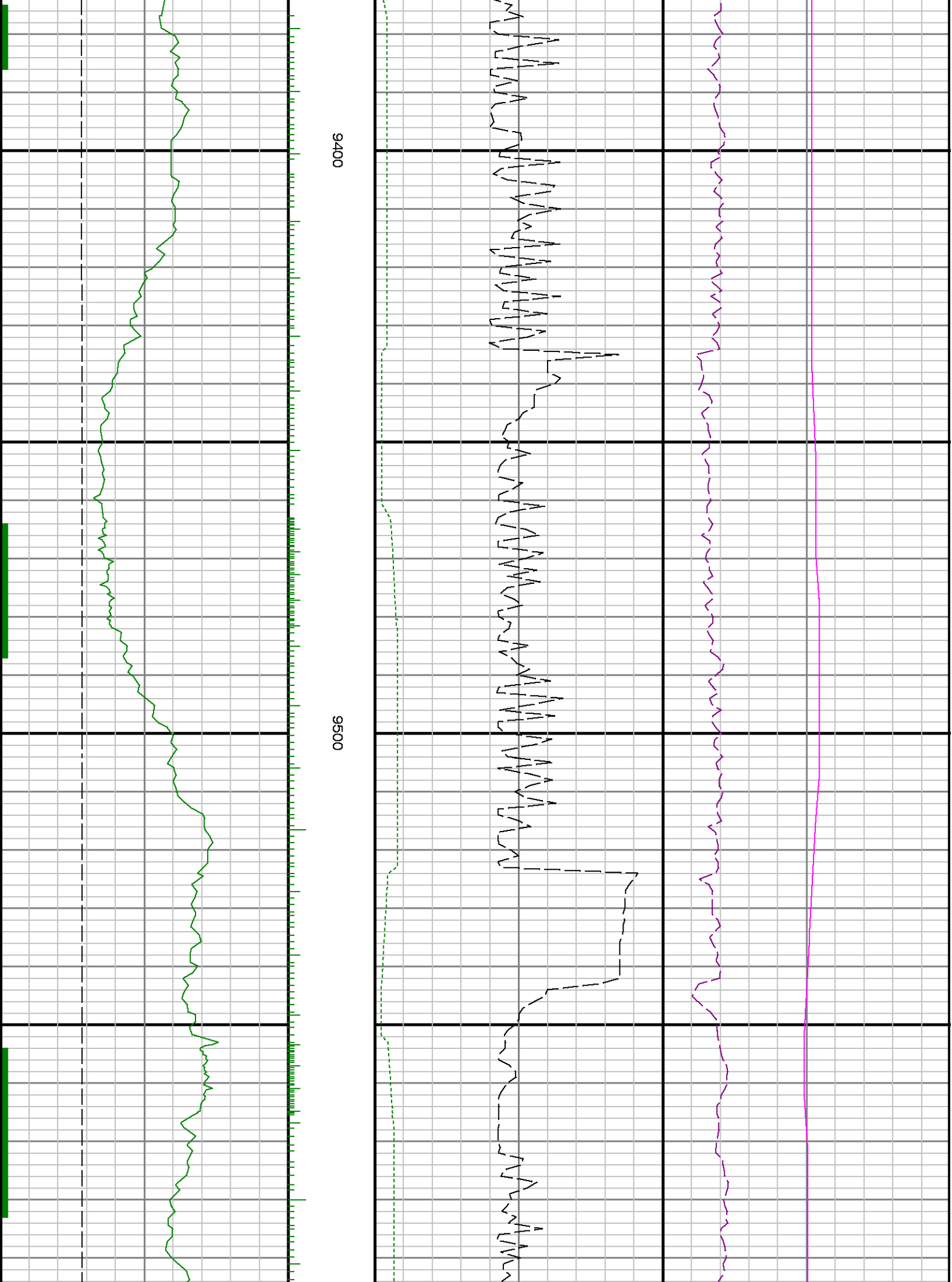
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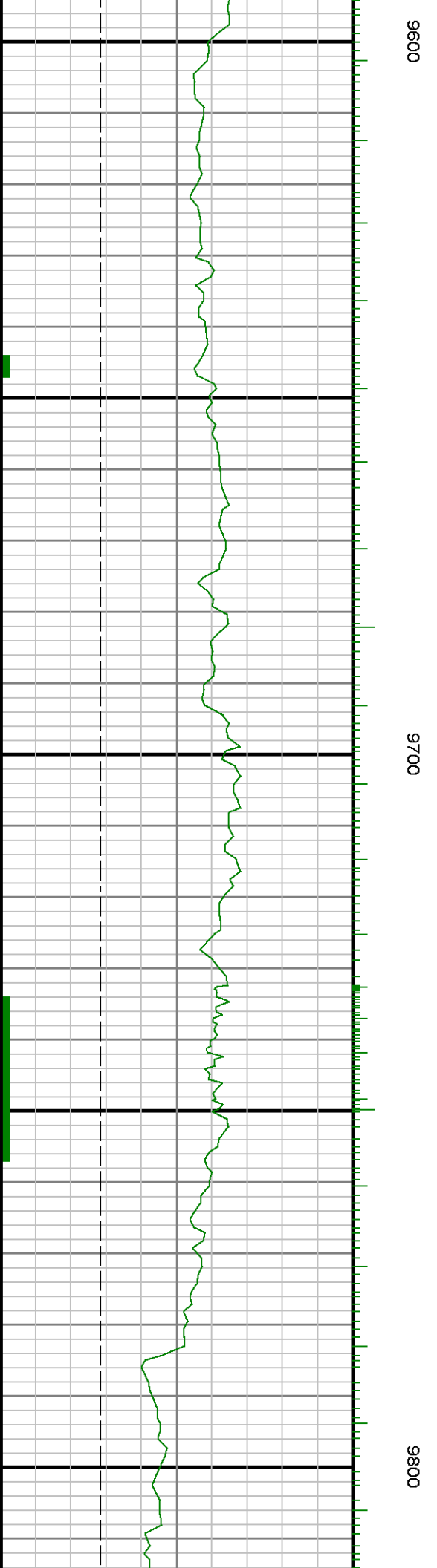
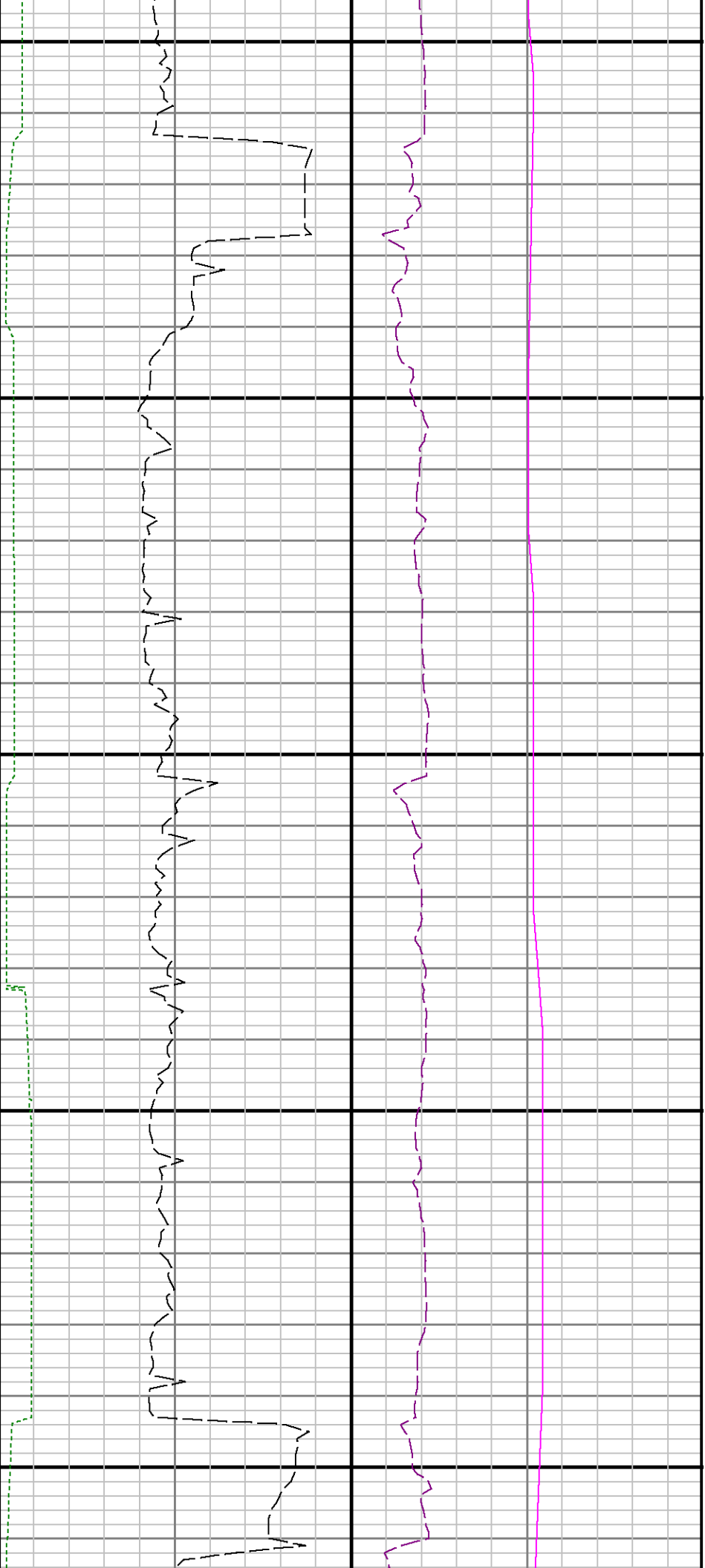
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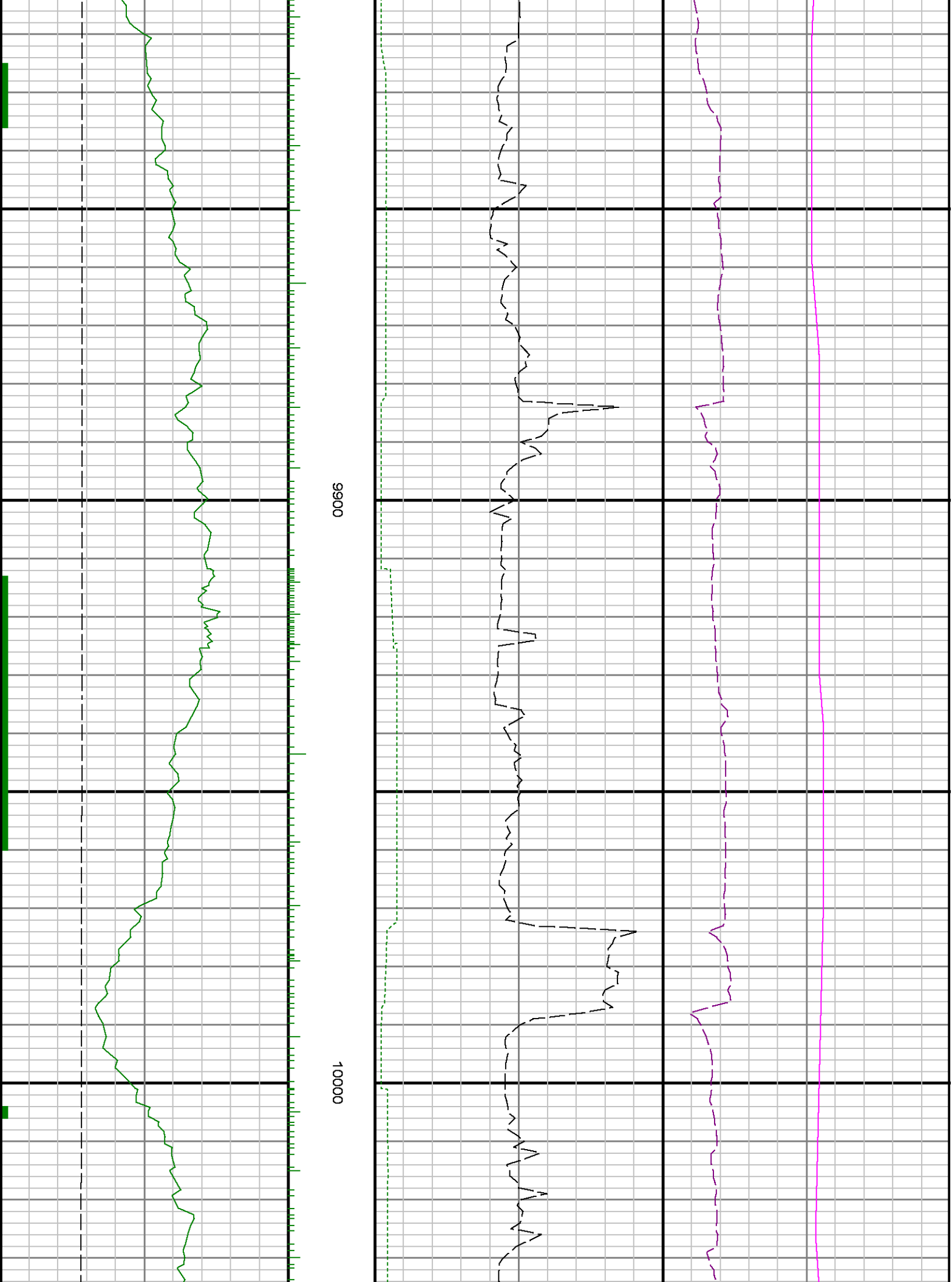


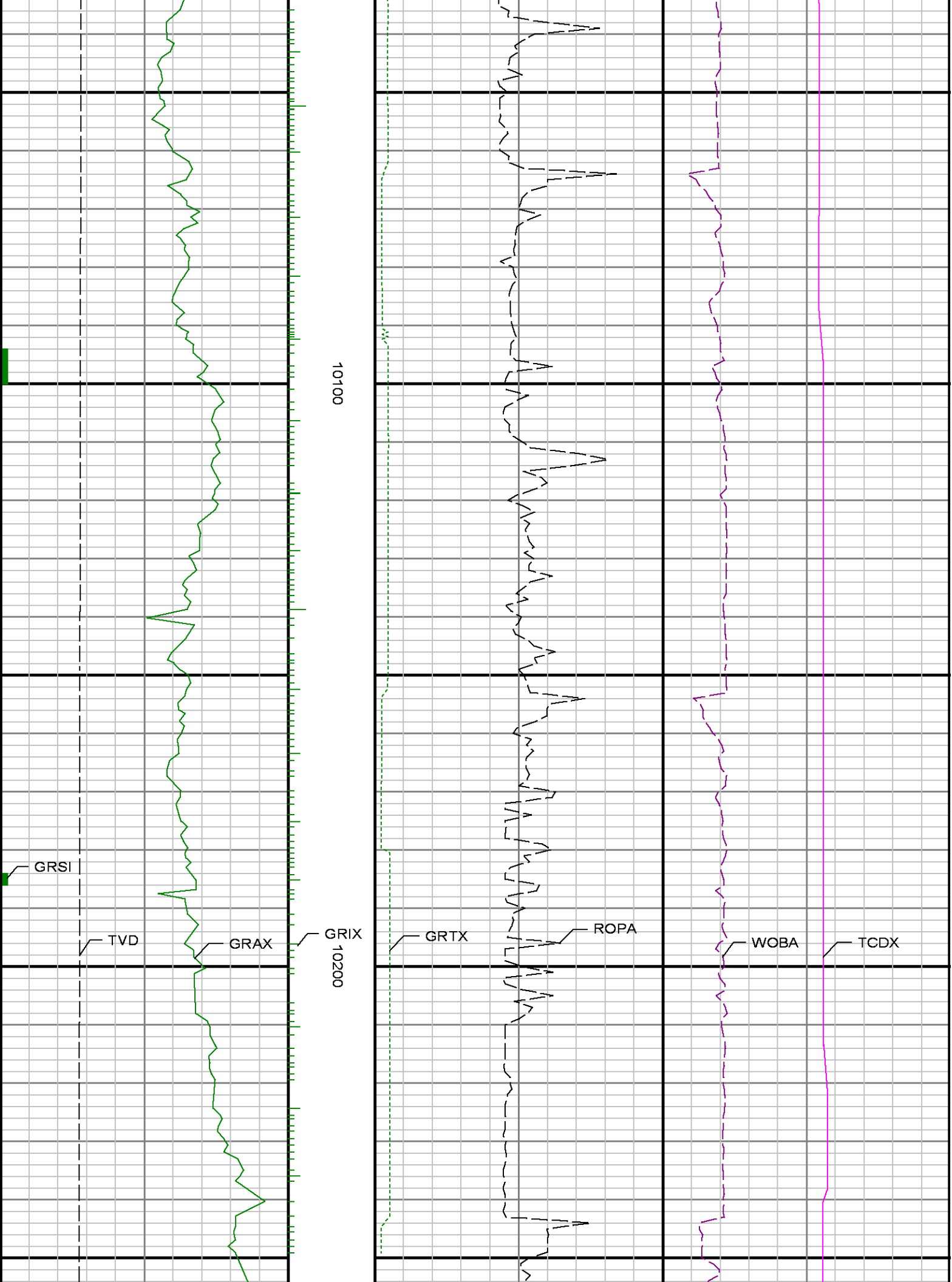








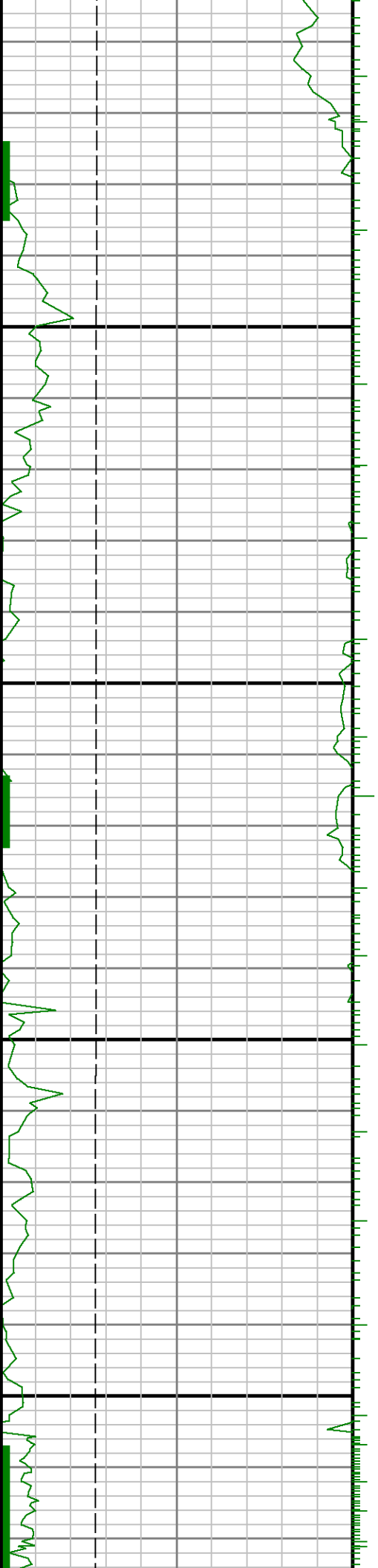






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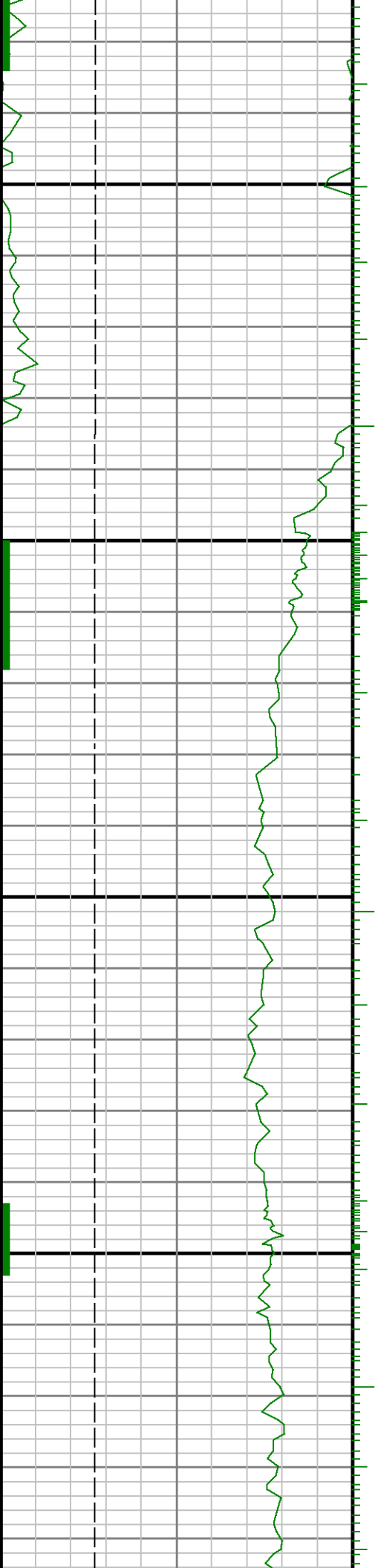
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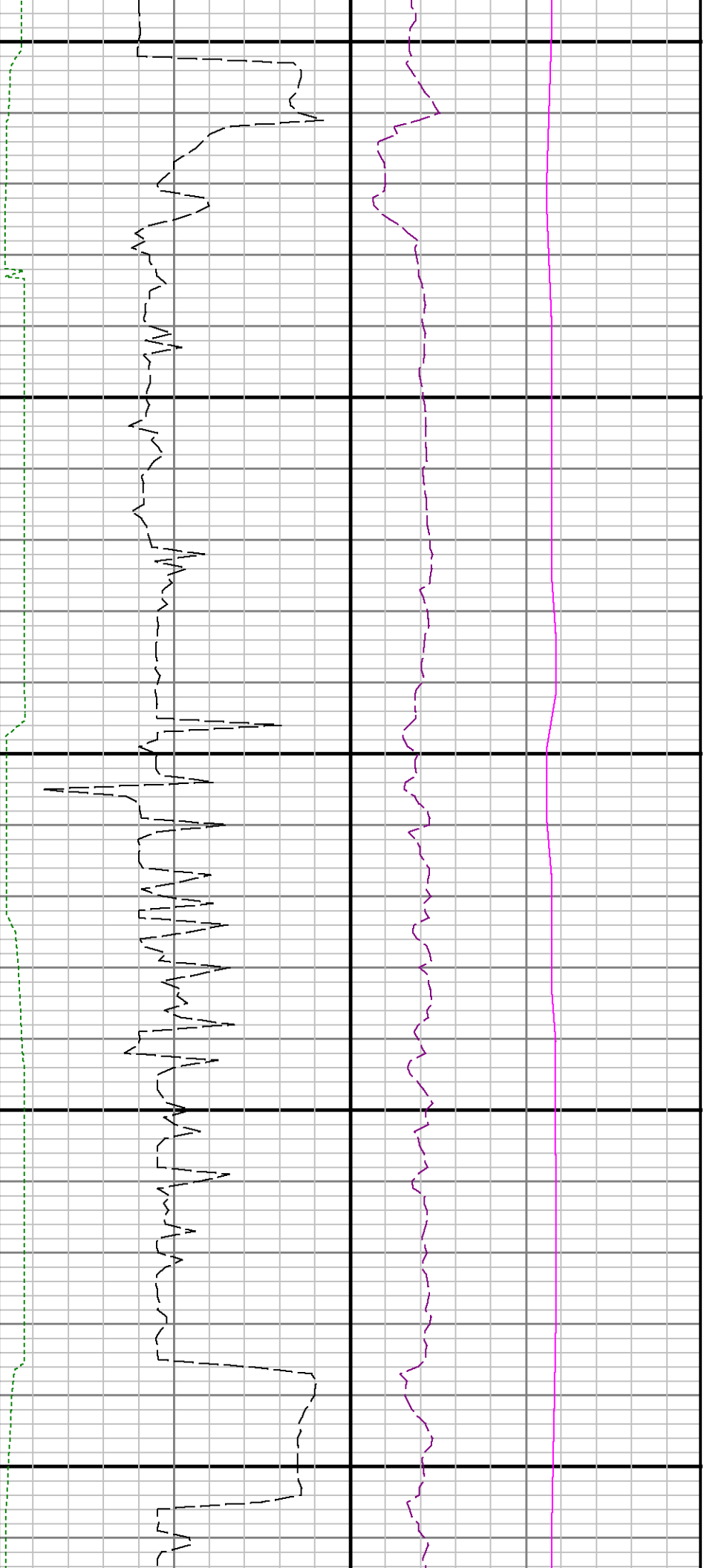




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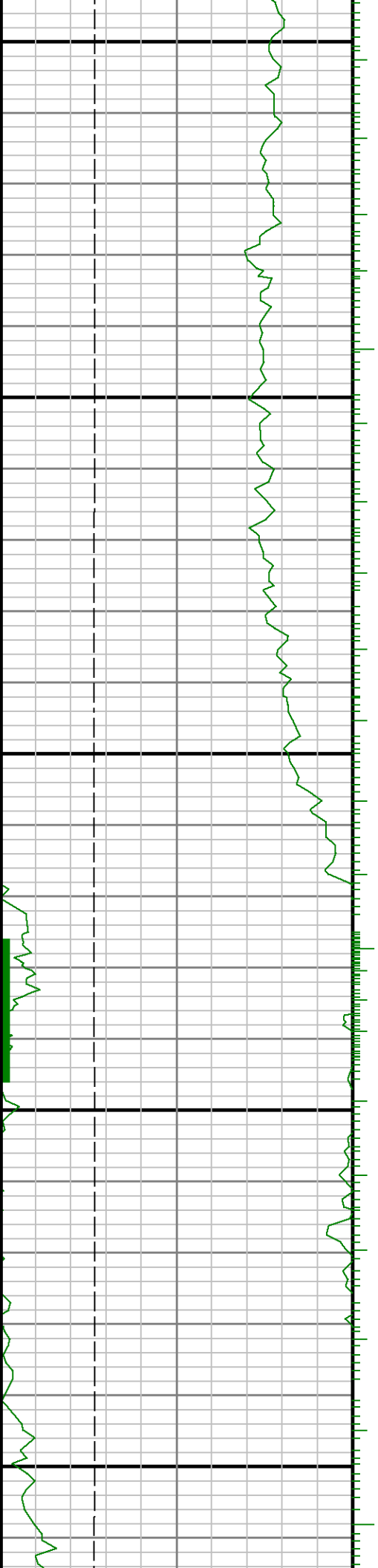




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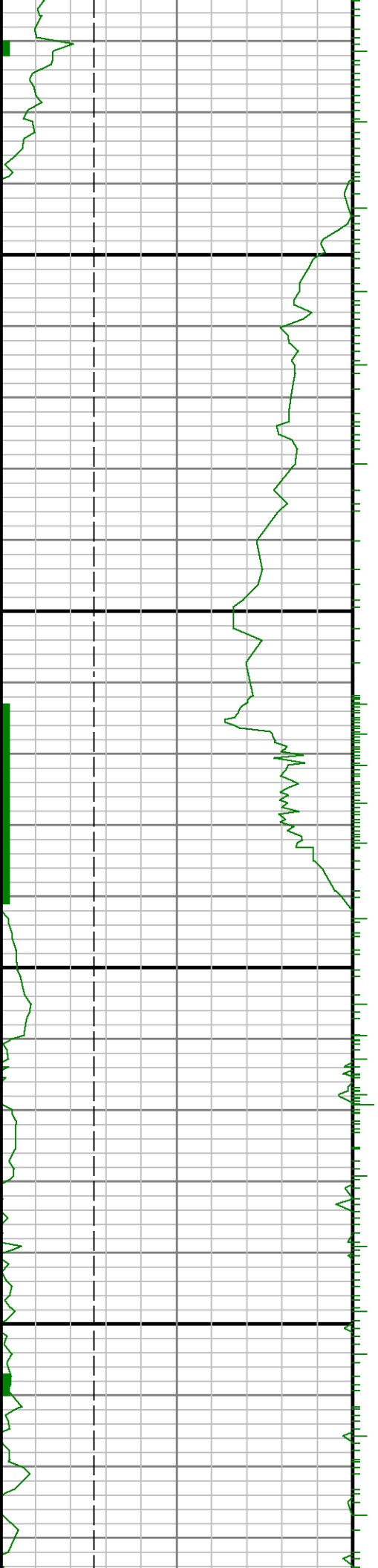
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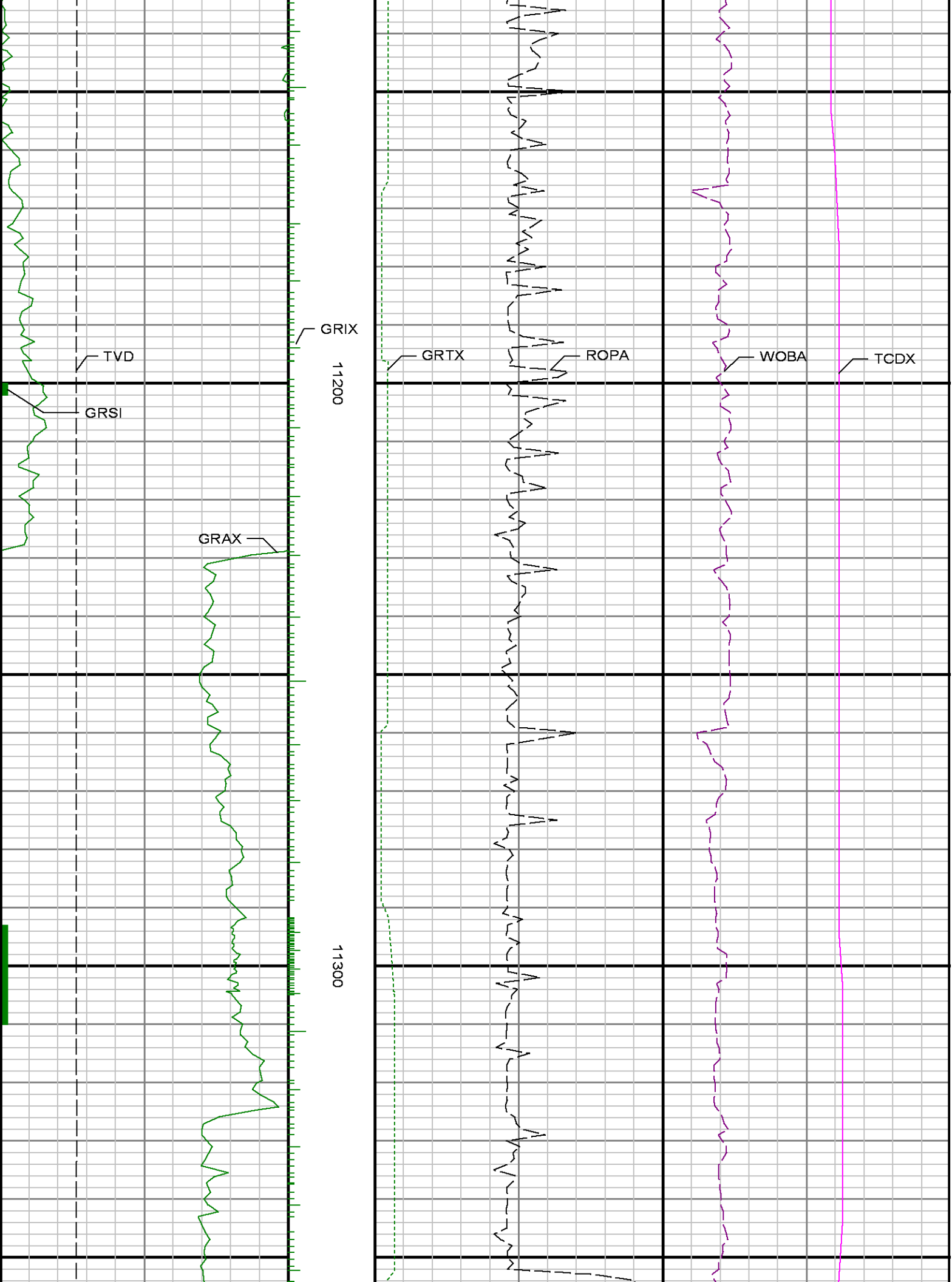




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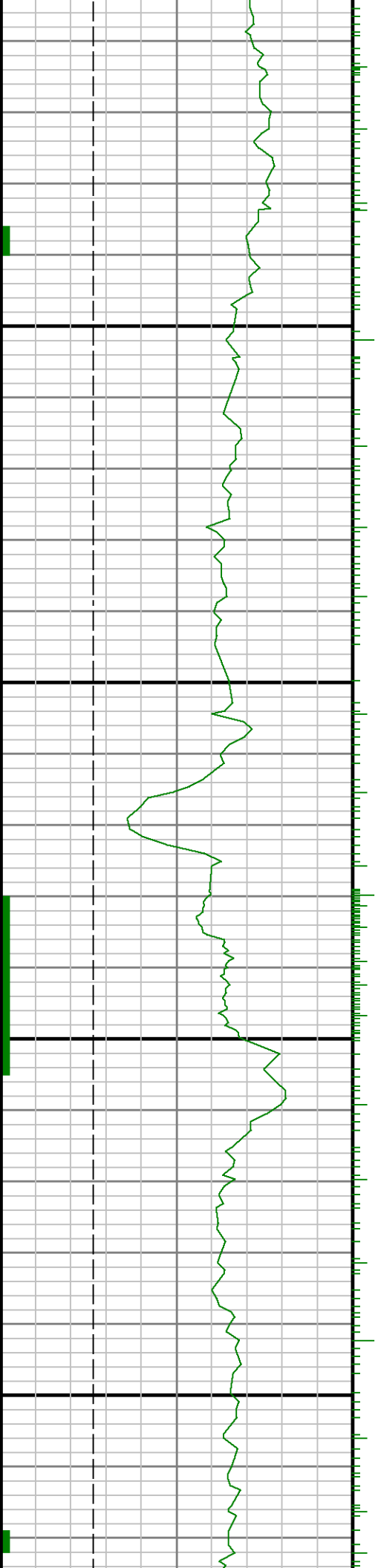


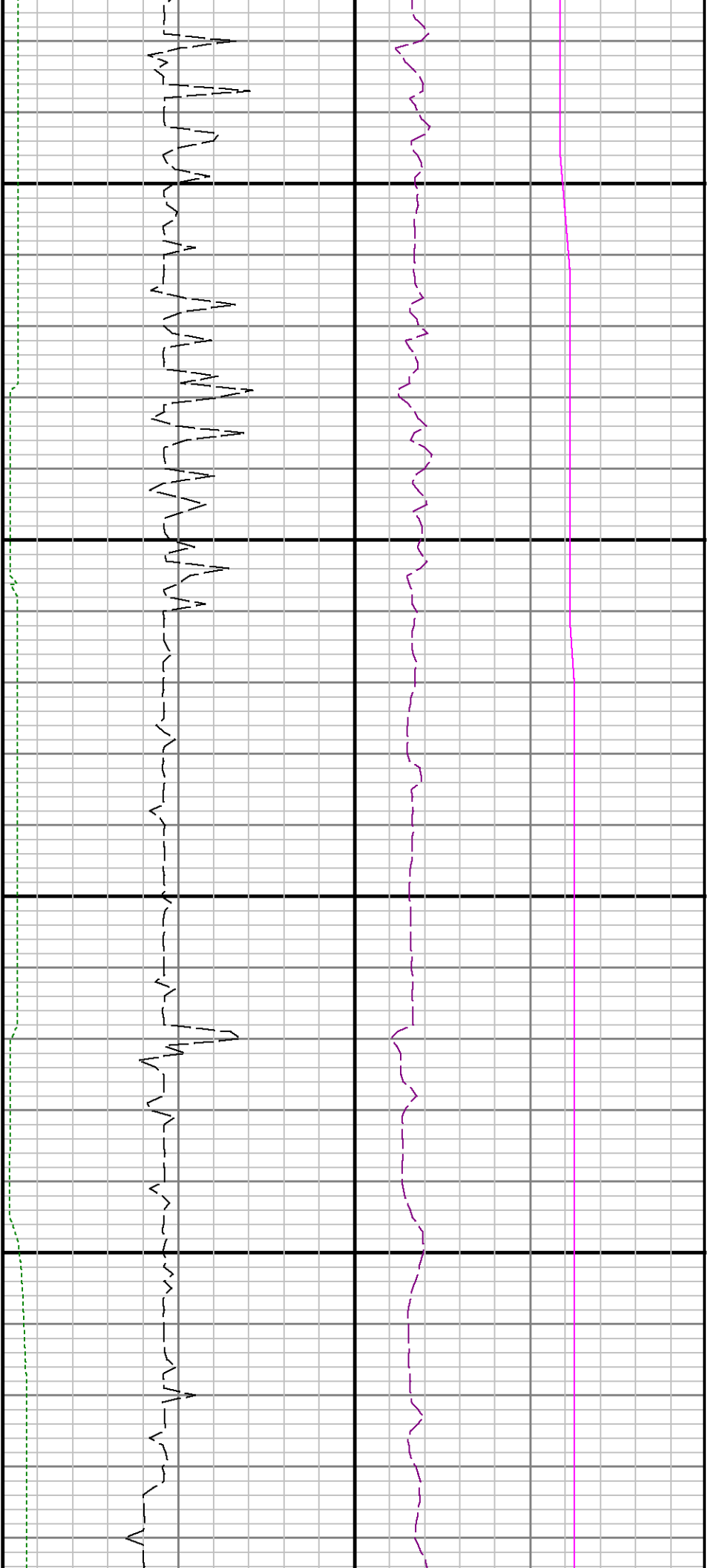




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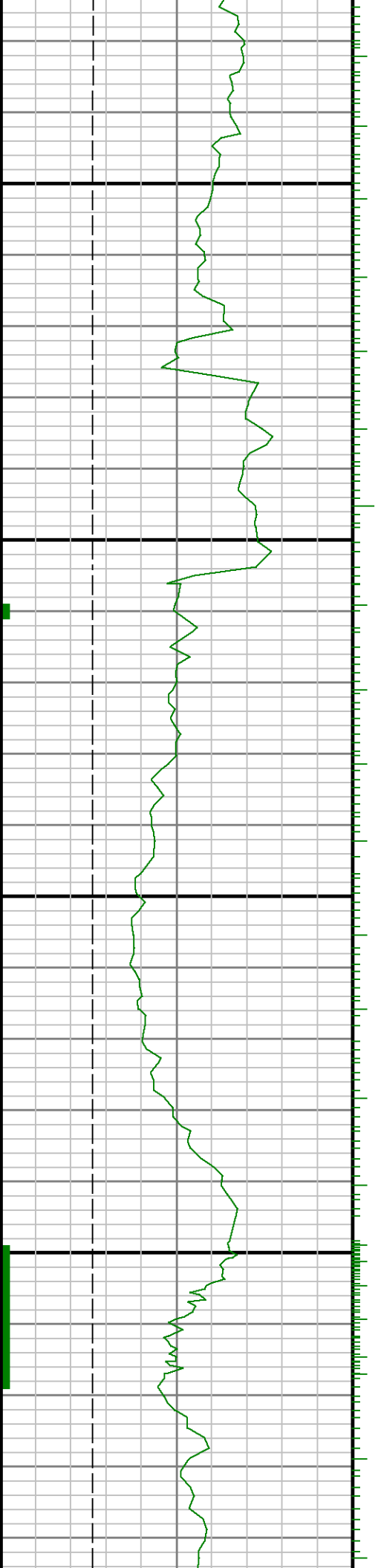
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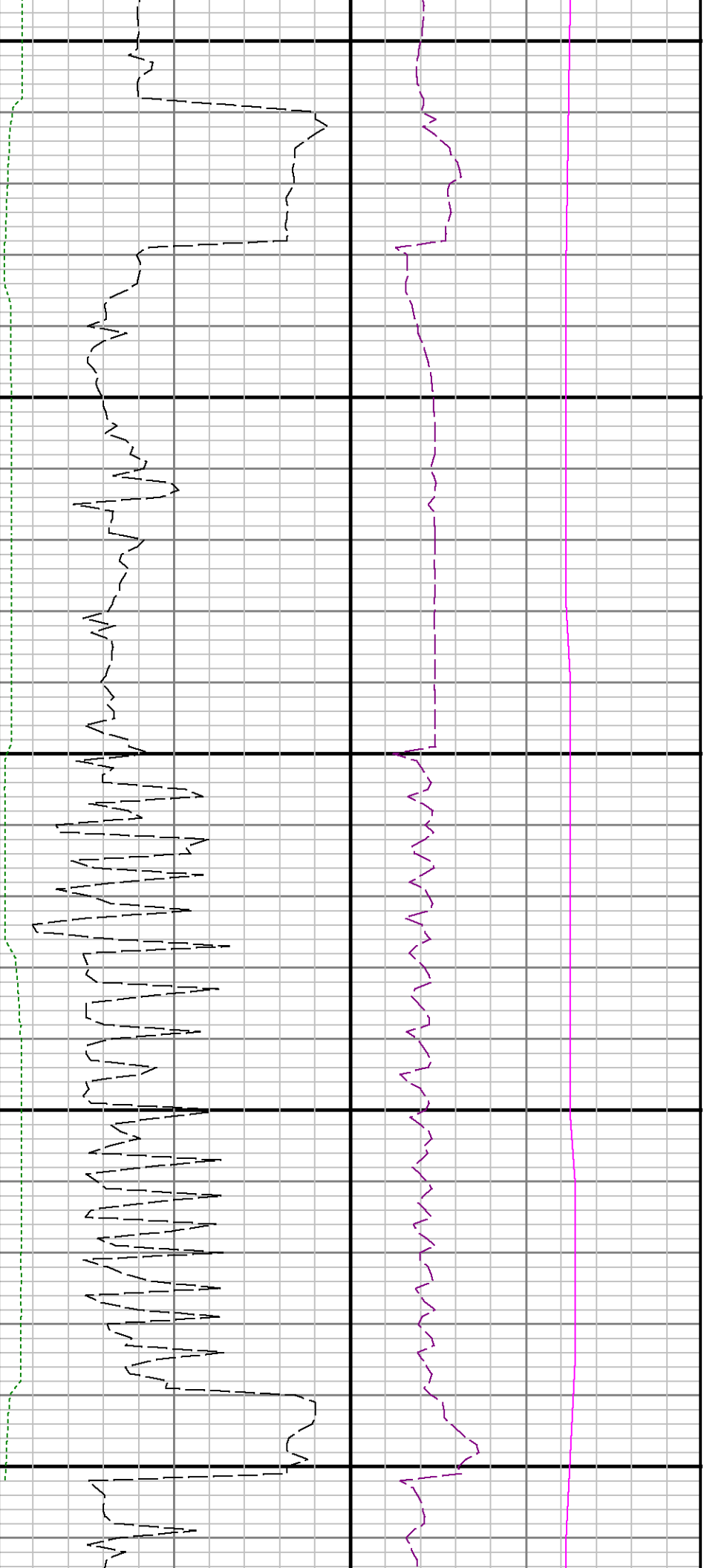




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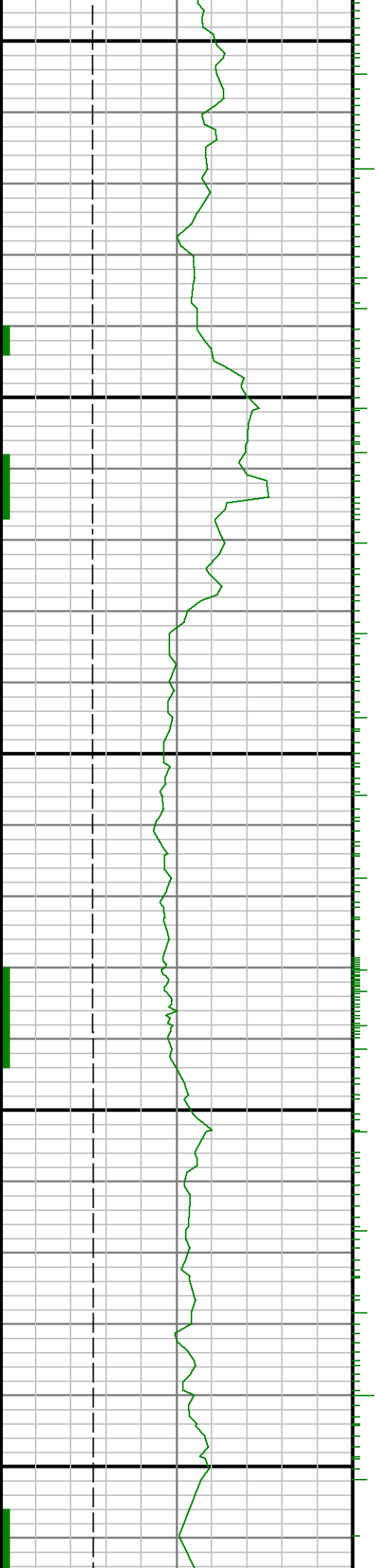


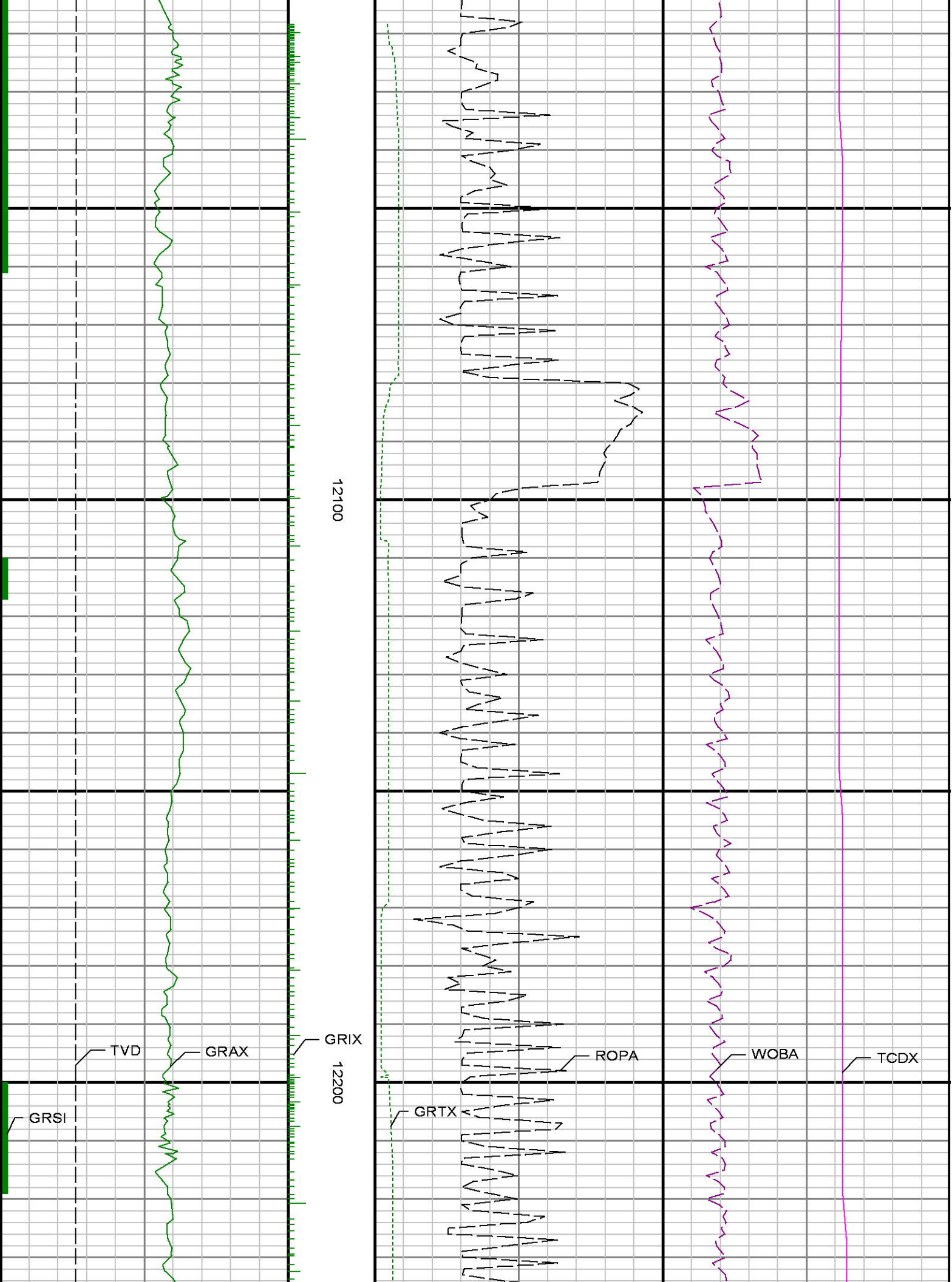


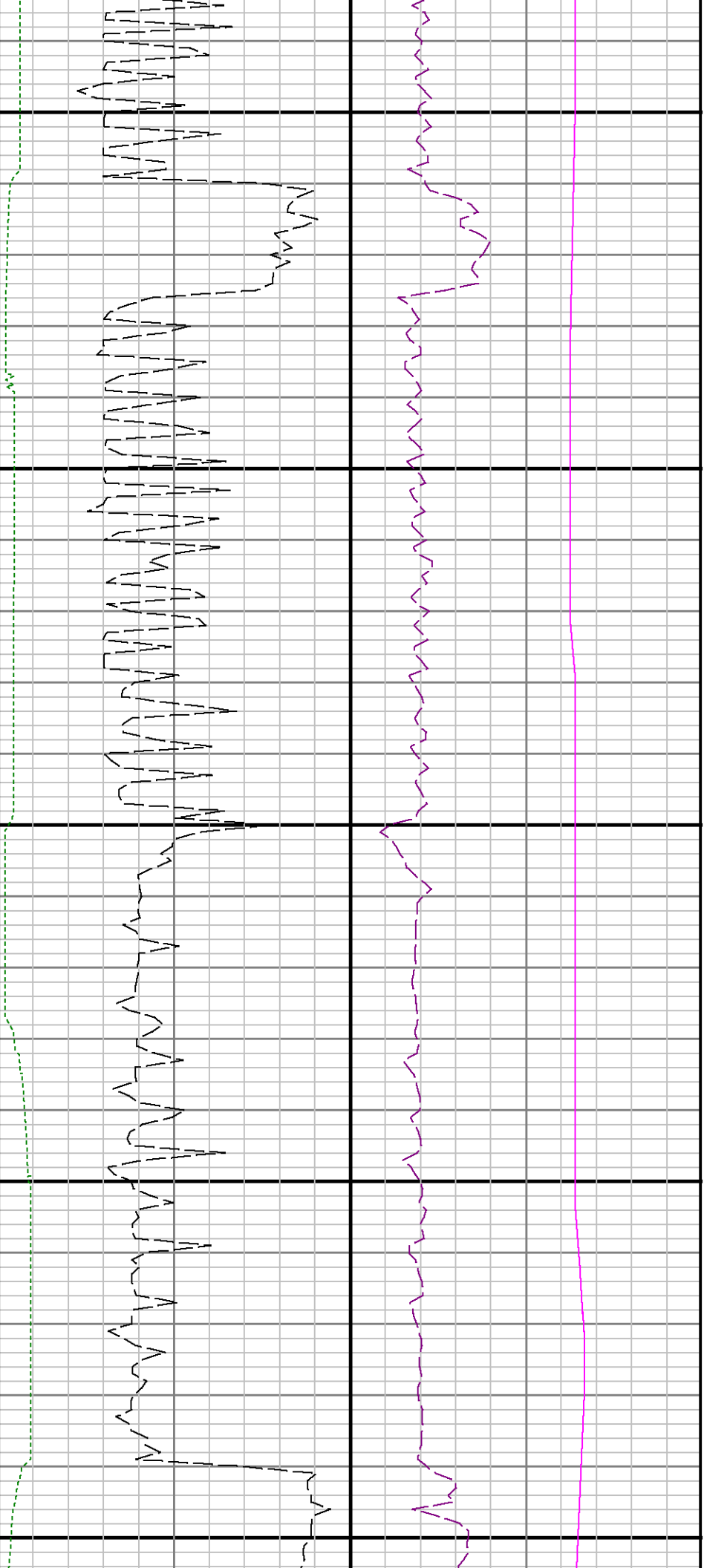
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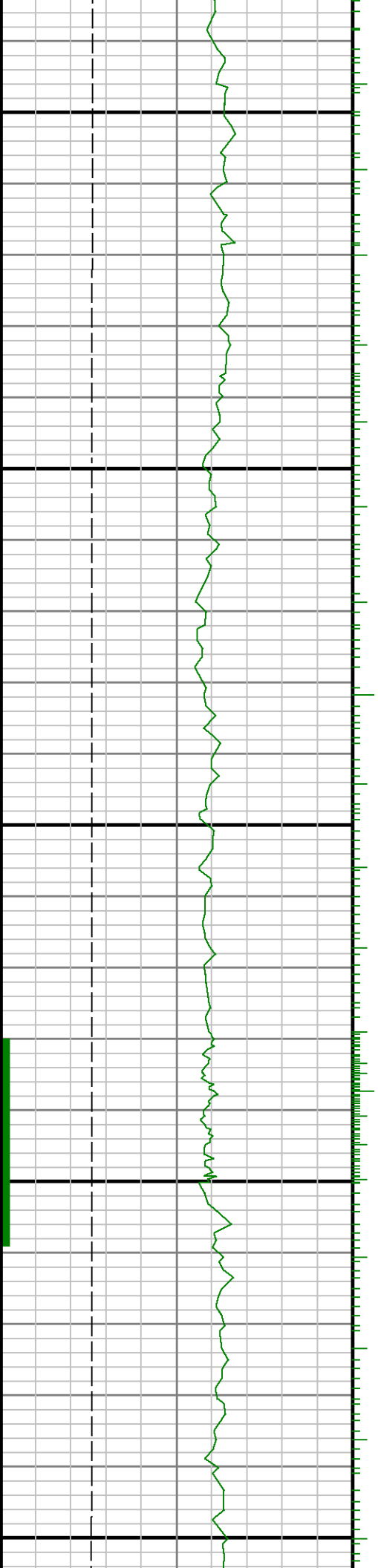


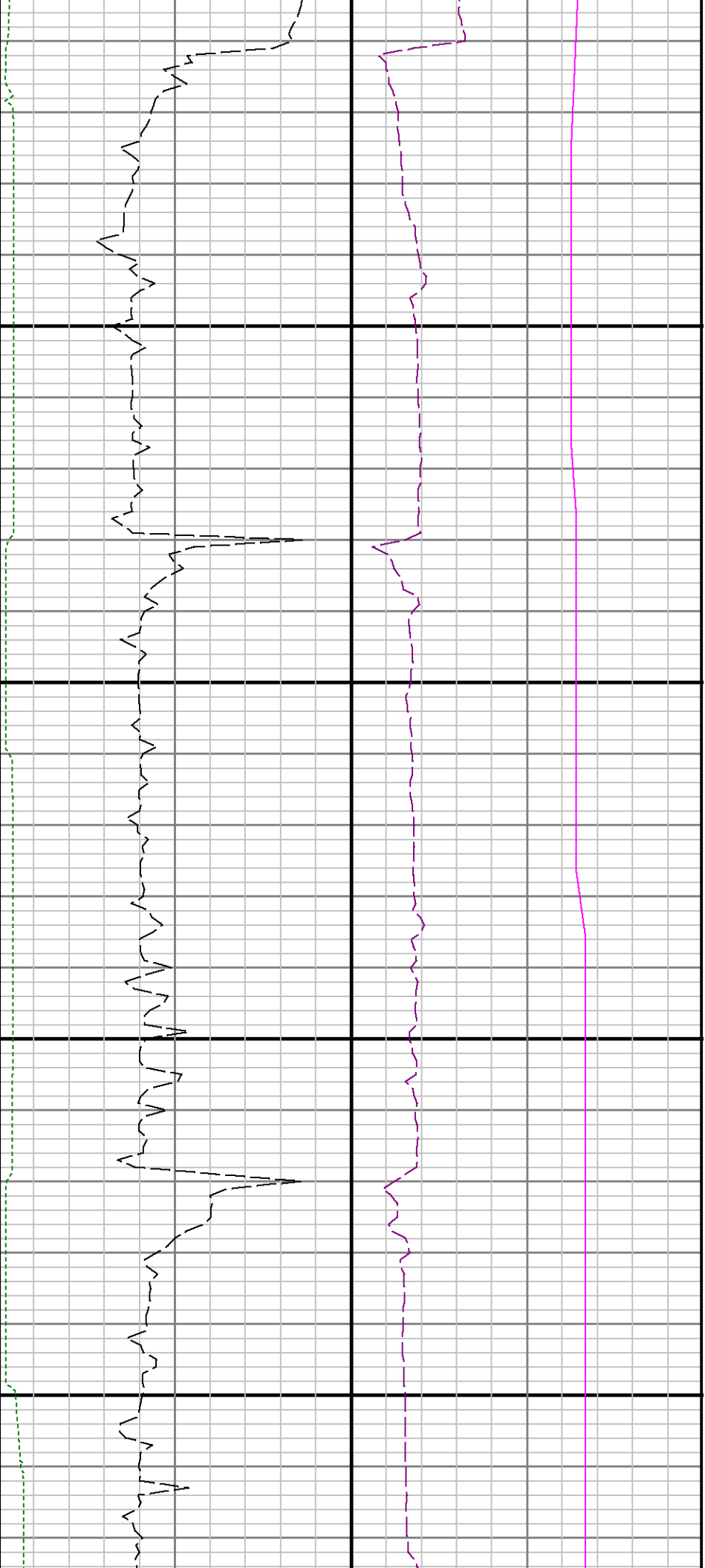




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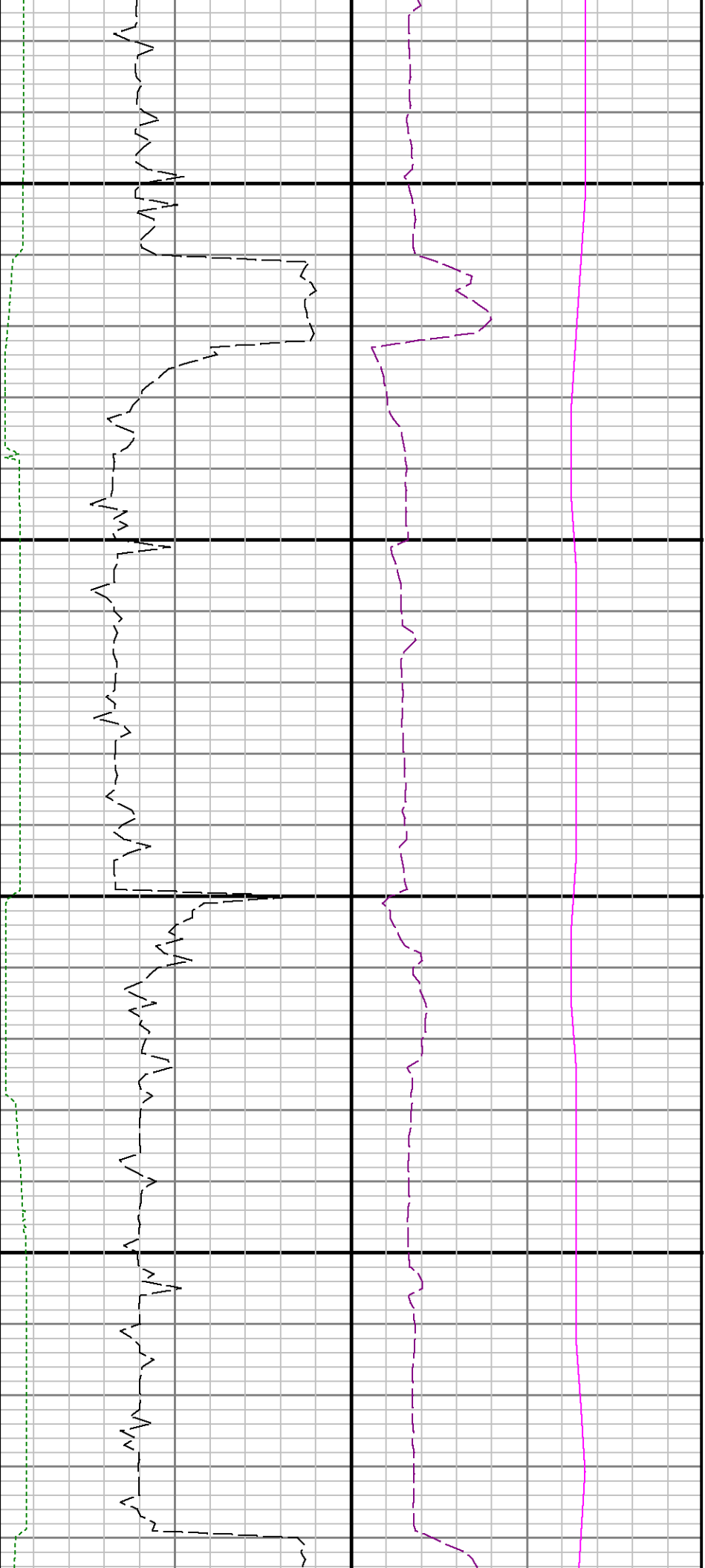
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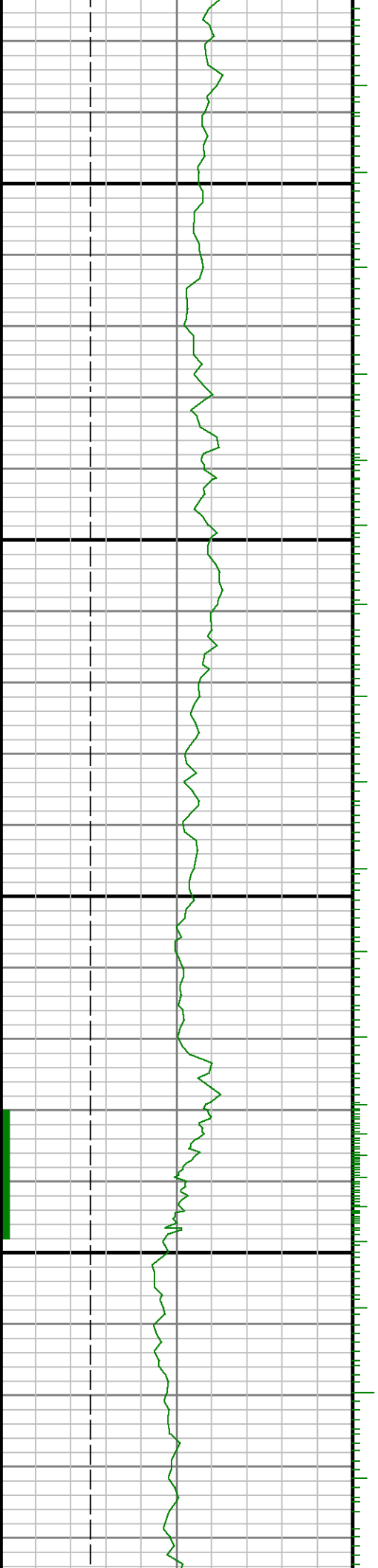
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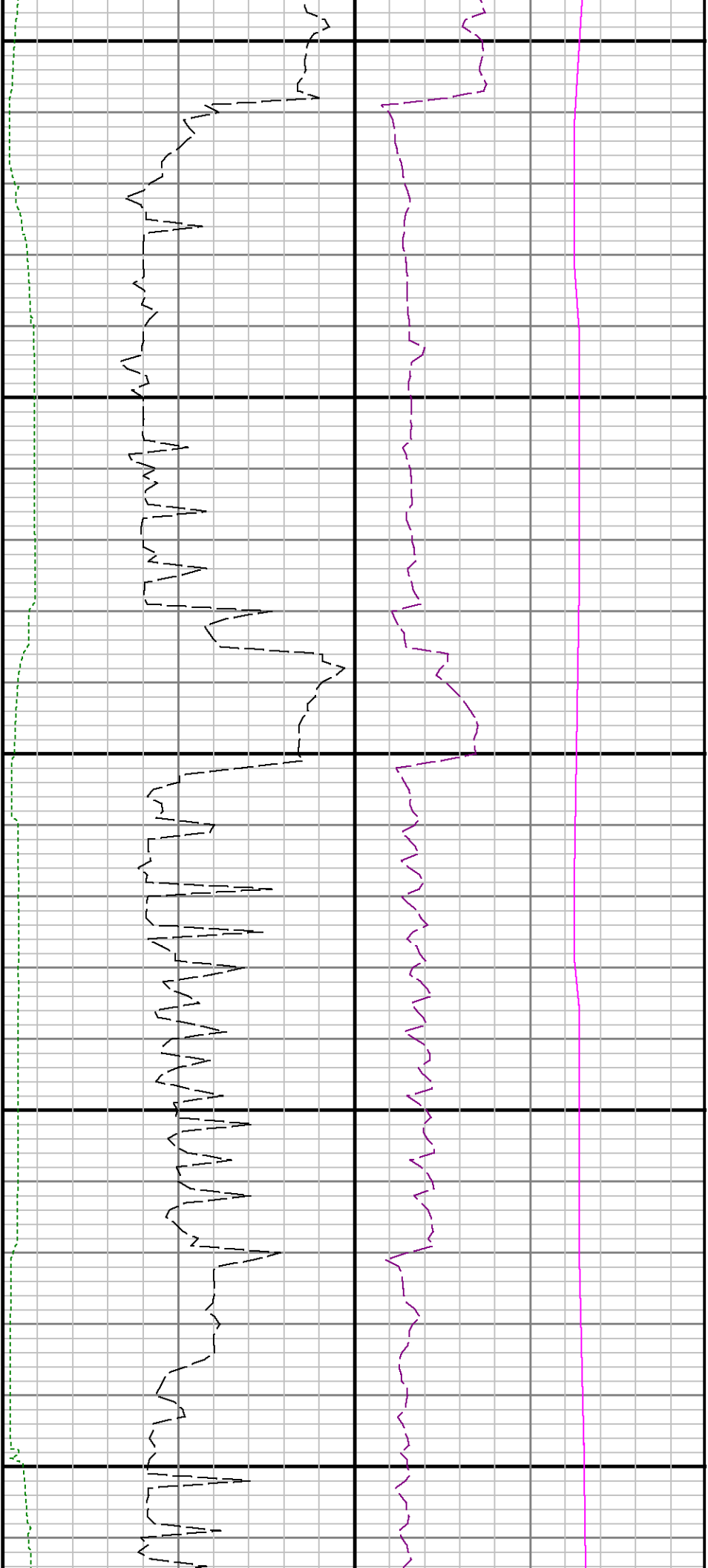
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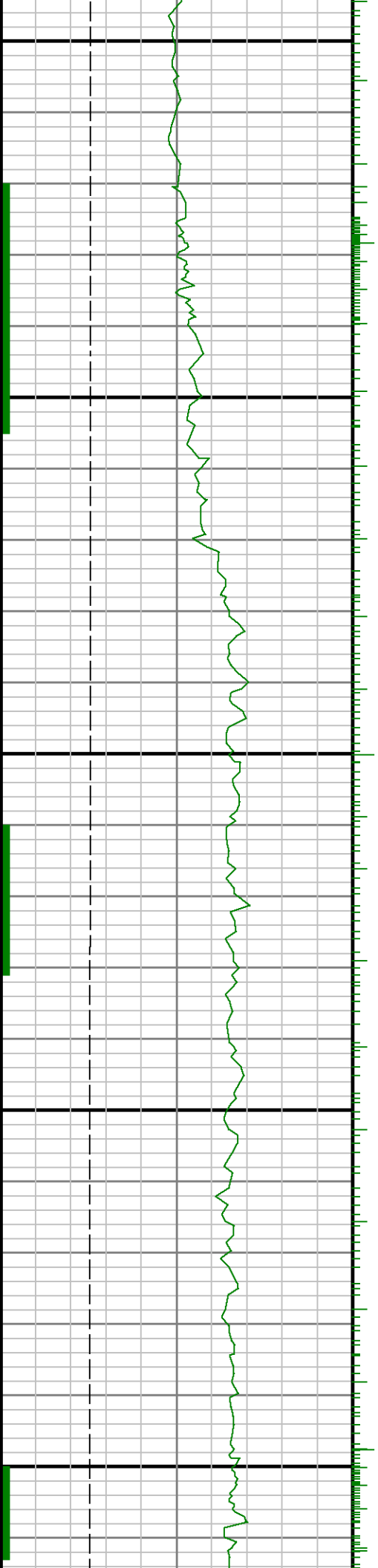


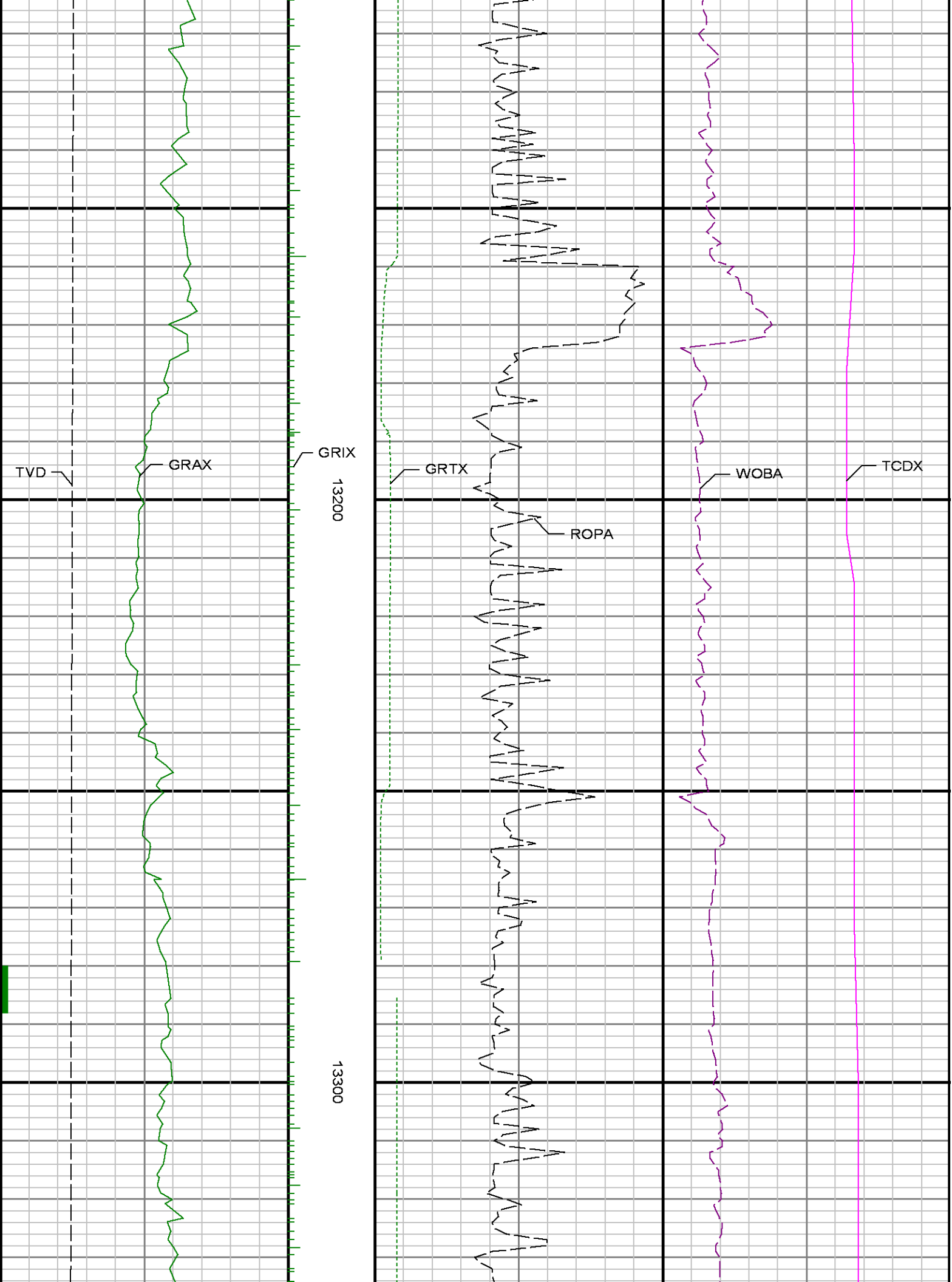


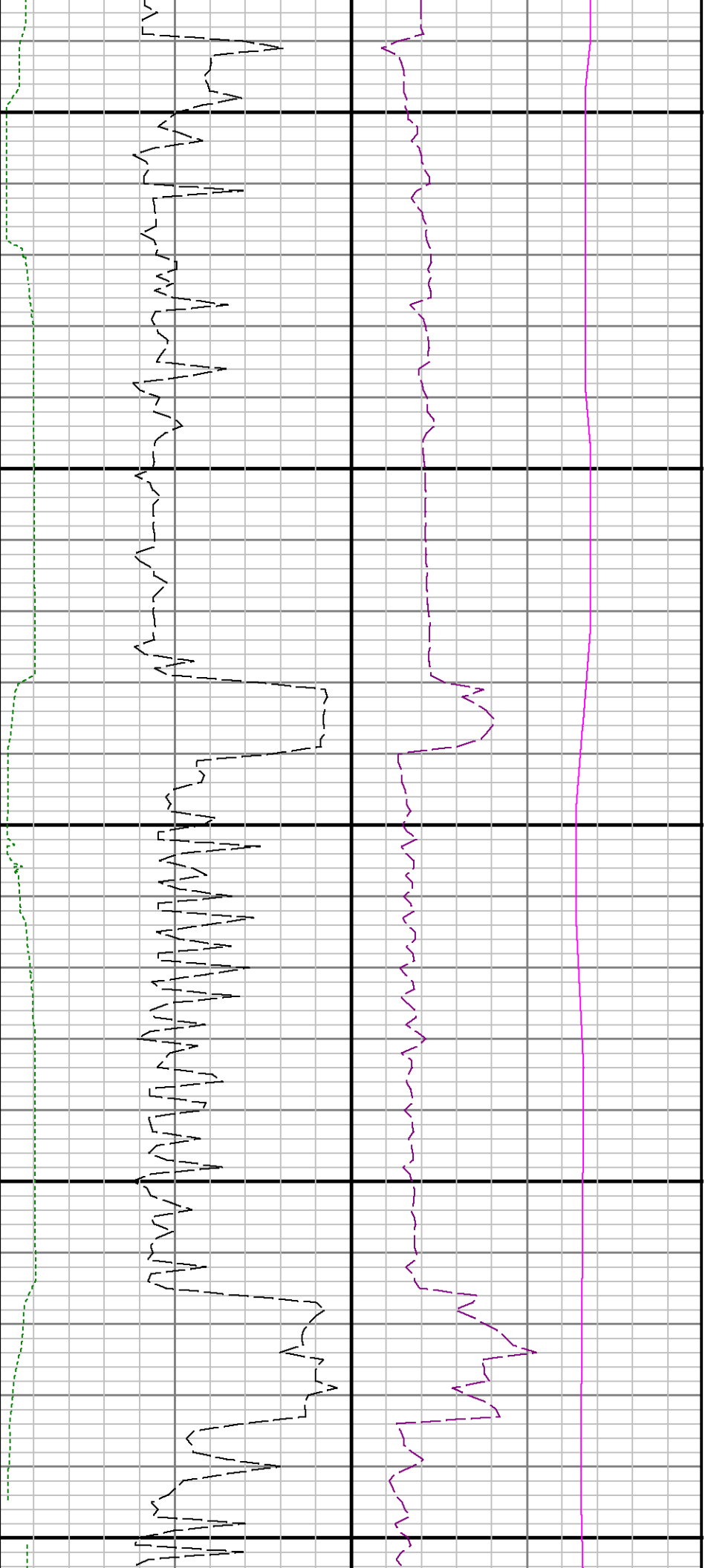
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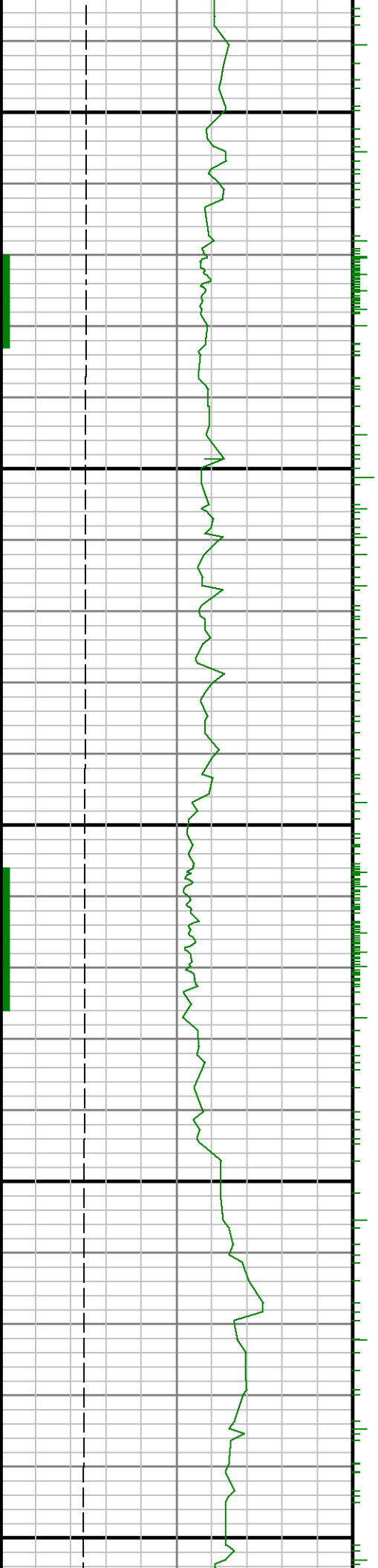


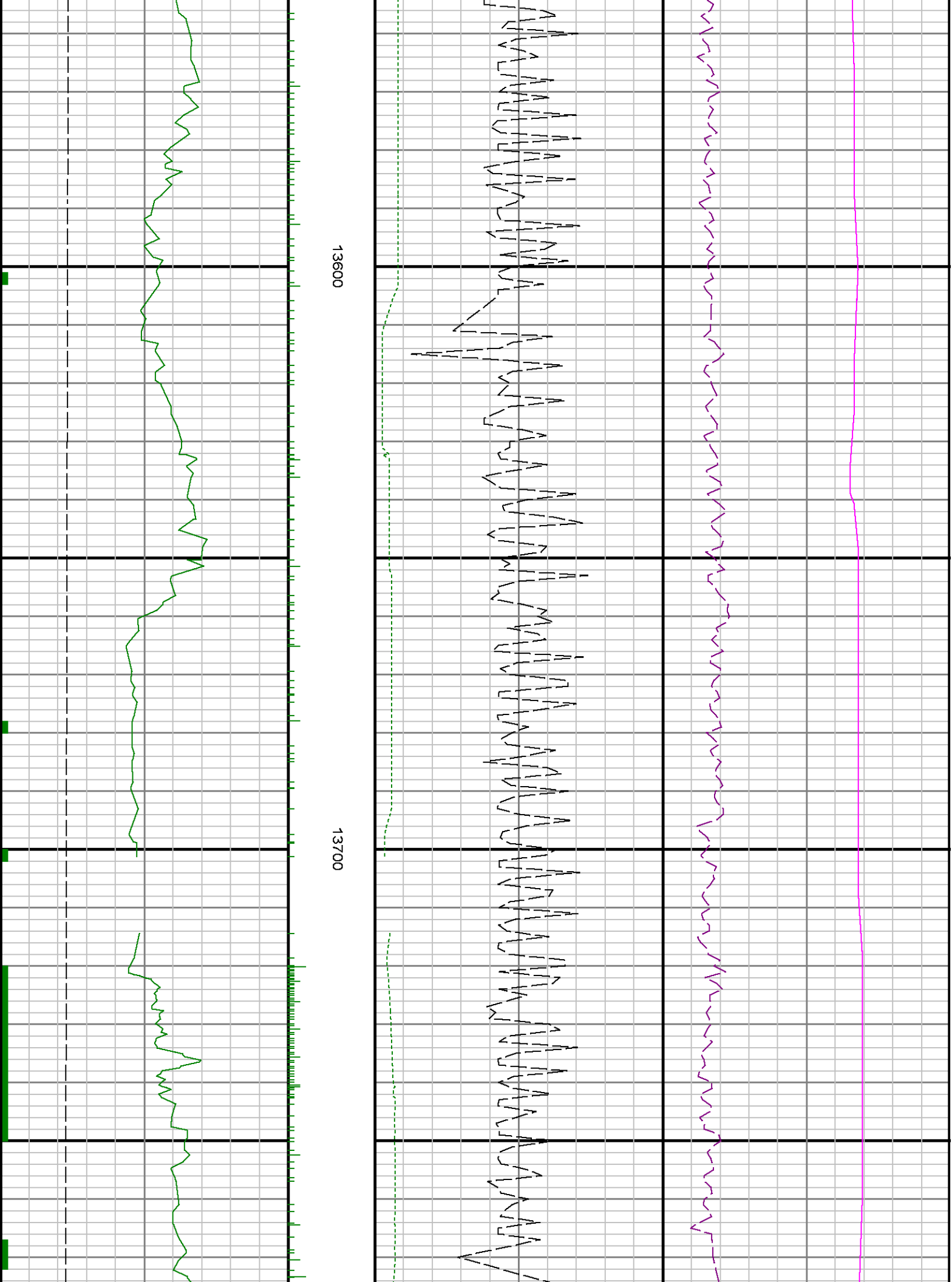


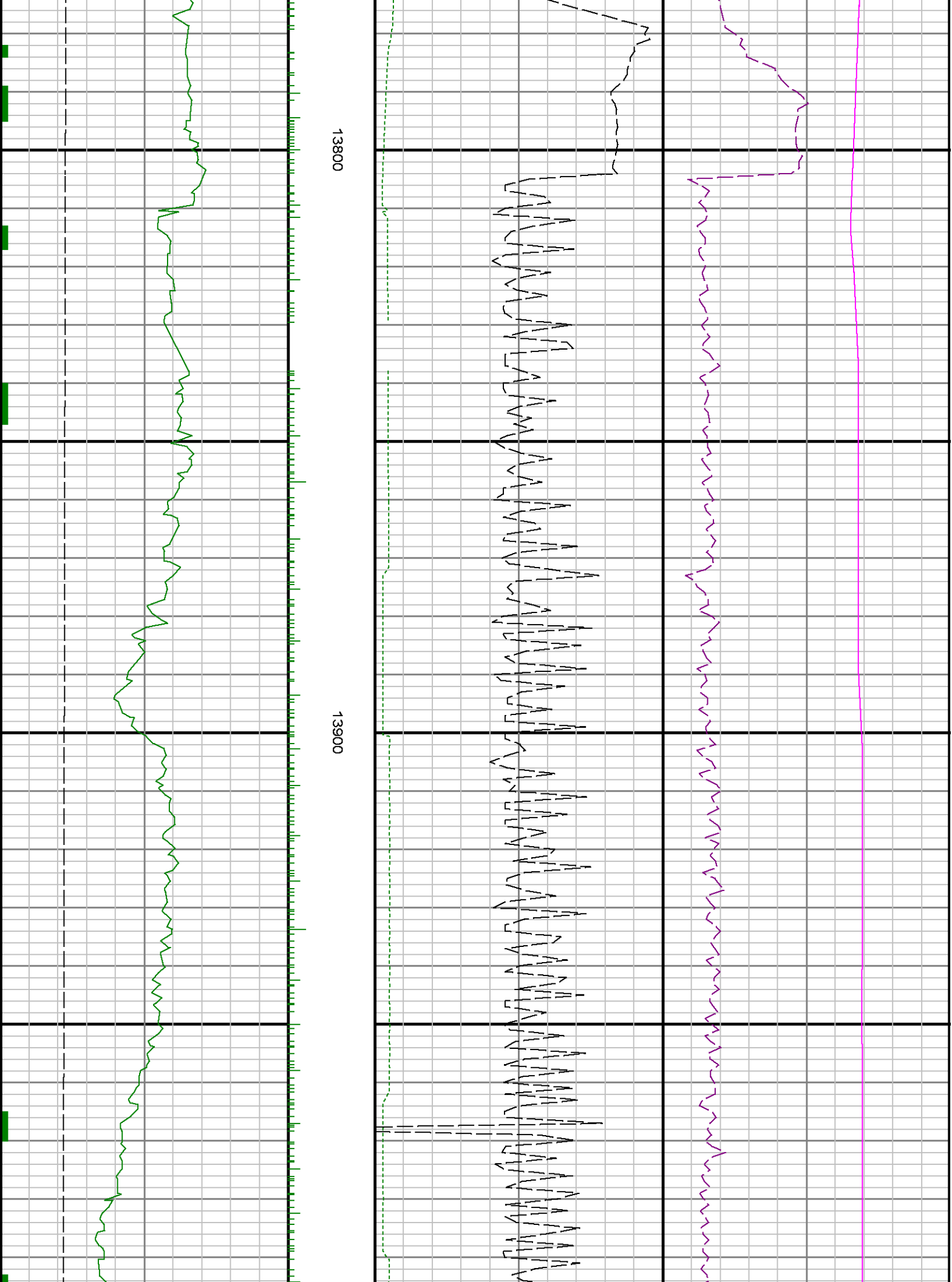


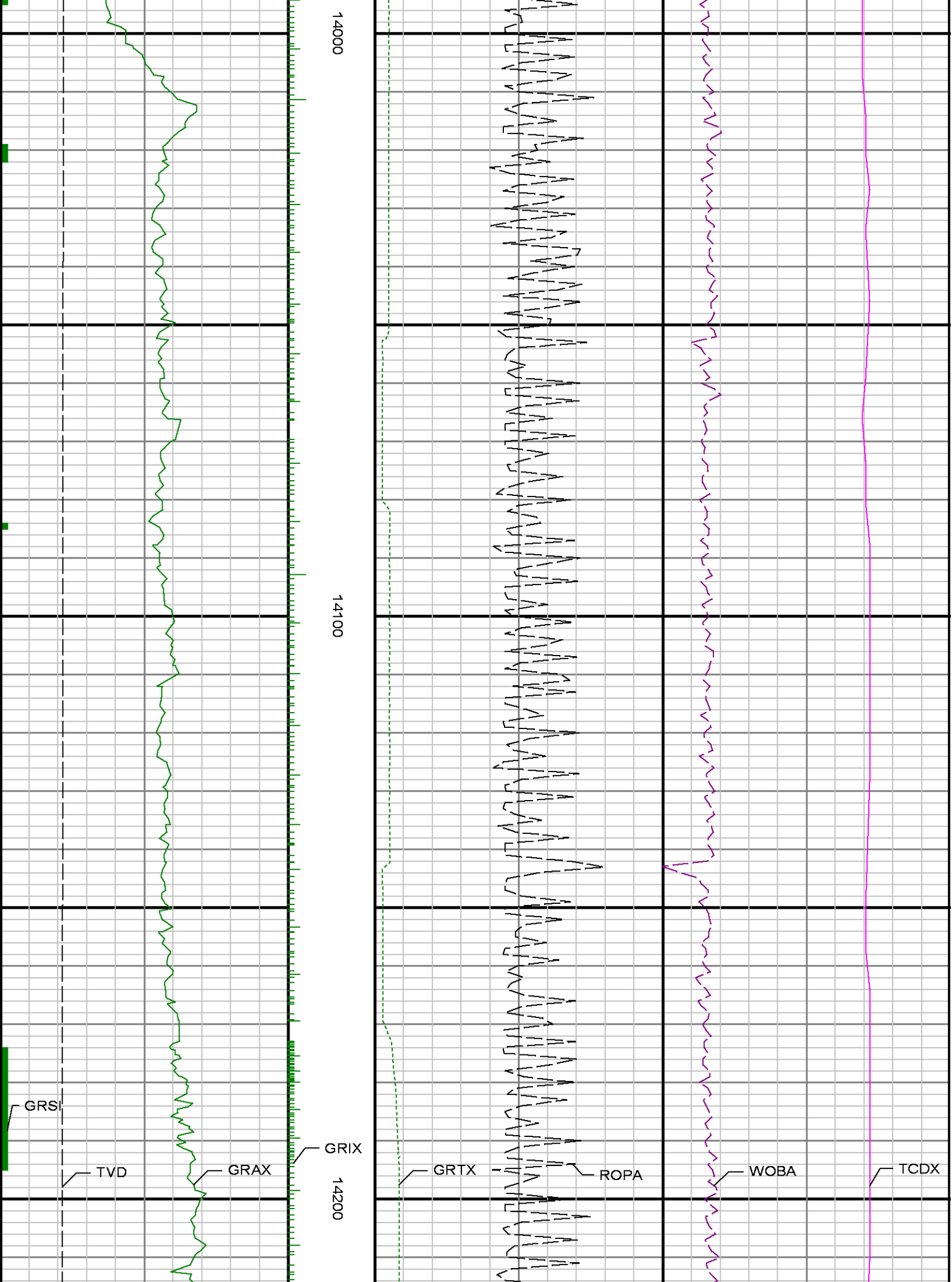
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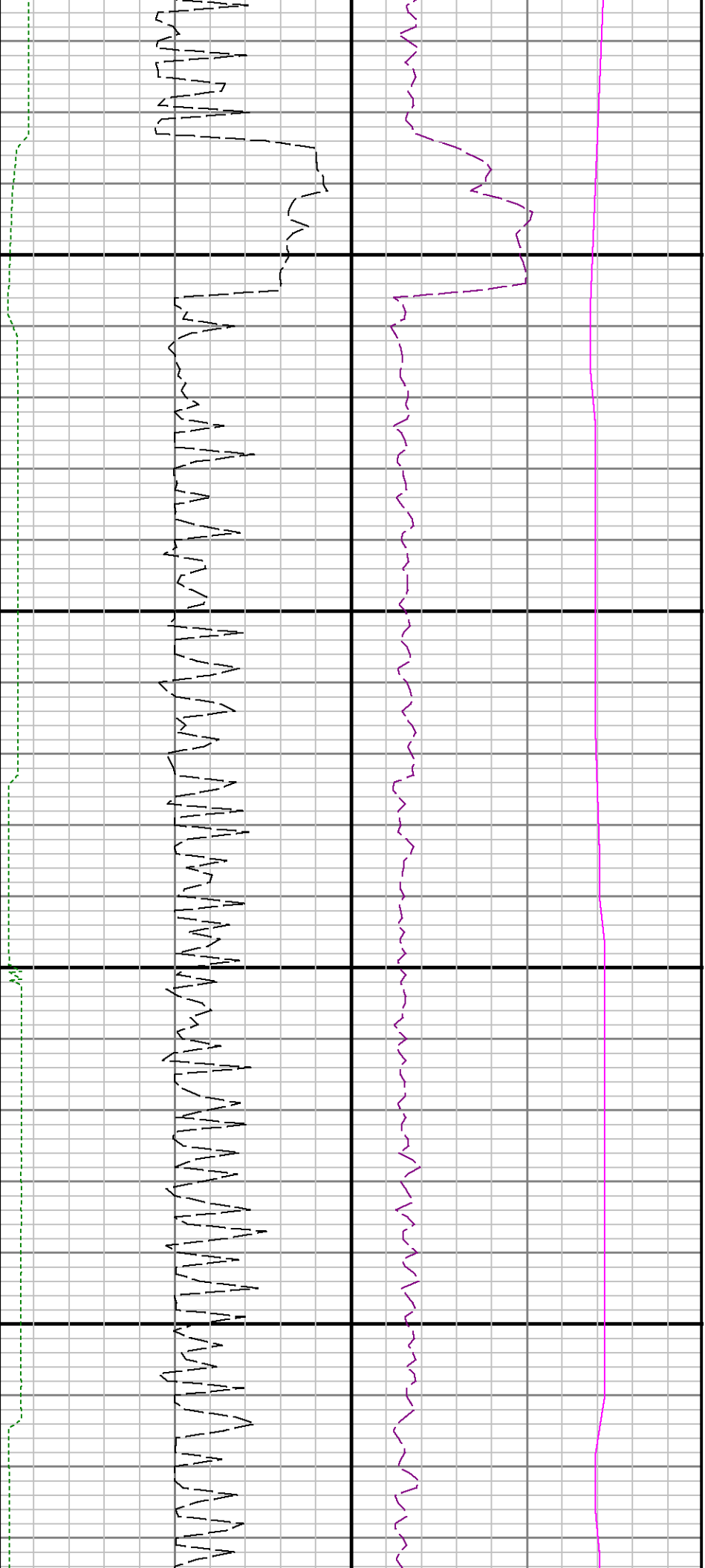
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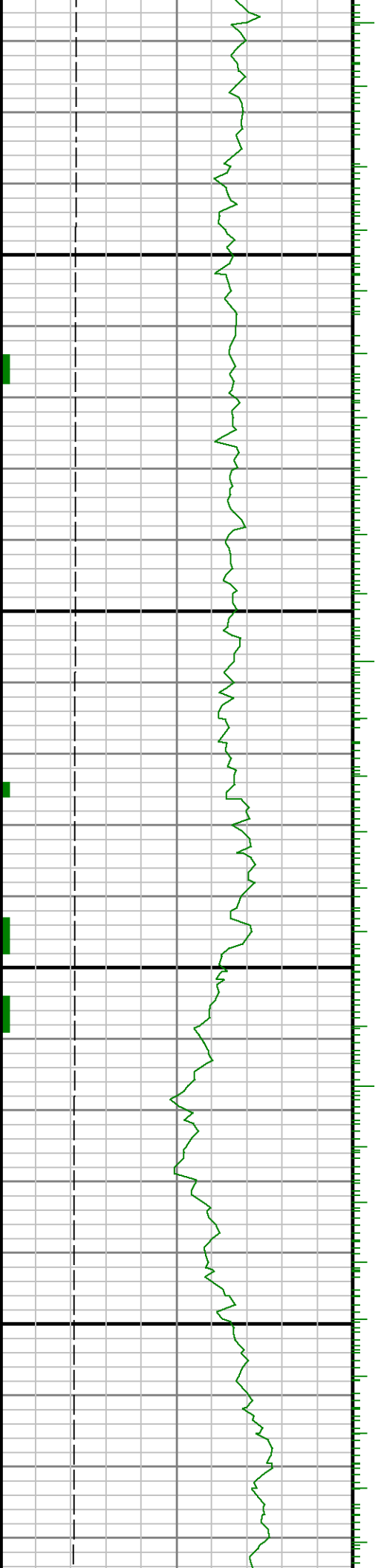


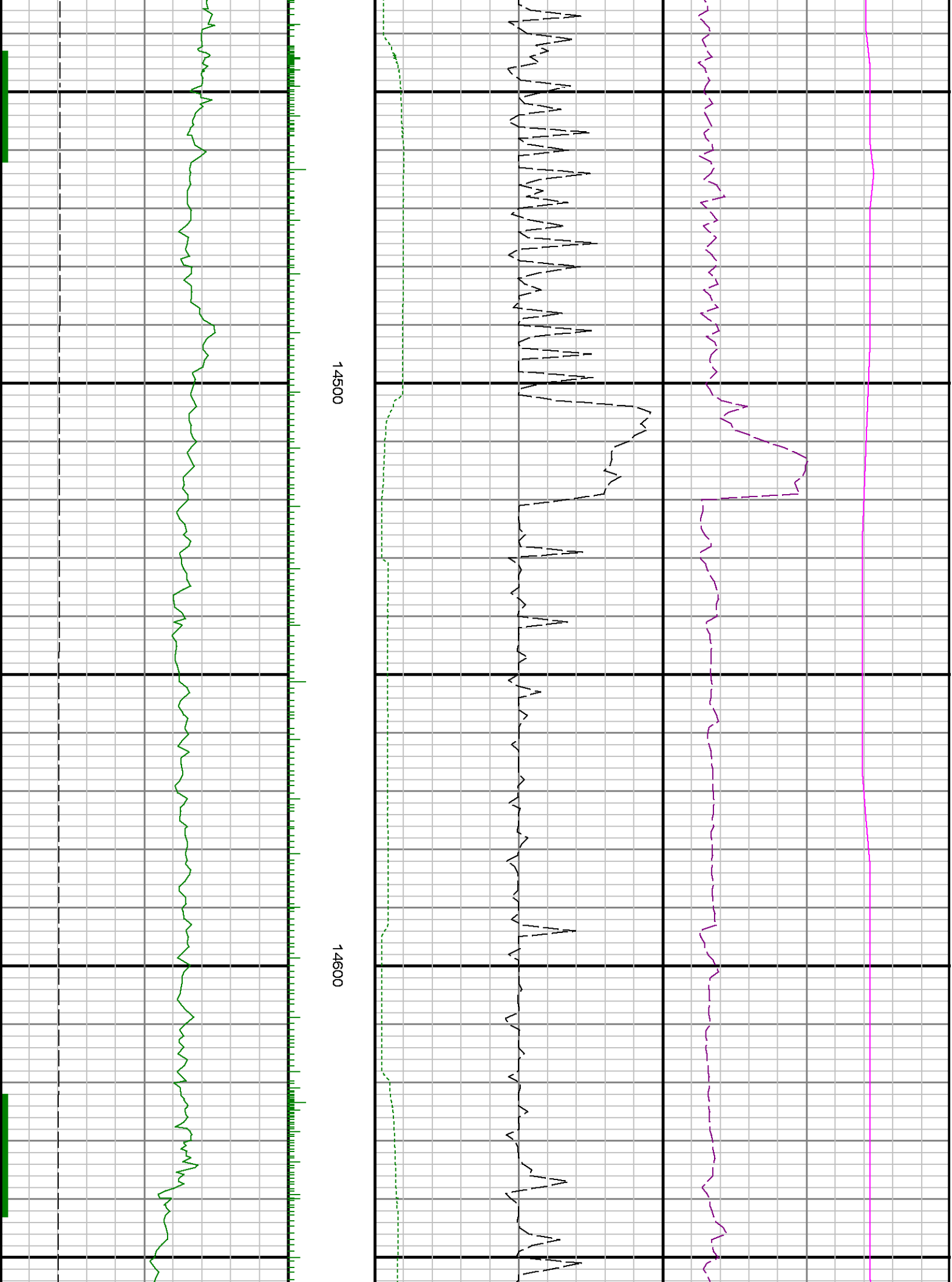


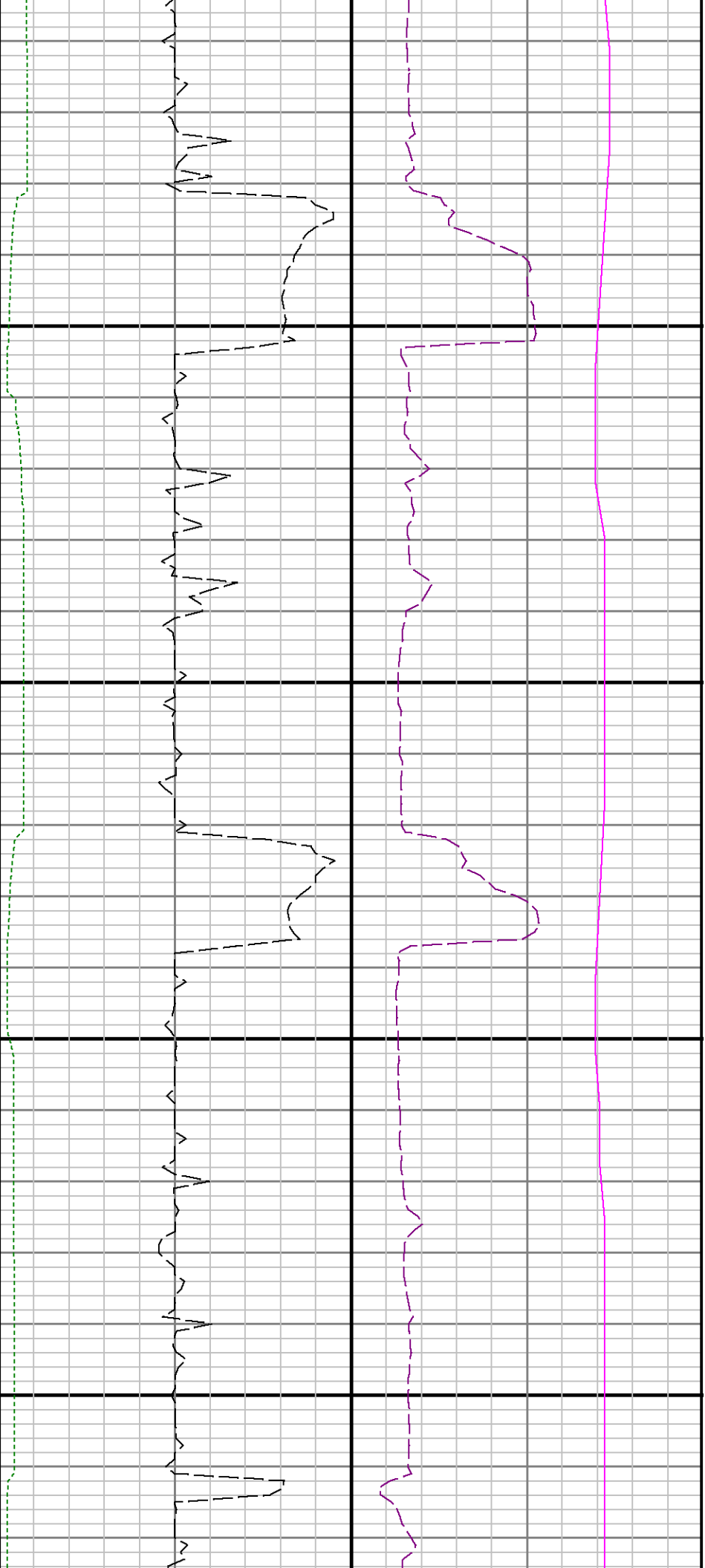


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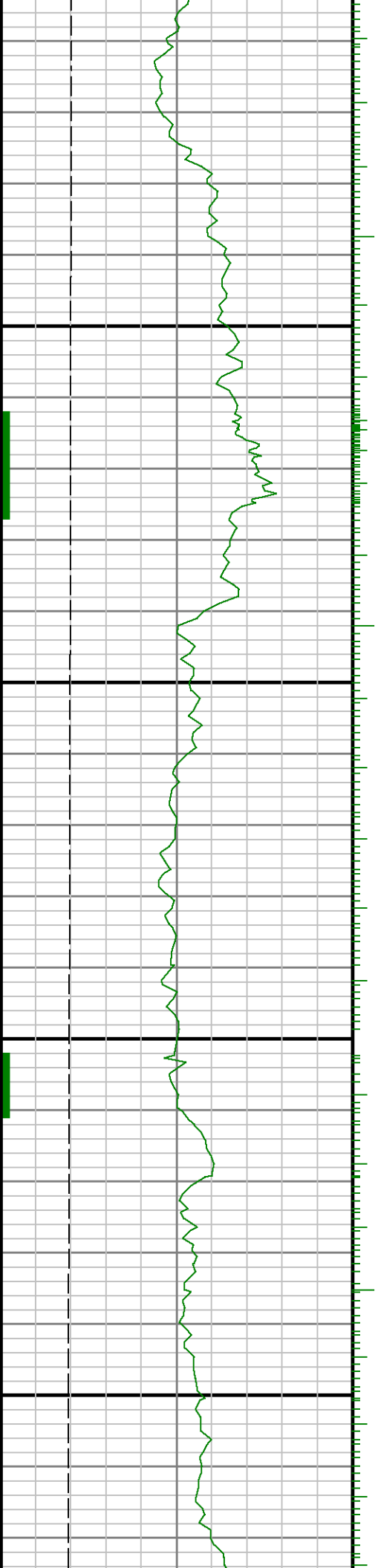






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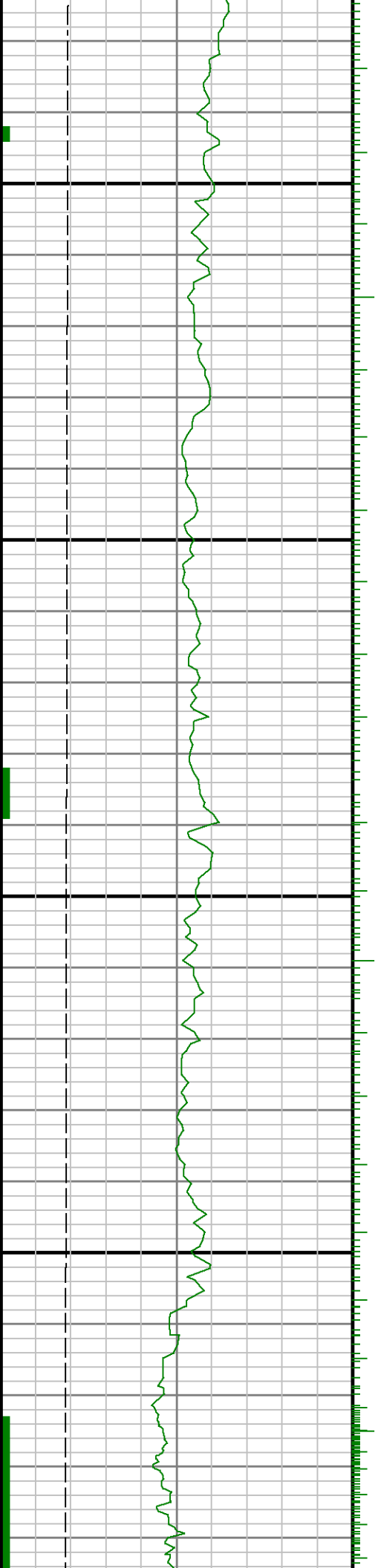
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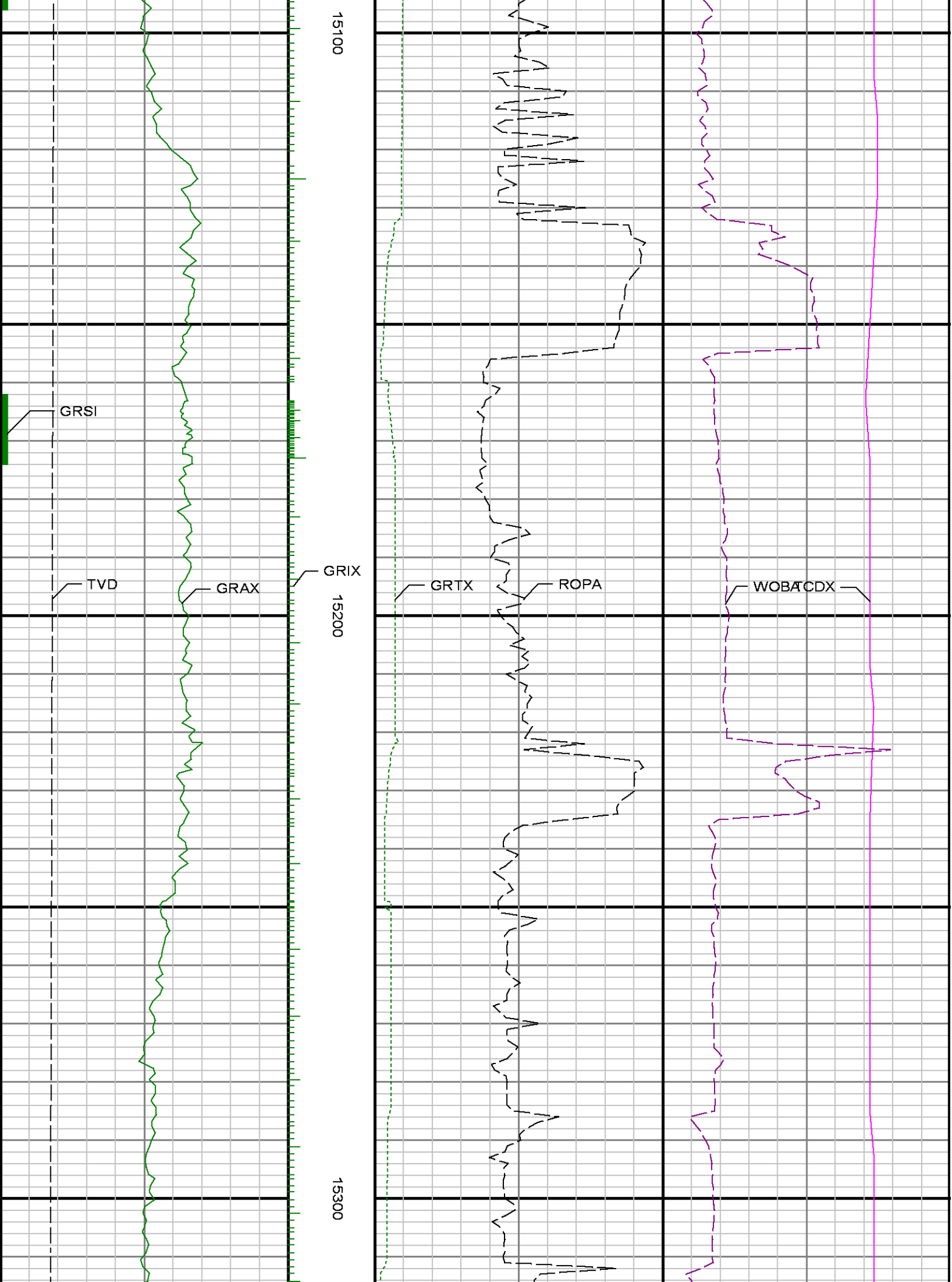




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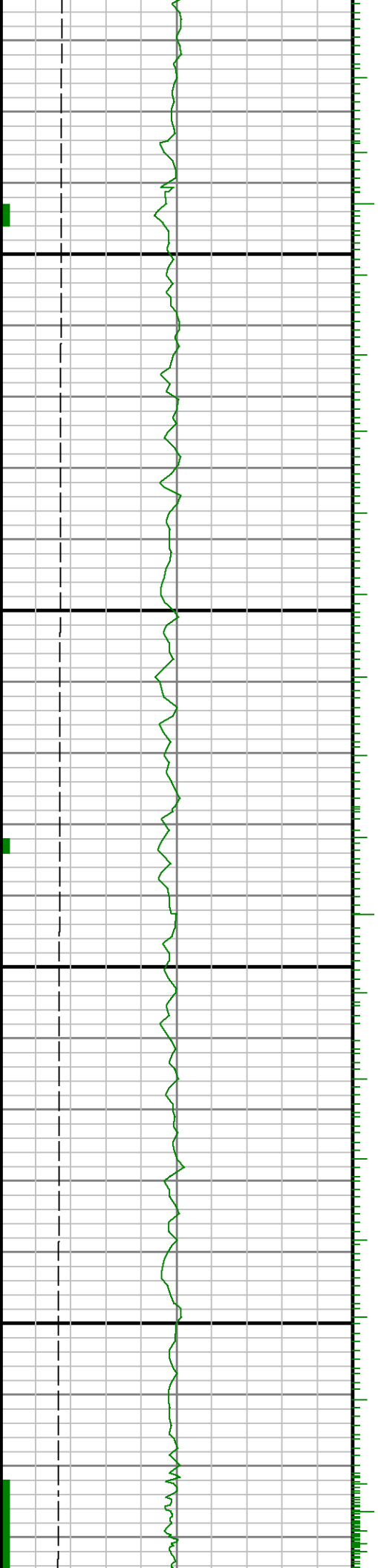


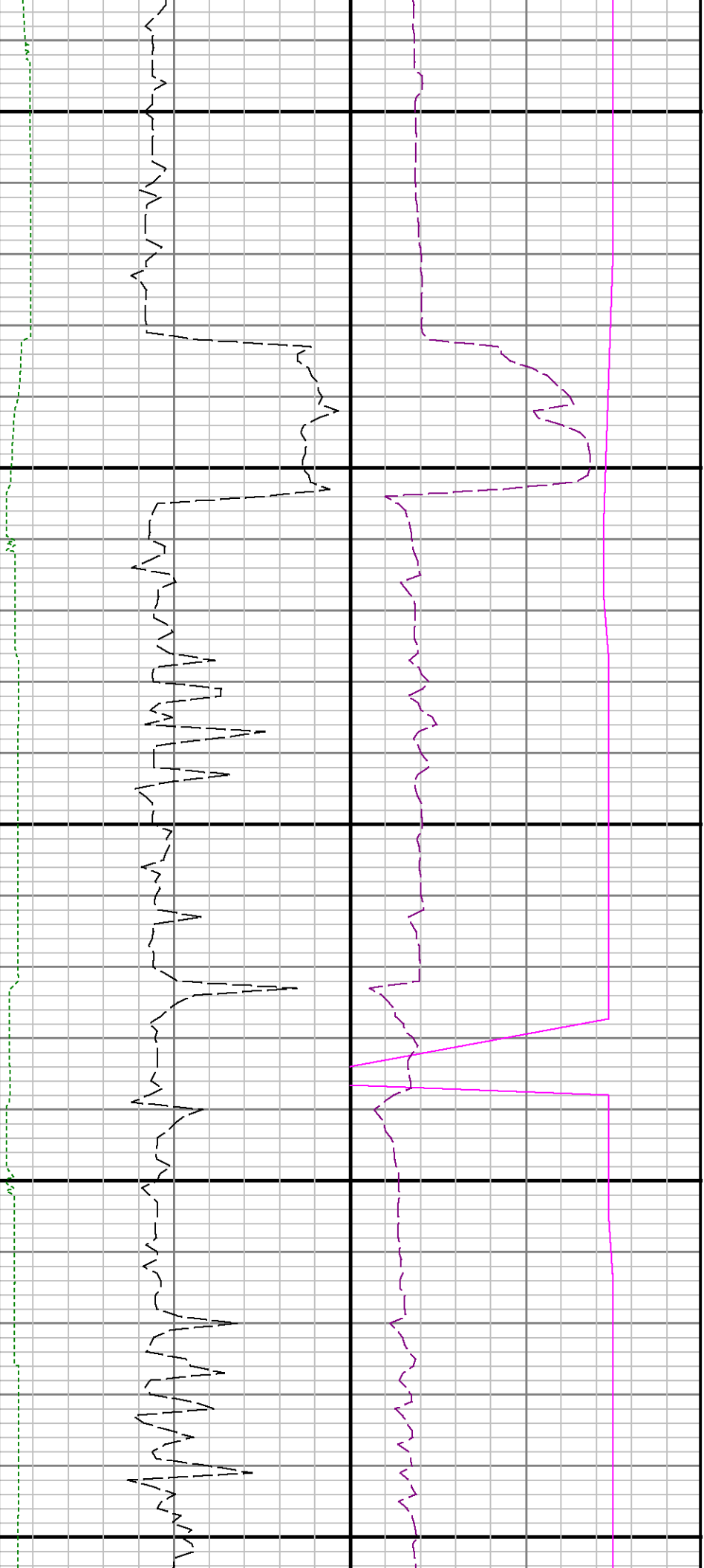




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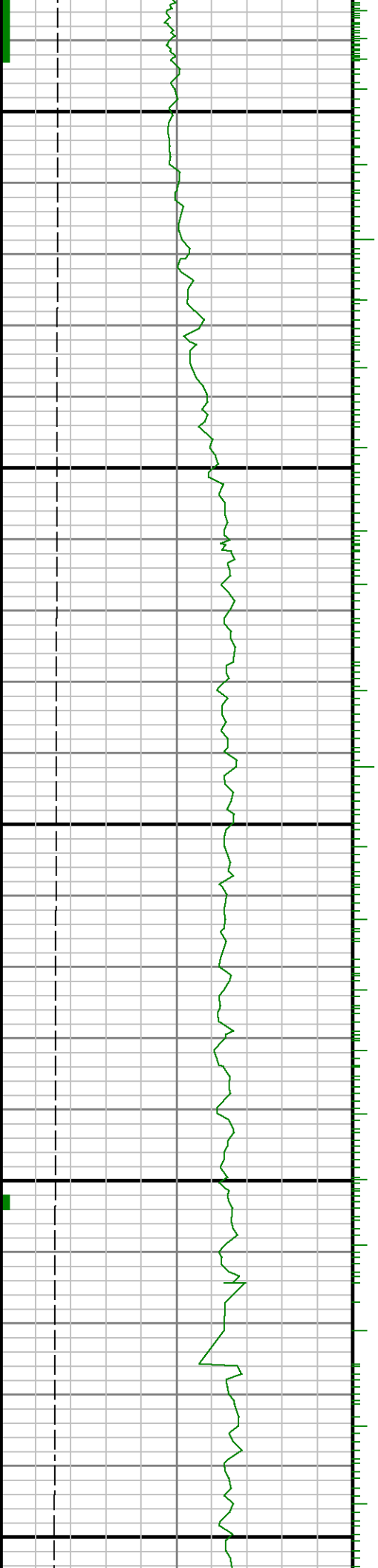
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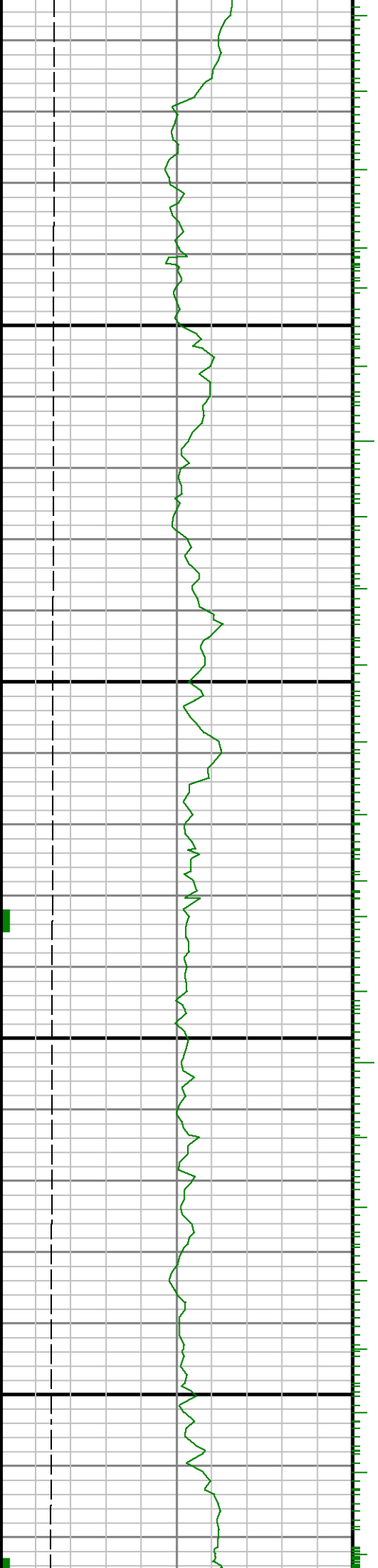
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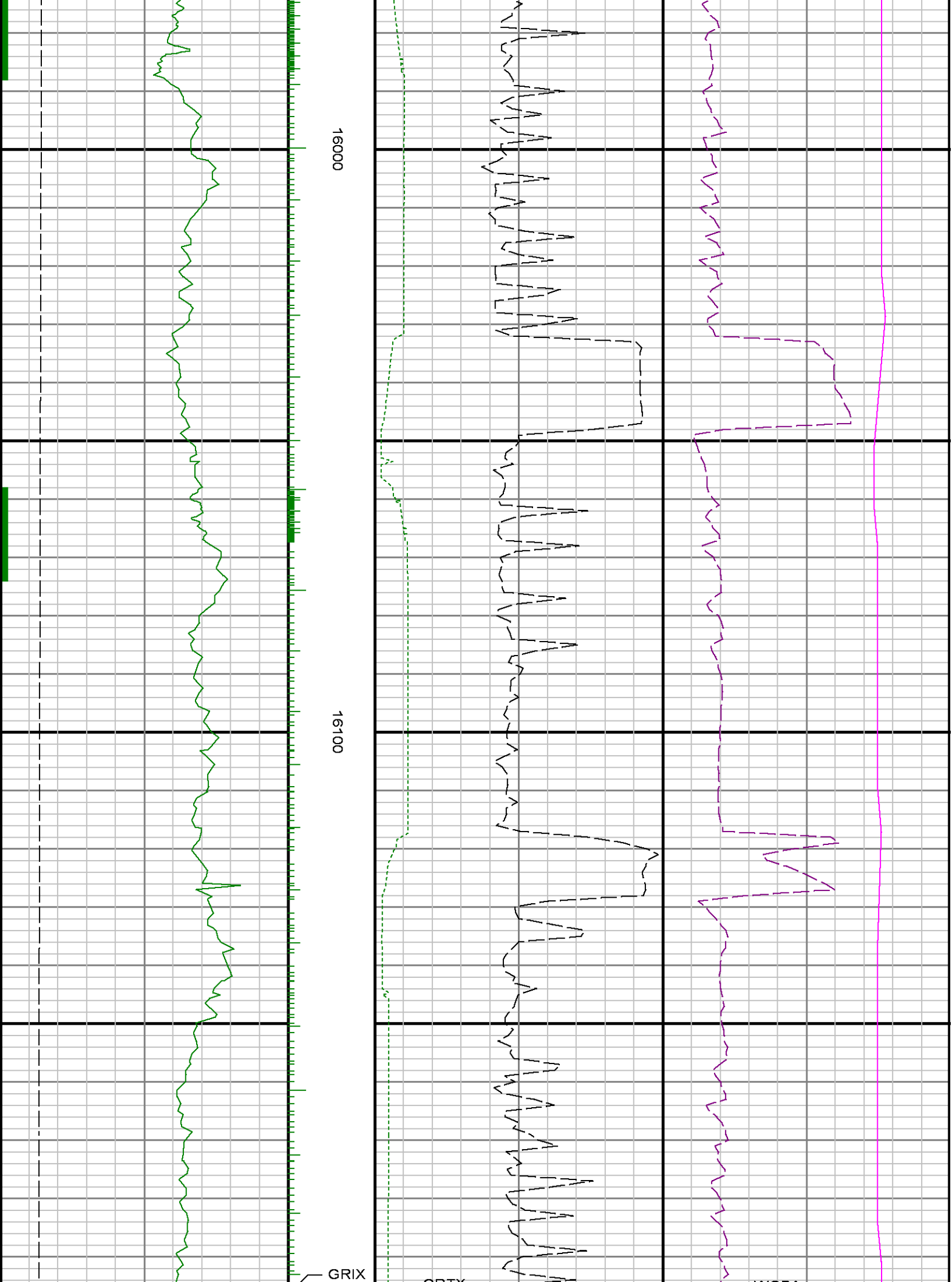


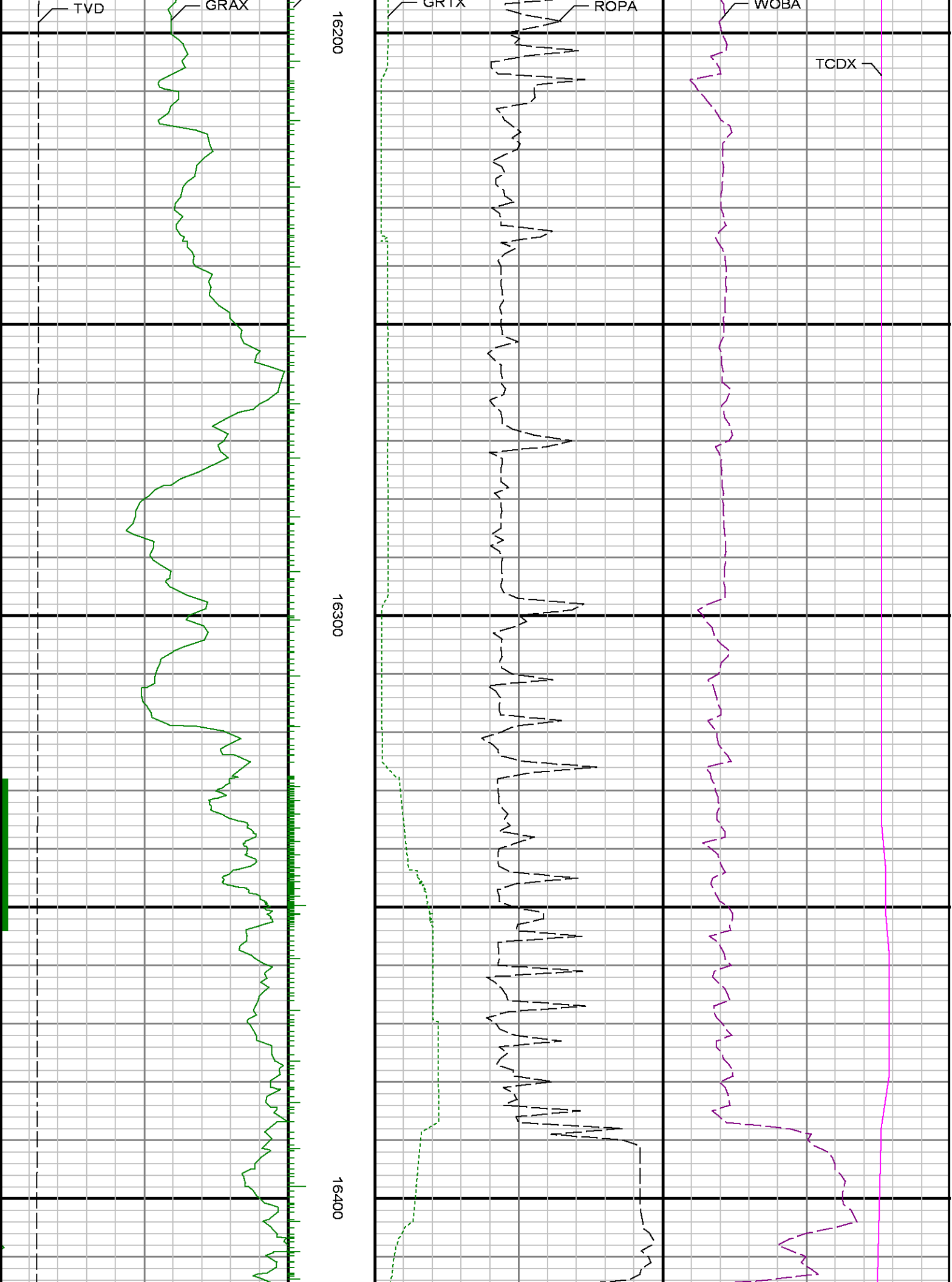


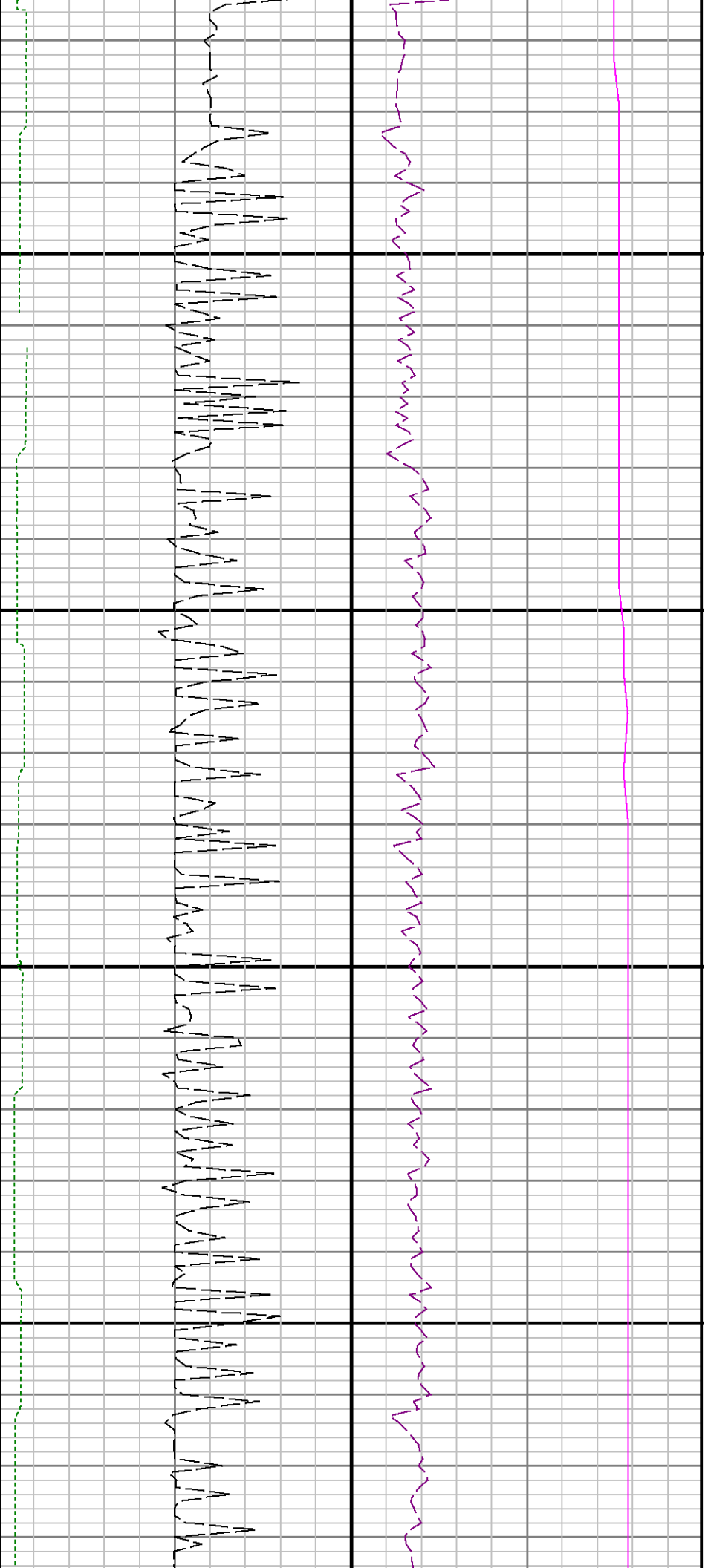
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