

Realtime Log									
BAKER HUGHES					Natural Formation Evaluation Gamma Ray				
Scale:					Company: Anadarko				
1:240					Well: Jester 41N-14HZ				
Measured Depth					Field: Weld County (Kerr McGee)				
Status: Final Print					Surface Location:		Other Services:		
API Number: 05-123-41349-00					Latitude: 40° 13' 45.538" N Longitude: 104° 53' 7.026" W		Directional VSS		
Permanent Datum (P.D.):					Ground Level		Elevation:		Elevations:
Log Measured From:					Rig Floor		20.00 ft.		Above P.D.
Depth Reference:					Driller's Depth		KB: N/A DF: 4813.00 ft. GL: 4793.00 ft.		
Interval Logged					Dates		Magnetic Field Reference		
Top: 6265.0 ft.					Date From: 01/Jun/15		Dip Angle: 66.88 °		Azi Reference North: True
Bottom: 16982.0 ft.					Date To: 09/Jun/15		Total		Mag to Reference
Spud Date: 01/Jun/15					Field Strength: 52476.9 nT		North Correction: 8.44 °		
Borehole Record					Casing Record				
Hole Size	From	To	Size	Weight	From	To			
13.500 in.	Surface	832.0 ft.	9.625 in.	36.00 lb/ft	Surface	822.0 ft.			
8.750 in.	832.0 ft.	7314.0 ft.	7.000 in.	26.00 lb/ft	Surface	7304.0 ft.			
6.125 in.	7314.0 ft.	16982.0 ft.							
Mud Record					Deviation Record				
Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)			
Fresh Water	Surface	3500.0 ft.	13.500 in.	832.0 ft.	0.0 ° / 0.0 °	0.6 ° / 121.4 °			
Water Based Mud	3500.0 ft.	16982.0 ft.	8.750 in.	6482.0 ft.	0.6 ° / 121.4 °	79.6 ° / 91.7 °			
			6.125 in.	9678.0 ft.	87.7 ° / 93.3 °	89.0 ° / 84.5 °			
					/	/			
					/	/			
					/	/			
Acquisition System Software Version Other									
Advantage	2.20U4	Rig: 6.4.1.34	Precision 460	/ Precision Drilling					
PATS		Job No: 7282858	RMD	/ D&E					
		District / Unit:							

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Log Run Summary															
LWD	BHA	Bit	Bit	Bit	Bit	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time				Circ.
Run	Run	Run	Size	Type	Gauge		Top	Bottom	From	To	Start		End		Time
No.	No.	No.	(in.)		Length (in.)		(ft.)	(ft.)	(ft.)	(ft.)					(hrs.)
1	1	2	8.750	PDC	2.000	Steerable	6265.0	7314.0	832.0	7314.0	01/Jun/15	11:15	03/Jun/15	04:00	26.6
2	2	3	6.125	PDC	4.000	Steerable	7254.0	16982.0	7314.0	16982.0	04/Jun/15	02:00	09/Jun/15	05:00	91.3

Crew										
Name	Arrive	Depart		Name	Arrive	Depart		Name	Arrive	Depart
	Wellsite	Wellsite			Wellsite	Wellsite			Wellsite	Wellsite
Matthew Delmore	31/May/15	03/Jun/15						Barry Combs	31/May/15	03/Jun/15
Richard Green	31/May/15	06/Jun/15						Brad Leopold	31/May/15	09/Jun/15
Ramnik Singh	03/Jun/15	09/Jun/15						John Ablutz	31/May/15	09/Jun/15

Matthew Delmore	06/Jun/15	09/Jun/15				Chad Hough	04/Jun/15	09/Jun/15
Austin Small	09/Jun/15	09/Jun/15				Barry Combs	09/Jun/15	09/Jun/15

Mud Properties Record

Date / Time		LWD Run No.	Measured Depth (ft.)	Mud Type	Density (ppg)	Viscosity (cp)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
01/Jun/15	19:00	1	1950.0	Fresh Water	8.5	29	9.0	N/A	0/99	Active Mud Pit	2700	N/A
02/Jun/15	08:00	1	5200.0	Water Based Mud	8.9	46	9.1	5.9	0/96	Active Mud Pit	3000	N/A
02/Jun/15	19:00	1	6999.0	Water Based Mud	9.9	53	10.0	5.2	3/88	Active Mud Pit	2100	N/A
04/Jun/15	07:00	2	7314.0	Water Based Mud	9.9	52	10.0	5.8	3/88	Active Mud Pit	2200	N/A
04/Jun/15	19:00	2	8045.0	Water Based Mud	9.9	54	9.8	5.4	3/88	Active Mud Pit	2100	N/A
05/Jun/15	07:00	2	9617.0	Water Based Mud	9.9	58	9.9	5.2	3/87	Active Mud Pit	2000	N/A
05/Jun/15	19:00	2	11359.0	Water Based Mud	9.9	56	9.9	5.2	3.5/86.5	Active Mud Pit	2100	N/A
06/Jun/15	07:00	2	12759.0	Water Based Mud	9.9	61	9.8	5.4	3.5/86.5	Active Mud Pit	2300	N/A
06/Jun/15	19:00	2	14174.0	Water Based Mud	9.9	55	9.8	5.4	4/86	Active Mud Pit	2300	N/A
07/Jun/15	07:00	2	15430.0	Water Based Mud	9.9	59	9.6	5.4	4/86	Active Mud Pit	2100	N/A
07/Jun/15	19:00	2	16055.0	Water Based Mud	9.9	57	9.6	4.8	4.4/84.6	Active Mud Pit	2100	N/A
08/Jun/15	07:00	2	16384.0	Water Based Mud	9.9	56	9.7	4.4	5/85	Active Mud Pit	2200	N/A
08/Jun/15	19:00	2	16982.0	Water Based Mud	10.1	57	9.4	4.8	3.5/86	Active Mud Pit	2000	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	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	13153780	Directional	62.82	6.750	3.313
1	SRIG	12131378	Gamma	59.45	6.750	3.313
2	DIR	12479852	Directional	62.99	4.750	2.750
2	SRIG	12366165	Gamma	59.61	4.750	2.750

Service and Tool Mnemonics

Mnemonic	Name	Description
DIR	Directional	Wellbore directional survey

Comments

1.) Baker Hughes LWD run 1 utilized 6 3/4 inch NaviTrak Services (VSS, Directional) from 832 to 6366 feet MD (831.95 to 6353.16 feet TVD) and NaviGamma Services (VSS, Directional, Gamma Ray) from 6366 to 7314 feet MD (6353.16 to 7008.09 feet TVD) behind an 8 3/4 inch bit and steerable assembly.

2.) Baker Hughes LWD run 2 utilized 4 3/4 inch NaviGamma Services (VSS, Directional, Gamma Ray) from 7314 to 16982 feet MD (7008.09 to 7207.26 feet TVD) behind an 6 1/8 inch bit and steerable assembly.

3.) 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 gamma ray data.

4.) 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.

Remarks

Number	Measured Depth (ft)	Hole Section (in.)	LWD Run No.	Remark
1	7285	6.125	2	The interval from 7254 to 7315 feet MD (7002.91 to 7008.38 feet TVD) was logged up to 37.0 hours after being drilled due to a trip out of the hole to lay down the vertical/curve assembly, casing operations , and to pick up the lateral assembly.
2	16935	6.125	2	The interval from 16921 to 16982 feet MD (7206.14 to 7207.26 feet TVD) does not contain gamma ray logging data due to the bit to sensor offset.

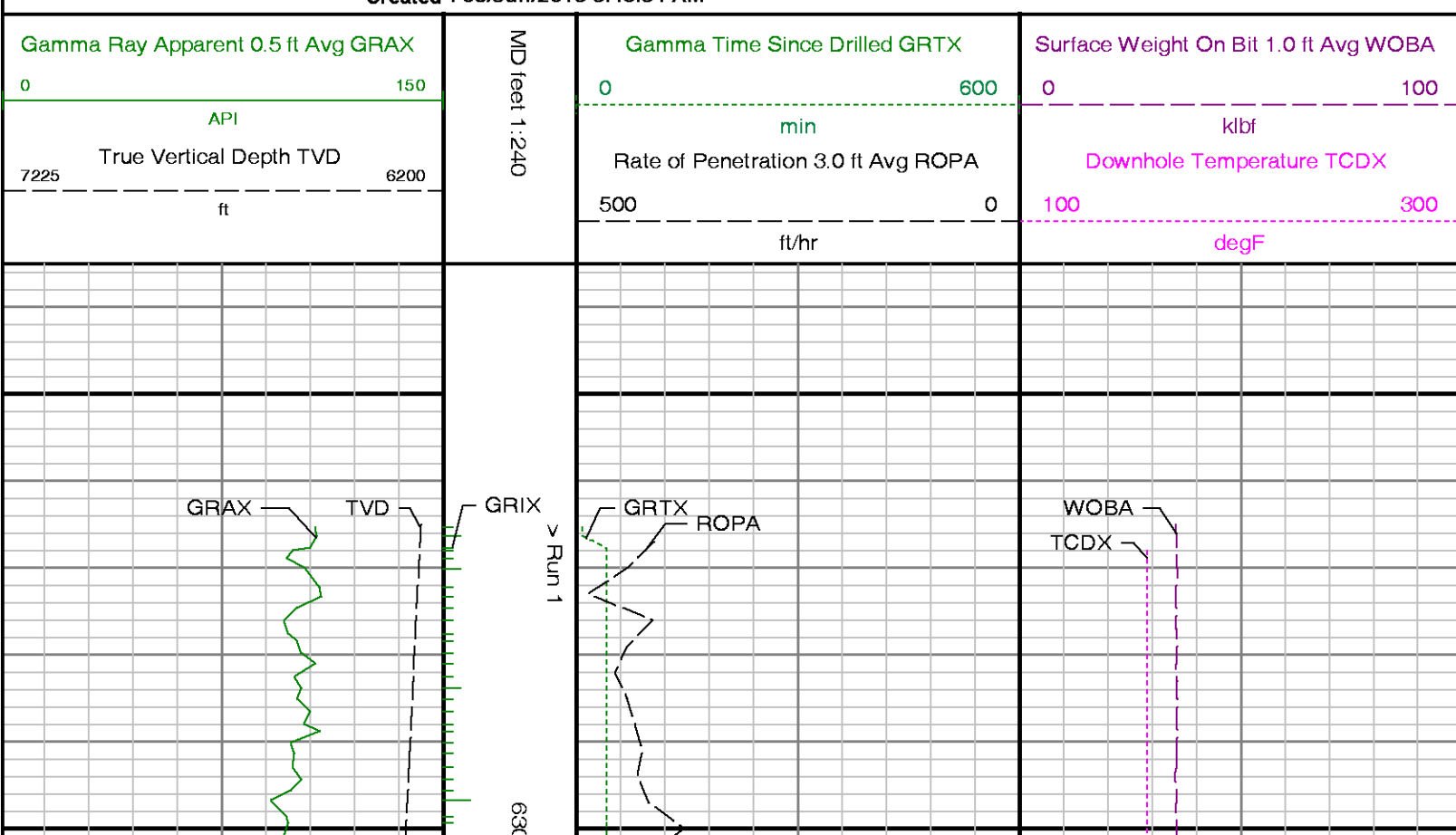


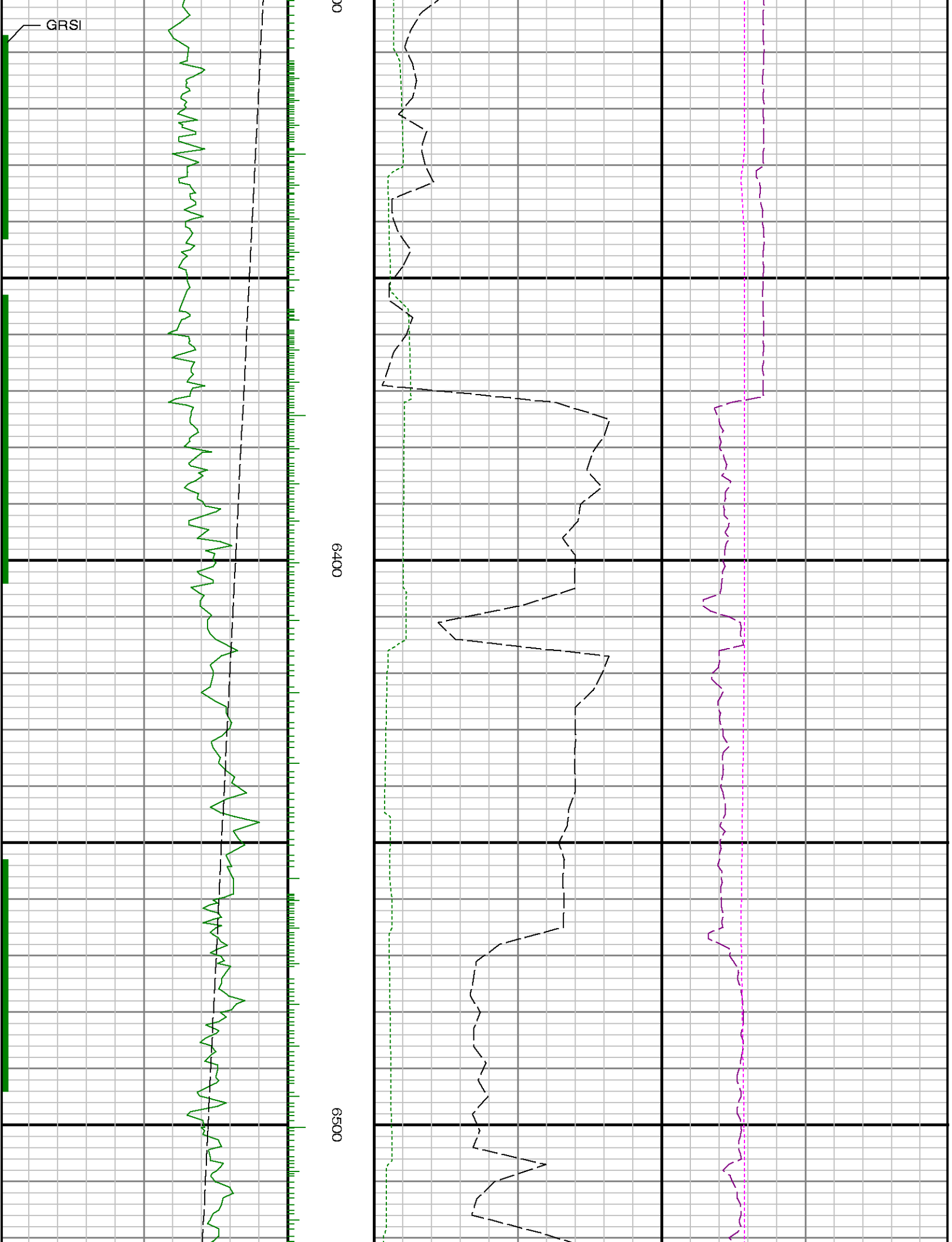
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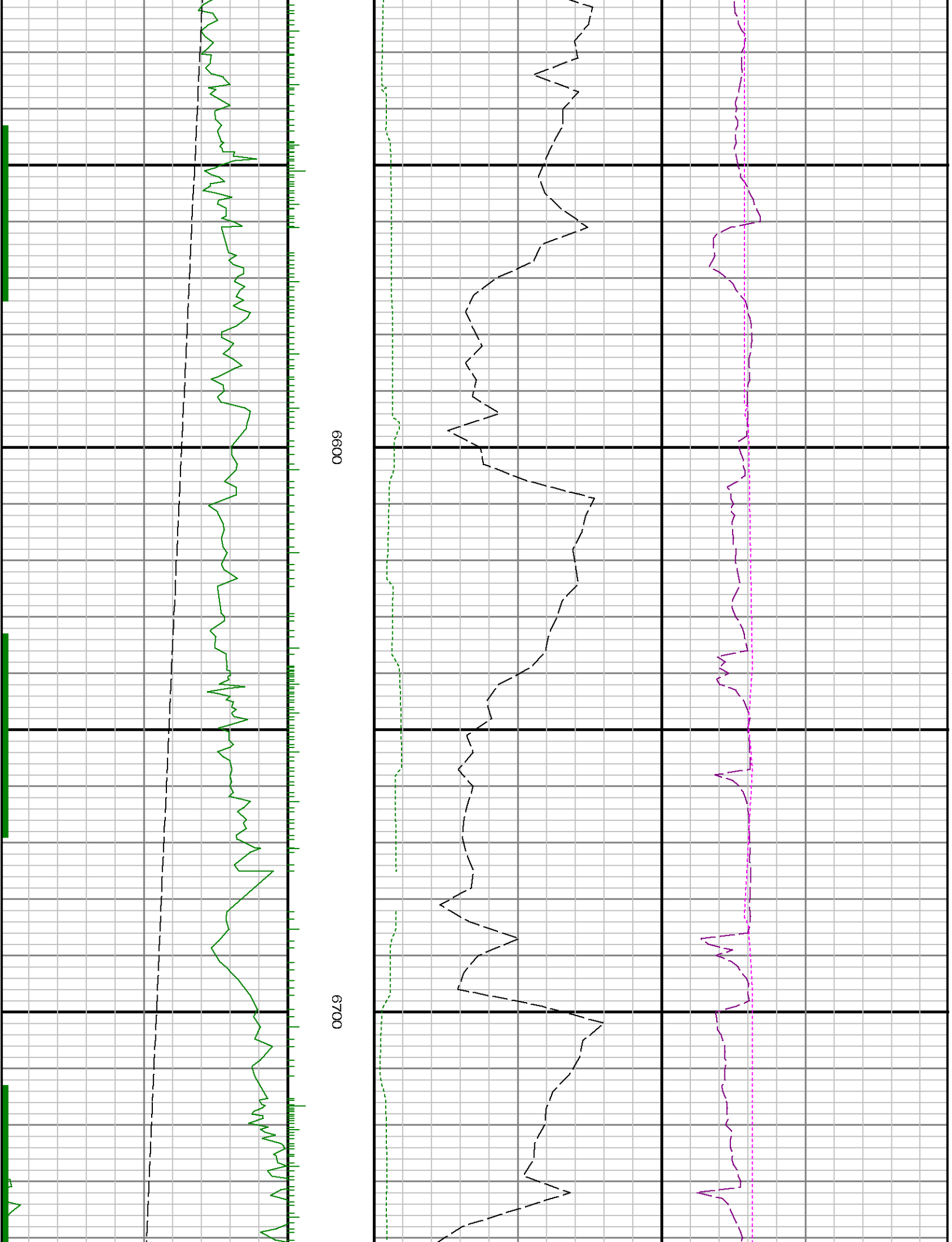
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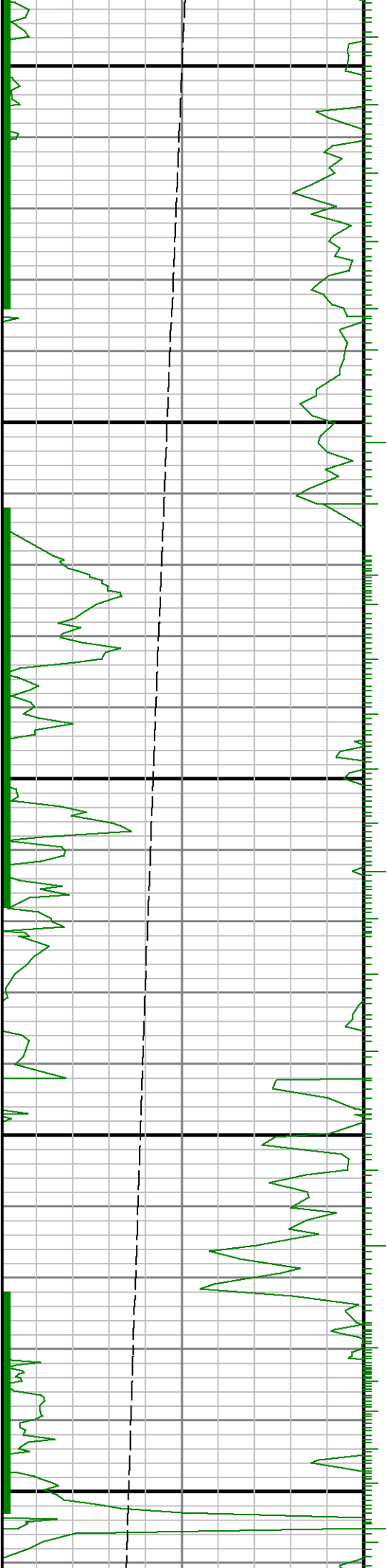
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Created : 08/Jun/2015 5:43:54 AM





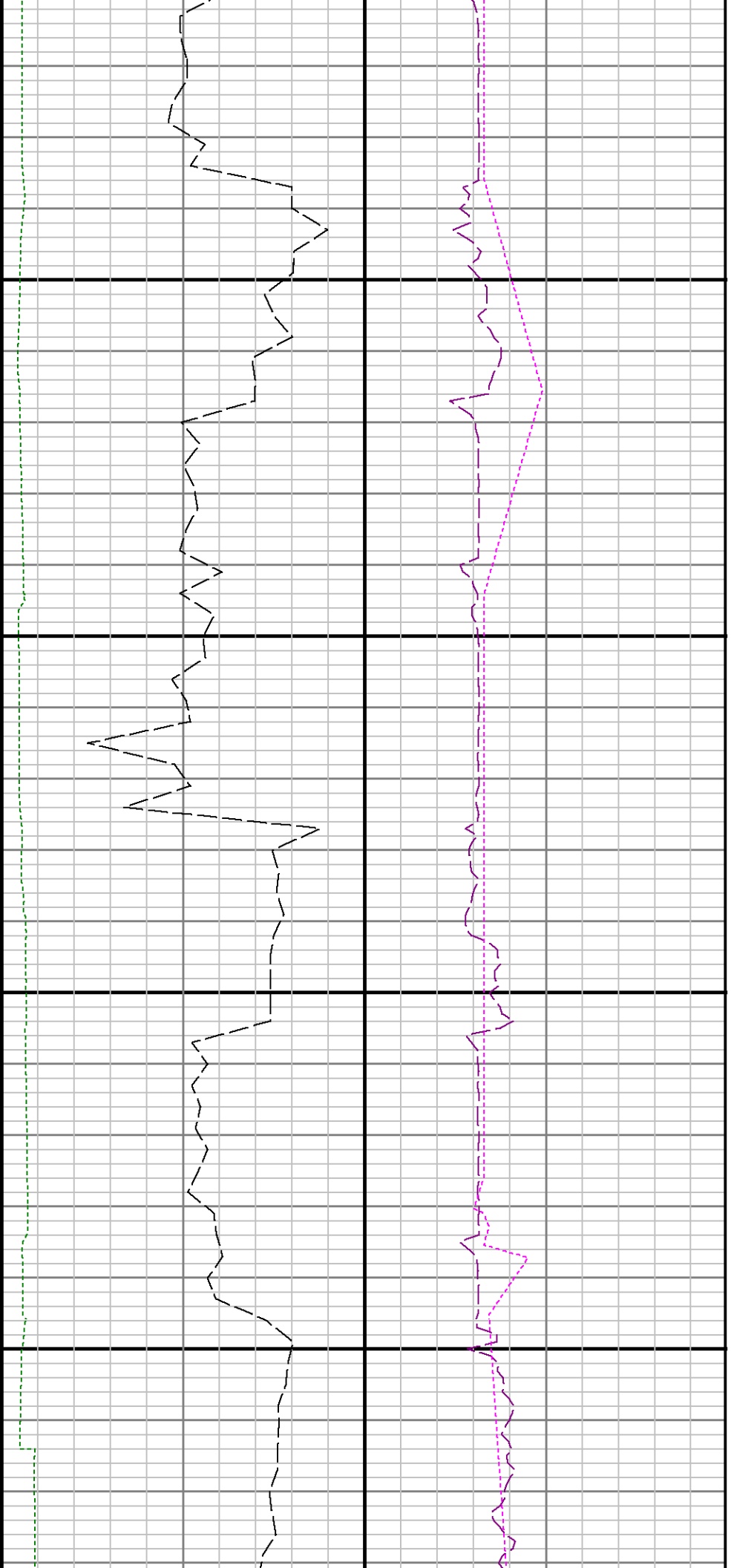




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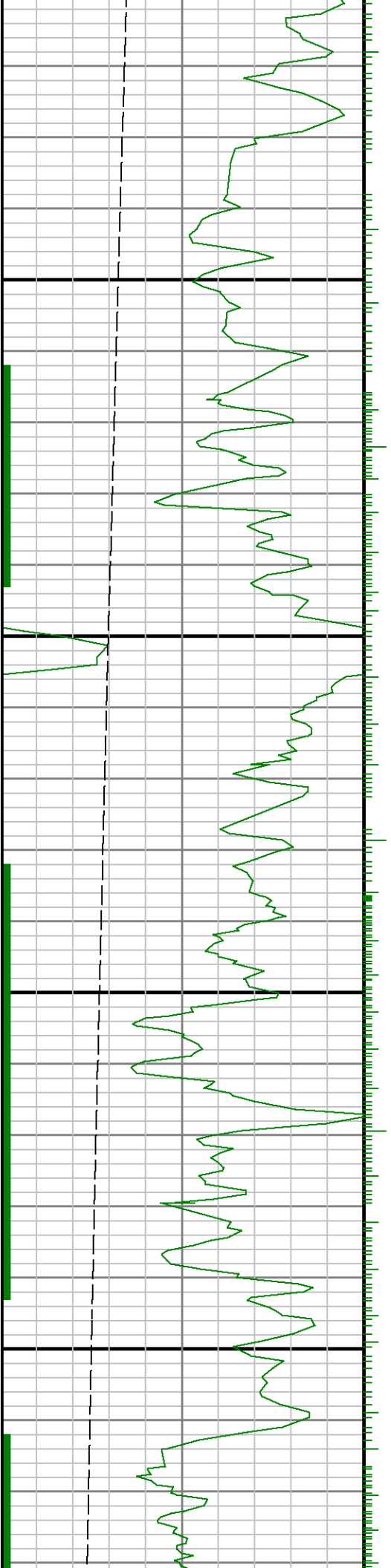
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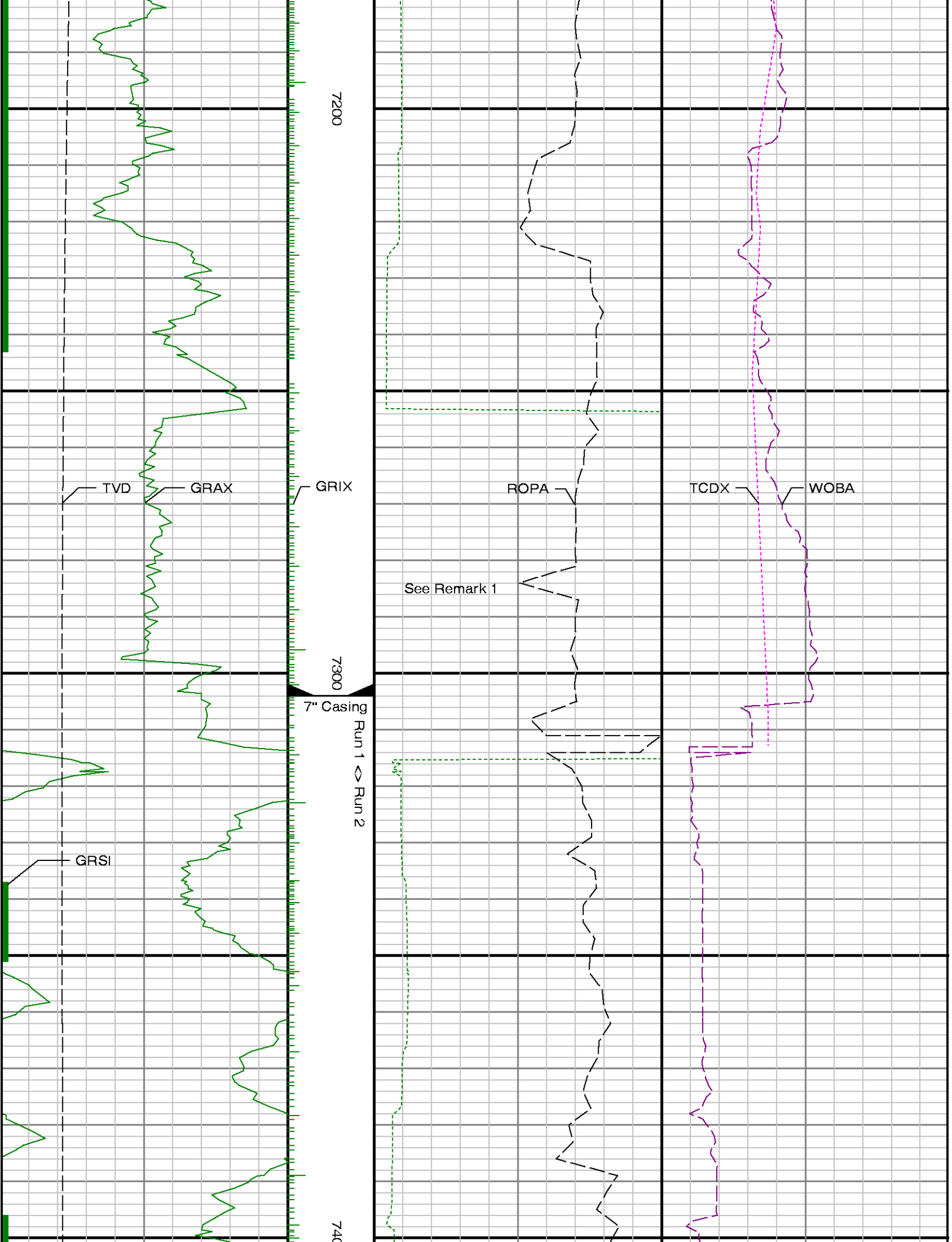


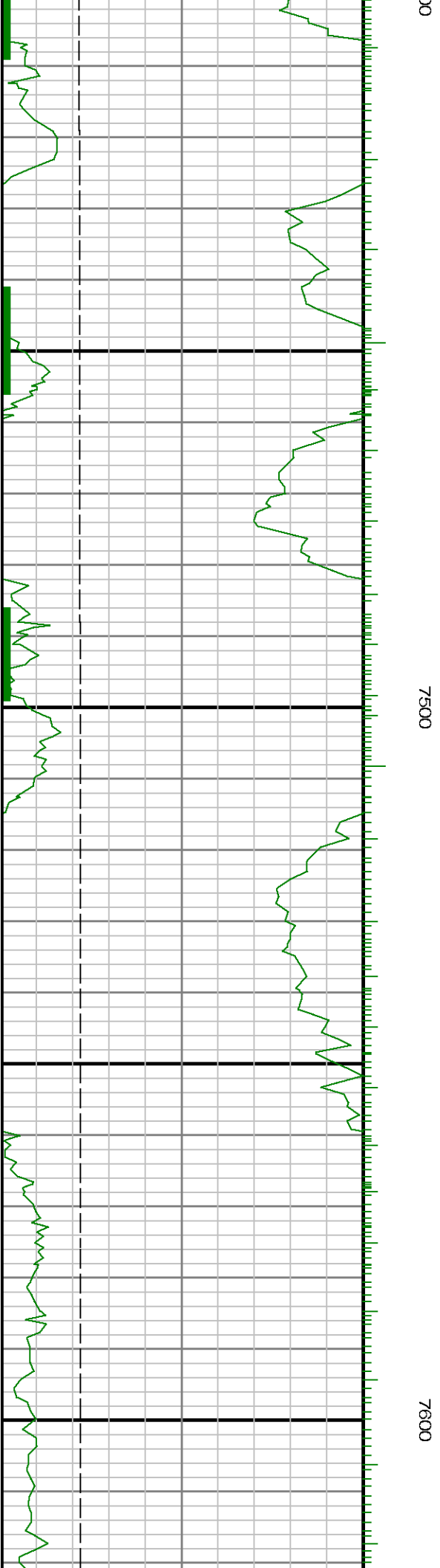
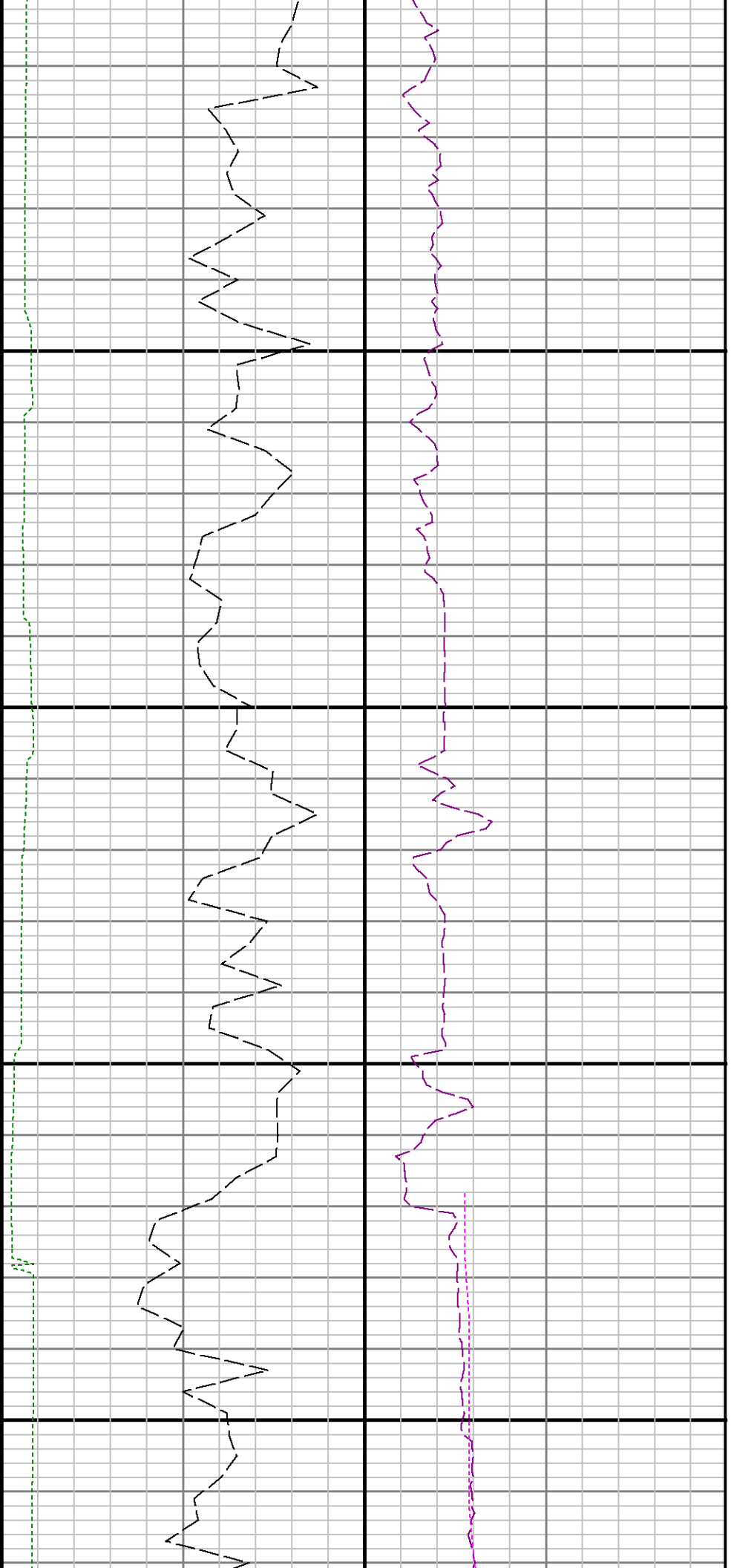


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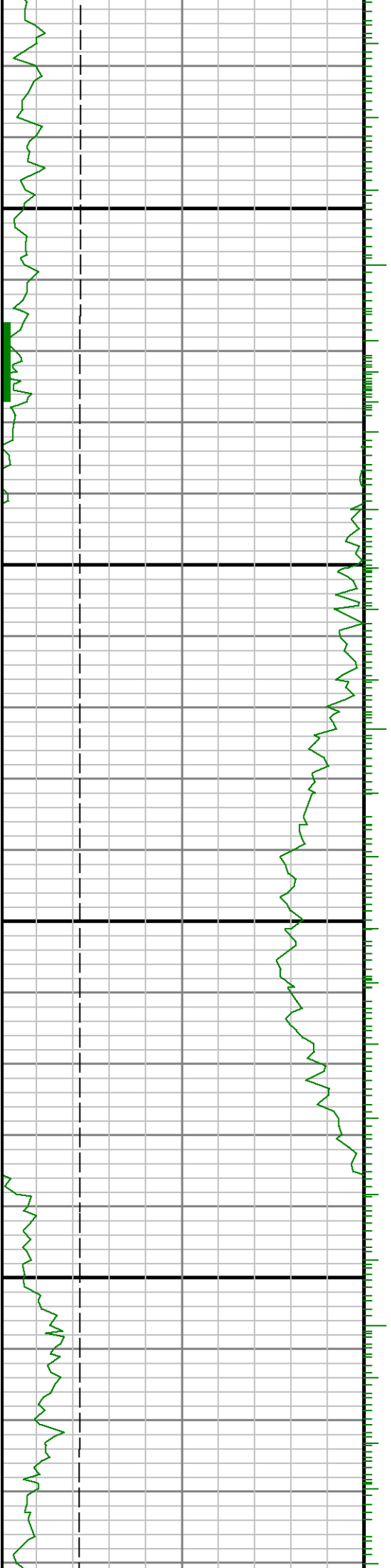


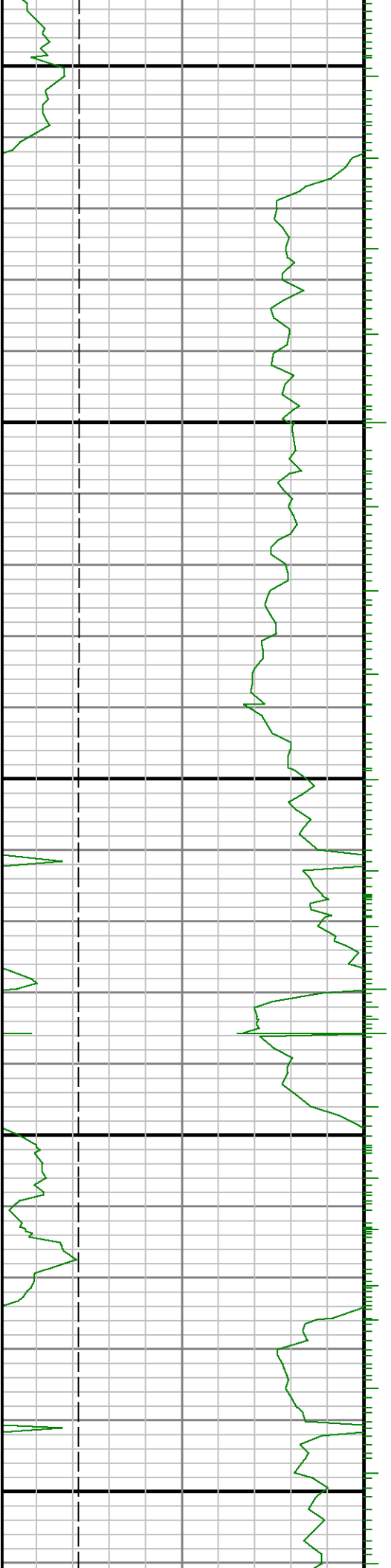




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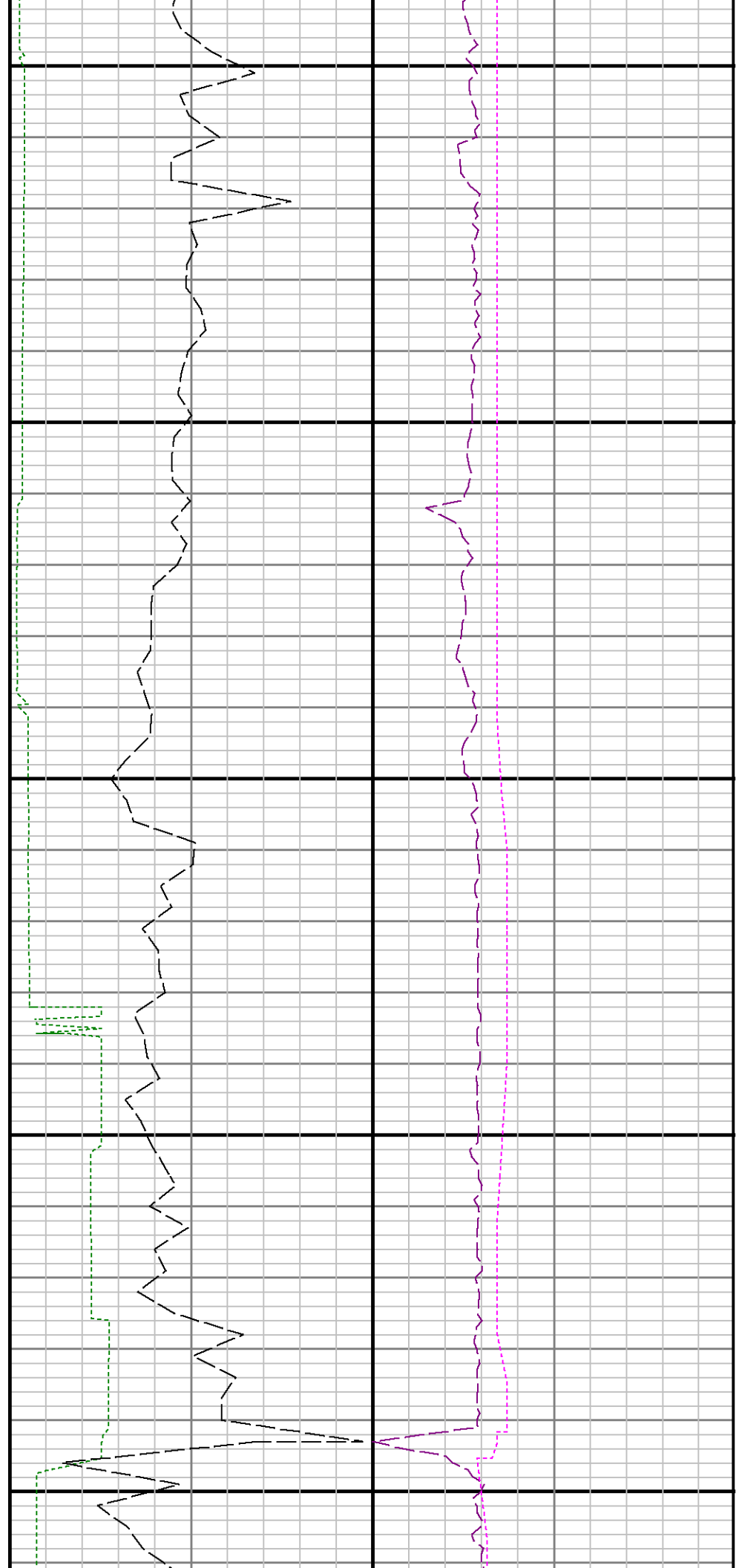
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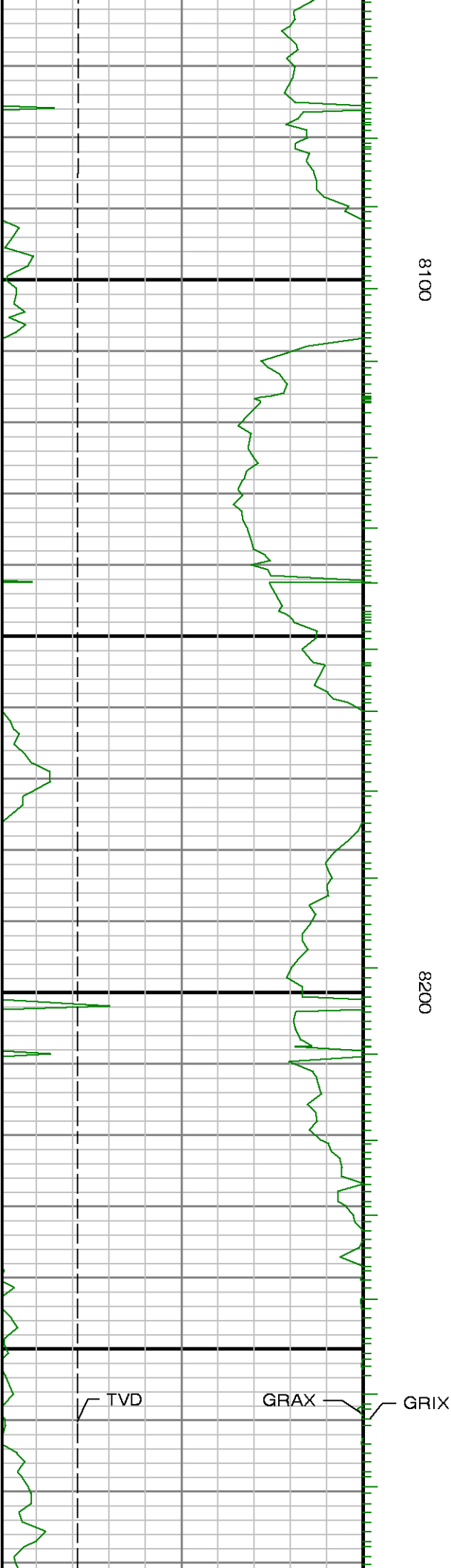


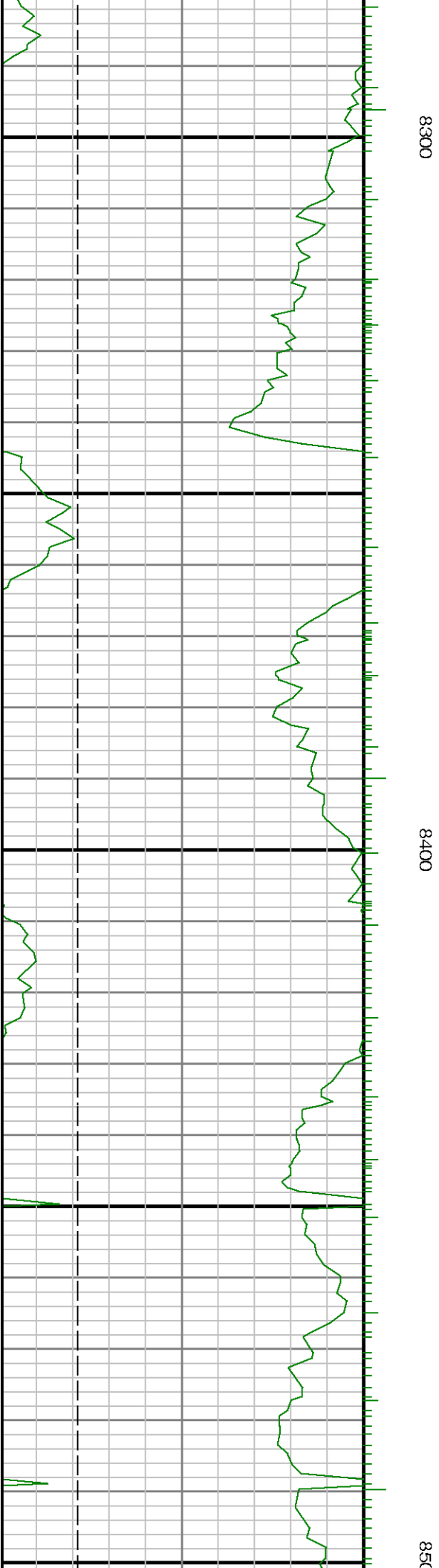
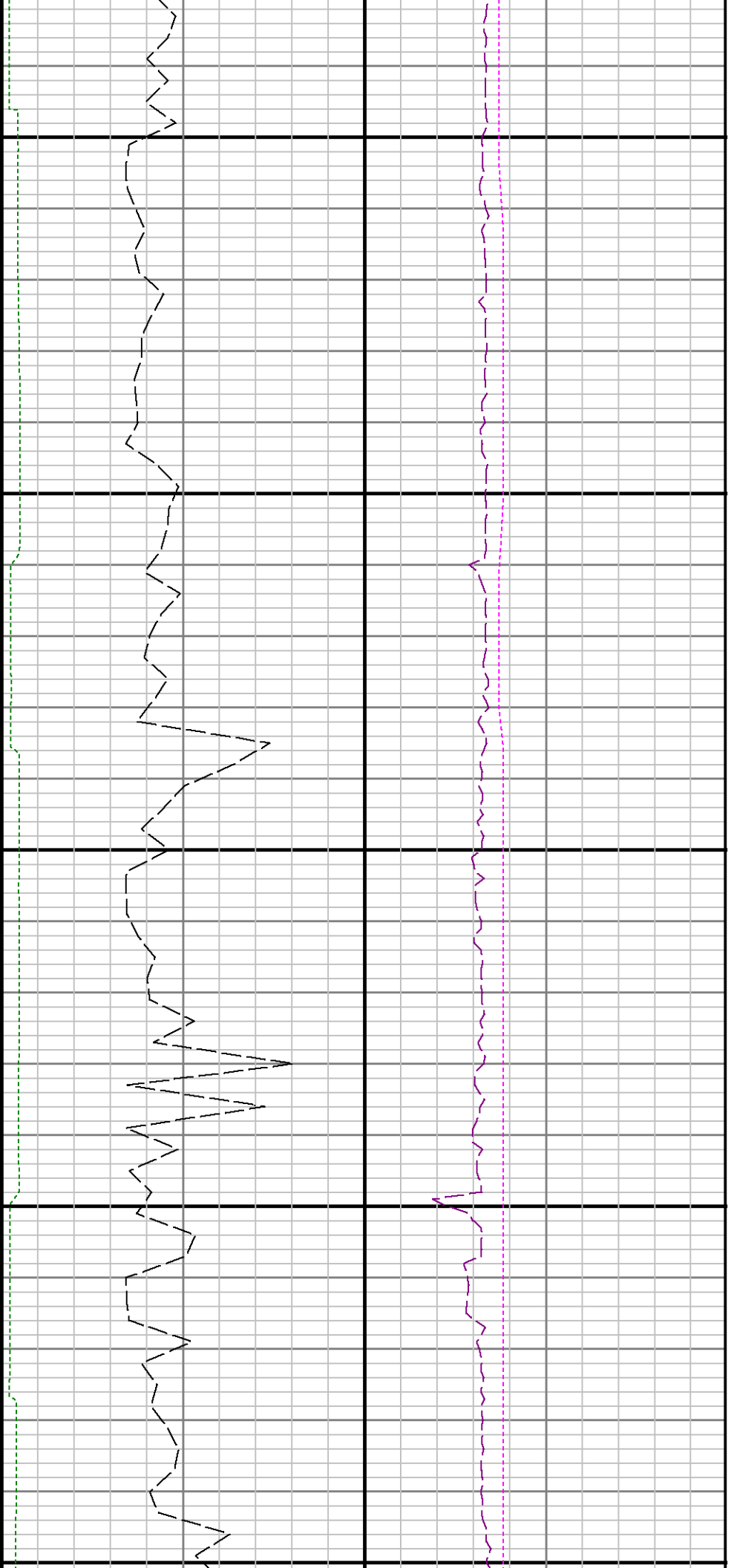


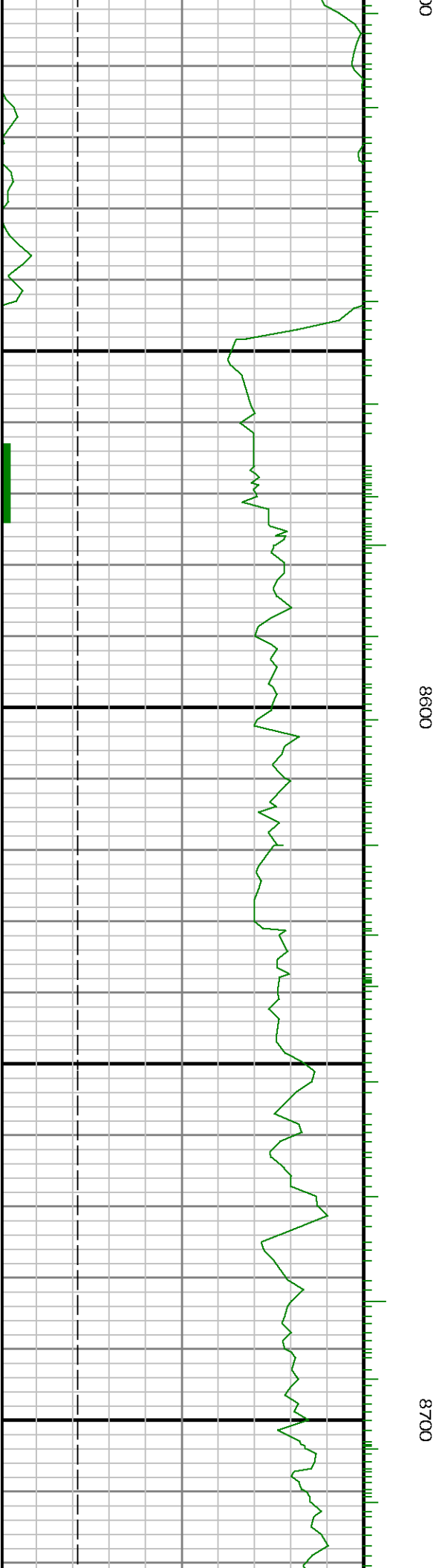
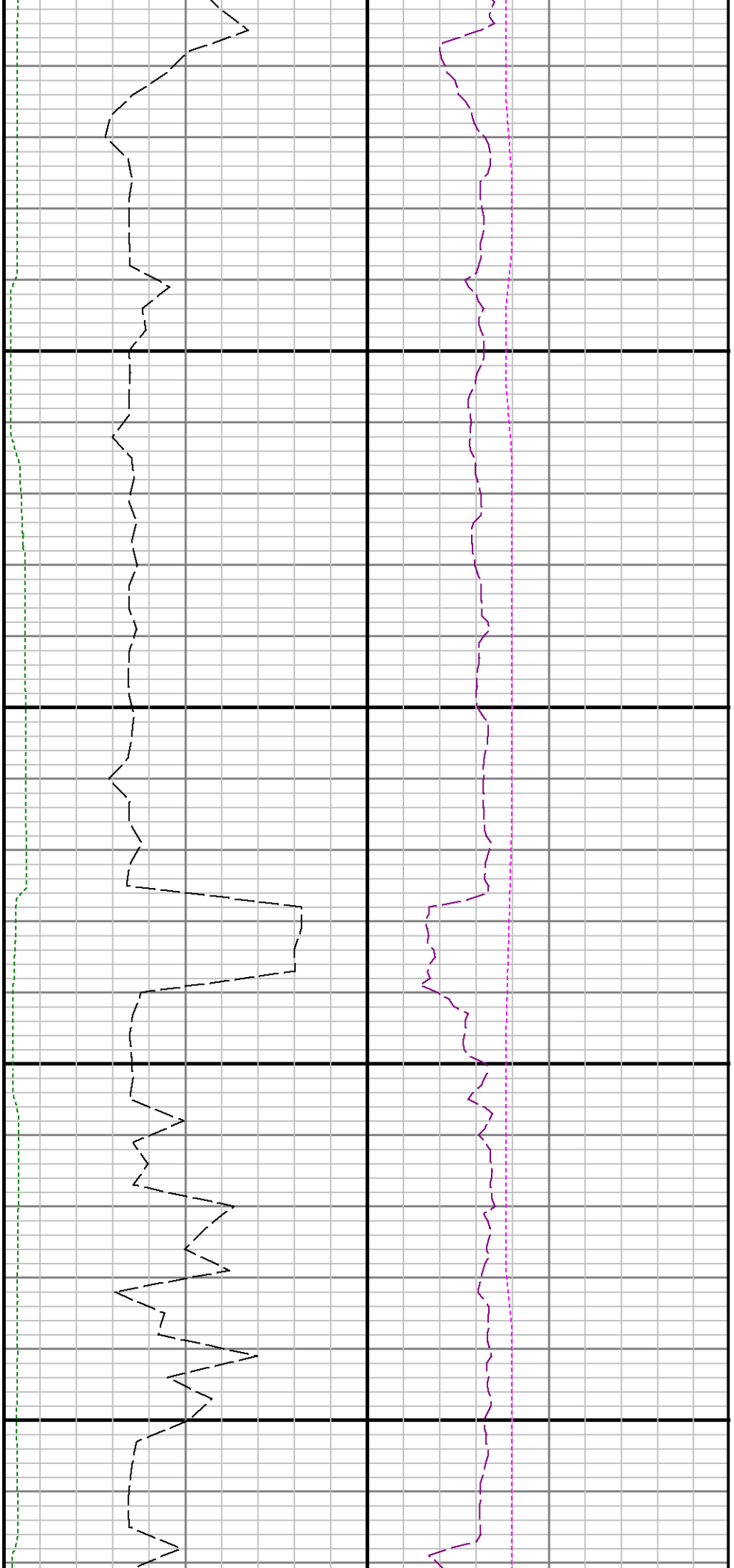
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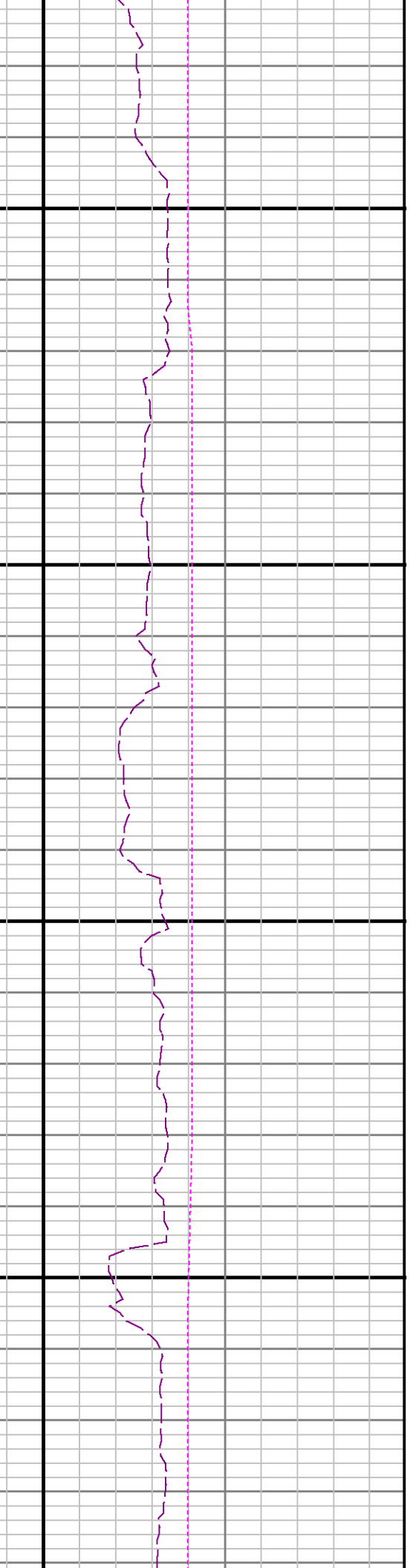
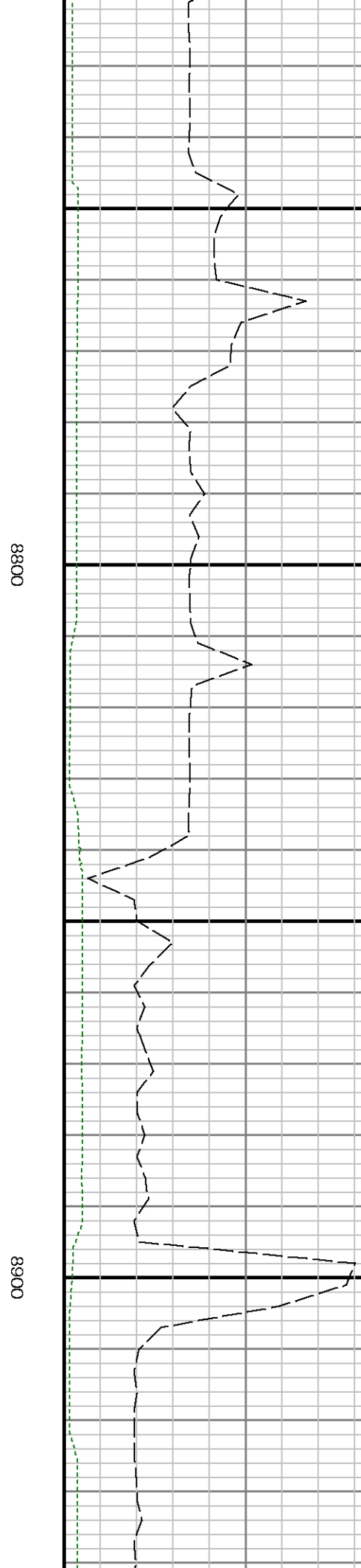
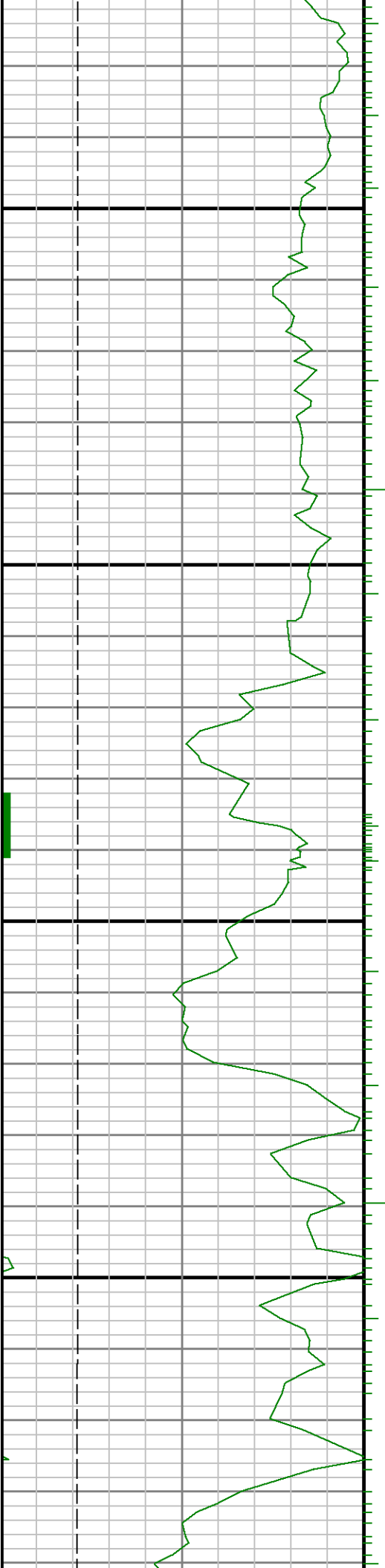
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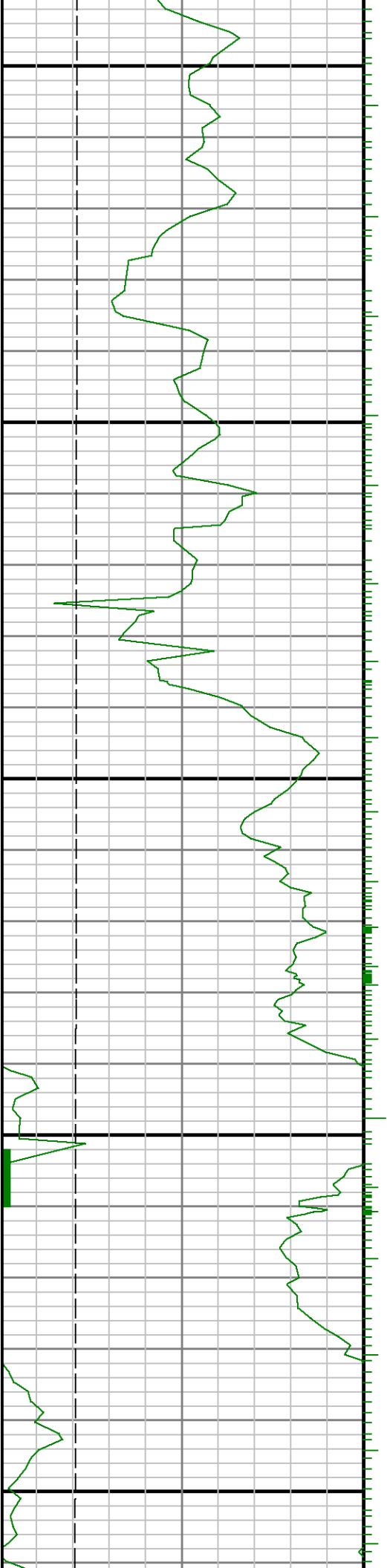






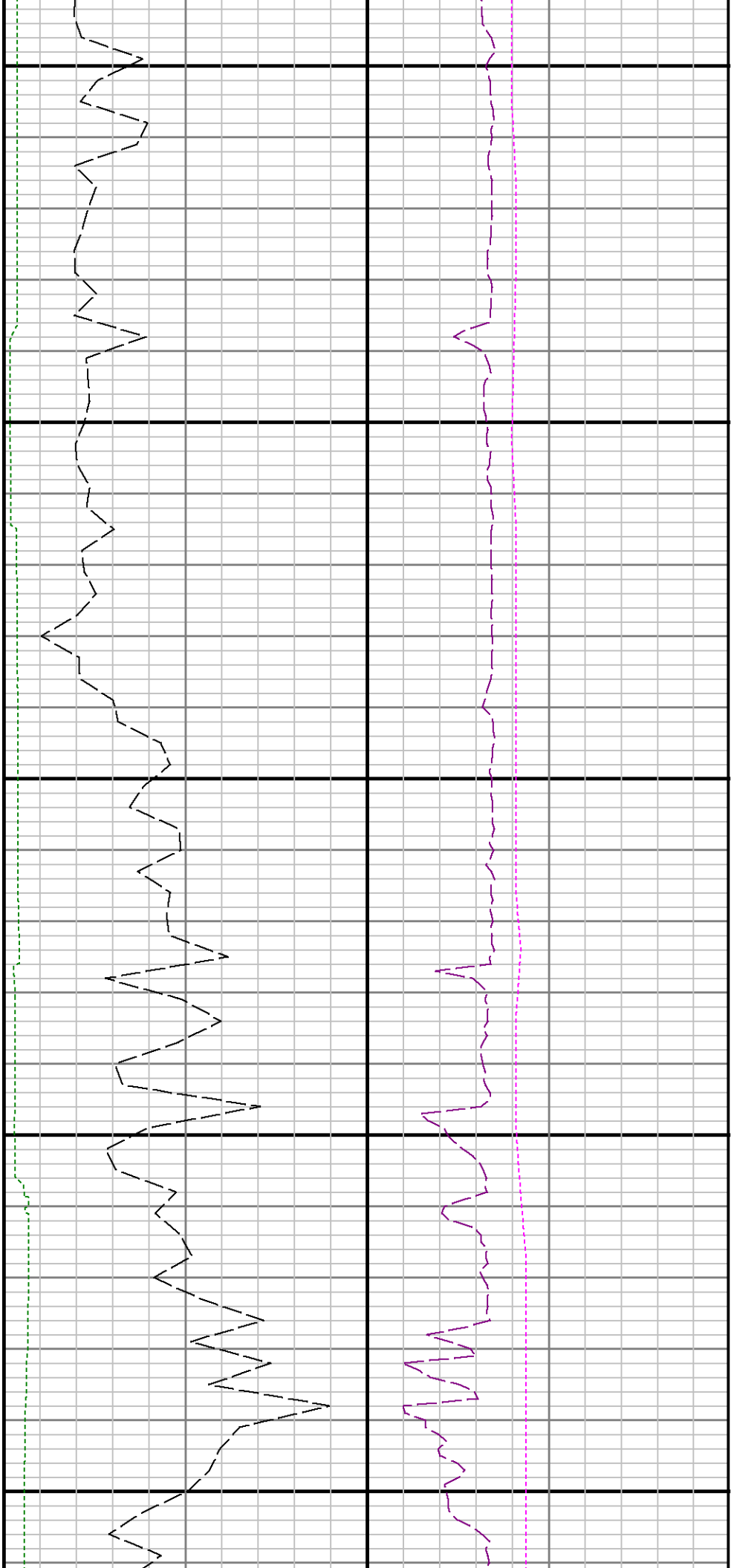


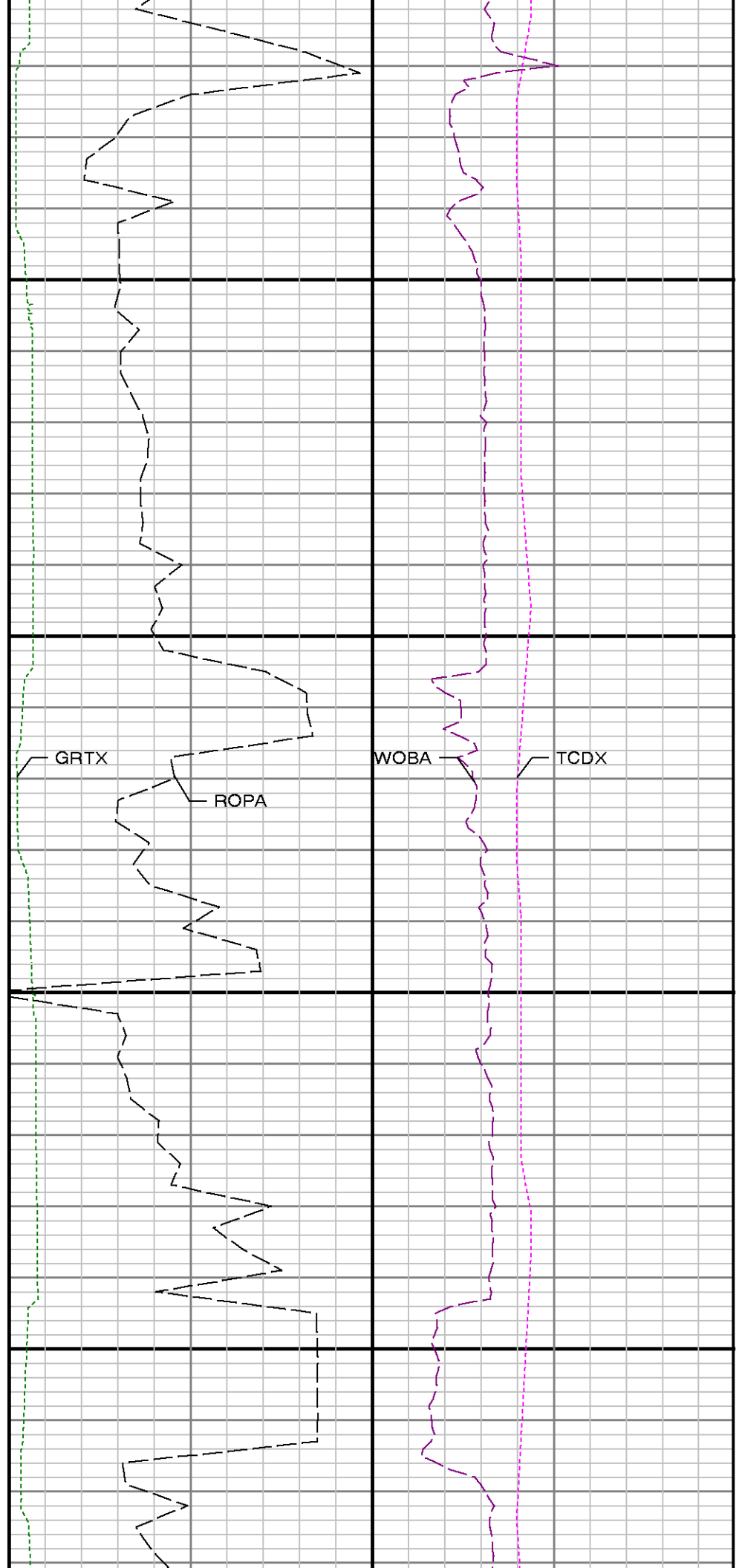
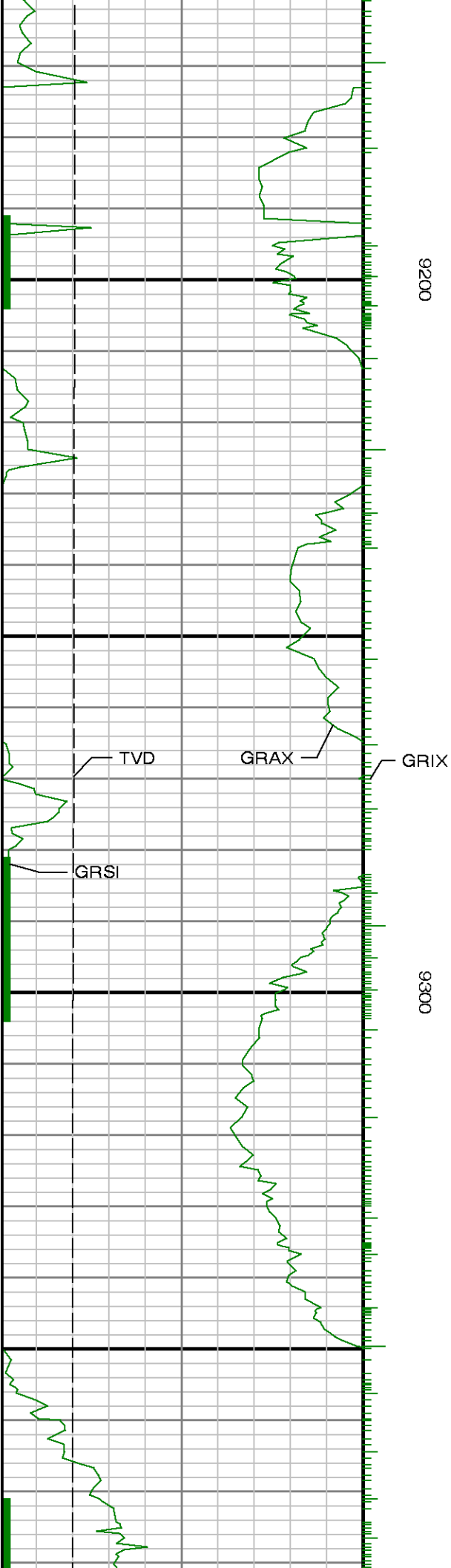


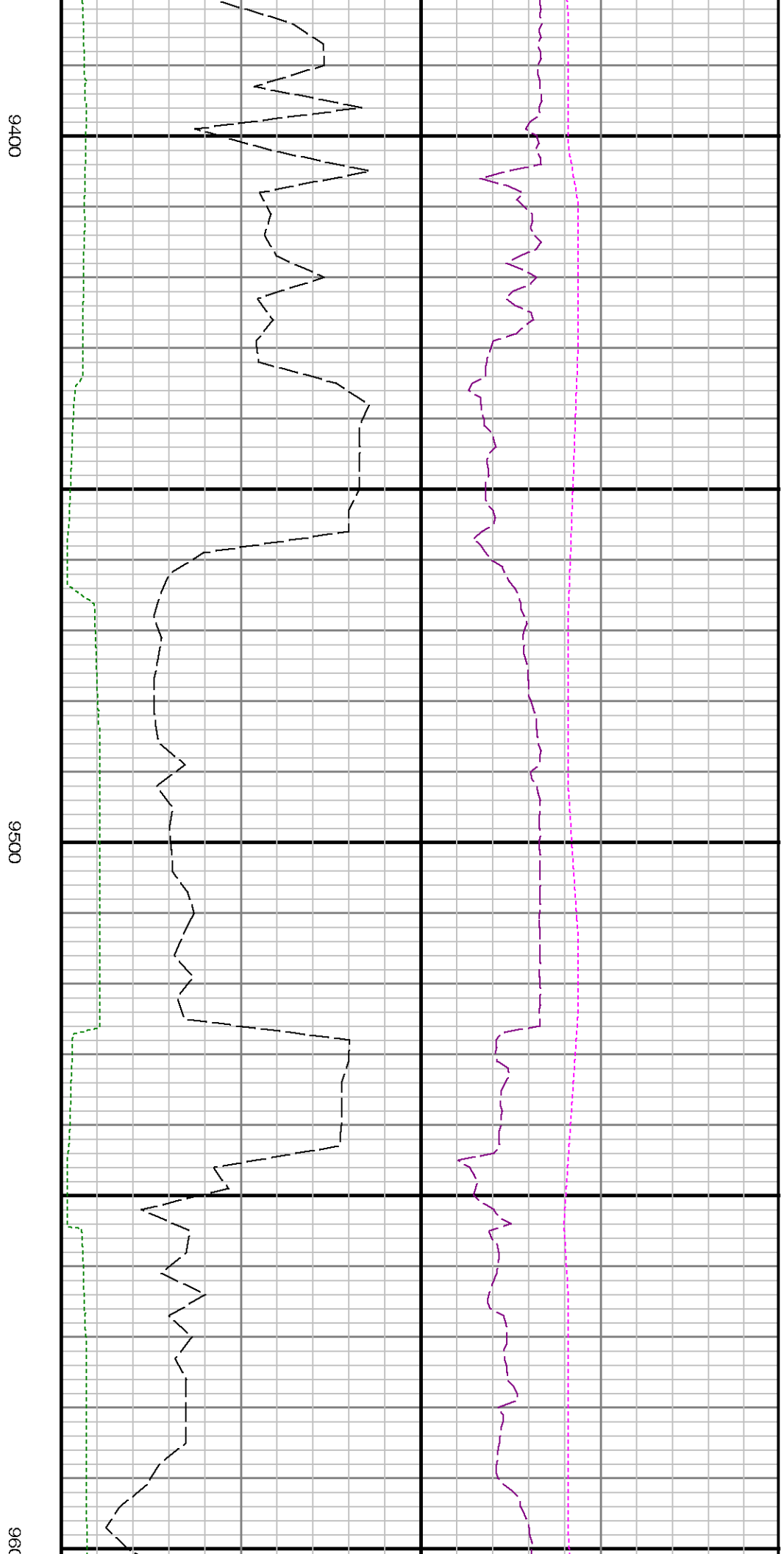
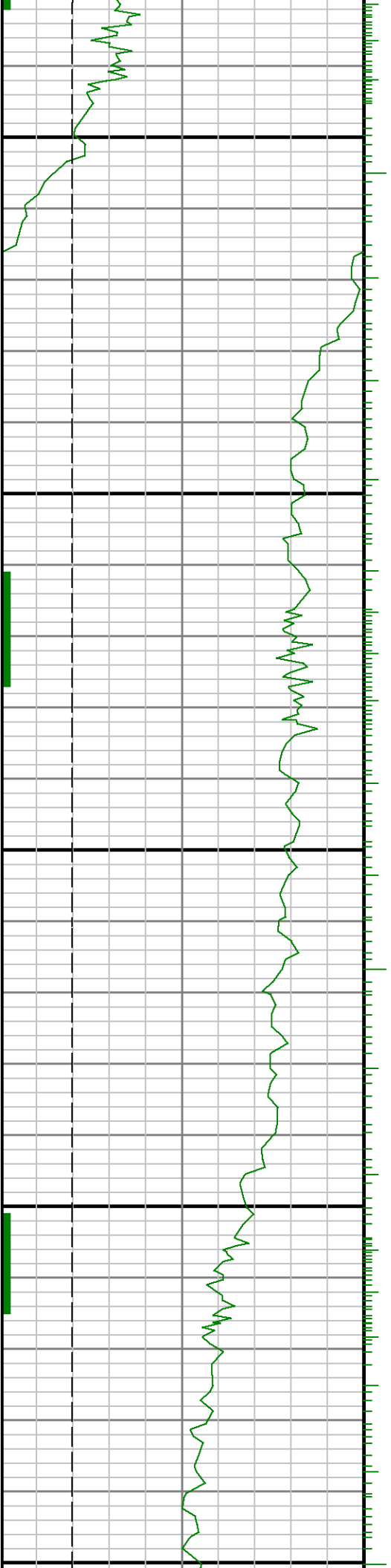


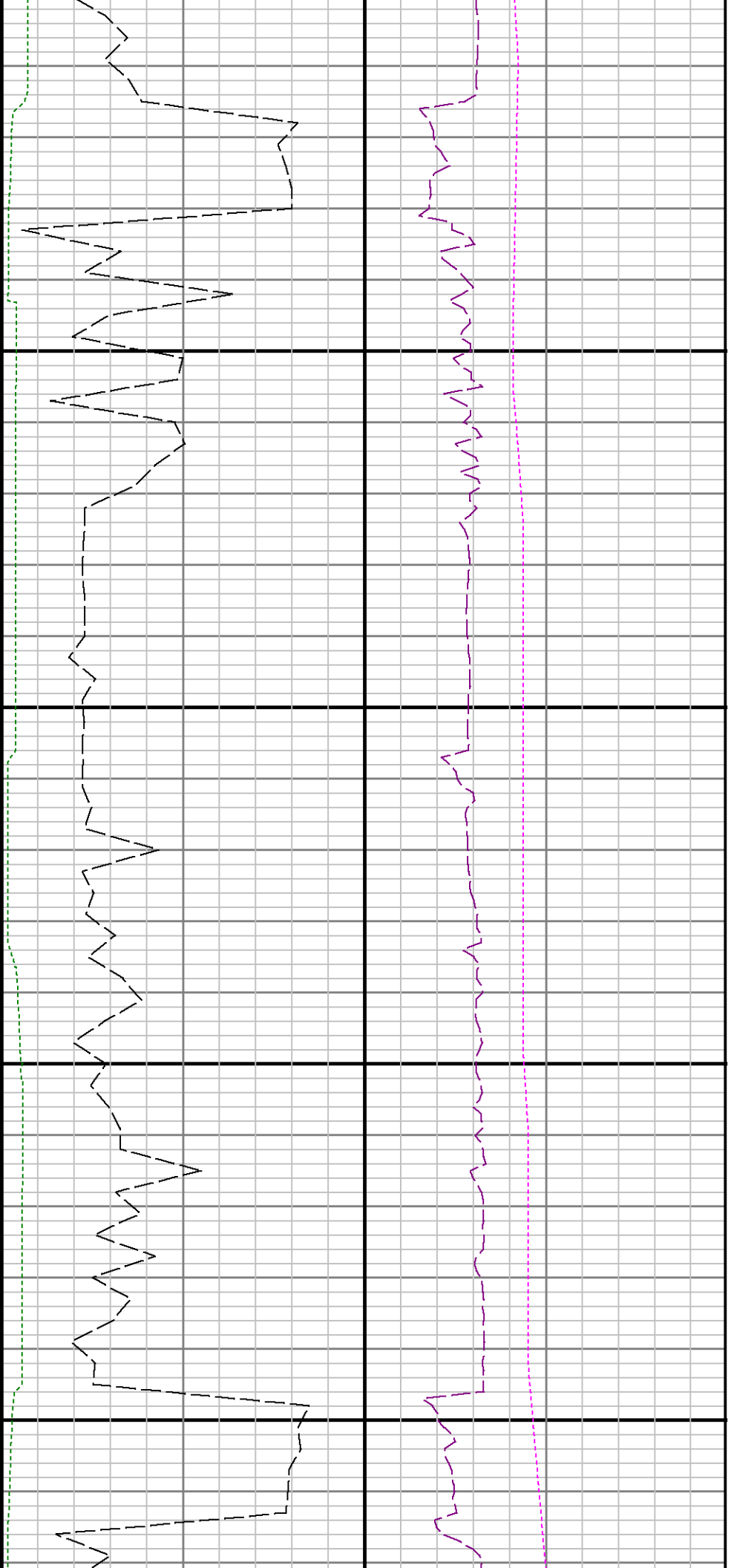
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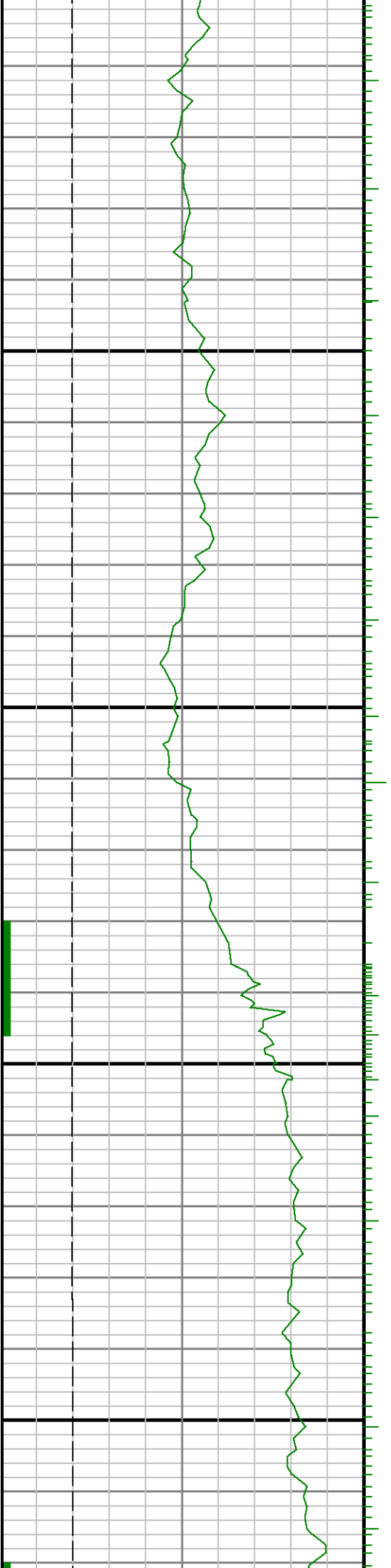


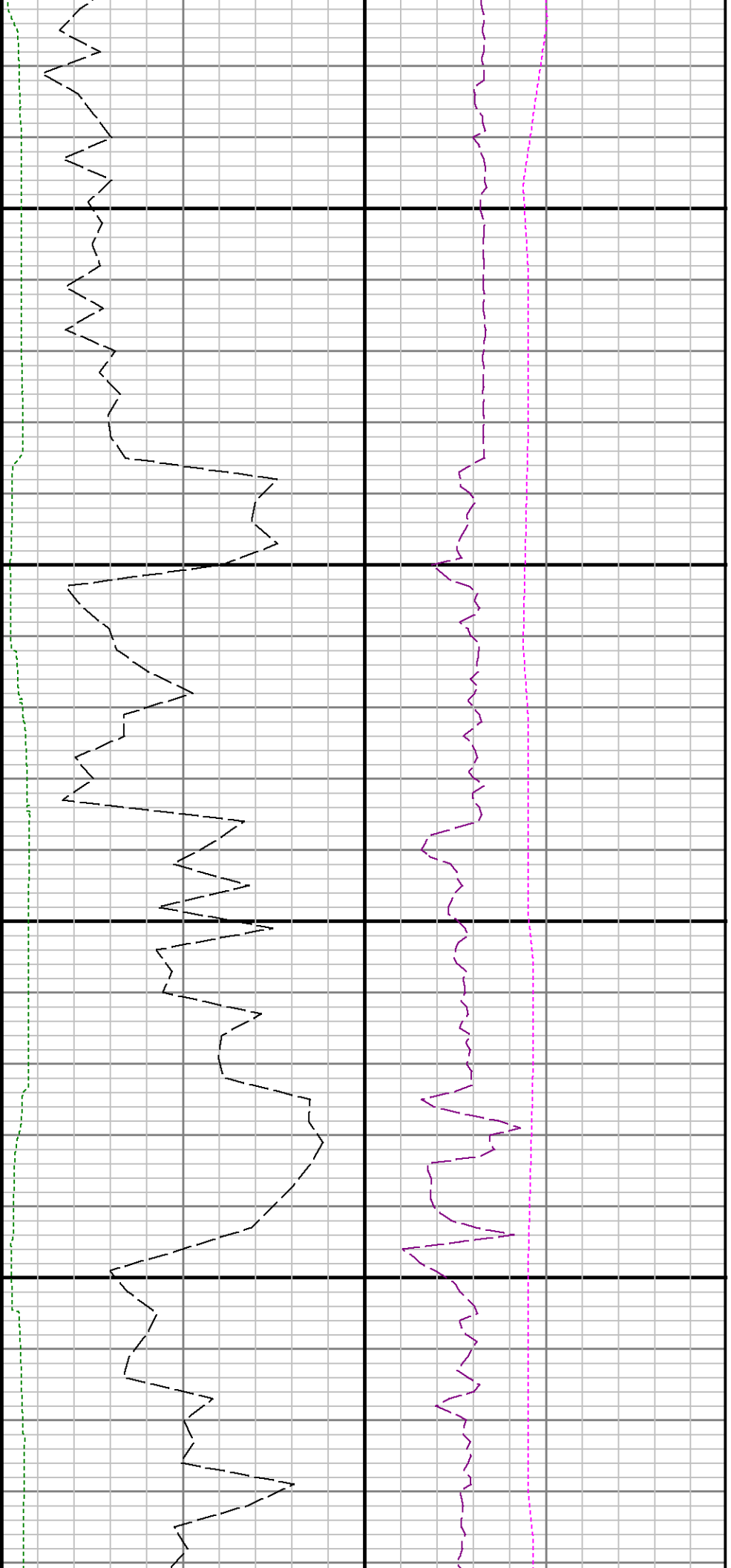


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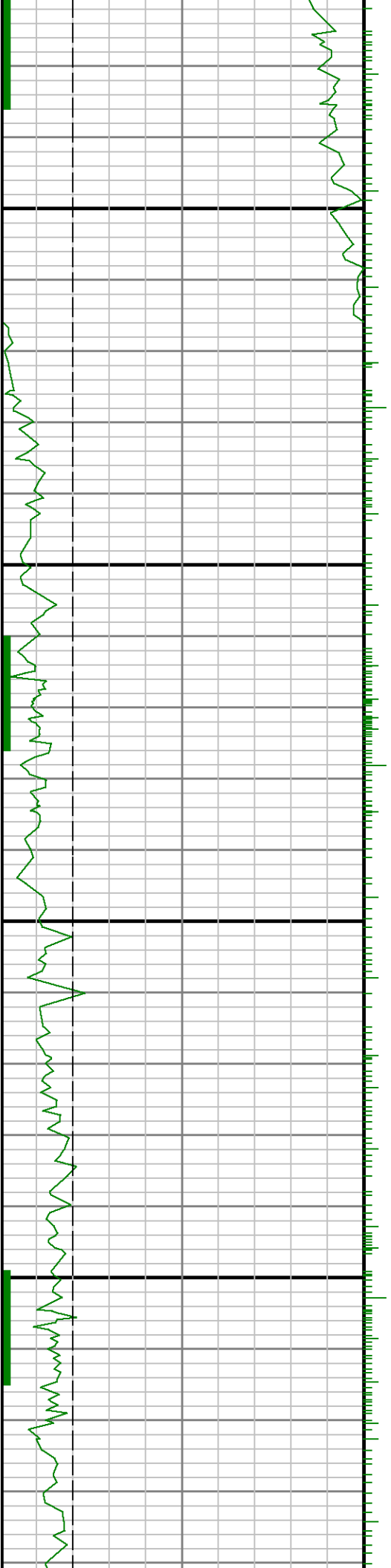
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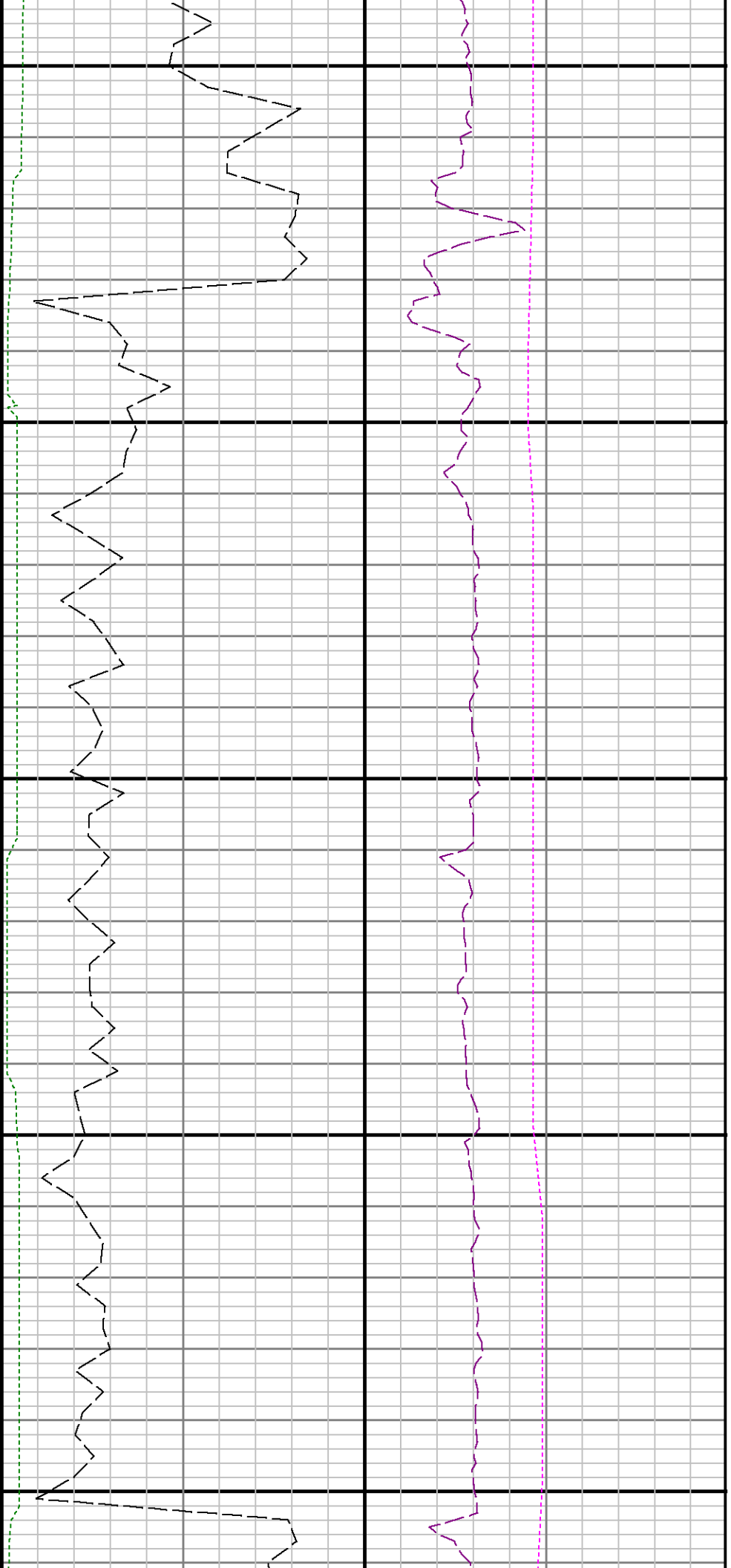




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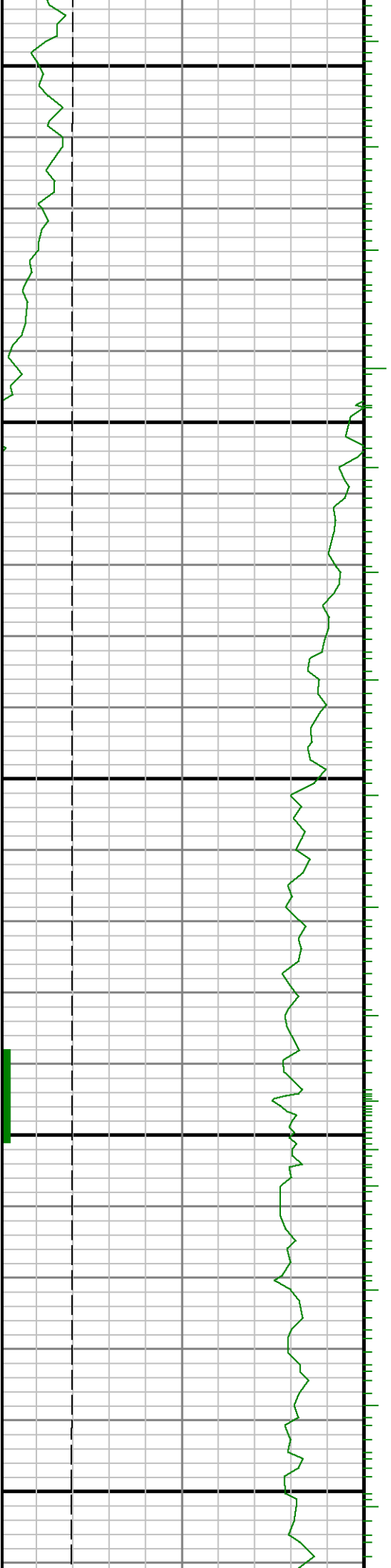
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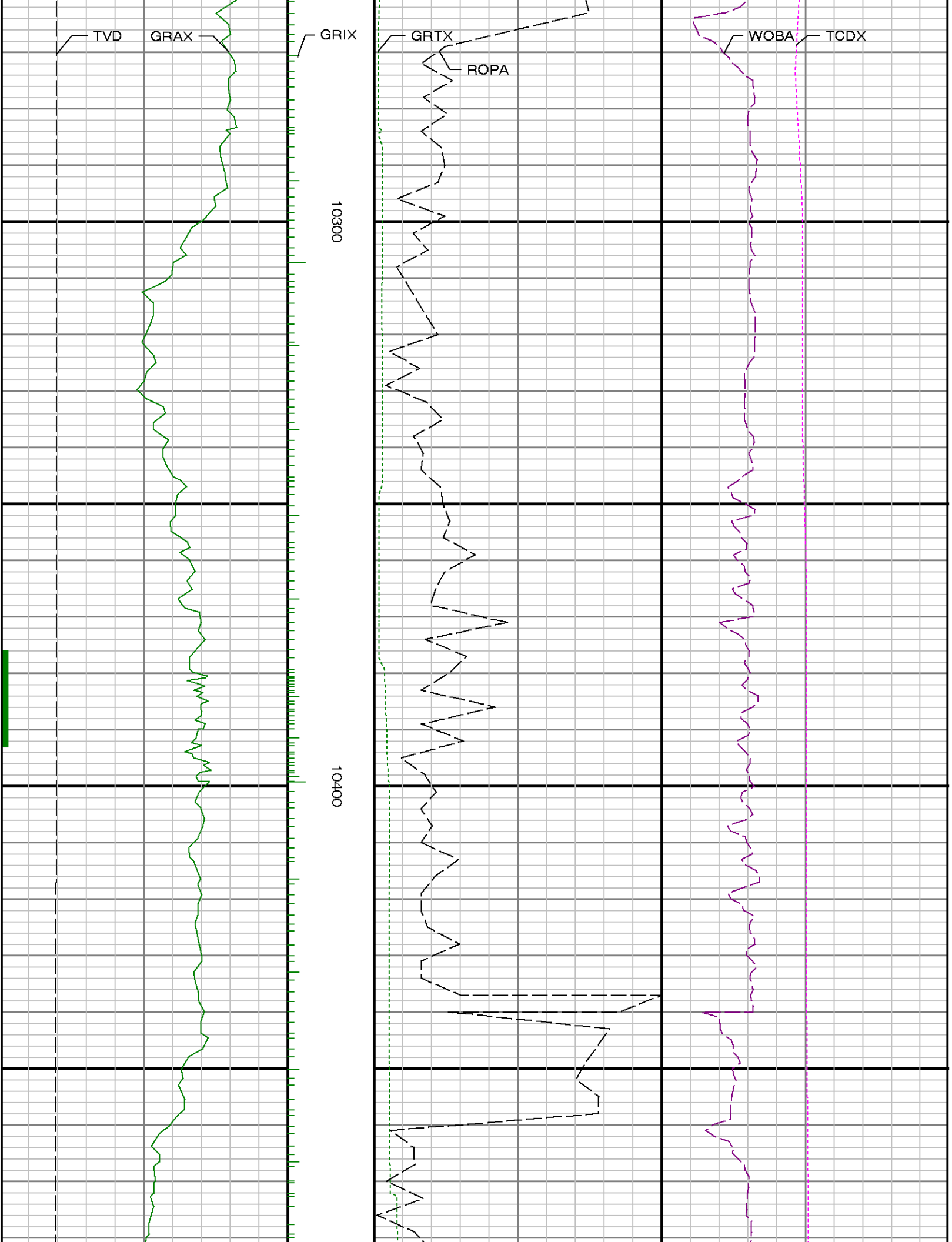


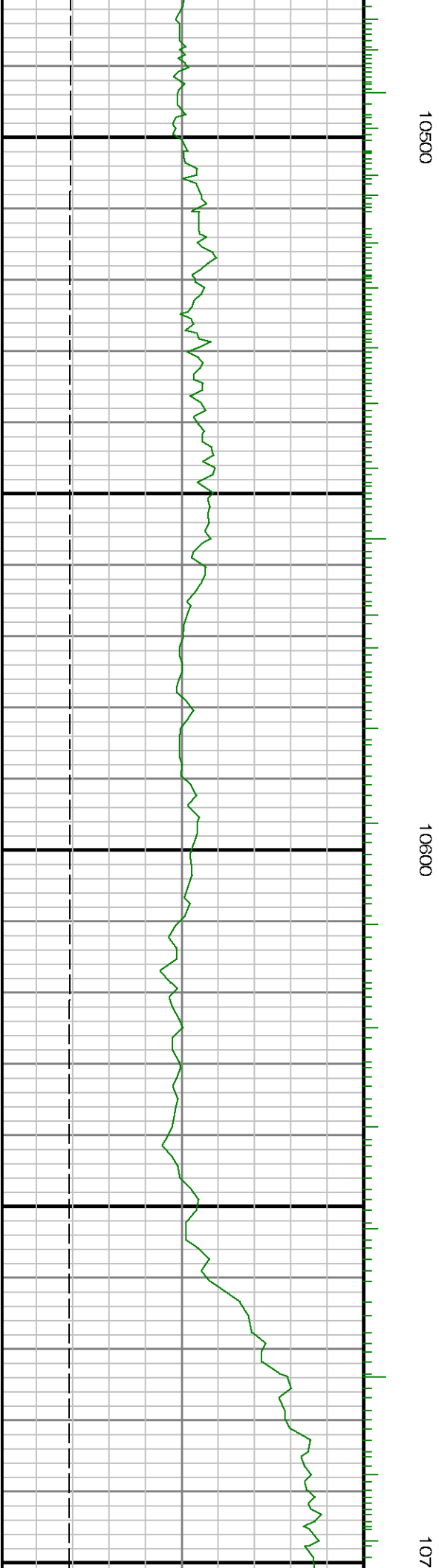
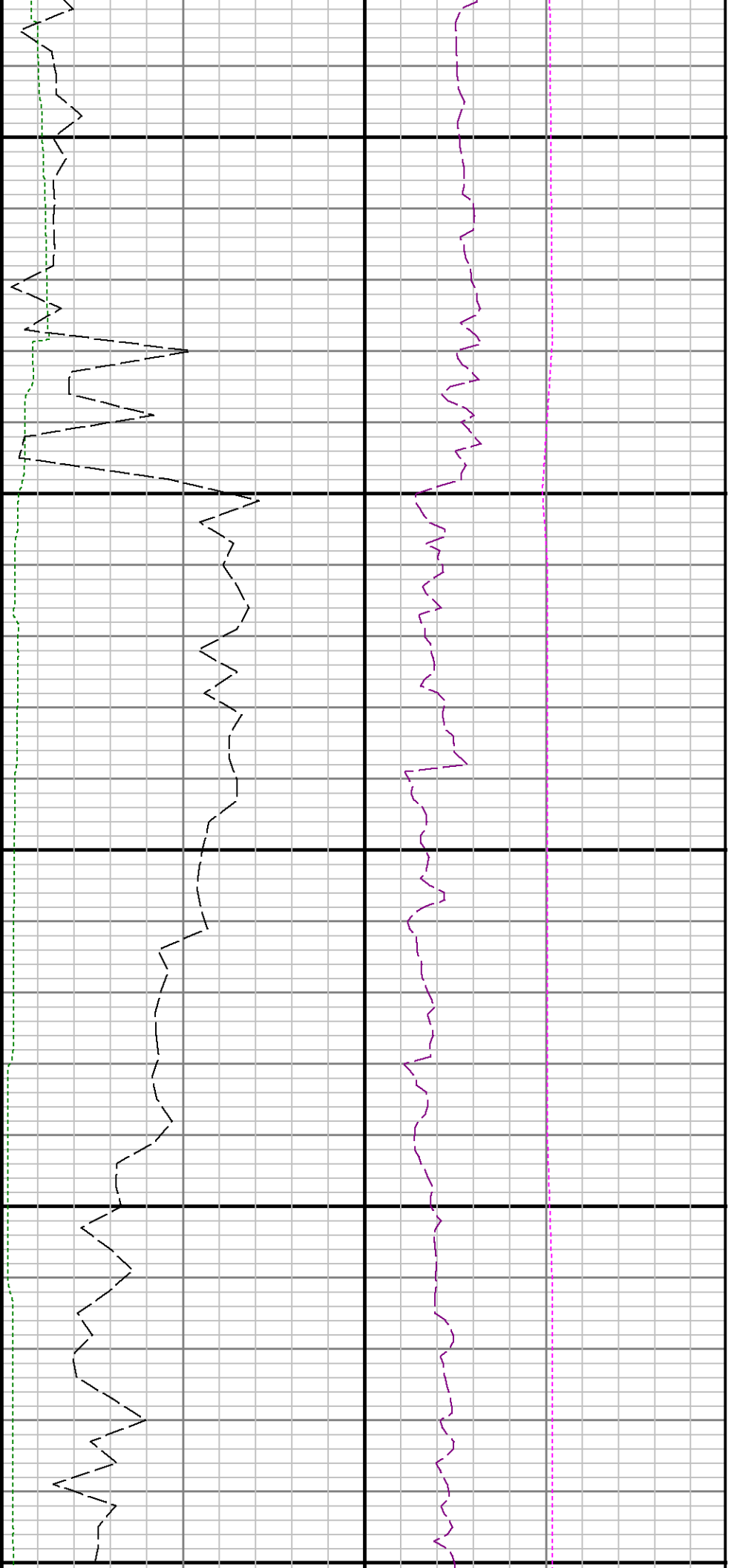


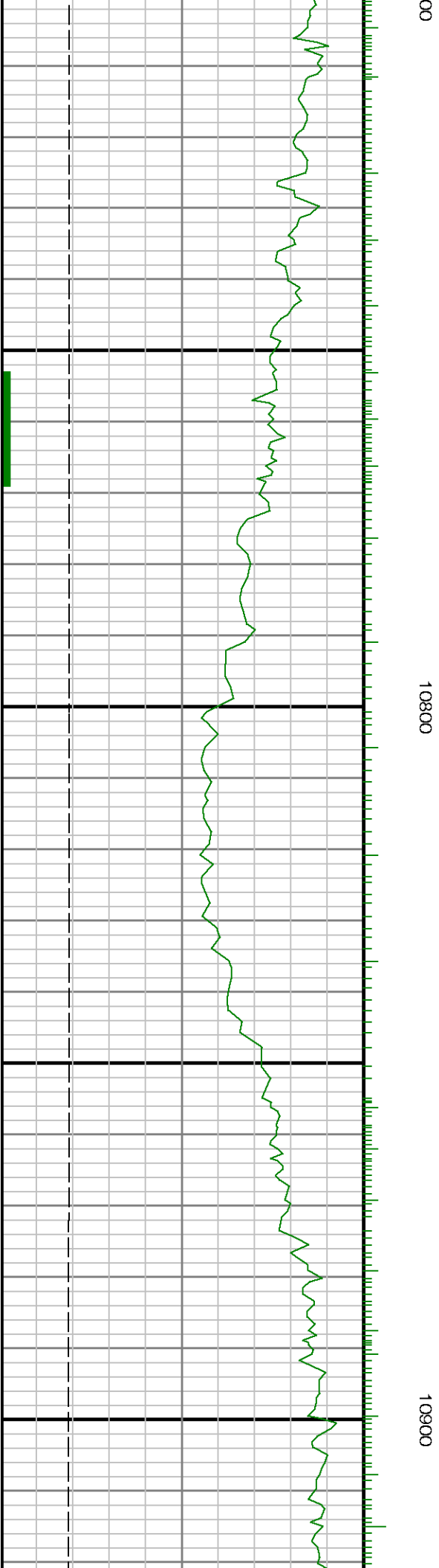
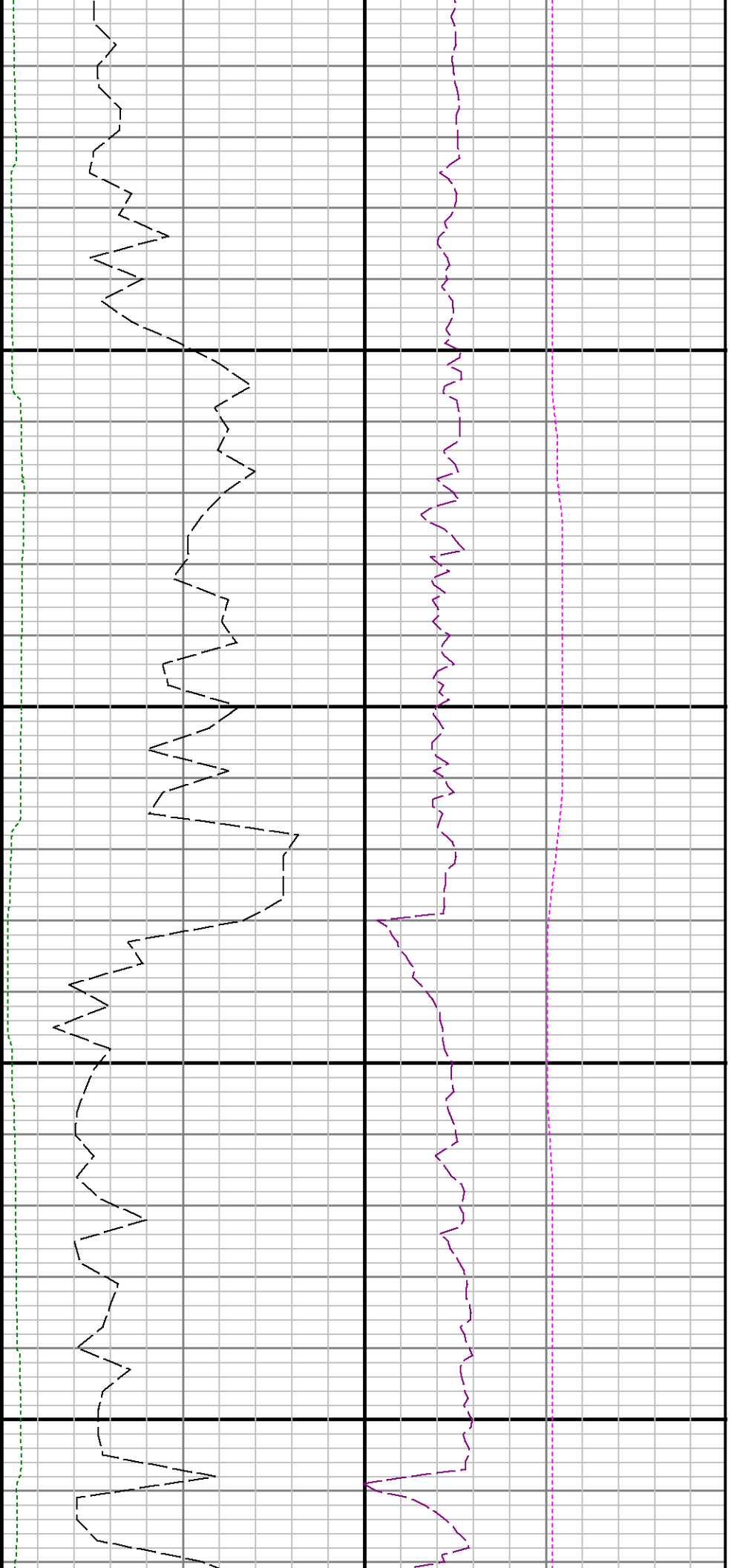
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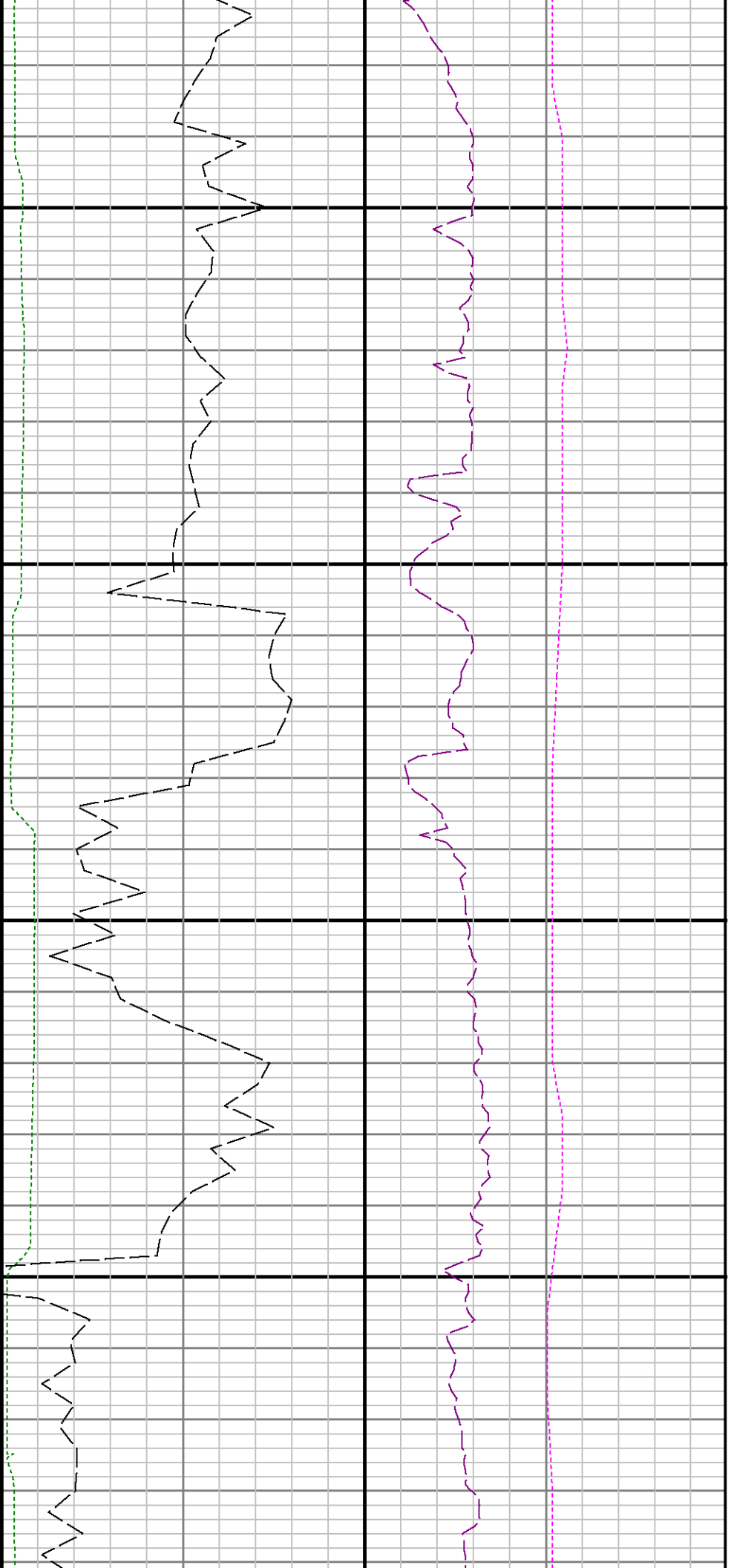
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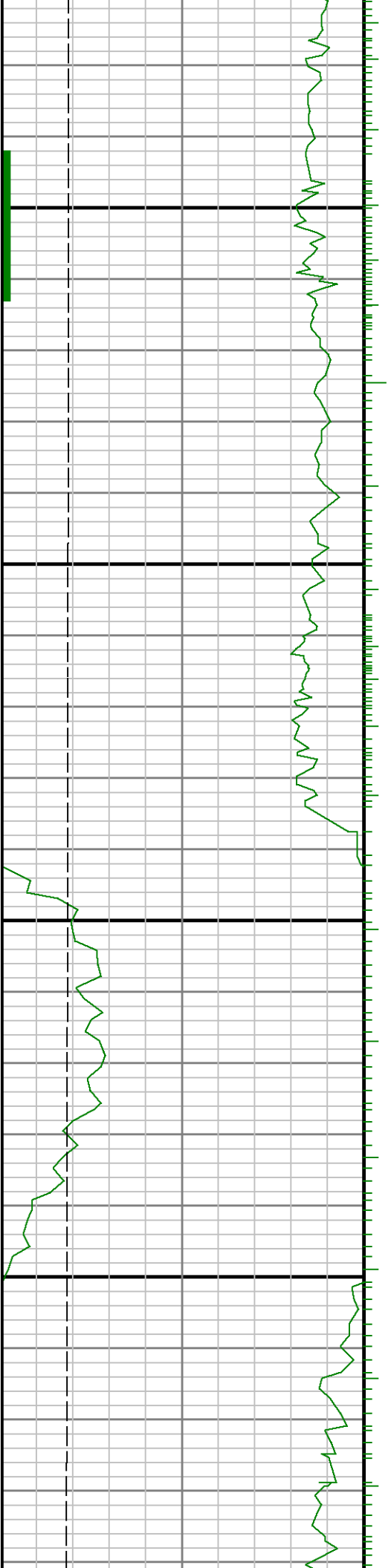


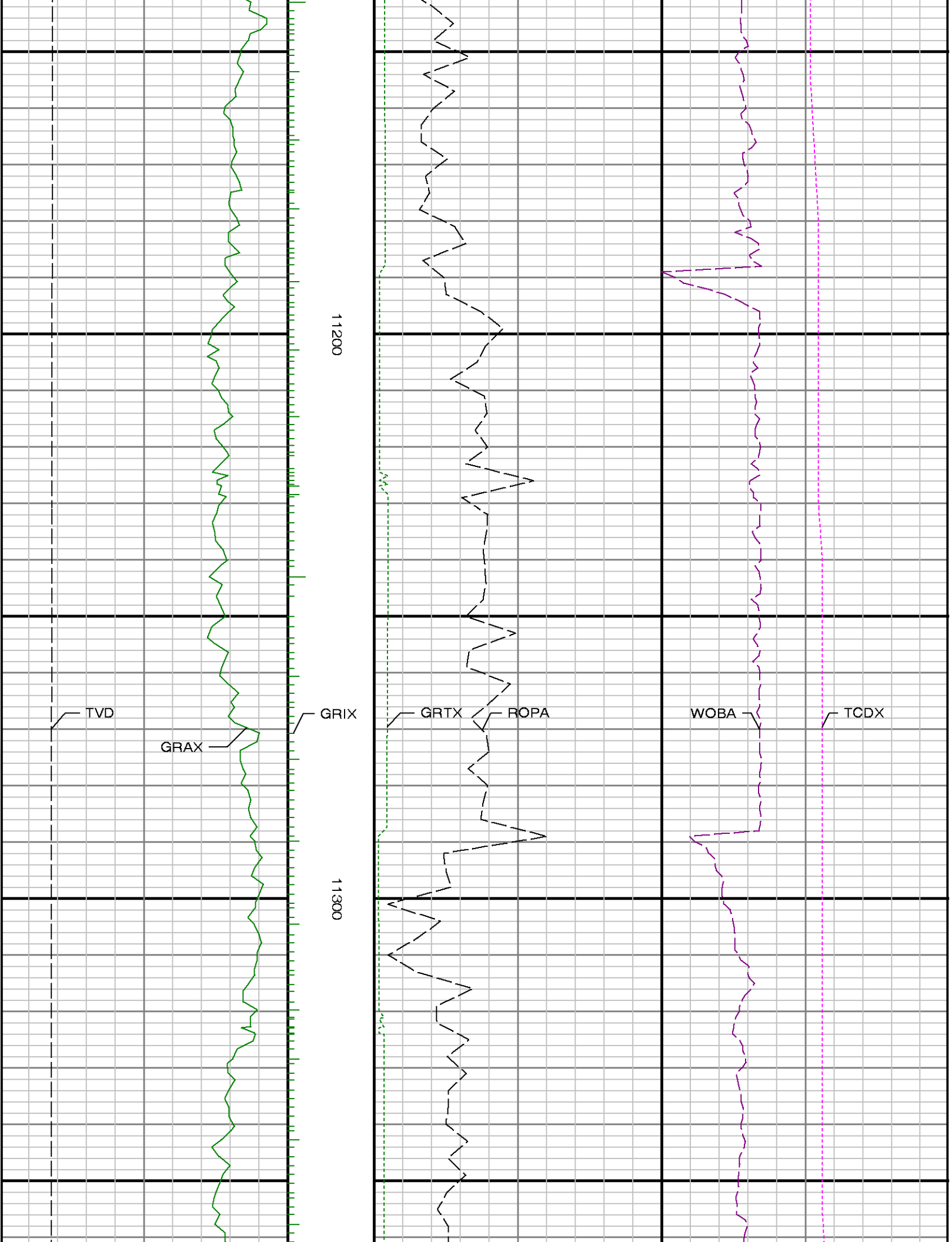


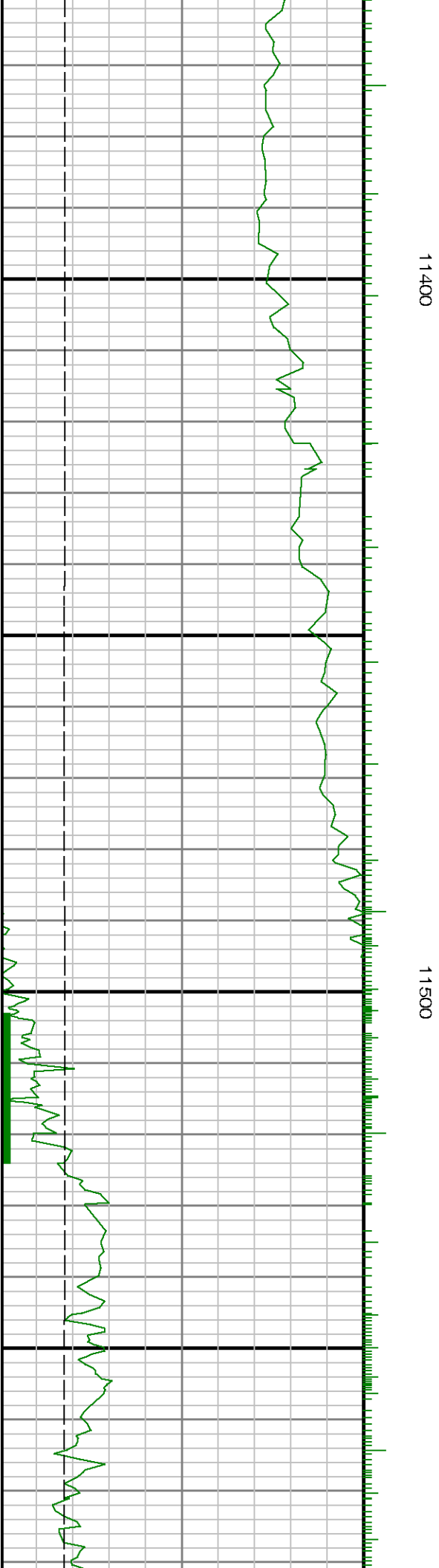
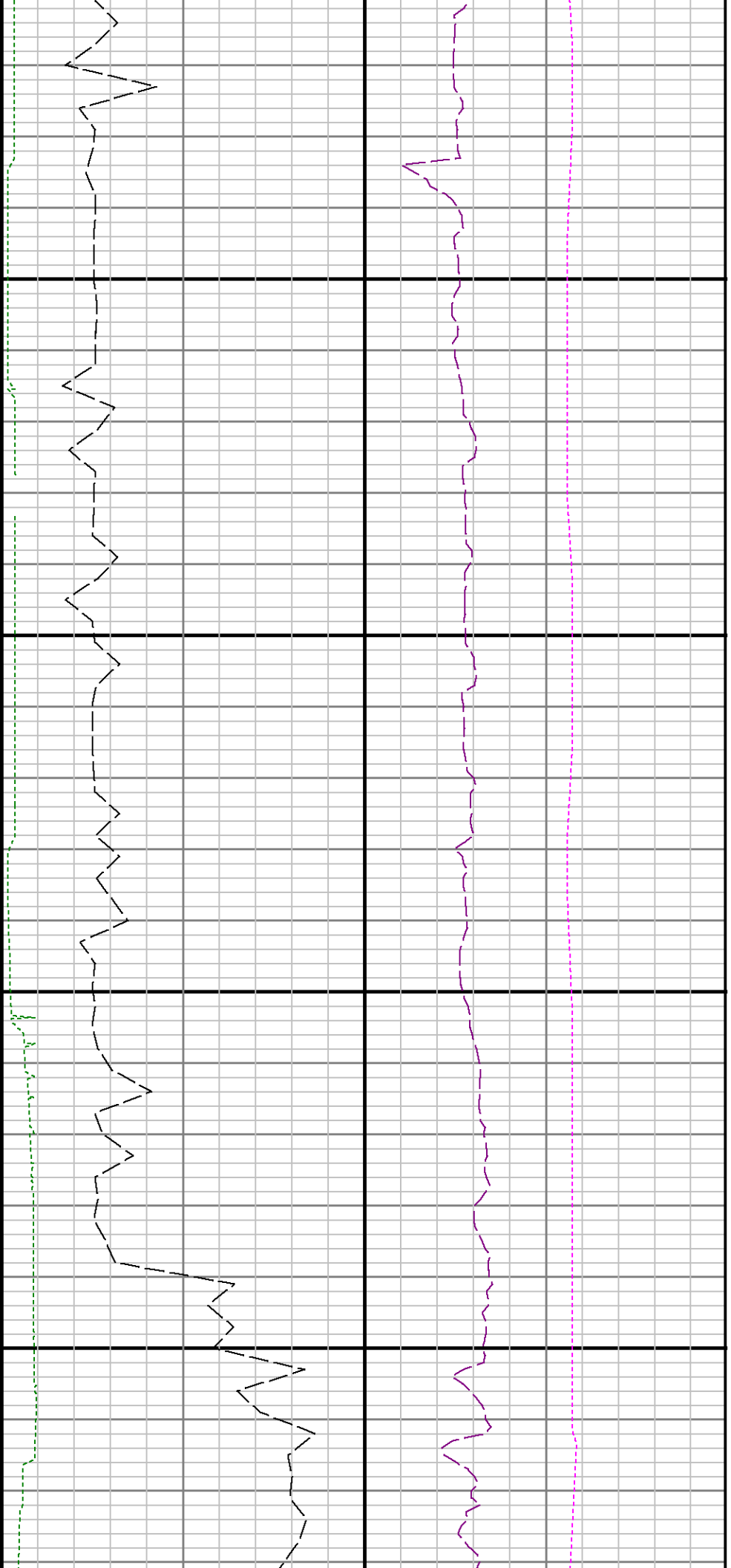


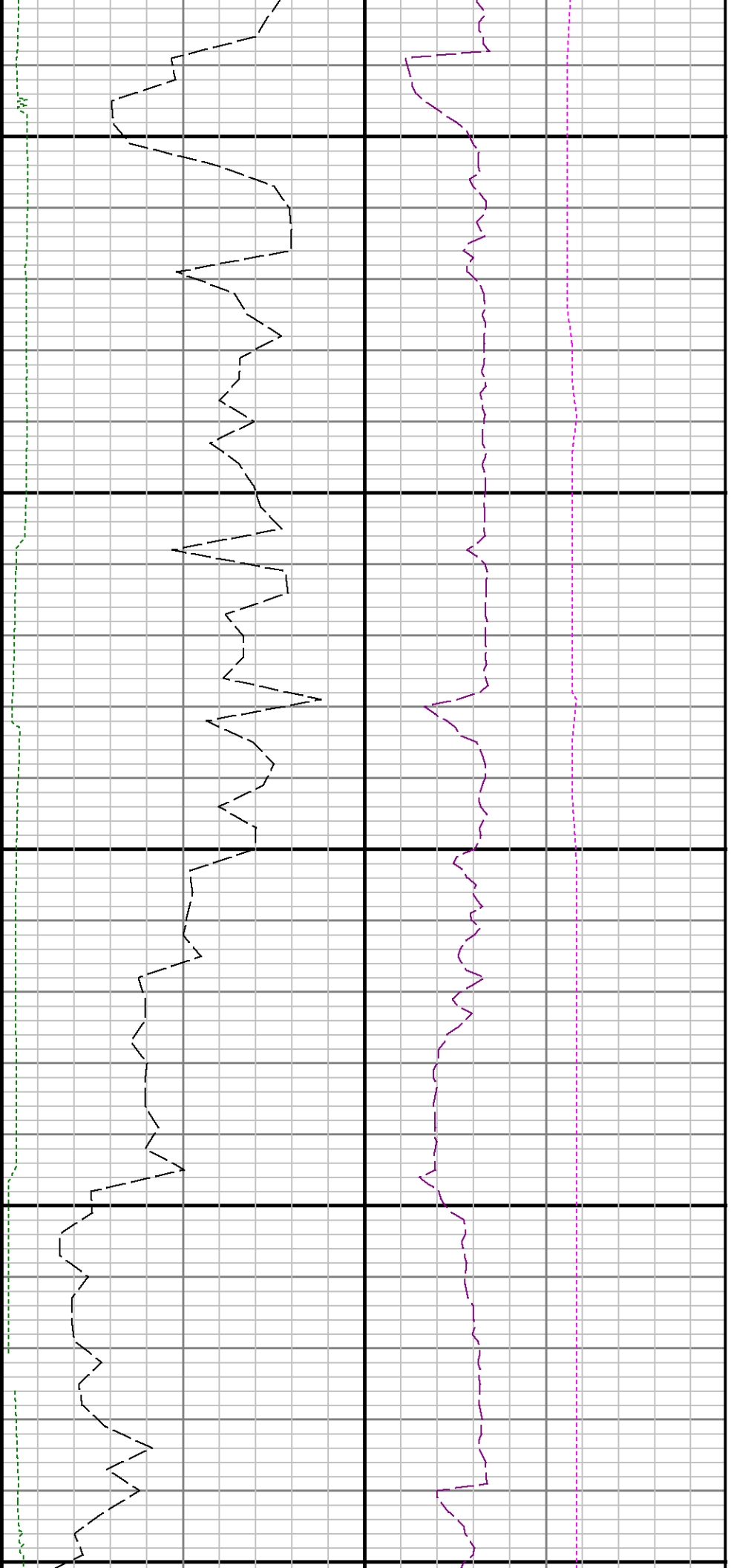
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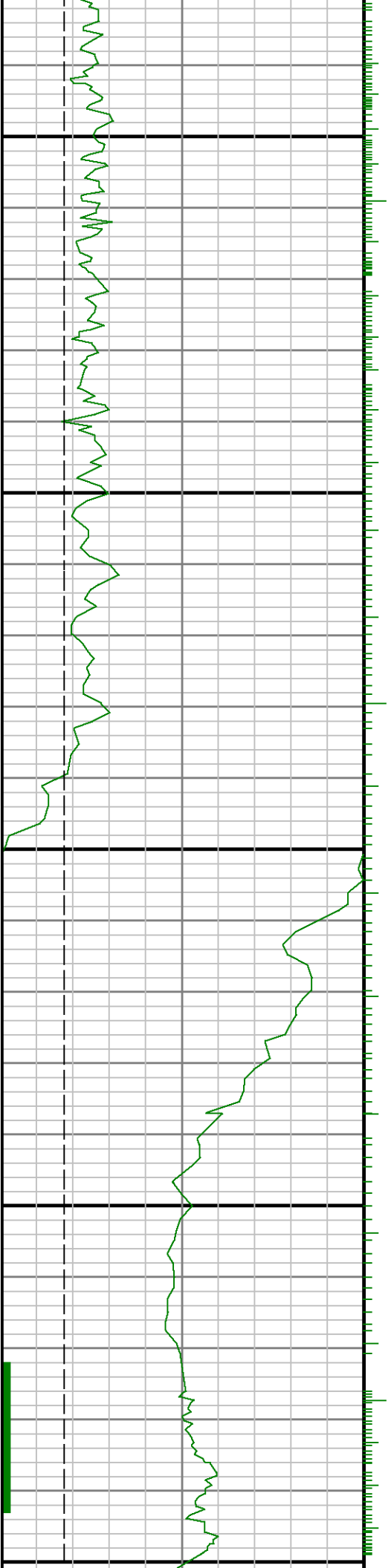


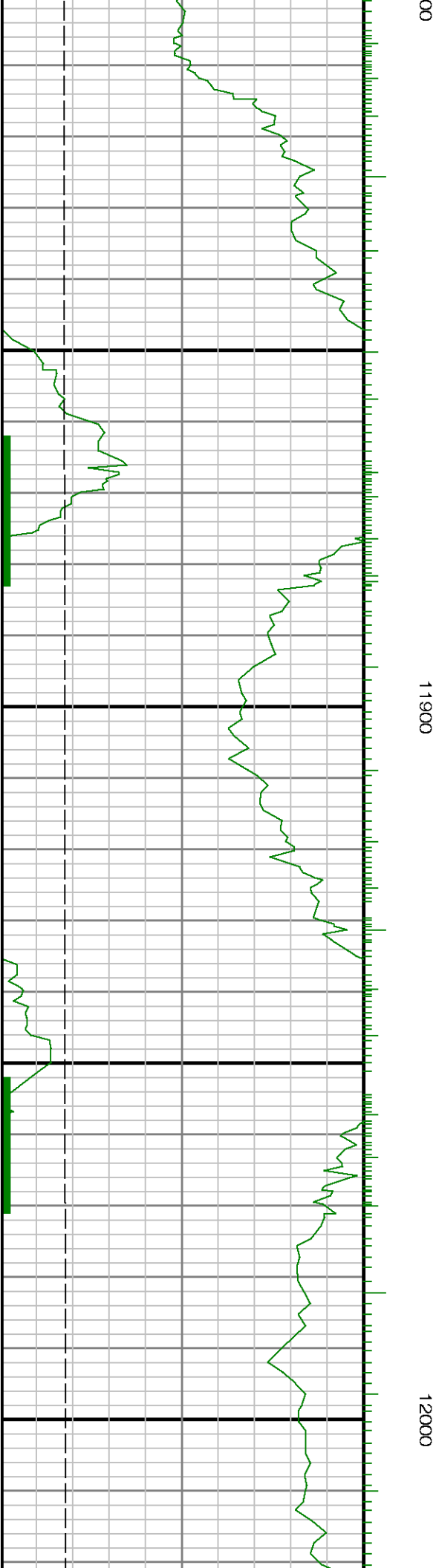
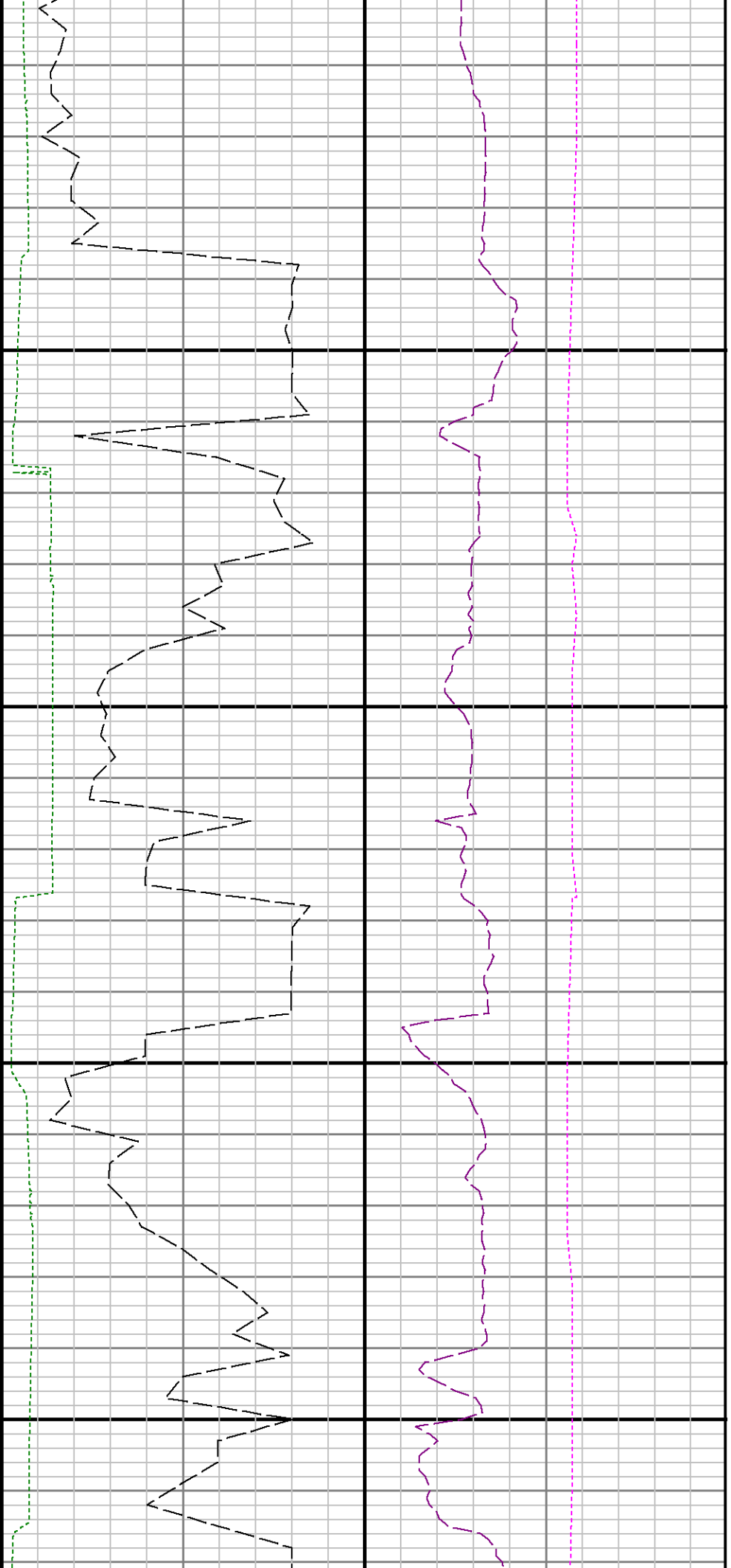


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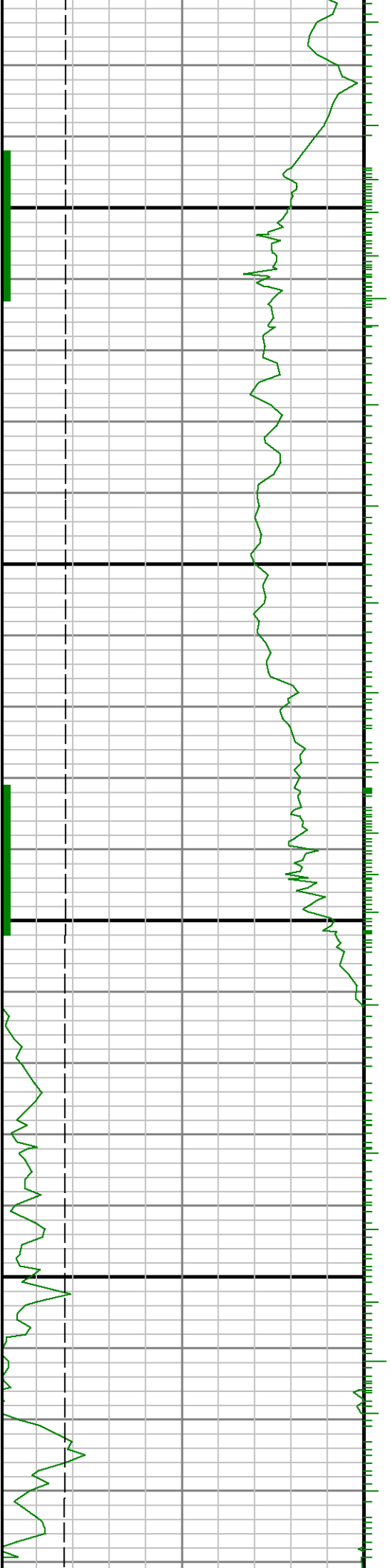


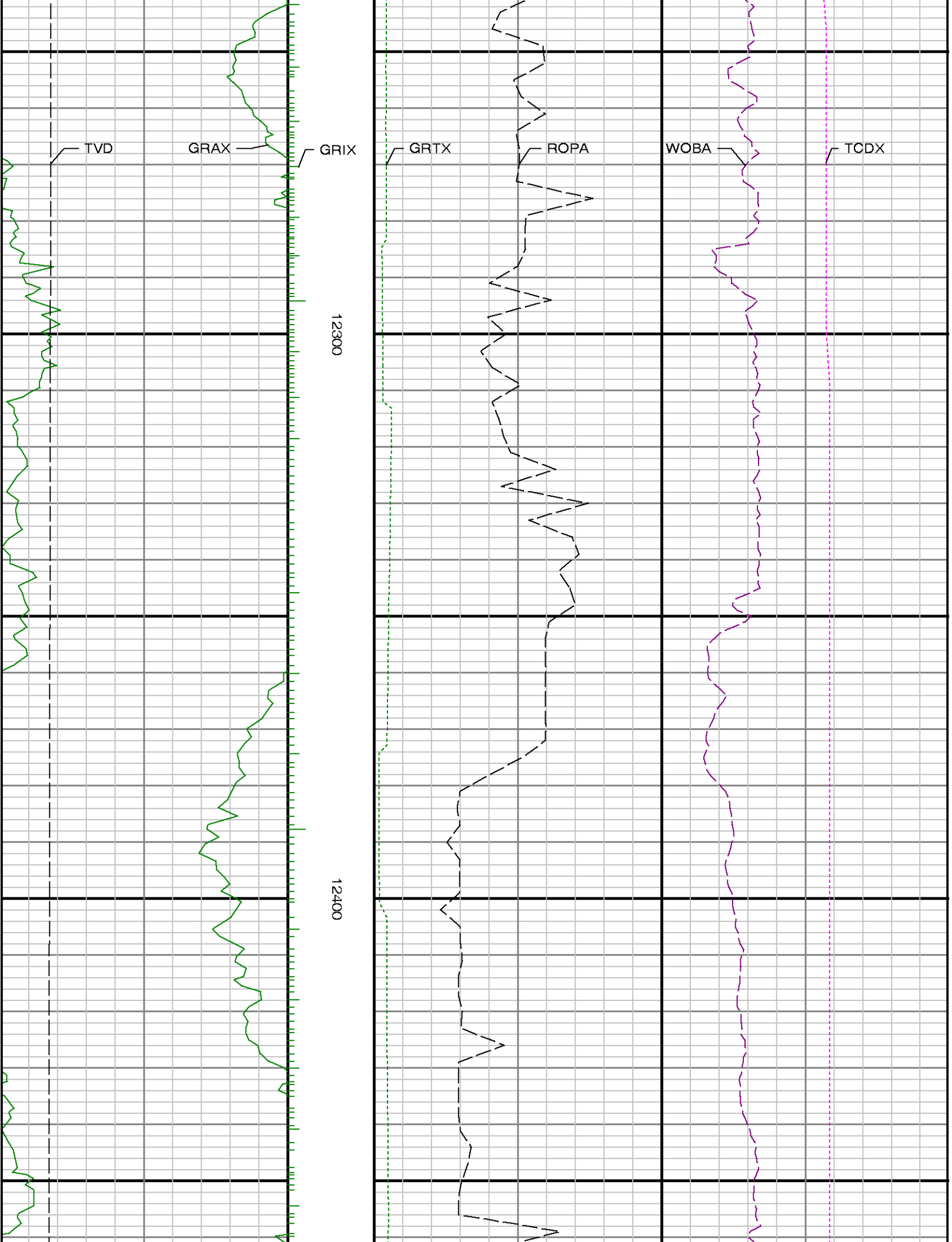


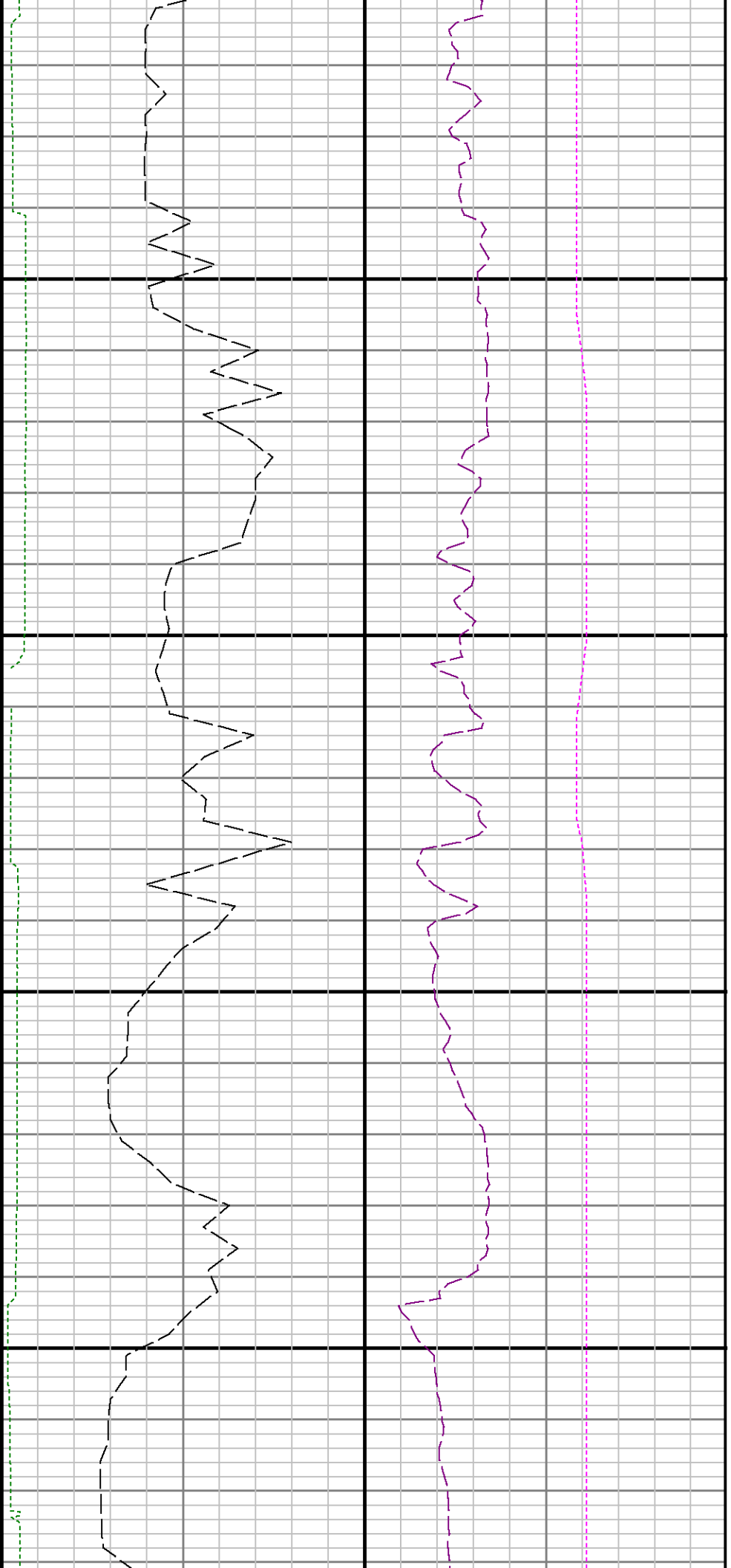


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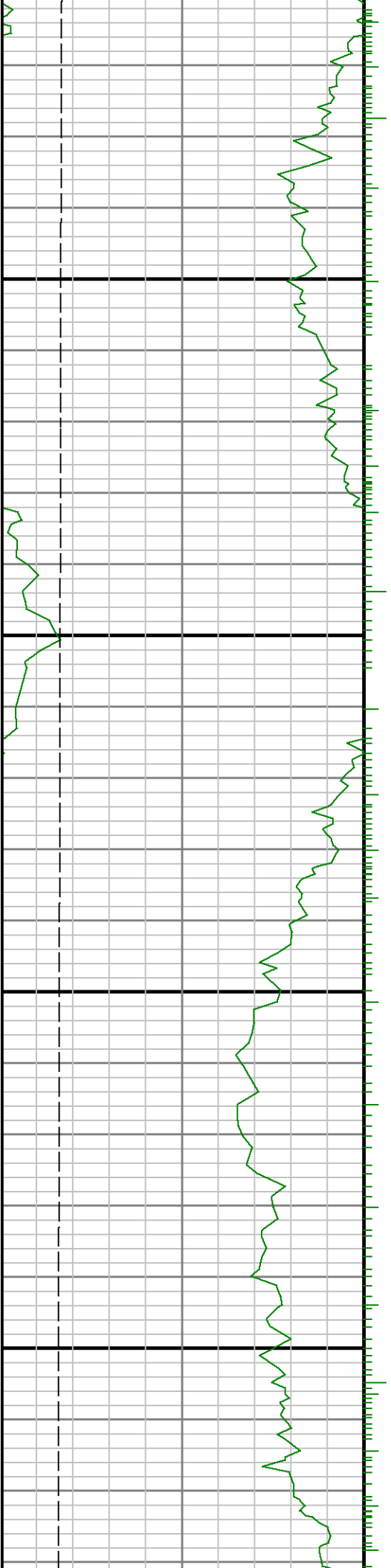


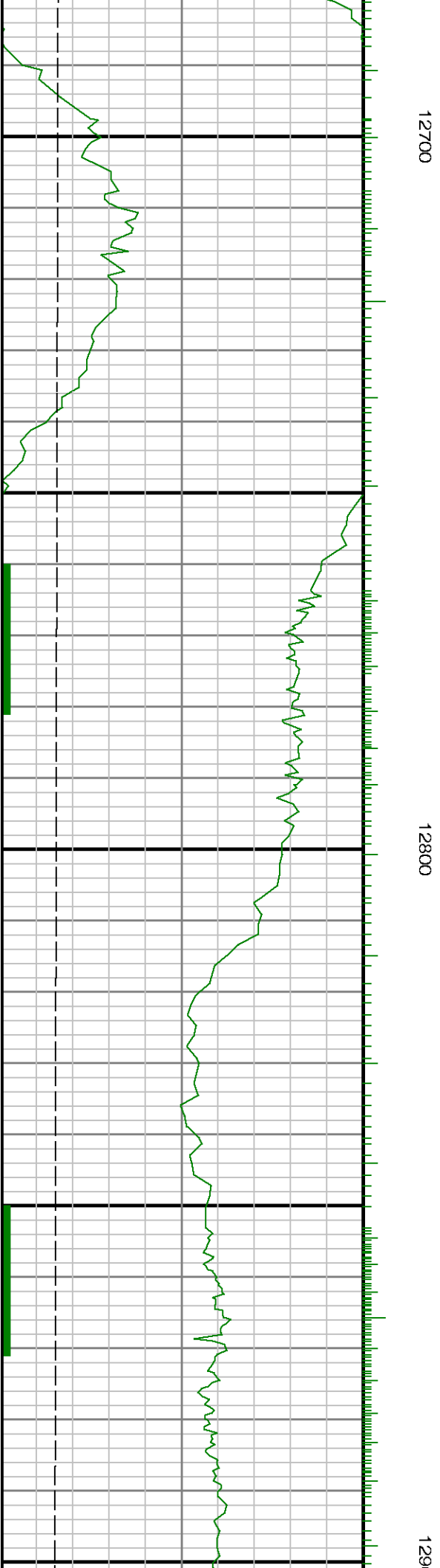


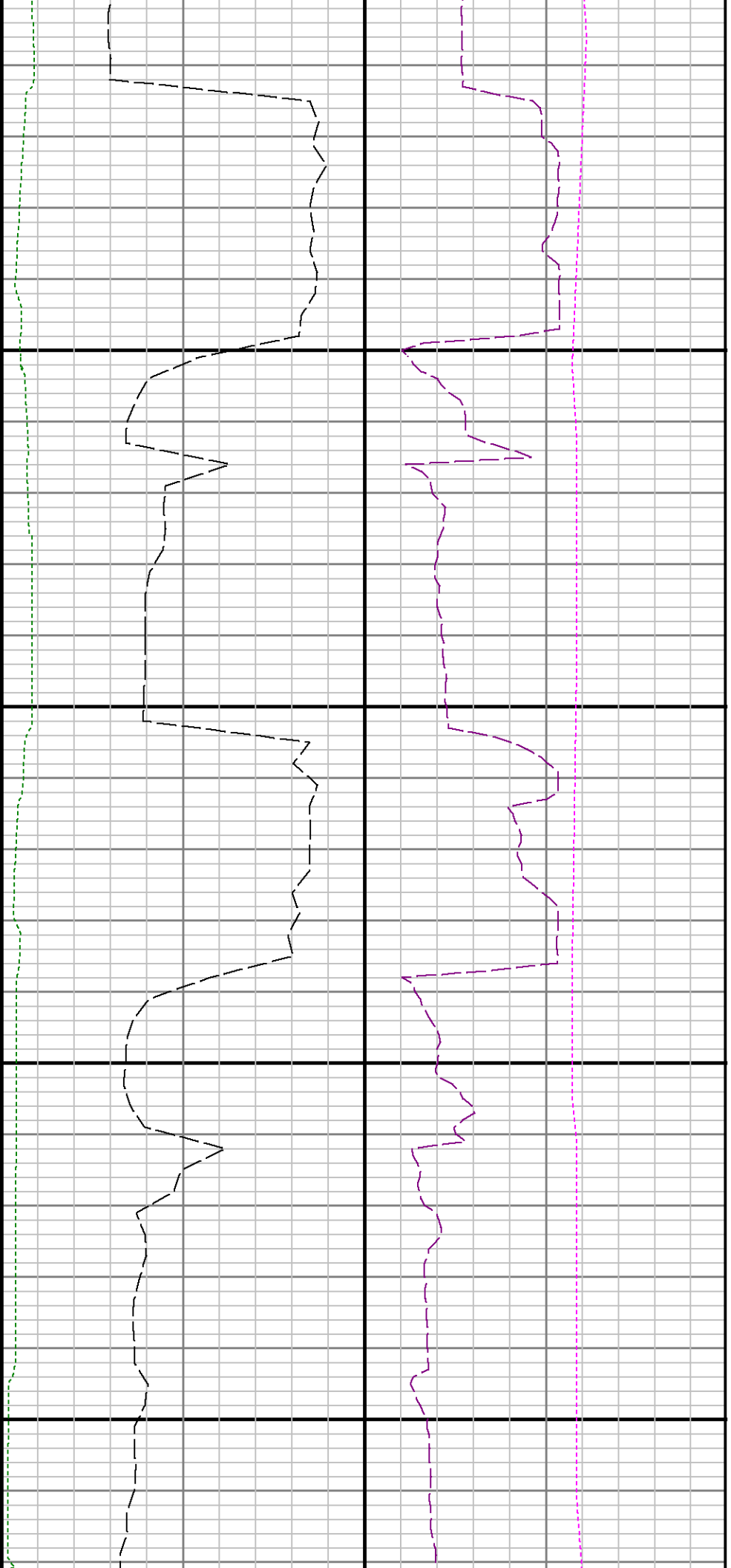


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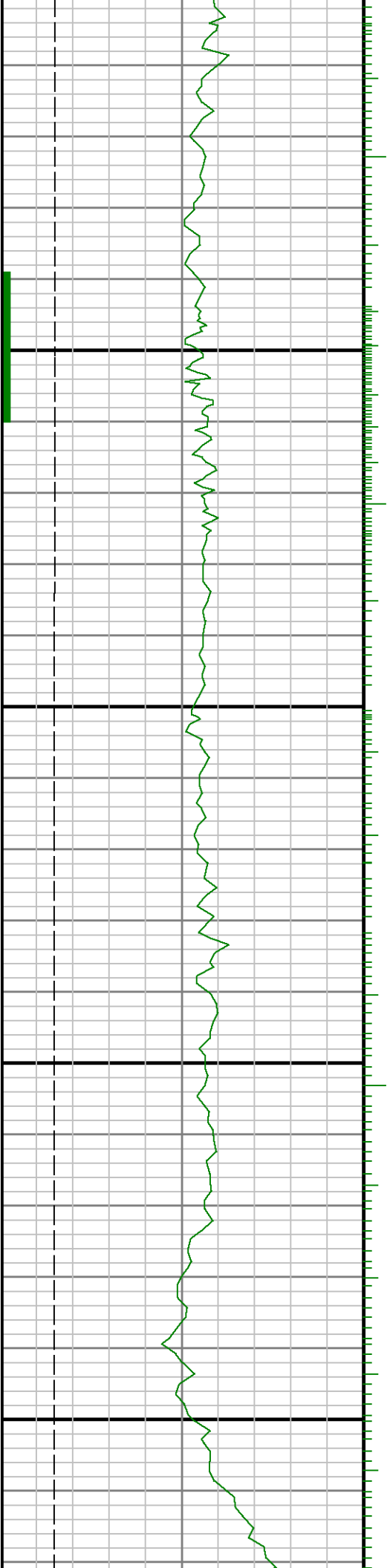


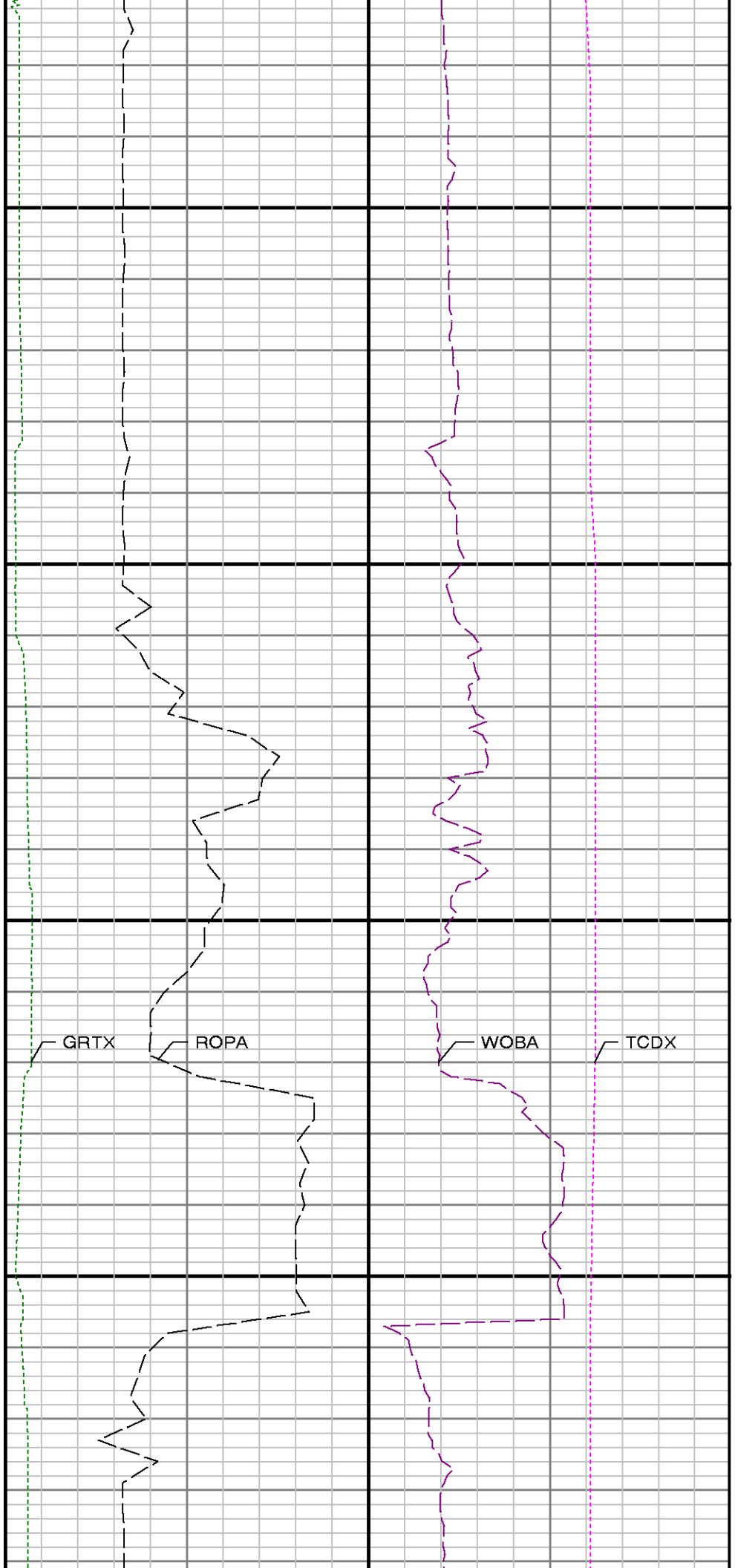
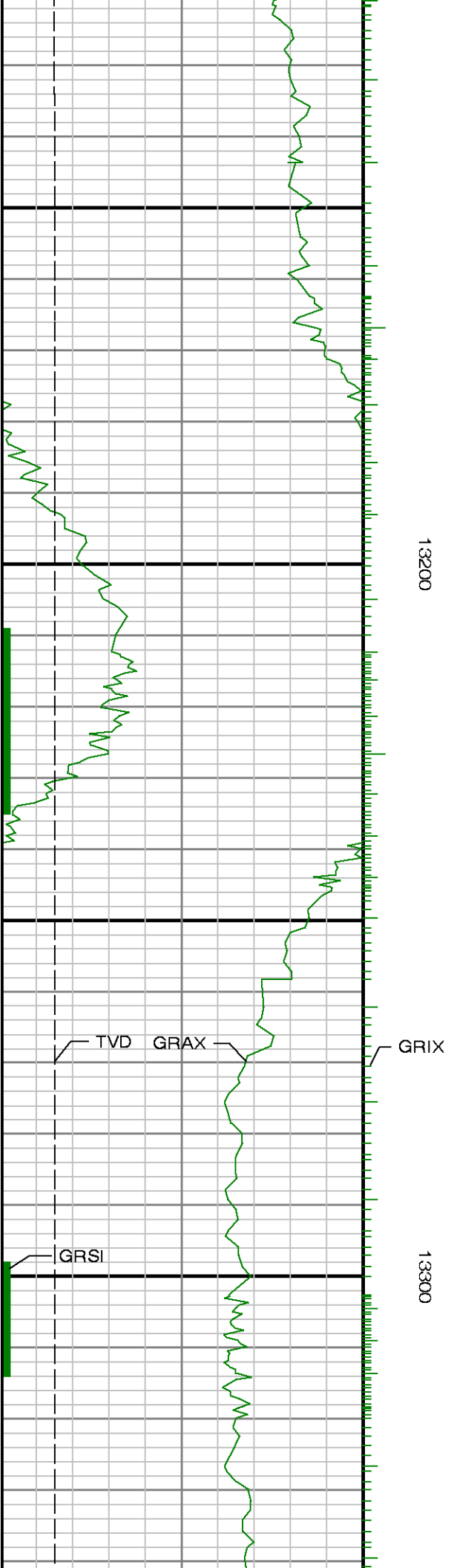


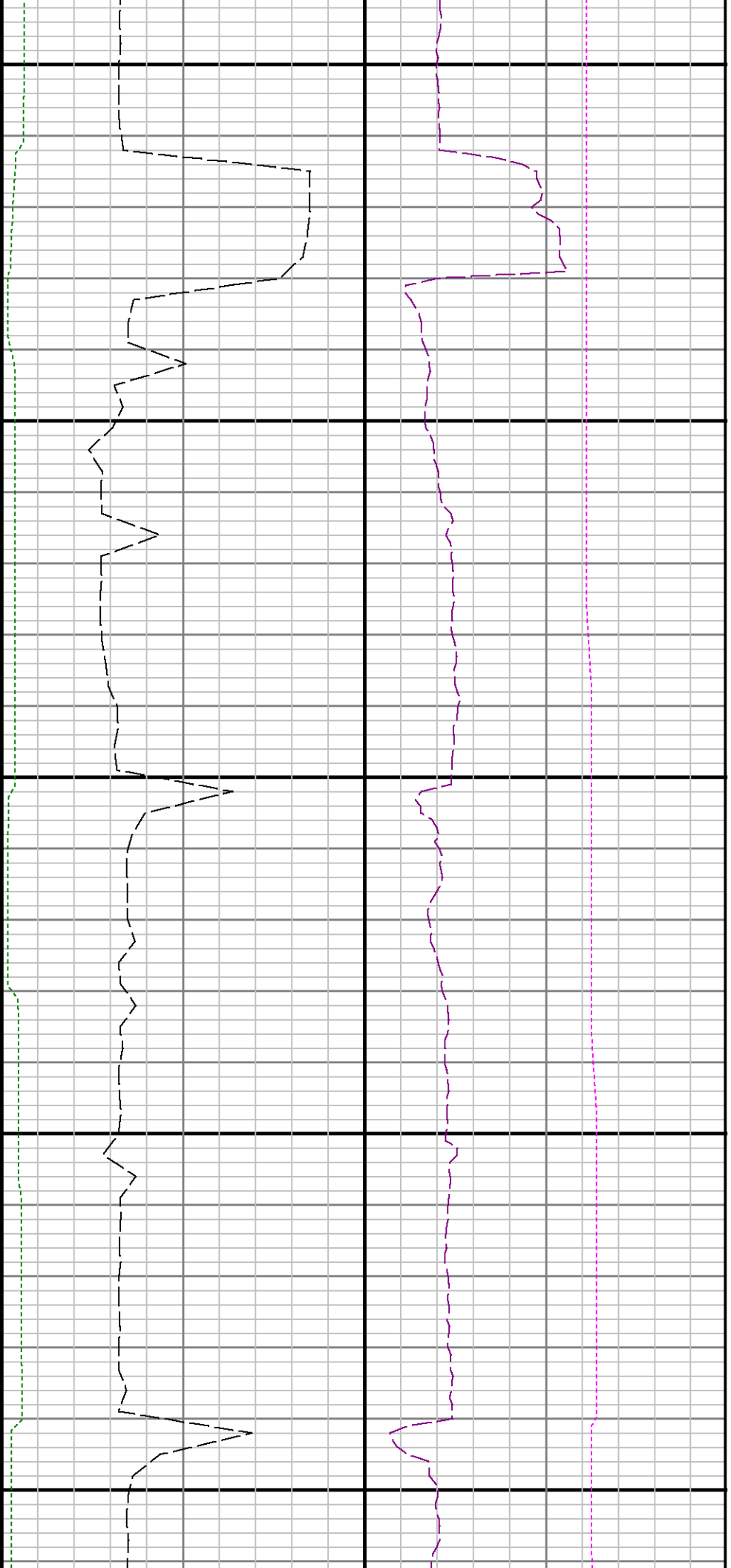
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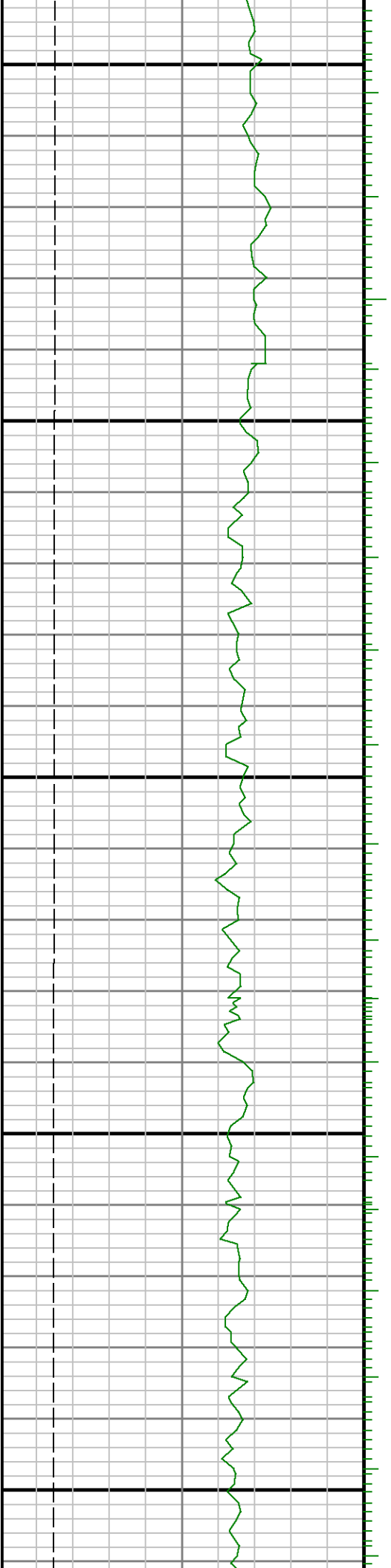


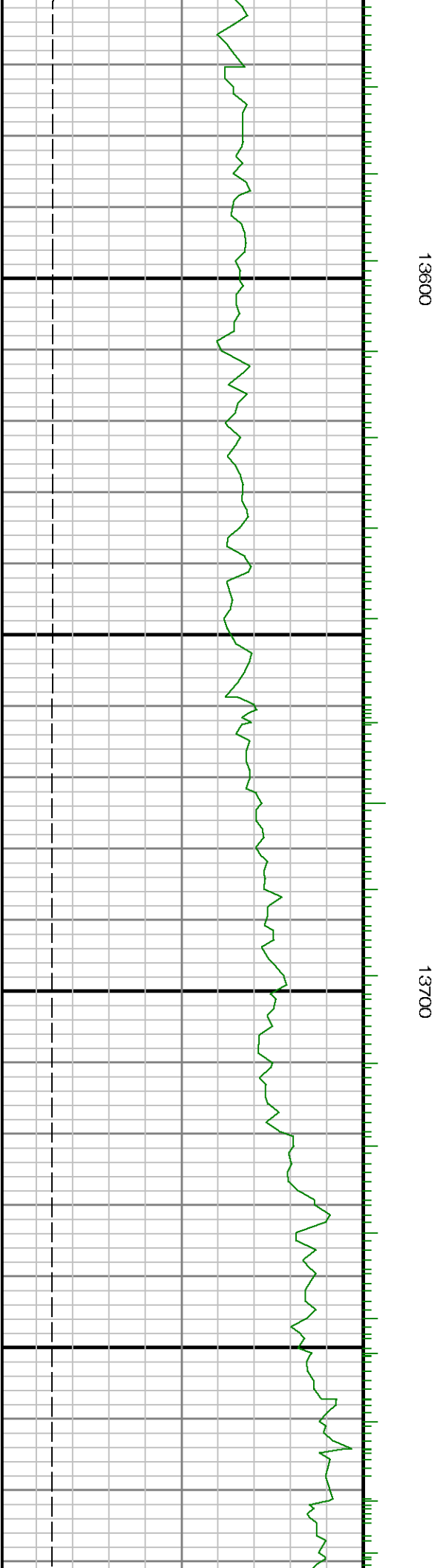


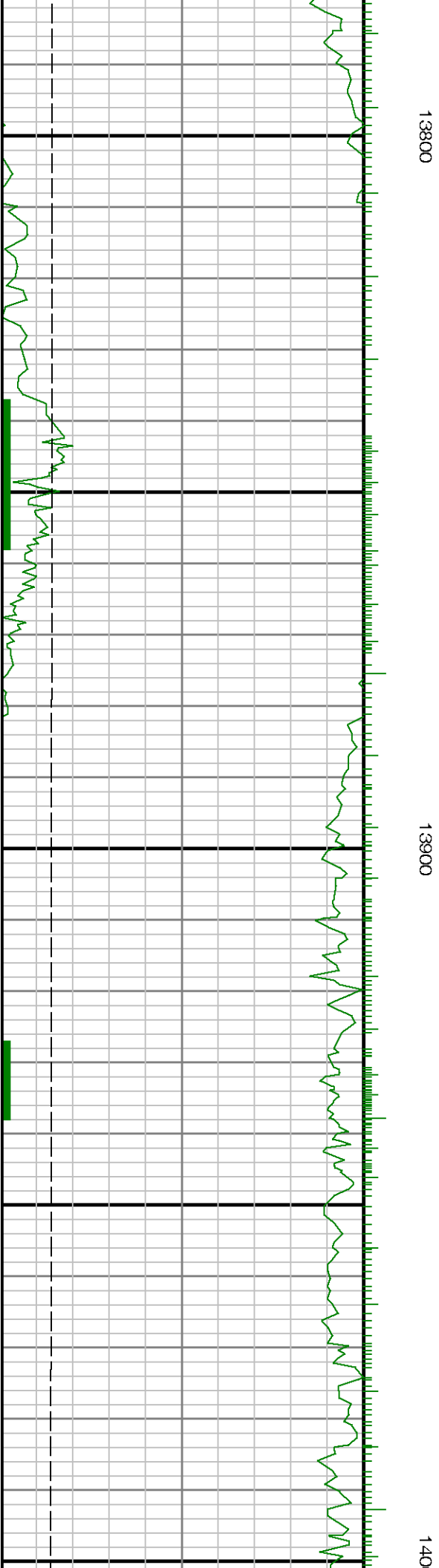


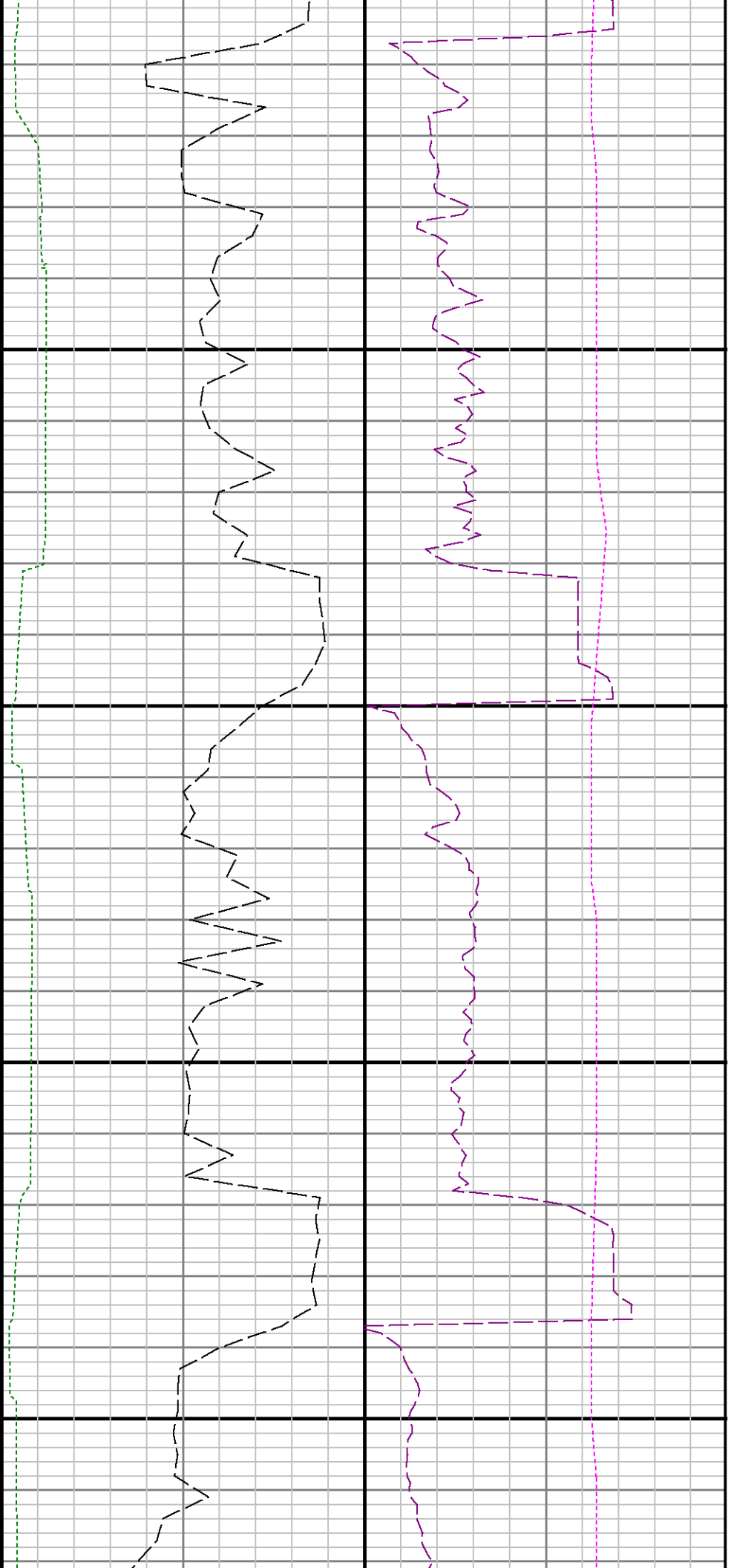
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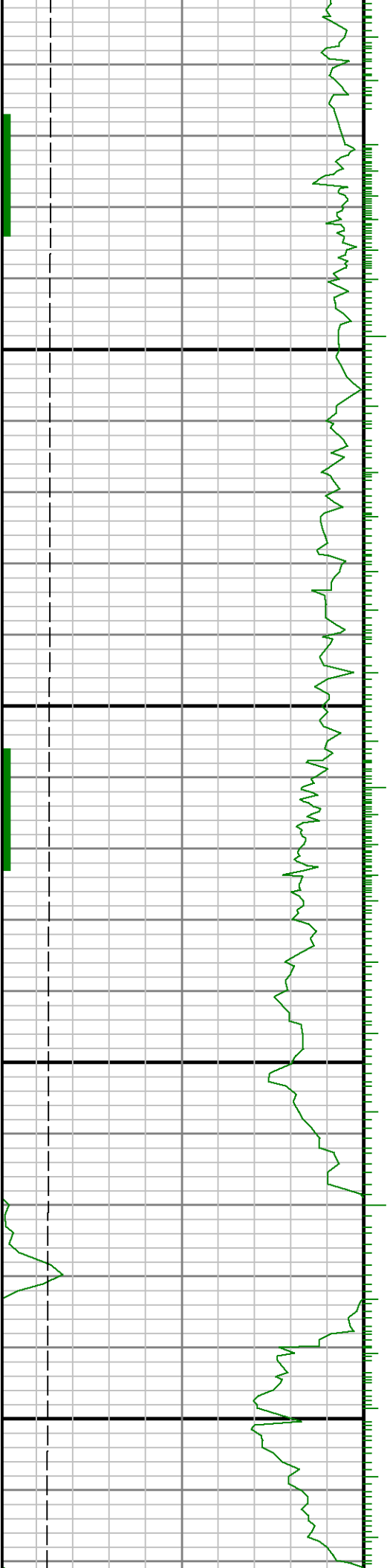


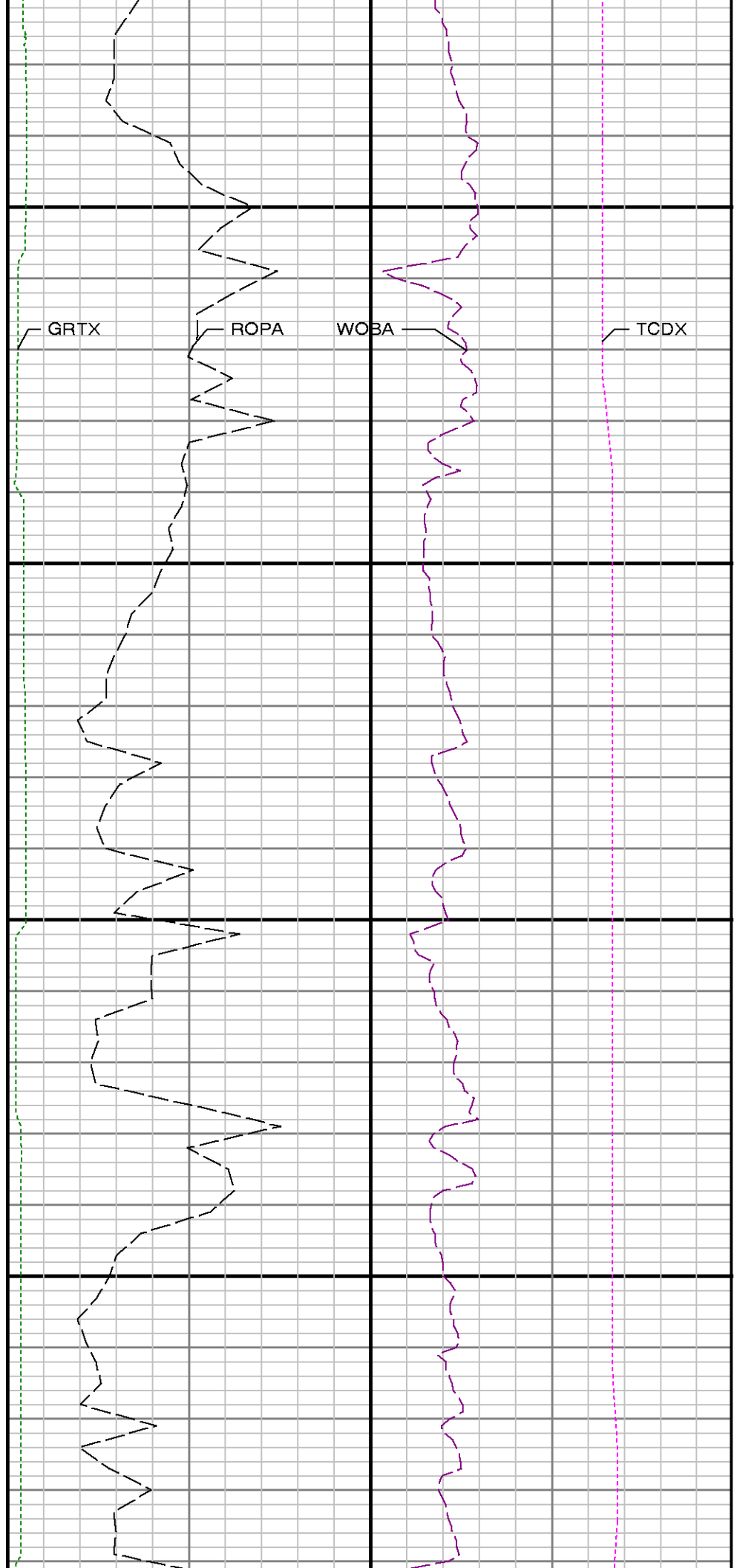
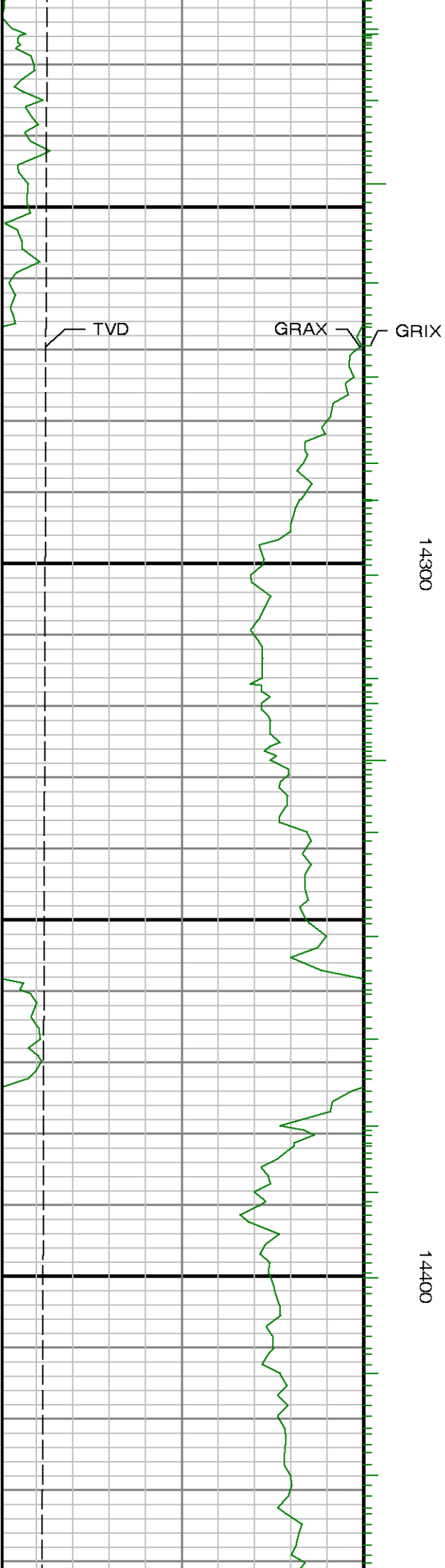


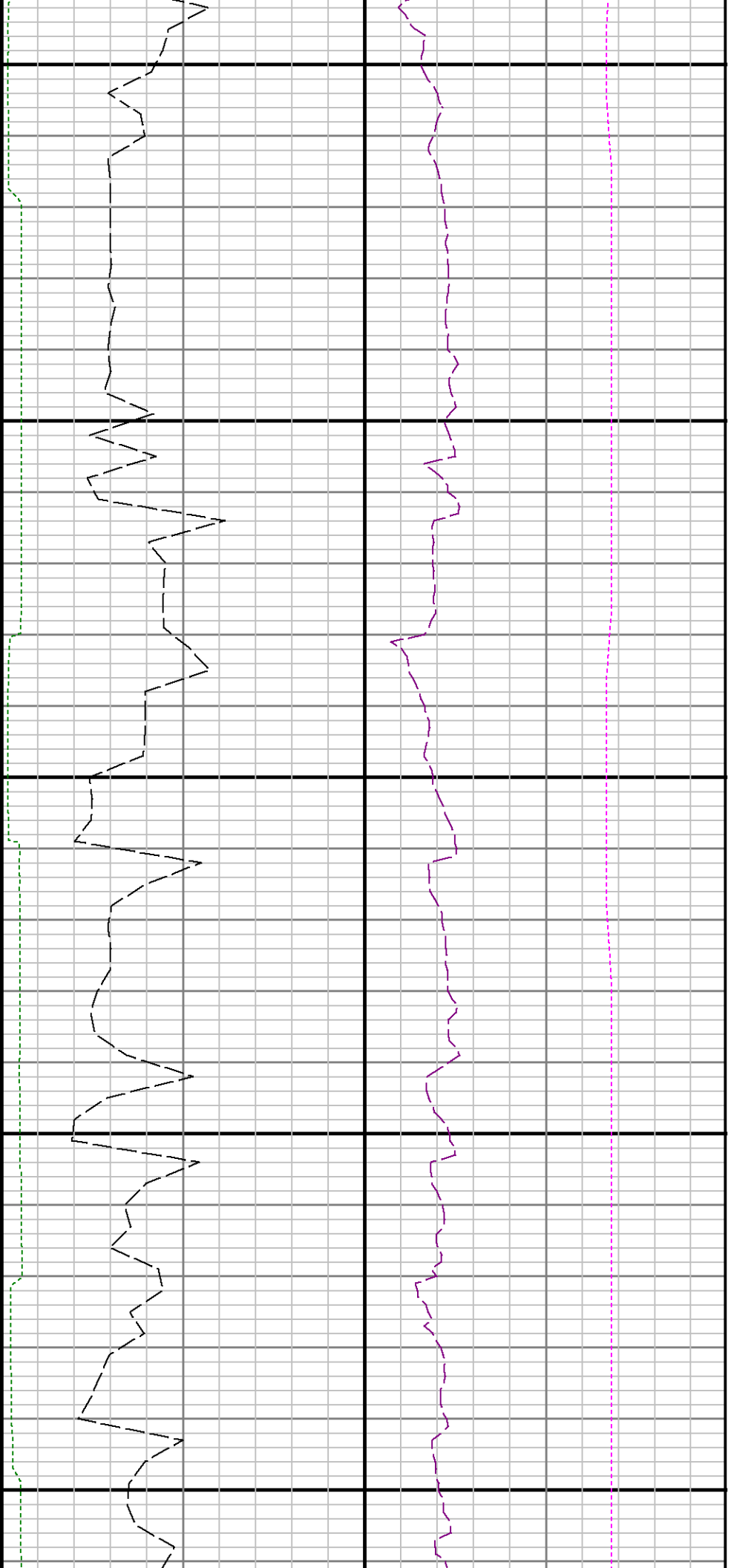
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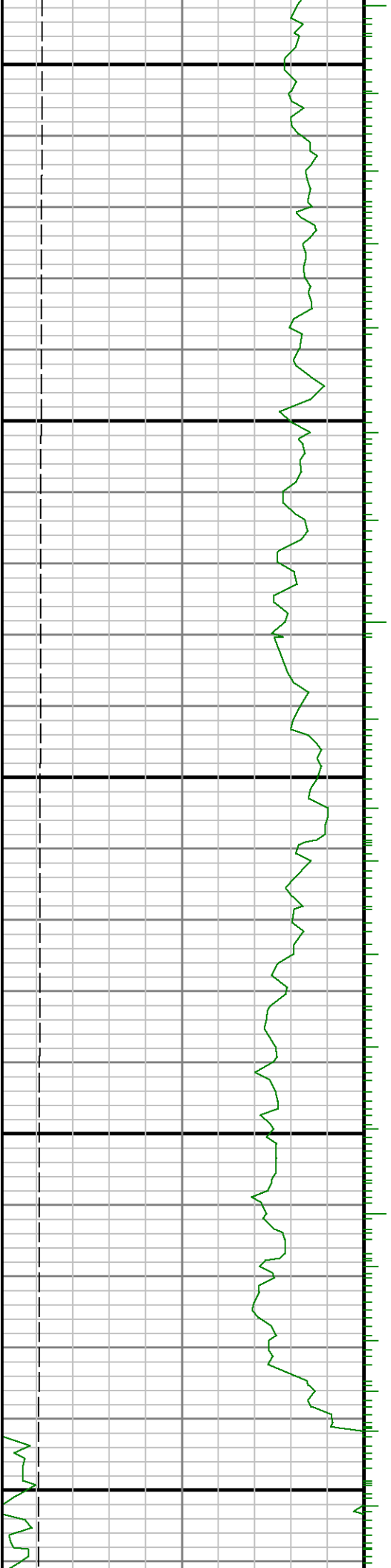


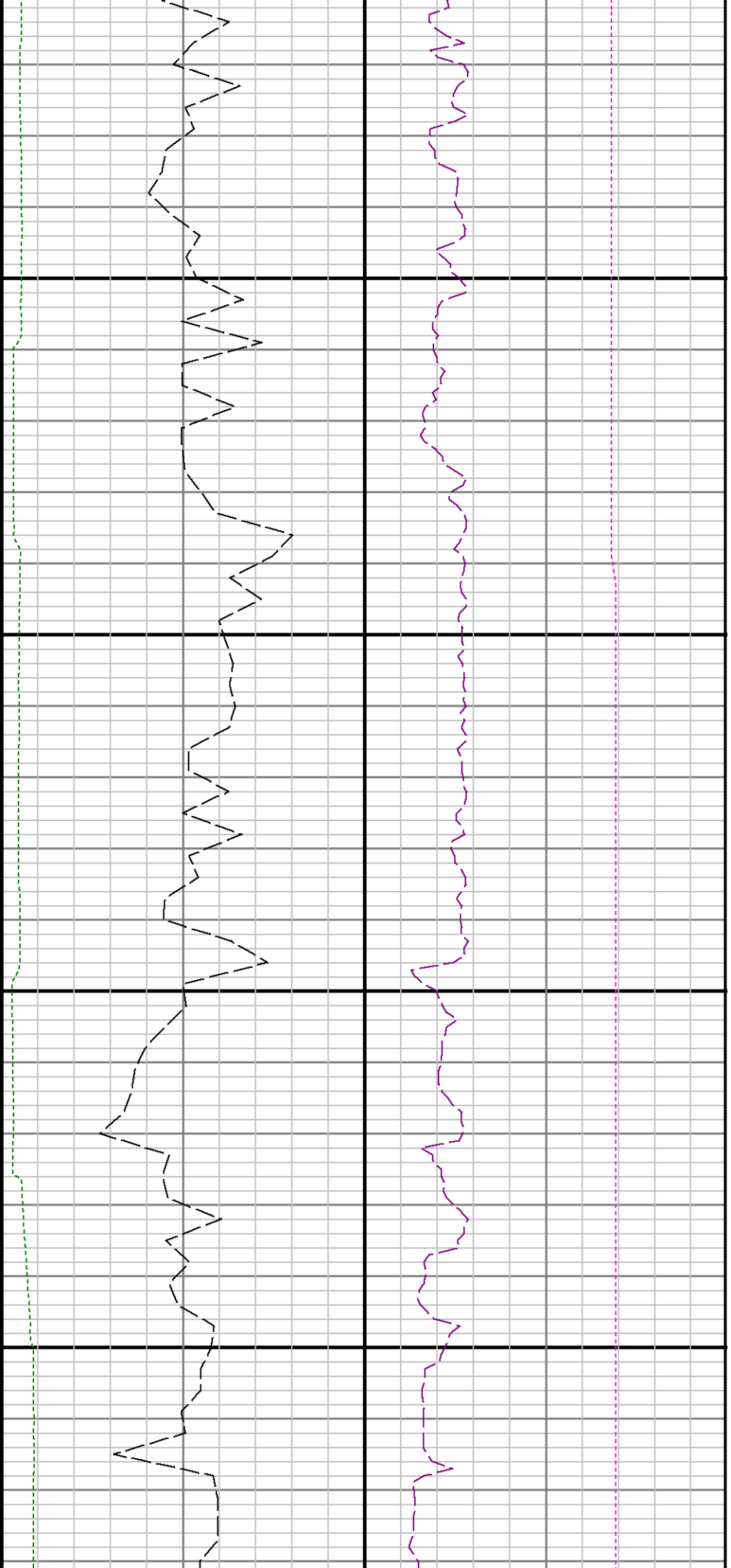




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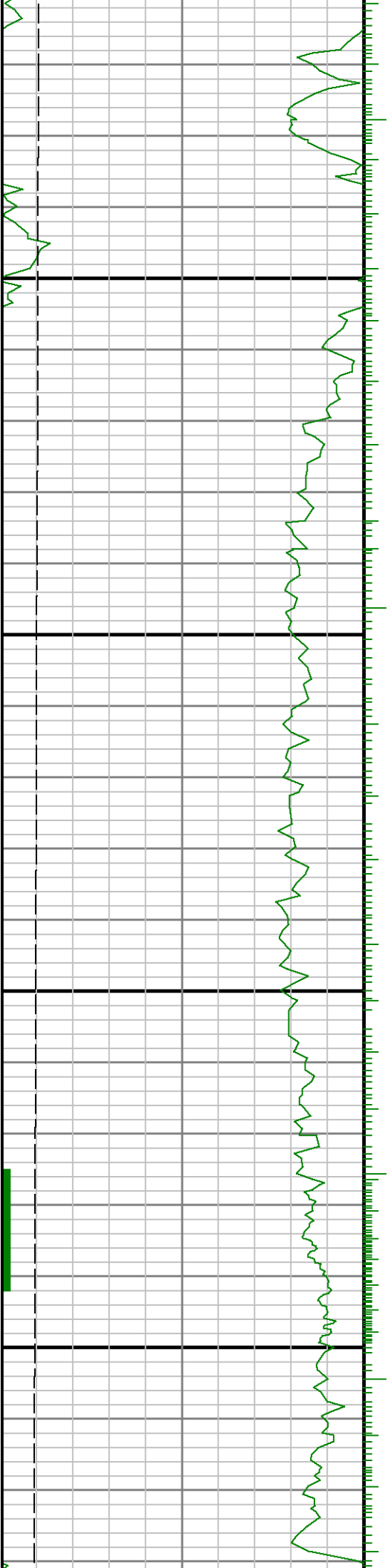
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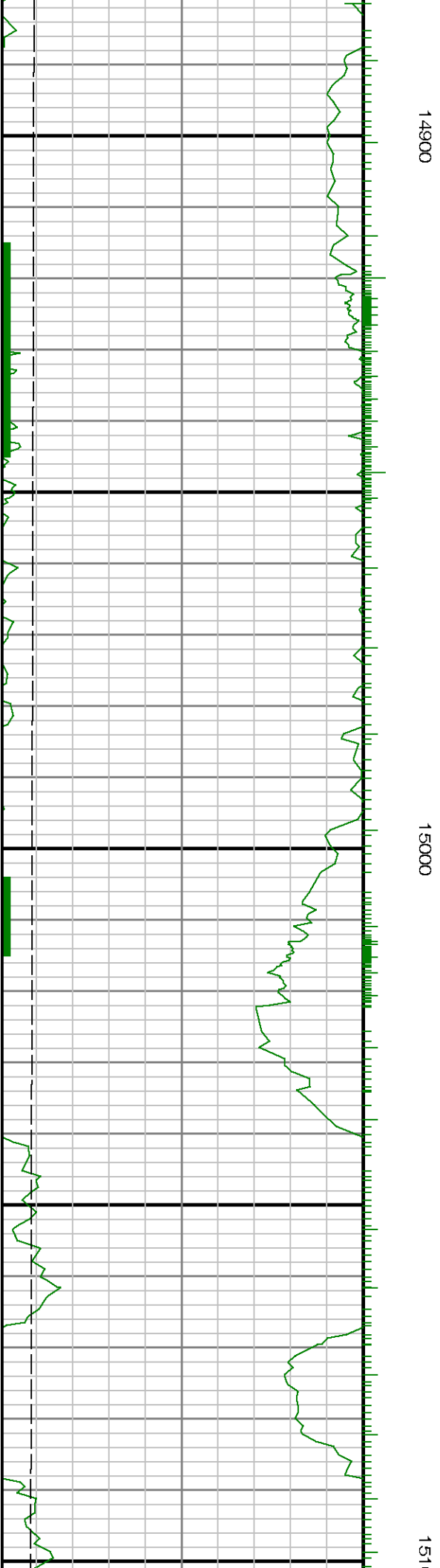
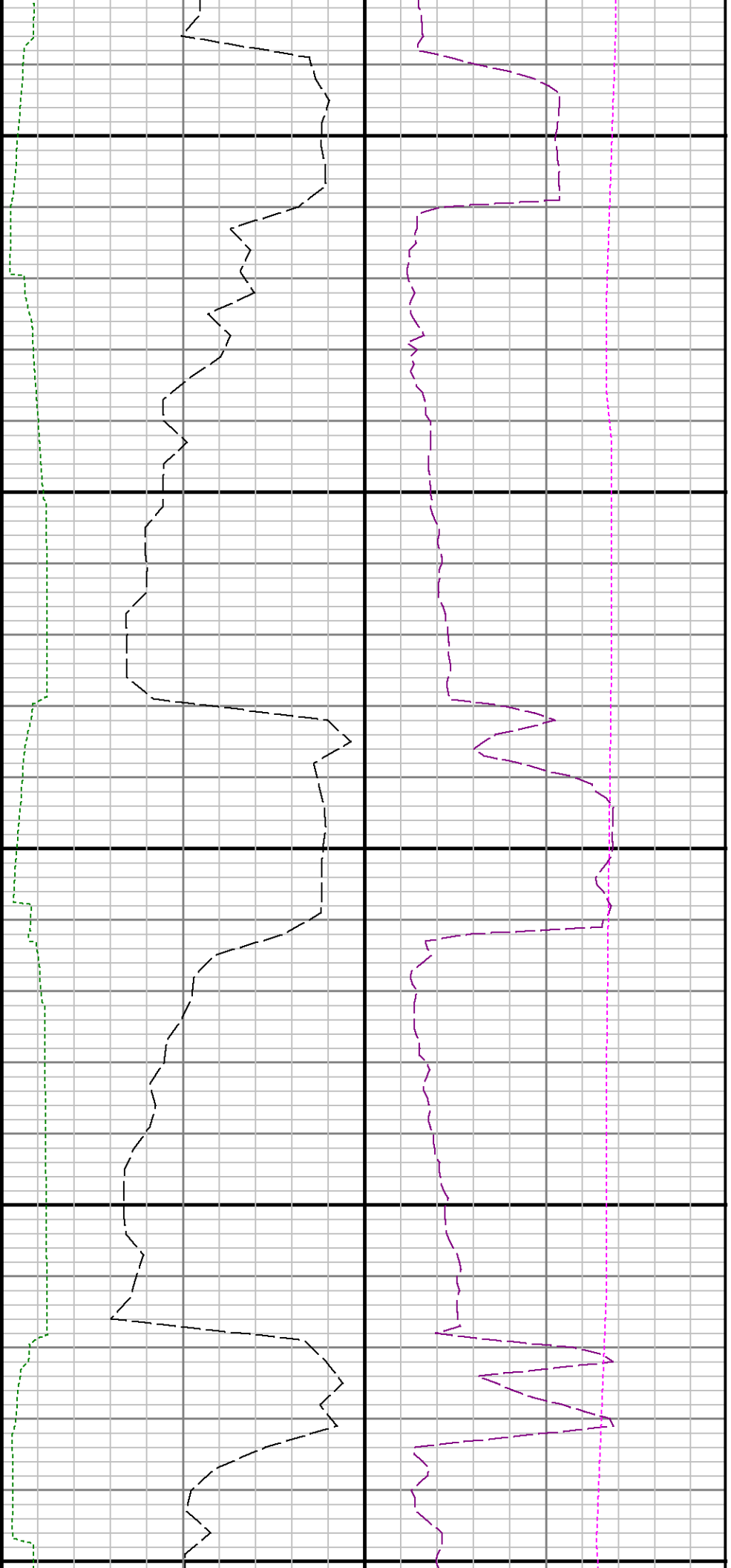


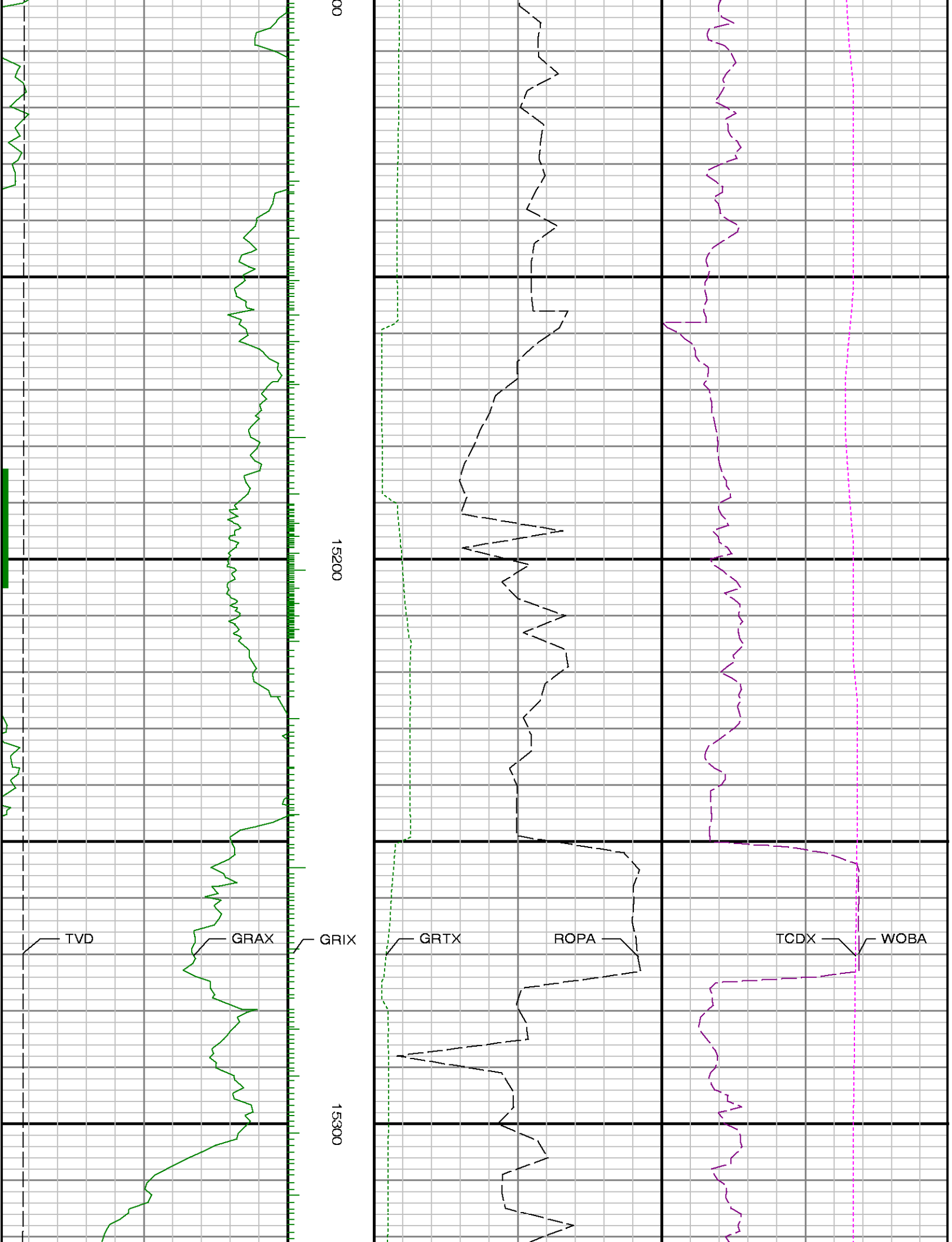


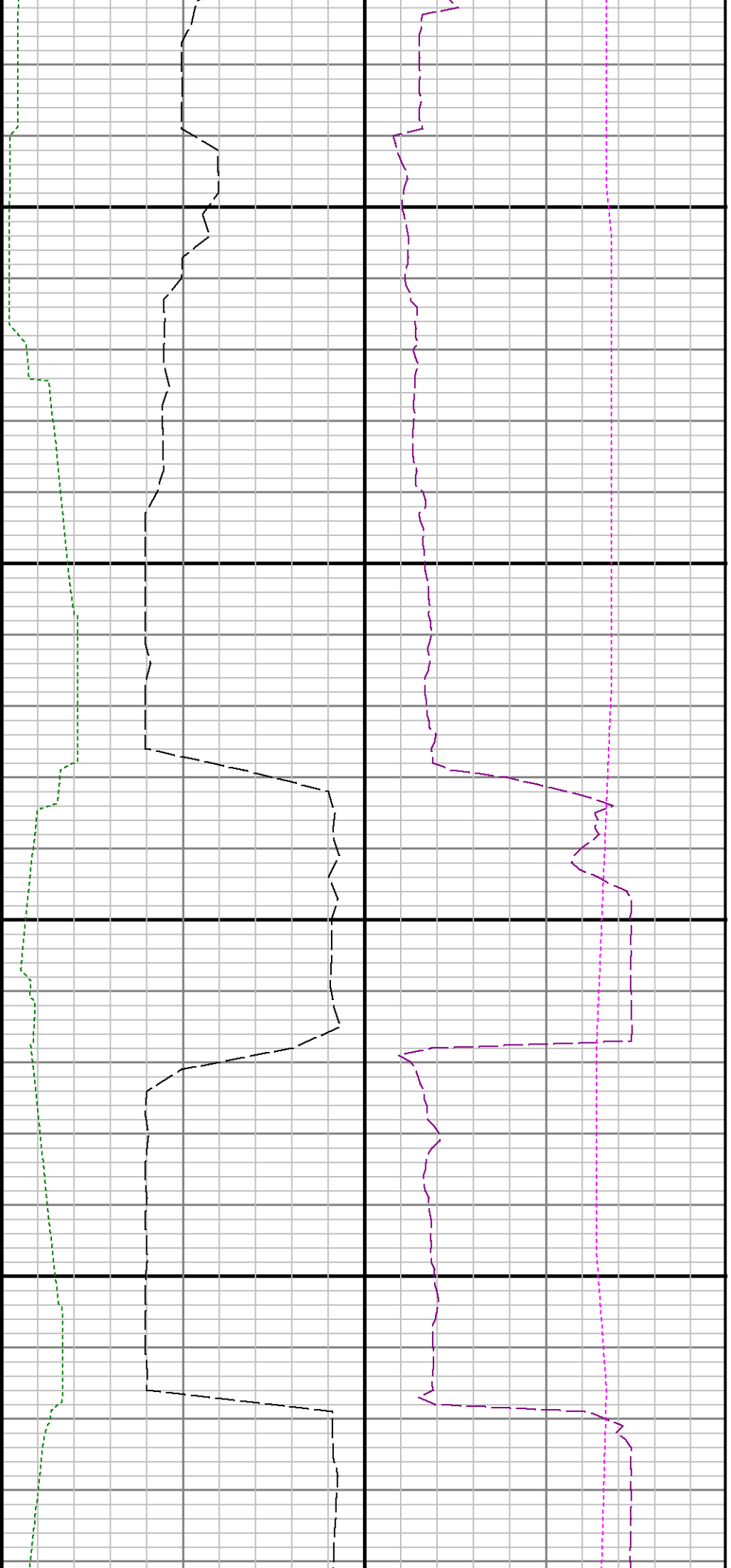
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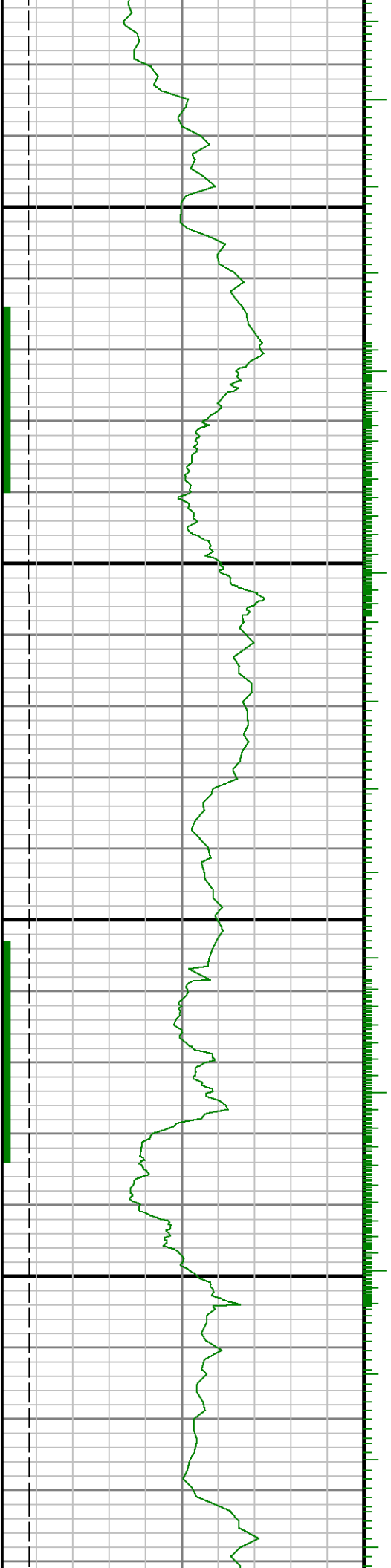


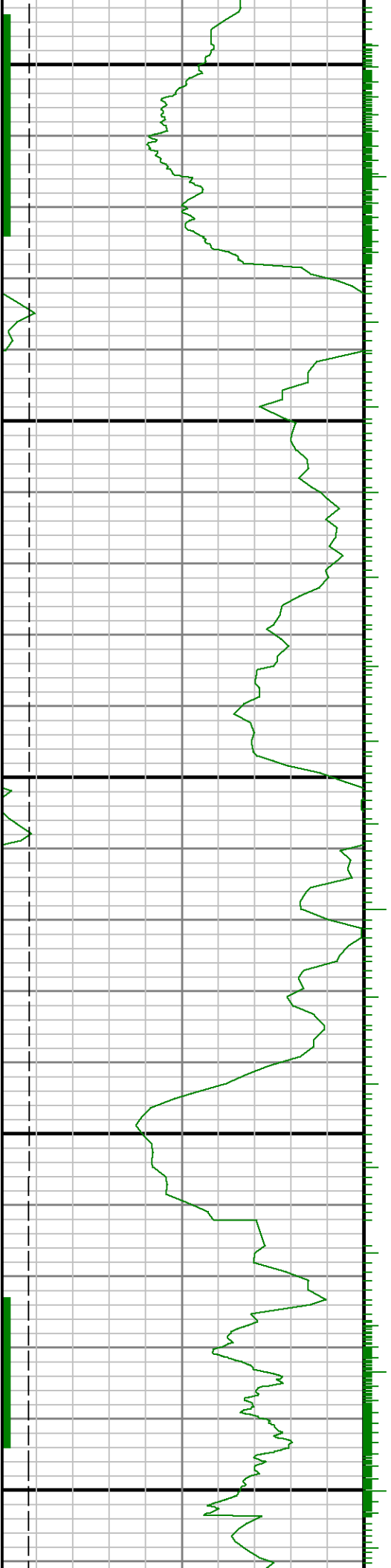




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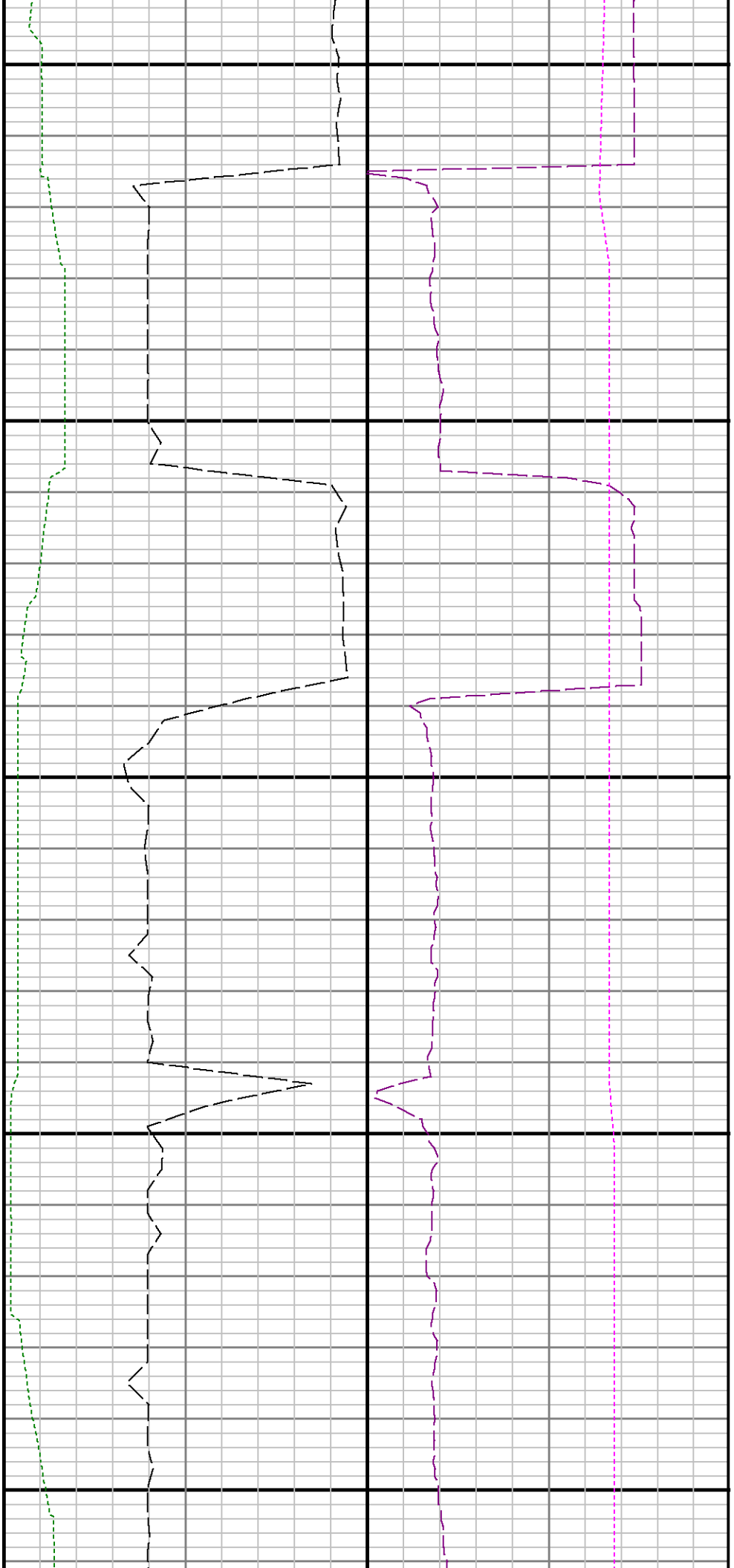
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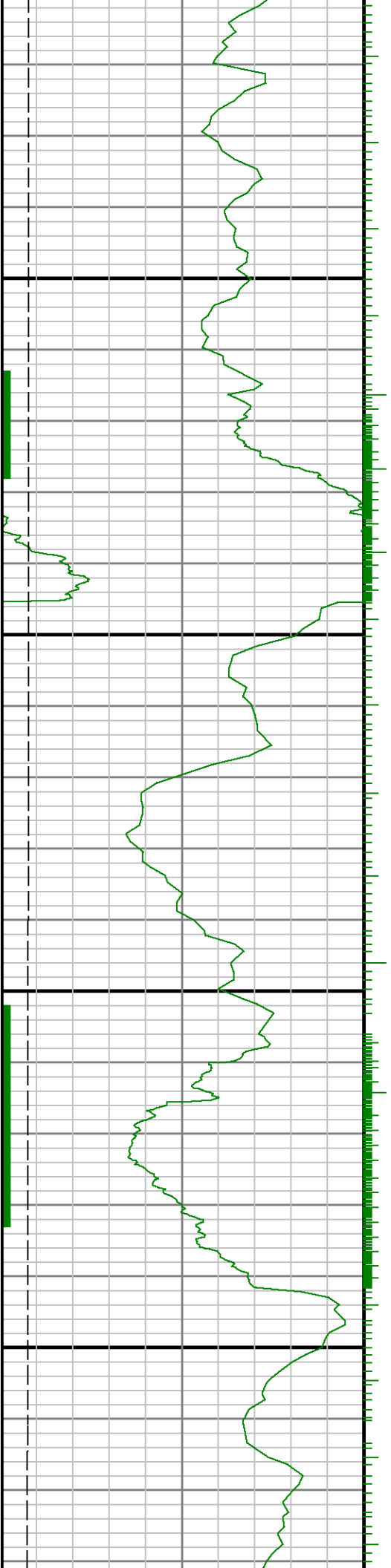
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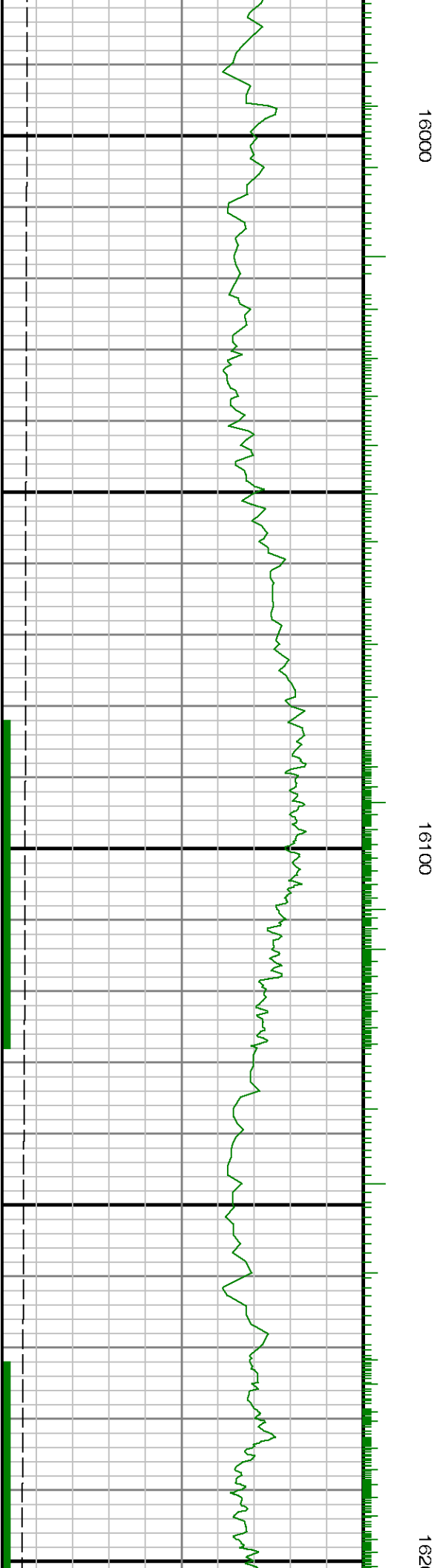
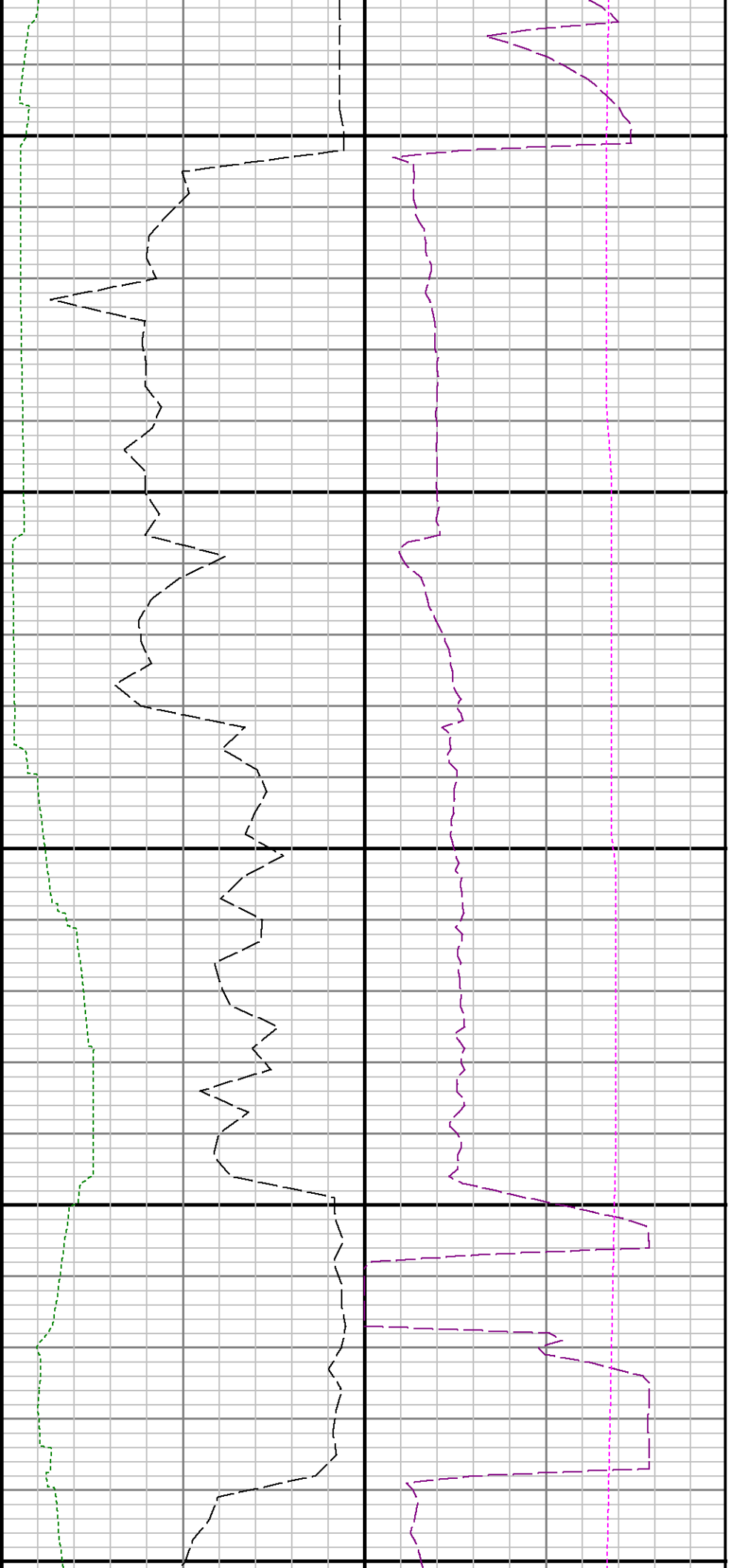


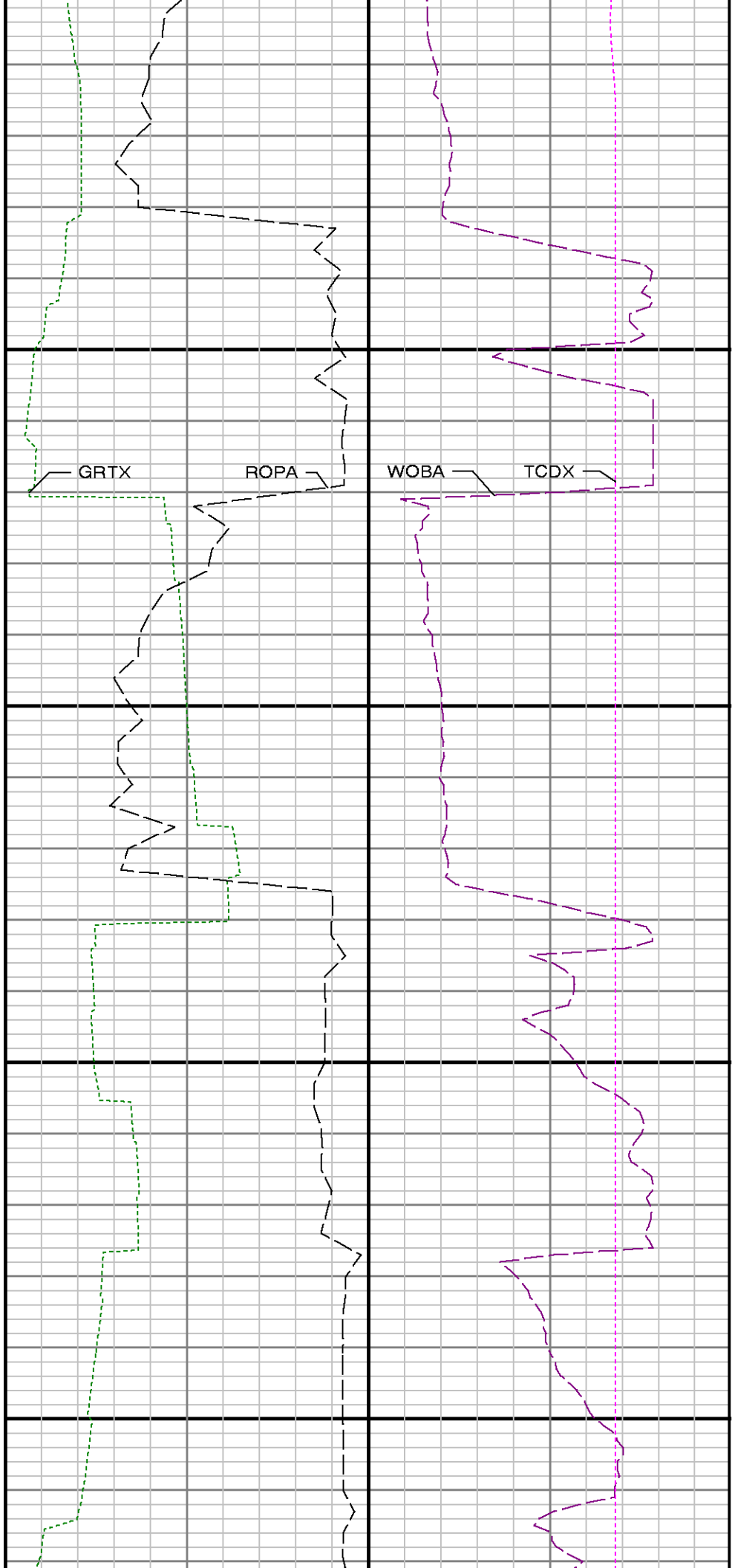
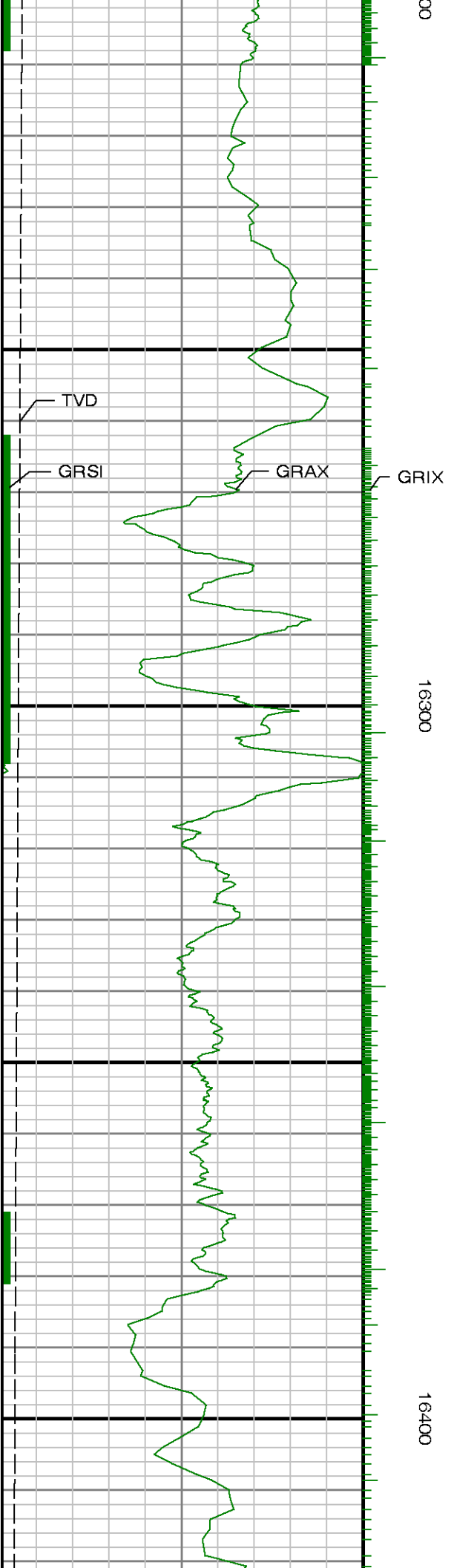


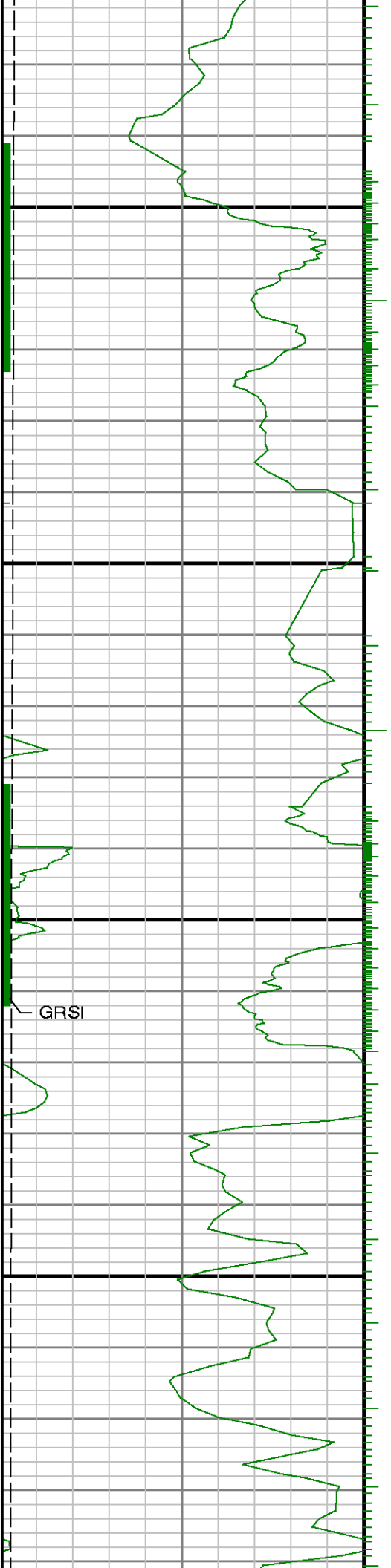
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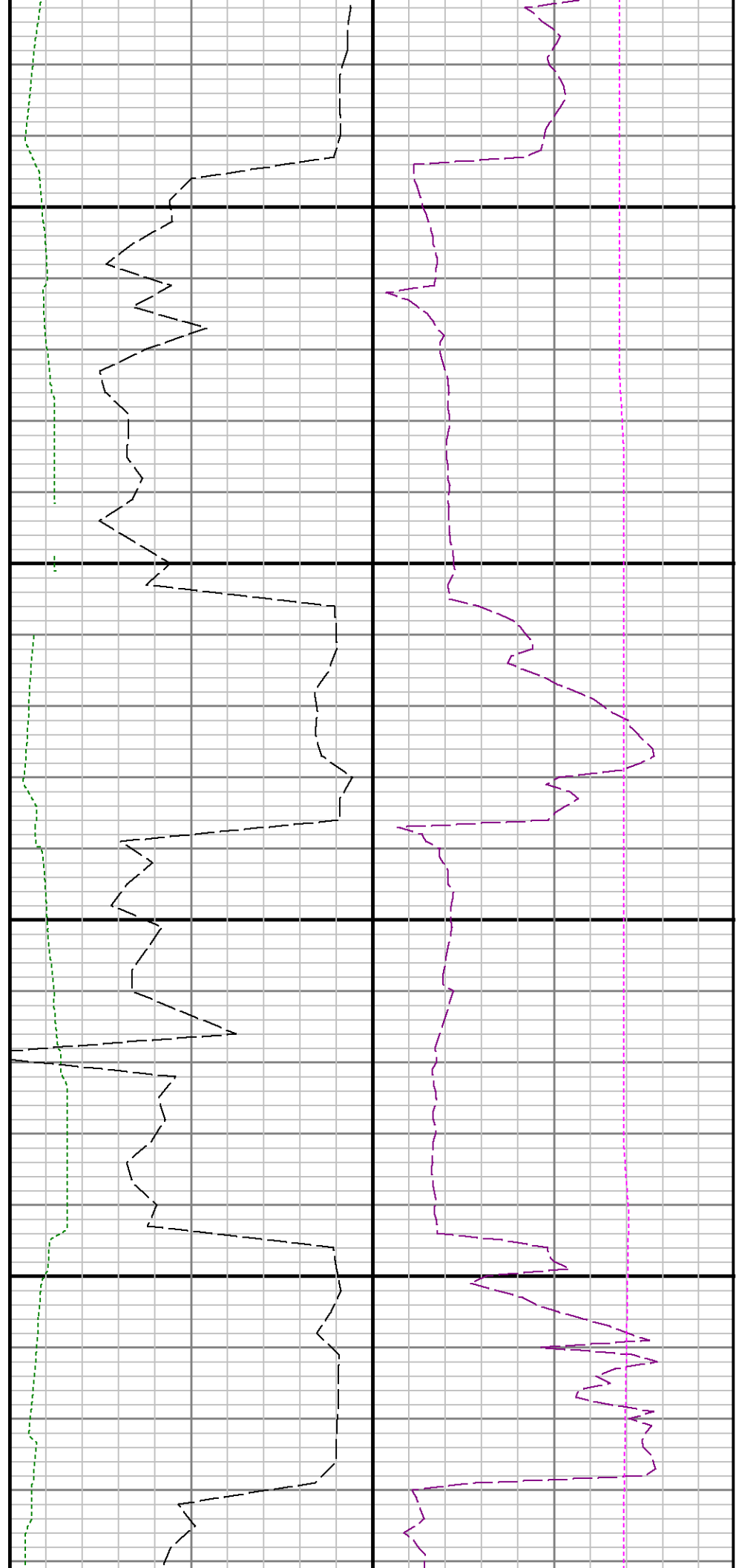






16500

16600



GRSI

