

Realtime Log									
Natural Formation Evaluation Gamma Ray									
Scale:		Company: Anadarko Petroleum Corporation							
1:240		Well: Butterball 36N-10HZ							
Measured Depth		Field: Weld County (Kerr McGee)							
Status: Final Print		Region: Continental US				Country: United States			
API Number: 051234098700		Surface Location: Latitude: 40° 9' 28.732" N Longitude: 104° 52' 20.860" W				Other Services:  Directional VSS			
Permanent Datum (P.D.): Mean Sea Level		Elevation: 4920.00 ft.		Elevations: N/A					
Log Measured From: Rig Floor		16.00 ft.		Above P.D.		KB: 4936.00 ft.		DF: 4920.00 ft.	
Depth Reference: Driller's Depth						GL:			
Interval Logged		Dates		Magnetic Field Reference					
Top: 6645 ft.		Date From: 27/Mar/15		Dip Angle: 66.89 °		Azi Reference North: True			
Bottom: 12844 ft.		Date To: 31/Mar/15		Total		Mag to Reference			
Spud Date: 27/Mar/15		Field Strength: 52686.6 nT		North Correction: 8.59 °					
Borehole Record									
Hole Size	From	To	Size	Weight	From	To			
7.875 in.	1160 ft.	12889 ft.	9.625 in.	36.00 lb/ft	Surface	1149 ft.			
							</		

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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	7.875	PDC	2.000	Steerable	6645	7179	6693	7227	27/Mar/15 11:30	29/Mar/15 01:00		25.7	
2	2	2	7.875	PDC	2.000	Steerable	7180	12844	7227	12889	29/Mar/215 01:45	31/Mar/15 10:00		51.5	

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Osagie Otoikhine	26/Mar/15	31/Mar/15	Andrew Overbey	26/Mar/15	31/Mar/15			

Mud Properties Record

Date / Time		LWD	Measured	Mud	Density	Viscosity	pH	Fluid	Oil /	Source	Total	K+
		Run No.	Depth	Type				Loss	Water		Chlorides	
			(m.)		(sg)	(cp)		(cc)			(ppm)	(%)
27/Mar/15	18:00	1	2146	INNOVERT	9.1	57	N/A	5.9	63.2/36.8	Active Pits	76400	N/A
29/Mar/15	18:00	2	8517	INNOVERT	9.5	54	N/A	4.4	60.7/39.3	Active Pits	73600	N/A
30/Mar/15	18:00	2	11576	INNOVERT	9.4	48	N/A	4.6	63.7/36.3	Active Pits	68500	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	10307183	Directional	51.08	6.750	2.275
1	SRIG	11703934	Gamma	47.70	6.750	2.275
2	DIR	12440863	Directional	50.67	6.750	3.313
2	SRIG	5015	Gamma	47.30	6.750	3.313

Service and Tool Mnemonics

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

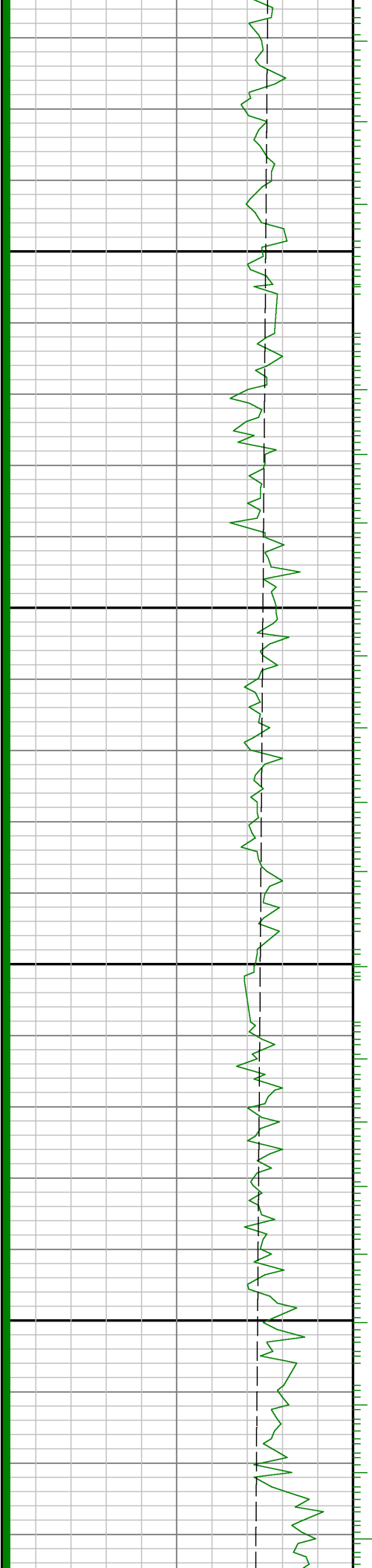
Comments

<p>1.) Baker Hughes Runs 1and 2 utilized a 6 1/2 inch NaviGamma (Directional and Gamma Ray) tool behind a 7 7/8 inch bit and steerable assembly from 6693 feet to 12889 feet MD ( 6472 feet to 7297 feet TVD).</p> <p>2.) 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> <p>3.) 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.</p>
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Remarks

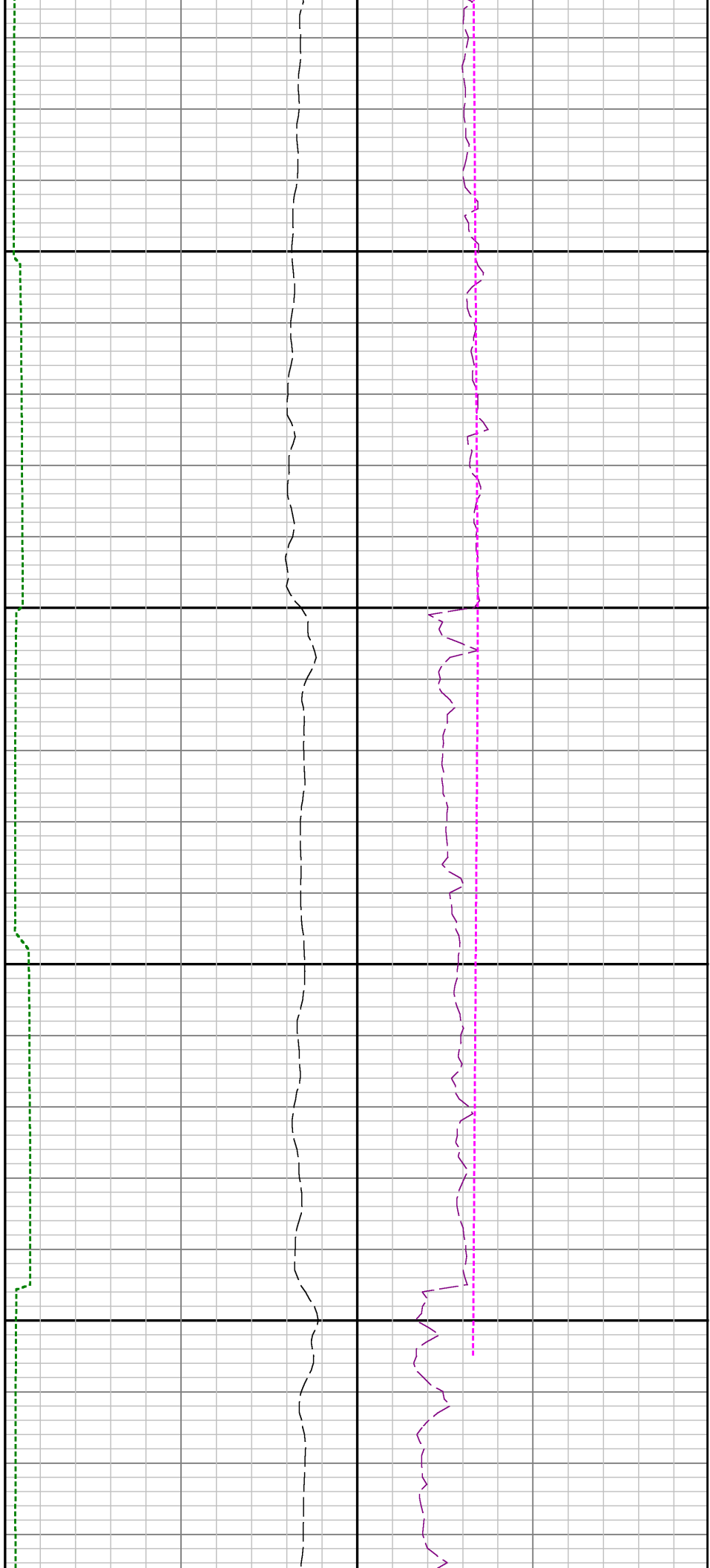
Number	Measured Depth (m.)	Hole Section (in.)	LWD Run No.	Remark
1	6617	7.875	1	The interval from surface to 6645 feet MD (6424 feet TVD) was not logged since logging services began at Kick Off Point





0069

0089



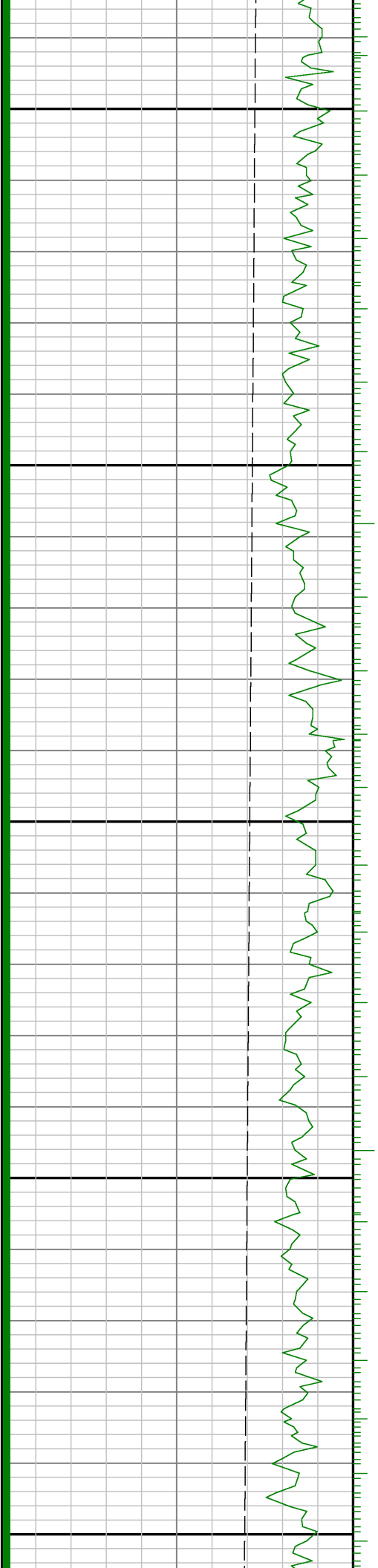


See Remark 2

7000

7100

7200

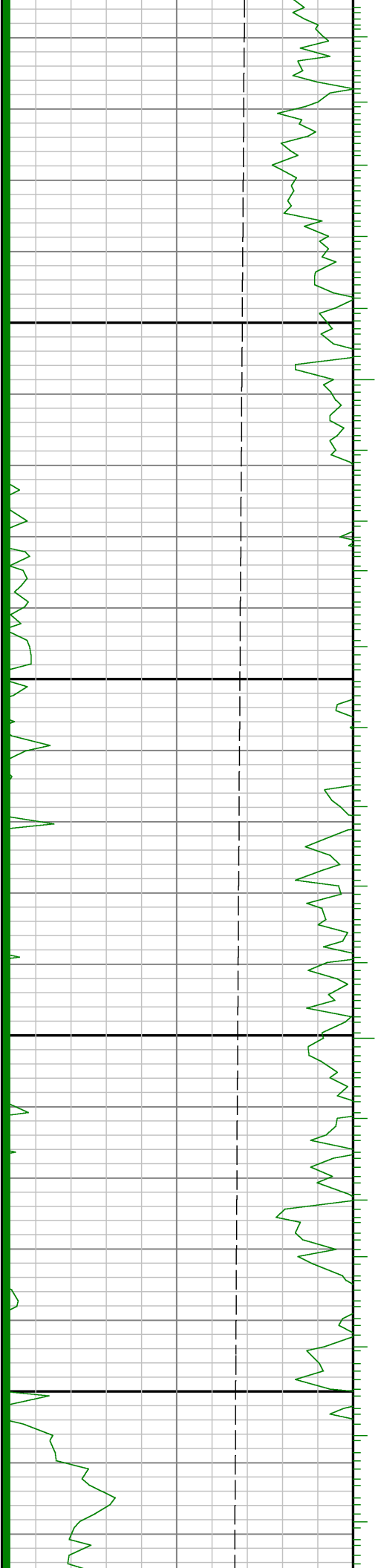


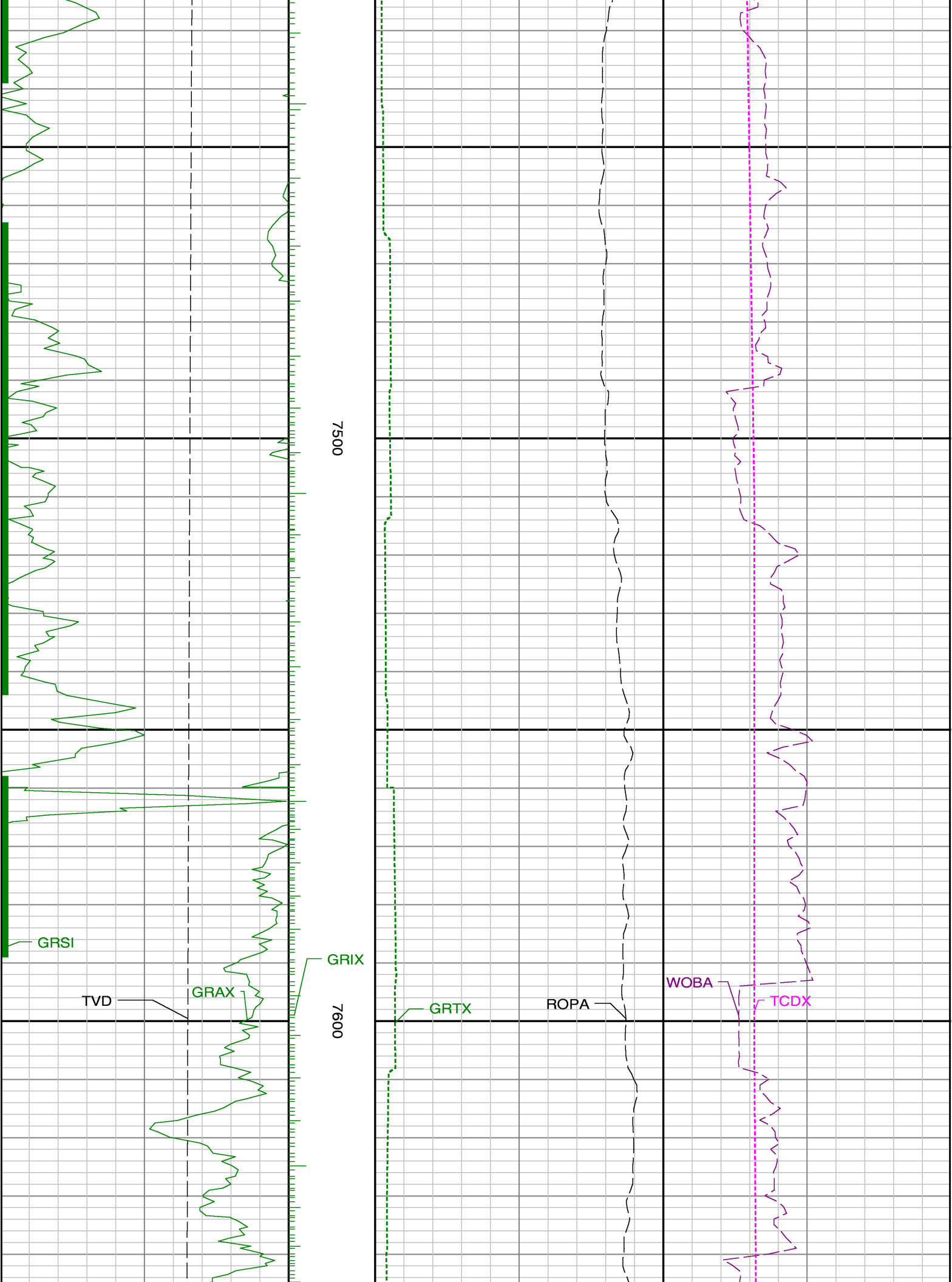


Run 1 <> Run 2

7300

7400

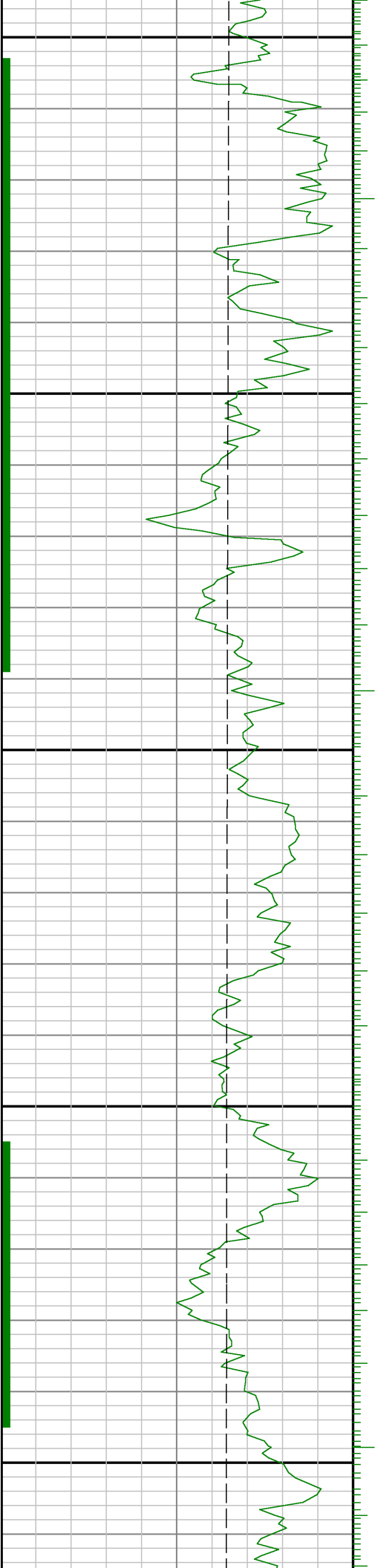




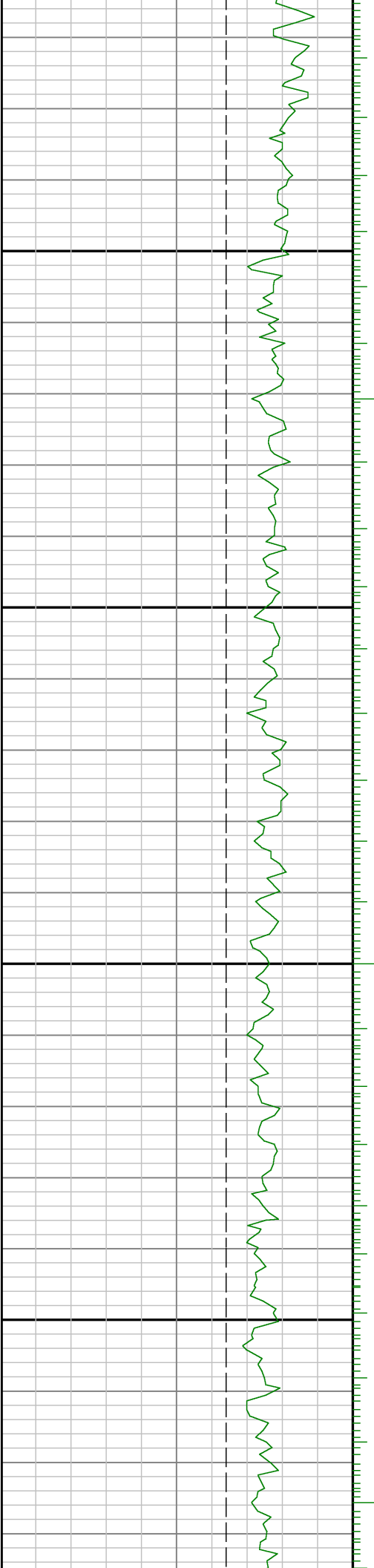


7700

7800

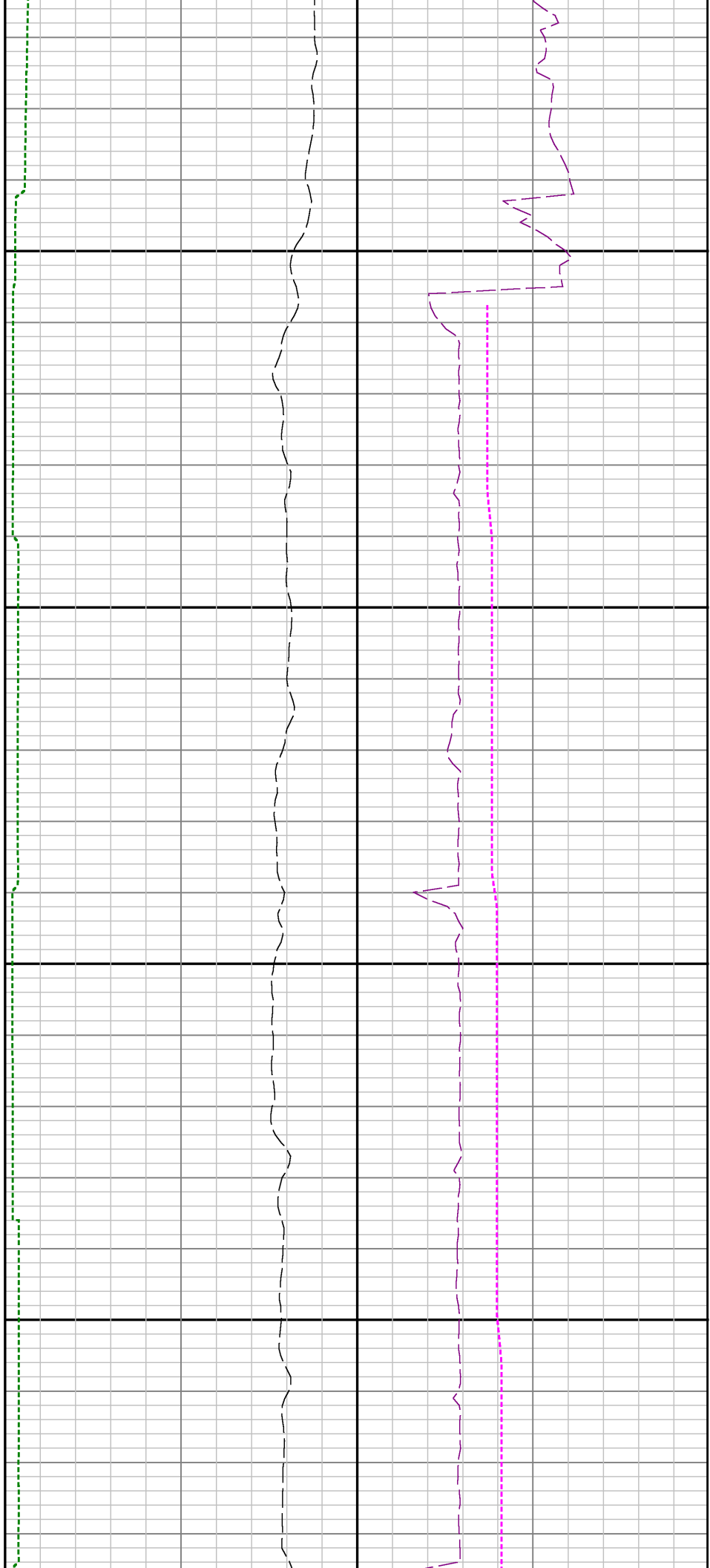


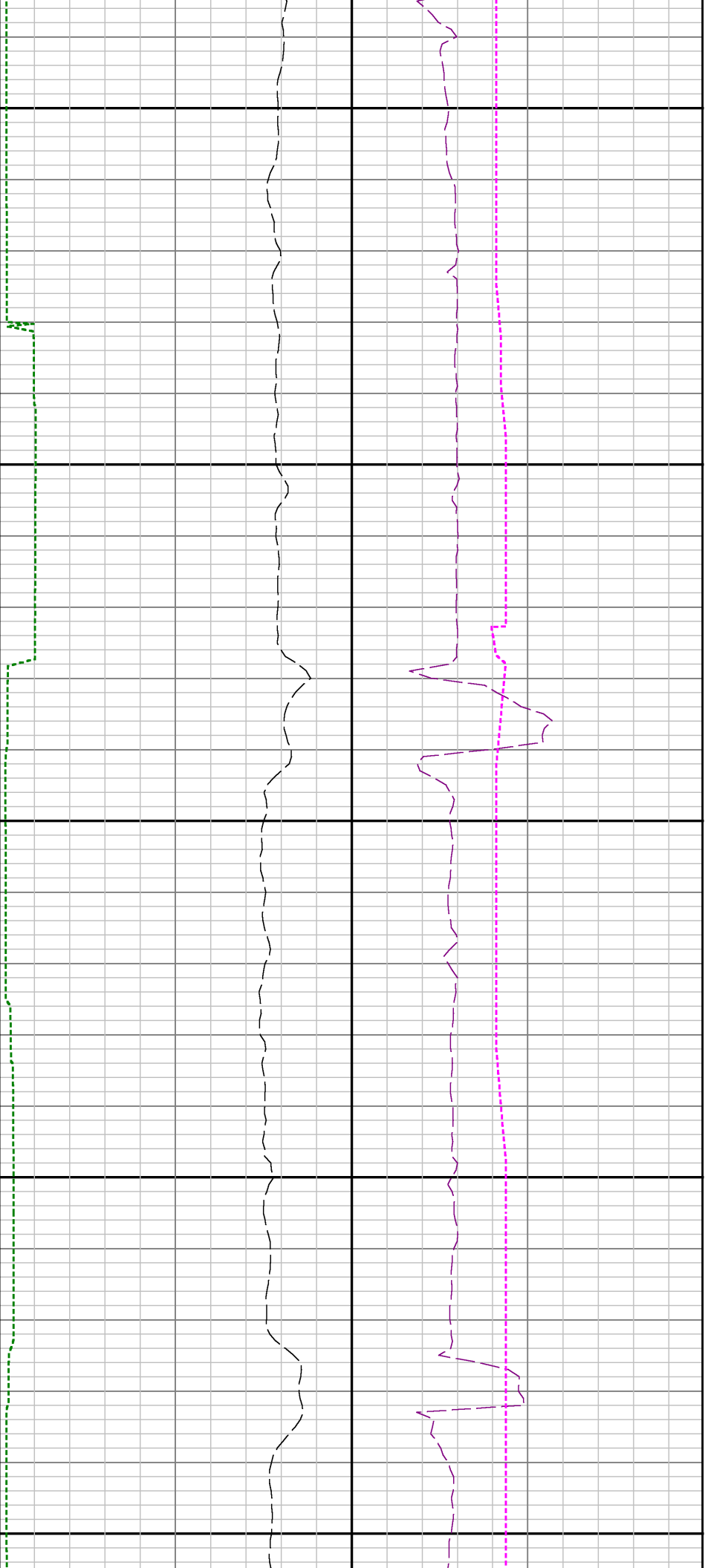




7900

8000

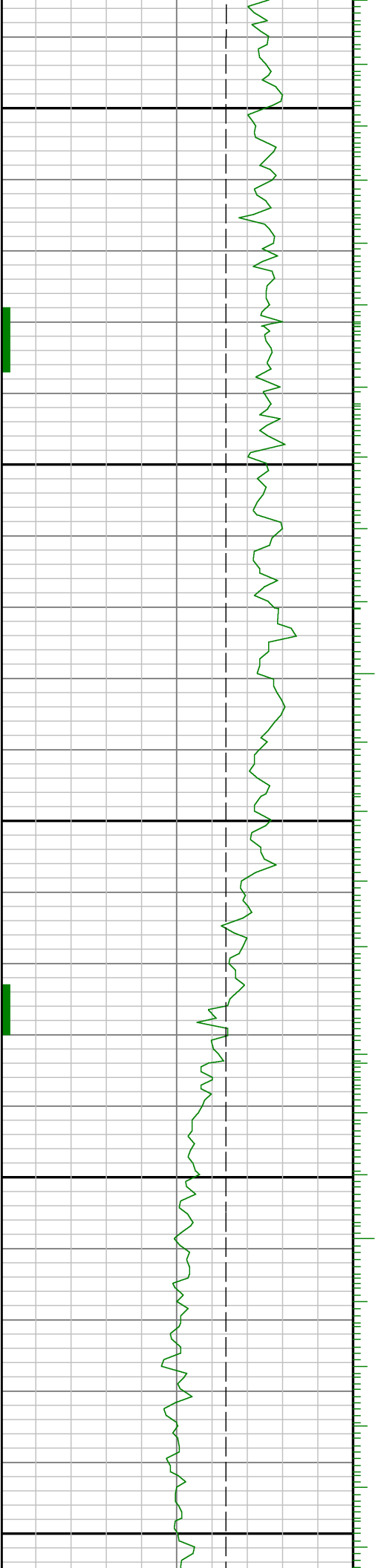


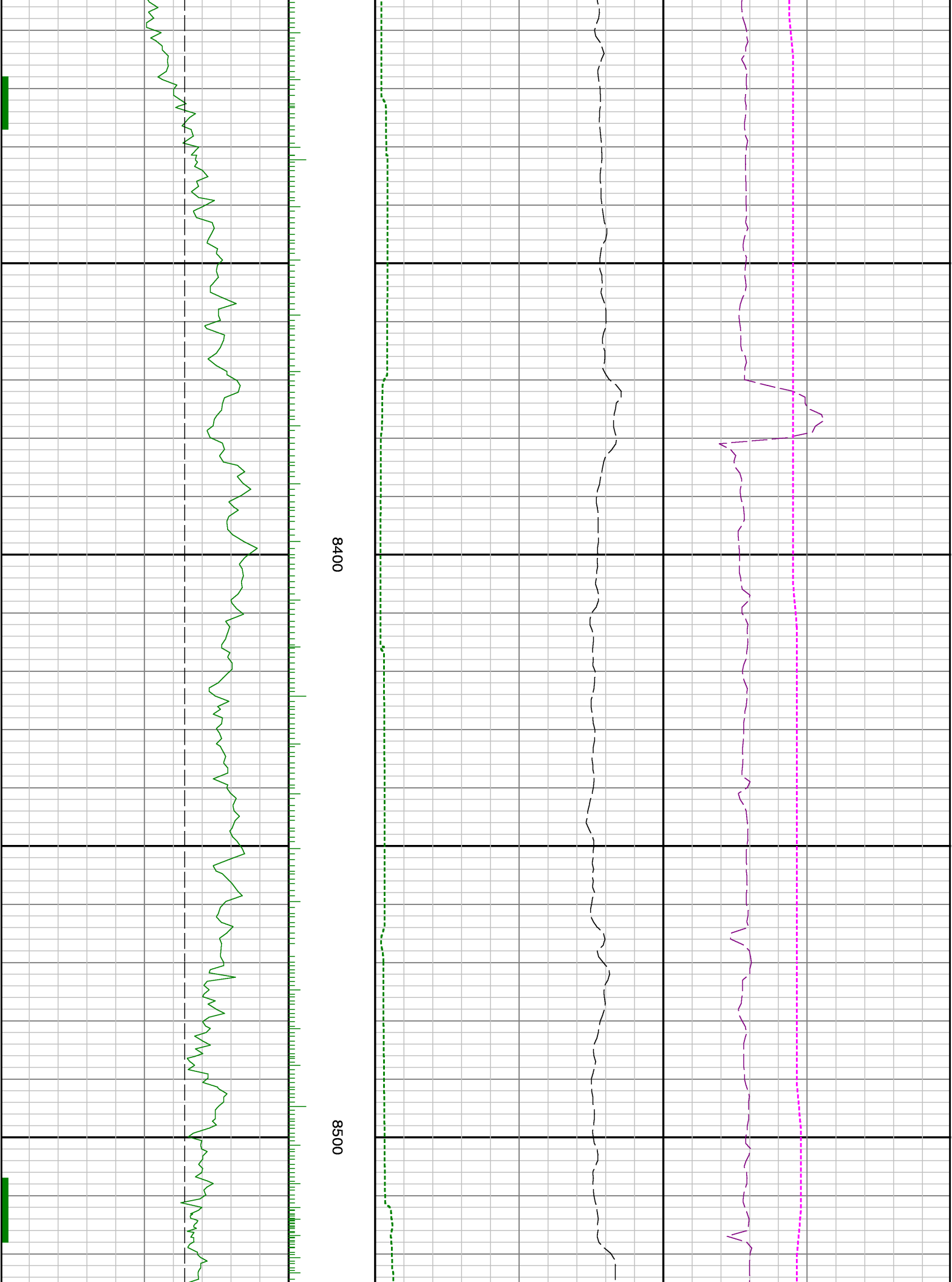


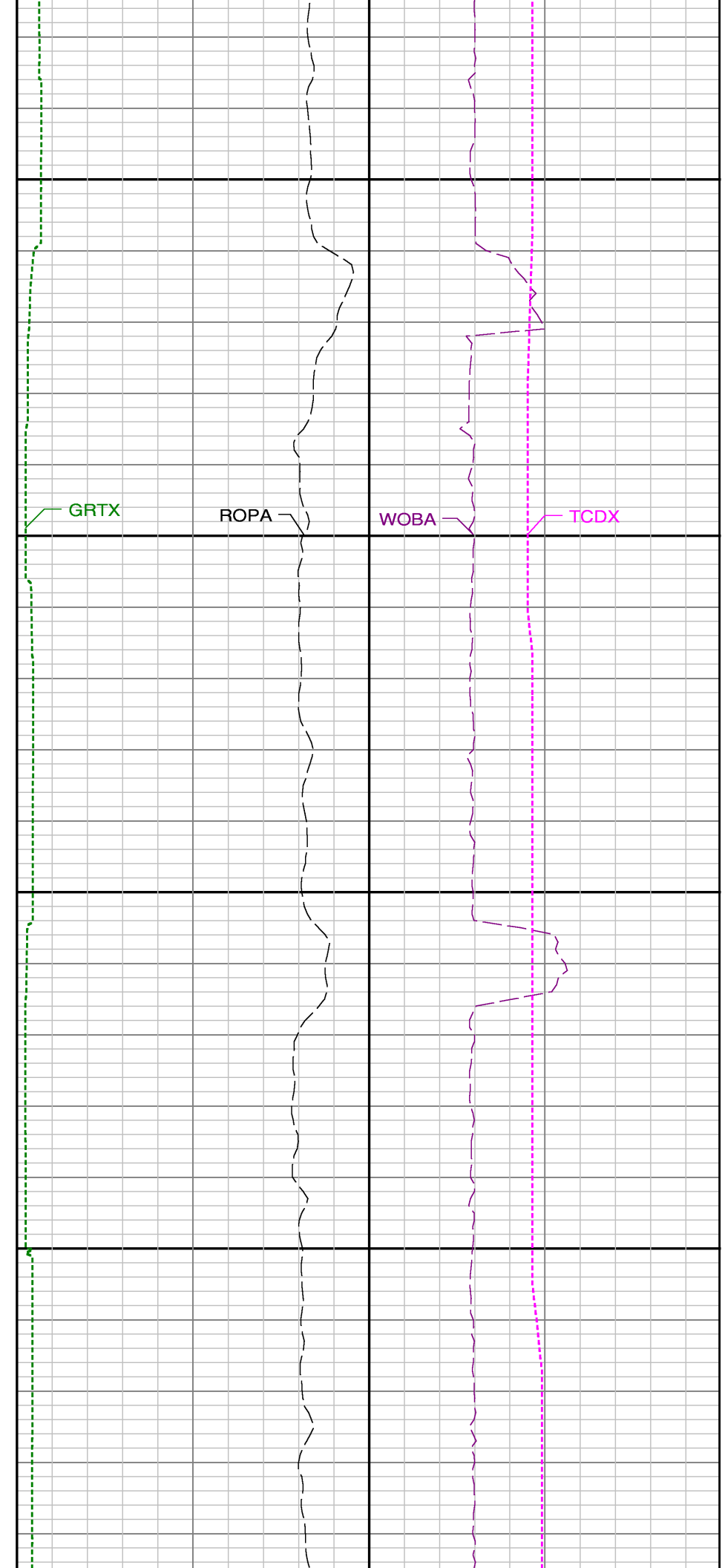
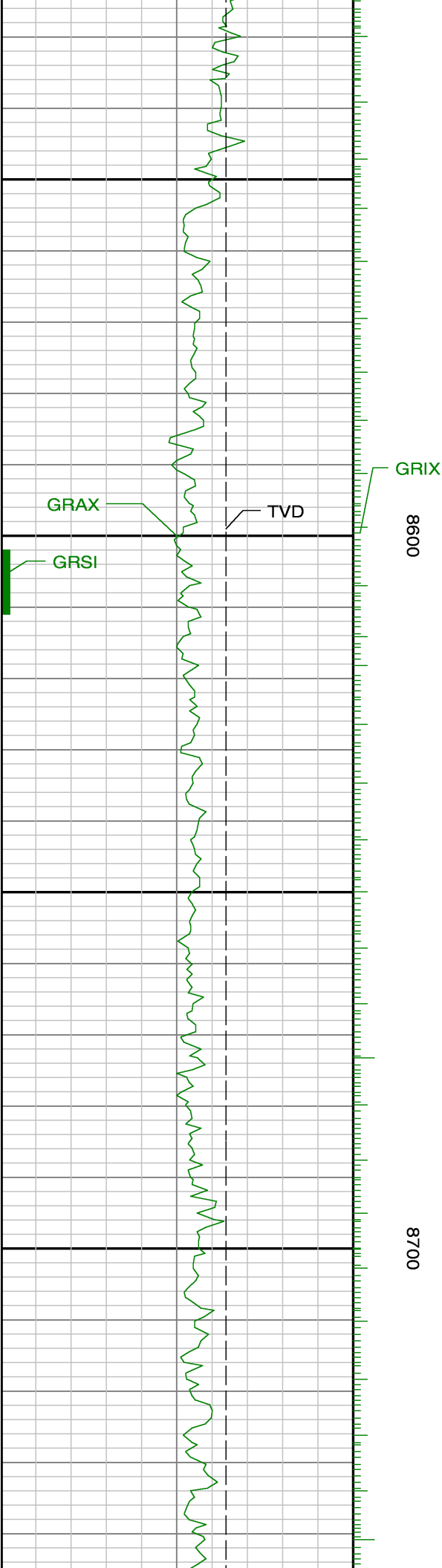
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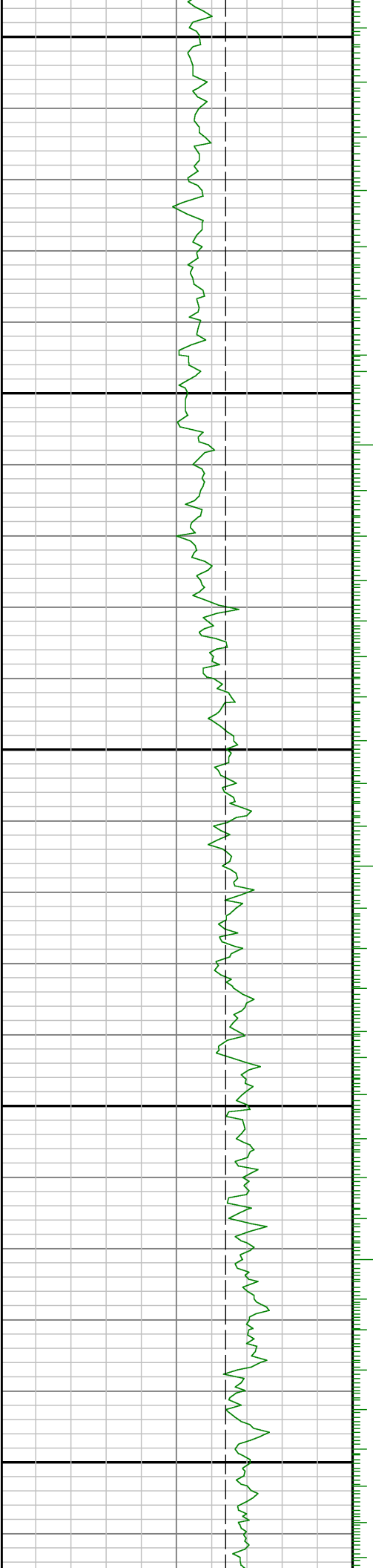
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8300



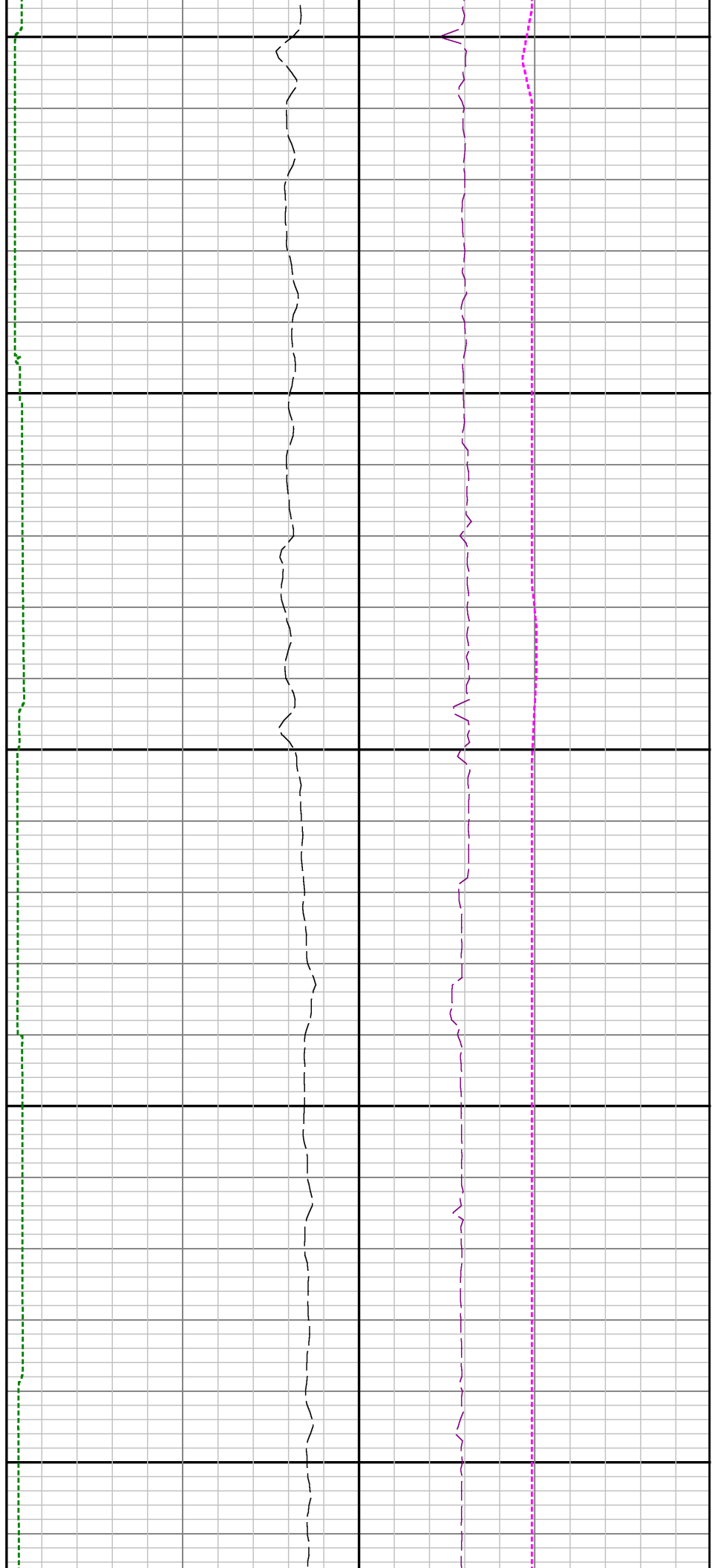


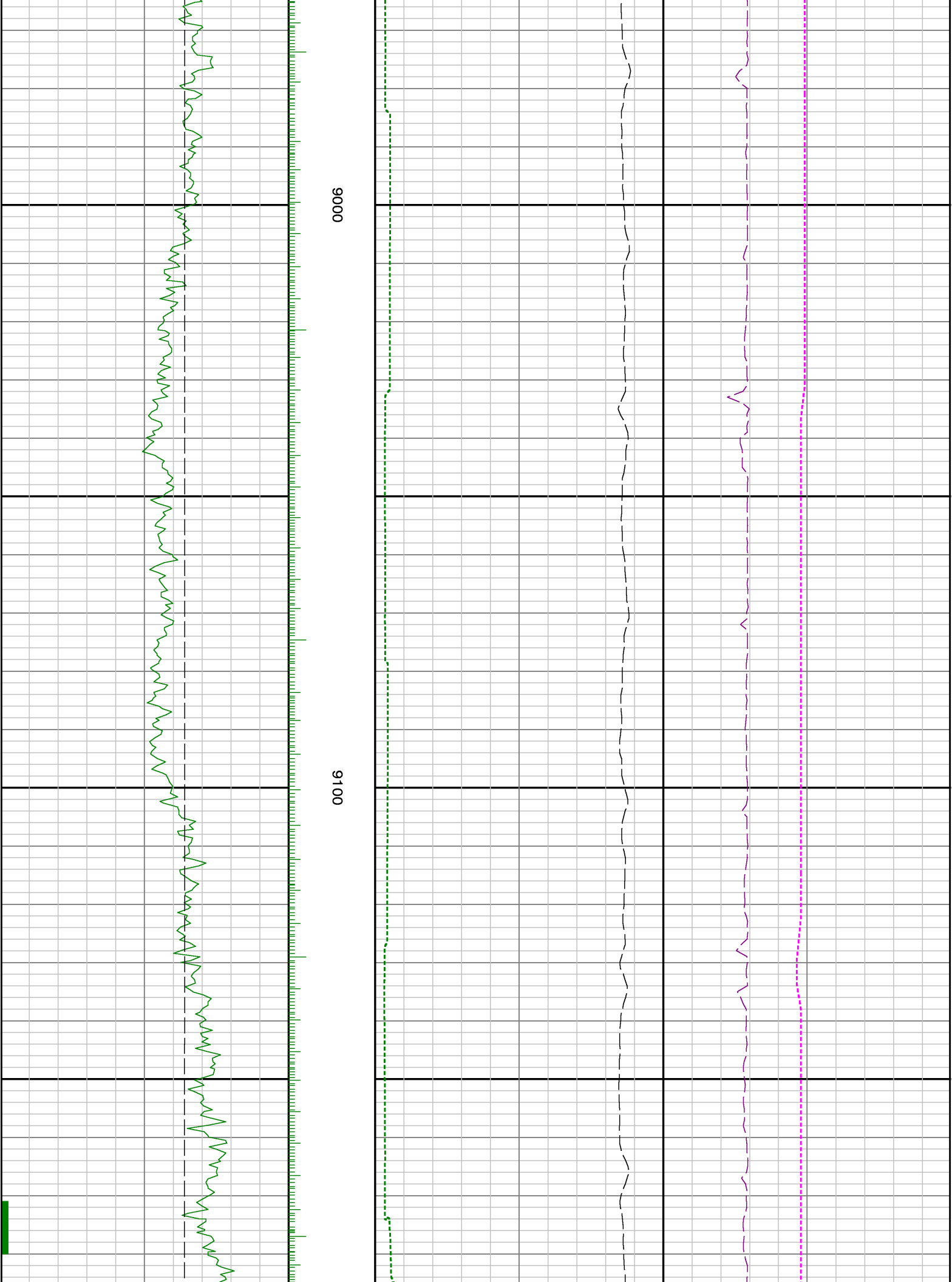


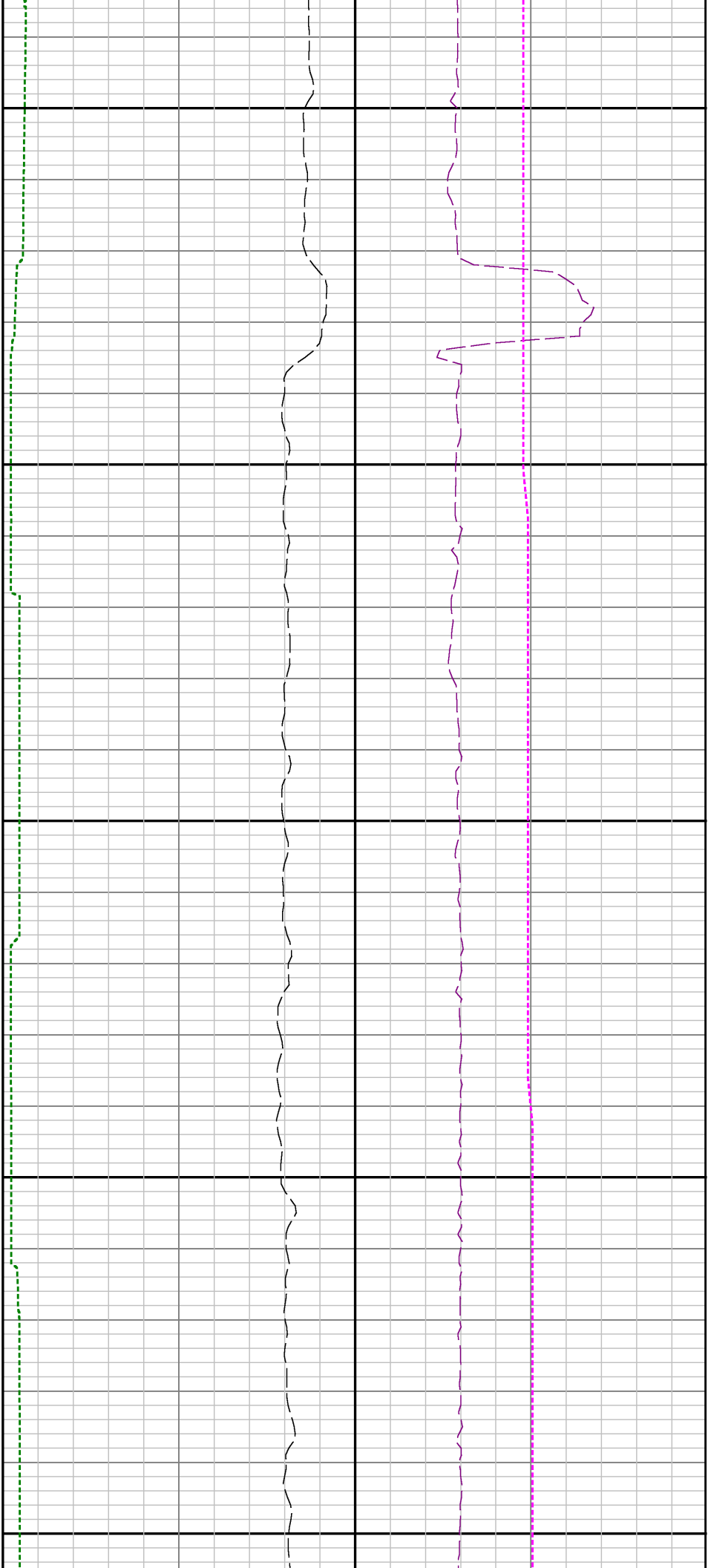


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0088



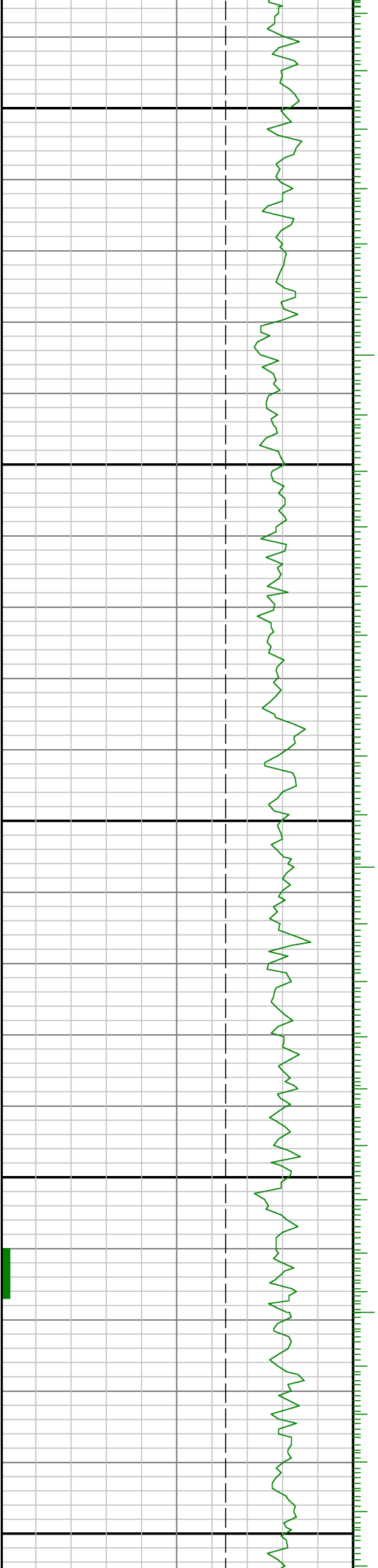


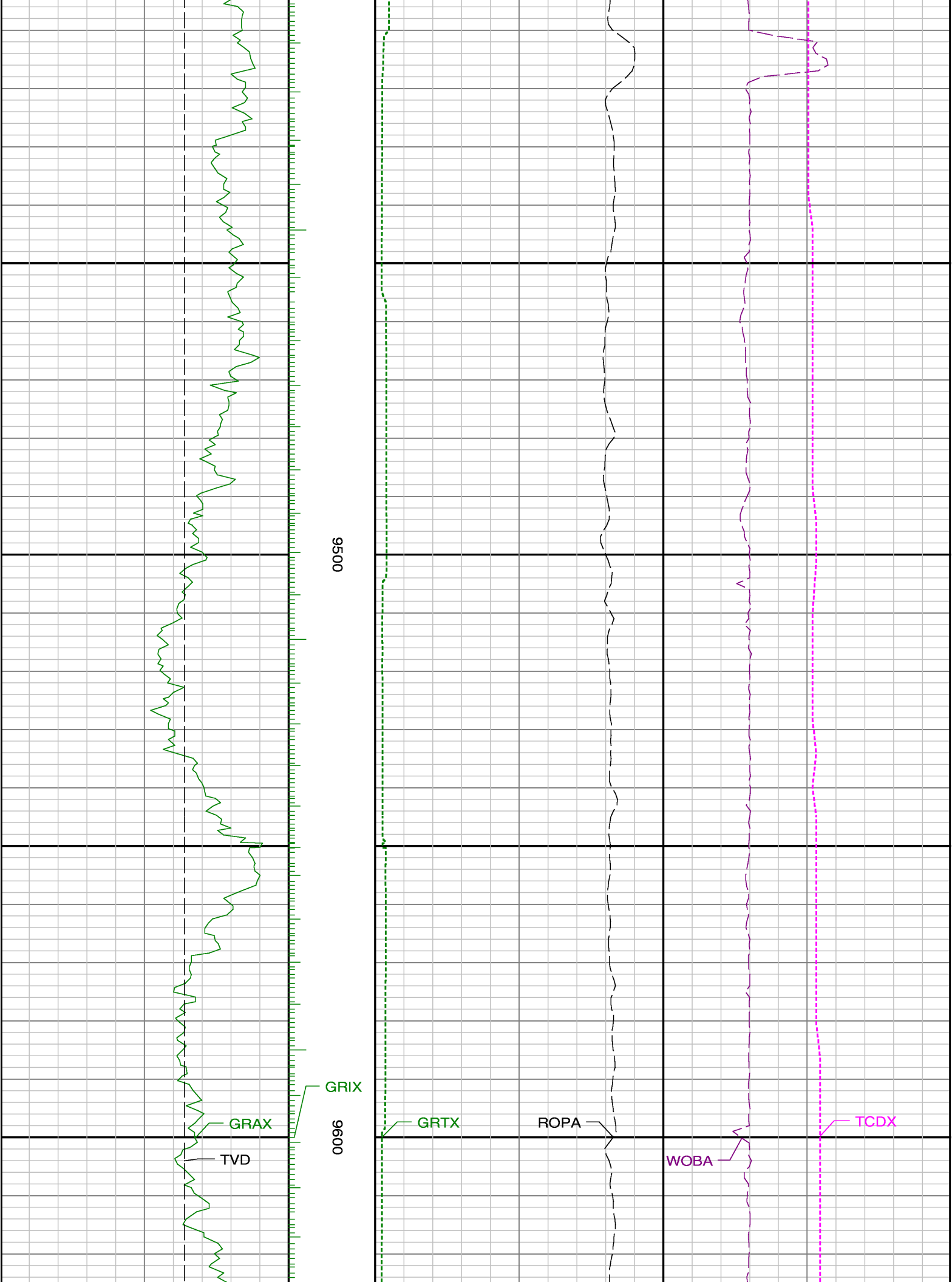


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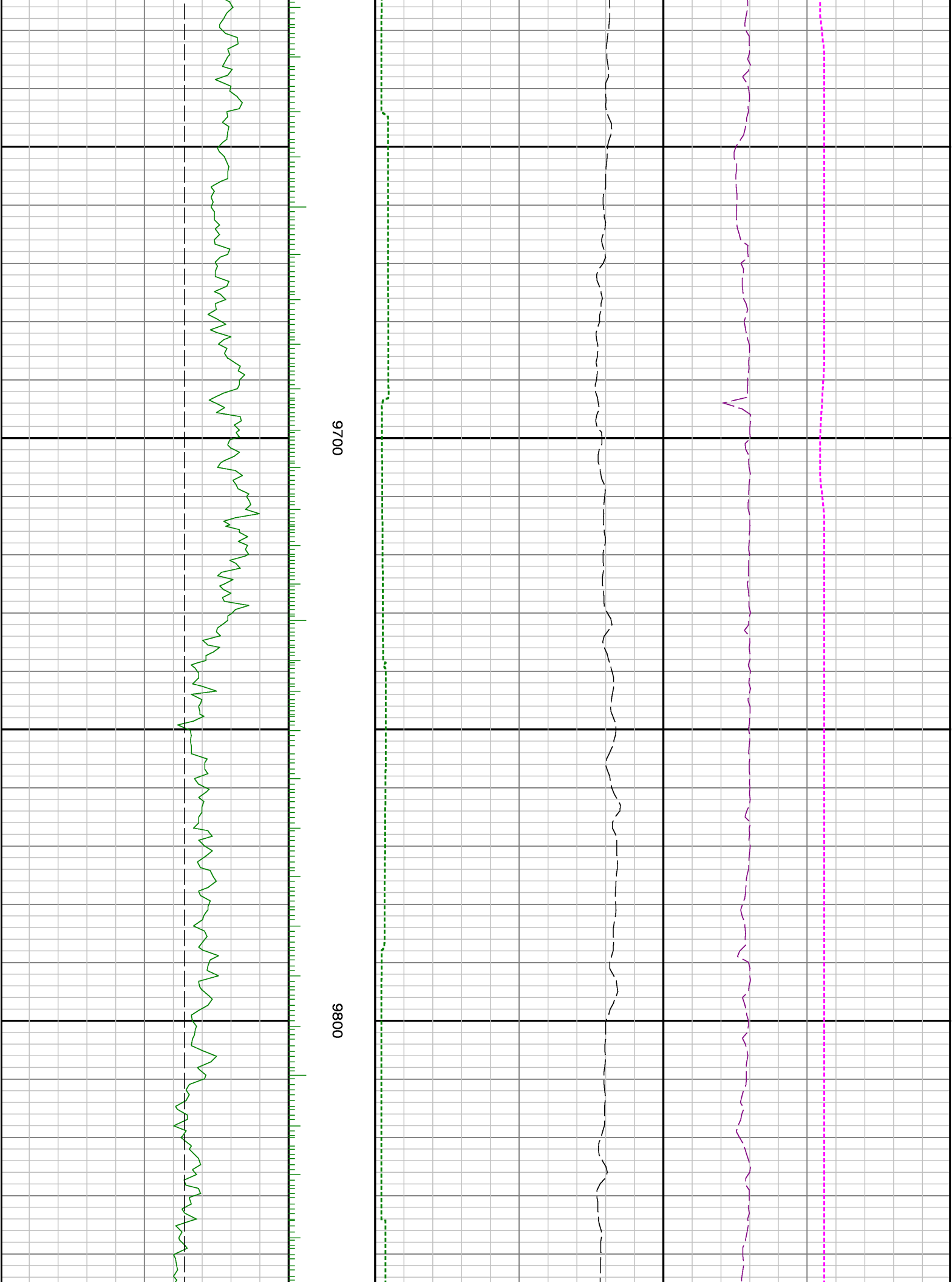
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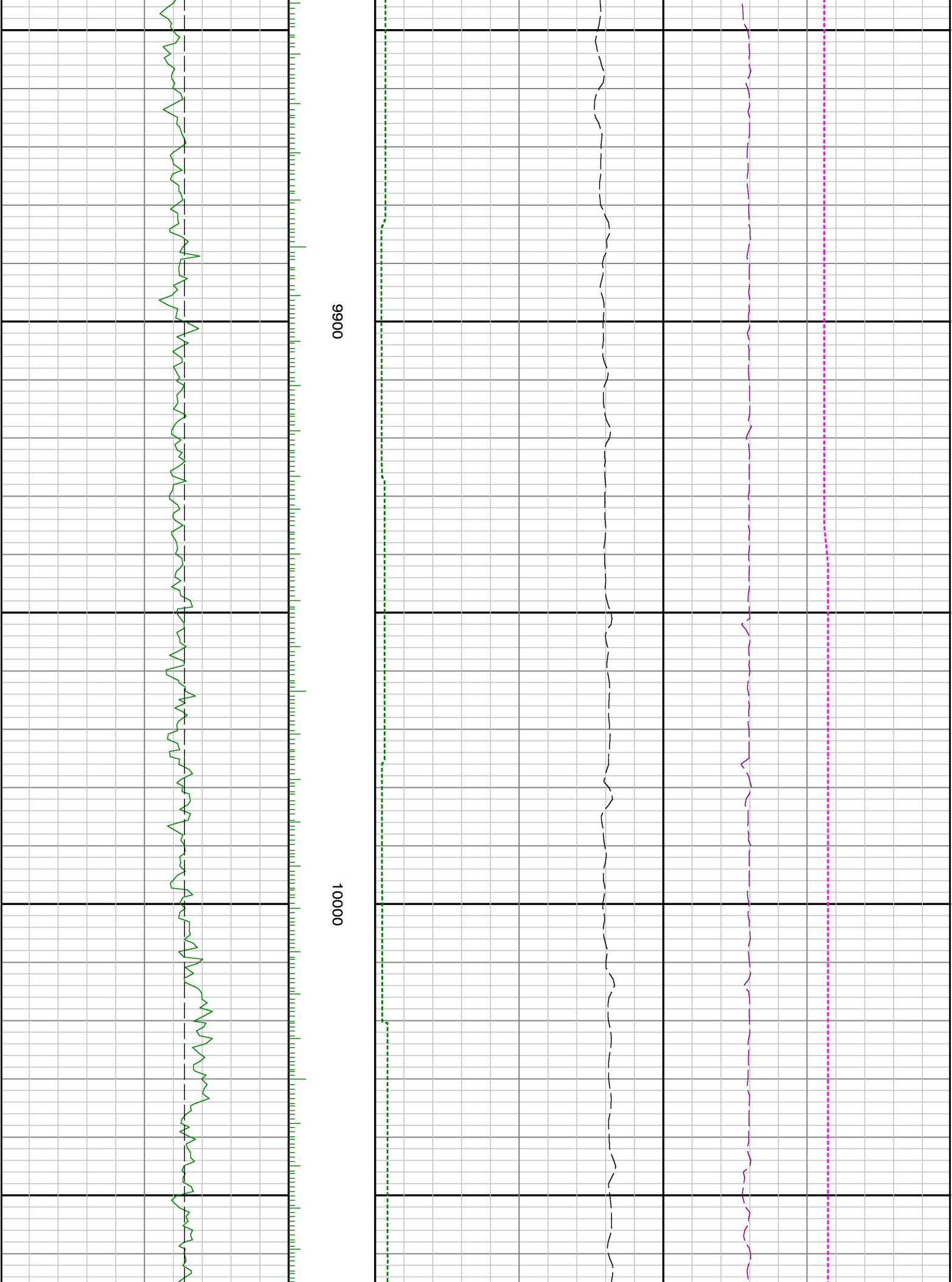
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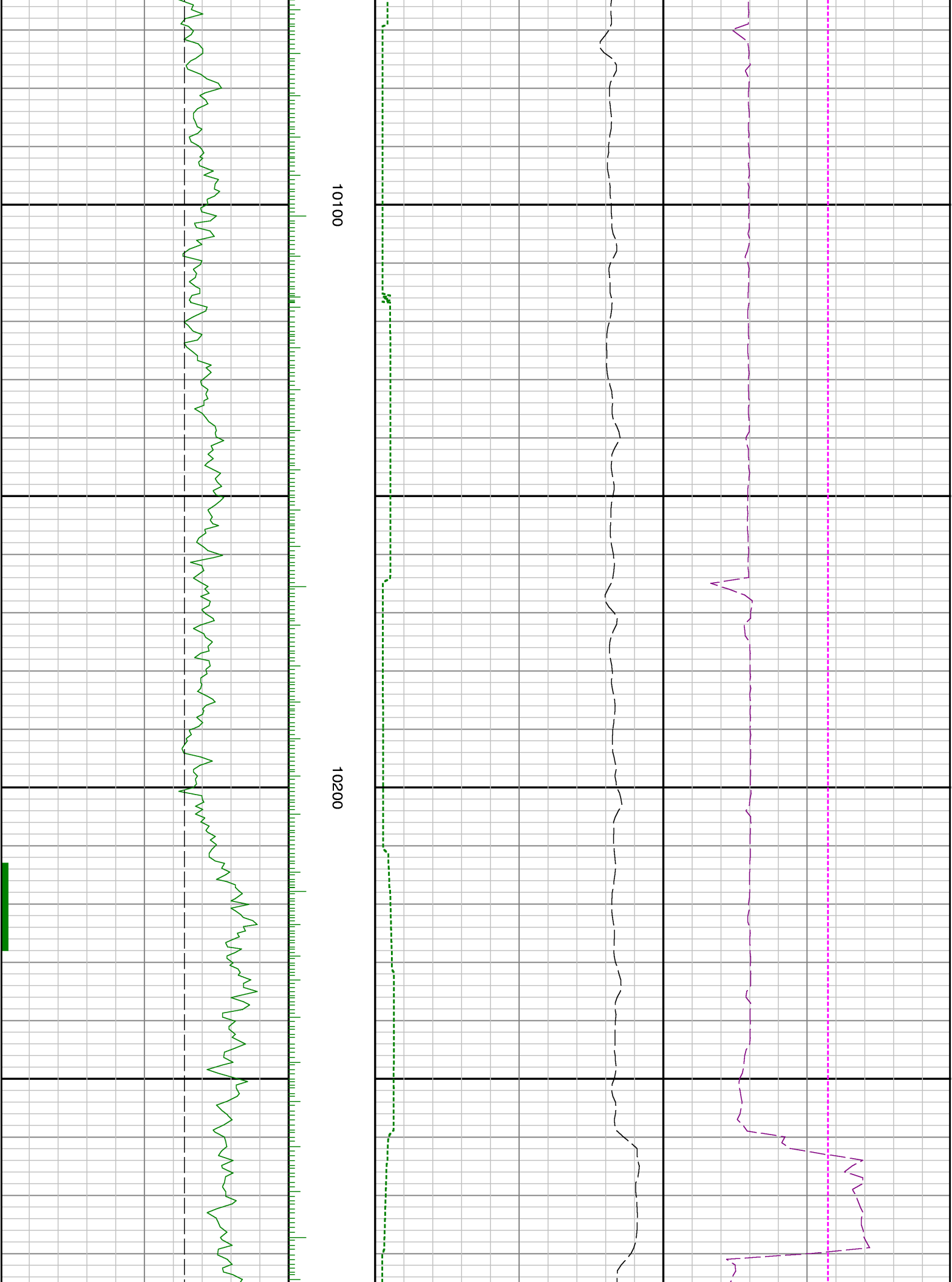


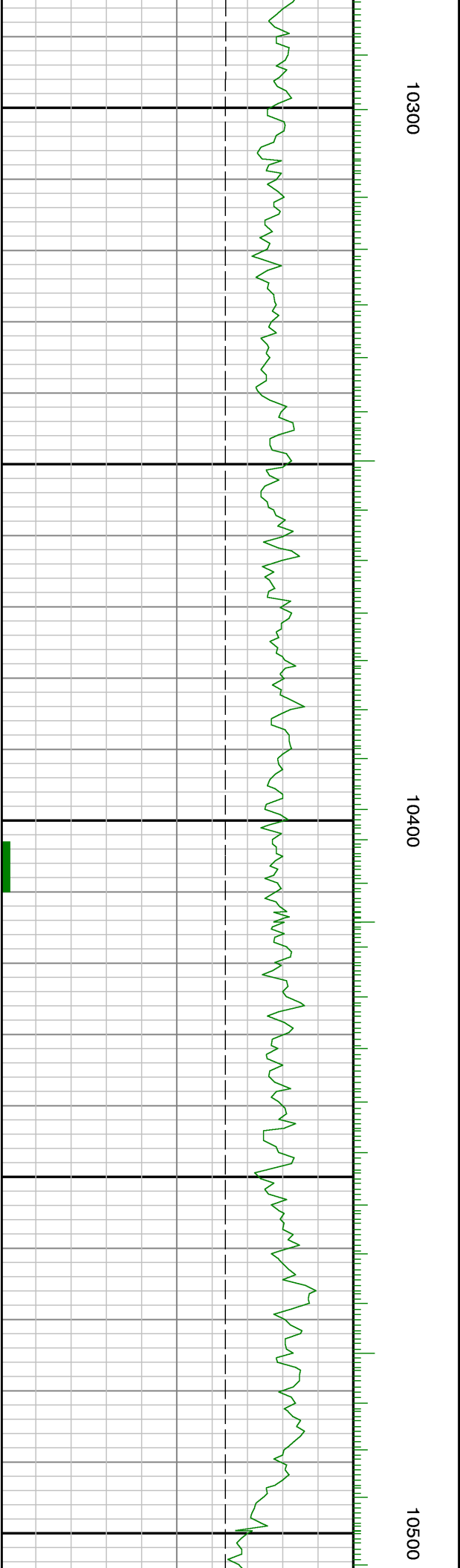
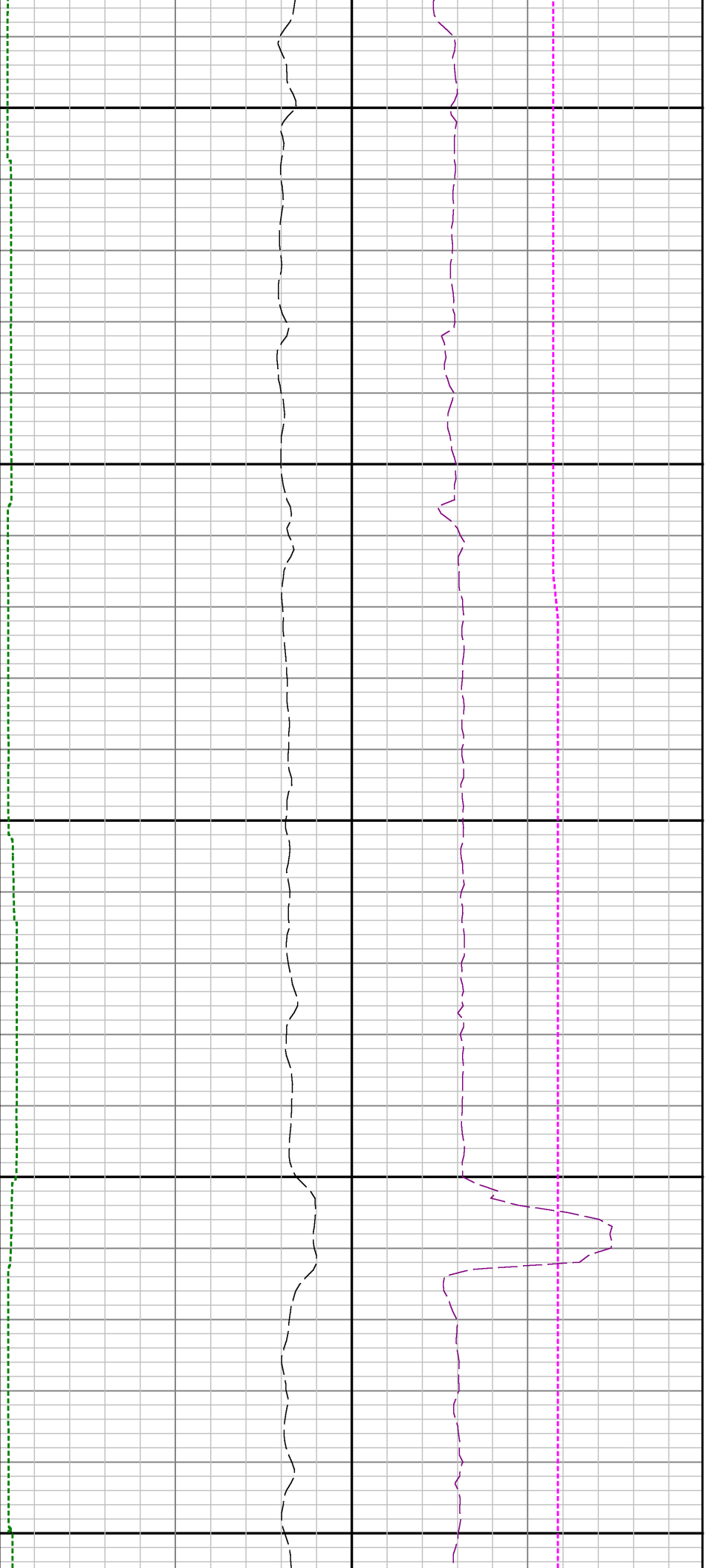


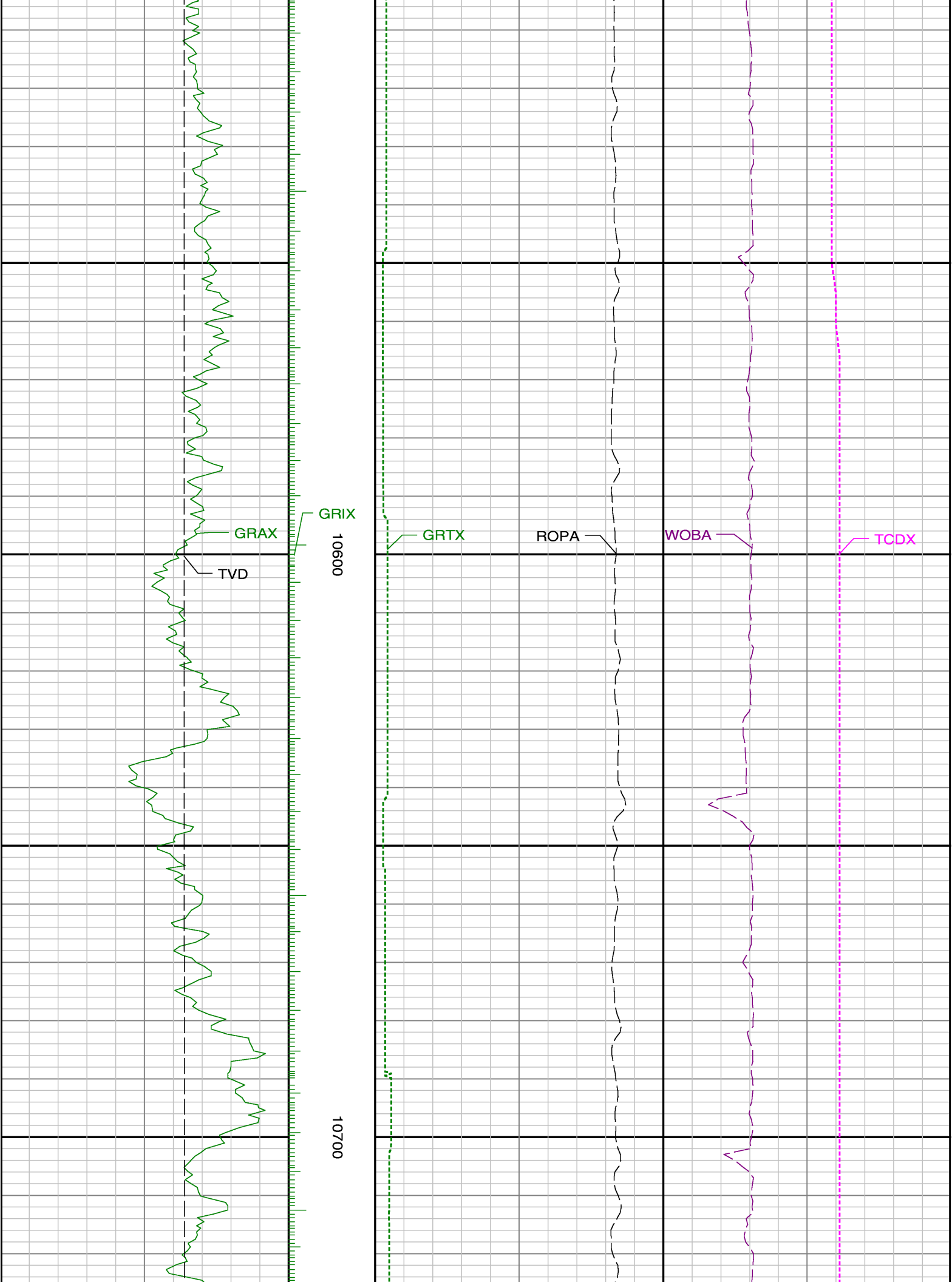


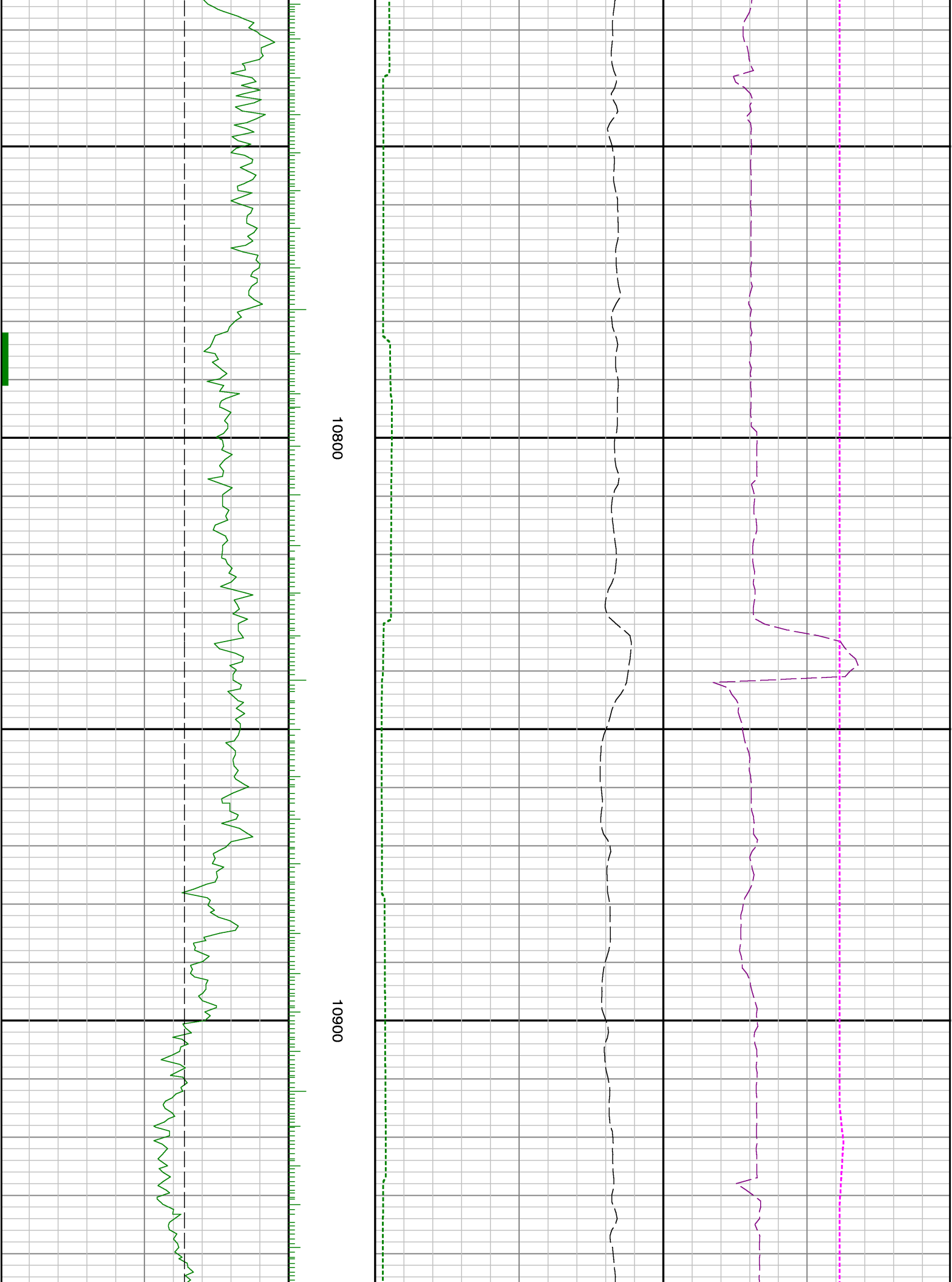


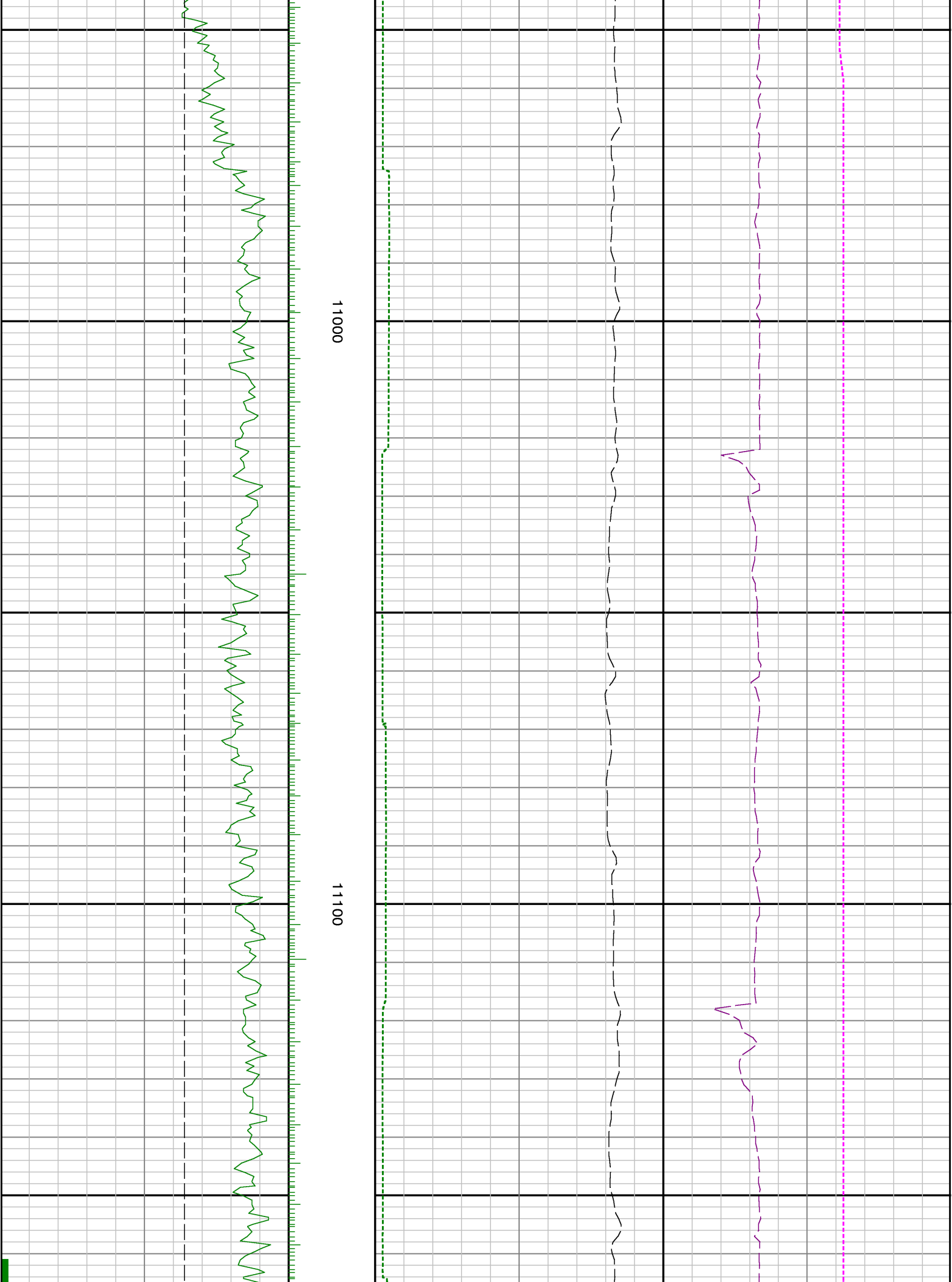


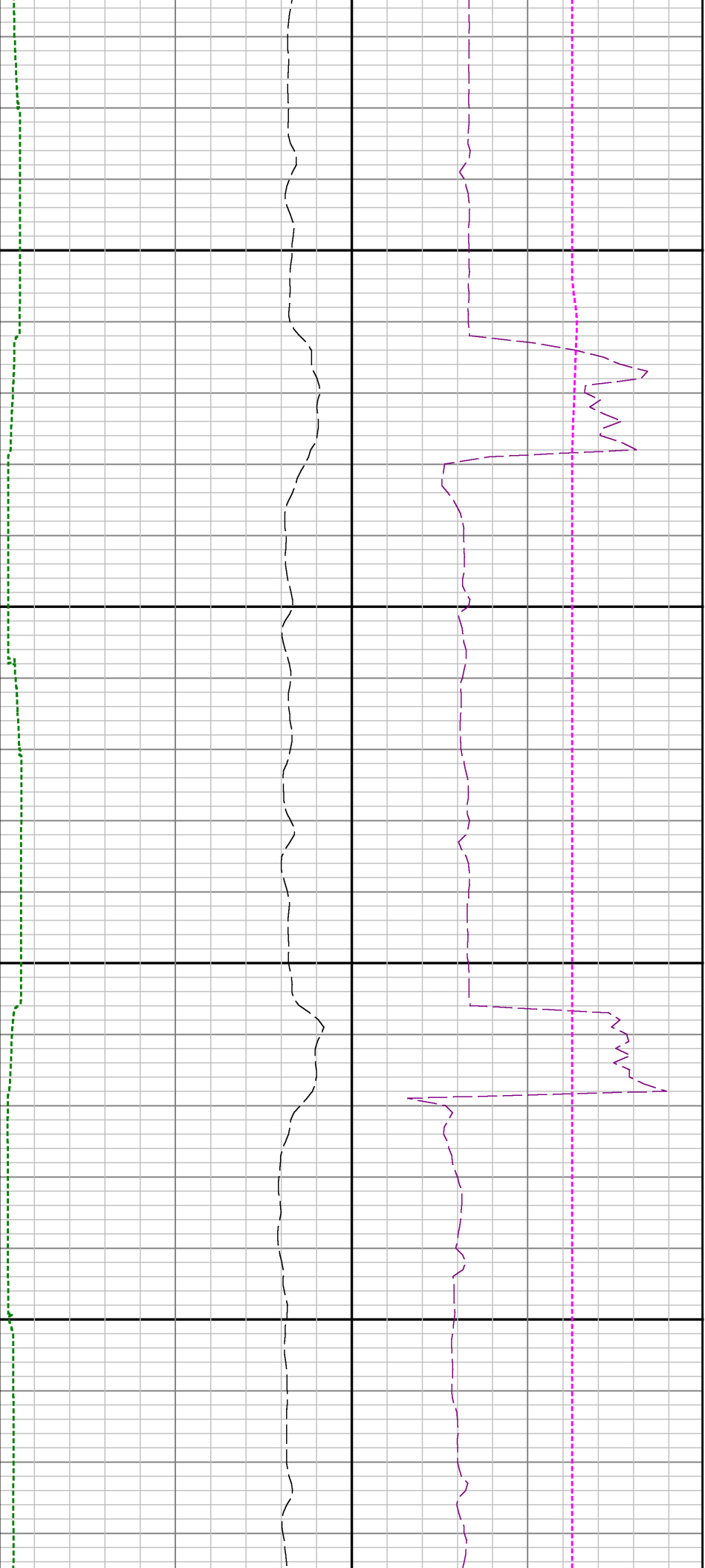






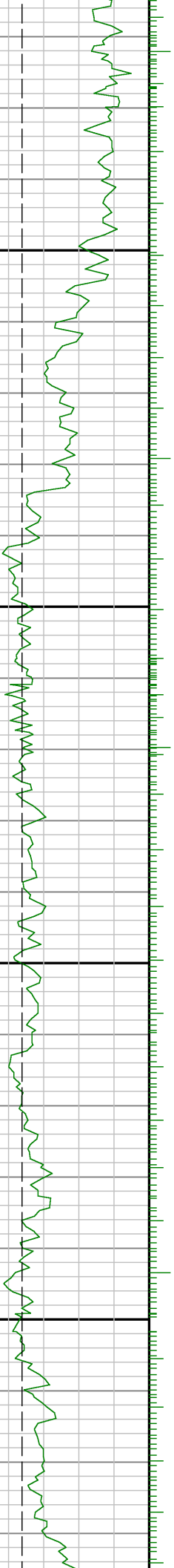




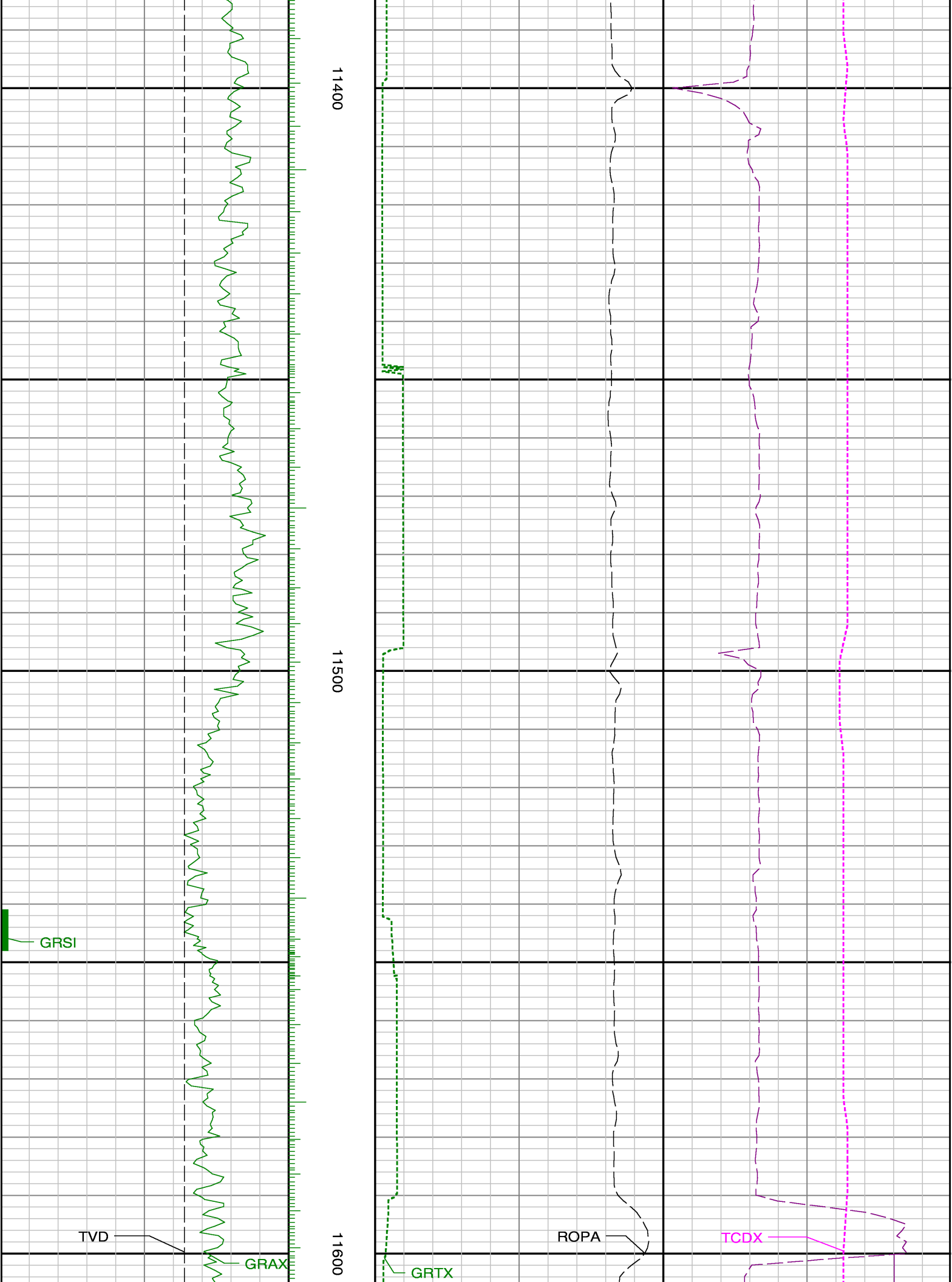


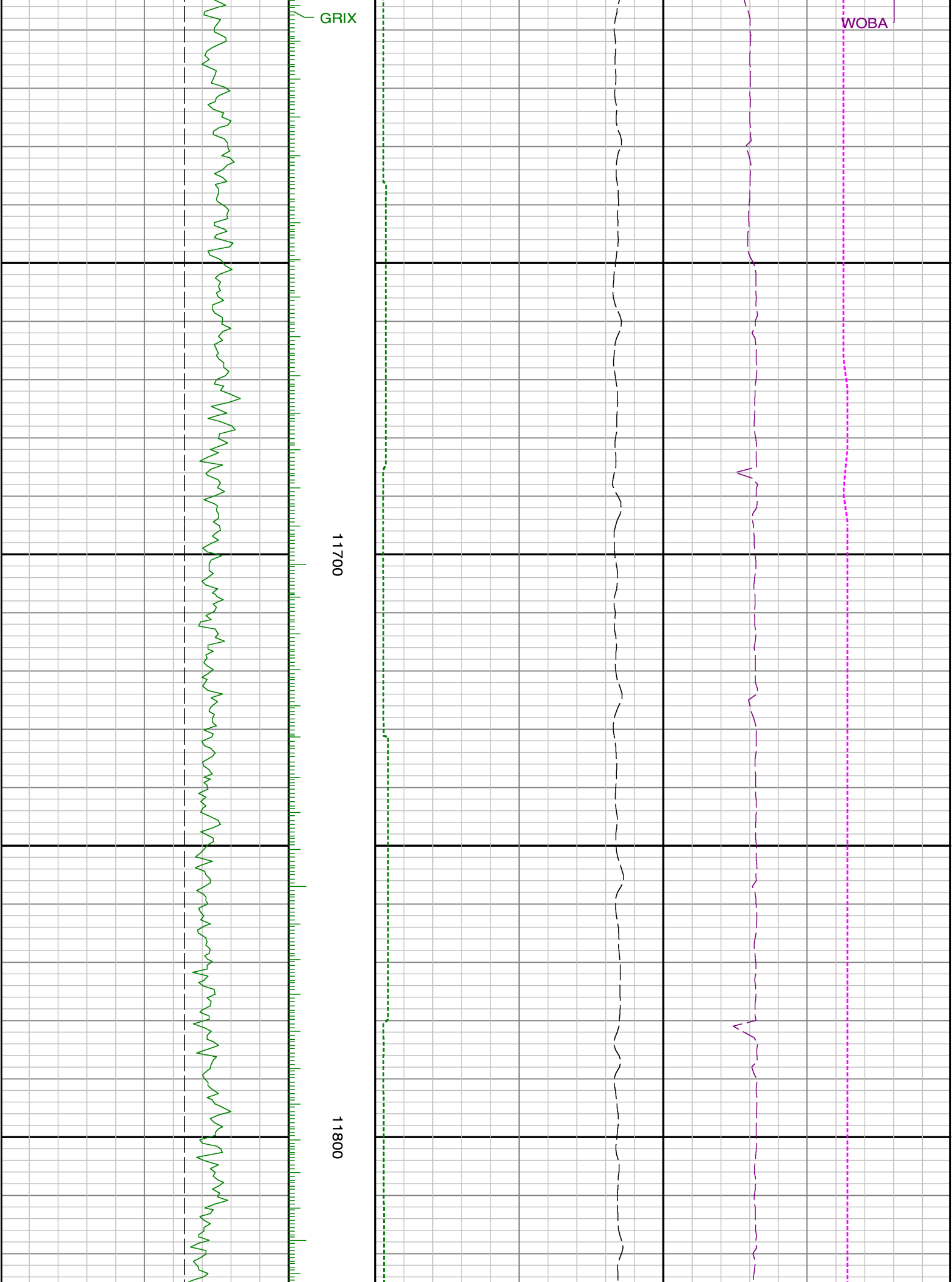
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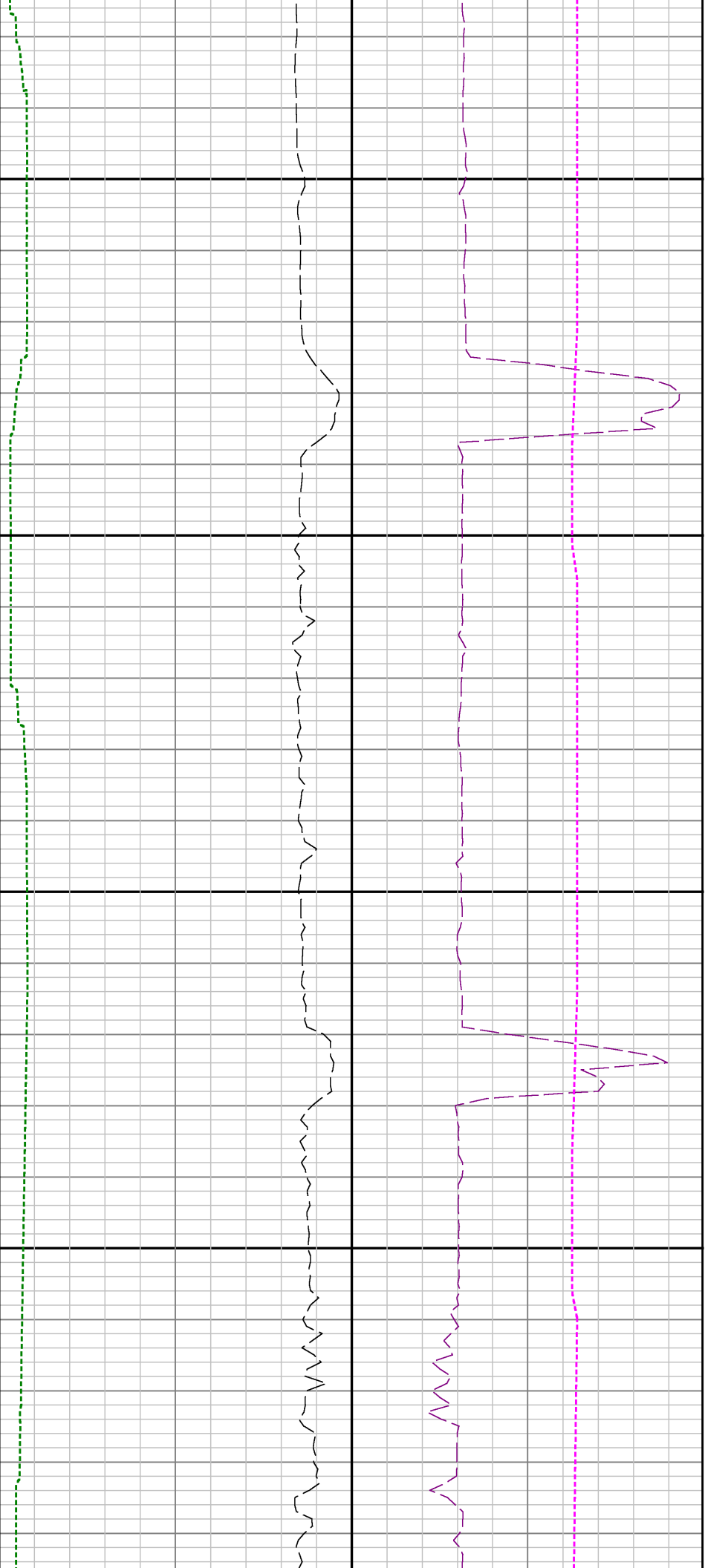
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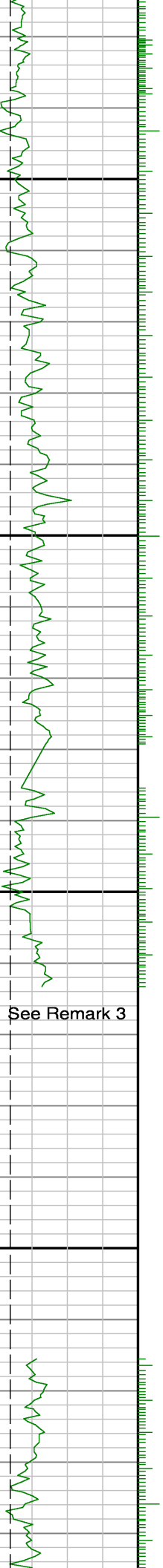




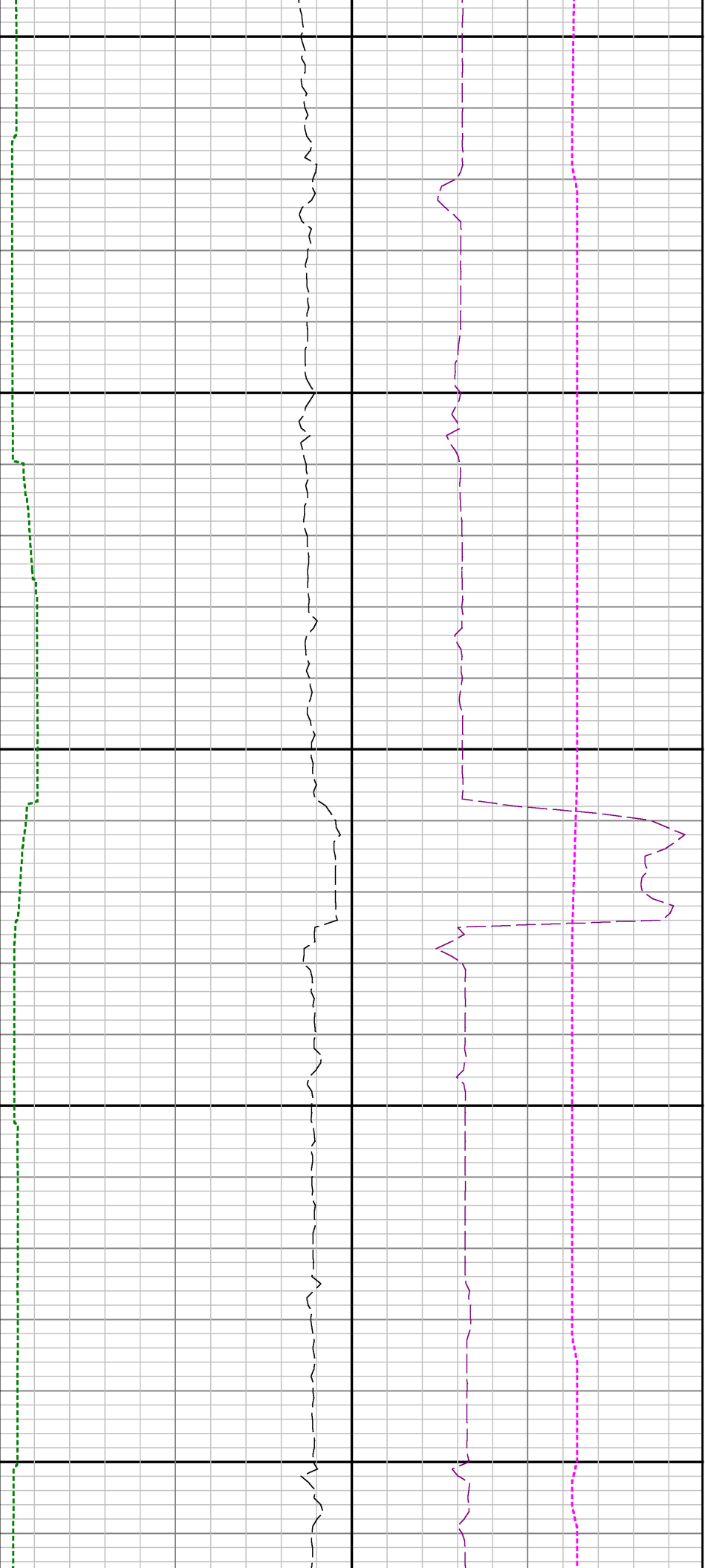


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12000

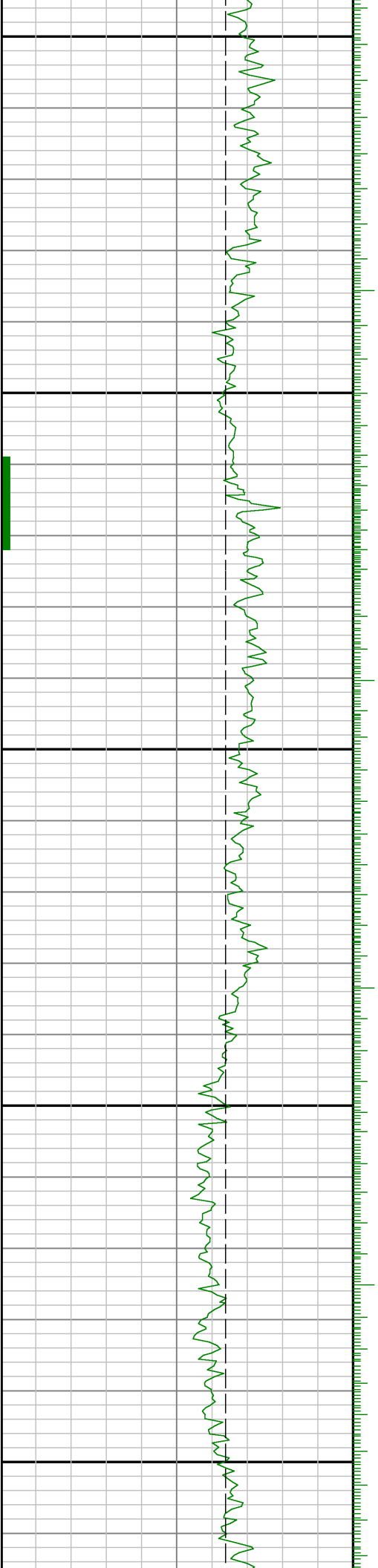


See Remark 3



12100

12200





12300

12400

