

<div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div>BAKER HUGHES</div></div>				LWD REALTIME LOG			
				Gamma Ray			
Scale:	Company: Great Western						
1:240 MD	Well: Schneider HD 11-142 HC						
Depth Reference:	Field: Weld County						
Driller's Depth	County: Weld County			Country: United States			
	State: Colorado						
Status:	Surface Location:			Other Services:			
Final Print	Latitude:			Directional			
API No: 05-123-46409	Longitude:						
Job ID: 9155342	SEC: 7	TWN: 4N	RGE: 66W				
Permanent Datum (P.D.): Mean Sea Level	Elevation: Above P.D.		0.00 ft	Elev. KB: 4754.00 ft		N/A	
Log Measured From: Rig Floor			4754.00 ft	Elev. DF: 4734.00 ft			
Dates	Interval Logged			Magnetic Field Reference			
Date From: 2018-05-23	Top: (ft)	1572.00	Azi Reference North: True	Dip Angle: (deg)	66.75		
Date To: 2018-05-26	Bottom: (ft)	17801.00	Total Magnetic Field Strength: (nT)		52258		
Spud Date: 2018-05-01				Mag to Reference North Correction: (deg)		8.33 E	
Borehole Record				Casing Record			
Hole Size (in)	From (ft)	To (ft)	Size (in)	Weight (lb/ft)	From (ft)	To (ft)	
13.500	20.00	1572.00	9.625	37.00	20.00	1562.00	
8.500	1572.00	17814.00					
Mud Record				Deviation Record			
Type	From (ft)	To (ft)	Hole Size (in)	Interval (ft)	Inc Az (Start)	Inc Az (End)	
Oil Based Mud	1572.00	17814.00	8.500	16242.00	0.15 306.49	89.82 268.72	
Acquisition System				Software Version			
Baker Hughes Cadence	RT4.1			Rig: PD 460			
PlotStudio	4.1.7763.3			Contractor: Precision Drilling			
				District: US Land Unit: RMA			

"These interpretations and analyses ("Interpretations") are opinions provided by Baker Hughes Oilfield Operations, Inc ("Baker Hughes"), based upon industry practice, empirical relationships, assumptions and measurements, (many of which may be provided by the customer). The Interpretations are not infallible and may be subject to different opinions. Vjwu."Dcmgt"Jwi jgu"fqgu"pqv"ycttcpv"vjgkt"ceewtce{."eqttgevpguu."qt"eqorngvgpguu."qt"vjcv"vjg"ewuvqogtøu"cpflqt"cp{"vjktf"rctv{øu"tgnkcpeg"qp"uwej"Kpvgtrtgvcvkqpu"yknn"ceeqornkuj"cp{"rctvkewnct"tguwnvu0"Vjg"ewuvqogt"cuuwogu"hwnn"responsibility for the use of the Interpretations and for decisions based thereon and the customer agrees to release, defend and indemnify Baker Hughes, its parent, subsidiaries and affiliated or related entities, and subcontractors, together with its and their officers, directors, employees, agents and invitees against, any and all claims, losses, damages, or expenses sustained by the customer or any third party arising out of reliance upon or use of the Interpretations, without regard to the cause(s) thereof, including without limitation any form of negligence on the part of Baker Hughes. Unless other contract terms have been agreed to by the parties, each party's liabilities and qdnkicvkqpu"ujcnn"dg"iqxgtpgf"d{"Dcmgt"Jwi jgu"Kpeqtrqtcvgføu"Yqtnfykfg"Vgtou"cpf"Eqpfkvkqpu0\$""

Log Run Summary												
Run No	Bit Run No.	Bit Size (in)	Bit Type	Bit Gauge Length (in)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Hours (h)
						Top (ft)	Bottom (ft)	From (ft)	To (ft)	Start Logging	End Logging	
1	1	8.500	PDC	3.00	AutoTrak Curve	1572.00	17801.00	1572.00	17814.00	2018-05-24 04:35	2018-05-25 19:22	59.77

Crew								
Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite	
Chelsea Brooks		2018-05-23	2018-05-27	Shawn McCaffrey		2018-05-23	2018-05-25	Andrew Clancy
								2018-05-26
								2018-05-27

Mud Properties Record											
Date / Time	Run No.	Measured Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2018-05-24 00:45	1	1674.00	Oil Based Mud	10.5	23	N/A	N/A	76/24	Active Pit	14000	0.00
2018-05-25 01:00	1	7097.00	Oil Based Mud	10.5	19	N/A	N/A	76/24	Active Pit	17000	0.00
2018-05-26 01:11	1	12838.00	Oil Based Mud	10.5	19	N/A	N/A	76/24	Active Pit	18000	0.00

Equipment and Service Data

Run No.	Tool	Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)
1	ATC_SU	14316004	Near Bit Inclination	5.93	6.90	7.000	4.330
1	ATC_SU	14316004	Near Bit VSS	5.93	6.90	7.000	4.330
1	ATC_MWD	14334277	Gamma (single)	2.74	13.06	7.000	3.250
1	ATC_MWD	14334277	Directional (mag)	12.26	22.58	7.000	3.250

Service and Tool Mnemonics

Mnemonic	Name	Description
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_LCPM	Auto Trak Curve LCPM

Comments


1	Depth measurements were 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.
2	Observed gamma ray data is not available for the interval from 17814 feet MD (1571 to 7206 feet TVD).
3	Gaps in Gamma Ray data are present throughout the log due to downlinking while drilling ahead.

Remarks

Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	8901.00	8.500	1	No data was logged during the interval from 8901 to 8963 feet MD (7223 feet TVD) due to surface gear communication issue.
2	17801.00	8.500	1	The interval from 17801 to 17814 feet MD (7206 feet TVD) was not logged due to sensor to bit offset at well TD.

Curve Mnemonics

Presented Curves	Description	Units
TCDX	Downhole Temperature	degF
ROPA	Depth Averaged ROP 3 ft Average	ft/h
TVD	True Vertical Depth	ft
WOBA	Weight On Bit, Average 1 ft Average	klb
GRAX	Gamma Ray - Apparent - Real-Time 0.5 ft Average	API
GRIX	Gamma Ray - Data Point Indicator - Real-Time	unitless
GRTX	Gamma Ray - Time Since Drilled - Real-Time	min



Company

Well

Interval

Created

Great Western

Schneider HD 11-142 HC

Date From: 2018-05-23 22:36:27

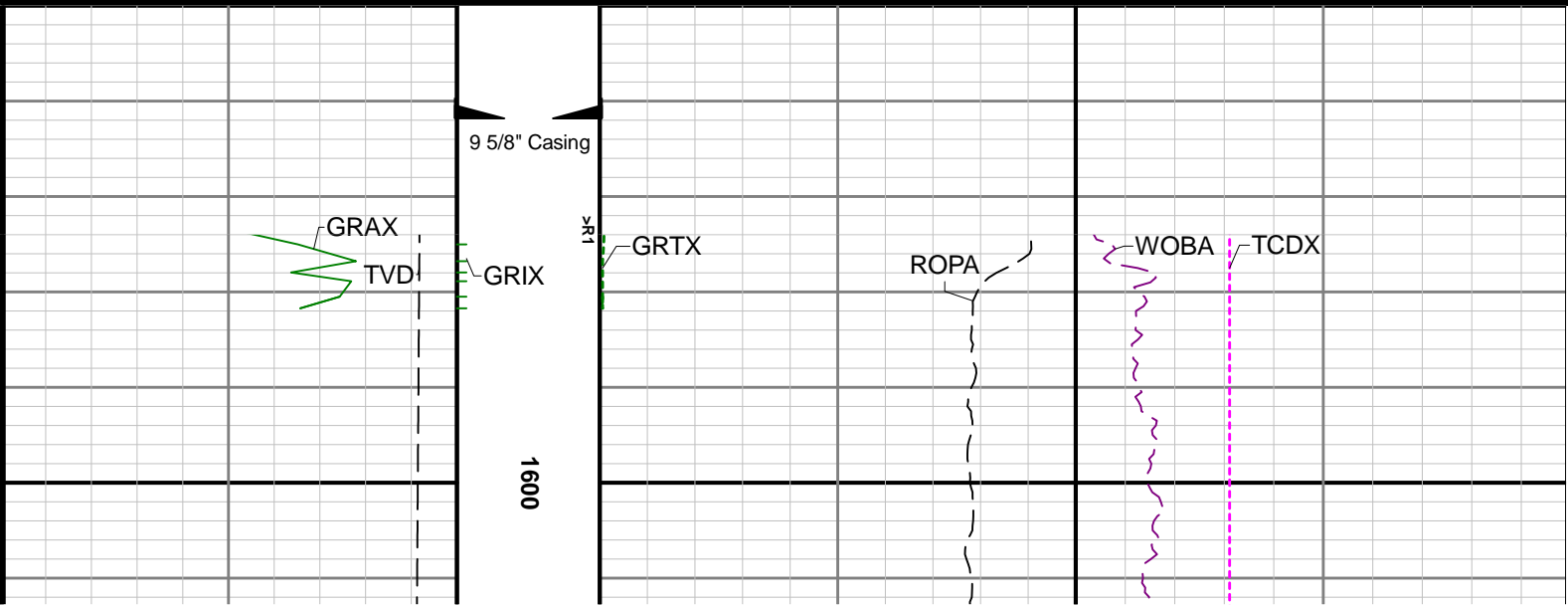
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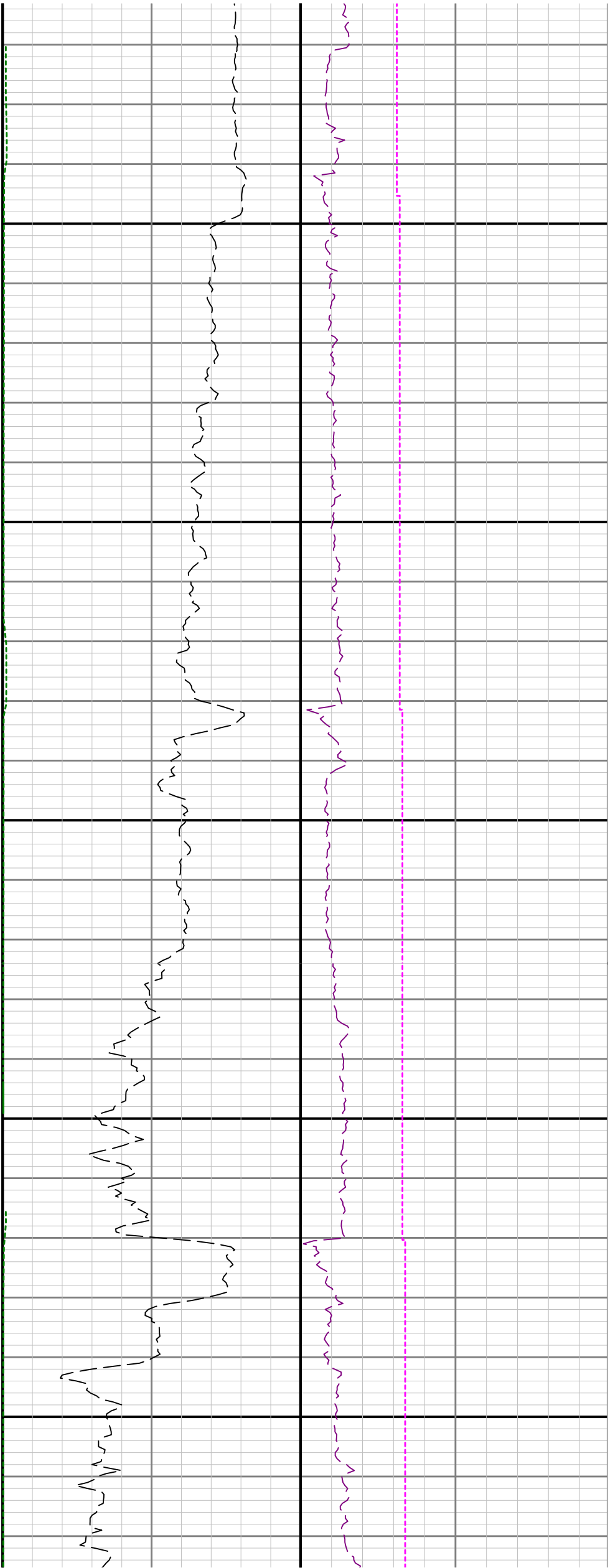
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Bottom: 17814.00

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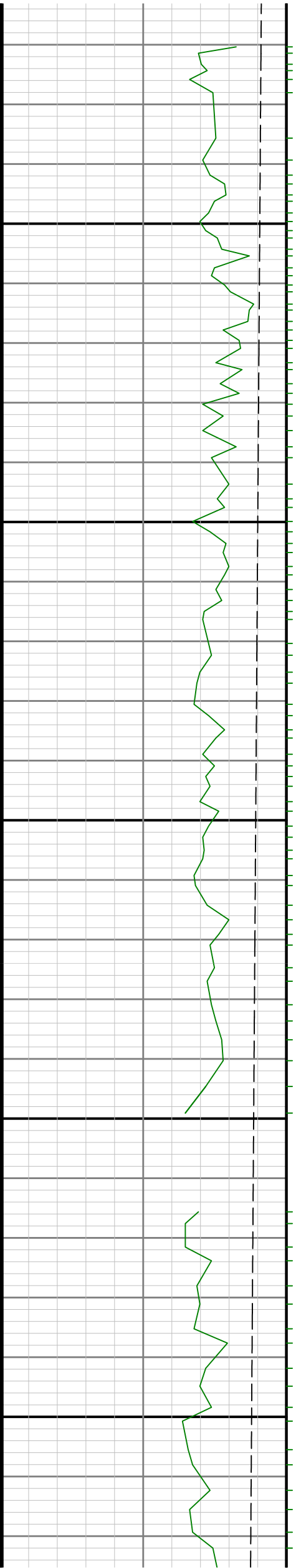
Gamma Ray - Apparent 0.5 ft Average GRAX 0 150	MD 1:240 feet	Depth Averaged ROP 3 ft Average ROPA 1000 0	Weight On Bit, Average 1 ft Average WOBA 0 100
API		ft/h	klb
True Vertical Depth TVD 8000 1000		Gamma Time Since Drilled GRTX 0 600	Downhole Temperature TCDX 0 300
ft		min	degF

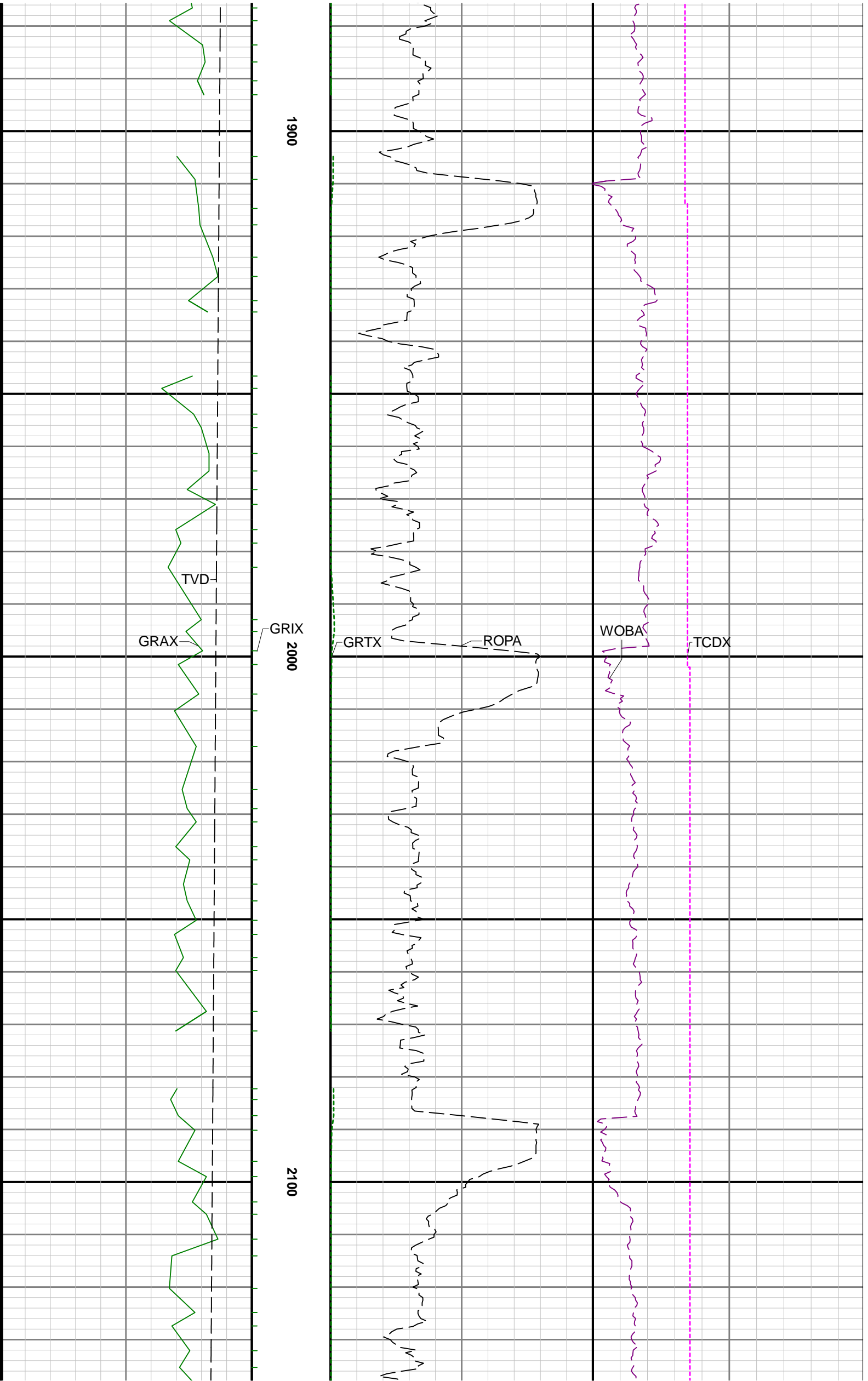


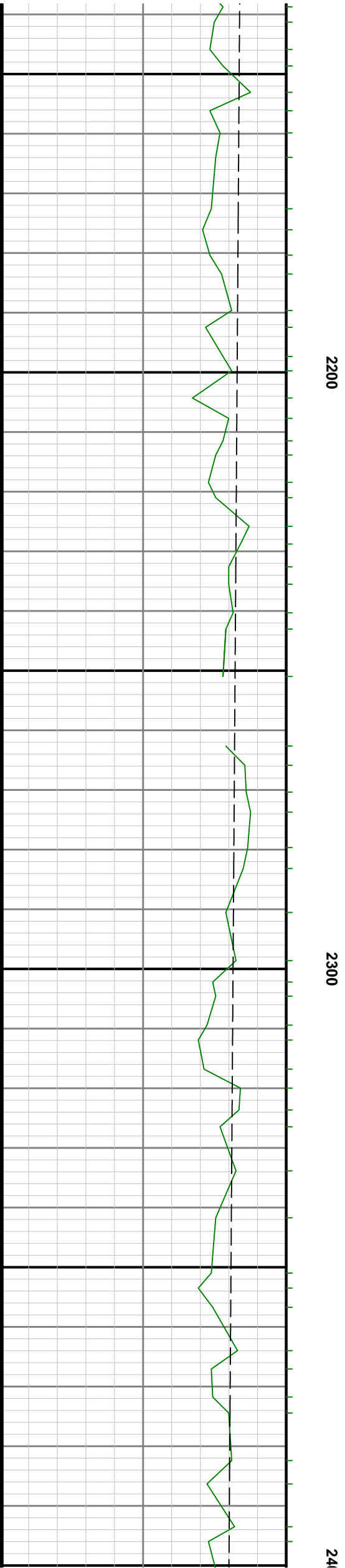


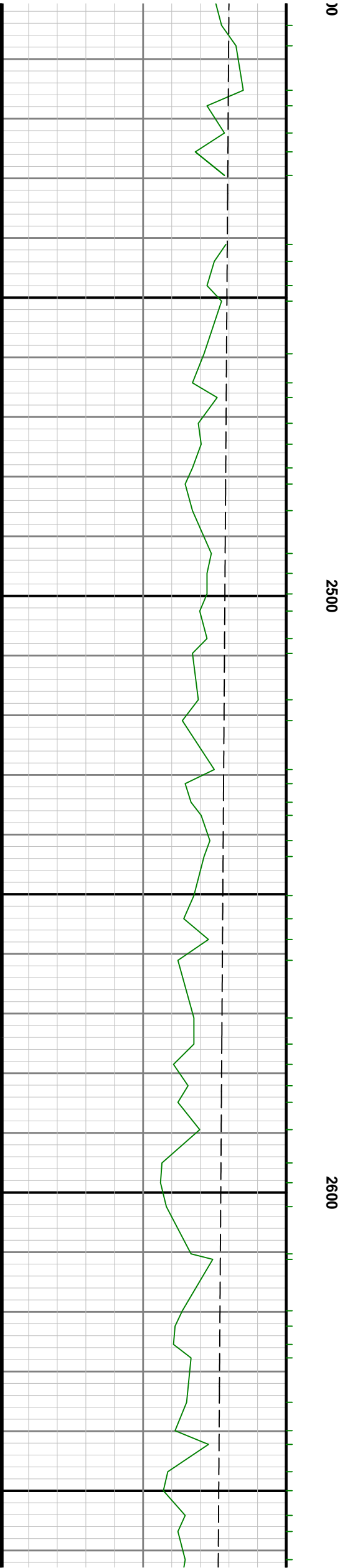
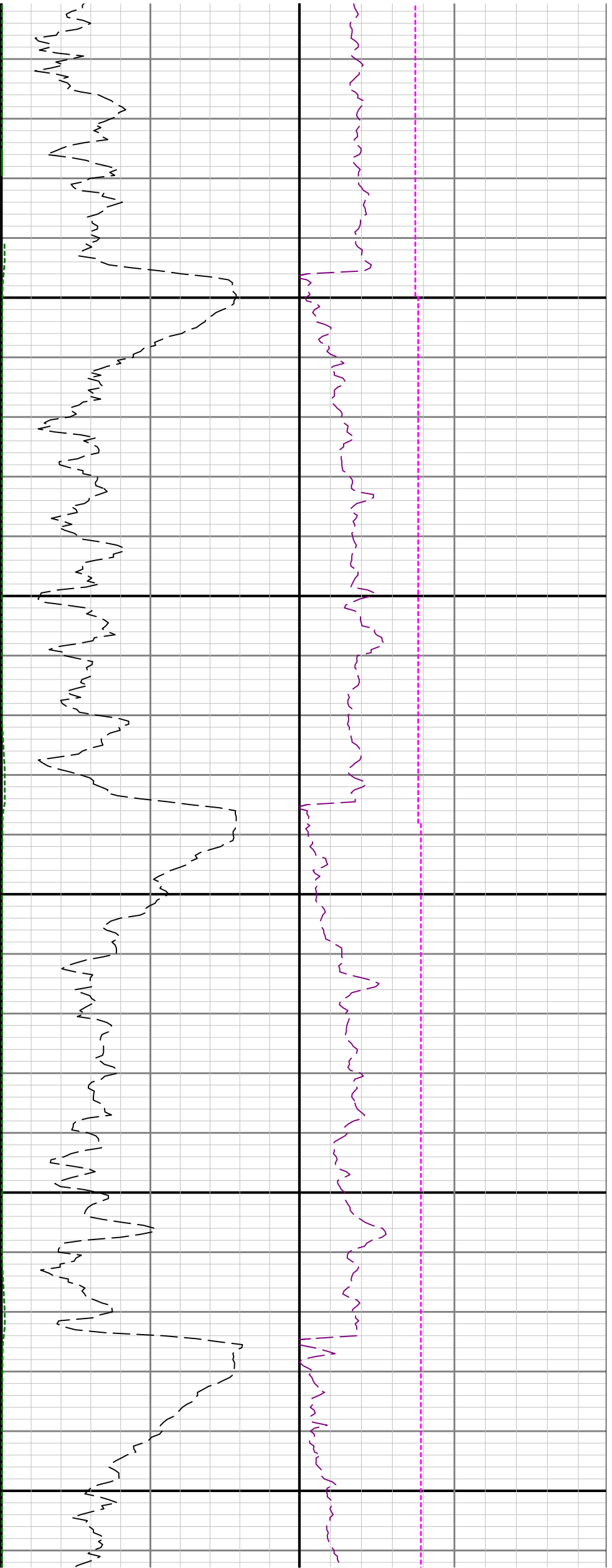
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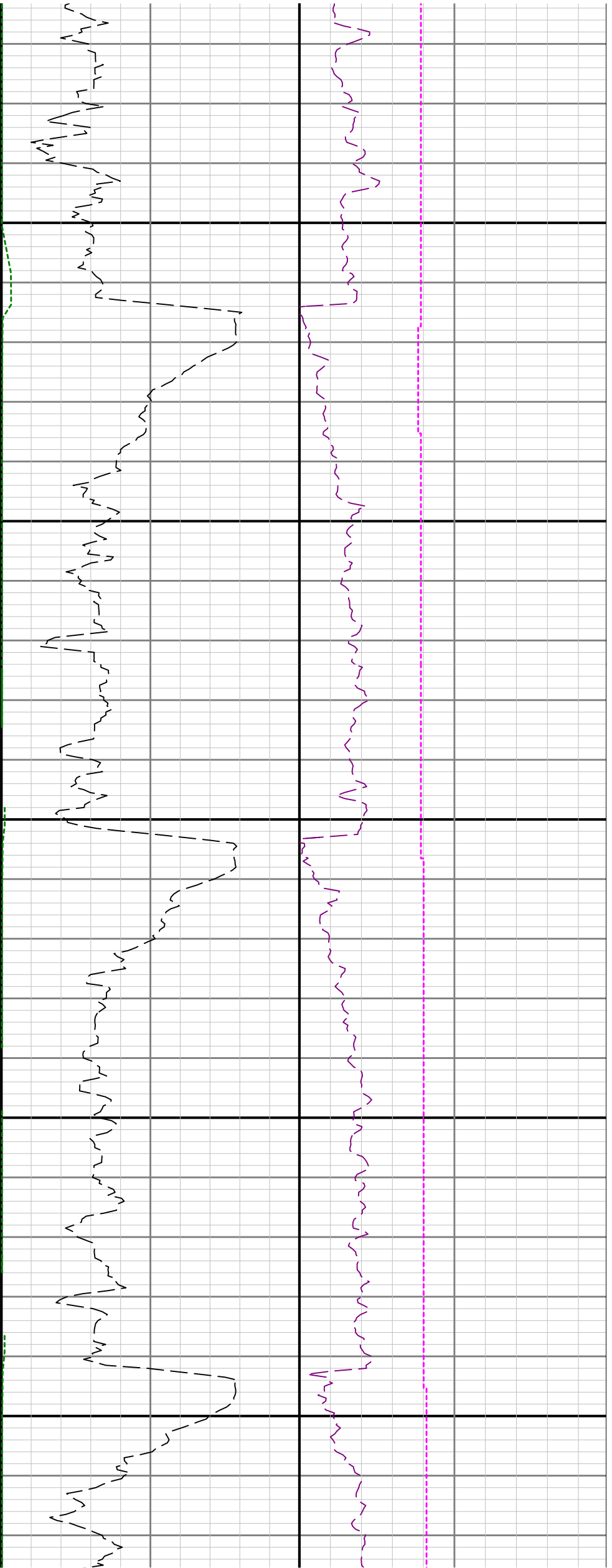
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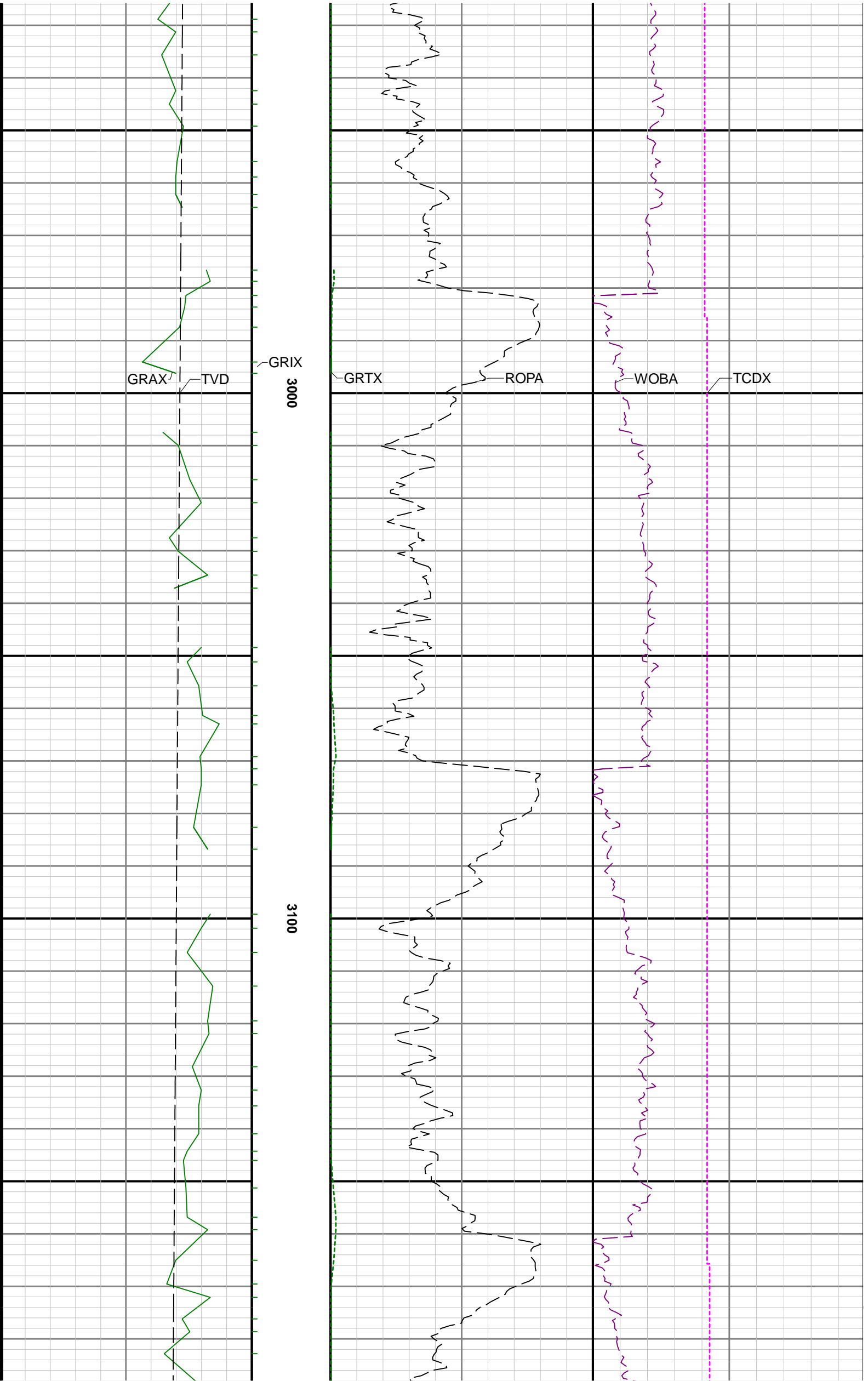


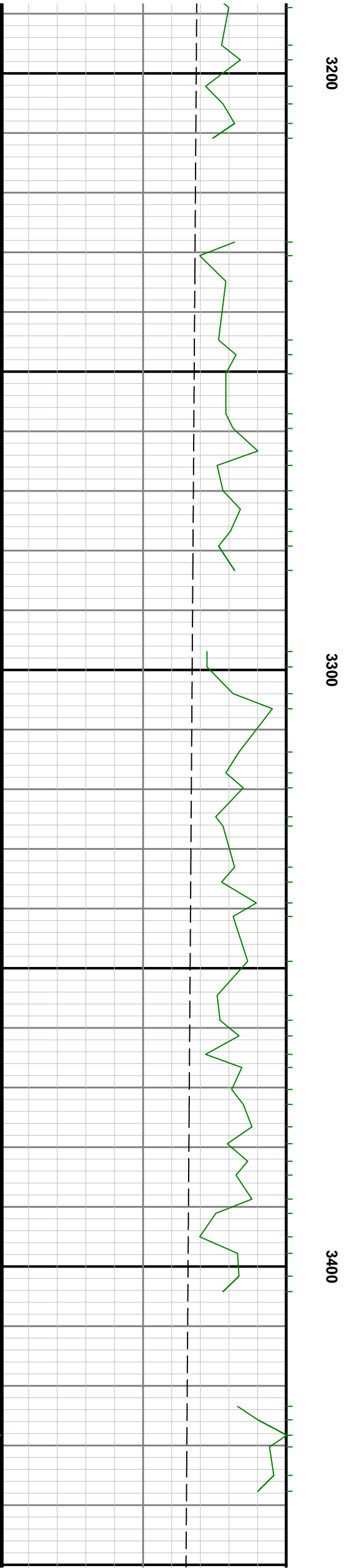
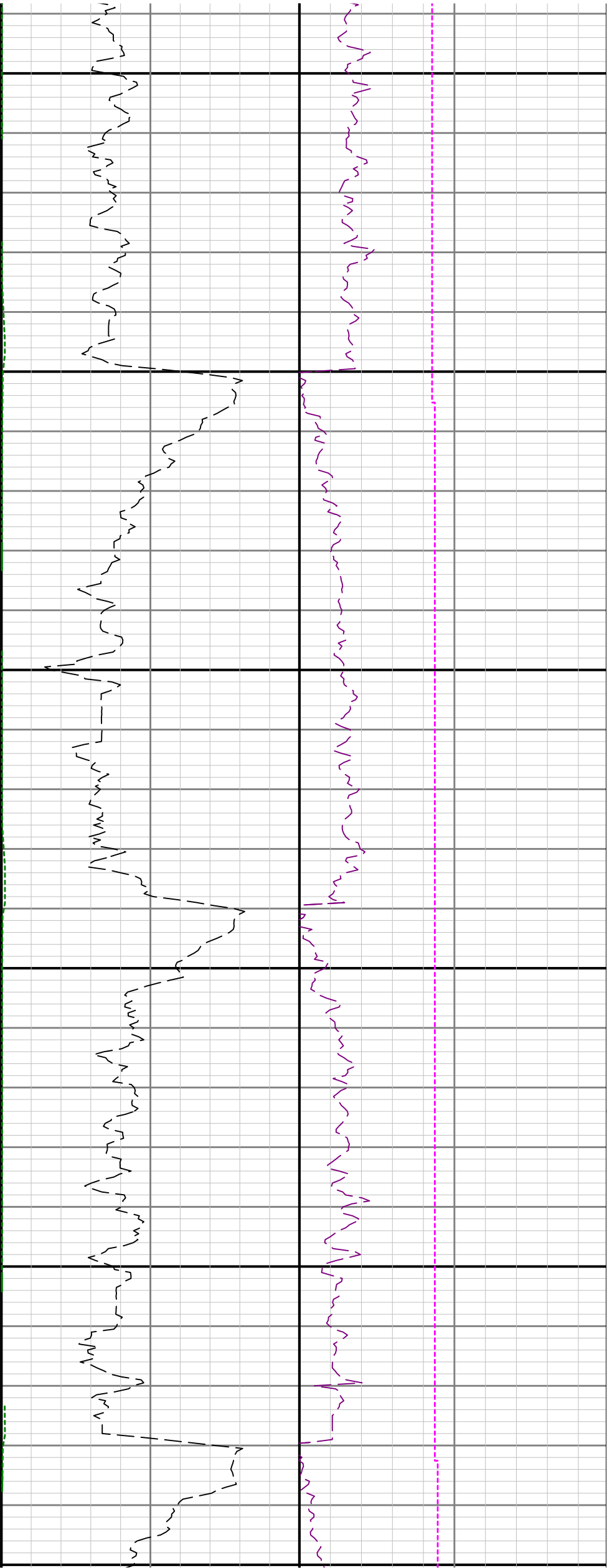


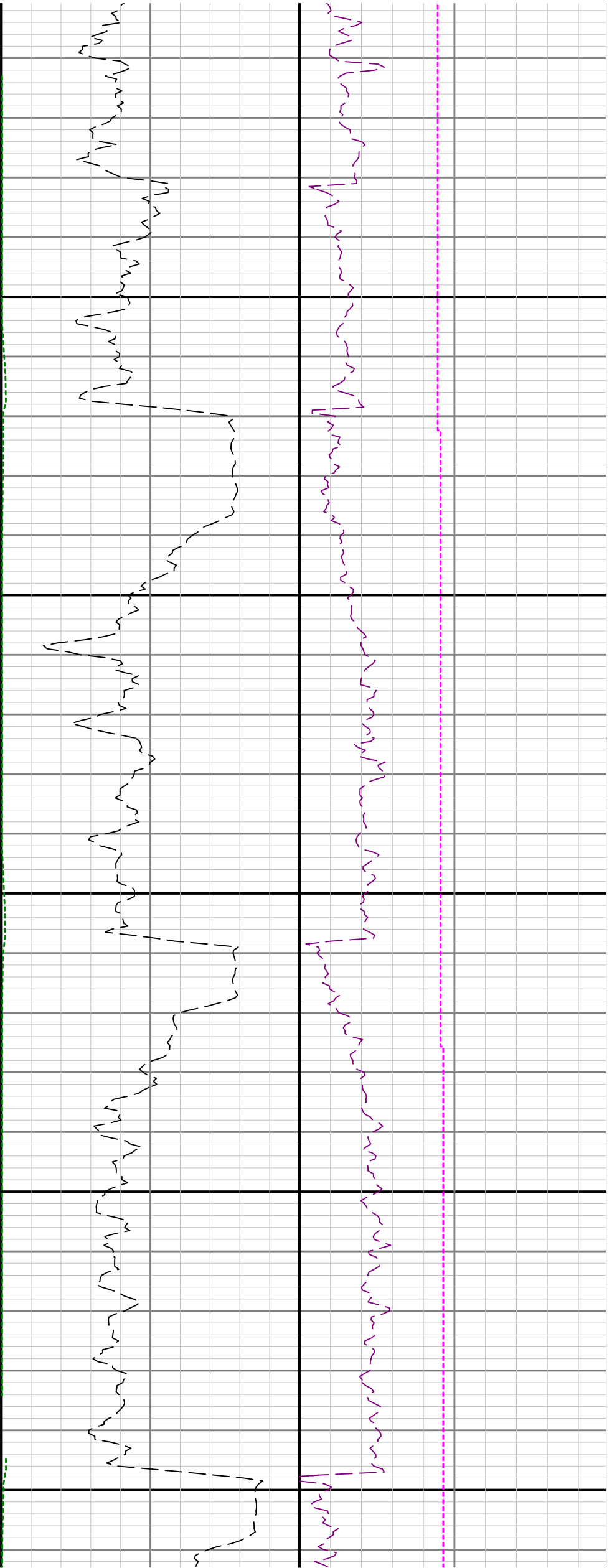
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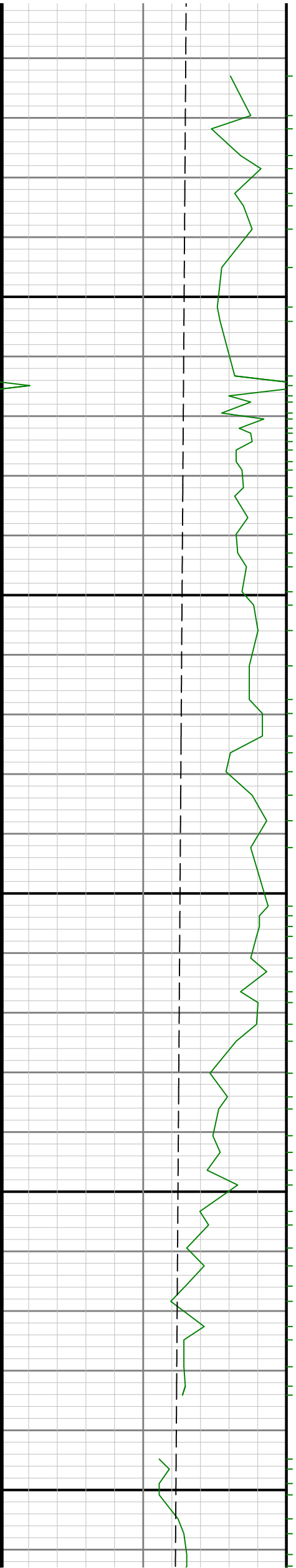


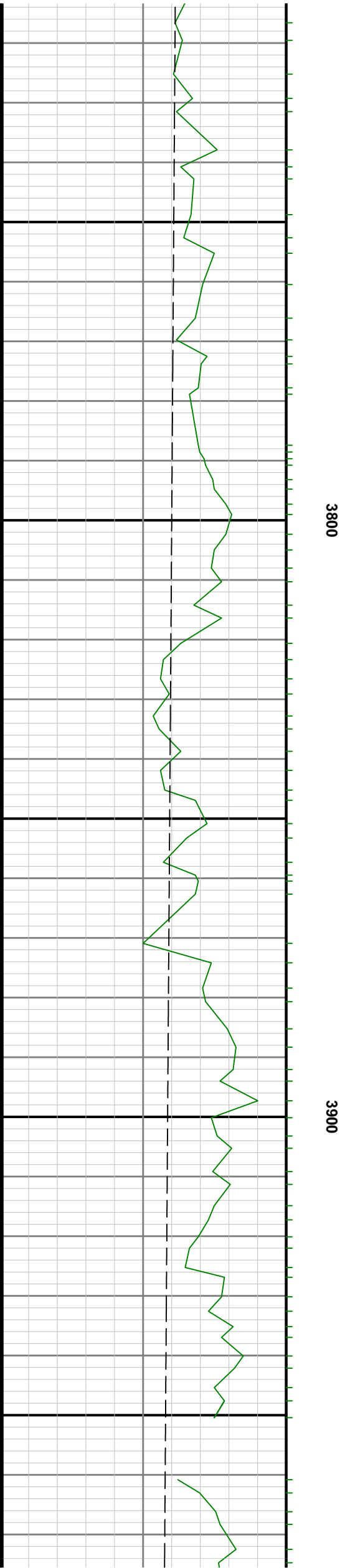
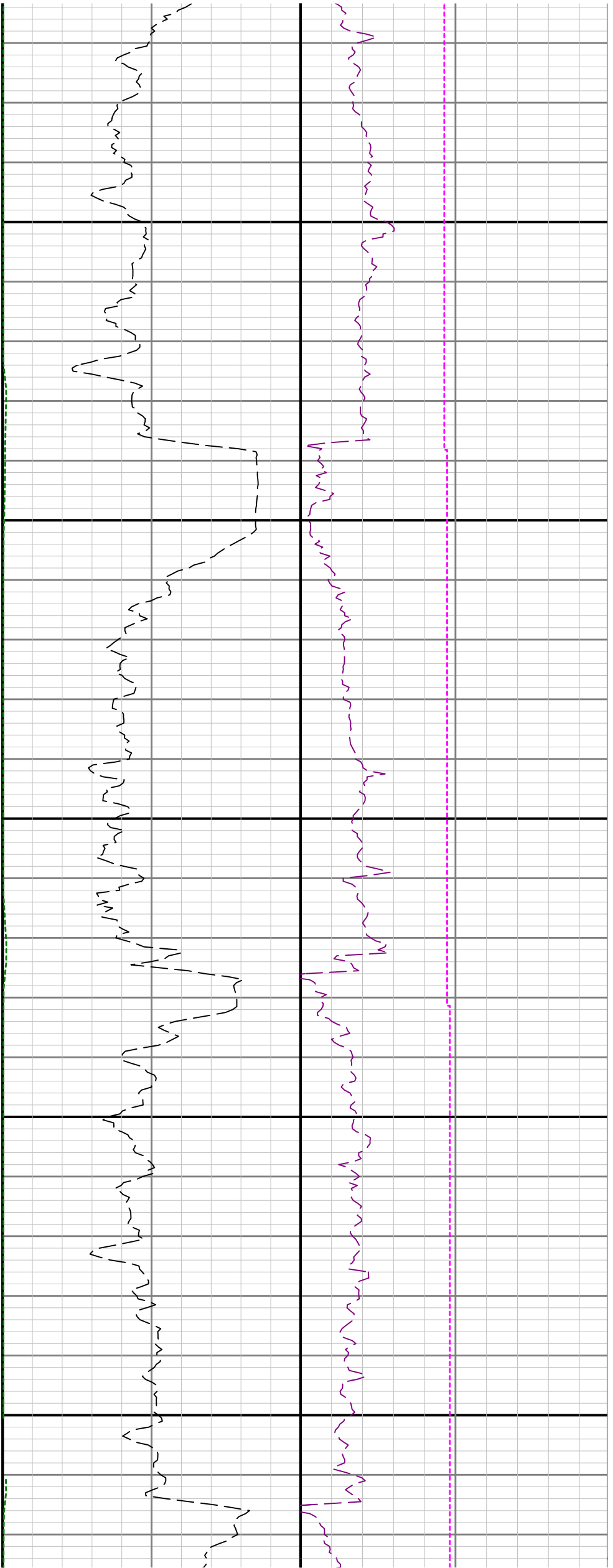


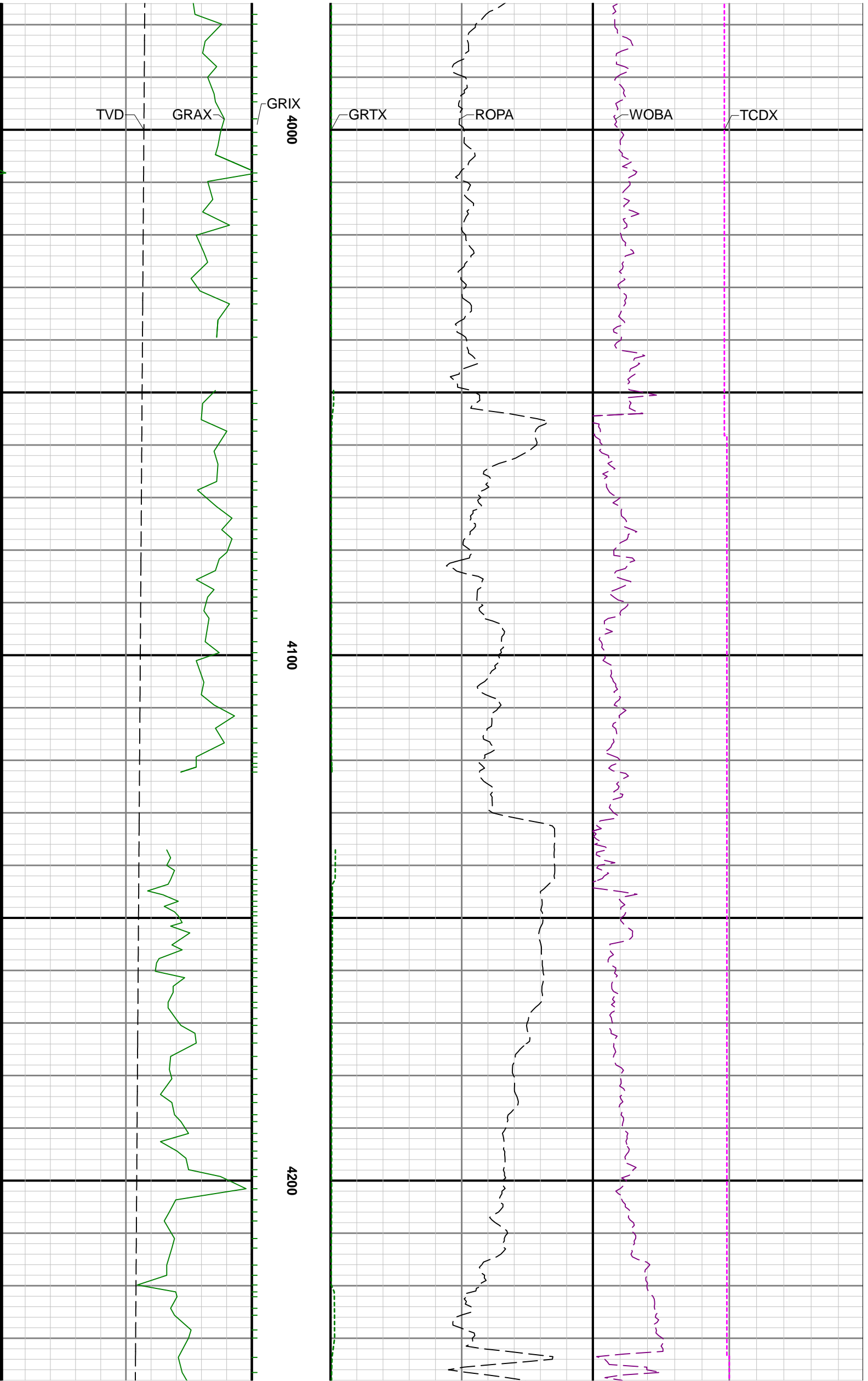
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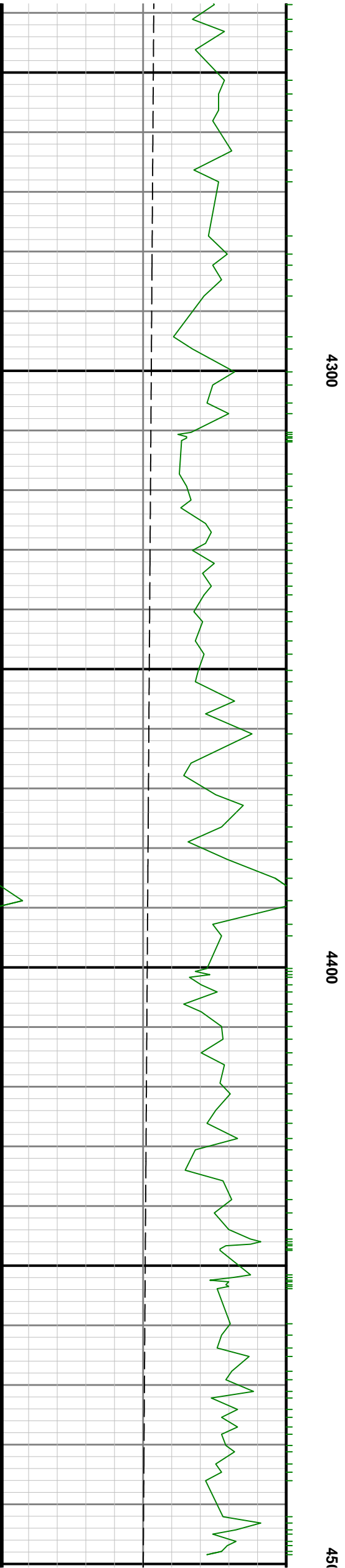
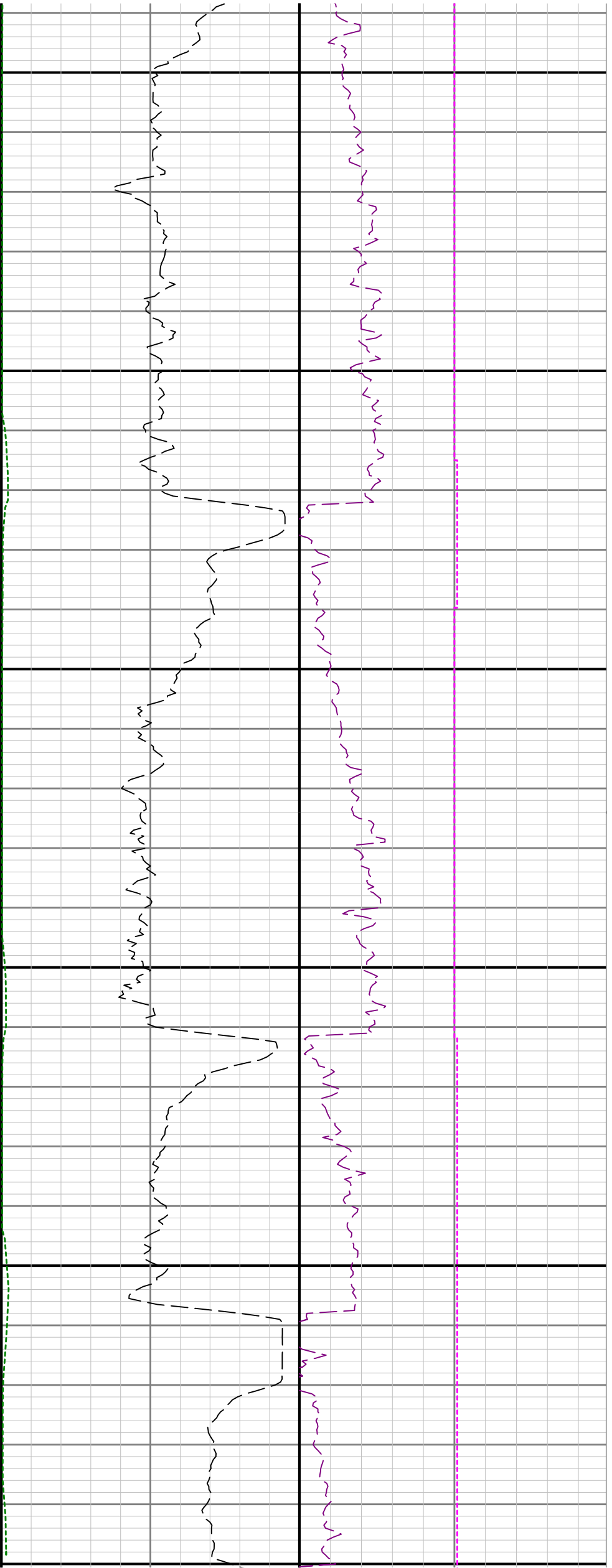
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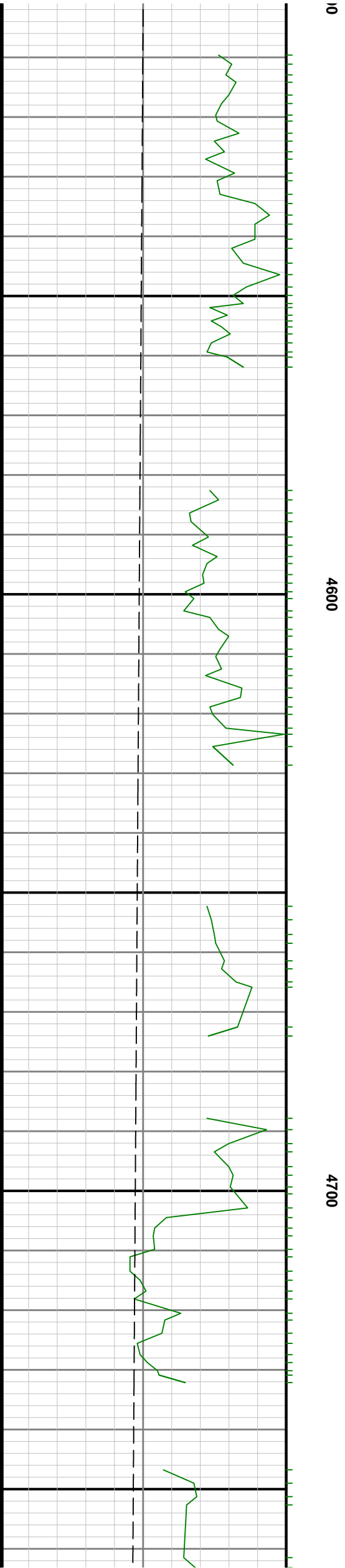
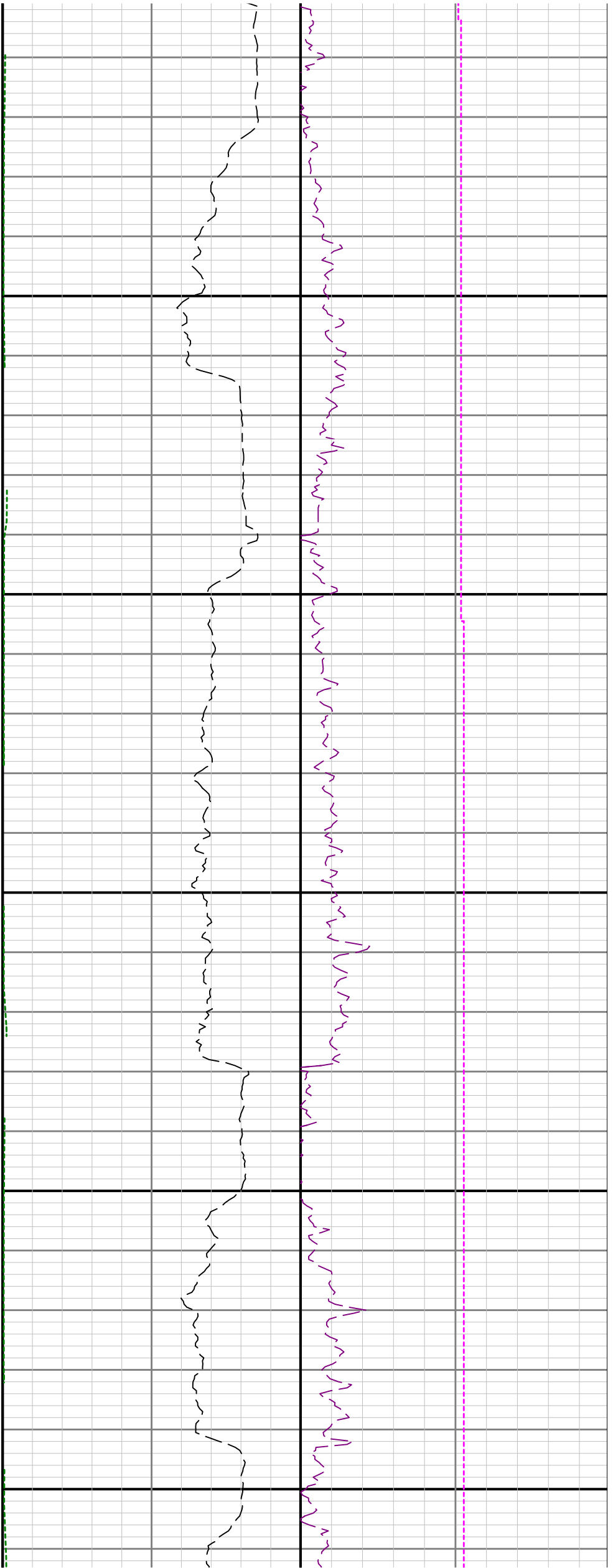
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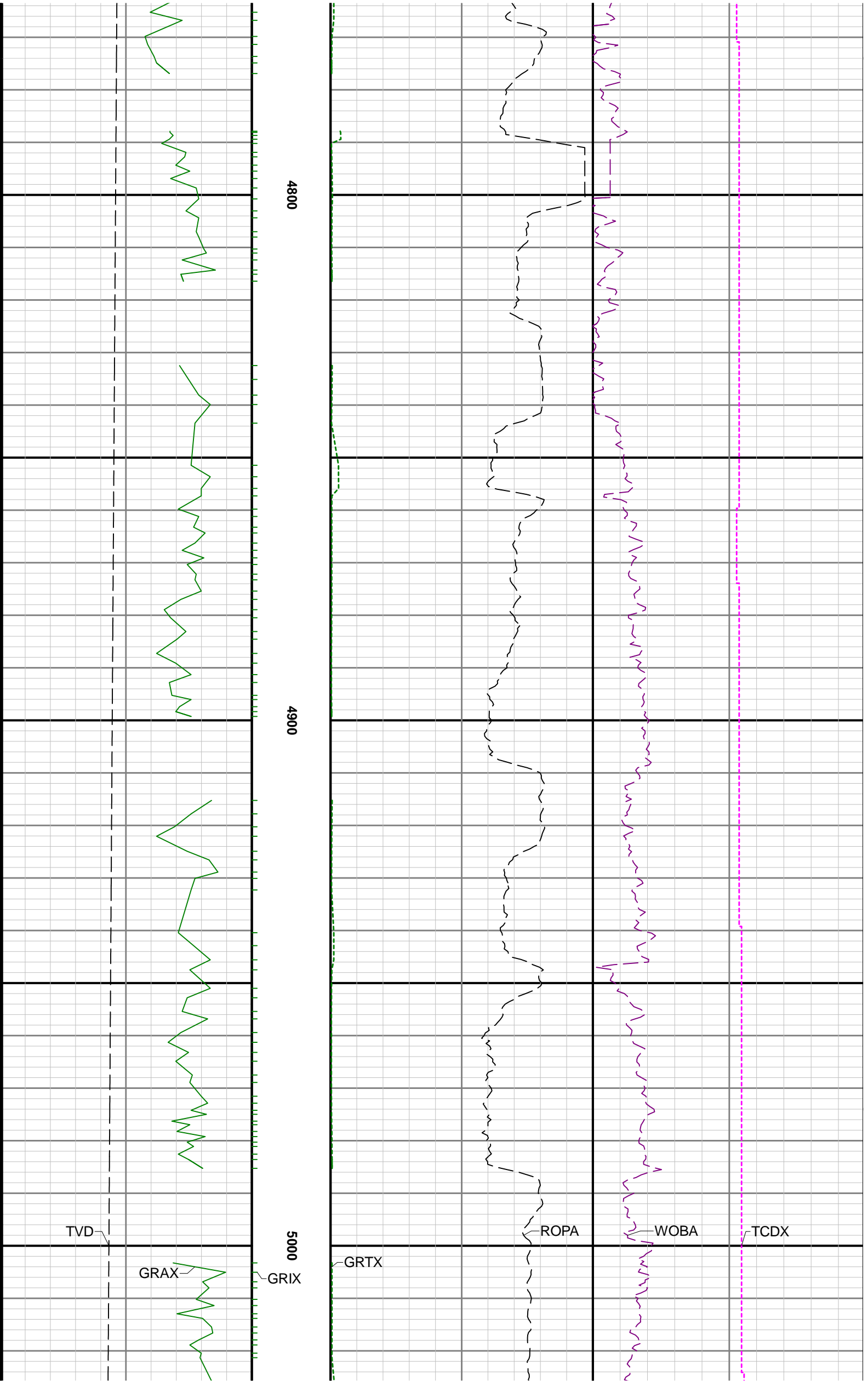


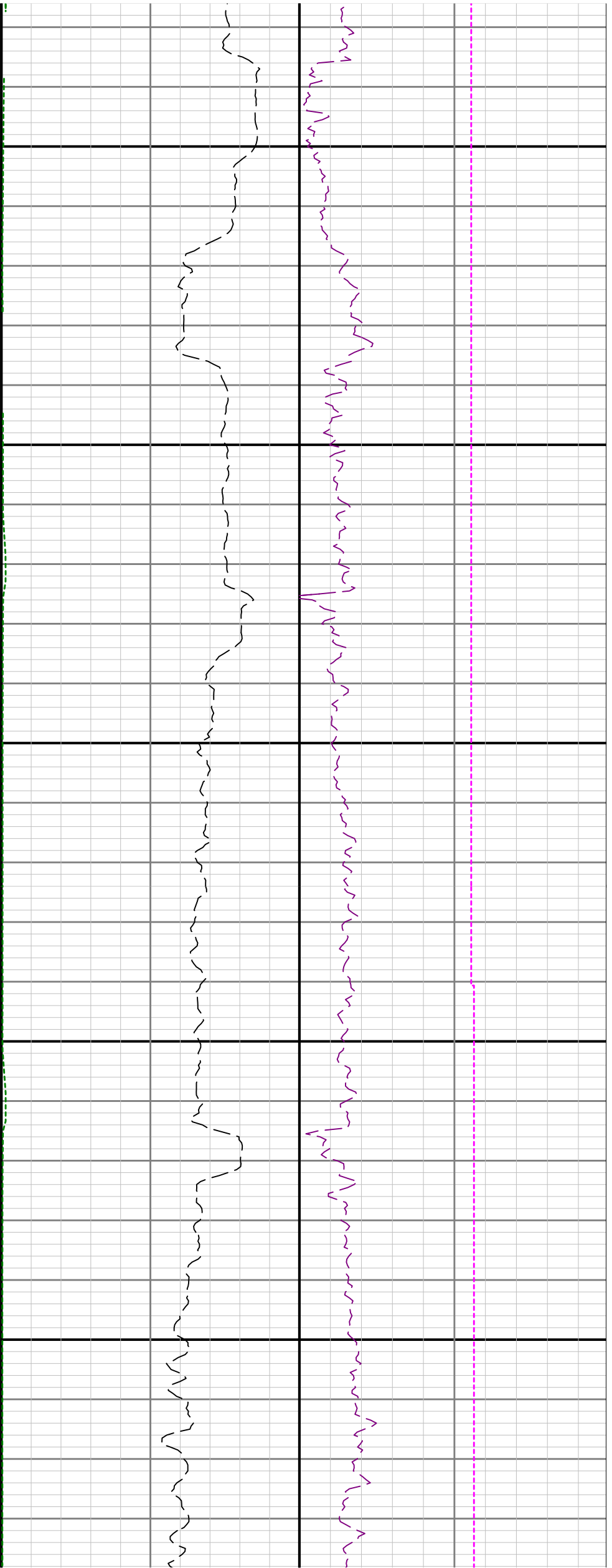






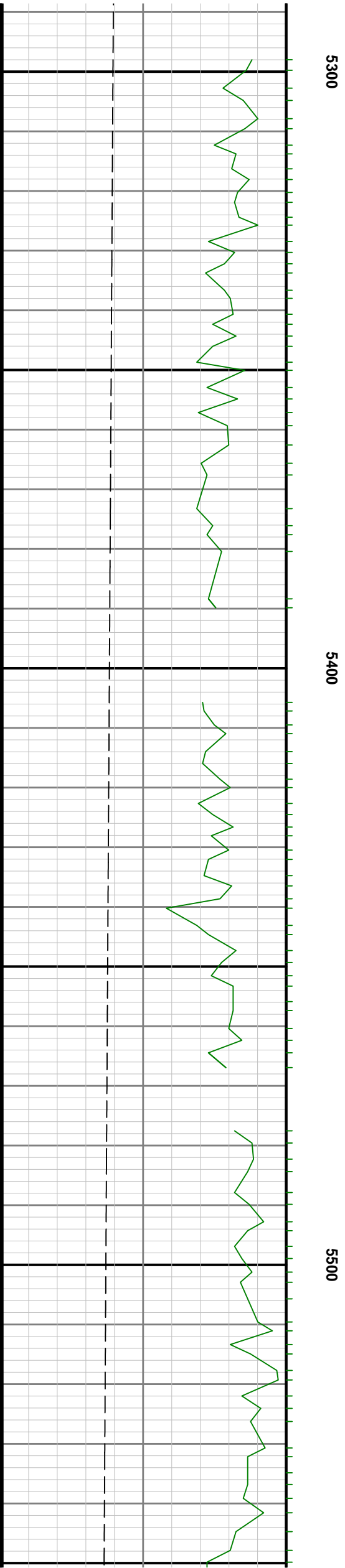
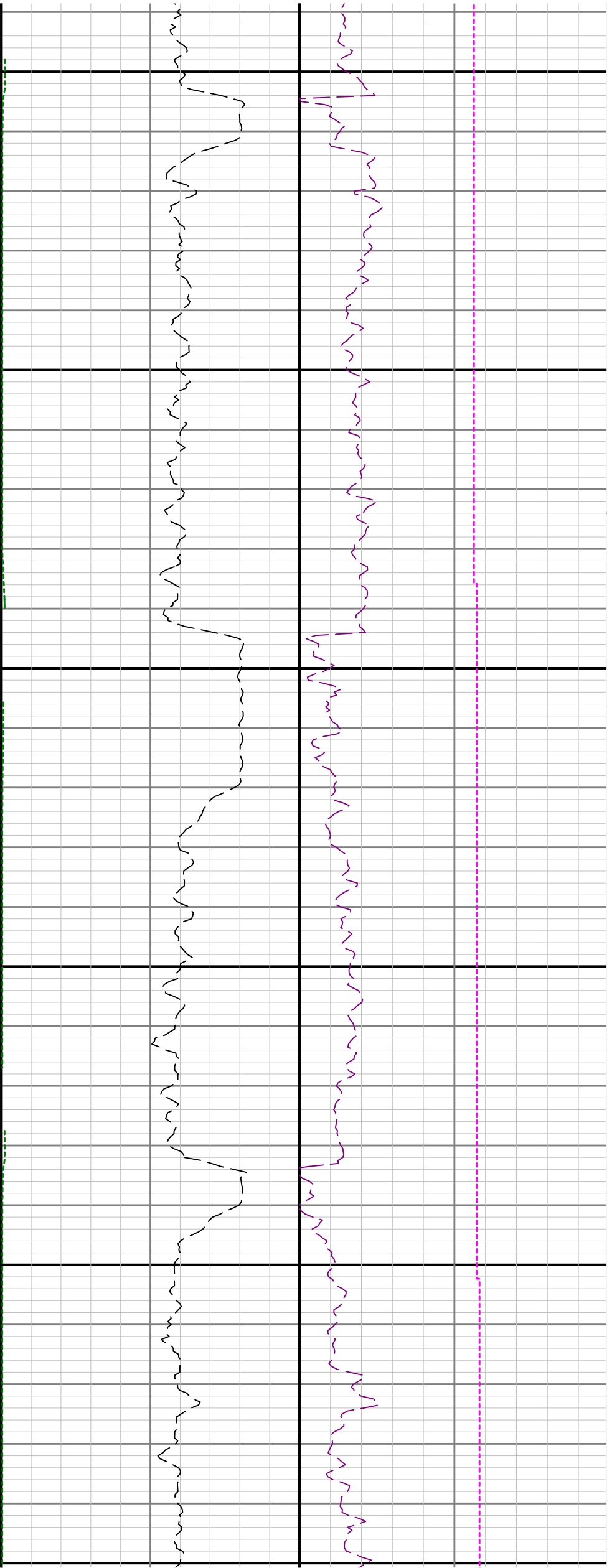


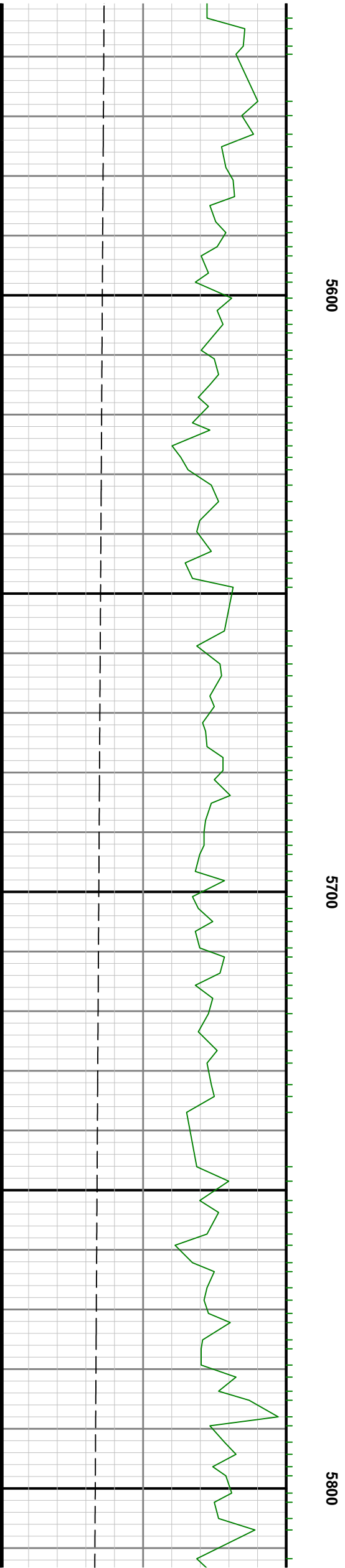
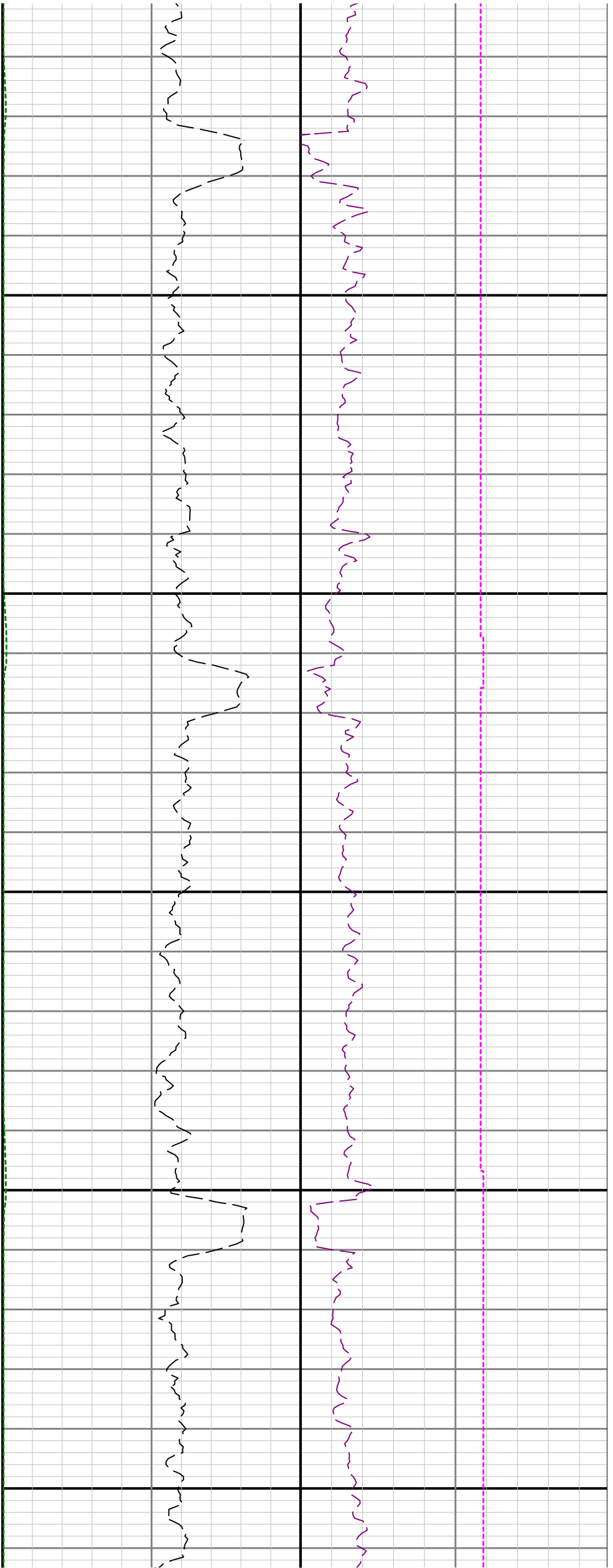


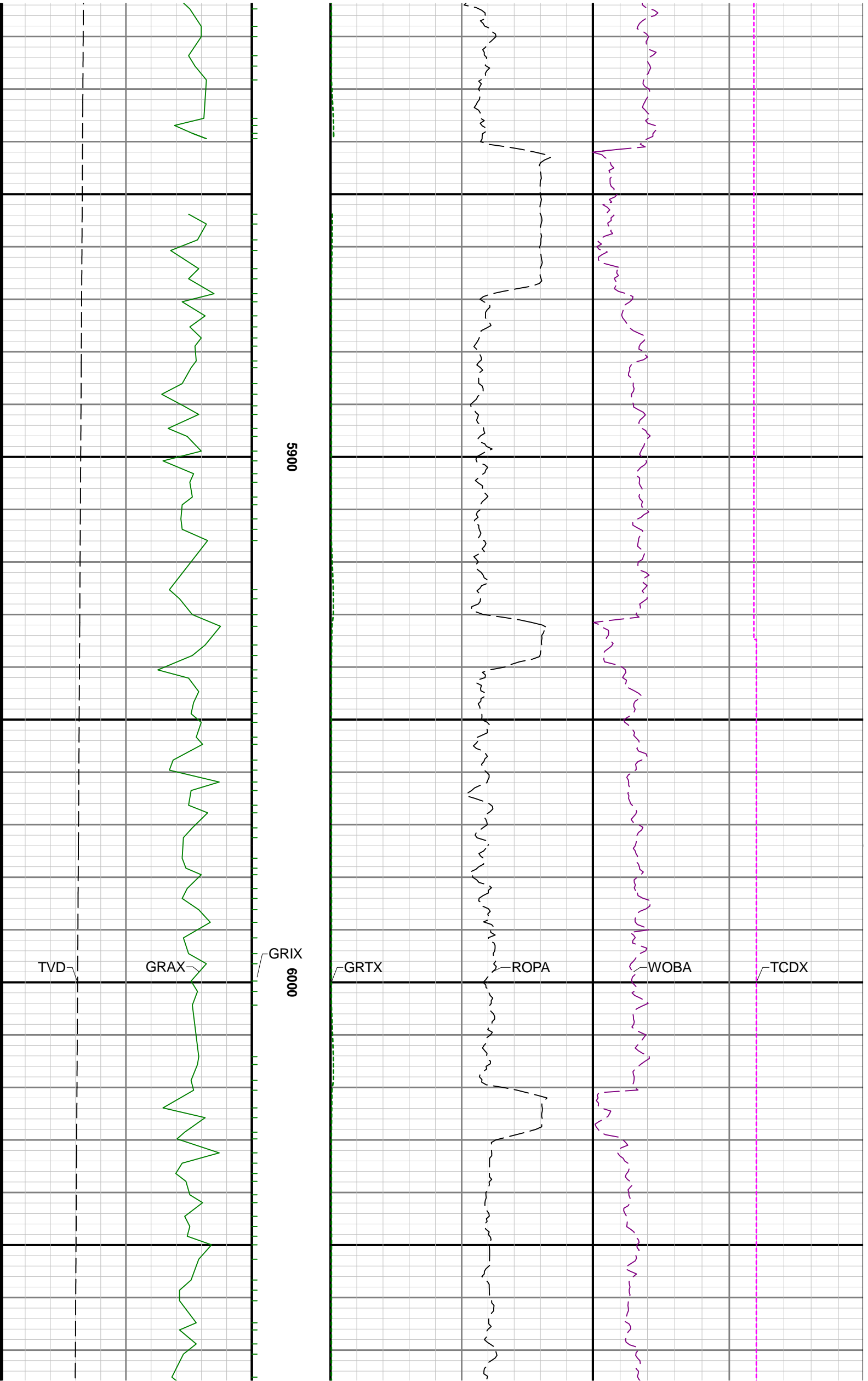


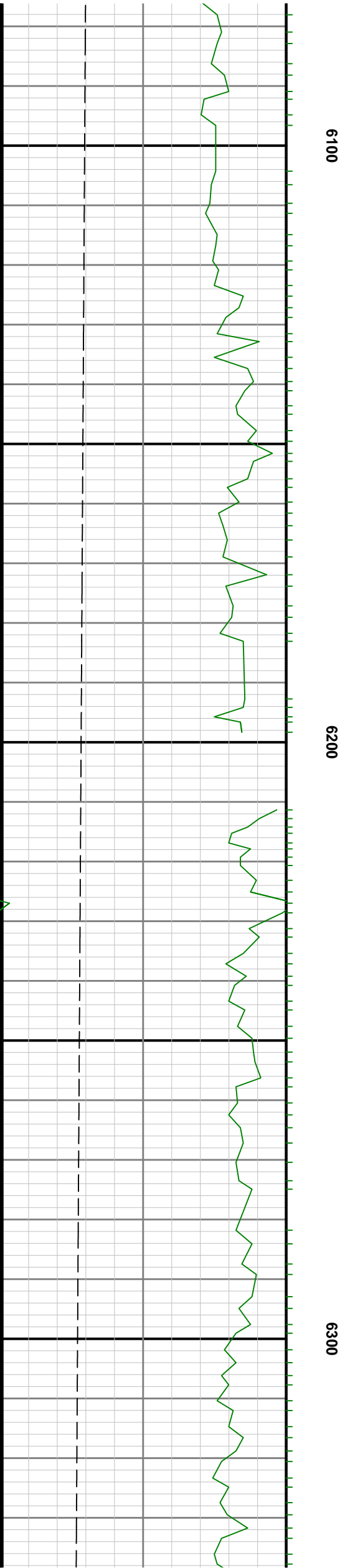
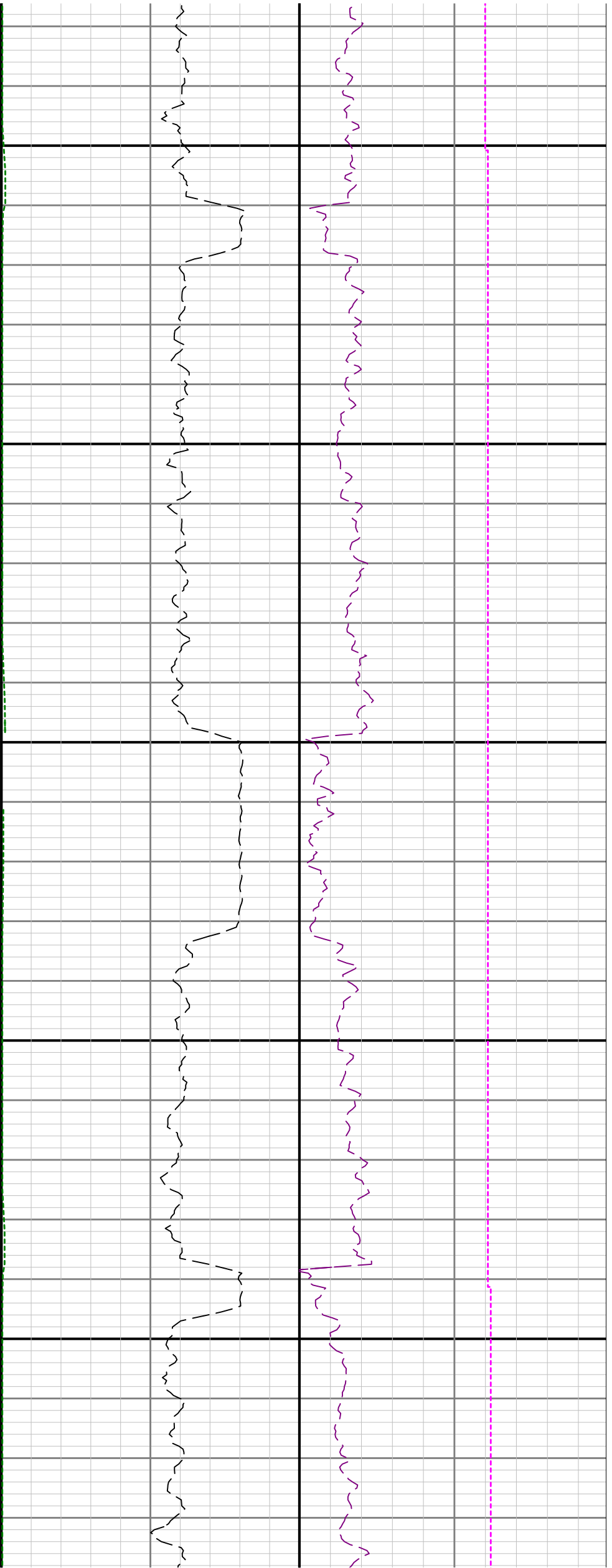
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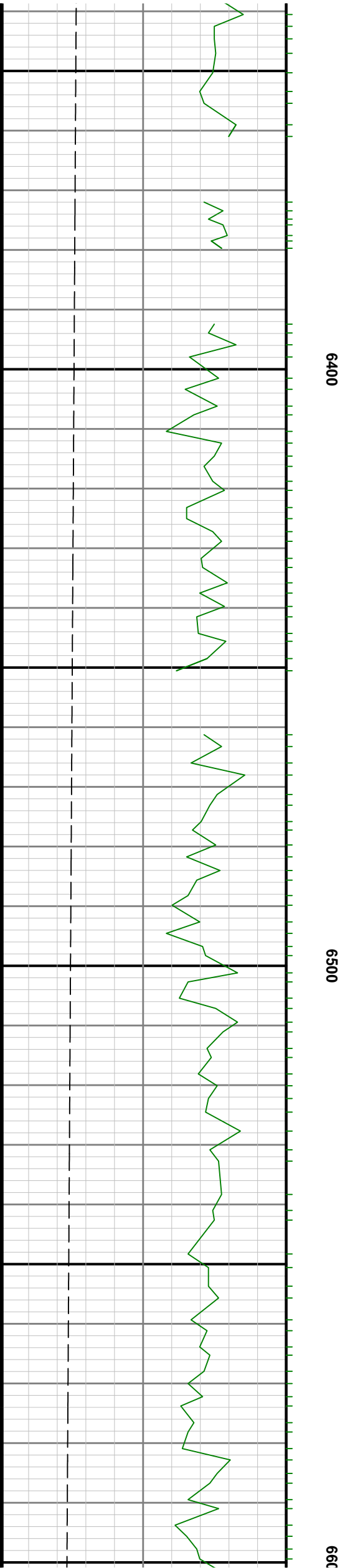
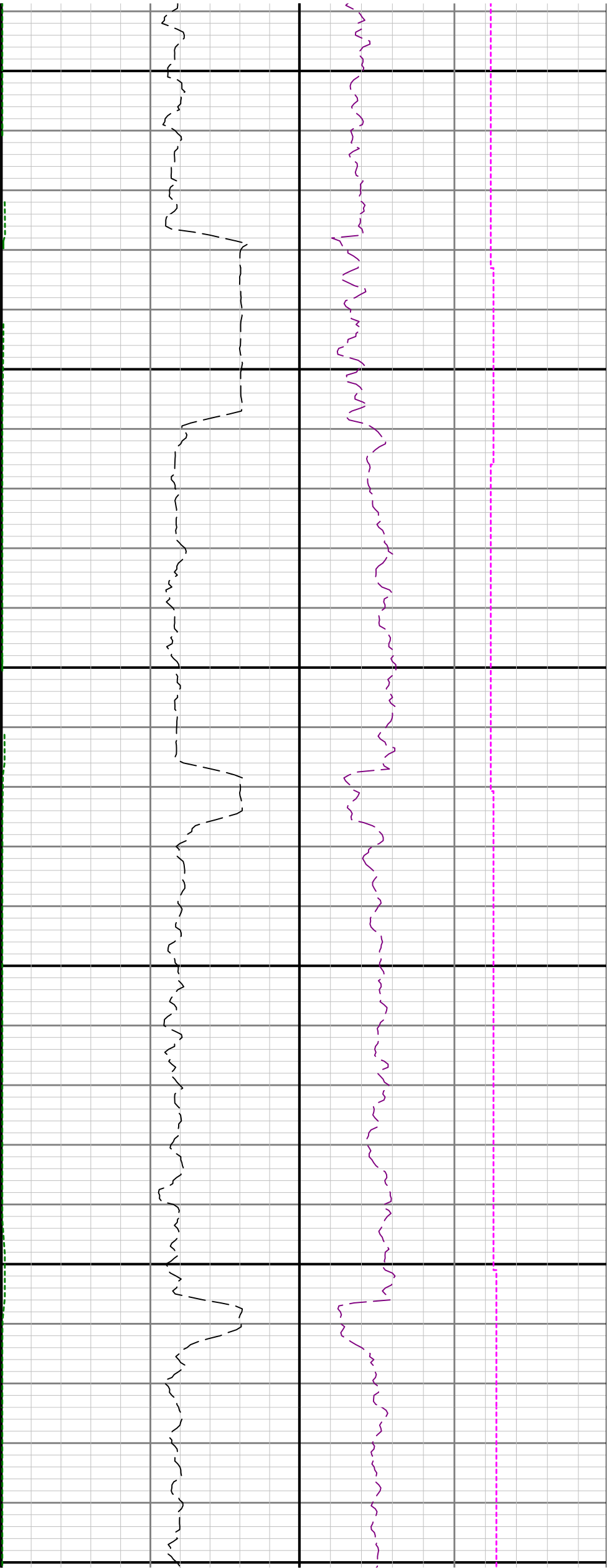
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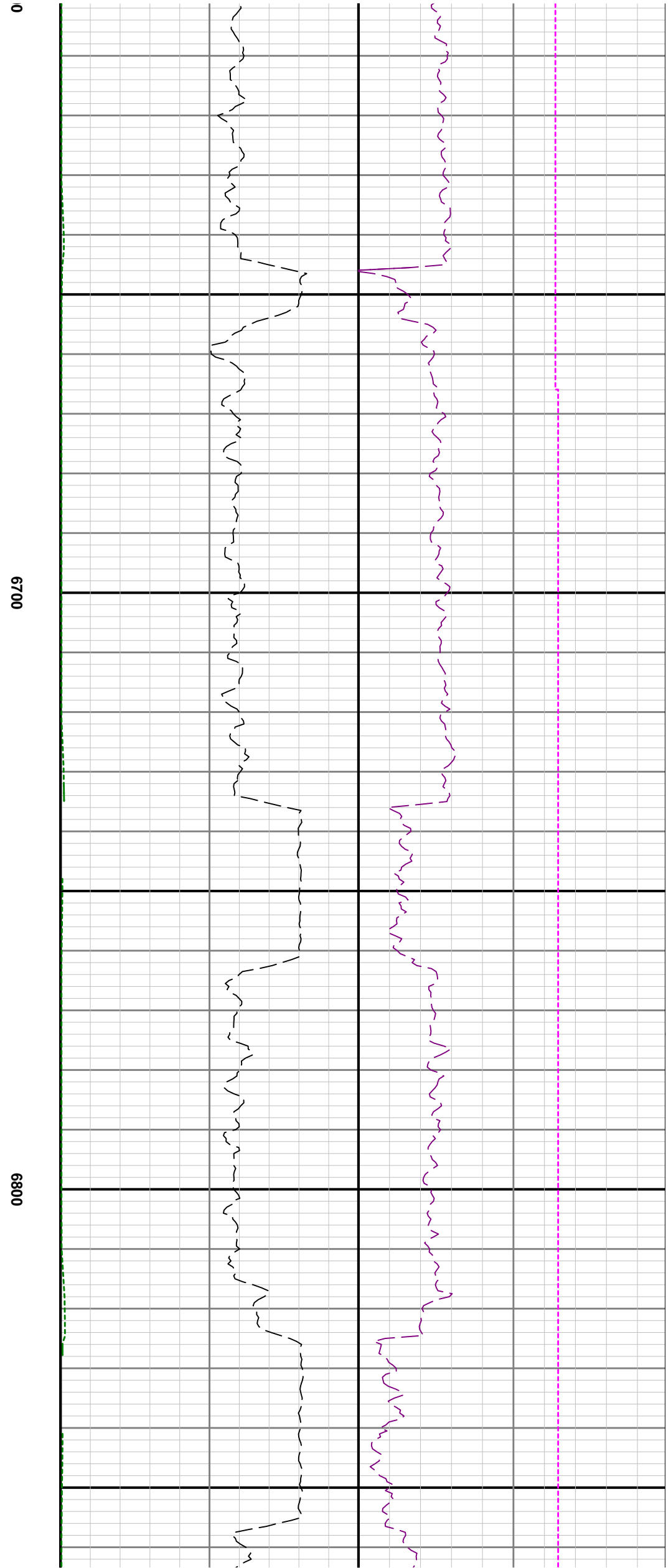
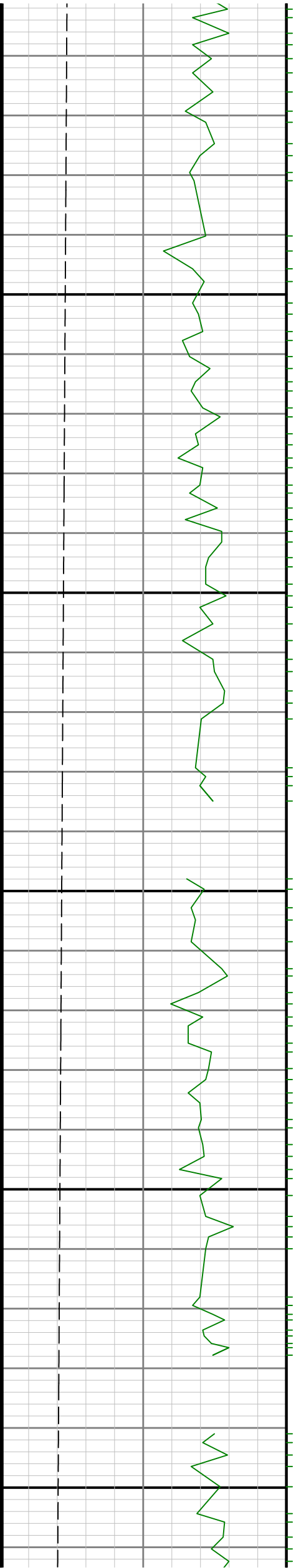


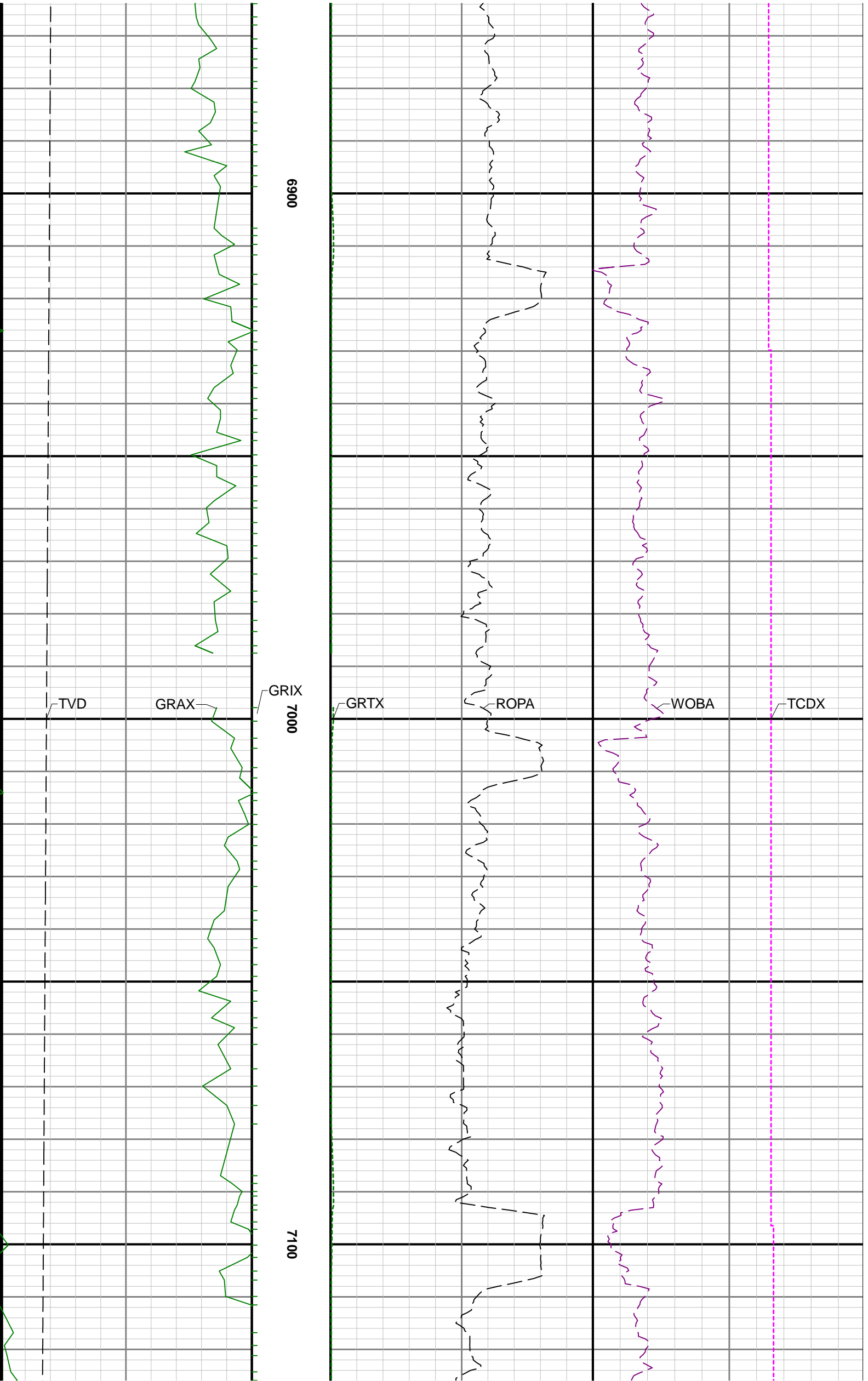








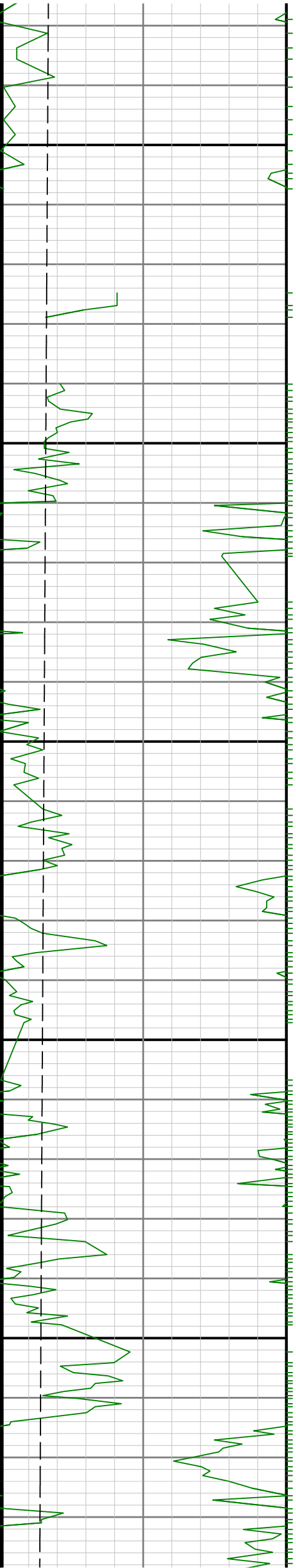


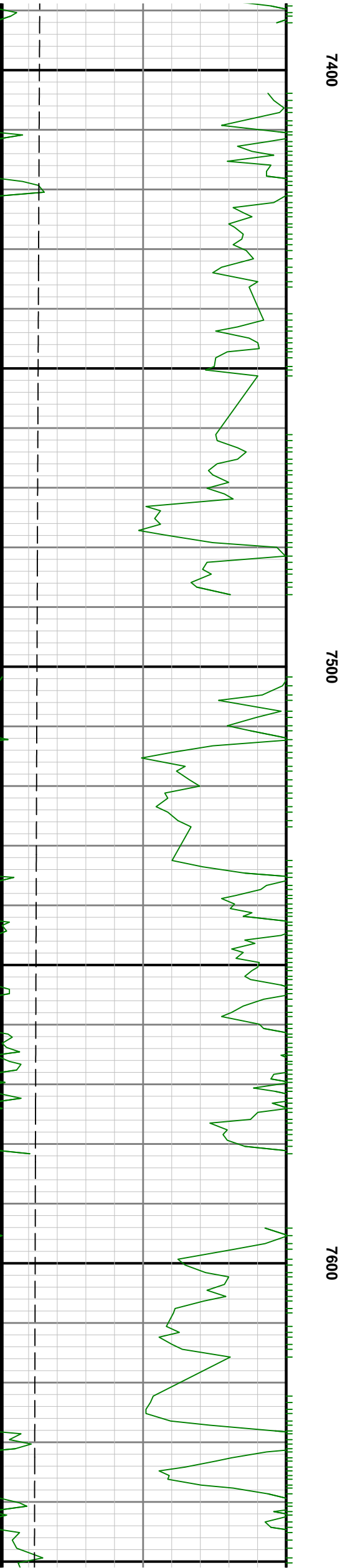
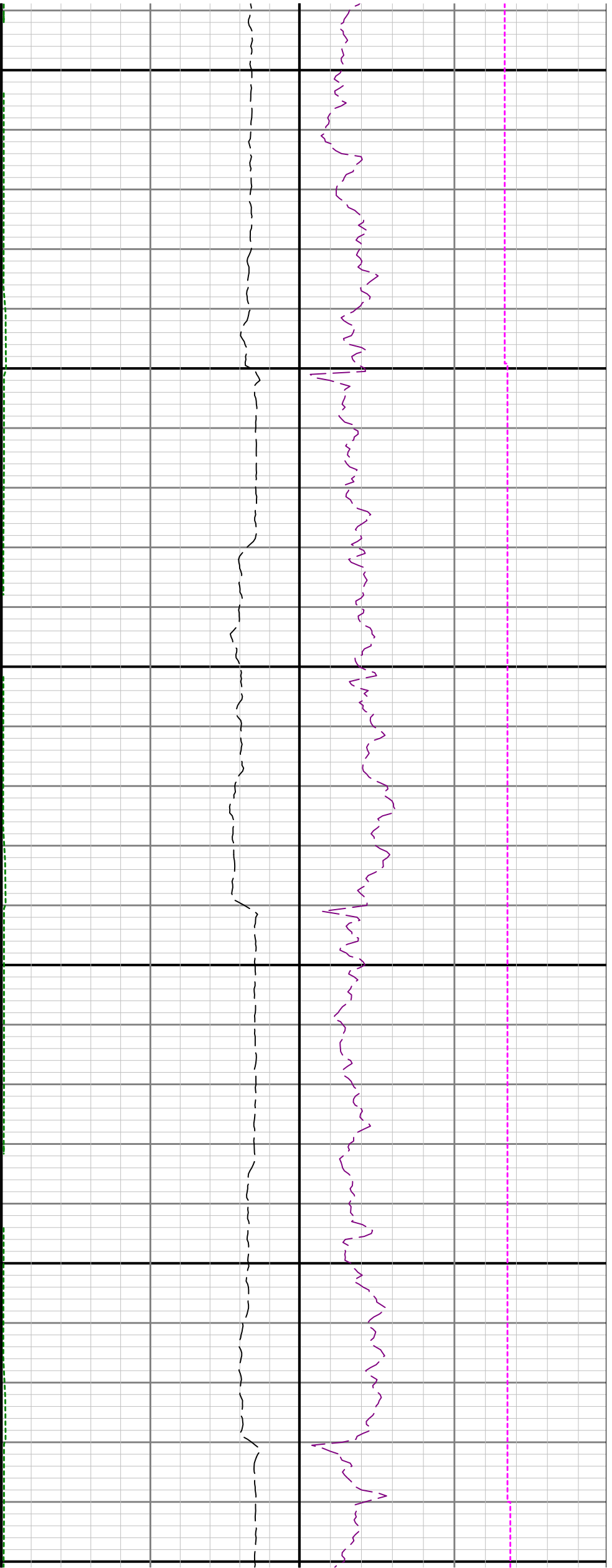


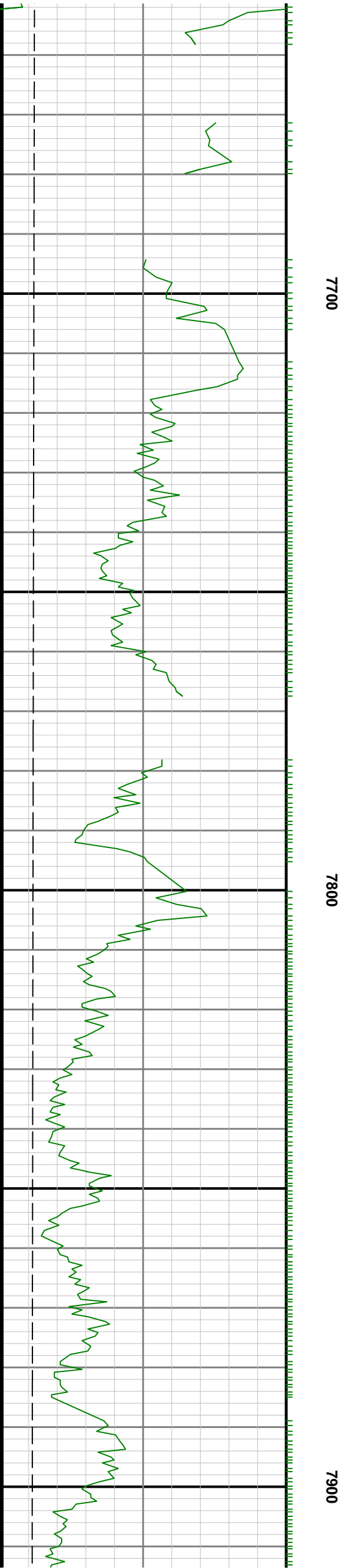
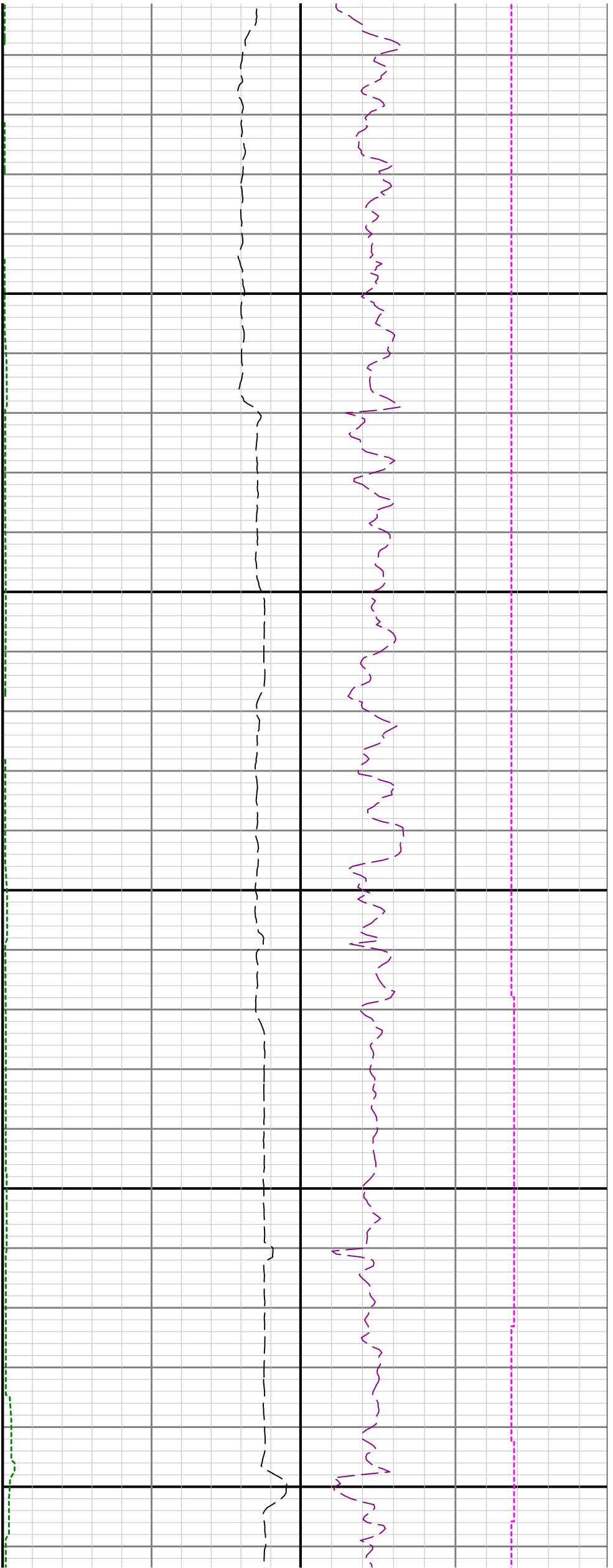


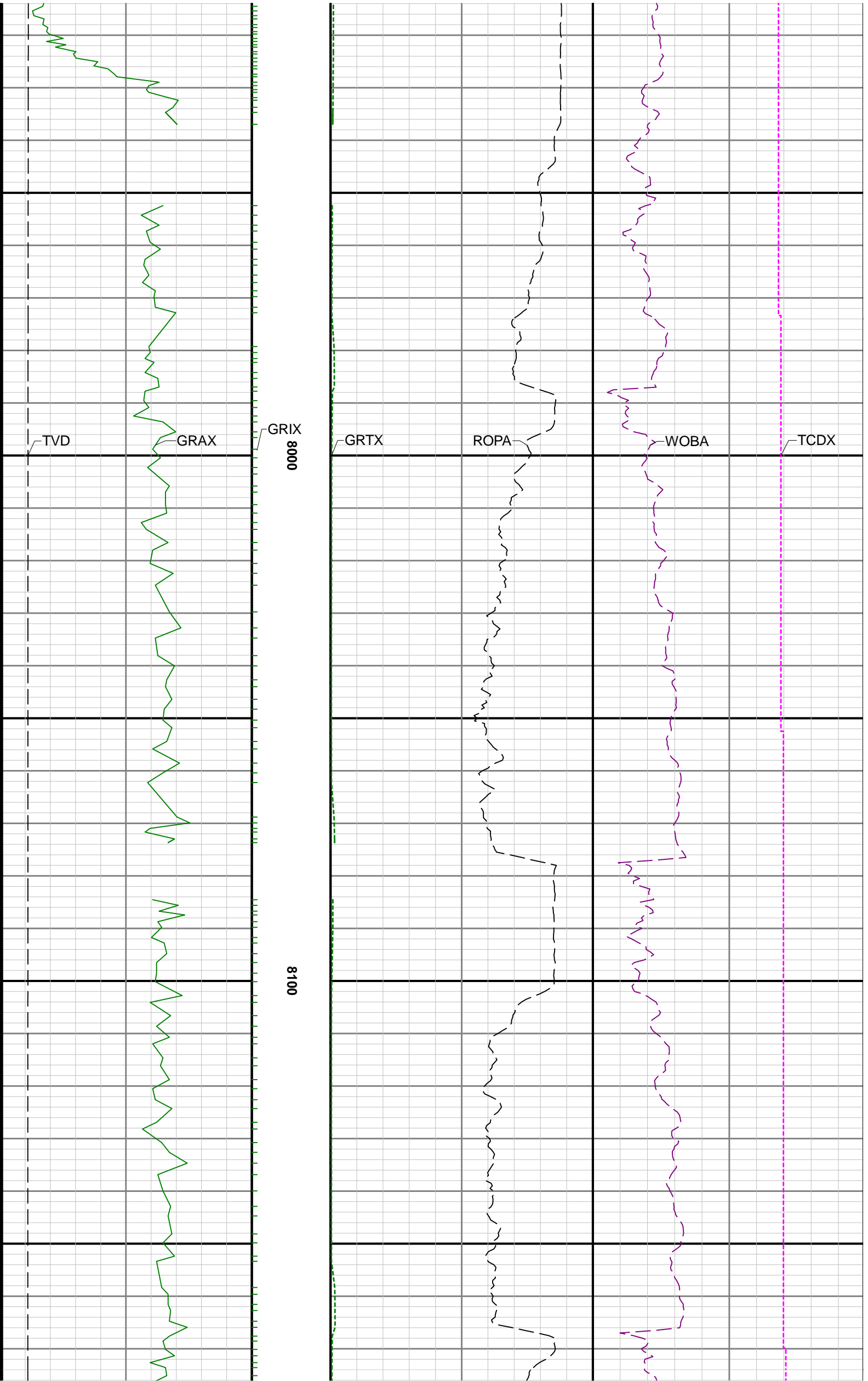
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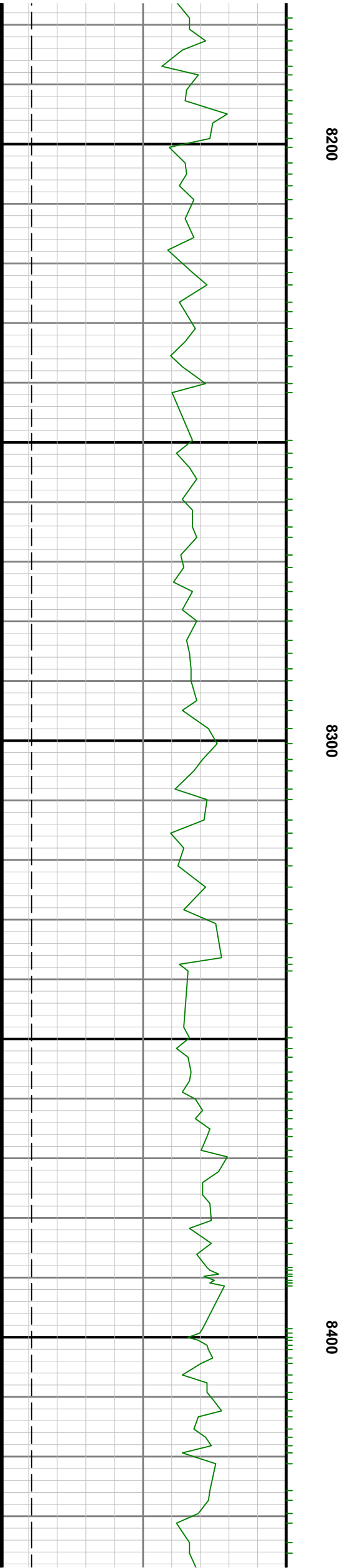
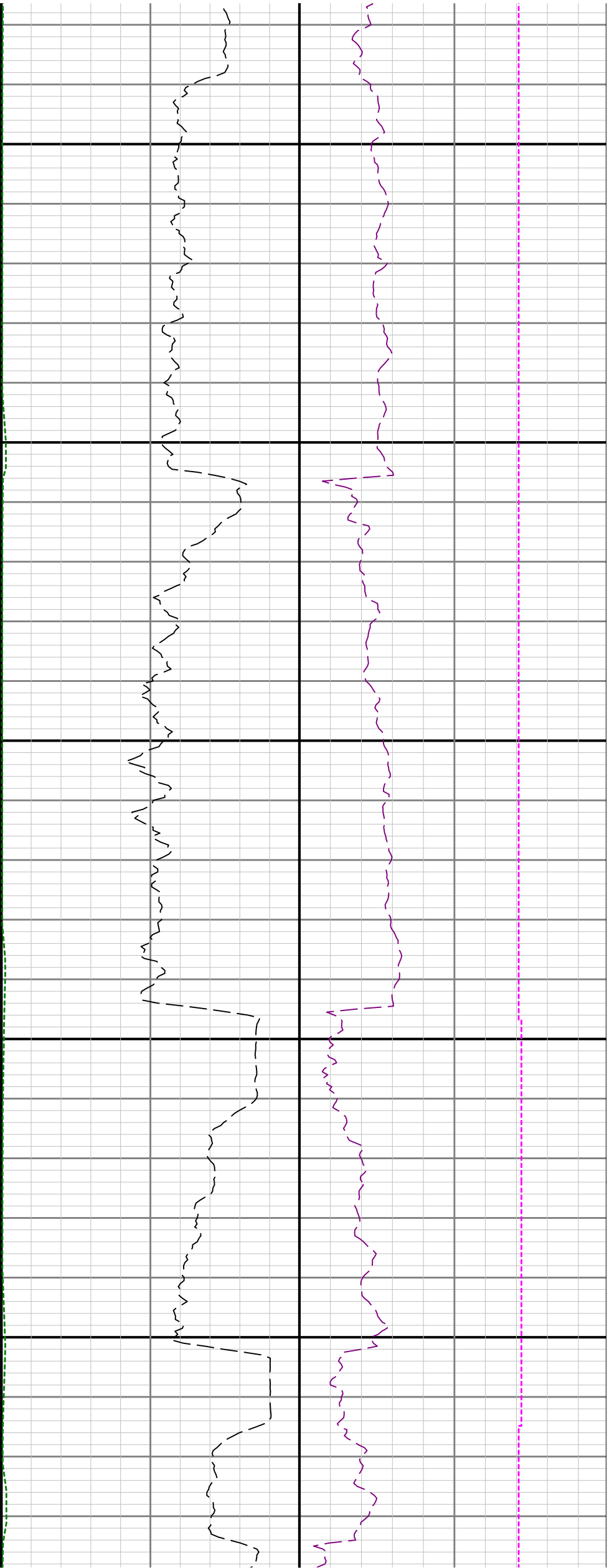
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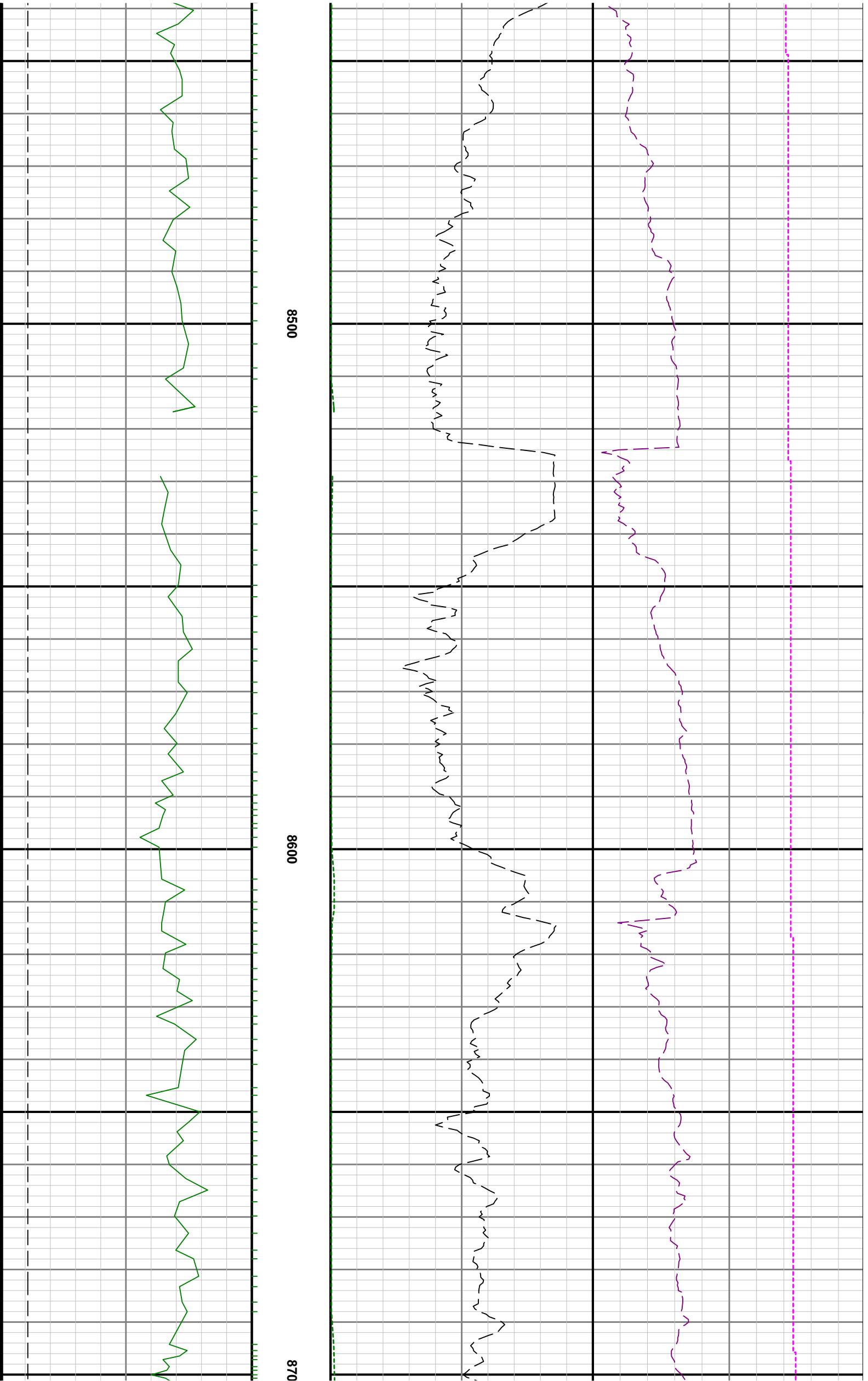


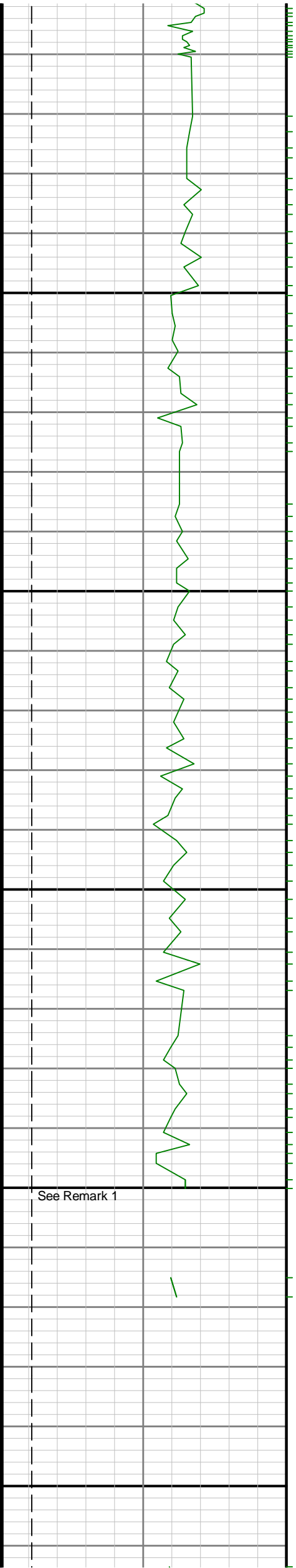




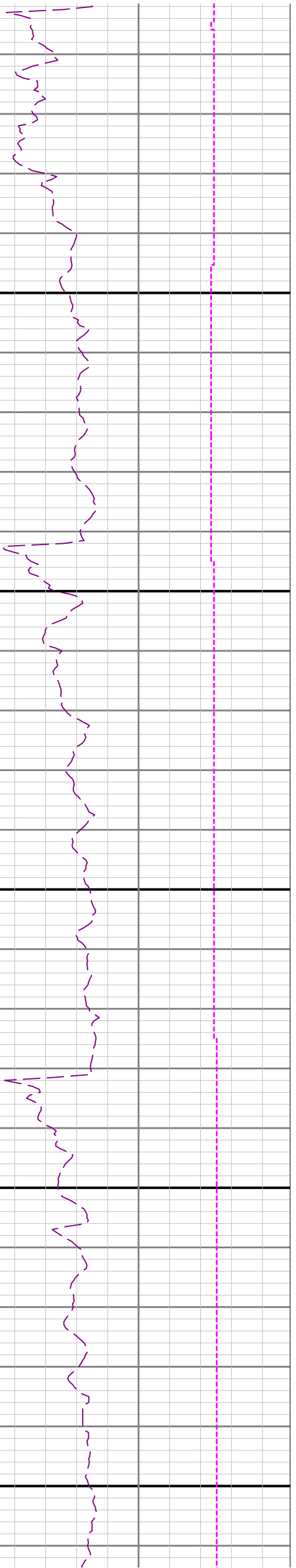


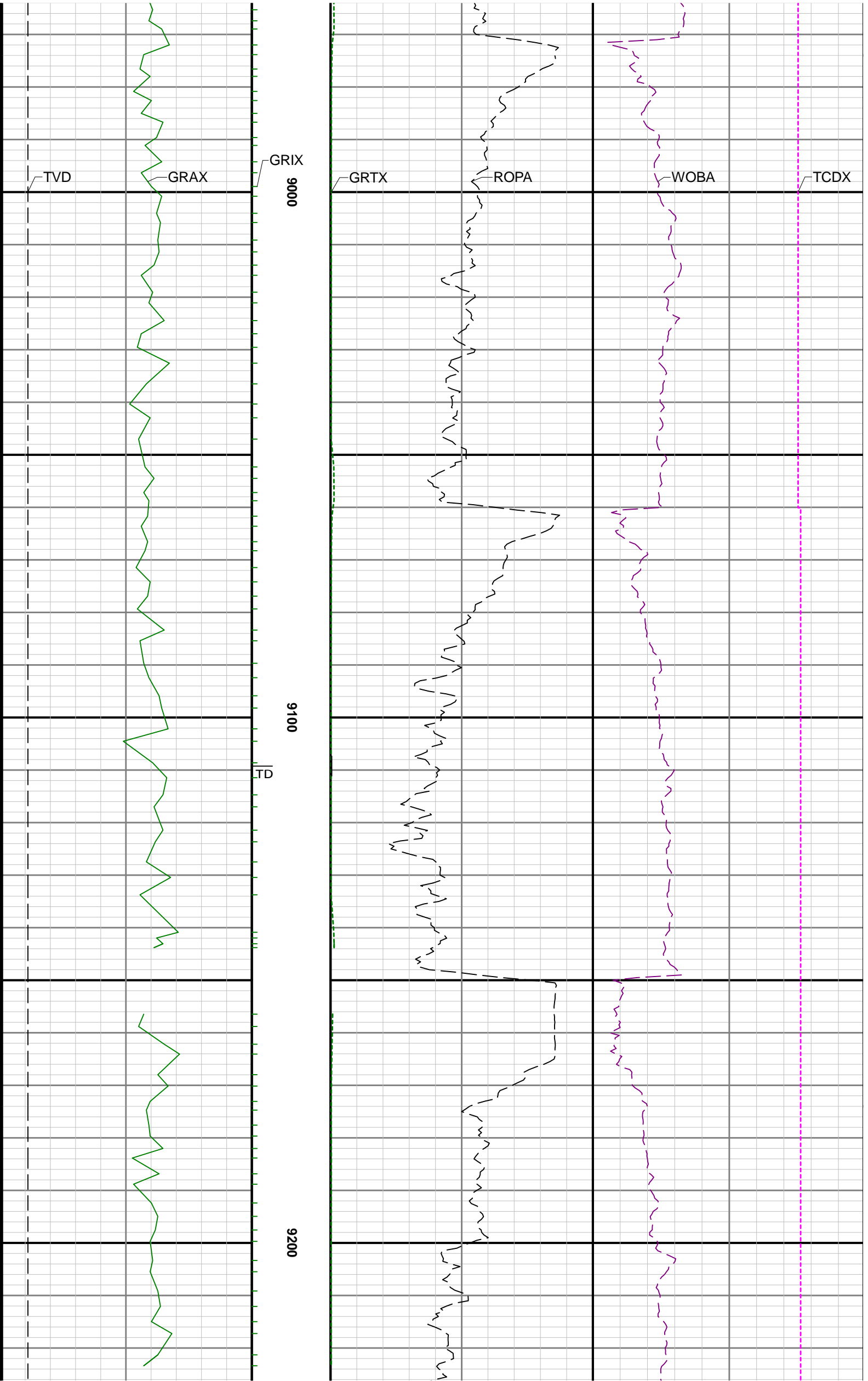


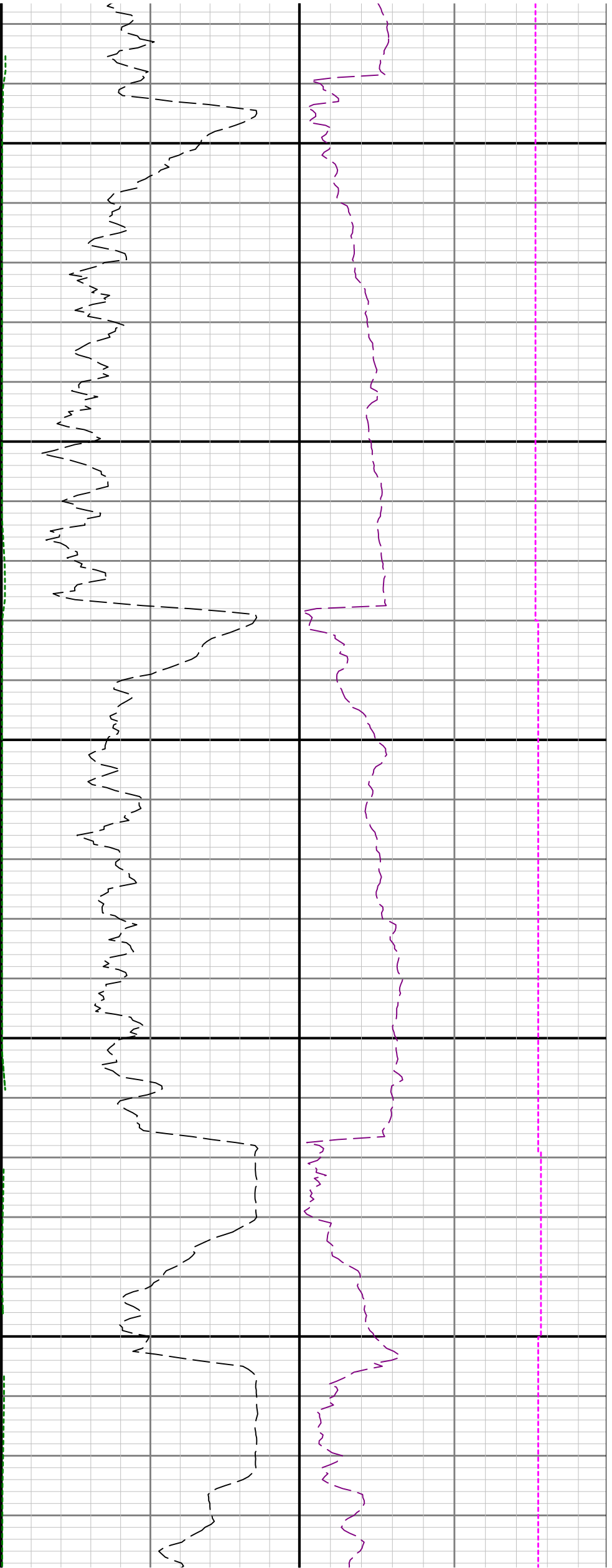




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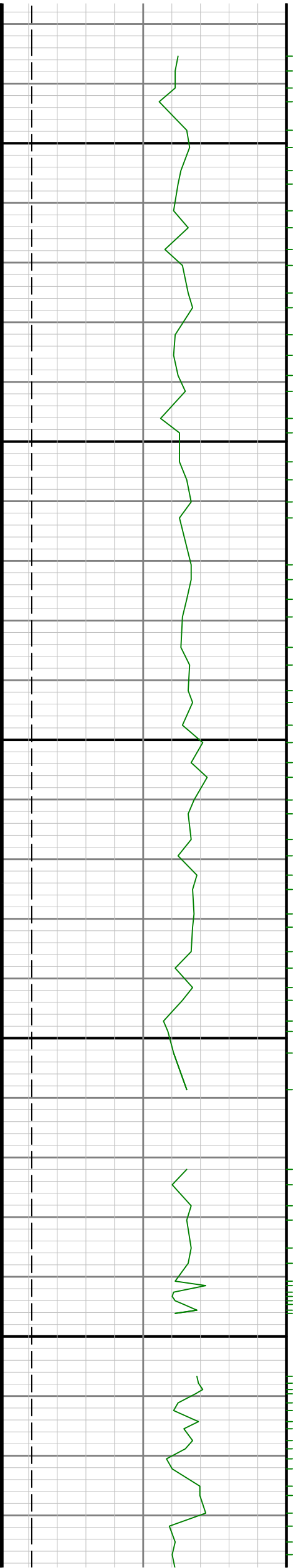


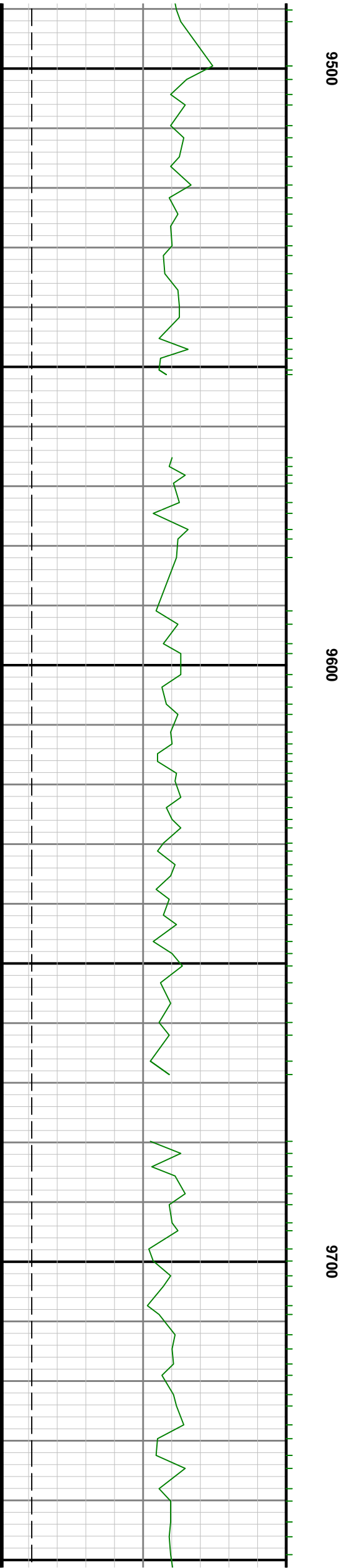
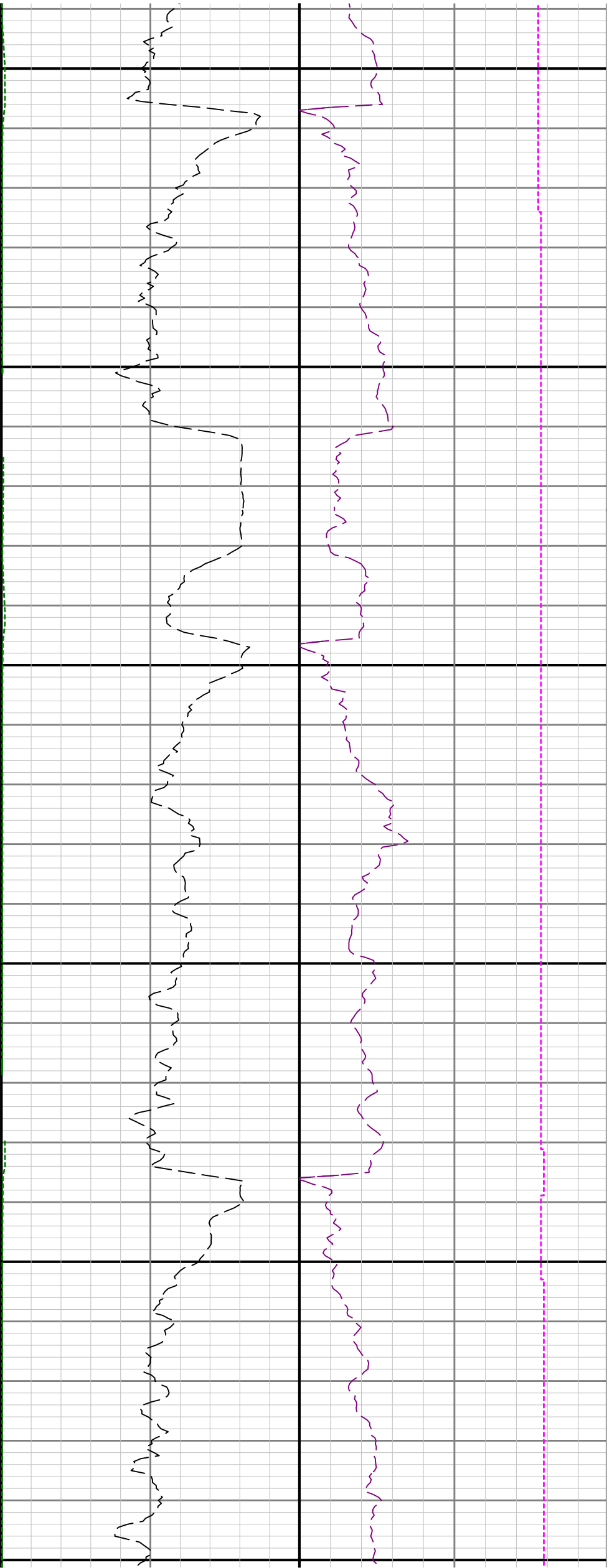


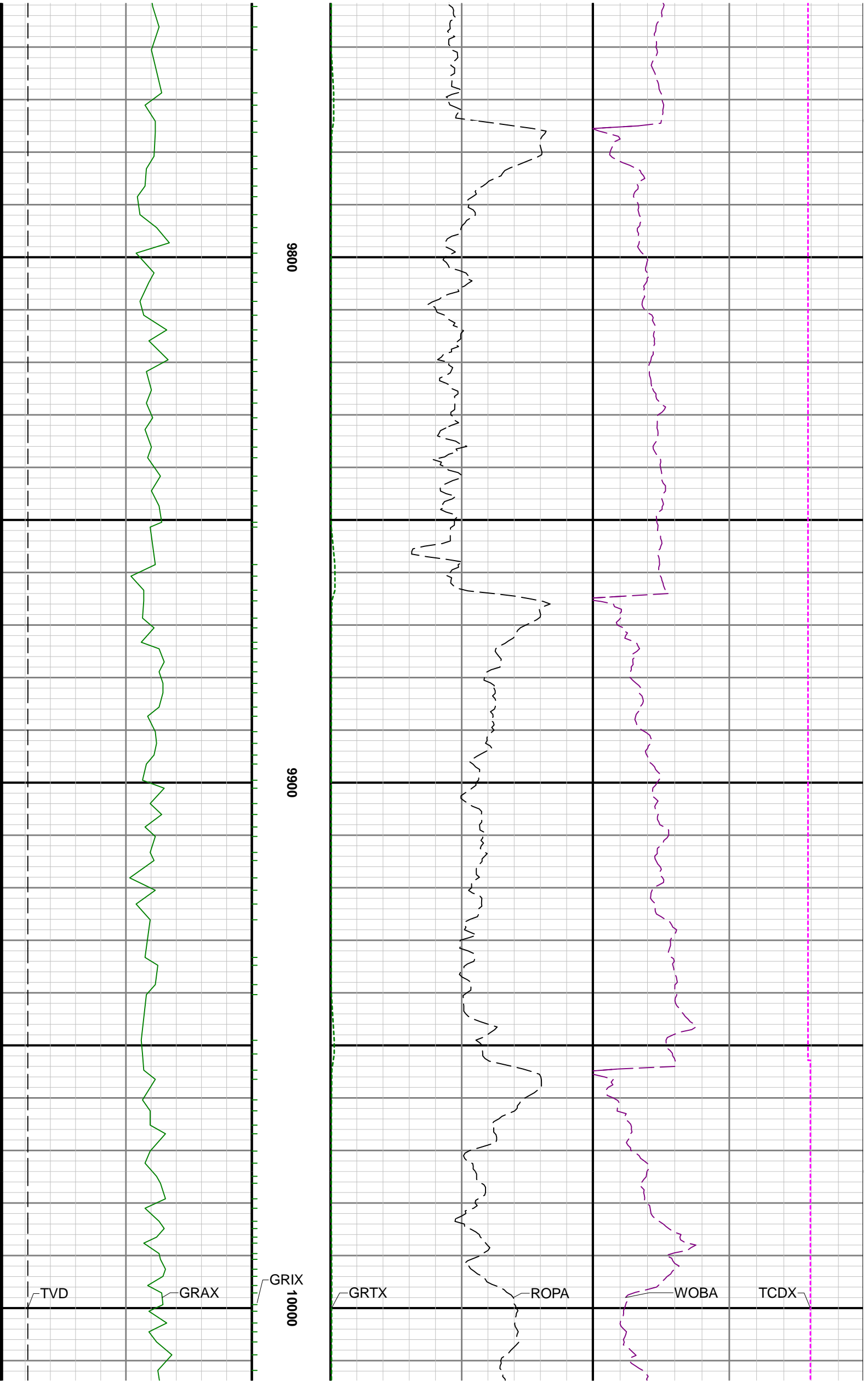


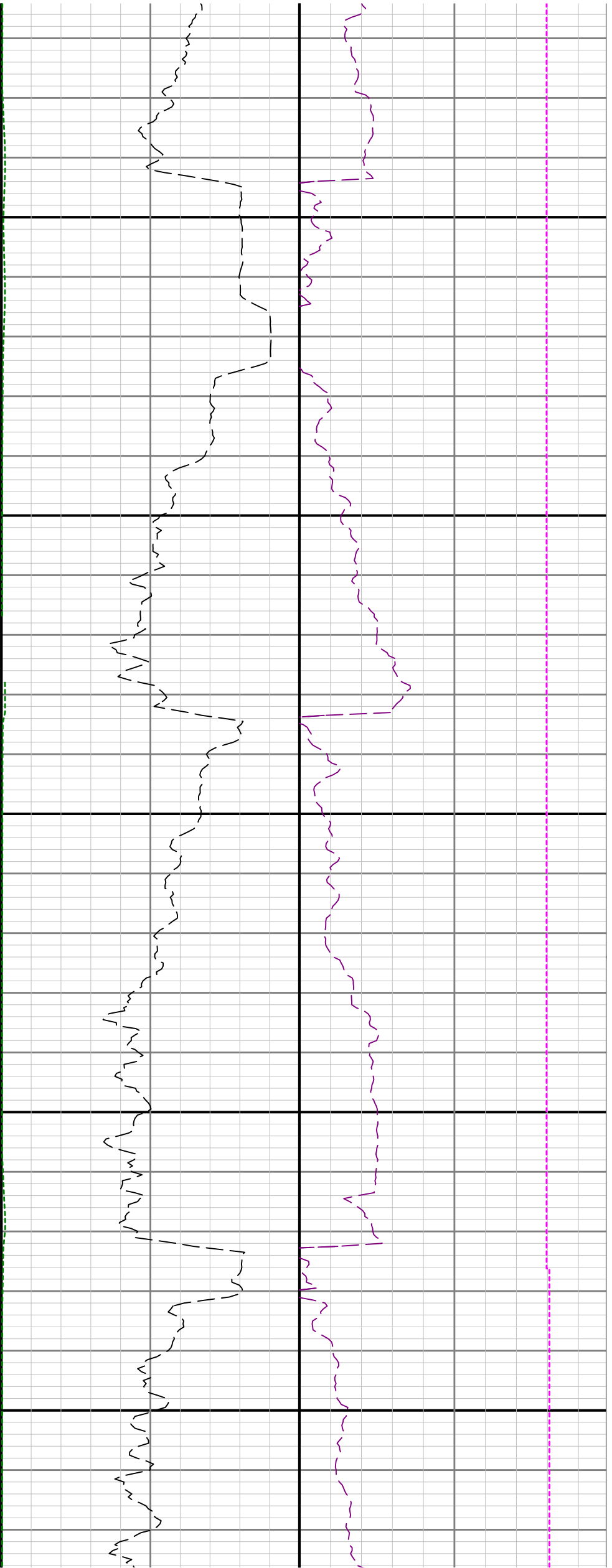
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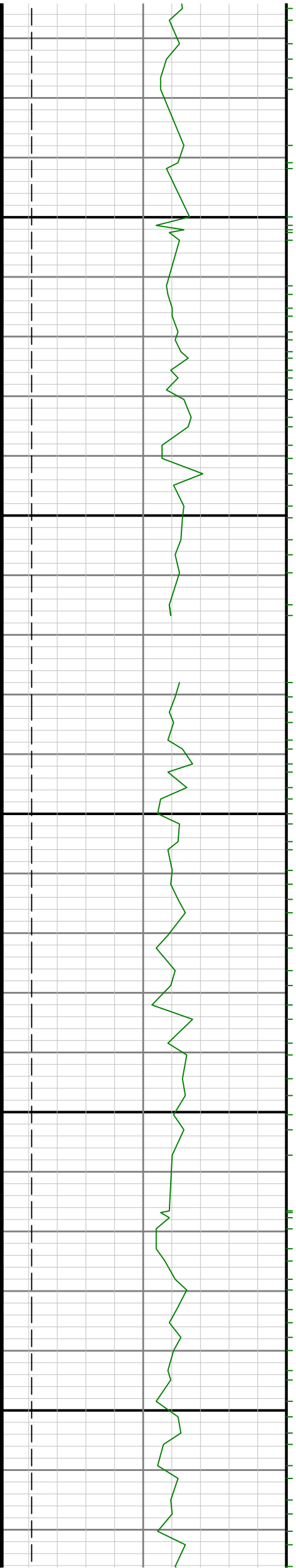


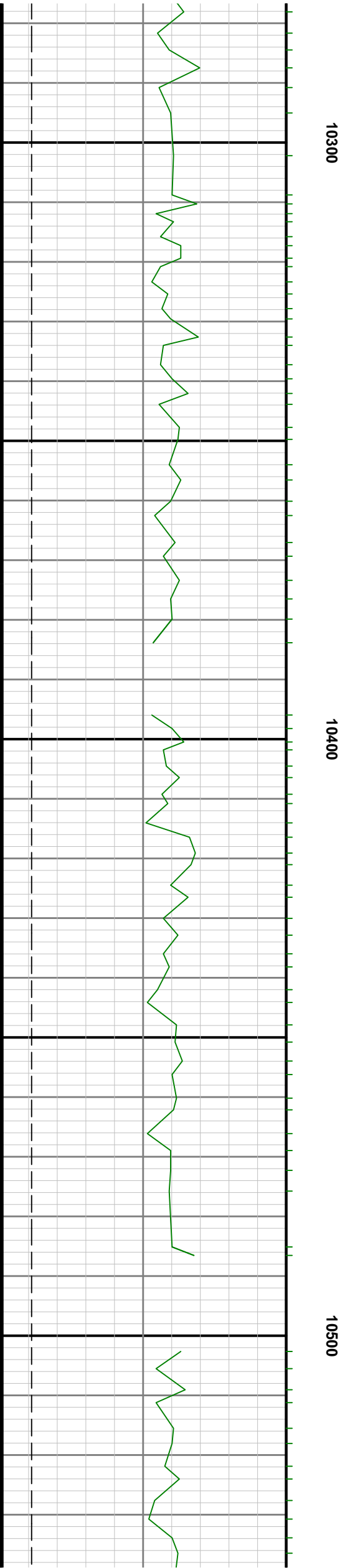
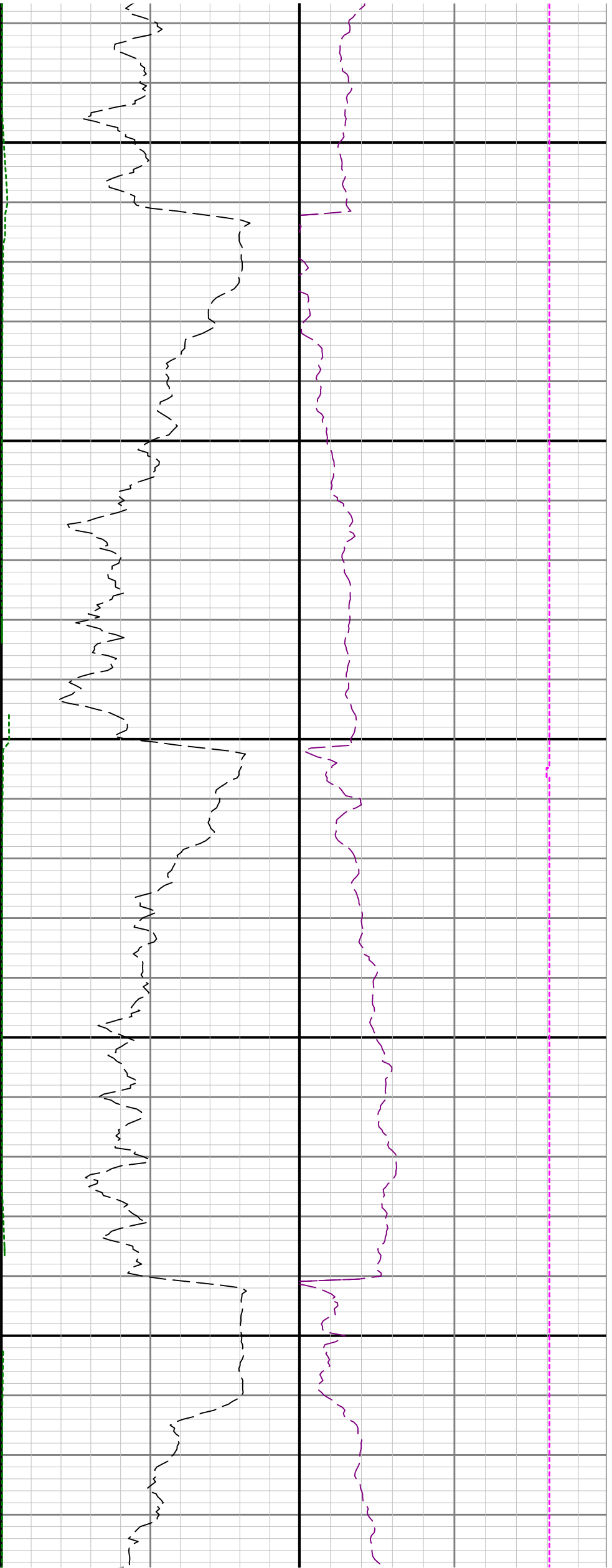


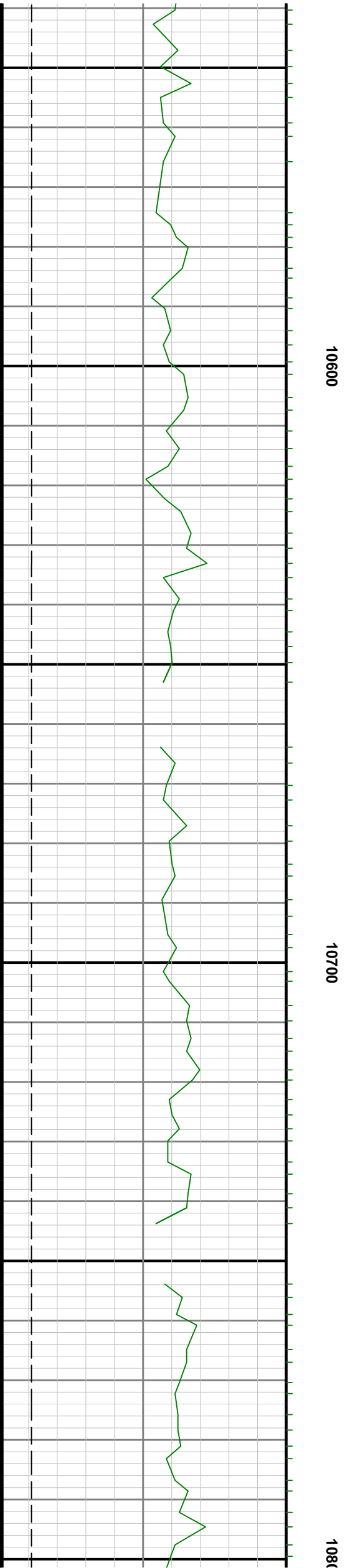
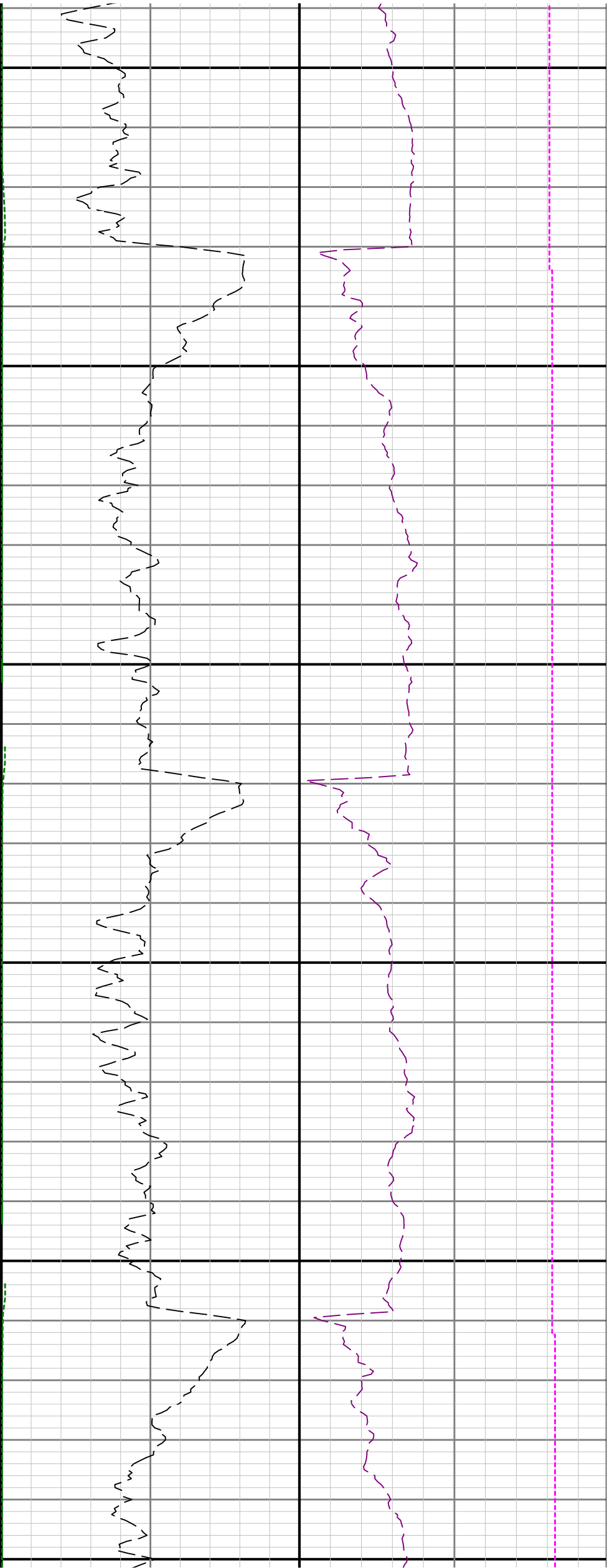


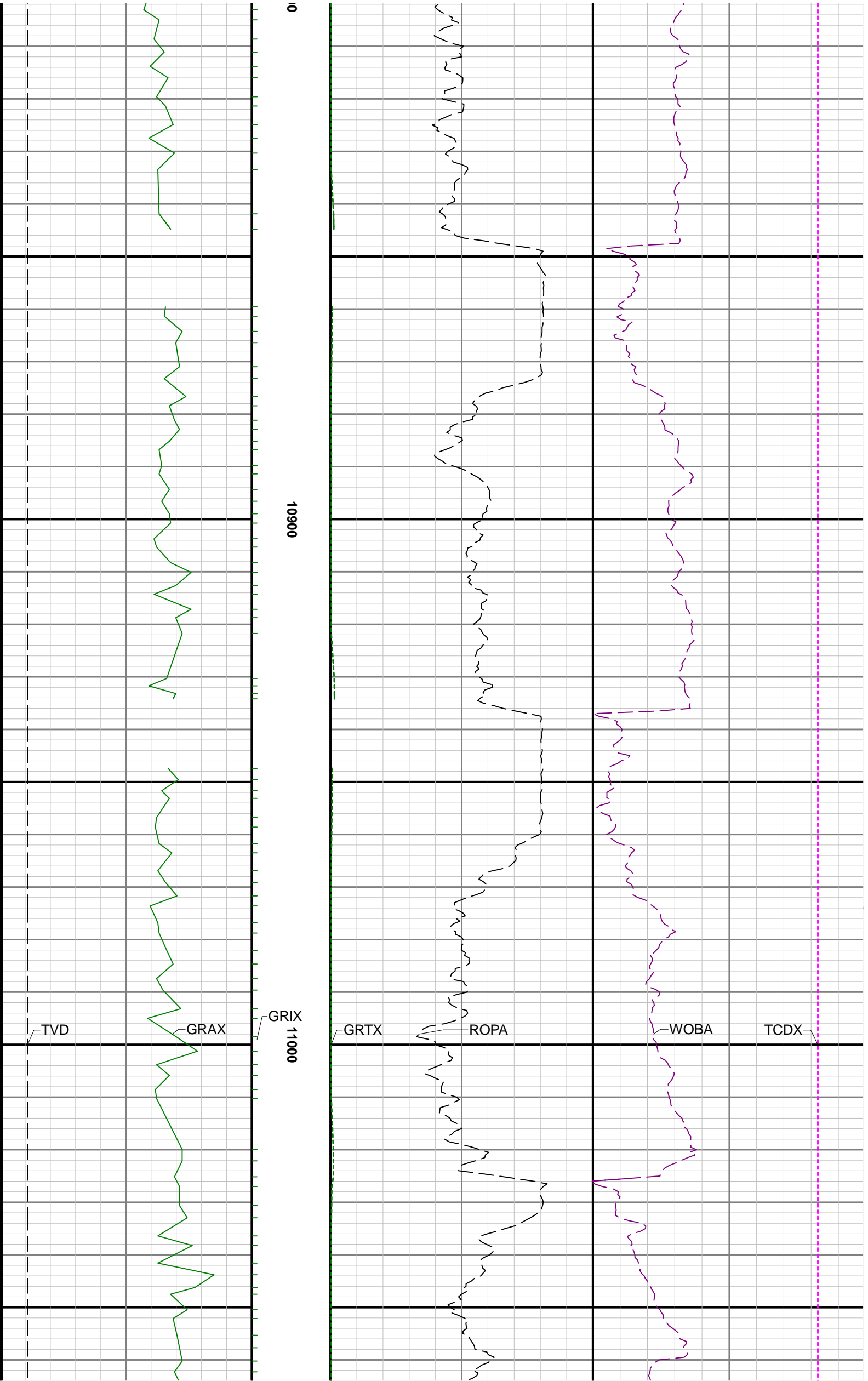
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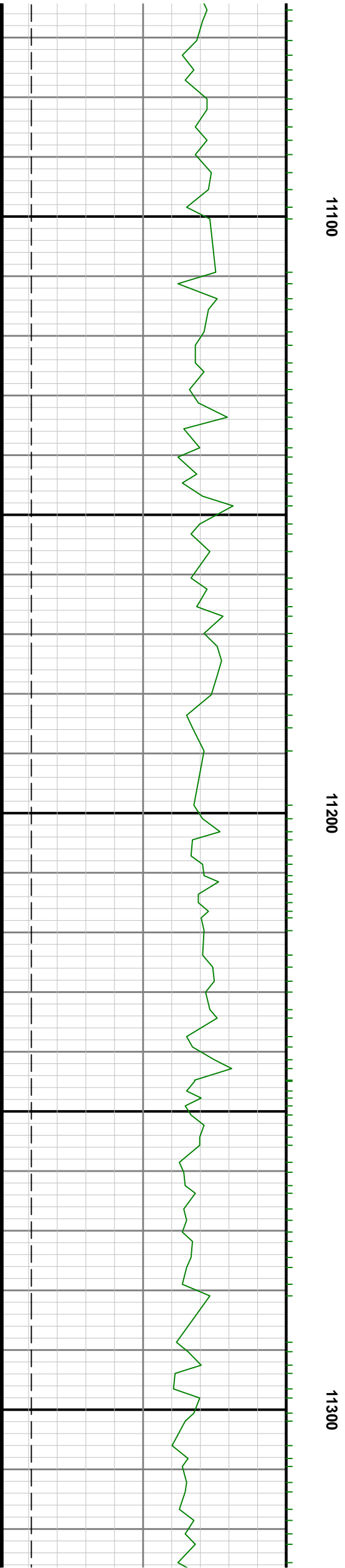
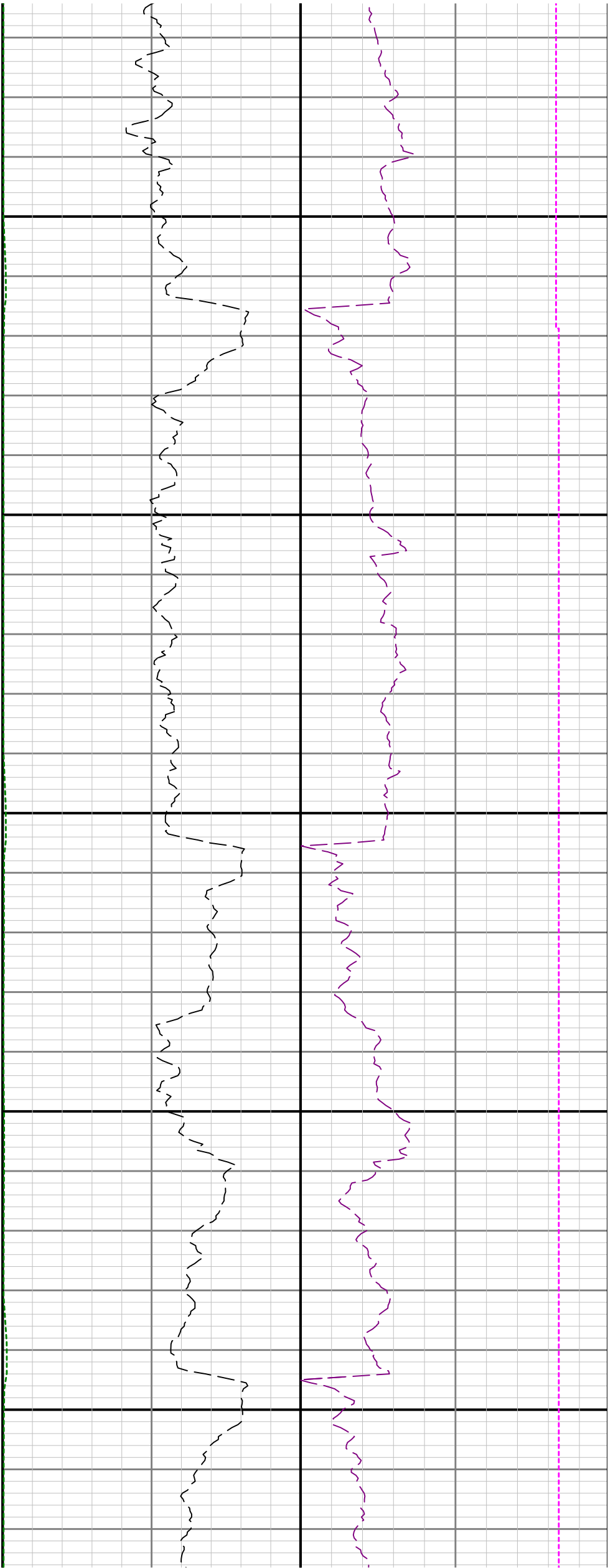
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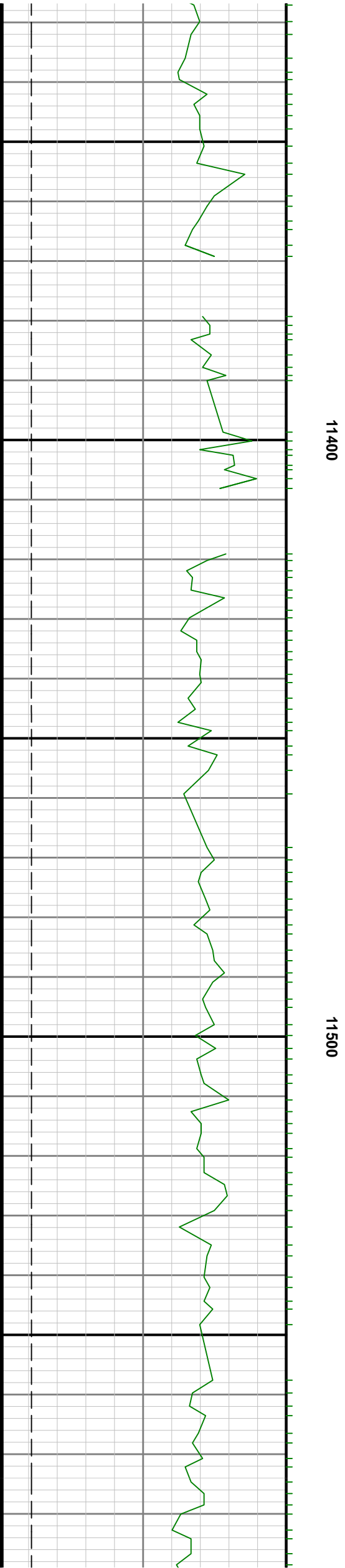
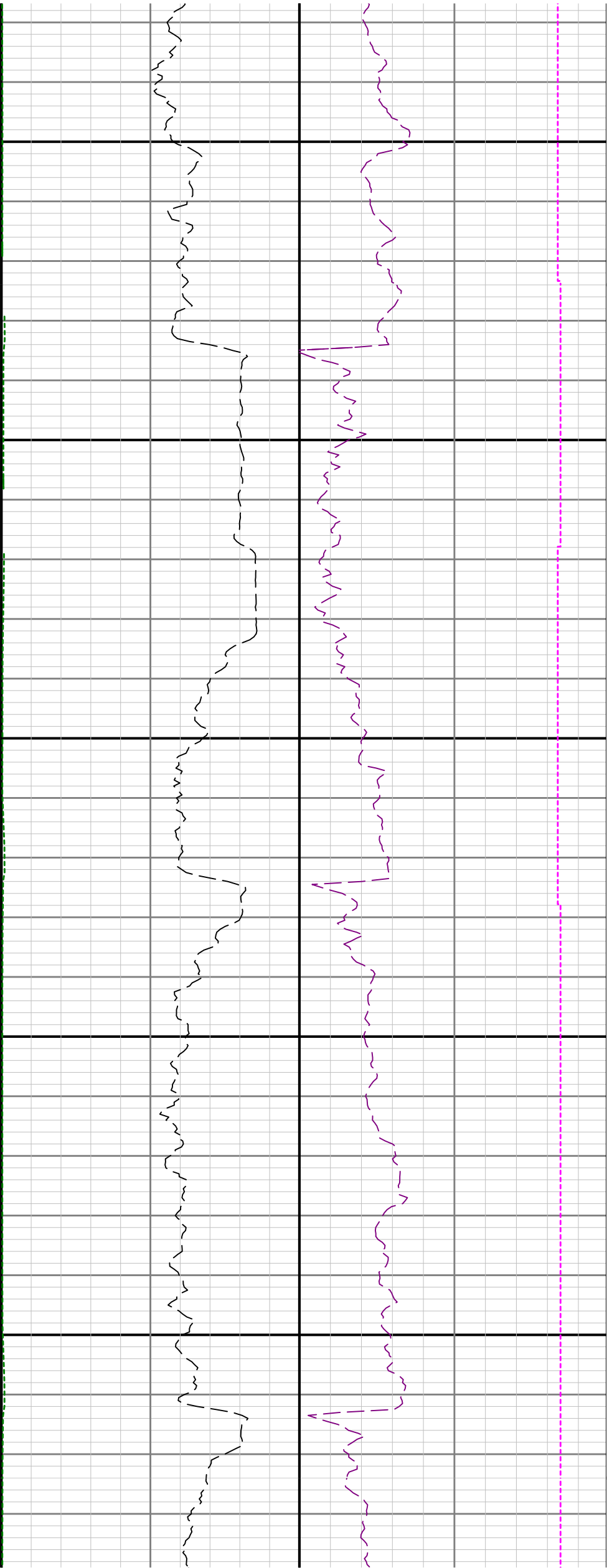


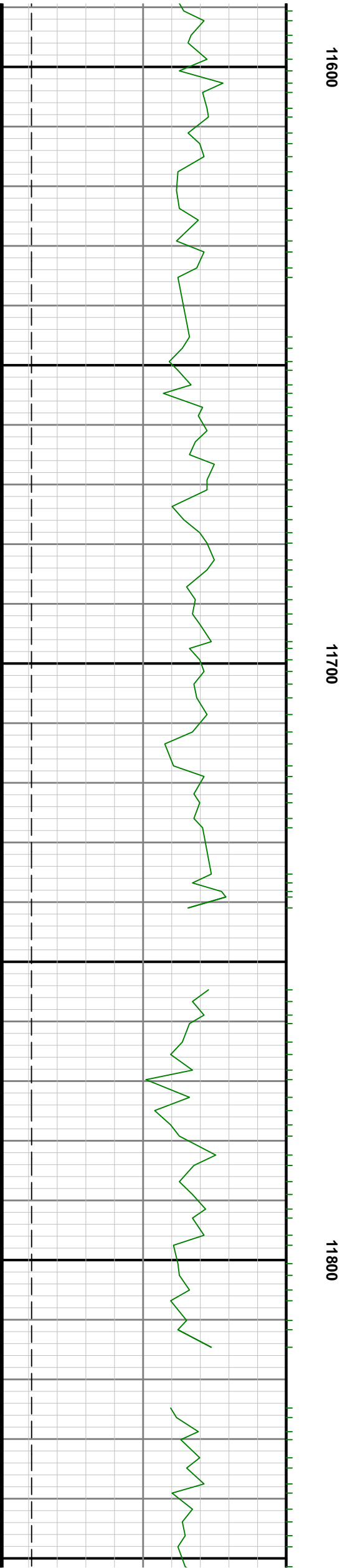
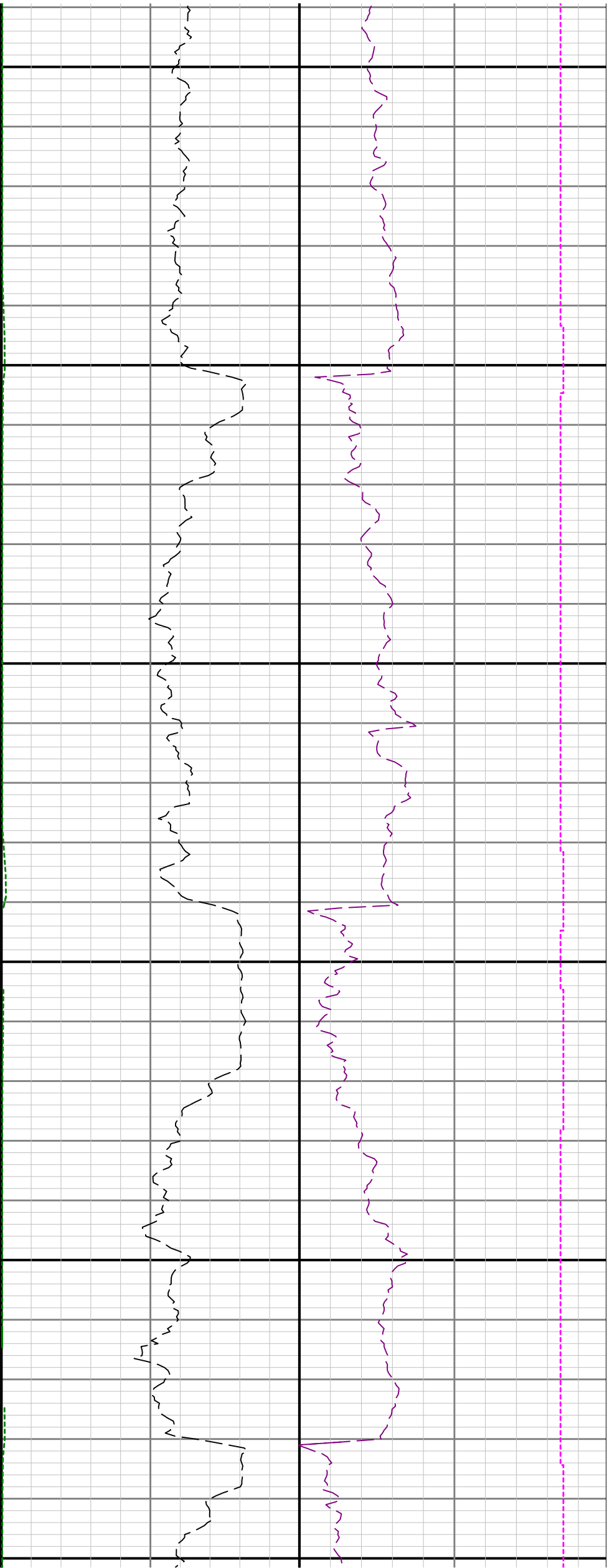


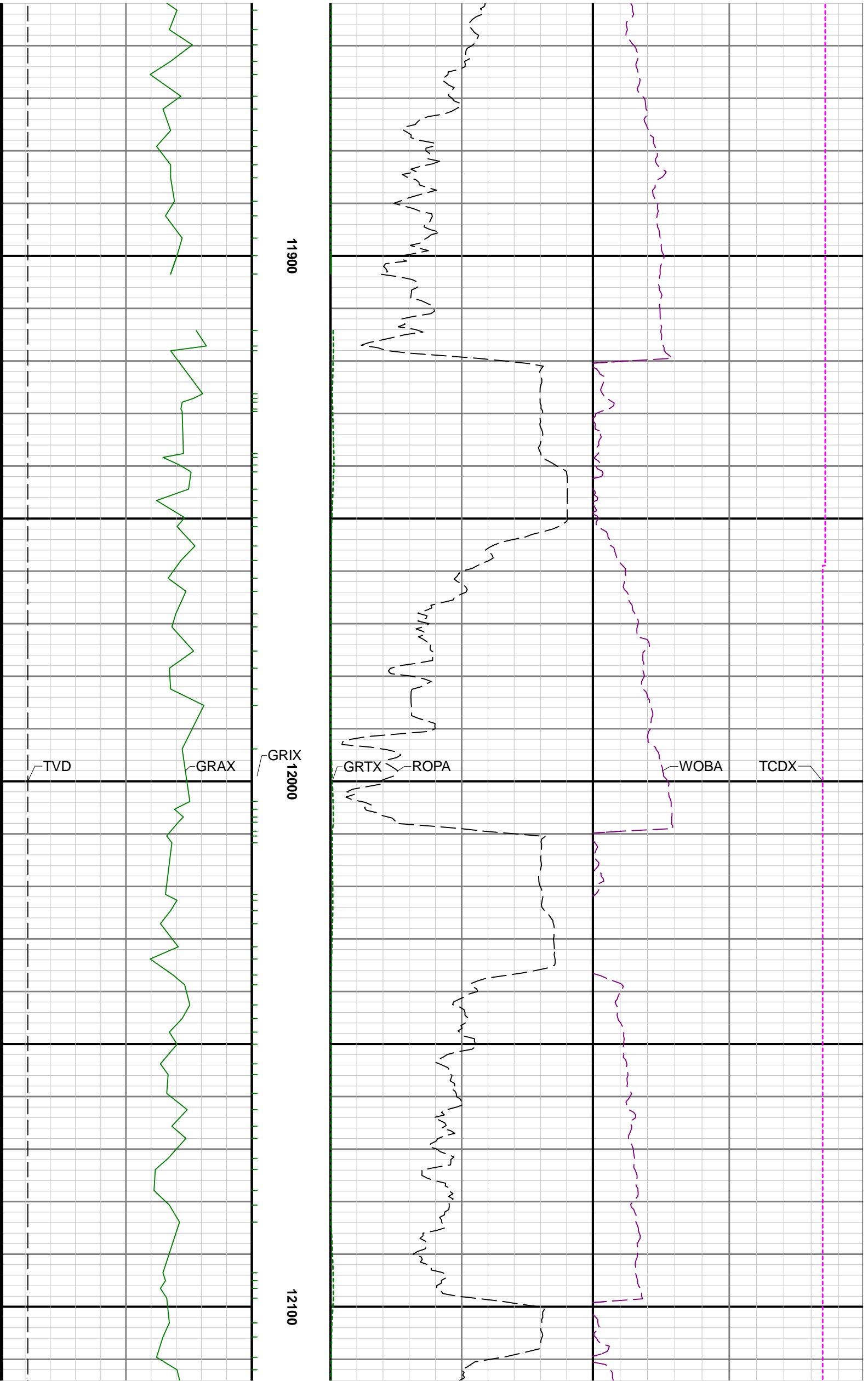


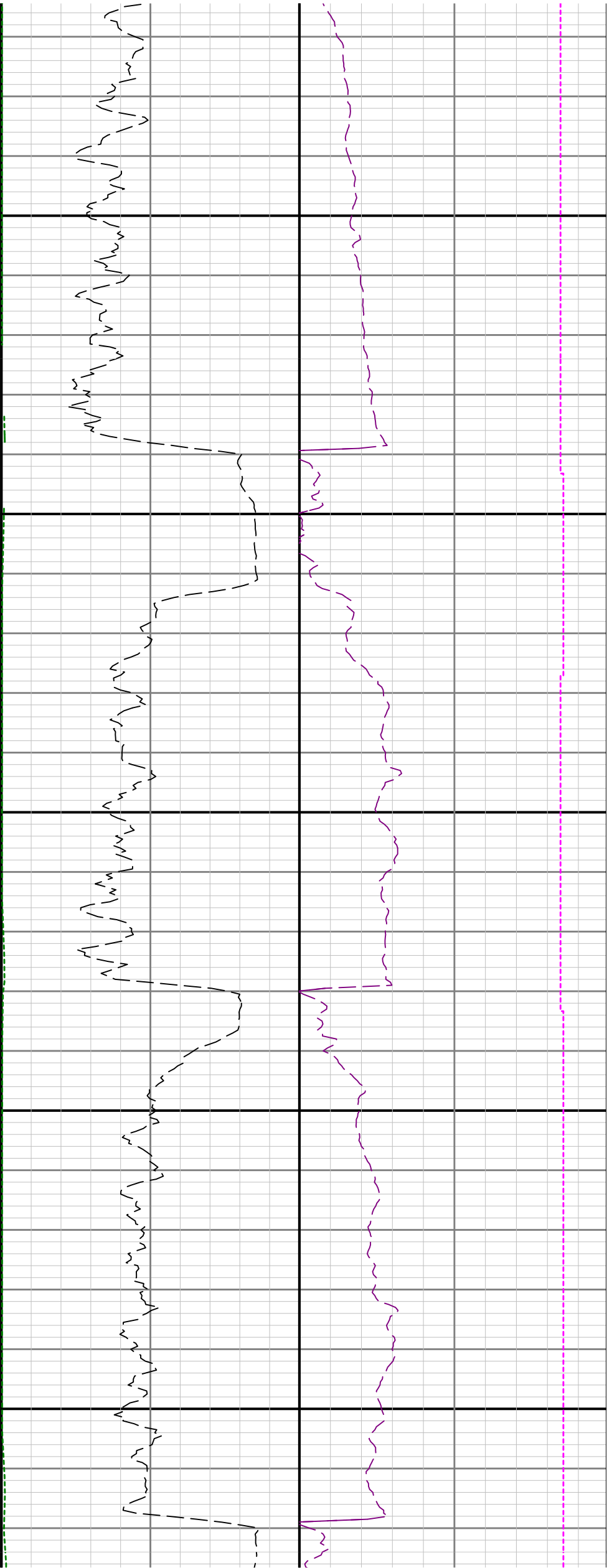






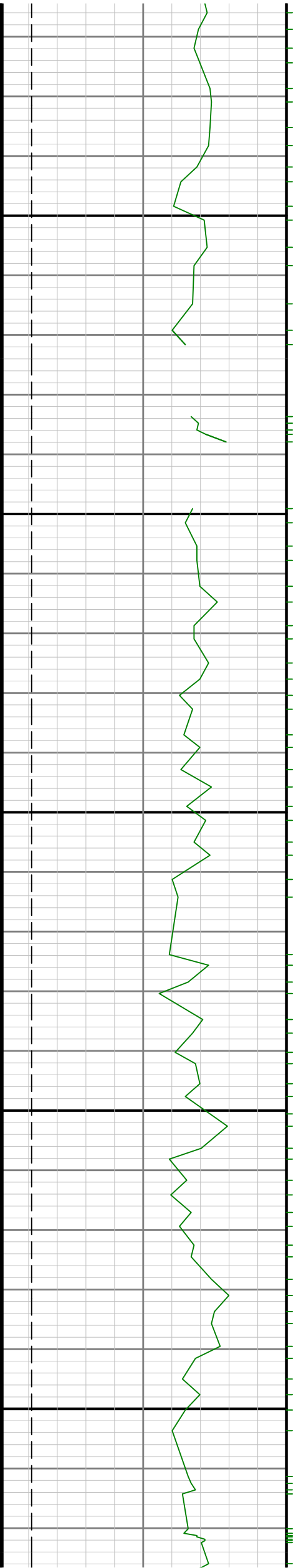


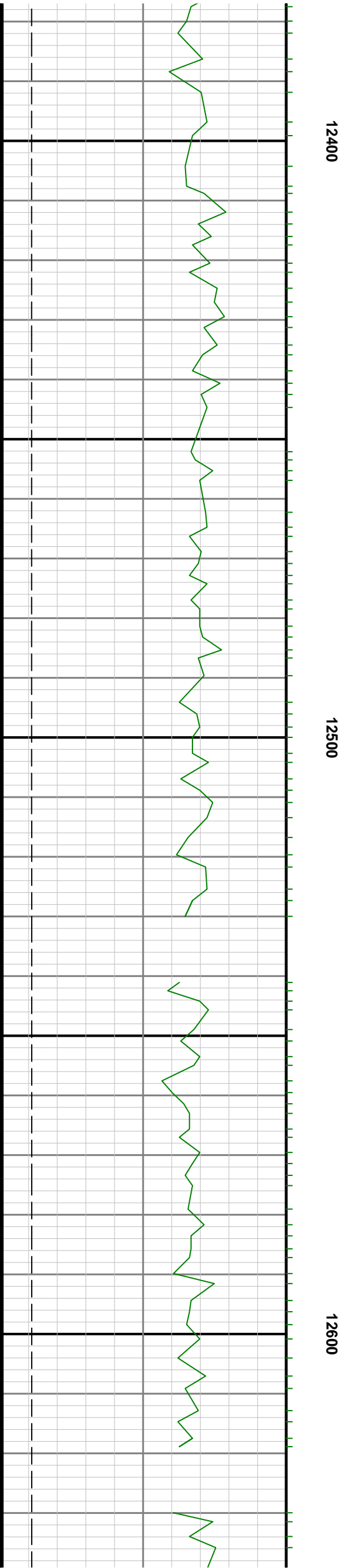
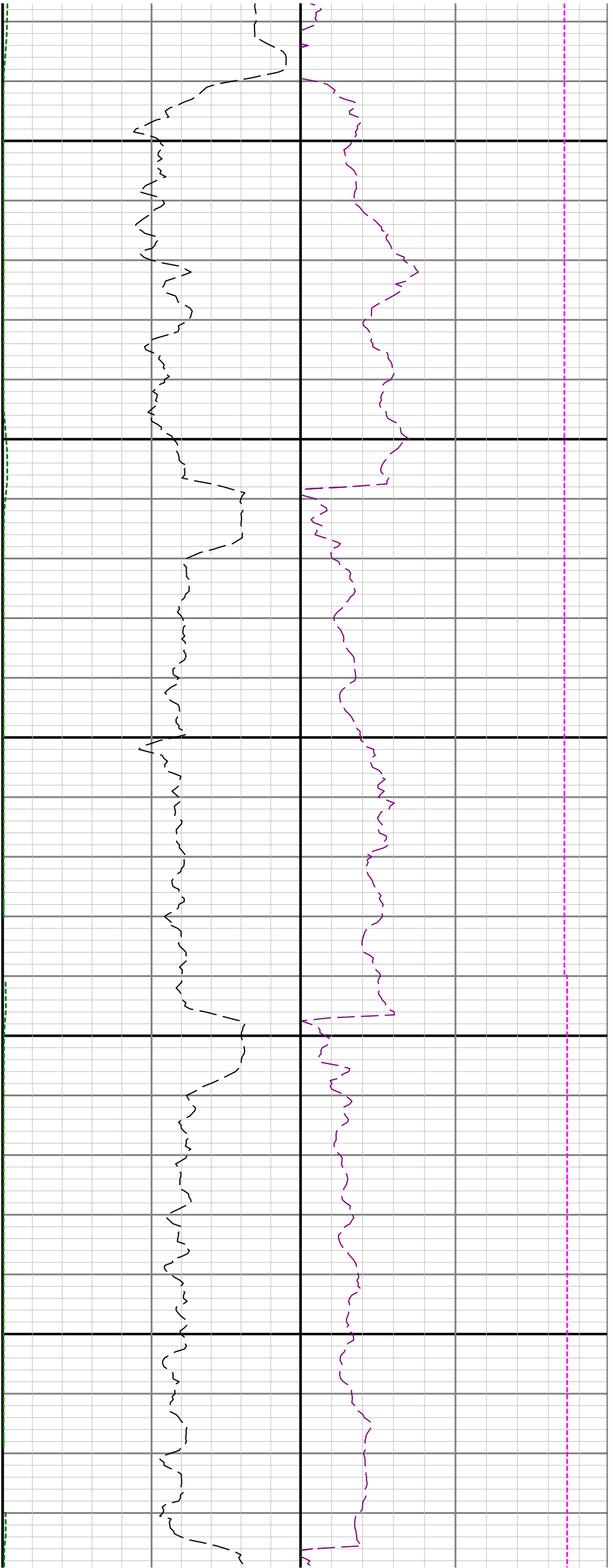


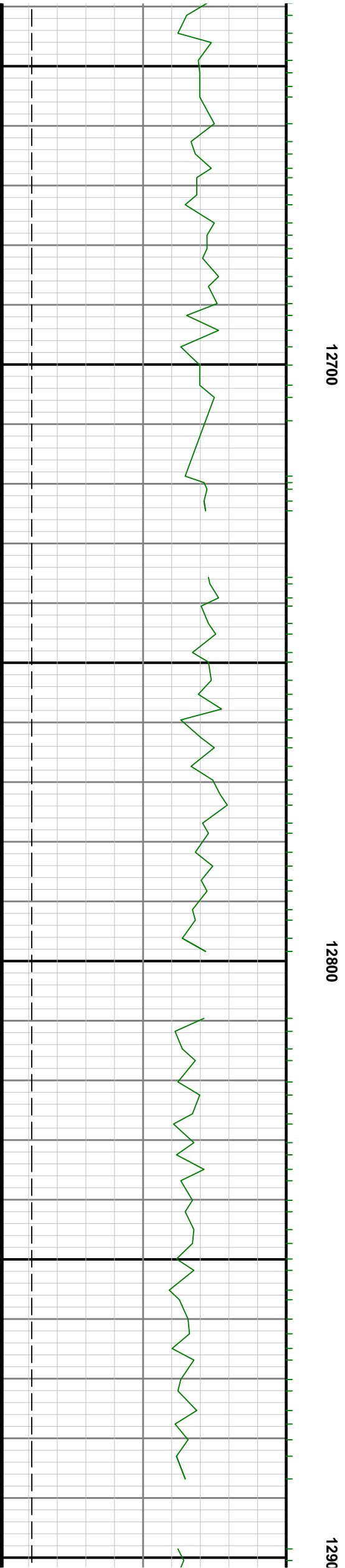
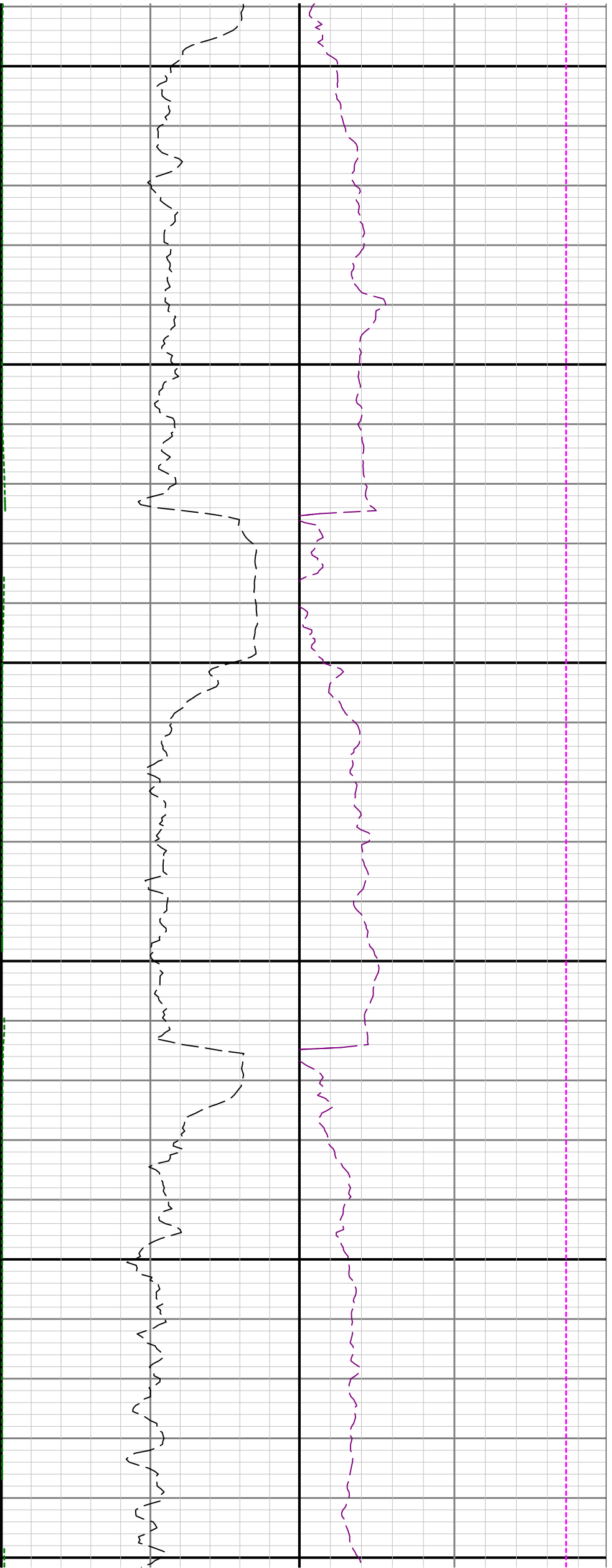


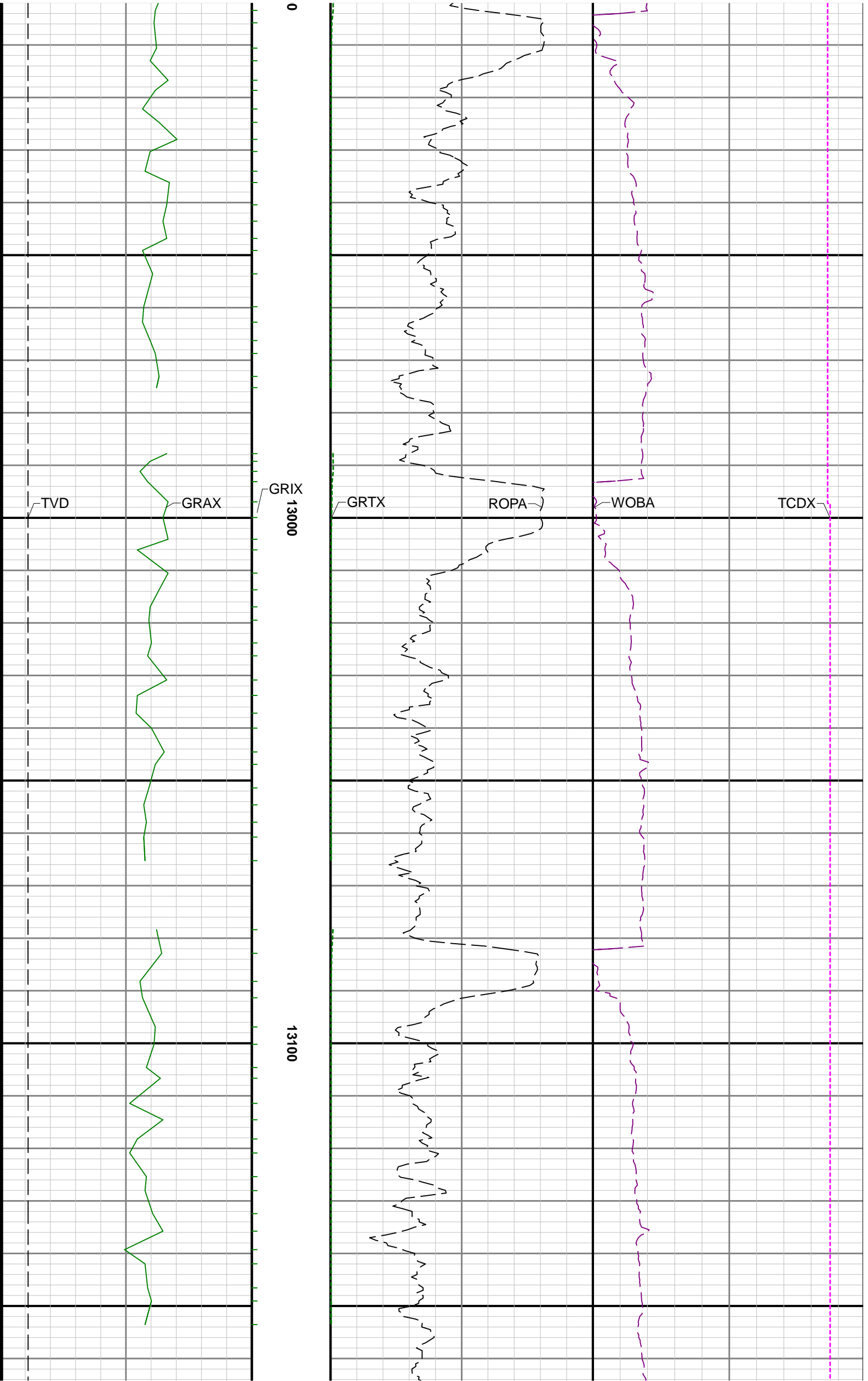
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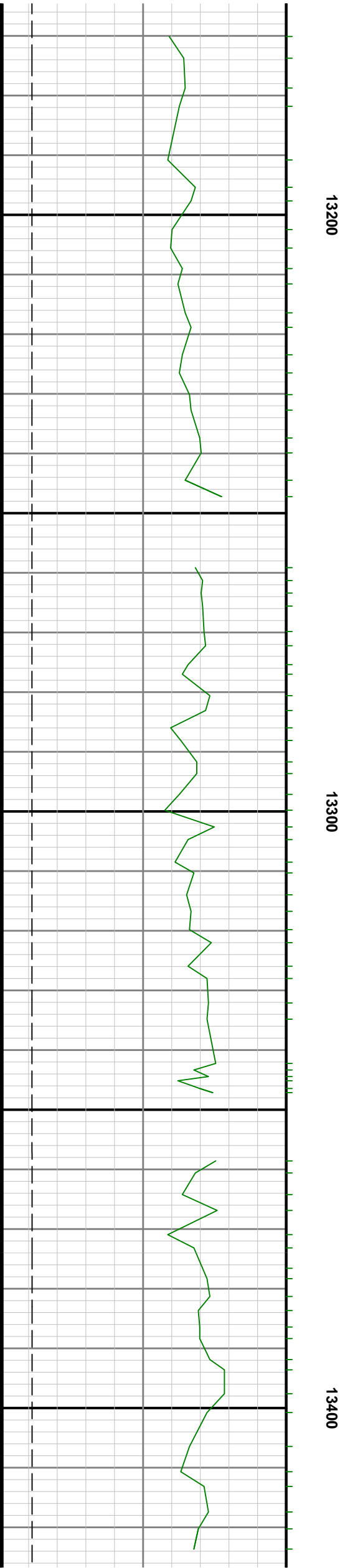
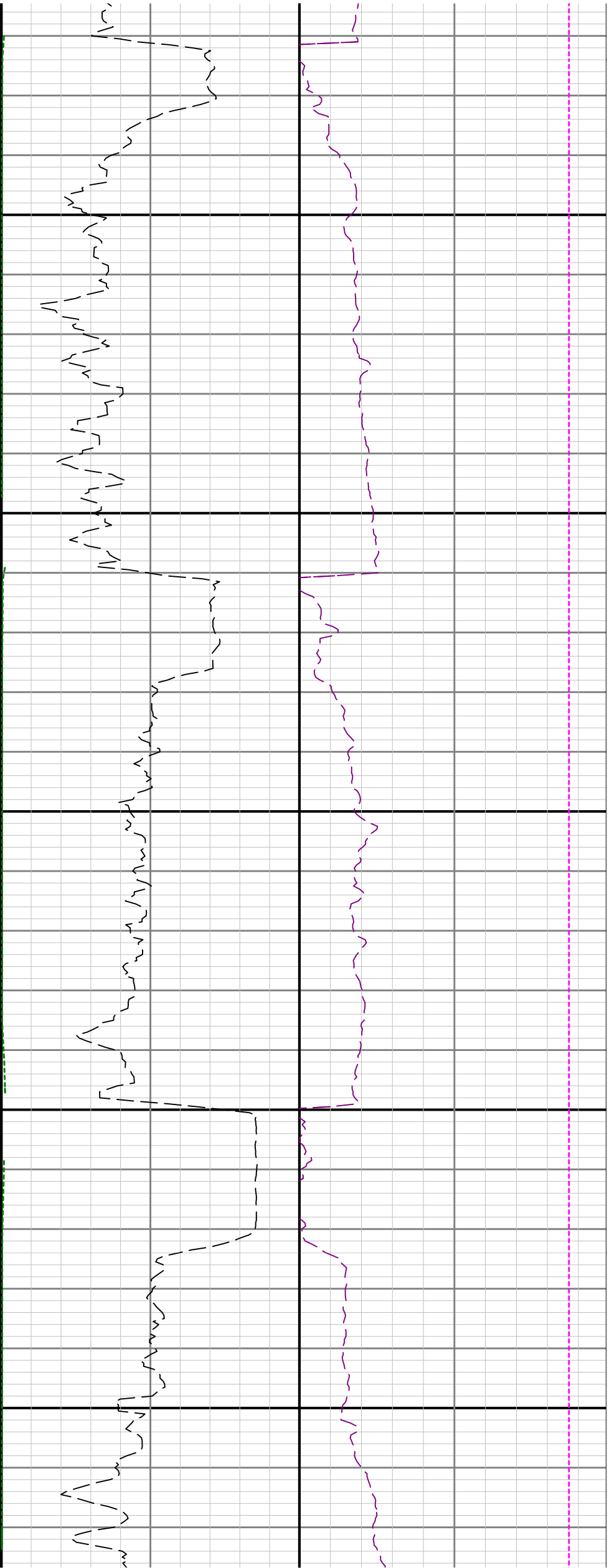
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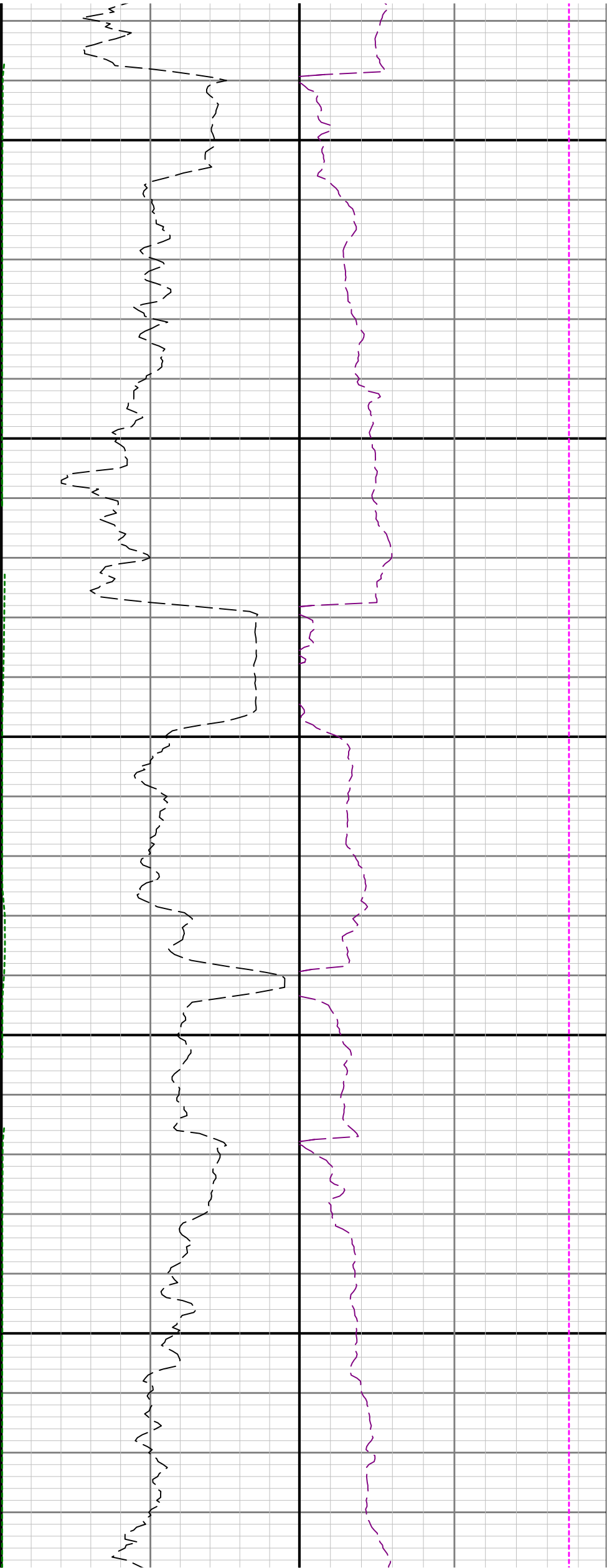






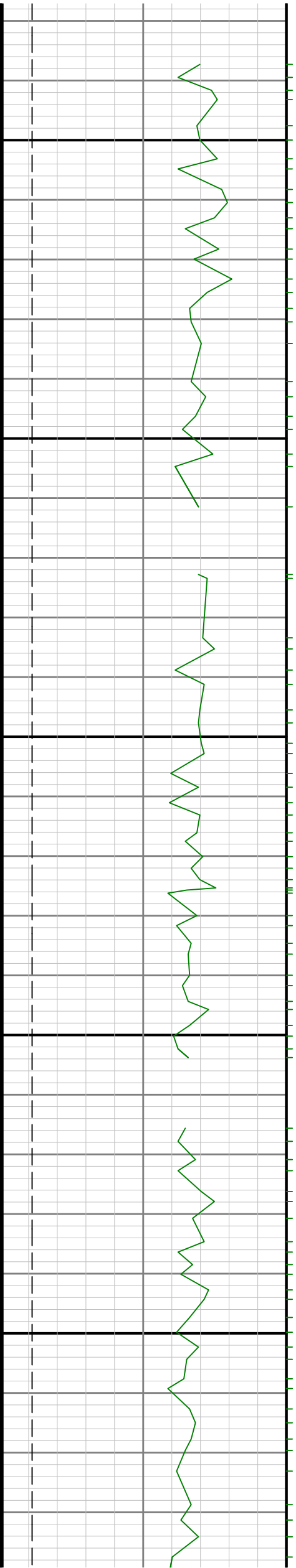


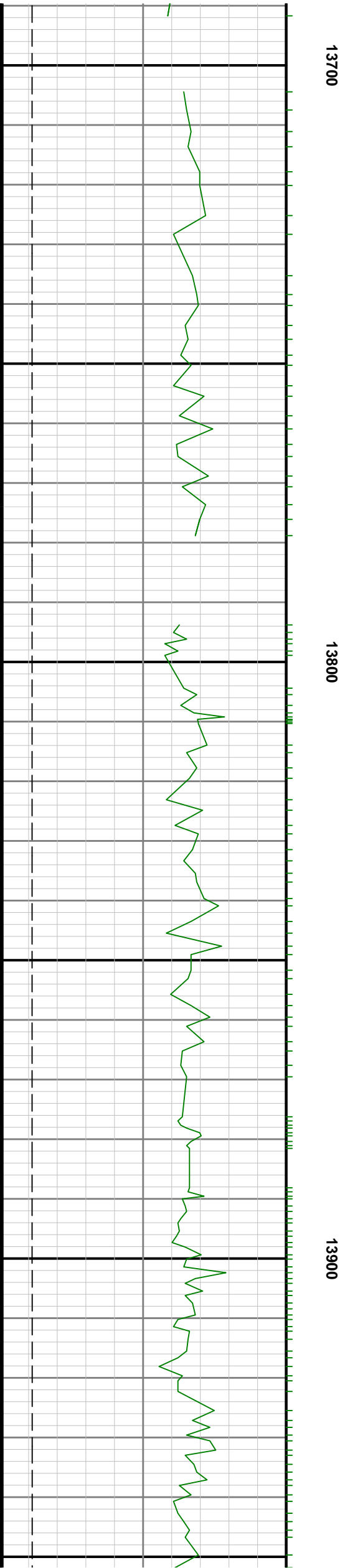
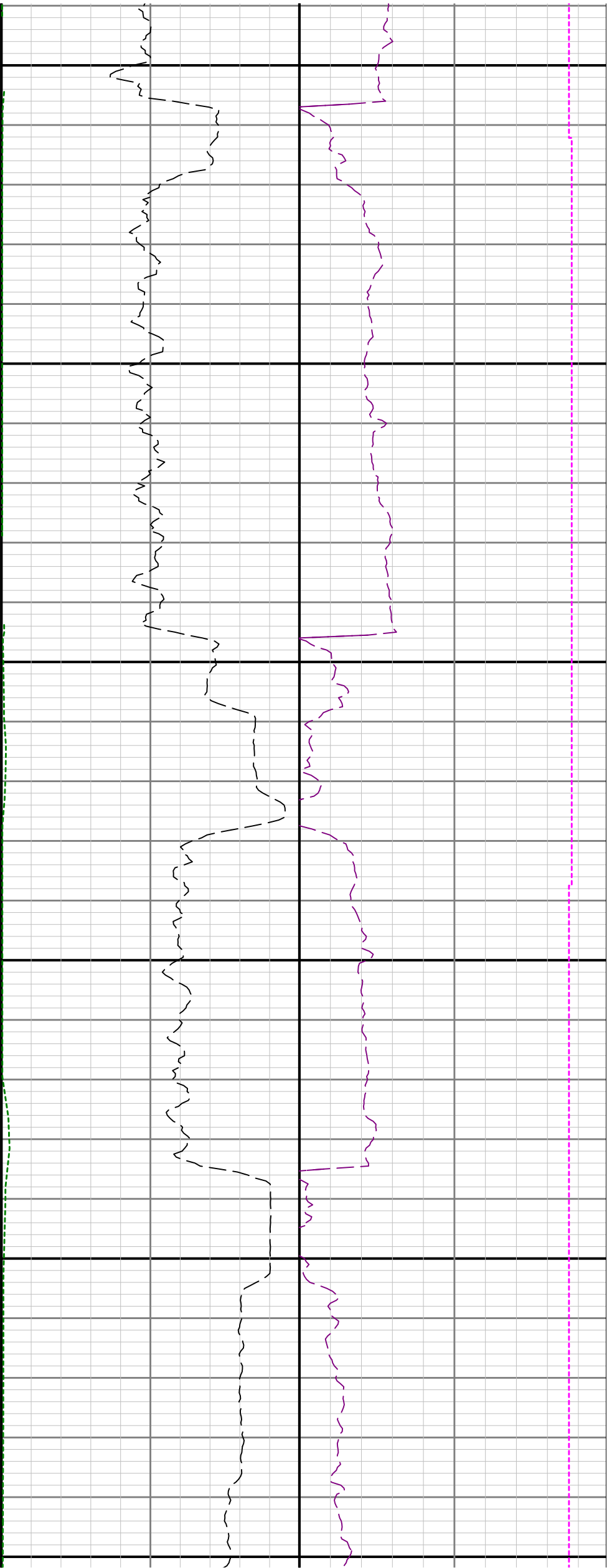


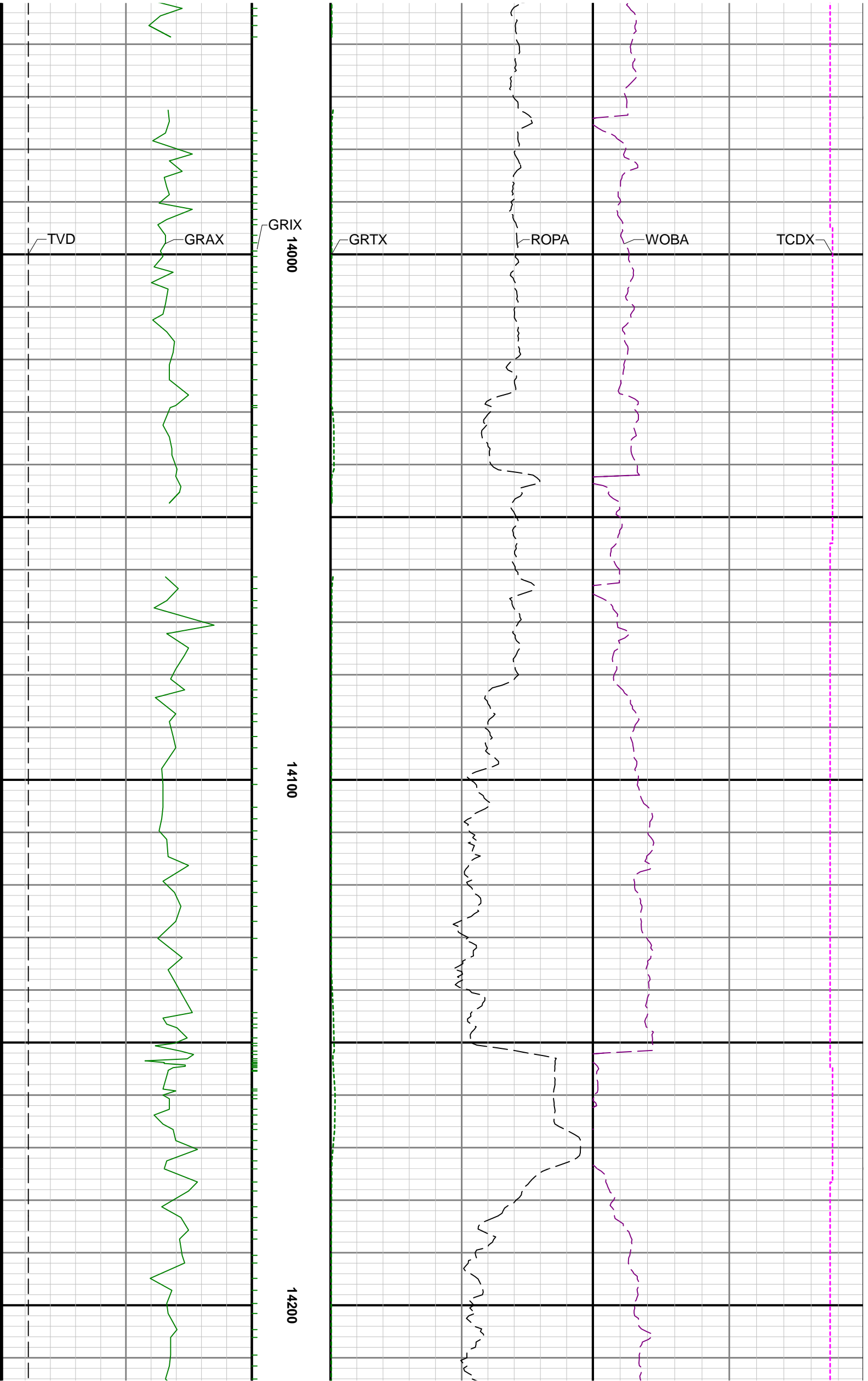


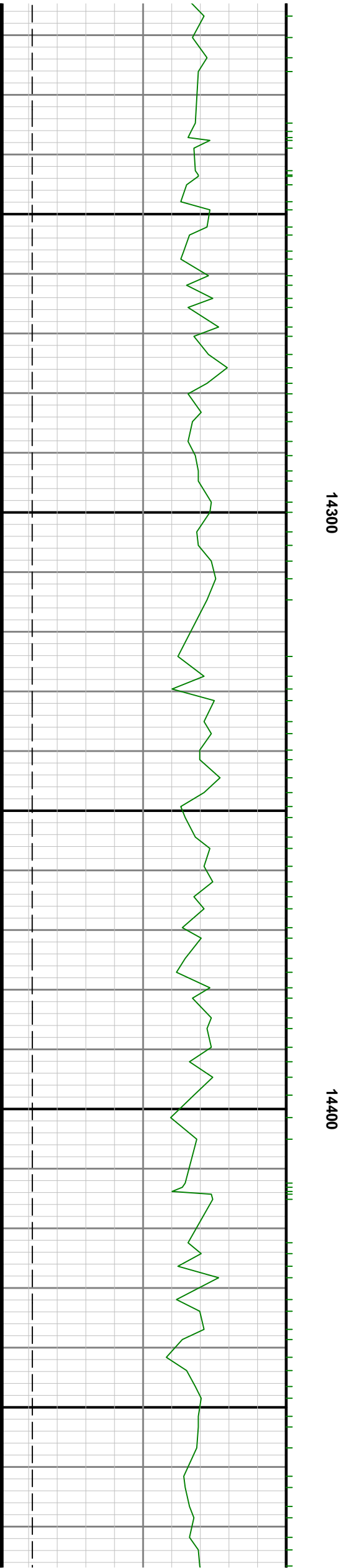
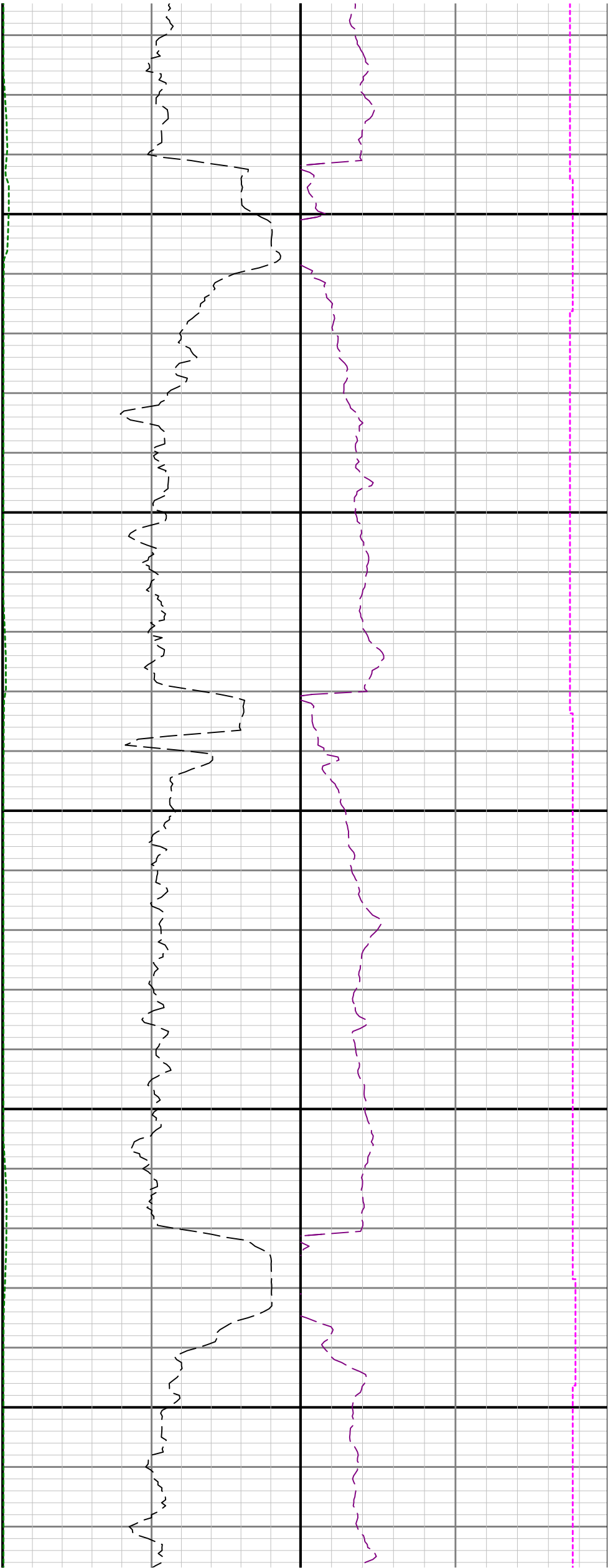
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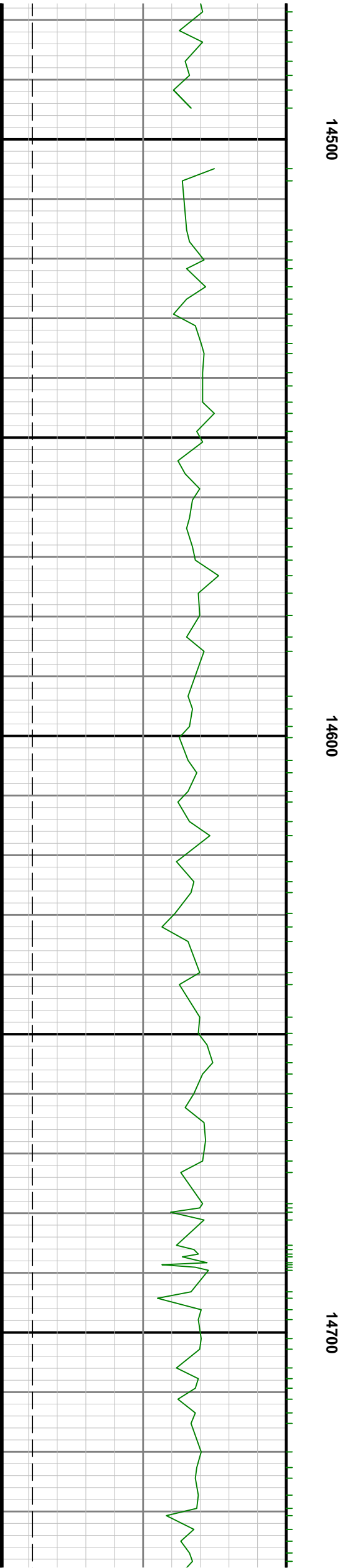
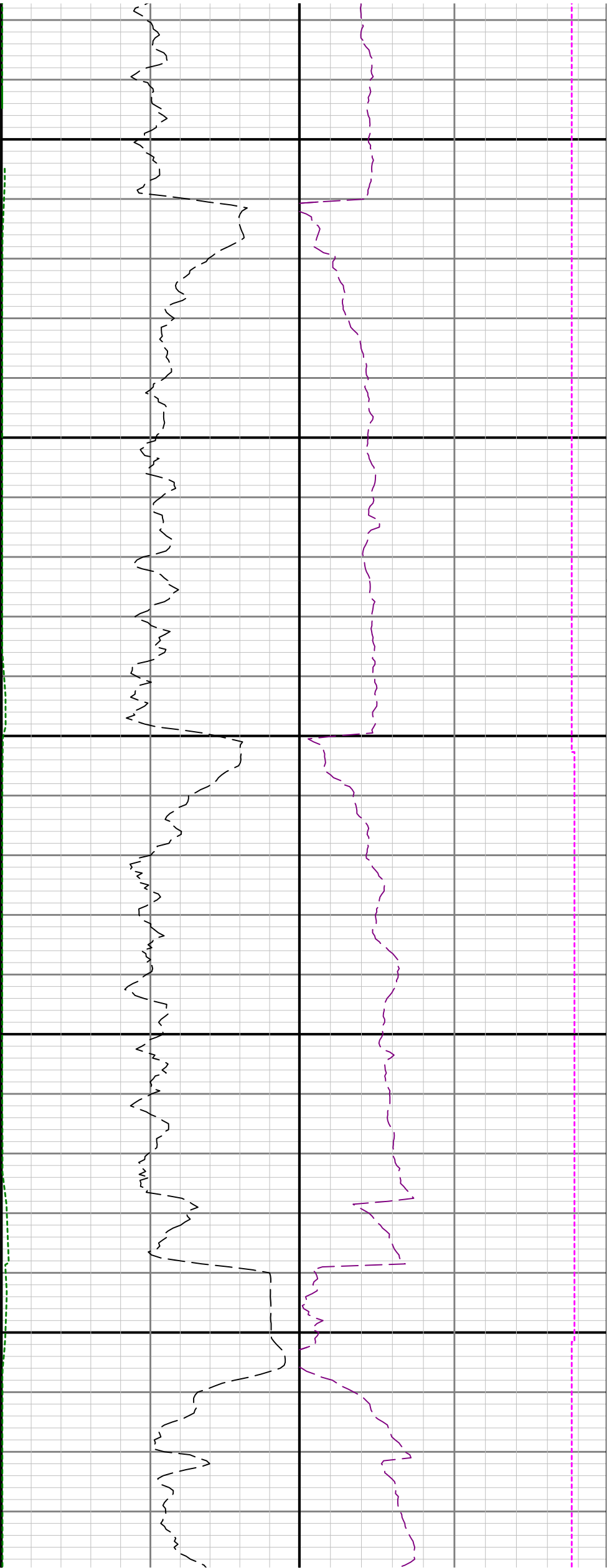
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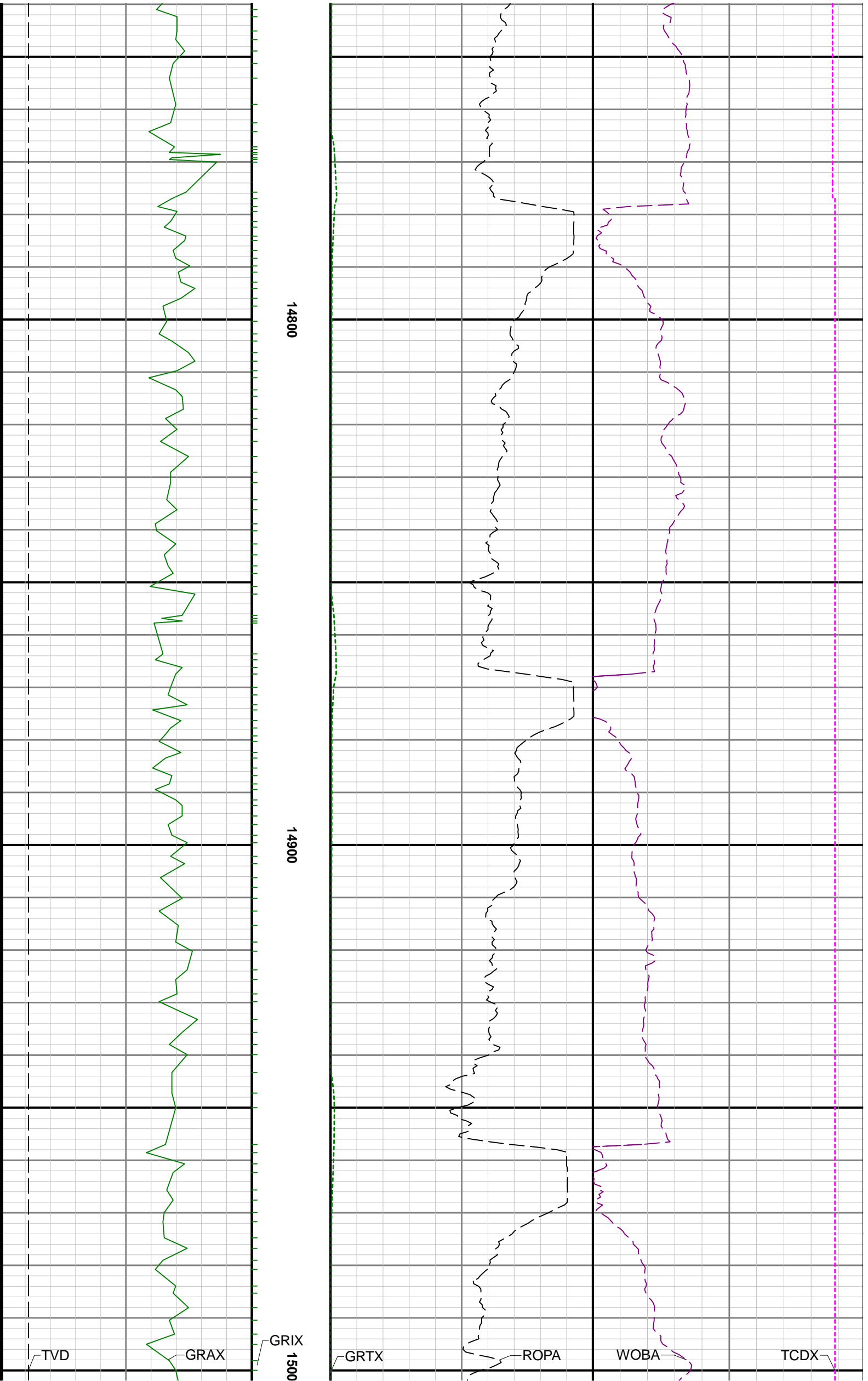


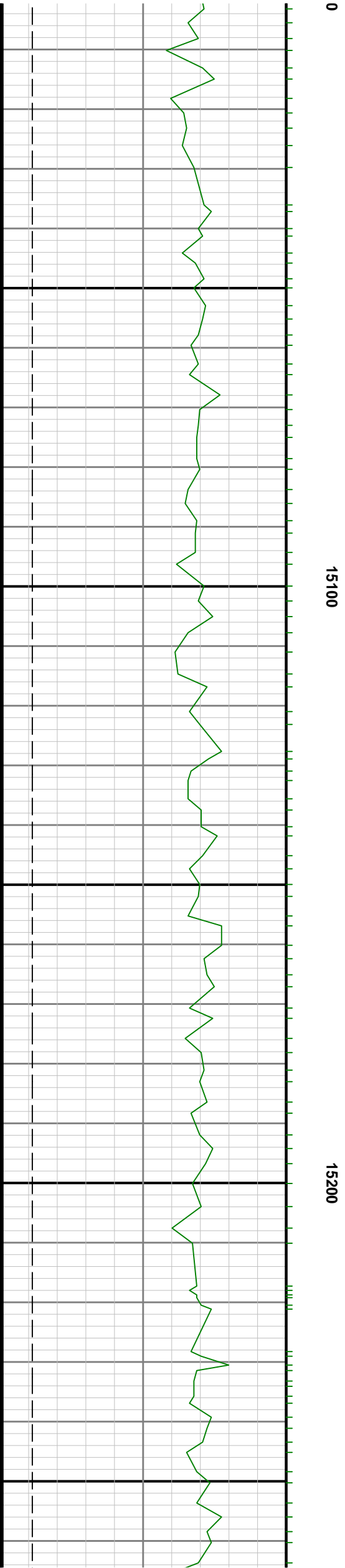
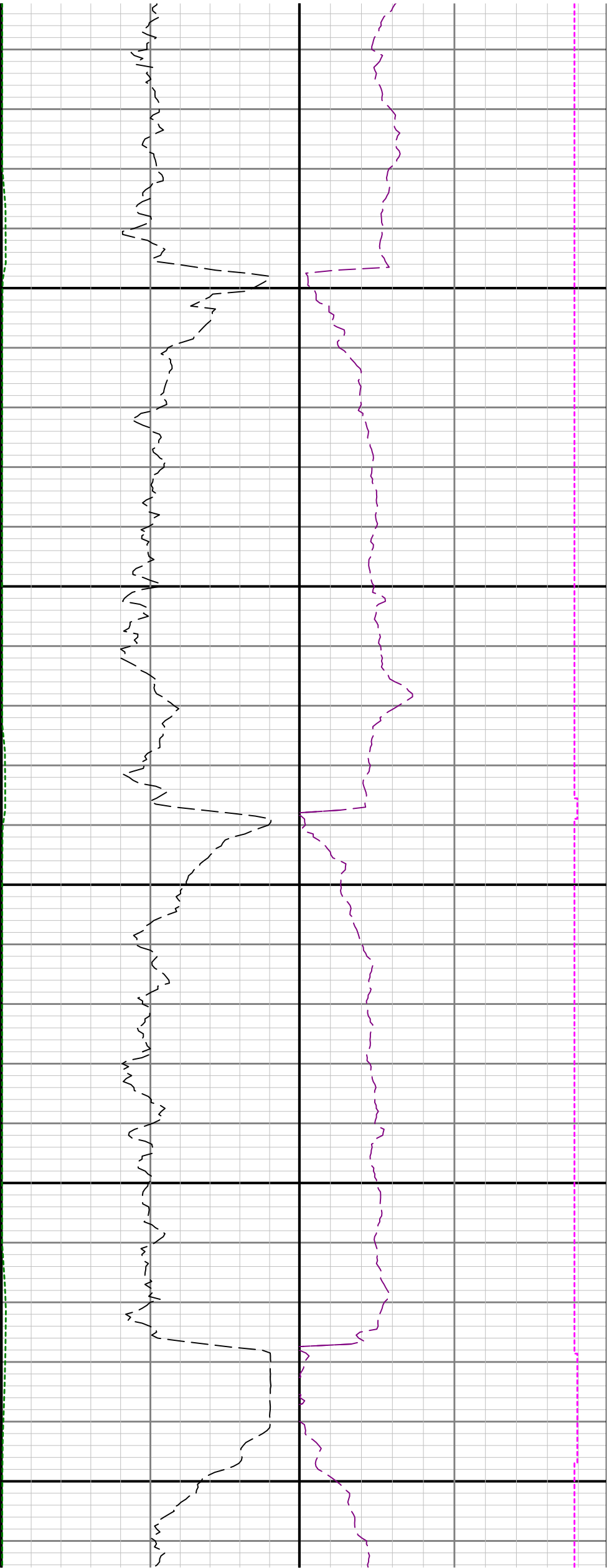


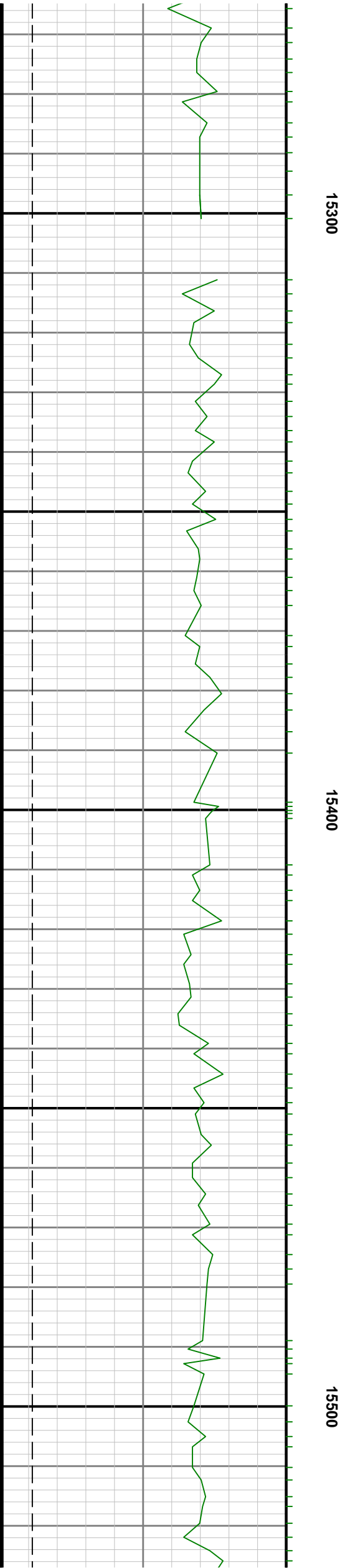
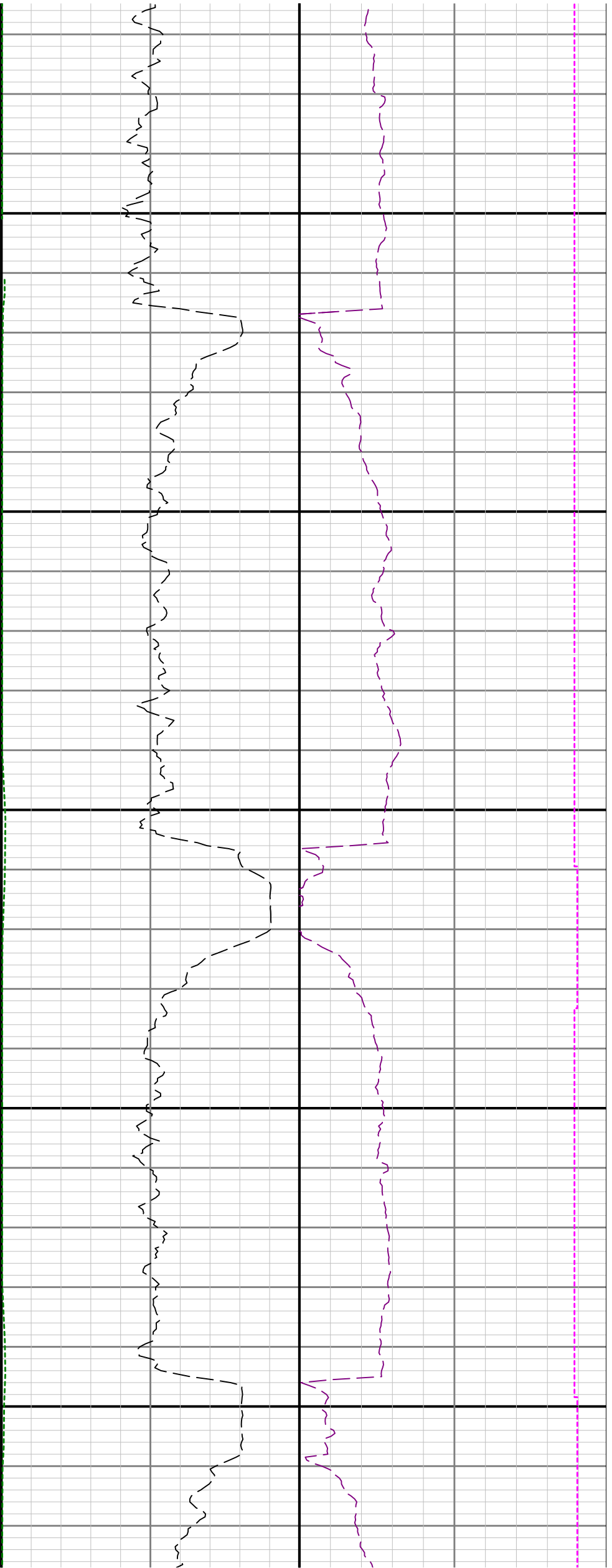


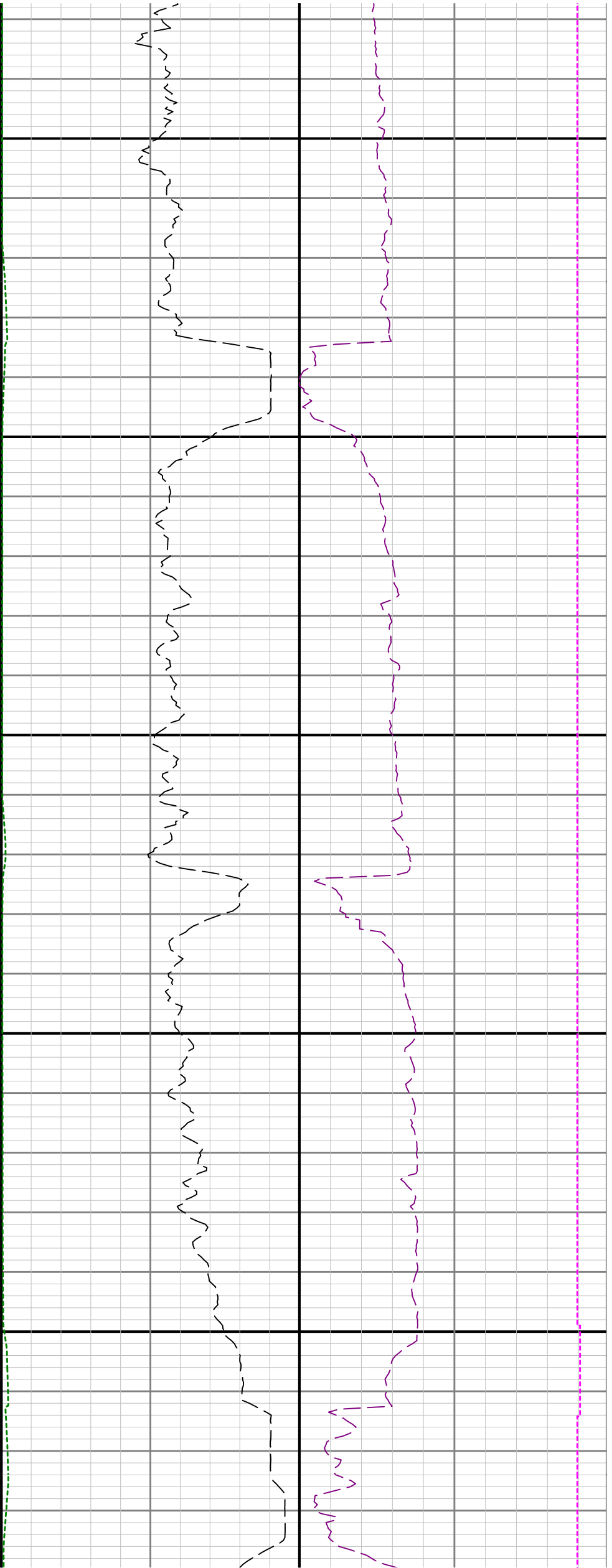






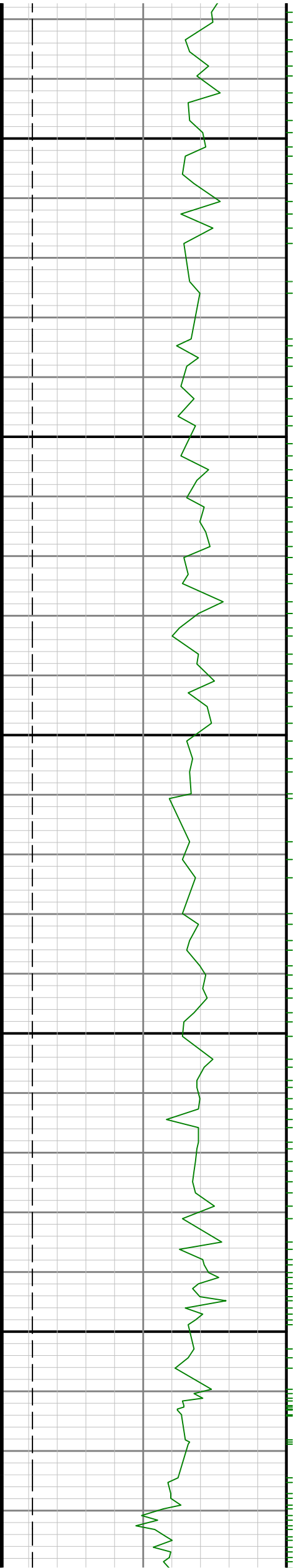


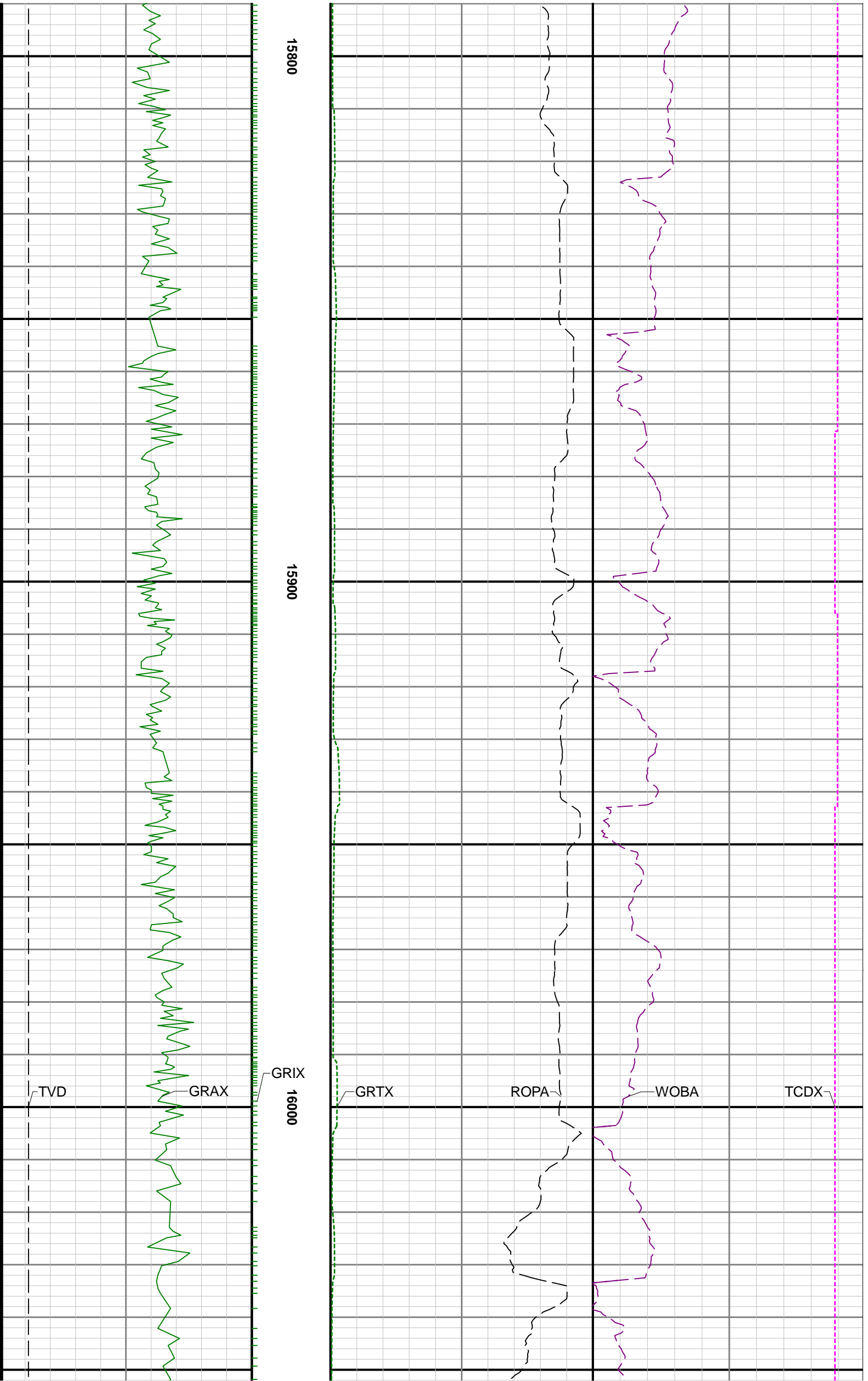


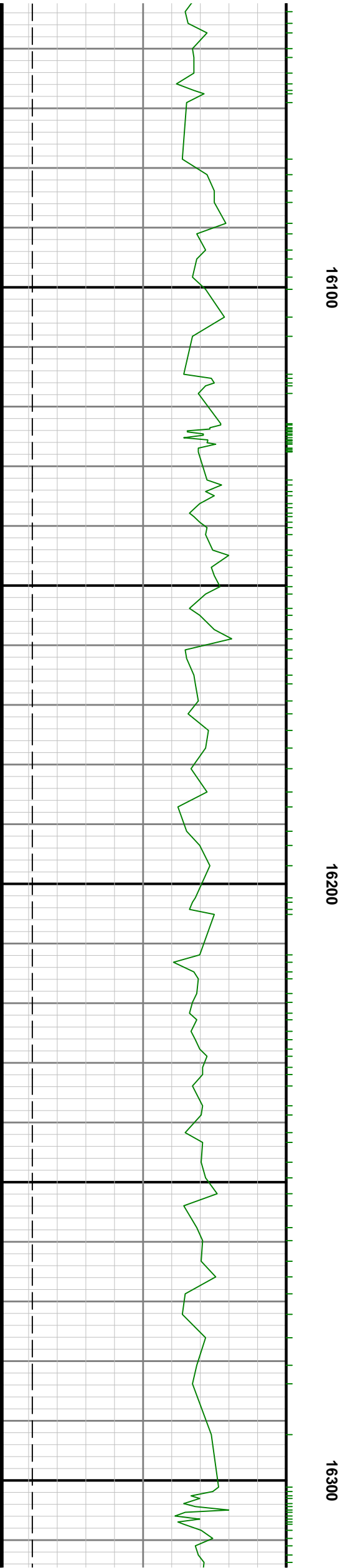
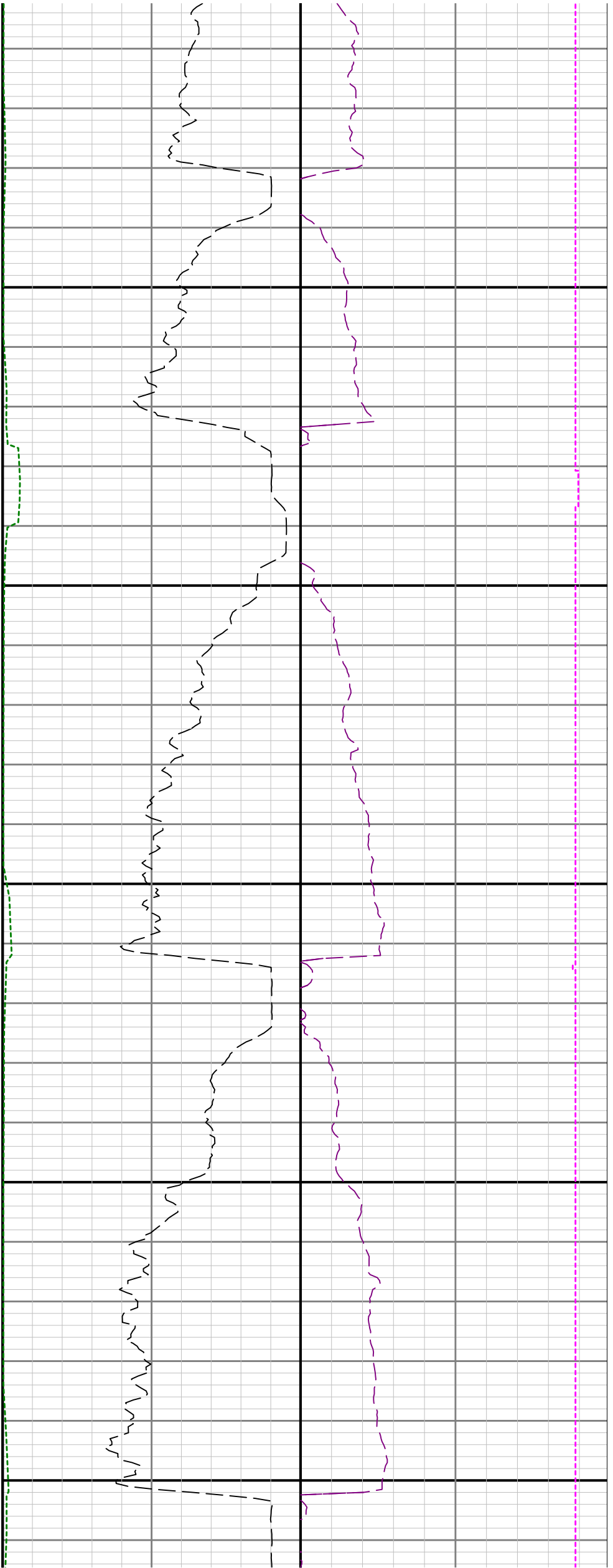


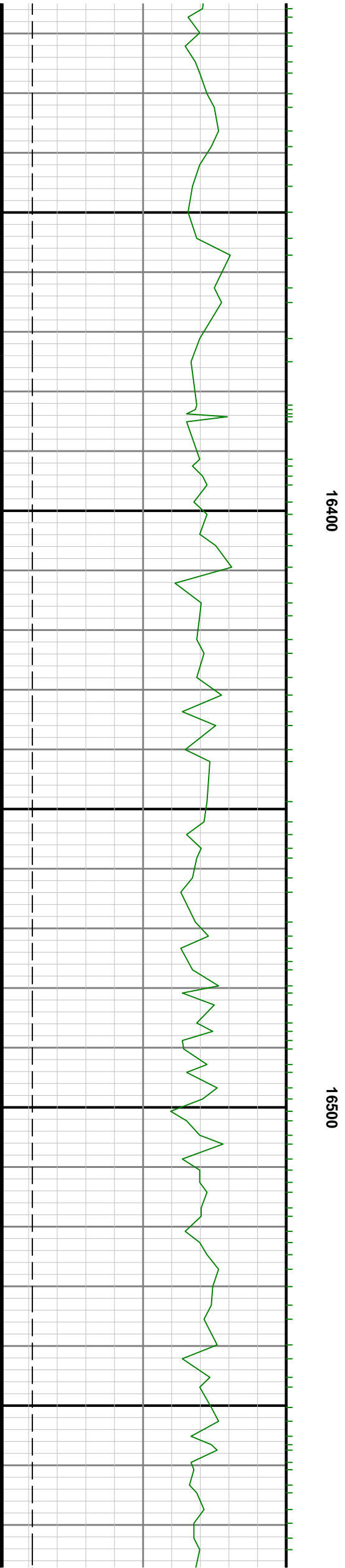
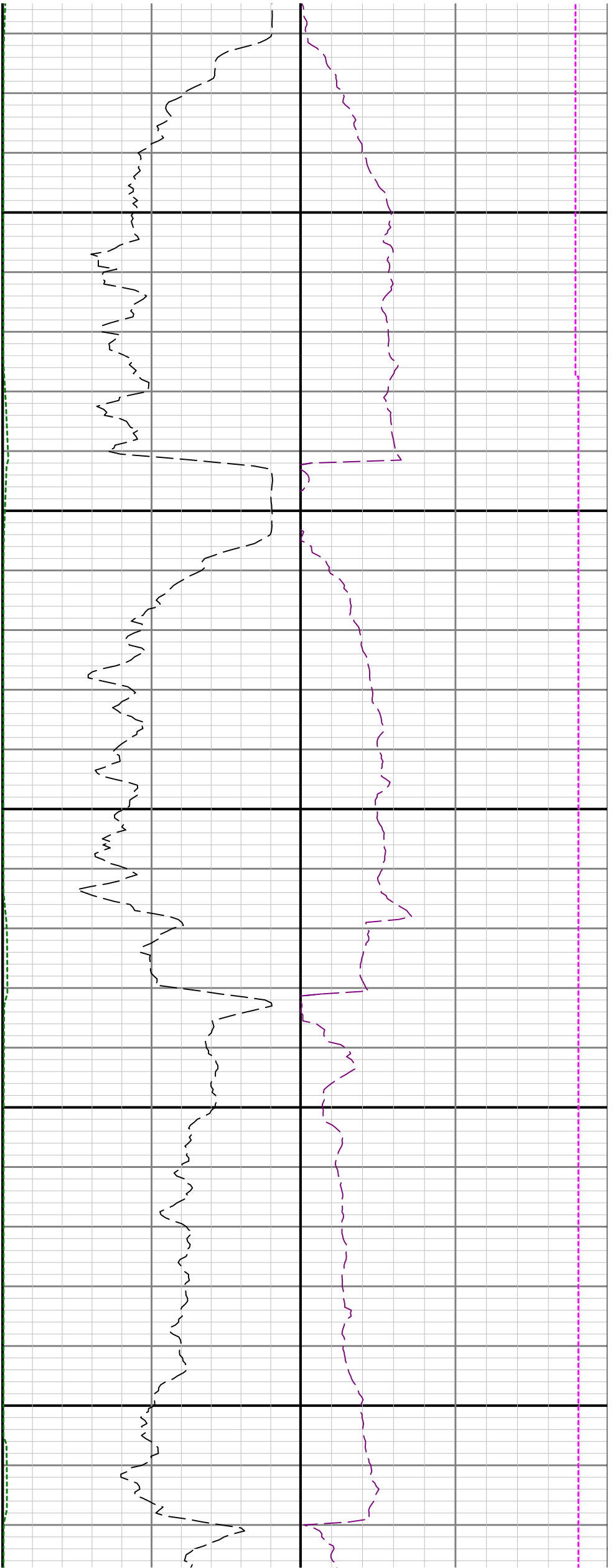
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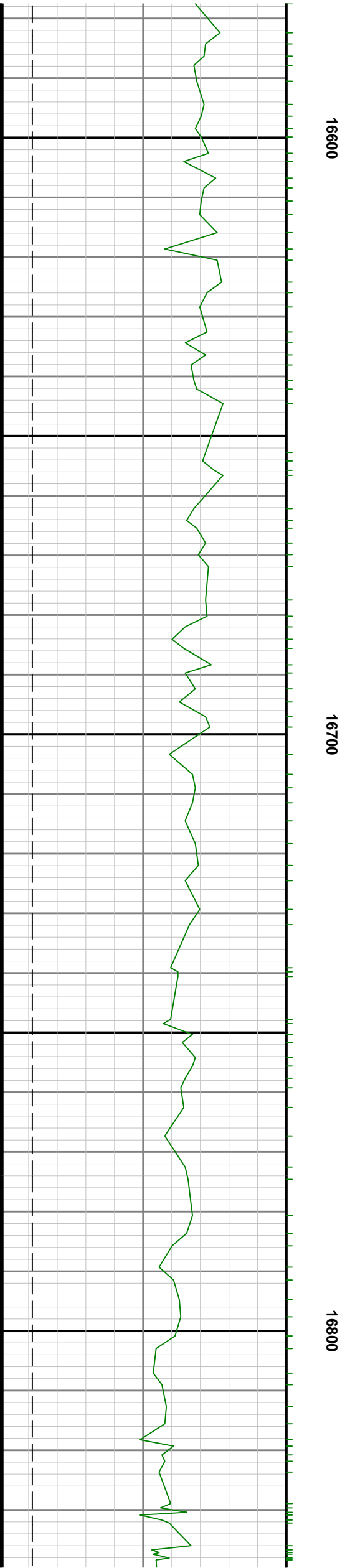
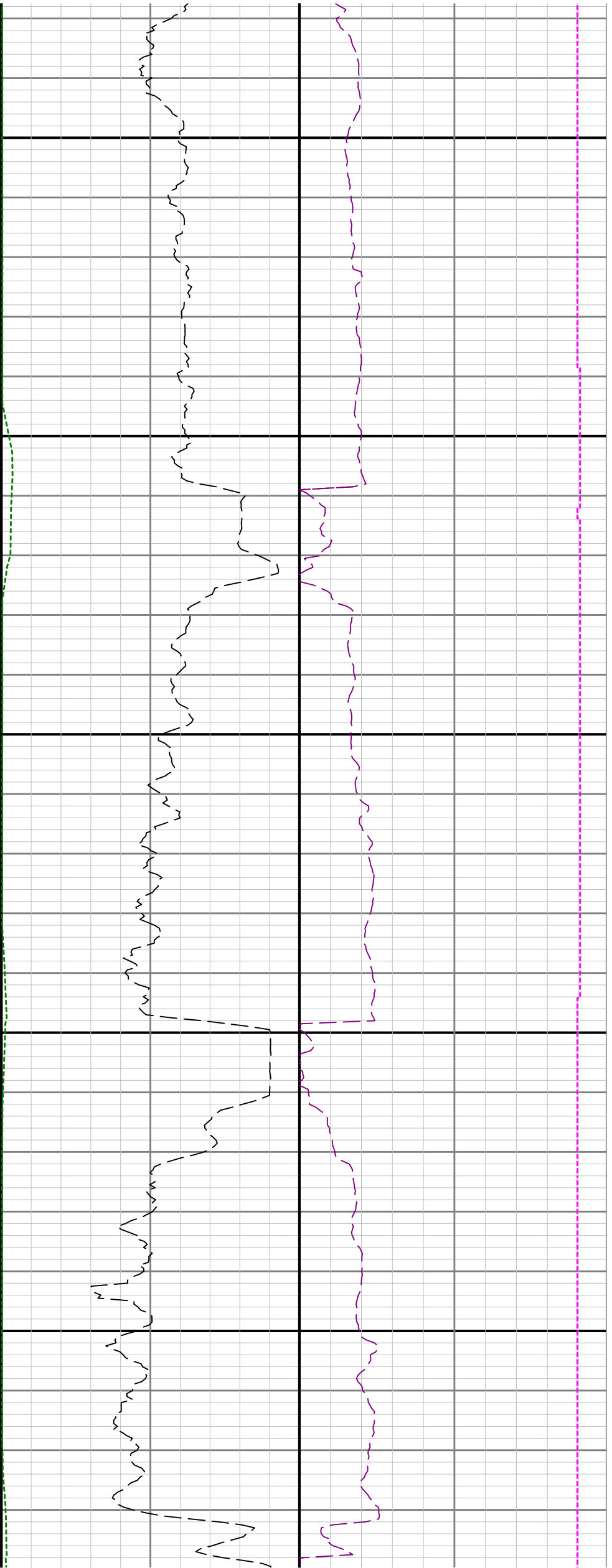
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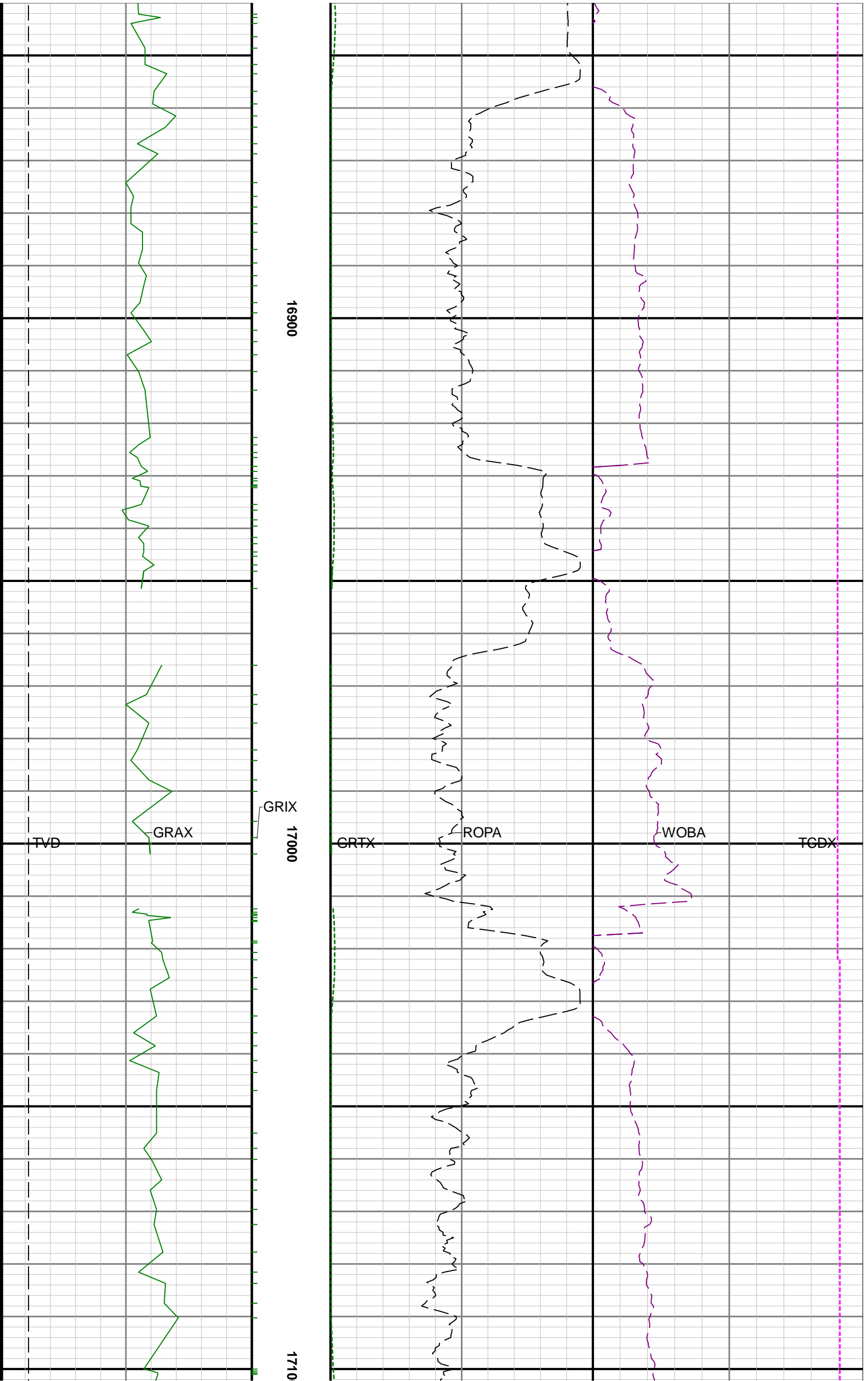


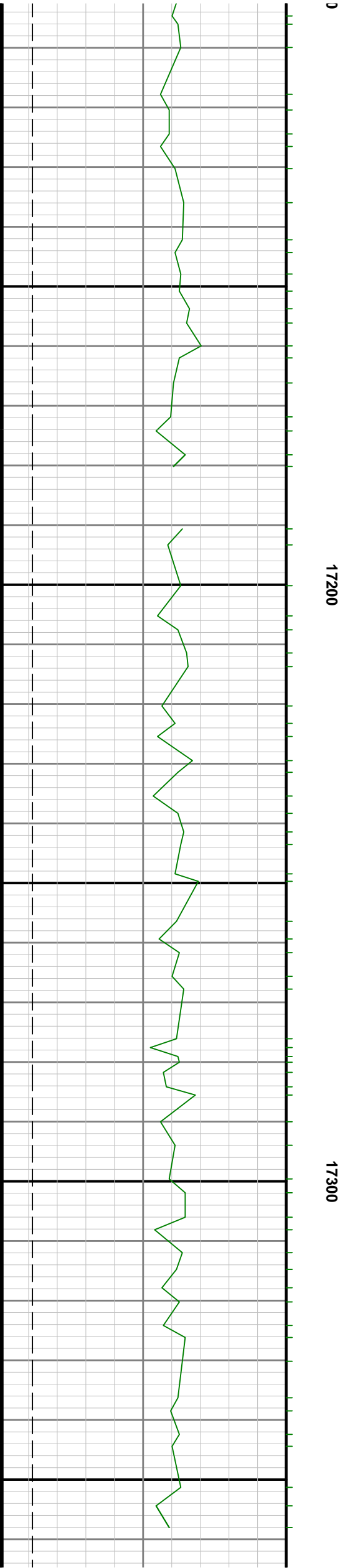
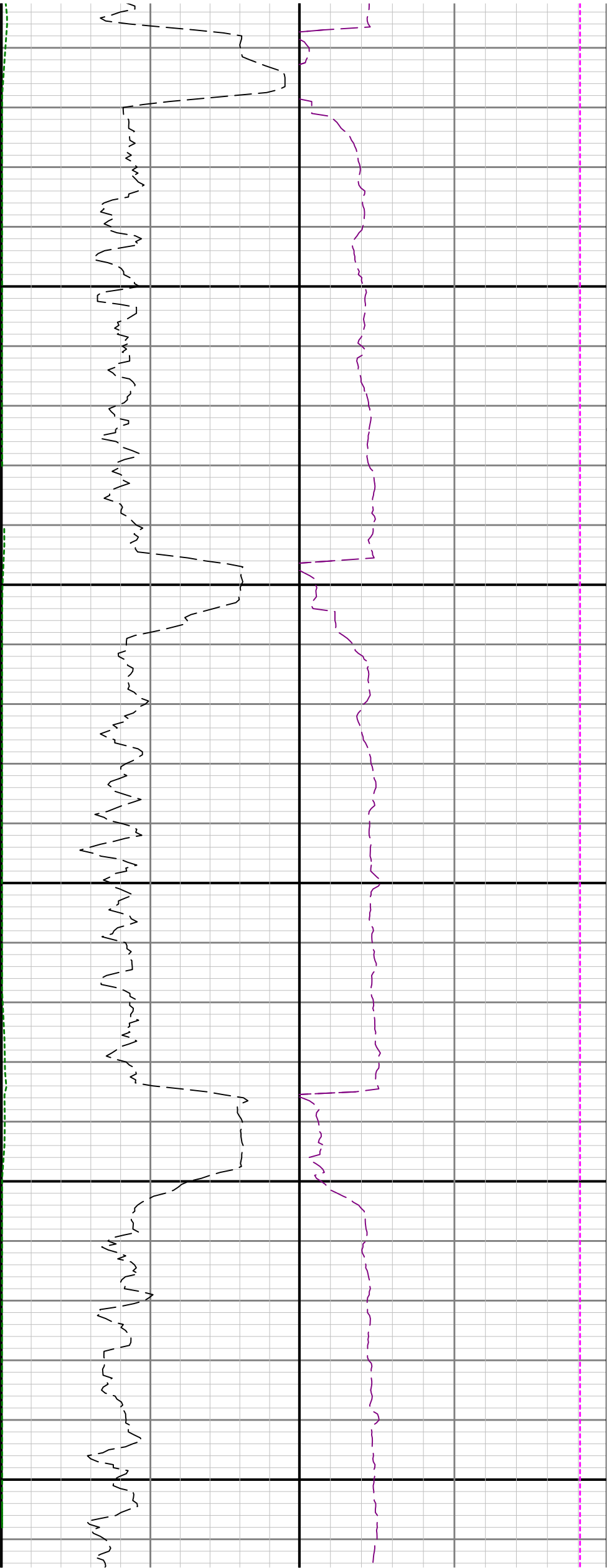


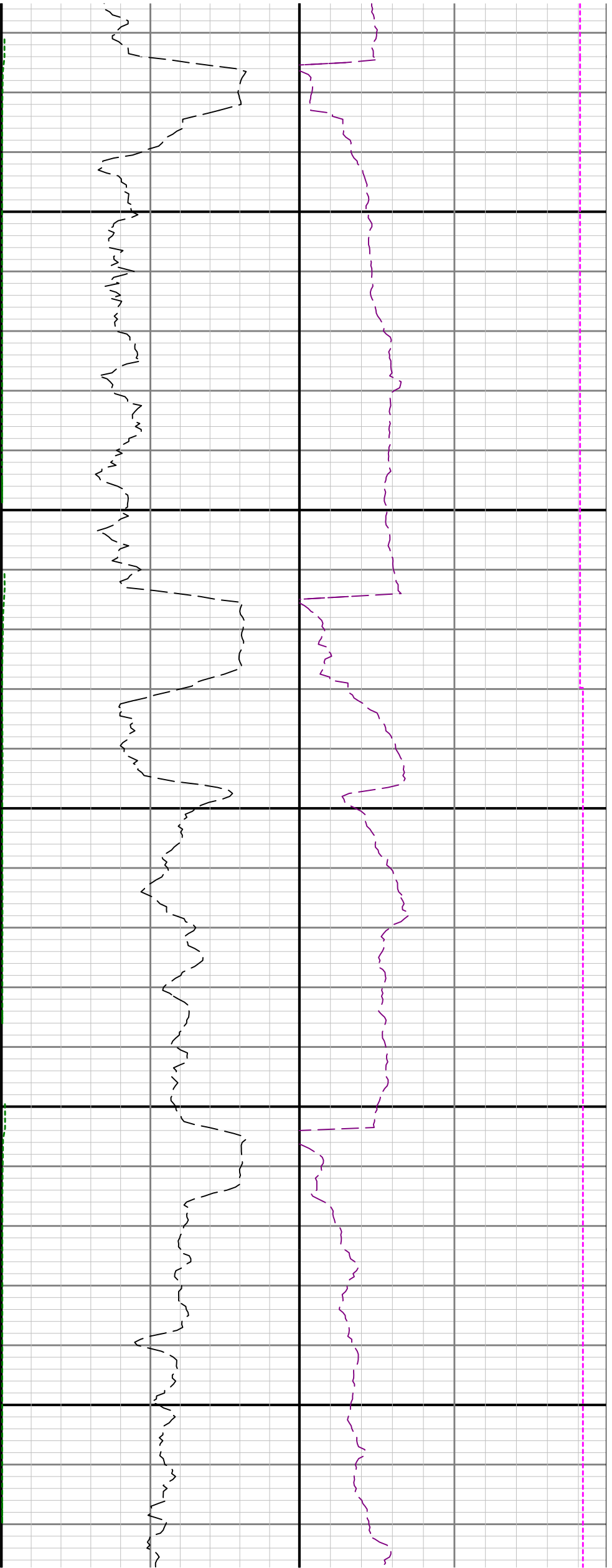












17400

17500

17600

