



LWD REALTIME LOG

Gamma Ray

Scale:		Company: Great Western			
1:240		Well: OTTESSEN LE 06-370HC			
Measured Depth		Field:		Weld County	
Depth Reference:		County:		Weld	
Driller's Depth		State:		Colorado	
Status:		Surface Location:		Other Services:	
Final Print		Latitude:		040° 00' 15.570" N	
API No: 05-123-44355-00		Longitude:		104° 46' 43.309" W	
Job ID: 109525497		SEC: 33		TWN: 1N	
Permanent Datum (P.D.): Ground Level		Elevation:		5076.50 ft	
Log Measured From: Rig Floor		Above P.D.		20.00 ft	
Elev. KB:		Elev. DF:		N/A	
Elev. GL:		Elev. GL:		5076.50 ft	
Directional					
Dates		Interval Drilled		Magnetic Field Reference	
Date From: 2018-12-09		Top: (ft)		1855.00	
Date To: 2018-12-13		Bottom: (ft)		18459.00	
Spud Date: 2018-11-09				Mag to Reference North Correction: (deg)	
8.25					
Borehole Record		Casing Record			
Hole Size (in)		From (ft)		To (ft)	
13.500		20.00		1855.00	
8.500		1855.00		18459.00	

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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
						Top	Bottom	From	To	Start Logging	End Logging	
						(ft)	(ft)	(ft)	(ft)			
1	1	8.500	PDC	3.00	AutoTrak Curve	1842.00	18446.00	1855.00	18459.00	2018-12-09 20:00	2018-12-13 01:00	76.31

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Marshall Easlick	2018-12-09	2018-12-13	Rafee Komeizi	2018-12-09	2018-12-13	Alozie Obuh	2018-12-10	2018-12-12

Mud Properties Record

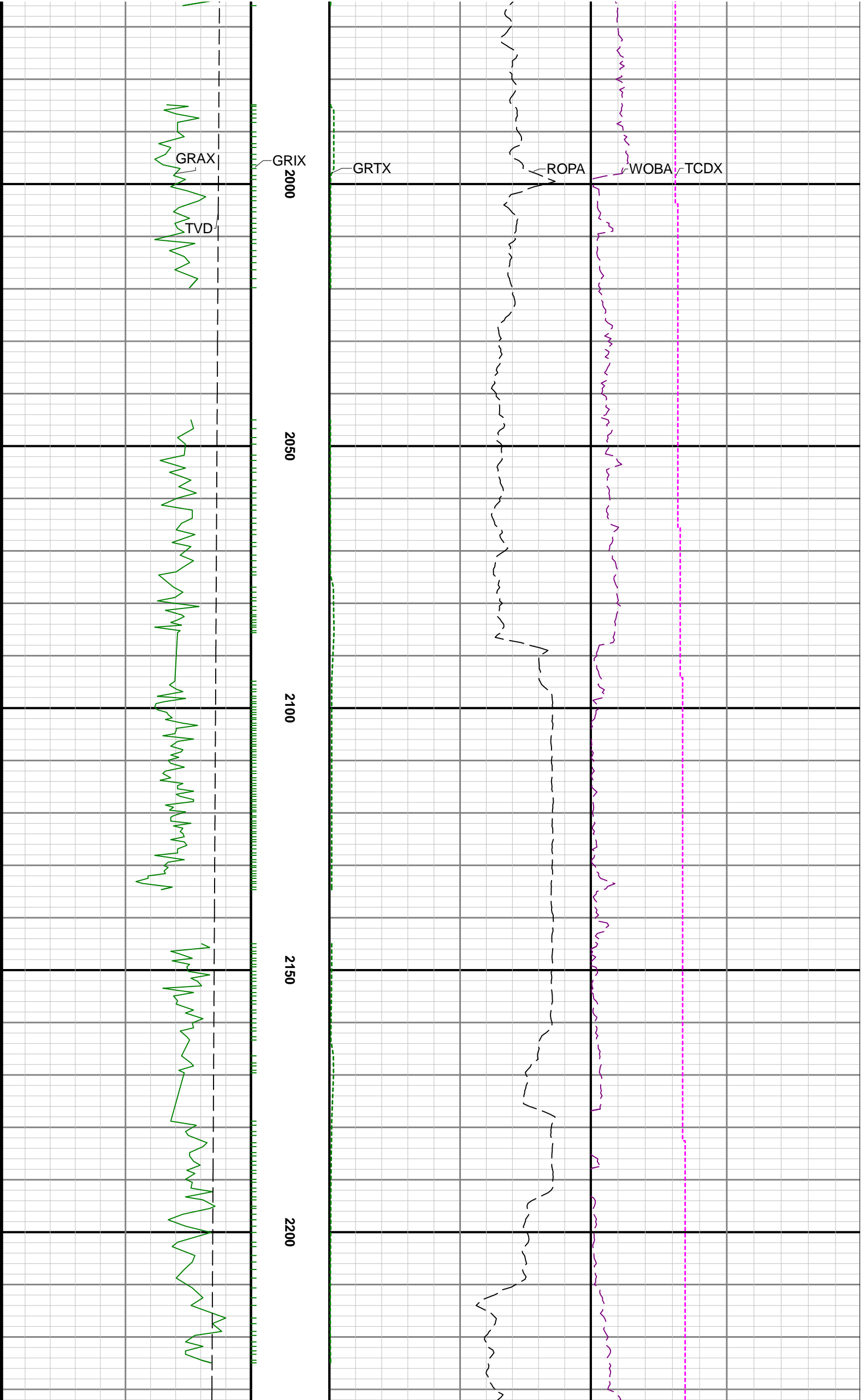
Date / Time	Run No.	Measured Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2018-12-09 19:00	1	3554.10	Diesel-Oil Based Mud	10.5	21	N/A	11.6	80/20	Active Pit	23324	0.00
2018-12-10 01:00	1	5175.00	Diesel-Oil Based Mud	10.5	17	N/A	11.8	76/24	Active Pit	21380	0.00
2018-12-11 01:00	1	10164.00	Diesel-Oil Based Mud	10.5	18	N/A	10.0	78/22	Active Pit	21380	0.00
2018-12-12 01:00	1	14745.00	Diesel-Oil Based Mud	10.5	17	N/A	15.0	80/20	Active Pit	19589	0.00

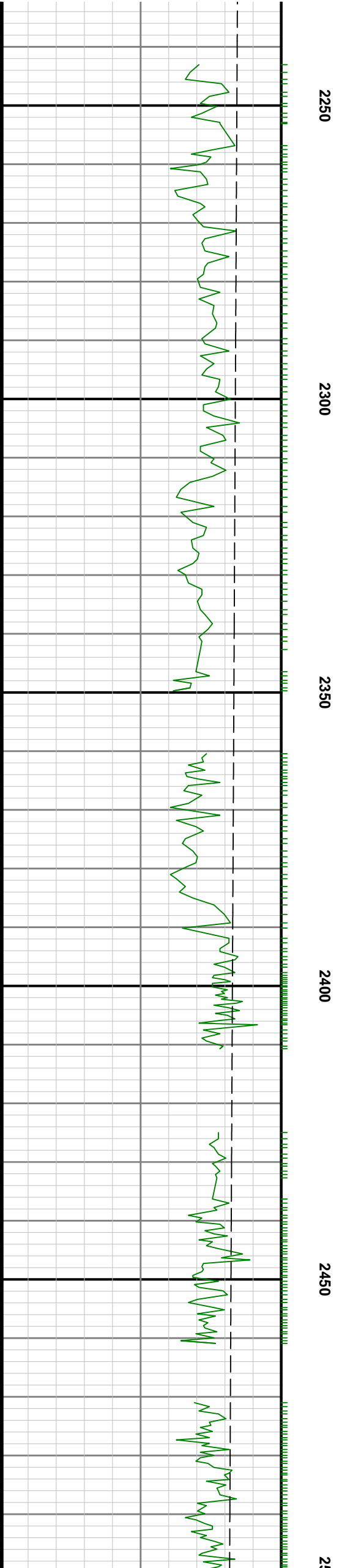
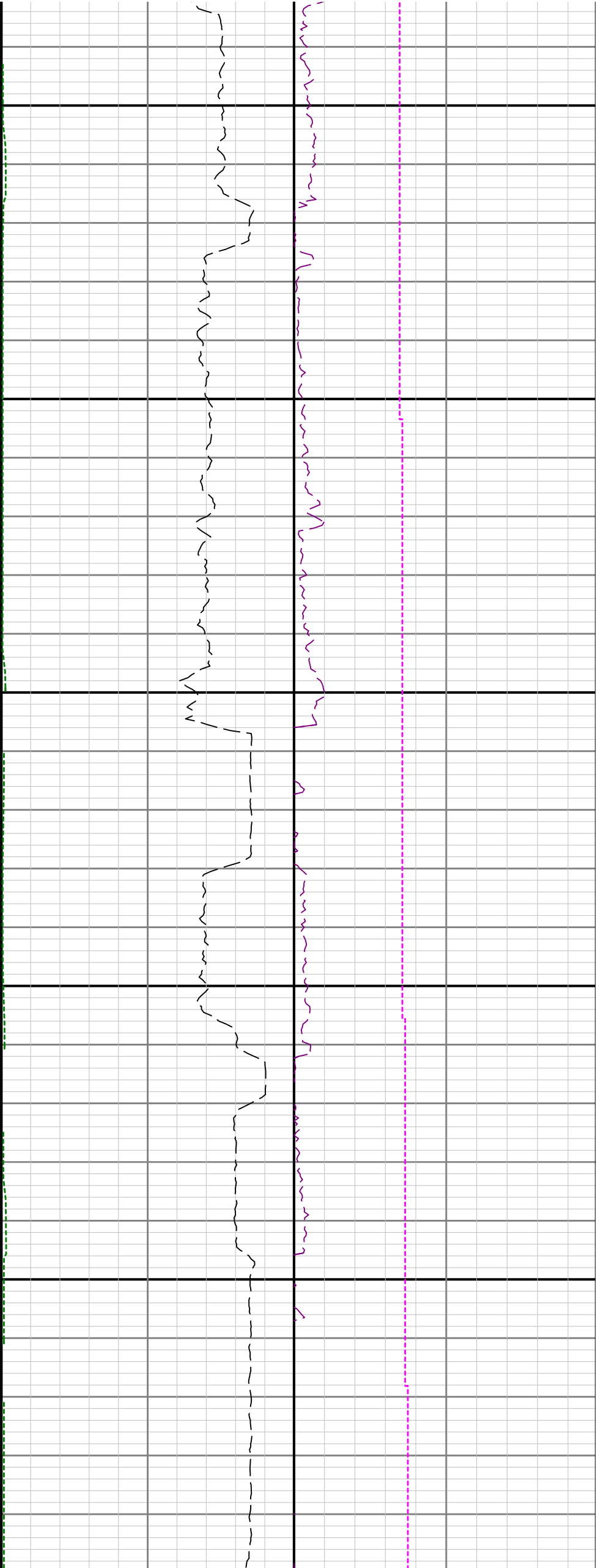
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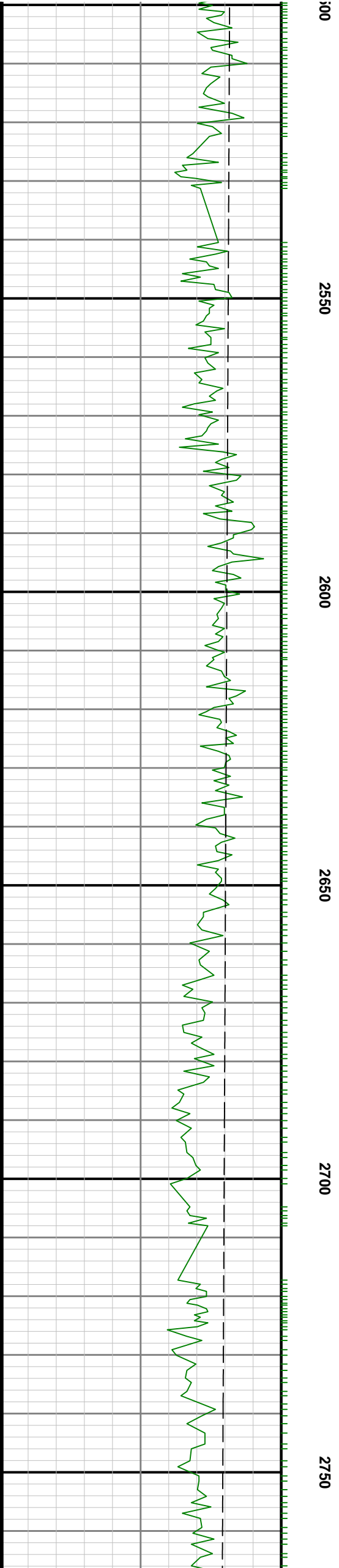
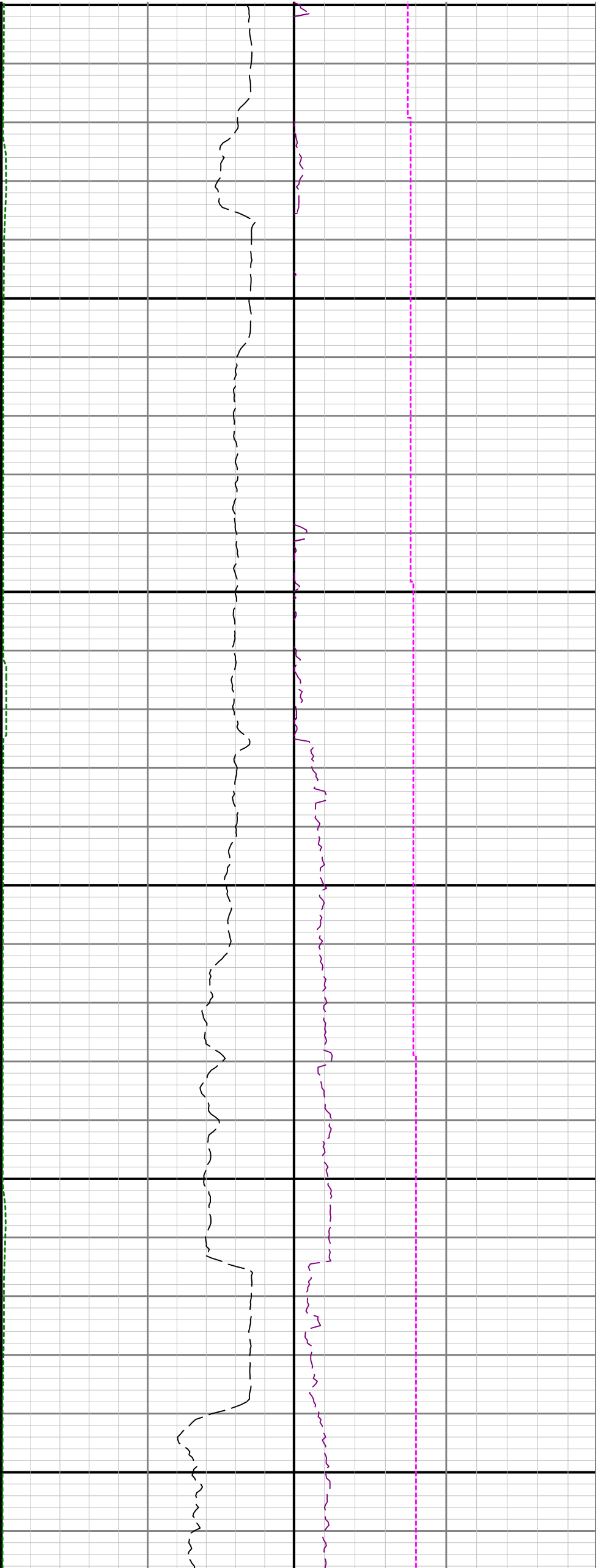
Run No.	Tool	Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)
1	AutoTrak Curve Steering Unit	13993180	Near Bit VSS	5.93	6.90	7.000	4.330
1	AutoTrak Curve Steering Unit	13993180	Near Bit Inclination	5.93	6.90	7.000	4.330
1	AutoTrak Curve MWD	14146740	Gamma (single)	2.72	13.07	7.000	3.250
1	AutoTrak Curve MWD	14146740	Directional (mag)	12.27	22.62	7.000	3.250

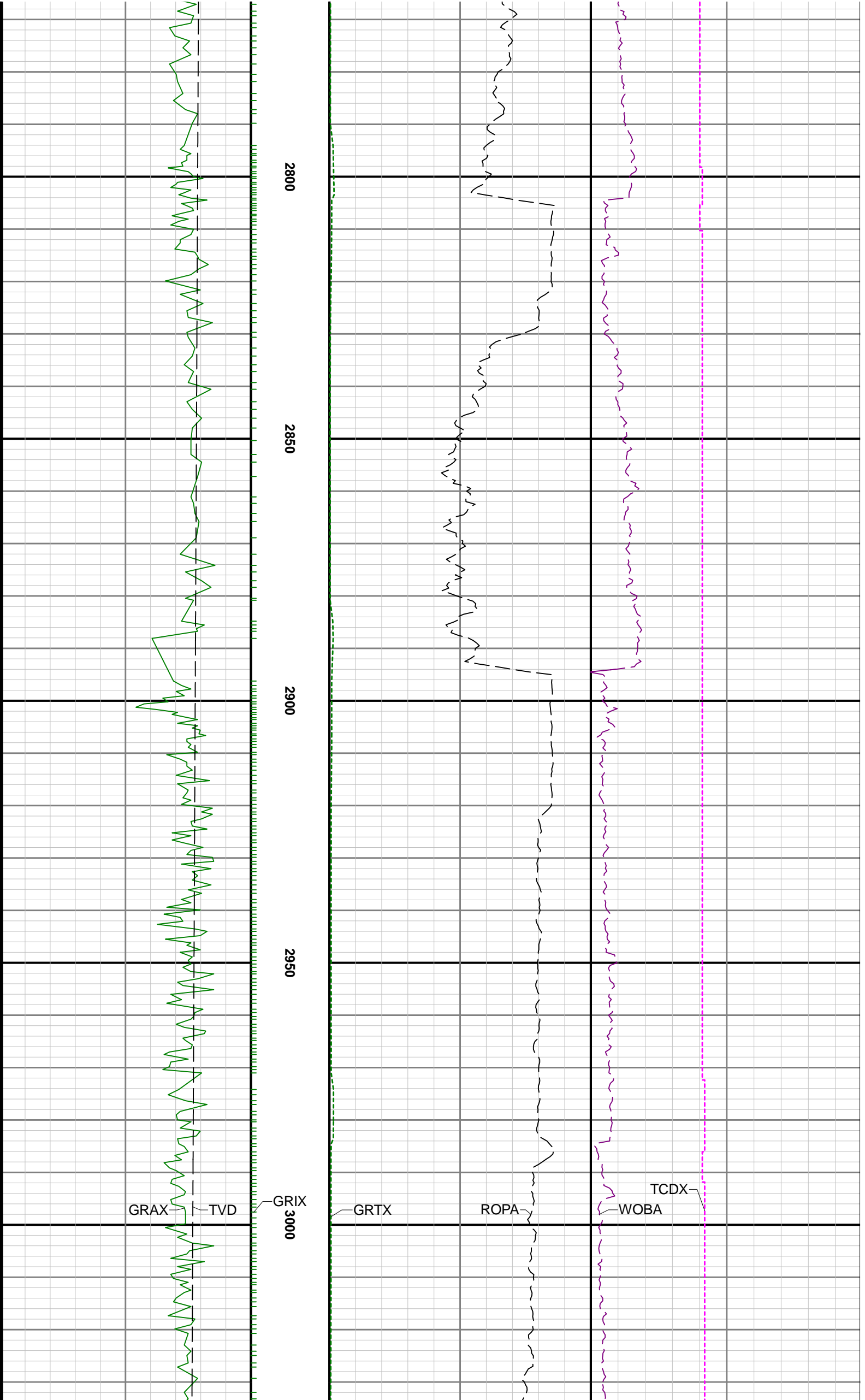
Service and Tool Mnemonics

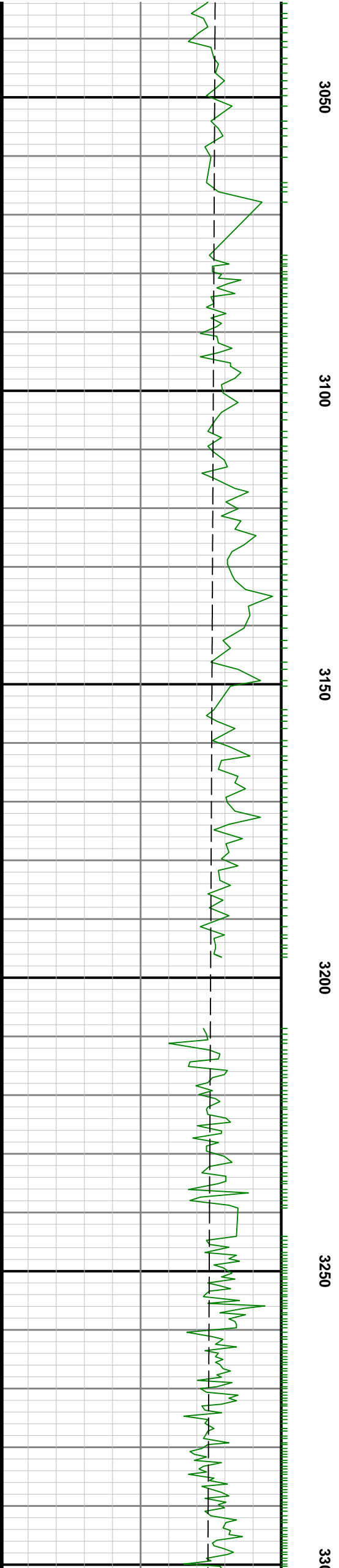
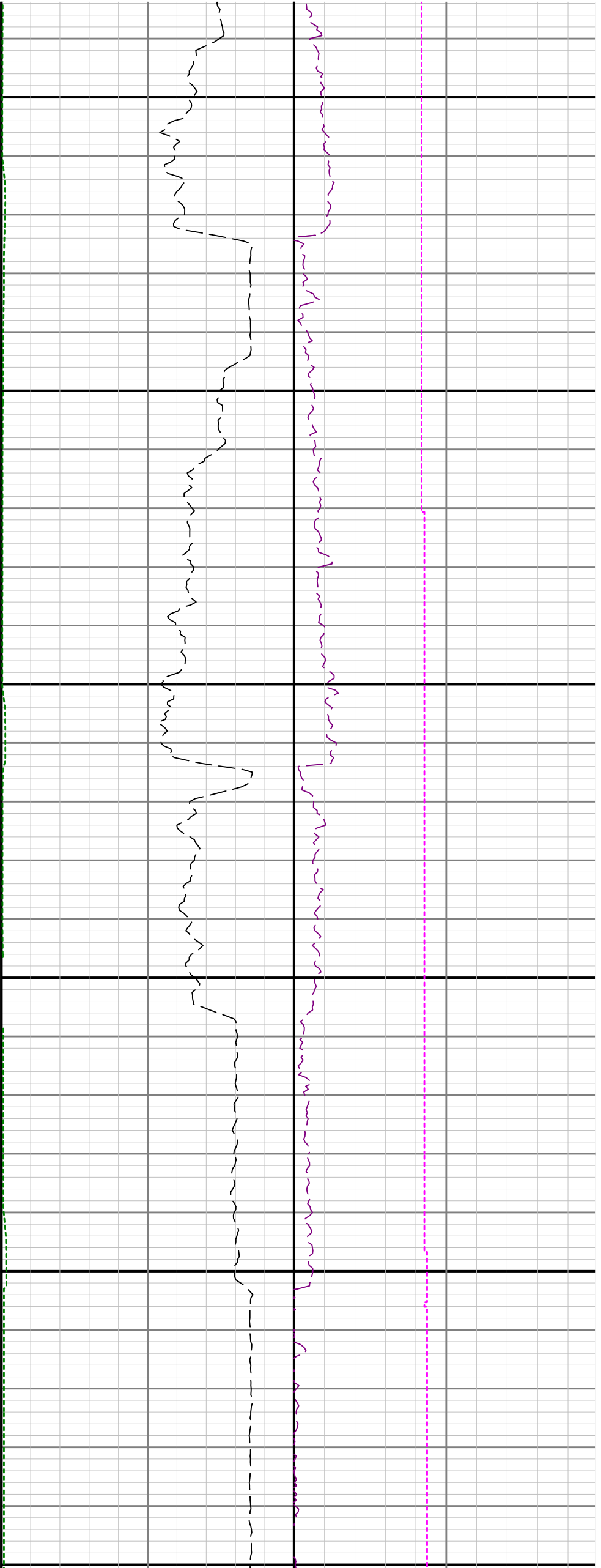
Mnemonic	Name	Description
ATC SU	AutoTrak Curve SU	Auto Trak Curve Steering Unit
ATC MWD	AutoTrak Curve MWD	Auto Trak Curve MWD
ATC LCPM	AutoTrak Curve LCPM	Auto Trak Curve LCPM

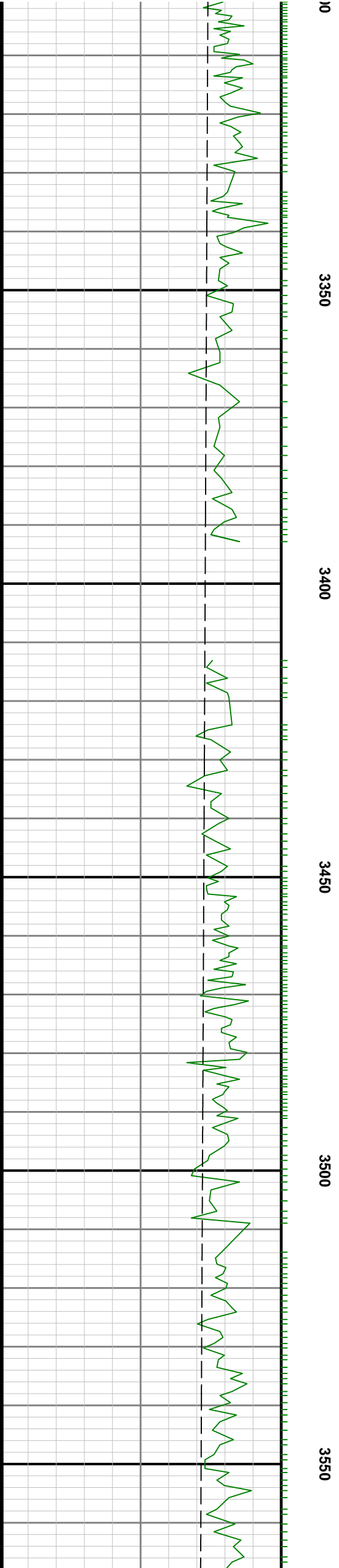
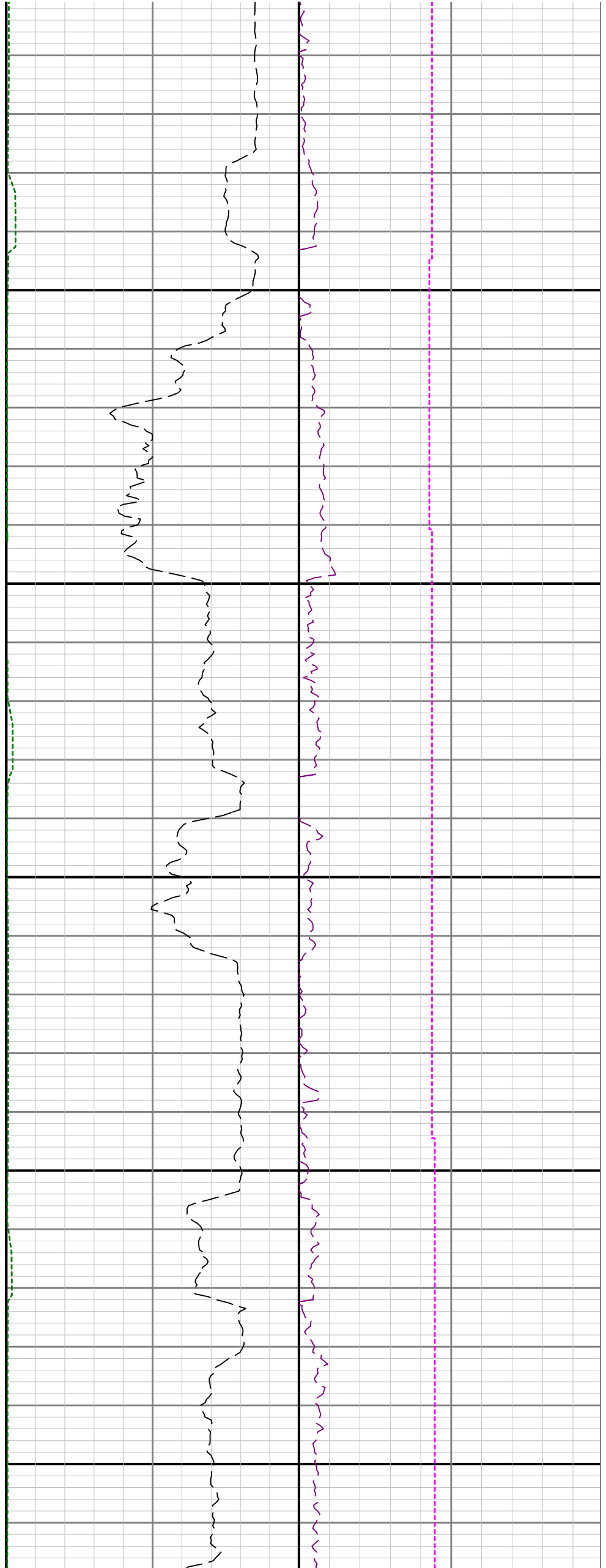


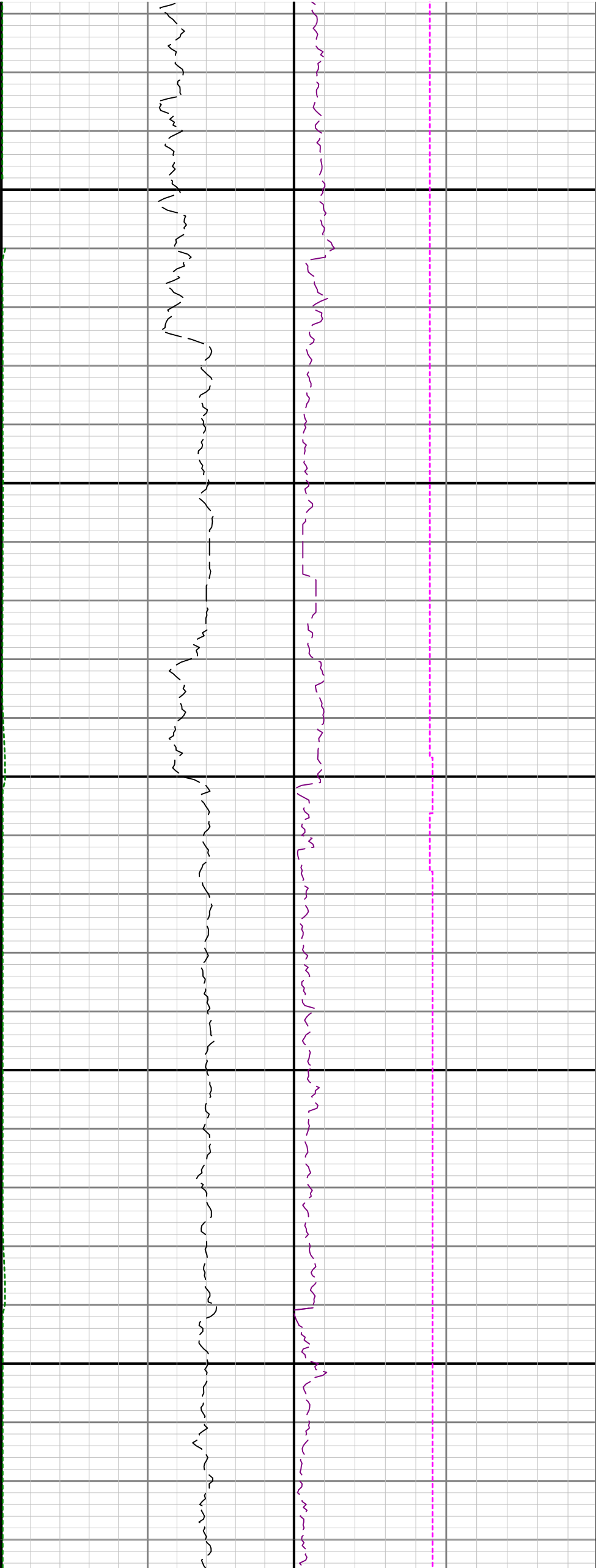












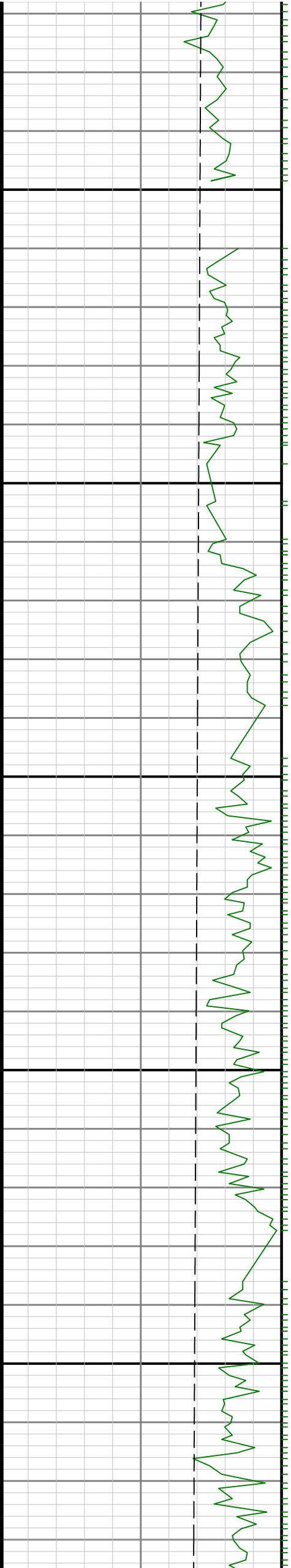
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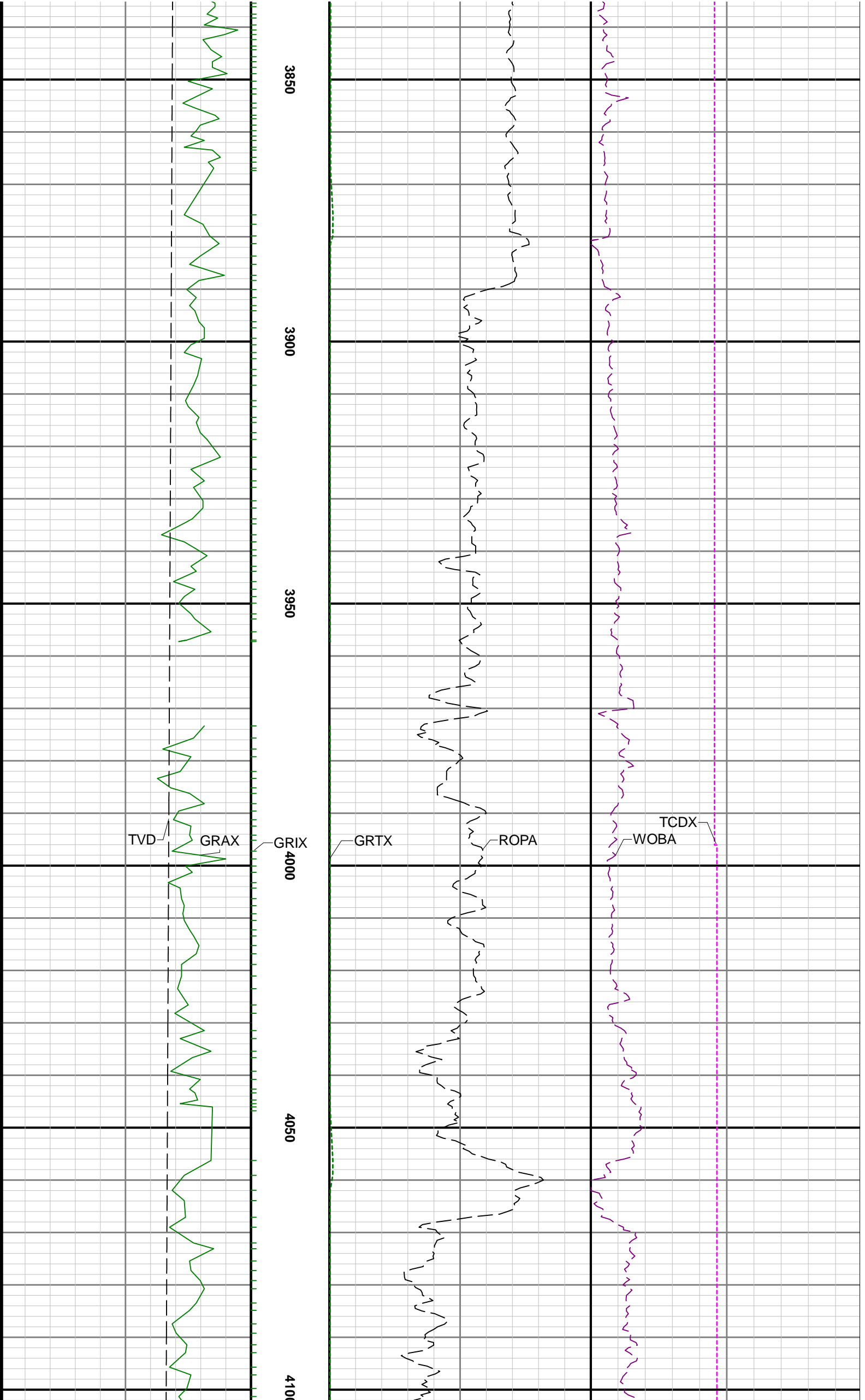
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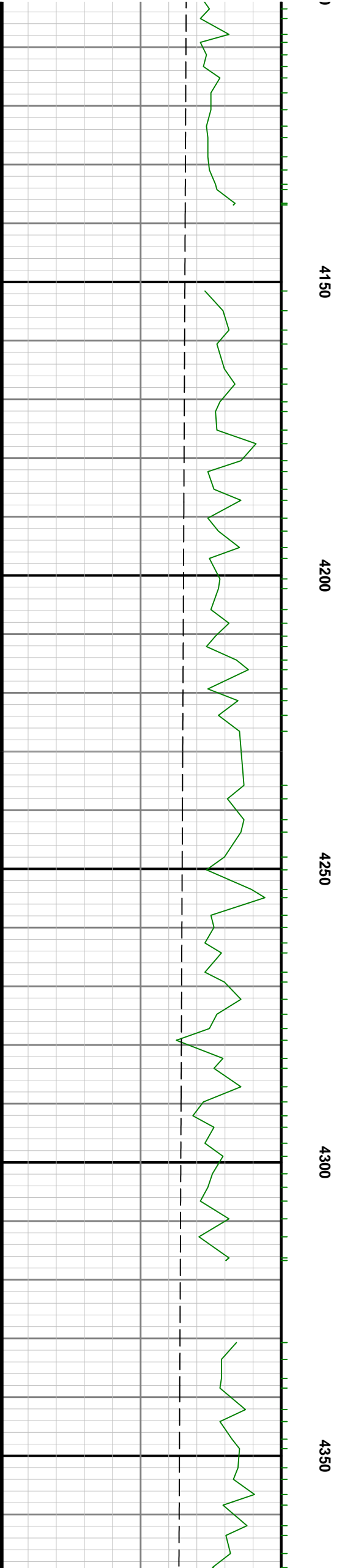
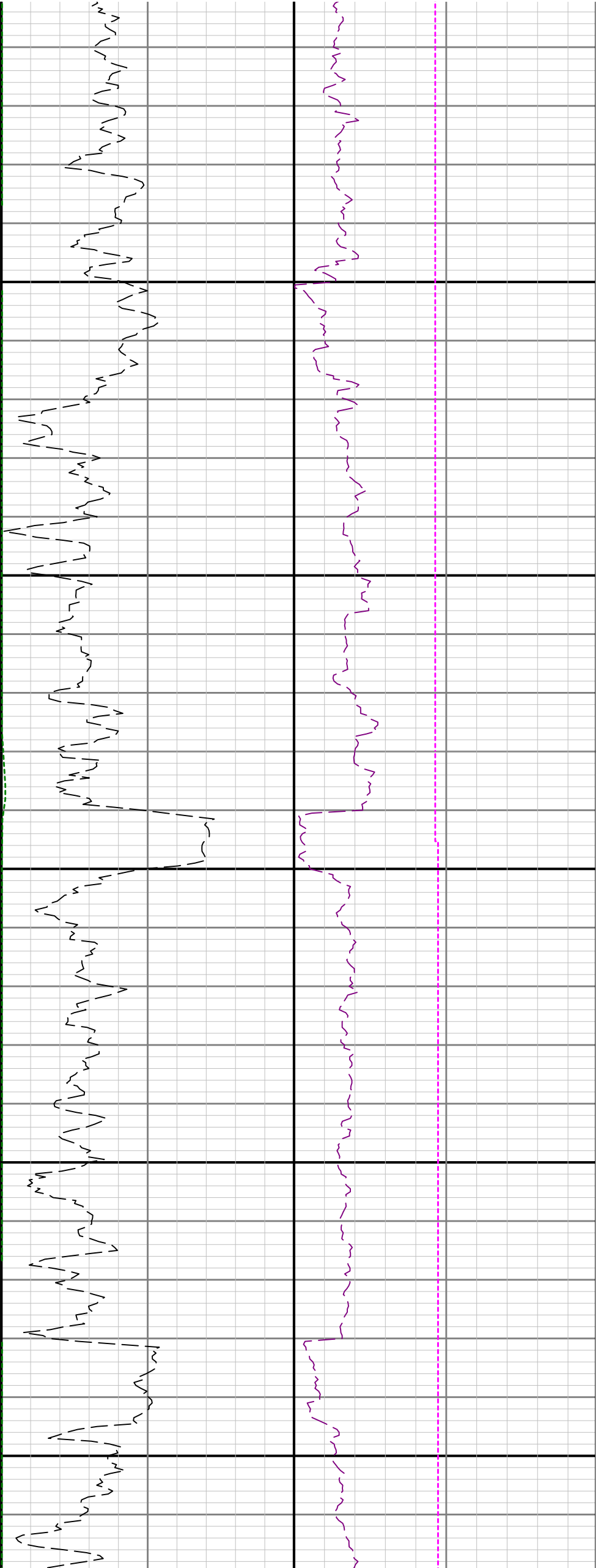
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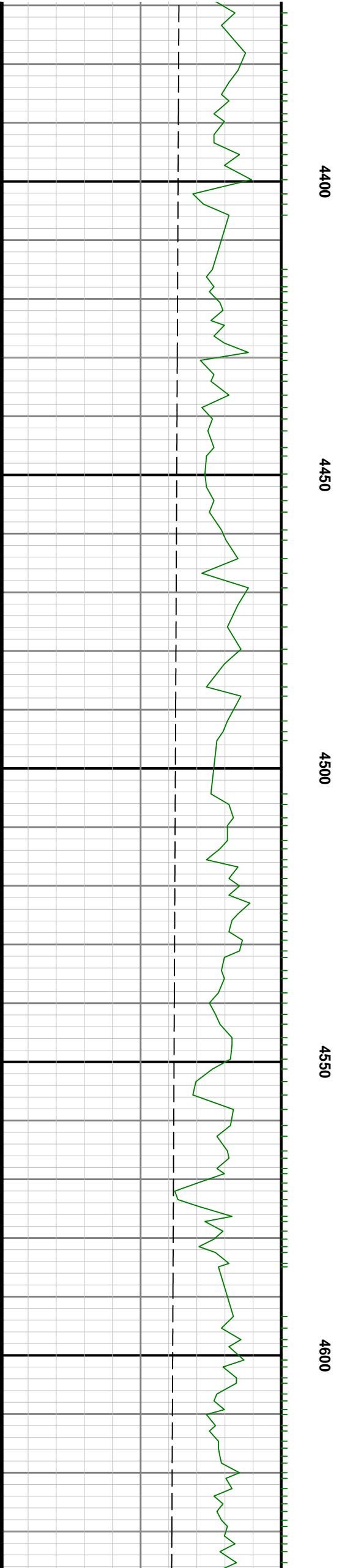
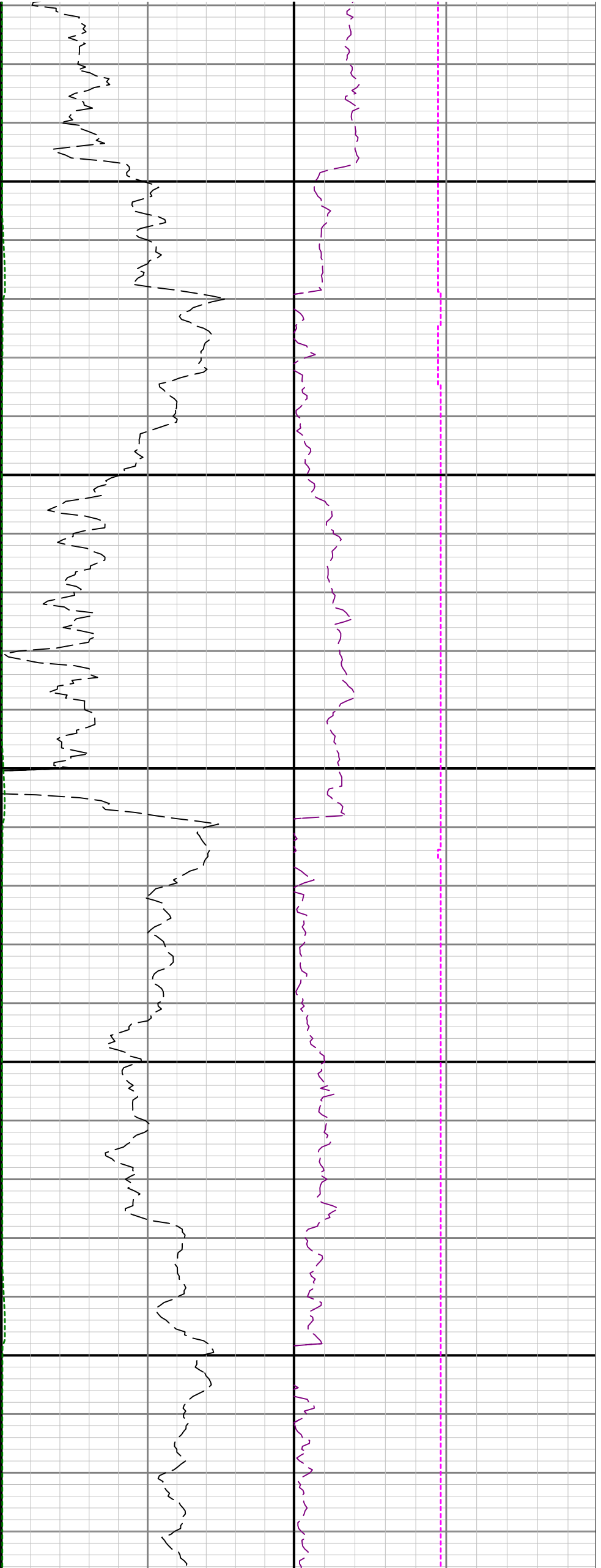
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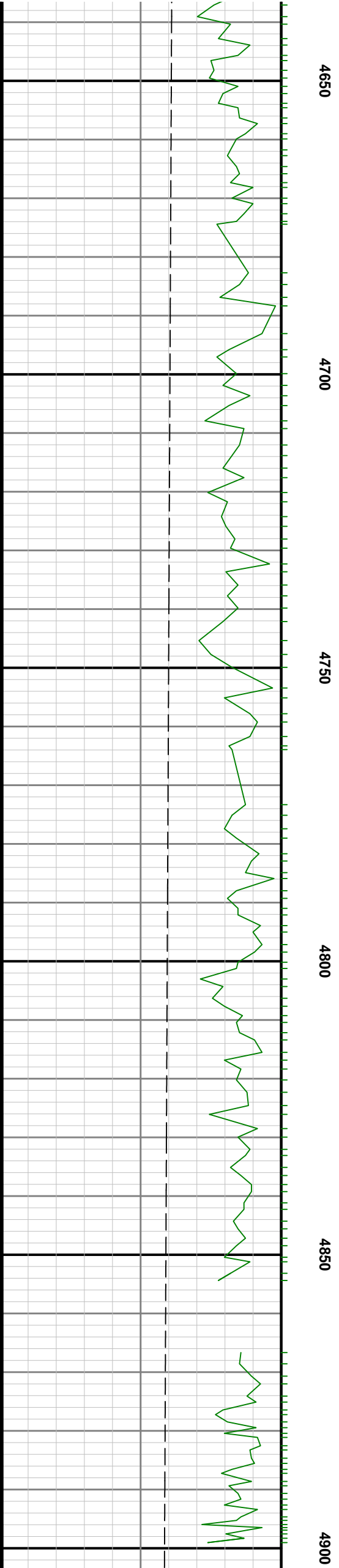
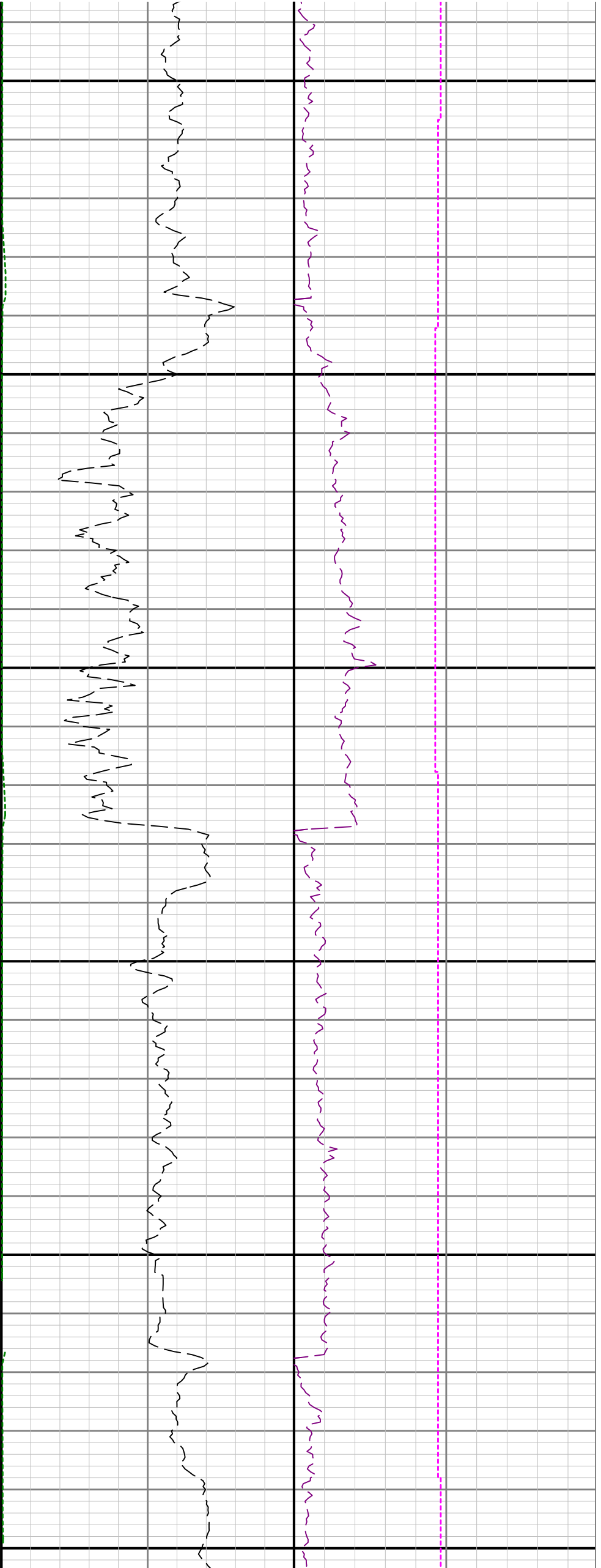
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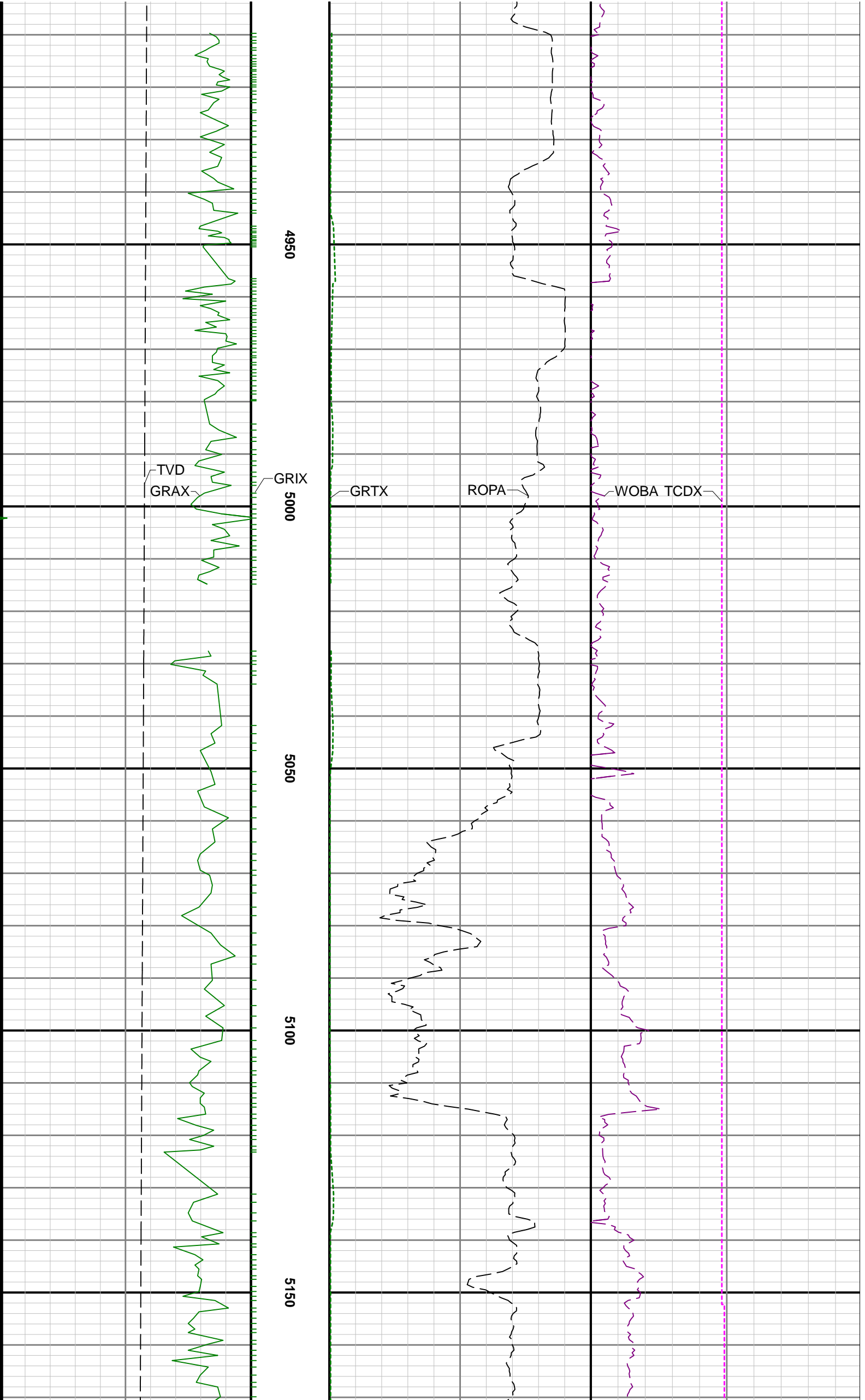


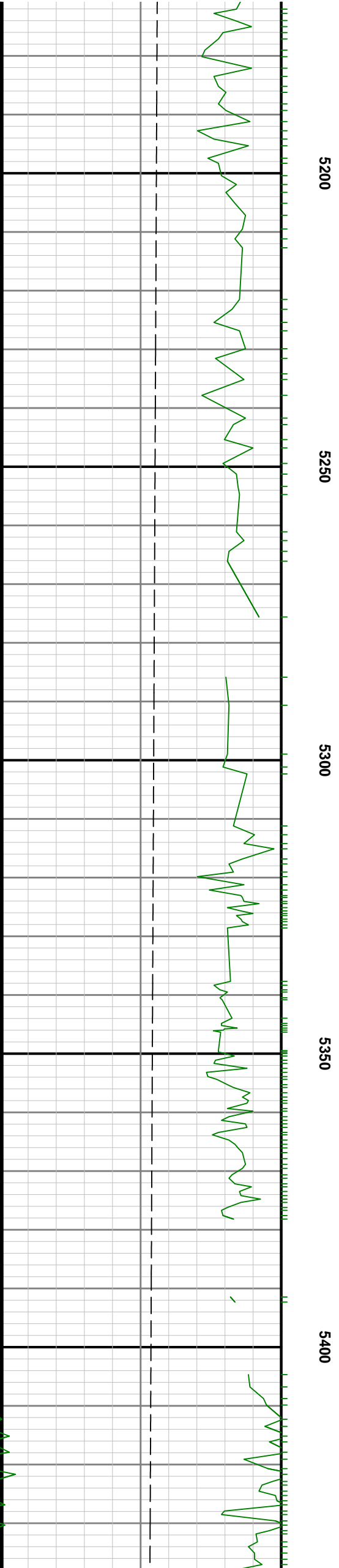
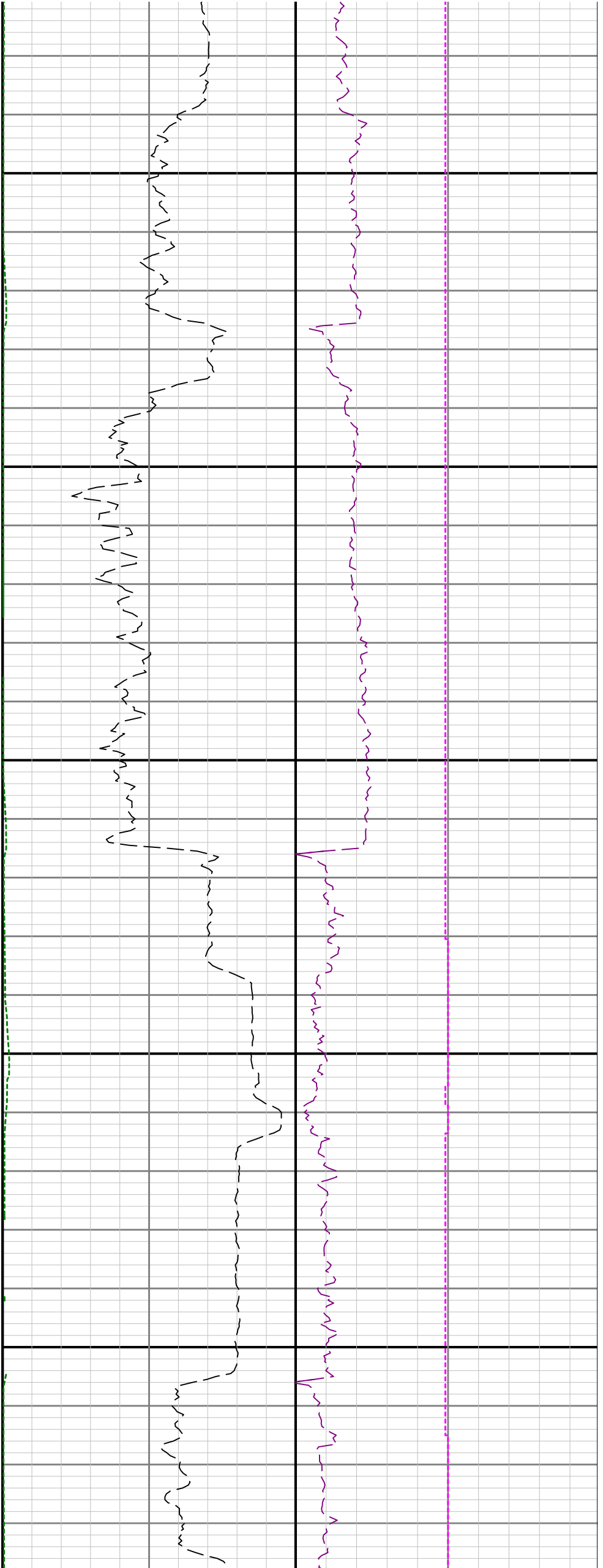


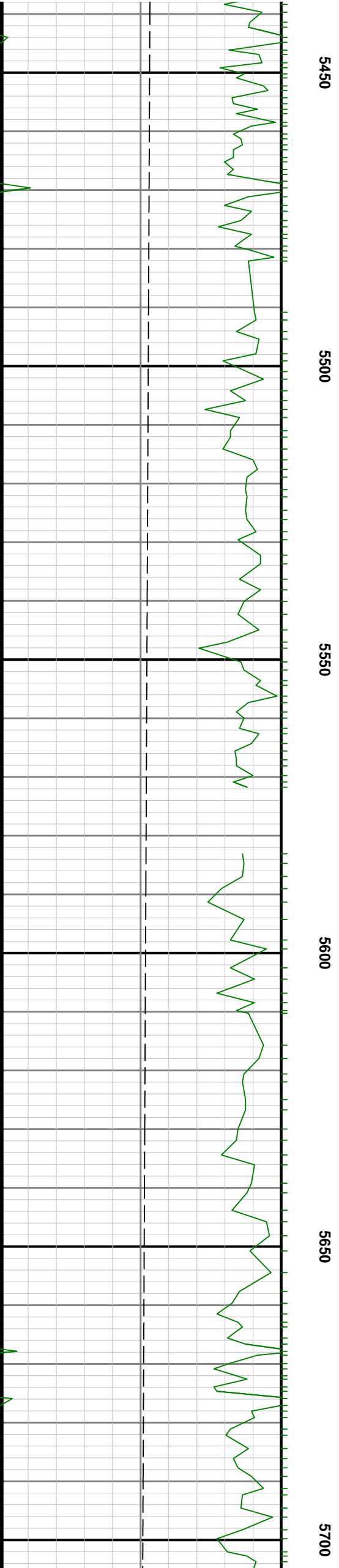
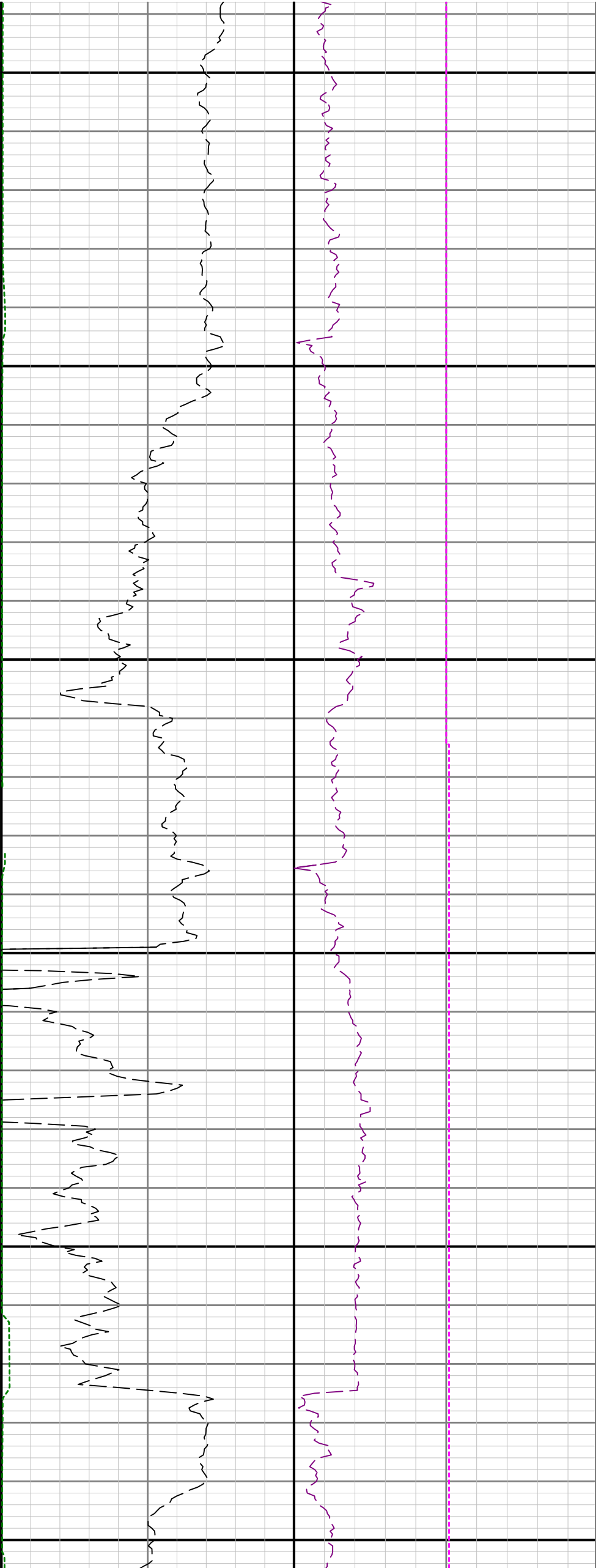


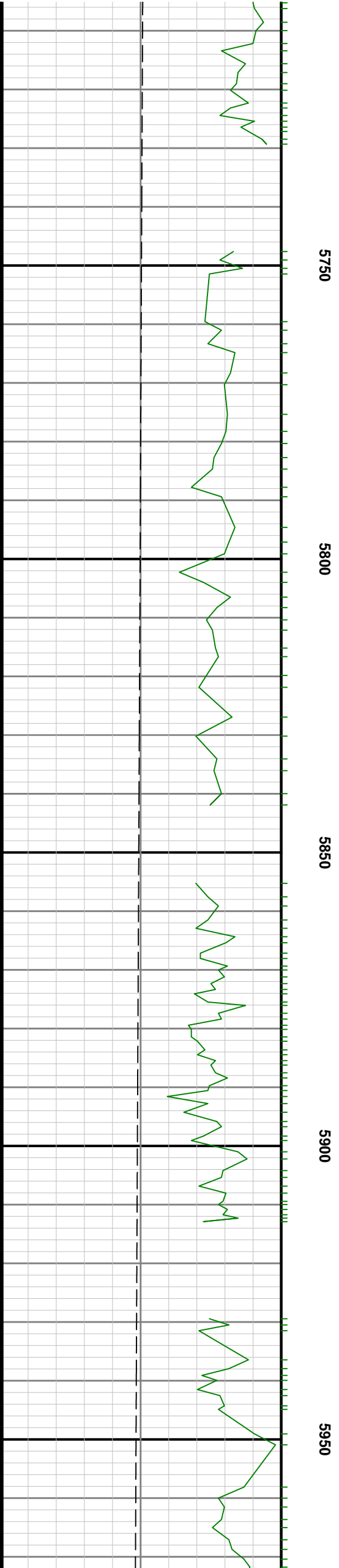
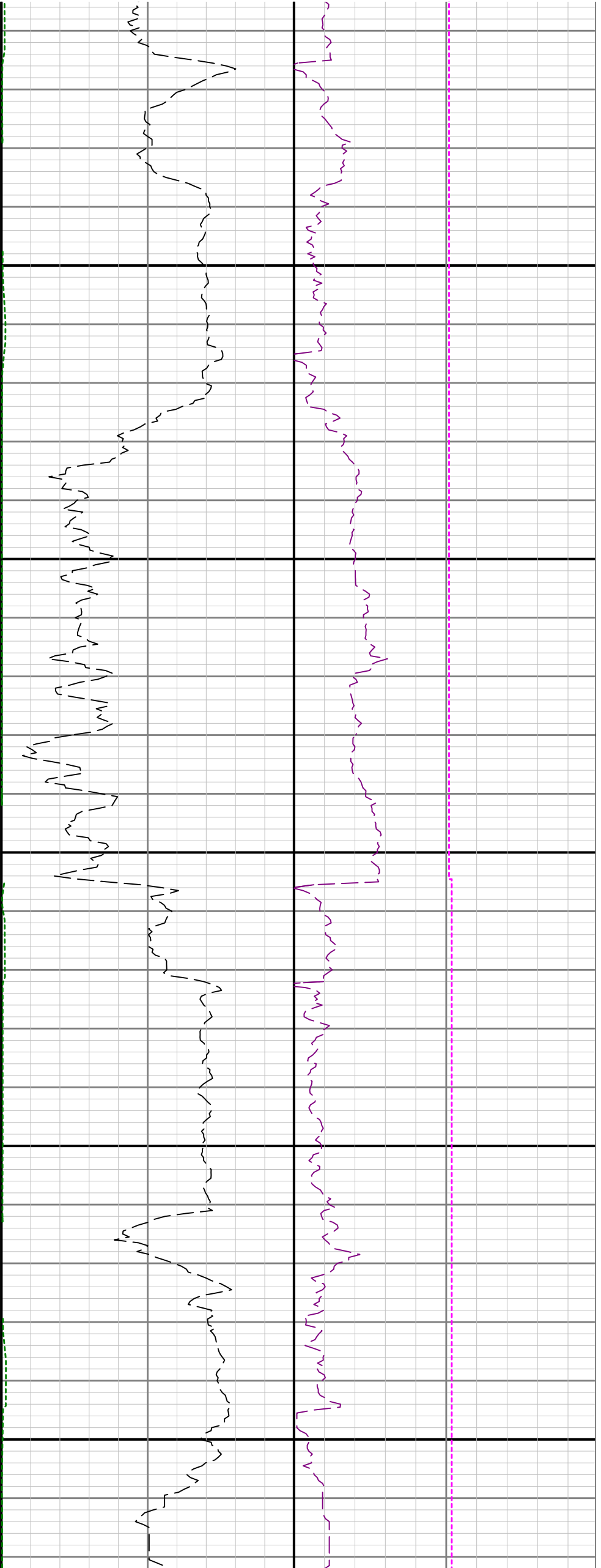


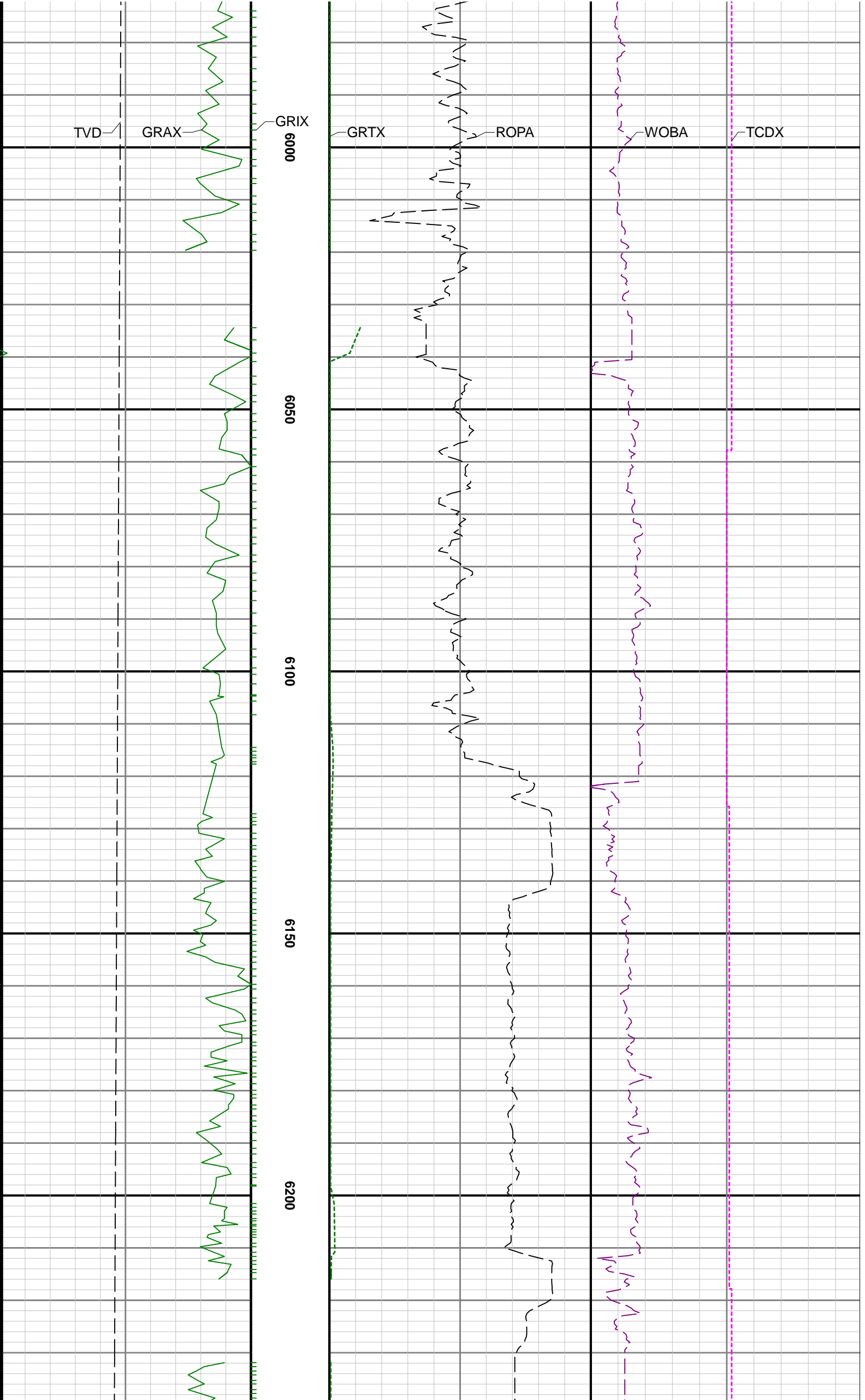


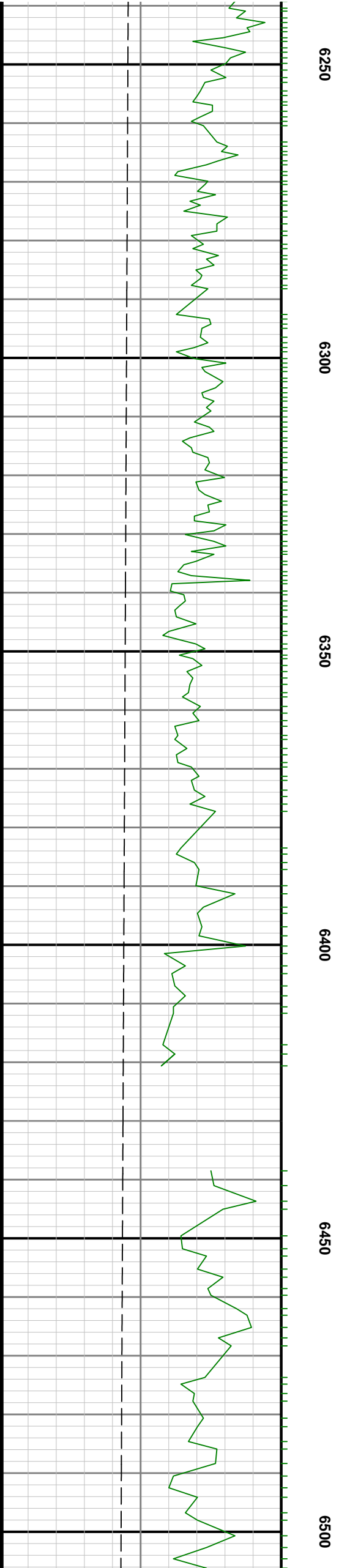


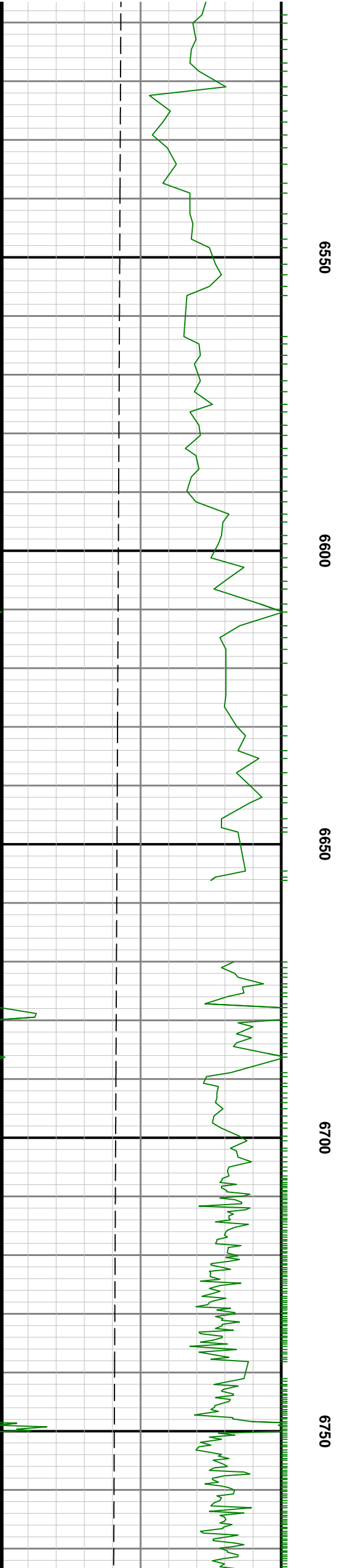
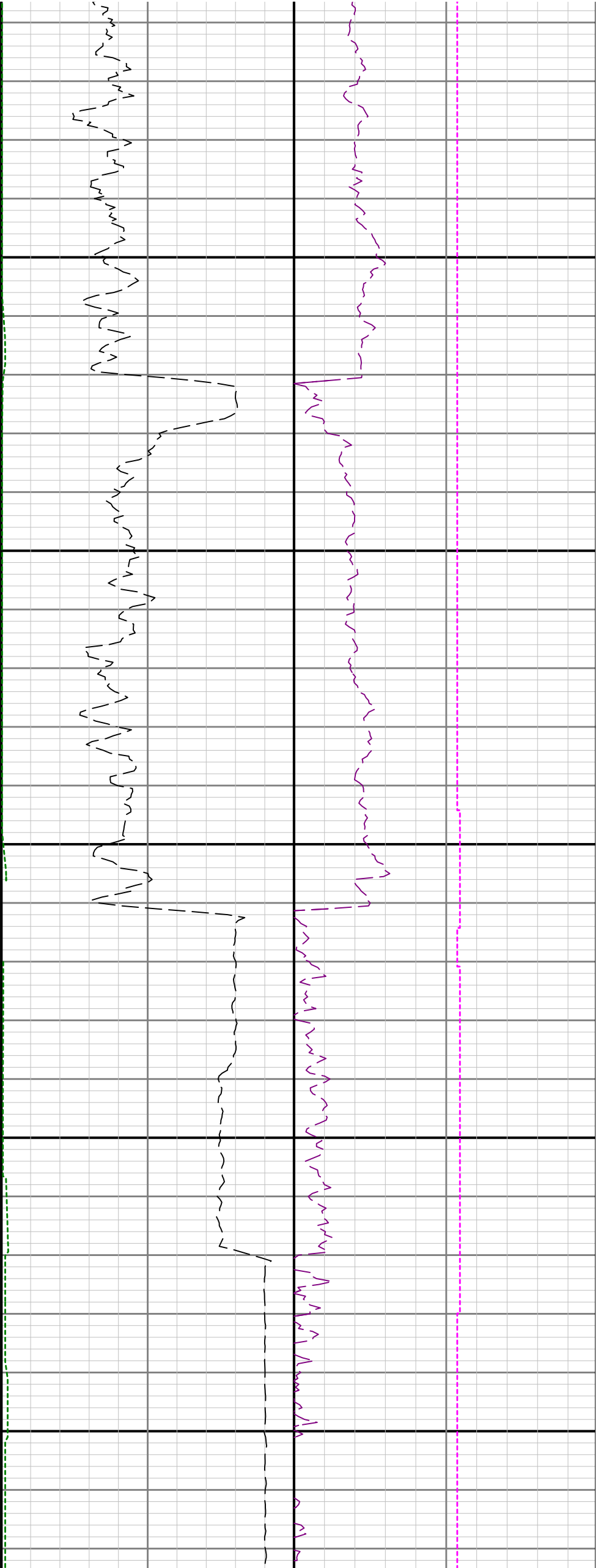


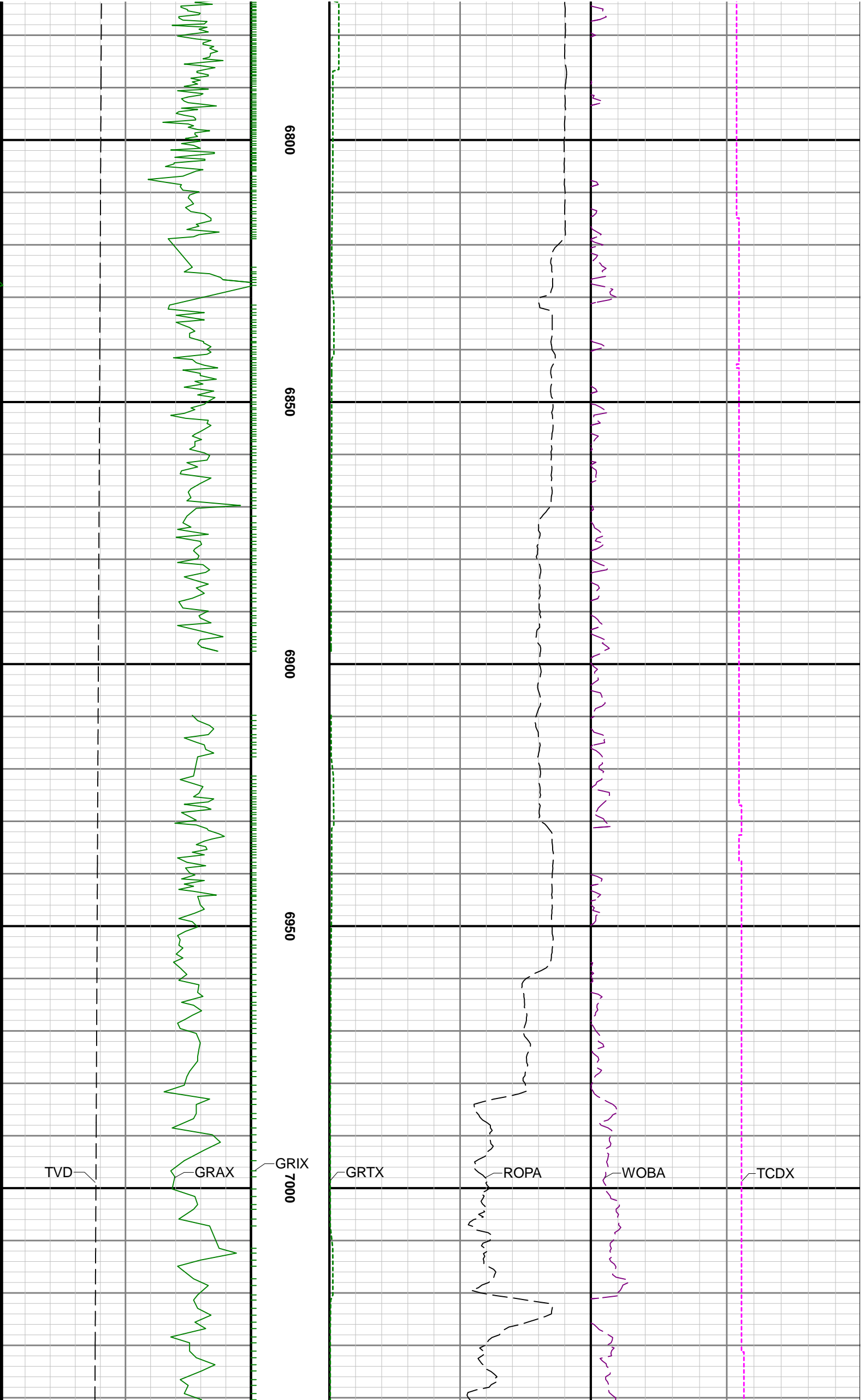


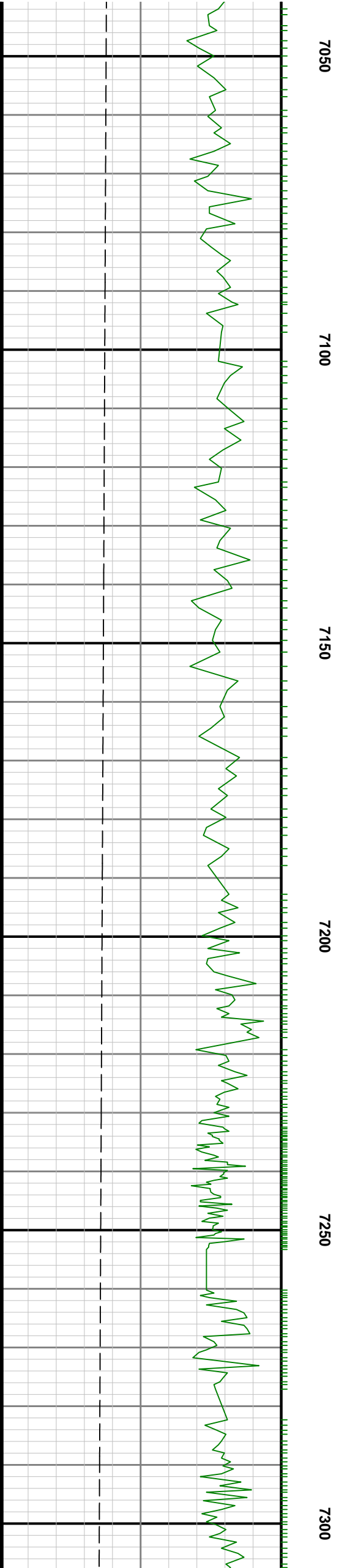
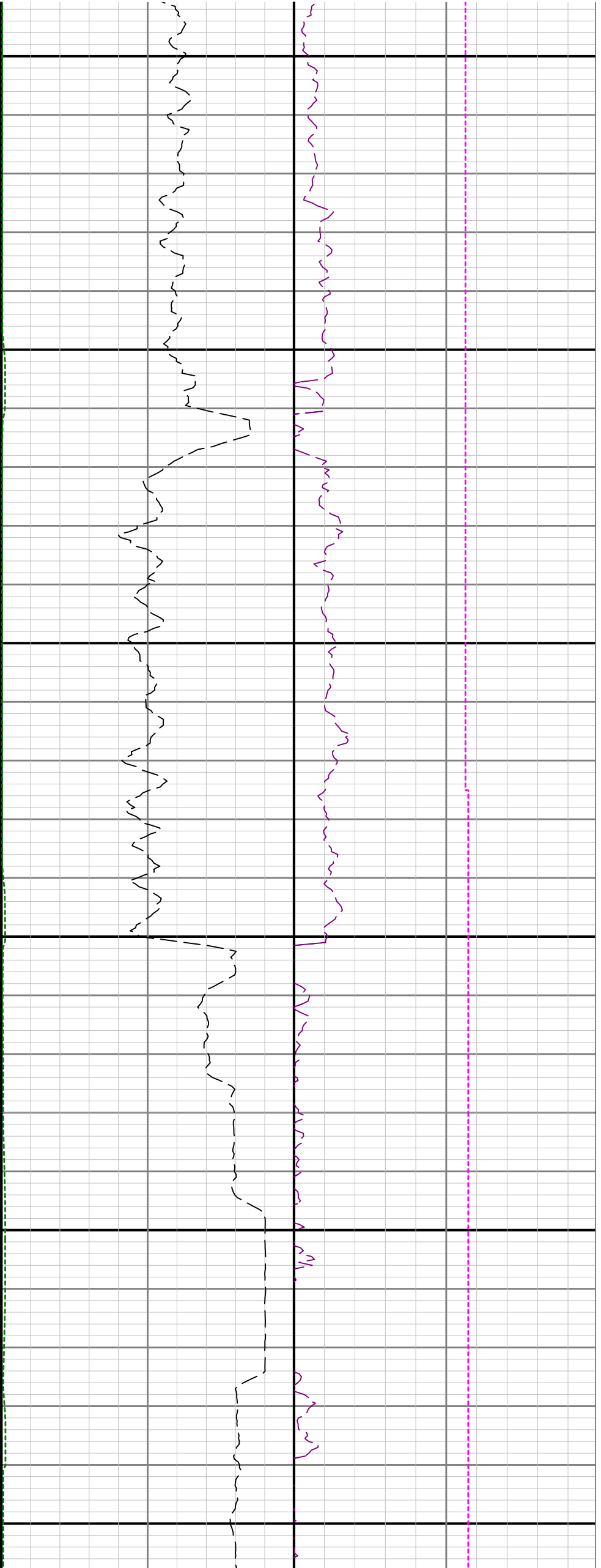


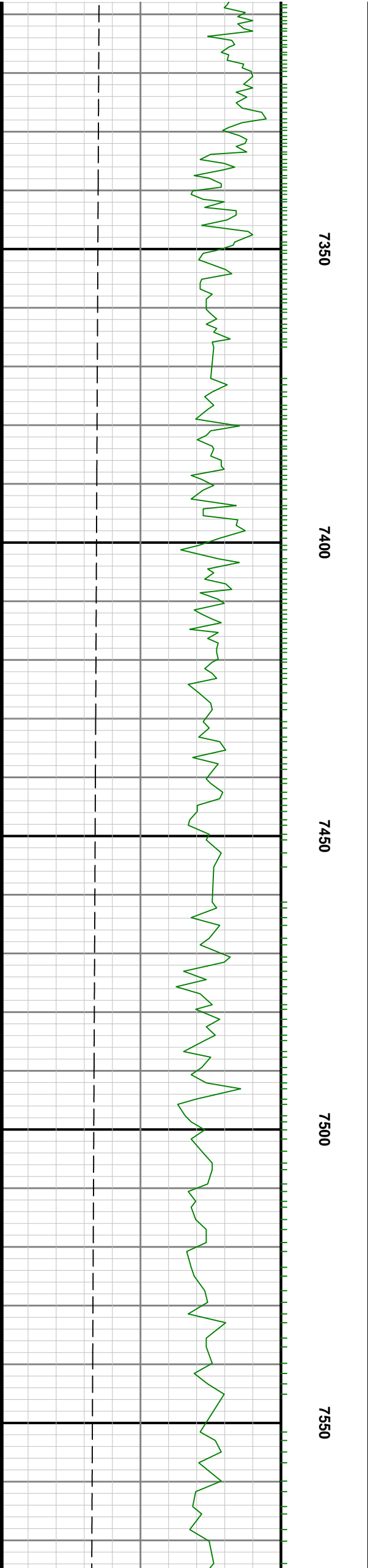
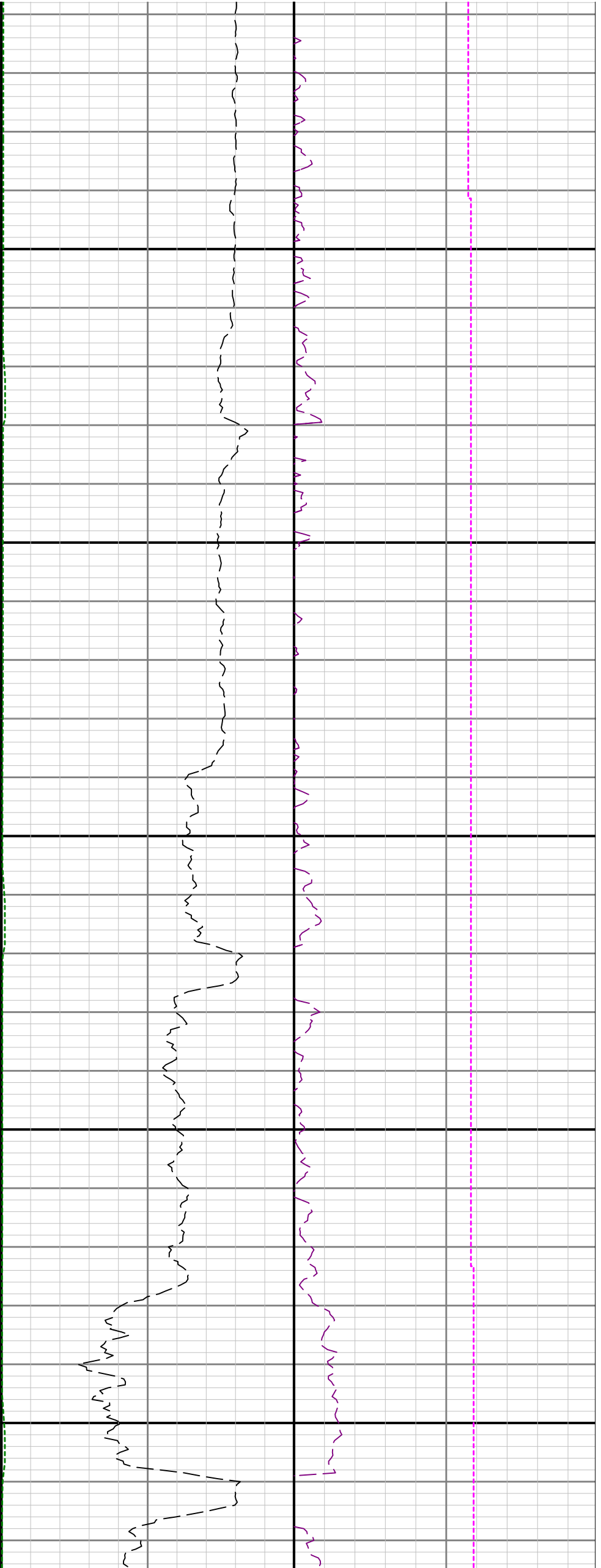


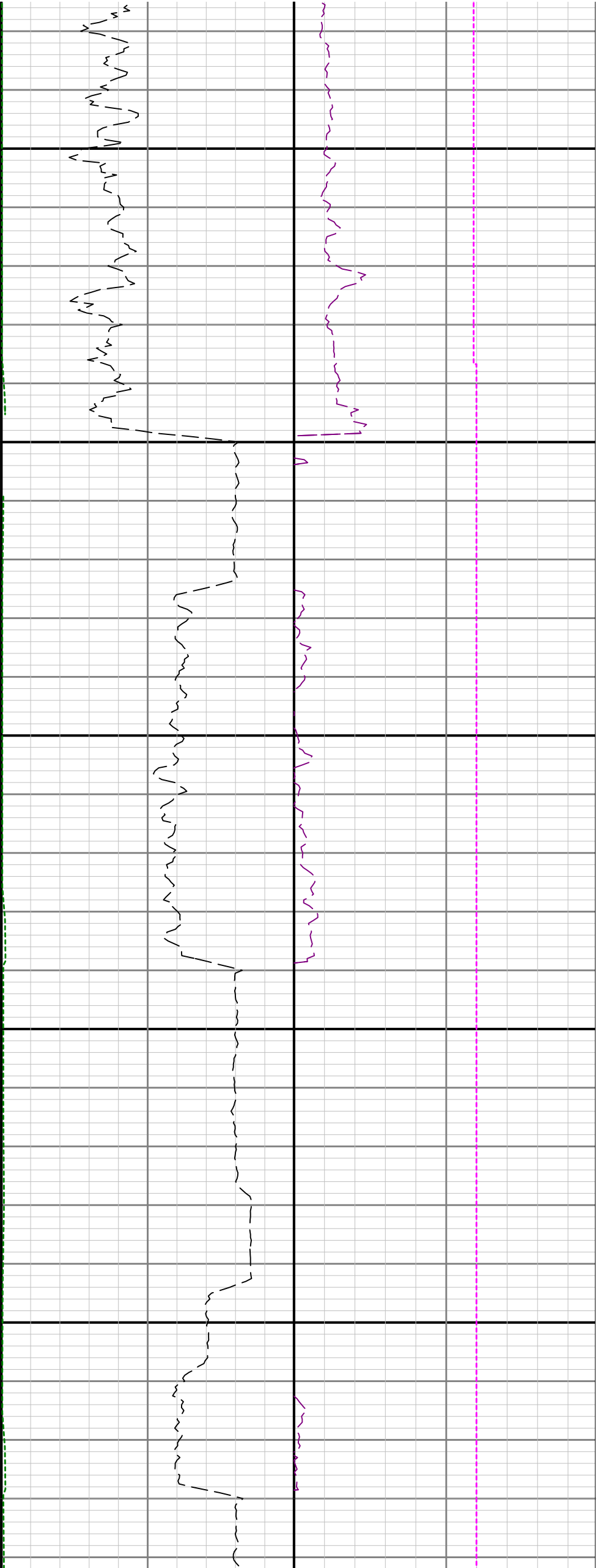












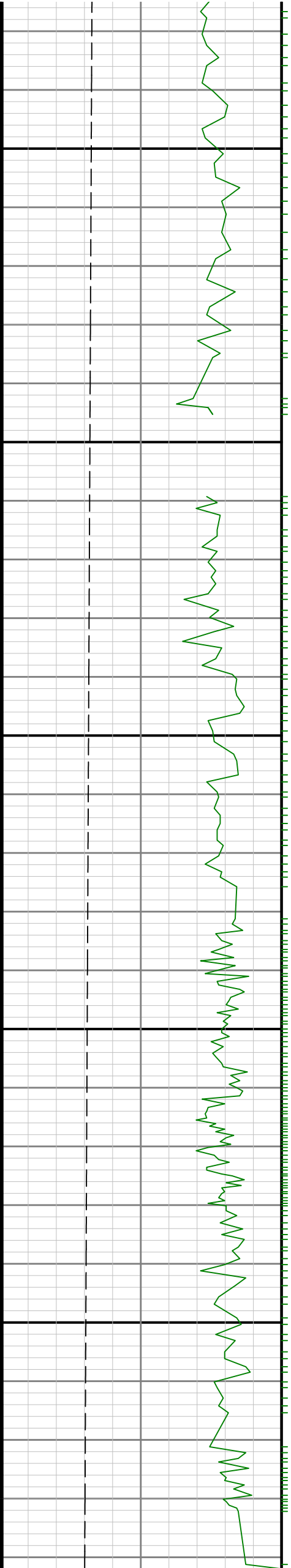
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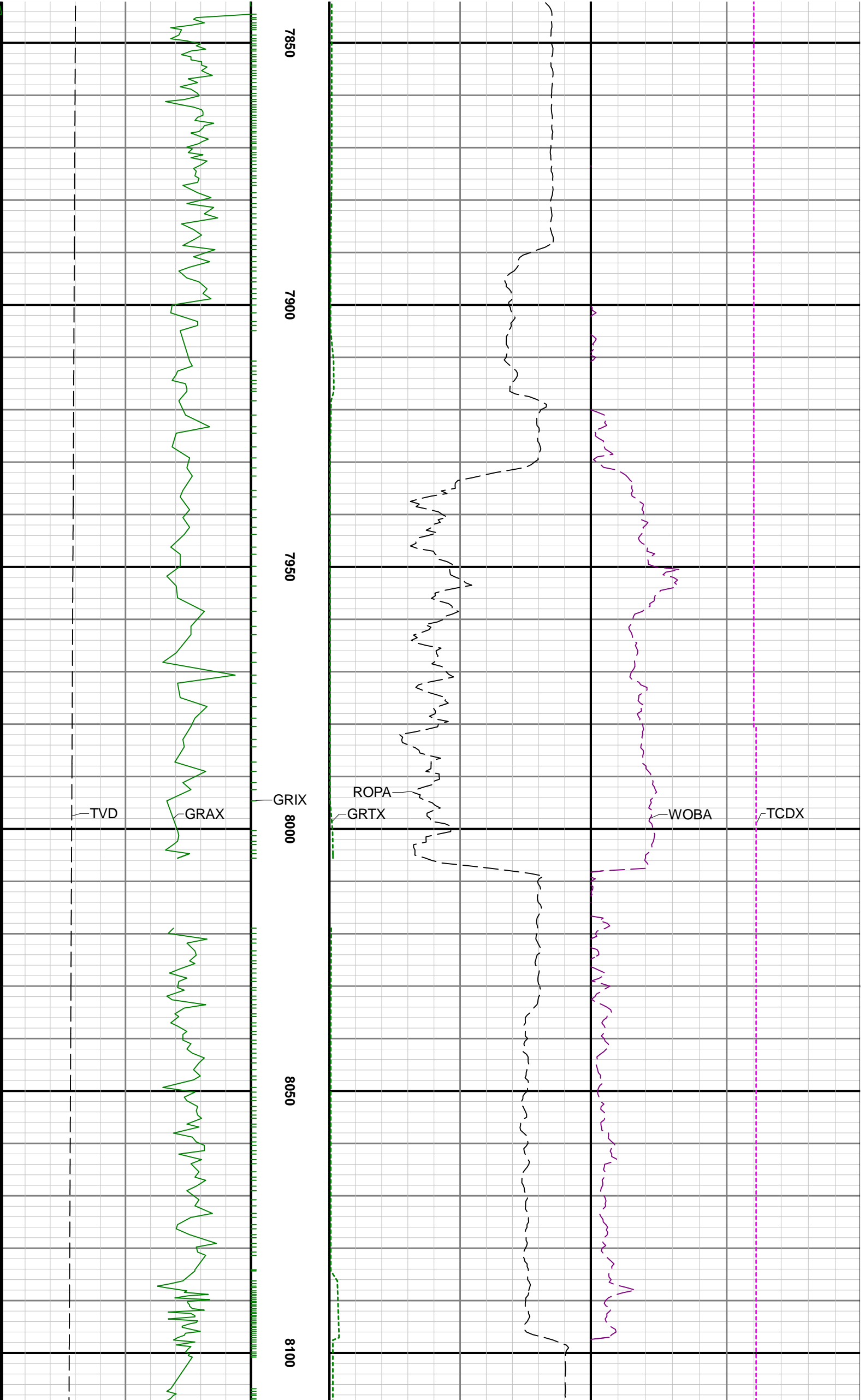
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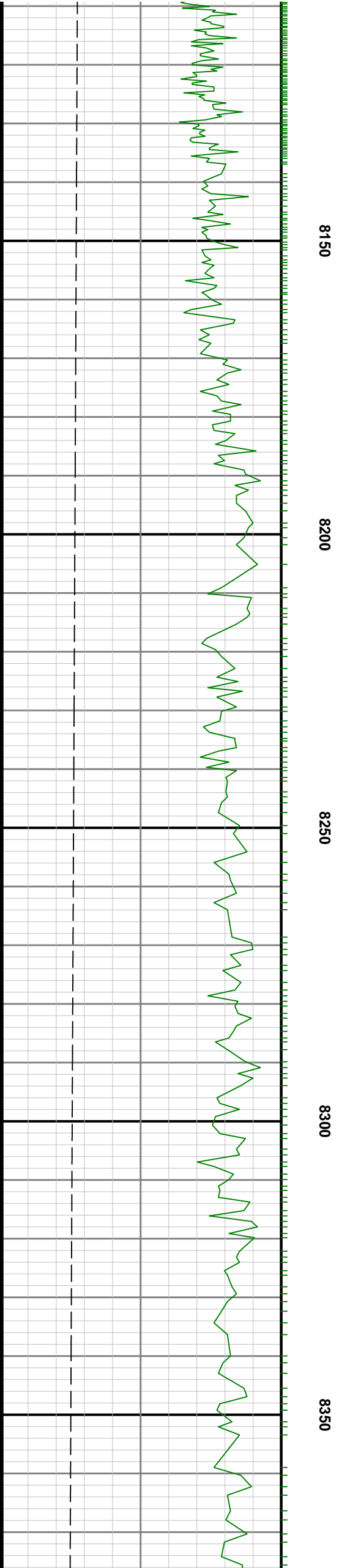
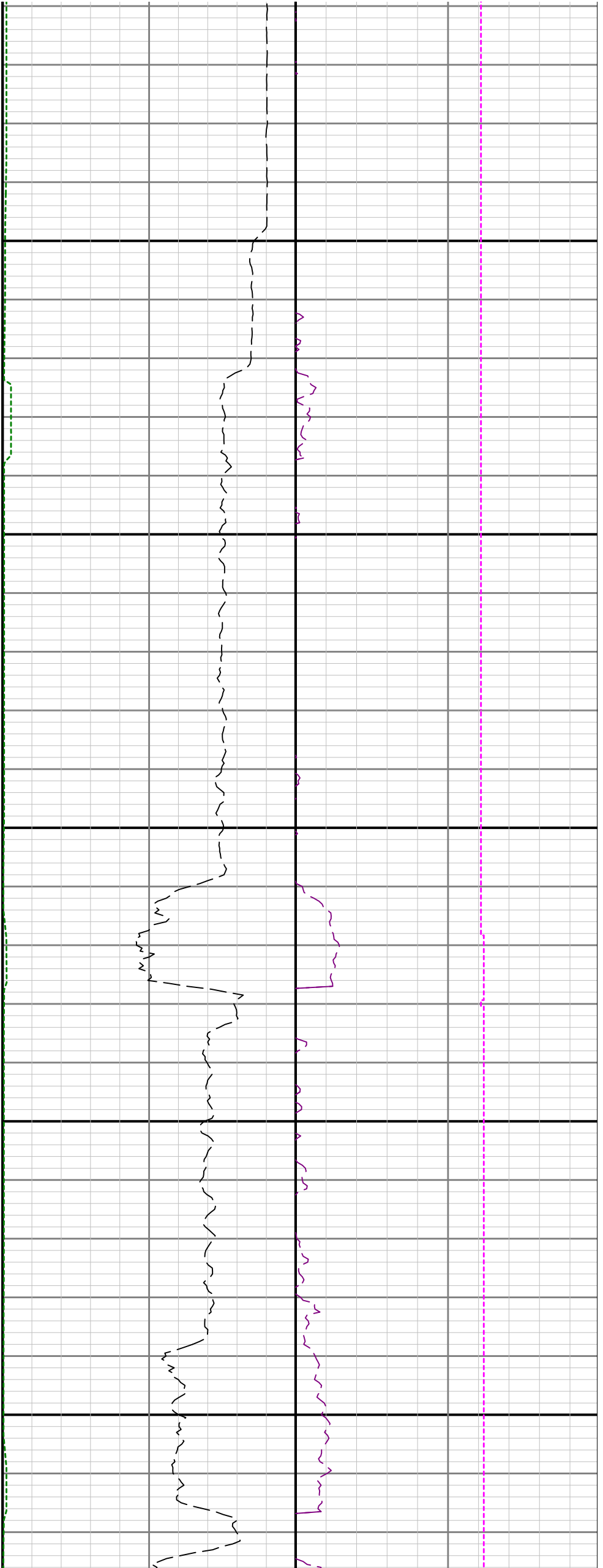
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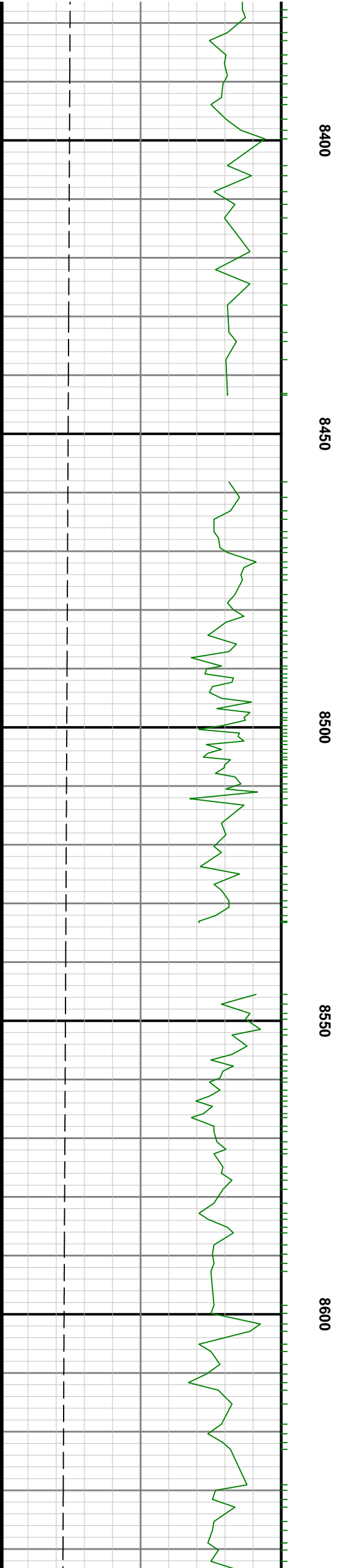
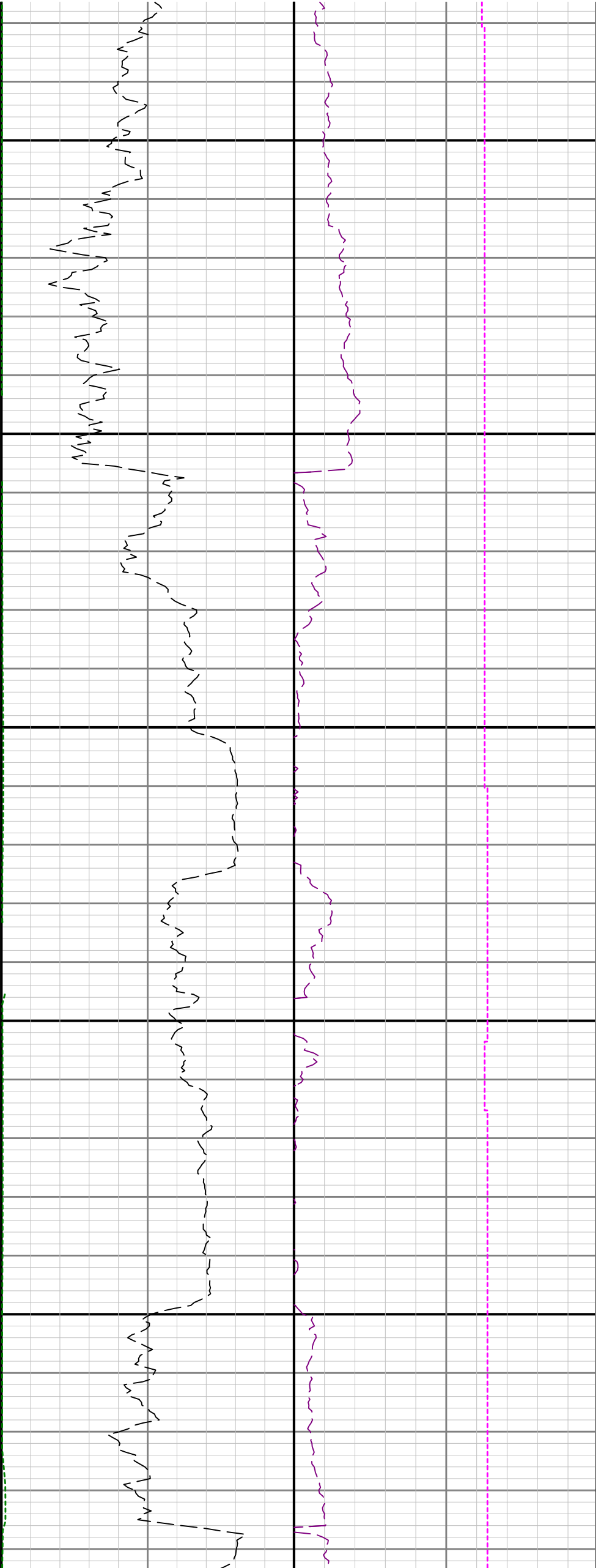
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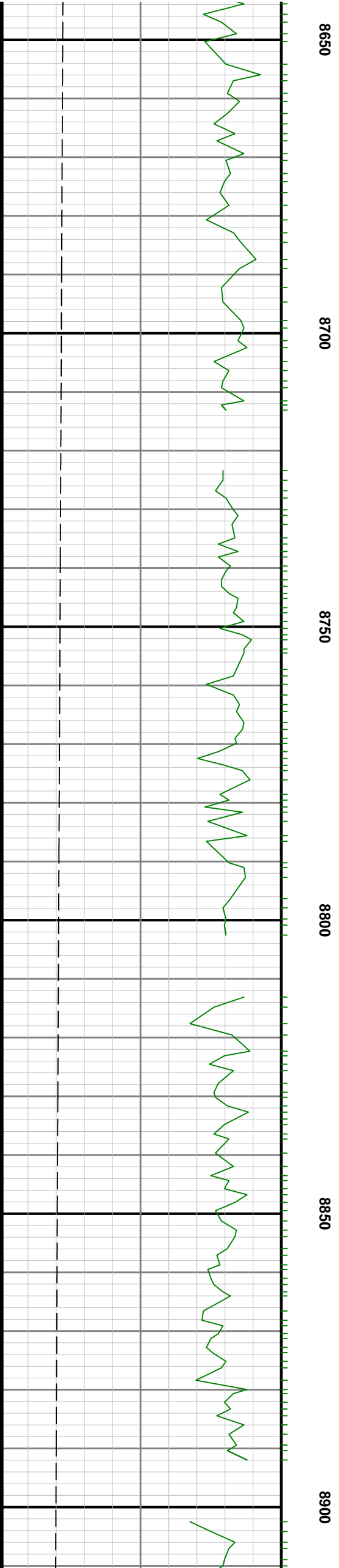
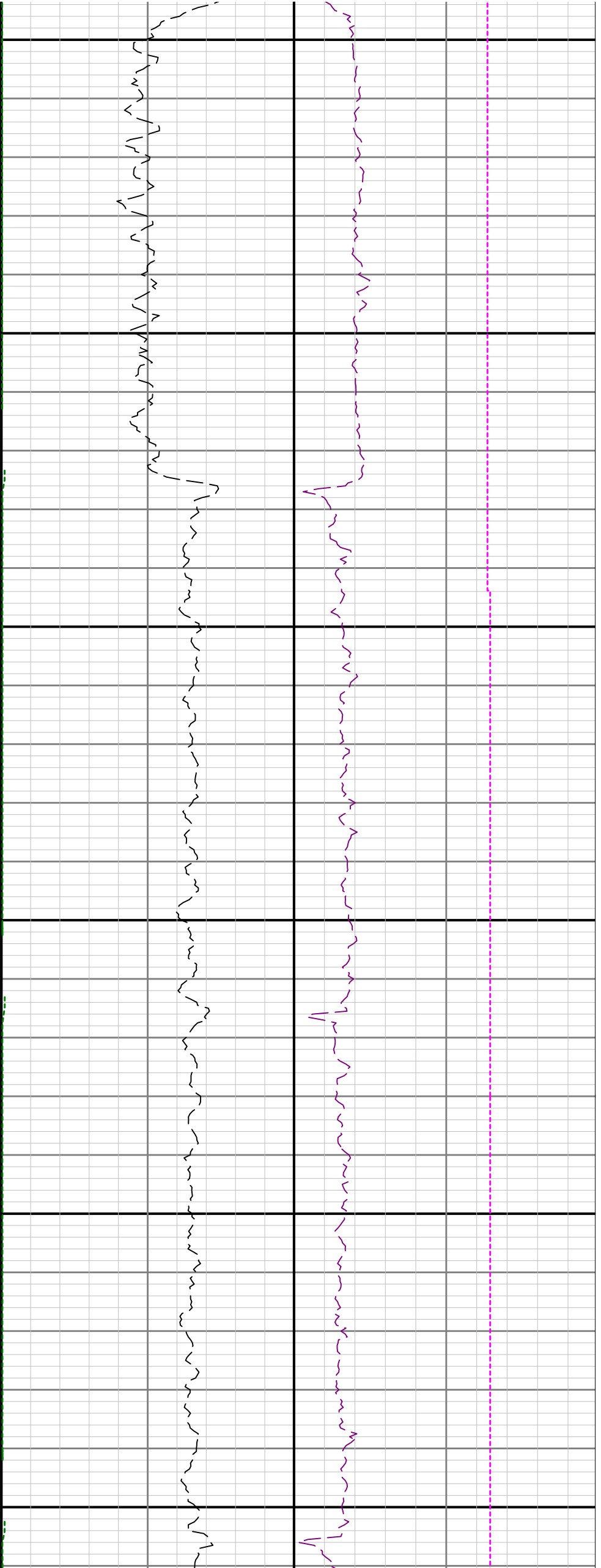
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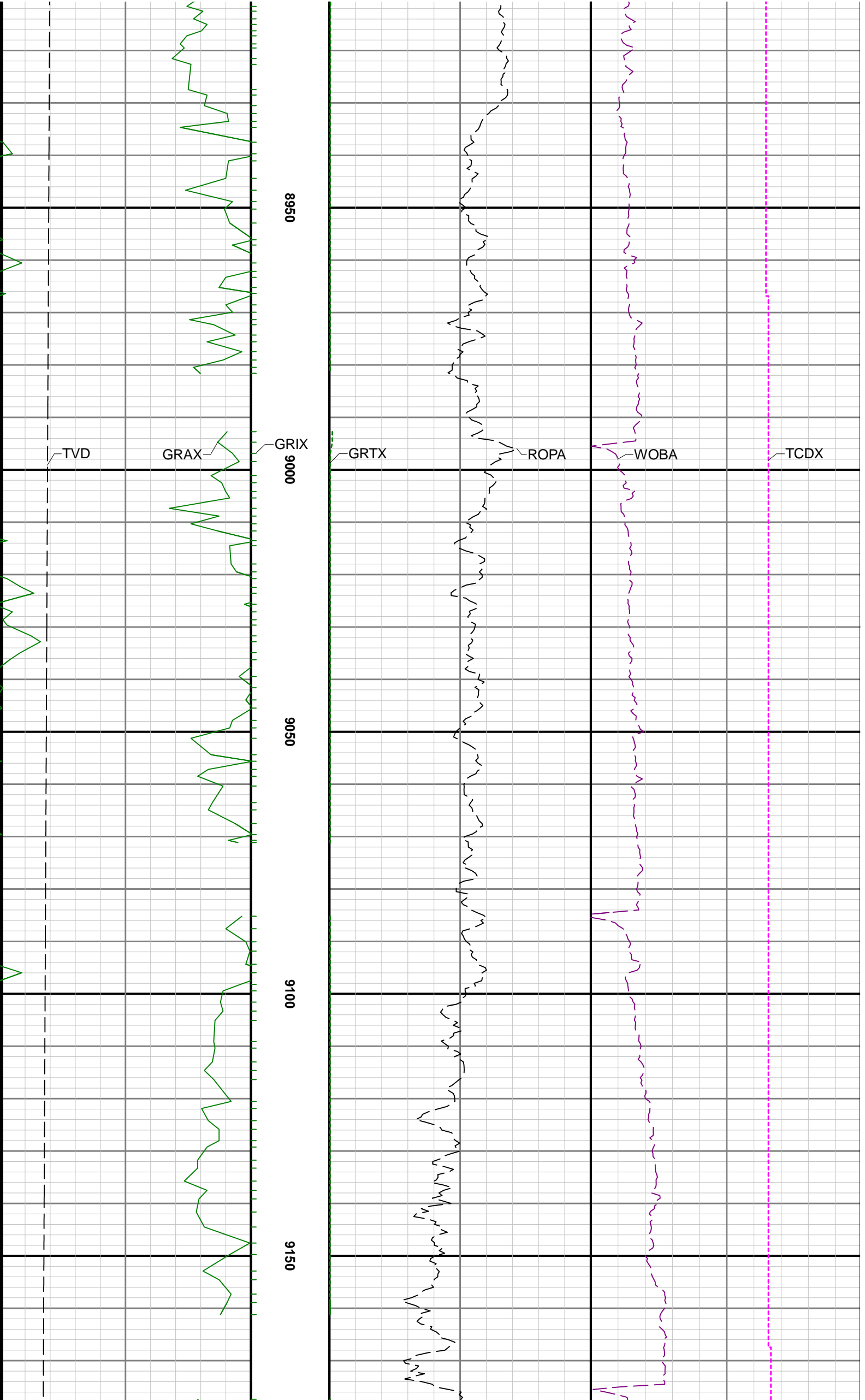


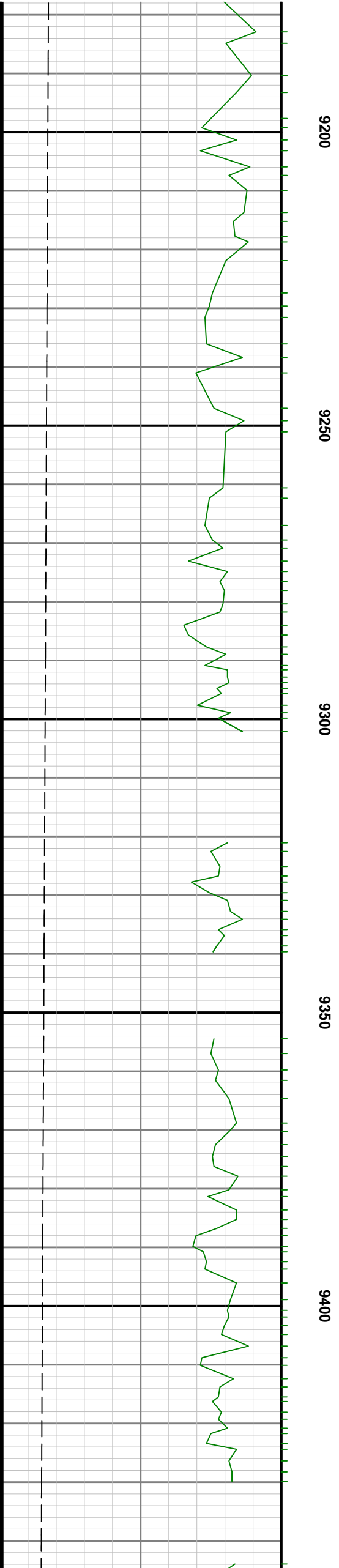
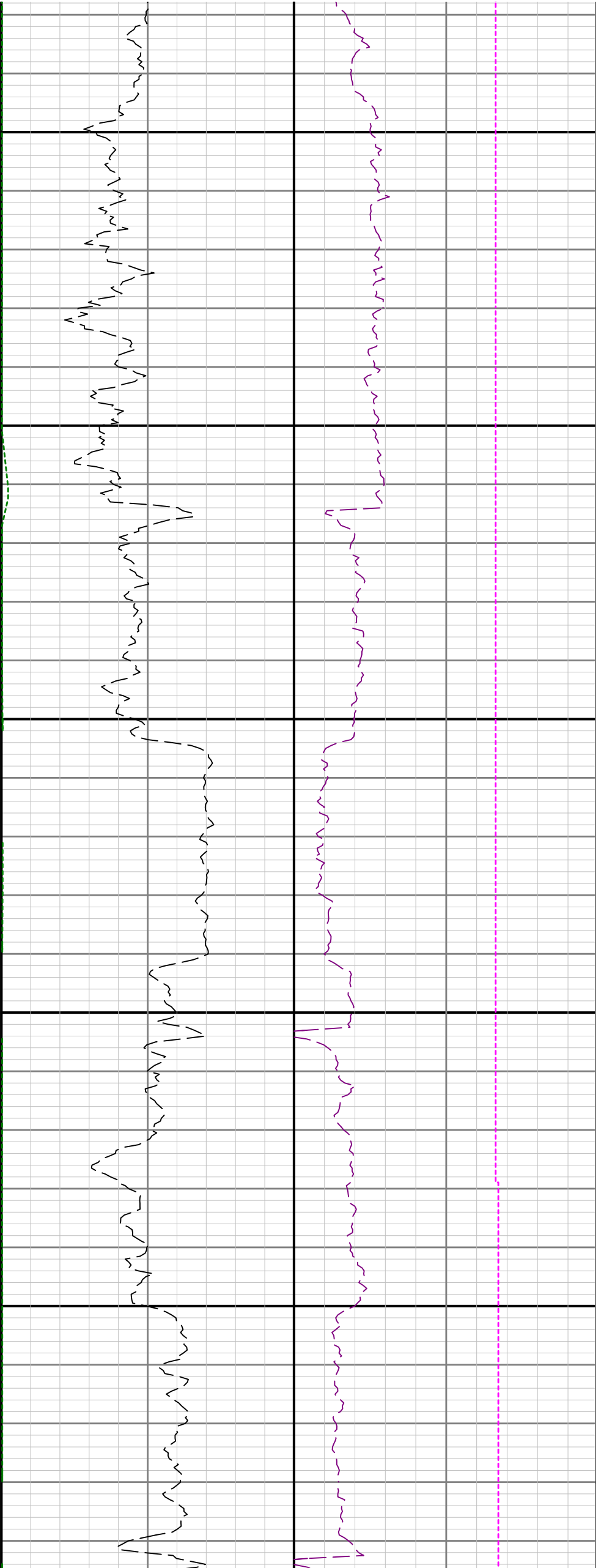


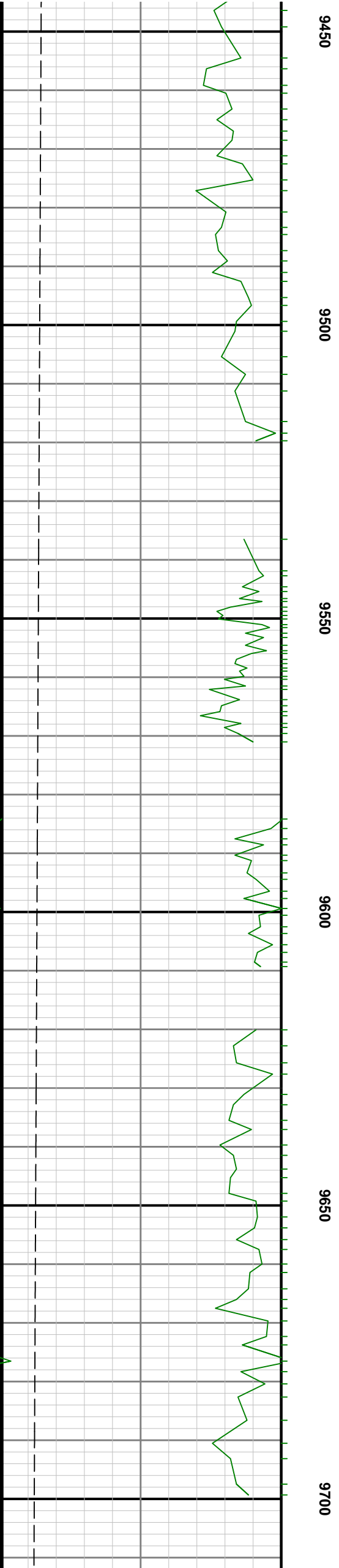
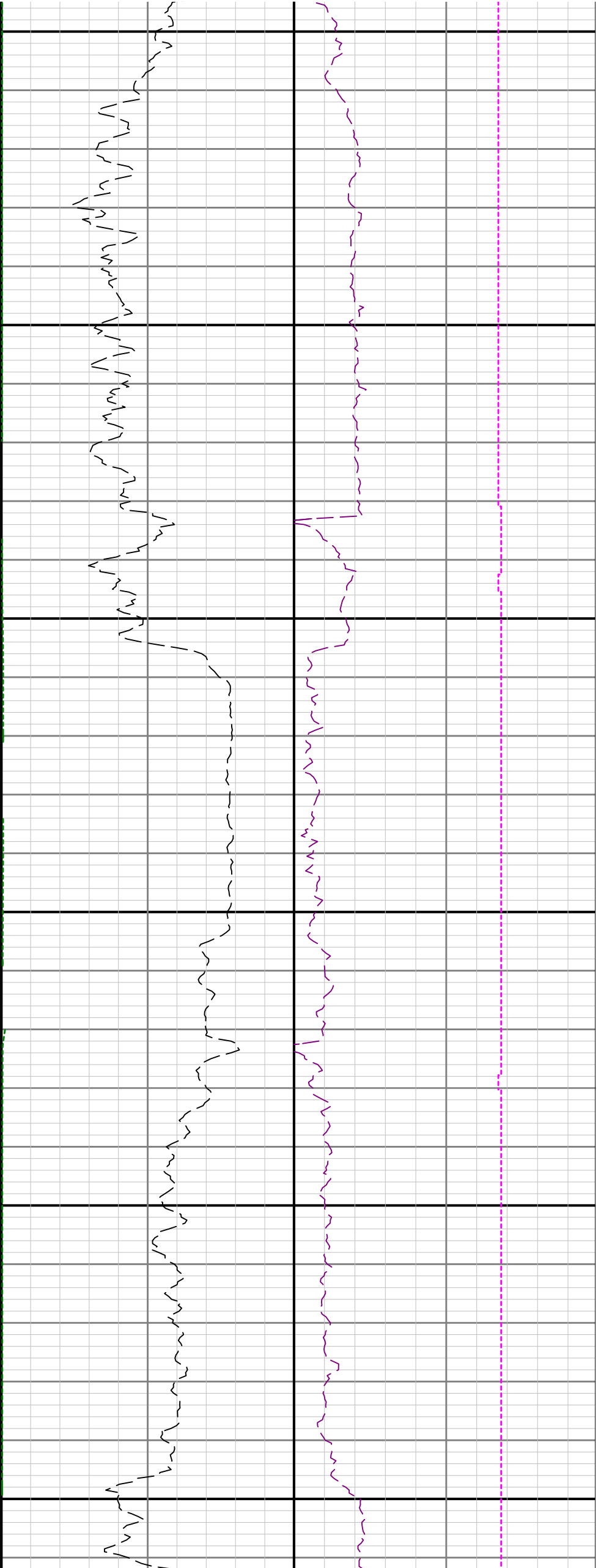


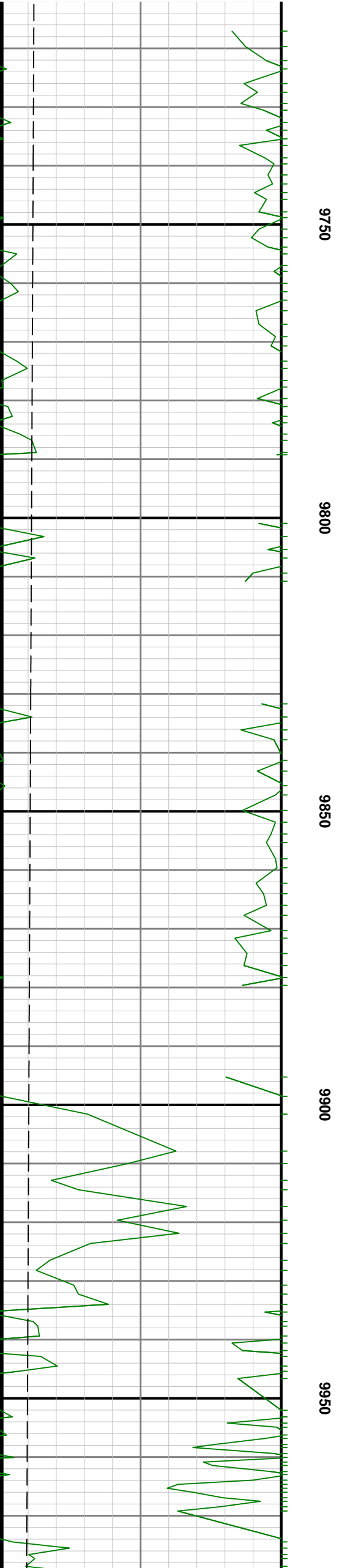
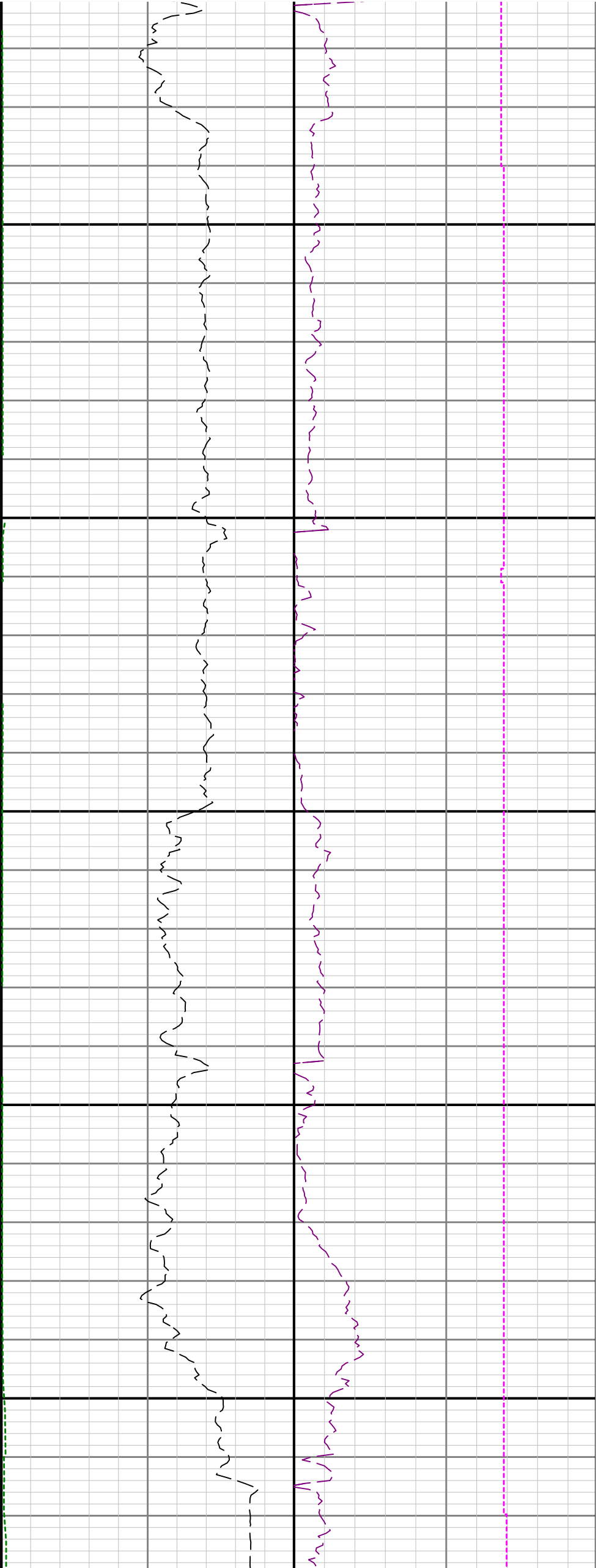


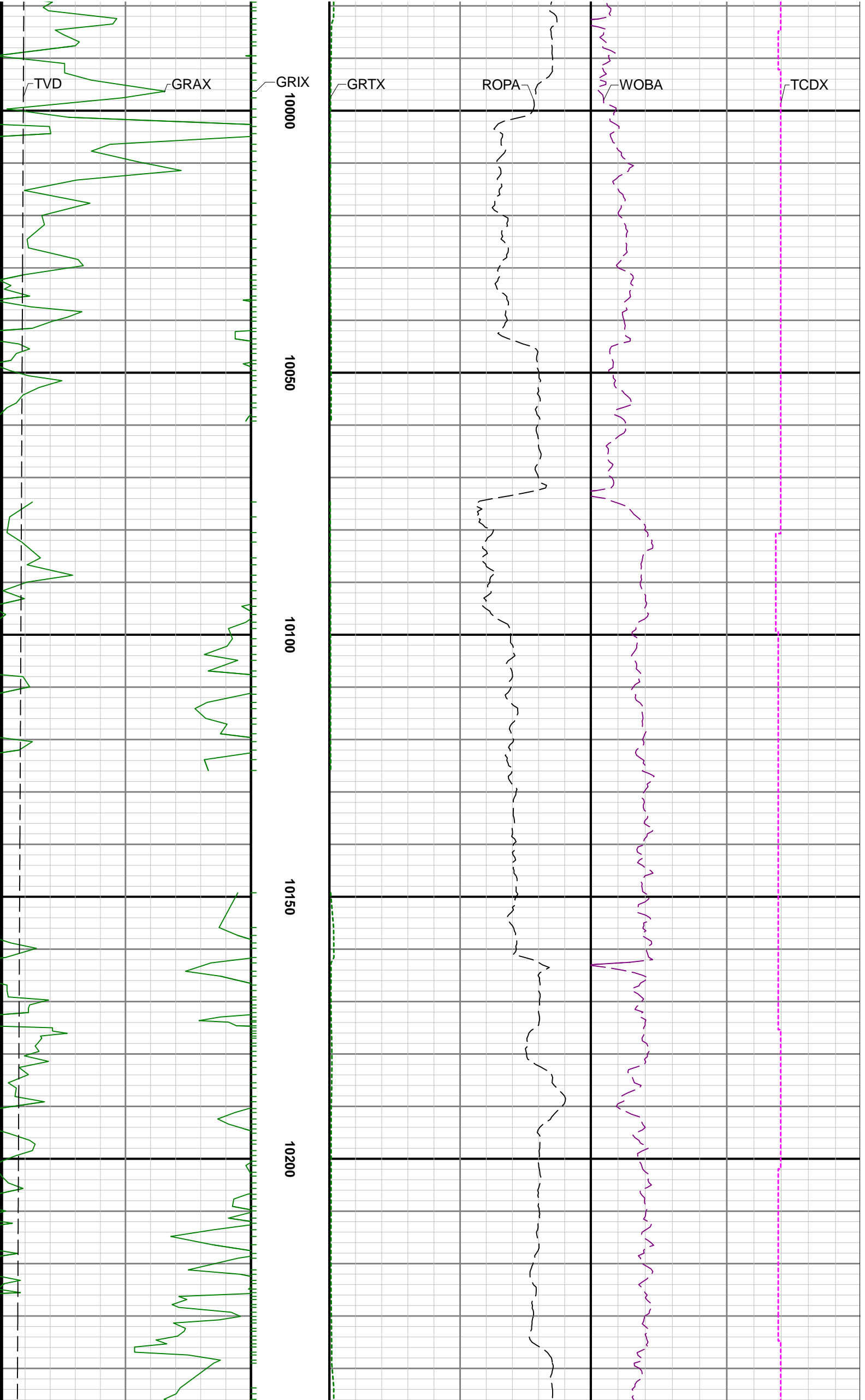


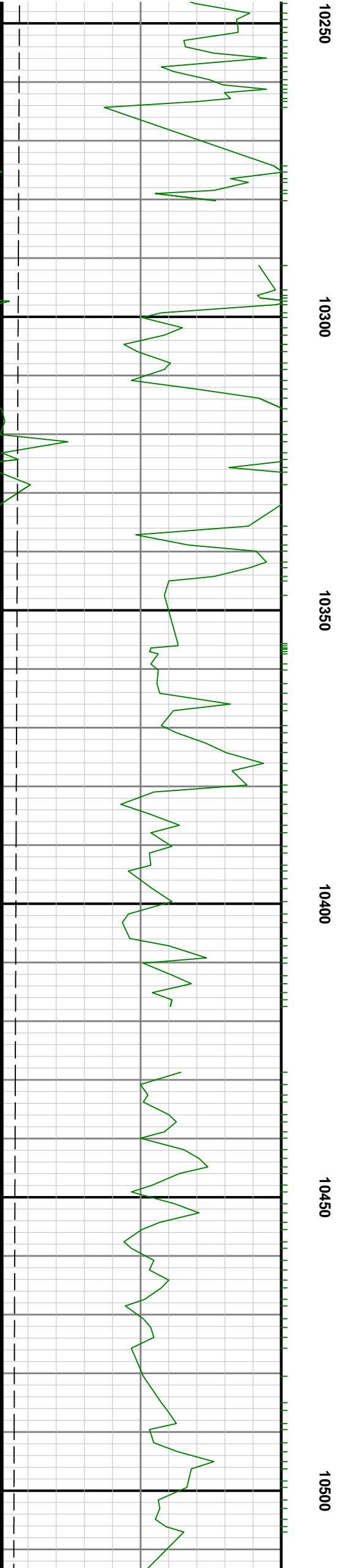
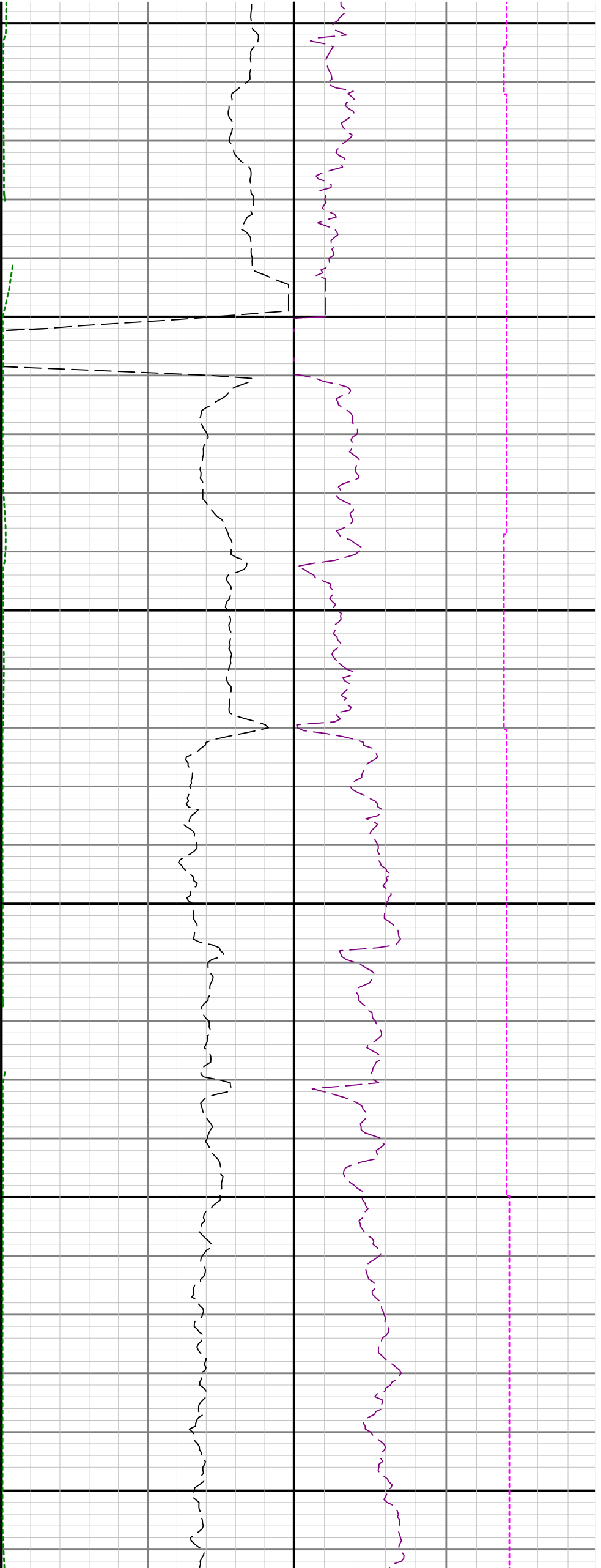


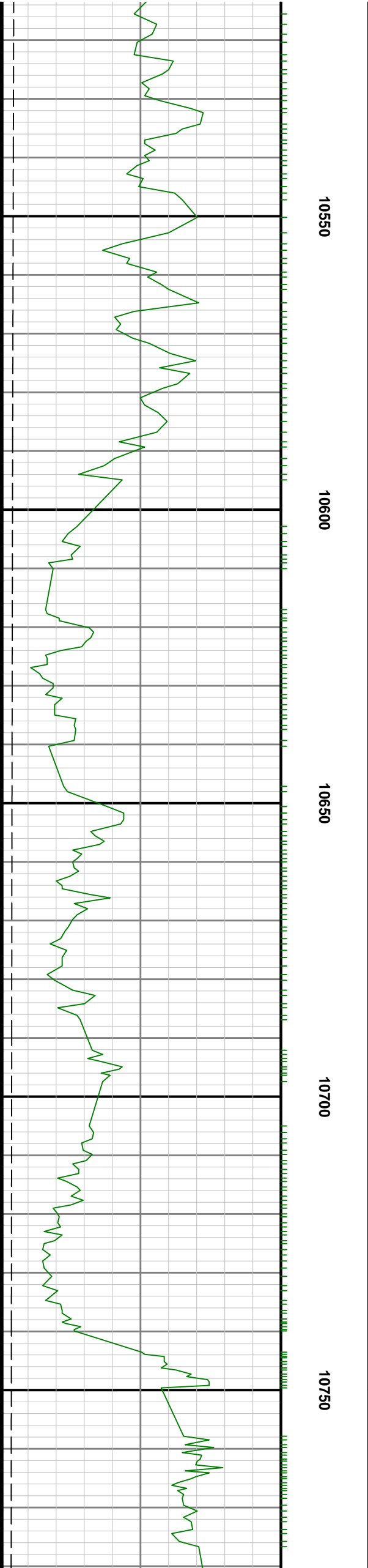
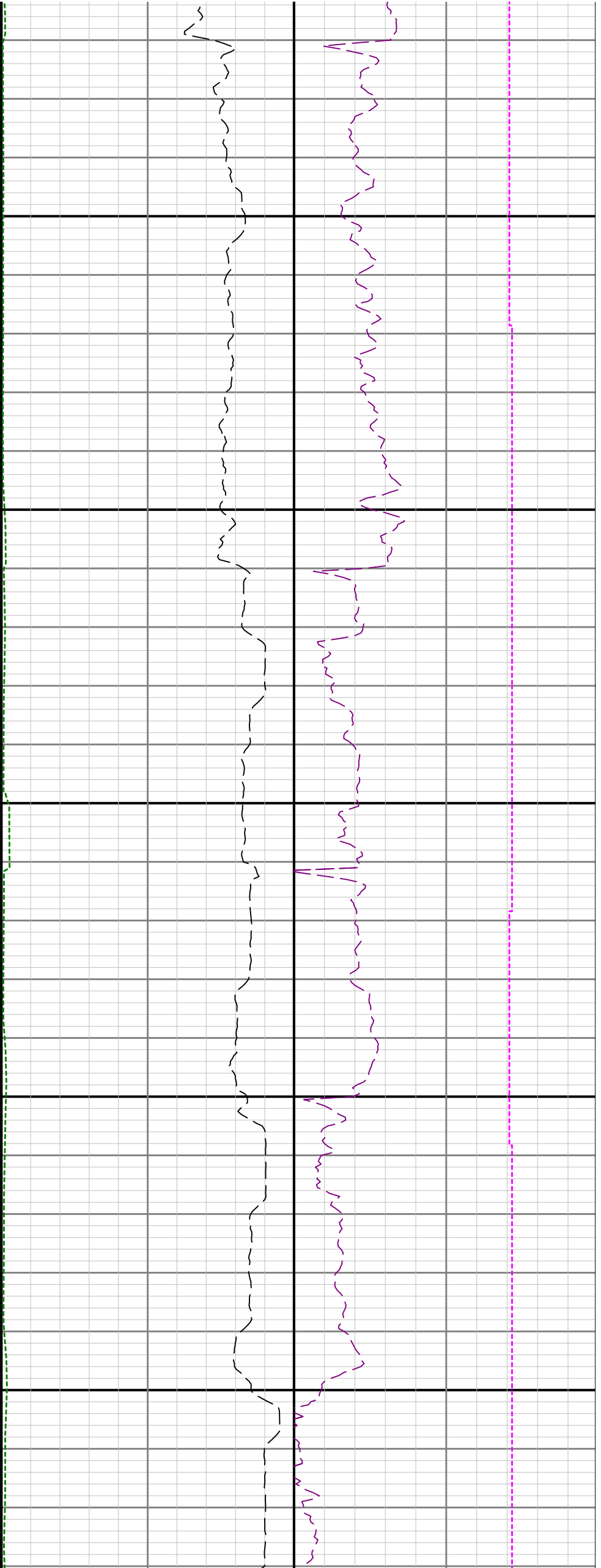


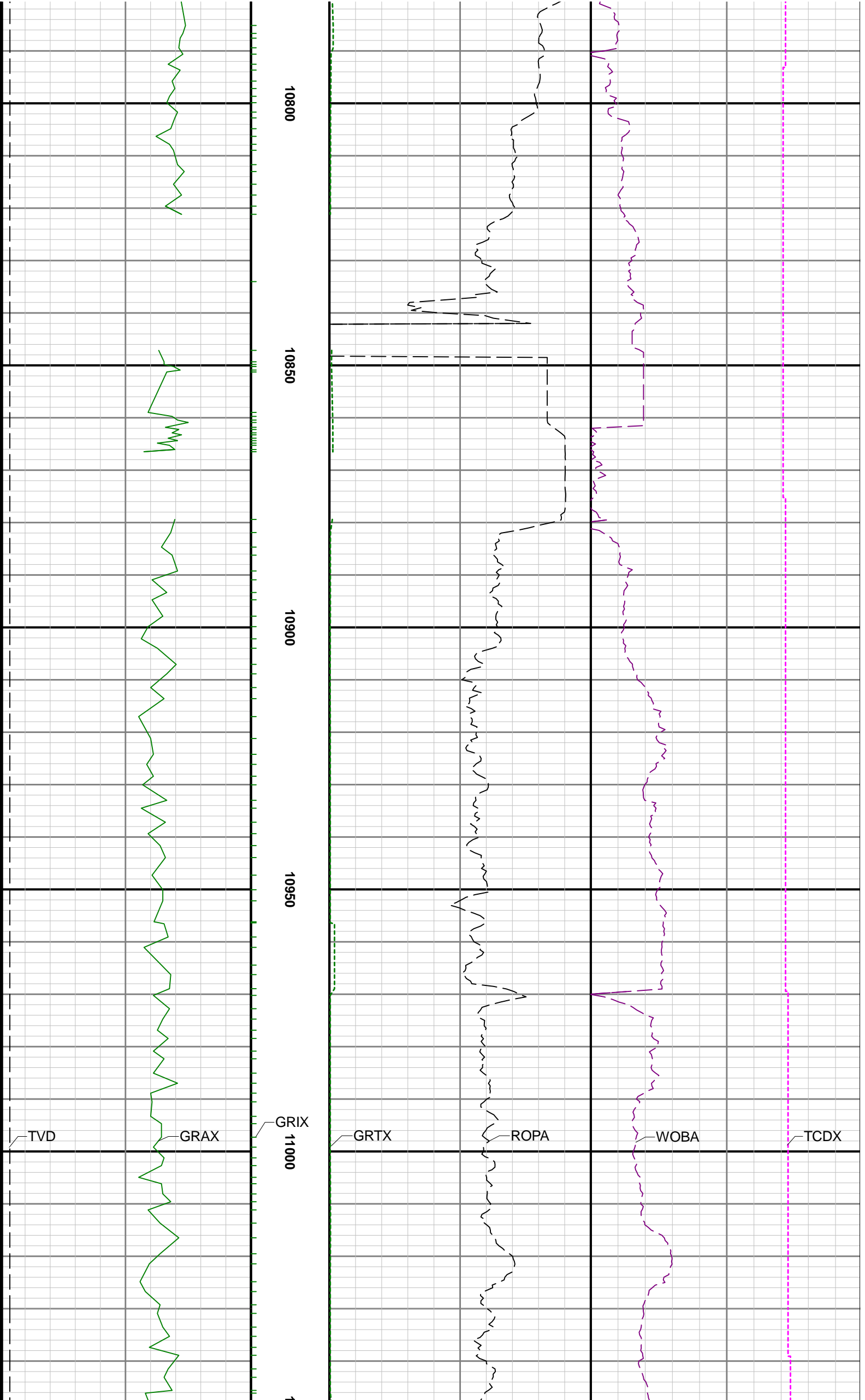


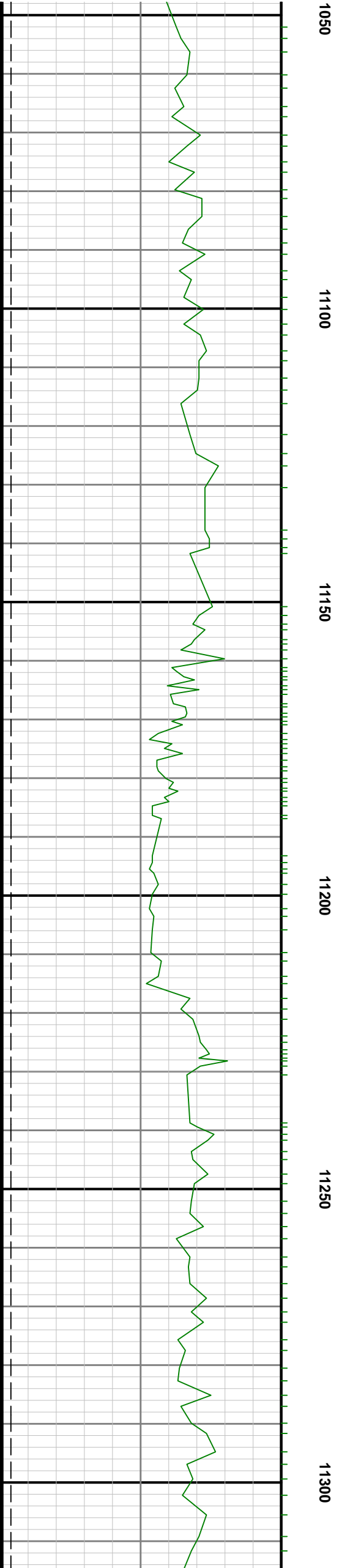


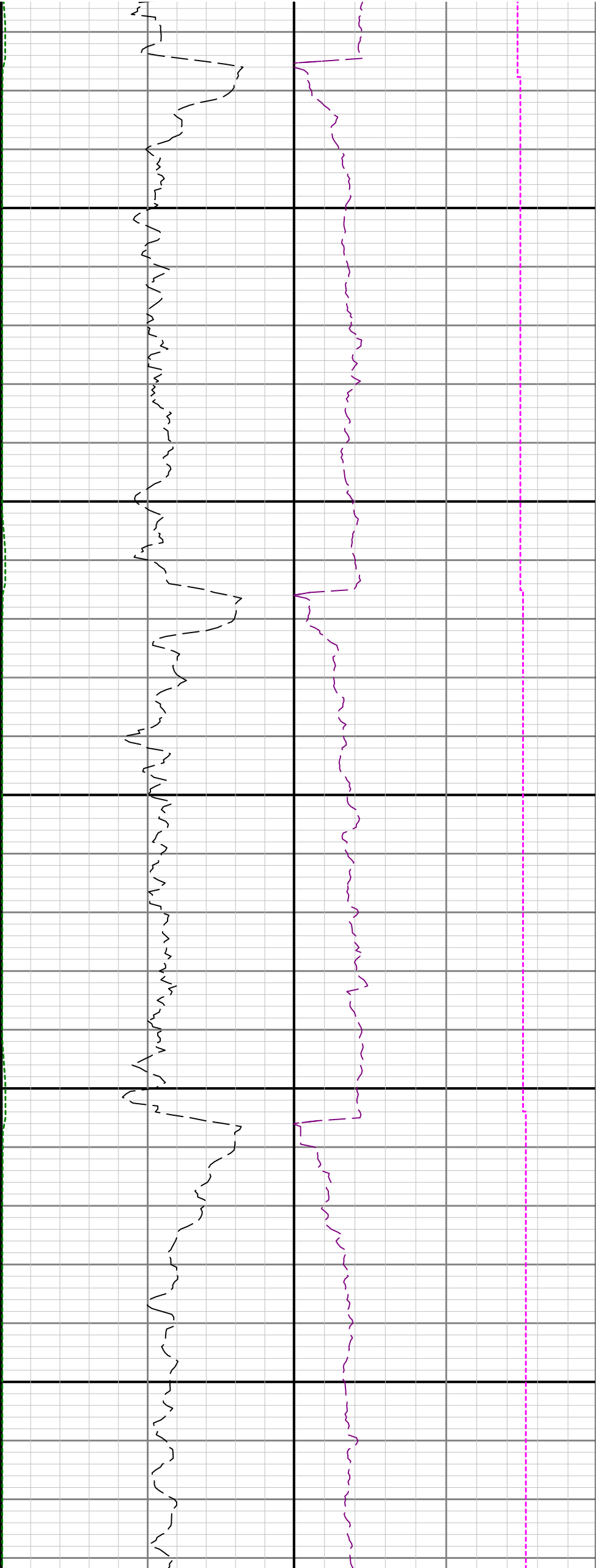












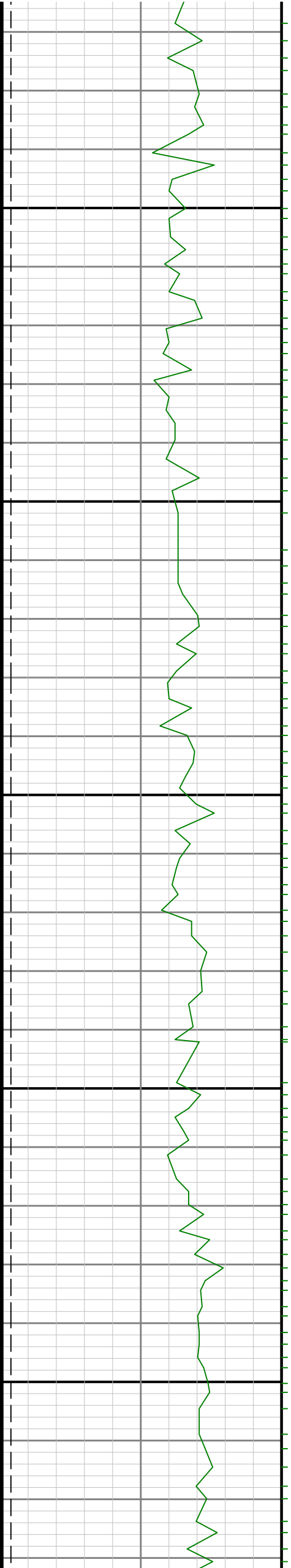
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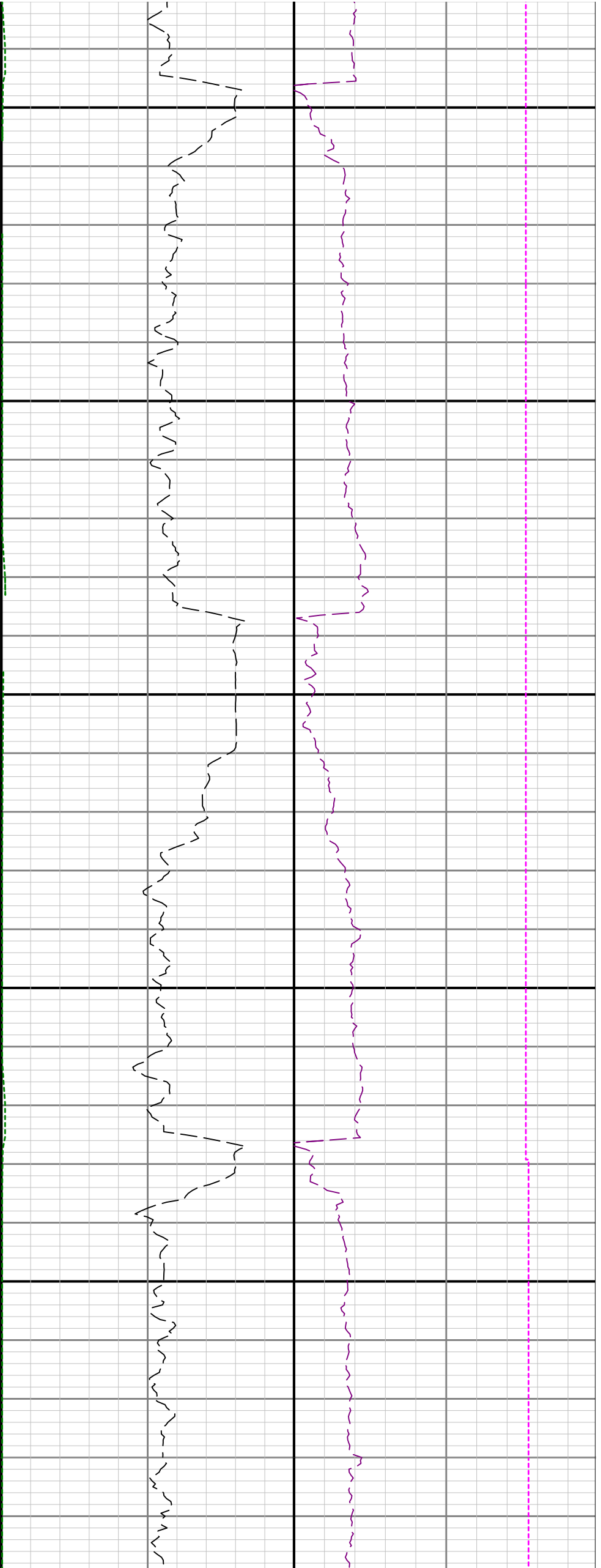
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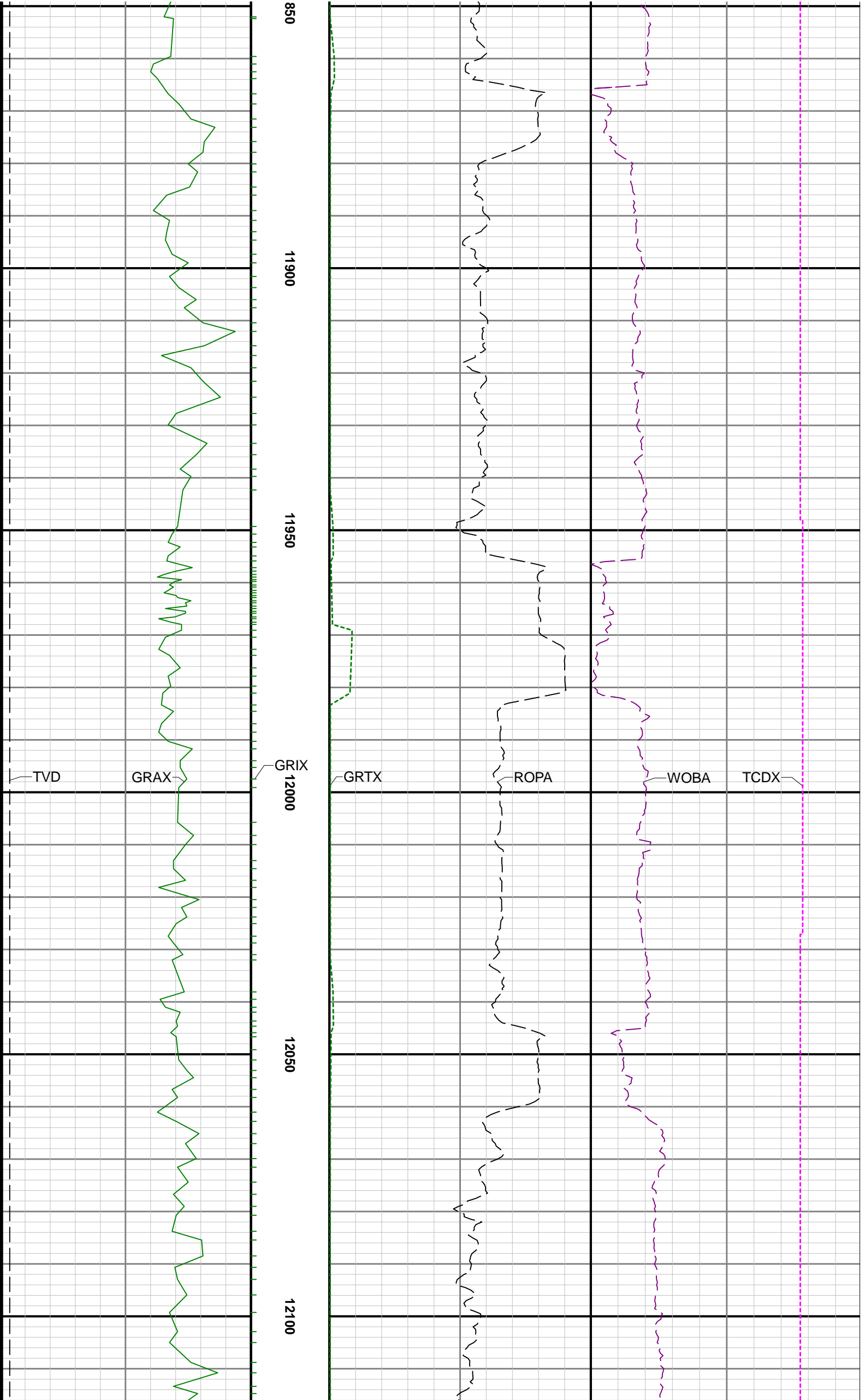
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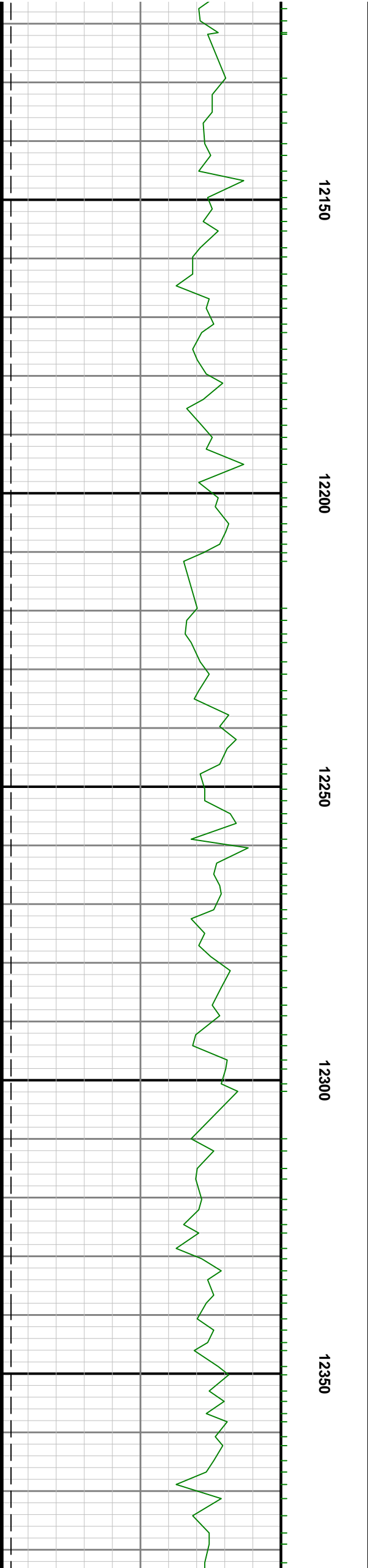
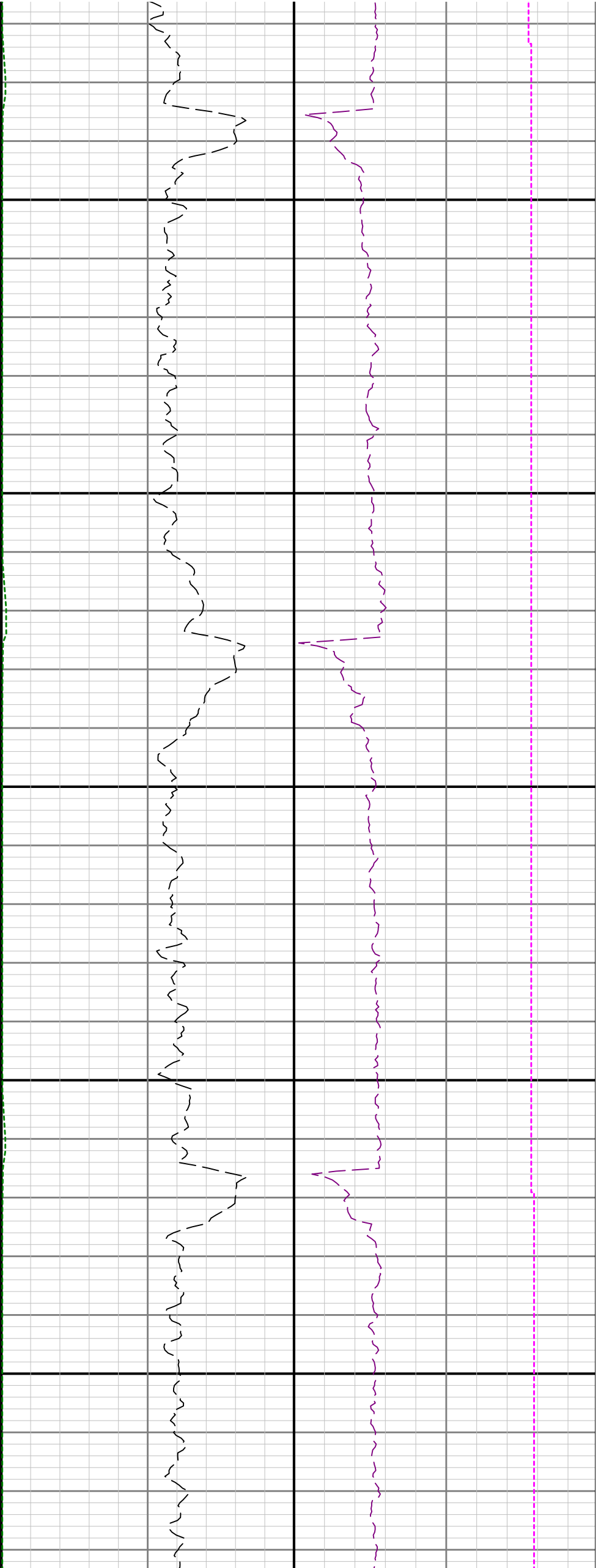
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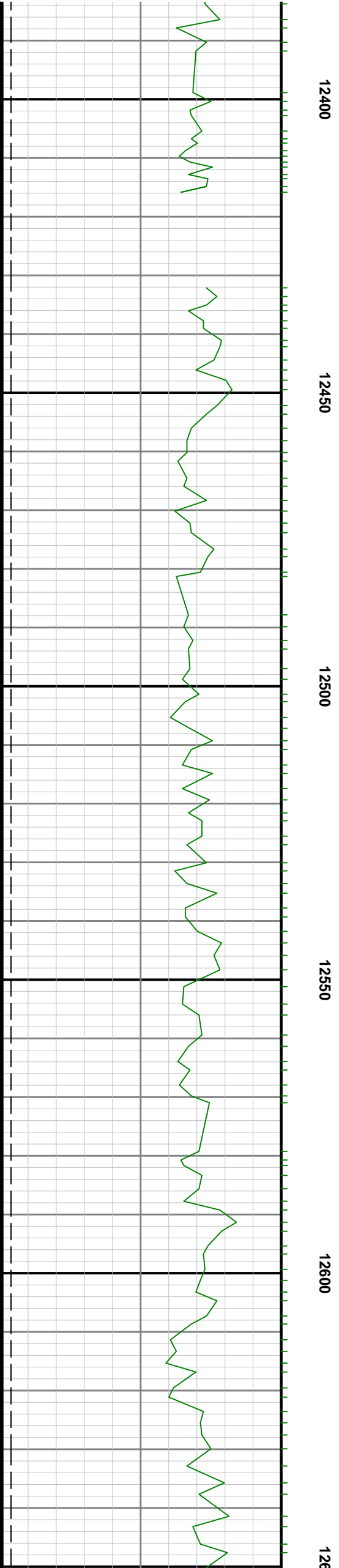
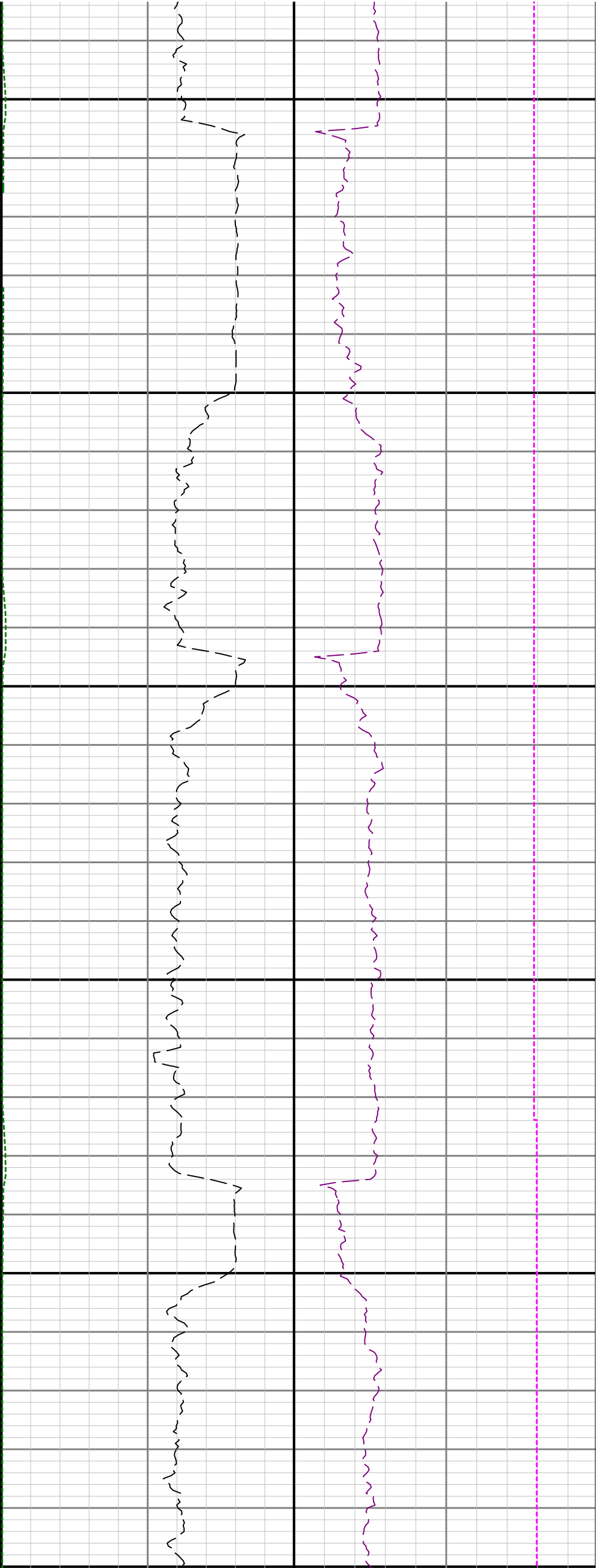
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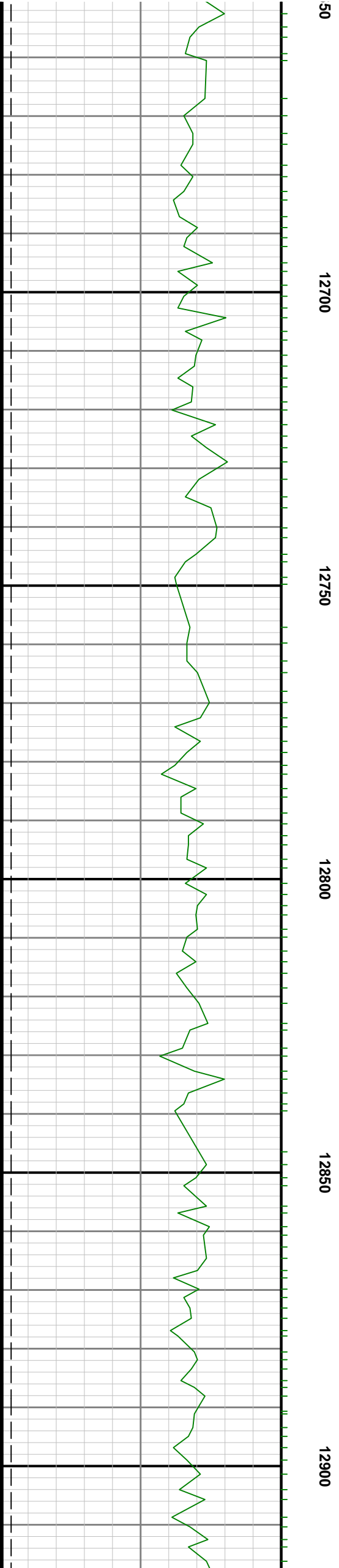
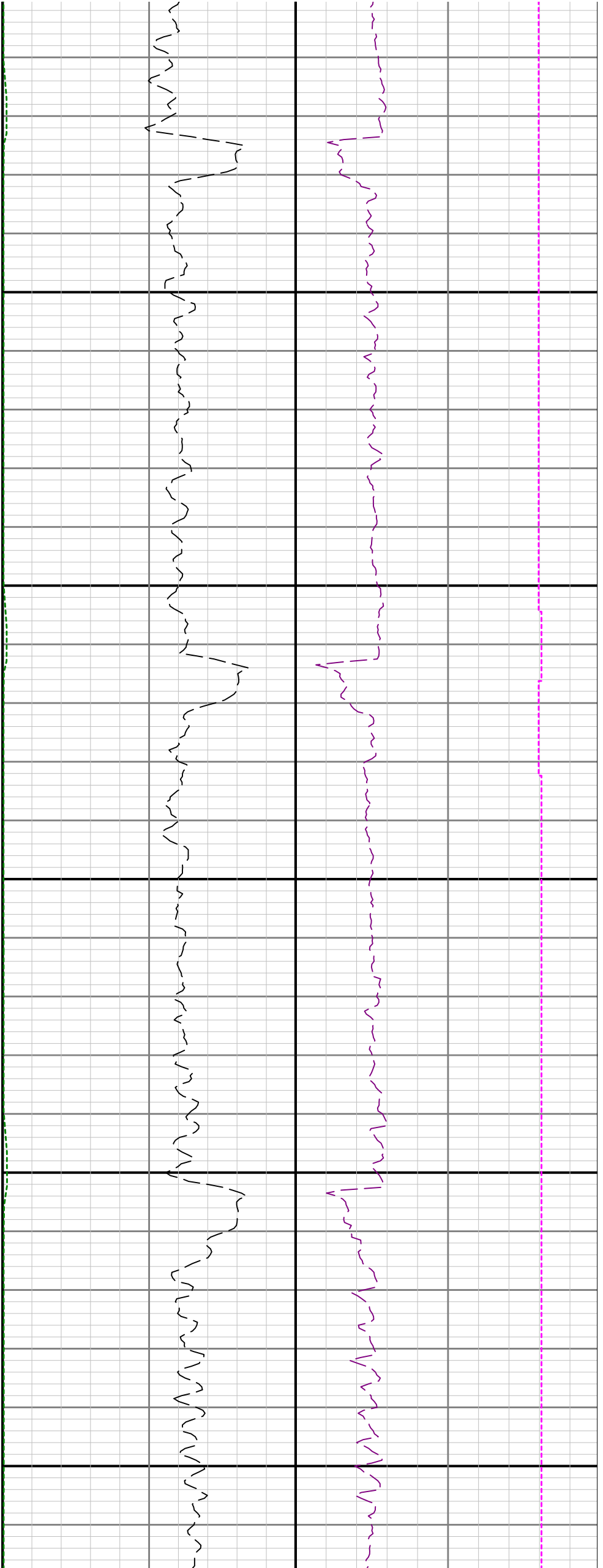
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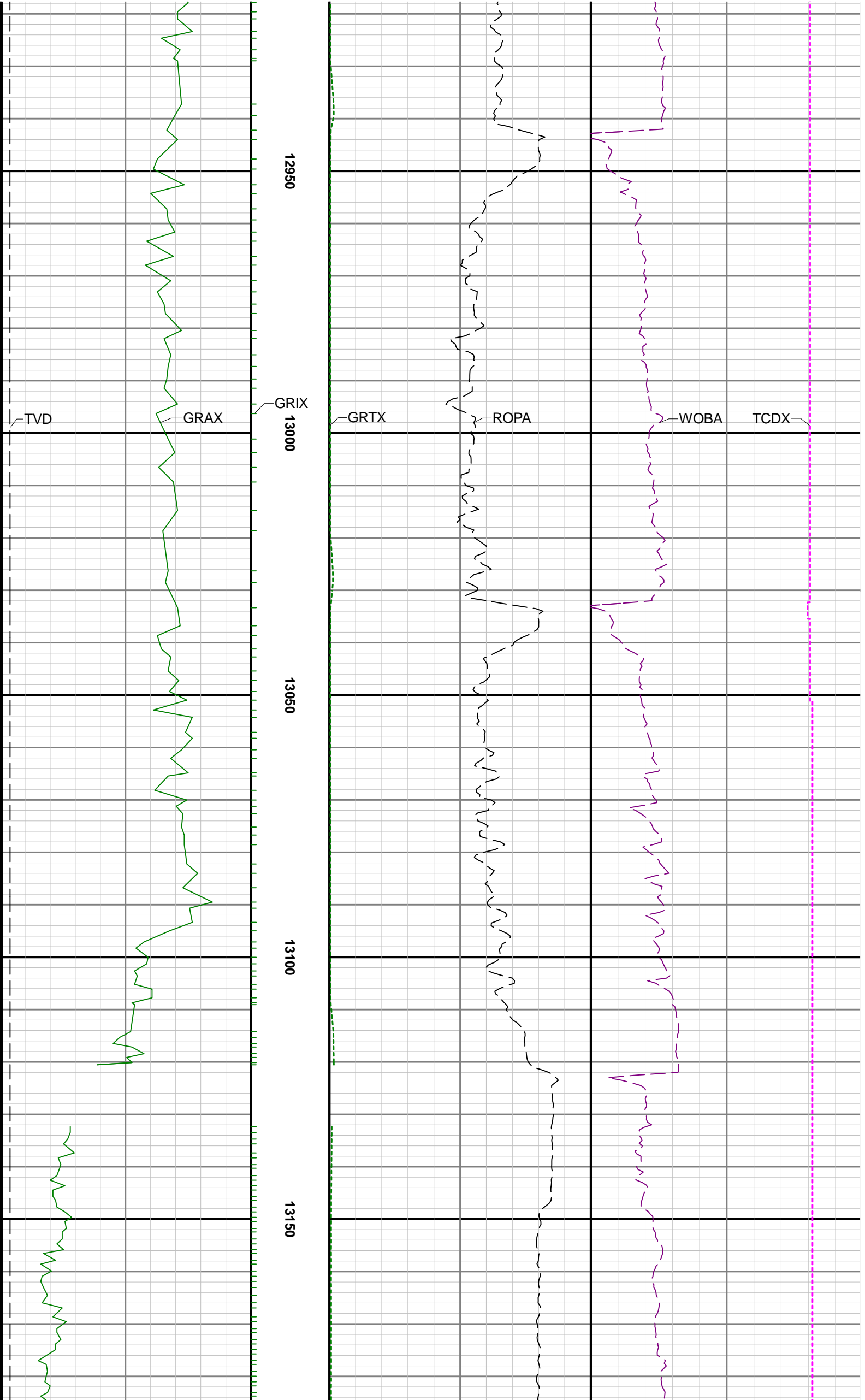
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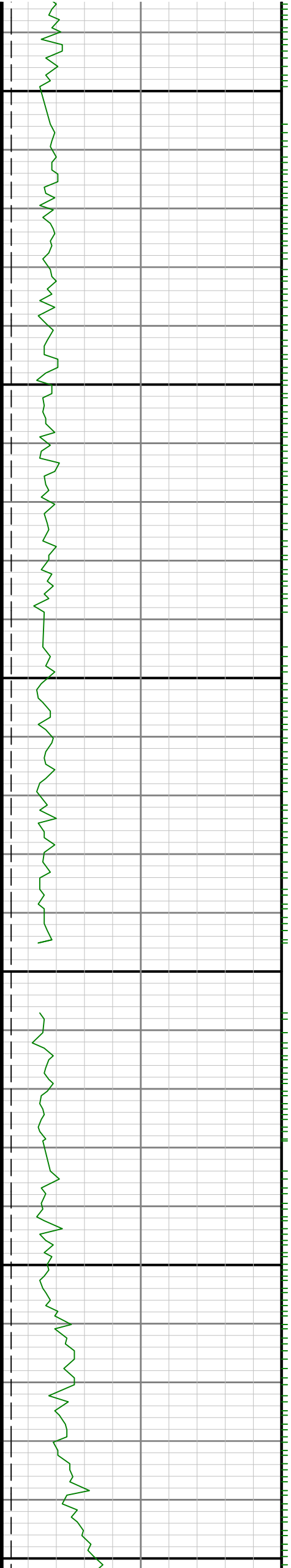
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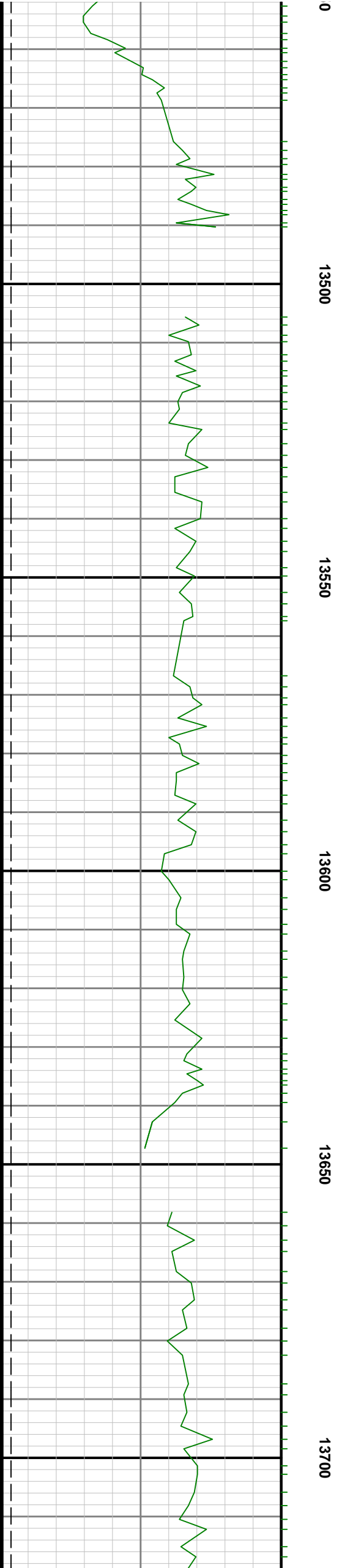
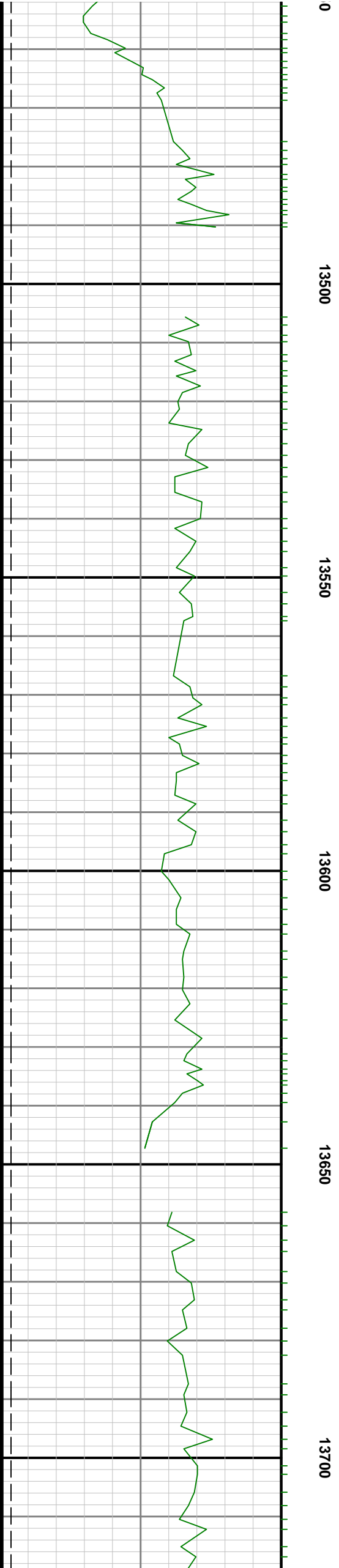
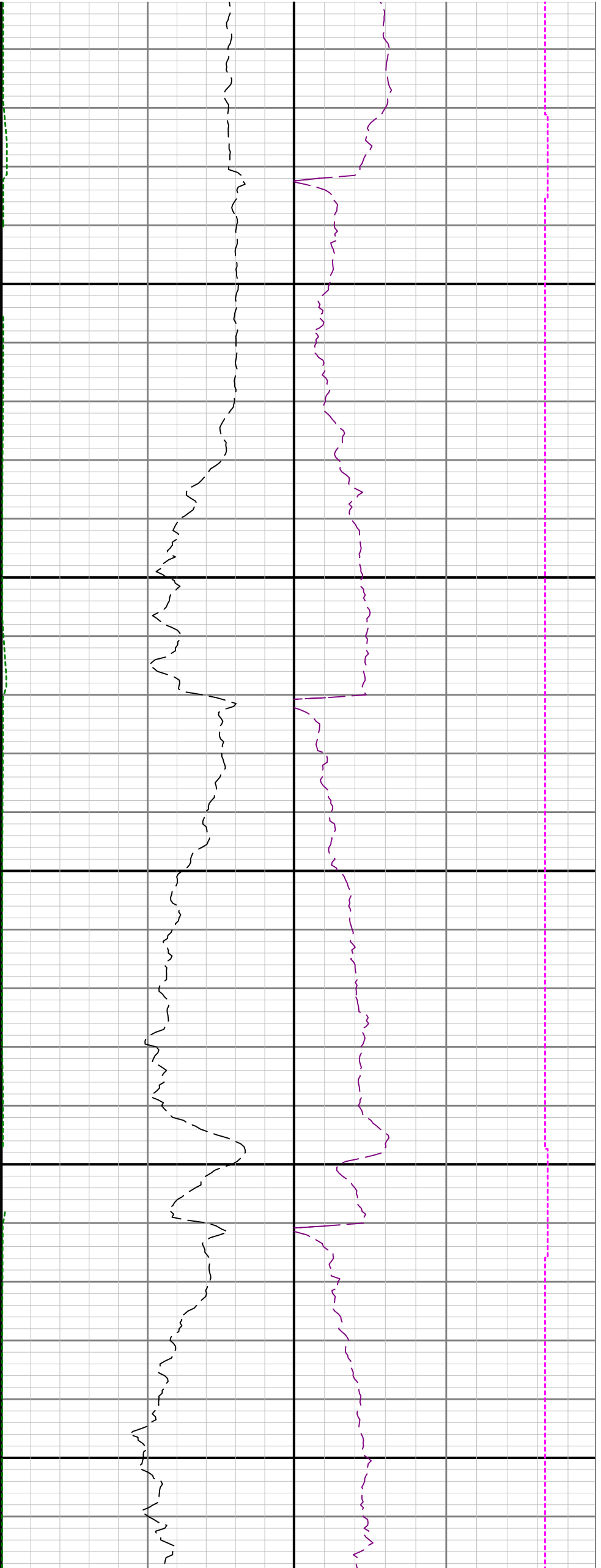
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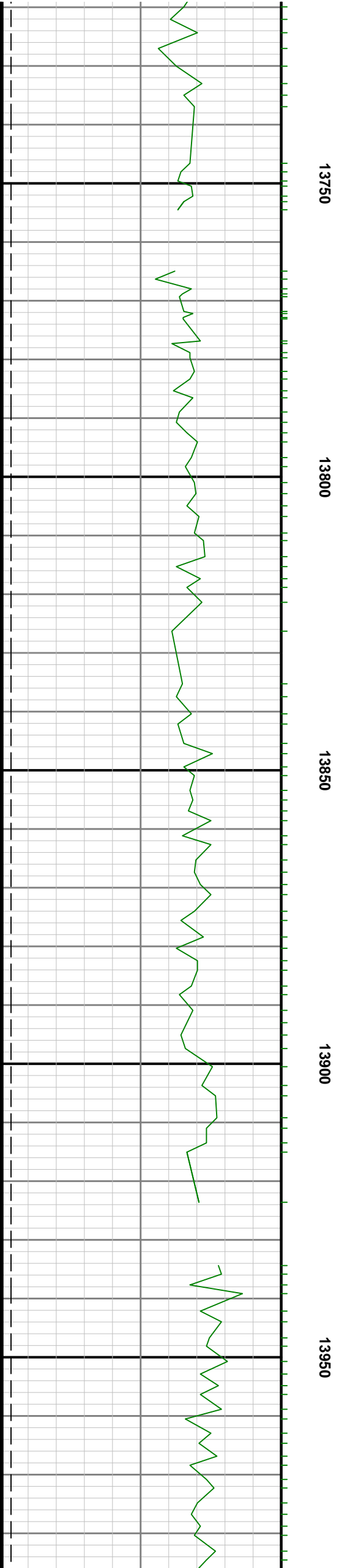
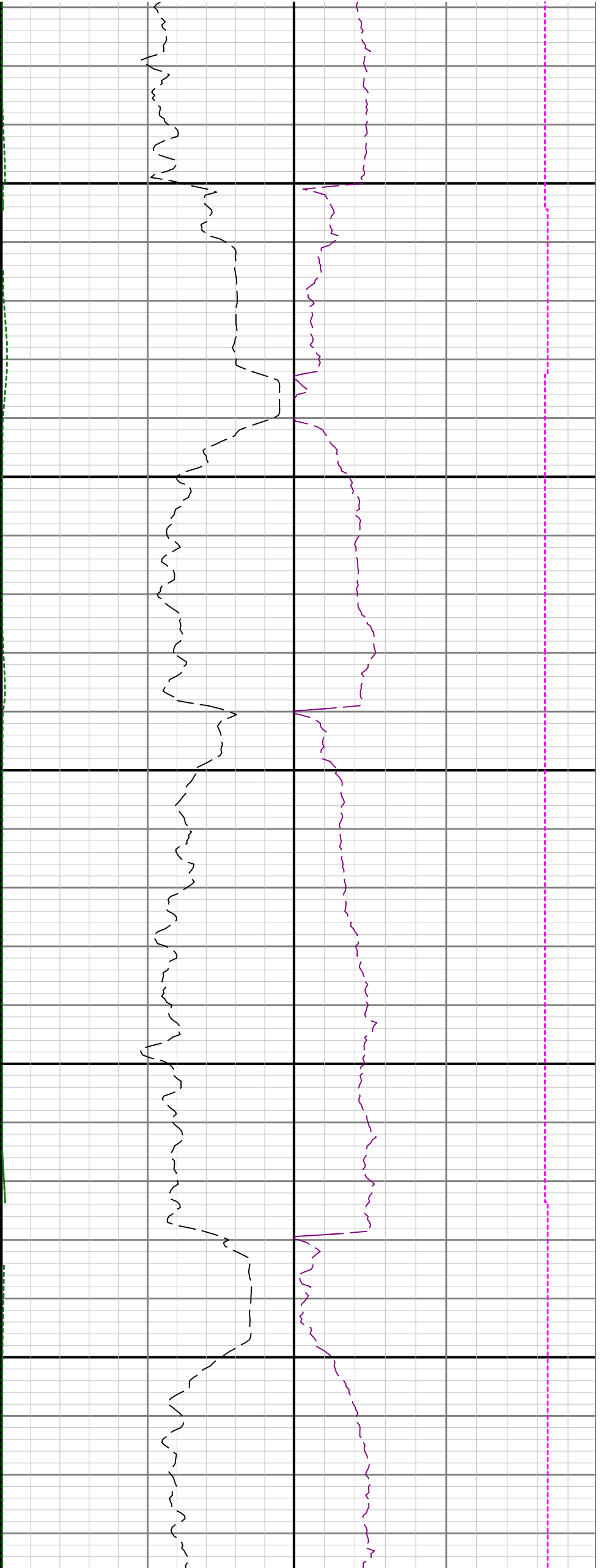
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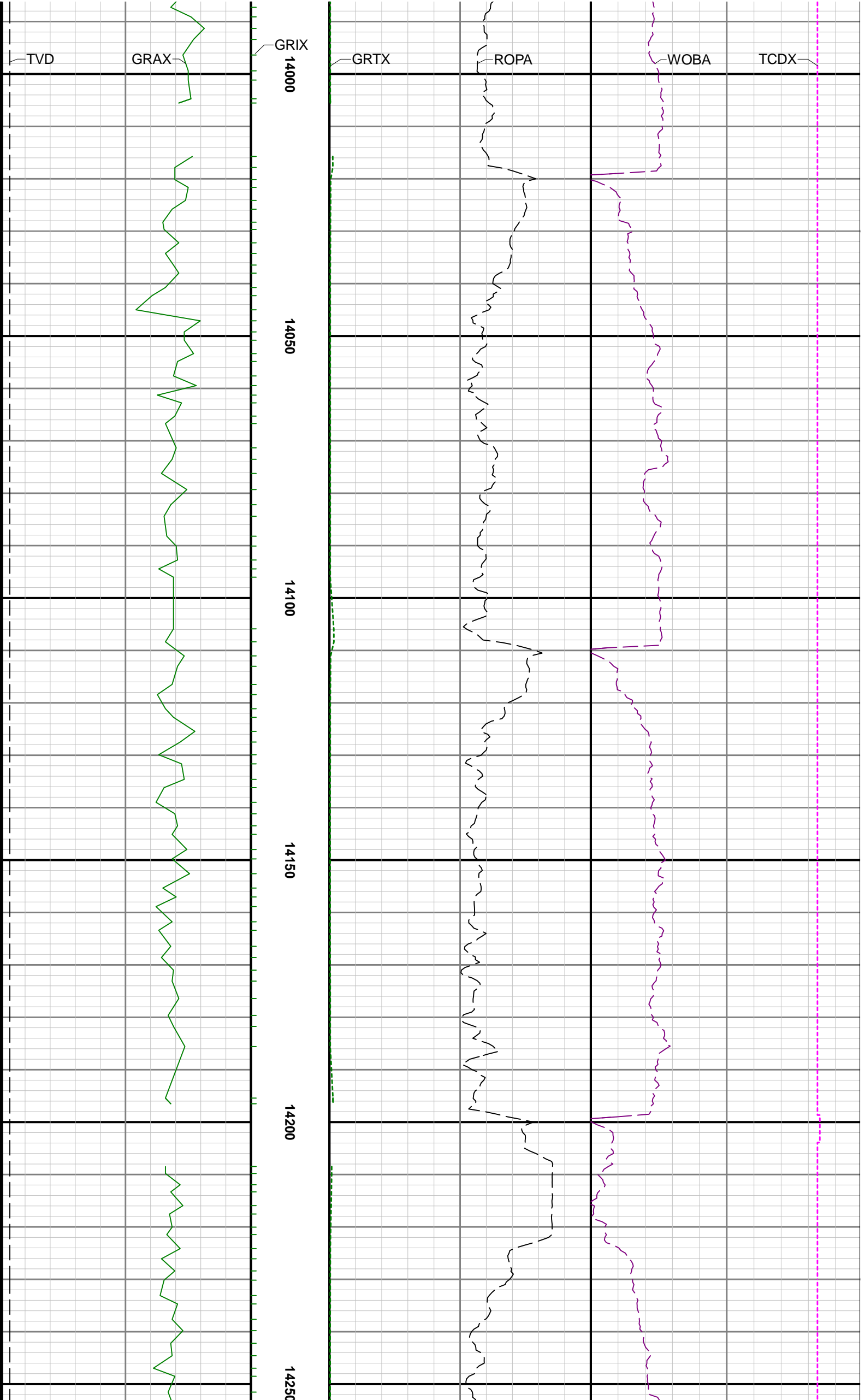
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14300

14350

14400

14450

14500

