



Gamma Ray

Log Run Summary

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+ (%)
2017-12-22 08:56	1	4.00	Water Based Mud	8.4	N/A	N/A	N/A	N/A	Flow Line	500	0.00
2018-03-11 05:30	2	1816.00	Diesel-Oil Based Mud	10.2	28	N/A	14.8	78/22	Suction	38000	0.00
2018-03-11 16:00	2	4201.00	Diesel-Oil Based Mud	10.4	19	N/A	9.8	74/26	Suction	32000	0.00
2018-03-12 04:00	2	6717.00	Diesel-Oil Based Mud	10.4	18	N/A	9.0	76/24	Suction	49000	0.00
2018-03-12 16:00	2	8865.00	Diesel-Oil Based Mud	10.5	24	N/A	9.7	76/24	Suction	39000	0.00
2018-03-13 04:00	2	11290.00	Diesel-Oil Based Mud	10.4	23	N/A	9.9	76/24	Suction	34000	0.00
2018-03-13 16:00	2	13247.00	Diesel-Oil Based Mud	10.6	25	N/A	9.9	75/25	Suction	37000	0.00
2018-03-14 04:00	2	15755.00	Diesel-Oil Based Mud	10.6	26	N/A	9.9	75/25	Suction	36000	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	Sensor Sub	ZAPS230925	Gamma (single)	8.52	58.70	8.000	3.250
1	Sensor Sub	ZAPS230925	Directional (mag)	9.93	60.11	8.000	3.250
1	Sensor Sub	ZAPS230925	VSS	9.93	60.11	8.000	3.250
1	Sensor Sub	ZAPS230925	Pressure	30.52	80.70	8.000	3.250
2	ATC_SU	14381506	Near Bit Inclination	5.93	6.73	7.000	4.330
2	ATC_SU	14381506	Near Bit VSS	5.93	6.73	7.000	4.330
2	ATC_MWD	14131213	Gamma (single)	2.76	12.90	7.000	3.250
2	ATC_MWD	14131213	Directional (mag)	12.28	22.42	7.000	3.250

Service and Tool Mnemonics

Mnemonic	Name	Description
GAM	APS	APS EM Module
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 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	Baker Hughes LWD Run 1 utilized 8 inch APS EM Services (Directional only) behind a 13 1/2 inch bit and steerable assembly from surface to 1816 feet MD (surface to 1802 feet TVD). No logging data was acquired during this run.
3	Baker Hughes LWD Run 2 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly from 1816 to 15755 feet MD (1802 to 7064 feet TVD).
4	Gamma Ray Curve (GRAM) is presented 0 to 300 API per customer request.


Remarks

Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	2465.00	8.500	2	The interval from 2465 to 2503 feet MD (2444 to 2481 feet TVD) is missing Gamma data due to a failed downlink that caused the tool to shutoff and not write data to memory.
2	15742.00	8.500	2	The interval from 15742 to 15755 feet MD (7064 feet TVD) was not logged due to sensor to bit offset at well TD.

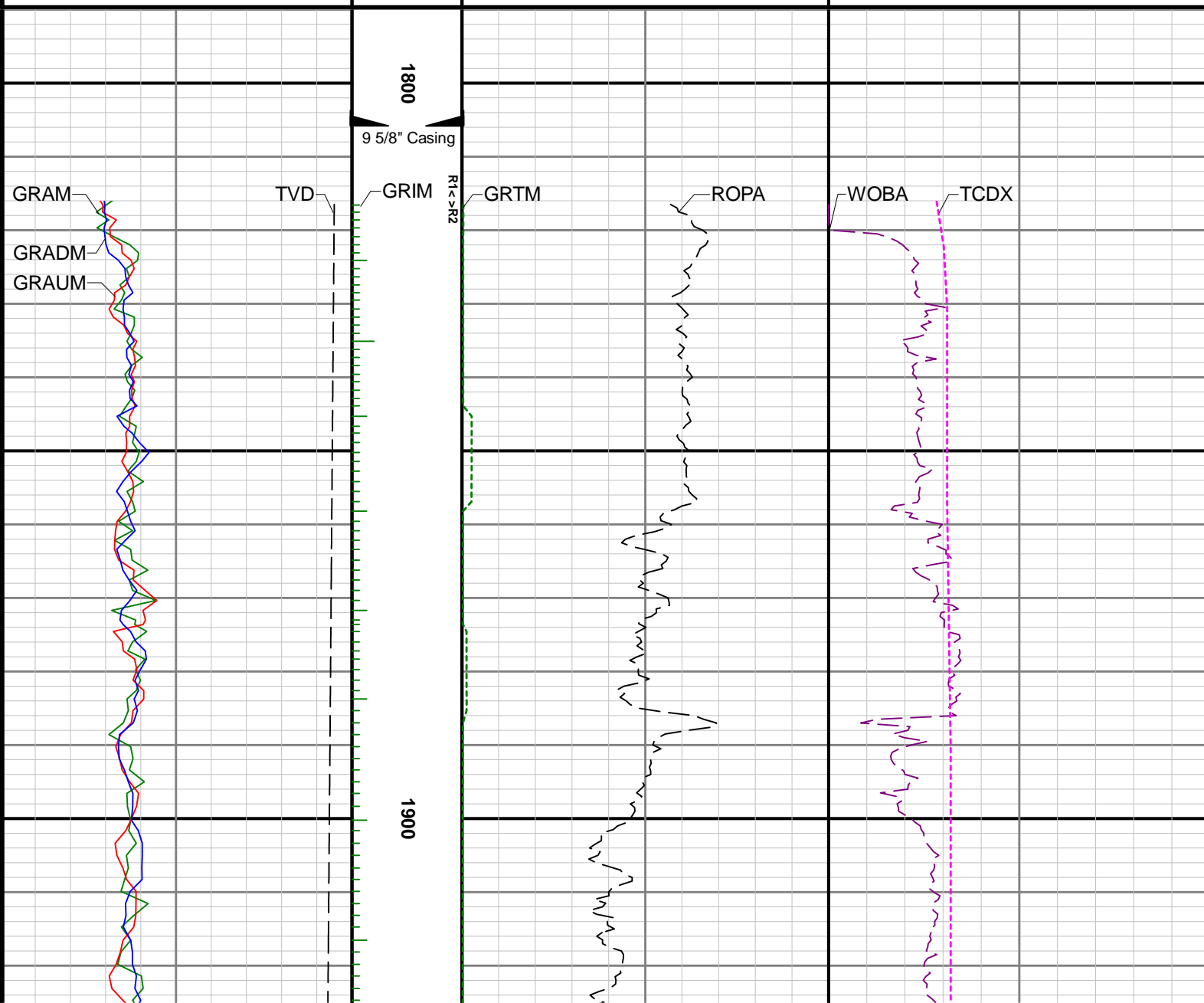
Curve Mnemonics

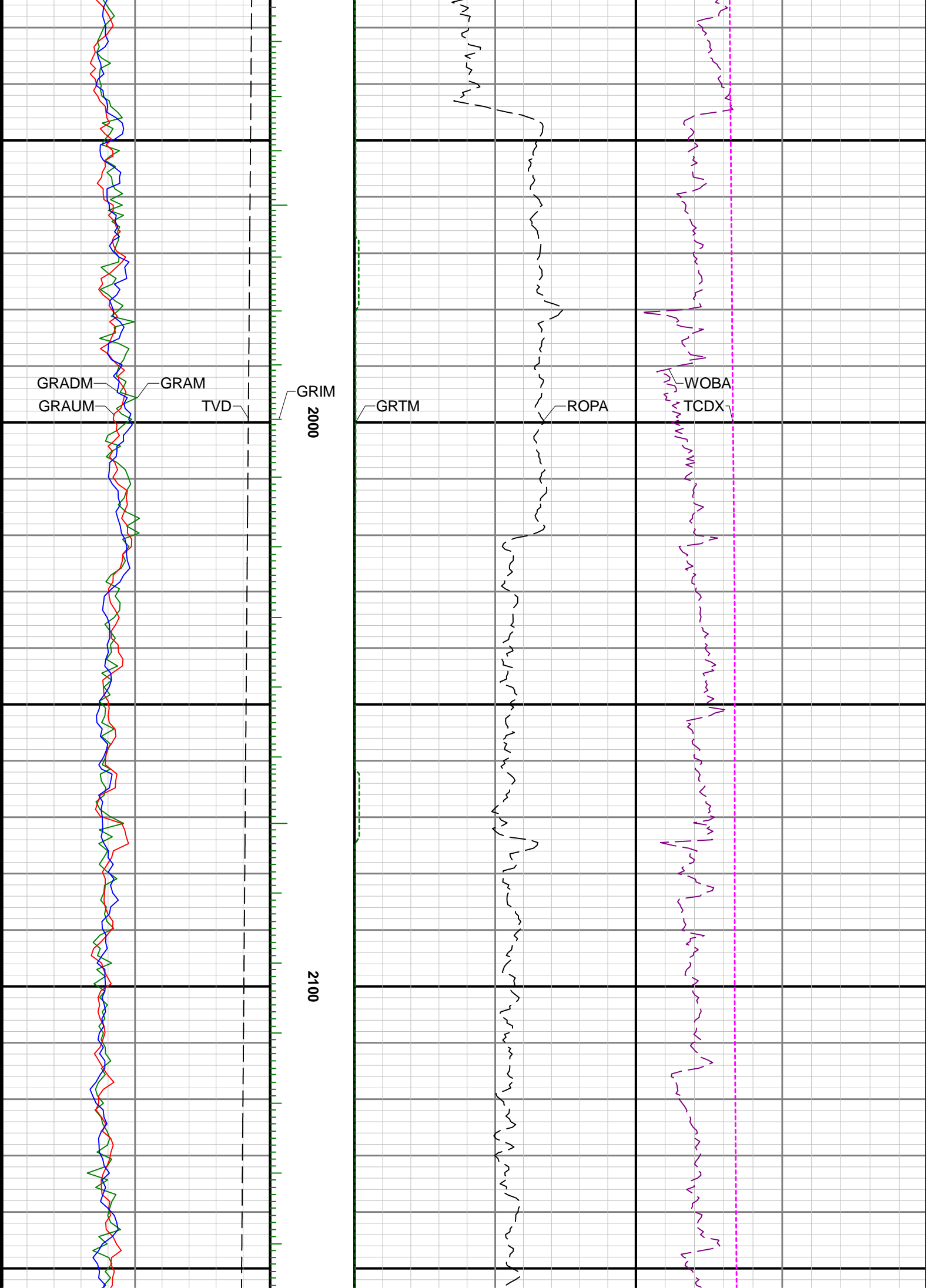
Presented Curves	Description	Units
TCDX	Downhole Temperature	degF
ROPA	Depth Averaged ROP 3 ft Average	ft/h
TVD	True Vertical Depth	ft
WOBA	Weight On Bit, Average 1 ft Average	klb
GRAM	Gamma Ray Curve	API

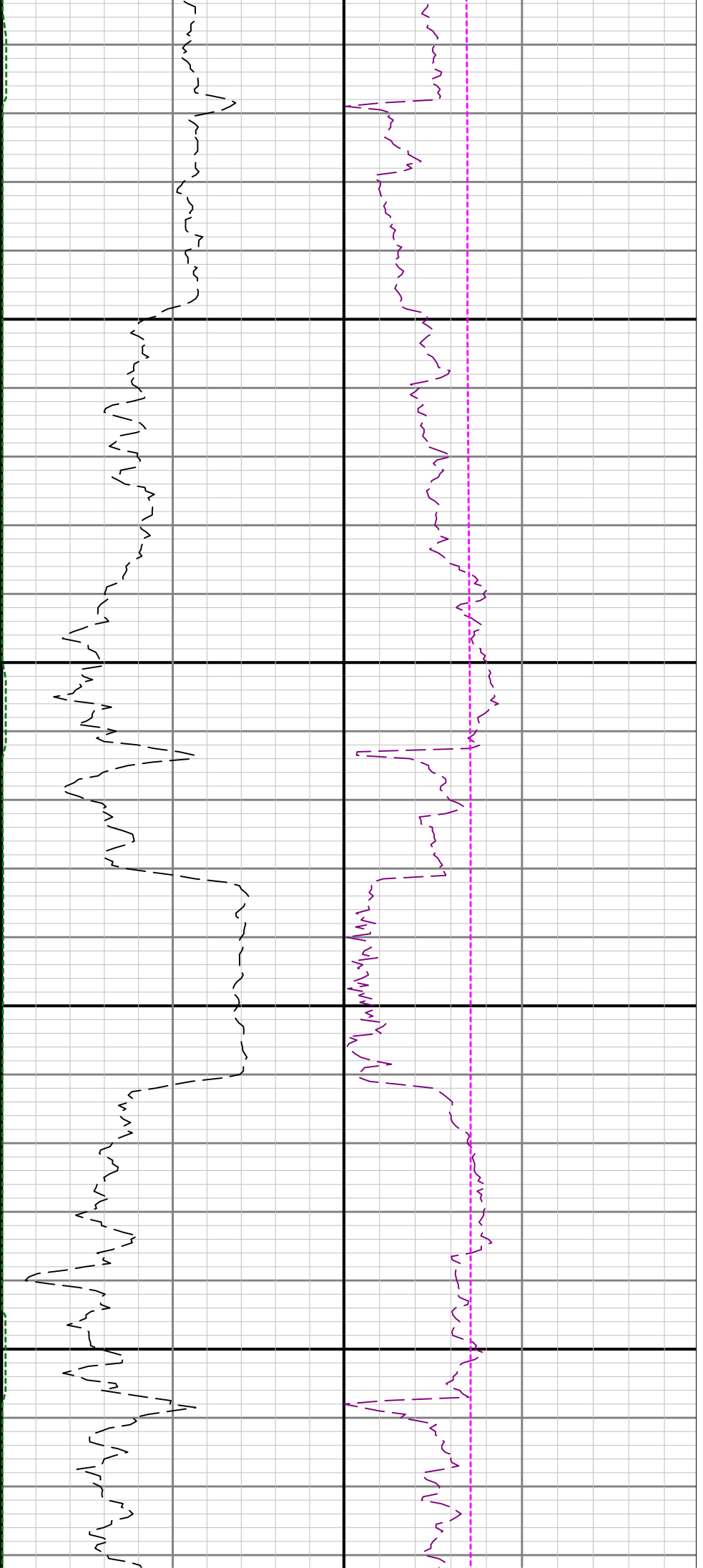
GRAM	Gamma Ray - Apparent - Memory 0.5 ft Average	API
GRIM	Gamma Ray - Data Point Indicator - Memory	unitless
GRTM	Gamma Ray - Time Since Drilled - Memory	min
GRADM	Gamma Ray - Apparent - Down Quadrant - Memory 0.5 ft Average	API
GRAUM	Gamma Ray - Apparent - Up Quadrant - Memory 0.5 ft Average	API

	Company	SRC Energy			
	Well	Boomerang 12C-6-M			
	Interval	Date From:	2018-03-11 00:18:29	Top:	1816.00
	Created	Date To:	2018-03-14 03:03:00	Bottom:	15755.00
		2018-03-15 13:28:22			

Gamma Ray - Apparent 0.5 ft Average GRAM 0 300	MD 1:240 feet	Depth Averaged ROP 3 ft Average ROPA 1000 0	Weight On Bit, Average 1 ft Average WOBA 0 50
API		ft/h	klb
Azimuthal Gamma Ray - Apparent - Up Quadrant 0.5 ft Average GRAUM 0 300		Gamma Time Since Drilled GRTM 0 600	Downhole Temperature TCDX 0 300
API		min	degF
Azimuthal Gamma Ray - Apparent - Down Quadrant 0.5 ft Average GRADM 0 300			
API			
True Vertical Depth TVD 7500 1500			
ft			

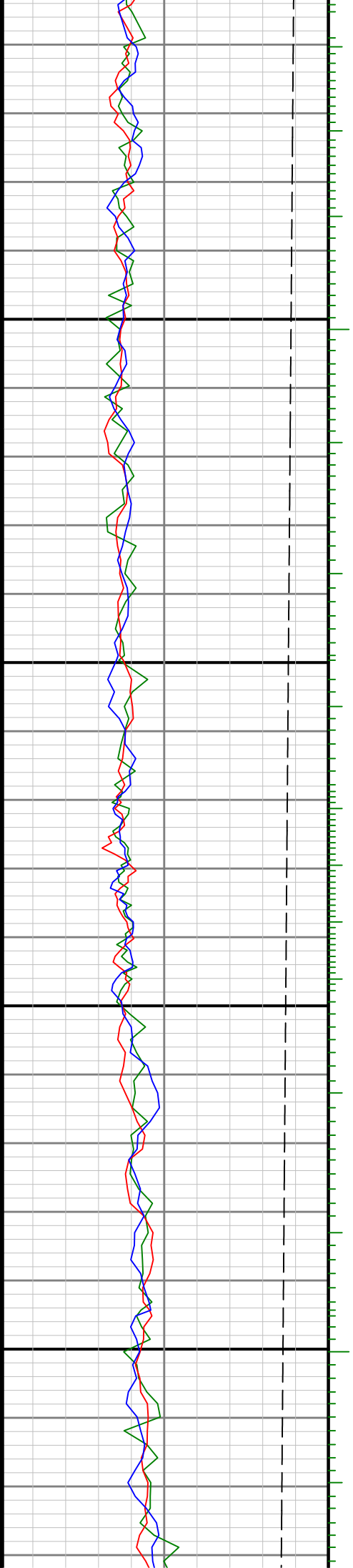


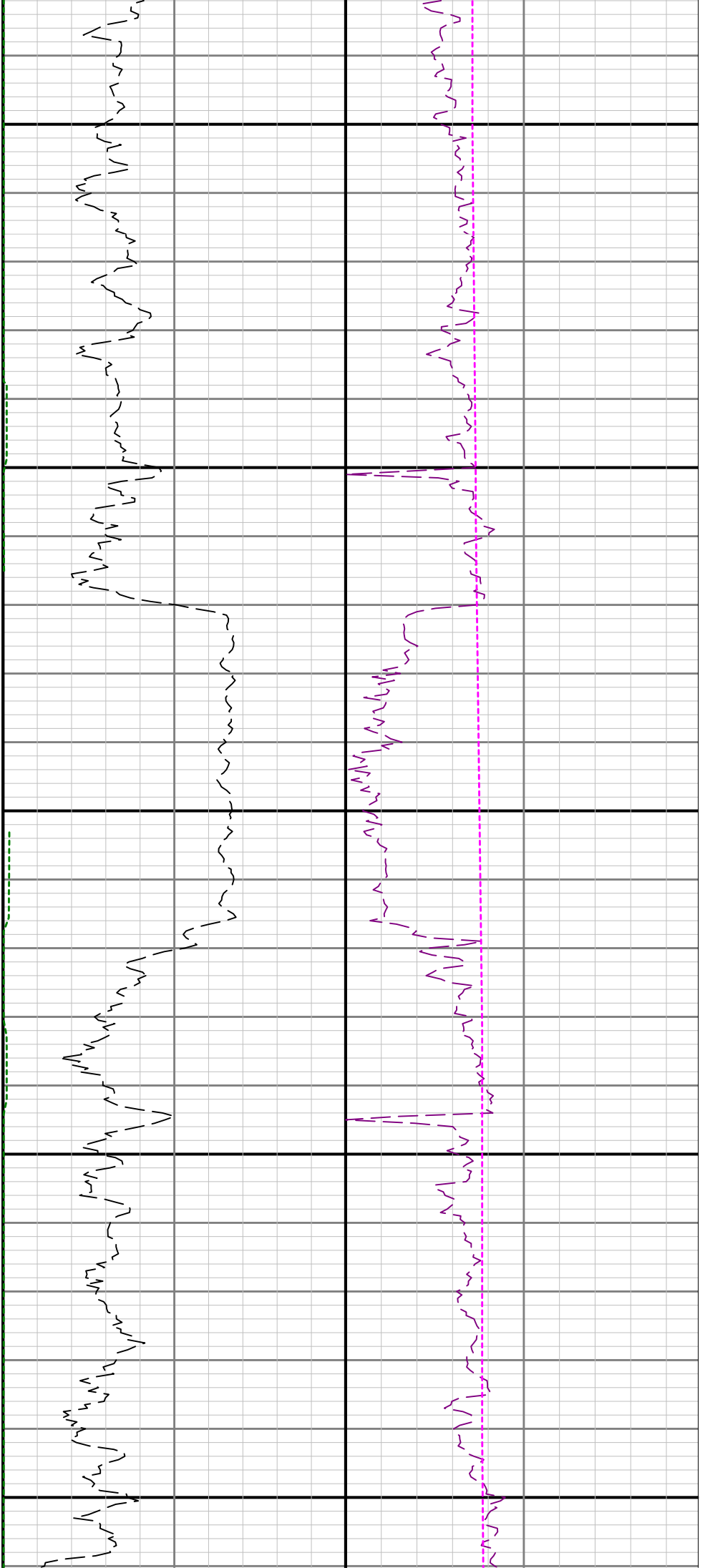




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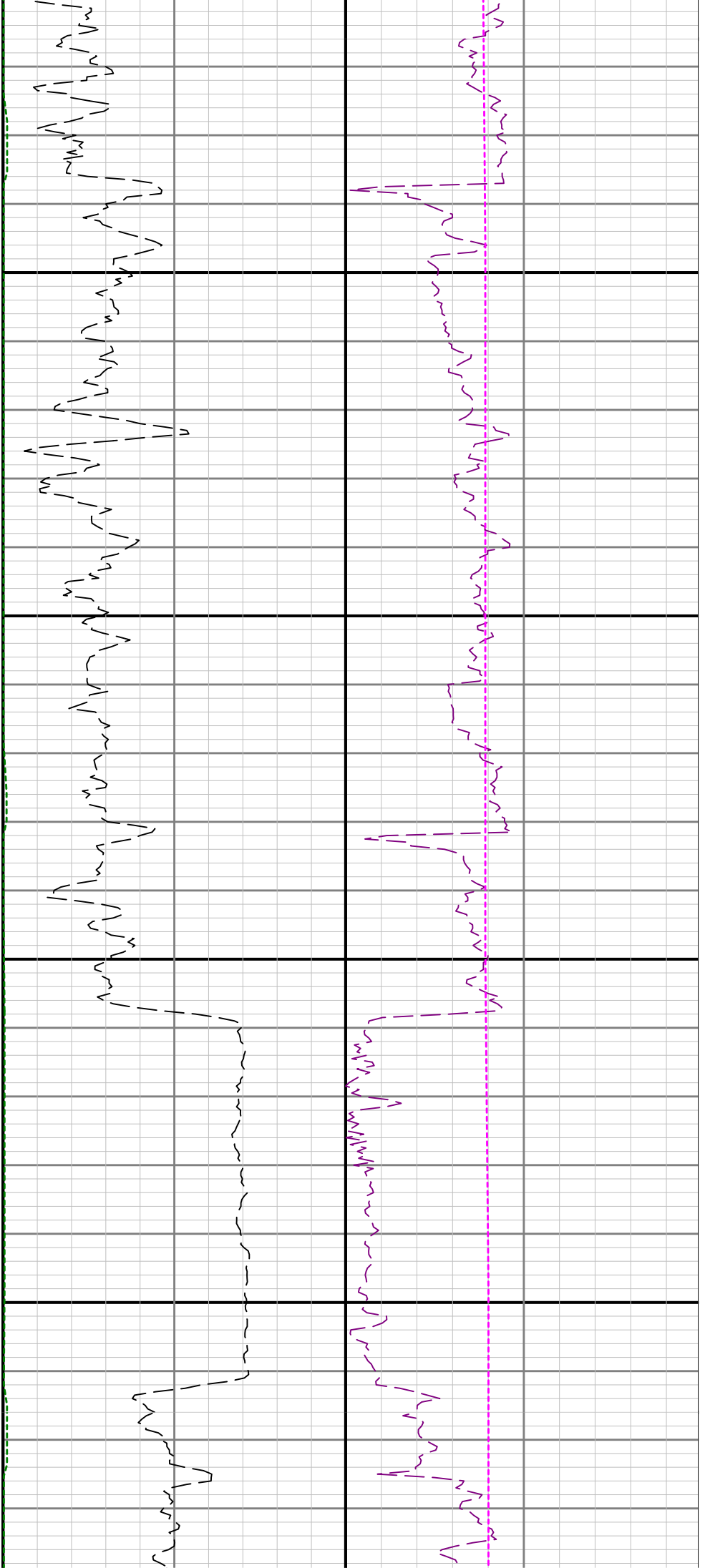


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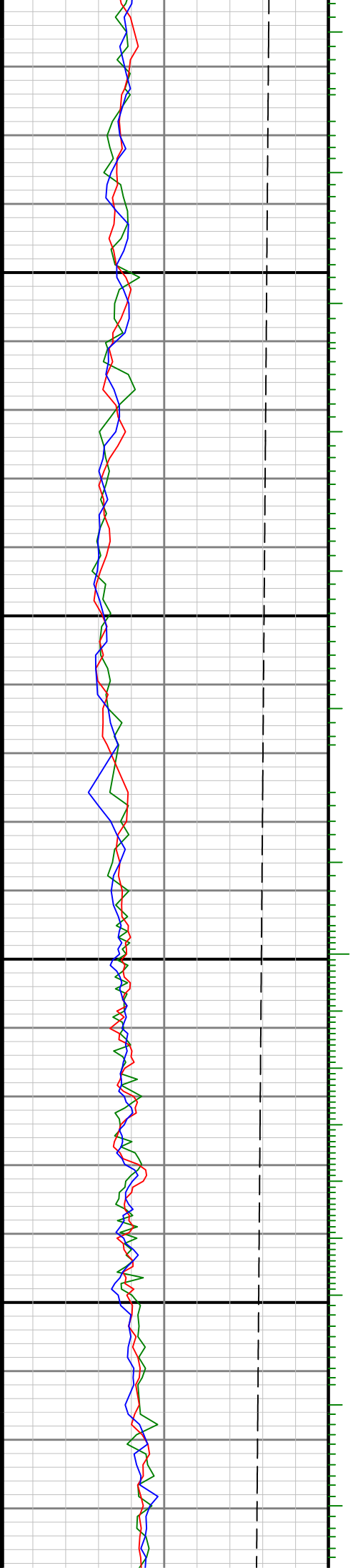
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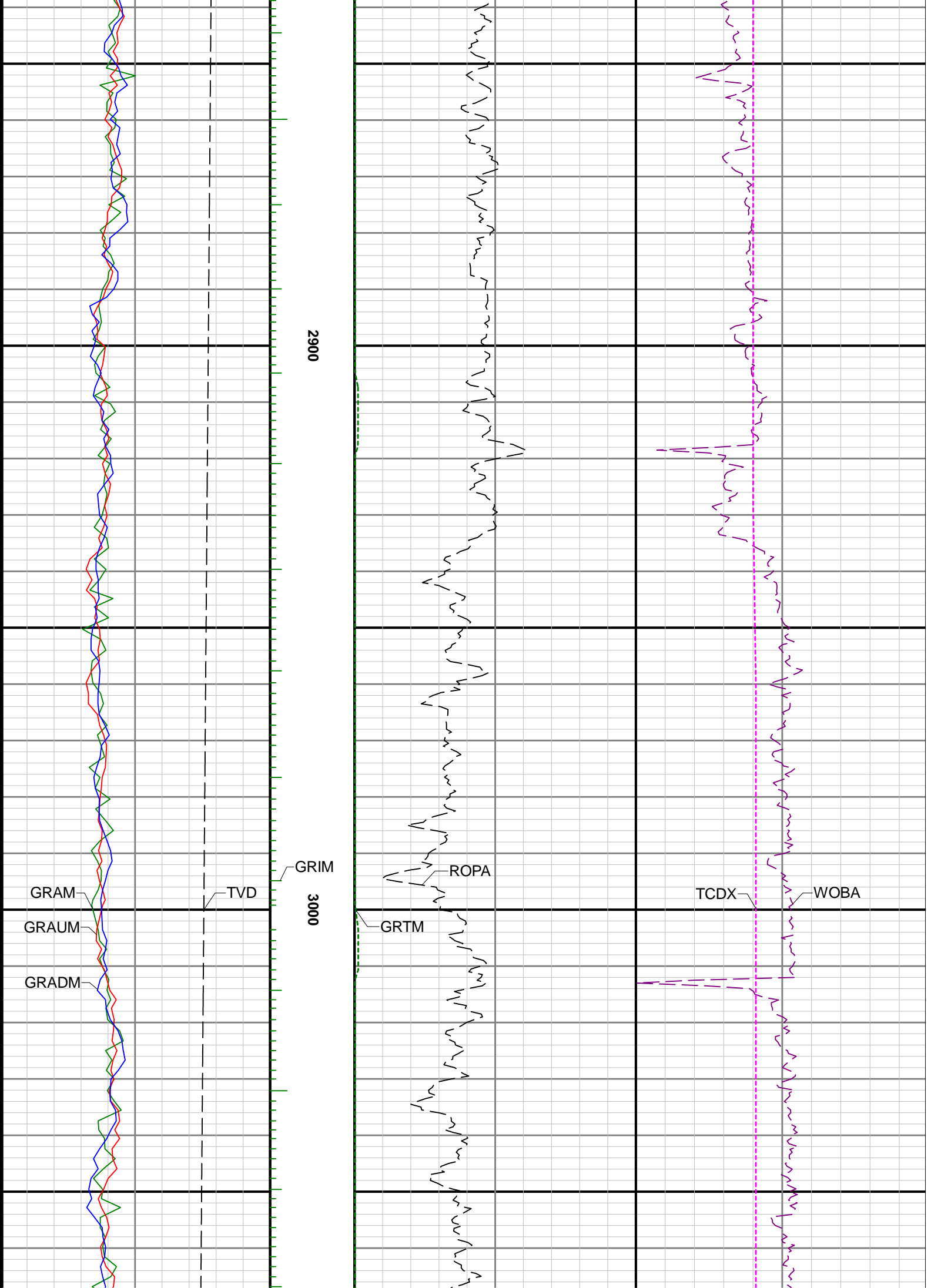
See Remark 1

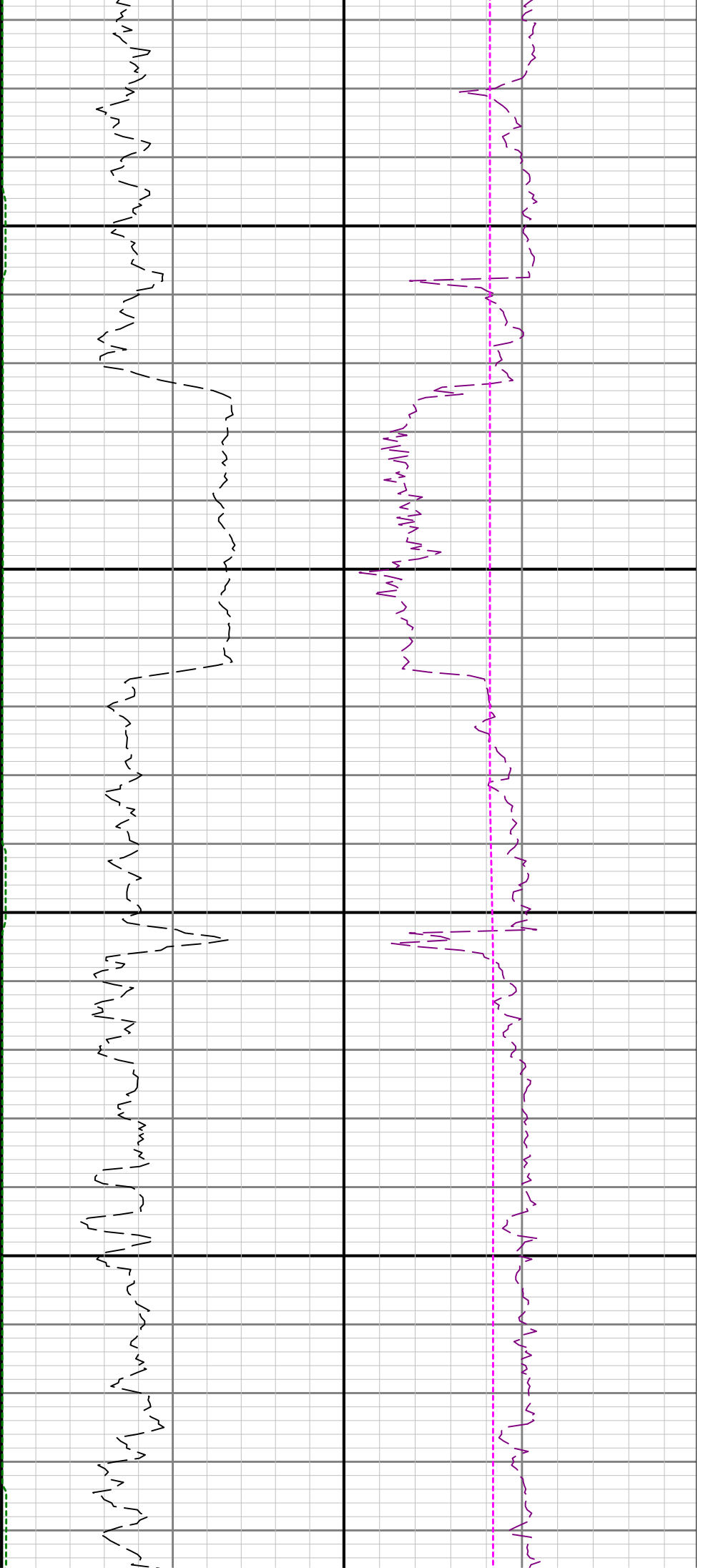


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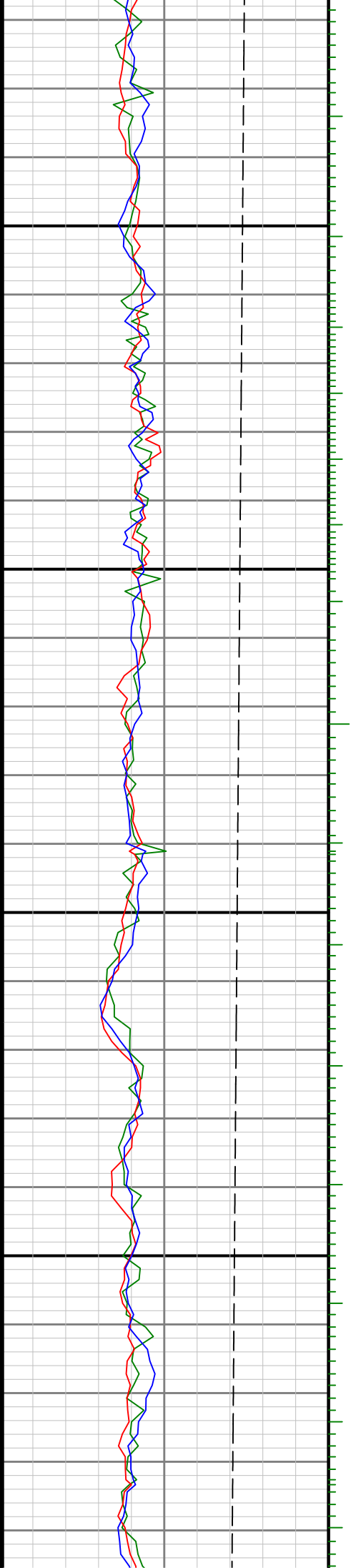


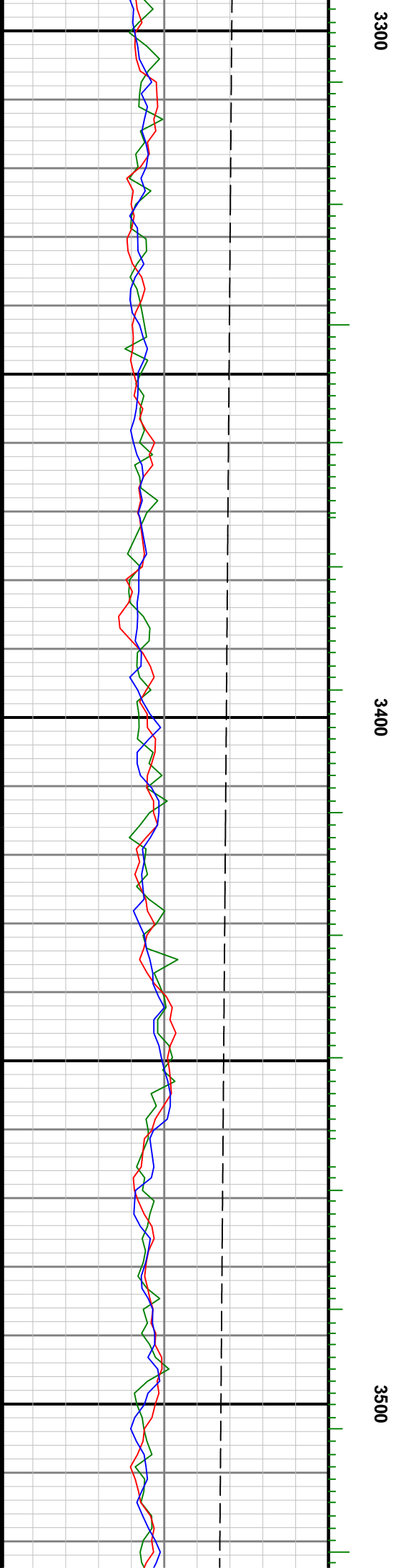
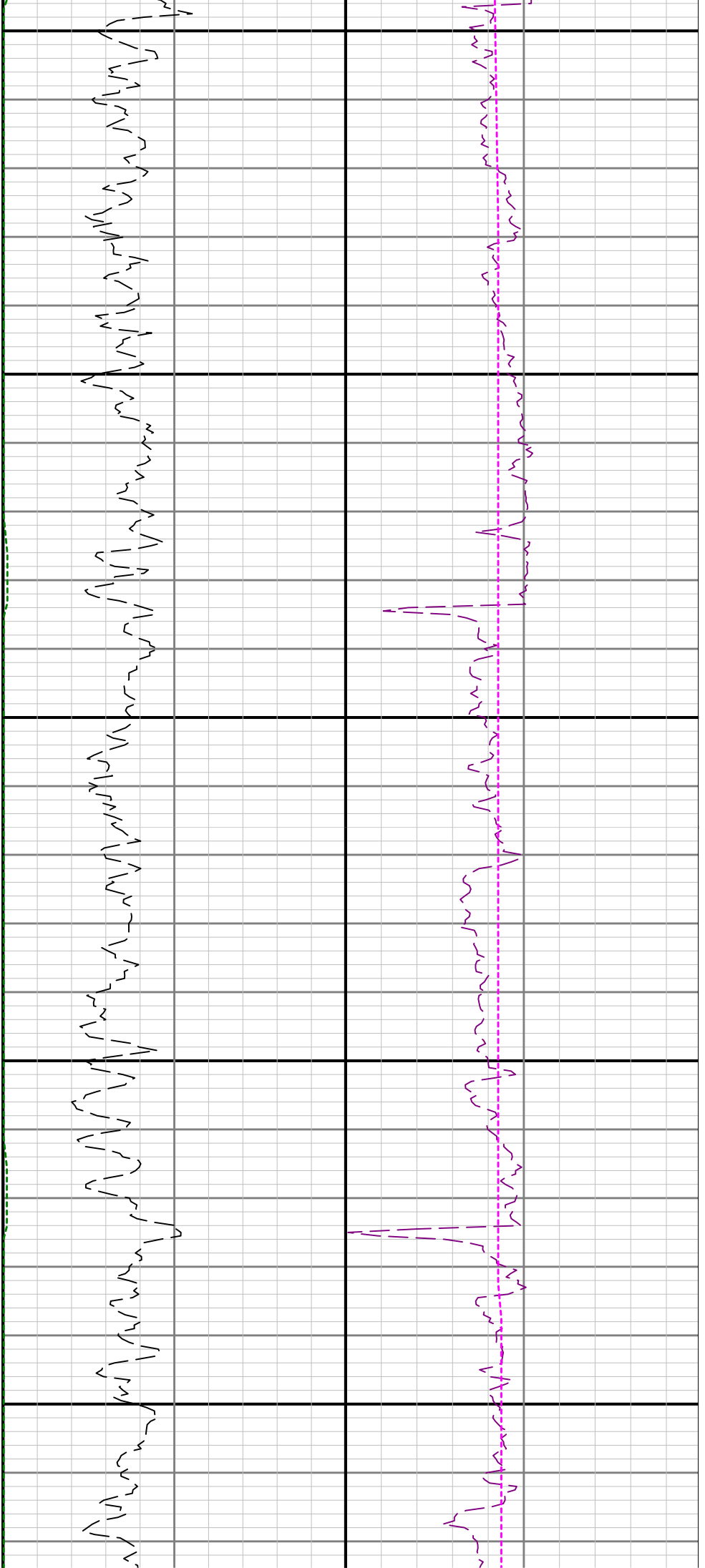


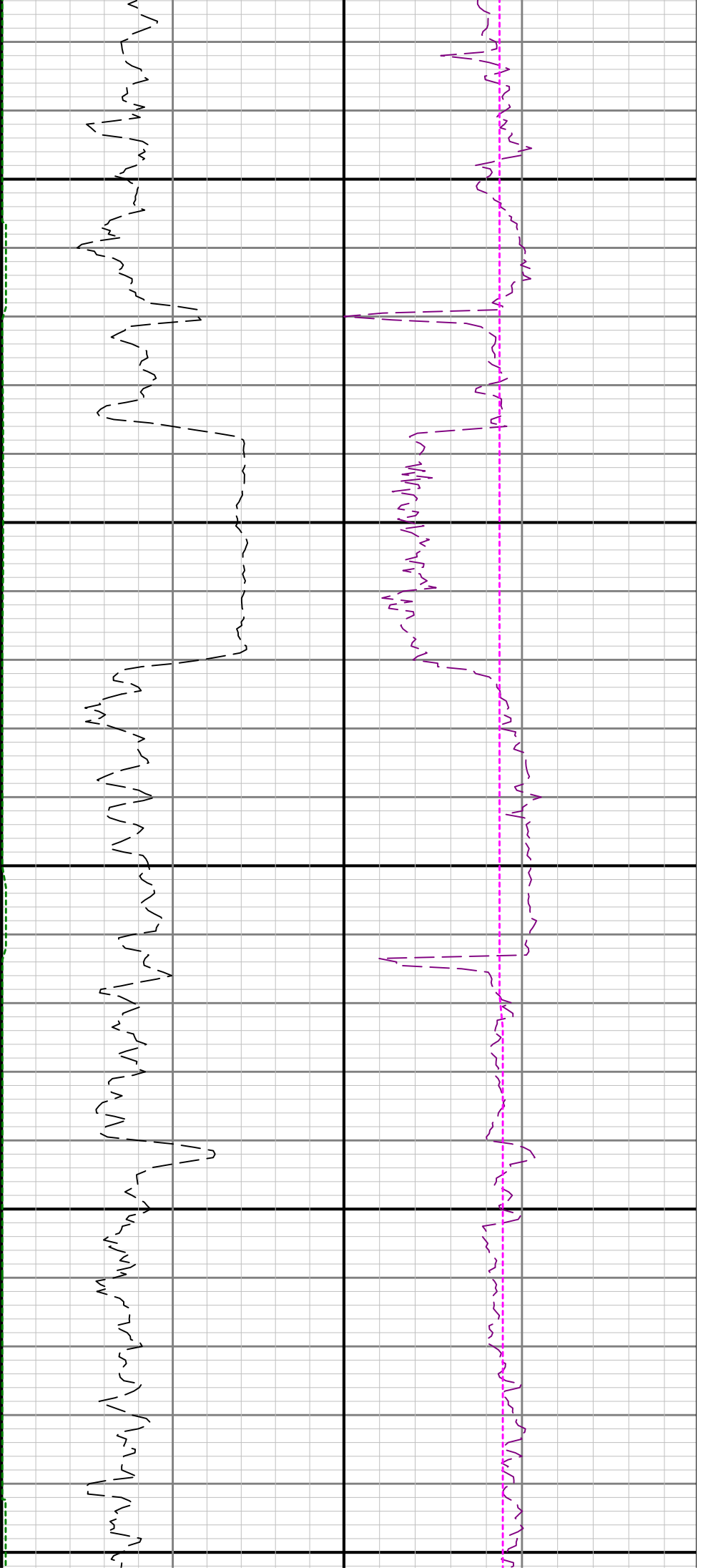


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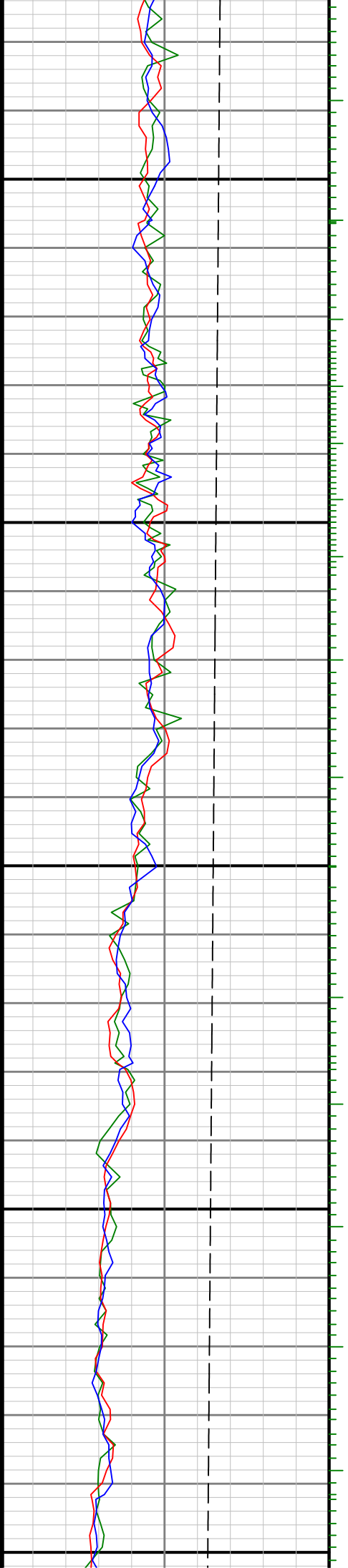






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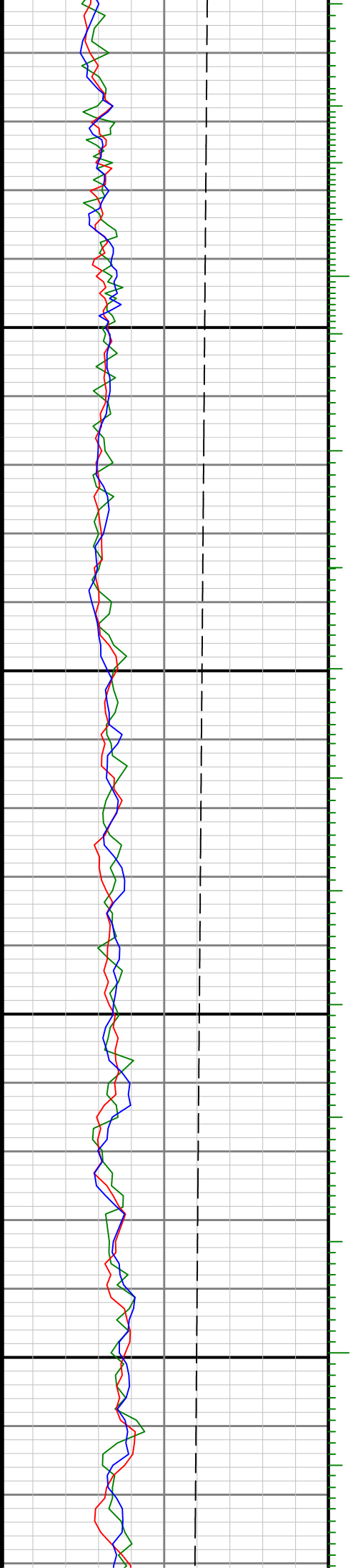
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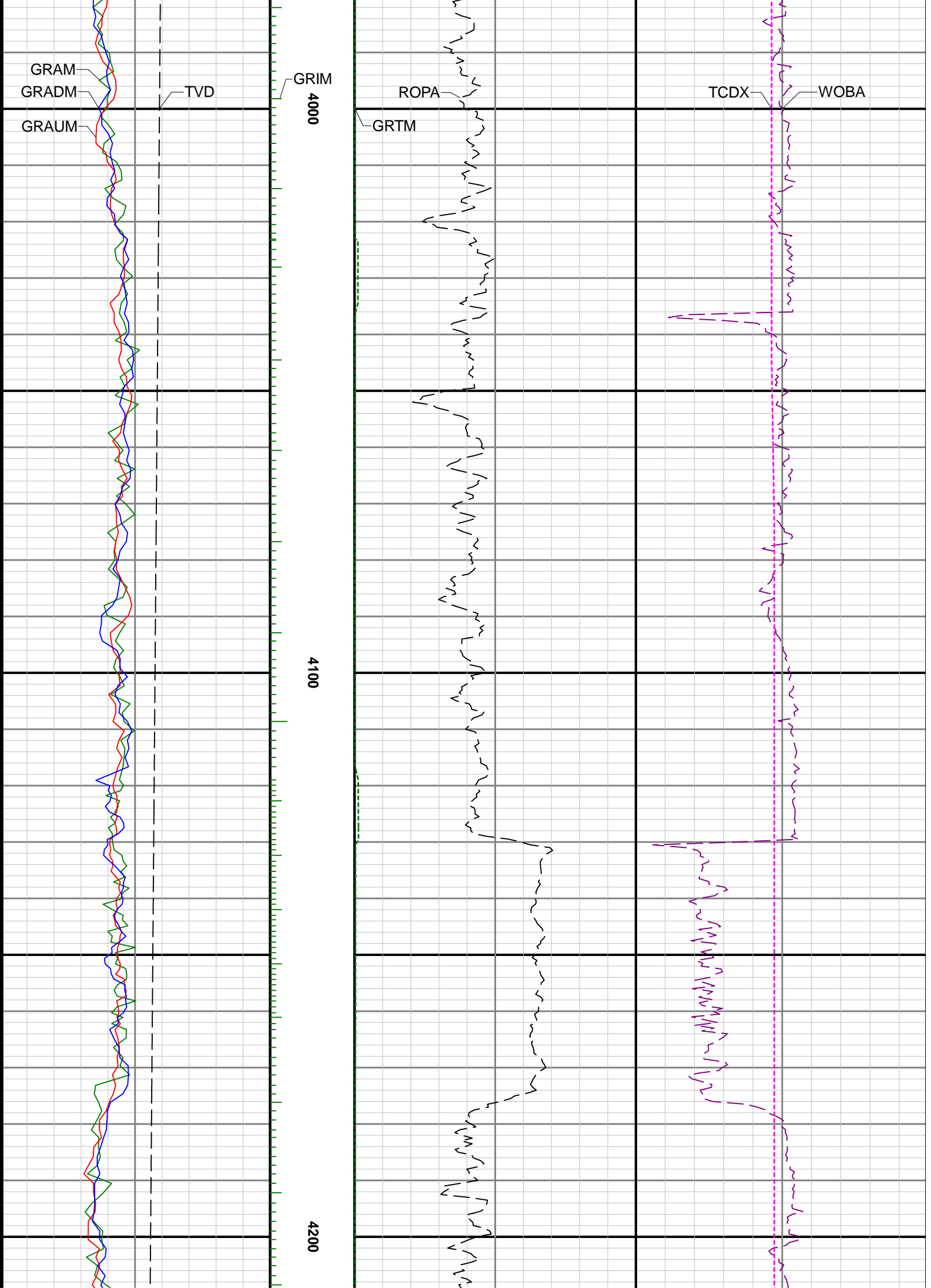


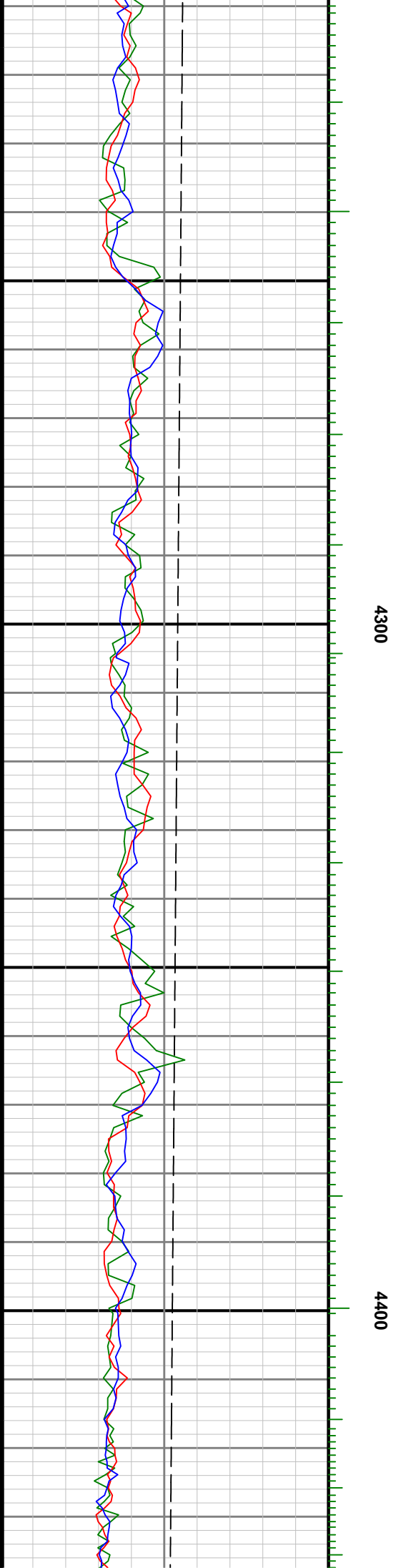
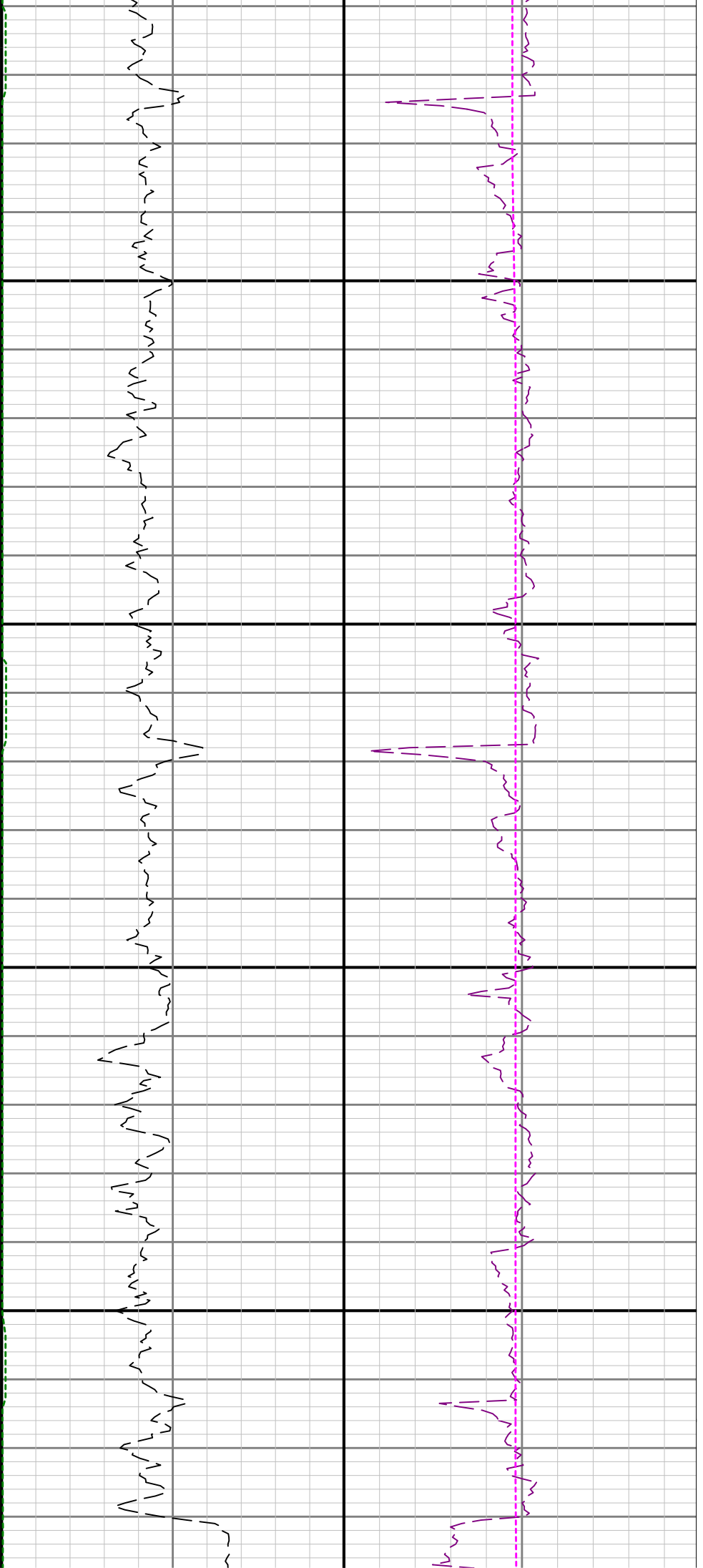


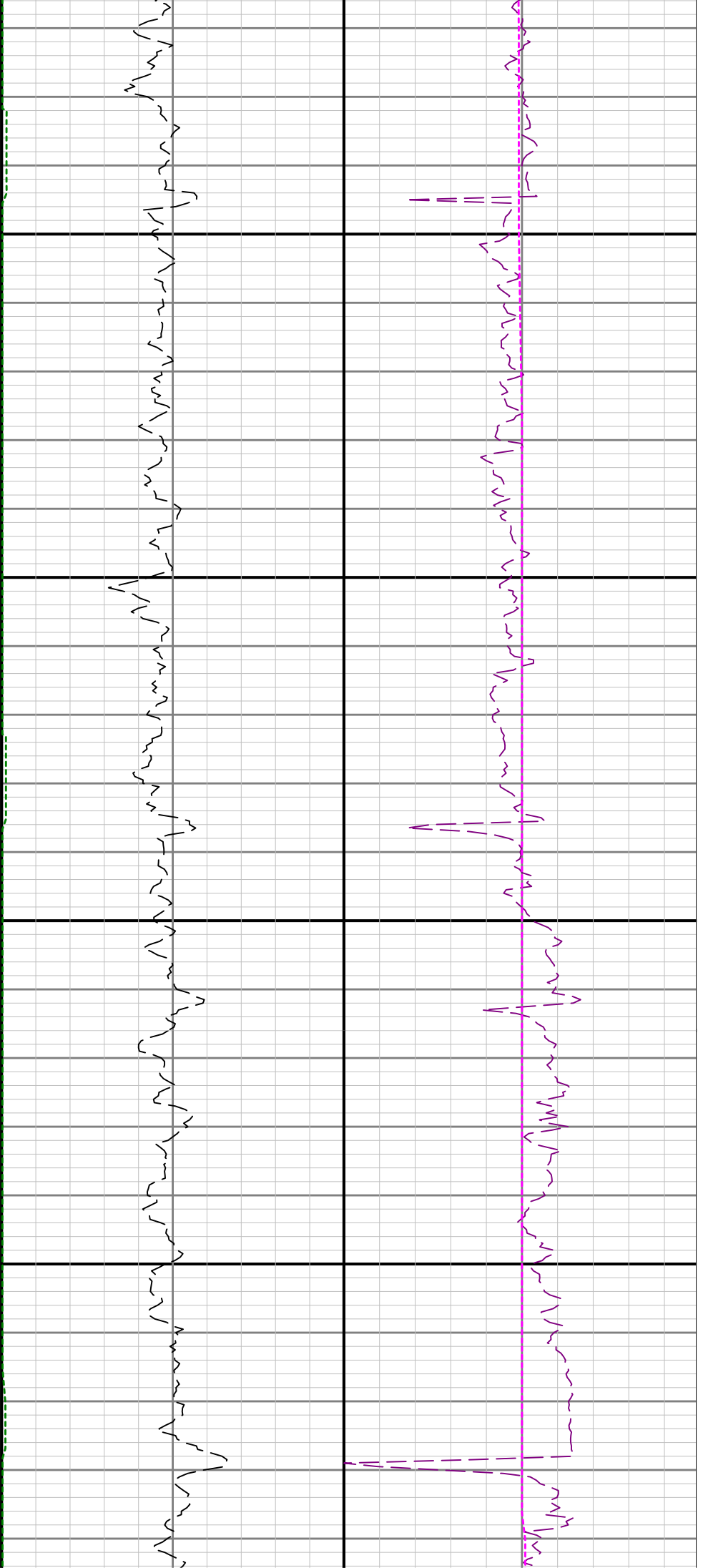
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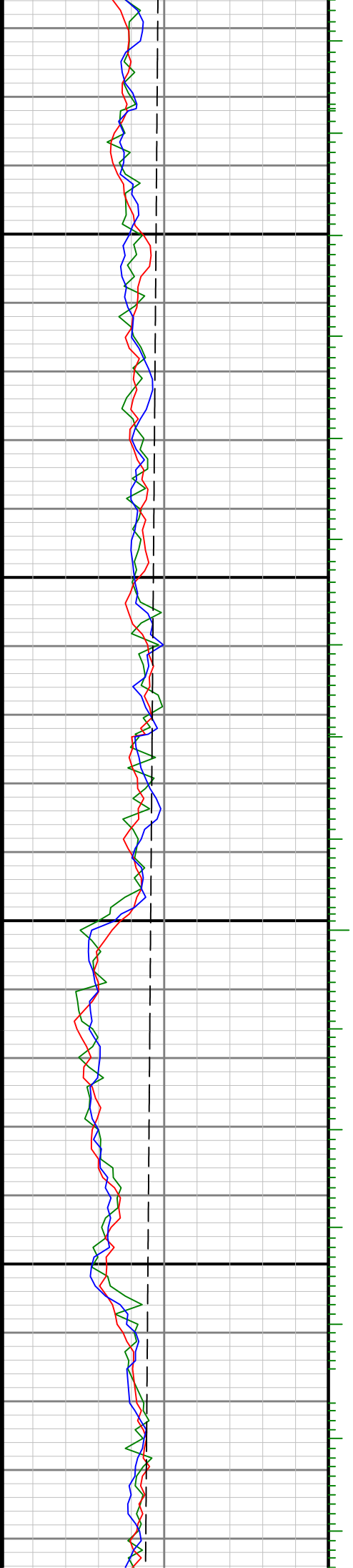


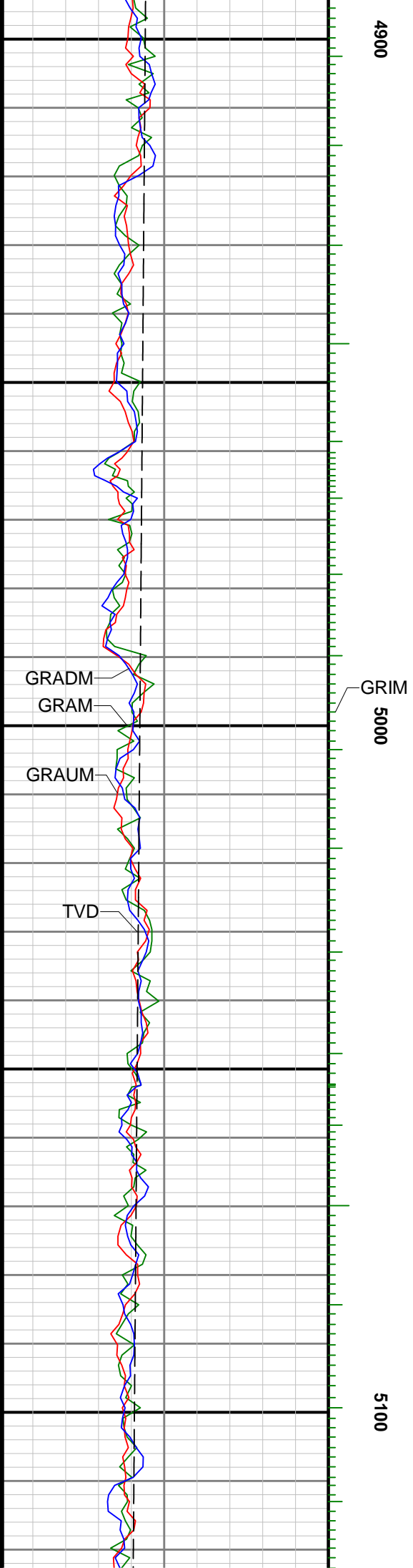
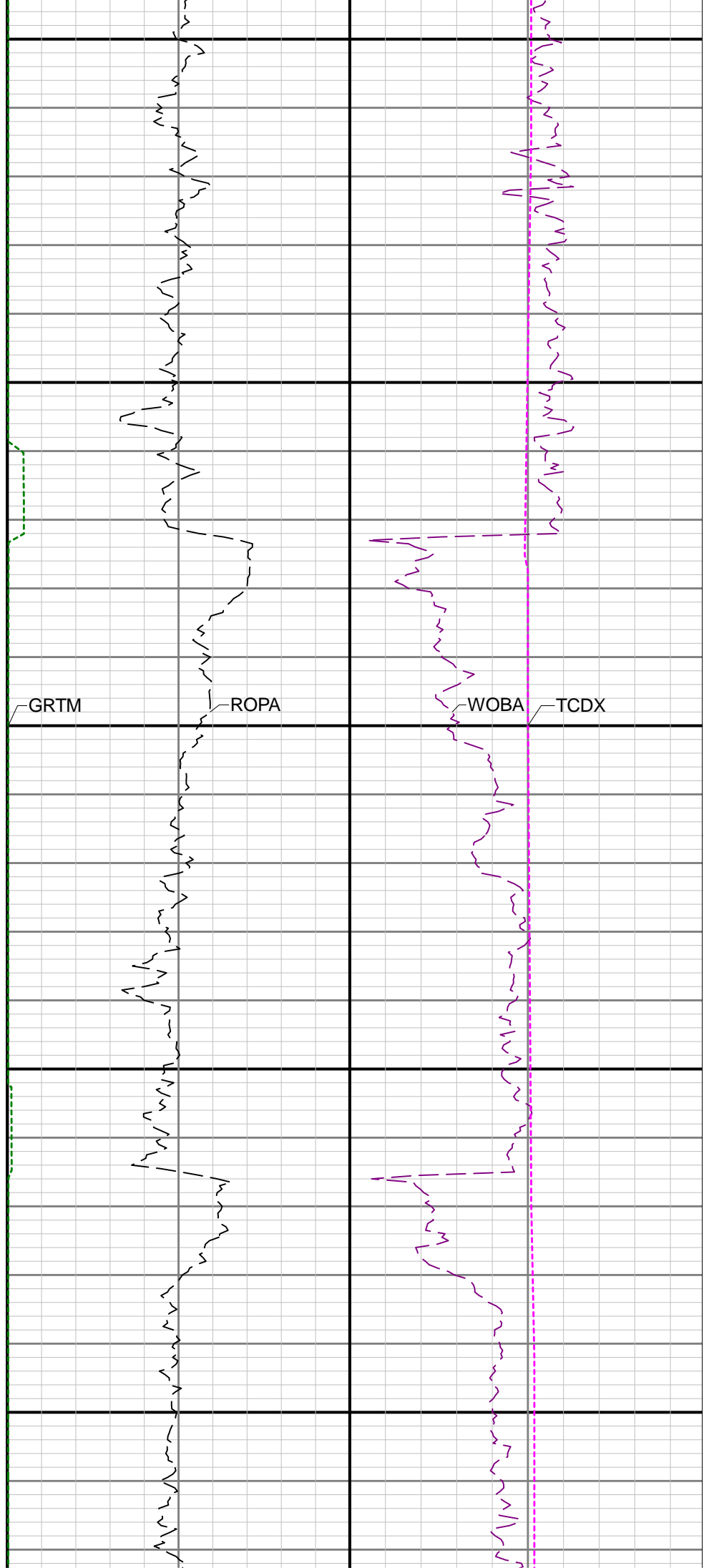


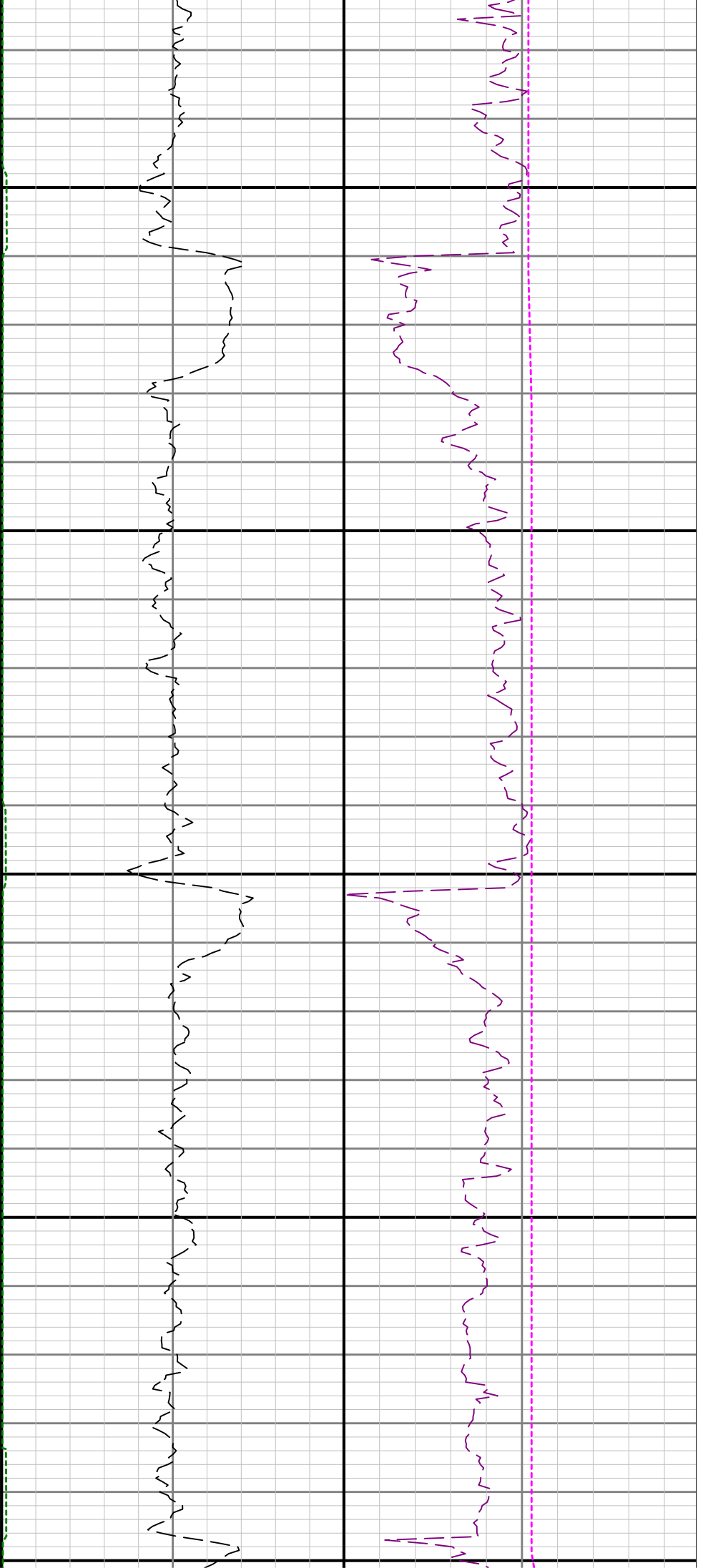


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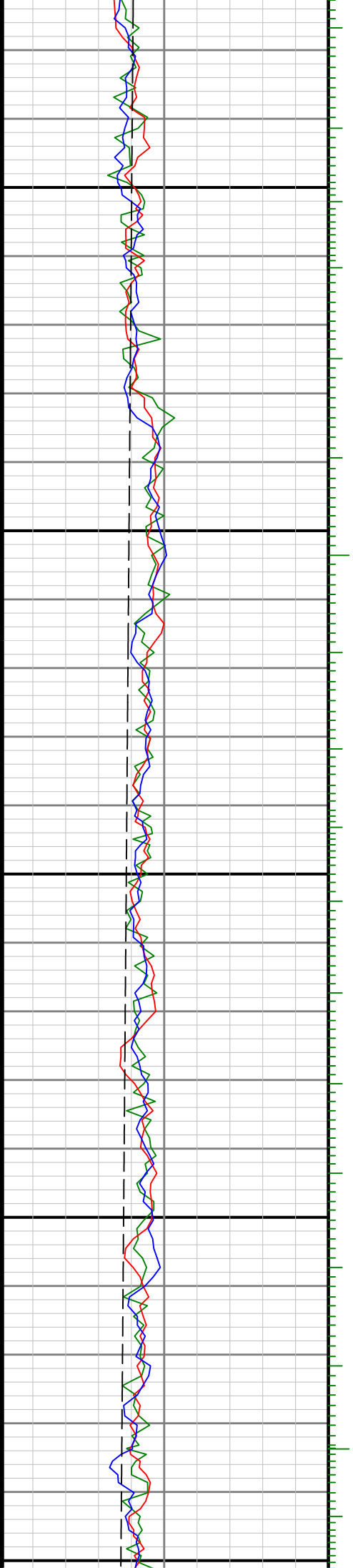


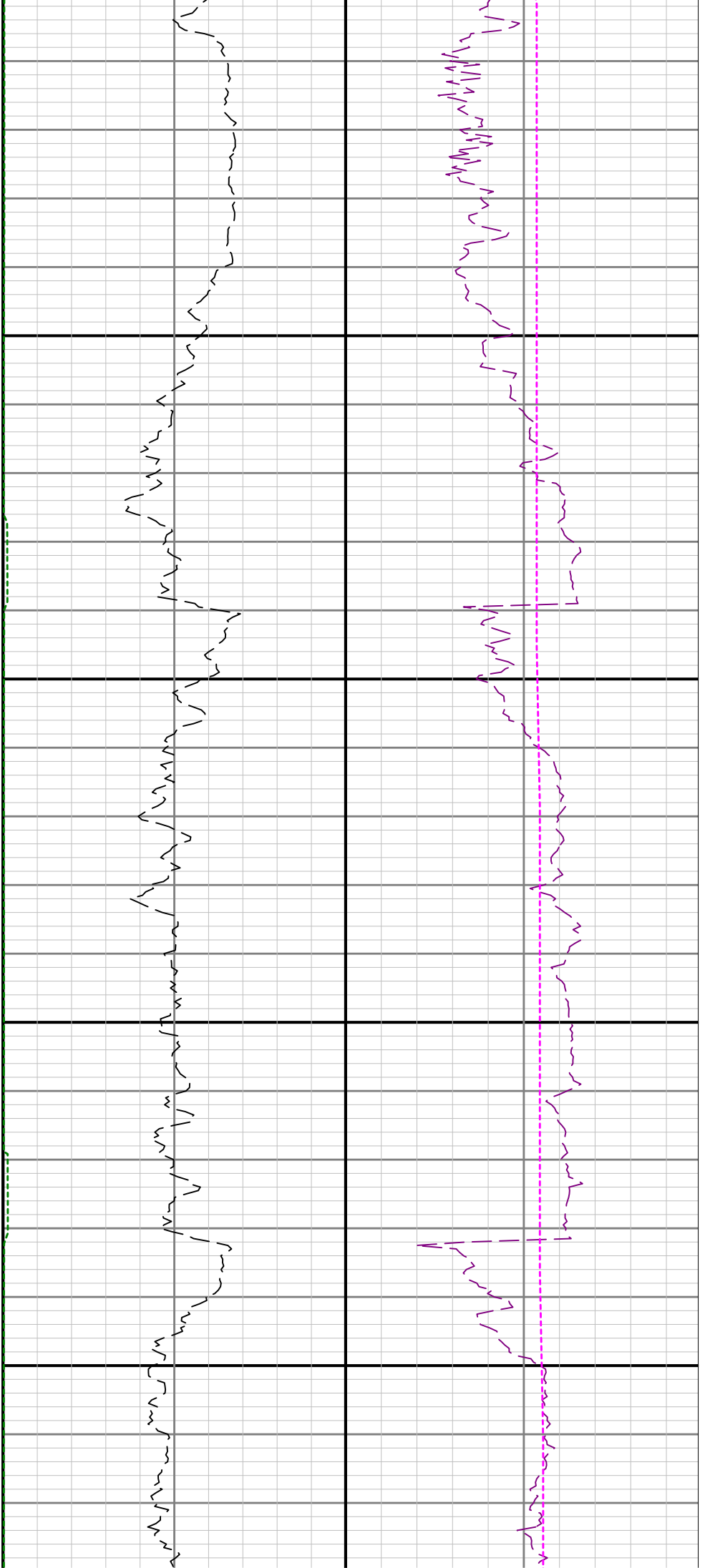




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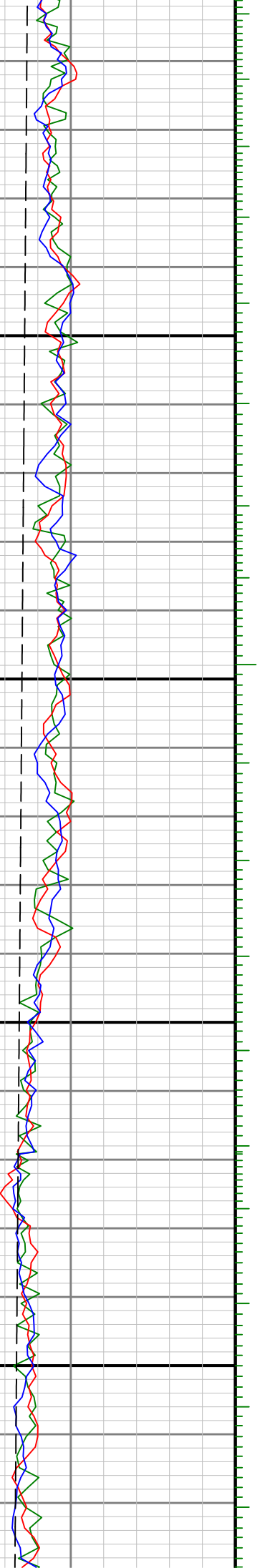
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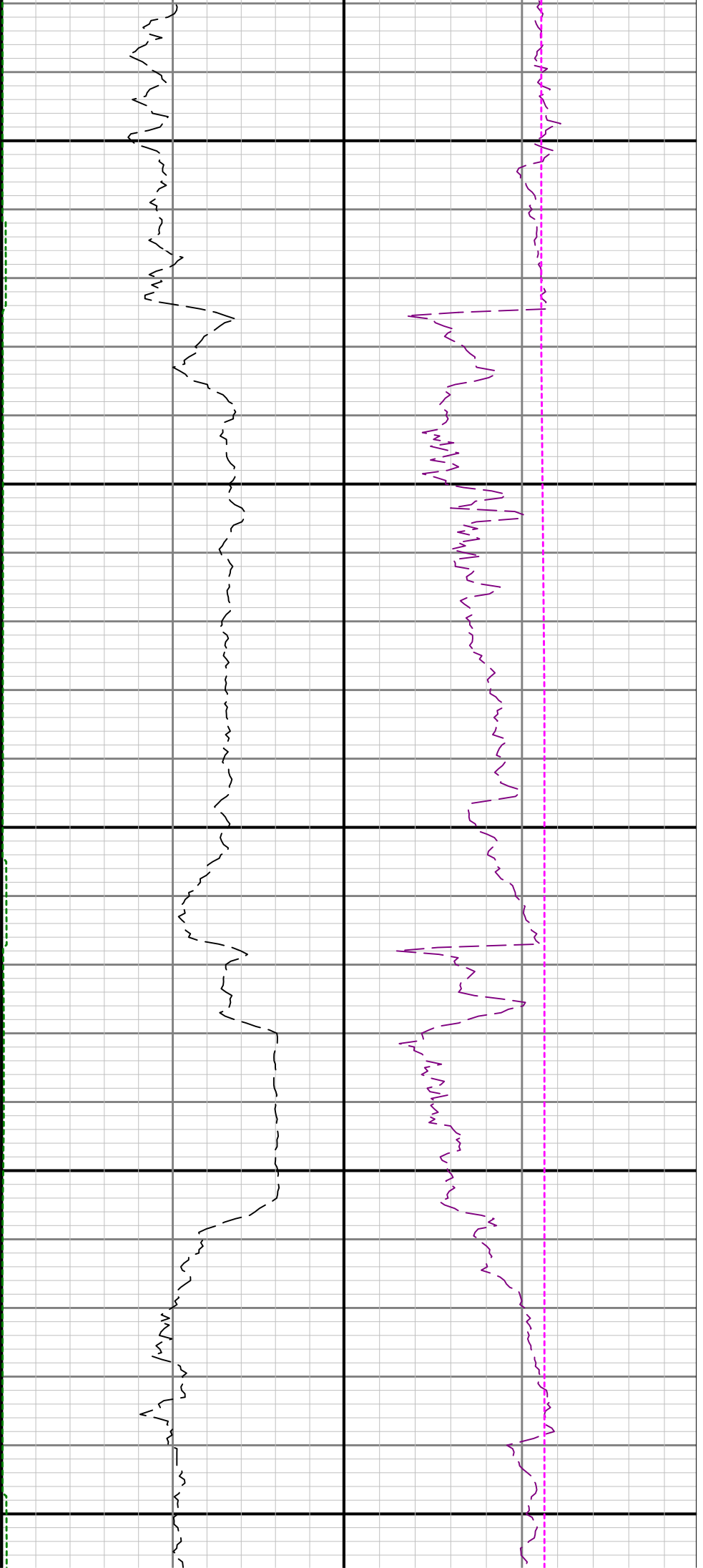




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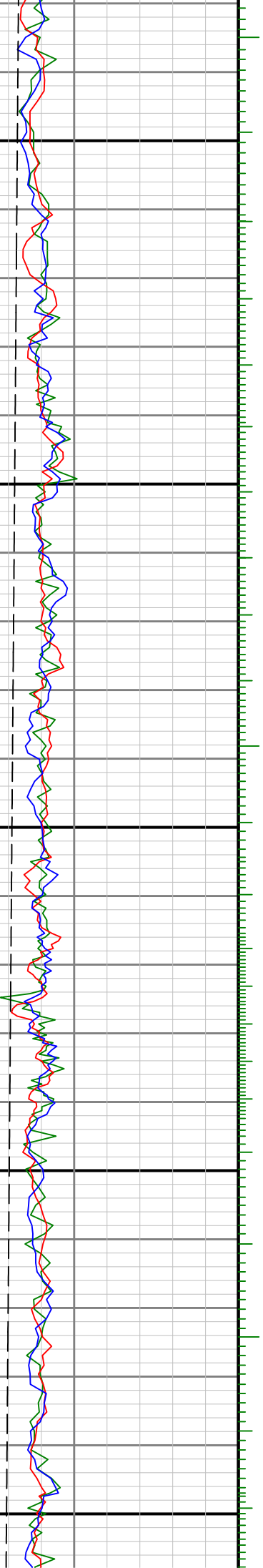


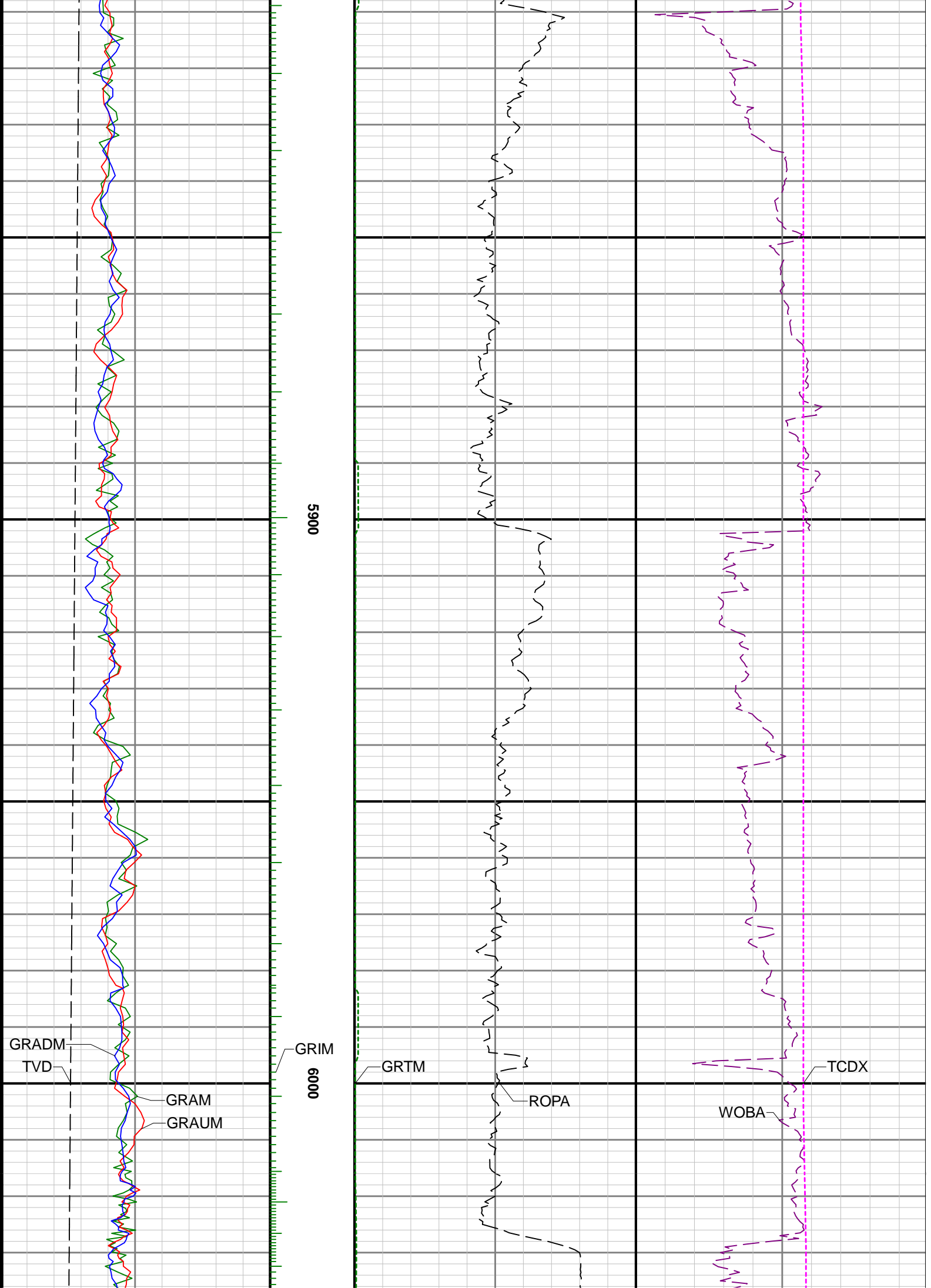


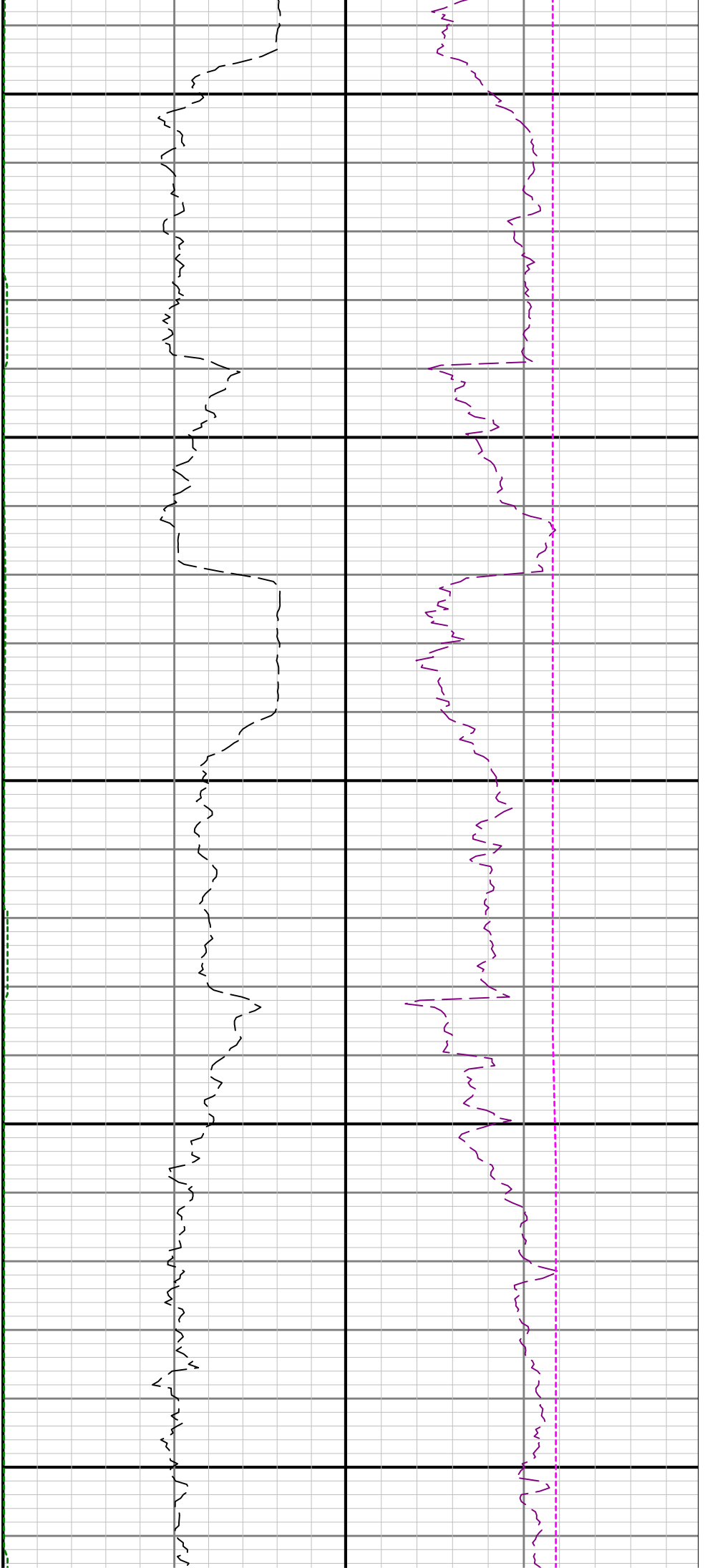
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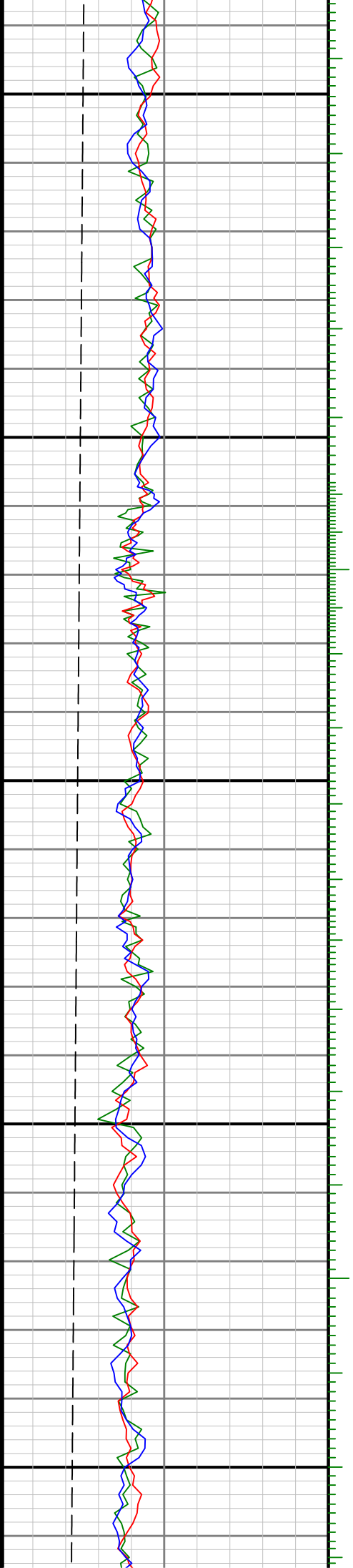


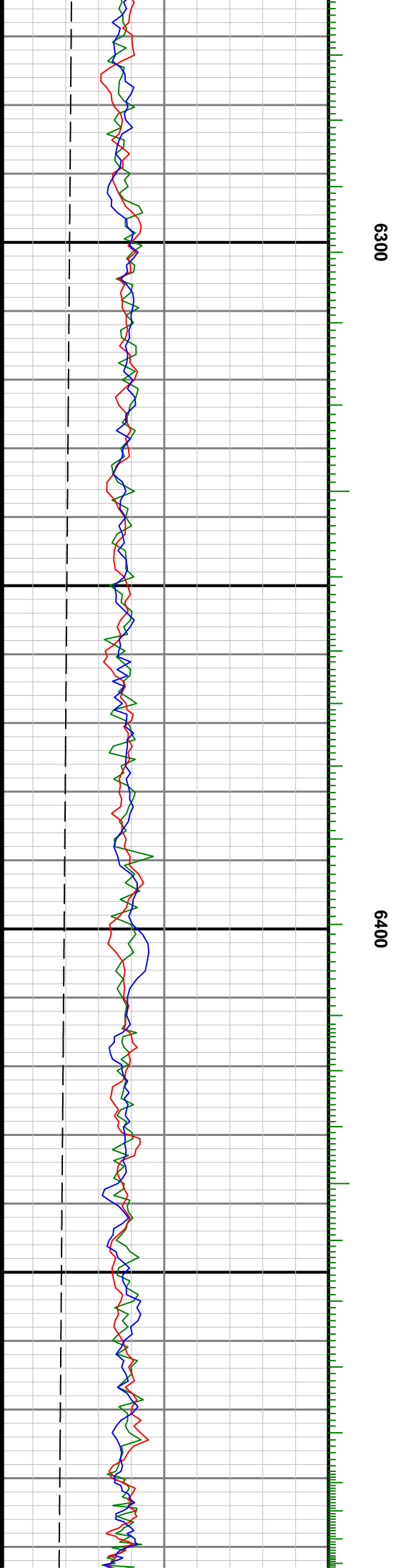
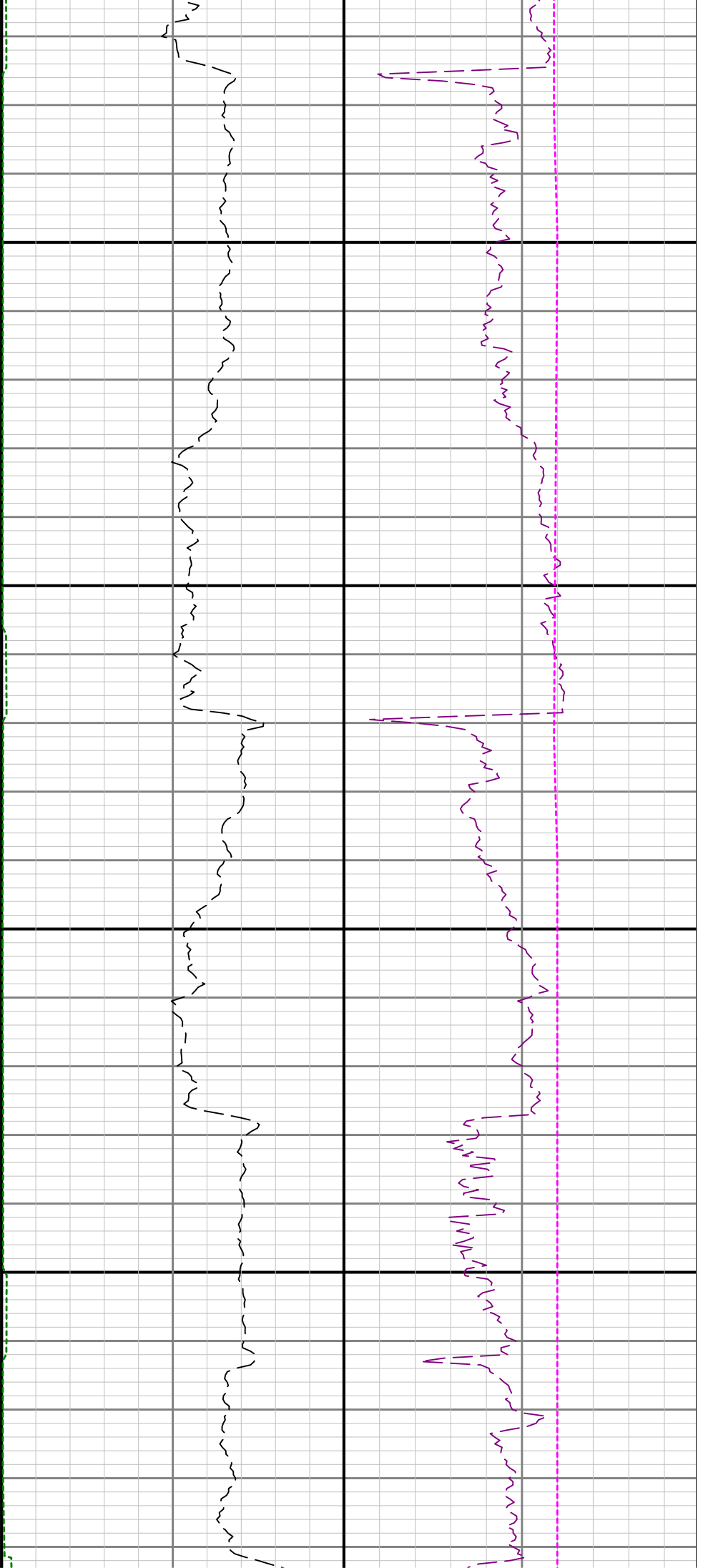


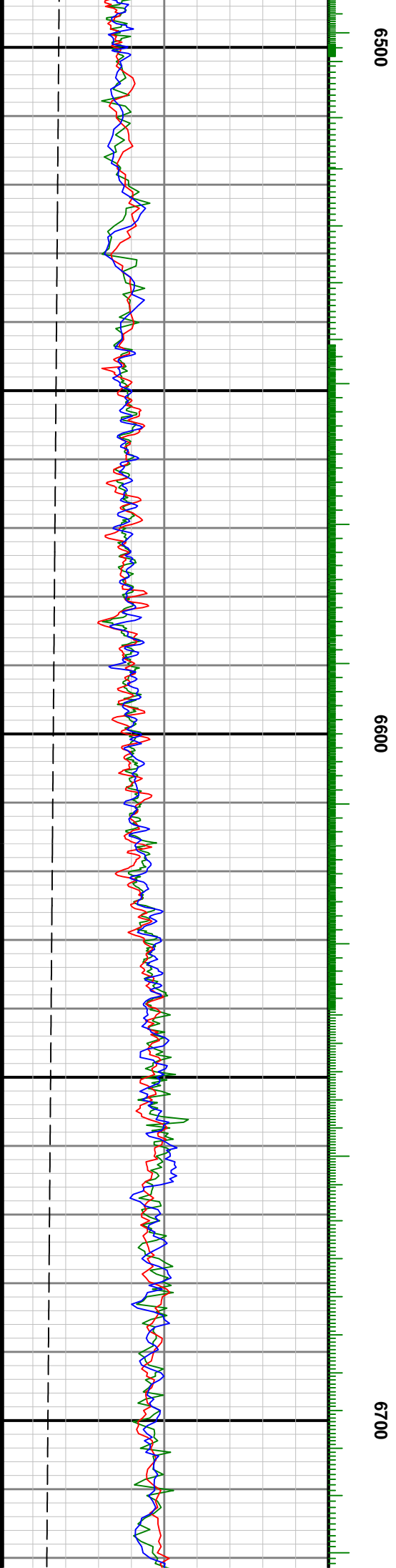
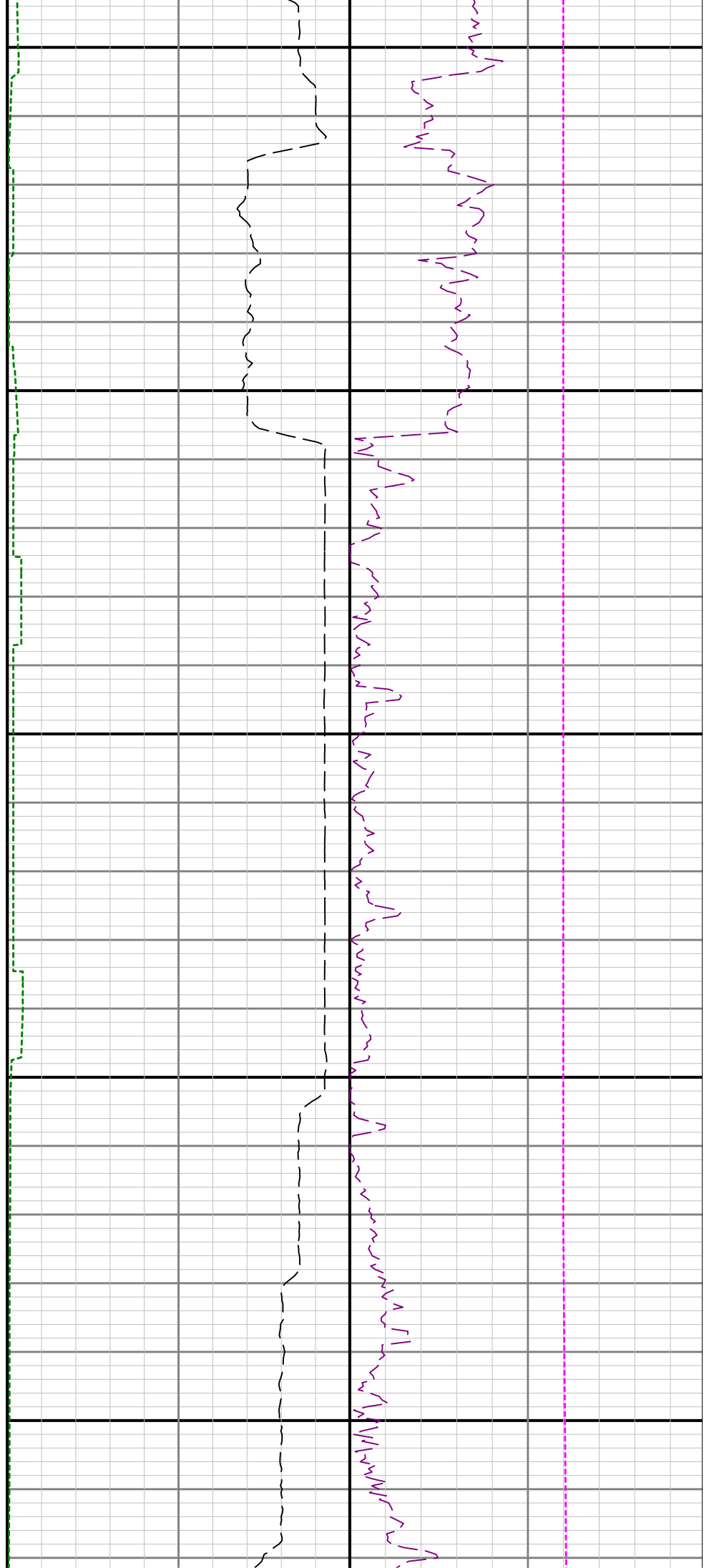


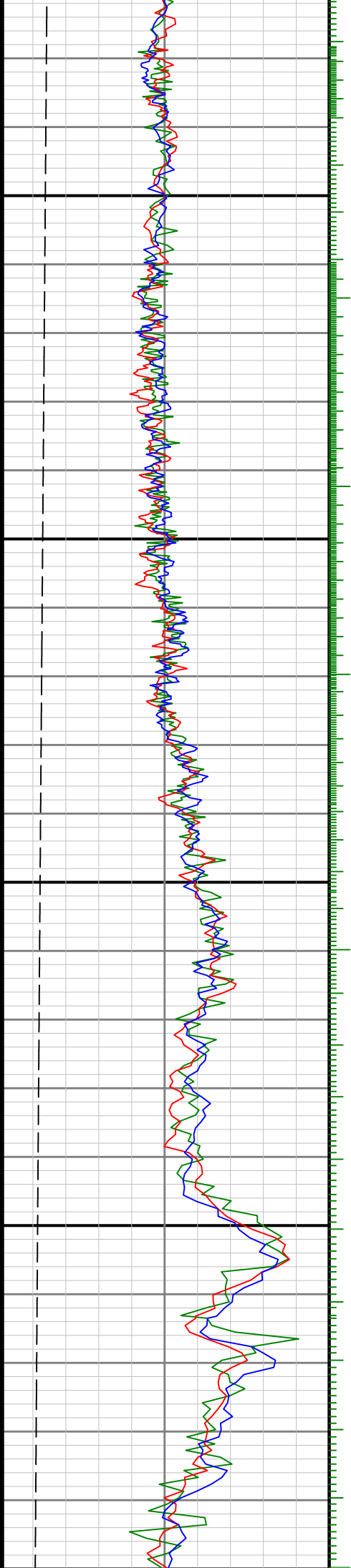
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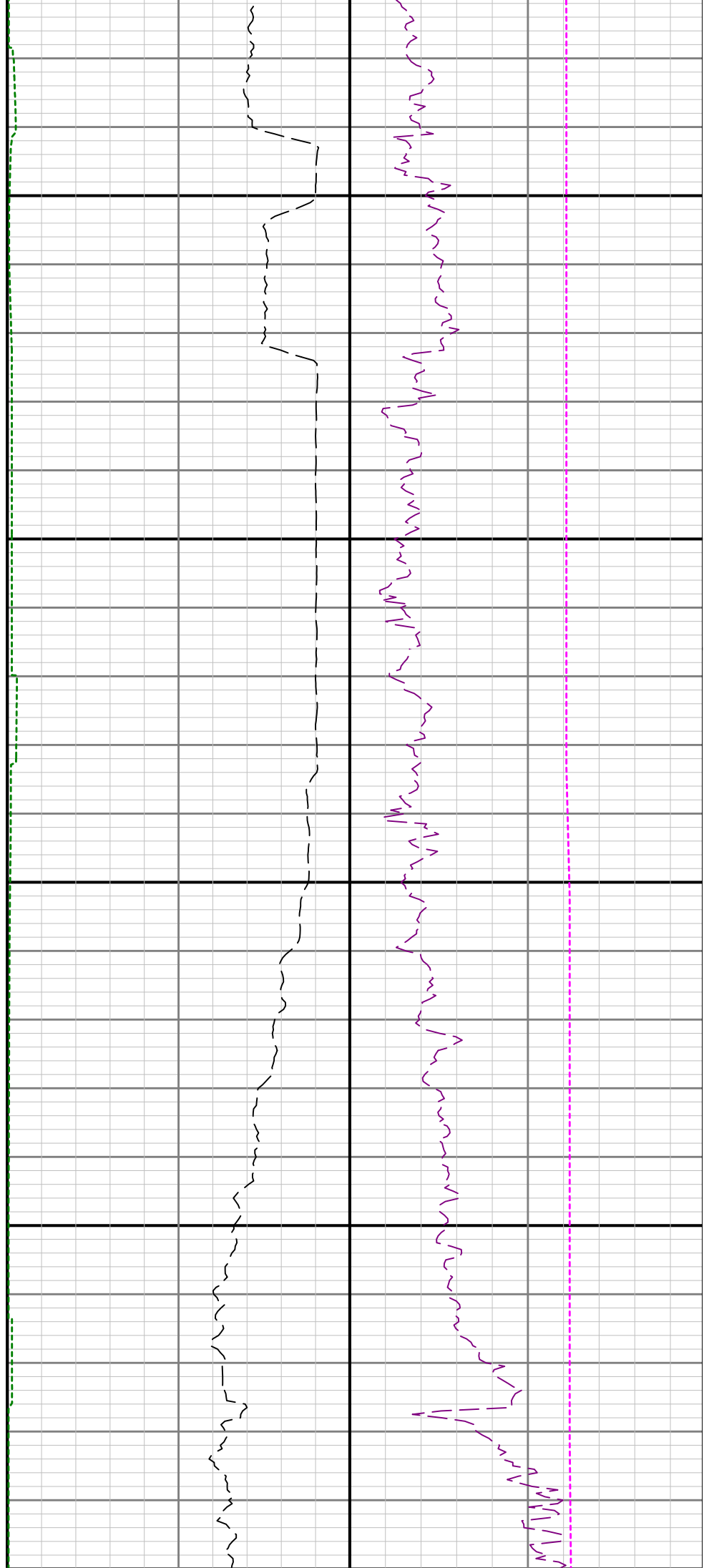


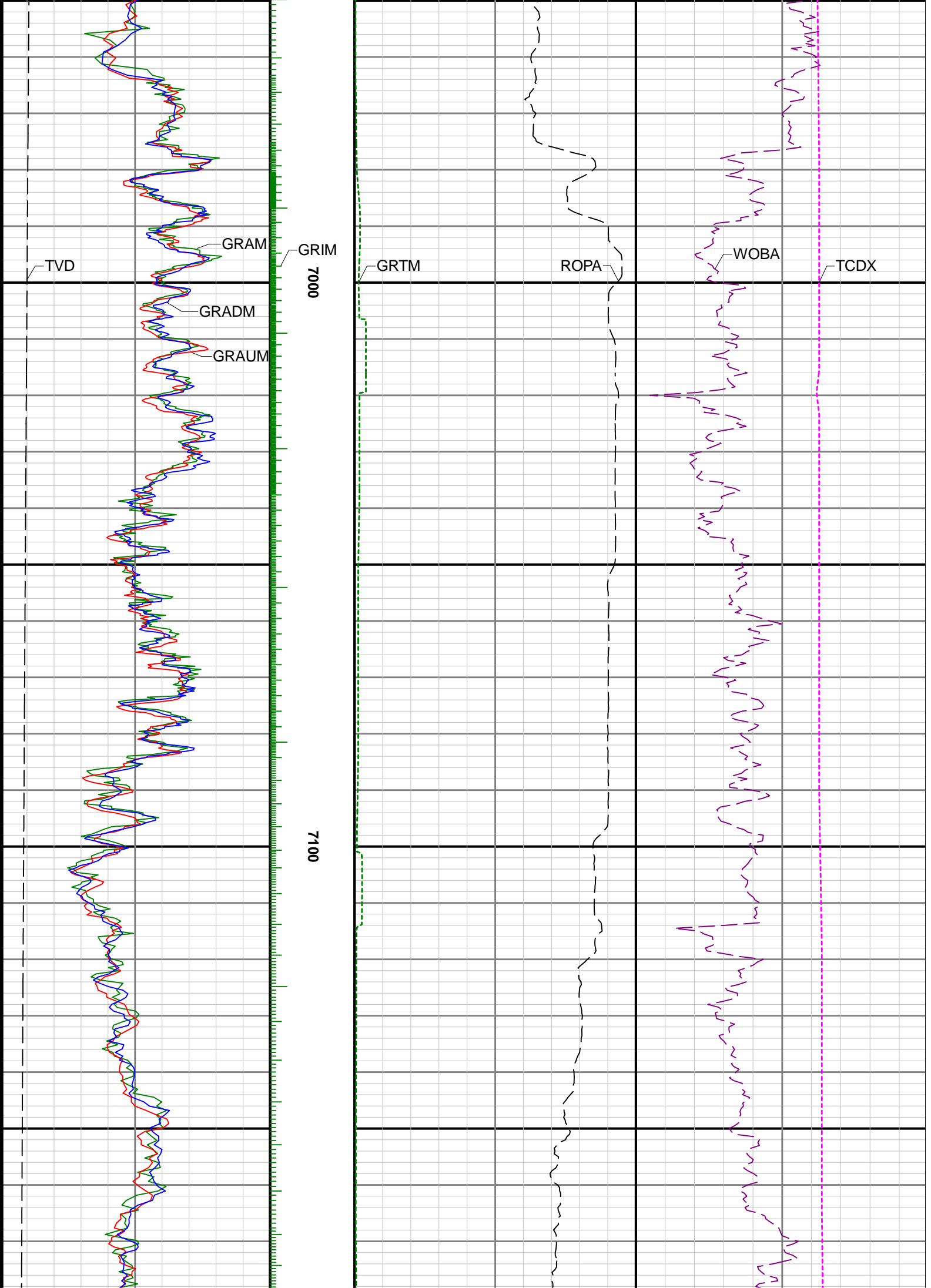


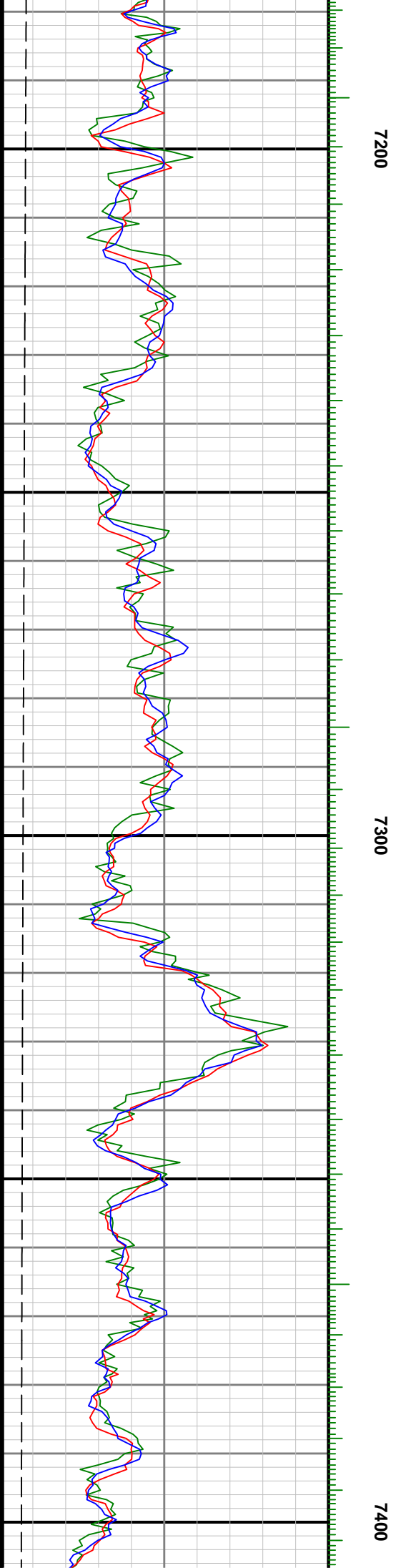
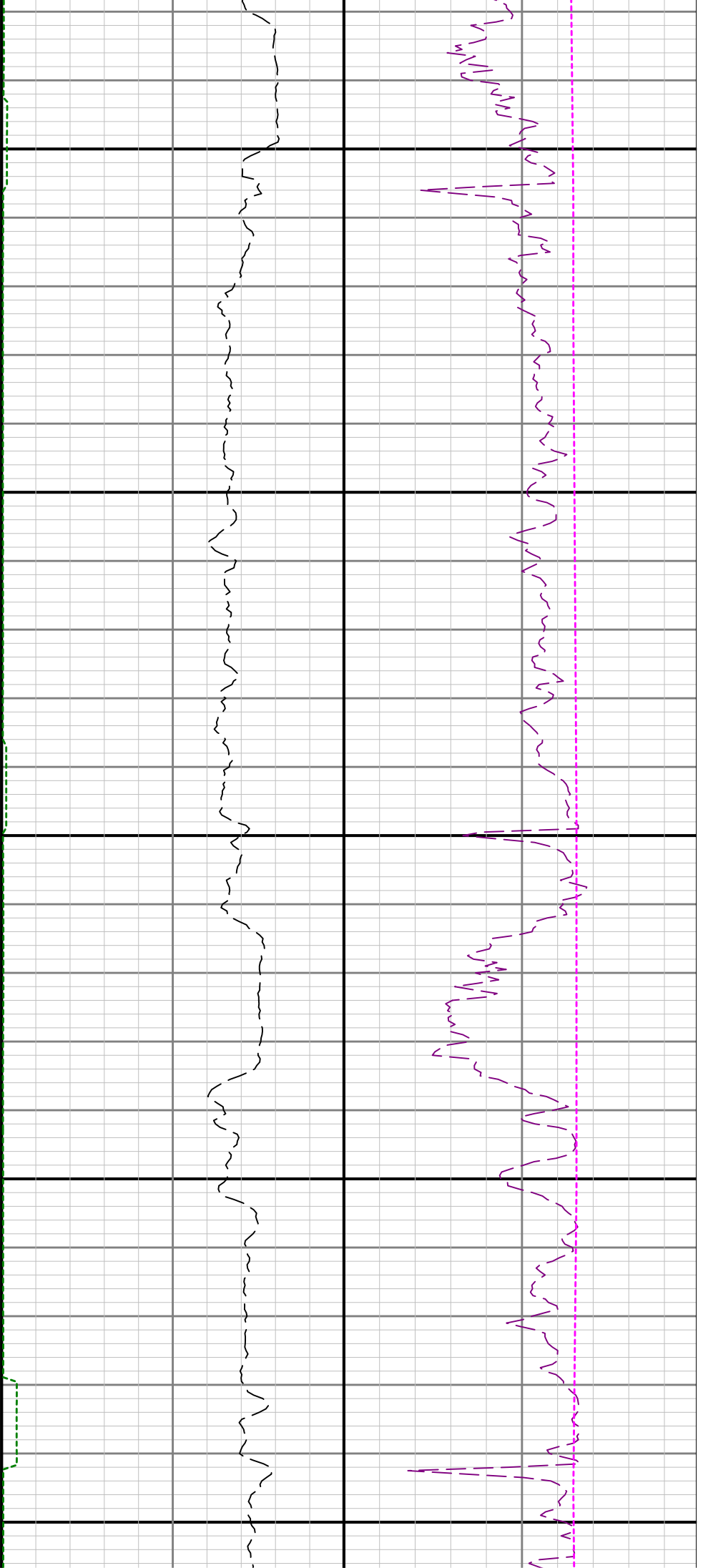


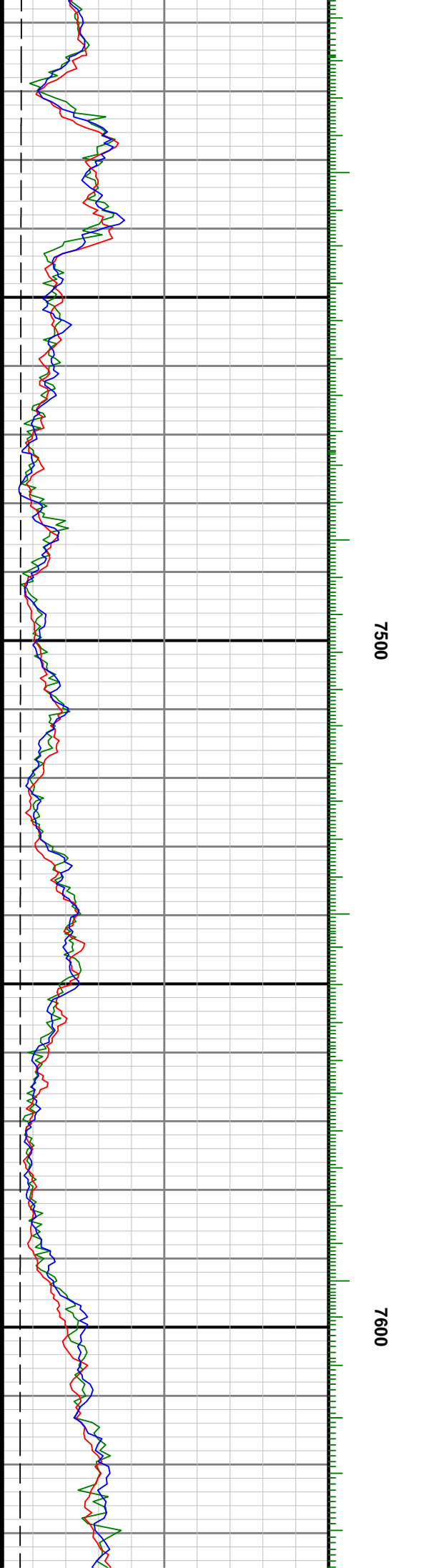
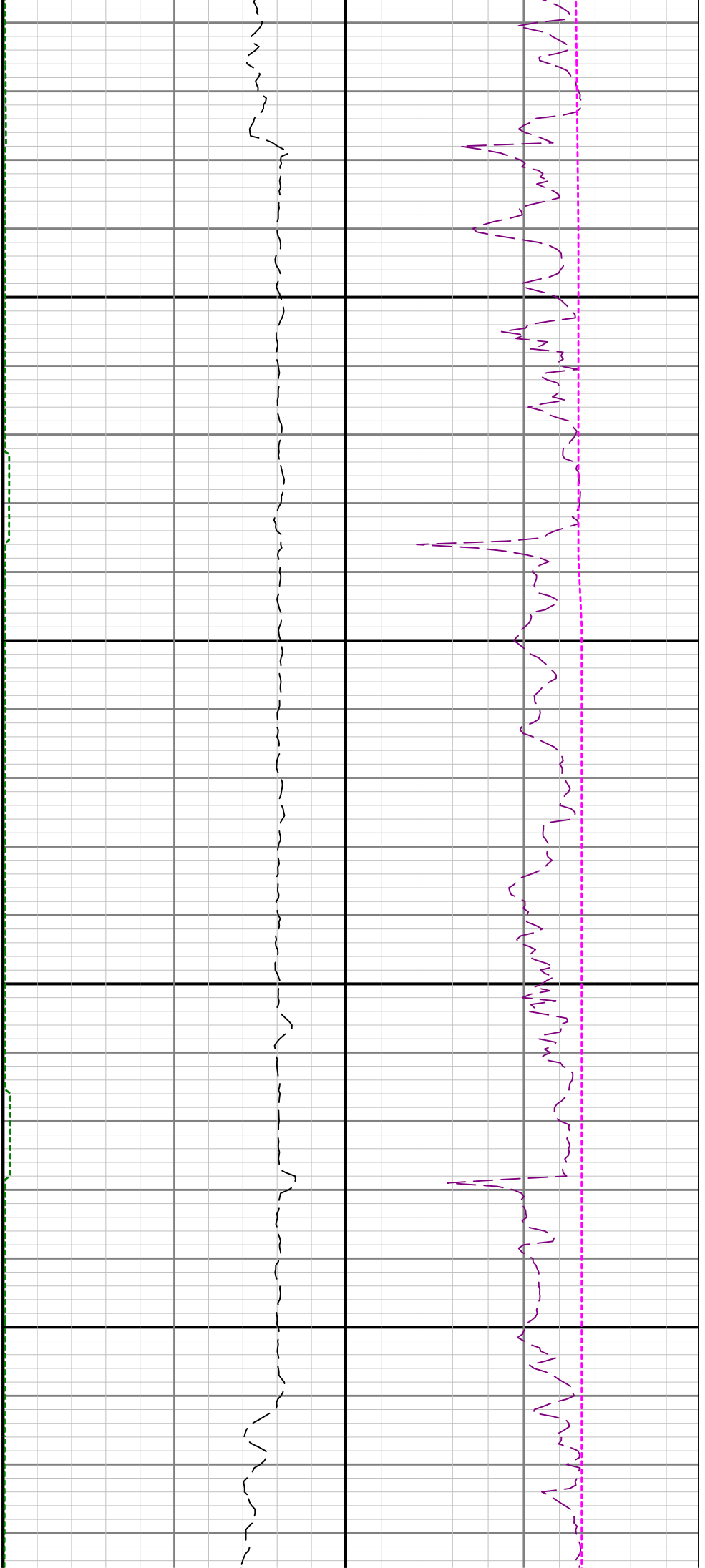
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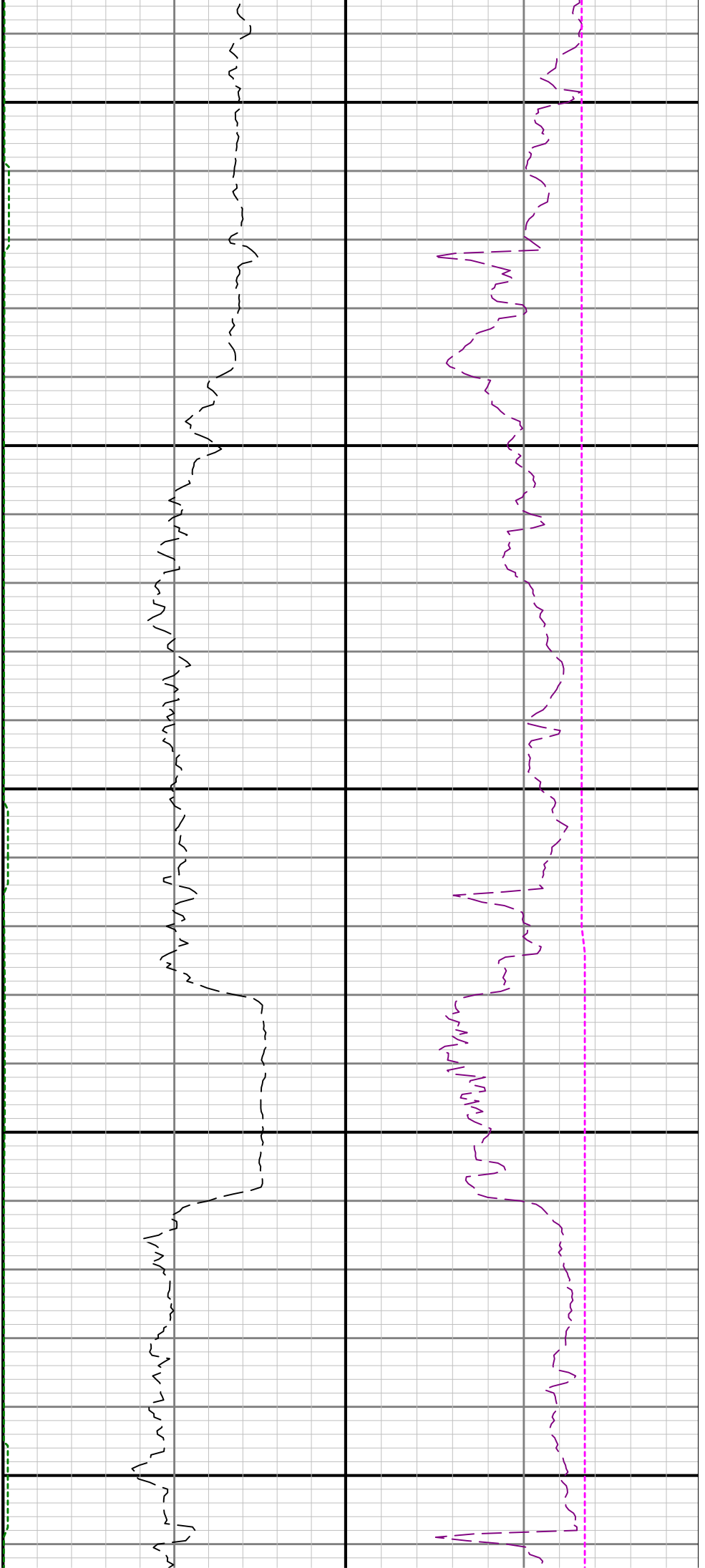
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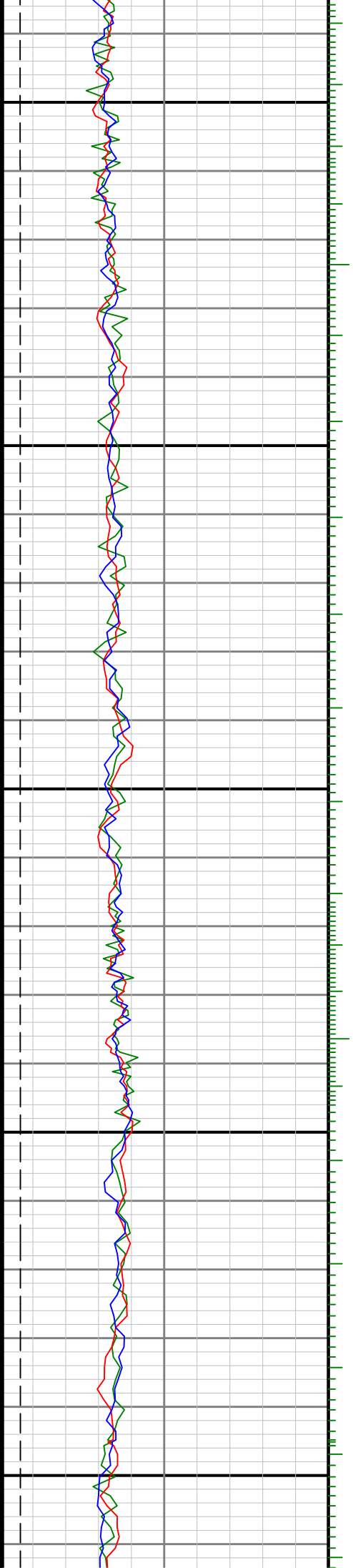


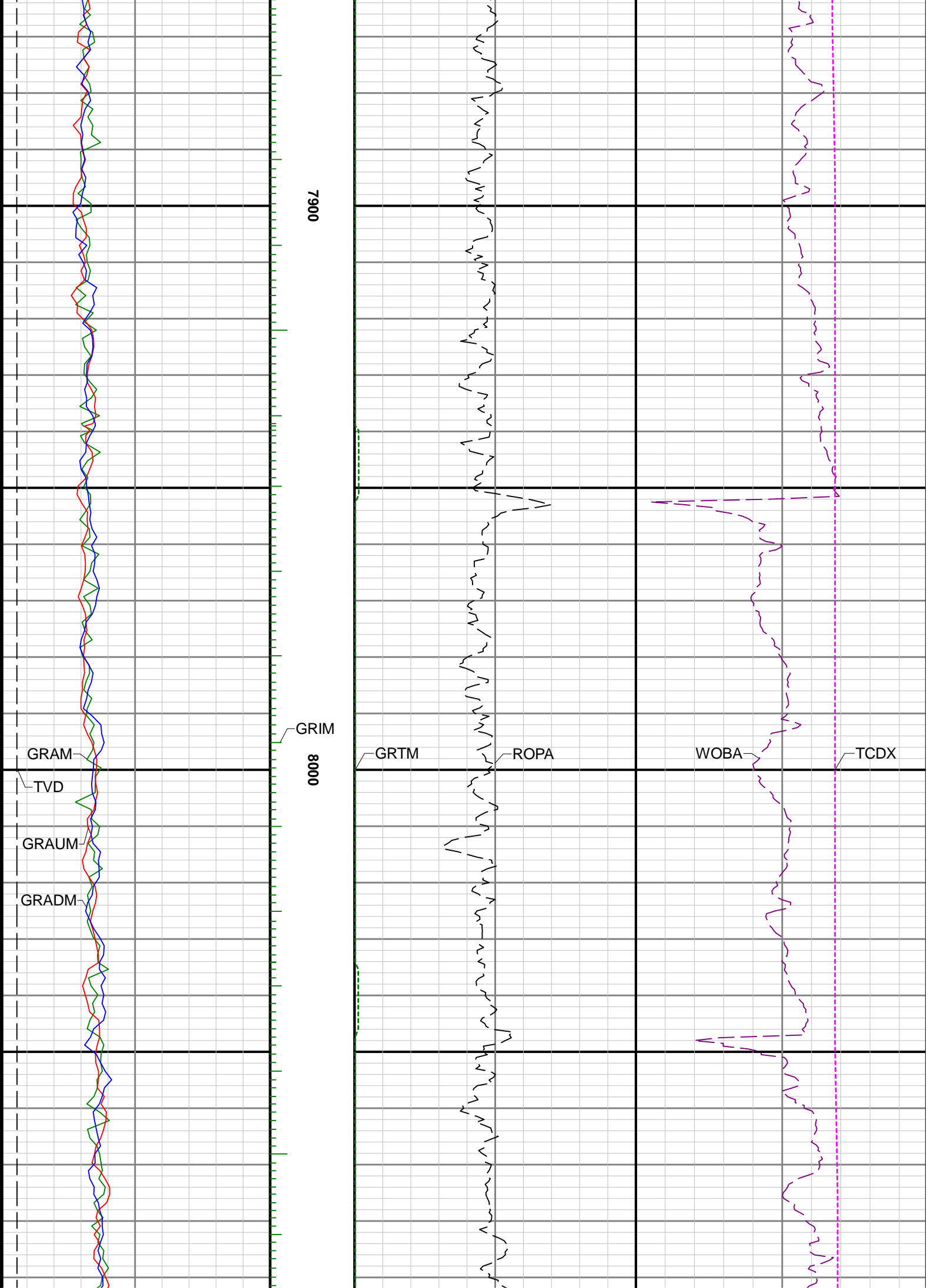


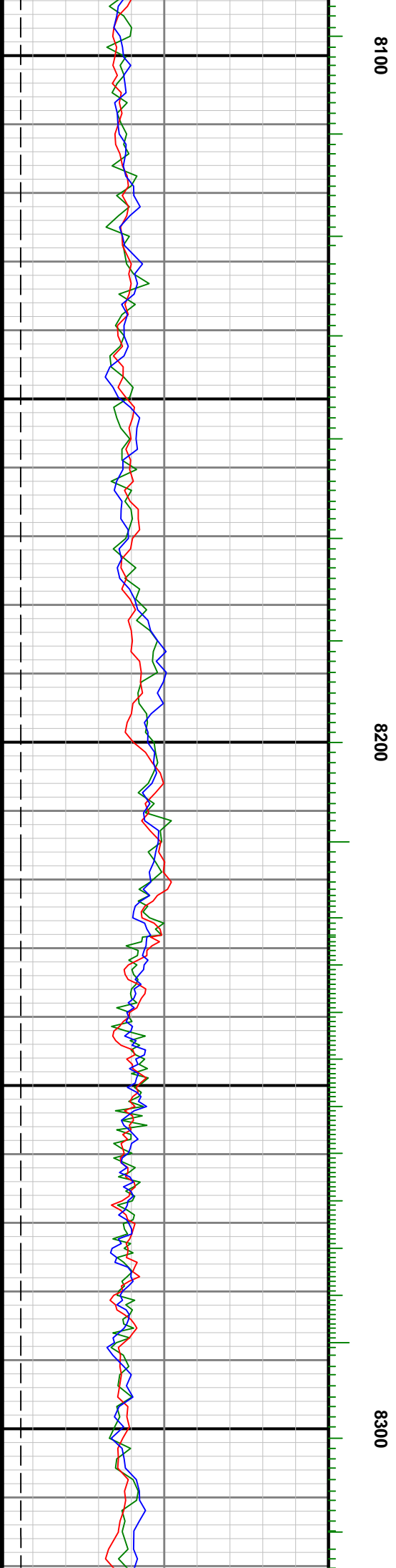
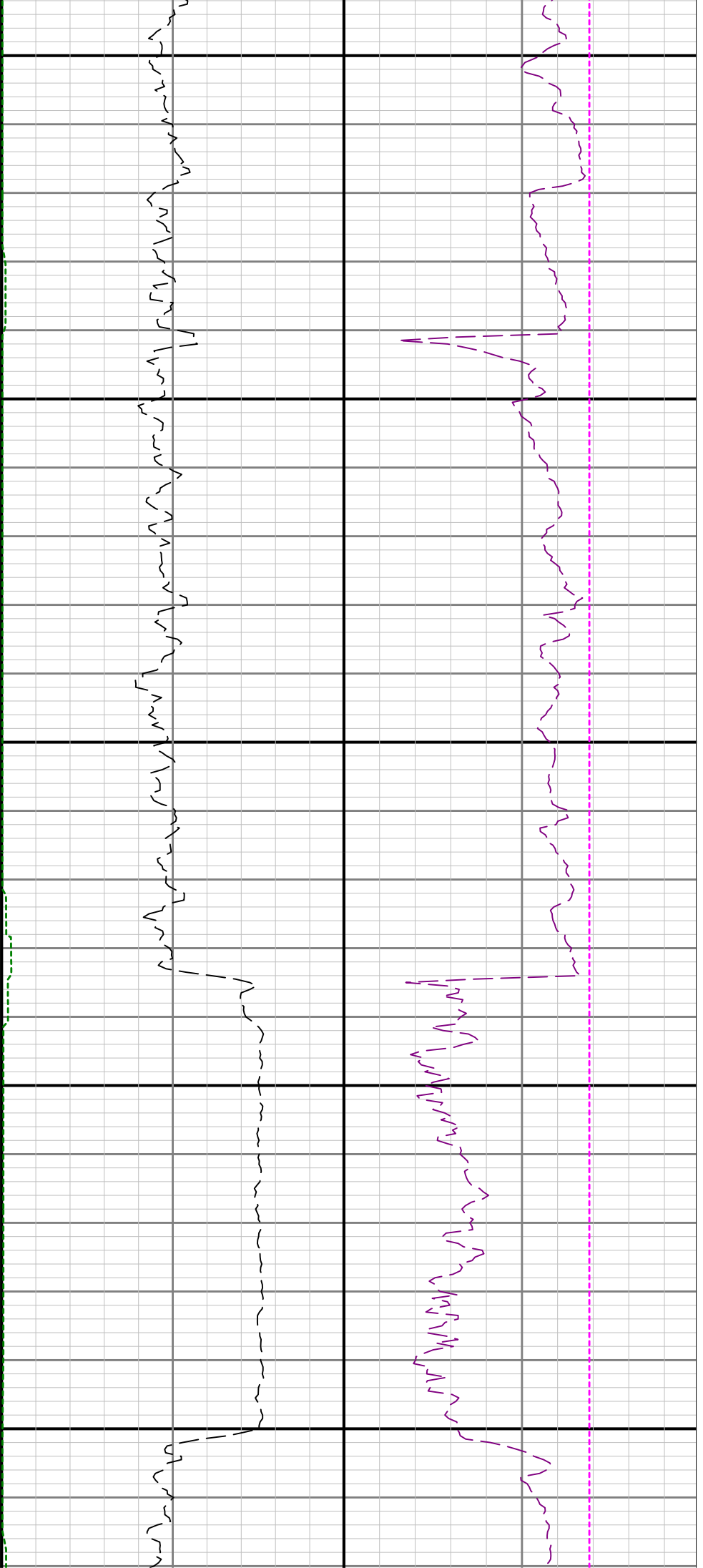


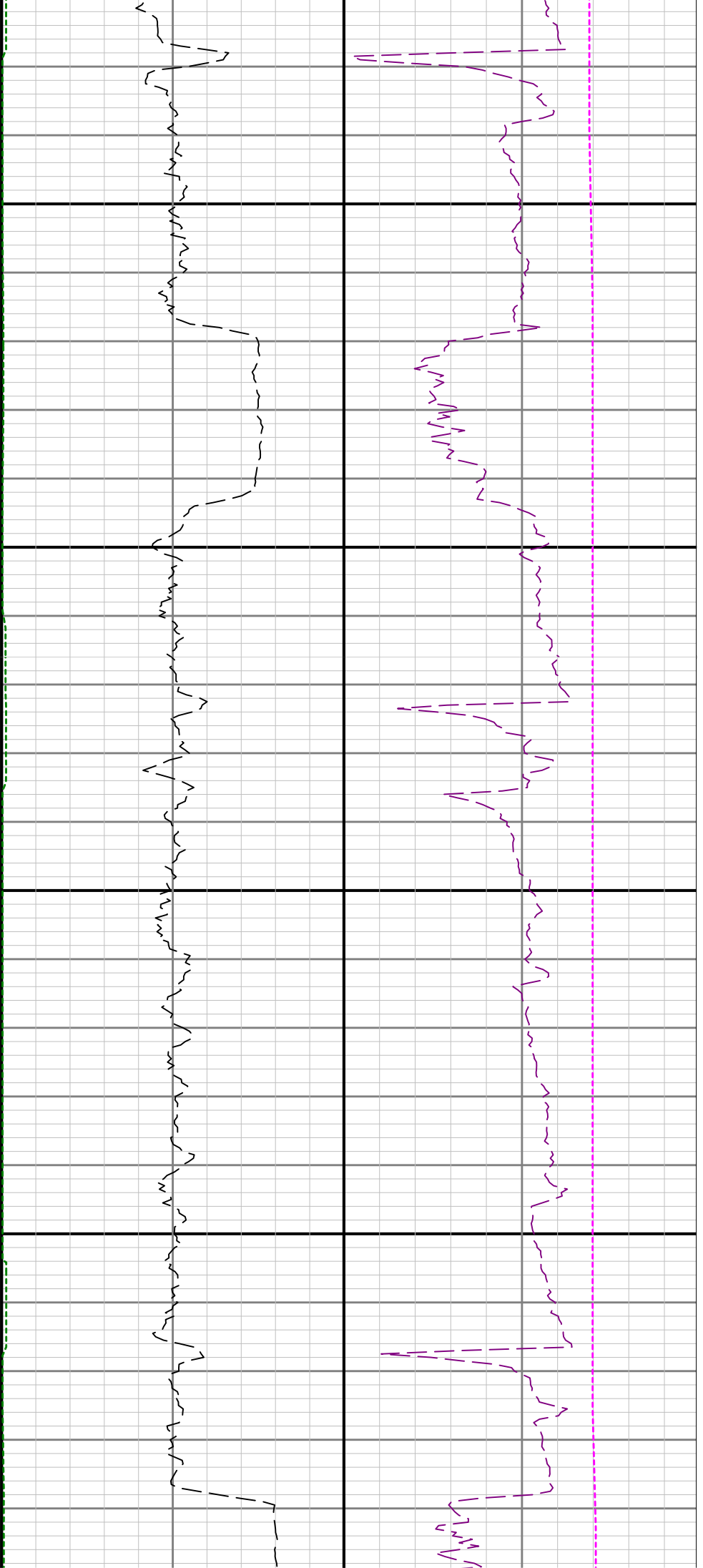
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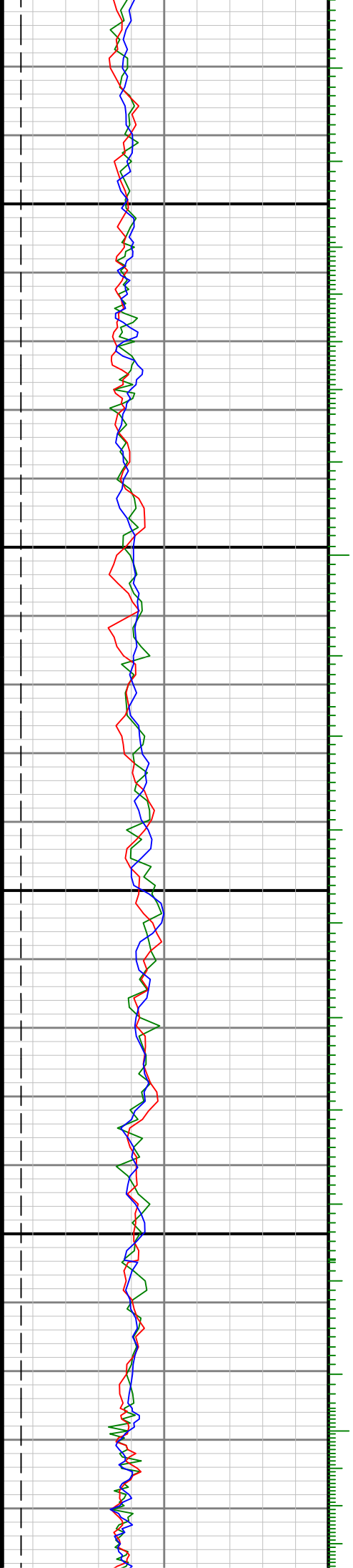


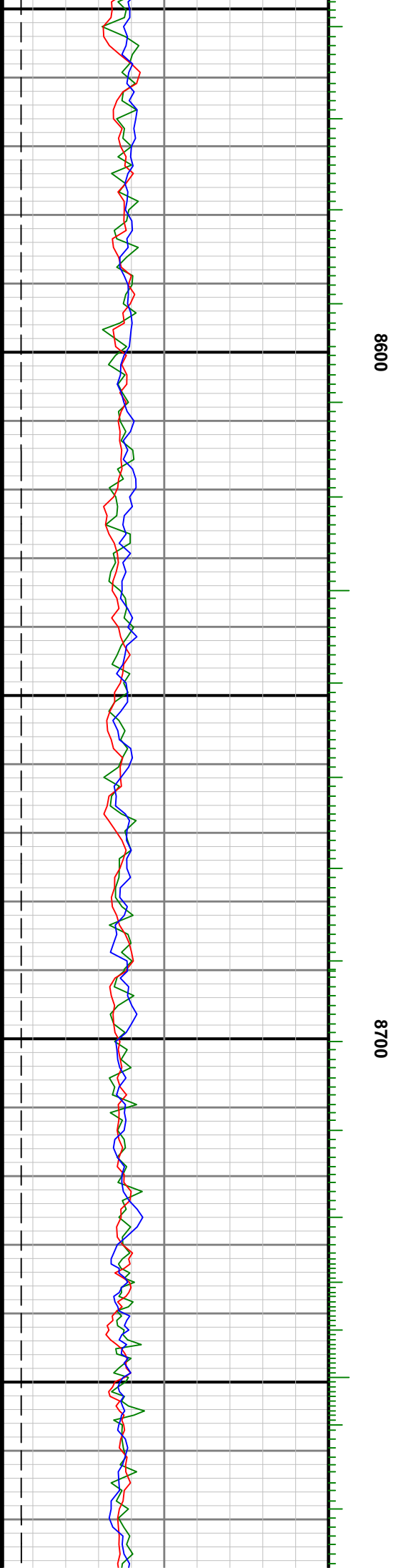
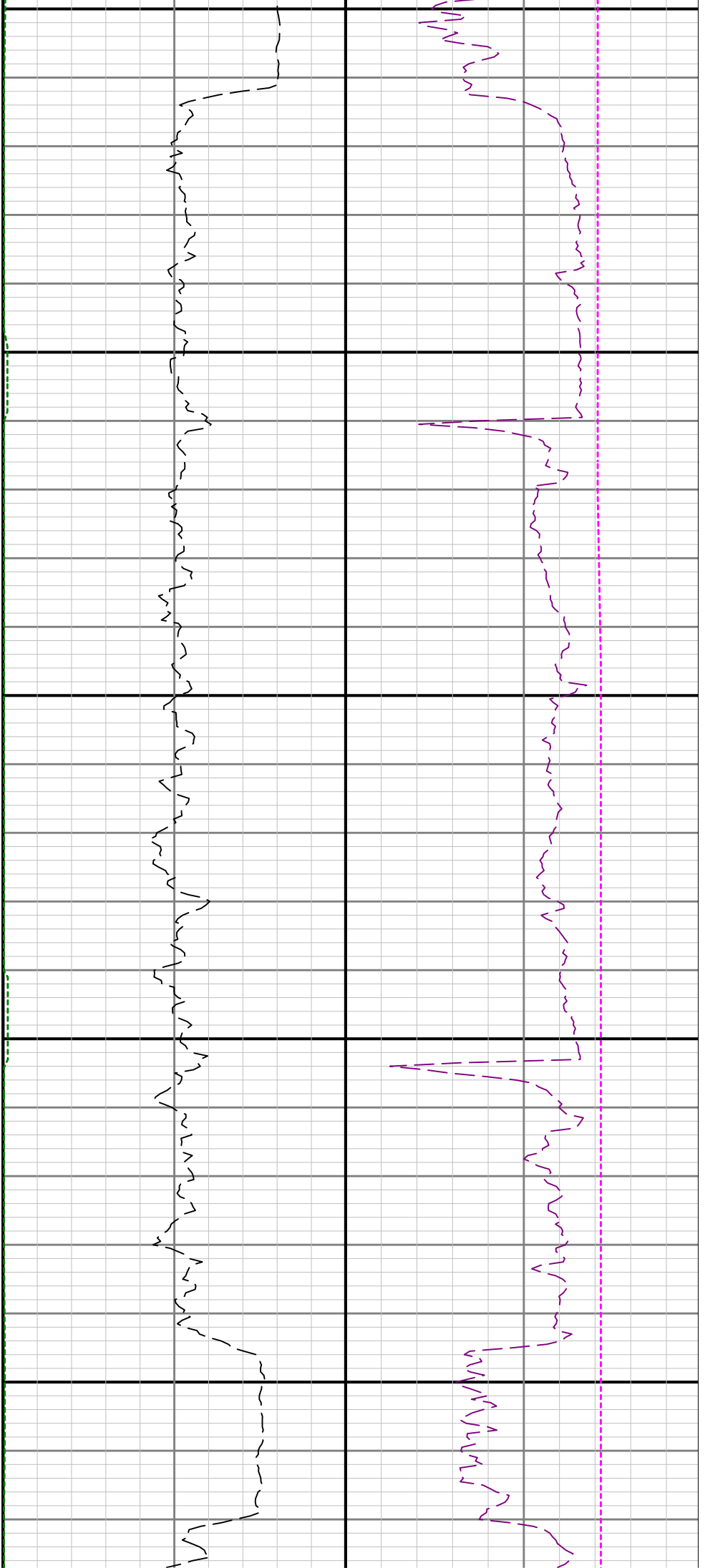


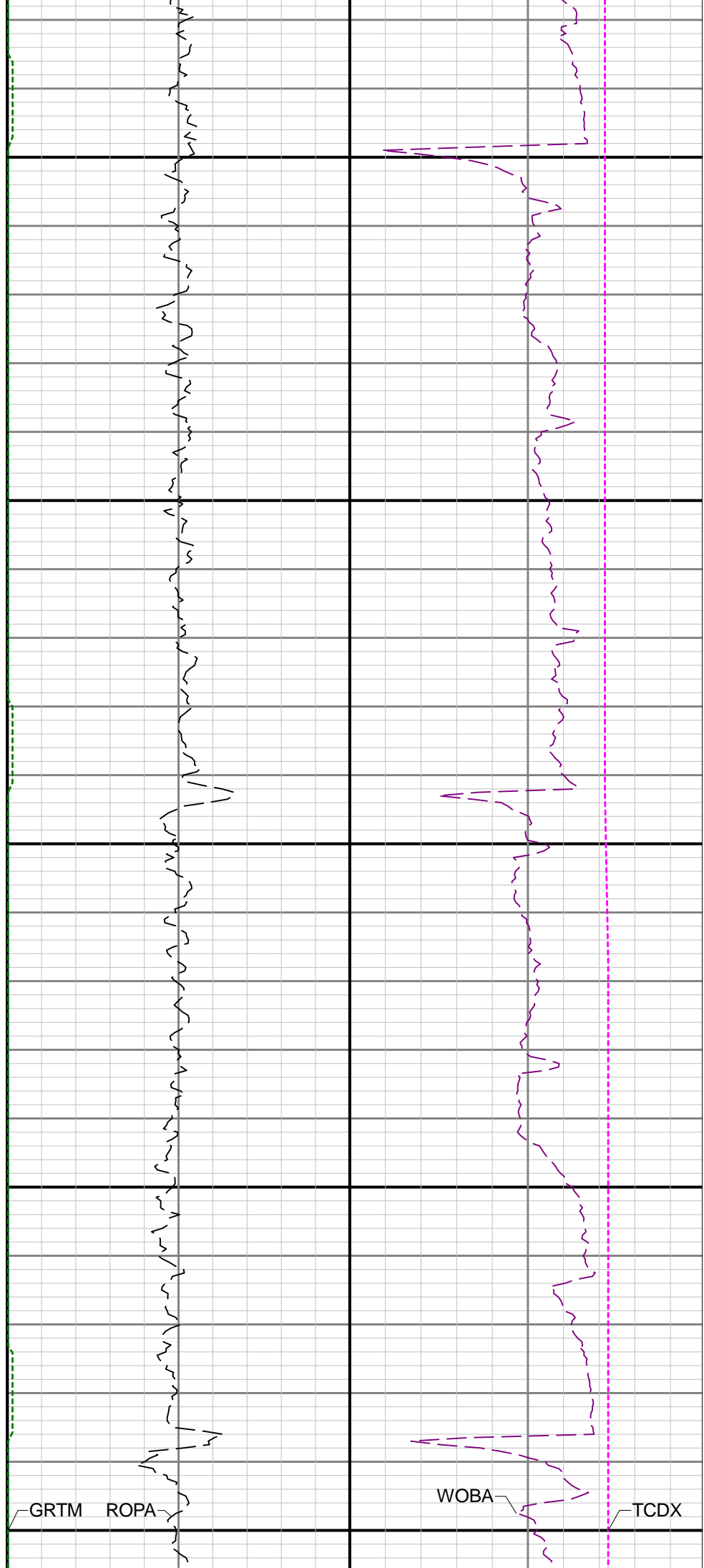
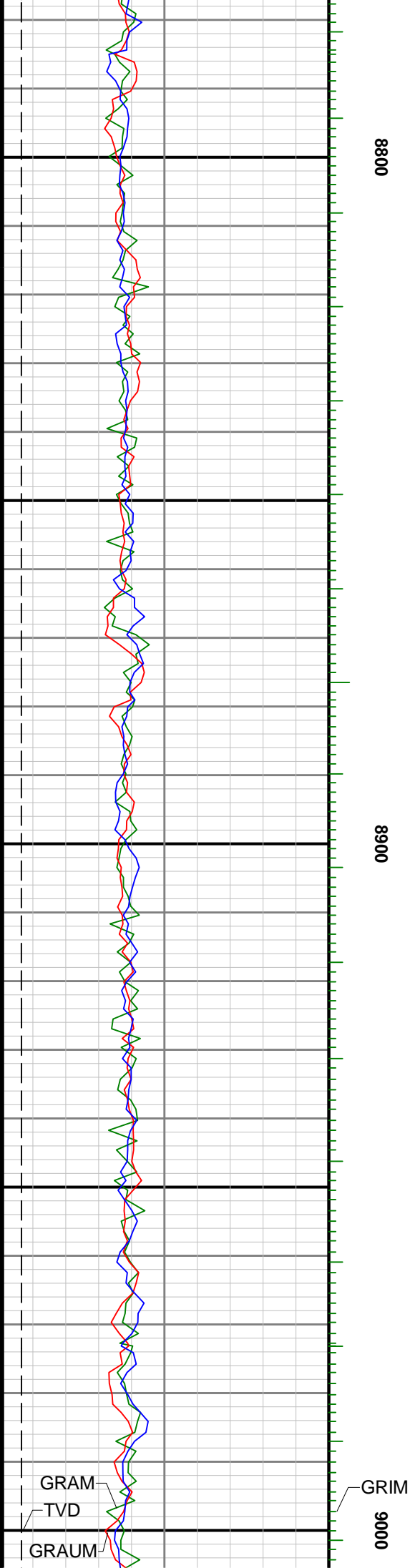


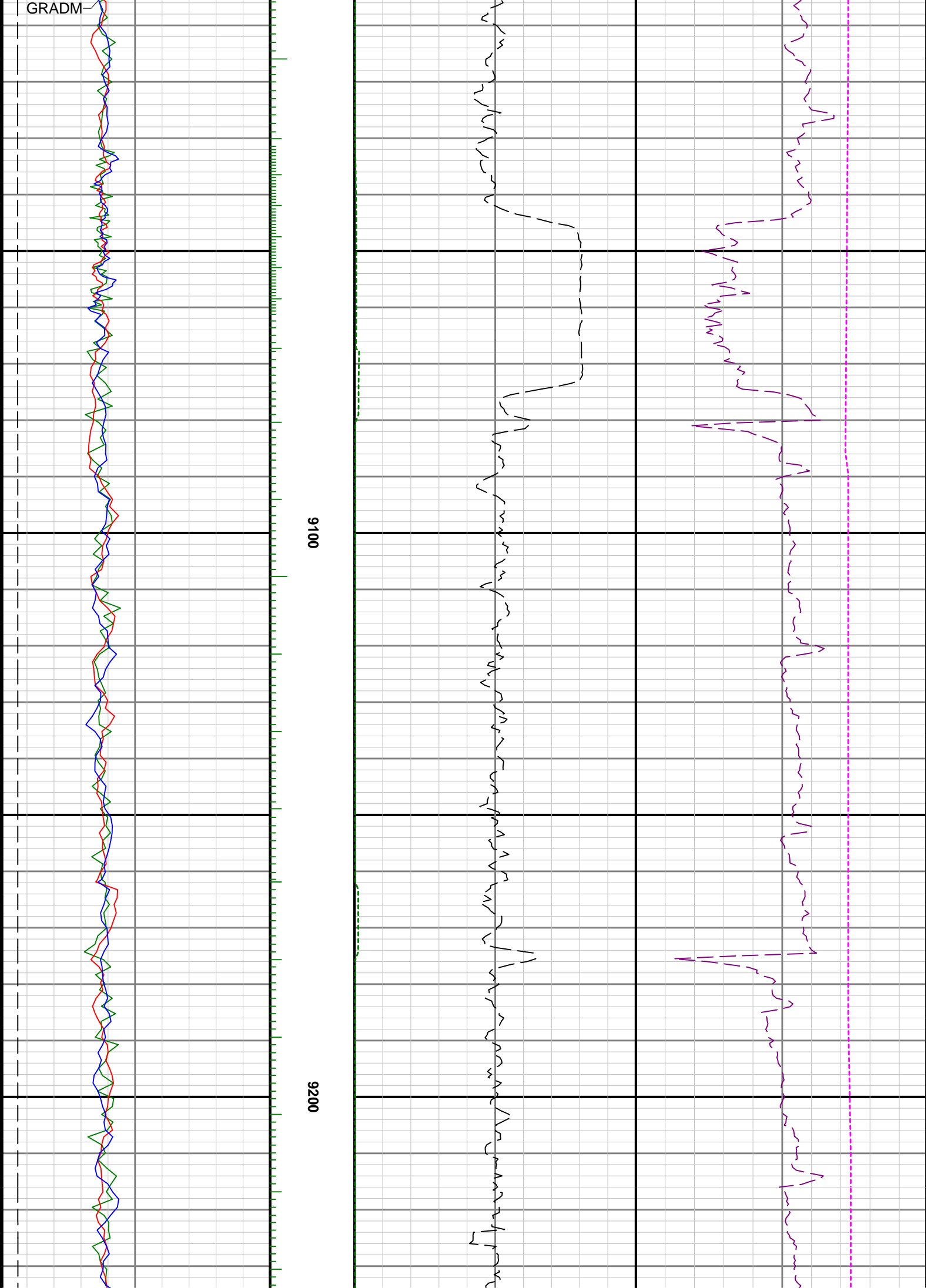
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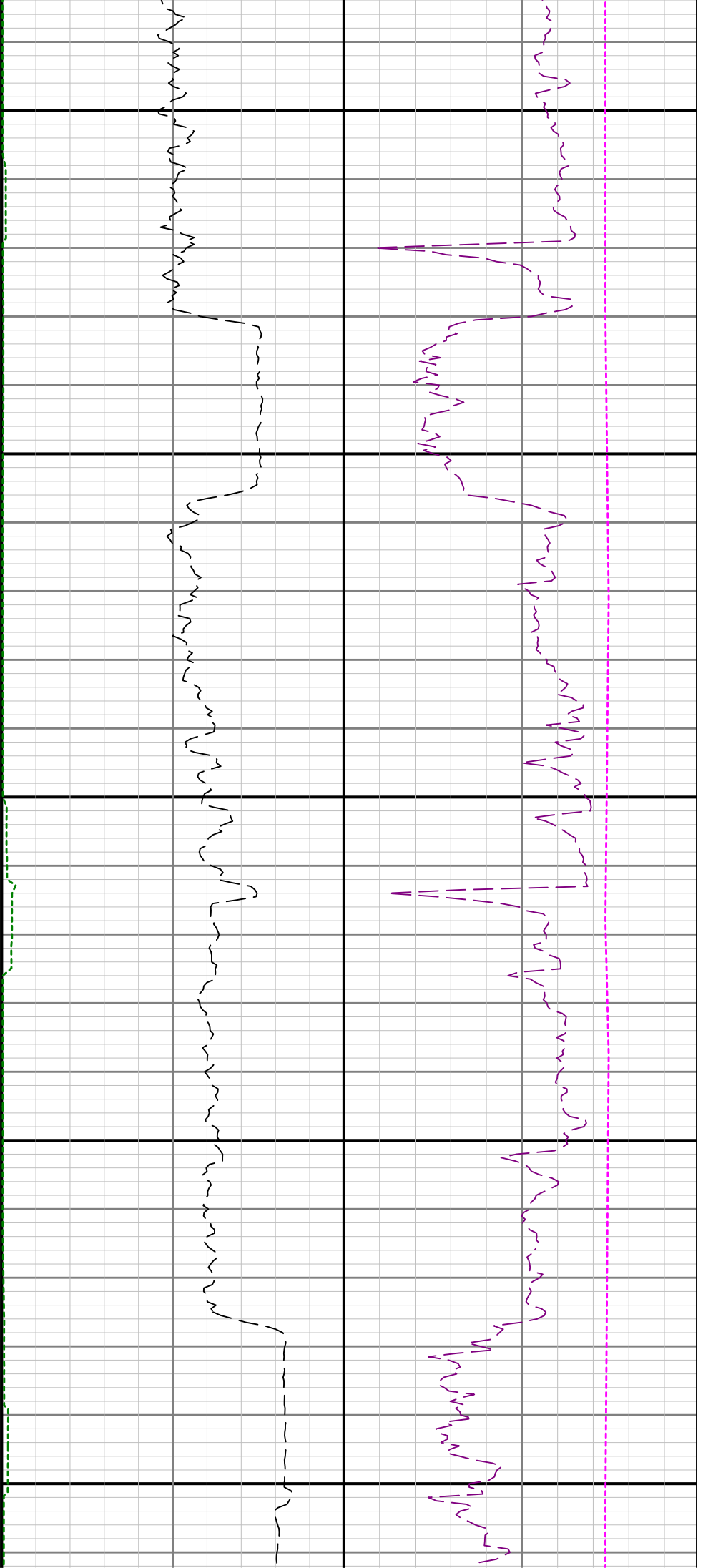
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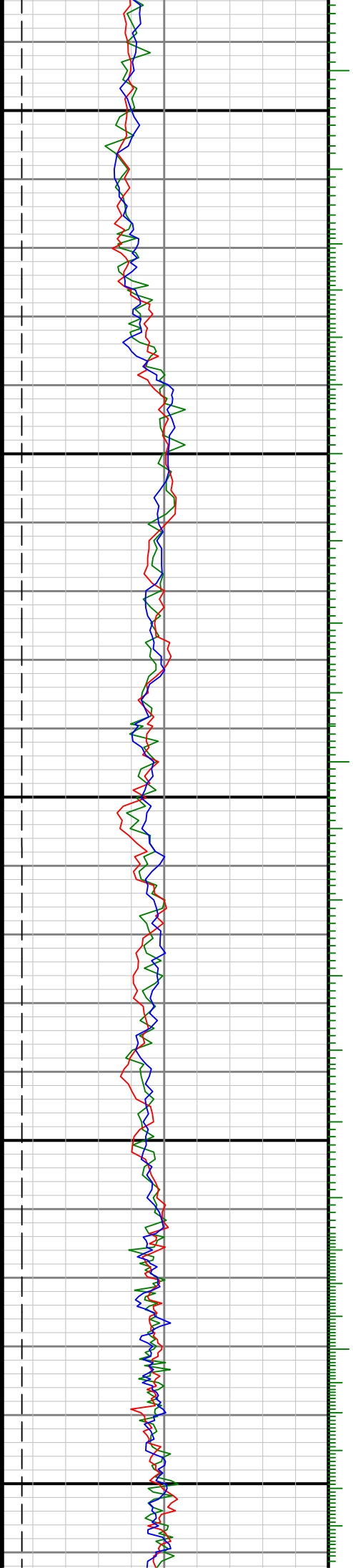


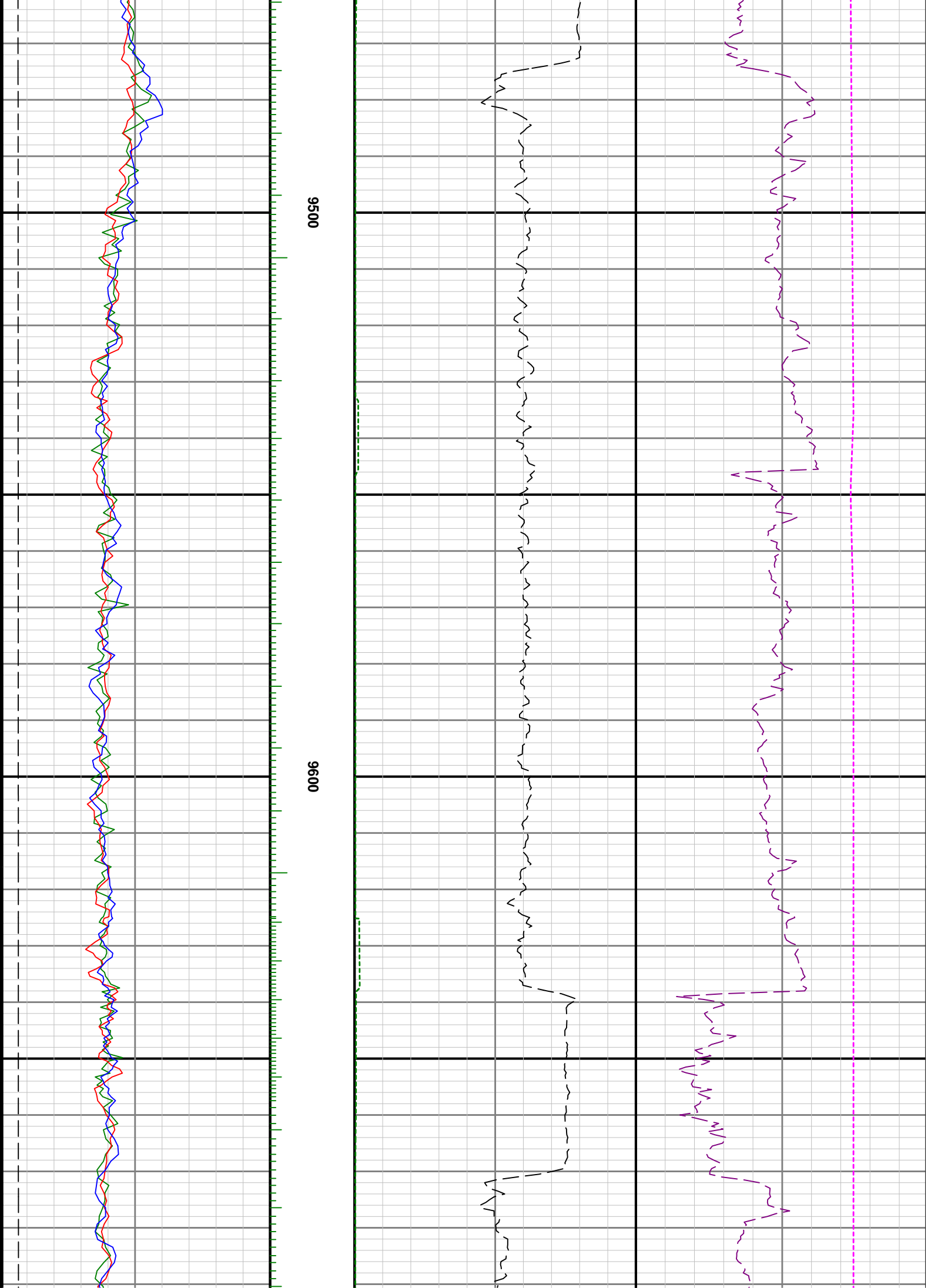


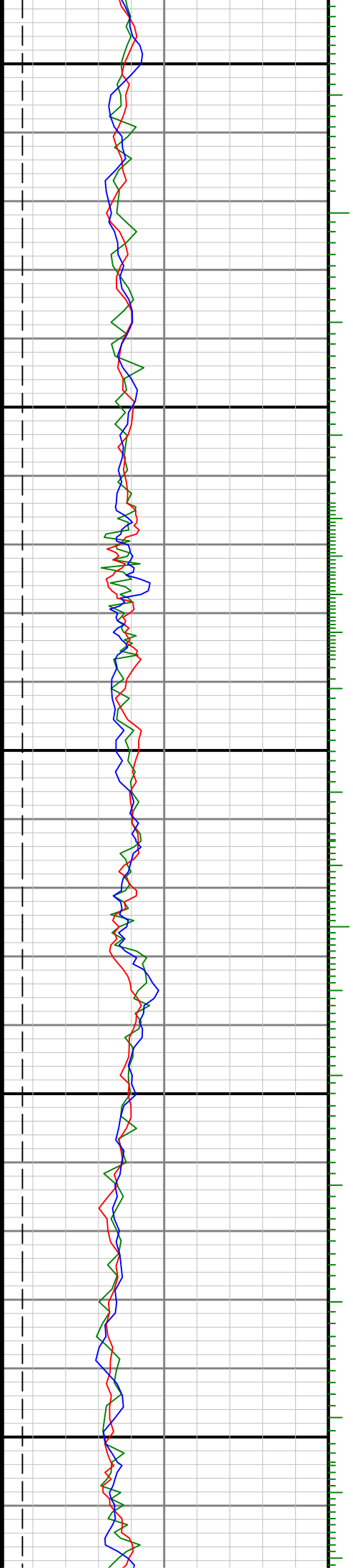


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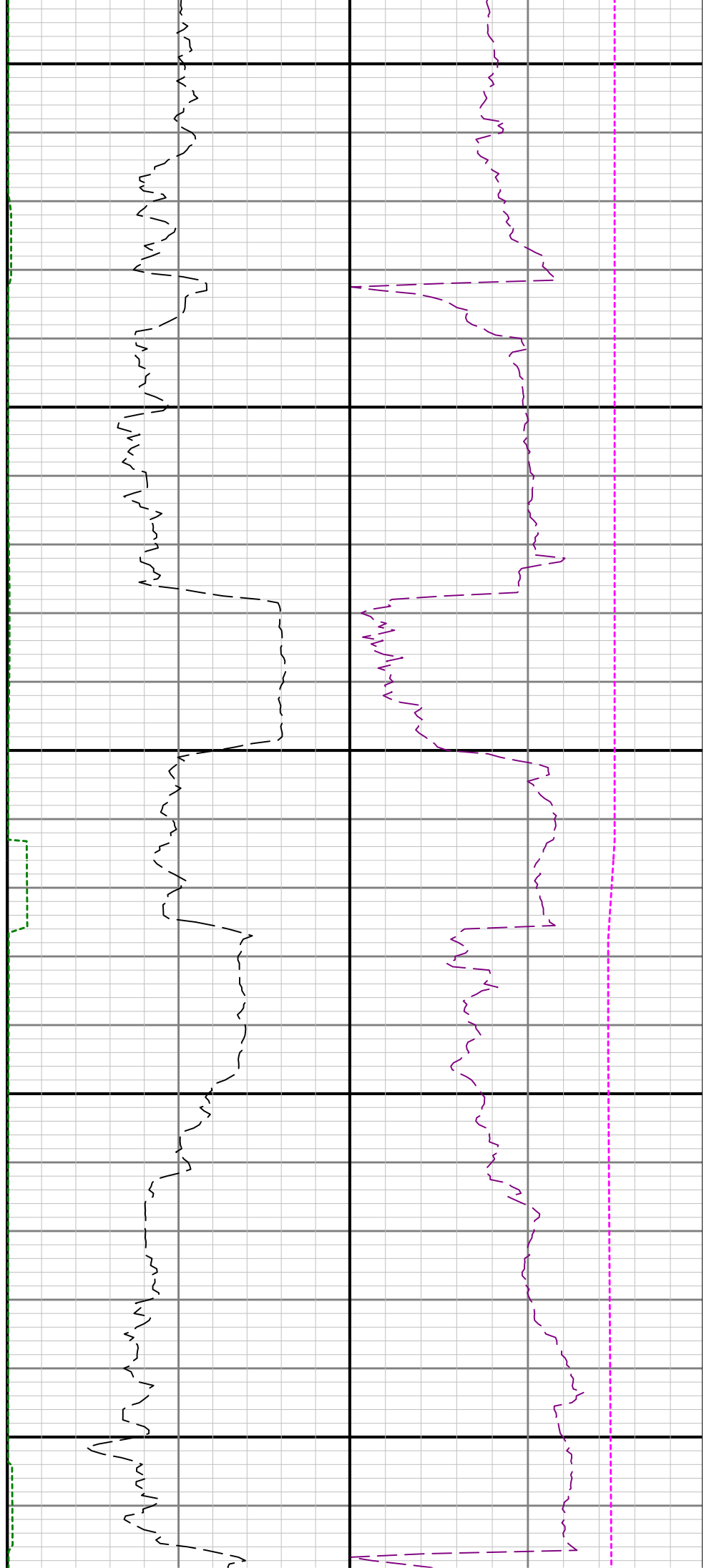


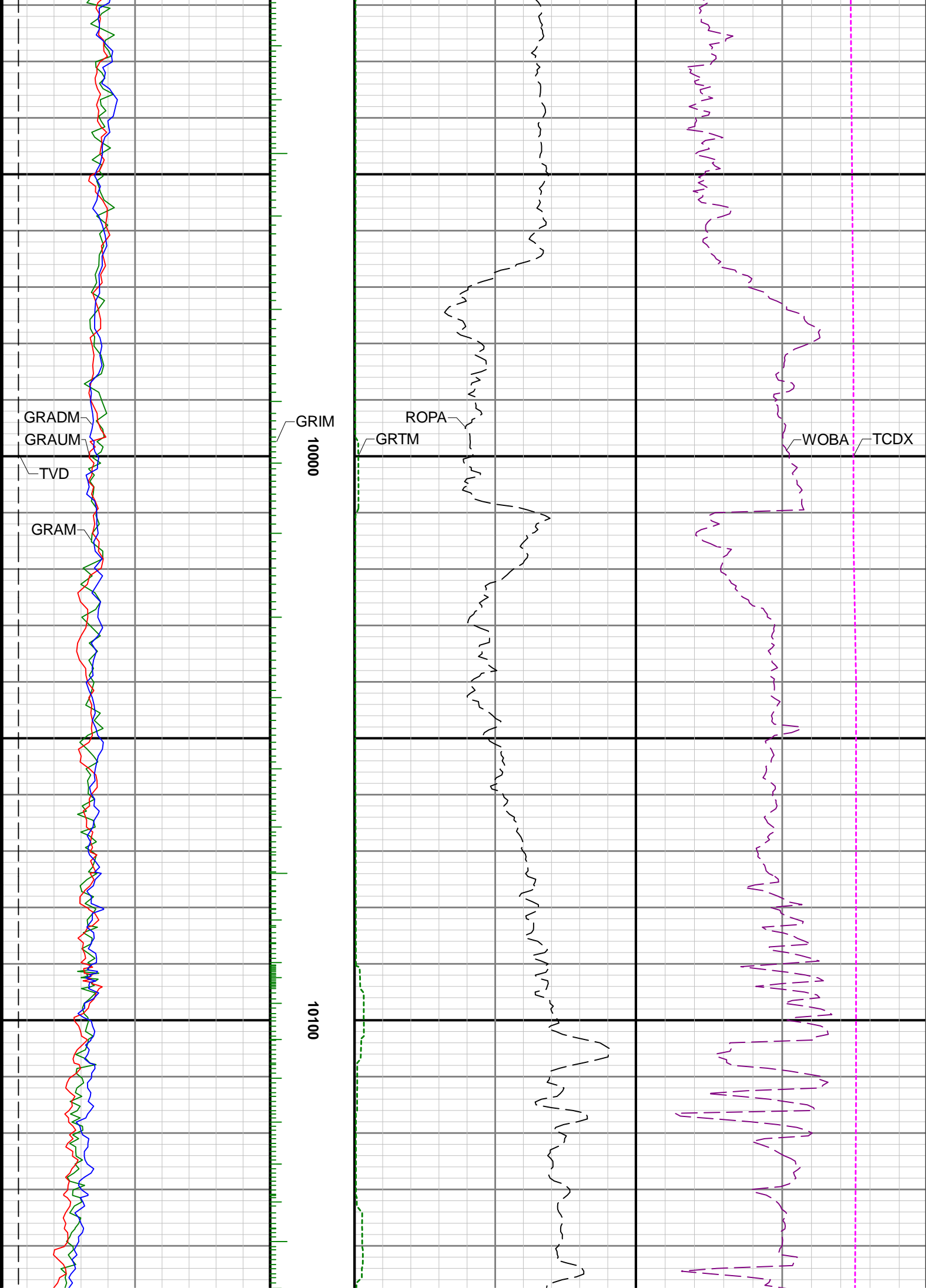


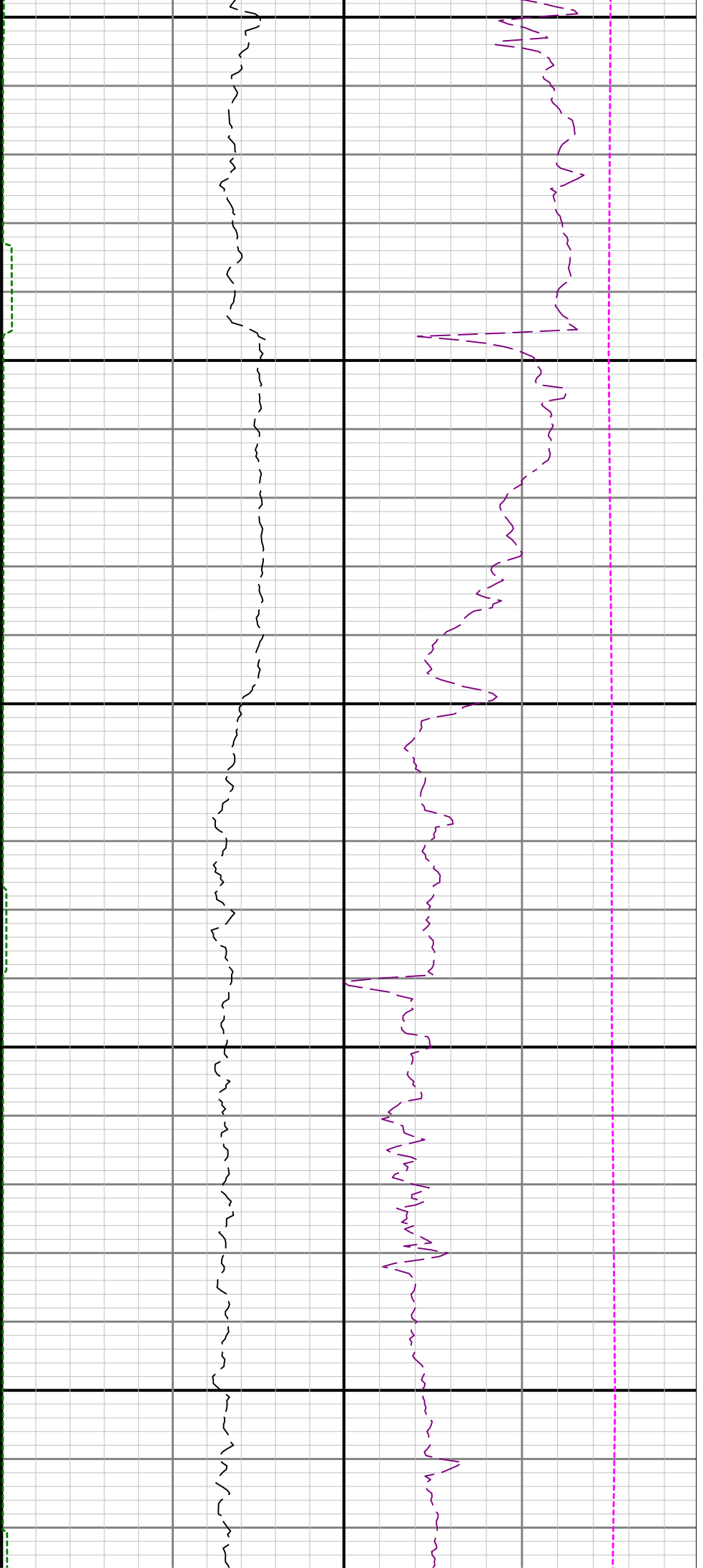
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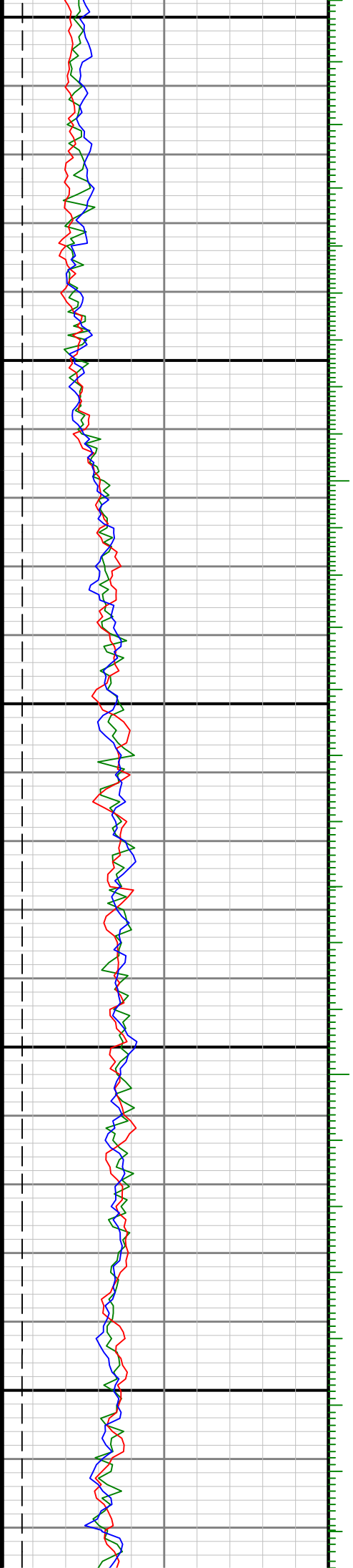


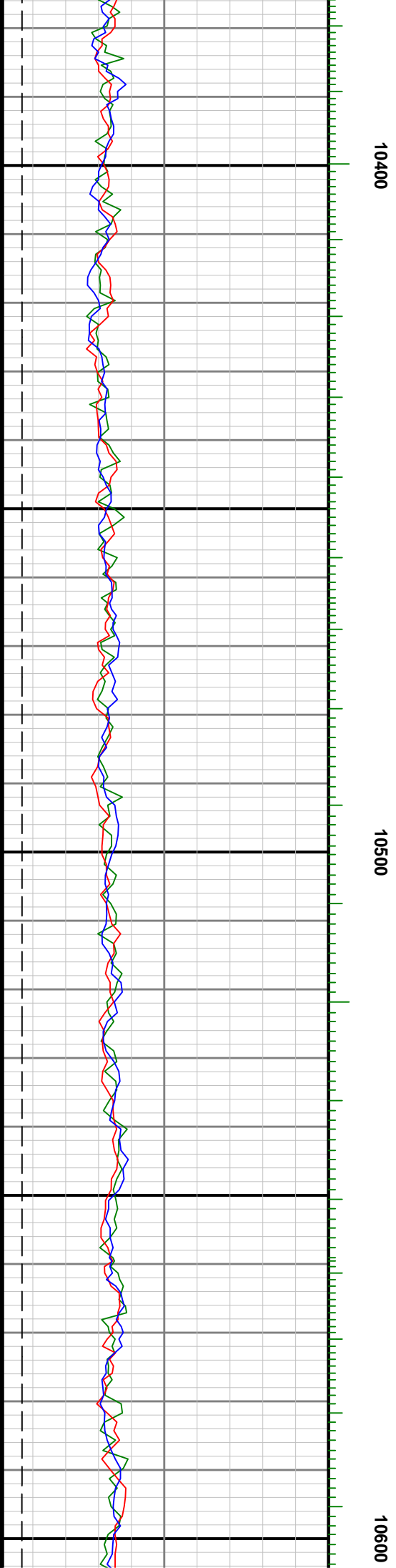
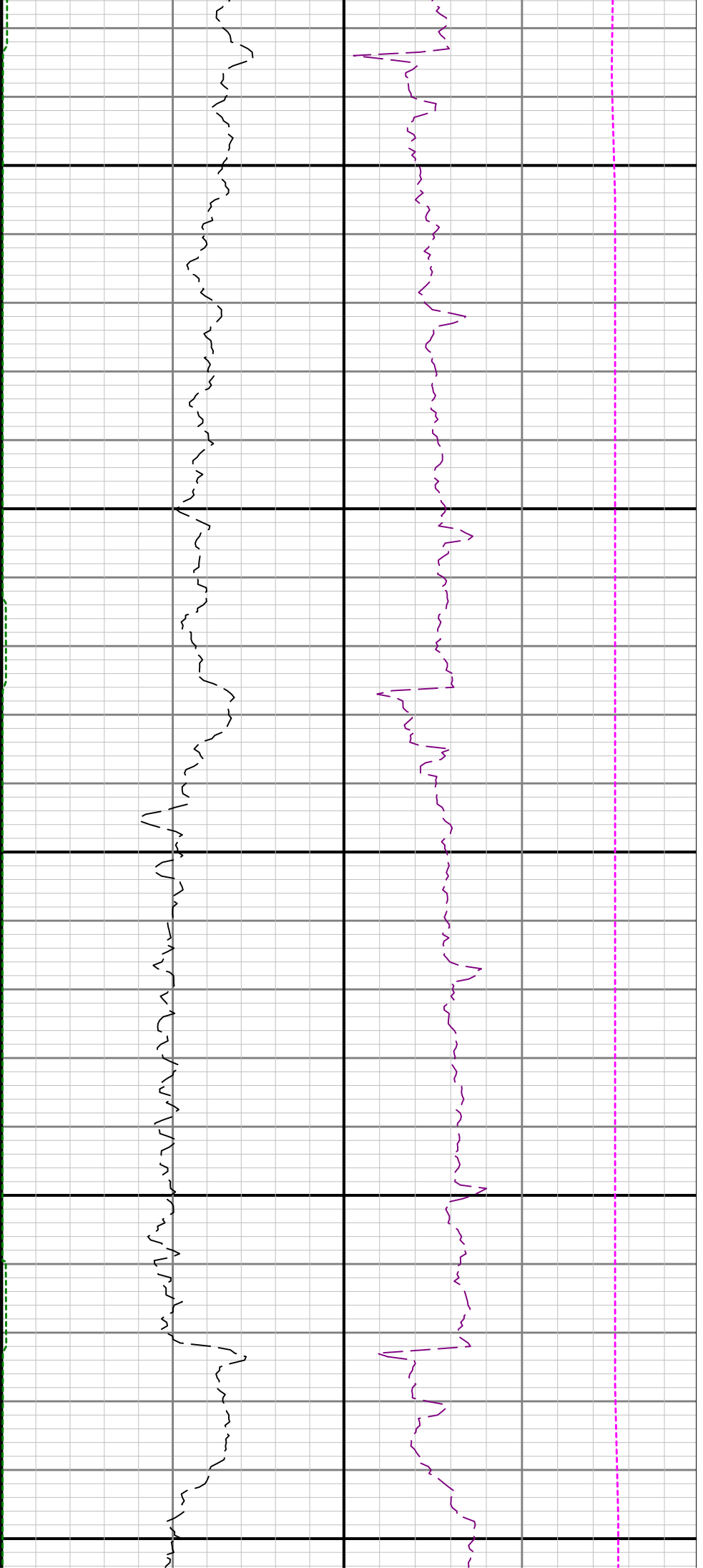


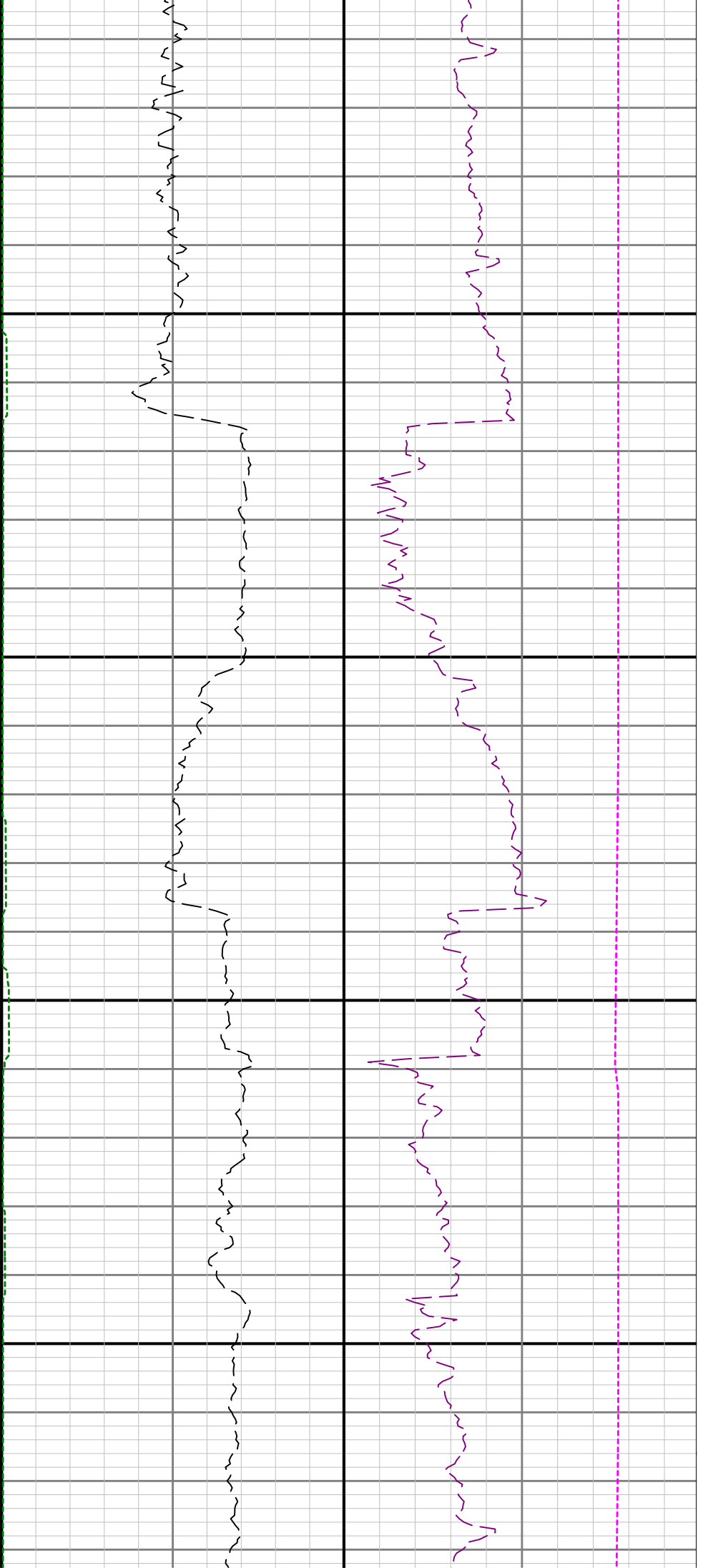


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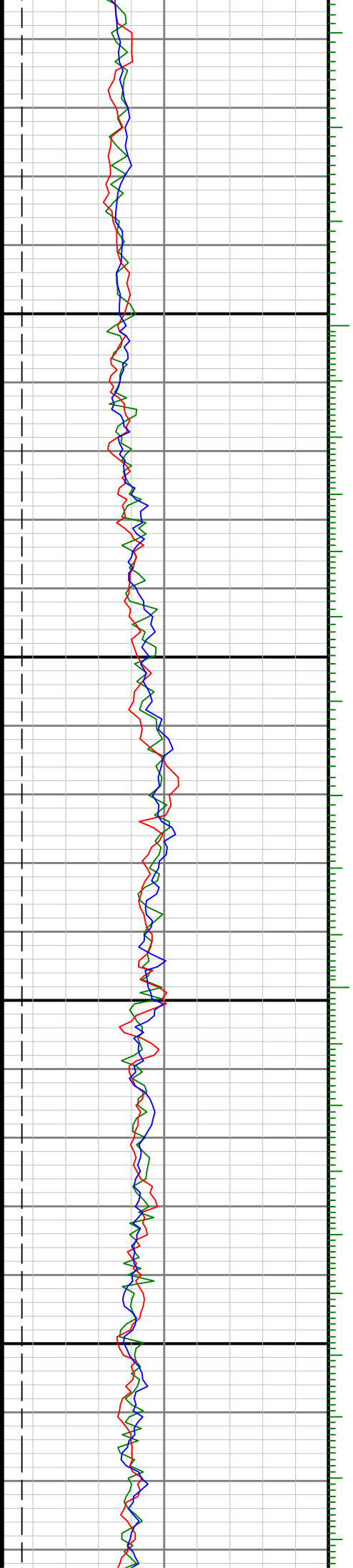


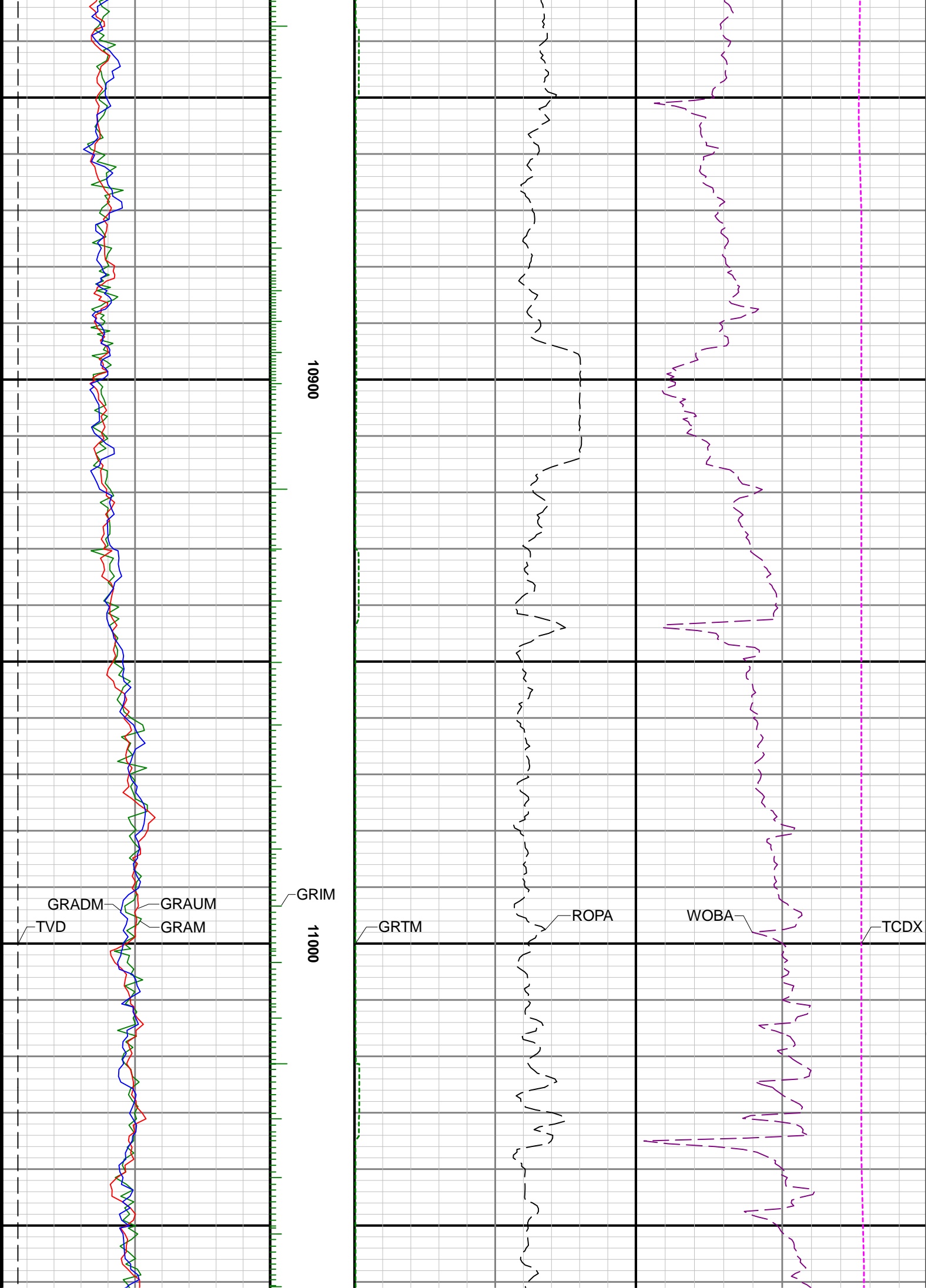


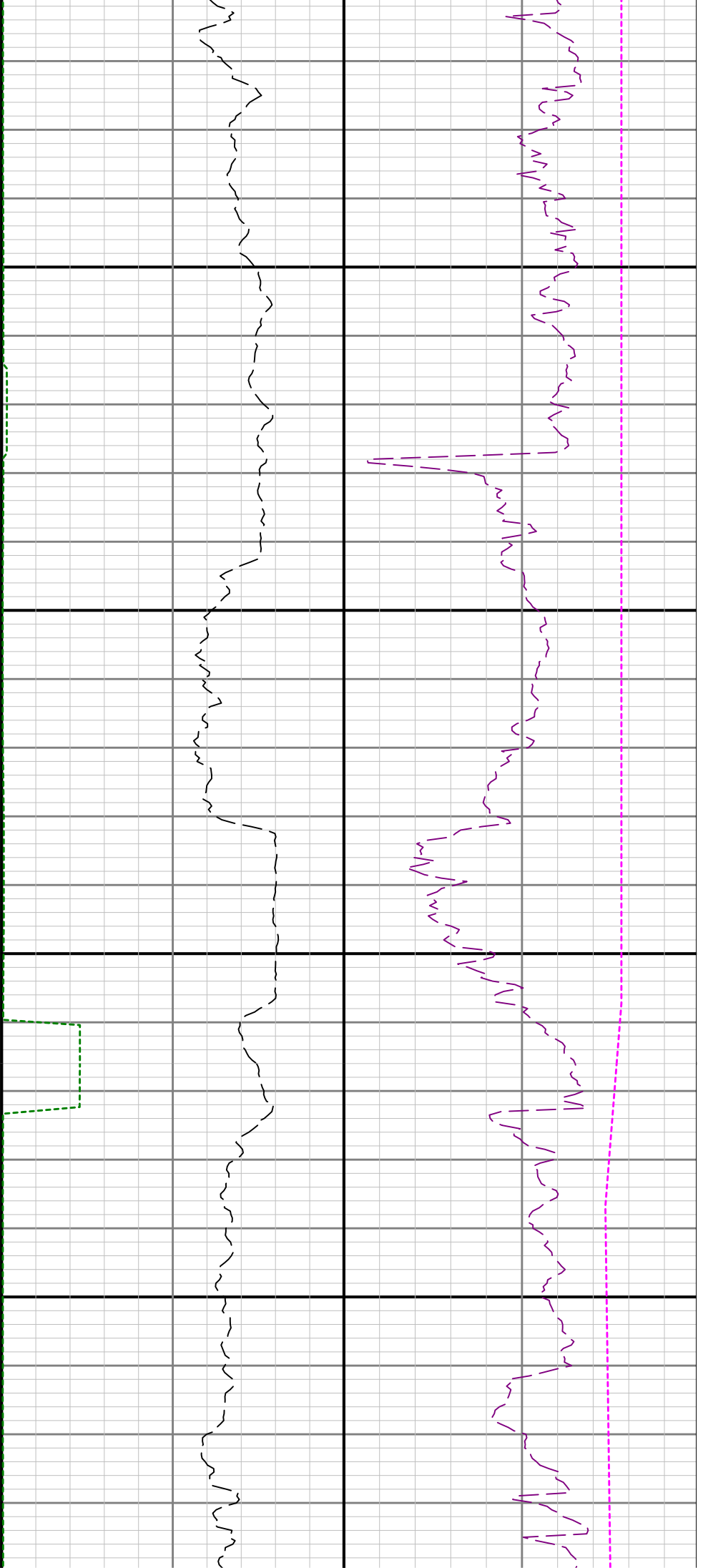


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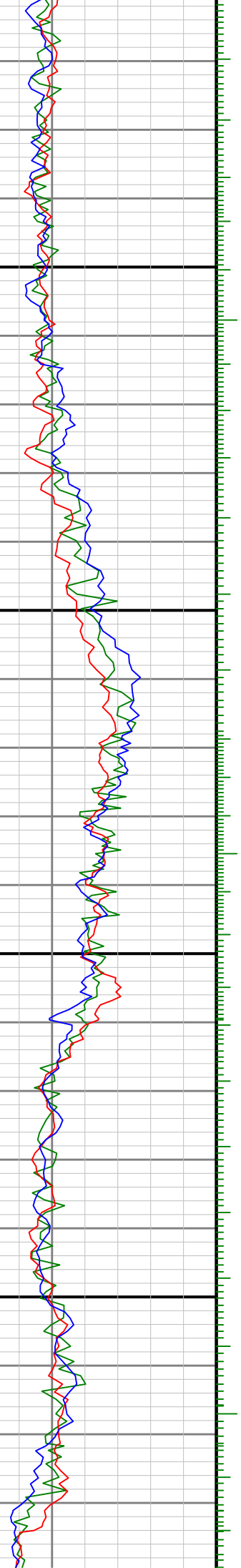


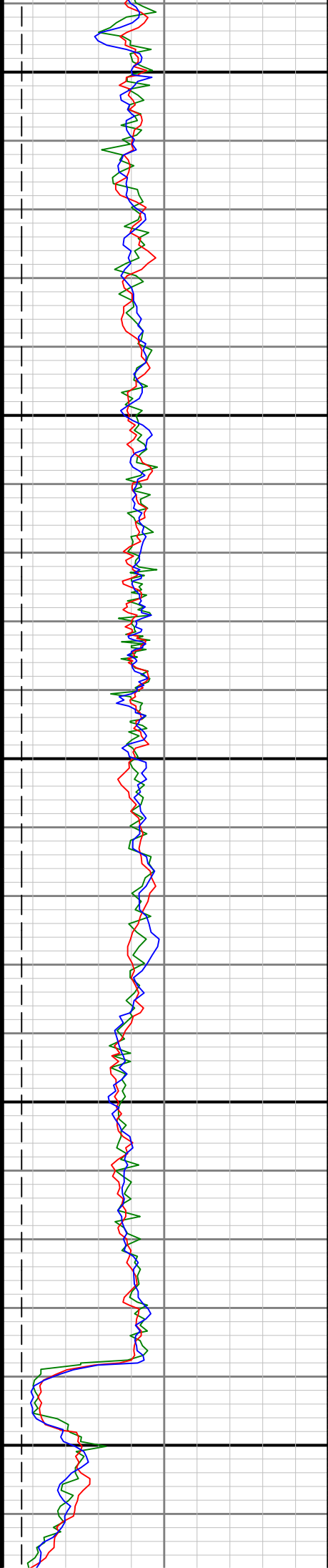
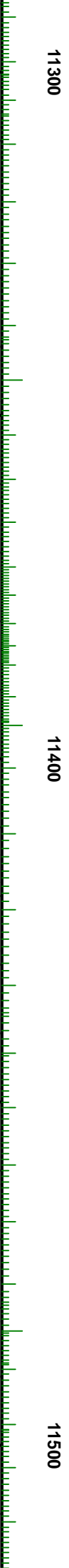
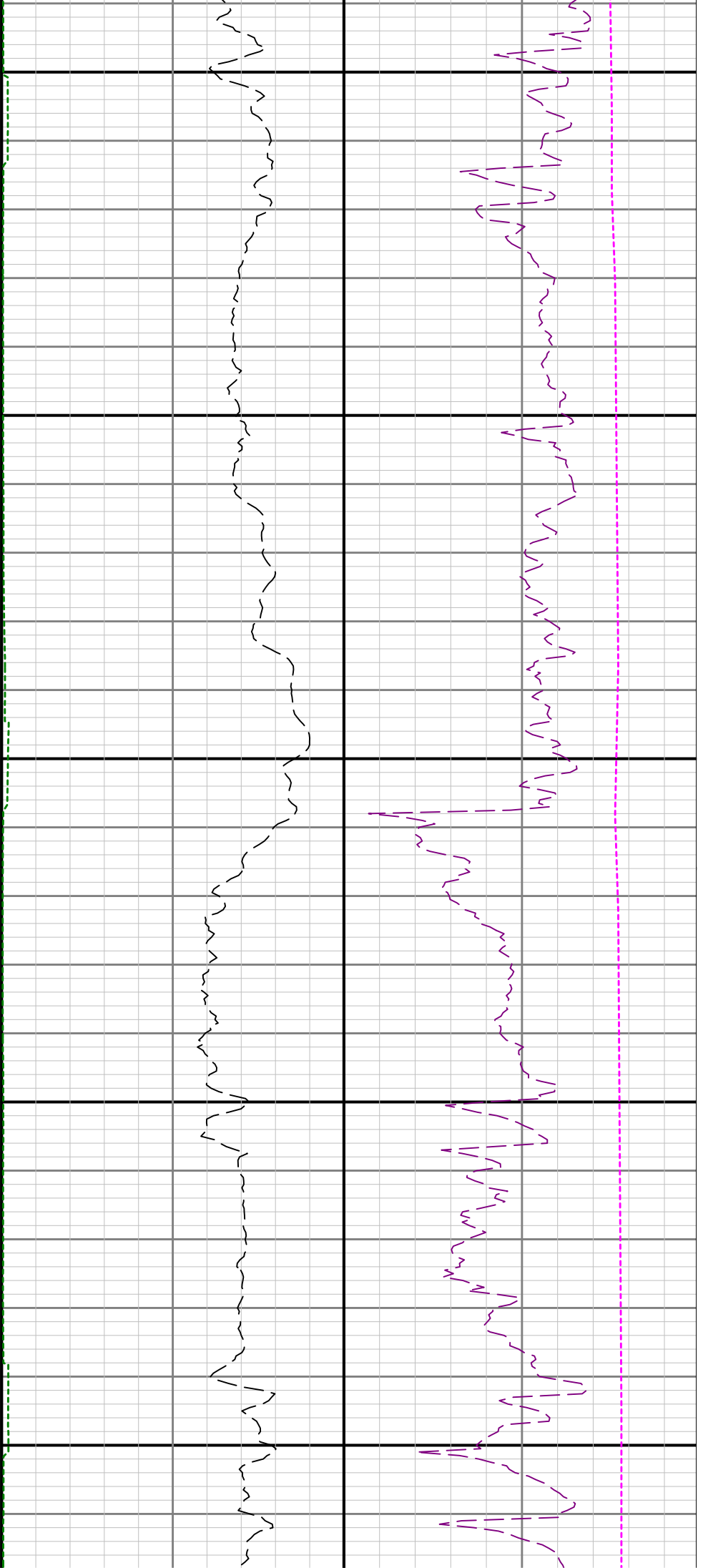


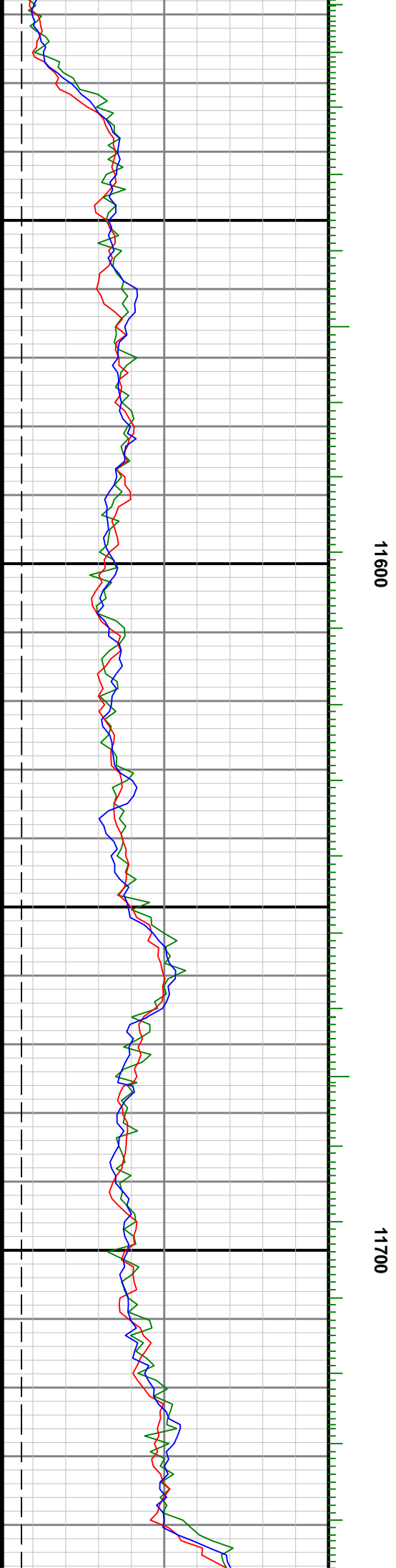
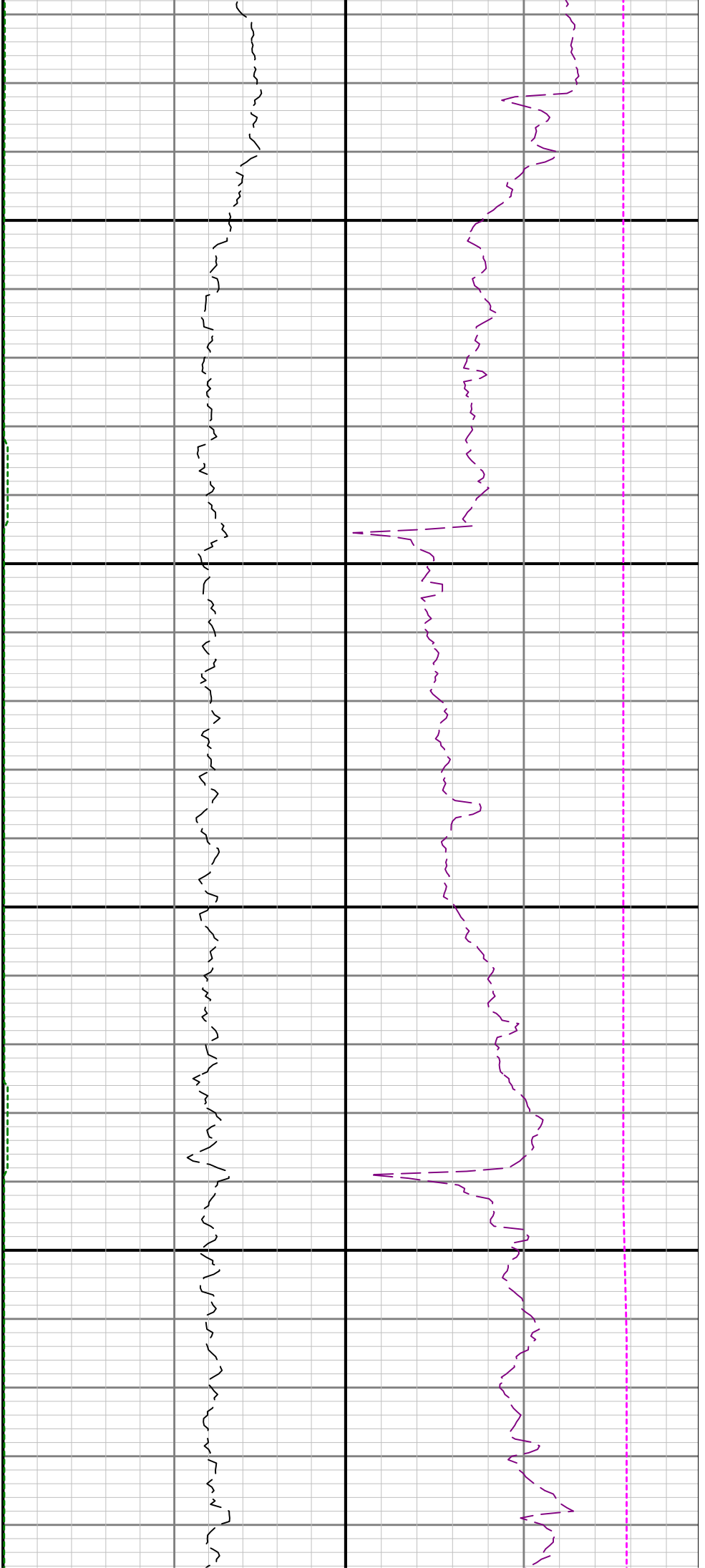


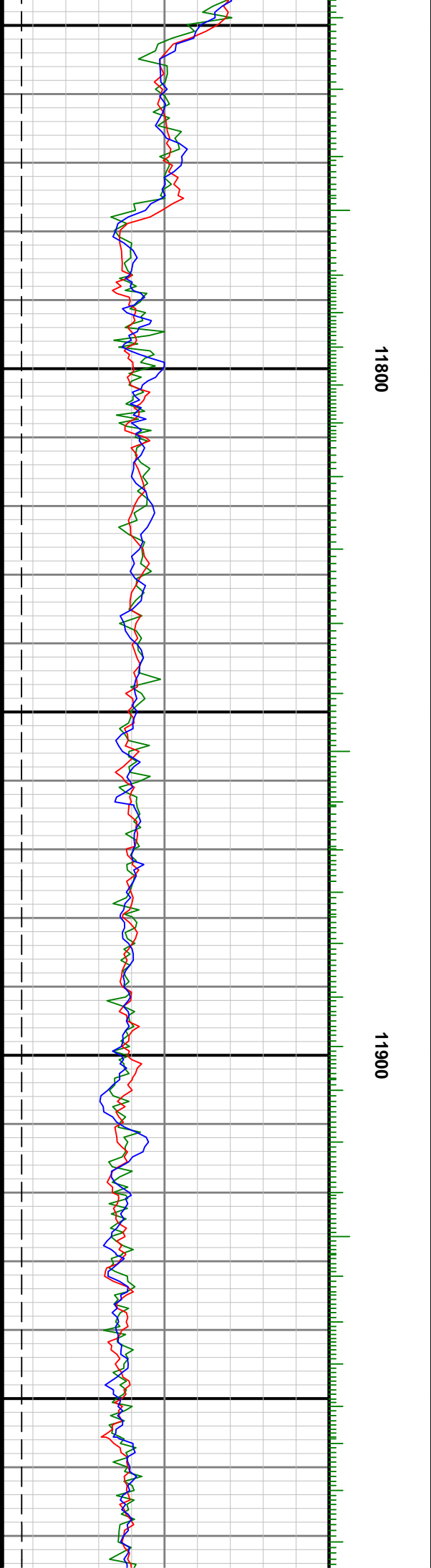
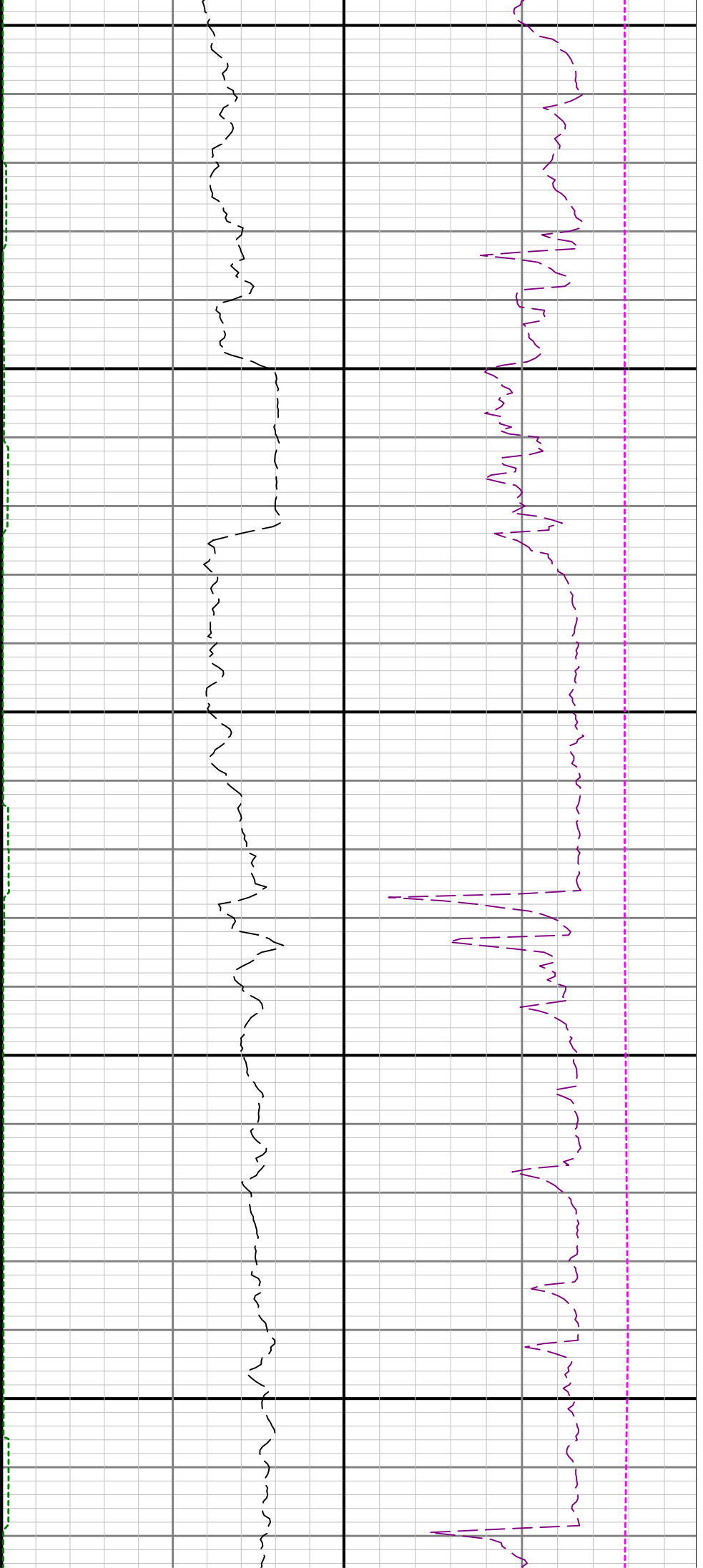
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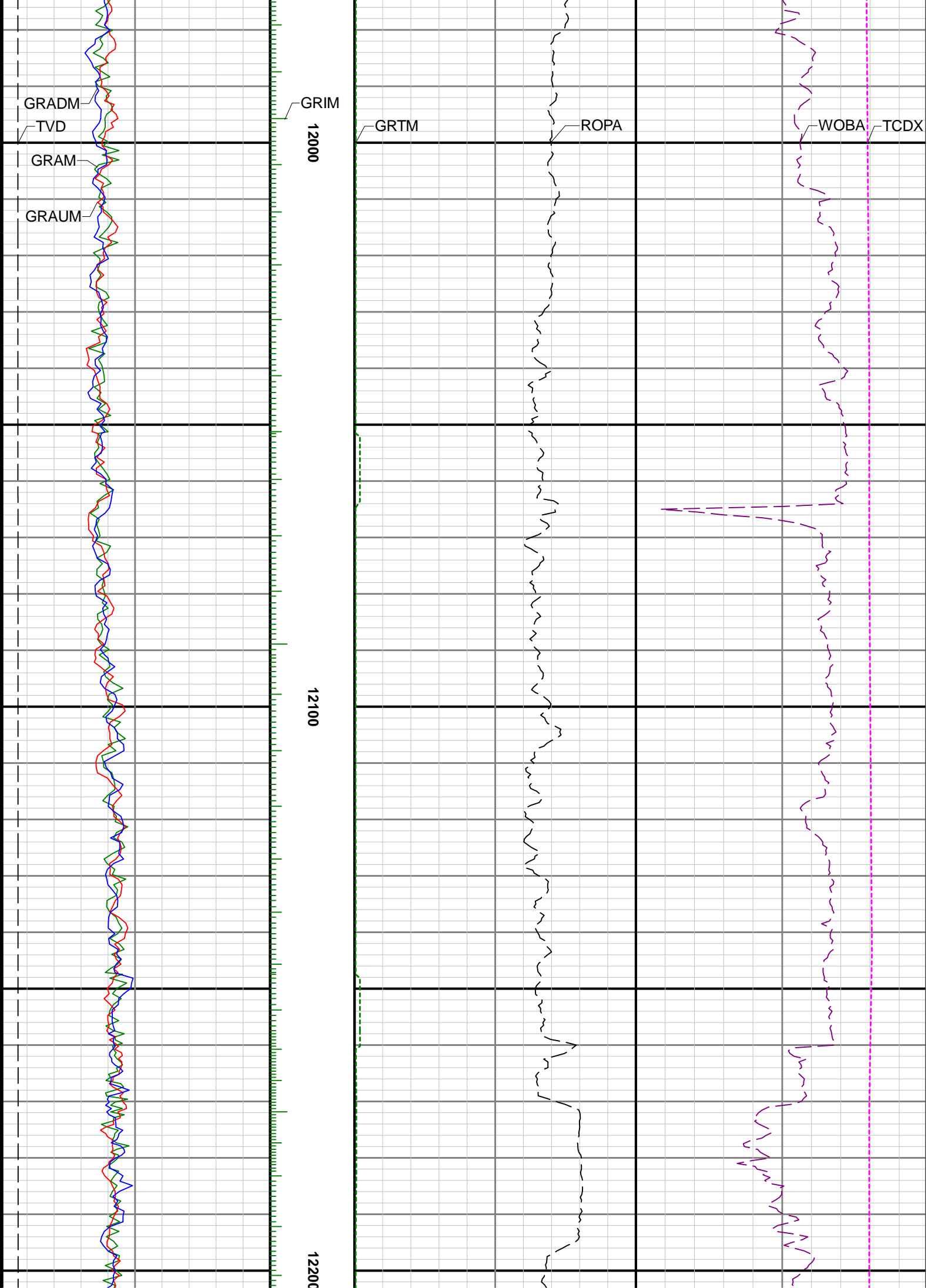
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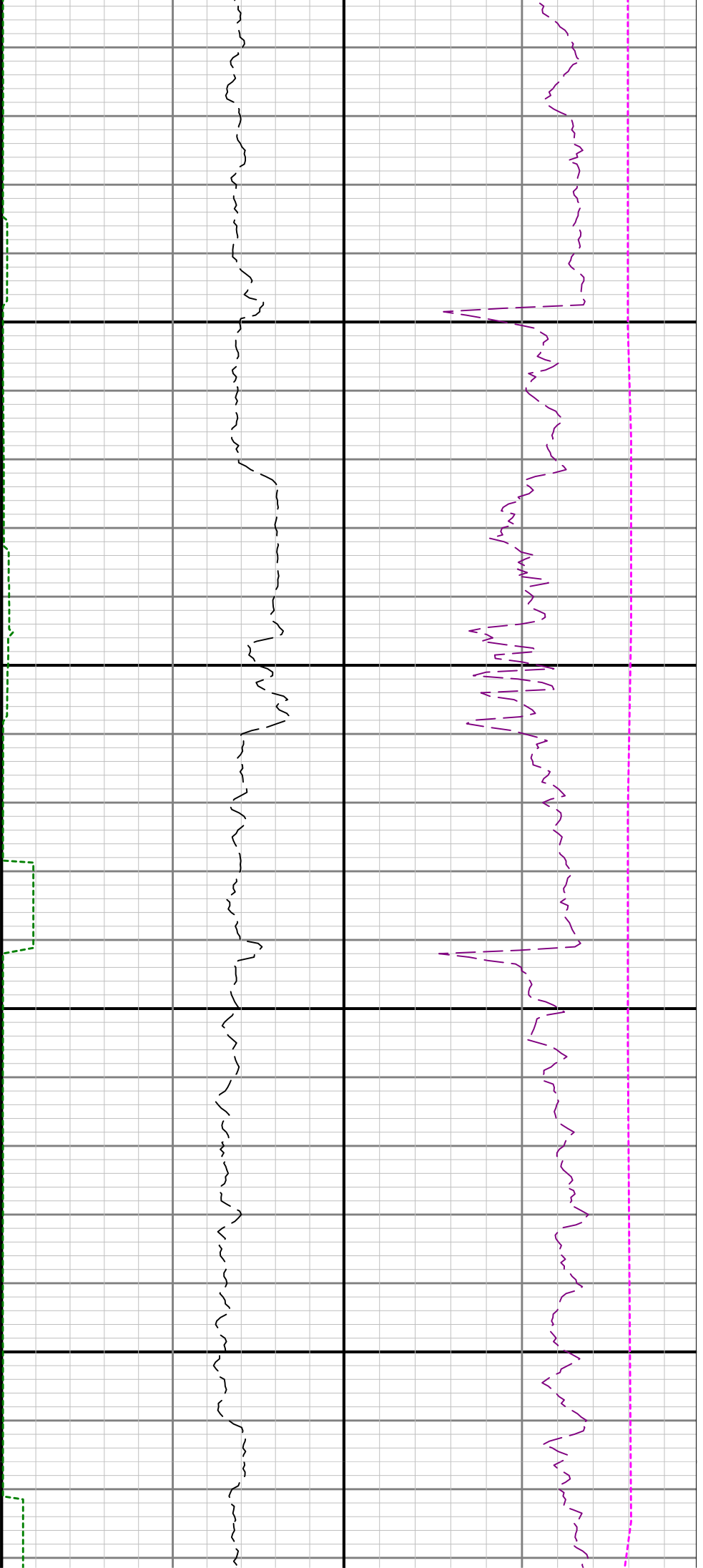






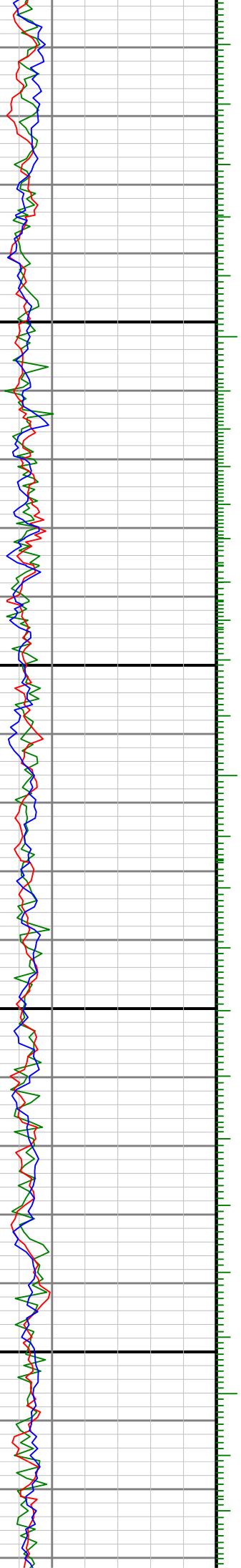


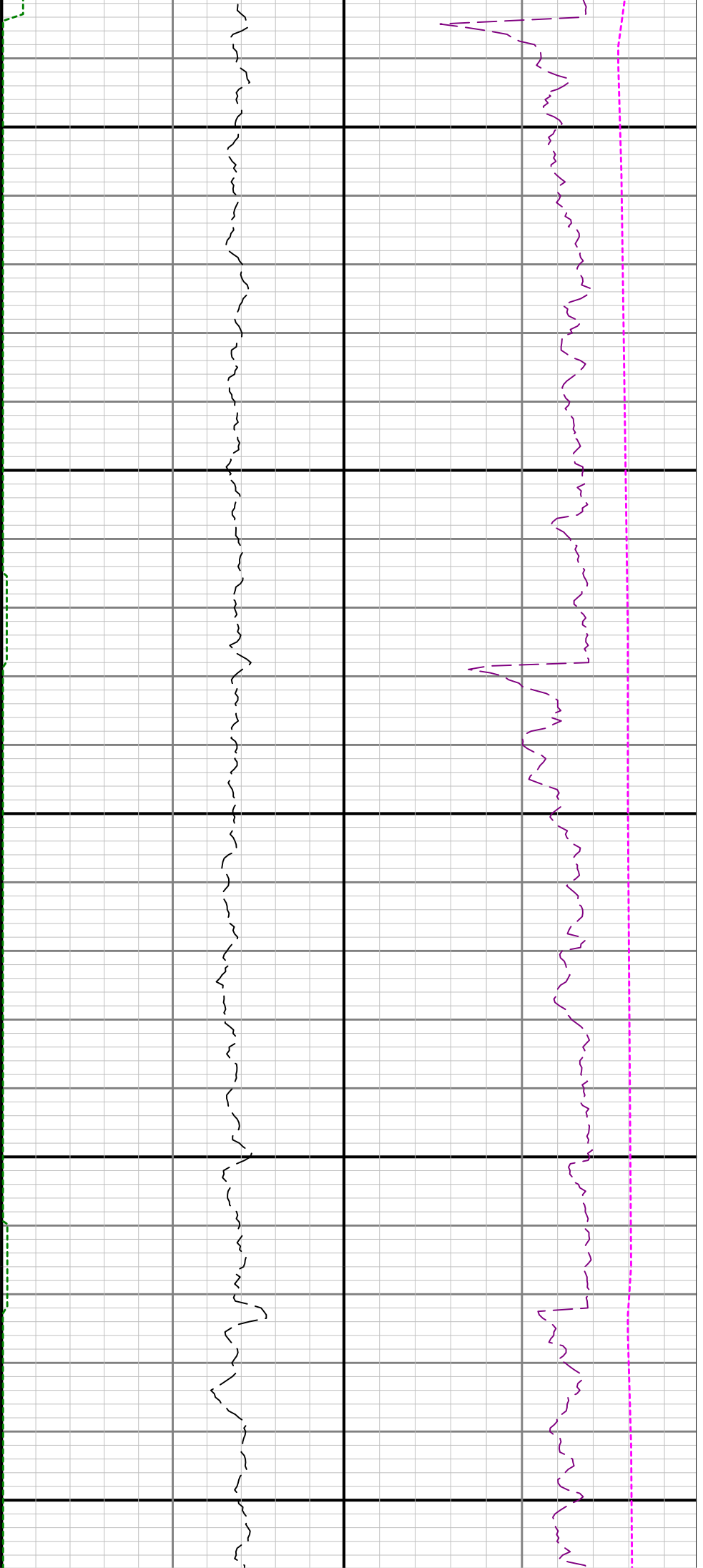




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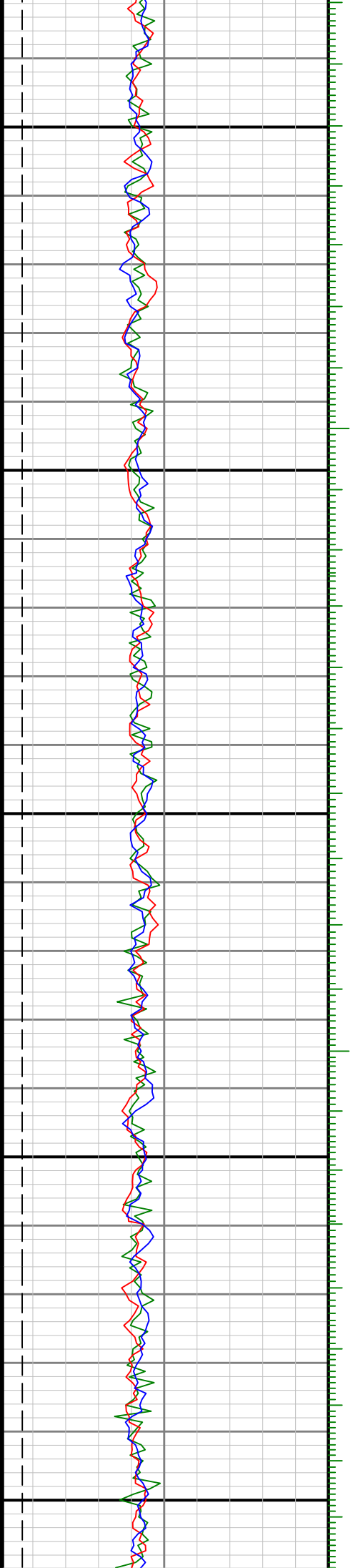
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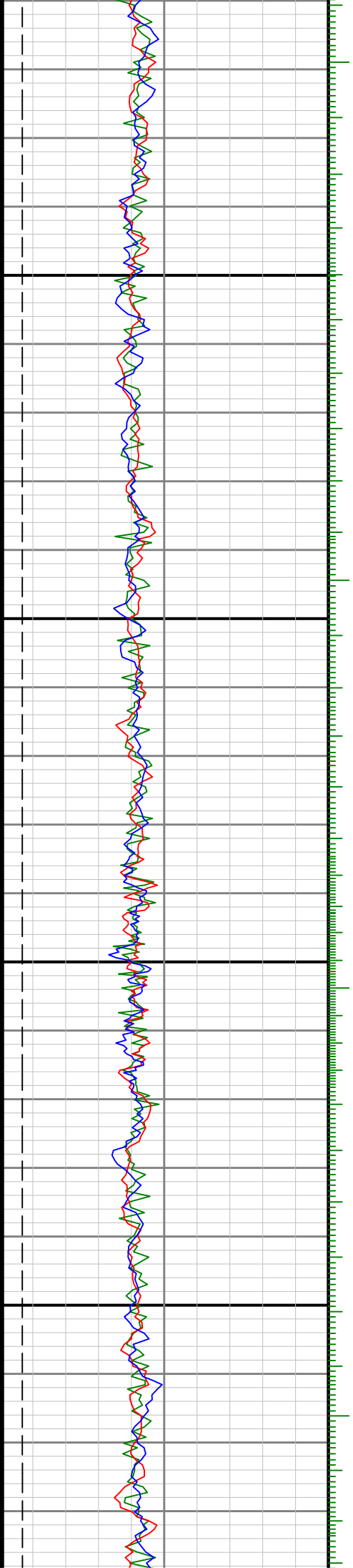
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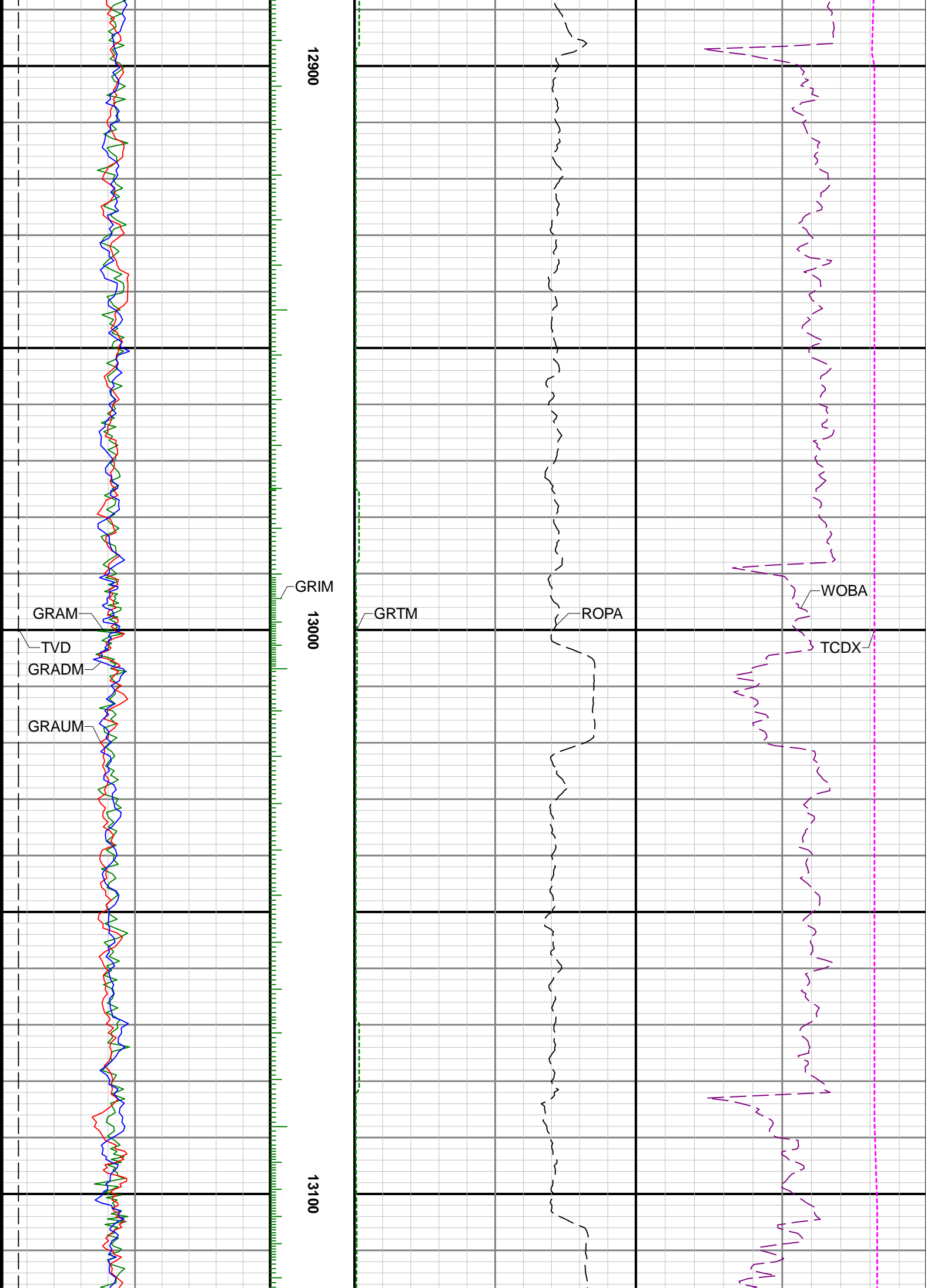


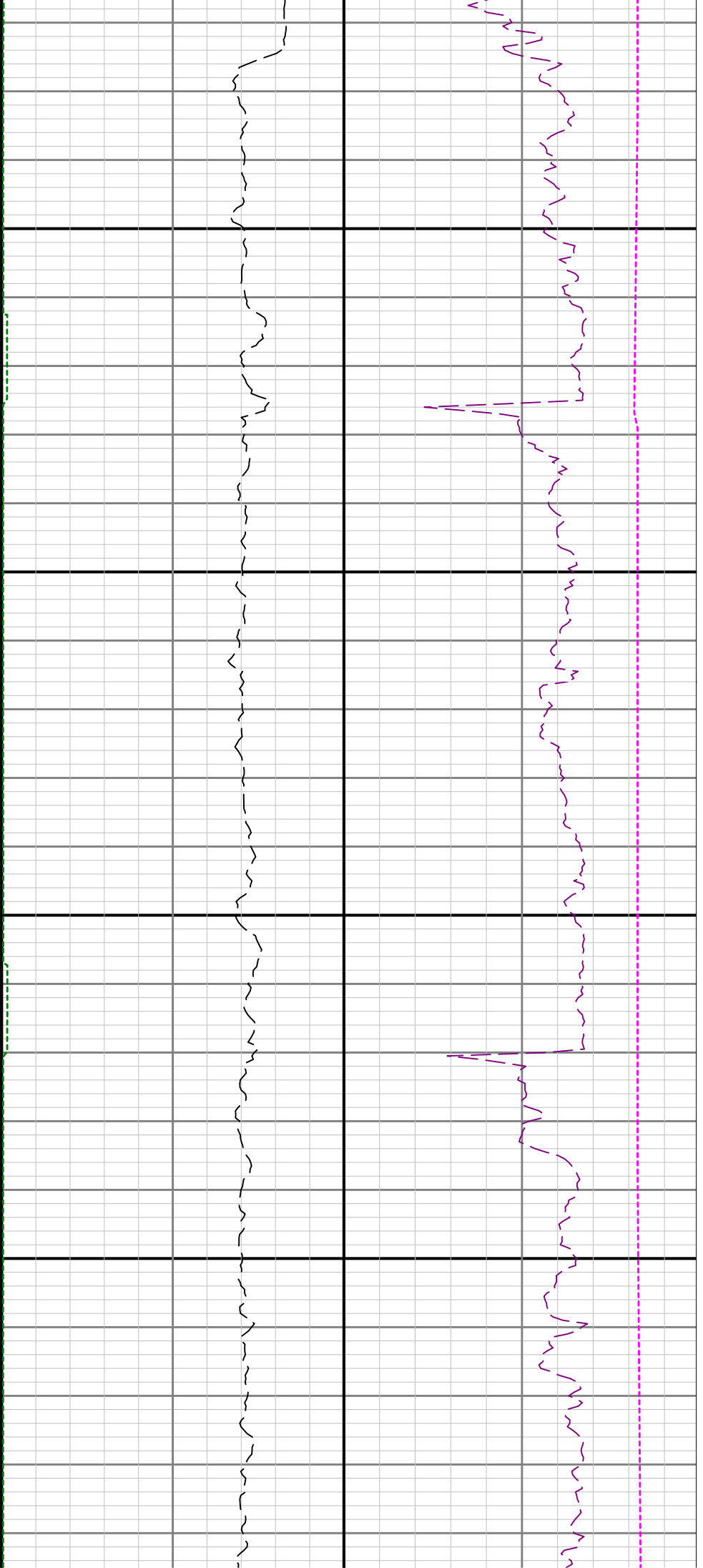


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12800

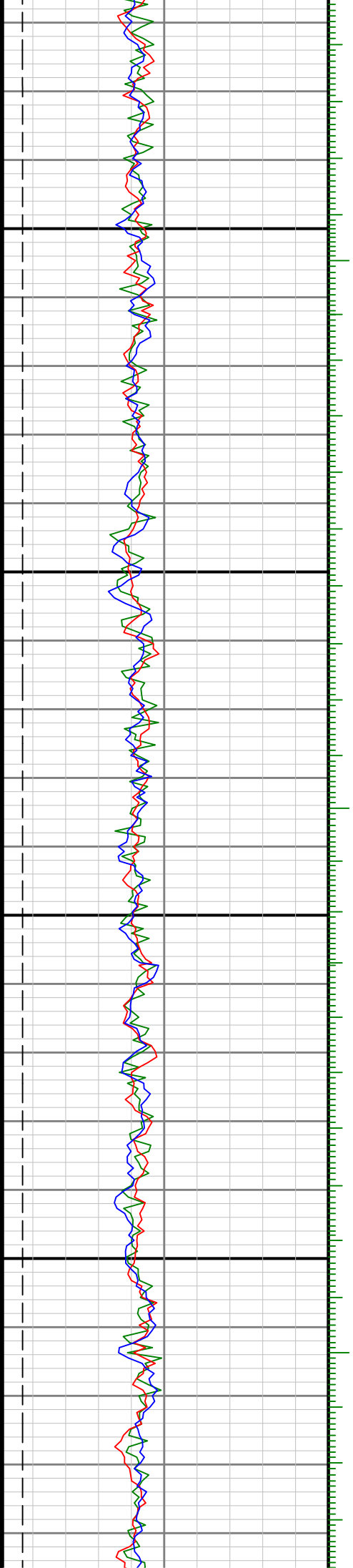


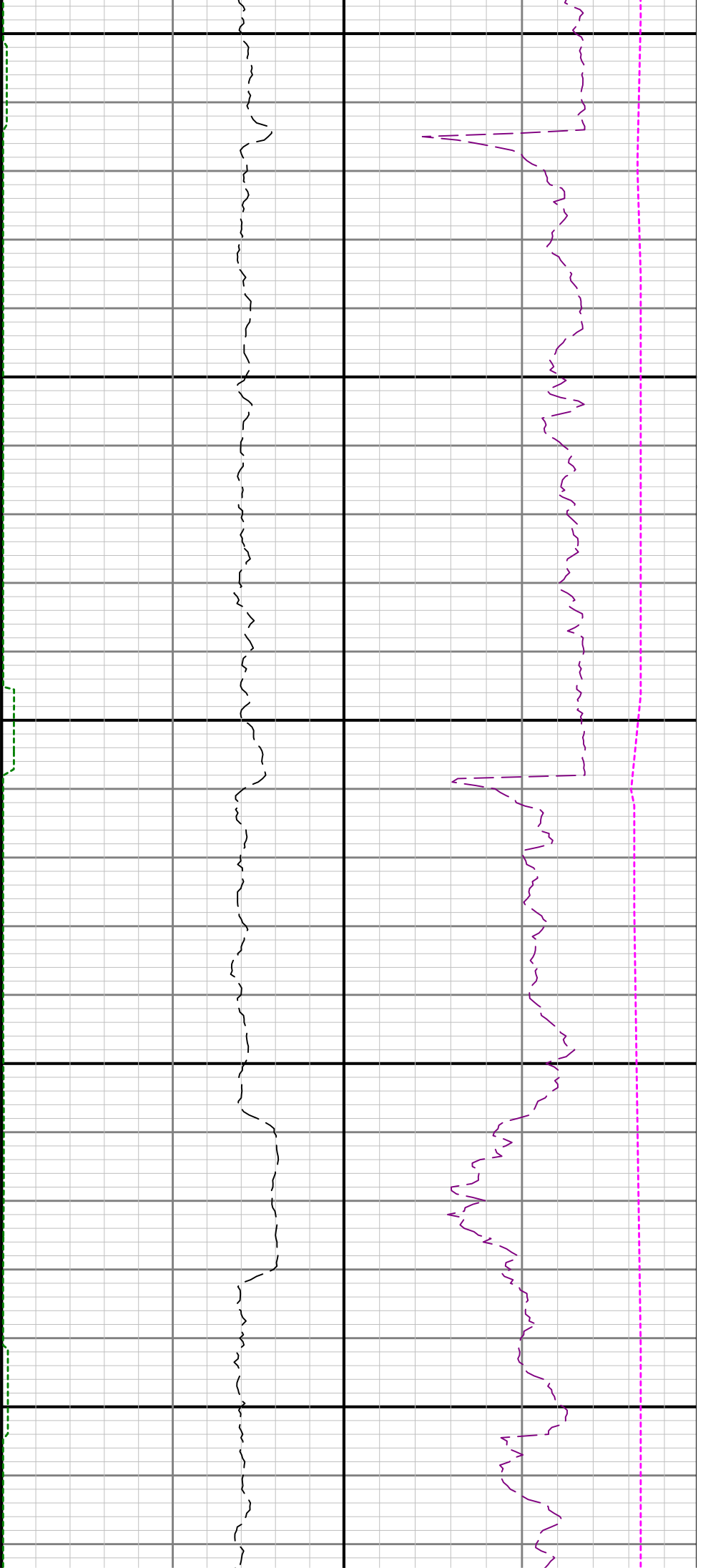




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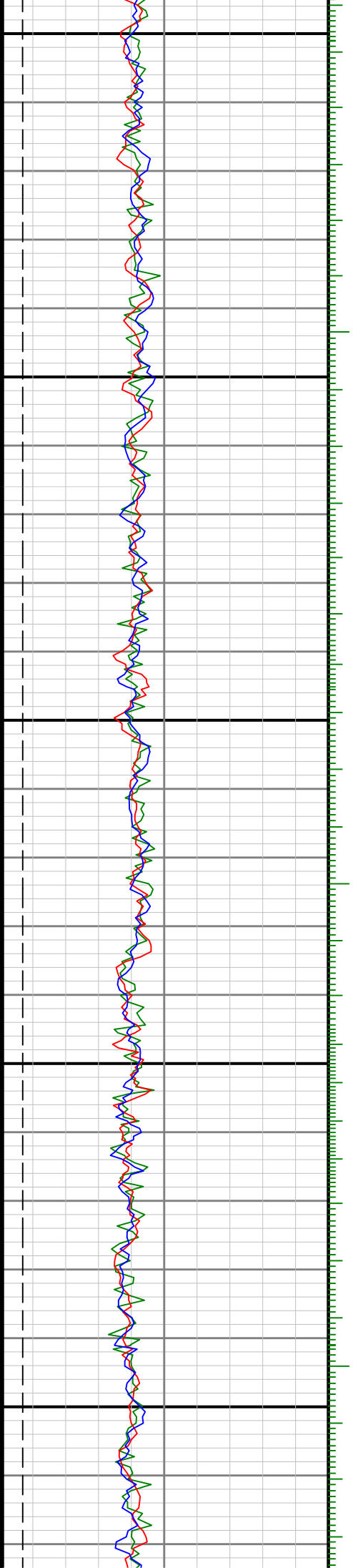
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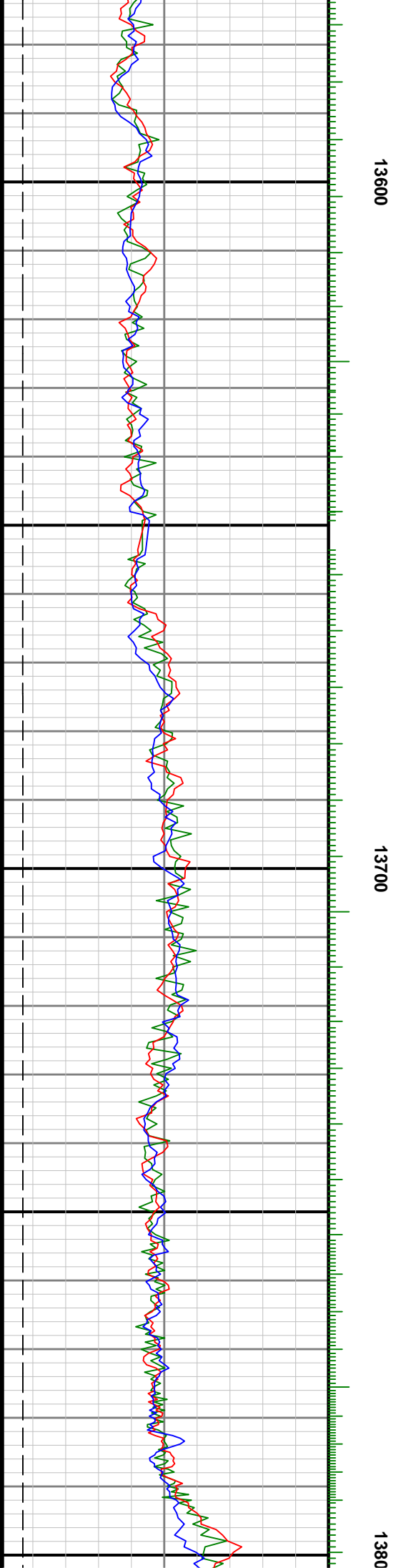
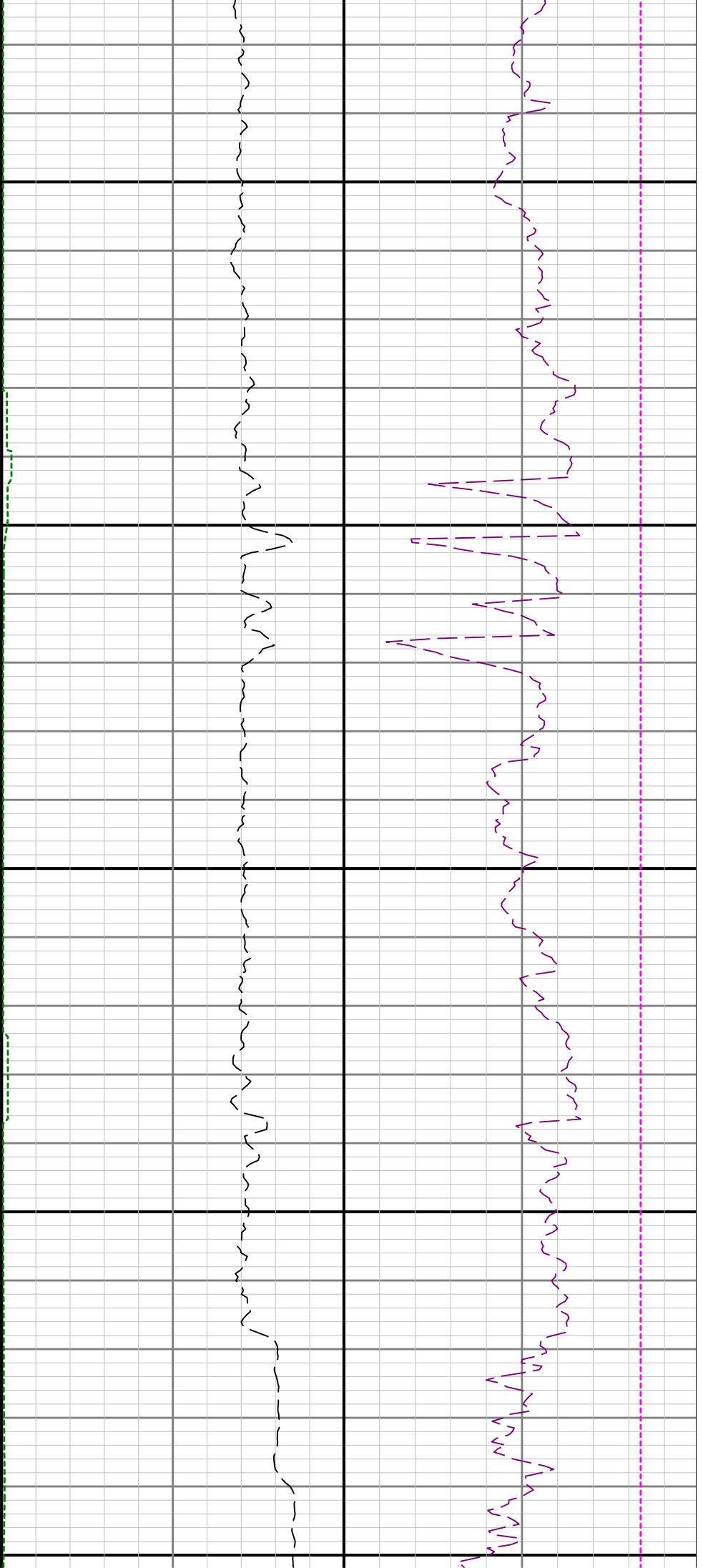


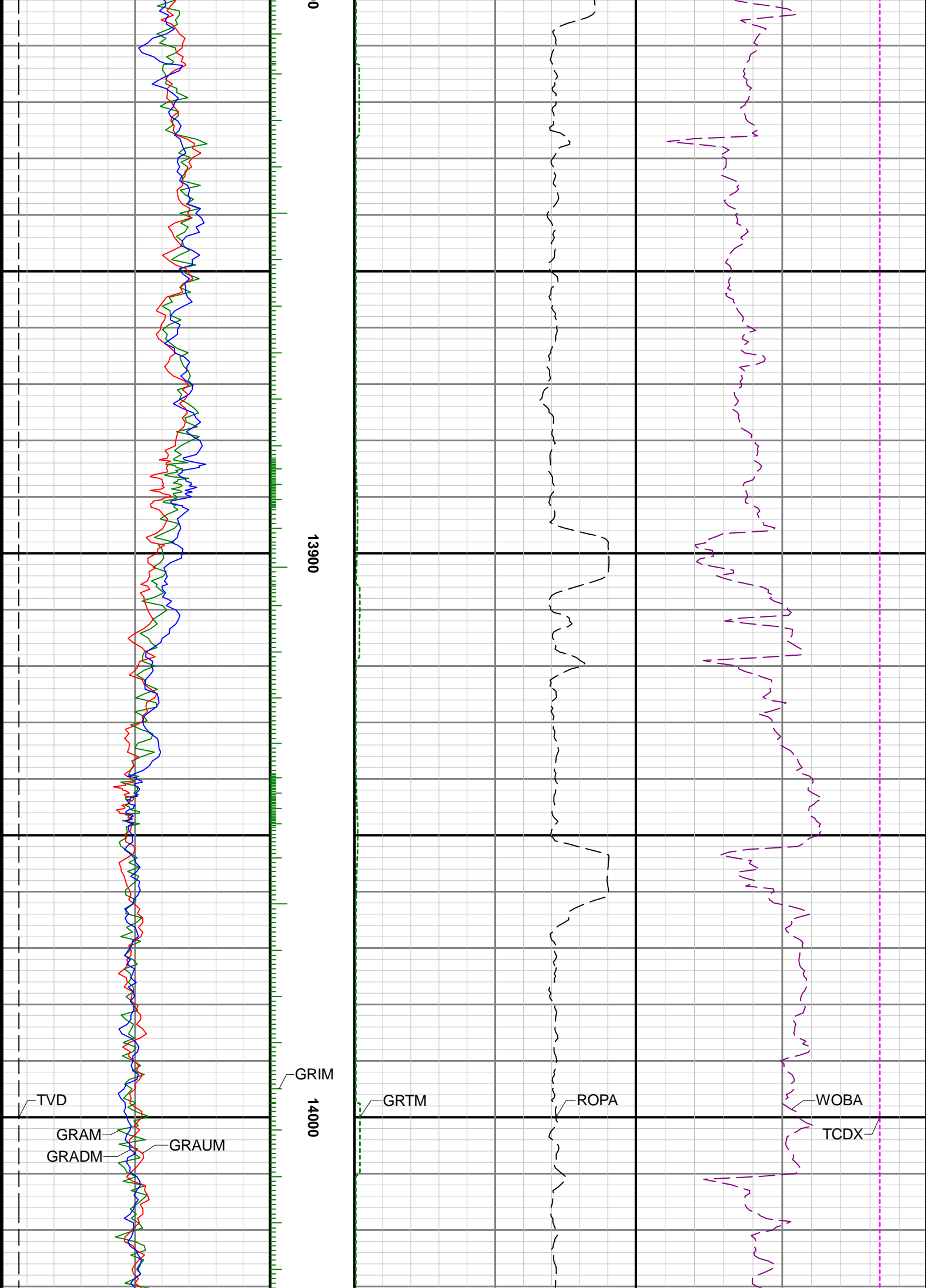


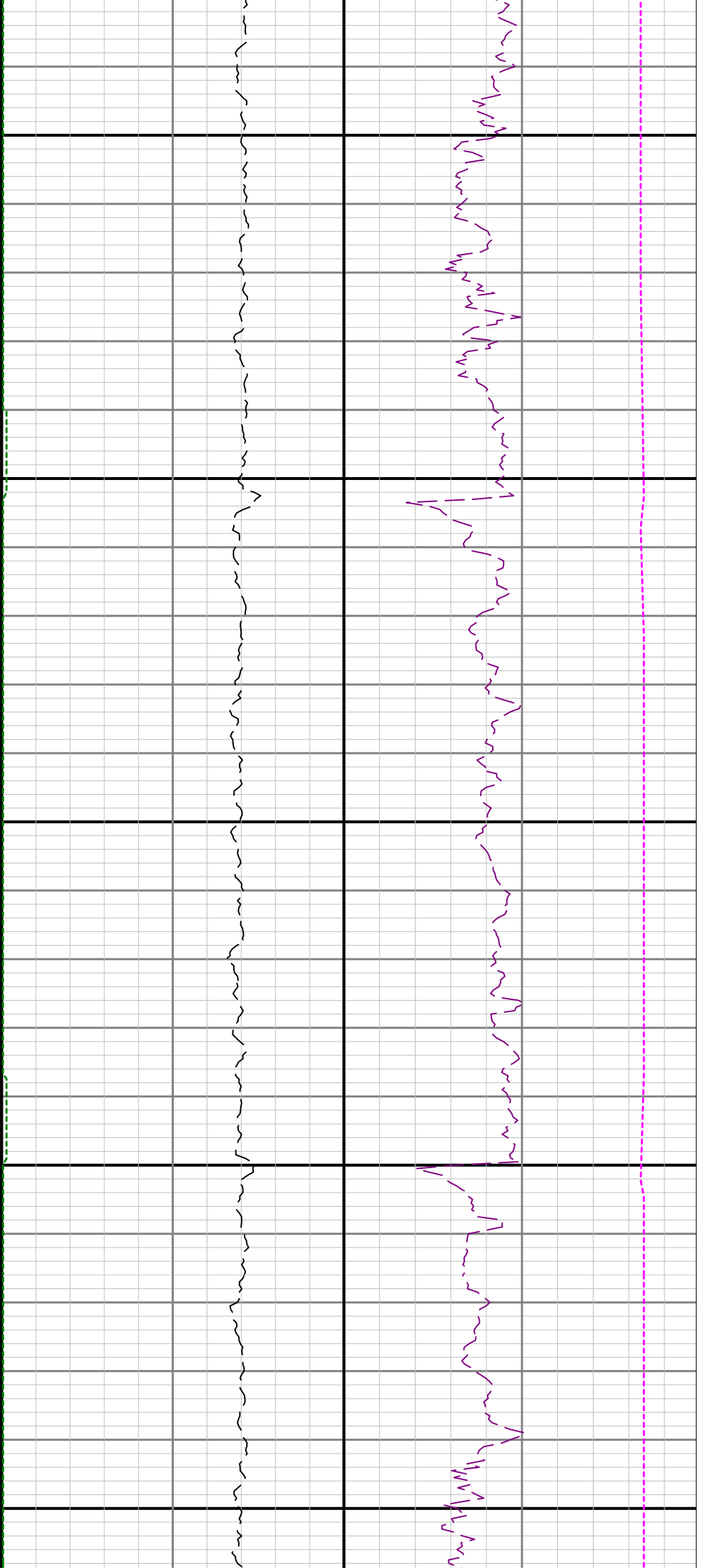
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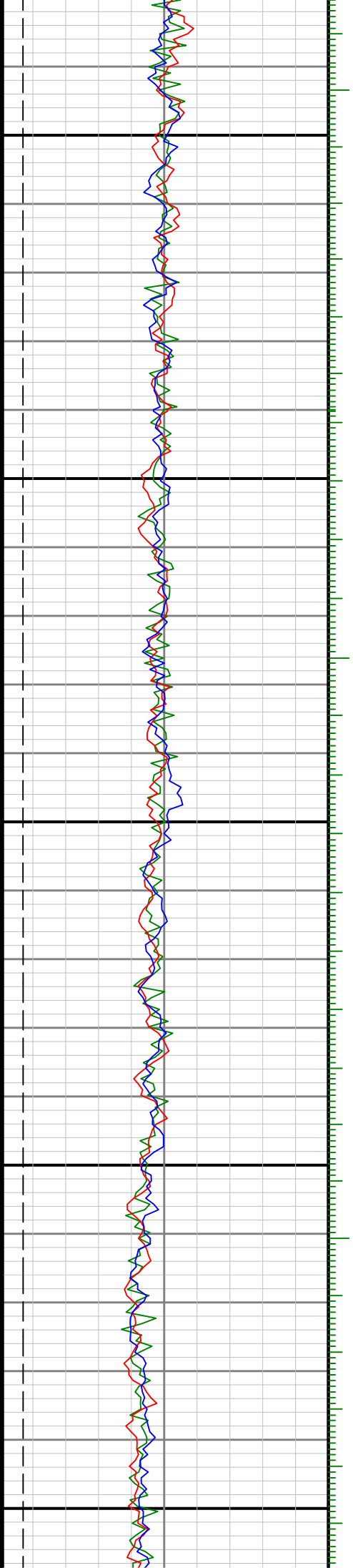


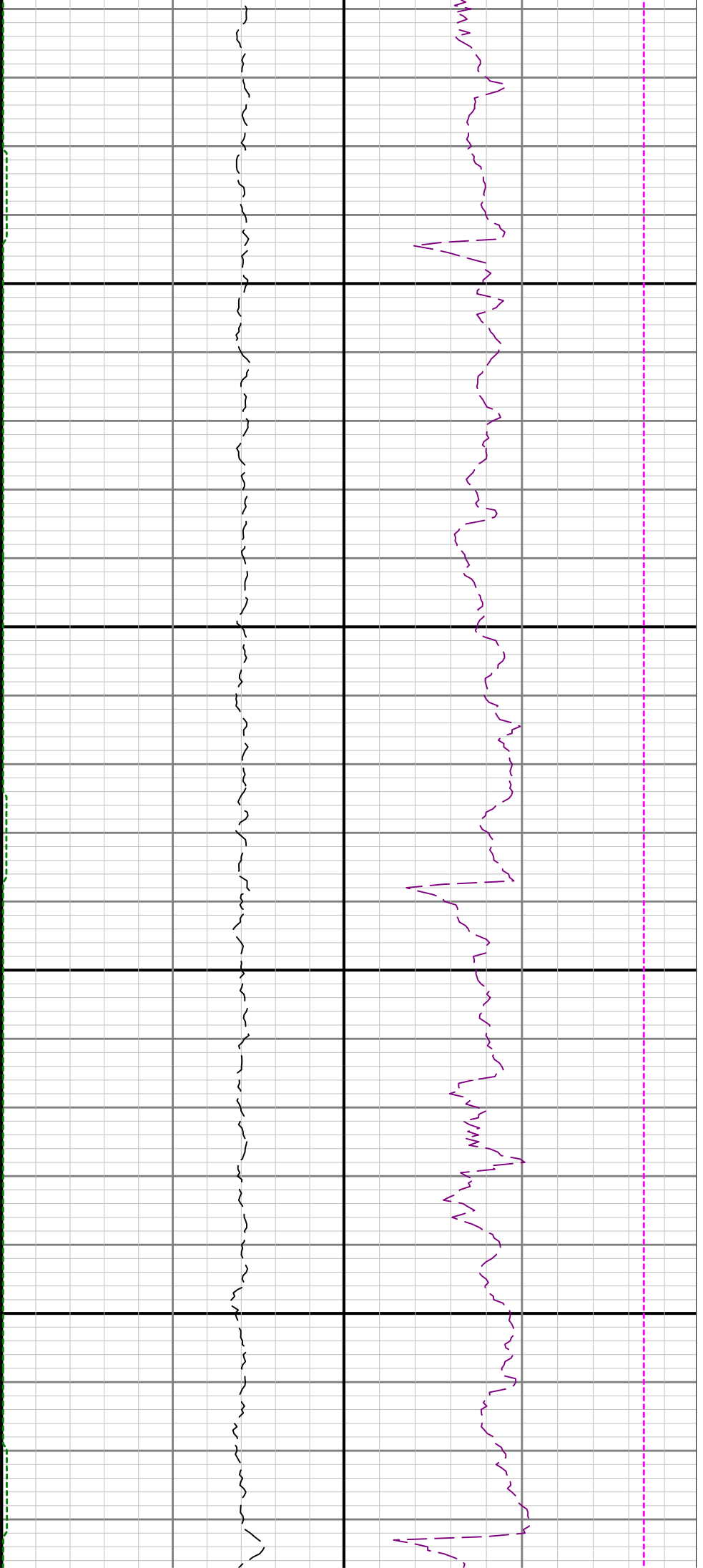




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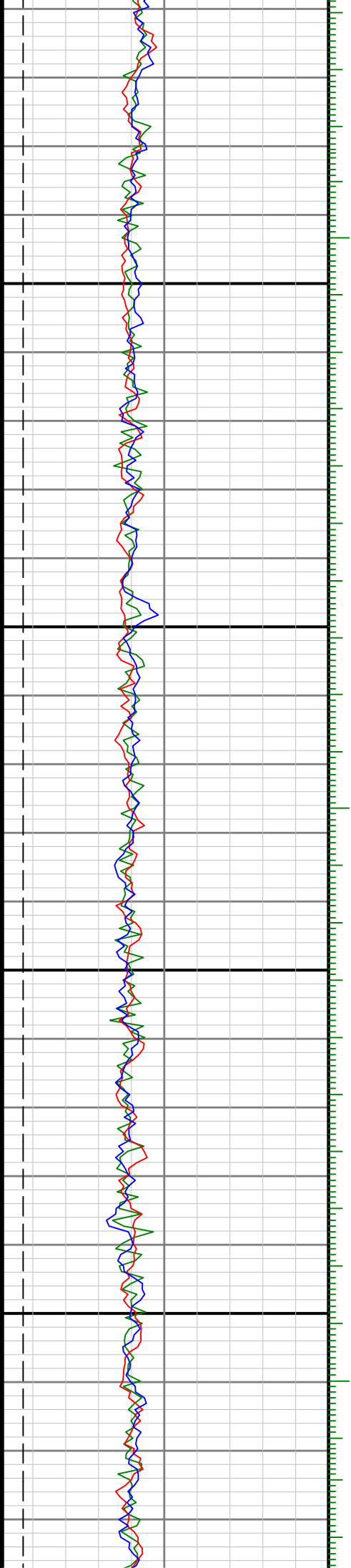
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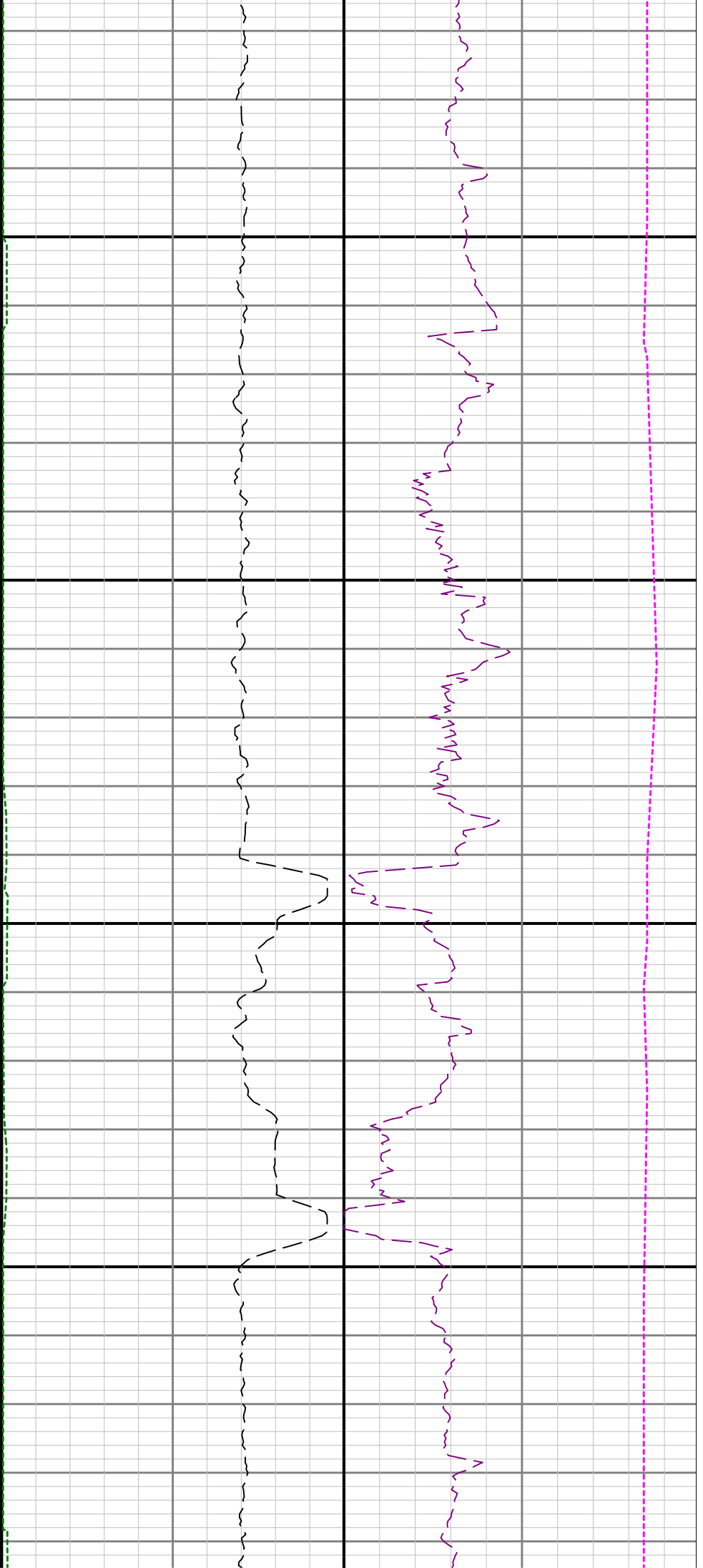




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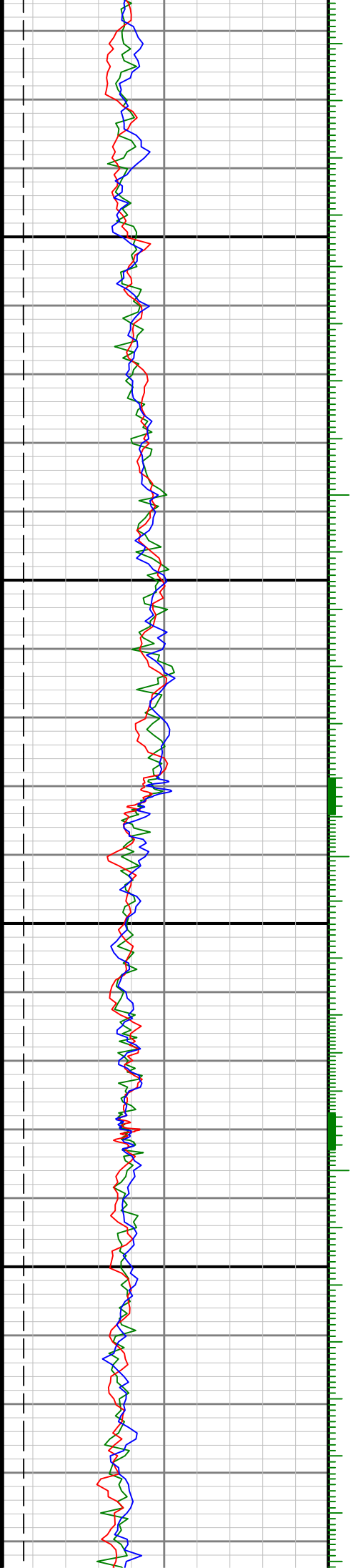
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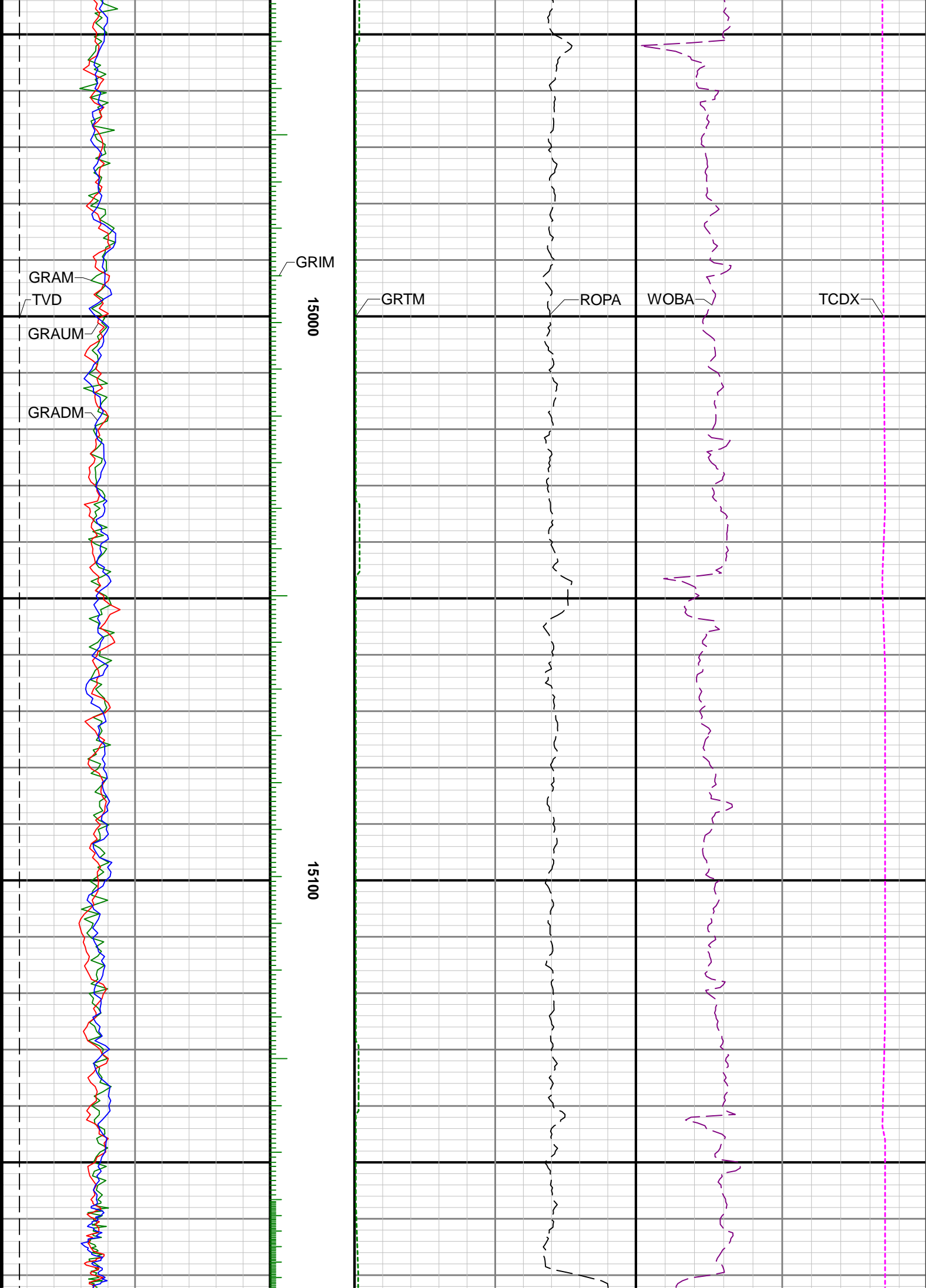


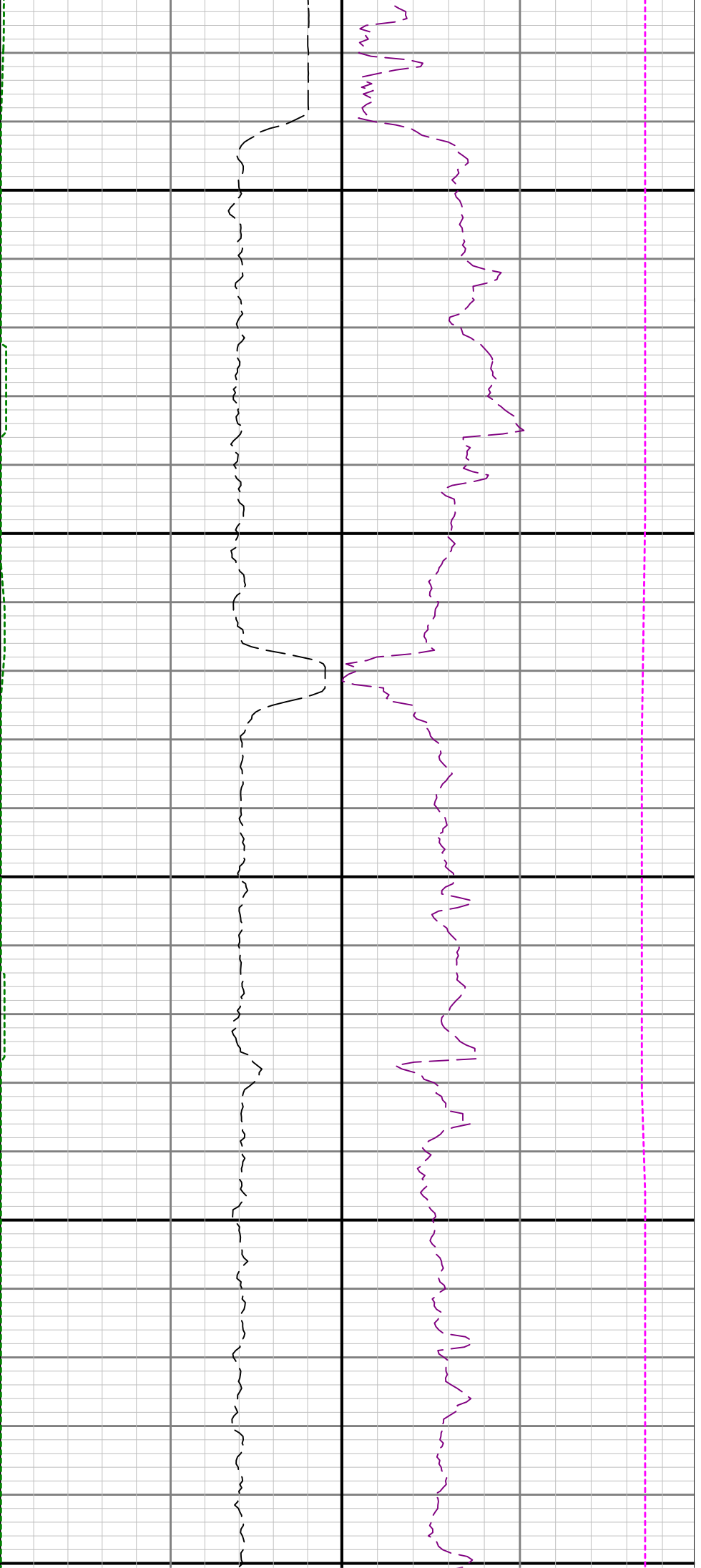


14800

14900







15200

15300

154

