

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+ (%)
2018-01-10 16:00	2	1806.00	Diesel-Oil Based Mud	9.5	59	N/A	35.0	78/22	Active Pit	33000	0.00
2018-01-11 02:00	2	4659.00	Diesel-Oil Based Mud	9.5	52	N/A	34.0	80/20	Active Pit	24000	0.00
2018-01-11 14:00	2	6643.00	Diesel-Oil Based Mud	9.8	49	N/A	36.0	80/20	Active Pit	36000	0.00
2018-01-12 02:00	2	8209.00	Diesel-Oil Based Mud	9.7	60	N/A	33.5	79/21	Active Pit	35000	0.00
2018-01-12 14:00	2	9797.00	Diesel-Oil Based Mud	9.7	49	N/A	32.0	80/20	Active Pit	35000	0.00
2018-01-13 04:00	2	11904.00	Diesel-Oil Based Mud	9.8	55	N/A	30.0	80/20	Active Pit	37000	0.00
2018-01-13 14:00	3	11904.00	Diesel-Oil Based Mud	9.8	58	N/A	29.0	77/23	Active Pit	35000	0.00
2018-01-14 04:00	3	13902.00	Diesel-Oil Based Mud	9.8	55	N/A	30.0	78/22	Active Pit	32000	0.00
2018-01-14 14:00	3	15570.00	Diesel-Oil Based Mud	9.8	57	N/A	32.0	80/20	Active Pit	31000	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	VSS	9.93	60.11	8.000	3.250
1	Sensor Sub	ZAPS230925	Directional (mag)	9.93	60.11	8.000	3.250
1	Sensor Sub	ZAPS230925	Pressure	30.52	80.70	8.000	3.250
2	ATC_SU	12406997	Near Bit Inclination	5.93	6.73	7.000	4.330
2	ATC_SU	12406997	Near Bit VSS	5.93	6.73	7.000	4.330
2	ATC_MWD	12965732	Gamma (single)	2.75	12.90	7.000	3.250
2	ATC_MWD	12965732	Directional (mag)	12.27	22.42	7.000	3.250
3	ATC_SU	12406997	Near Bit Inclination	5.93	6.73	7.000	4.330
3	ATC_SU	12406997	Near Bit VSS	5.93	6.73	7.000	4.330
3	ATC_MWD	12965732	Gamma (single)	2.75	12.90	7.000	3.250
3	ATC_MWD	12965732	Directional (mag)	12.27	22.42	7.000	3.250

Service and Tool Mnemonics

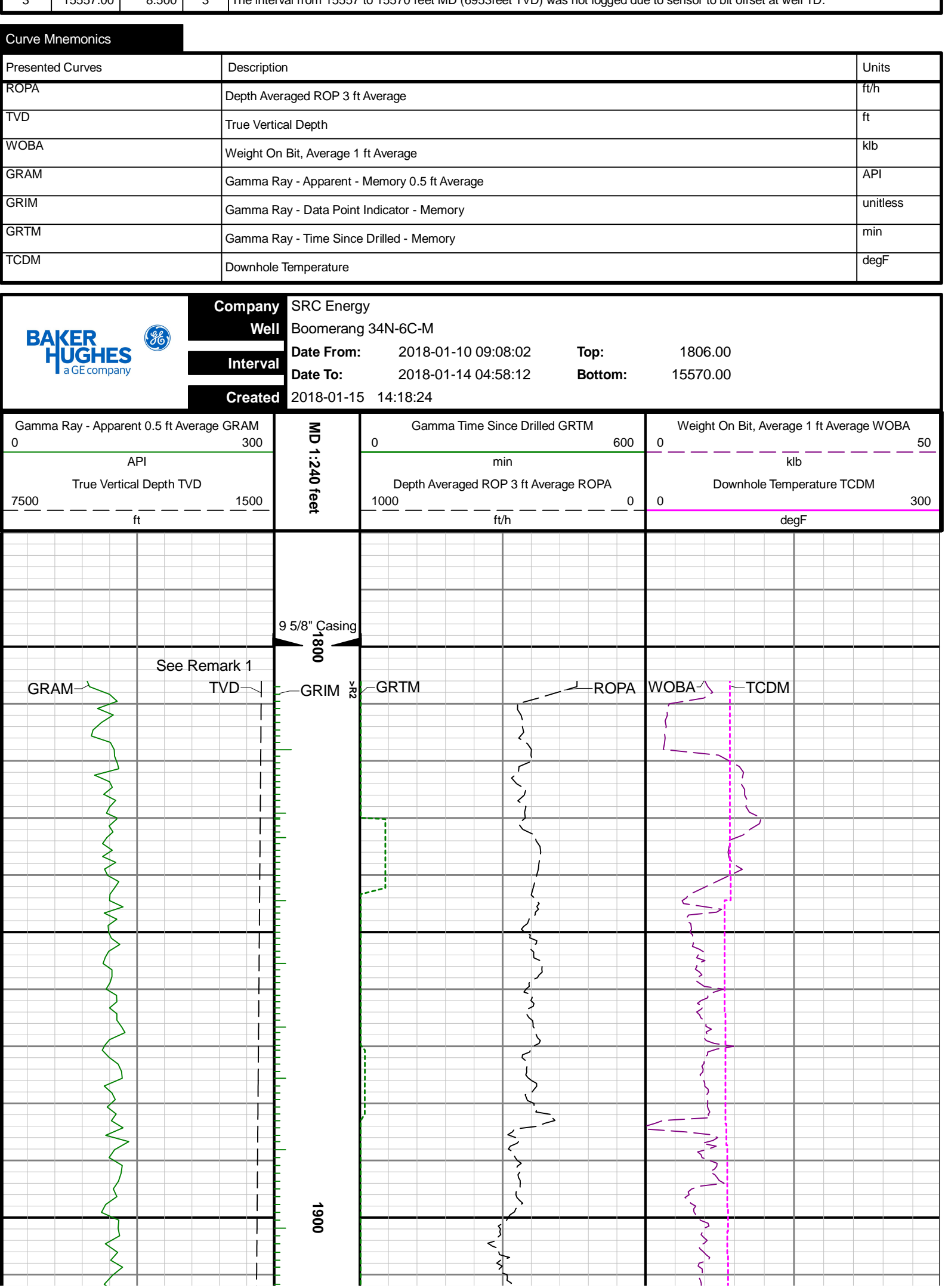
Mnemonic	Name	Description
GAM	APS	APS EM Module
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_LCPM	Auto Trak Curve LCPM

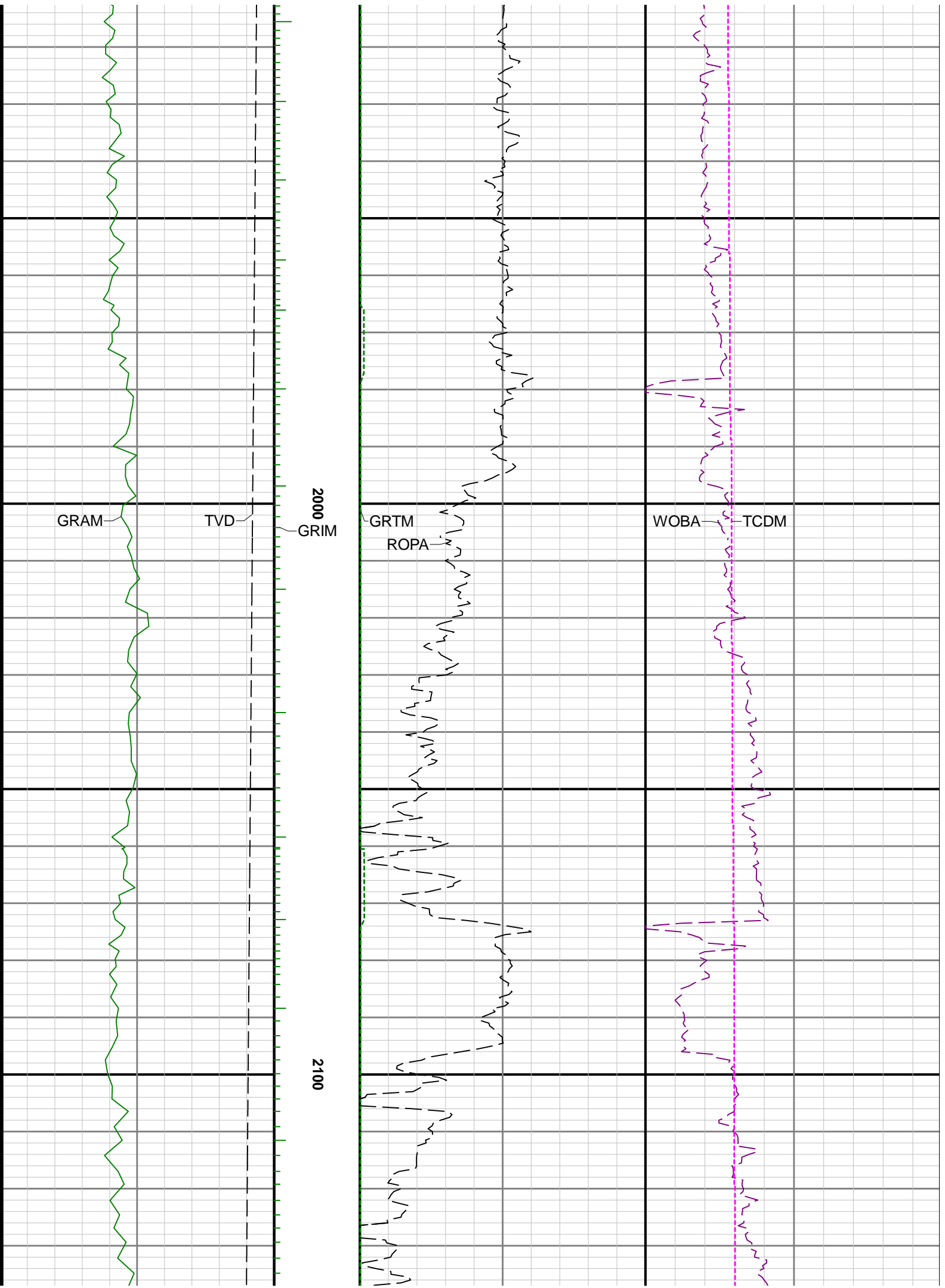
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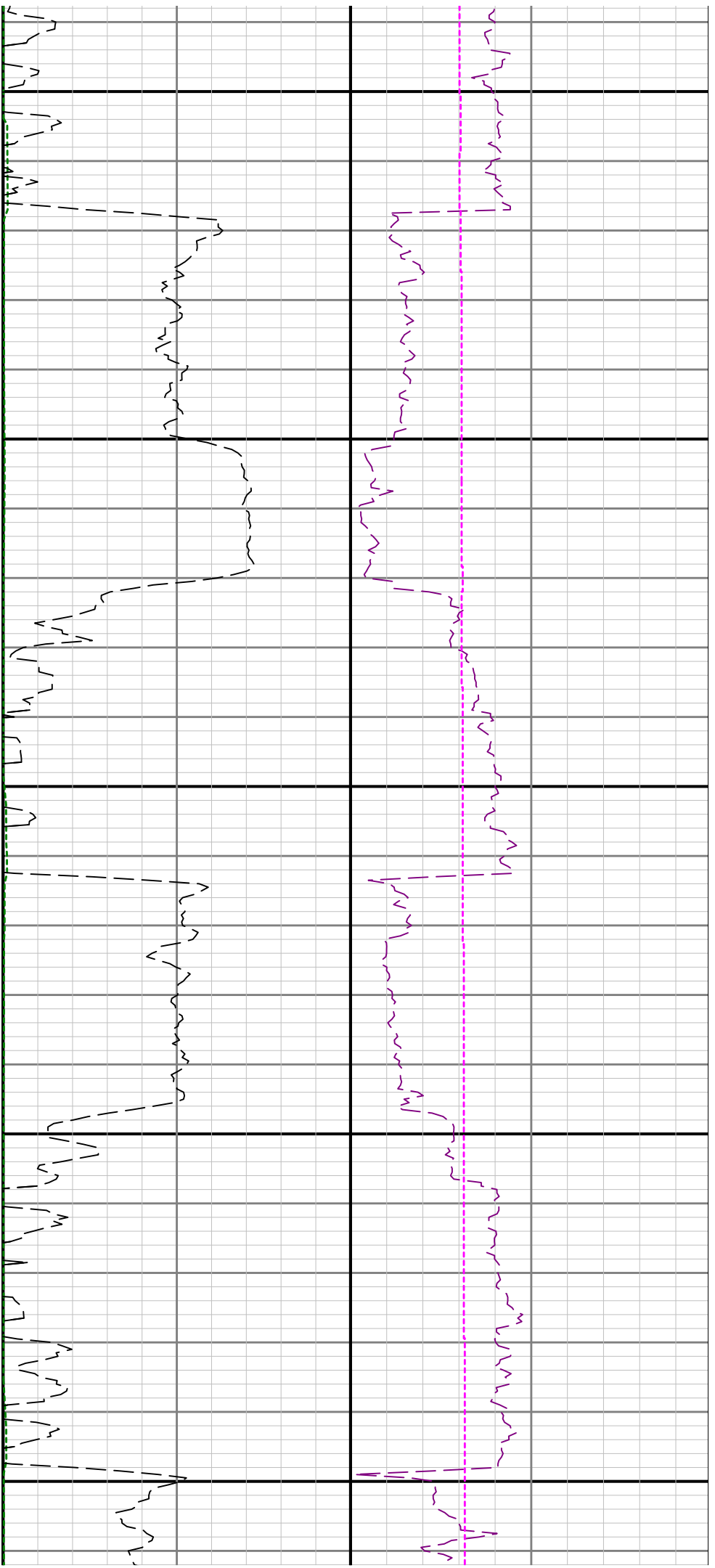
1	Depths and depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified. These unverified depths are being used to represent logging data.
2	0 to 1781 feet TVD). No logging data was acquired during this run.
3	0 to 1806 feet TVD). No logging data was acquired during this run.
4	Numerous gaps in Gamma Ray data are present throughout run 2 due to tool issues.
5	Gamma Ray Apparent (GRAM) is presented 0 to 300 API per customer request.

Remarks

Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	1806.00	8.500	2	Baker Hughes logging services began at 1806 feet MD (1781 feet TVD) per customer request.
2	11891.00	8.500	2	The interval from 11891 to 11904 feet MD (6990 feet TVD) was logged up to 16 hours after drilling due to Gamma Ray sensor offset from the bit at the end of Run 2.
3	15557.00	8.500	3	The interval from 15557 to 15570 feet MD (6953 feet TVD) was not logged due to sensor to bit offset at well TD.

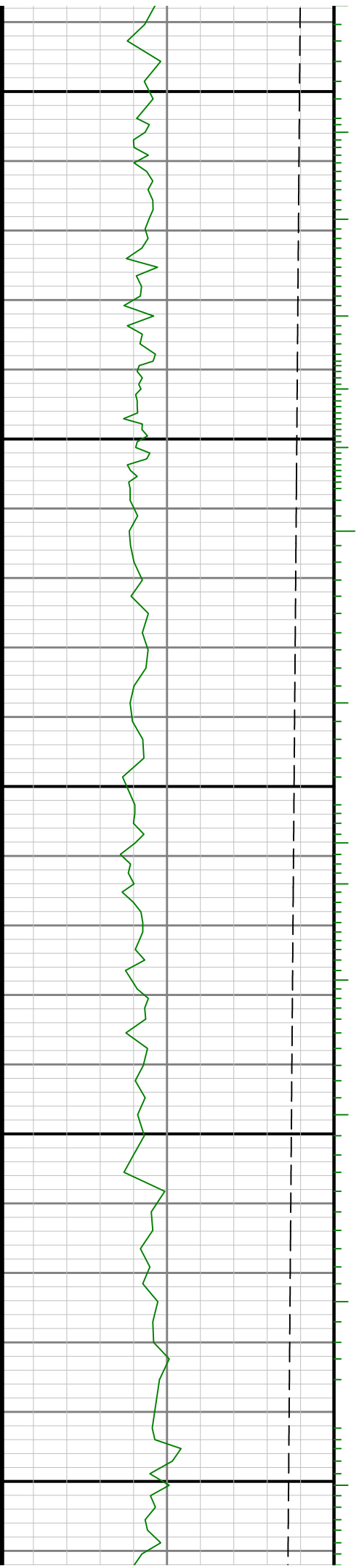


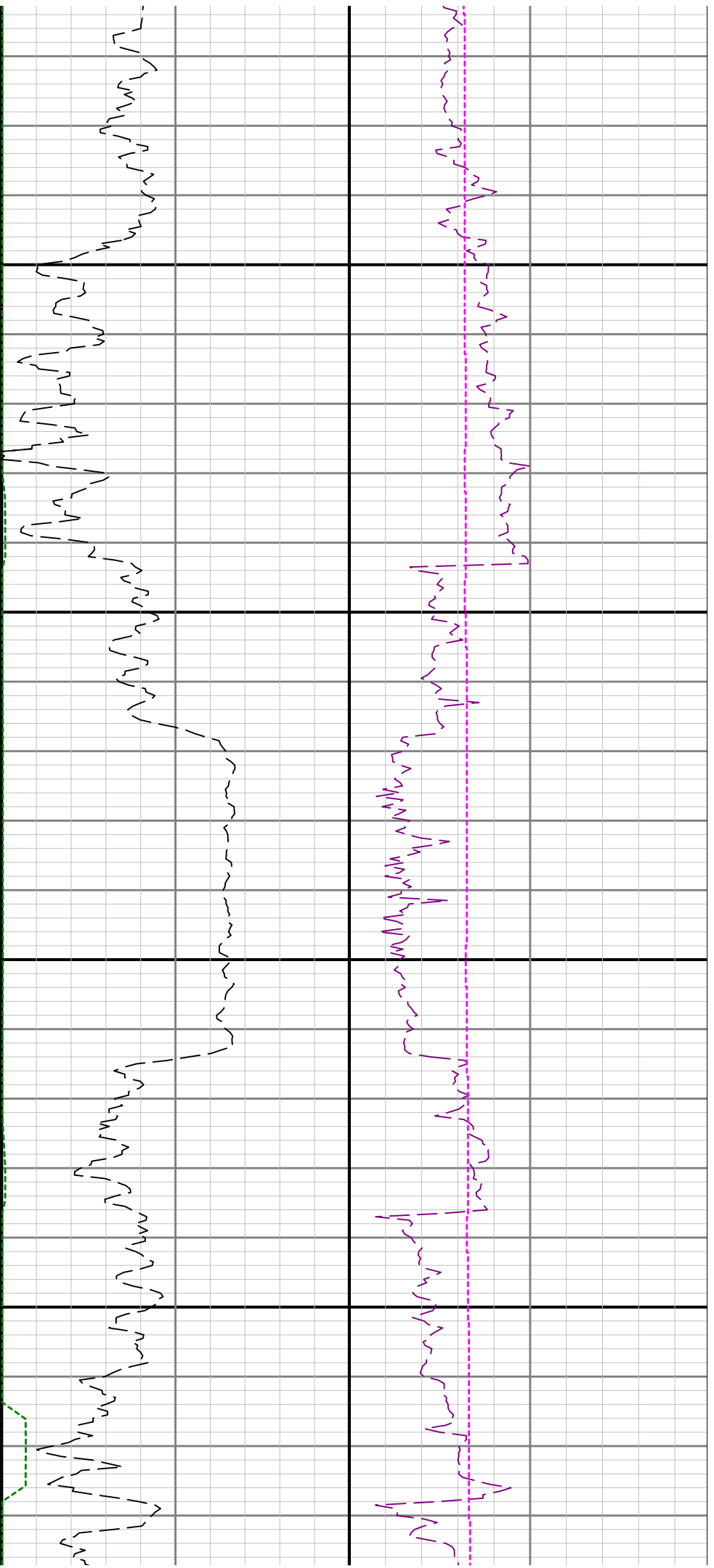




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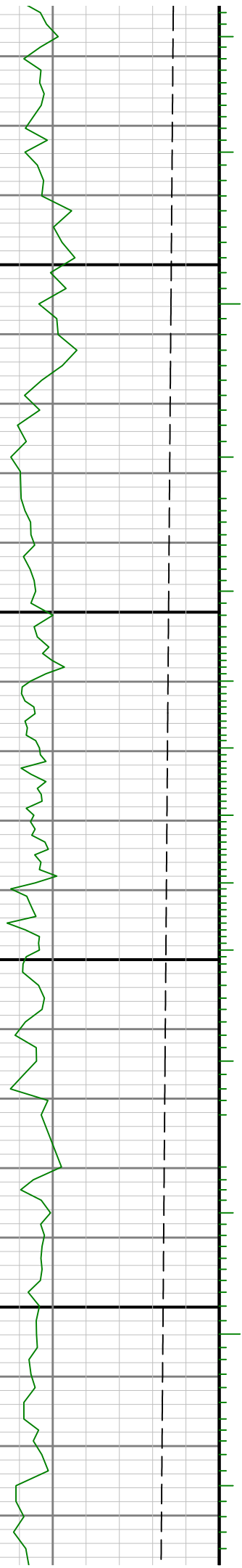
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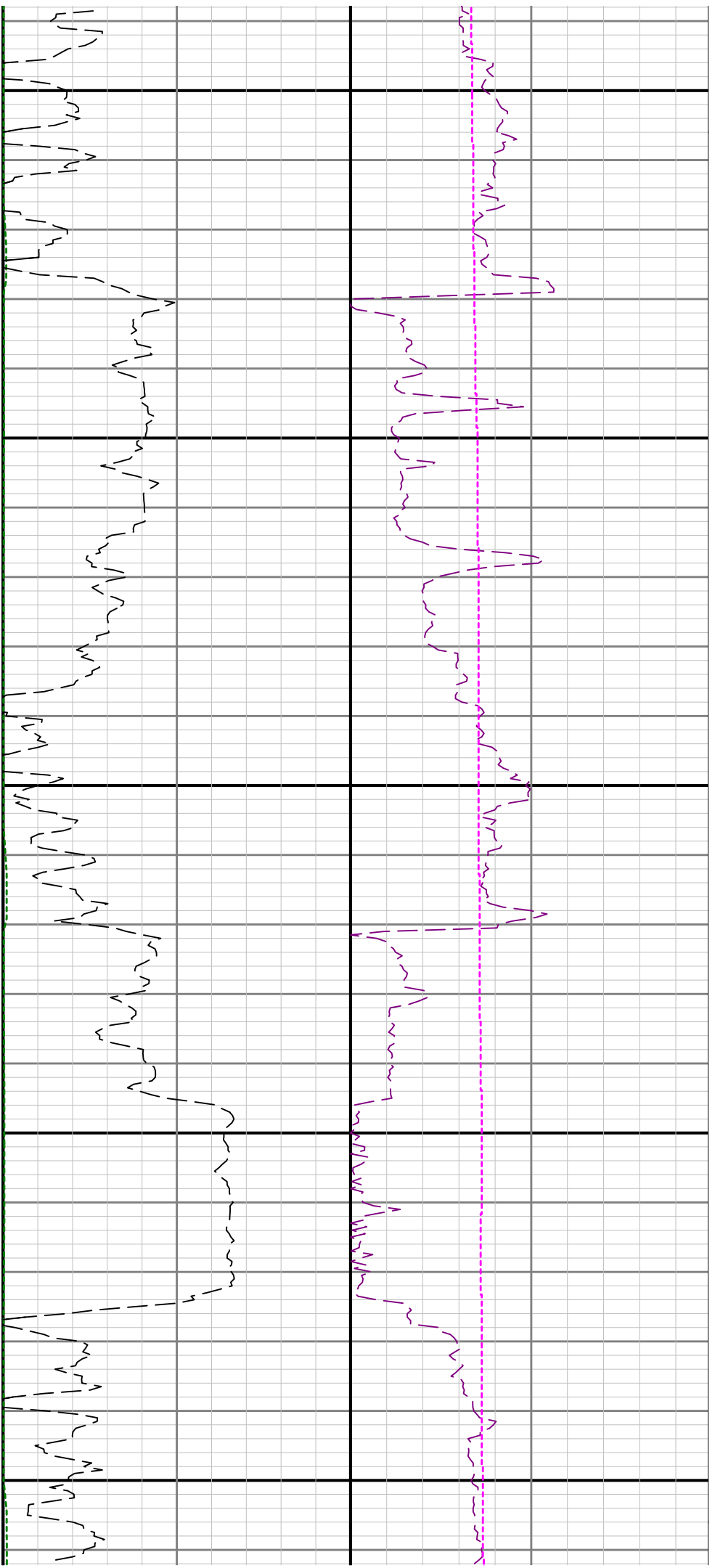




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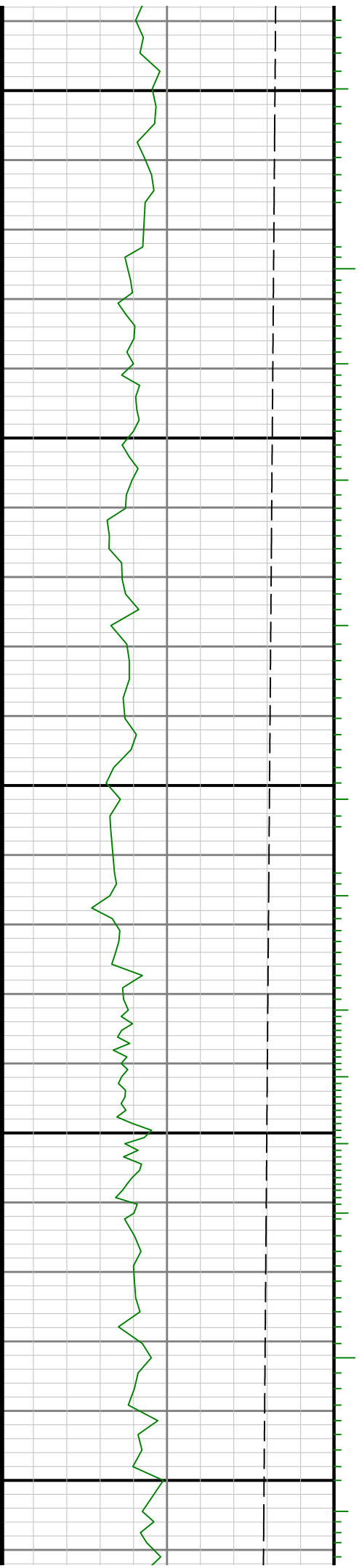


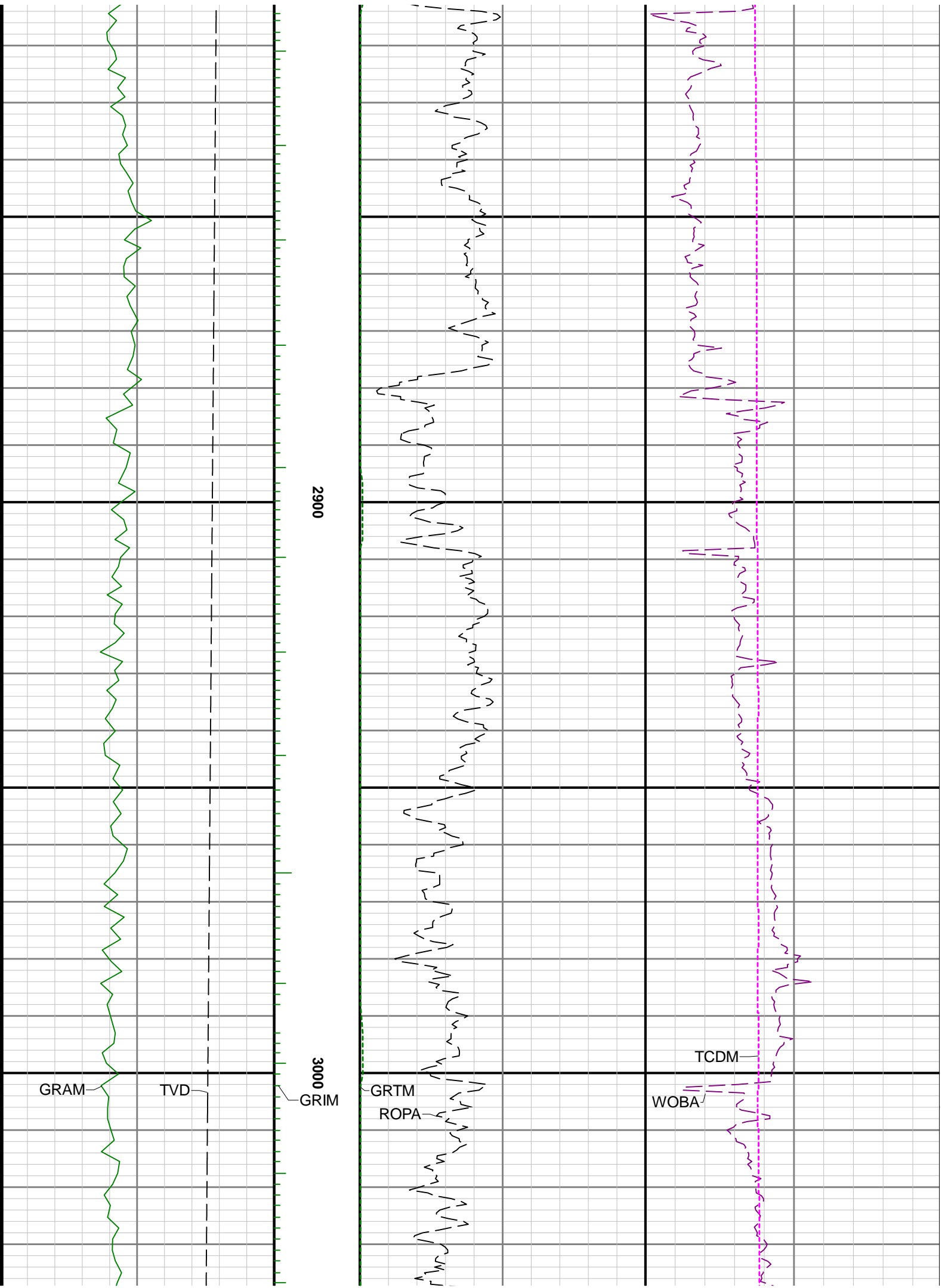


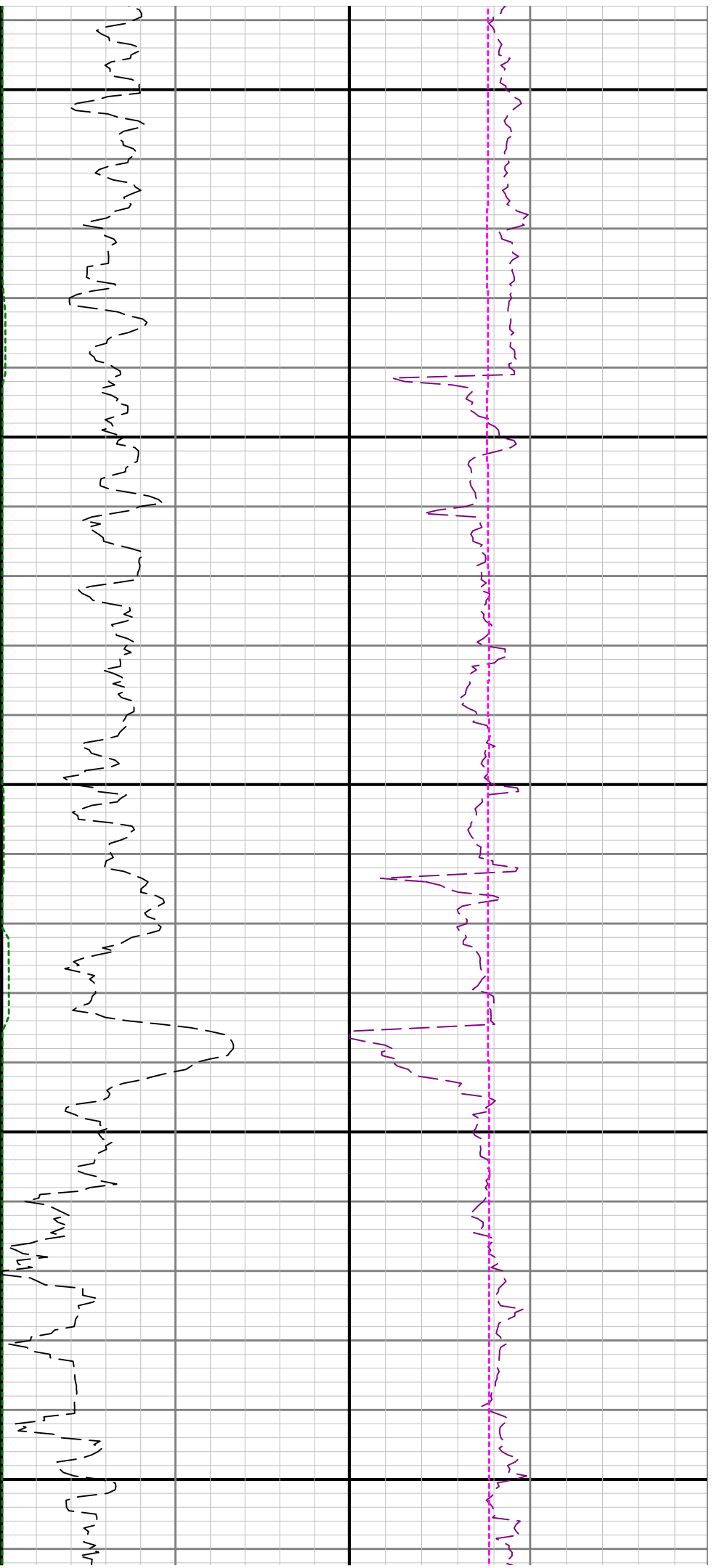
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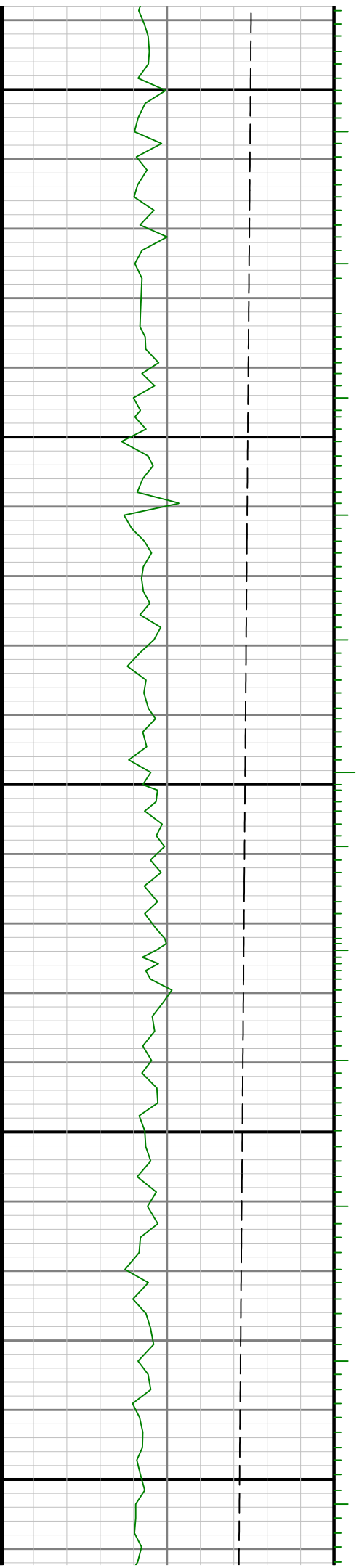


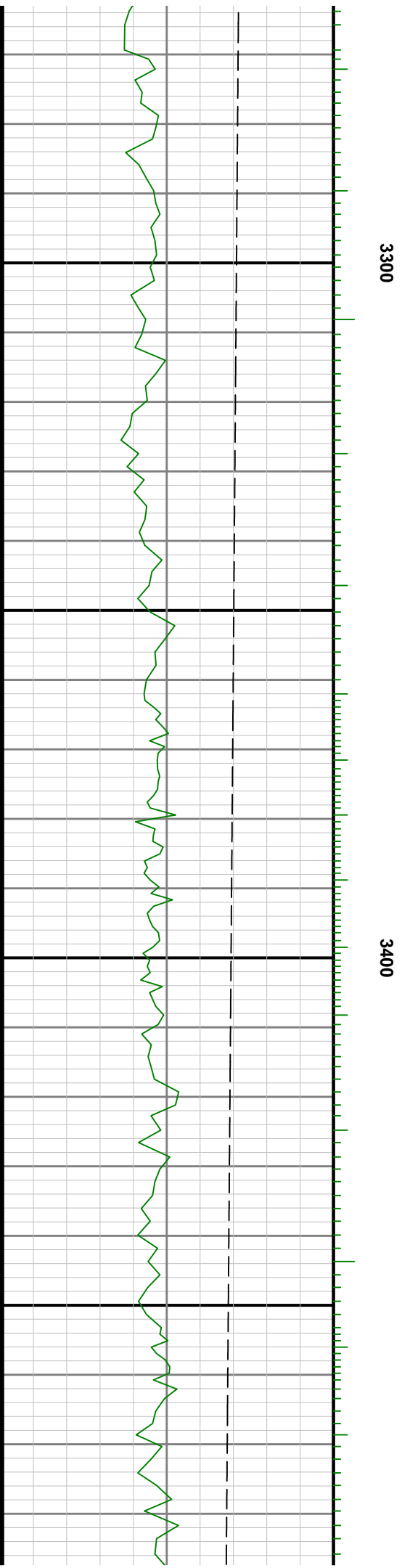
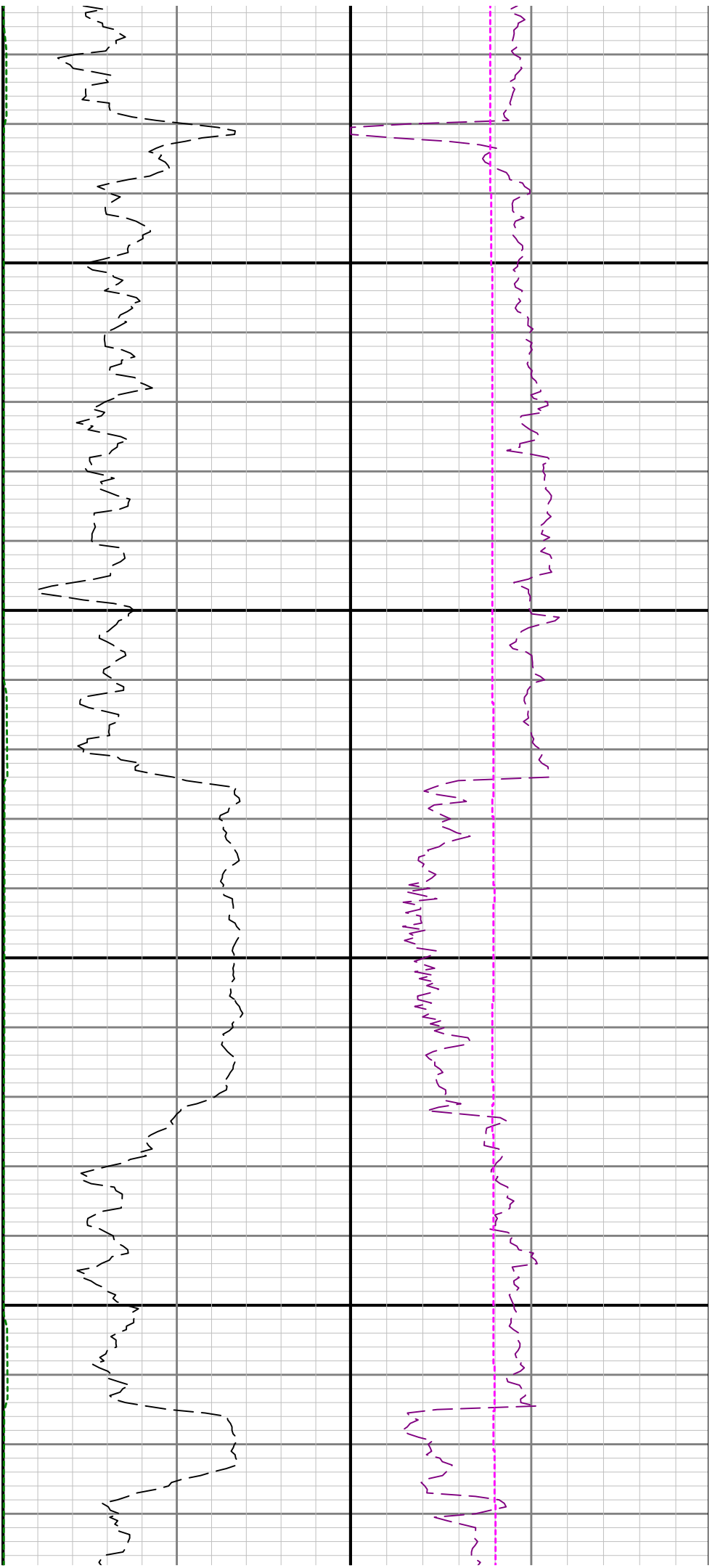


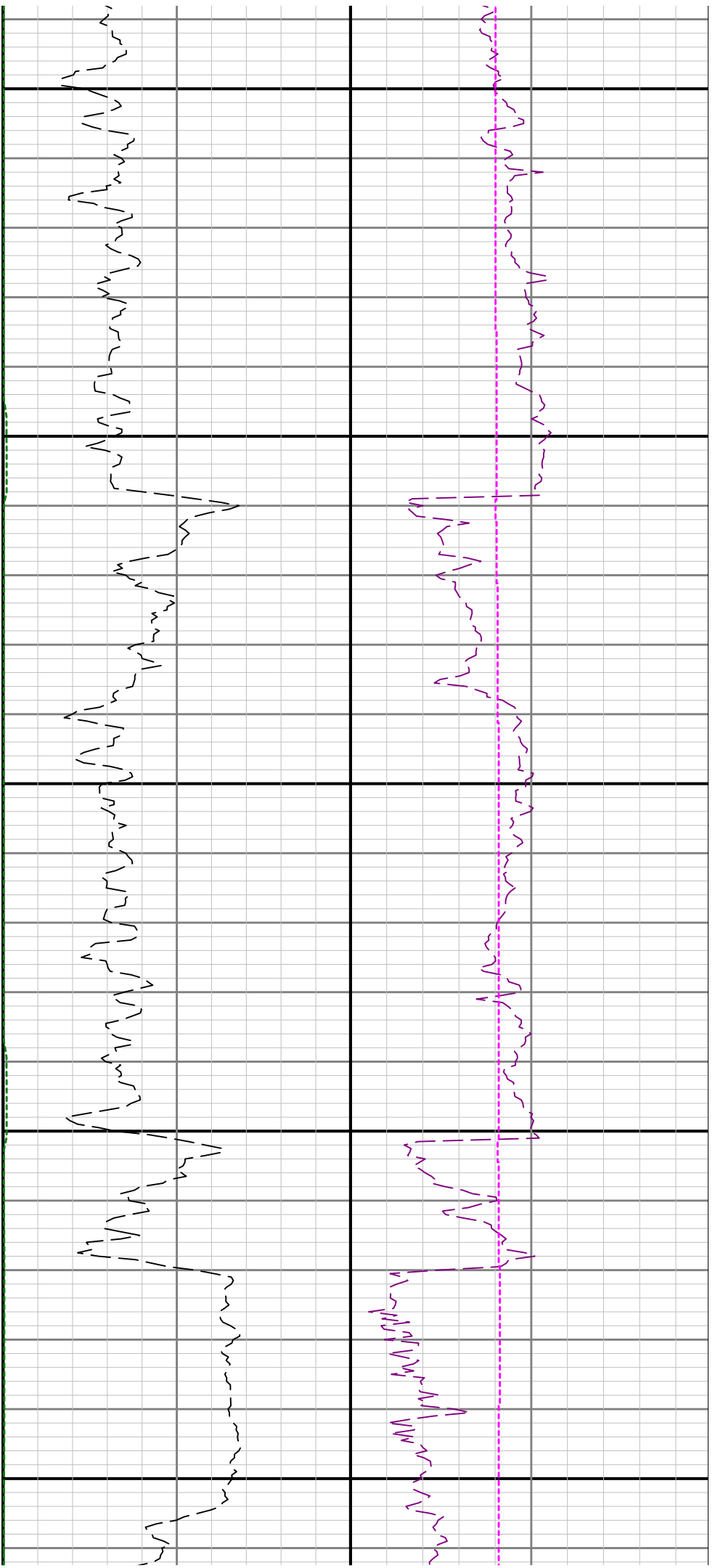


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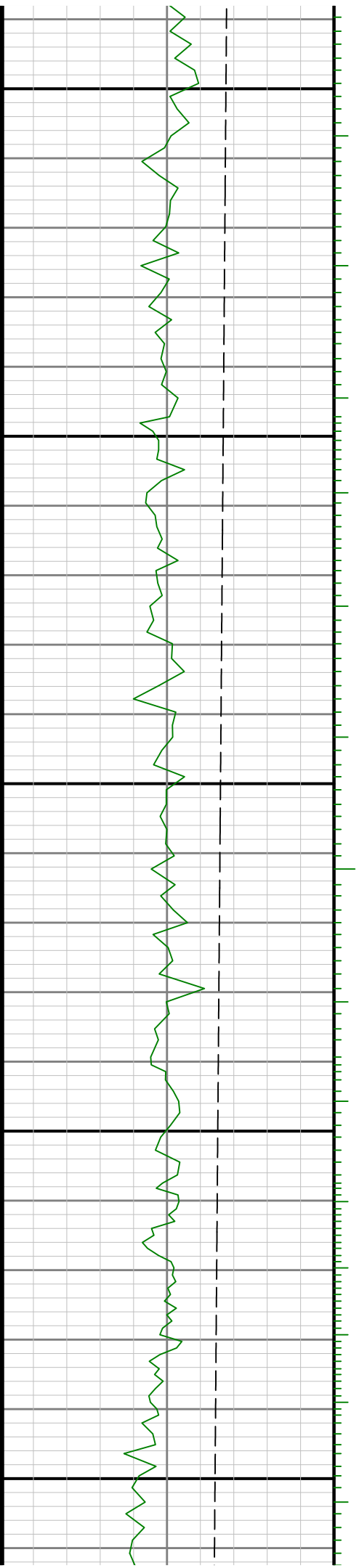


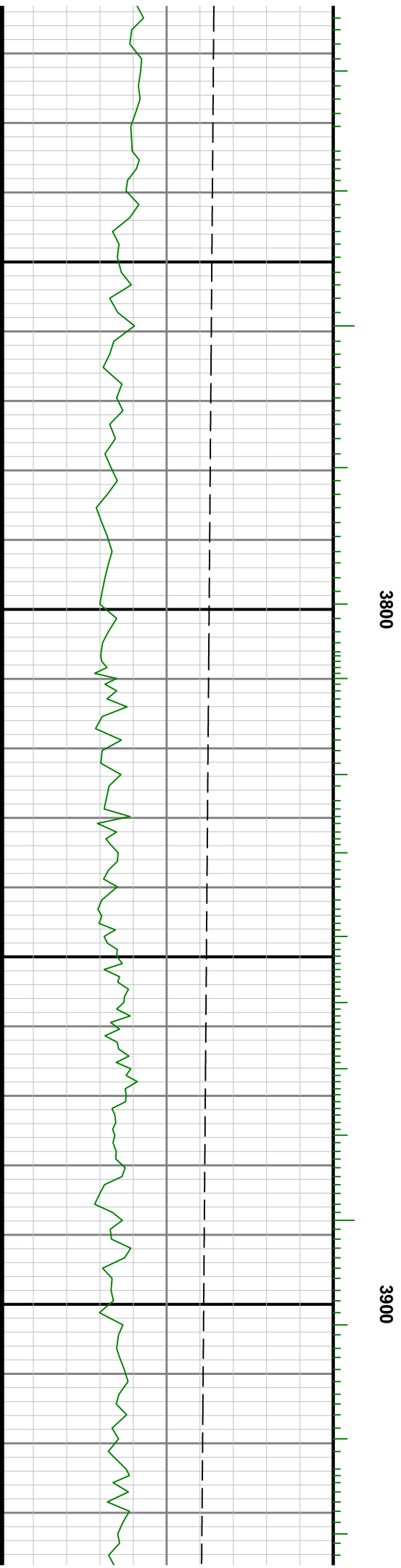
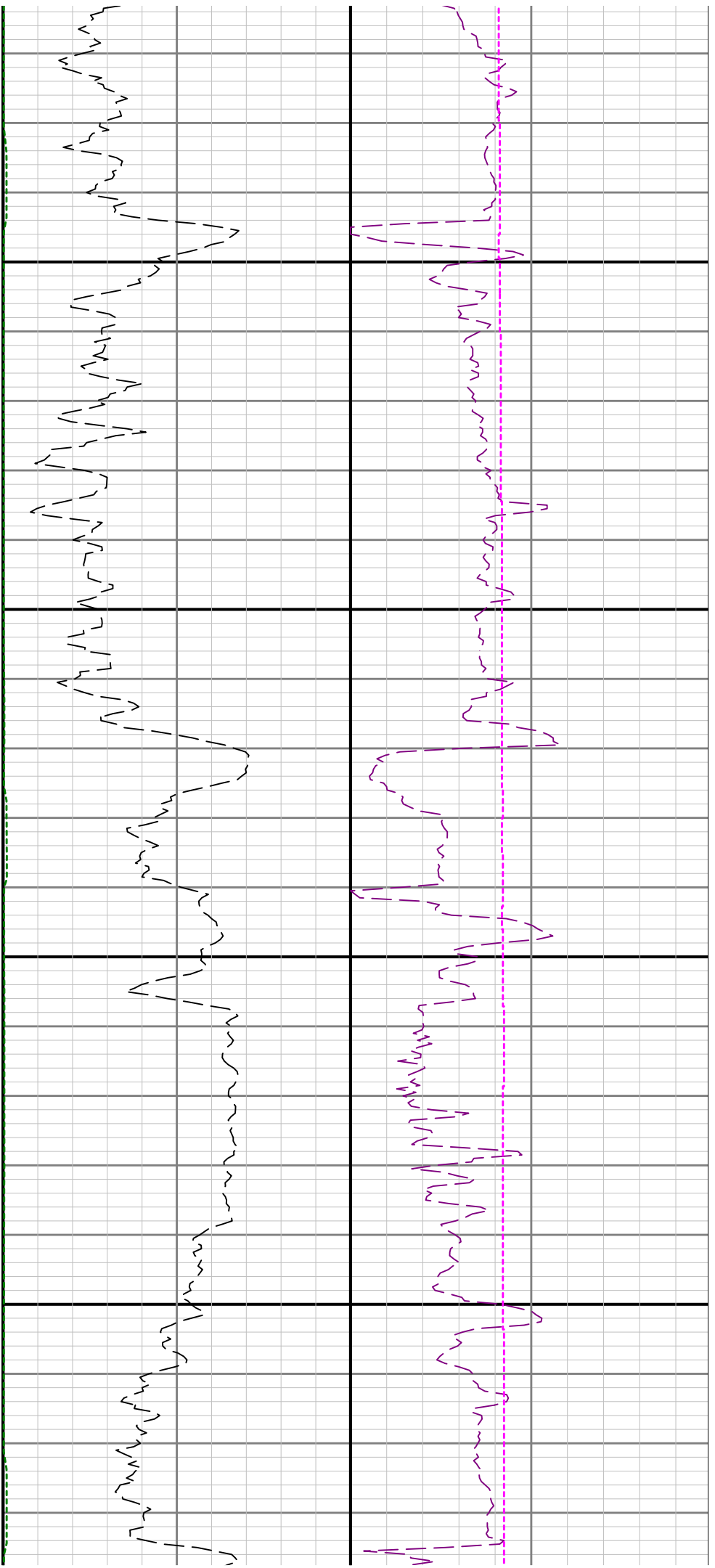


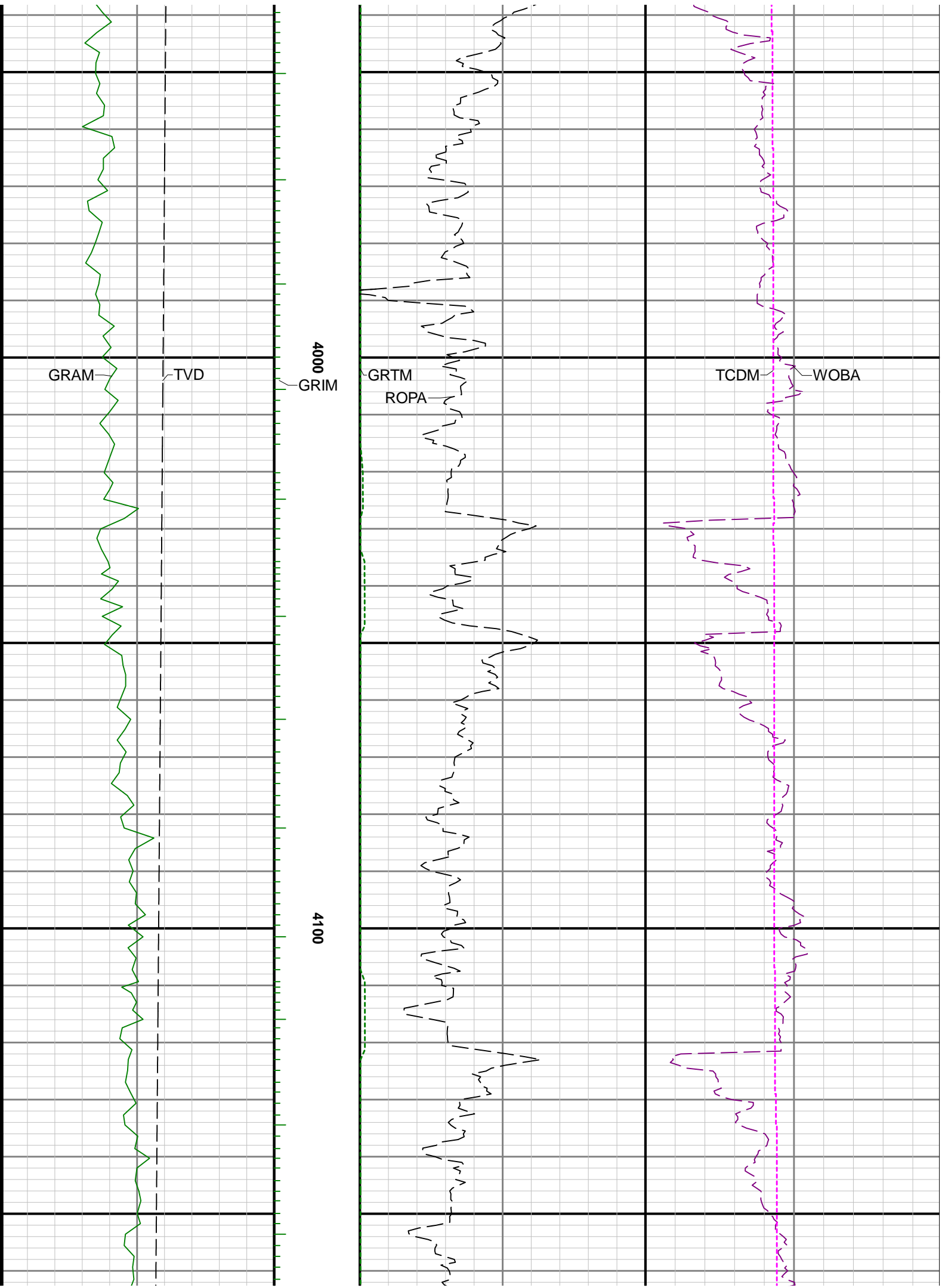
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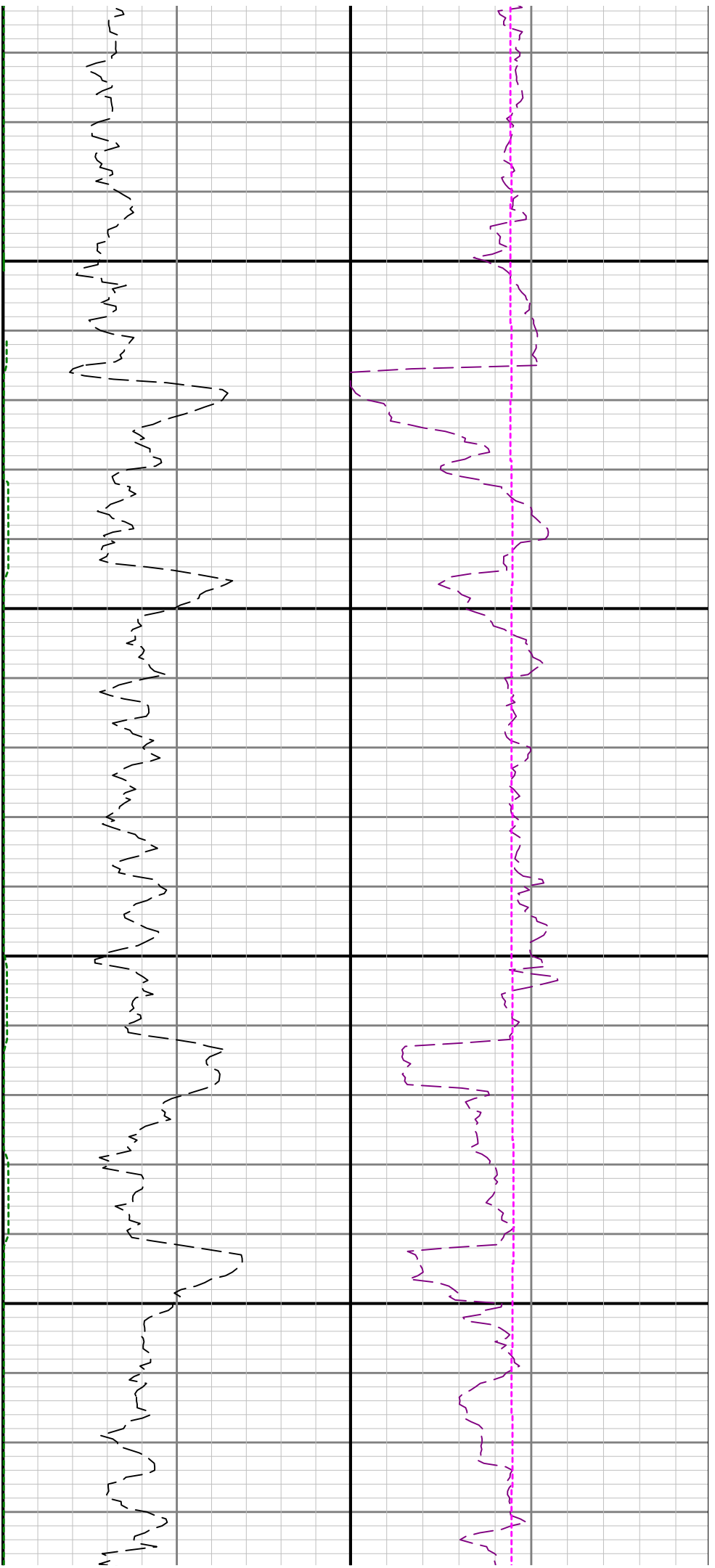
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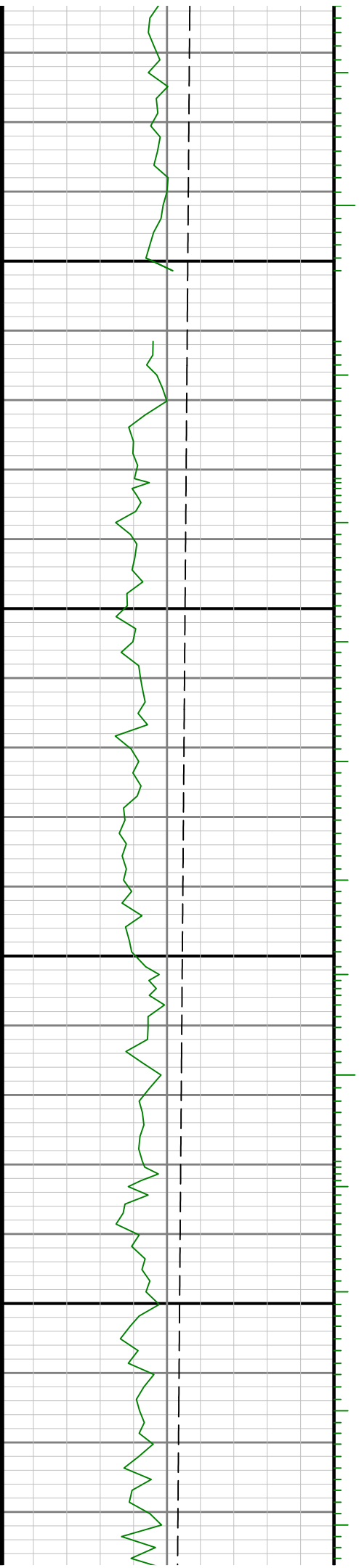


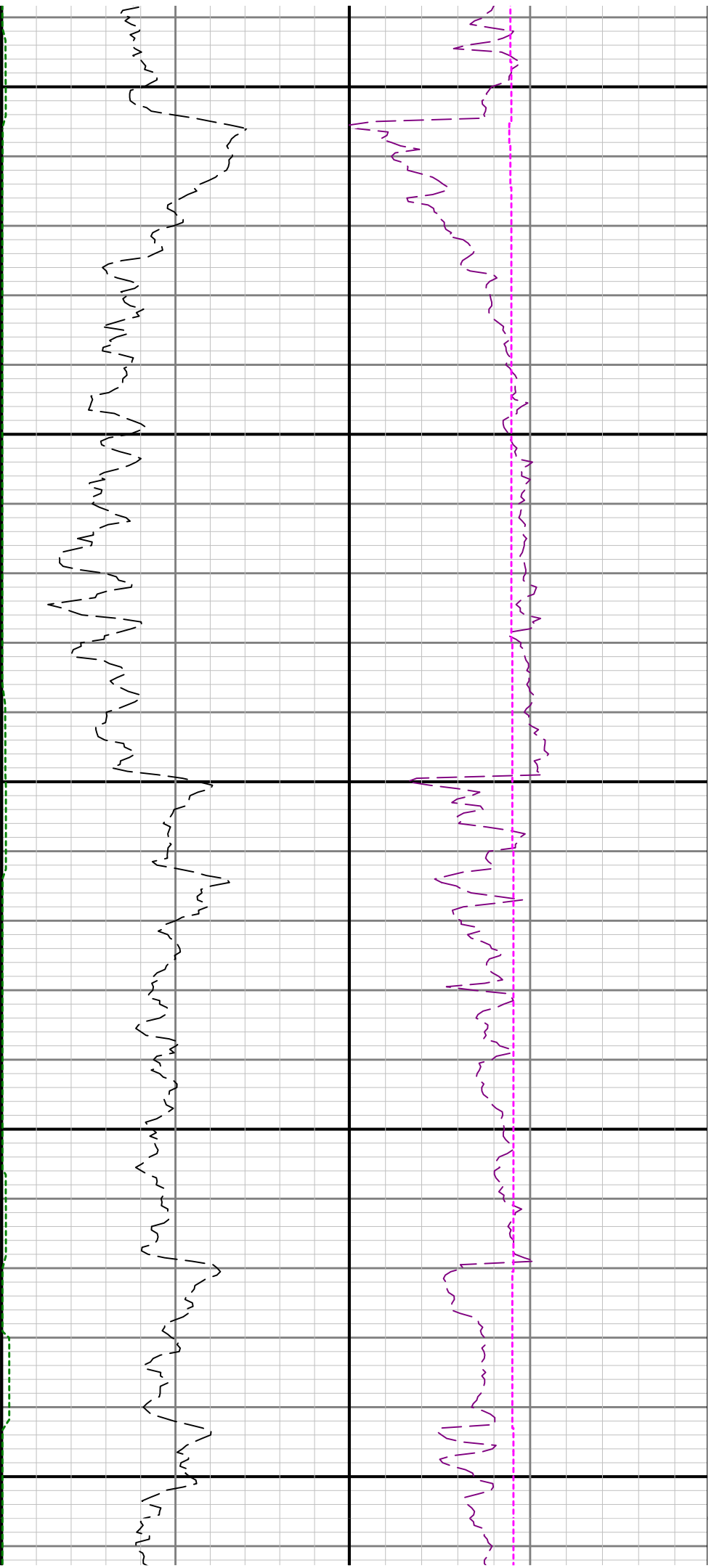




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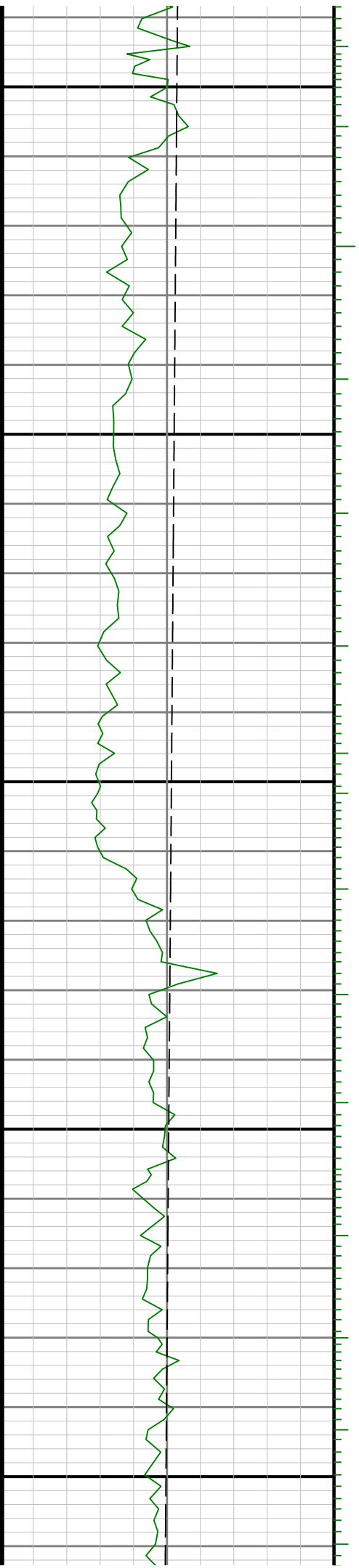


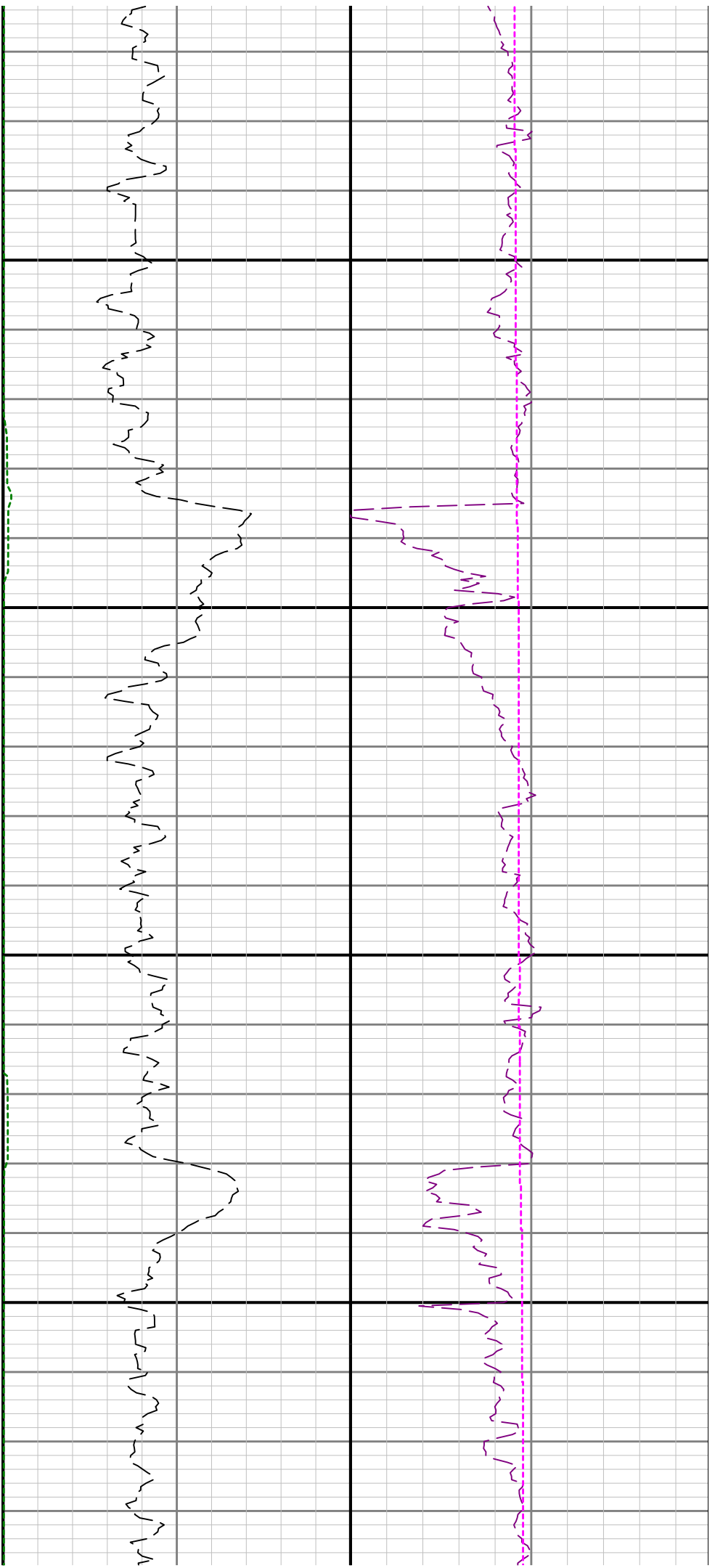


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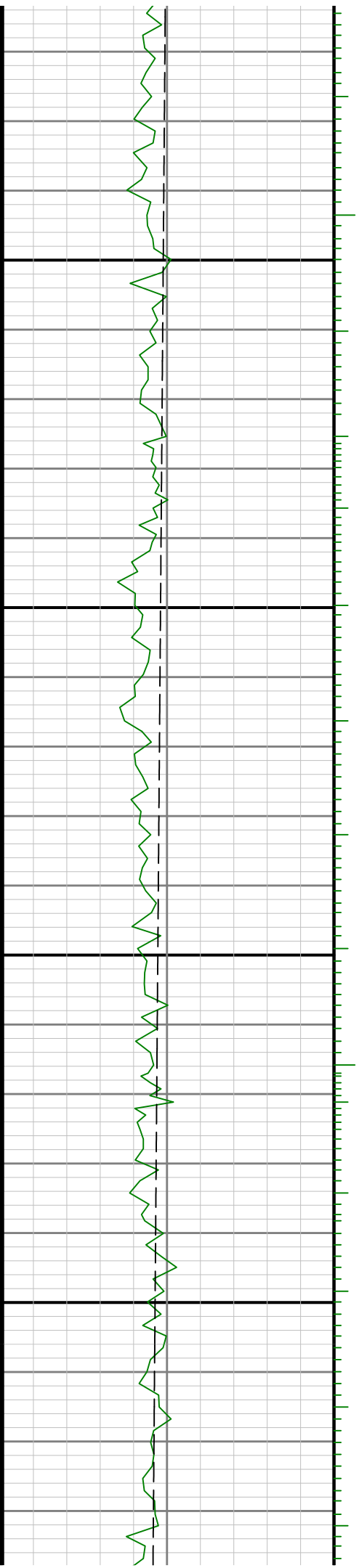
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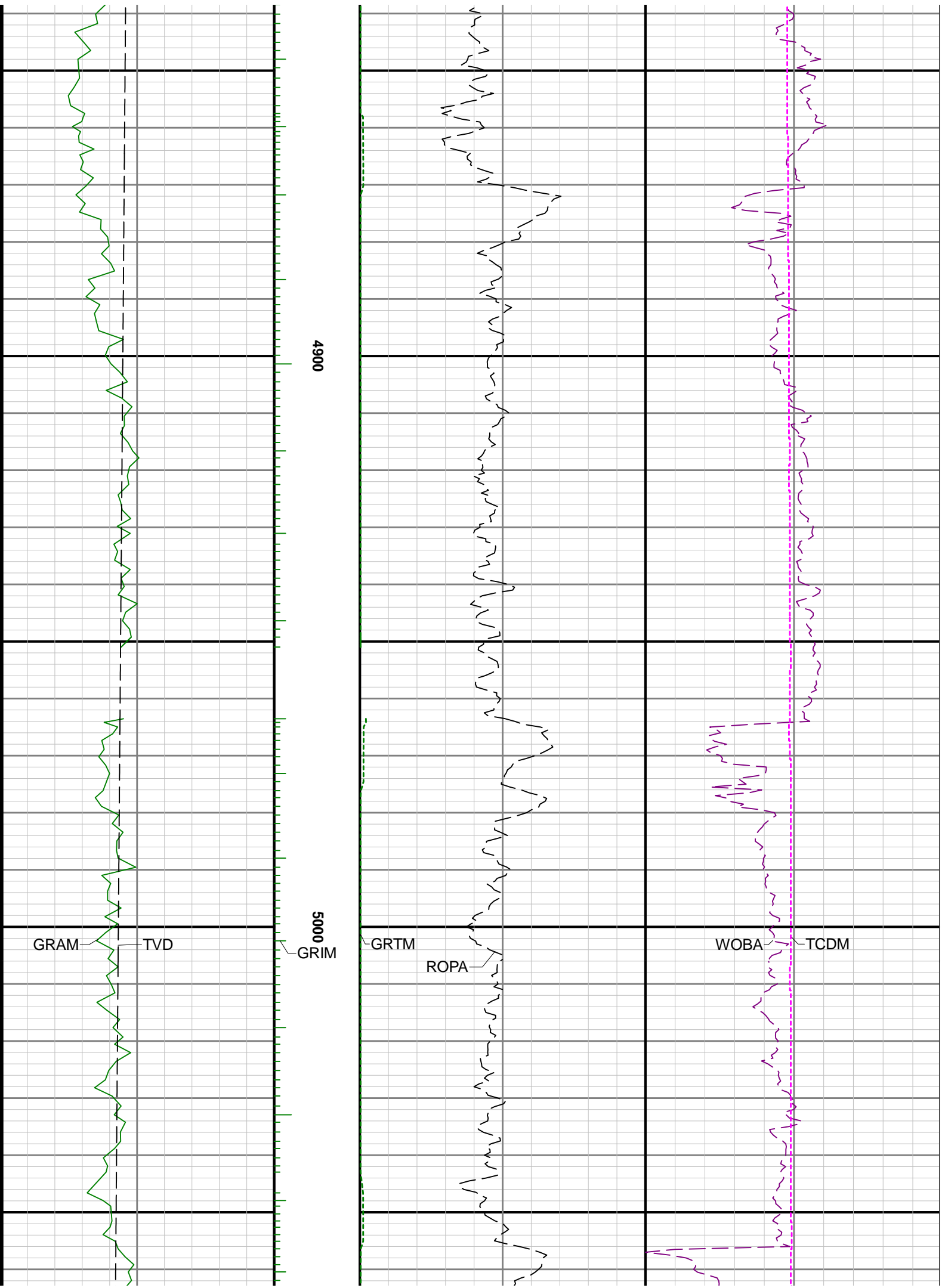


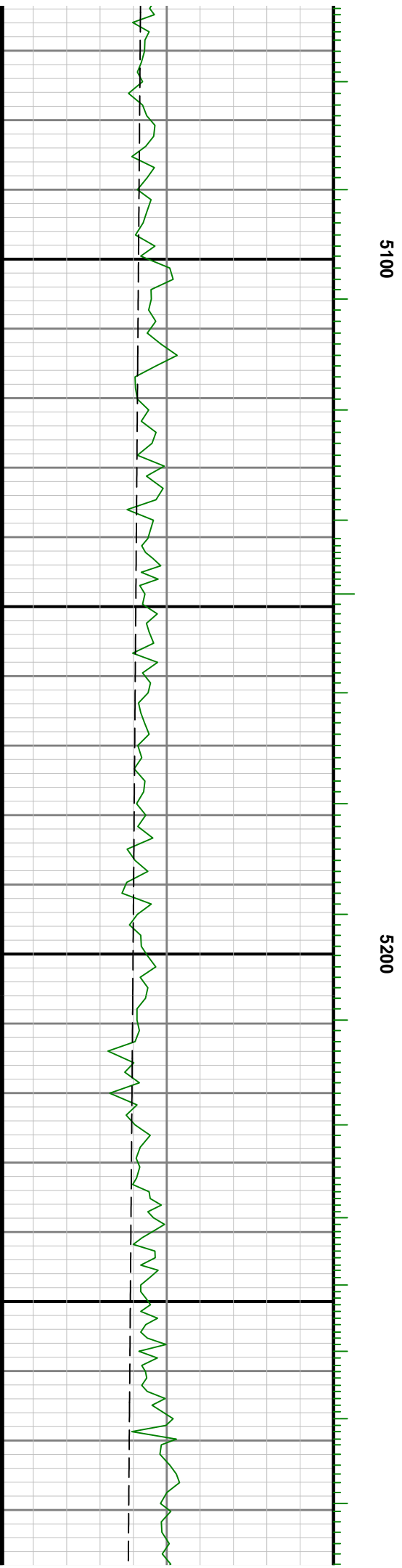
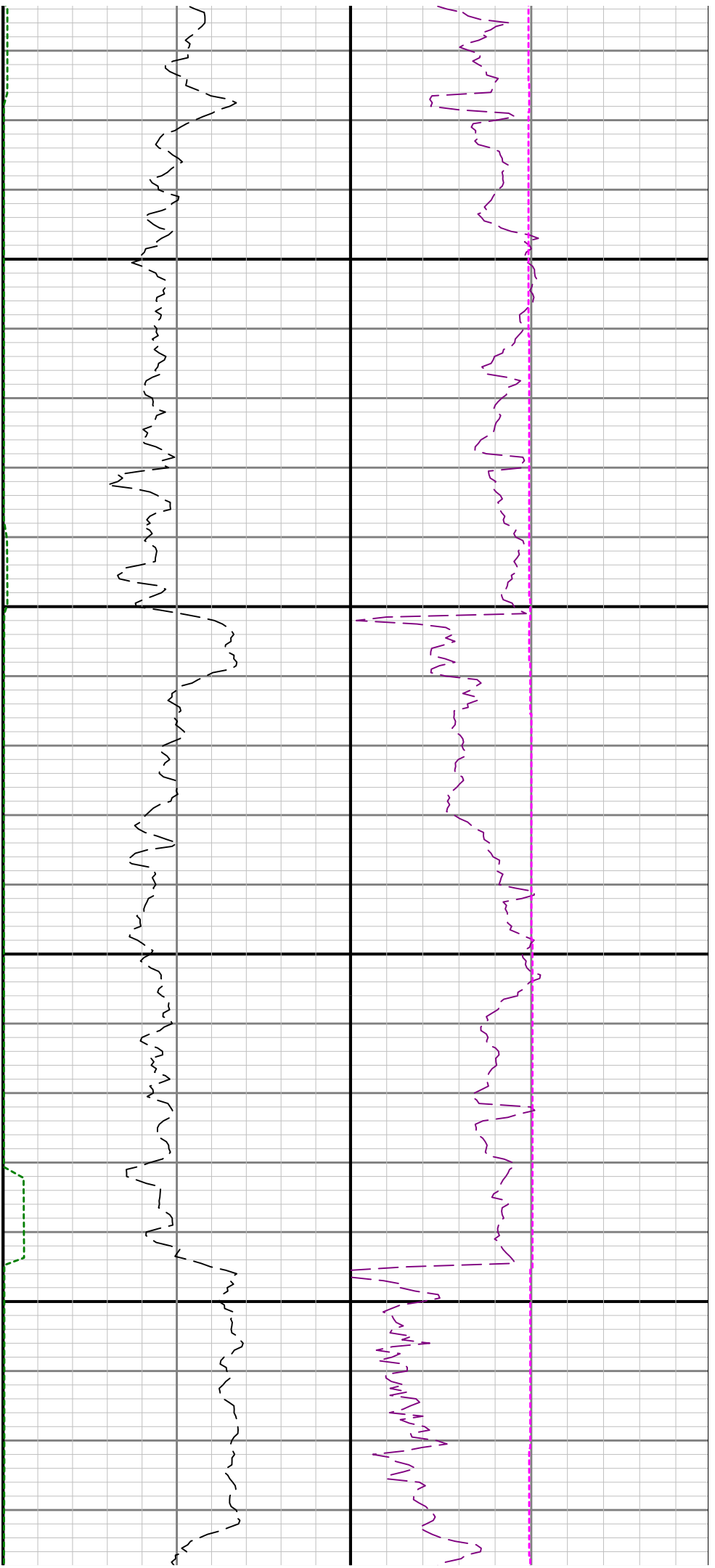


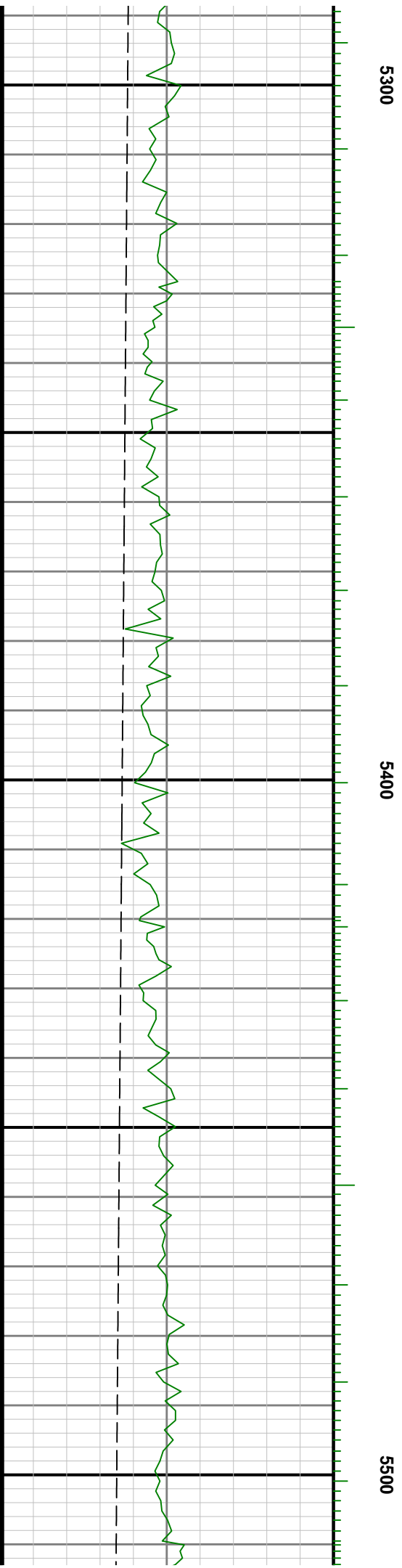
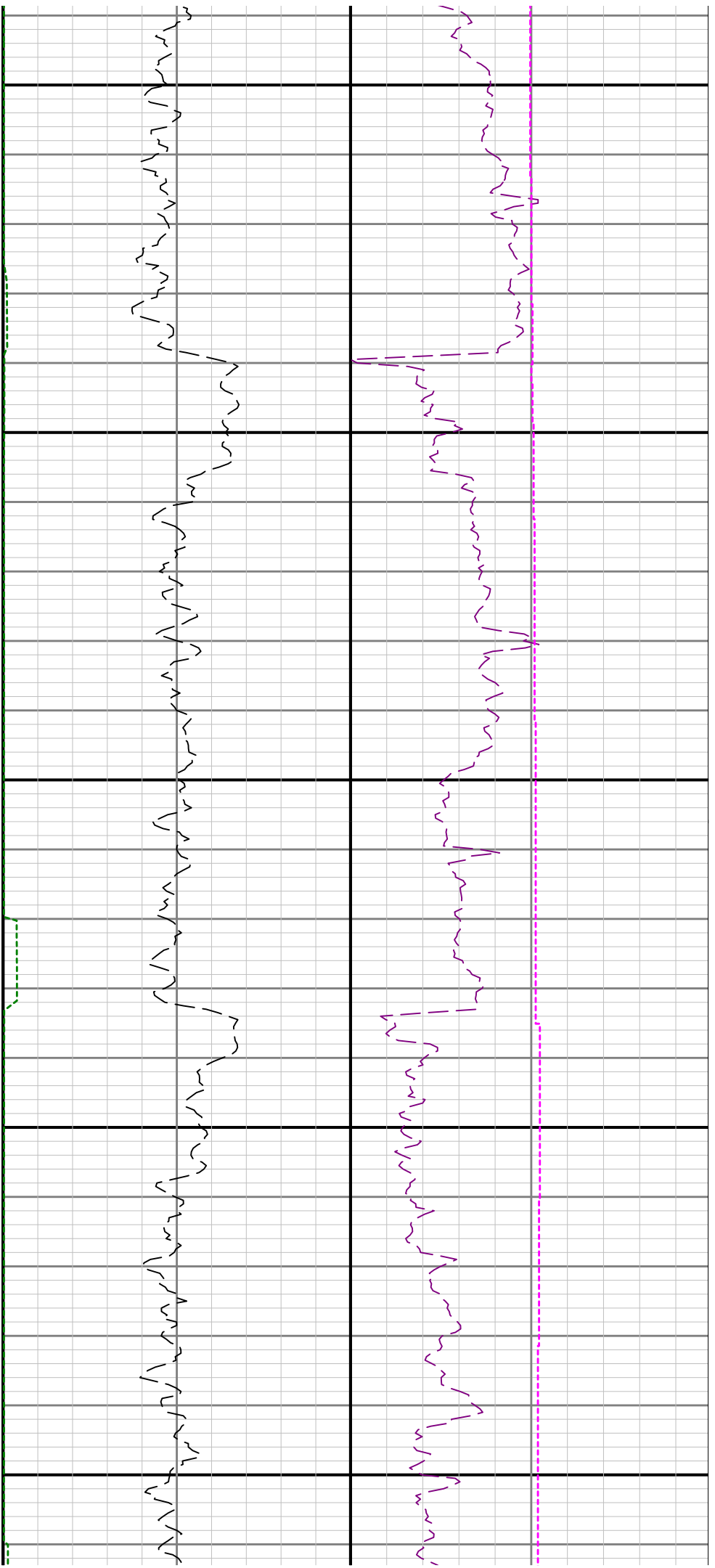
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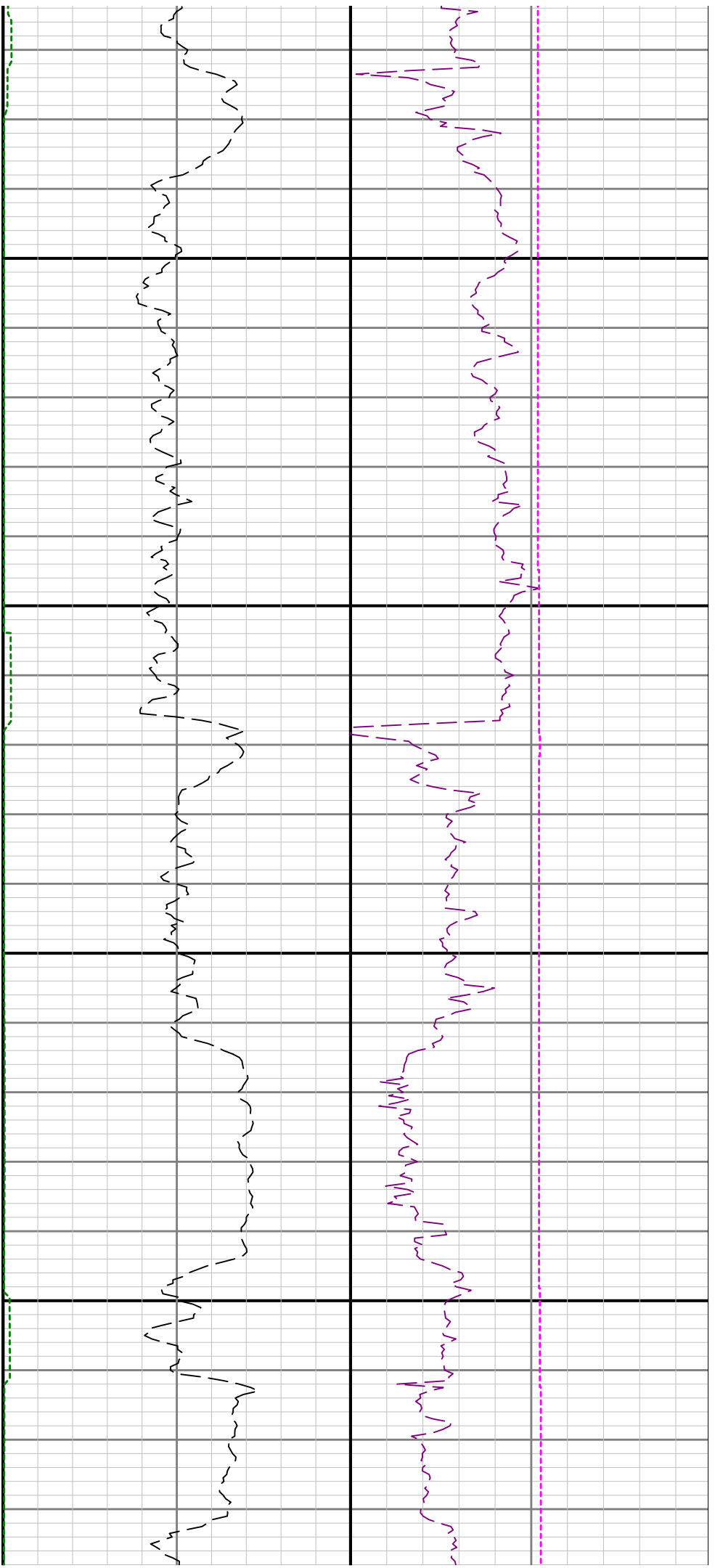
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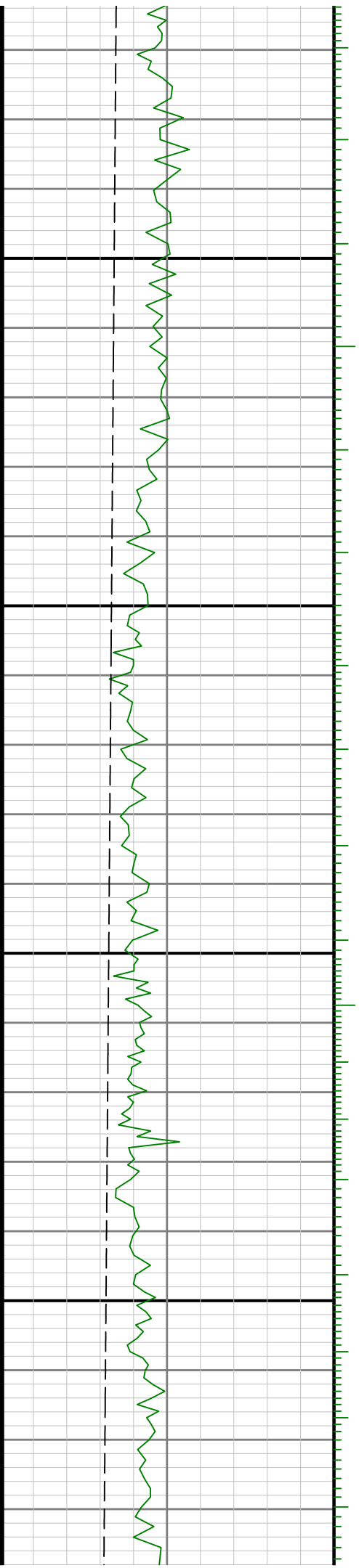


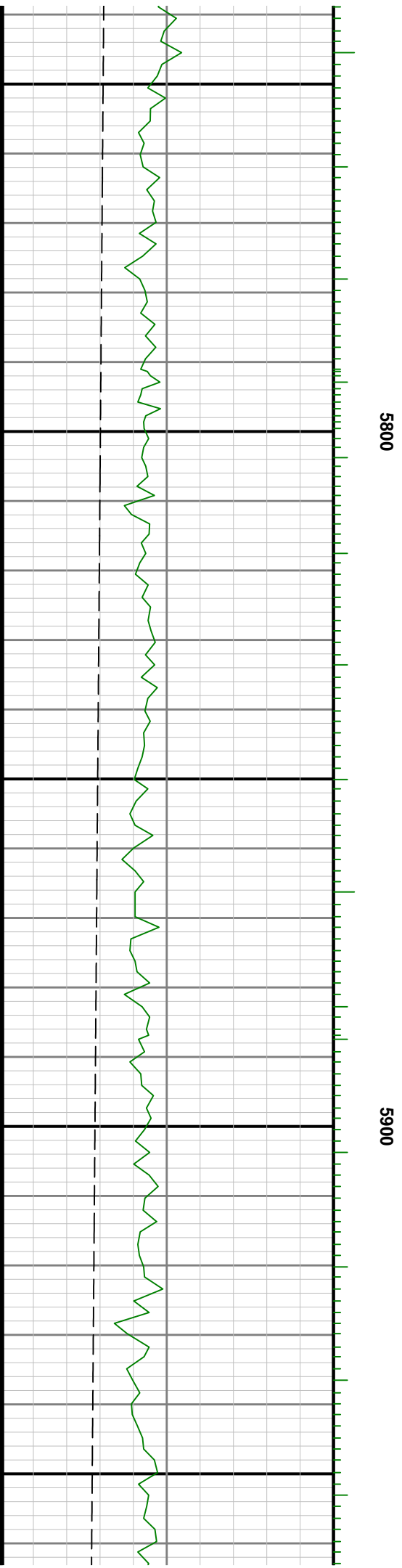
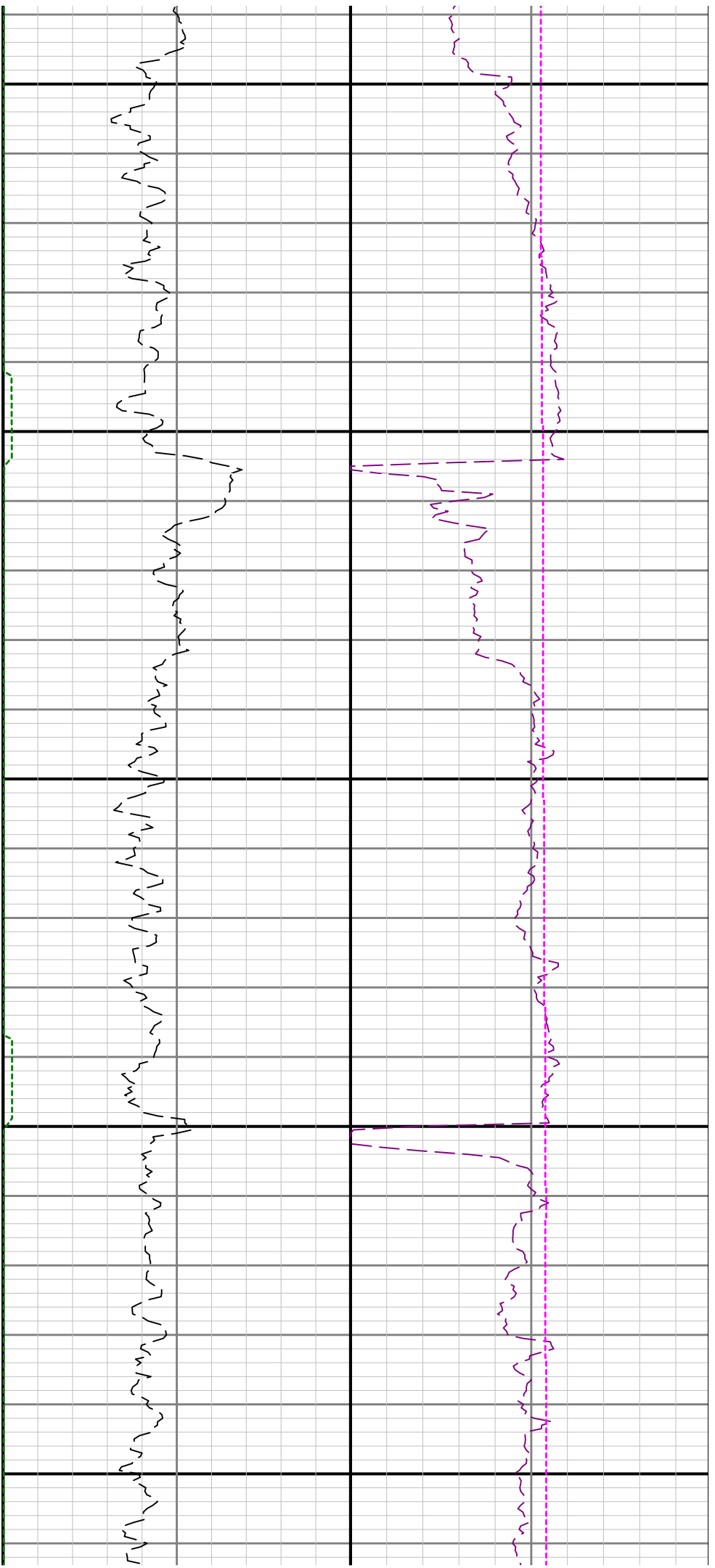


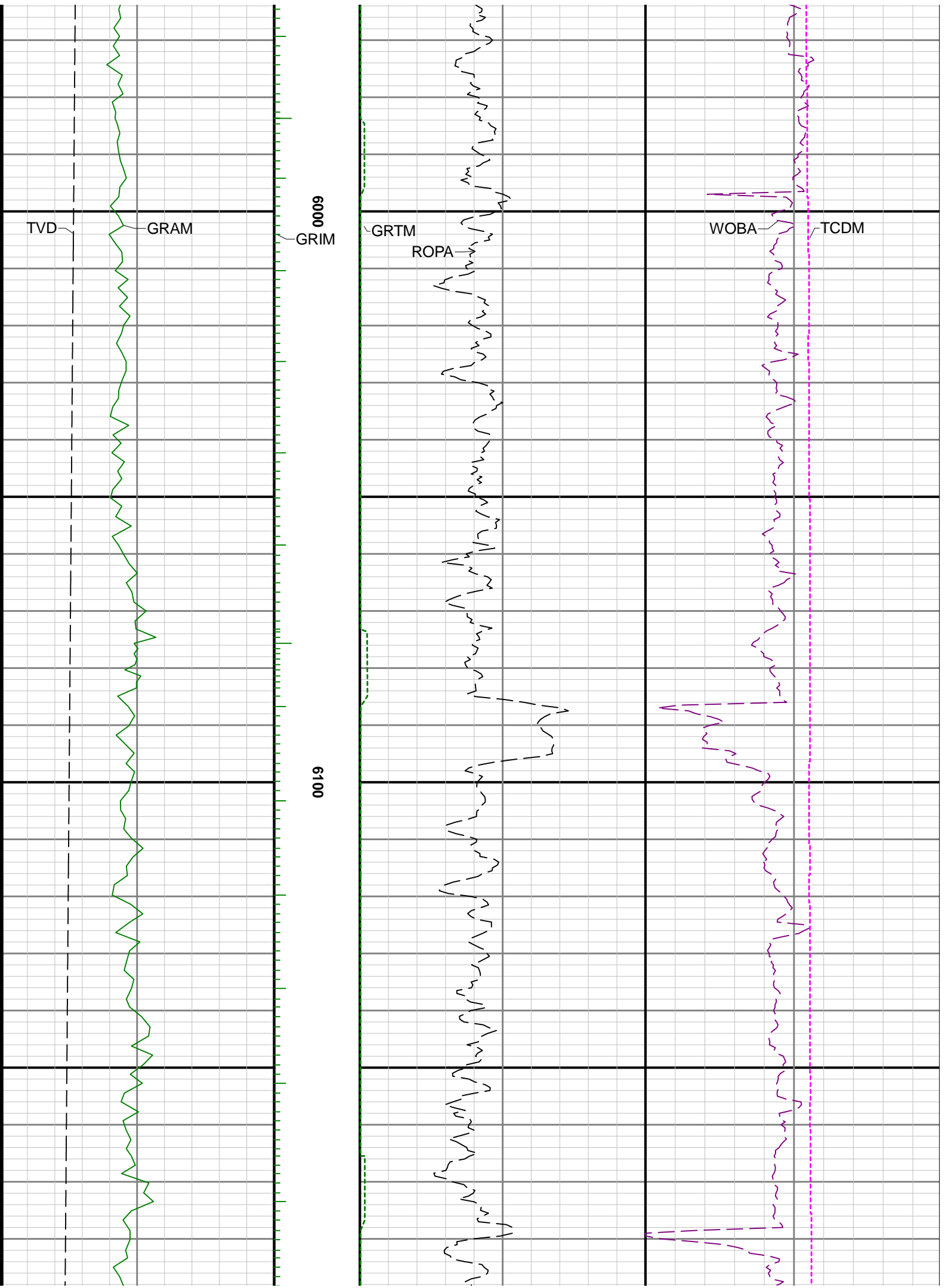


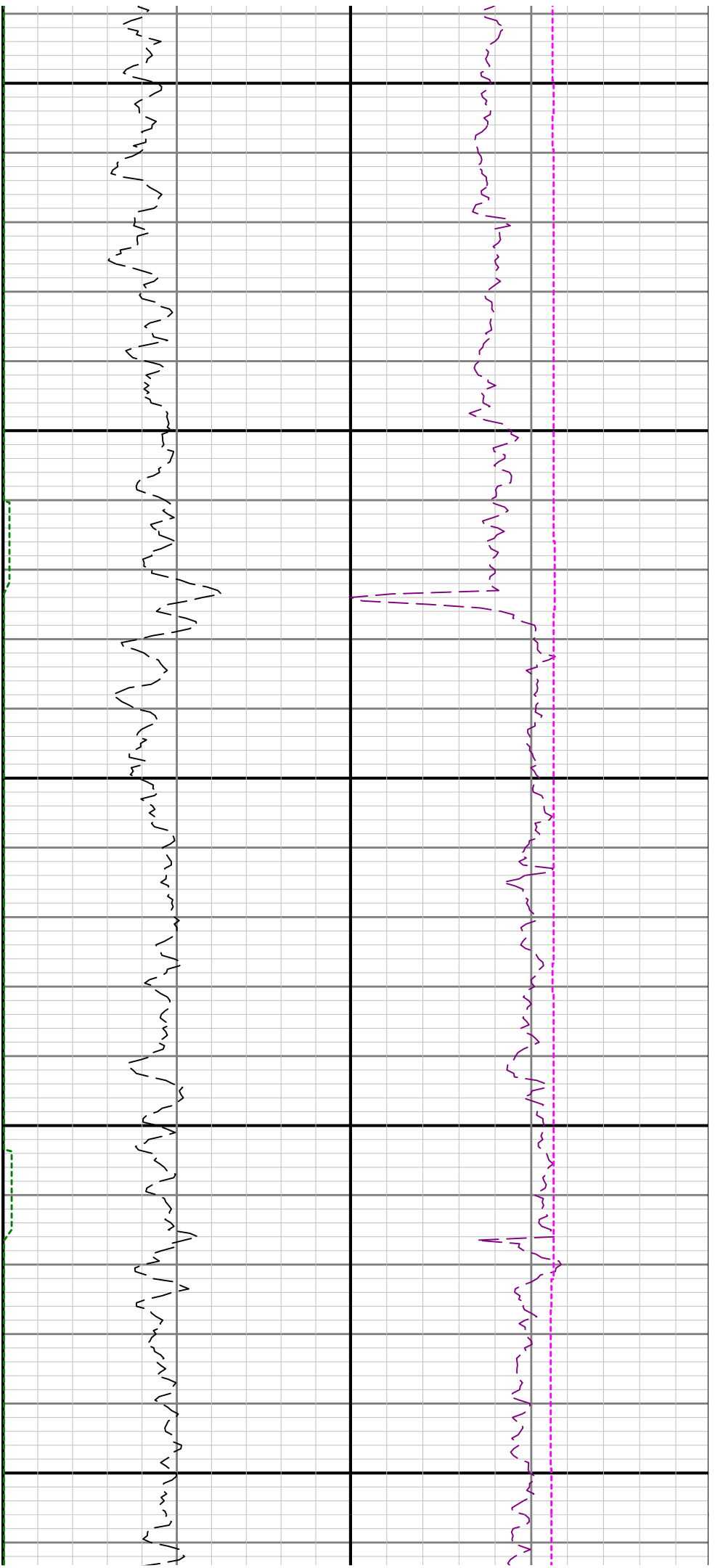
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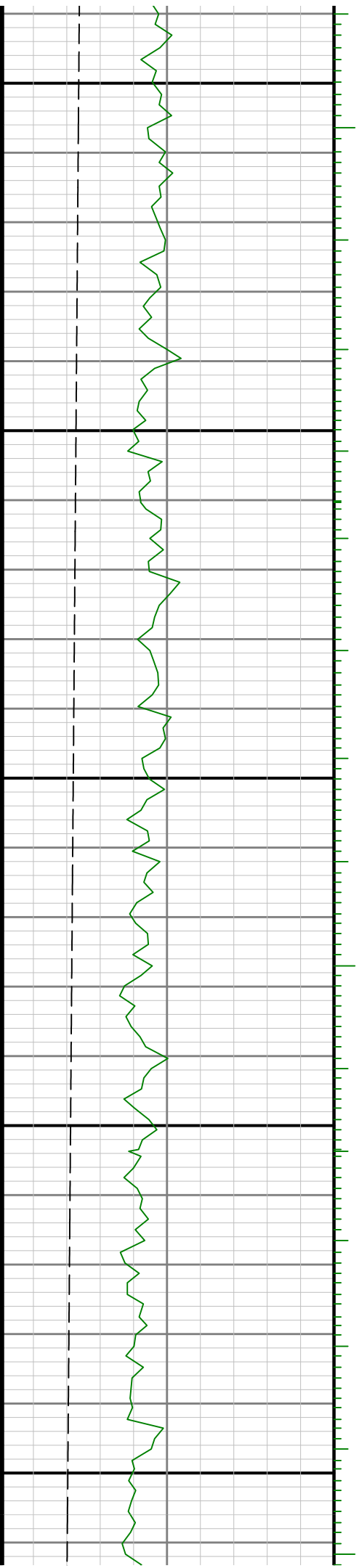


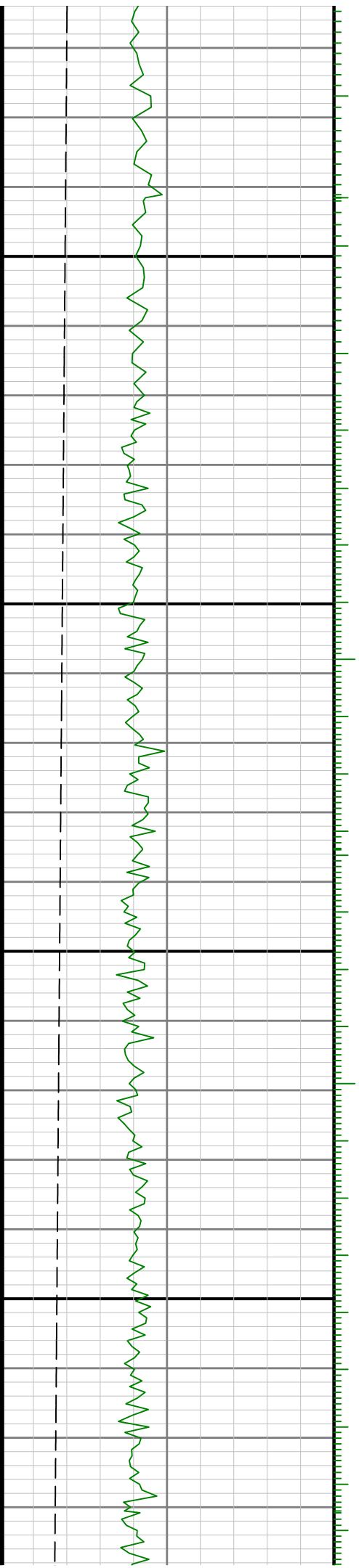


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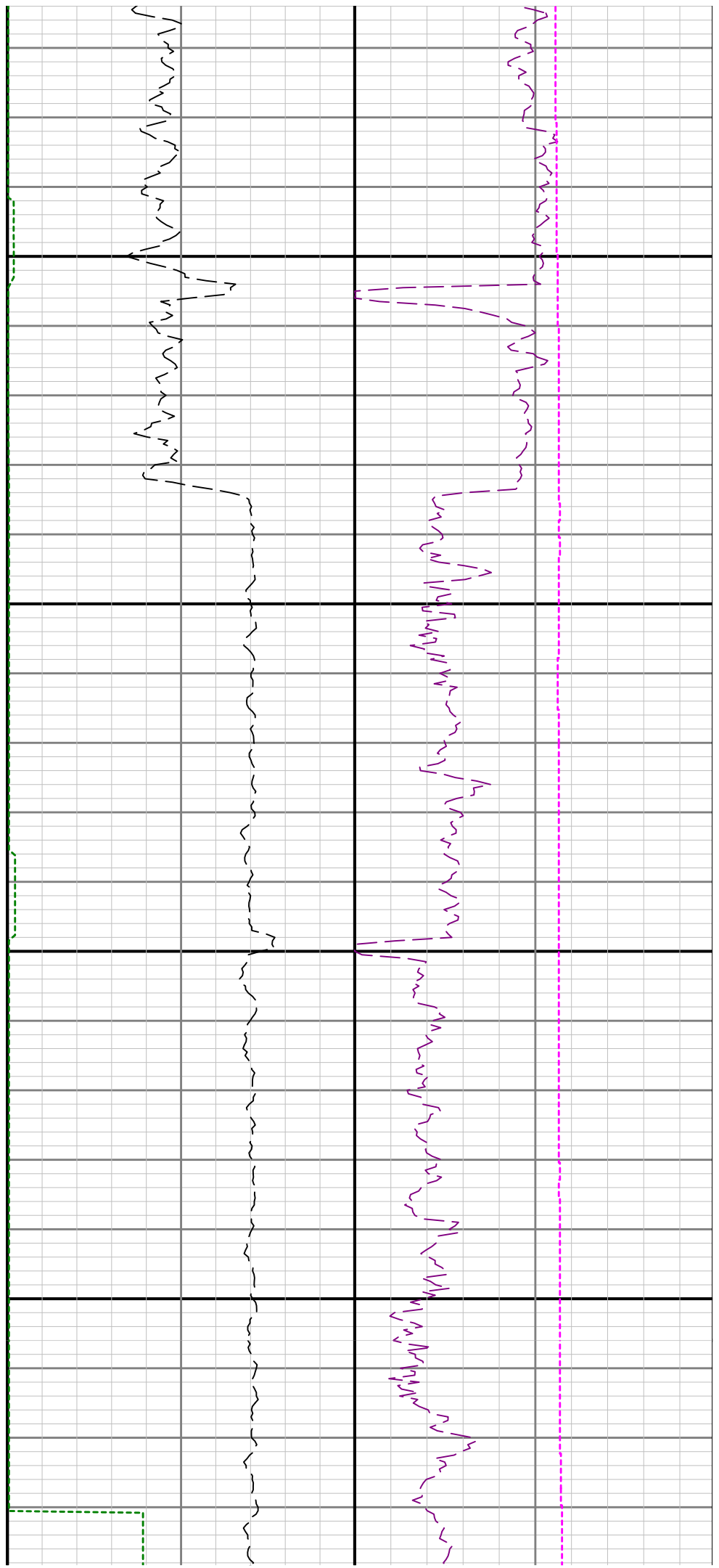
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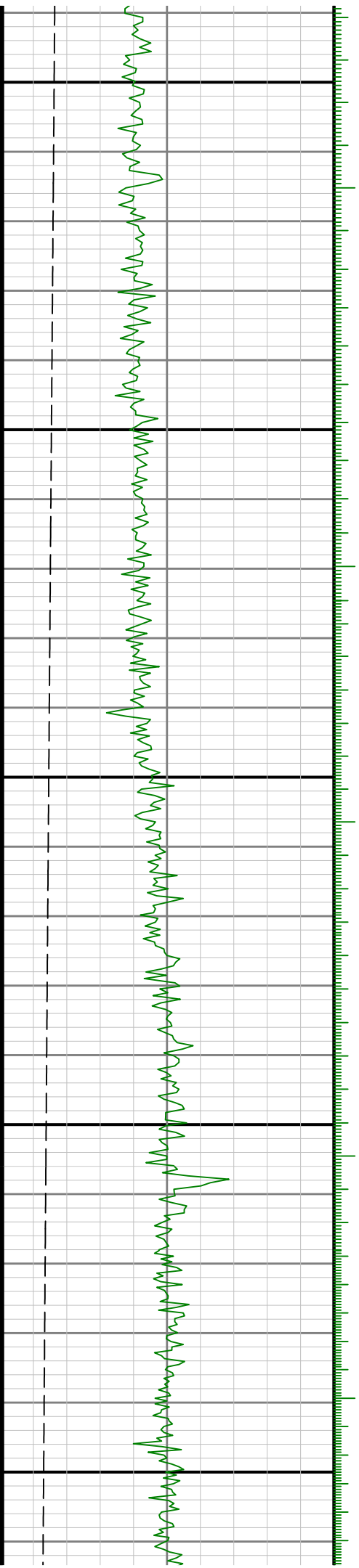




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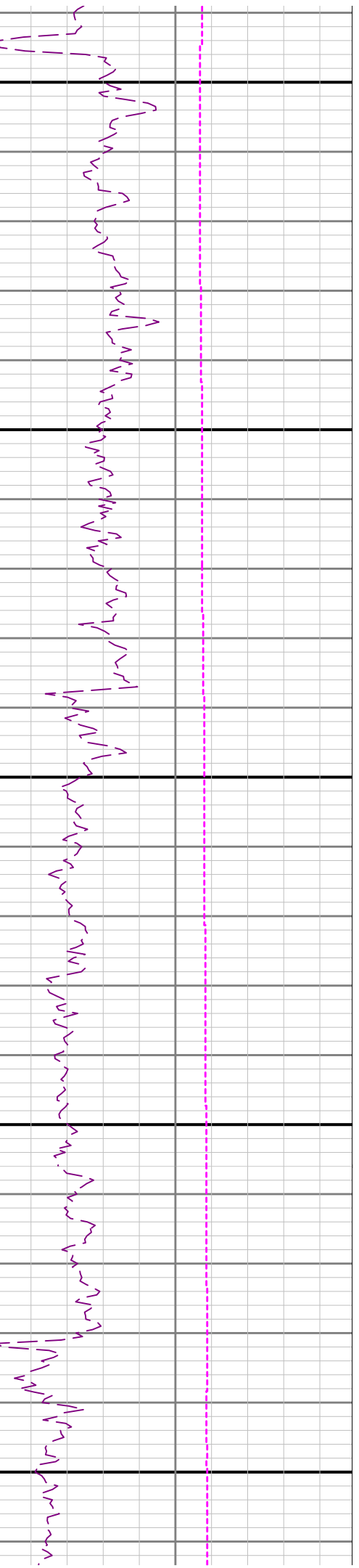
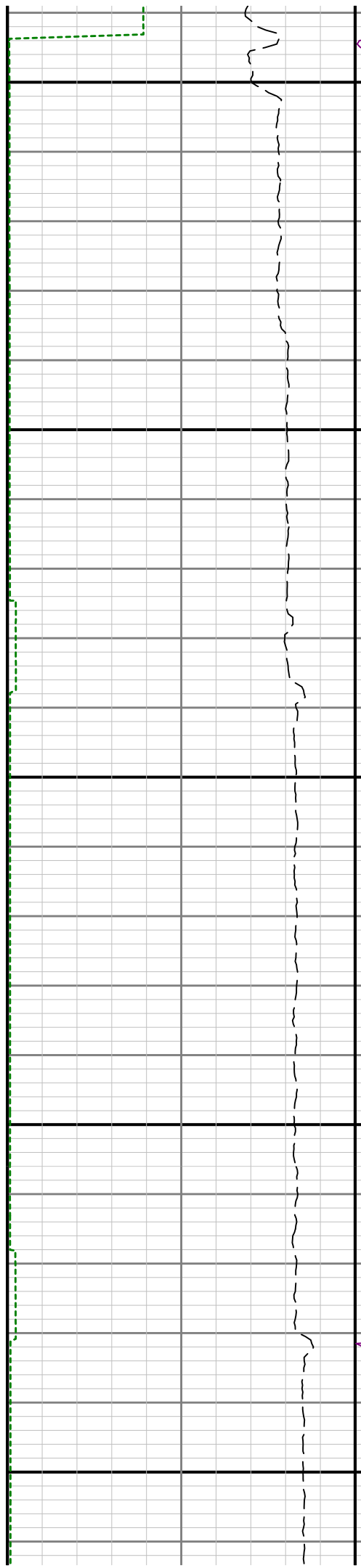
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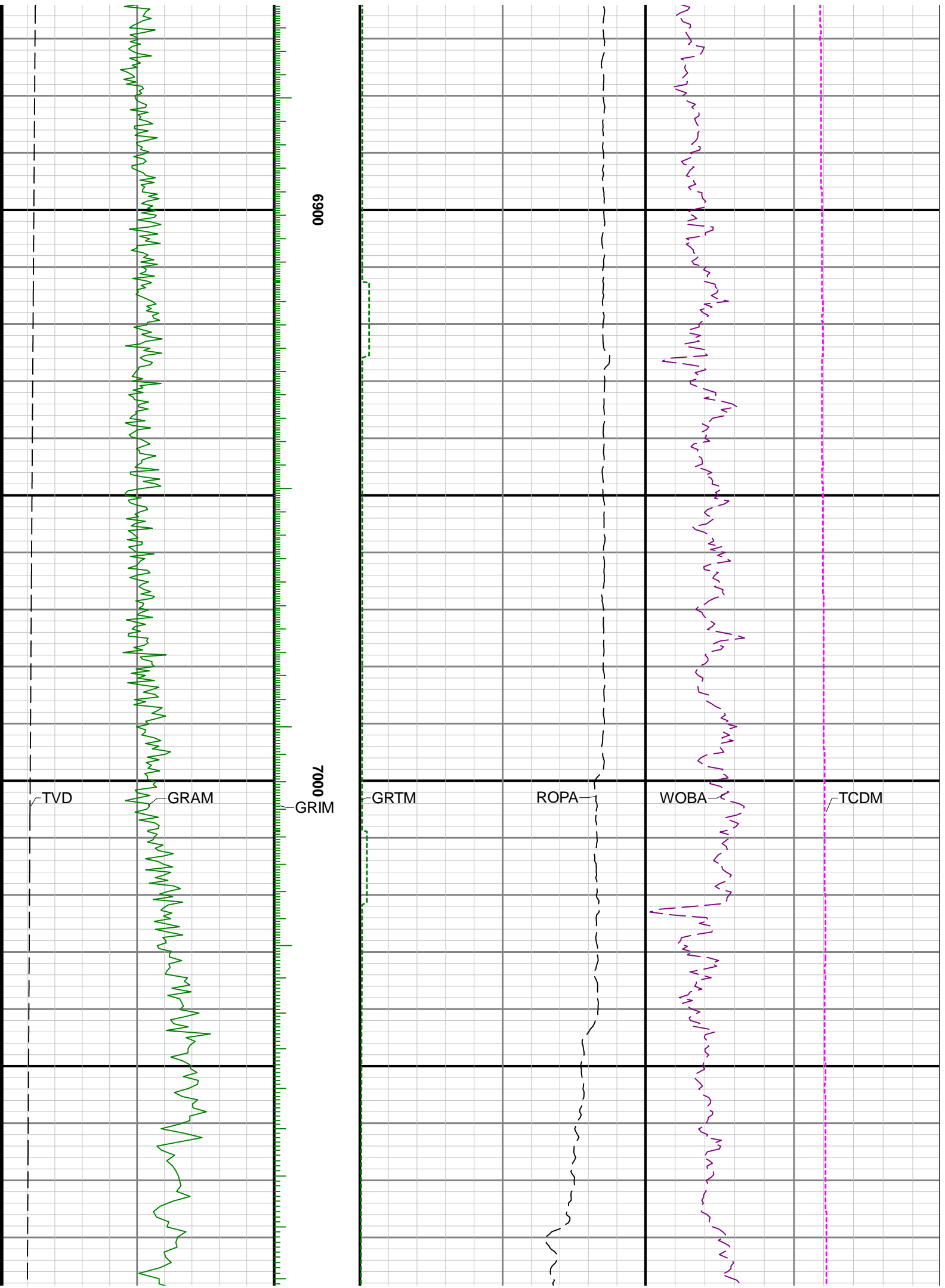


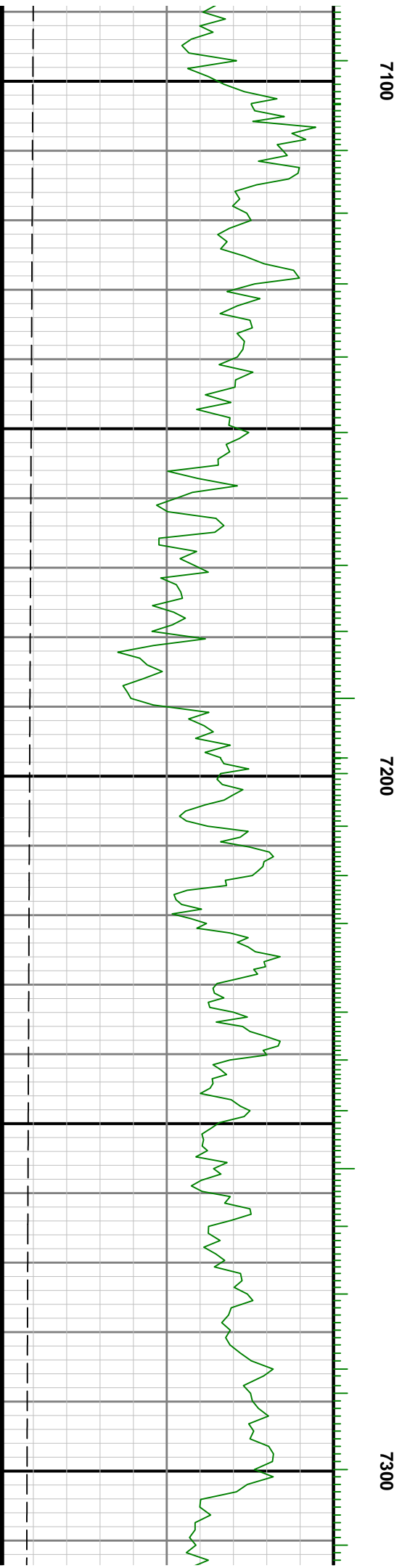
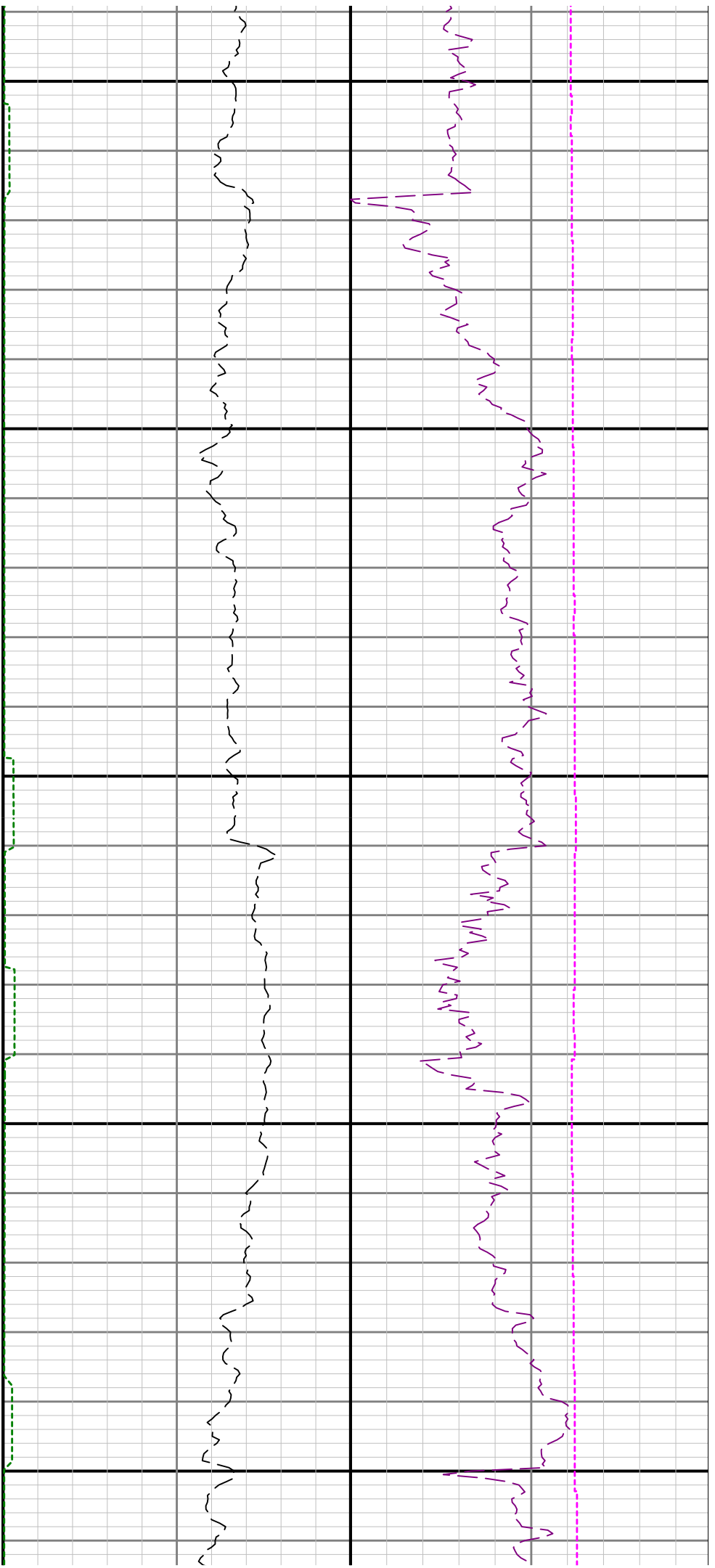


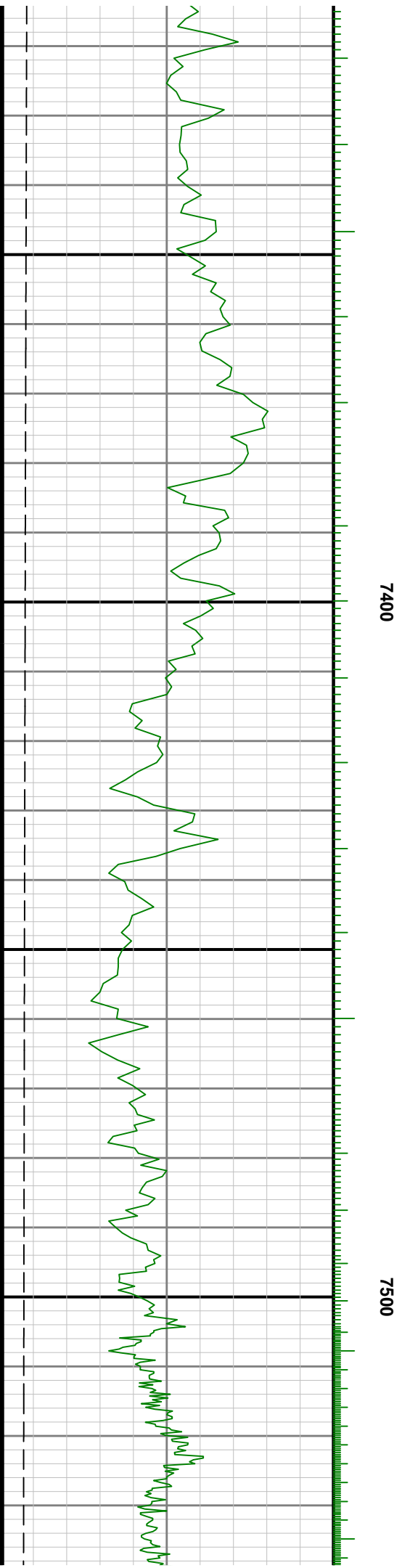
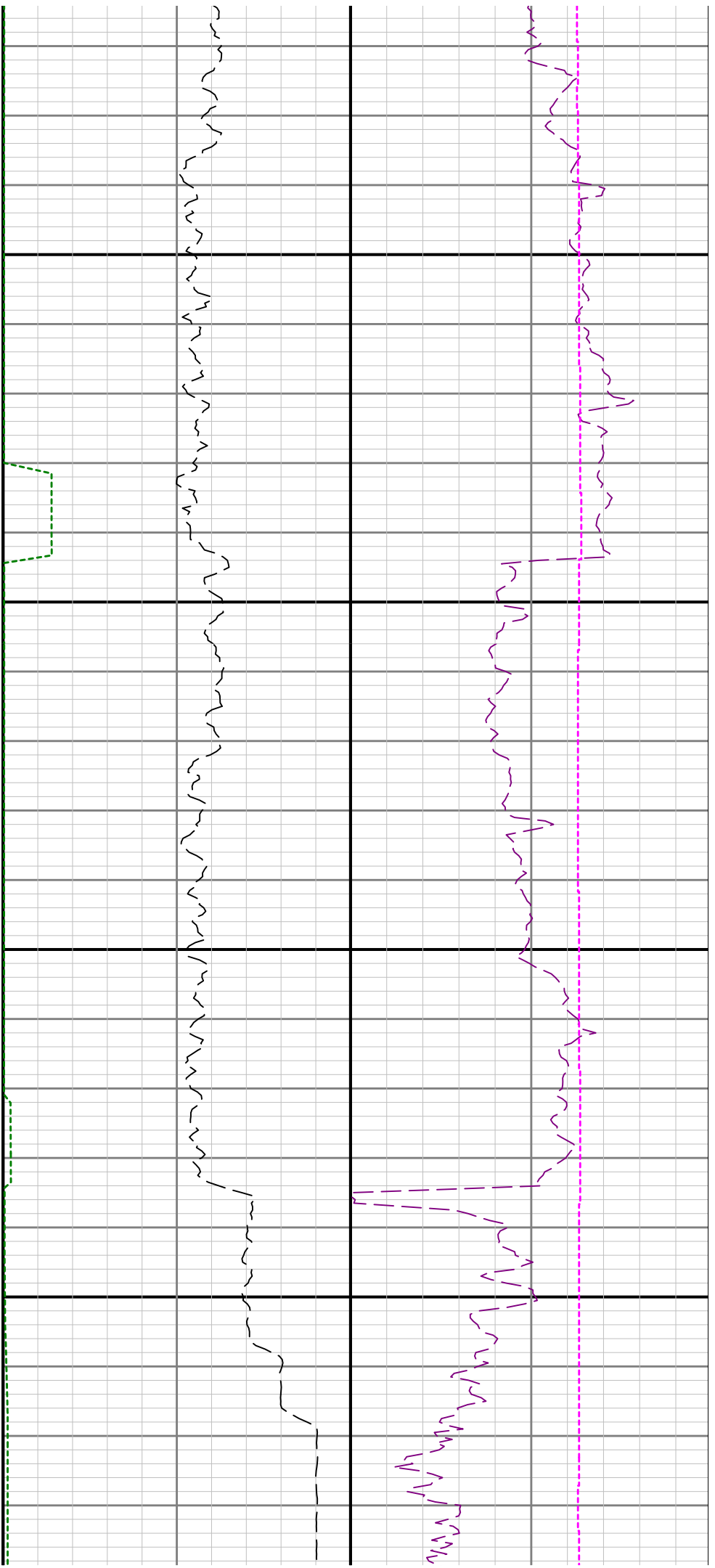
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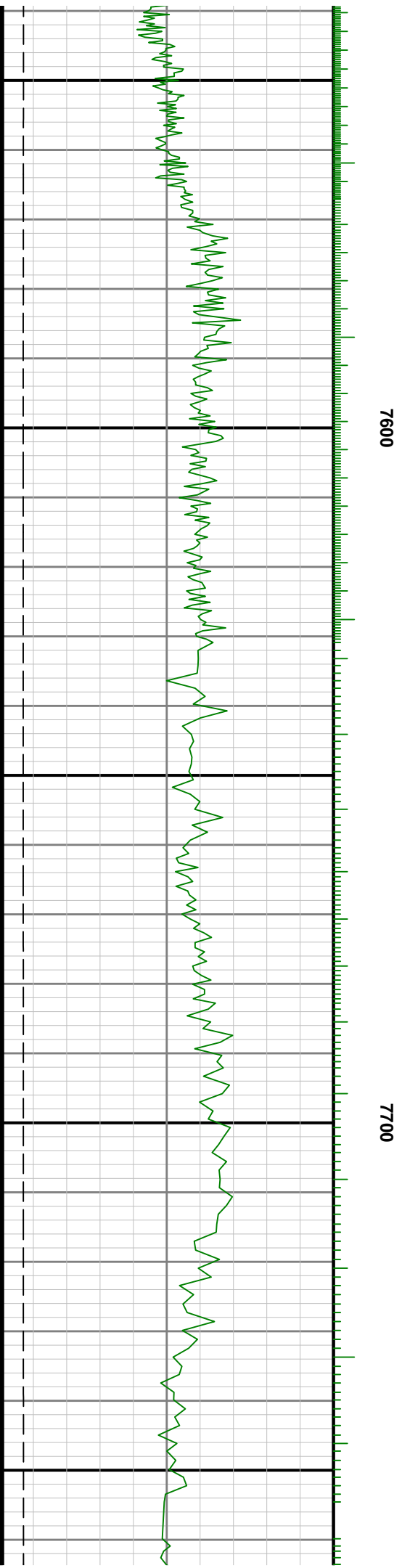
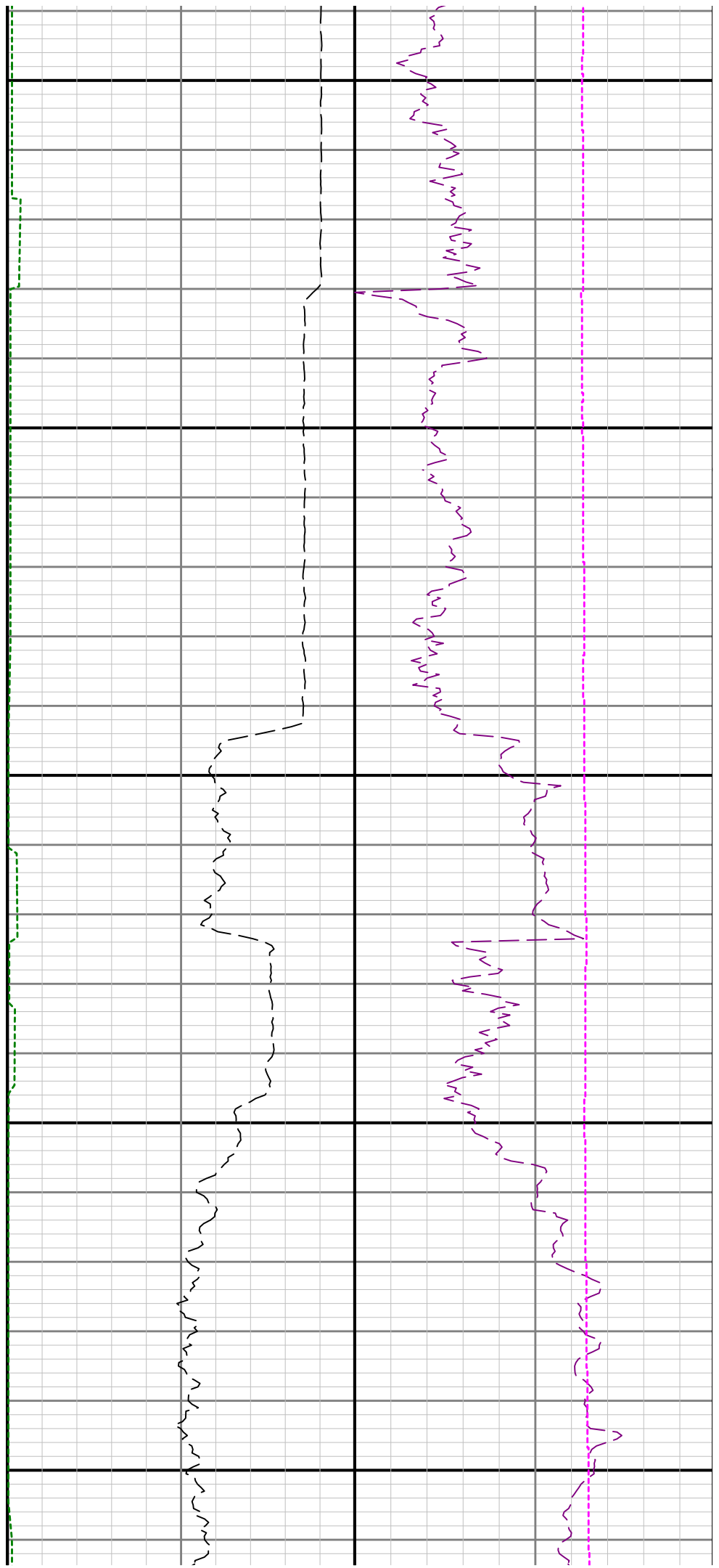
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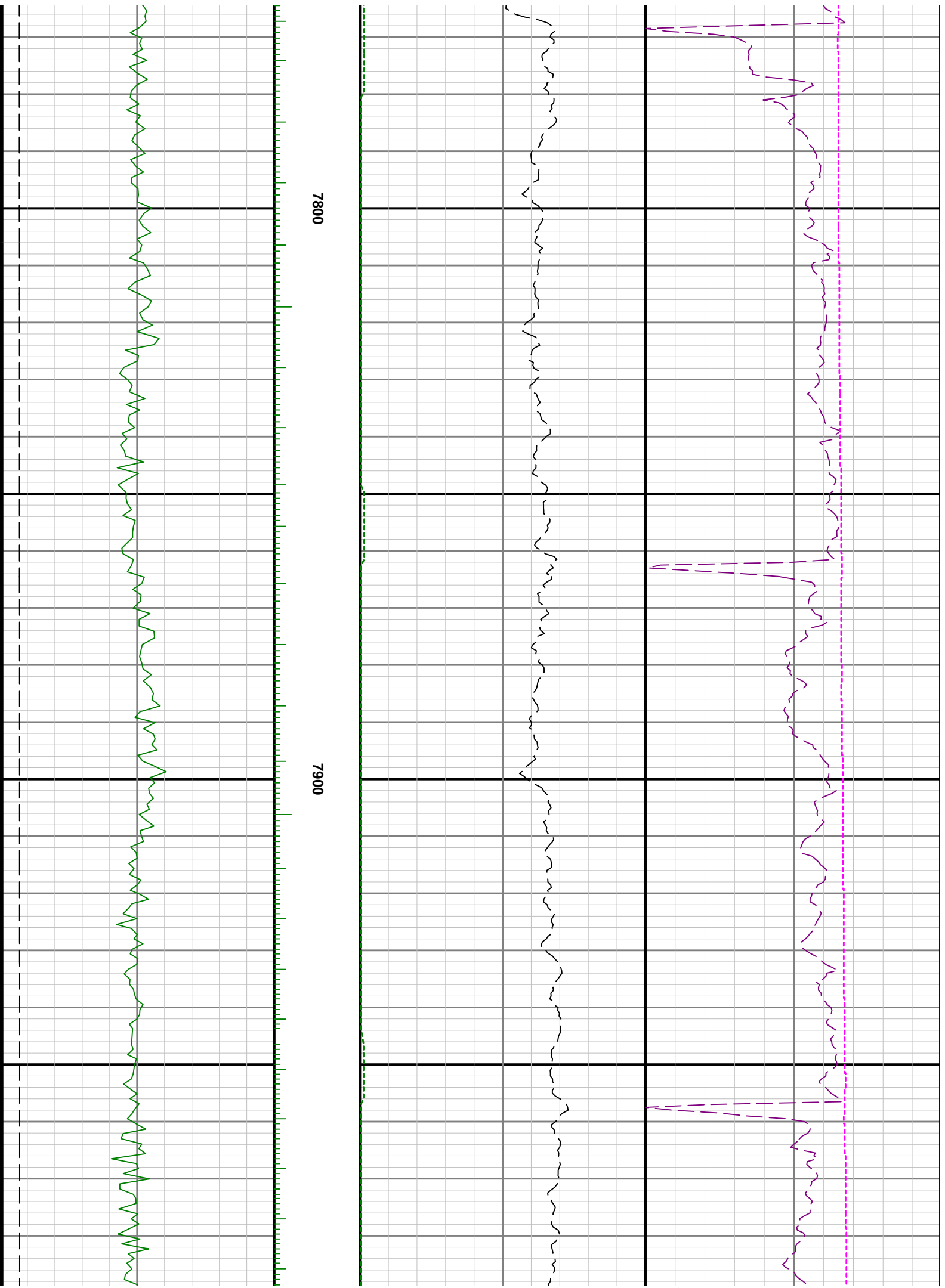


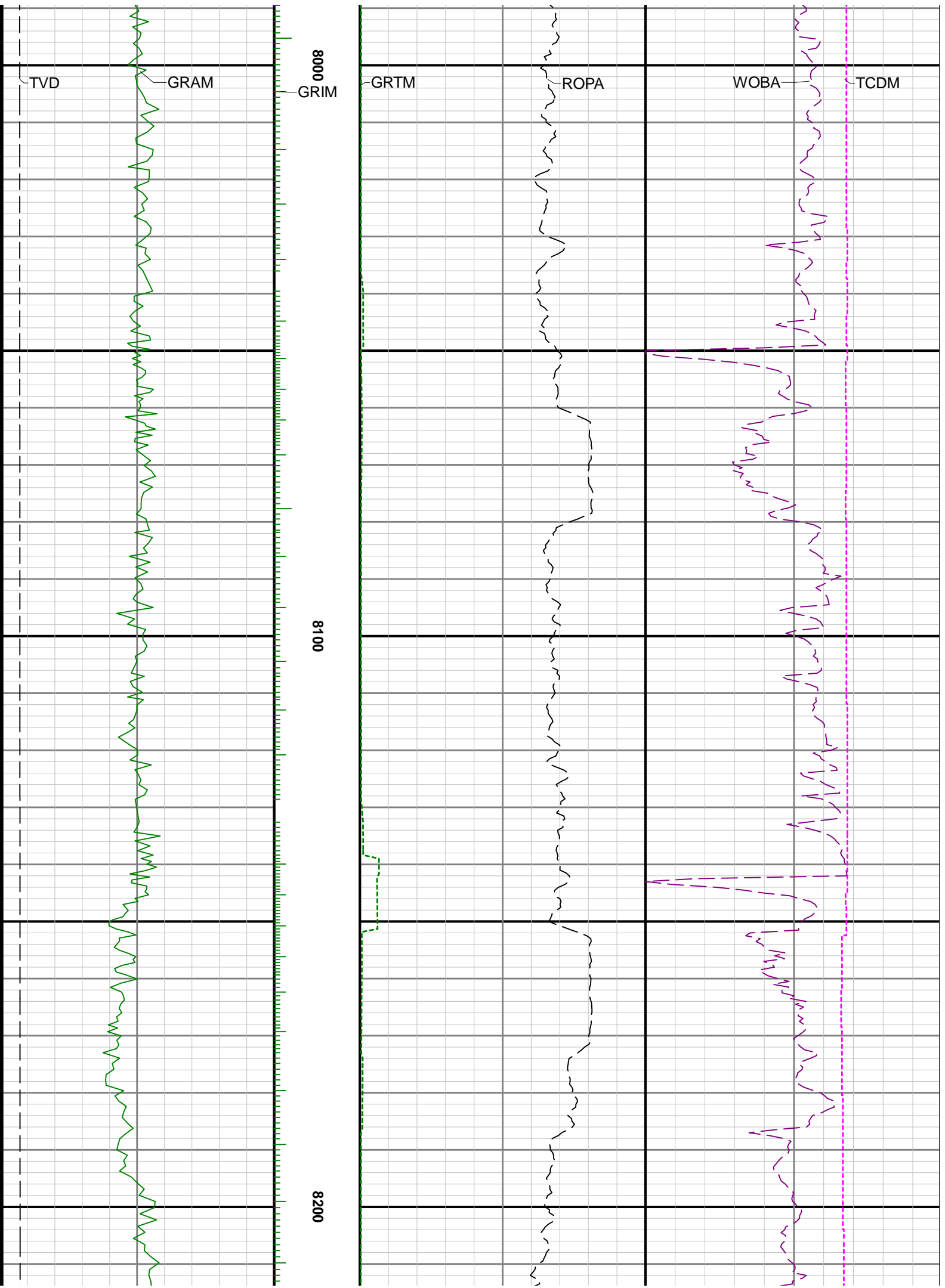


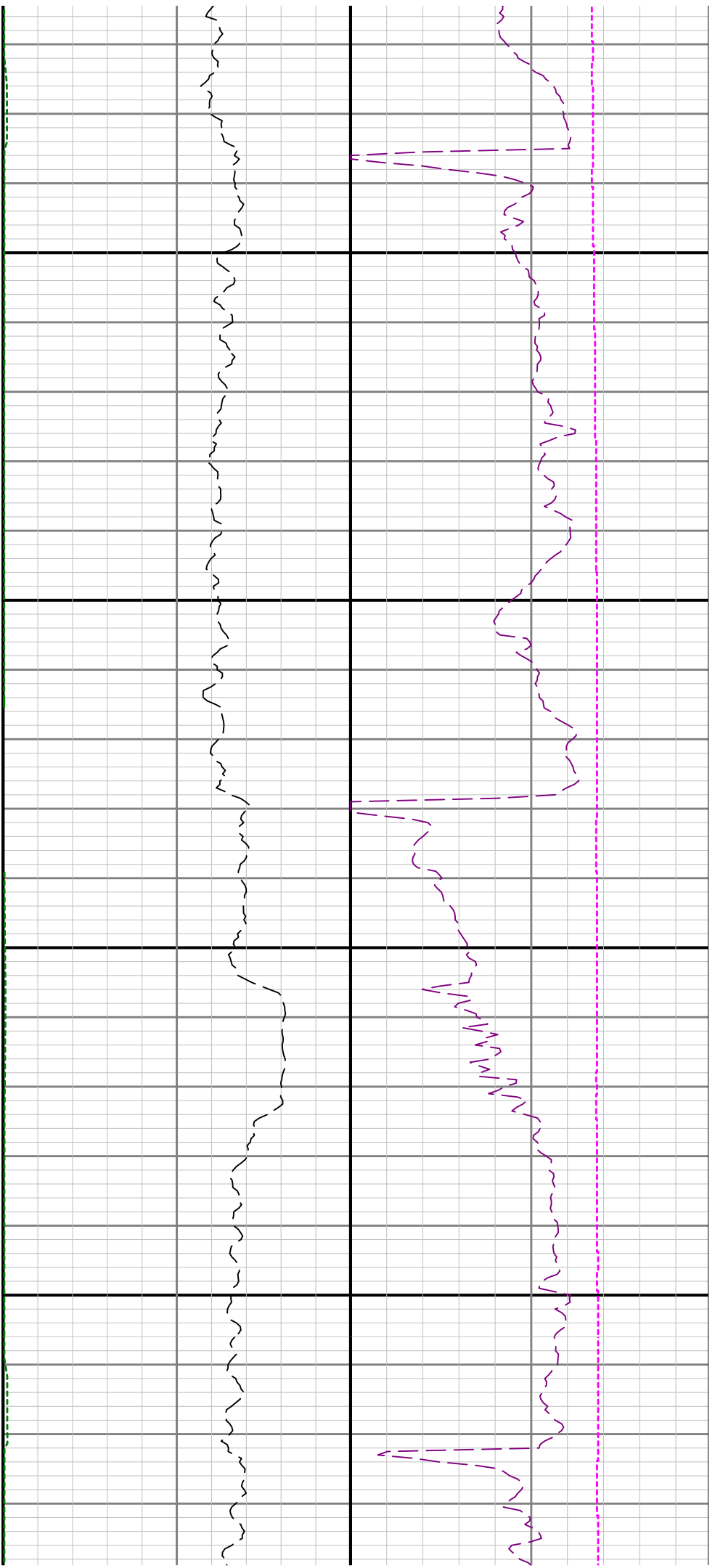








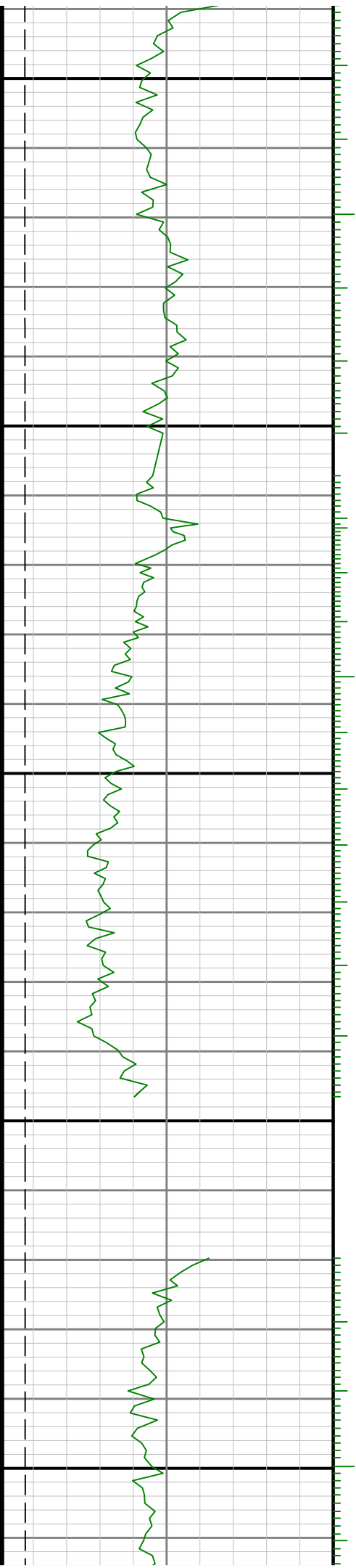




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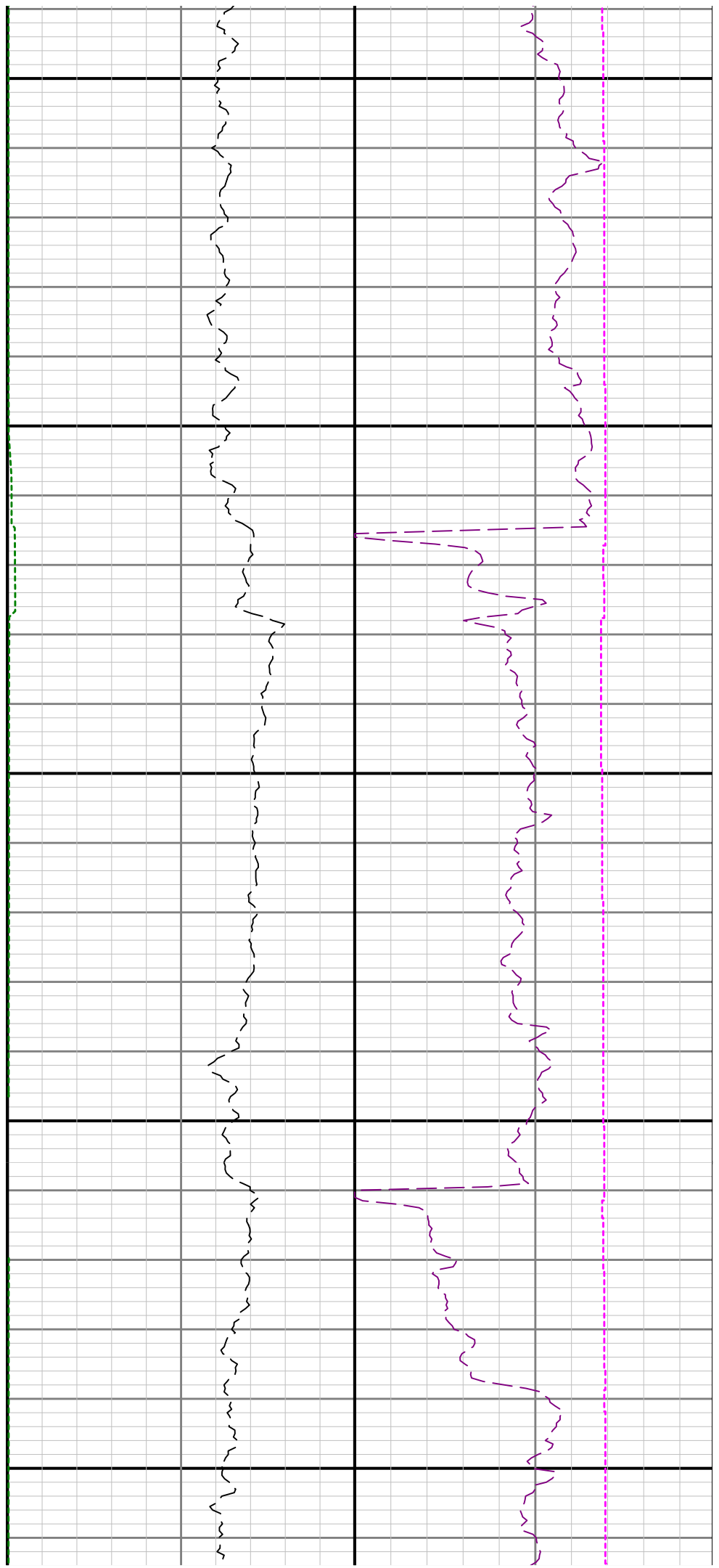
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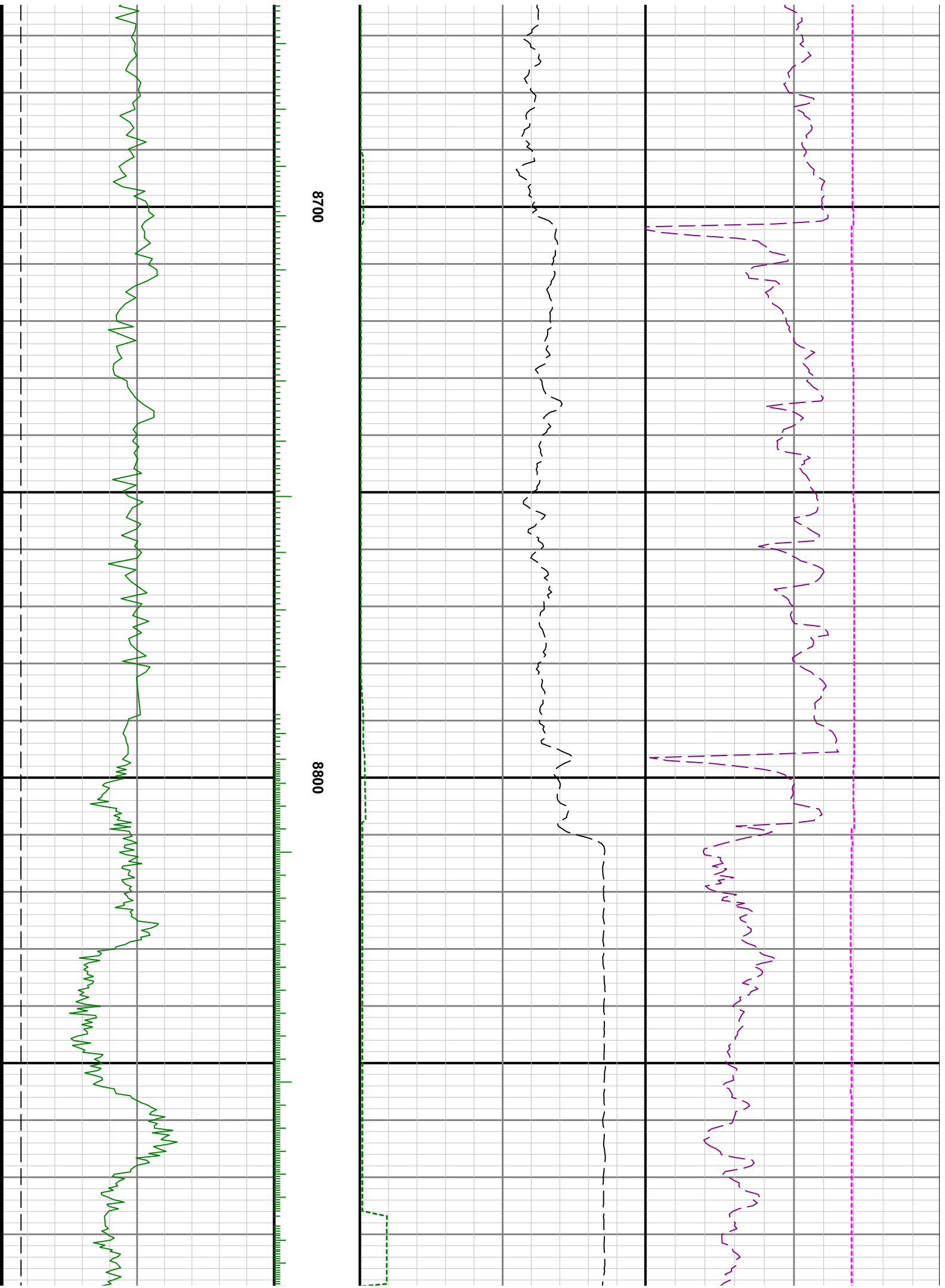


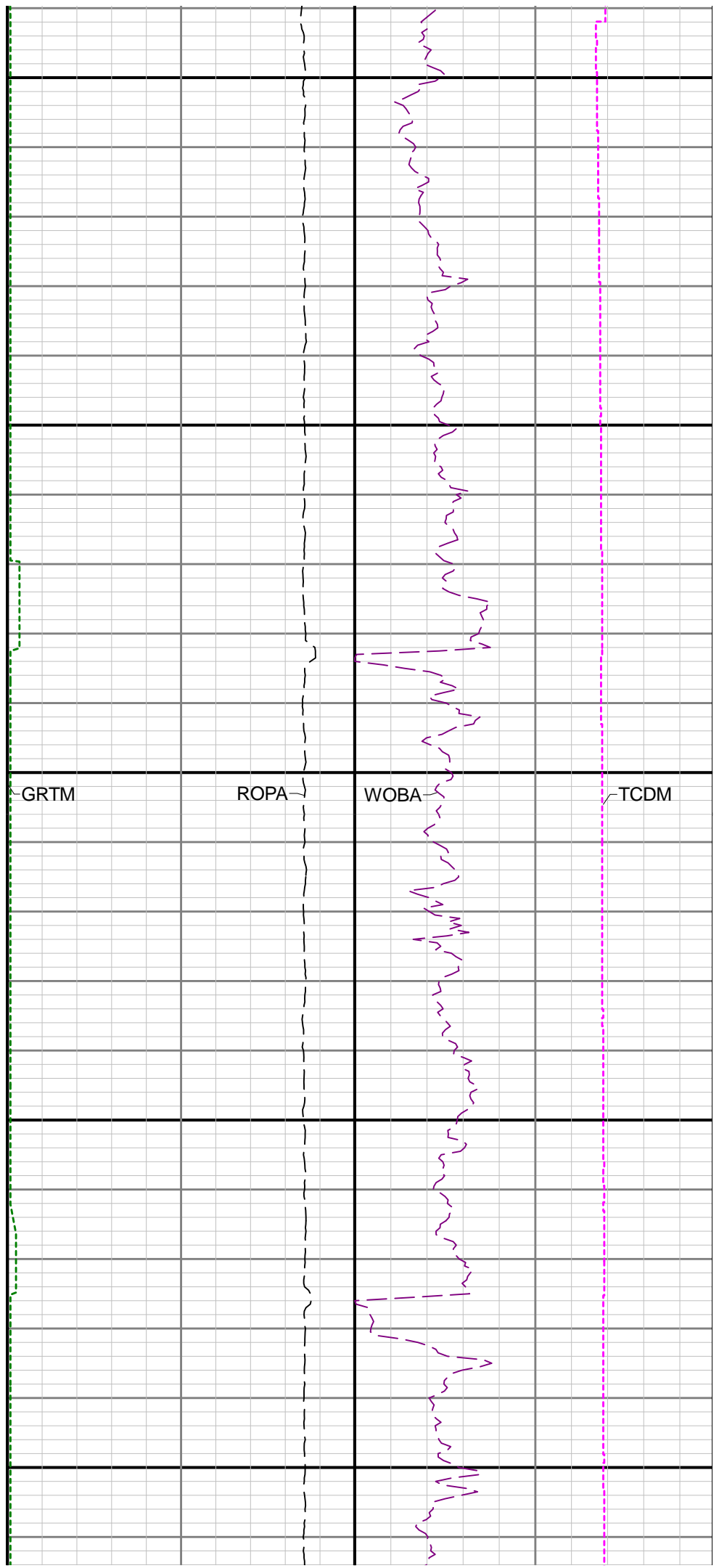
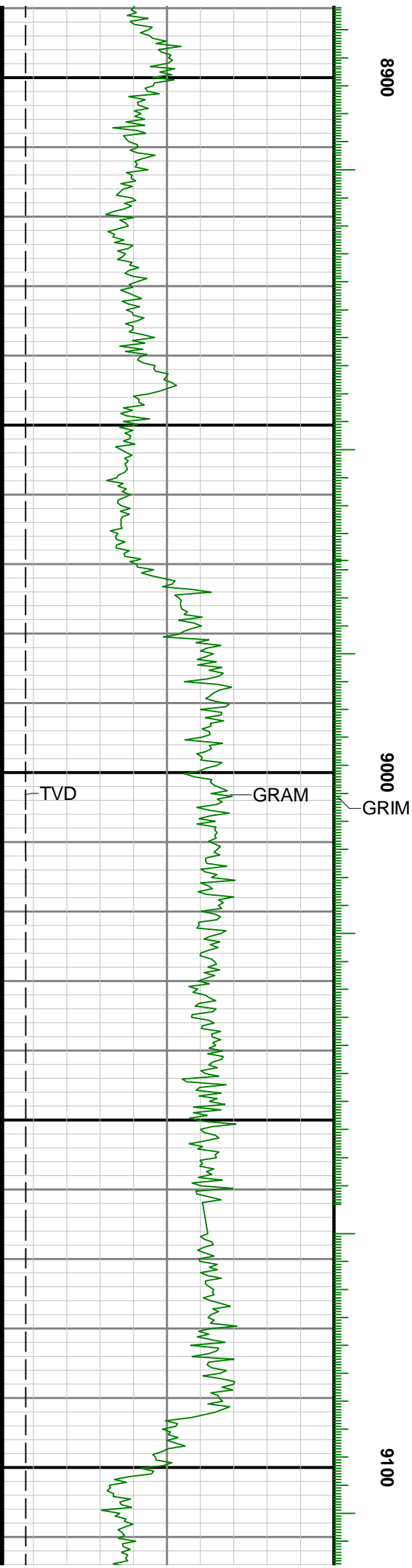


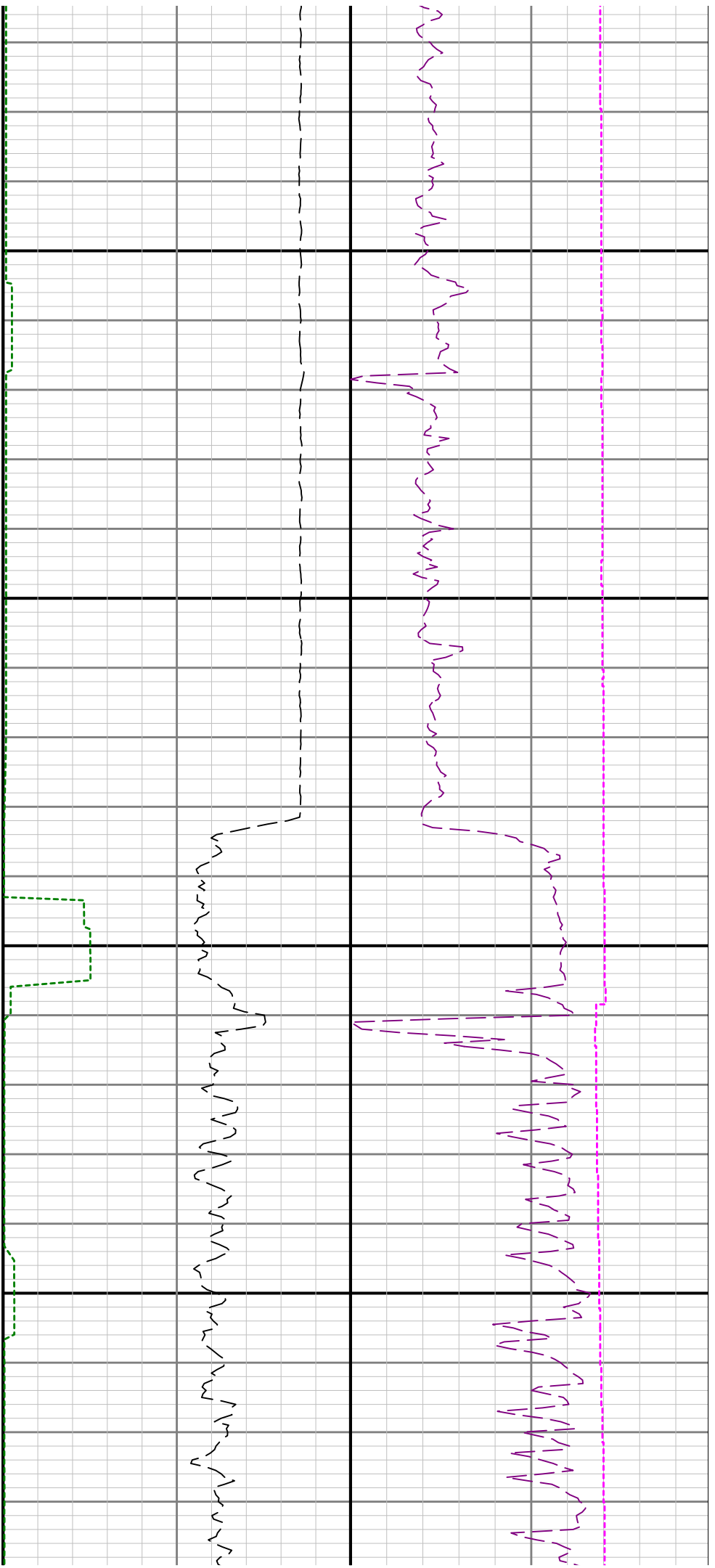
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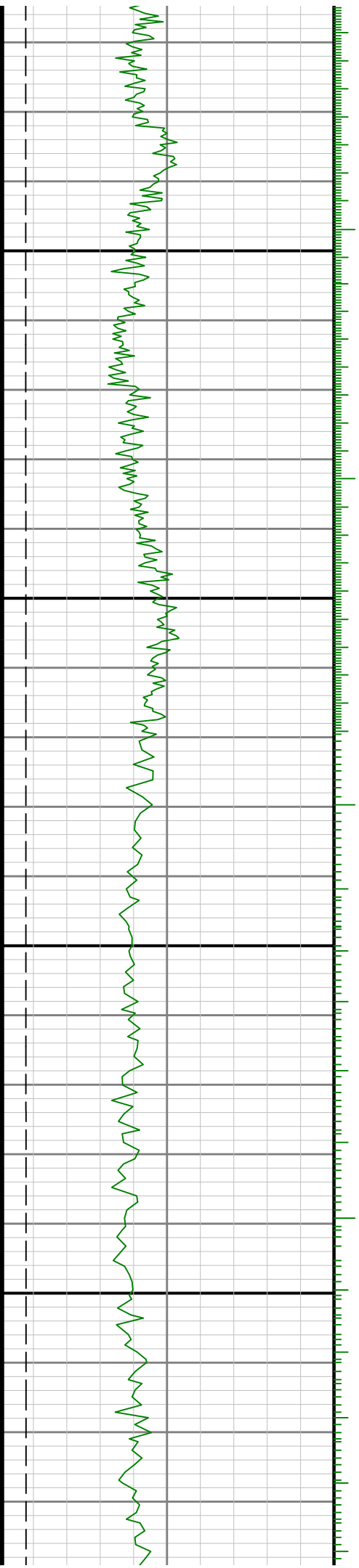


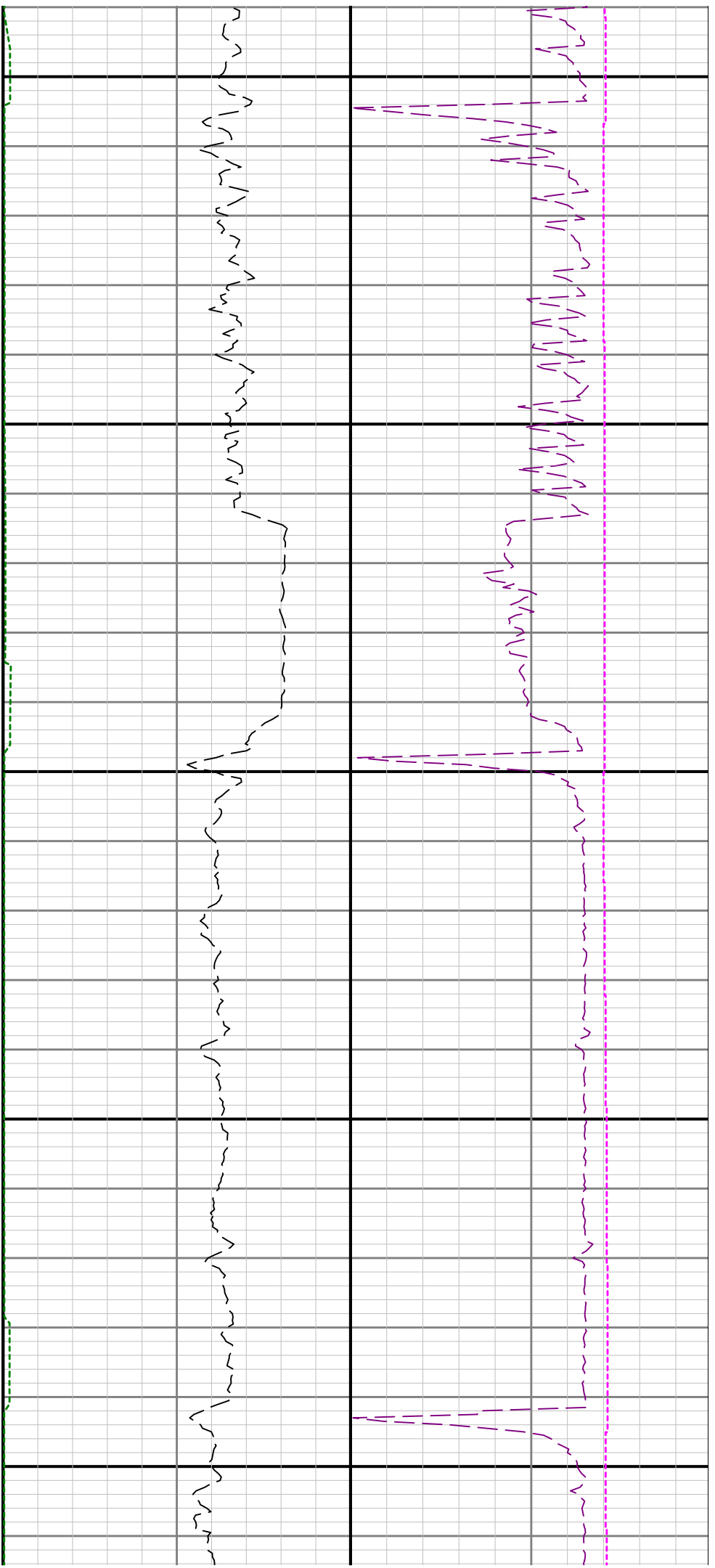




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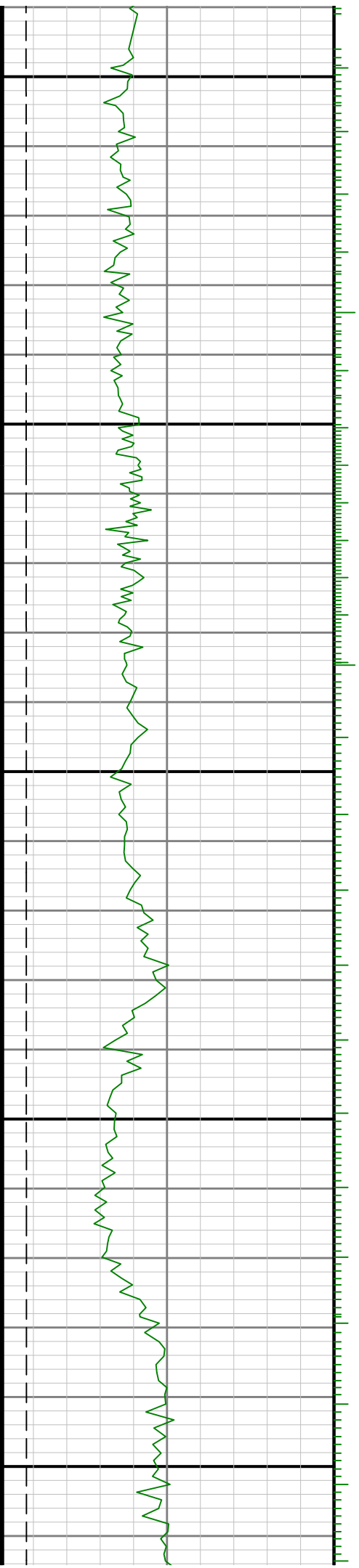
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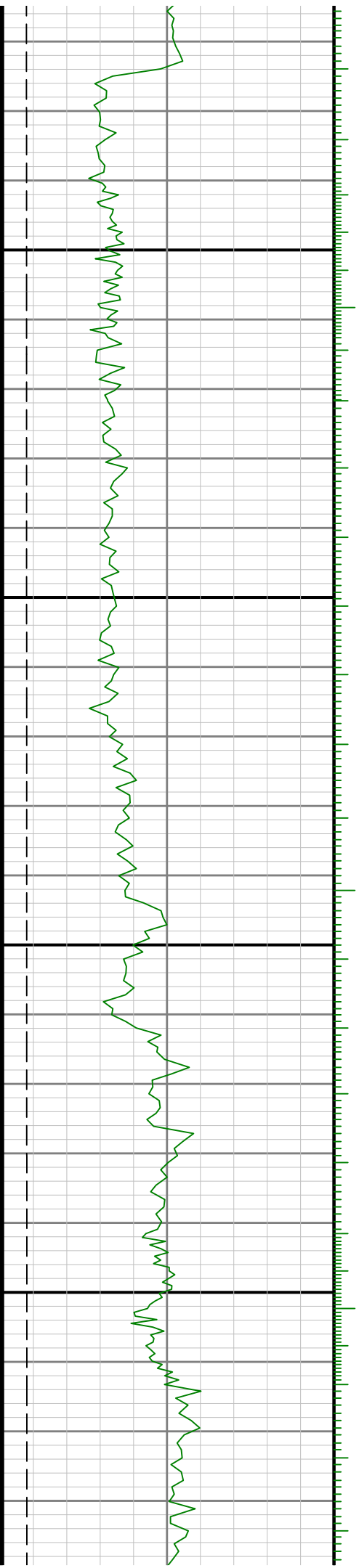




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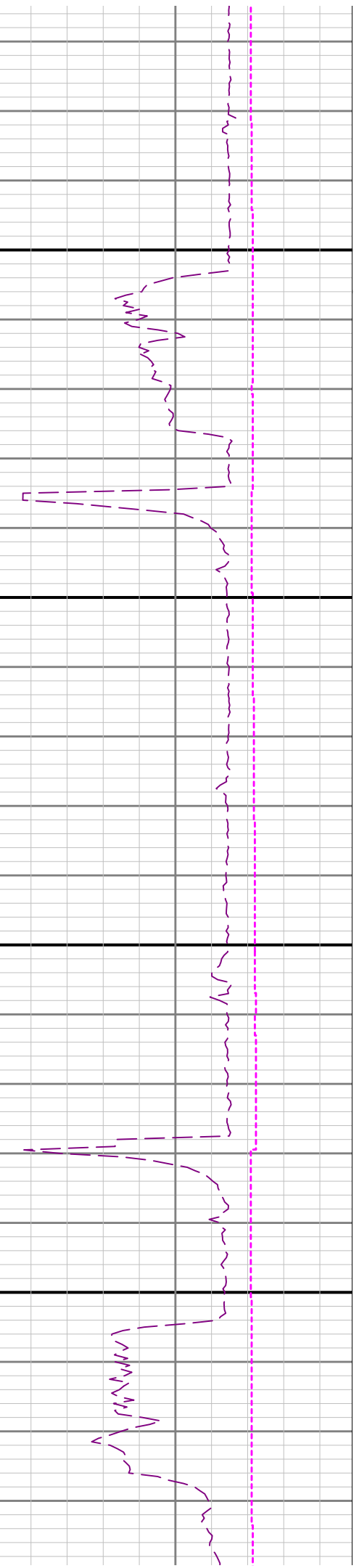
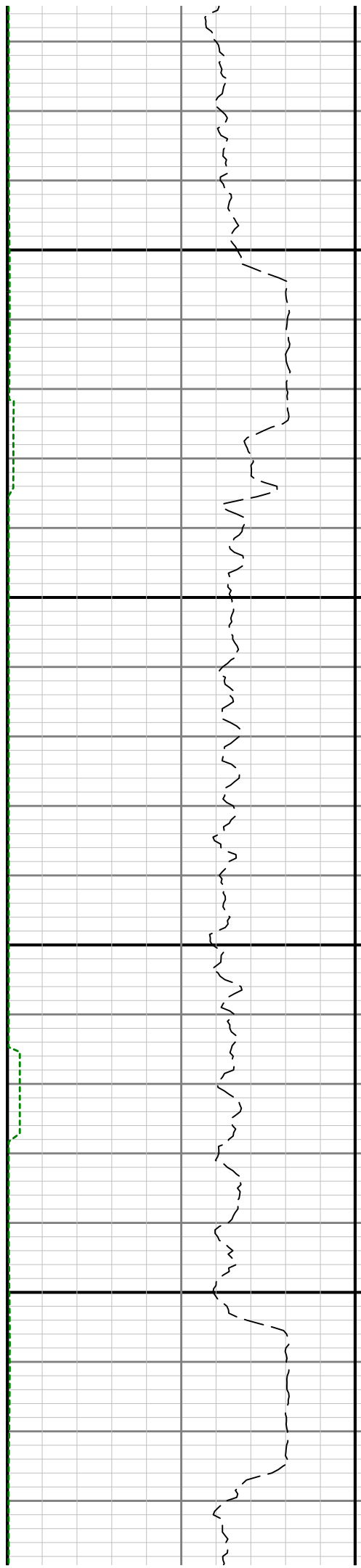
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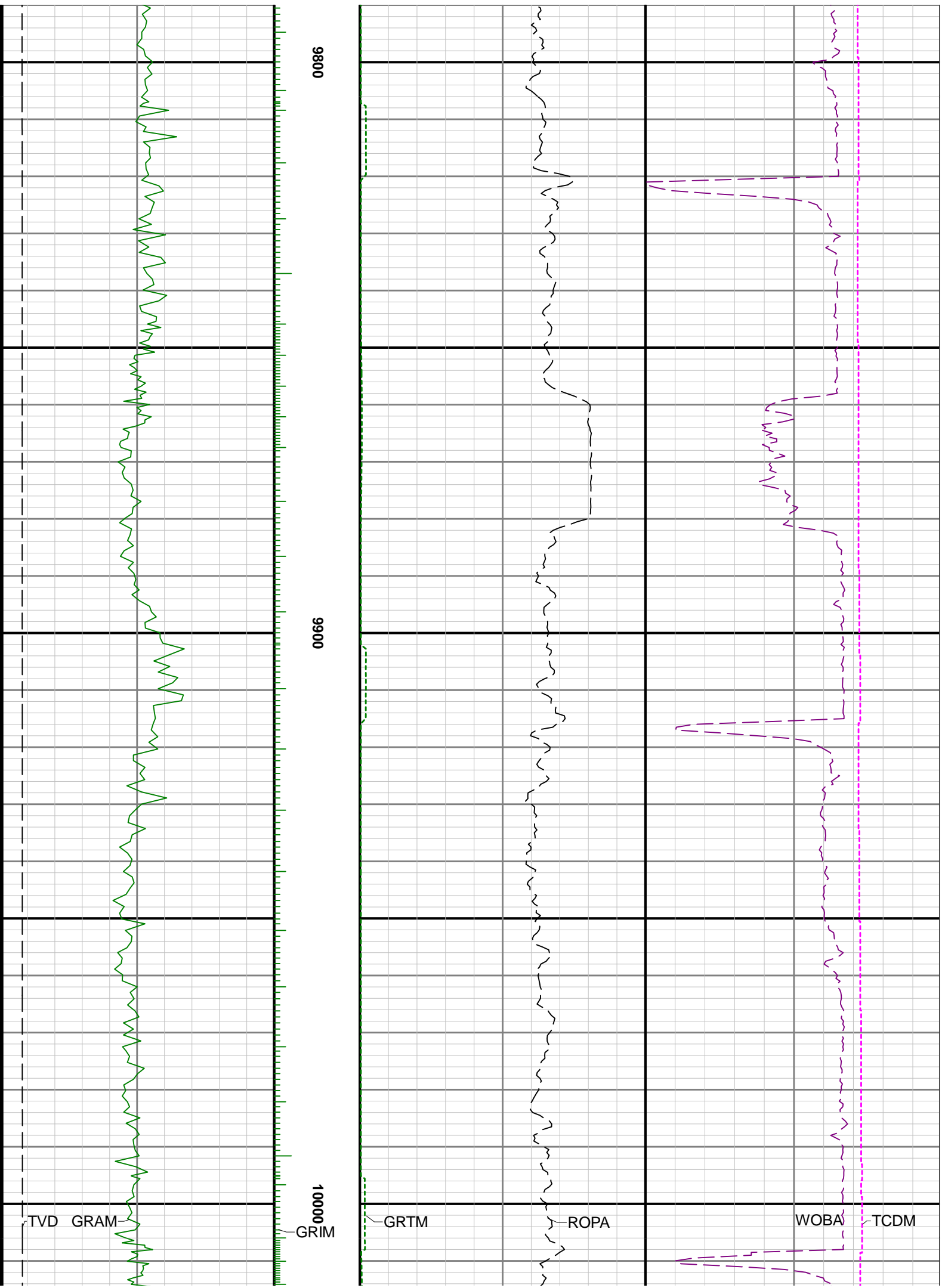


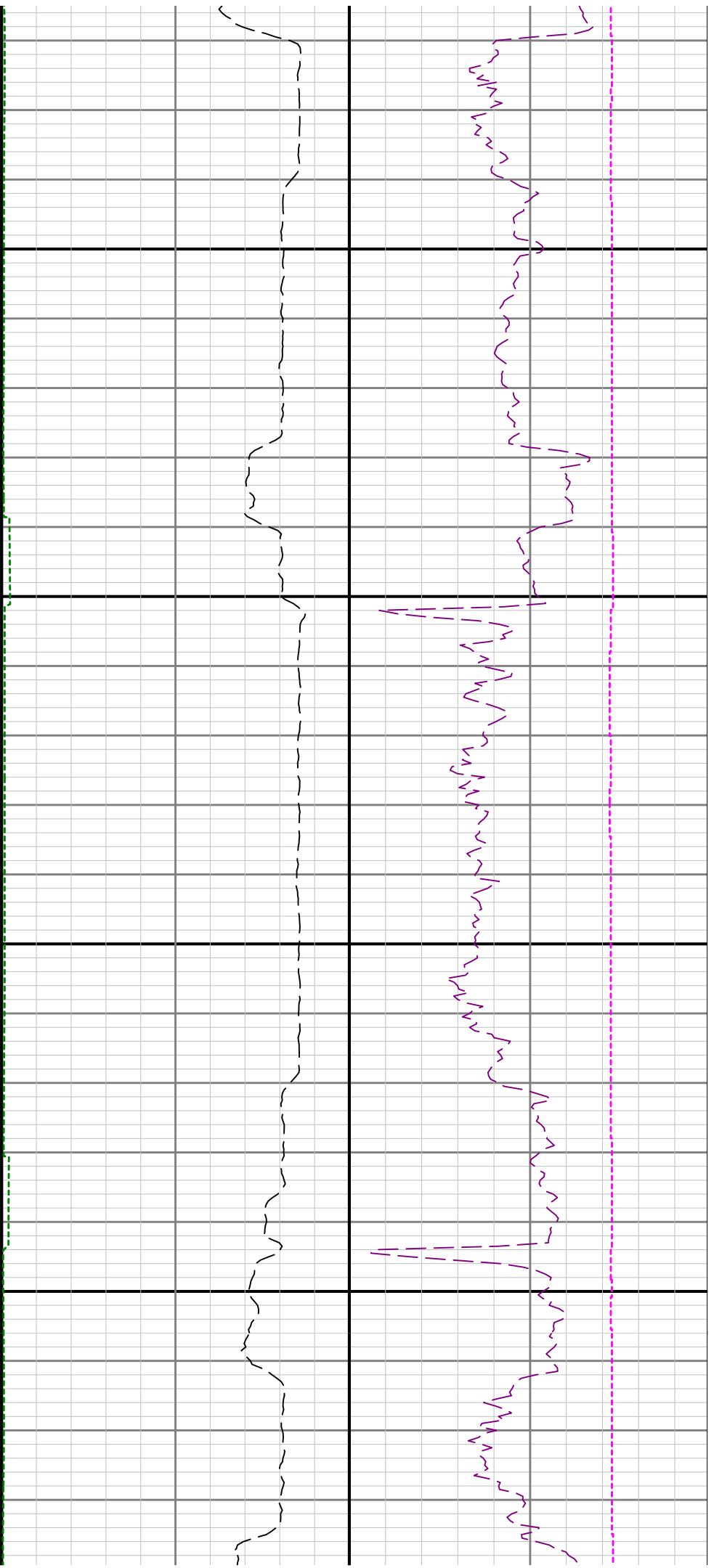


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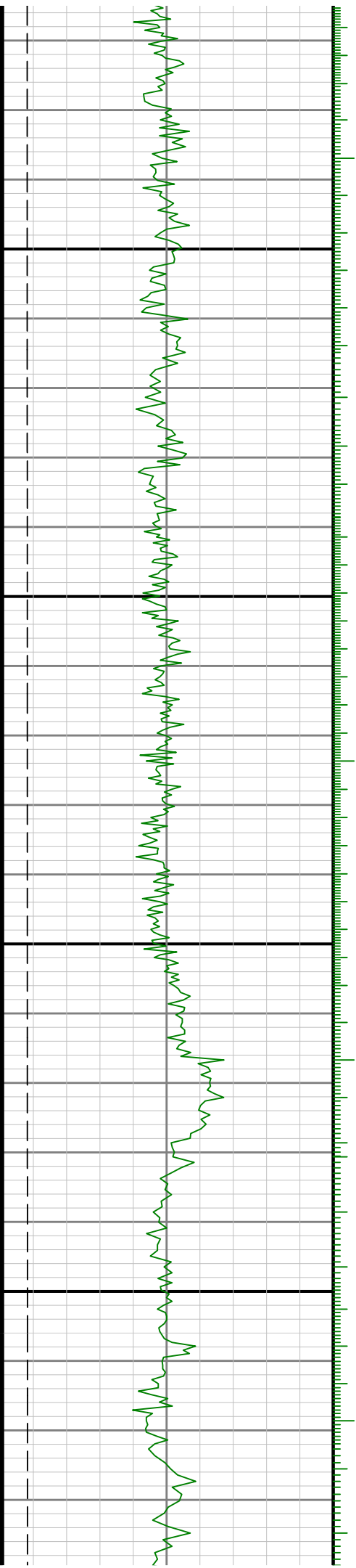


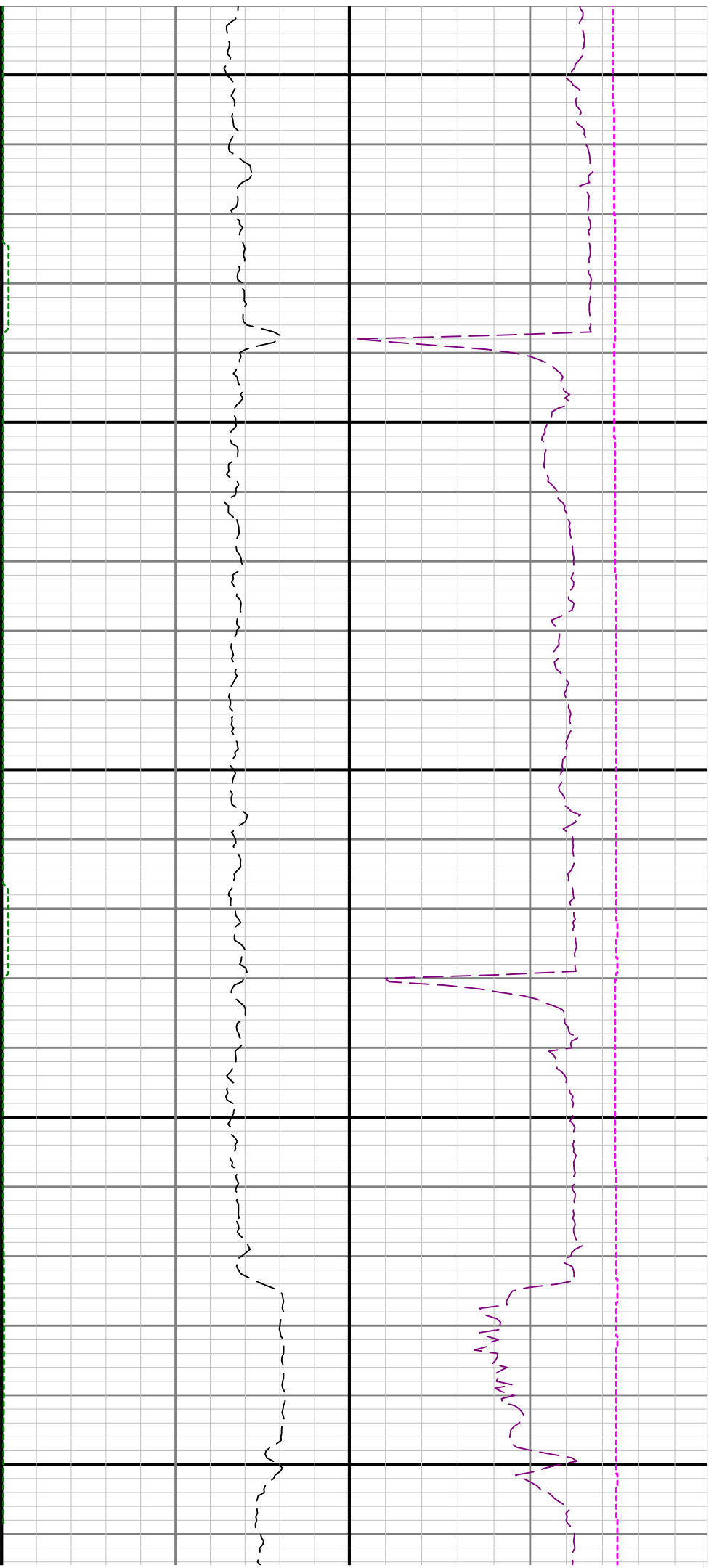




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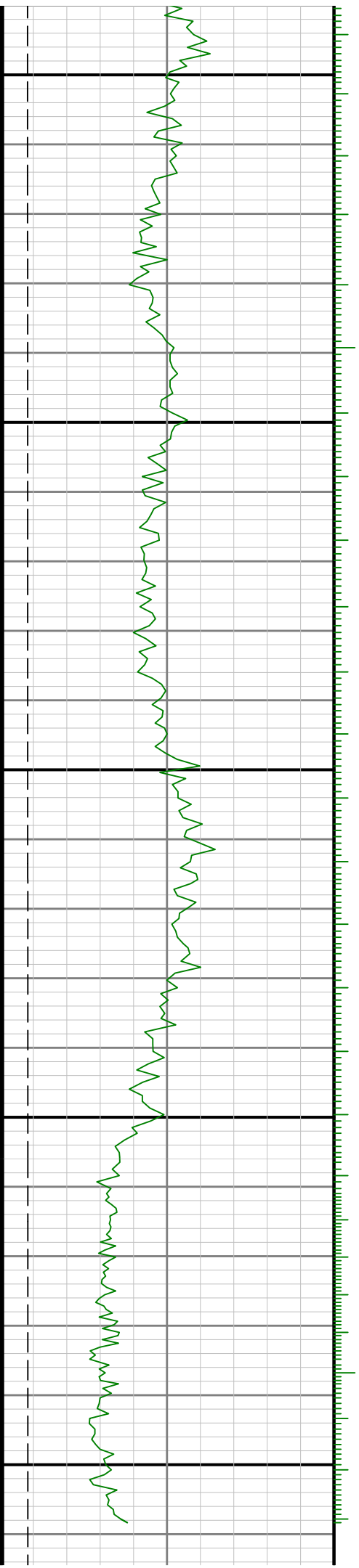
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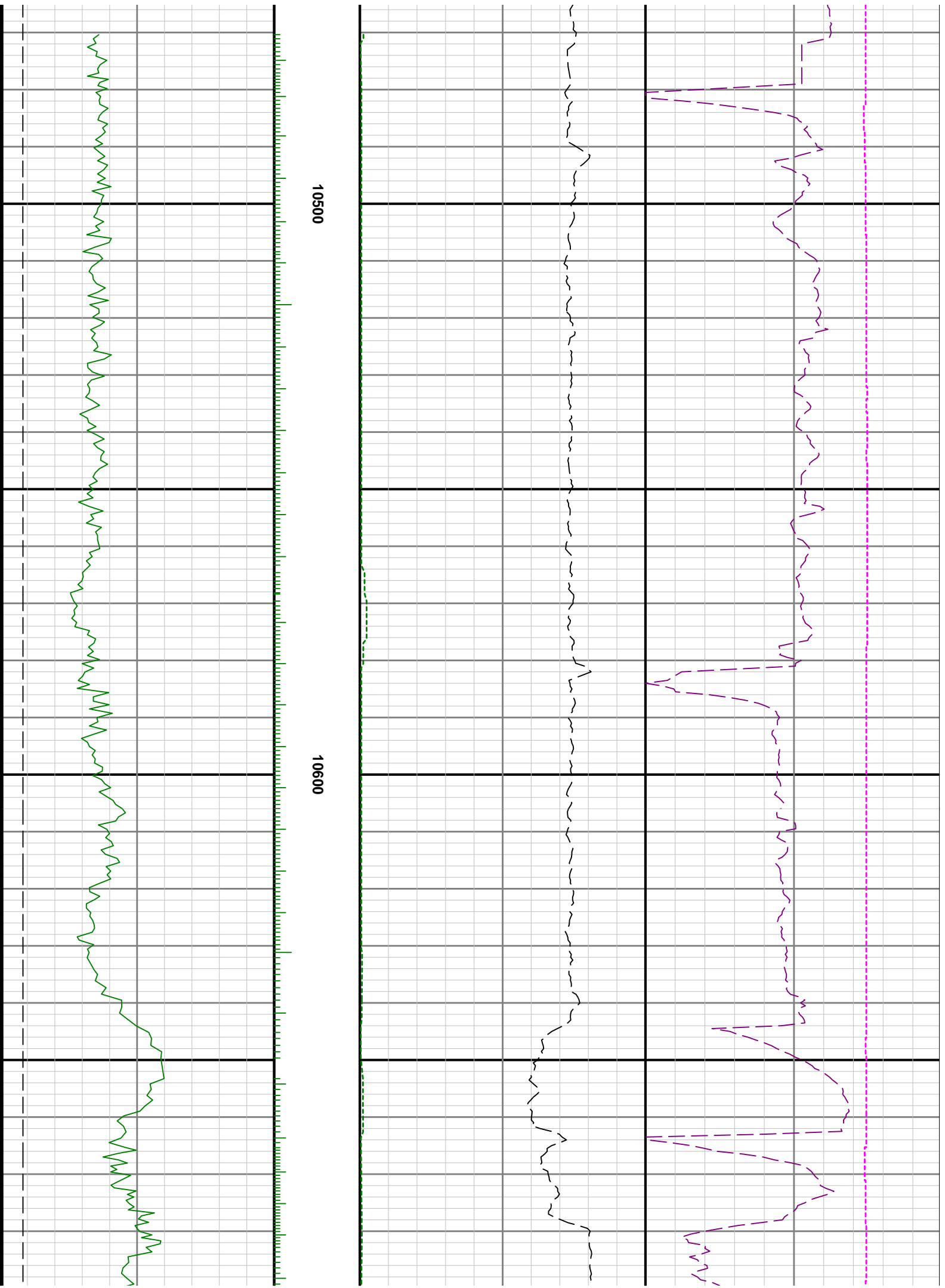


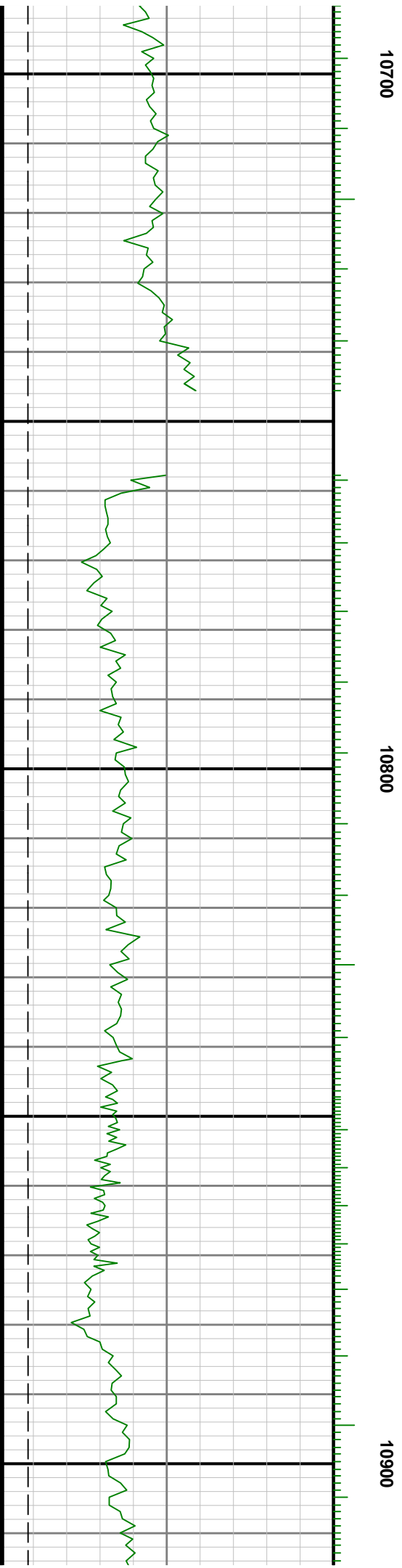
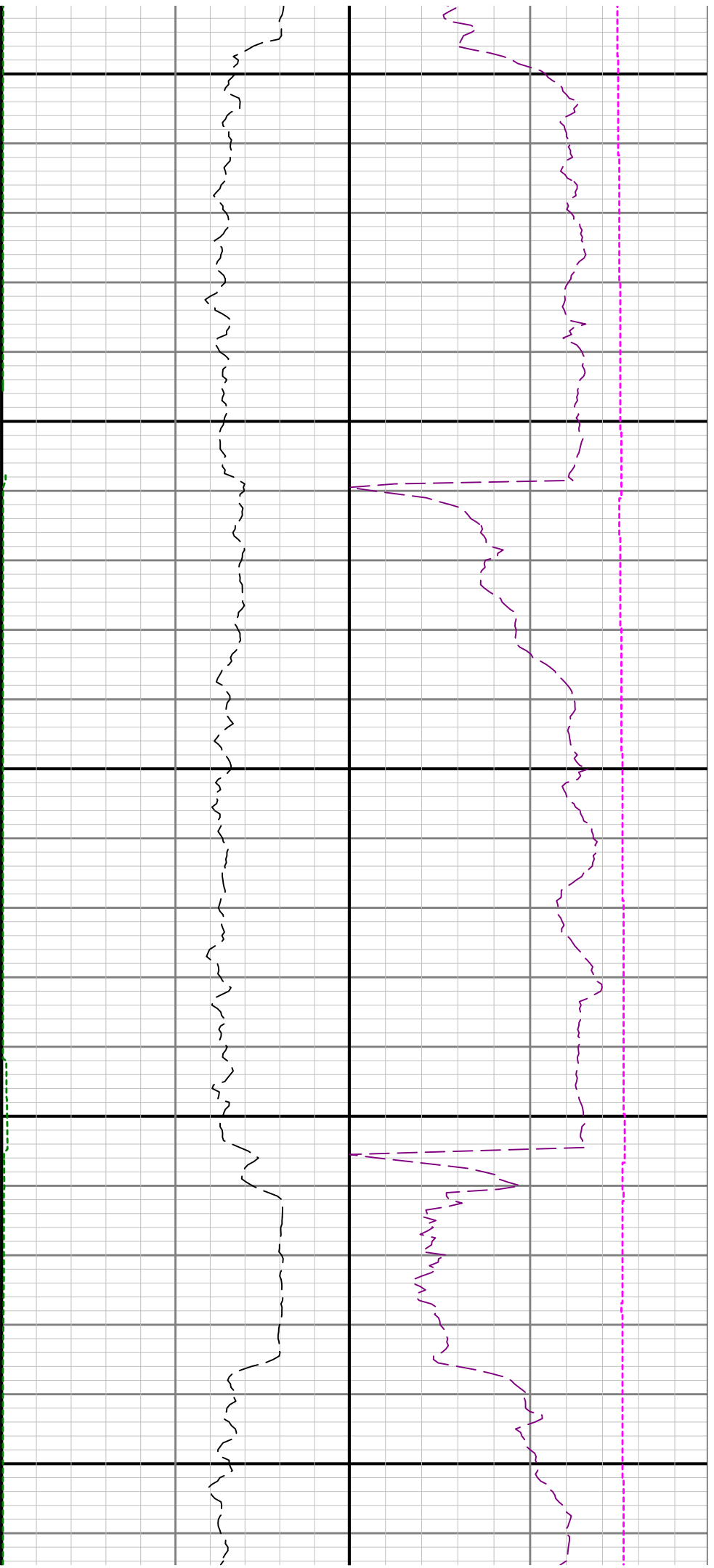


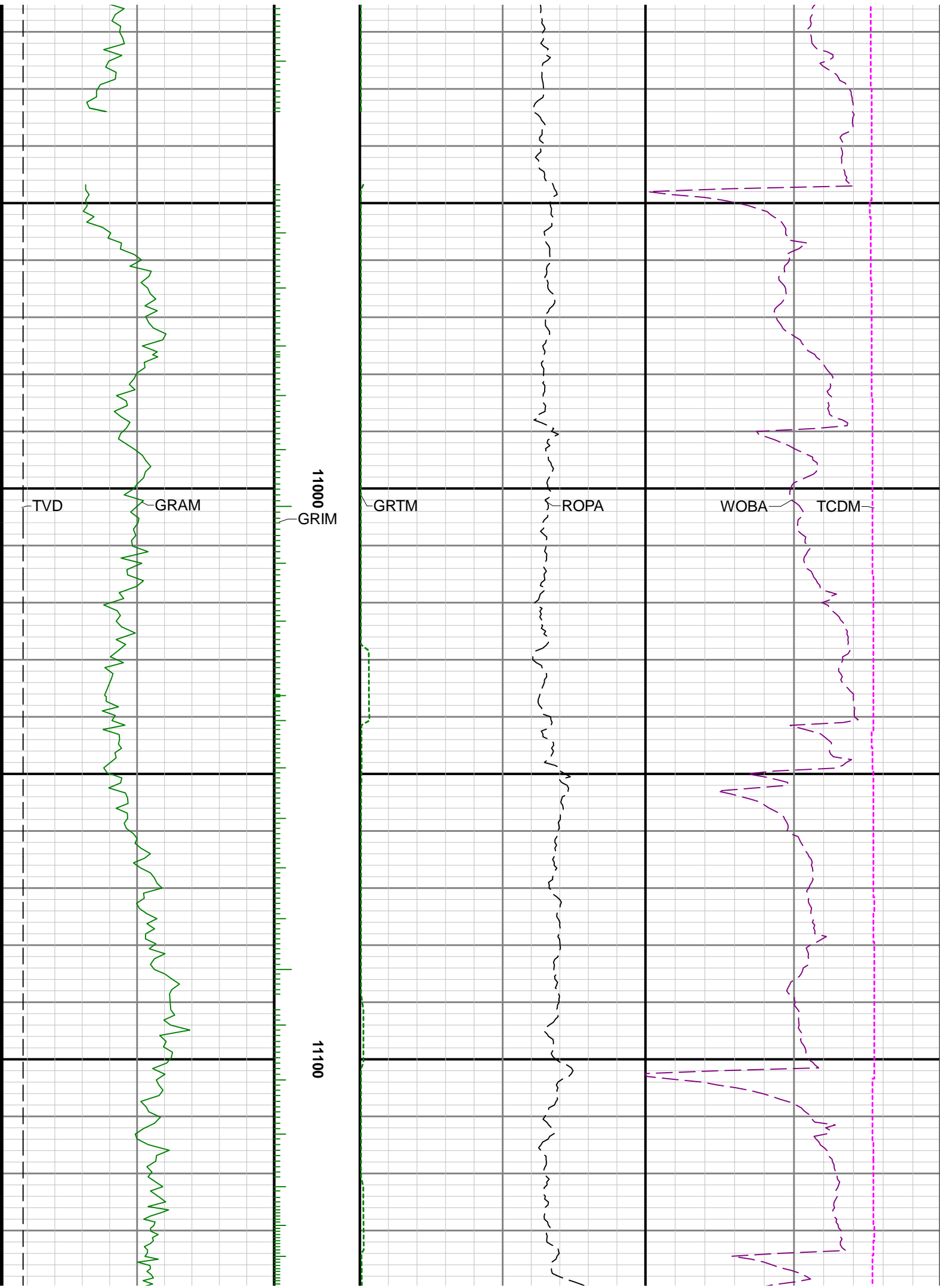
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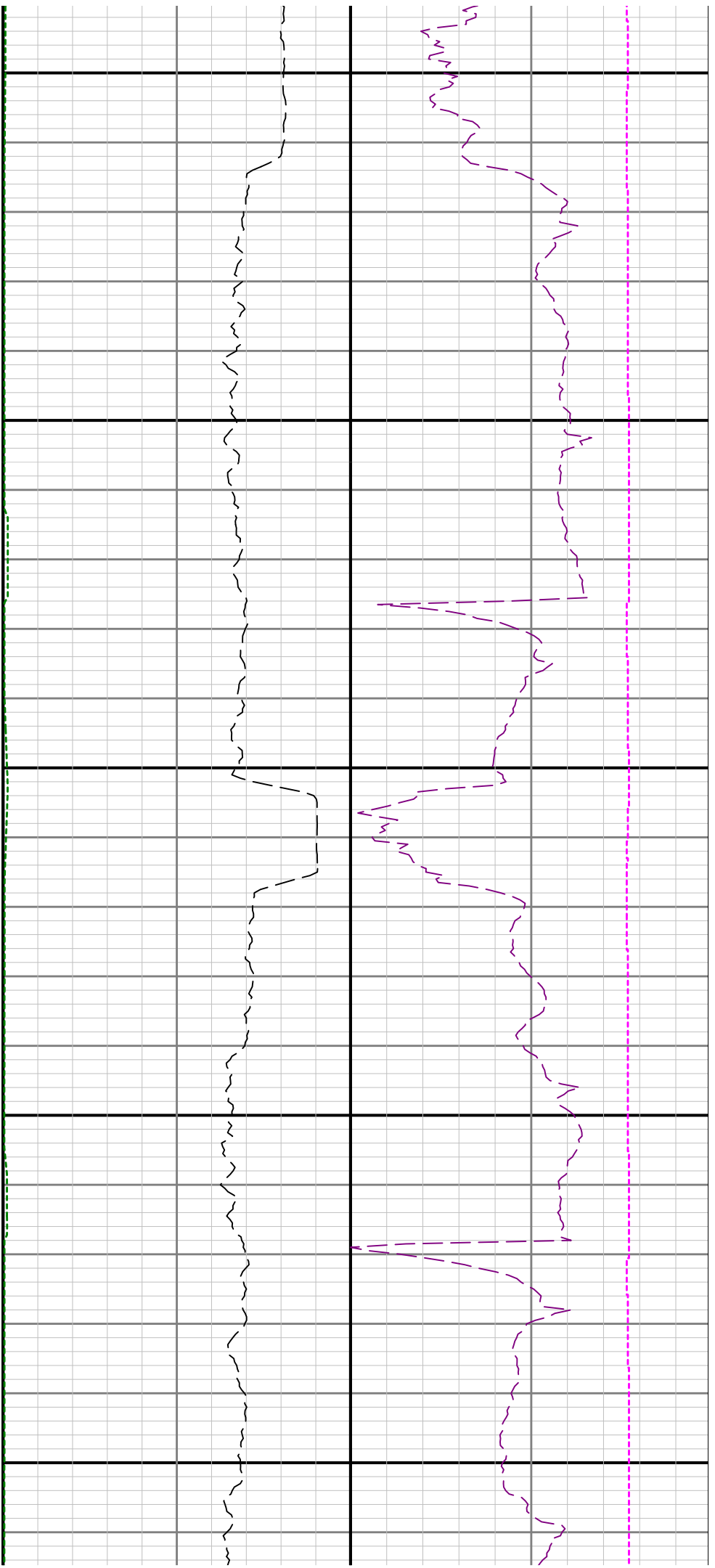
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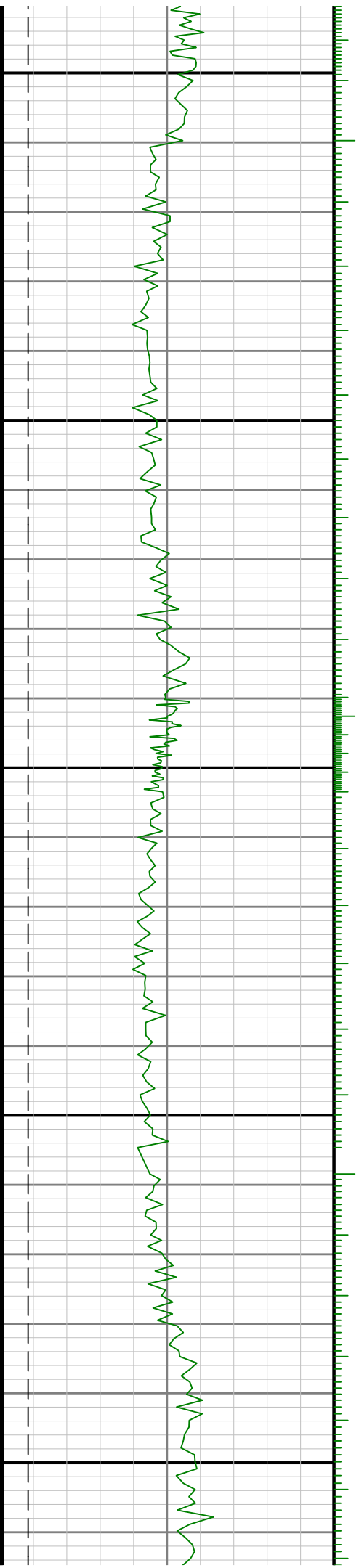


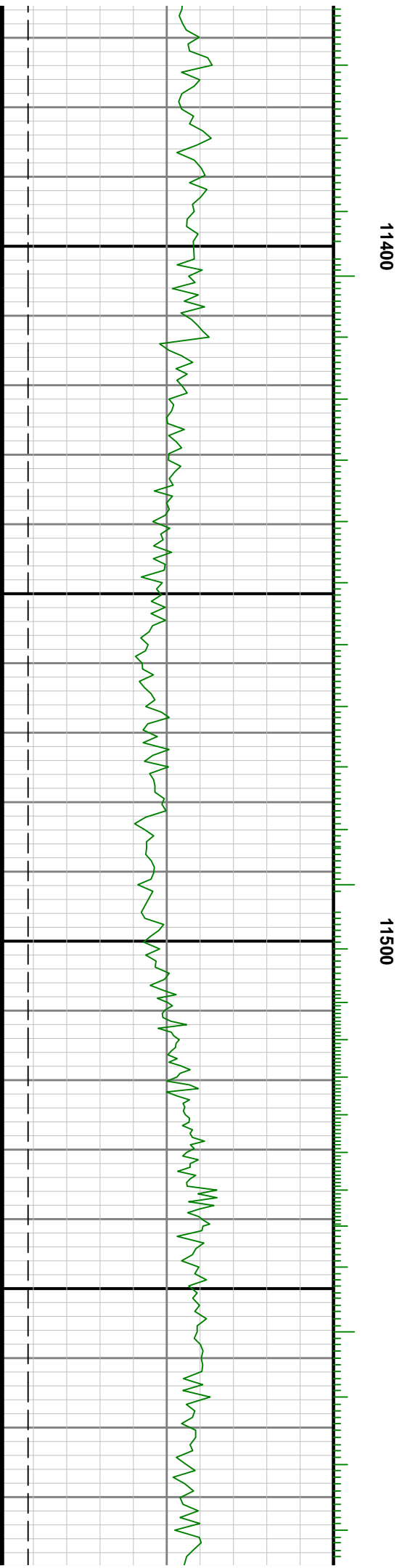
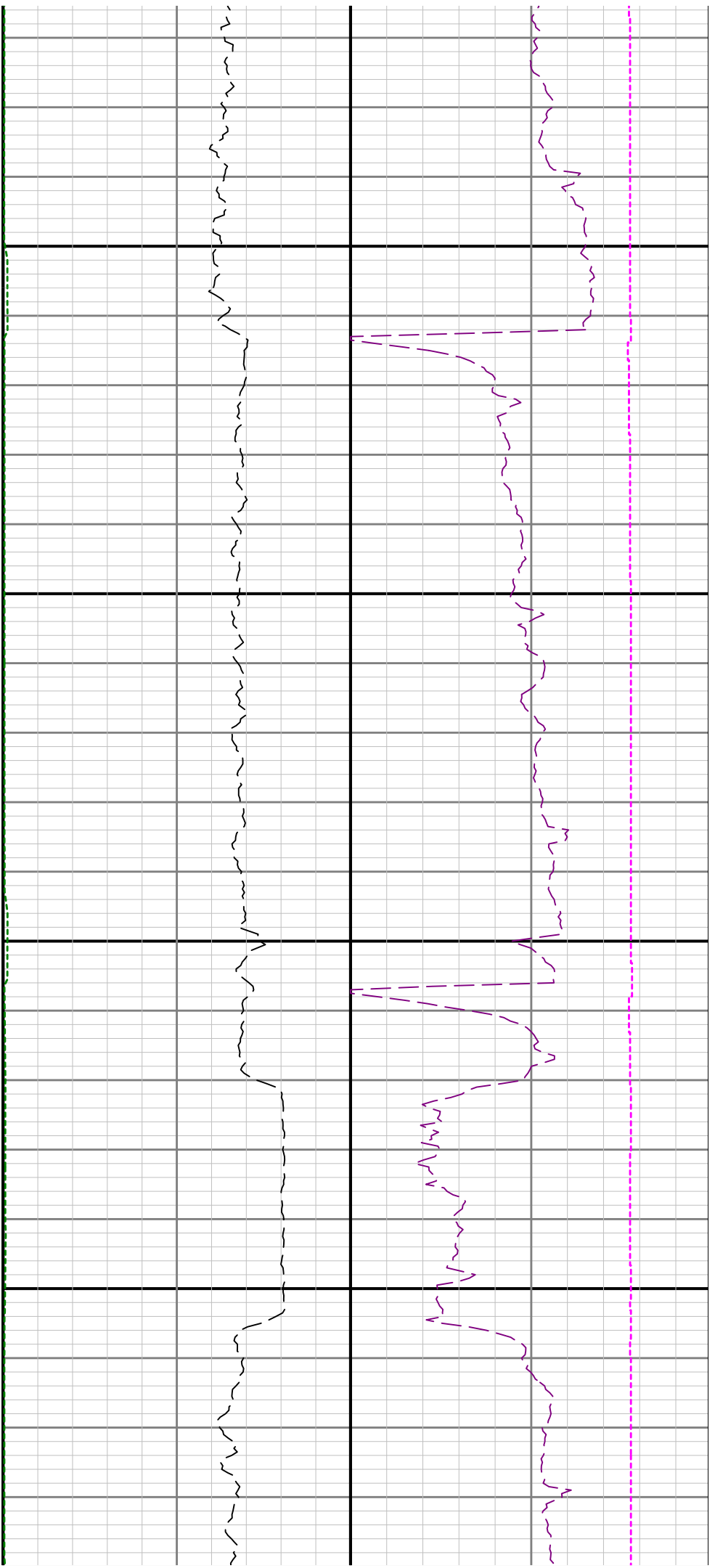


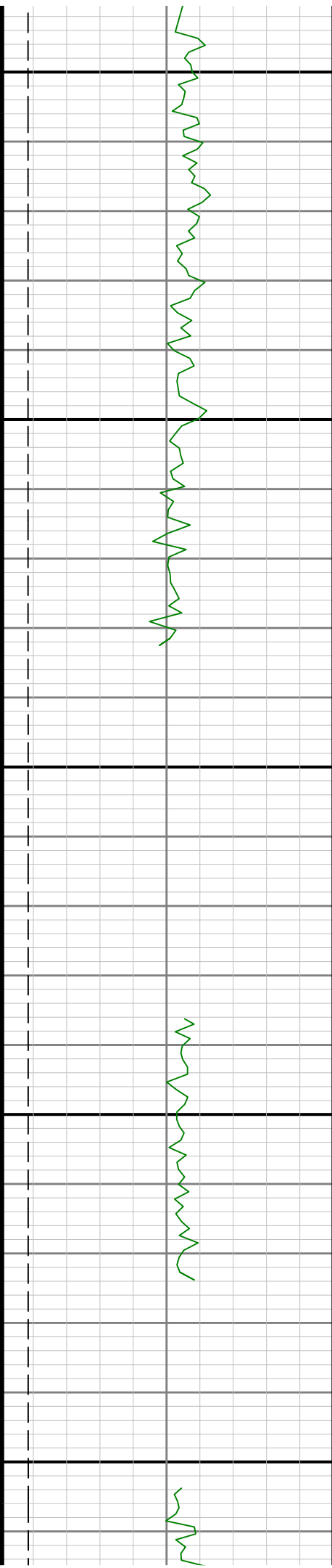
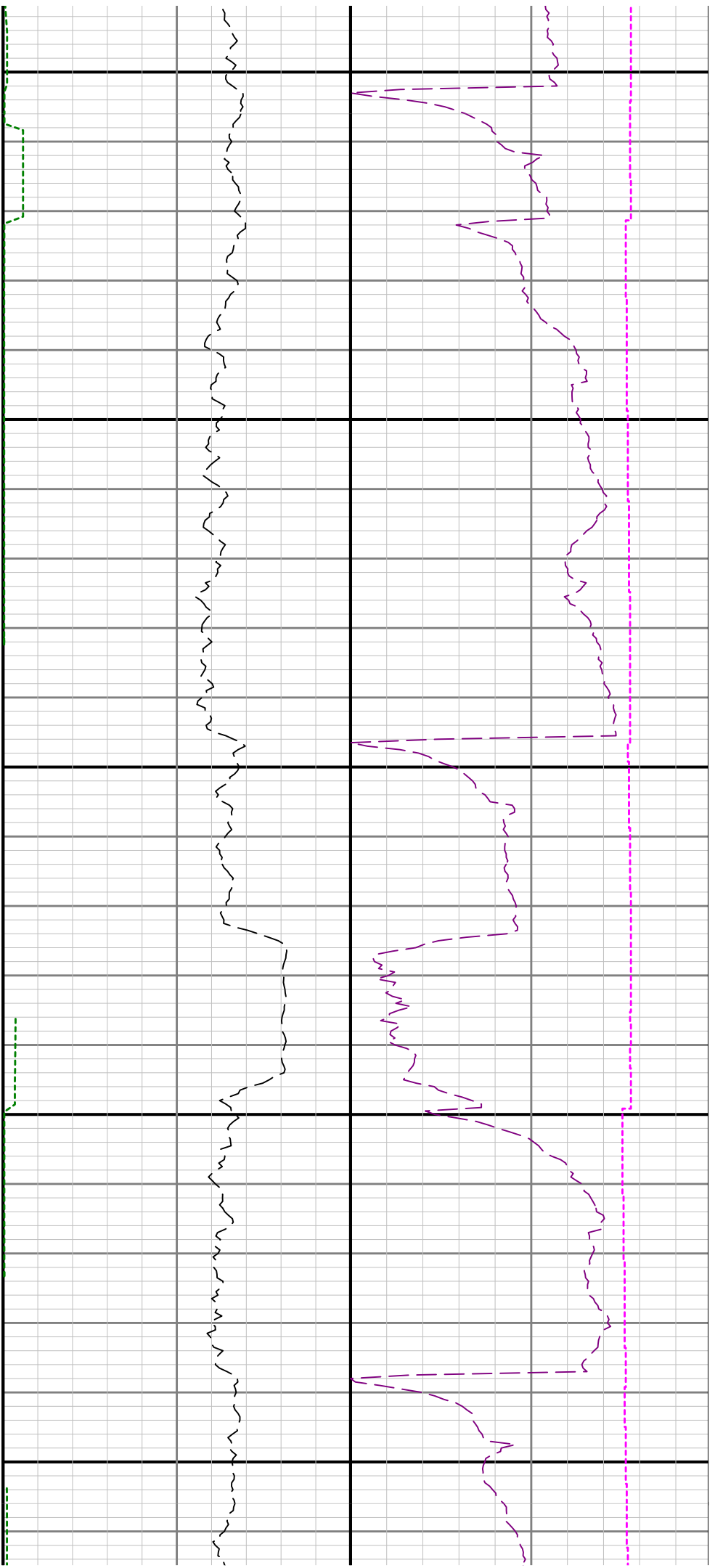


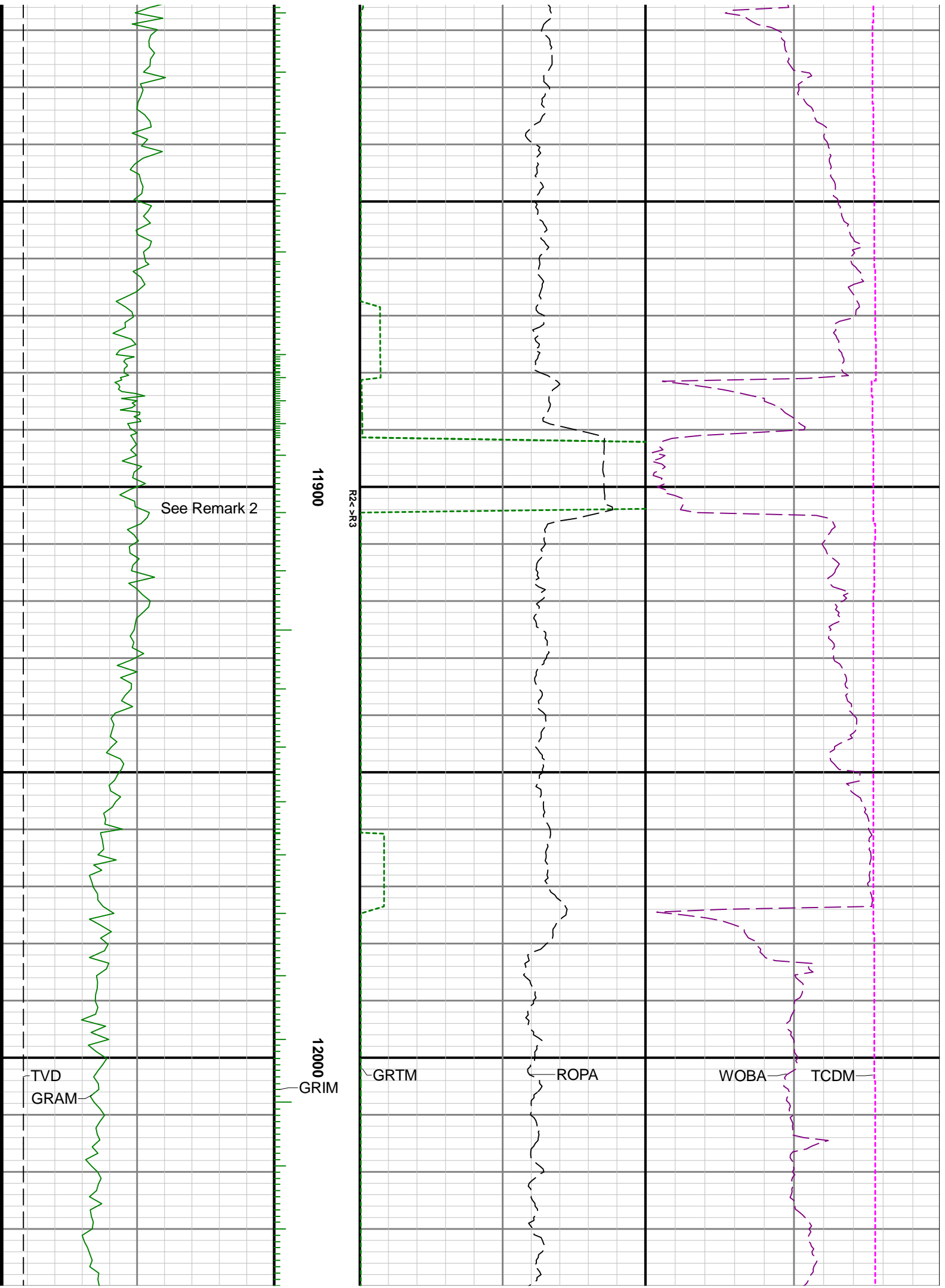
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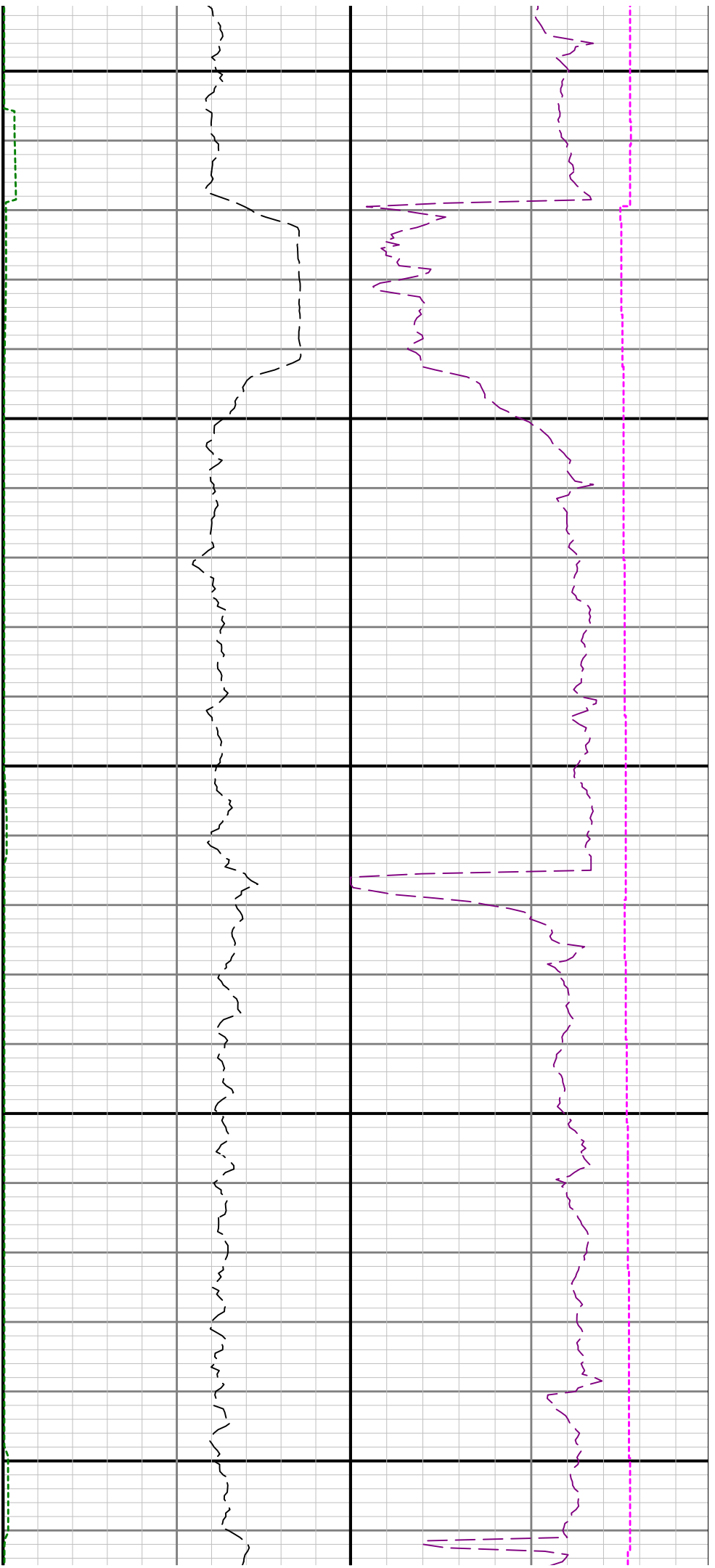
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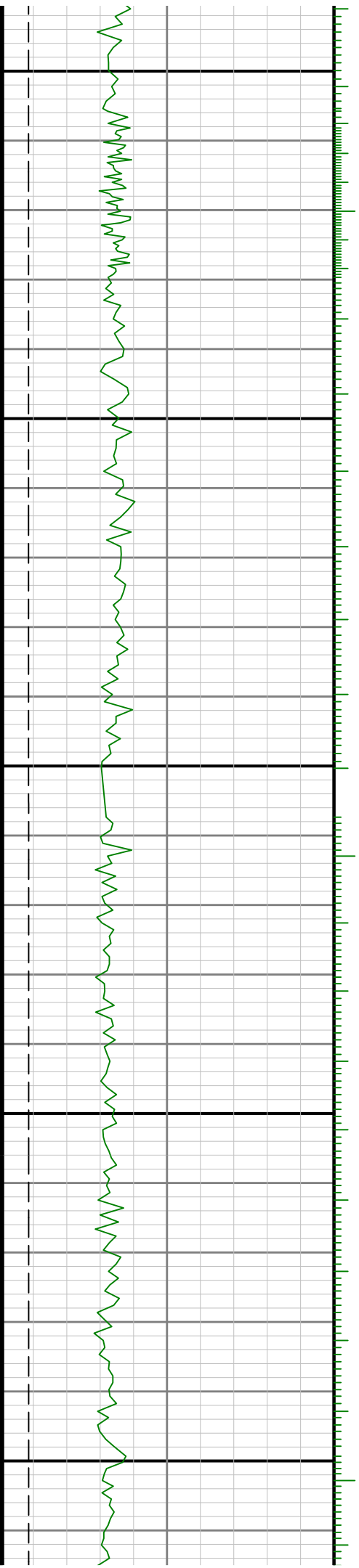


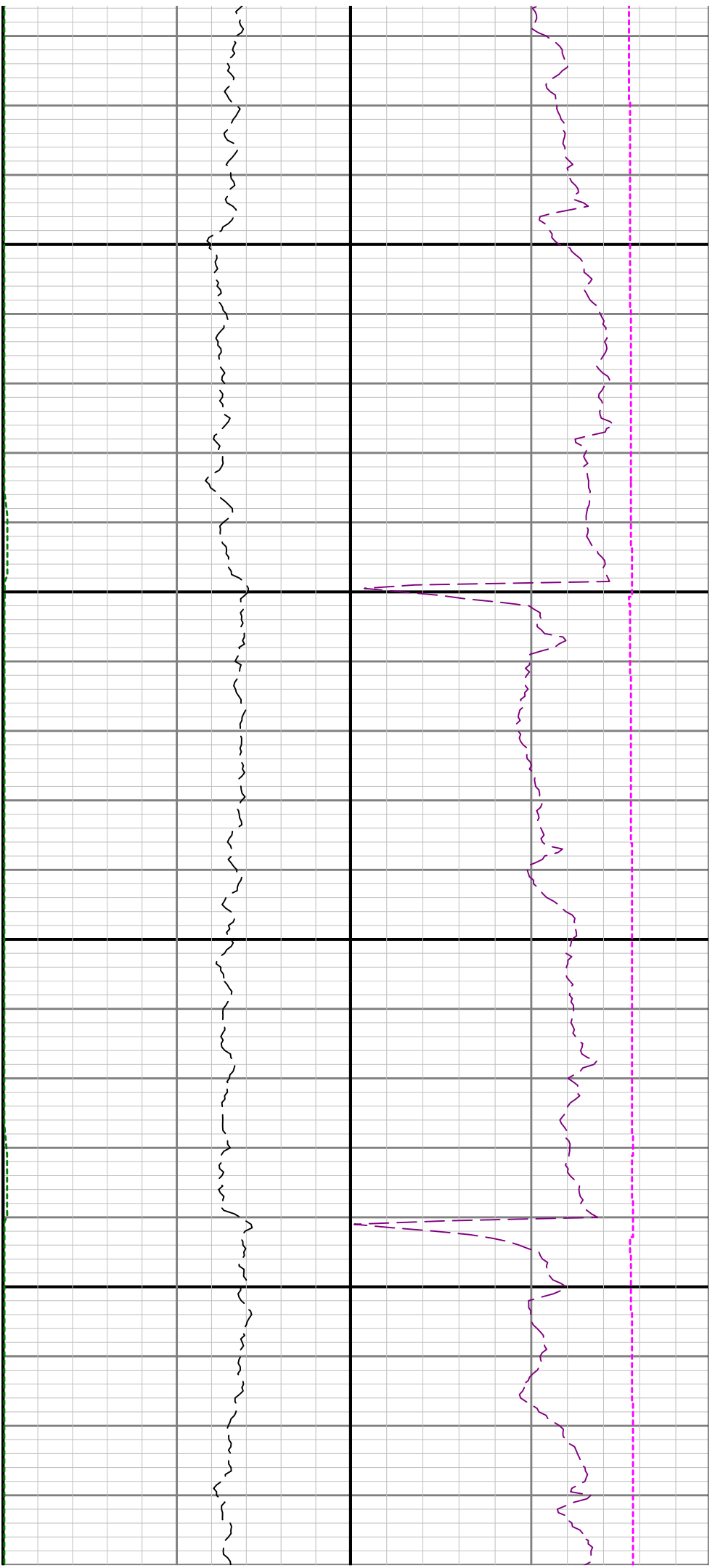




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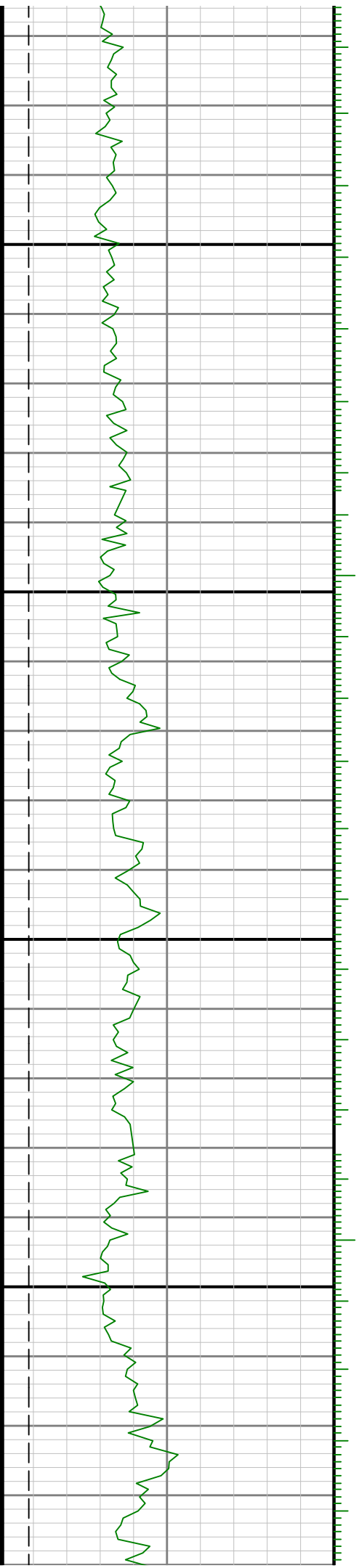
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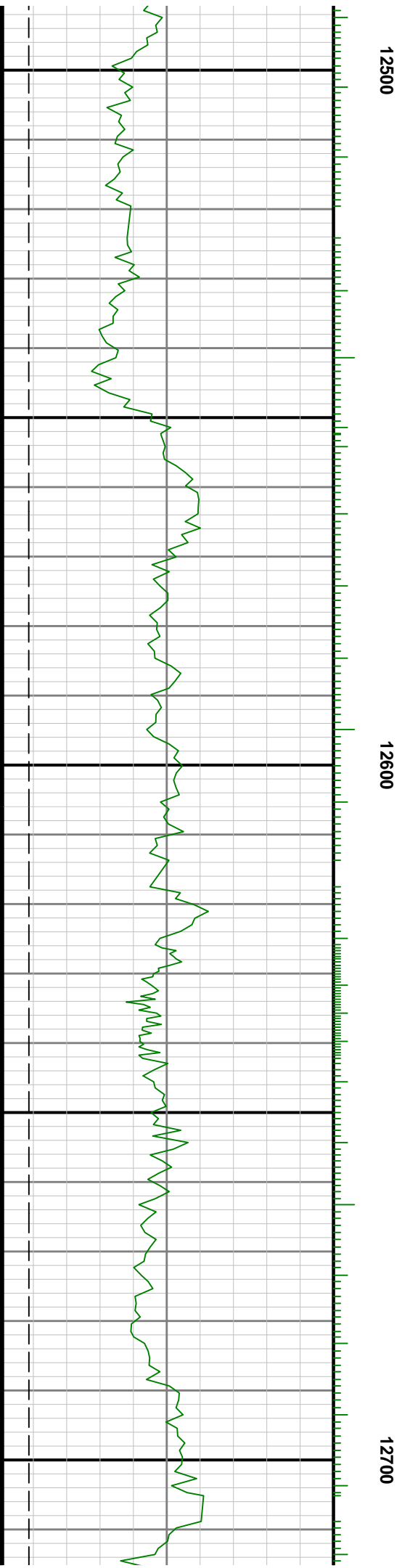
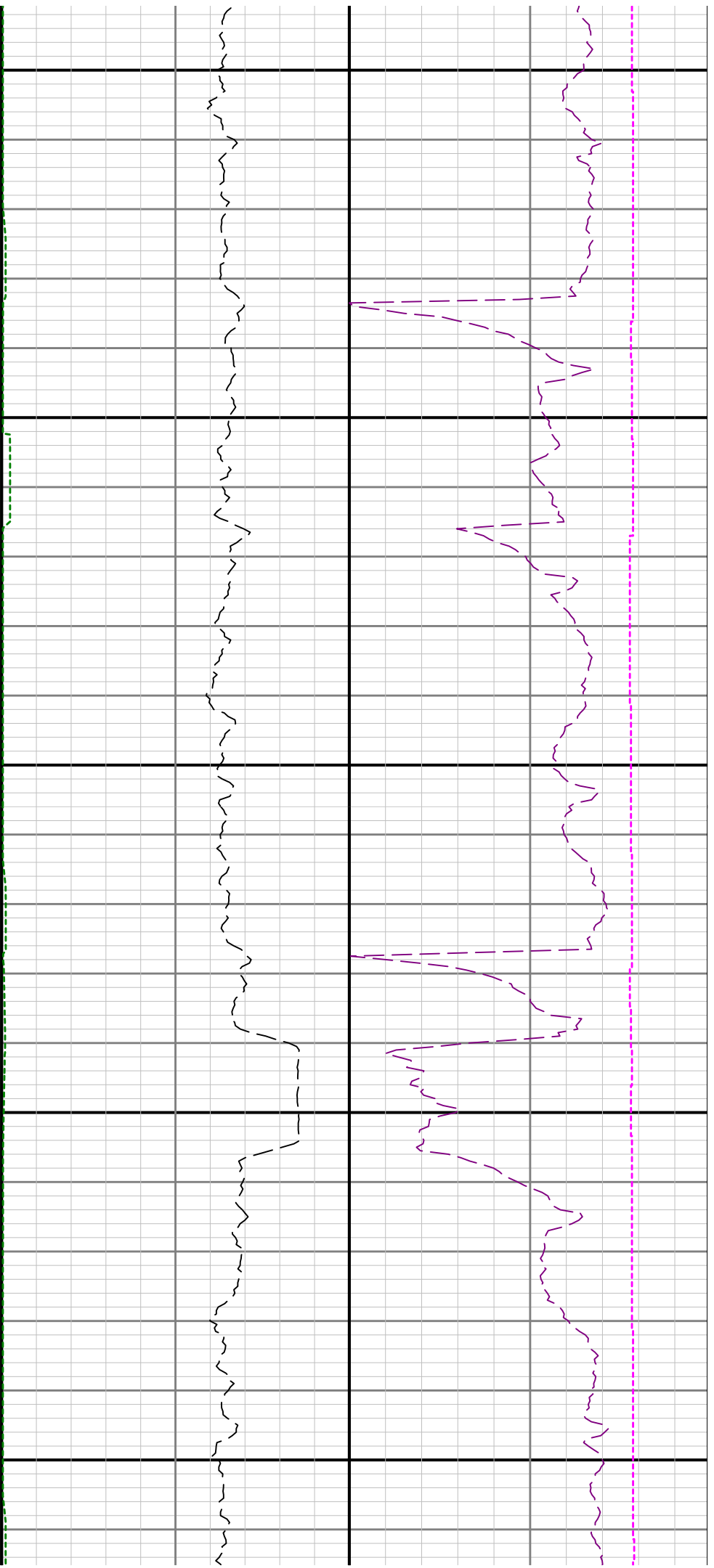


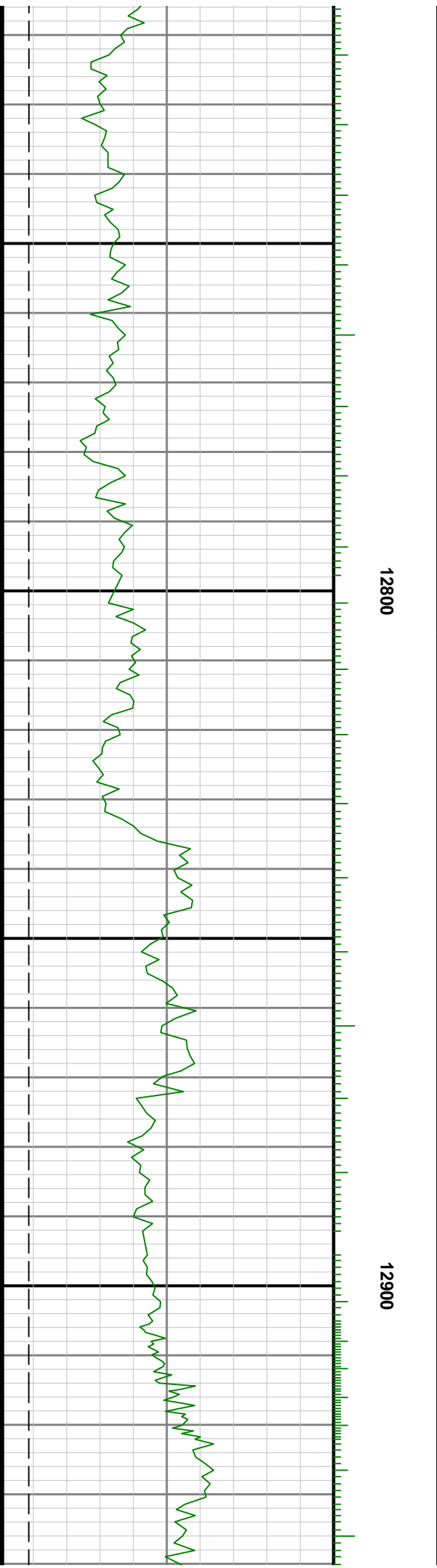
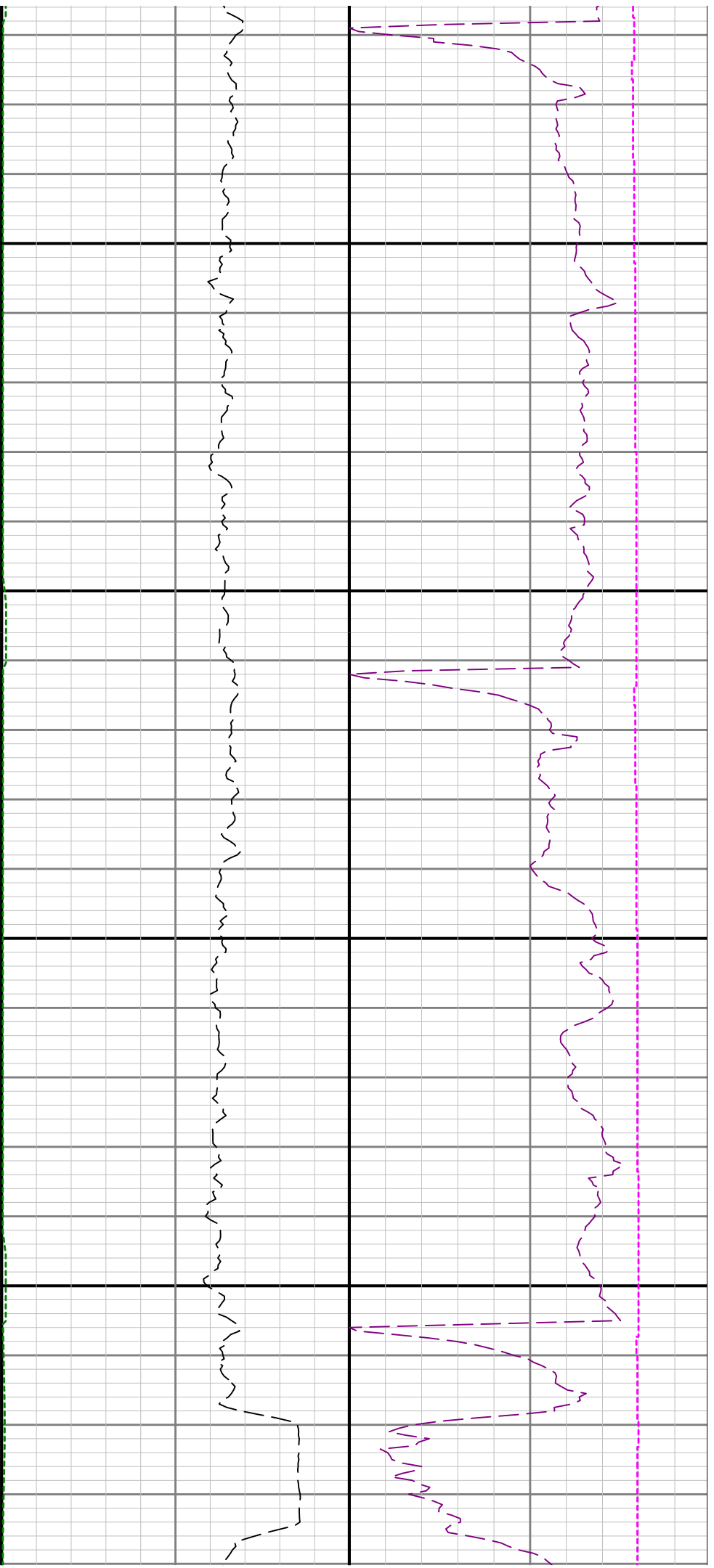


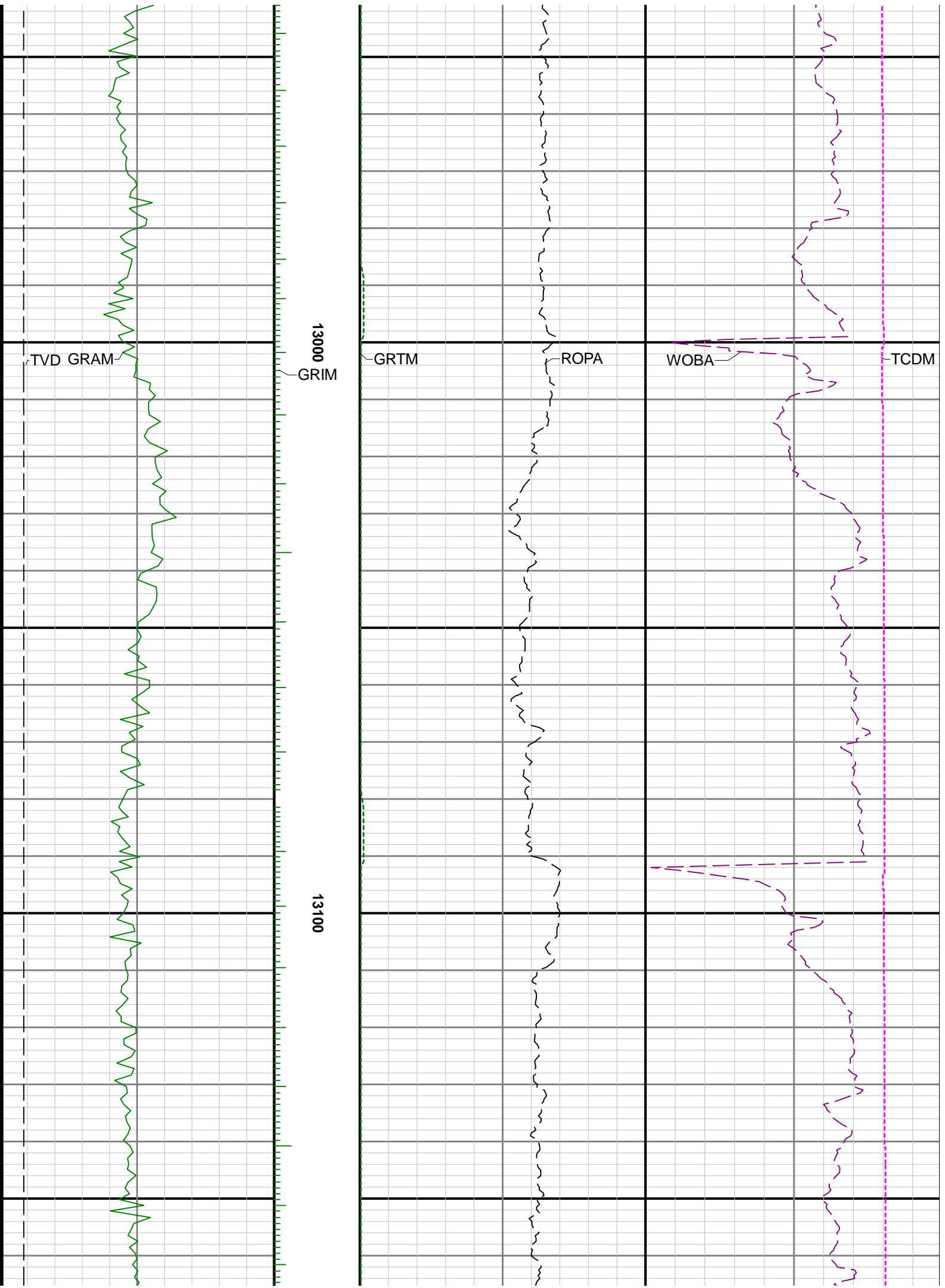
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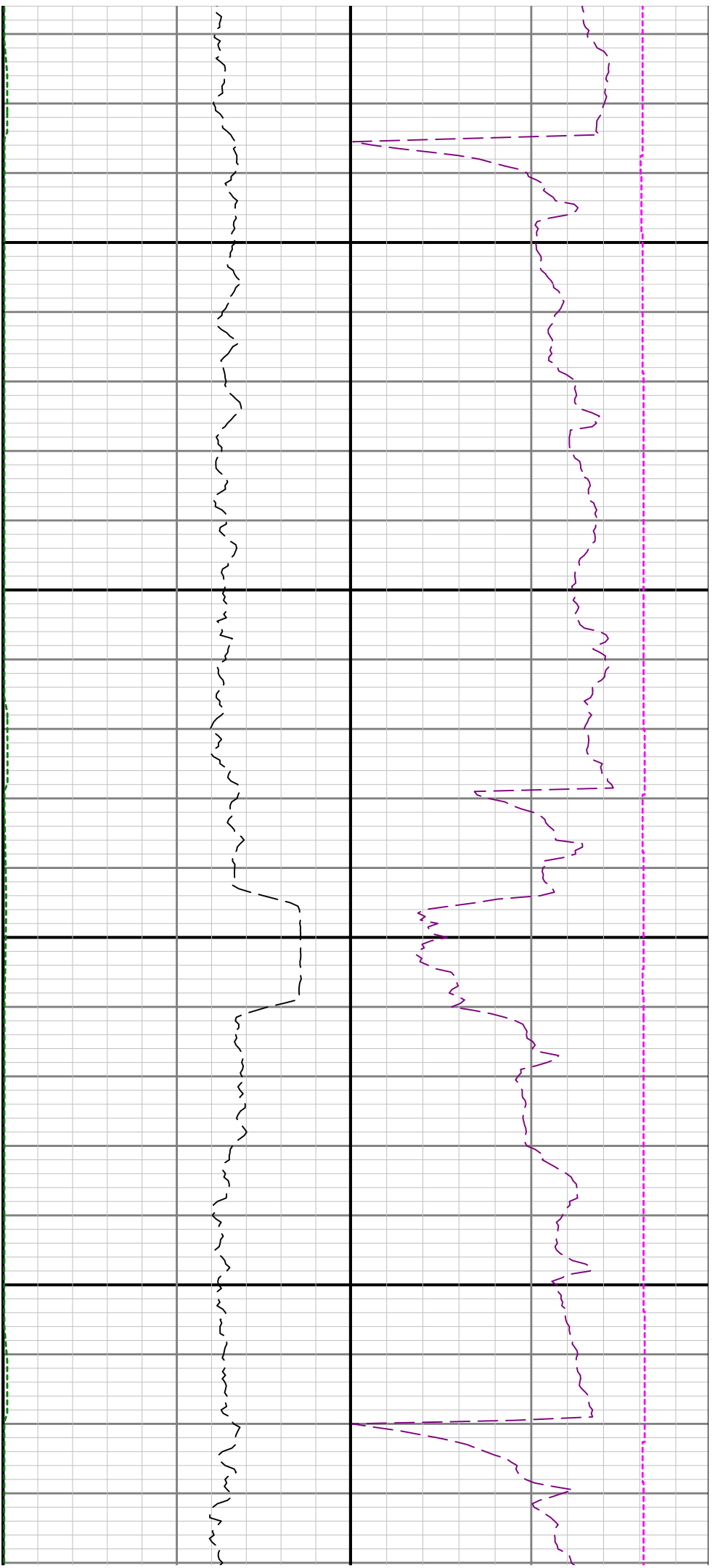
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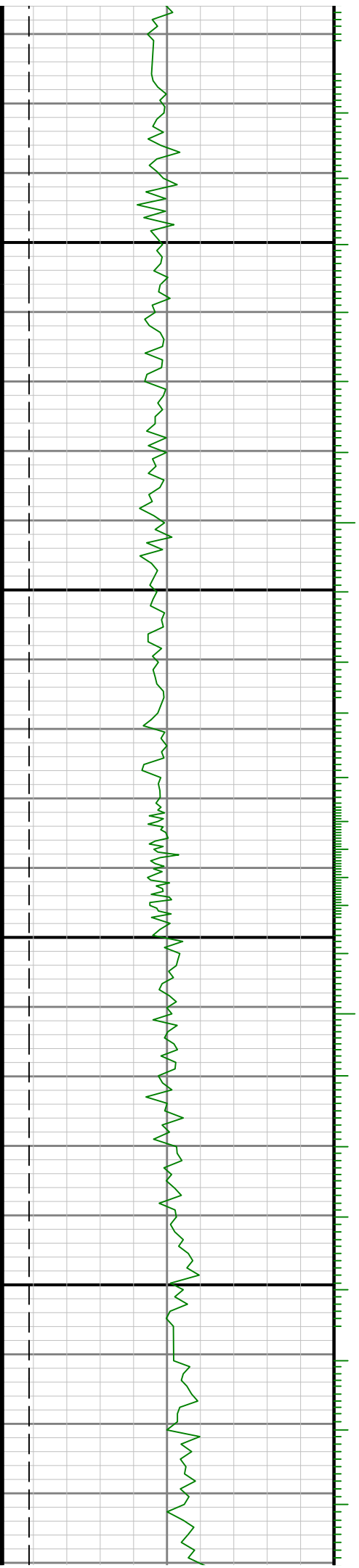


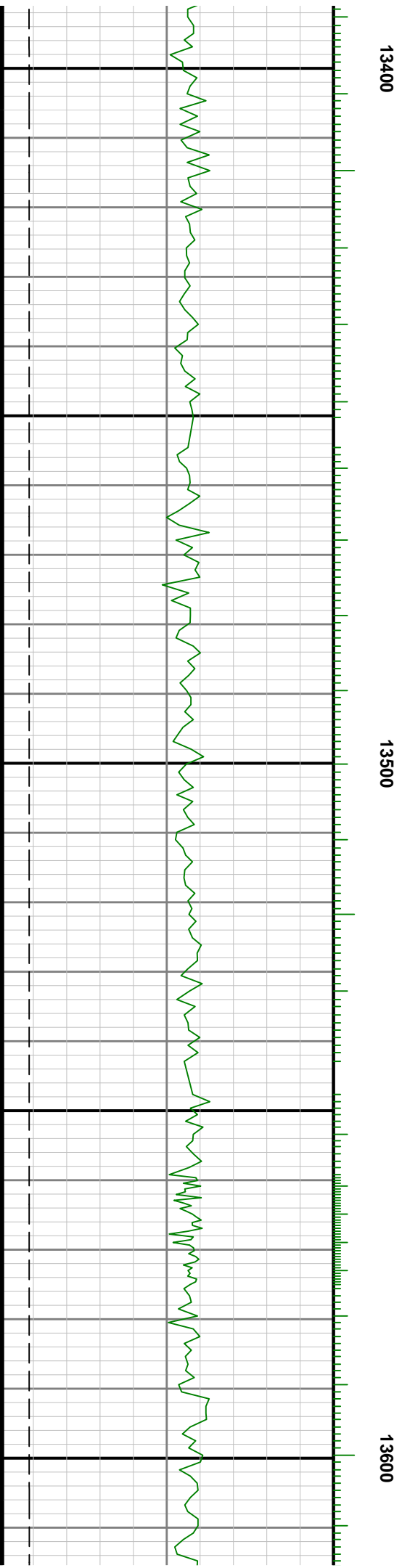
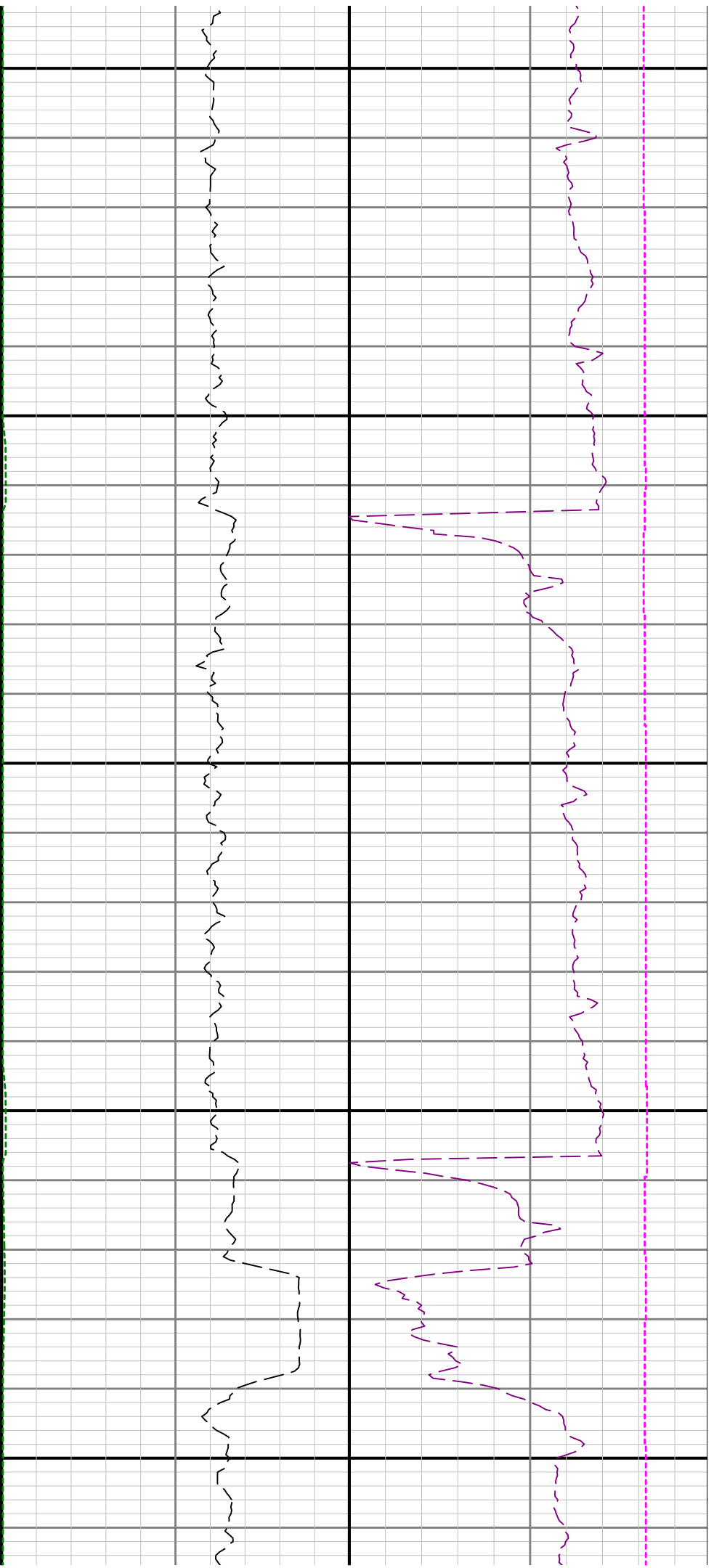


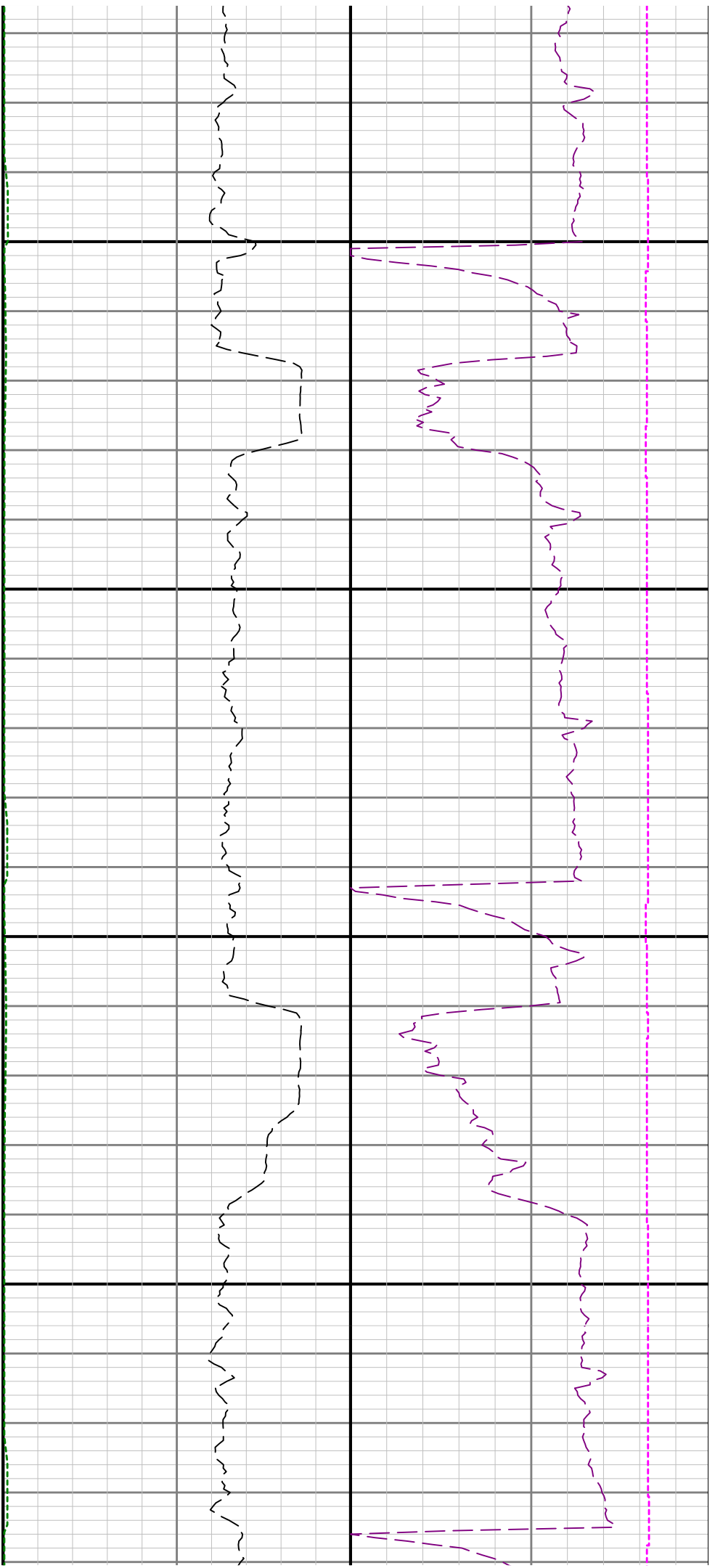


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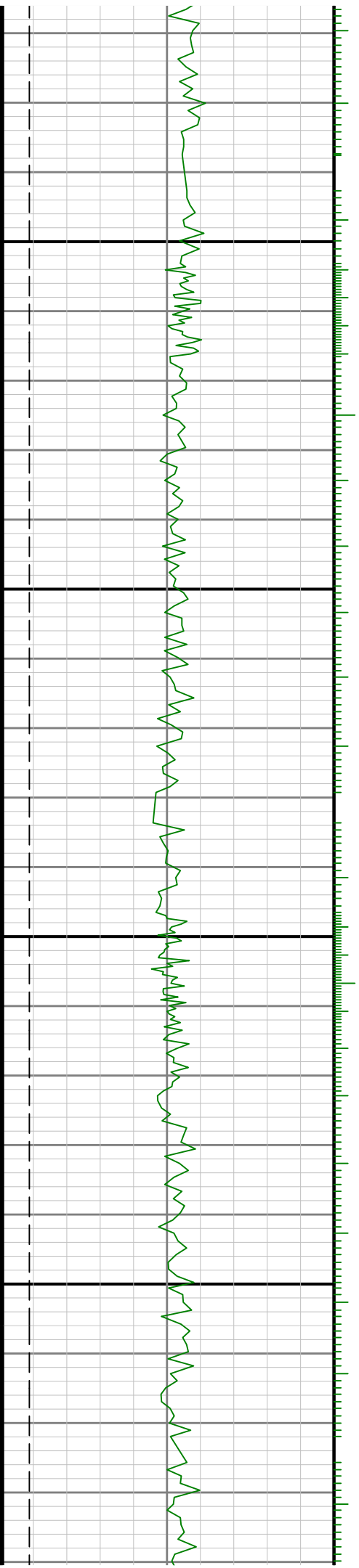


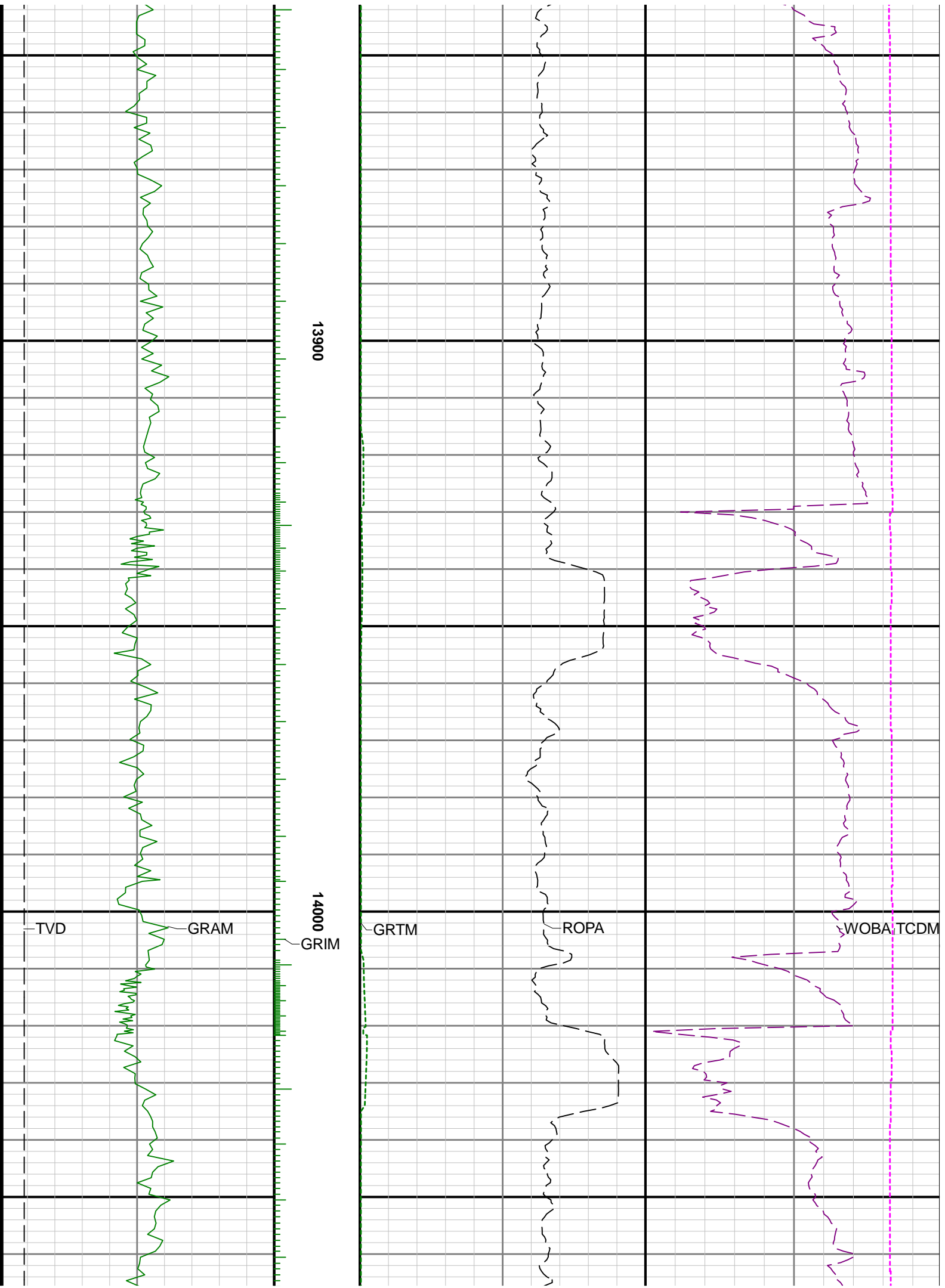


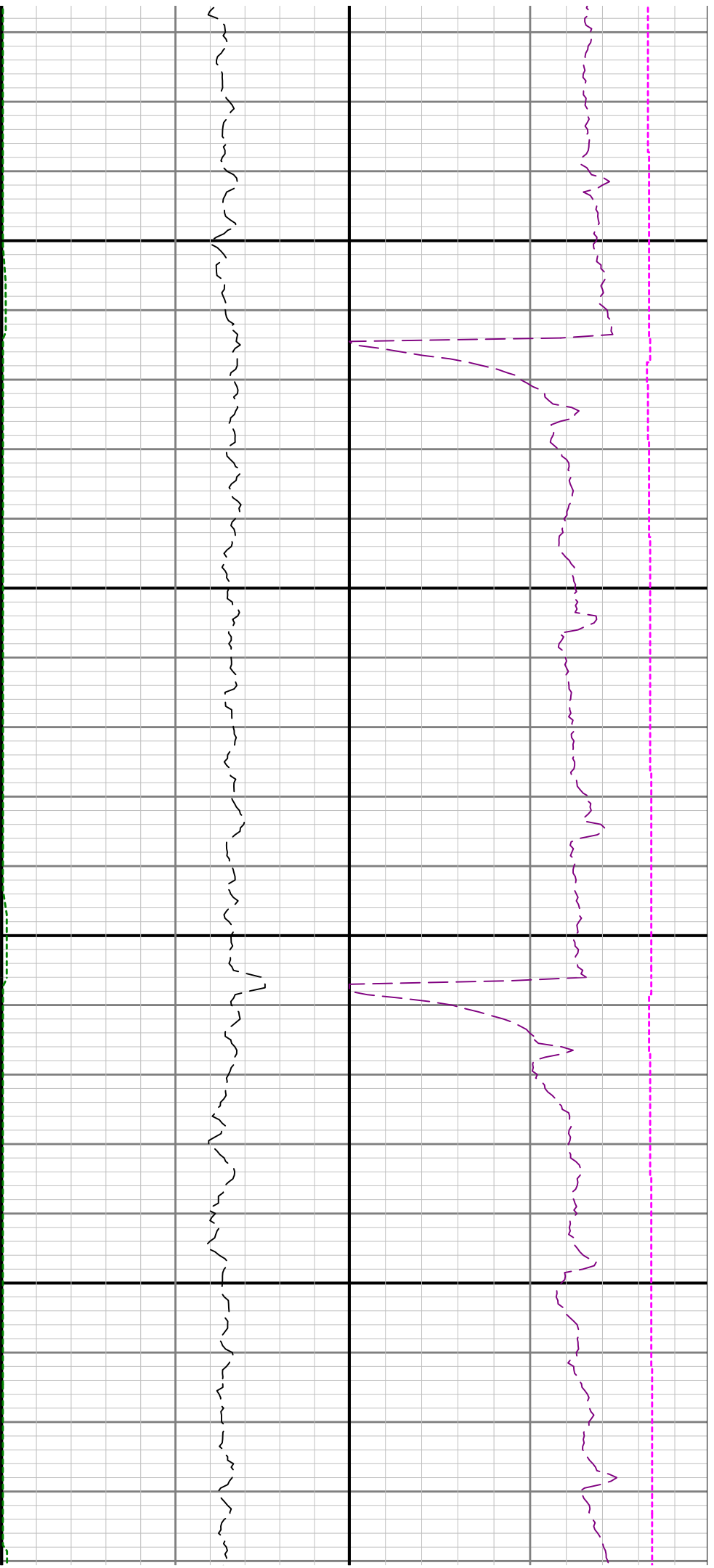


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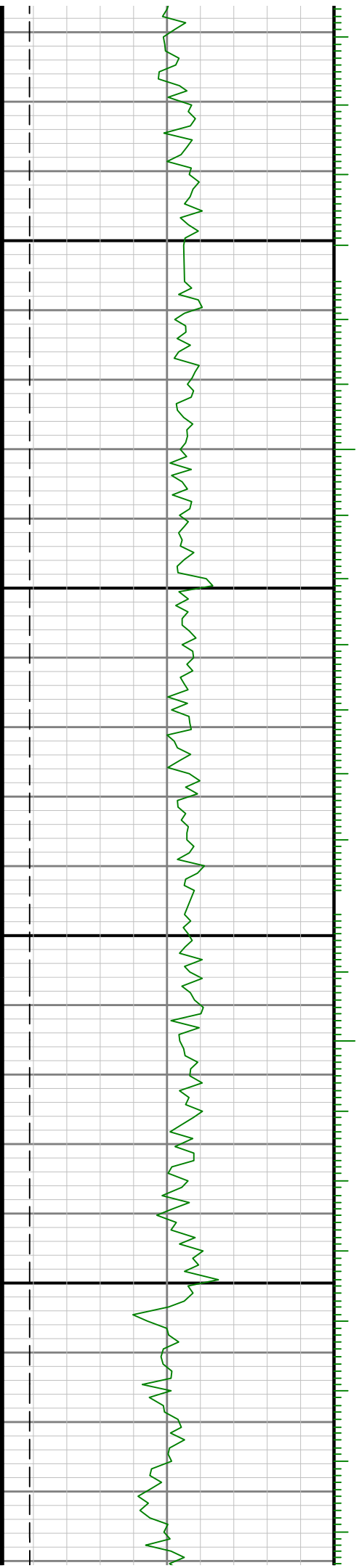


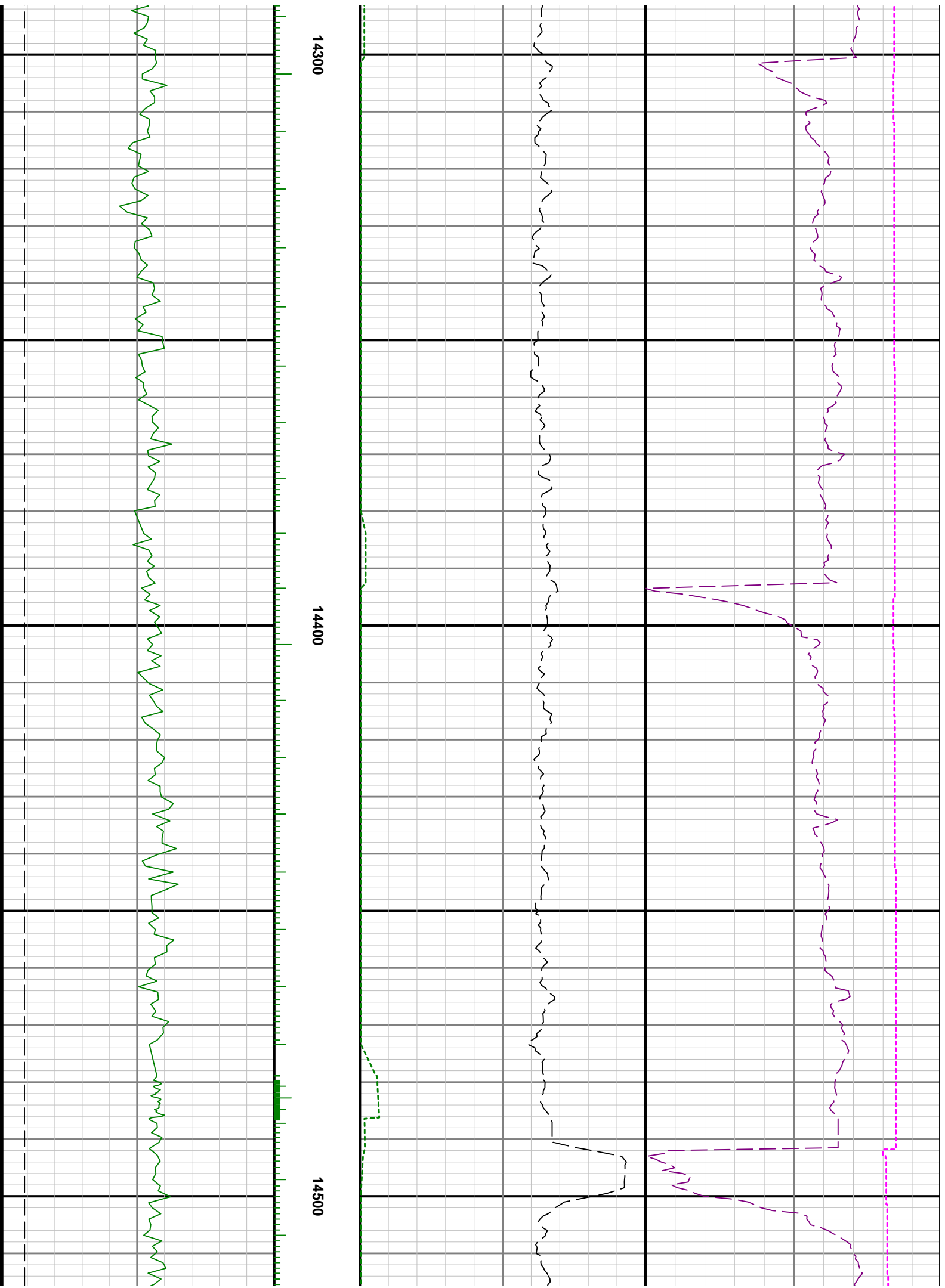




14100

14200







14600

14700

