



		(ft)		(ppg)	(cP)	(ft)	(cm3)			(ppm)	(%)
2016-12-30 04:00	1	1939.00	Water Based Mud	8.4	27	N/A	79.0	0.5/99.5	Active Pit	600	0.00
2016-12-30 05:00	1	2000.00	Oil Based Mud	8.9	51	N/A	19.0	83.6/16.4	Active Pit	20000	0.00
2016-12-30 14:30	1	4440.00	Oil Based Mud	8.9	42	N/A	20.0	83.7/16.3	Active Pit	21000	0.00
2016-12-31 02:30	1	6840.00	Oil Based Mud	9.0	40	N/A	18.0	84.7/15.3	Active Pit	22000	0.00
2016-12-31 14:30	1	10025.00	Oil Based Mud	9.1	40	N/A	18.0	84.8/15.2	Active Pit	21000	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	13809445	Near Bit Inclination	5.93	6.73	7.000	4.330
1	ATC_SU	13809445	Near Bit VSS	5.93	6.73	7.000	4.330
1	ATC_MWD	12706130	Gamma (single)	2.23	12.35	7.000	3.250
1	ATC_MWD	12706130	Directional (mag)	12.34	22.46	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 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 a 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 8 1/2 inch bit and rotary steerable assembly from 1939 to 16776 feet MD ( 1939 to 6047 feet TVD).

Remarks

Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	16390.00	8.500	1	The interval from 16380 to 16475 feet MD (6051 to 6050 feet TVD) has no gamma ray data due to tool power malfunction while drilling.
2	16580.00	8.500	1	The interval from 16570 to 16664 MD (6049 to 6048 feet TVD) has no gamma ray data due to tool power malfunction while drilling.
3	16774.00	8.500	1	The interval from 16764 to 16776 feet MD (6047 feet TVD) was not logged due to sensor to bit offset at well TD.

Curve Mnemonics

Presented Curves	Description	Units
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 - Apparent 0.5 ft Average	API
GRIM	Gamma Ray Data Point Indicator	unitless
GRTM	Gamma Time Since Drilled	min
TCDM	Downhole Temperature	degF



Company

Well

Interval

Created

Noble Energy

Earp Federal LC23-740

Date From: 2016-12-29 22:11:18

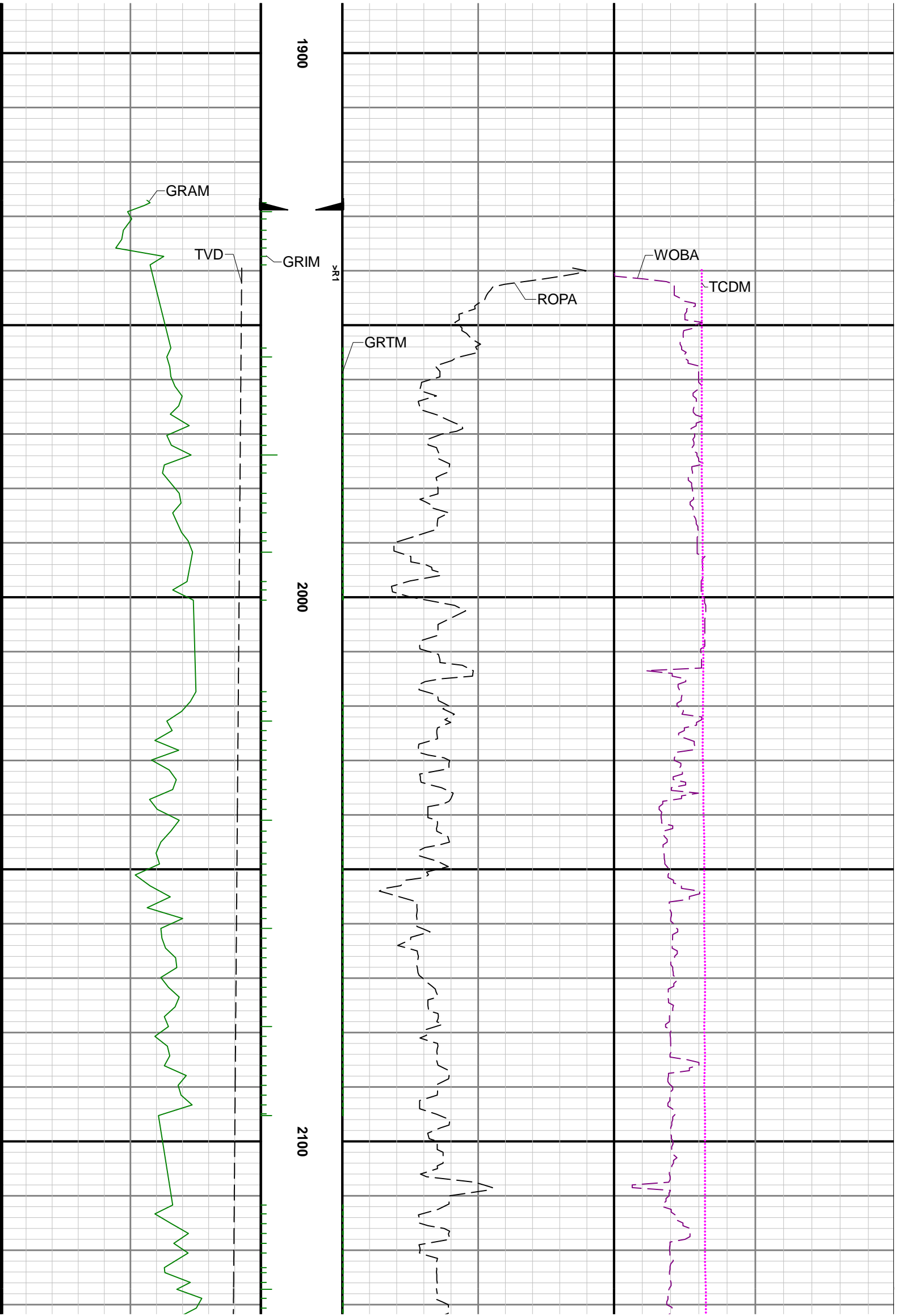
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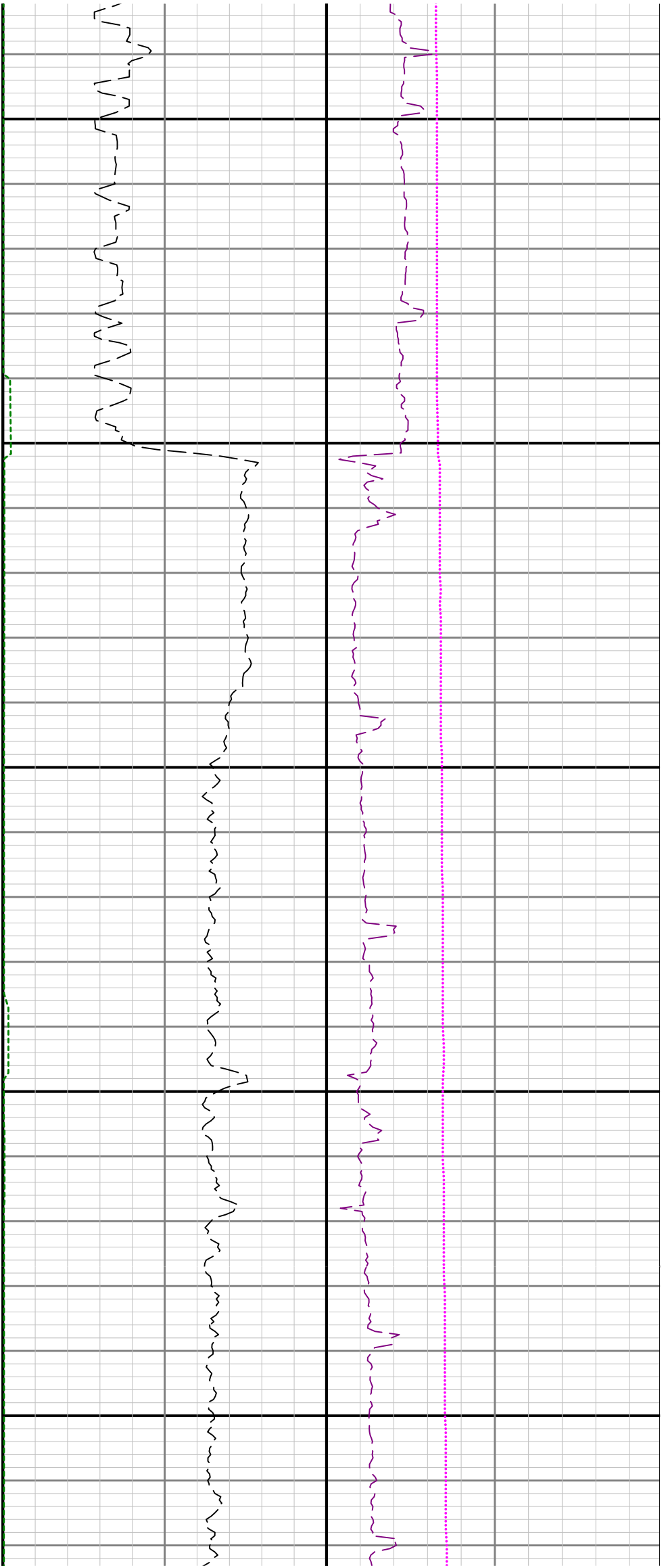
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Top: 1929.00

Bottom: 16776.00

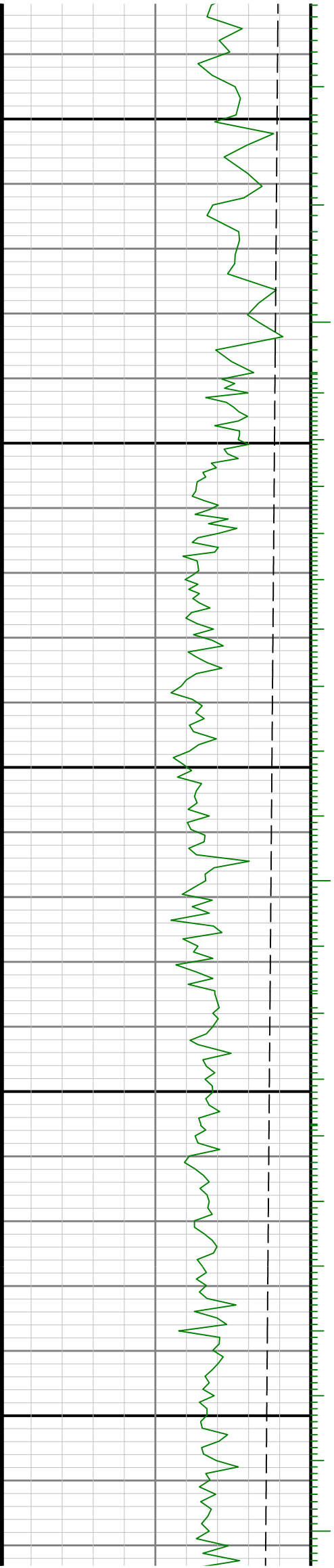
Gamma Ray - Apparent 0.5 ft Average GRAM	MD 1:240 feet	Gamma Time Since Drilled GRTM	Weight On Bit, Average 1 ft Average WOBA
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API		min	klb
True Vertical Depth TVD		Depth Averaged ROP 3 ft Average ROPA	Downhole Temperature TCDM
7500 1500		1000 0	0 300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

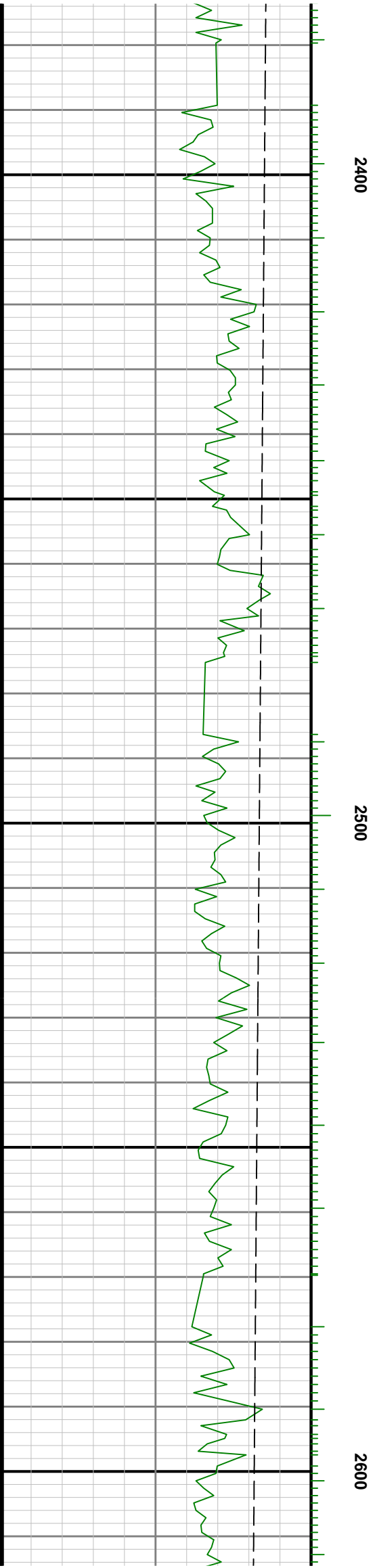




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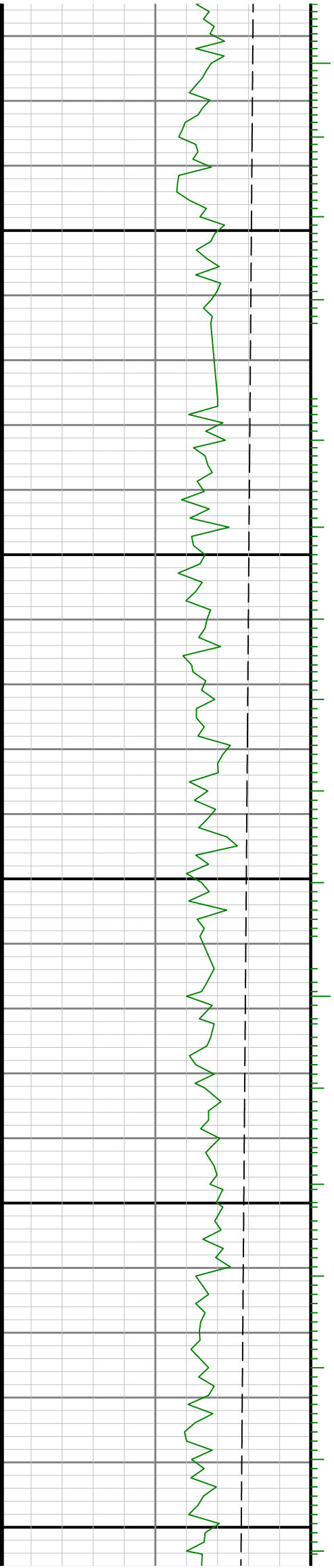


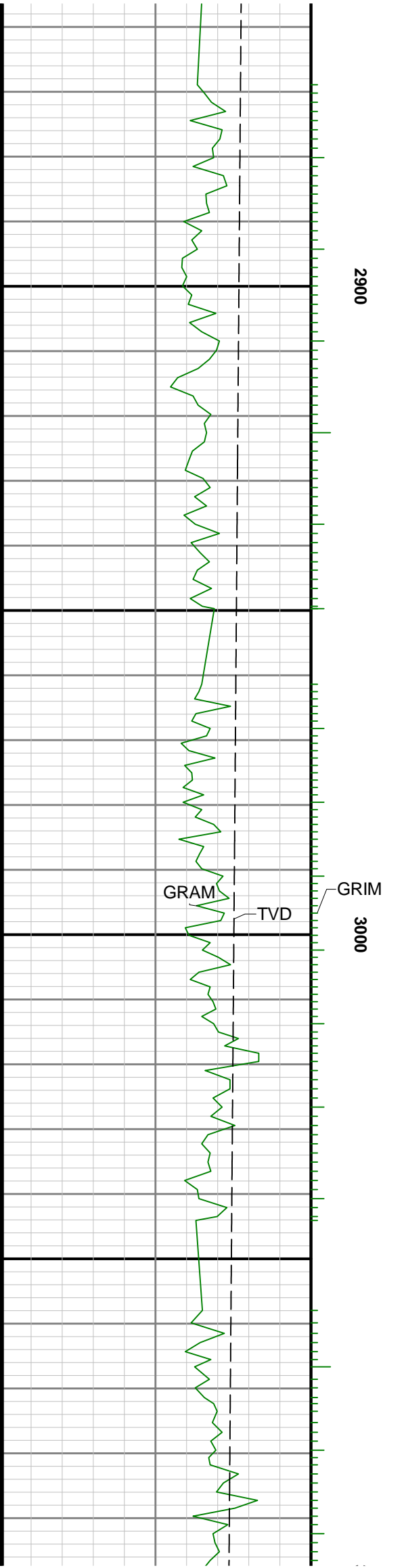
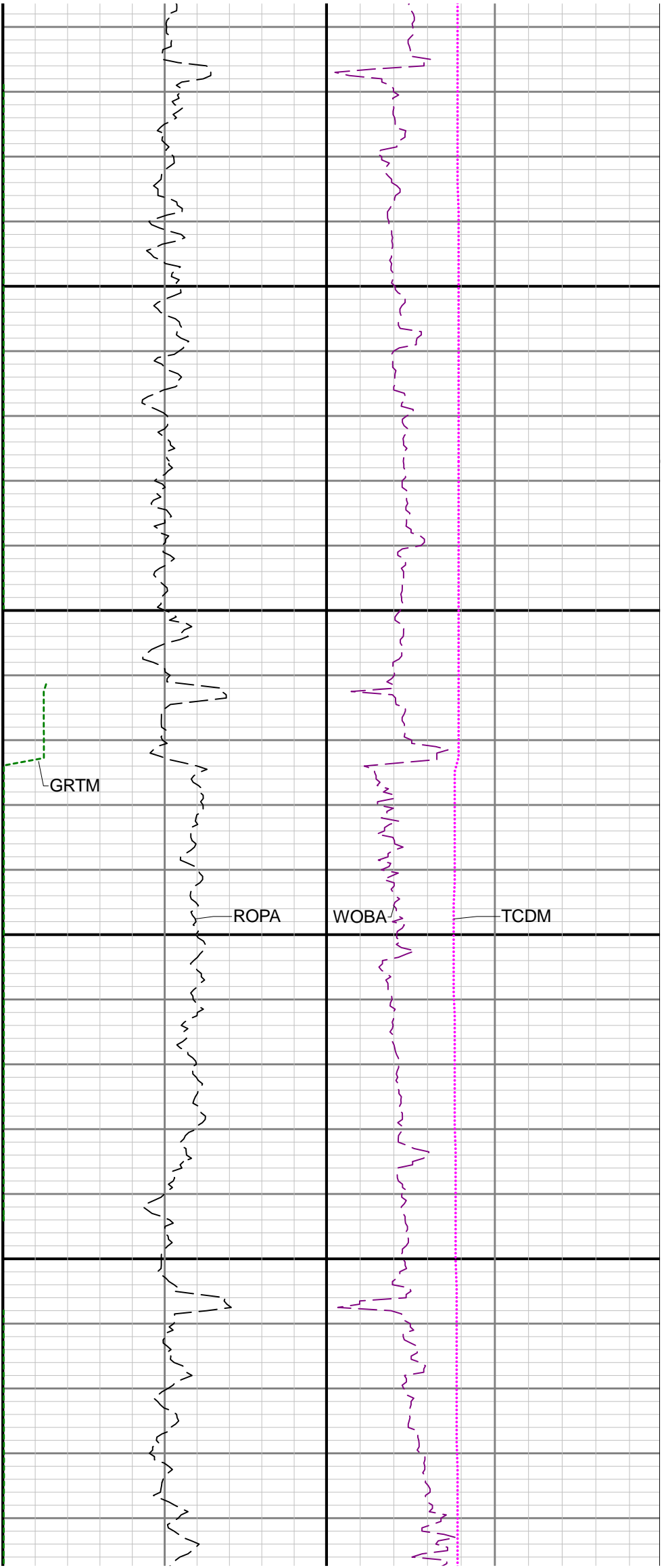


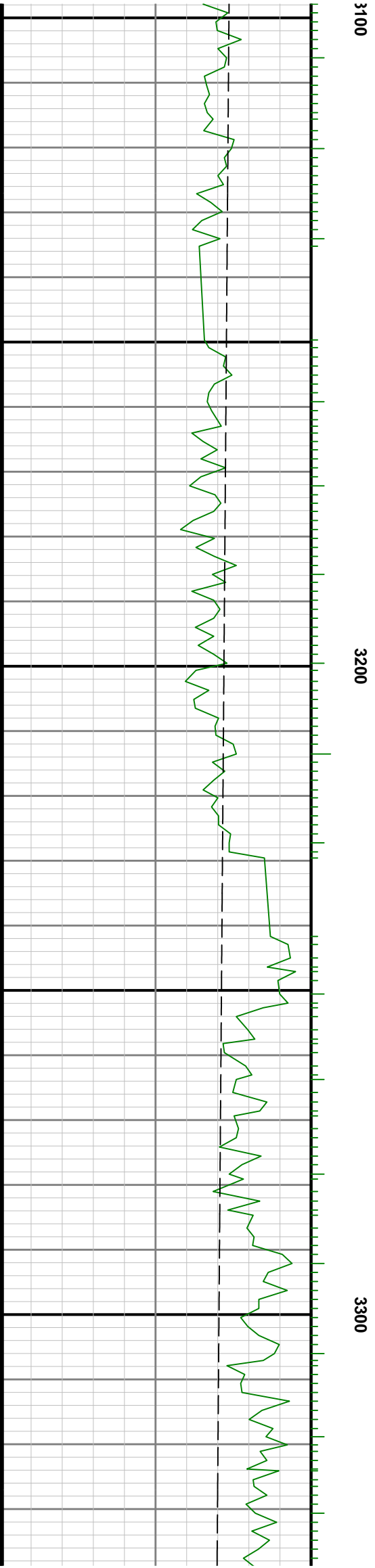
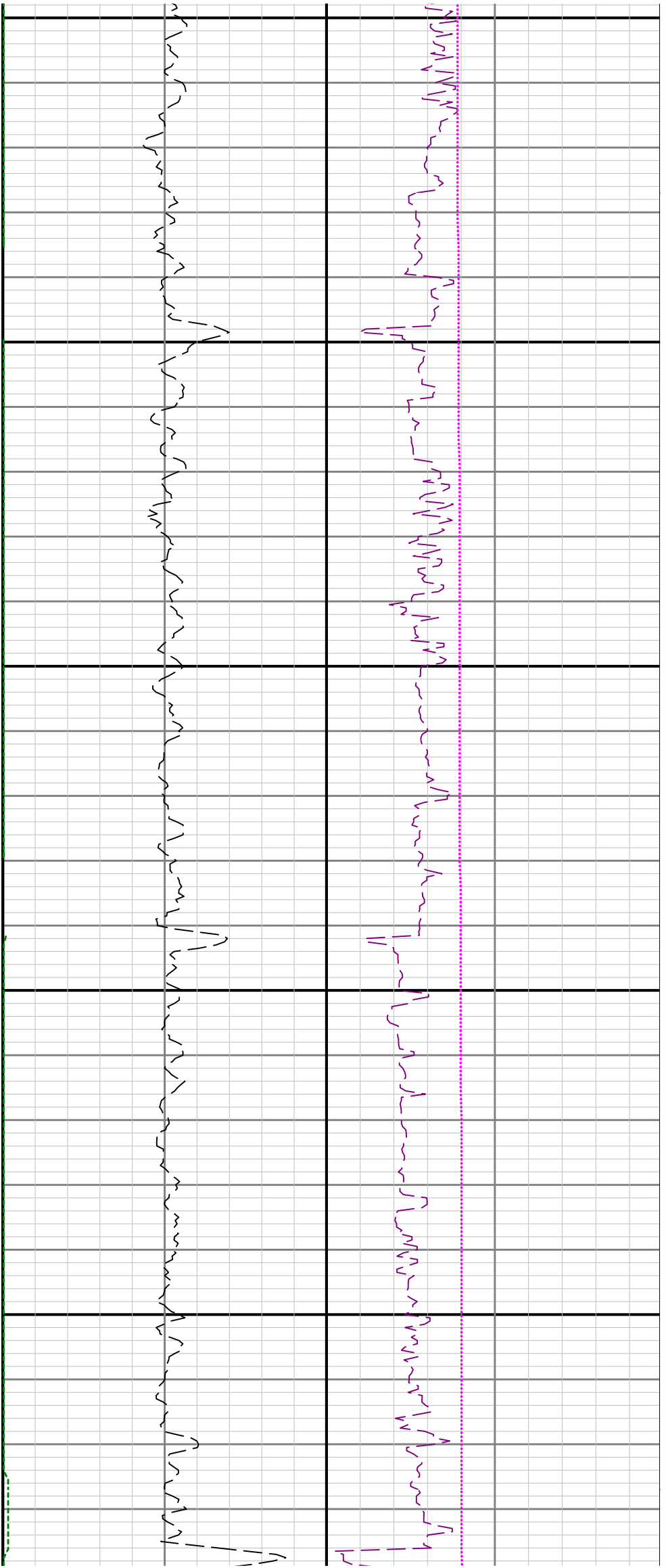


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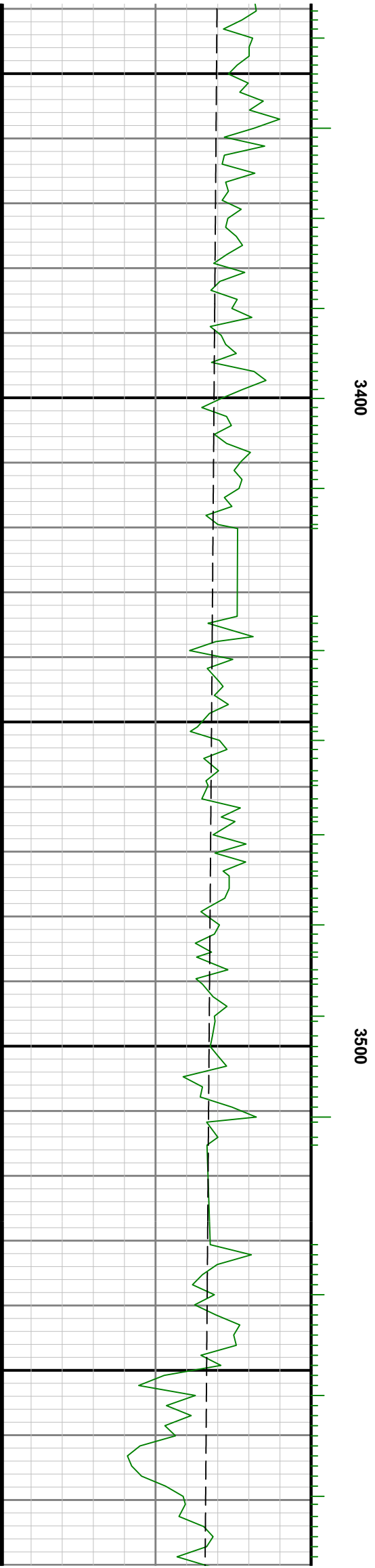
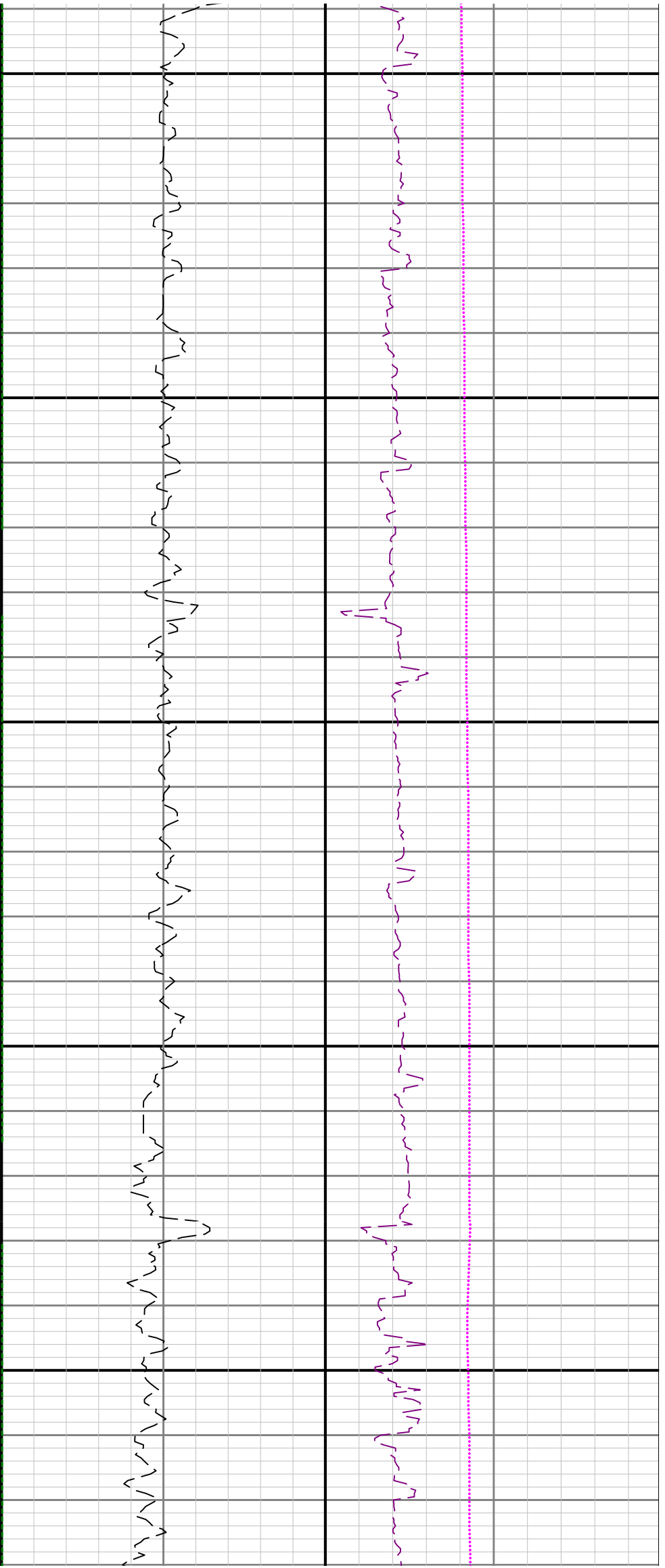
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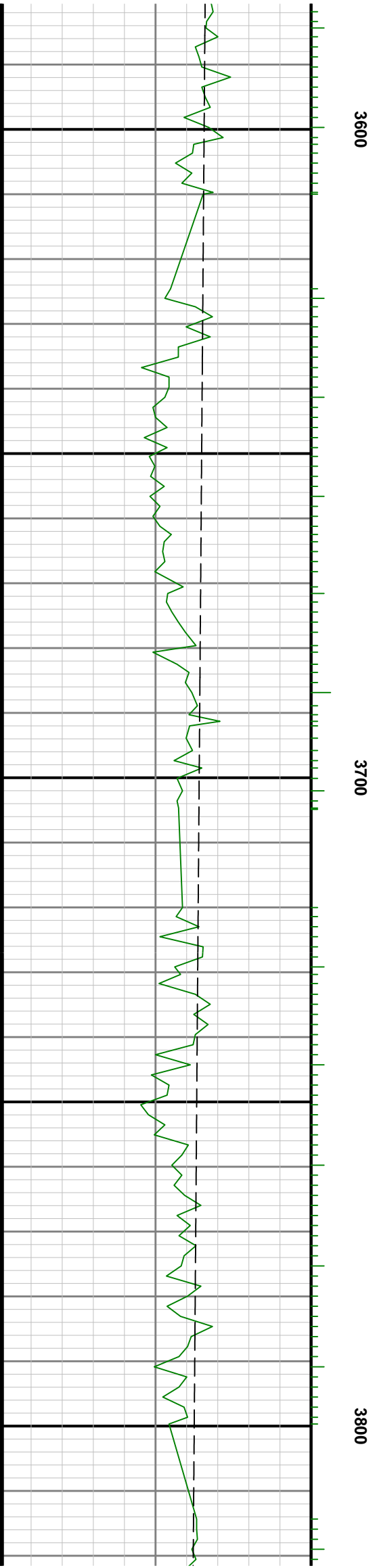
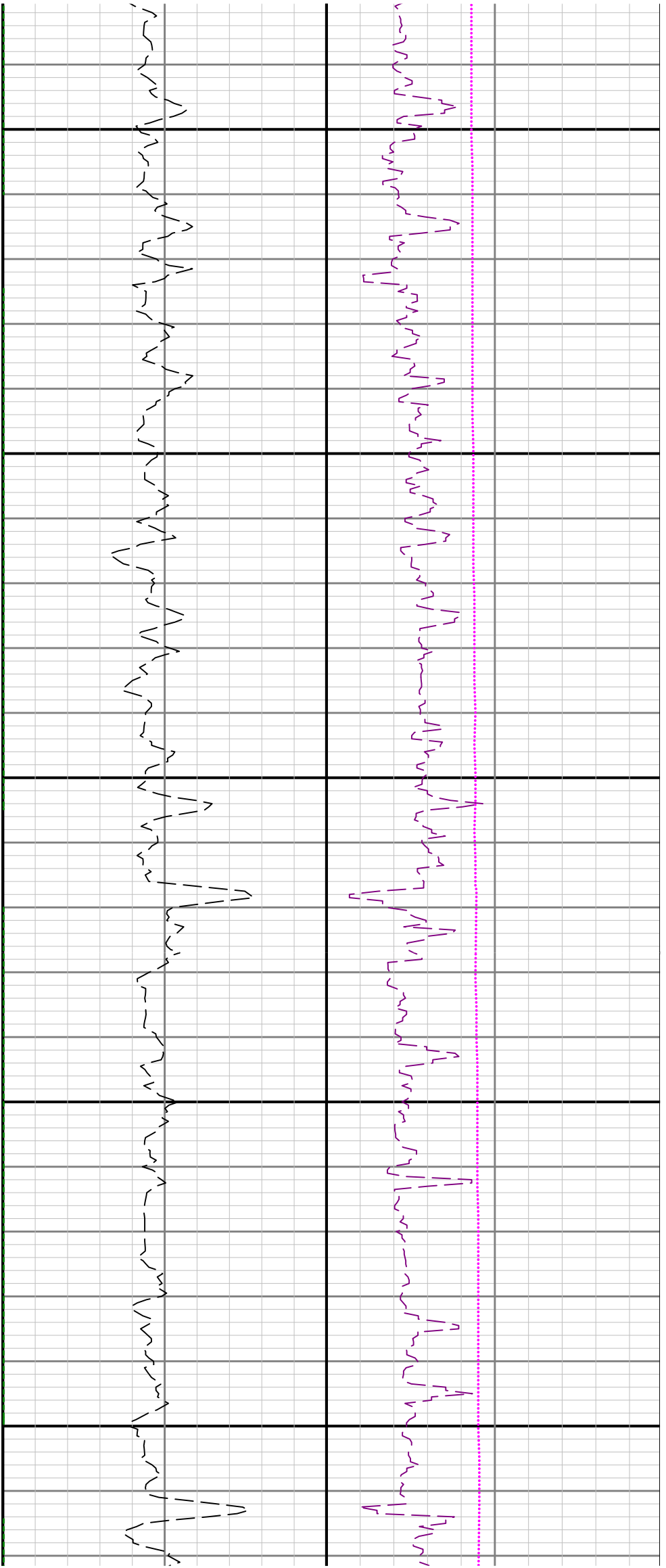


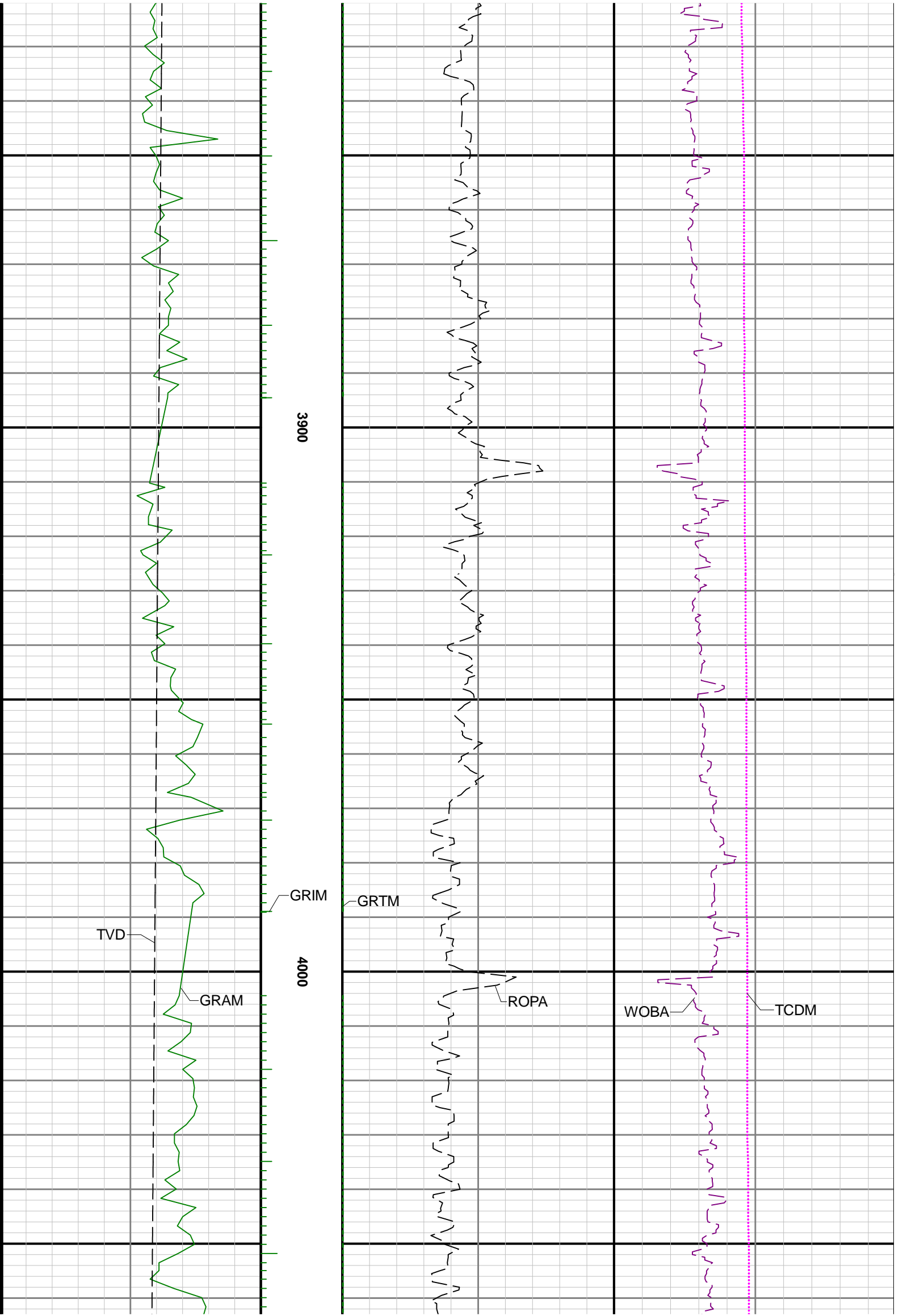


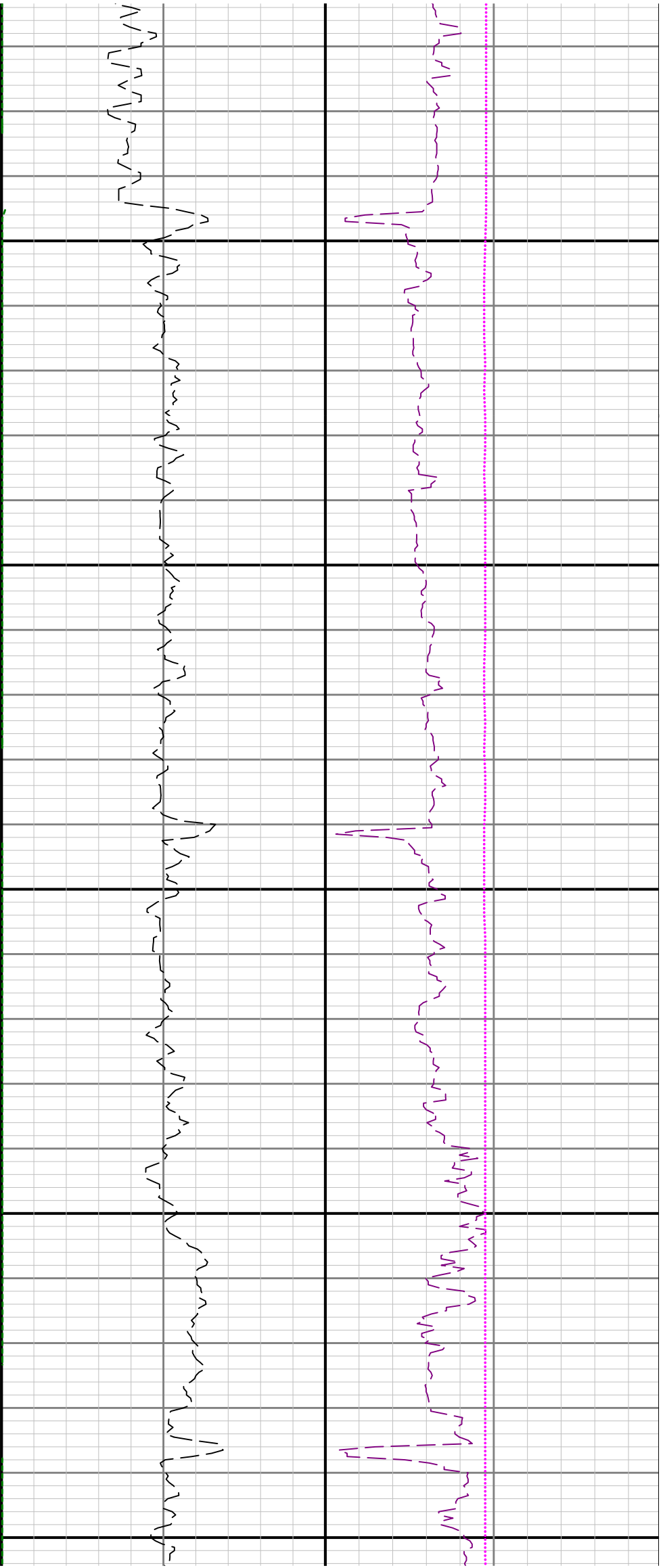








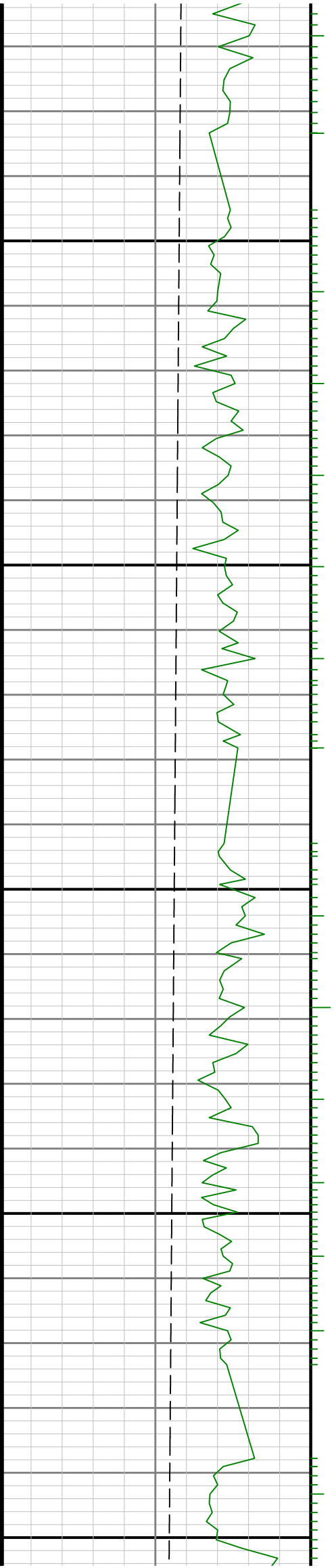


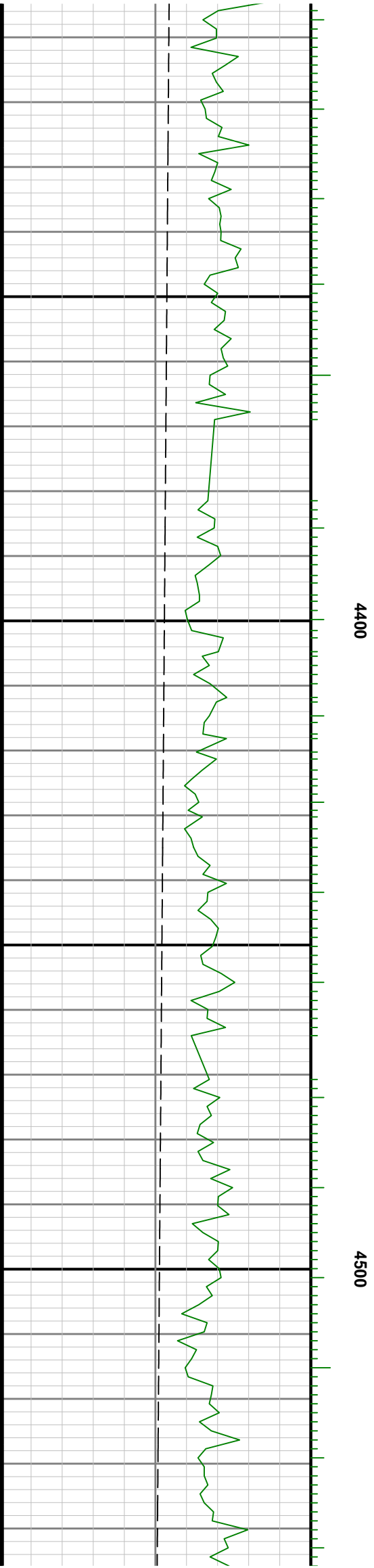
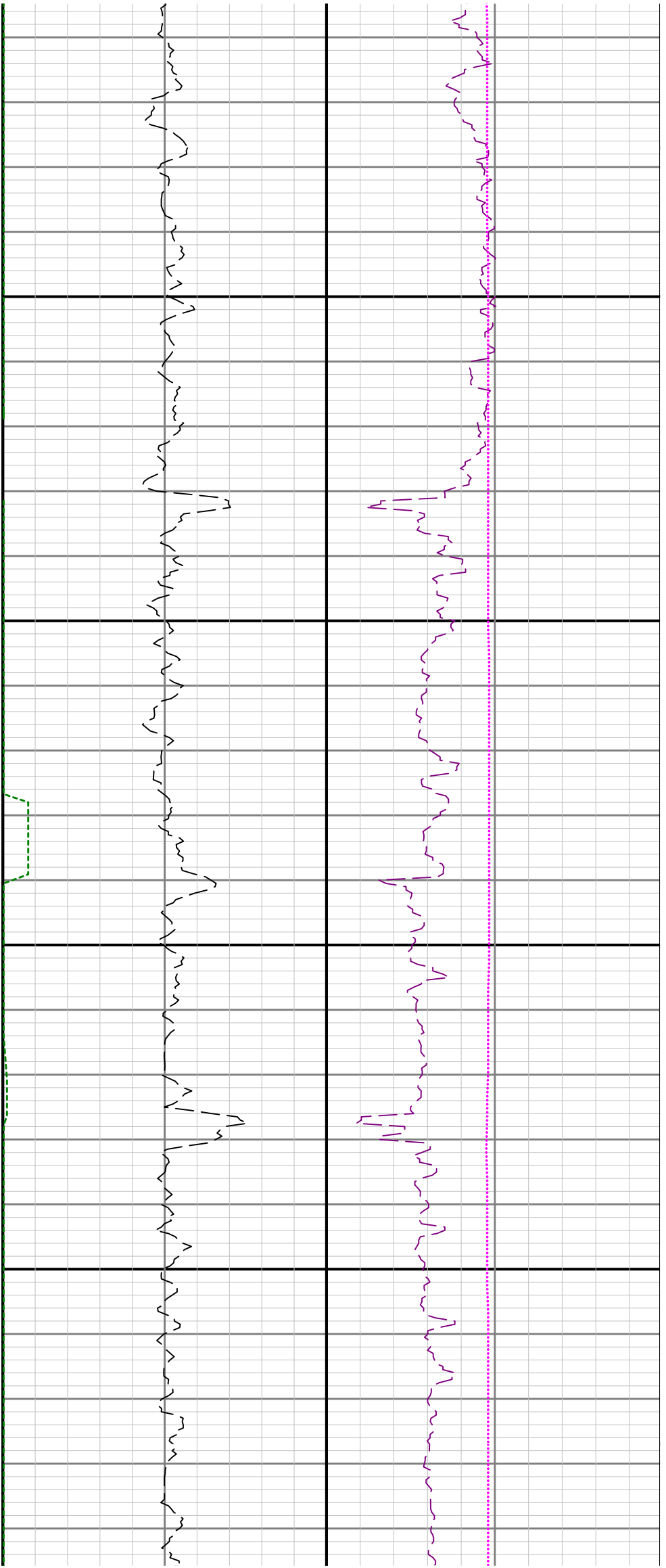


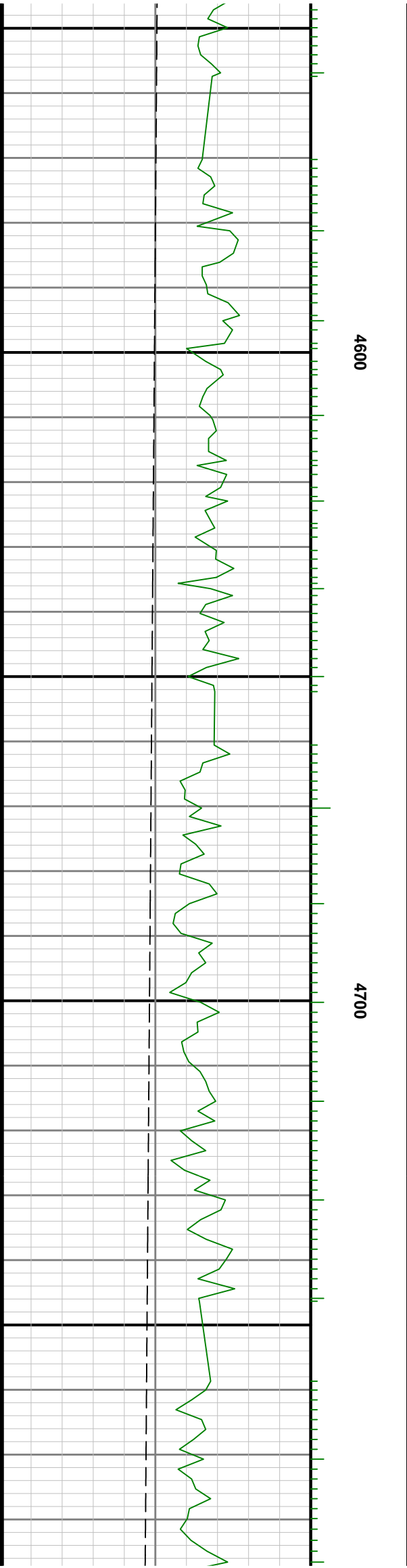
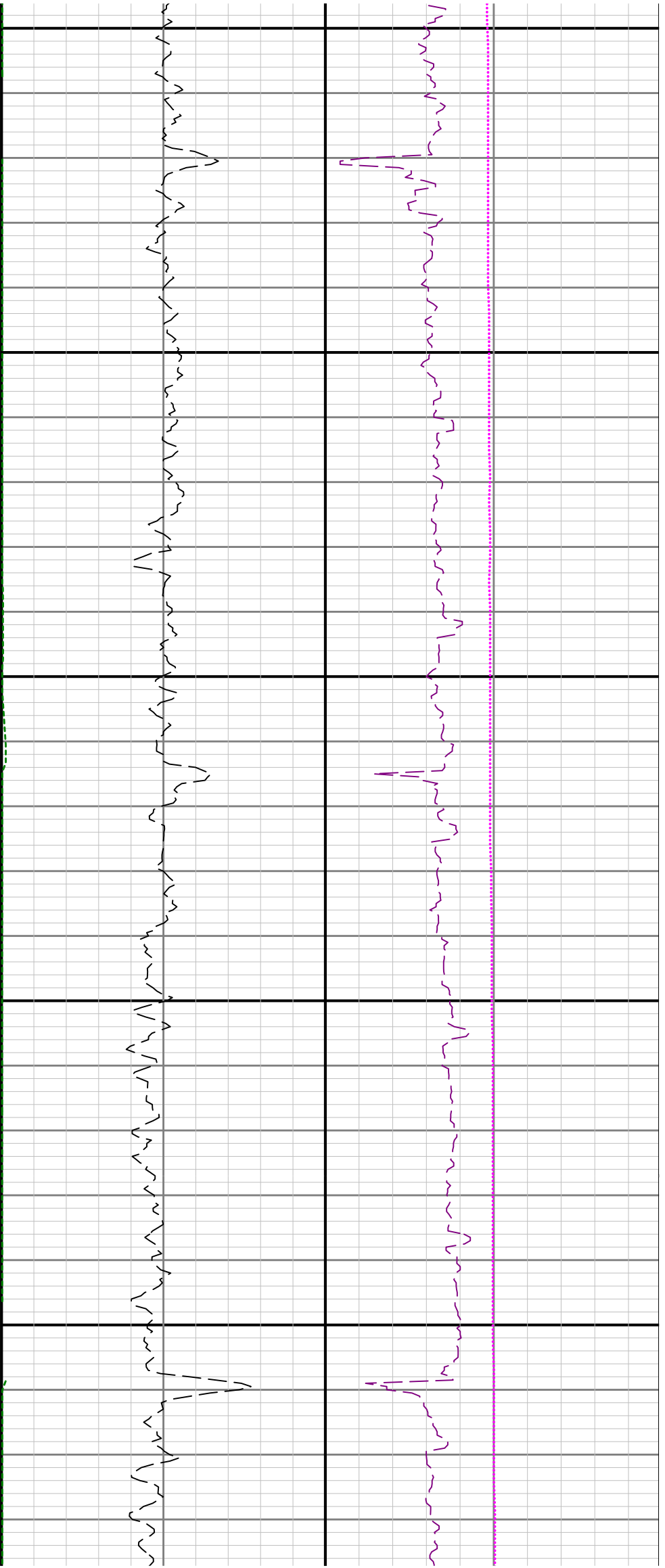
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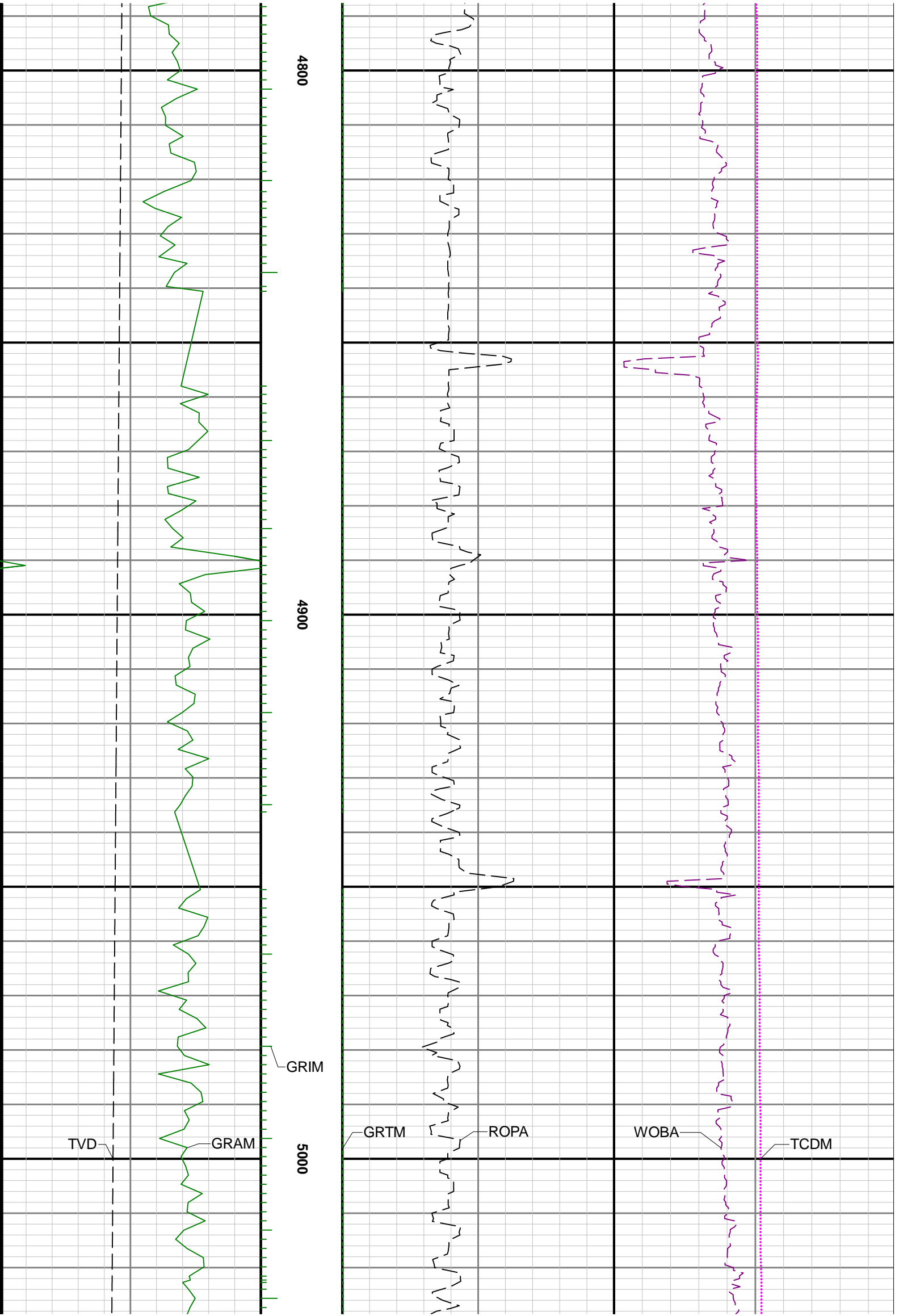
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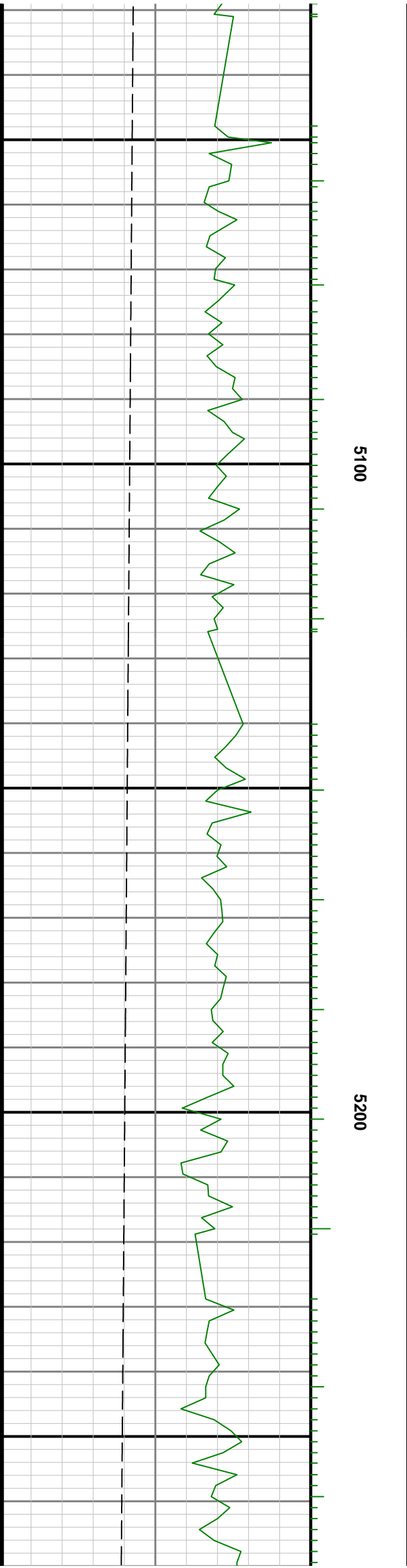
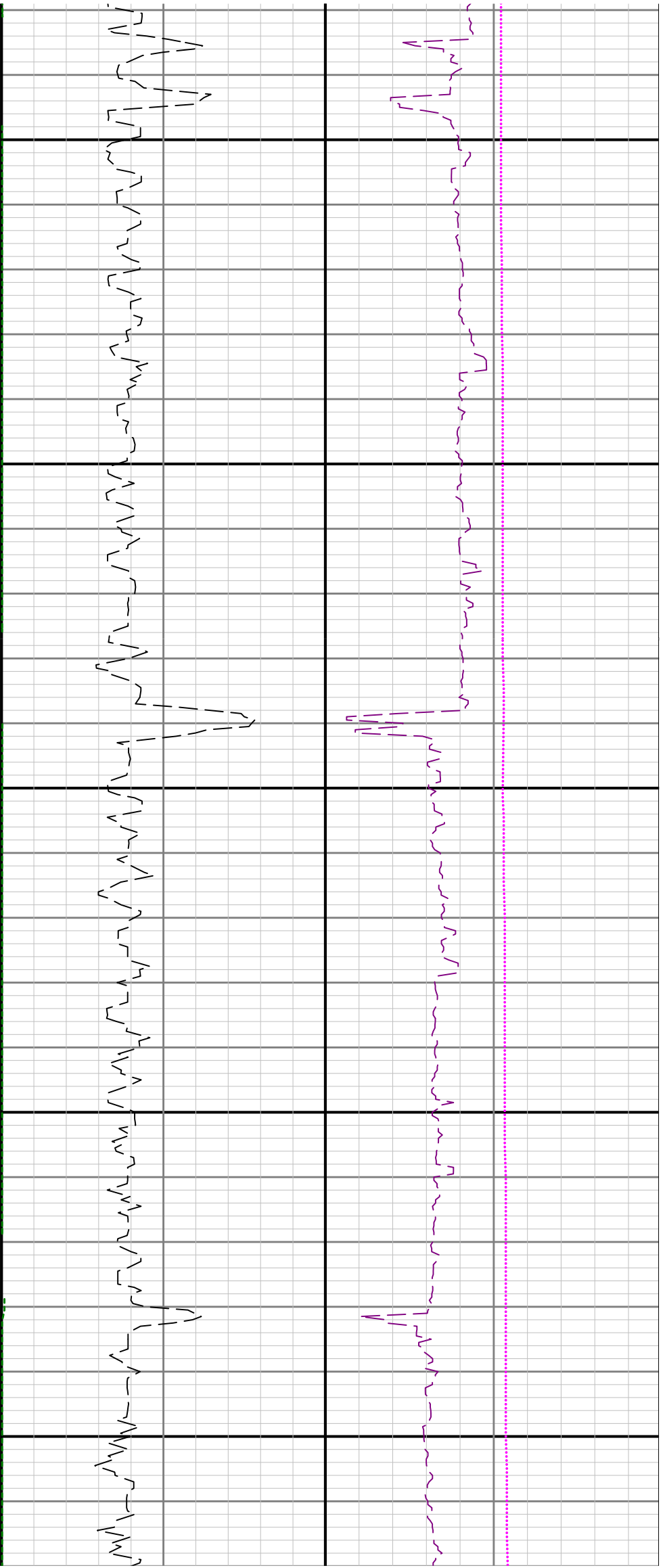
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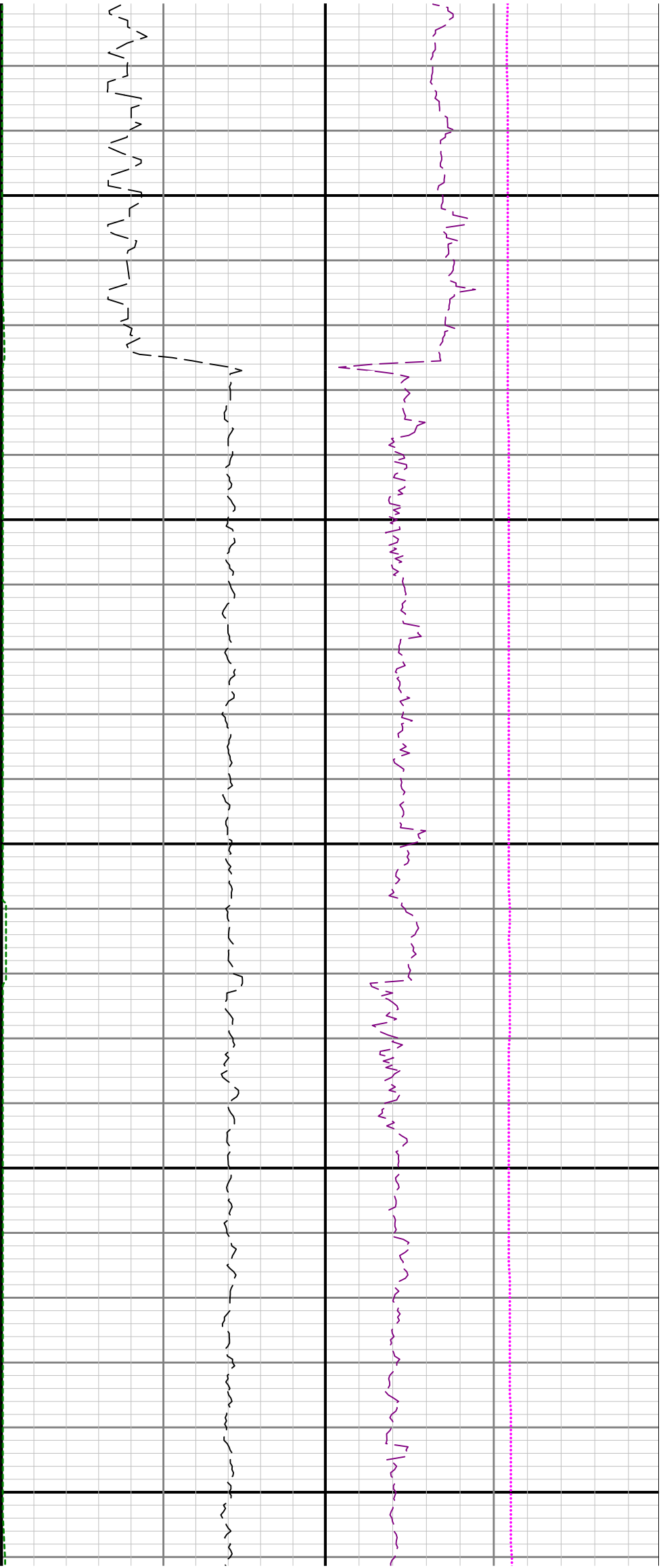








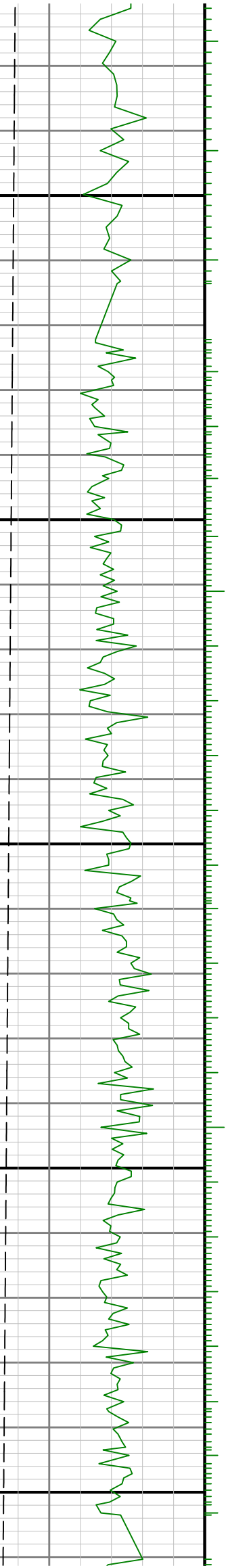


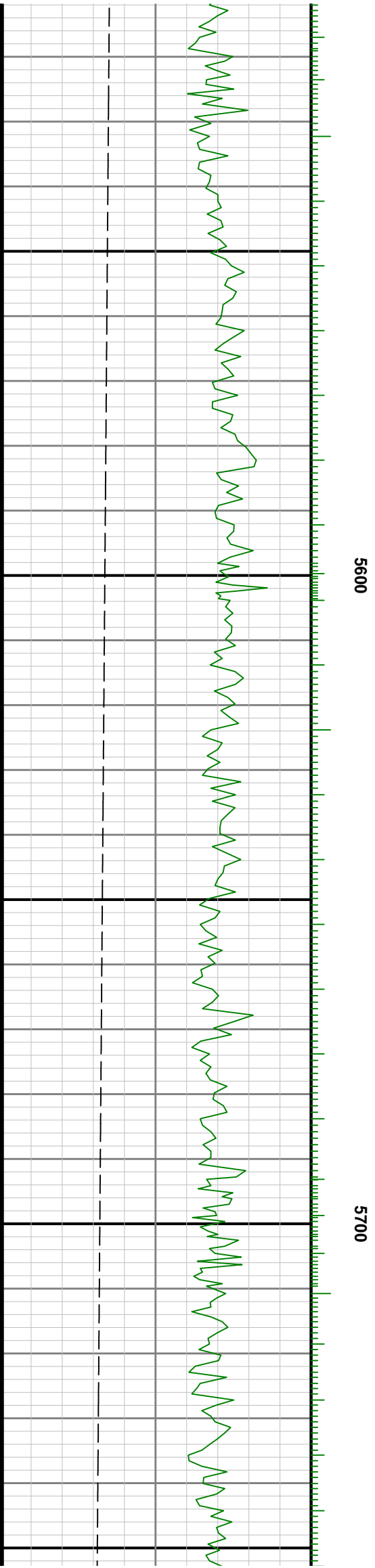


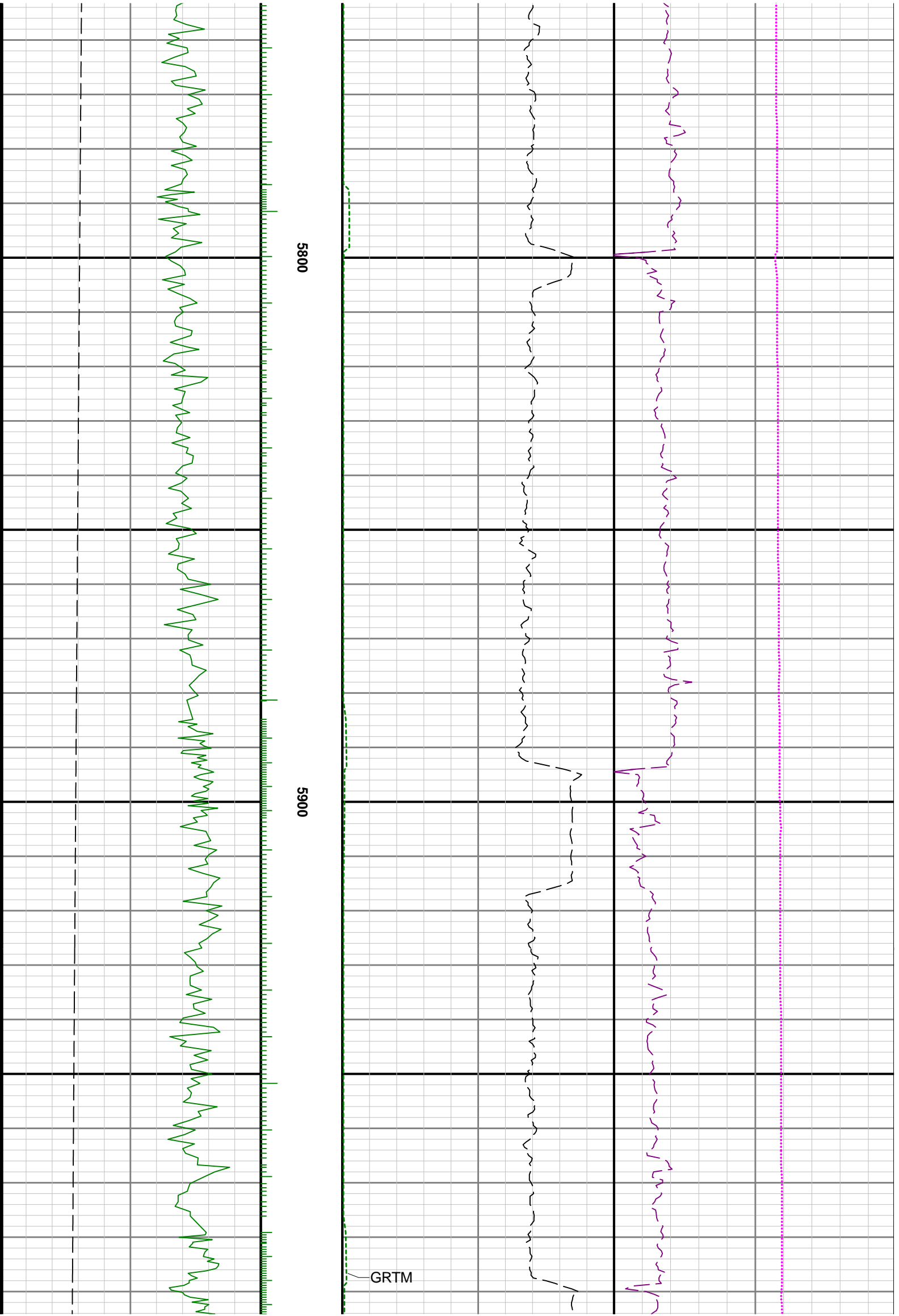
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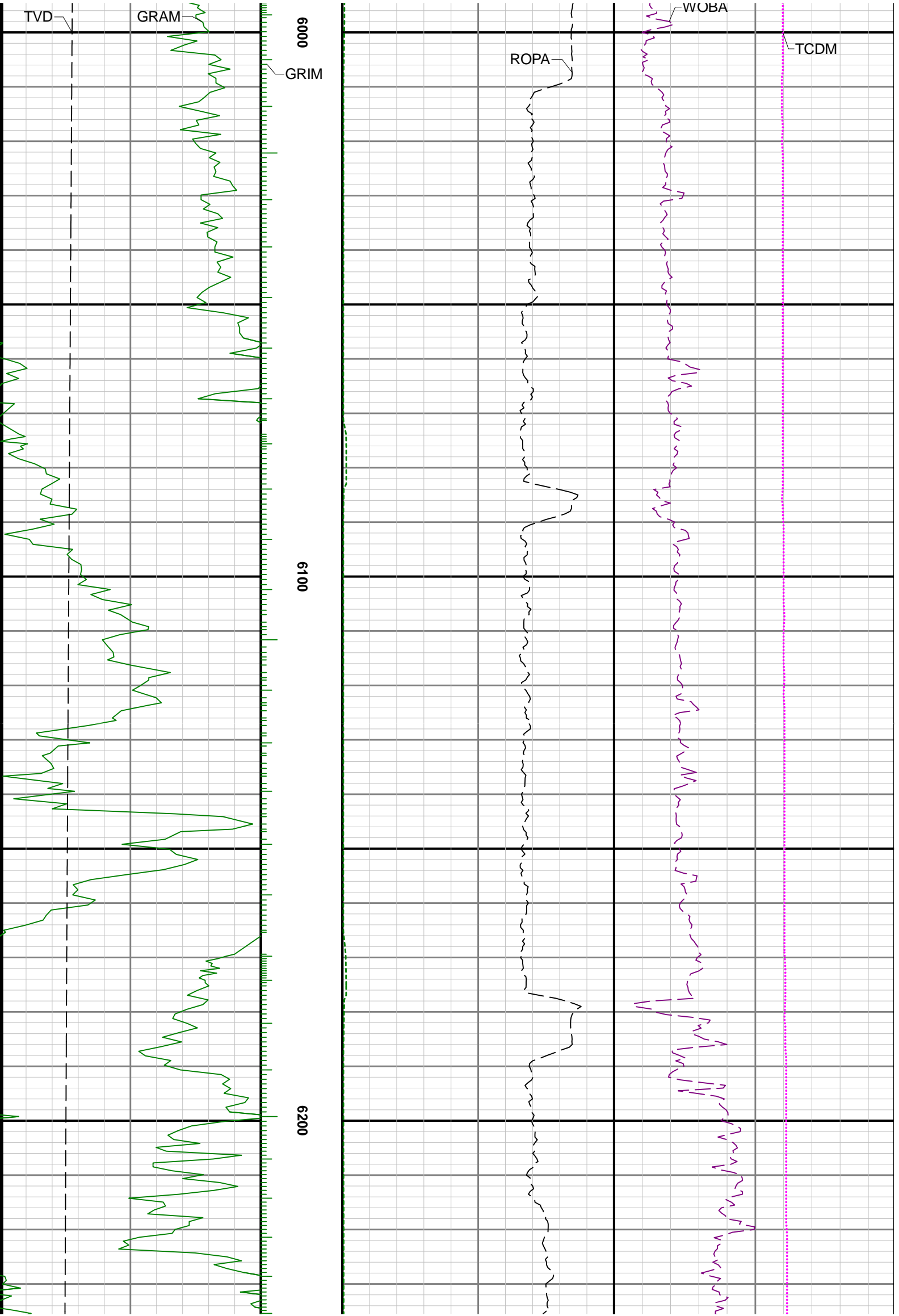
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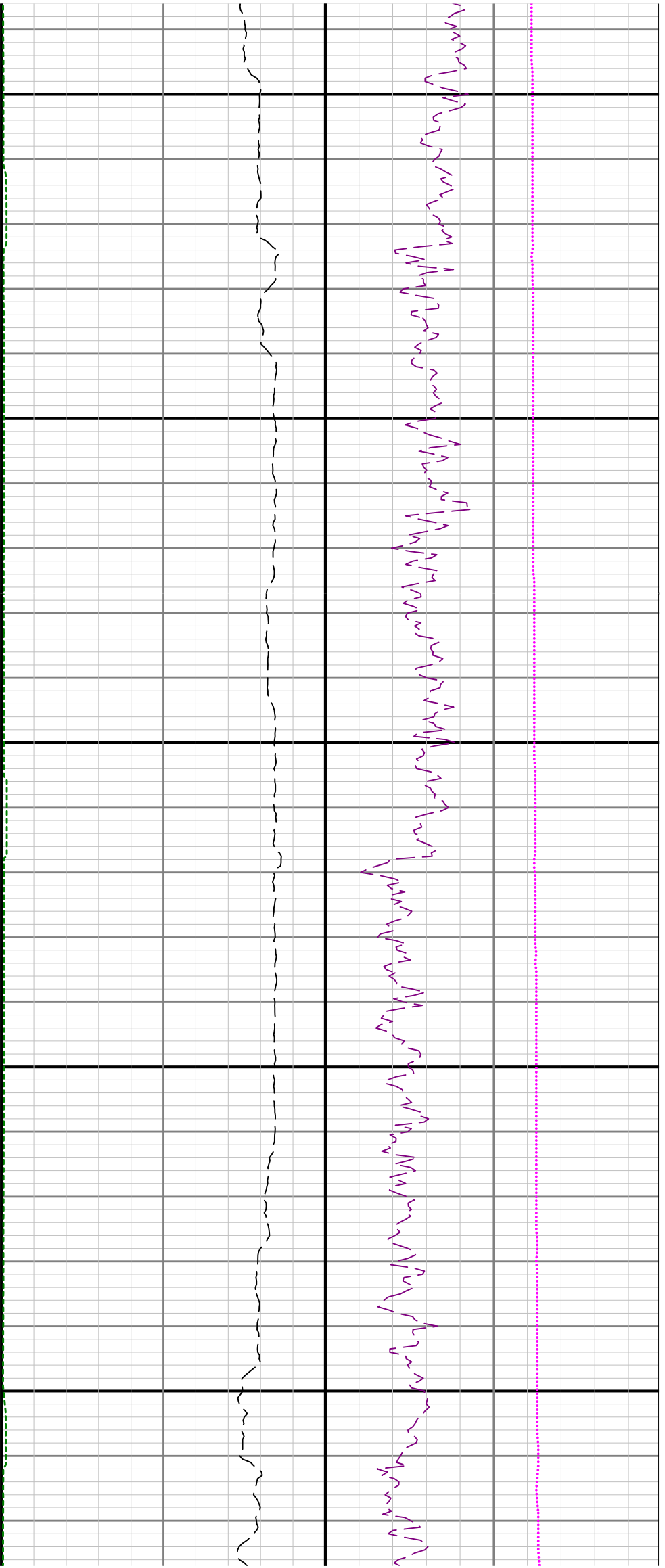
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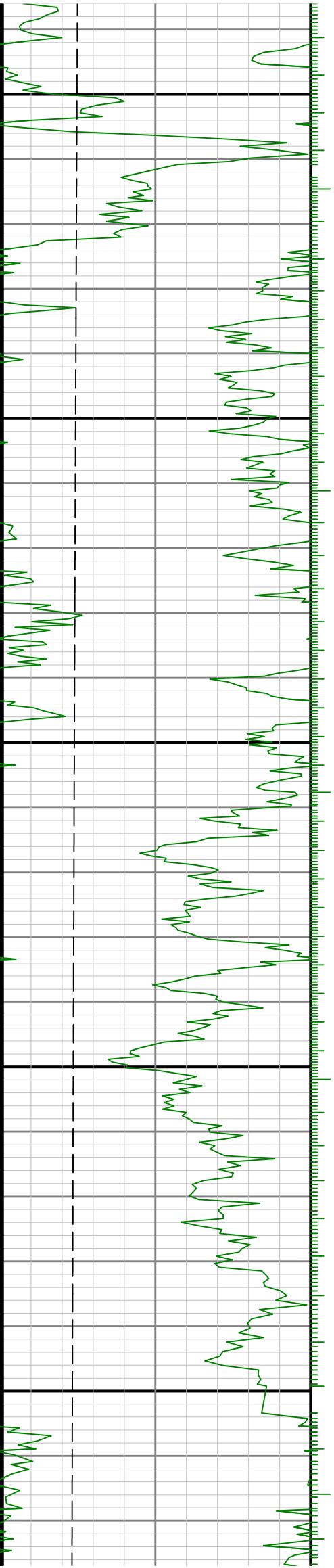


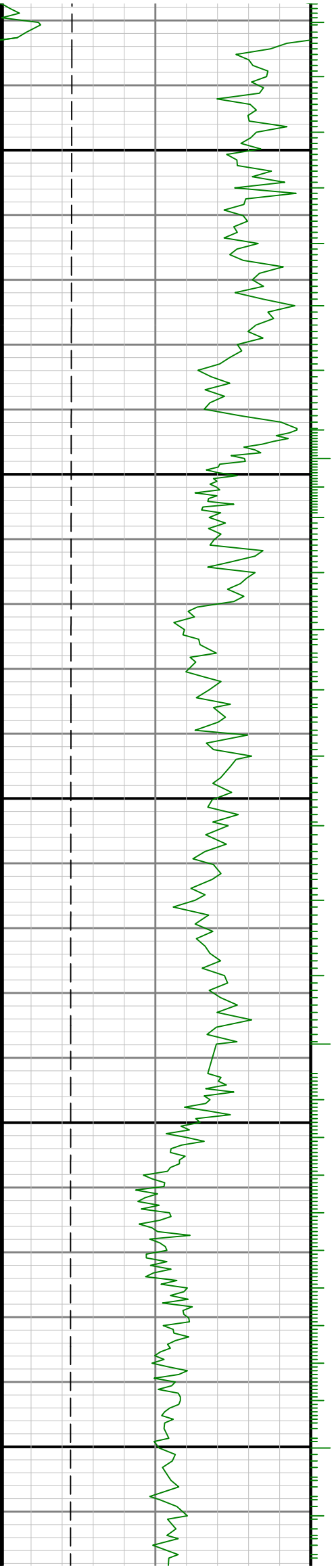




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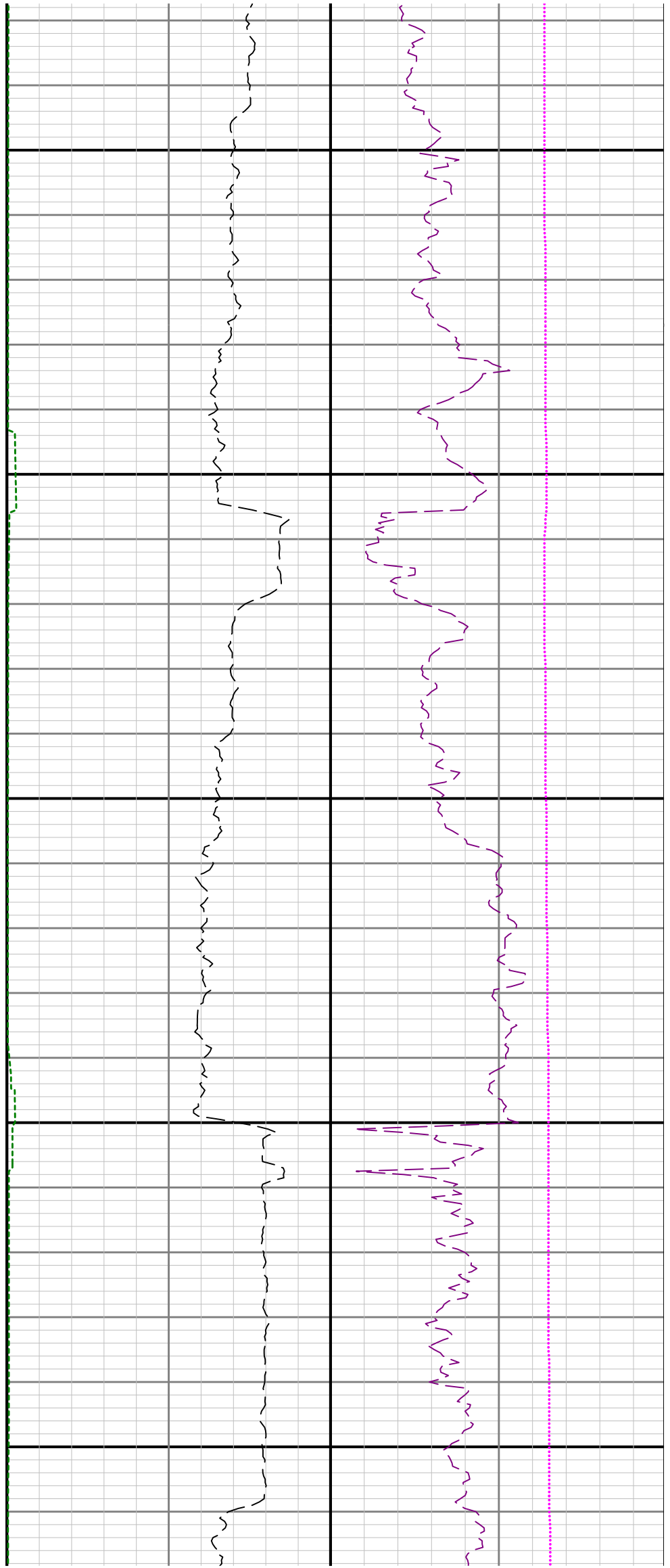


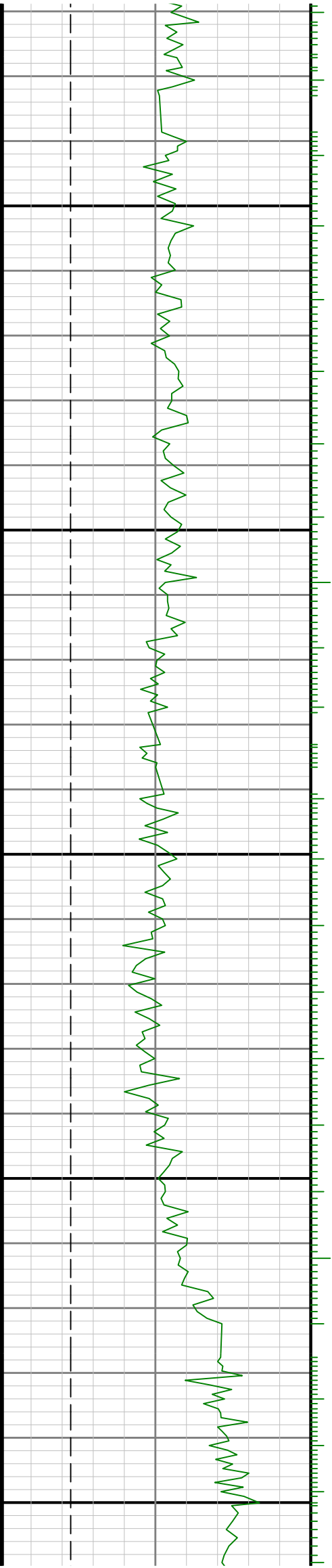


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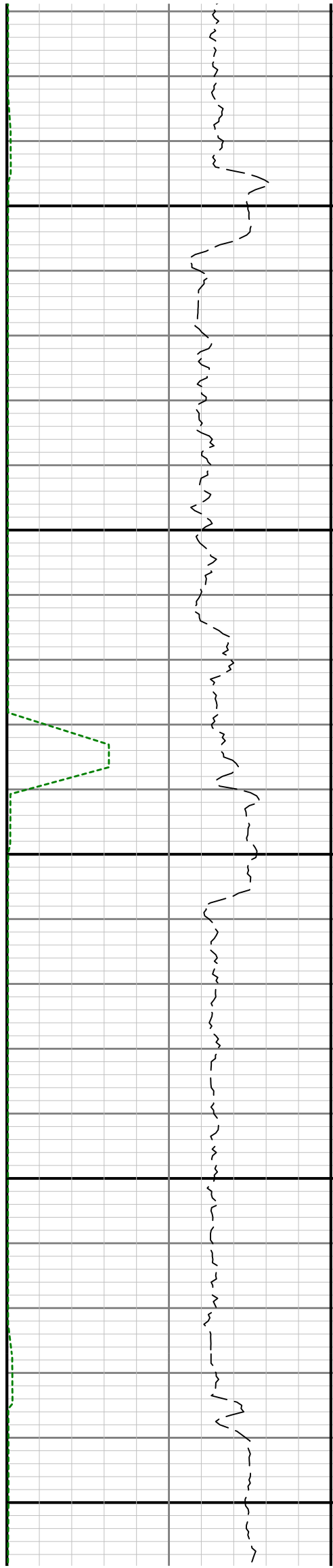
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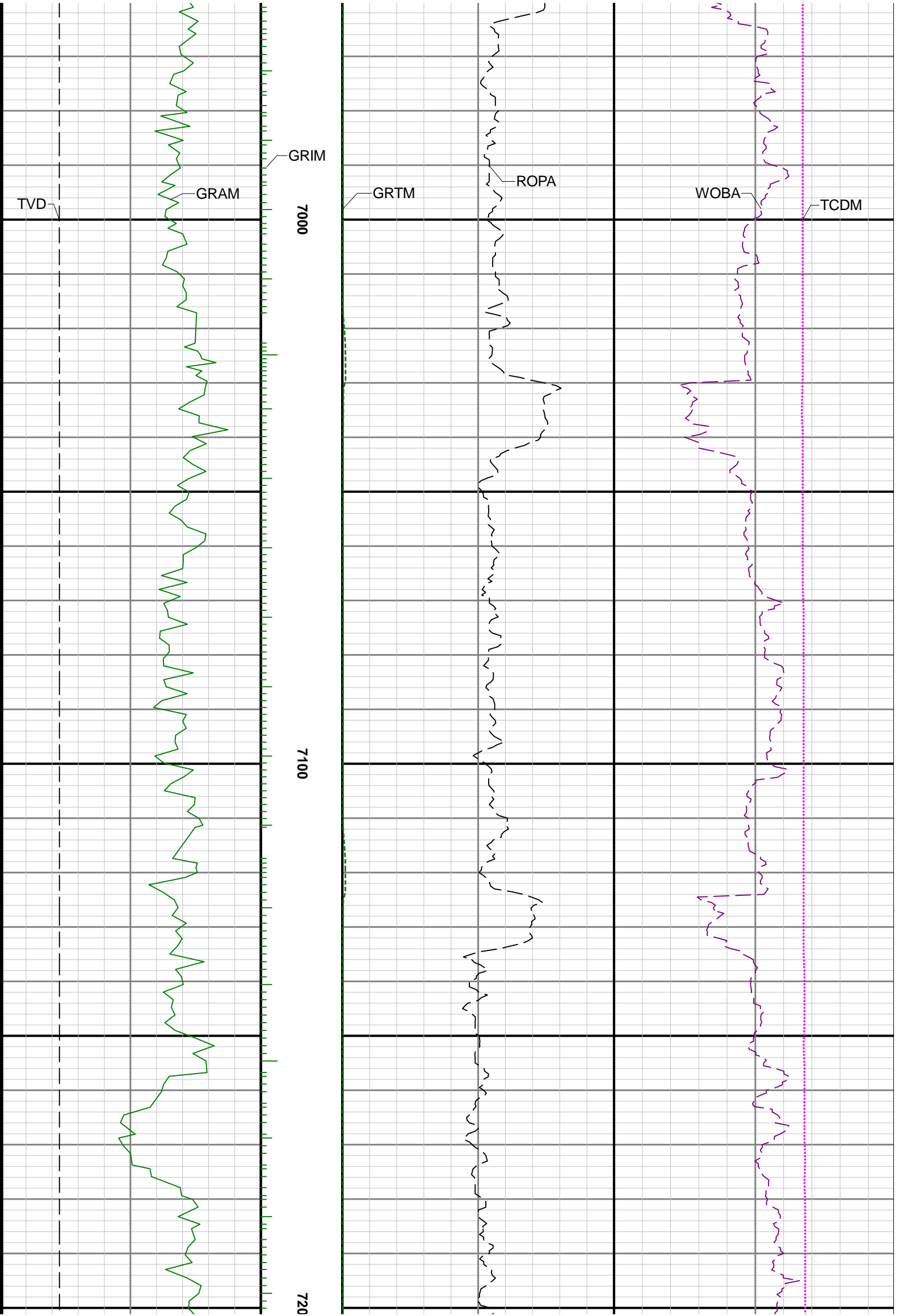




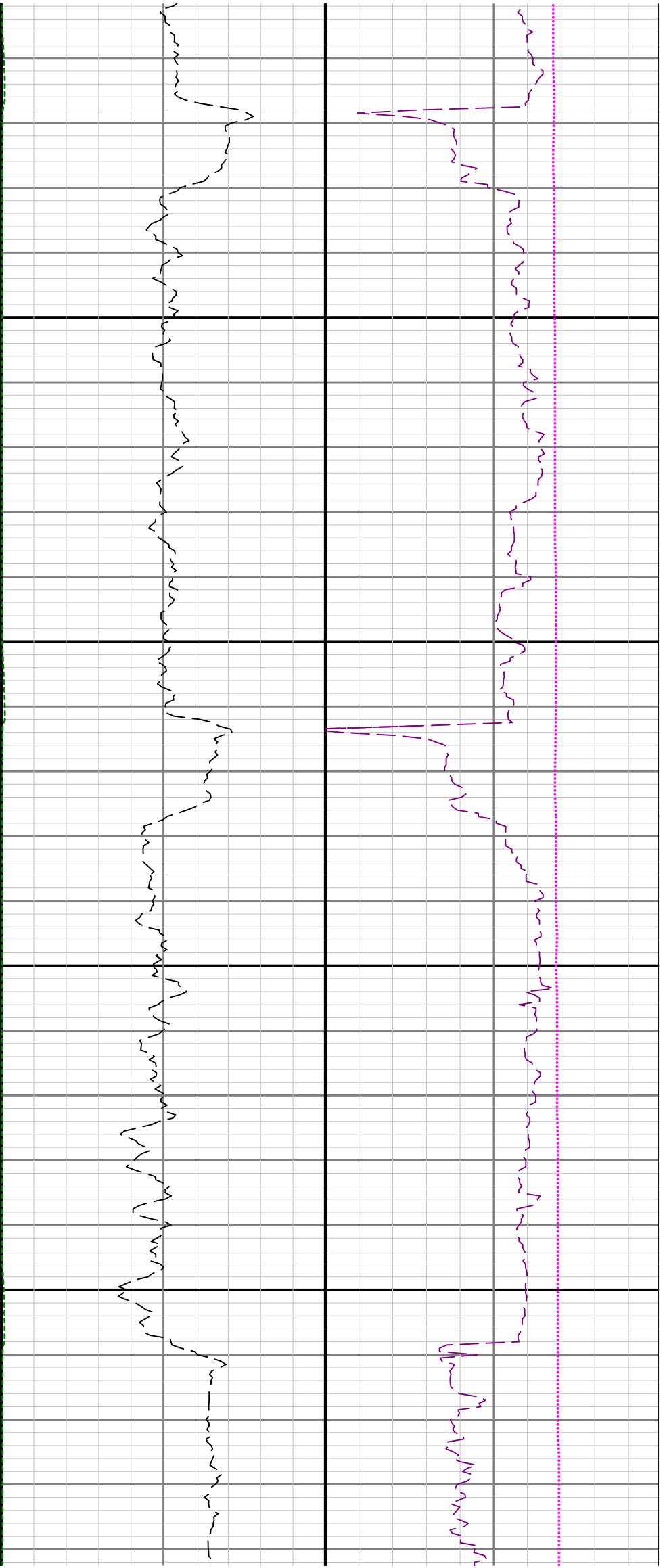
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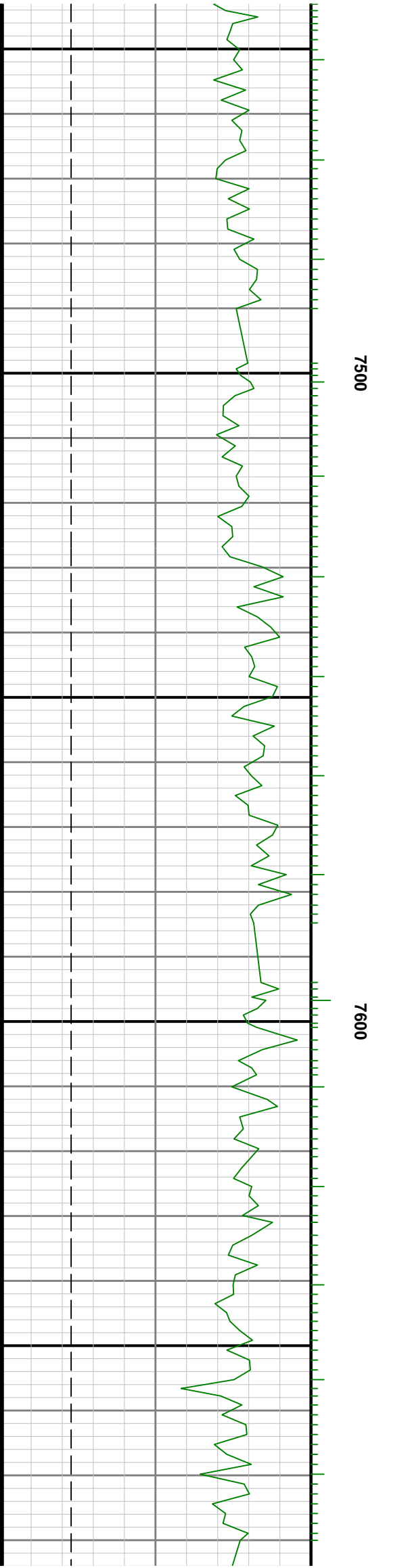
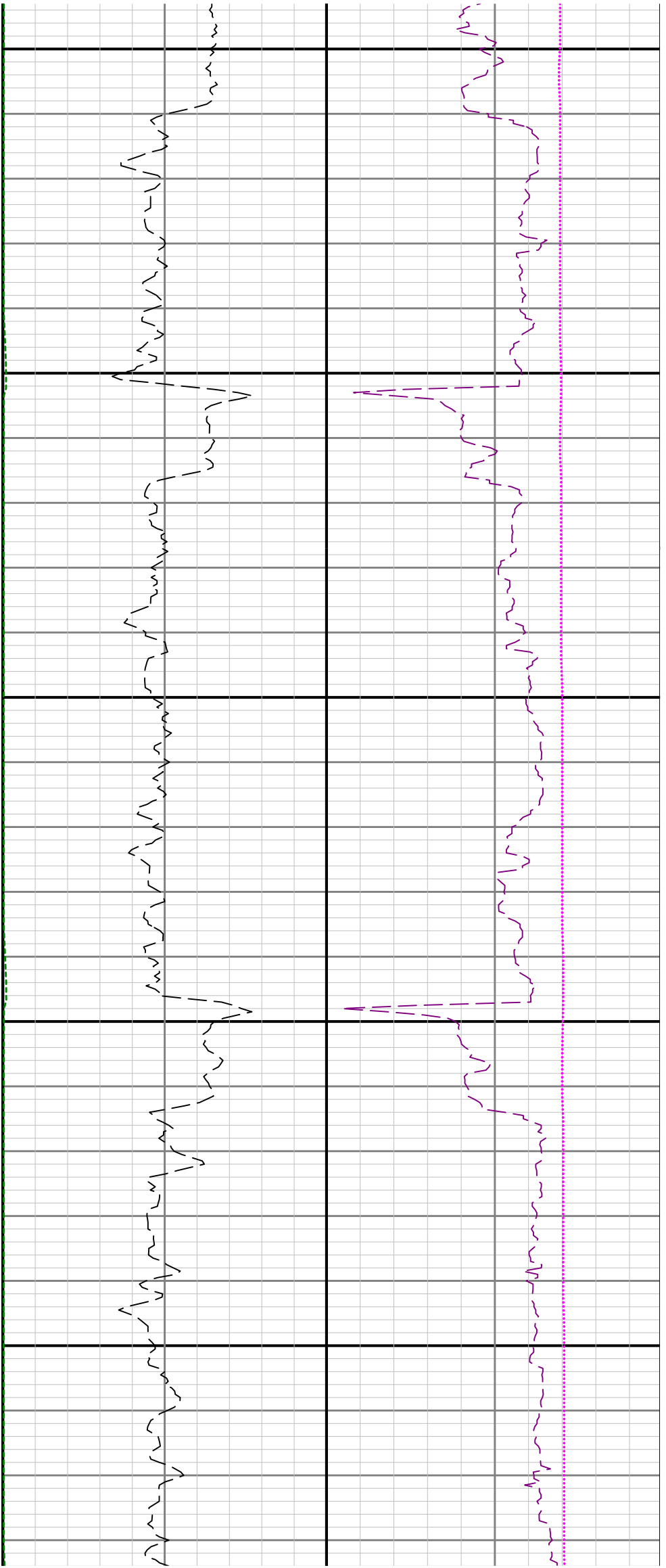


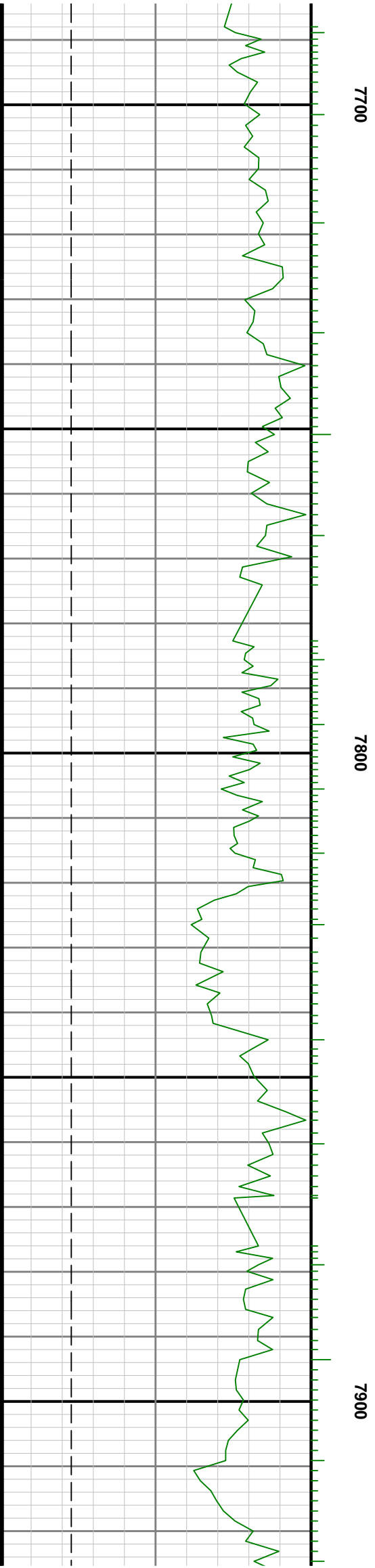
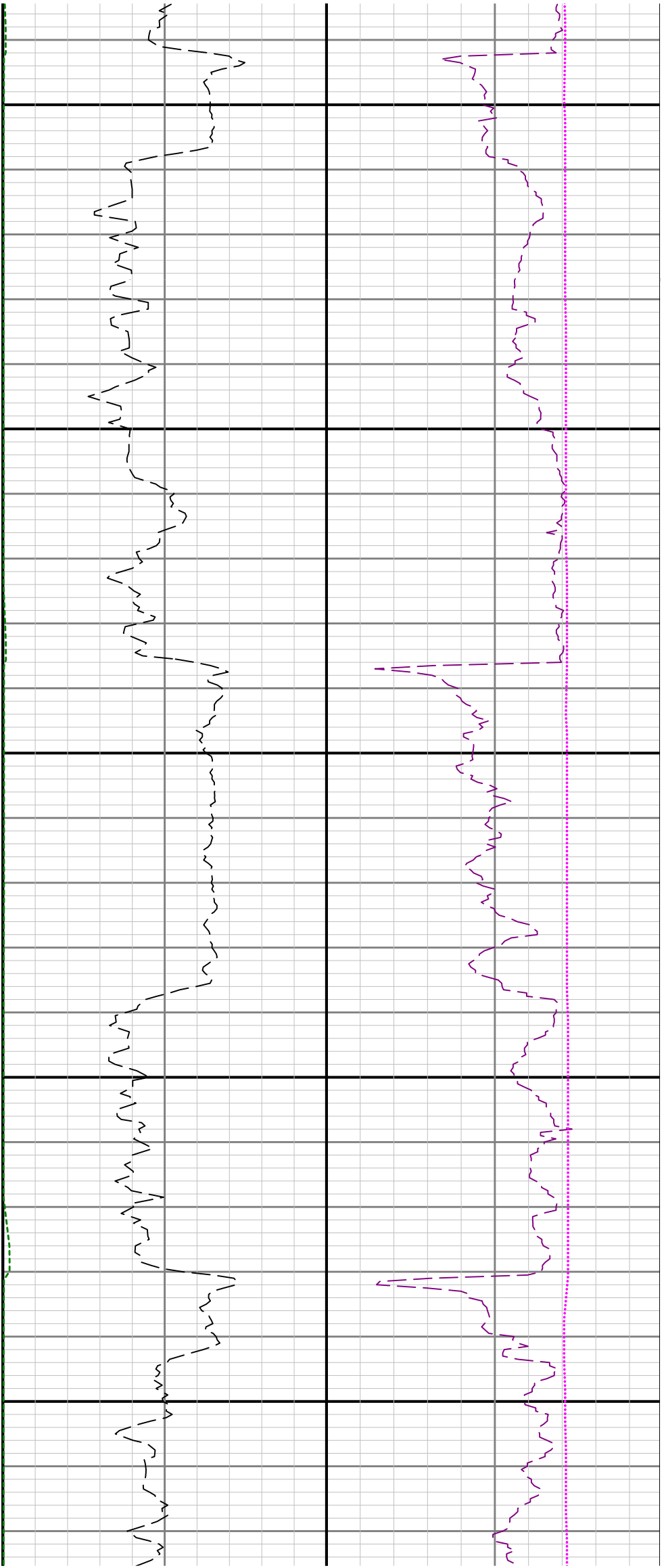


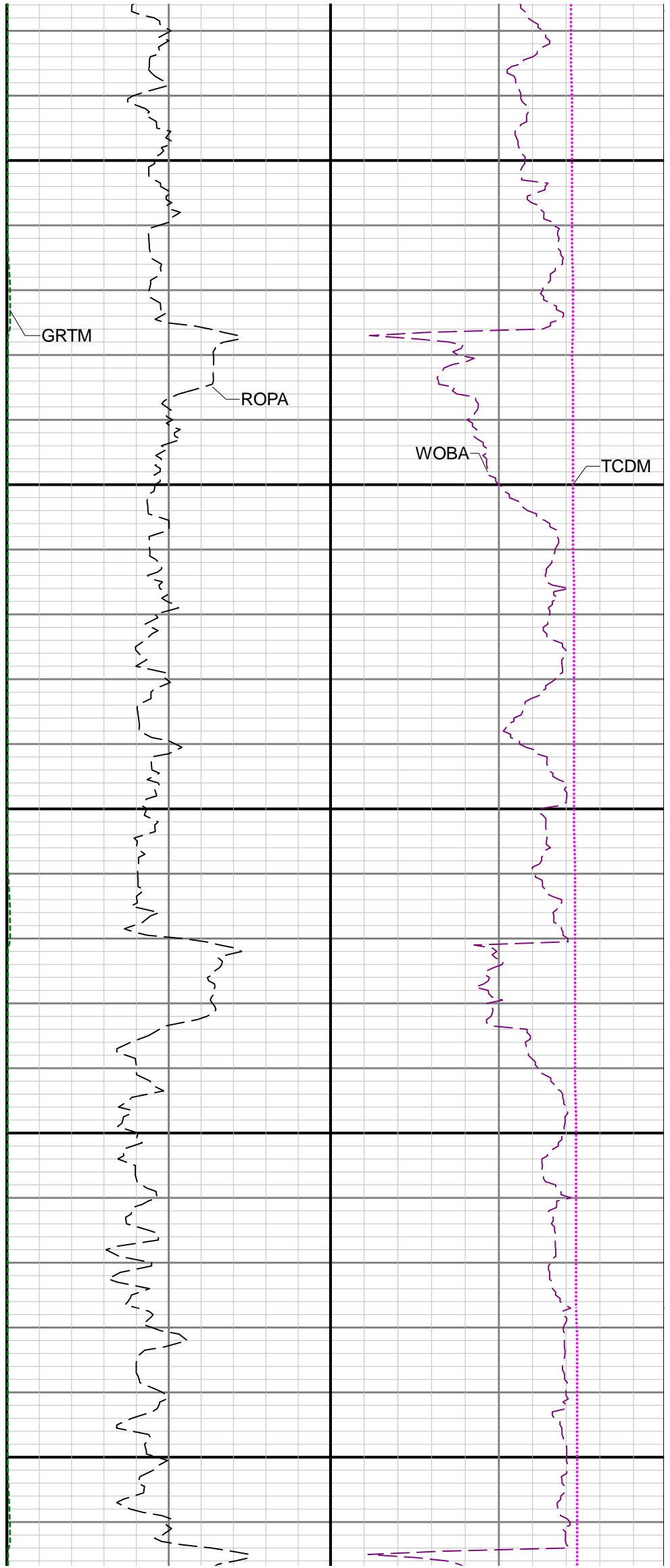
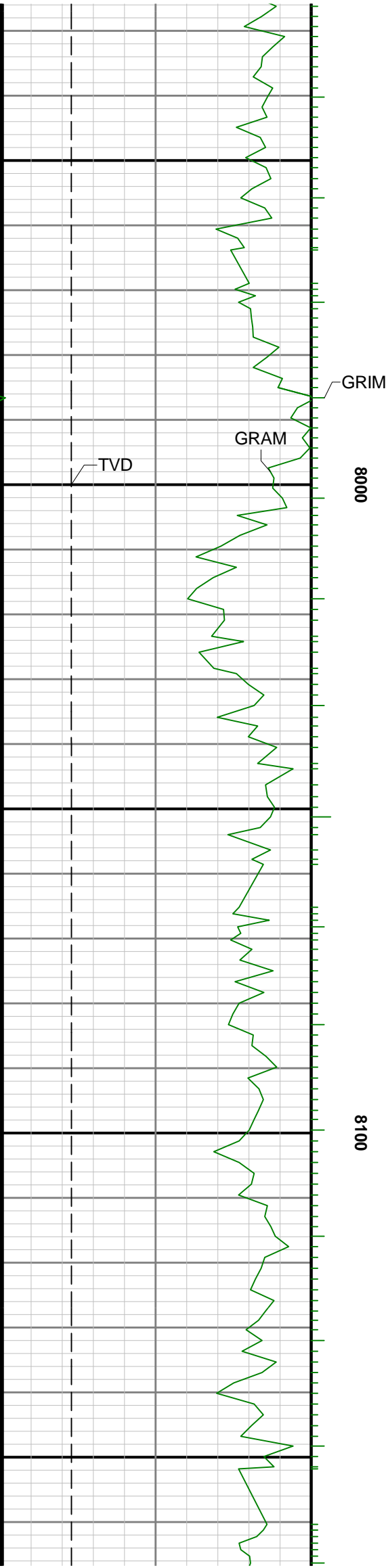


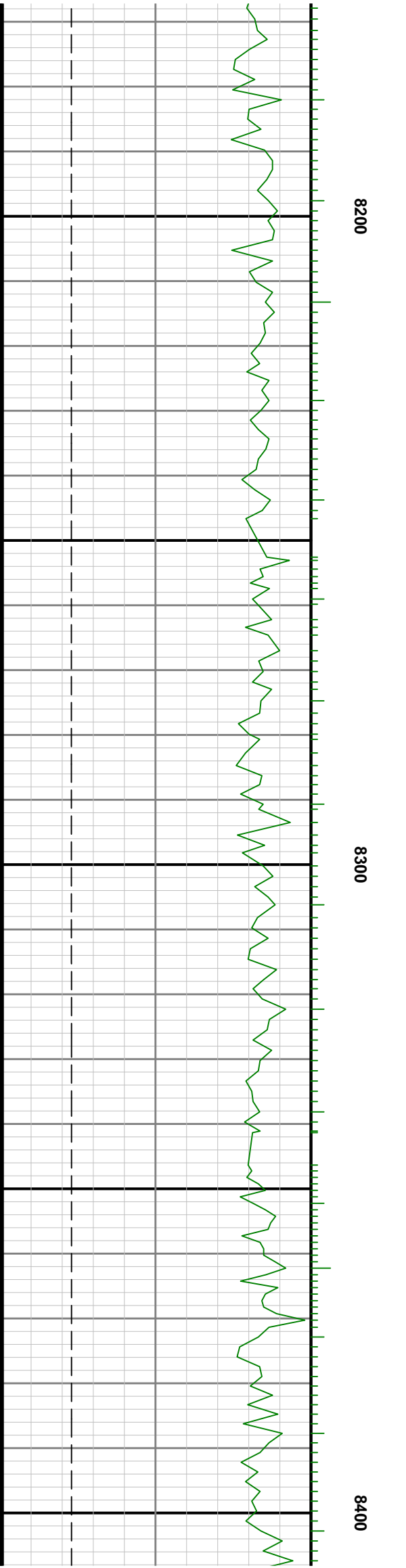
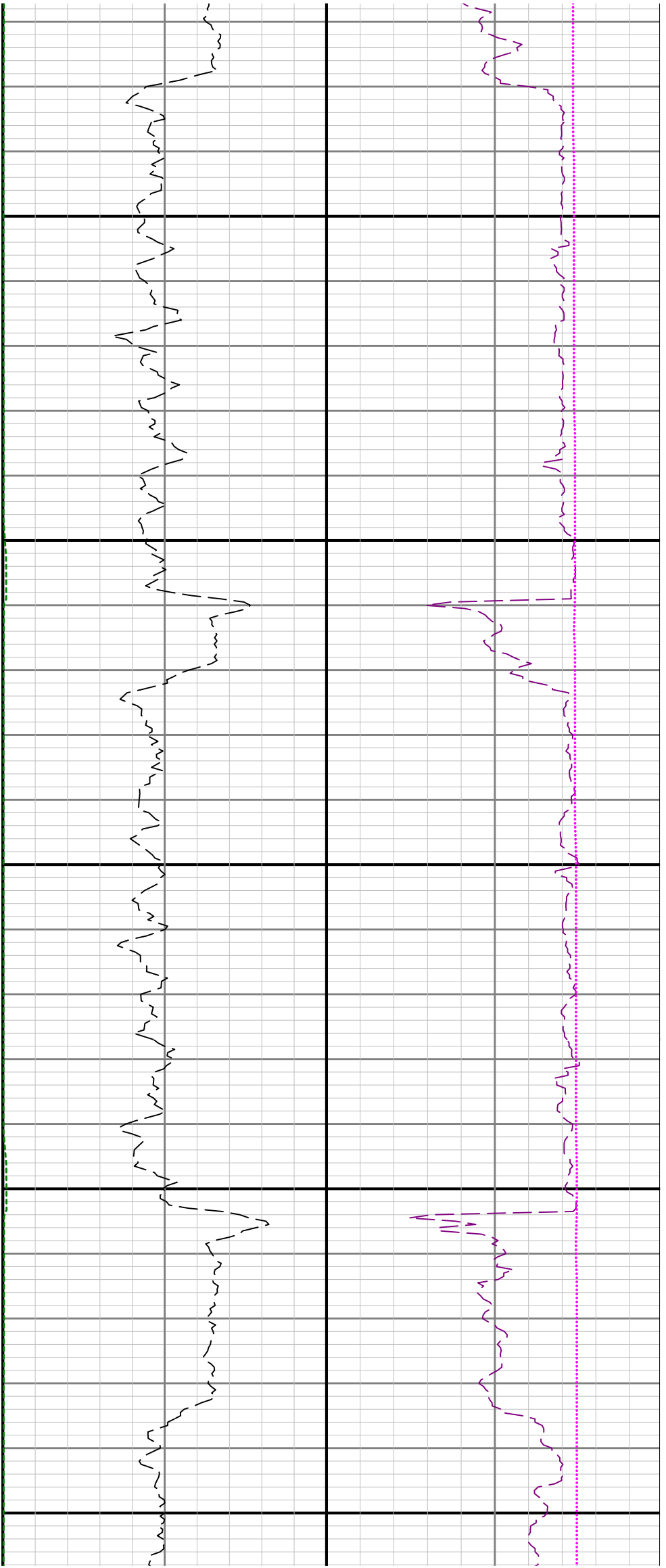


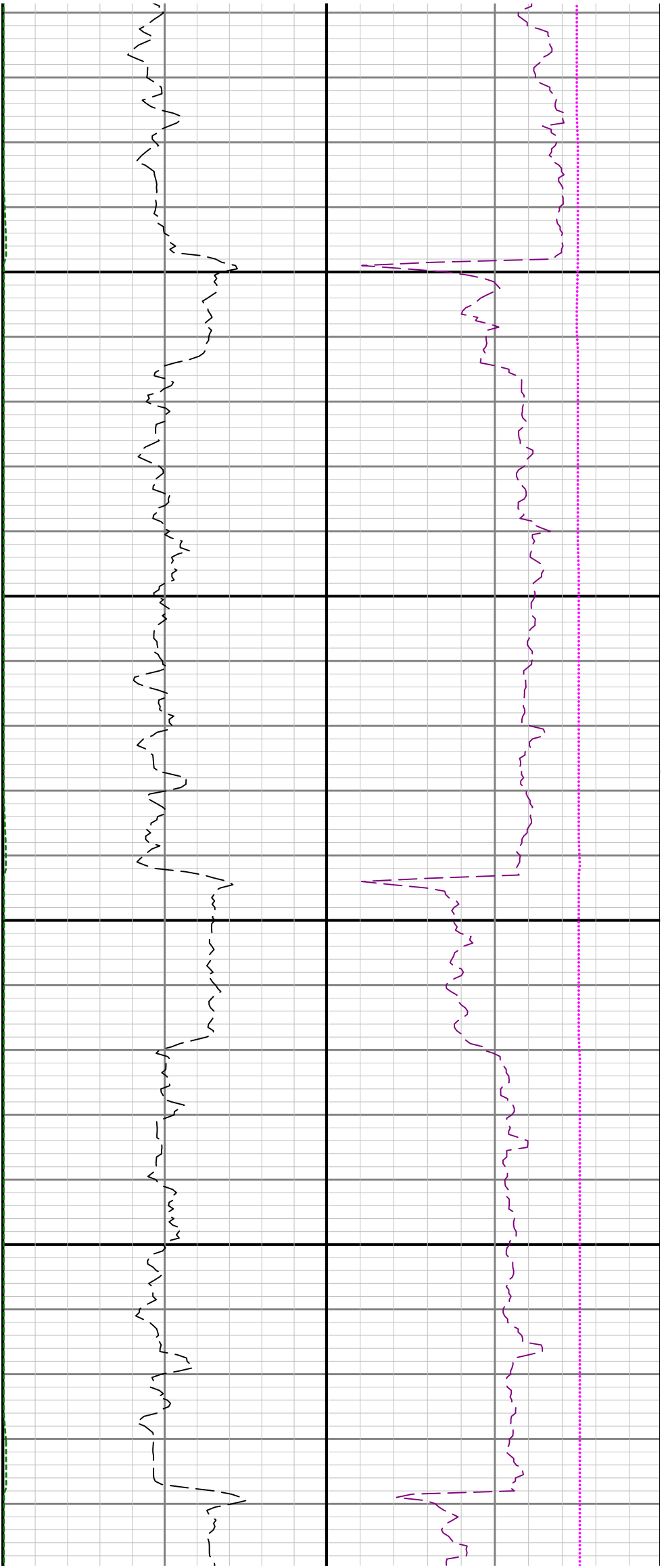
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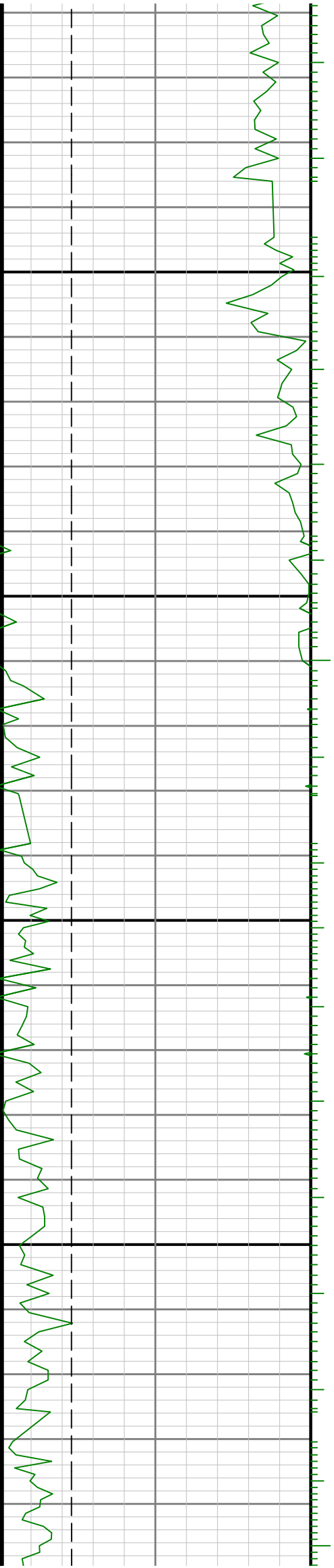


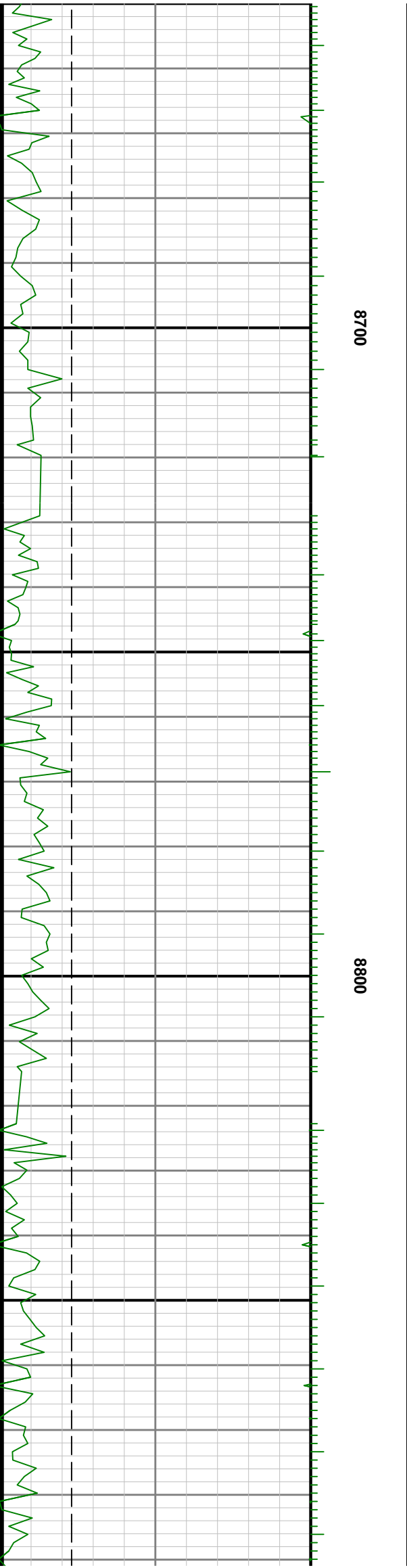
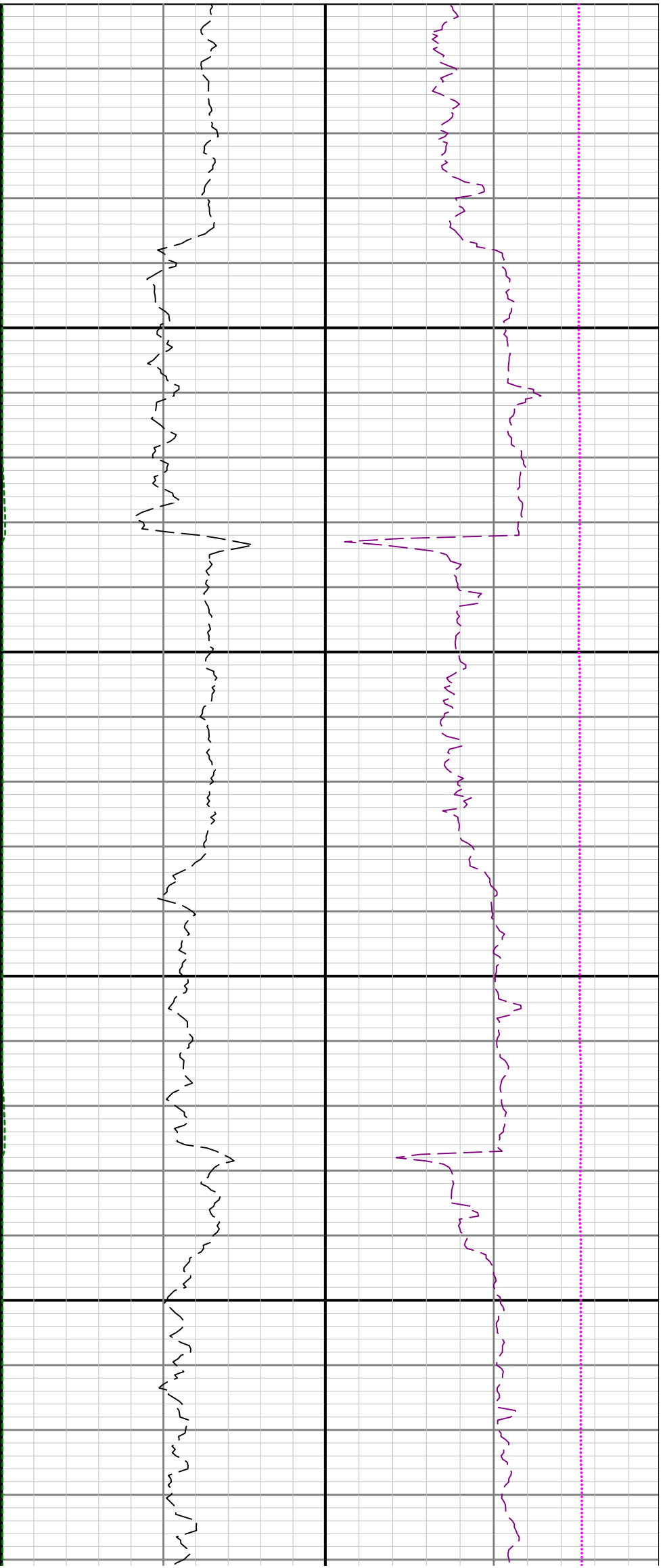


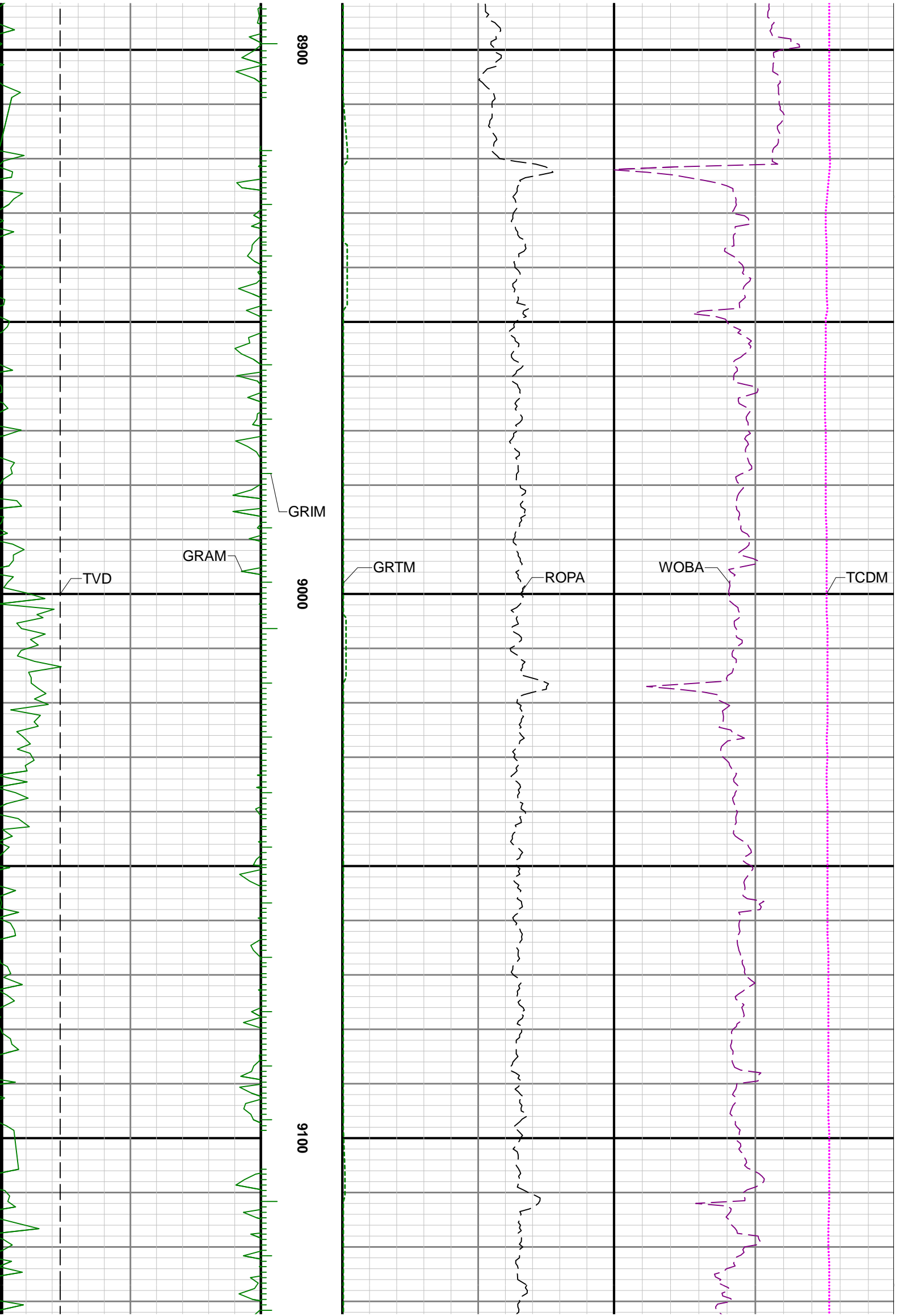


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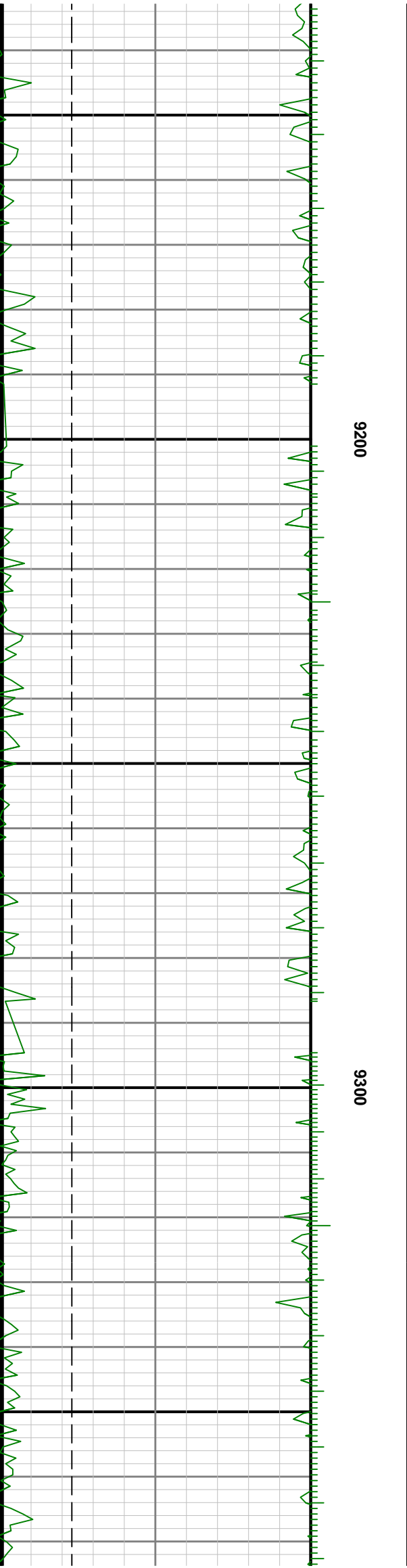
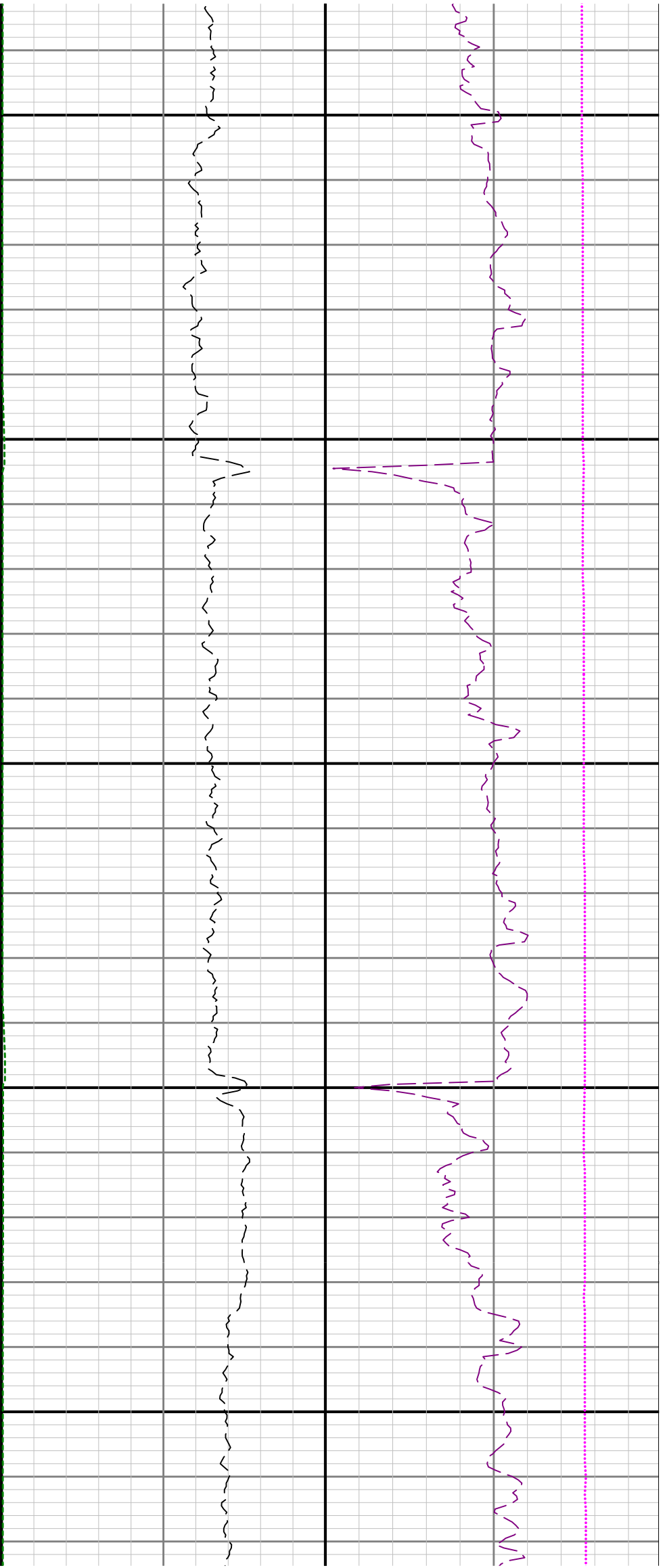
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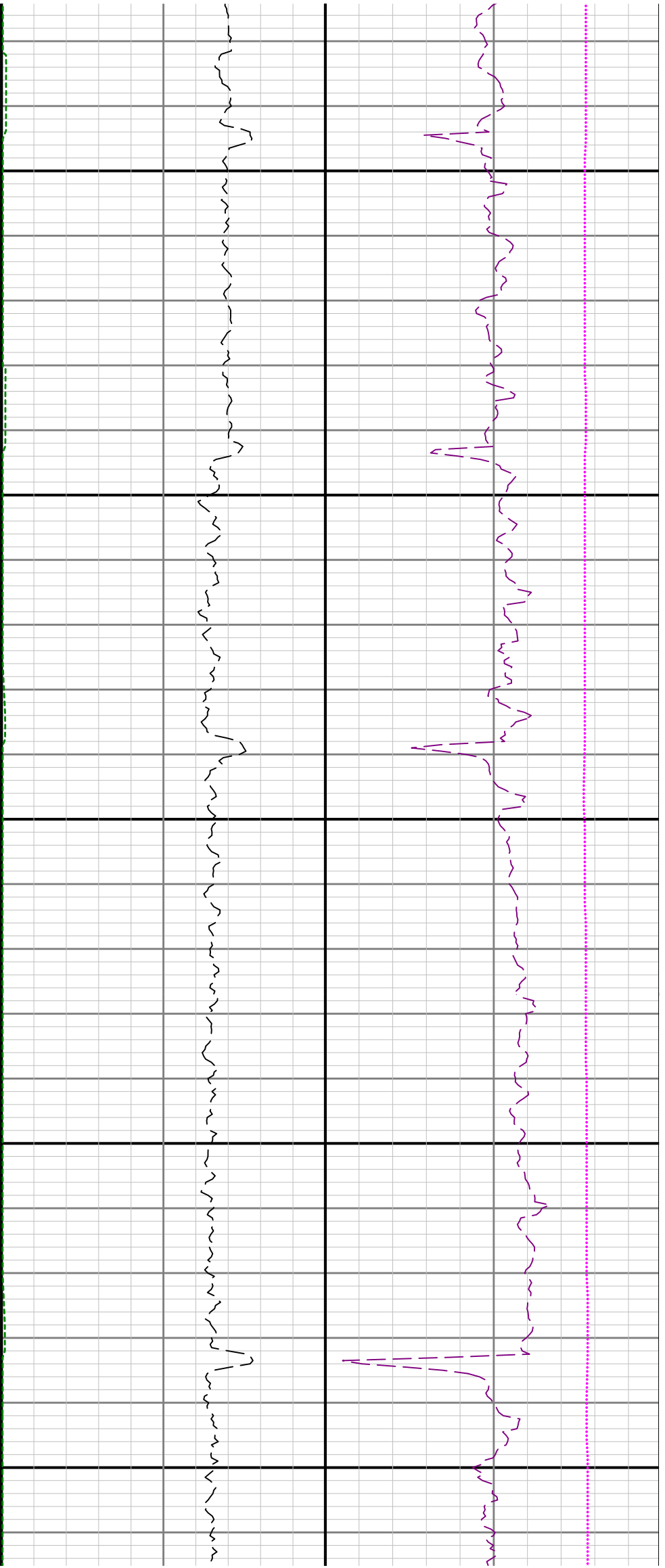








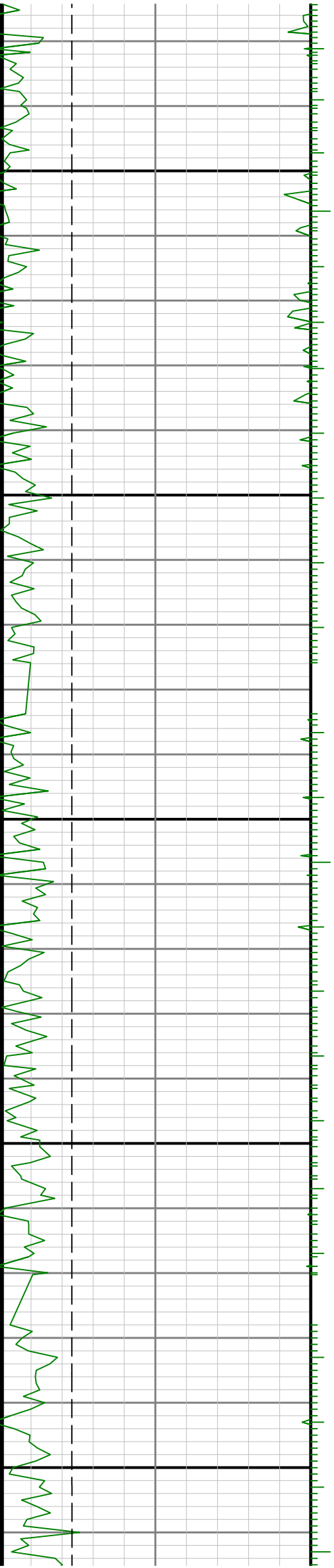


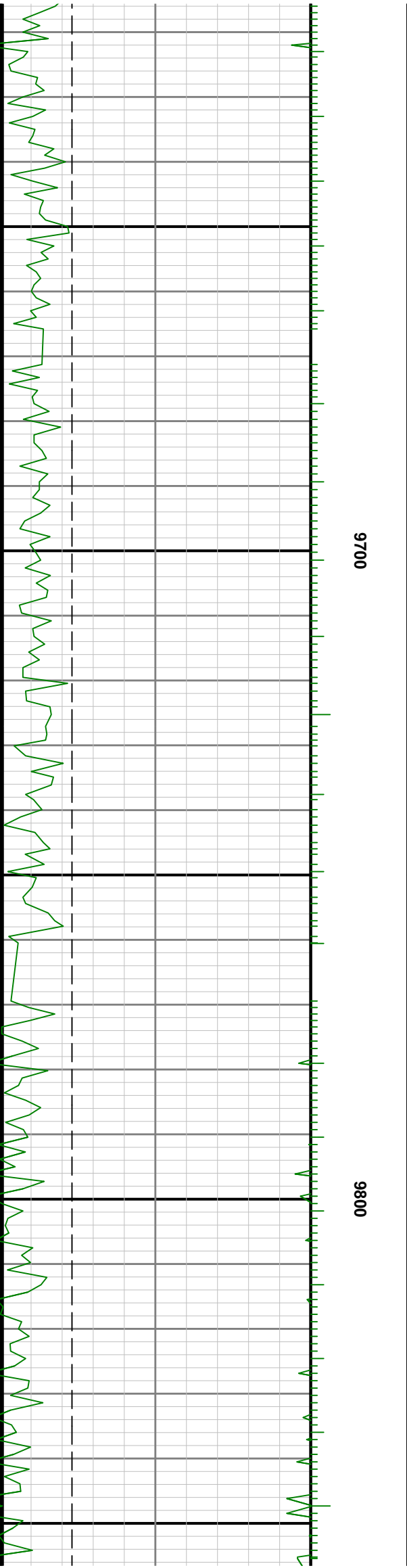
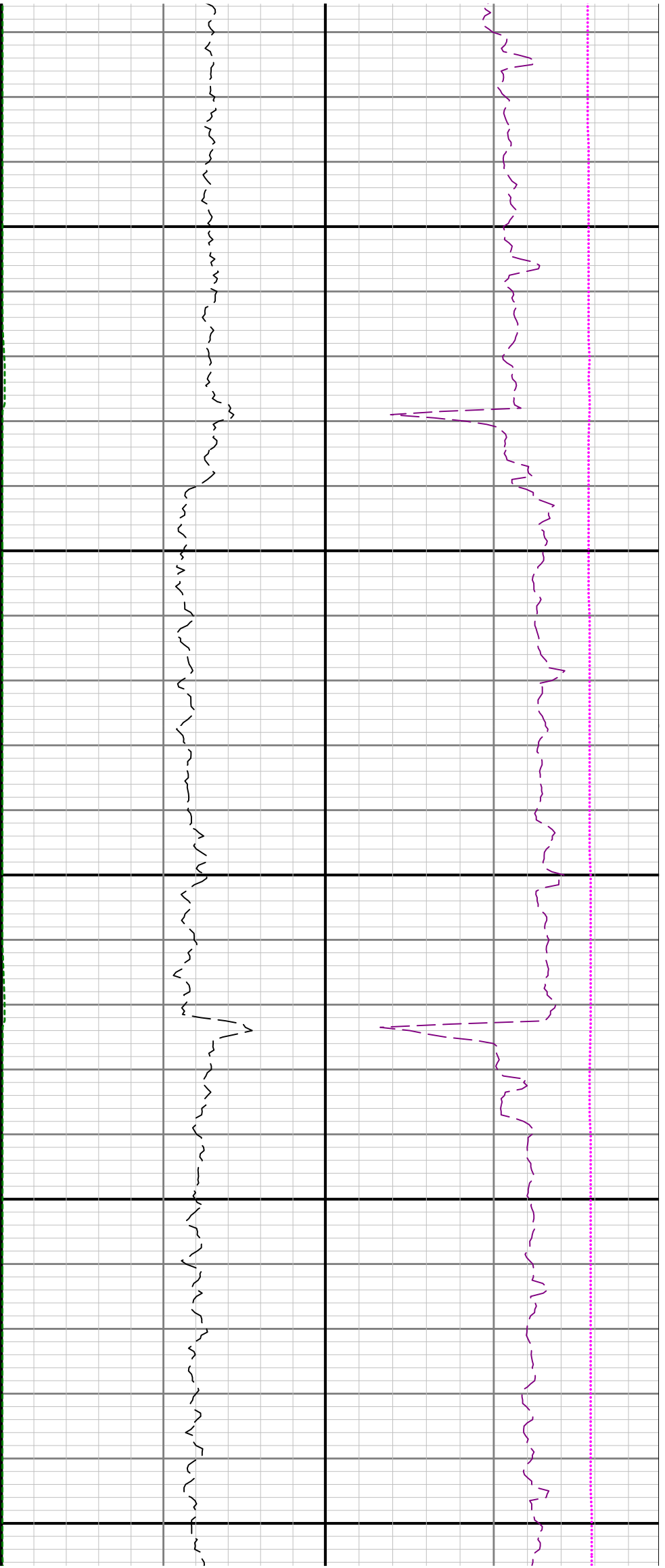


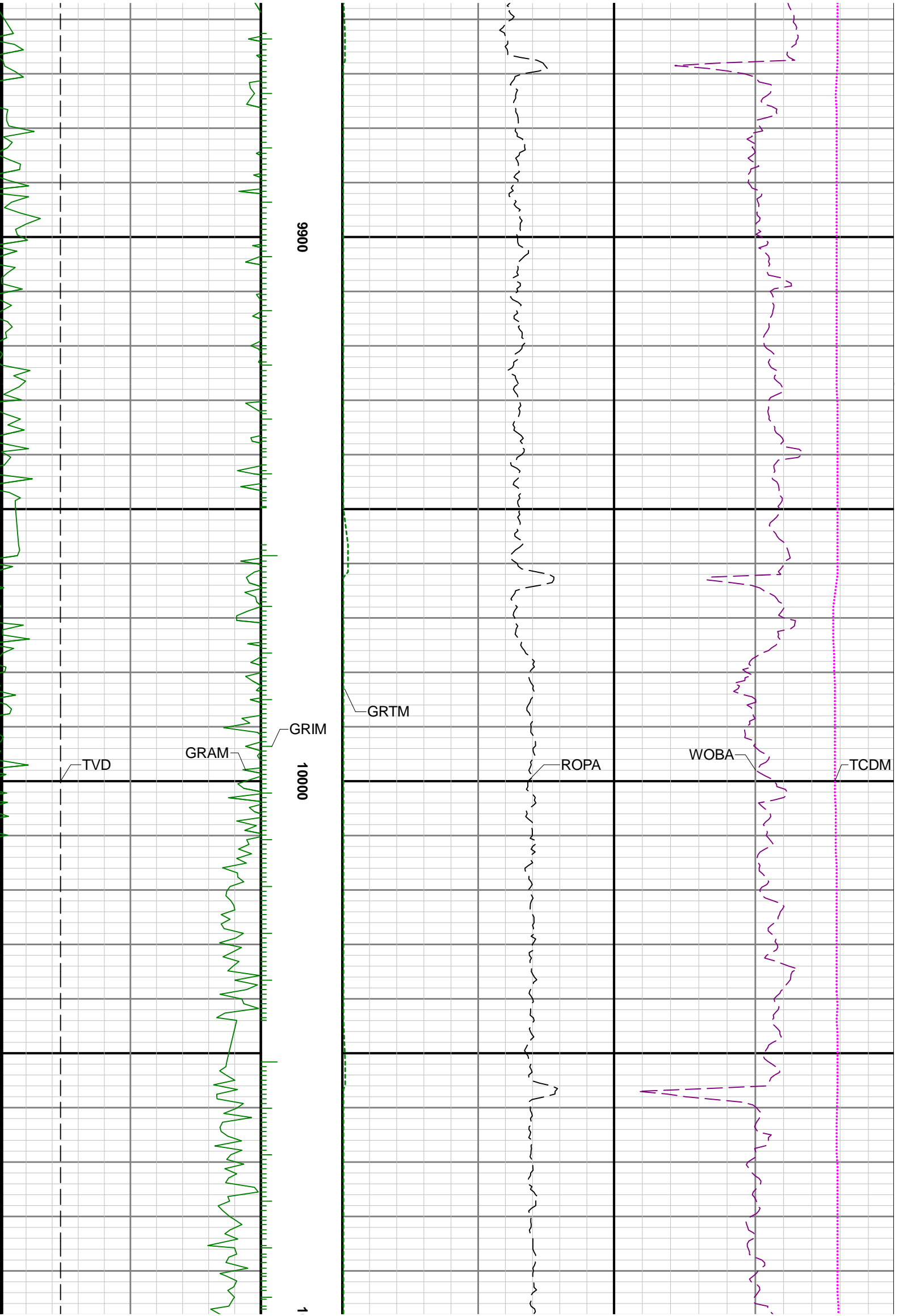
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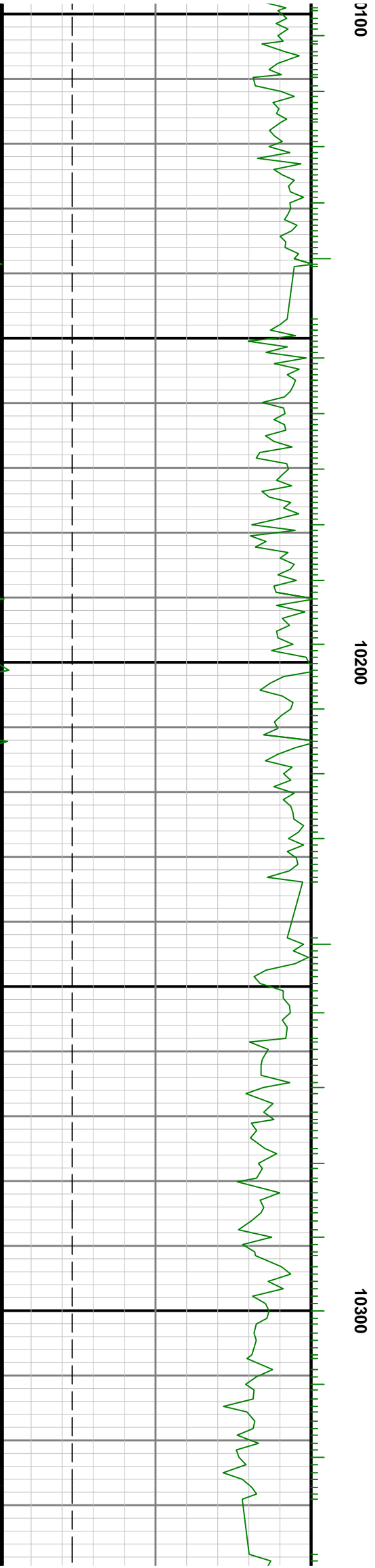
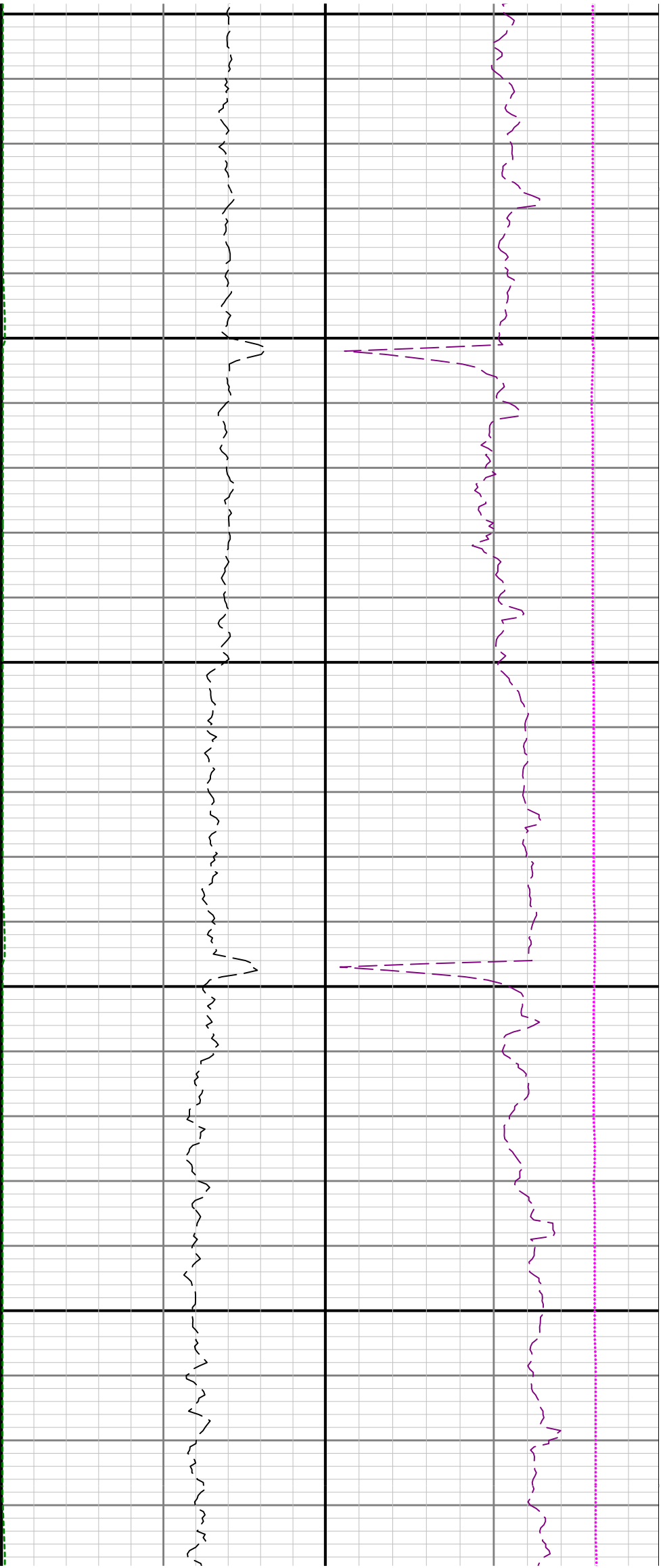
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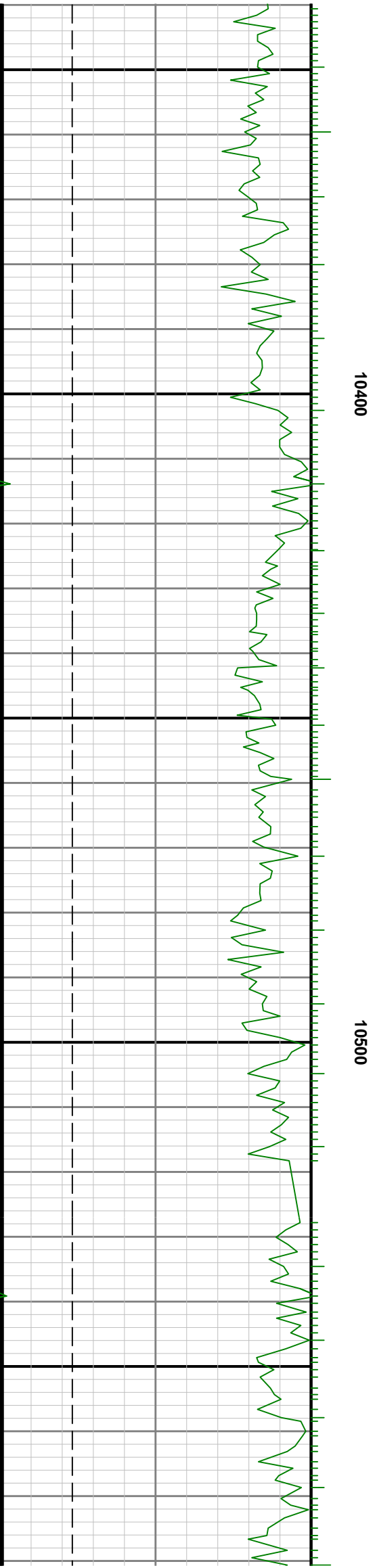
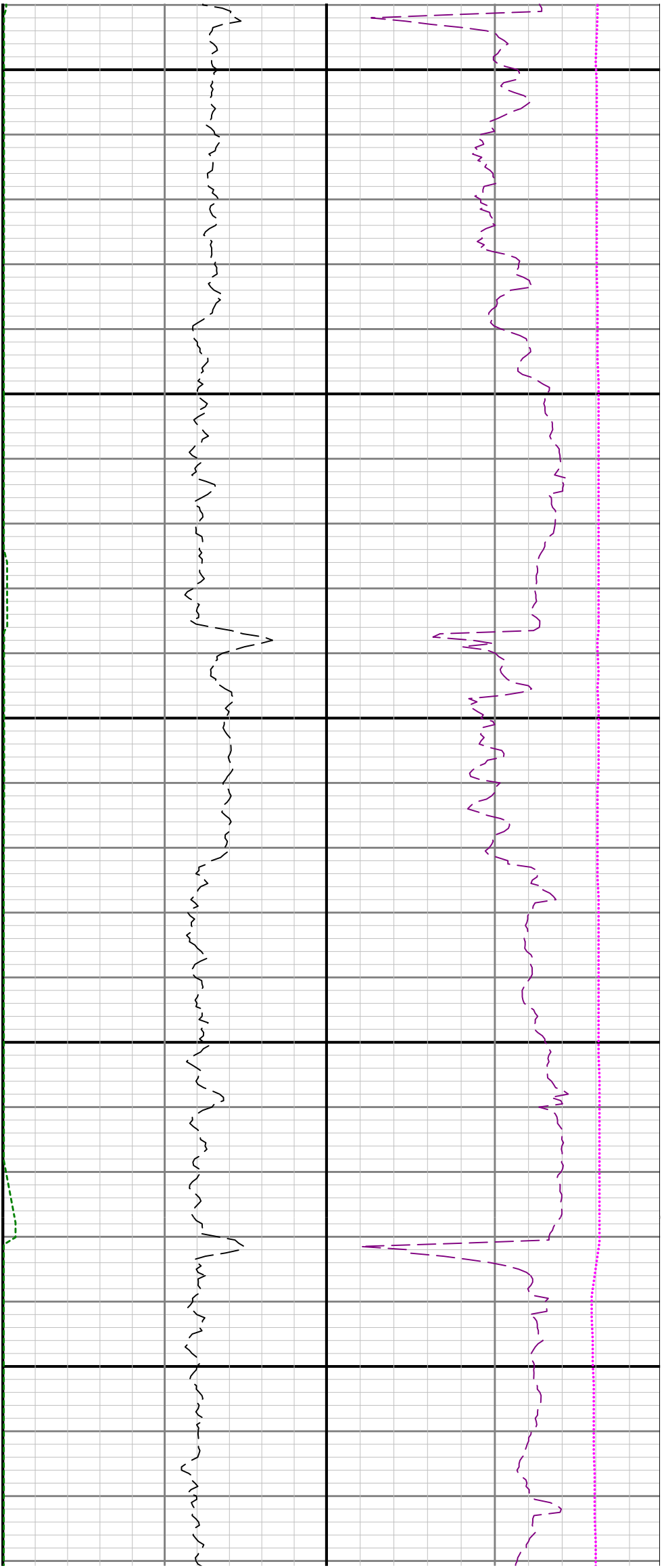
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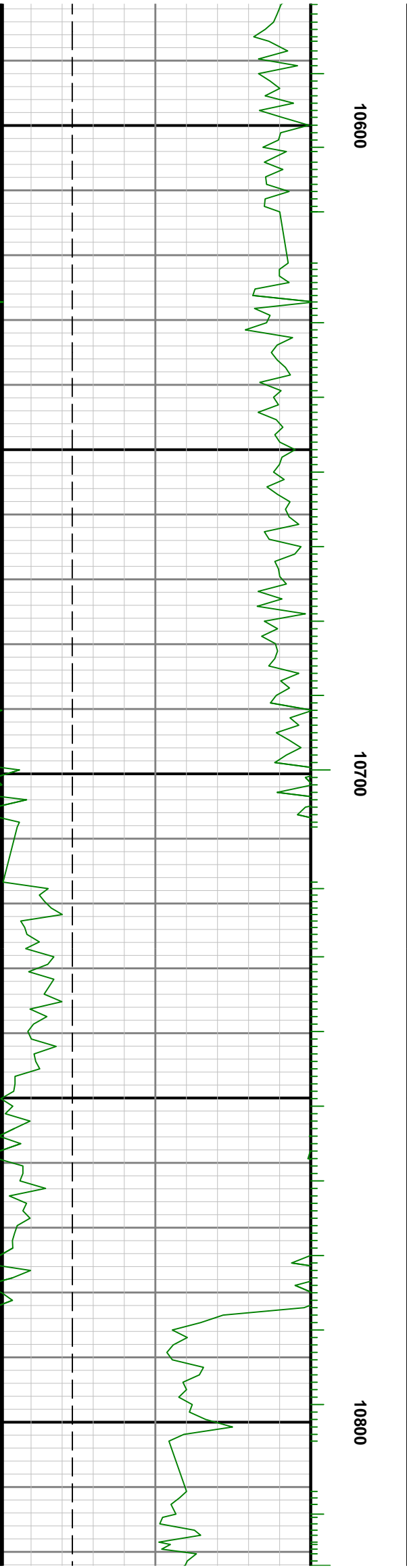
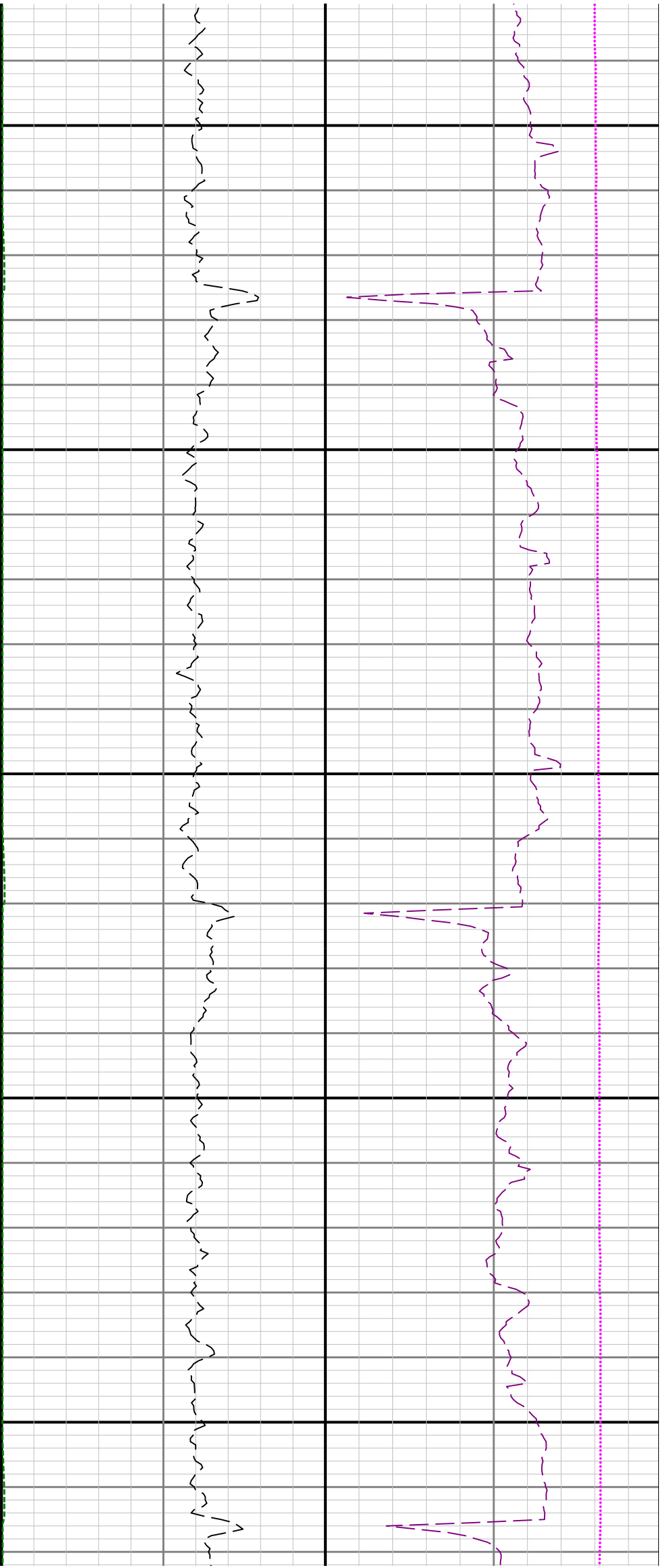


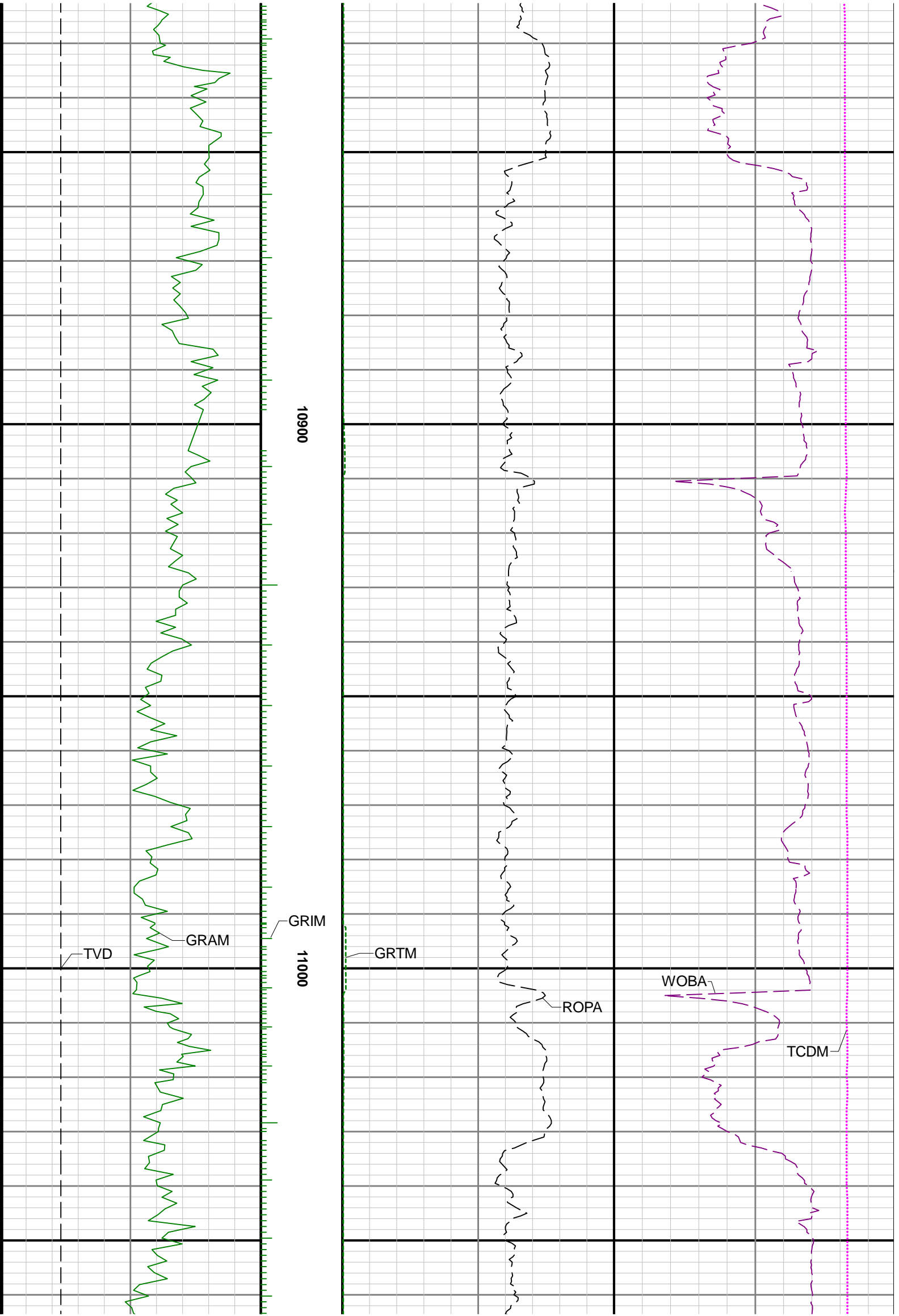












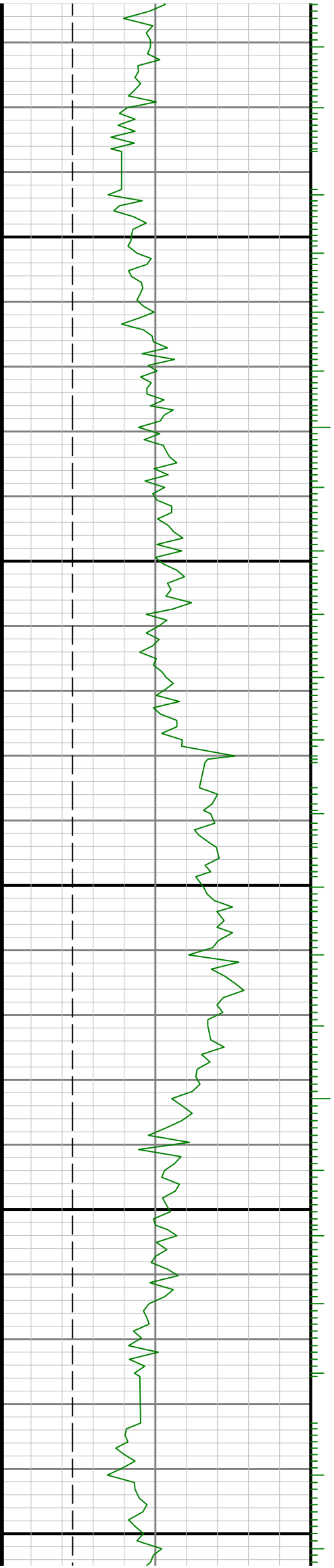


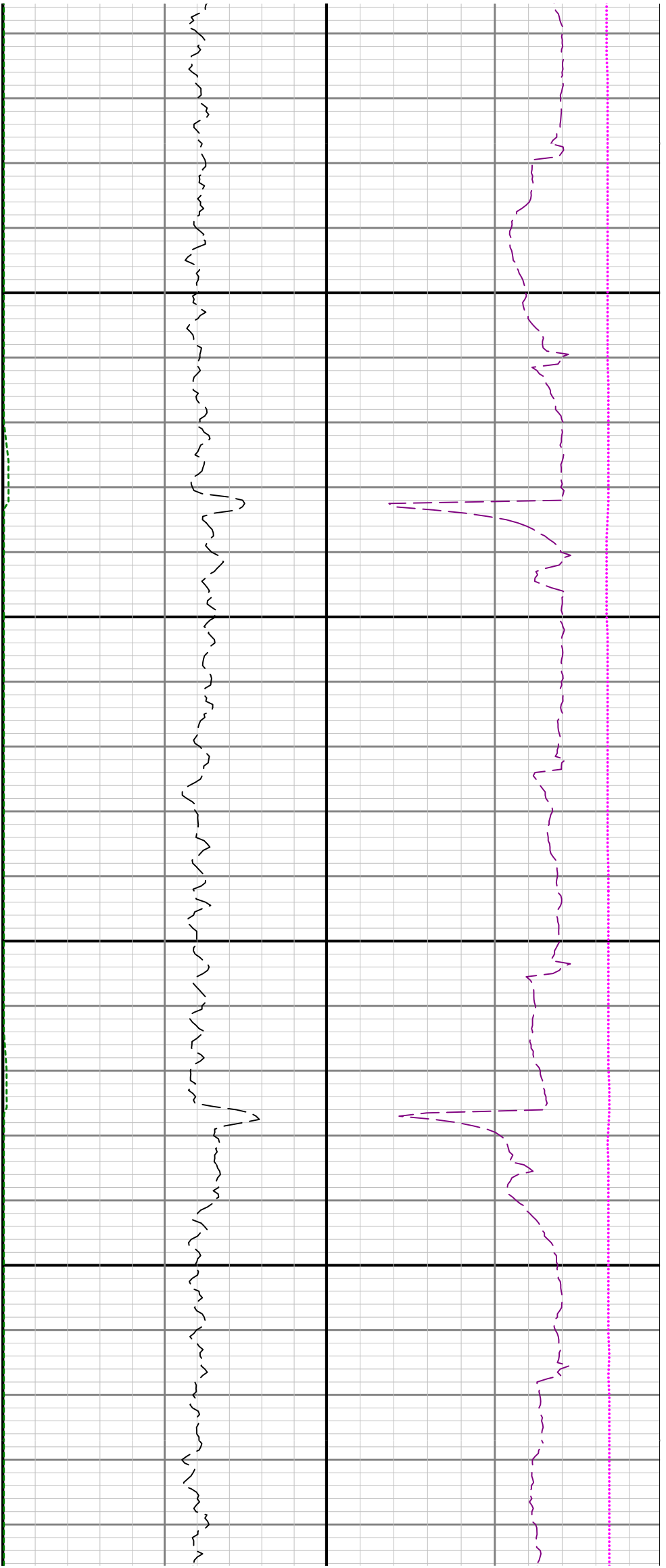


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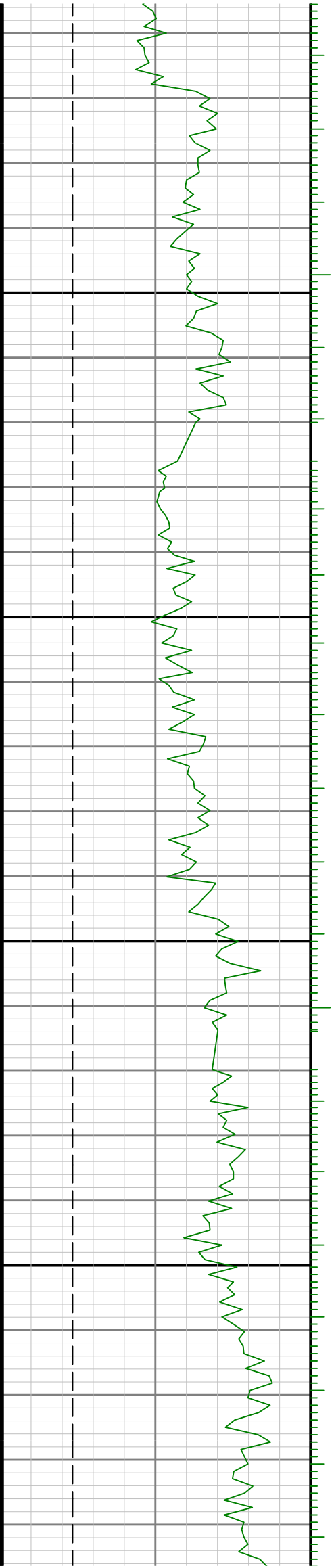
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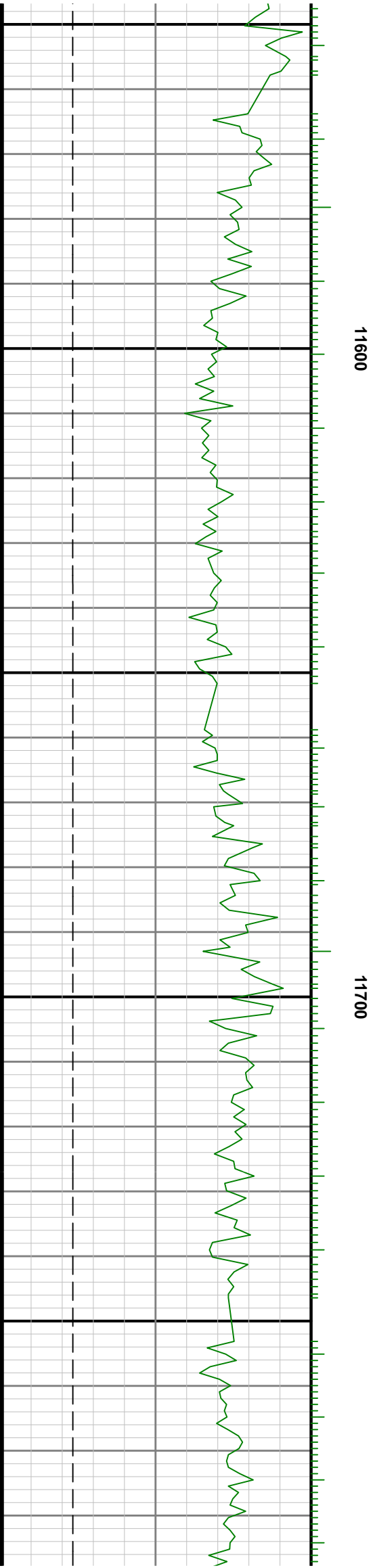
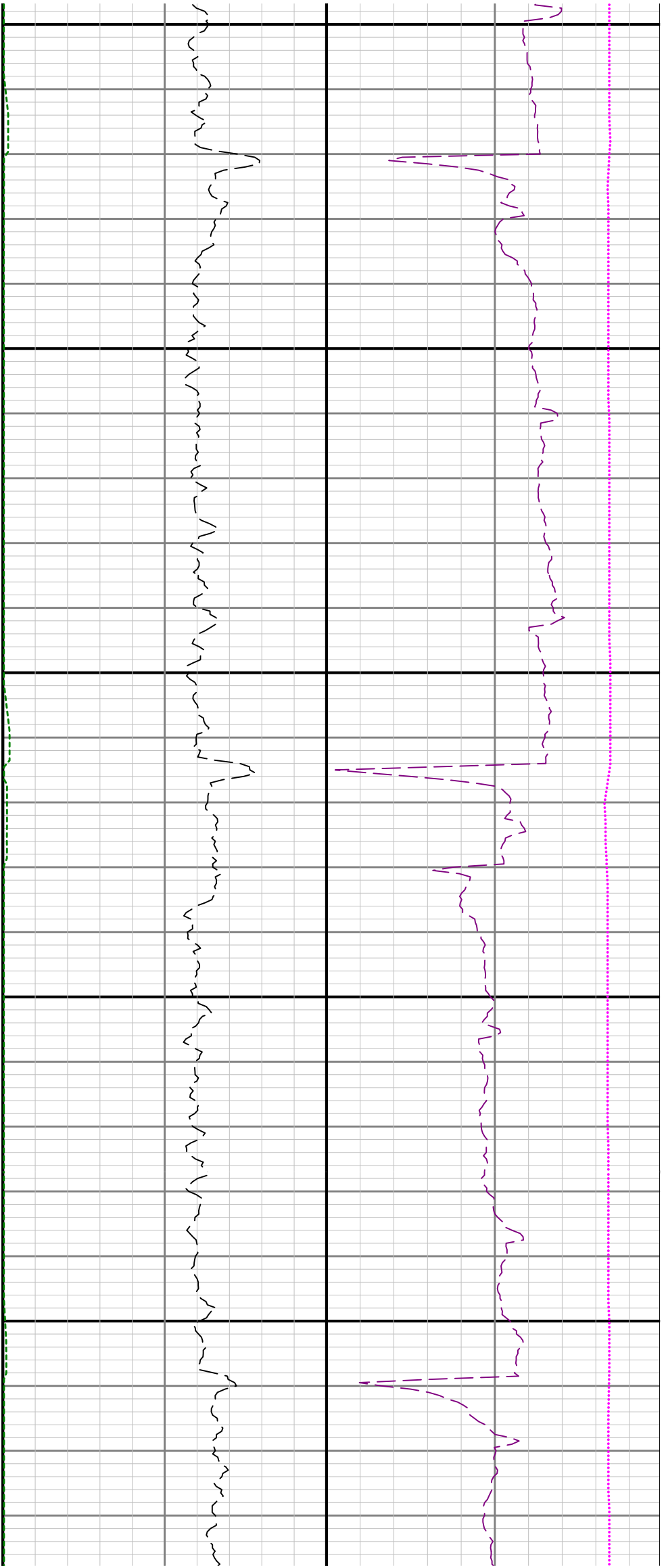


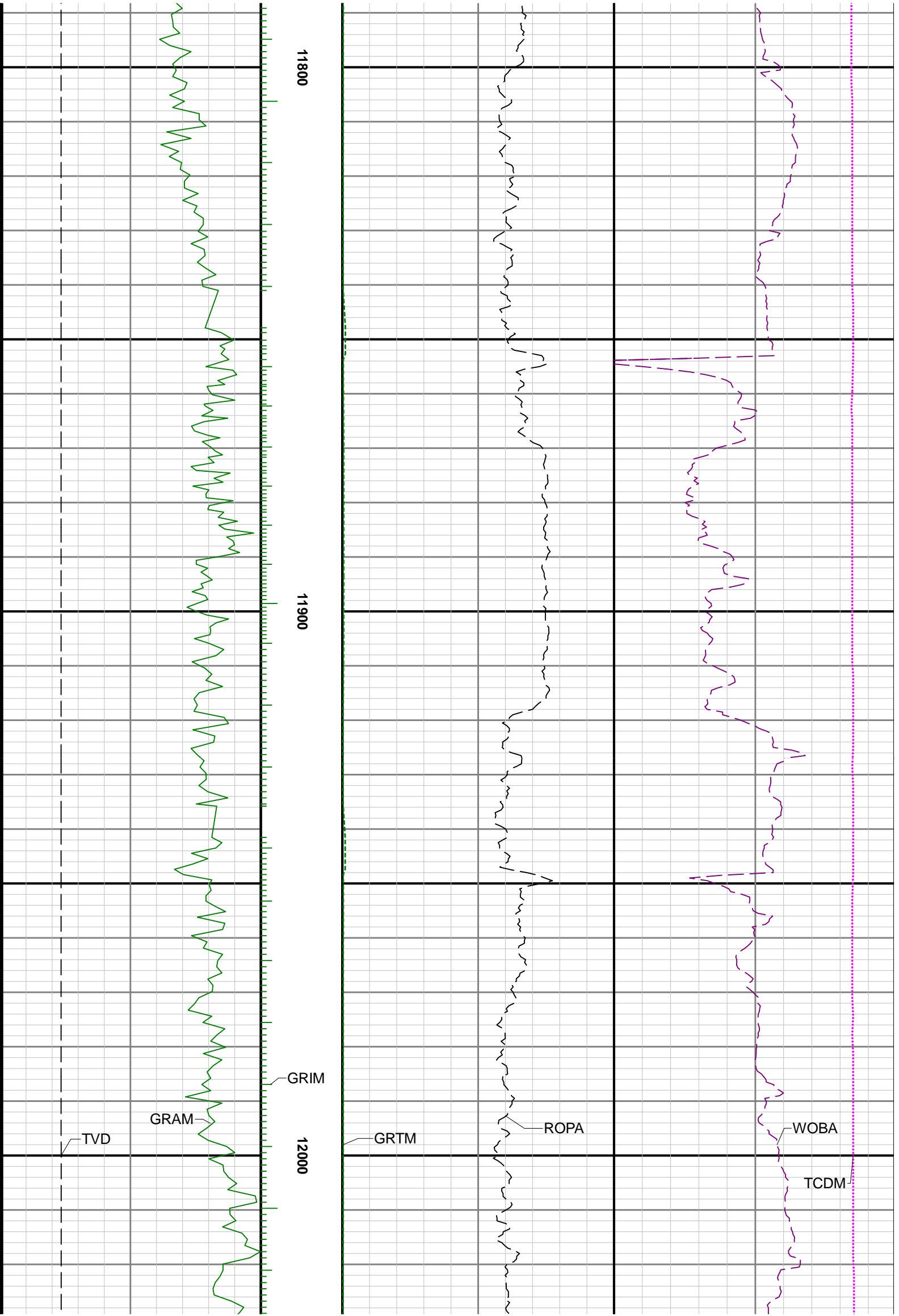


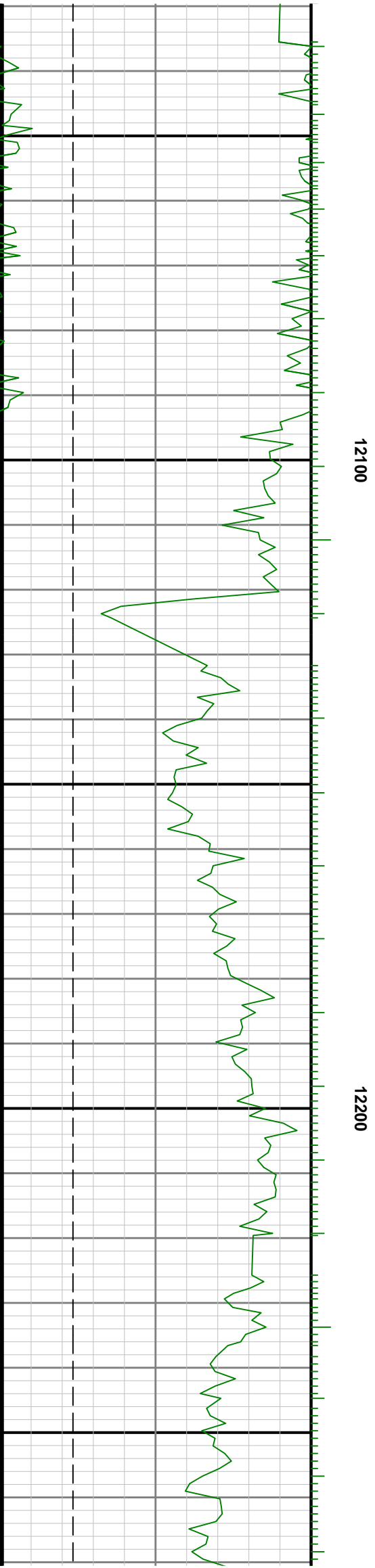
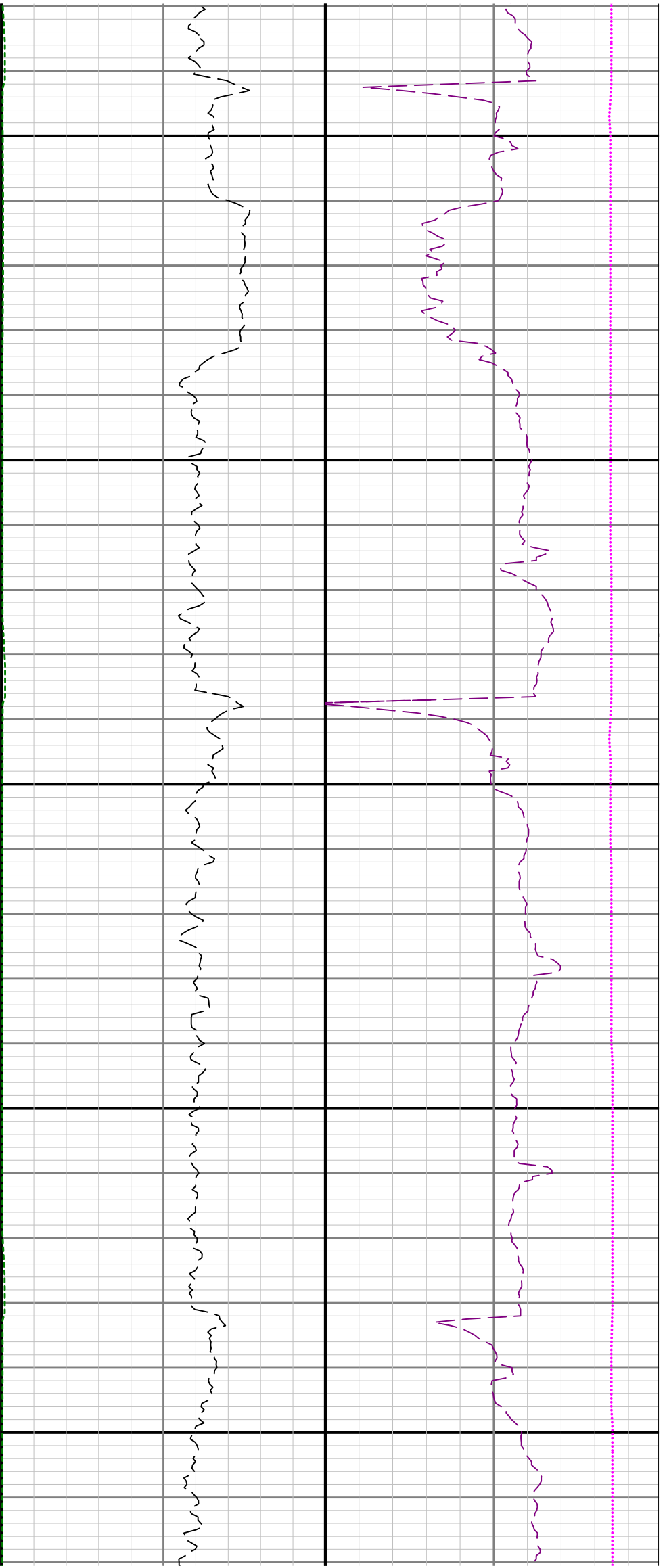
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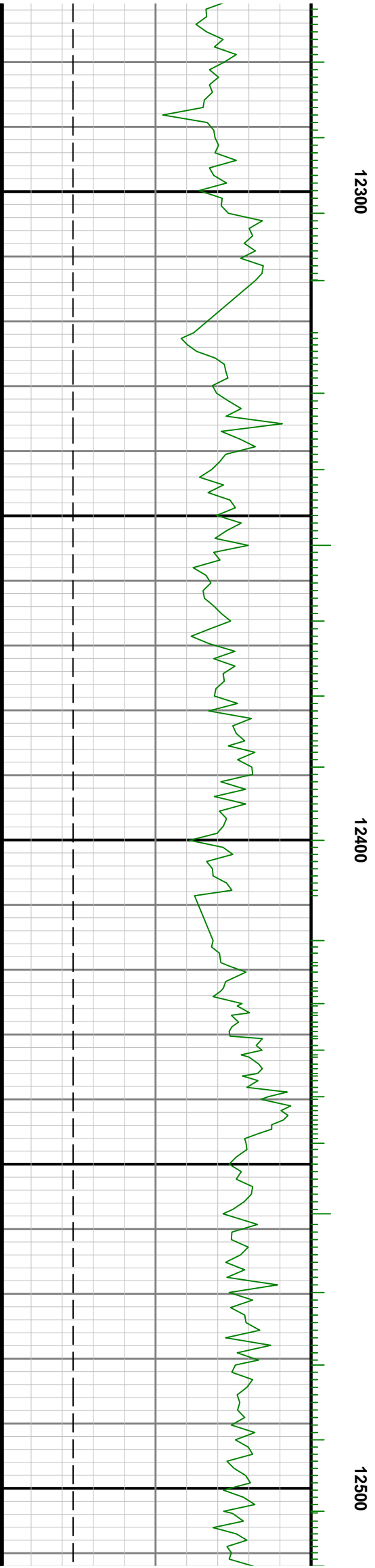
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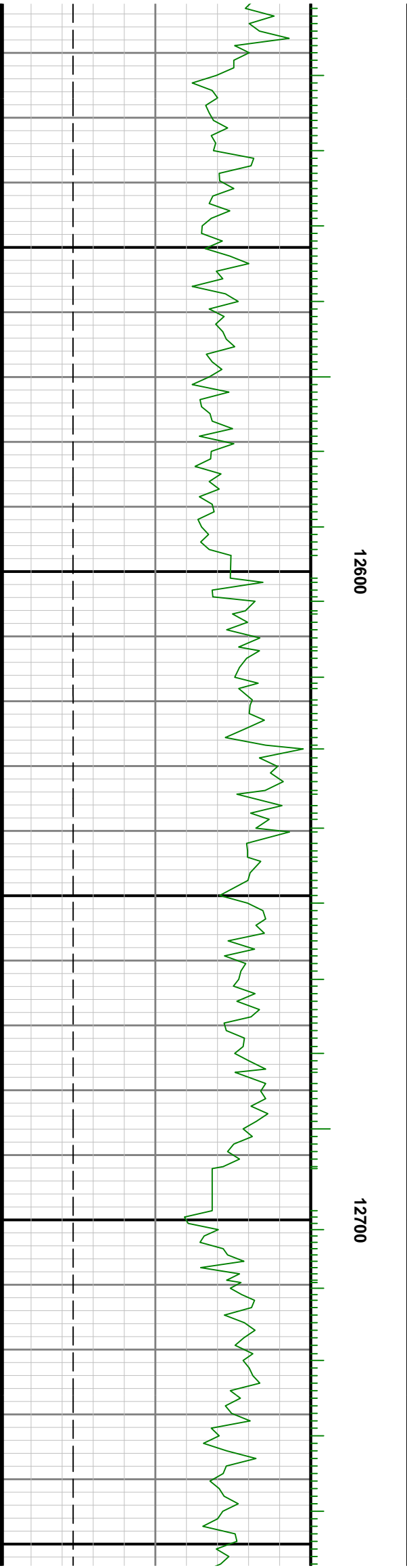
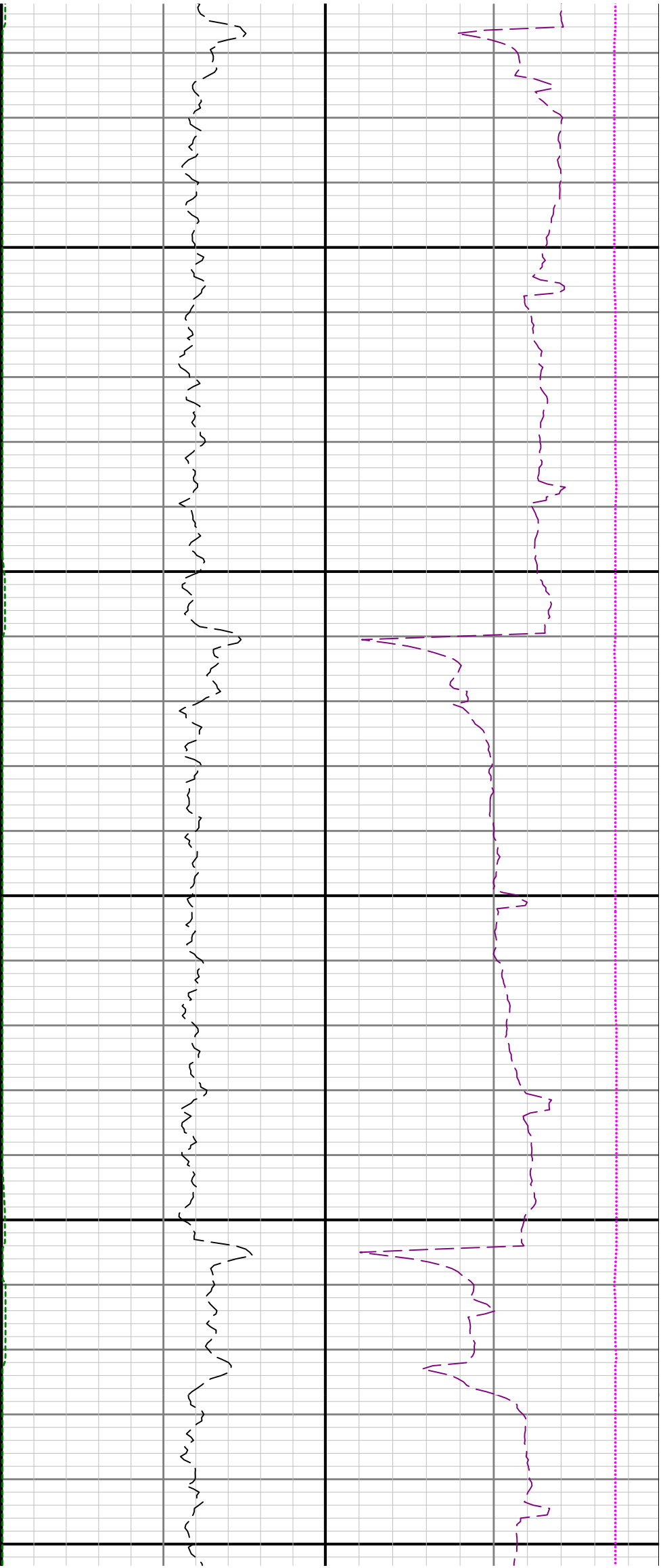


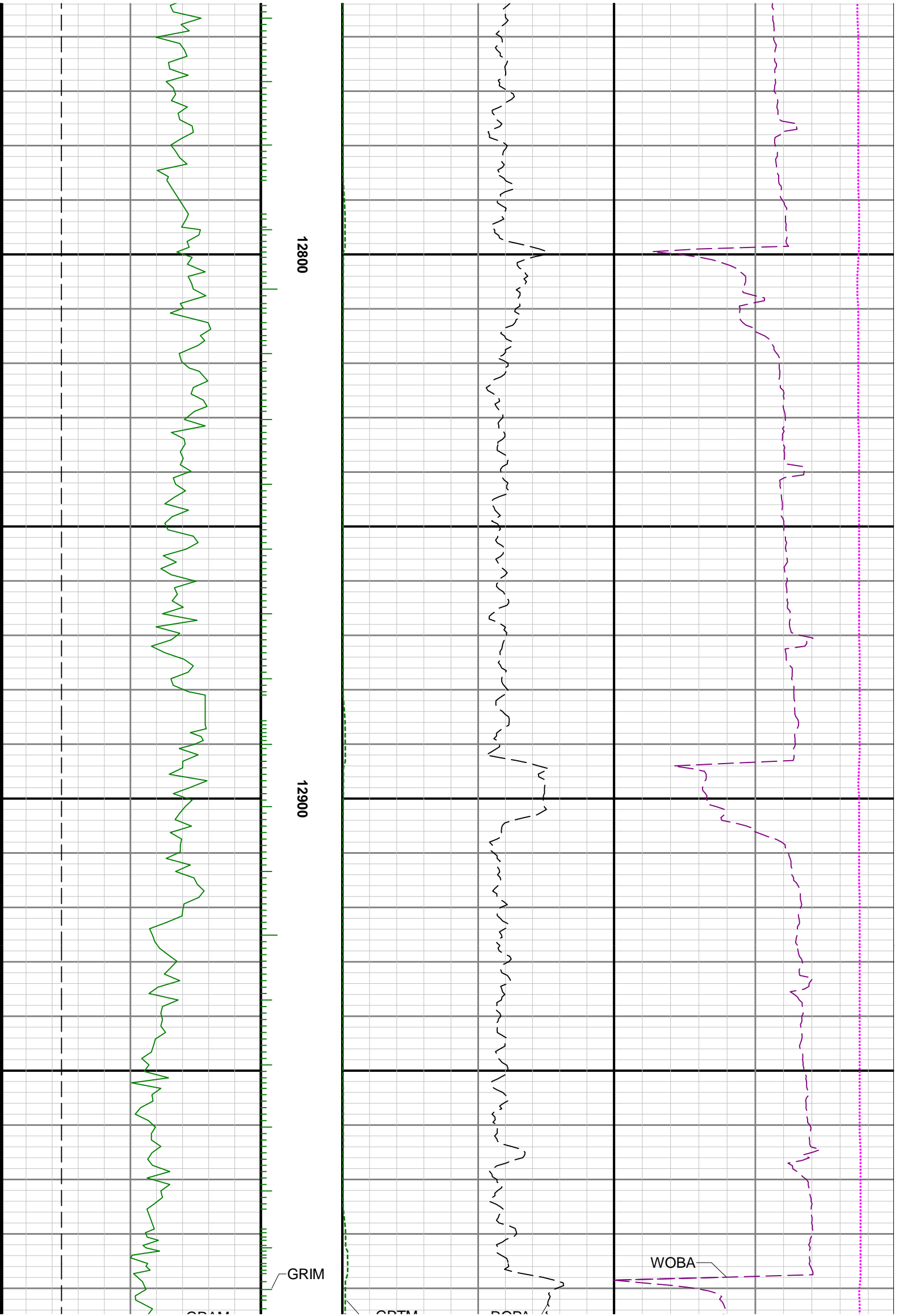






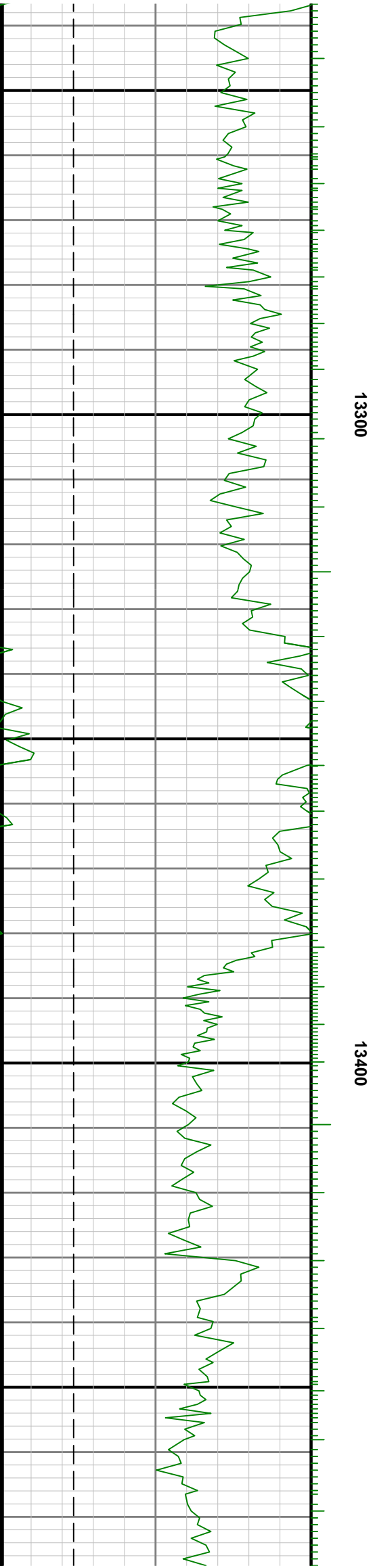
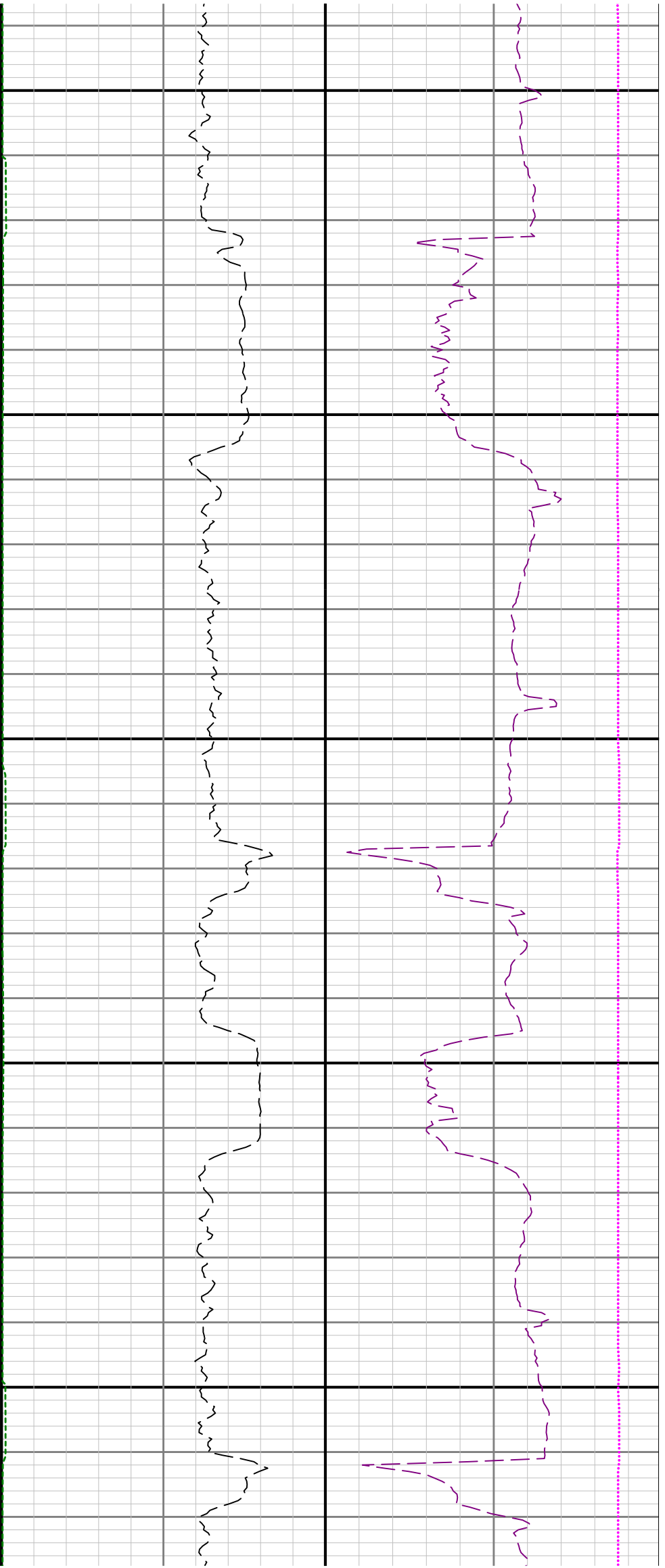


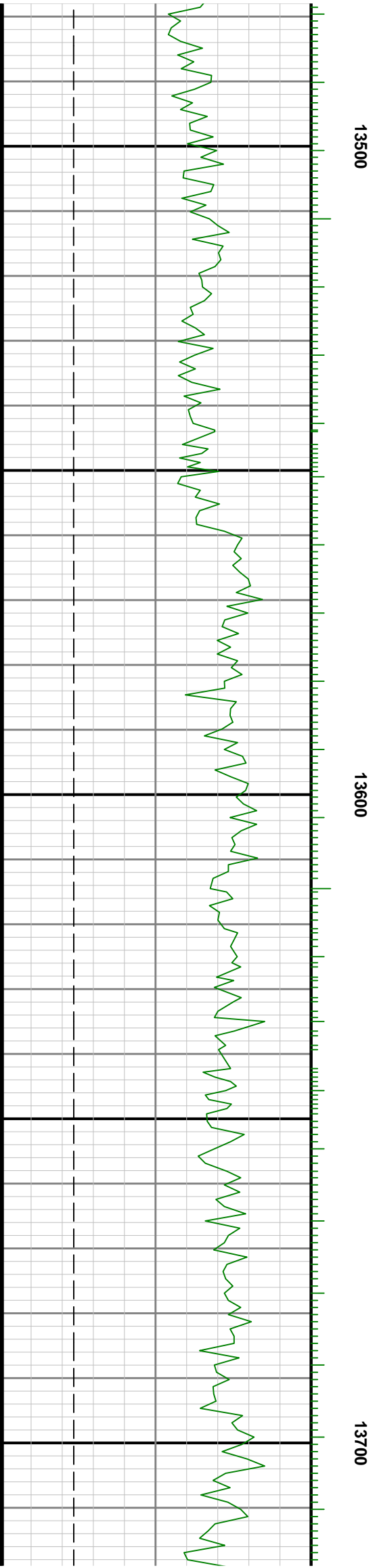
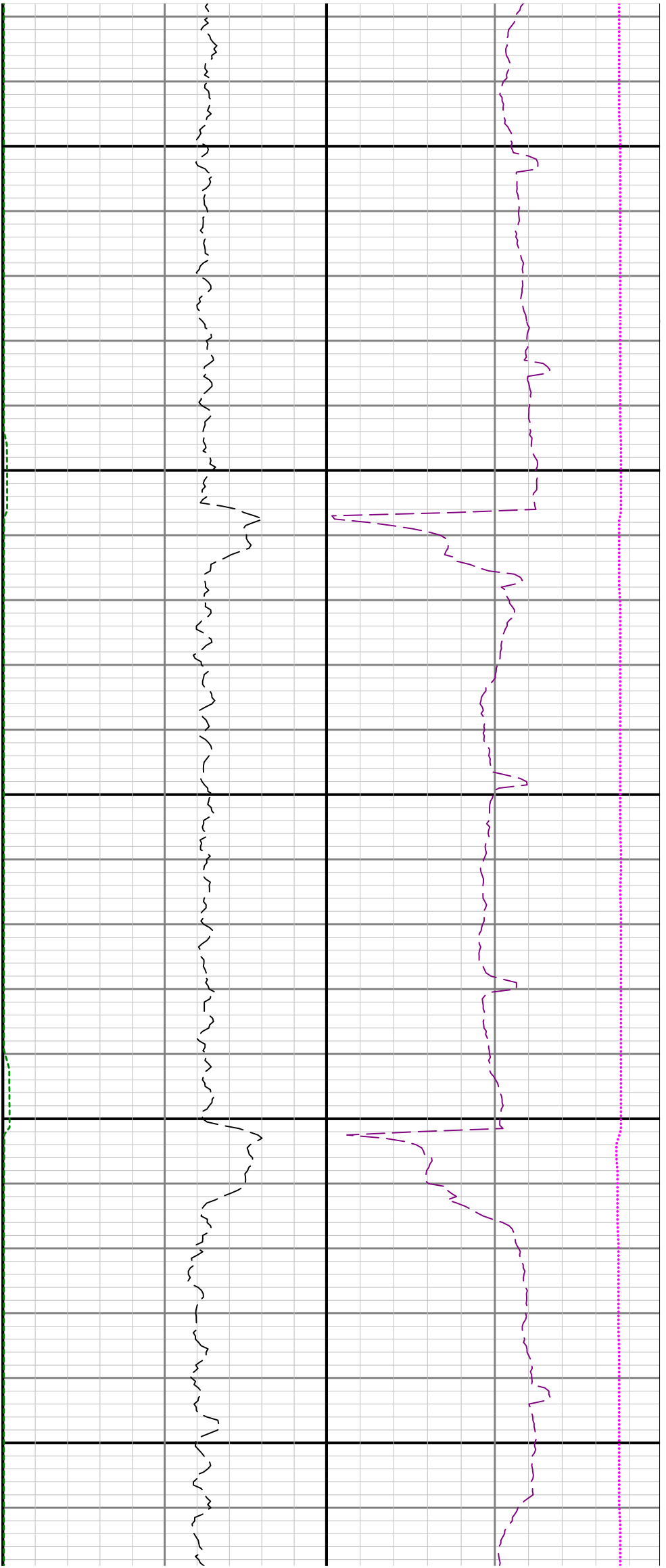


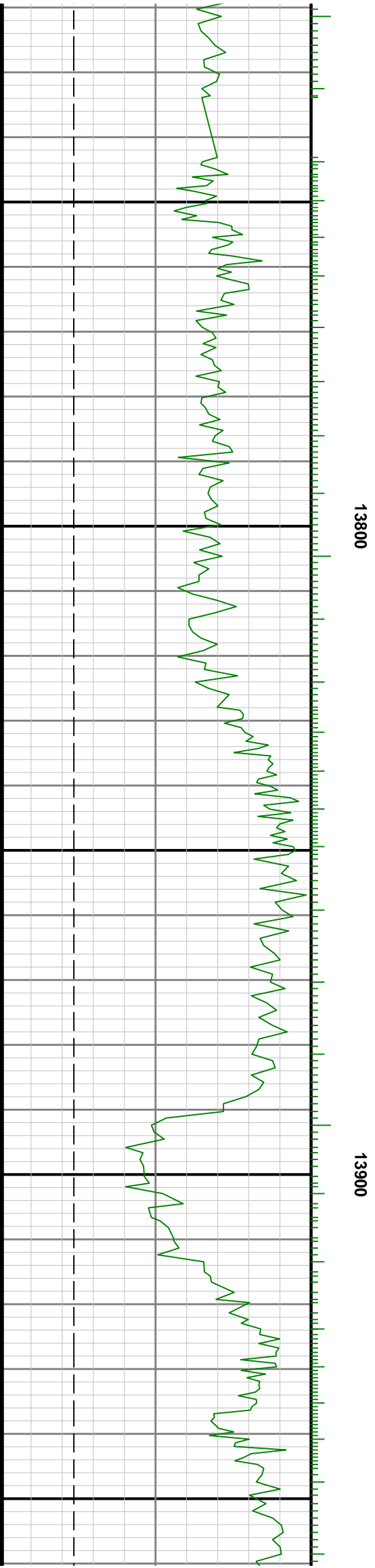
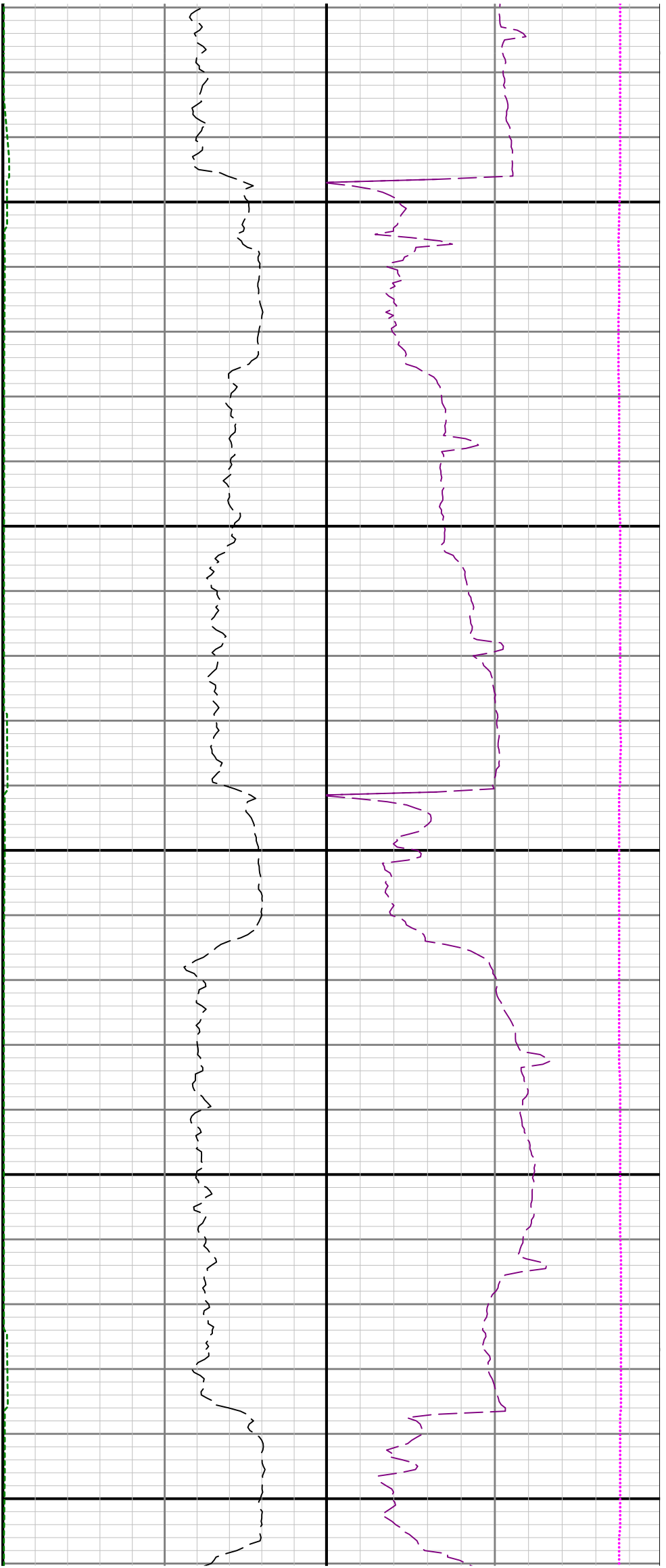


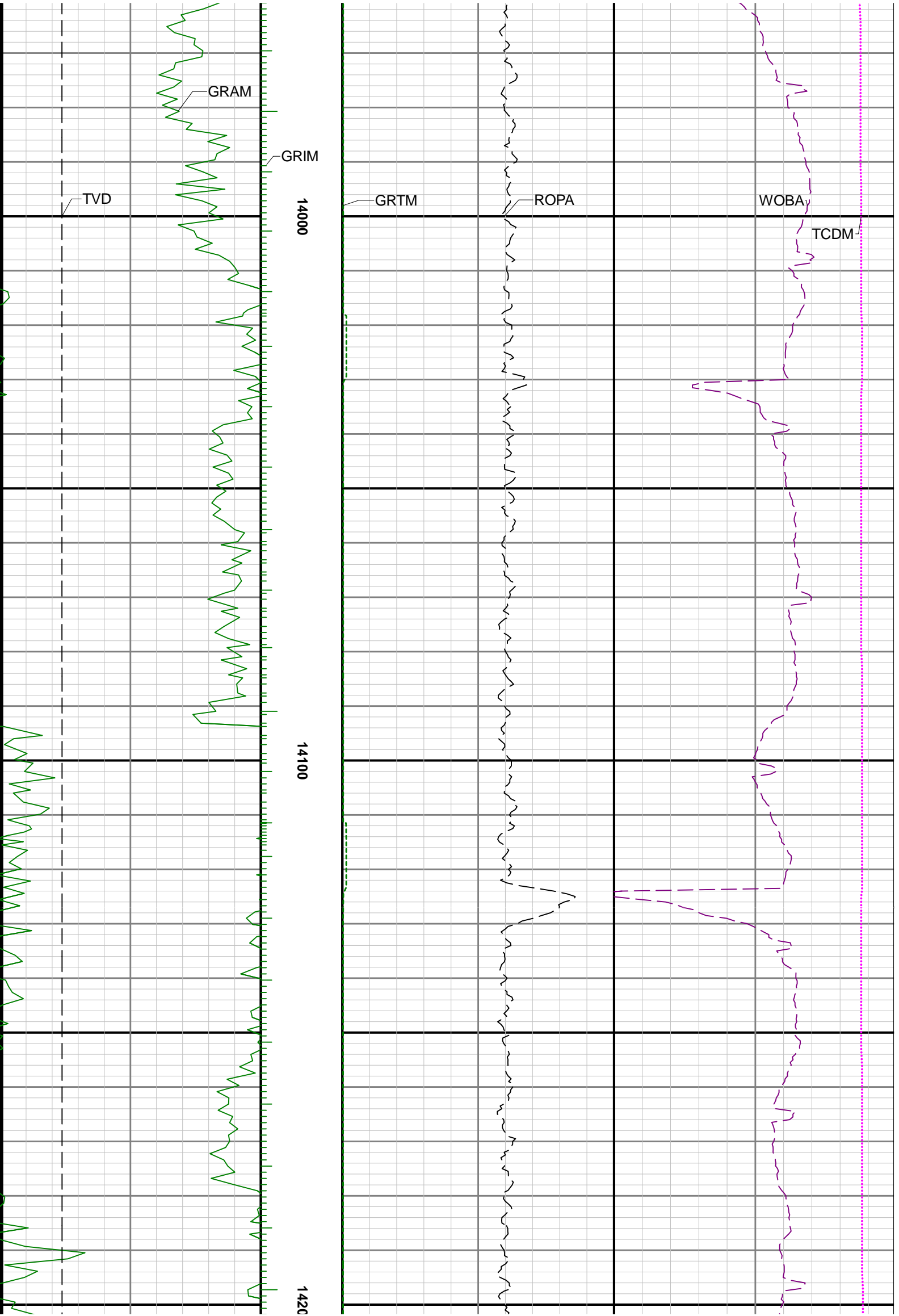








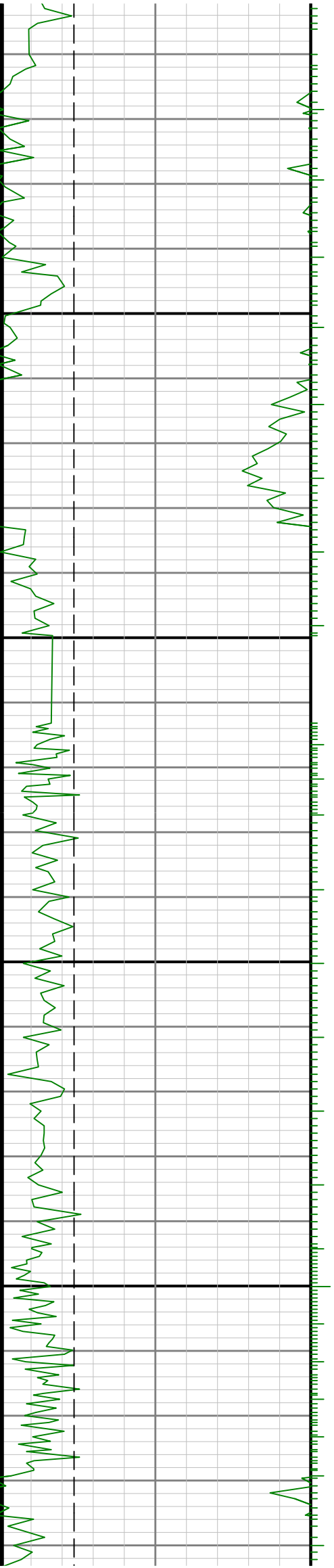






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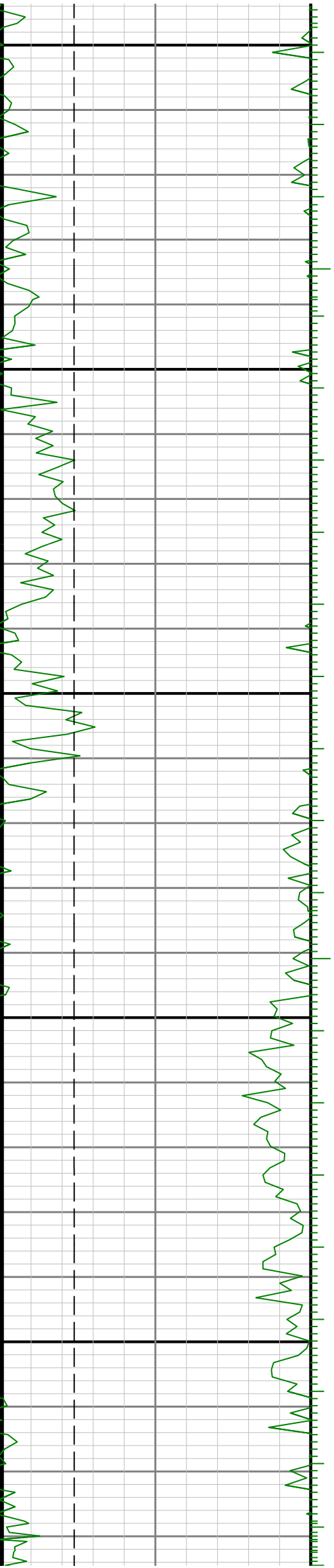
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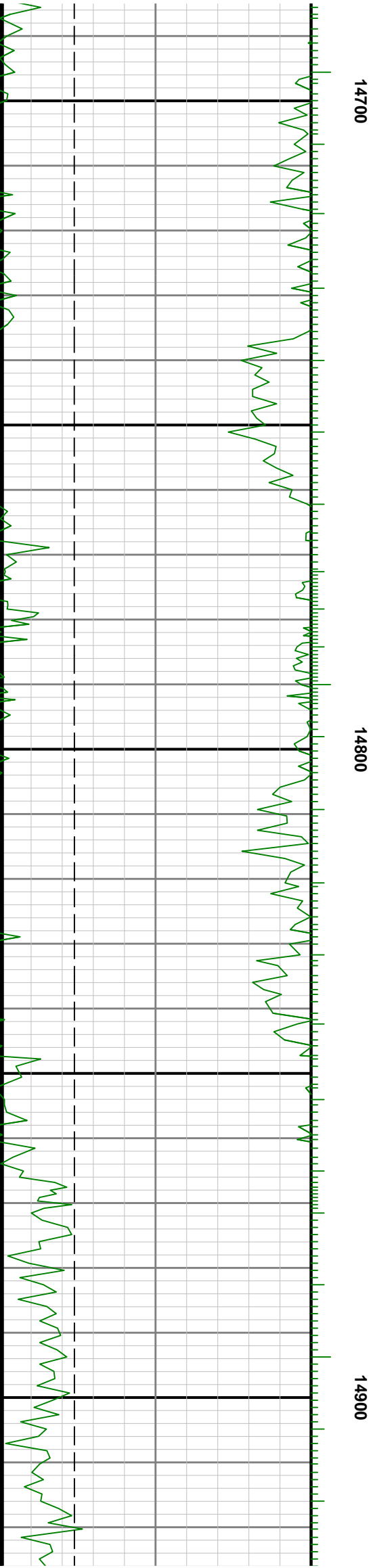
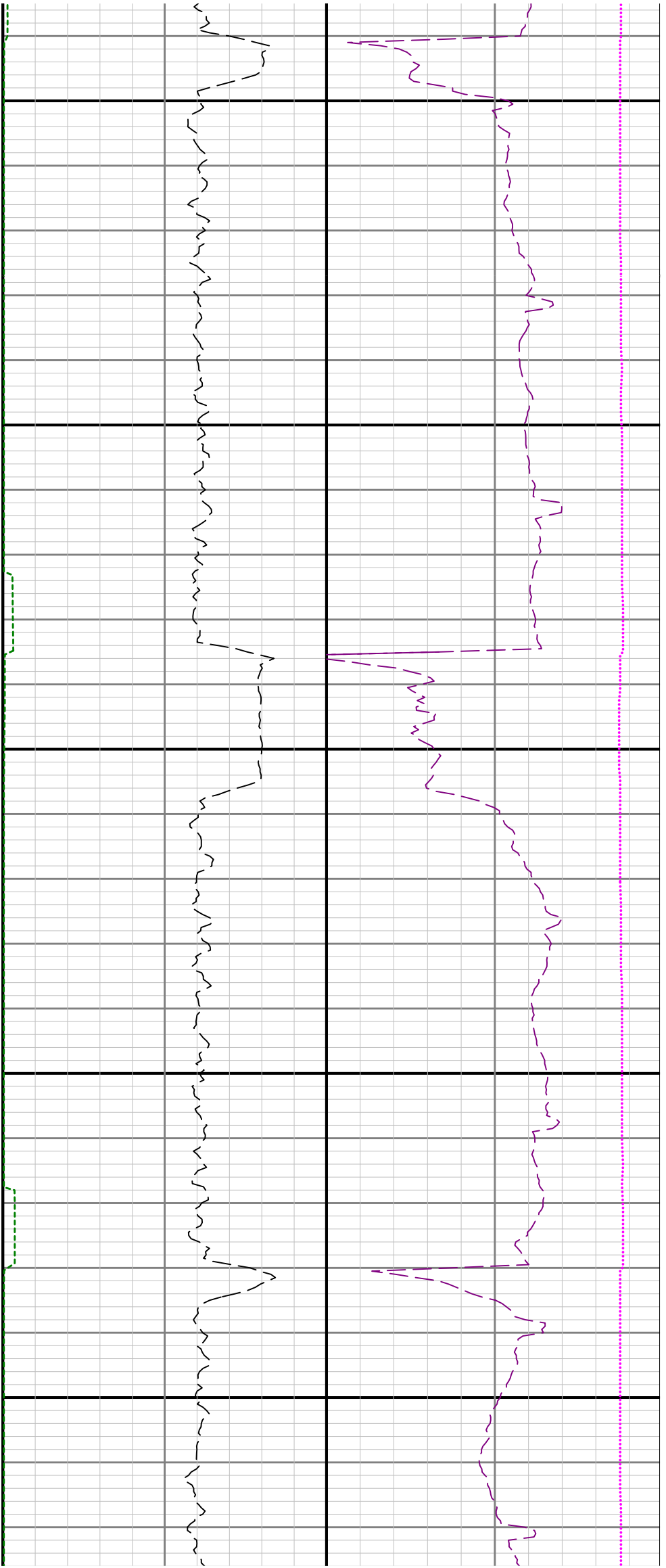




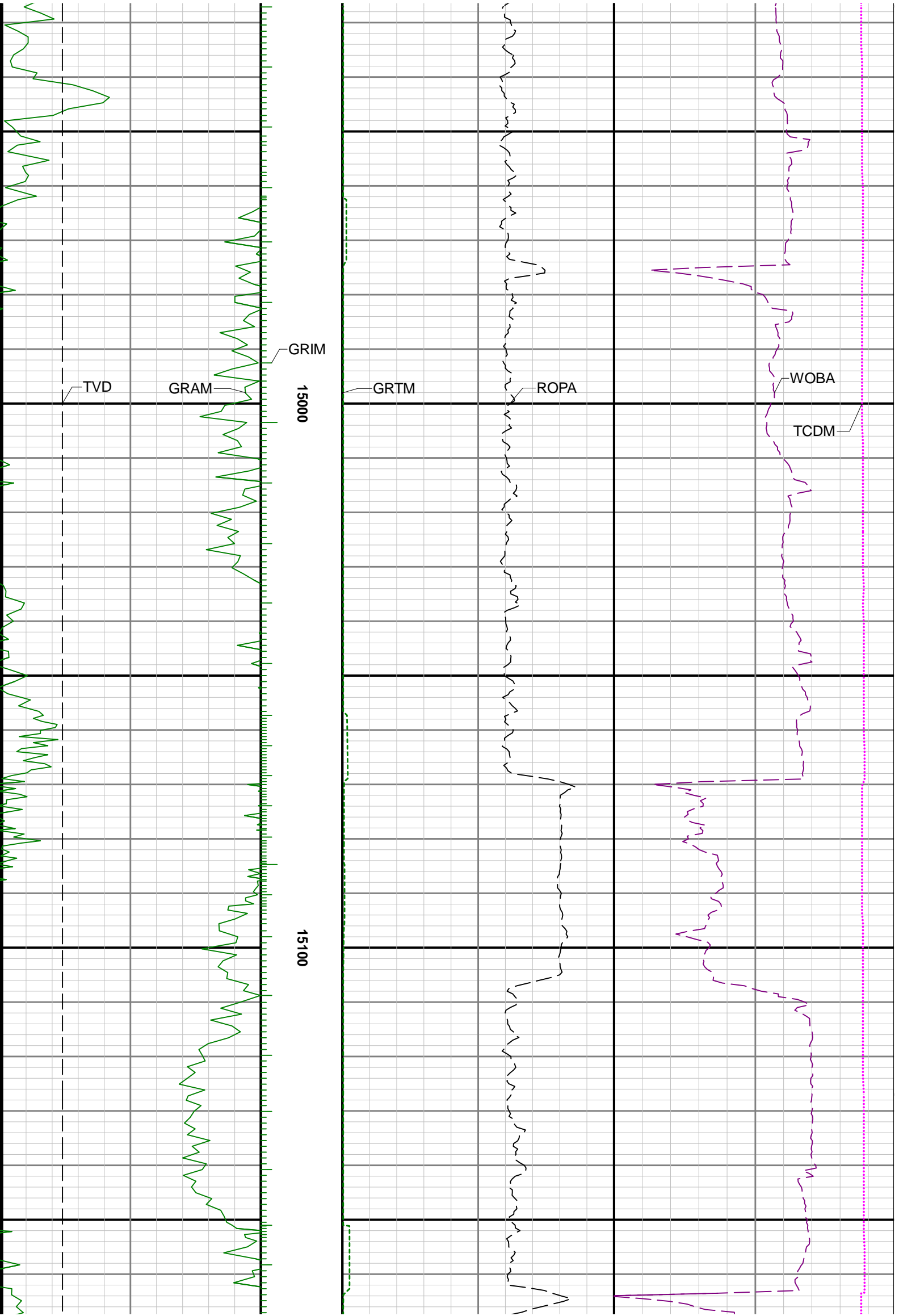
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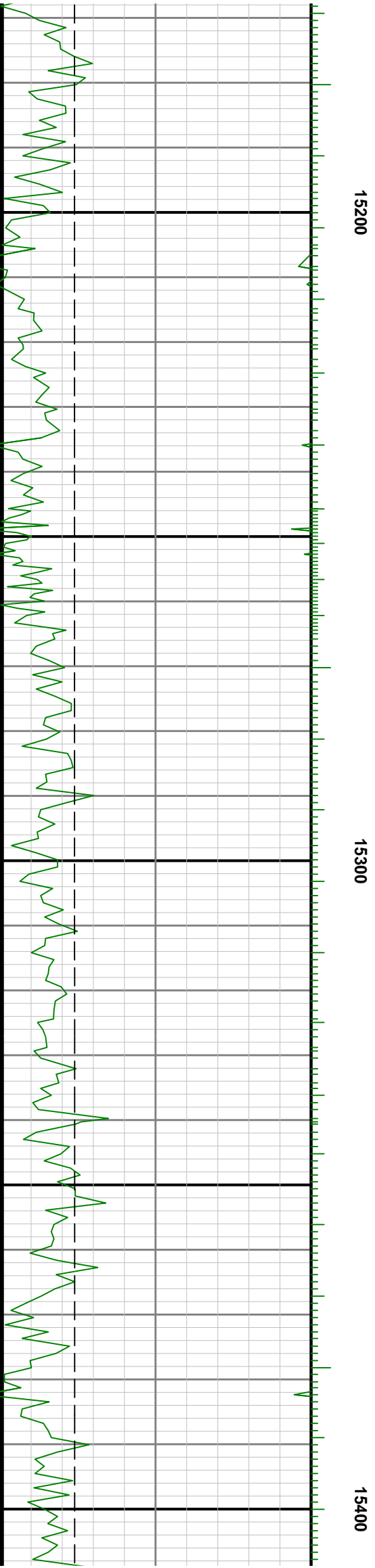
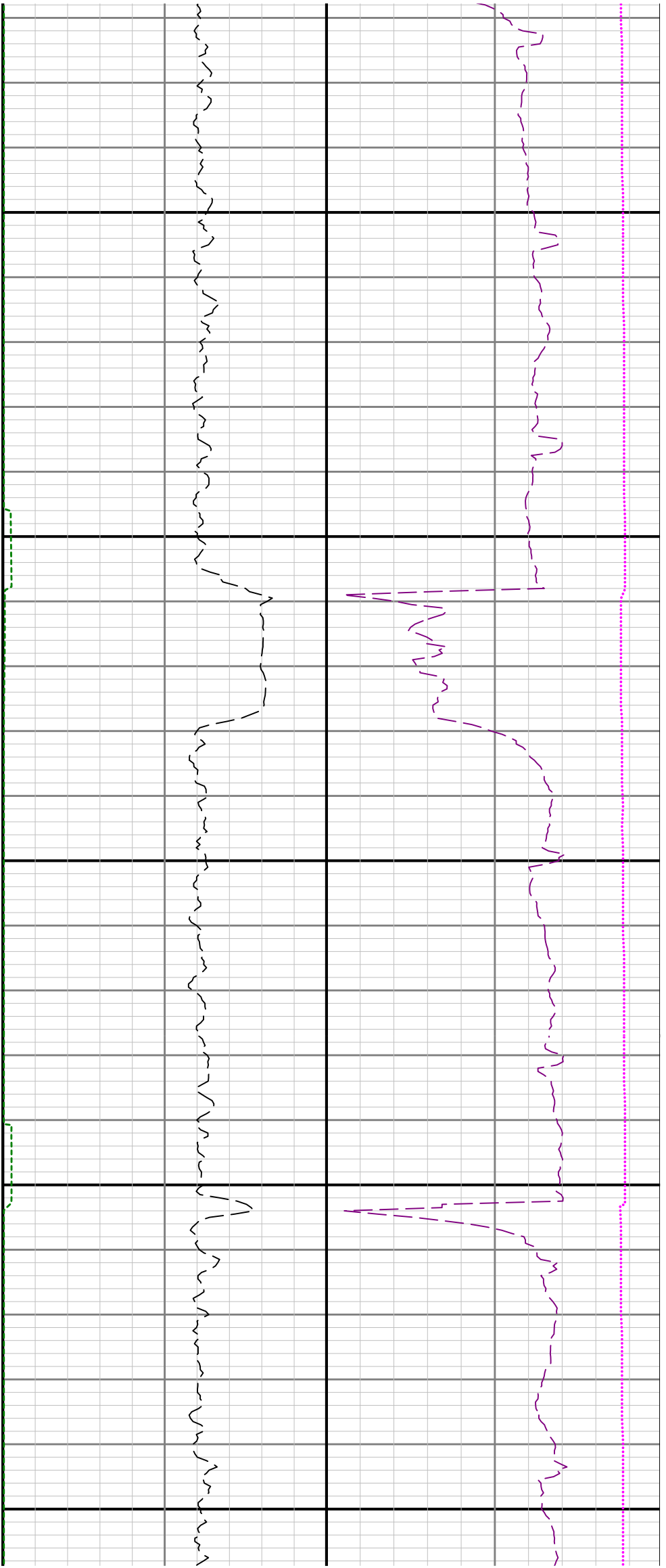
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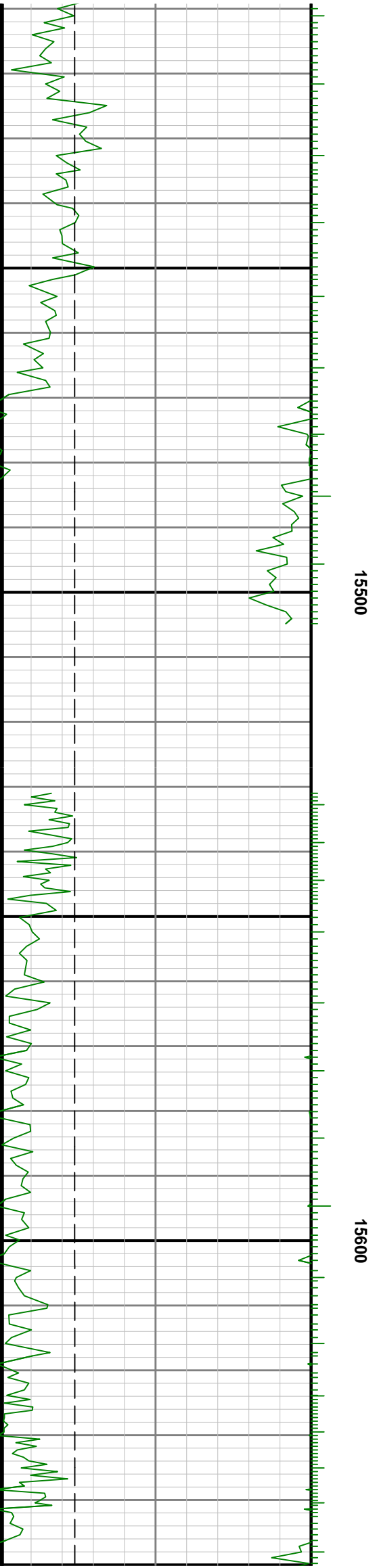
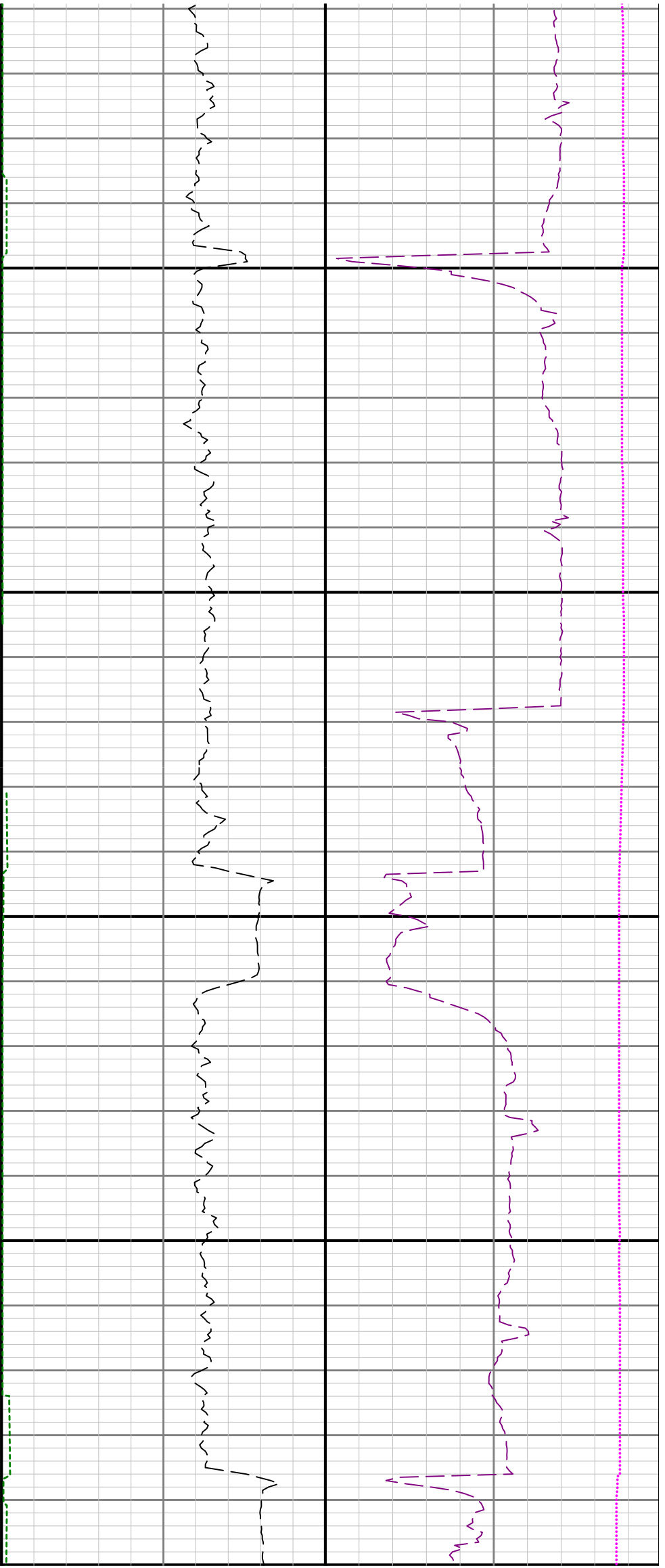


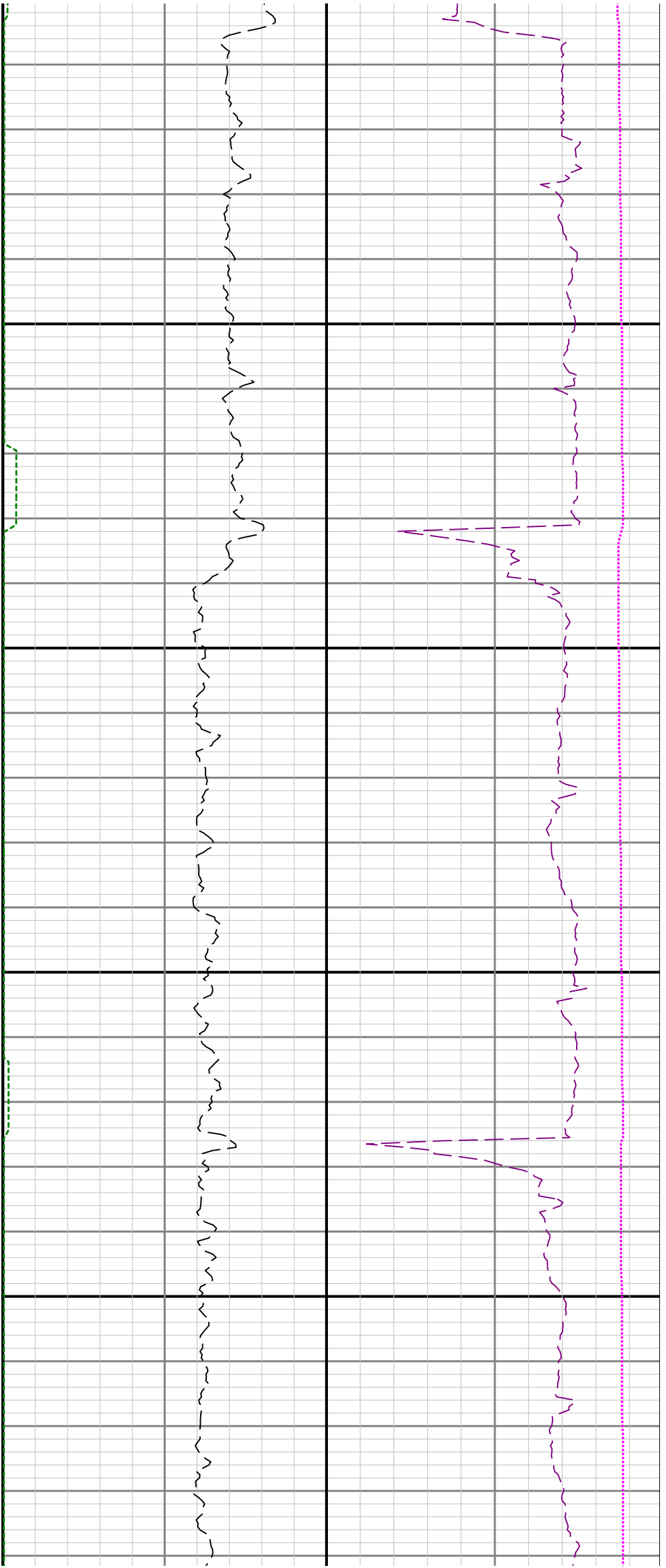












15700

15800

