

		(in)		(in)		(ft)	(ft)	(ft)	(ft)			(h)
1	1	13.500	PDC	4.00	Steerable	0.00	0.00	195.00	1512.00	2018-03-24 14:23	2018-03-24 21:24	5.21
2	2	8.500	PDC	4.00	Rotary Steerable	5000.00	6950.00	1512.00	6963.00	2018-05-01 07:46	2018-05-02 04:42	18.25
3	3	8.500	PDC	4.00	Rotary Steerable	6950.00	15796.00	6963.00	16809.00	2018-05-02 20:54	2018-05-04 22:29	48.52

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Steve Bueghly	2018-03-23	2018-05-05						

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+ (%)
2018-03-24 18:00	1	784.00	Water Based Mud	8.7	32	8	N/A	0/100	Active Pit	600	0.00
2018-04-30 17:00	2	1512.00	Oil Based Mud	9.5	41	N/A	0.0	74.5/25.5	Active Pit	33250	0.00
2018-05-01 17:00	2	3750.00	Oil Based Mud	8.7	40	N/A	0.0	77.5/22.5	Active Pit	33000	0.00
2018-05-02 22:00	3	7043.00	Oil Based Mud	9.0	39	N/A	0.0	75/25	Active Pit	34000	0.00
2018-05-03 20:00	3	12386.00	Oil Based Mud	9.5	39	N/A	0.0	73/27	Active Pit	34000	0.00
2018-05-04 17:00	3	16809.00	Oil Based Mud	9.6	42	N/A	0.0	12.5/87.5	Active Pit	34000	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	NaviTrak	1371947	Directional (mag)	15.12	51.02	8.000	0.000
1	NaviTrak	1371947	VSS	15.12	51.02	8.000	0.000
2	ATC_SU	14178991	Near Bit VSS	5.93	6.93	7.000	4.330
2	ATC_SU	14178991	Near Bit Inclination	5.93	6.93	7.000	4.330
2	ATC_MWD	14313851	Gamma (single)	2.76	13.10	7.000	3.250
2	ATC_MWD	14313851	Directional (mag)	12.27	22.61	7.000	3.250
3	ATC_SU	14388856	Near Bit VSS	5.93	6.93	7.000	4.330
3	ATC_SU	14388856	Near Bit Inclination	5.93	6.93	7.000	4.330
3	ATC_MWD	13012733	Gamma (single)	2.76	13.10	7.000	3.250
3	ATC_MWD	13012733	Directional (mag)	12.27	22.61	7.000	3.250

Service and Tool Mnemonics

Mnemonic	Name	Description
NTK	NaviTrak	Probe Based Directional Module, NaviTrak Platform
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 the lack of control by Baker Hughes, depth calibrations and measurements could not be independently verified.
2	Baker Hughes LWD Run 1 used the 8 inch NaviTrak service (Directional) behind an 13 1/2 inch bit and Mud Motor assembly to drill from 195 to 1512 feet MD (195 to 1512 feet TVD). No logging data was acquired through out this run.
3	Baker Hughes LWD Run 2 and 3 used the 6 3/4 inch NaviGamma service (Gamma Ray, Azimuthal Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly to drill from 1512 to 16809 feet MD (1512 to 6304 feet TVD).

- 4

The Gamma Ray Apparent (GRAM) data is presented from 0 to 200 API, per customer's request.
- 5

Realtime Gamma Ray data is displayed from 5000 to 16809 feet MD (4682 to 6304 feet TVD) due to an error in the AutoTrak curve memory module. Gaps in data throughout this section are due to surveying and downlinking while drilling ahead.

Remarks


Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	5000.00	8.500	2	The Gamma Ray Apparent (GRAM) log starts at 5000 feet, per customer's request.
2	16800.00	8.500	3	The interval from 16796 to 16809 feet MD (6304 feet TVD) was not logged due to sensor to bit offset at well TD.

Curve Mnemonics

Presented Curves	Description	Units
GRADX	Gamma Ray - Apparent - Down Quadrant - Real-Time	API
GRAUX	Gamma Ray - Apparent - Up Quadrant - Real-Time	API
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

BAKER
HUGHES

a GE company



Company

Well

Interval

Created

Bonanza Creek Oil Company

State North Platte U41-35-1XRLNB

Date From: 2018-05-01 15:19:55

Date To: 2018-05-04 09:56:15

2018-05-05 22:43:53

Top: 5000.00

Bottom: 16809.00

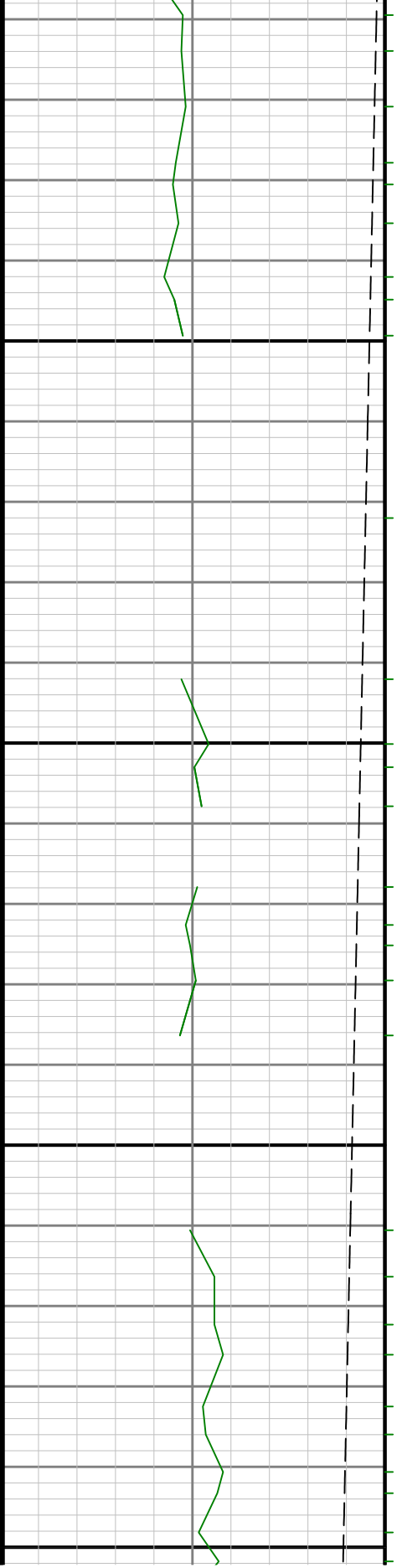
<div>True Vertical Depth TVD</div> <div>65004650</div> <div>ft</div> <div>Gamma Ray - Apparent 0.5 ft Average GRAX</div> <div>0200</div> <div>API</div> <div>Azimuthal Gamma Ray - Apparent Up Quadrant 0.5 ft Average GRAUX</div> <div>0200</div> <div>API</div> <div>Azimuthal Gamma Ray - Apparent Down Quadrant 0.5 ft Average GRADX</div> <div>0200</div> <div>API</div>	MD 1:240 feet	<div>Depth Averaged ROP 3 ft Average ROPA</div> <div>10000</div> <div>ft/h</div> <div>Gamma Time Since Drilled GRTX</div> <div>0600</div> <div>min</div>	<div>Weight On Bit, Average 1 ft Average WOBA</div> <div>0100</div> <div>klb</div> <div>Downhole Temperature TCDX</div> <div>0300</div> <div>degF</div>

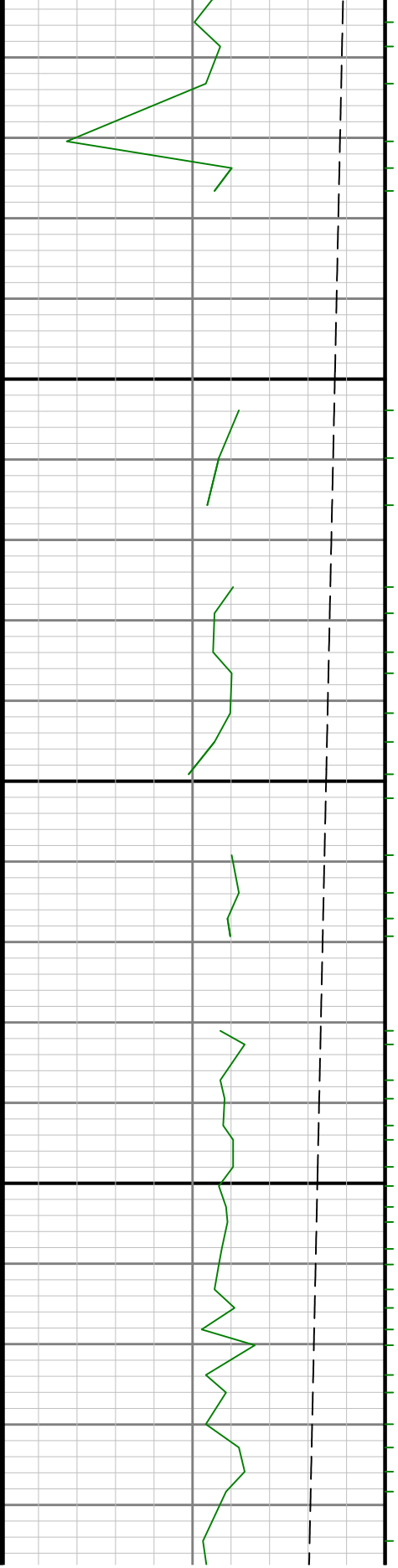
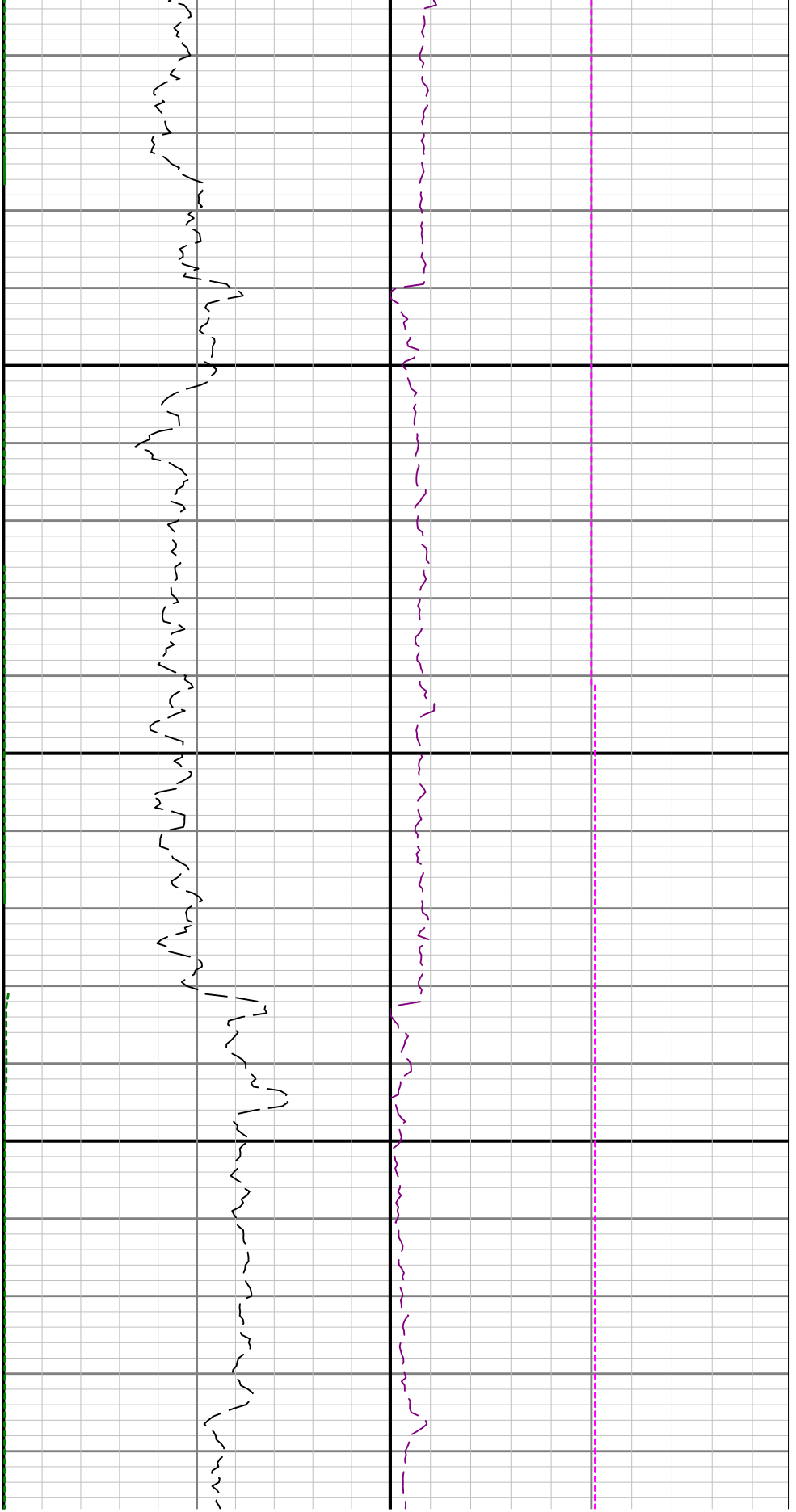
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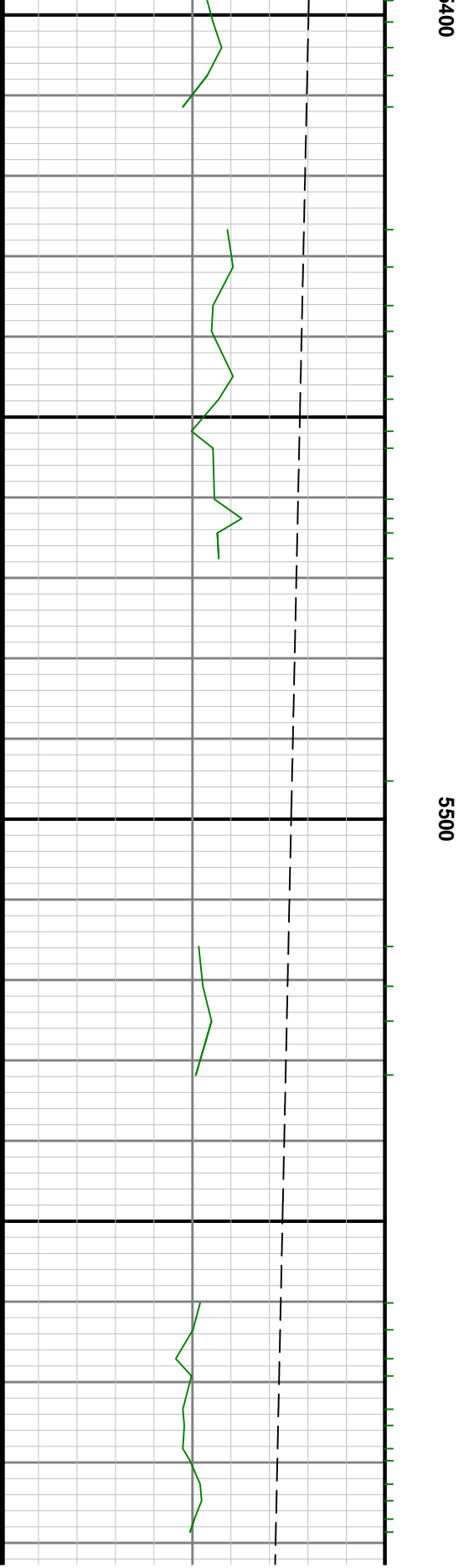
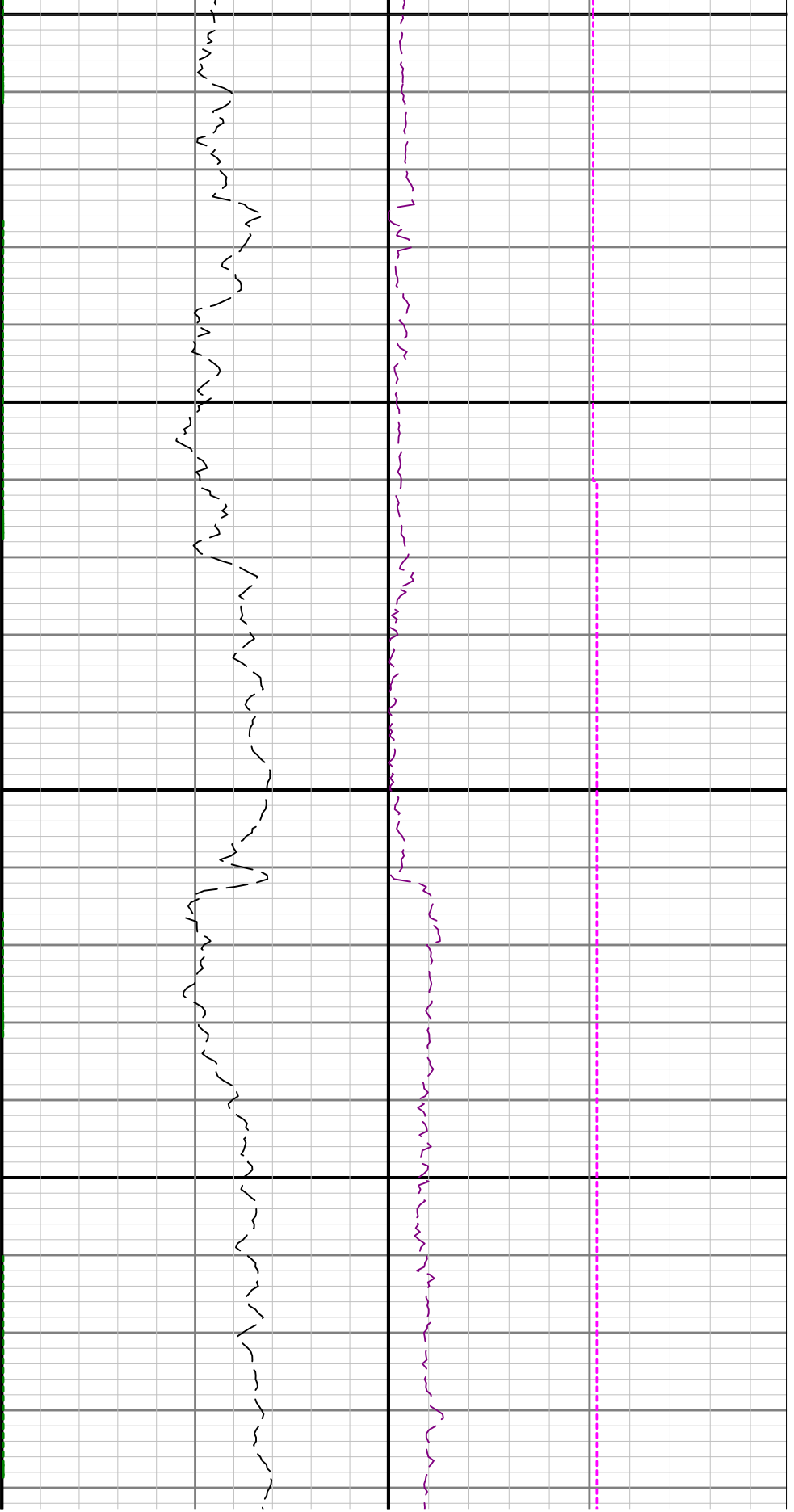


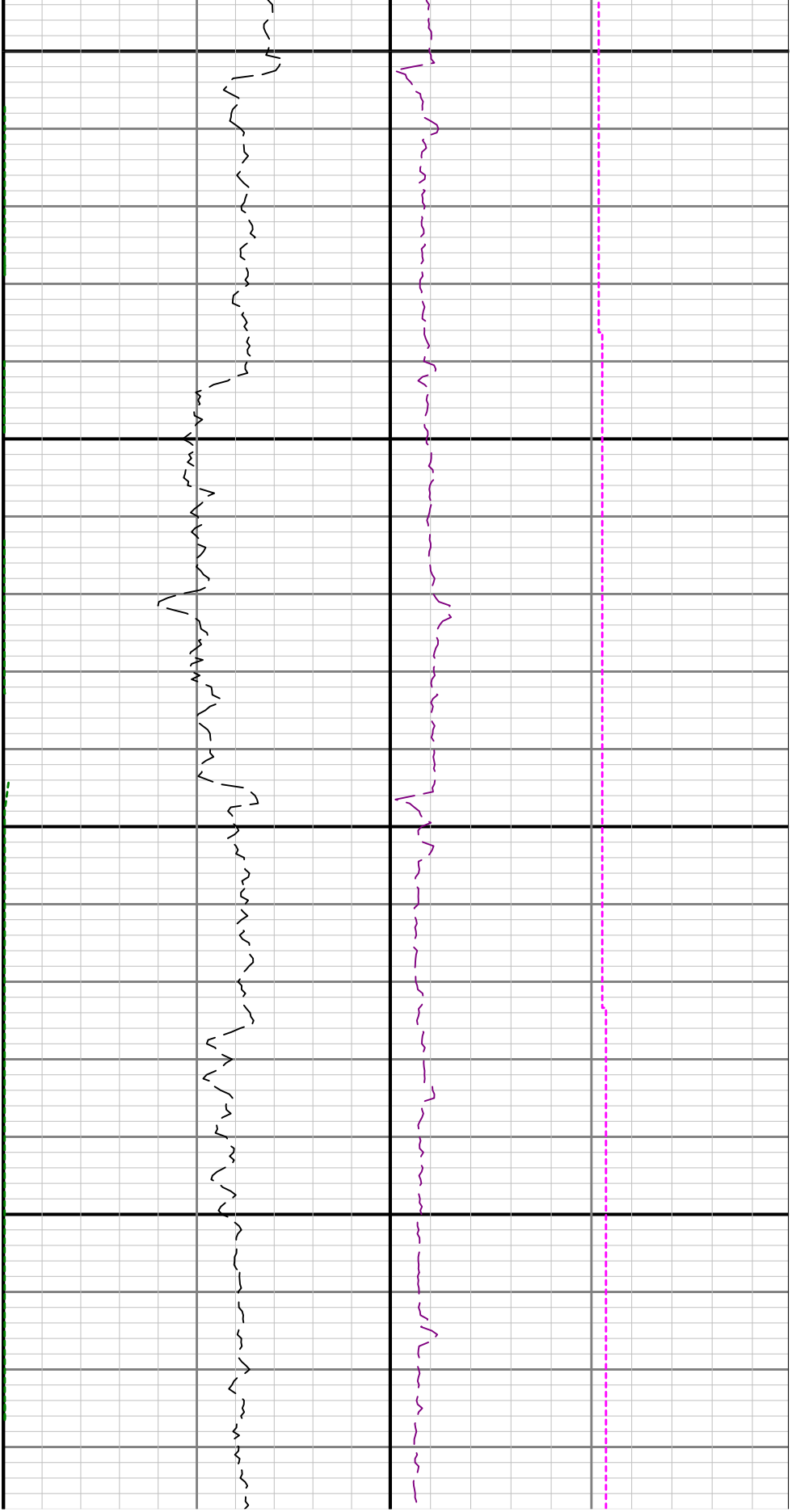
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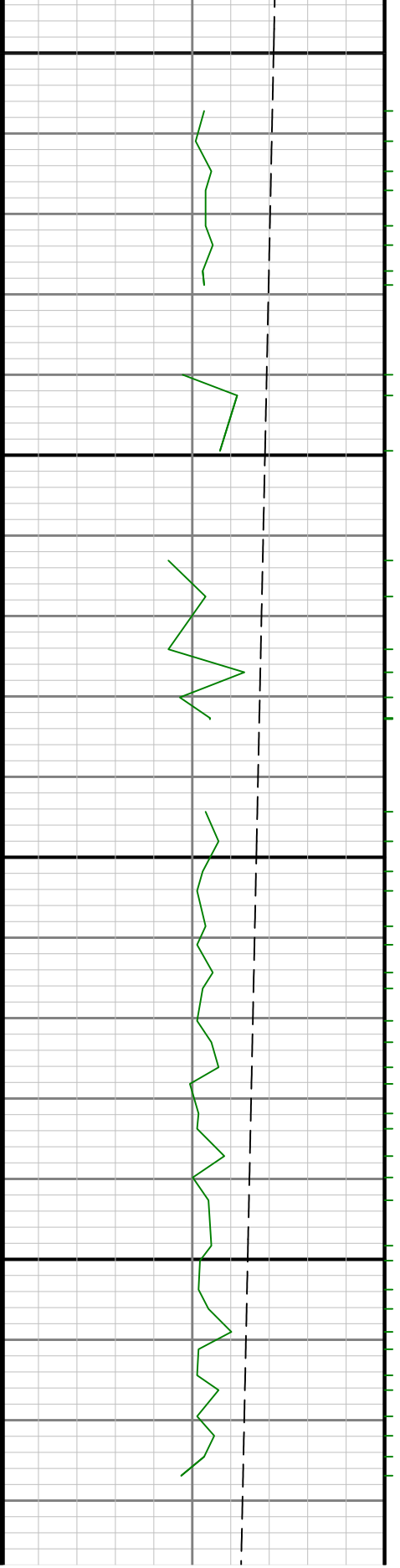


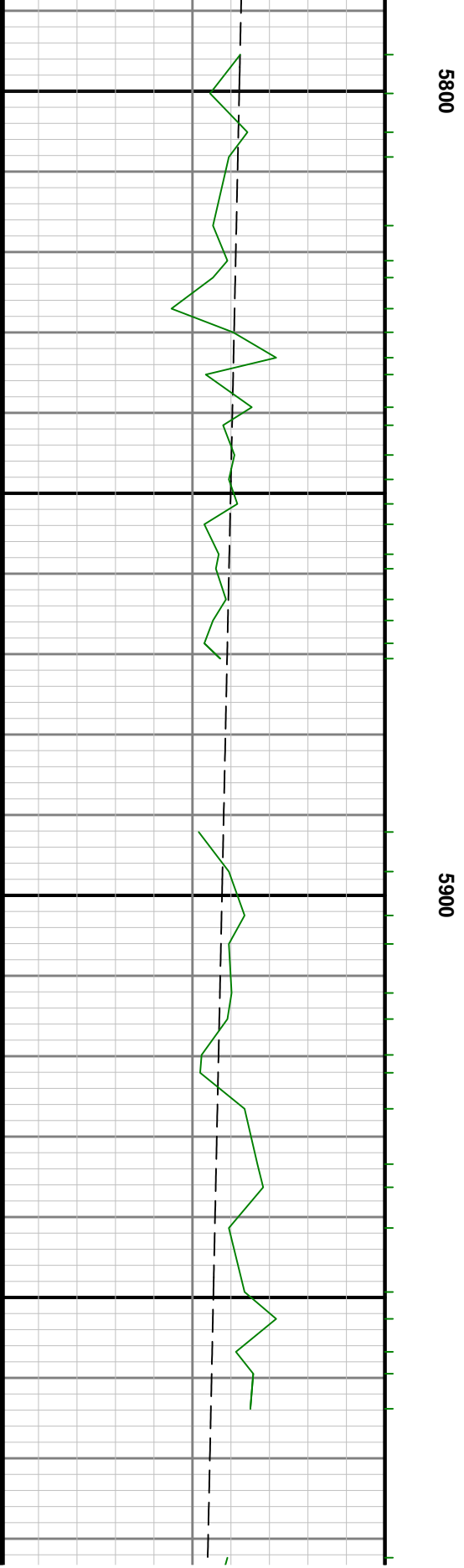
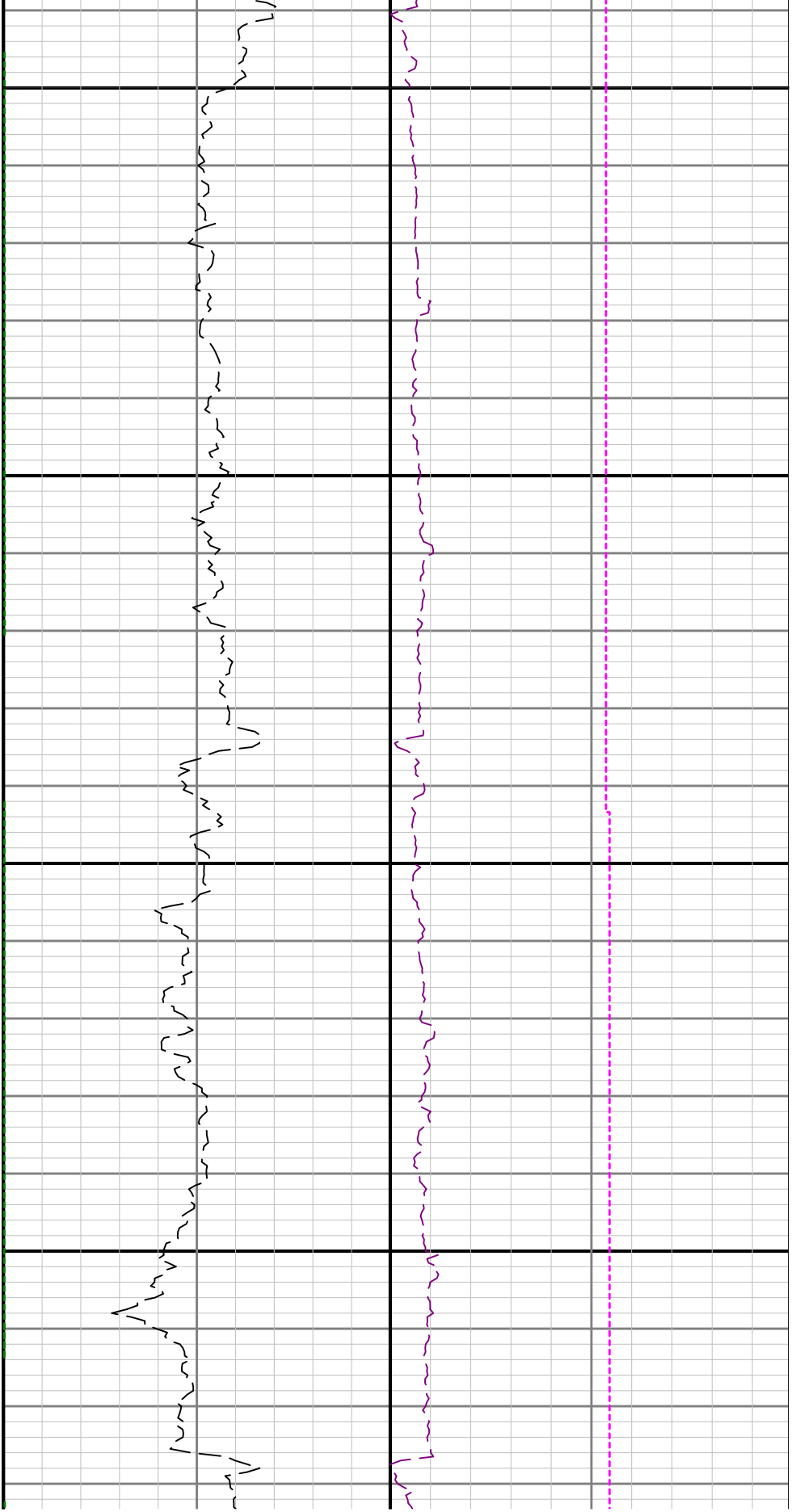


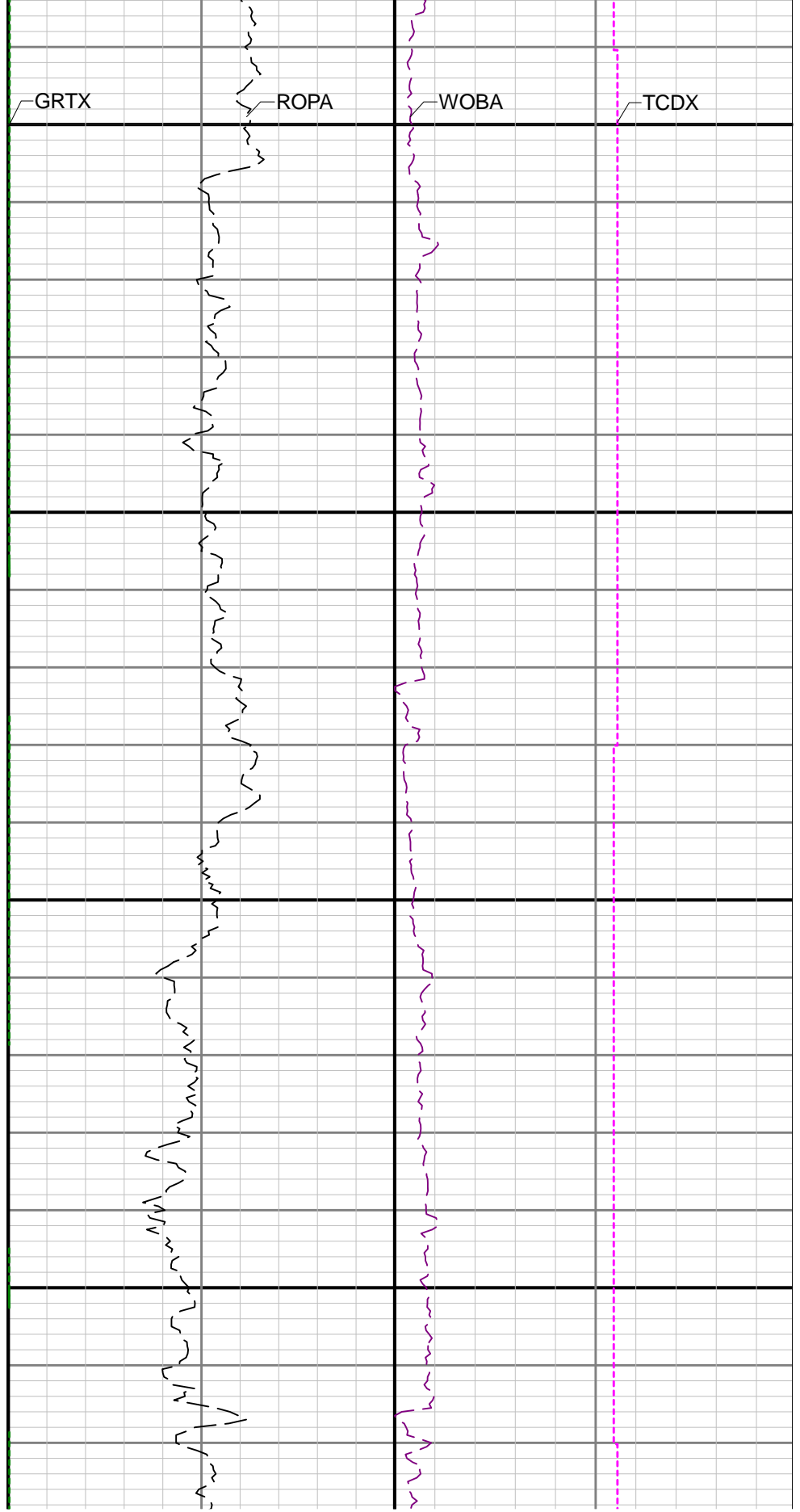
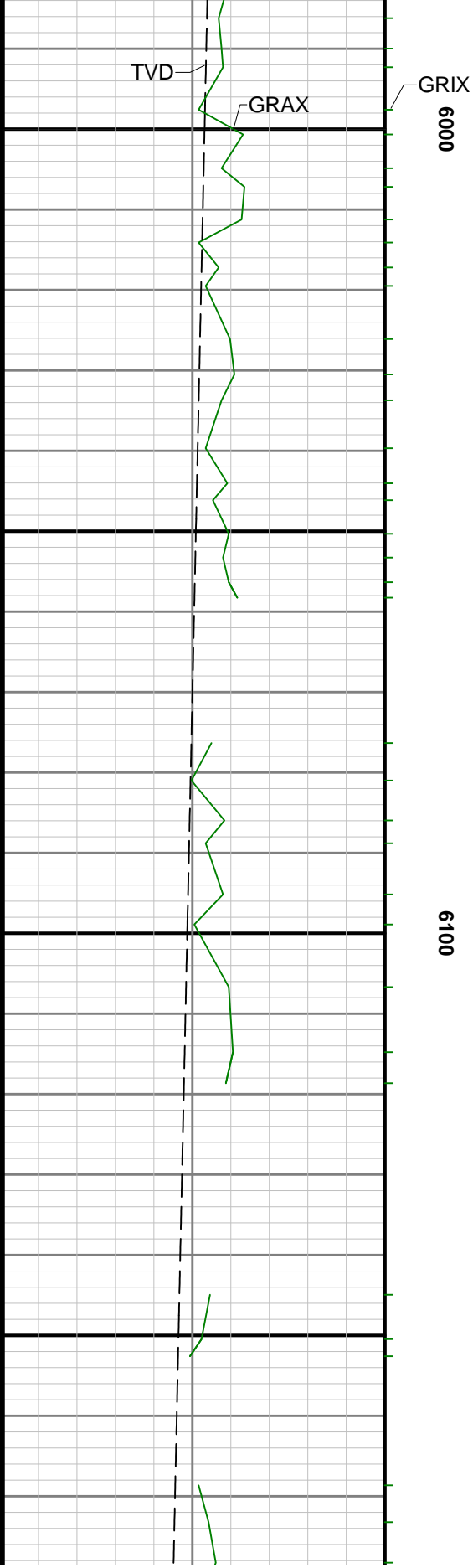


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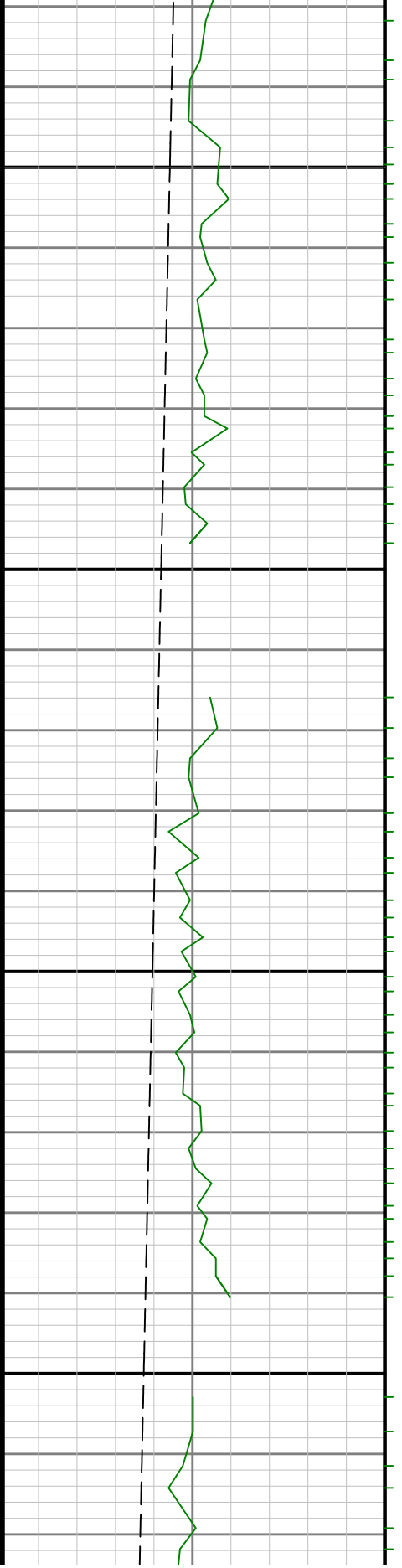


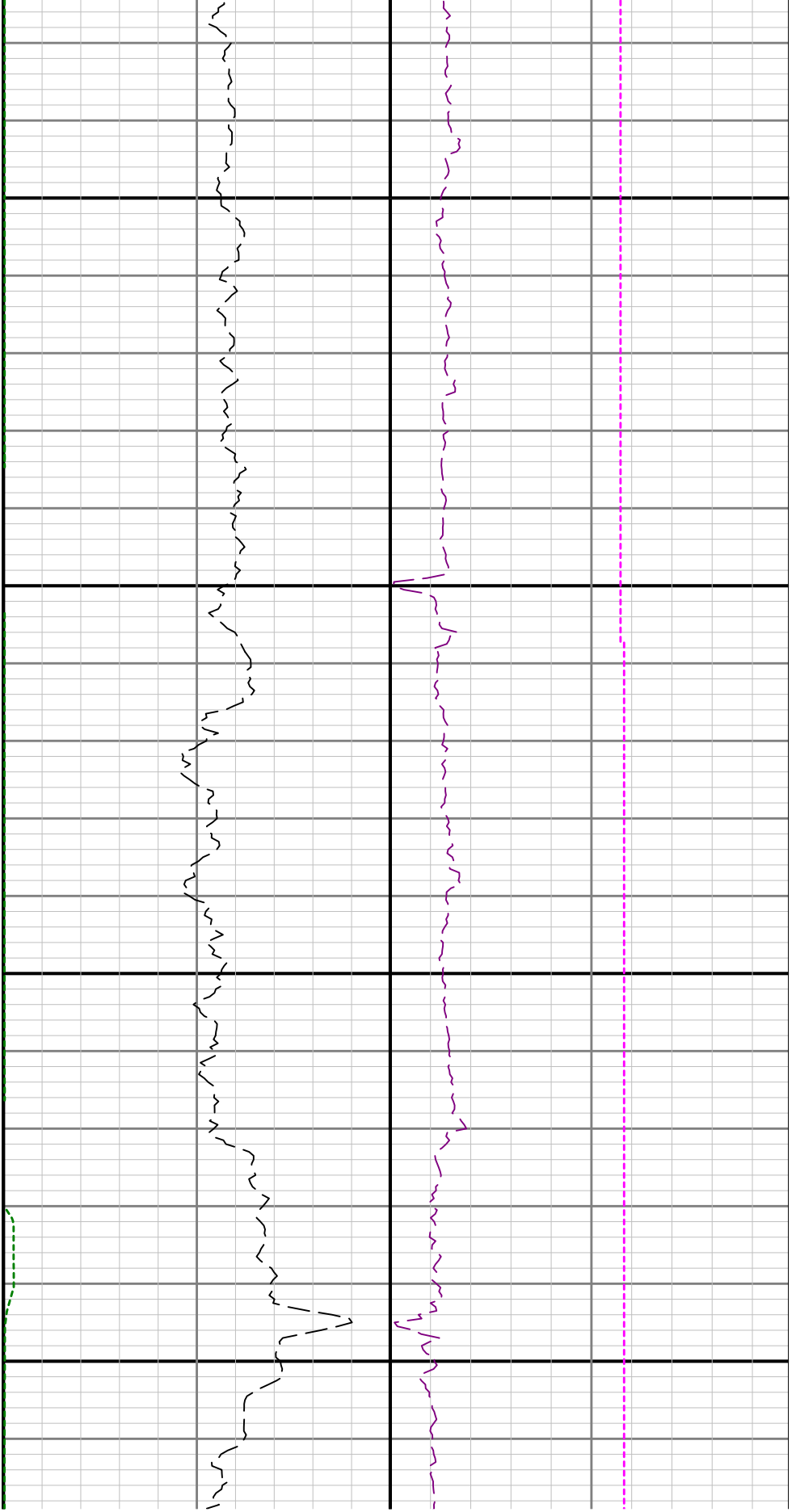




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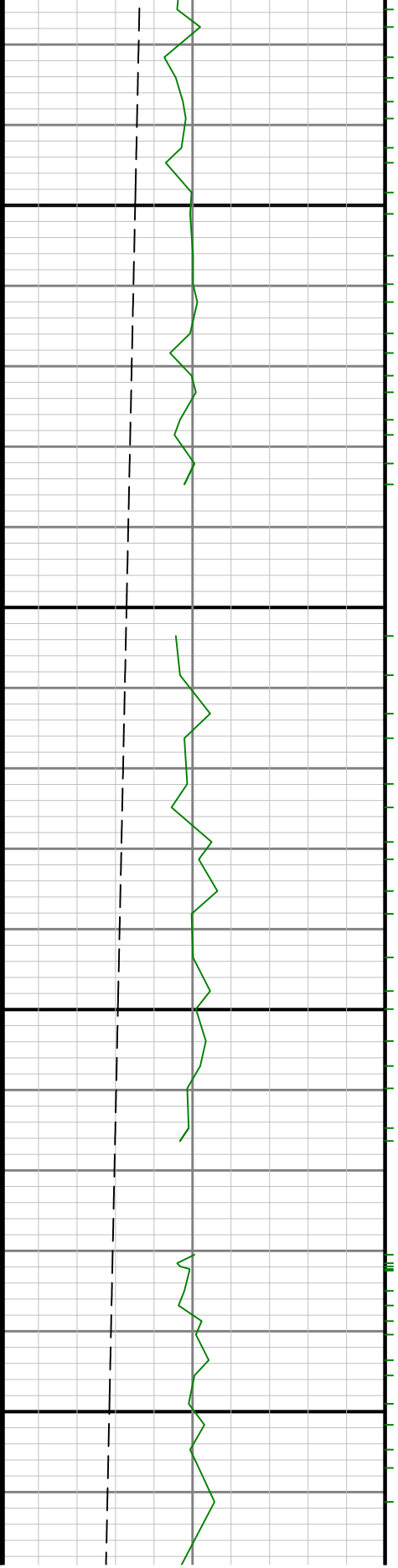
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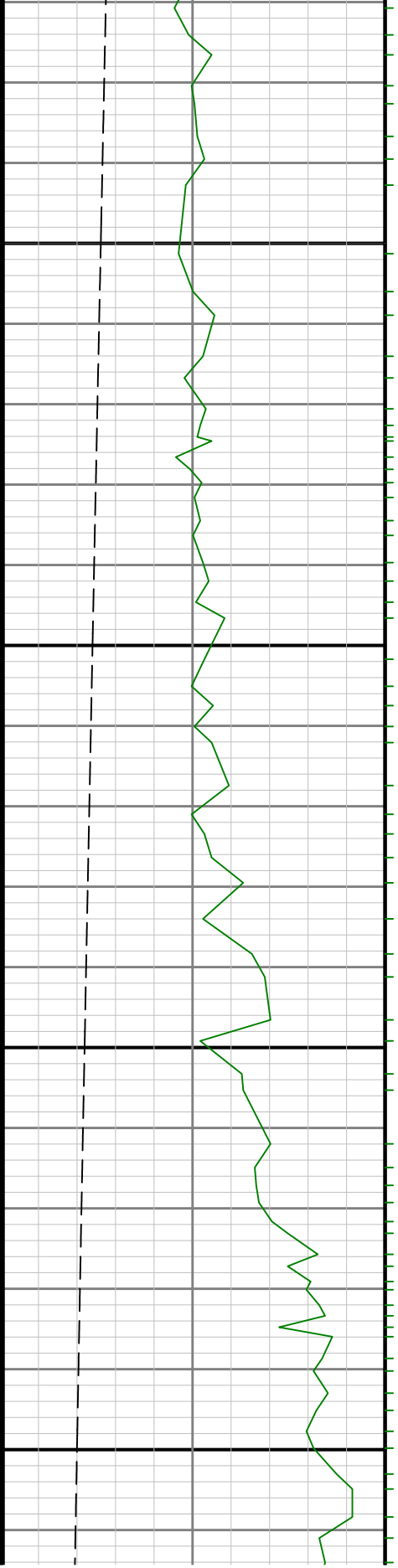




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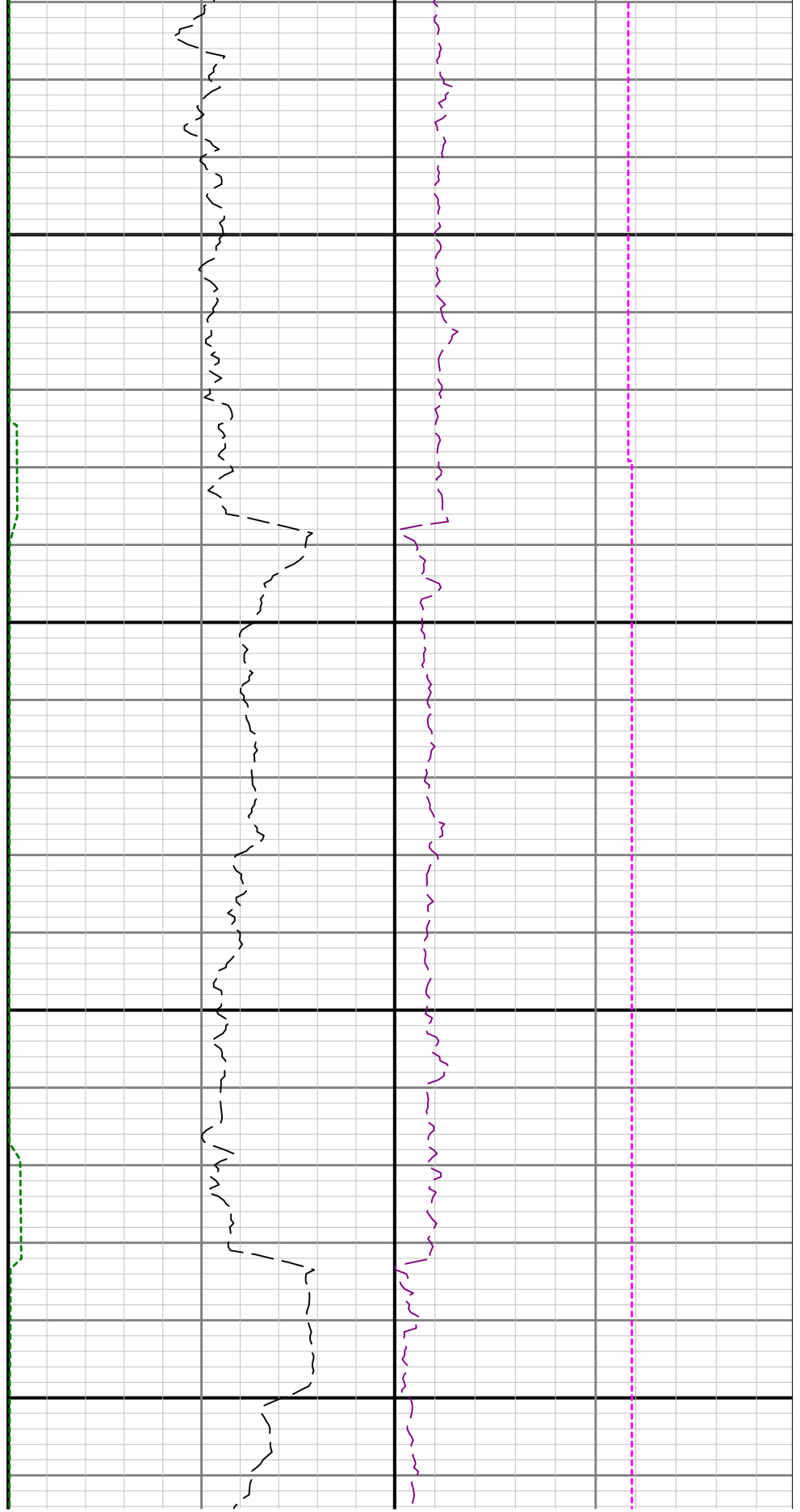


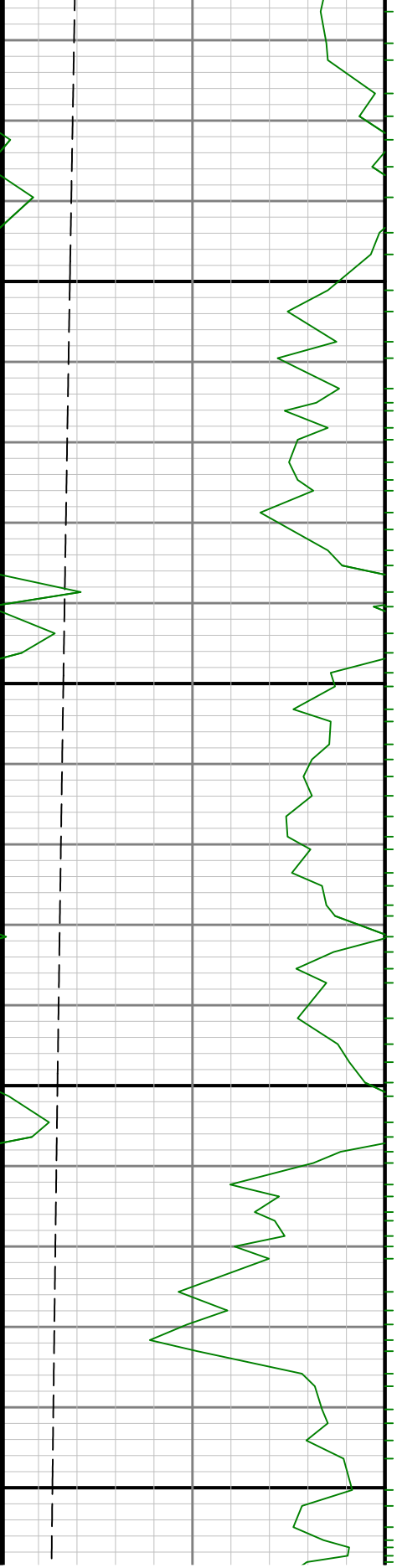


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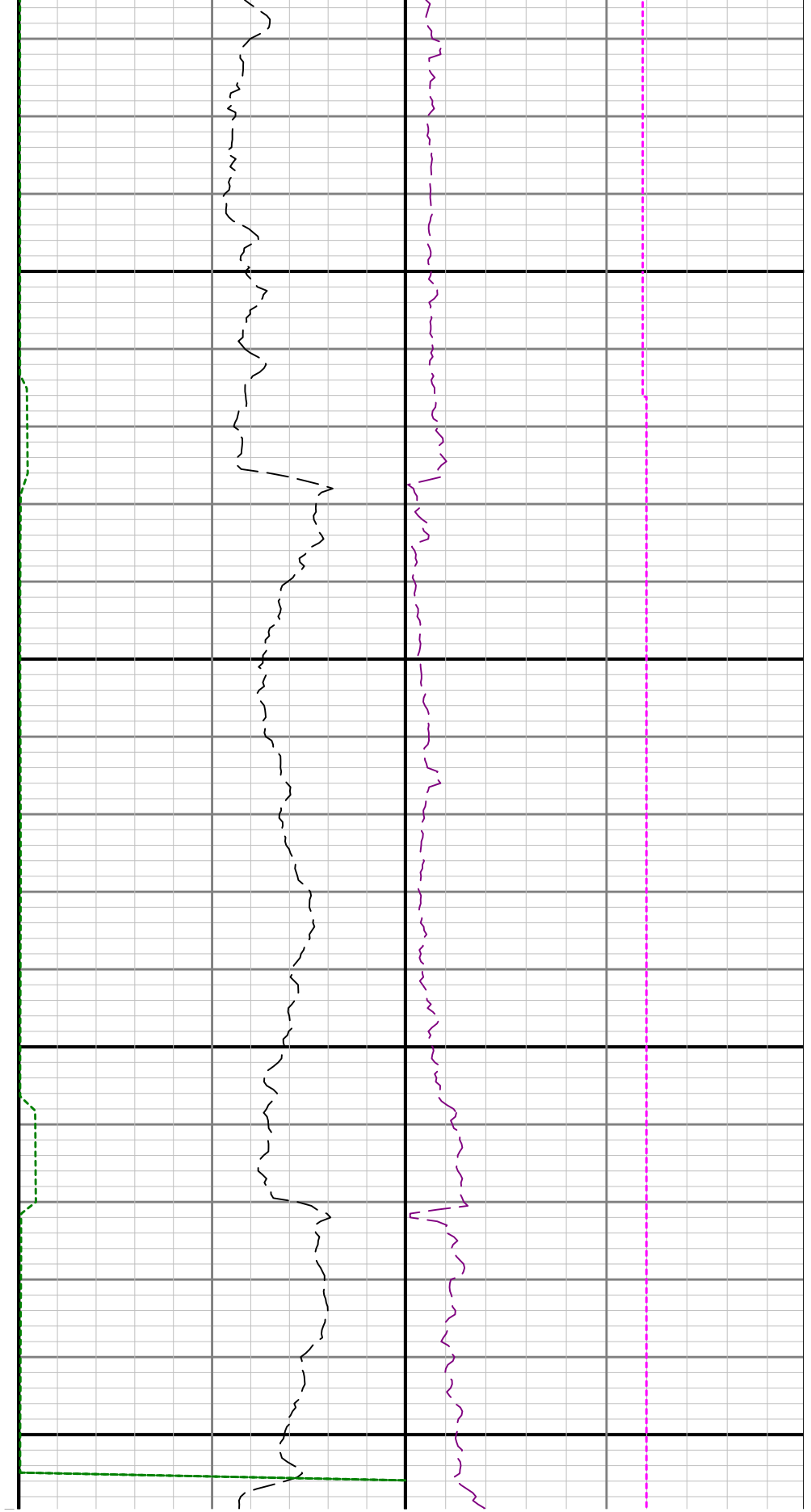
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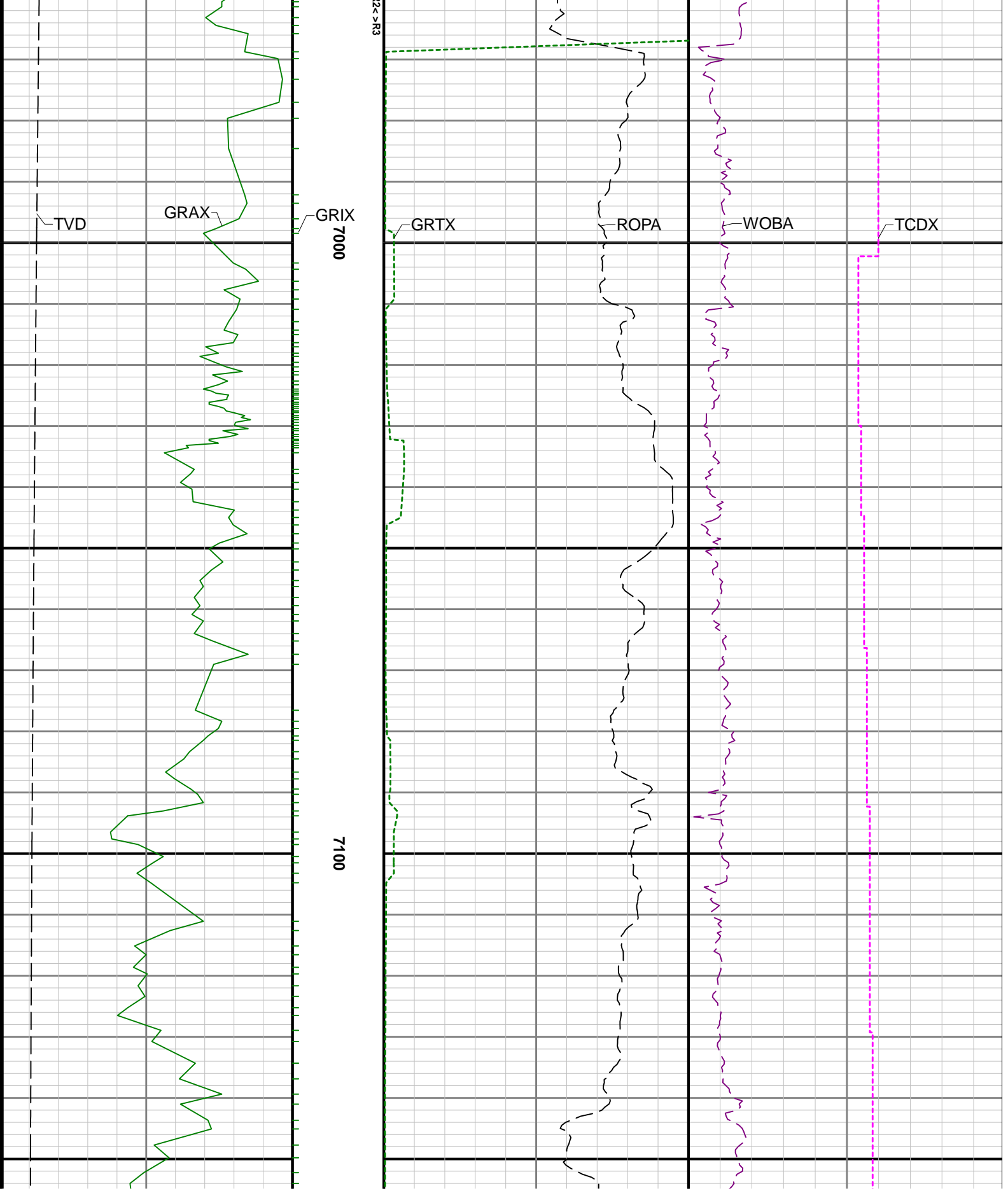


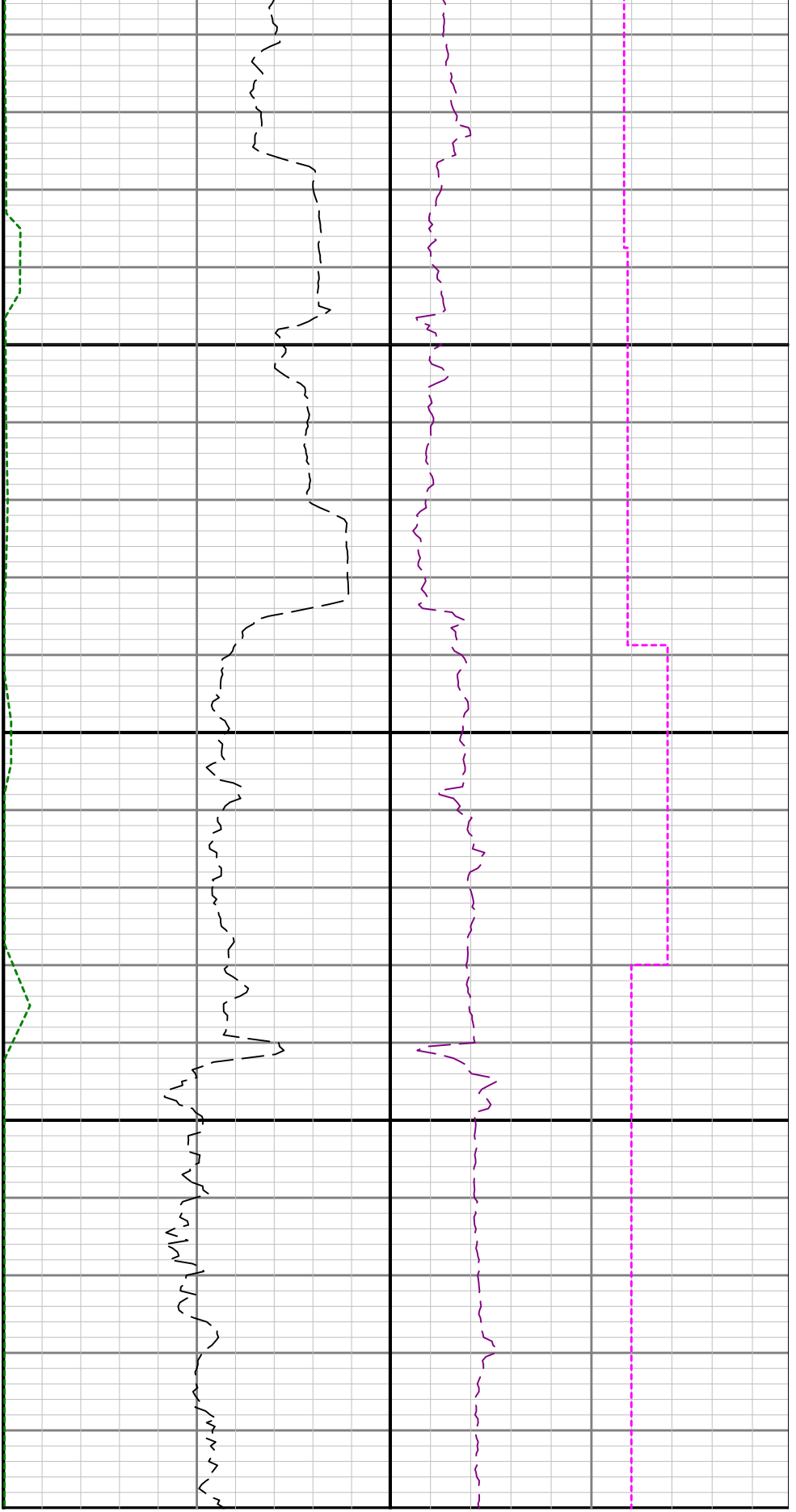


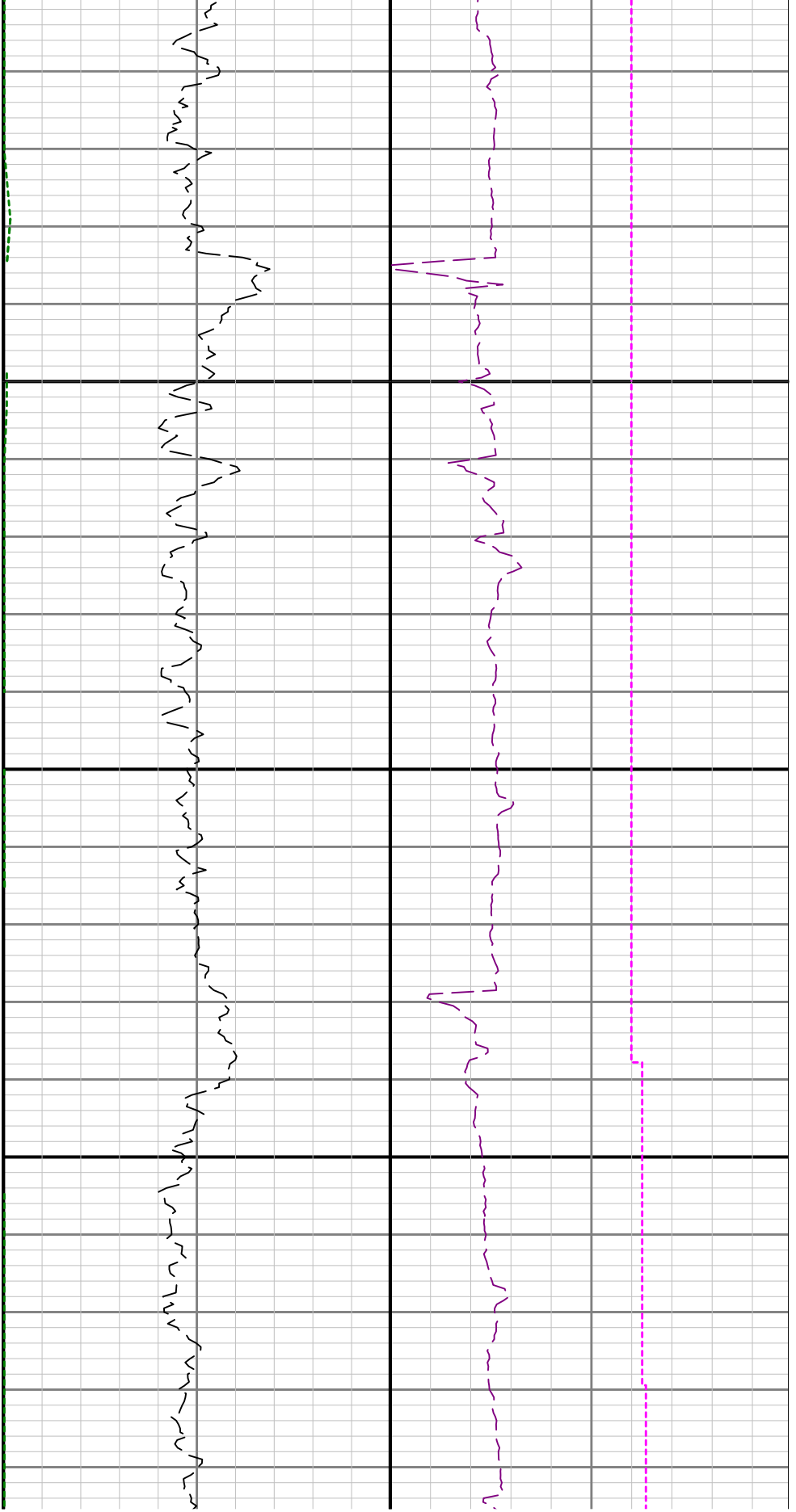
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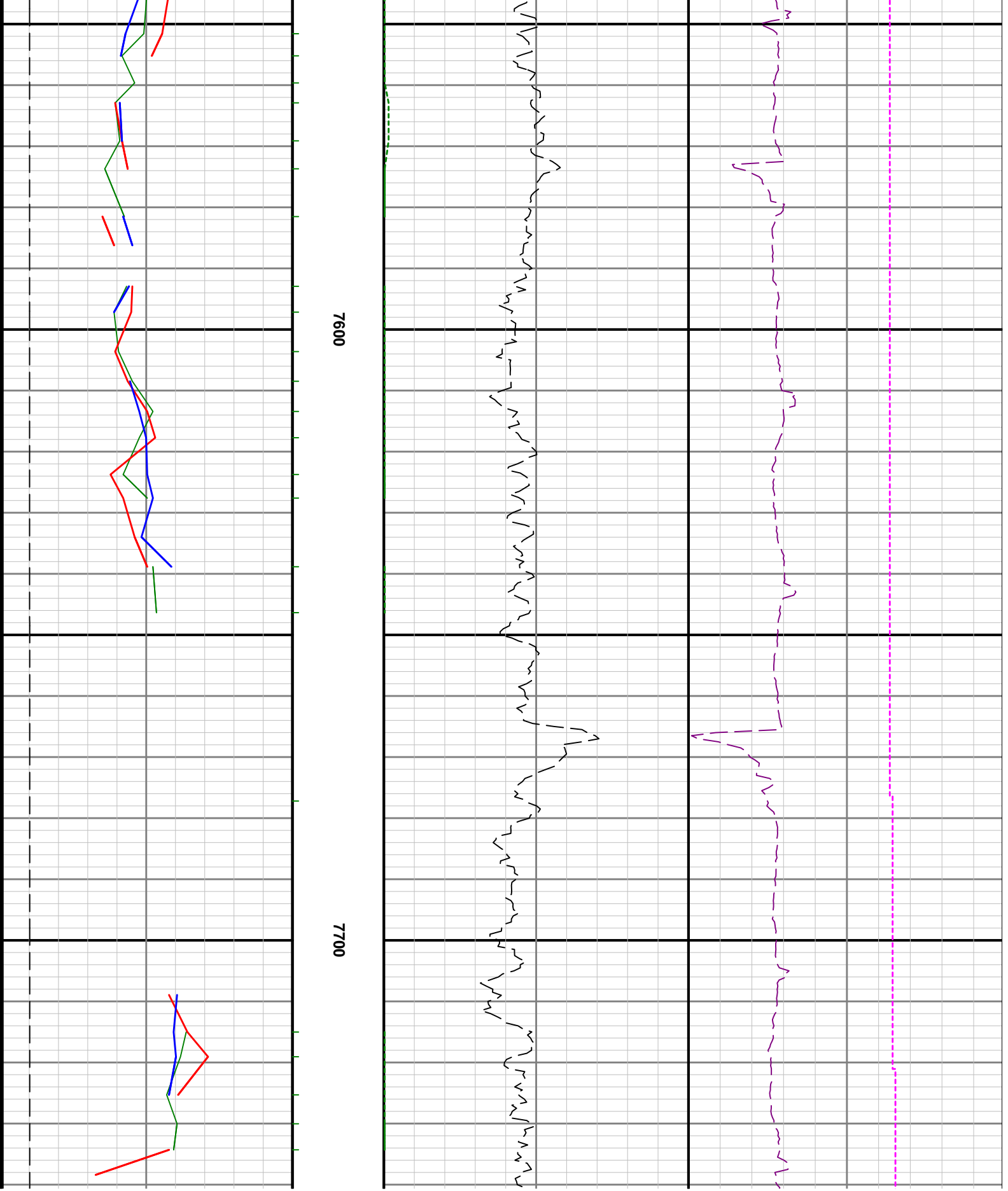
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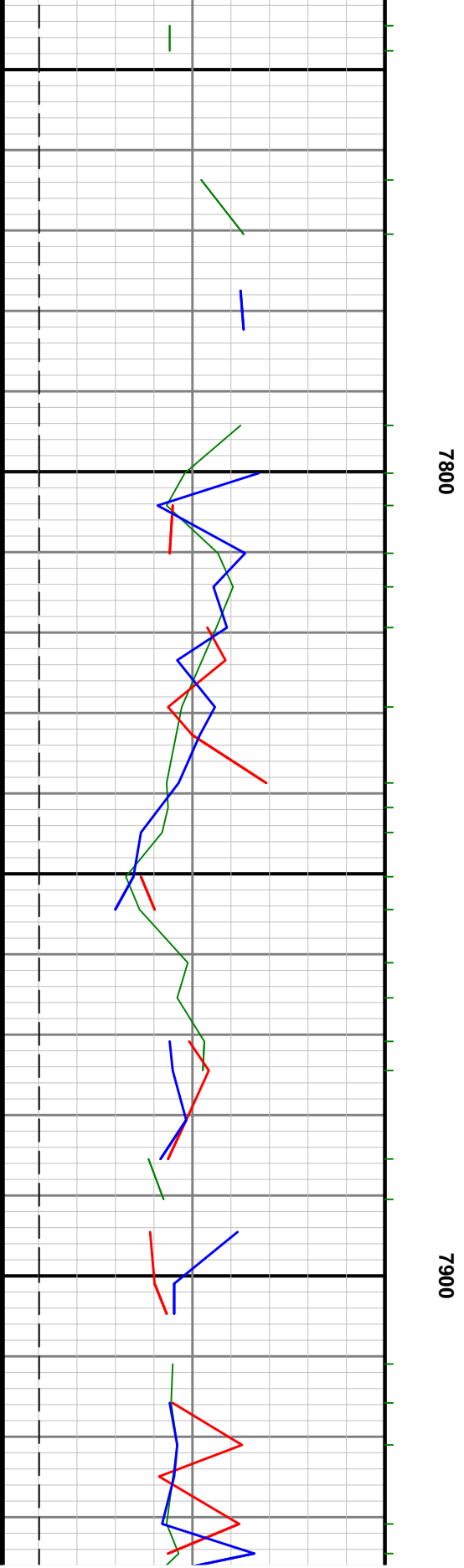
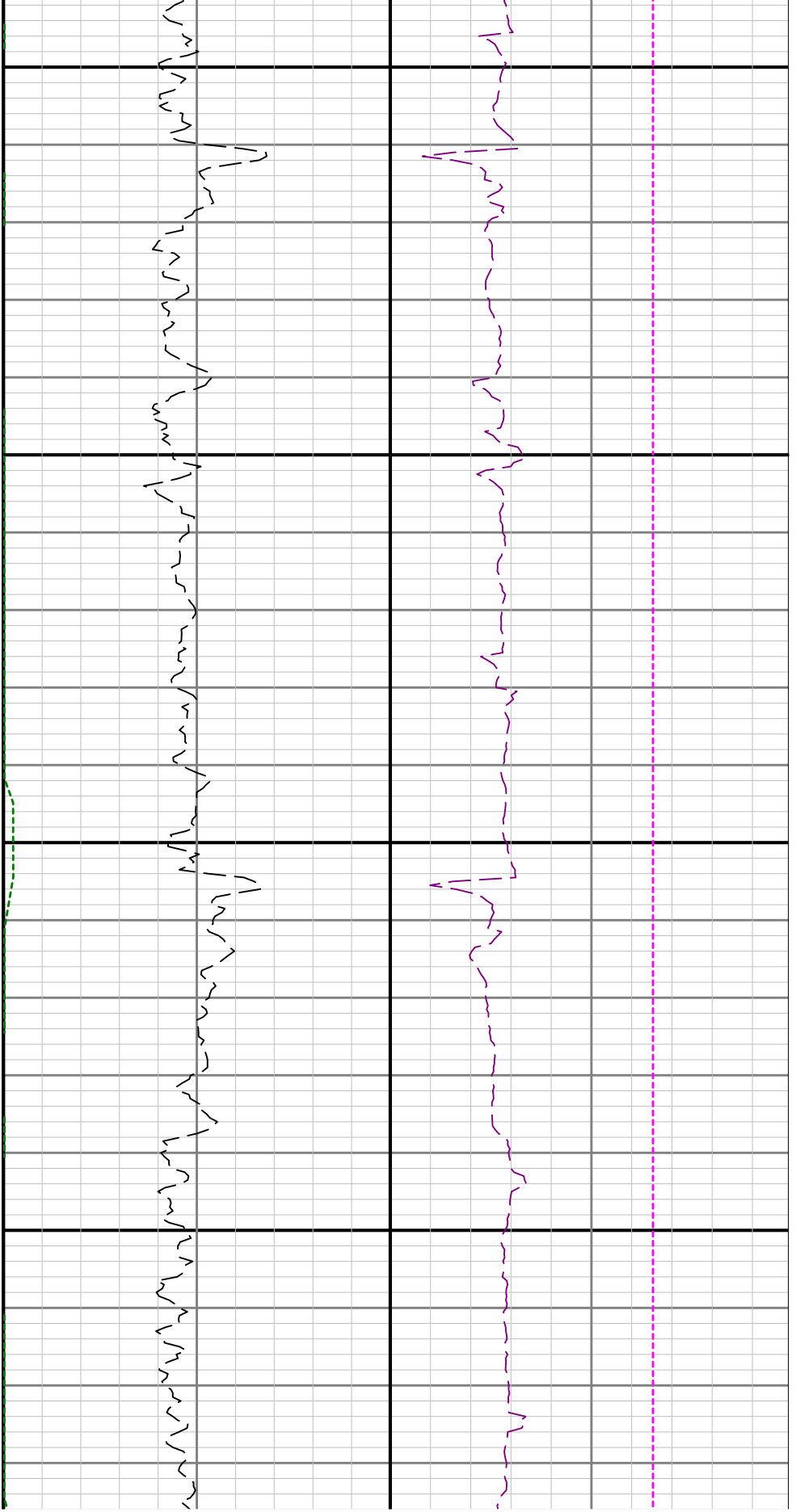


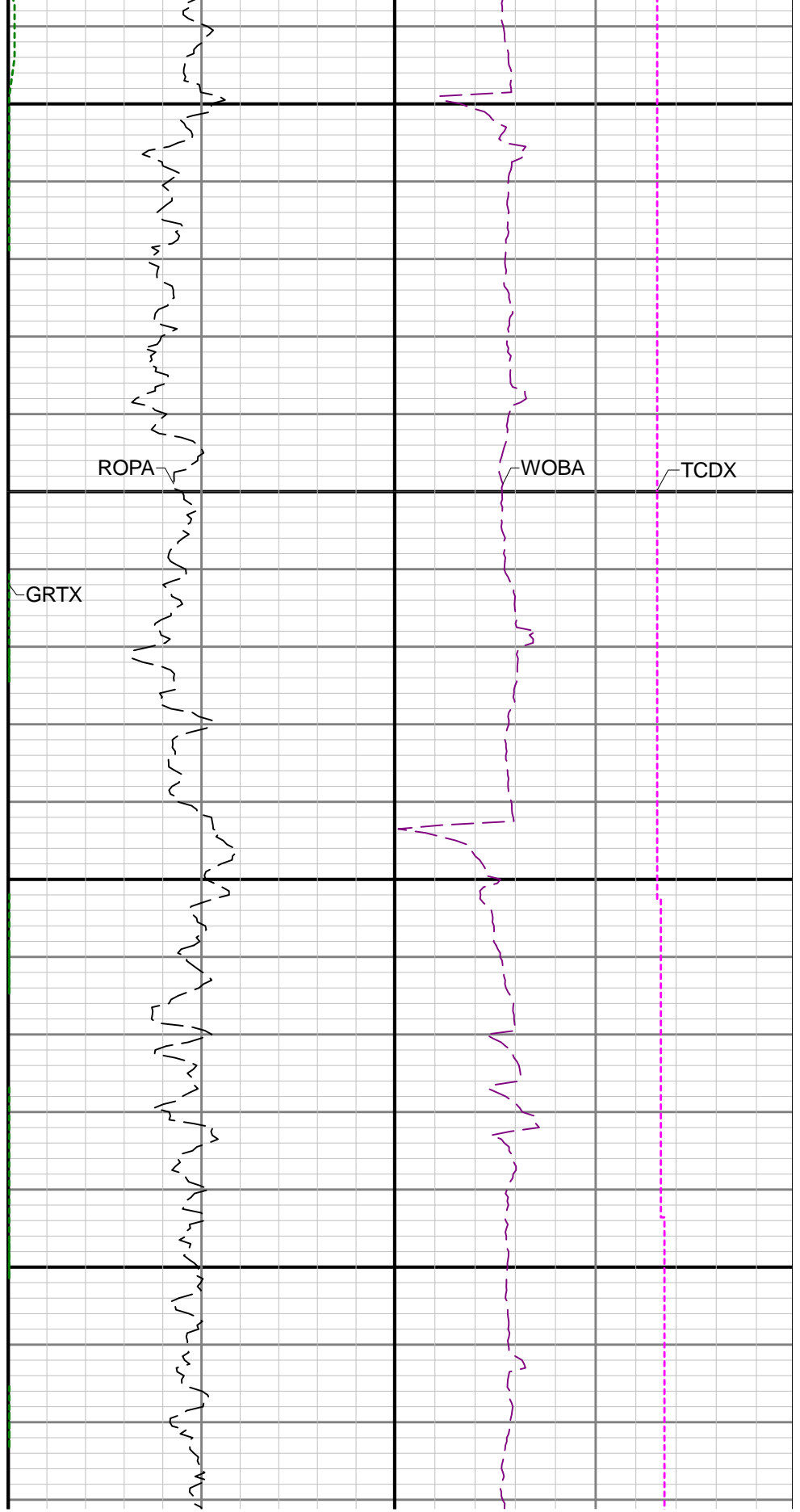
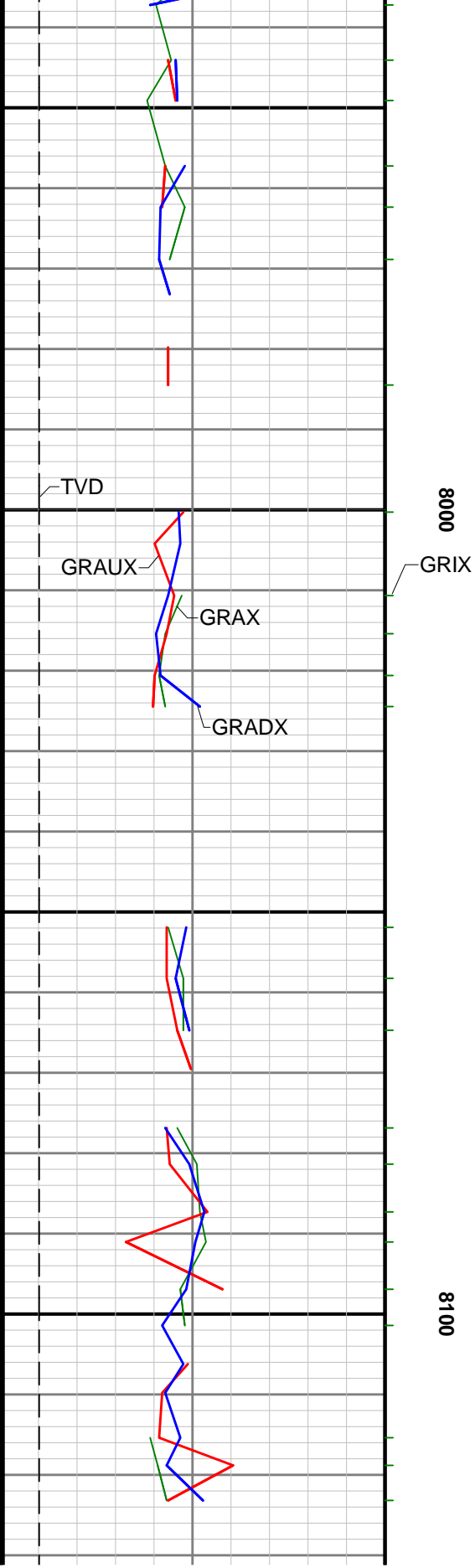


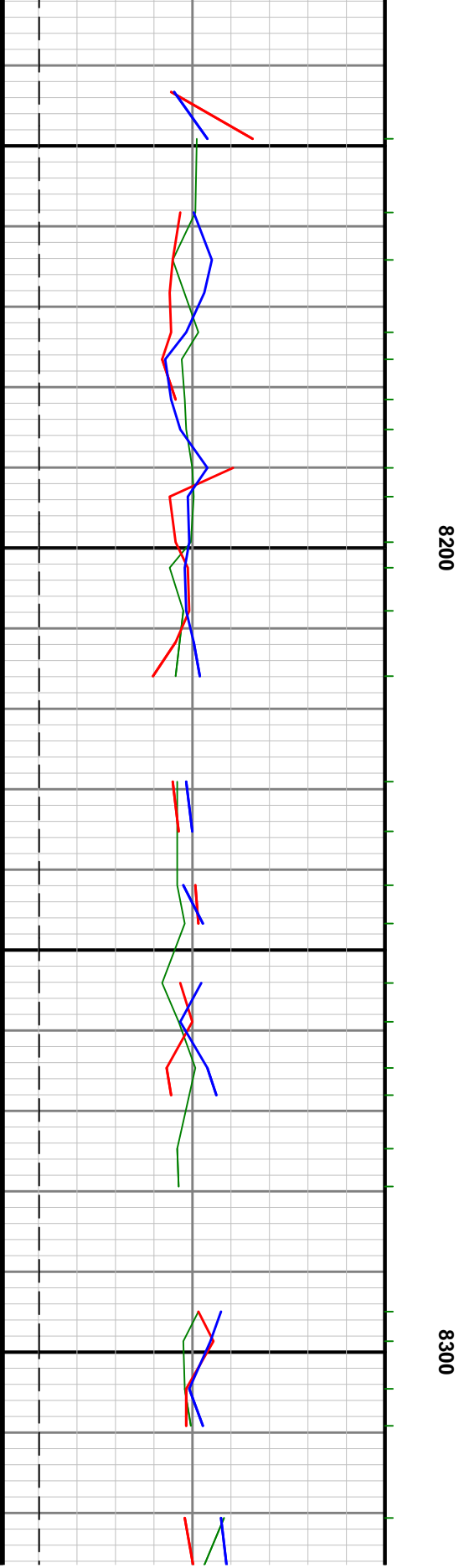
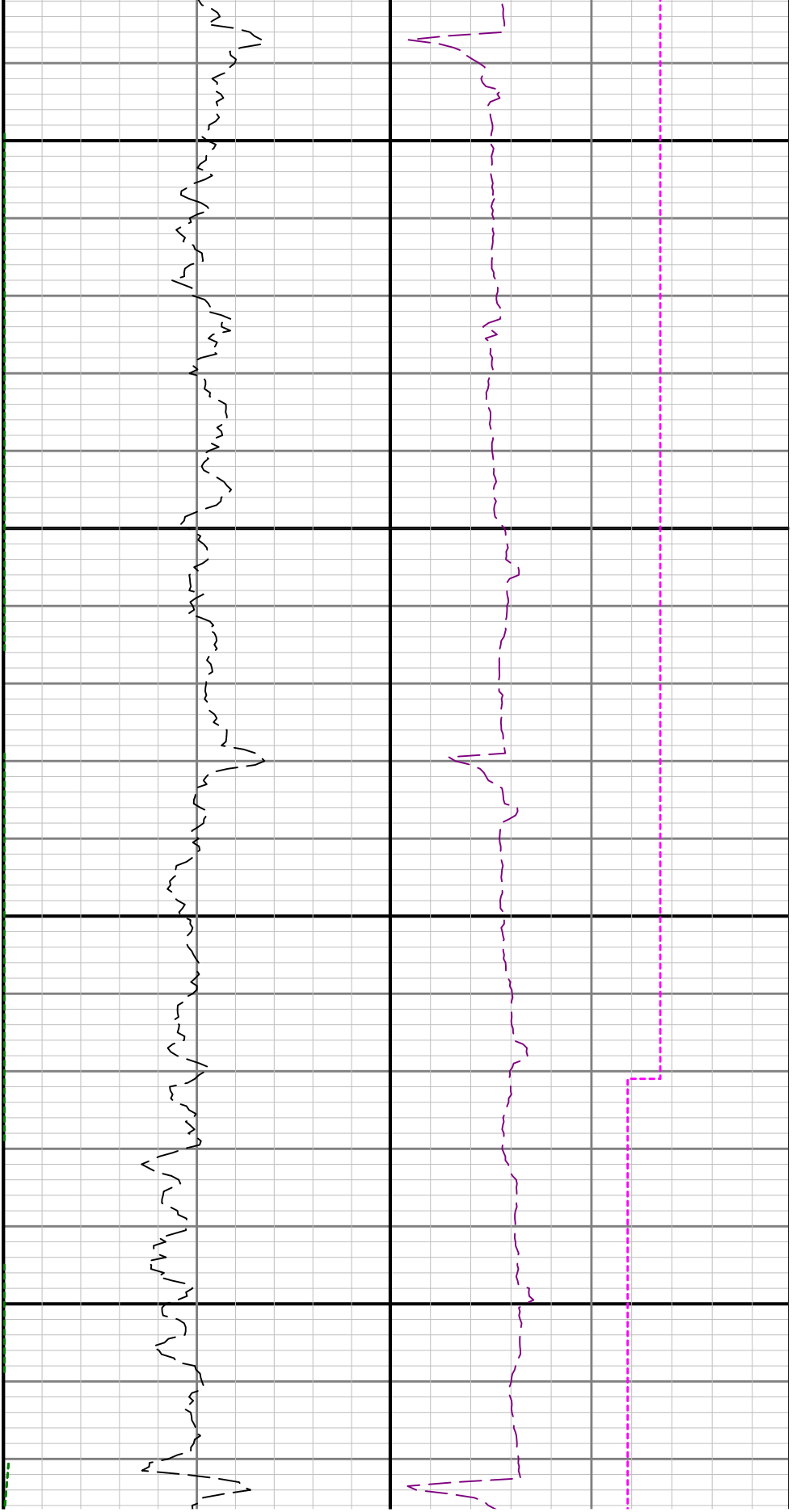


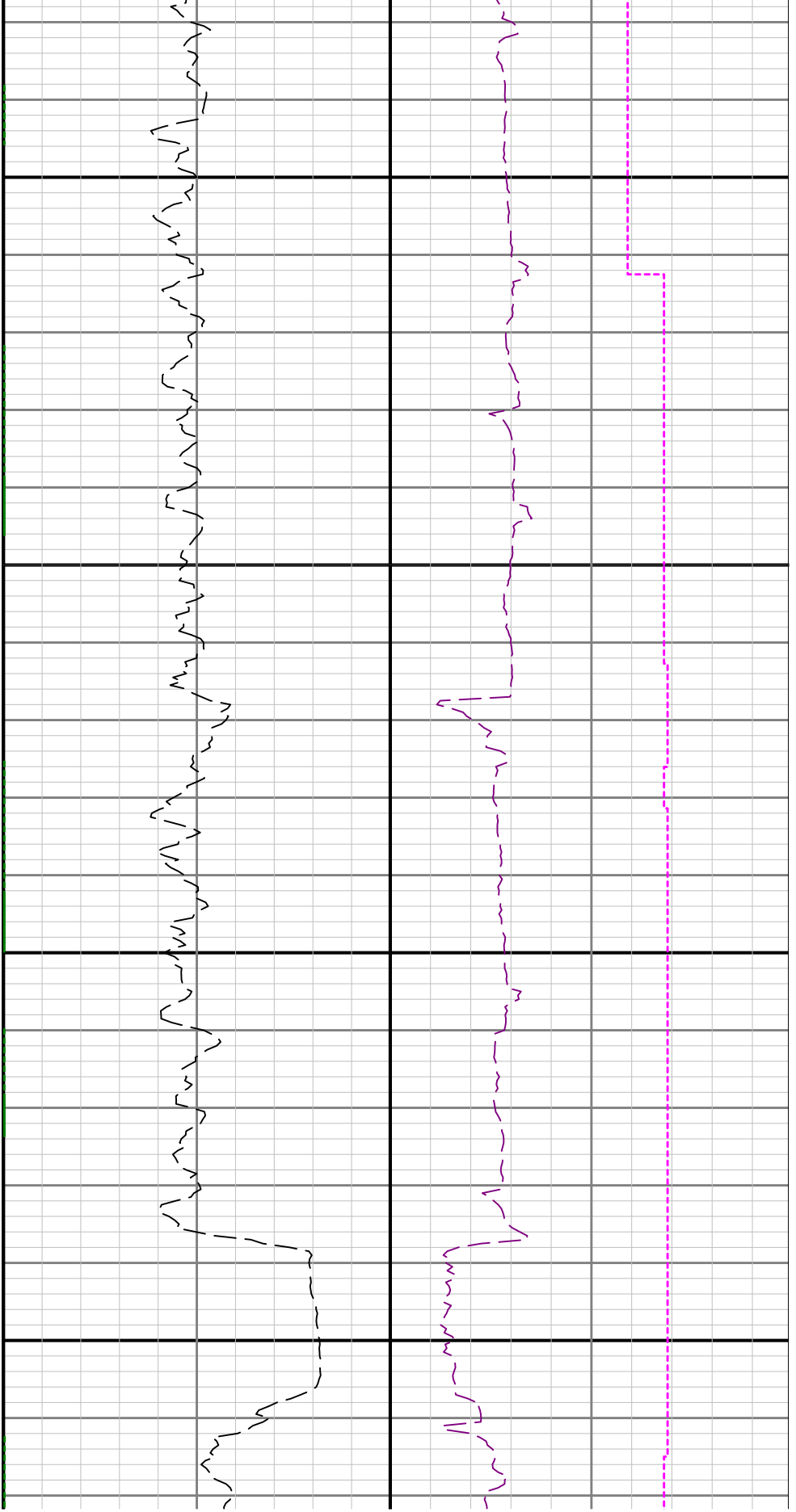


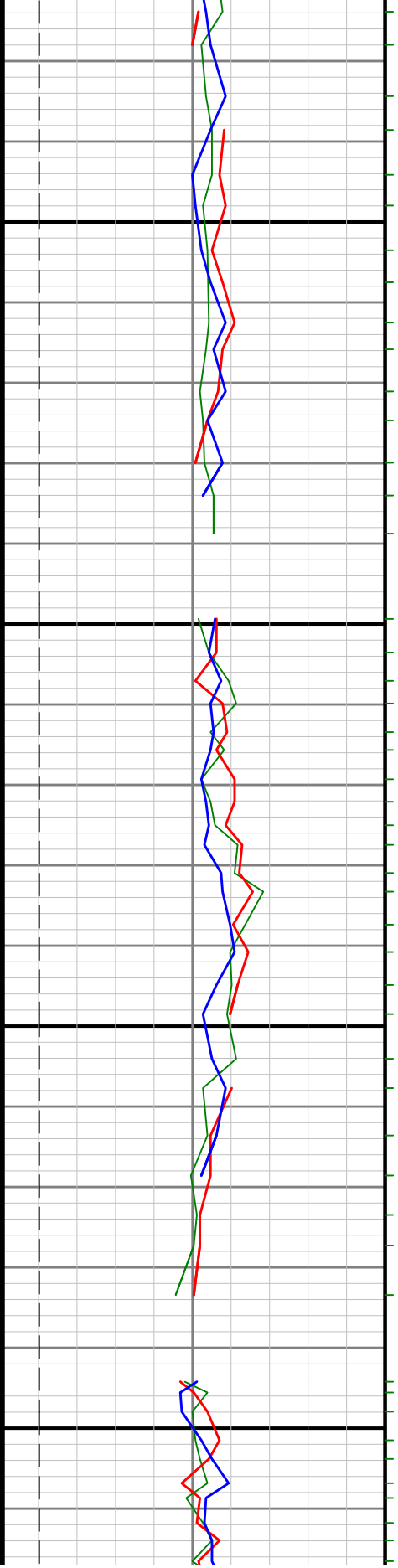






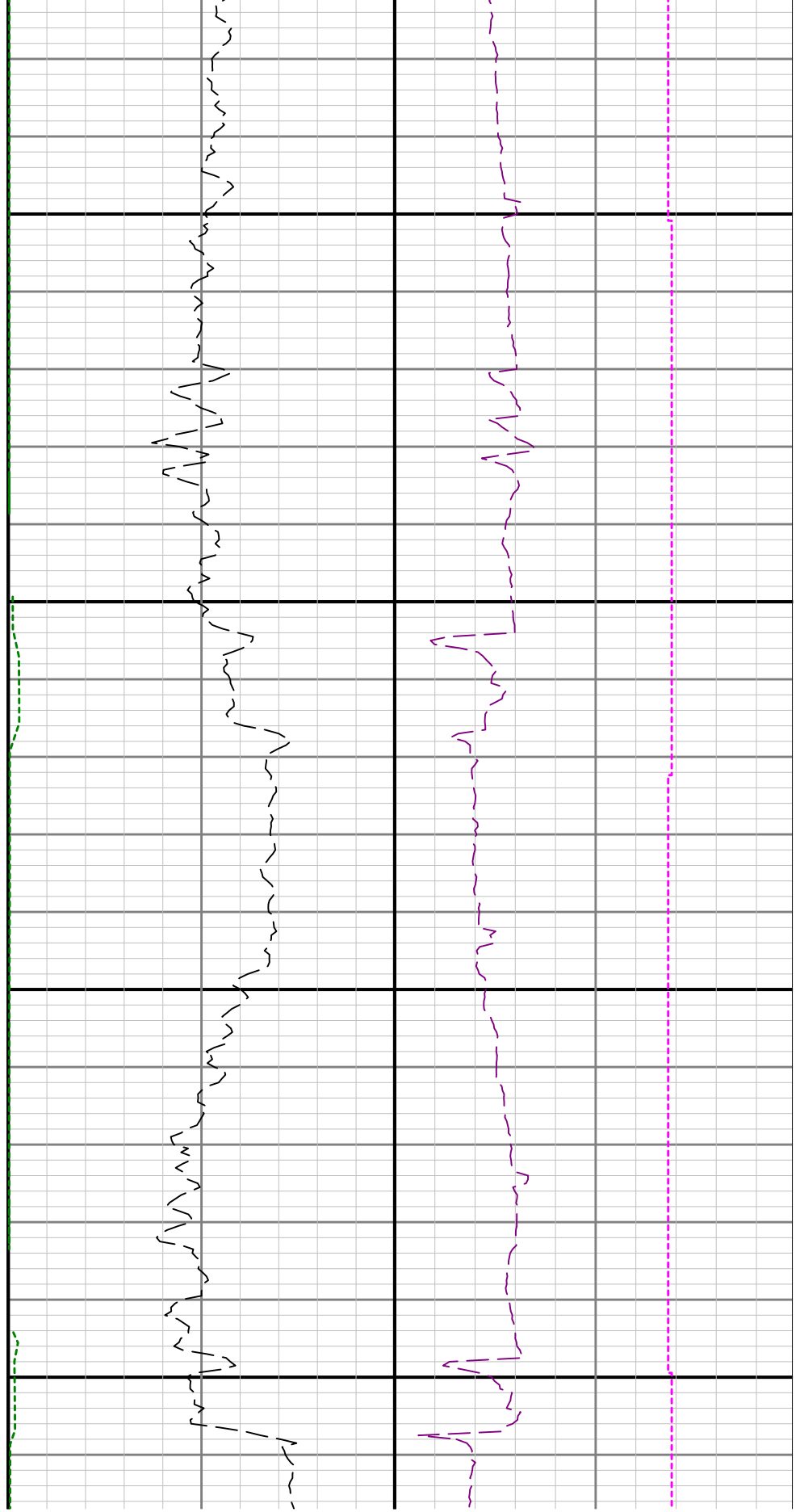


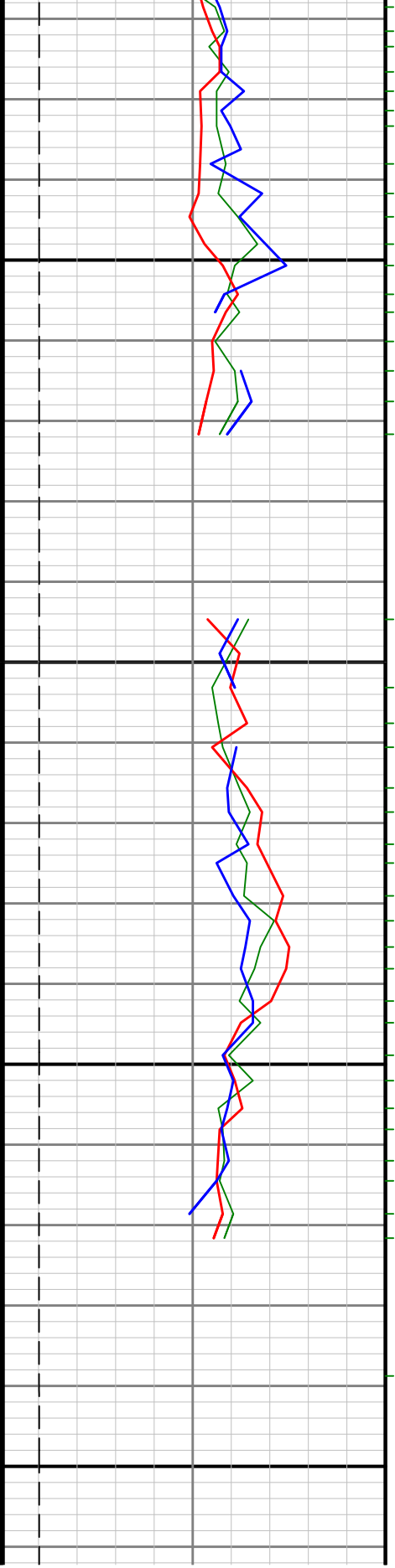




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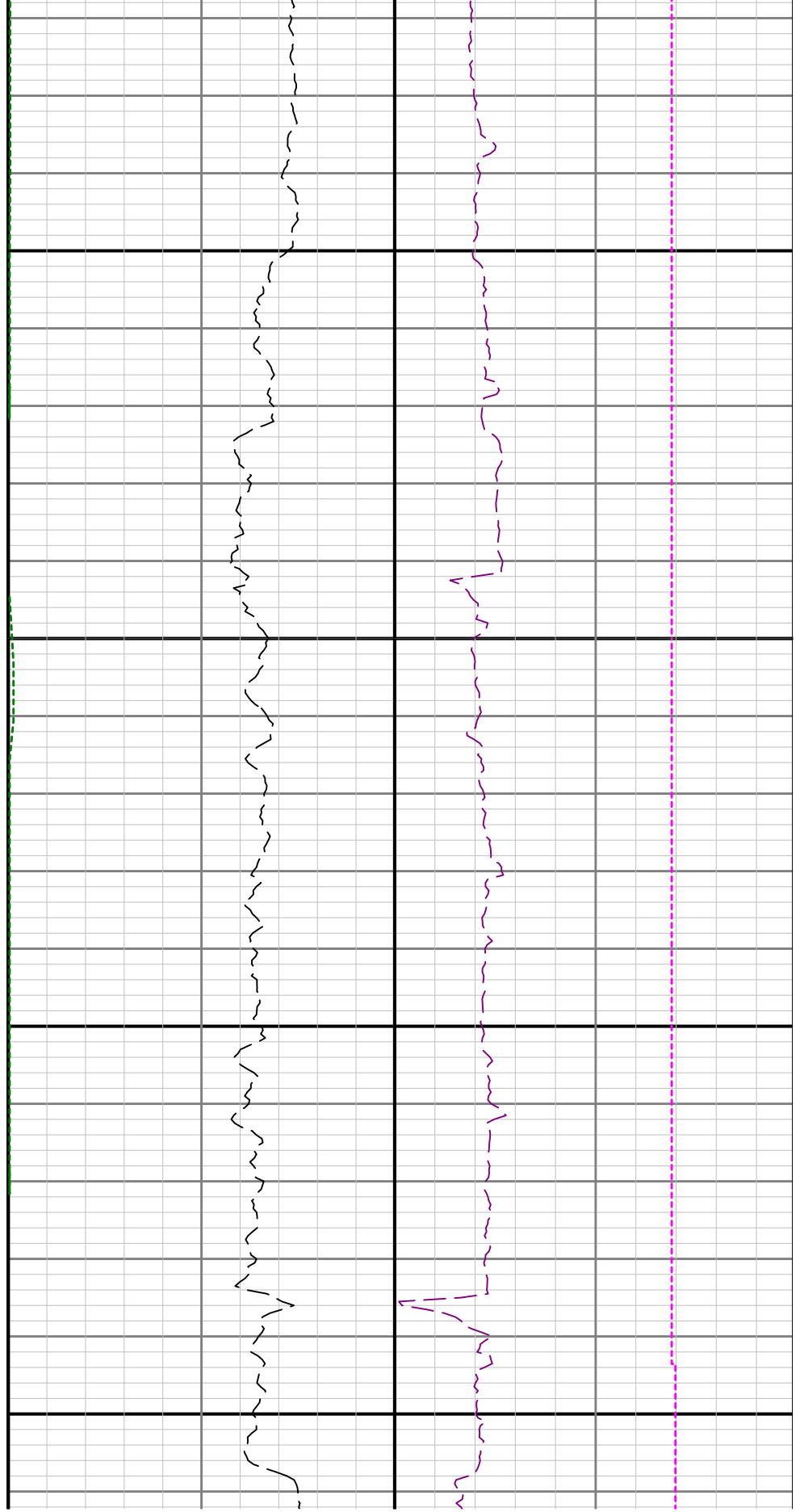
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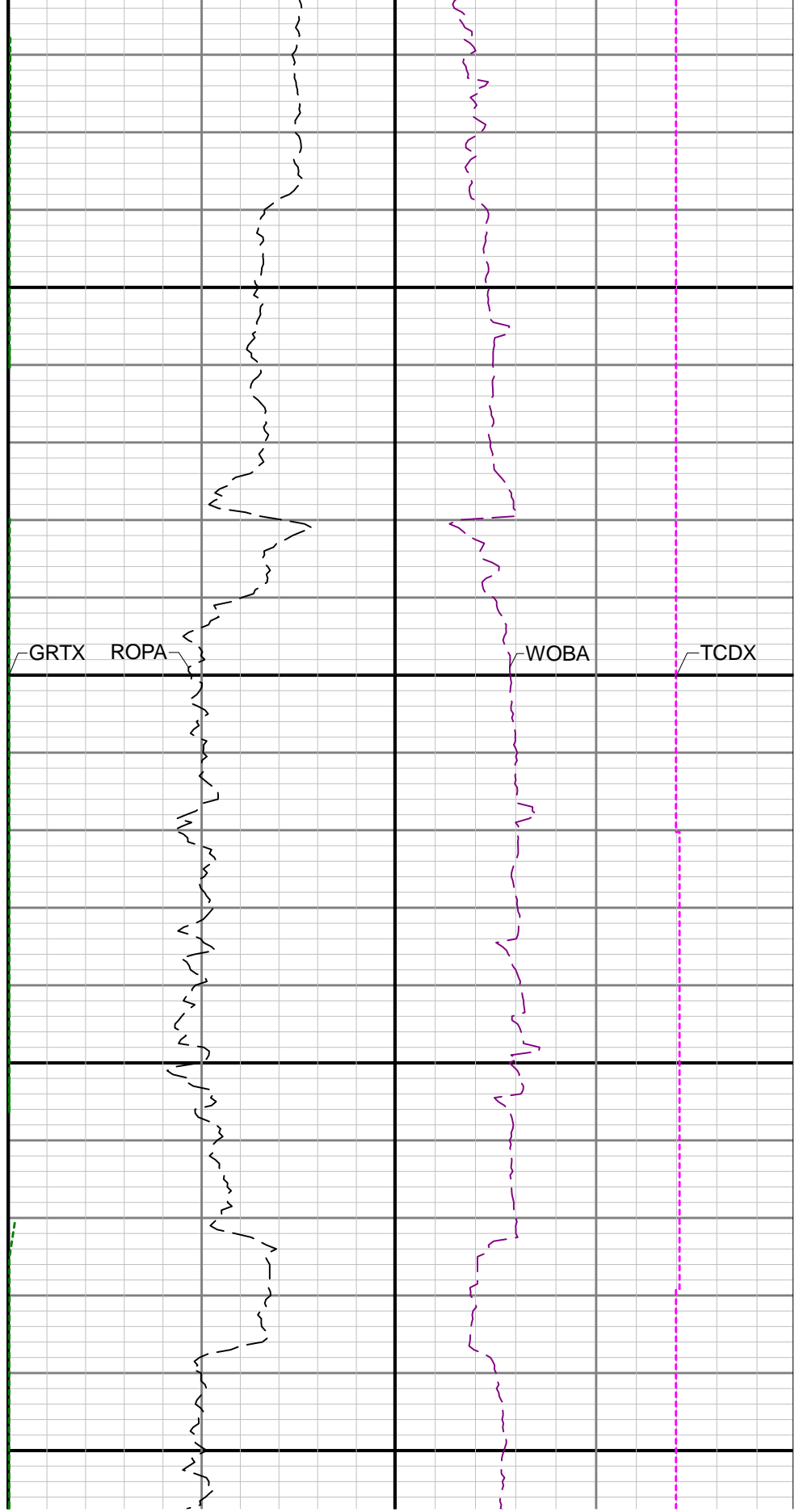
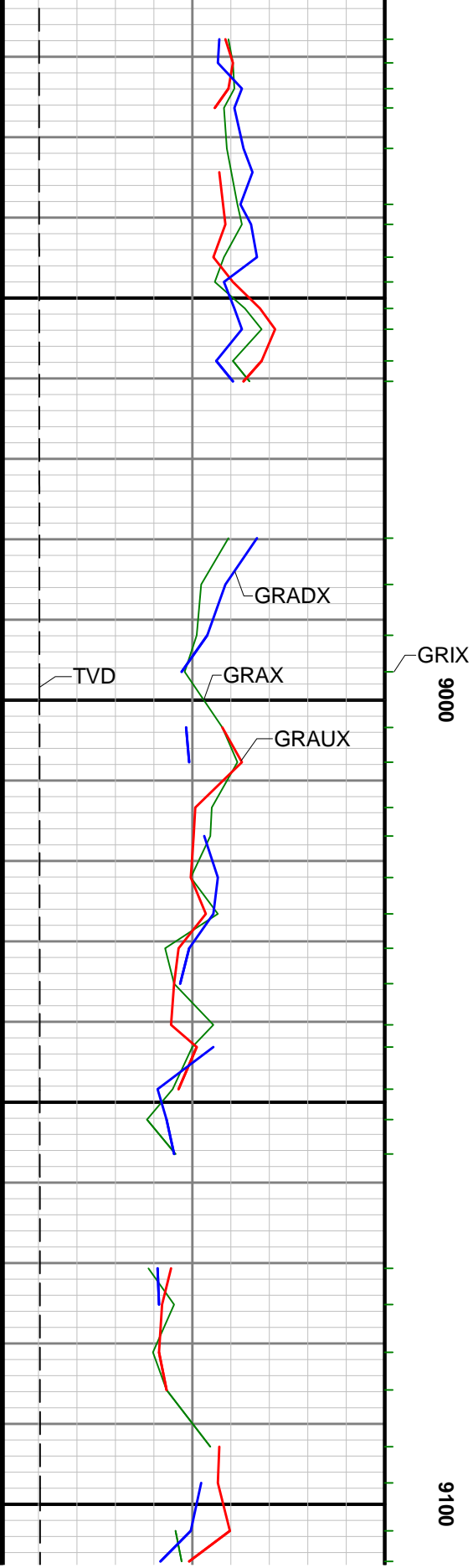


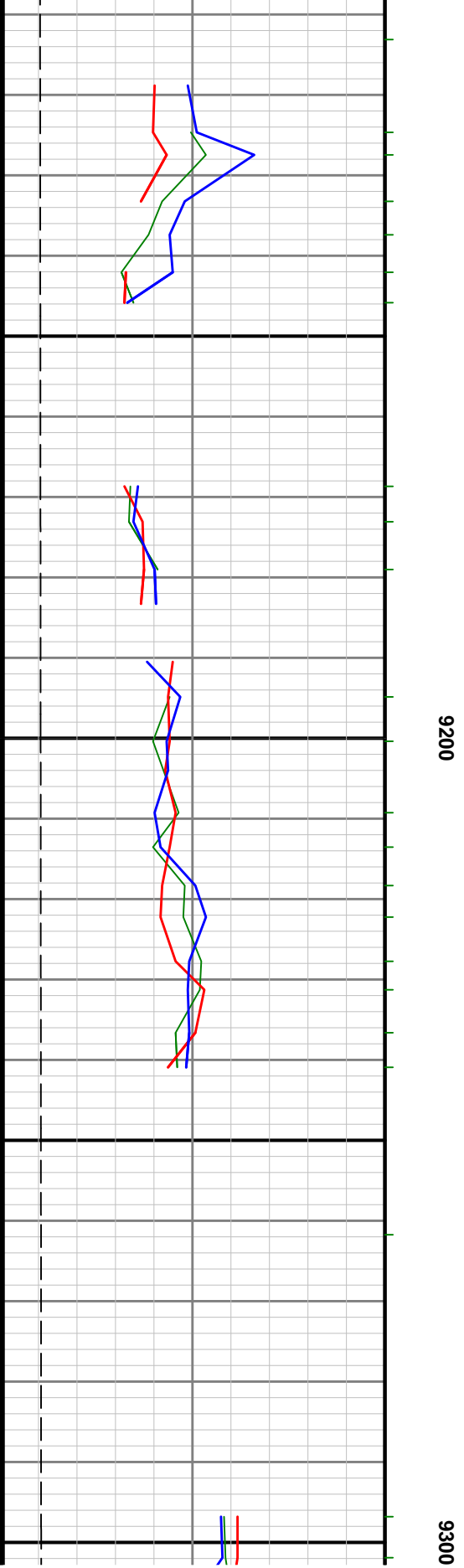
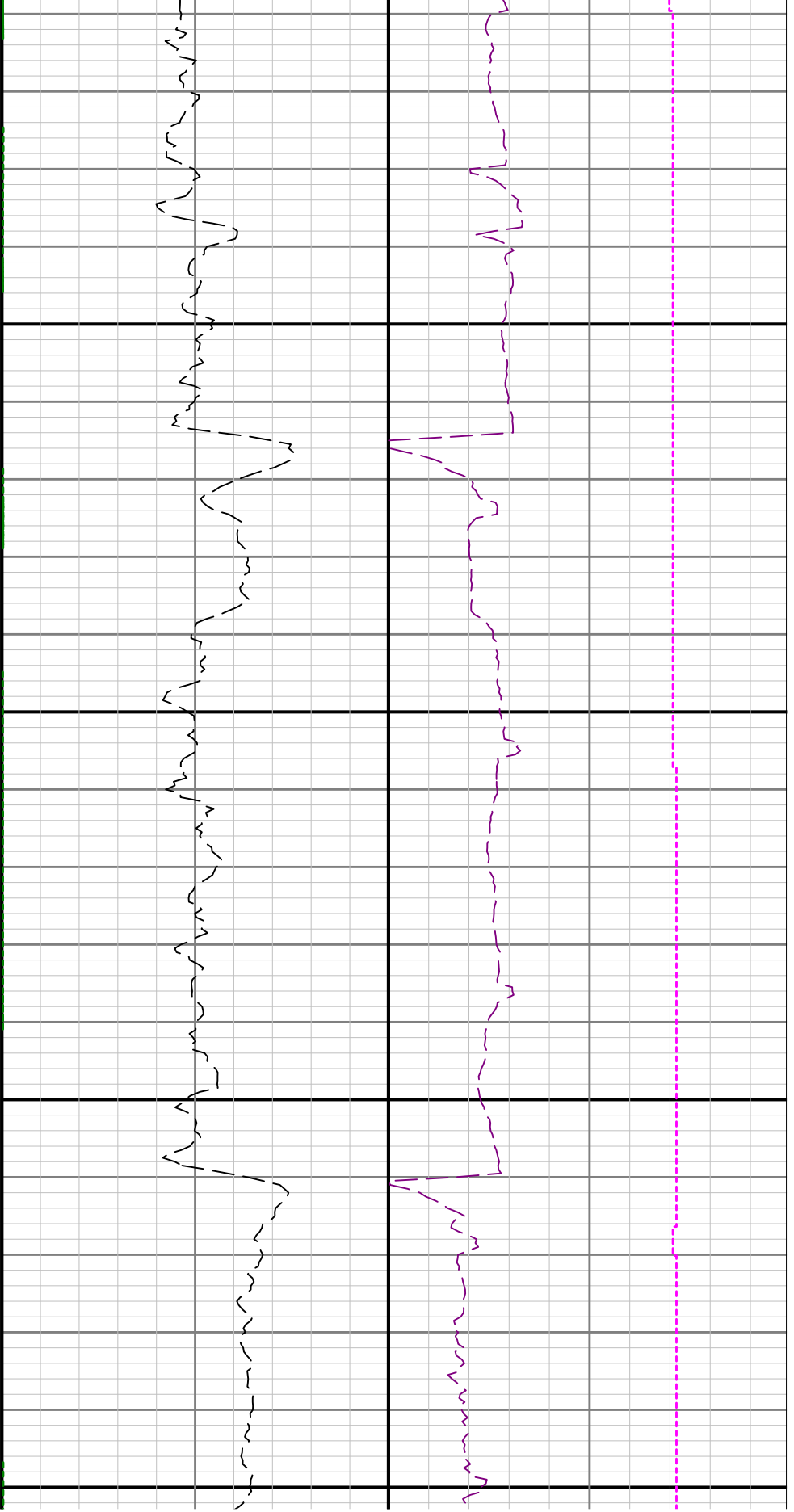


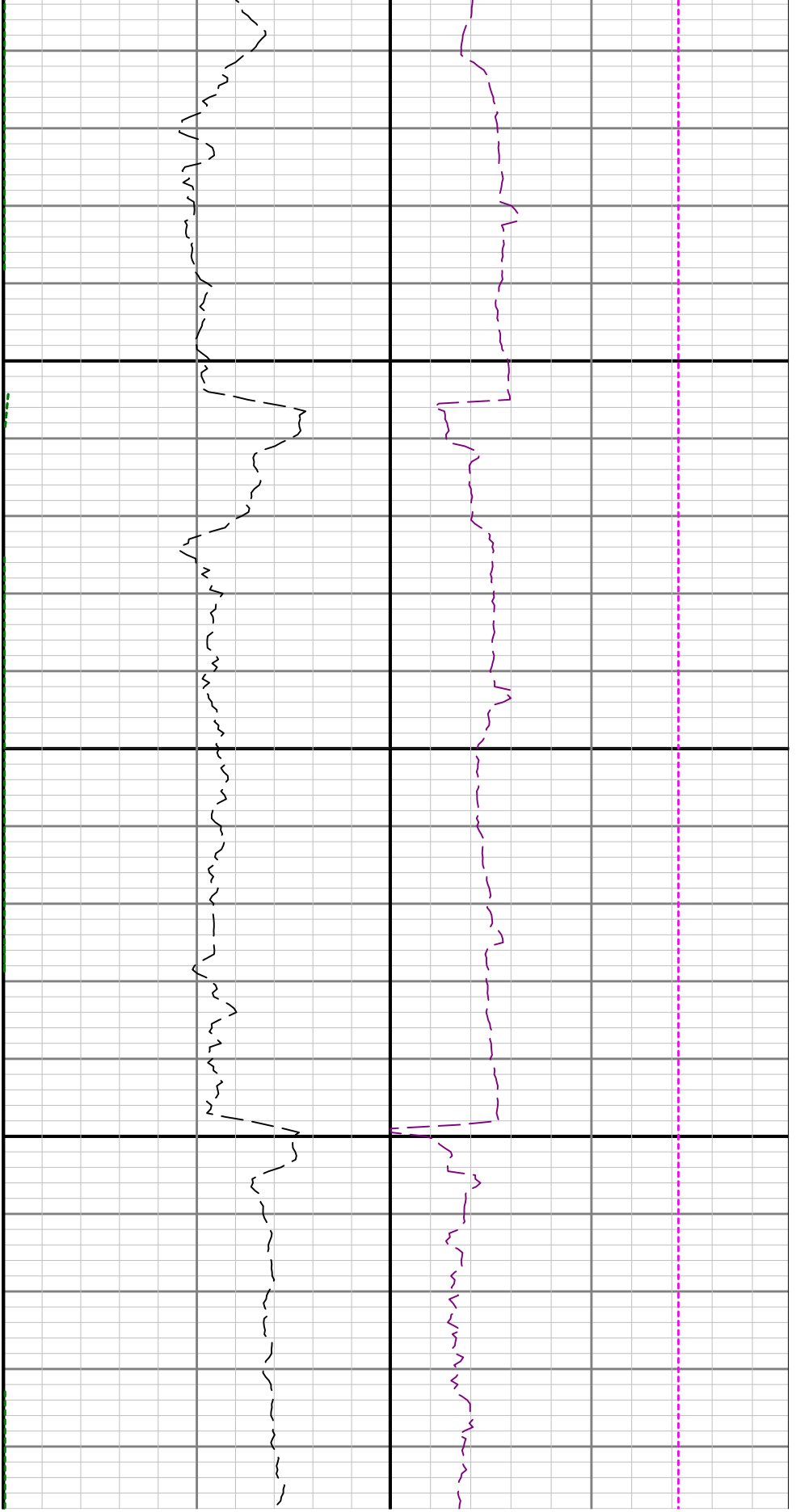
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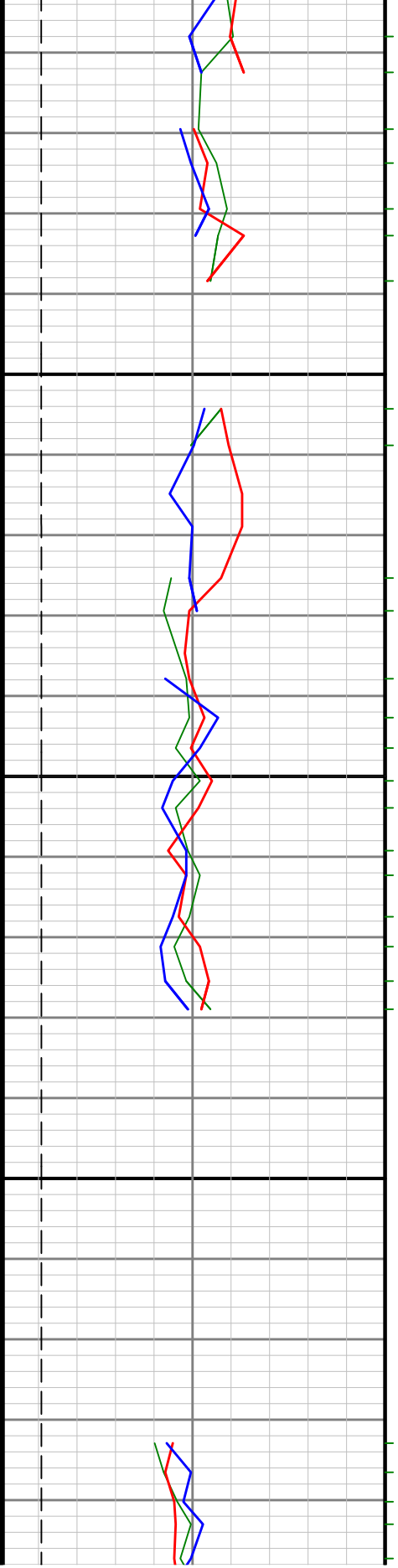


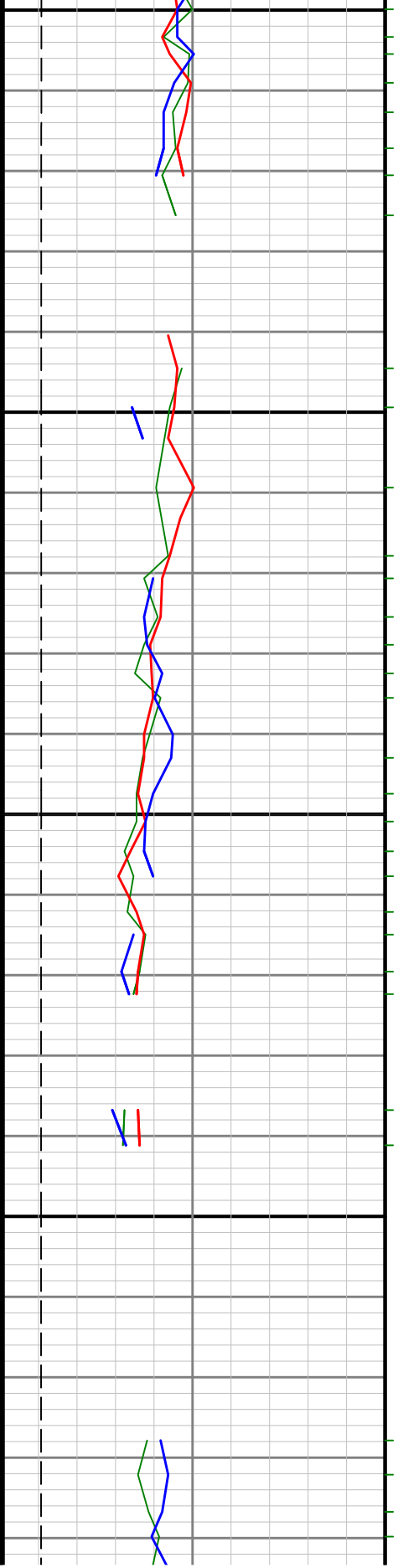




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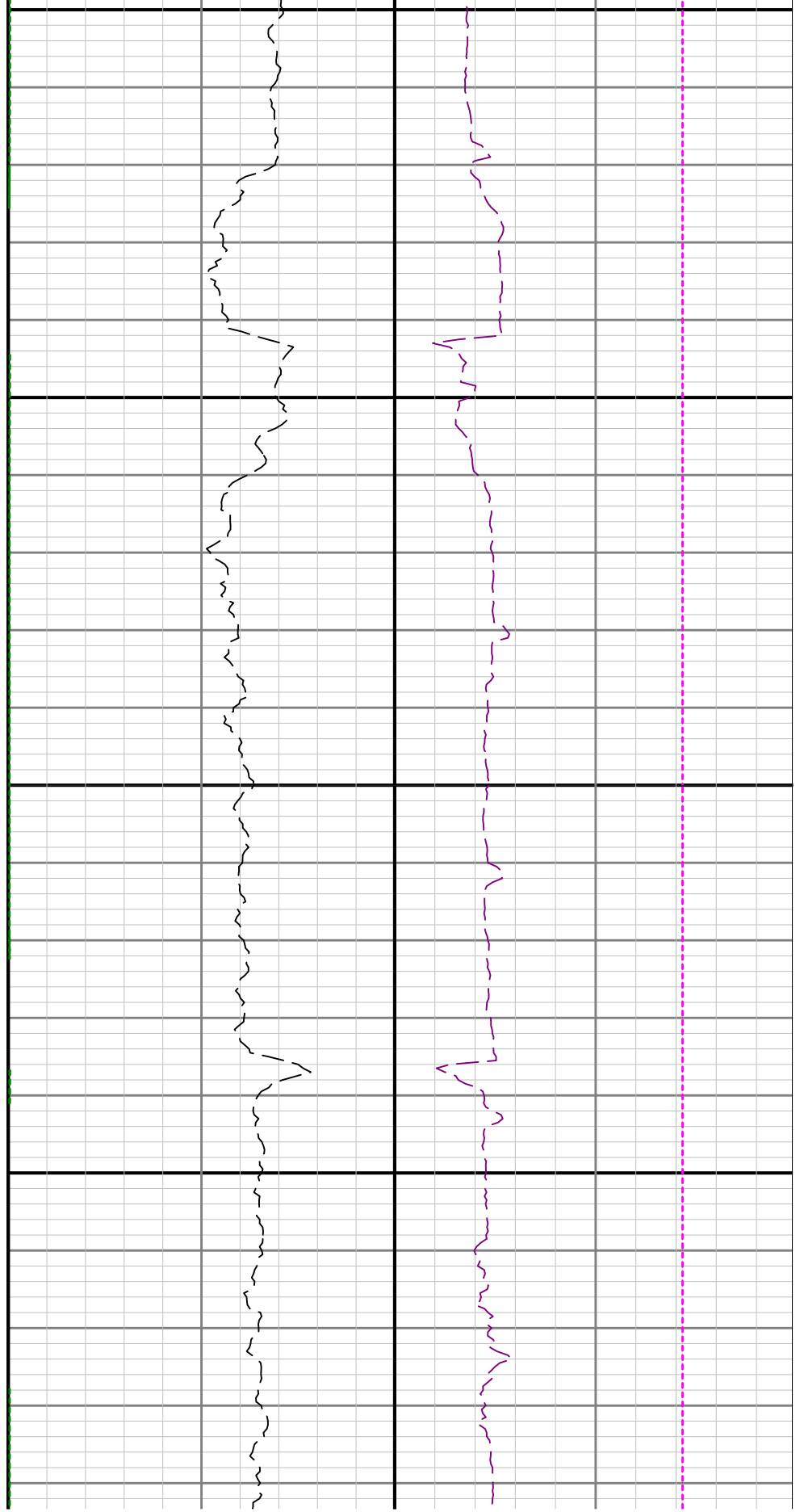
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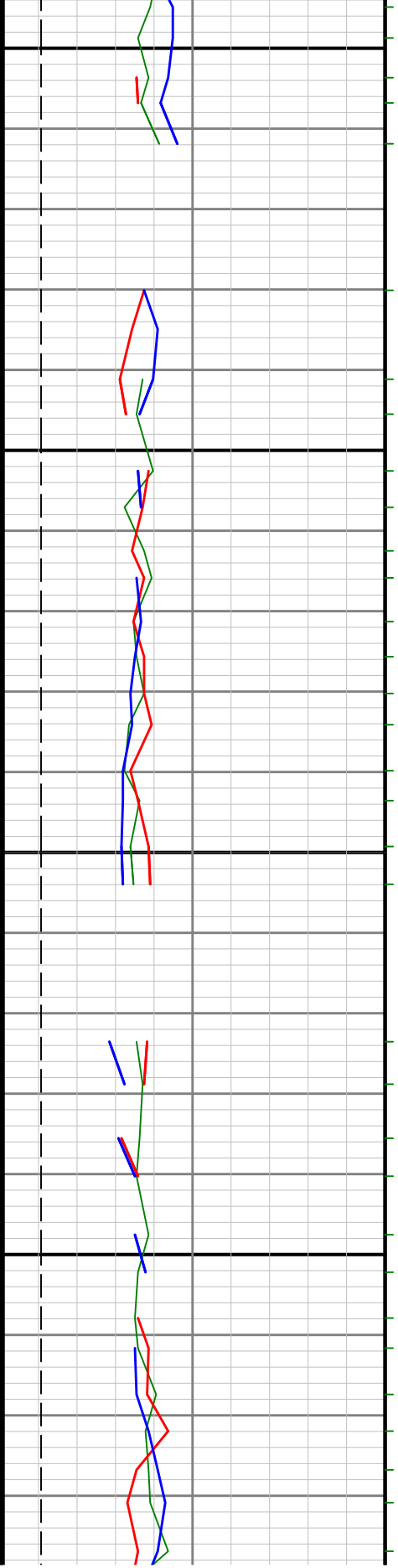




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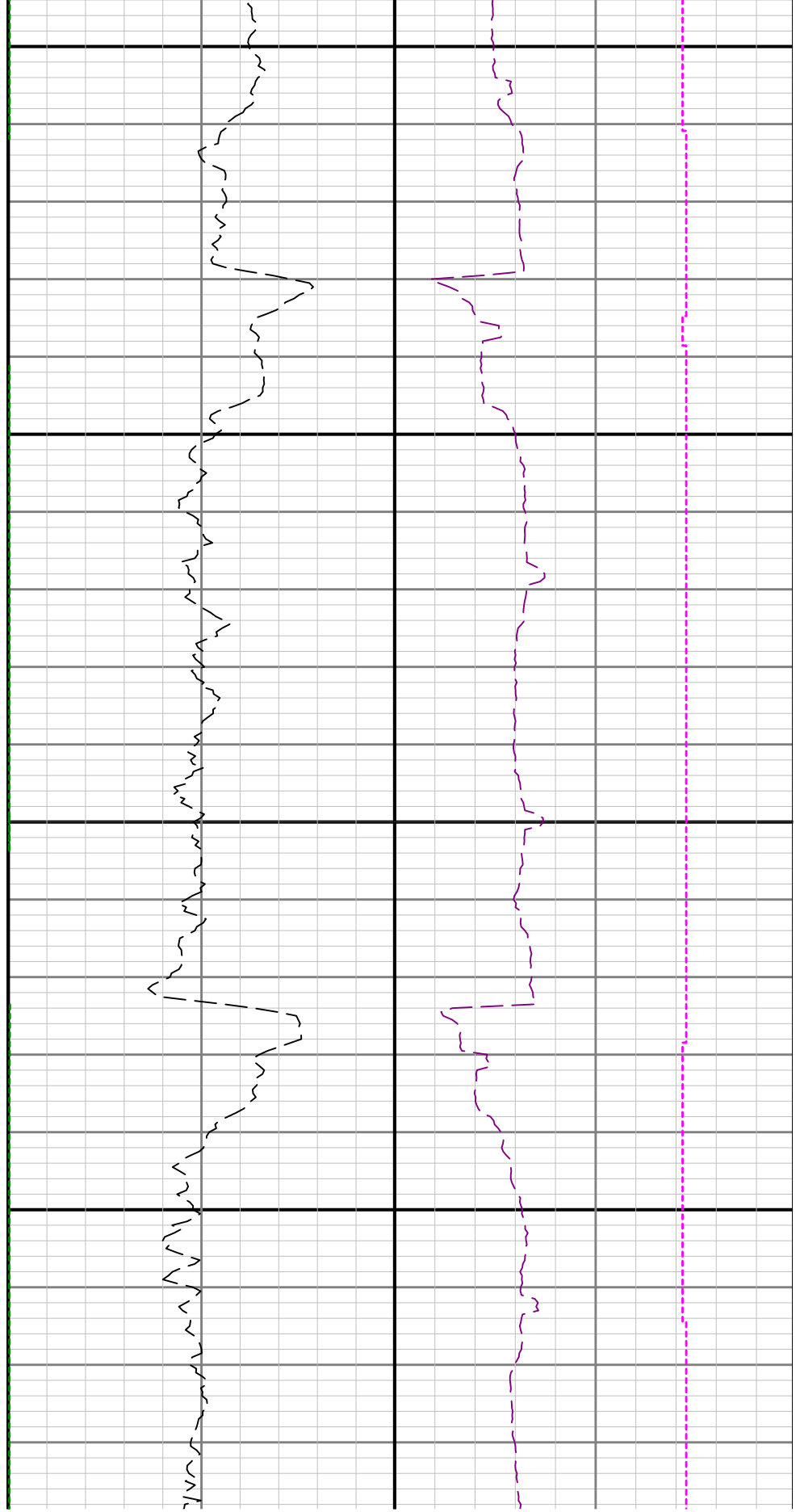
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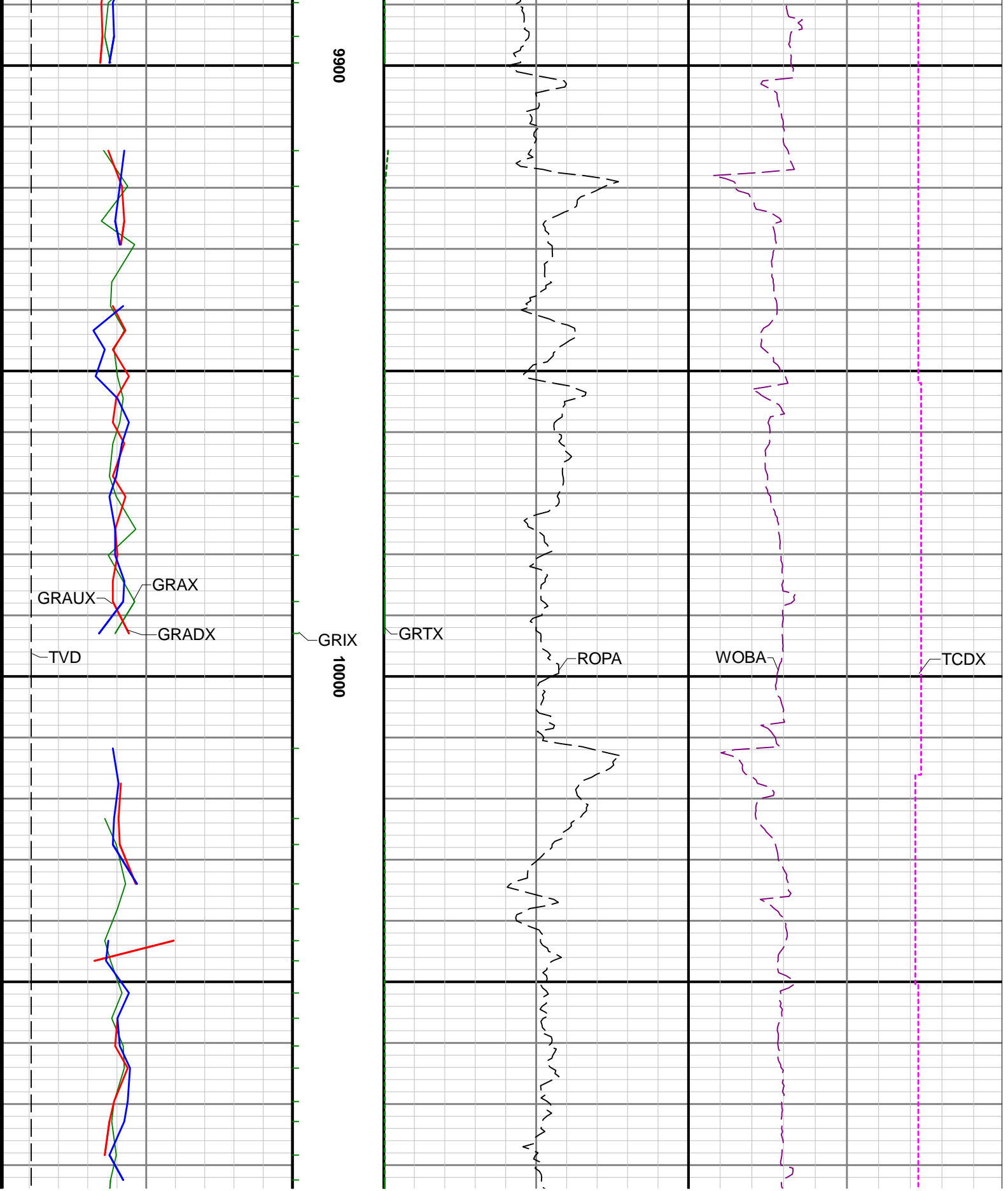


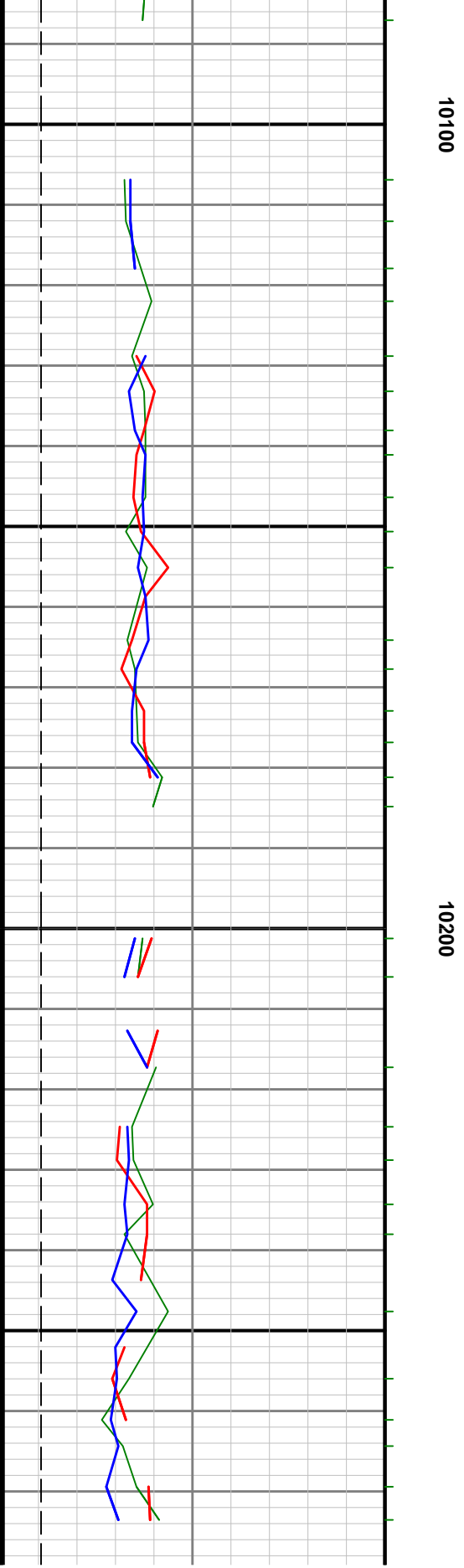
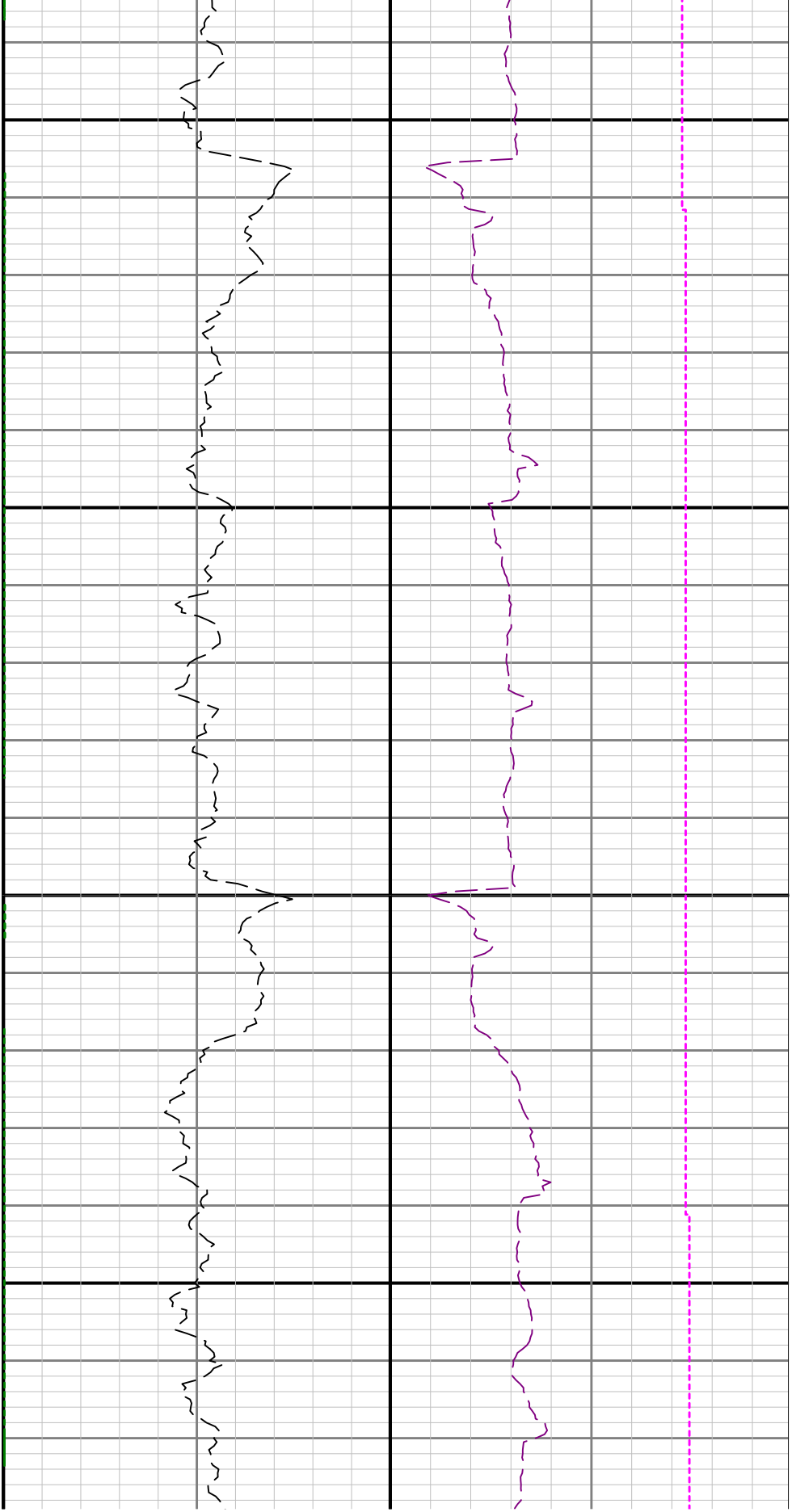


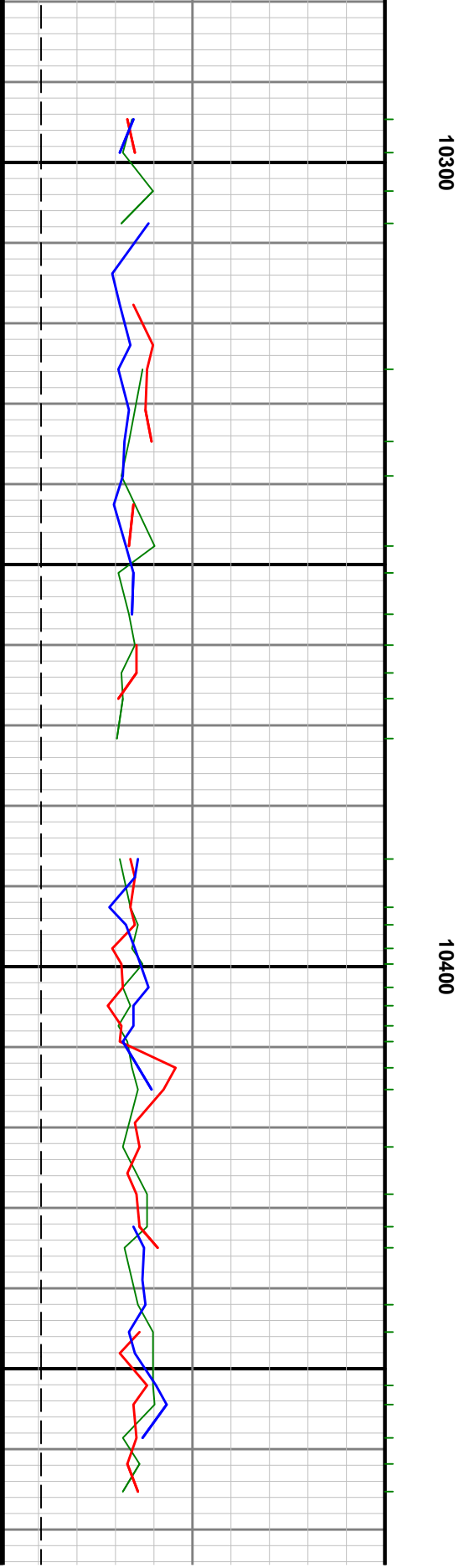
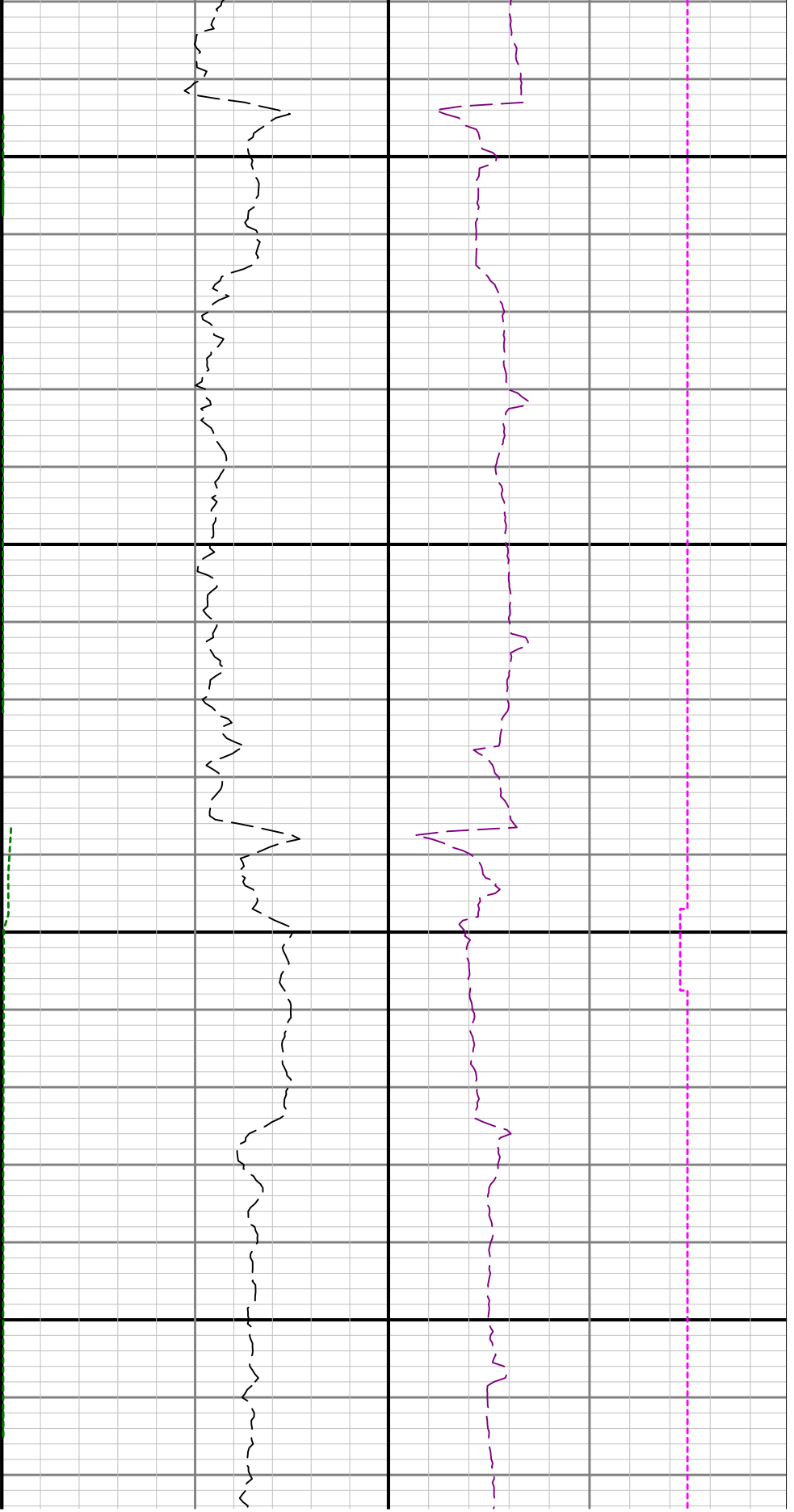
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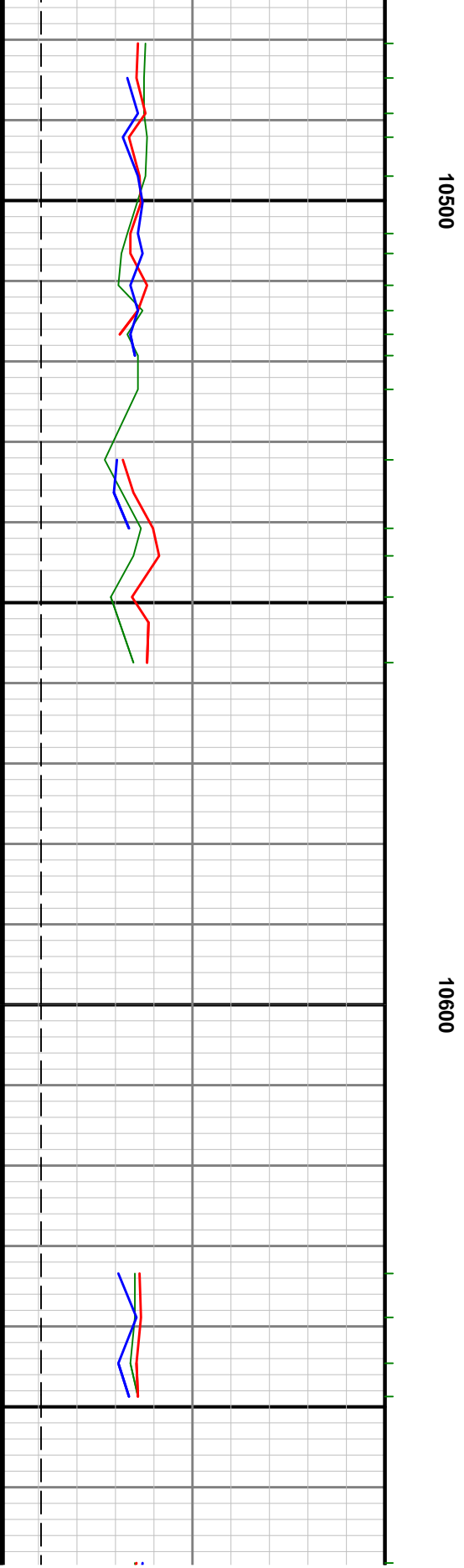
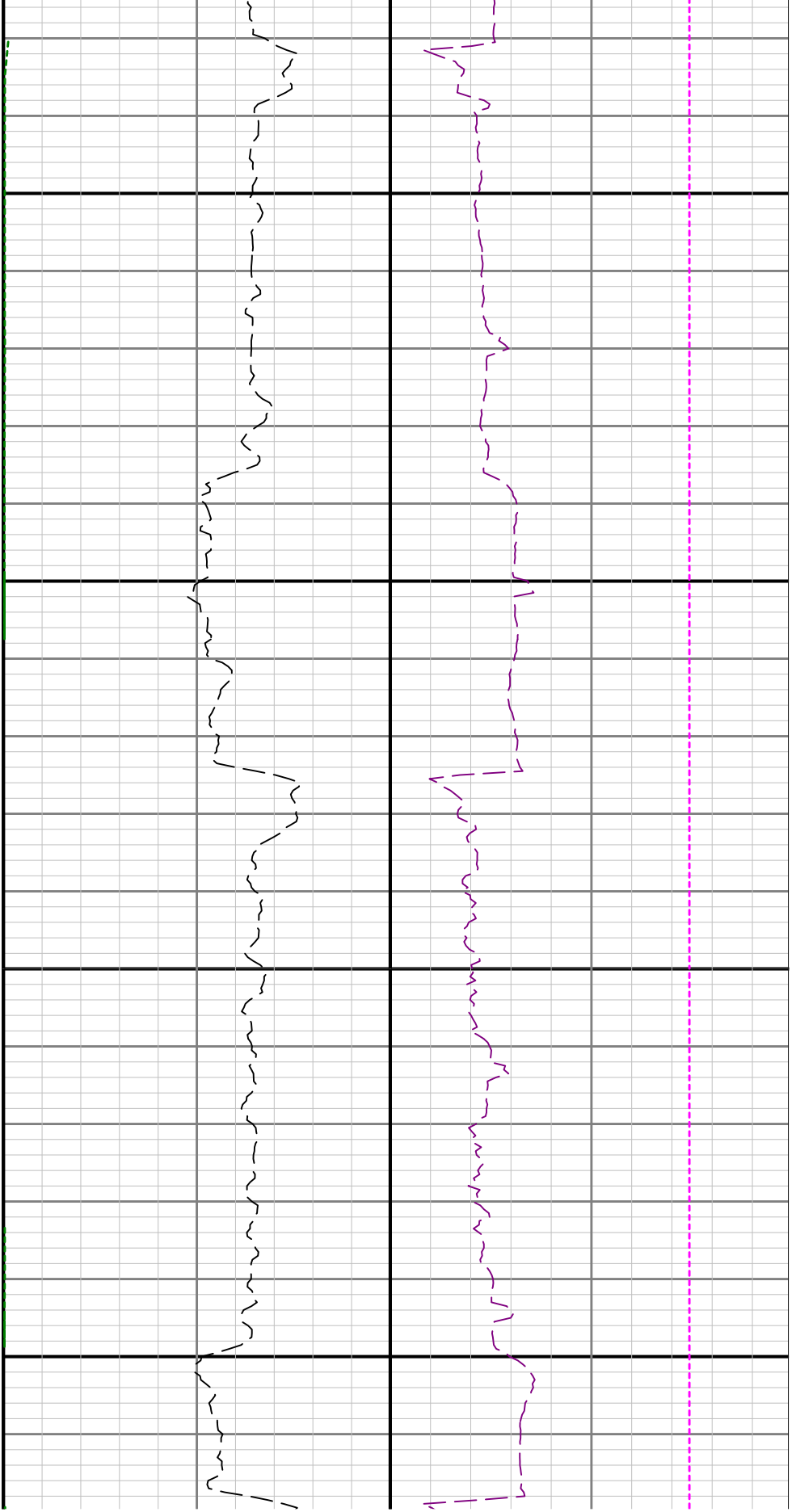
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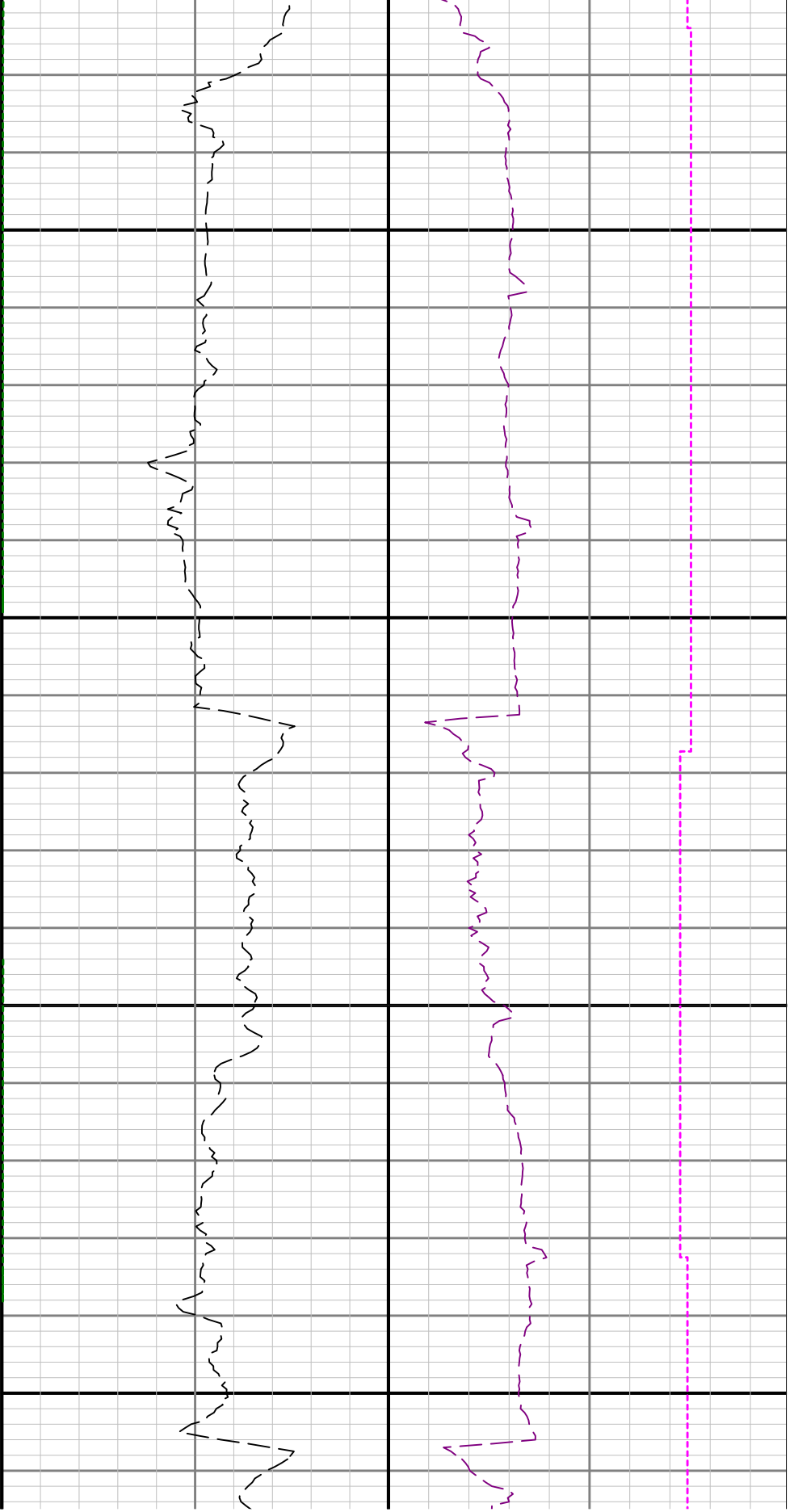






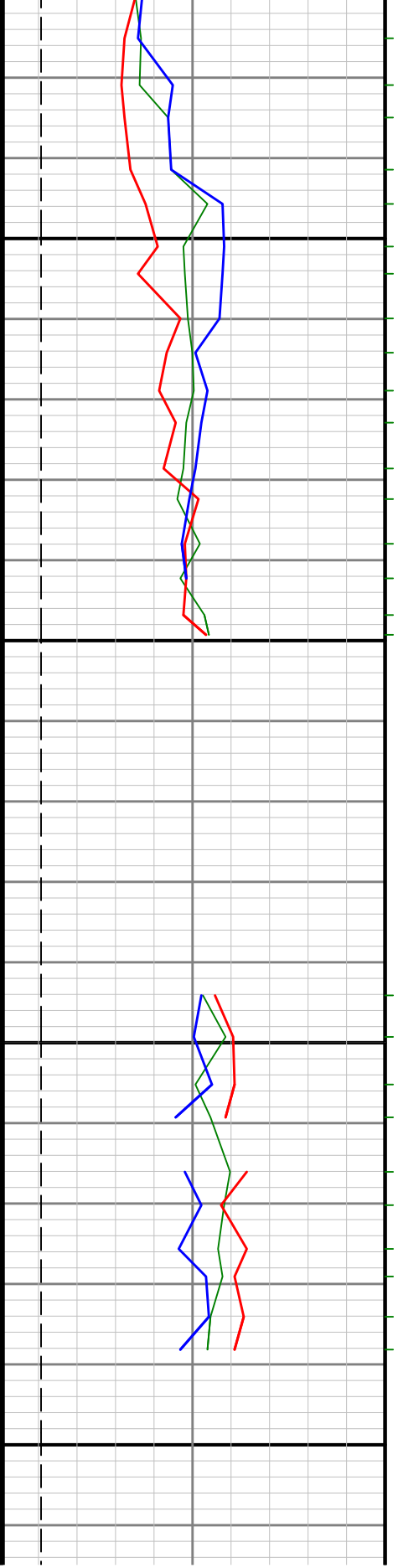


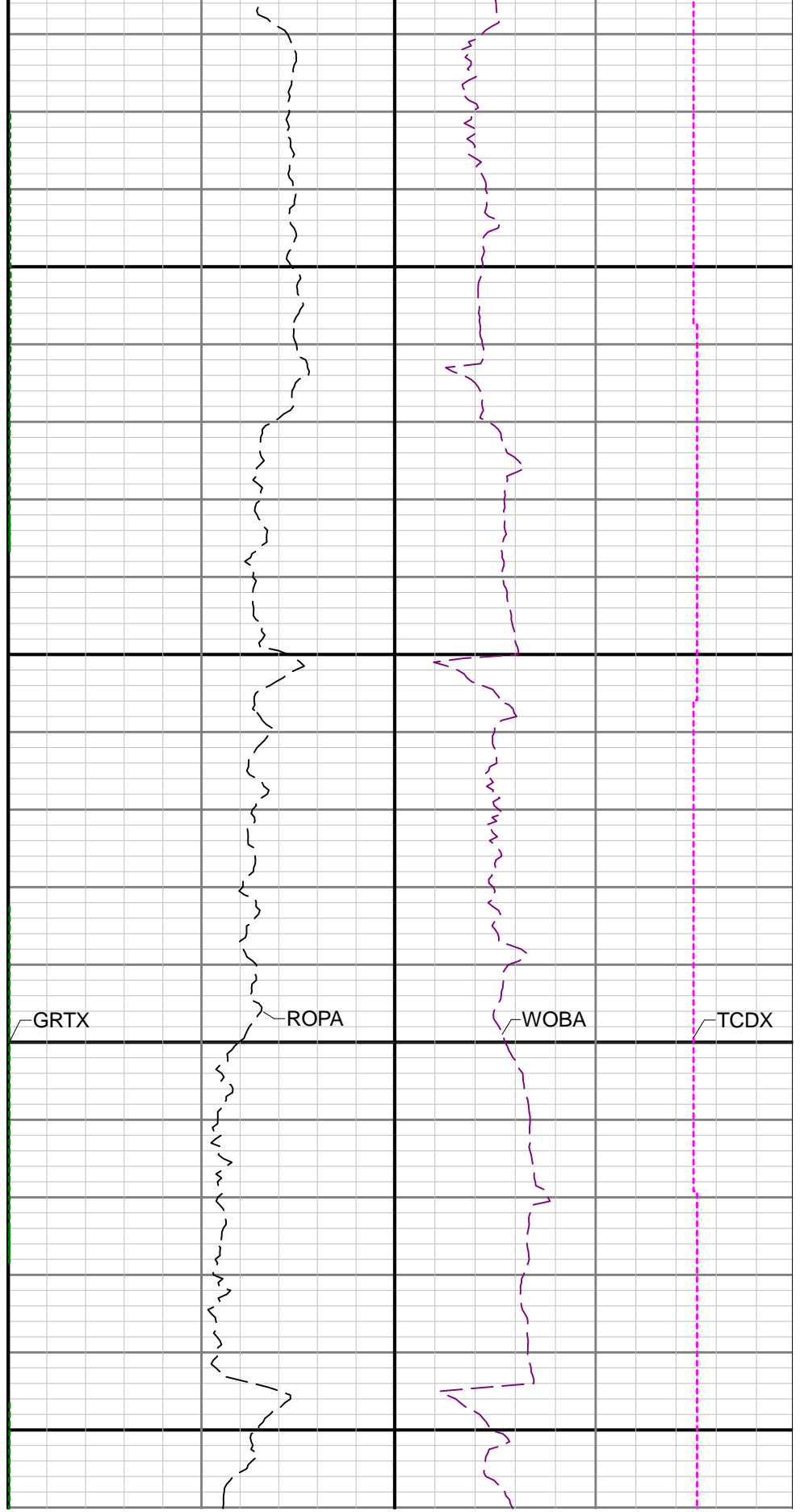
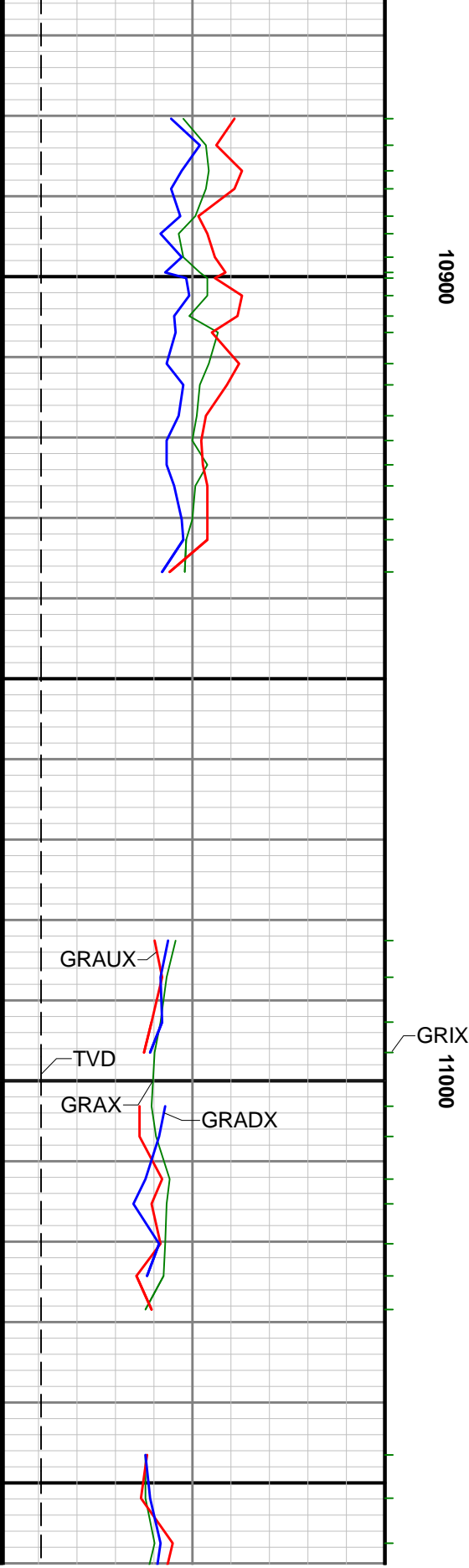


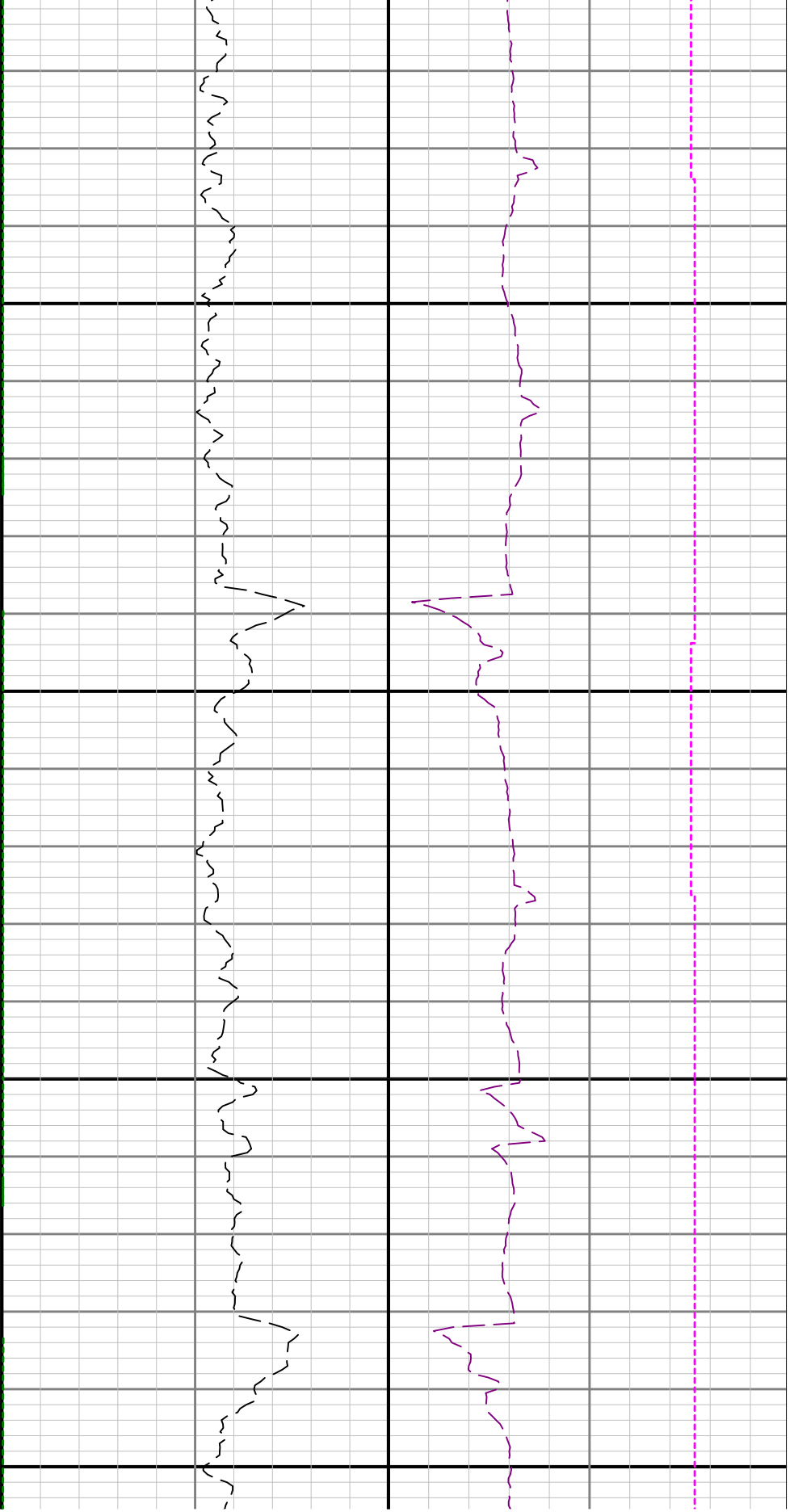


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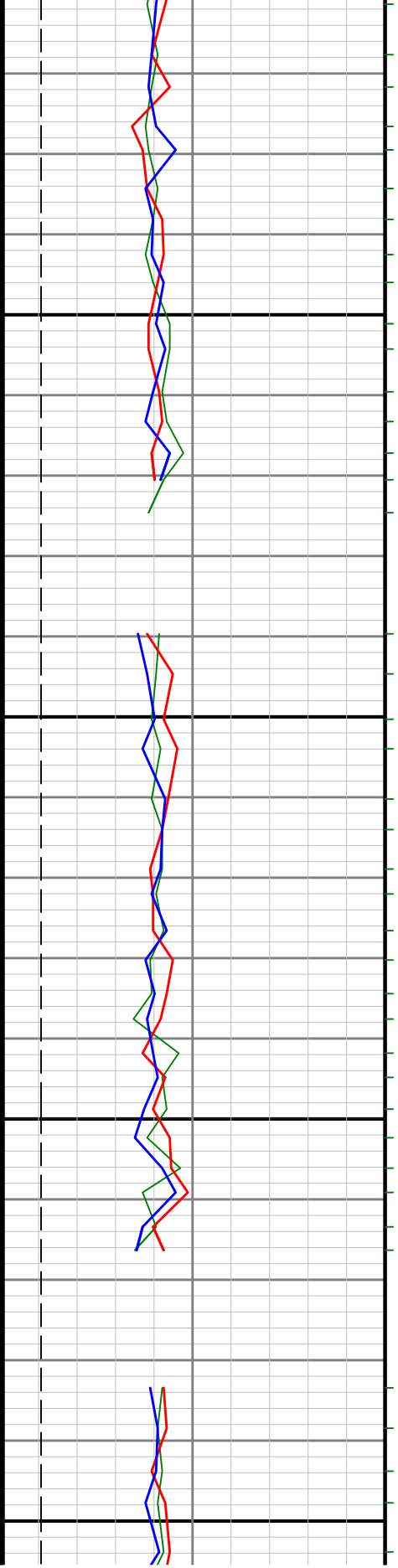


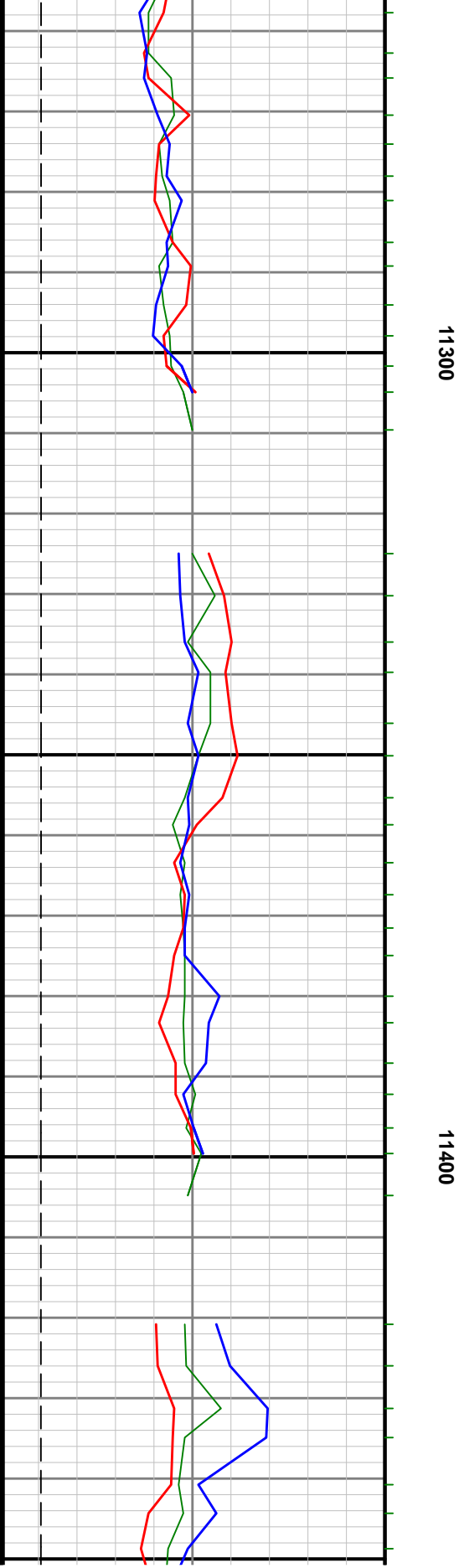
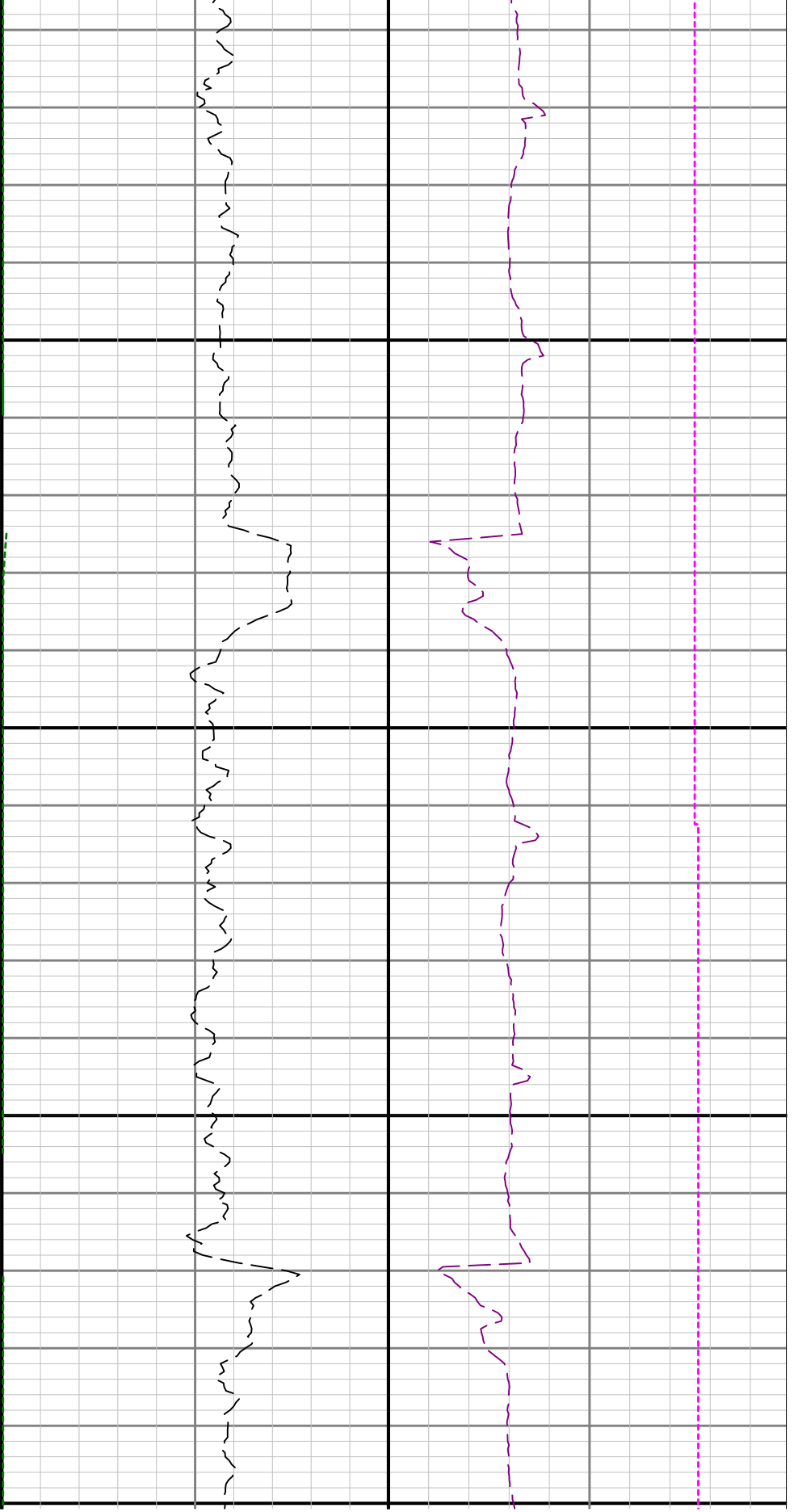


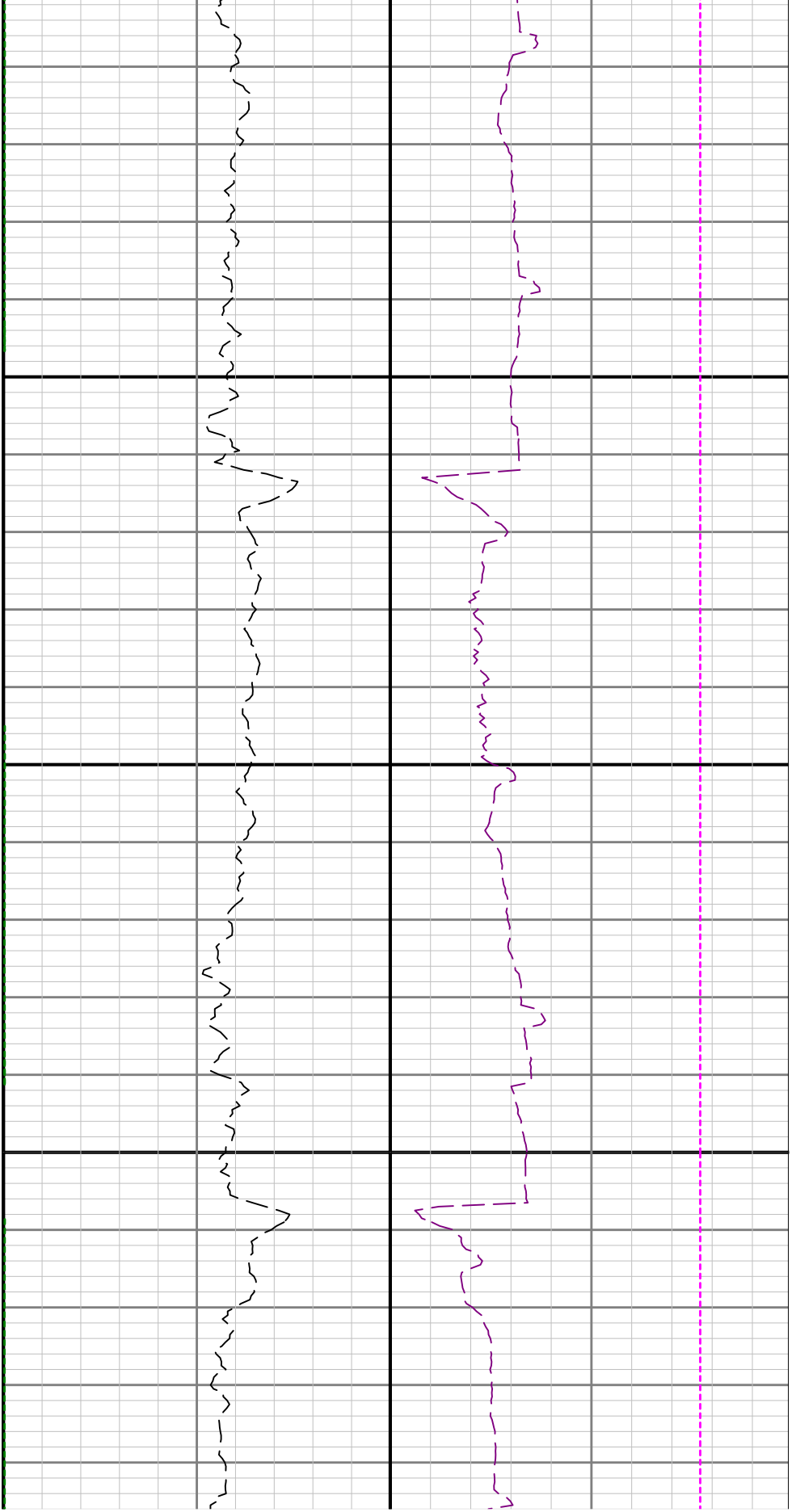


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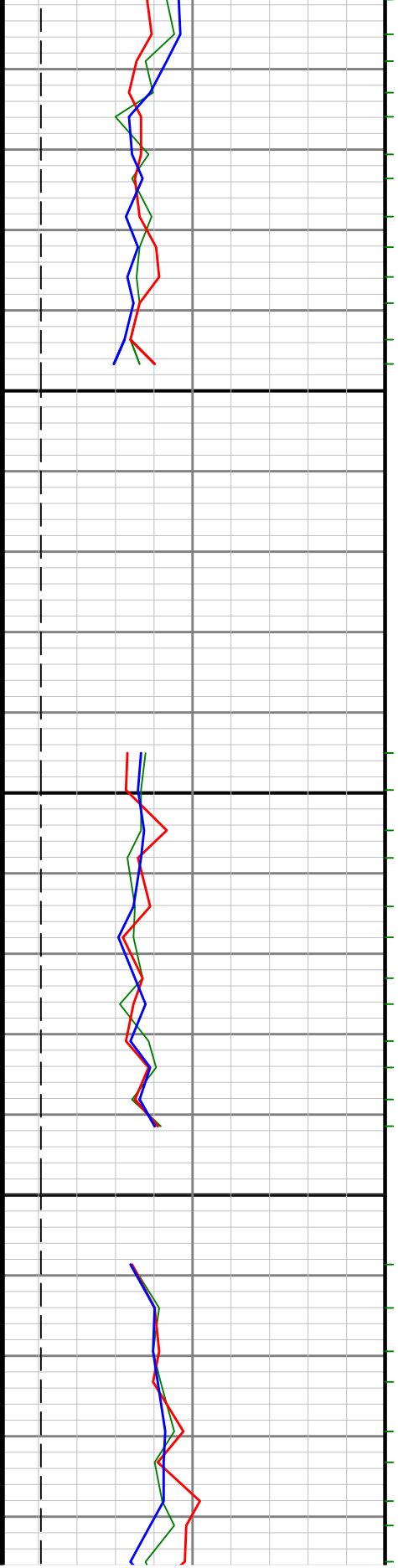


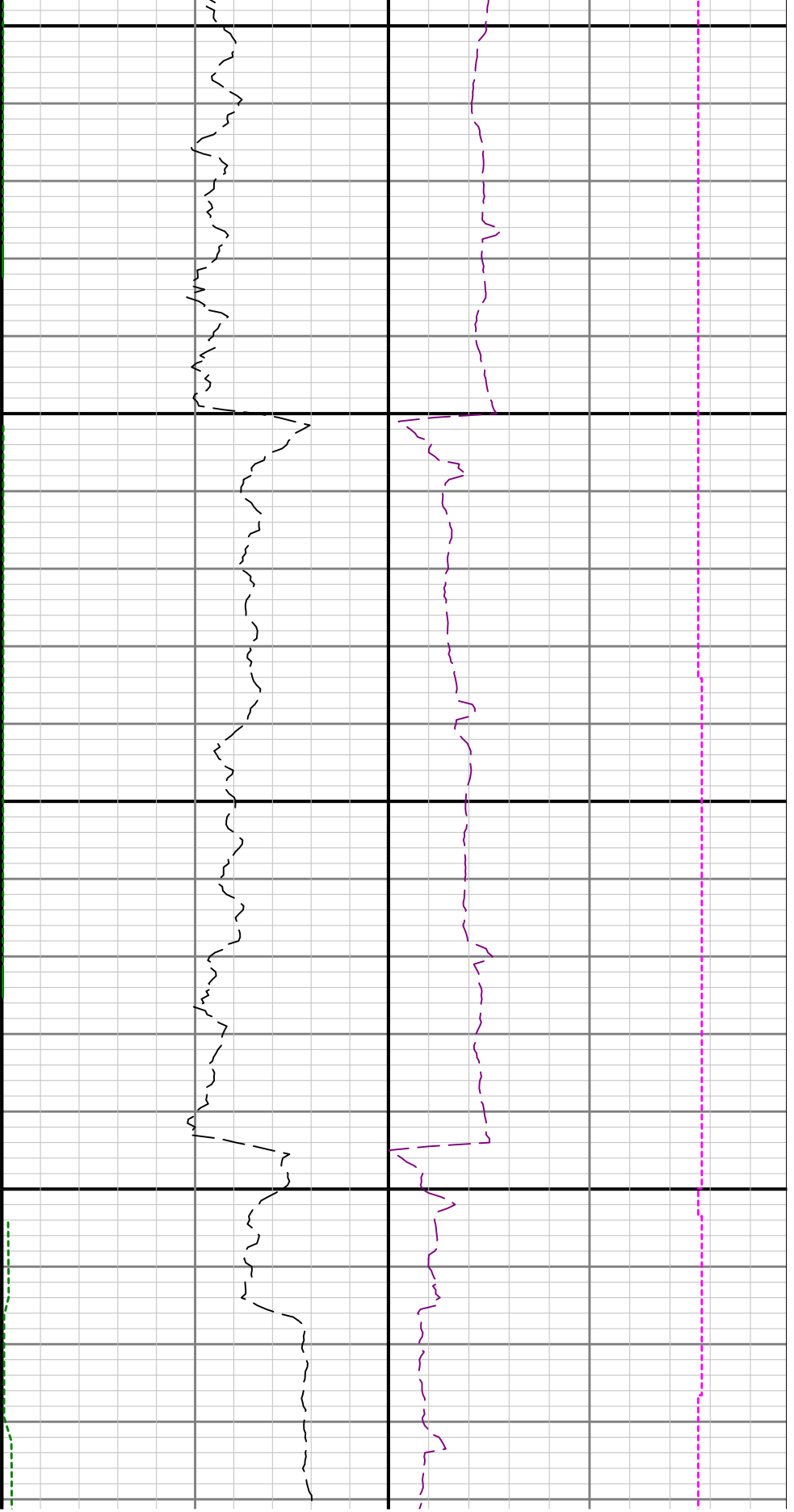




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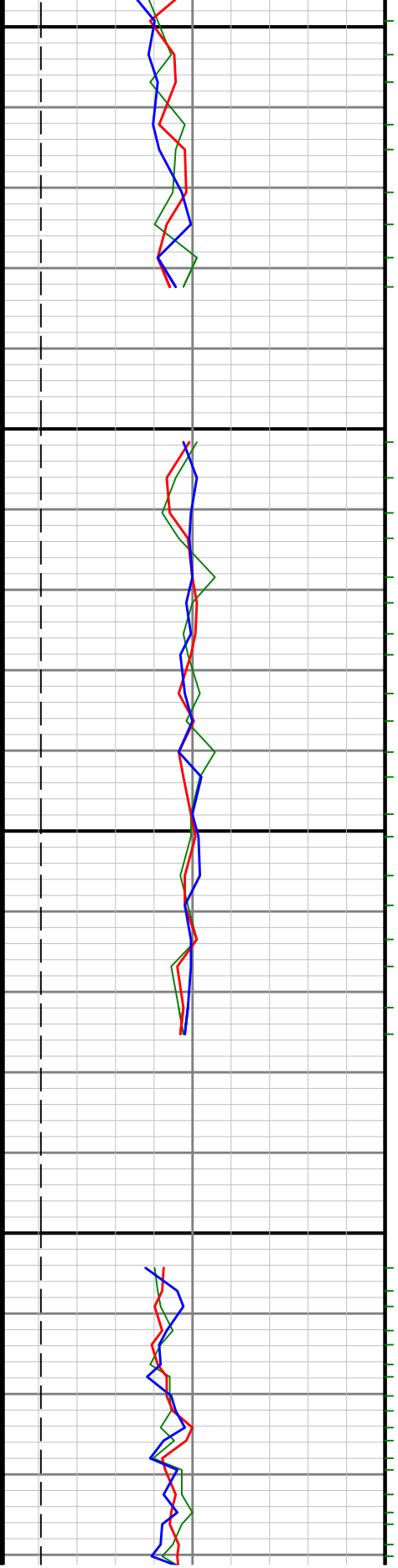
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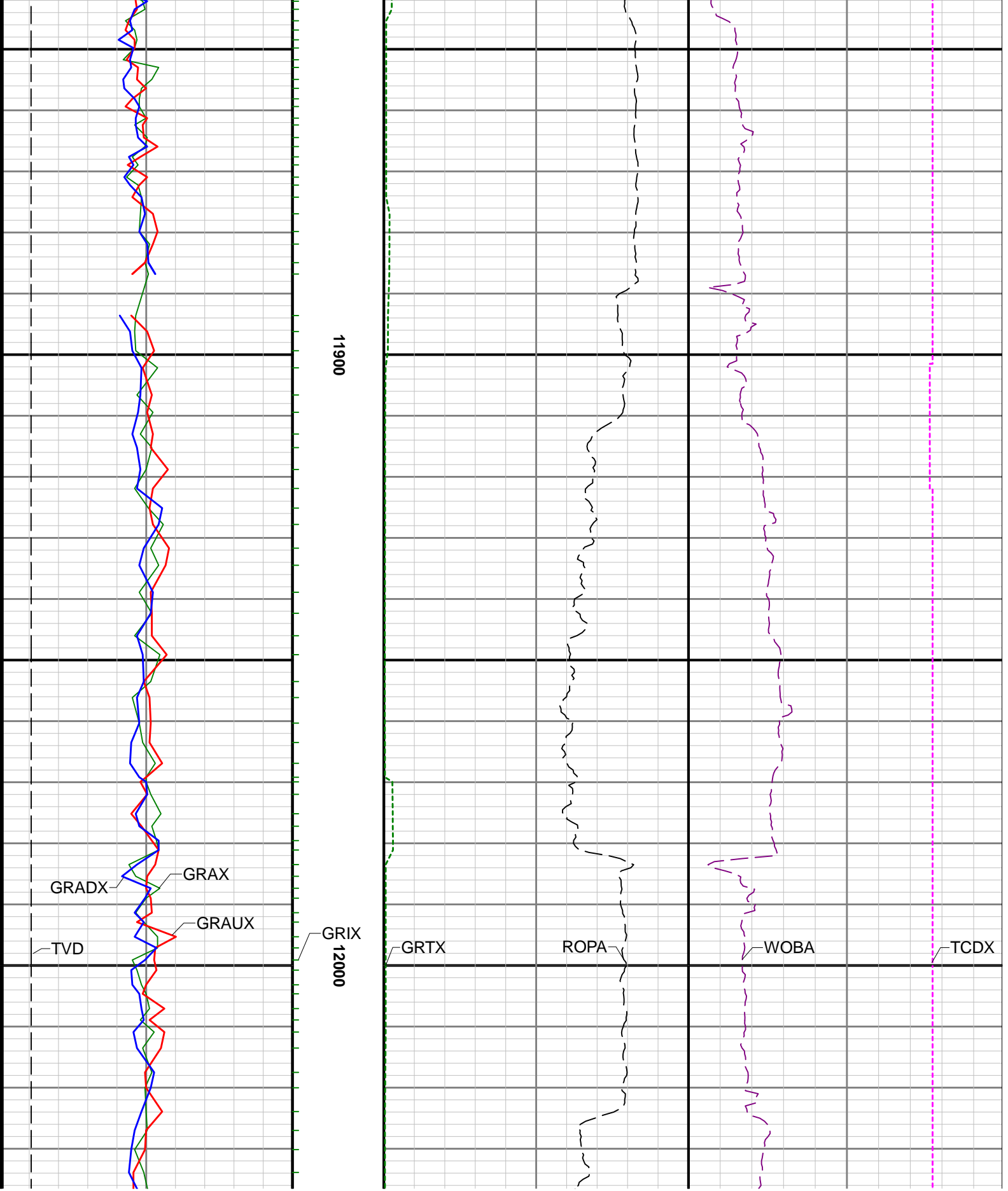


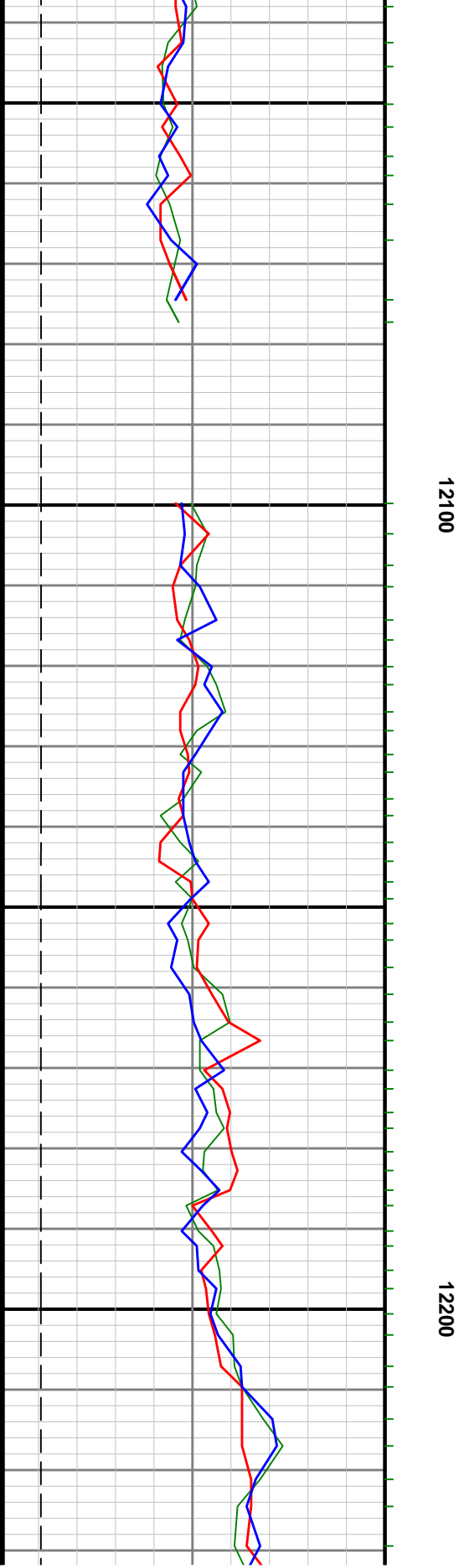
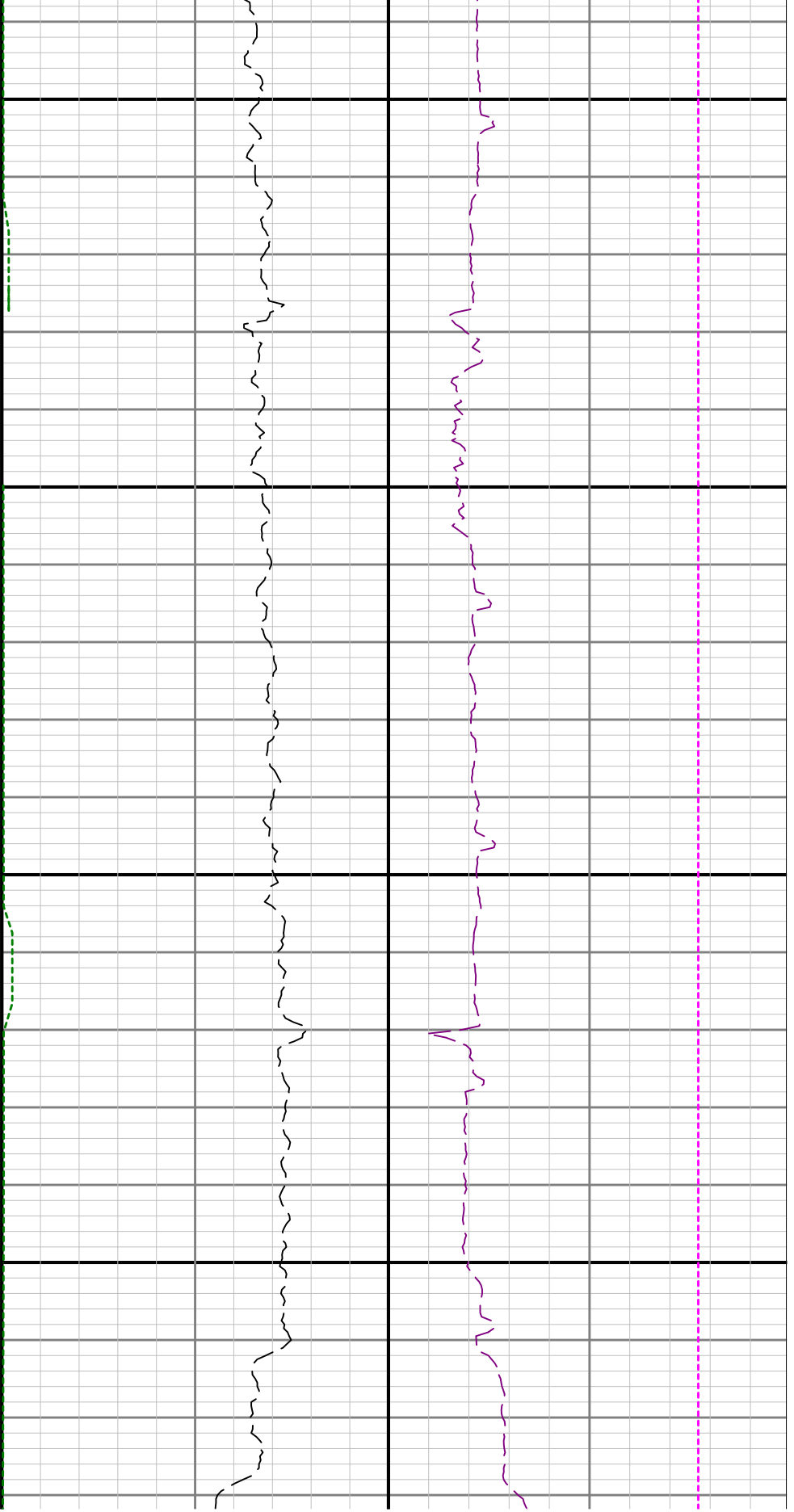


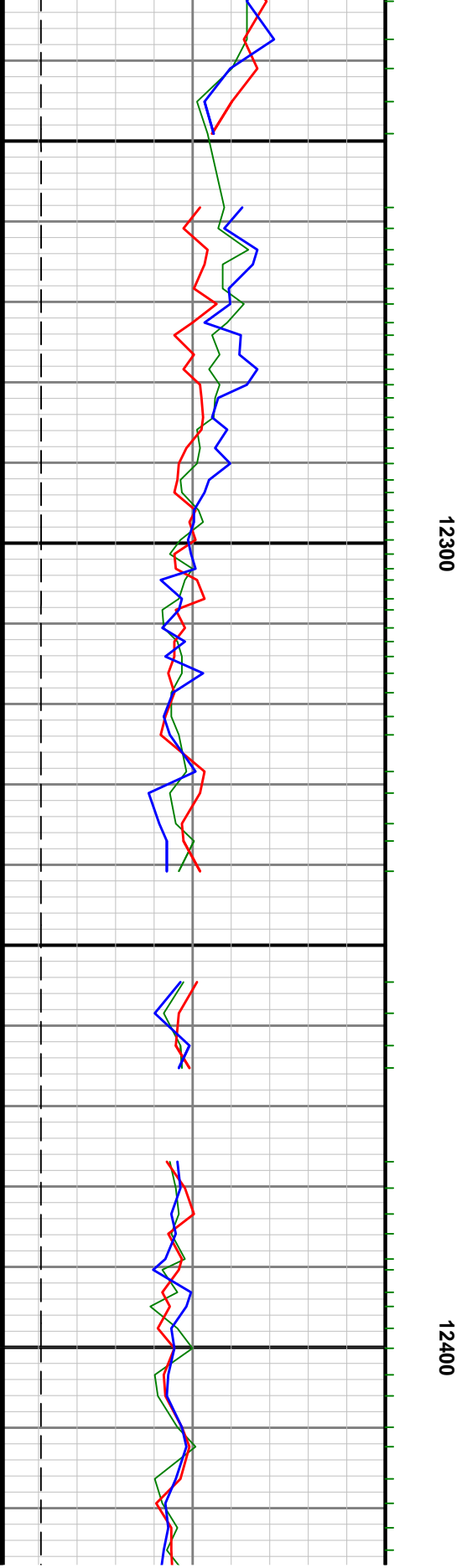
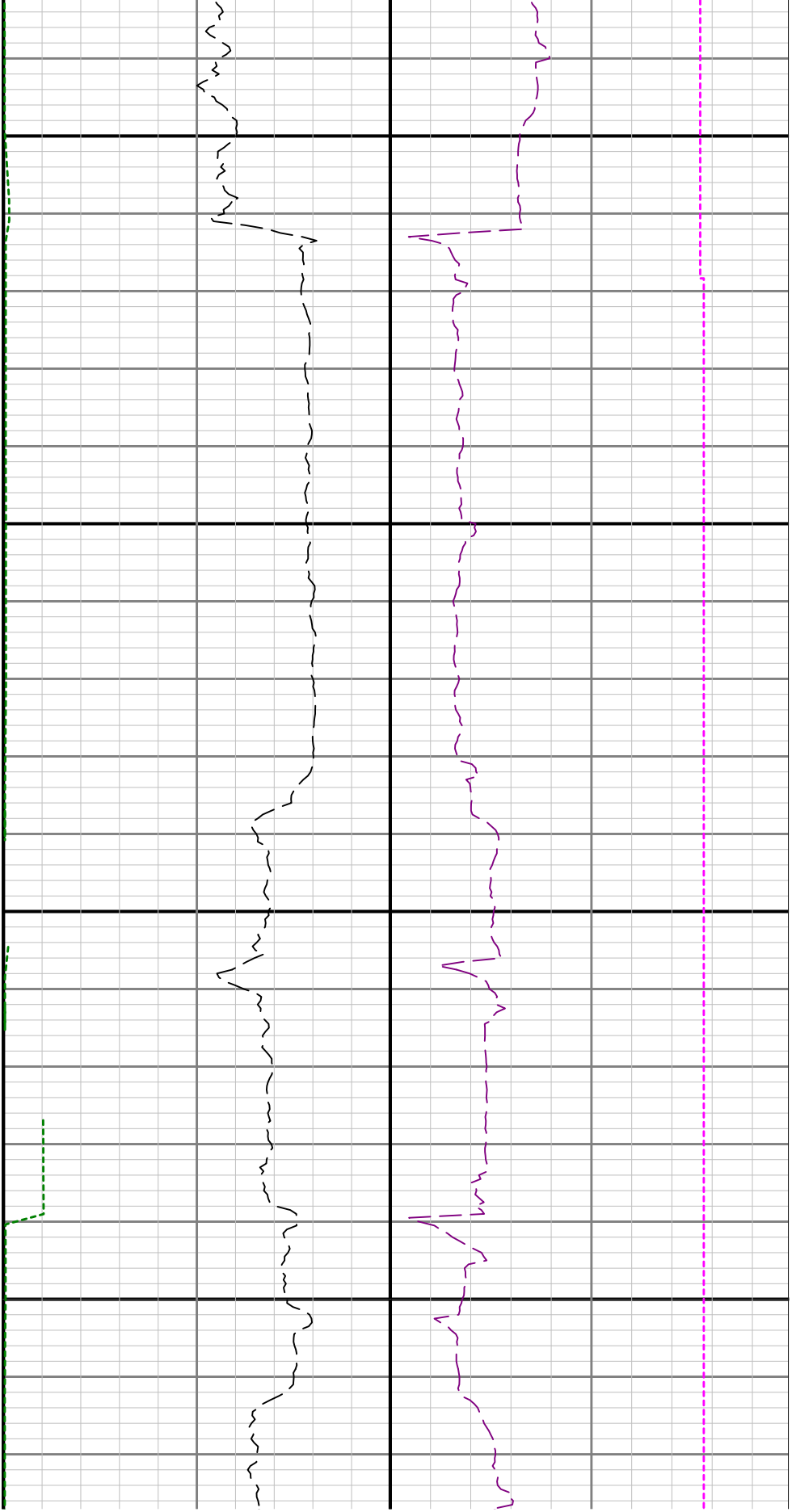
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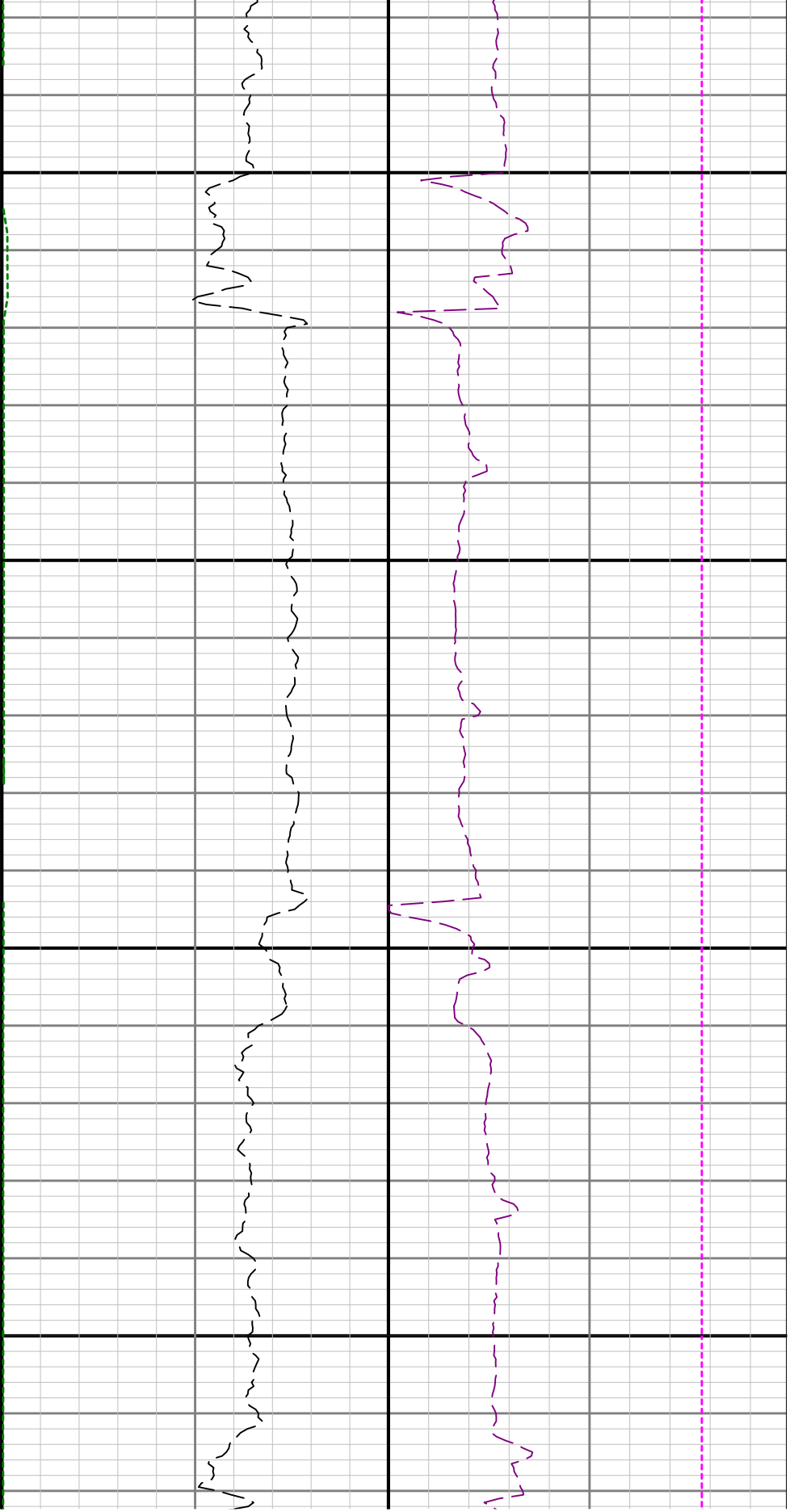
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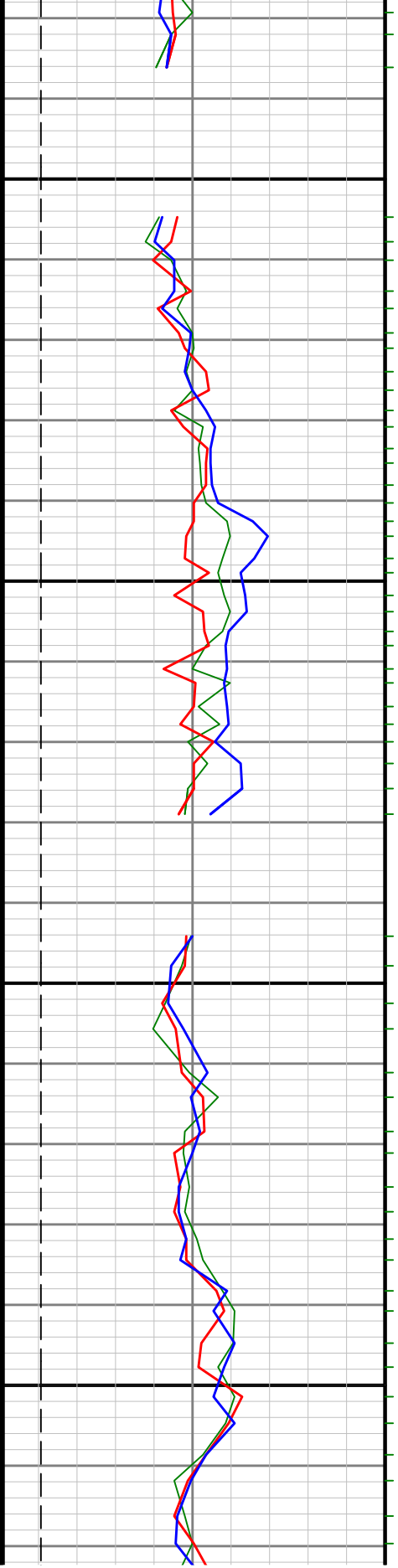


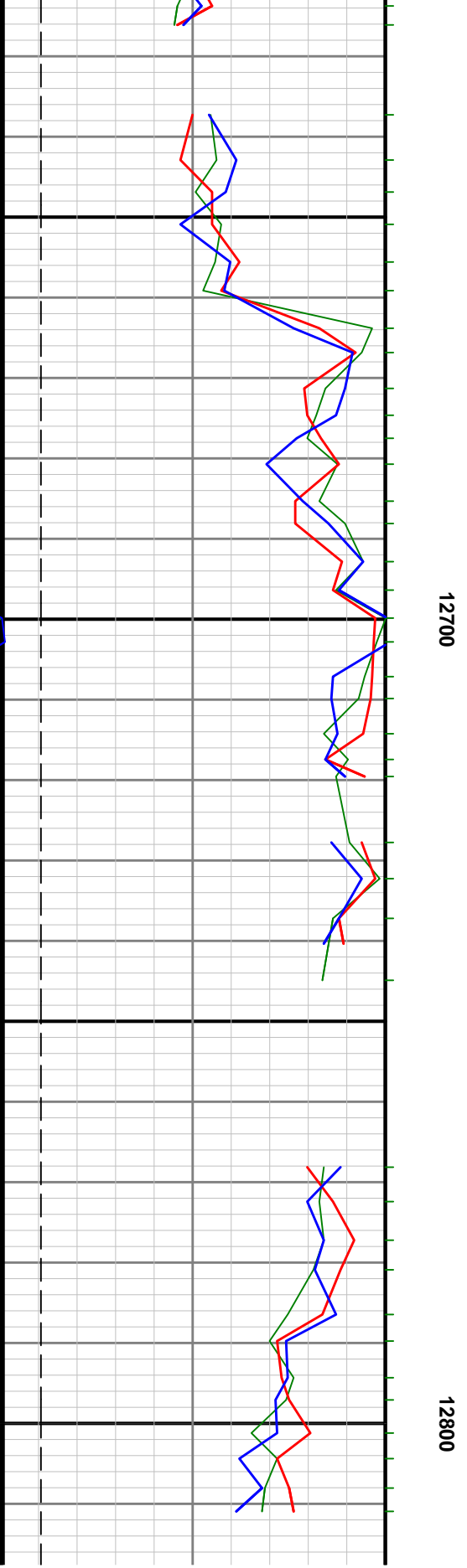
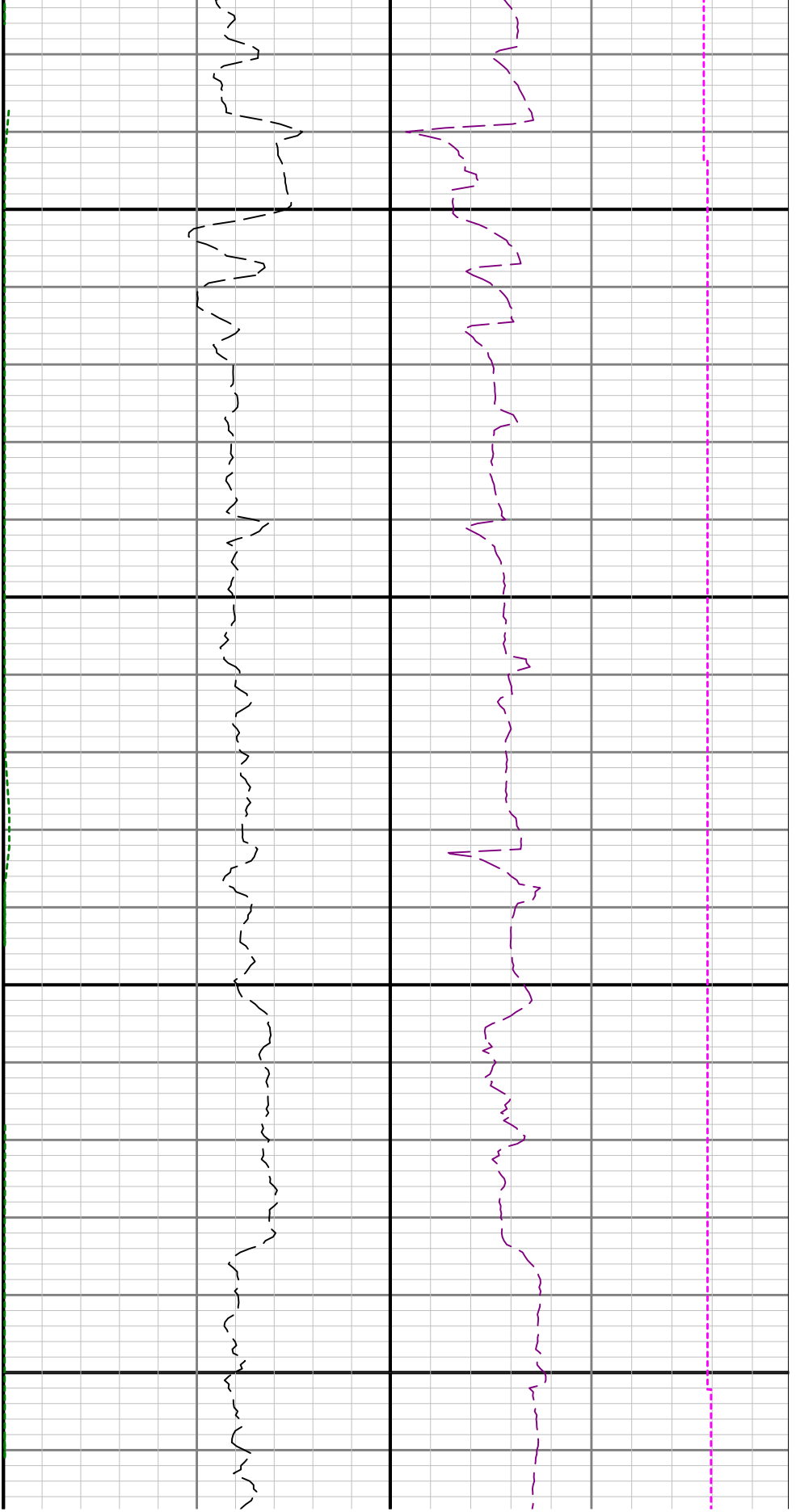


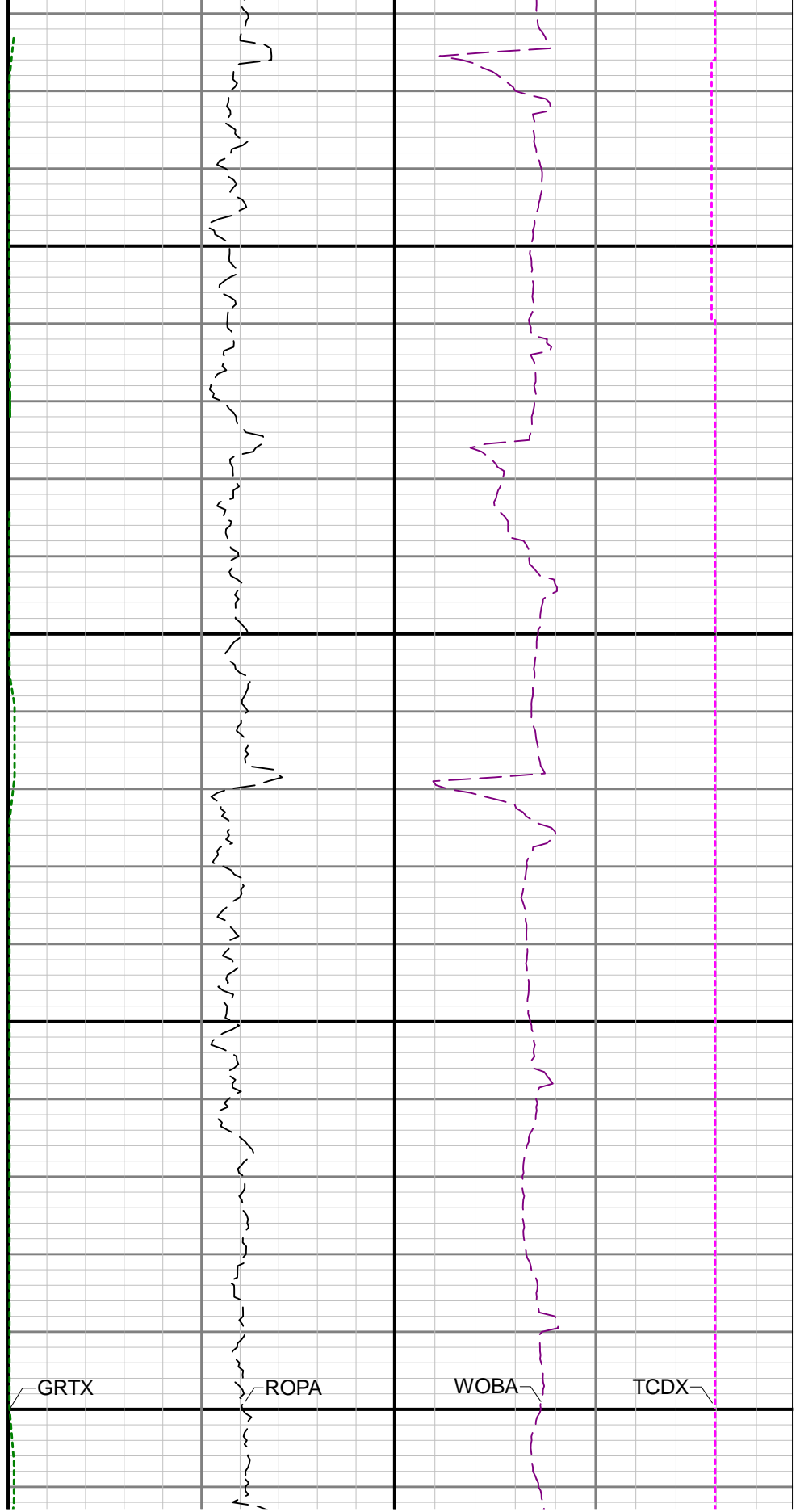
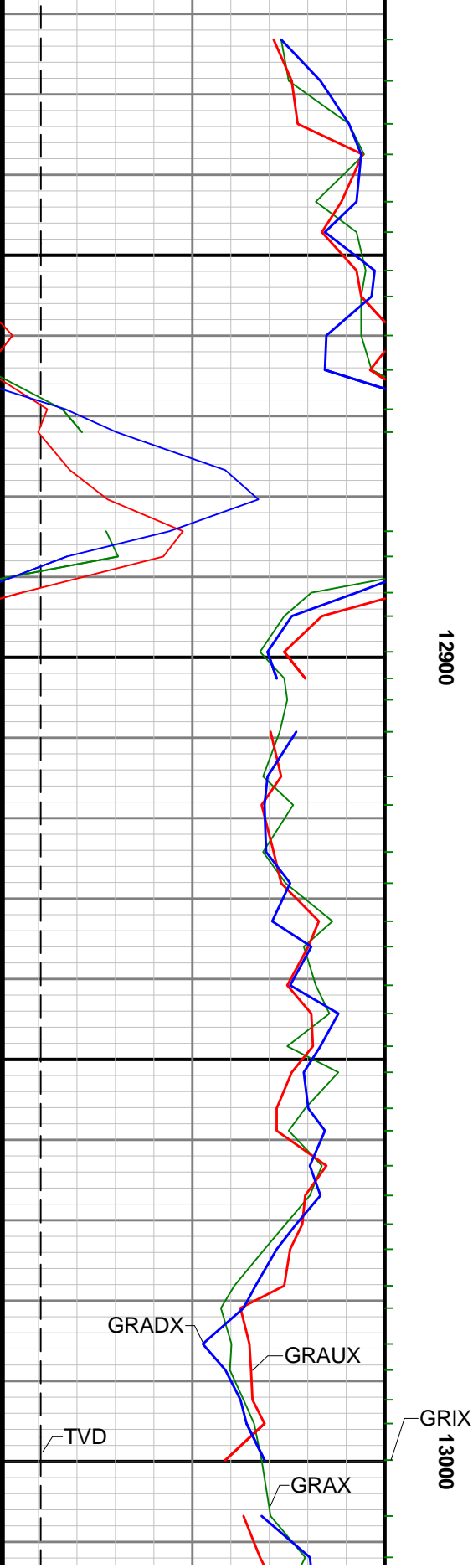


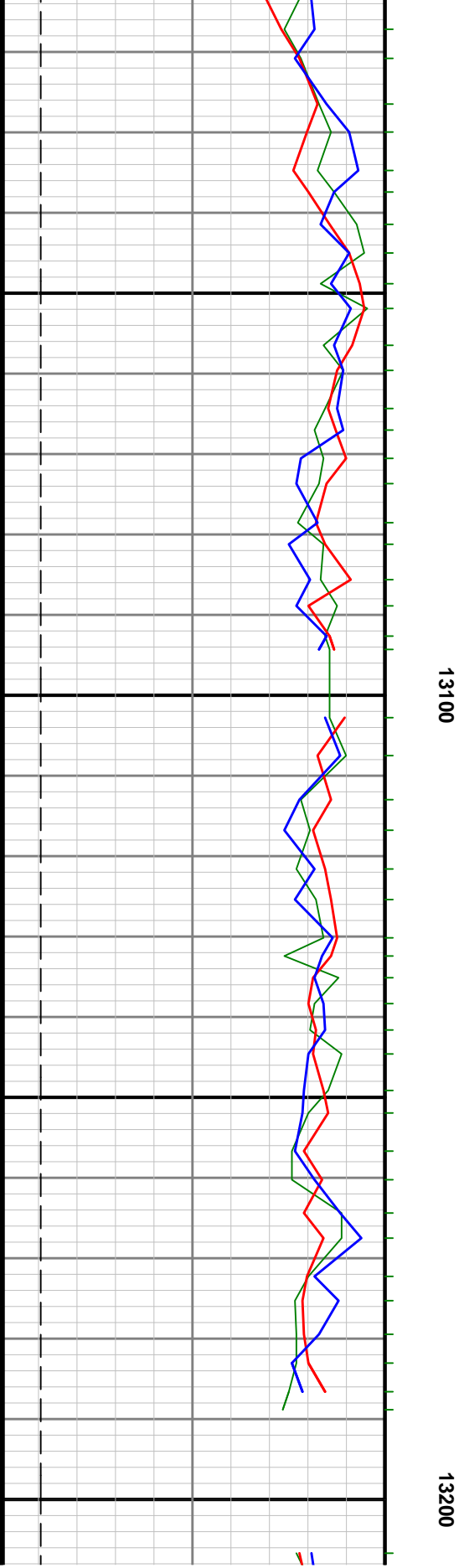
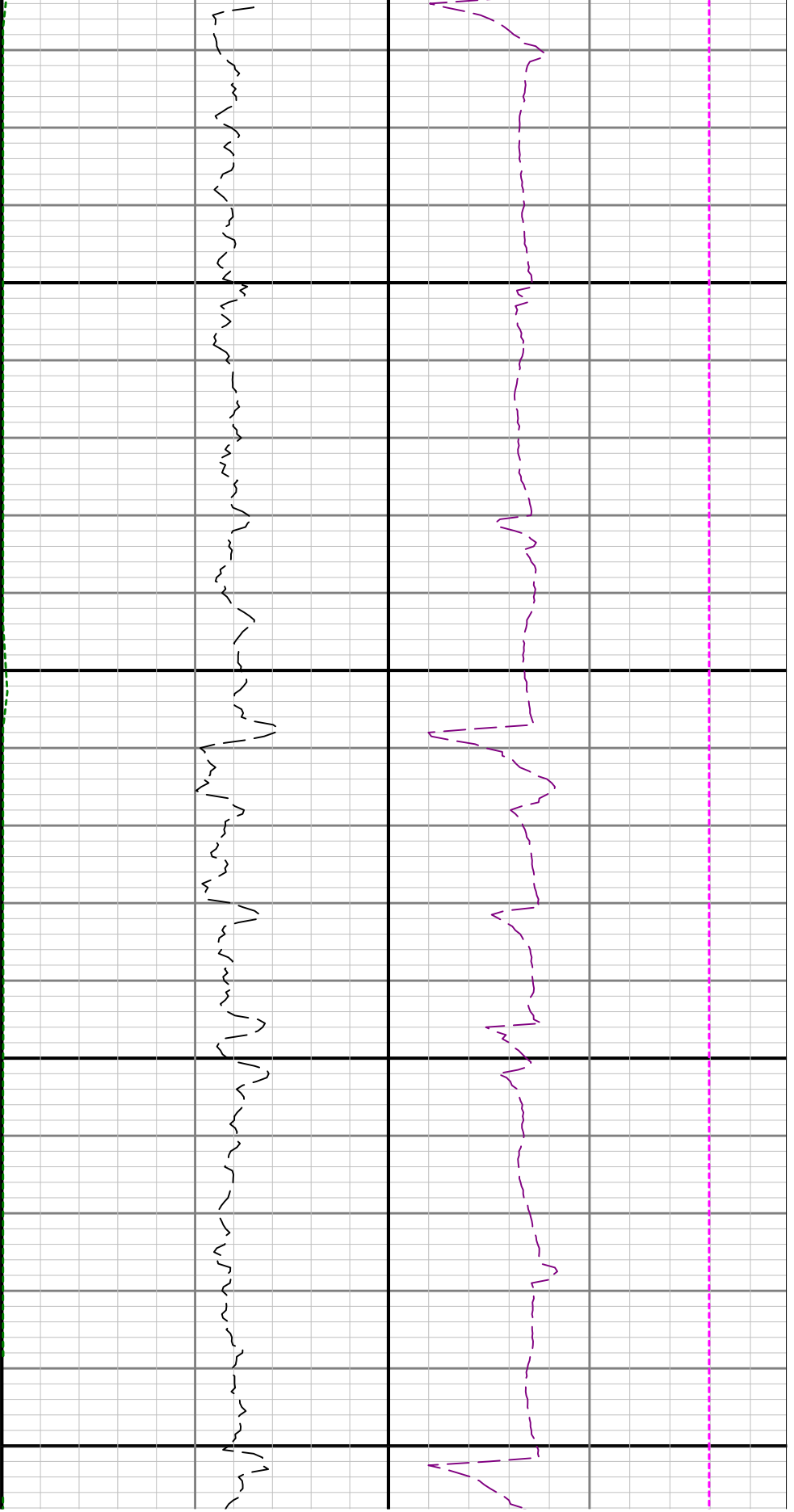
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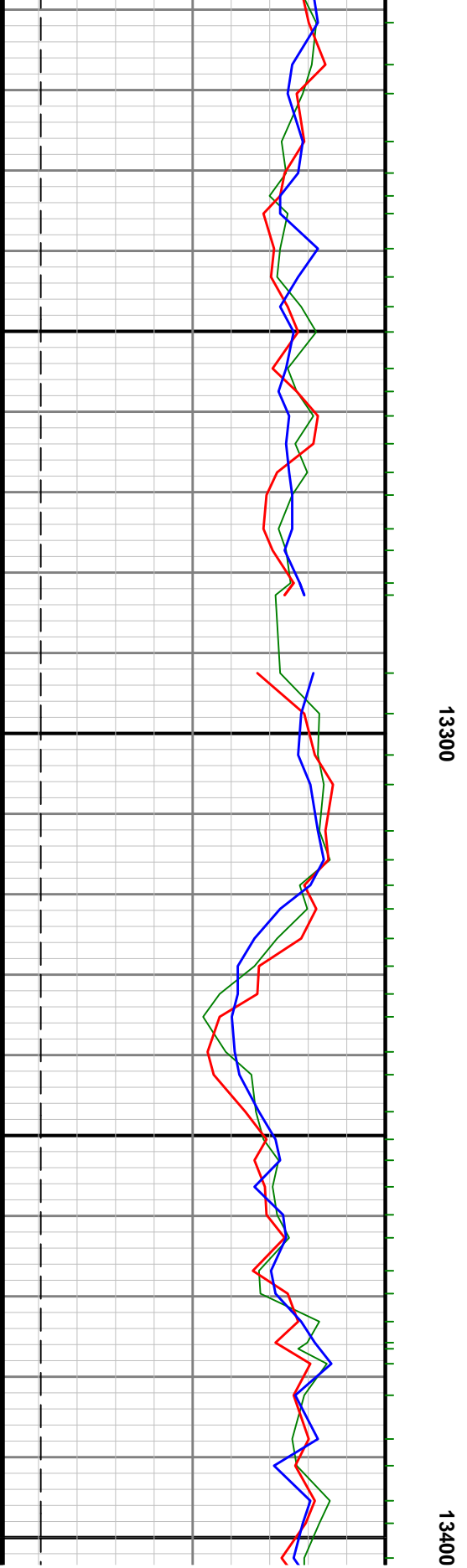
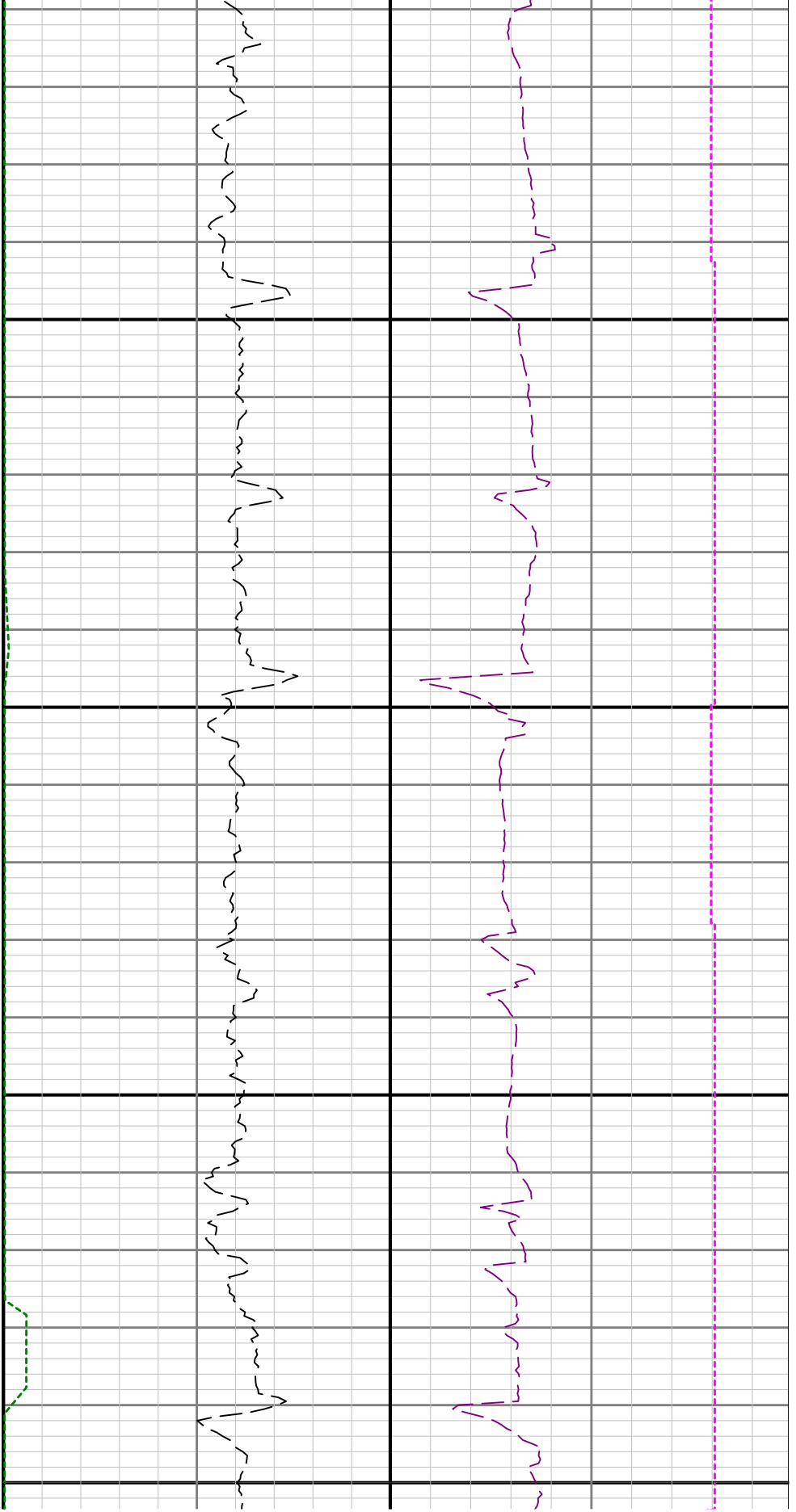
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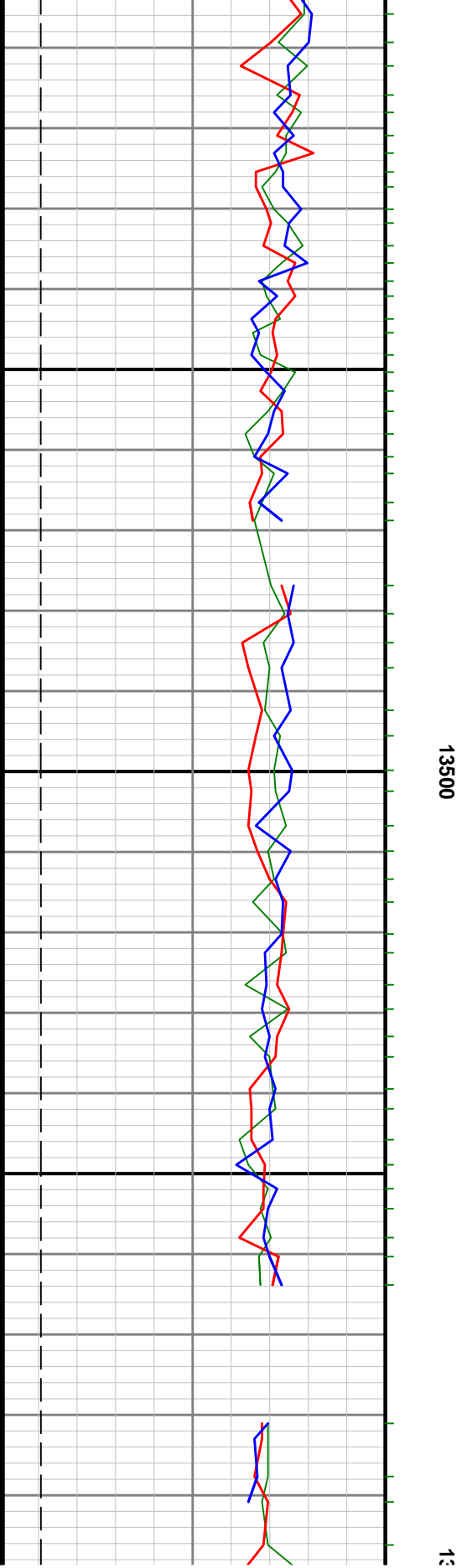
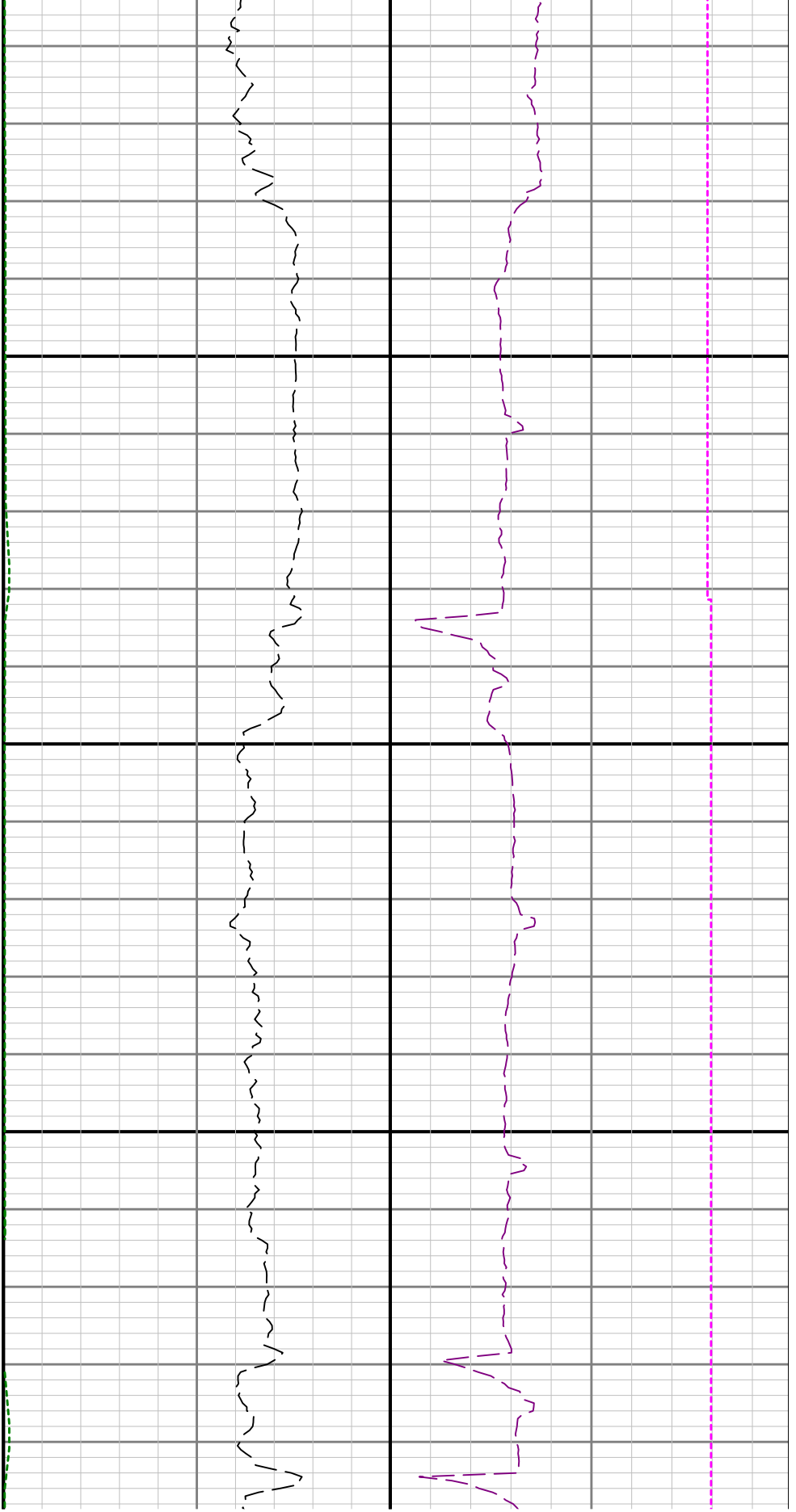


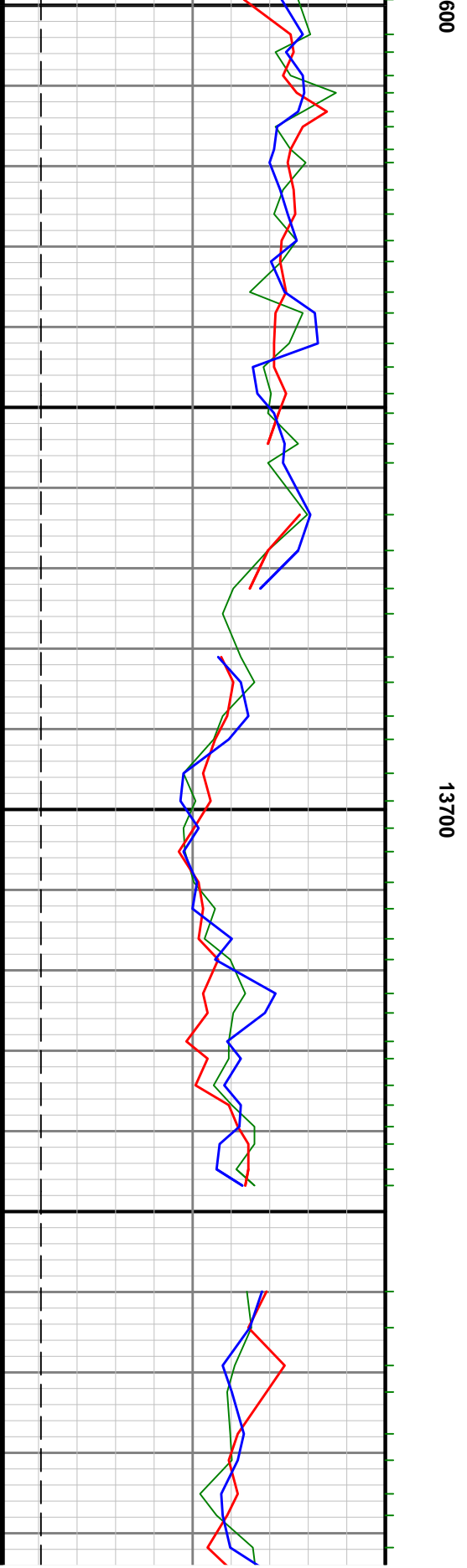
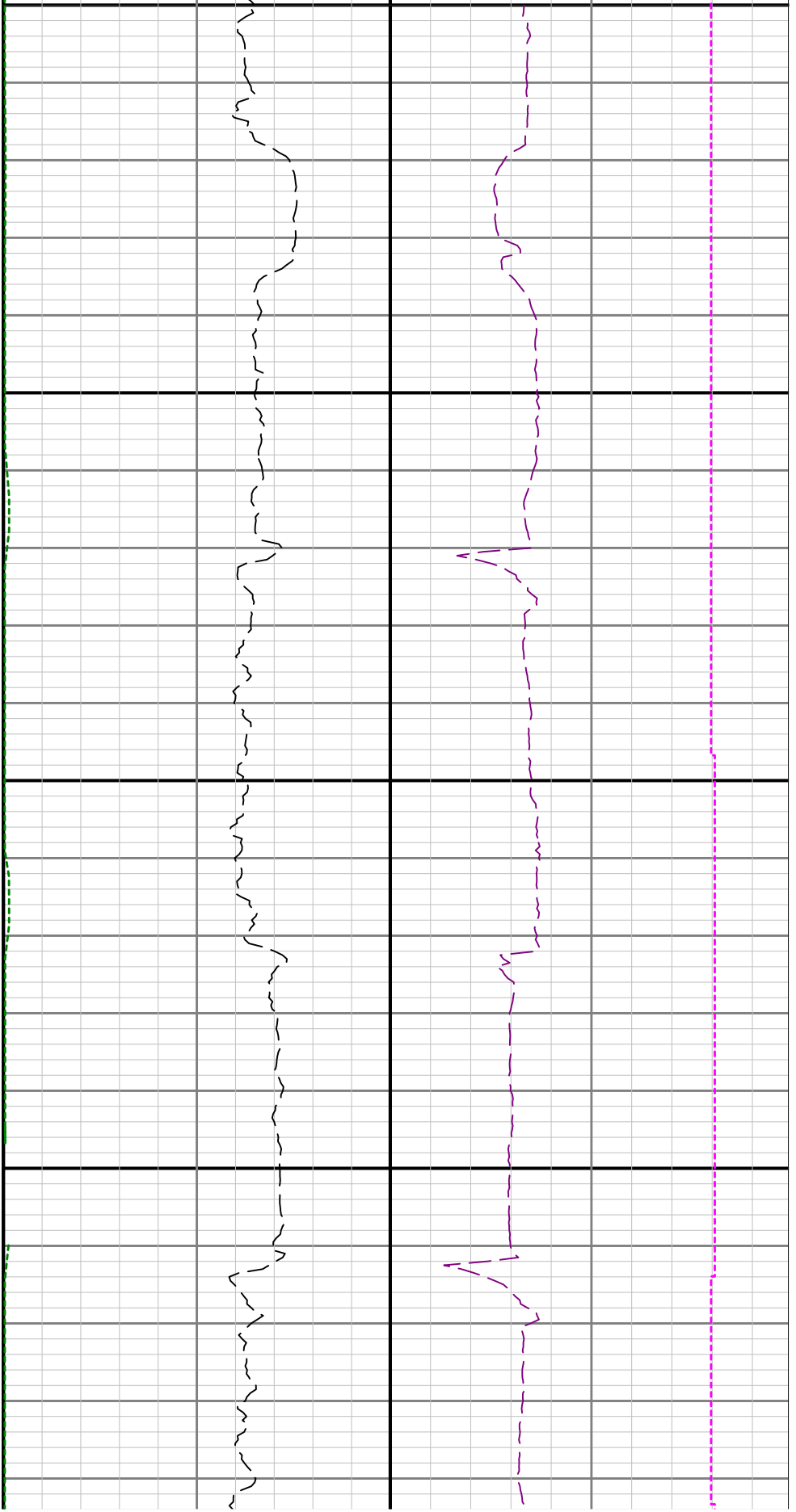


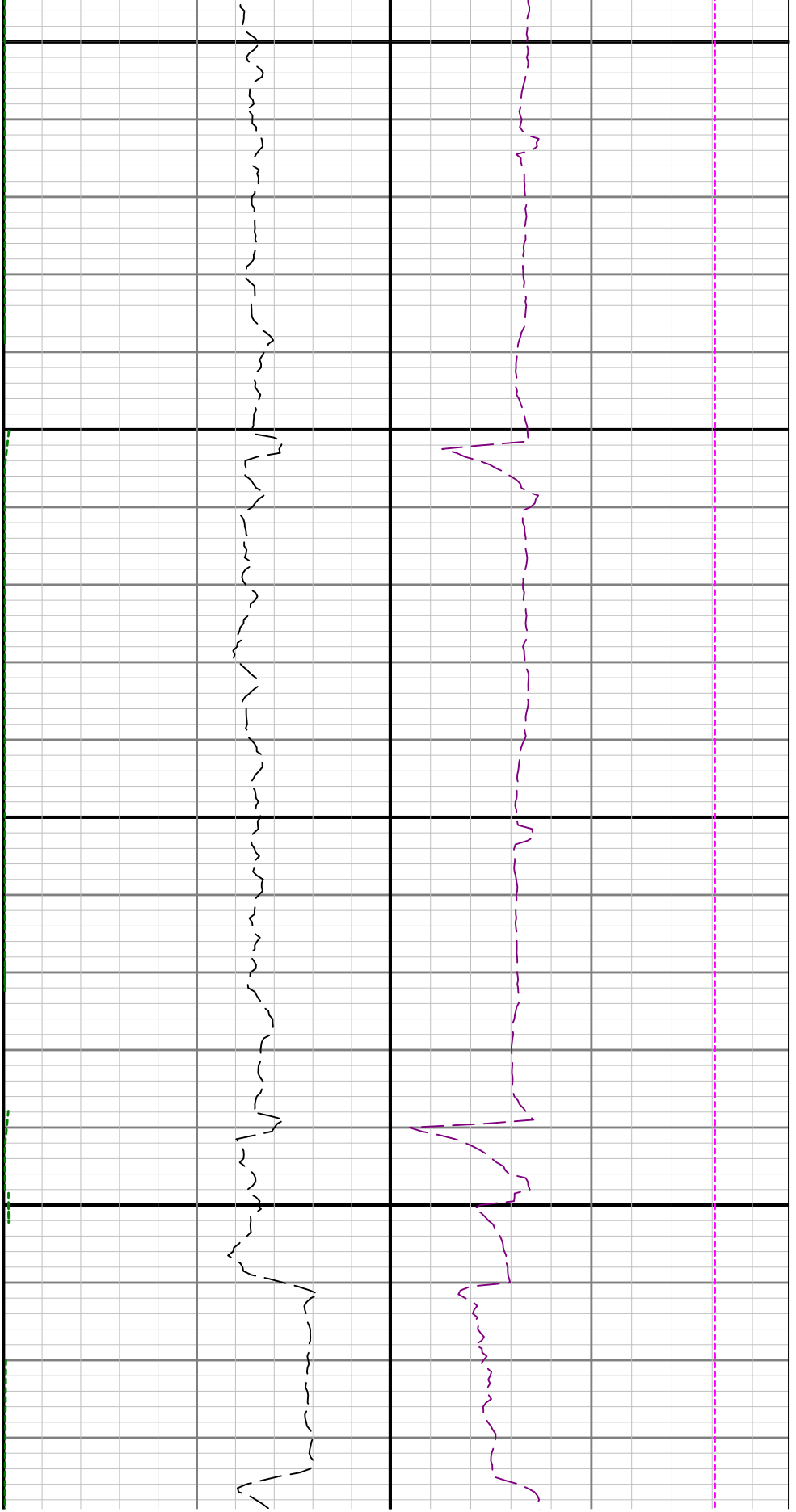












13800

13900

