



LWD MEMORY LOG

Gamma Ray

Scale:		Company: SRC Energy				
1:240 MD		Well: Troutd 41N-23A-M				
Depth Reference:		Field: DJ Basin				
Driller's Depth		County: Weld County		Country: United States		
		State: Colorado				
Status:	Surface Location:			Other Services:		
Final Print		Latitude: 040° 27' 52.531" N				
API No: 05-123-46240		Longitude: 104° 46' 02.140" W			Directional	
Job ID: 9189382	SEC: 27	TWN: 6N	RGE: 66W			
Permanent Datum (P.D.): Ground Level	Elevation: 4719.00 ft	Elev. KB: 4744.00 ft		N/A		
Log Measured From: Rig Floor	Above P.D. 25.00 ft	Elev. DF: 4719.00 ft		Elev. GL:		
Dates		Interval Drilled		Magnetic Field Reference		
Date From: 2018-09-02	Top: (ft) 1841.00	Azi Reference North: True		Dip Angle: (deg) 66.77		
Date To: 2018-09-06	Bottom: (ft) 14960.00	Total Magnetic Field Strength: (nT)		52385		
Spud Date: 2018-06-02	Mag to Reference North Correction: (deg) 7.55					
Borehole Record			Casing Record			
Hole Size (in)	From (ft)	To (ft)	Size (in)	Weight (lb/ft)	From (ft)	To (ft)
13.500	25.00	1841.00	9.620	36.00	25.00	1821.00
8.500	1841.00	14960.00				
Mud Record						
Type	From (ft)	To (ft)	Hole Size (in)	Interval (ft)	Inc Az (Start)	Inc Az (End)
Diesel-Oil Based Mud	1841.00	14960.00	13.500	1820.00	0.00 46.16	16.26 17.58
			8.500	13119.00	16.26 17.58	91.02 86.37
Acquisition System						
Baker Hughes Cadence	RT 4.2		PD562		Unit: D&E	
Pilot Studio	4.2.8155.1		Precision Drilling			

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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)			
2	1	8.500	PDC	3.00	AutoTrak Curve	1821.00	1909.00	1841.00	1922.00	2018-09-02 22:08	2018-09-02 22:25	1.25
3	3	8.500	PDC	3.00	AutoTrak Curve	1909.00	14947.00	1922.00	14960.00	2018-09-03 03:12	2018-09-05 13:21	50.70

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Garrett Gerdson	2018-09-02	2018-09-06						

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+ (%)
2018-09-02 18:43	2	1900.00	Diesel-Oil Based Mud	9.6	14	N/A	12.0	74/26	Active Pit	35000	0.00
2018-09-03 03:00	3	2195.00	Diesel-Oil Based Mud	9.5	16	N/A	14.0	78/22	Active Pit	30000	0.00

2018-09-03 14:00	3	4788.00	Diesel-Oil Based Mud	9.6	15	N/A	15.0	77/23	Active Pit	26000	0.00
2018-09-04 03:00	3	7580.00	Diesel-Oil Based Mud	10.0	19	N/A	12.0	74/26	Active Pit	37000	0.00
2018-09-04 15:00	3	9980.00	Diesel-Oil Based Mud	10.1	20	N/A	14.0	74/26	Active Pit	38000	0.00
2018-09-05 03:00	3	12880.00	Diesel-Oil Based Mud	10.0	20	N/A	13.0	74/26	Active Pit	38000	0.00
2018-09-05 13:00	3	14960.00	Diesel-Oil Based Mud	10.2	21	N/A	12.0	74/26	Active Pit	39000	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)
2	ATC_SU	14192923	Near Bit Inclination	5.93	6.73	7.000	4.330
2	ATC_SU	14192923	Near Bit VSS	5.93	6.73	7.000	4.330
2	ATC_MWD	14219805	Gamma (single)	2.75	12.91	7.000	3.250
2	ATC_MWD	14219805	Directional (mag)	12.27	22.43	7.000	3.250
3	ATC_SU	14316022	Near Bit VSS	5.93	6.73	7.000	4.330
3	ATC_SU	14316022	Near Bit Inclination	5.93	6.73	7.000	4.330
3	ATC_MWD	14146740	Gamma (single)	2.76	12.90	7.000	3.250
3	ATC_MWD	14146740	Directional (mag)	12.27	22.41	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 8 inch NaviTrak service (Directional only) behind a 13 1/2 inch bit and steerable assembly from surface to 1841 feet MD (surface to 1801 feet TVD). No logging data was acquired during this run.
3	Baker Hughes LWD Run 2 utilized 6 ¾ inch NaviGamma services (Gamma Ray and Directional) behind an 8 ½ inch bit and rotary steerable assembly from 1841 to 14960 feet MD (1801 to 6906 feet TVD).
4	Gamma Ray Apparent (GRAM, GRAUM, GRADM) is presented 0 to 300 API per customer request.

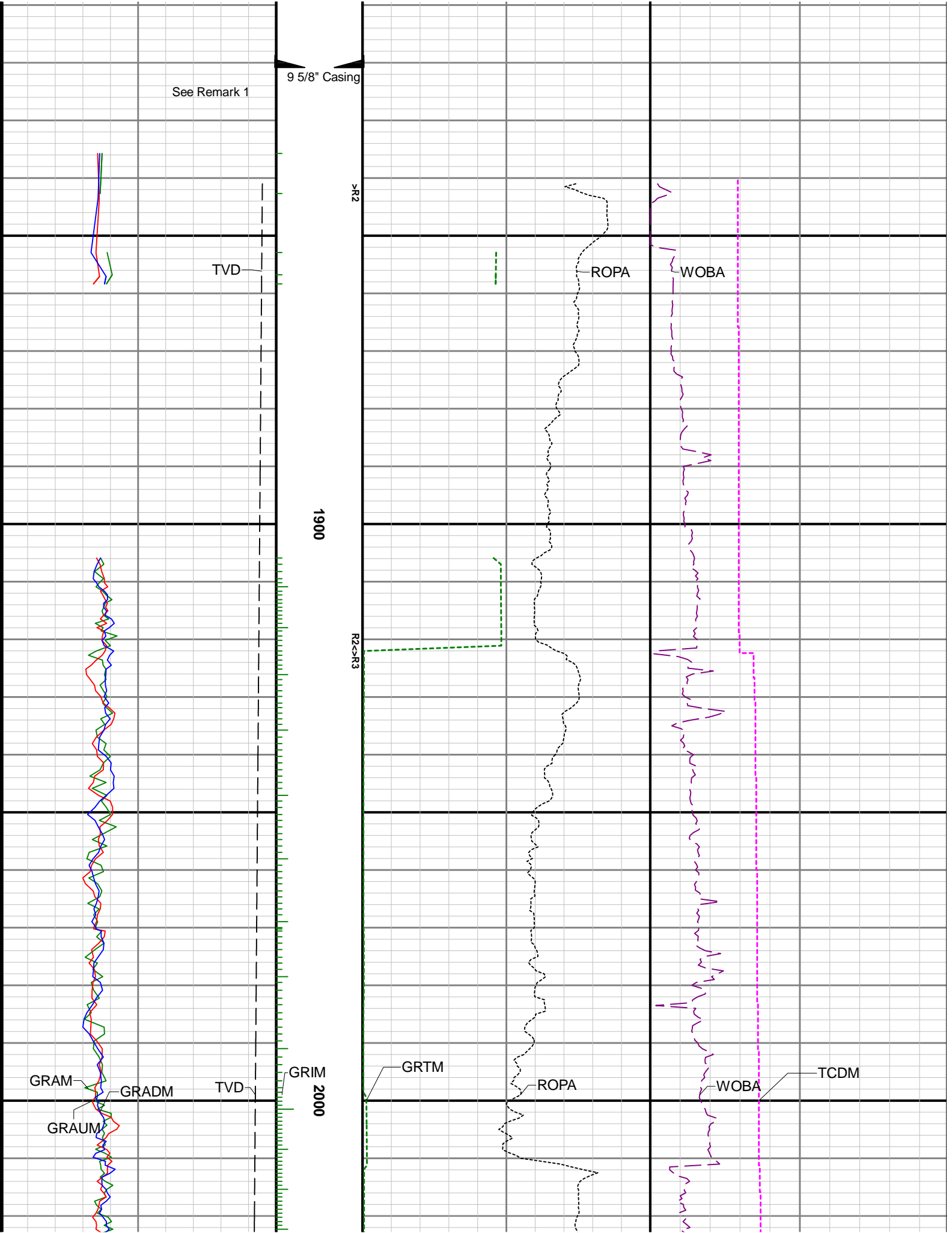
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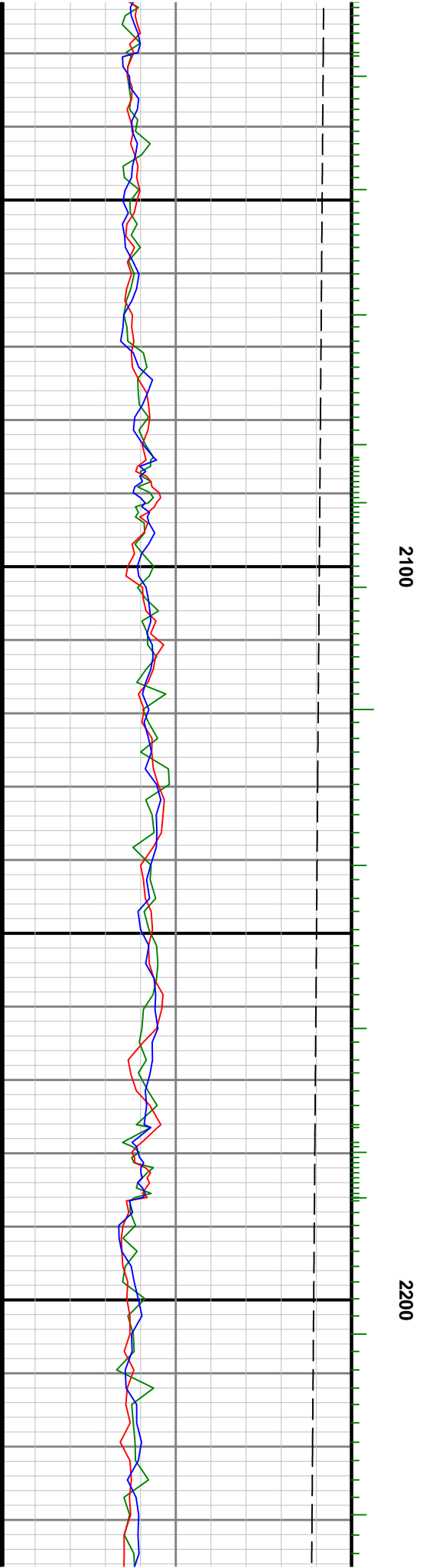
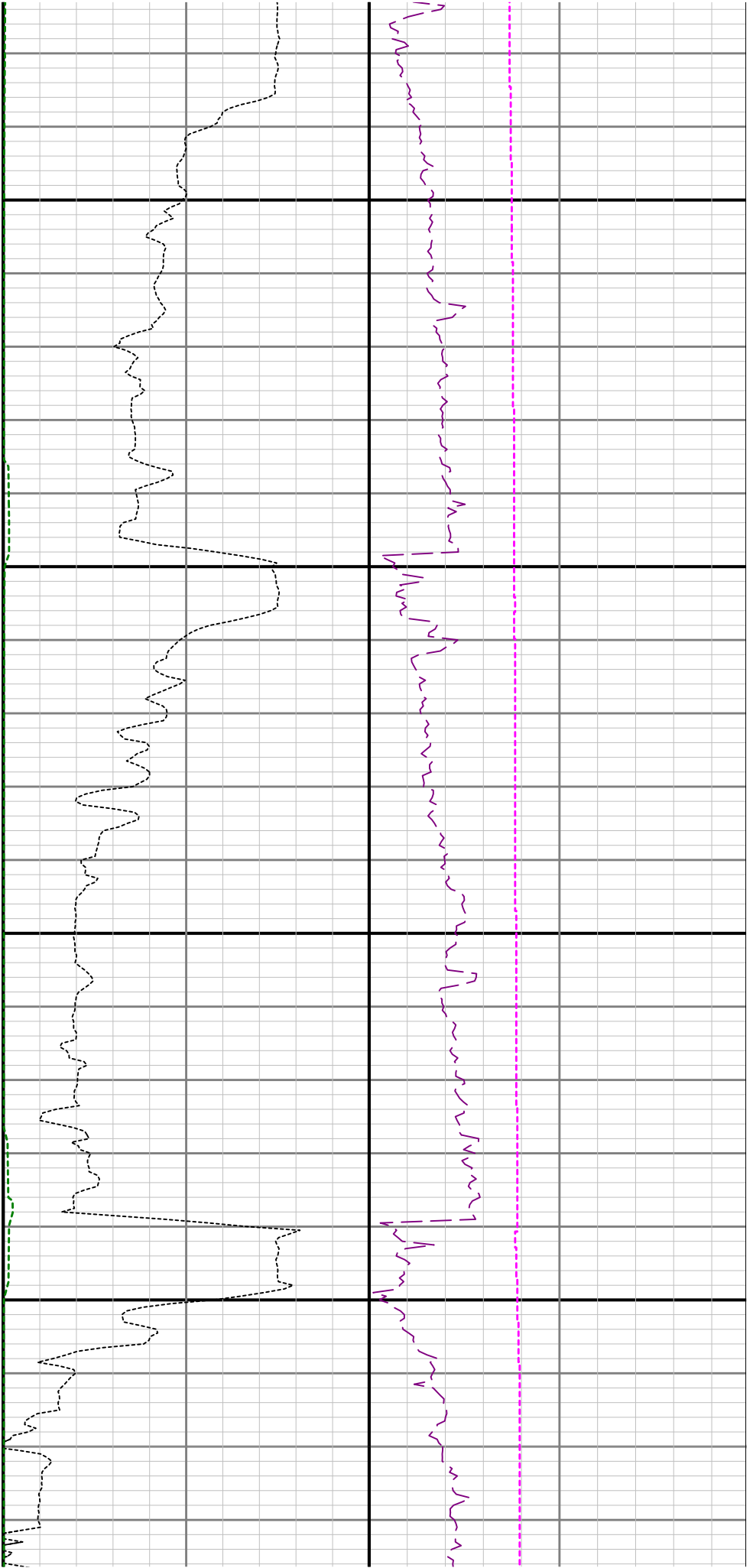
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	1820.00	8.500	3	No Gamma Ray data was obtained over the interval from 1821 to 1909 feet MD (1782 to 1867 feet TVD) due to a tool failure on Run 1. Gamma Ray logging operations began at 1909 feet (1867 feet TVD).
2	14955.00	8.500	3	The interval from 14947 to 14960 feet MD (6906 feet TVD) was not logged due to sensor to bit offset at well TD.

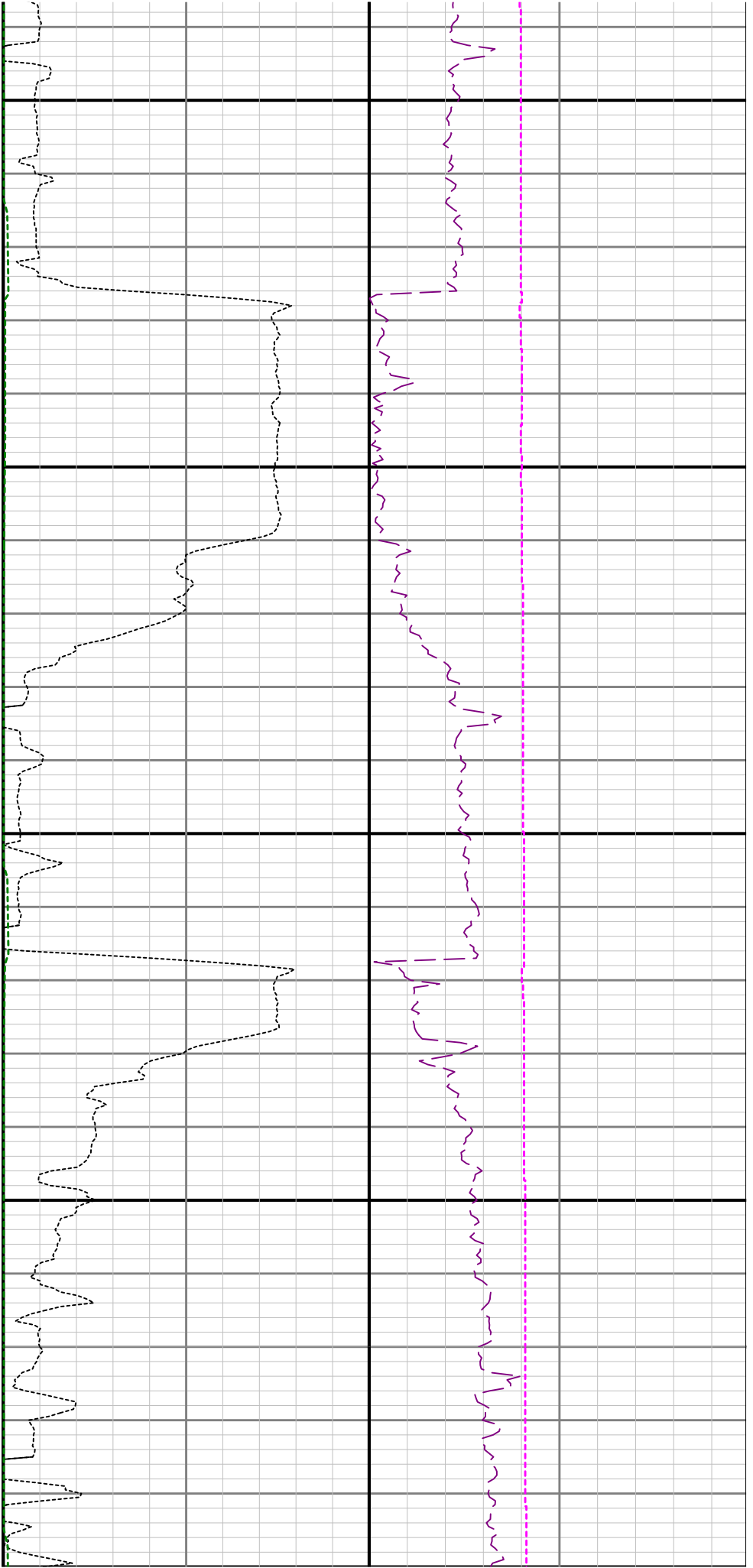
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	<div>Well</div>	Troudt 41N-23A-M			
	<div>Interval</div>	<div>Date From:</div>	2018-09-02 21:39	<div>Top:</div>	1841.00 ft
	<div>Date To:</div>	2018-09-06 10:26	<div>Bottom:</div>	14960.00 ft	
	<div>Created</div>	2018-09-06 10:27:46			

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

	1800				

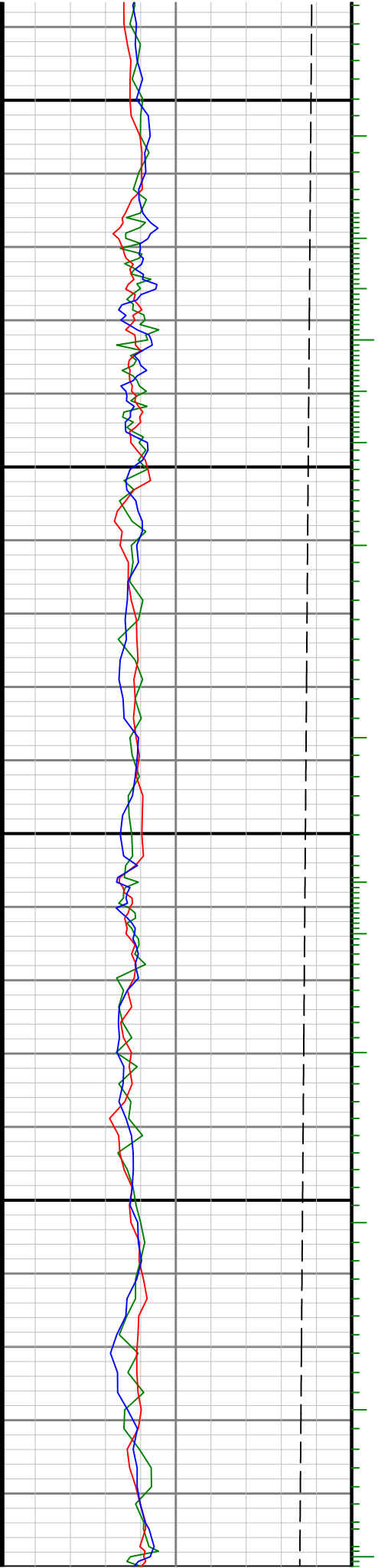


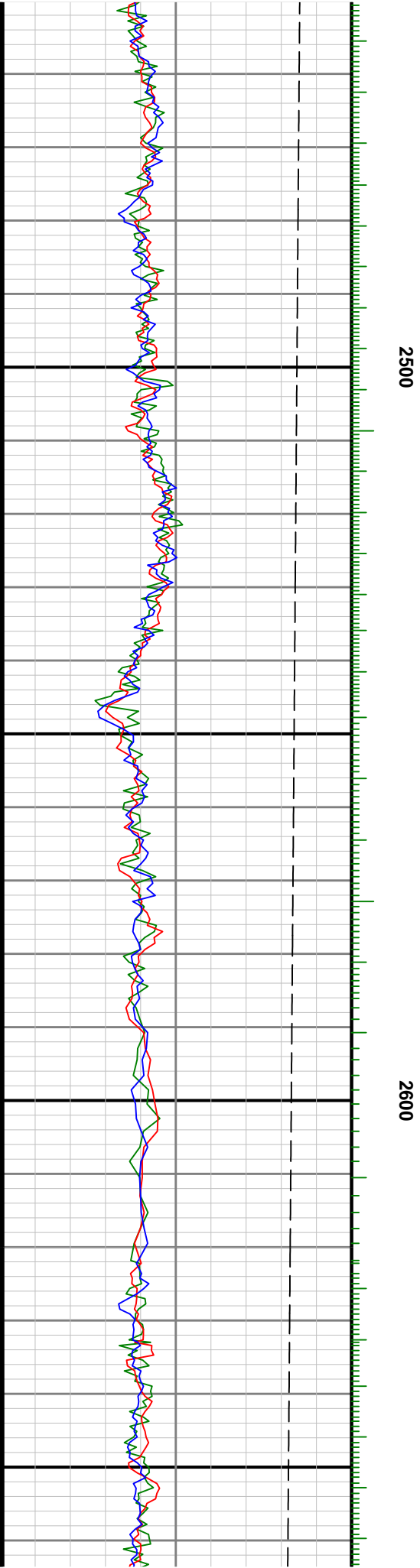
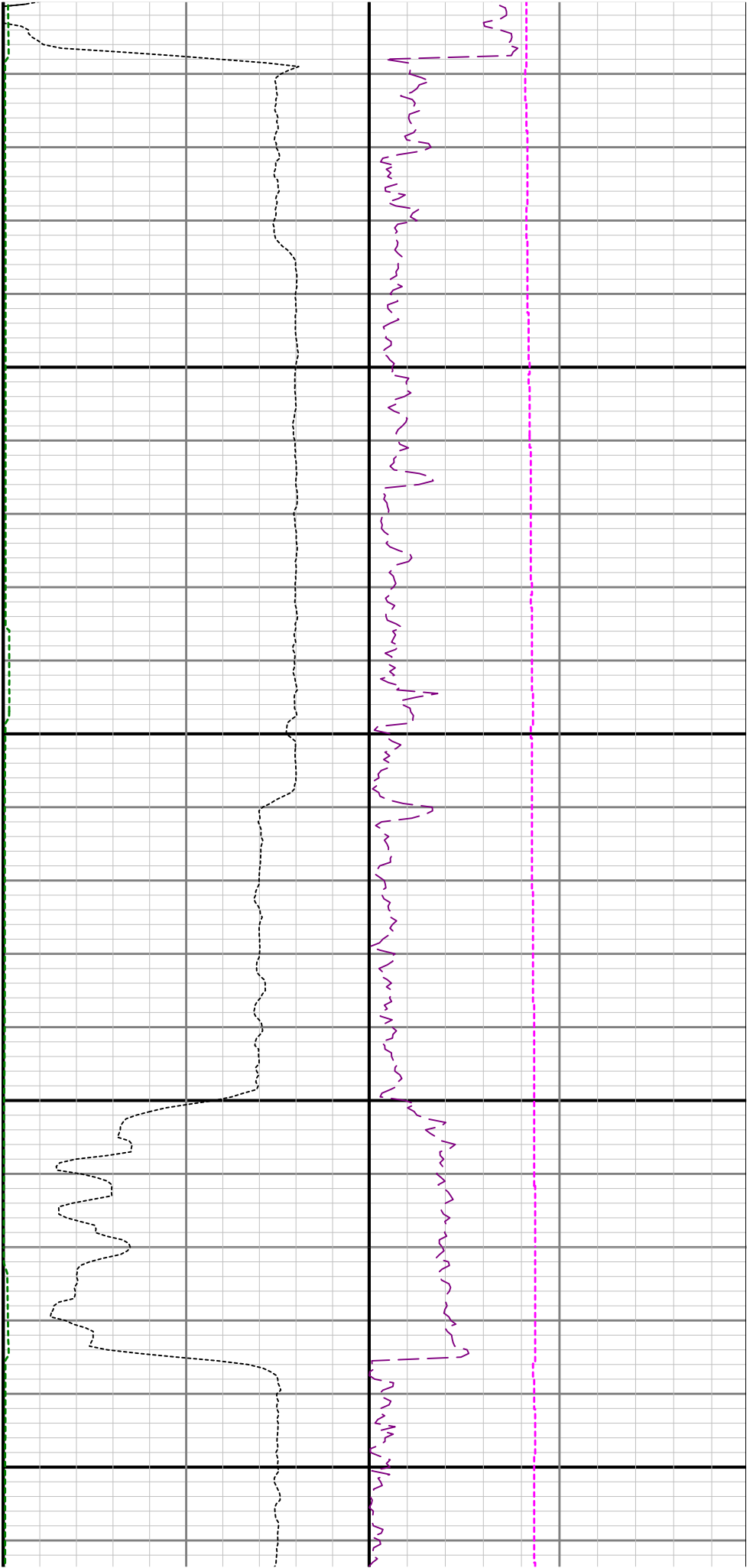


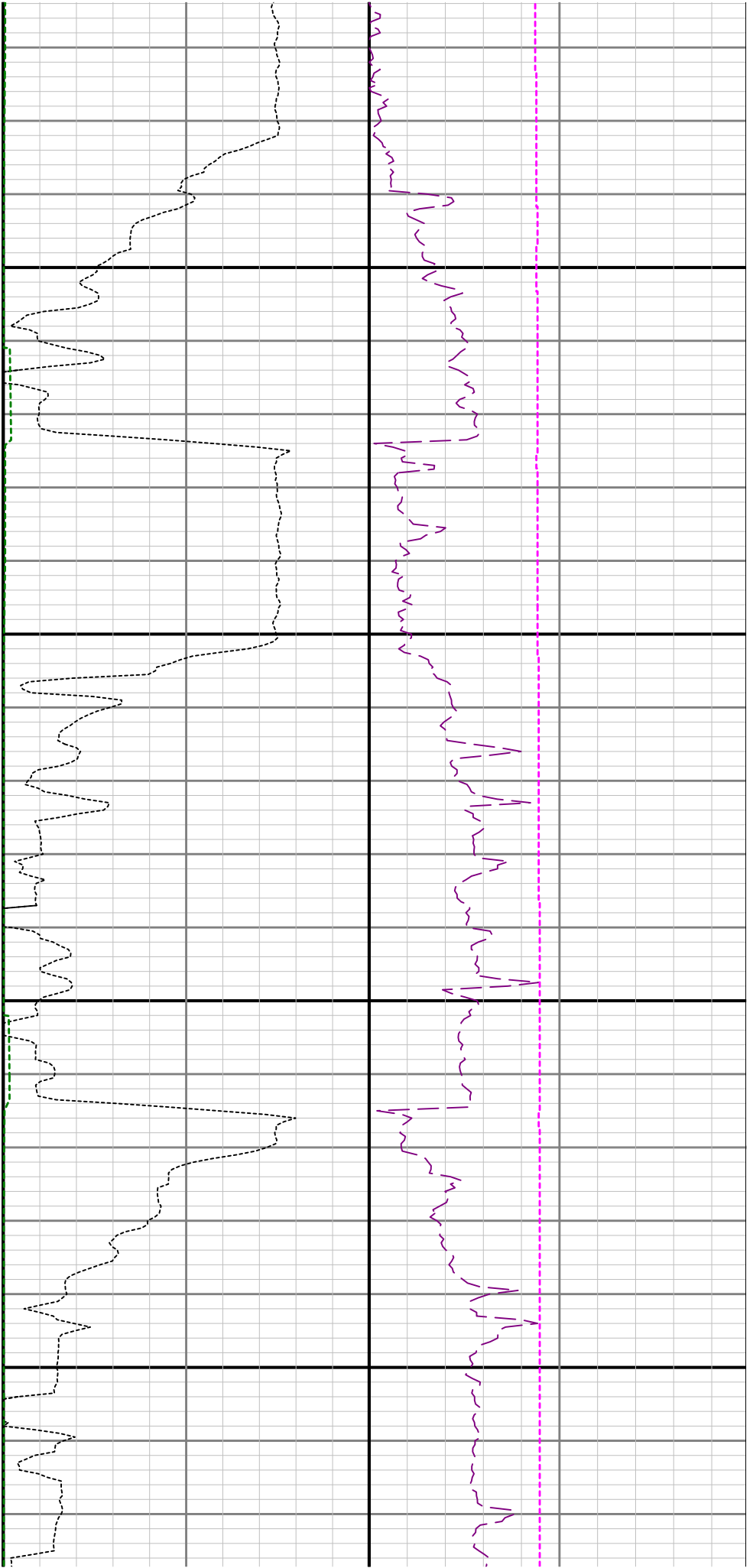


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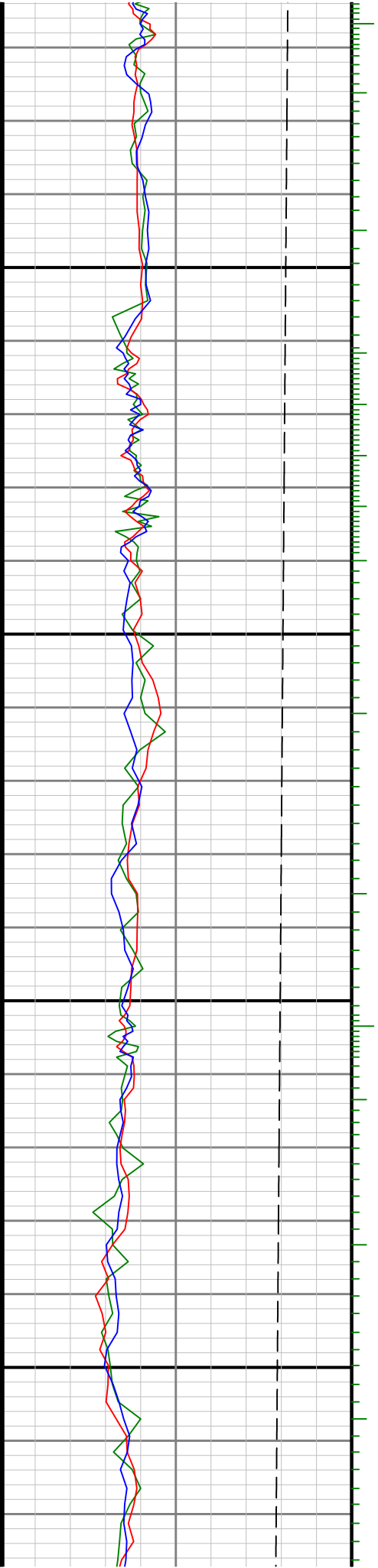


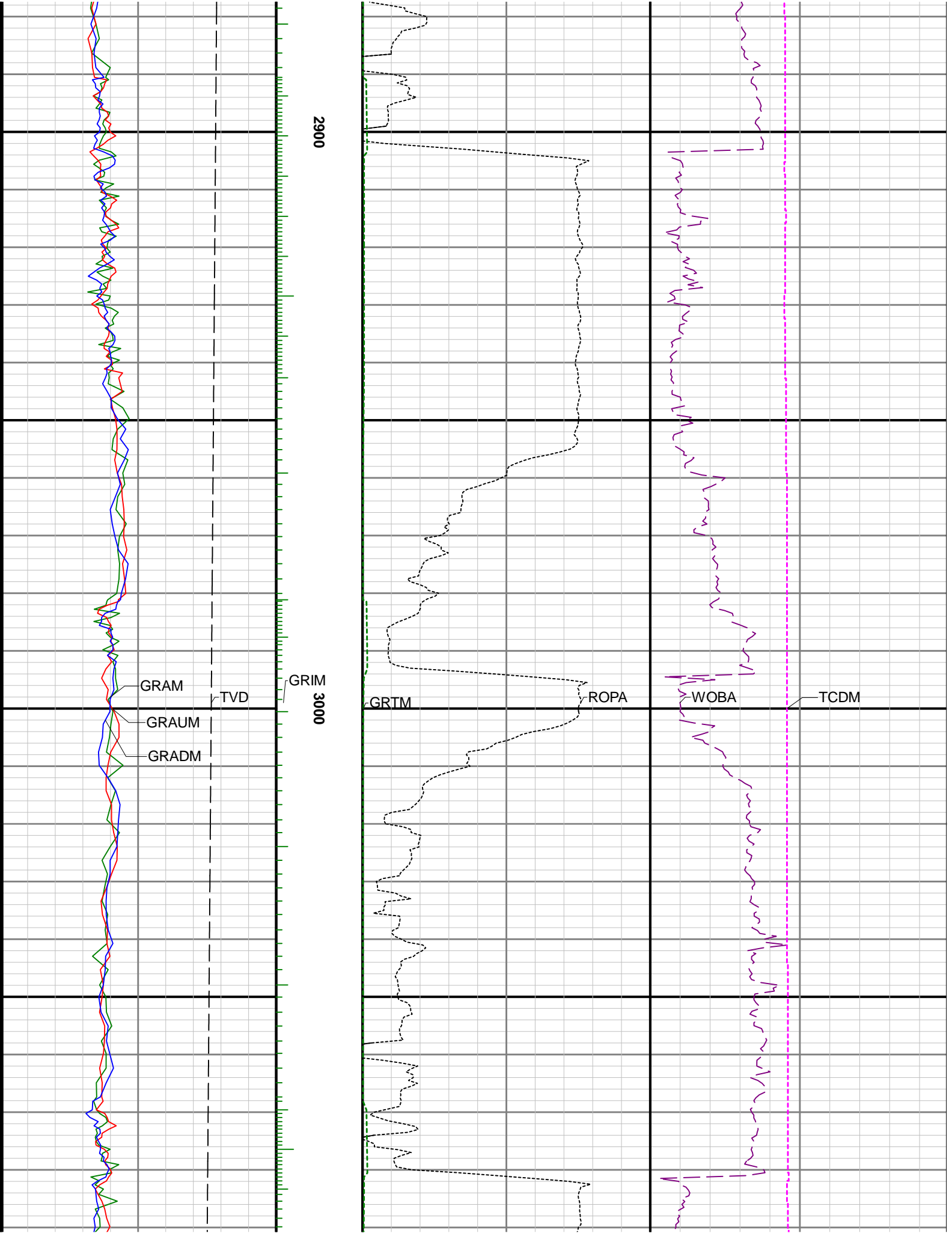


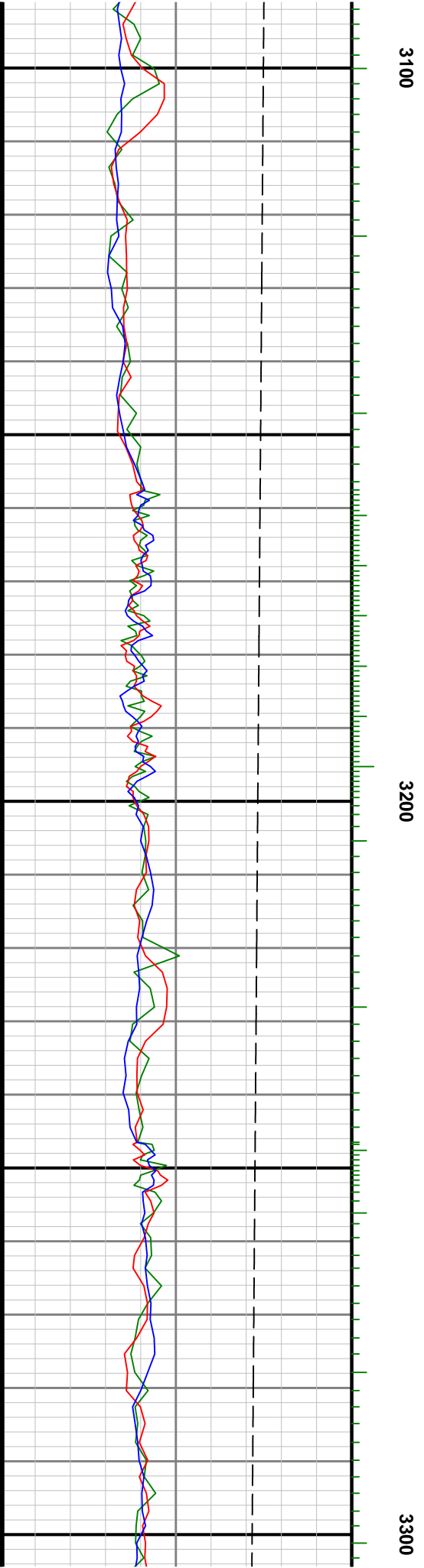
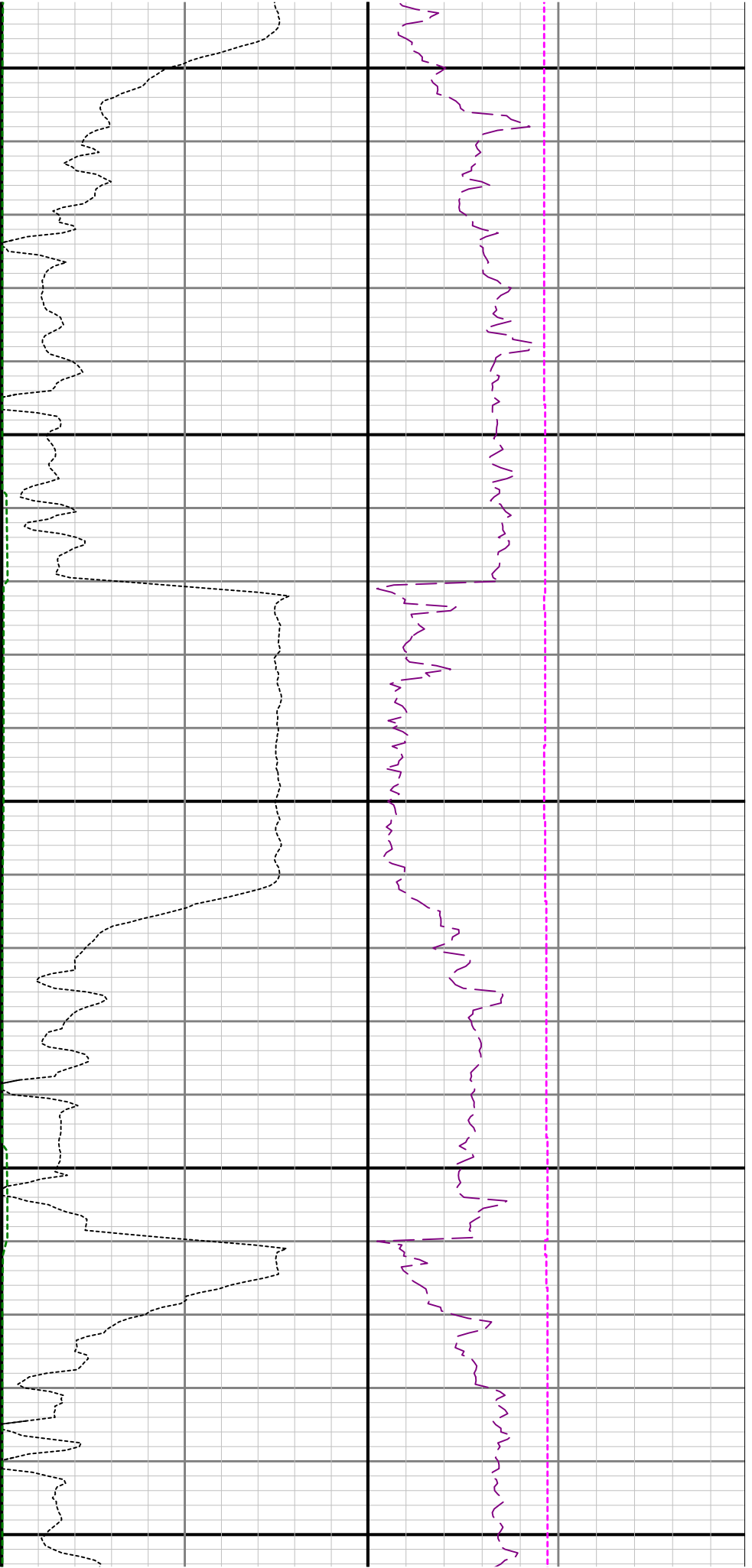


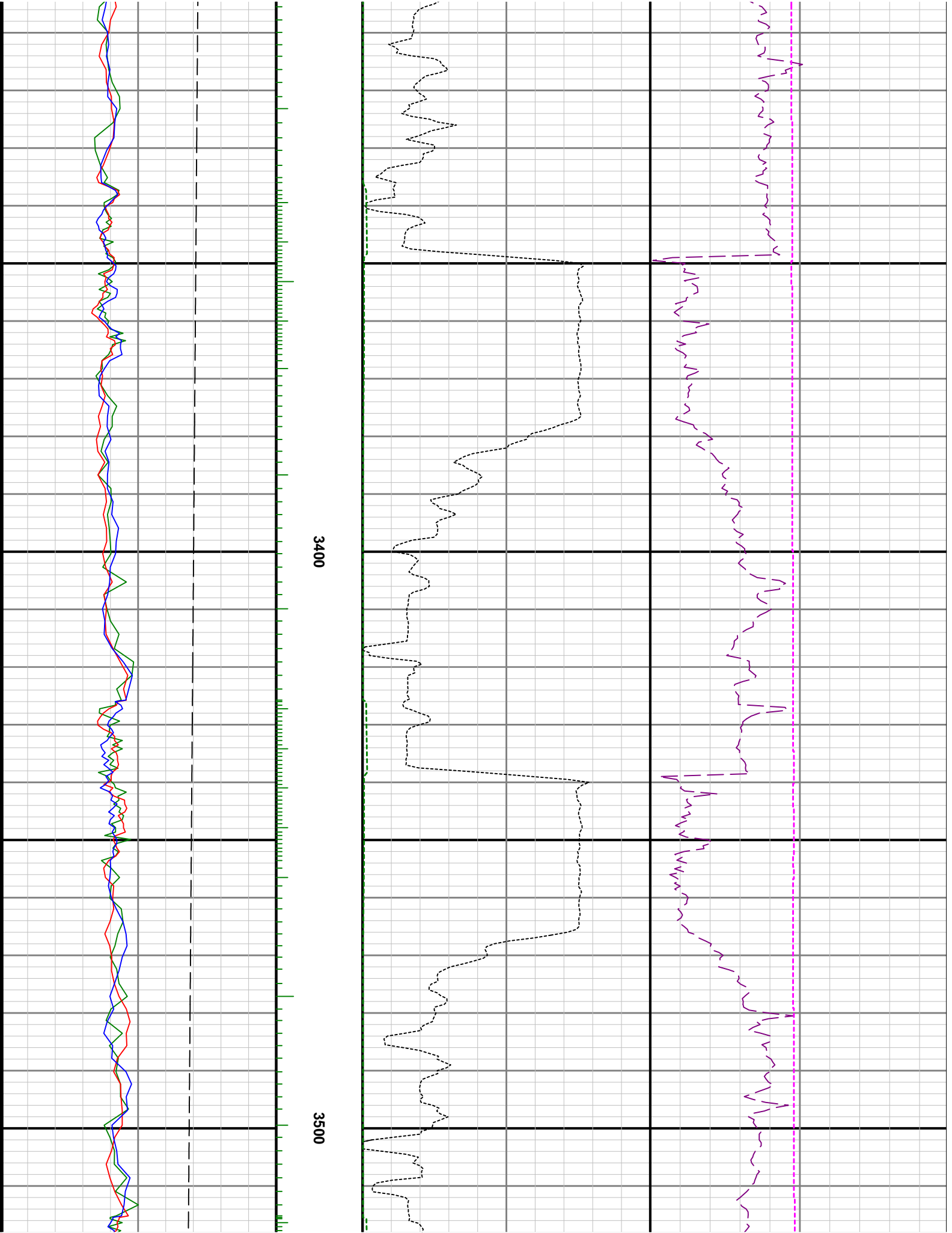
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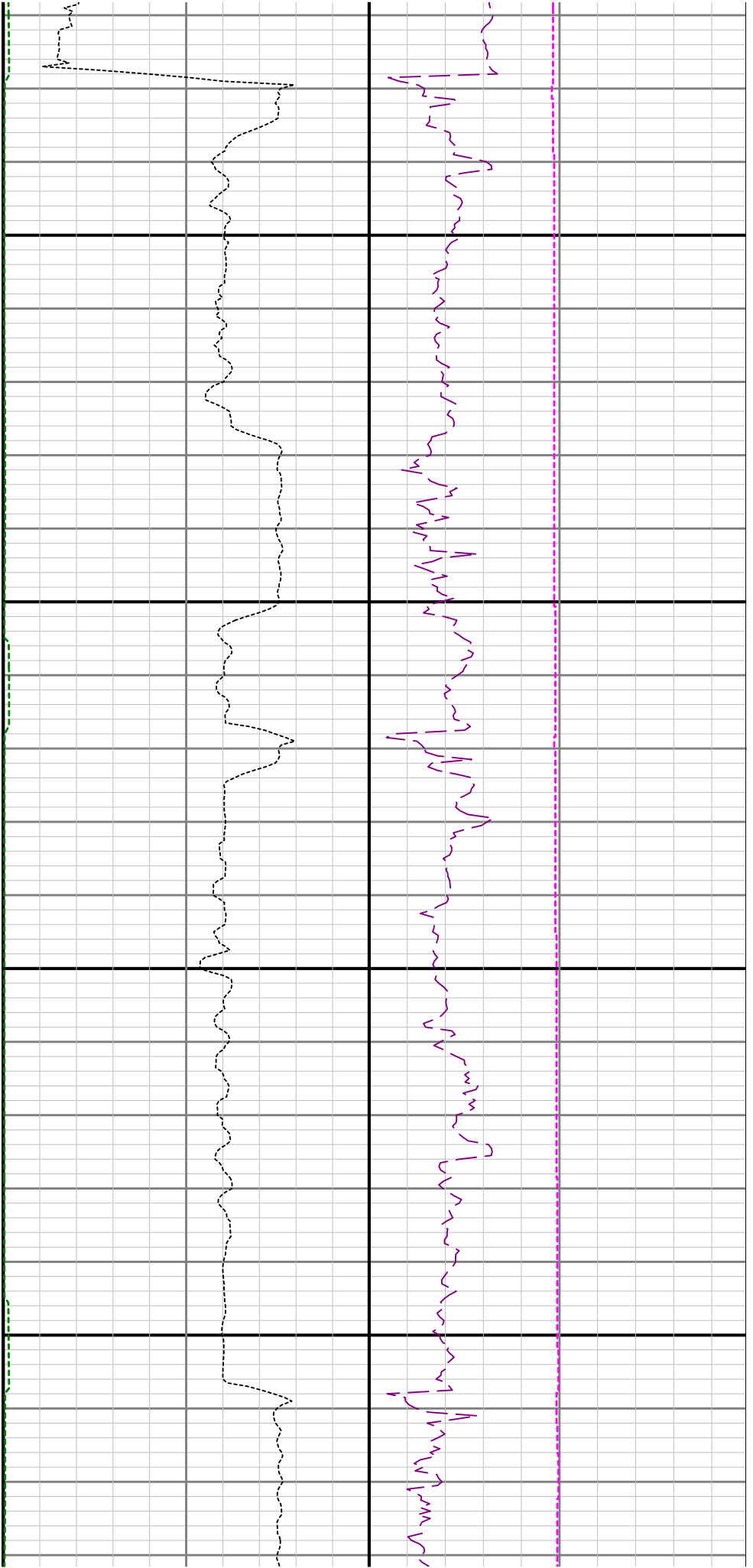
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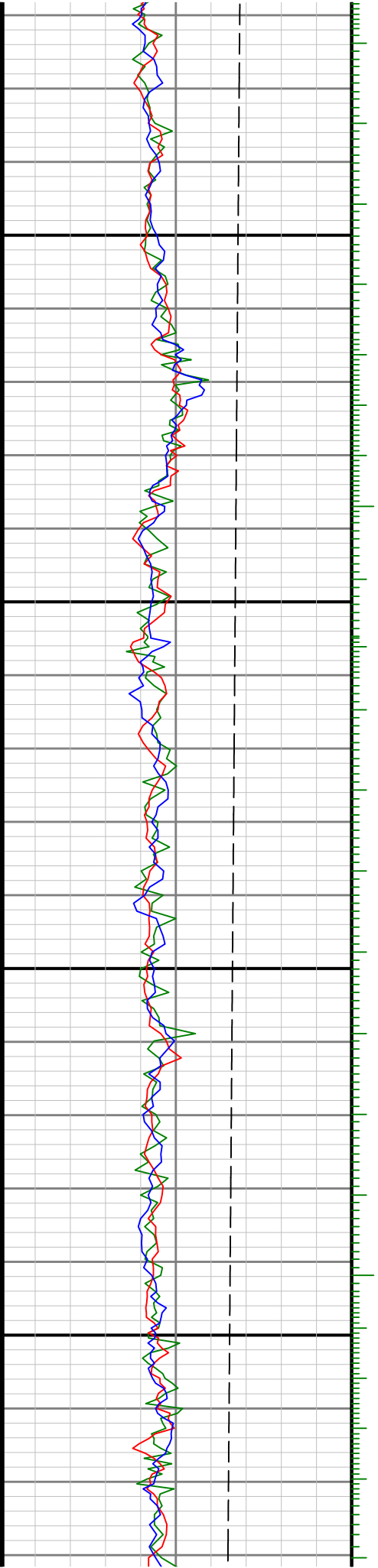


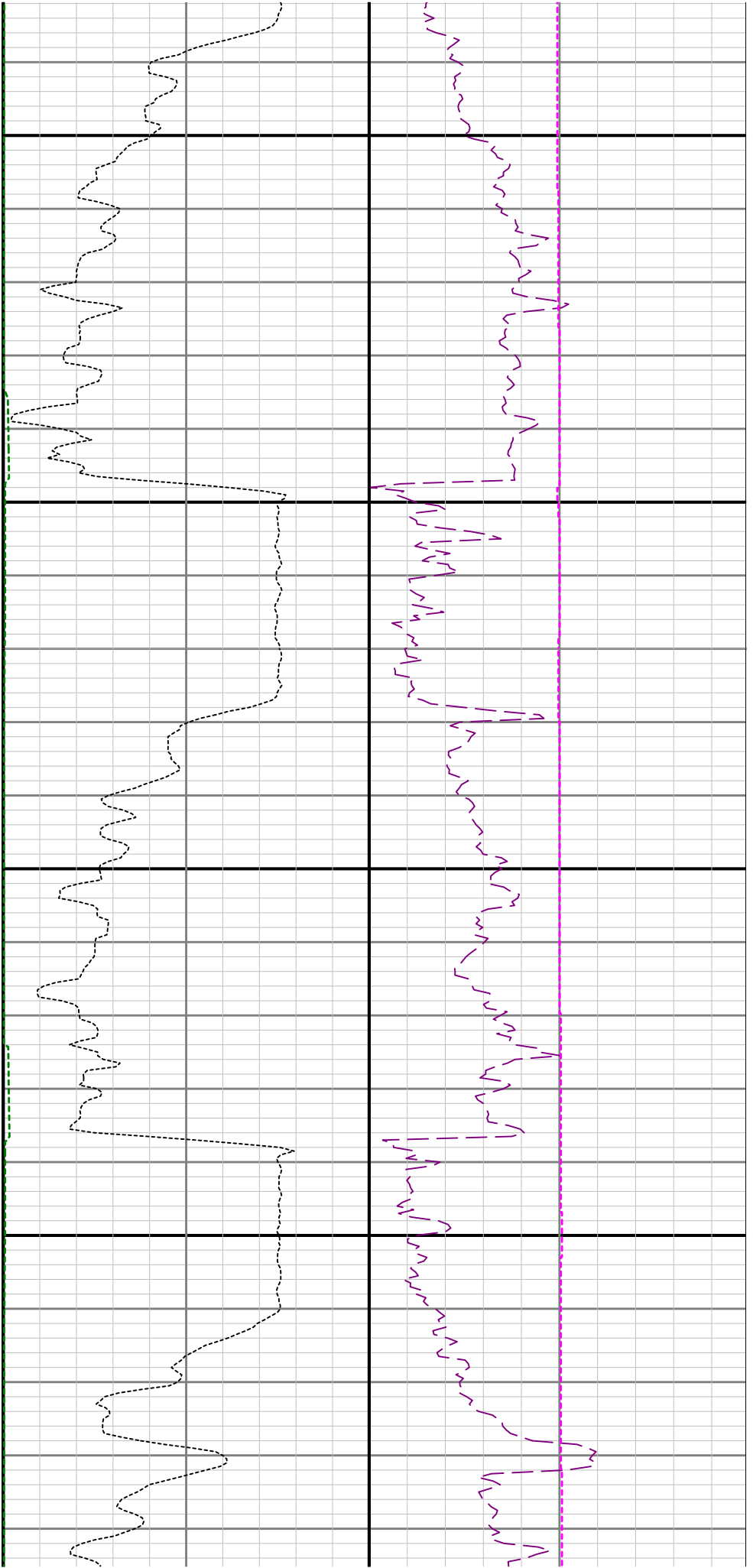




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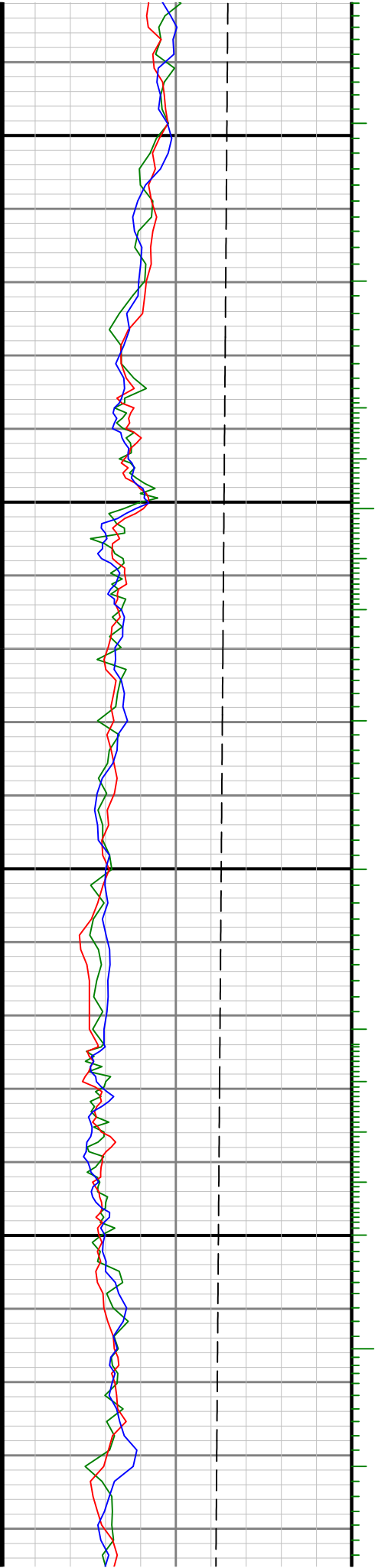
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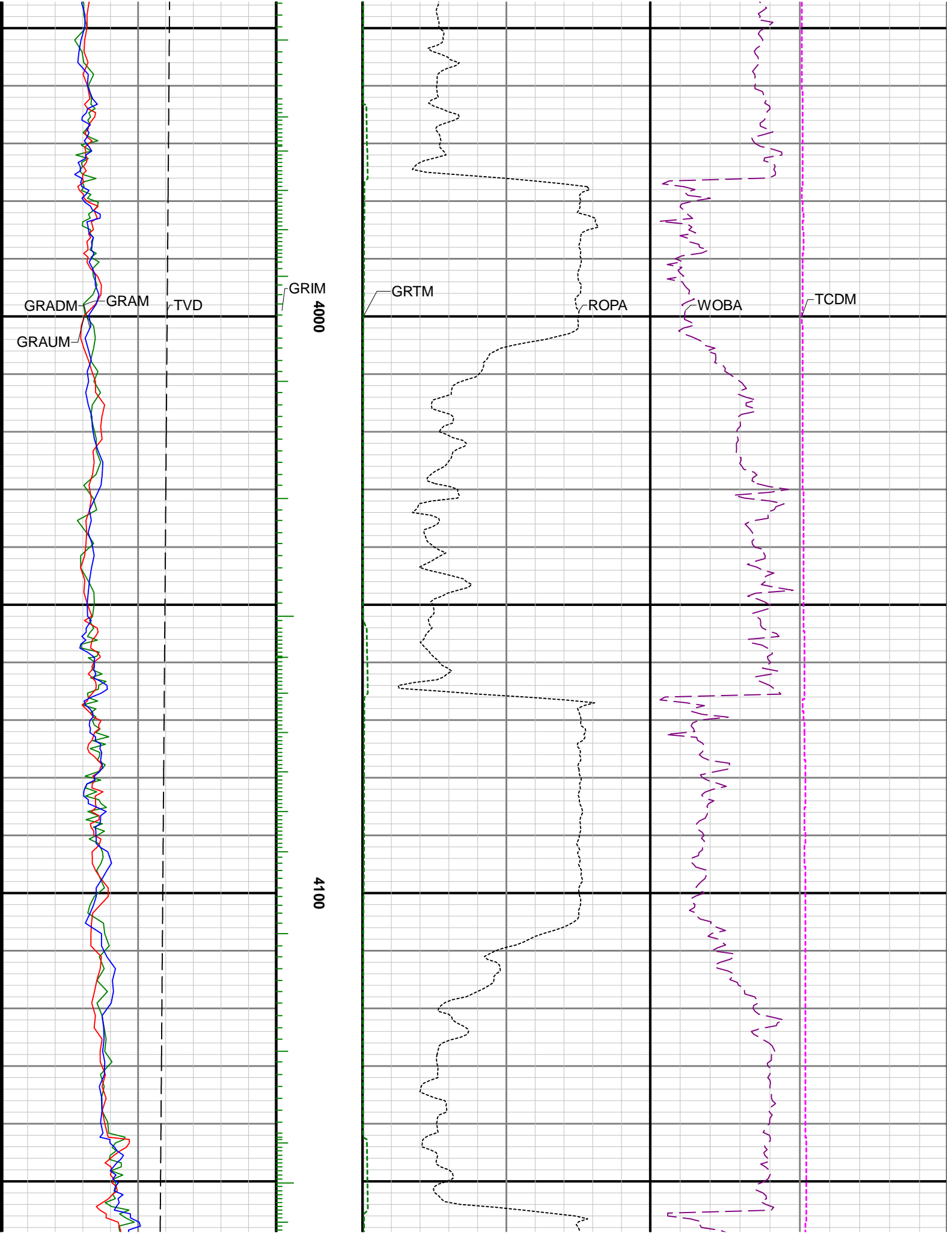


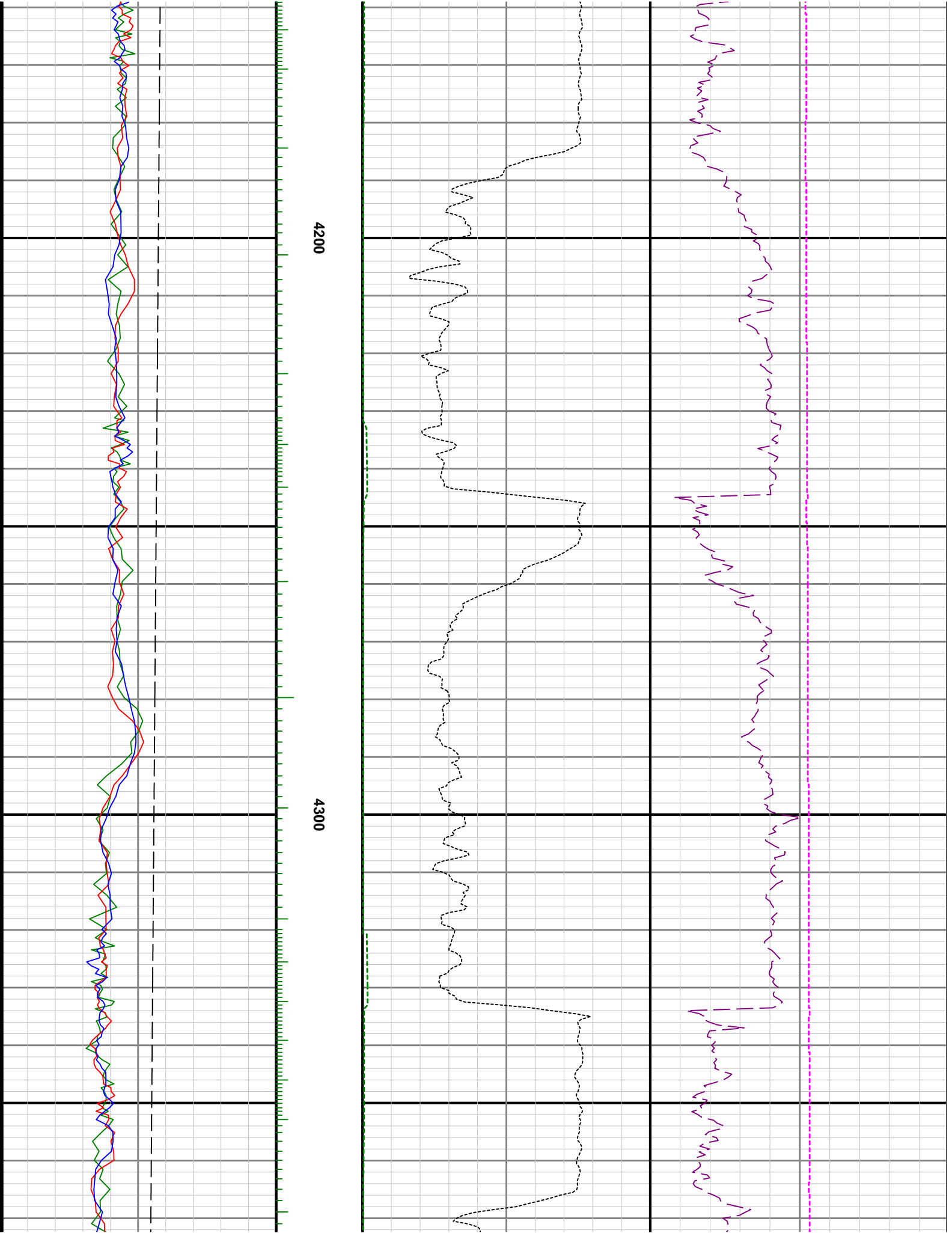


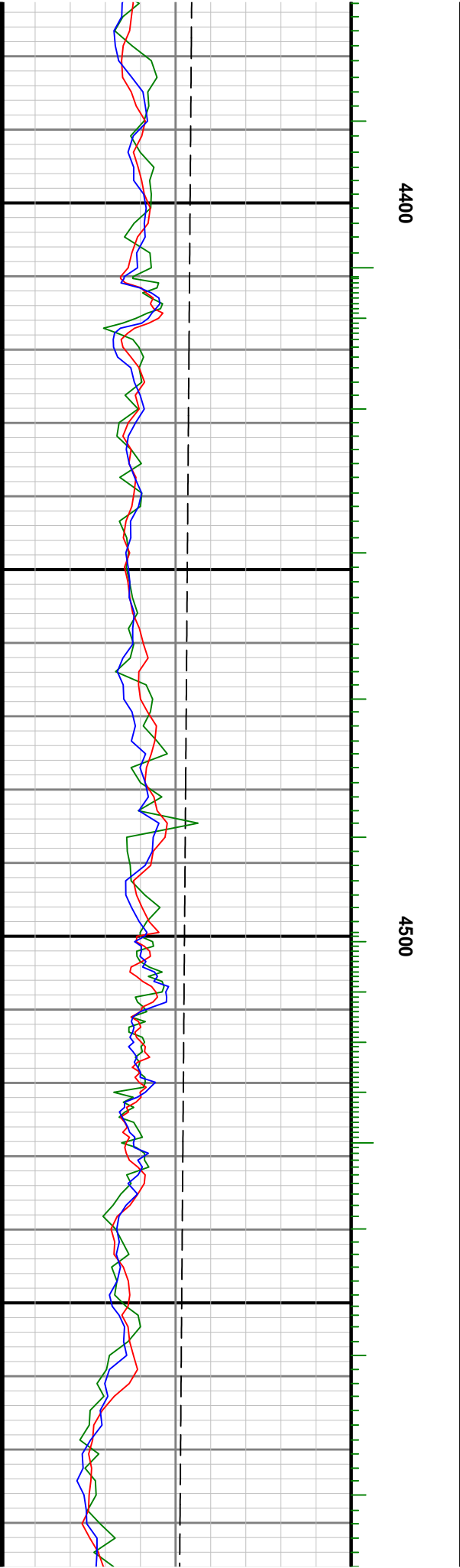
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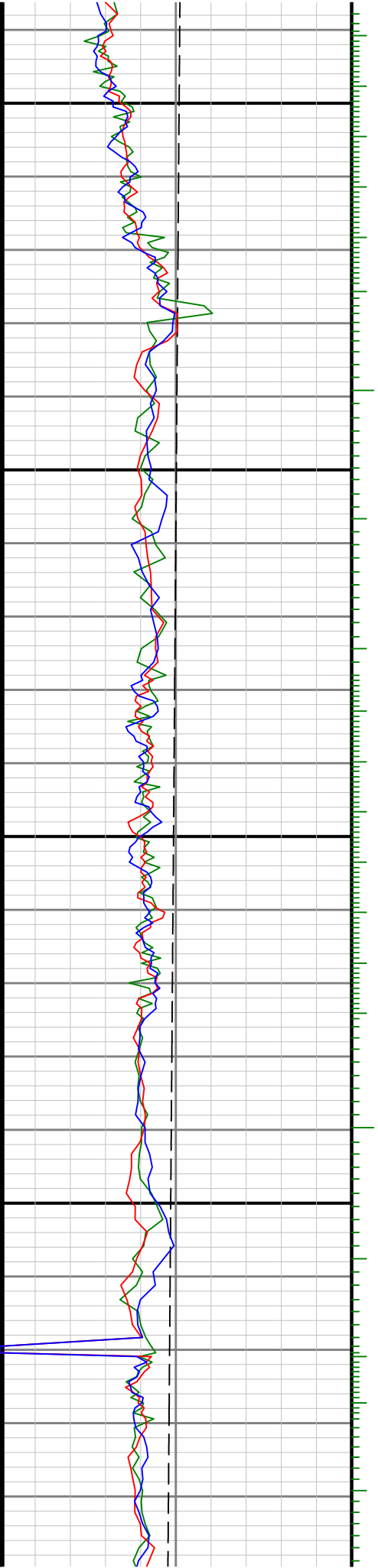


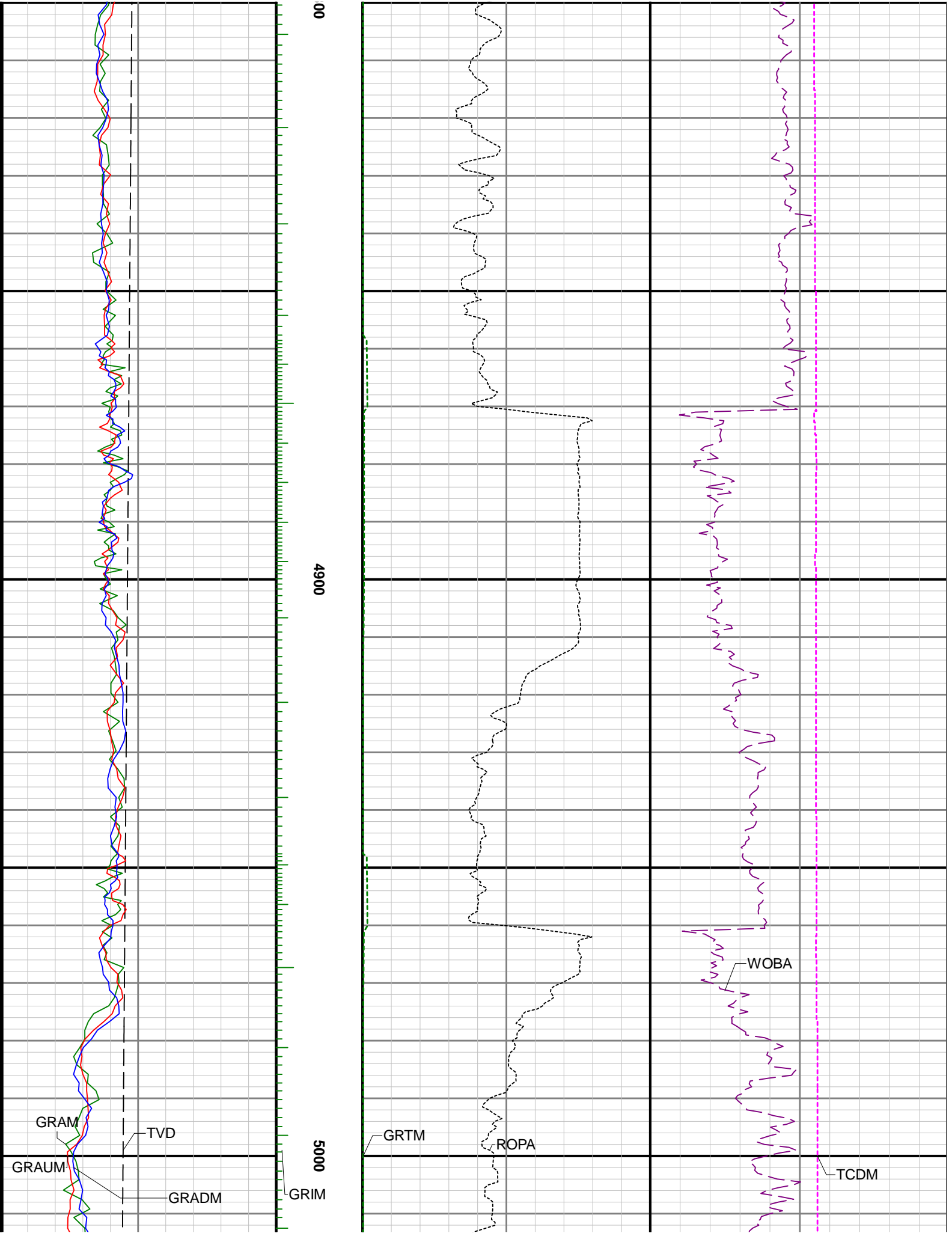


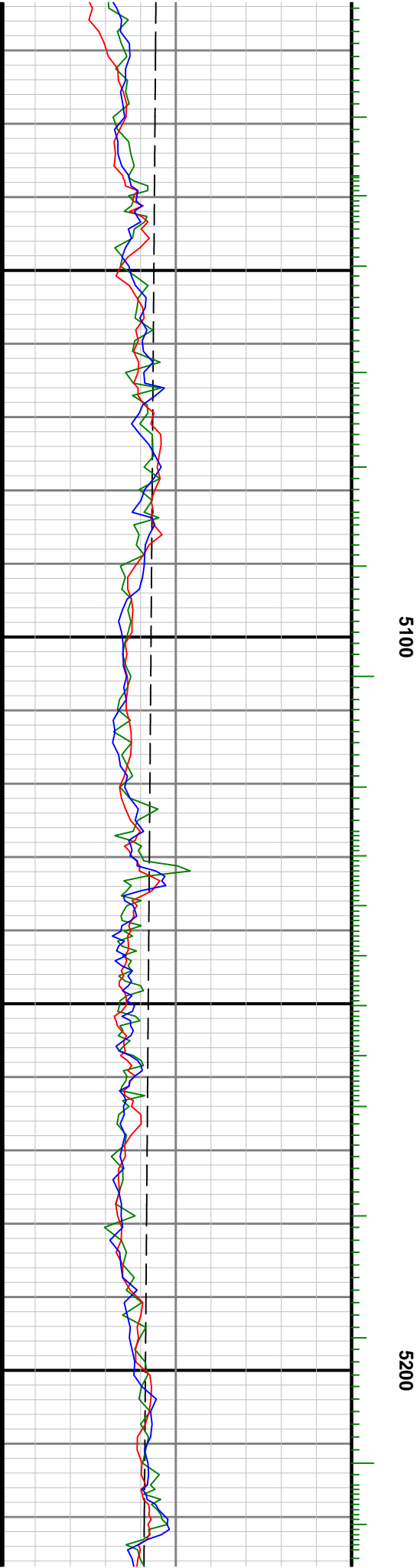
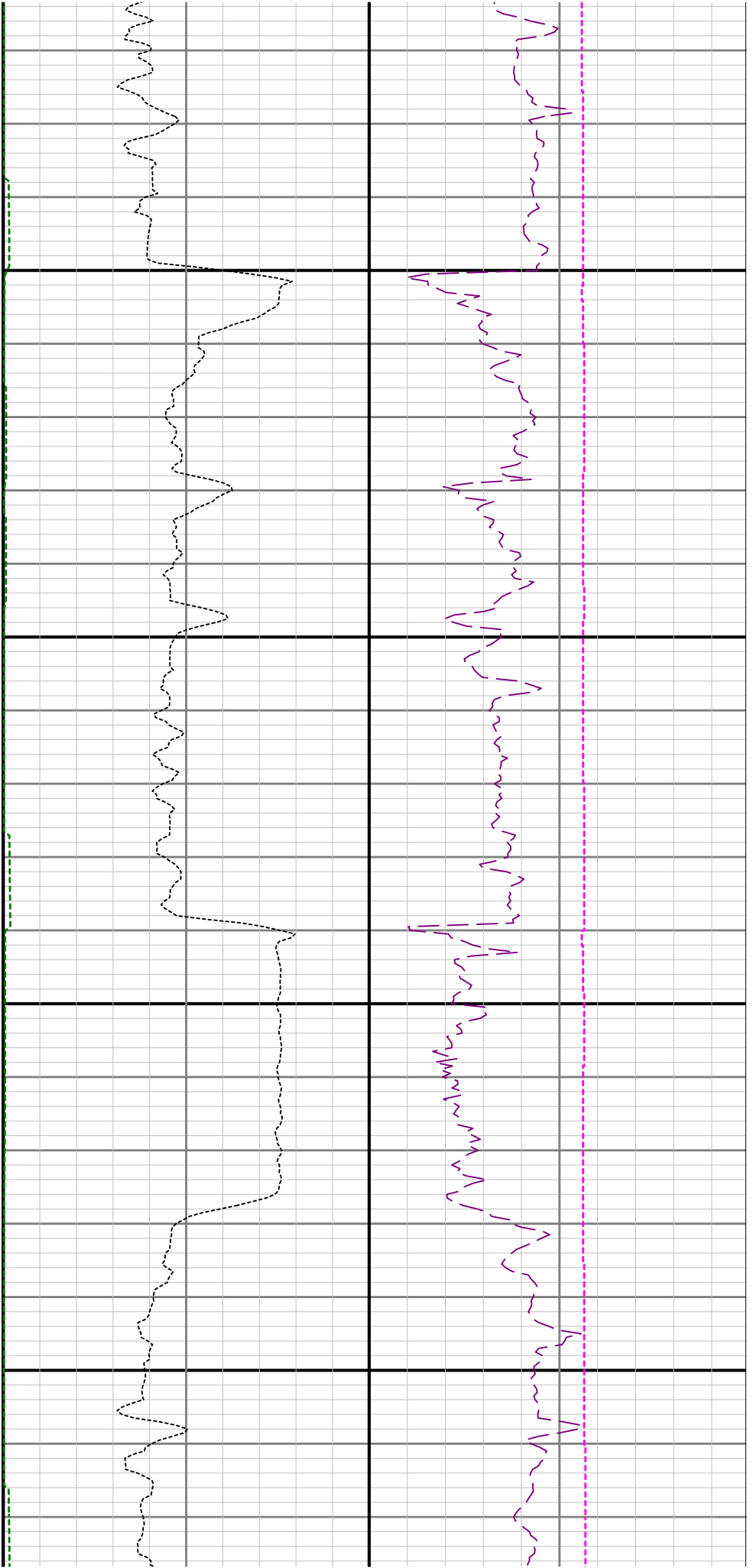
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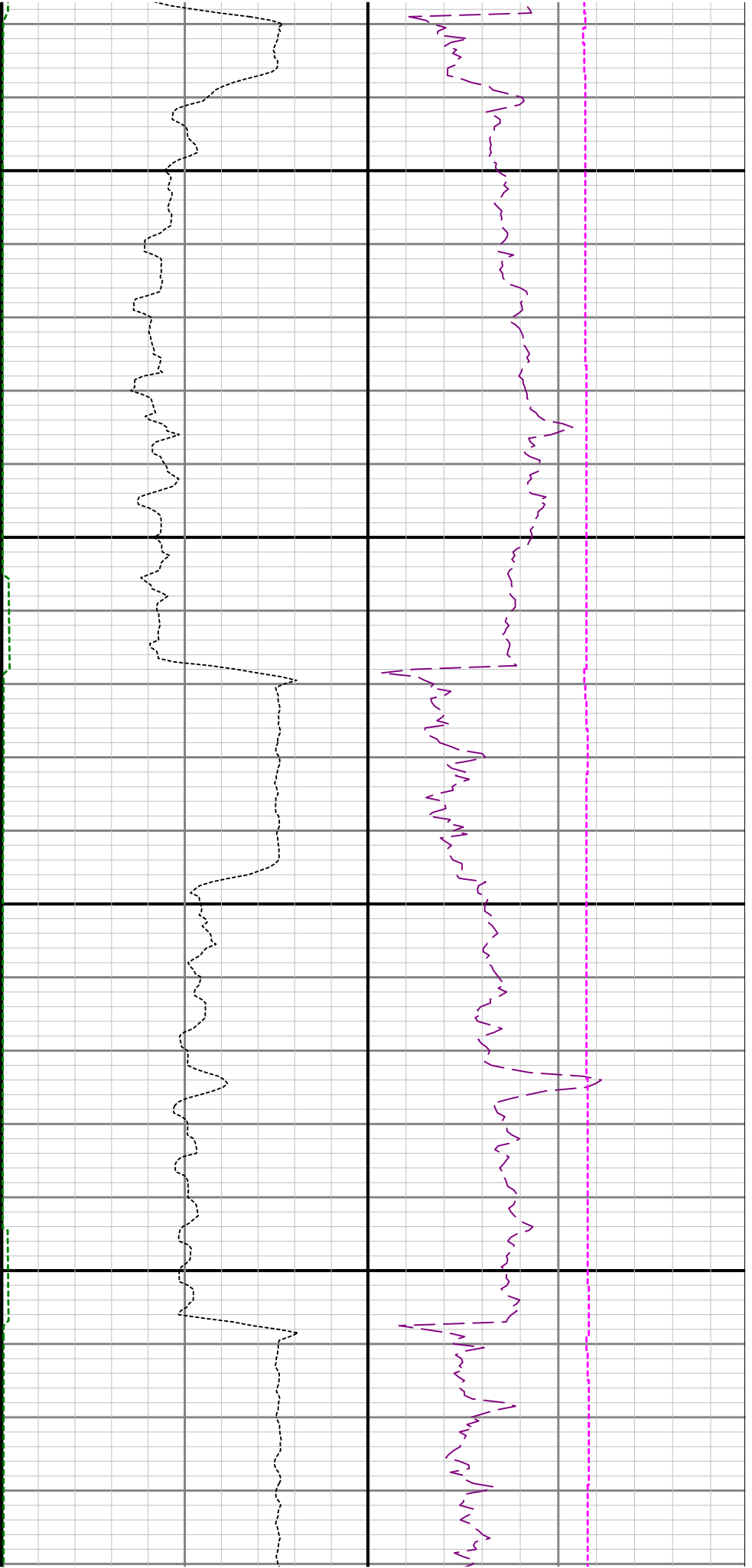
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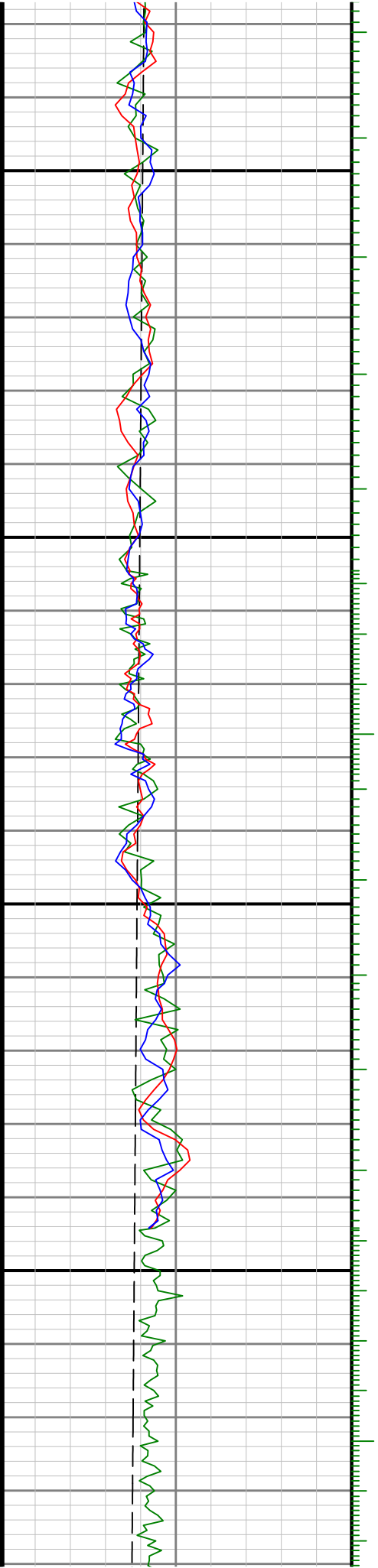


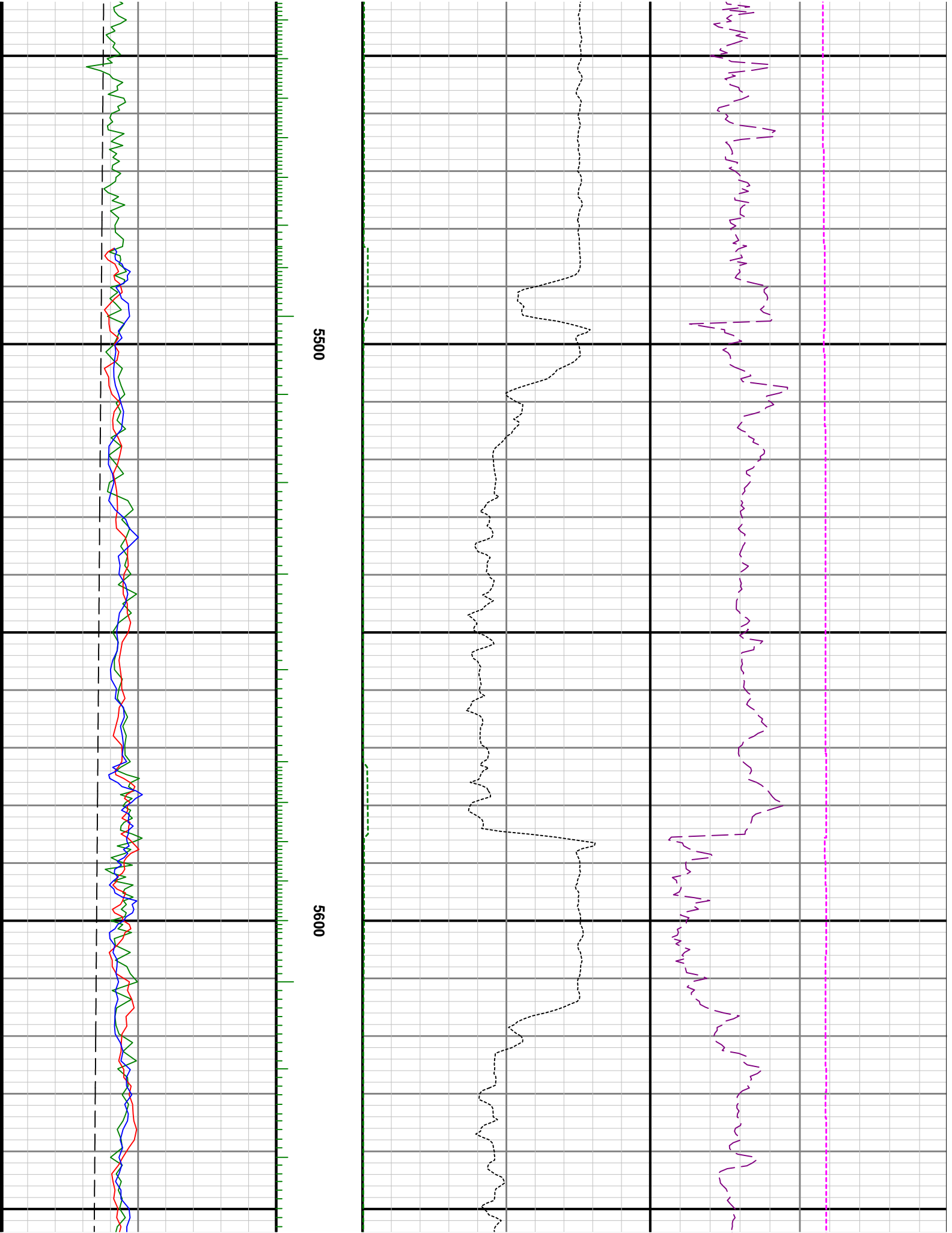


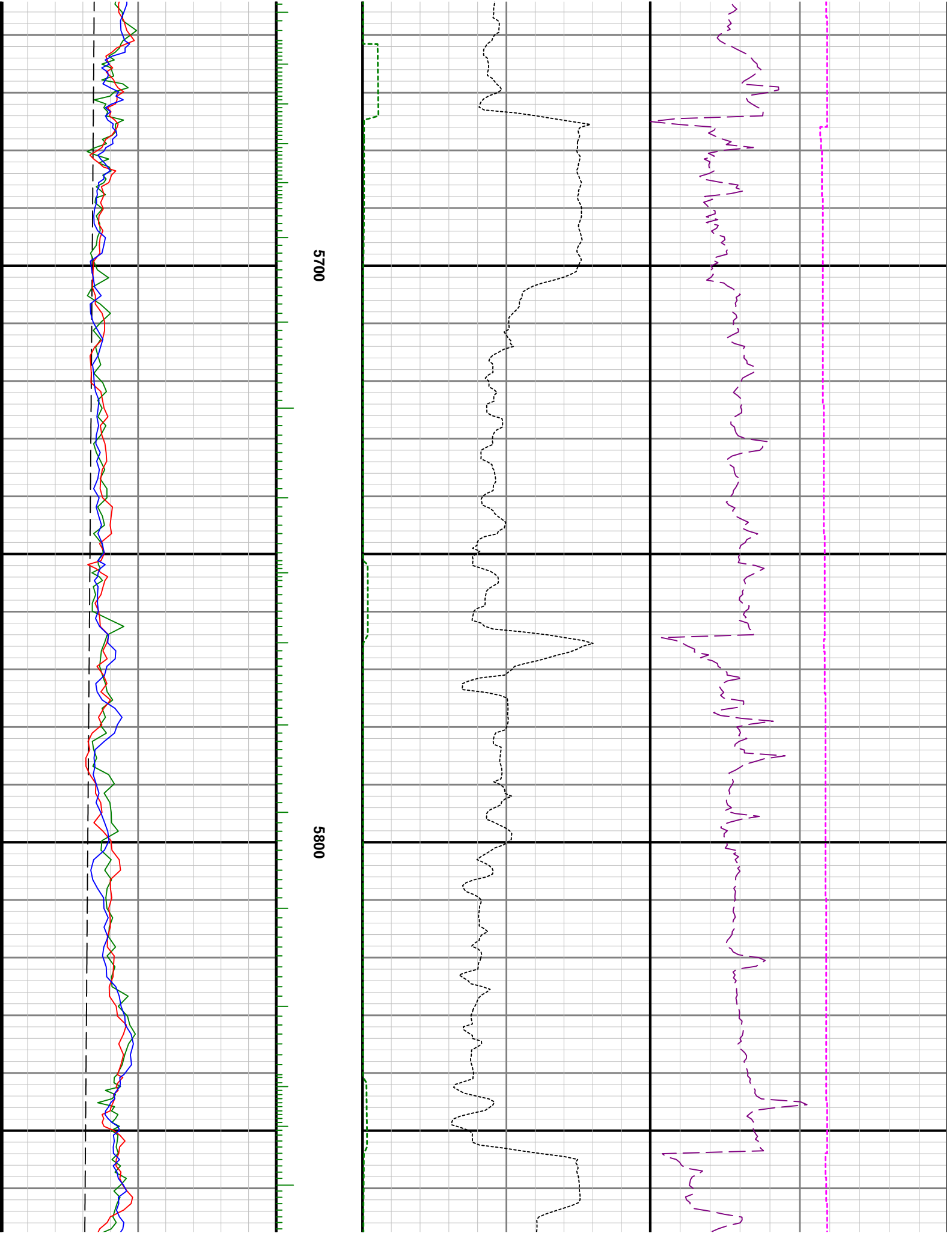


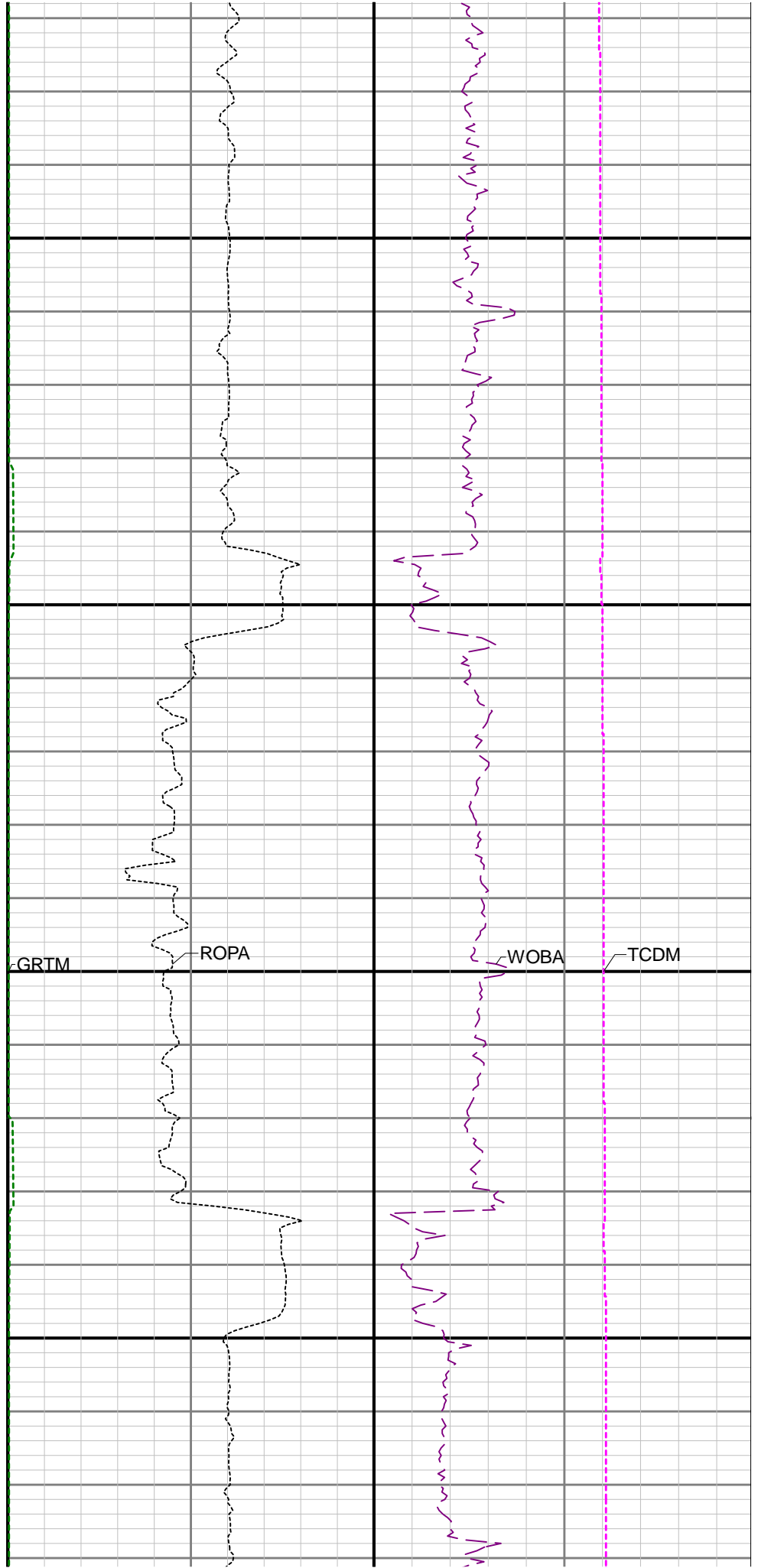
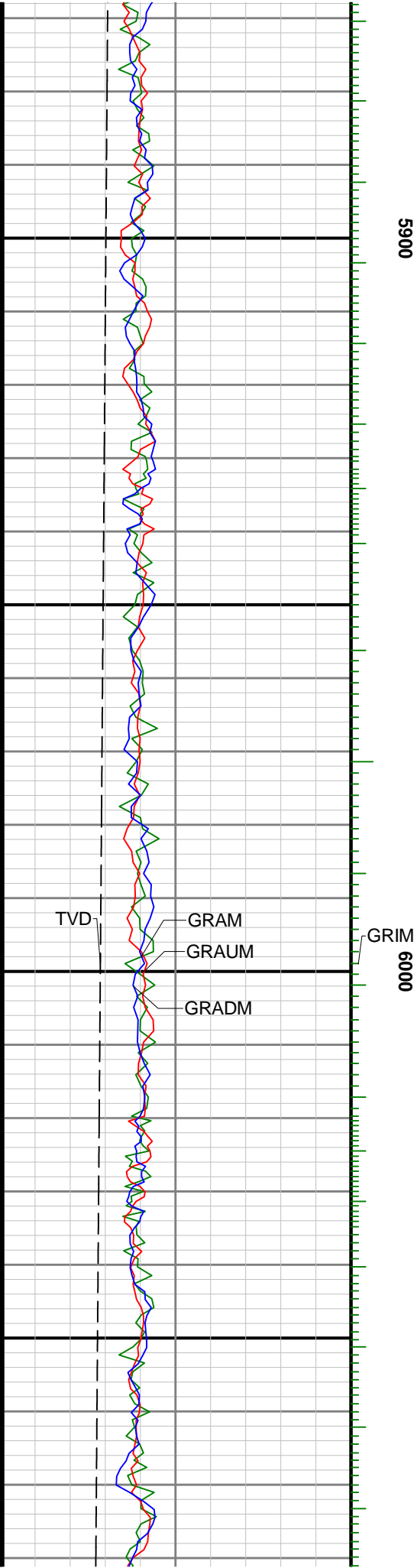
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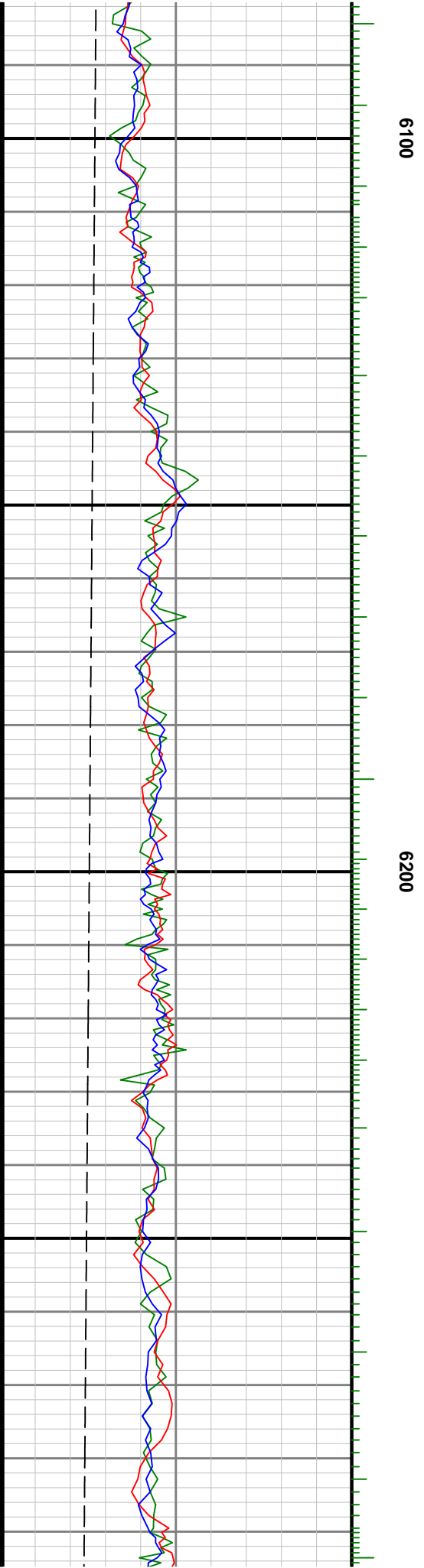
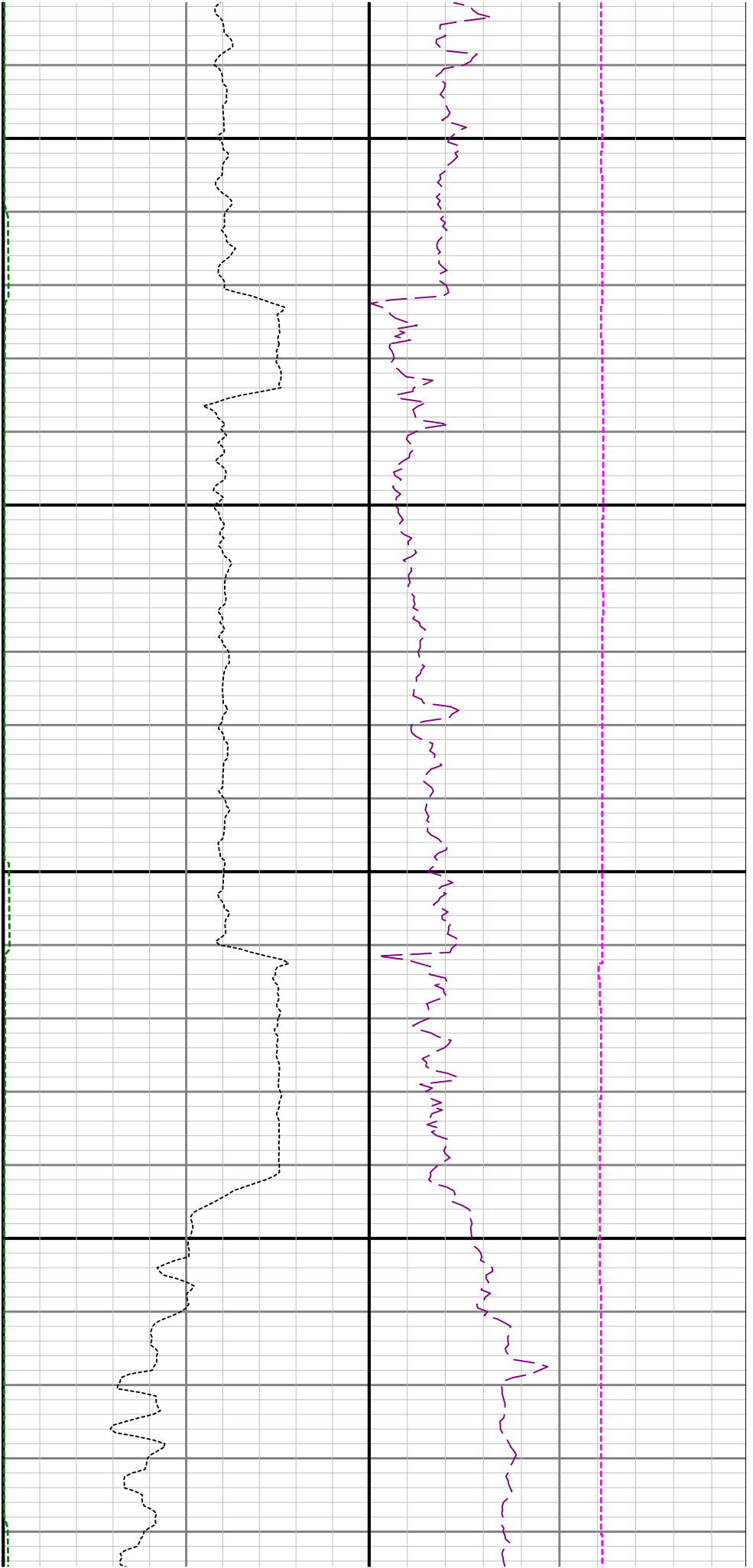
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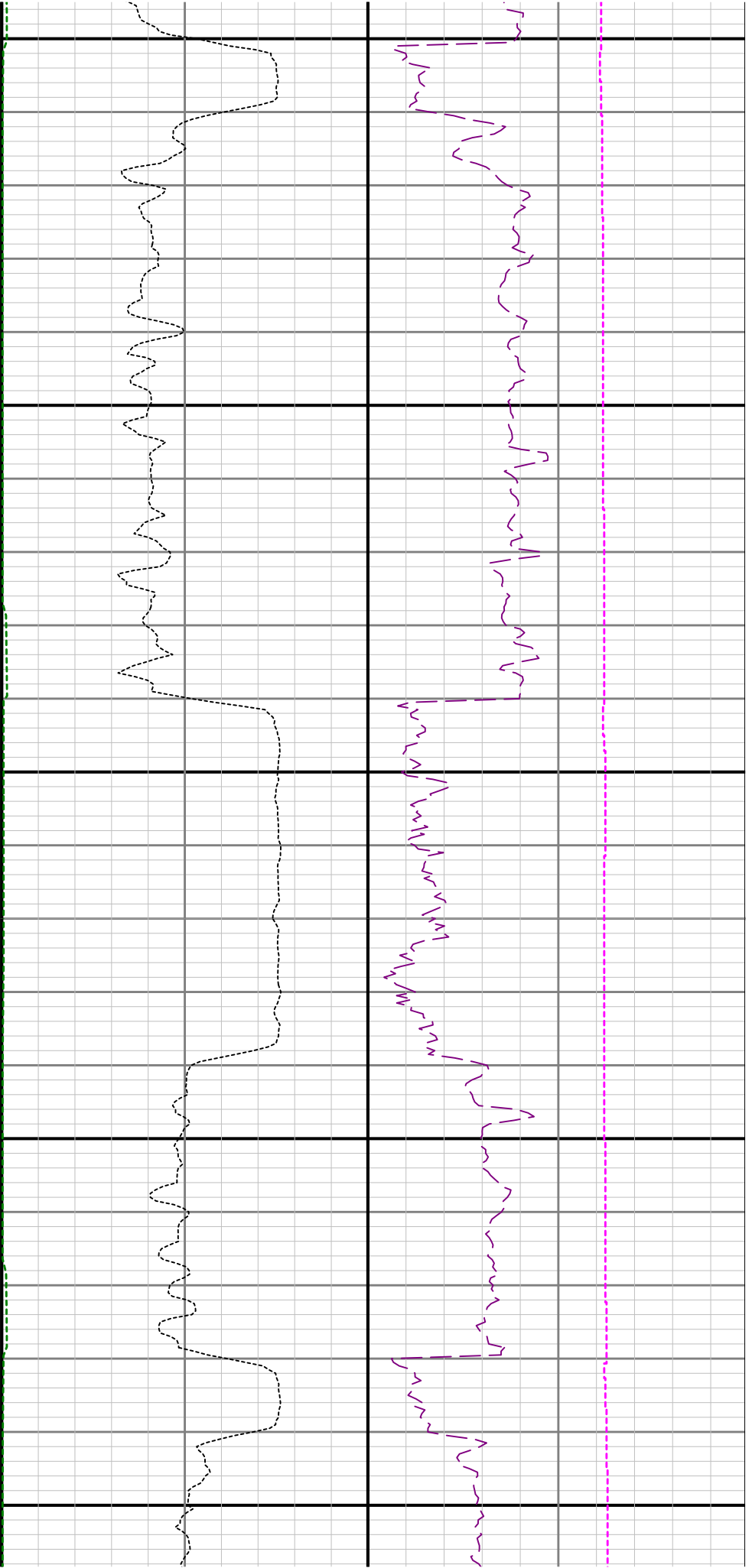








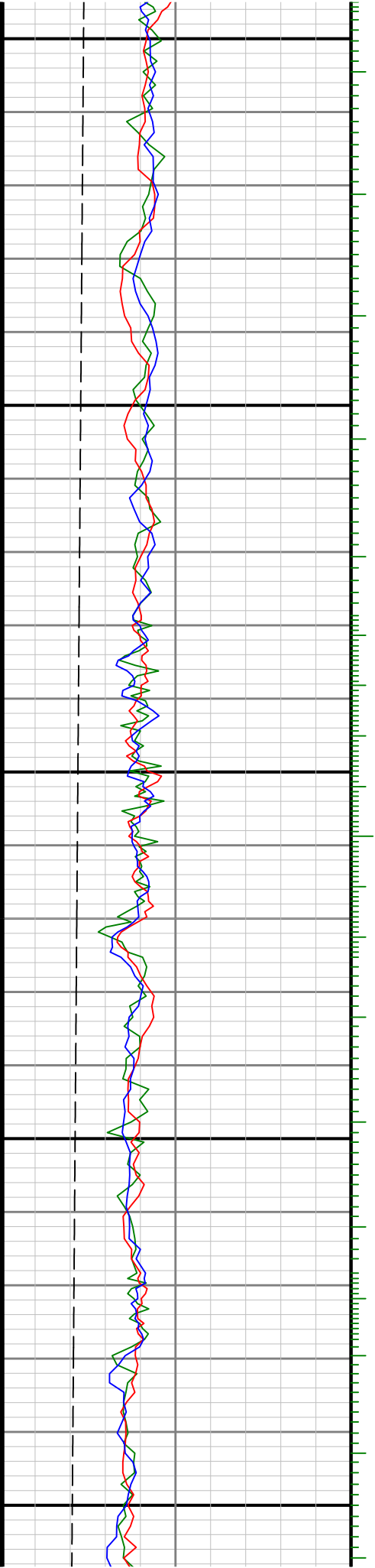


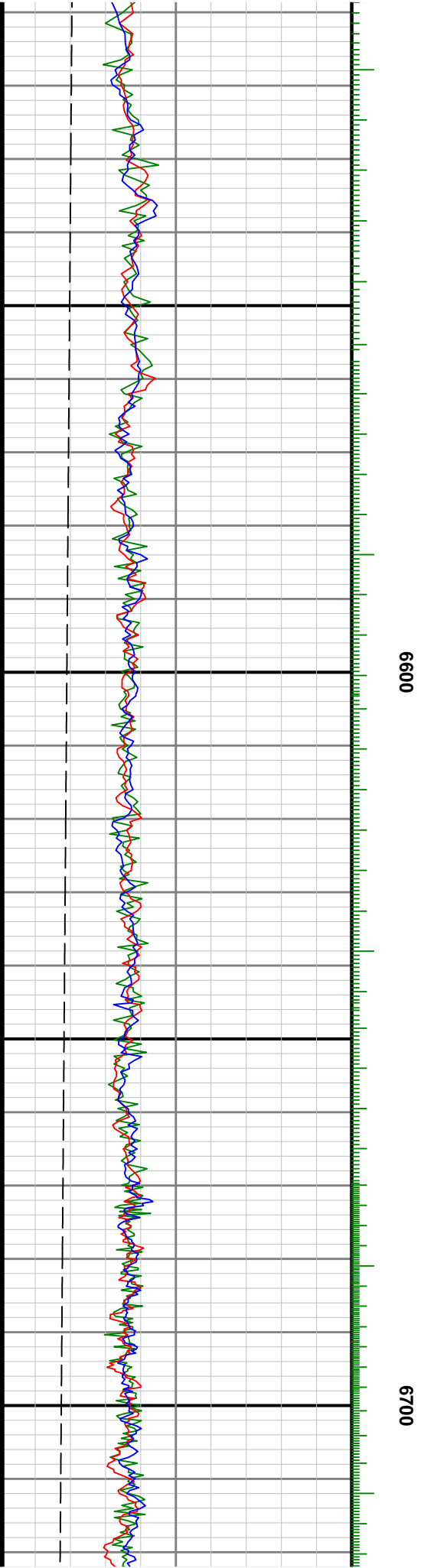


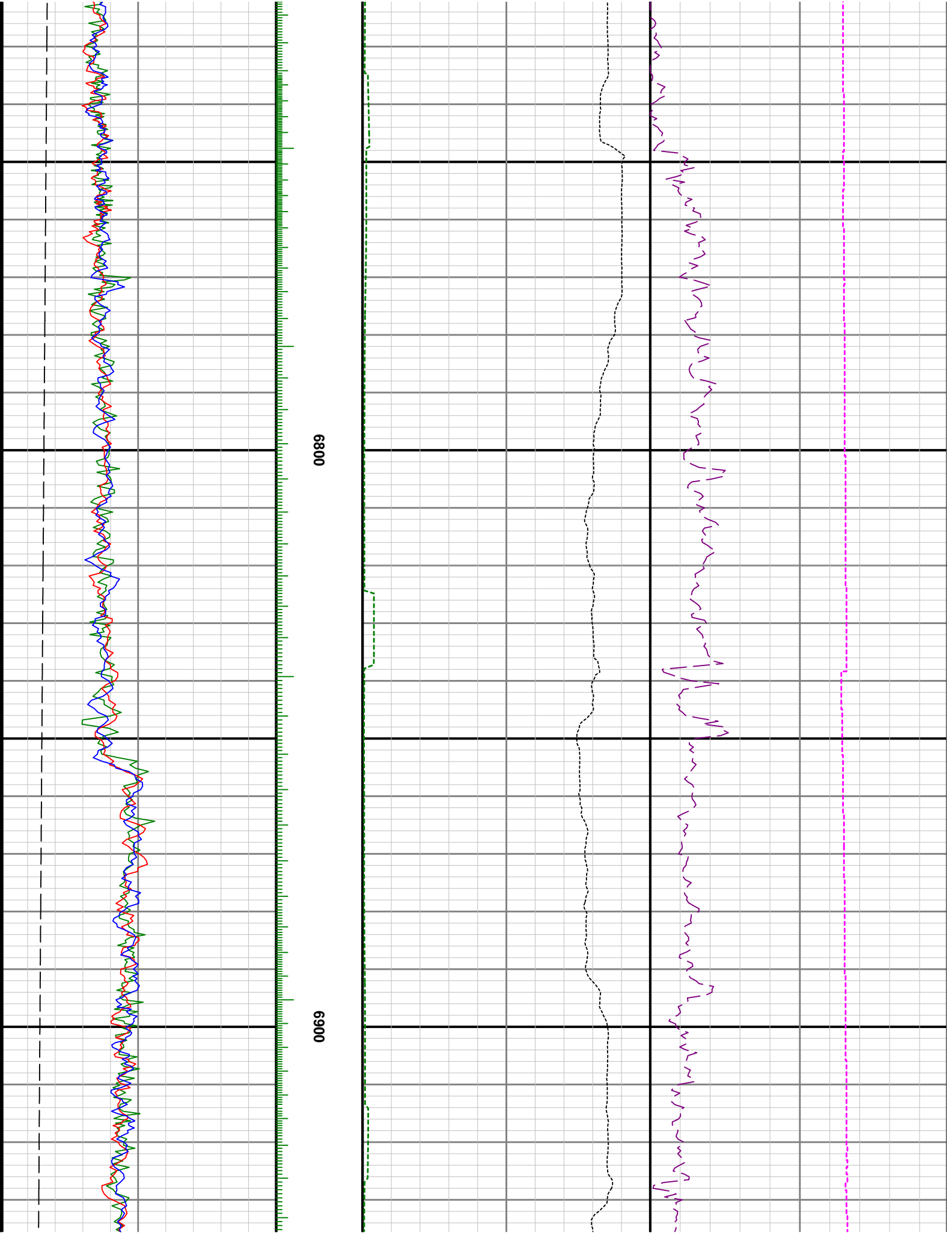
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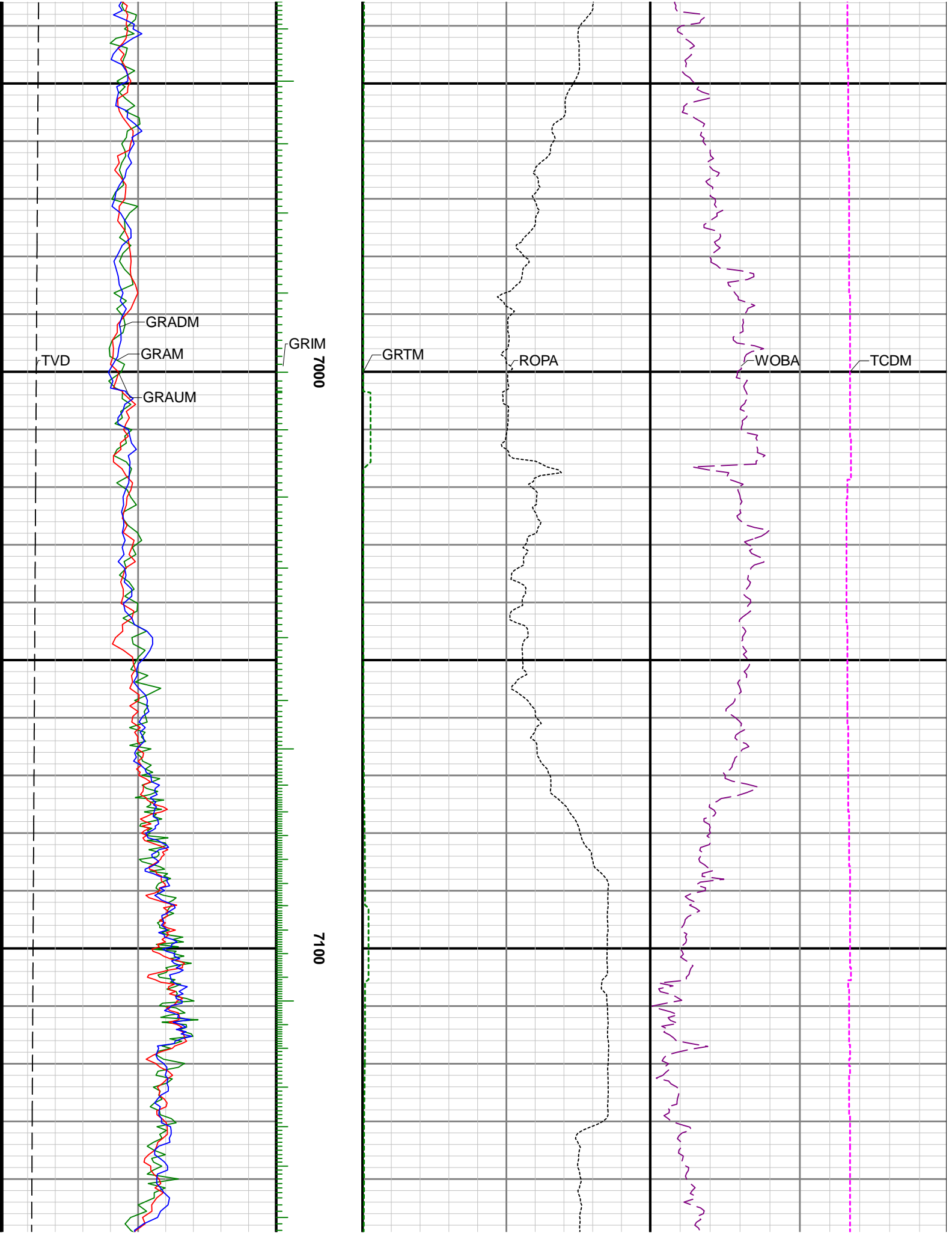
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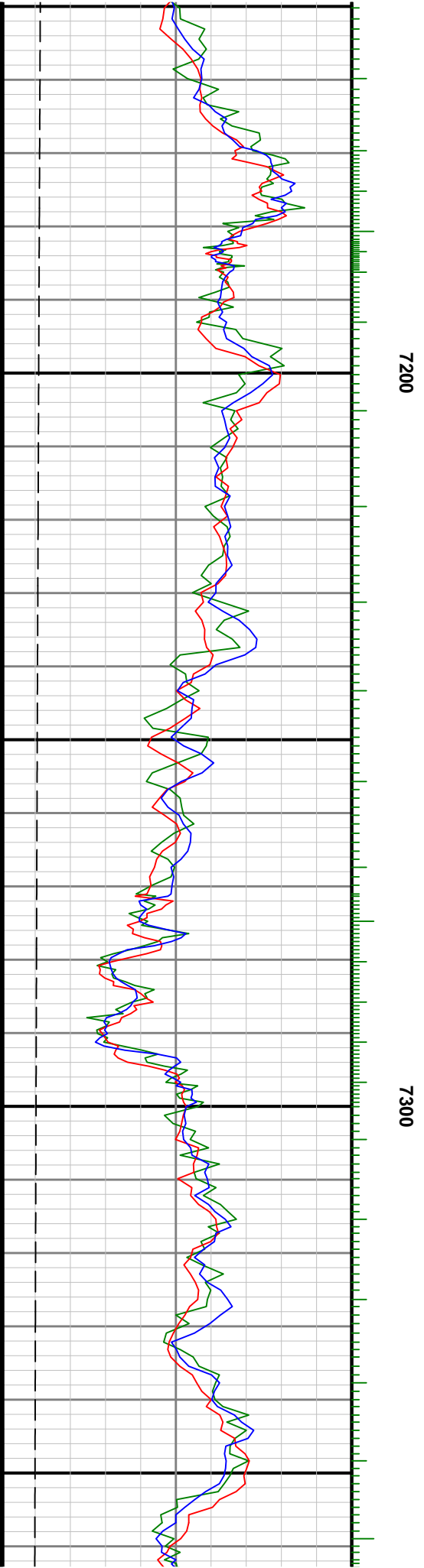
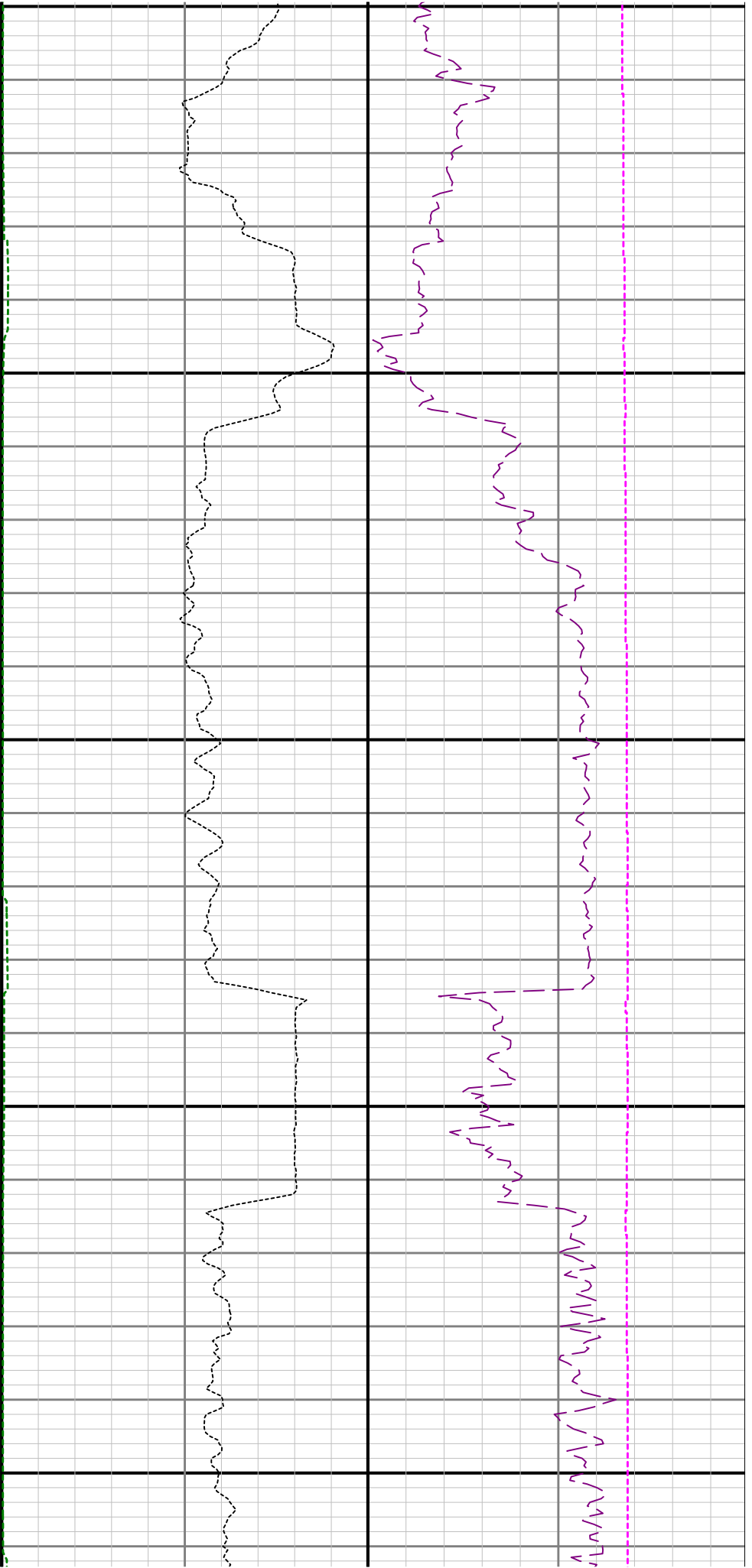
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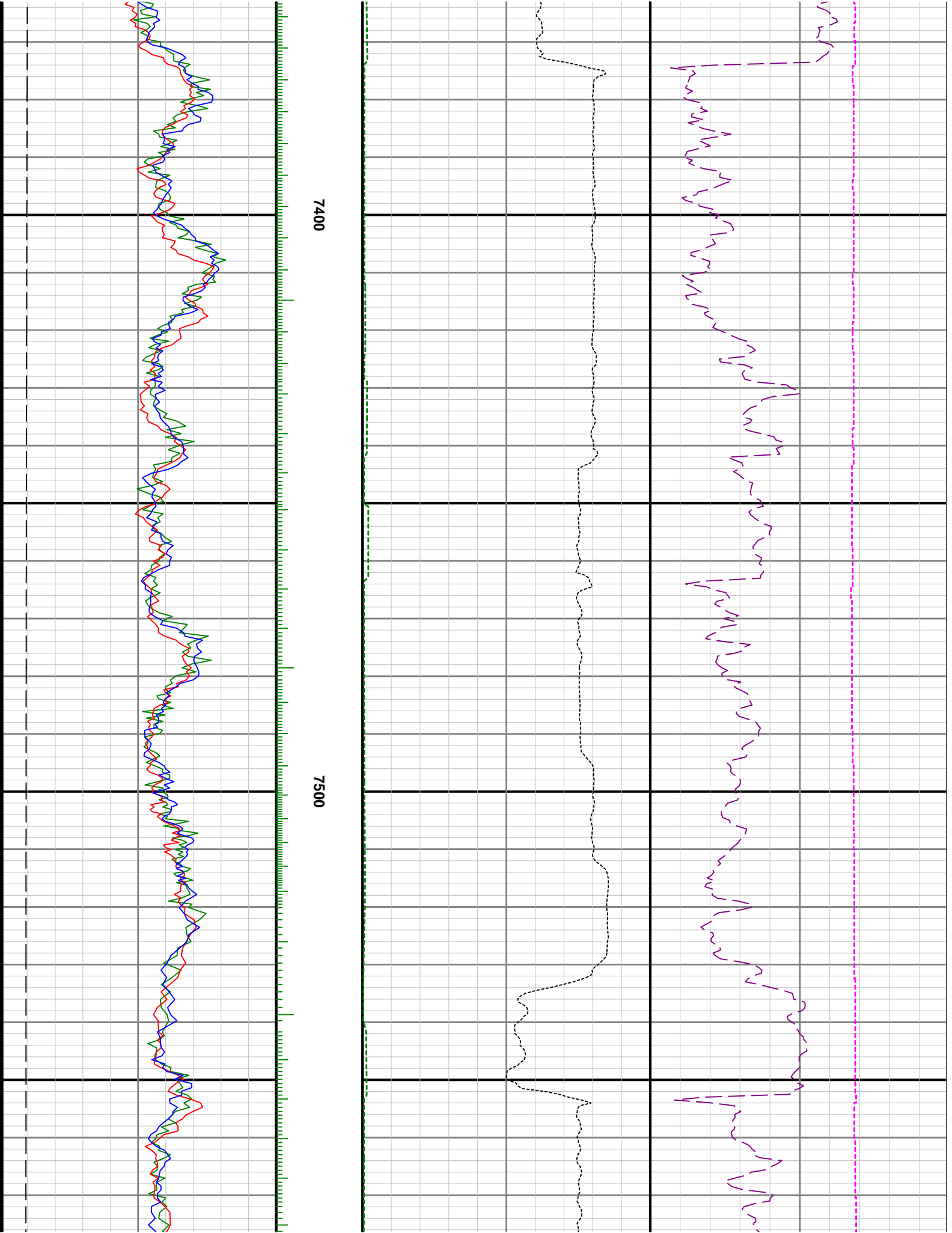


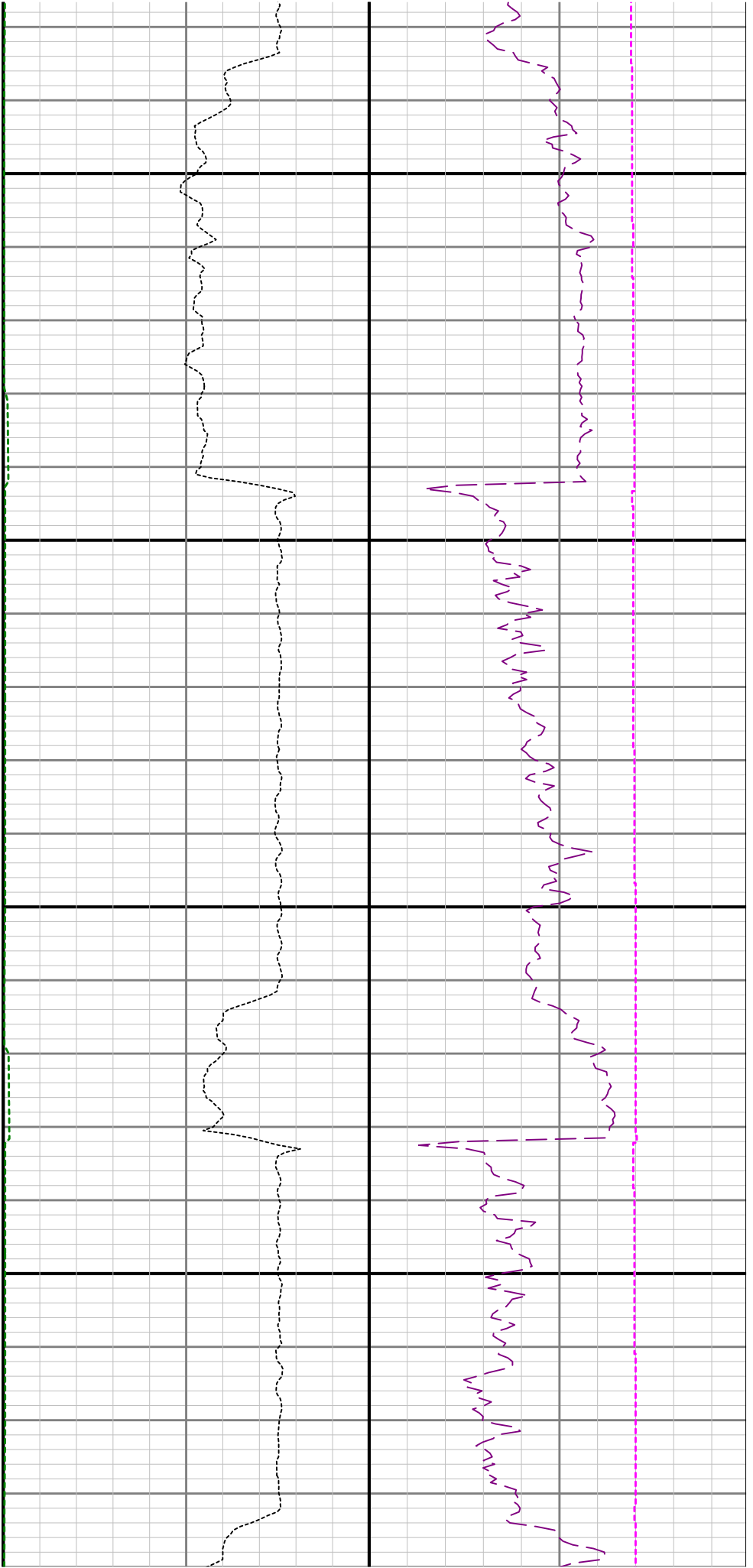






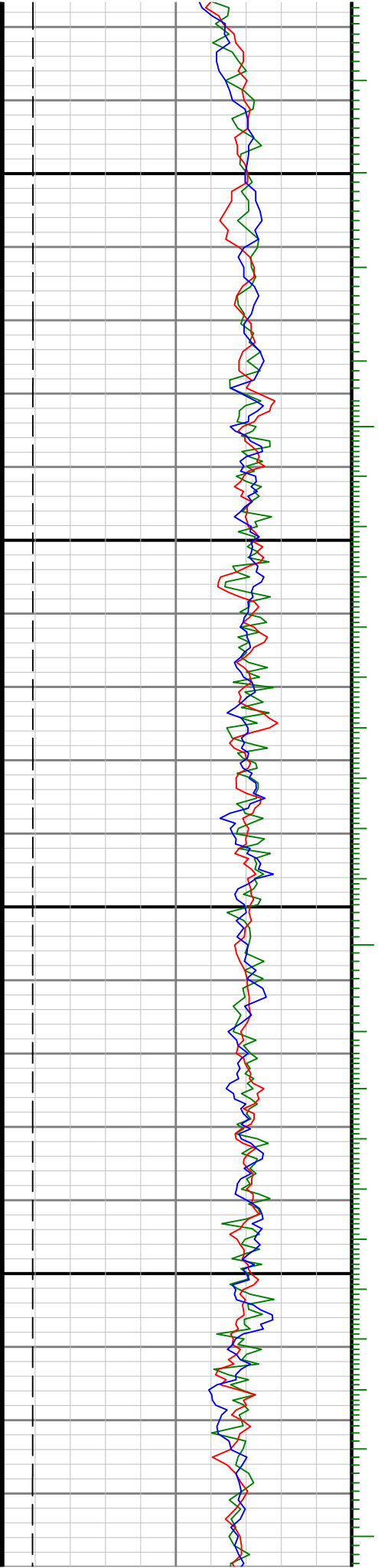


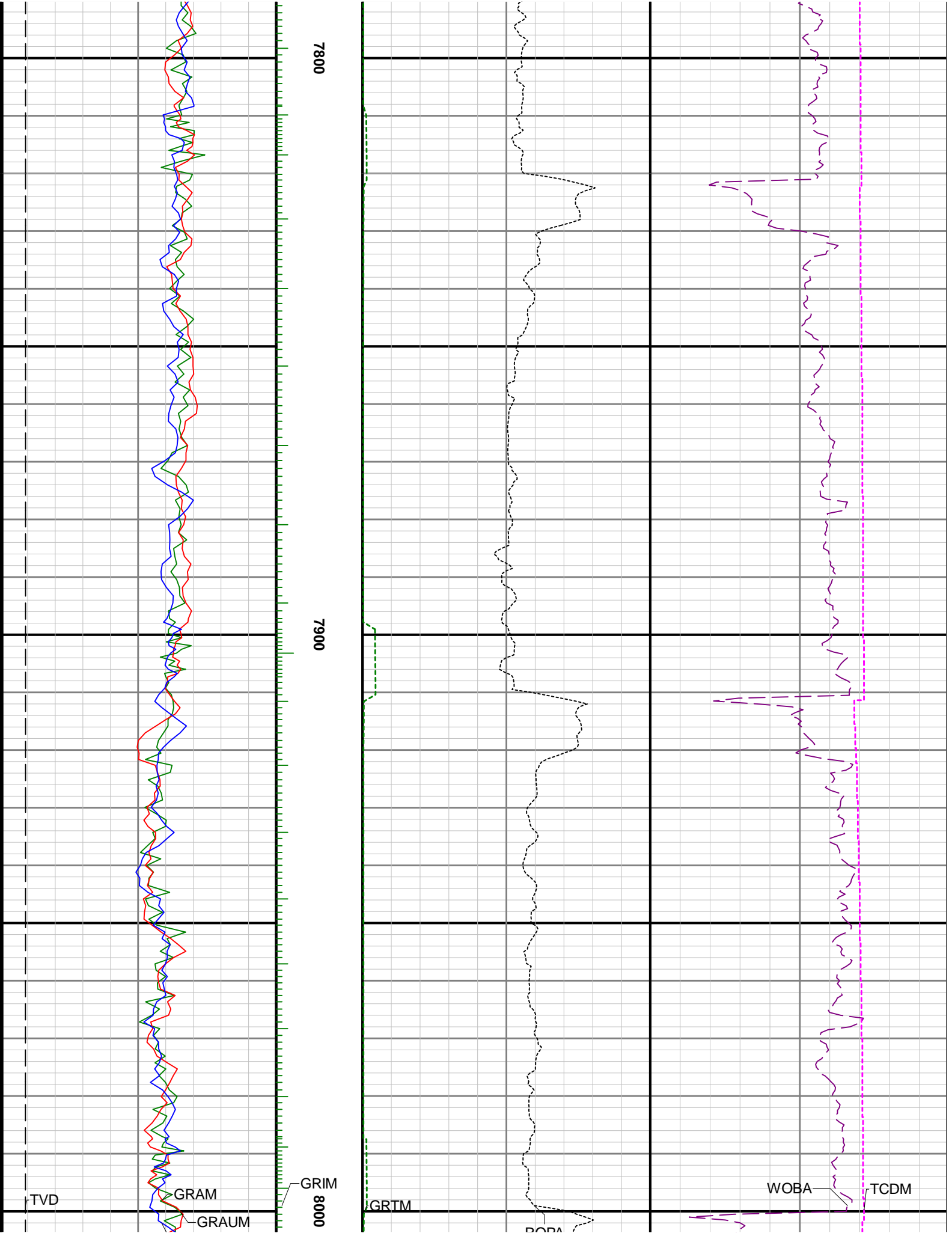


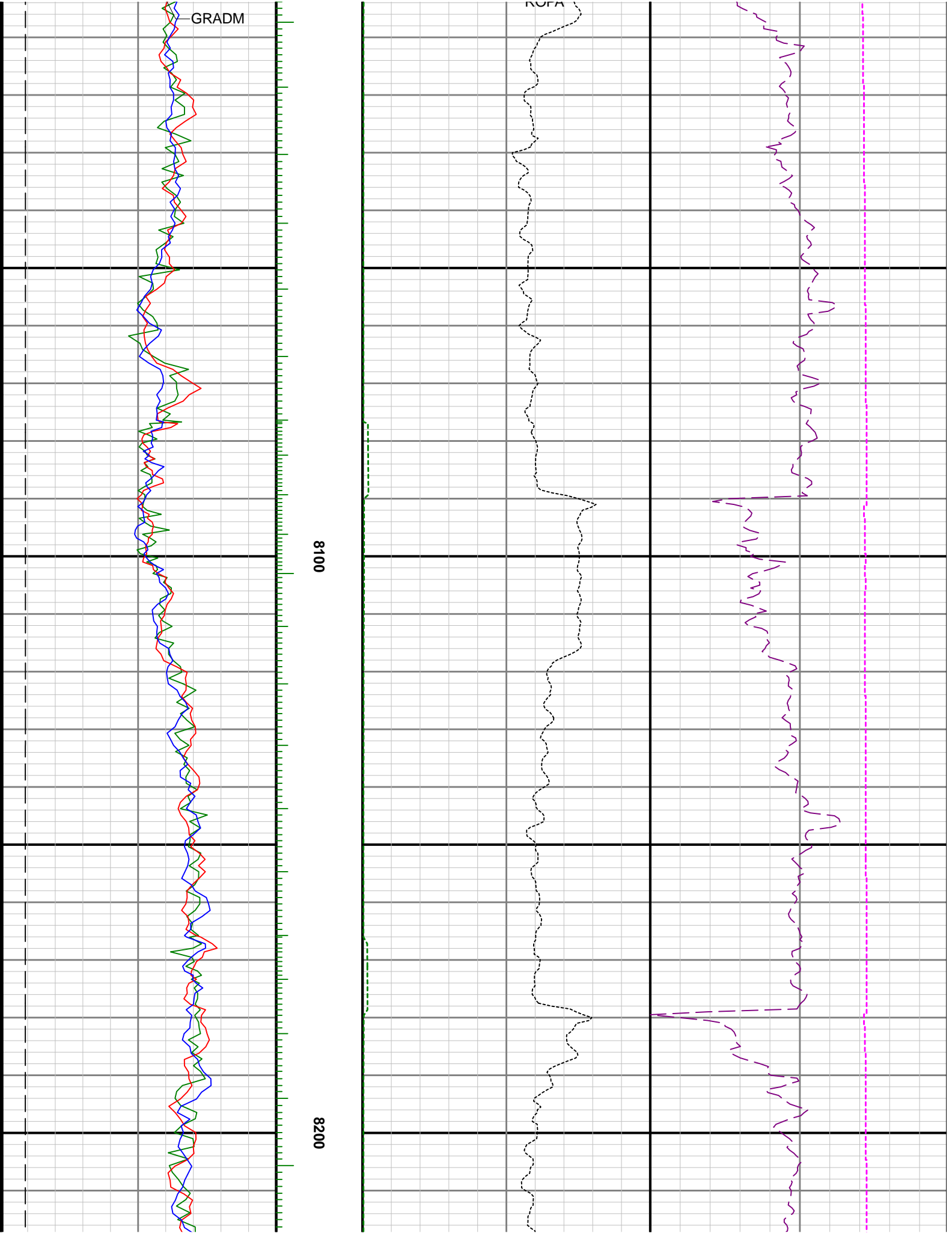


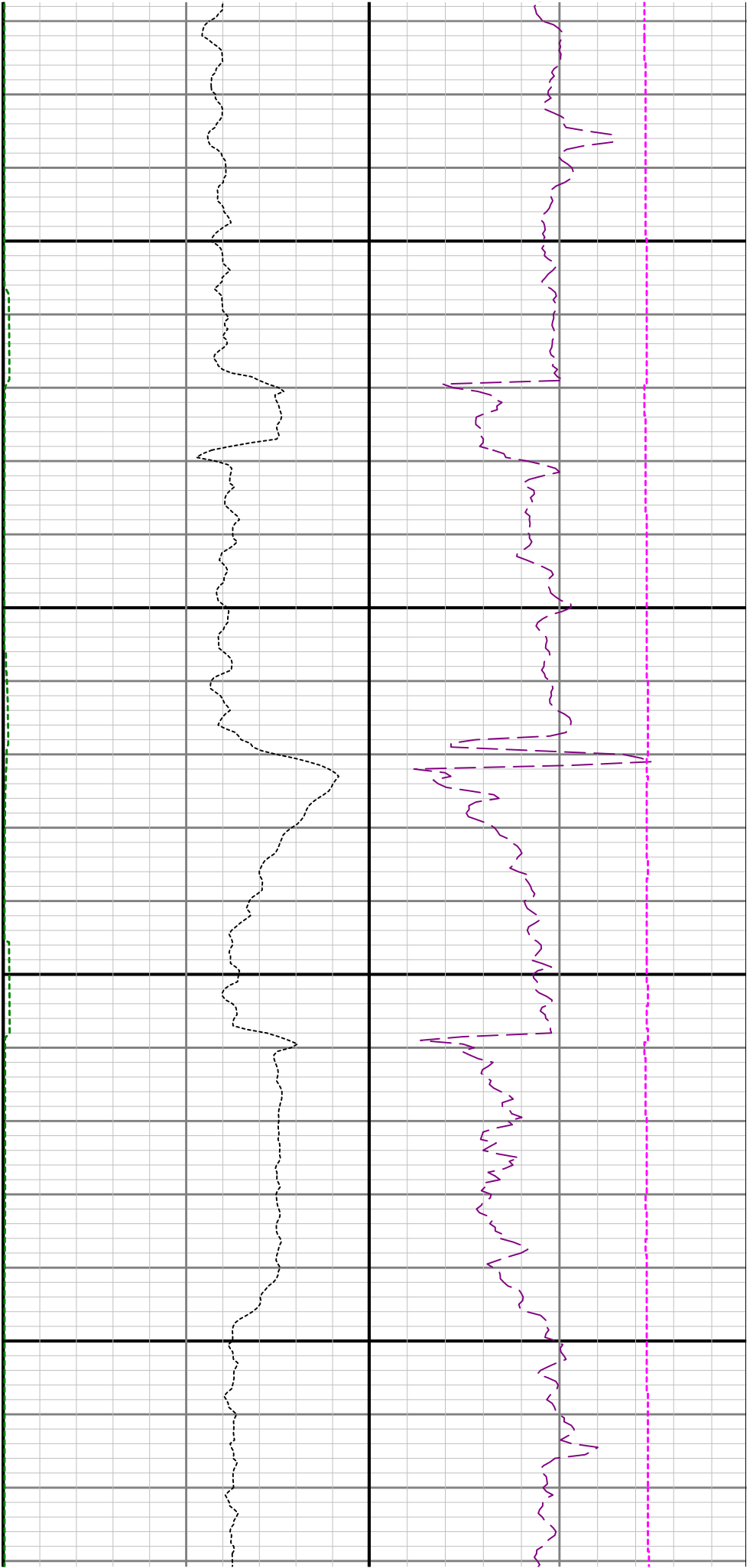
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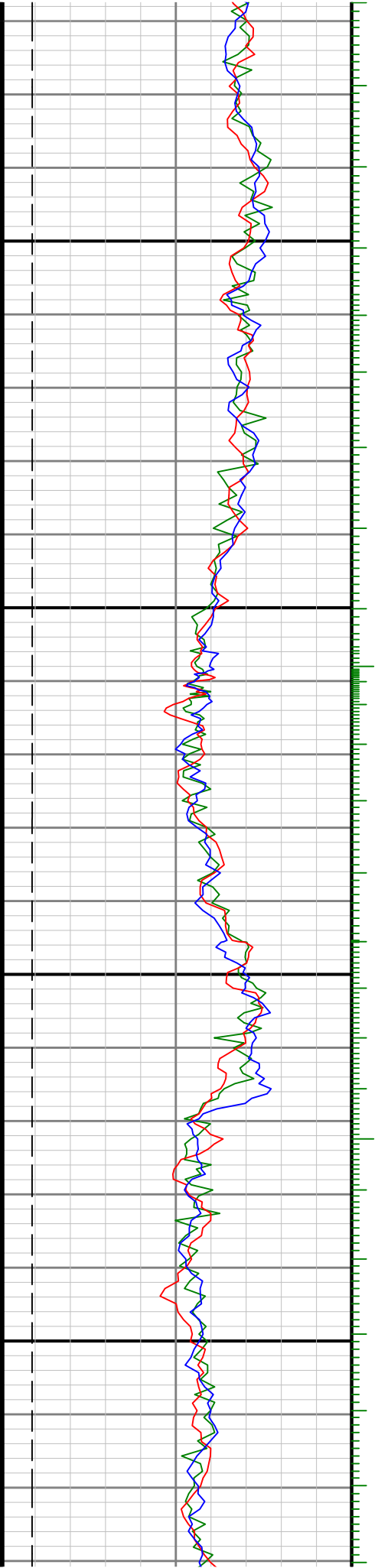


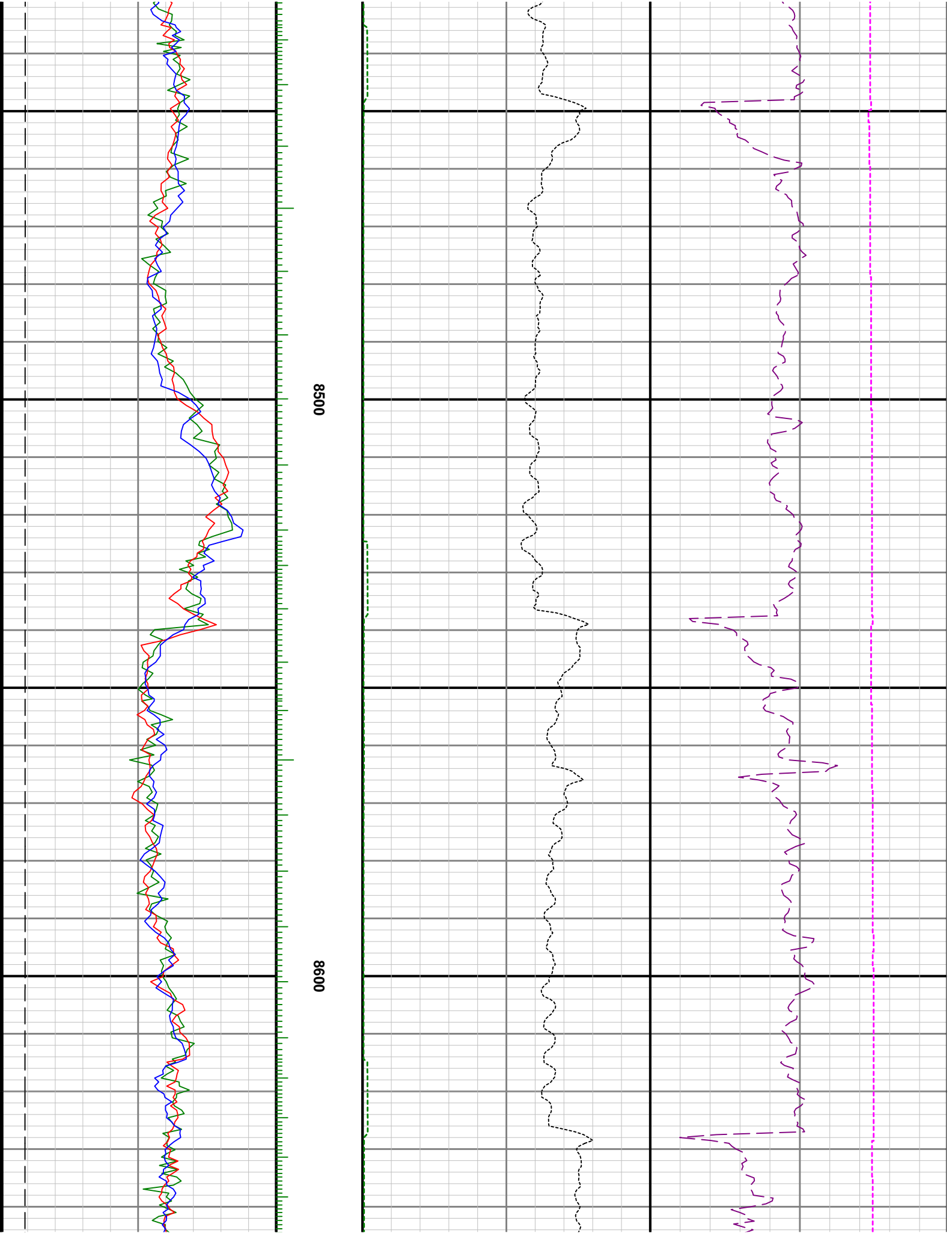


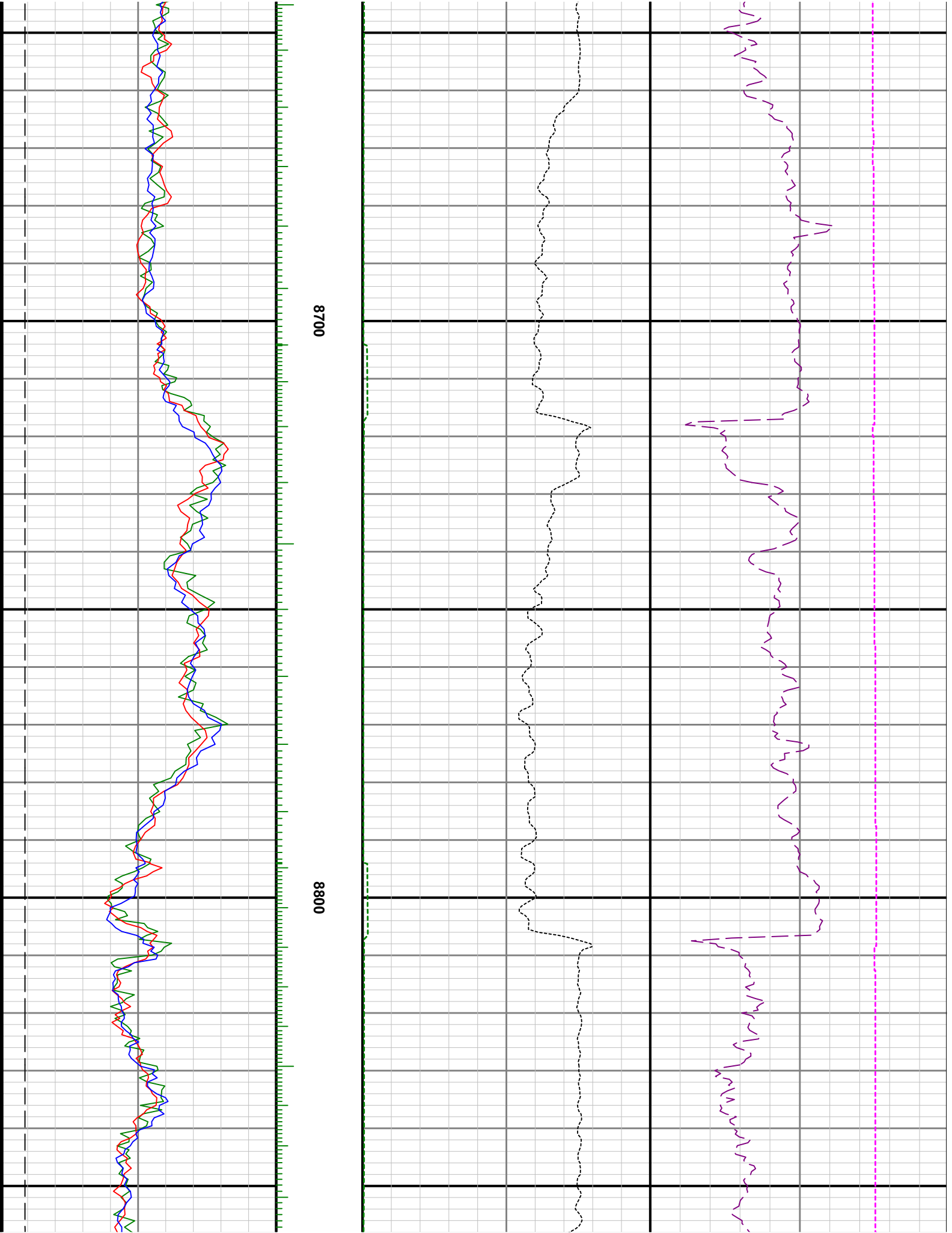


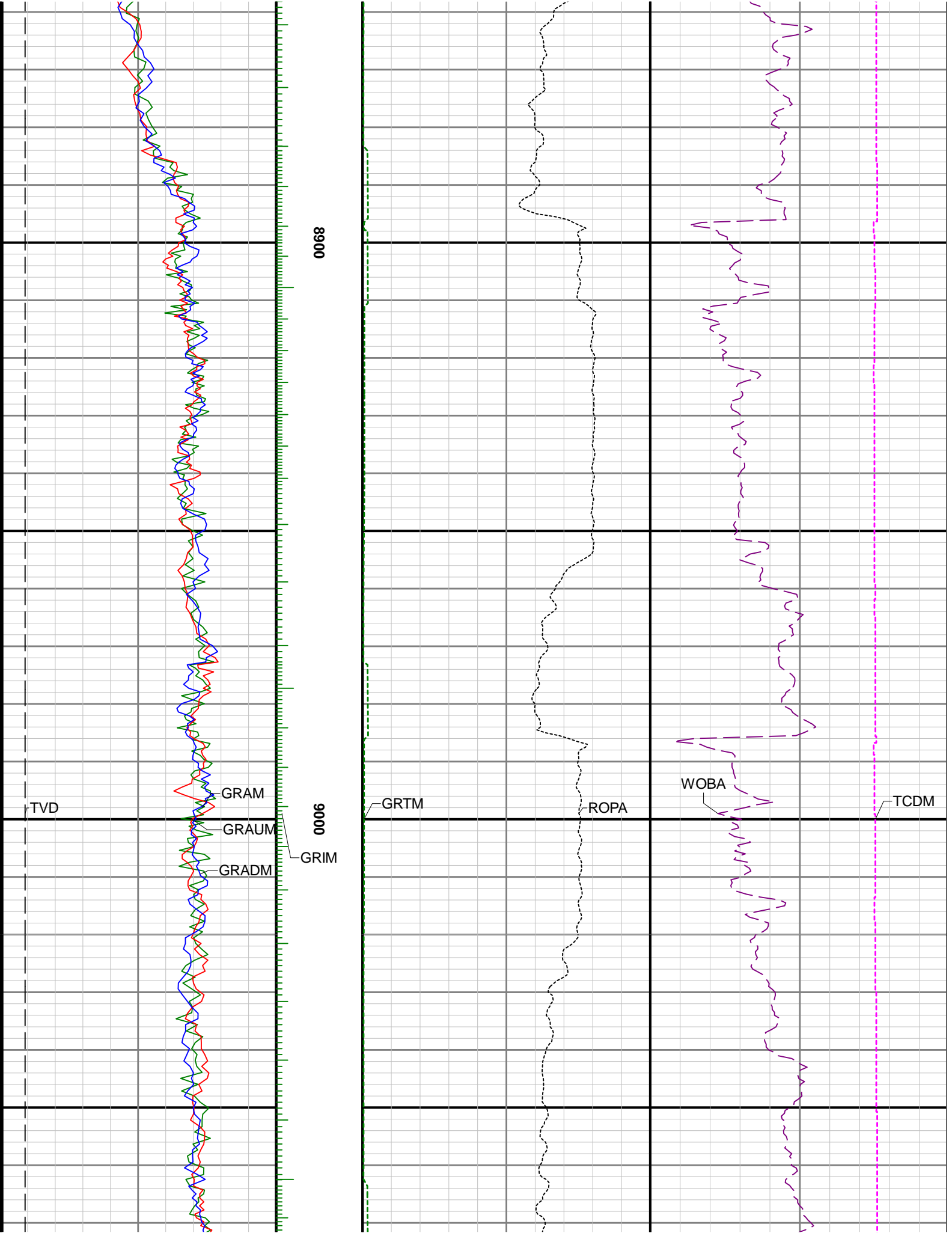
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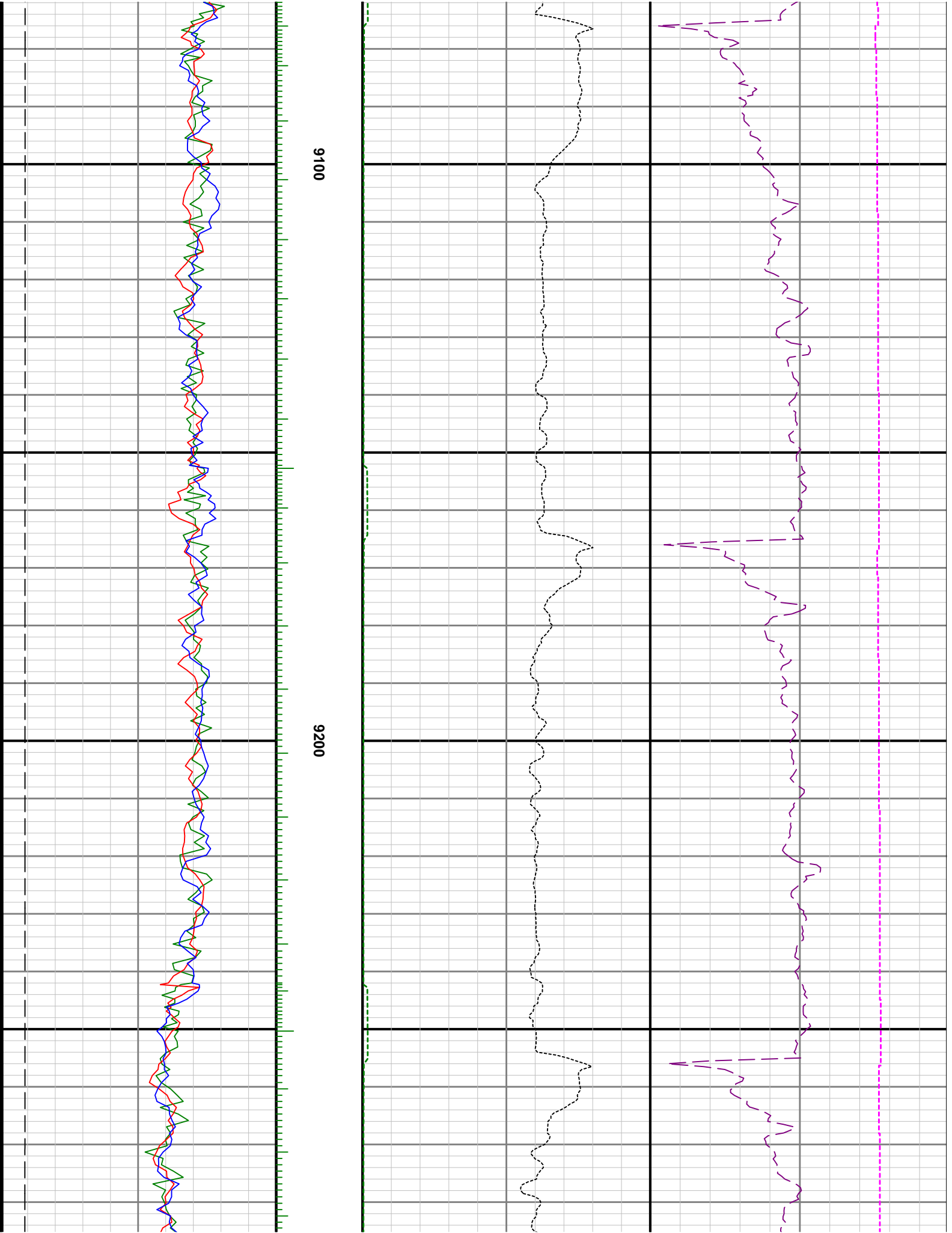
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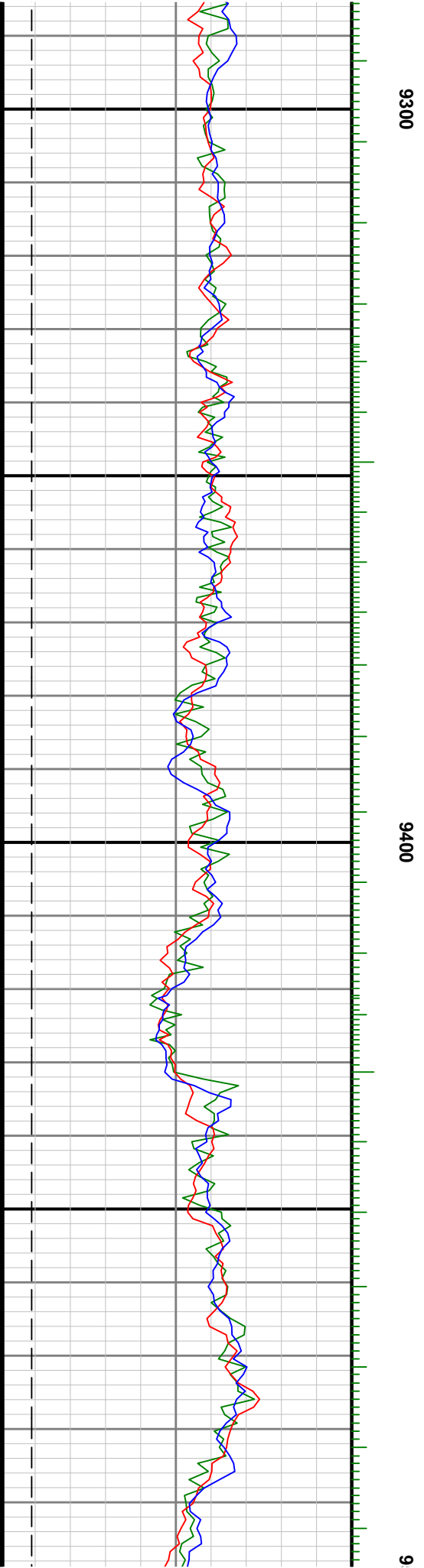
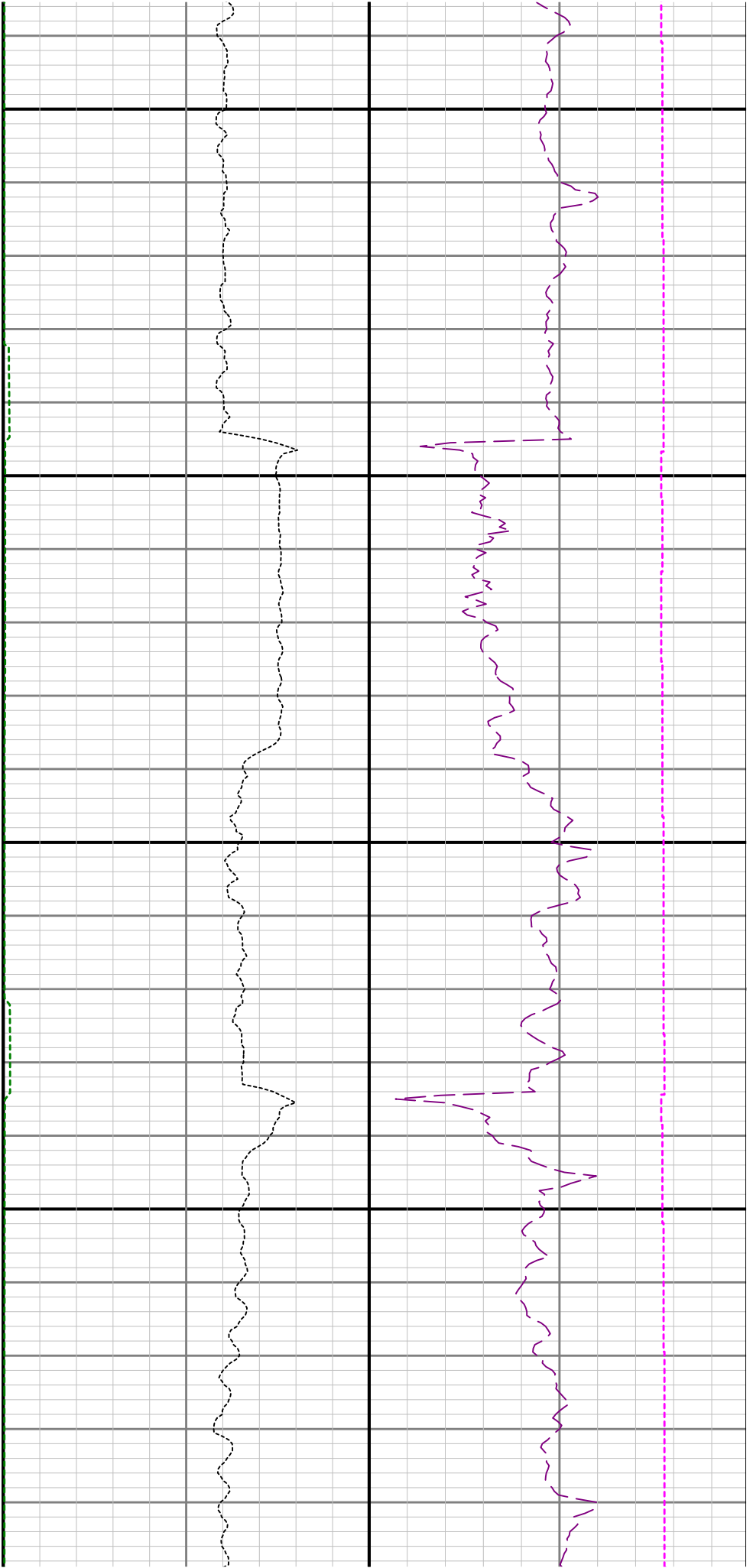


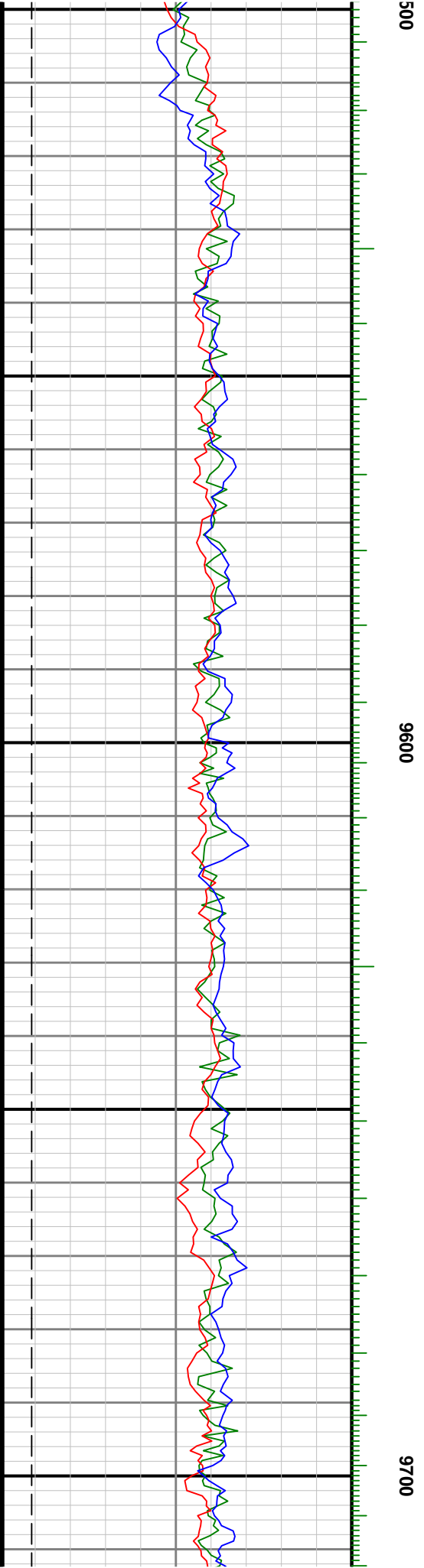
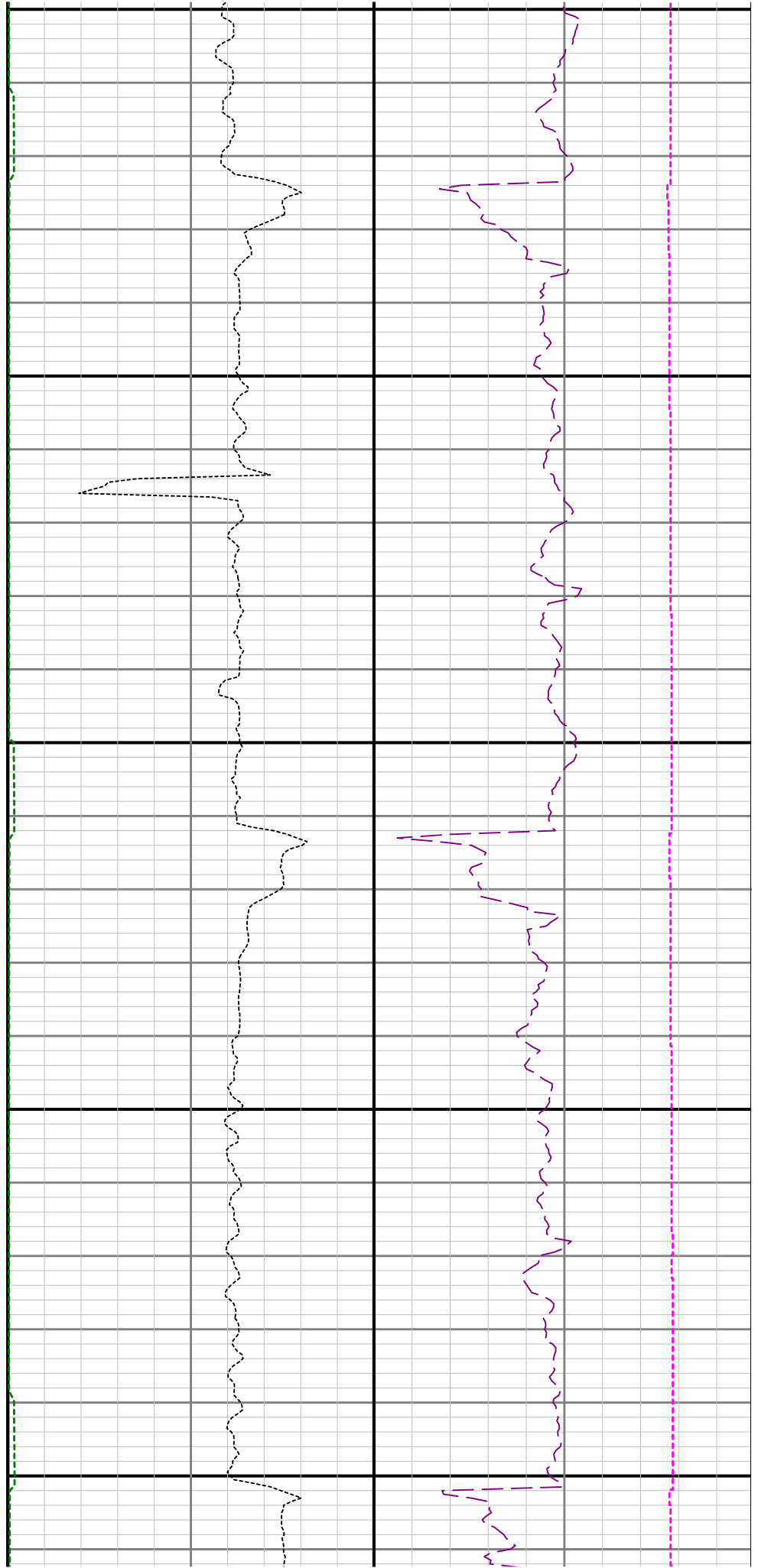


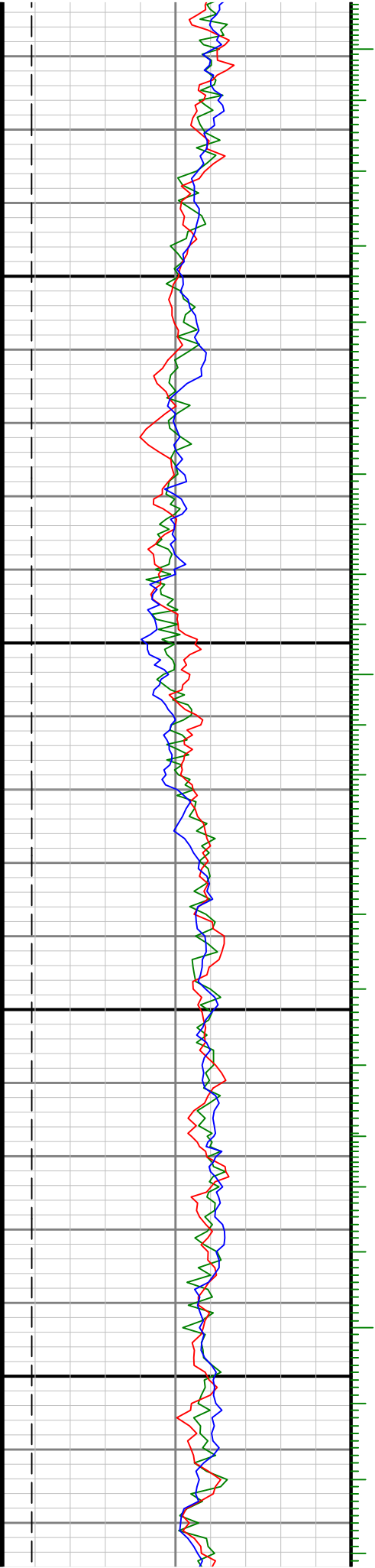






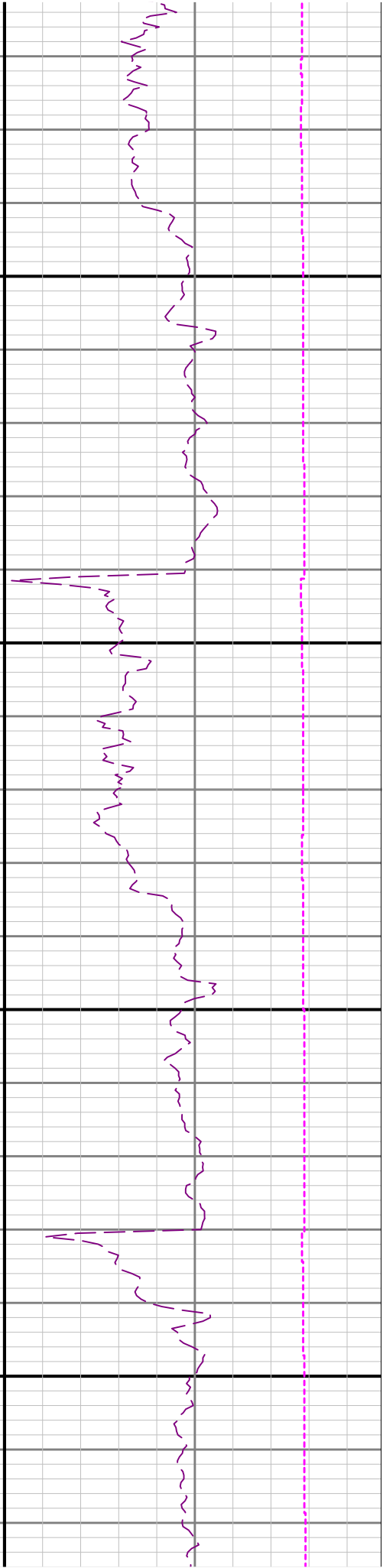
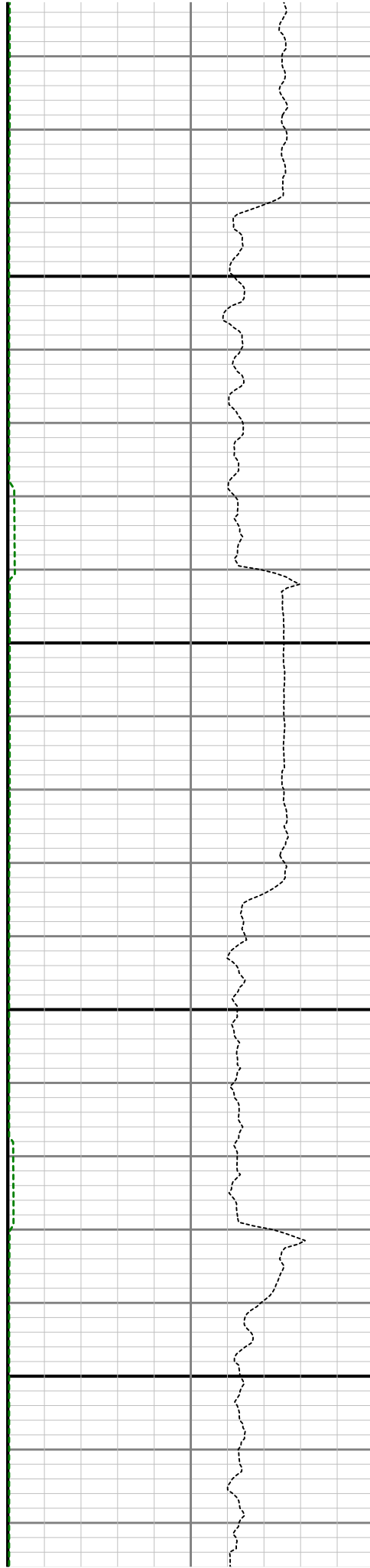


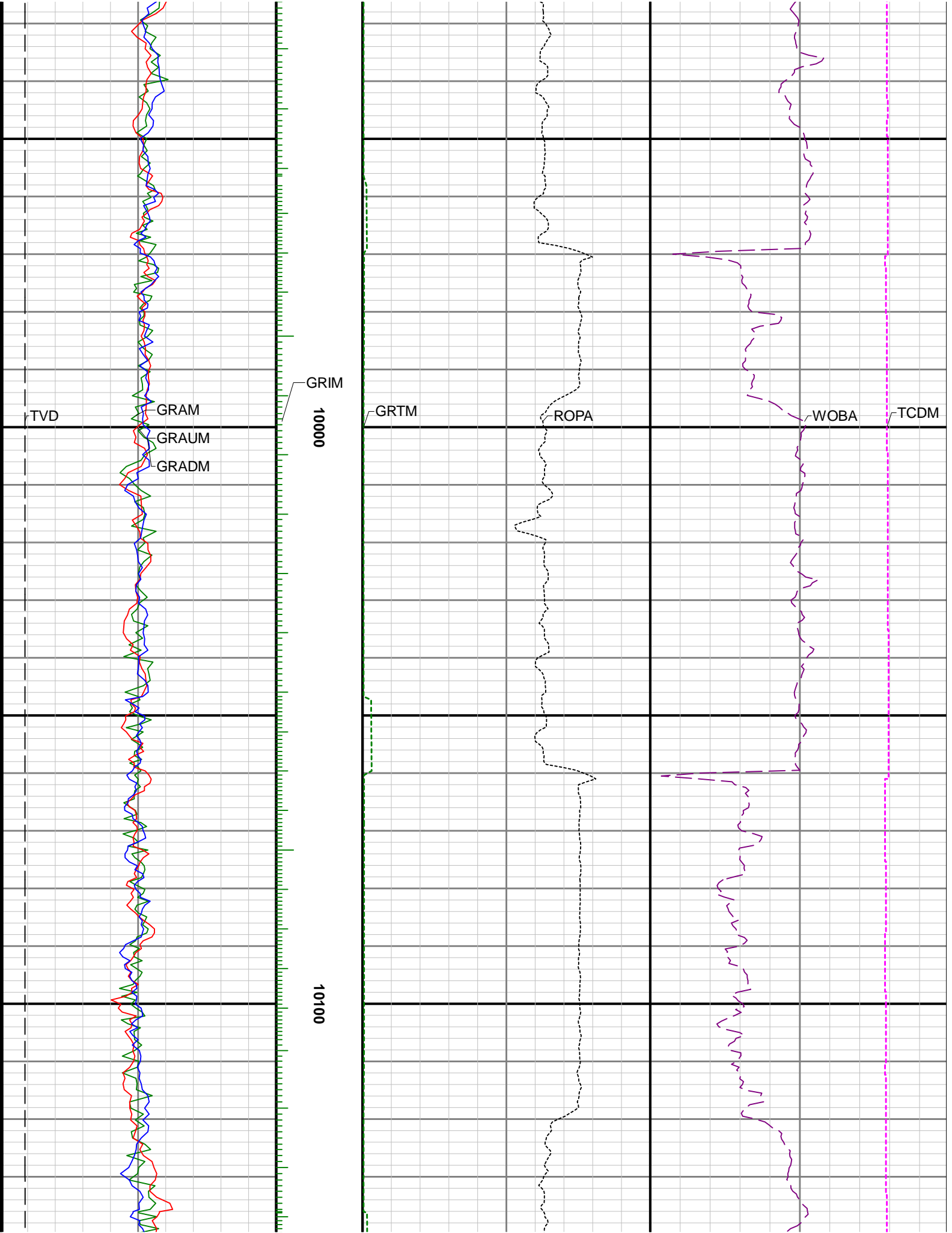


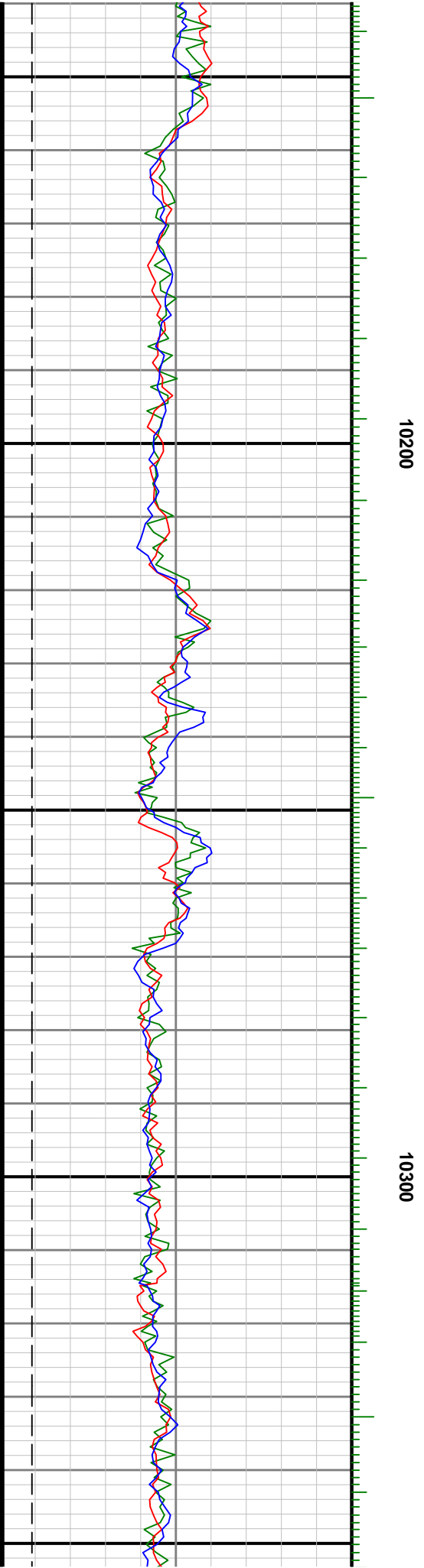
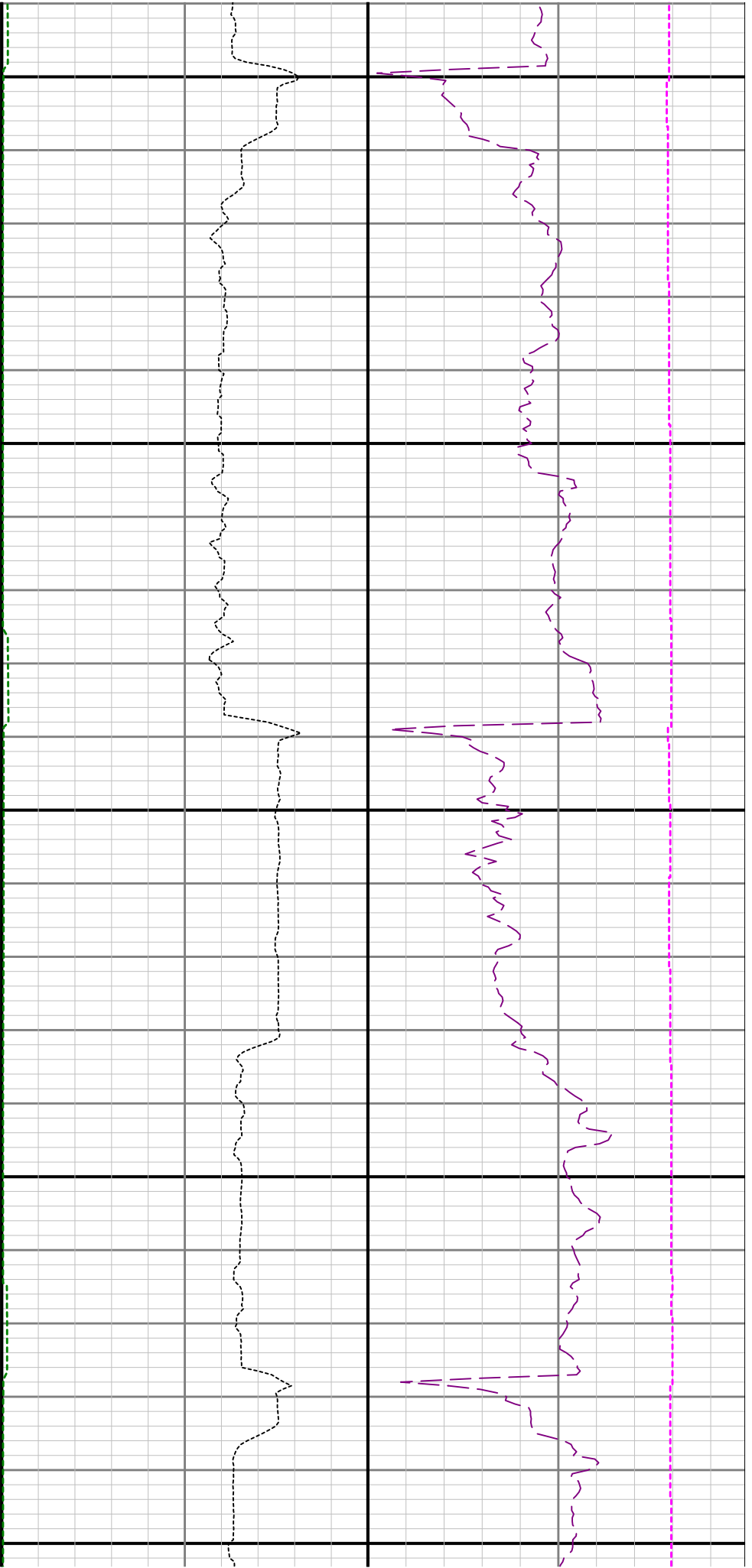


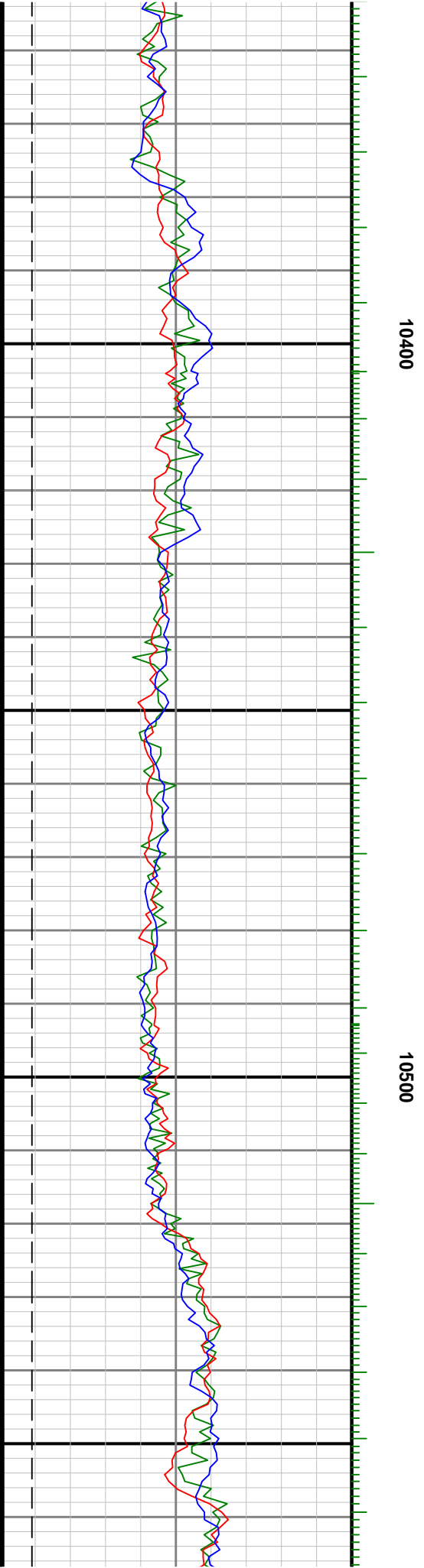
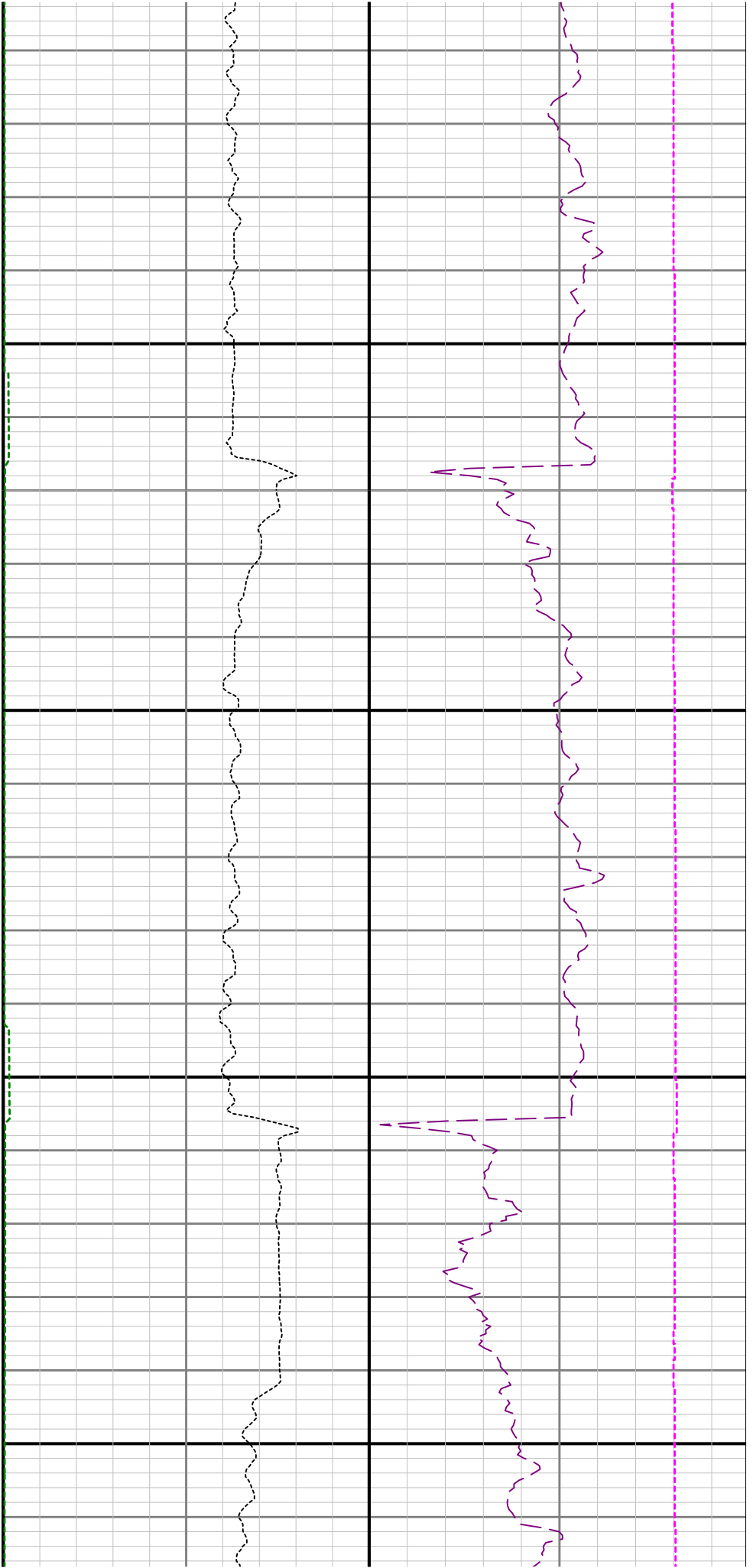
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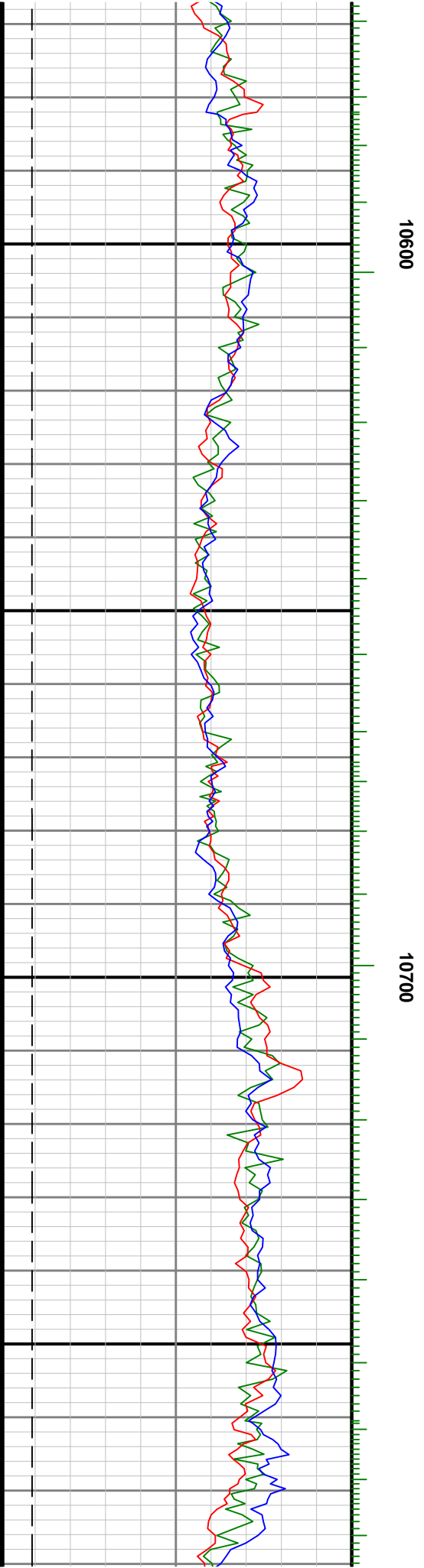
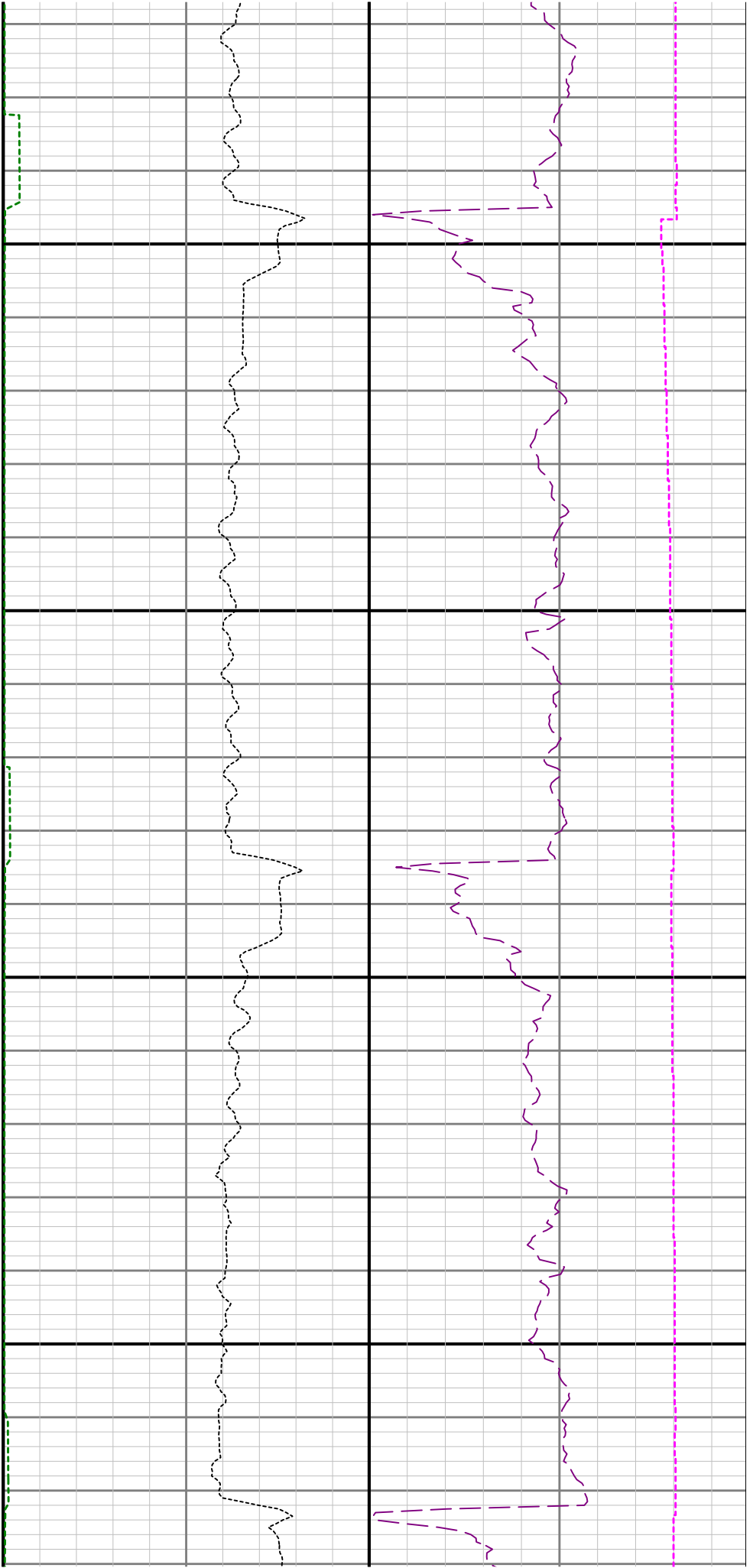
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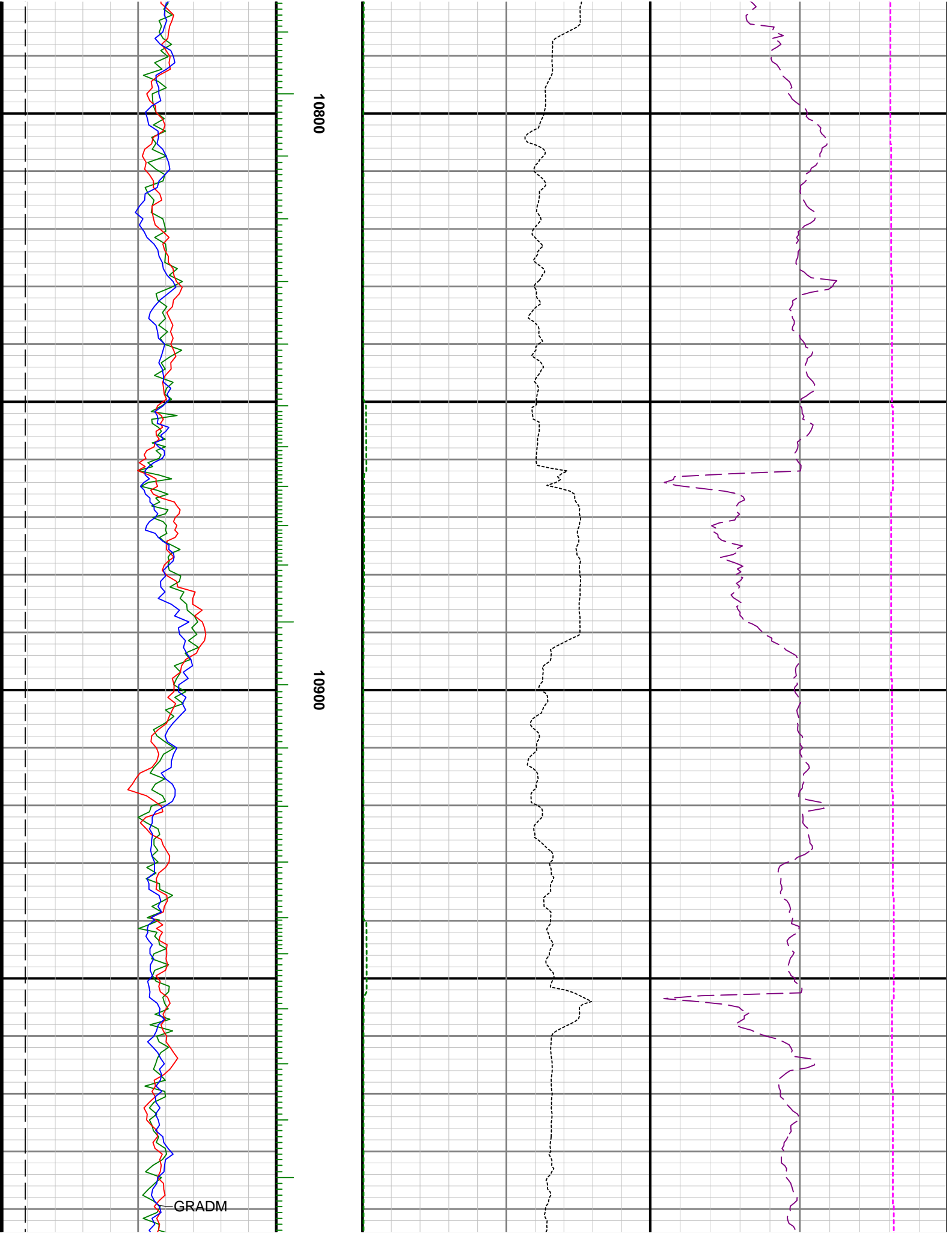


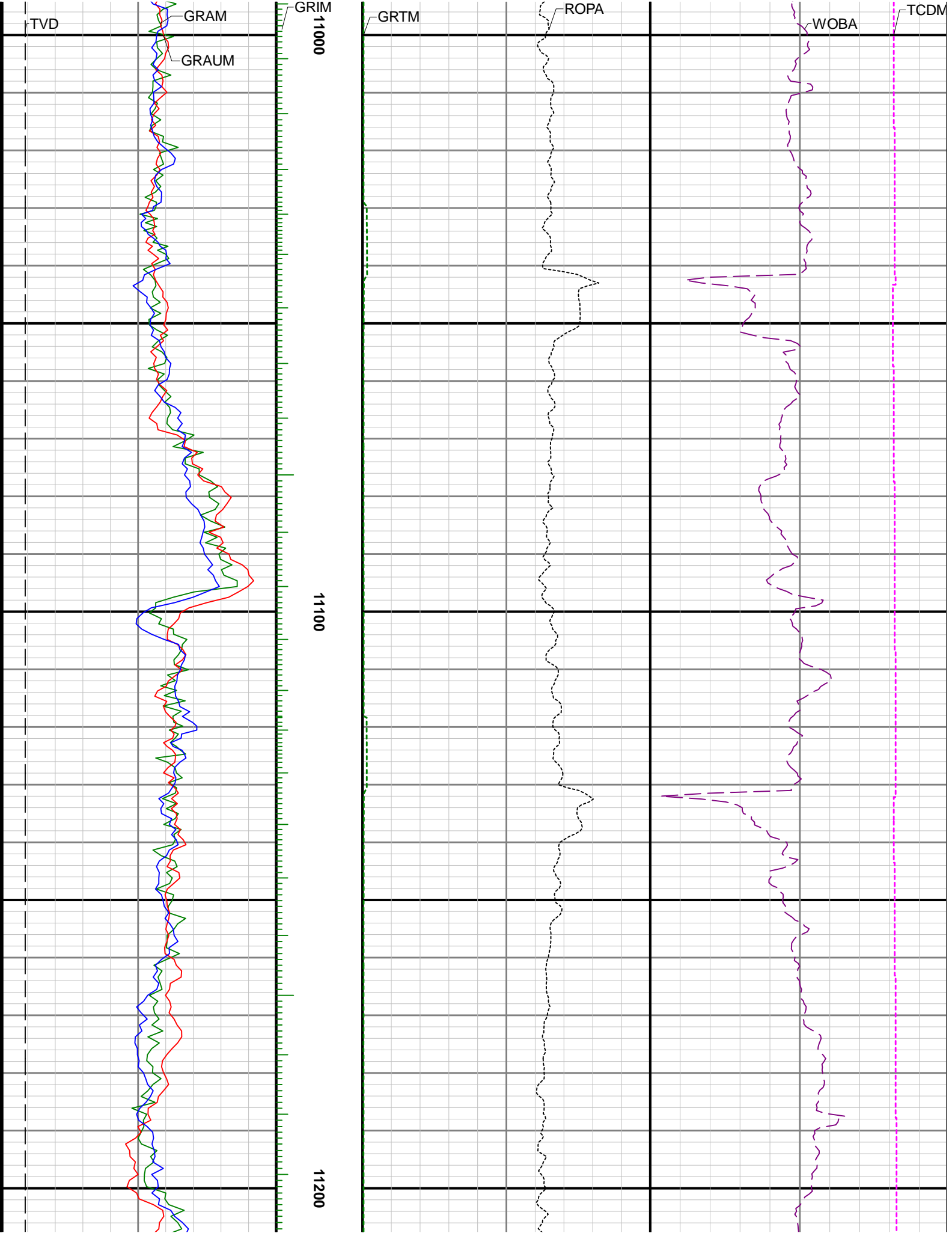


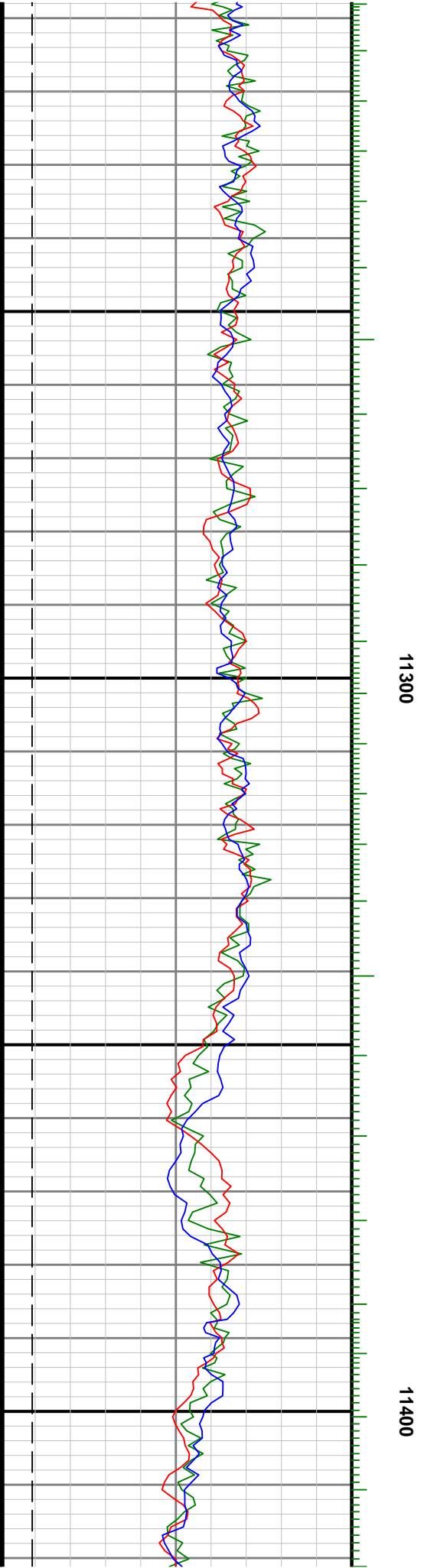
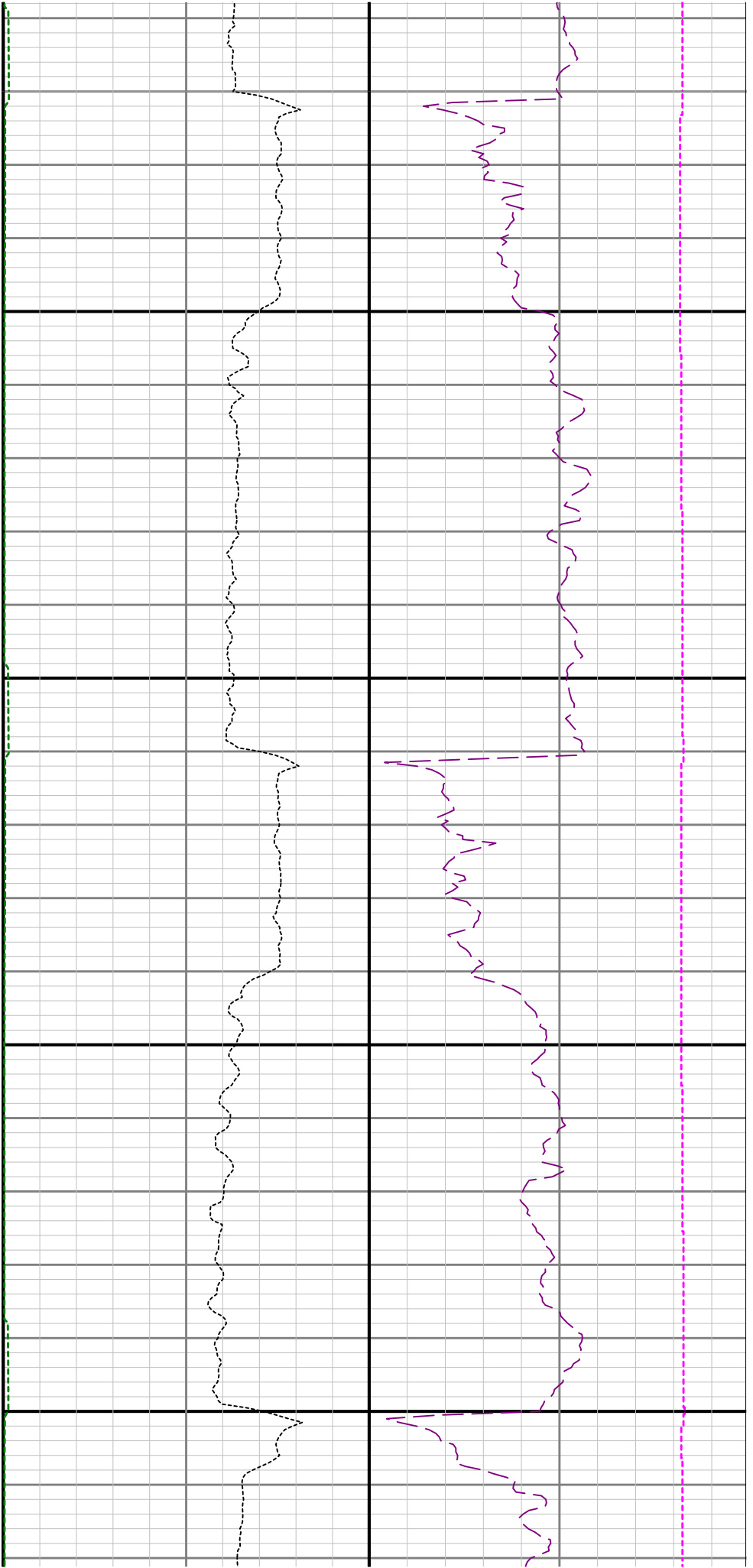


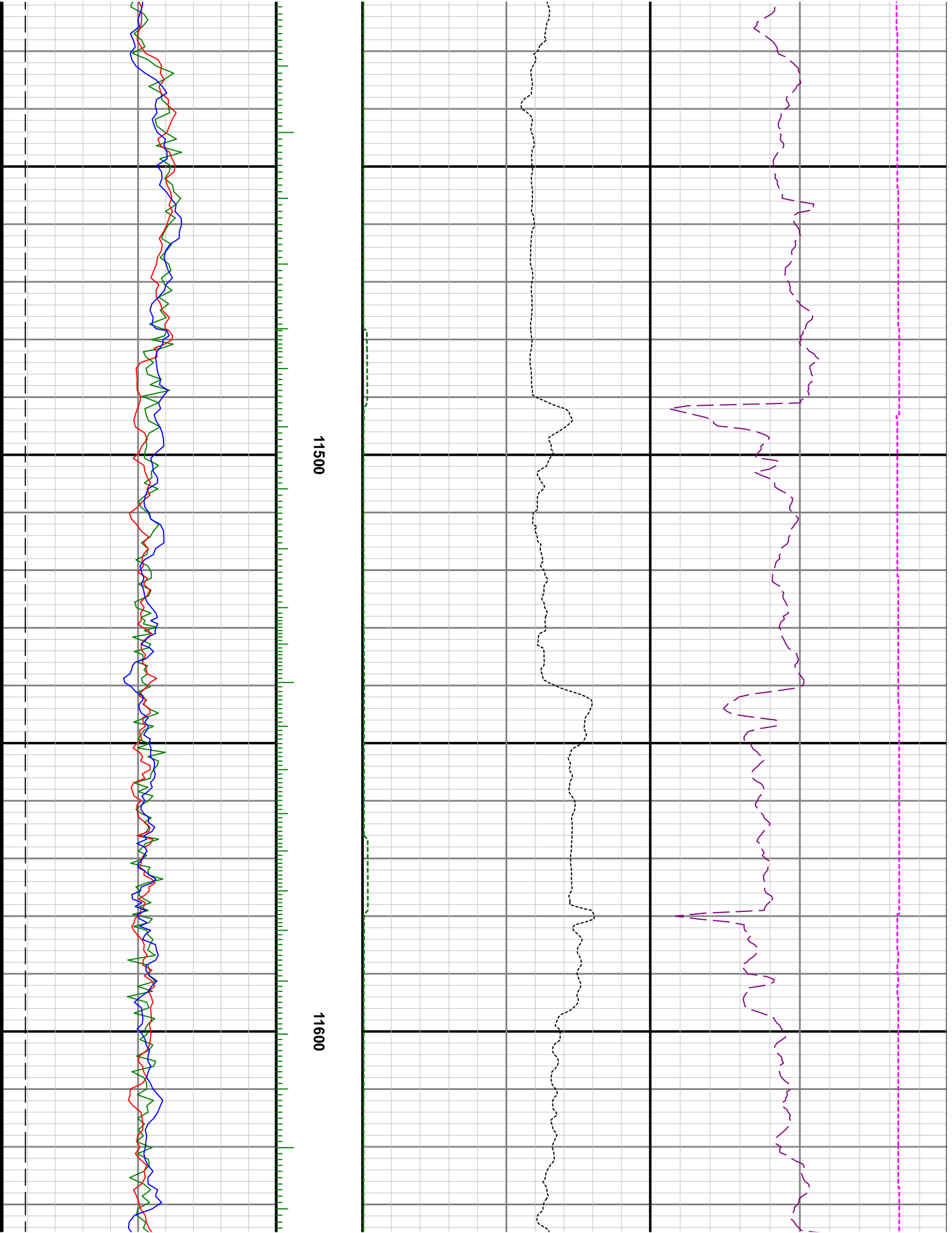


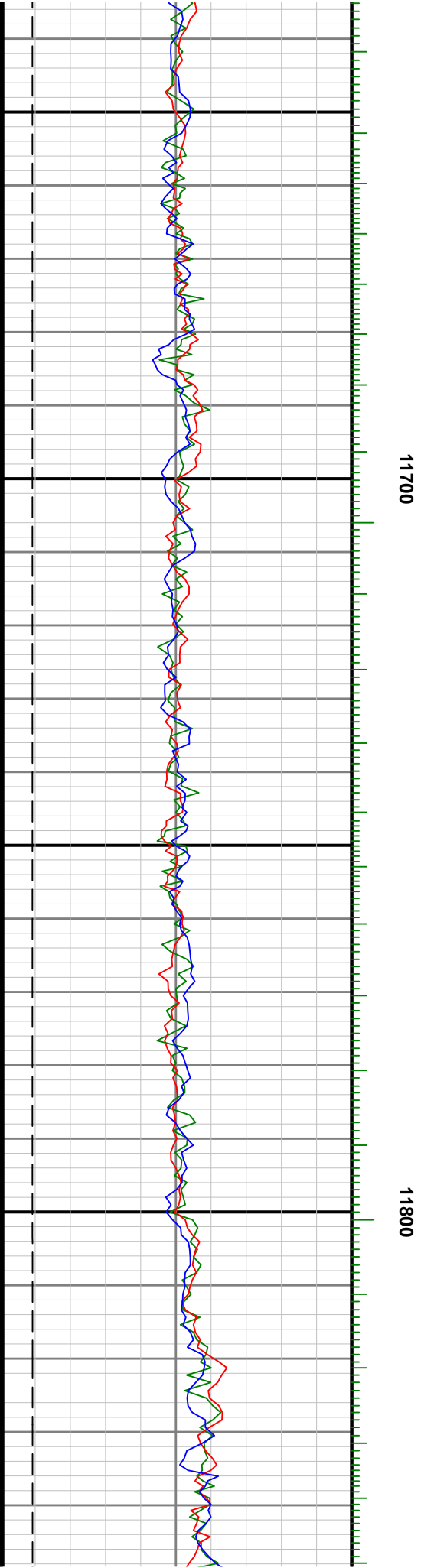
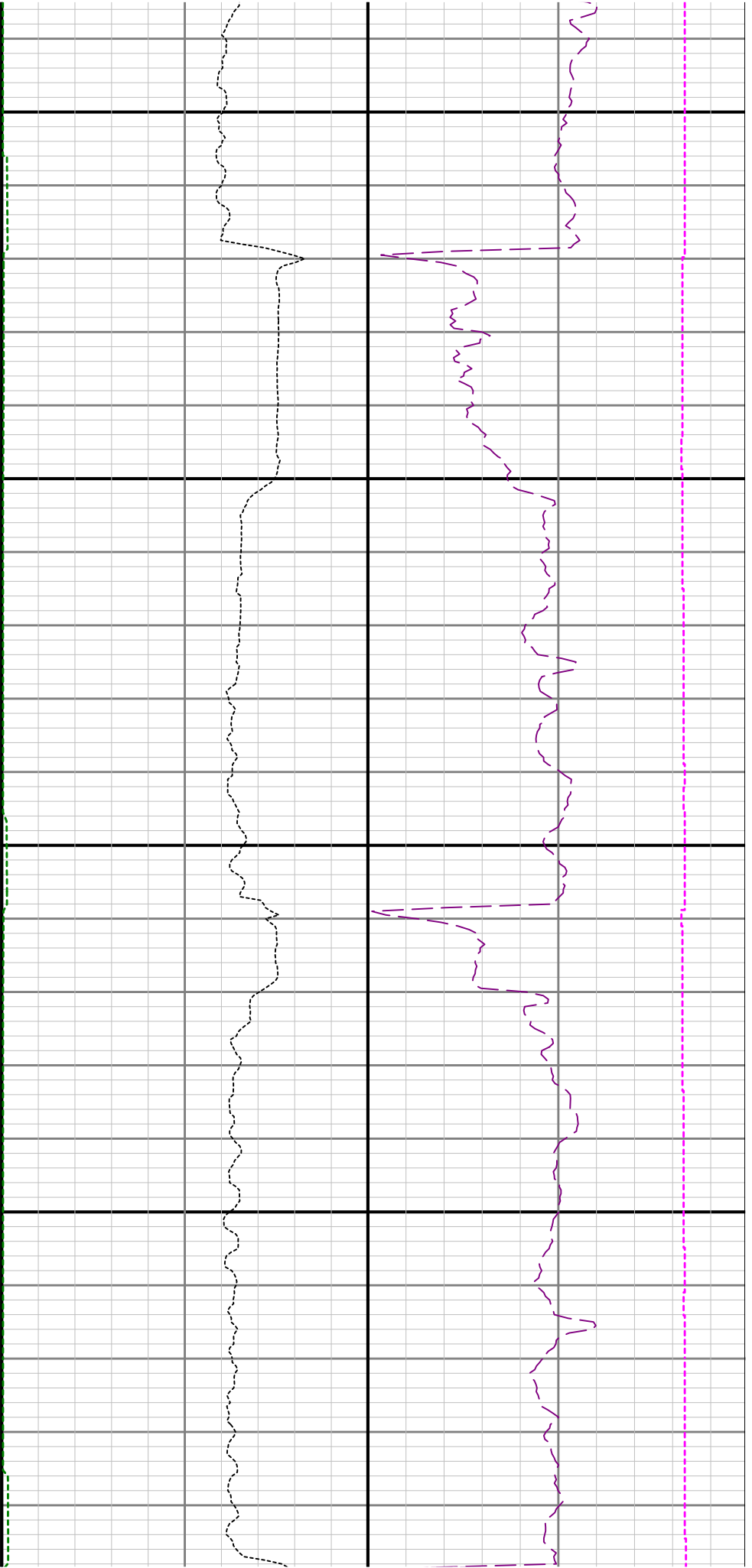


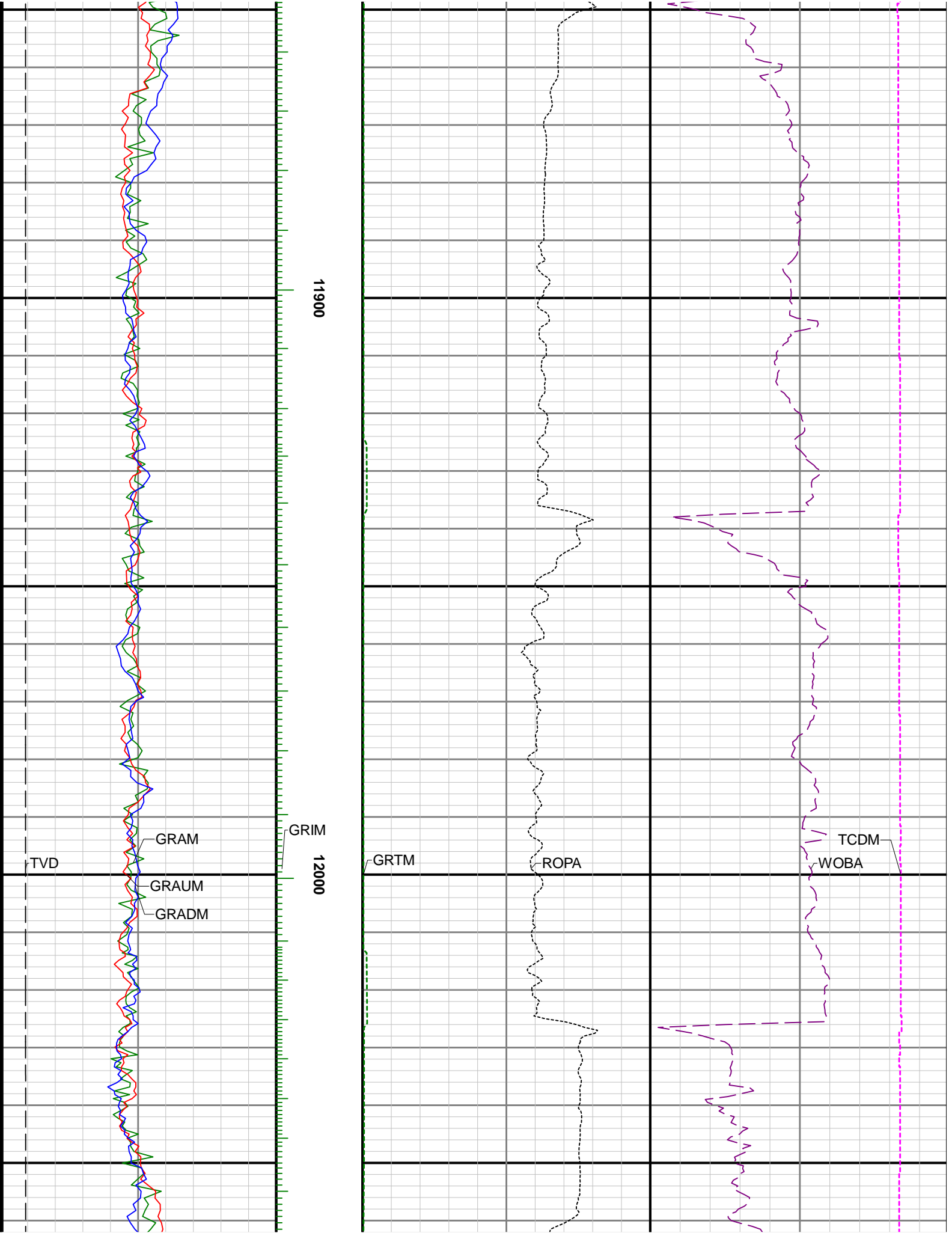


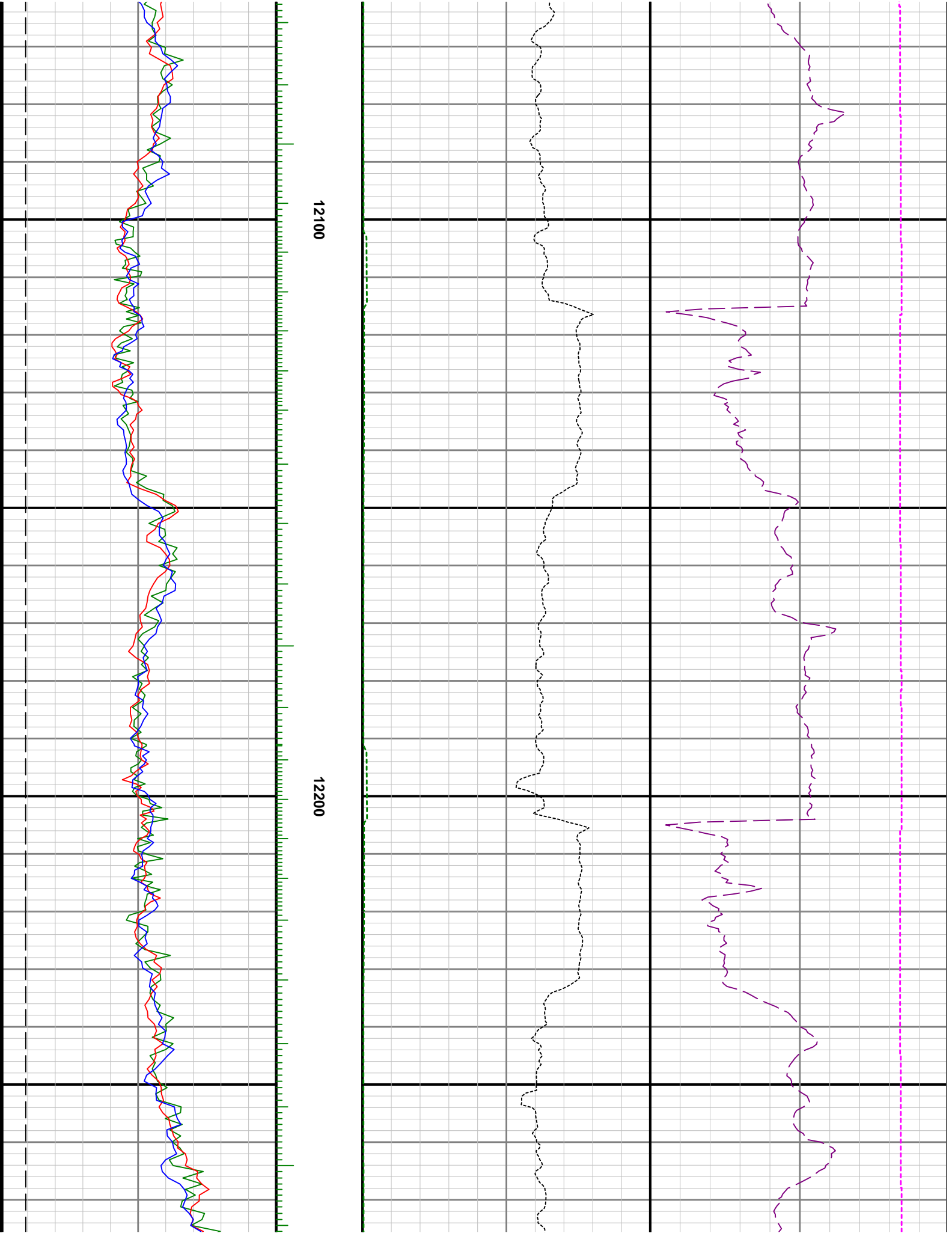


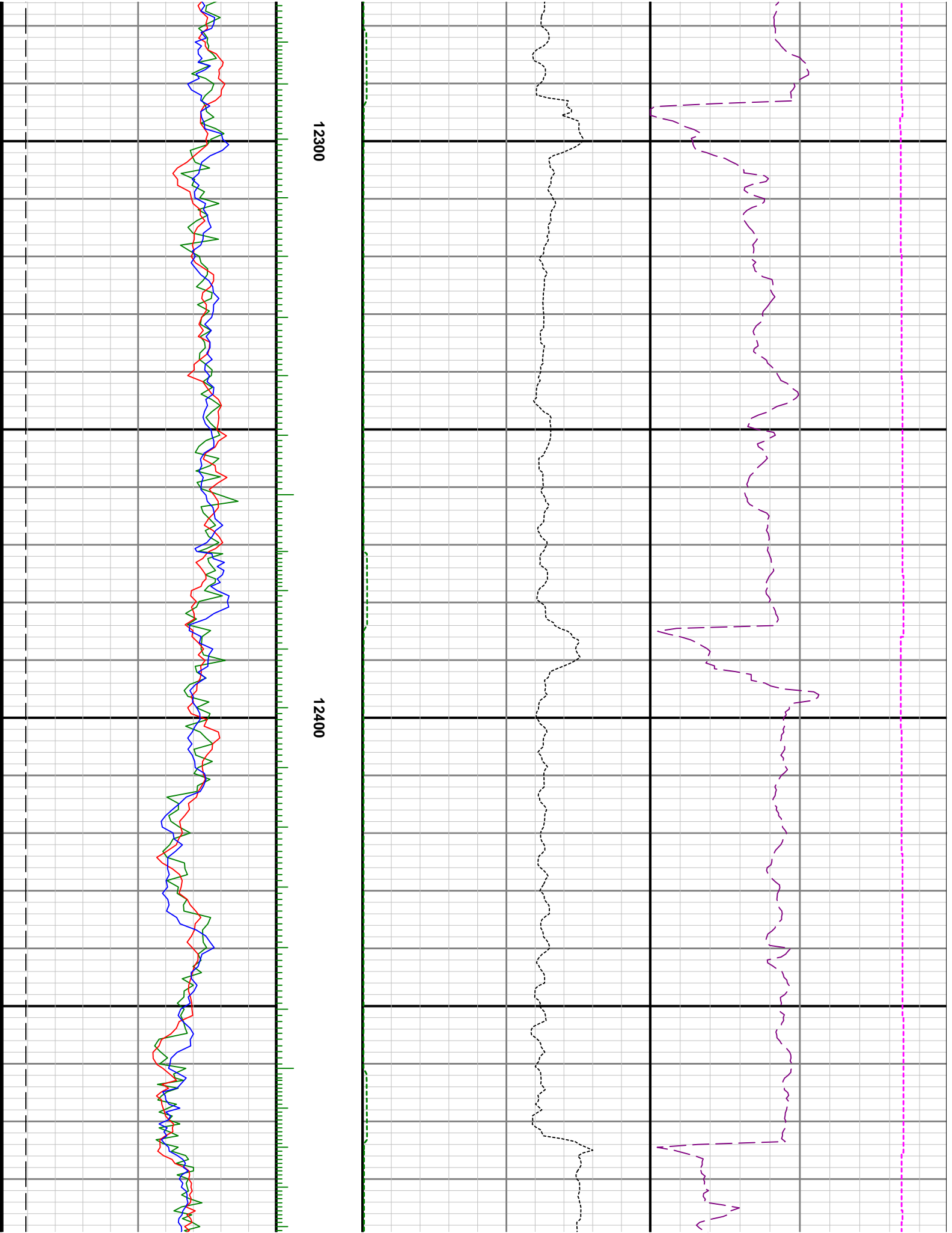


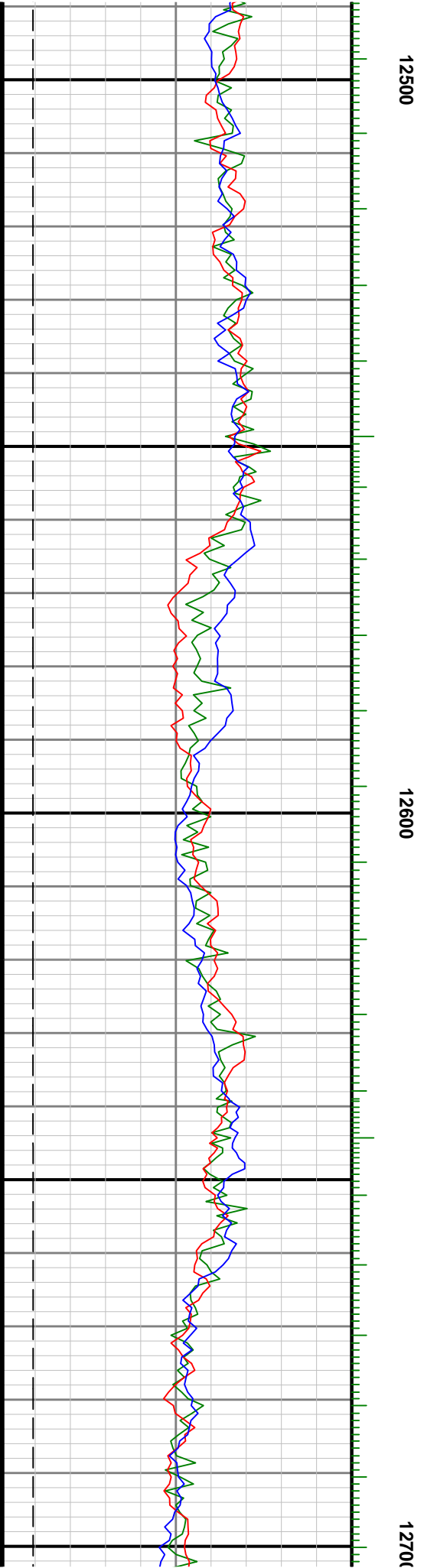


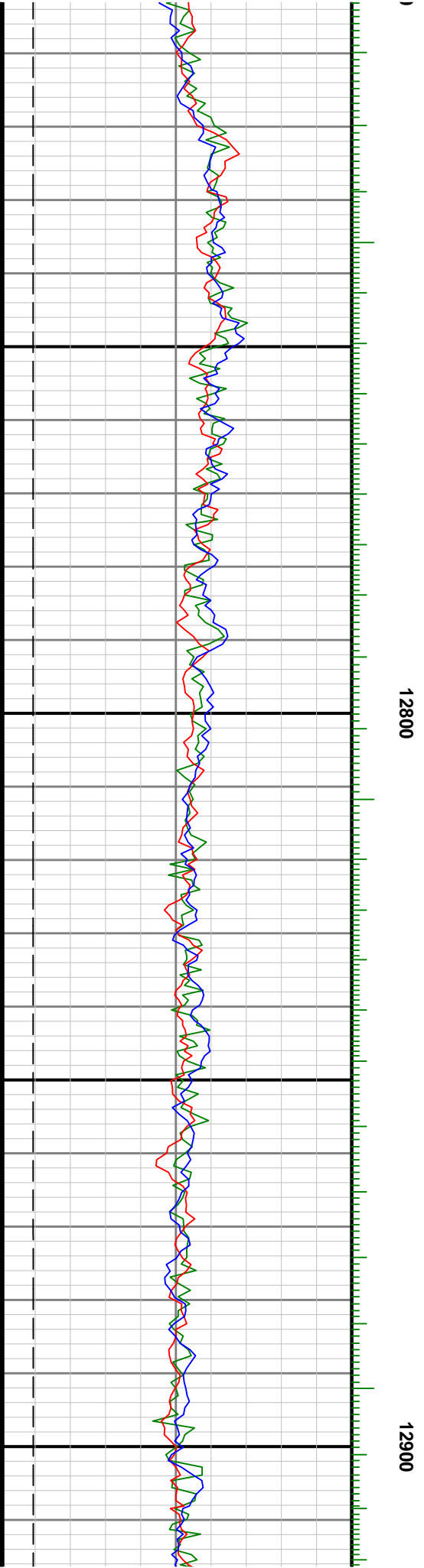


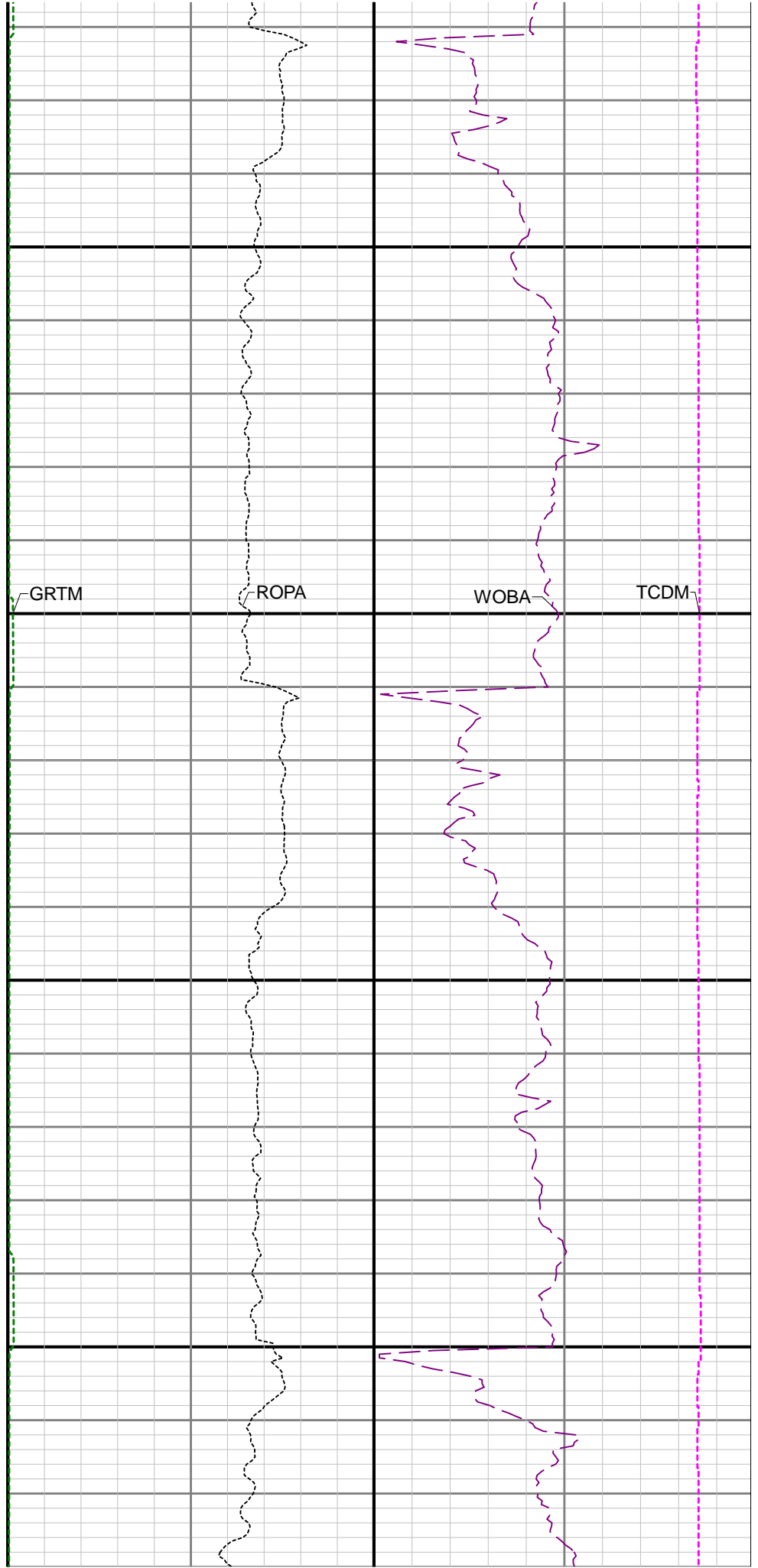
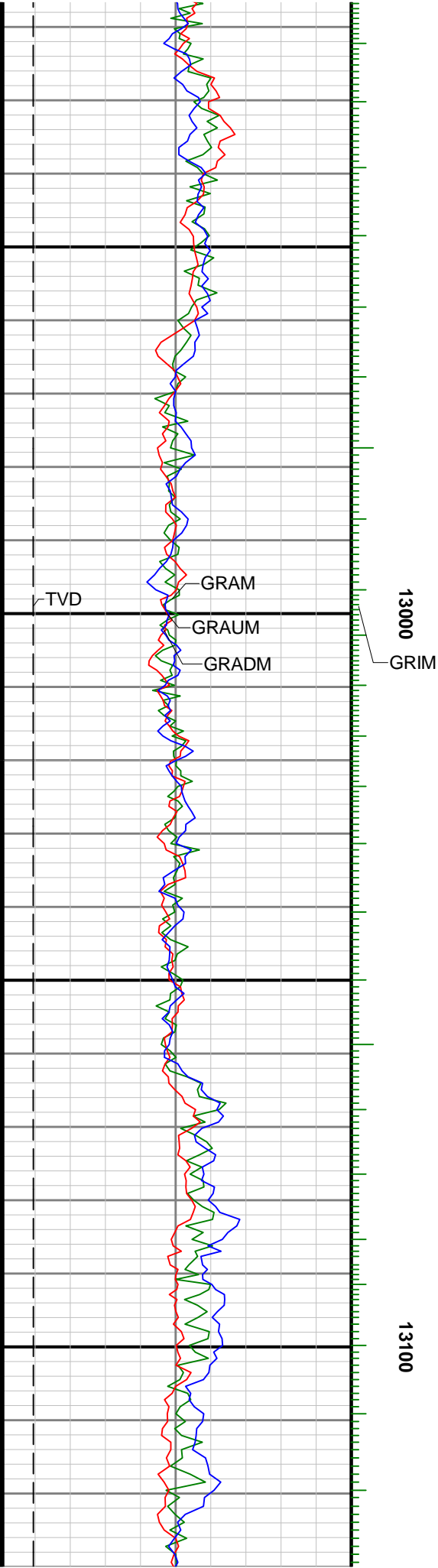


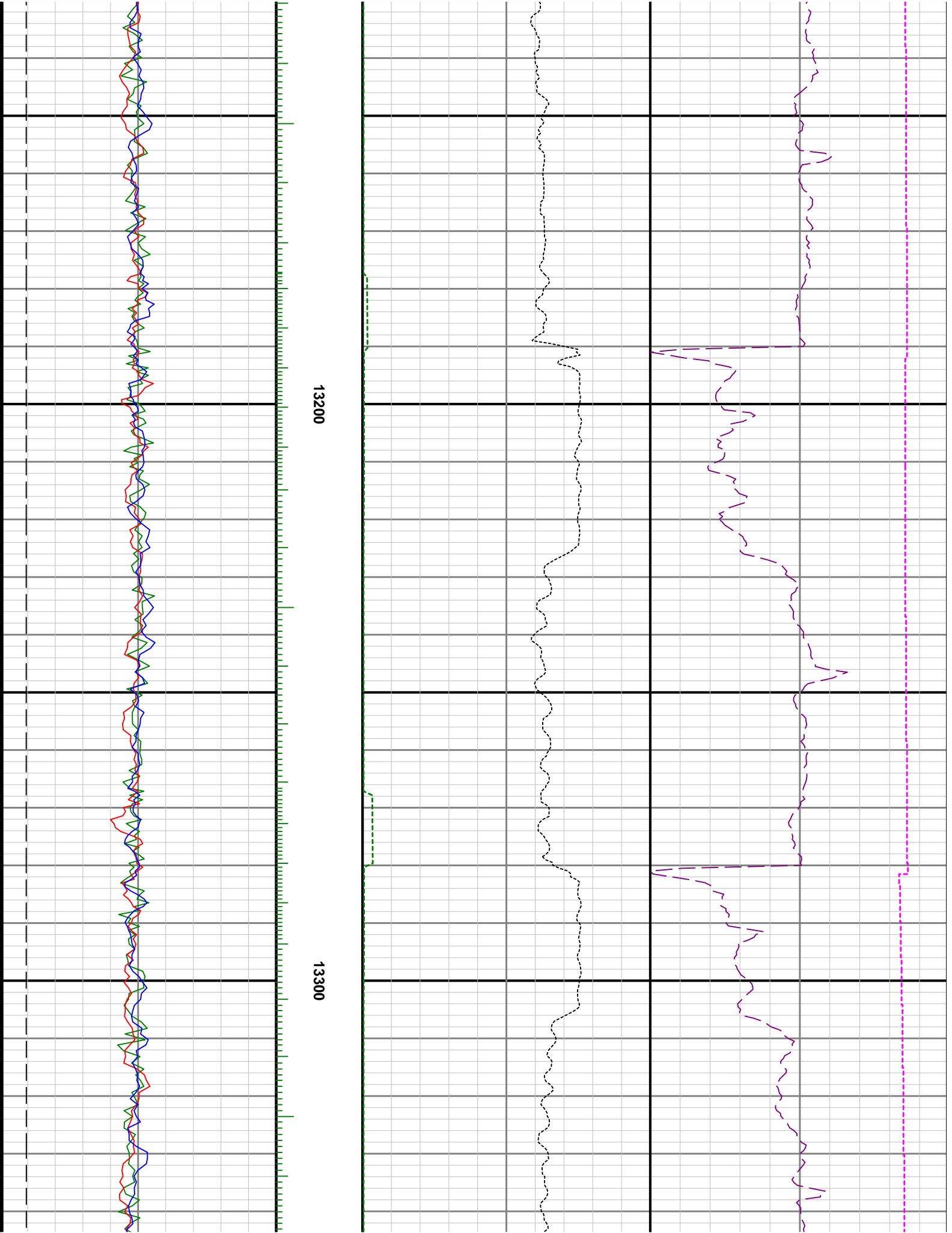


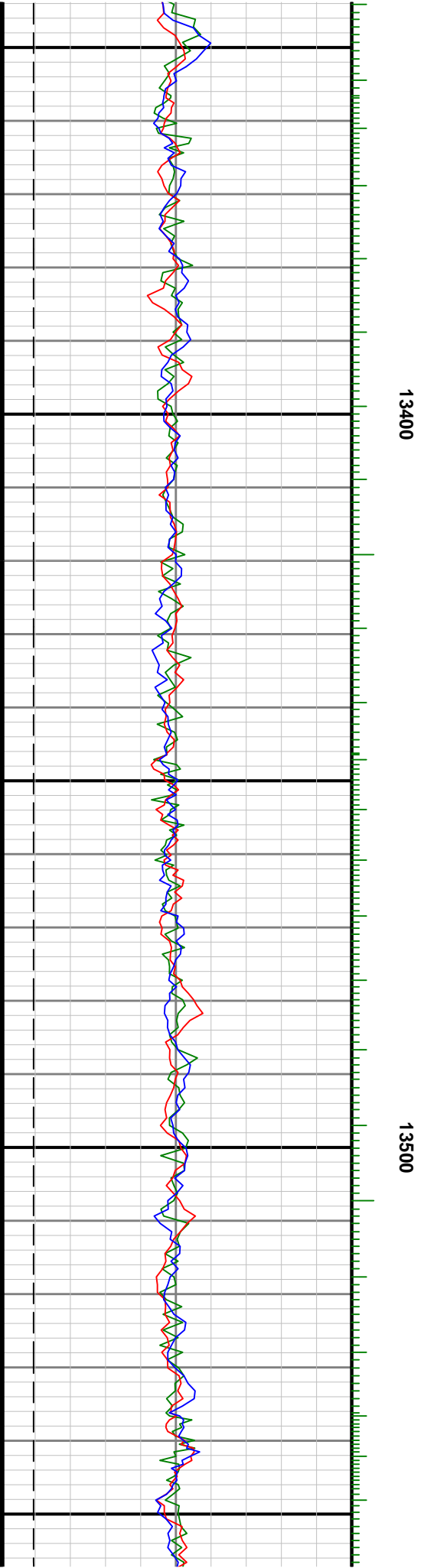


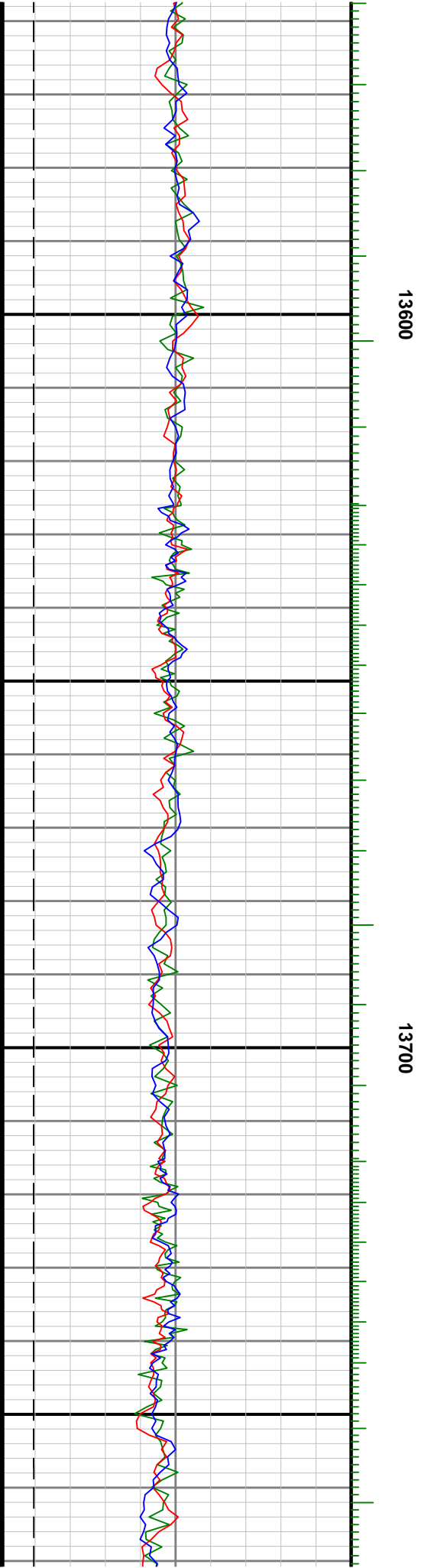
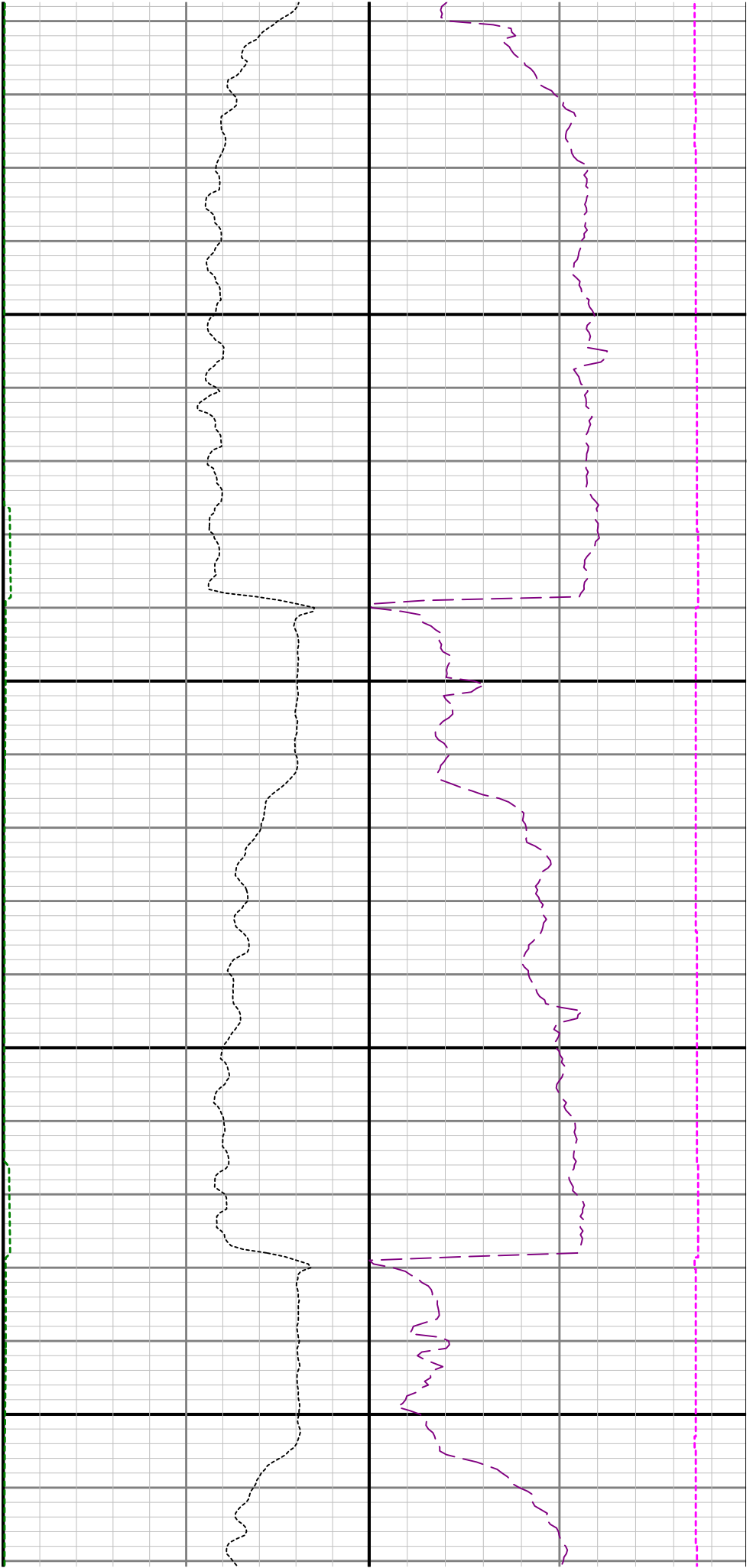


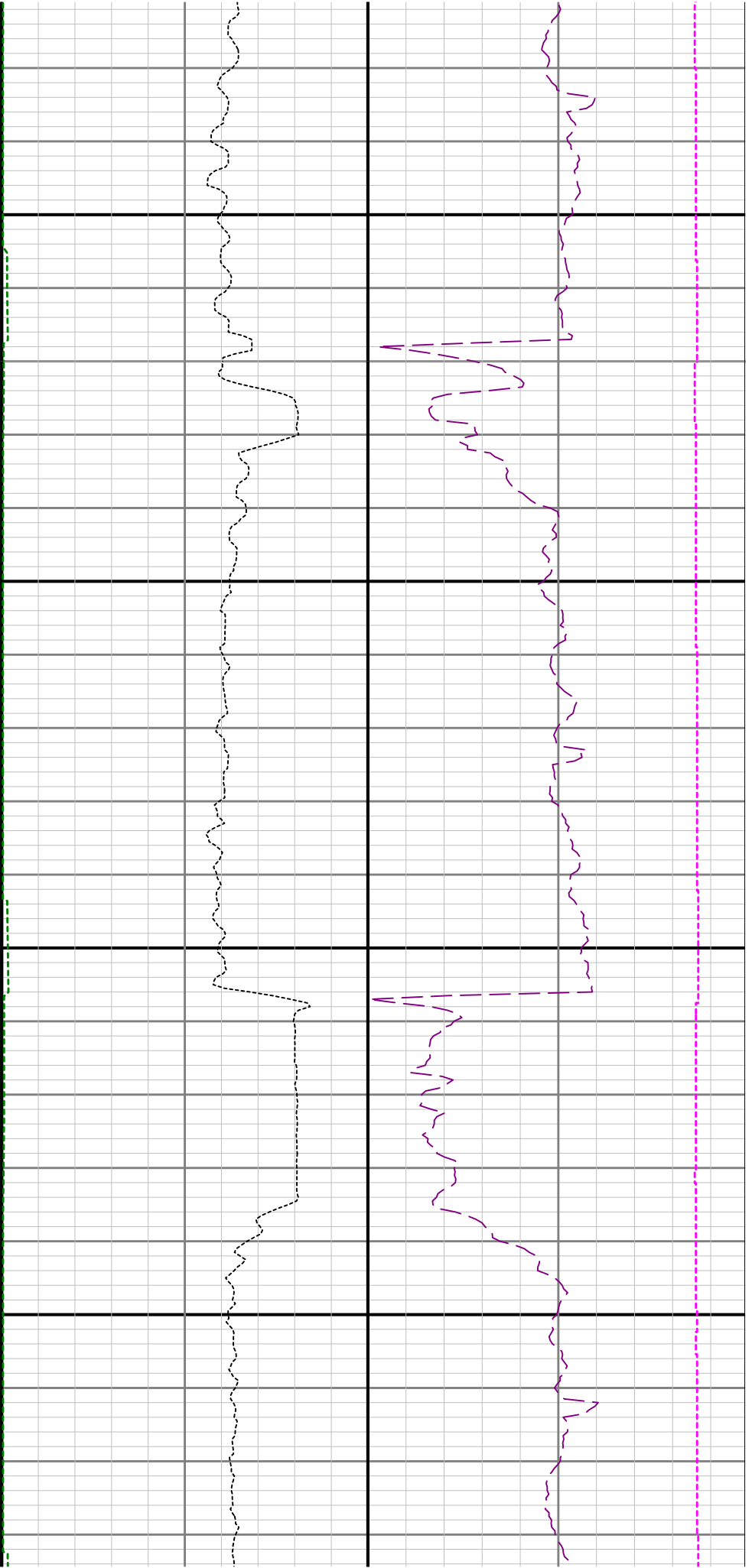












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