



LWD MEMORY LOG

Gamma Ray

Company: SRC Energy

1:240 MD

Well: Troutd 1C-23-M

Field: DJ Basin

Driller's Depth

County: Weld County Country: United States

State: Colorado

Status:

Final Print

API No: 05-123-46242

Surface Location: Latitude: 040° 27' 52.531" N Longitude: 104° 46' 02.723" W

Other Services:

Directional

Job ID: 9189291

SEC: 27 TMN: 6N RGE: 66W

Permanent Datum (P.D.): Ground Level

Elevation: 4719.00 ft

Elev. KB: 4744.00 ft

Log Measured From: Rig Floor

Above P.D. 25.00 ft

Elev. DF: 4719.00 ft

Dates

Interval Drilled

Magnetic Field Reference

Date From: 2018-08-13 Top: (ft) 1815.00

Azi Reference North: True Dip Angle: (deg) 66.77

Date To: 2018-08-17 Bottom: (ft) 15540.00

Total Magnetic Field Strength: (mT) 52392

Spud Date: 2018-05-29

Mag to Reference North Correction: (deg) 7.56

Borehole Record

Casing Record

Hole Size (in)	From (ft)	To (ft)	Size (in)	Weight (lb/ft)	From (ft)	To (ft)
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13.500	25.00	1826.00	9.625	36.00	25.00	1815.00
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8.500	1826.00	15540.00				
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Mud Record

Deviation Record

Type	From (ft)	To (ft)	Hole Size (in)	Interval (ft)	Inc Az (Start)	Inc Az (End)
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Diesel-Oil Based Mud	1815.00	15540.00	13.500	1805.00	0.00 69.70	0.27 306.98
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			8.500	13725.00	0.27 306.98	90.49 87.04
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Acquisition System

Software Version

Other

Baker Hughes Cadence

RT 4.2

Rig: Precision 562

Unit: D&E

Pilot Studio

4.2.8155.1

Contractor: Precision Drilling

District: RMD

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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 (h)
						Top (ft)	Bottom (ft)	From (ft)	To (ft)	Start Logging	End Logging	
2	2	8.500	PDC	3.00	AutoTrak Curve	1815.00	15527.00	1815.00	15540.00	2018-08-13 19:27	2018-08-16 15:30	59.59

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Garrett Gerdson	2018-08-13	2018-08-17						

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+ (%)
2018-08-13 13:00	2	1815.00	Diesel-Oil Based Mud	9.7	20	N/A	12.0	76/24	Active Pit	30000	0.00
2018-08-14 15:00	2	6743.00	Diesel-Oil Based Mud	9.8	25	N/A	16.0	75/25	Active Pit	38000	0.00
2018-08-15 14:00	2	10810.00	Diesel-Oil Based Mud	10.0	25	N/A	20.0	75/25	Active Pit	38000	0.00
2018-08-16 14:00	2	15236.00	Diesel-Oil Based Mud	10.2	29	N/A	19.0	75/25	Active Pit	38000	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	12099245	Near Bit Inclination	5.93	6.73	7.000	4.330
2	ATC_SU	12099245	Near Bit VSS	5.93	6.73	7.000	4.330
2	ATC_MWD	14270075	Gamma (single)	2.75	12.91	7.000	3.250
2	ATC_MWD	14270075	Directional (mag)	12.27	22.43	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 1826 feet MD (surface to 1826 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 1826 to 15540 feet MD (7133 feet TVD).
4	Gamma Ray Apparent (GRAM, GRAUM, GRADM) is presented 0 to 300 API per customer request.

Remarks

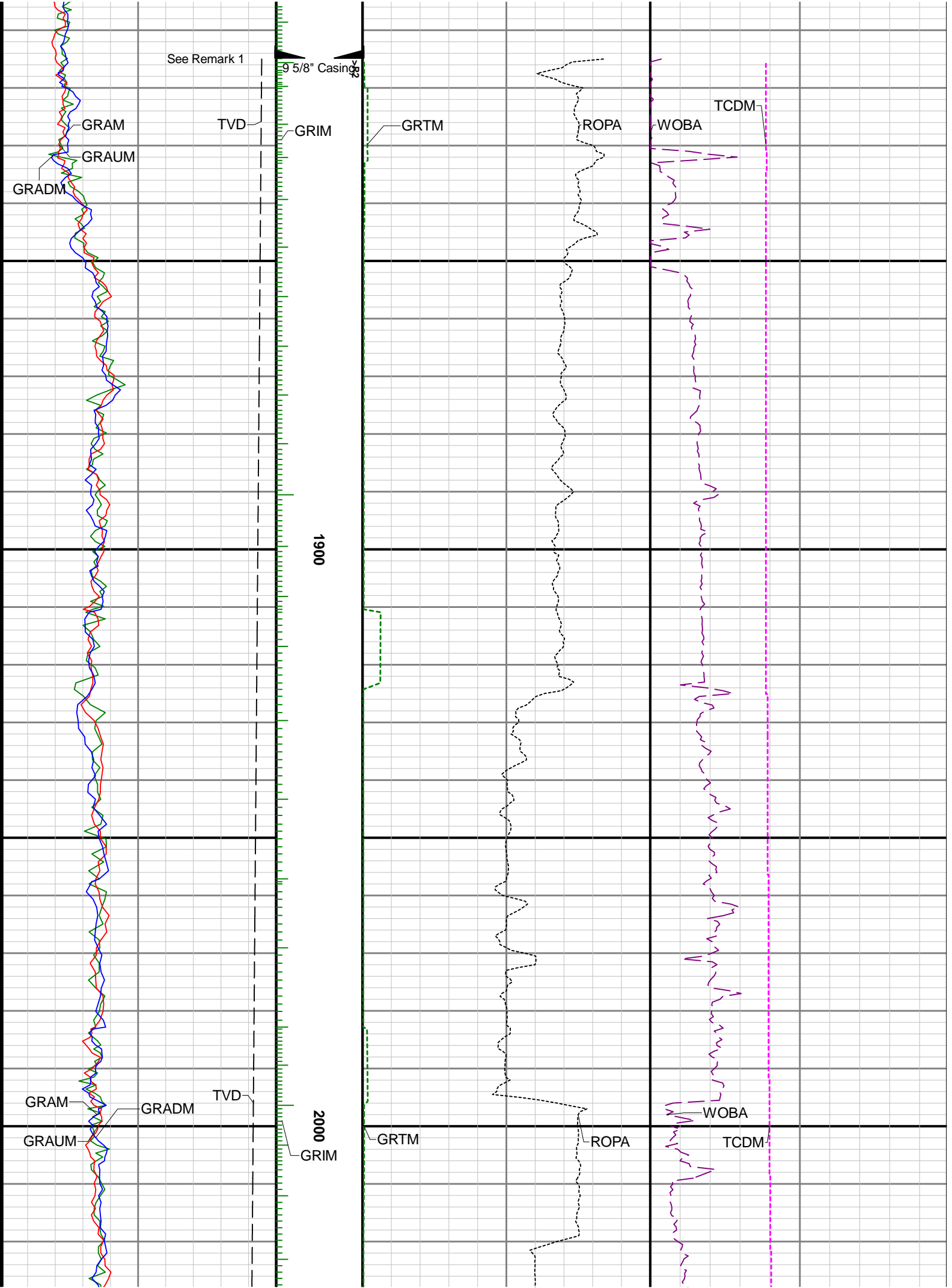
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	1821.00	8.500	2	Gamma Ray logging operations began at 1815 feet (1815 feet TVD).
2	15535.00	8.500	2	The interval from 1826 to 15540 feet MD (7133 feet TVD) was not logged due to sensor to bit offset at well TD.

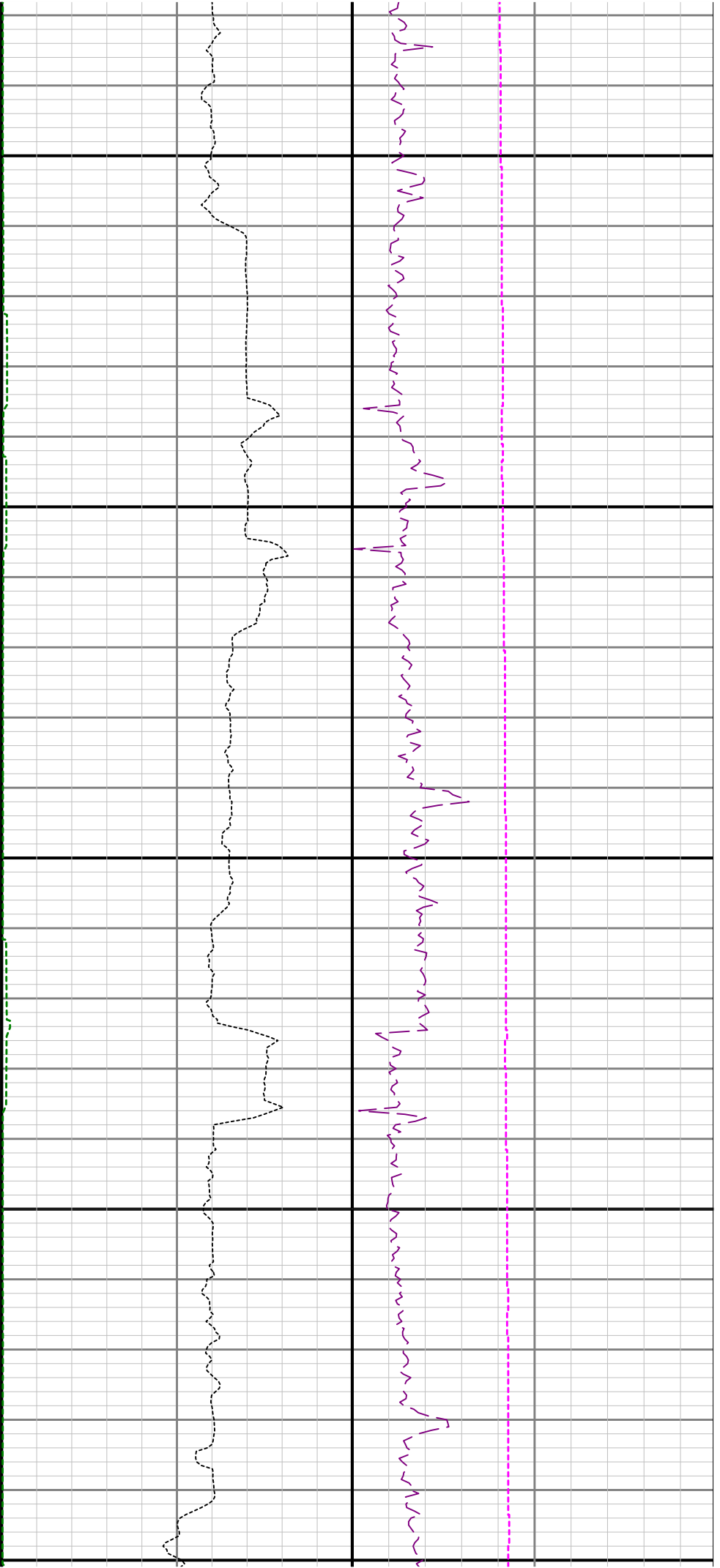
Curve Mnemonics

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 - Memory 0.5 ft Average	API
GRIM	Gamma Ray - Data Point Indicator - Memory	unitless
GRTM	Gamma Ray - Time Since Drilled - Memory	min
GRADM	Gamma Ray - Apparent - Down Quadrant - Memory 0.5 ft Average	API
GRAUM	Gamma Ray - Apparent - Up Quadrant - Memory 0.5 ft Average	API
TCDM	Directional Real-Time Survey Temperature	degF

<div> <div> <div>BAKER HUGHES</div> <div>a GE company</div> </div> <div>  </div> </div>	Company	SRC Energy			
	Well	Troudt 1C-23-M			
	Interval	Date From:	2018-08-13 18:48	Top:	1815.00 ft
	Created	Date To:	2018-08-17 05:45	Bottom:	15540.00 ft
		2018-08-17 19:03:37			

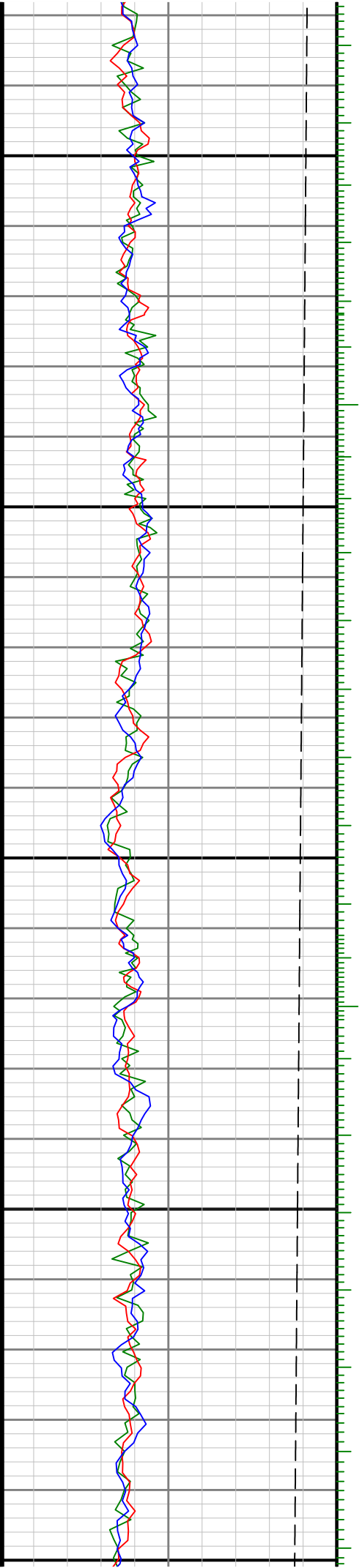
True Vertical Depth TVD		MD 1:240 feet	Depth Averaged ROP 3 ft Average ROPA		Weight On Bit, Average 1 ft Average WOBA	
7500	1500		1000	0	0	50
ft			ft/h		klb	
Gamma Ray - Apparent 0.5 ft Average GRAM			Gamma Time Since Drilled GRTM		Downhole Temperature TCDM	
0	300		0	600	0	300
API			min		degF	
Azimuthal Gamma Ray - Apparent - Up Quadrant 0.5 ft Average GRAUM		1800				
0	300					
API						
Azimuthal Gamma Ray - Apparent - Down Quadrant 0.5 ft Average GRADM						
0	300					
API						

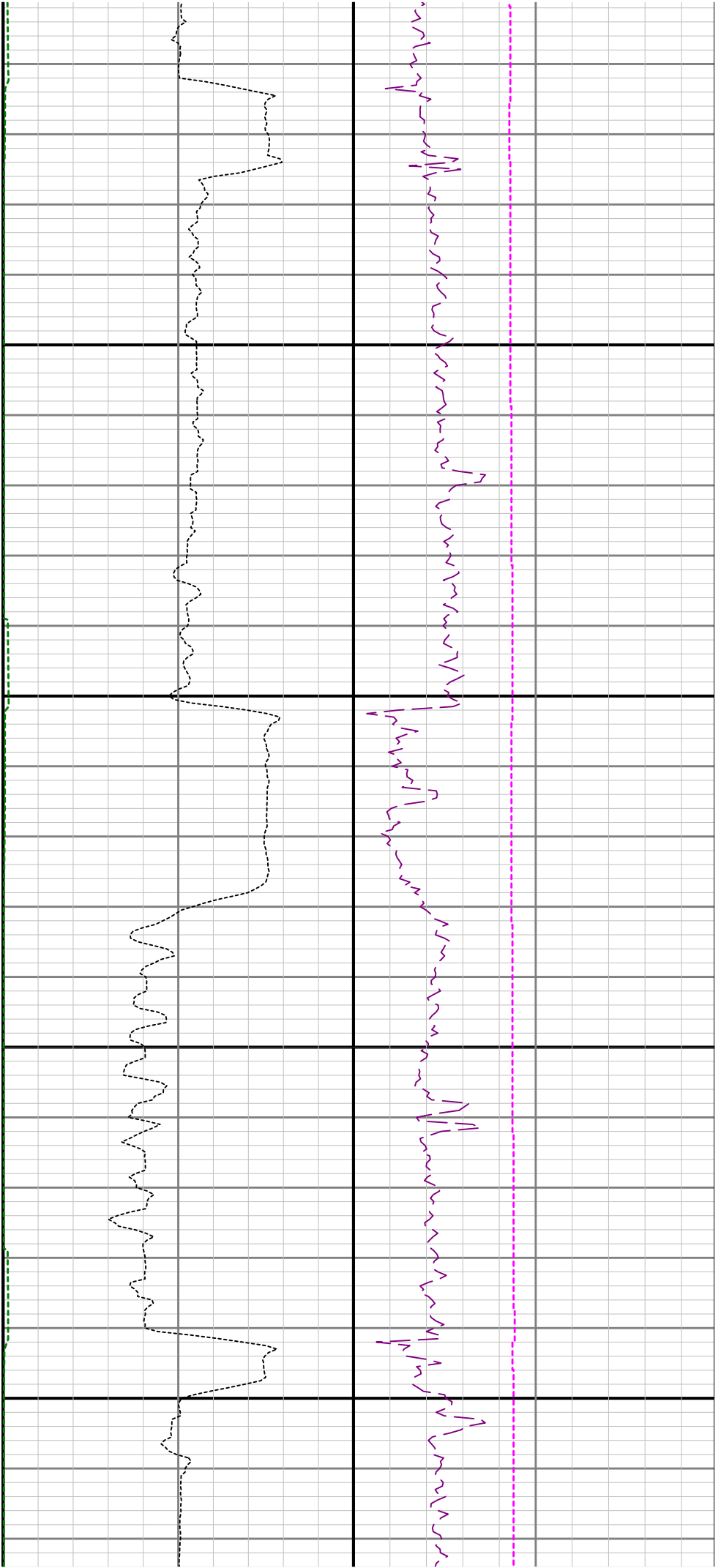




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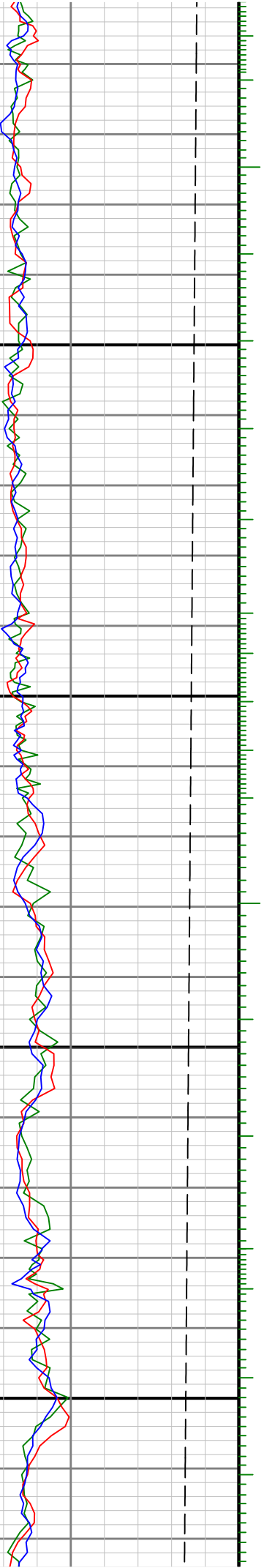
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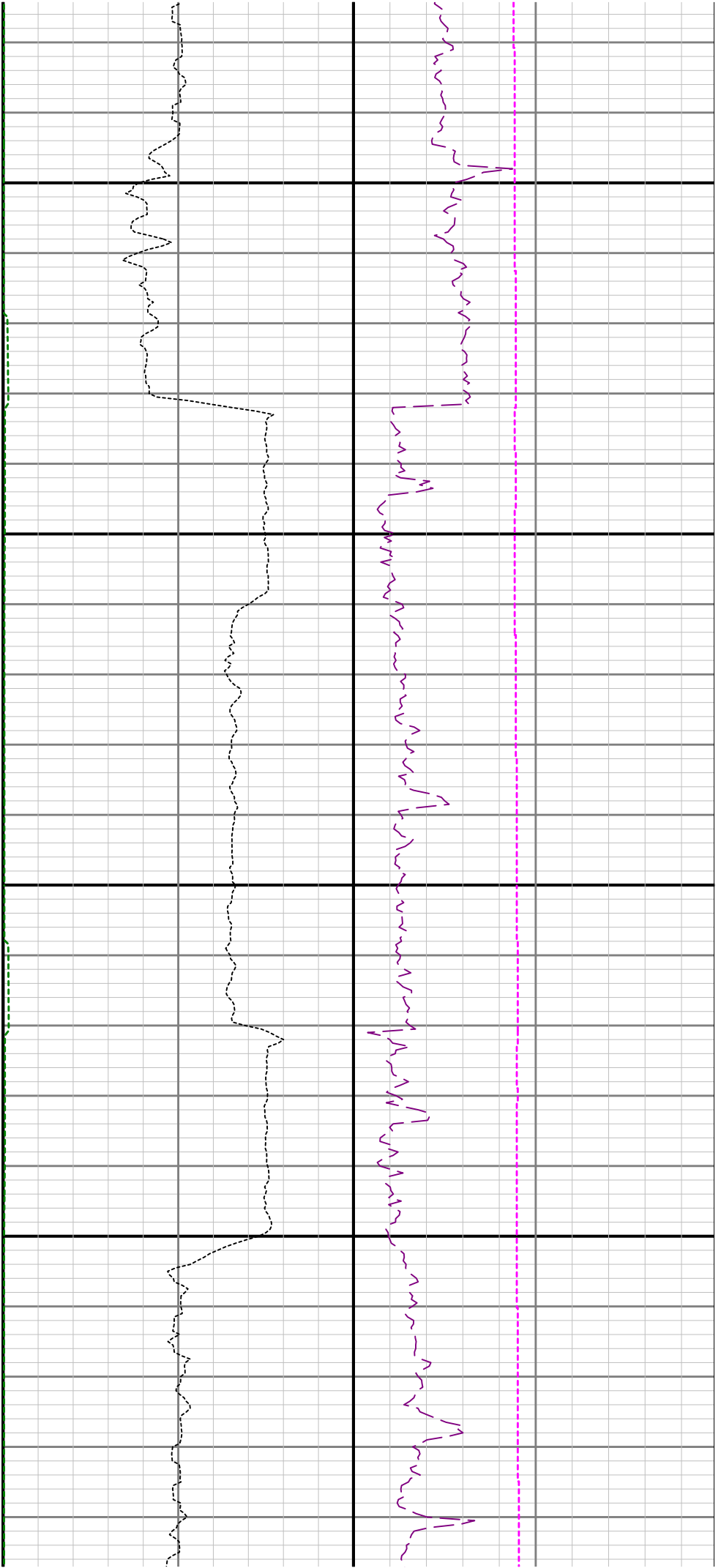




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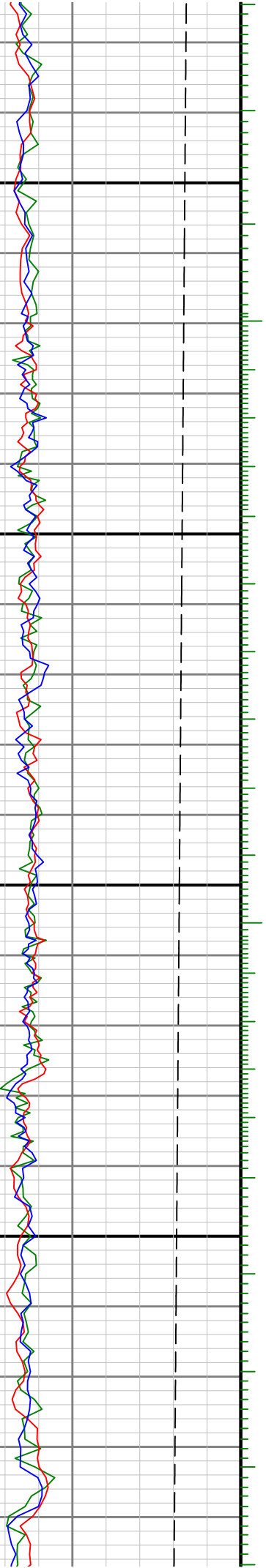
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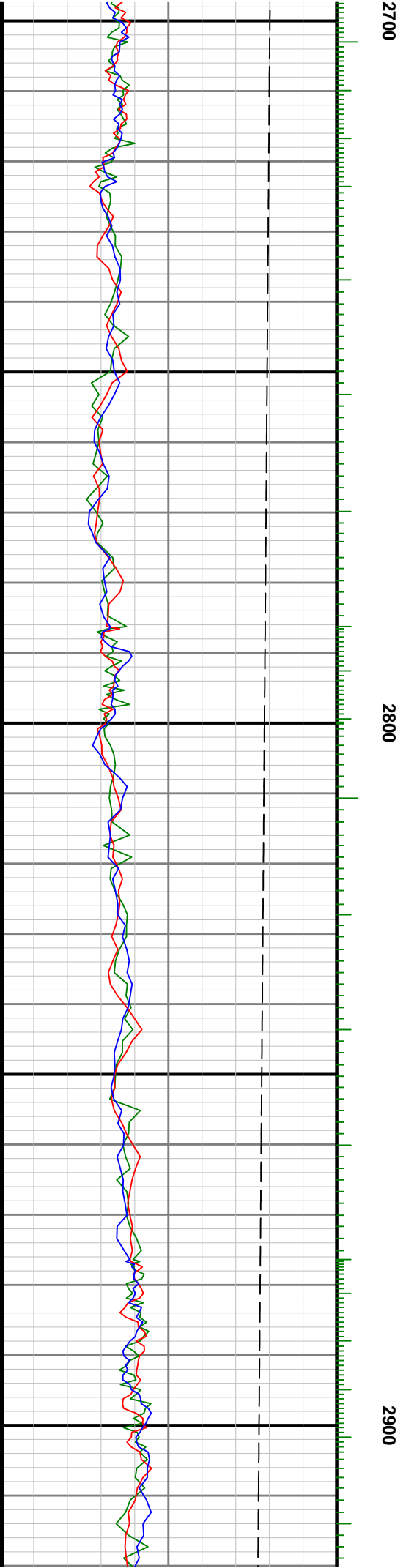
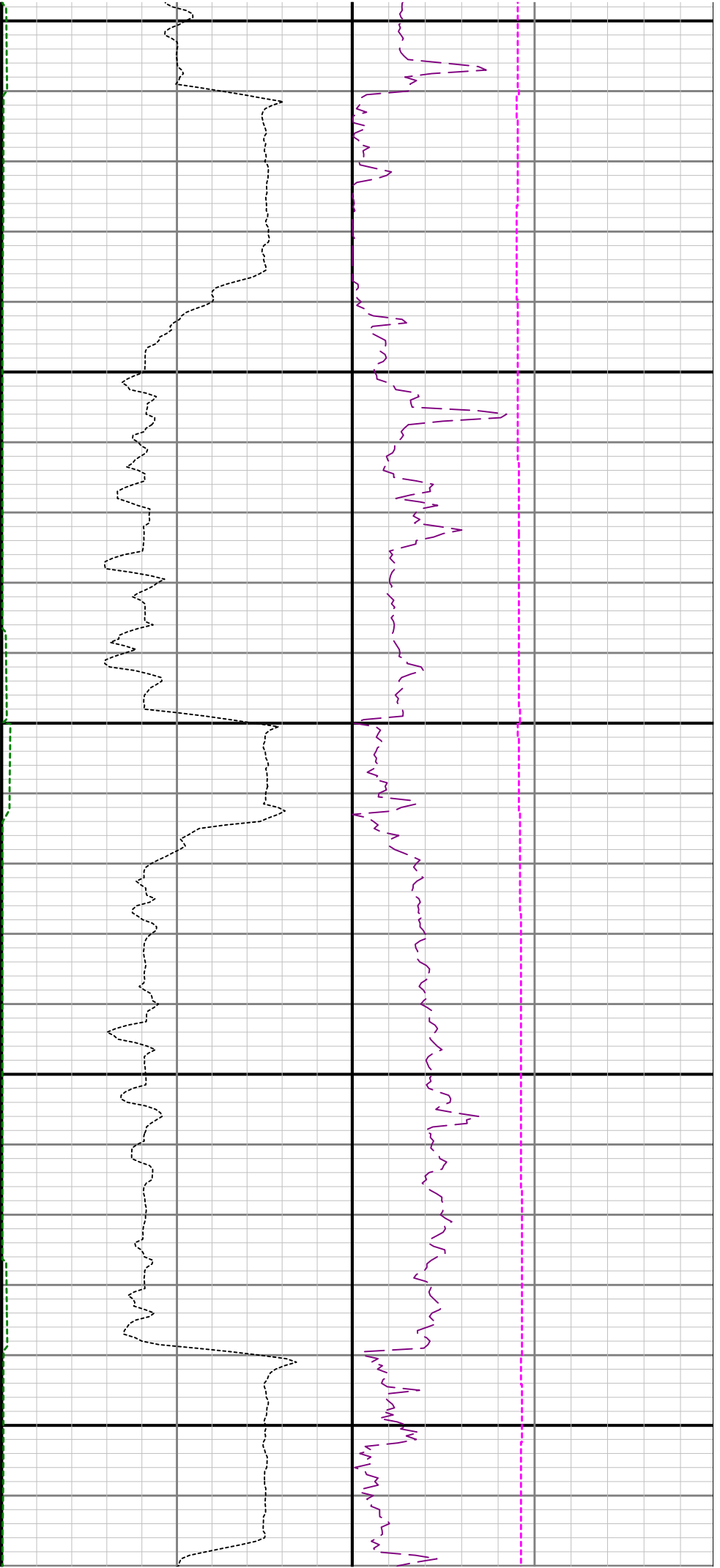


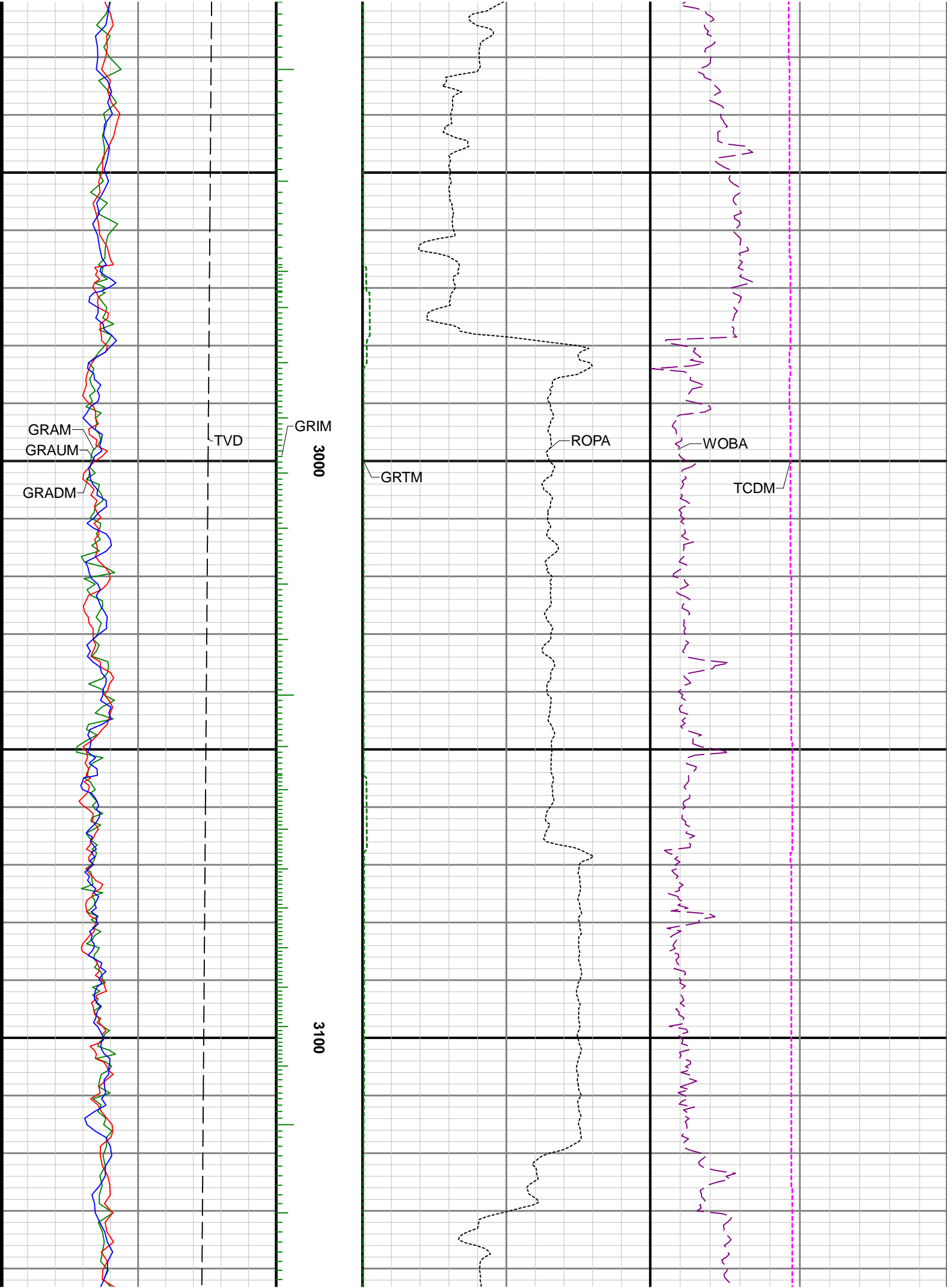


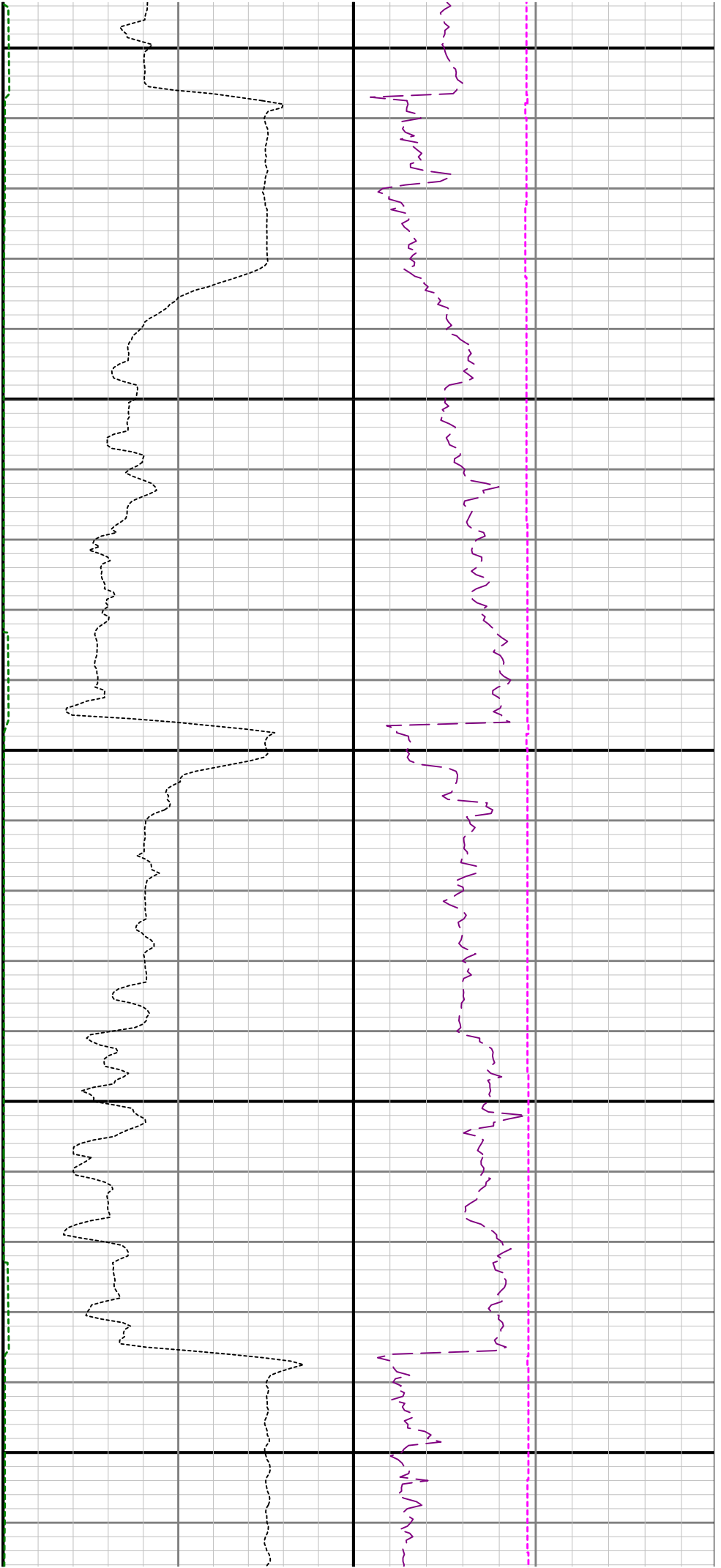
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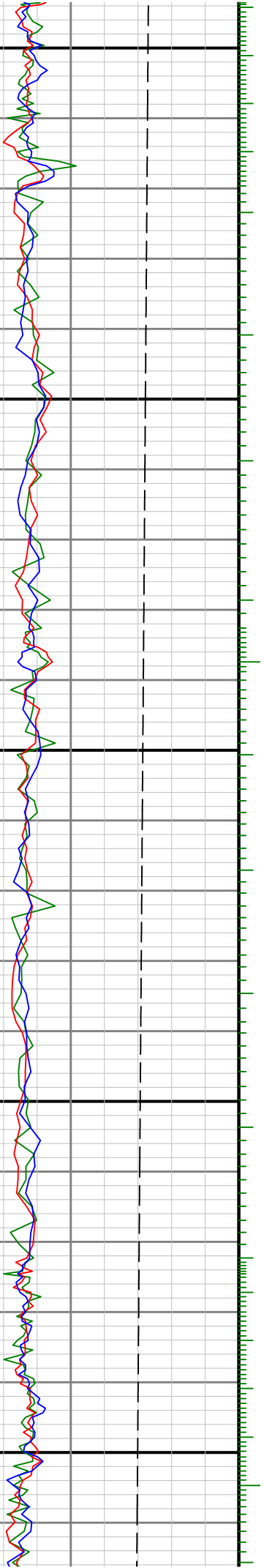


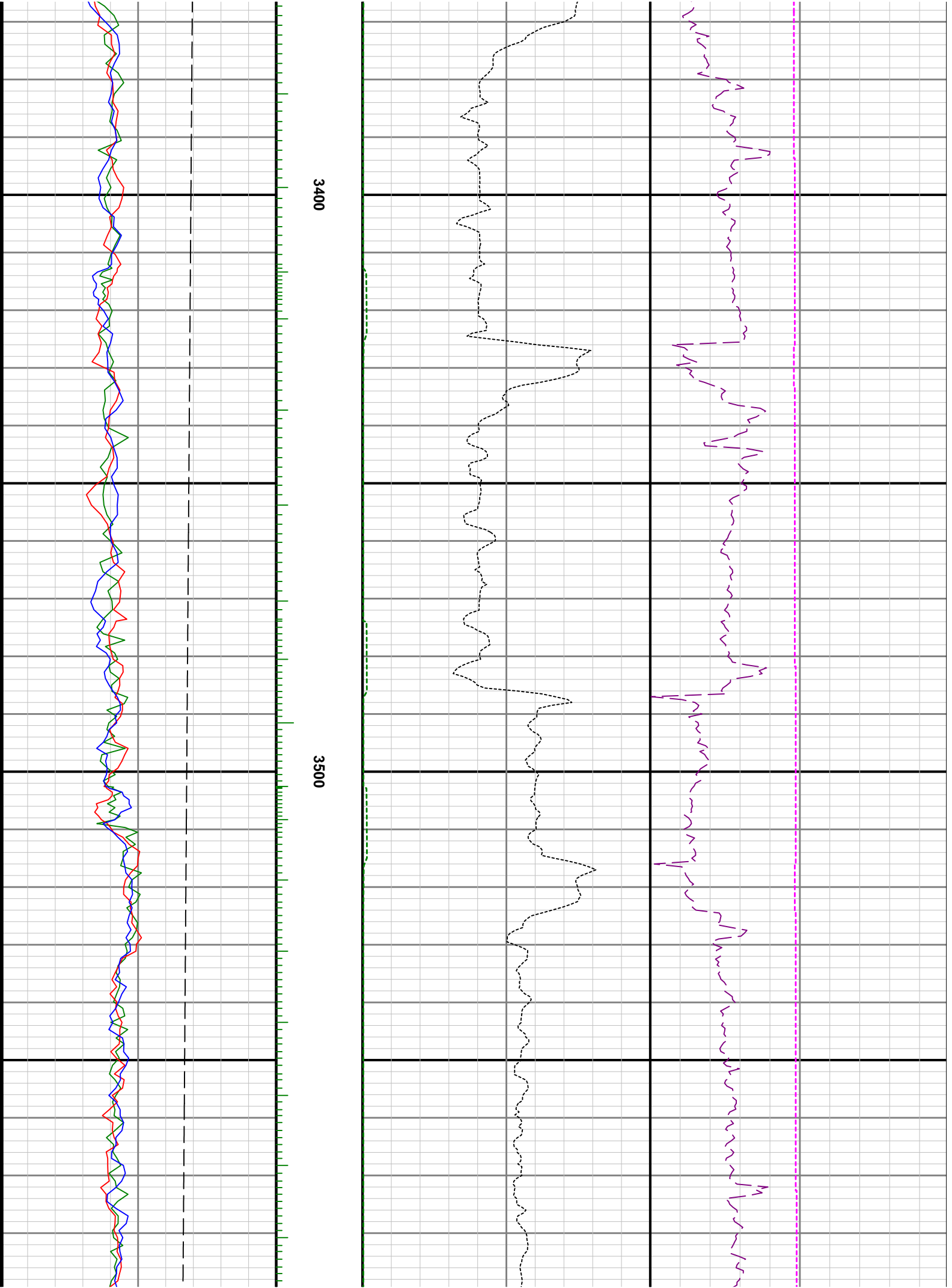


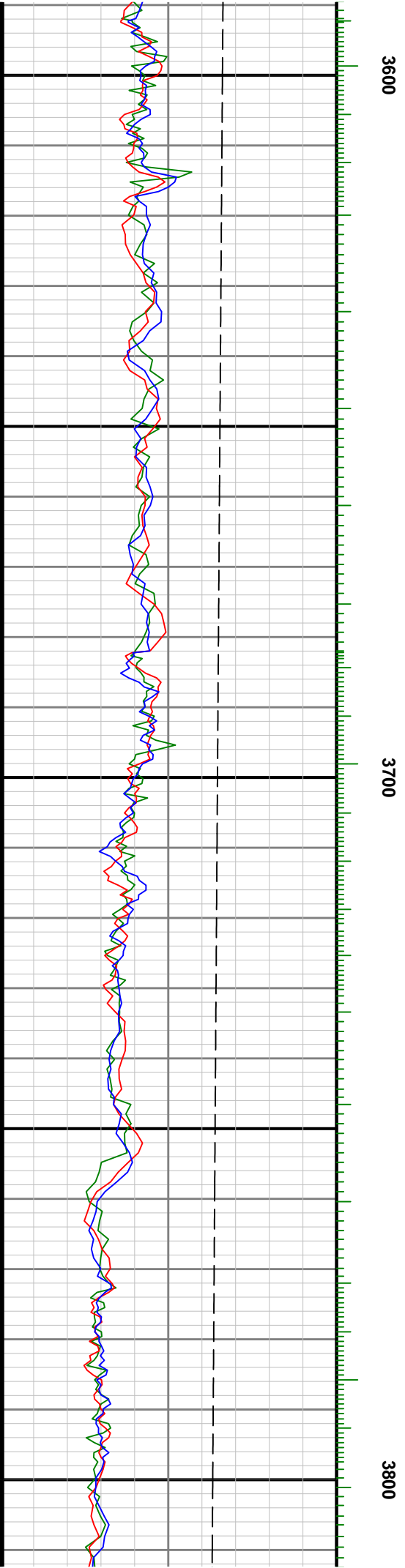
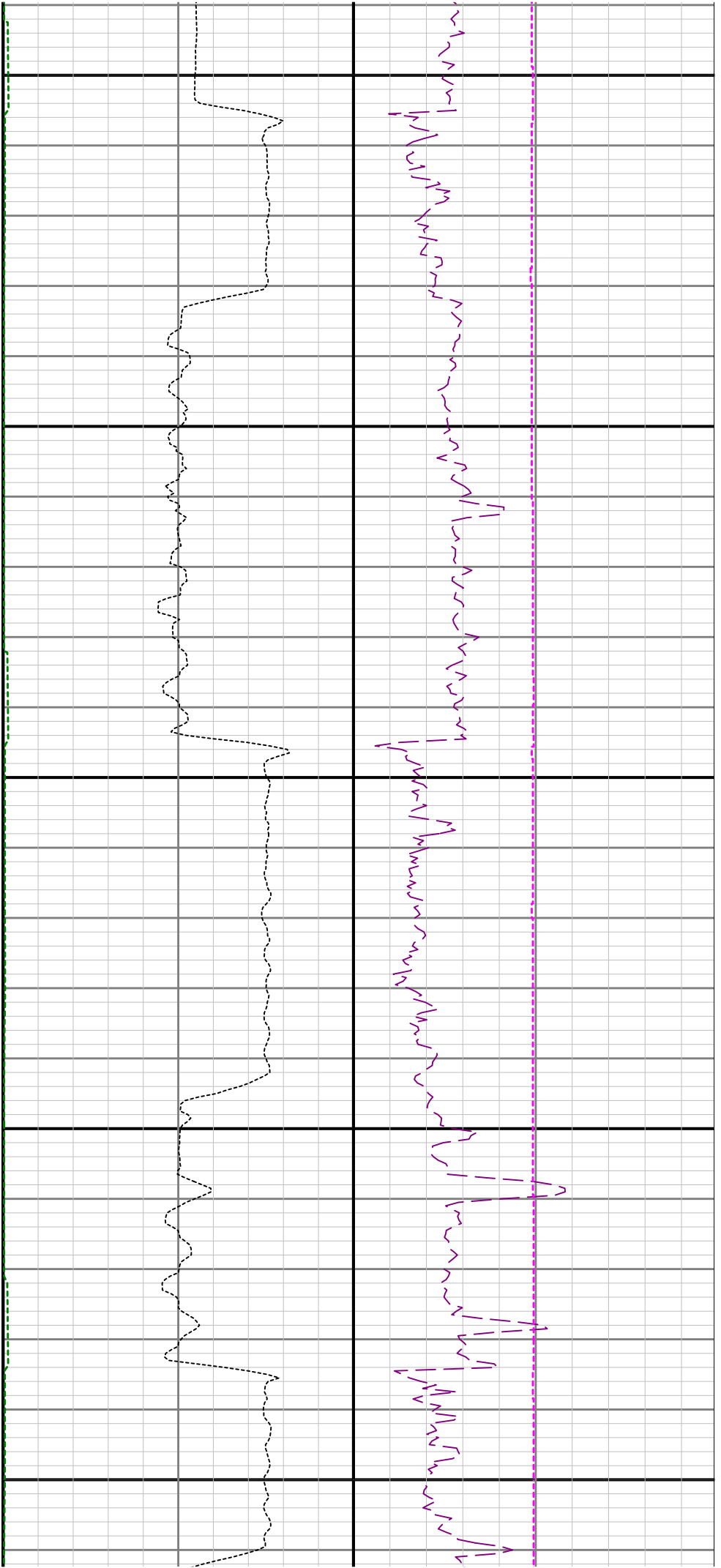


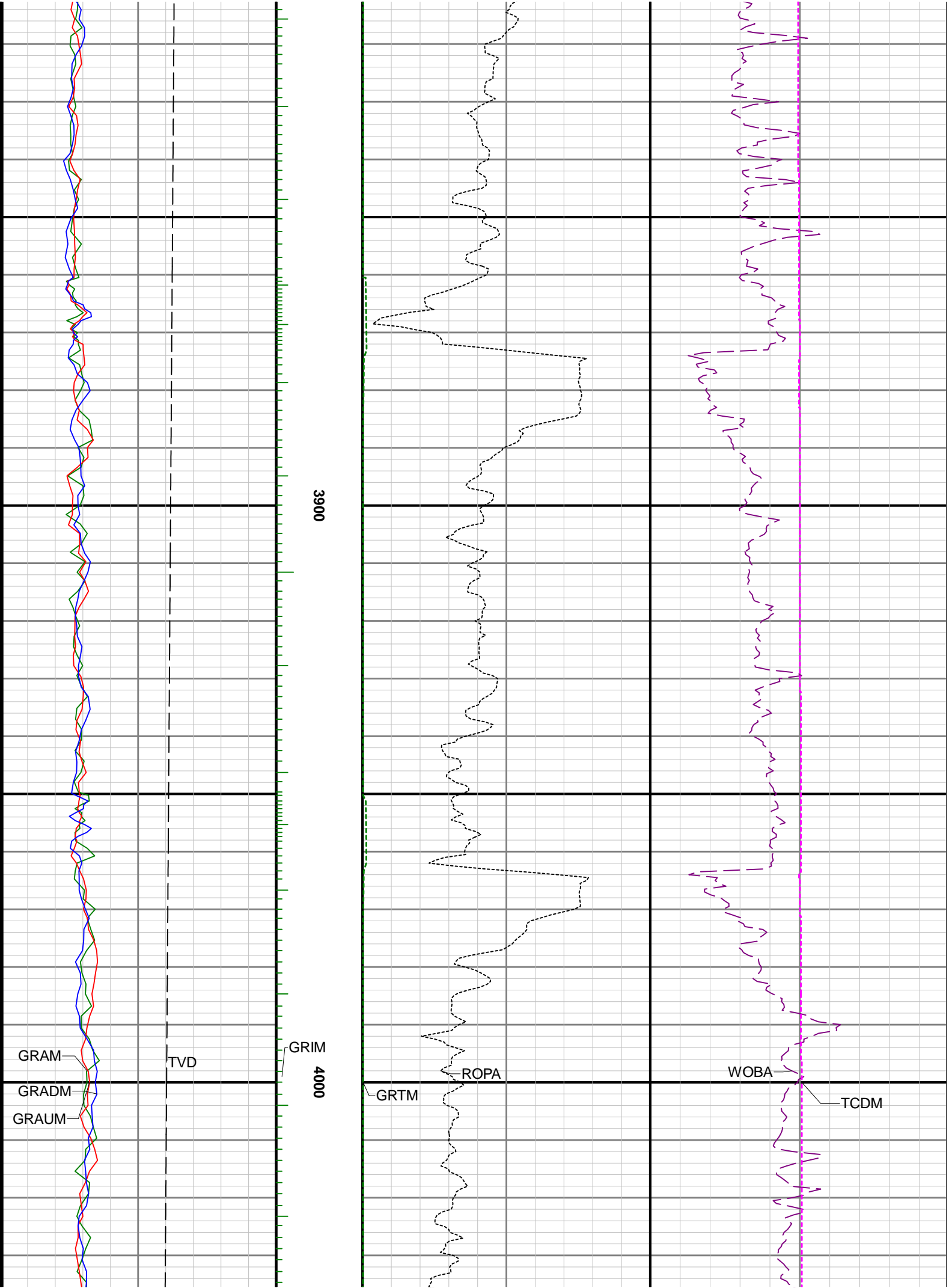
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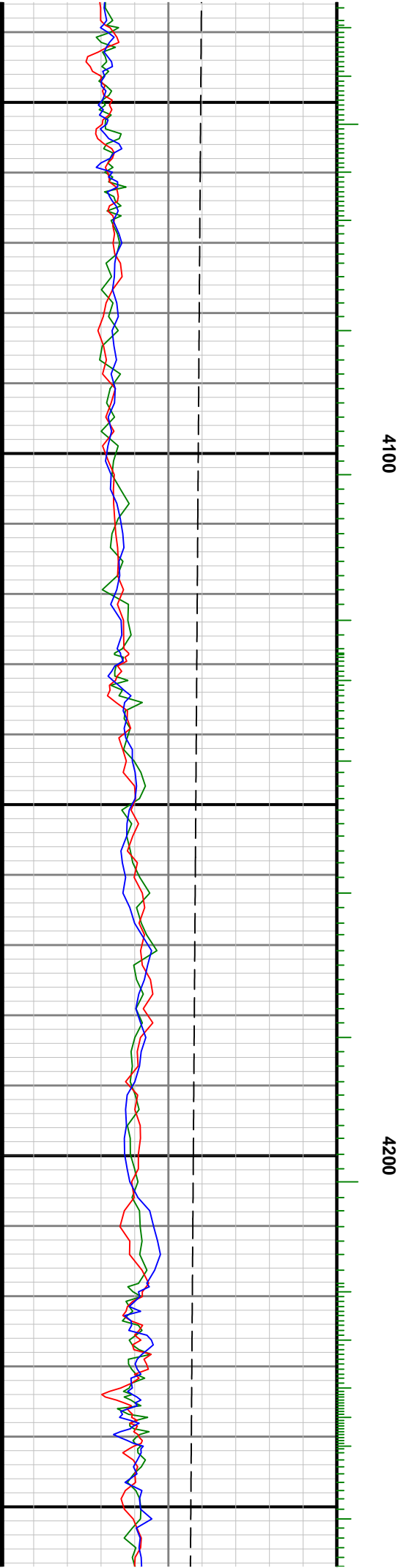
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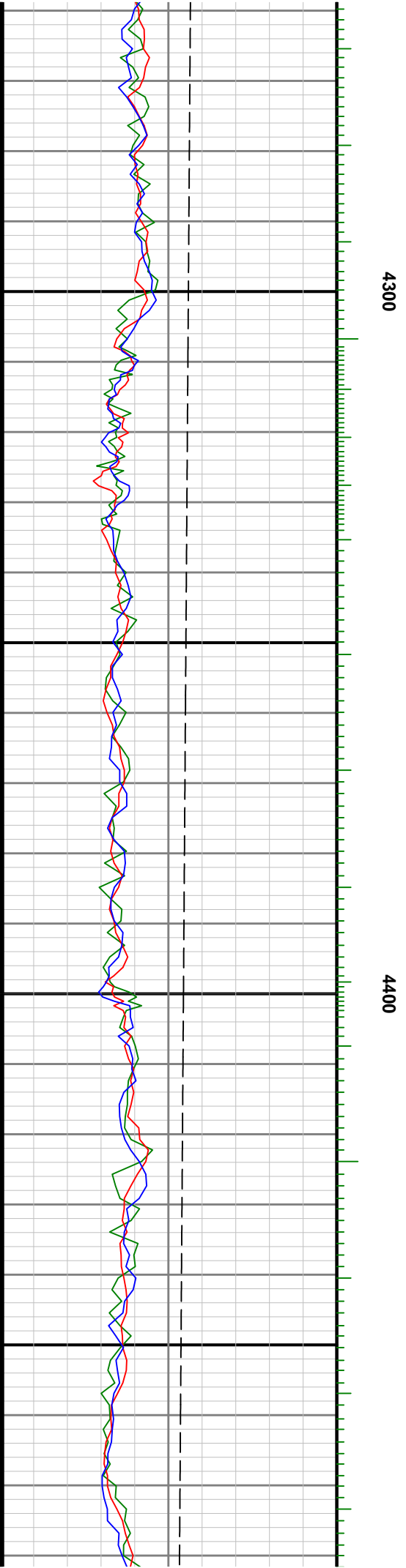
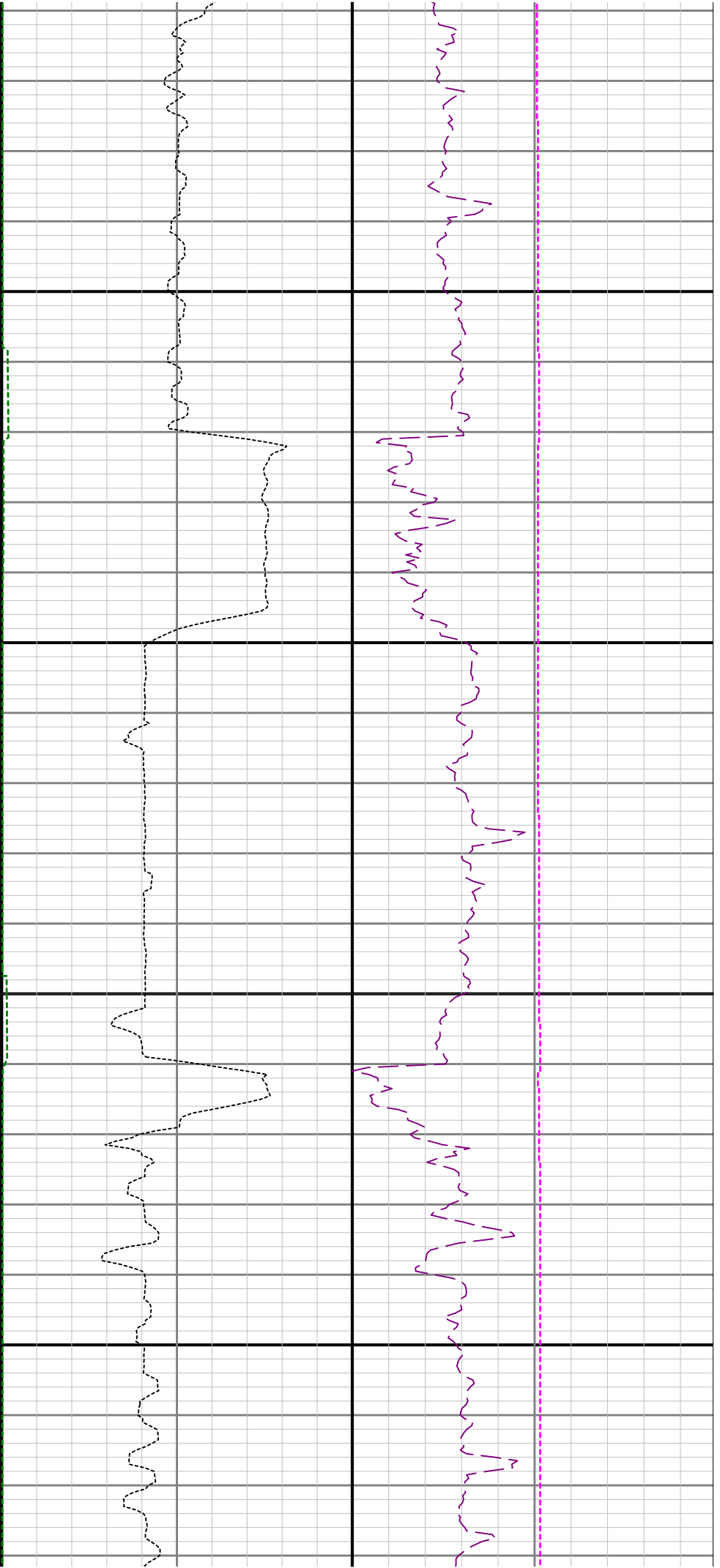


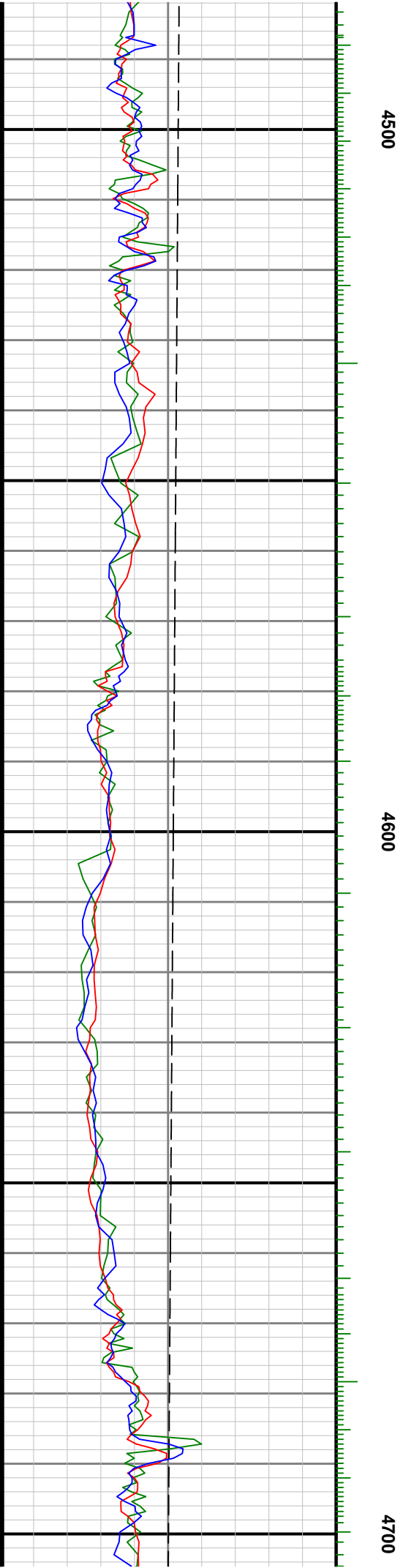
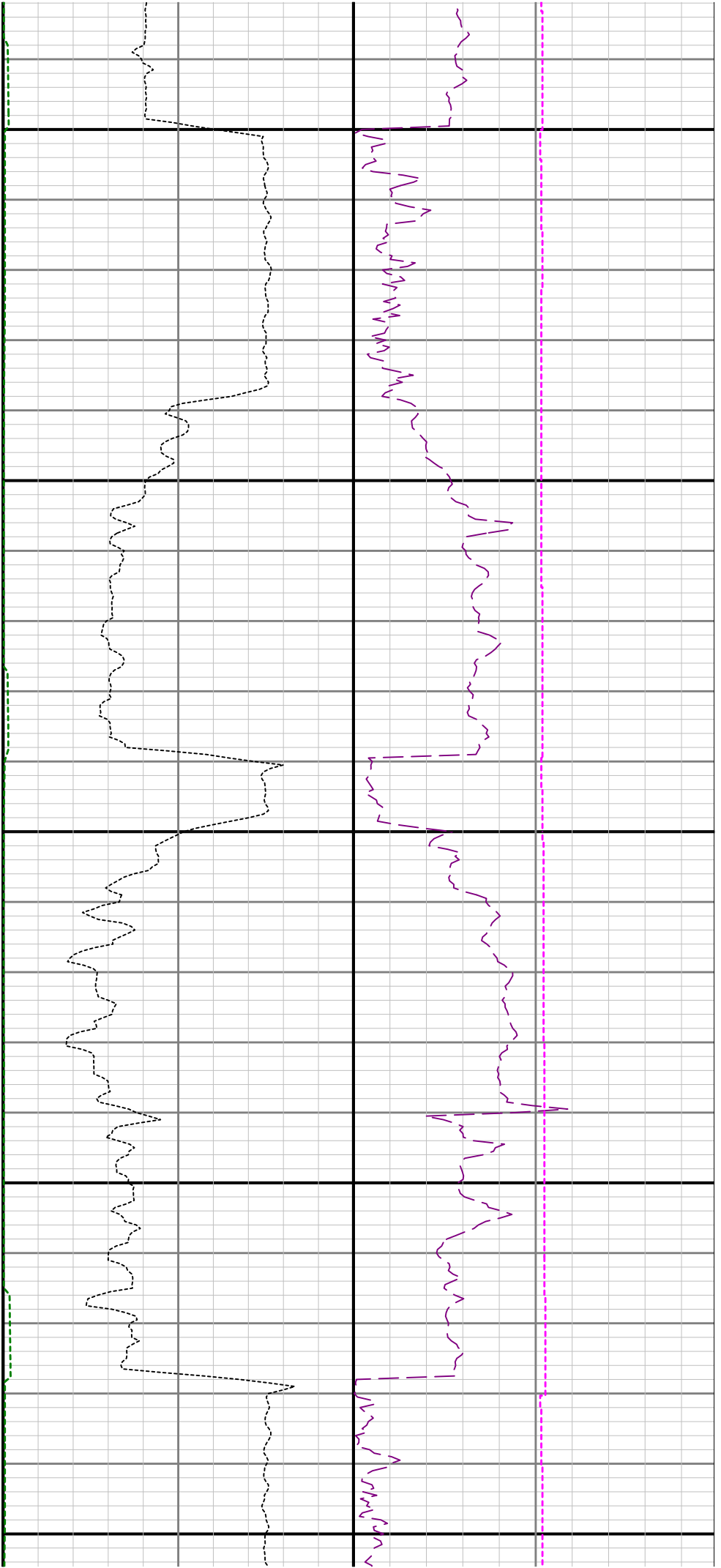


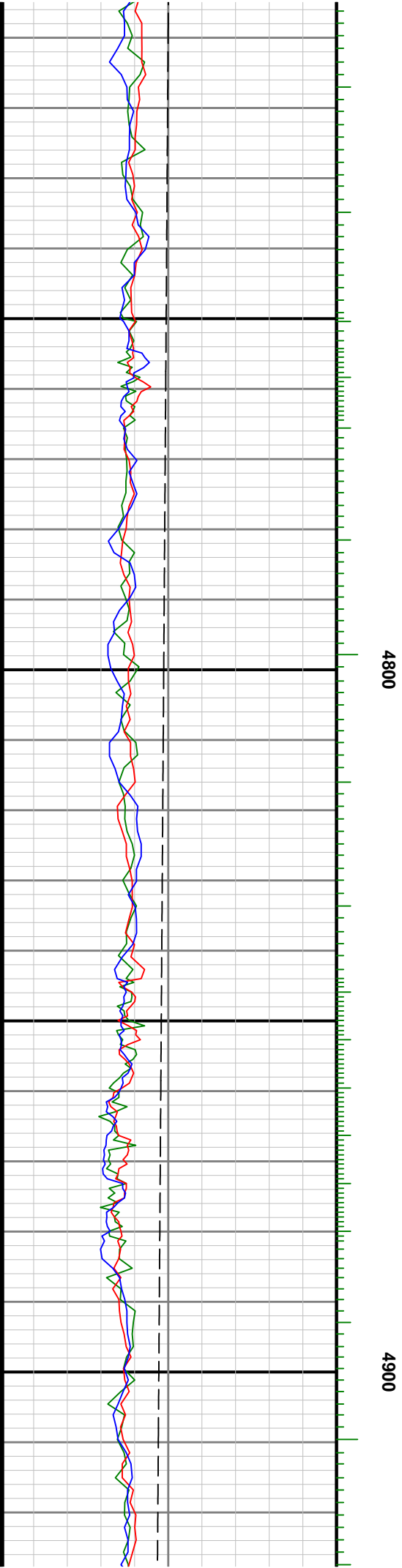
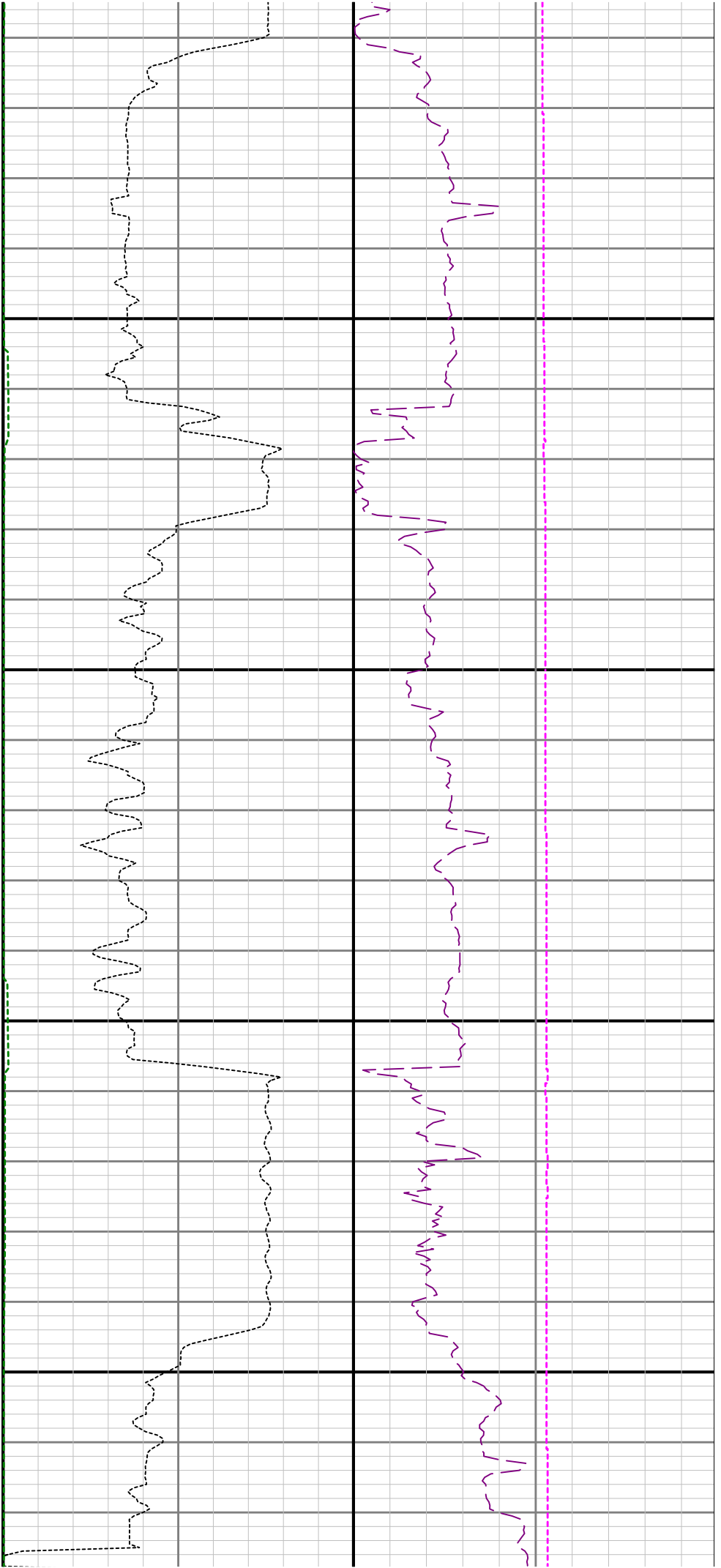


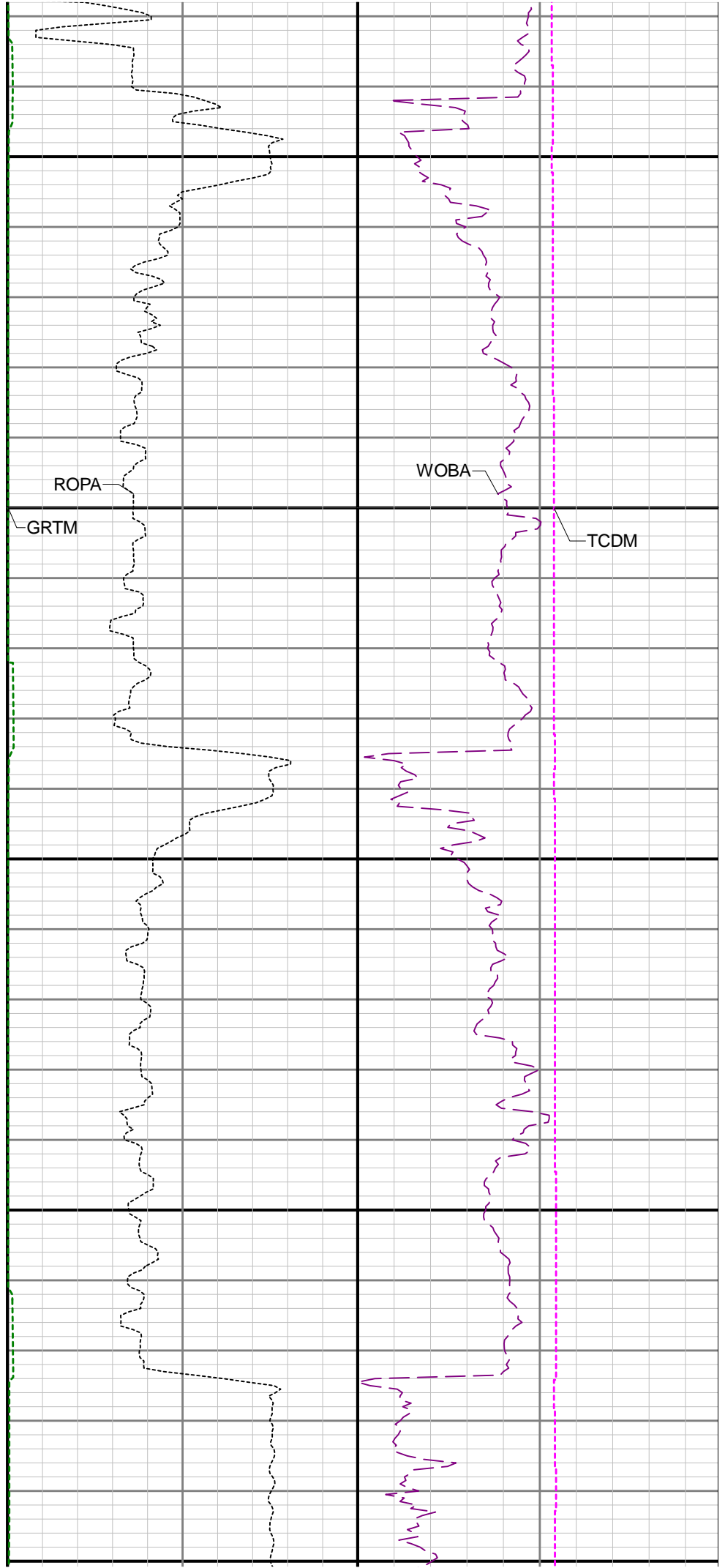
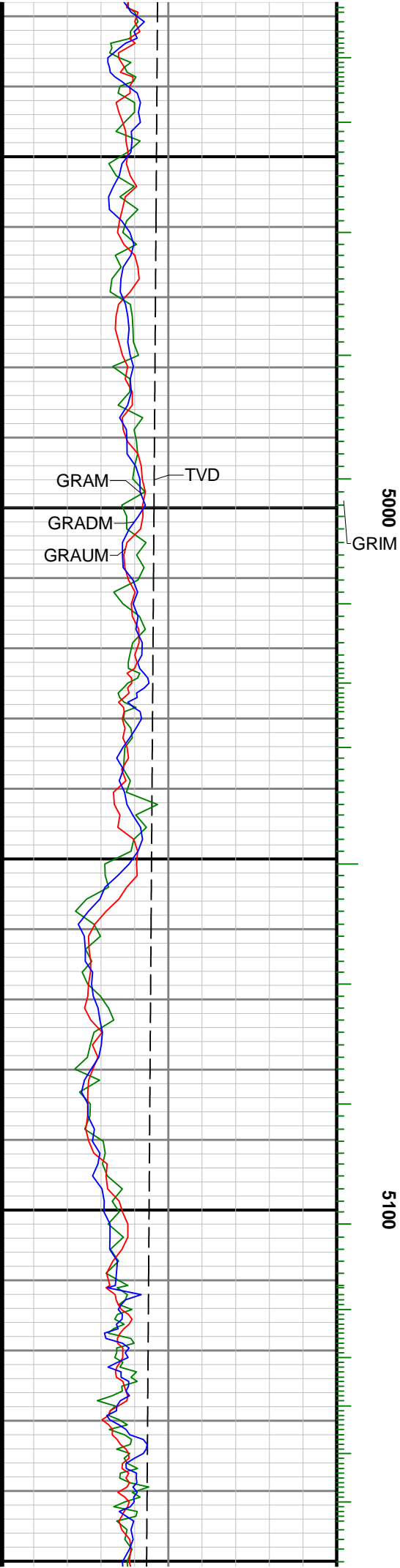


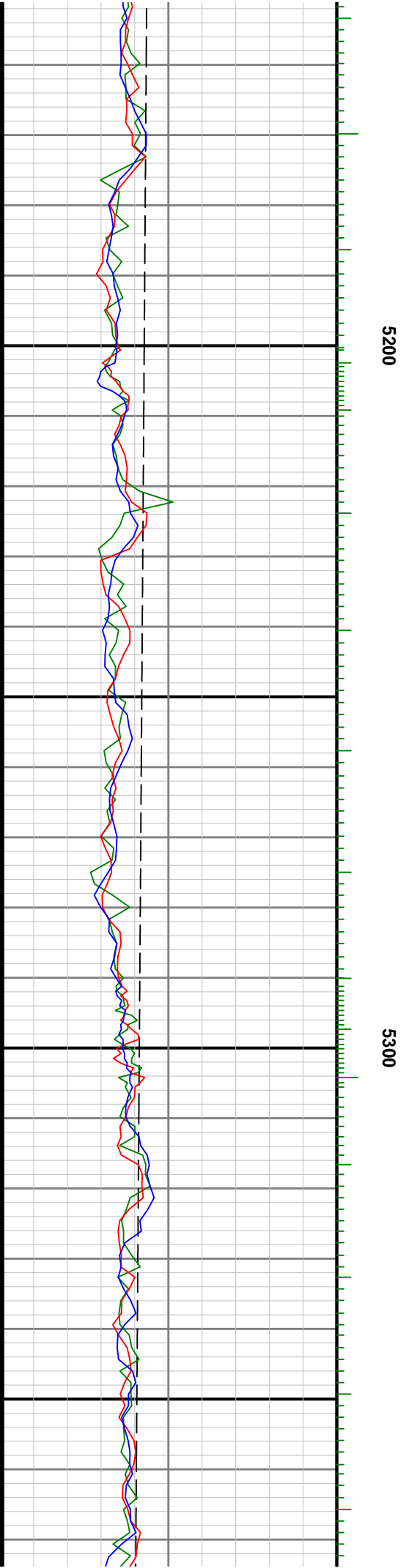
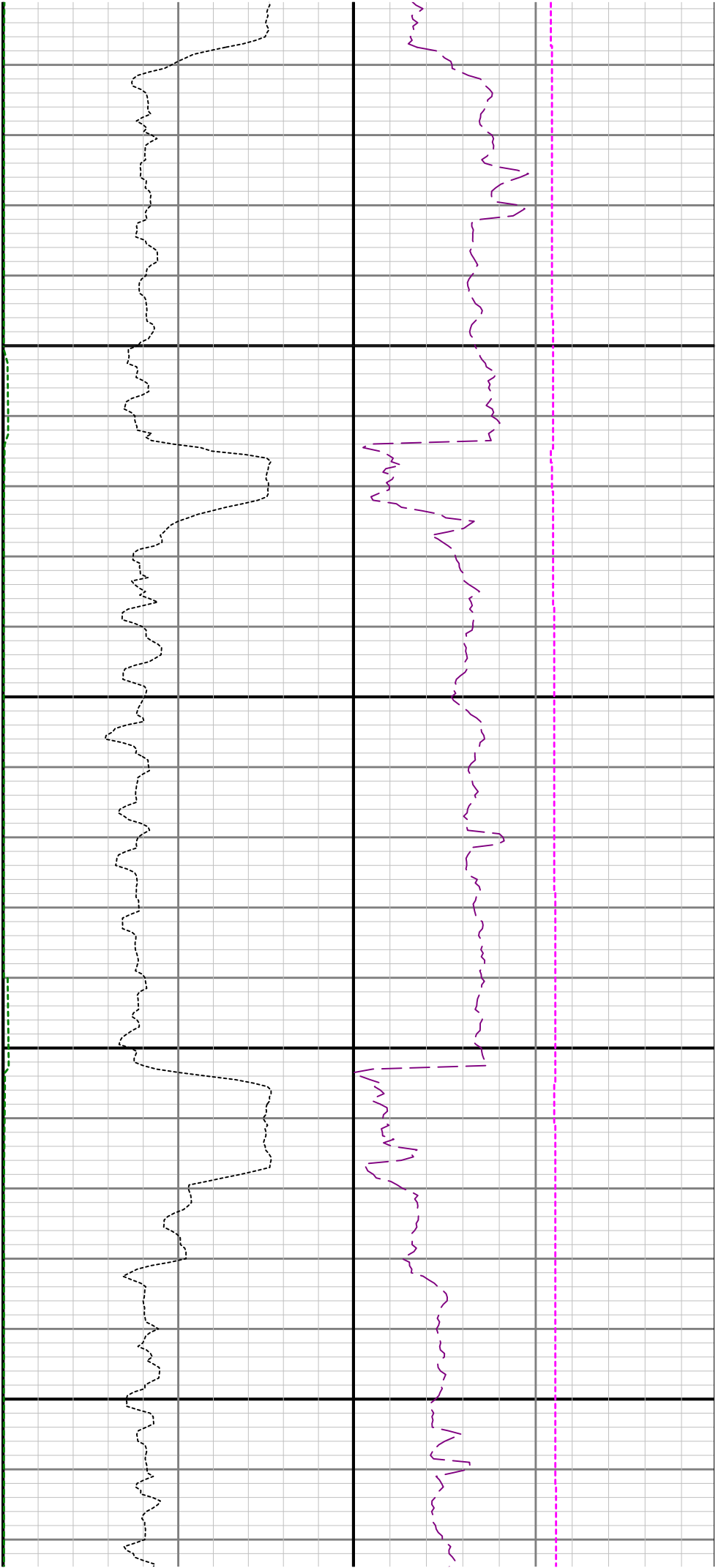


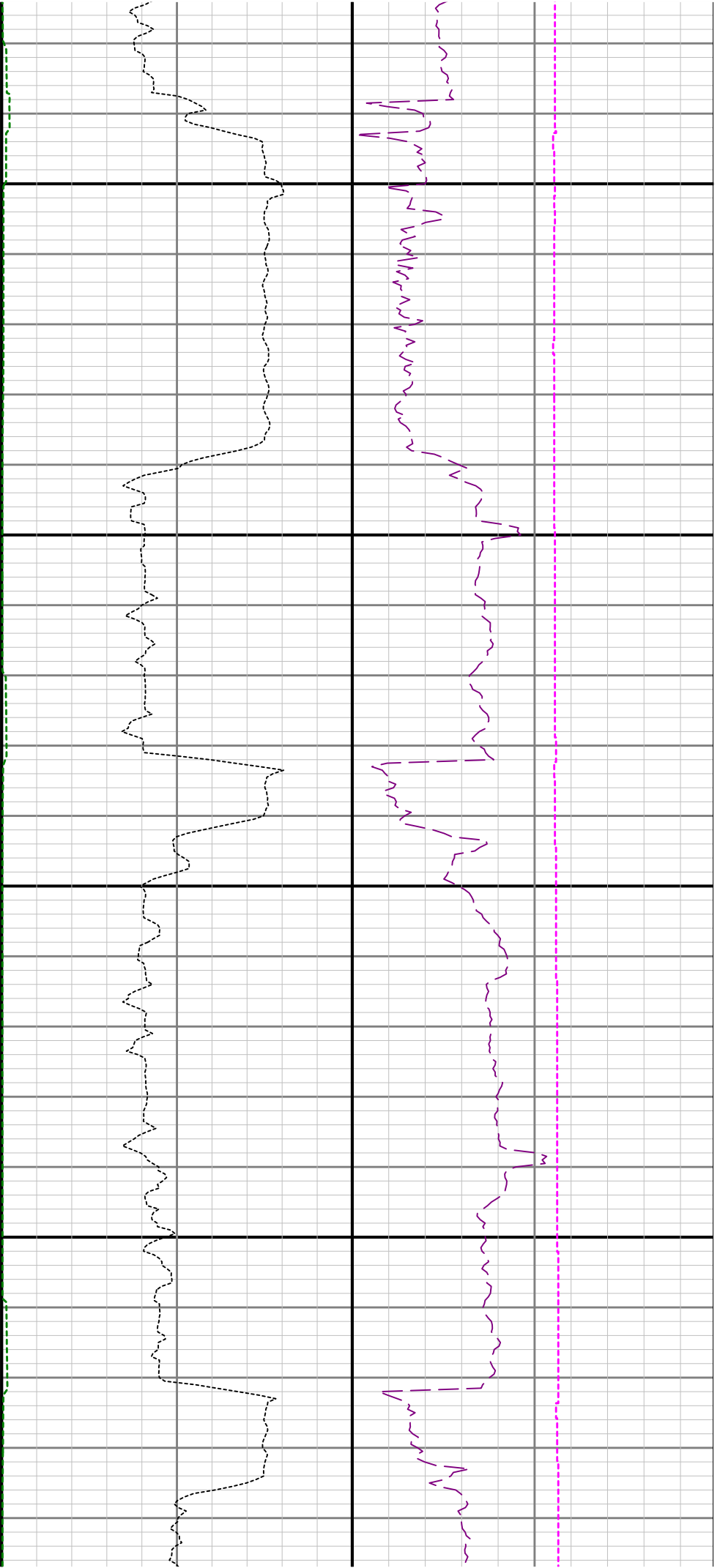






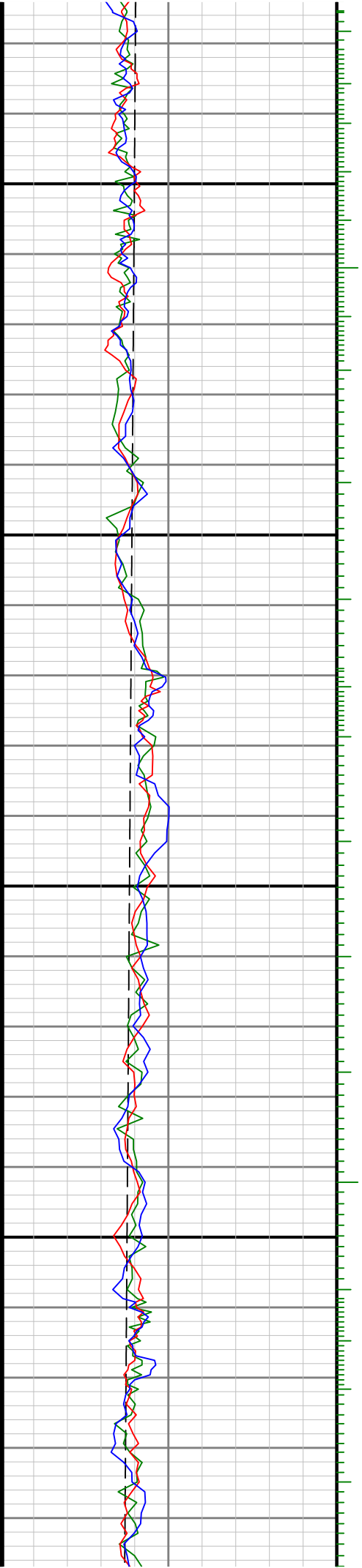


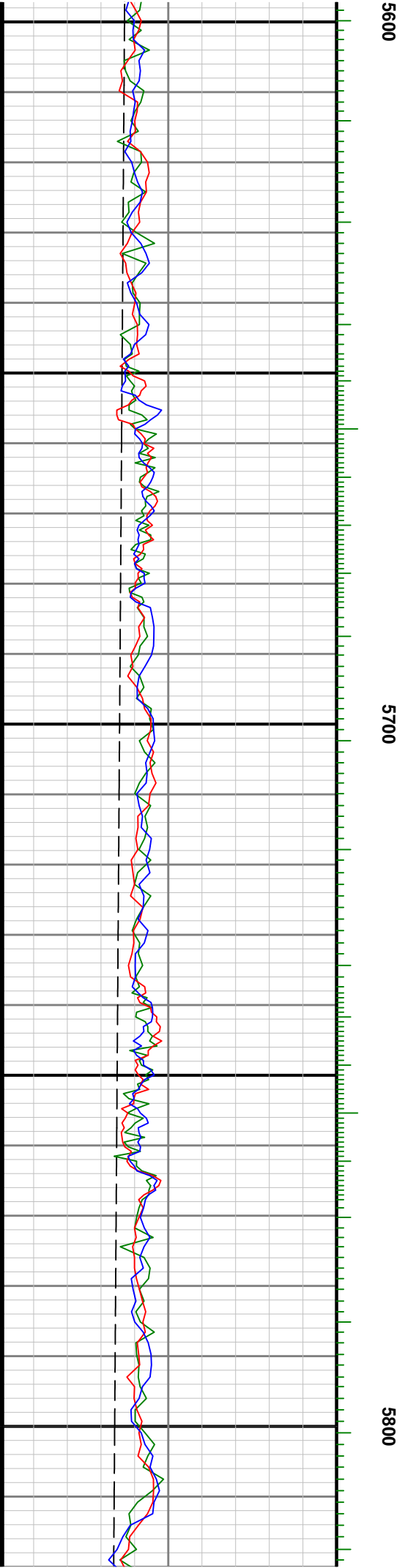
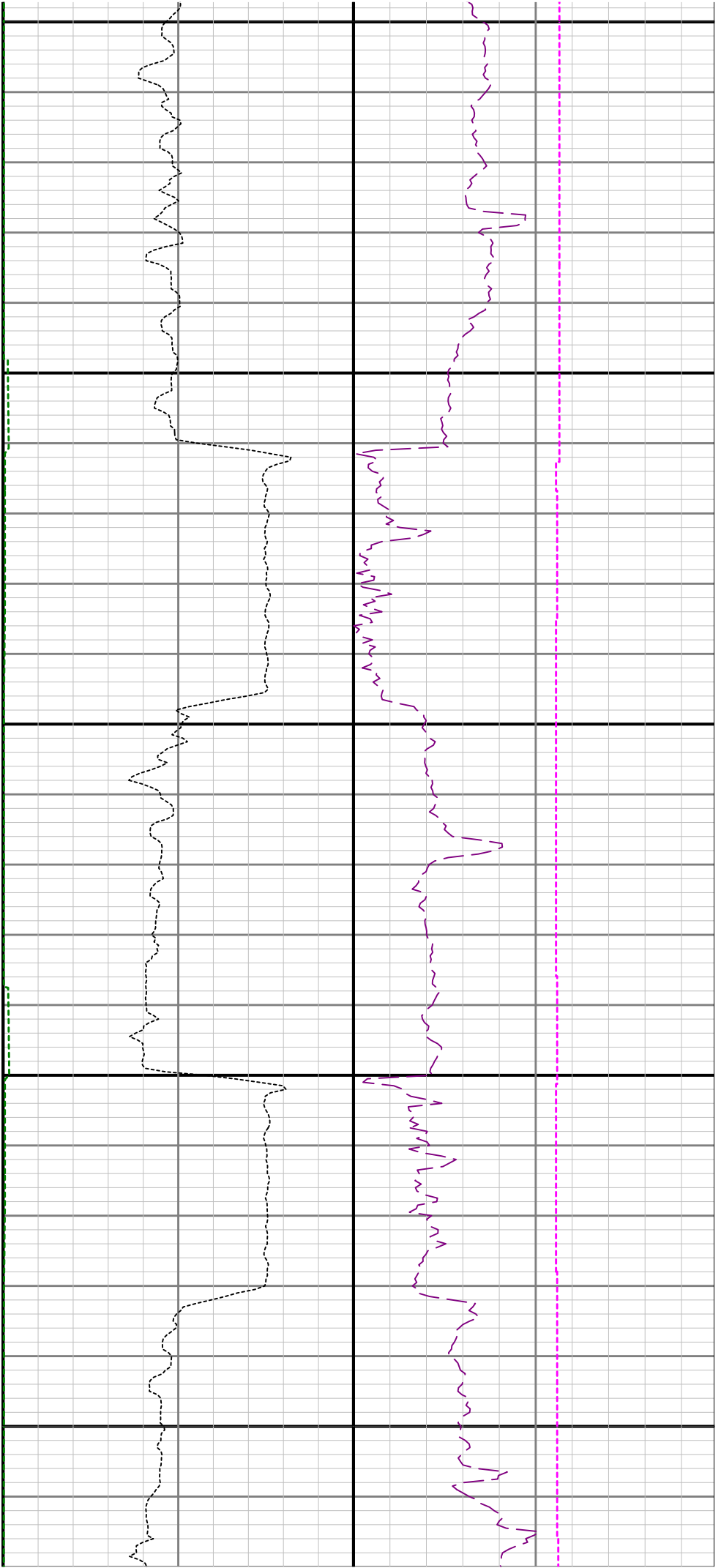


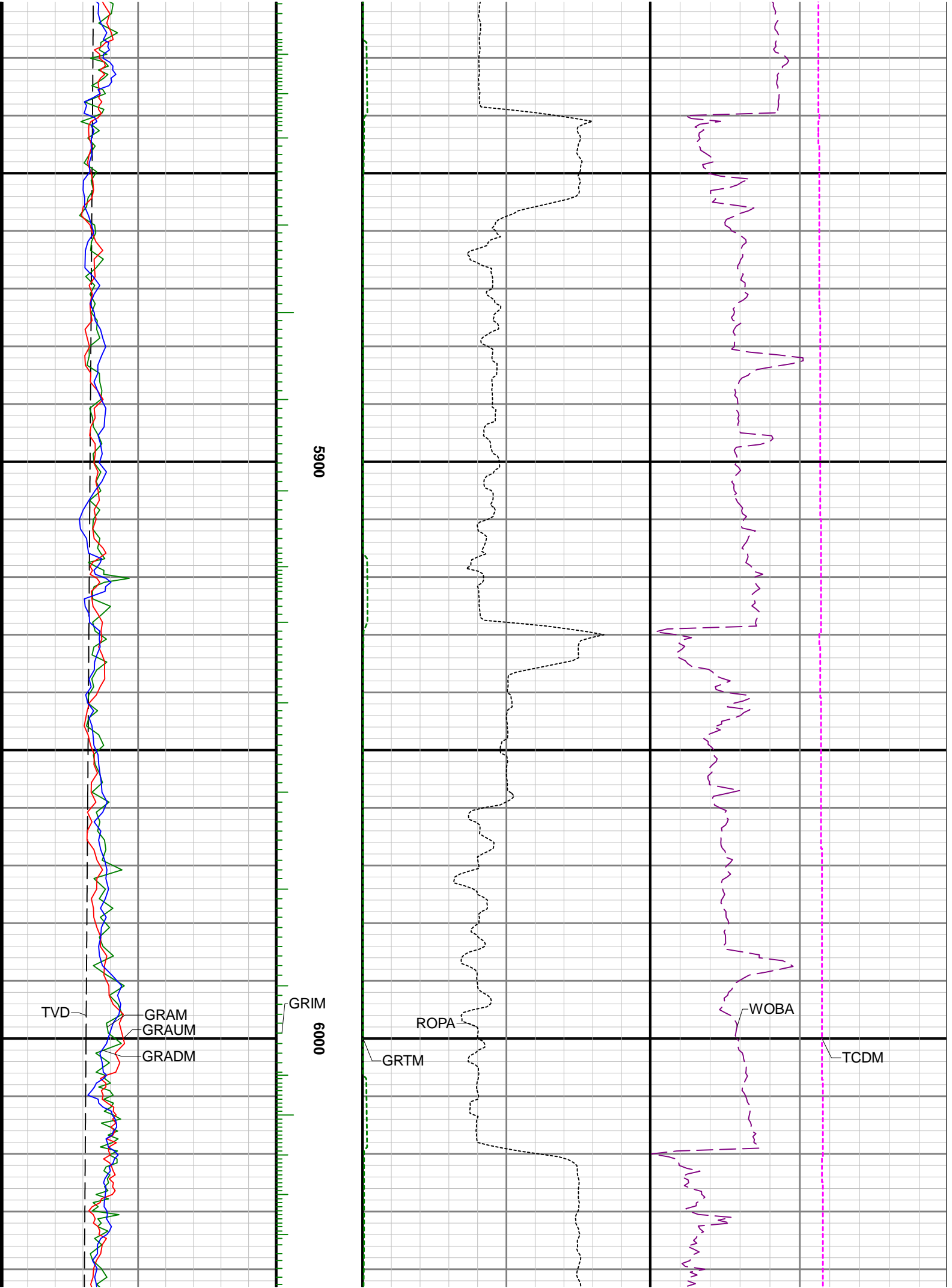


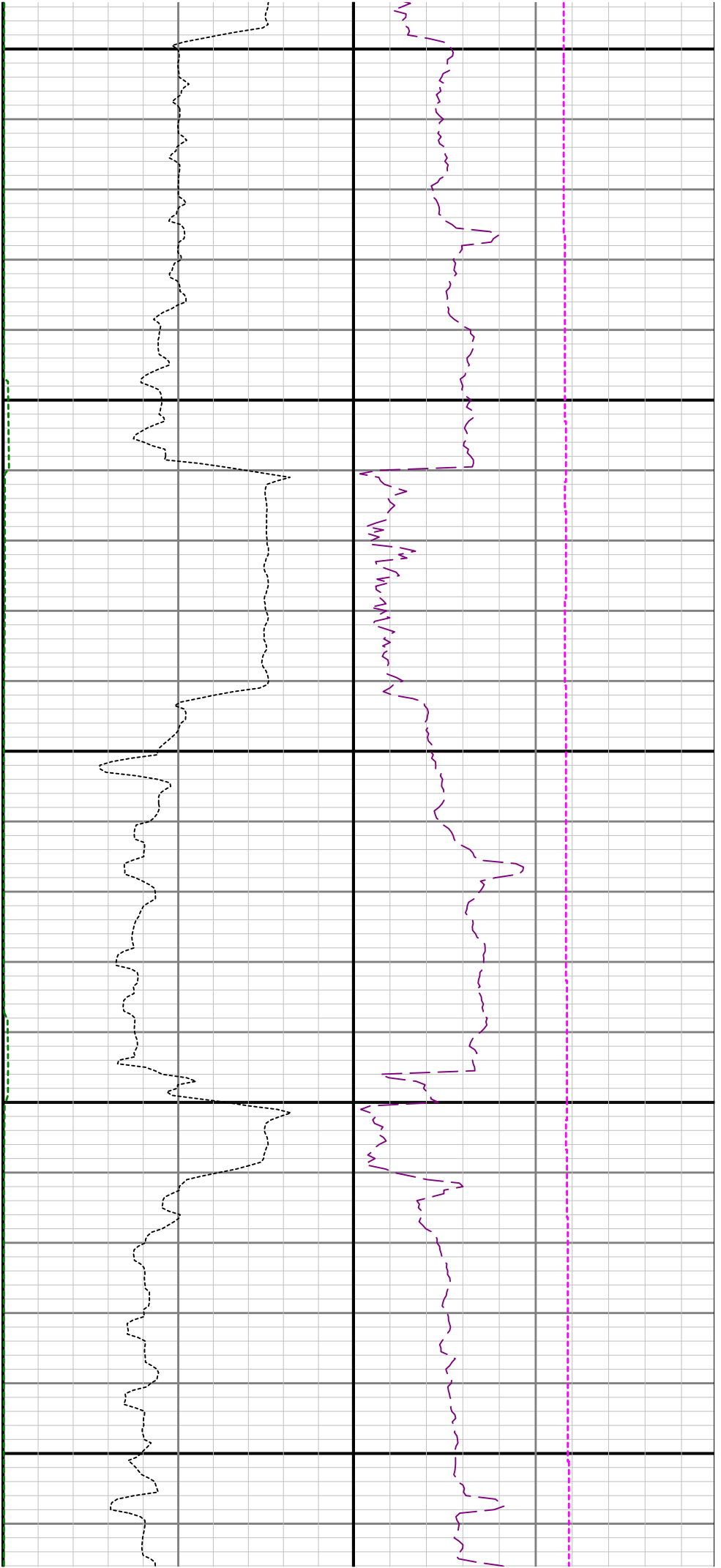
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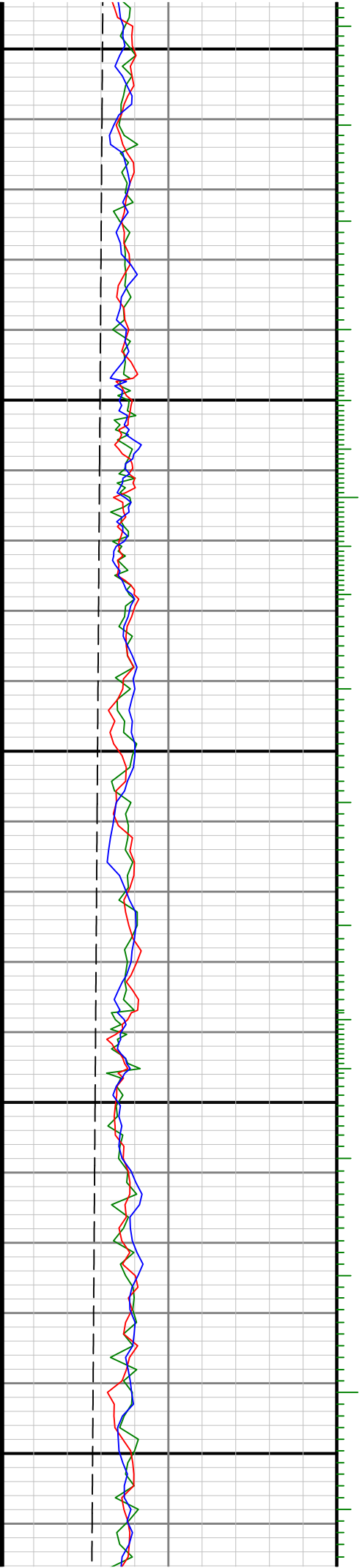


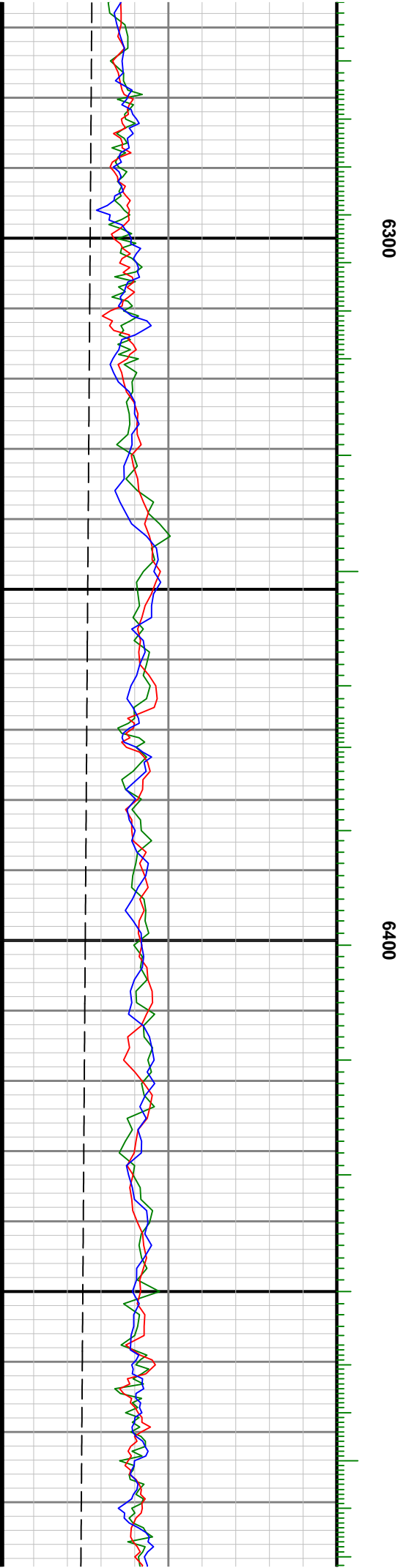
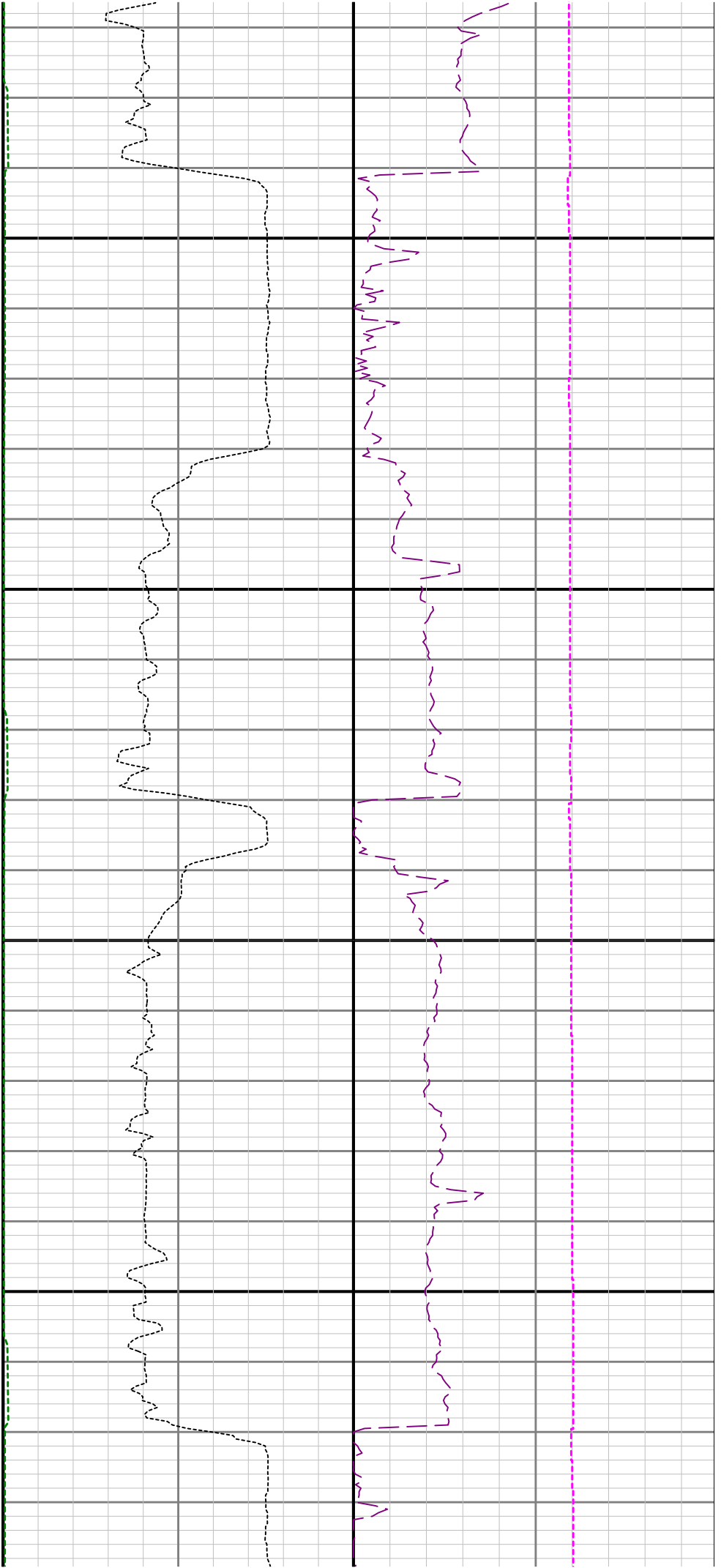


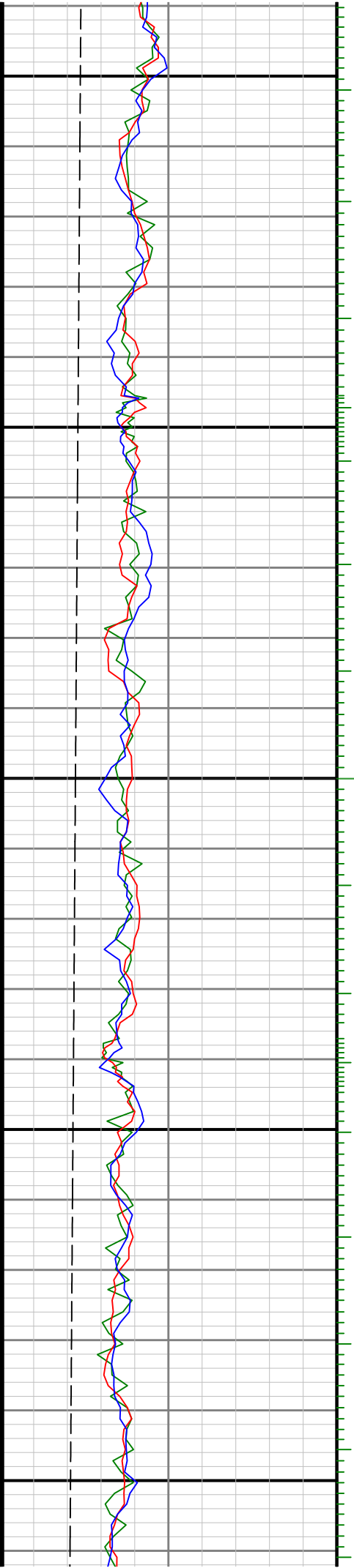


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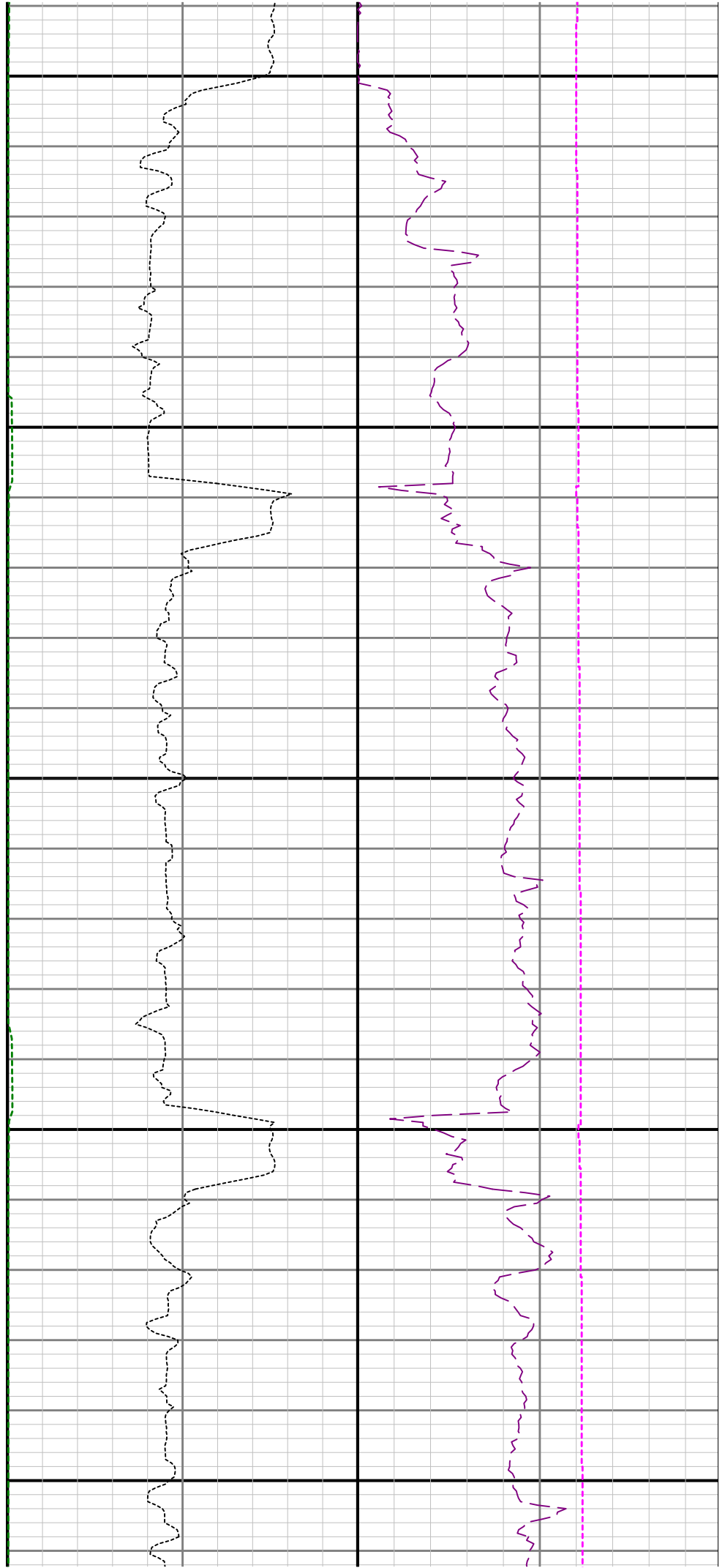


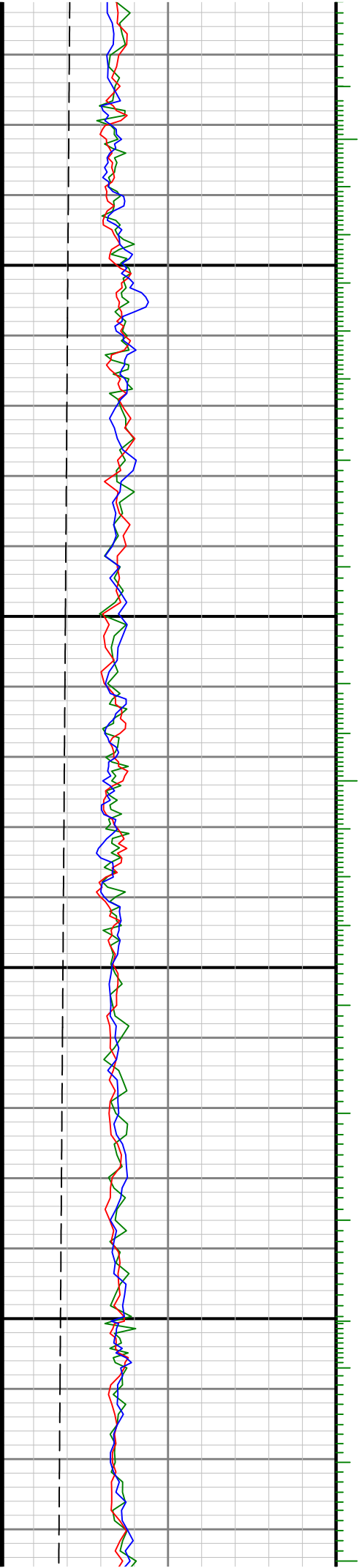


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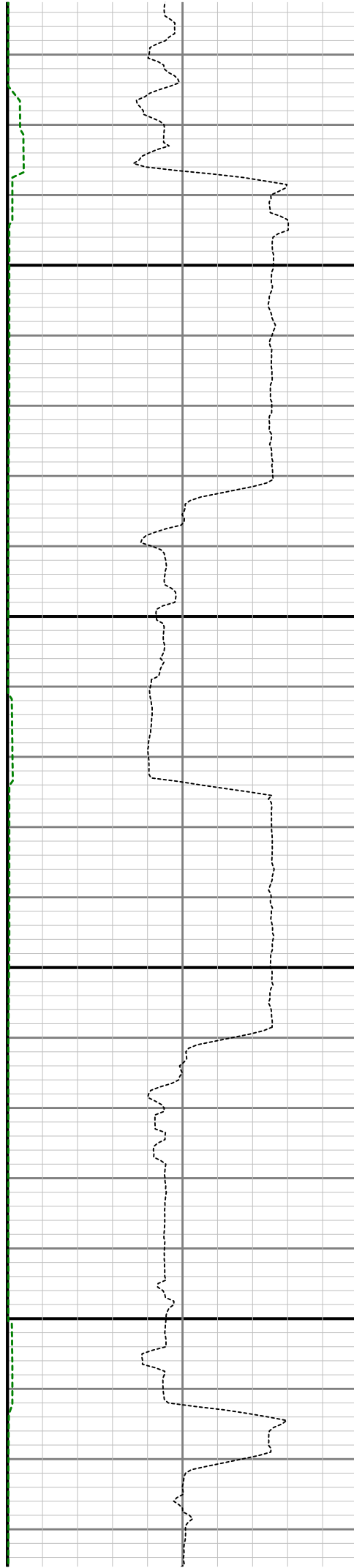
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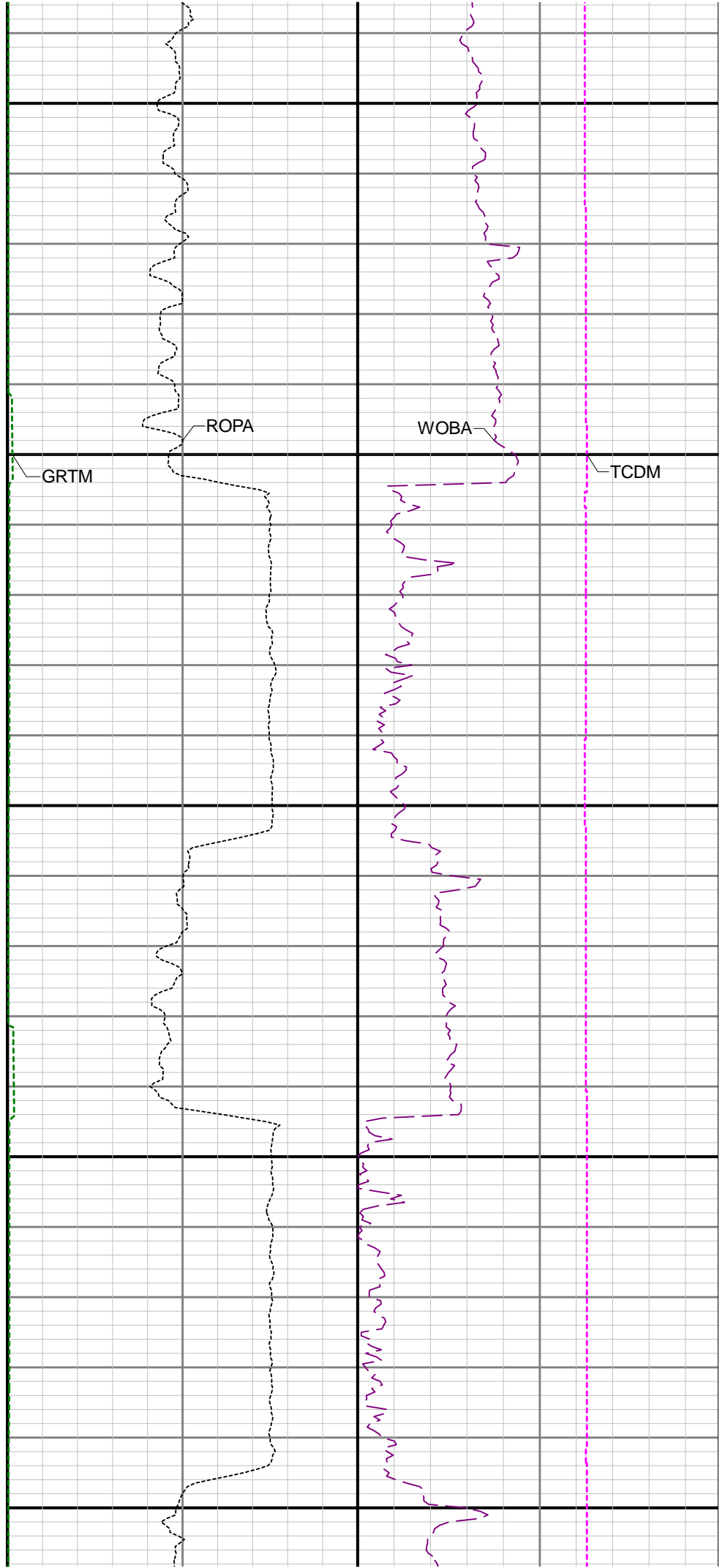
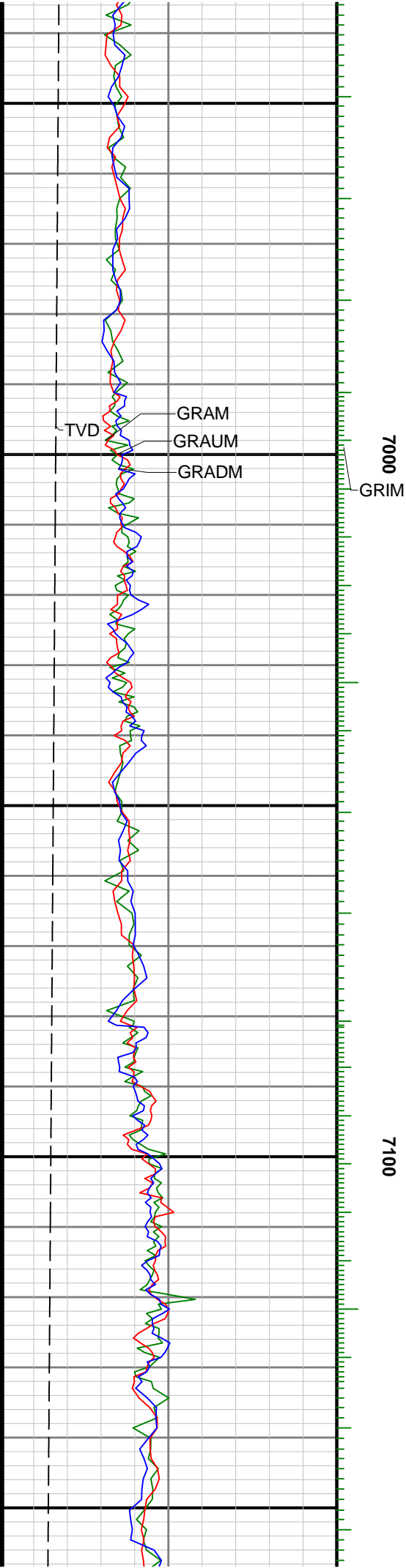


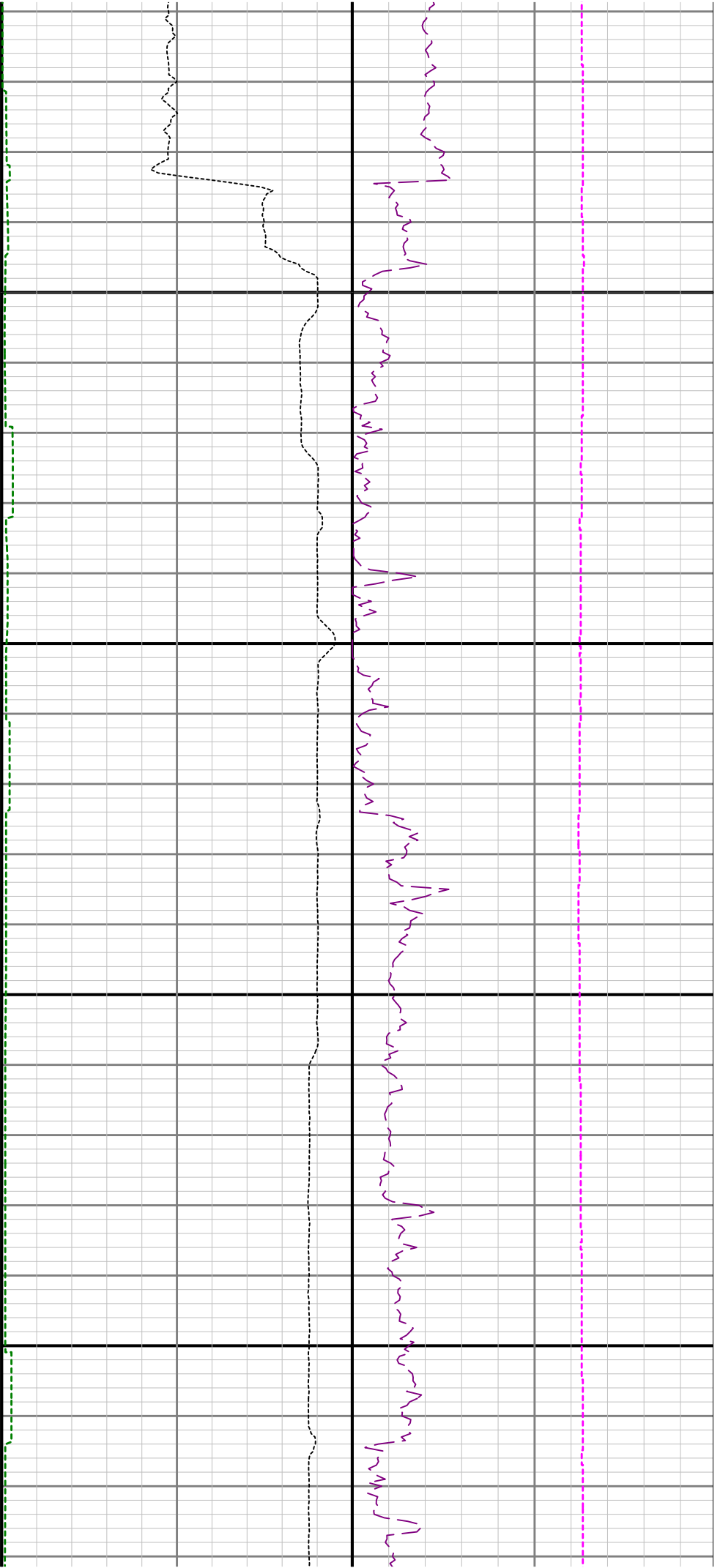


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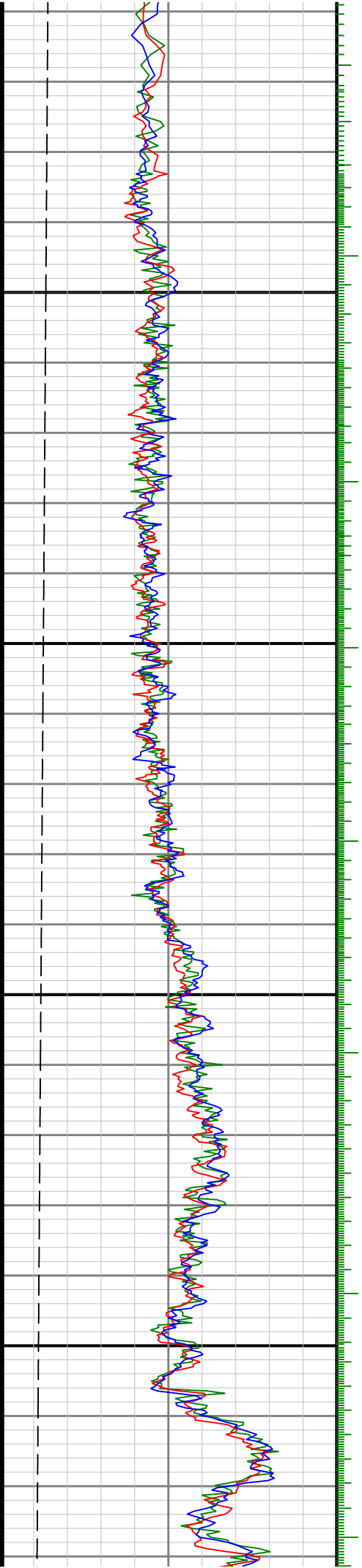


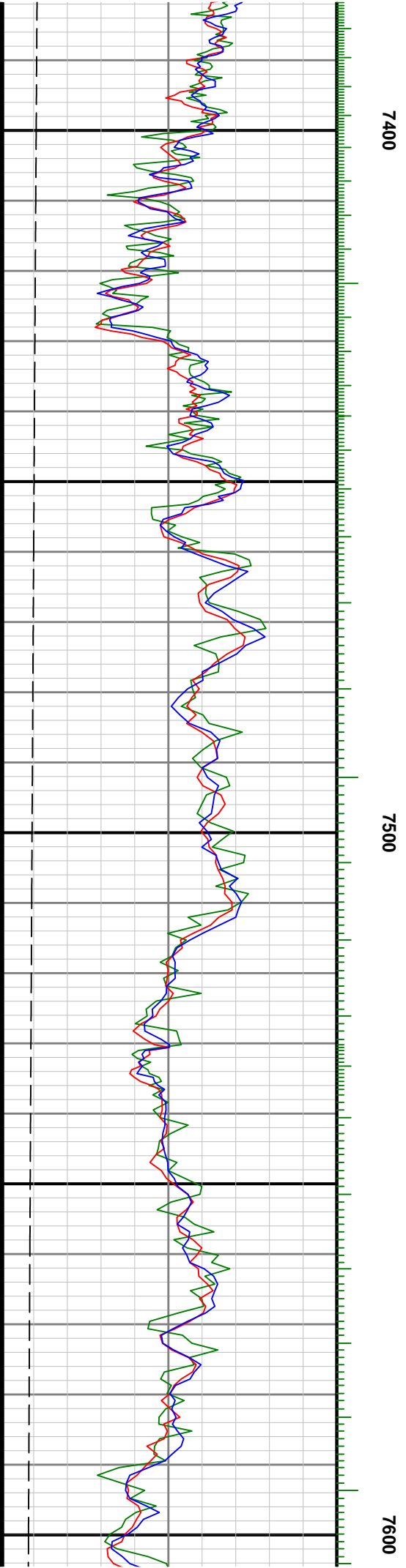
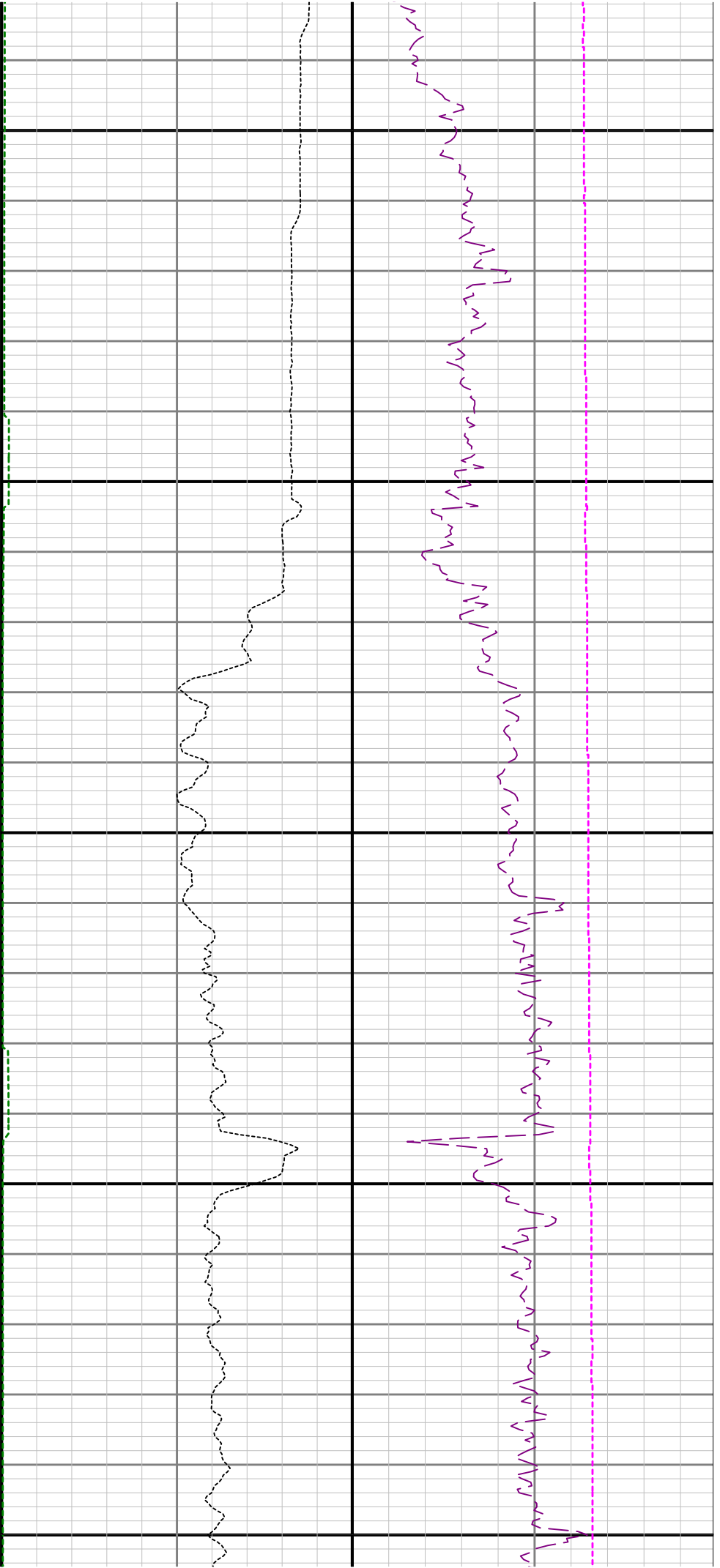


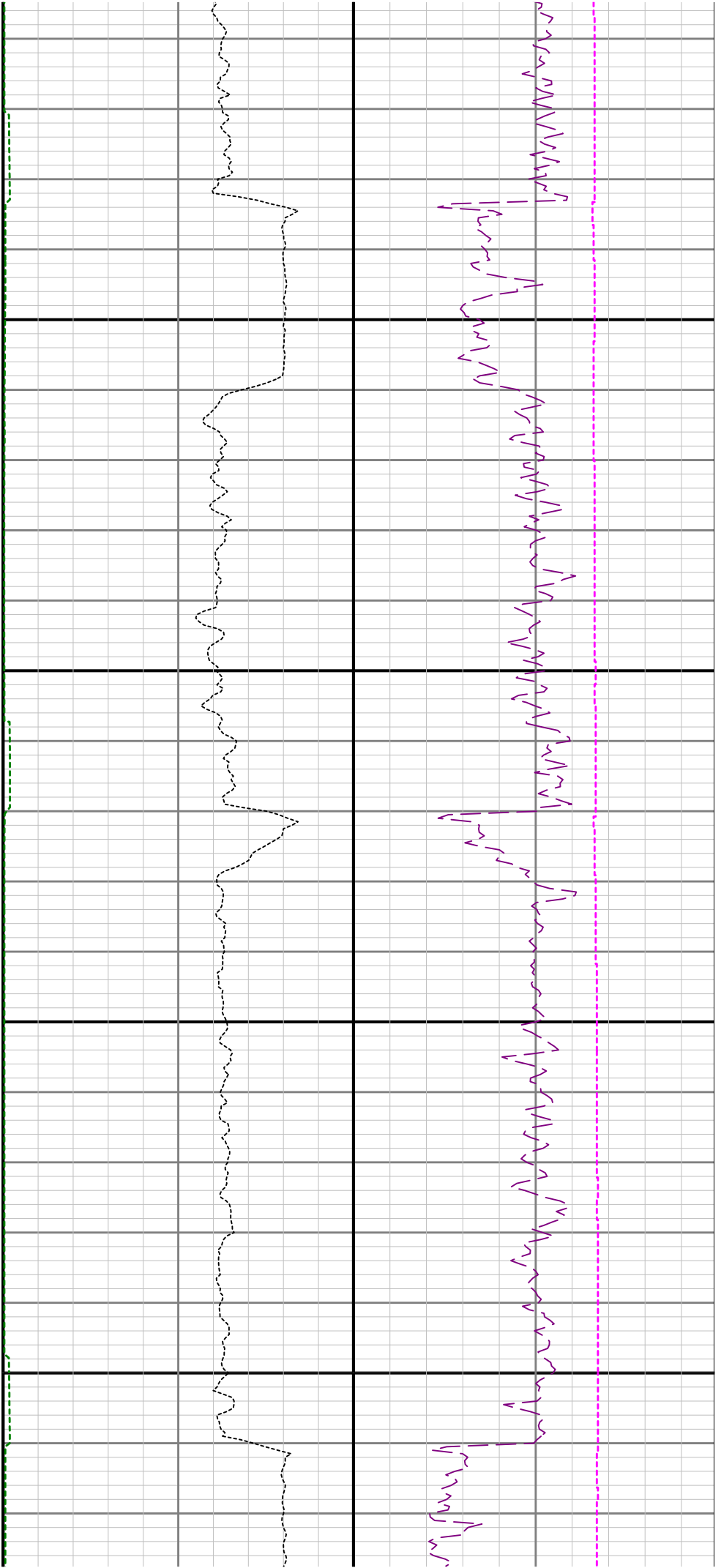


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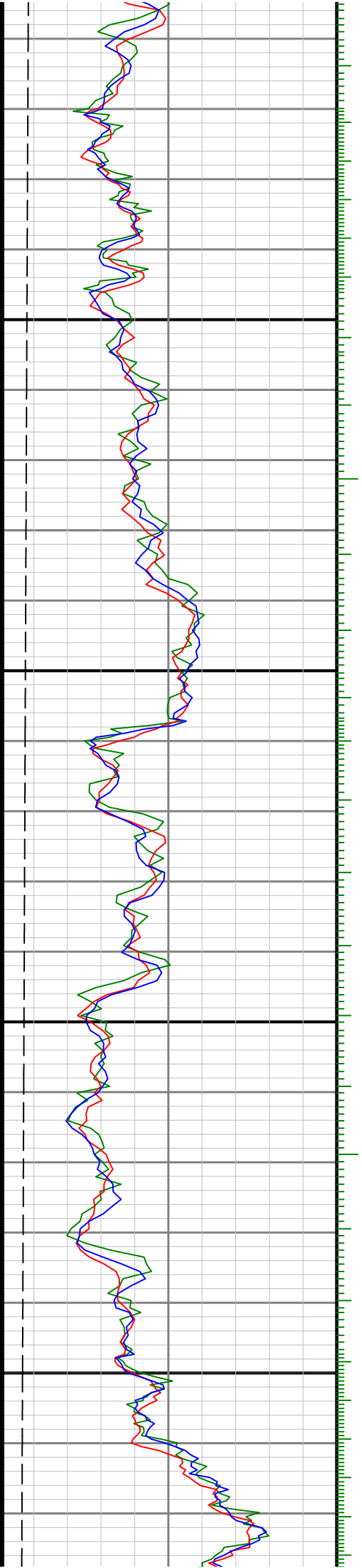


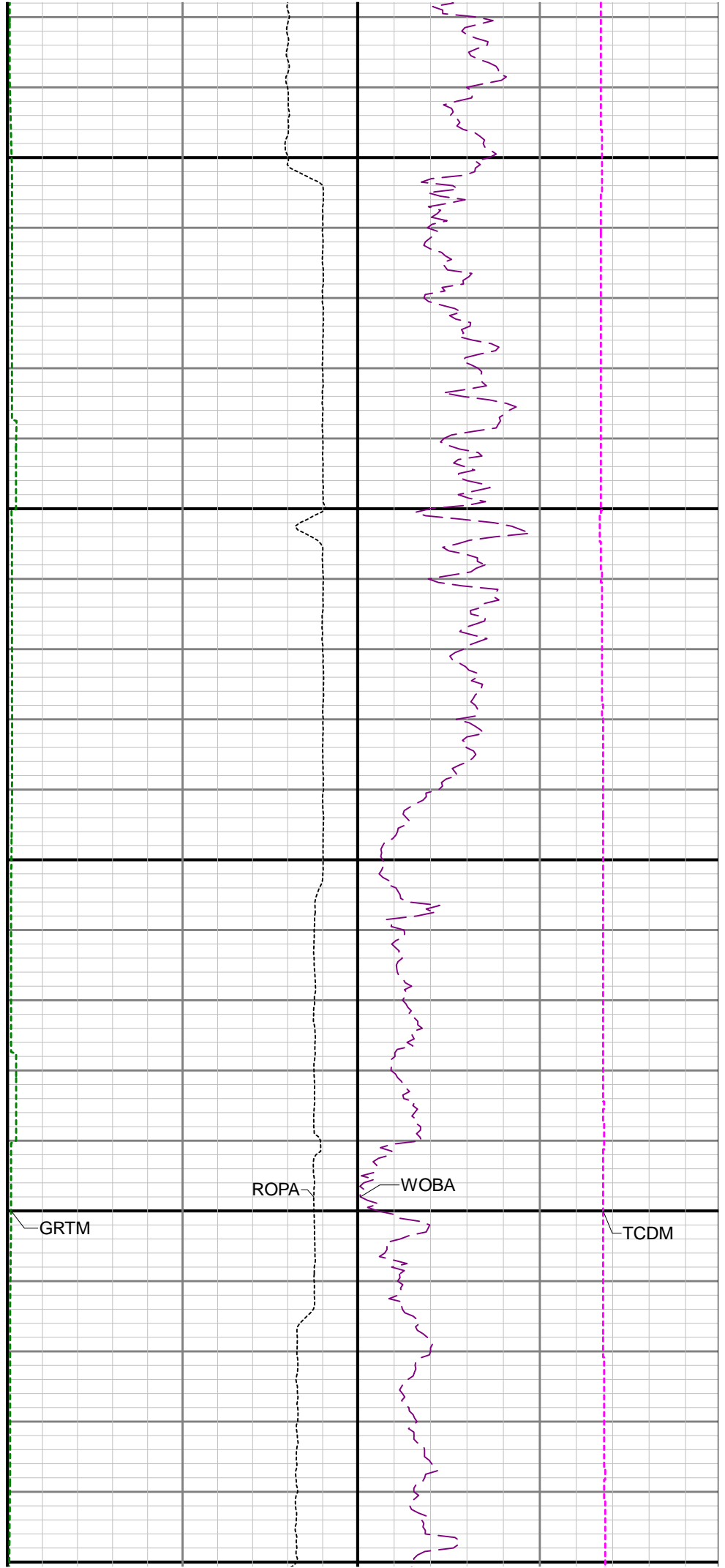
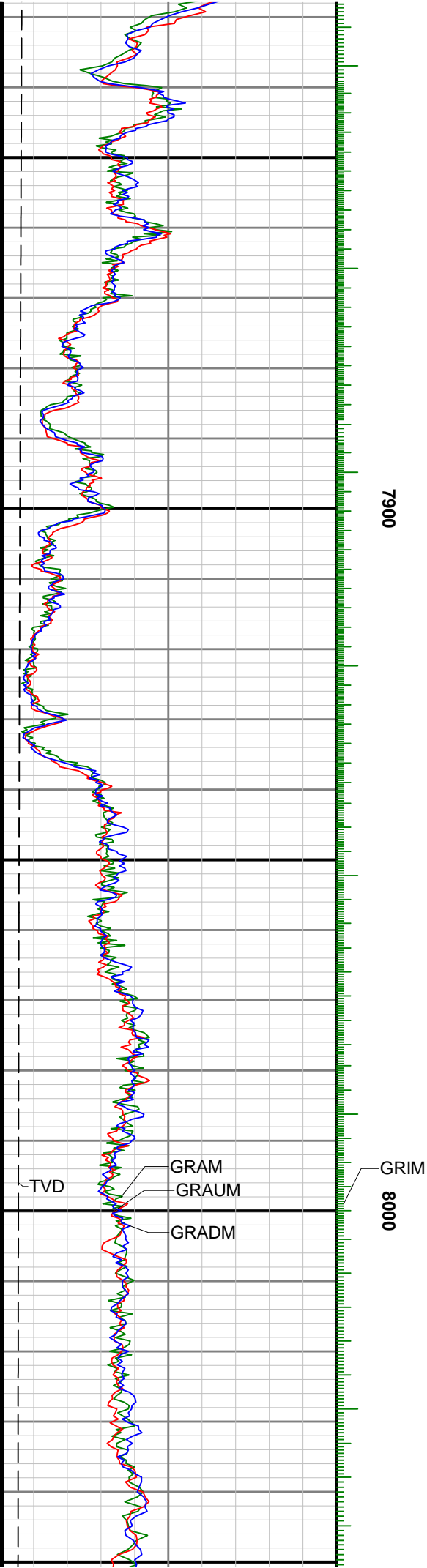


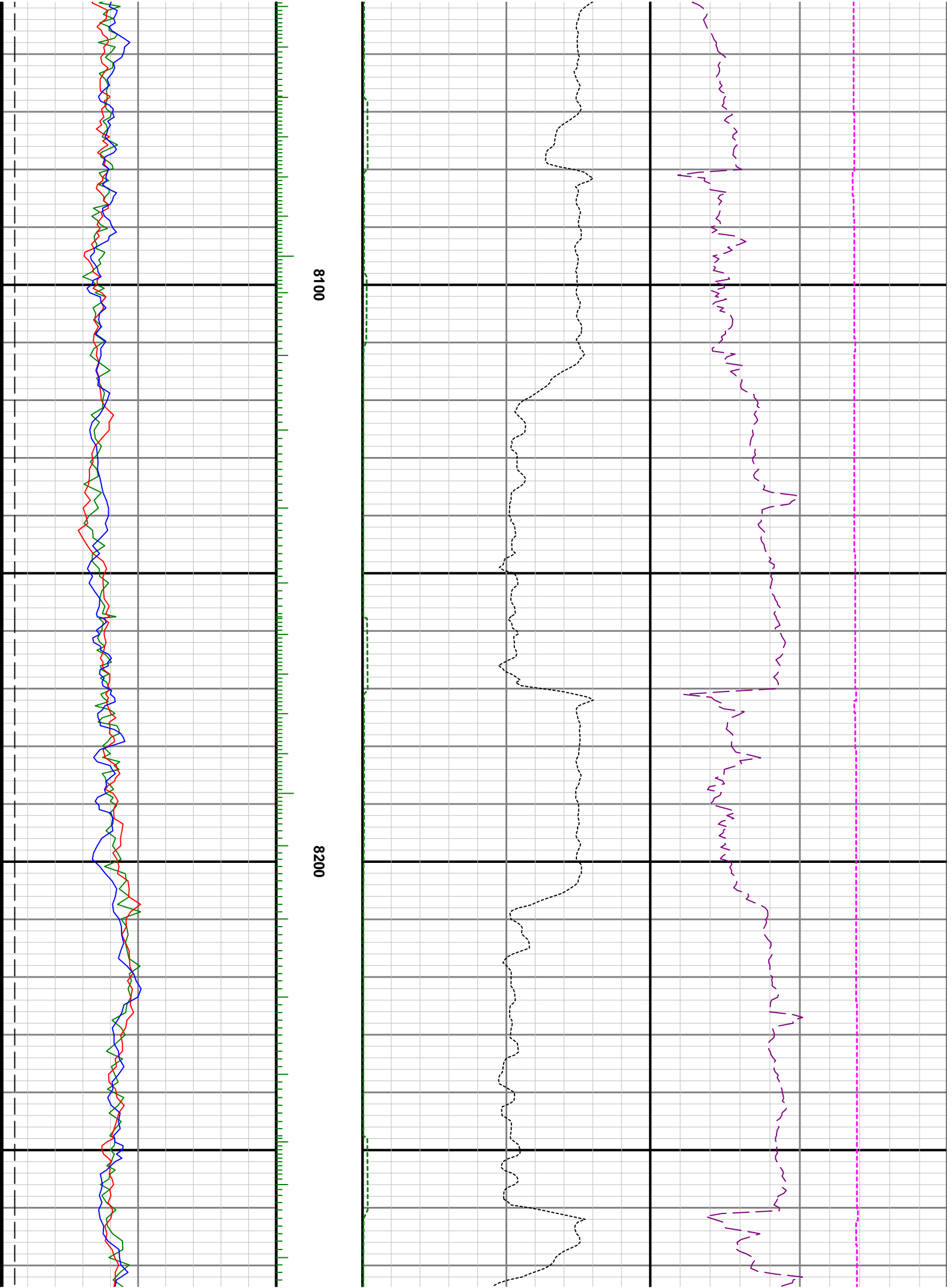


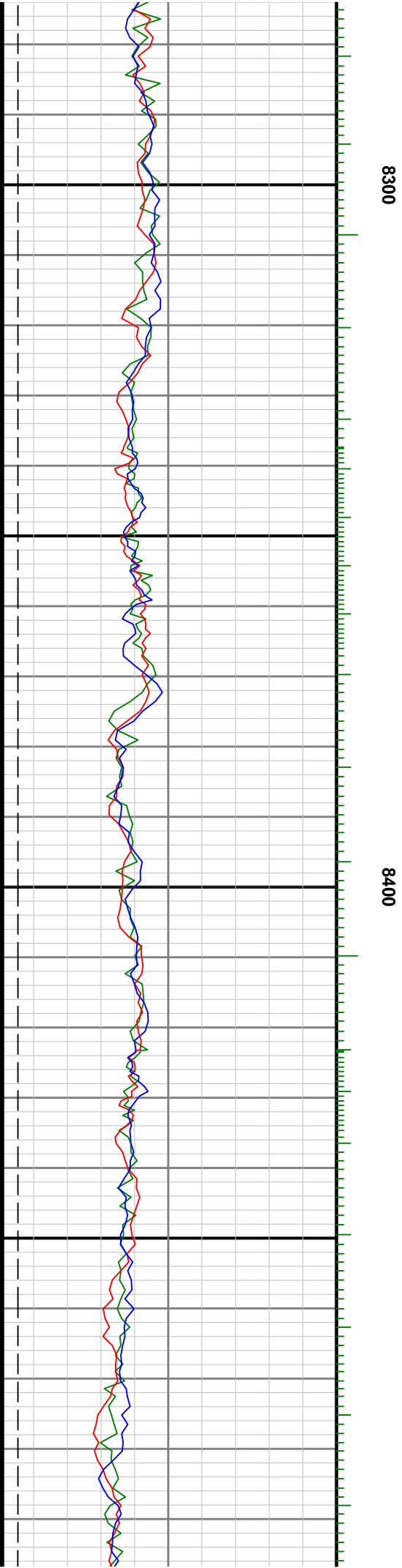
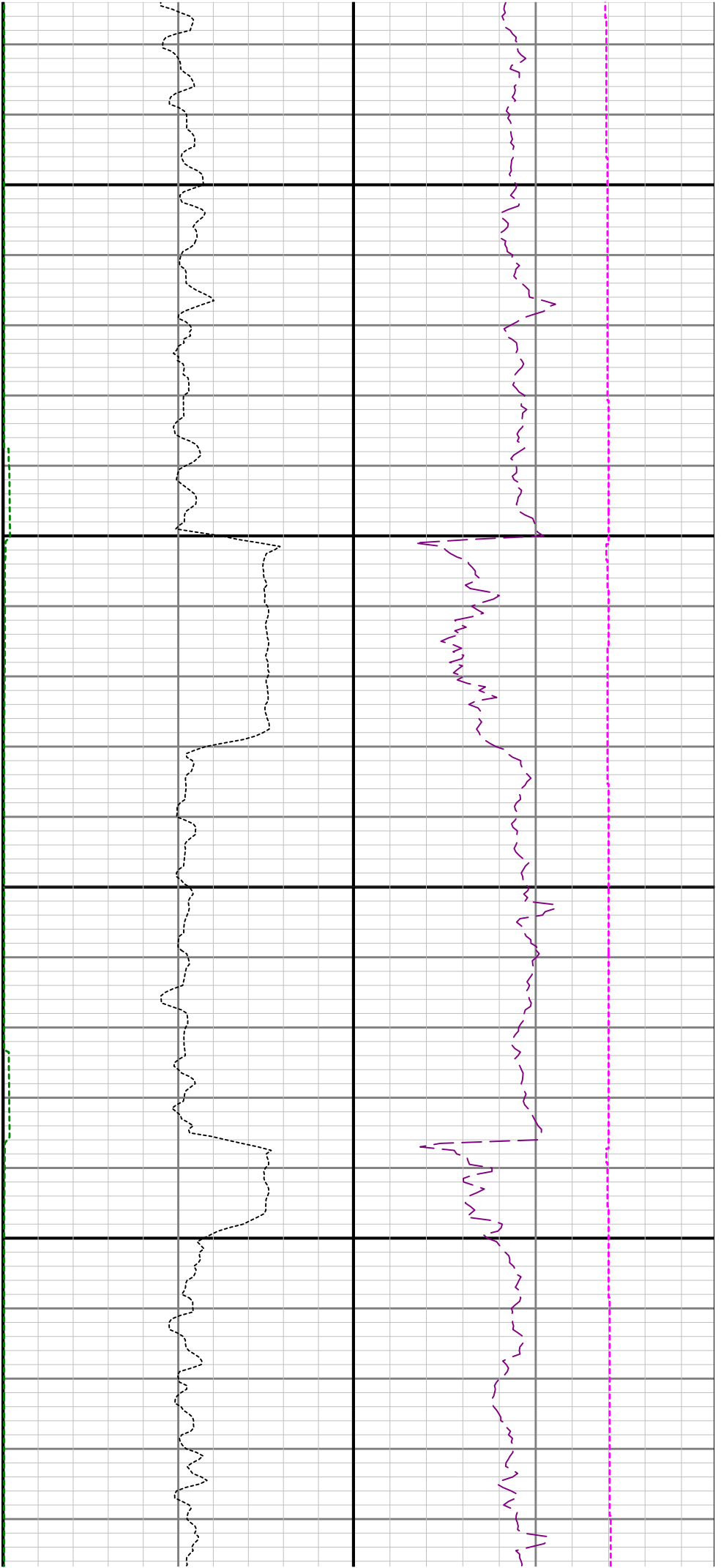
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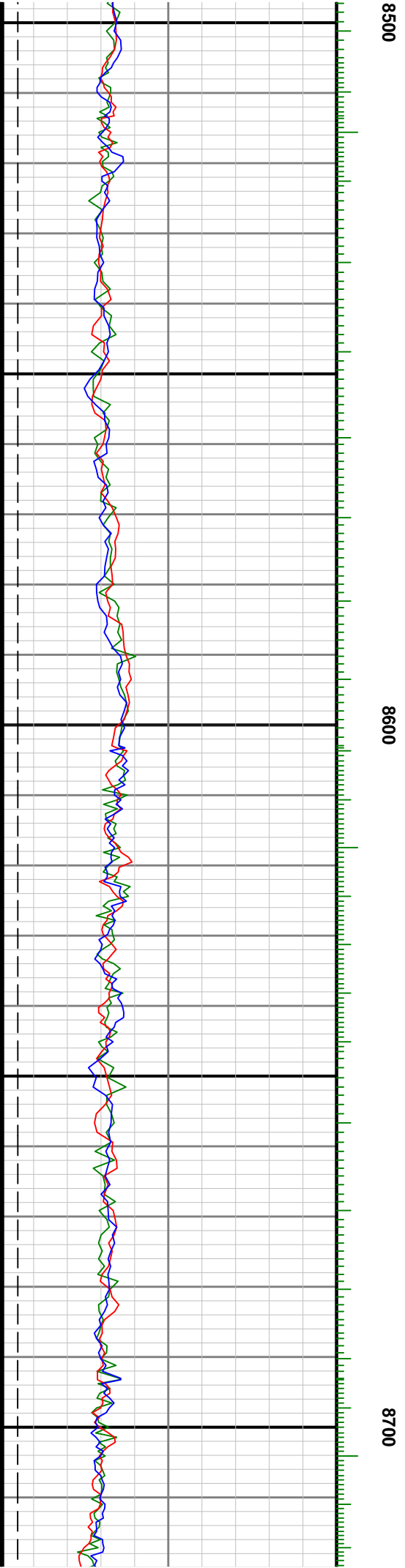
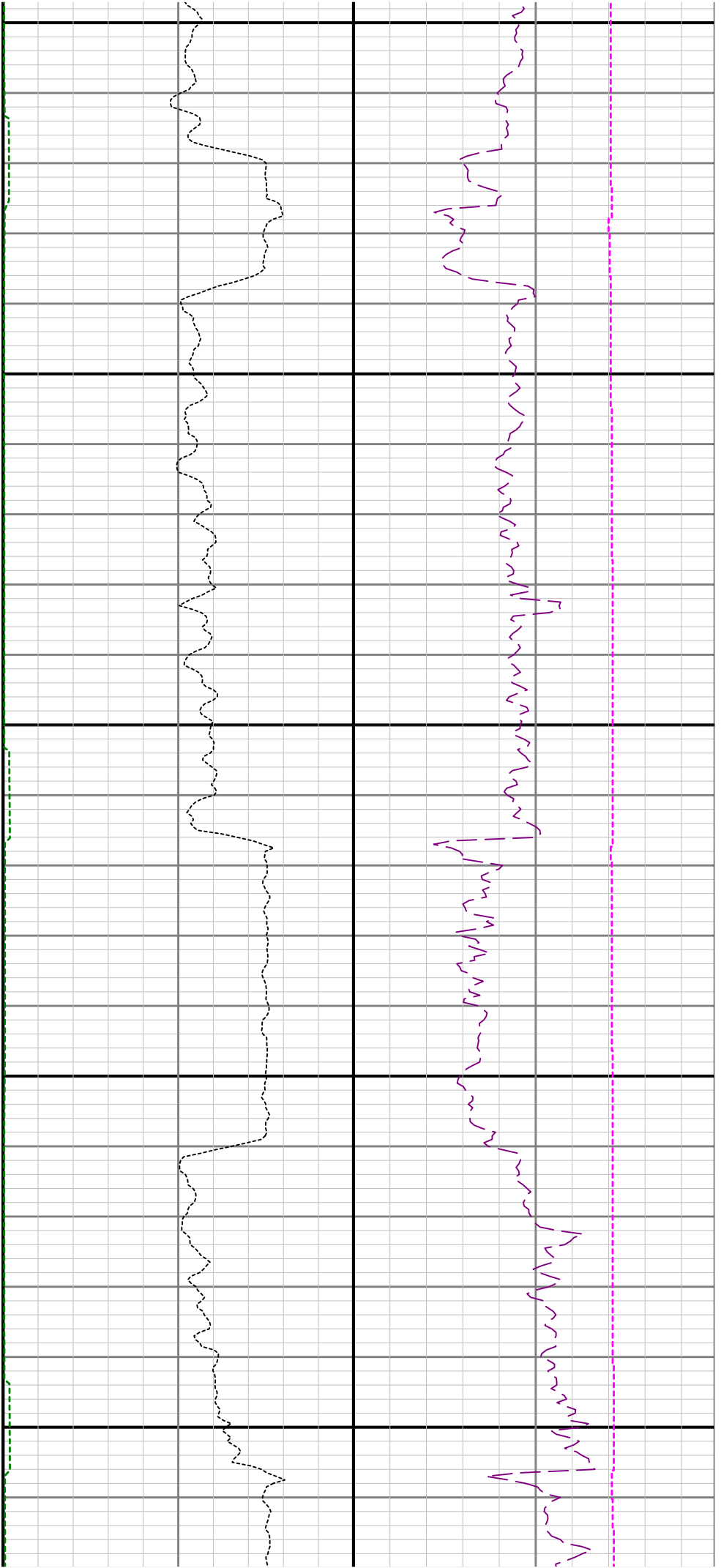
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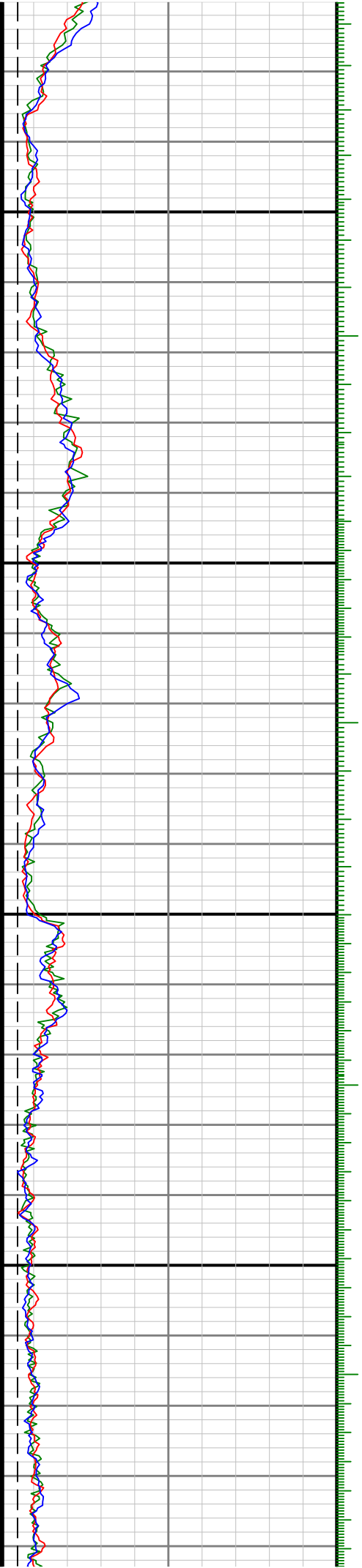






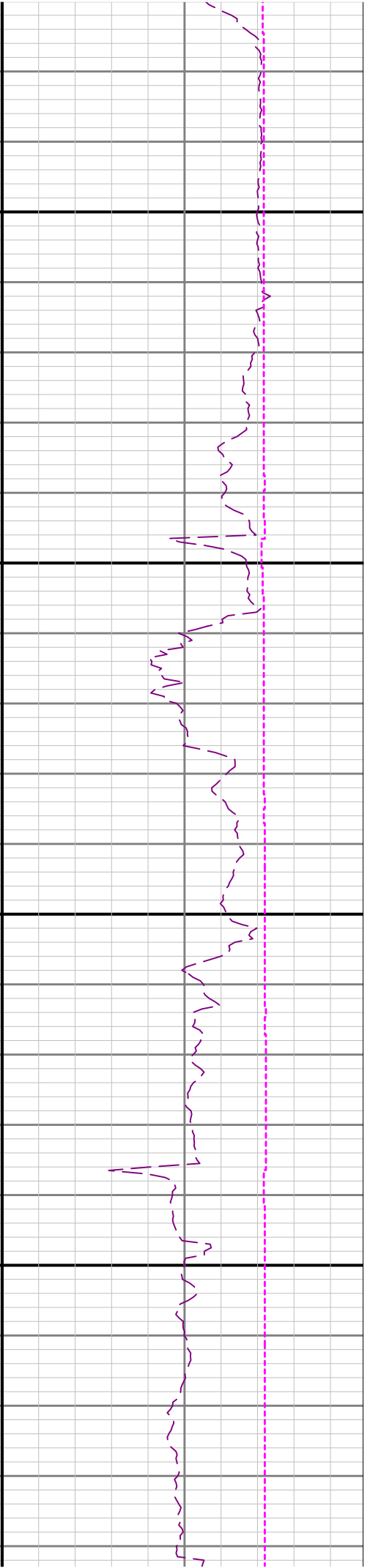
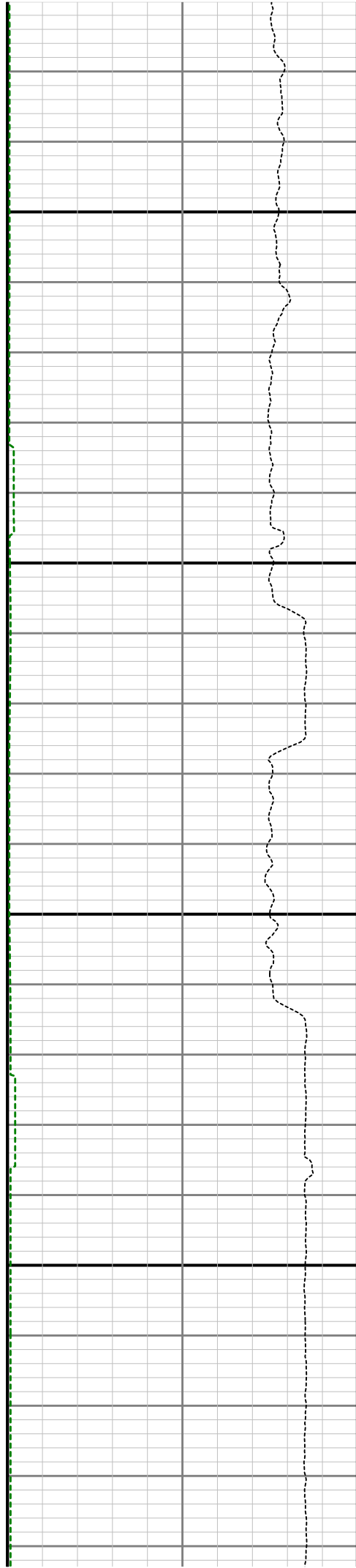


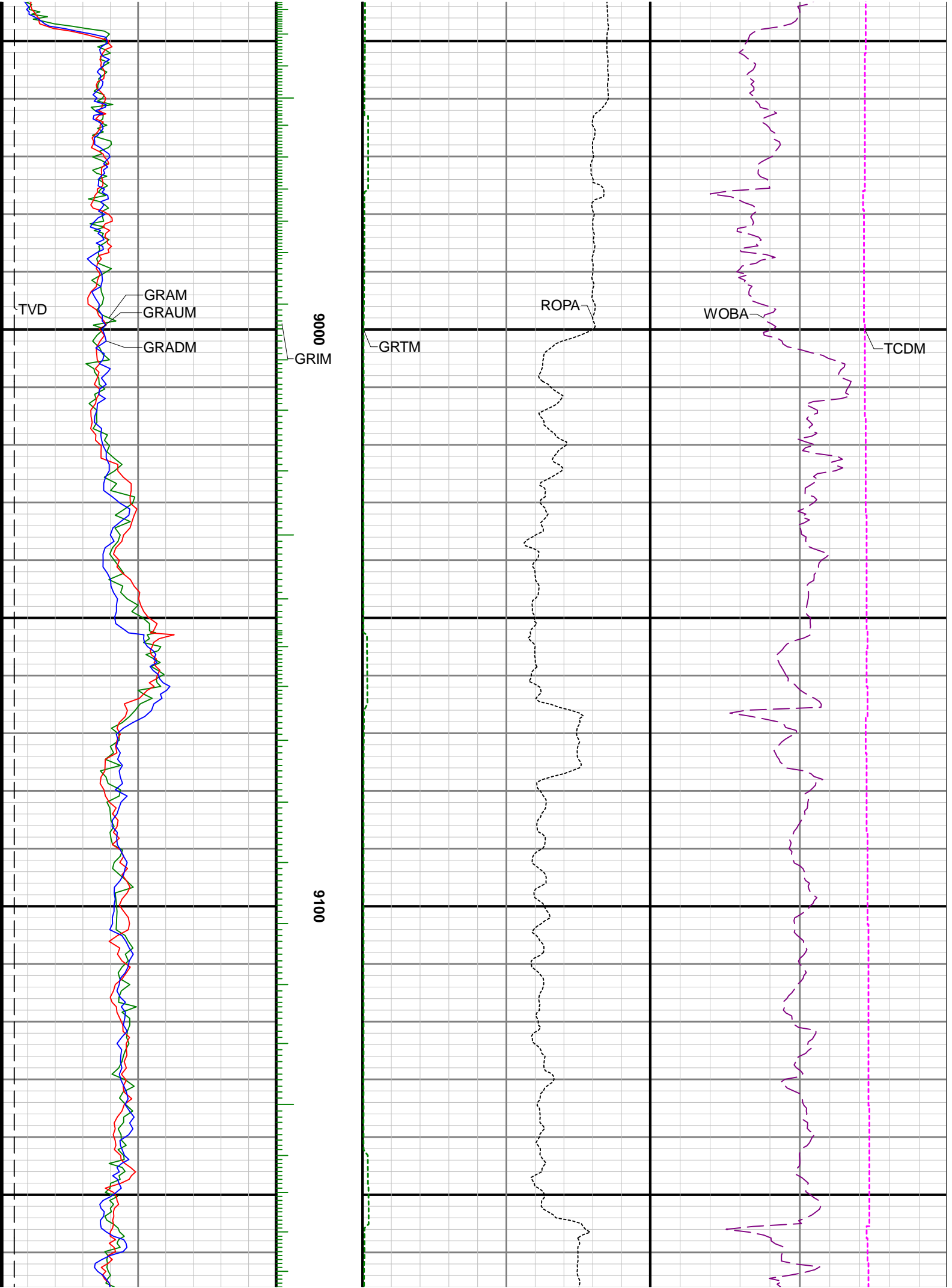


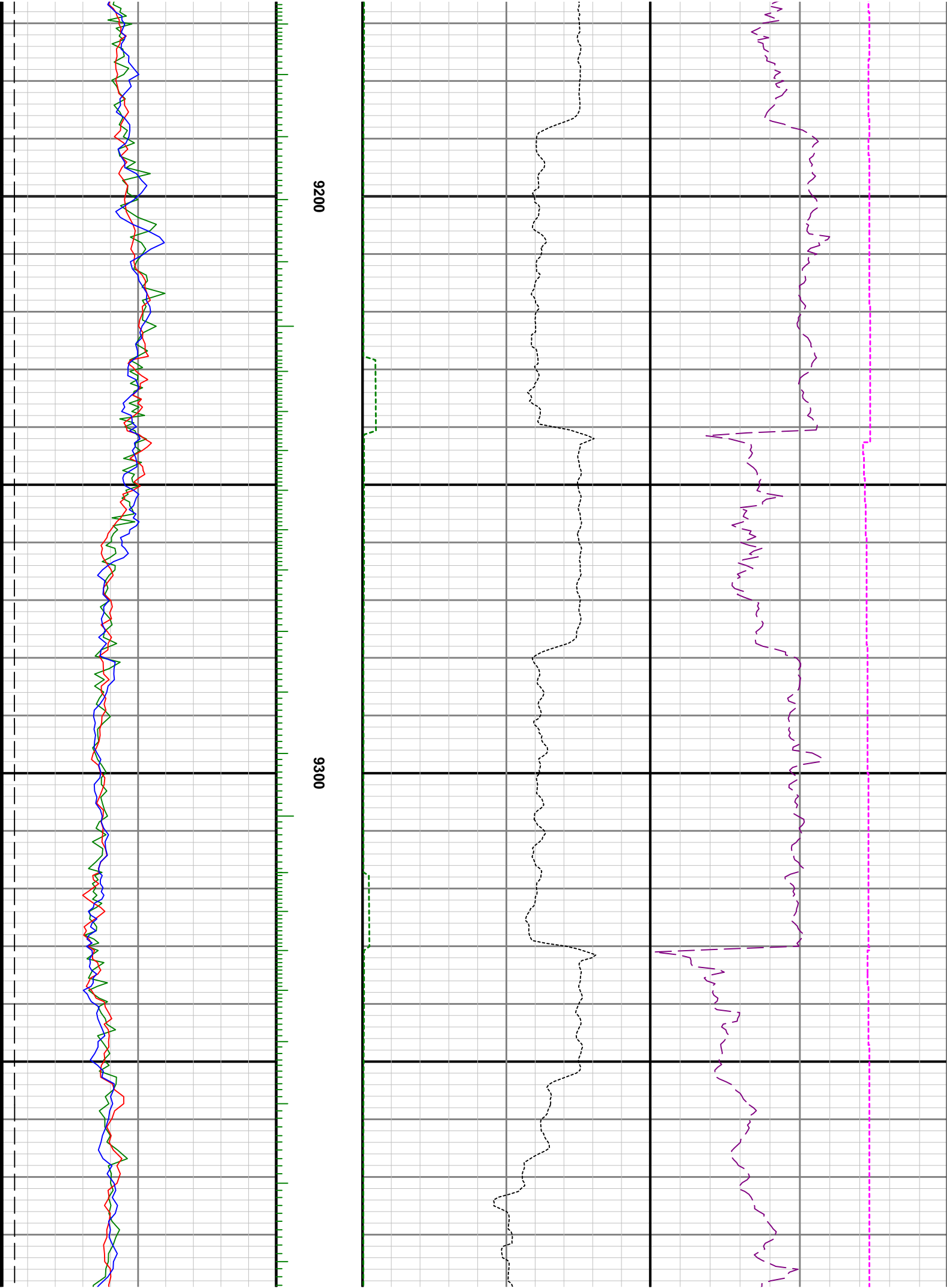


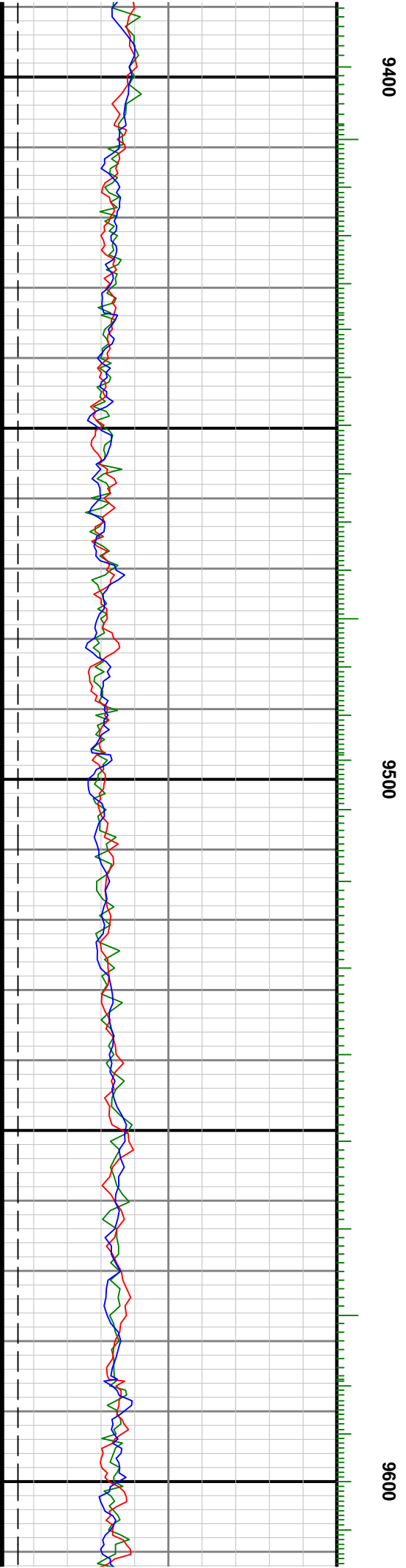
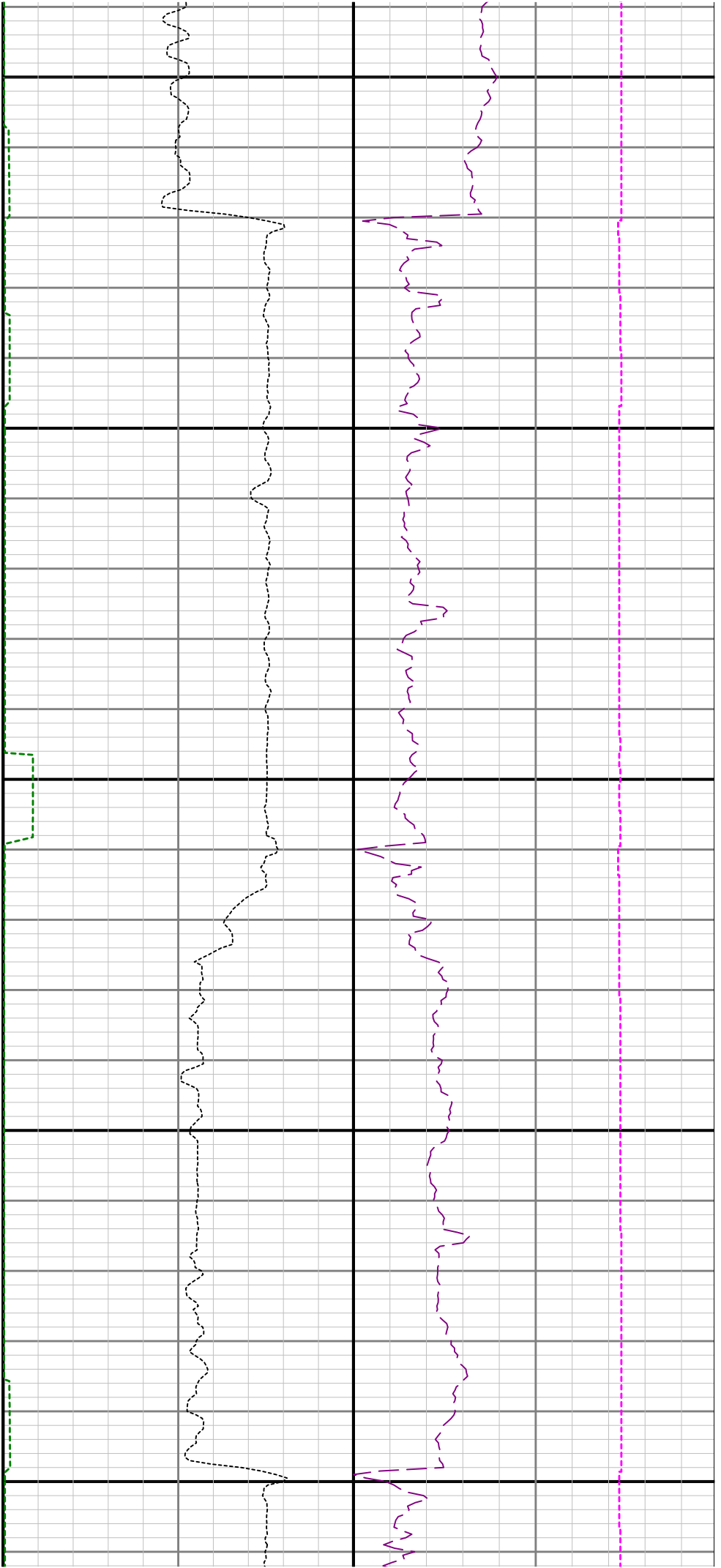
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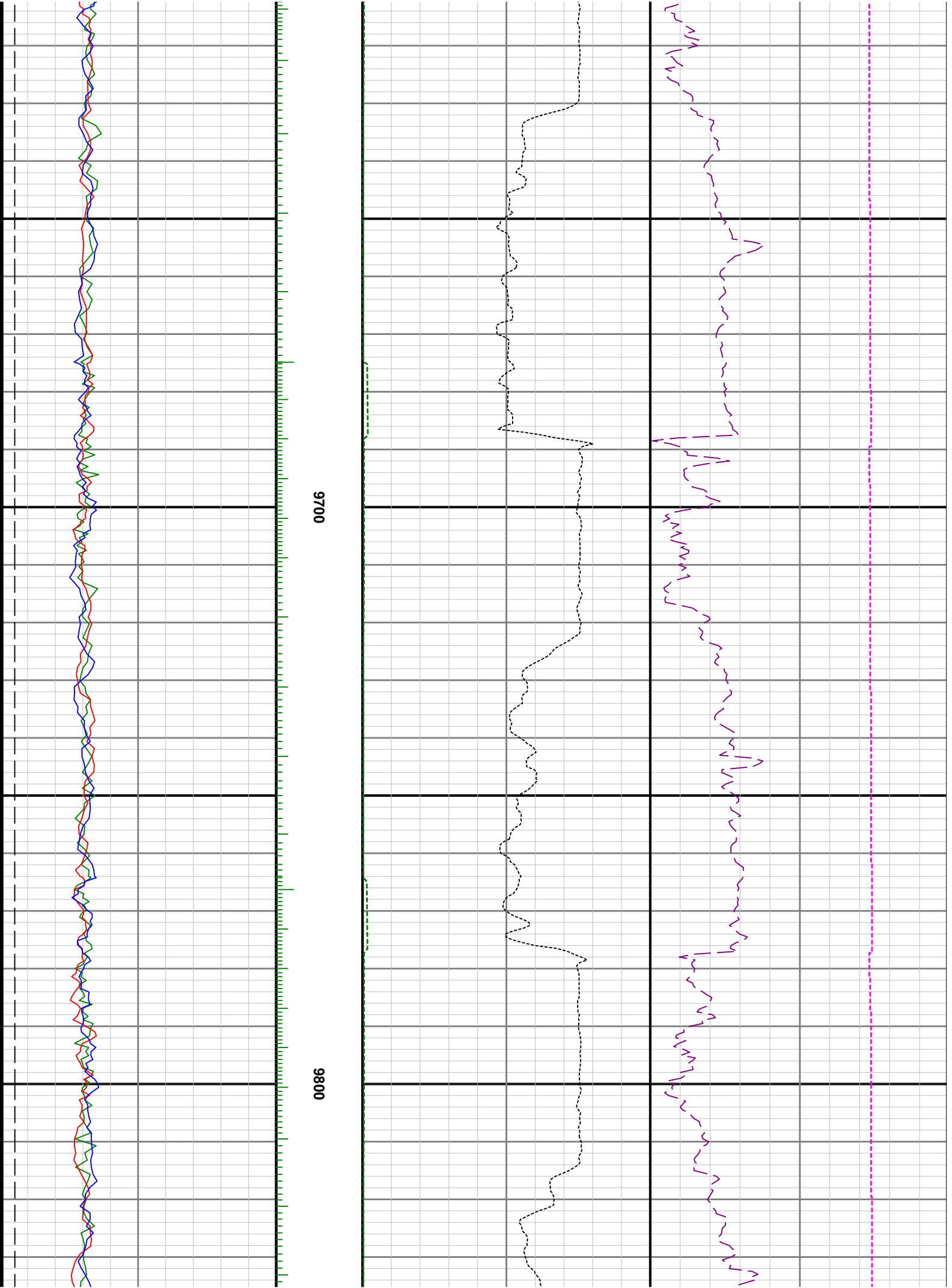
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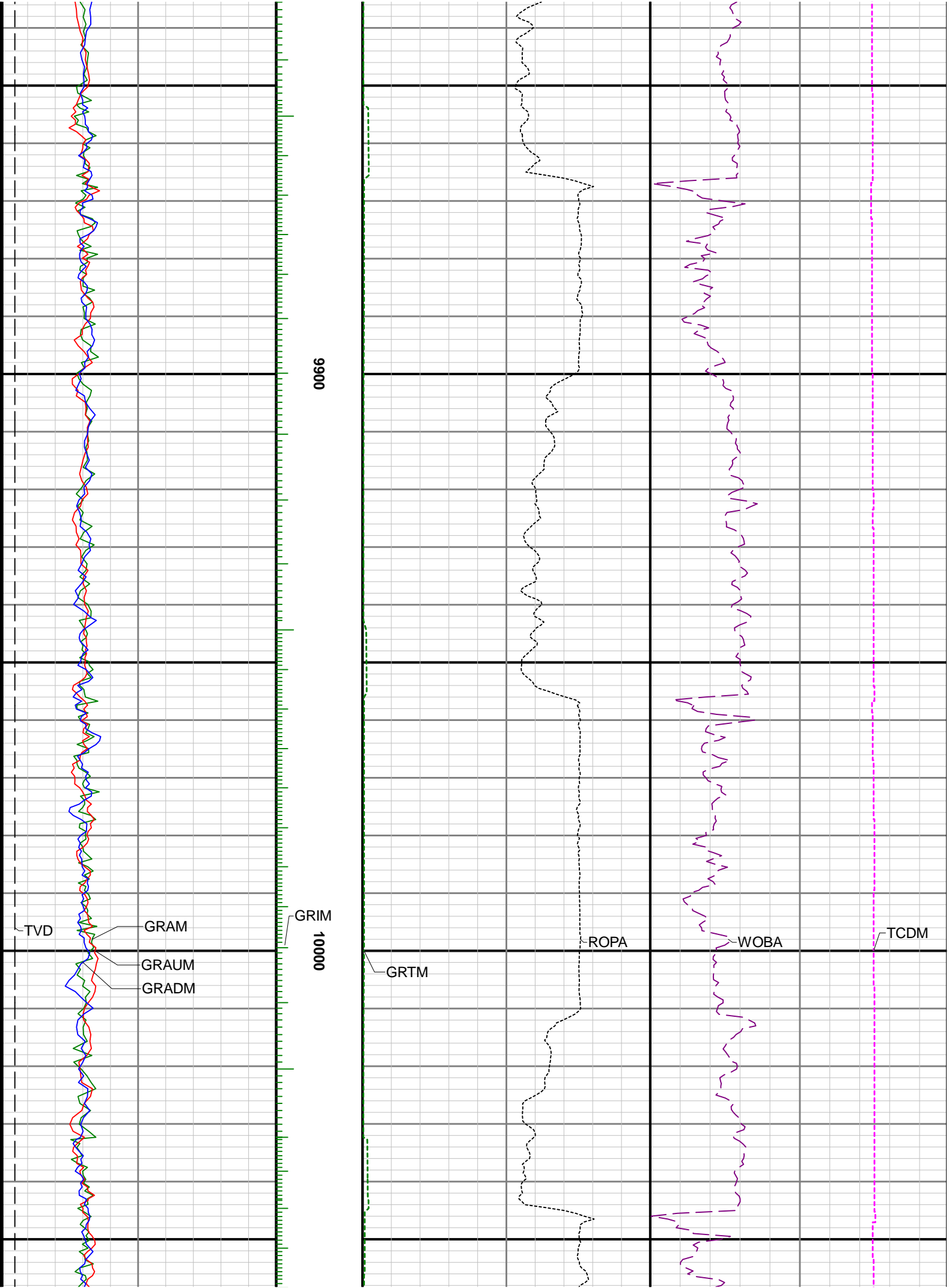


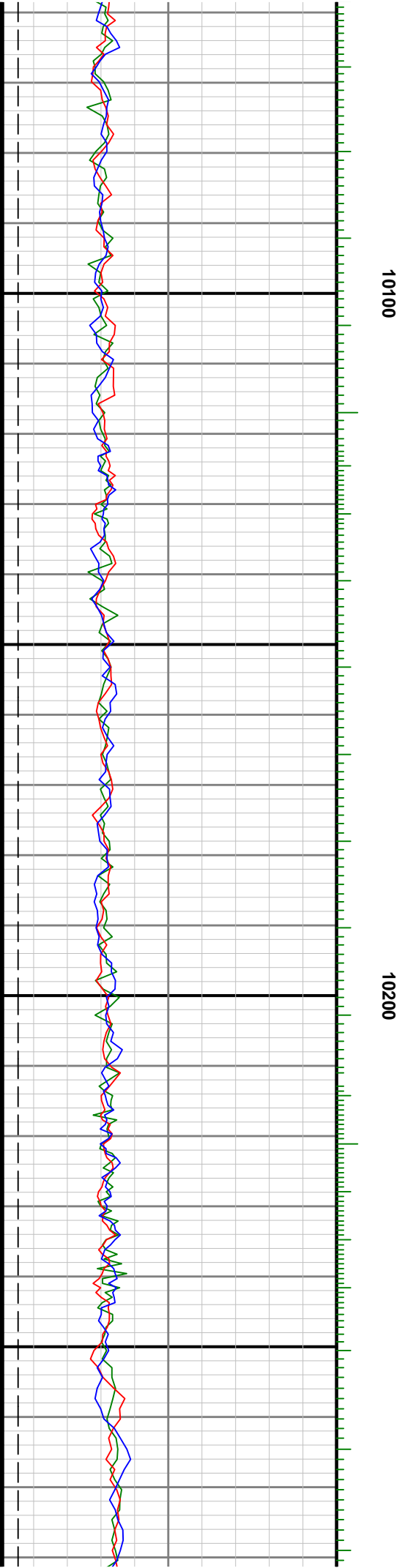


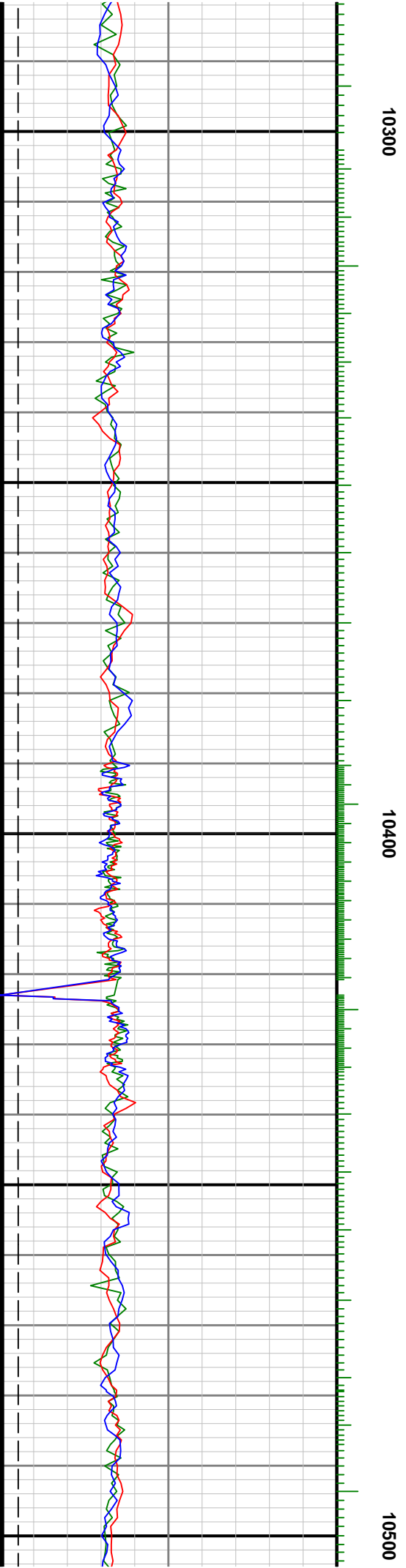
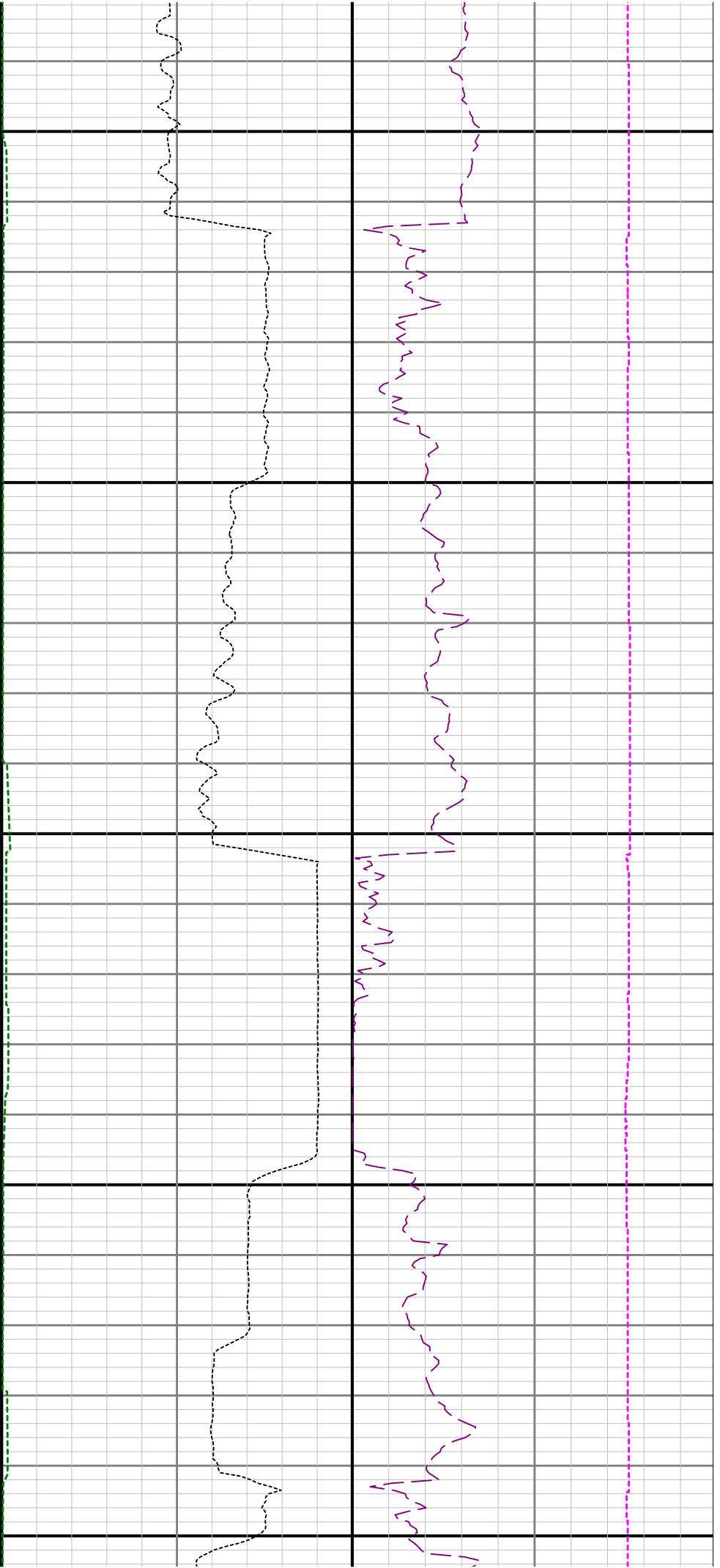


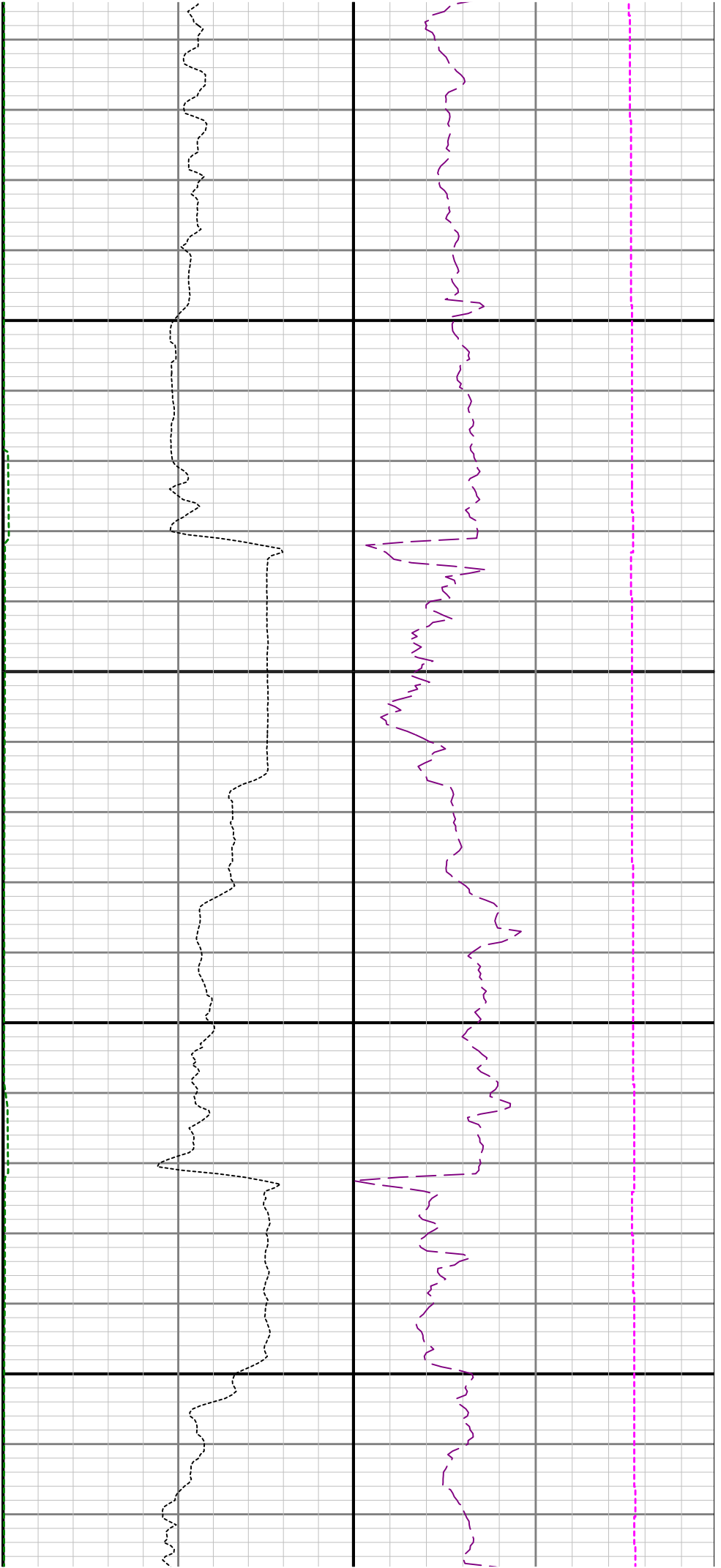






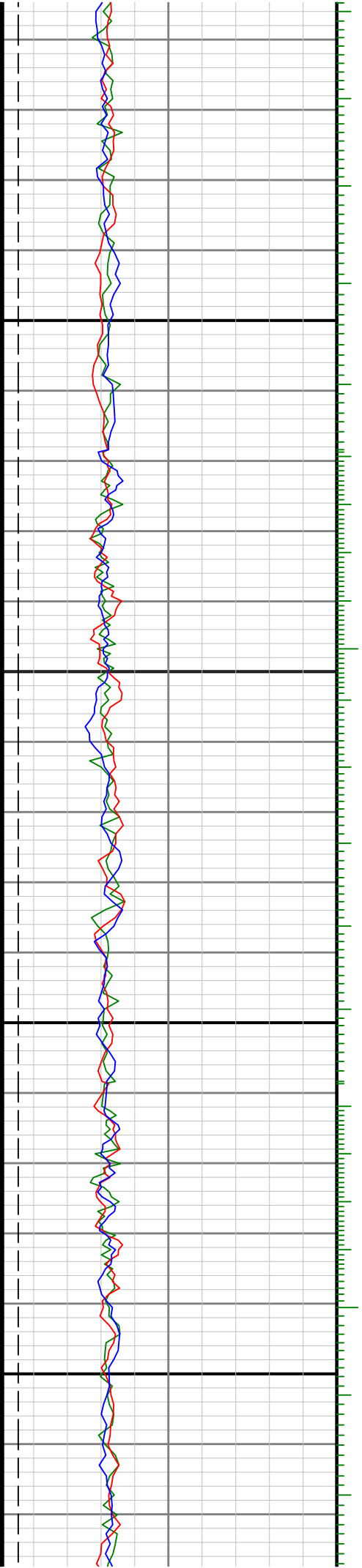


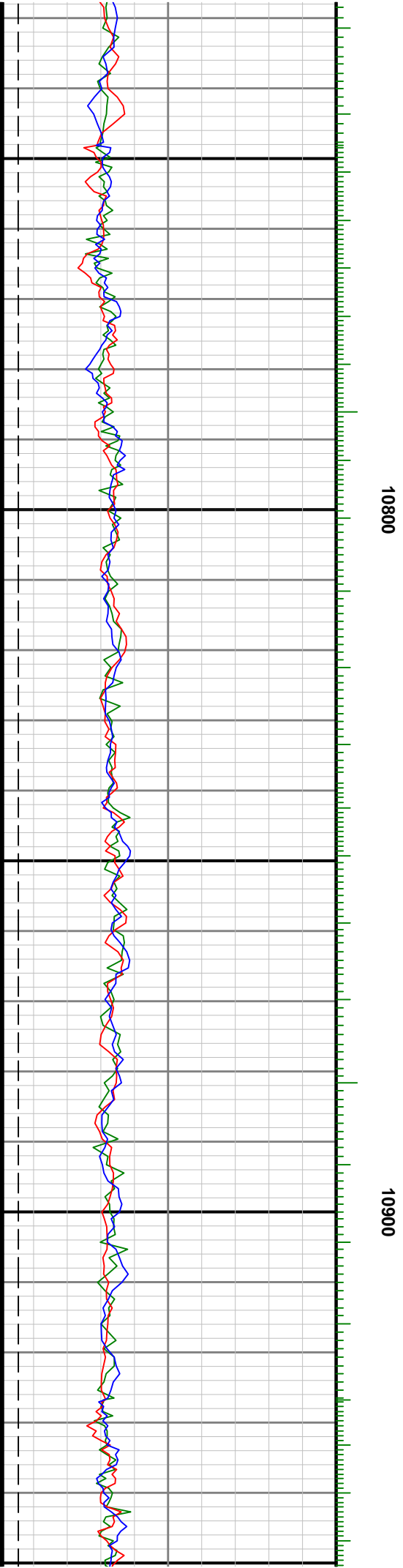
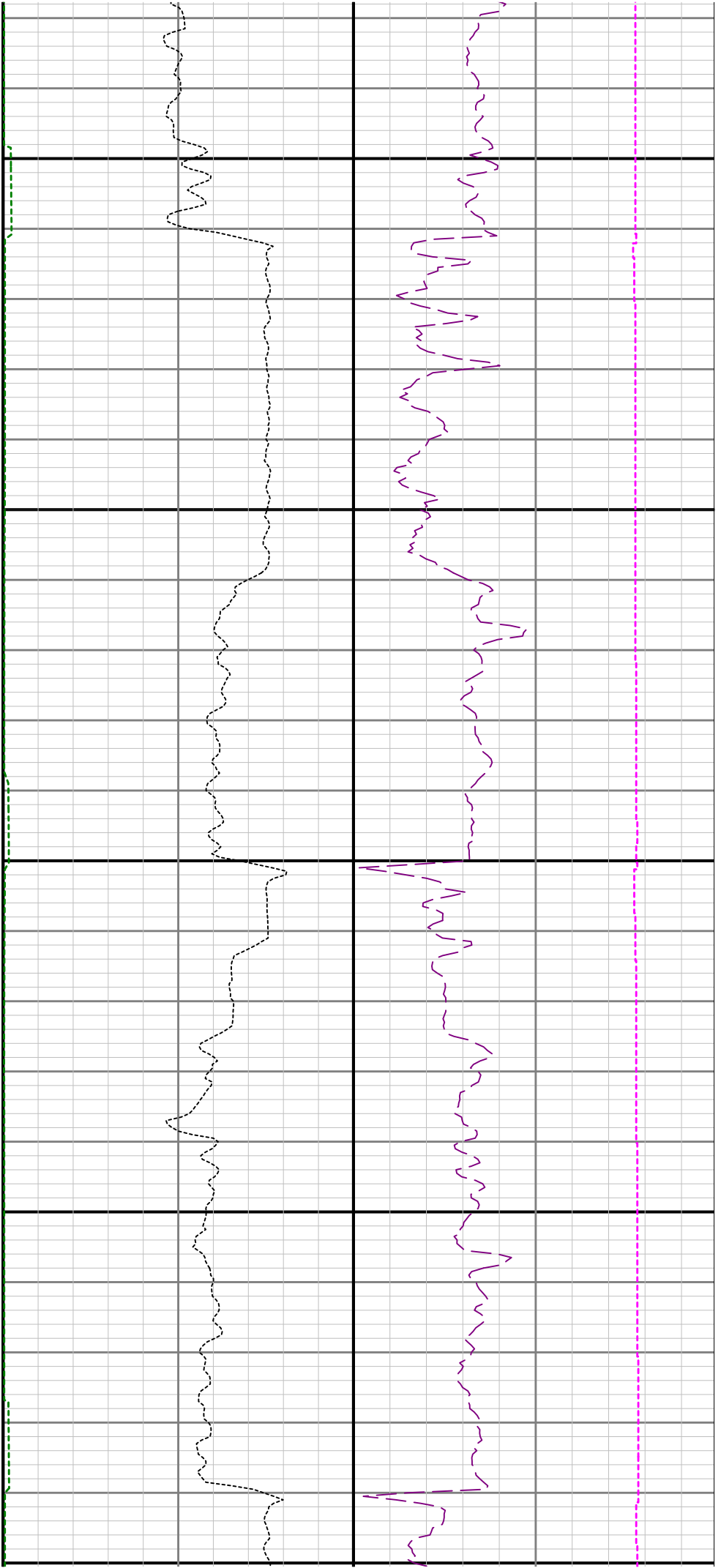


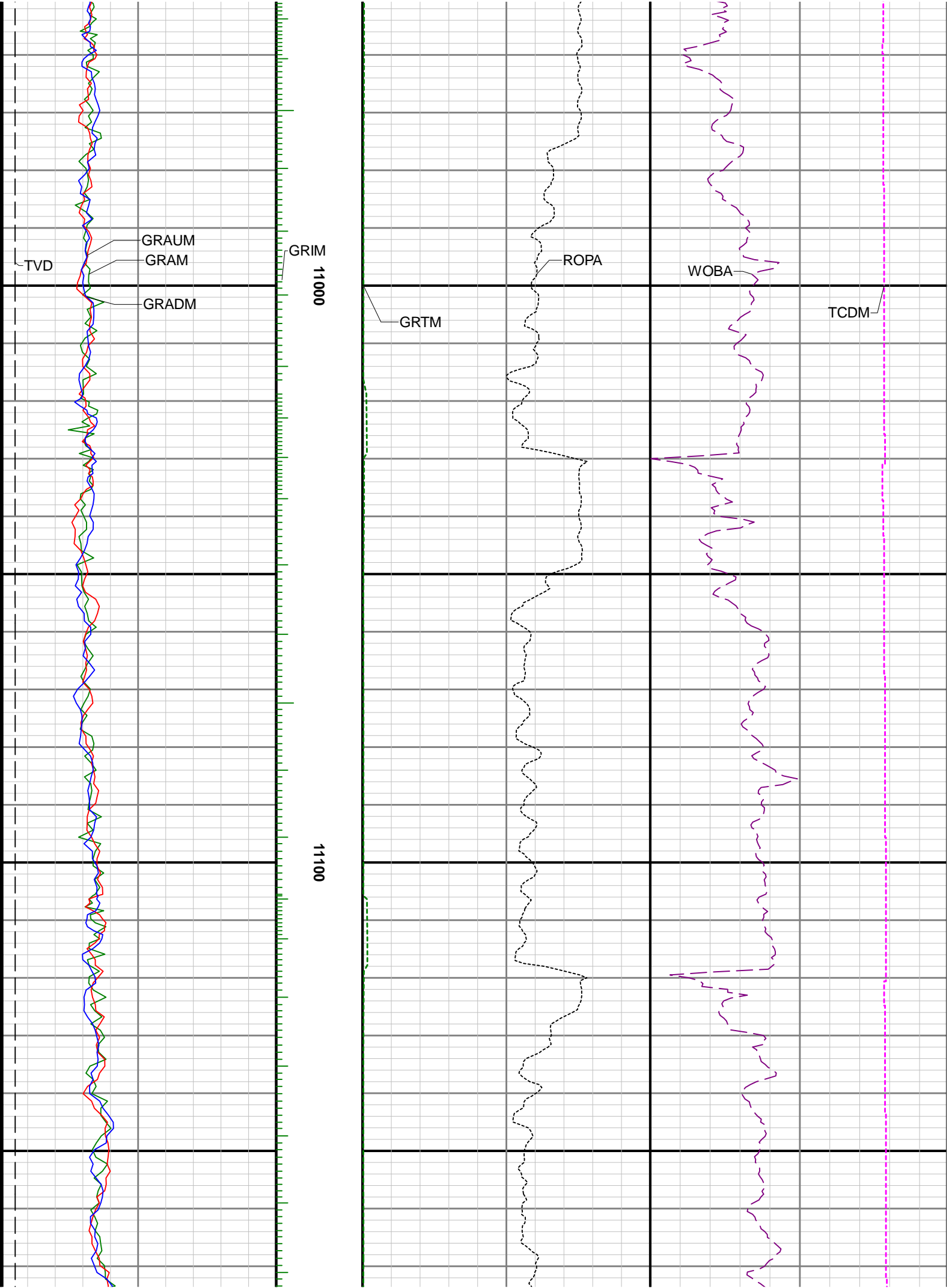


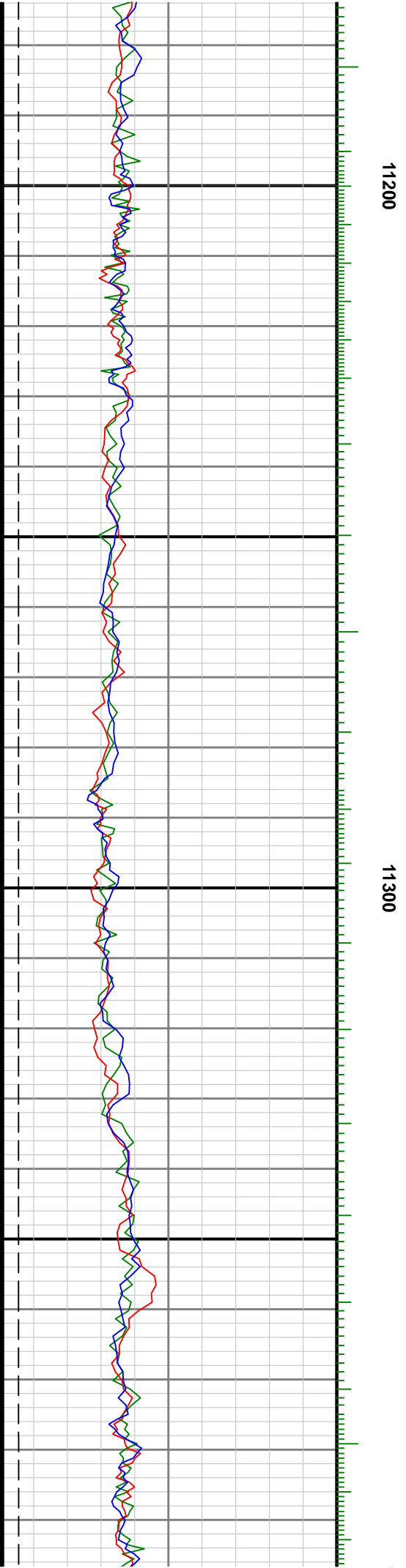
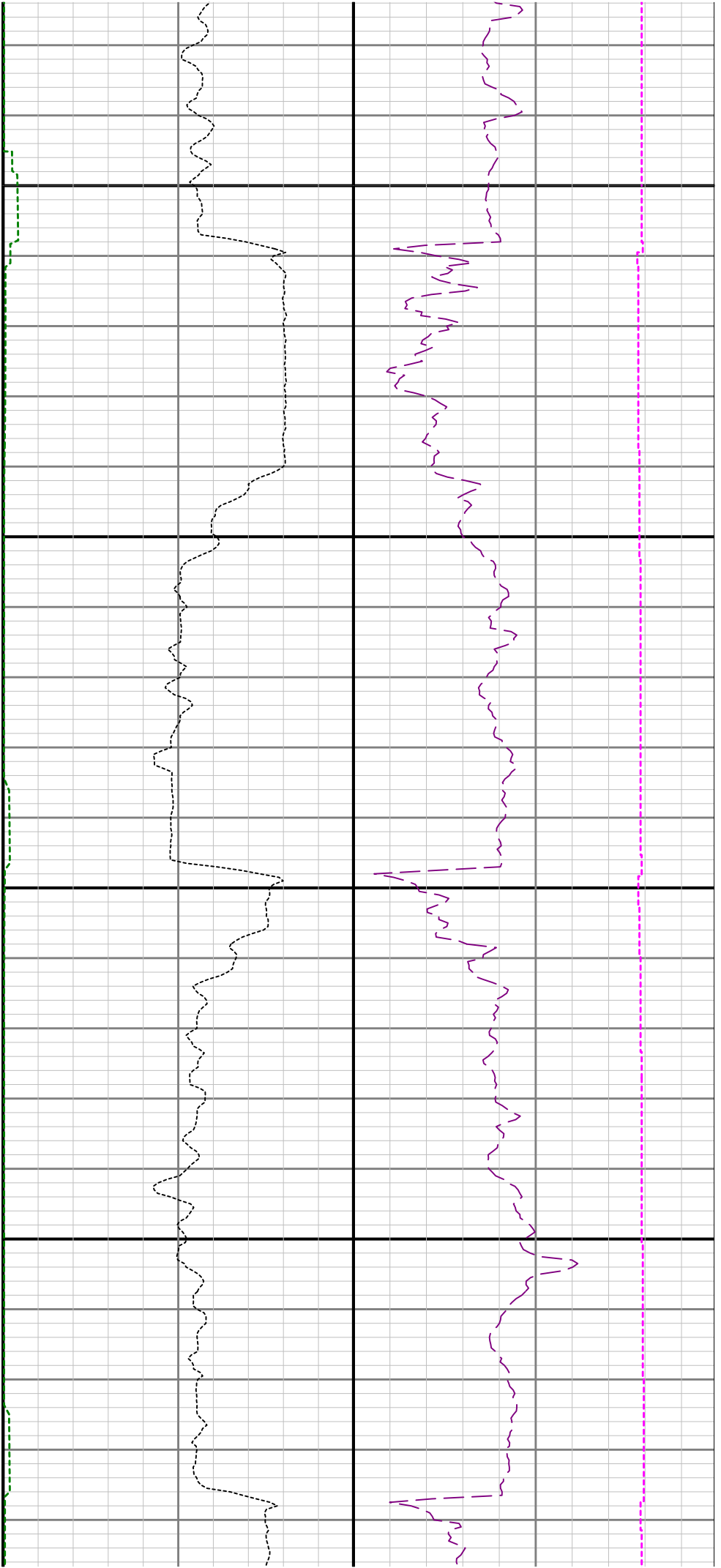
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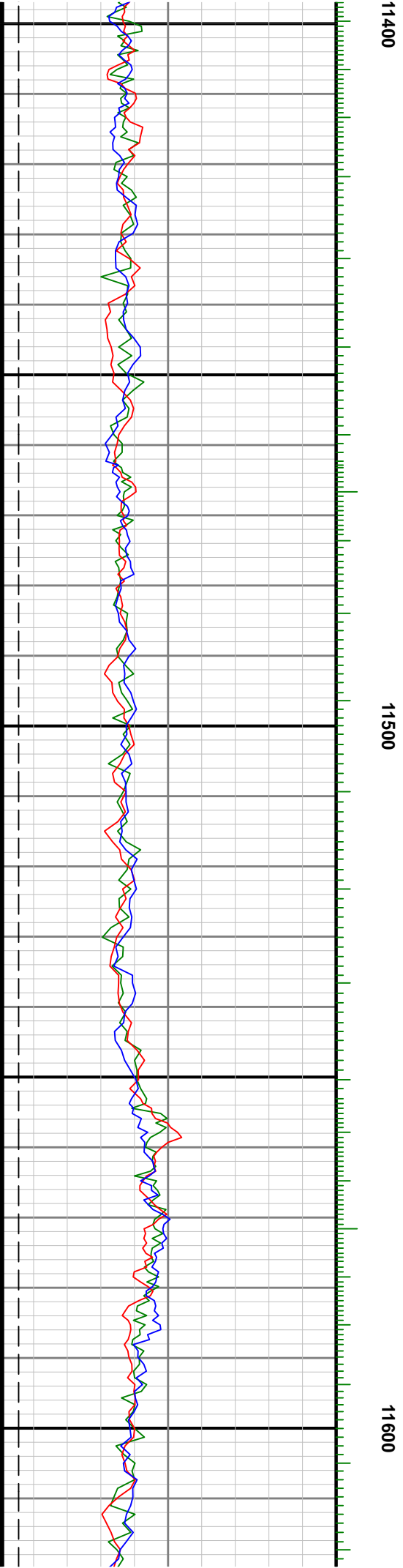
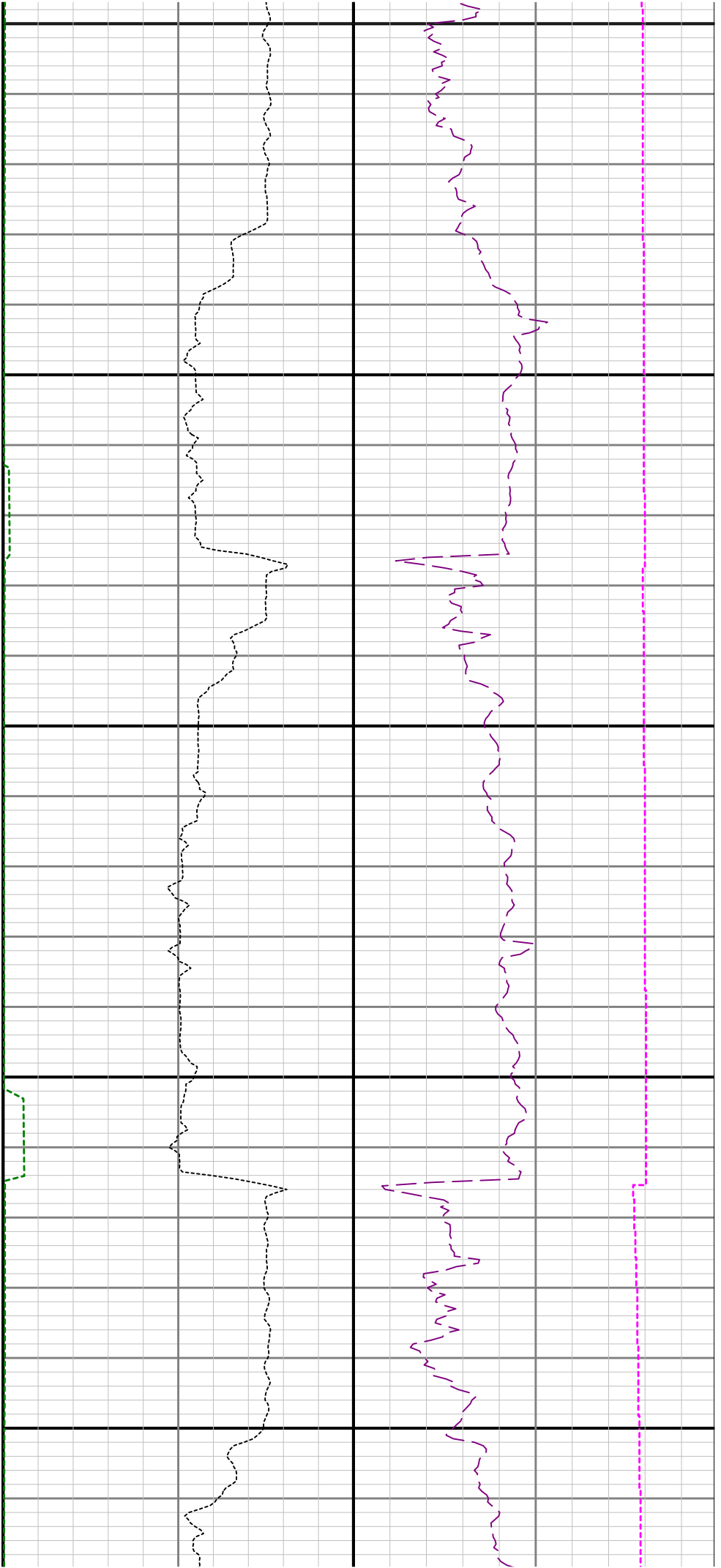
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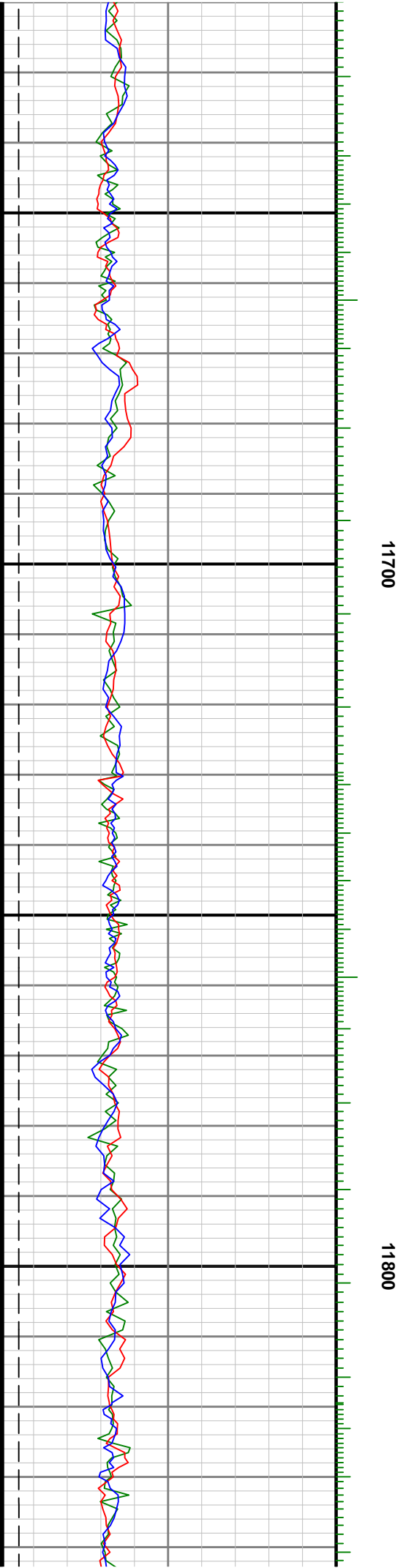
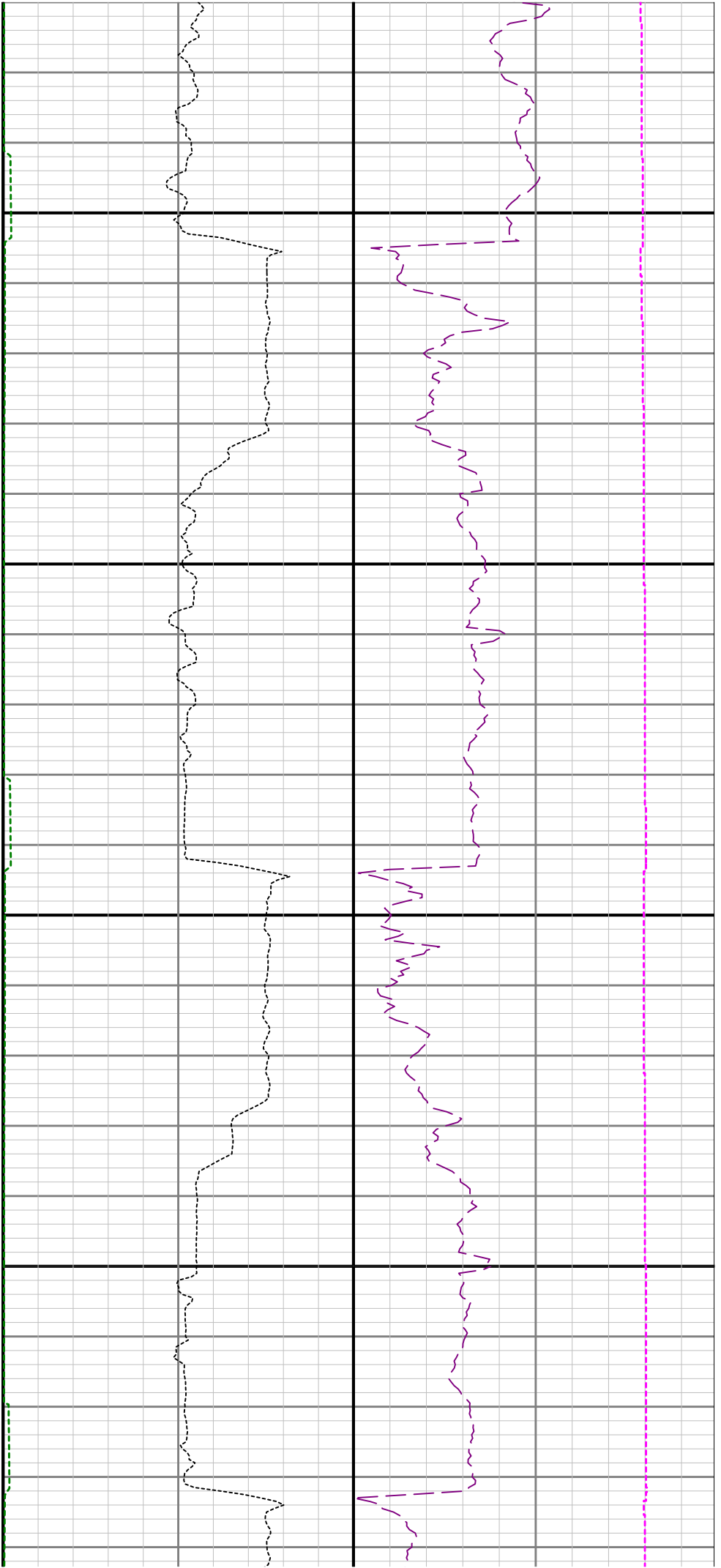


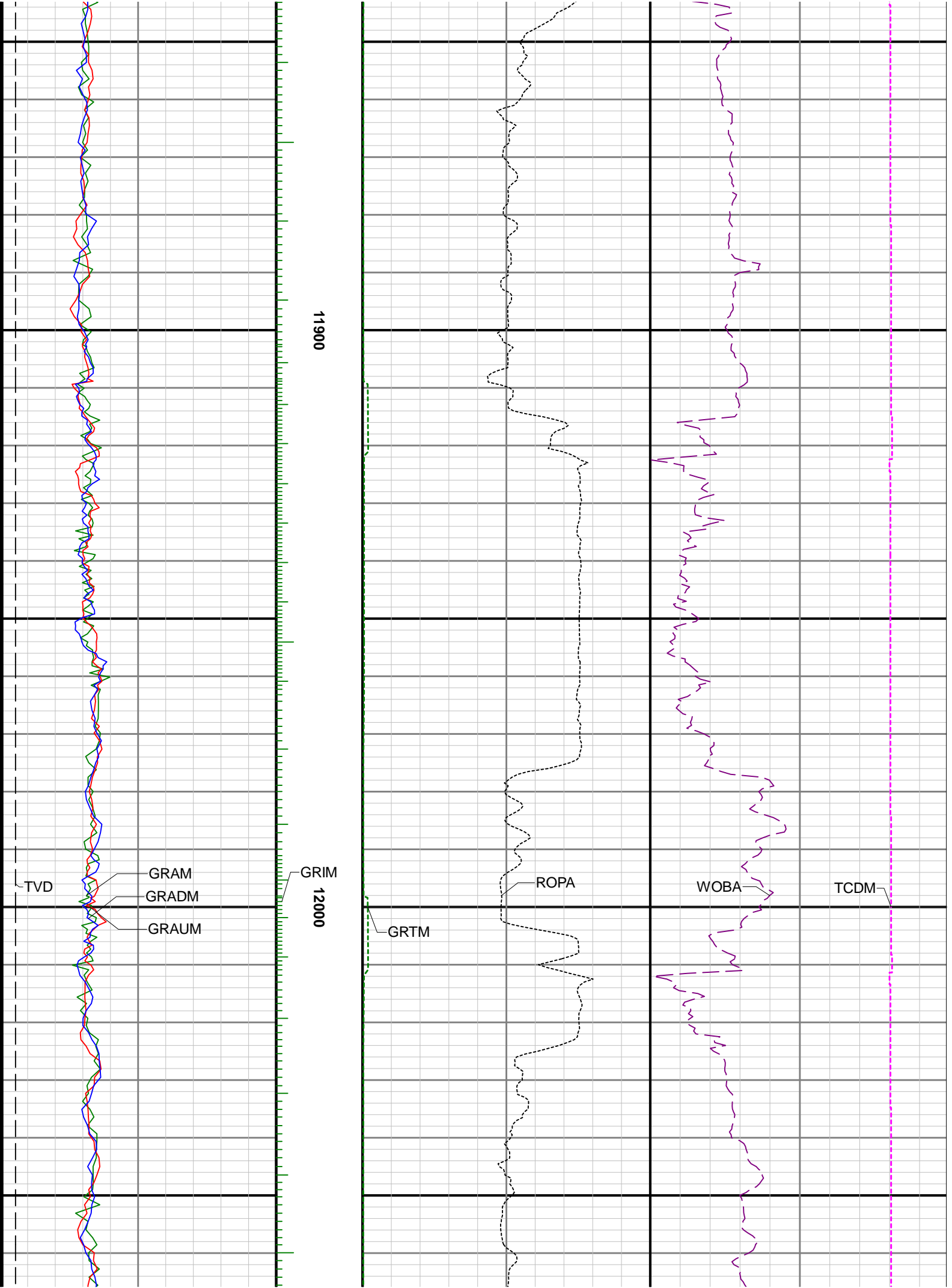


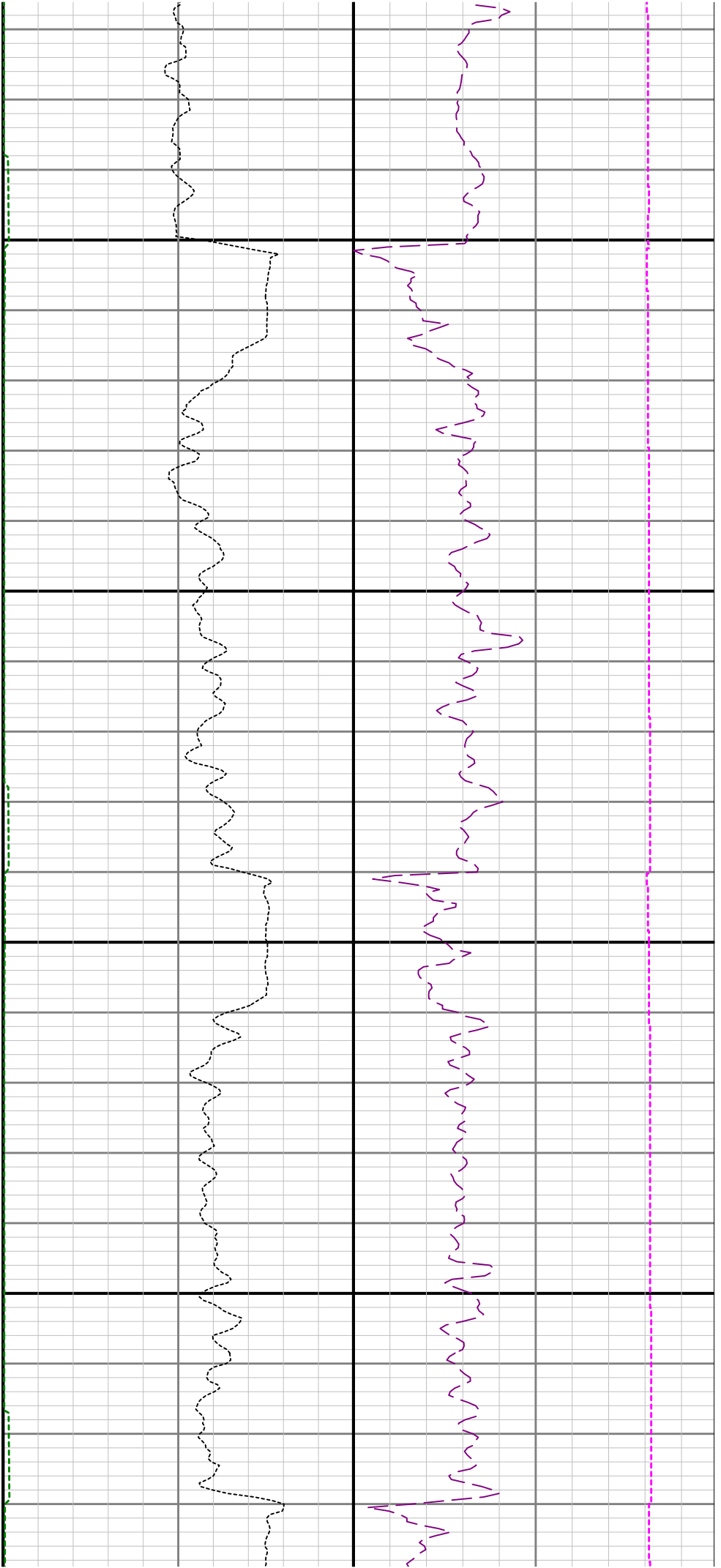






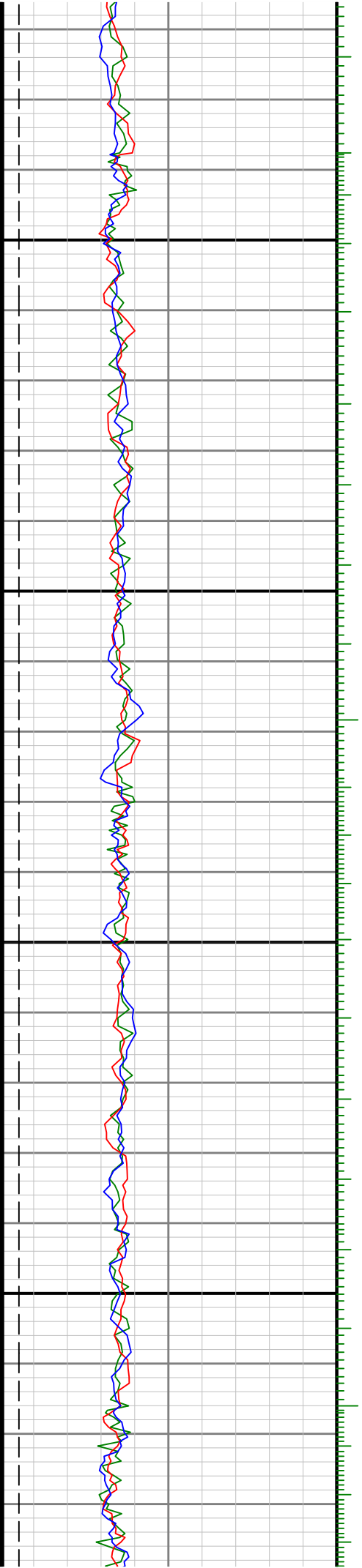


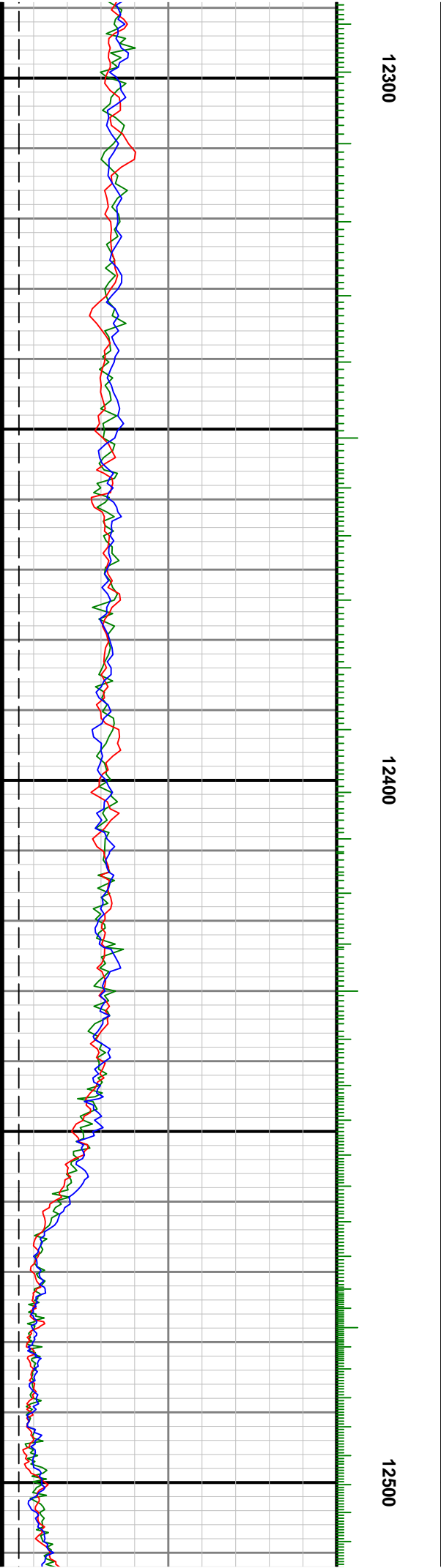
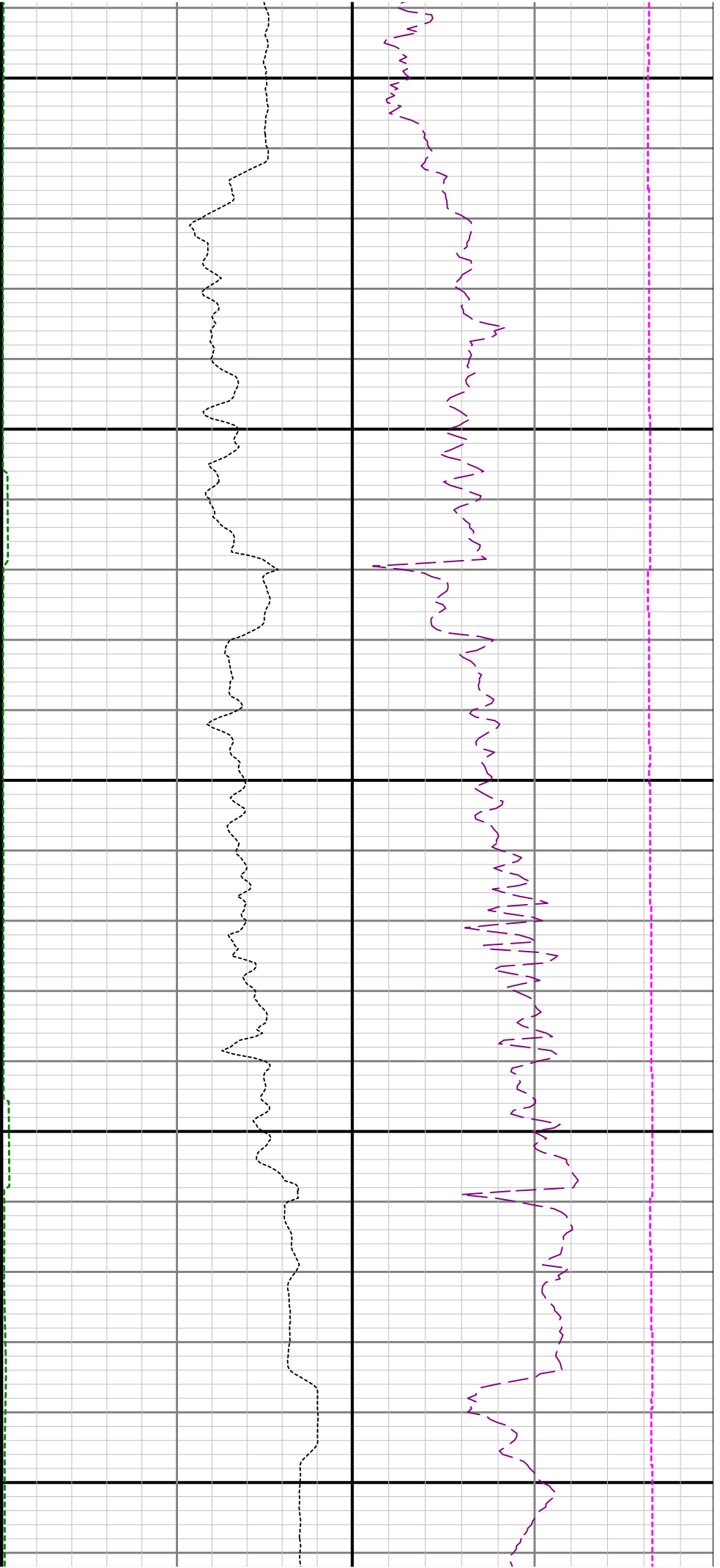


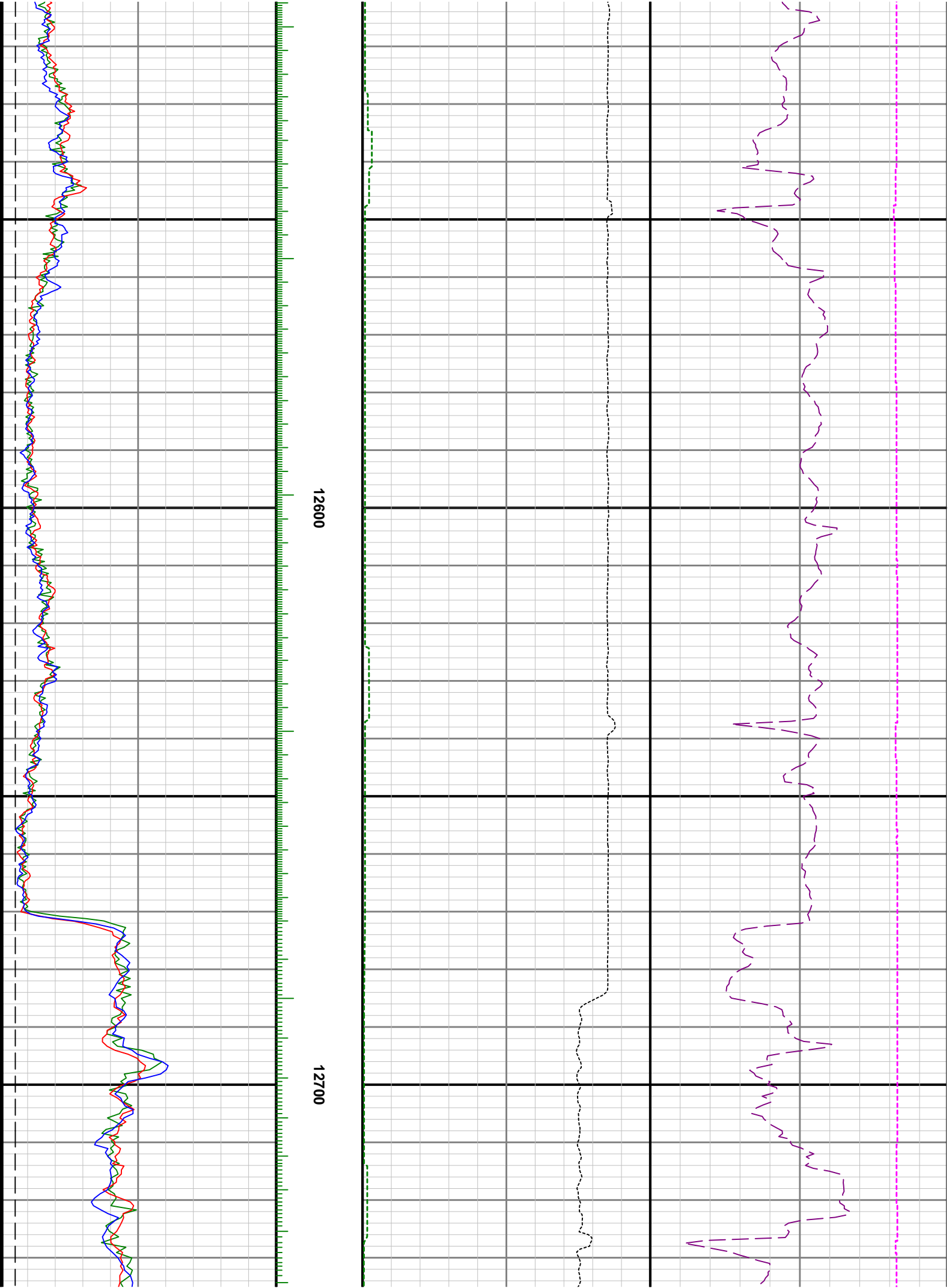


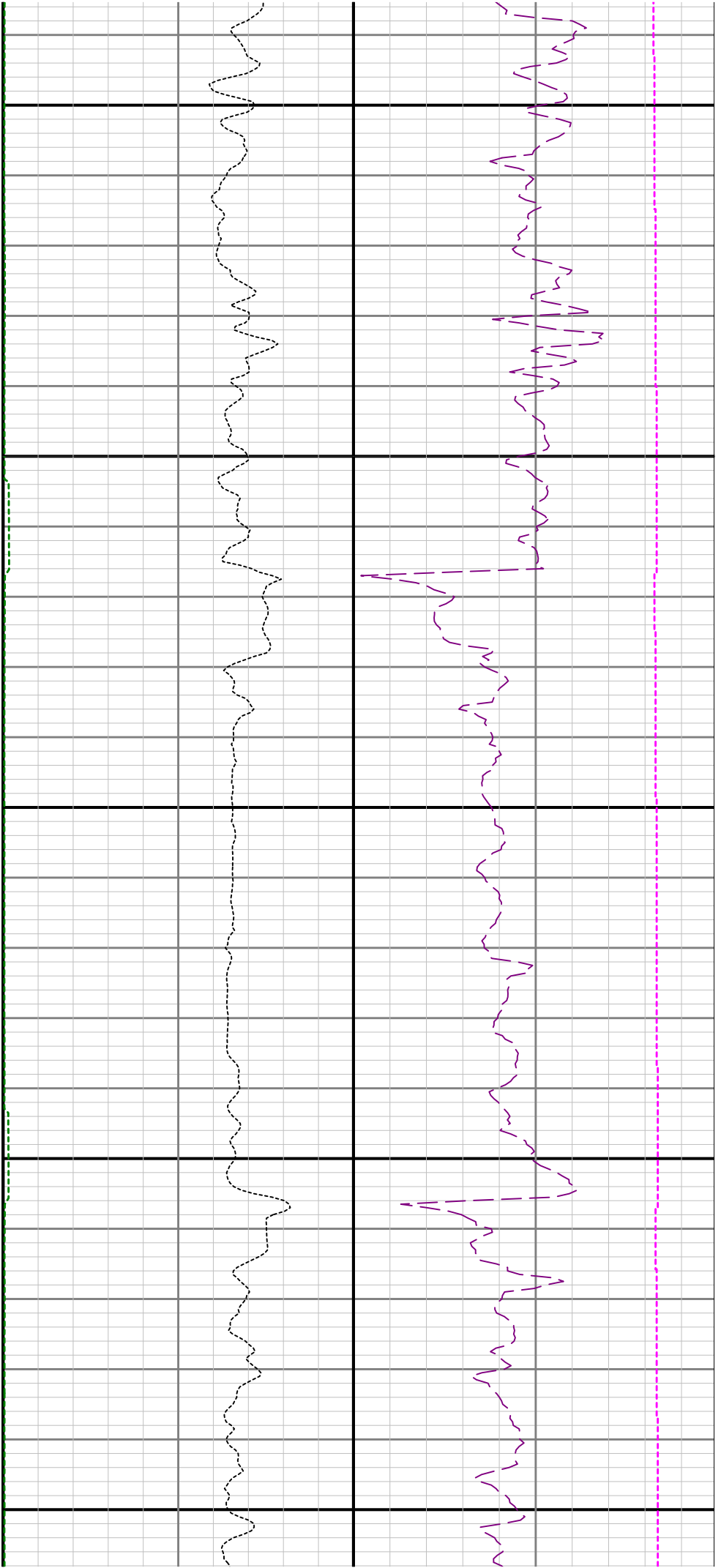
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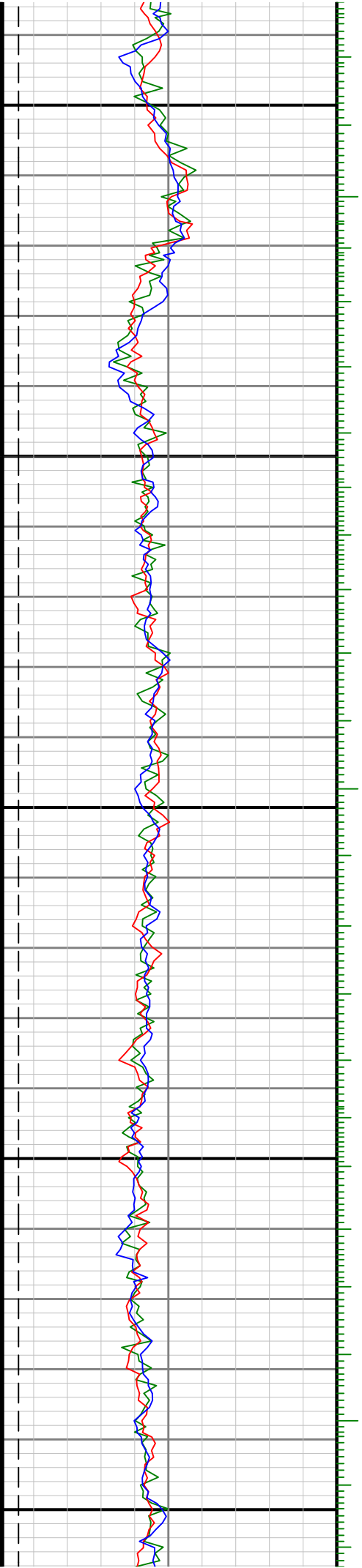


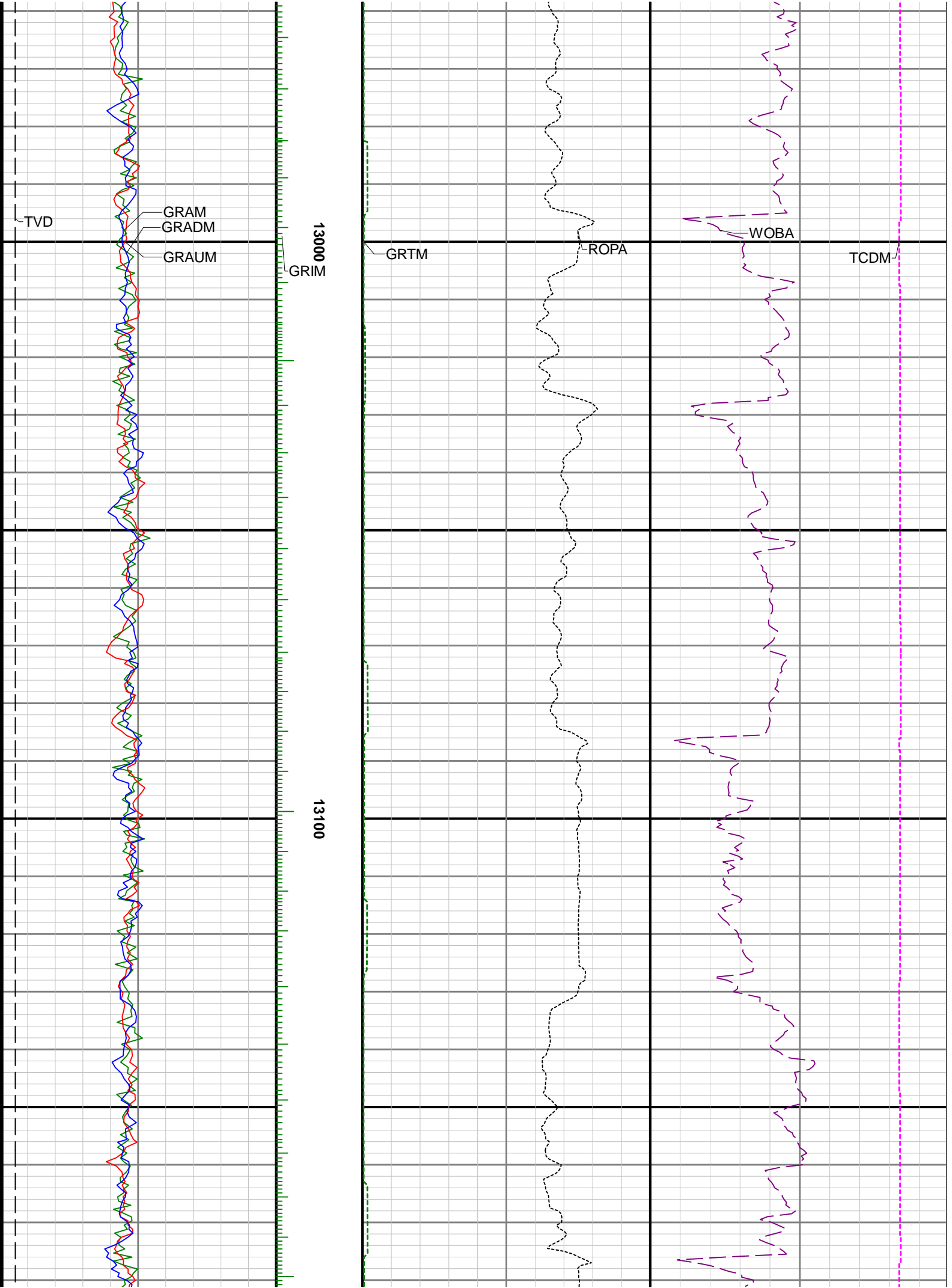


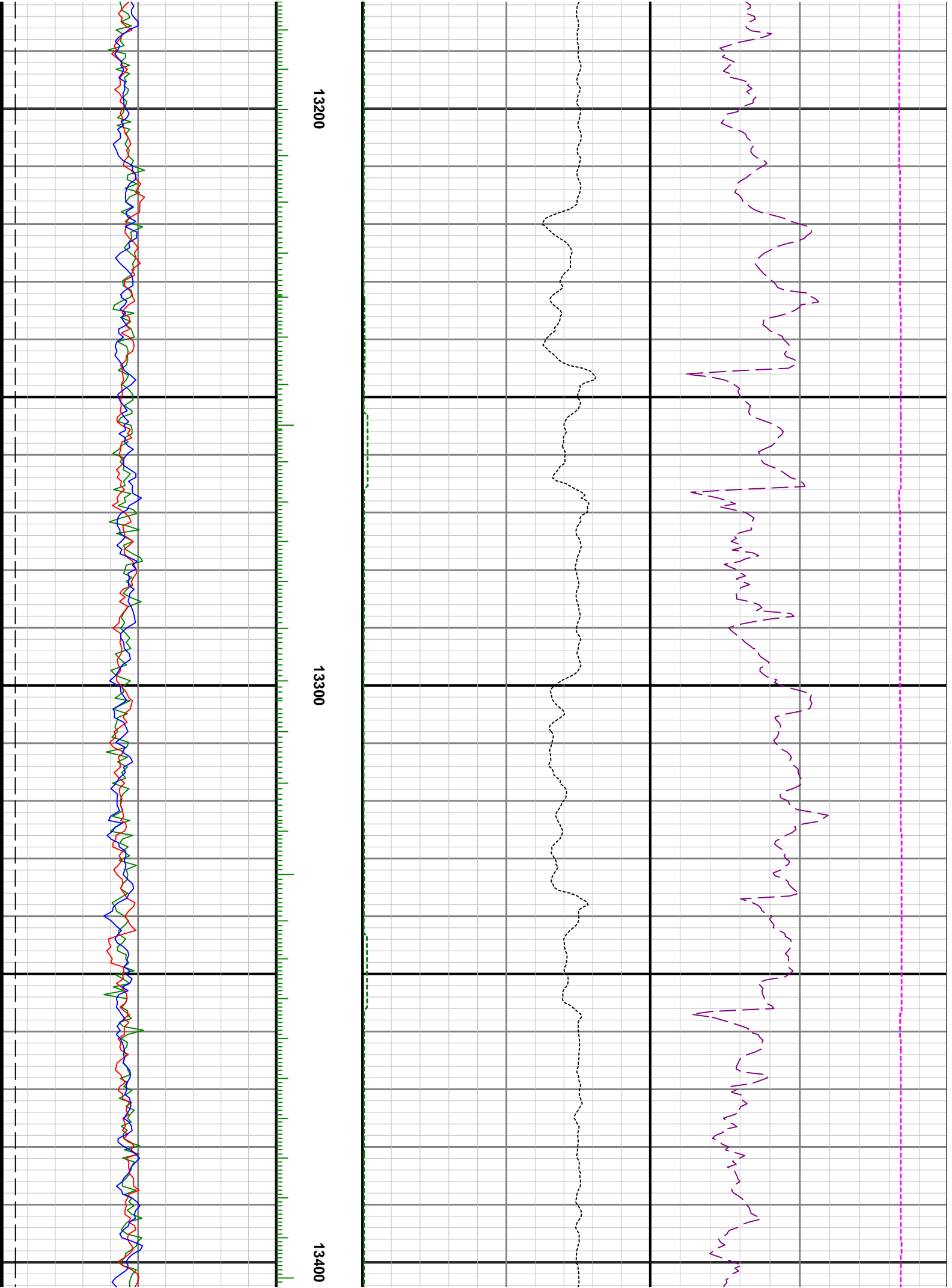


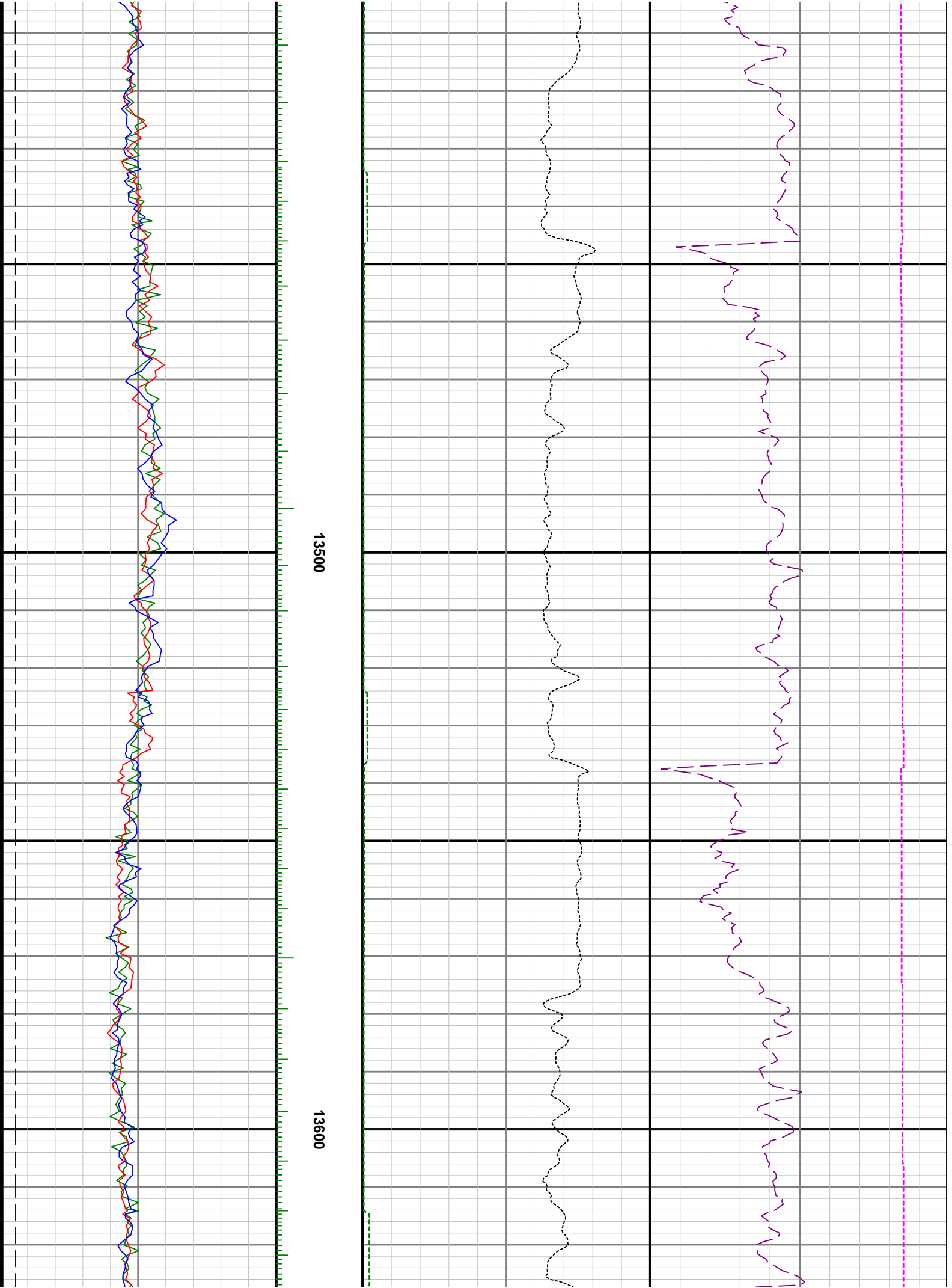
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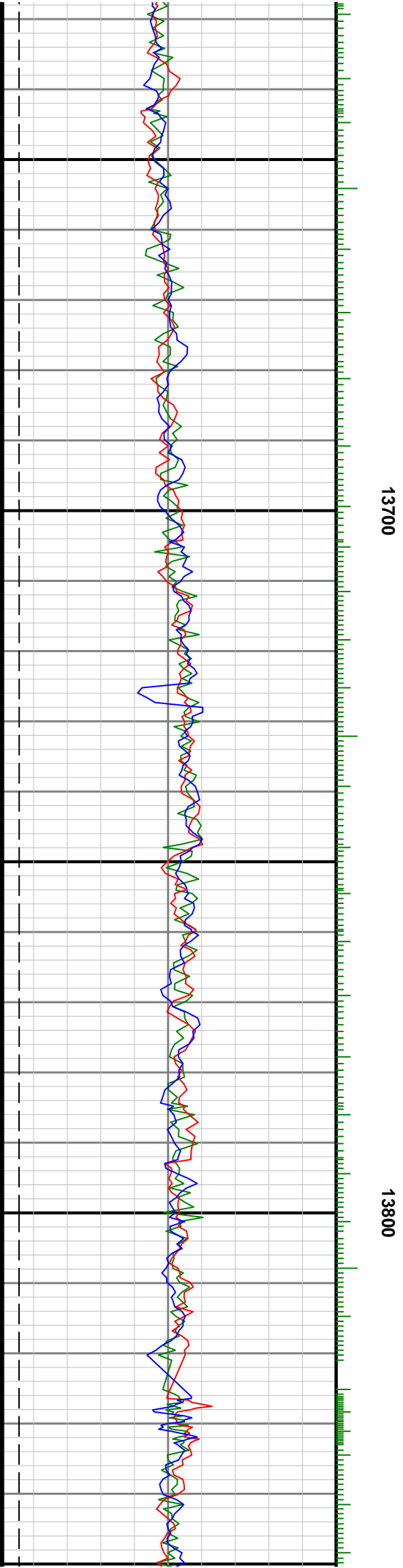
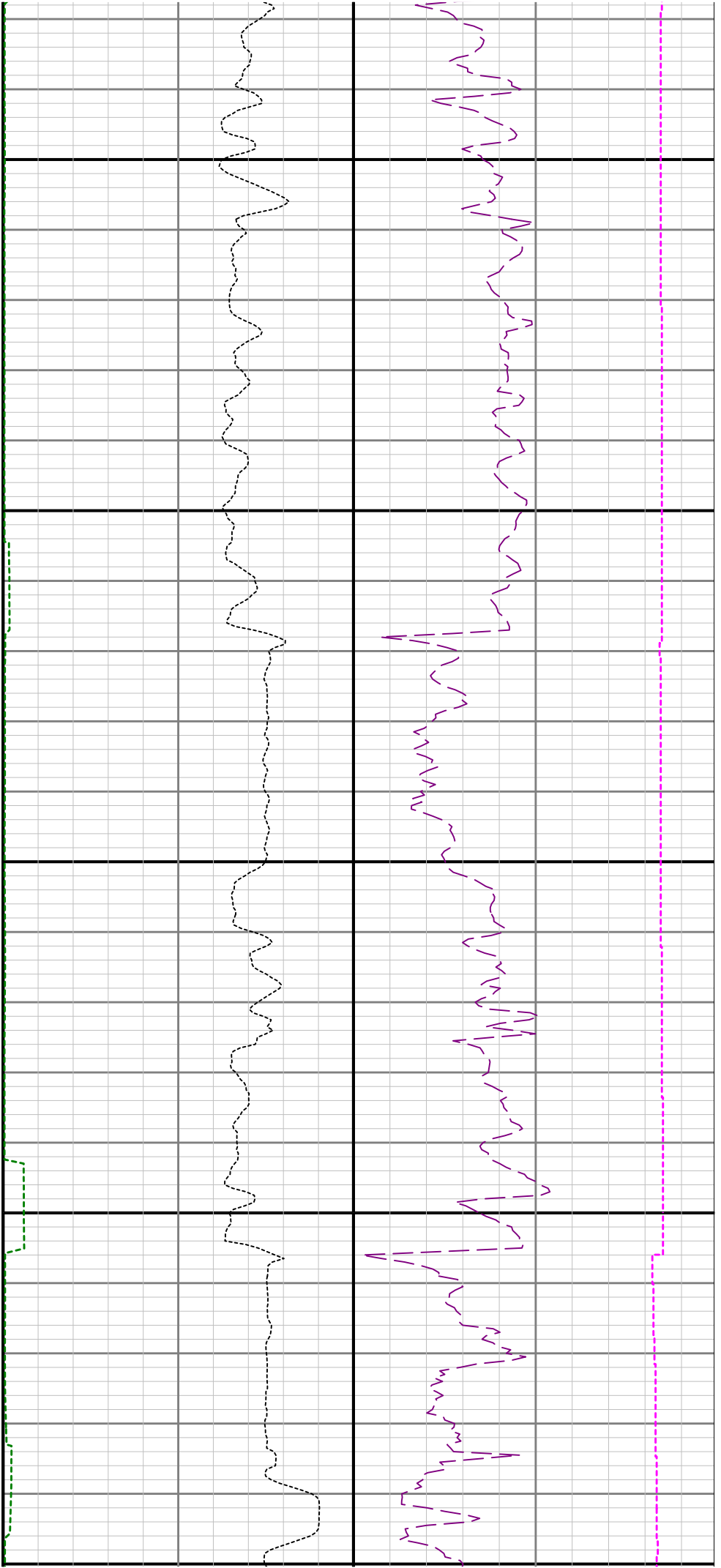
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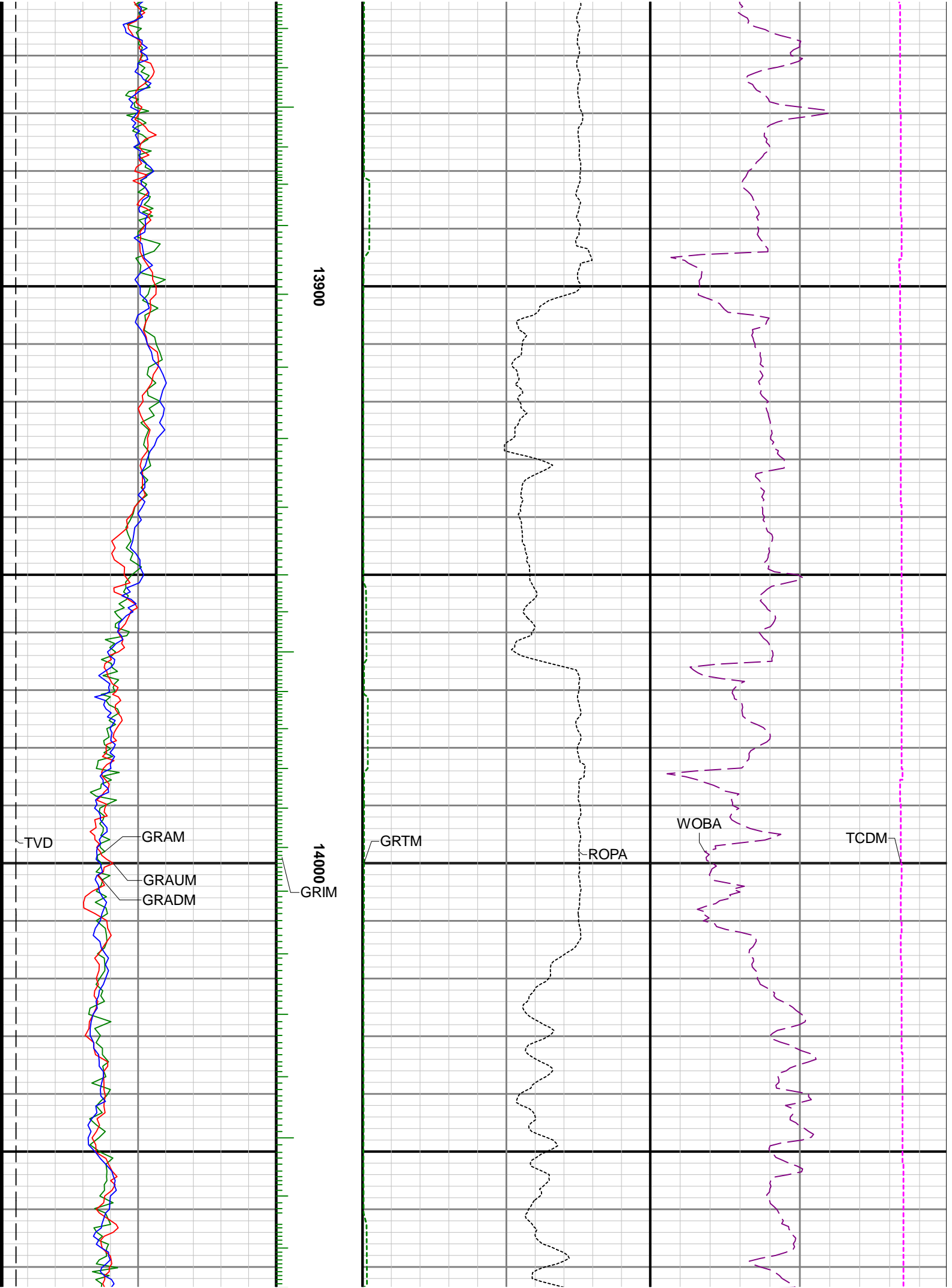


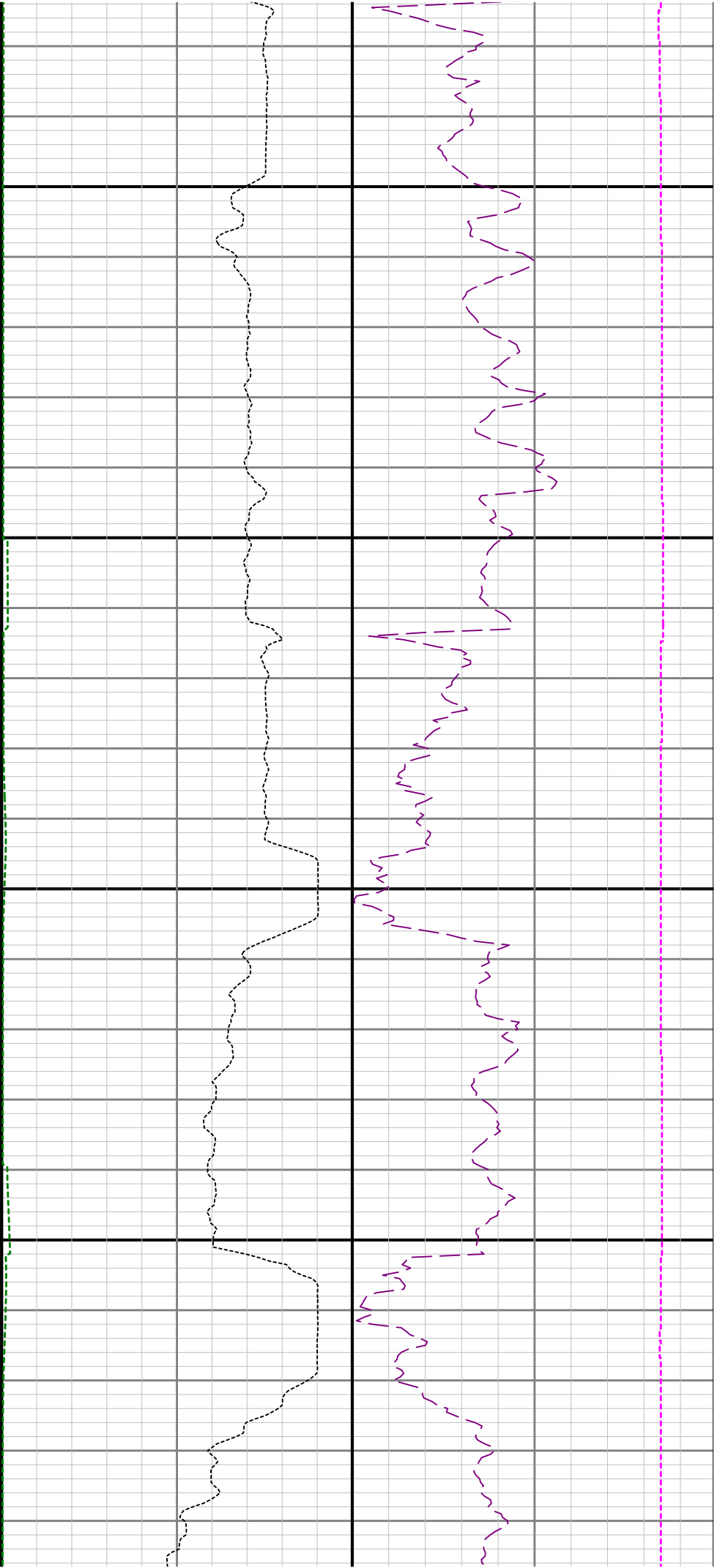












14100

14200

