



LWD MEMORY LOG

Gamma Ray

<div><div><div><div>BAKER HUGHES</div><div>a GE company</div></div><div></div></div></div>				LWD MEMORY LOG				
				Gamma Ray				
Scale: 1:240 MD		Company: SRC Energy						
Depth Reference:		Well: Falken 34C-9-L						
Driller's Depth		Field: Weld County						
		County: Weld County		Country: United States				
State:		Colorado						
Status:	Final Print		Surface Location:		Other Services:			
API No:	05-123-45125		Latitude:		040° 30' 01.386" N			
Job ID:	8728701		Longitude:		104° 44' 09.420" W			
Permanent Datum (P.D.):	Ground Level		Elevation:		4810.00 ft			
Log Measured From:	Rig Floor		Above P.D.		25.00 ft			
Dates		Interval Logged		Magnetic Field Reference				
Date From:	2017-09-09		Top: (ft)		1830.00		Azi Reference North: True	
Date To:	2018-01-22		Bottom: (ft)		19296.00		Total Magnetic Field Strength: (nT)	
Spud Date:	2017-09-09						Mag to Reference North Correction: (deg)	
Borehole Record				Casing Record				
Hole Size (in)	From (ft)	To (ft)	Size (in)	Weight (lb/ft)	From (ft)	To (ft)		
13.500	25.00	1830.00	9.625	36.00	25.00	1812.00		
8.500	1830.00	19308.00						
Mud Record				Deviation Record				
Type	From (ft)	To (ft)	Hole Size (in)	Interval (ft)	Inc Azi (Start)	Inc Azi (End)		
Diesel-Oil Based Mud	1830.00	19308.00	13.500	1805.00	0.24 343.01	16.15 139.77		
			8.500	17478.00	16.15 139.77	90.06 270.35		
Acquisition System		Software Version		Other				
Baker Hughes Cadence		RT4.1	Rig:	PD 562				
PlotStudio		4.1.7763.3	Contractor:	Precision Drilling	Unit:	D&E		
			District:	RMA				

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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	Bottom	From	To	Start Logging	End Logging	
						(ft)	(ft)	(ft)	(ft)			
3	3	8.500	PDC	3.00	AutoTrak Curve	1830.00	14954.00	1830.00	14970.00	2018-01-17 21:30	2018-01-21 00:50	68.35
4	4	8.500	PDC	3.00	AutoTrak Curve	14954.00	19296.00	14970.00	19308.00	2018-01-22 03:10	2018-01-23 11:06	32.72

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
John Bryson	2018-01-17	2018-01-24						

Mud Properties Record

Date / Time	Run No.	Measured Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2018-01-17 03:00	3	1830.00	Diesel-Oil Based Mud	10.0	26	N/A	9.0	87/13	Suction	30000	0.00
2018-01-18 15:30	3	6356.00	Diesel-Oil Based Mud	10.0	19	N/A	11.0	84/16	Suction	31000	0.00
2018-01-19 15:30	3	9015.00	Diesel-Oil Based Mud	10.2	23	N/A	10.0	86/14	Suction	32000	0.00
2018-01-20 15:00	3	13170.00	Diesel-Oil Based Mud	10.1	24	N/A	8.5	85/15	Suction	30000	0.00
2018-01-21 15:30	4	14970.00	Diesel-Oil Based Mud	10.3	28	N/A	8.0	85/15	Suction	31000	0.00
2018-01-22 15:30	4	16308.00	Diesel-Oil Based Mud	10.5	22	N/A	12.5	86/14	Suction	30000	0.00
2018-01-23 03:00	4	18417.00	Diesel-Oil Based Mud	10.3	25	N/A	13.0	86/14	Suction	33000	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)
3	ATC_SU	14236914	Near Bit VSS	5.93	6.73	7.000	4.330
3	ATC_SU	14236914	Near Bit Inclination	5.93	6.73	7.000	4.330
3	ATC_MWD	12332940	Gamma (single)	2.20	12.35	7.000	3.250
3	ATC_MWD	12332940	Directional (mag)	12.27	22.42	7.000	3.250
4	ATC_SU	14169948	Near Bit VSS	5.93	6.73	7.000	4.330
4	ATC_SU	14169948	Near Bit Inclination	5.93	6.73	7.000	4.330
4	ATC_MWD	14205173	Gamma (single)	2.77	12.90	7.000	3.250
4	ATC_MWD	14205173	Directional (mag)	12.27	22.40	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 Runs 1 and 2 utilized 8 inch APS EM Services (Directional only) behind a 13 1/2 inch bit and steerable assembly from surface to 1830 feet MD (surface to 1785 feet TVD). No logging data was acquired during this run.
3	Baker Hughes LWD Runs 3 and 4 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly from 1830 to 19308 feet MD (1785 to 7280 feet TVD).
4	Gamma Ray Curve (GRAM) is presented 0 to 300 API per customer request.

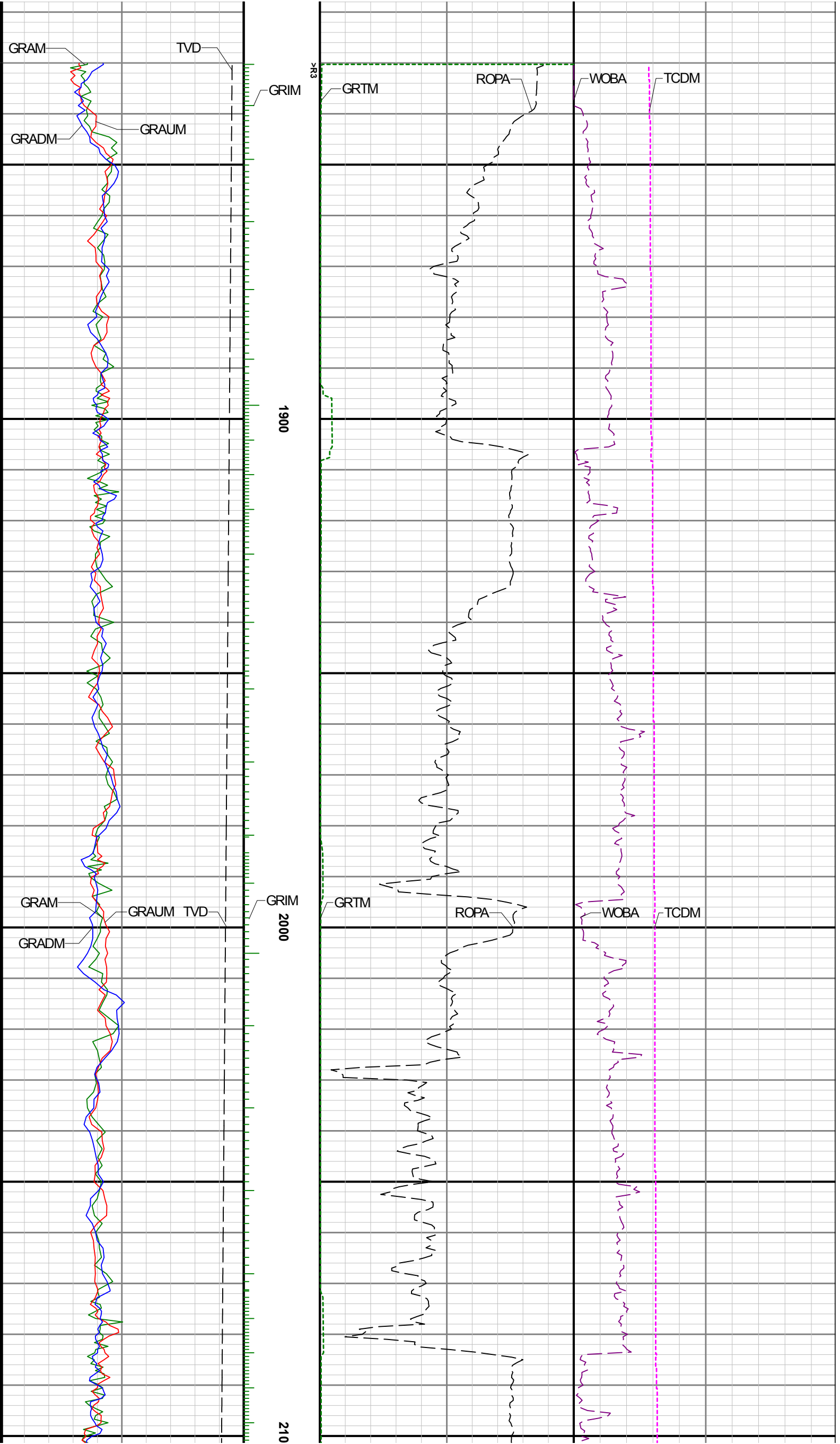
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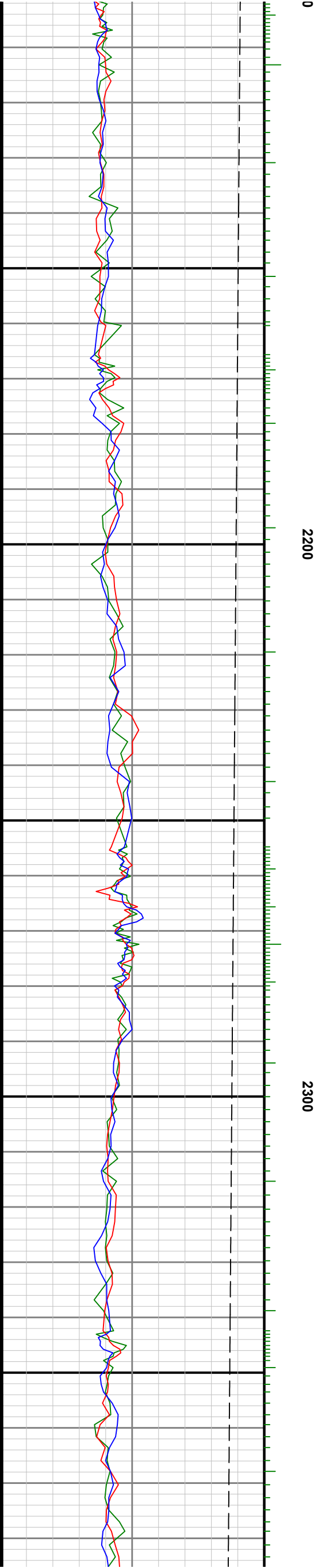
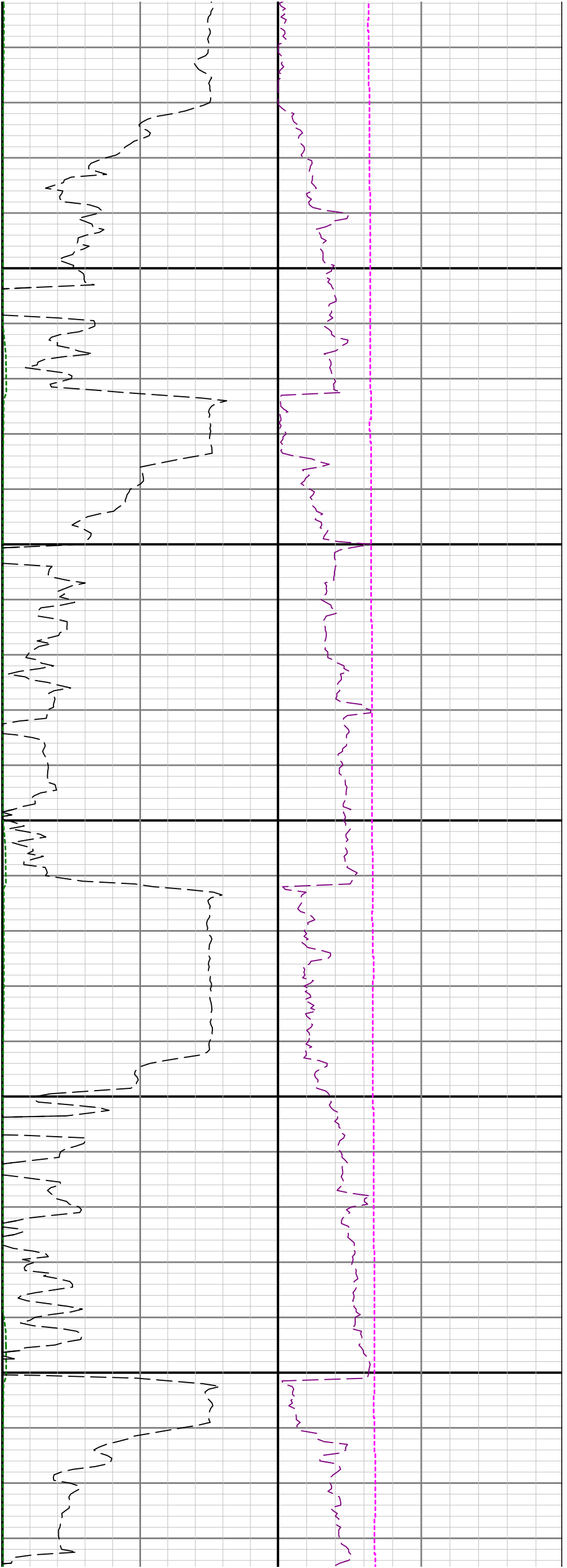
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	14958.00	8.500	3	The interval from 14958 to 14970 feet (7285 feet TVD) was logged up to 27 hours after drilling due to tripping out of the hole due to a tool failure.
2	19296.00	8.500	4	The interval from 19296 to 19308 feet MD (7280 feet TVD) 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	Downhole Temperature	degF

<div><div>BAKER HUGHES</div><div>a GE company</div></div> <div></div>	<div>Company</div> <div>Well</div>	SRC Energy Falken 34C-9-L					
	<div>Interval</div>	<div>Date From:</div>	2017-09-09 15:38:42	<div>Top:</div>	1785.00		
		<div>Date To:</div>	2018-01-22 04:22:38	<div>Bottom:</div>	7291.00		
	<div>Created</div>	2018-01-24 07:24:19					
	<div>Gamma Ray - Apparent 0.5 ft Average GRAM</div> <div>0300</div> <div>API</div> <div>Azimuthal Gamma Ray - Apparent - Up Quadrant 0.5 ft Average GRAUM</div> <div>0300</div> <div>API</div> <div>Azimuthal Gamma Ray - Apparent - Down Quadrant 0.5 ft Average GRADM</div> <div>0300</div> <div>API</div> <div>True Vertical Depth TVD</div> <div>75001500</div> <div>ft</div>		<div>MD 1:240 feet</div>	<div>Gamma Time Since Drilled GRTM</div> <div>0600</div> <div>min</div> <div>Depth Averaged ROP 3 ft Average ROPA</div> <div>10000</div> <div>ft/h</div>		<div>Weight On Bit, Average 1 ft Average WOBA</div> <div>050</div> <div>klb</div> <div>Downhole Temperature TCDM</div> <div>0300</div> <div>degF</div>	
		<div>1800</div>					
		<div>9 5/8" Casing</div>					



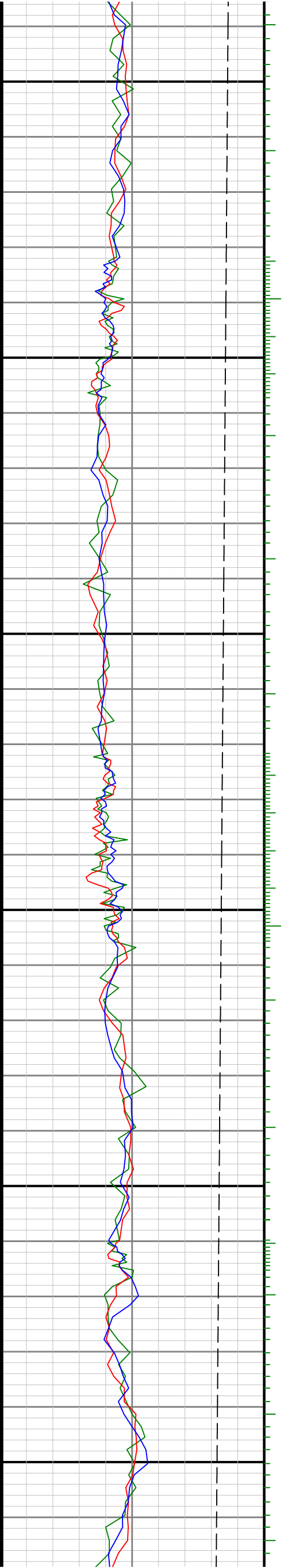


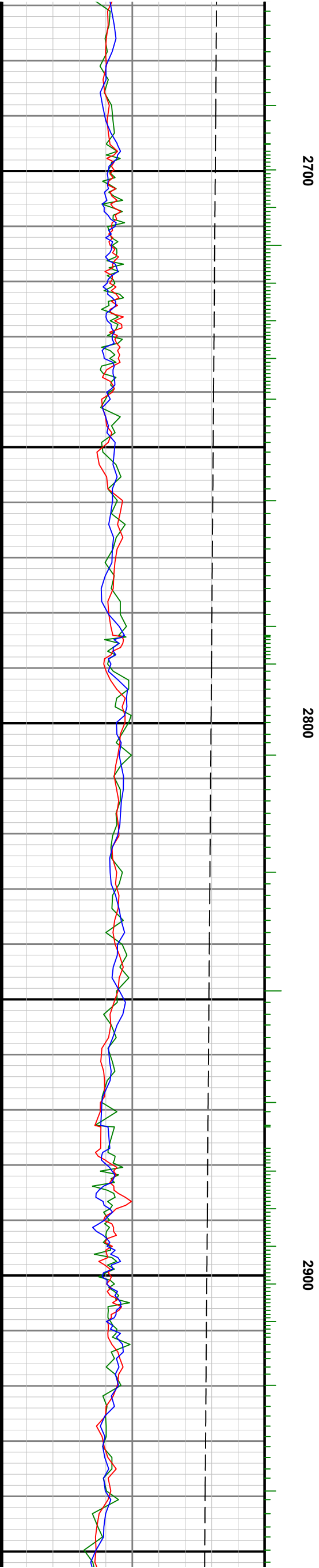
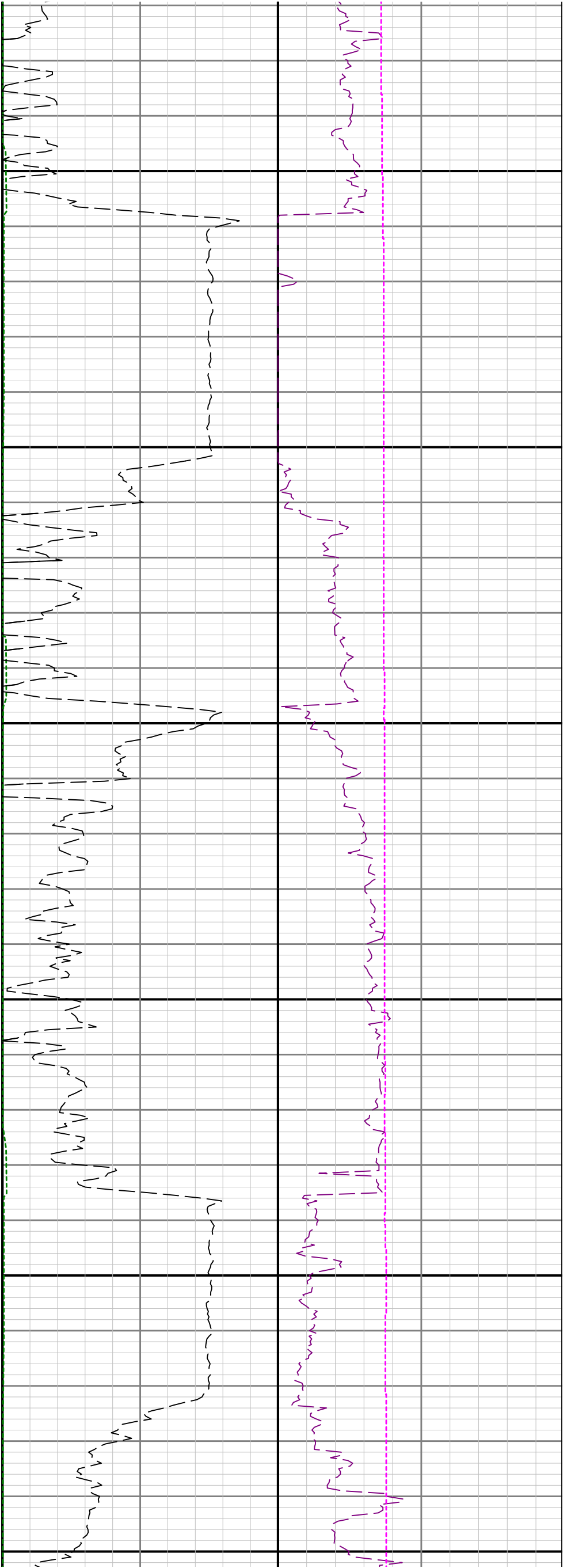


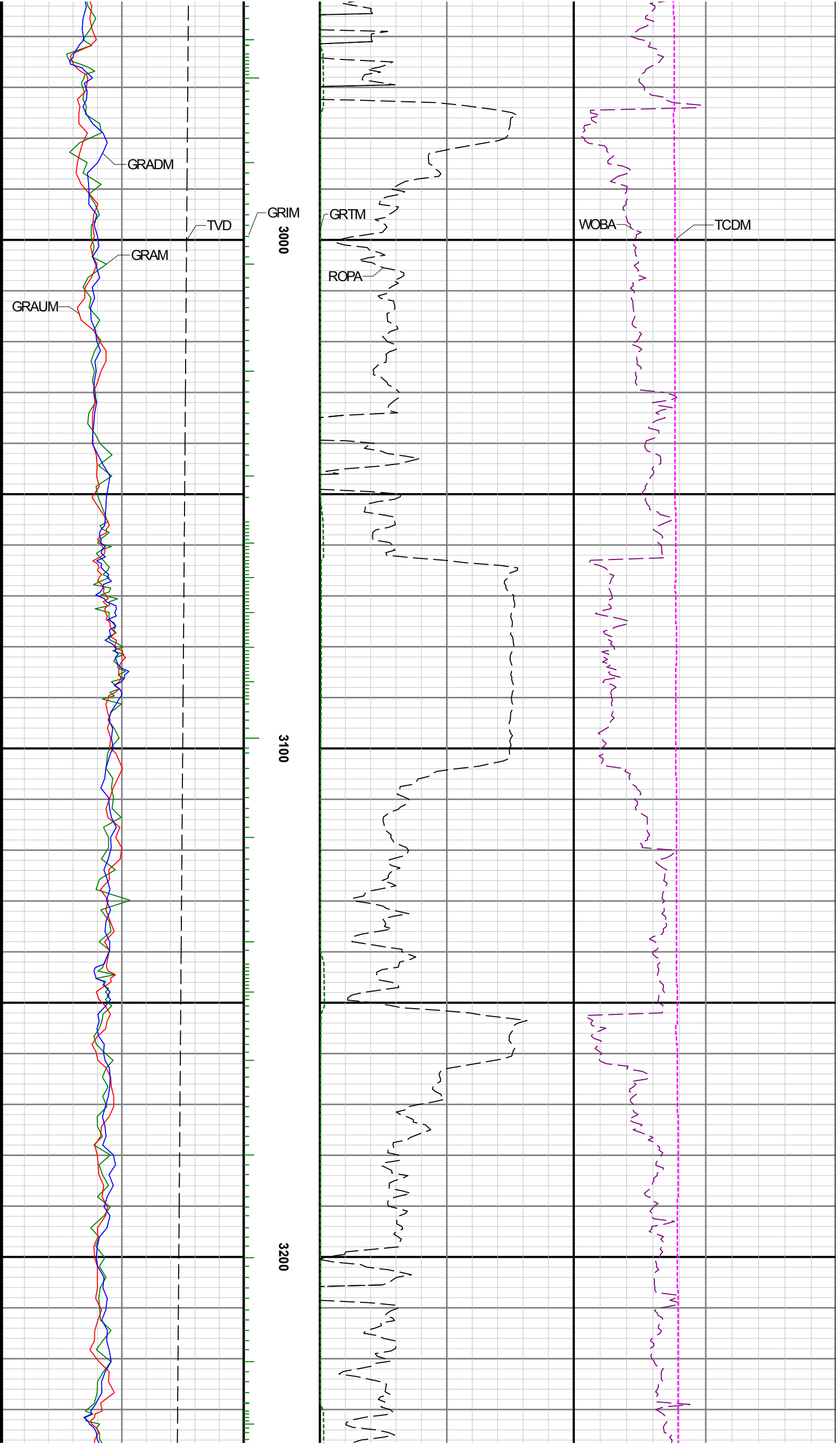
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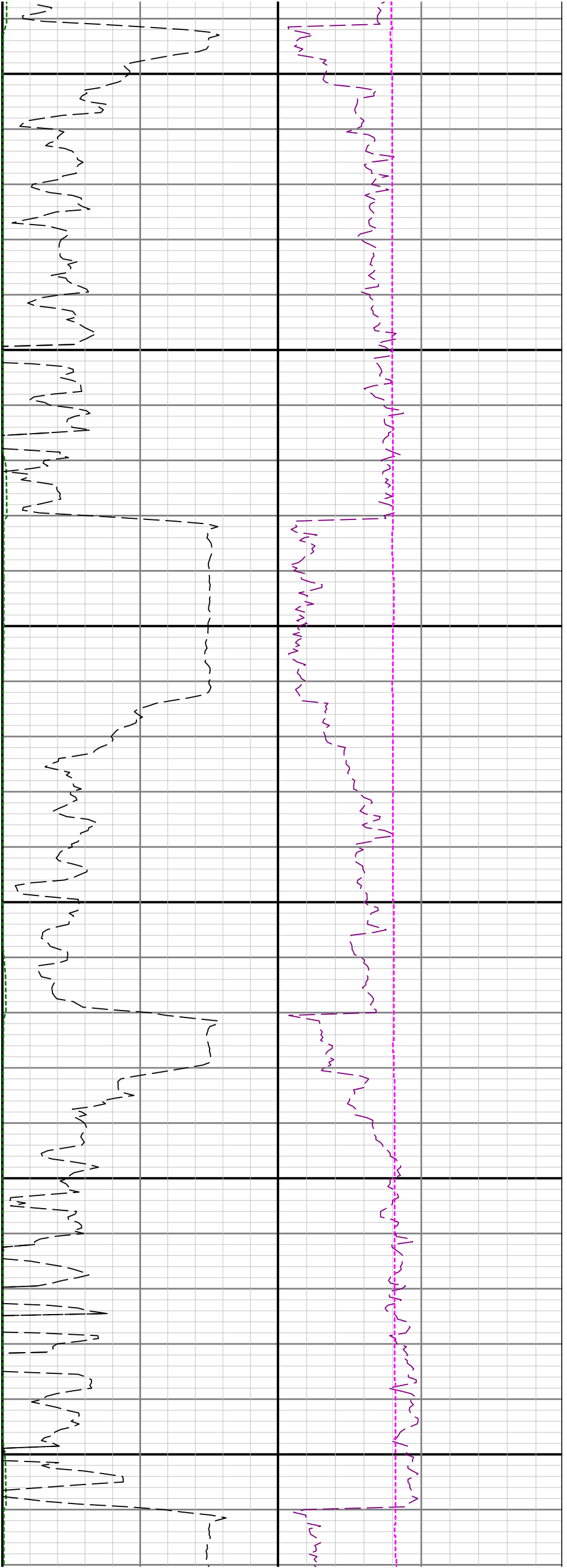
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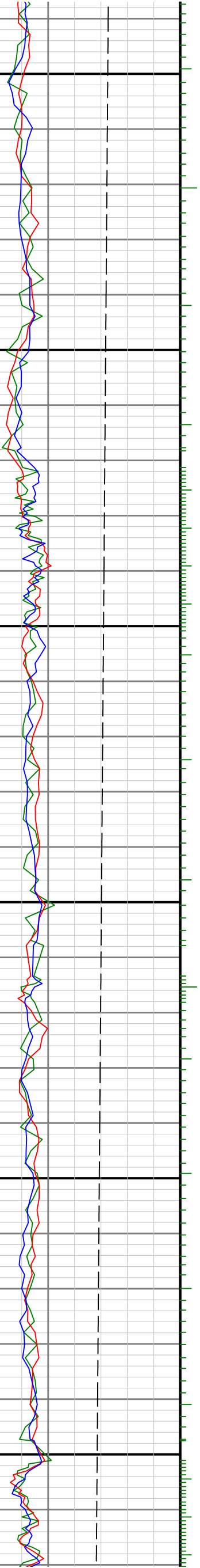


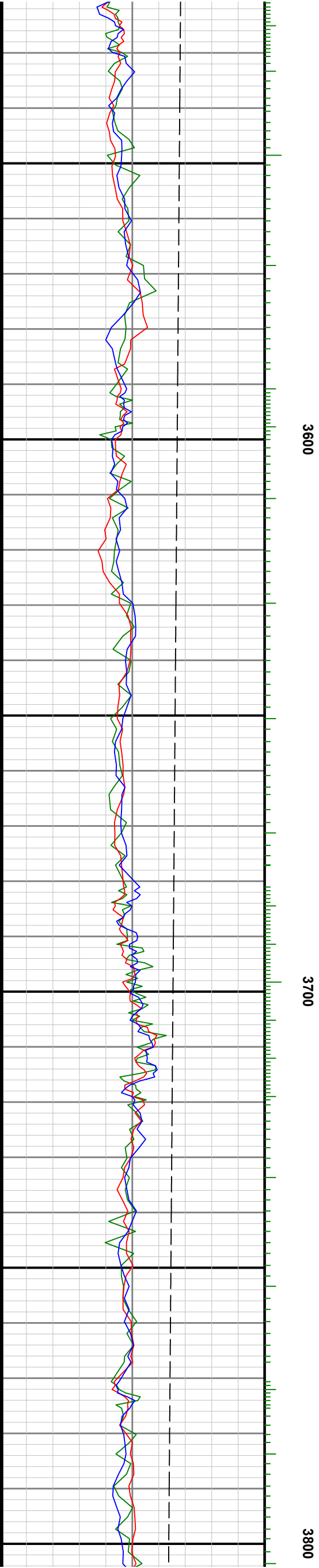
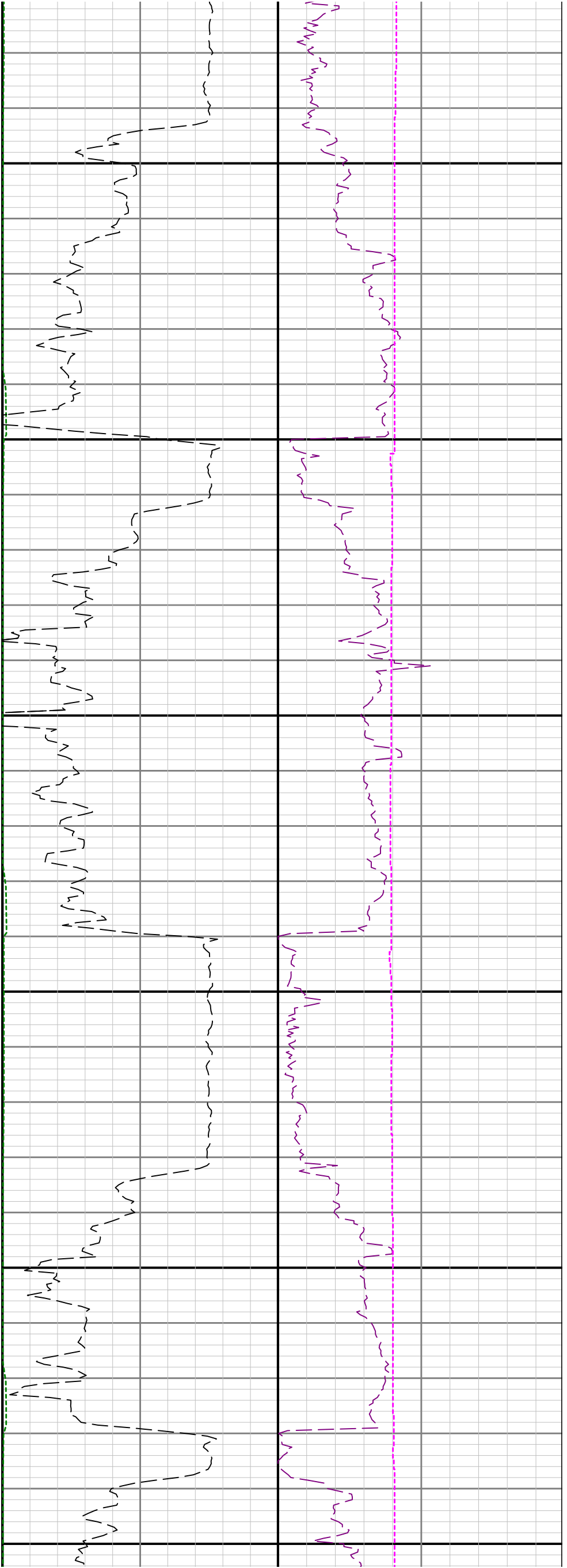


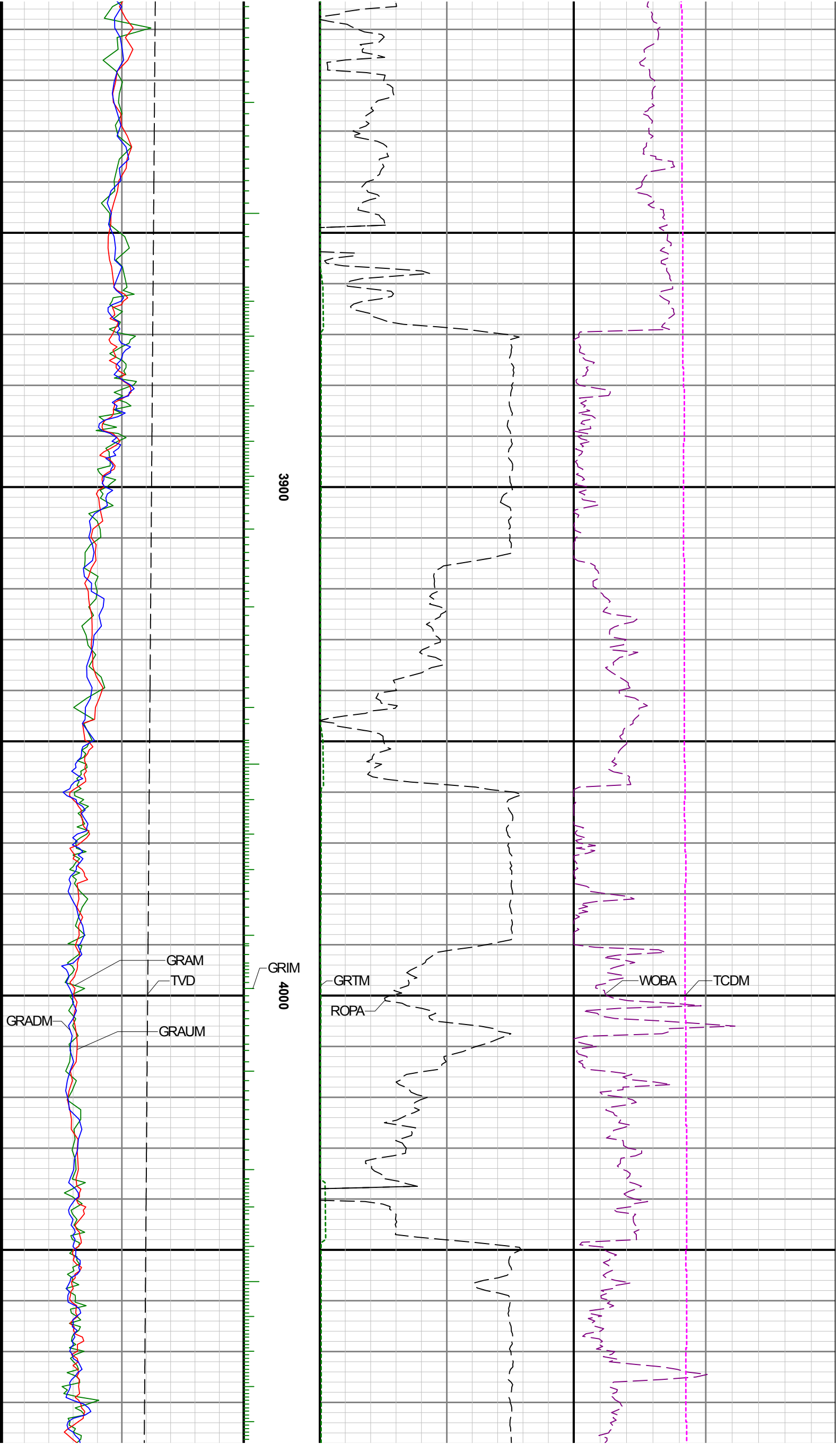
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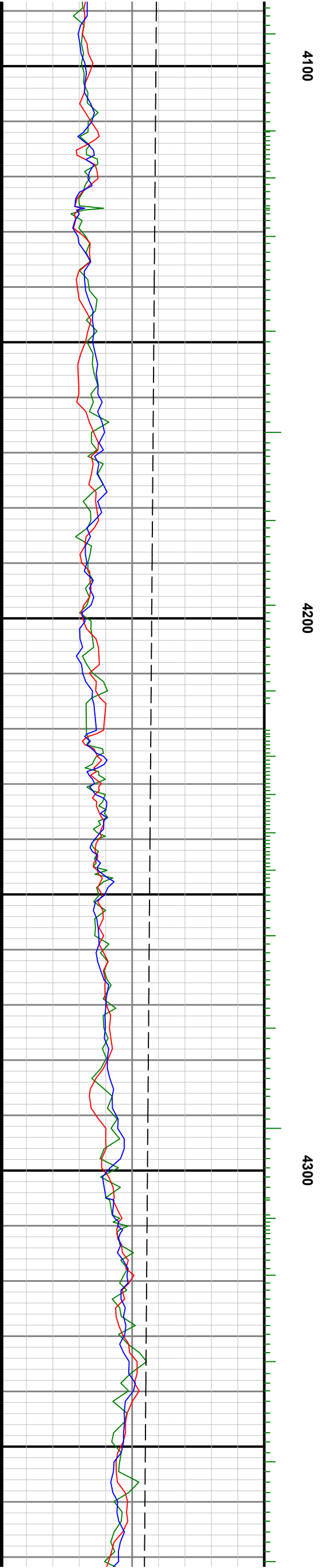
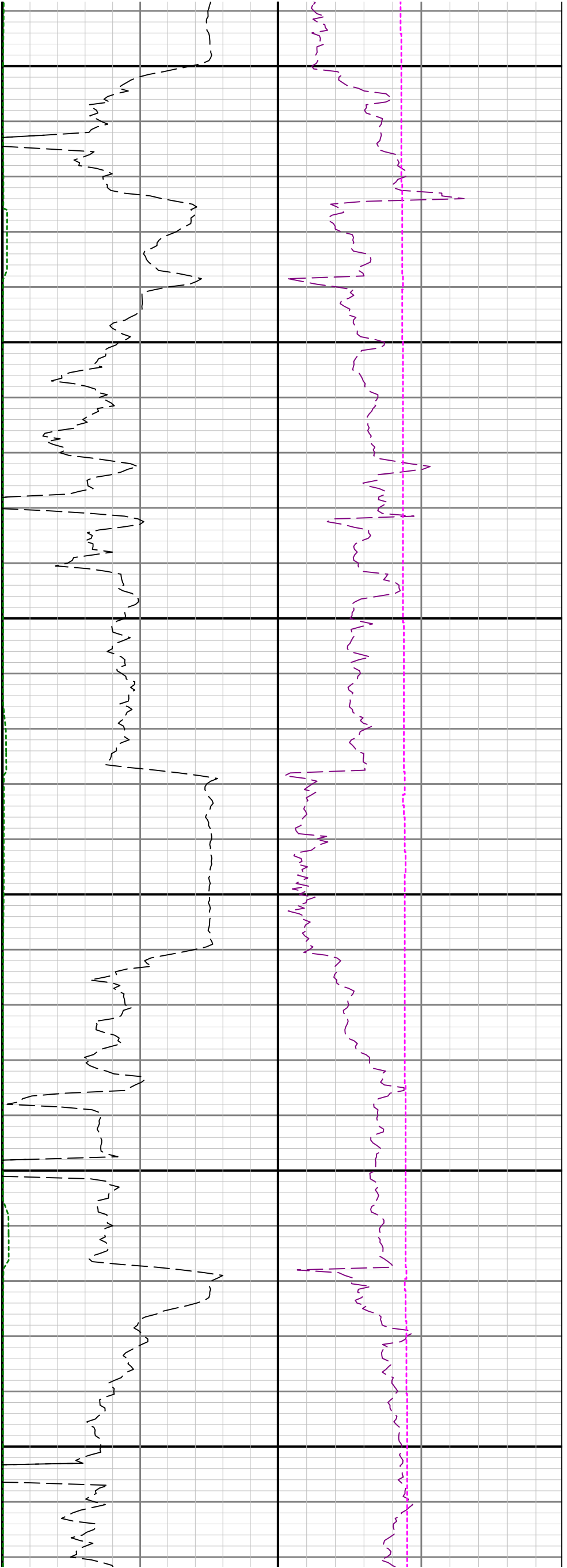
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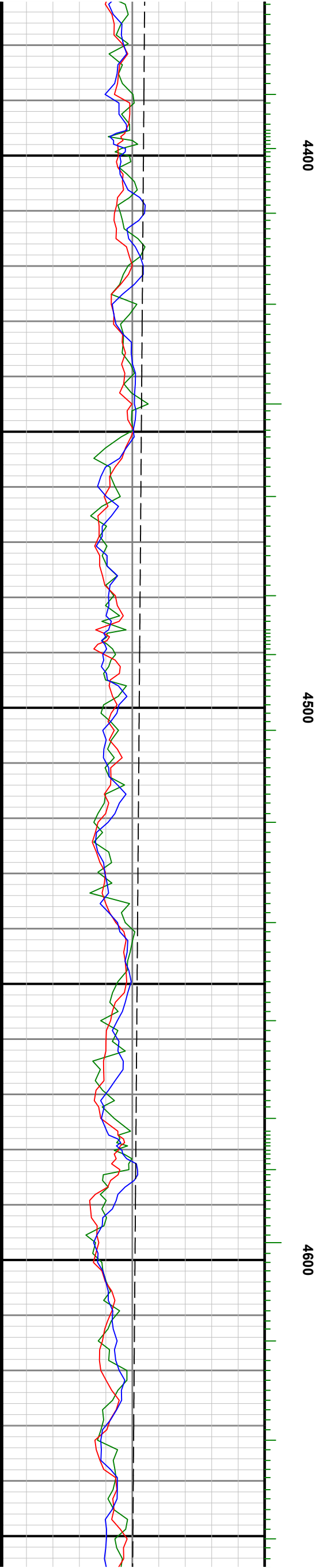
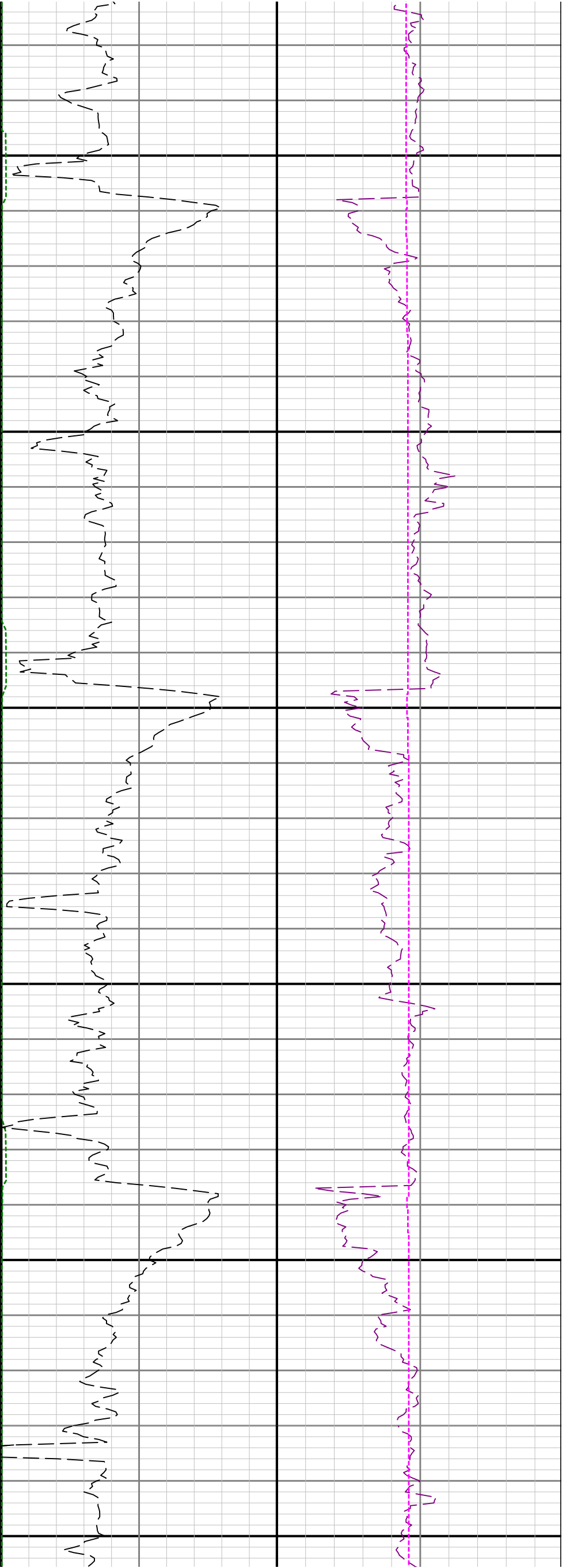
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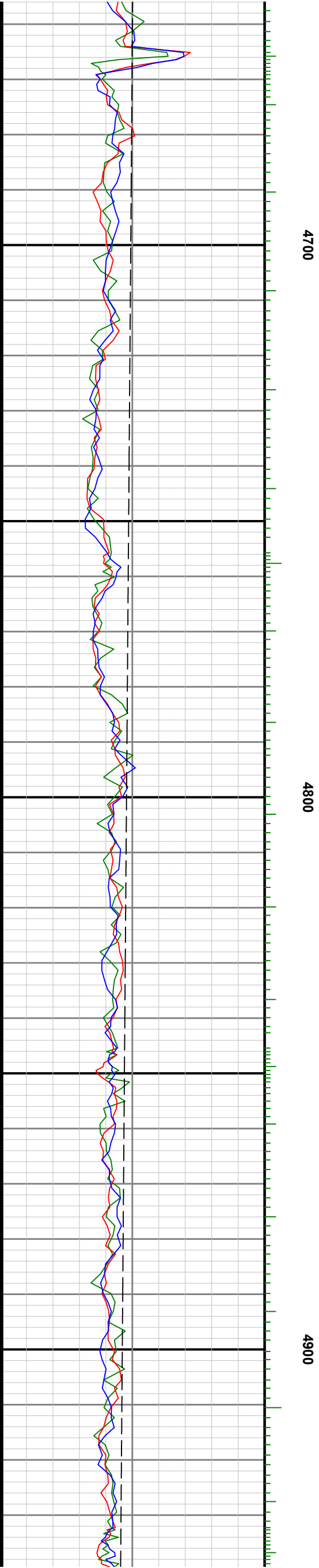
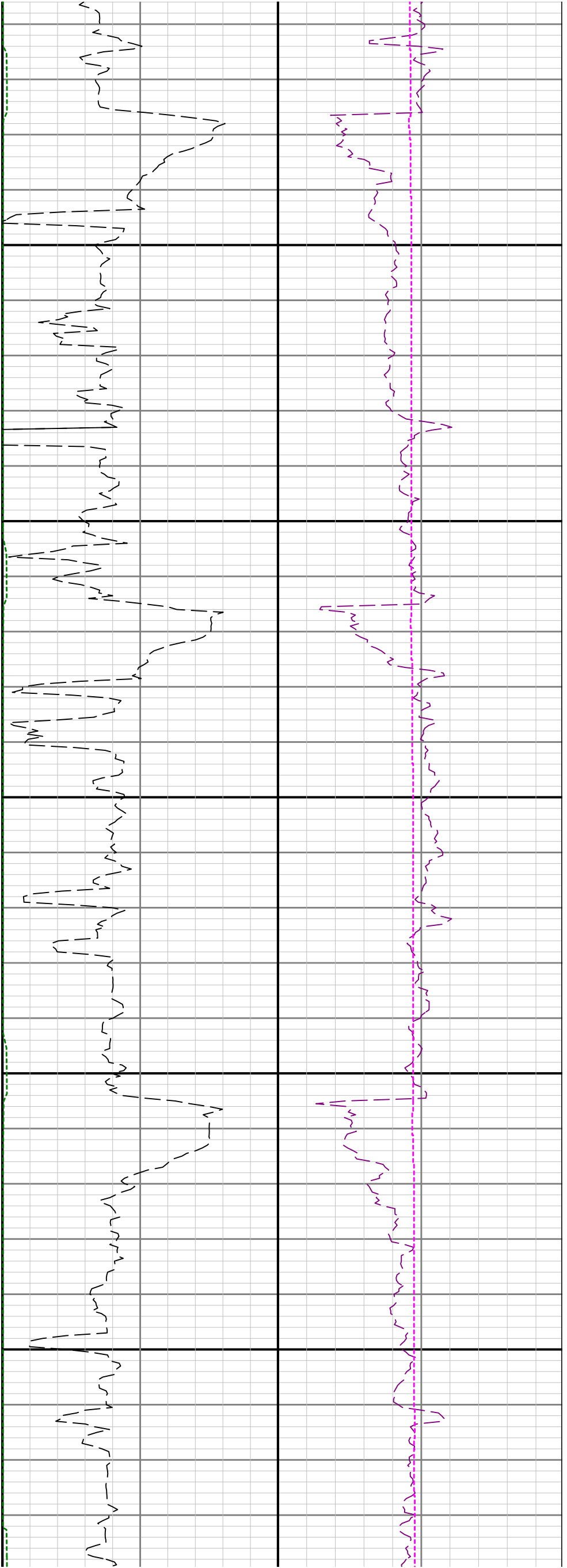


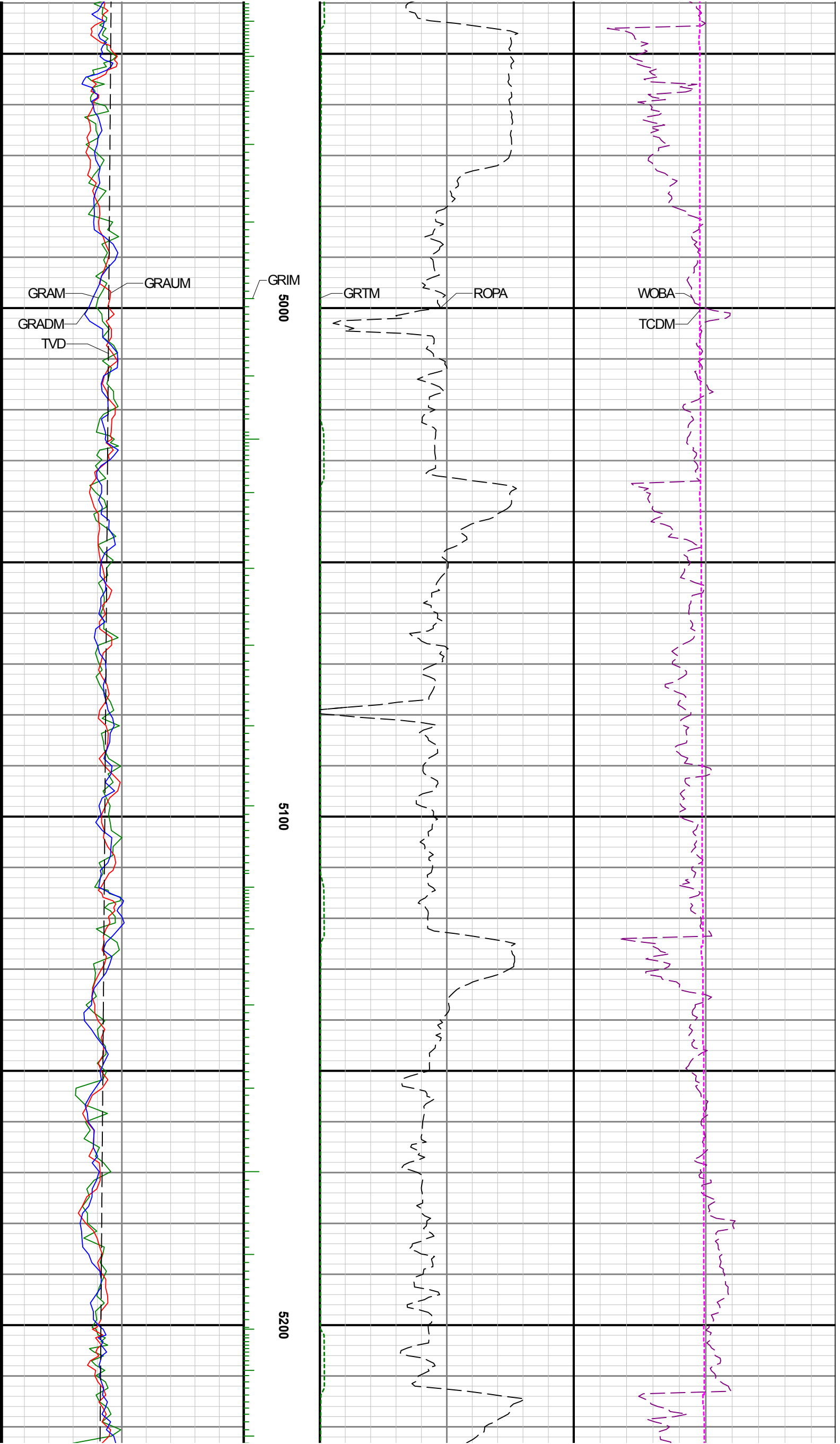


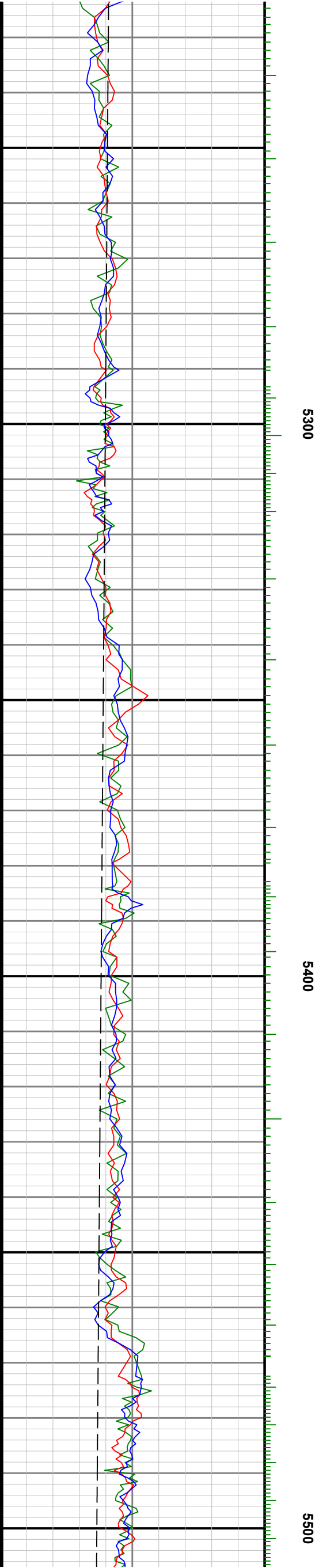
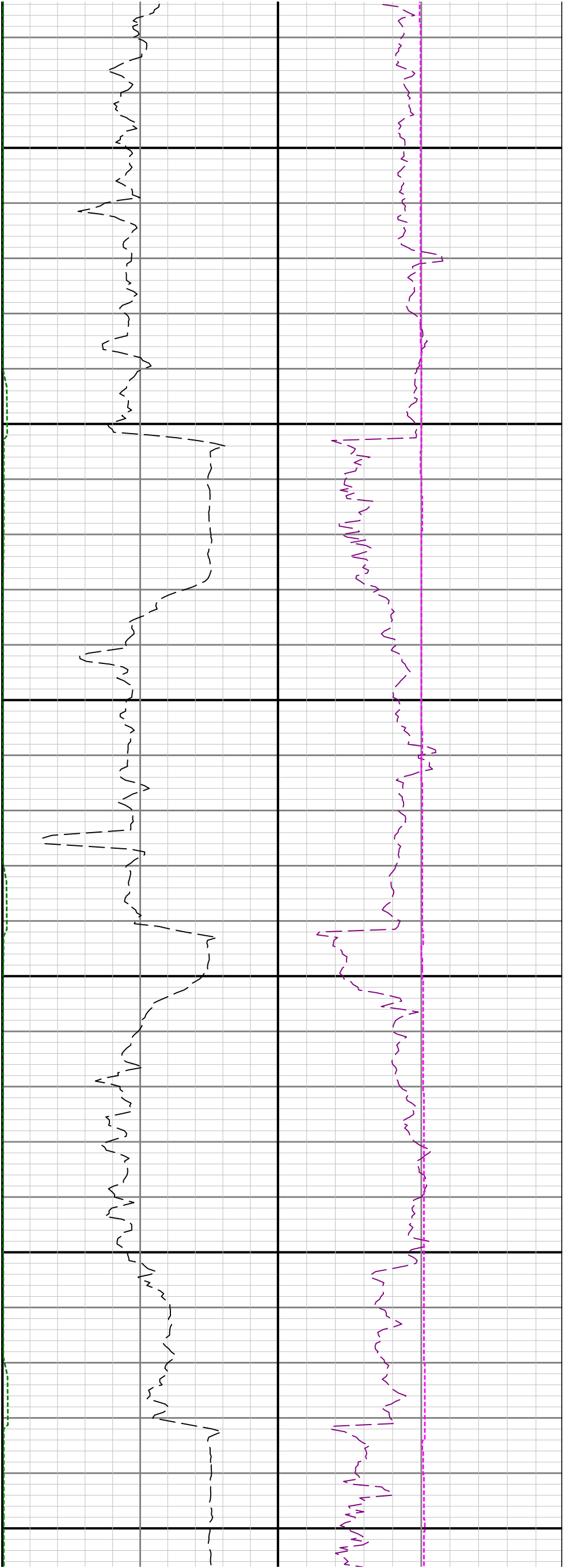


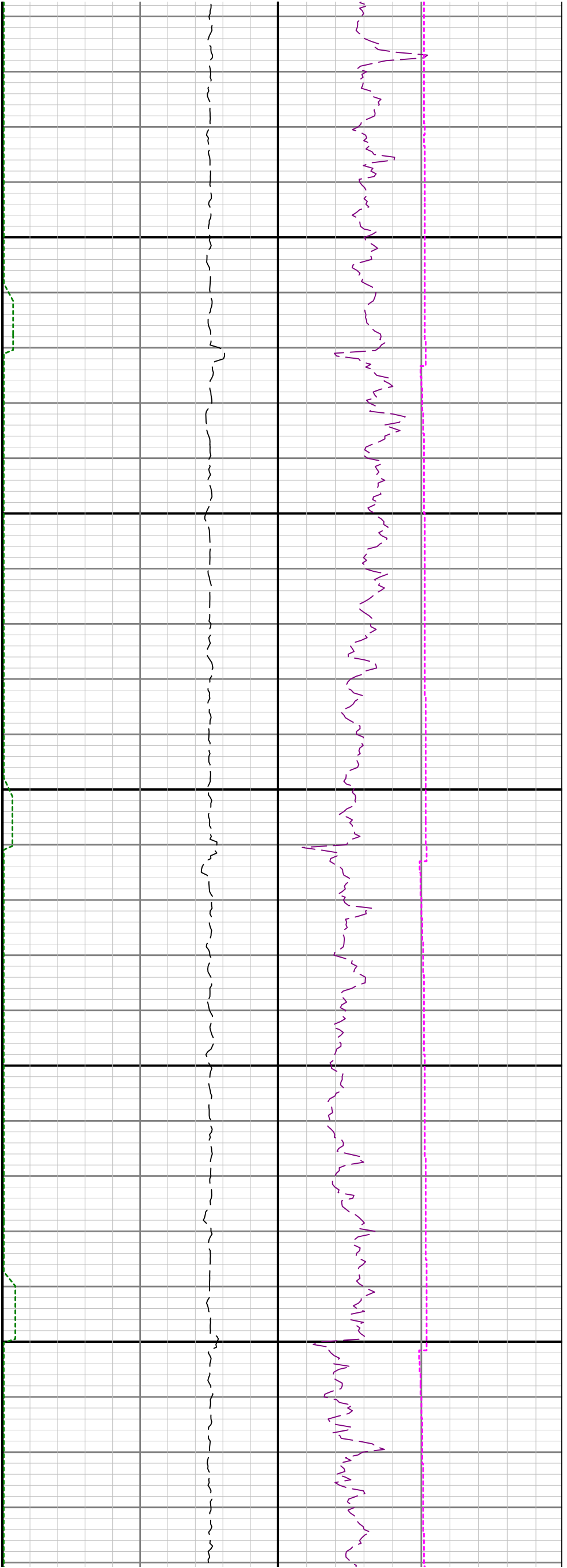






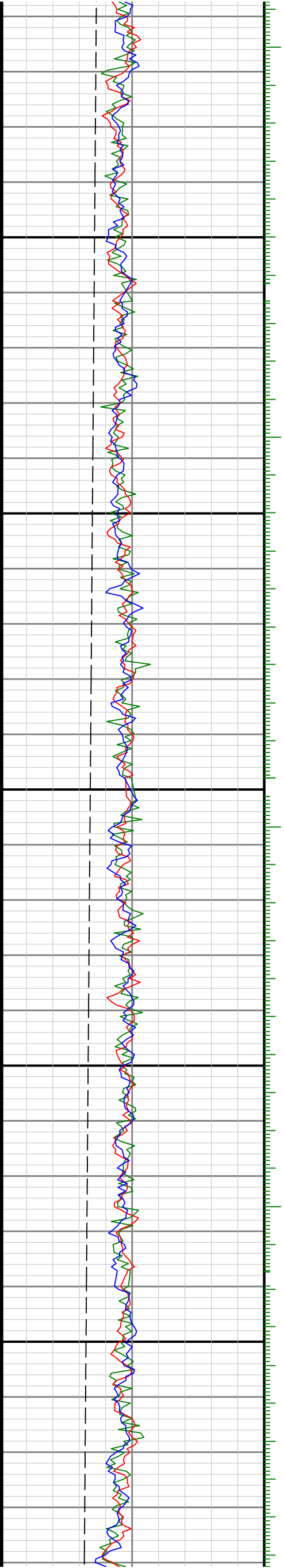


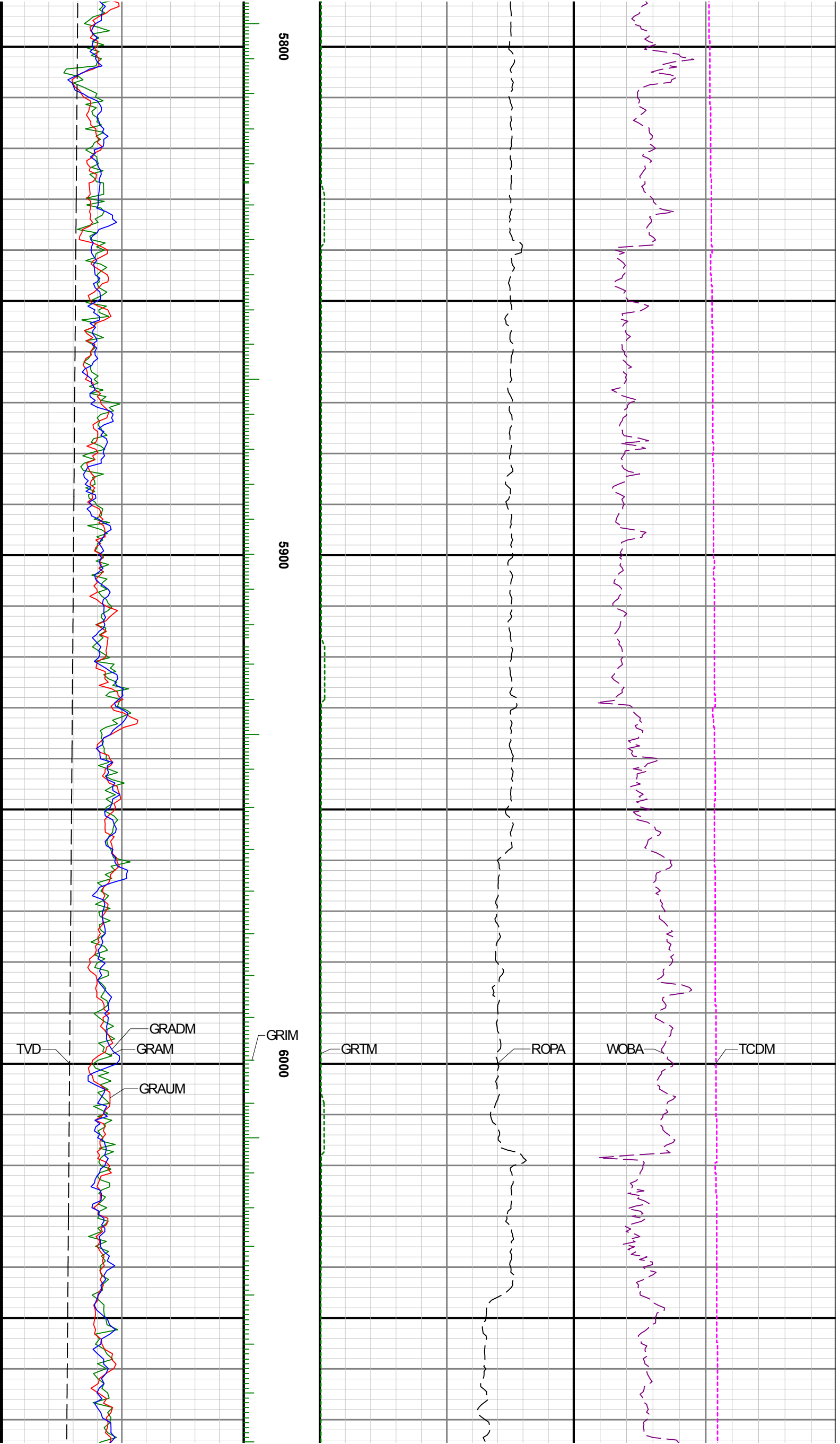


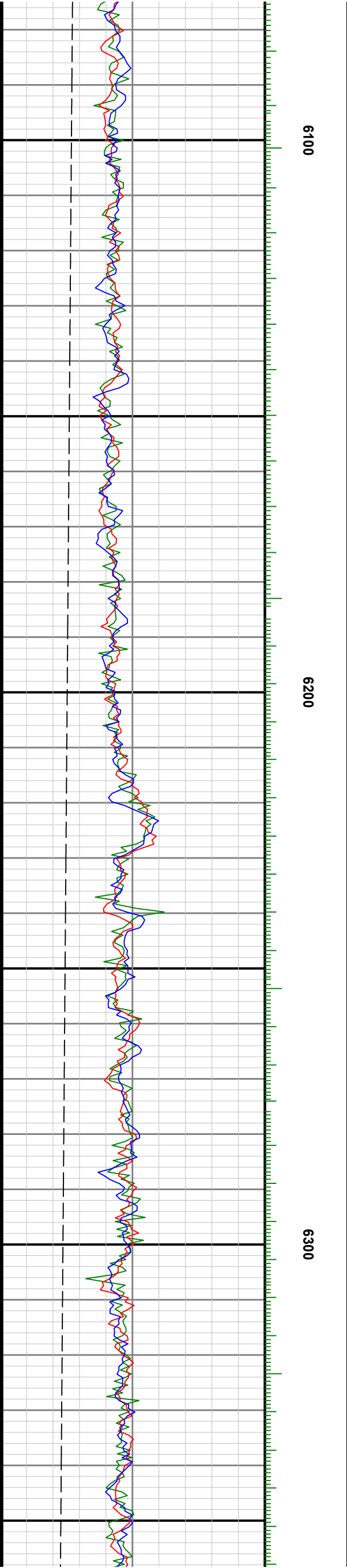
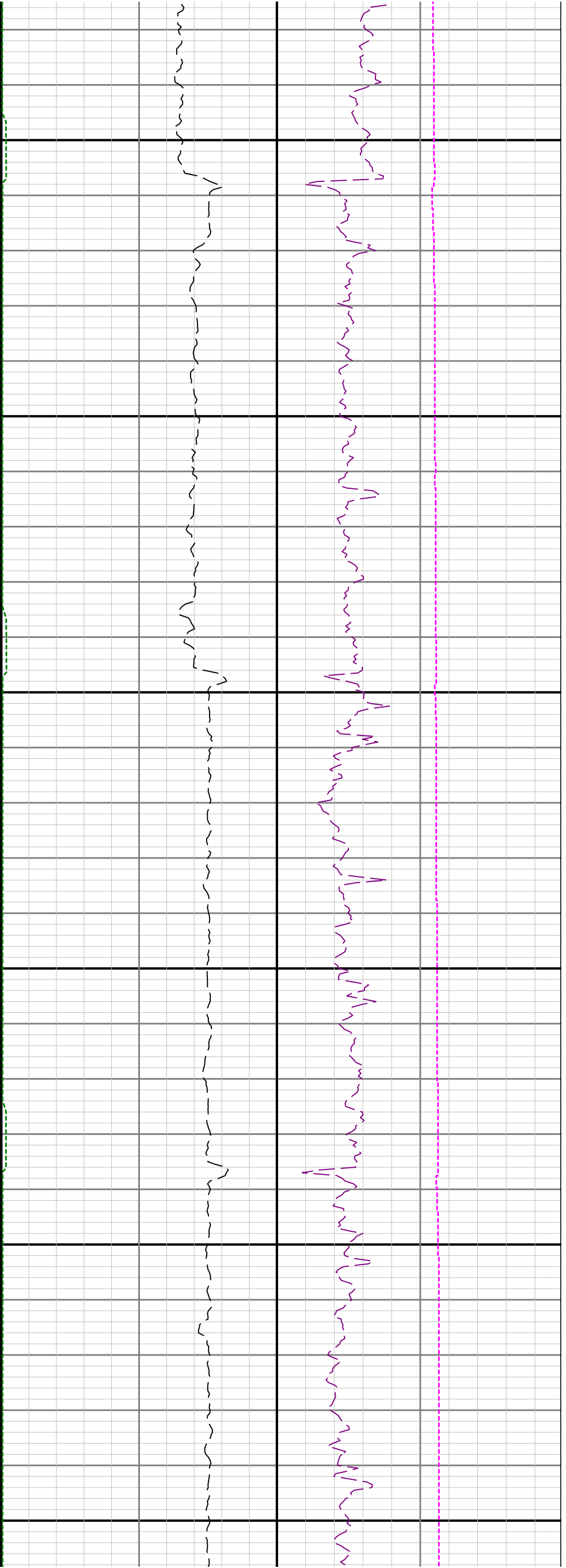


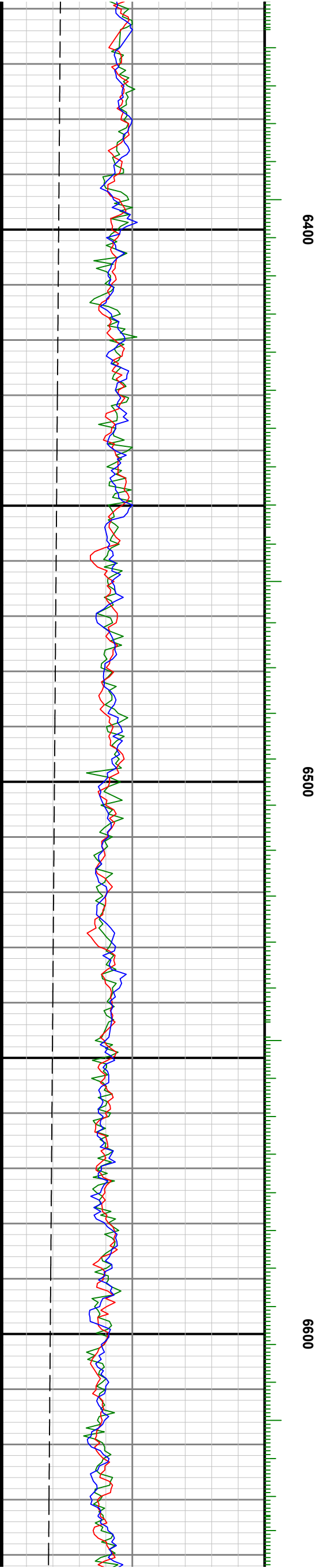
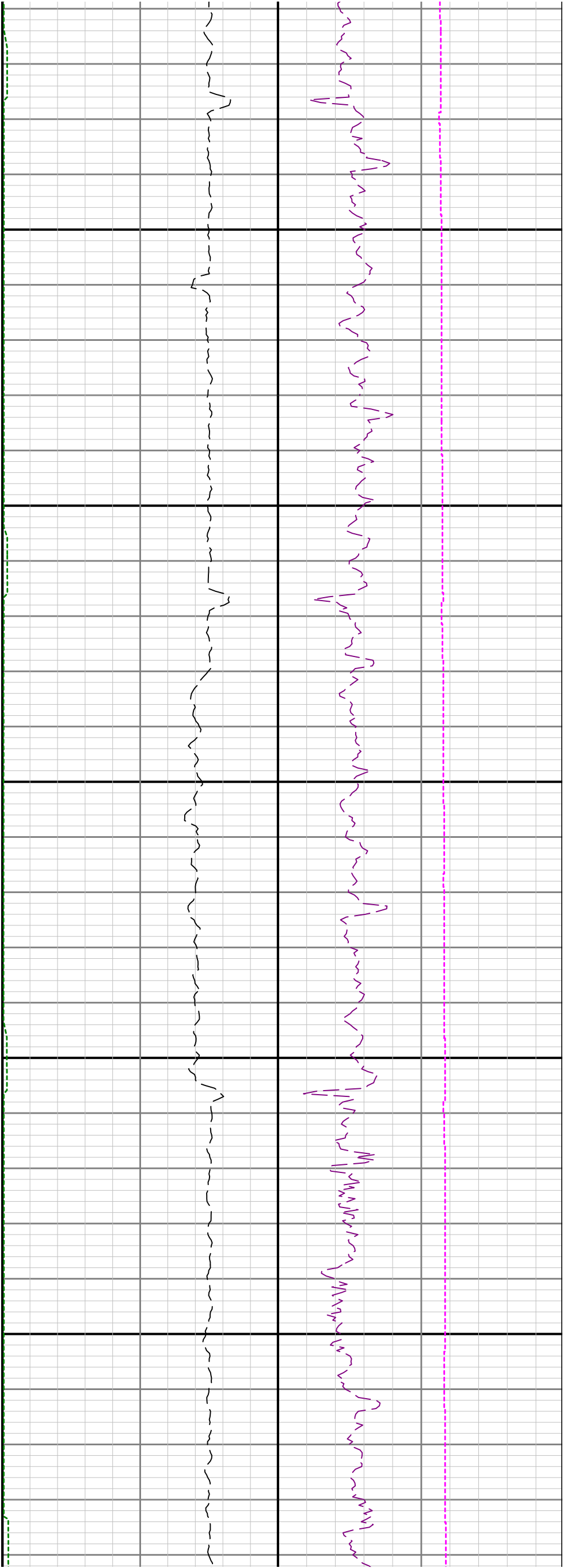
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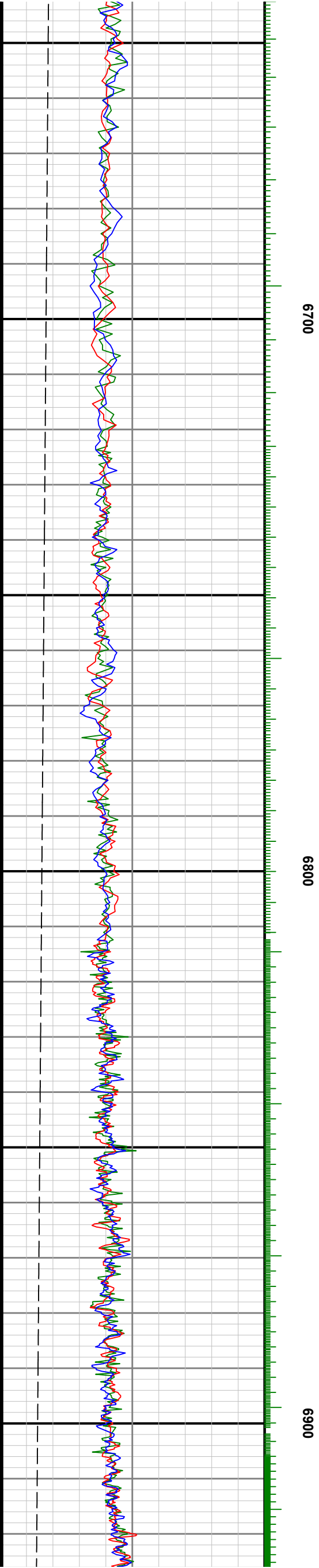
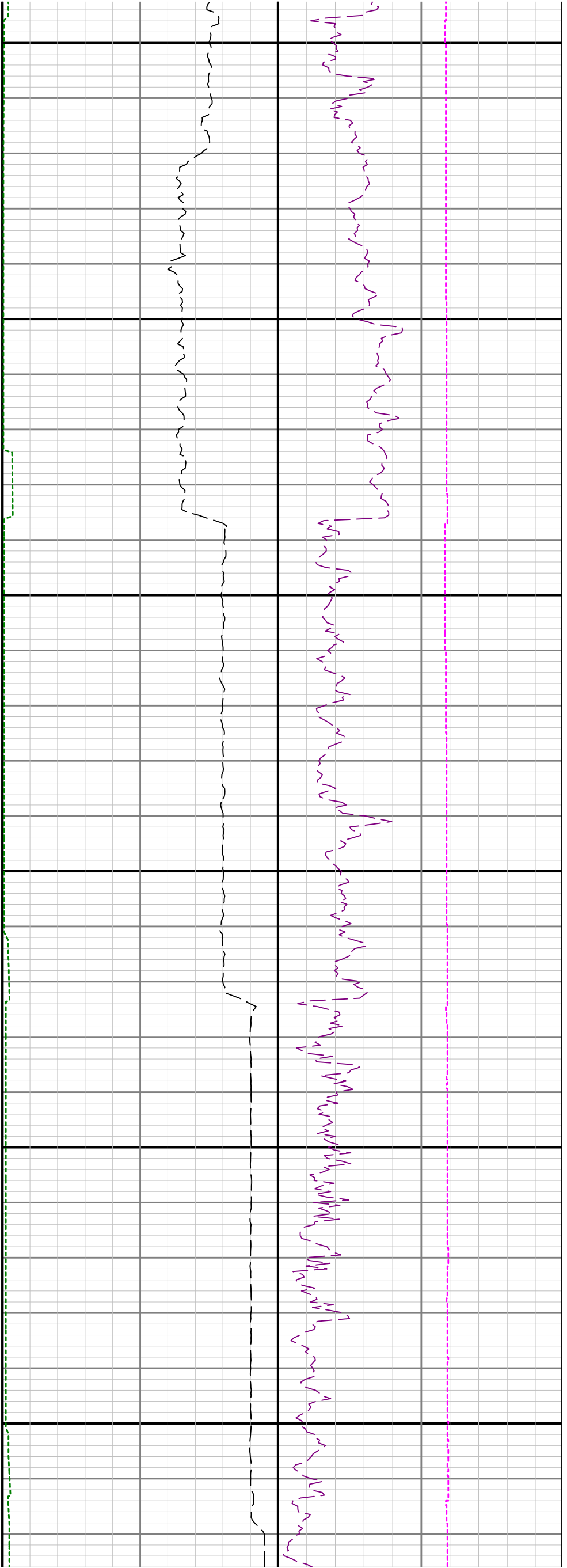
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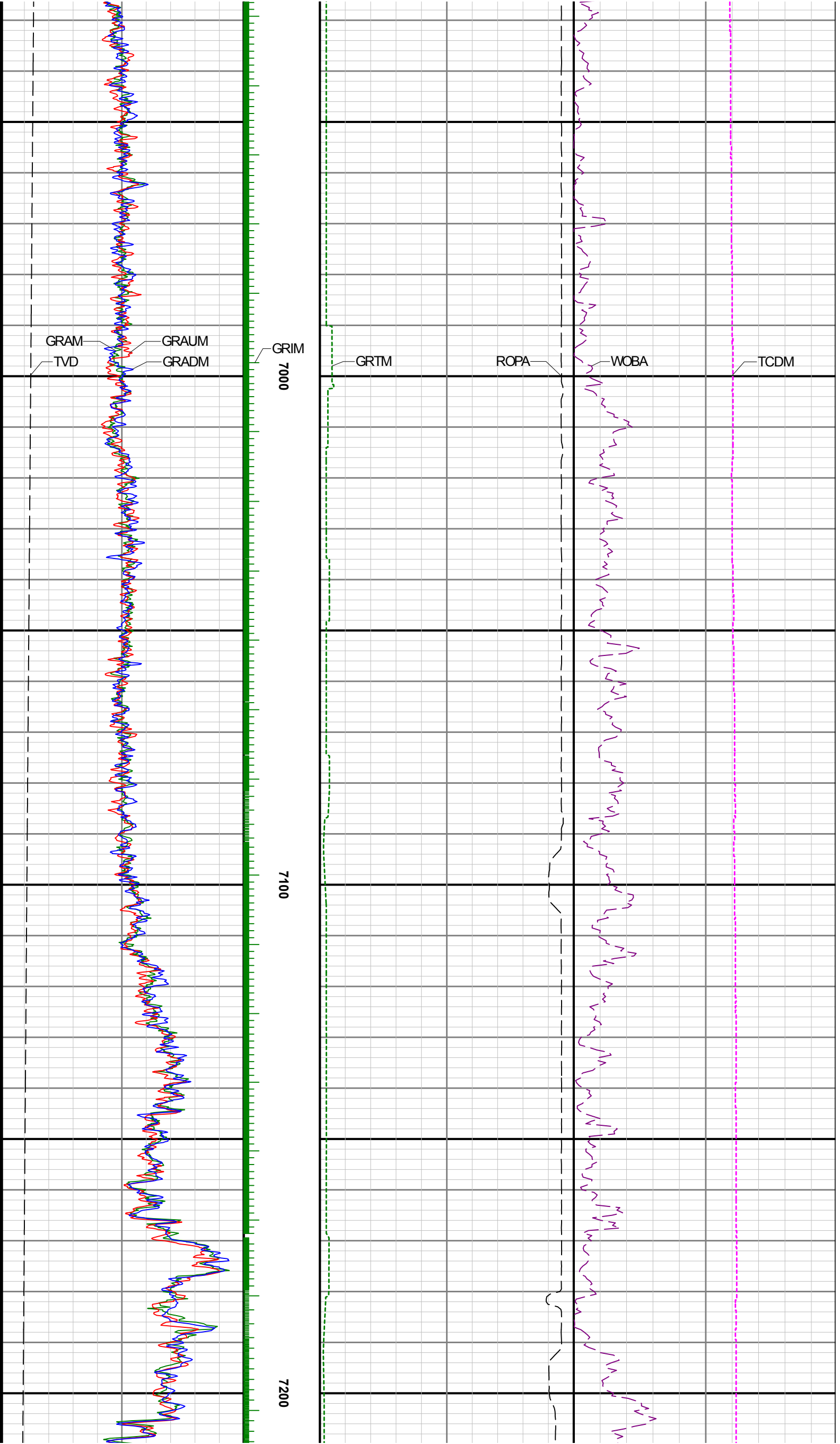


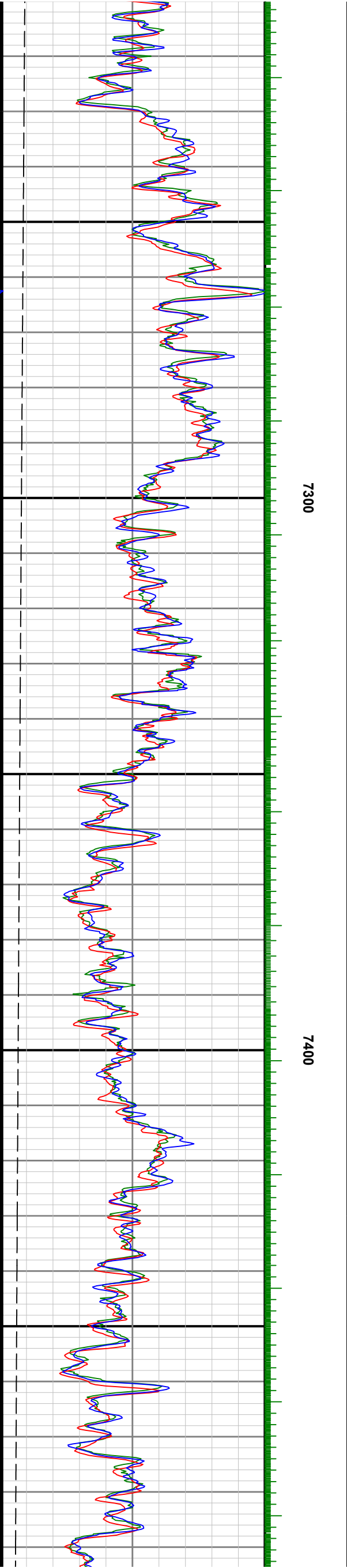
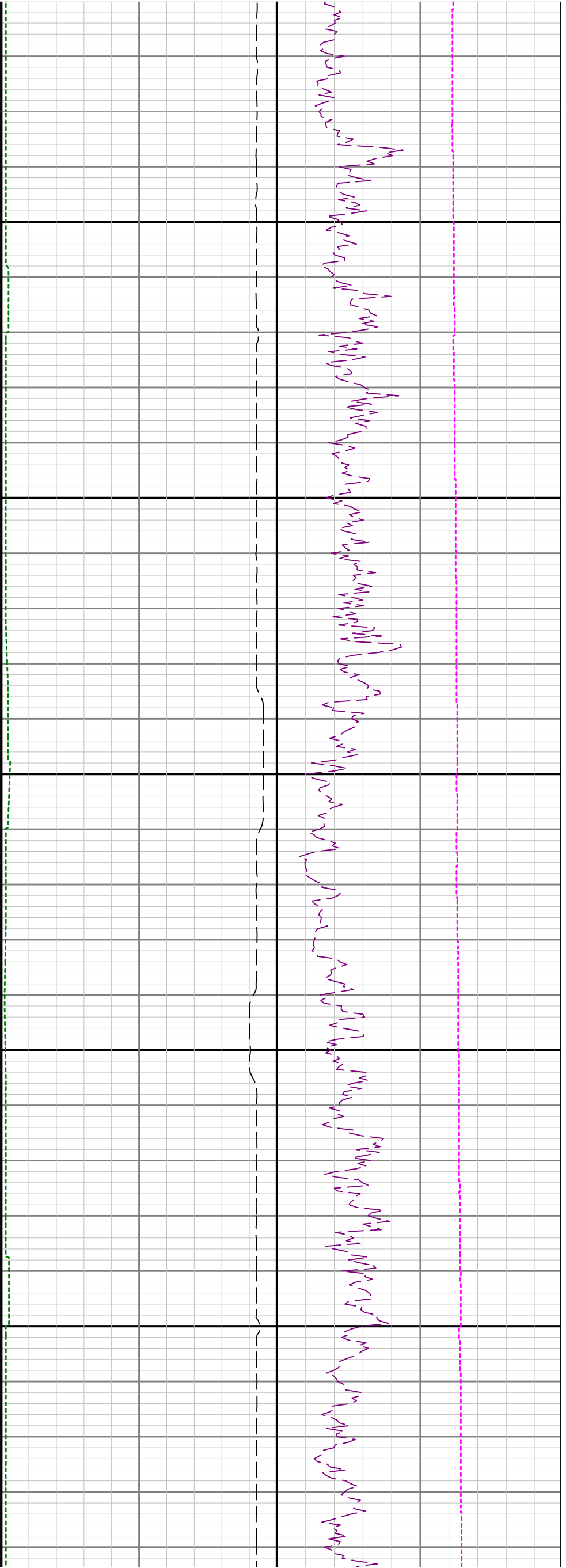


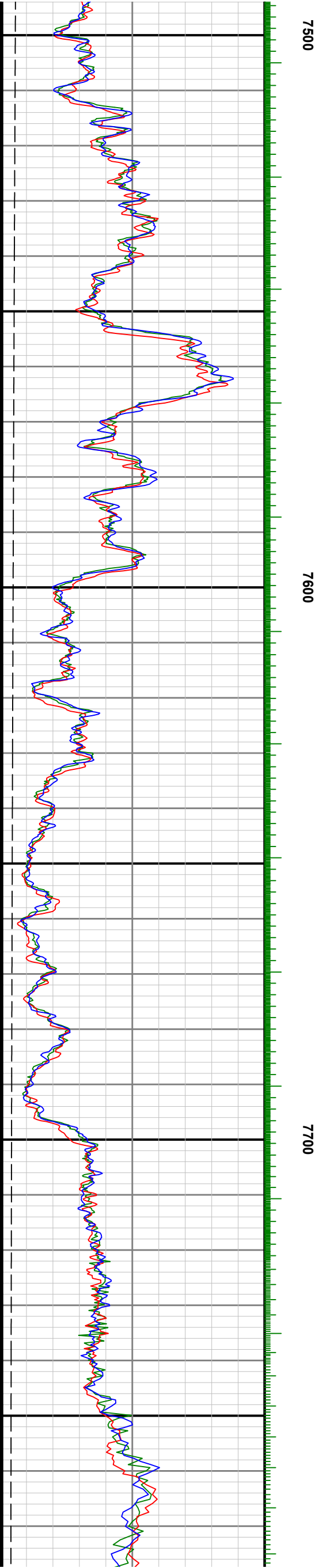
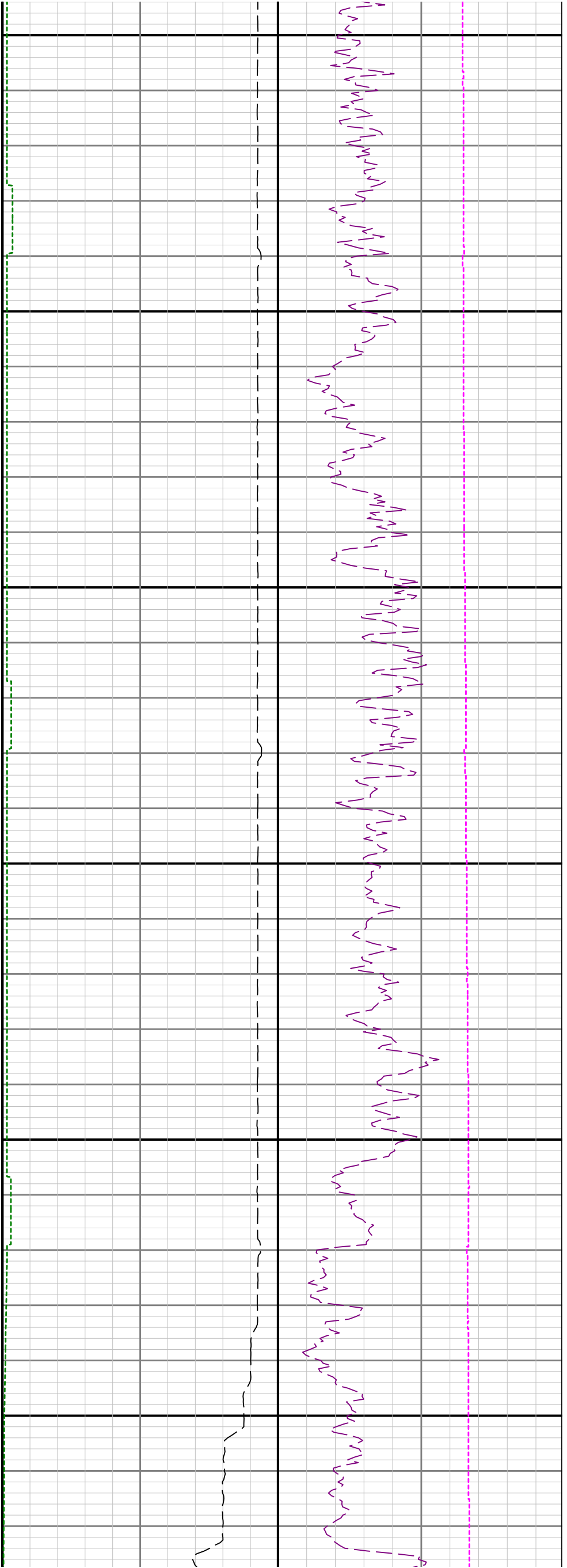


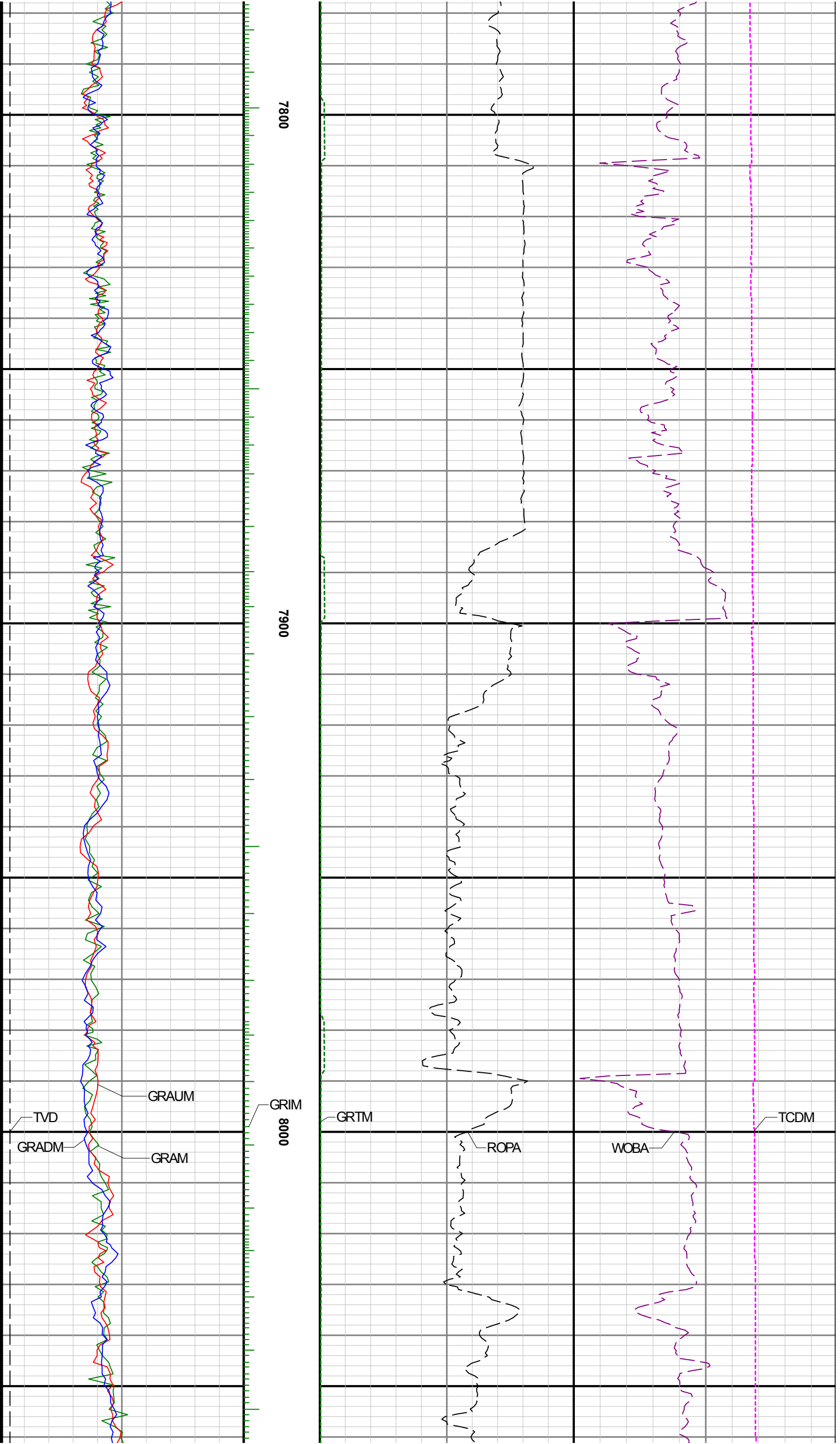


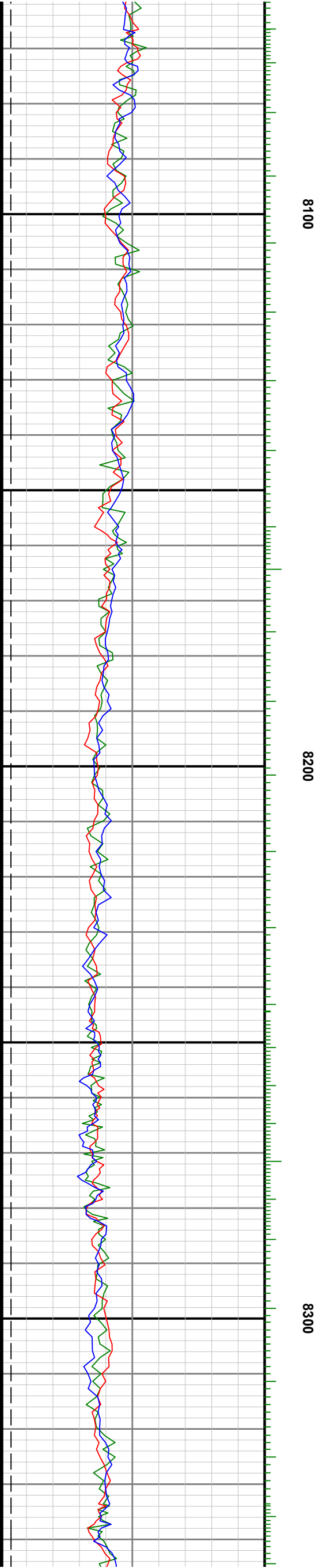
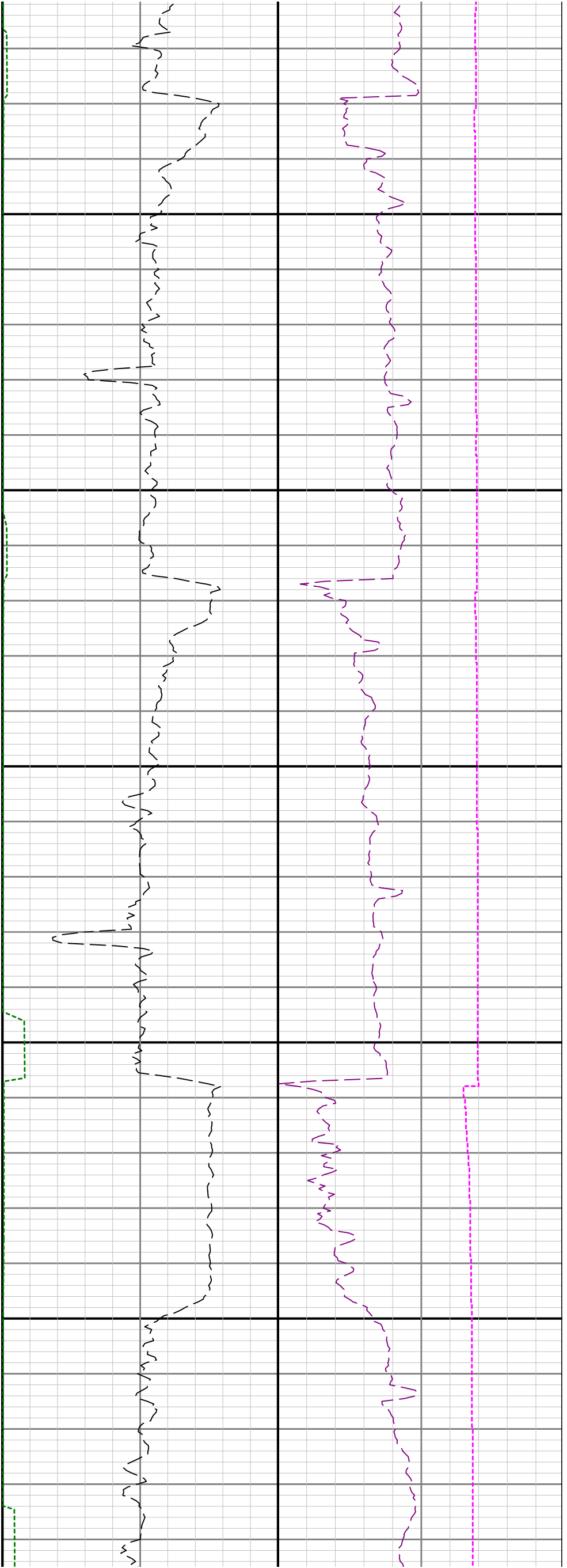










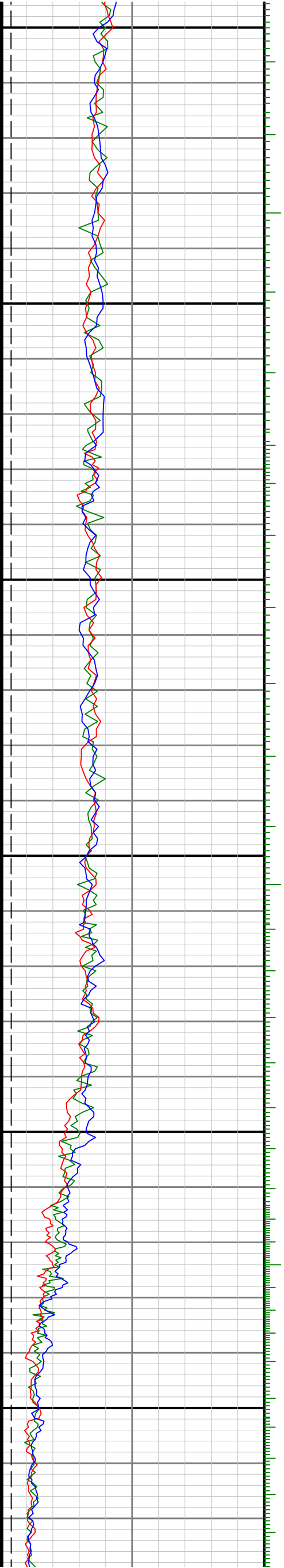


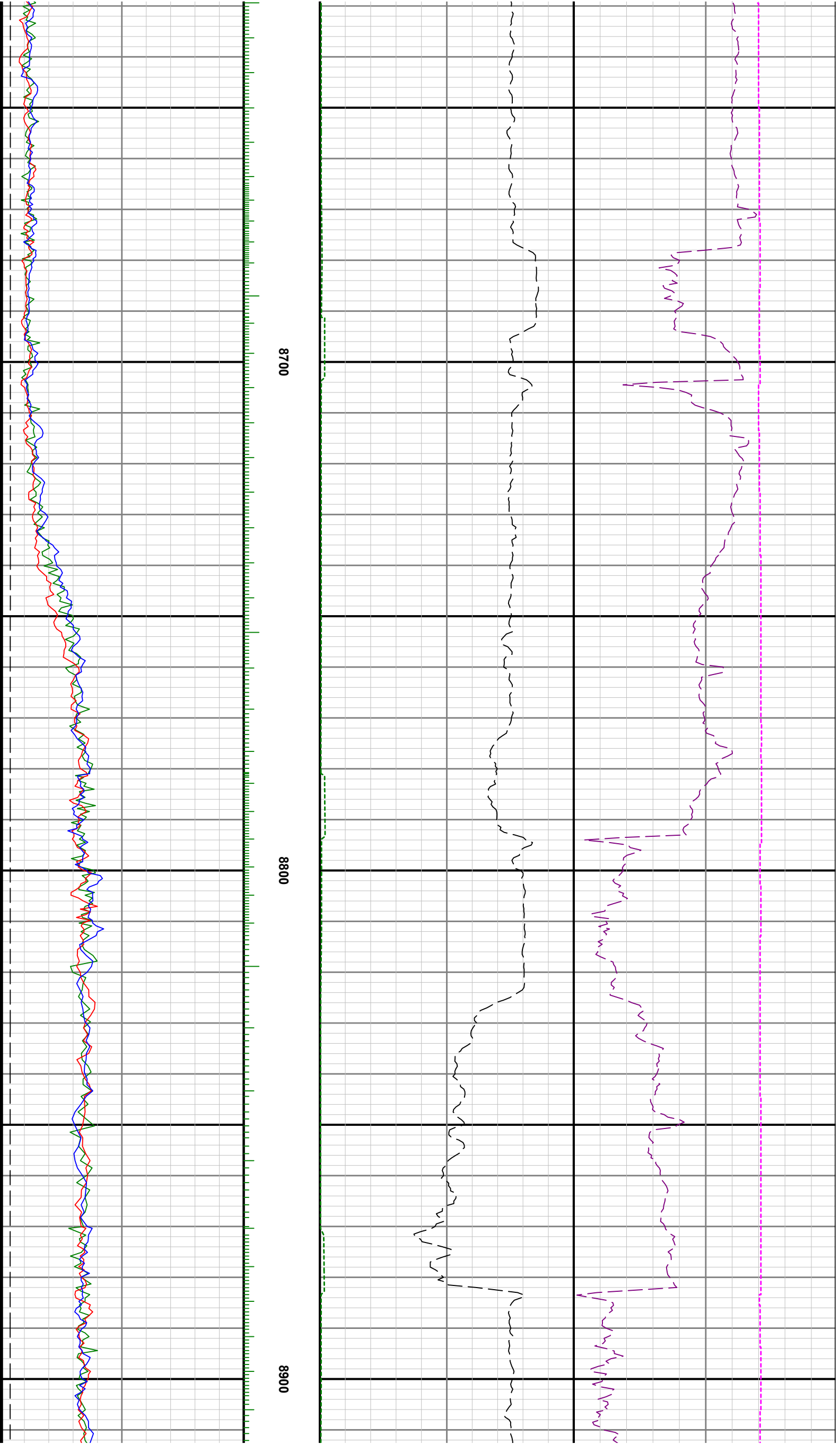


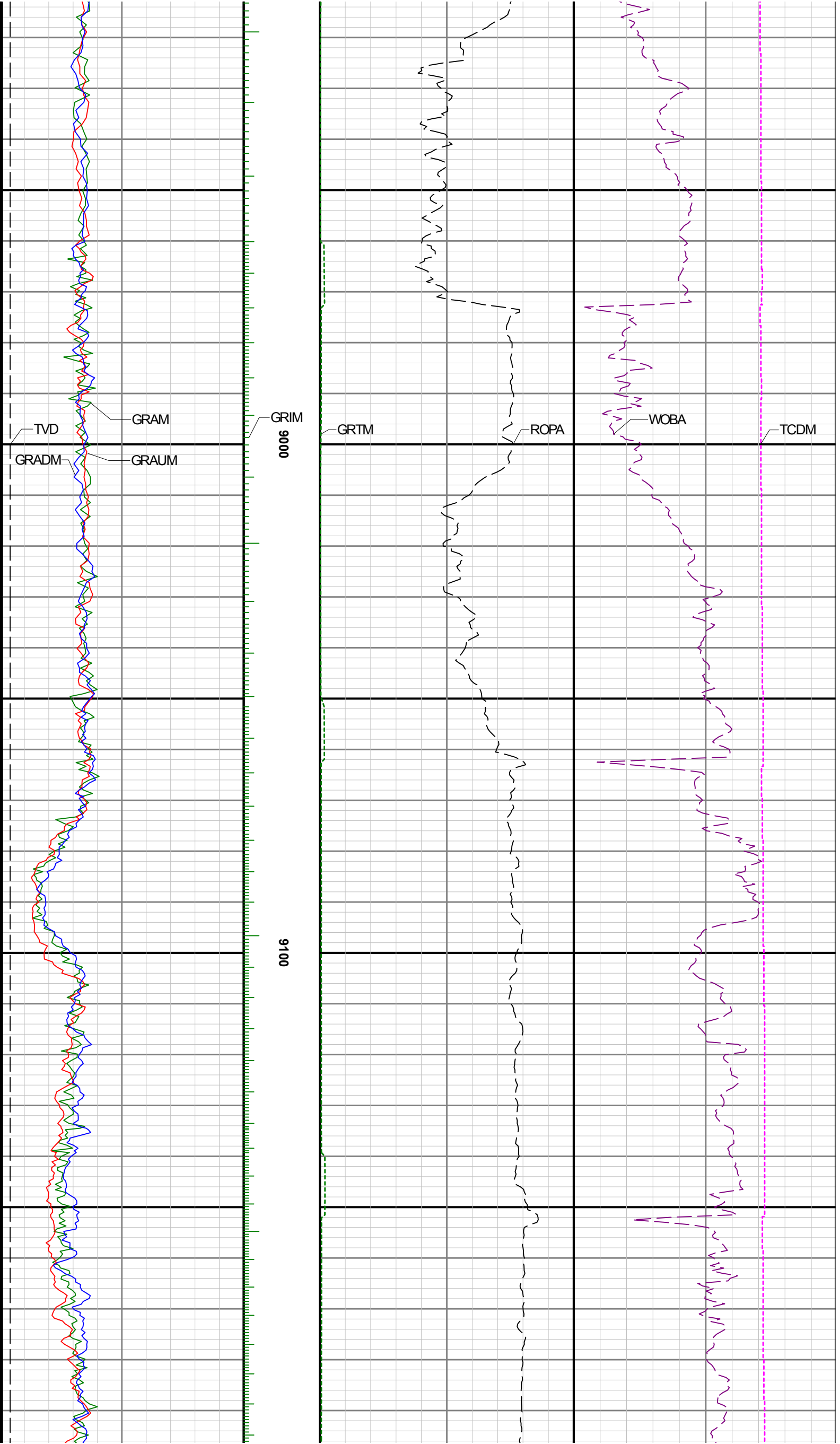
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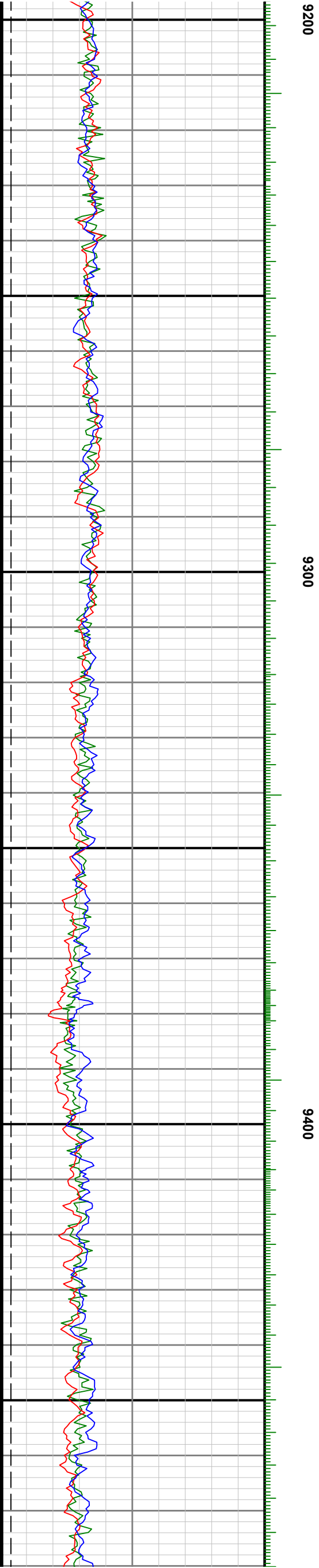
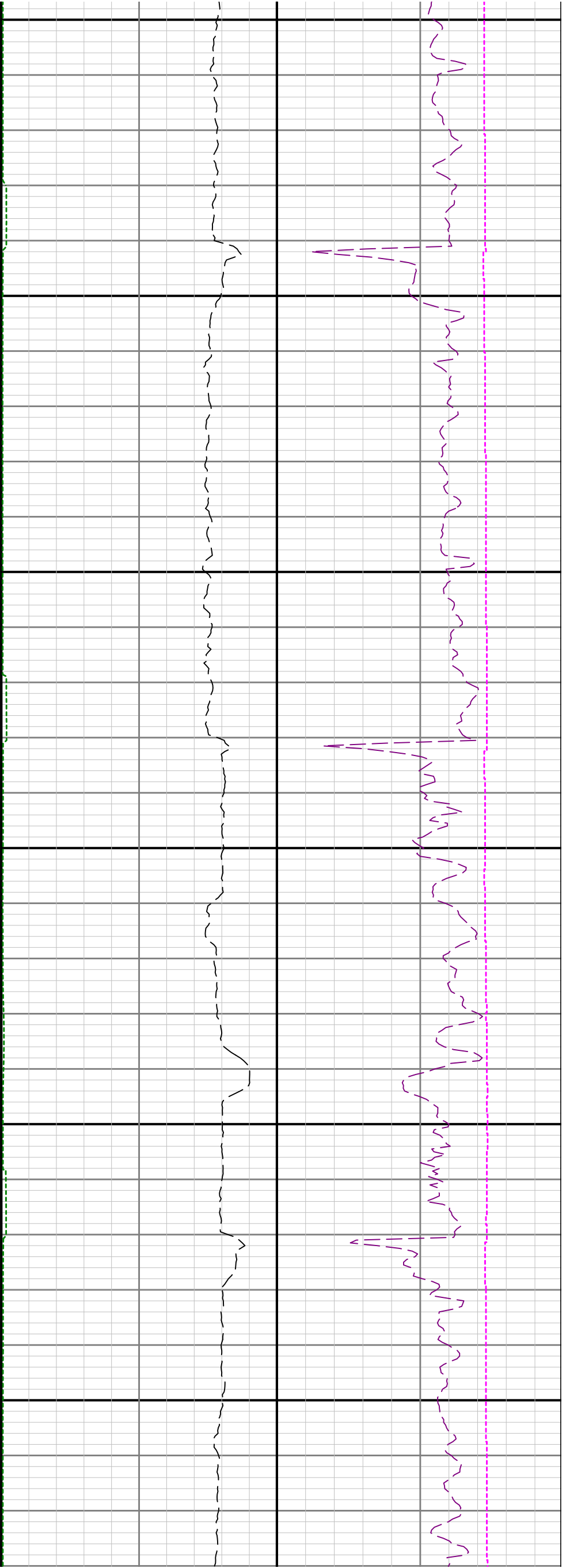
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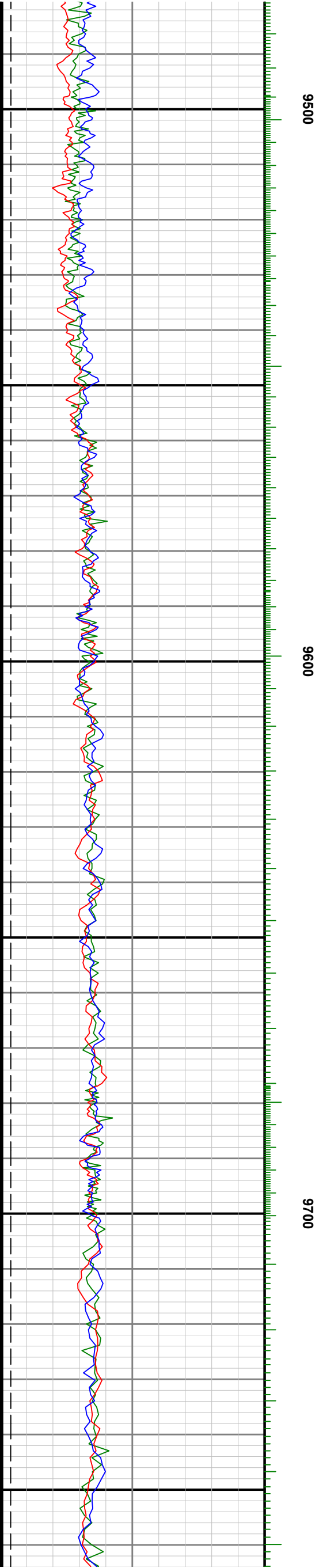
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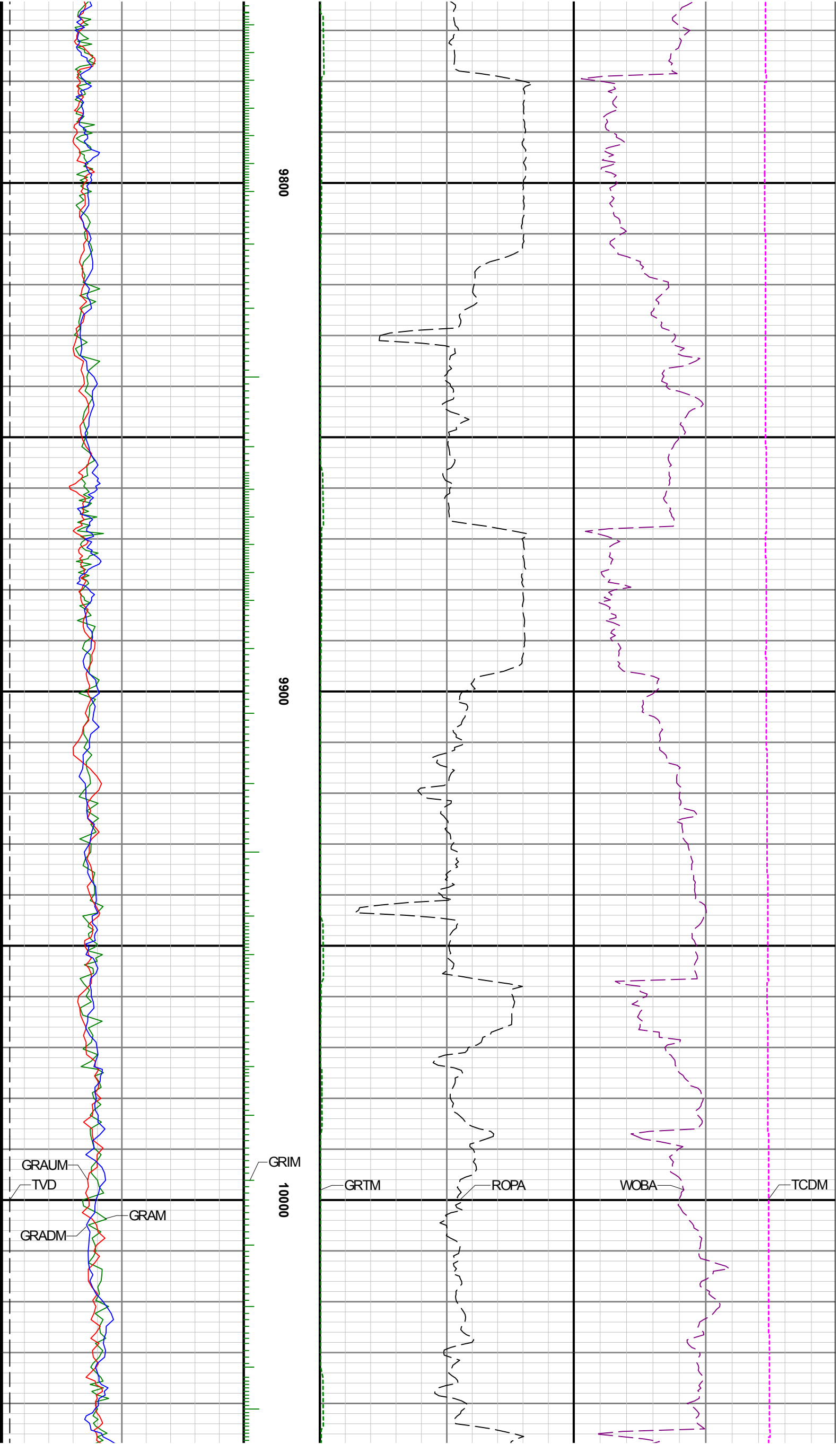


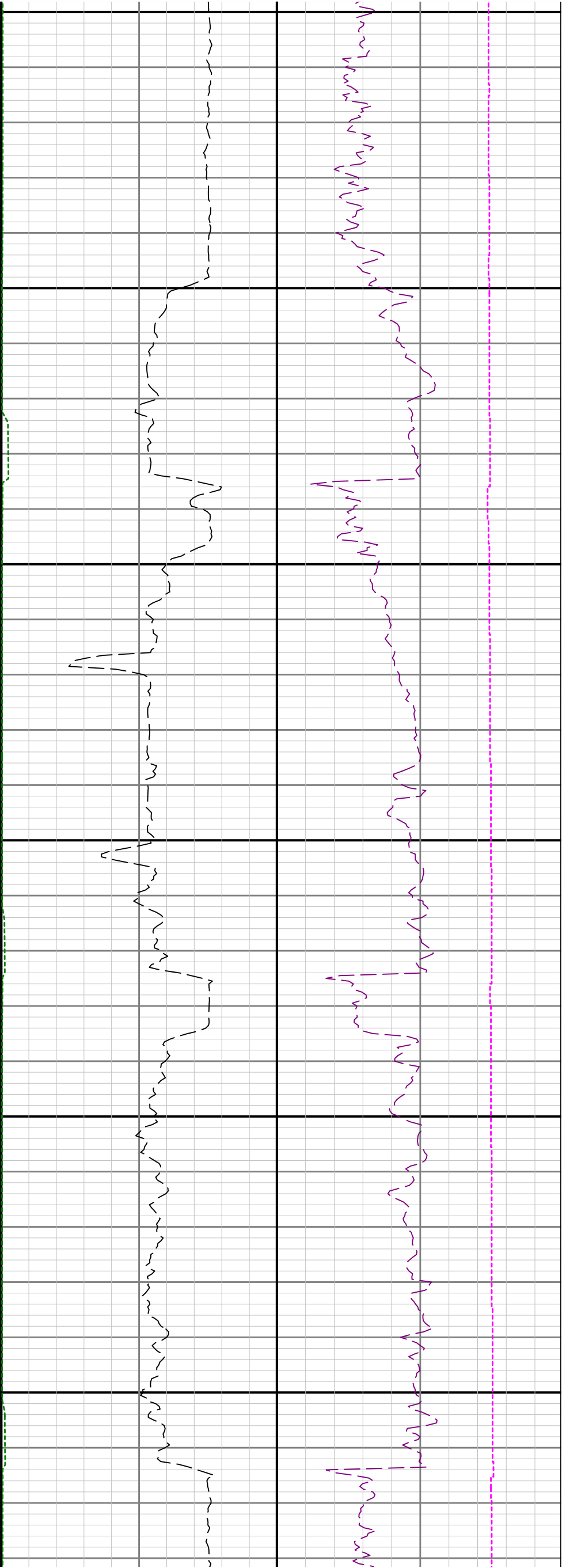








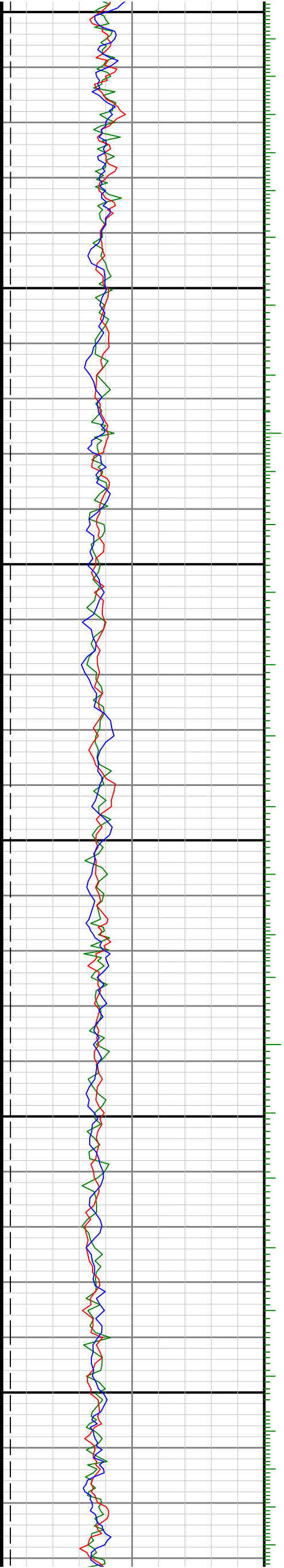


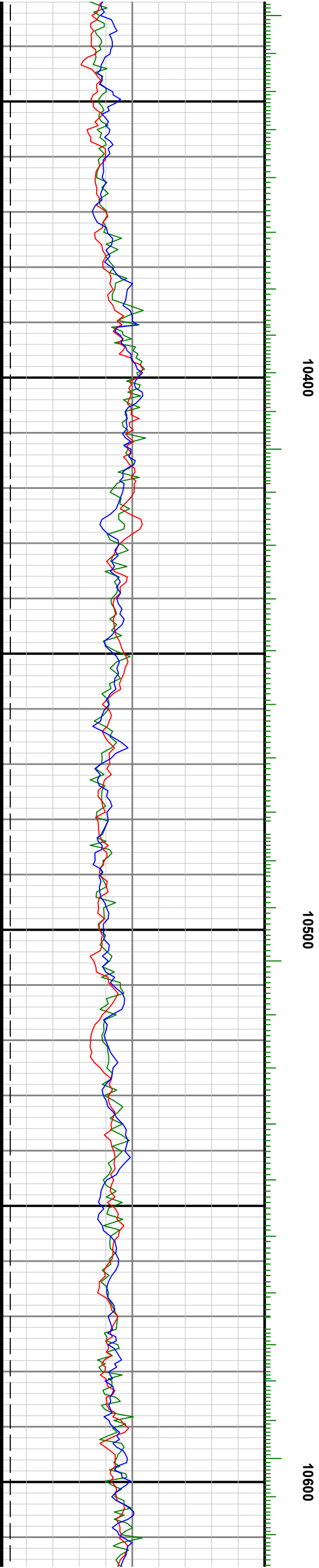
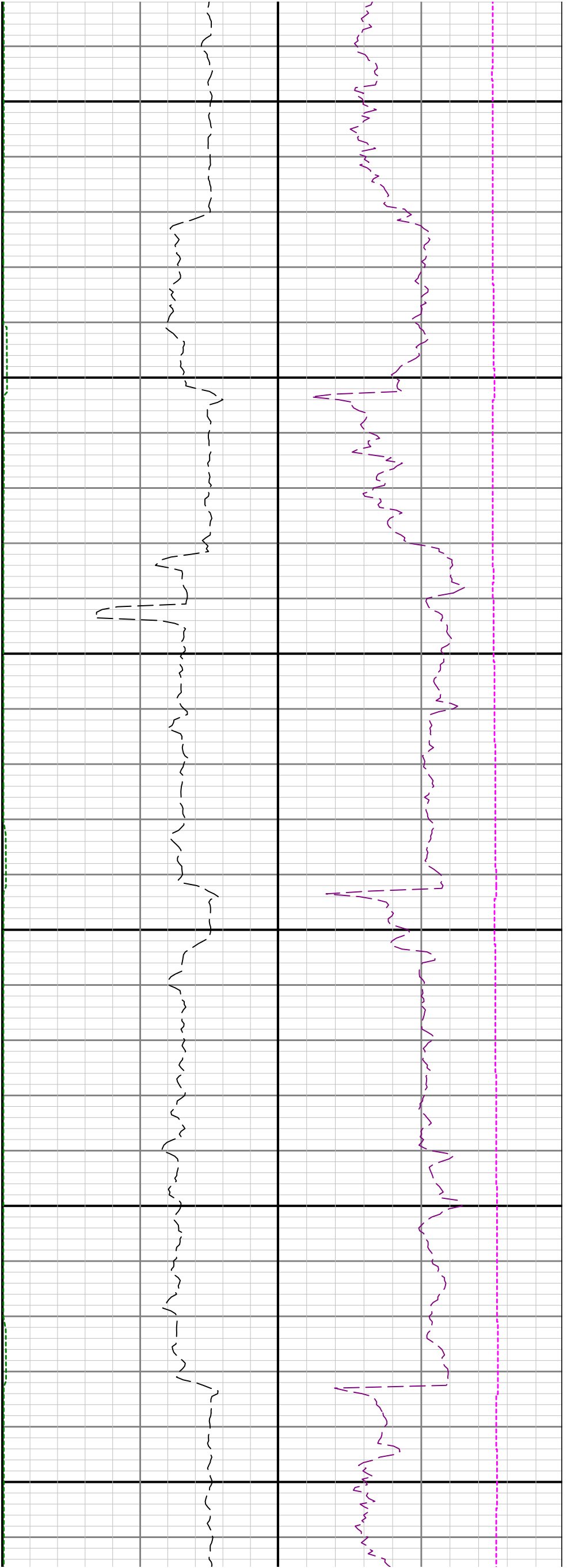


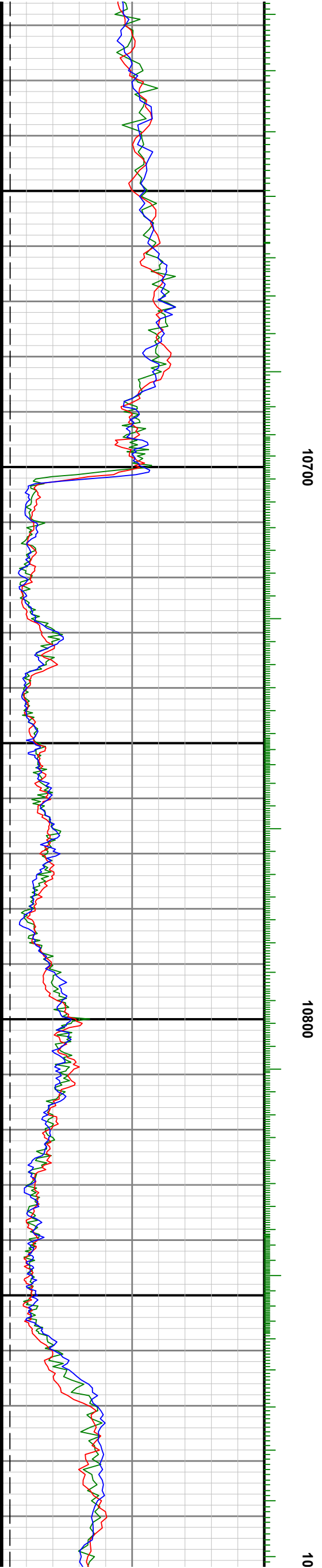
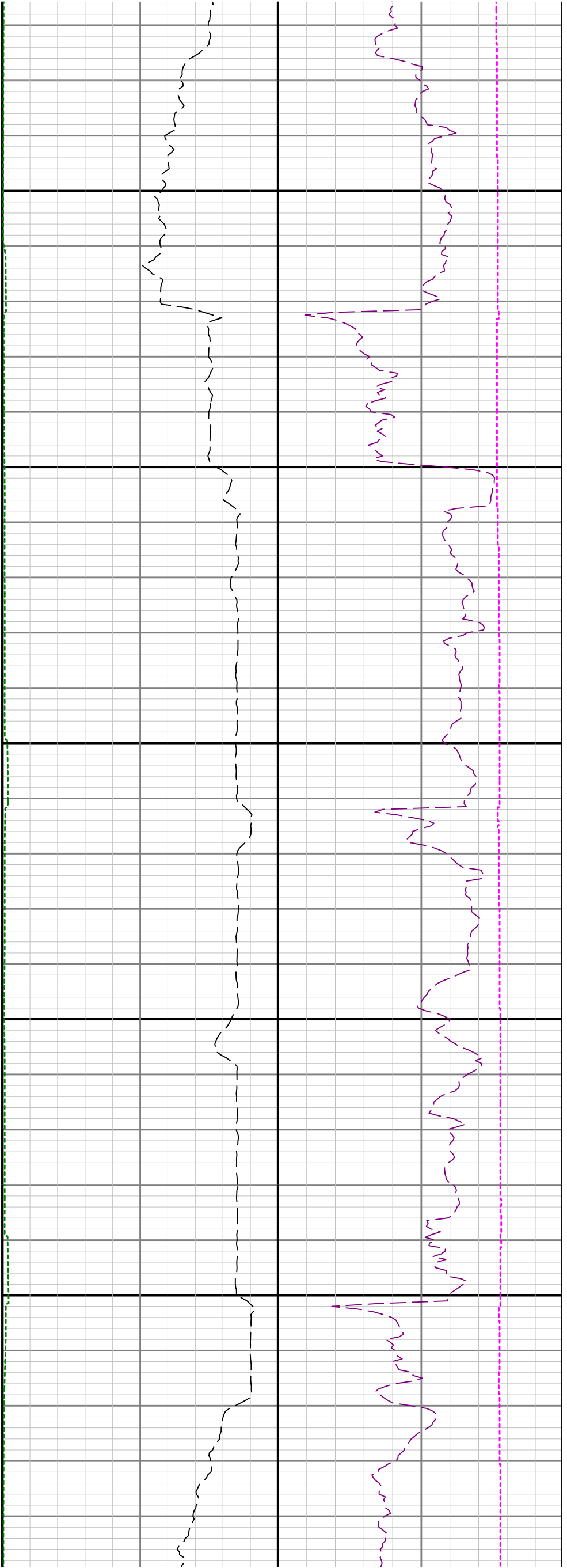
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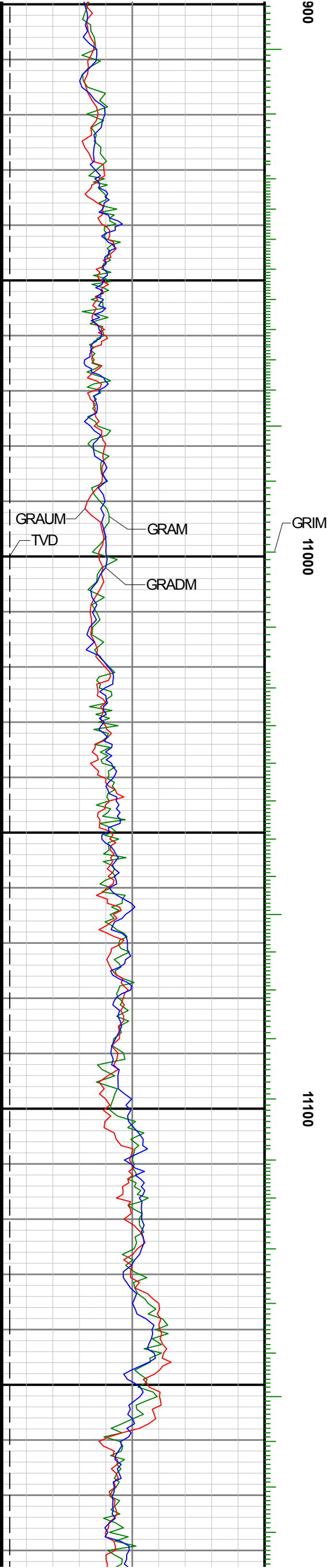
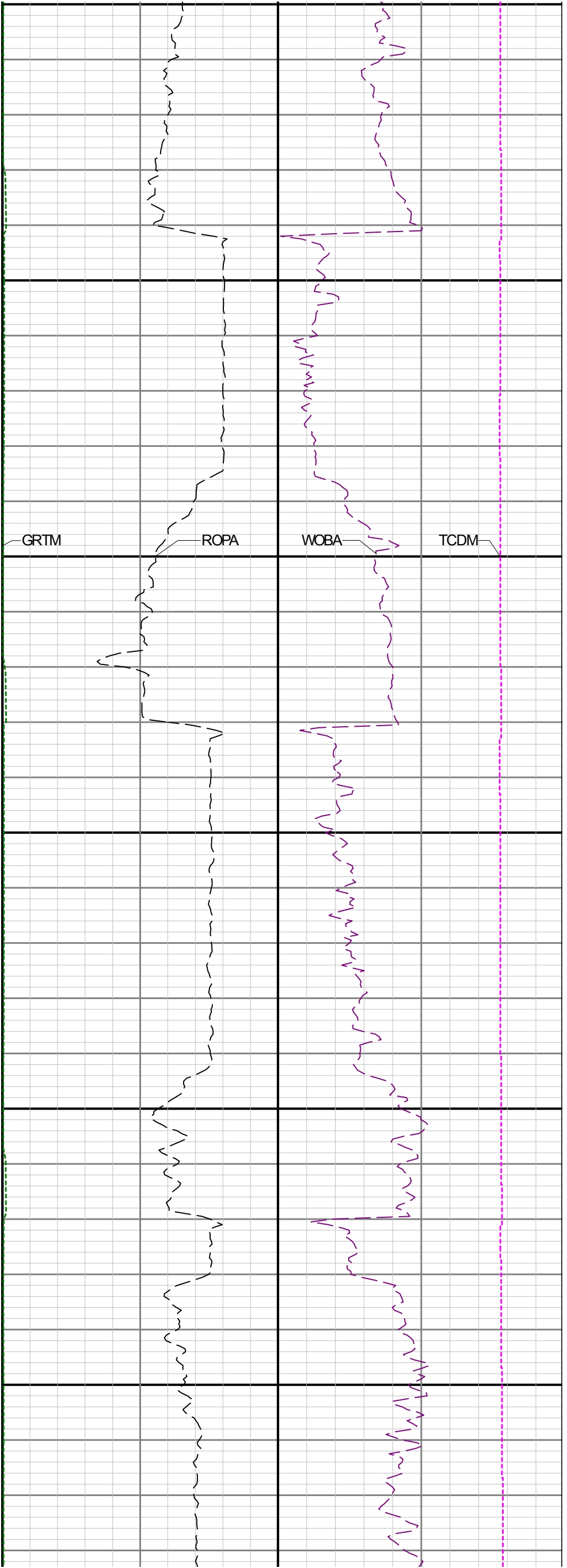
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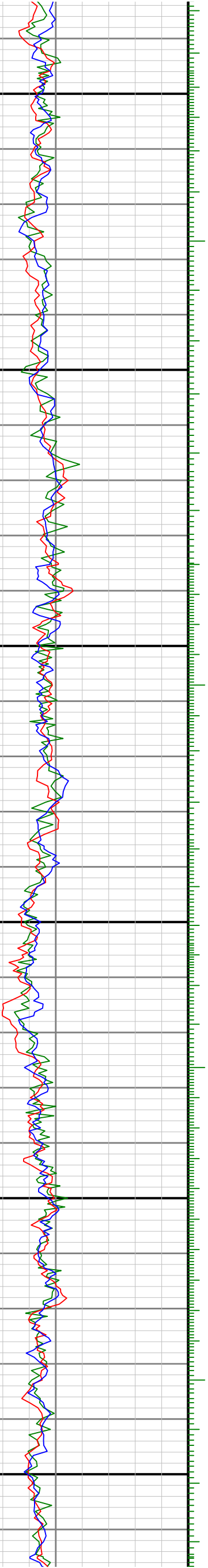


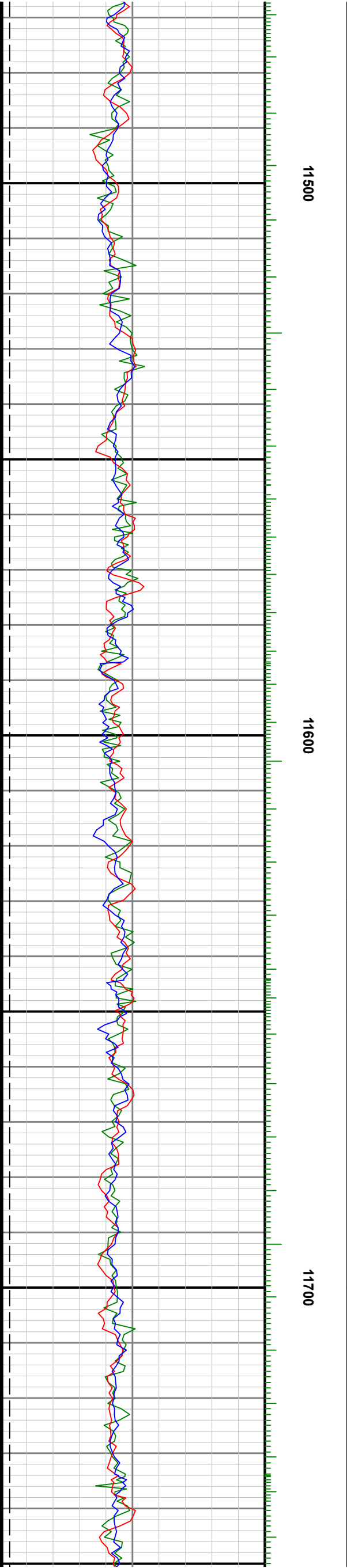
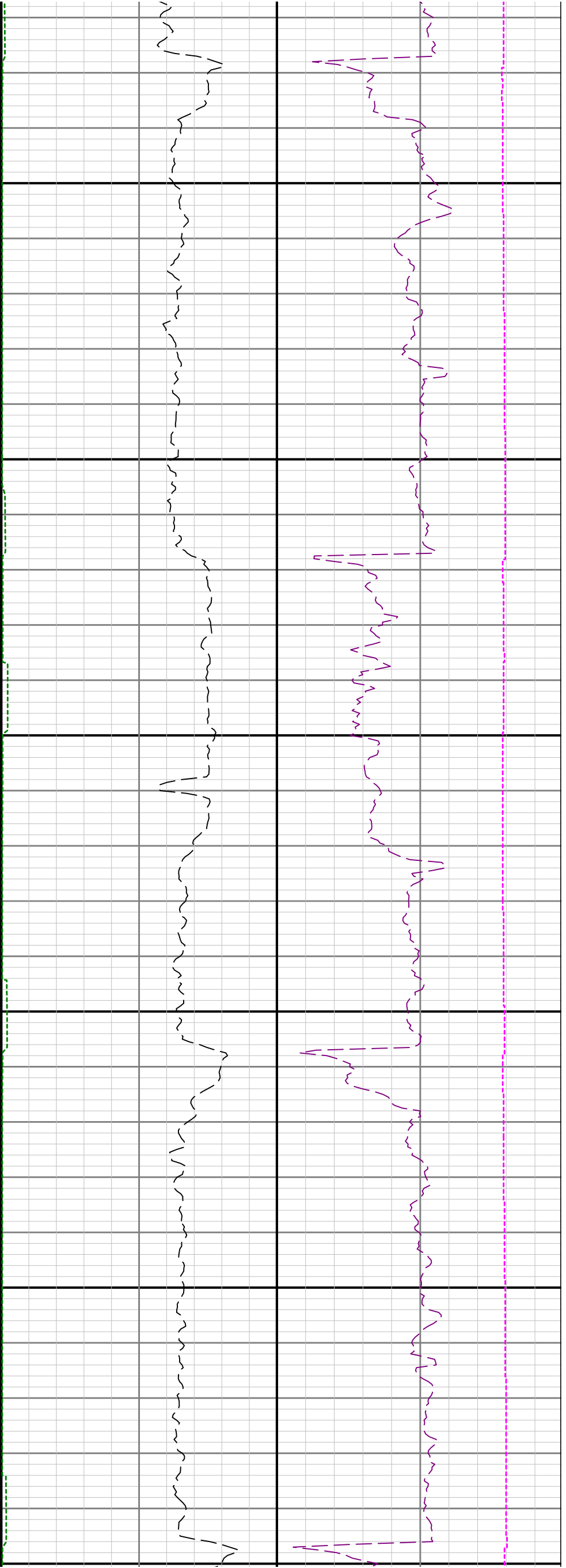


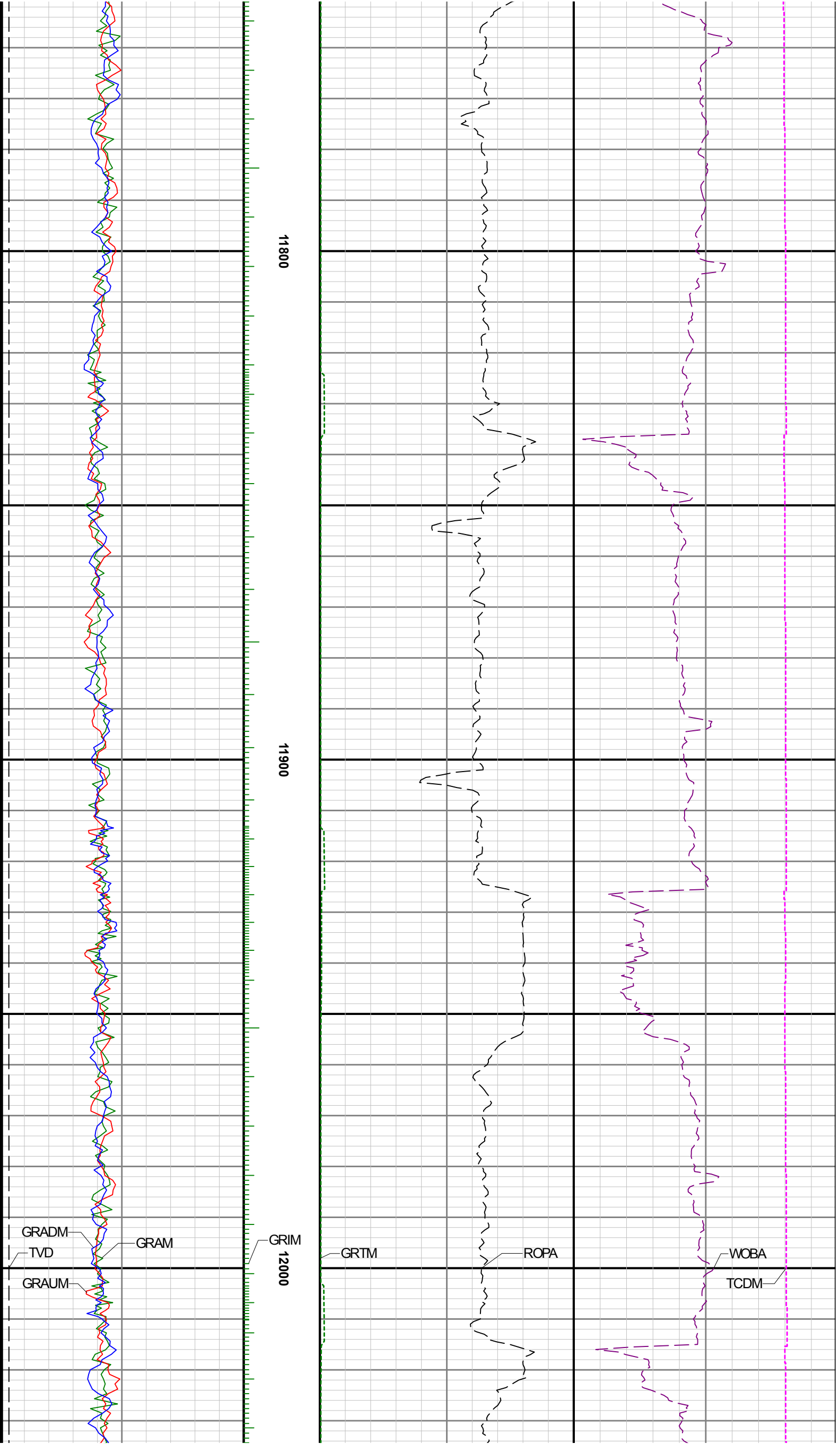
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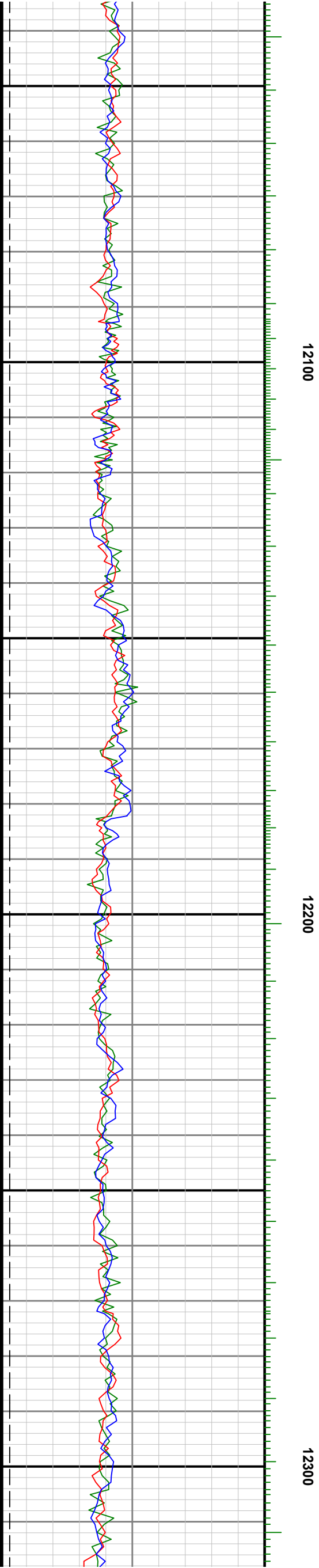
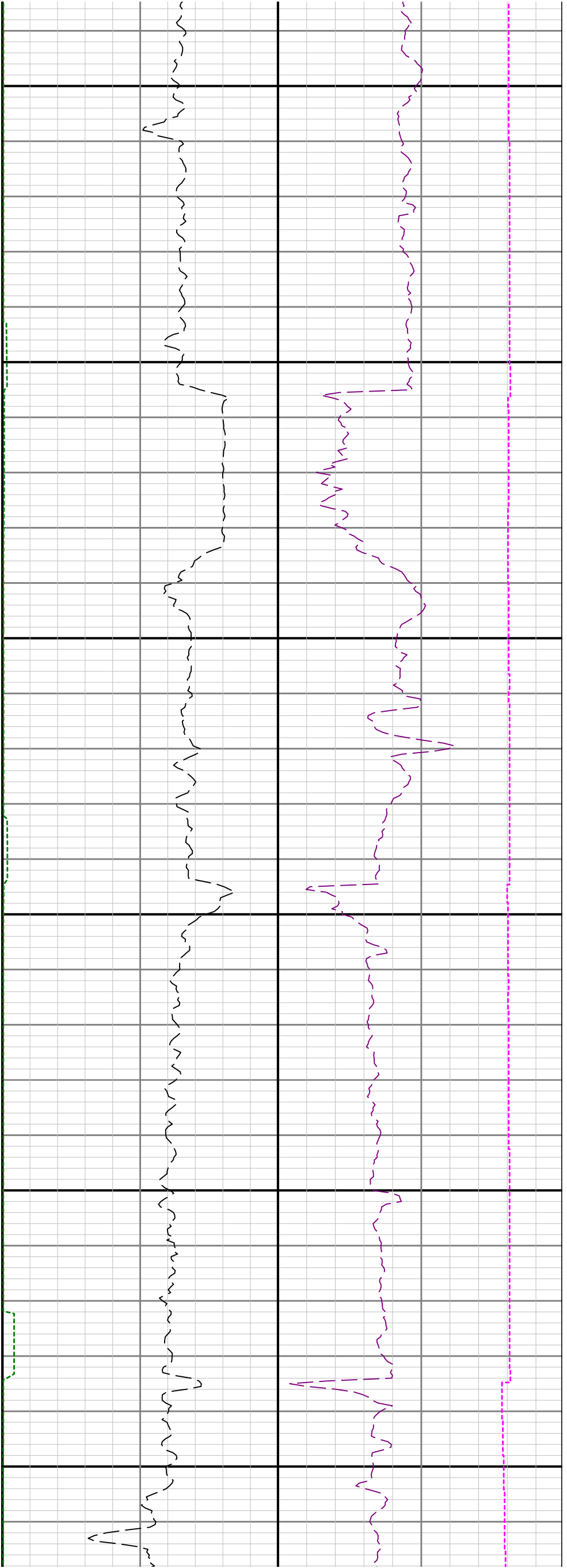
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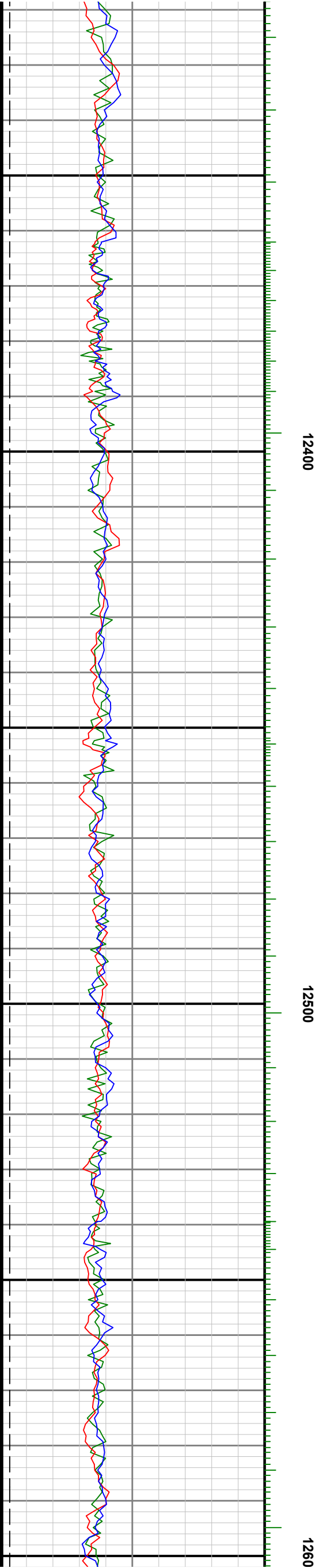
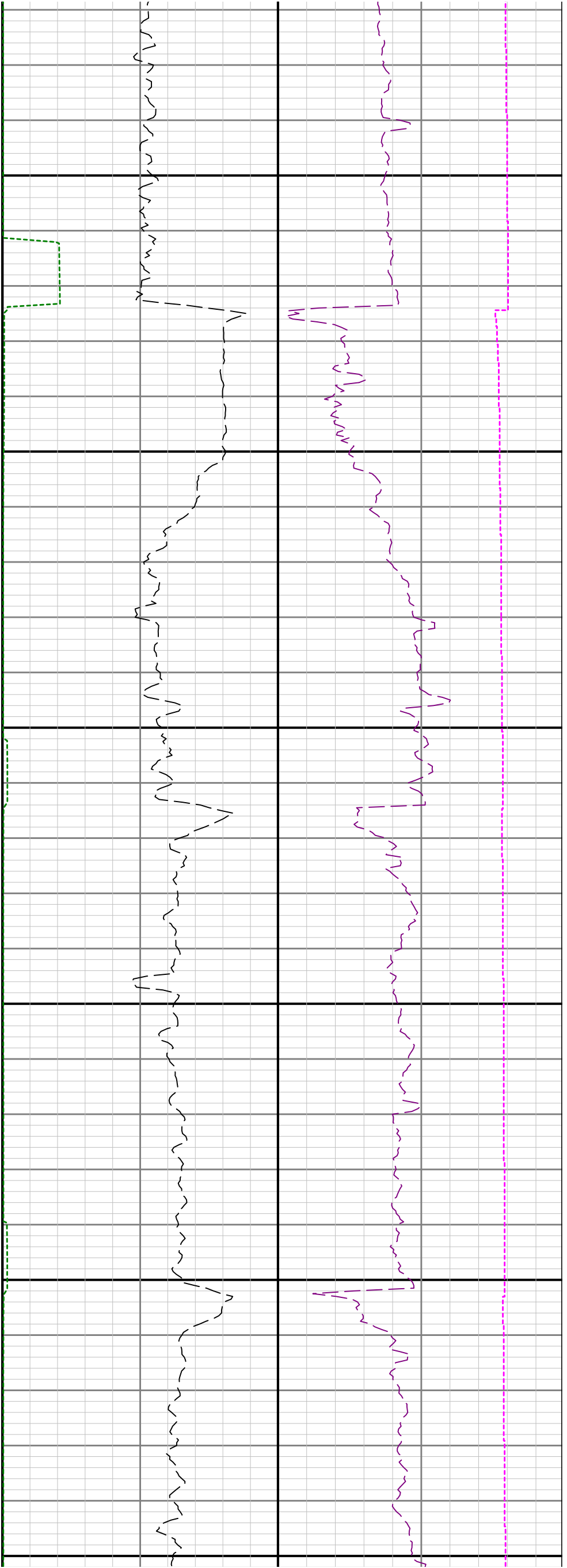
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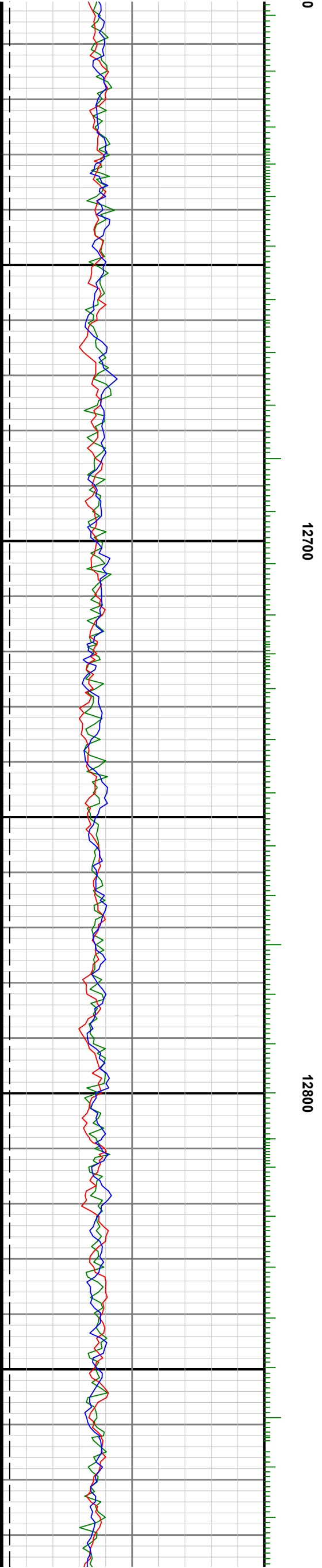
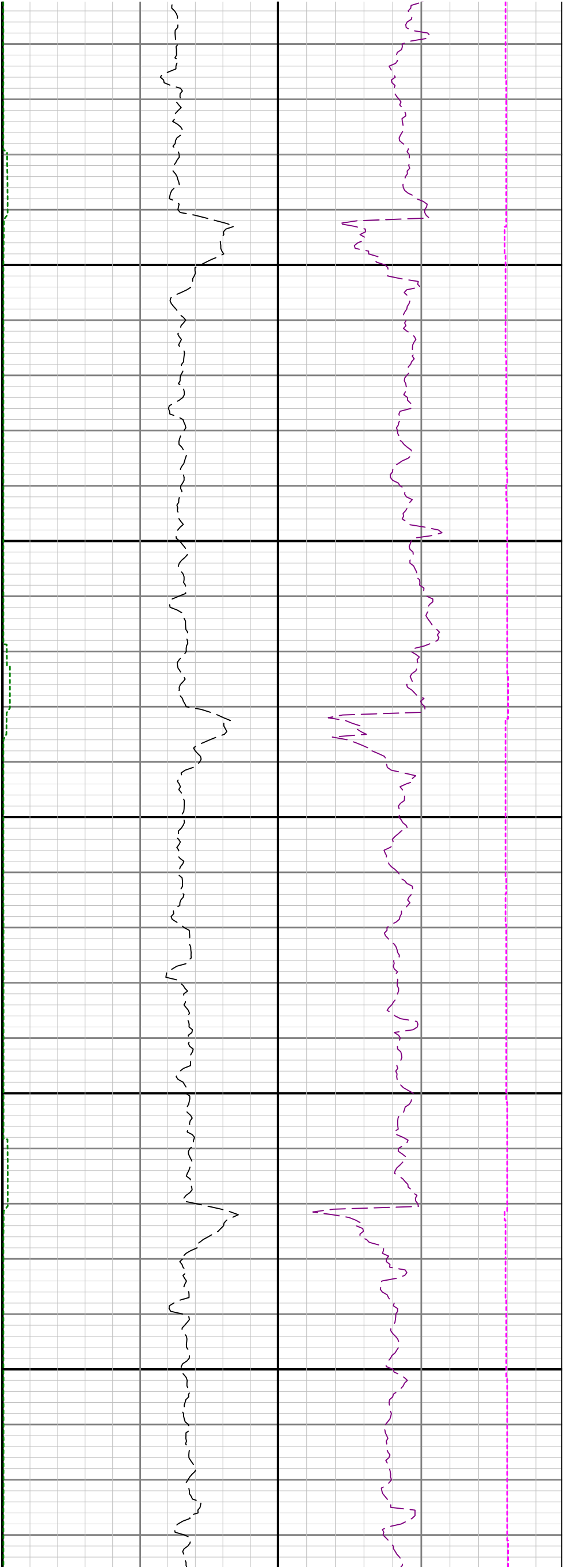


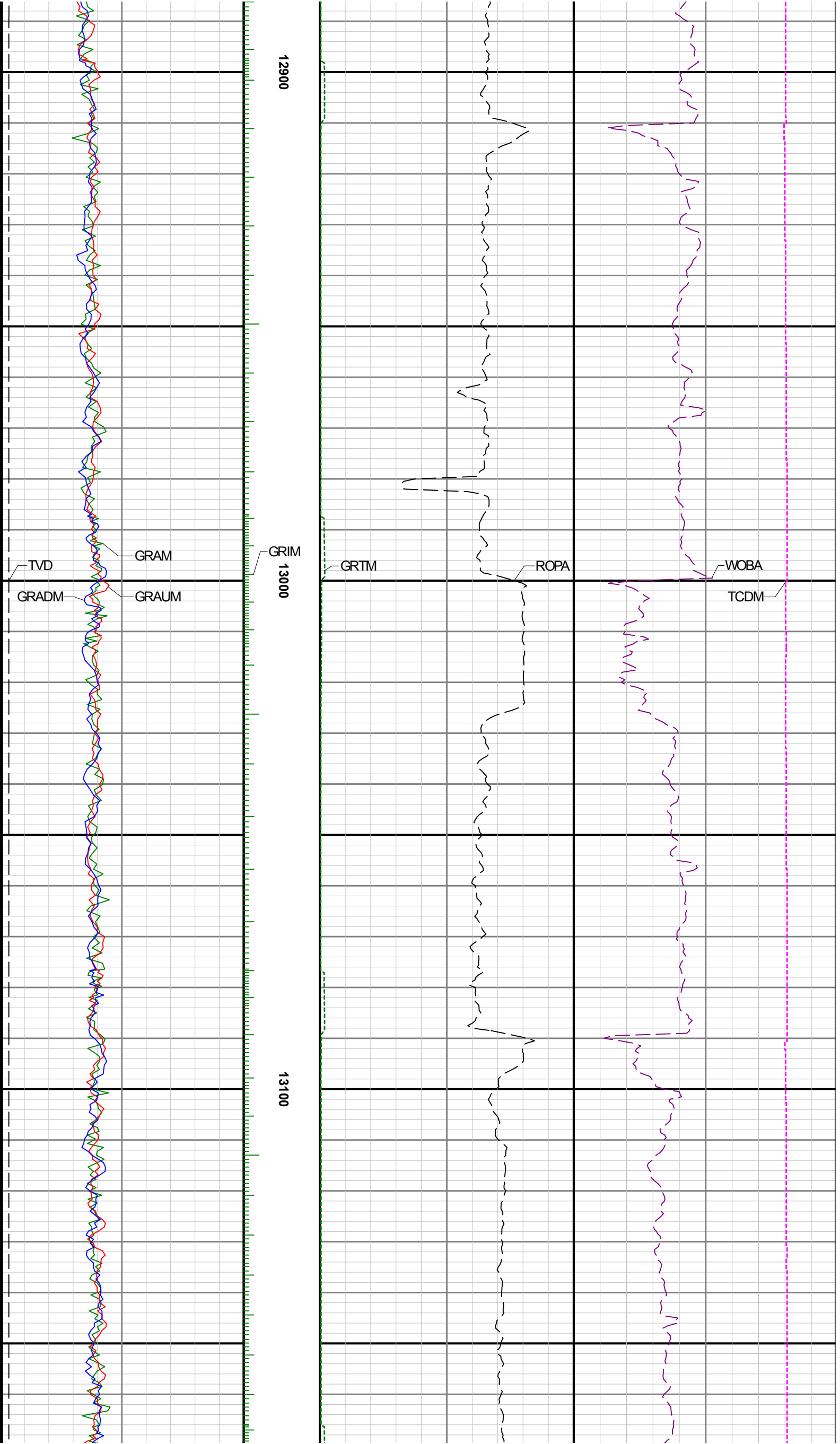


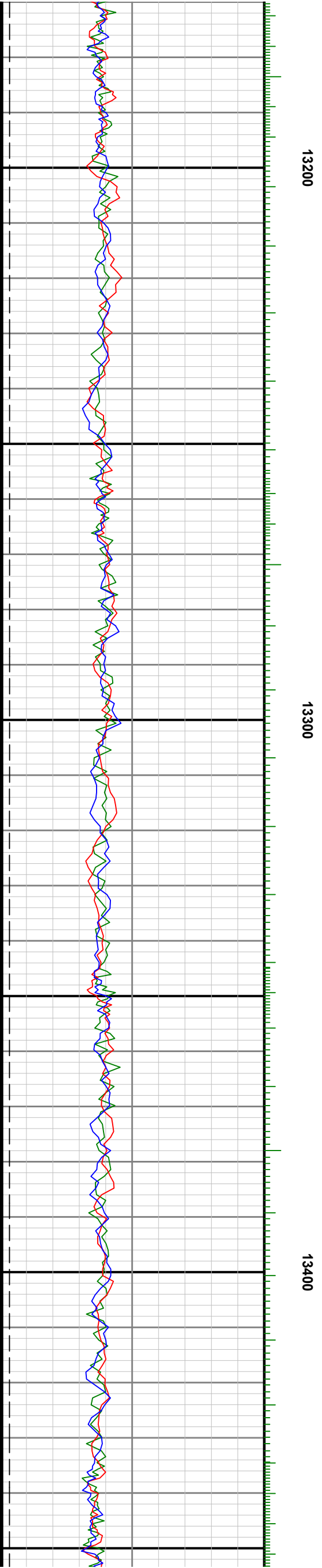


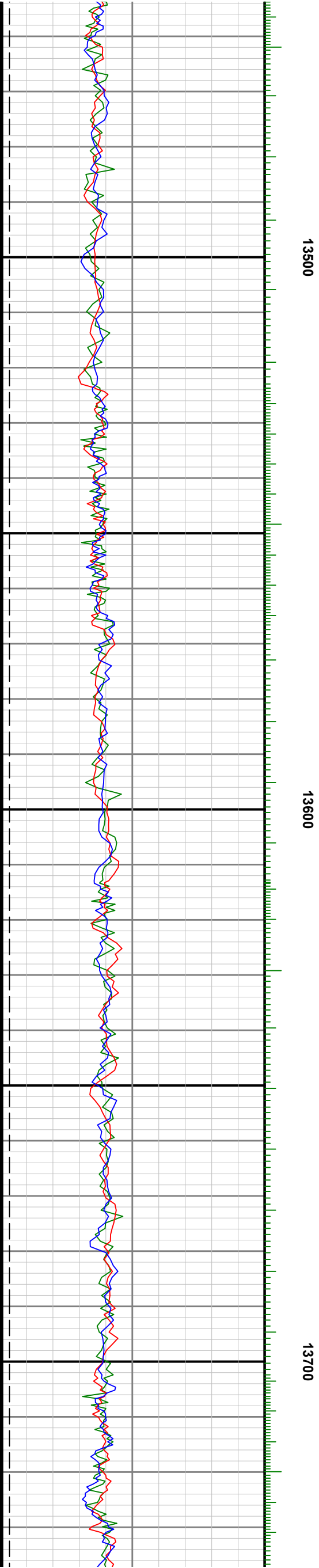
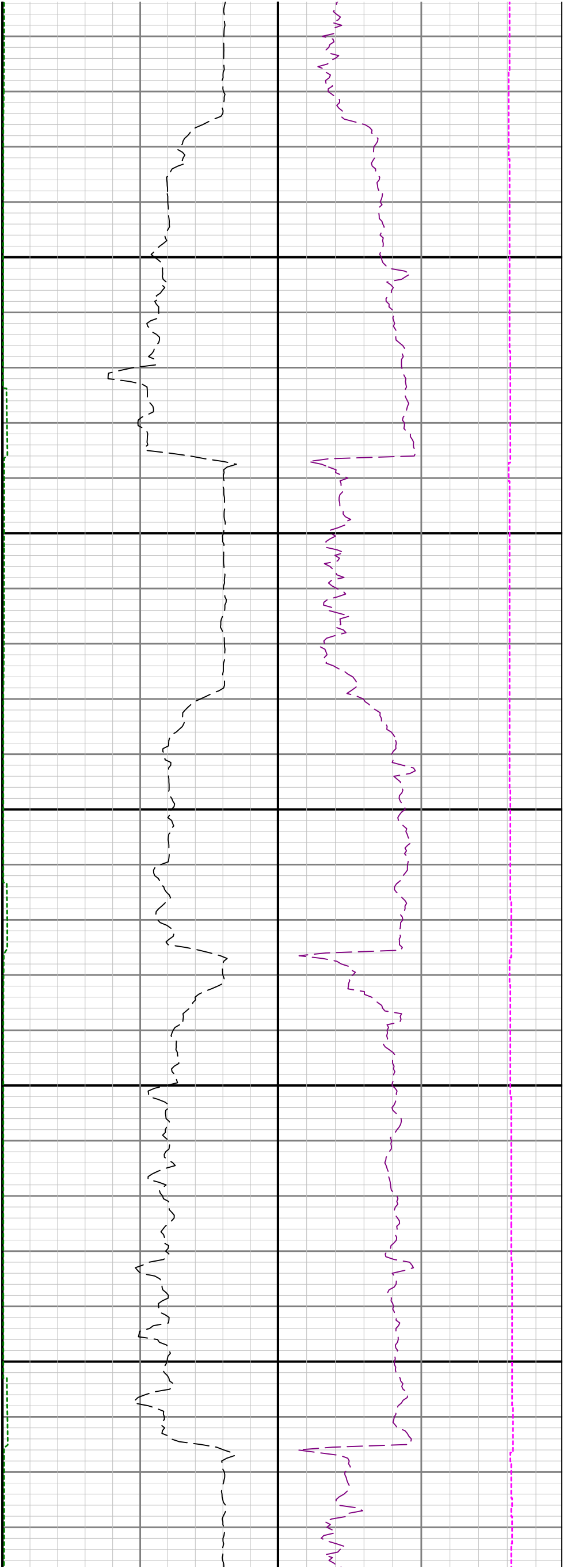


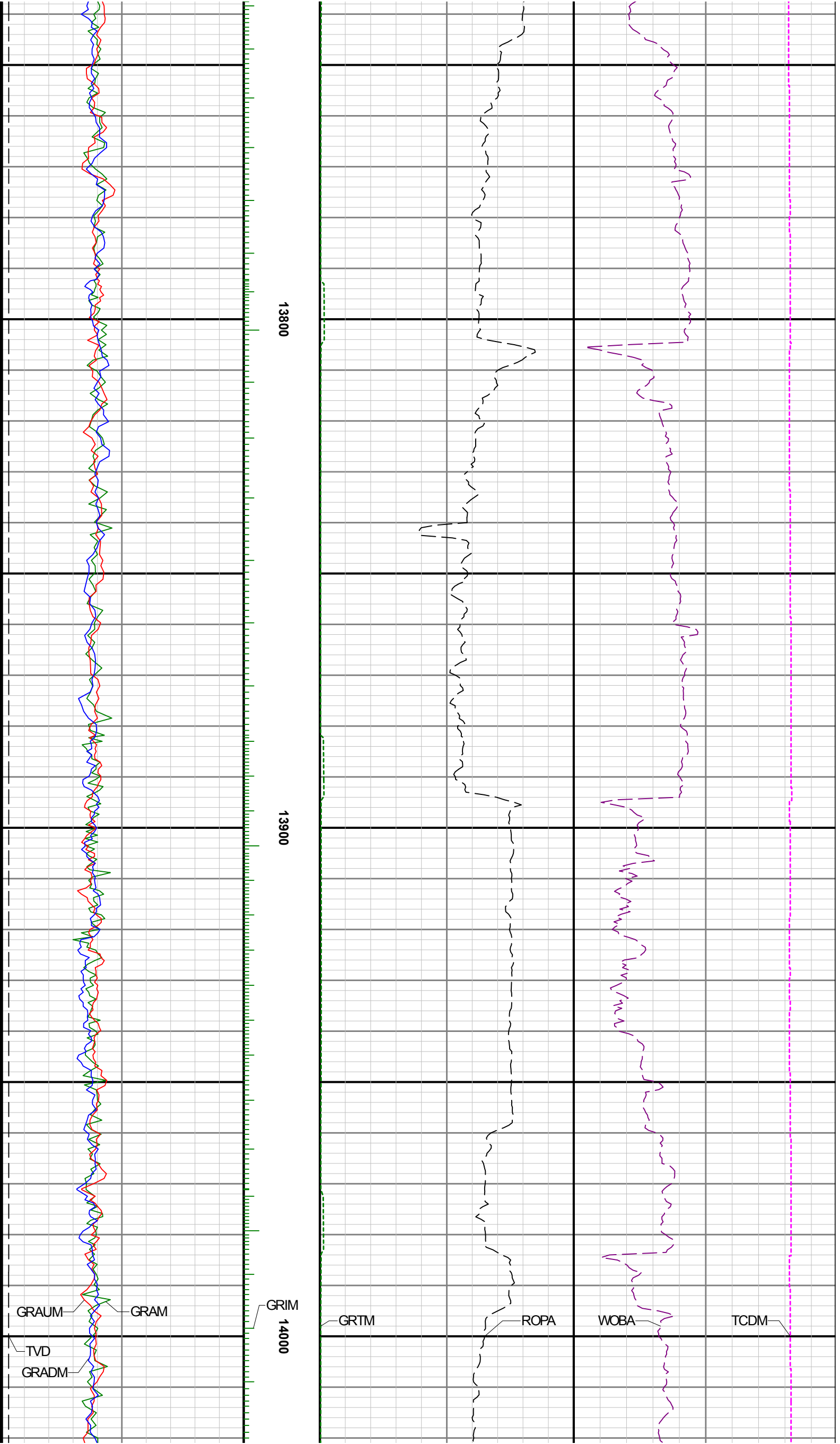


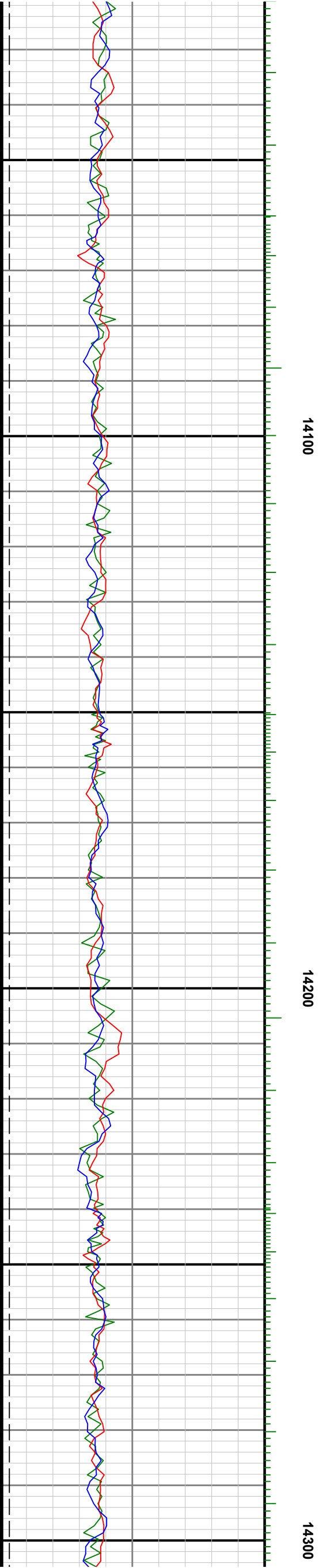
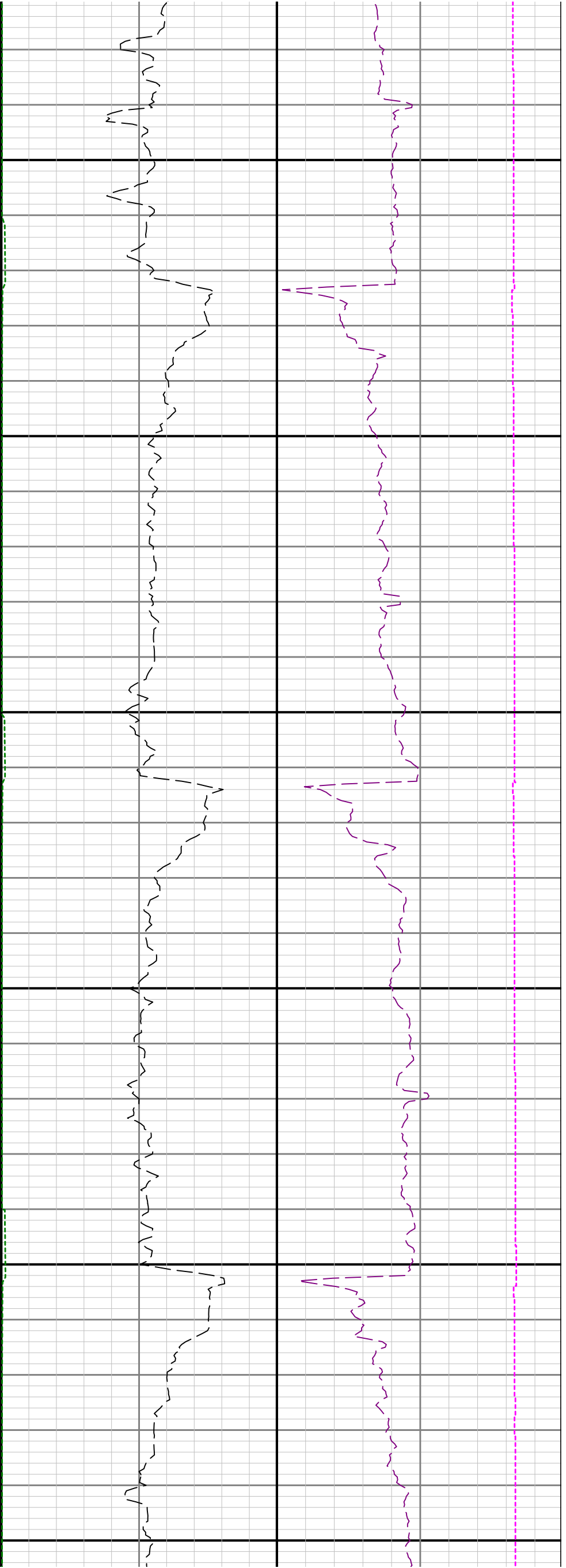


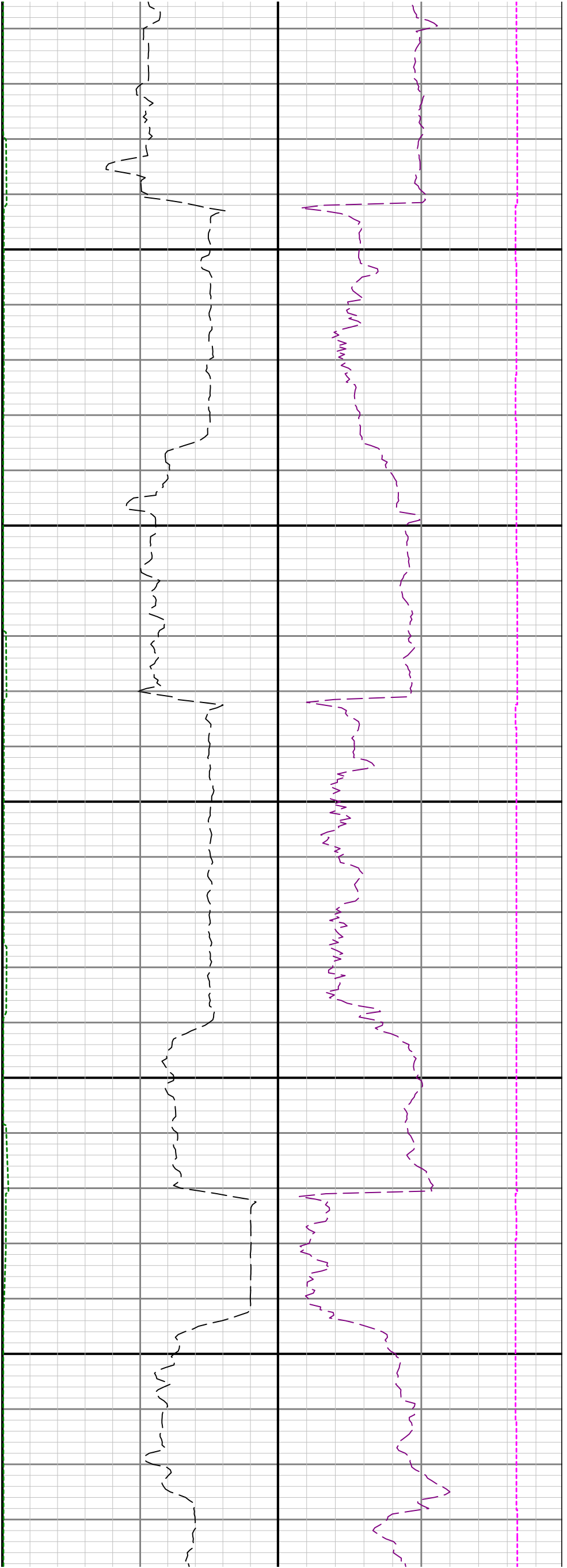






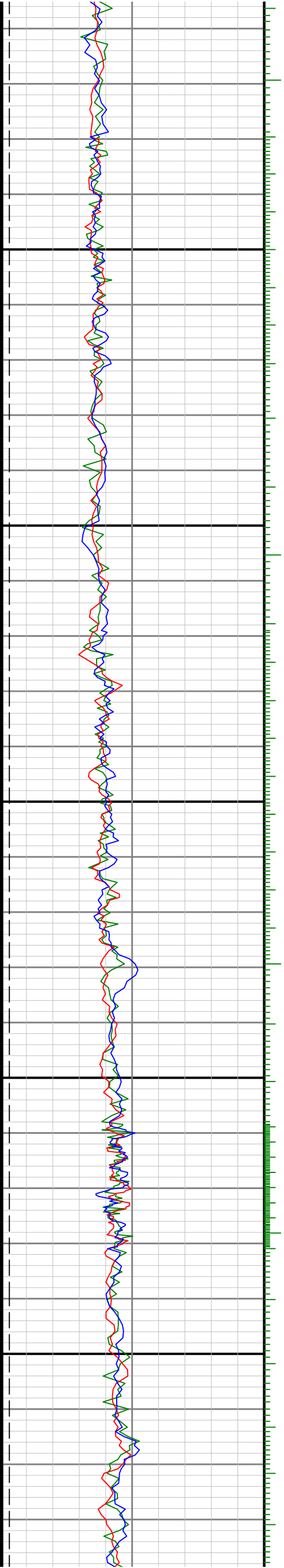


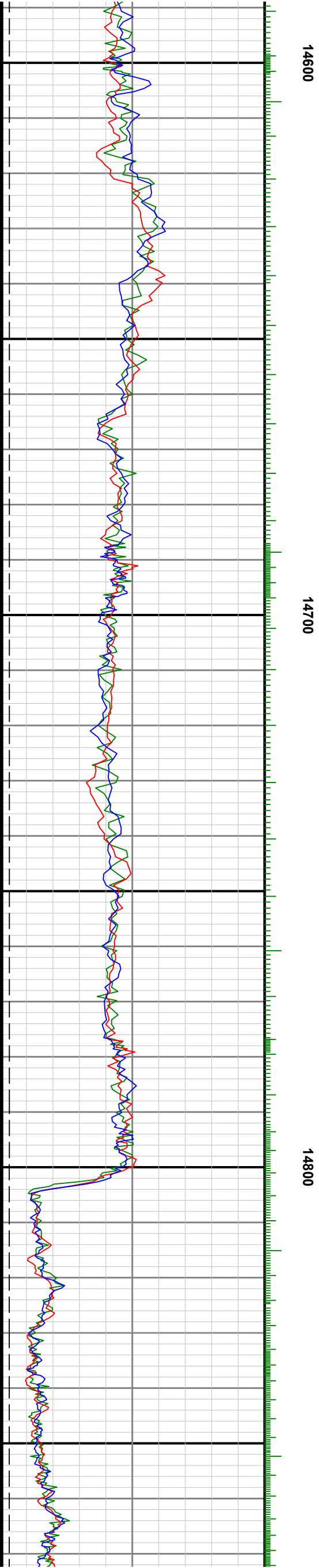
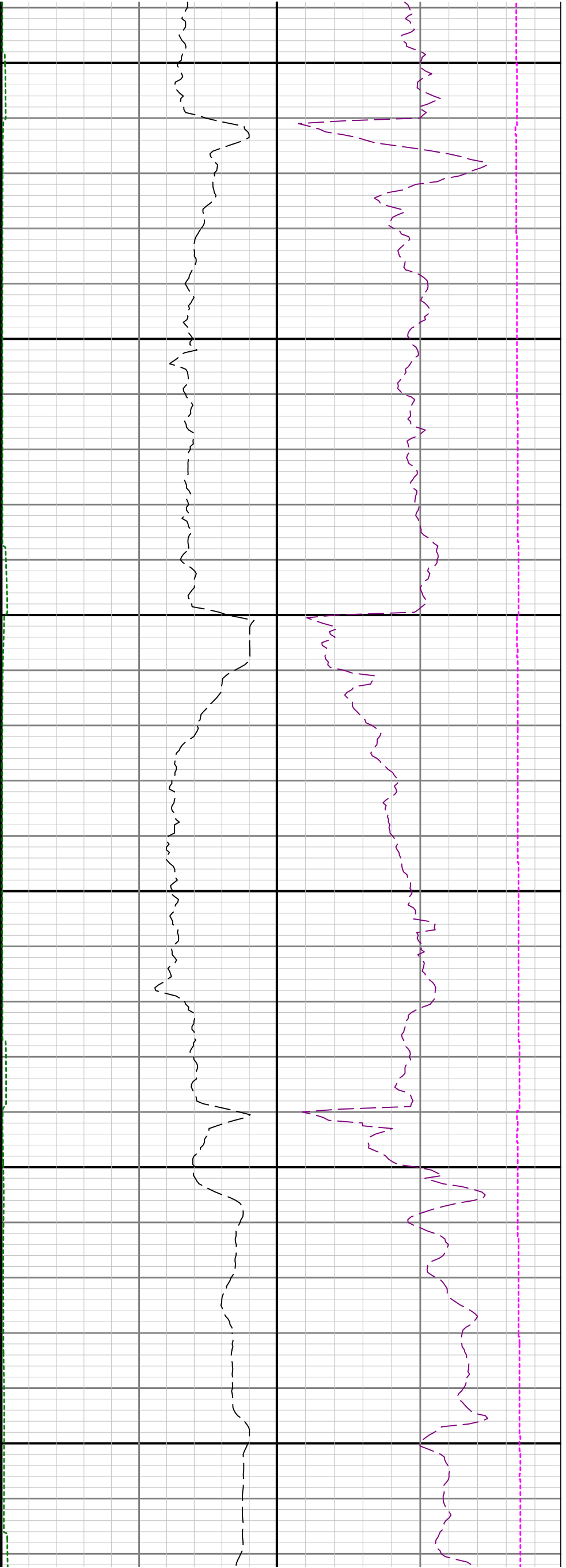


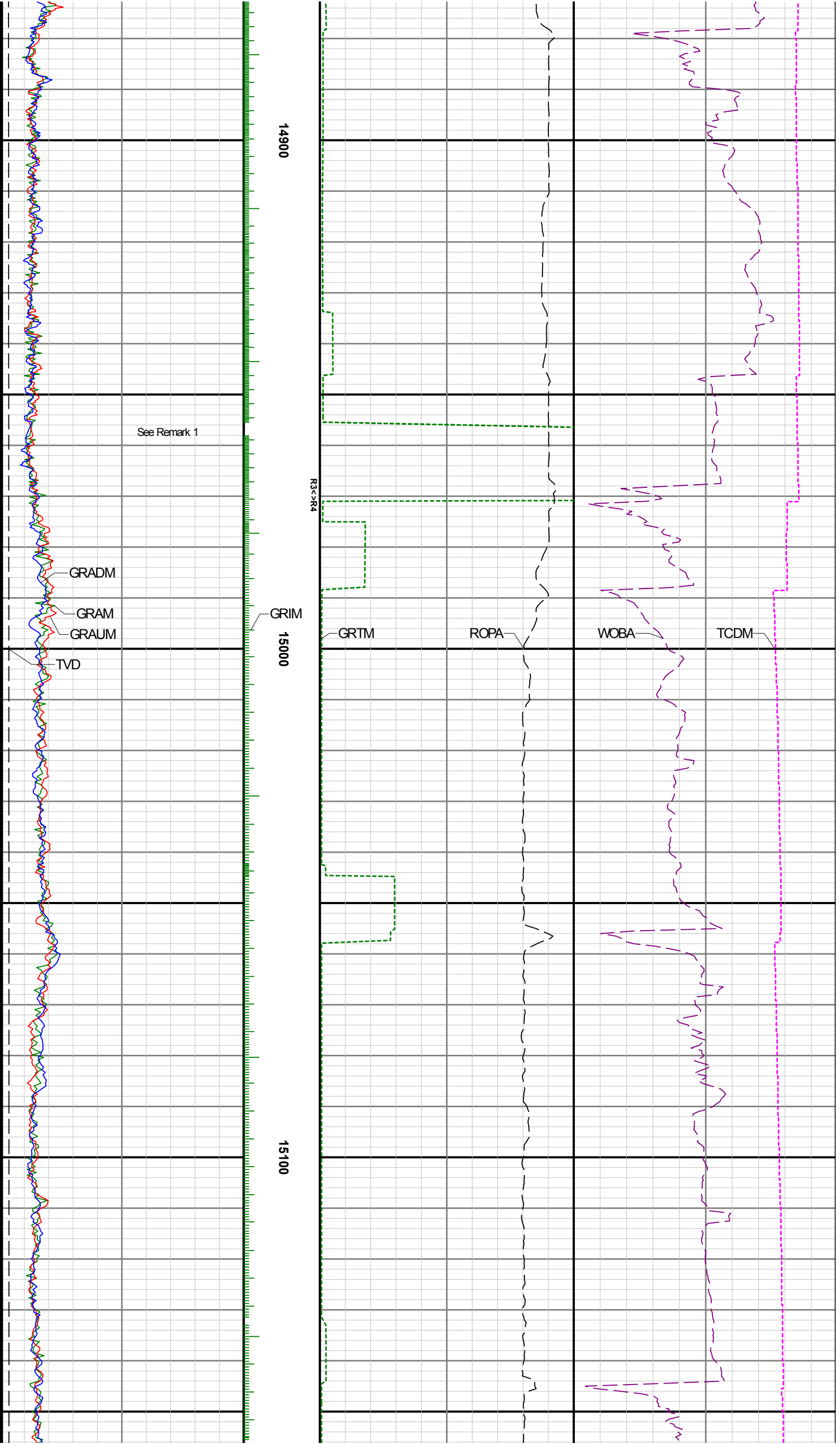


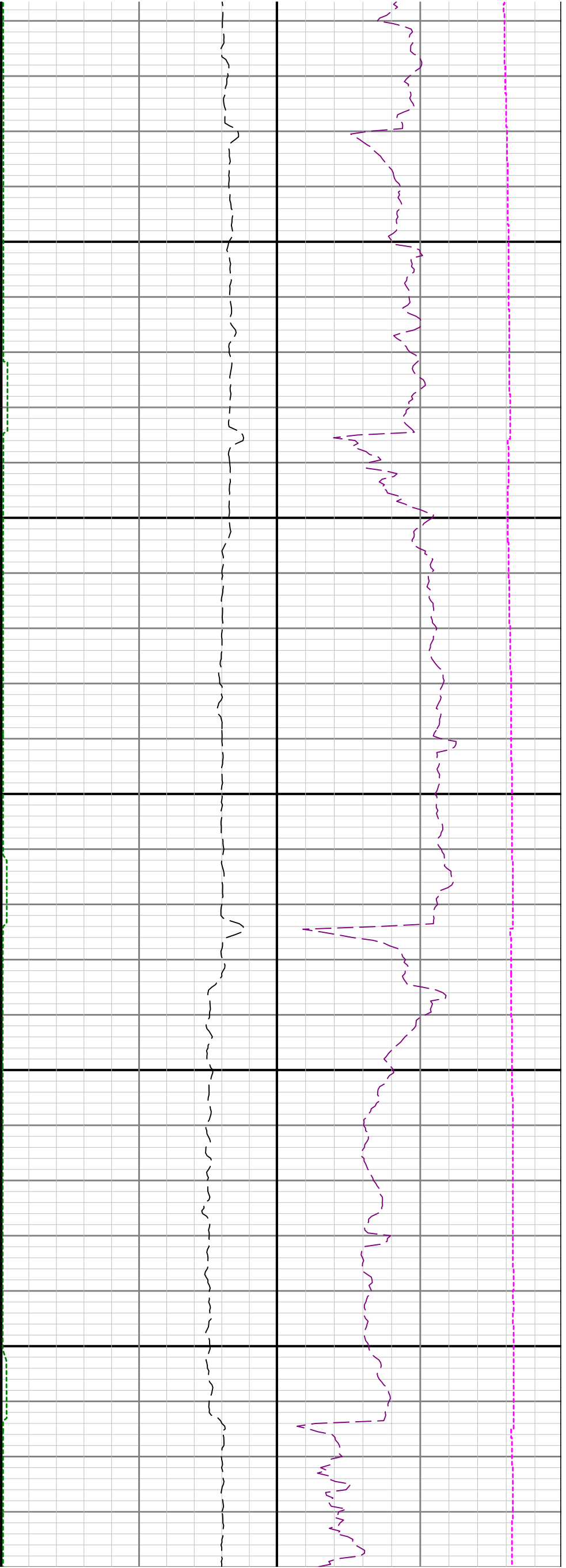
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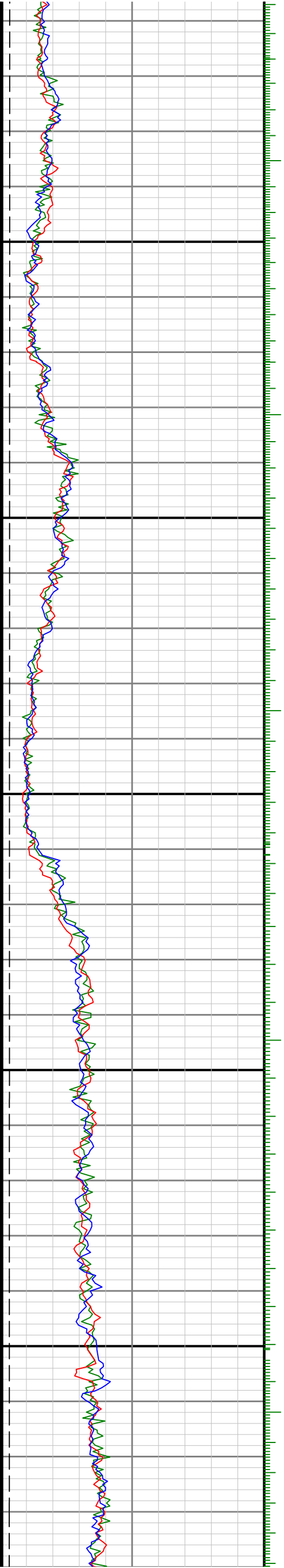


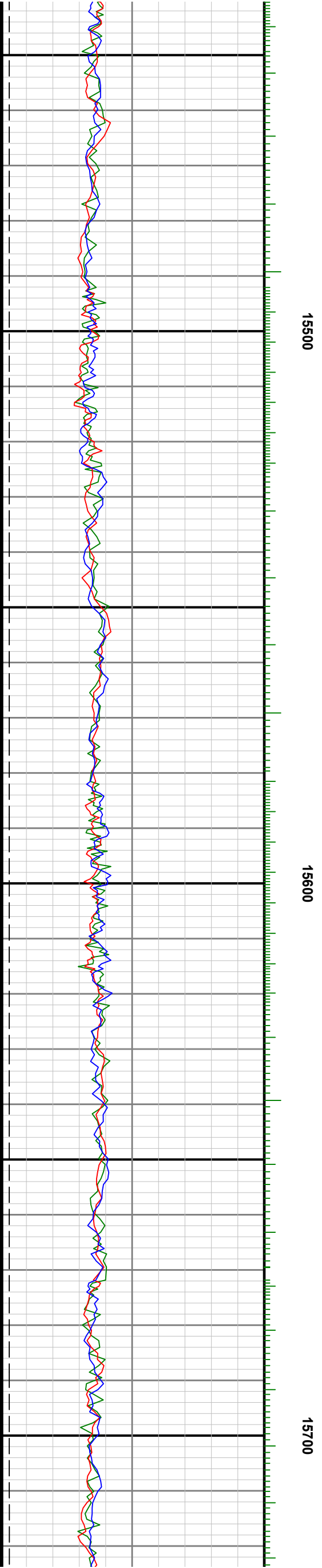
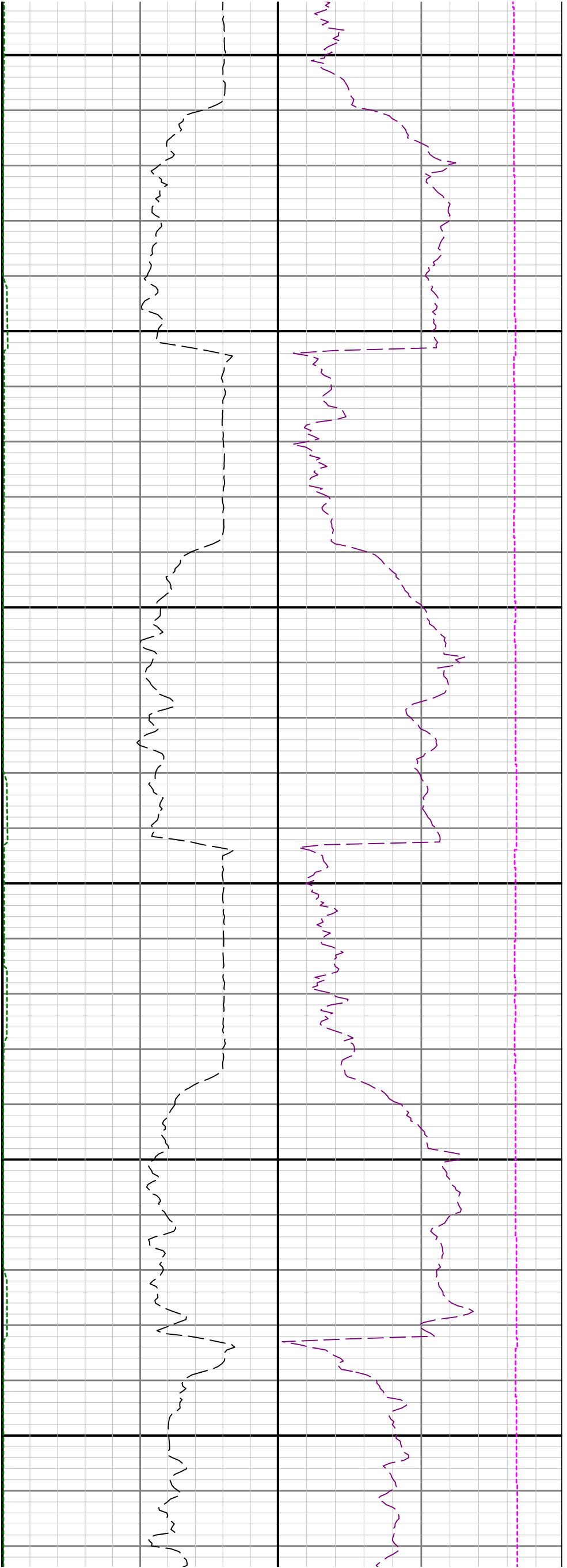


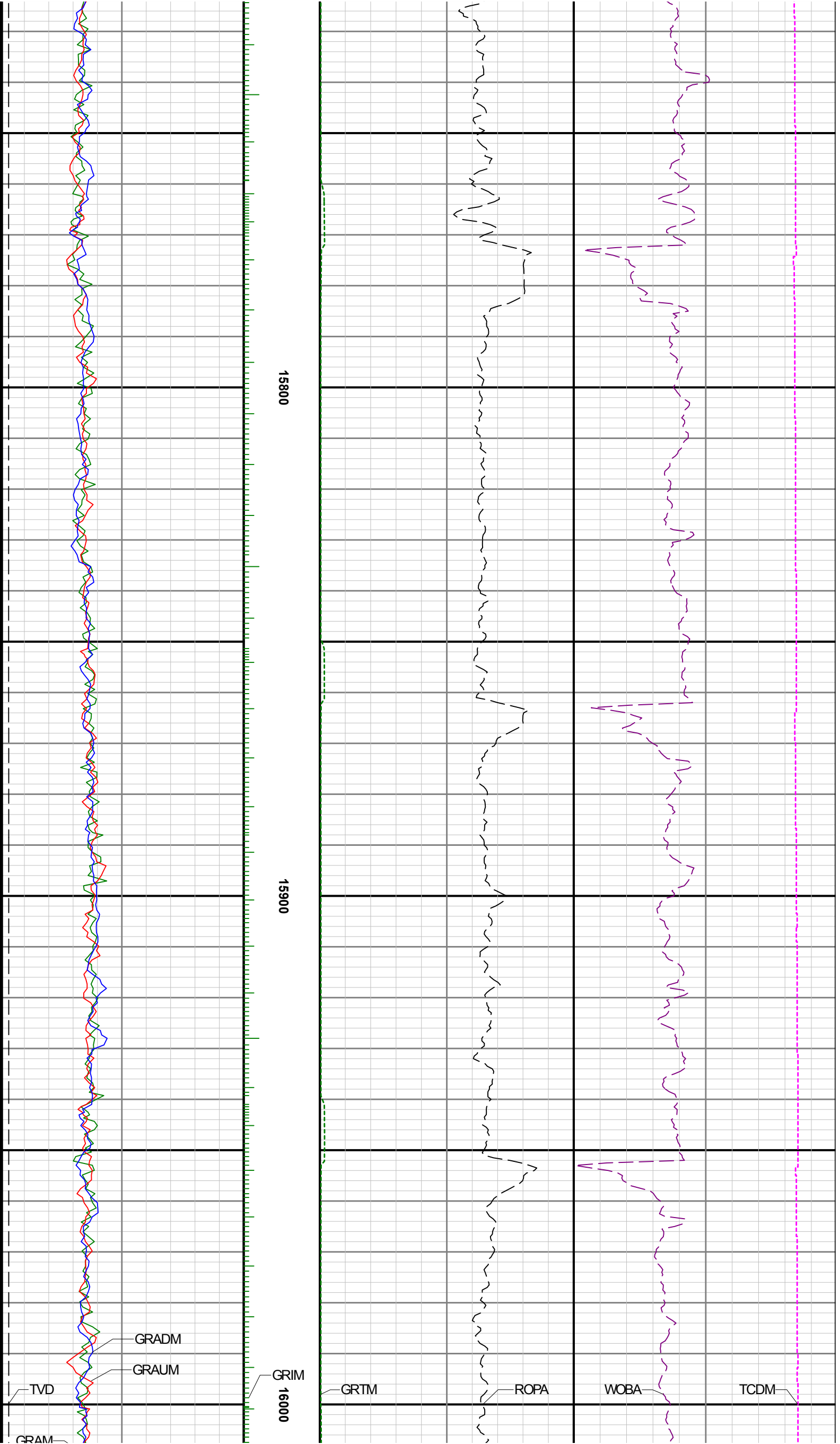
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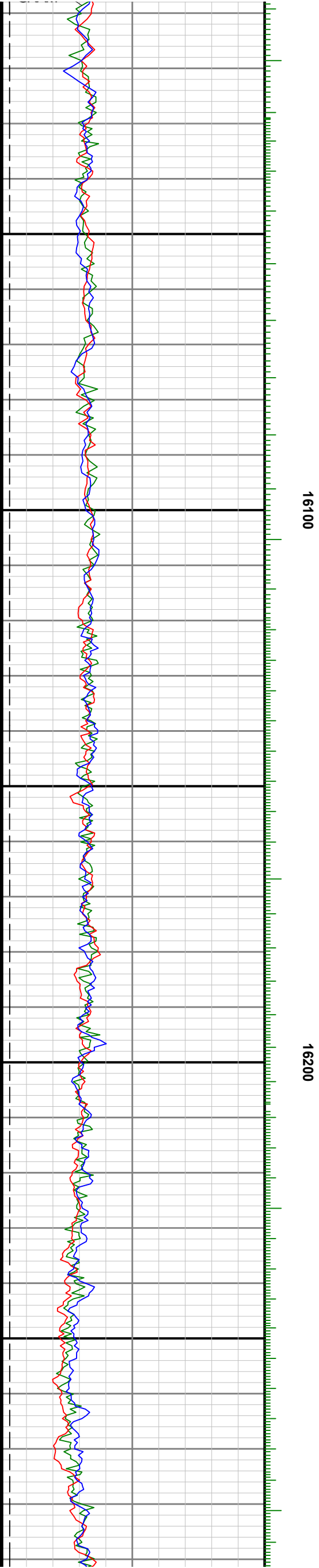
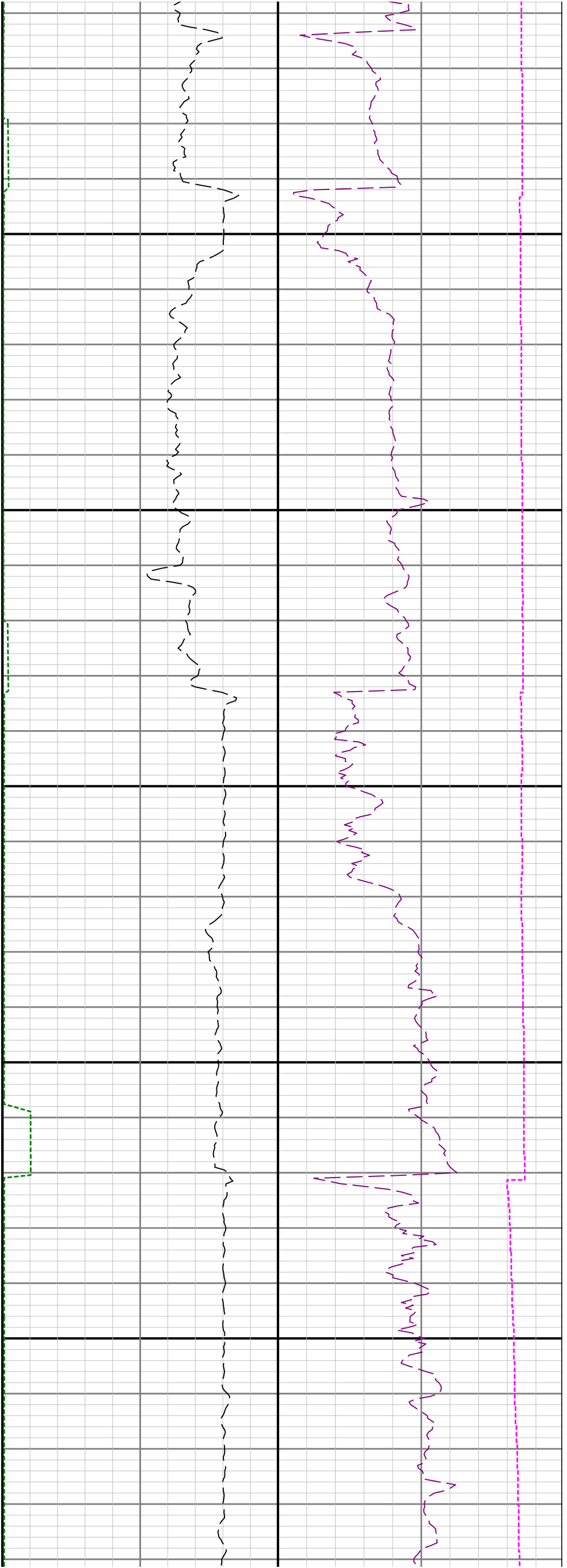
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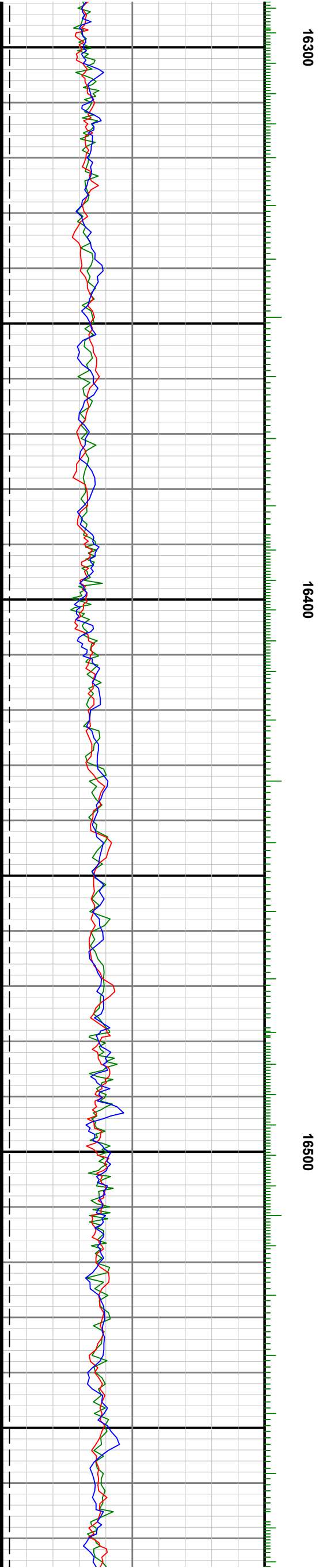
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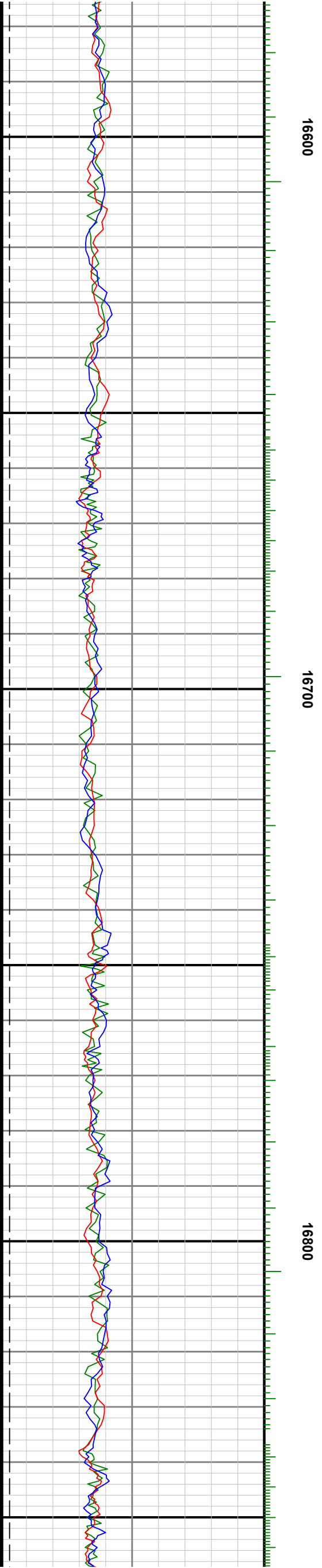


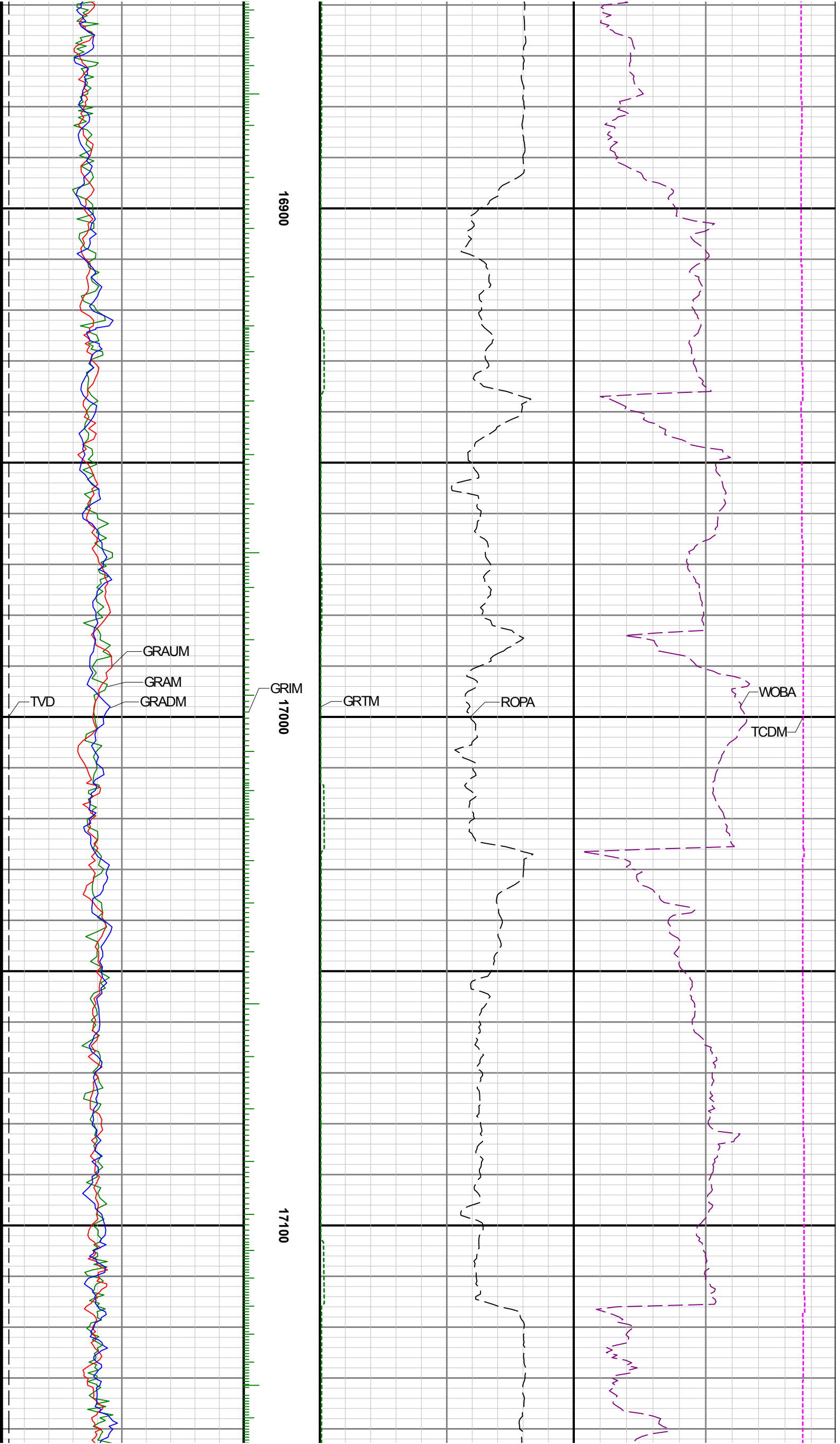


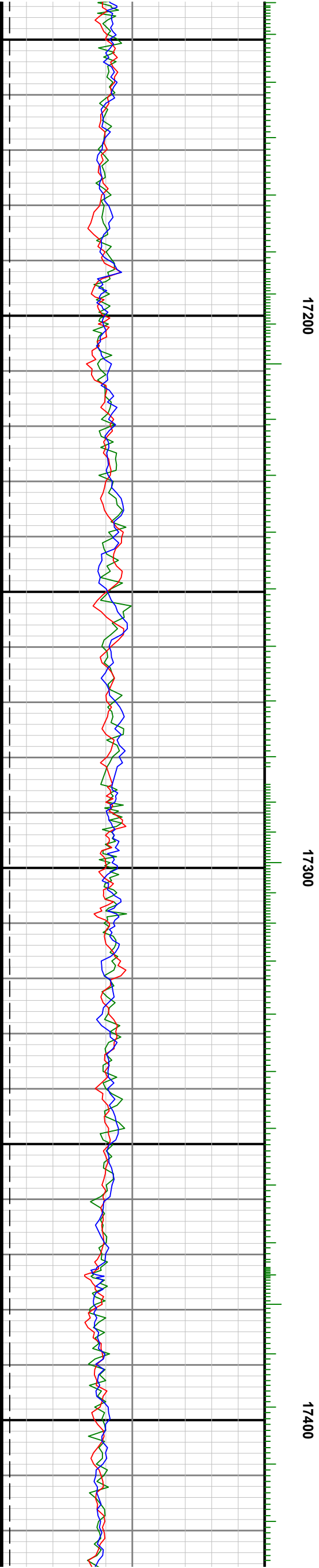
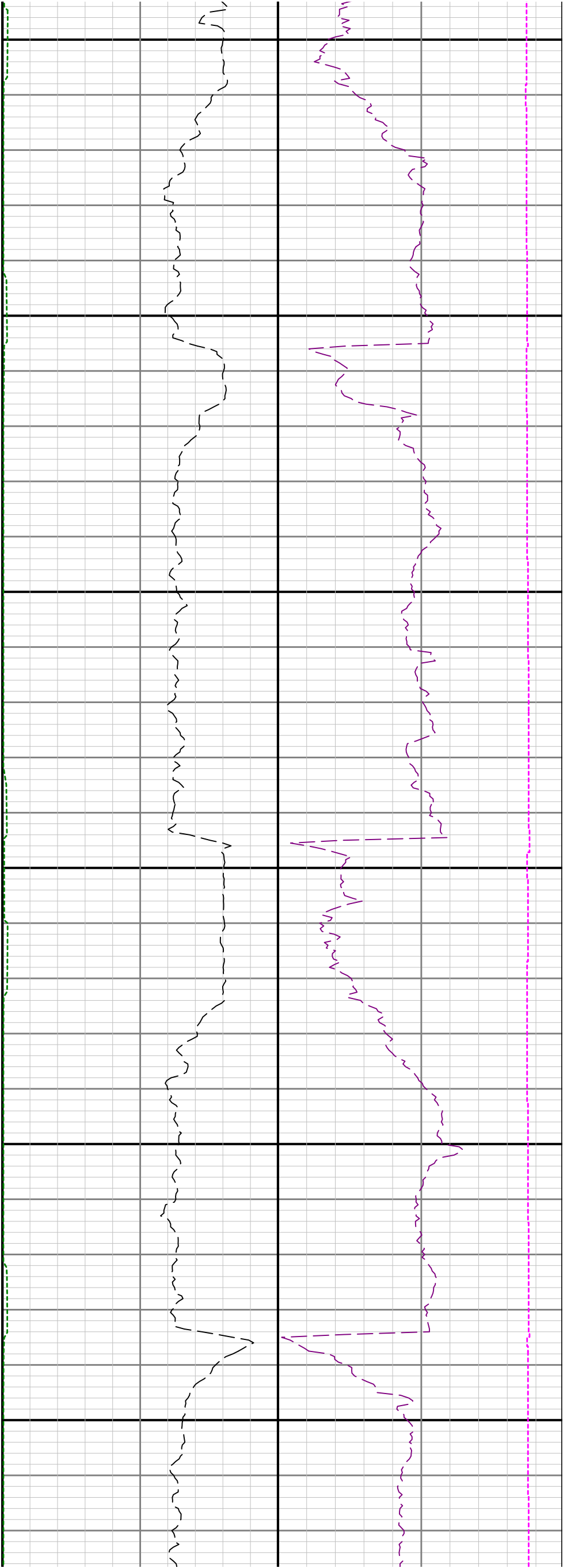


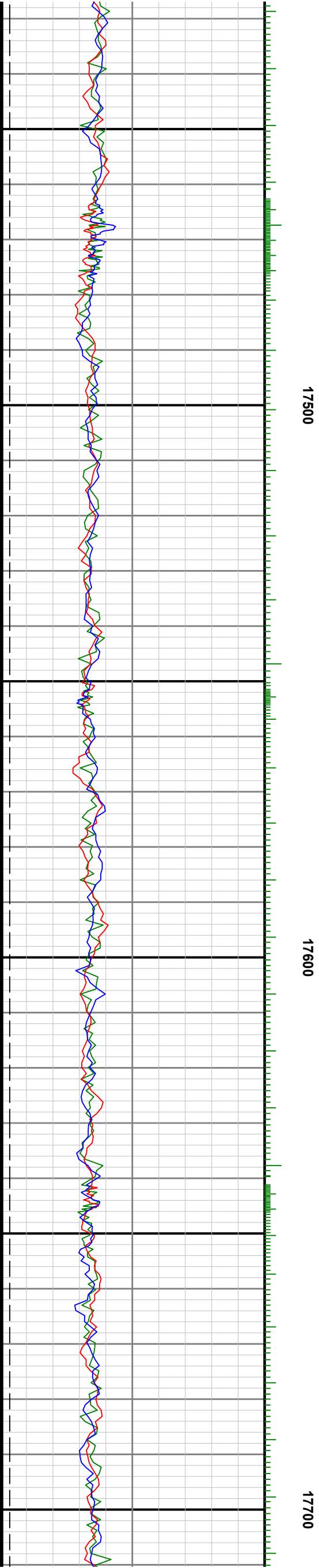


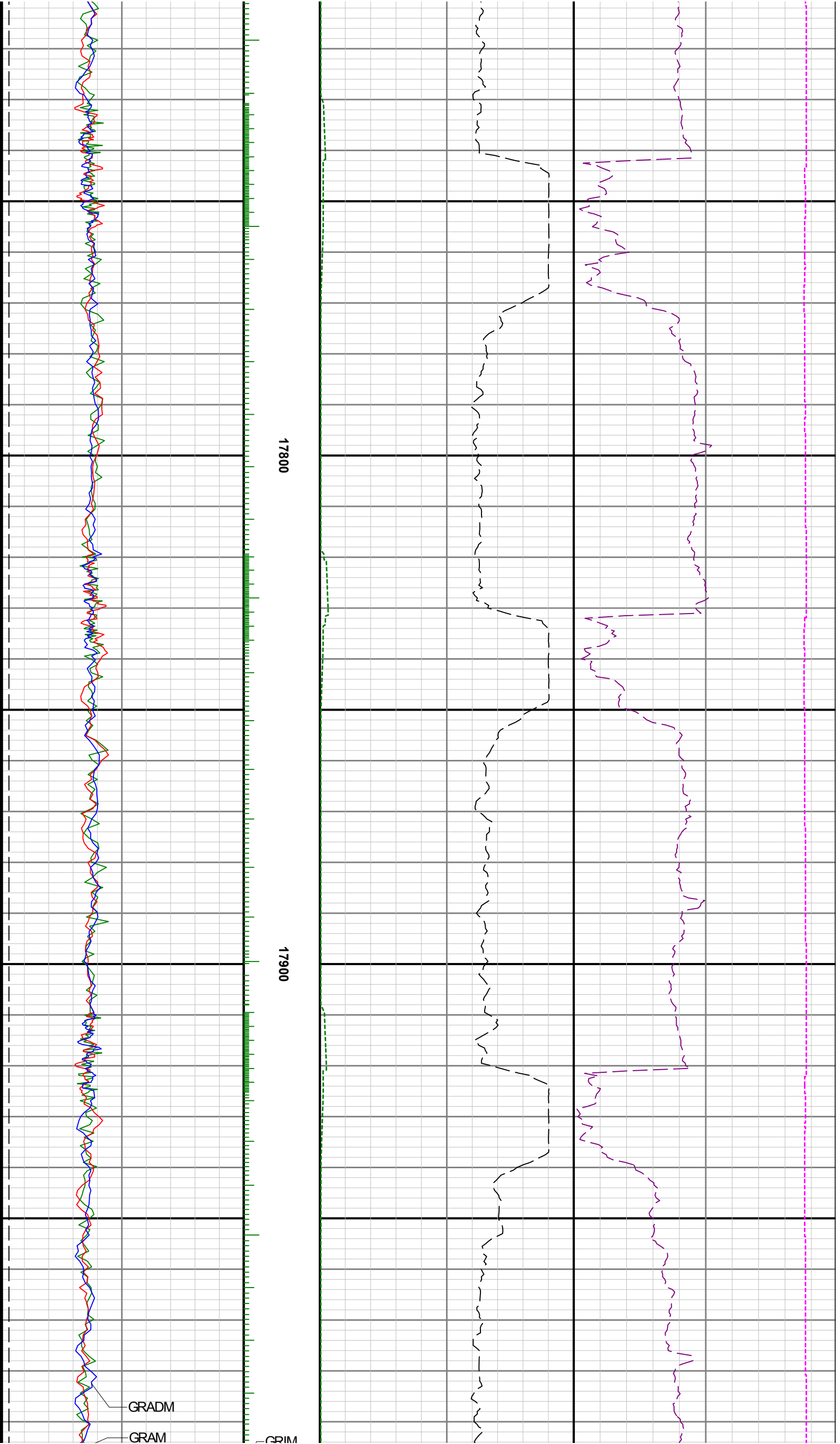


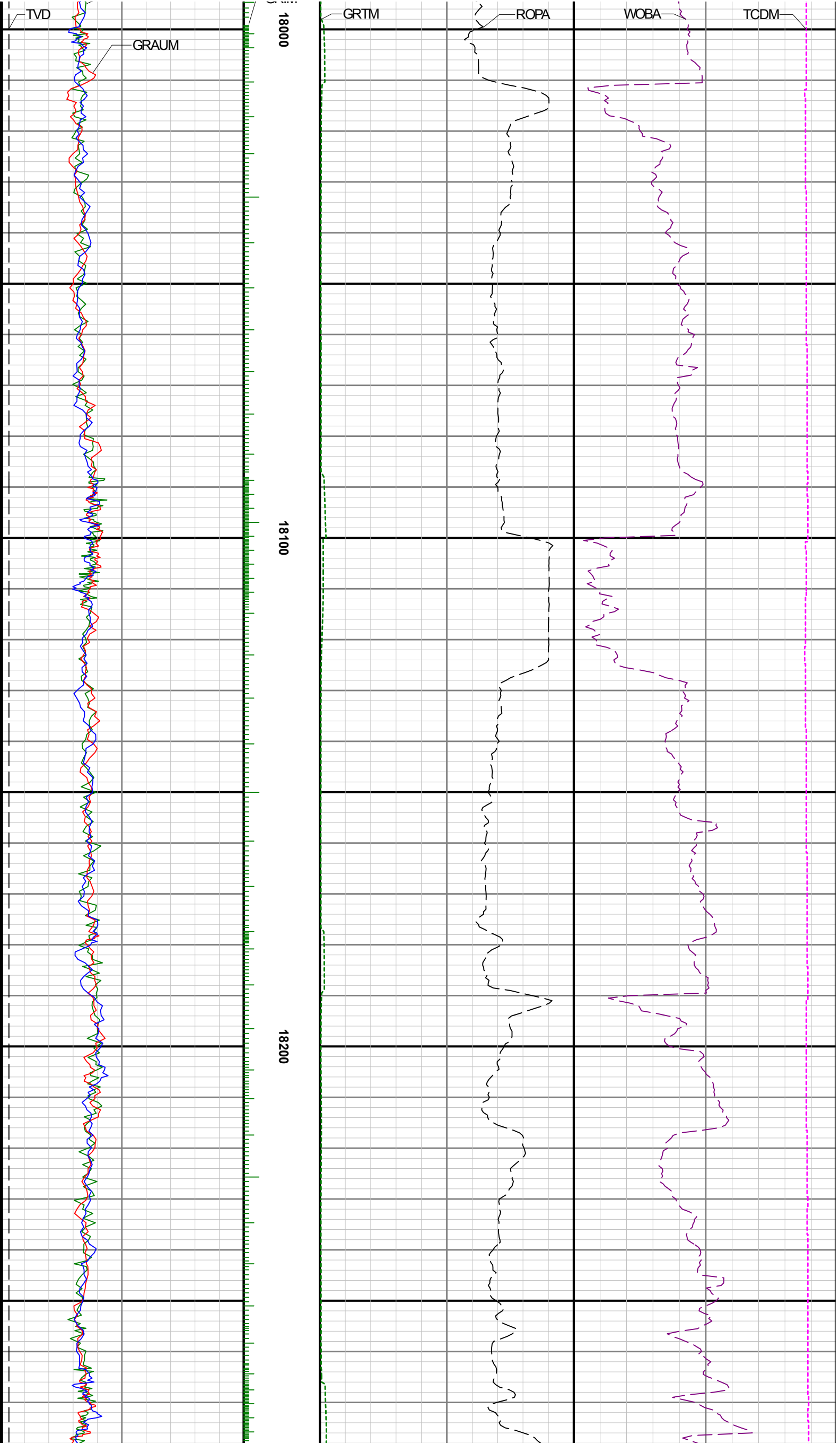


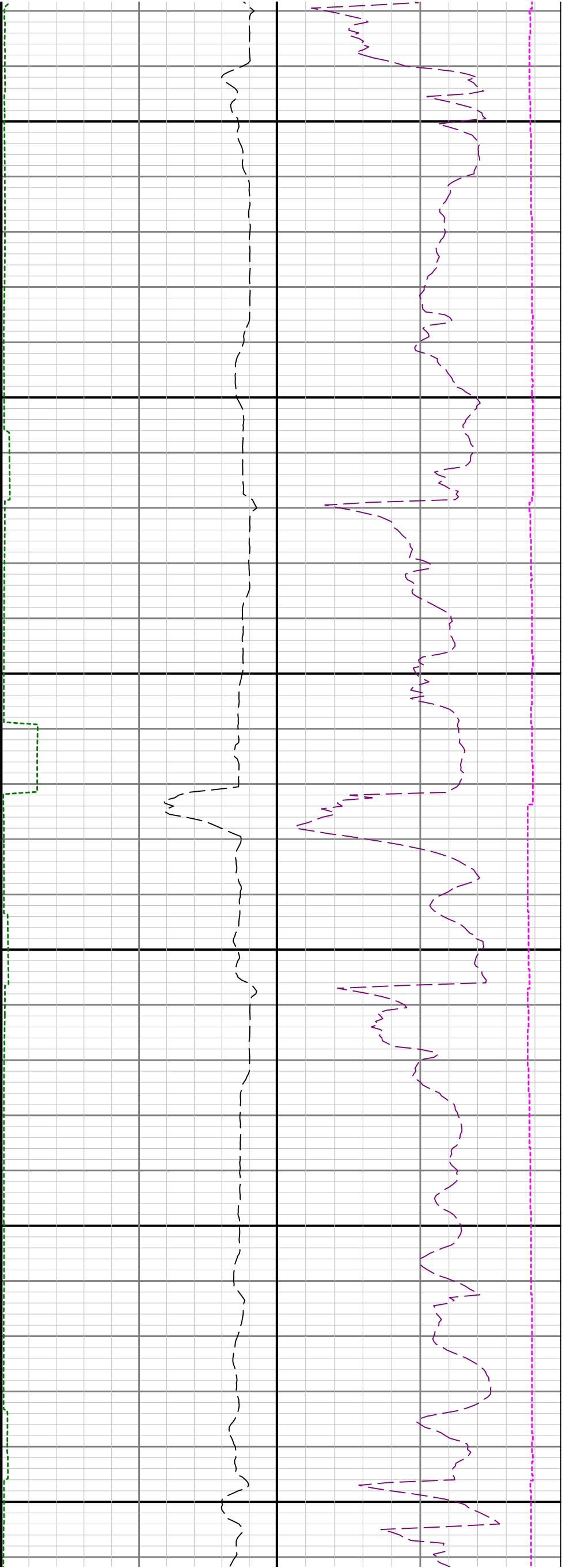












18300

18400

18500

