



LWD MEMORY LOG

Gamma Ray

Baker Hughes				LWD MEMORY LOG											
				Gamma Ray											
Scale:		Company: Anadarko													
1:240		Well: Folley 13-8HZ													
Measured Depth		Field: Watenberg													
Depth Reference:		County:		Larimer		Country: United States									
Driller's Depth		State:		Colorado											
Status:		Surface Location:						Other Services:							
Final Print		Latitude: 40° 23' 53.833" N													
API No: 05069065260000		Longitude: 104° 56' 46.871" W						Directional							
Job ID: 110237274															
Permanent Datum (P.D.):		Ground Level		Elevation: 4906.00 ft		Elev. KB: N/A									
Log Measured From:		Rig Floor		Above P.D.: 26.00 ft		Elev. DF: 4932.00 ft									
						Elev. GL: 4906.00 ft									
Dates		Interval		Magnetic Field Reference											
From: 2020-02-25		Drilled (ft)		Logged (ft)		Azi Reference North:		True Dip Angle: (deg)		66.49					
To: 2020-02-28		Top: 1913.00		Top: 1913.00		Total Magnetic Field Strength: (nT)				52.197					
Spud: 2020-02-25		Bottom: 20364.00		Bottom: 20350.00		Mag to Reference North Correction: (deg)				8.21					
Borehole Record												Casing Record			
Hole Size (in)		From (ft)		To (ft)		Size (in)		Weight (lb/ft)		From (ft)		To (ft)			
13.500		26.00		1913.00		9.625		36.00		26.00		1903.00			
8.500		1913.00		20364.00											
								</							

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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)			
1	1	8.500	PDC	3.50	AutoTrak Curve	1913.00	20350.00	1913.00	20364.00	2020-02-25 18:00	2020-02-28 17:25	64.74

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Doug Rusco	2020-02-25	2020-02-29	Matt Yule	2020-02-25	2020-02-29			

Mud Properties Record

Date / Time	Run No.	Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2020-02-24 13:04	1	1913.00	Oil Based Mud	9.1	13	N/A	N/A	72/28	Flow Line	44000	0.00
2020-02-25 00:12	1	4313.00	Oil Based Mud	9.0	16	N/A	N/A	70/30	Active Pit	51000	0.00
2020-02-28 00:14	1	10674.00	Oil Based Mud	9.2	16	N/A	N/A	70/30	Active Pit	56000	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	AutoTrak Curve Steering Unit	14262244	Near Bit VSS	5.93	6.79	7.000	4.330
1	AutoTrak Curve Steering Unit	14262244	Near Bit Inclination	5.93	6.79	7.000	4.330
1	AutoTrak Curve MWD	12538177	Gamma (single)	2.76	13.66	7.000	3.250
1	AutoTrak Curve MWD	12538177	Directional (mag)	12.27	23.17	7.000	3.250

Service and Tool Mnemonics

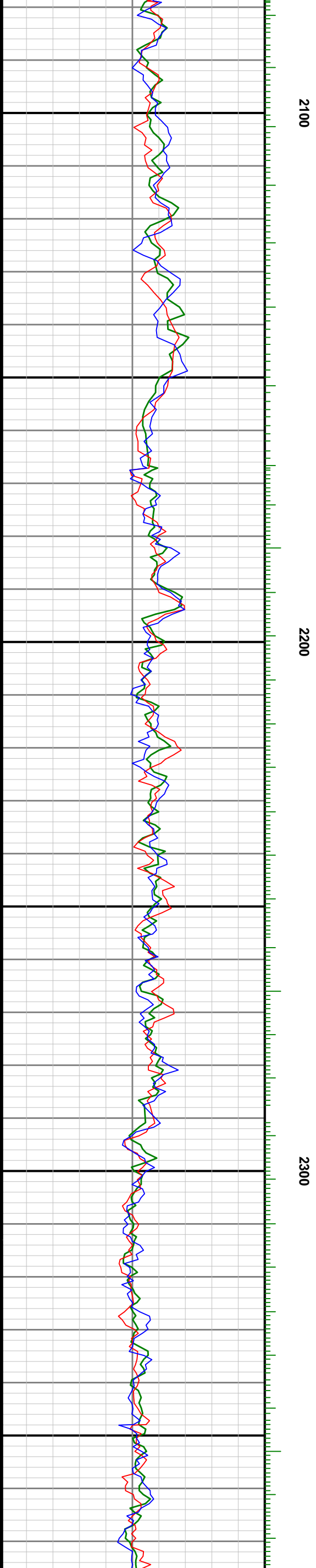
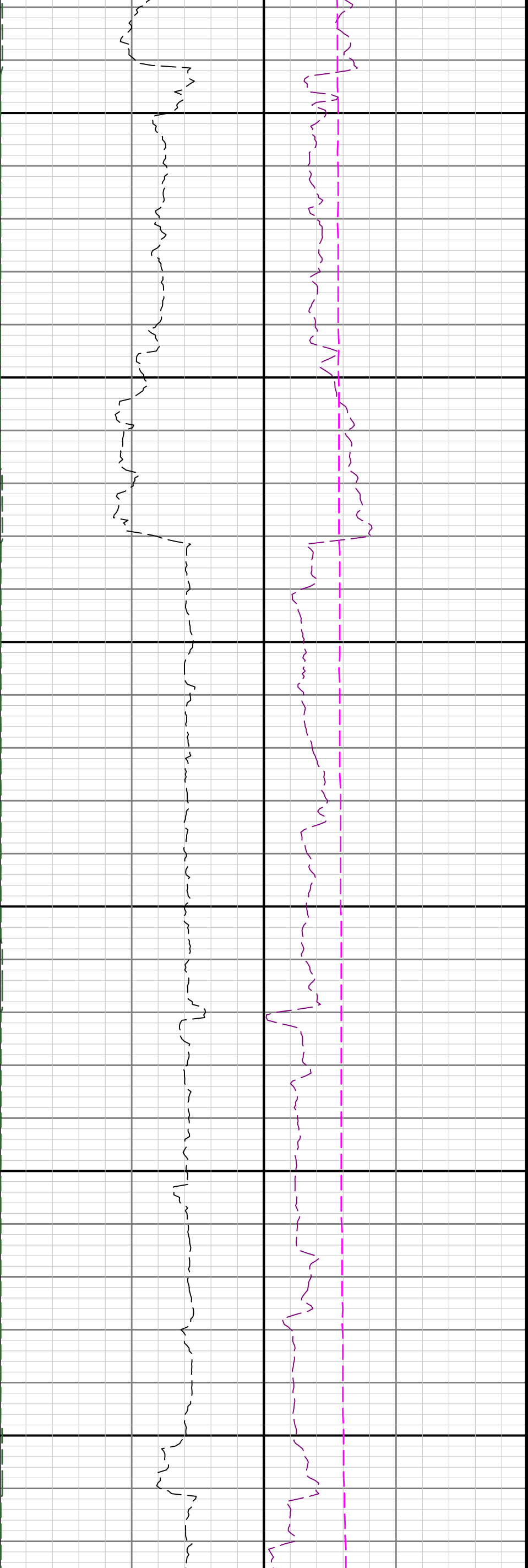
Mnemonic	Name	Description
ATC SU	AutoTrak Curve SU	Auto Trak Curve Steering Unit
ATC MWD	AutoTrak Curve MWD	Auto Trak Curve MWD
ATC LCPM	AutoTrak Curve LCPM	Auto Trak Curve LCPM

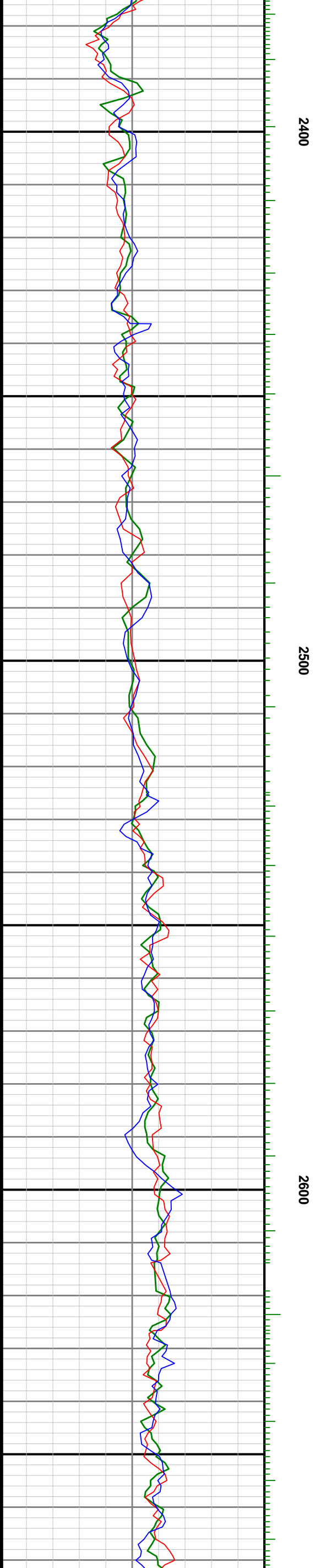
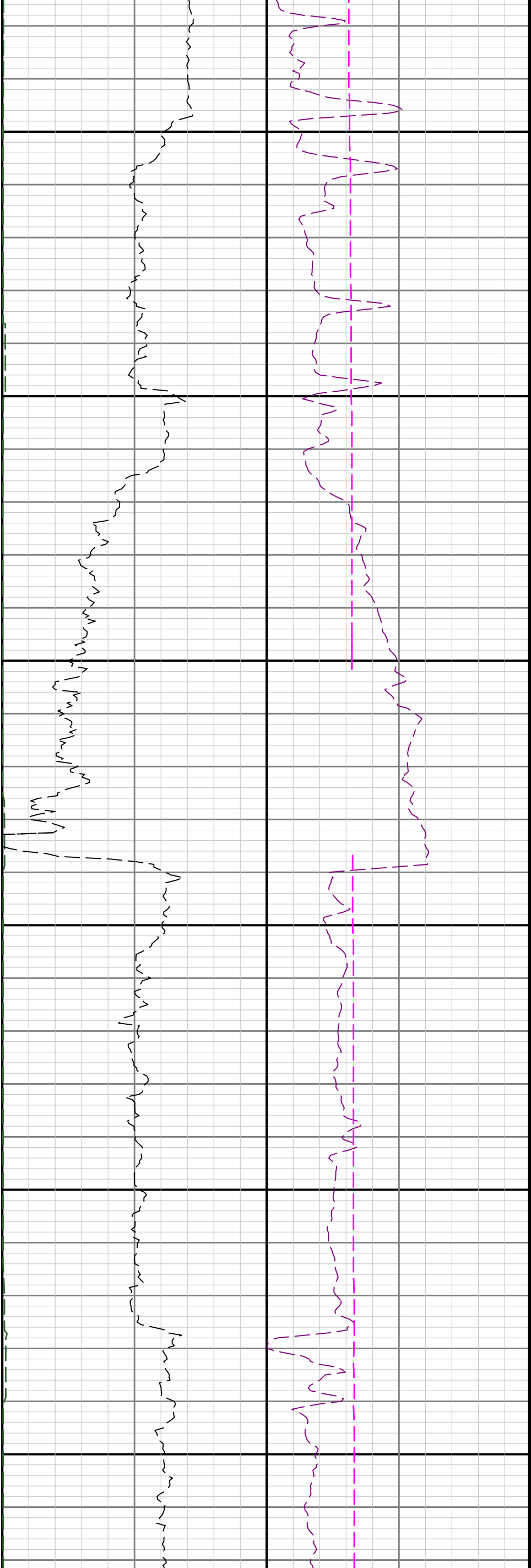
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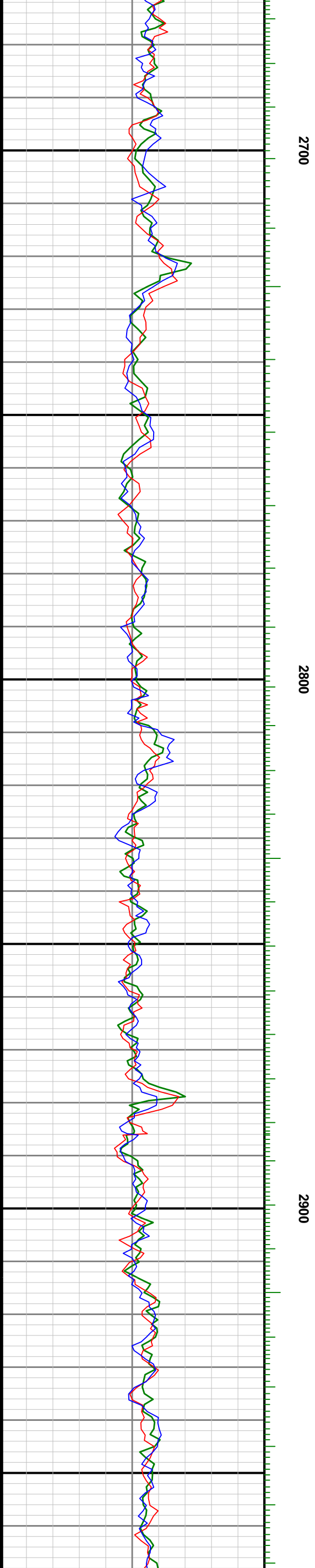
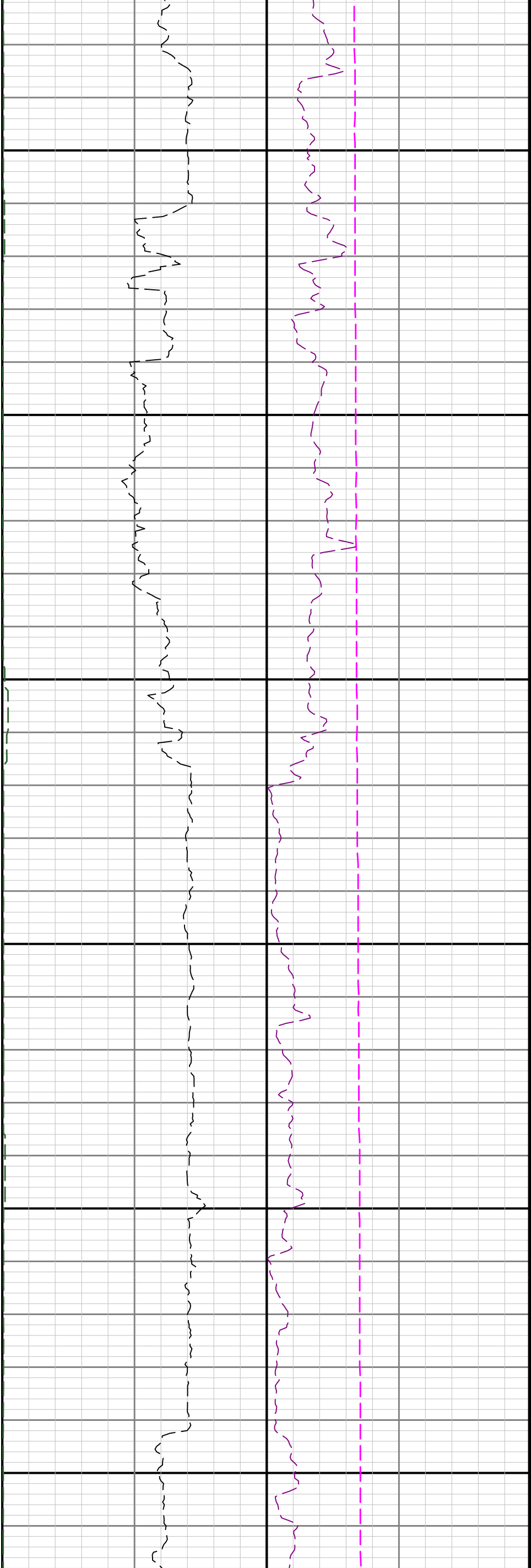
- 1 Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
- 2 Baker Hughes run 1 utilized a 7 inch AutoTrak Curve service (Azimuthal Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly from 1913 to 20364 feet MD (1872 to 6804 feet TVD).

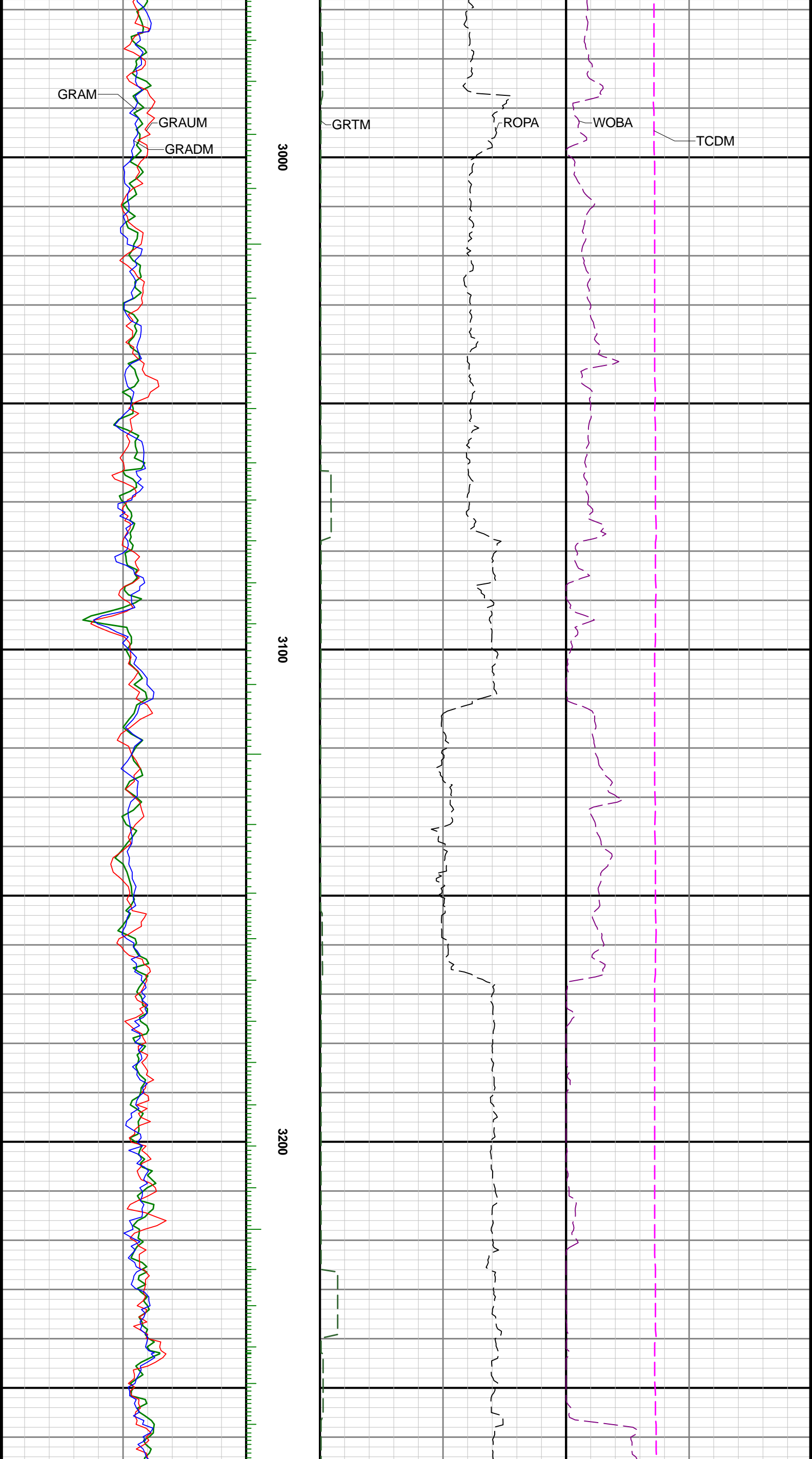
Remarks

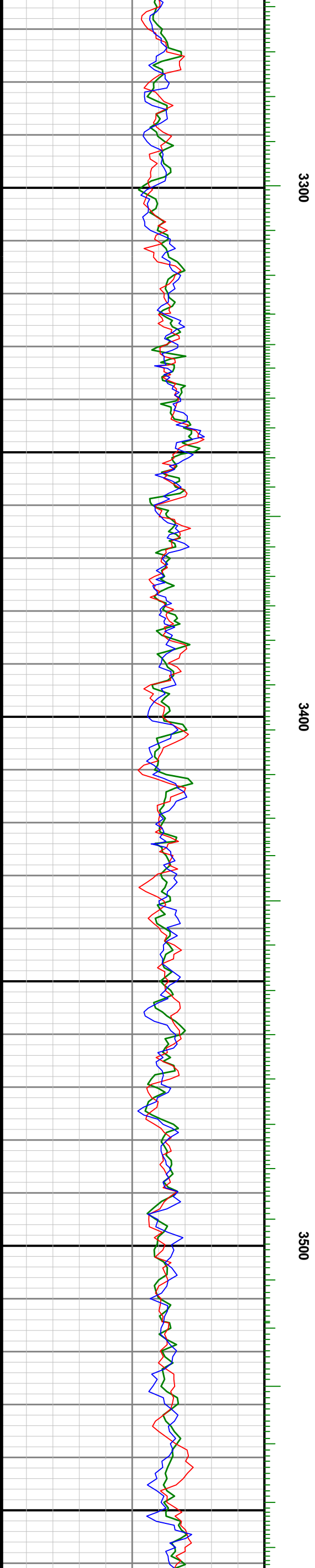
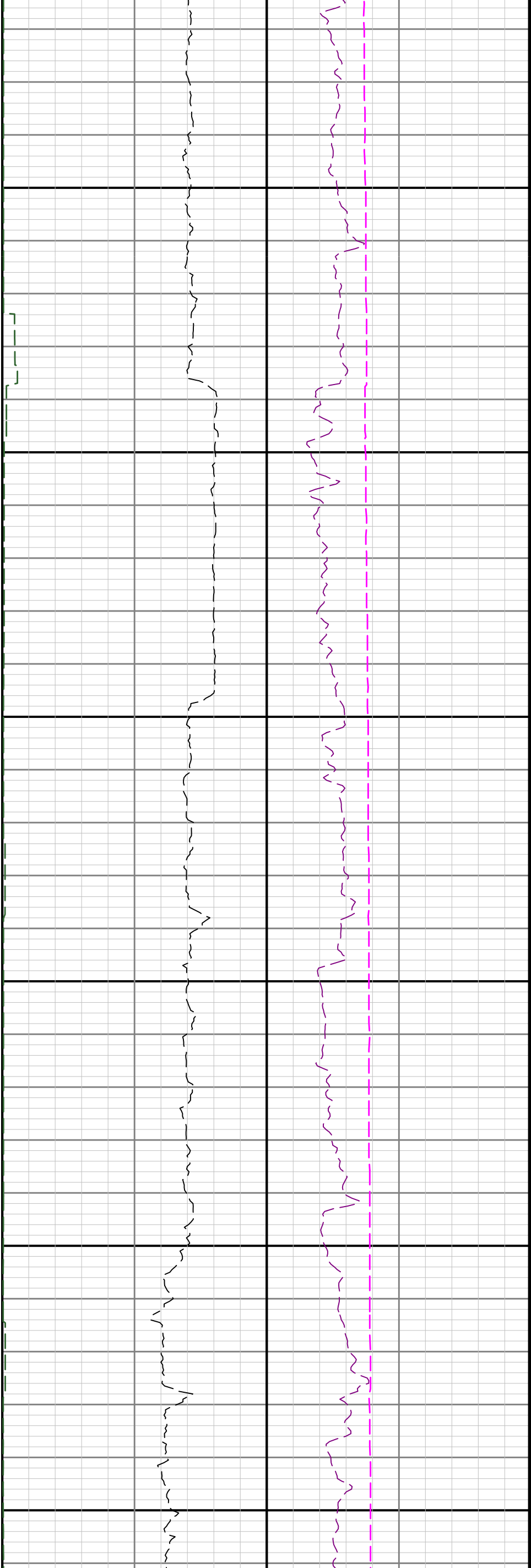
Number	Depth (ft)	Hole Section (in)	Run No.	Remark
1	20350.00	8.500	1	The interval from 20350 to 20364 feet MD (6804 feet TVD) was not logged due to sensor to bit offset at TD.

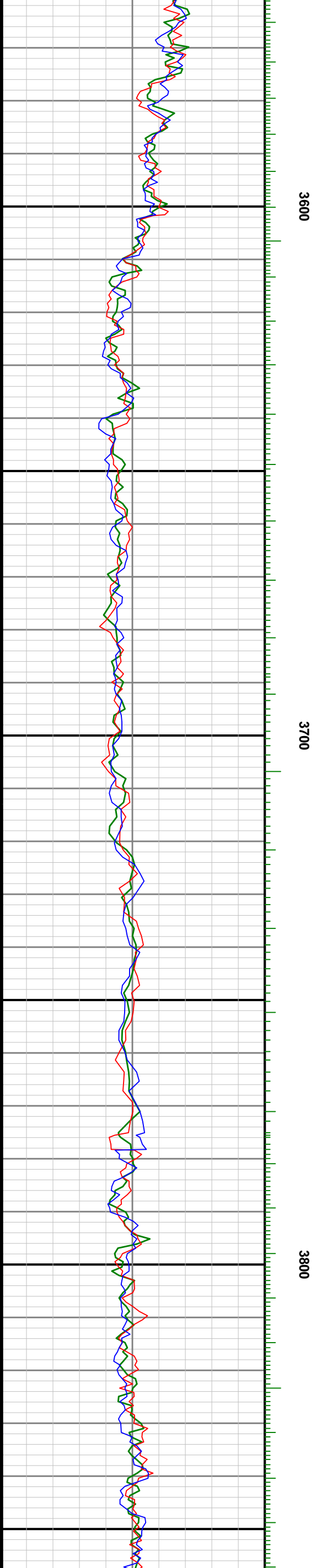
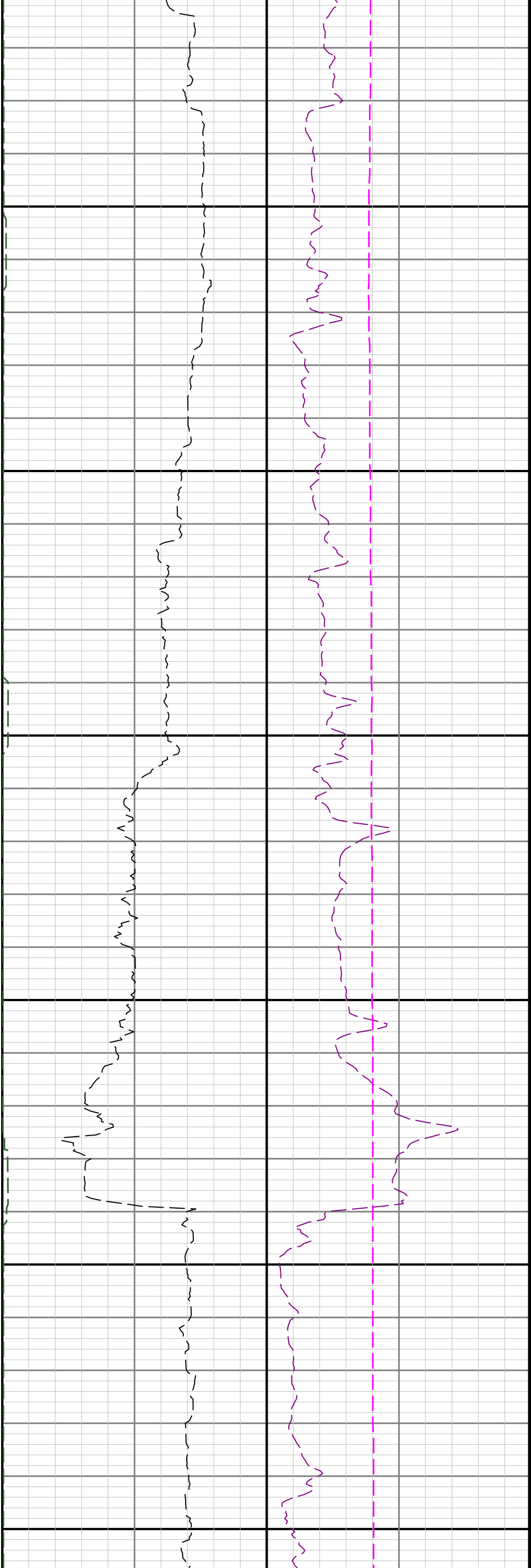


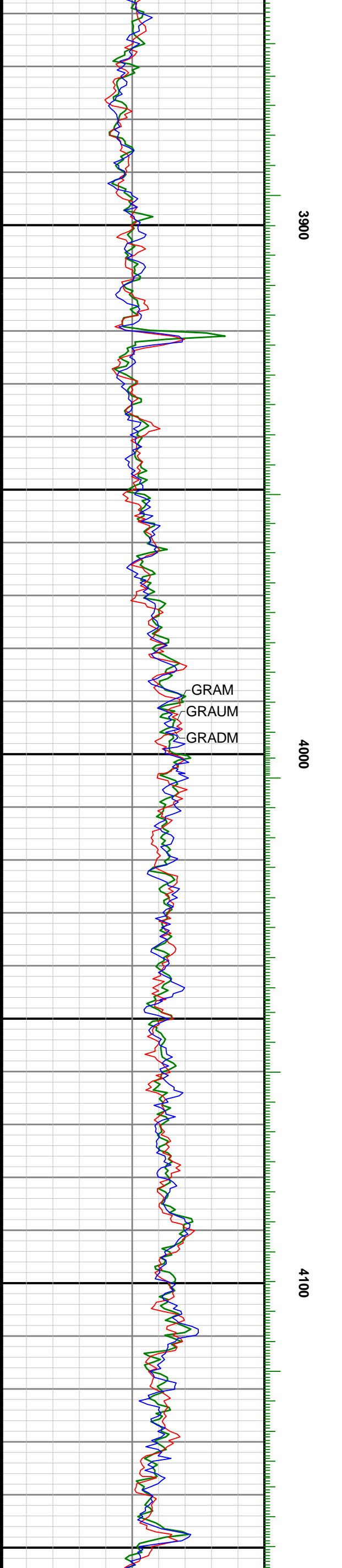
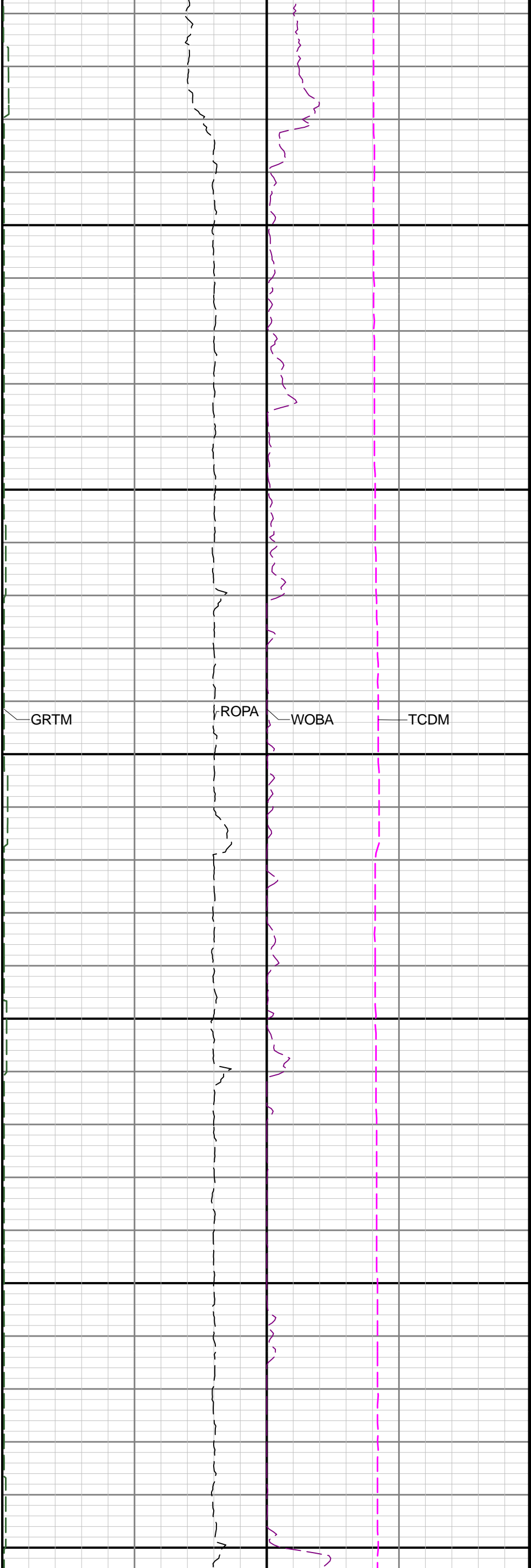


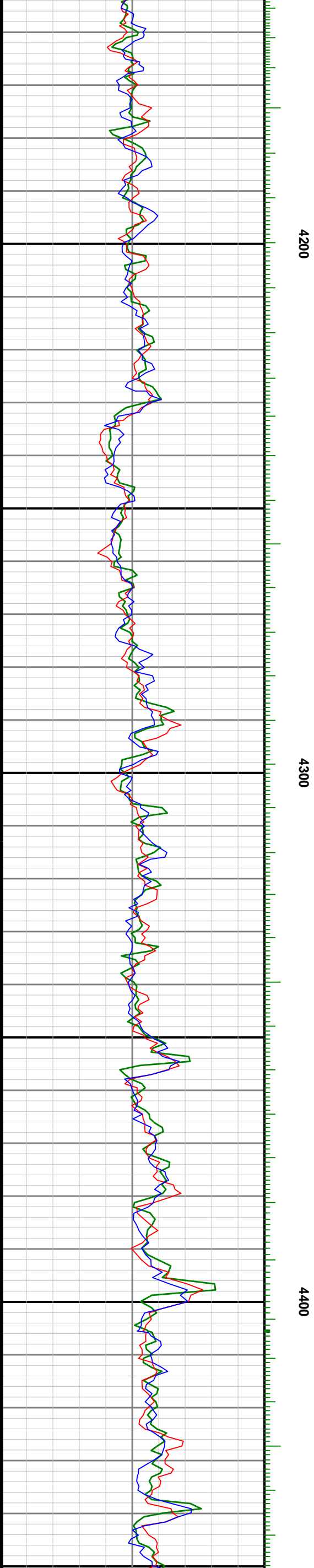
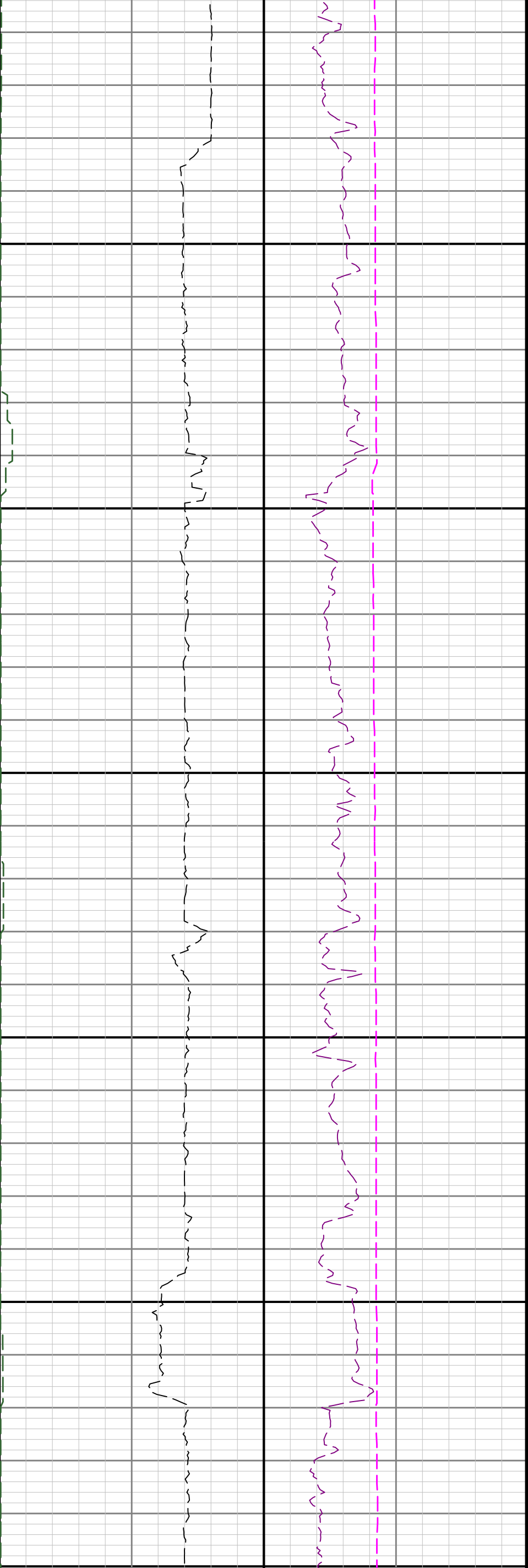


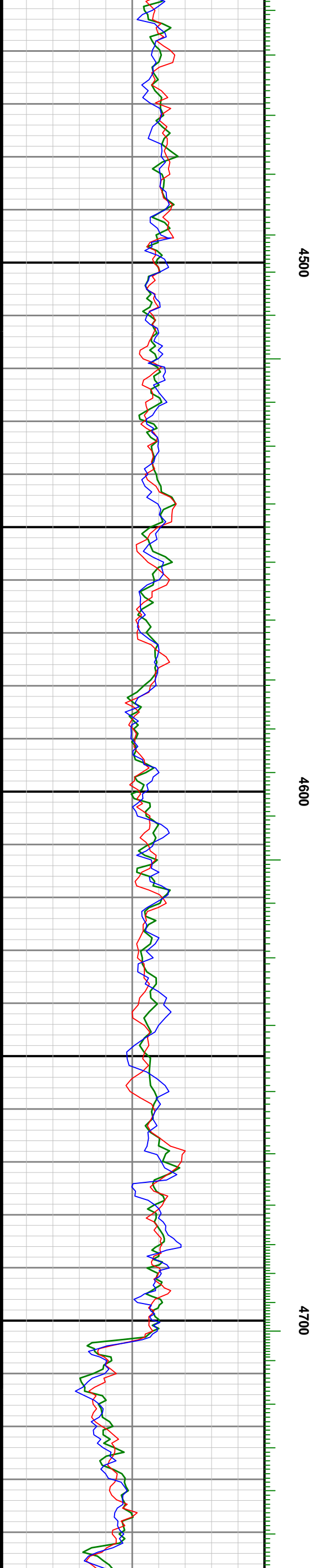
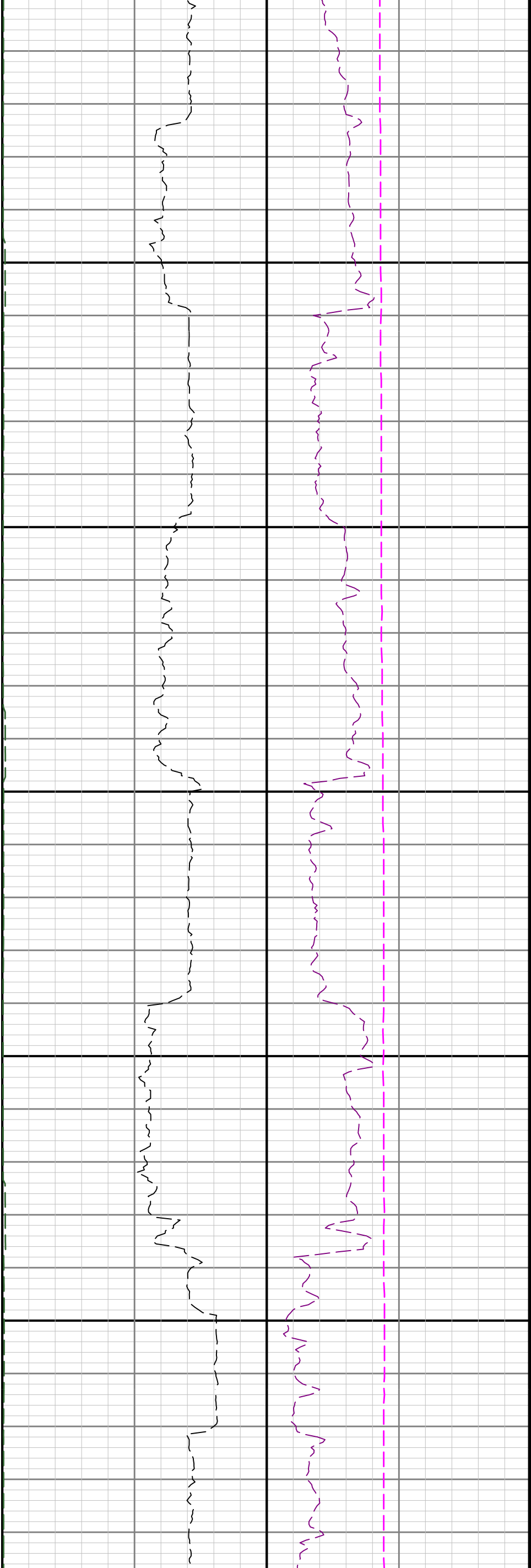


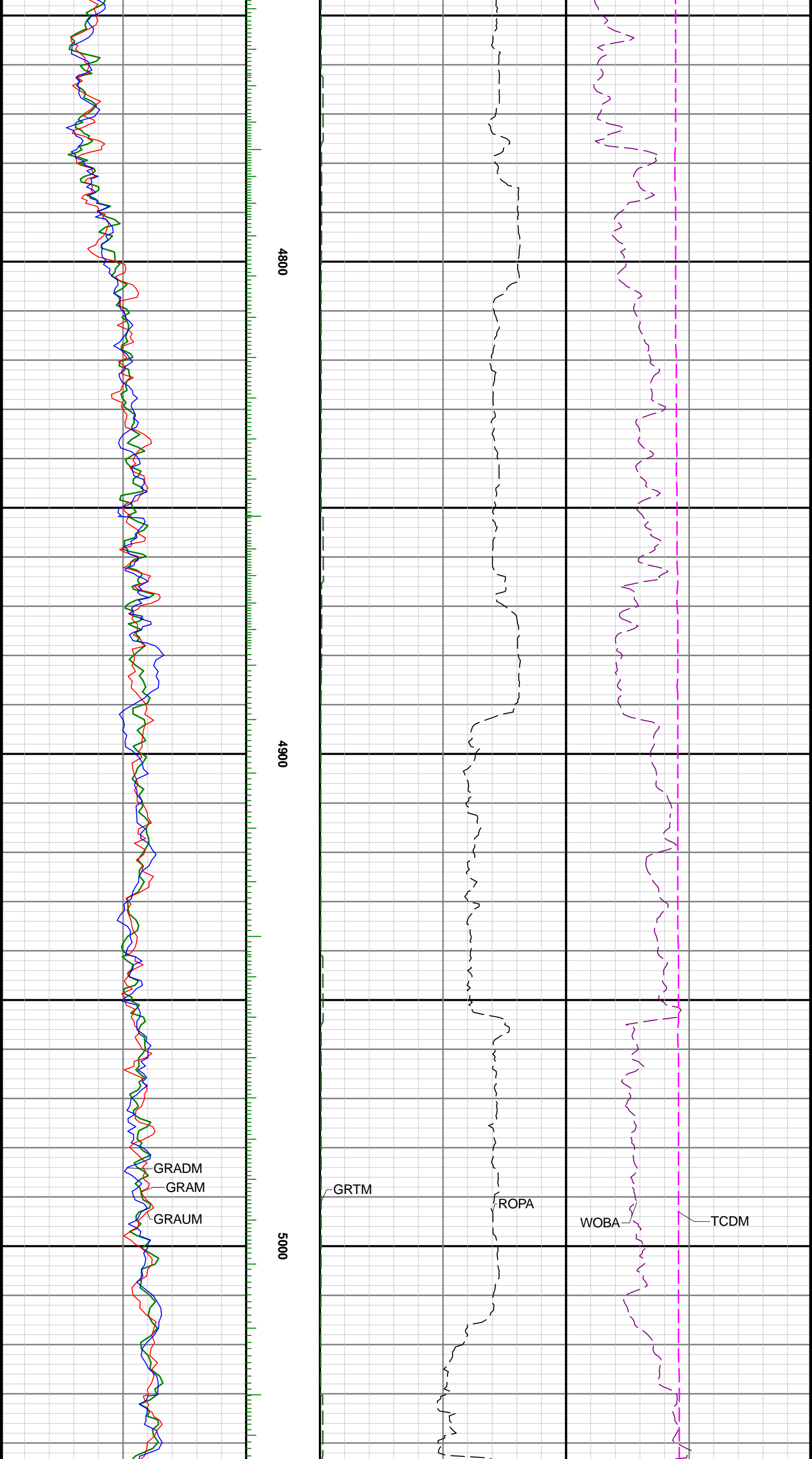


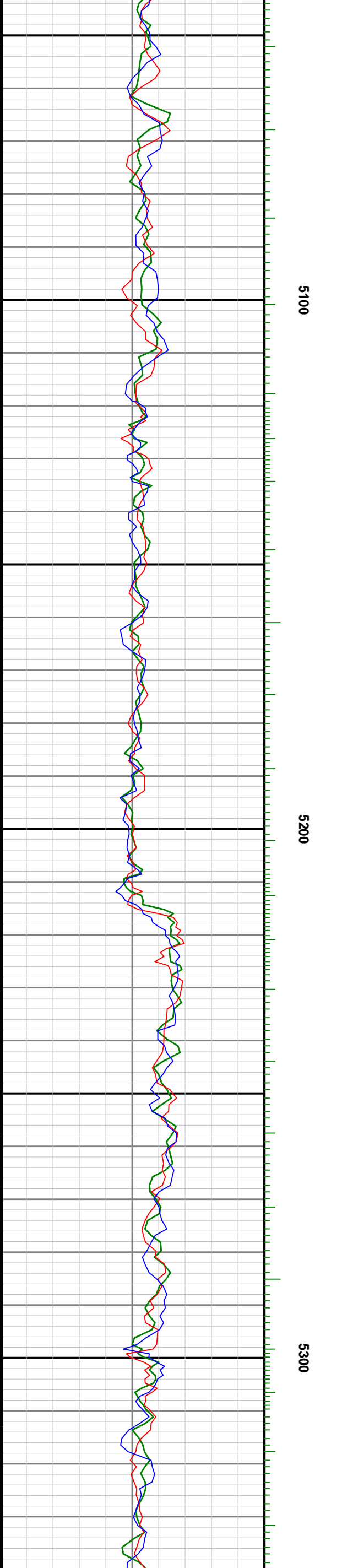
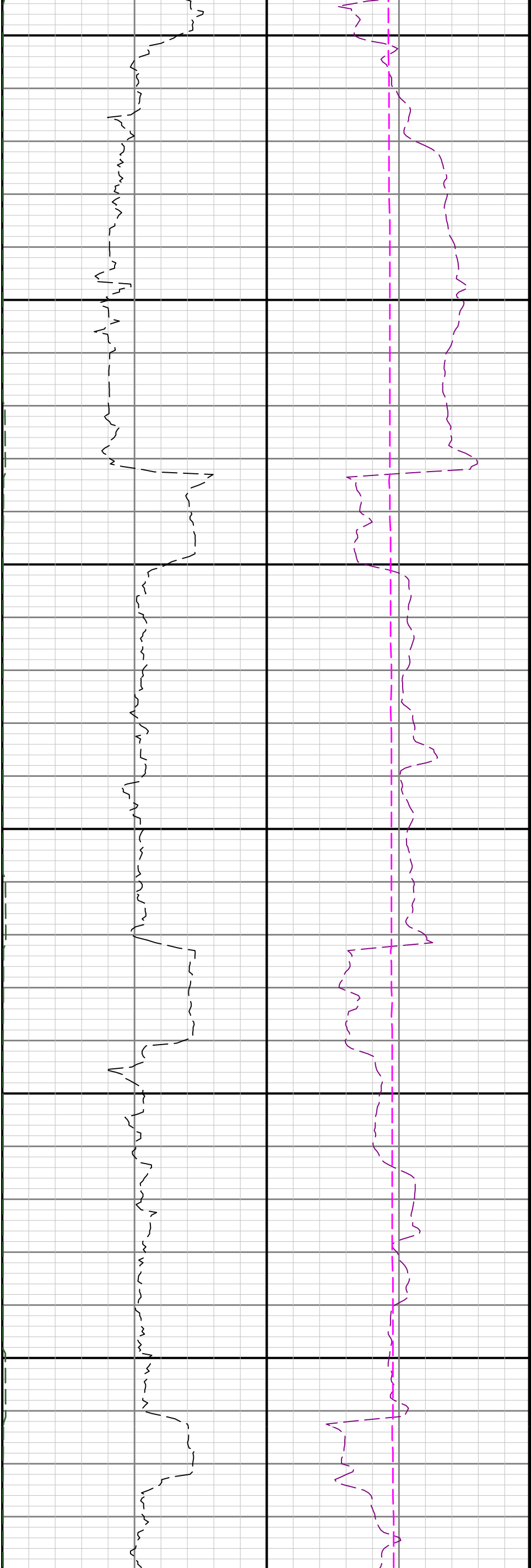


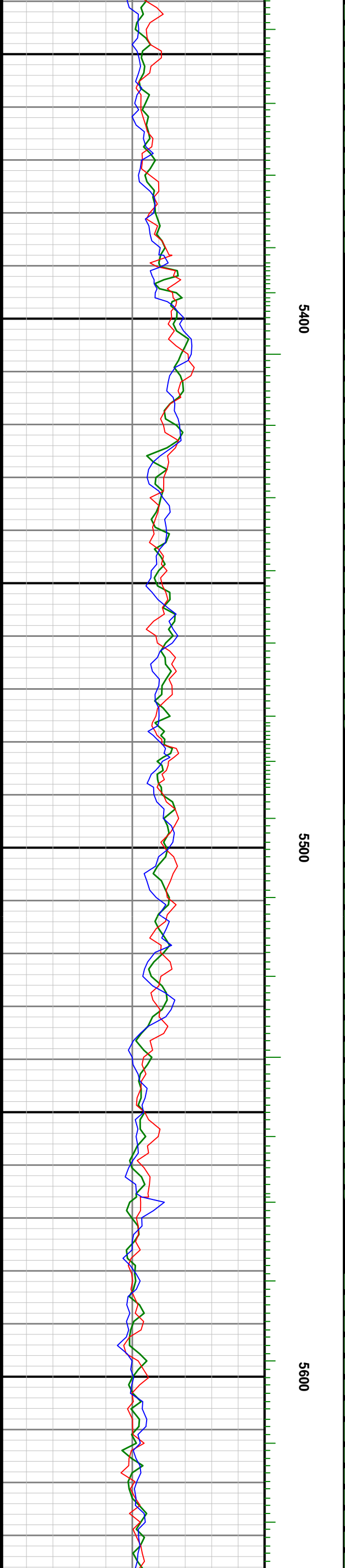
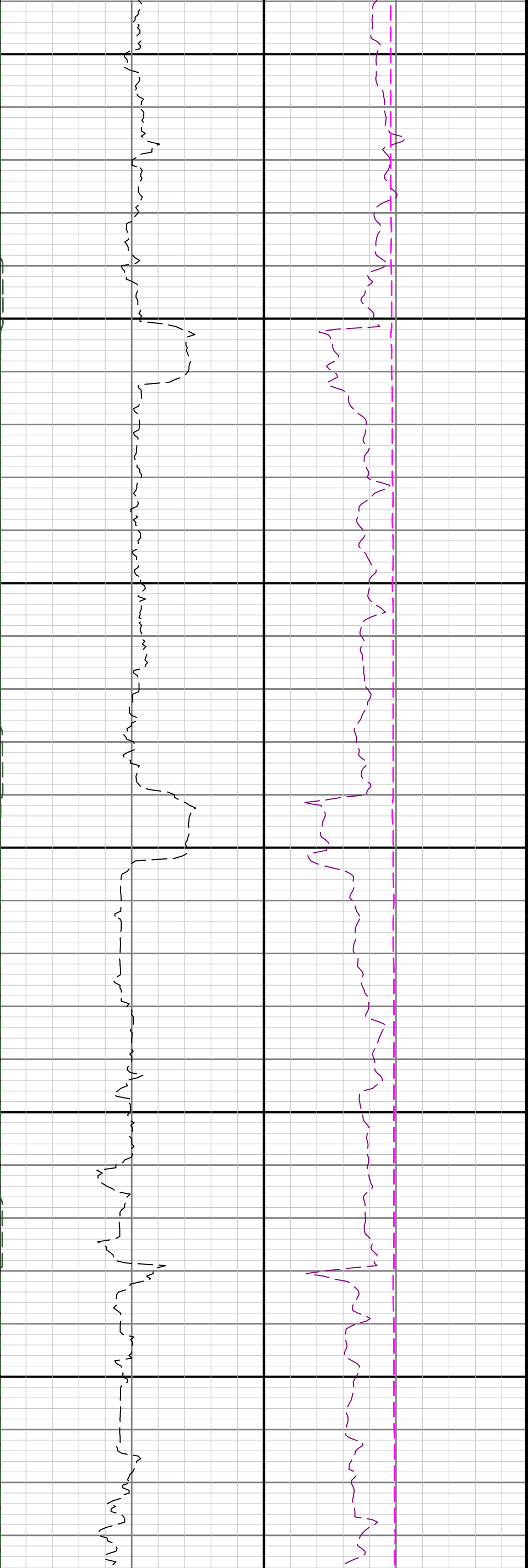


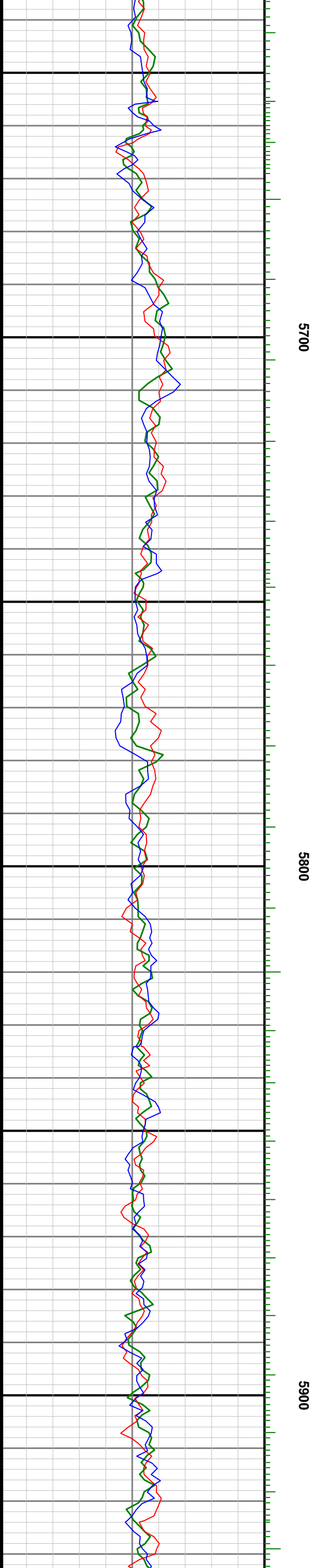
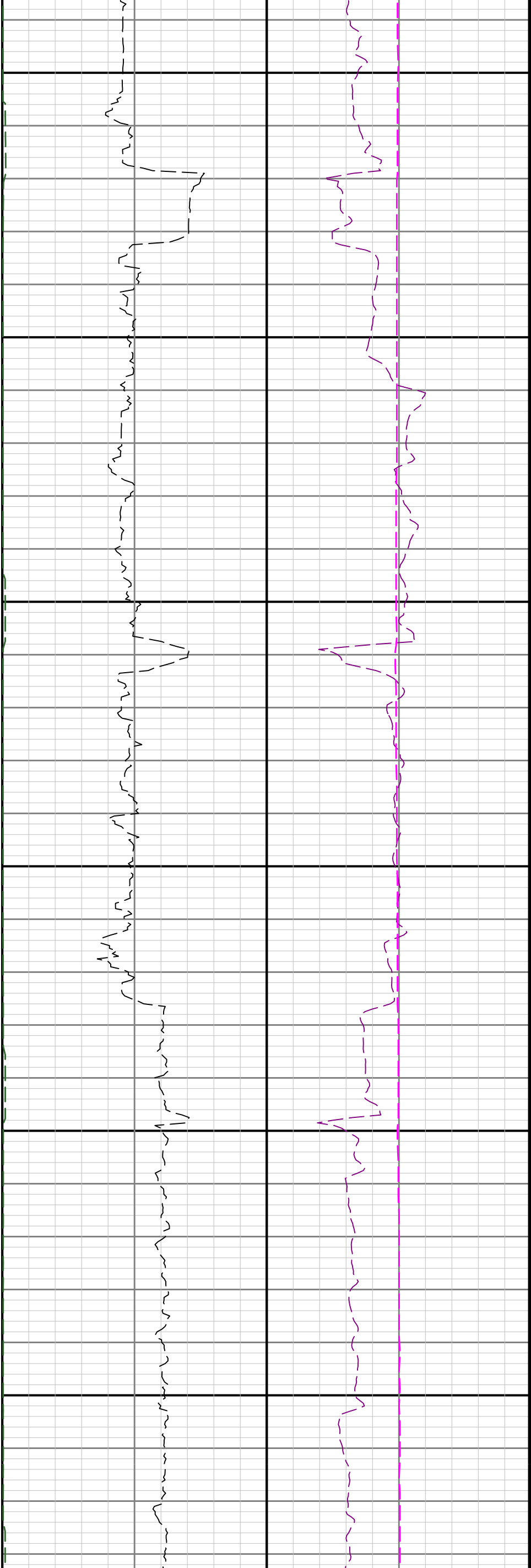


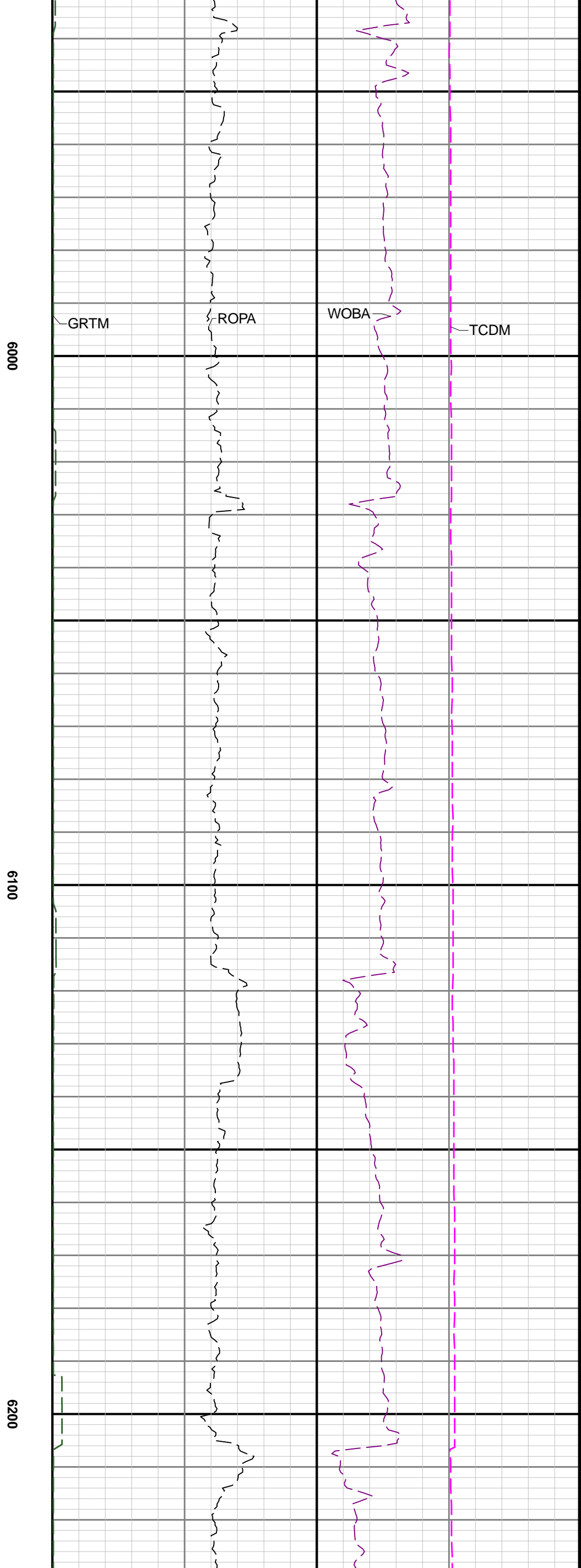
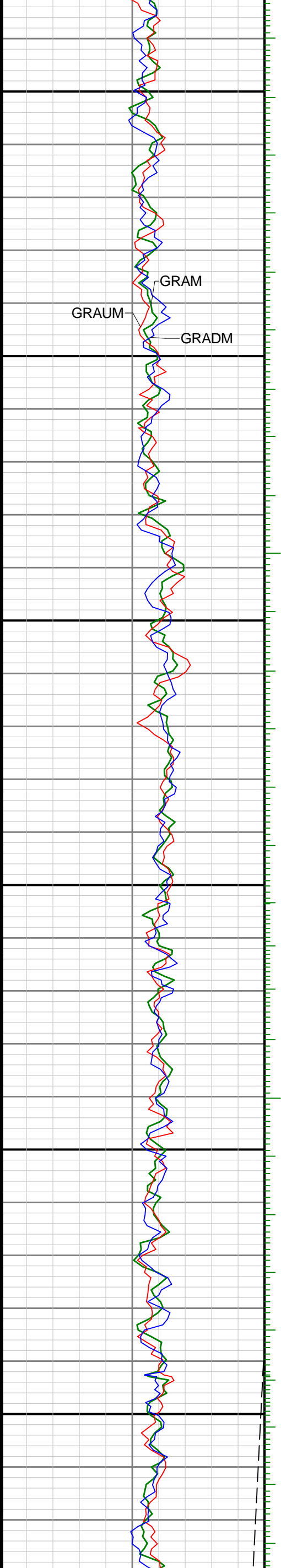


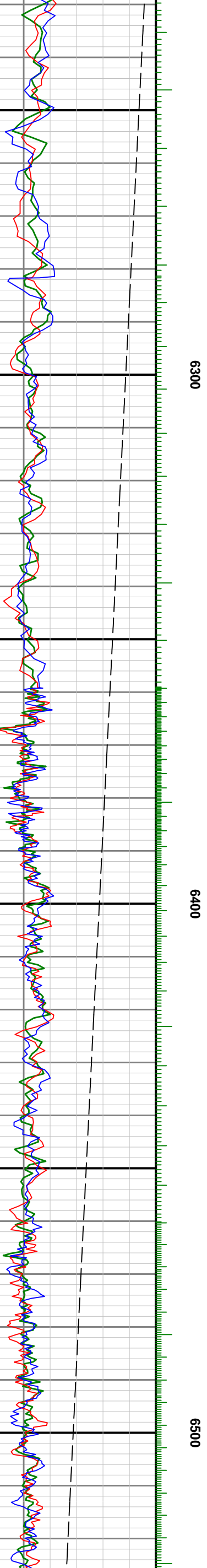
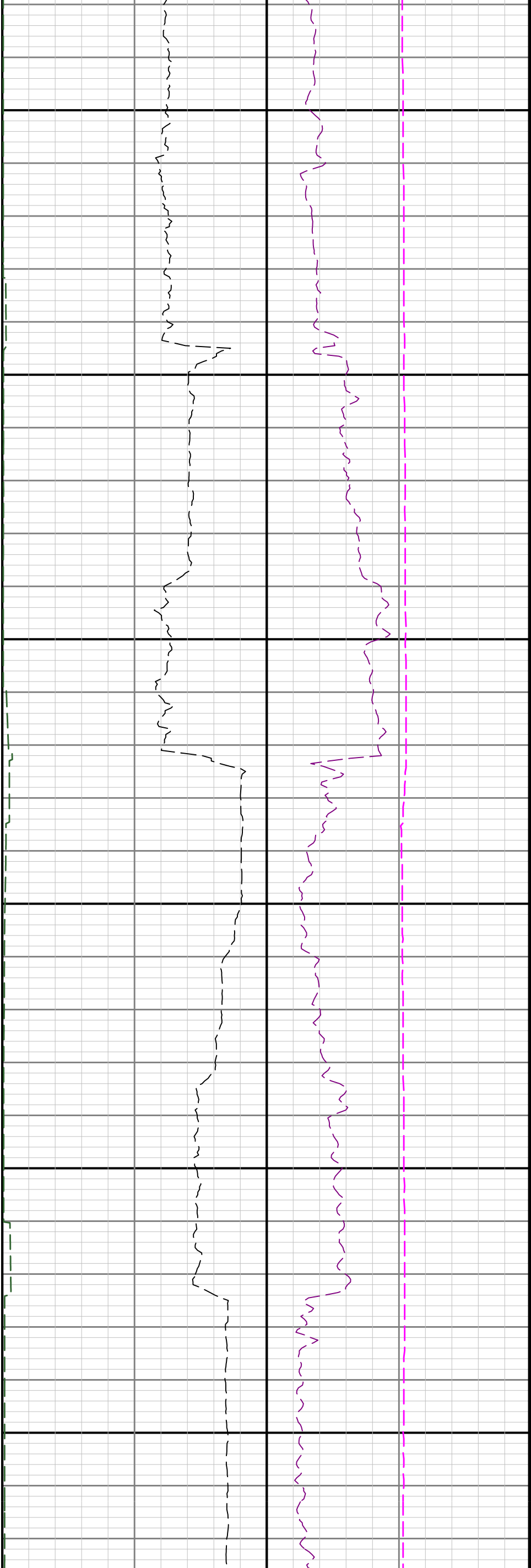


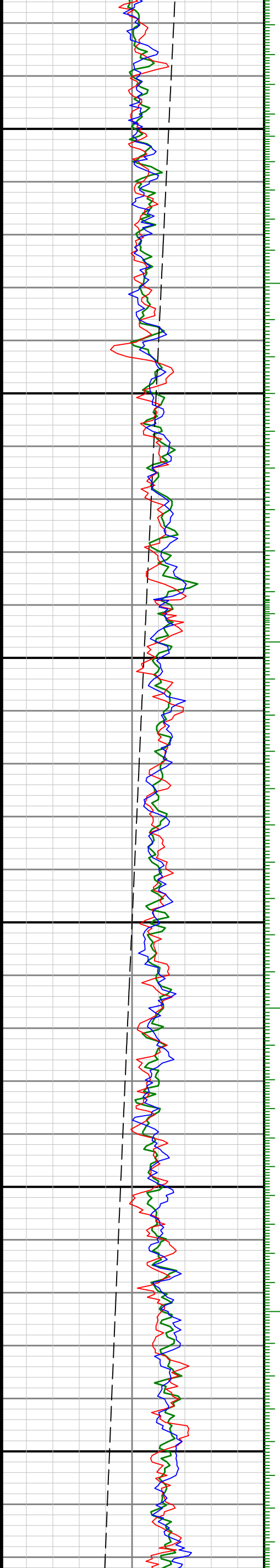








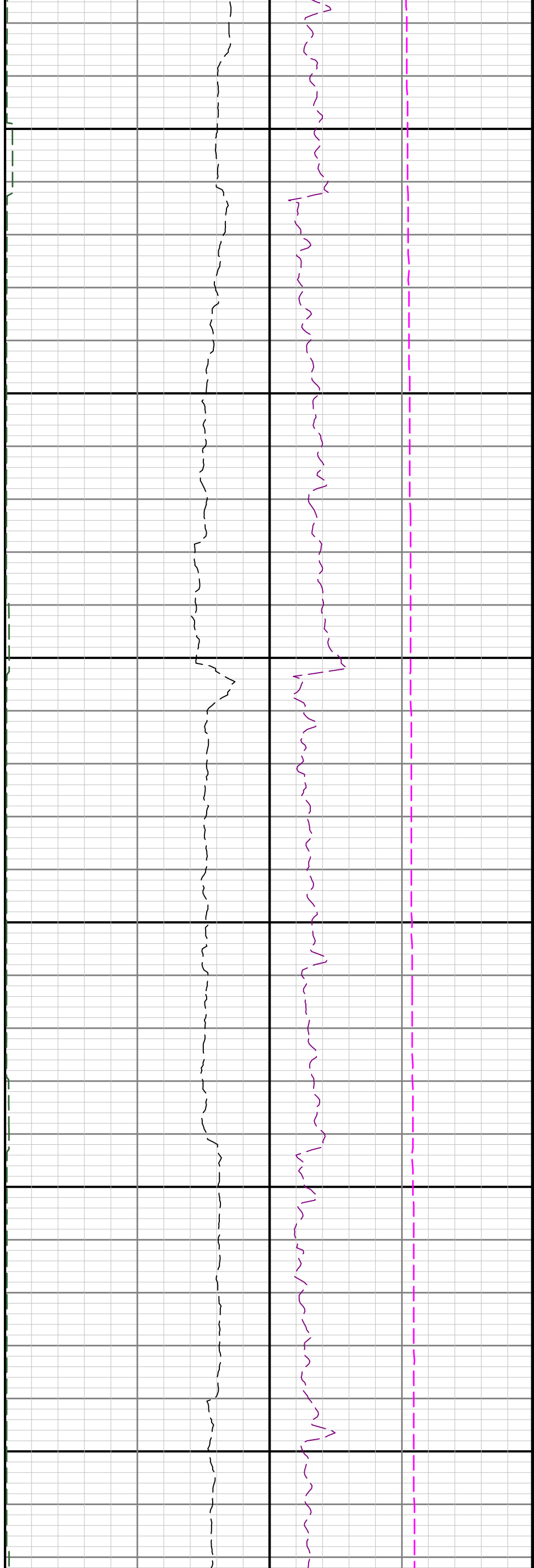


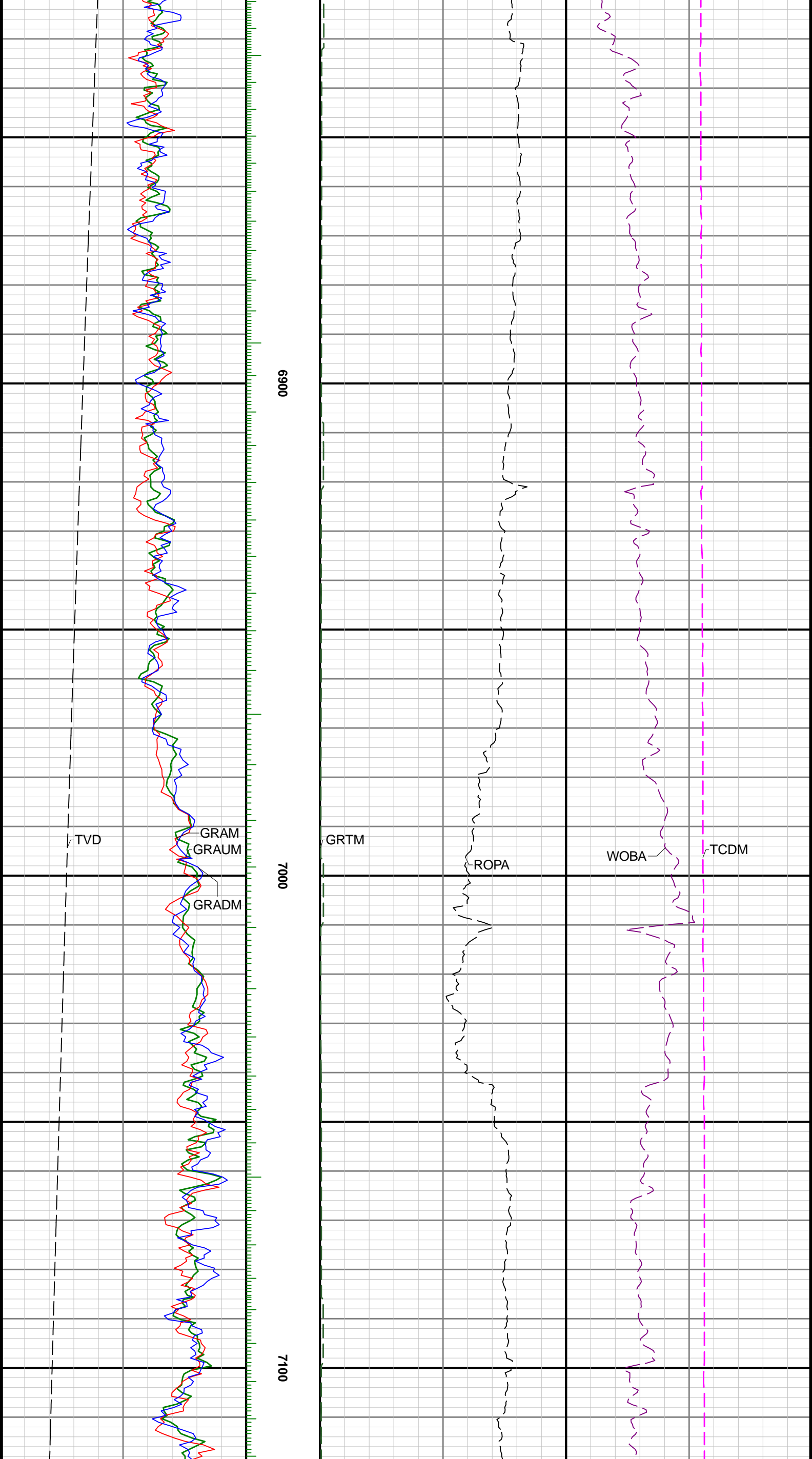


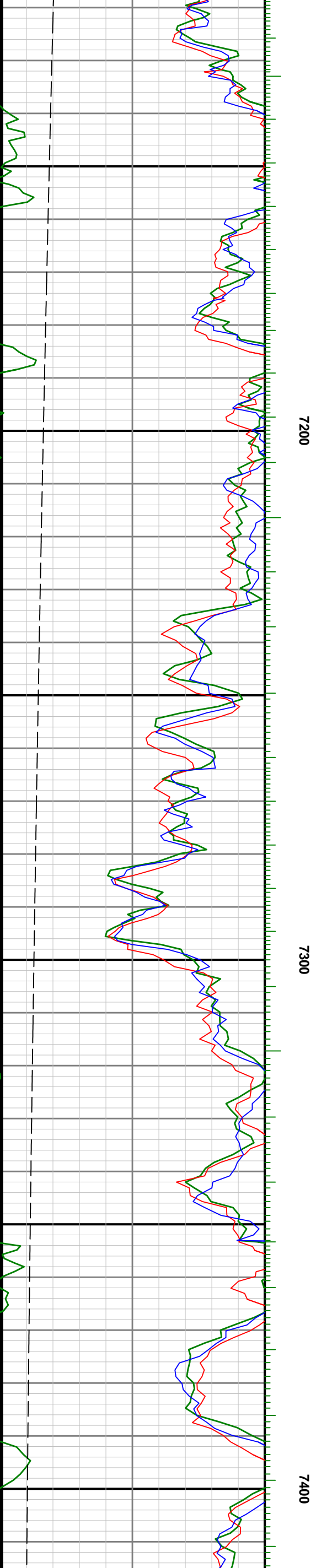
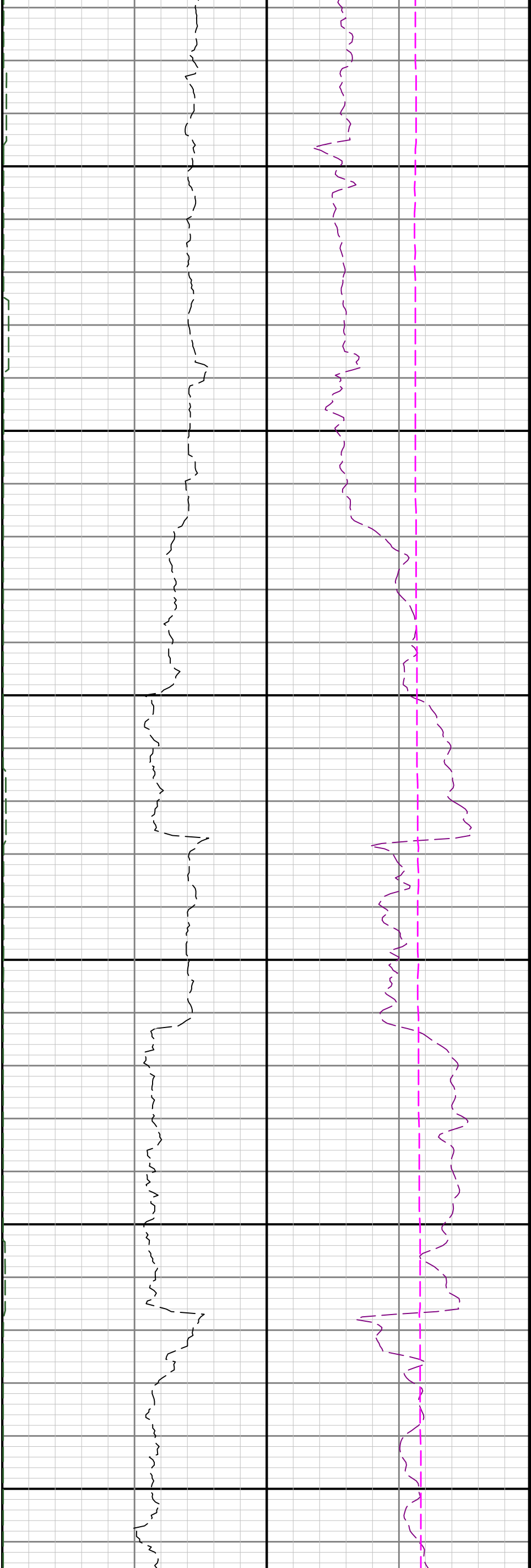
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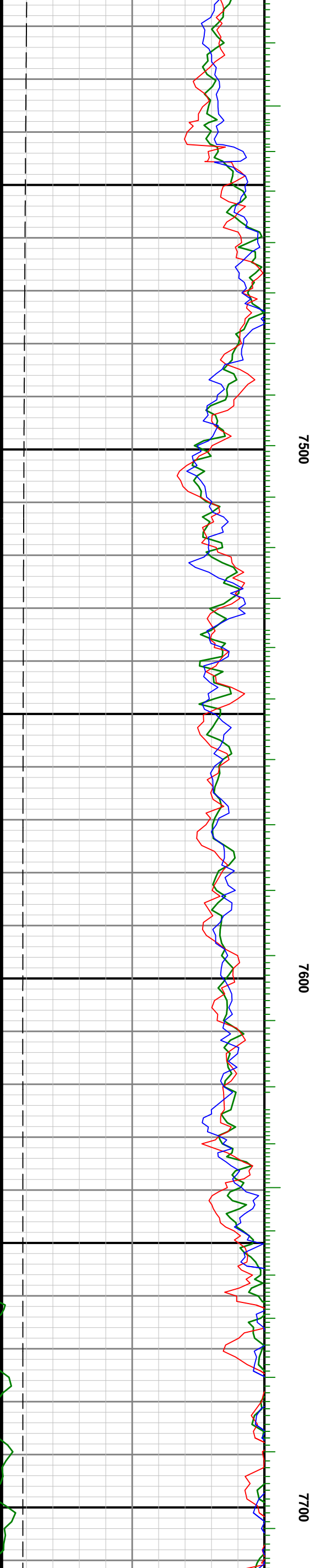
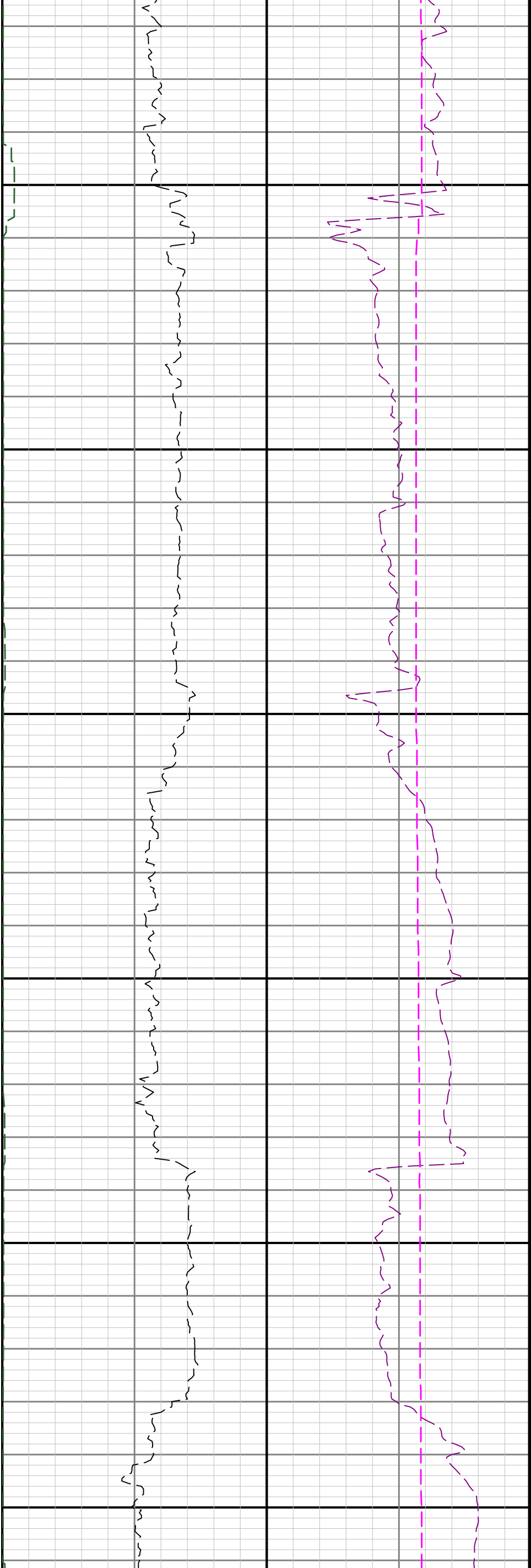
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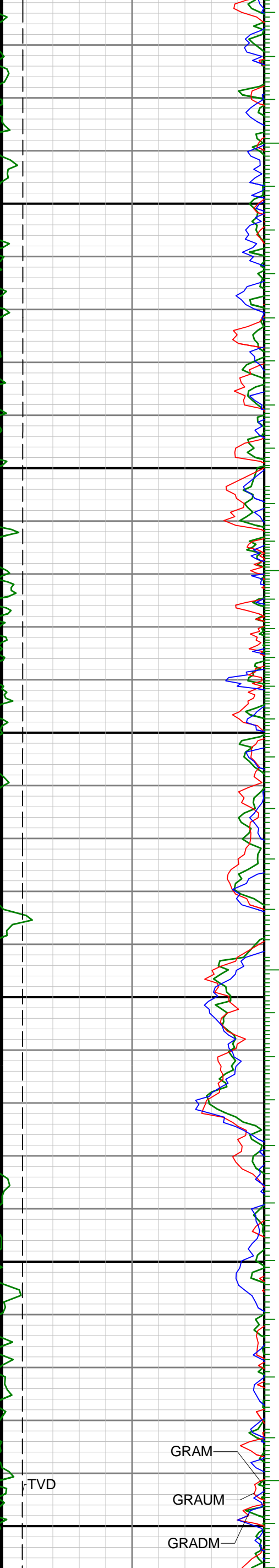
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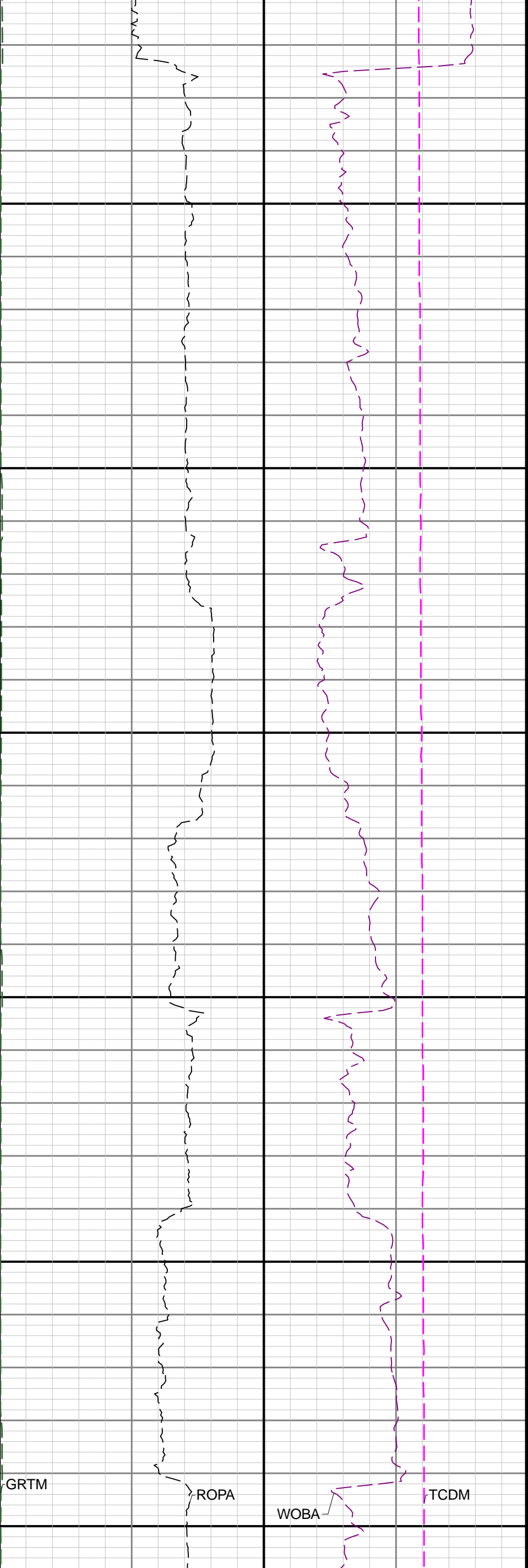




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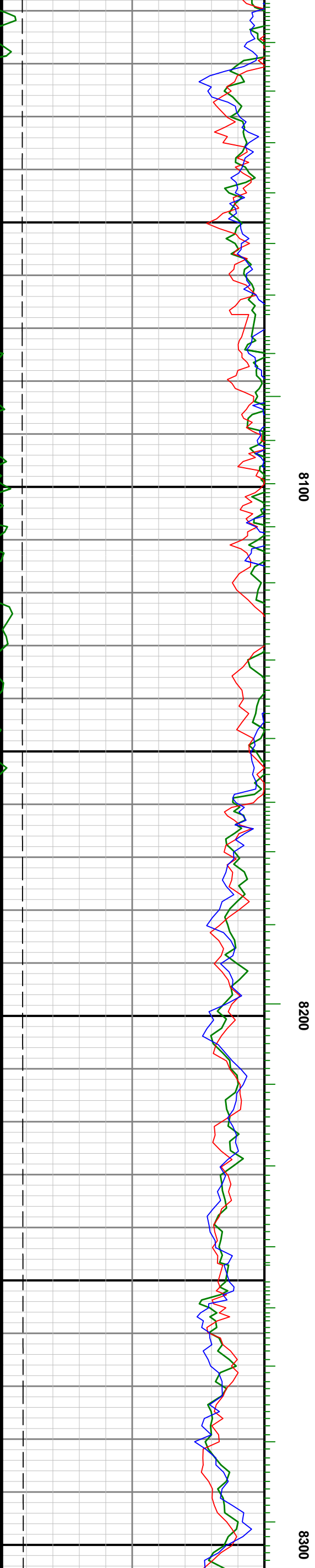
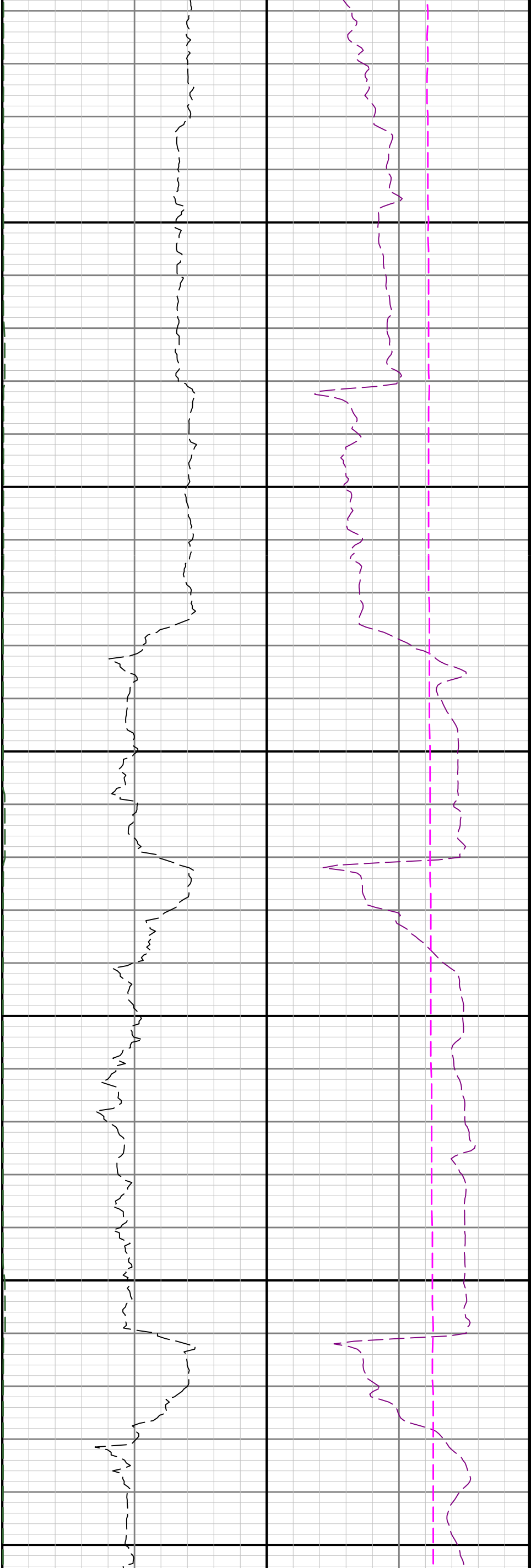


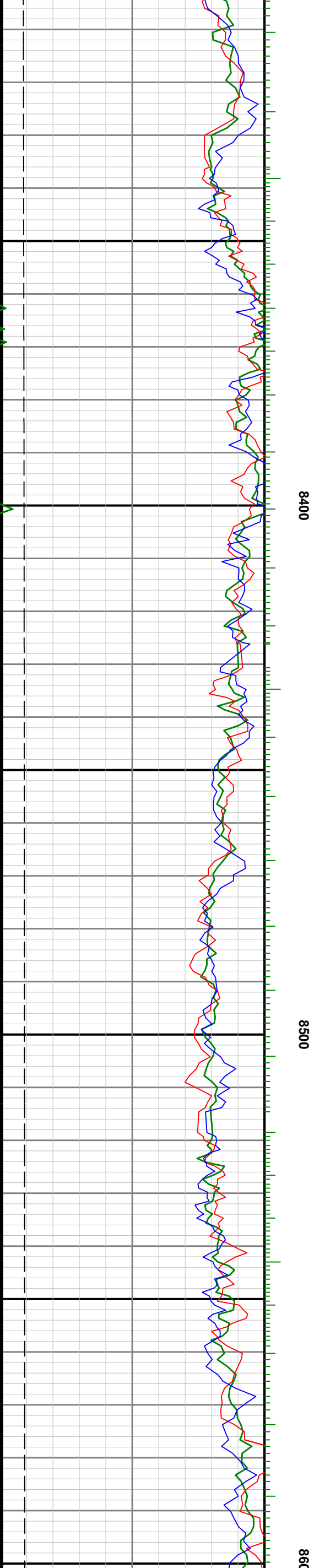
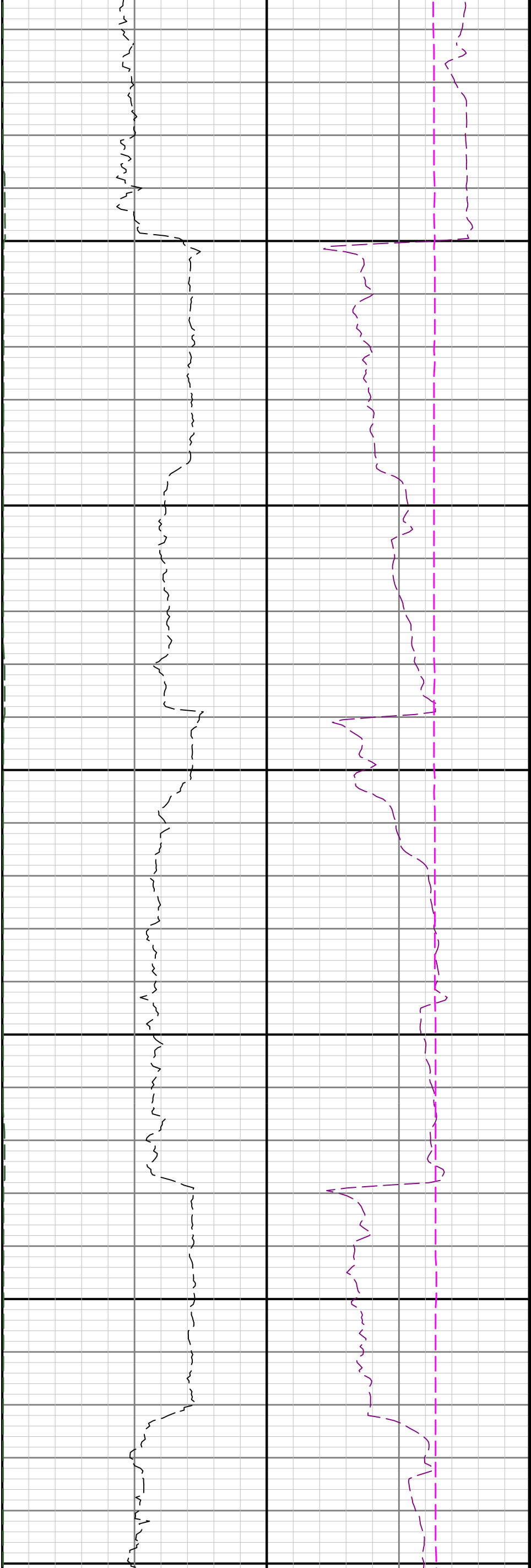
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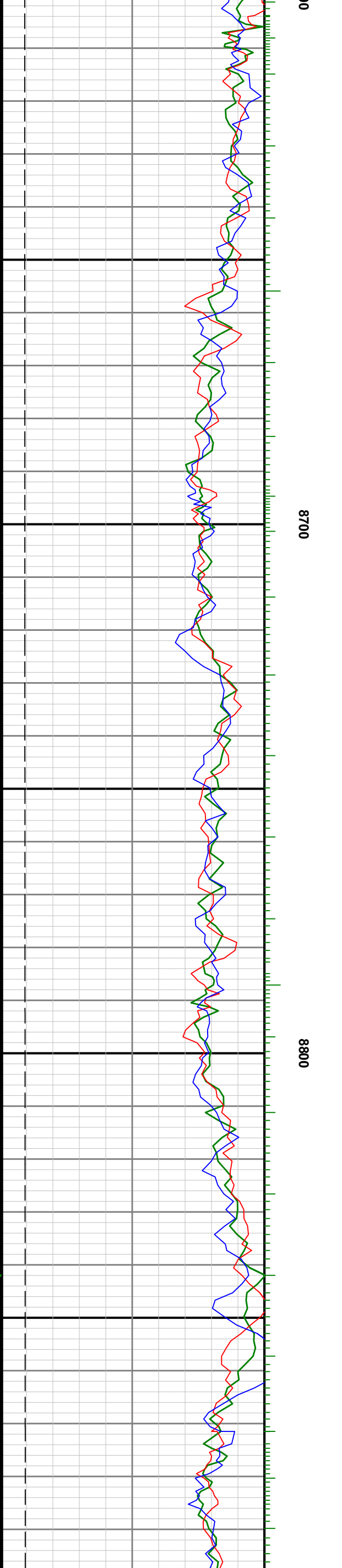
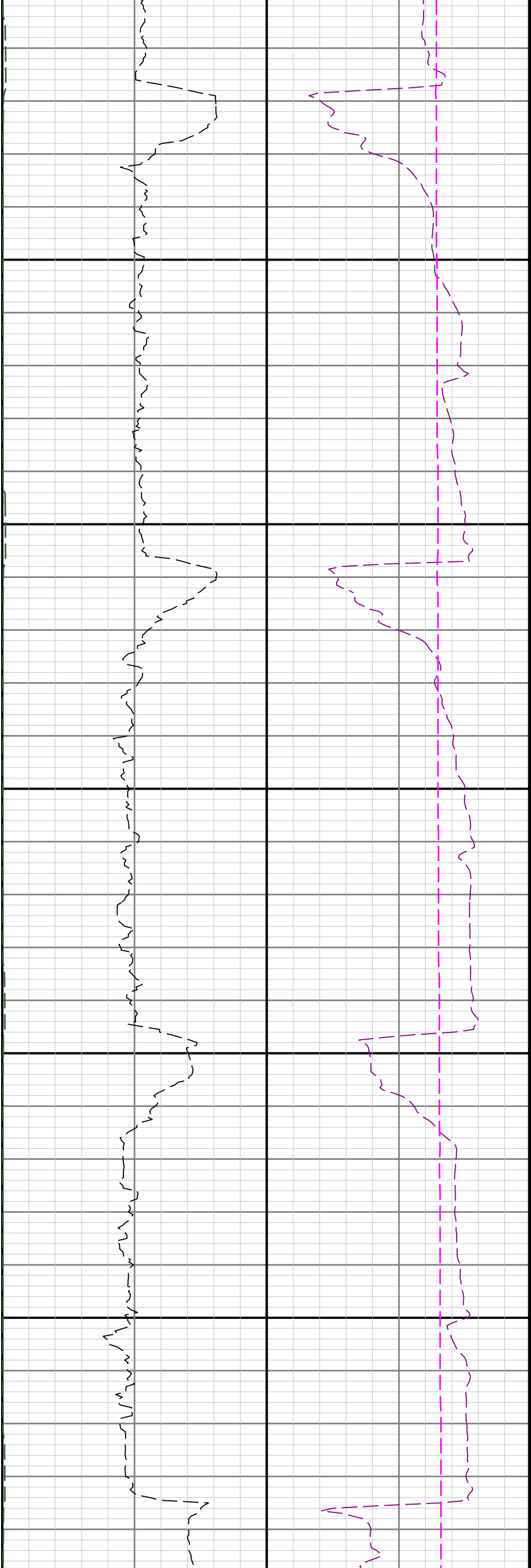
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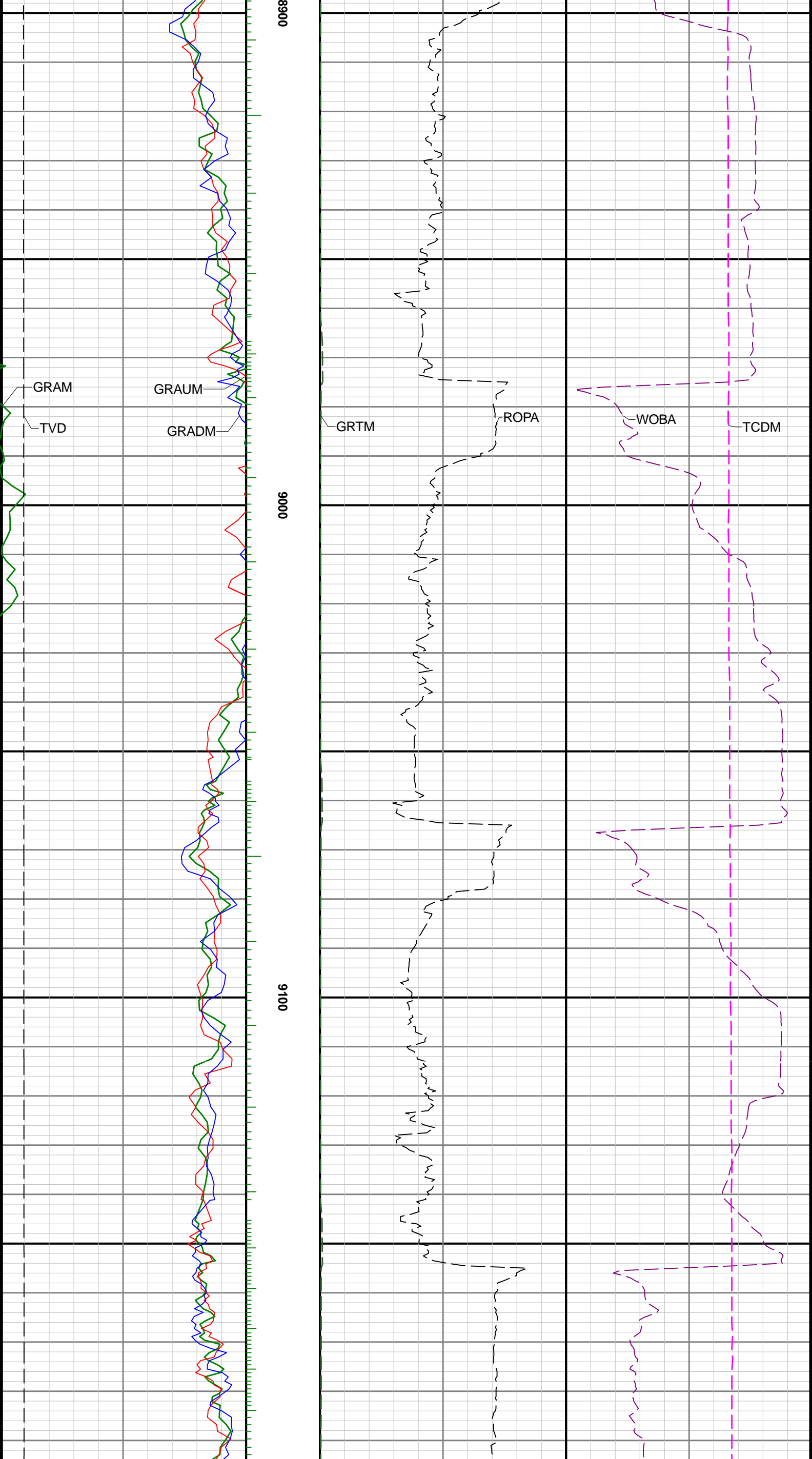
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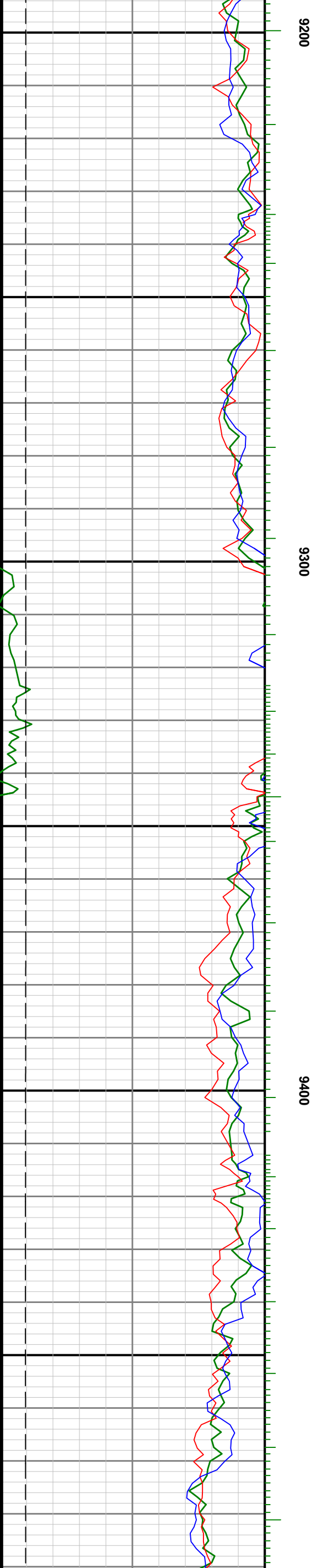
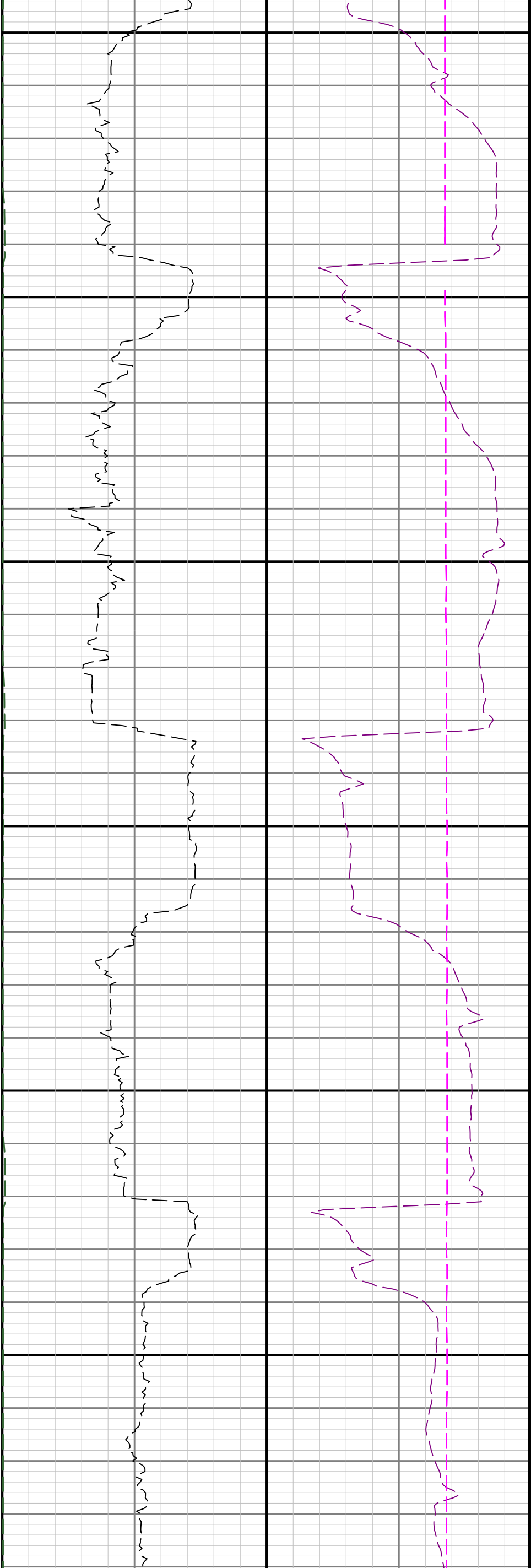
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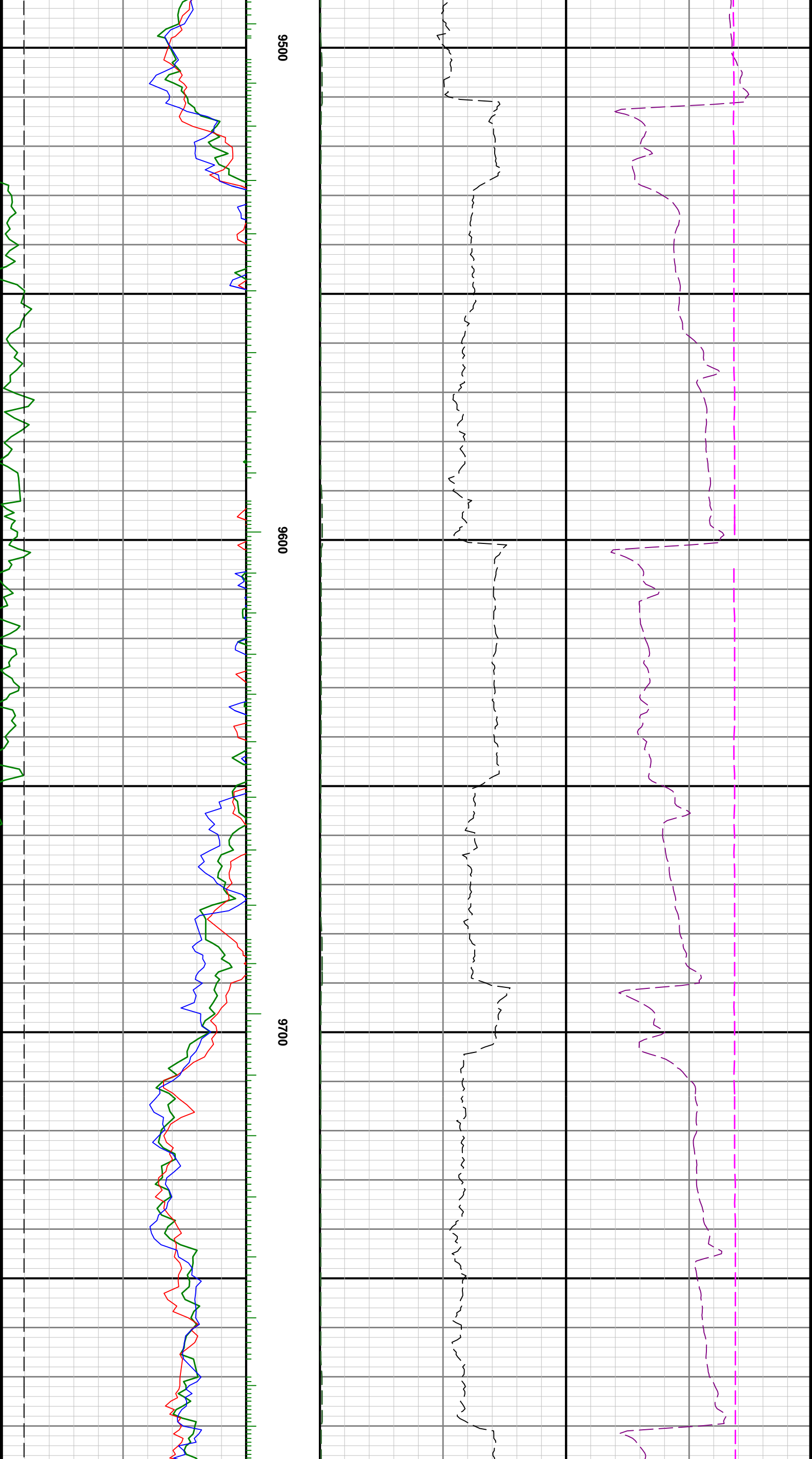


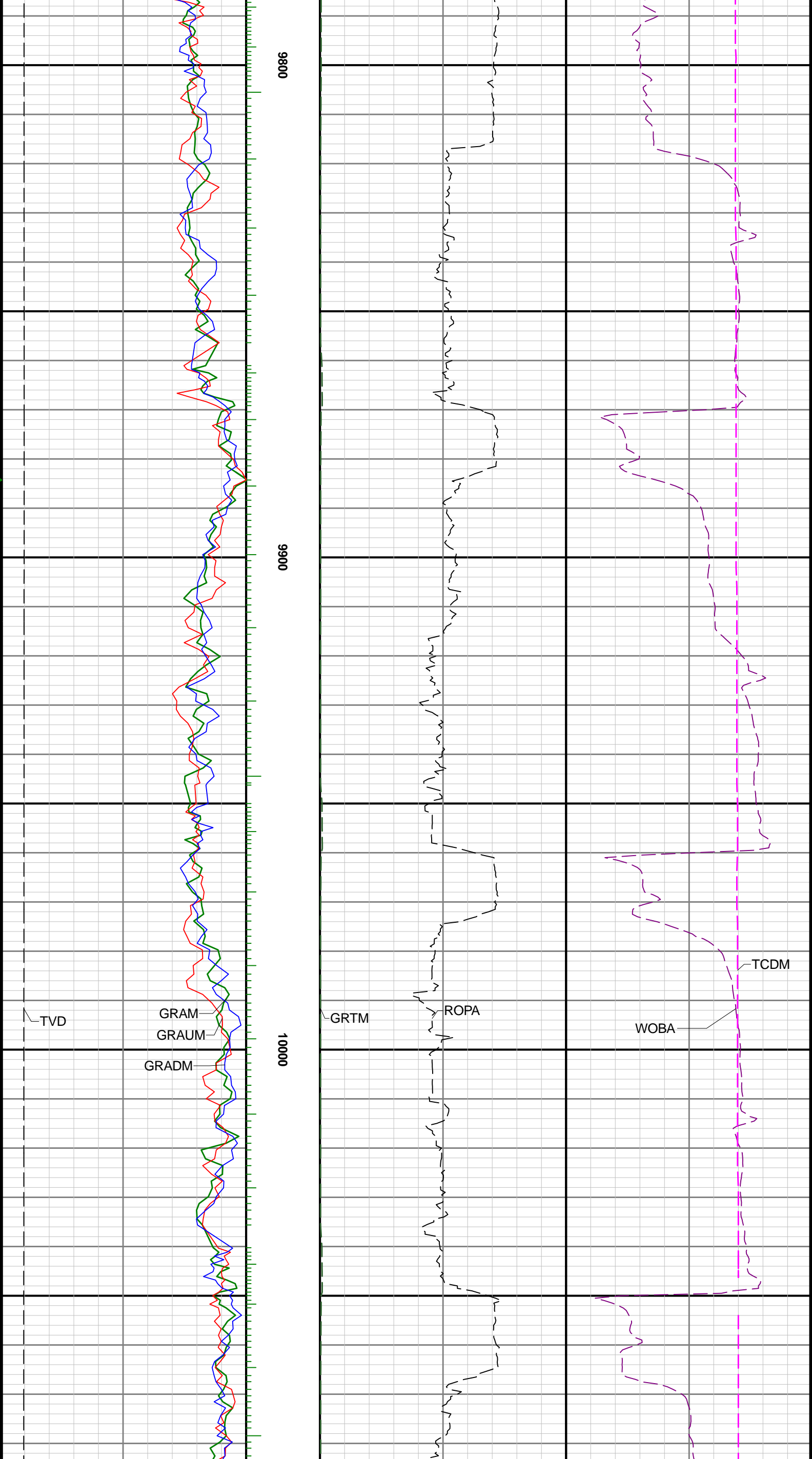


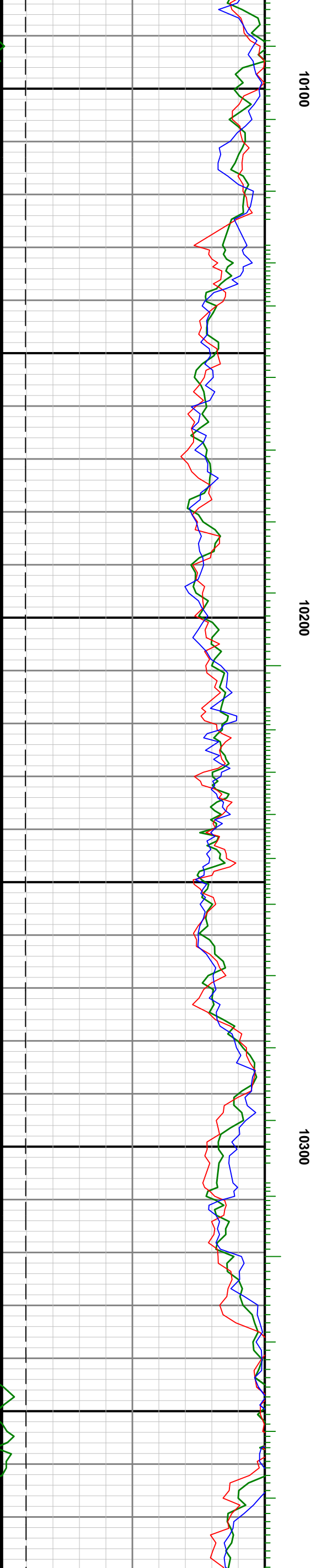
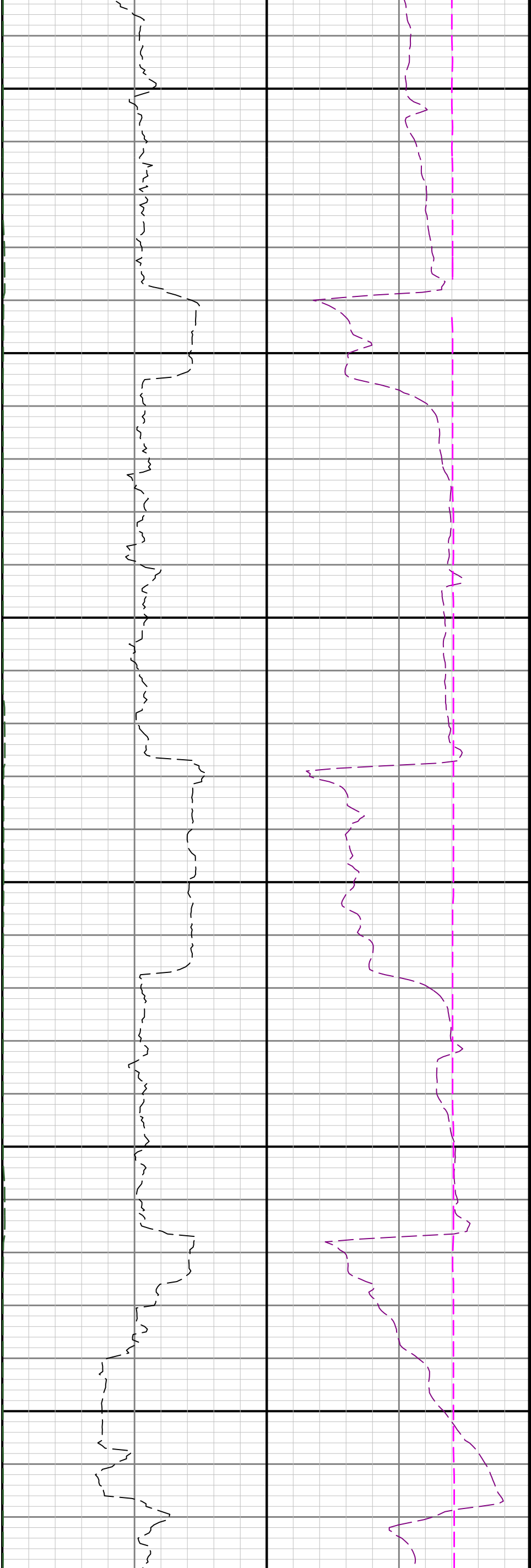


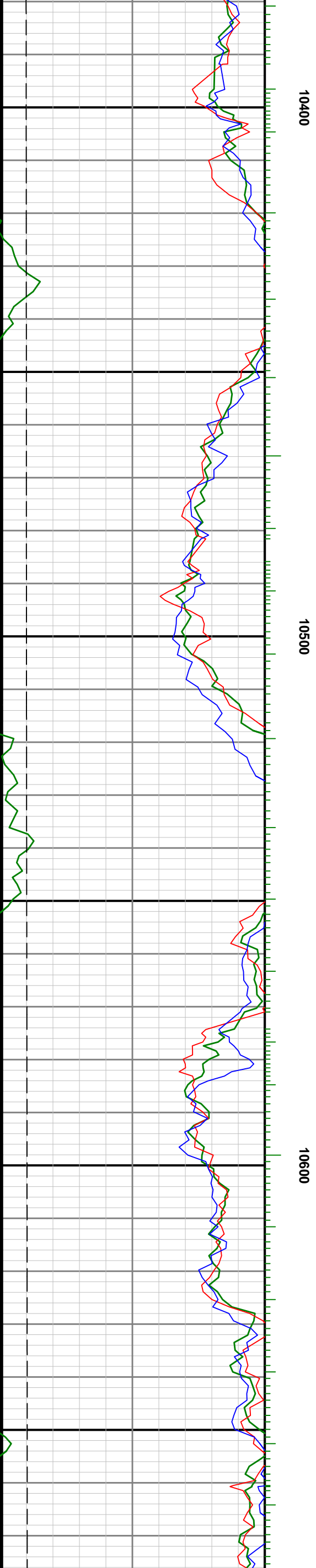
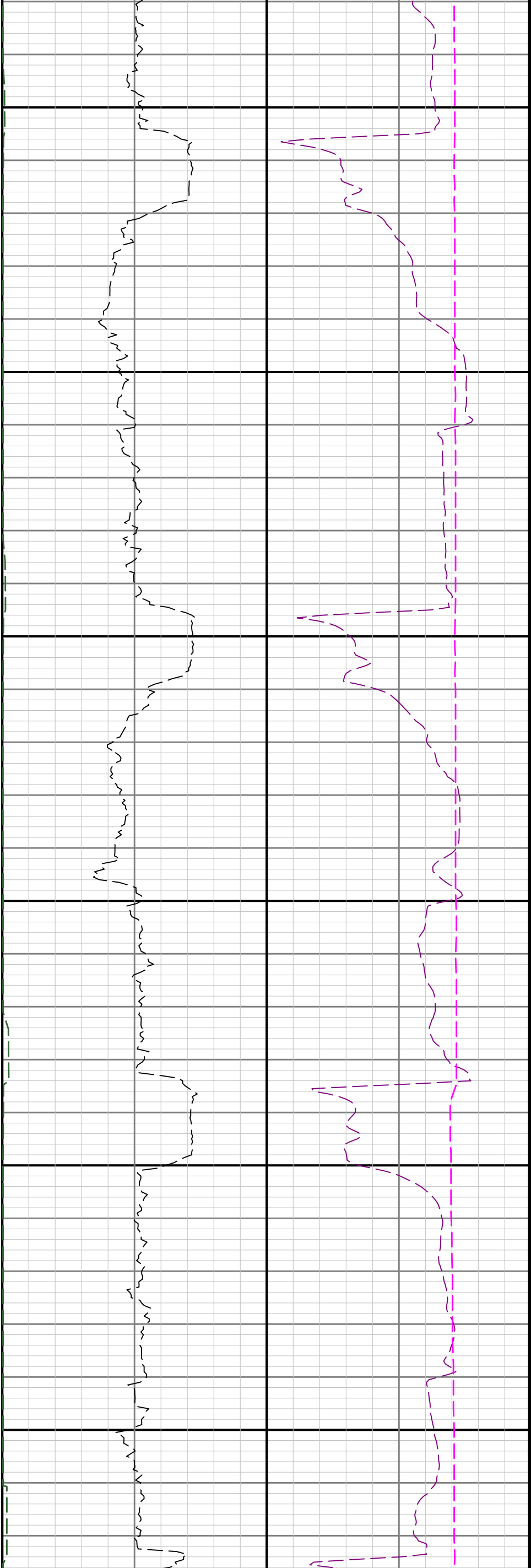


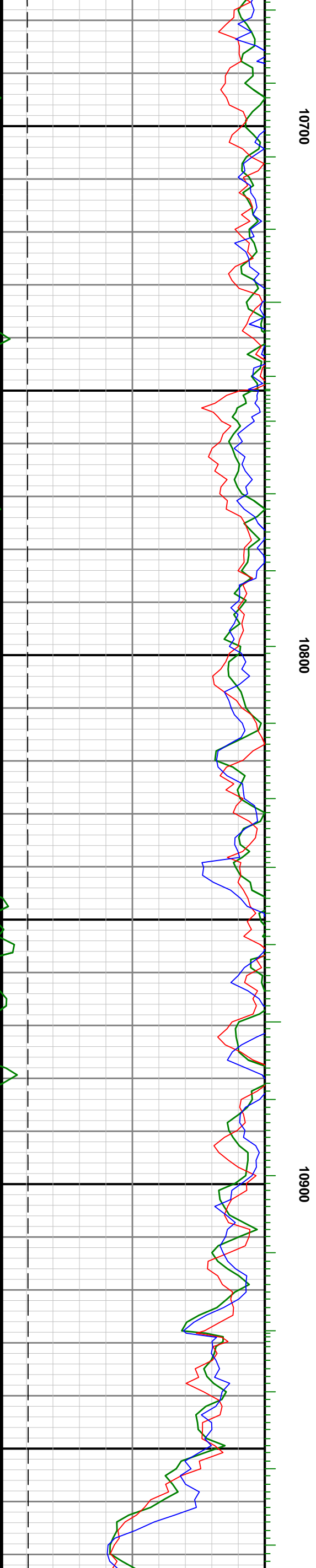
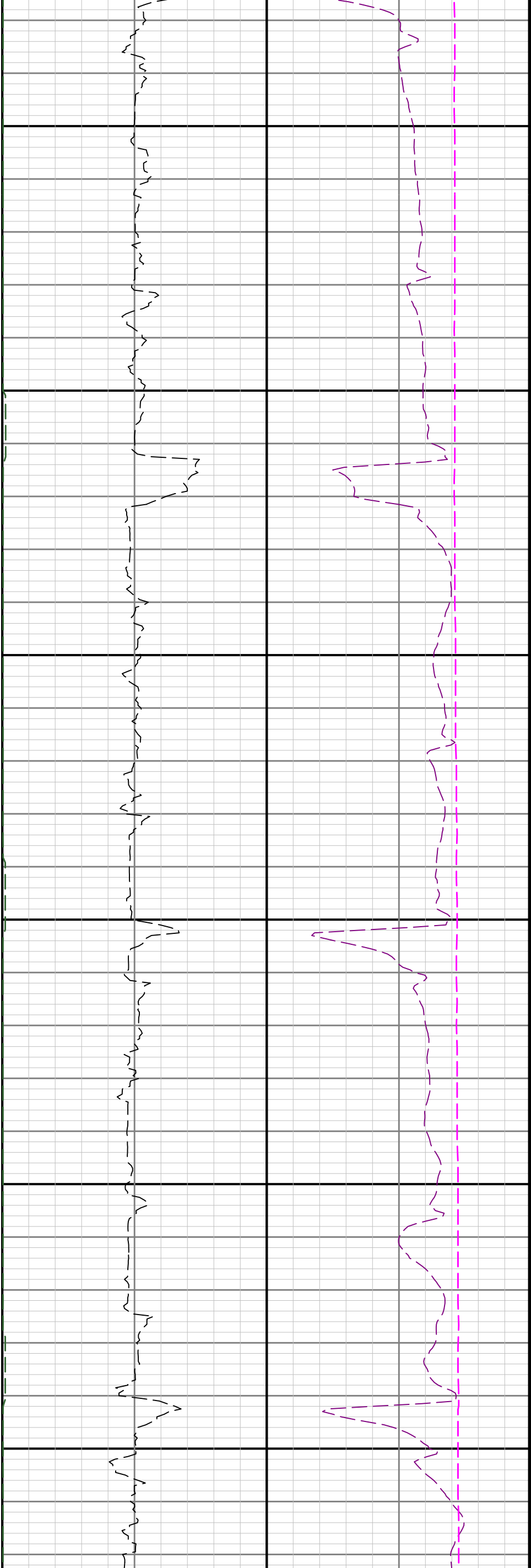


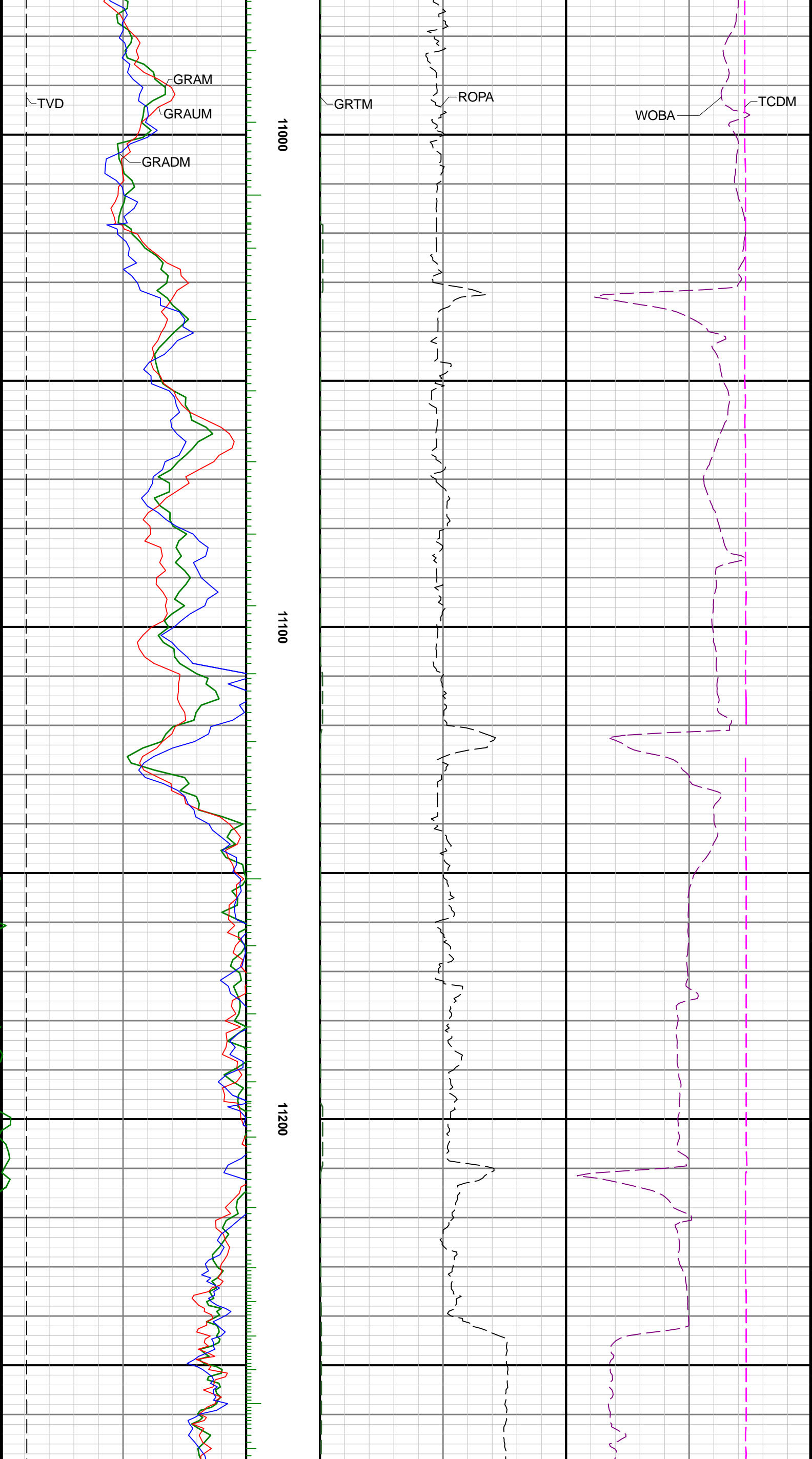


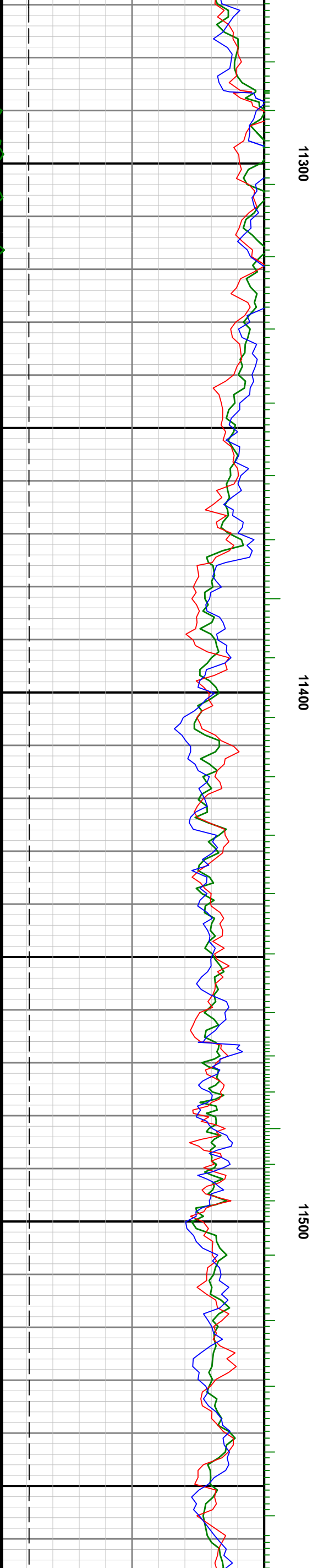
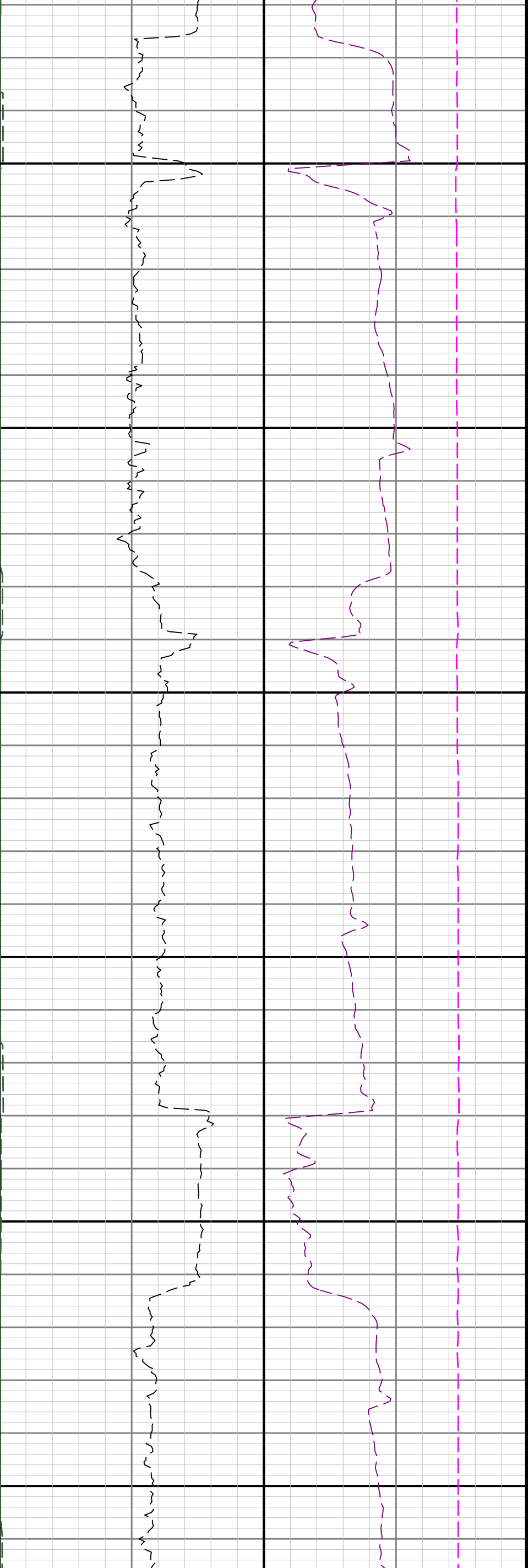


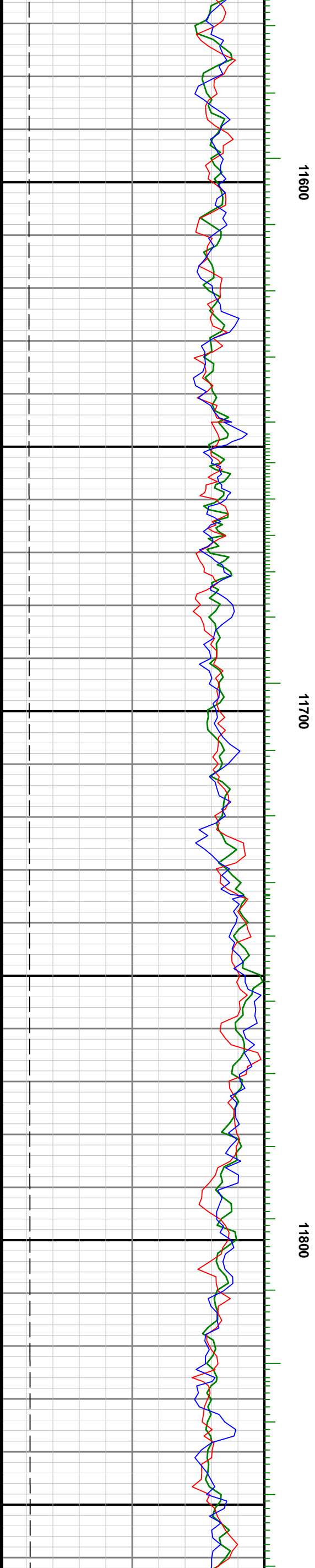


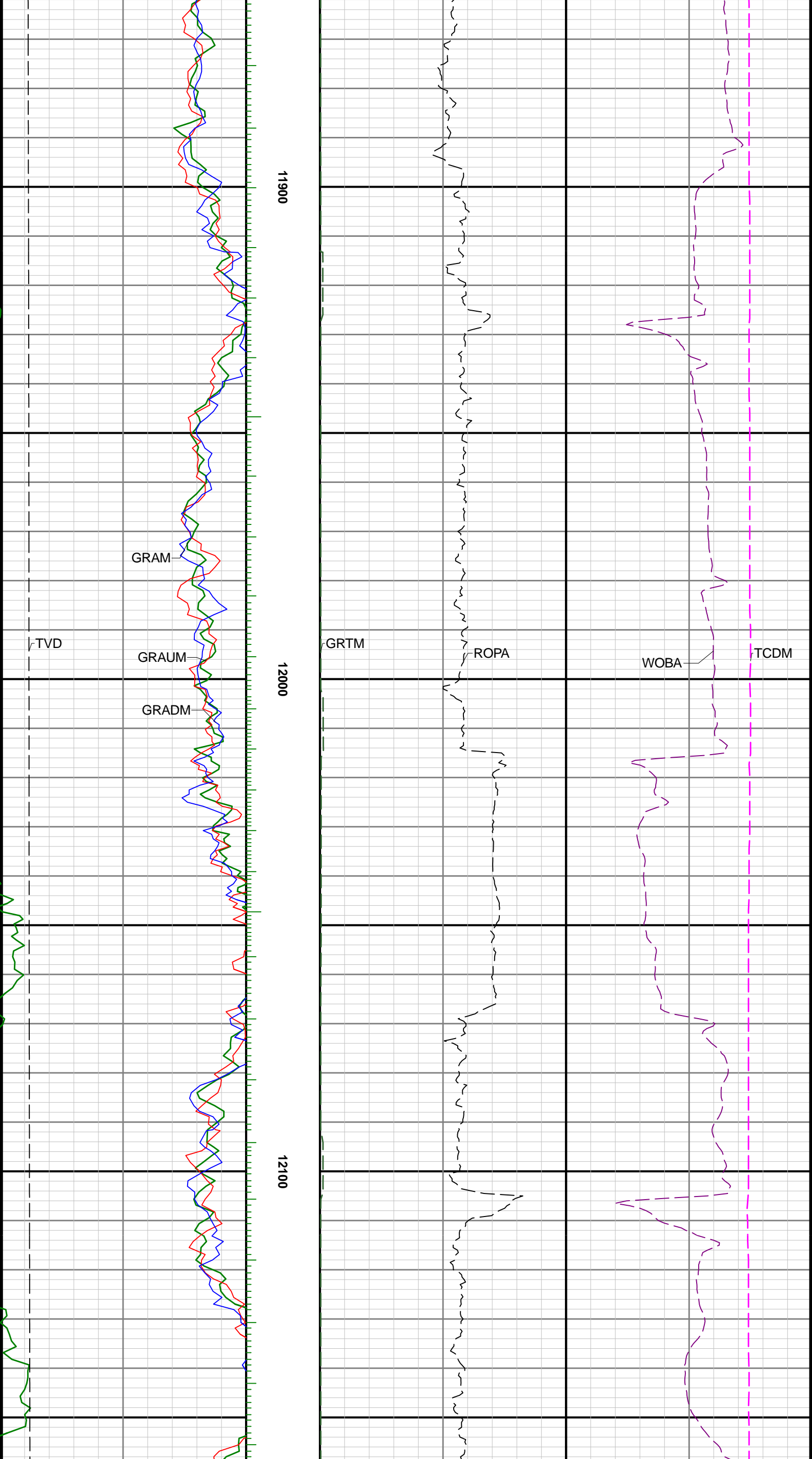


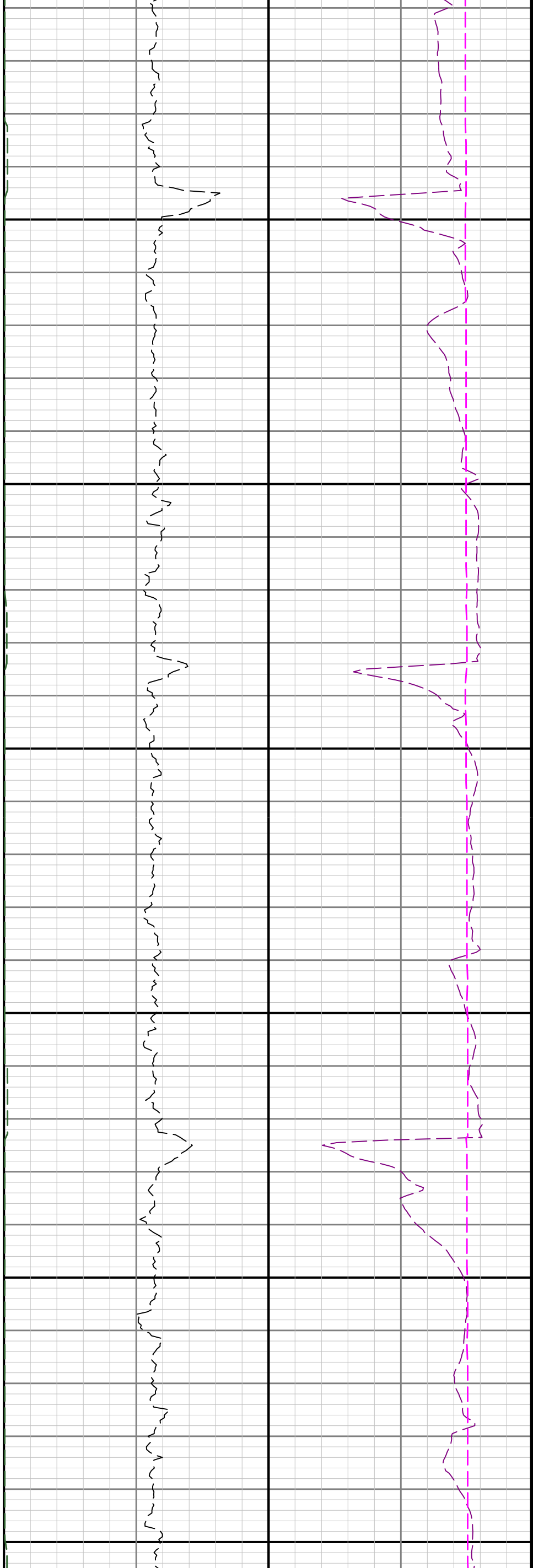








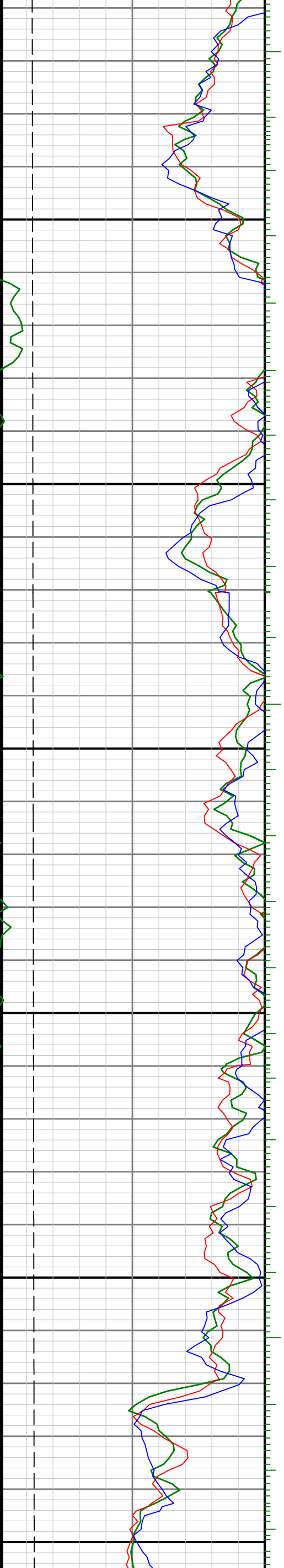


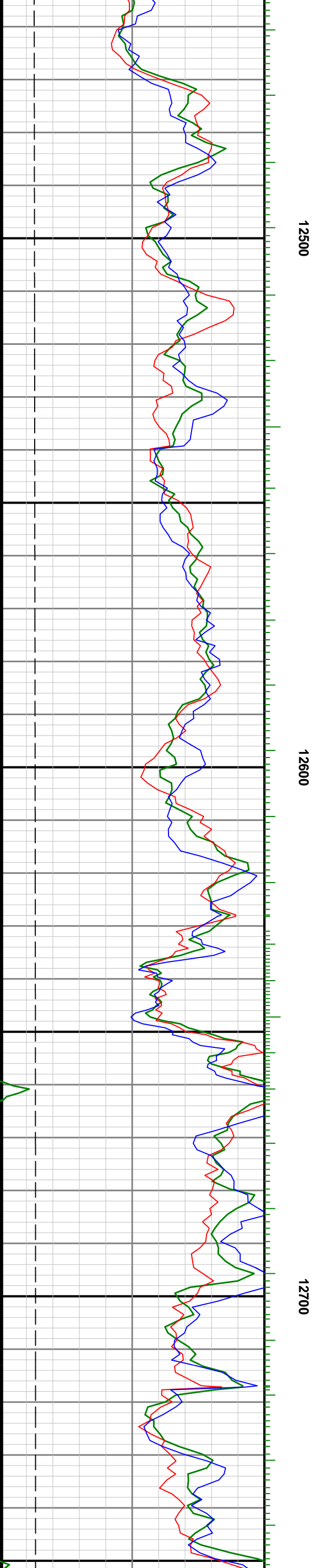


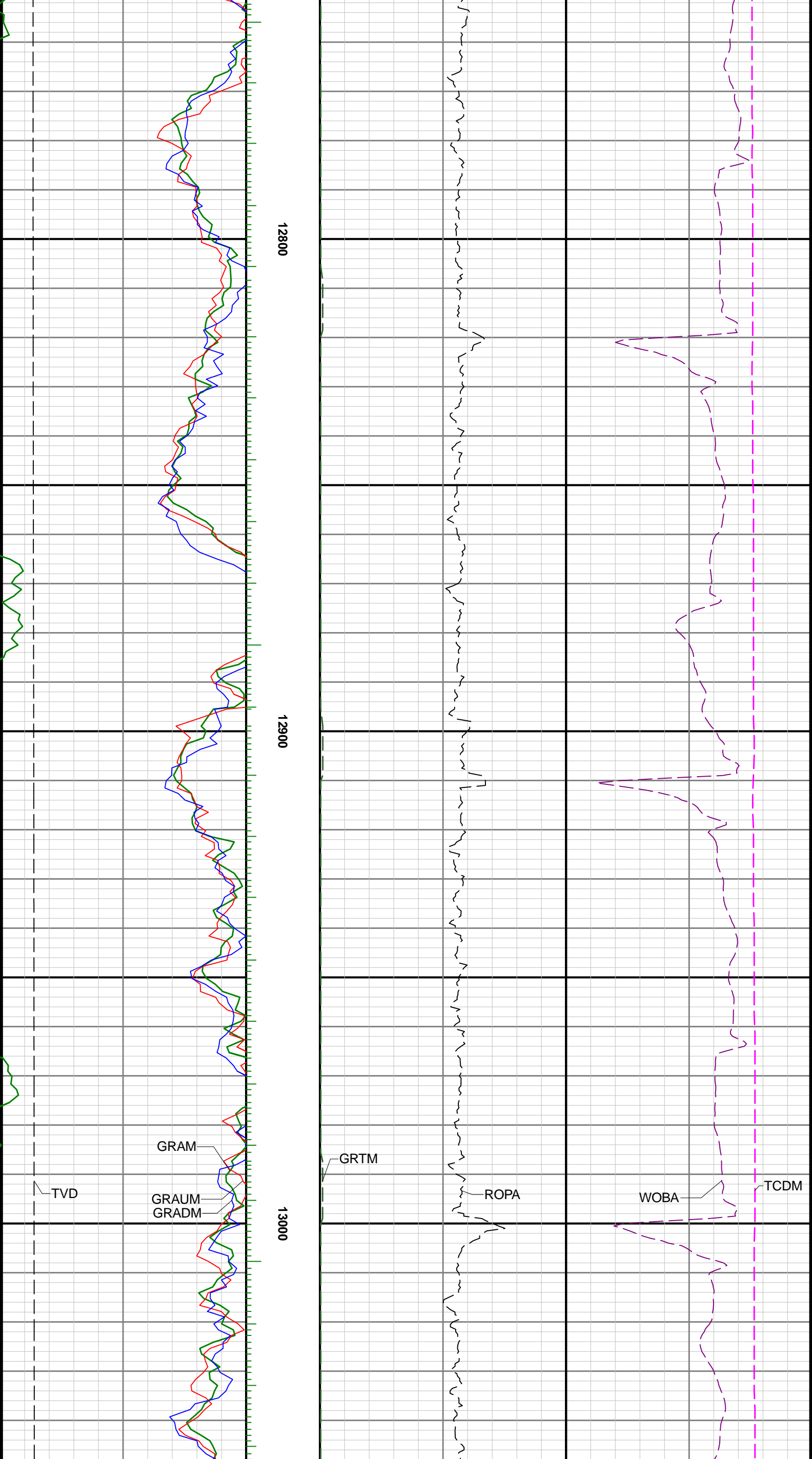
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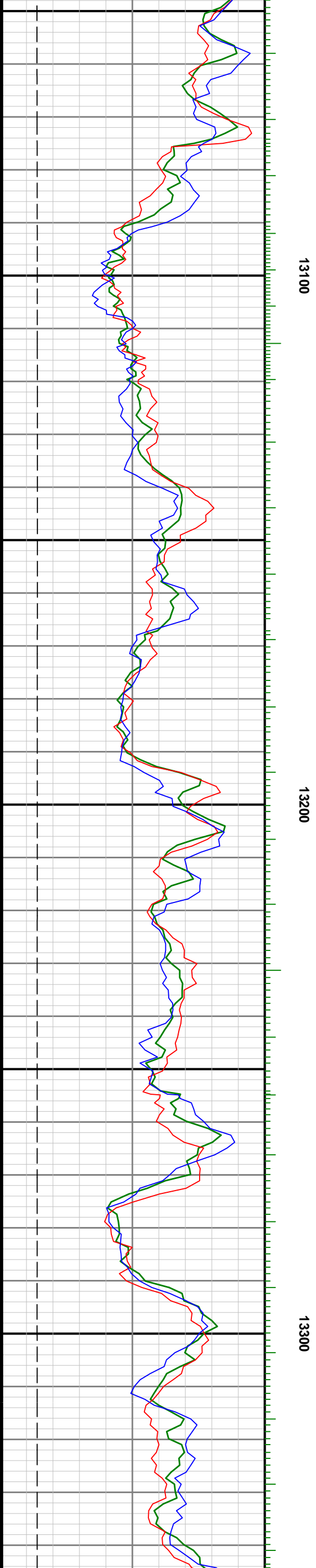
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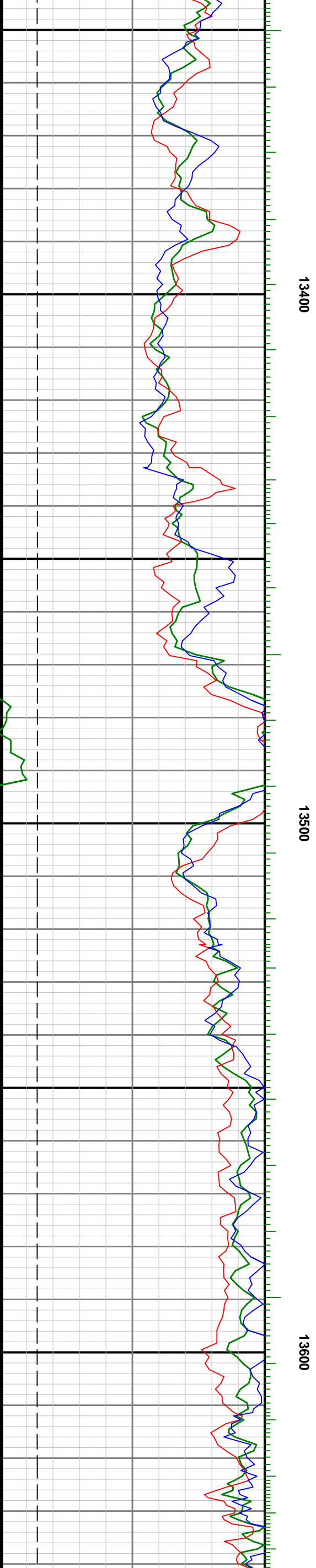
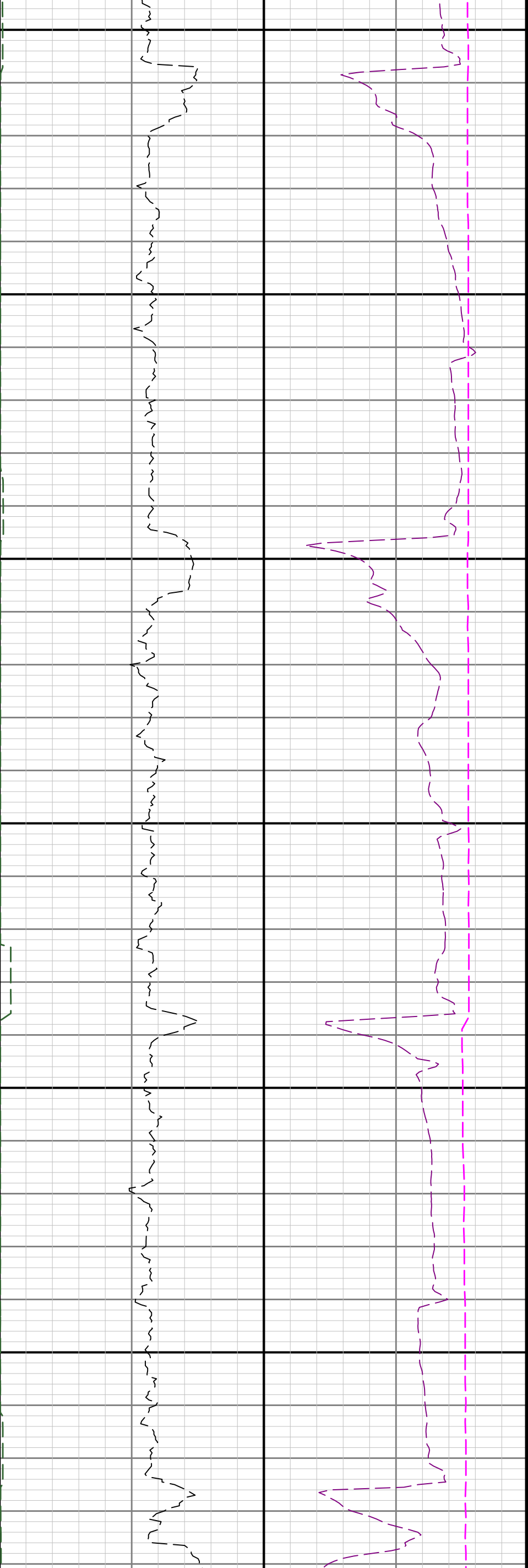
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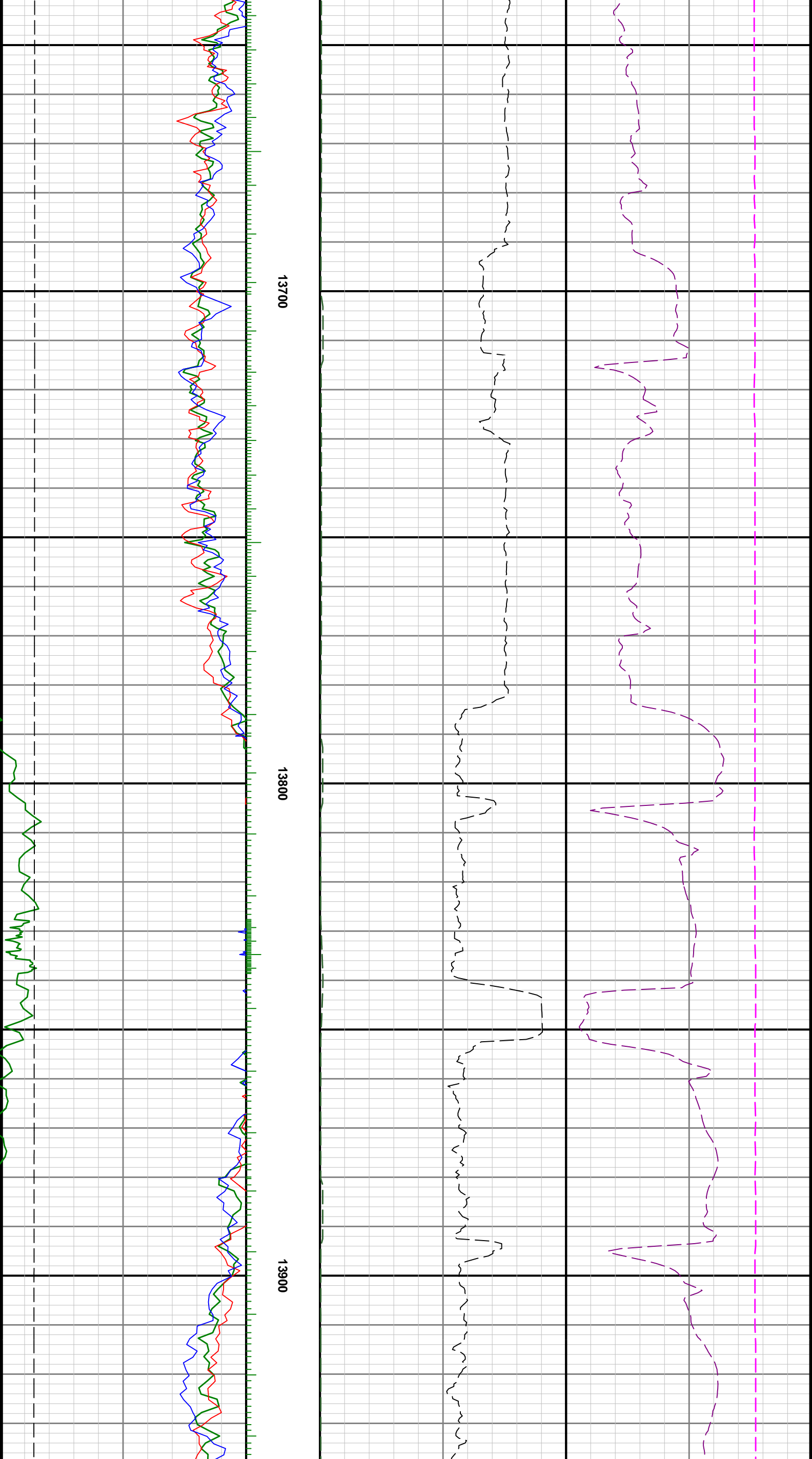


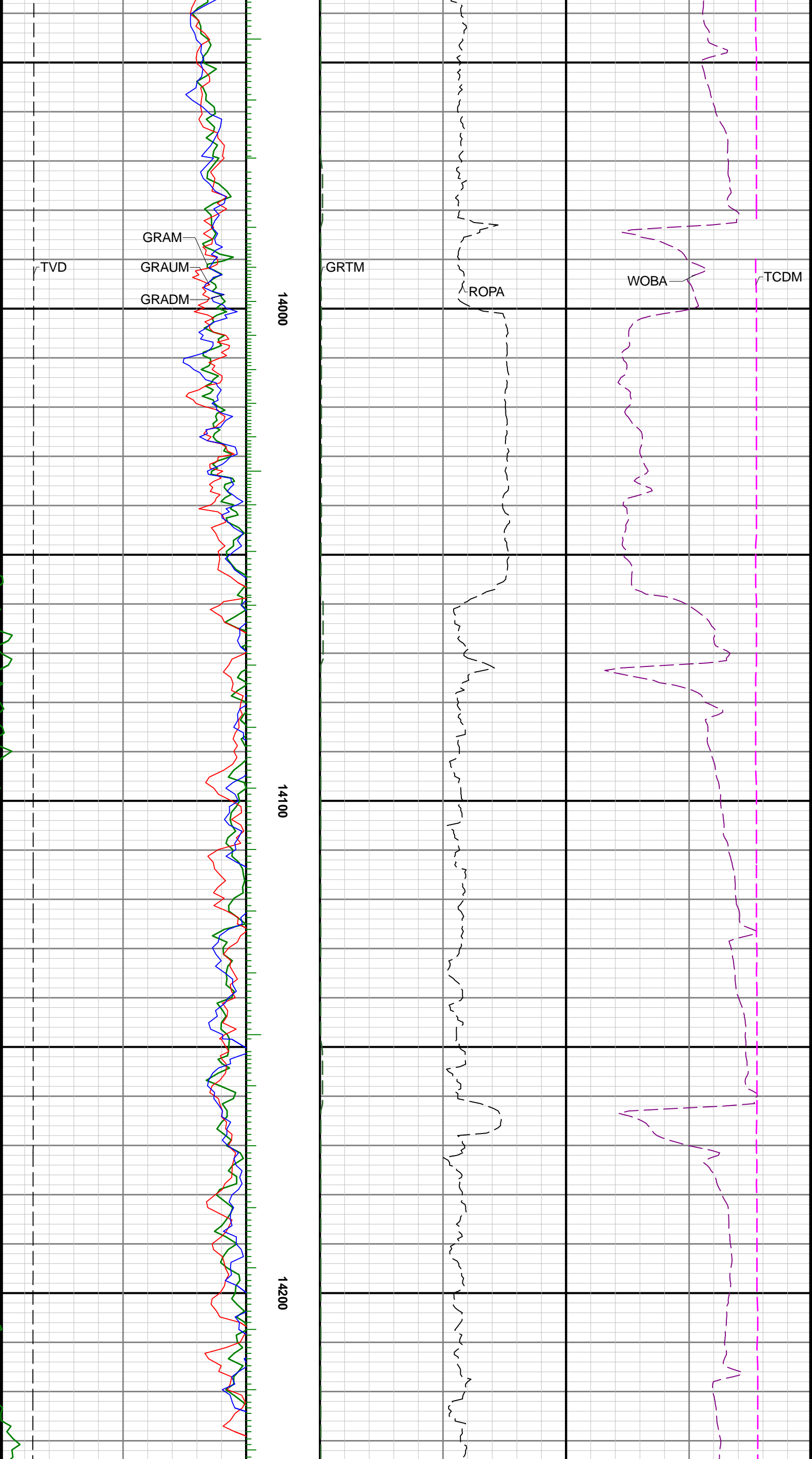


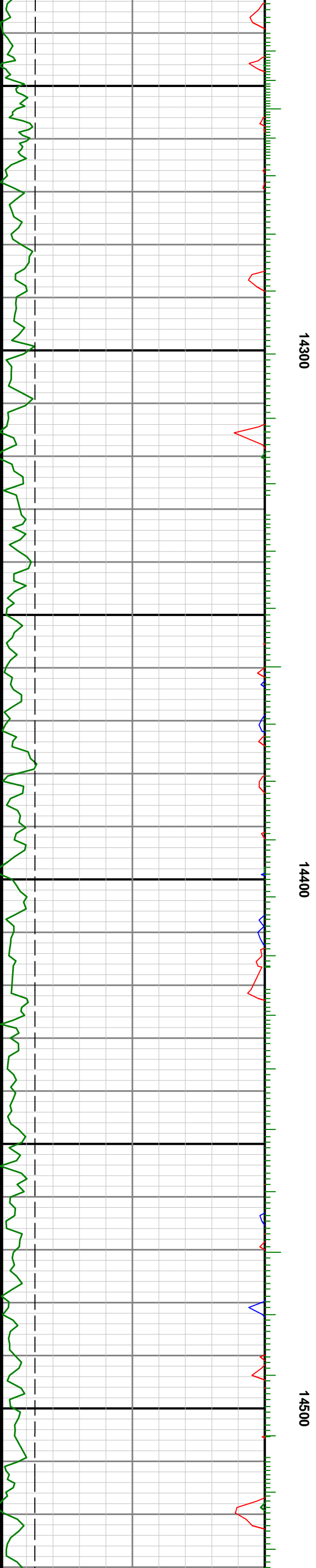
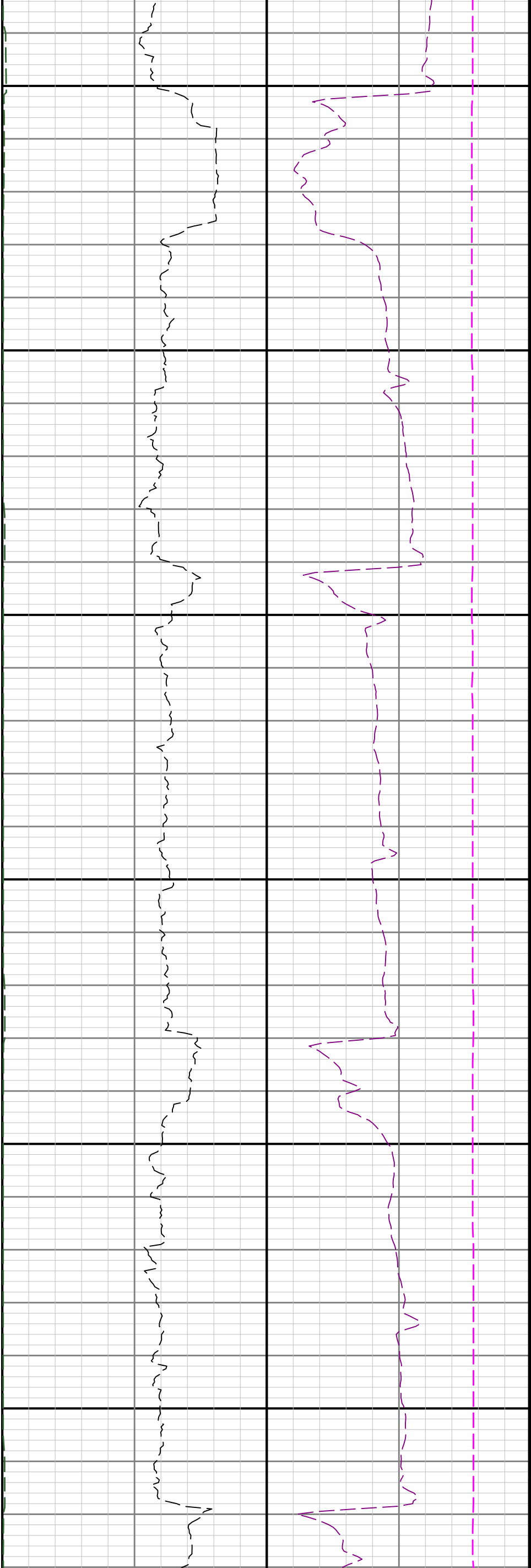


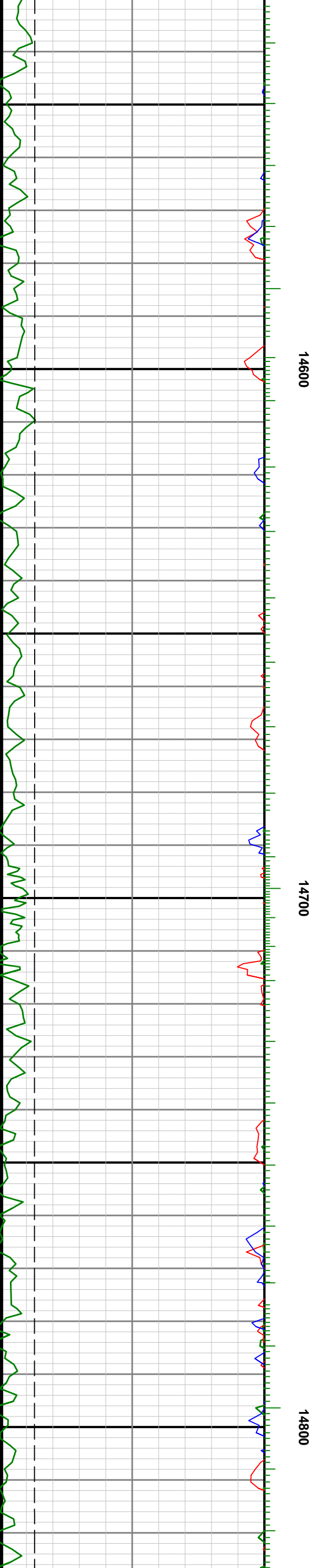
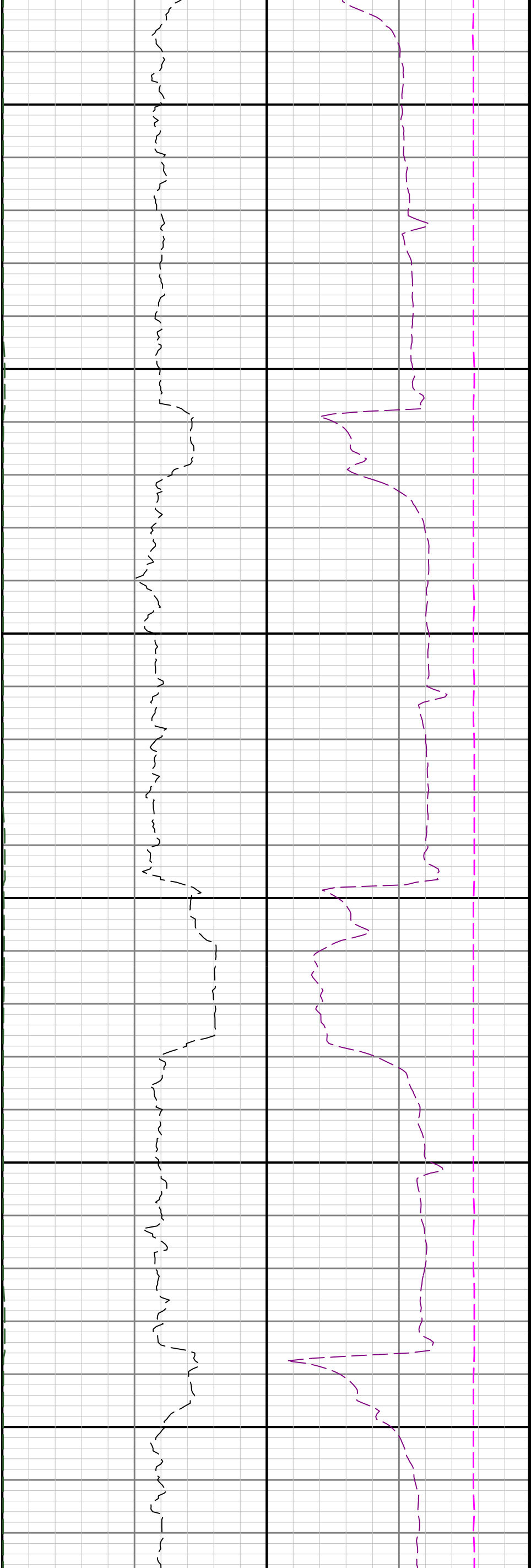


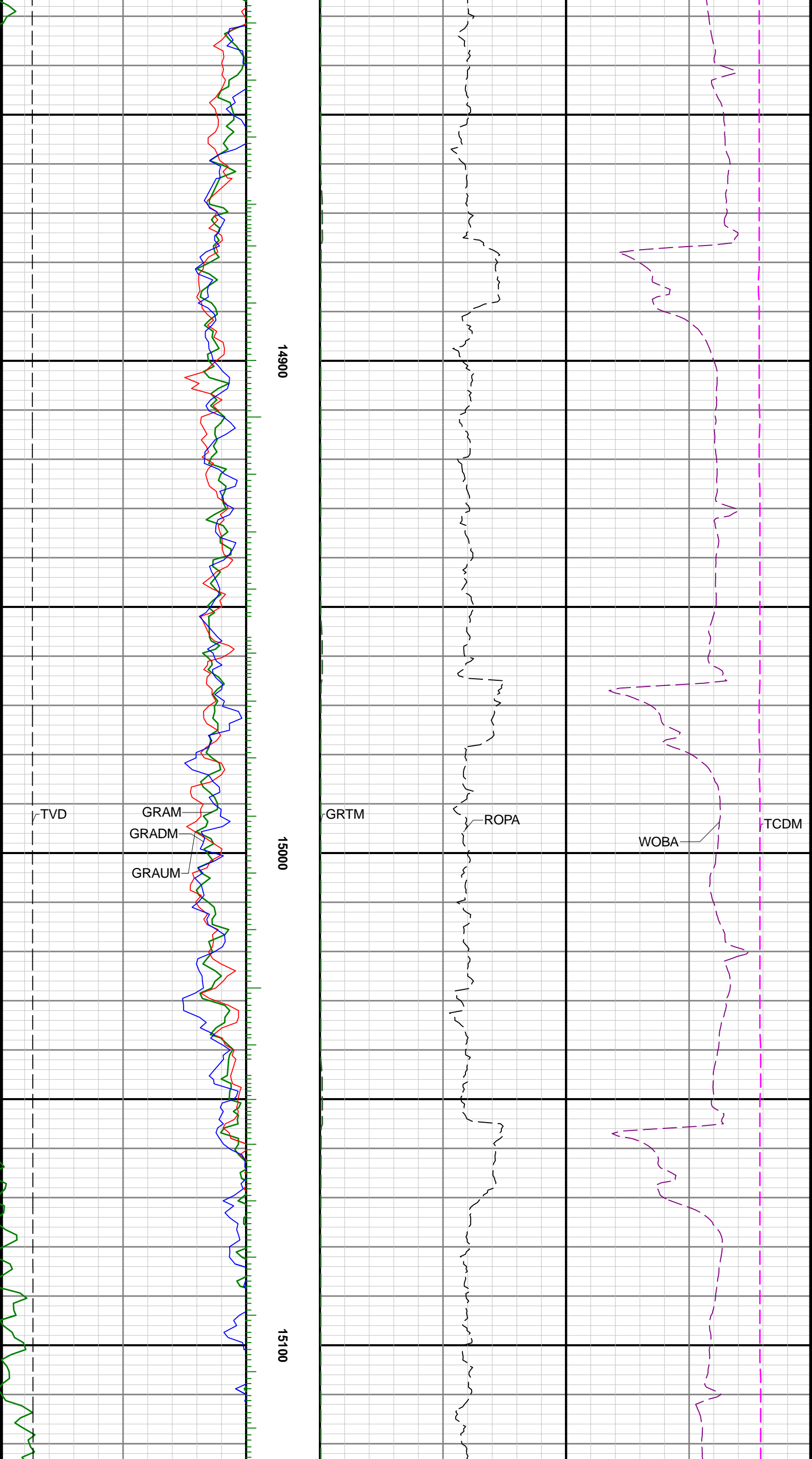


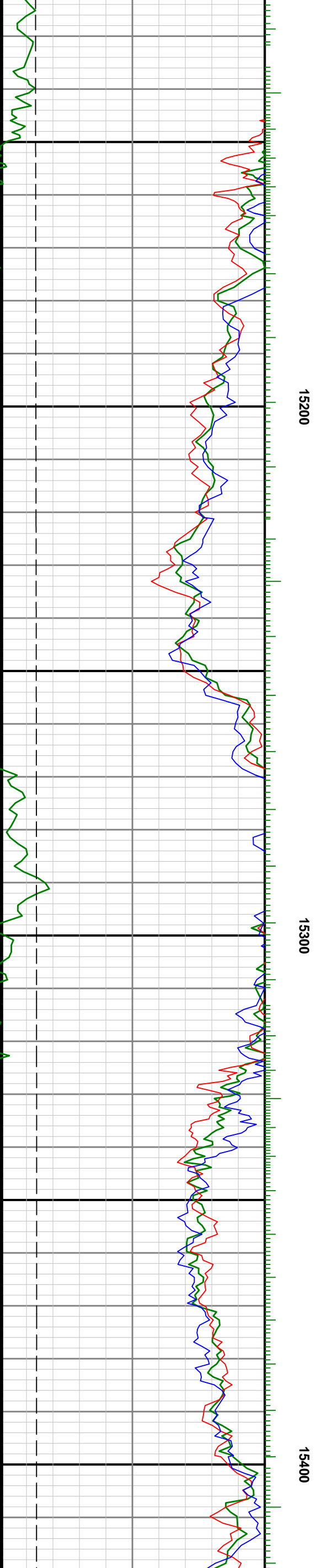
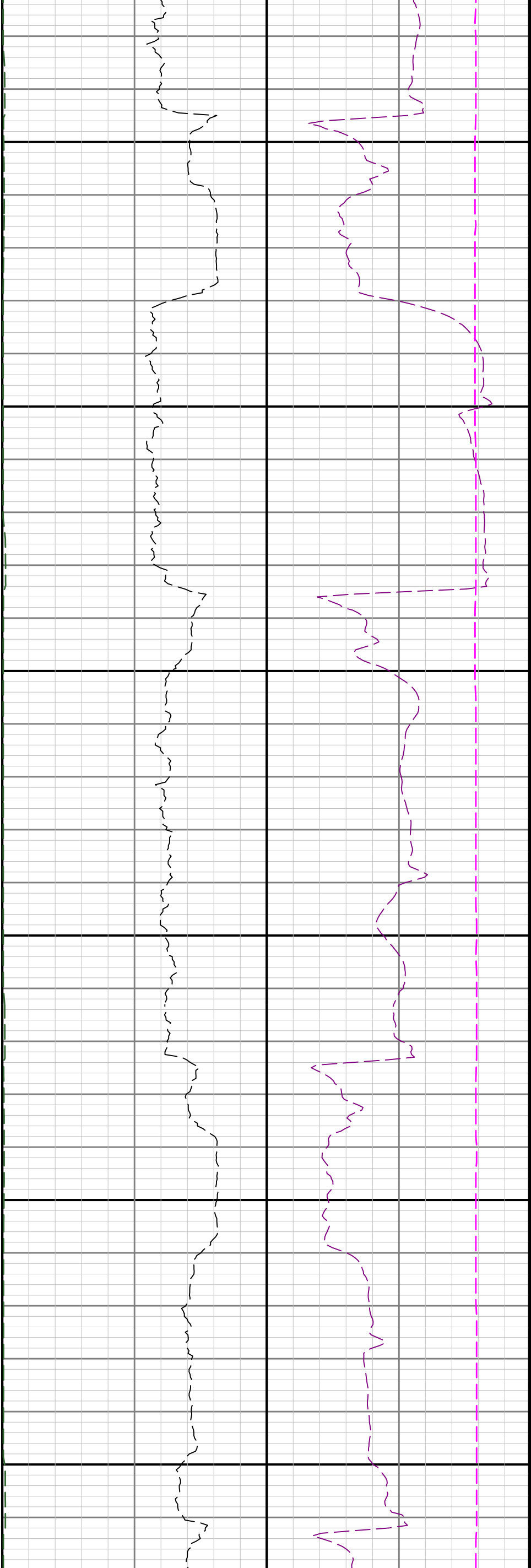


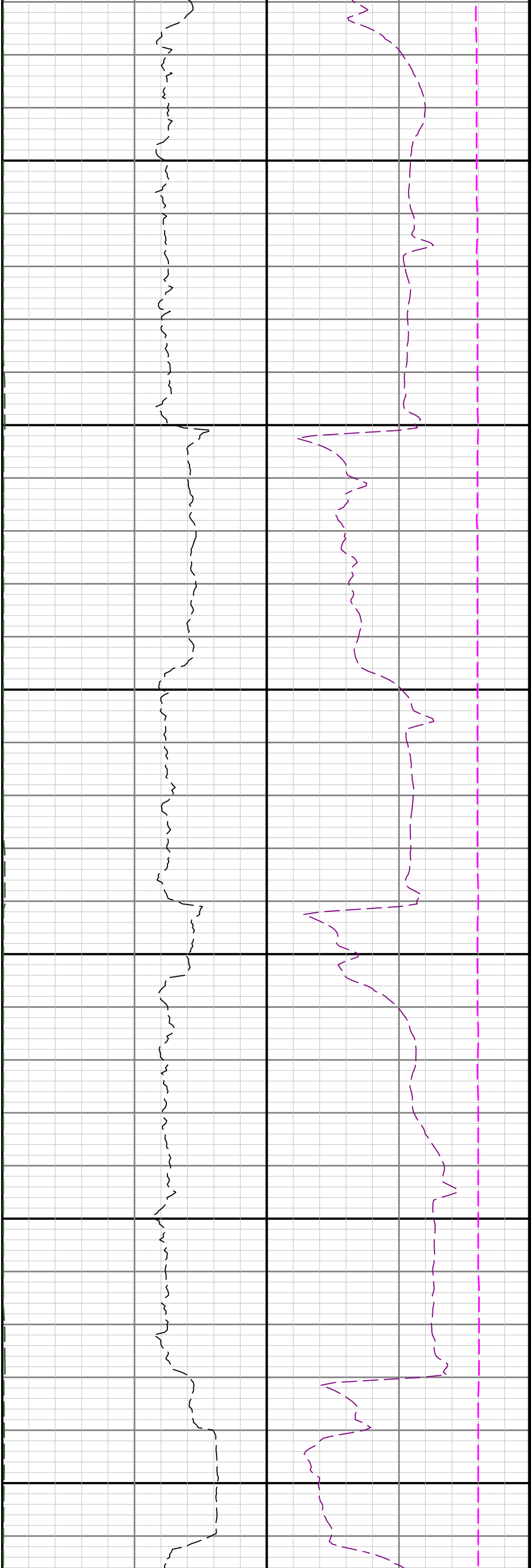








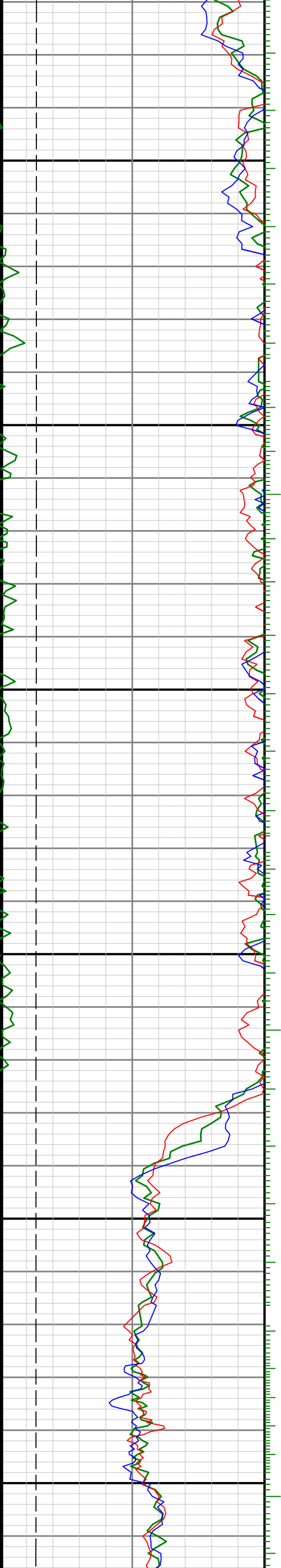


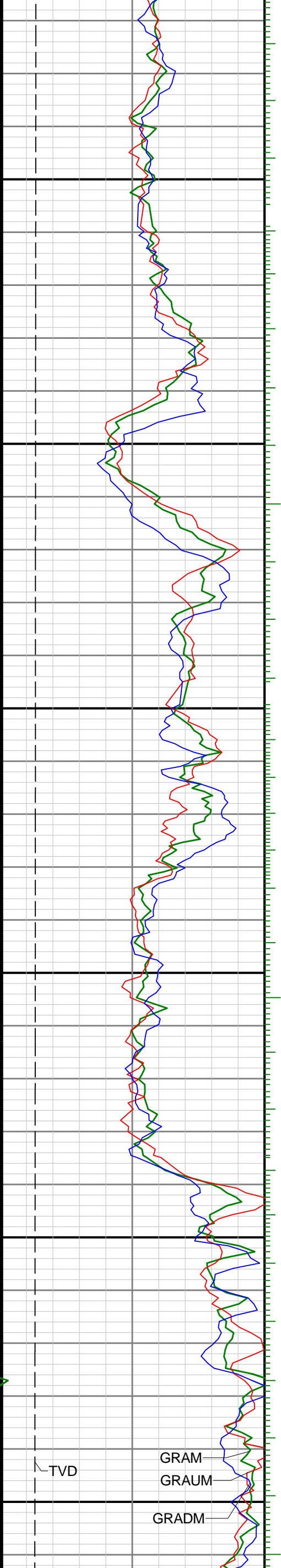


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15600

15700





15800

15900

16000

TVD

GRAM

GRAUM

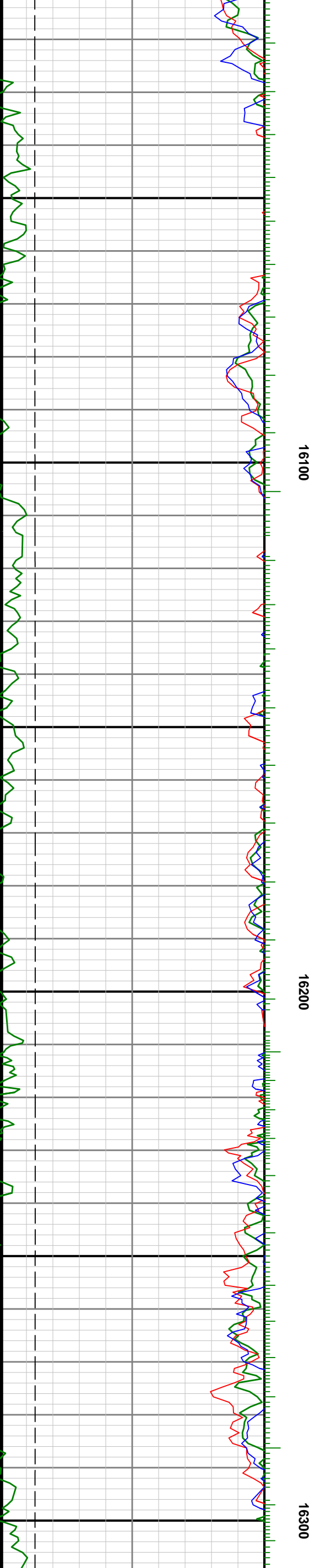
GRADM

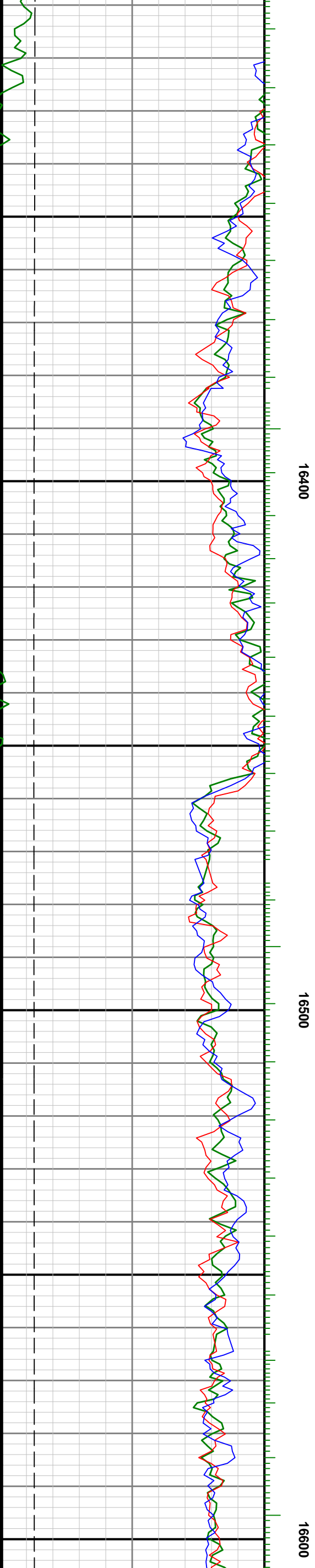
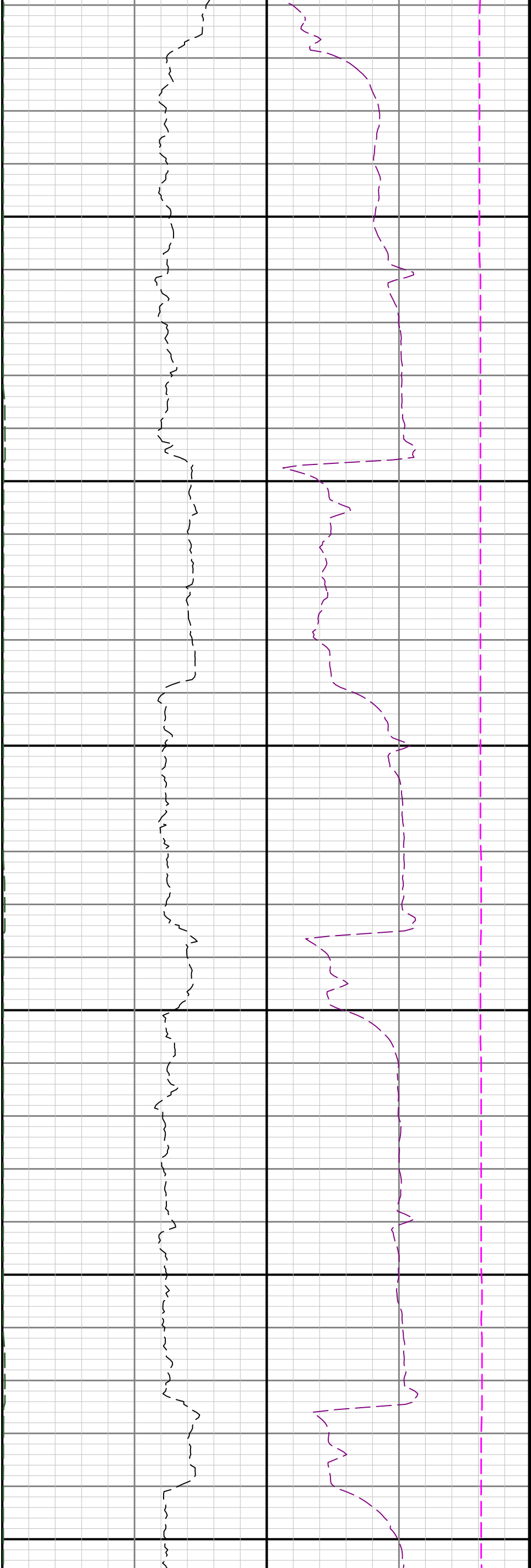
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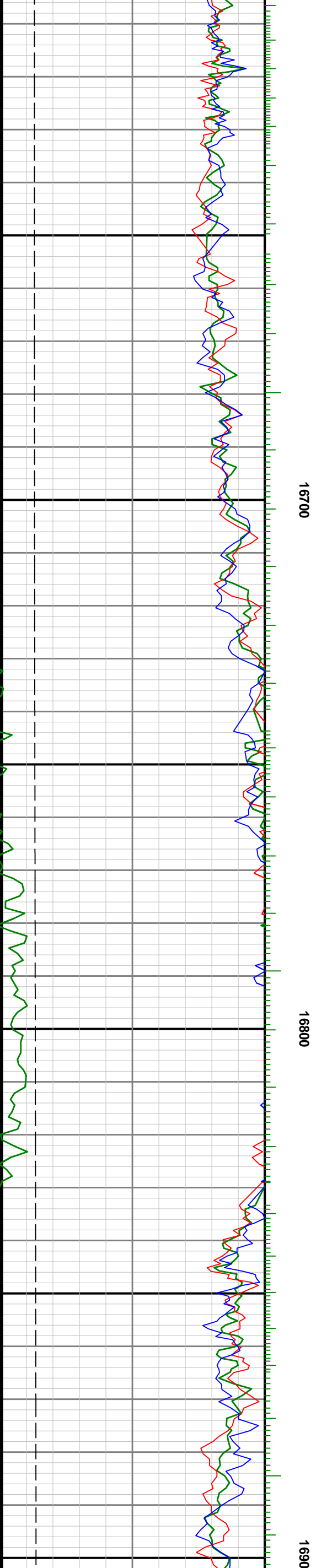
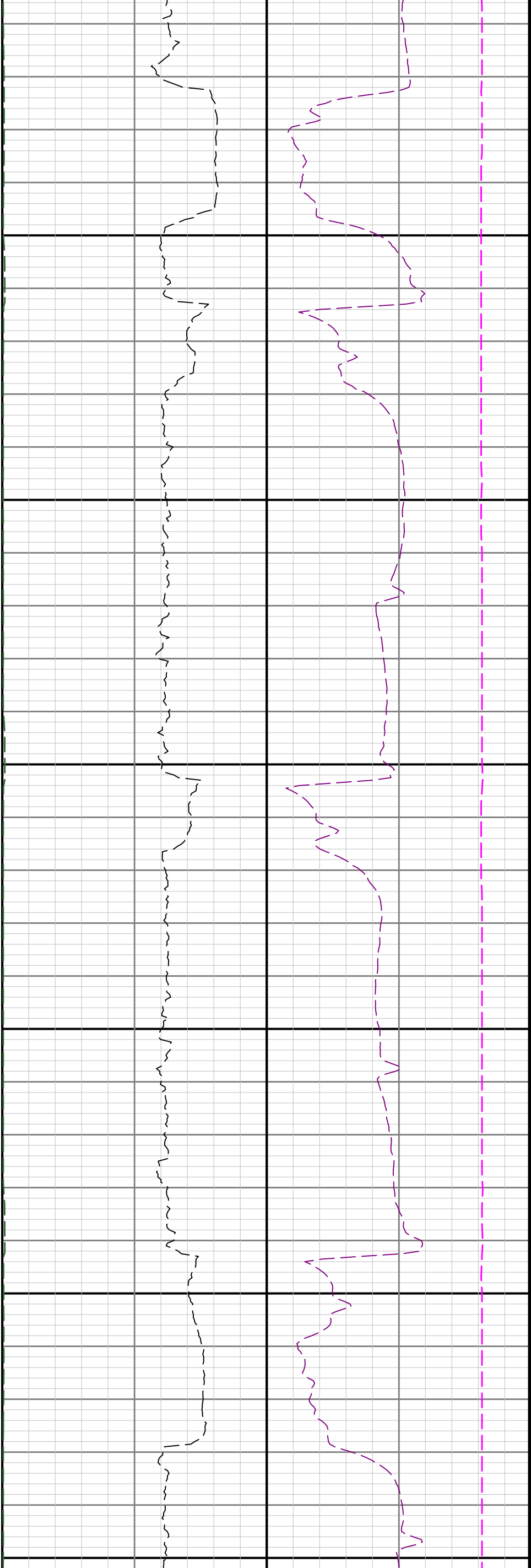
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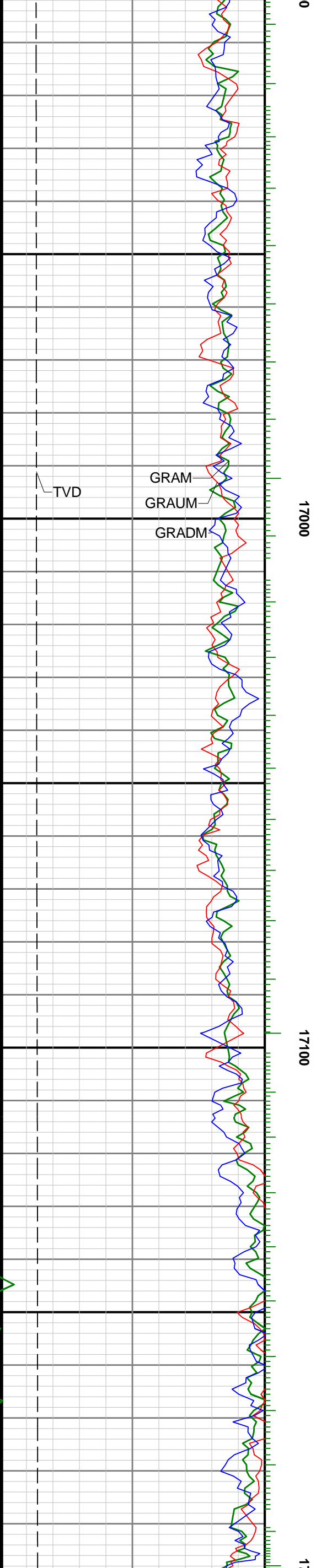
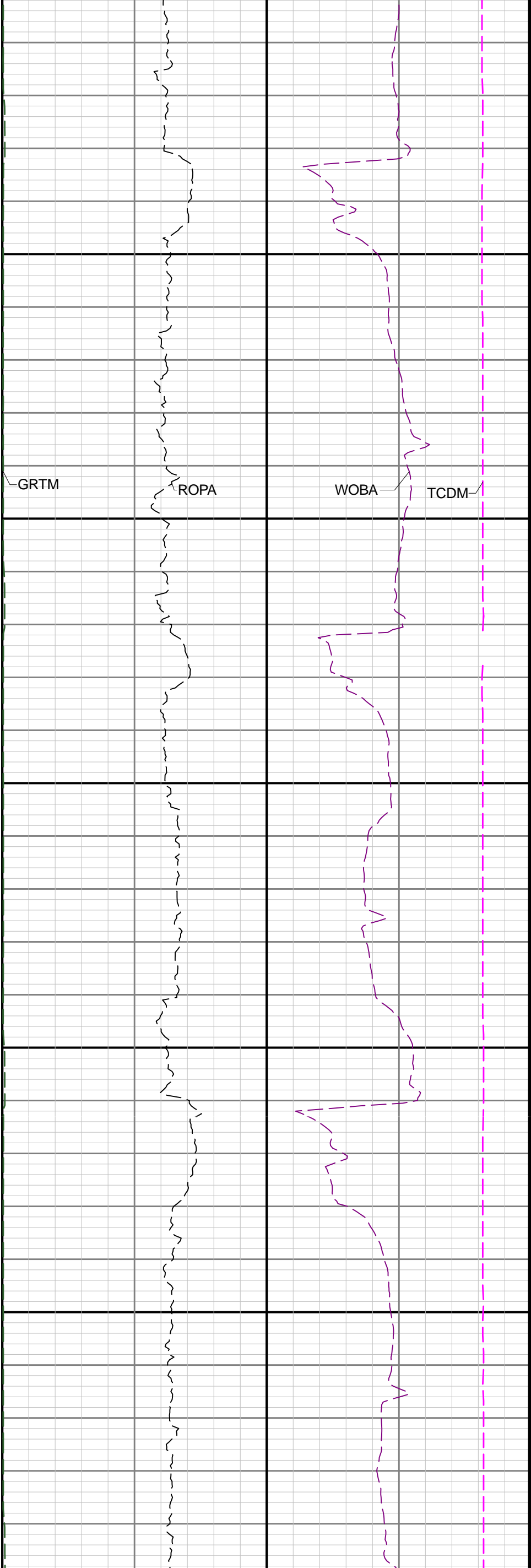
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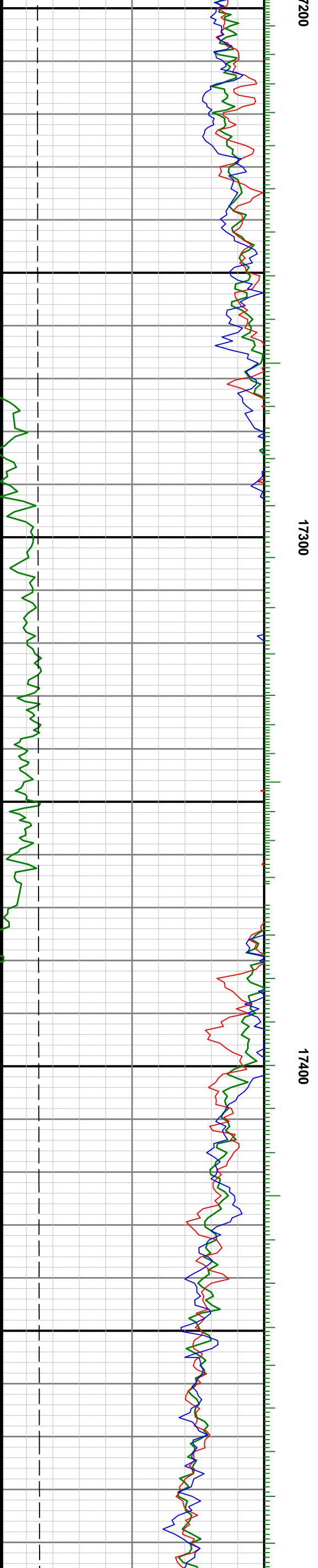
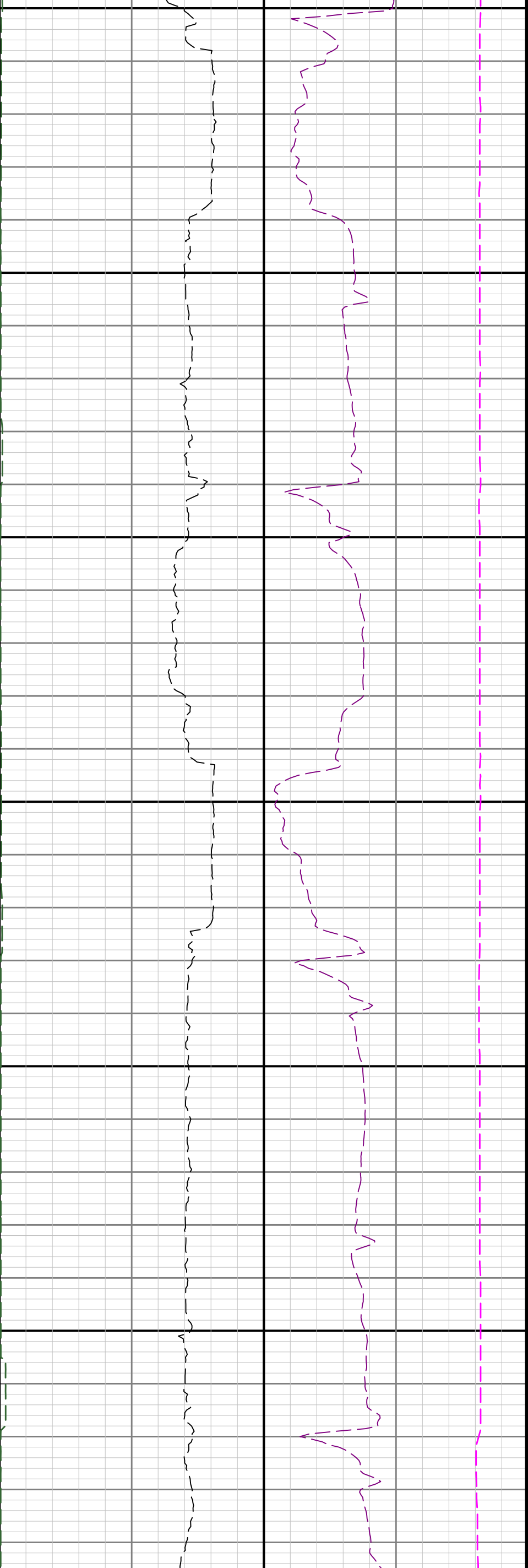
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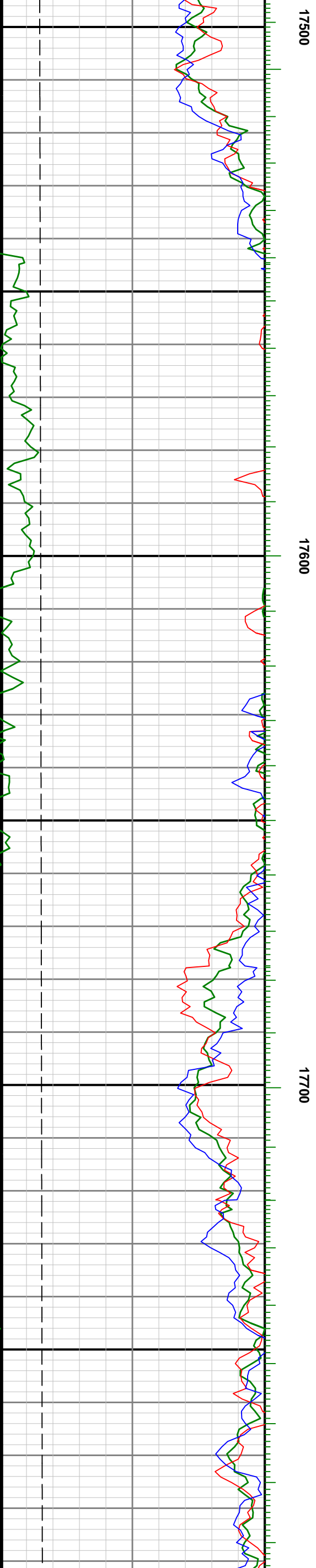
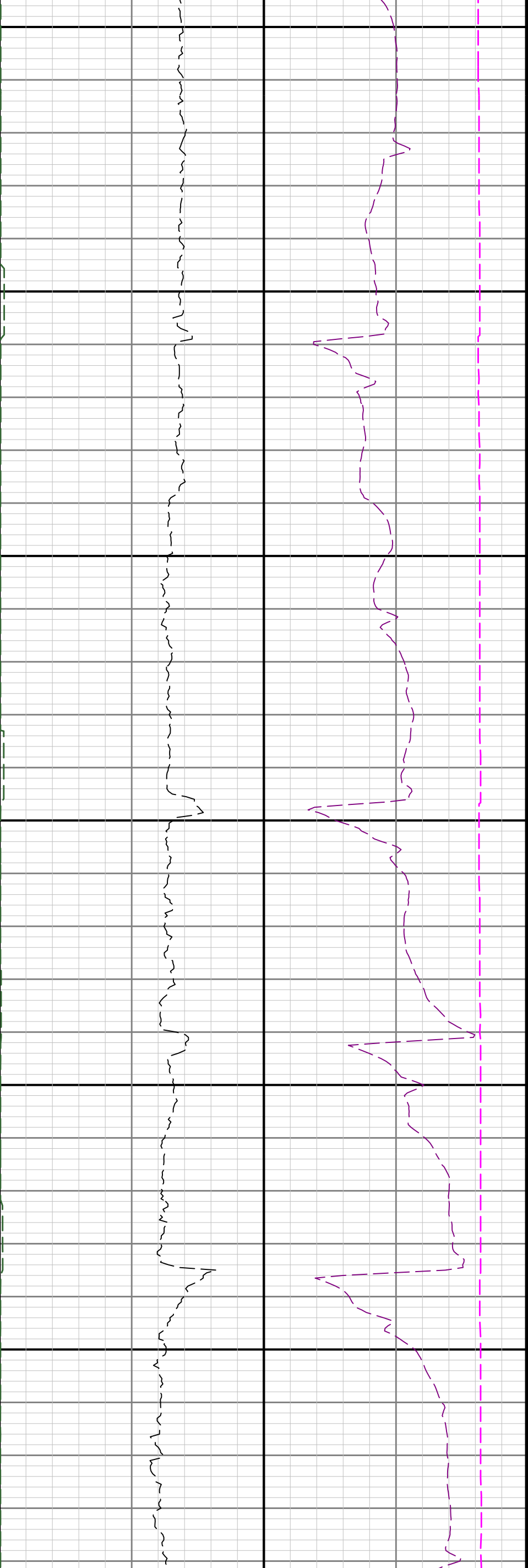


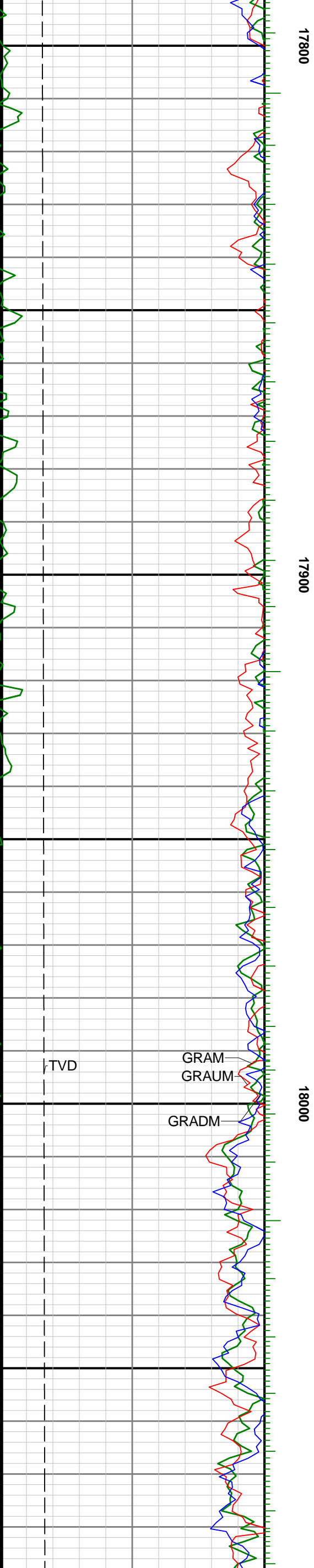


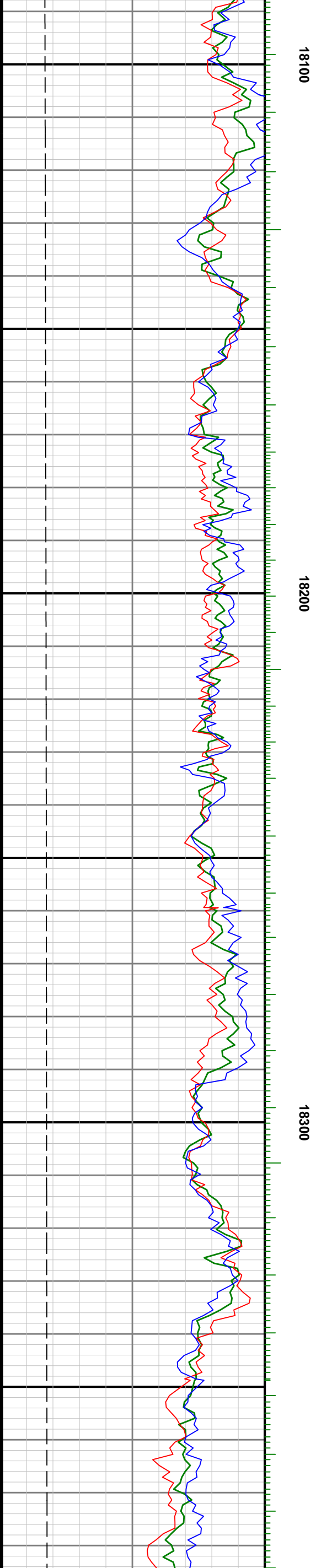
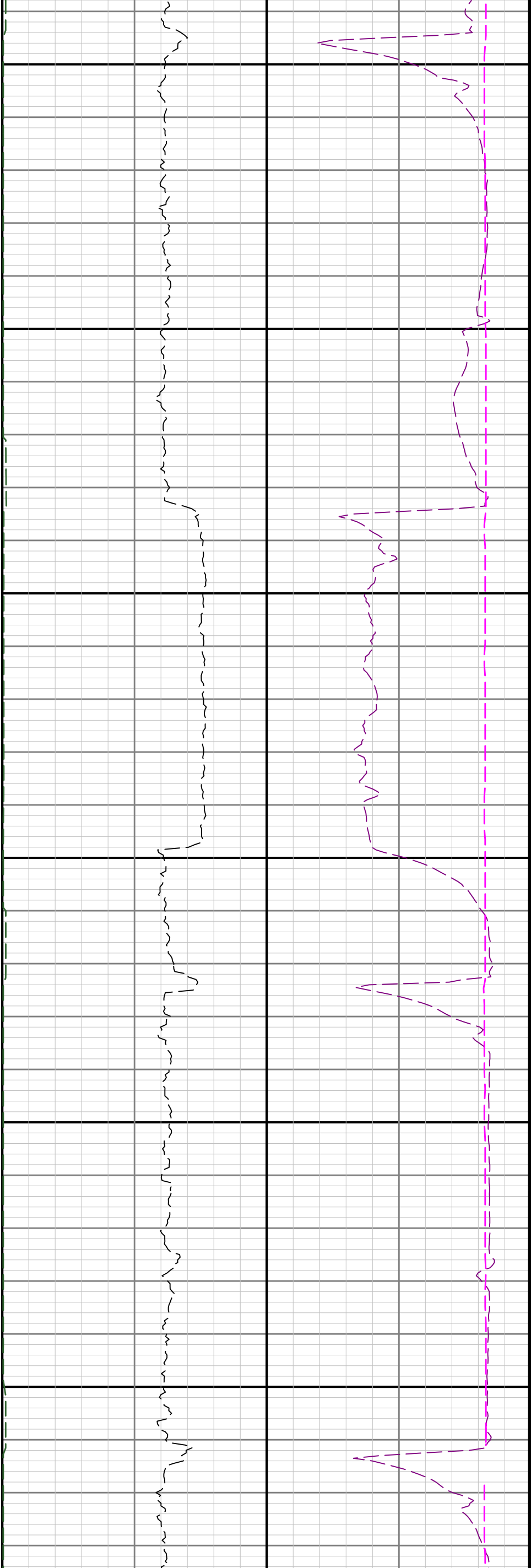


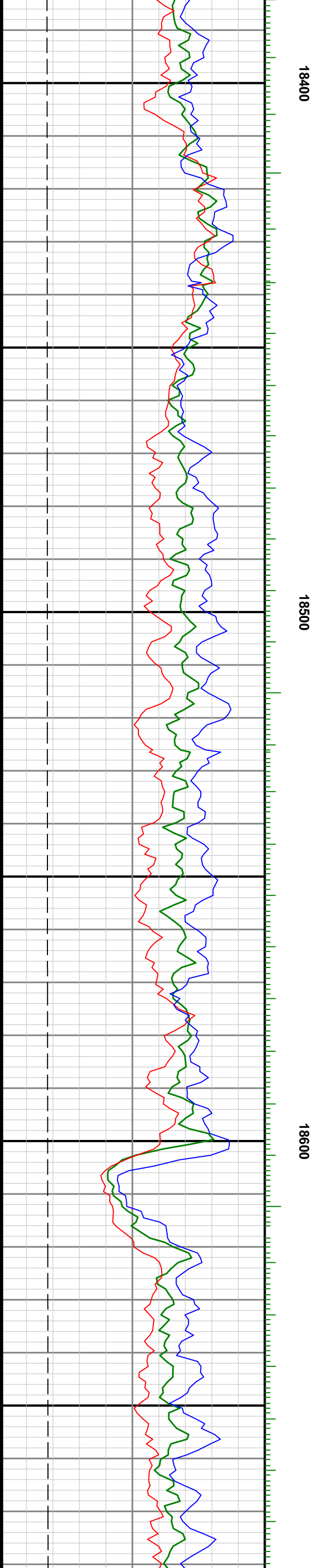


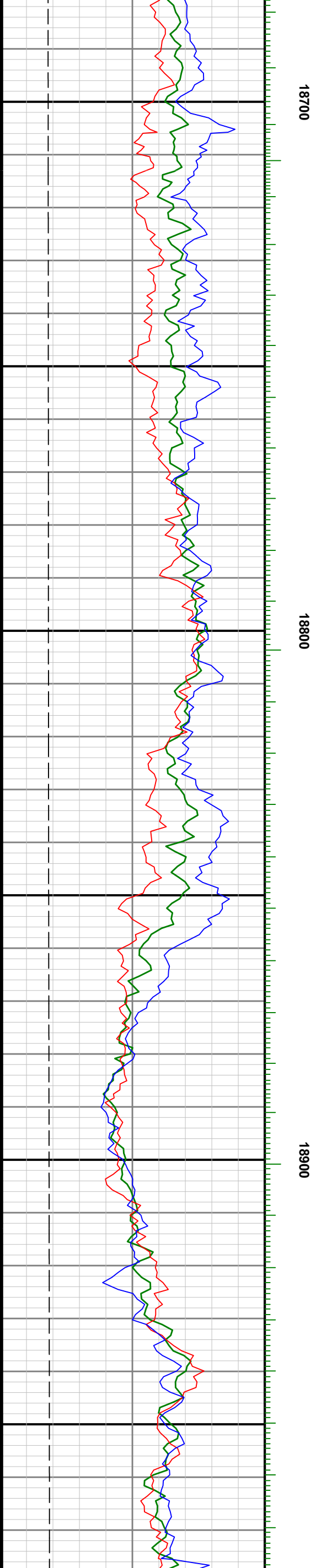
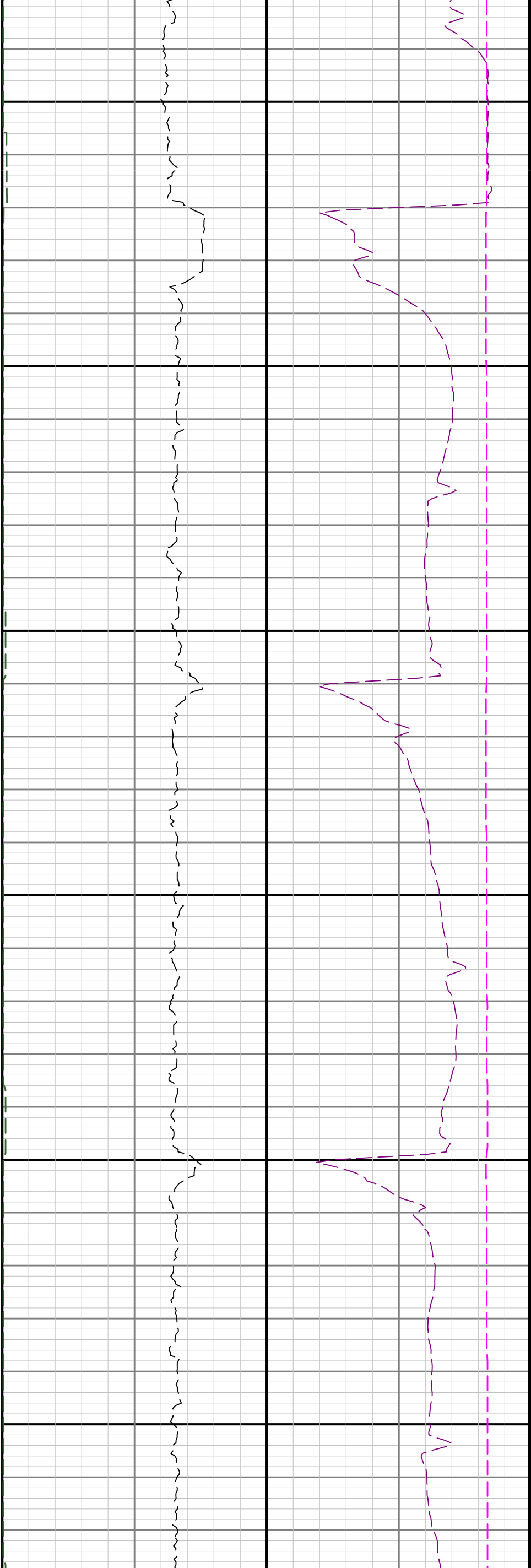


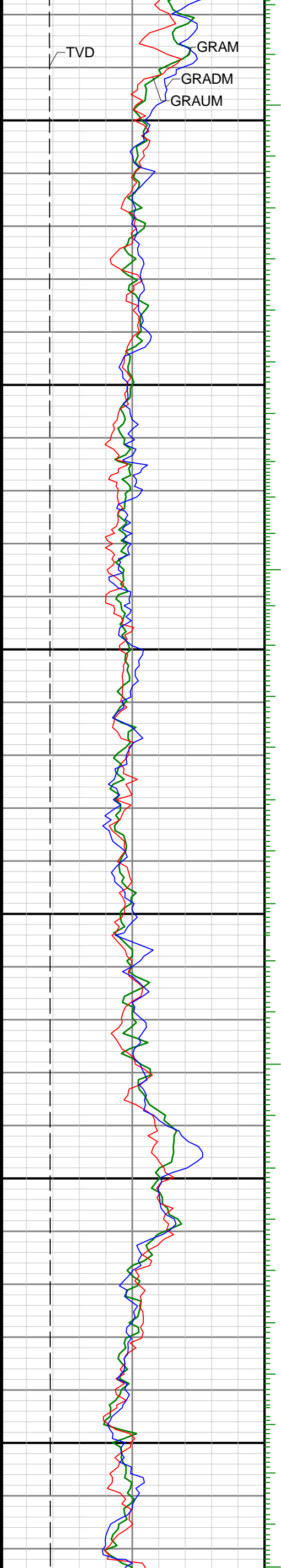








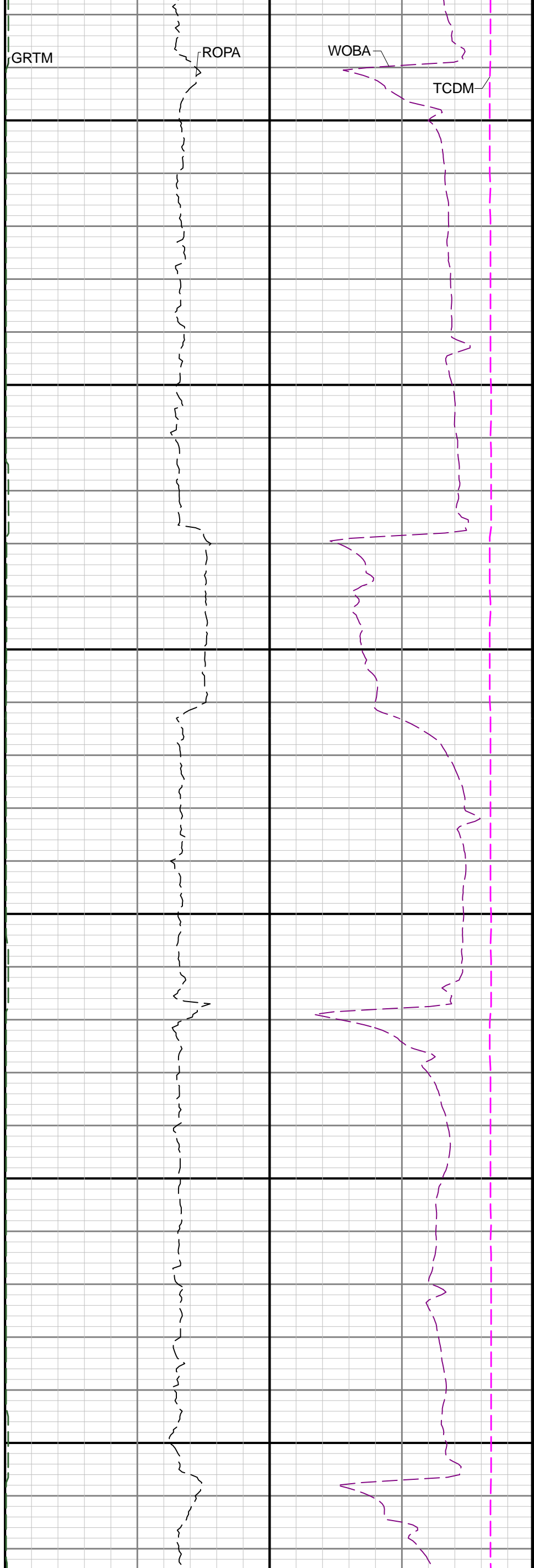




19000

19100

19200



GRTM

ROPA

WOBA

TCDM

