

BAKER HUGHES				LWD MEMORY LOG											
				Azimuthal Gamma Ray											
Scale:				Company: SRC Energy											
1:240 MD				Well: Leftler 1C-23-L											
Depth Reference:				Field: Weld County											
Driller's Depth				County: Weld				Country: United States							
Status:				Surface Location:				Other Services:							
Final Print				Latitude: 040° 28' 33.553" N											
API No: 05-123-44833-00				Longitude: 104° 46' 27.660" W				Directional							
Job ID: 8576425				UTM: N/A				N/A							
				SEC: 21				TWN: 6N				RGE: 66W			
Permanent Datum (P.D.): Mean Sea Level				Elevation: 0.00 ft				KB: N/A							
Log Measured From: Rig Floor				Above P.D. 4773.00 ft				DF: 4773.00 ft				GL: 4748.00 ft			
Dates				Interval Logged				Magnetic Field Reference							
Date From: 2017-07-26				Top: (ft) 1775.00				Azi Reference North: True				Dip Angle: (deg) 66.88			
Date To: 2017-07-30				Bottom: (ft) 17863.00				Total Magnetic Field Strength: (nT) 52610							
Spud Date: 2017-05-30								Mag to Reference North Correction: (deg) 7.41 E							
Borehole Record								Casing Record							
Hole Size (in)				From (ft)		To (ft)		Size (in)		Weight (lb/ft)		From (ft)		To (ft)	
13.500				25.00		1806.00		9.625		36.00		25.00		1783.00	
8.500				1806.00		17875.00									

2017-07-27 06:15	2	1011.07	Oil Based Mud	9.8	29	N/A	0.0	66/23	Suction	40952	0.00
2017-07-29 06:45	2	16578.42	Oil Based Mud	9.7	23	N/A	0.0	77/23	Suction	41905	0.00
2017-07-29 21:00	3	16850.00	Oil Based Mud	9.7	23	N/A	0.0	77/23	Suction	41905	0.00
2017-07-30 09:27	3	16968.19	Oil Based Mud	9.8	26	N/A	0.0	77/23	Suction	40952	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	Sensor Sub	ZAPS230924	Gamma (single)	9.66	59.62	8.000	3.250
1	Sensor Sub	ZAPS230924	VSS	12.23	62.19	8.000	3.250
1	Sensor Sub	ZAPS230924	Directional (mag)	12.23	62.19	8.000	3.250
1	Sensor Sub	ZAPS230924	Pressure	31.53	81.49	8.000	3.250
2	ATC_SU	13809446	Near Bit VSS	5.93	6.73	7.000	4.330
2	ATC_SU	13809446	Near Bit Inclination	5.93	6.73	7.000	4.330
2	ATC_MWD	12600028	Gamma (single)	2.20	12.36	7.000	3.250
2	ATC_MWD	12600028	Directional (mag)	12.27	22.43	7.000	3.250
3	ATC_SU	13809446	Near Bit VSS	5.93	6.73	7.000	4.330
3	ATC_SU	13809446	Near Bit Inclination	5.93	6.73	7.000	4.330
3	ATC_MWD	12600028	Gamma (single)	2.20	12.36	7.000	3.250
3	ATC_MWD	12600028	Directional (mag)	12.27	22.43	7.000	3.250

Service and Tool Mnemonics

Mnemonic	Name	Description
GAM	APS	APS EM Module
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_LCPM	Auto Trak Curve LCPM

Comments

1	Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes Drilling Service. Due to lack of control by Baker Hughes logging engineers, depth calibration and measurements could not be independently verified and the unverified depths as supplied to Baker Hughes are being used to present logging data.
2	Baker Hughes LWD Run 1 utilized 8 inch NaviTrak Services (Directional Only) behind a 13 ½ inch bit and steerable assembly from 25 to 1806 feet MD (25 to 1799 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 1806 to 16850 feet MD (1799 to 7179 feet TVD). Pull out of the hole to change BHA.
4	Baker Hughes LWD Run 3 utilized 6 ¾ inch Navigamma Service (Gamma Ray and Directional) behind an 8 ½ inch bit and rotary steerable assembly from 16850 to 17875 feet MD (7179 to 7169 feet TVD).
5	Gamma Ray apparent curves (GRAM – GRADM – GRAUM) are presented 0 to 300 API per customer request.


Remarks

Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	2081.00	8.500	2	The Interval from 2074 to 2088 feet MD (2065 to 2078 feet TVD) was no logged due to tool shut down during downlinking while drilling ahead.
2	3083.00	8.500	2	The Interval from 3068 to 3097 feet MD (3049 to 3077 feet TVD) was no logged due to tool shut down during downlinking while drilling ahead.
3	16844.00	8.500	3	The Interval from 16838 to 16850 feet MD (7178 feet TVD) was logged after 21 hours due to a trip out of the hole to change BHA due to a drop on ROP.
4	17869.00	8.500	3	The interval from 17863 to 17875 feet MD (7169 feet TVD) was not logged due to sensor to bit 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	OnTrak - Gamma Ray - Apparent - Memory 0.5 ft Average	API
GRIM	OnTrak - Gamma Ray - Data Point Indicator - Memory	unitless
GRTM	OnTrak - Gamma Ray - Time Since Drilled - Memory	min
GRADM	OnTrak - Gamma Ray - Apparent - Down Quadrant - Memory 0.5 ft Average	API
GRAUM	OnTrak - Gamma Ray - Apparent - Up Quadrant - Memory 0.5 ft Average	API

TCDM	Downhole Temperature	degF
------	----------------------	------



Company

Well

Interval

Created

SRC Energy

Leffler 1C-23-L

Date From: 2017-07-26 16:41:22

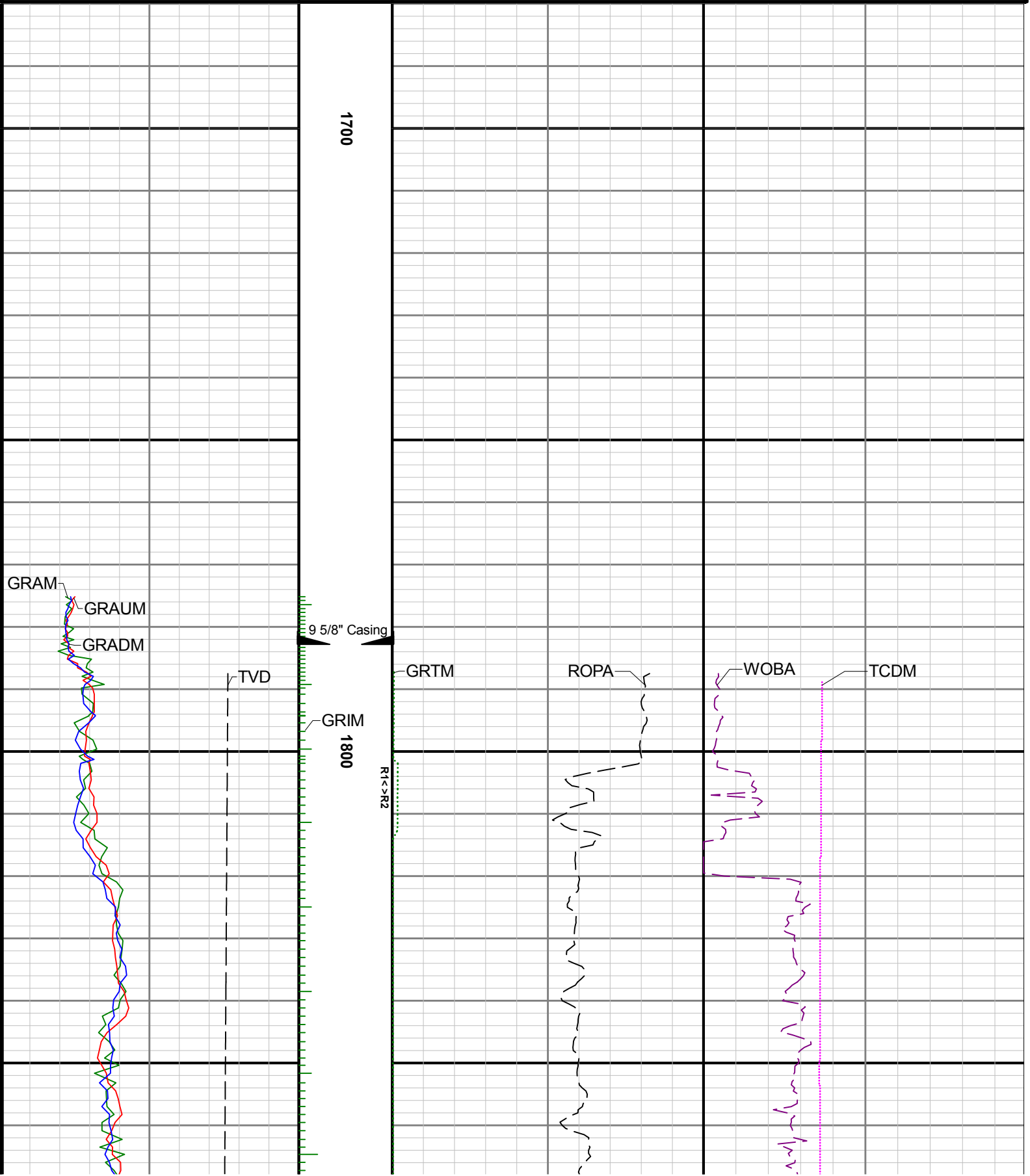
Date To: 2017-07-30 03:20:07

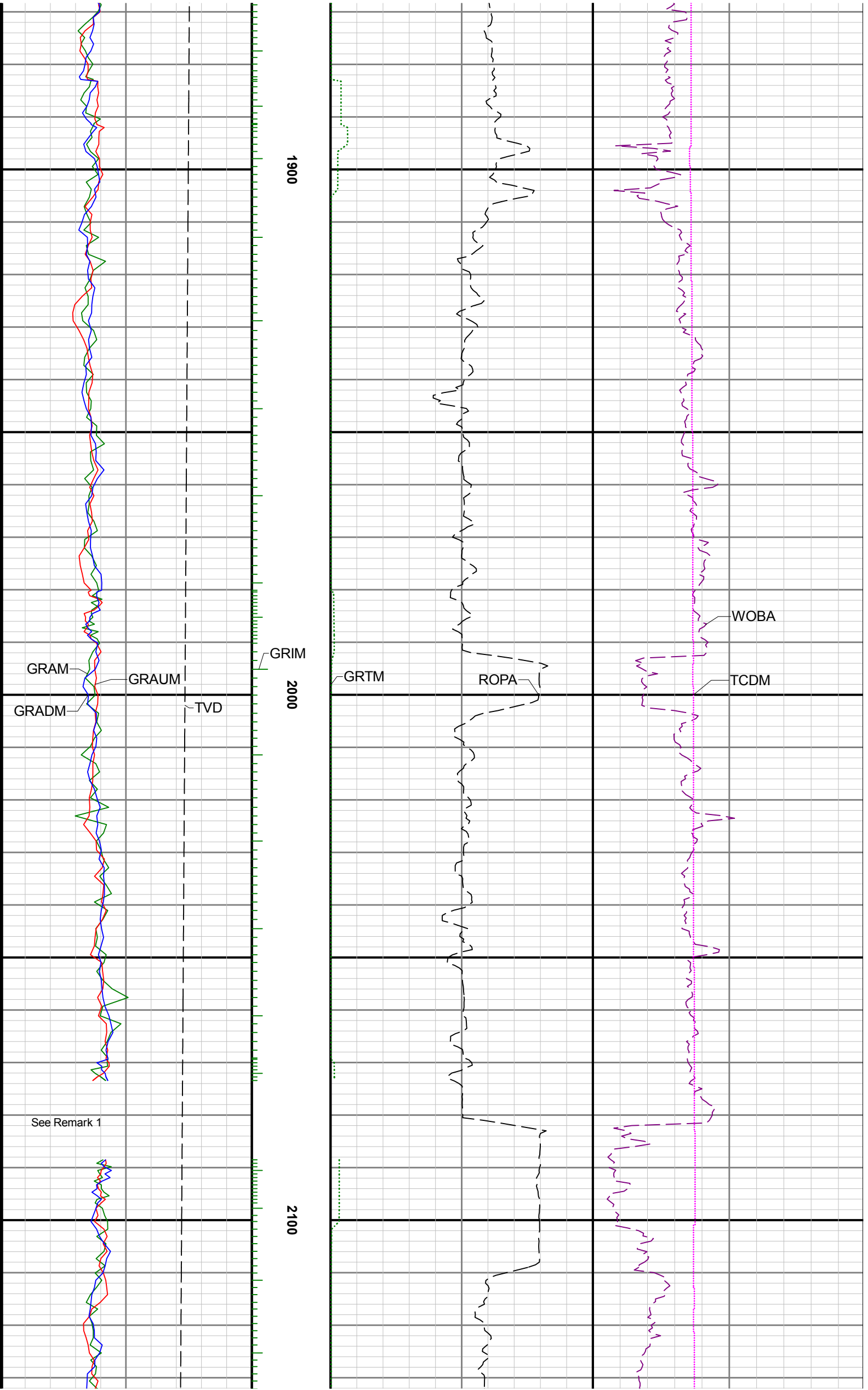
2017-07-31 08:41:57

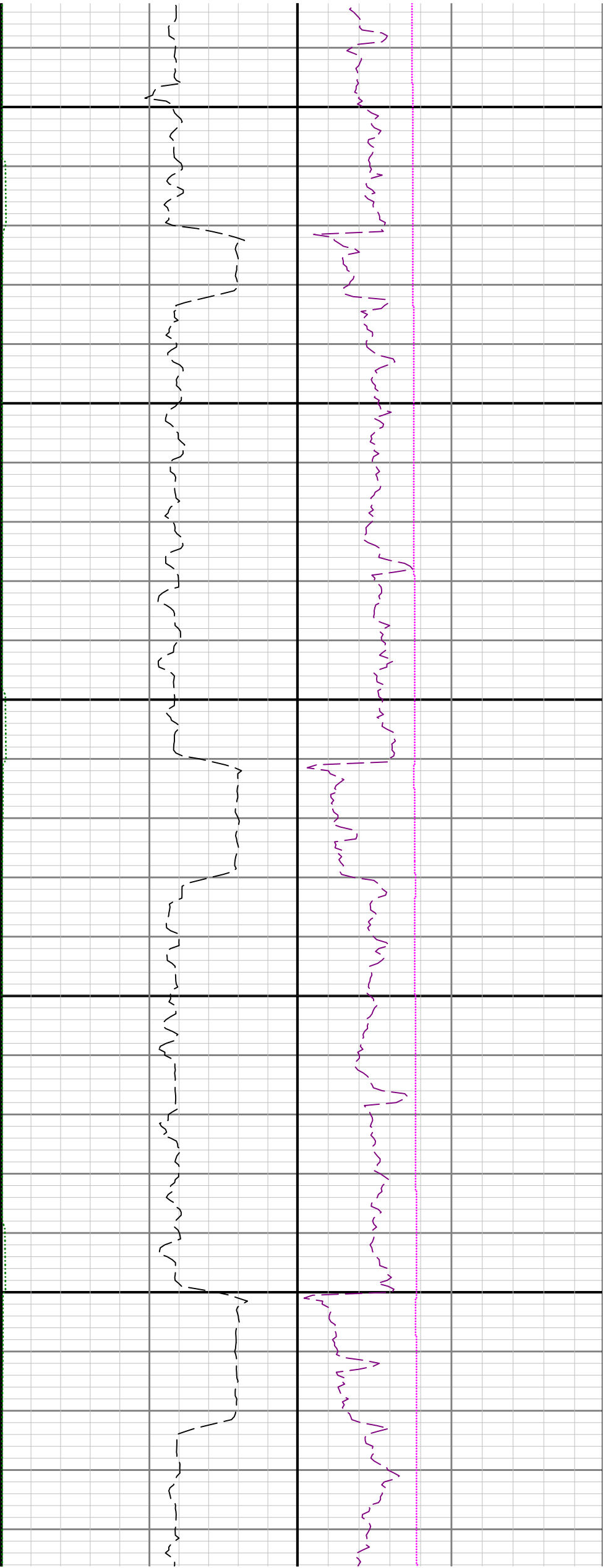
Top: 1775.00

Bottom: 17863.00

Gamma Ray - Apparent 0.5 ft Average GRAM 0 300	MD 1:240 feet	Gamma Time Since Drilled GRTM 0 600 min	Weight On Bit, Average 1 ft Average WOBA 0 50 klb
API Azimuthal Gamma Ray - Apparent - Up Quadrant 0.5 ft Average GRAUM 0 300		Depth Averaged ROP 3 ft Average ROPA 1200 0 ft/h	Downhole Temperature TCDM 0 300 degF
API Azimuthal Gamma Ray - Apparent - Down Quadrant 0.5 ft Average GRADM 0 300			
API			
True Vertical Depth TVD 7500 0 ft			

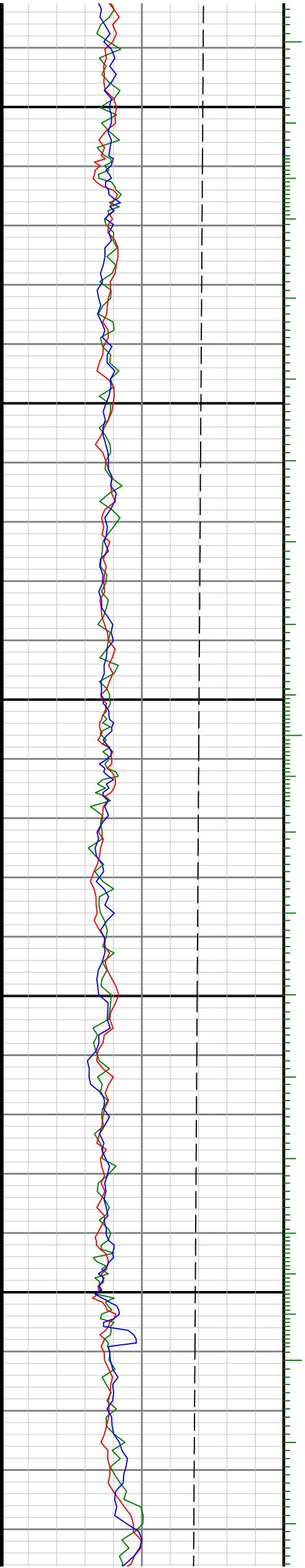


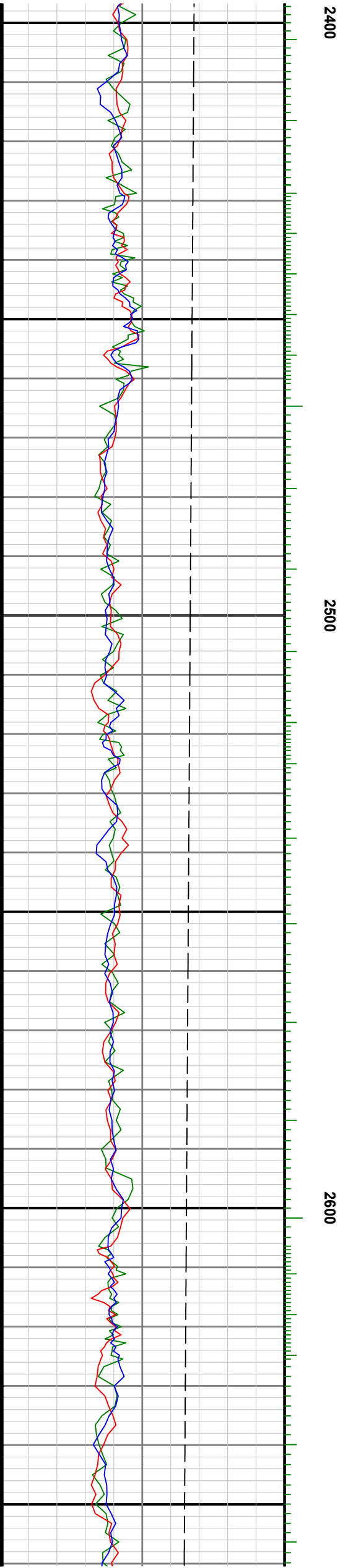
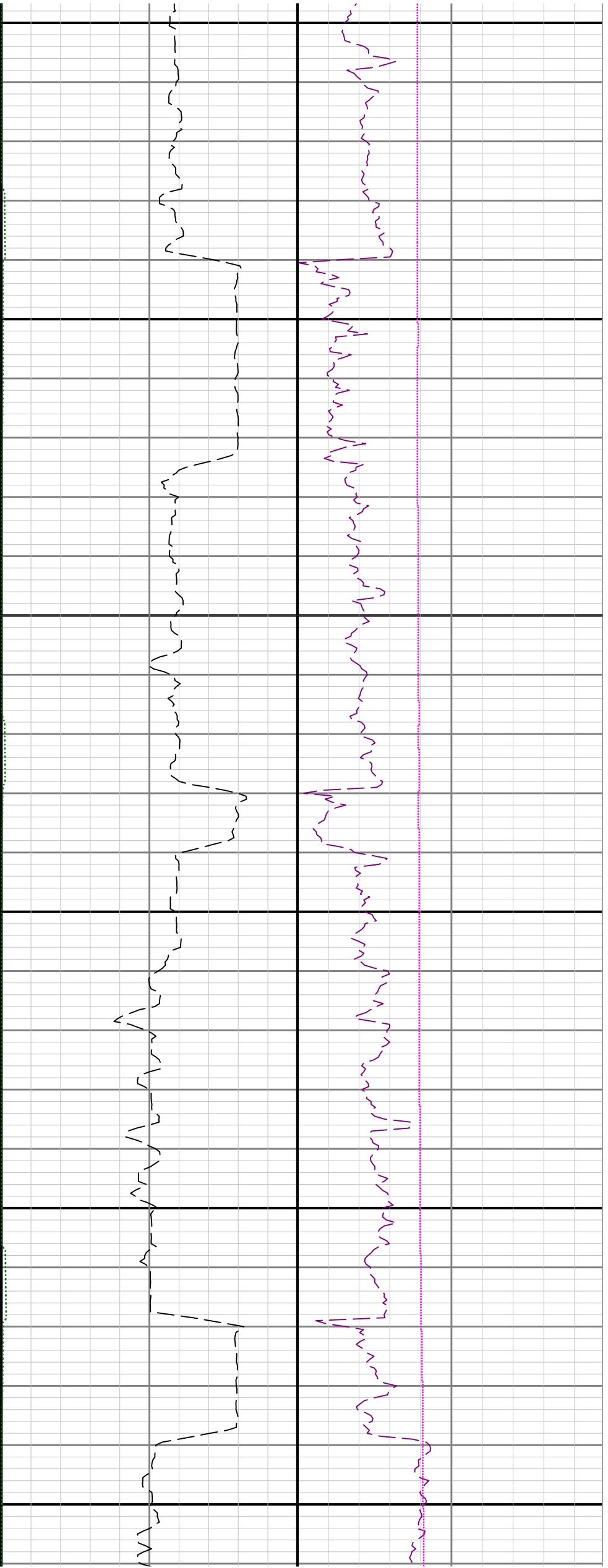


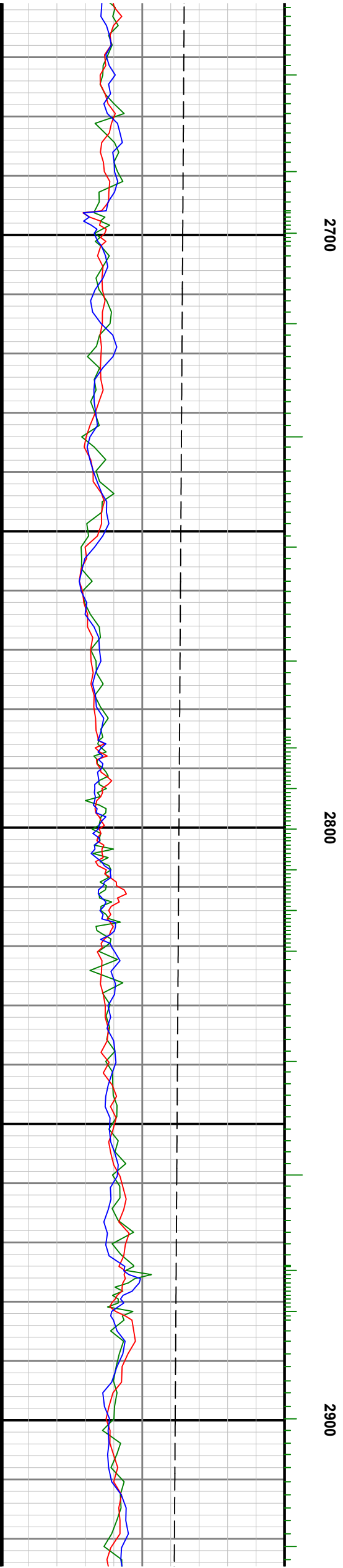


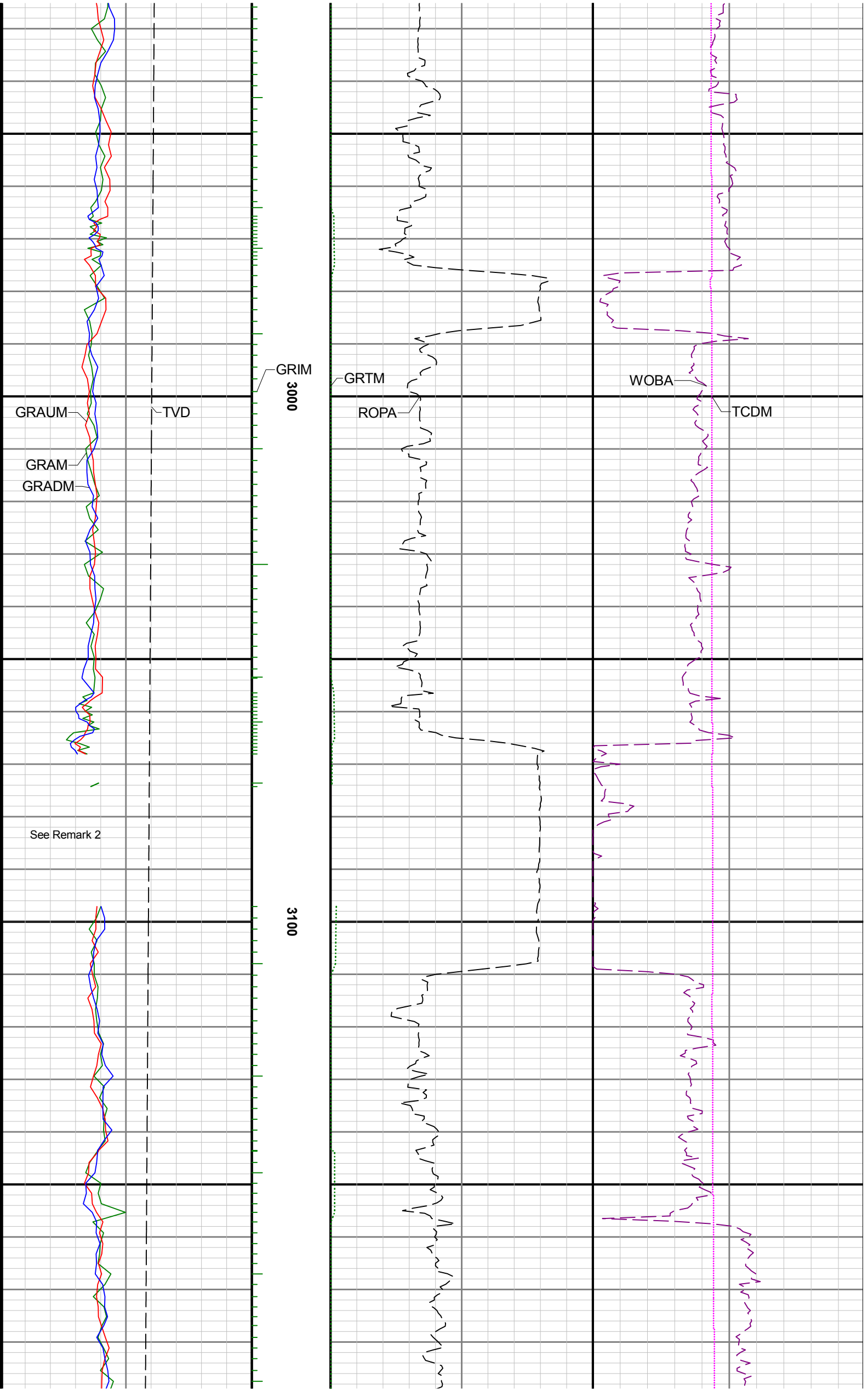
2200

2300

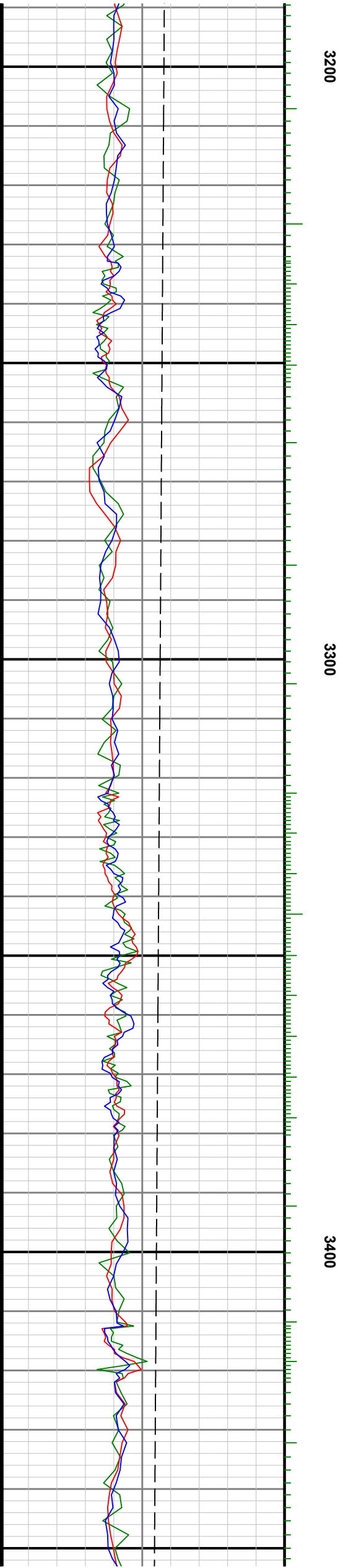
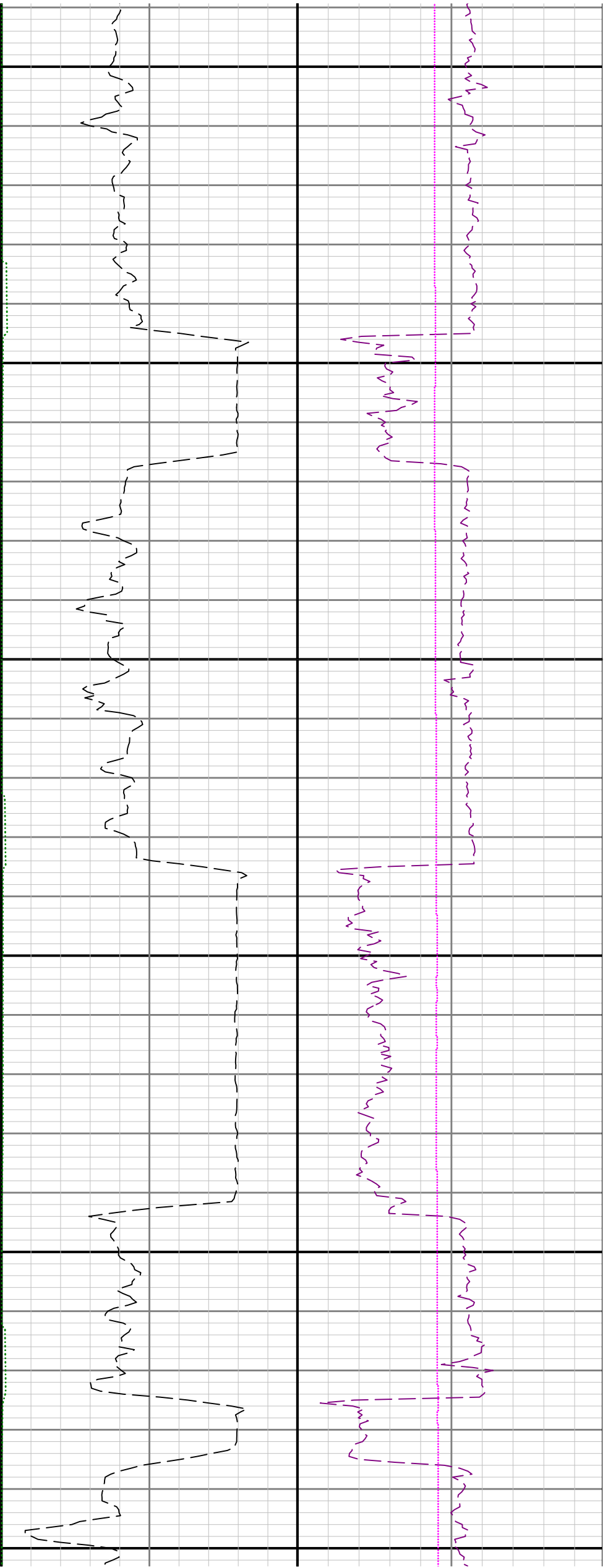


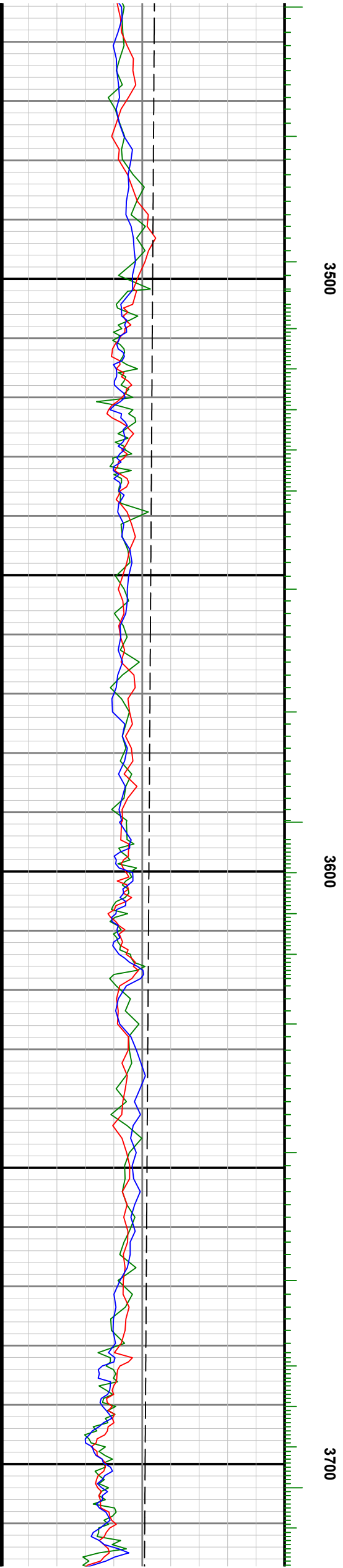
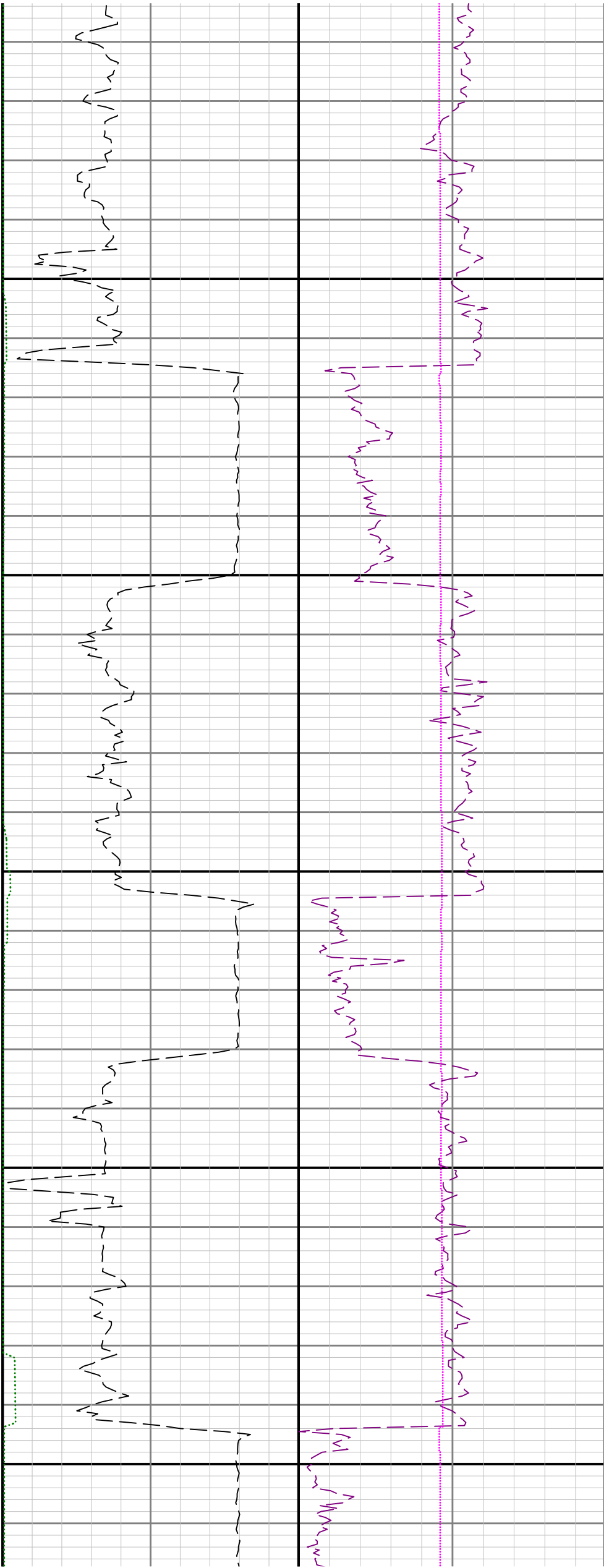


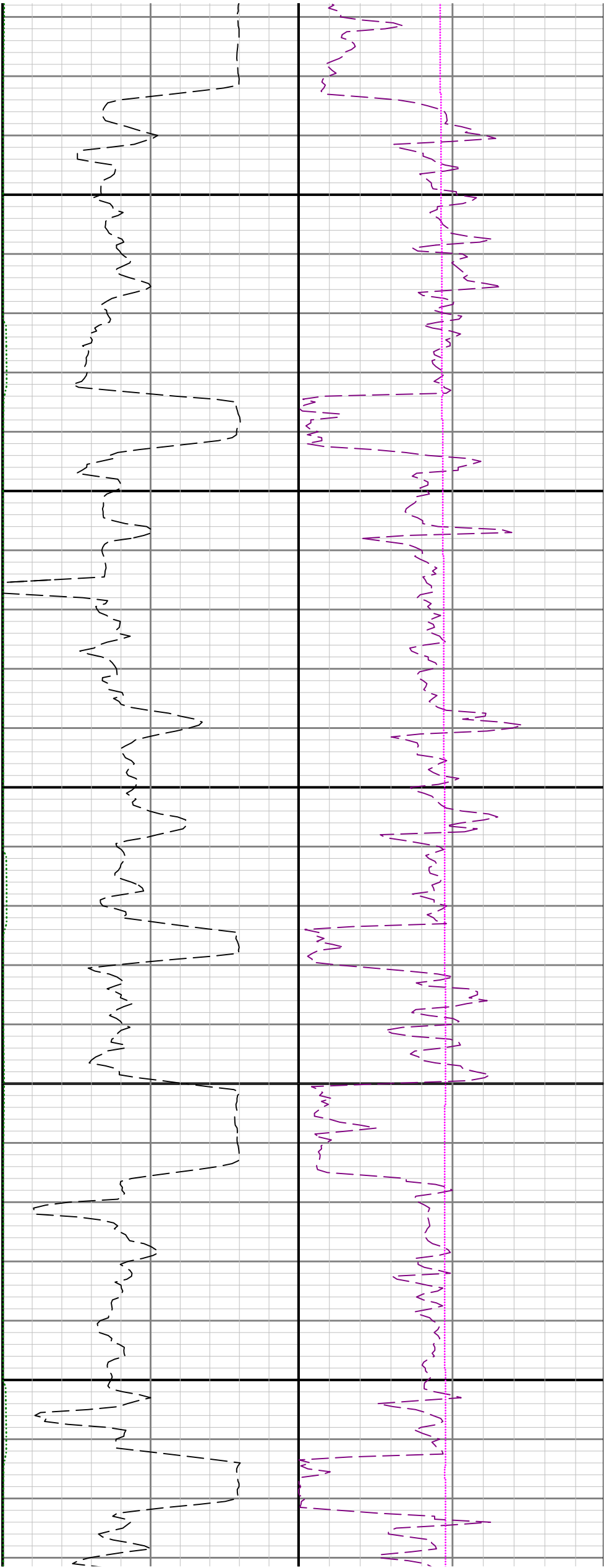






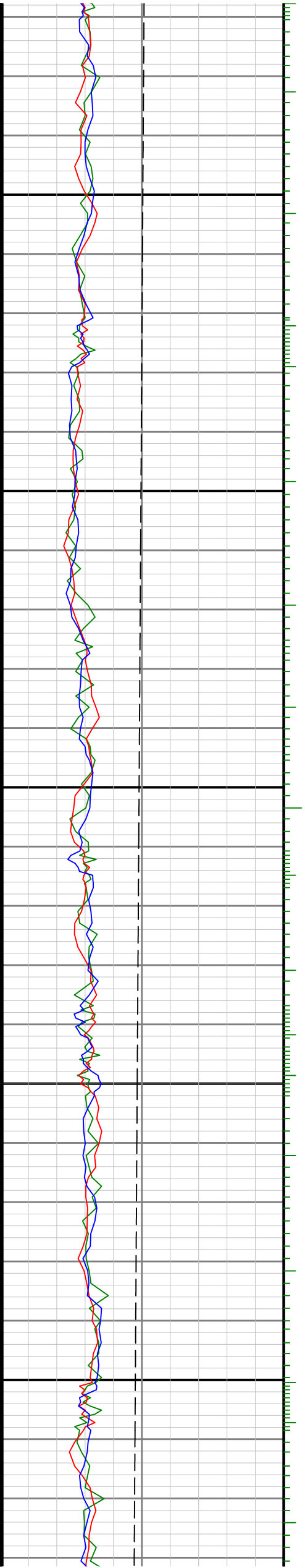


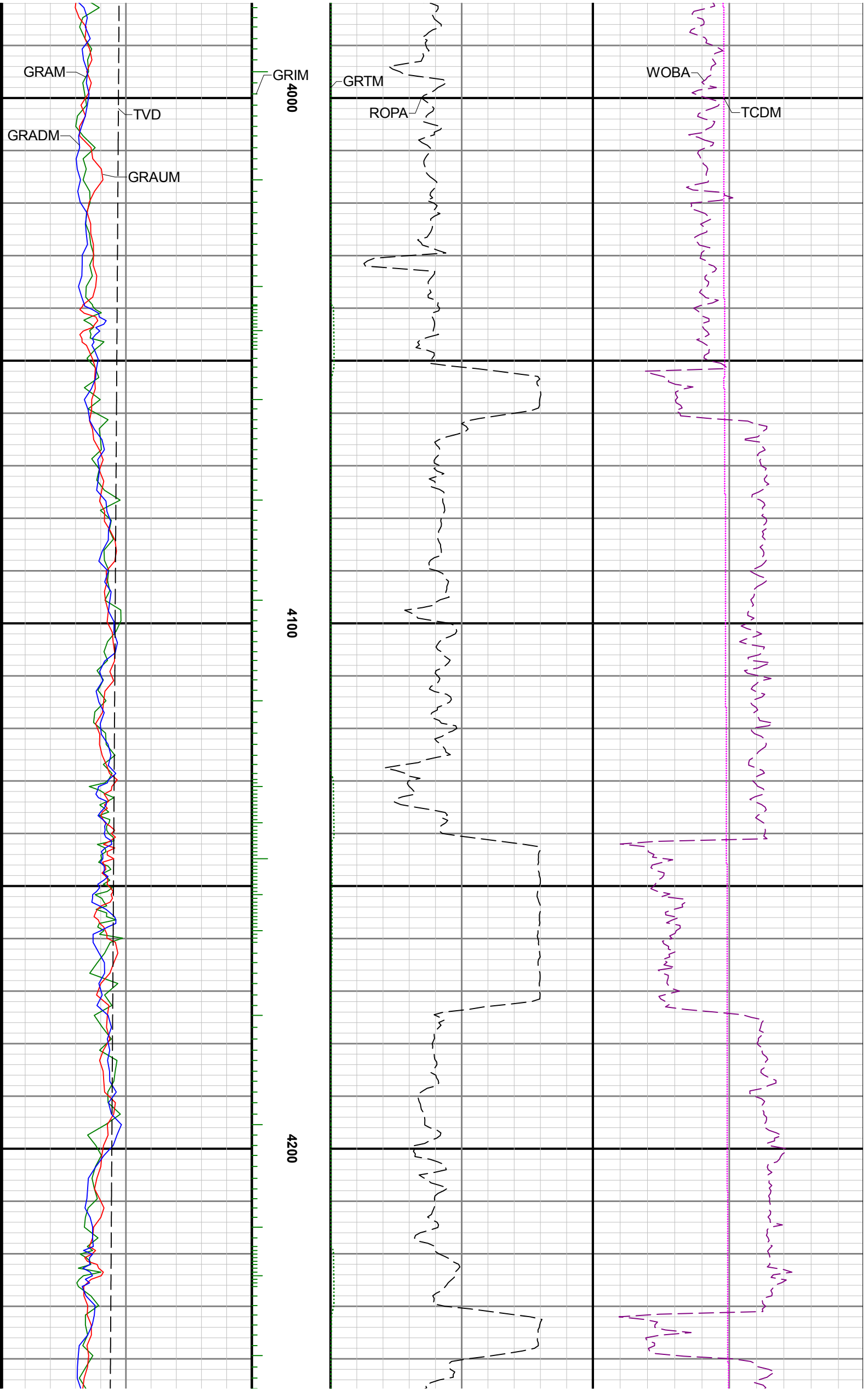


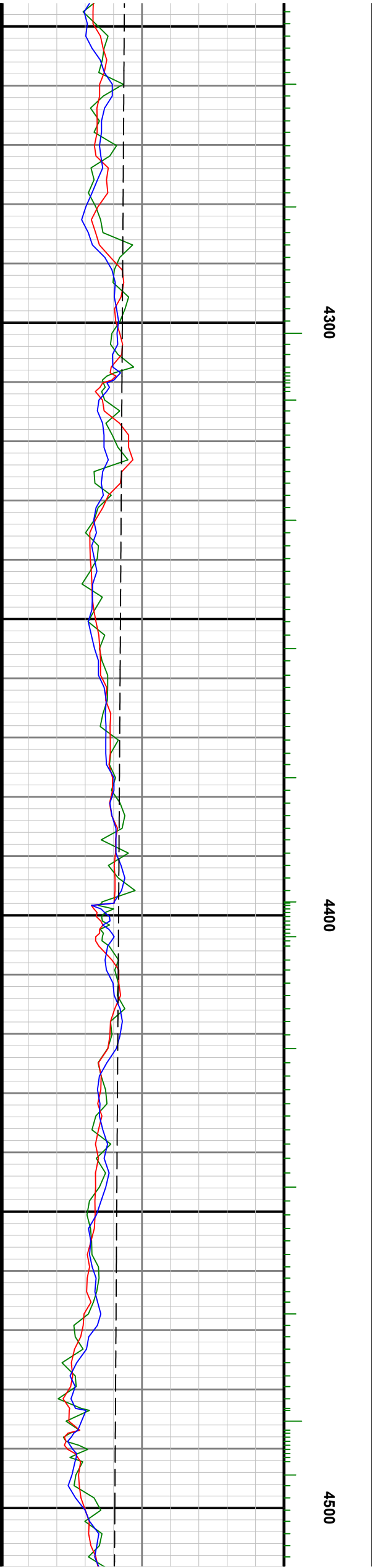
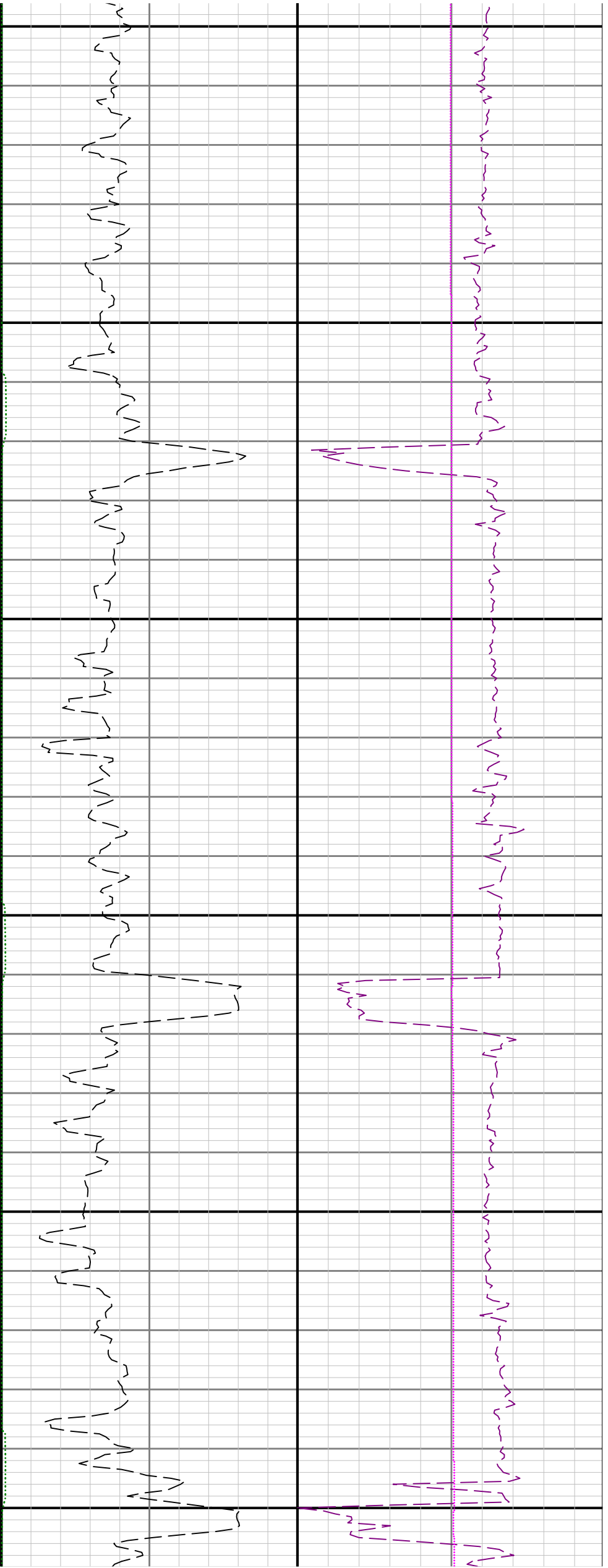


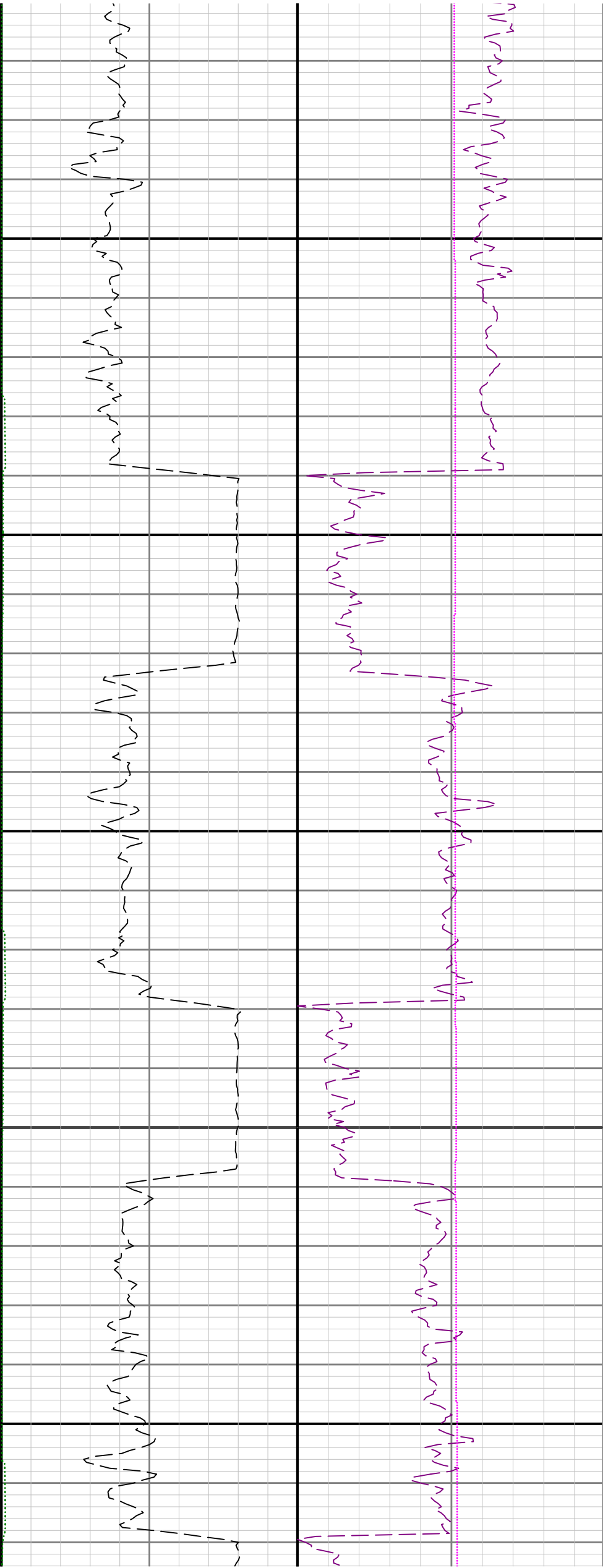
3800

3900



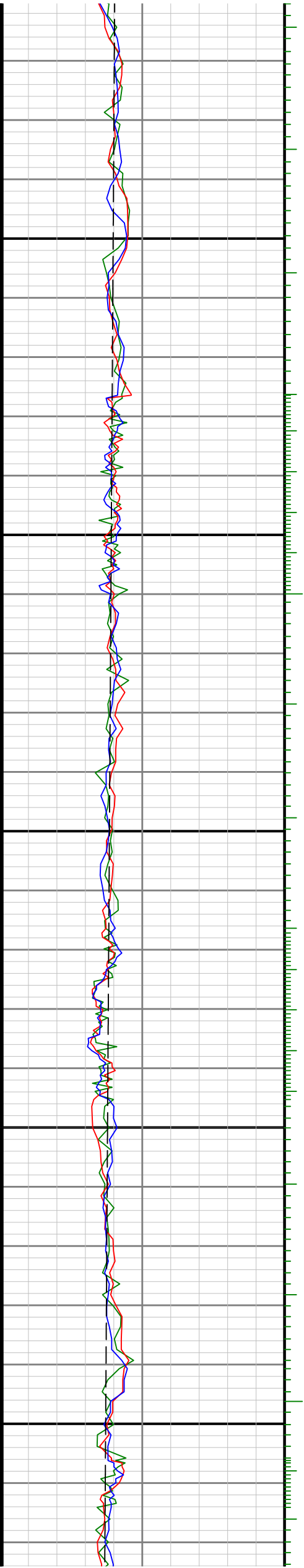


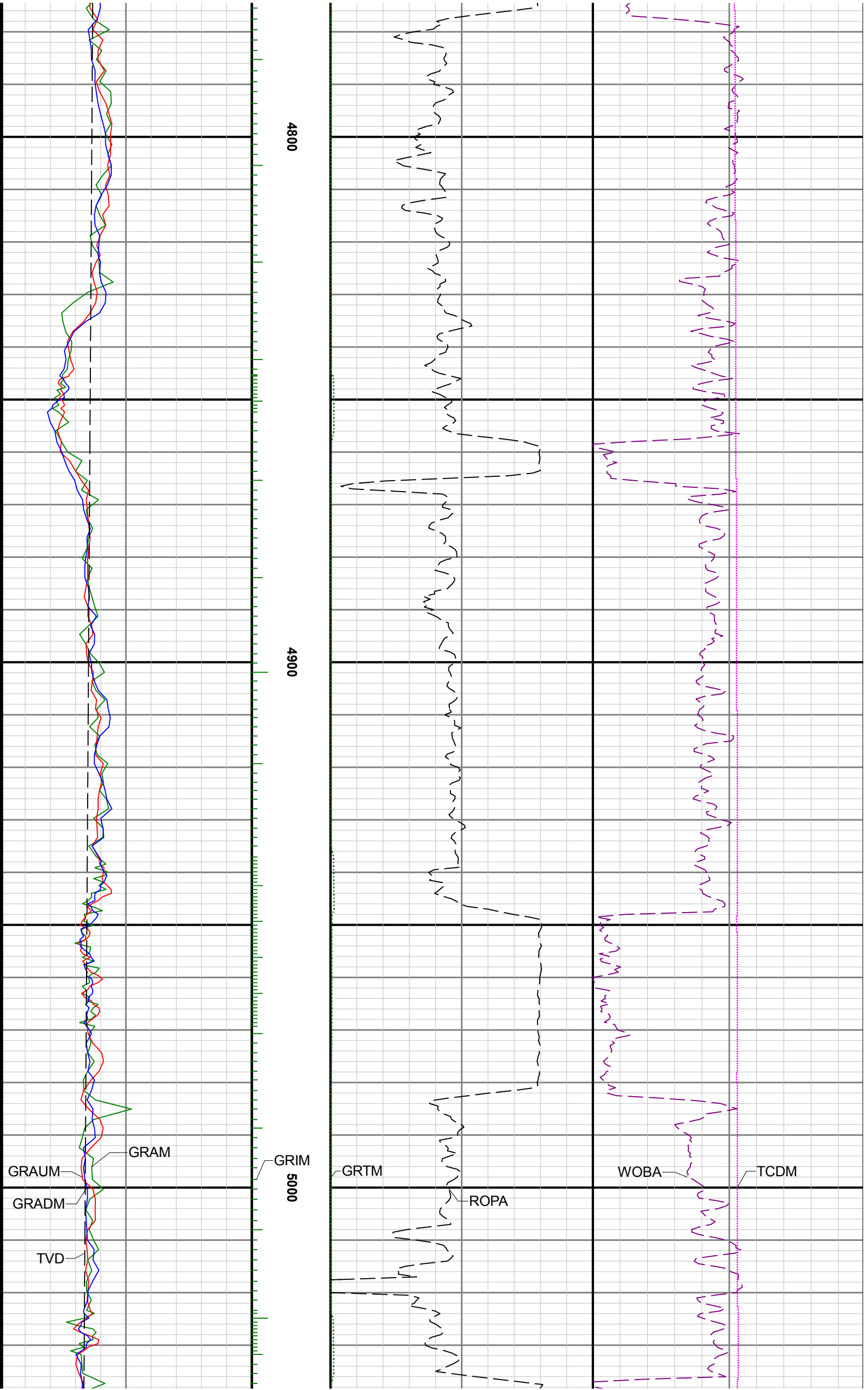


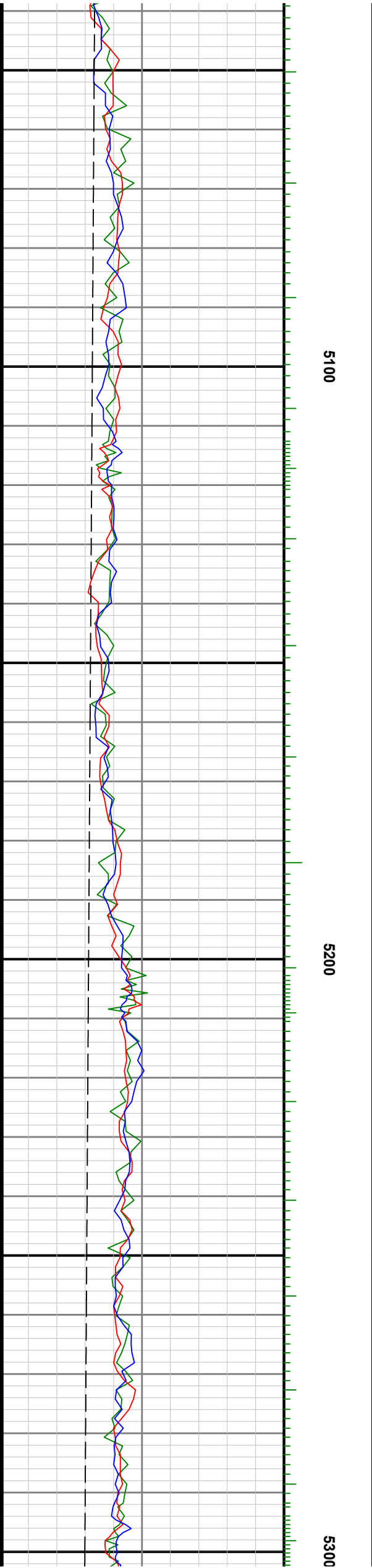
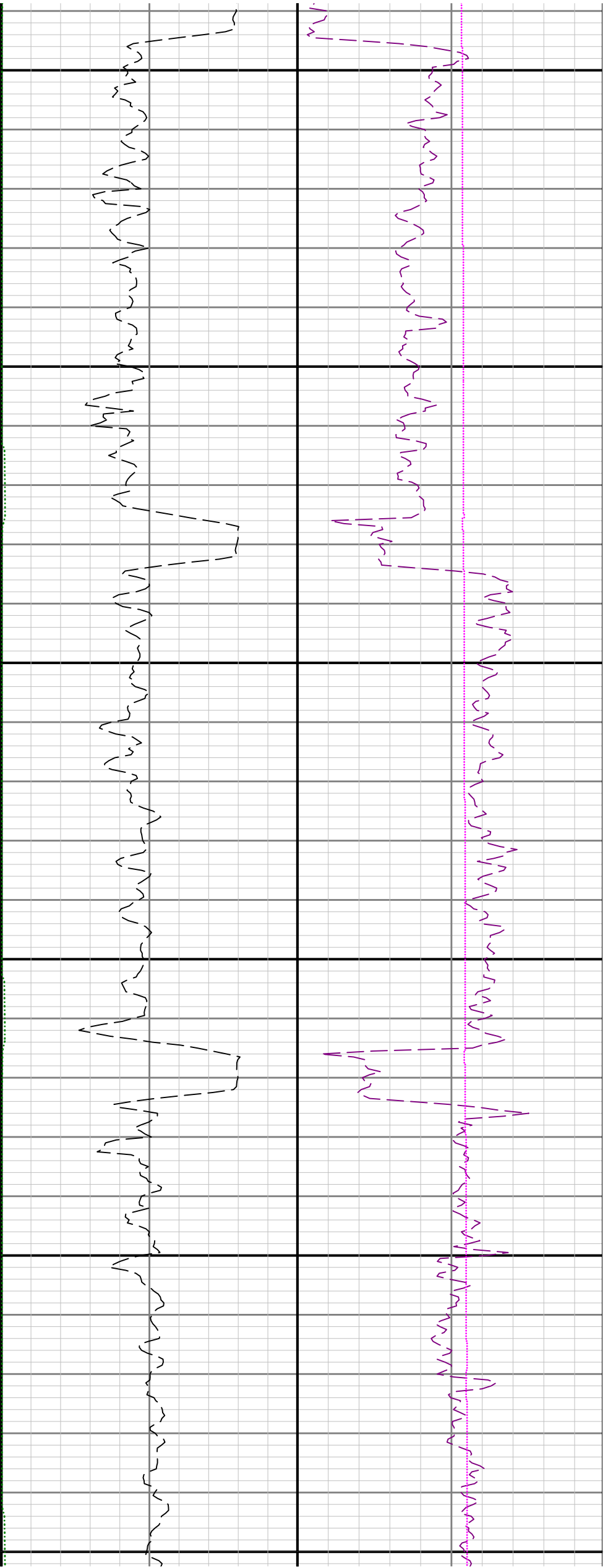


4600

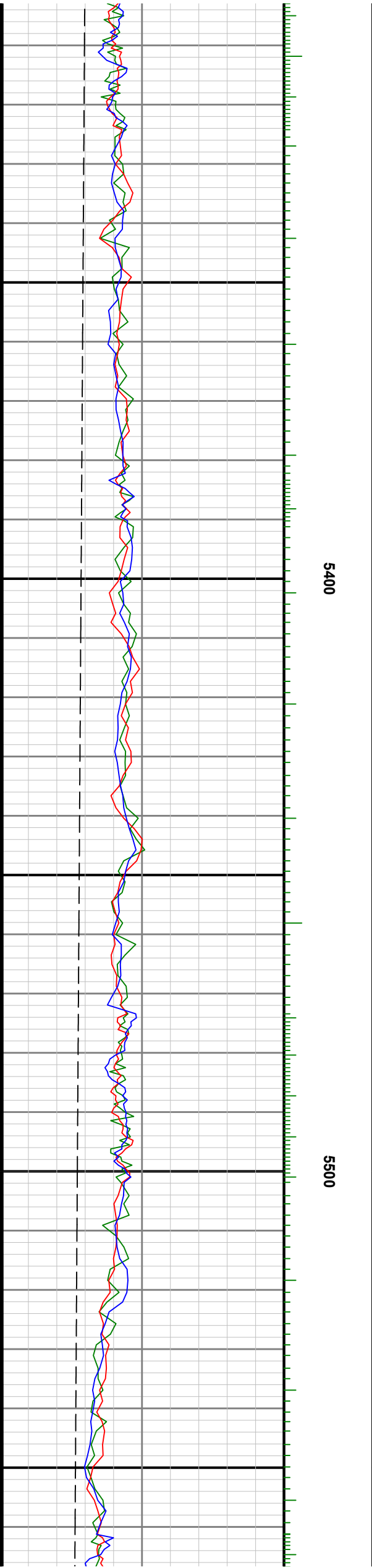
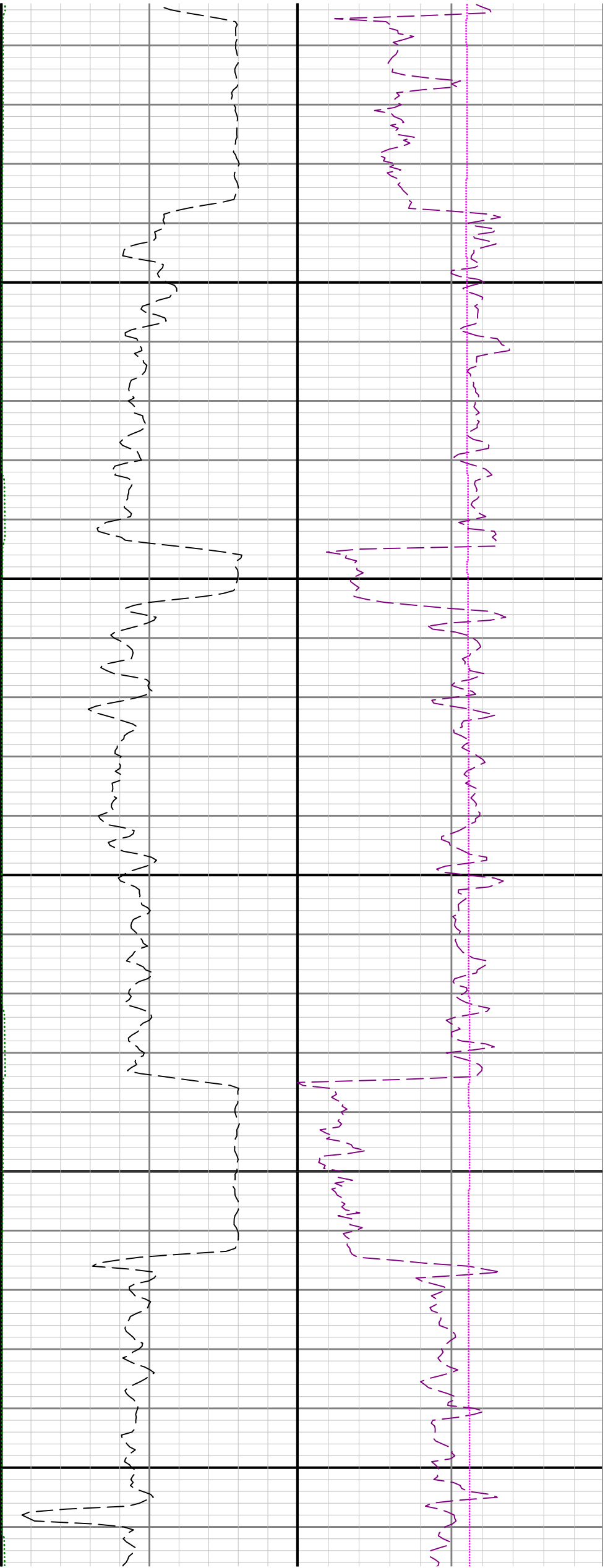
4700

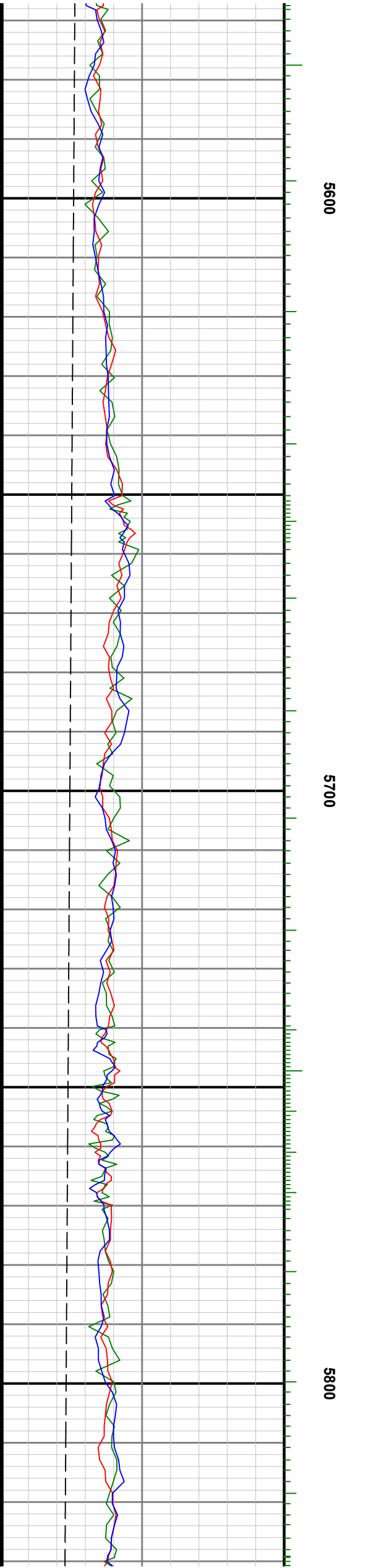
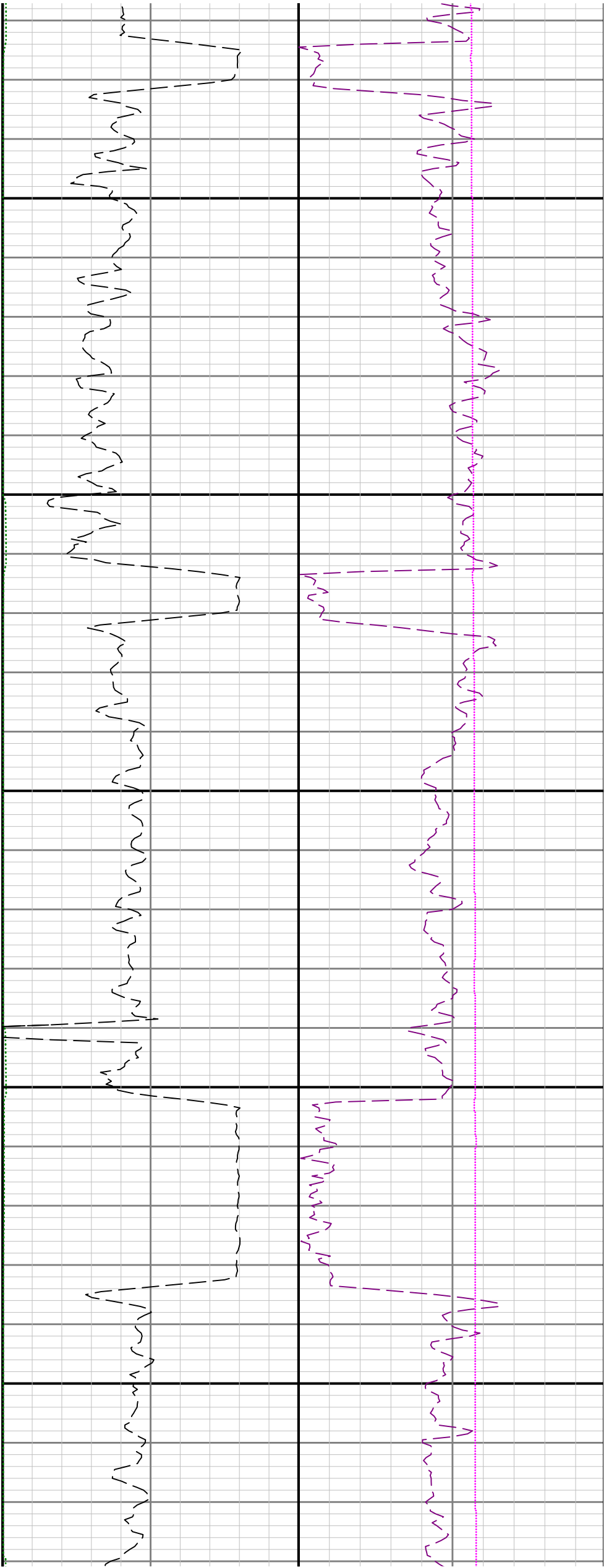


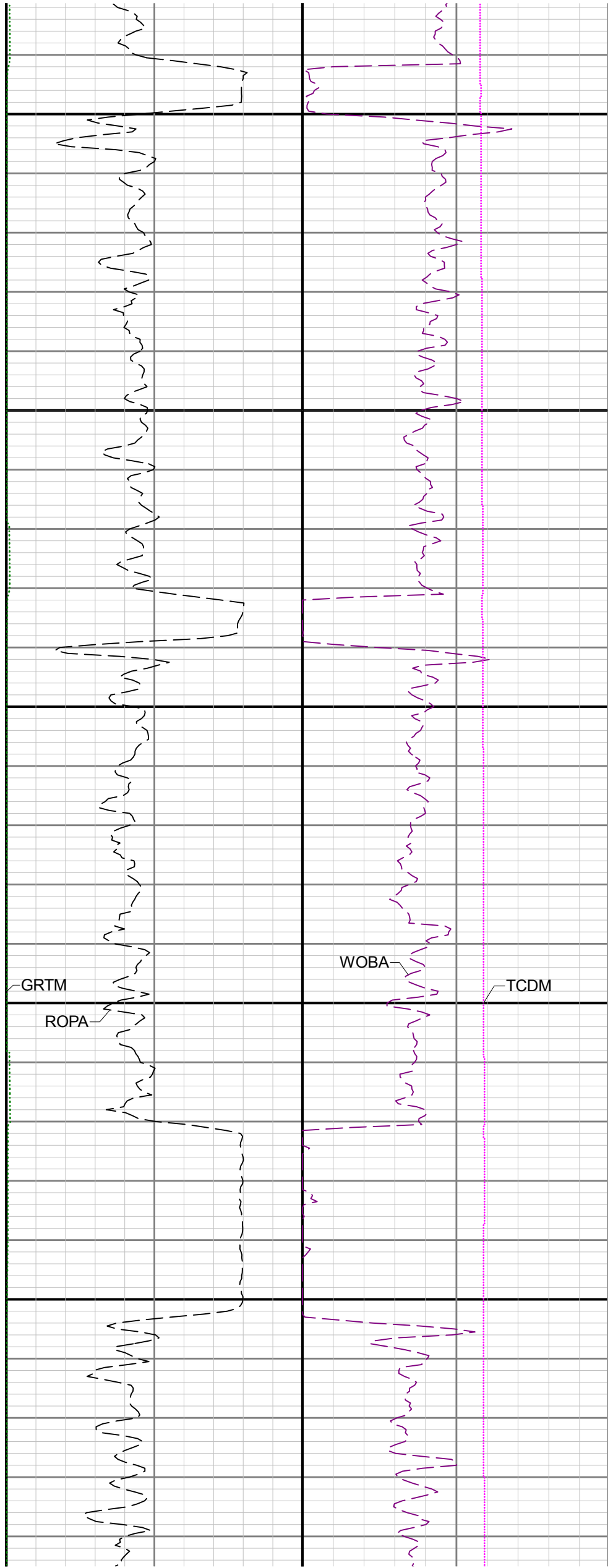
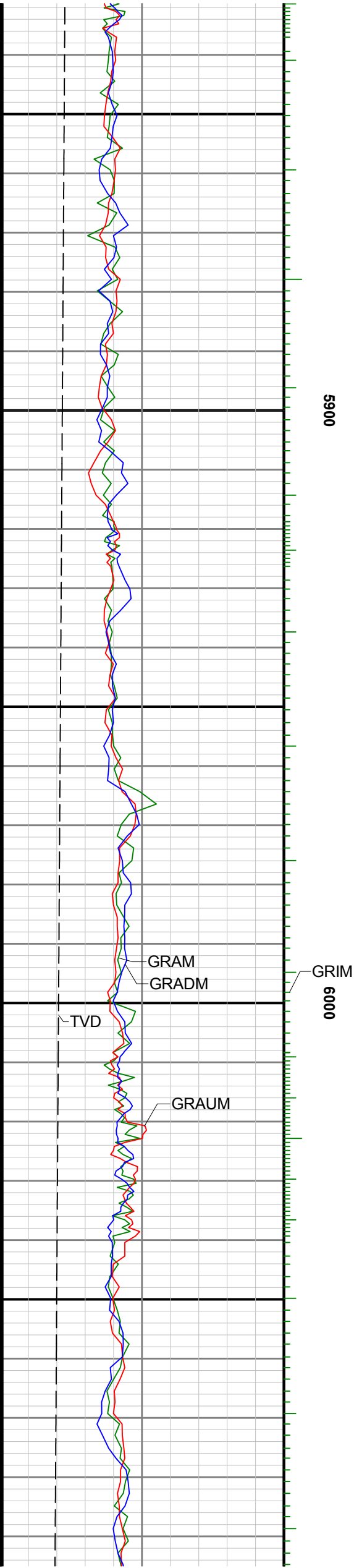


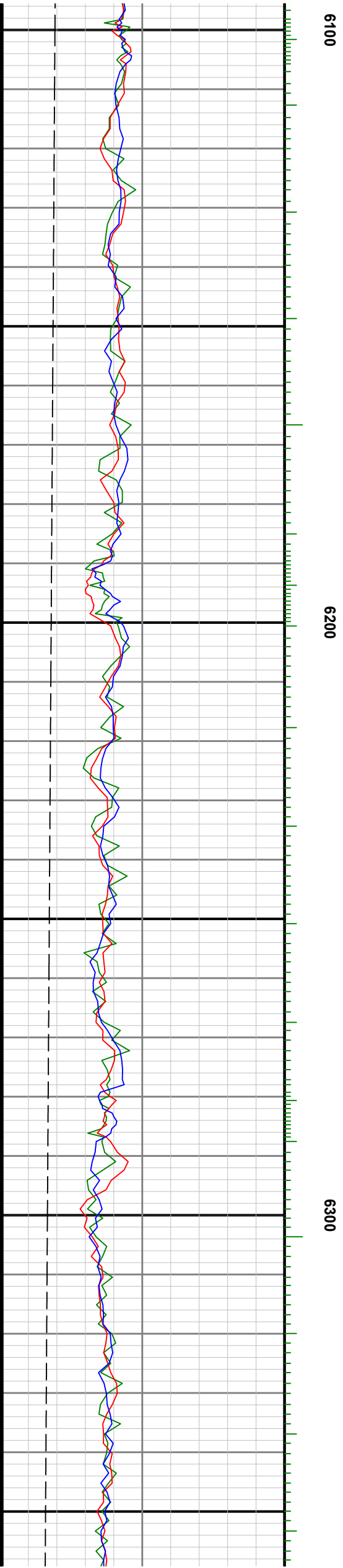
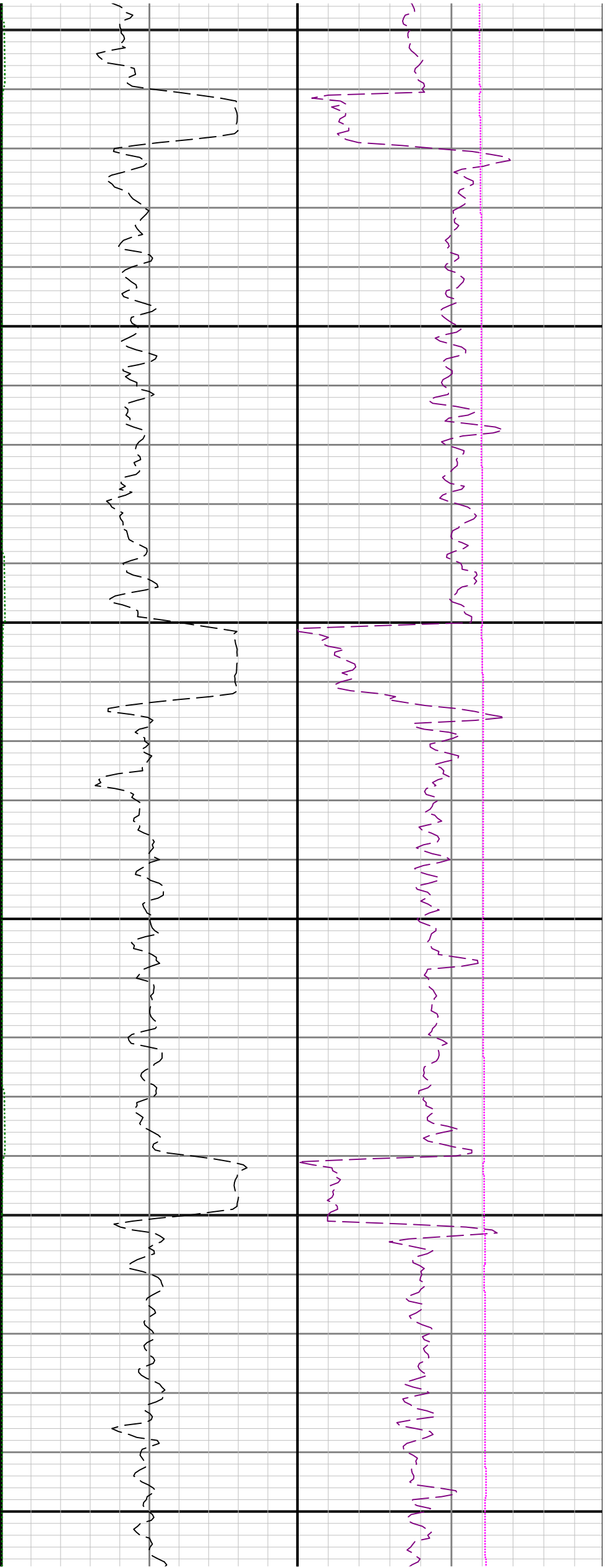


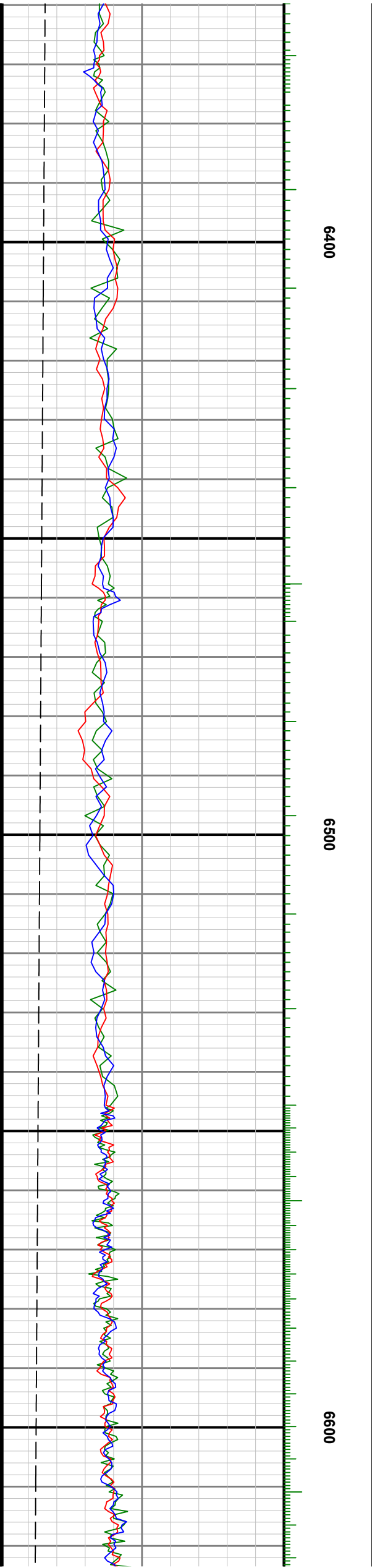
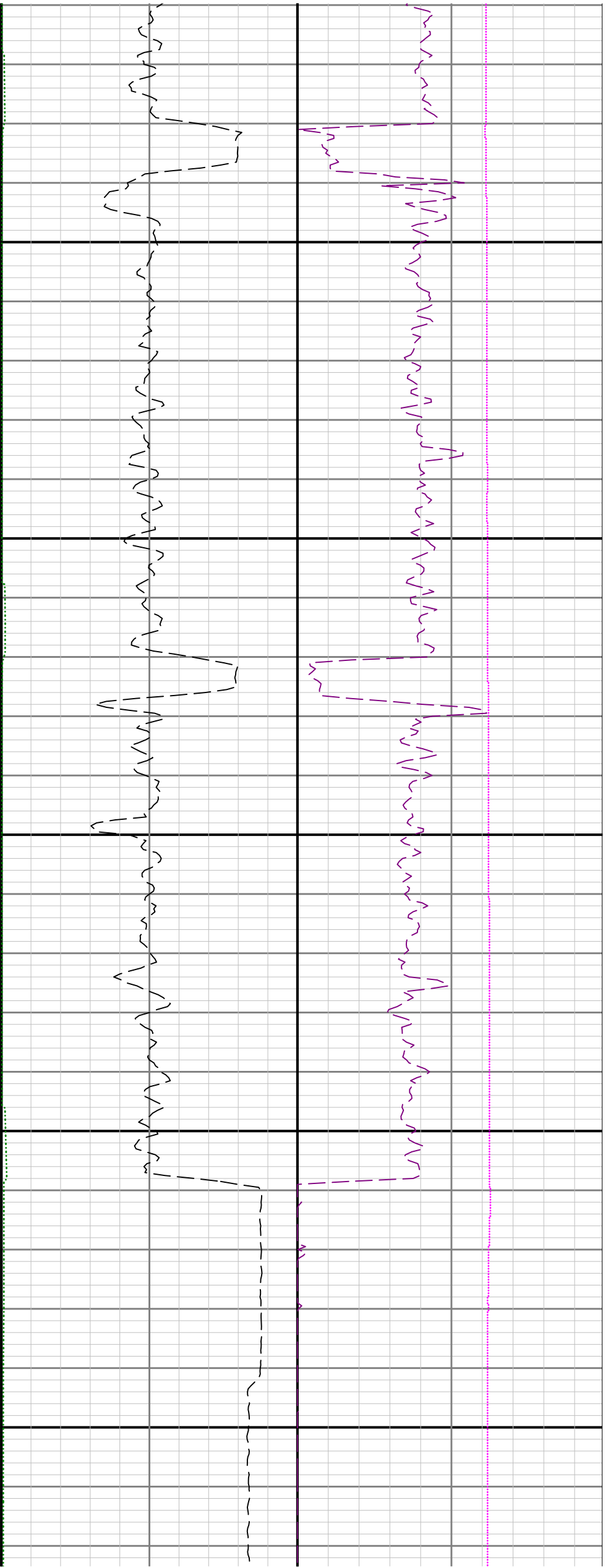


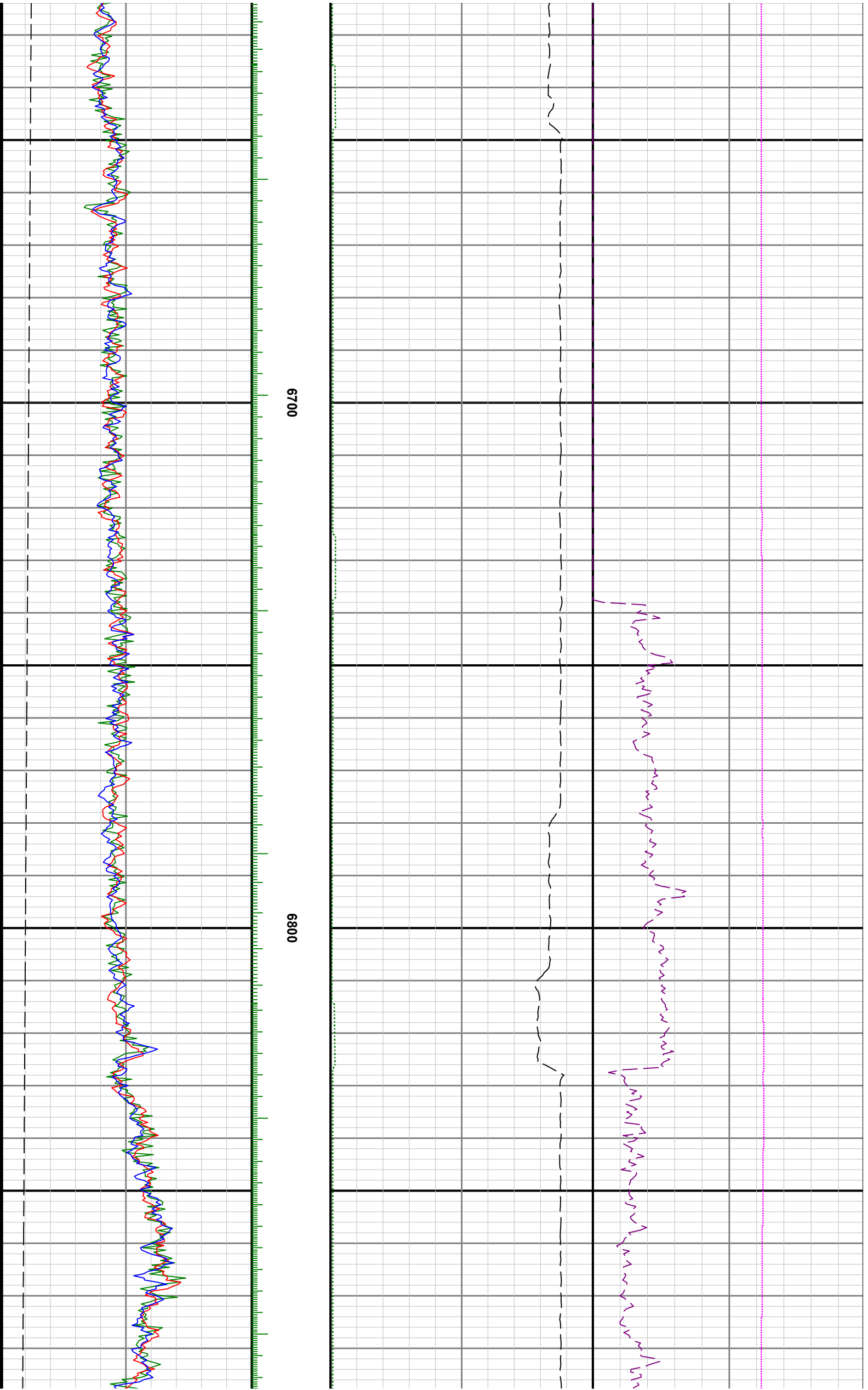


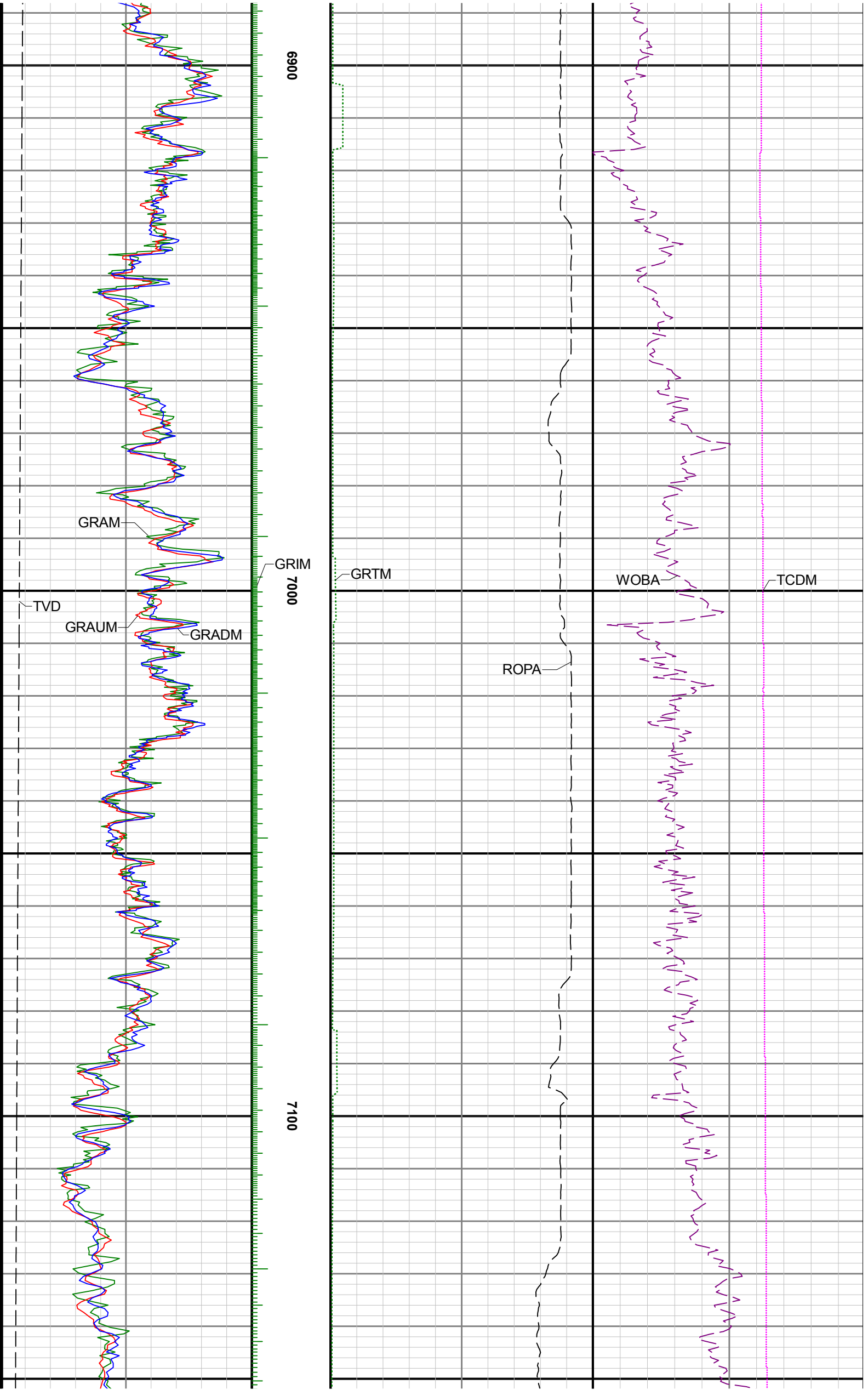


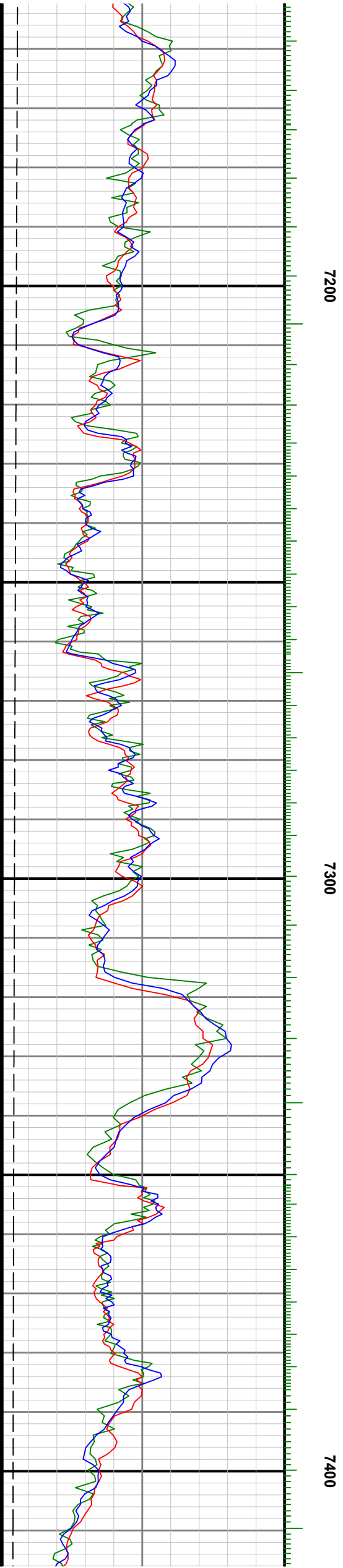
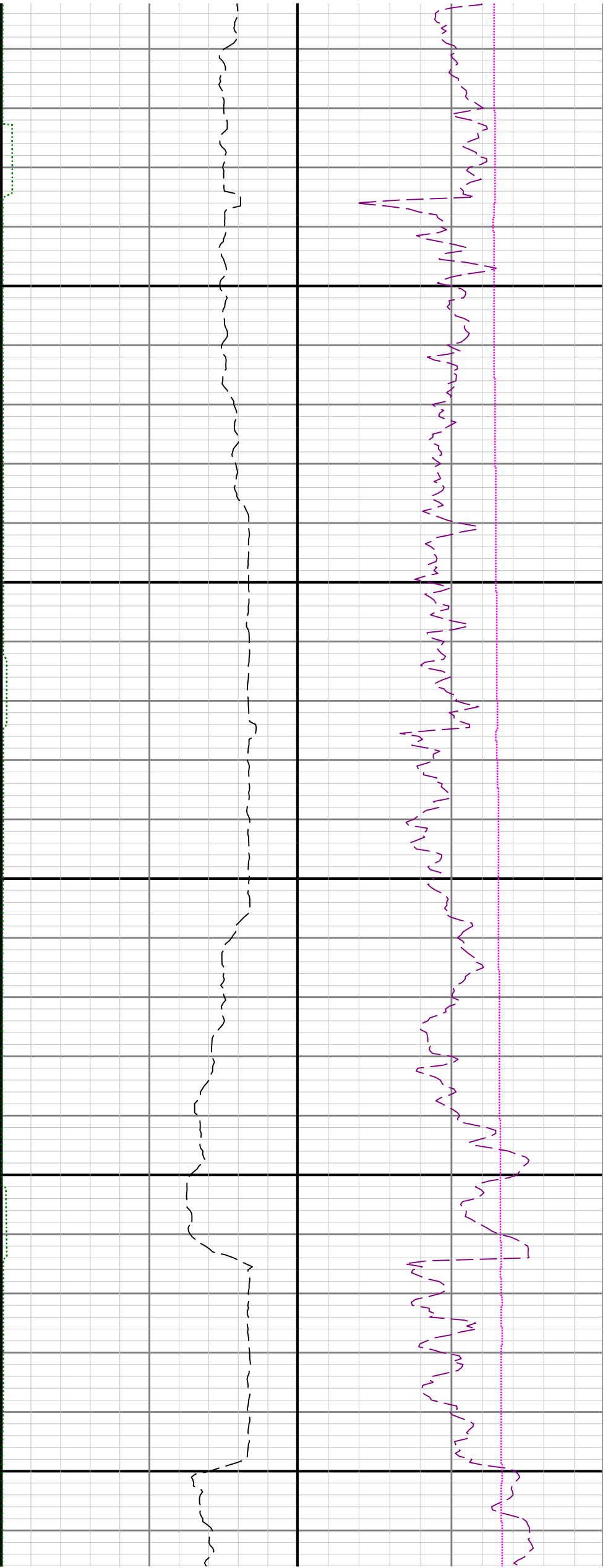




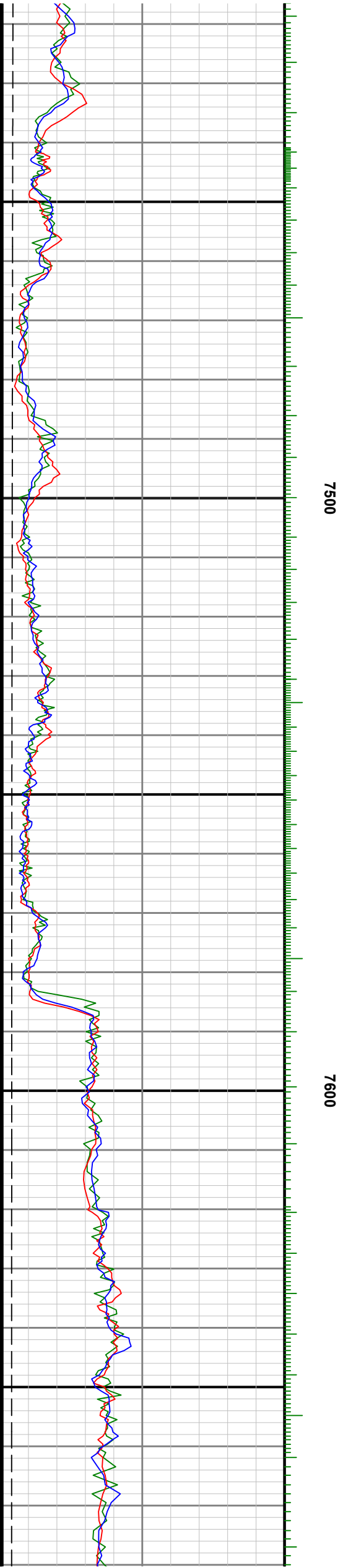
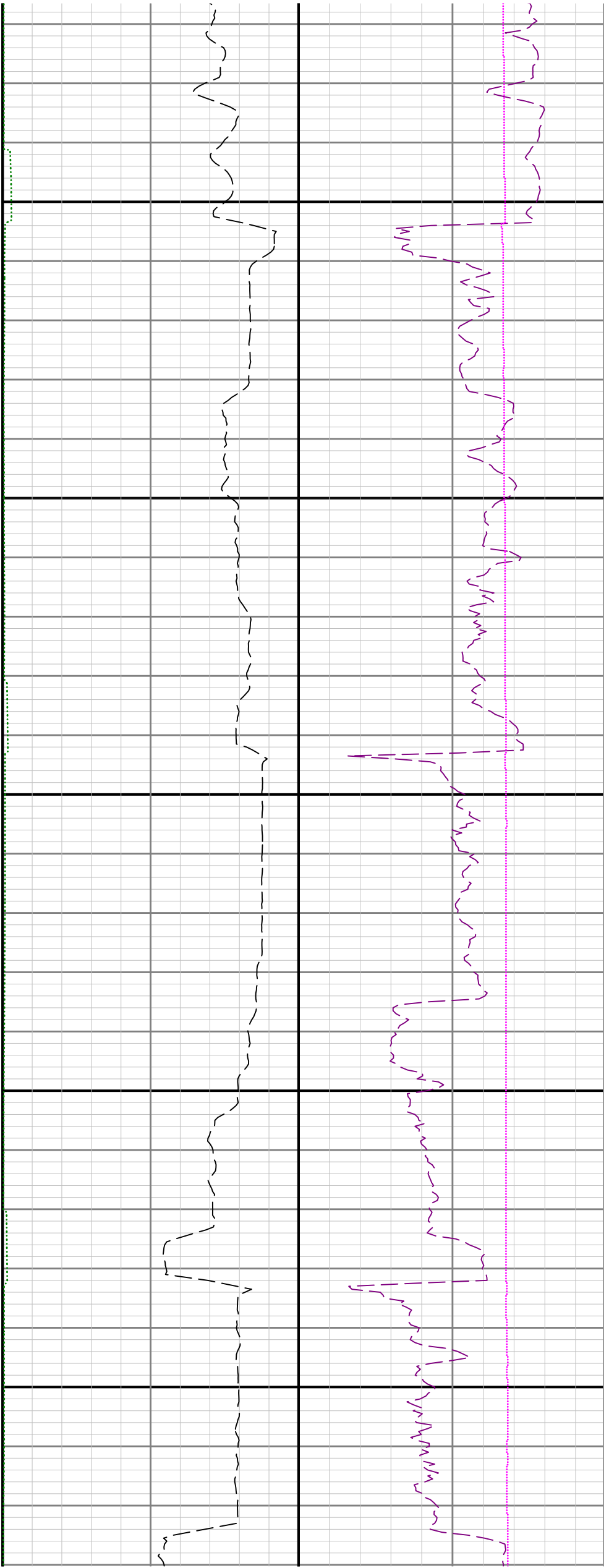


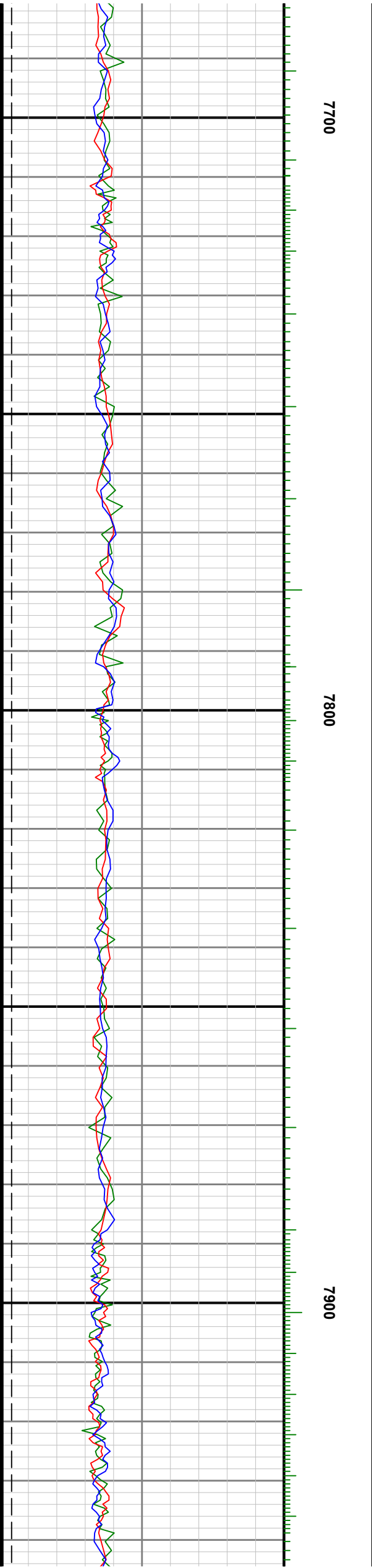
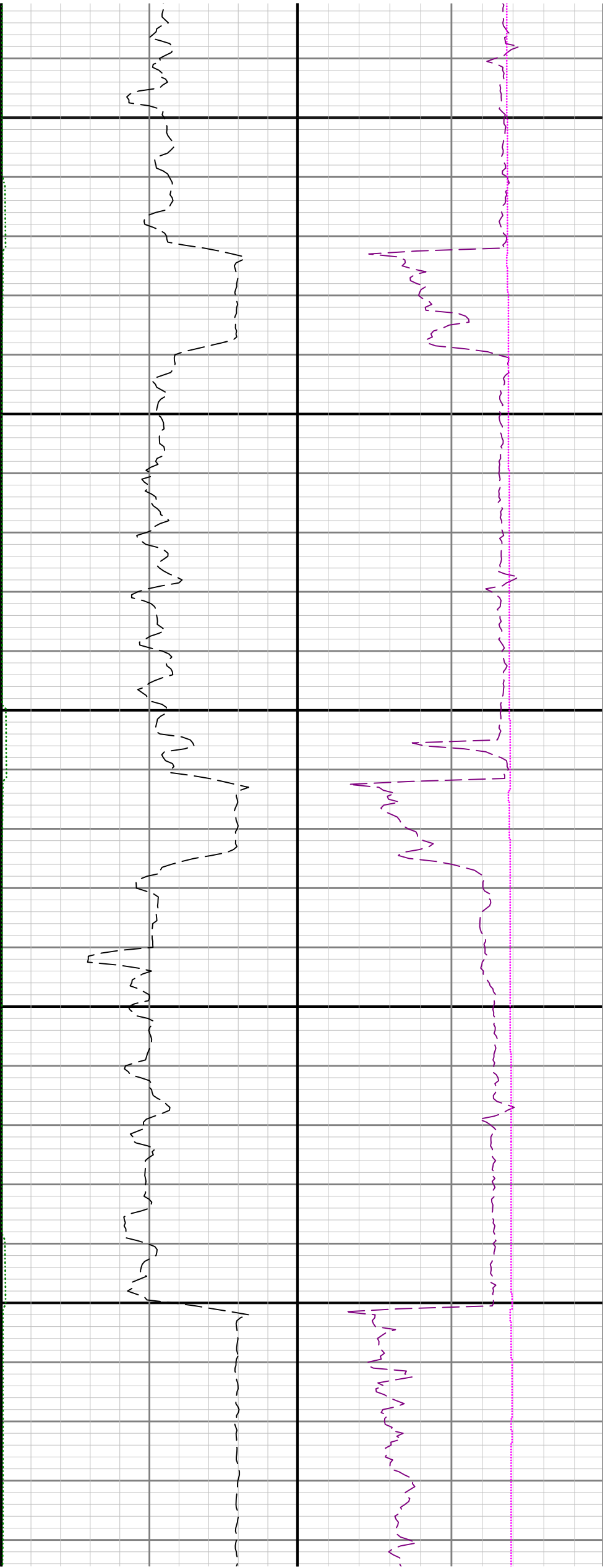


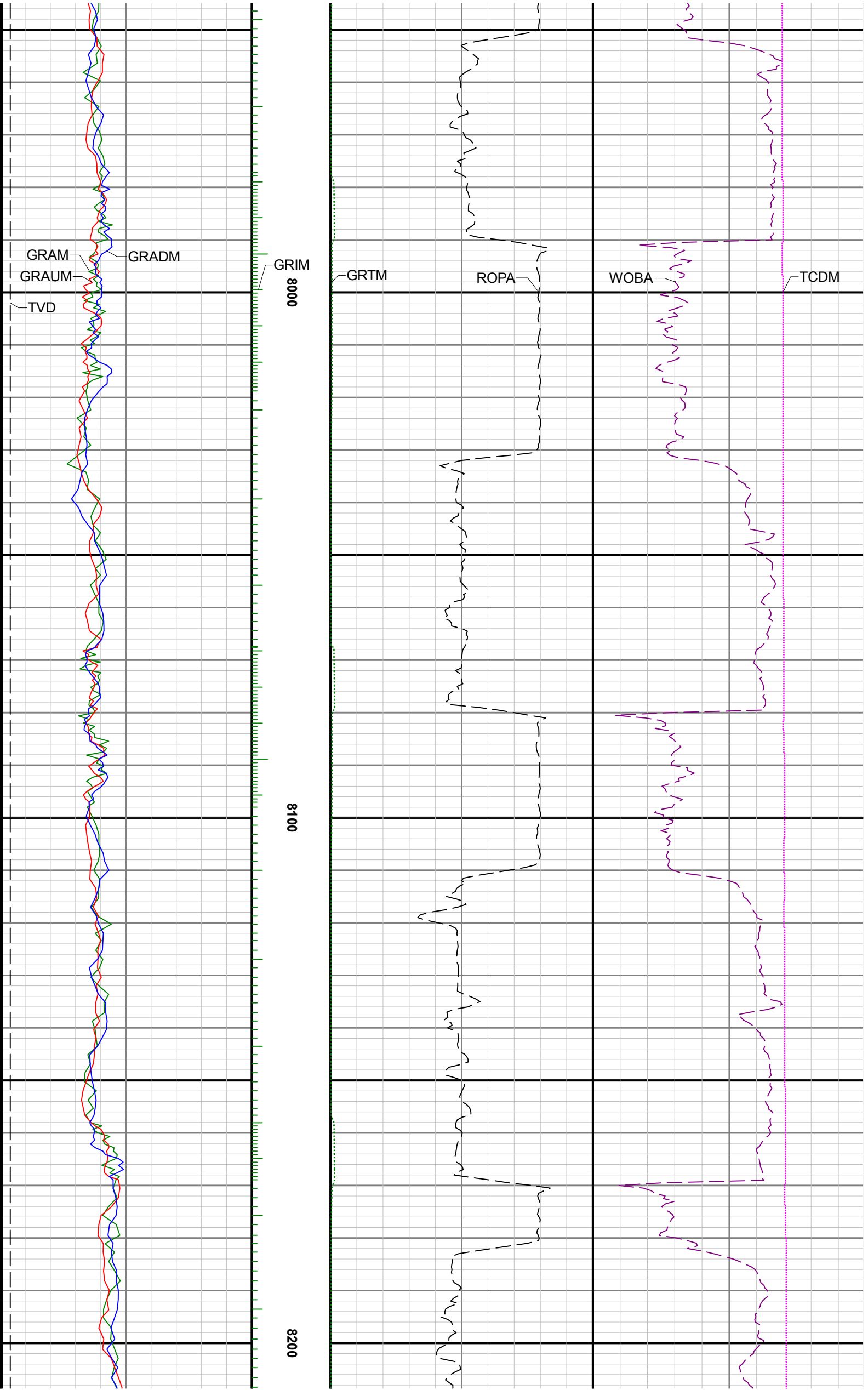


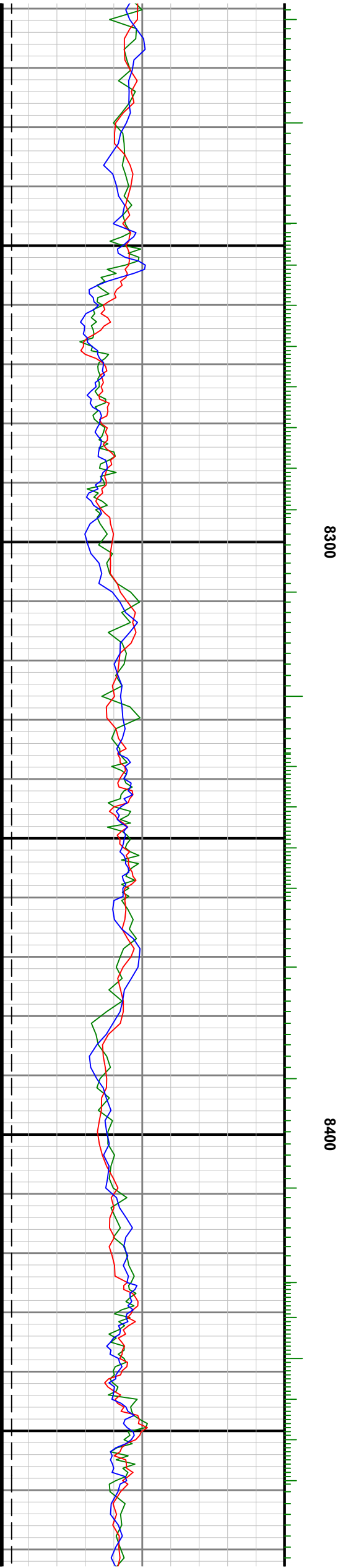
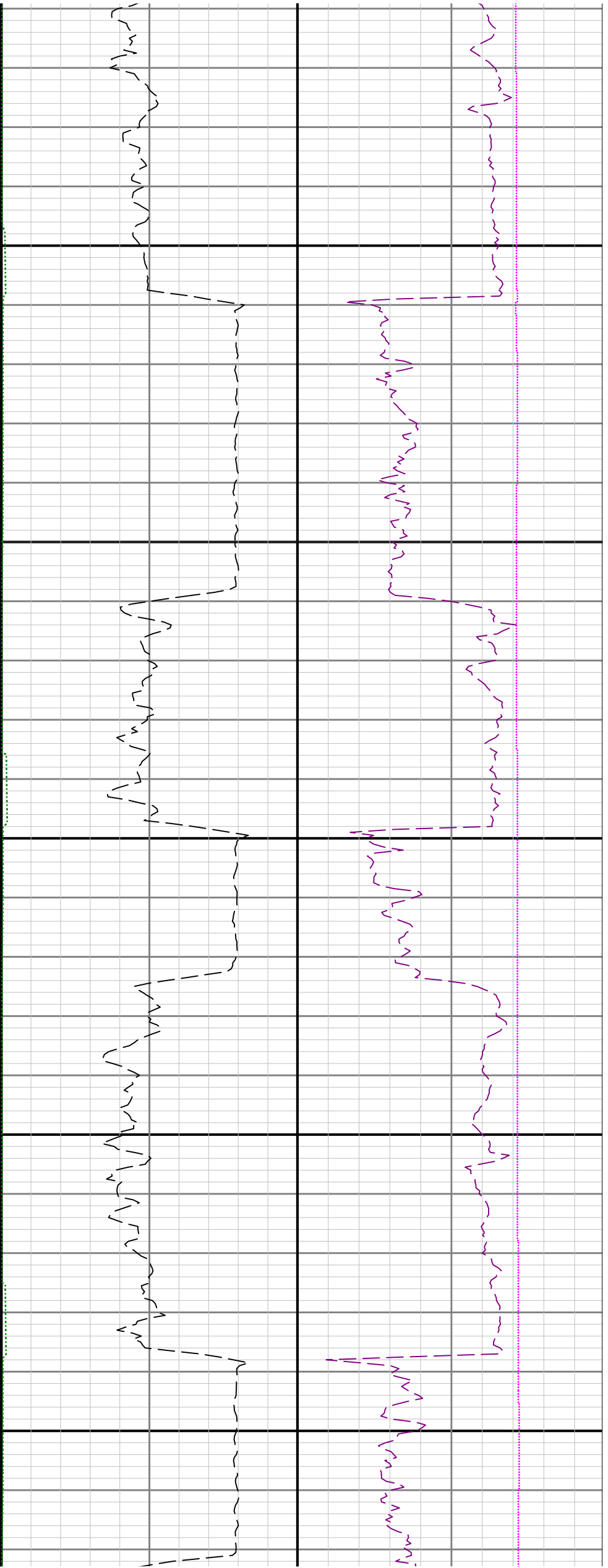


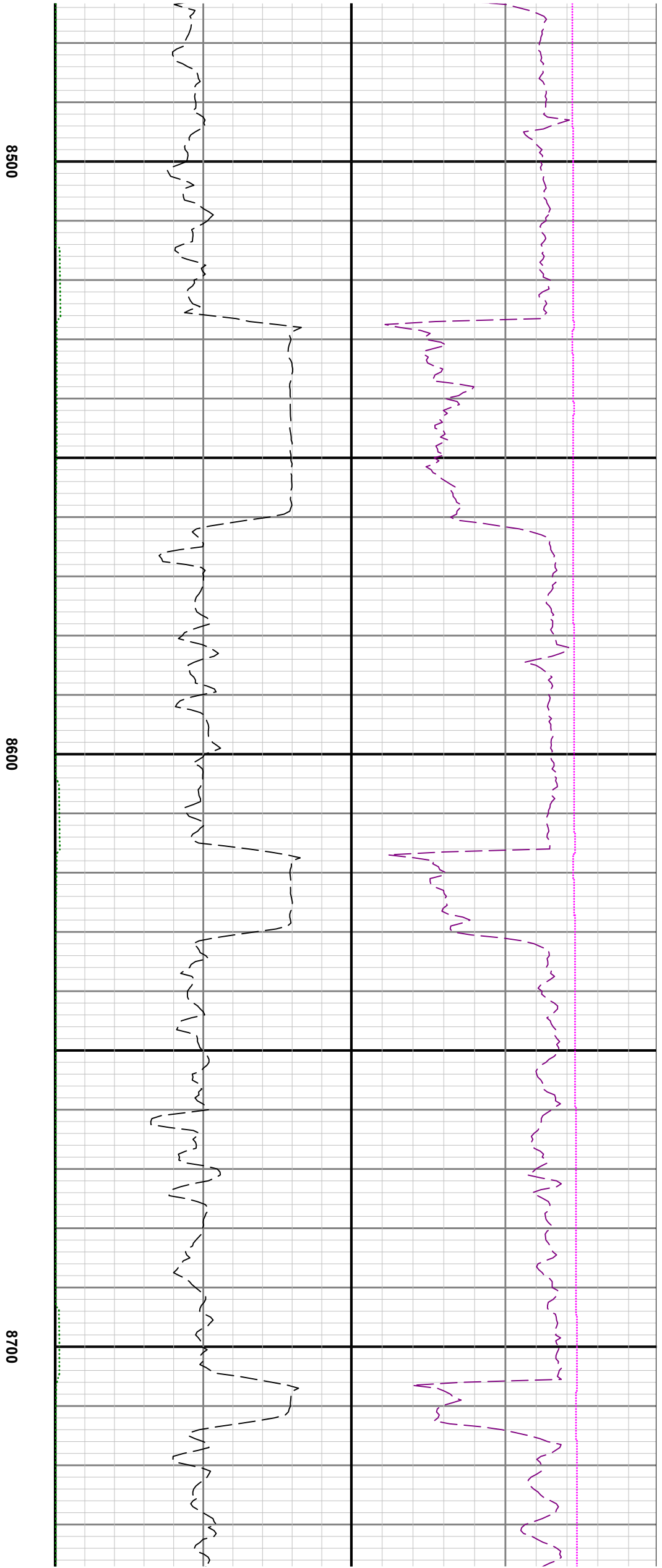
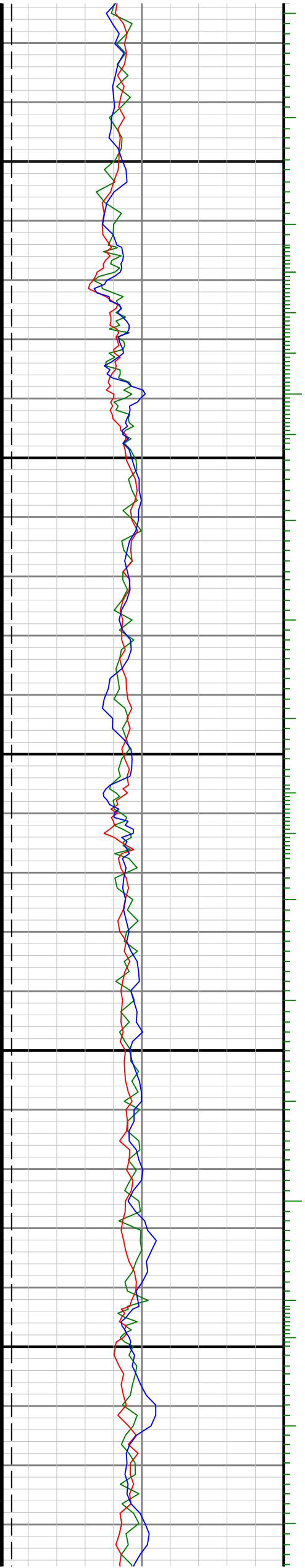


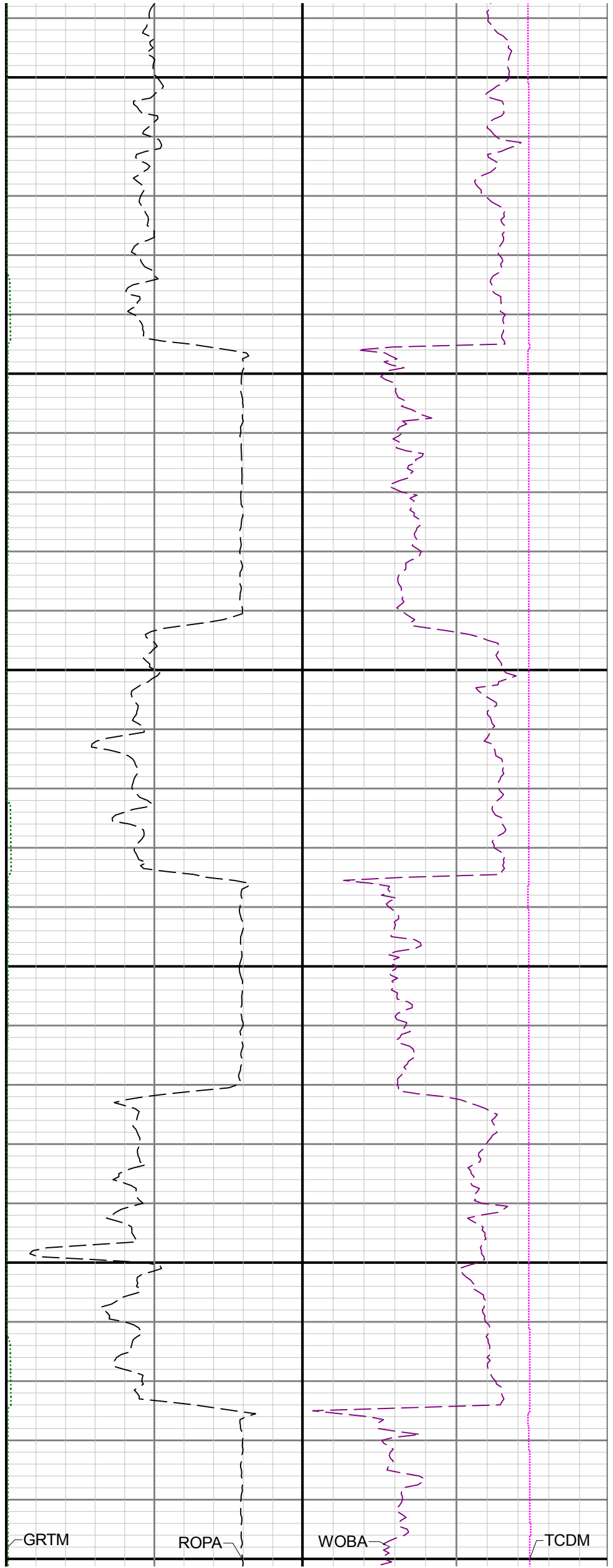
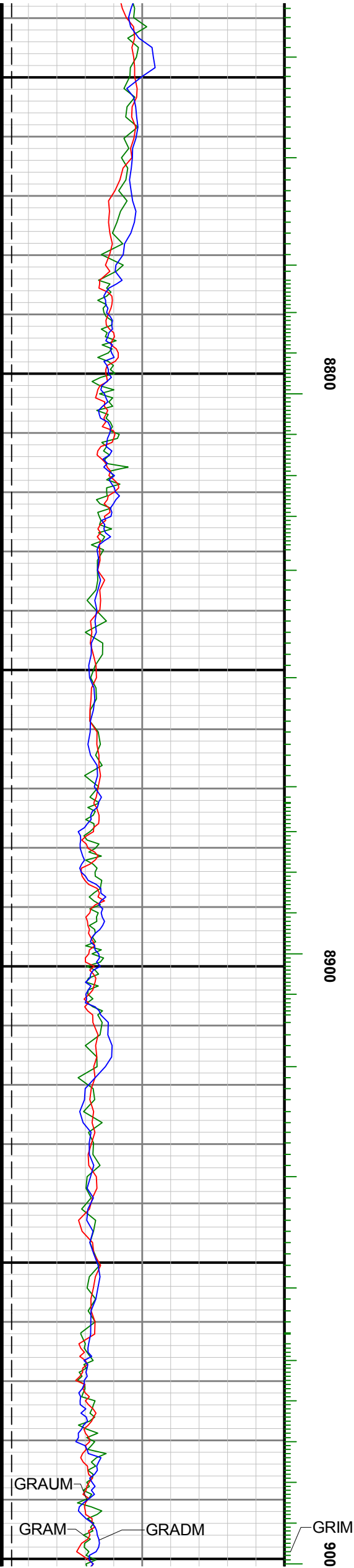


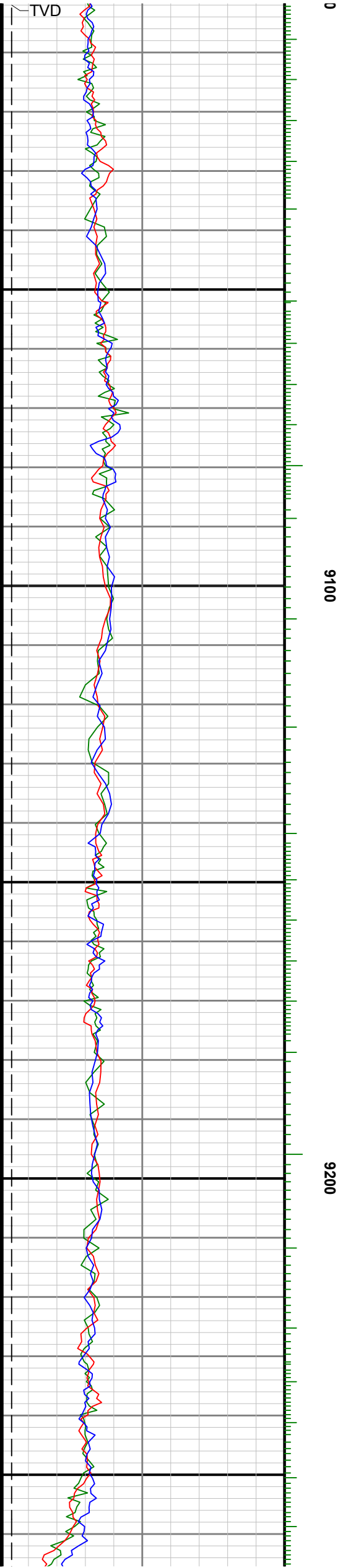
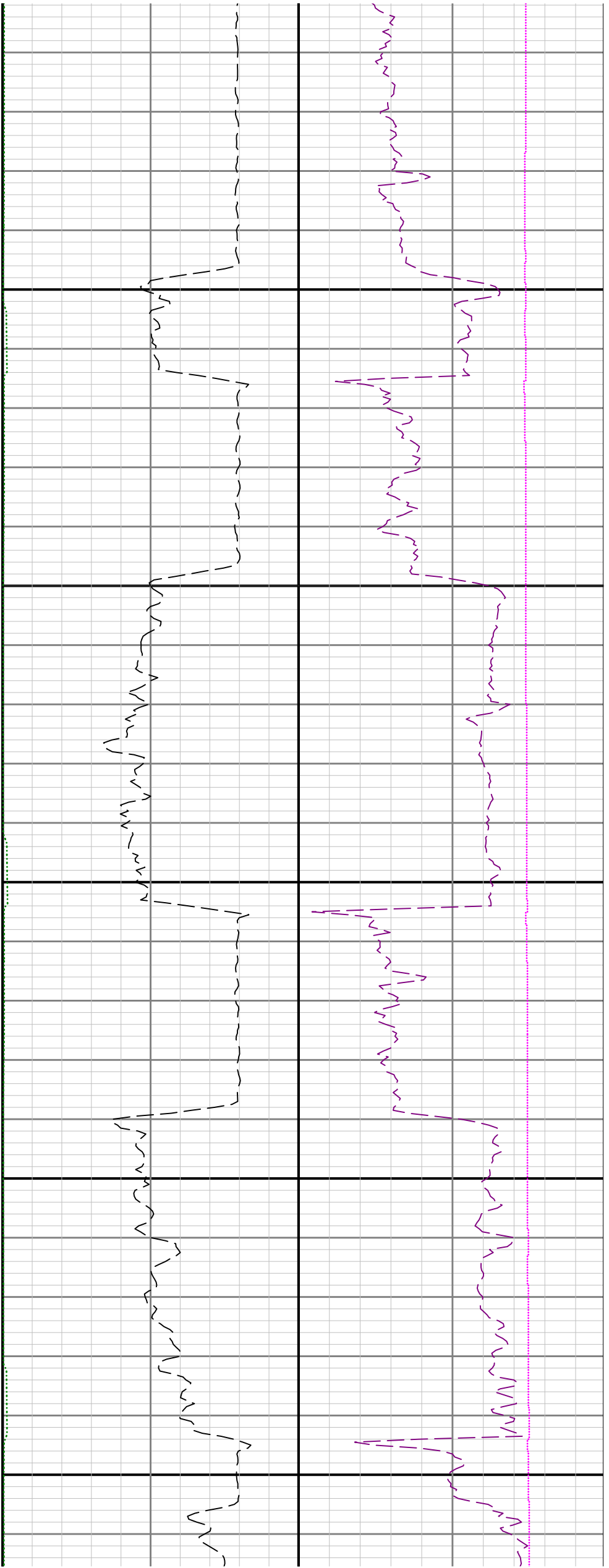


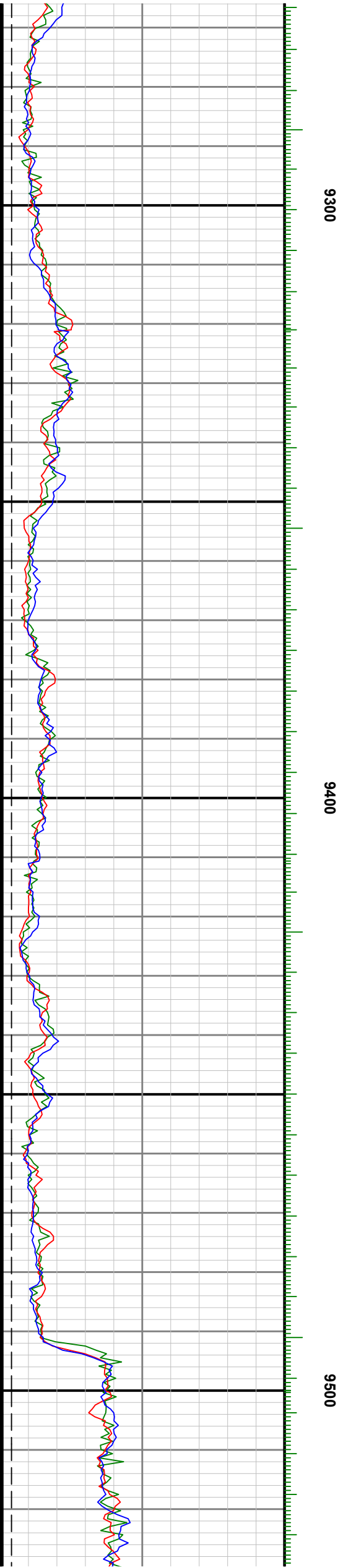
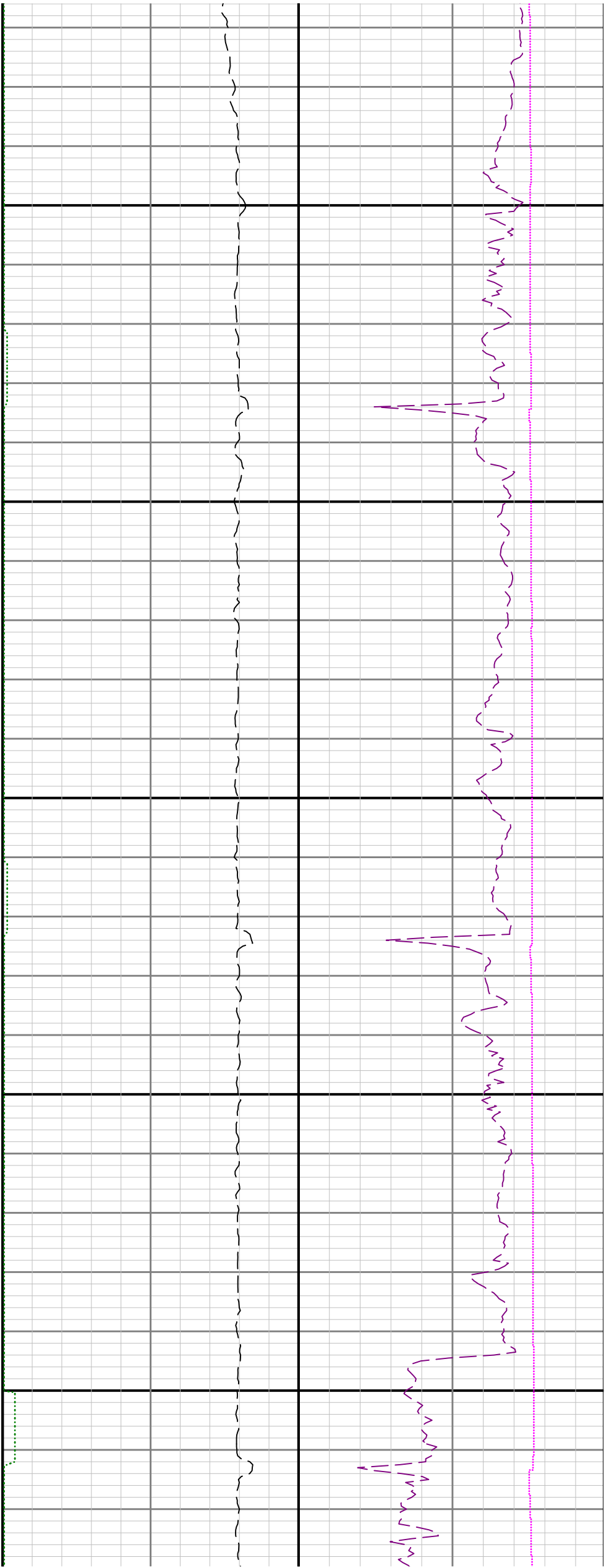




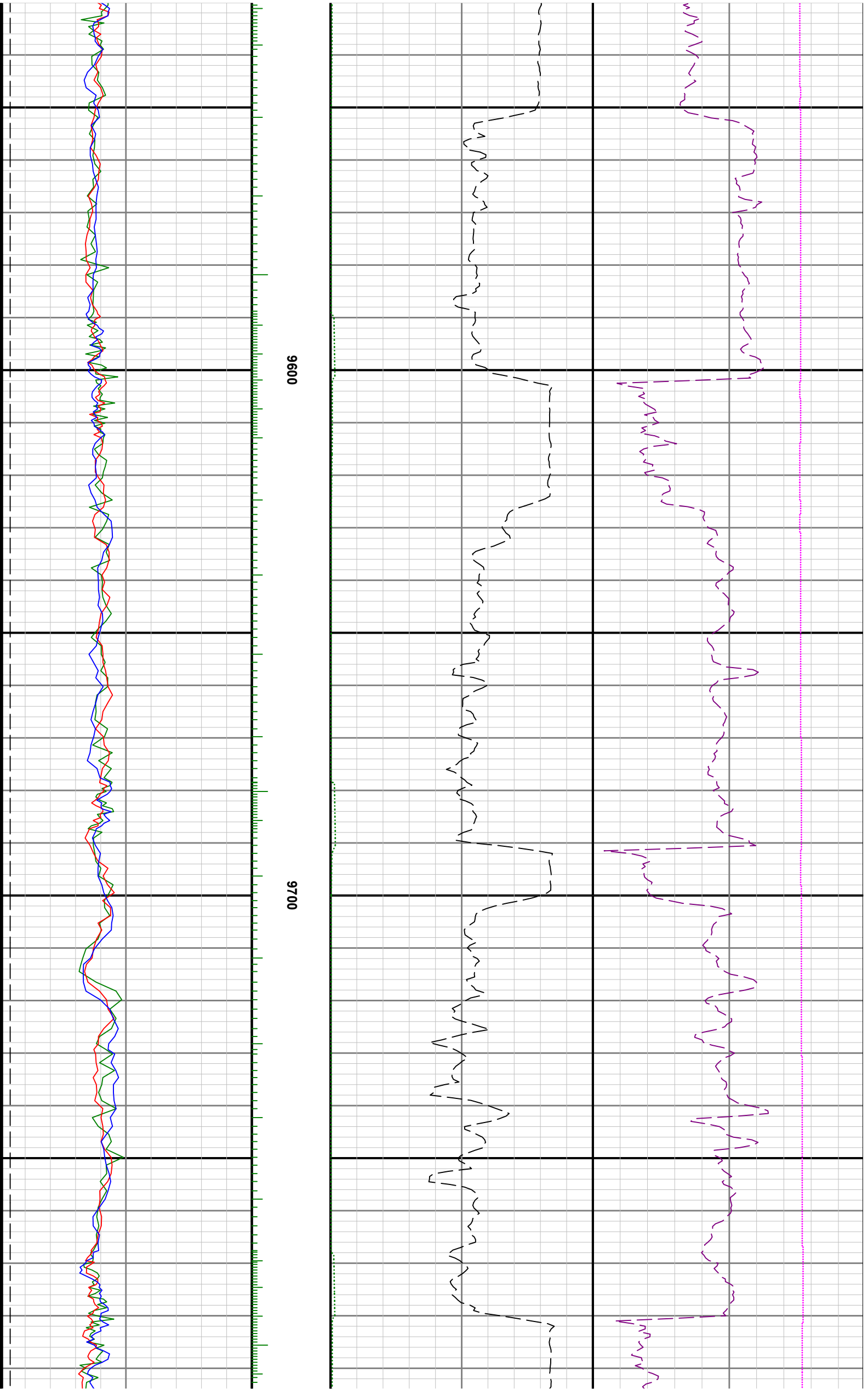


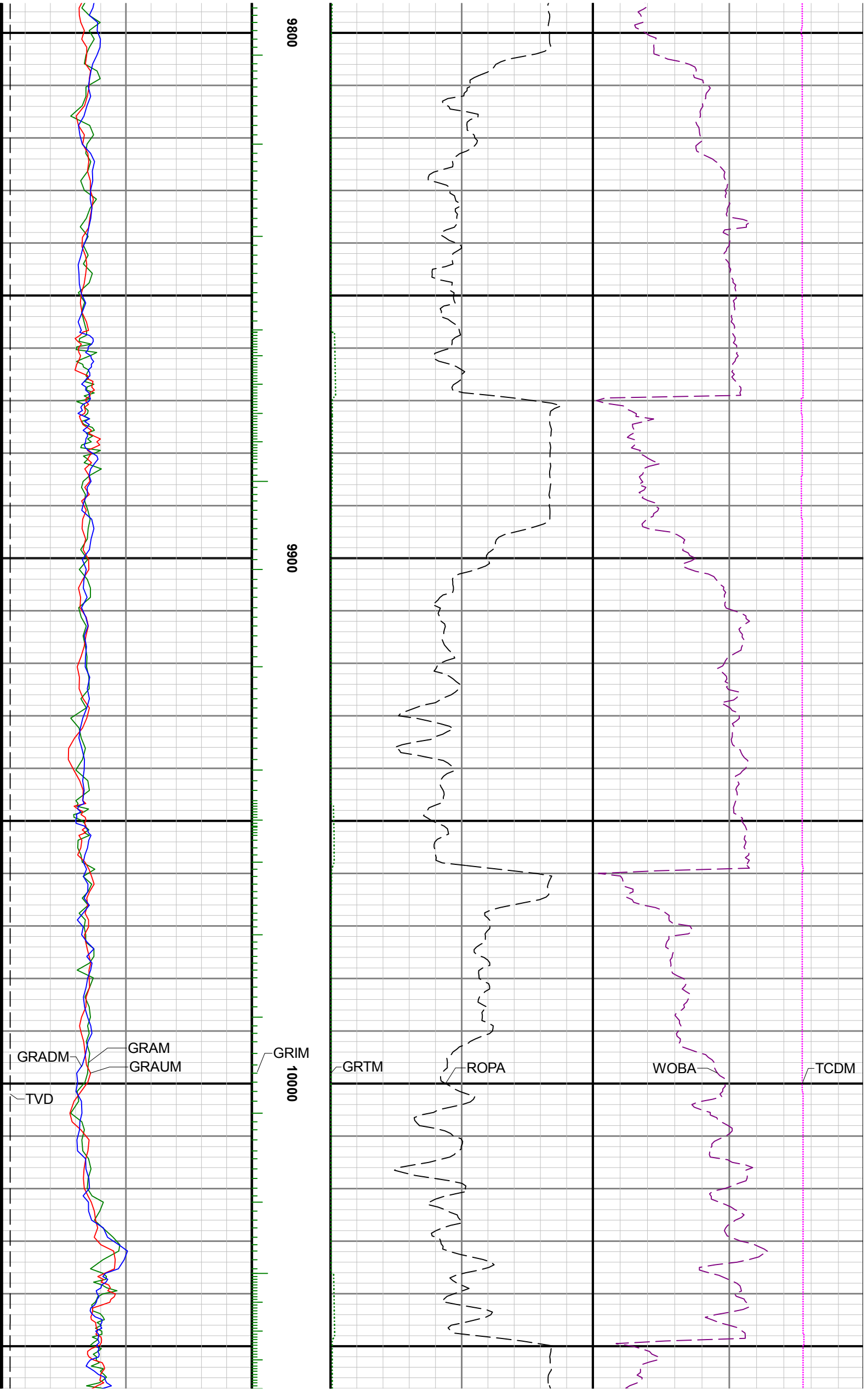


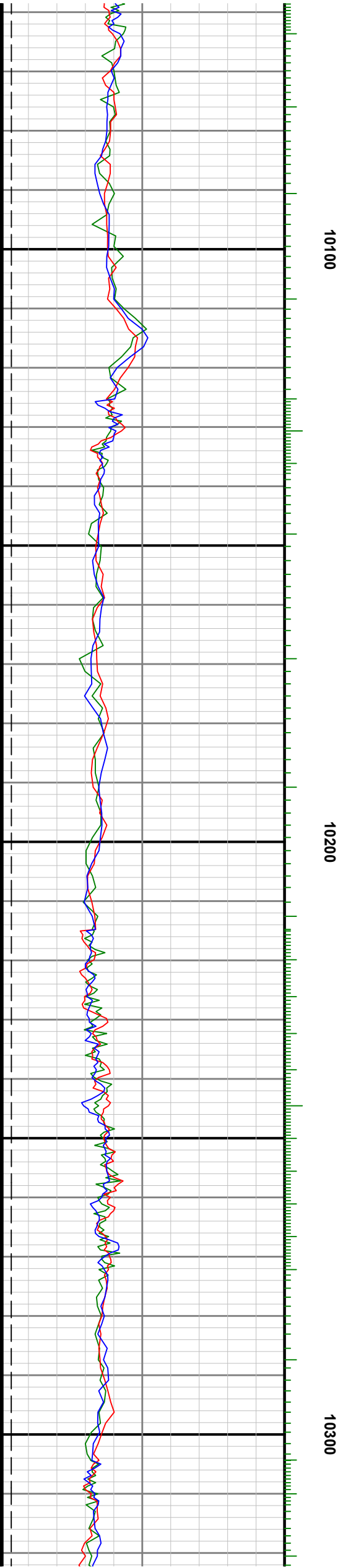
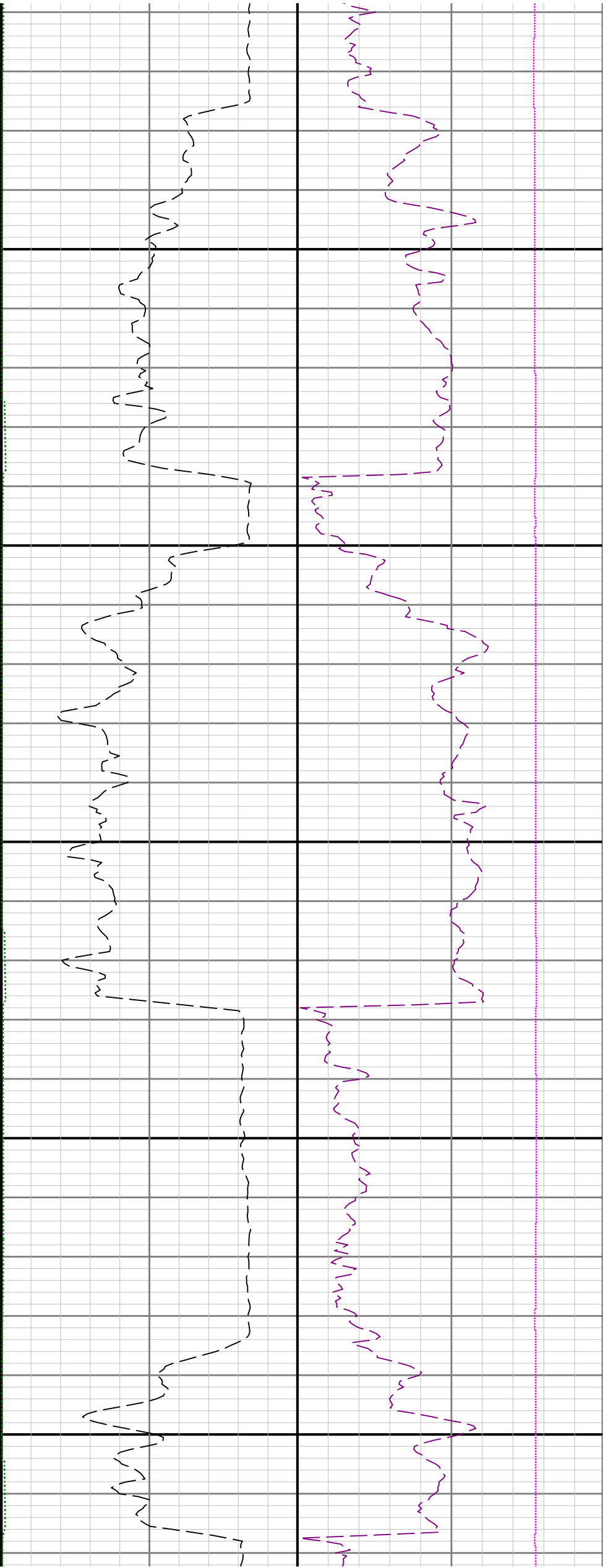


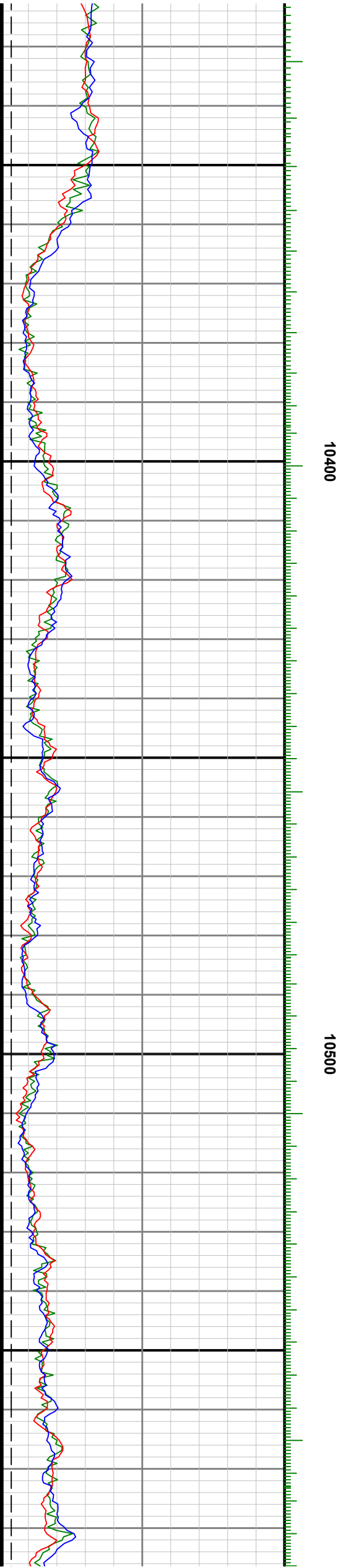
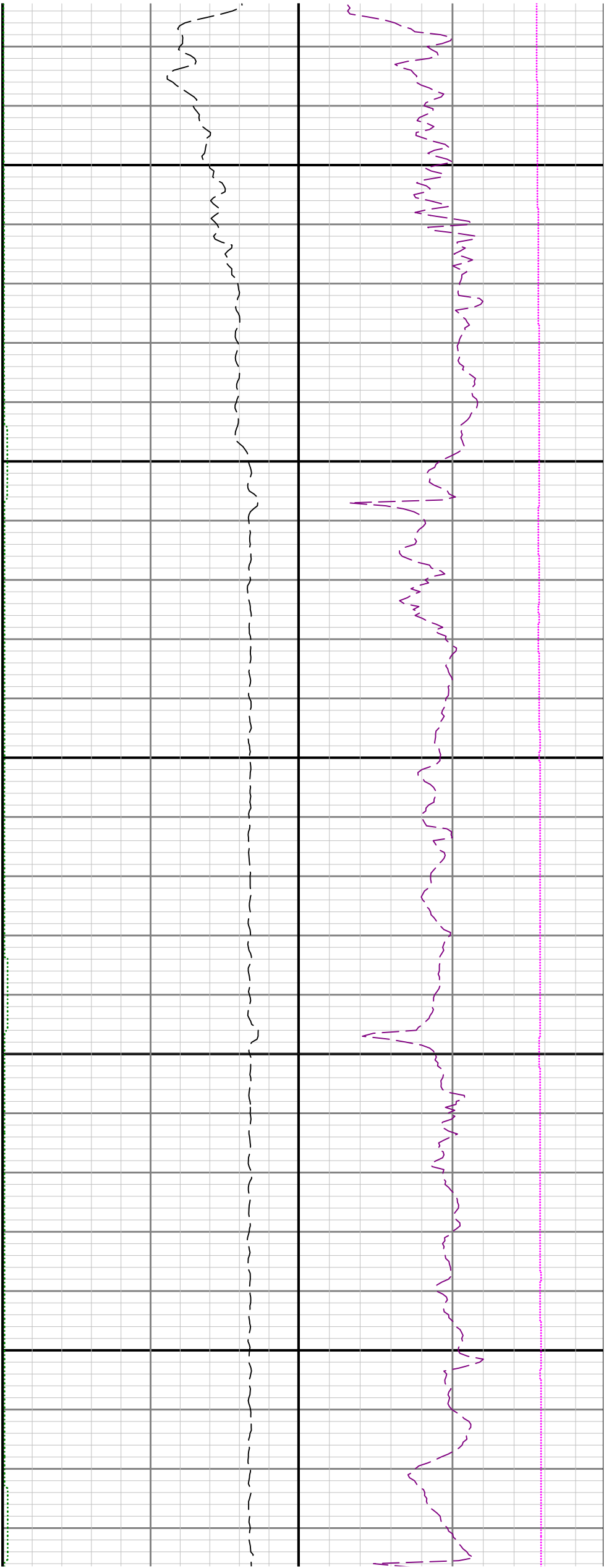


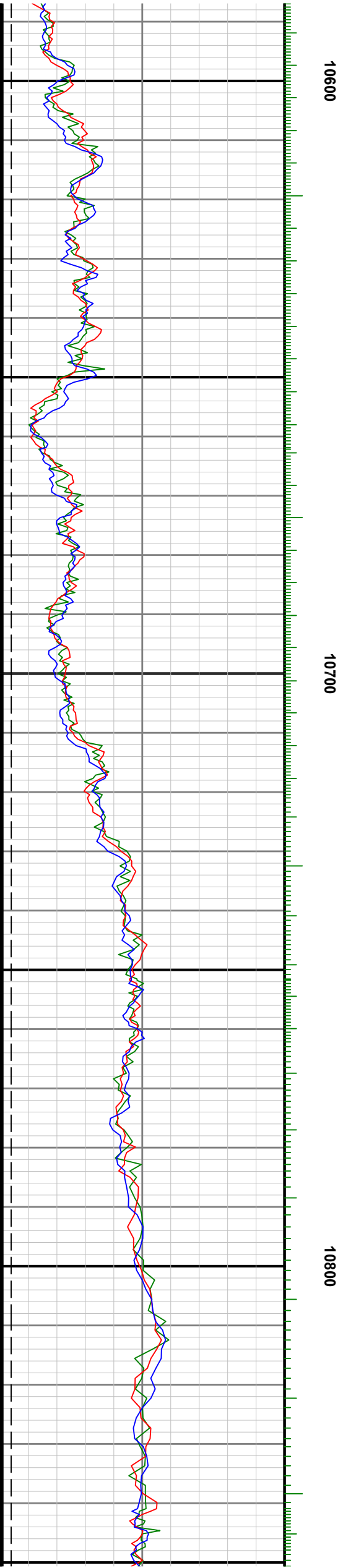
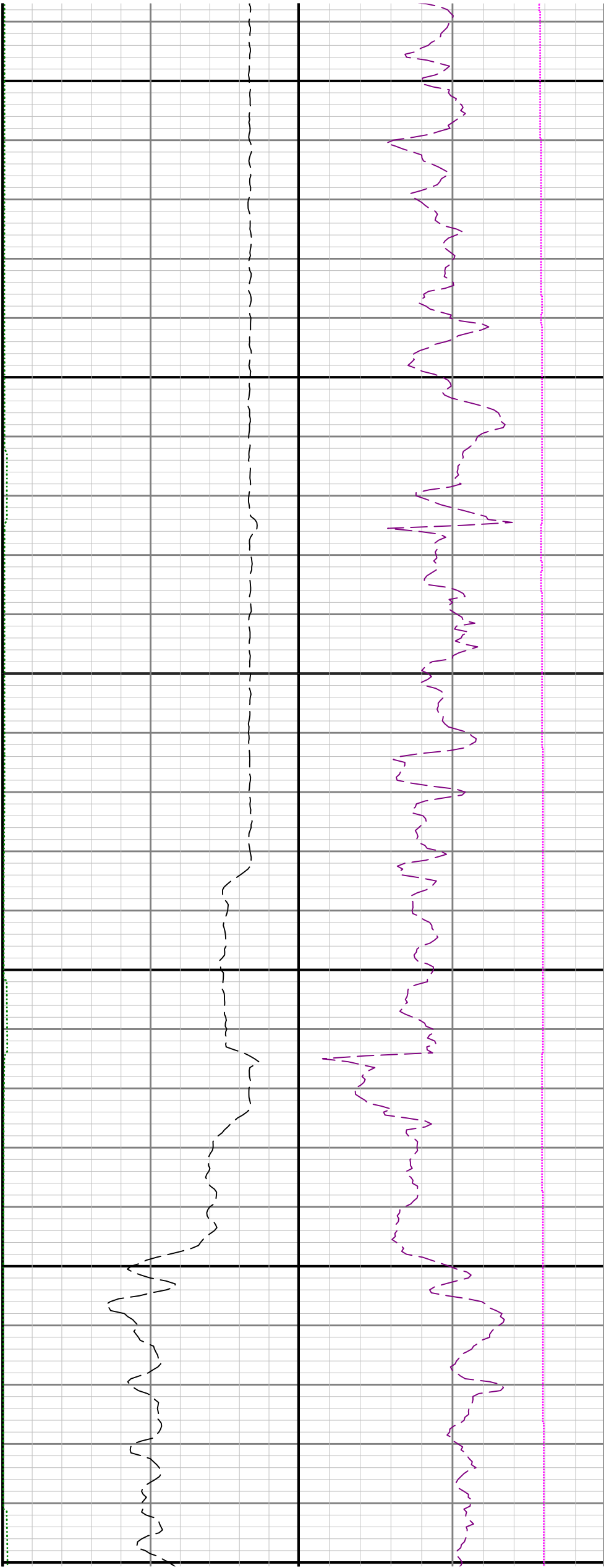


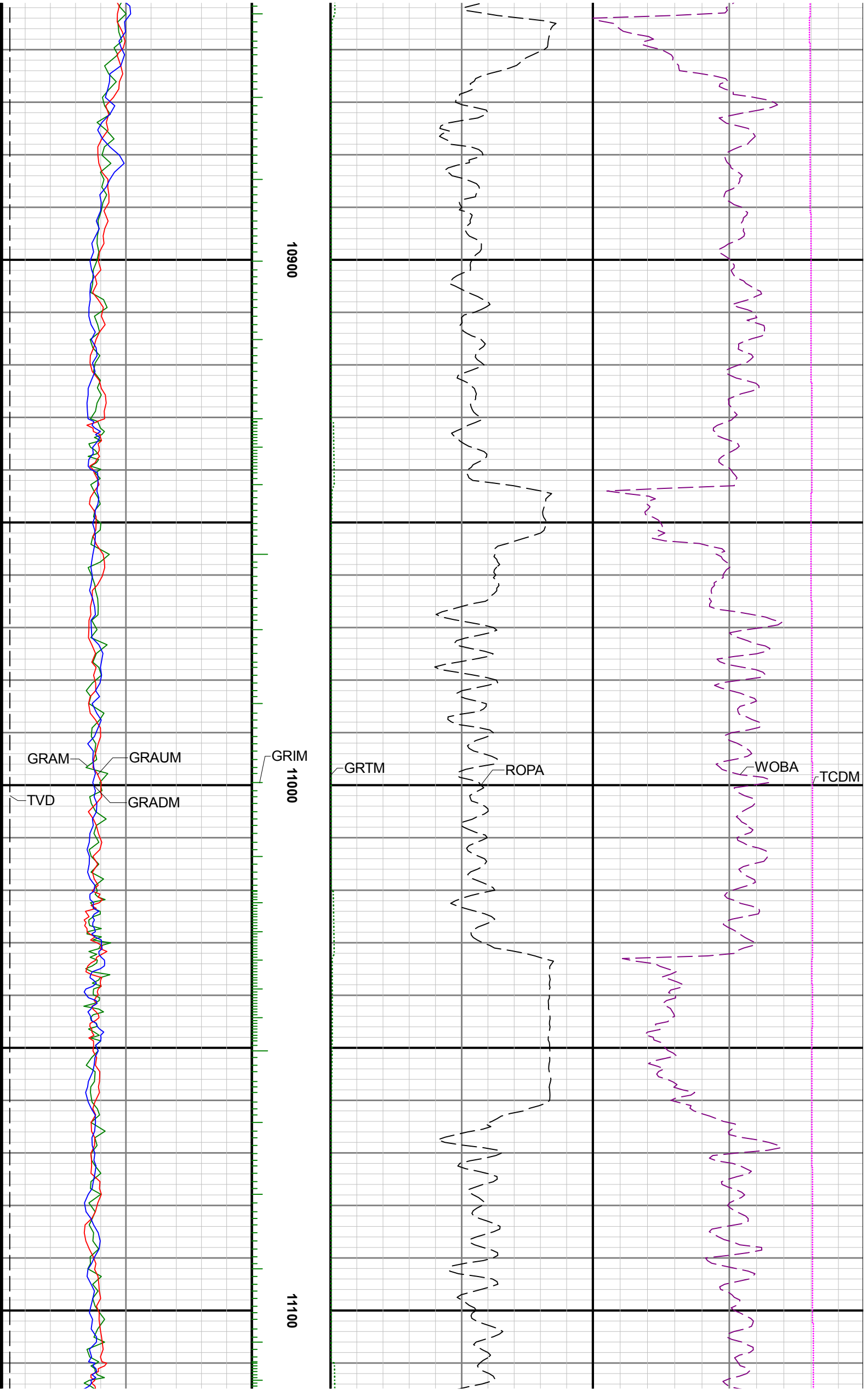


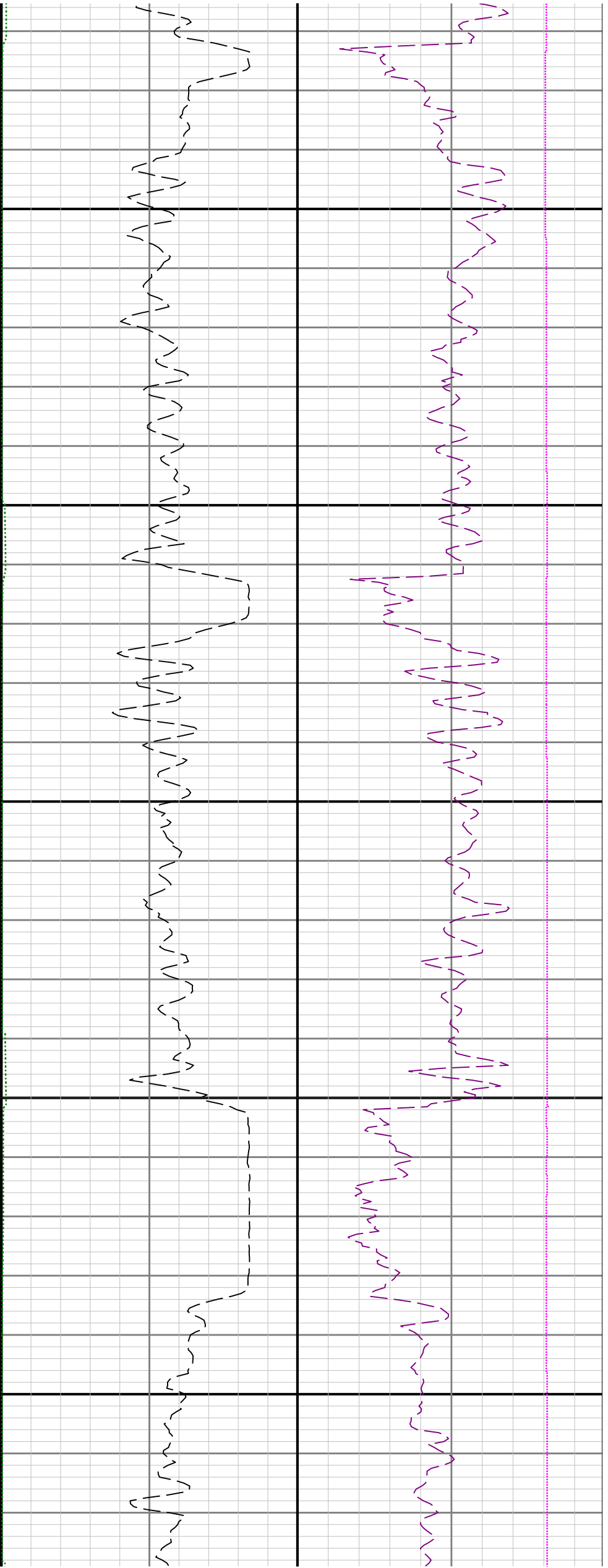






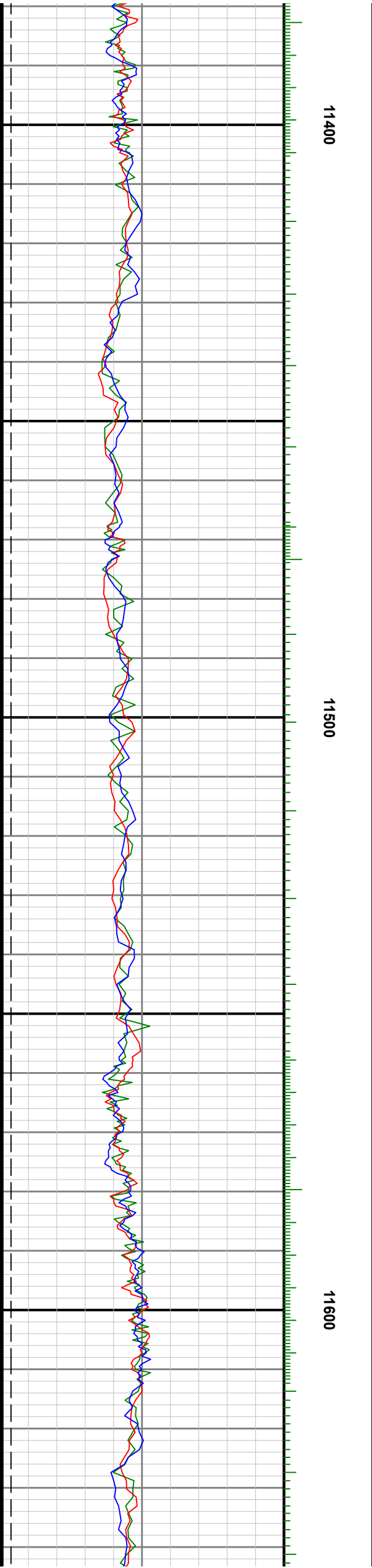
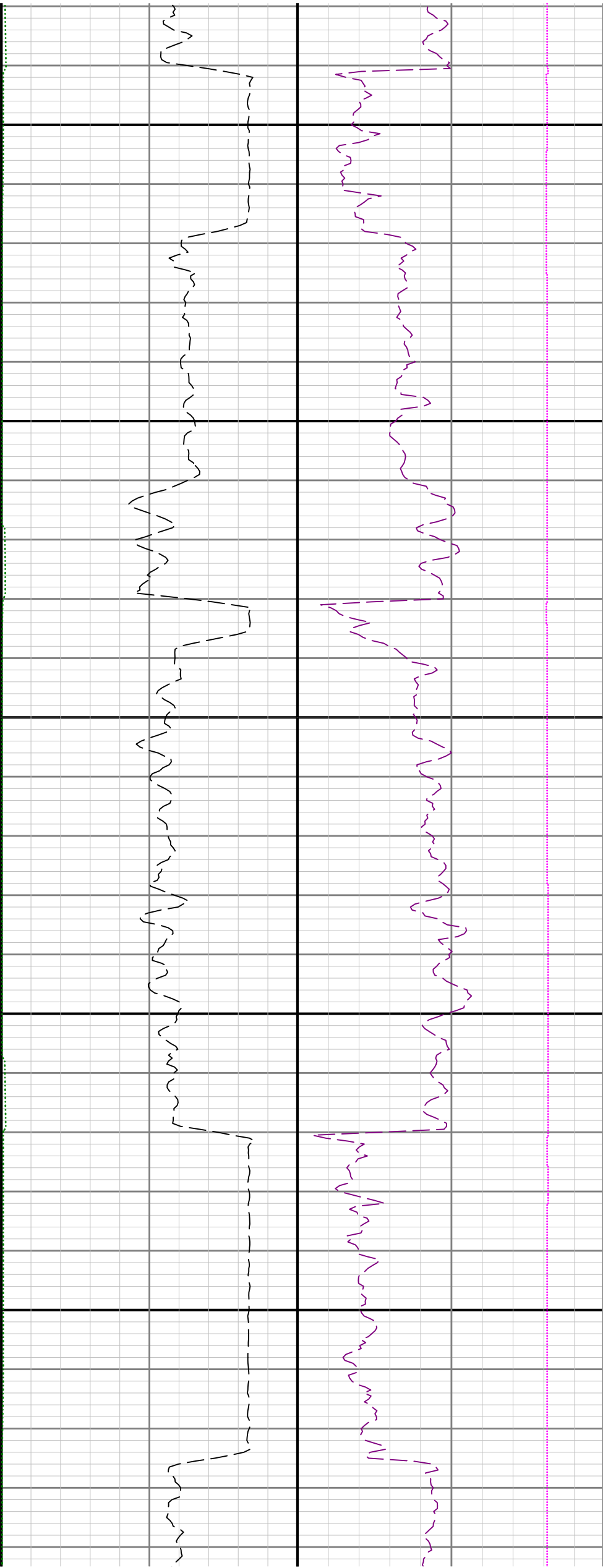




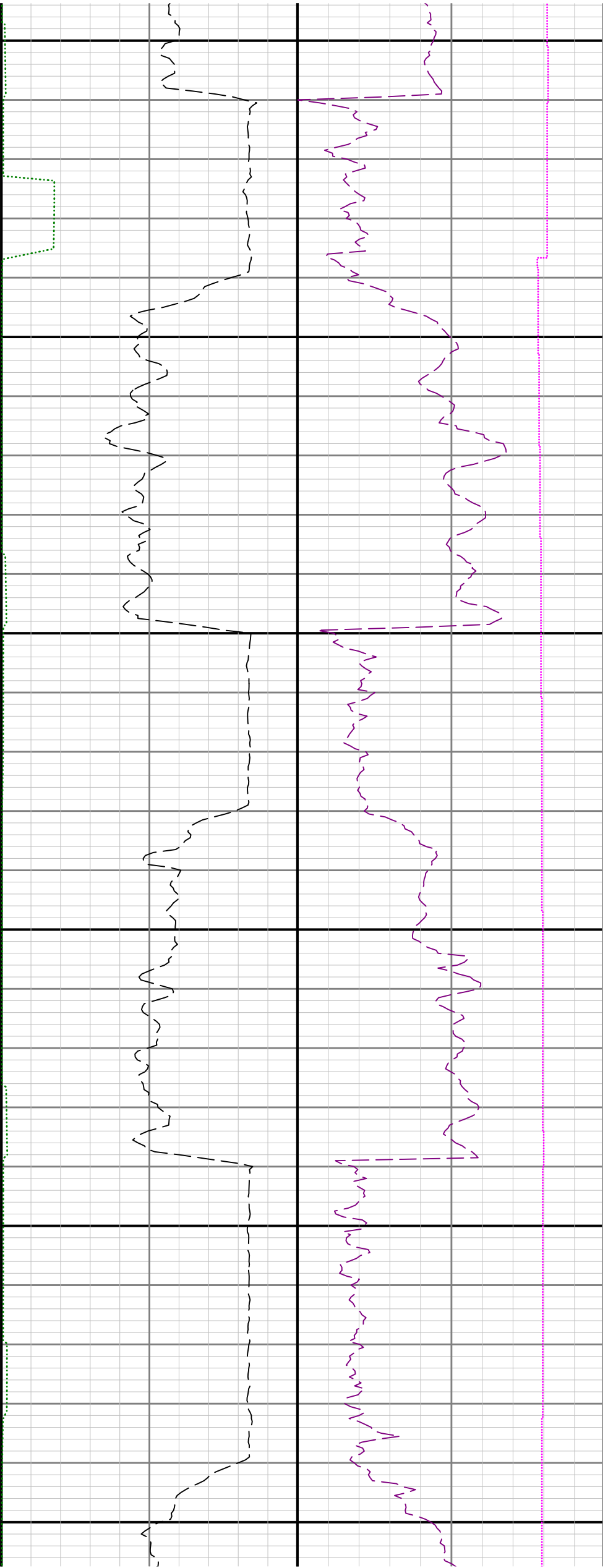


11200

11300



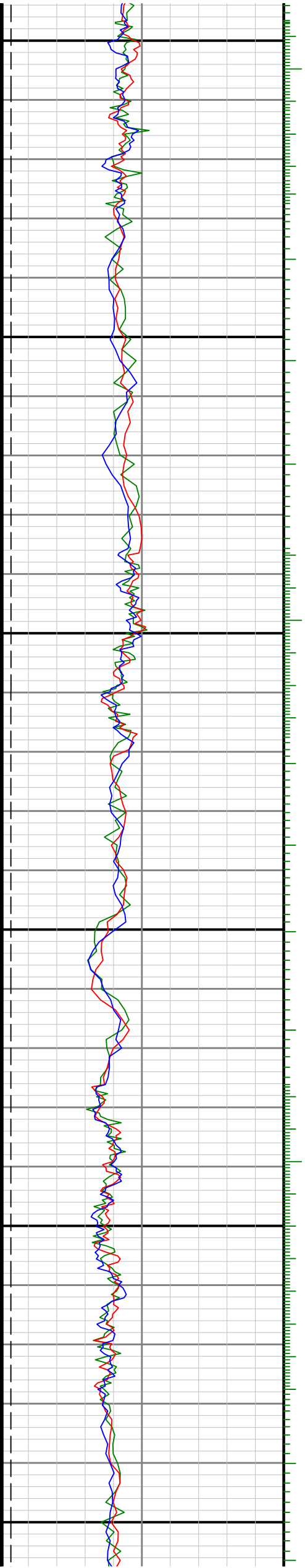


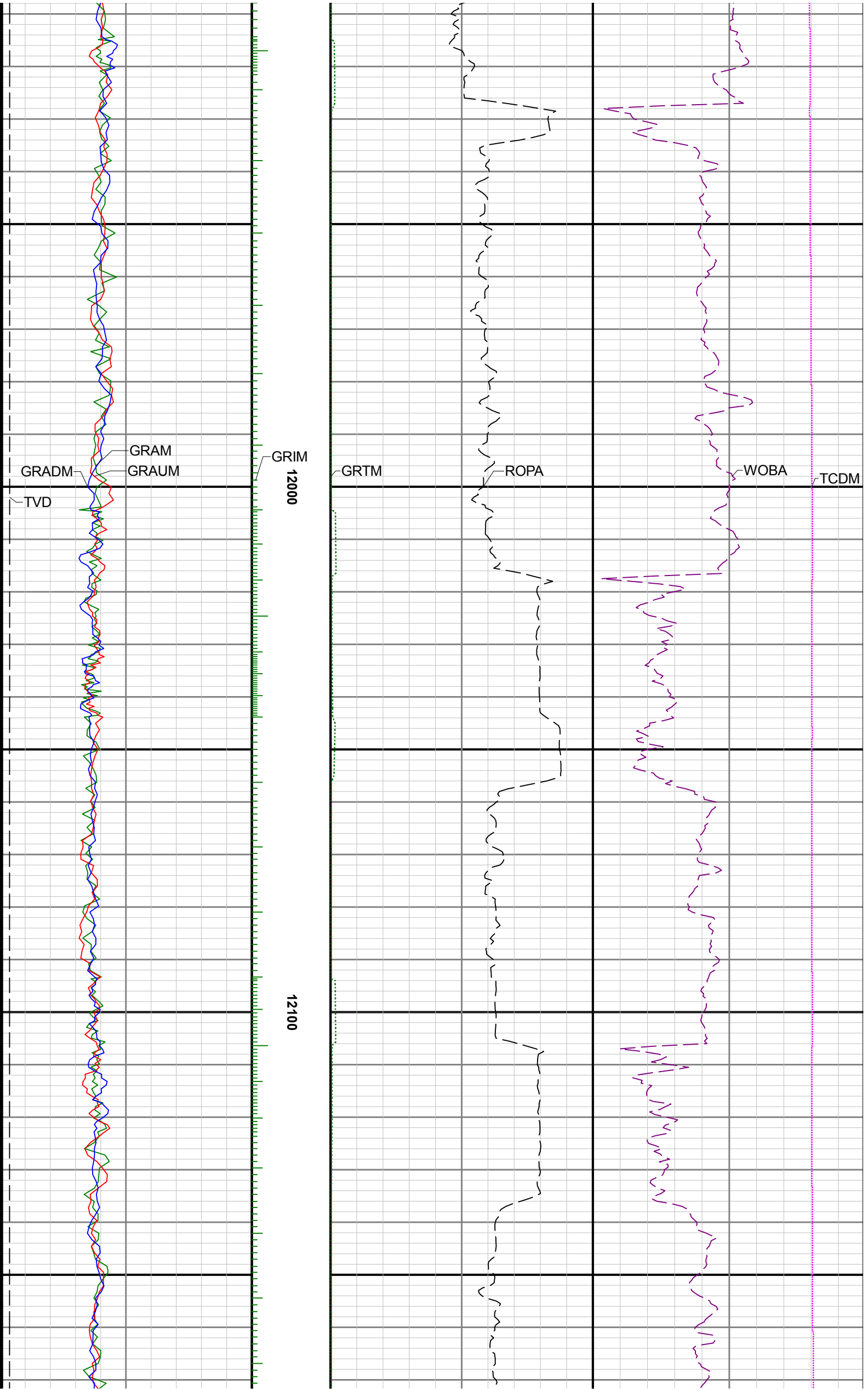


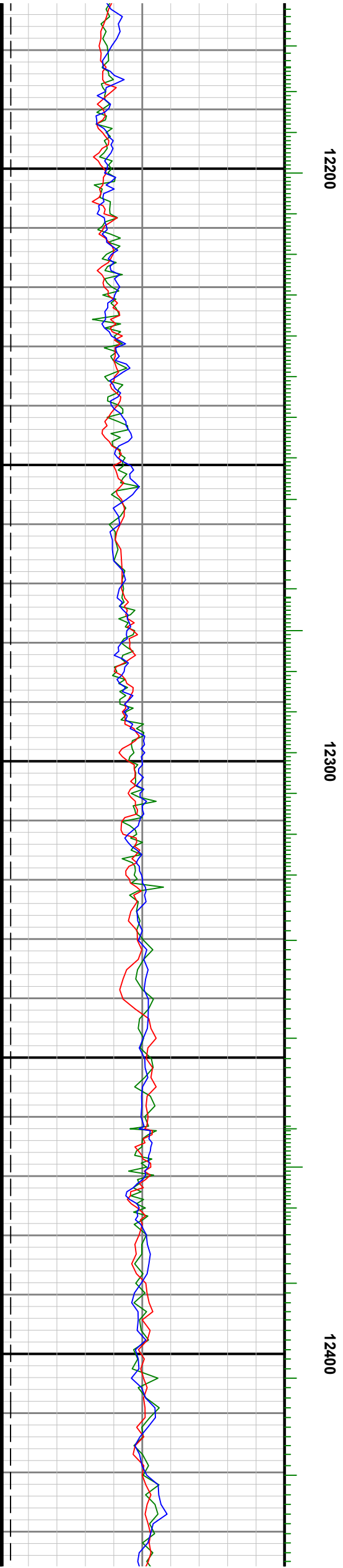
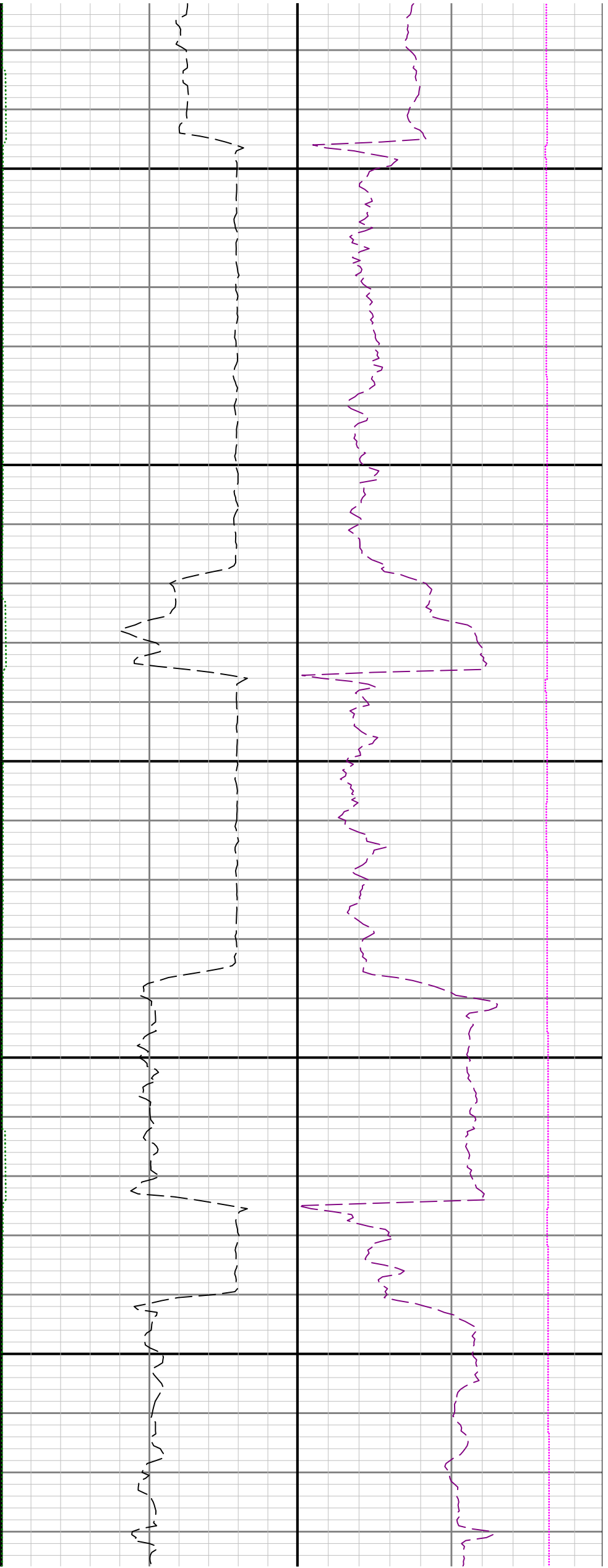
11700

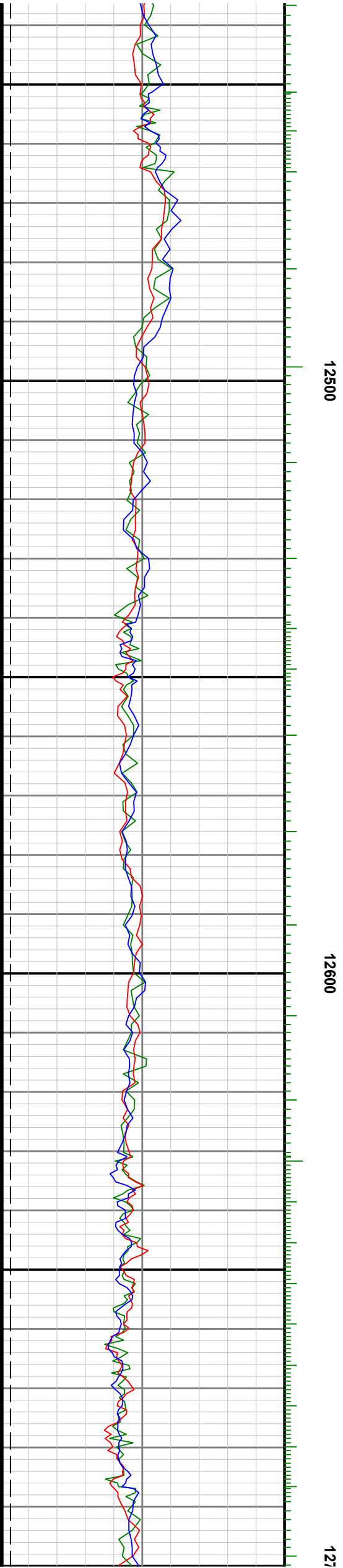
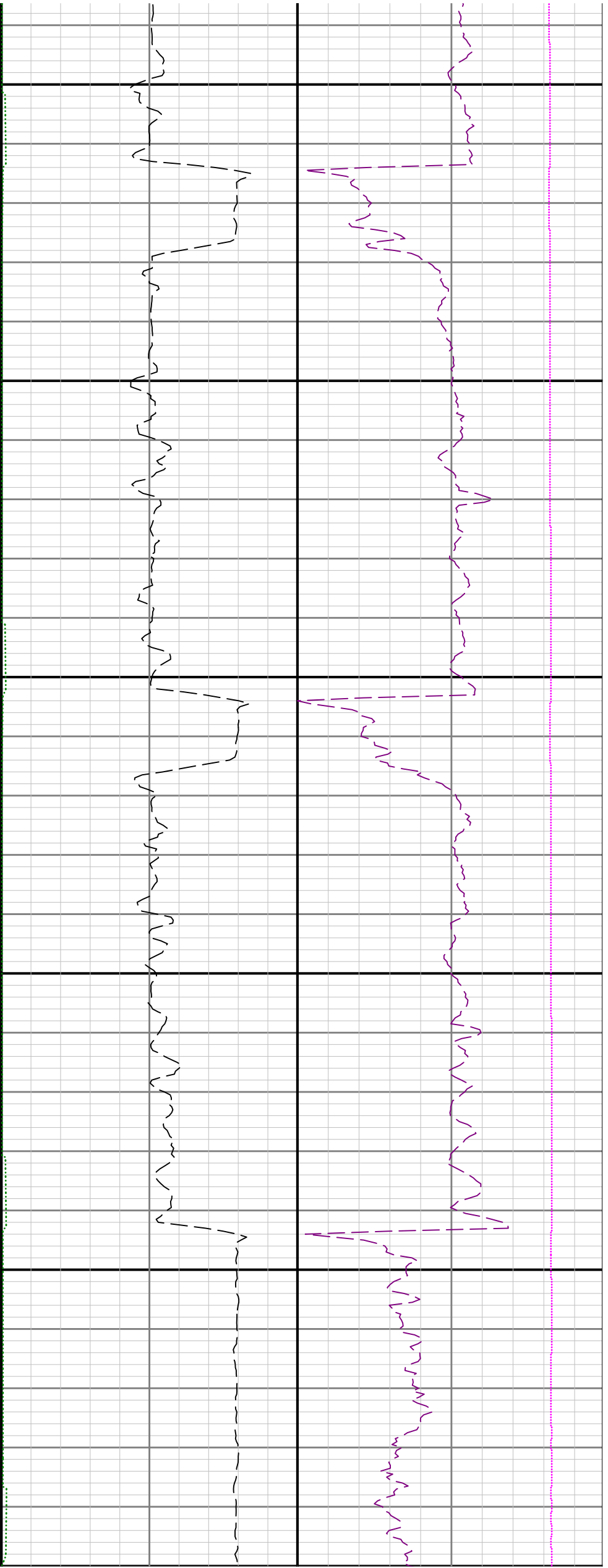
11800

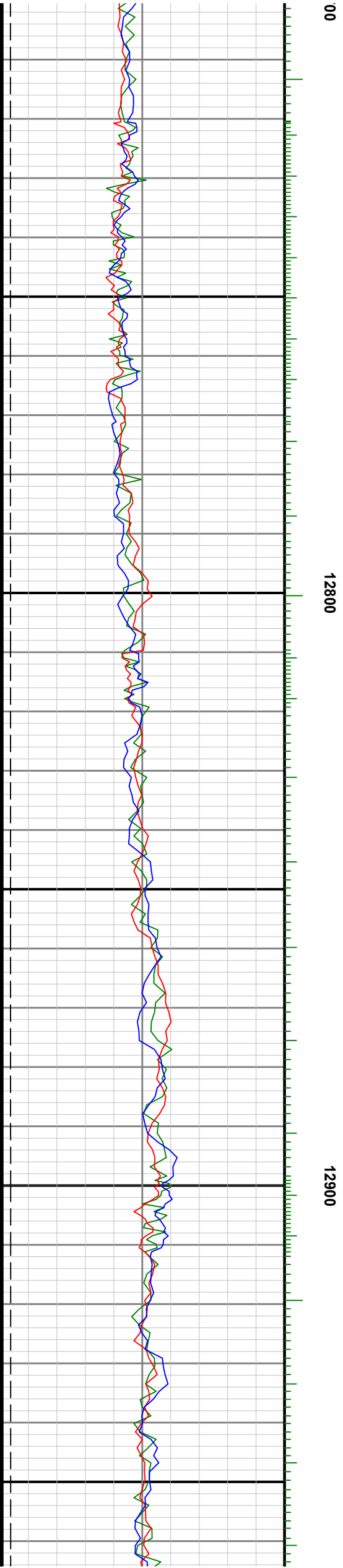
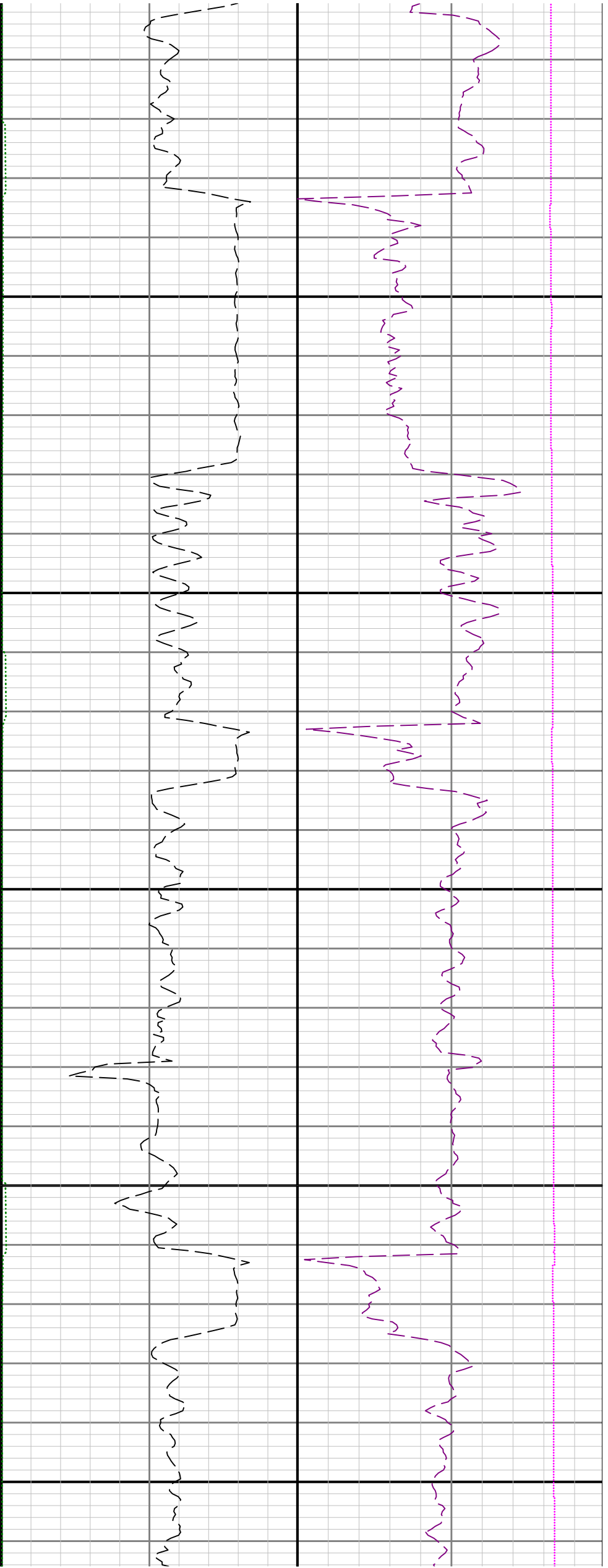
11900

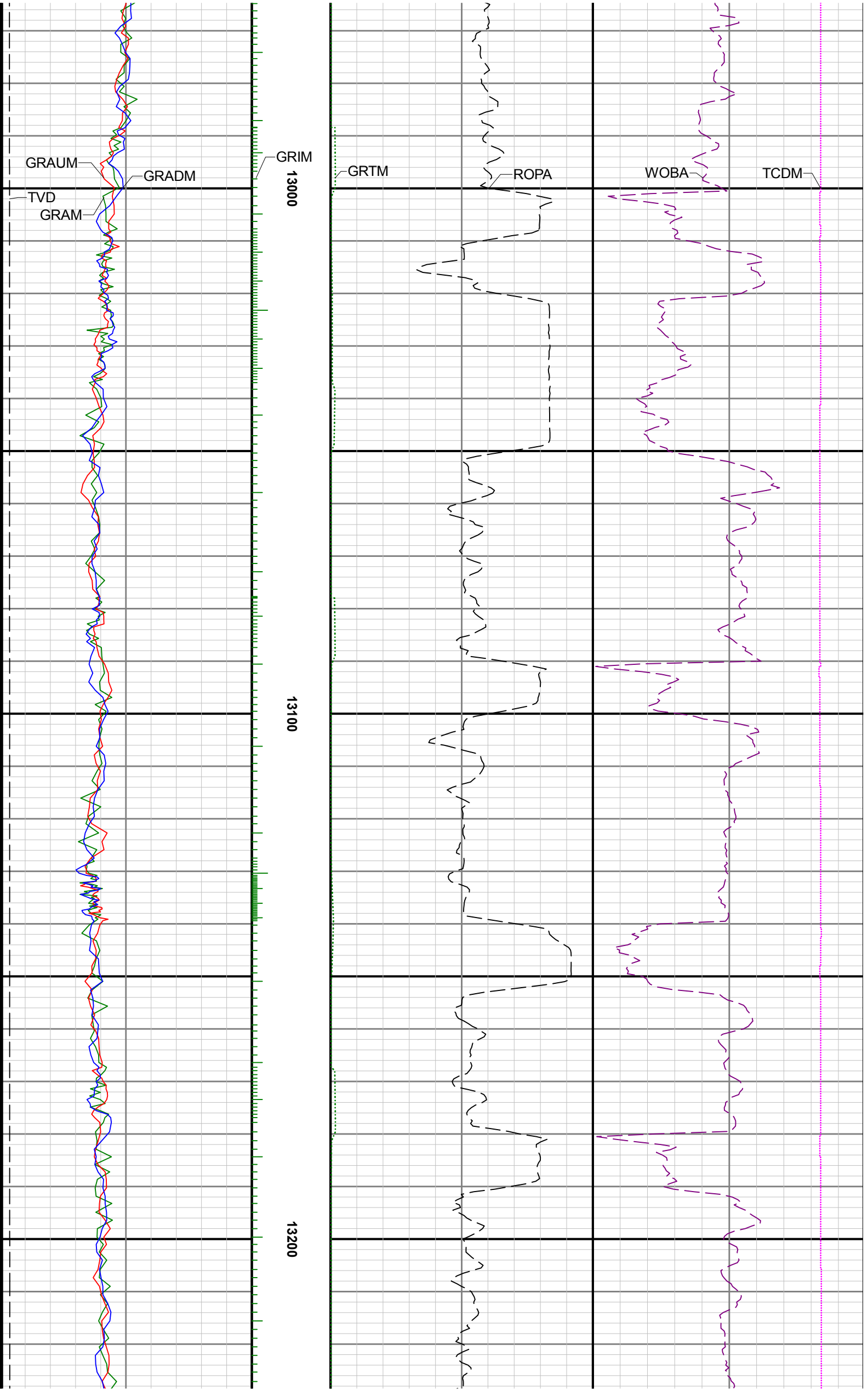


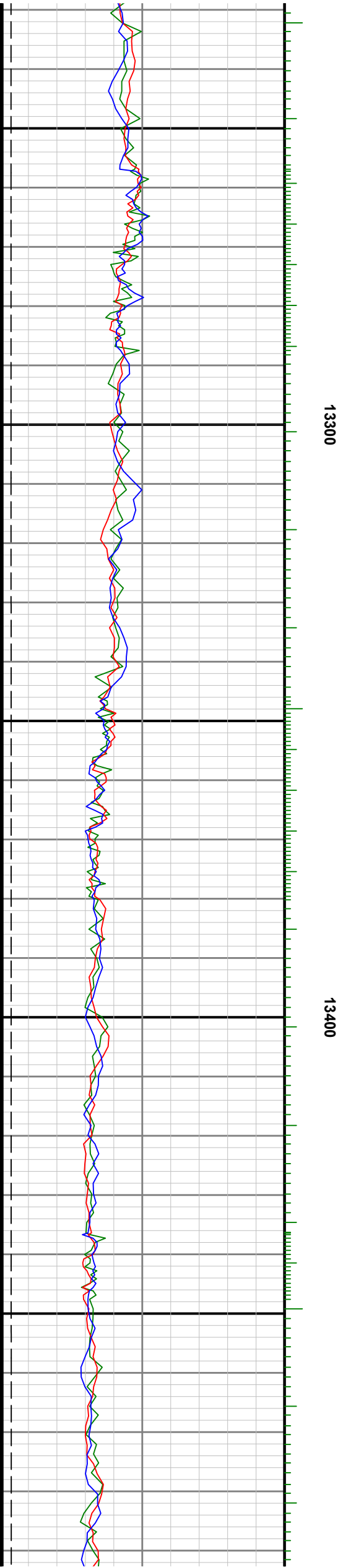
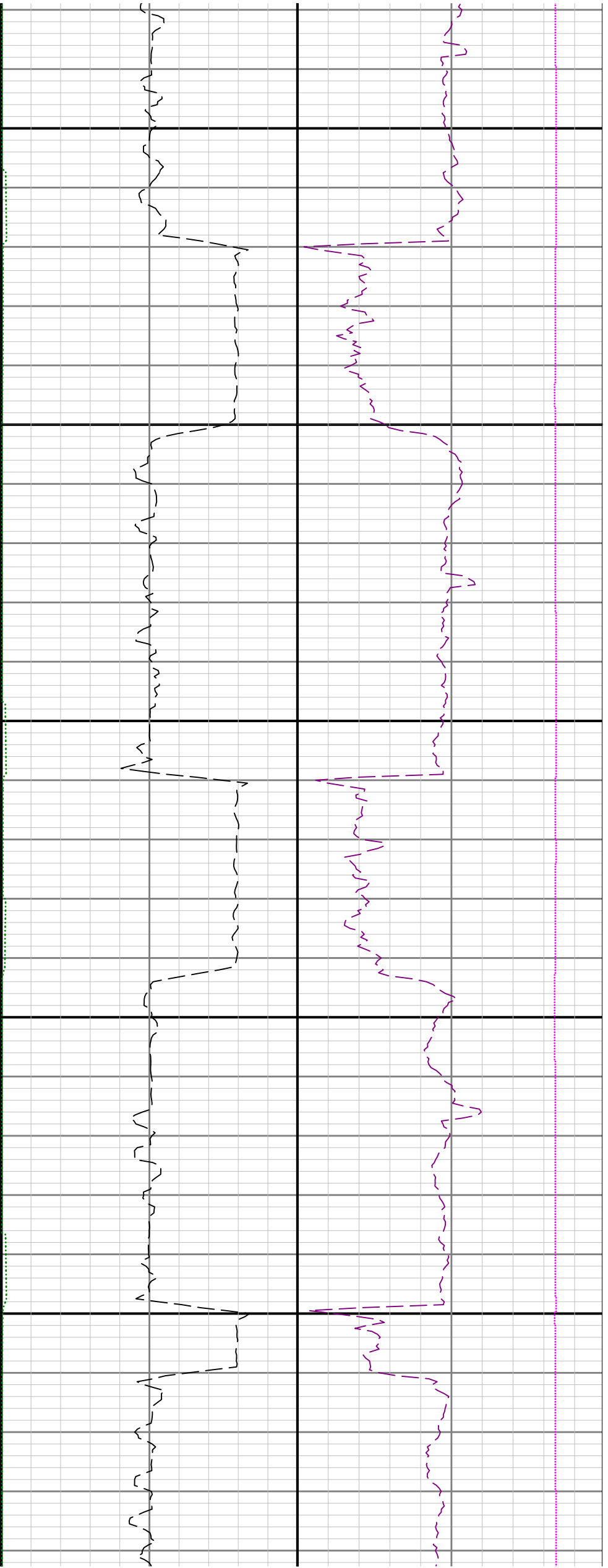


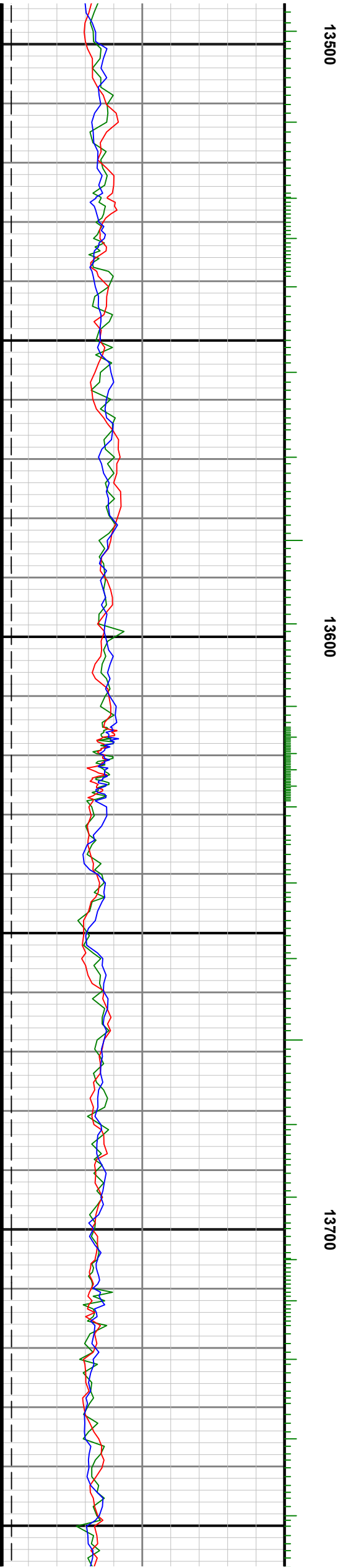
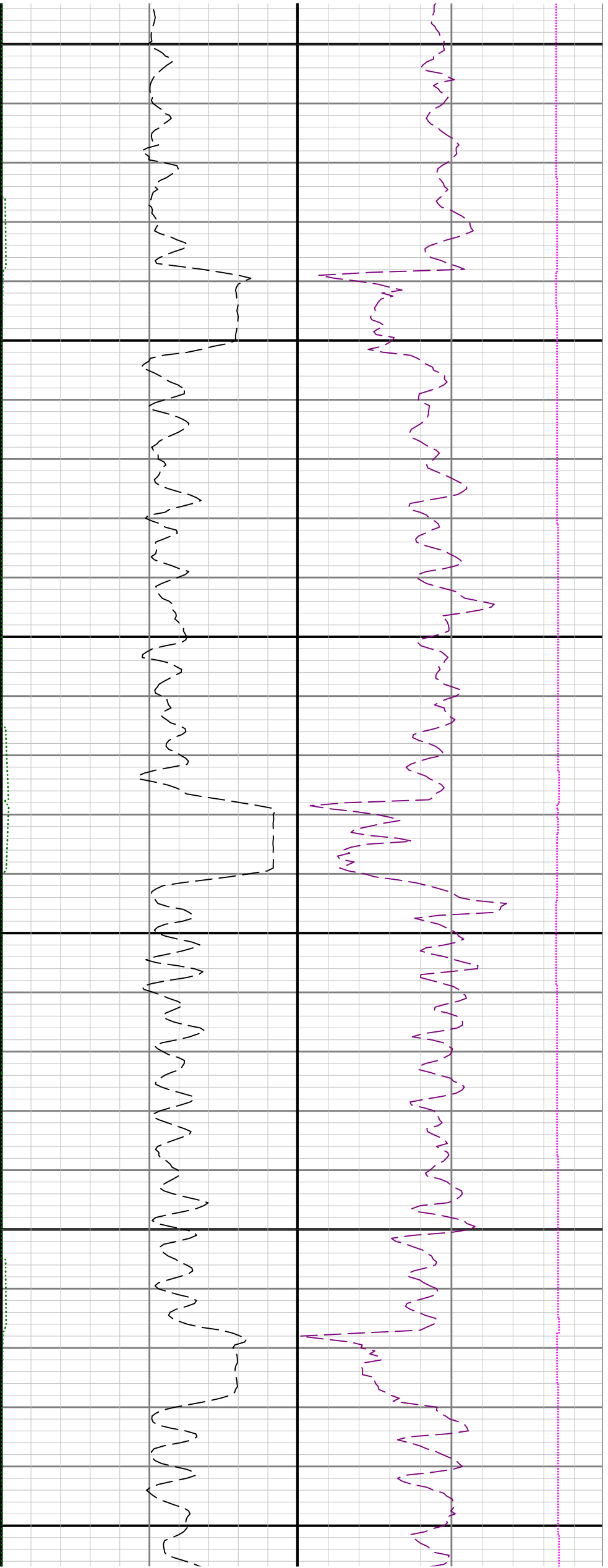




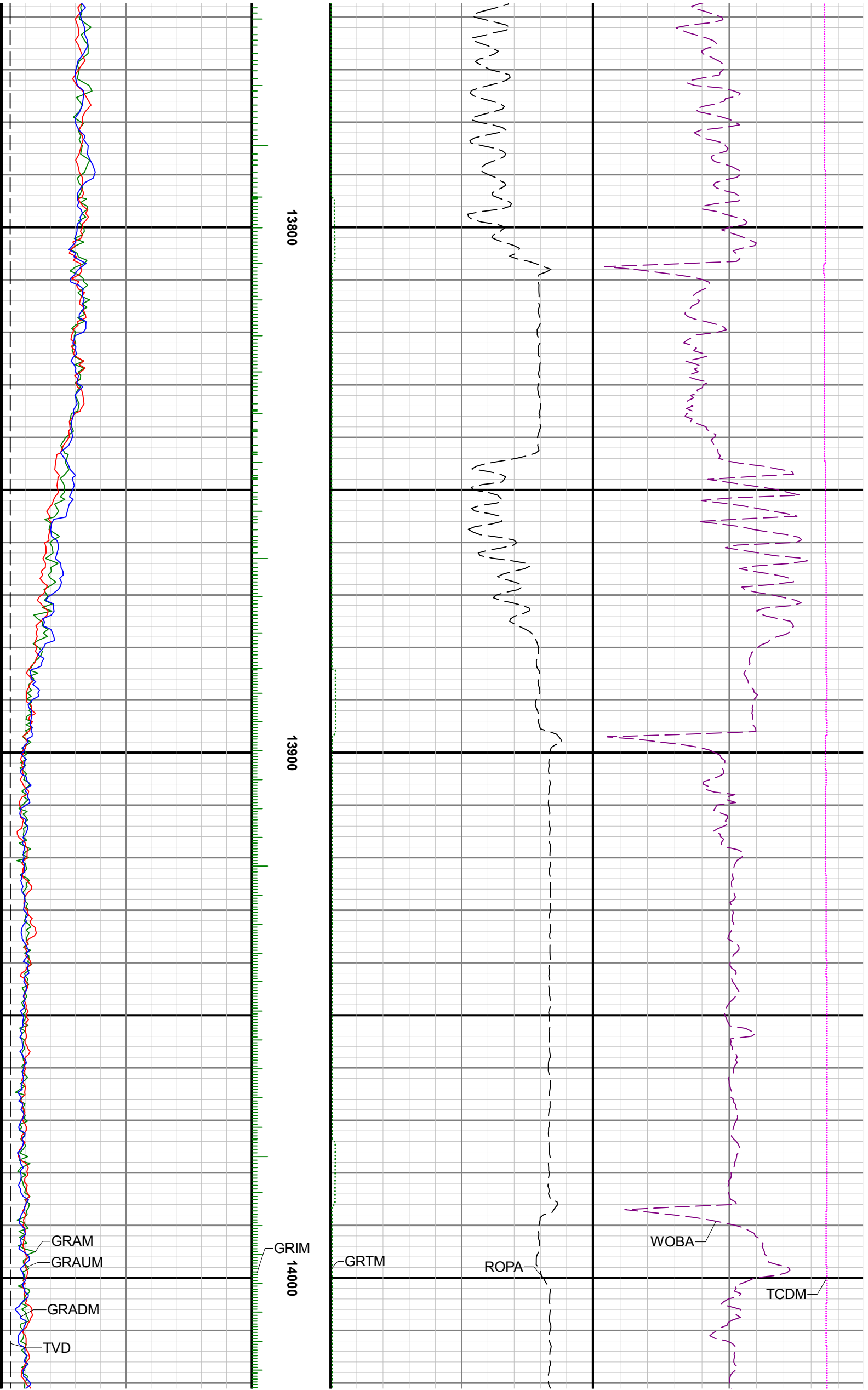


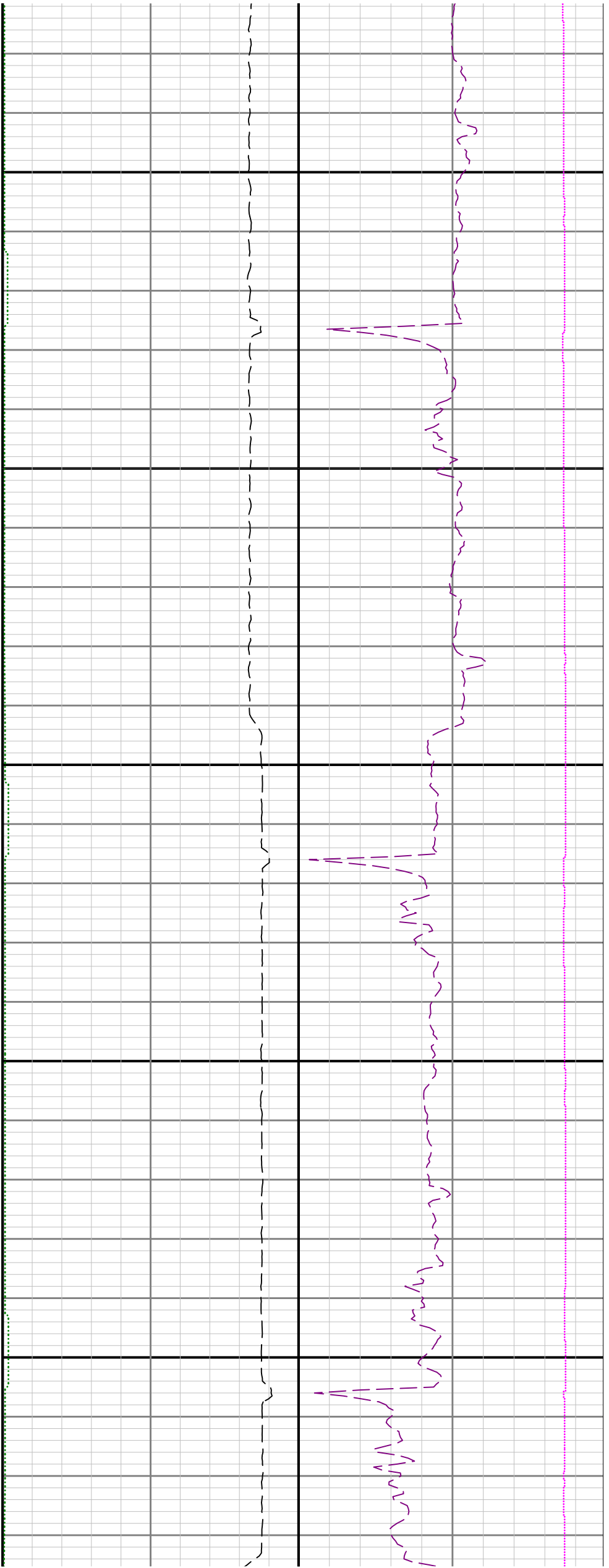












14100

14200

