

<div><div><div>BAKER HUGHES</div><div></div></div><div>Gamma Ray</div></div>															
Scale:		Company: Extraction Oil & Gas													
1:240 MD		Well:		TC- HIGHLAND KNOLLS C7-9-11											
Depth Reference:		Field:		Weld County											
Driller's Depth		County:		Weld County				Country: United States							
Status:		State: Colorado													
Final Print		Surface Location:				Other Services:									
API No: 05123435130000		Latitude:				Directional VSS									
Job ID: 8289318		Longitude:													
Permanent Datum (P.D.): Mean Sea Level		SEC: 8		TWN: 5N		RGE: 66W									
Log Measured From: Rig Floor		Elevation: Above P.D.		4792.00 ft		4817.00 ft		Elev. KB: 4817.00 ft		N/A					
								Elev. DF: 4792.00 ft							
Dates		Interval Logged				Magnetic Field Reference									
Date From: 2016-12-05		Top: (ft) 1587.00		Azi Reference North: True		Dip Angle: (deg) 66.89									
Date To: 2016-12-12		Bottom: (ft) 20525.00		Total Magnetic Field Strength: (nT)		52516									
Spud Date: 2016-12-06				Mag to Reference North Correction: (deg)		8.45 E									
Borehole Record				Casing Record											
Hole Size (in)		From (ft)		To (ft)		Size (in)		Weight (lb/ft)		From (ft)		To (ft)			
13.500		0.00		1587.00		9.625		36.00		0.00		1587.00			
8.500		1587.00		20525.00											
Mud Record				Deviation Record											
Type		From (ft)		To (ft)		Hole Size (in)		Interval (ft)		Inc Az (Start)		Inc Az (End)			
Diesel-Oil Based Mud		37.69		20525.64		13.500		1547.95		0.43 311.51		17.07 141.21			
						8.500		18940.00		17.07 141.21		89.78 89.85			
Acquisition System				Software Version				Other							
Baker Hughes Cadence		RT4.0		Rig: Patterson 341		Contractor: Patterson		Unit: RMA							
PlotStudio		4.0.7570.8		District: RMA											

"These interpretations and analyses ("Interpretations") are opinions provided by Baker Hughes Oilfield Operations, Inc ("Baker Hughes"), based upon industry practice, empirical relationships, assumptions and measurements, (many of which may be provided by the customer). The Interpretations are not infallible and may be subject to different opinions. Vjwu."Dcmgt"Jwi jgu"fqgu"pqv"ycttcpv"vjgkt"ceewtce{."eqttgevpguu."qt"eqorngvgpguu."qt"vjcv"vjg"ewuvqogtøu"cpflqt"cp{"vjktf"rctv{øu"tgnkcpæg"qp"uwej"Kpvgtrtgv cvkqpu"yknn"cee qornku j"cp{"rctvkewnct"tguwnvu0"Vjg"ewuvqogt"cuuwogu"hwnn"responsibility for the use of the Interpretations and for decisions based thereon and the customer agrees to release, defend and indemnify Baker Hughes, its parent, subsidiaries and affiliated or related entities, and subcontractors, together with its and their officers, directors, employees, agents and invitees against, any and all claims, losses, damages, or expenses sustained by the customer or any third party arising out of reliance upon or use of the Interpretations, without regard to the cause(s) thereof, including without limitation any form of negligence on the part of Baker Hughes. Unless other contract terms have been agreed to by the parties, each party's liabilities and qdnkicvkqpu"ujcnn"dg"iqxgtpgf"d{"Dcmgt"Jwi jgu"Kpeqtrqt cvgføu"Yqtnfykfg"Vgtou"cpf"Eqpfkvkqpu0\$""

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	
1	1	8.500	PDC	4.00	Rotary	0.00	1529.00	0.00	1587.00	2016-12-06 02:31	2016-12-06 09:48	3.90
2	1	8.500	PDC	3.00	AutoTrak Curve	1573.34	9970.55	1587.00	9982.00	2016-12-07 14:50	2016-12-09 06:26	32.23
3	3	8.500	PDC	3.00	AutoTrak Curve	9970.00	17581.32	9982.00	17594.00	2016-12-09 17:44	2016-12-11 10:47	35.48
4	4	8.500	PDC	3.00	AutoTrak Curve	17581.32	20512.79	17594.00	20525.64	2016-12-12 04:43	2016-12-13 05:34	25.00

Crew								
Name			Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite
Garrett Gerdson			2016-12-06	2016-12-13	David Griffard		2016-12-07	2016-12-13

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+ (%)
2016-12-07 17:00	2	2359.98	Diesel-Oil Based Mud	8.9	42	N/A	N/A	81/19	Active Pit	20000	0.00
2016-12-08 05:00	2	6065.00	Diesel-Oil Based Mud	8.7	39	N/A	8.4	83/17	Active Pit	16000	0.00
2016-12-09 17:30	3	9990.00	Diesel-Oil Based Mud	9.4	36	N/A	7.9	82/18	Active Pit	13000	0.00
2016-12-12 05:00	4	17603.00	Diesel-Oil Based Mud	9.6	45	N/A.	8.2	83/17	Active Pit	15000	0.00
2016-12-13 05:45	4	20525.00	Diesel-Oil Based Mud	9.5	40	N/A	8.2	82/18	Active Pit	15000	0.00

Equipment and Service Data							
Run No.	Tool			Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)
1	NaviGamma			ZDHP505	Gamma (single)	7.13	55.29
1	NaviGamma			ZDHP505	VSS	10.46	58.62
1	NaviGamma			ZDHP505	Directional (mag)	10.46	58.62

	NaviGamma	ZDHP505	Directional (mag)	10.46	58.62	6.750	3.250
2	ATC_SU	11995000	Near Bit Inclination	5.93	6.68	7.000	4.330
2	ATC_SU	11995000	Near Bit VSS	5.93	6.68	7.000	4.330
2	ATC_MWD	12656433	Gamma (single)	2.17	12.30	7.000	3.250
2	ATC_MWD	12656433	Directional (mag)	12.27	22.40	7.000	3.250
3	ATC_SU	12124245	Near Bit Inclination	5.93	6.68	7.000	4.330
3	ATC_SU	12124245	Near Bit VSS	5.93	6.68	7.000	4.330
3	ATC_MWD	12271948	Gamma (single)	2.73	12.85	7.000	3.250
3	ATC_MWD	12271948	Directional (mag)	12.25	22.37	7.000	3.250
4	ATC_SU	13993179	Near Bit Inclination	5.93	6.68	7.000	4.330
4	ATC_SU	13993179	Near Bit VSS	5.93	6.68	7.000	4.330
4	ATC_MWD	12200634	Gamma (single)	2.72	12.85	7.000	3.250
4	ATC_MWD	12200634	Directional (mag)	12.24	22.37	7.000	3.250

Service and Tool Mnemonics

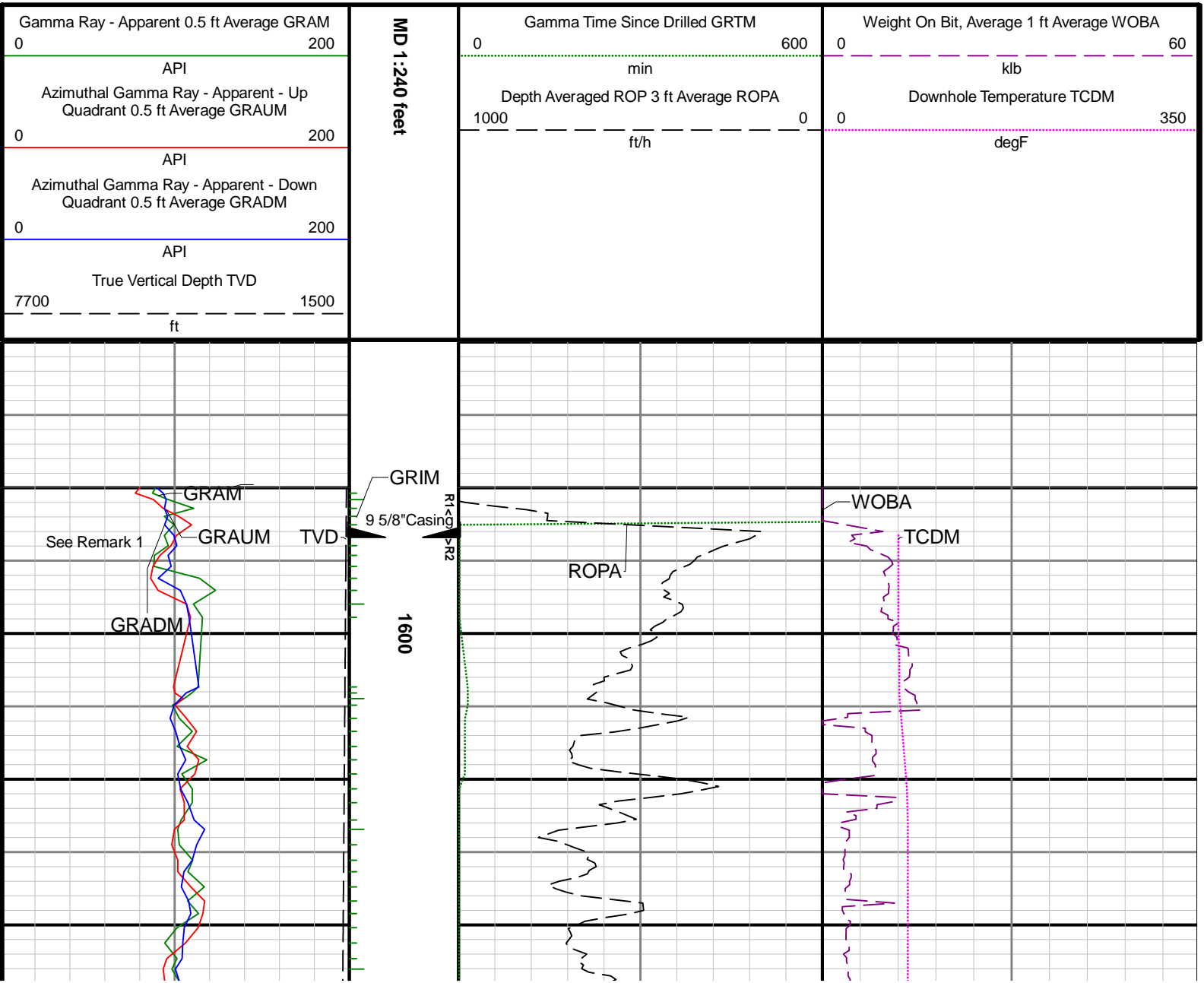
Mnemonic	Name	Description
GAM	NaviGamma	Probe Based Gamma Module, NaviTrak Platform
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_LCPM	Auto Trak Curve LCPM

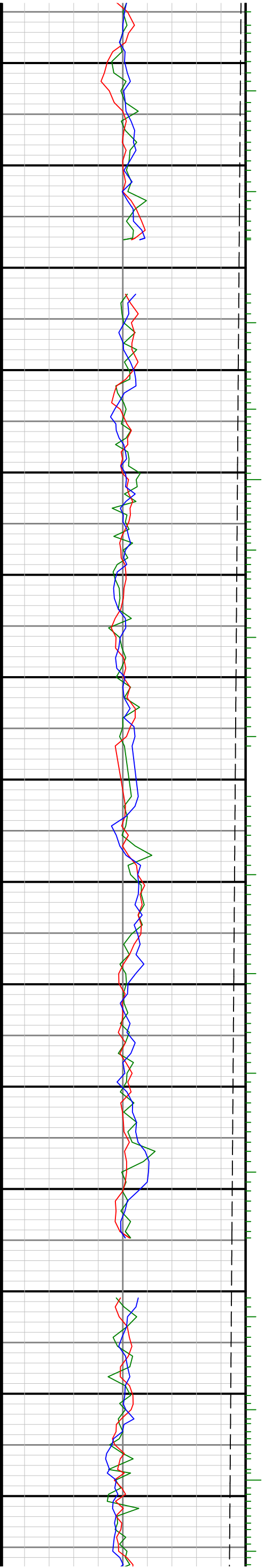
Comments

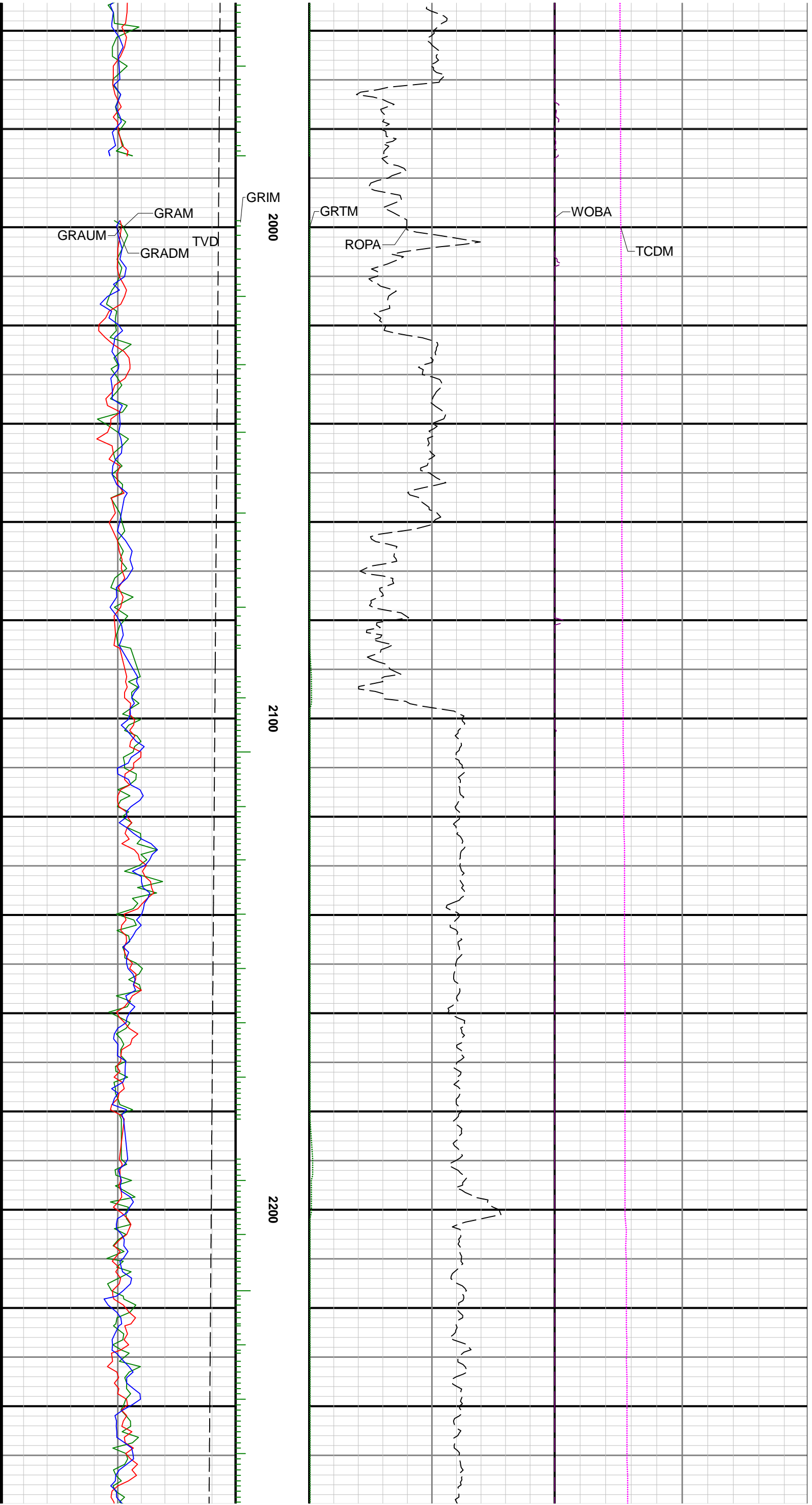
1	Depths and depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes INTEQ. Due to lack of control by Baker Hughes INTEQ logging engineers, depth calibrations and measurements could not be independently verified. These unverified depths are being used to represent logging data.
2	Baker Hughes INTEQ Run 1 utilize a 6.75 inch Gamma Service (Directional and Gamma Ray) tool behind an 13.5 inch bit and Steerable Assembly from surface to 1587 ft. MD (0 ft. to 1558 ft. TVD).
3	Baker Hughes INTEQ Runs 2, 3 and 4 utilized a 6.75 inch Gamma Service (Directional and Gamma Ray) tool behind an 8.5 inch bit and Rotary Steerable Assembly from 1587 ft. to xxxx ft. MD (1558 ft. to xxxx ft. TVD).
4	Numerous gaps in Gamma Ray data are present throughout the log due to downlinking and surveying while drilling ahead.

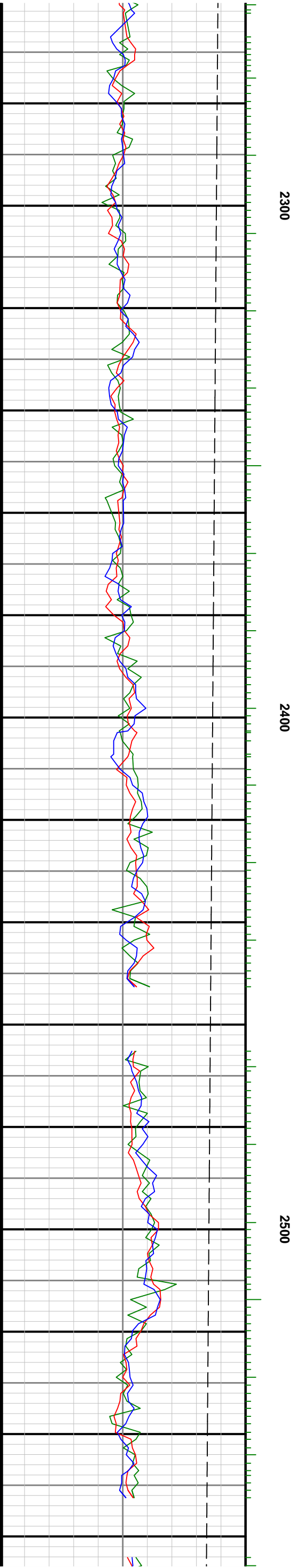
Remarks

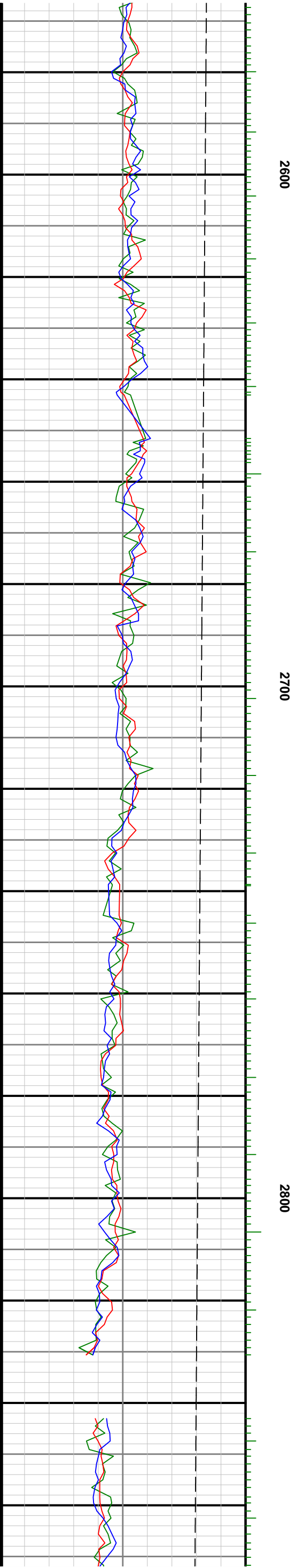
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	1587.00	13.500	1	Logs and BHI Logging services begin at 1587 ft. MD (1558 ft. TVD).
2	9975.00	8.500	3	Interval from 9969 ft. to 9982 ft. MD (7271 ft. TVD) was logged up to 11.5 hours after drilling due to Gamma Ray sensor offset and tripping for a failure on Run 2.
3	17595.00	8.500	4	Interval from 17582 ft. to 17595 ft. MD (7229 ft. TVD) was logged up to 19.2 hours after drilling due to Gamma Ray sensor offset and tripping for a failure on Run 3.
4	20525.00	8.500	4	Interval from 20512 ft. to 20525 ft. MD (7260 ft. TVD) was not logged due to Gamma Ray sensor offset from the bit at well TD.

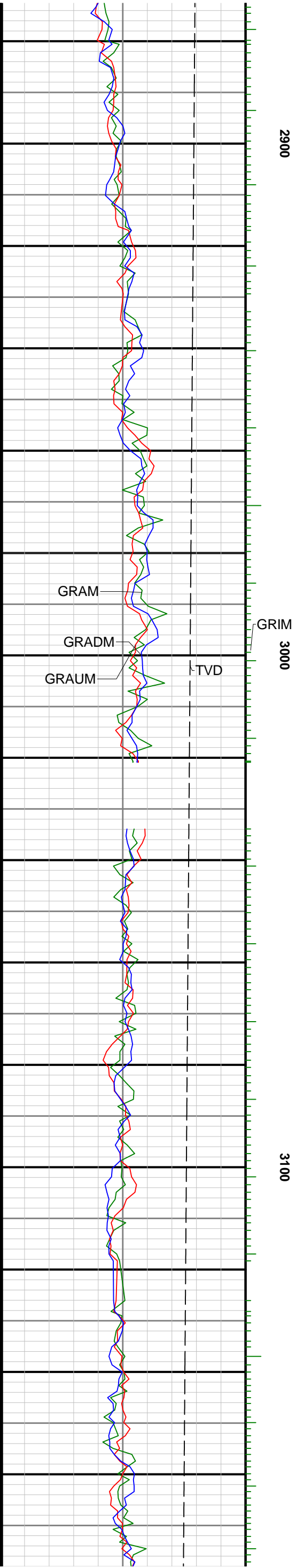
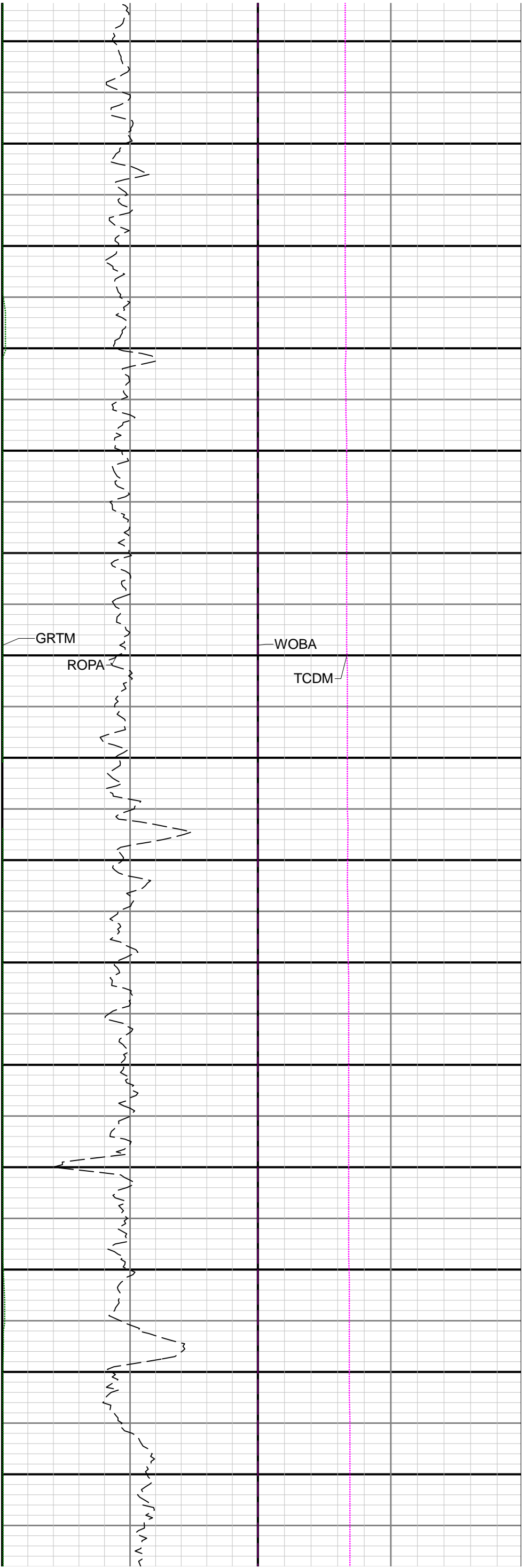


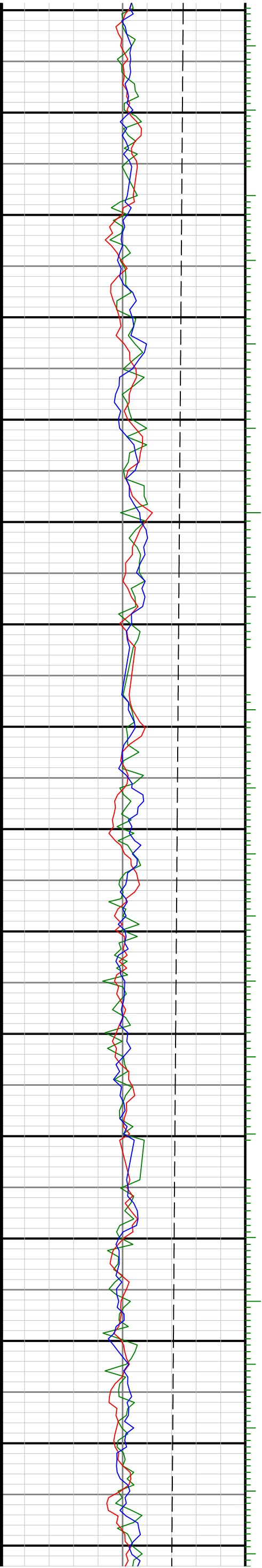
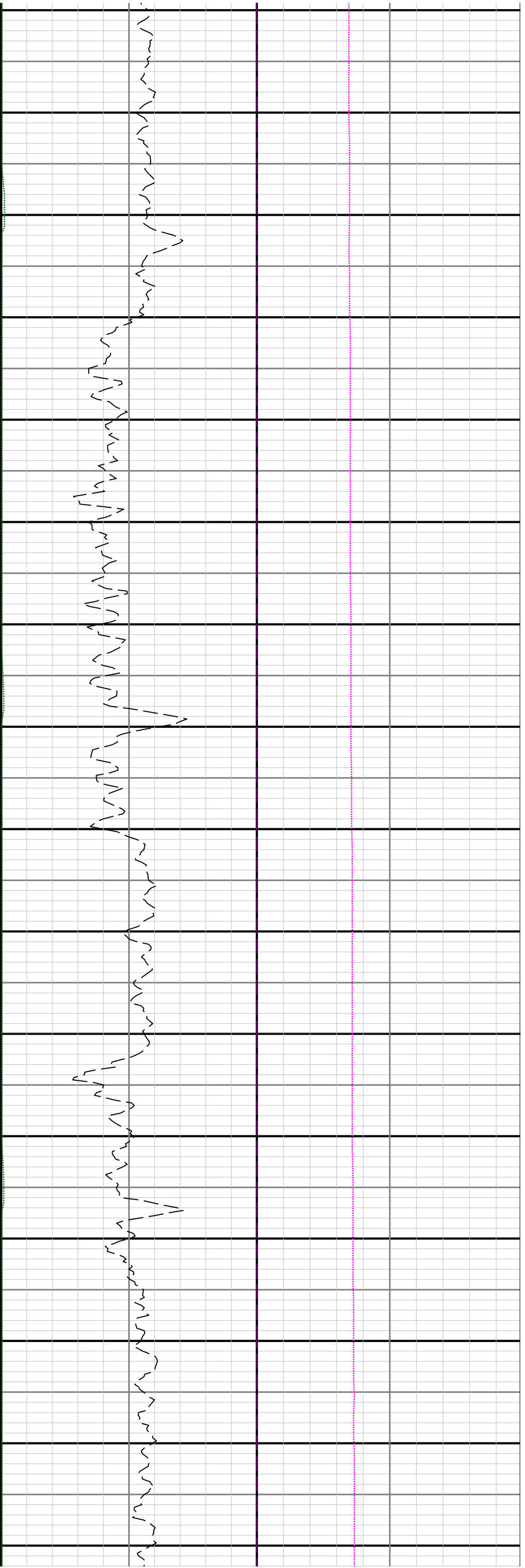


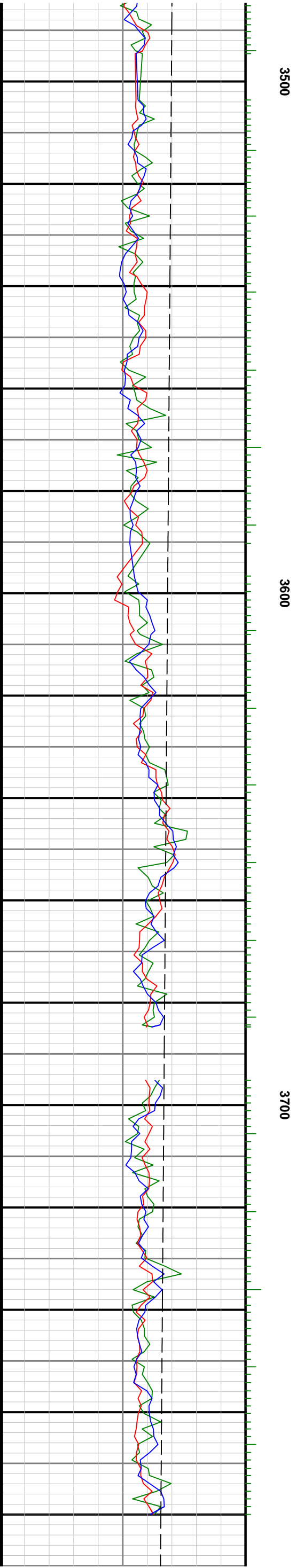


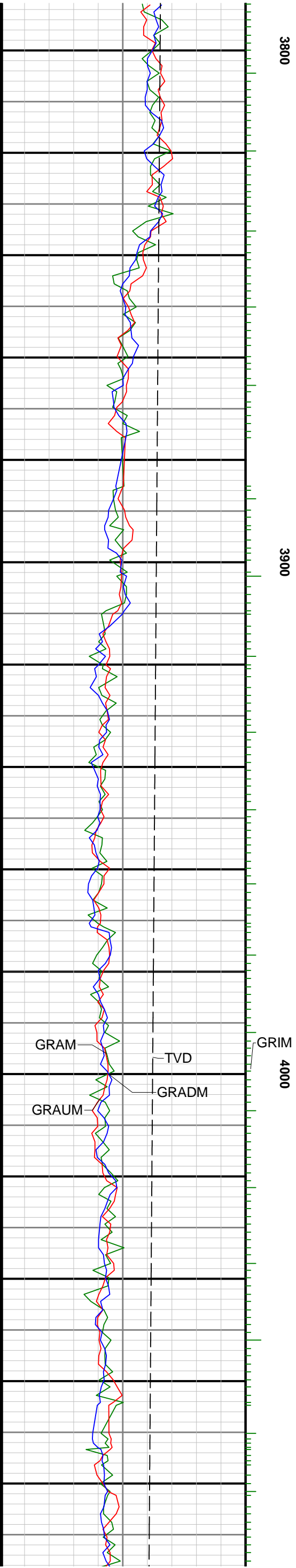
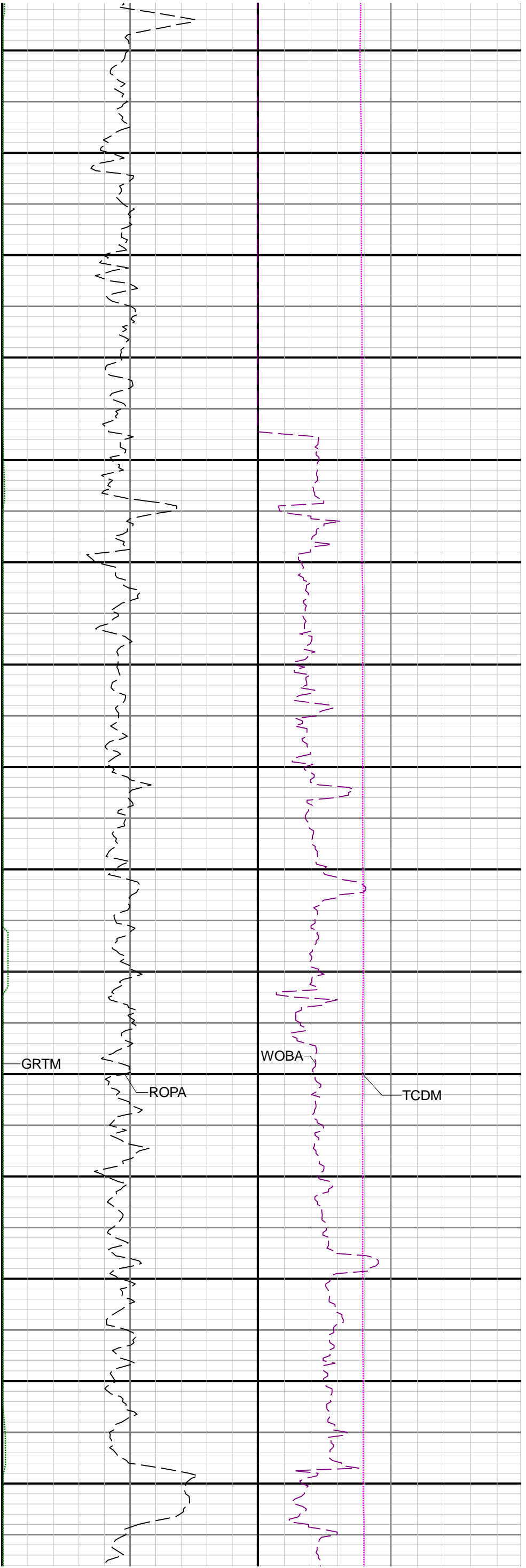


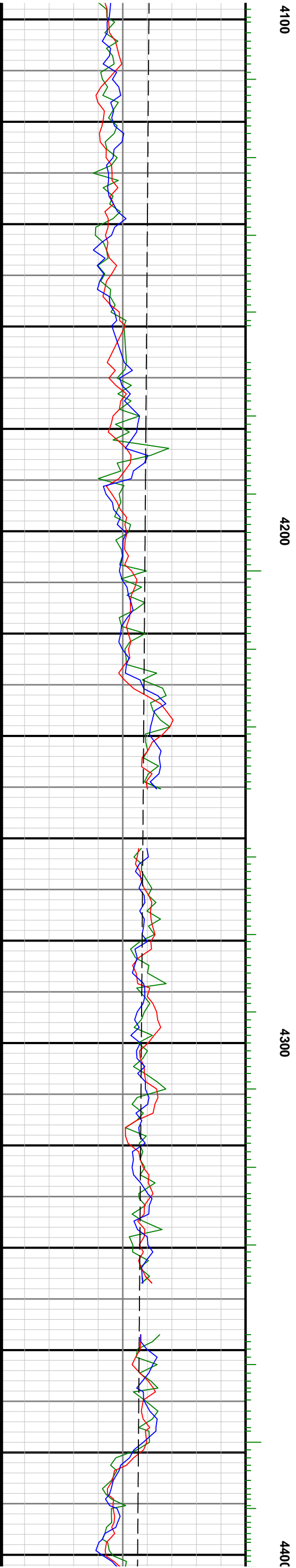
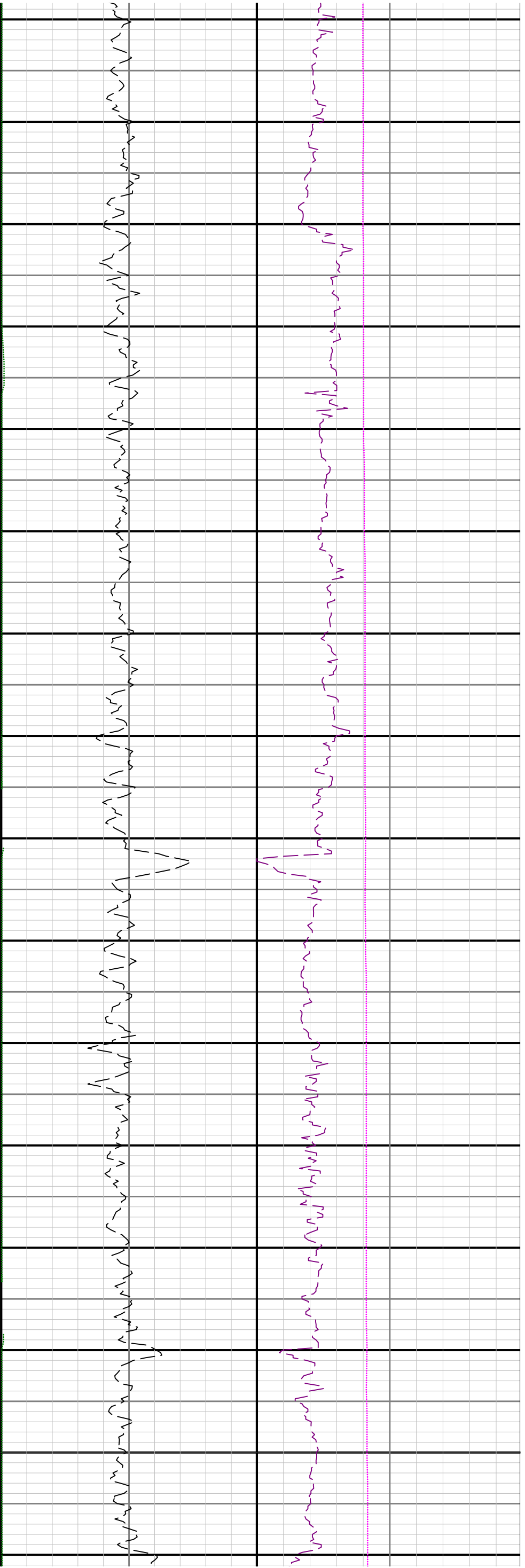


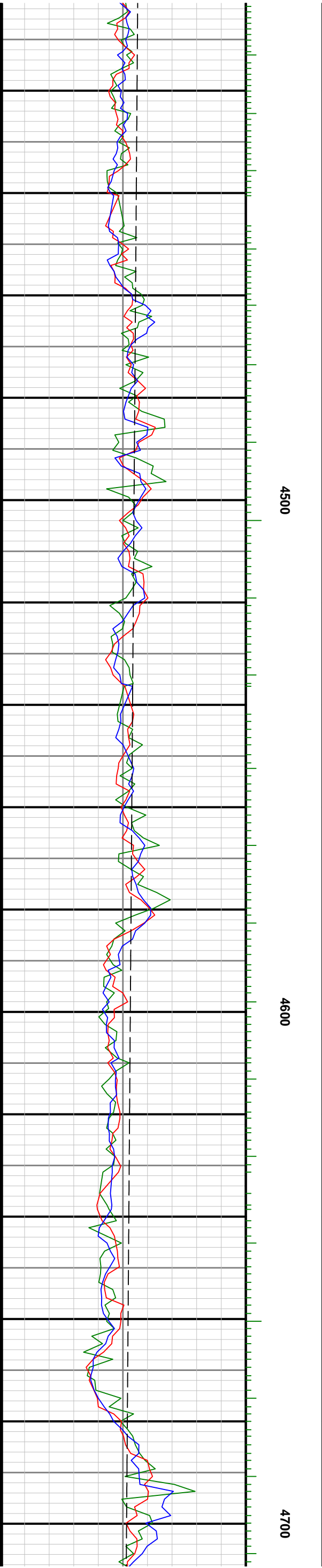
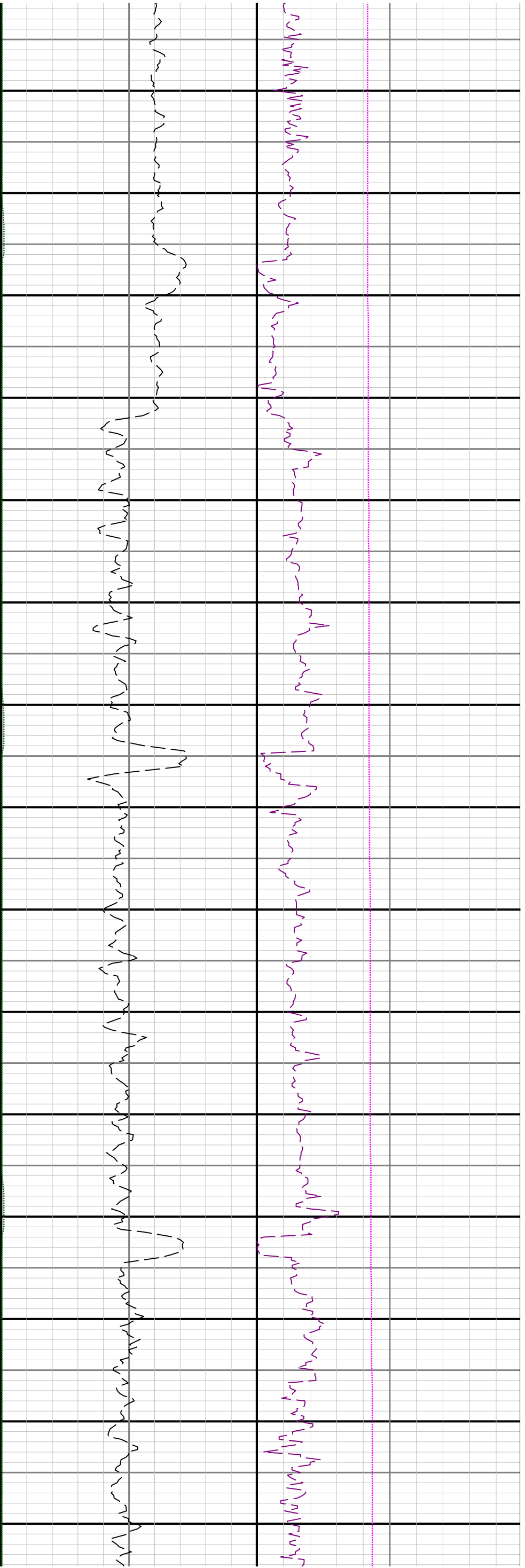


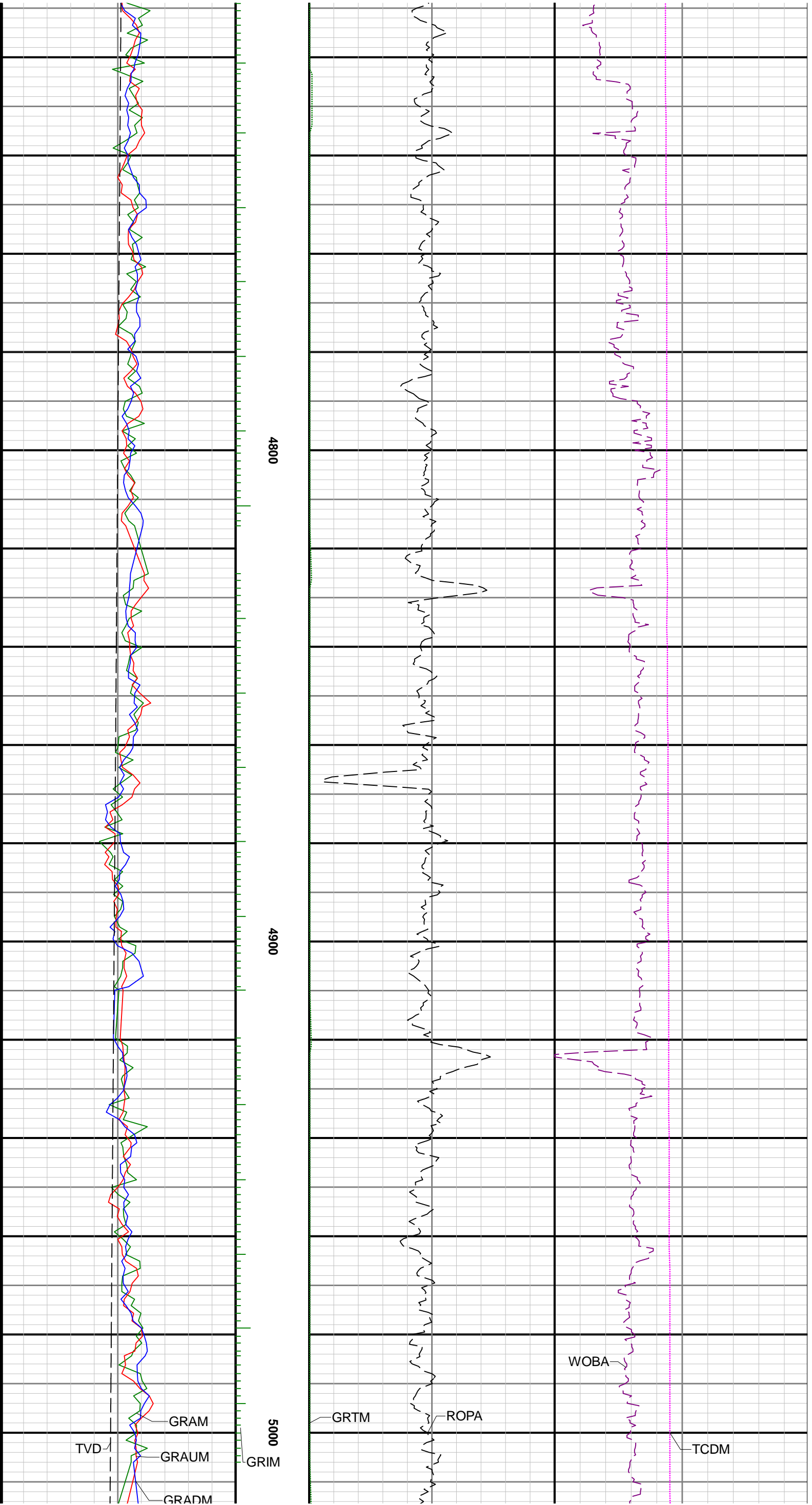


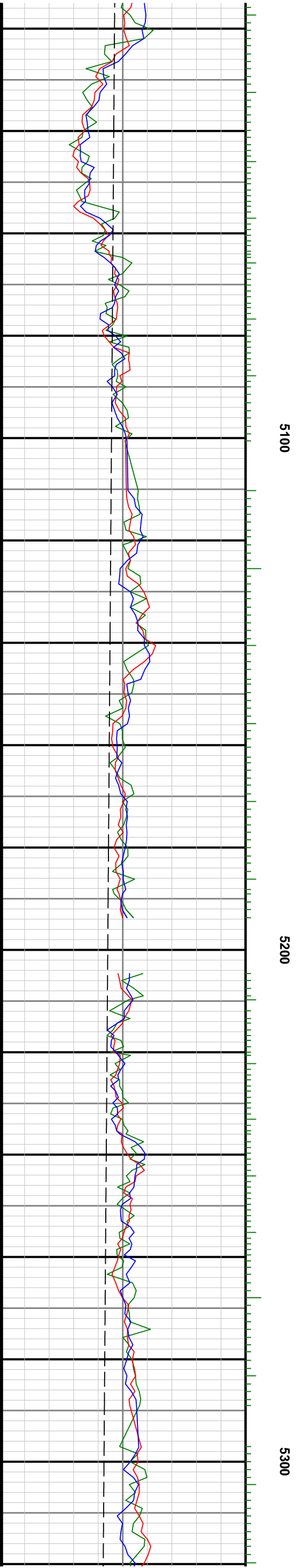
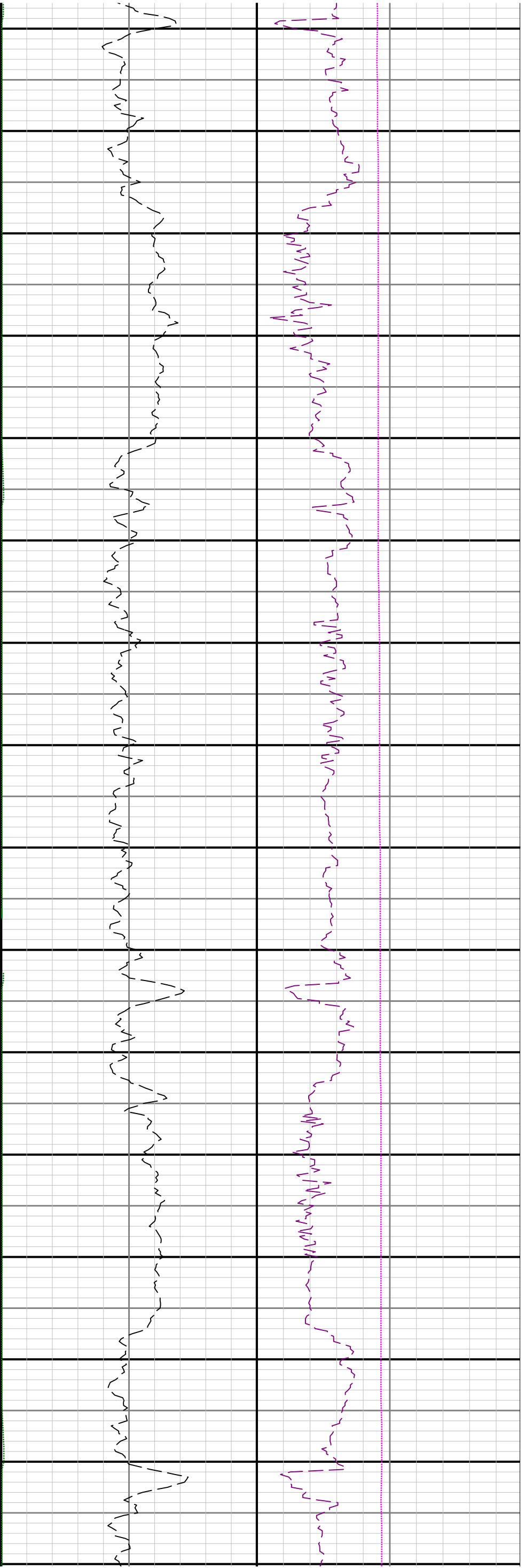


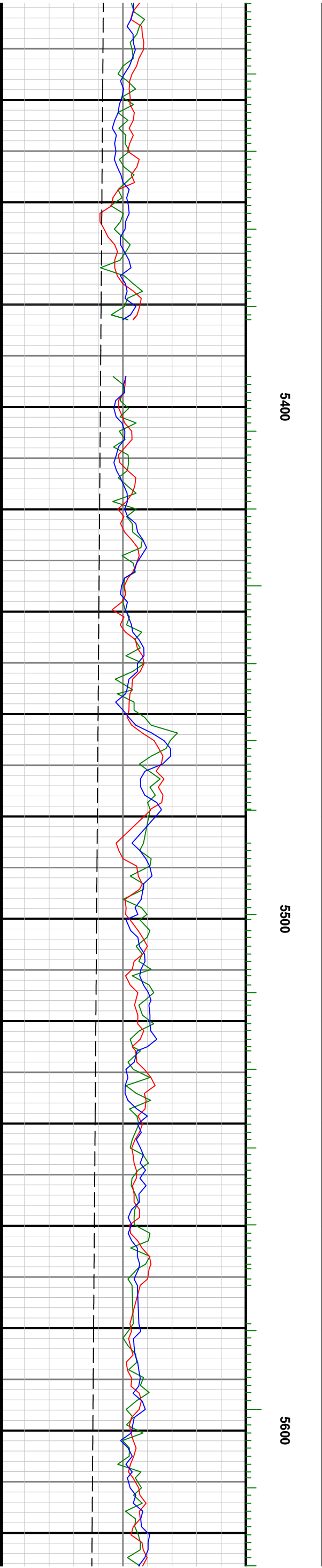
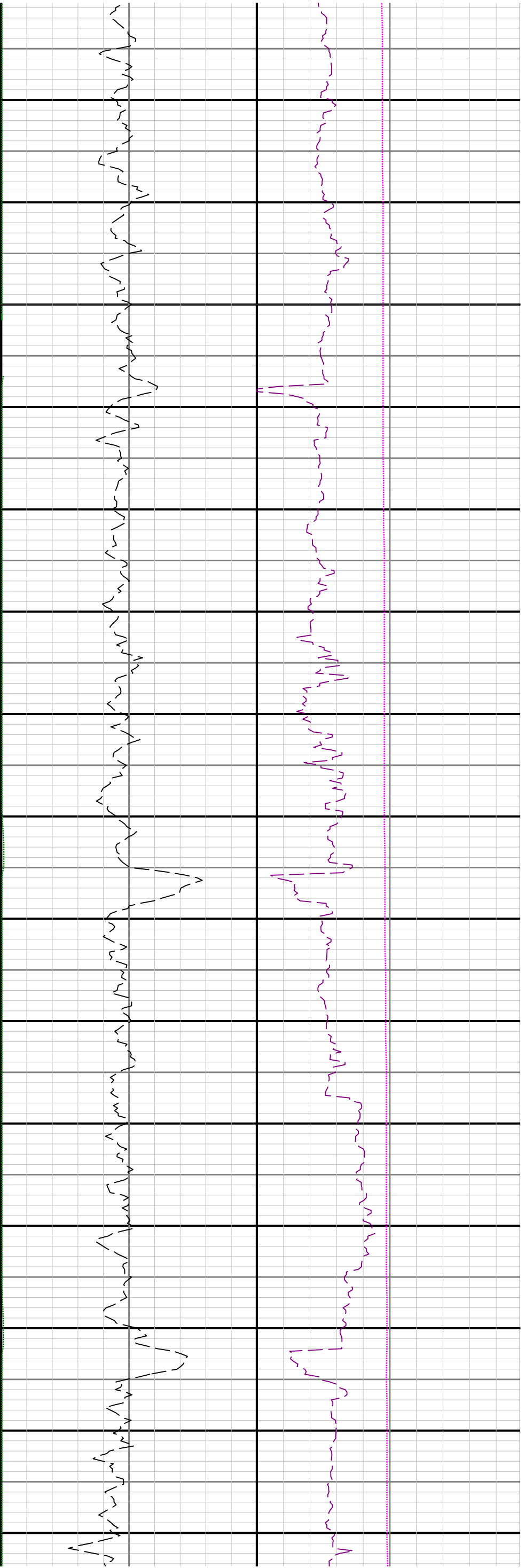


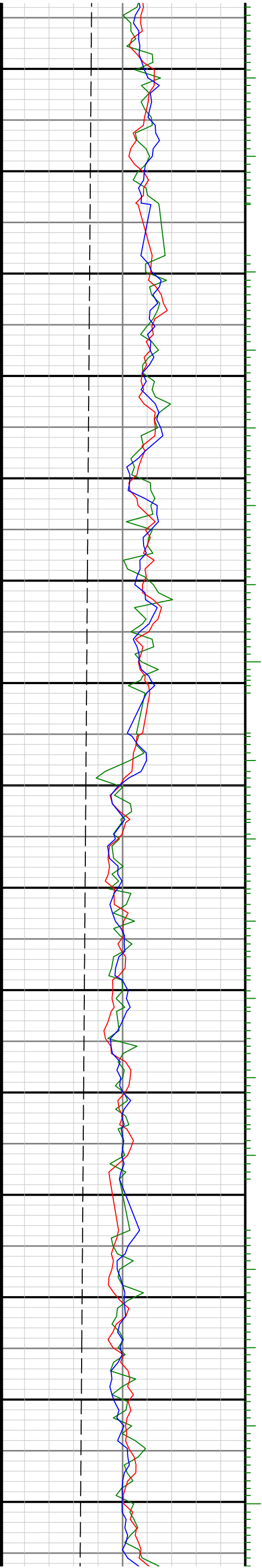
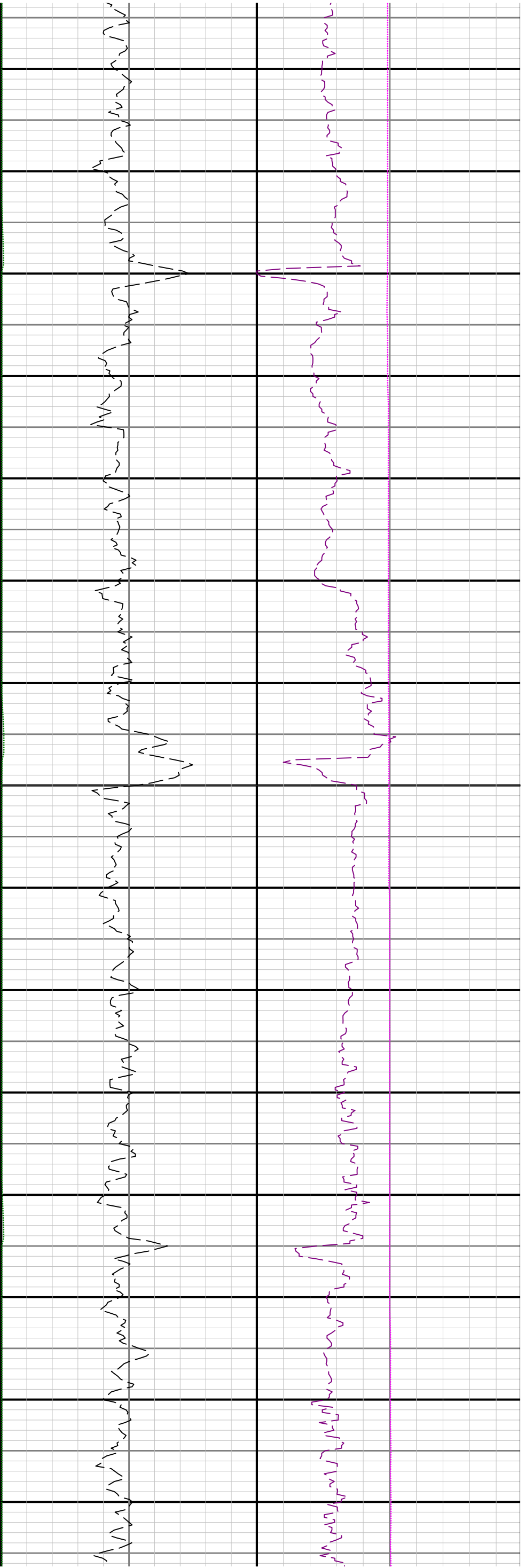


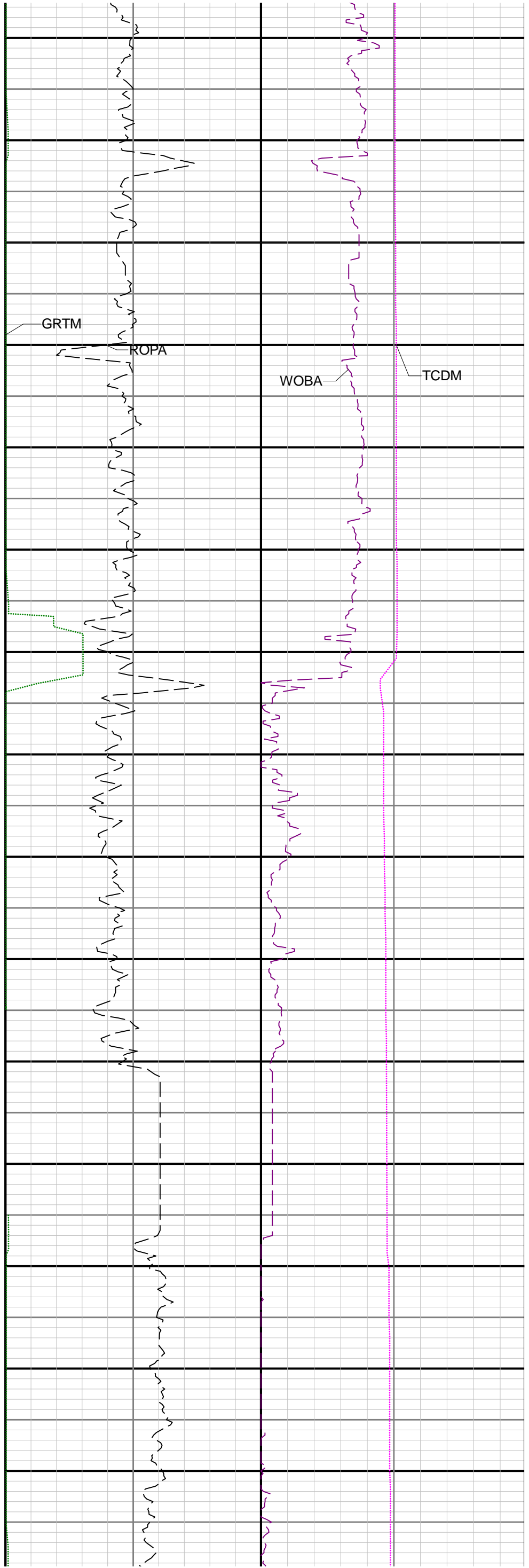
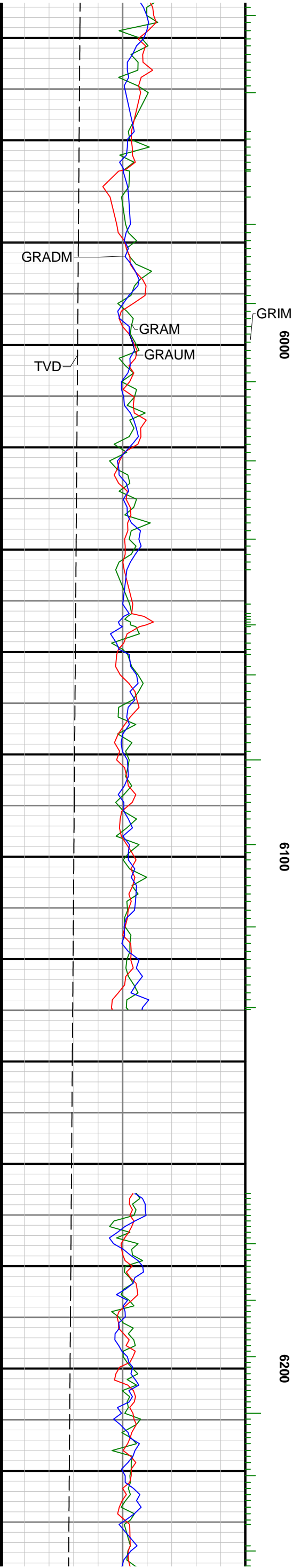


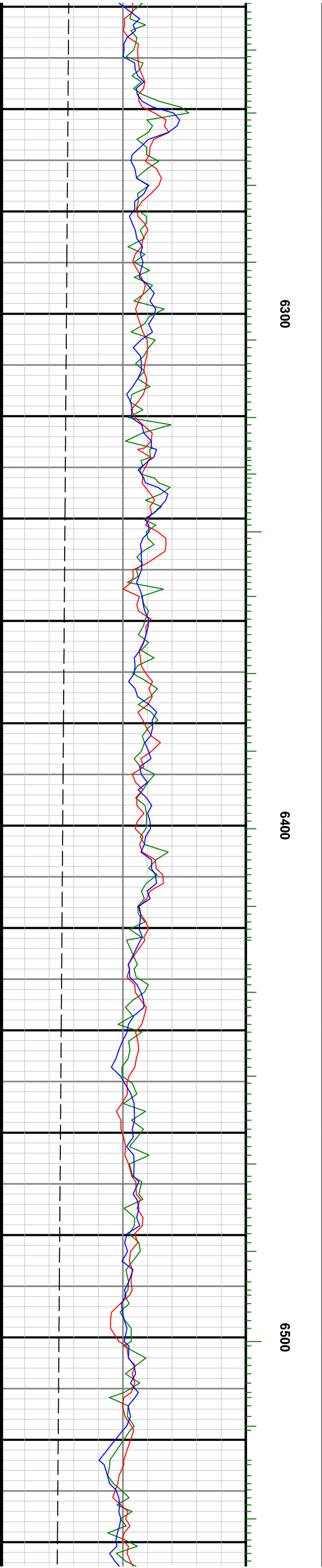
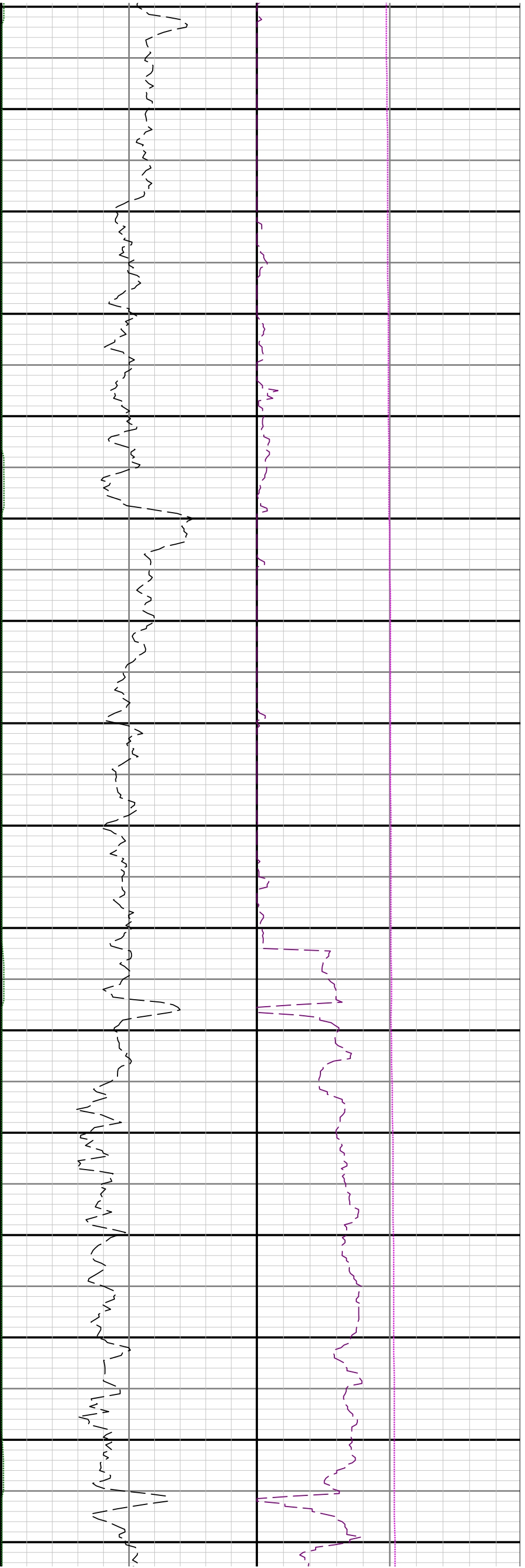


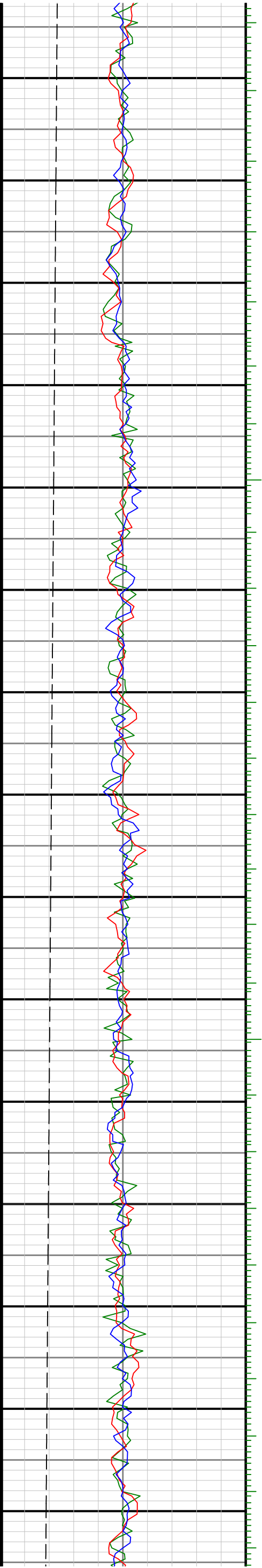








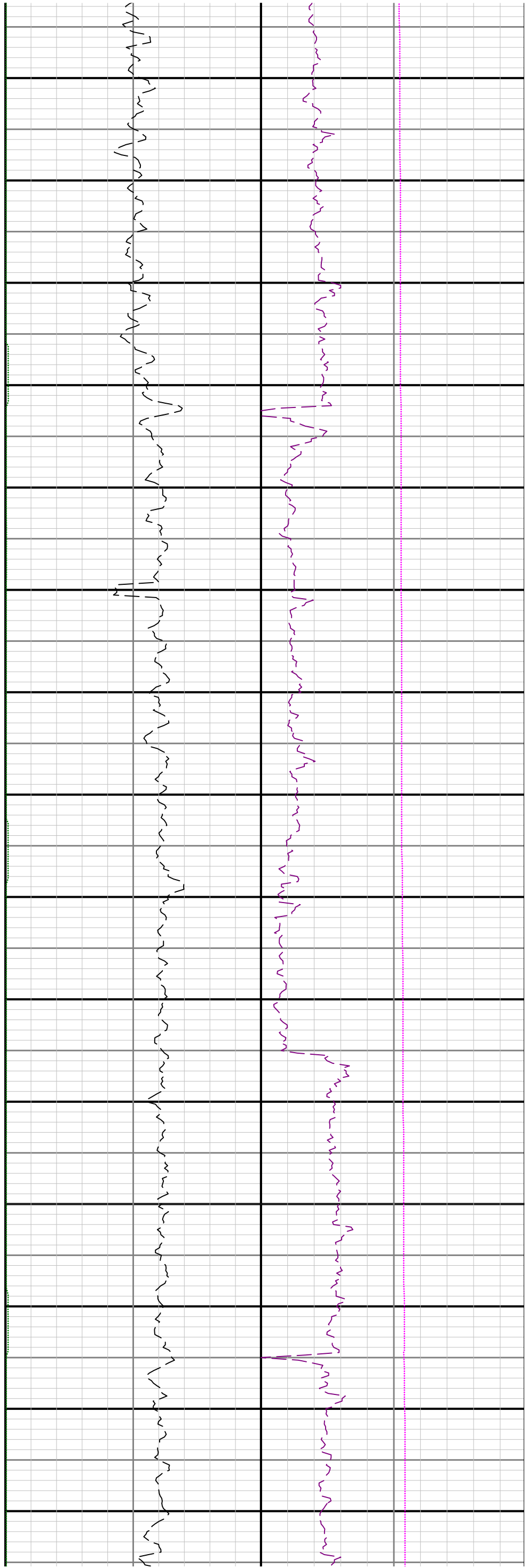


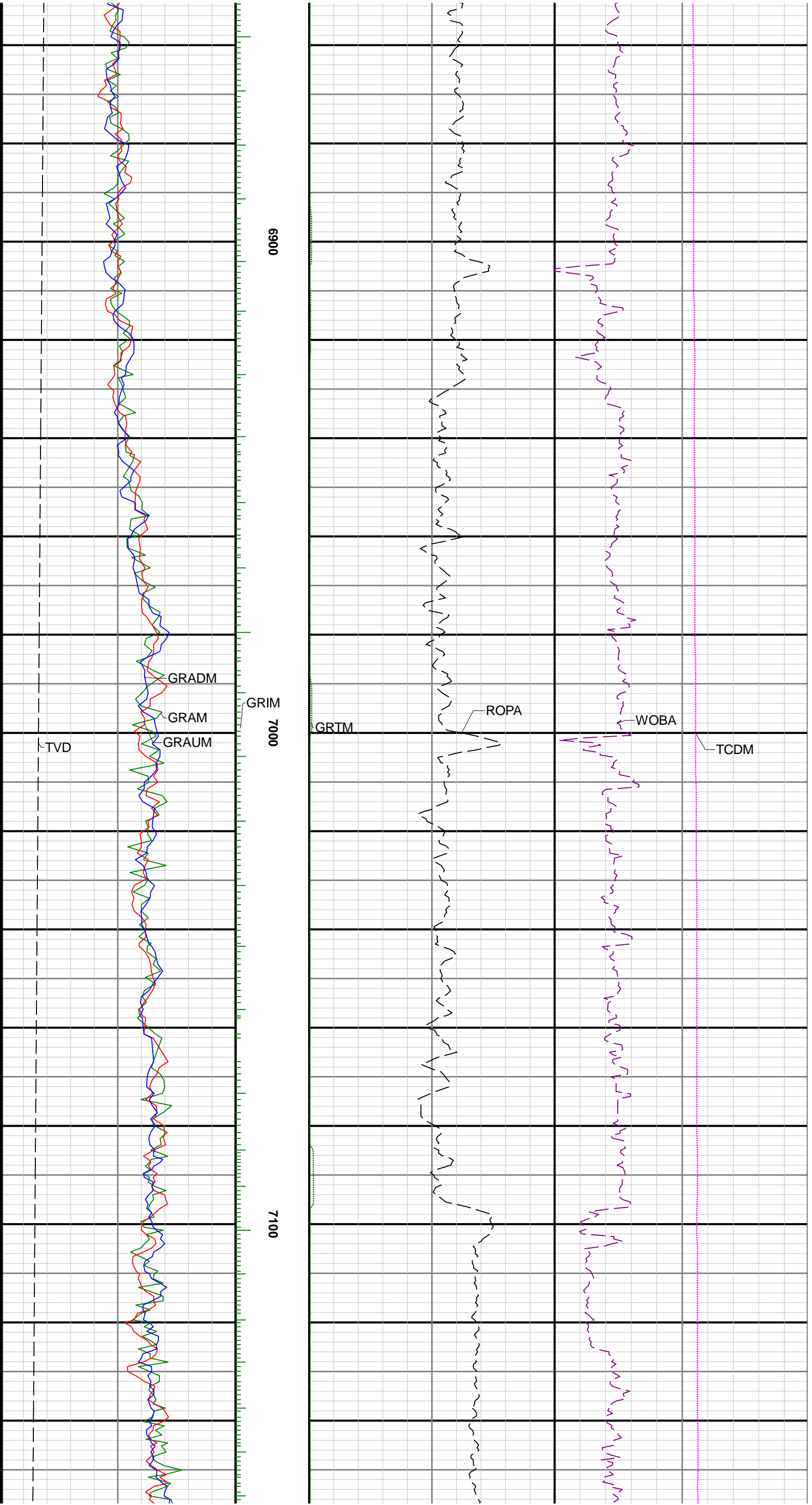


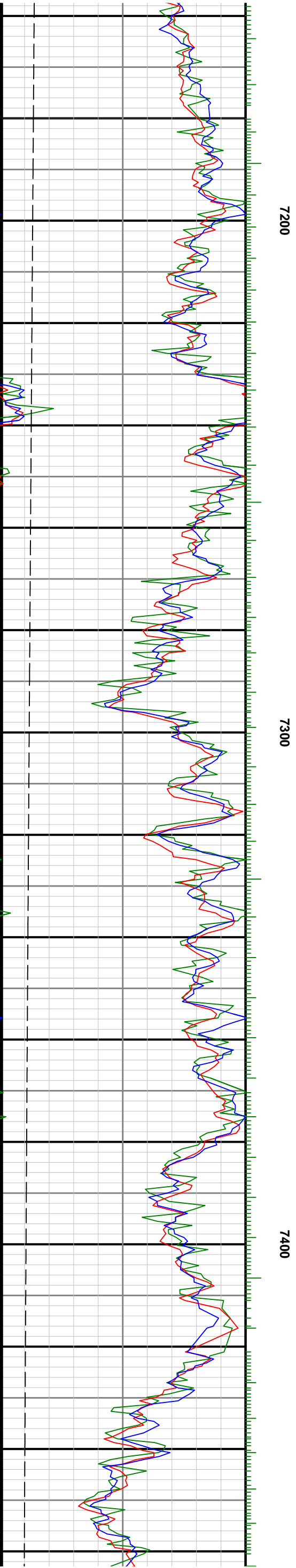
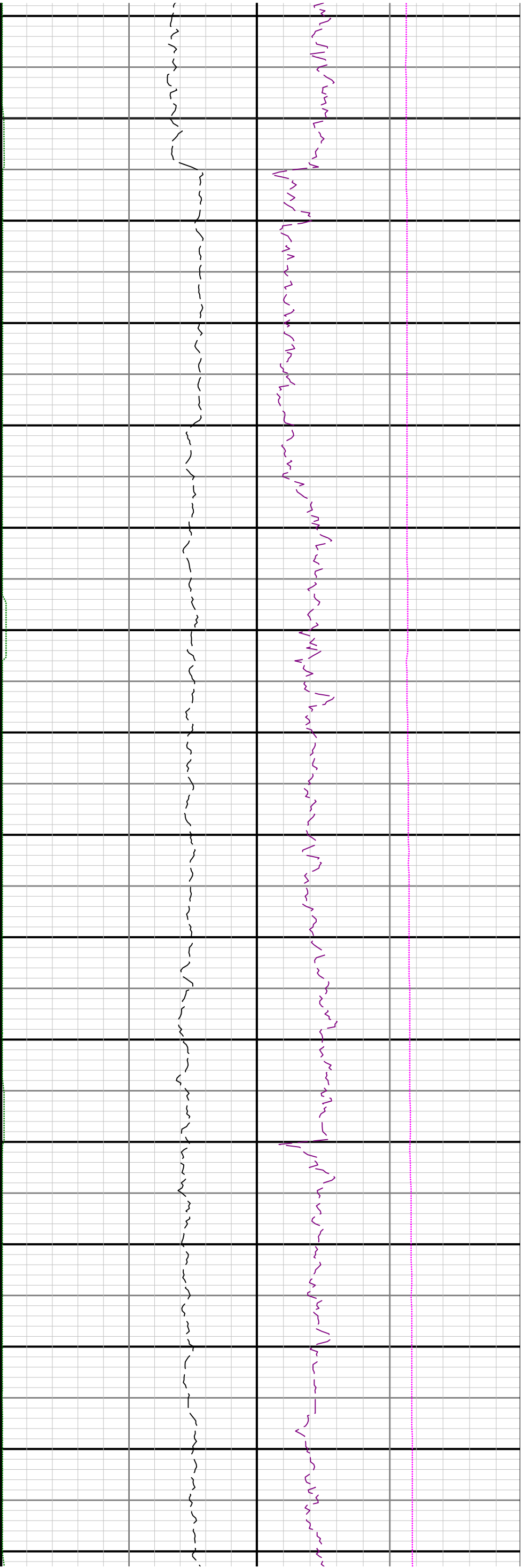
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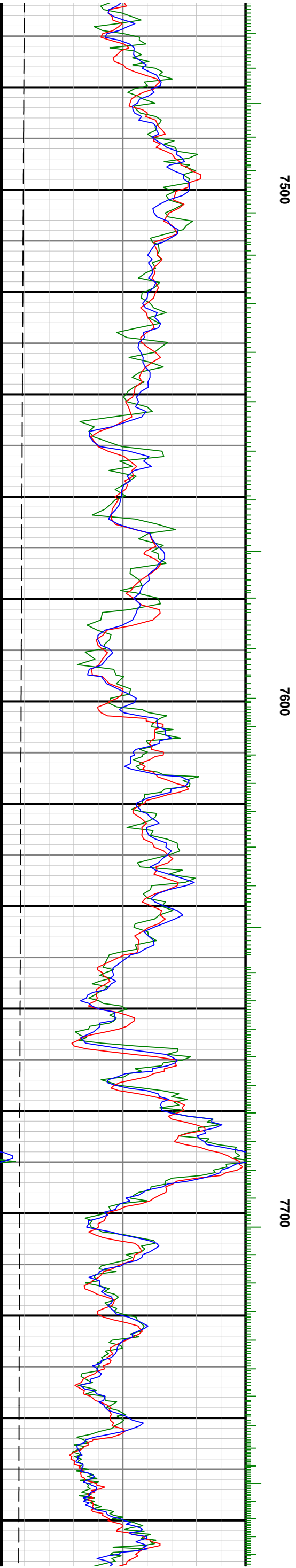
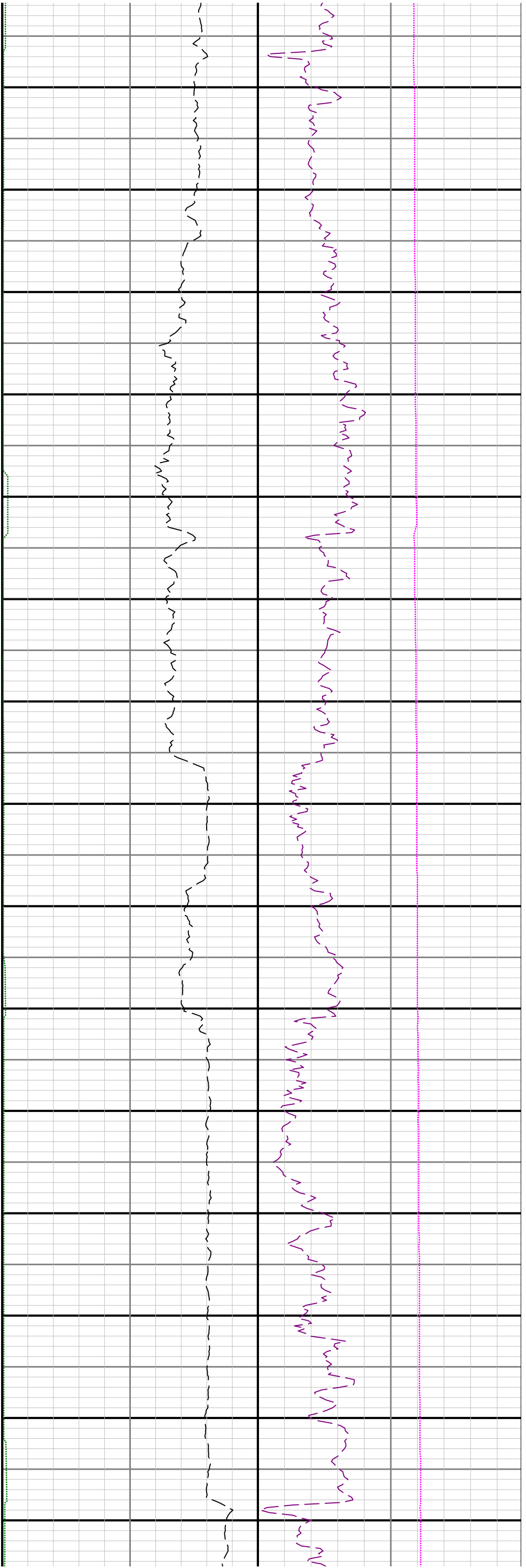
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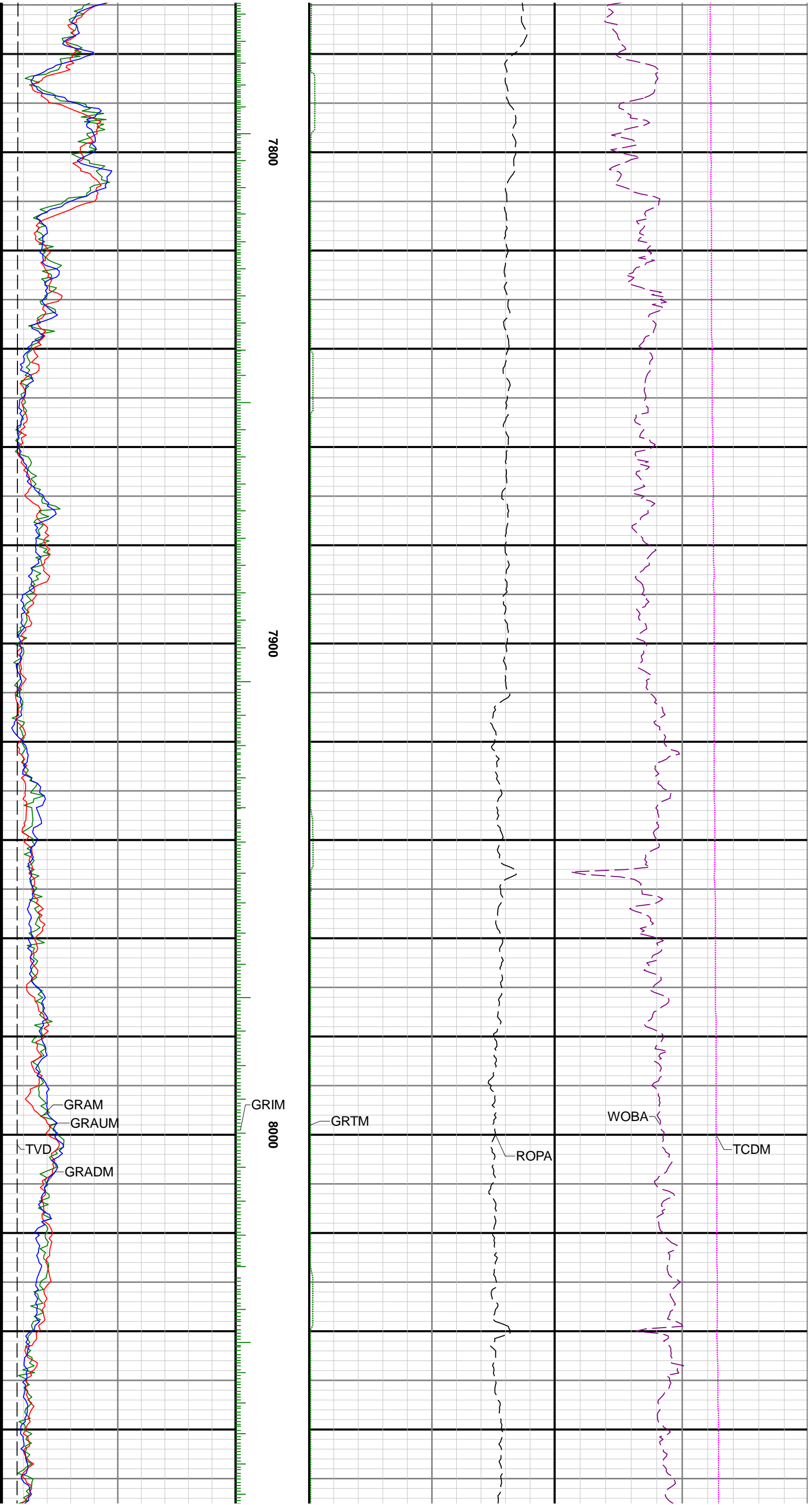
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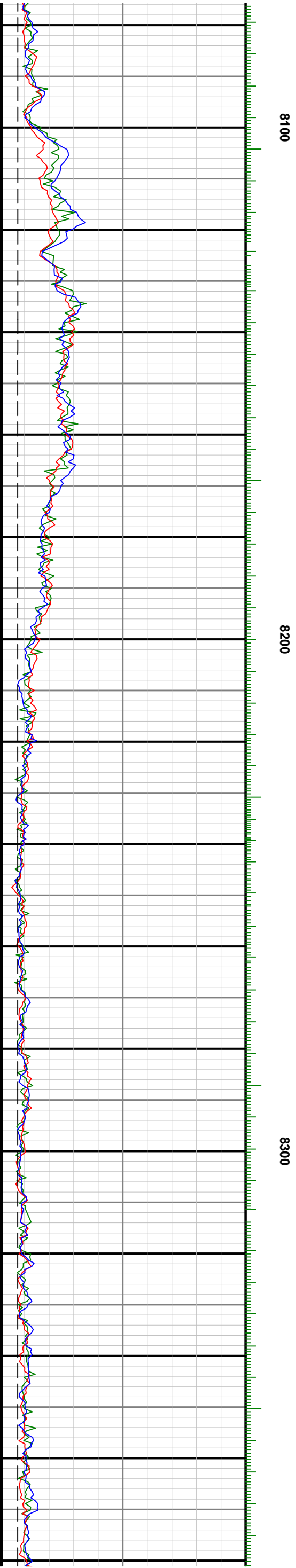


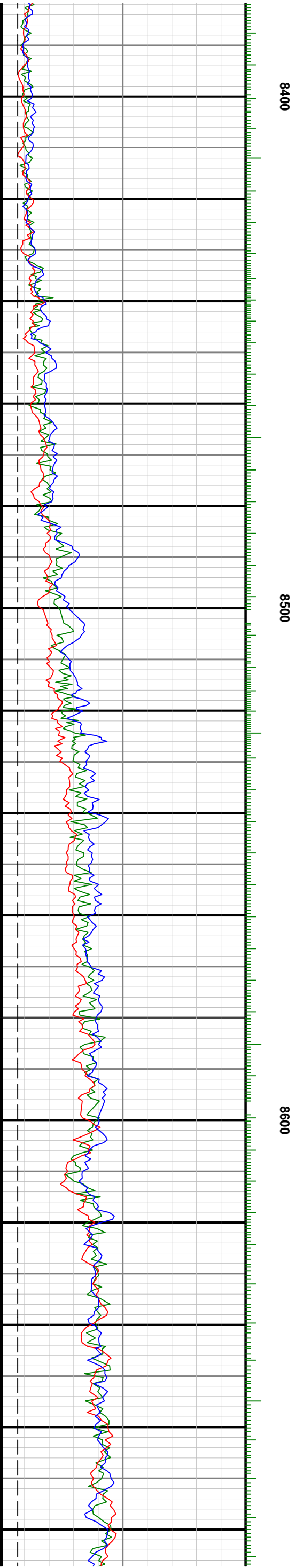
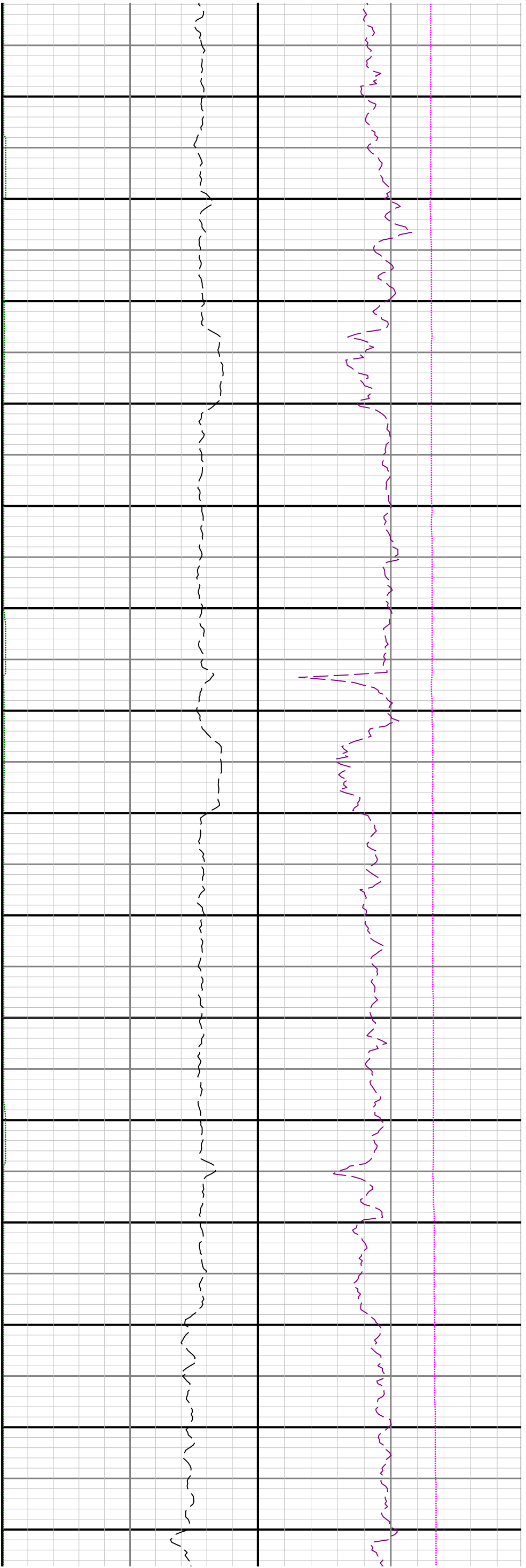


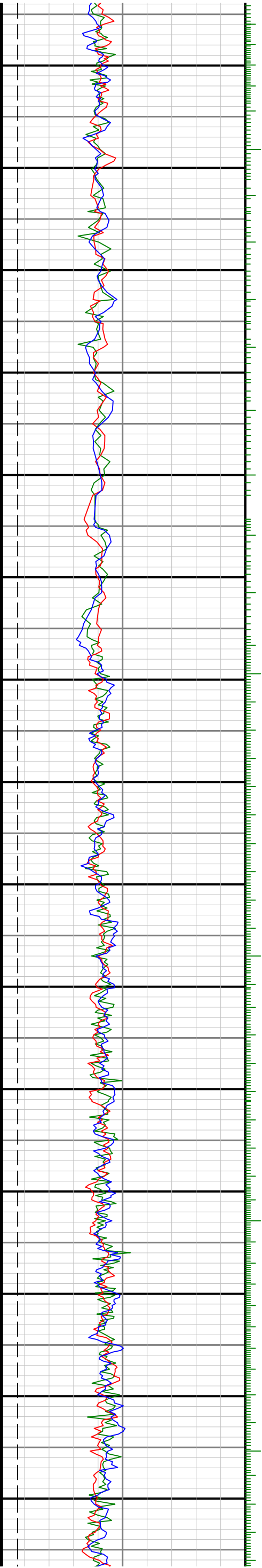












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