



Memory Log

Multiple Propagation Resistivity
Gamma Ray

Scale:

1:240
Measure Depth

Company: Anadarko

Well: Encore 26N-12HZ

Field: Larimer County

County: Larimer State: Colorado

Status: Final Print

API Number: 05-069-06481-00

Surface Location:
Latitude: 40° 25' 13.868" N
Longitude: 104° 57' 47.110" W

Other Services:

Directional
VSS

SEC: 12 TWP: 5N RNG: 68W

Permanent Datum (P.D.): Ground Level Elevation: 5006.00 ft.

Log Measured From: Rig Floor 16.00 ft. Above P.D.

Depth Reference: Driller's Depth

Elevations:
KB: N/A
DF: 5006.00 ft.
GL: 4990.00 ft.

Interval Logged

Dates

Magnetic Field Reference

Top: 1877.0 ft. Date From: 29/Jul/15 Dip Angle: 66.78° Azi Reference North: True

Bottom: 14030.0 ft. Date To: 02/Aug/15 Total Mag to Reference

Spud Date: 29/Jul/15 Field Strength: 52784.0 nT North Correction: 8.59°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
13,500 in.	Surface	1876.0 ft.	9.625 in.	36.00 lb/ft	Surface	1866.0 ft.
8,500 in.	1877.0 ft.	14030.0 ft.				

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Oil Based Mud	Surface	14030.0 ft.	13,500 in.	1860.0 ft.	0.0° / 326.4°	19.5° / 276.6°
			8,500 in.	12153.0 ft.	19.5° / 276.6°	89.1° / 85.2°
					/	/
					/	/
					/	/
					/	/

Acquisition System

Software Version

Other

Advantage	2.20U4	Rig:	Xtreme 23	/ Xtreme Drilling Corp
PAIS	6.4.1.34	Job No:	7405597	
		District / Unit:	RMD	/ D&E

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Log Run Summary

LWD Run No.	BHA Run No.	Bit Run No.	Bit Size (in.)	Bit Type	Bit Gauge Length (in.)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Time (hrs.)
							Top (ft.)	Bottom (ft.)	From (ft.)	To (ft.)	Start	End	
1	1	2	8.500	PDC	3.000	Steerable	1877.0	14030.0	1877.0	14030.0	29/Jul/2015 03:30	02/Aug/2015 17:44	62.1

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Matthew Delmore	28/Jul/2015	03/Aug/2015	Andrew Clancy	28/Jul/2015	03/Aug/2015	Sumanth Belawadi	28/Jul/2015	03/Aug/2015

Mud Properties Record

Date / Time	LWD	Measured	Mud	Density	Viscosity	pH	Fluid	Oil /	Source	Total	K+
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	Run No.	Depth (ft.)	Type	(ppg)	(cp)		Loss (cc)	Water		Chlorides (ppm)	(%)
30/Jul/2015 06:00	1	1877.0	Oil Based Mud	8.8	40	N/A	8.0	72 / 20	Active Pits	53000	N/A
30/Jul/2015 18:00	1	4435.0	Oil Based Mud	8.7	42	N/A	8.5	69 / 24	Active Pits	56000	N/A
31/Jul/2015 06:00	1	7194.0	Oil Based Mud	9.4	46	N/A	4.0	59 / 31.3	Active Pits	73000	N/A
31/Jul/2015 18:00	1	8560.0	Oil Based Mud	9.4	40	N/A	5.2	59.5 / 30.5	Active Pits	71000	N/A
01/Aug/2015 06:00	1	10658.0	Oil Based Mud	9.4	45	N/A	6.0	59.0 / 31.0	Active Pits	77000	N/A
01/Aug/2015 18:00	1	12176.0	Oil Based Mud	9.4	43	N/A	4.0	58.8 / 31.0	Active Pits	74000	N/A

Mud Resistivity Record				Surface				Downhole			
Date / Time	LWD	Measured	Surface	Rm	Rmf	Rmc	BHCT	Rm	Rmf	Rmc	
	Run No.	Depth	Temp					@ BHCT	@ BHCT	@ BHCT	
		(ft.)	(deg F)	(ohm.m)	(ohm.m)	(ohm.m)		(ohm.m)	(ohm.m)	(ohm.m)	
29/Jul/2015 21:40	1	1800.0	75	100.00	0.00	0.00	100	75.23	N/A	N/A	
30/Jul/2015 10:09	1	2049.0	75	100.00	100.00	100.00	110	68.44	68.44	68.44	
31/Jul/2015 18:20	1	8623.0	75	100.00	100.00	100.00	203	37.23	37.23	37.23	
01/Aug/2015 13:00	1	11497.0	75	100.00	100.00	100.00	222	34.06	34.06	34.06	
02/Aug/2015 06:31	1	13961.0	75	100.00	100.00	100.00	241	31.38	31.38	31.38	

Mnemonics		
Curve	Description	Units
CACLM	Conductivity (AT) (LS) 400kHz - Compensated Borehole Corrected	mho/o
GRAM	Gamma Ray Apparent, 0.5 ft. Avg	API
GRIM	Gamma Ray Density	points
RACHM	Resistivity, Attenuation (LS) 2 MHZ - Compensated Borehole Corrected	ohm.m
RACLM	Resistivity, Attenuation (LS) 400 kHz - Compensated Borehole Corrected	ohm.m
ROPA	Rate of Penetration, 3.0 ft. Avg	ft/hr
RPCHM	Resistivity, Phase Difference (LS) 2 MHZ - Compensated Borehole Corrected	ohm.m
RPCLM	Resistivity, Phase Difference (LS) 400 kHz - Compensated Borehole Corrected	ohm.m
RPSIHM	Resistivity Slide Indicator	unitless
RPTHM	Time Since Drilled	min

Equipment and Service Data						
LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft)	Max O.D. (in.)	Min I.D. (in.)
1	CS	12591147	-	80.10	7.031	2.165
1	BCPM	11791110	Telemetry	69.77	7.031	2.165
1	FLEX SUB	11844179	-	62.68	6.280	2.165
1	OTK	12066374	Directional	57.91	7.031	2.165
1	OTK	12066374	Resistivity	52.10	7.031	2.165
1	OTK	12066374	Gamma	48.07	7.031	2.165
1	OTK	12066374	Pressure	47.18	7.031	2.165
1	CS	12698355	-	44.51	7.031	2.165

Service and Tool Mnemonics

Mnemonic	Name	Description
BCPM	BCPM	Mud pulse telemetry and downhole tool power module
FLEX SUB	Flex Sub	Flexible sub connection
OTK	OnTrak	Propagation resistivity, propagation conductivity, gamma ray, directional, annular pressure, system memory and VSS
CS	Closure Sub	BHA power ring isolator allowing insertion of inert sub into electrically powered BHA

Comments

1. Baker Hughes INTEQ run 1 utilized 6 3/4 inch Ontrak Services. (Multiple Propagation Resistivity, Gamma Ray, VSS, and Directional) behind an 8 1/2 inch bit and steerable assembly from 1877 to 14030 feet MD (1831.82 to 7158.30 feet TVD).
2. A sliding indicator is shown to the right of track 2 as a heavy red line. The indicator has been depth-shifted to the resistivity sensor offset to correspond with data acquired while sliding.
3. Depth measurements were obtained from a depth tracking system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes LWD logging engineers, depth calibrations and measurements could not be independently verified and the unverified depths as supplied to Baker Hughes are being used to present logging data.

Remarks

Number	Measured Depth (ft)	Hole Section (in.)	LWD Run No.	Remark
1	13982	8.500	1	The interval from 13982 to 14030 feet MD (7157.33 to 7158.30 feet TVD) contains no logging data due to the sensor to bit offset at the end of the run.

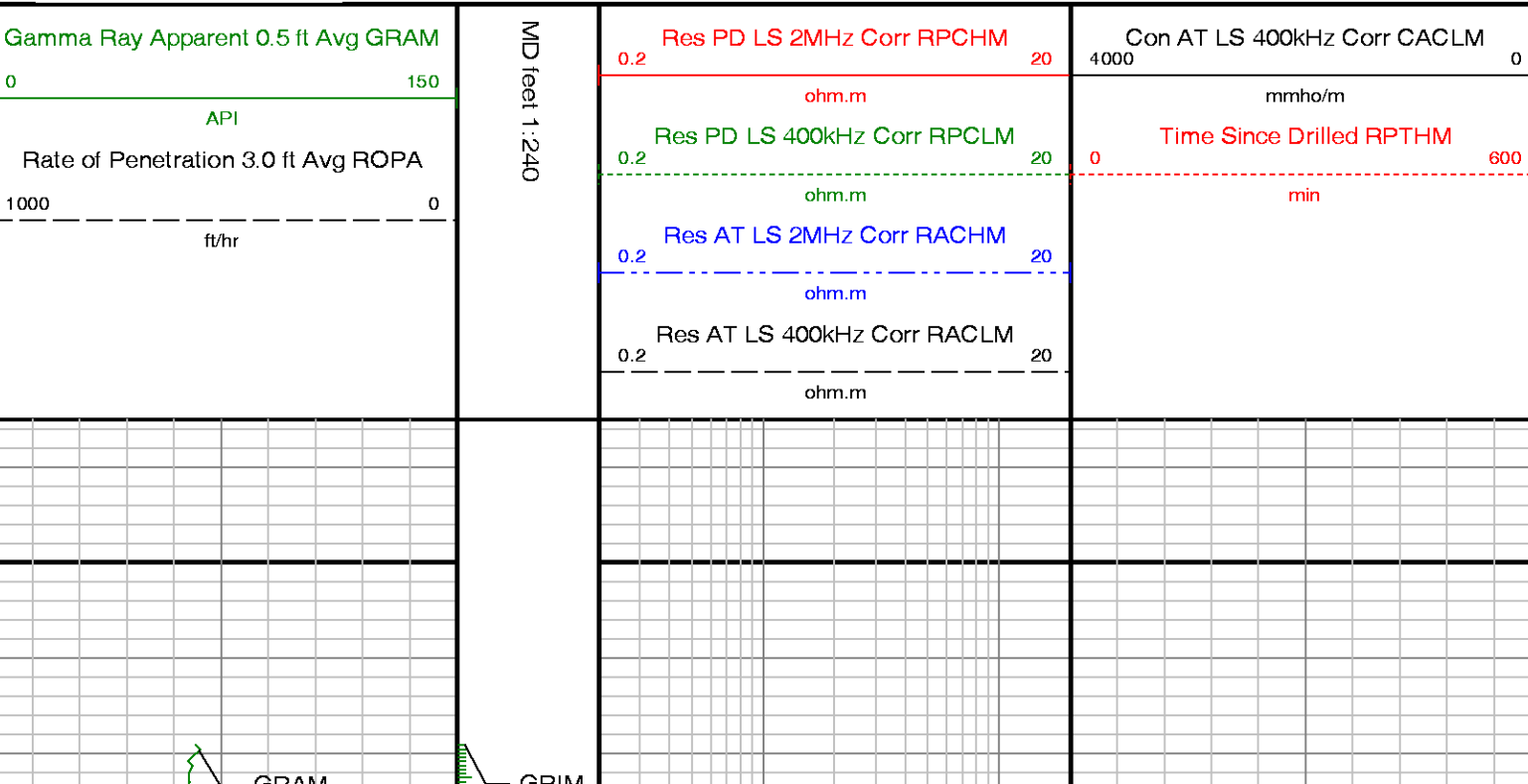


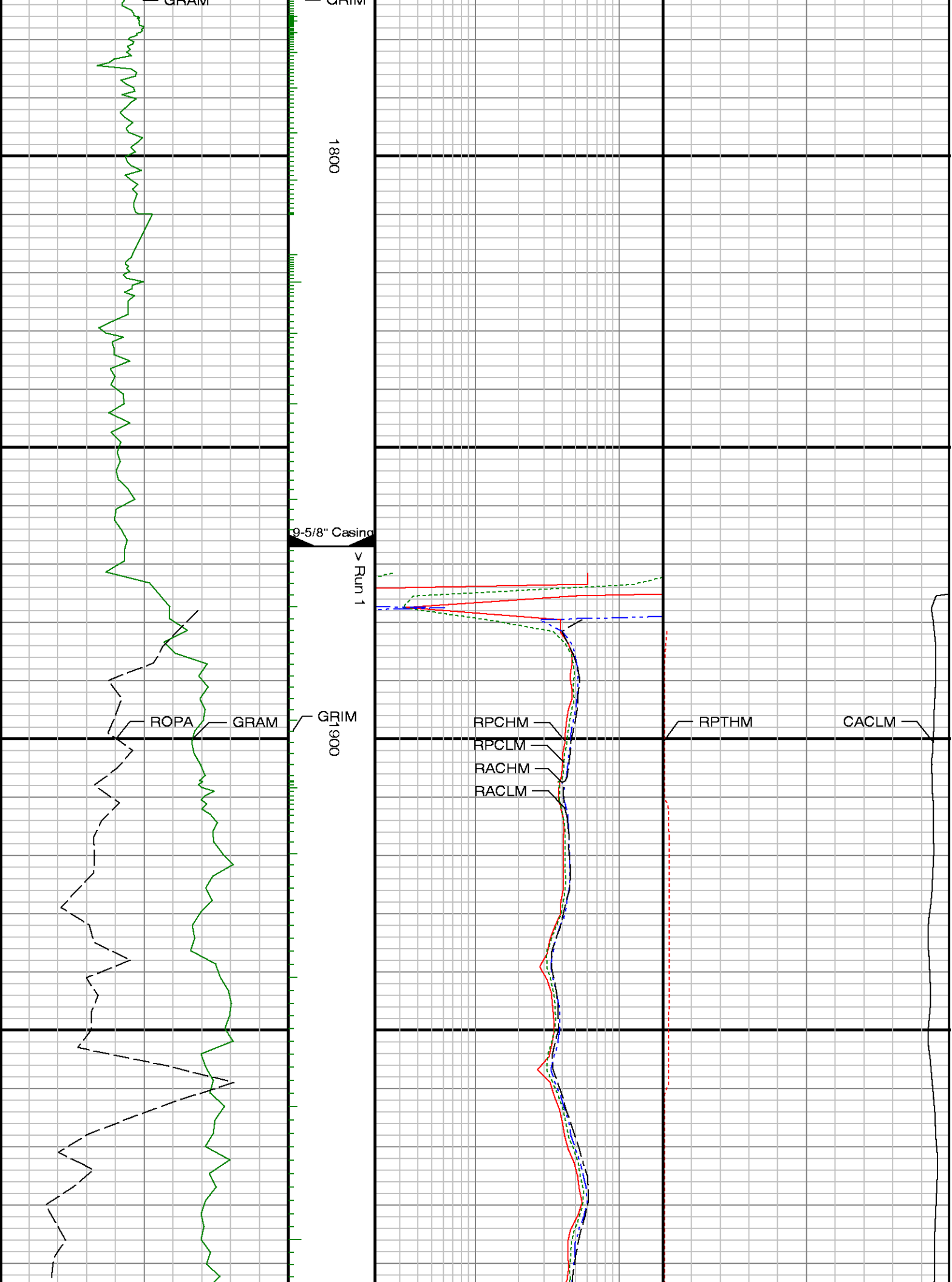
Company : Anadarko

Well : Encore 26N-12HZ

Interval : 1735.00 - 14065.00 feet

Created : 02/Aug/2015 10:21:08 PM



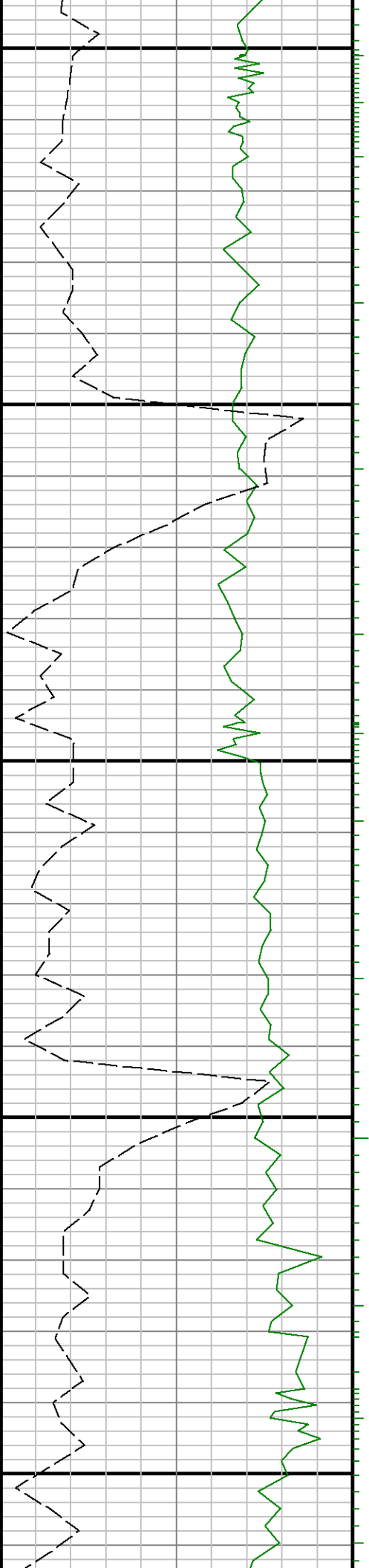


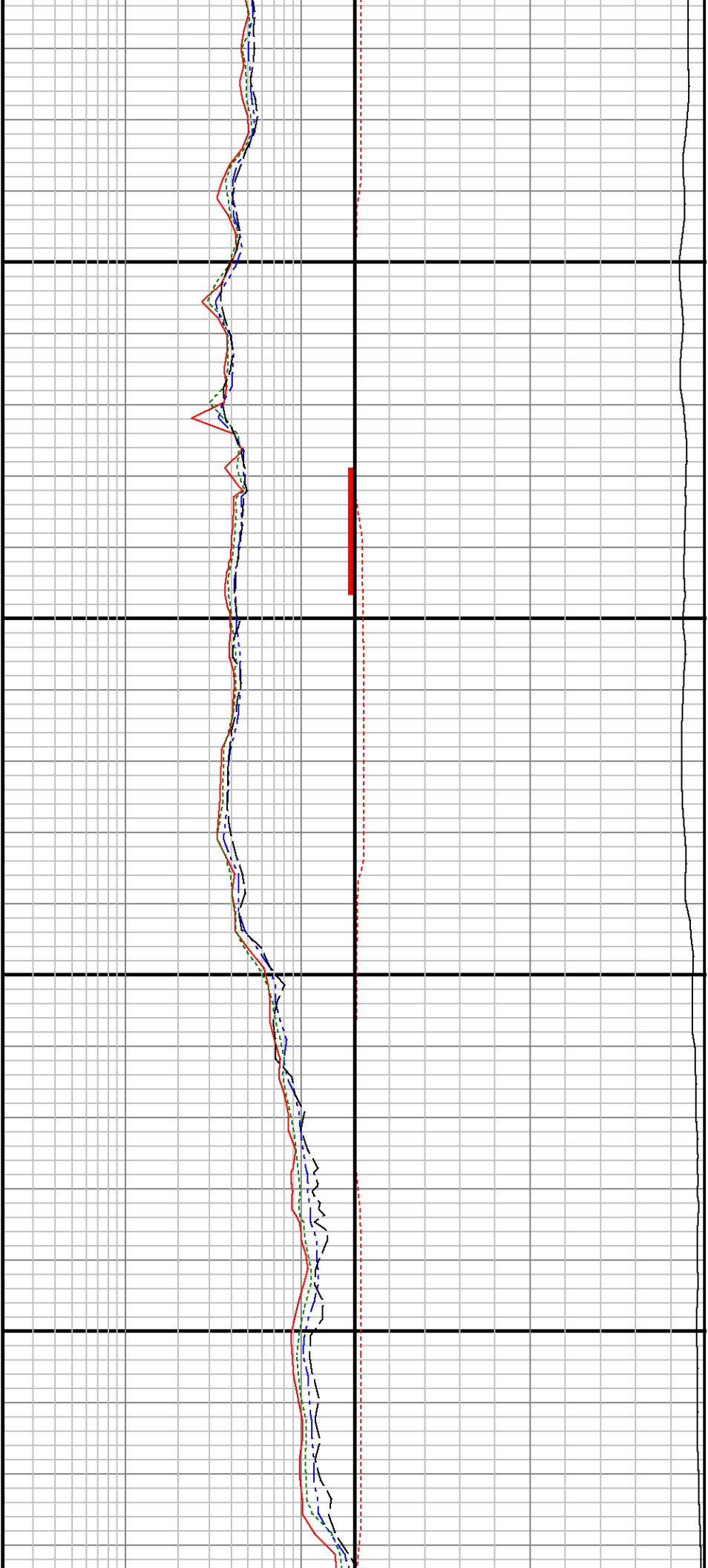


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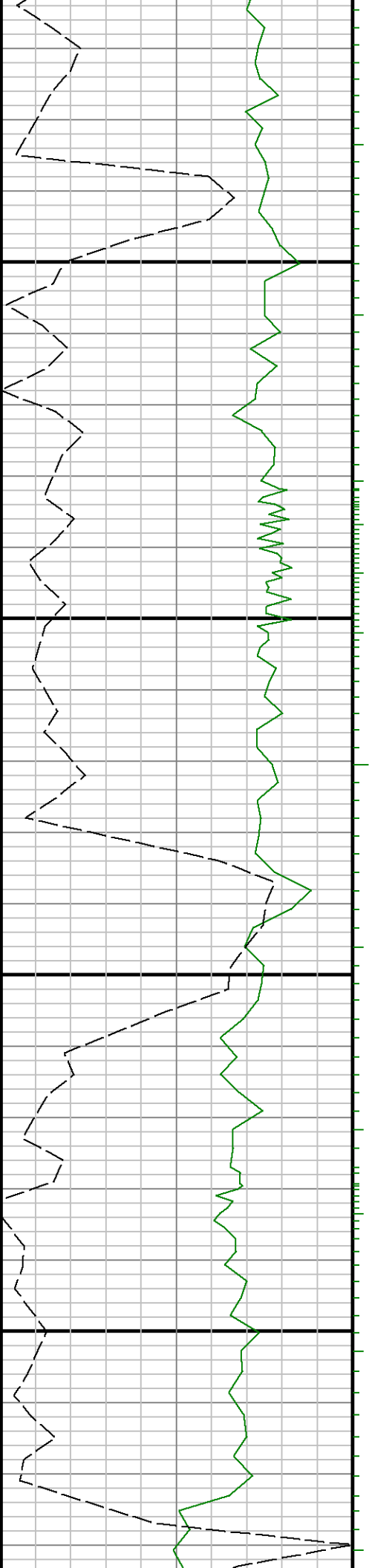
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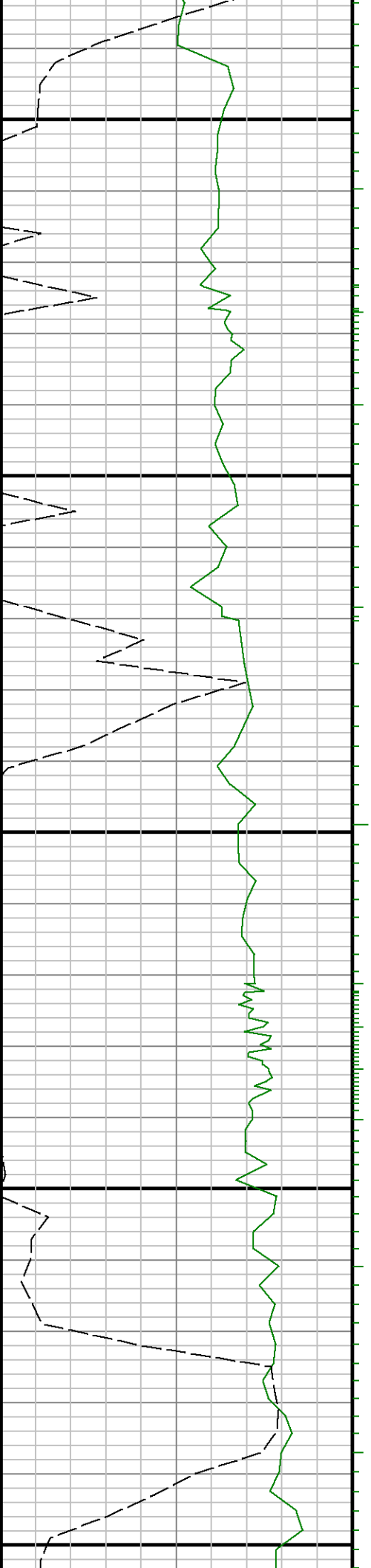
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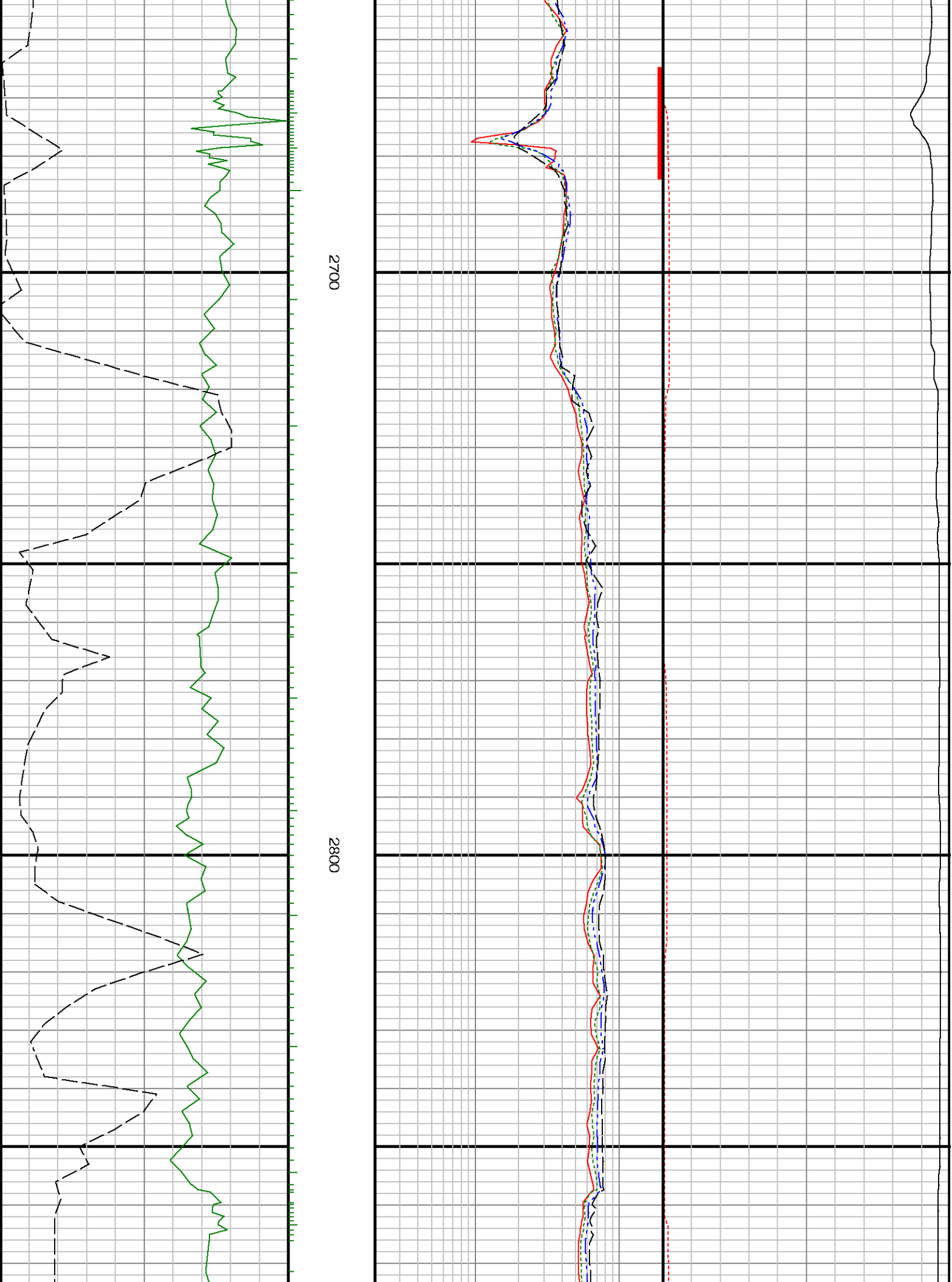


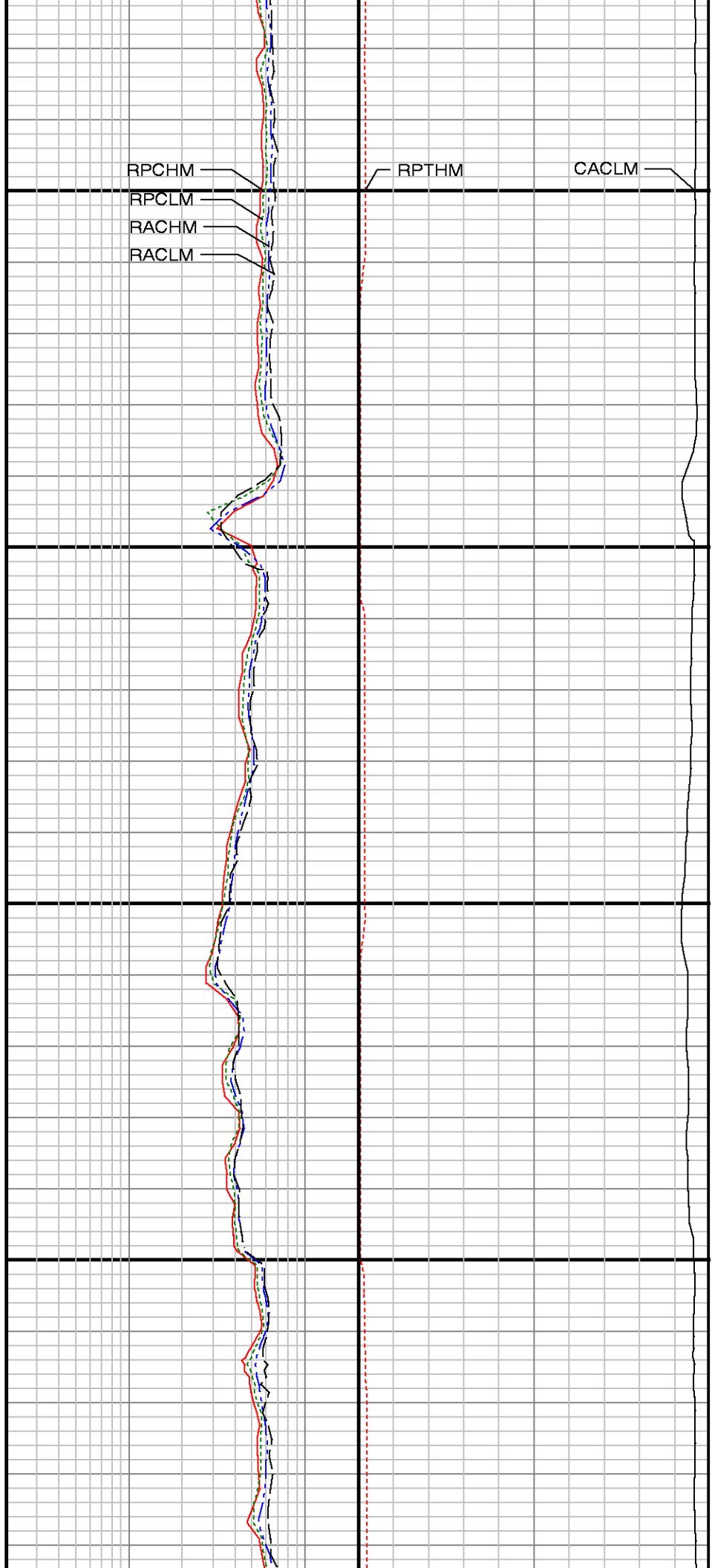
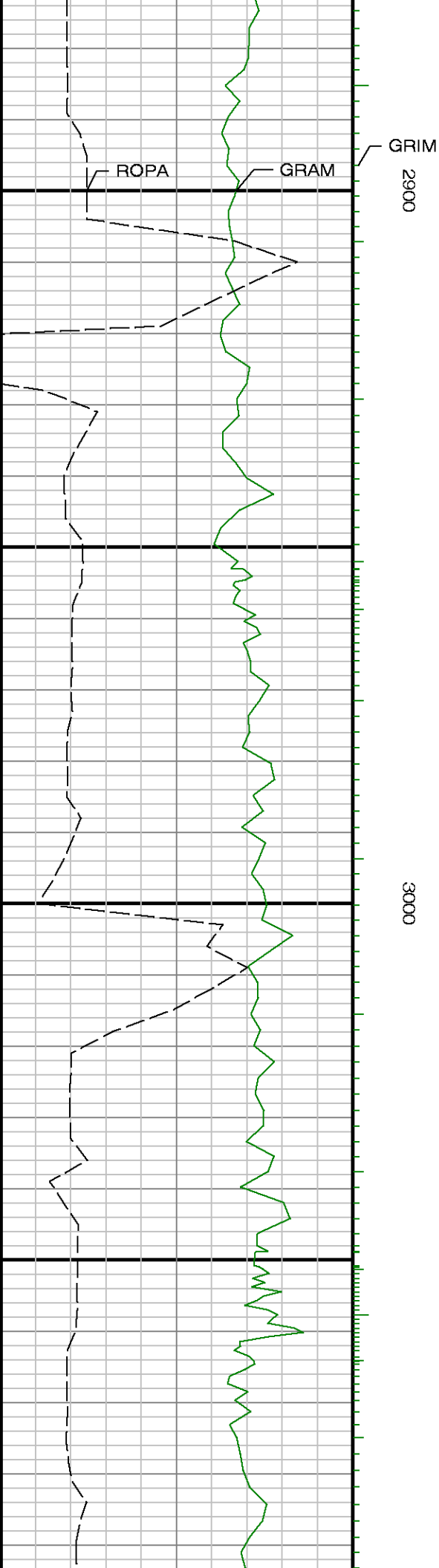


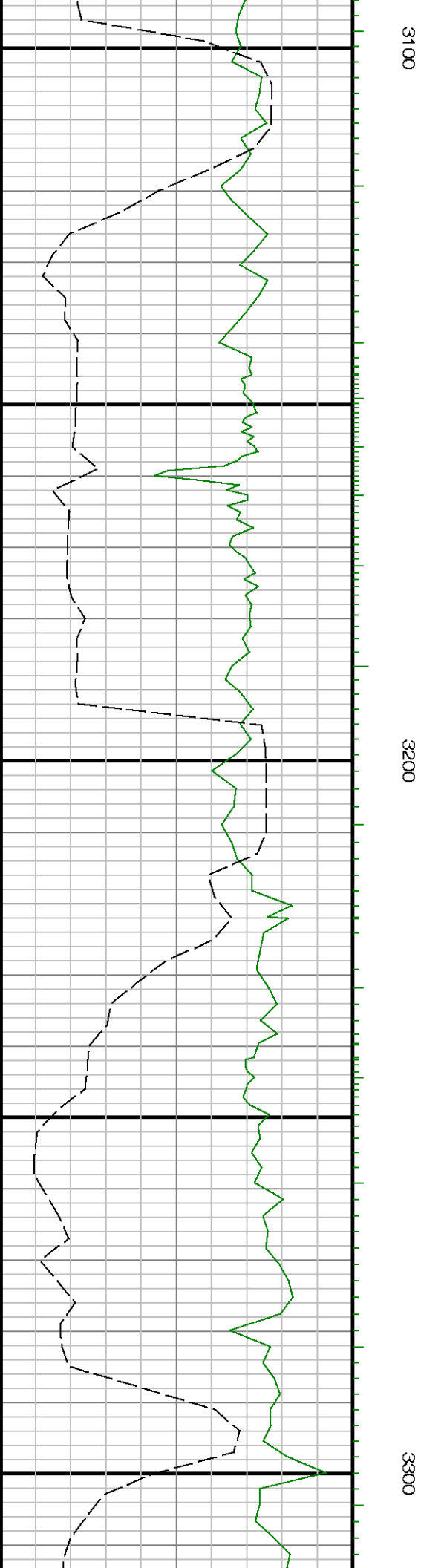
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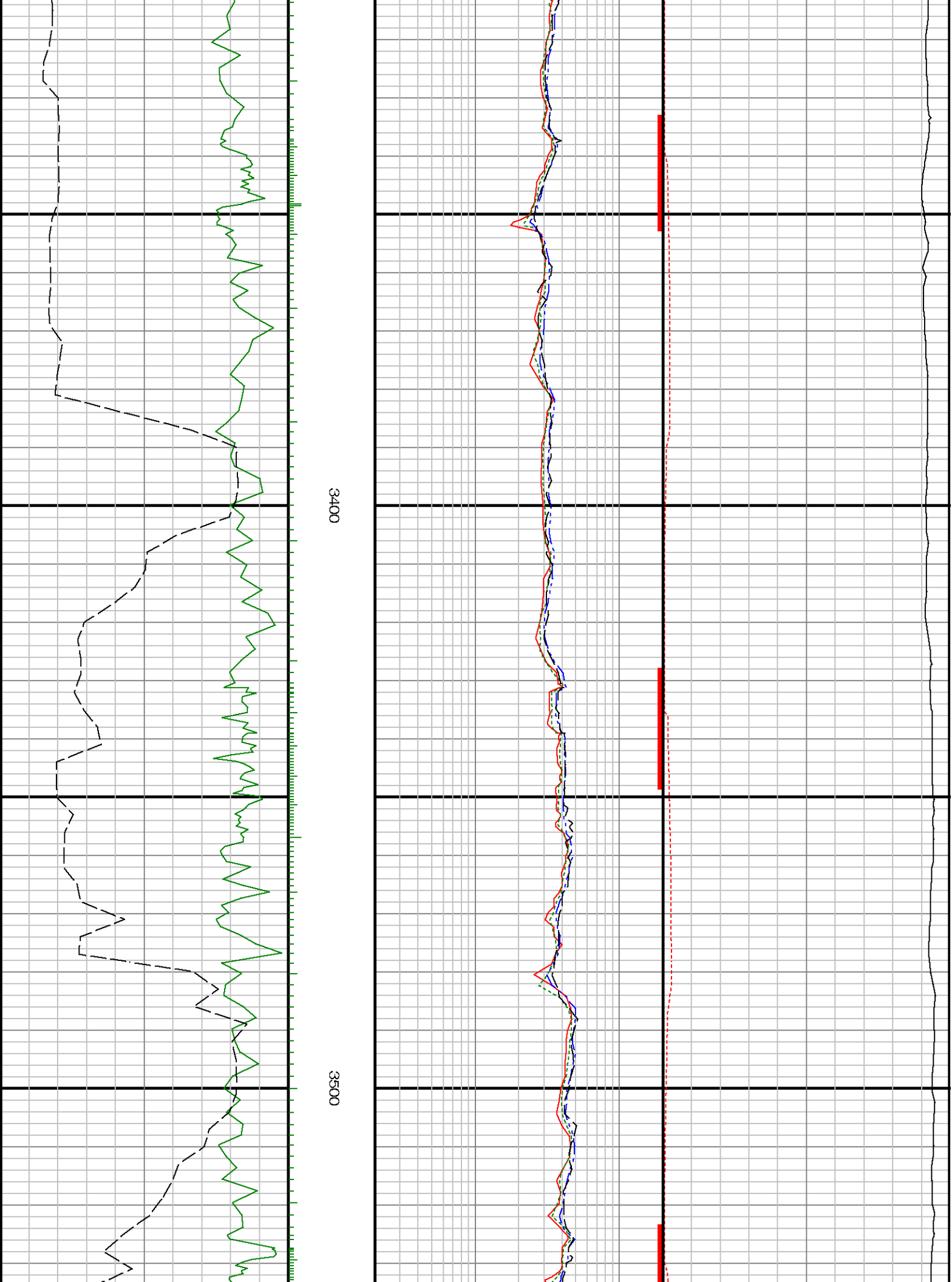
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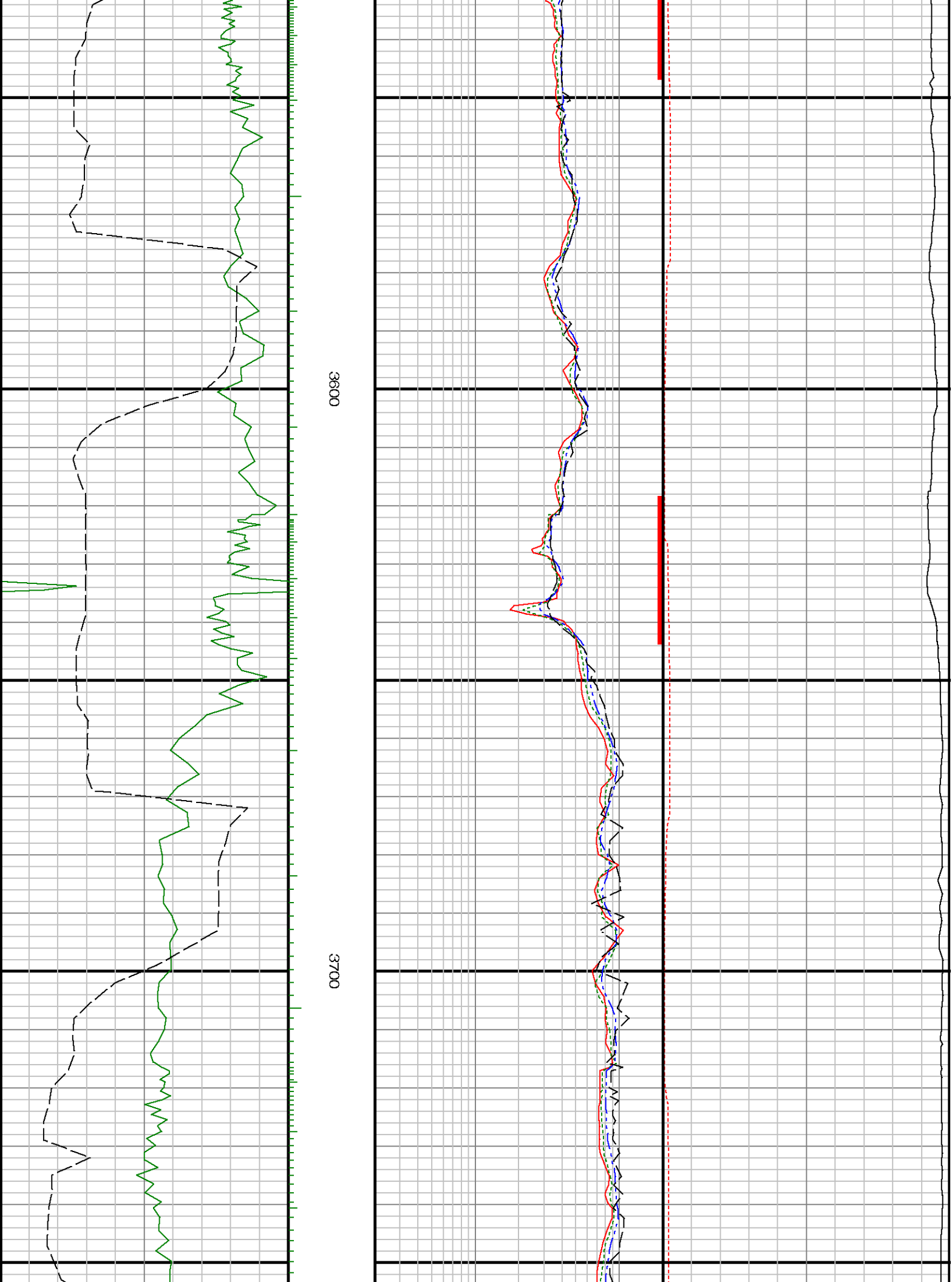


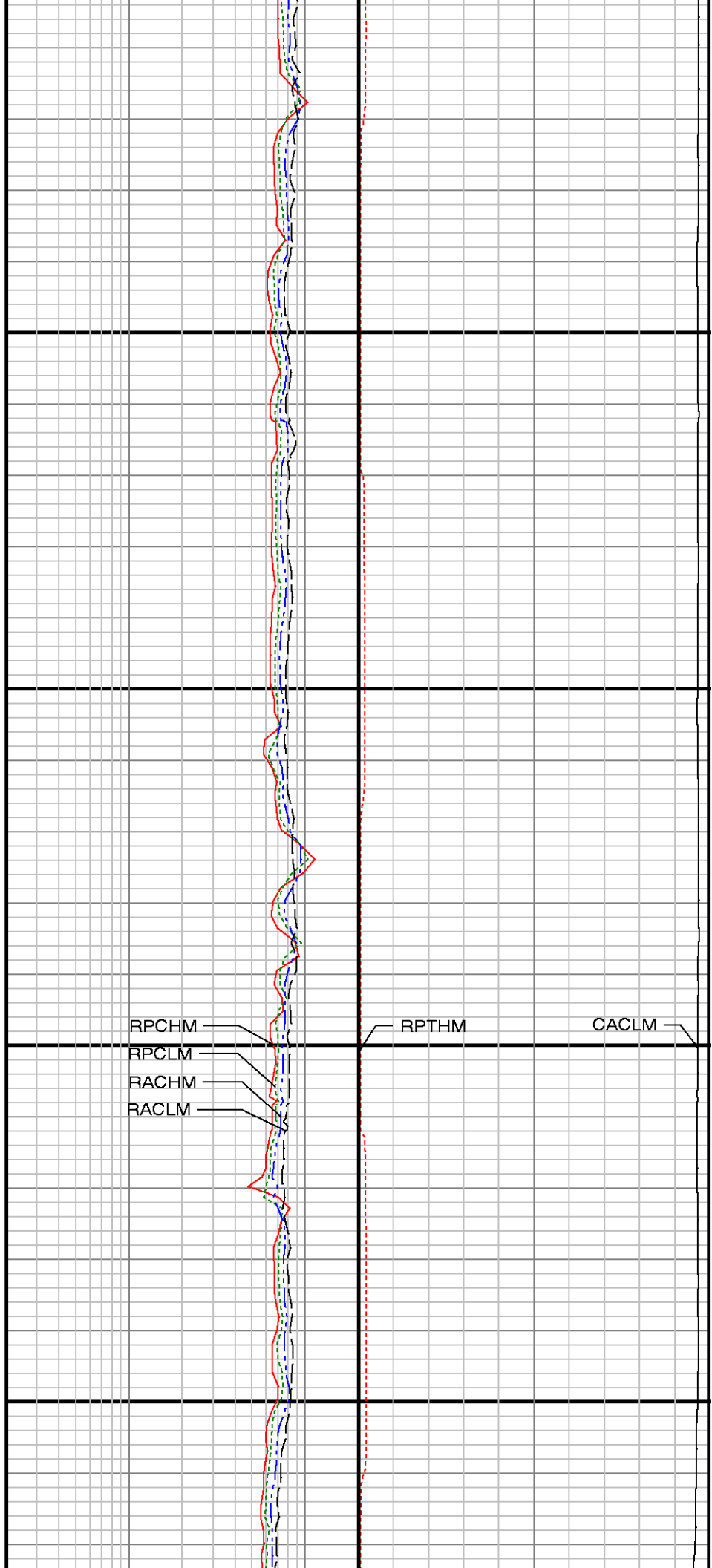
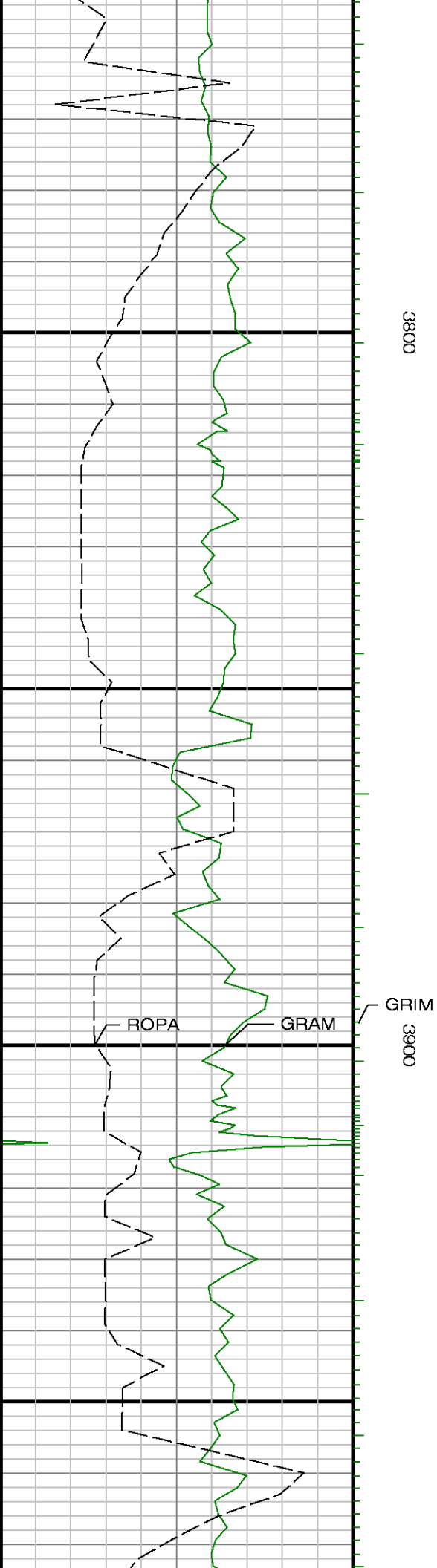








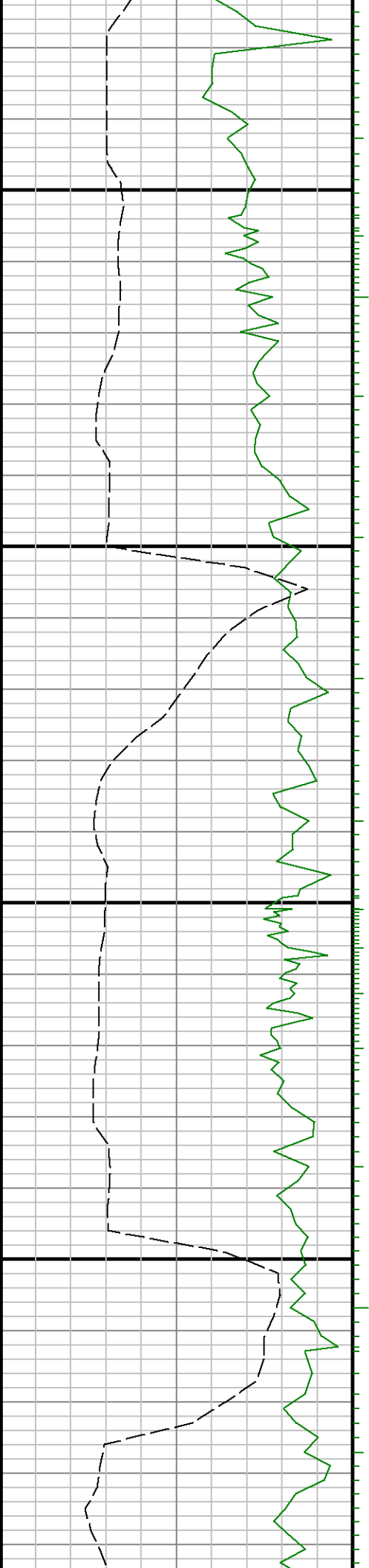


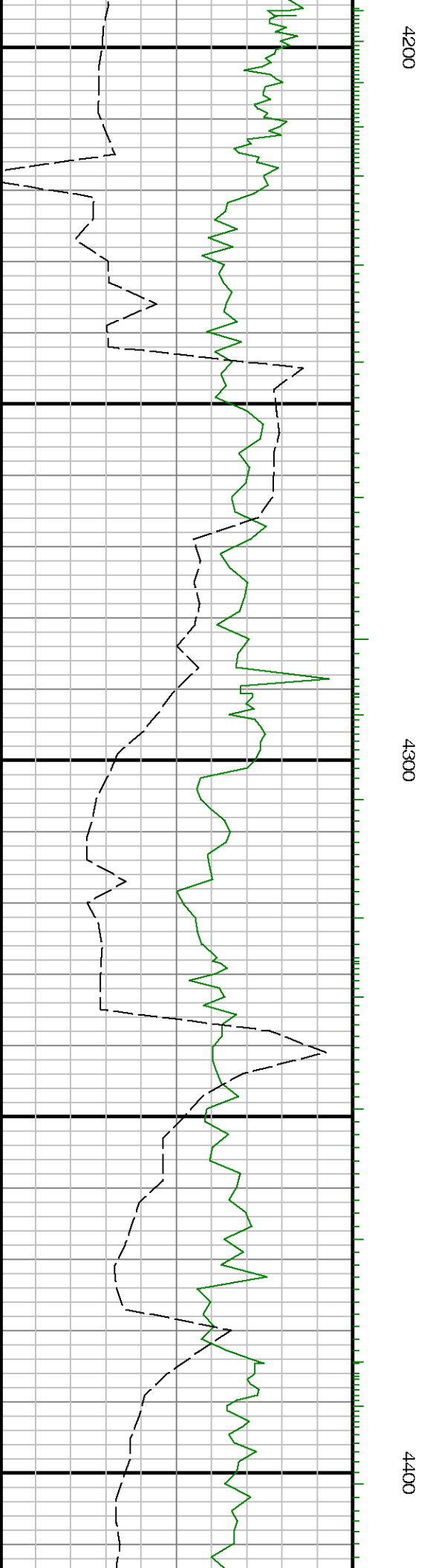


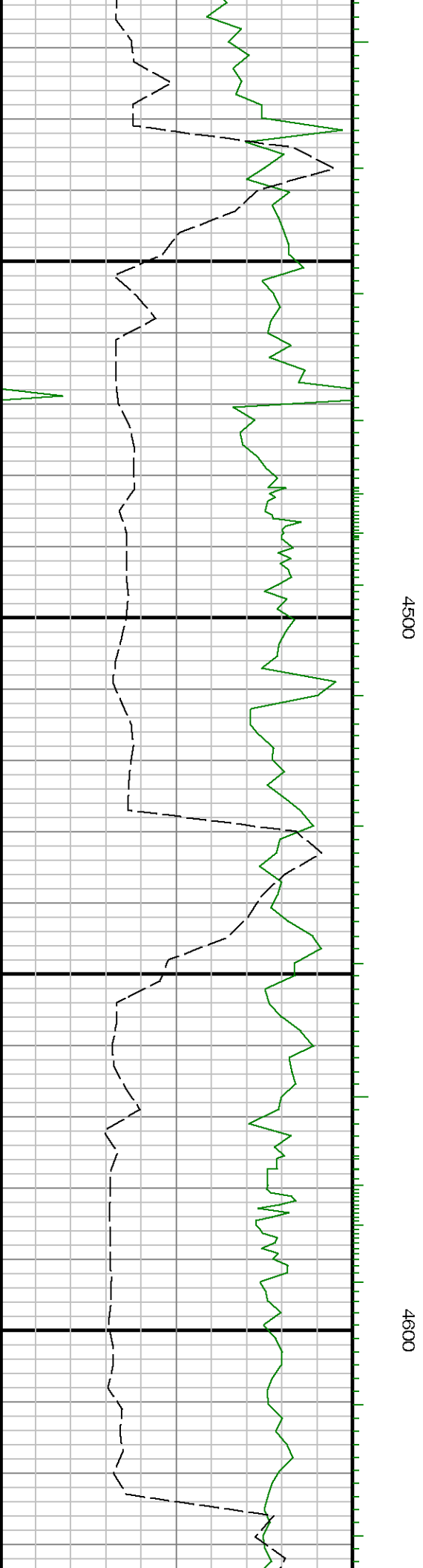


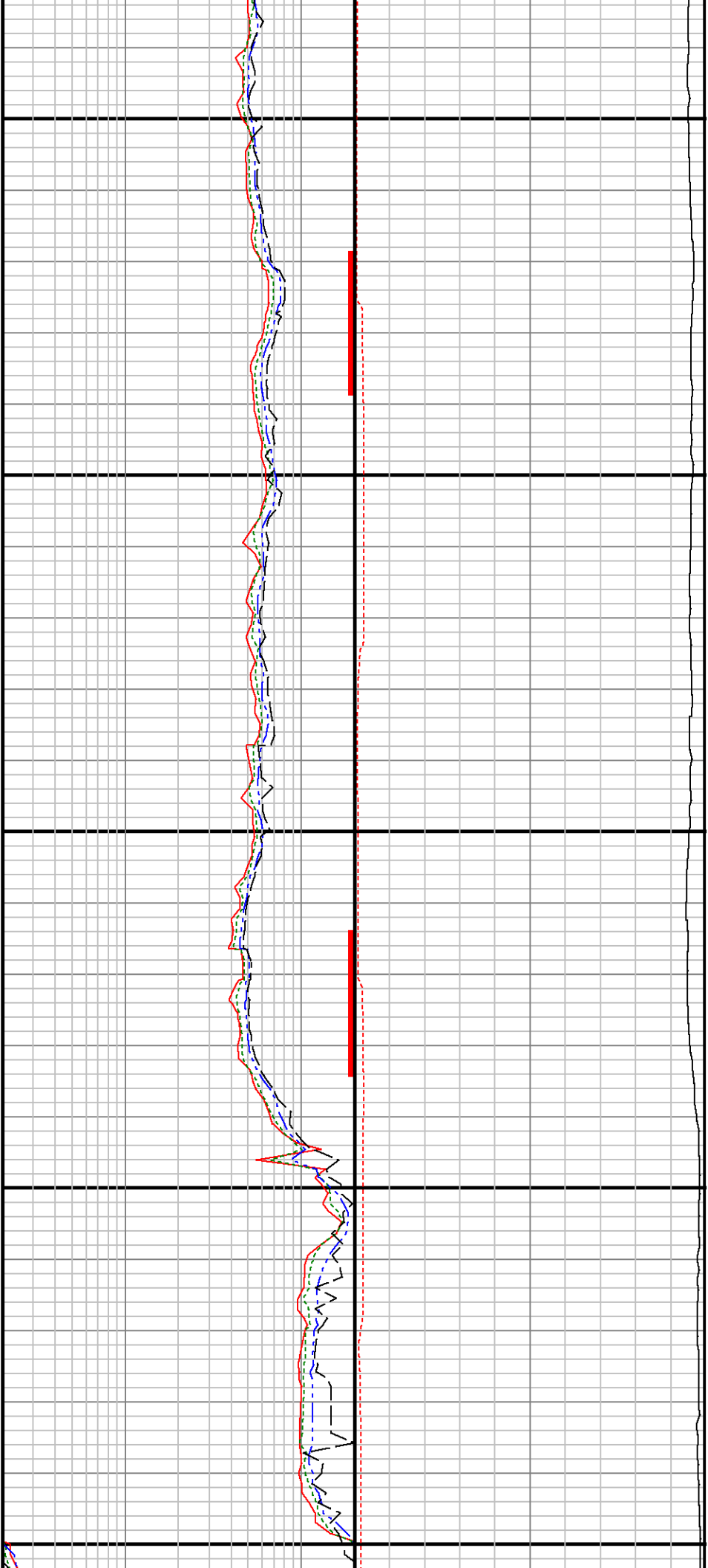
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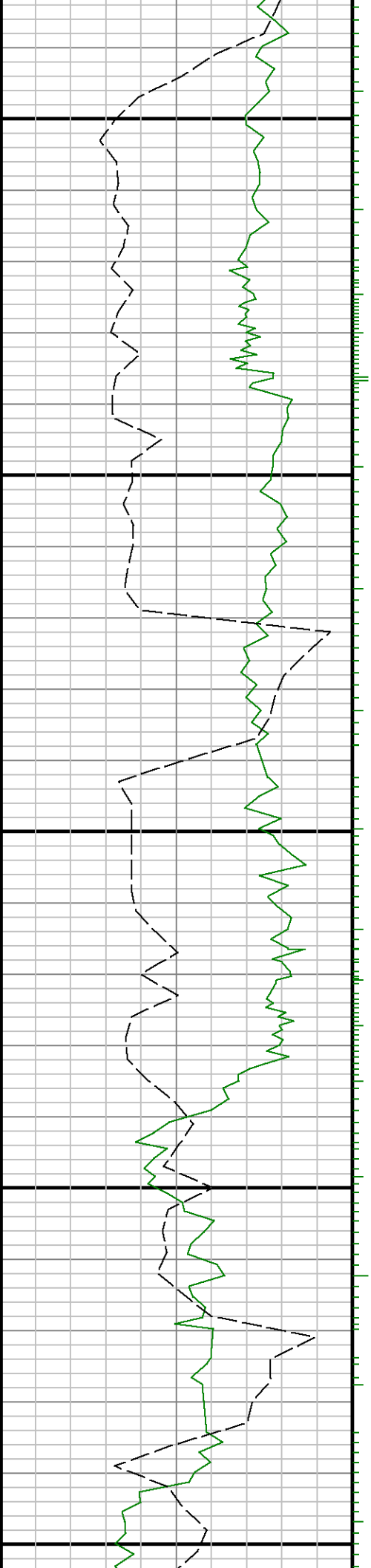


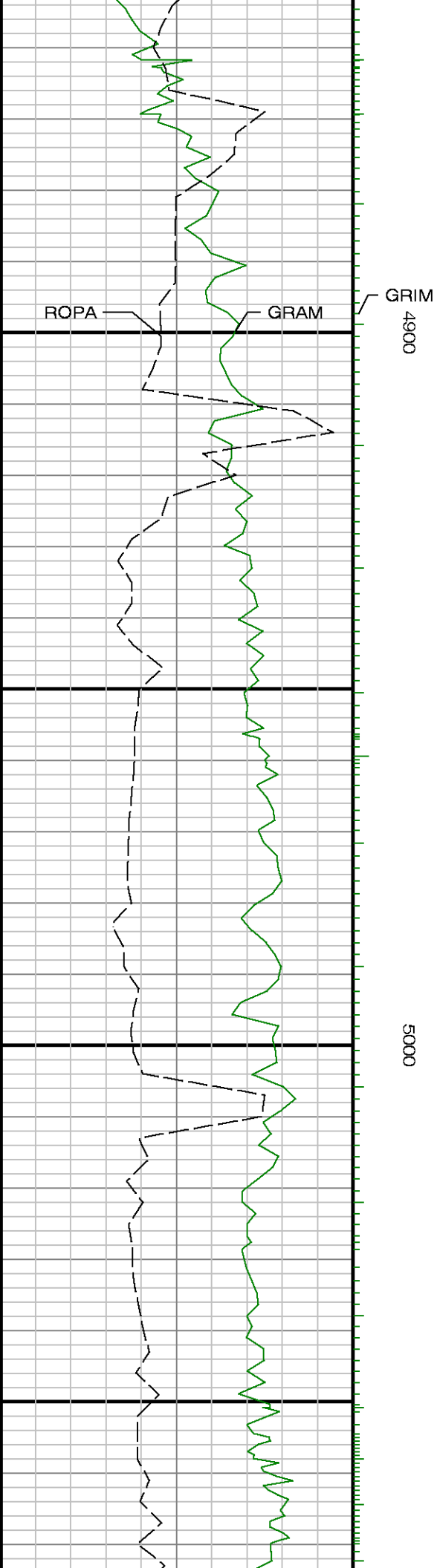


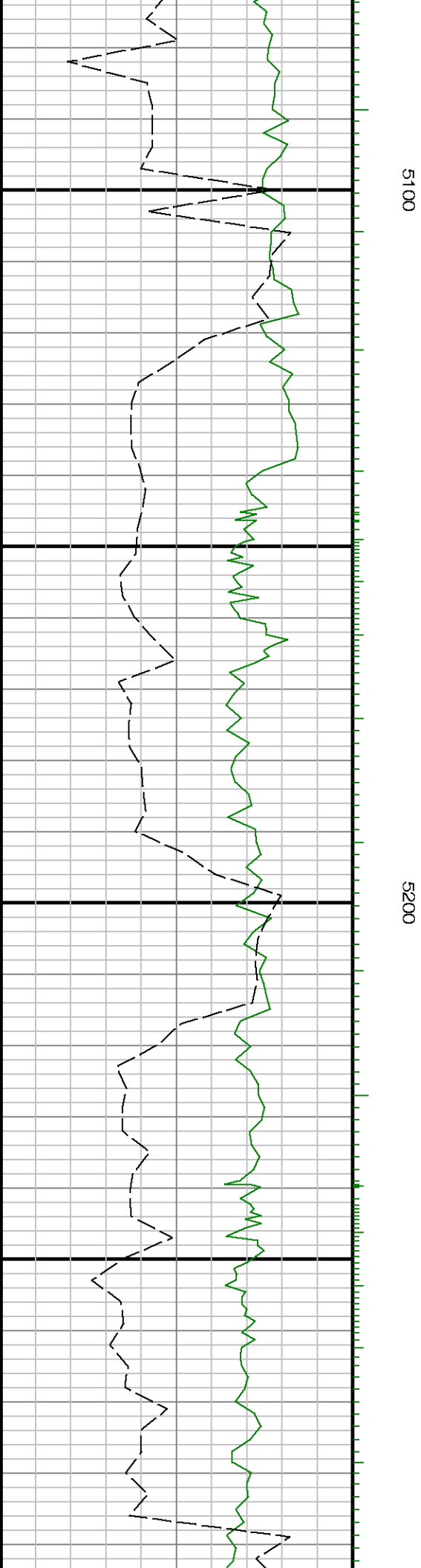


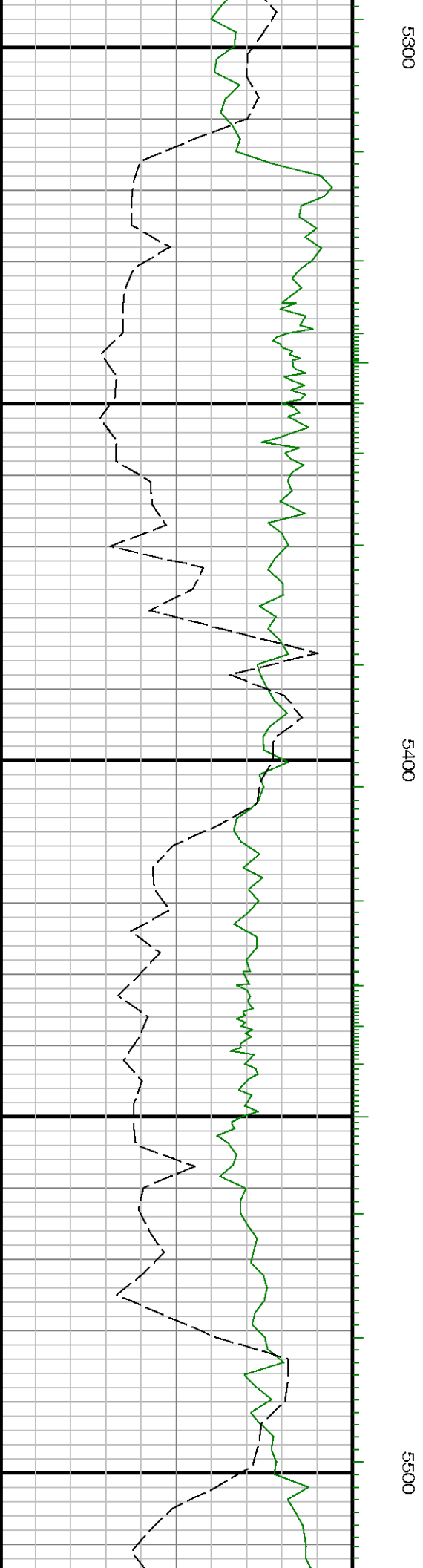
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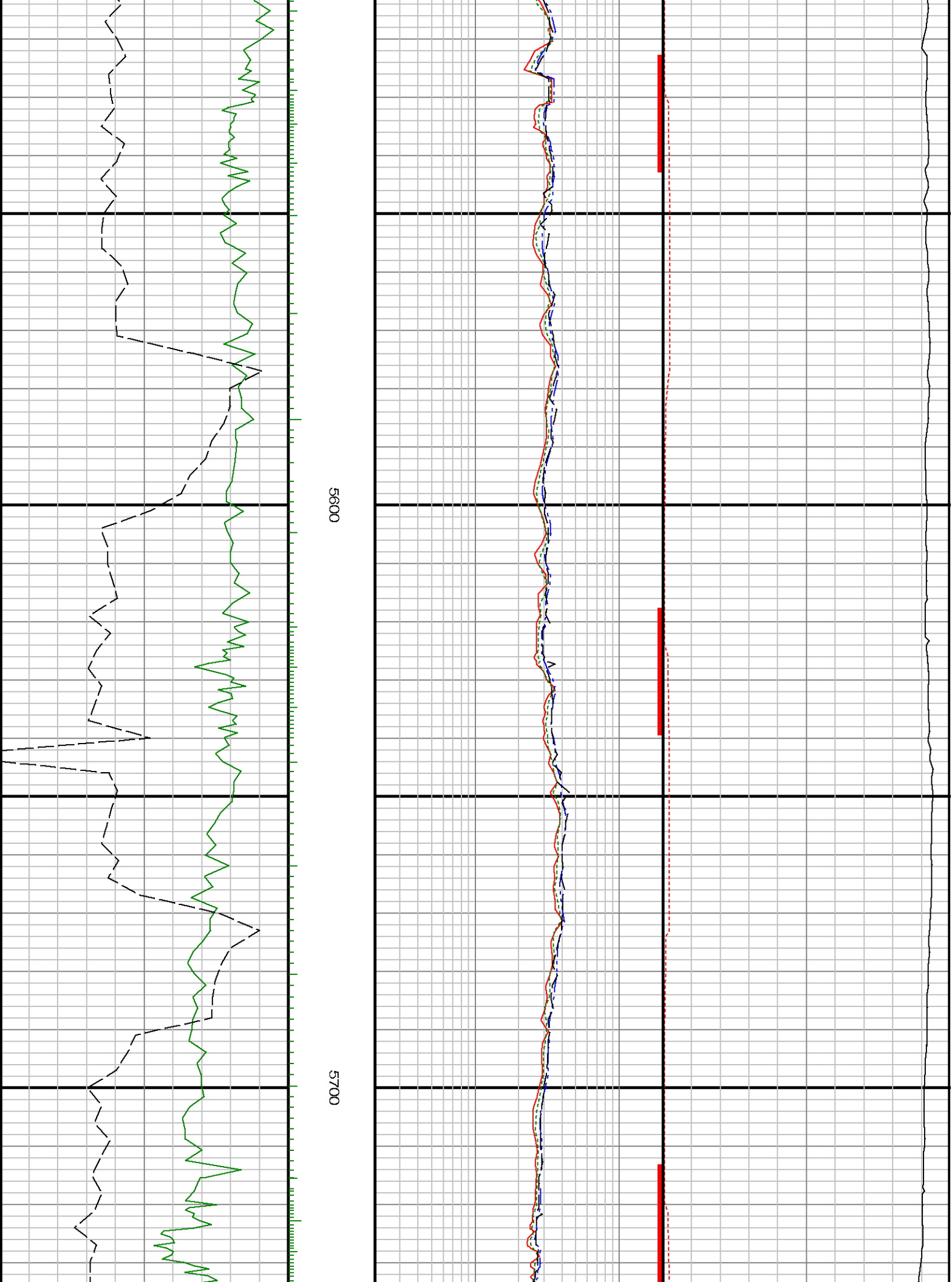
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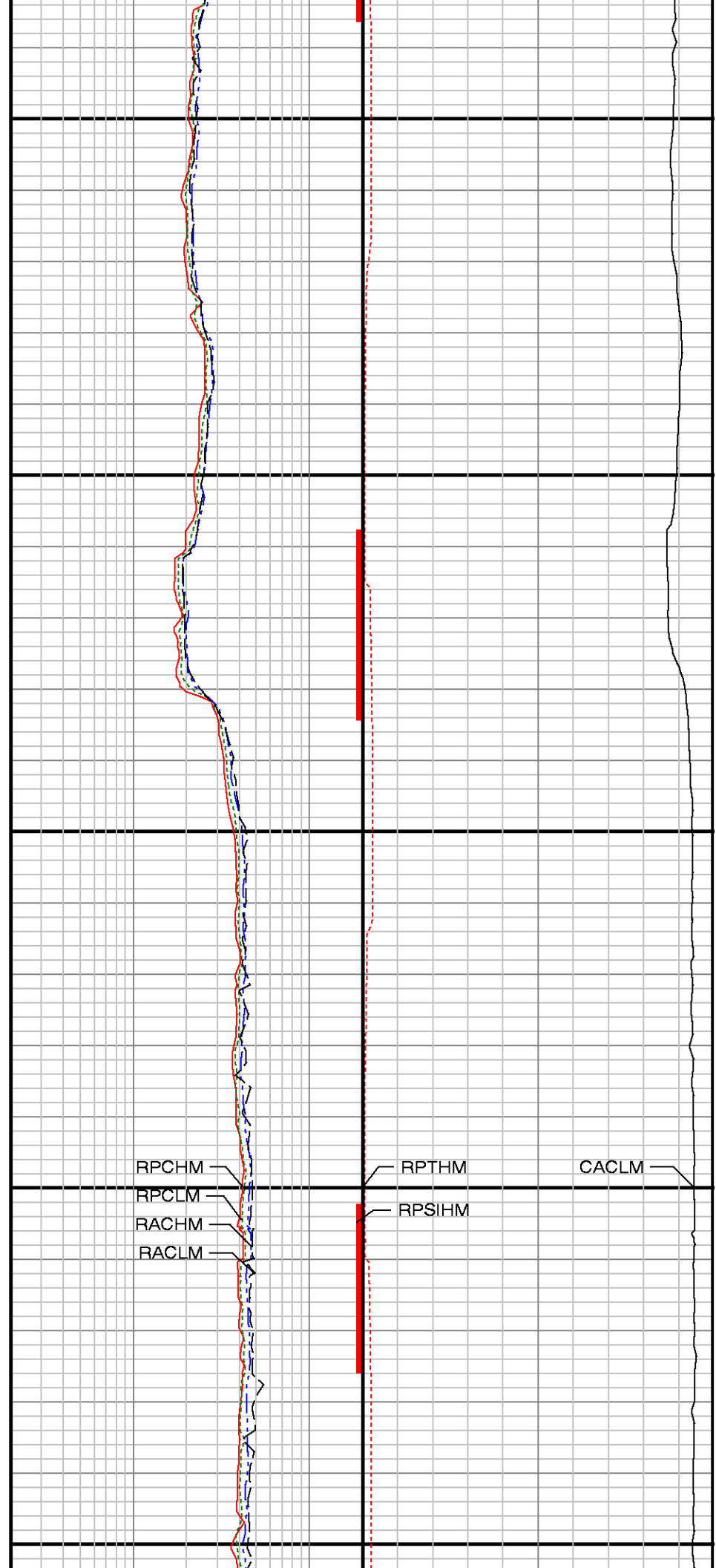
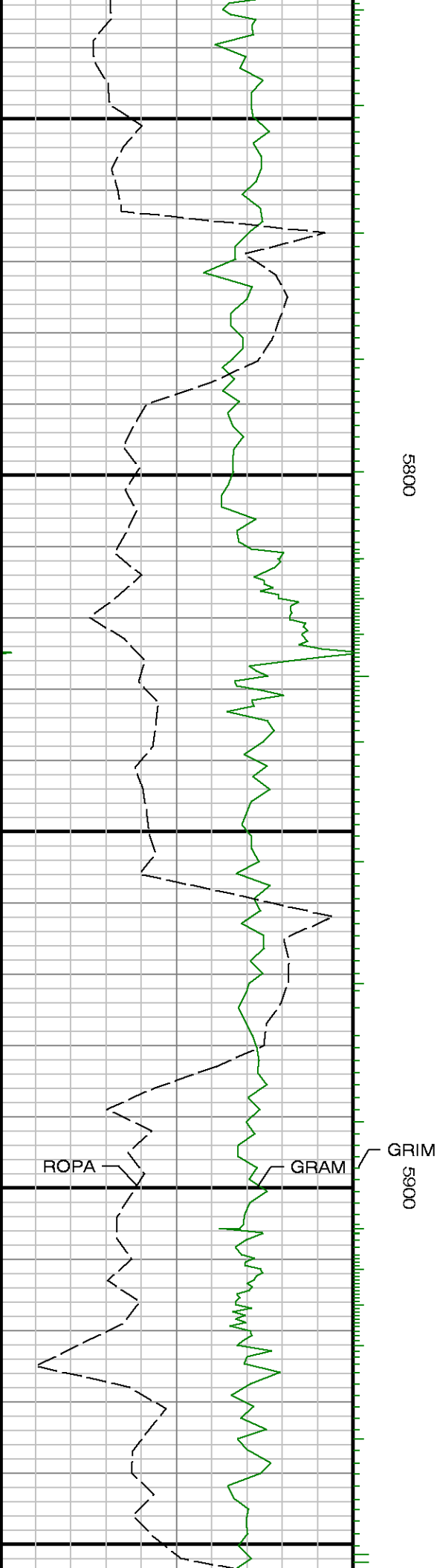


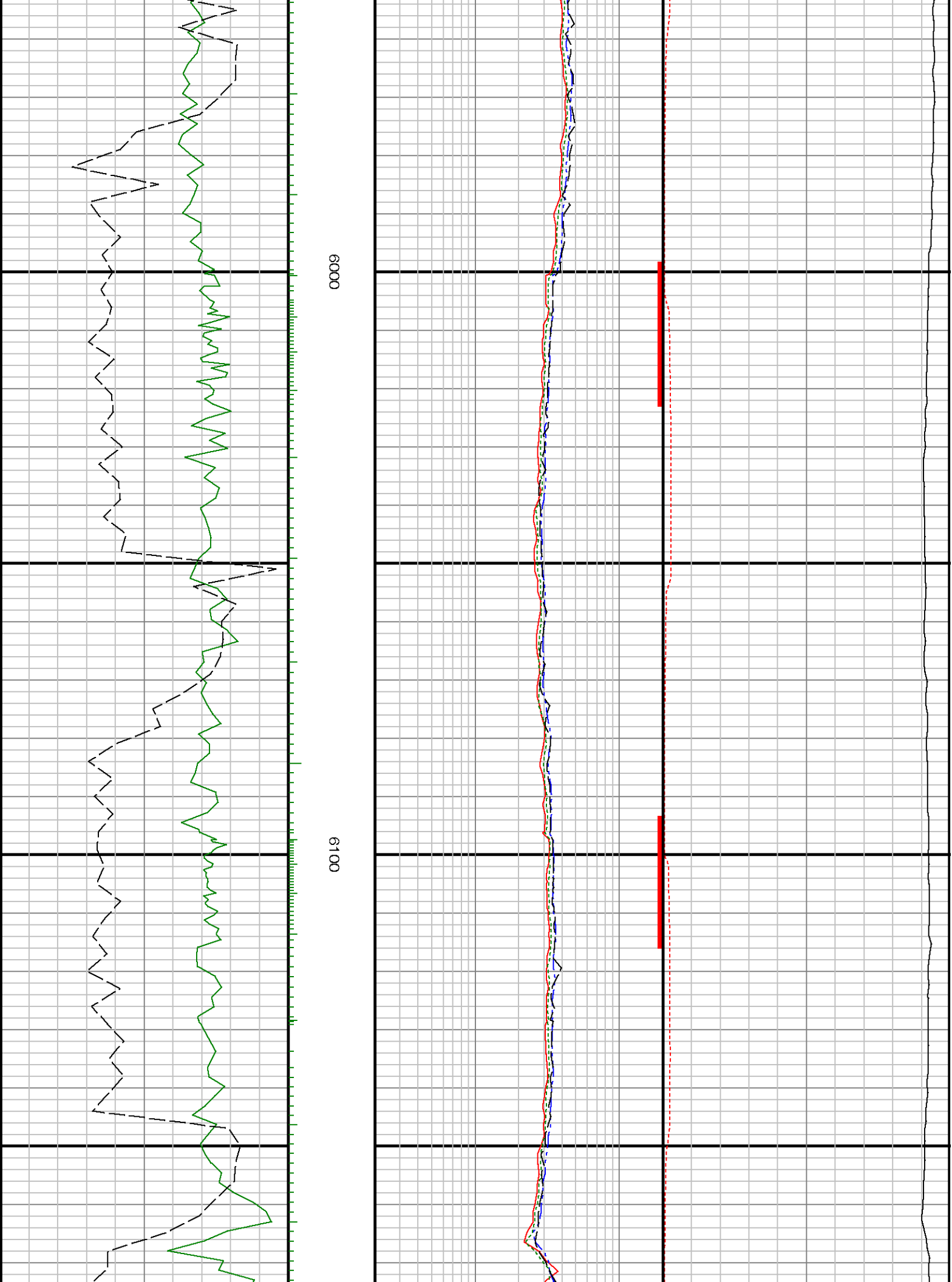


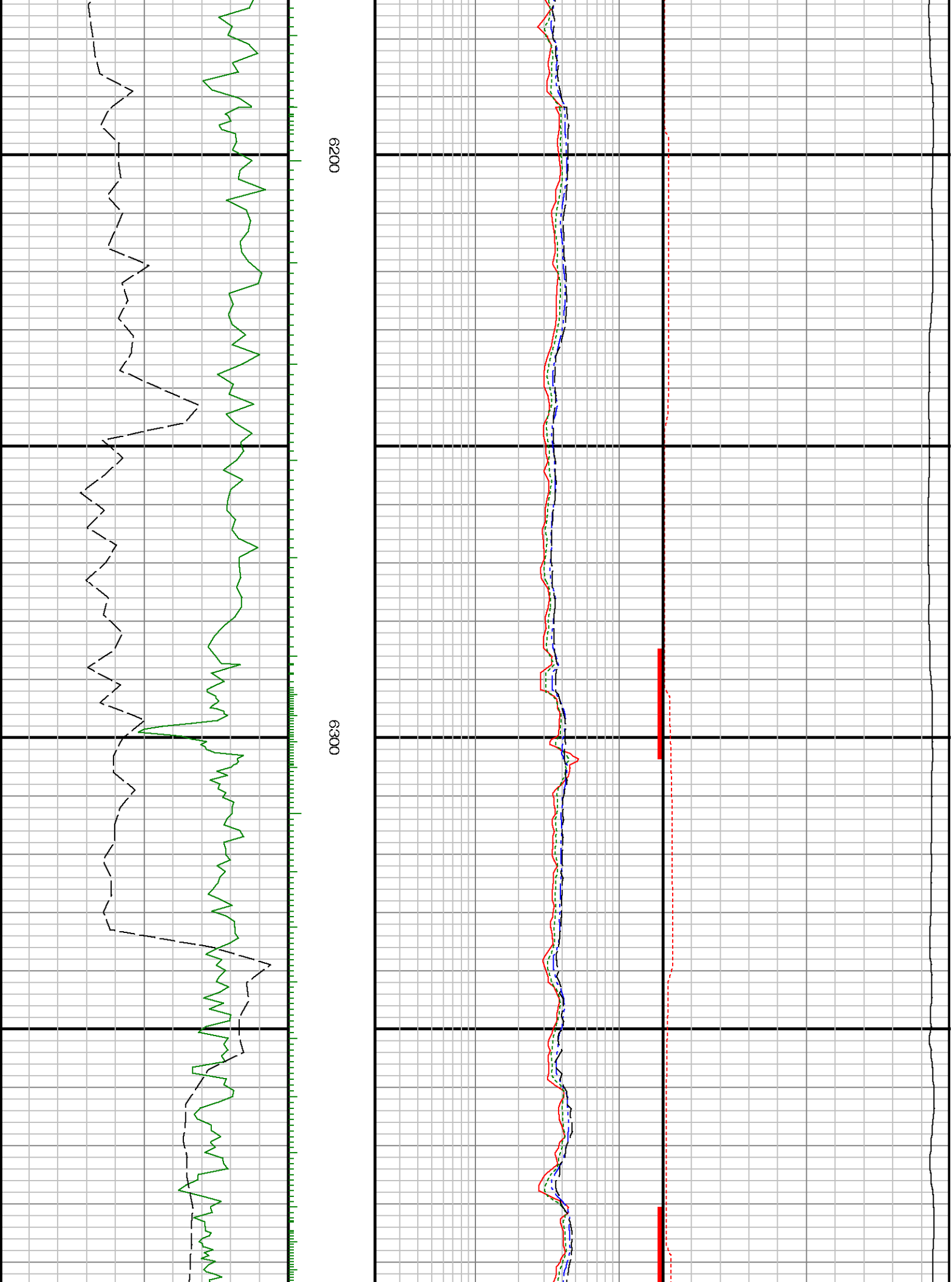










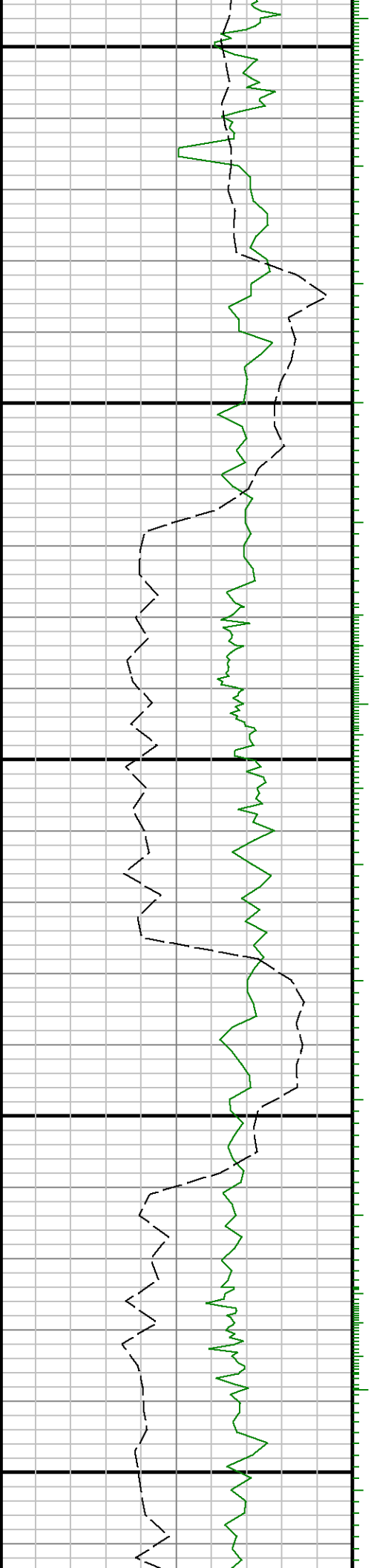


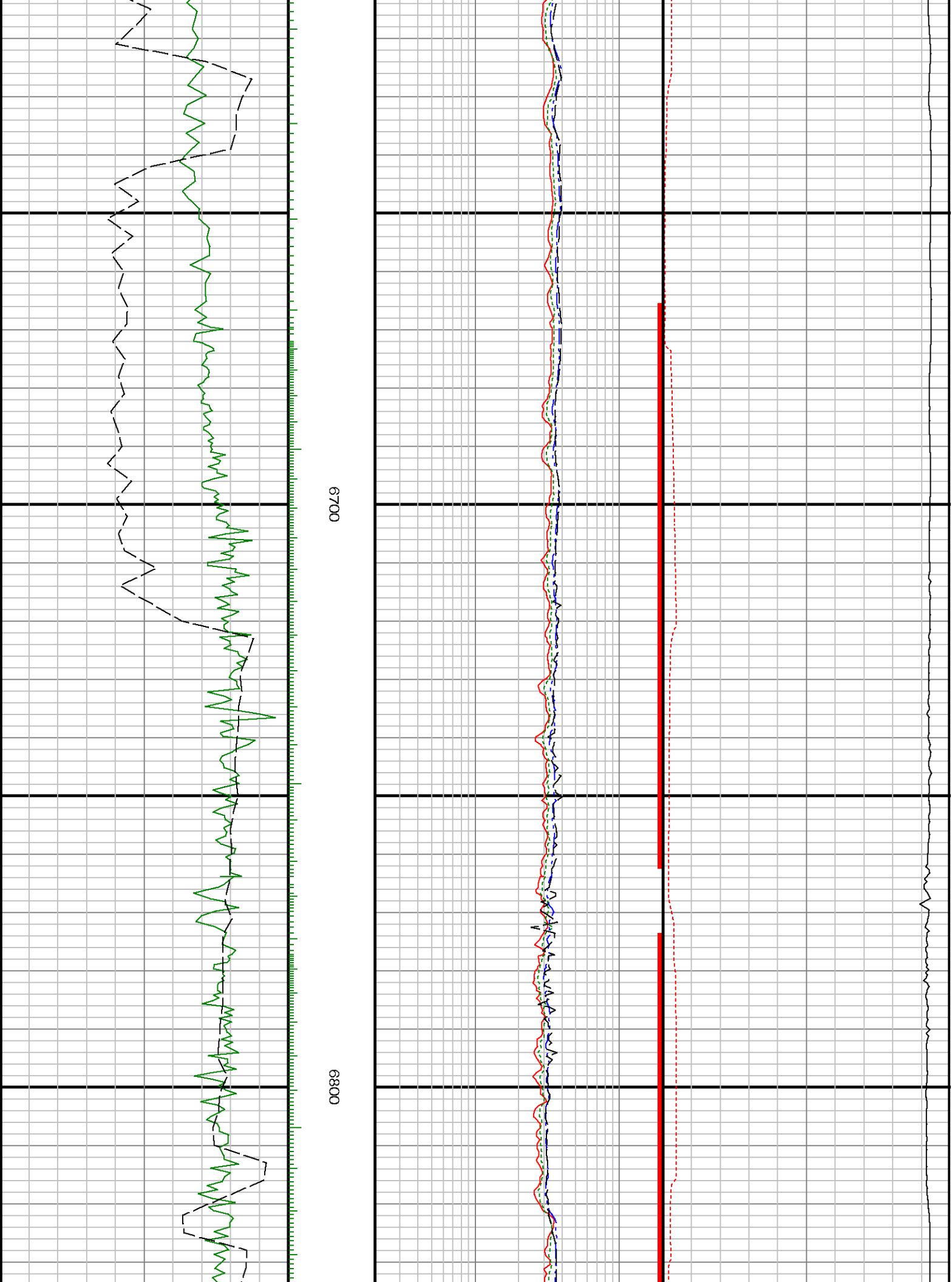


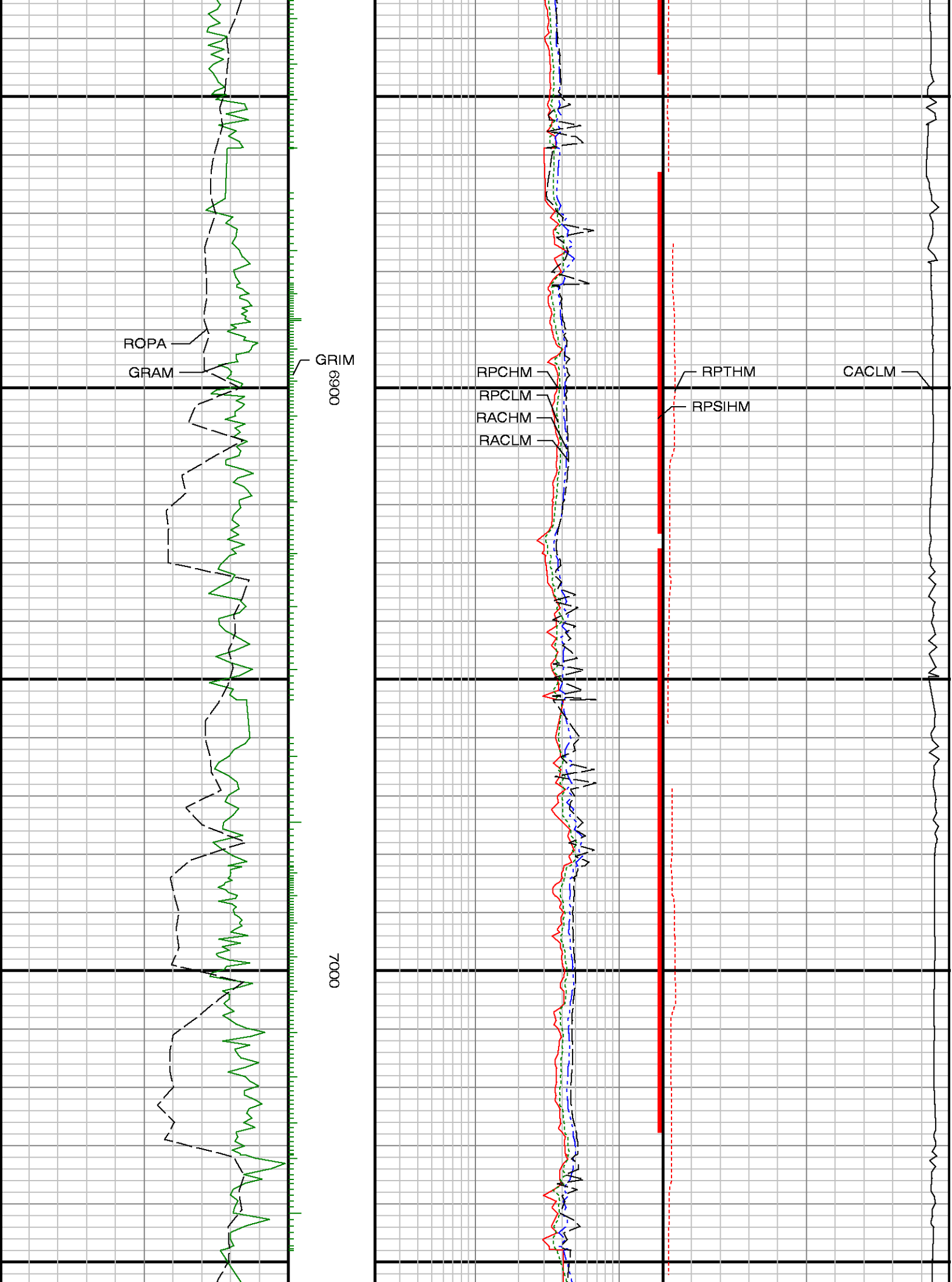
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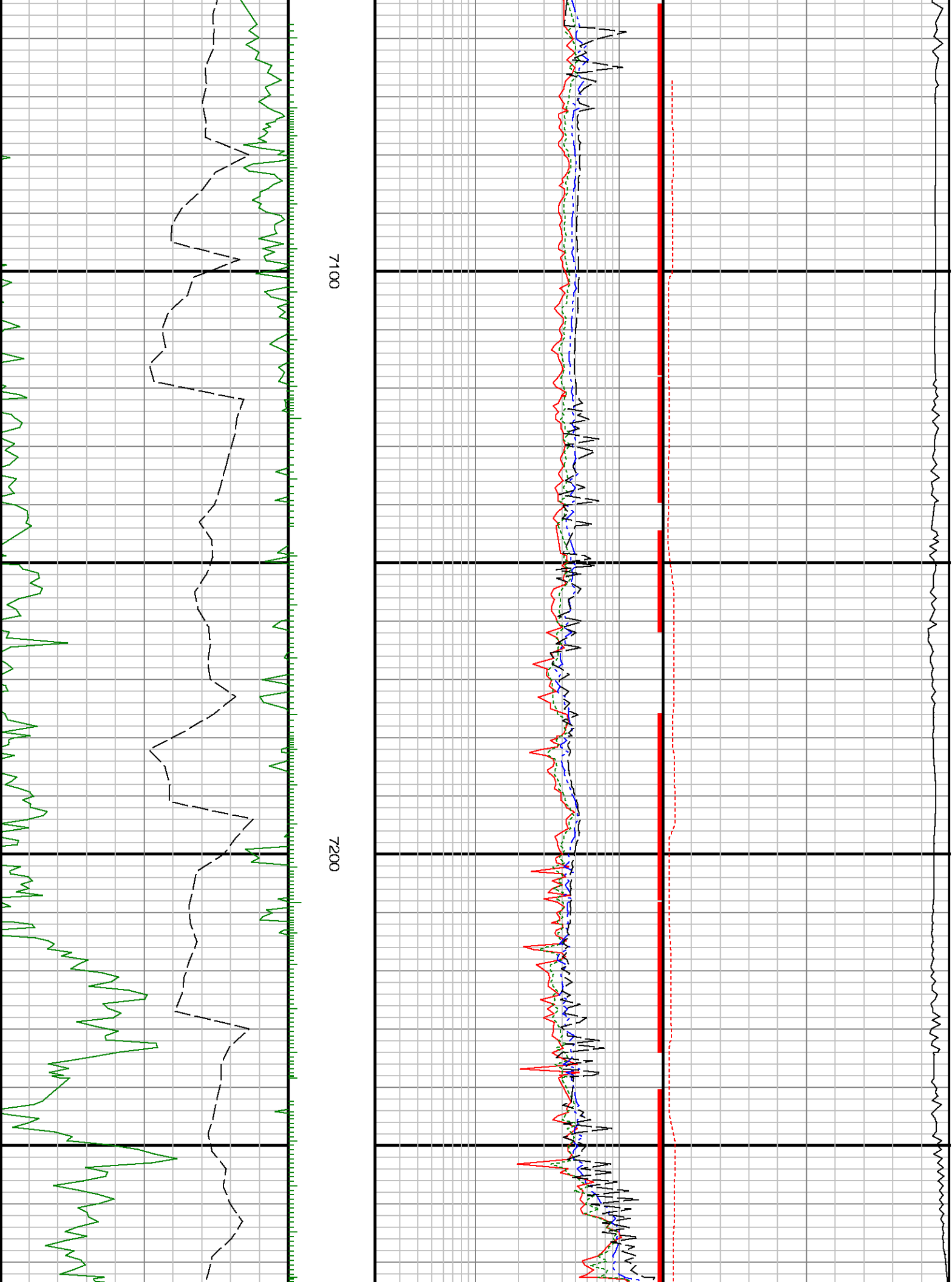
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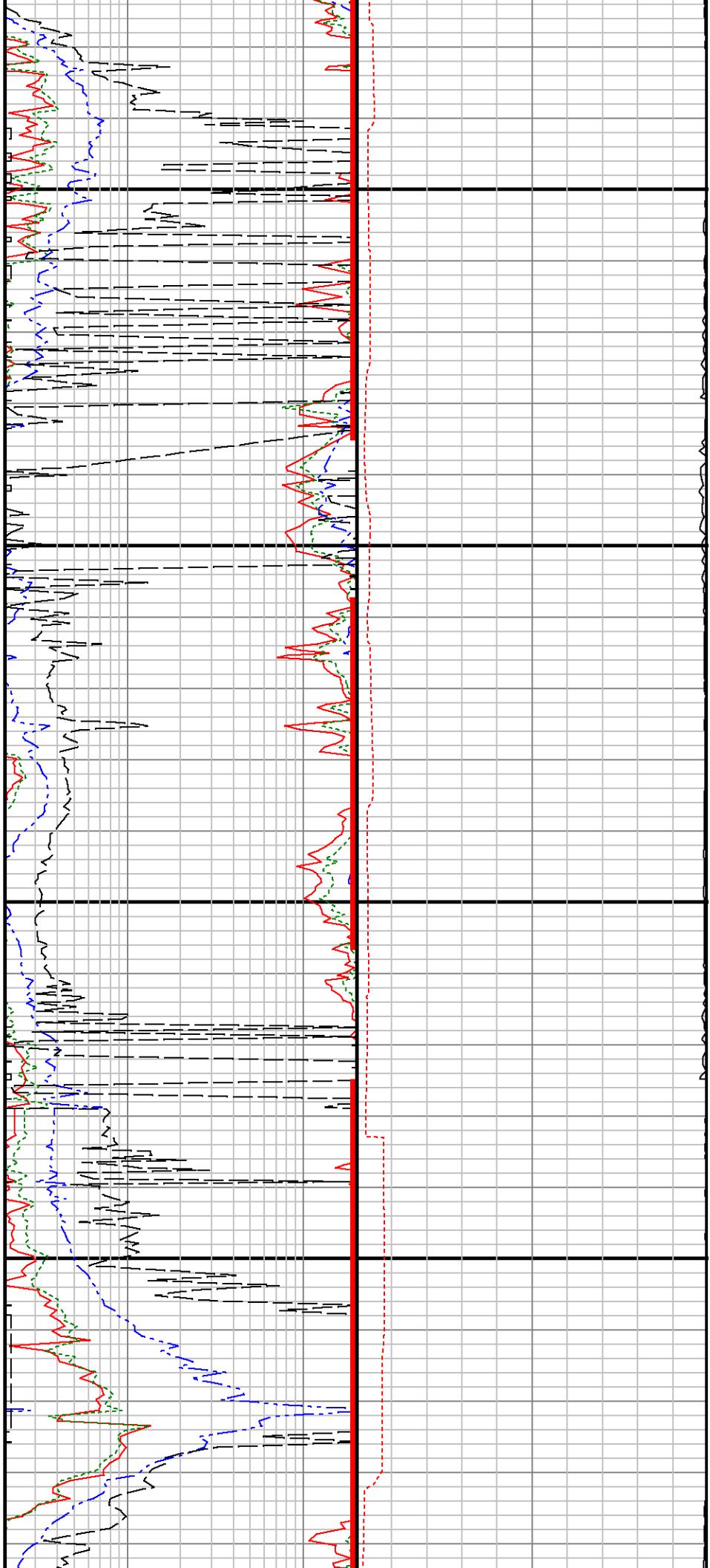
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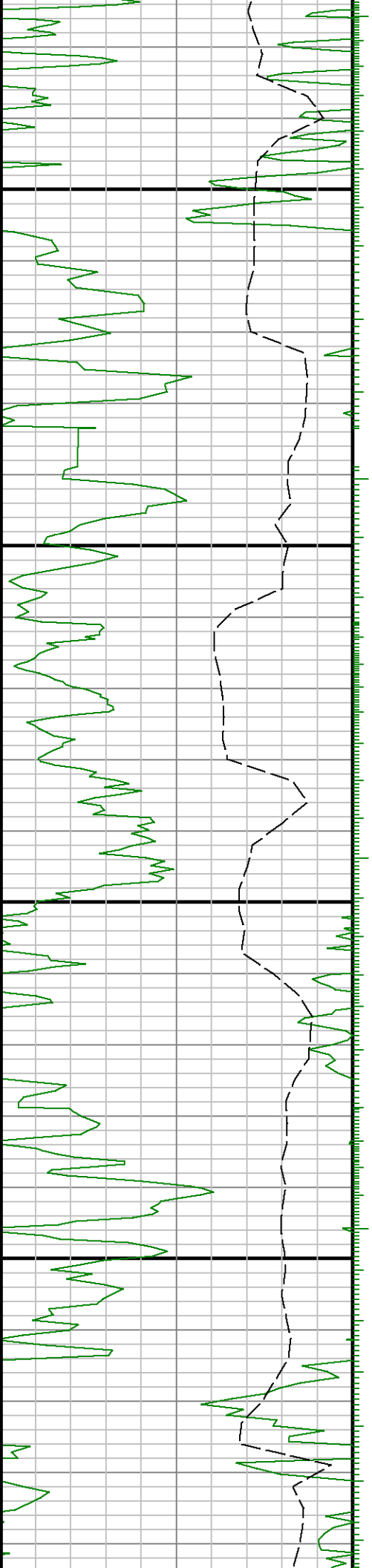


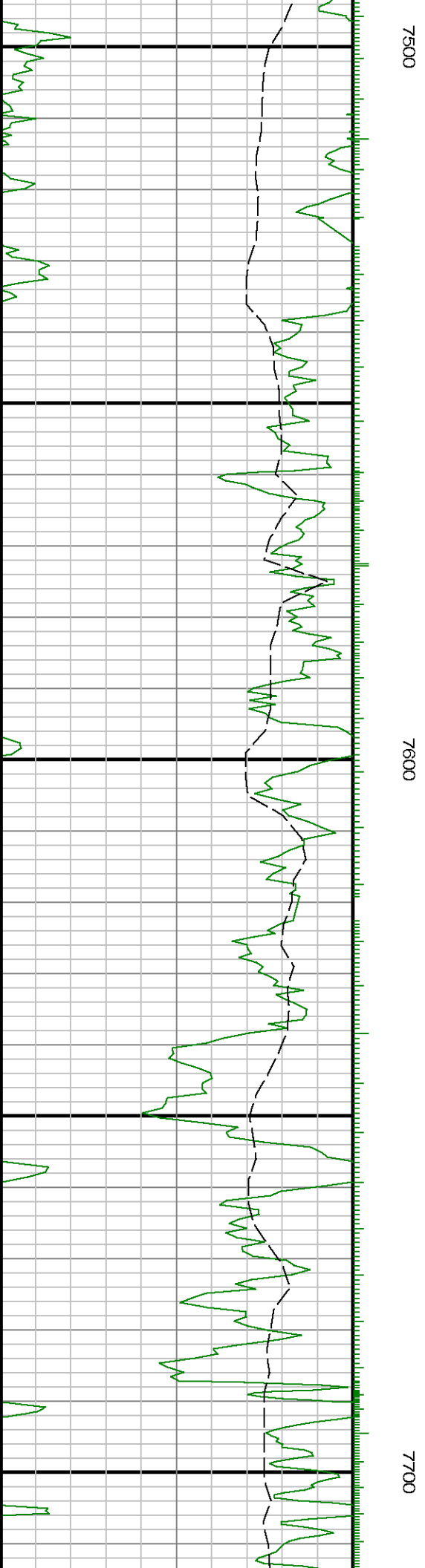
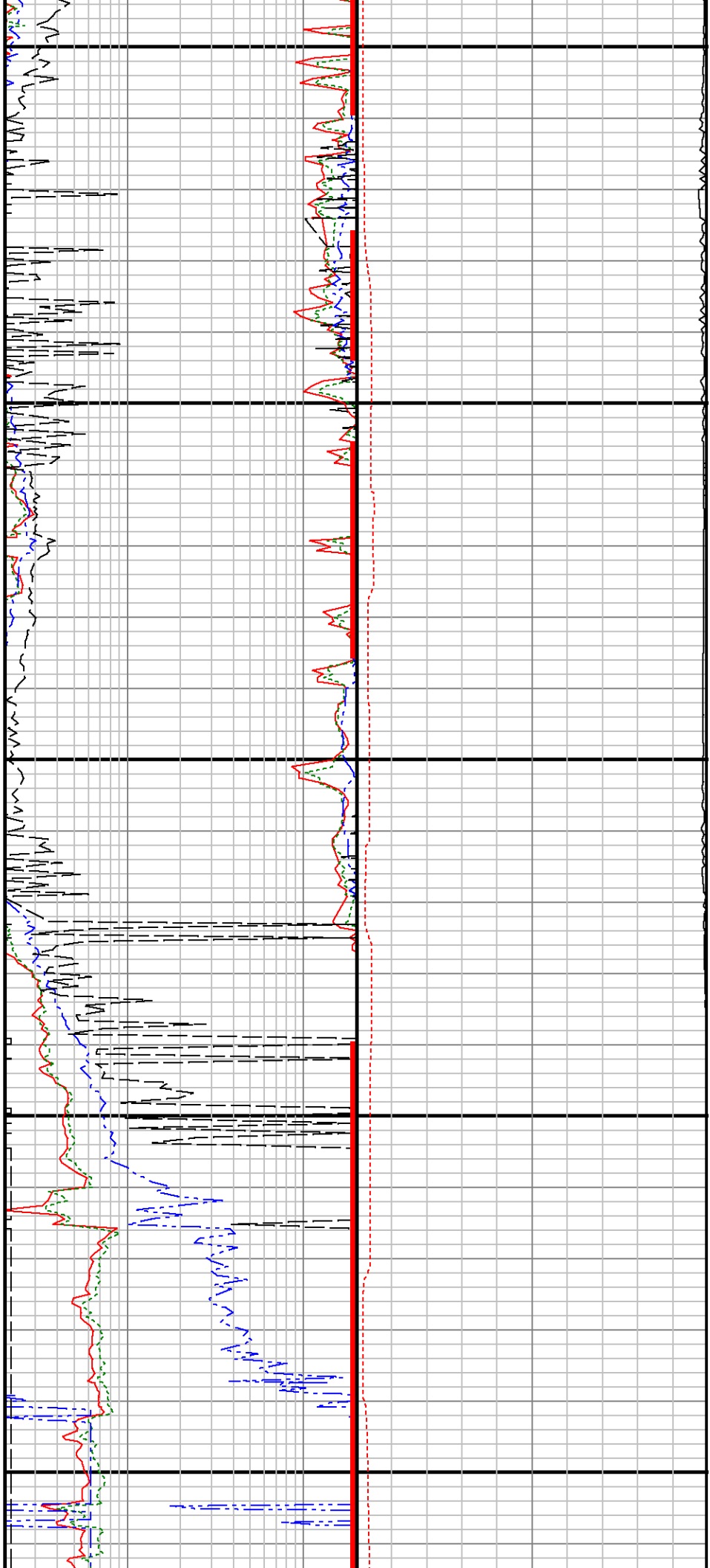


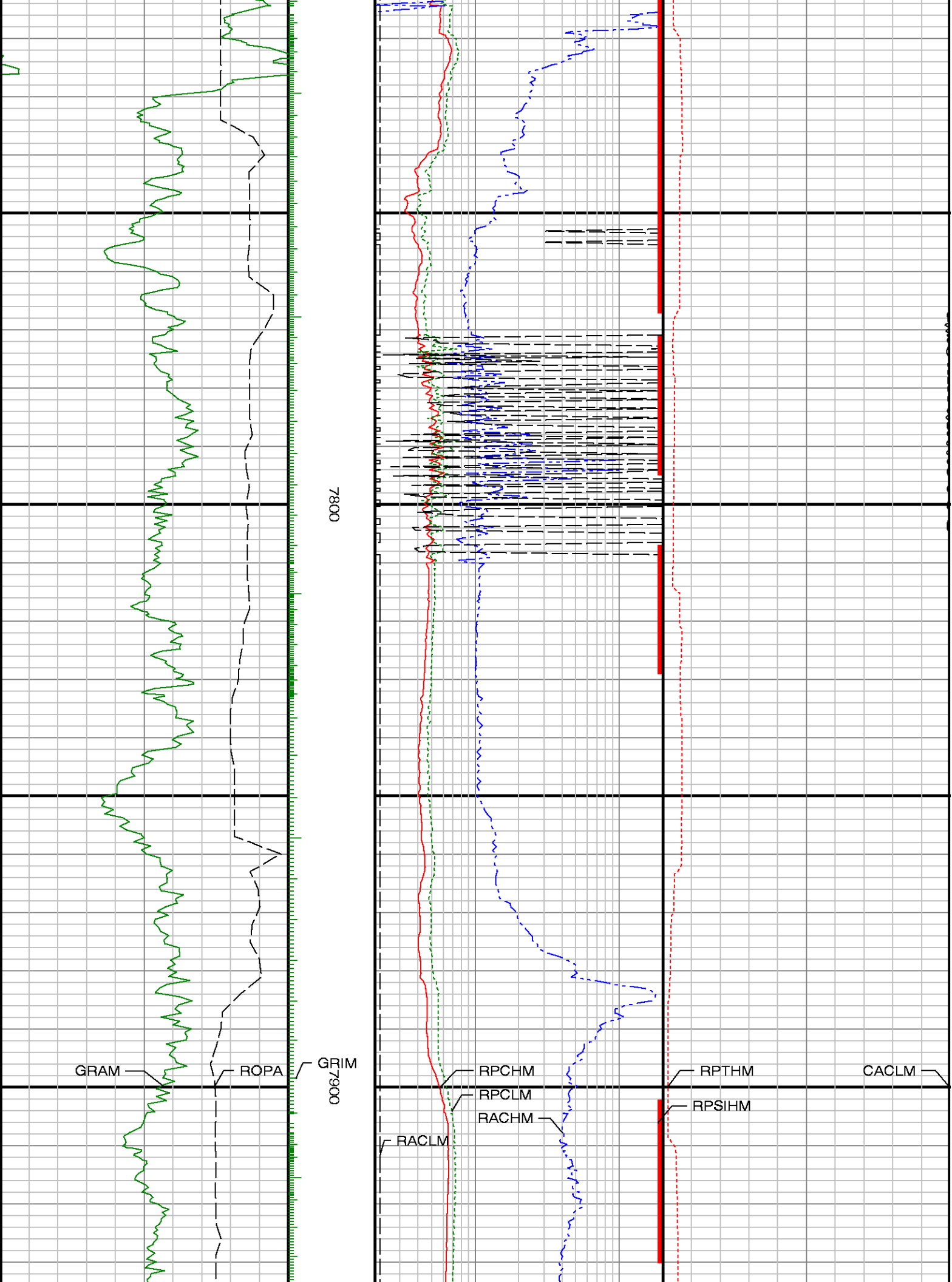


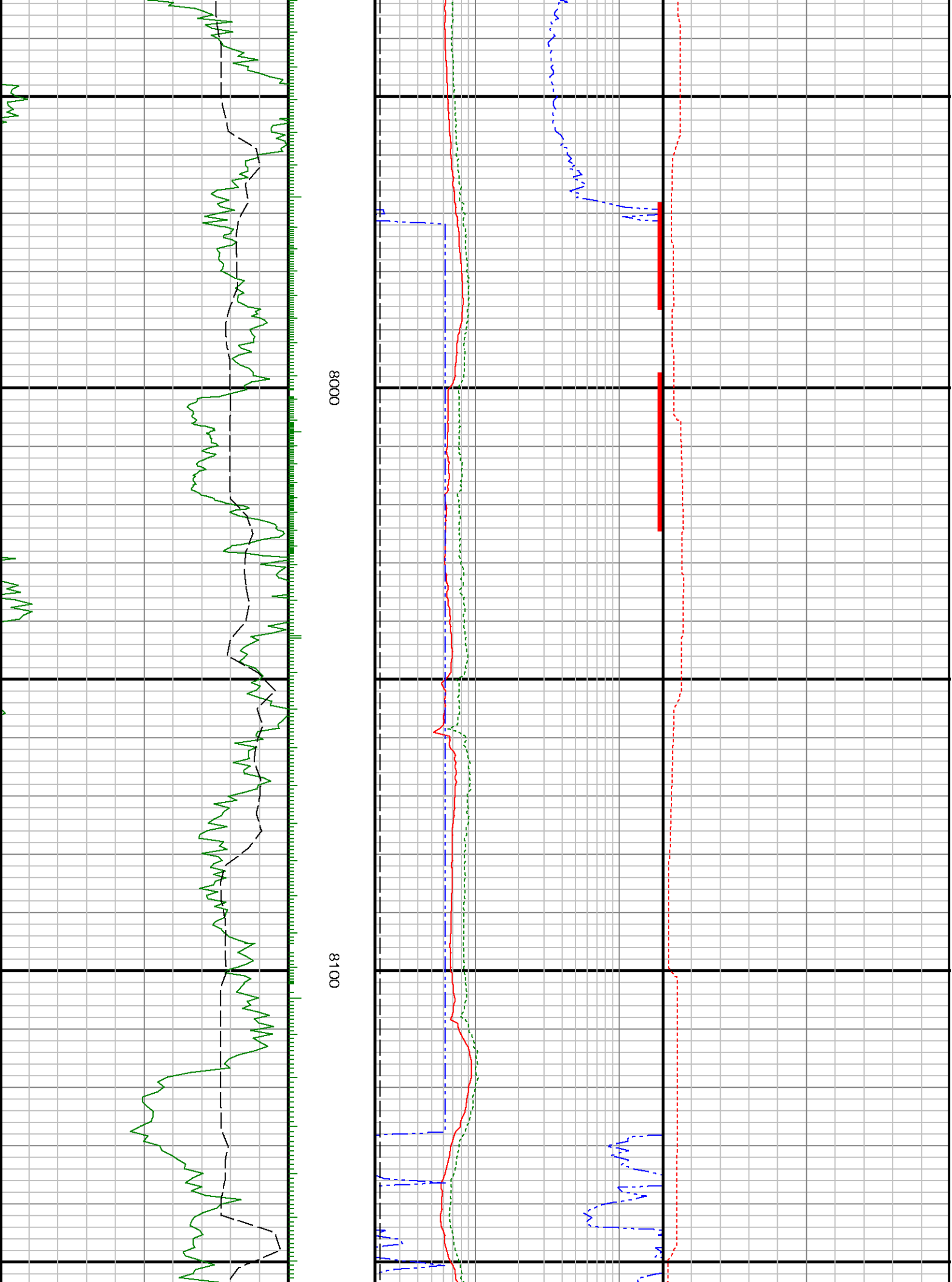
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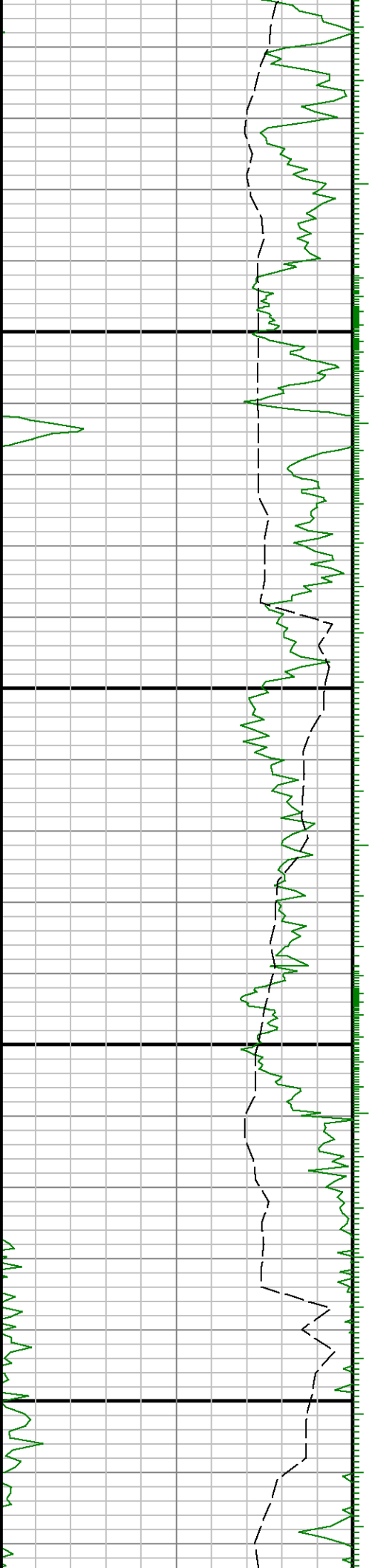


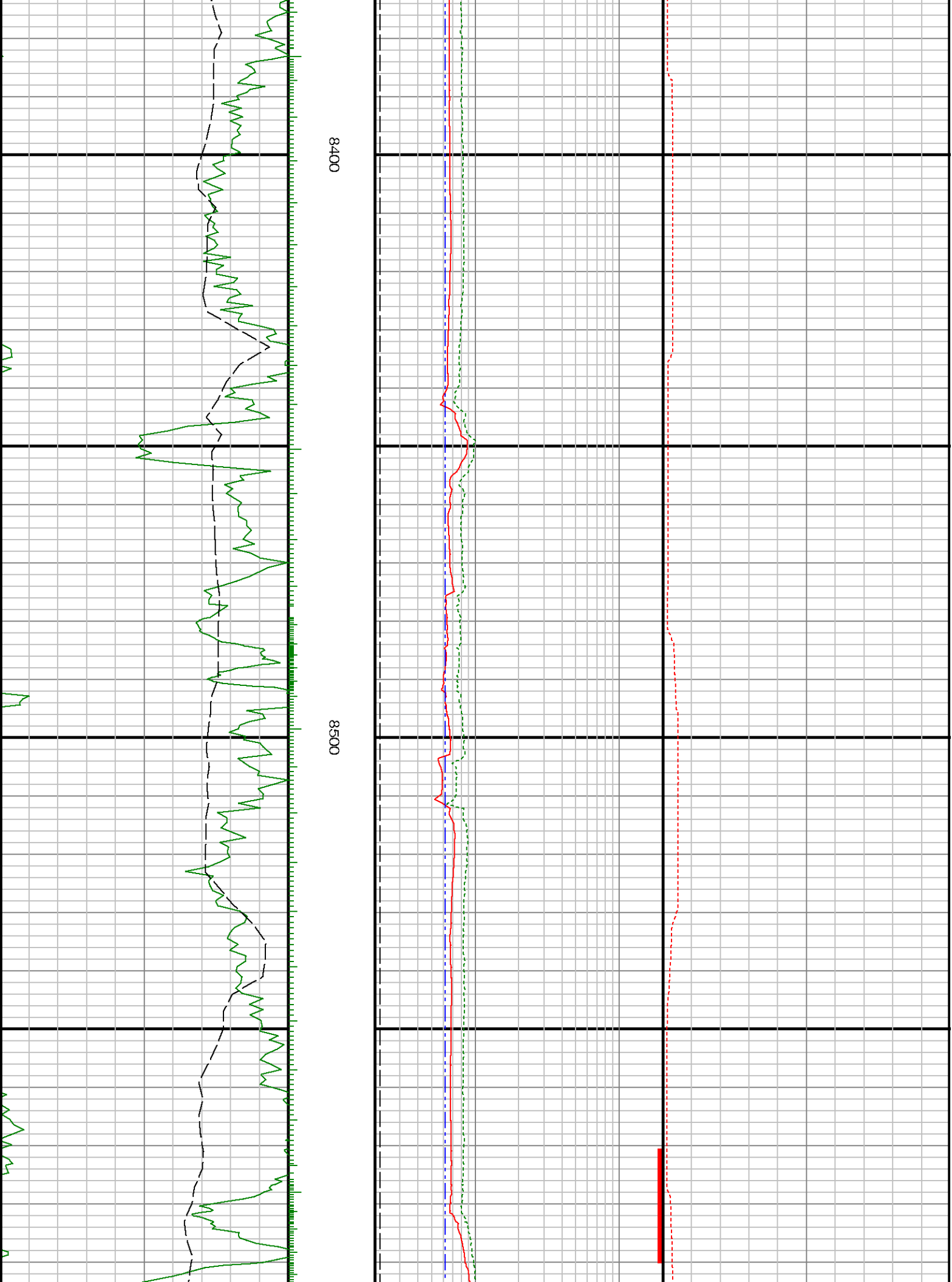


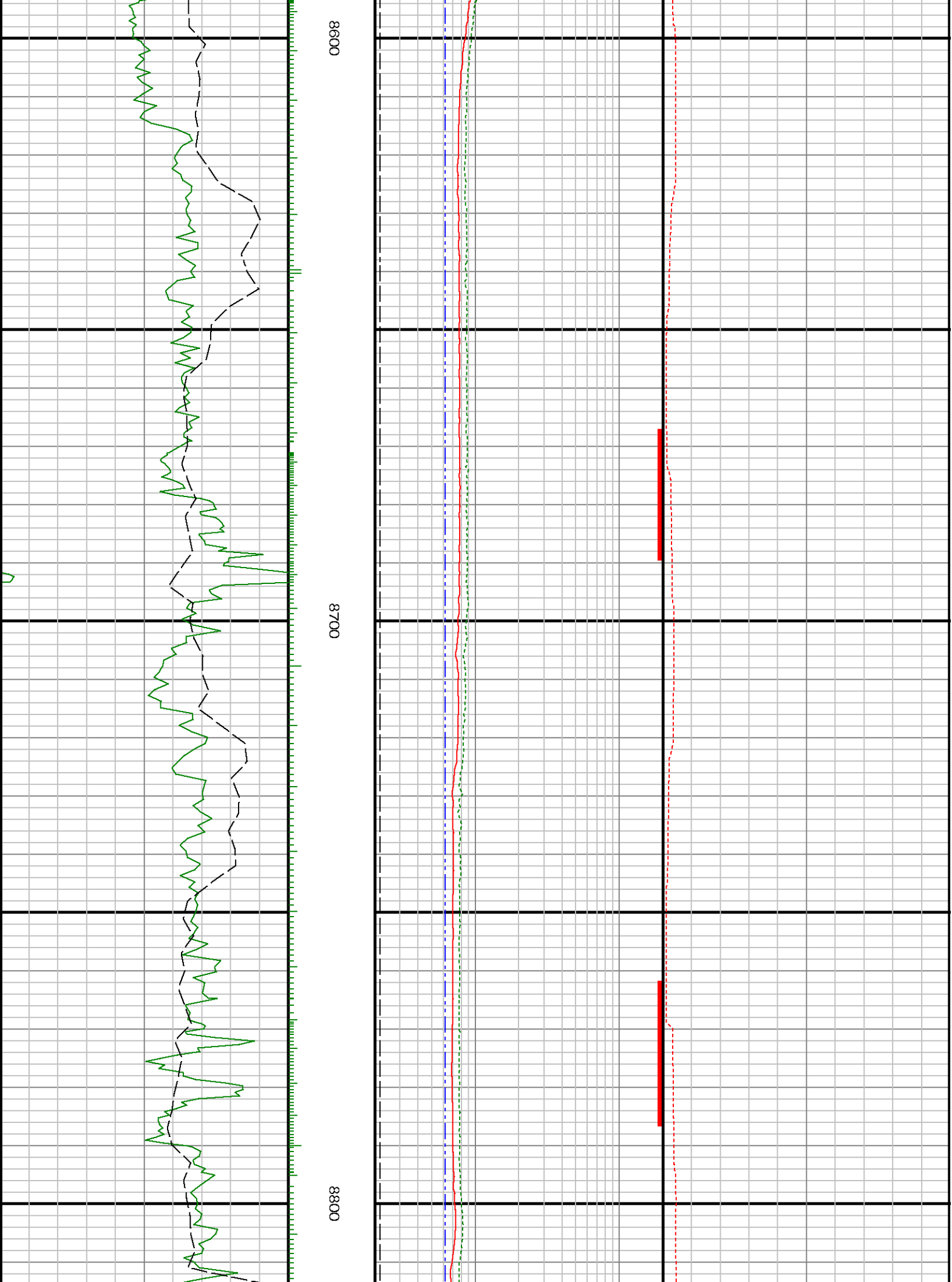


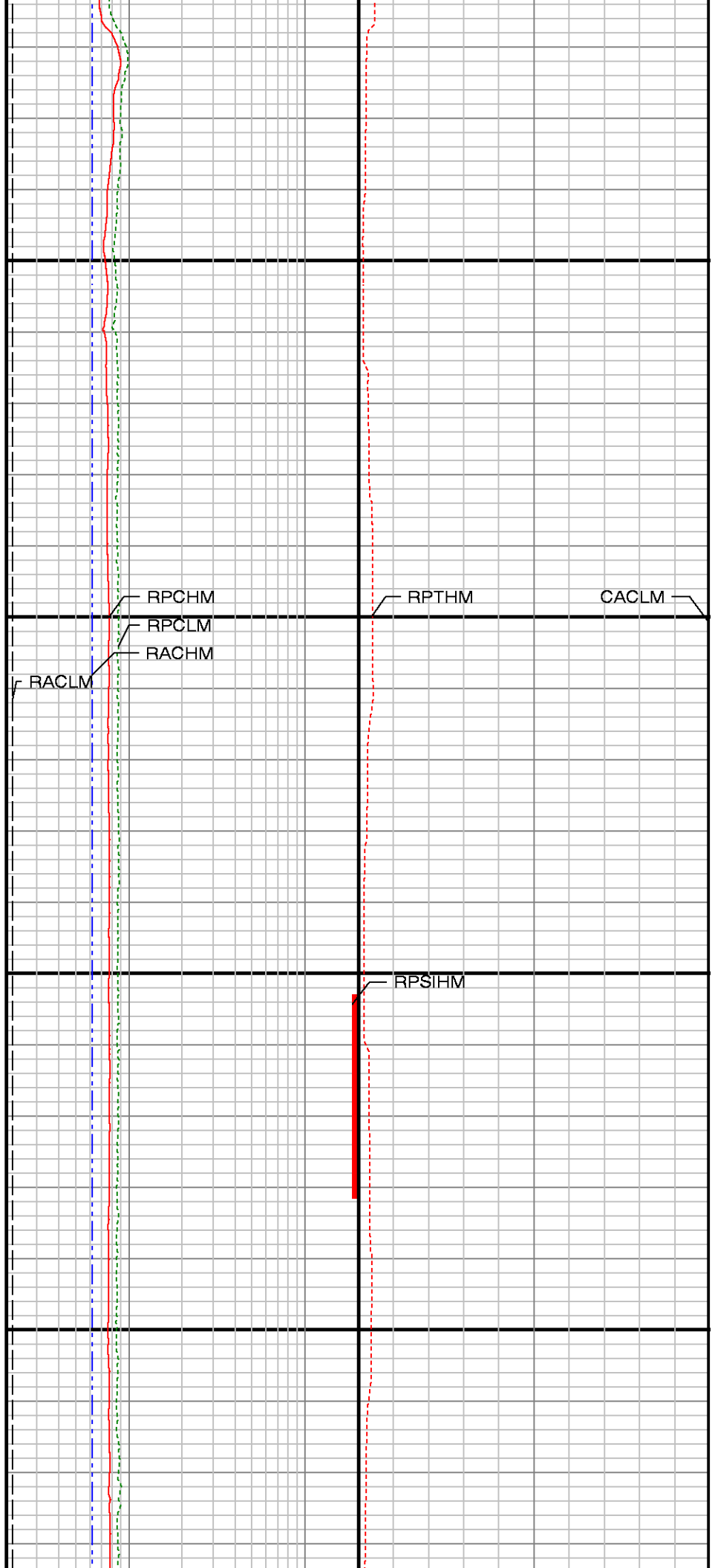
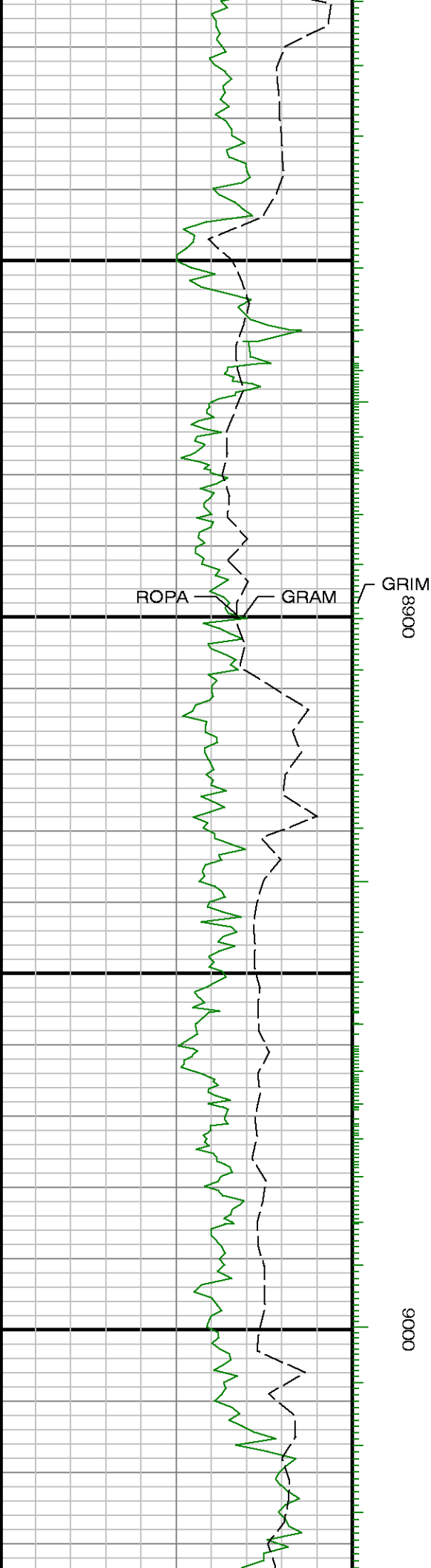
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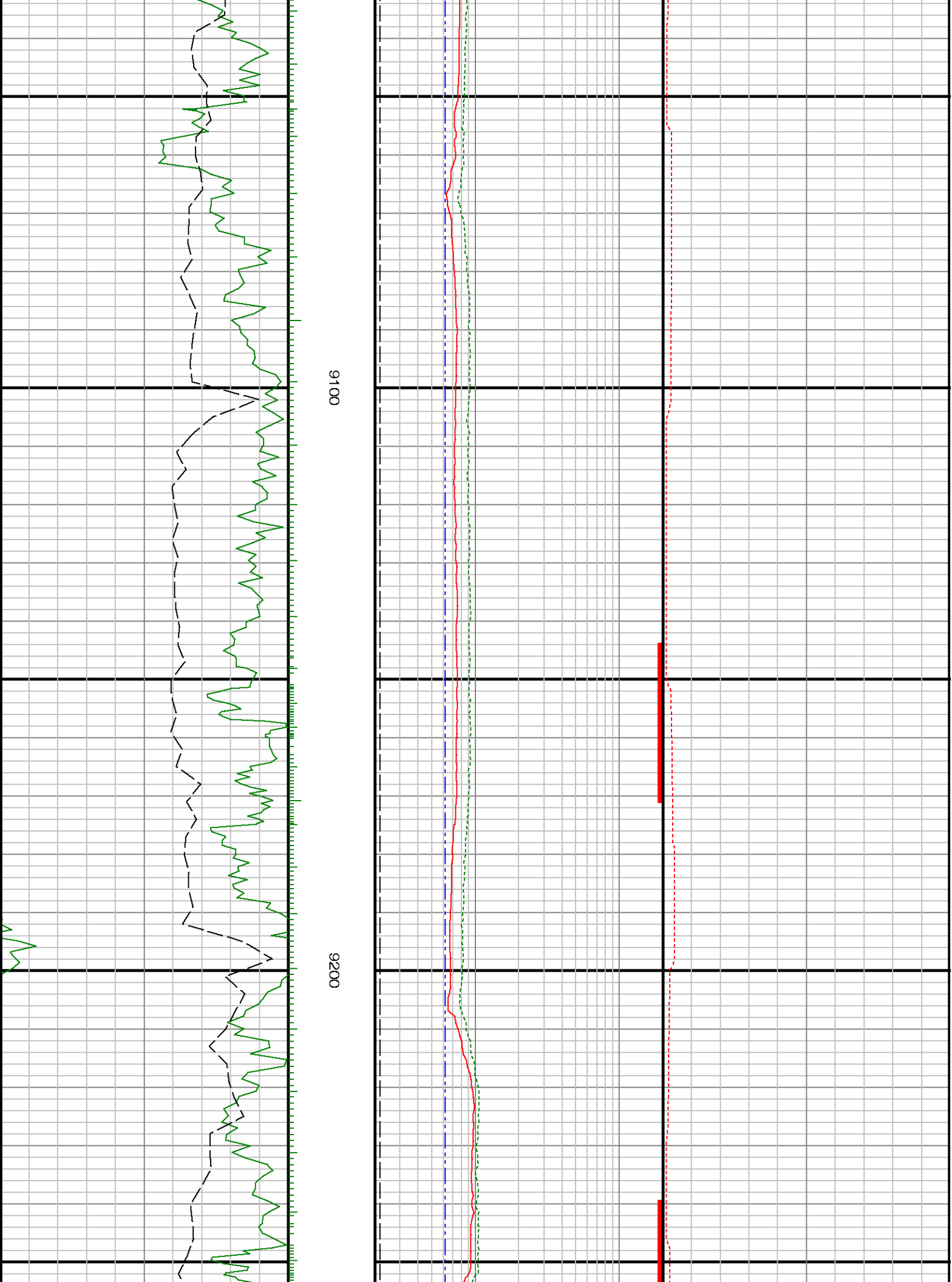
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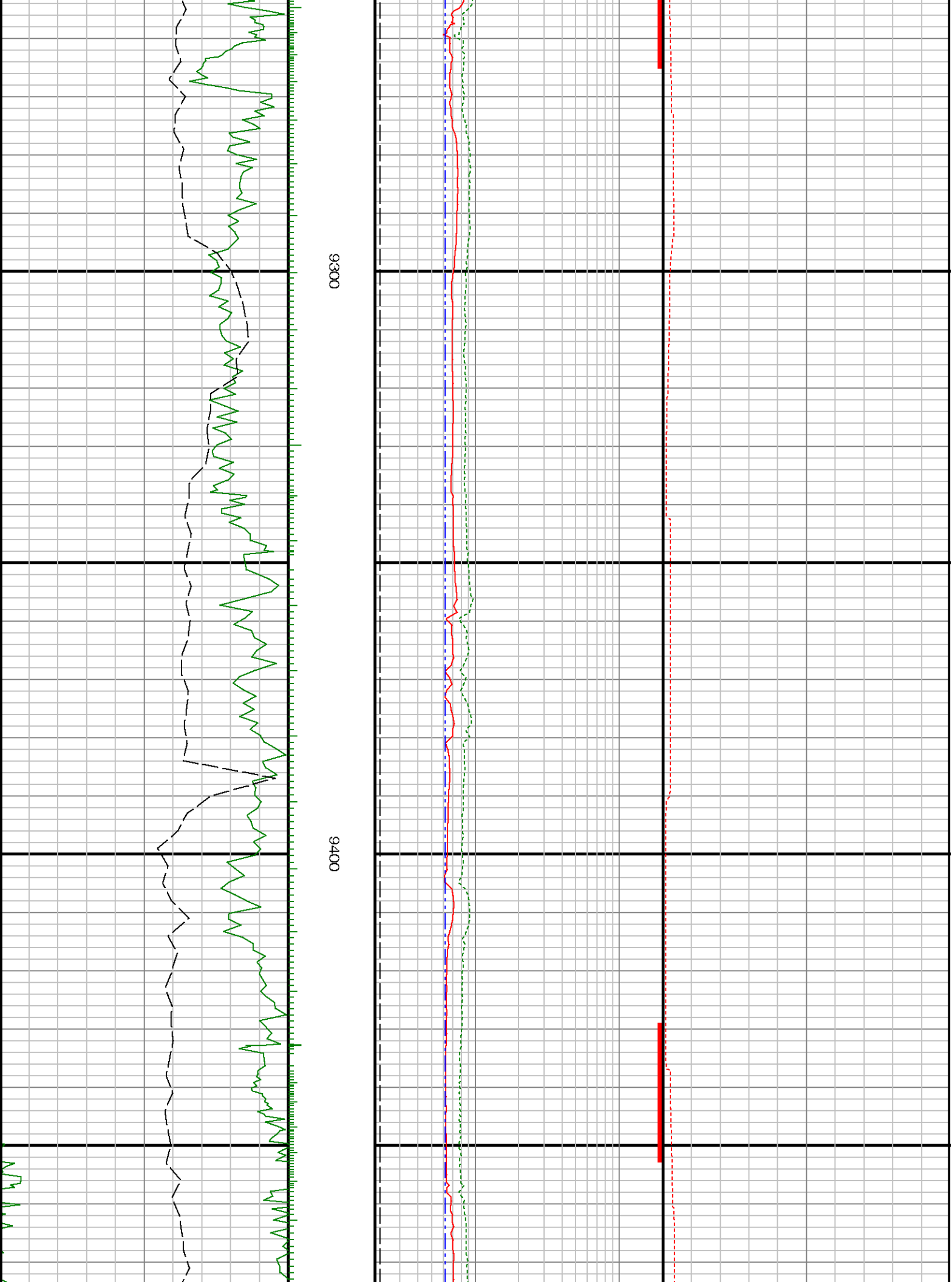


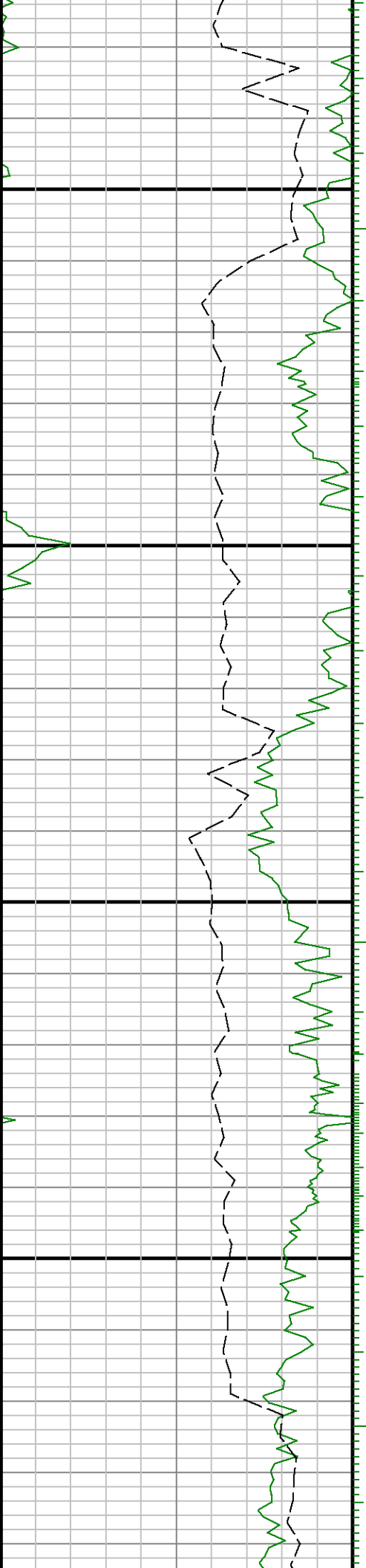






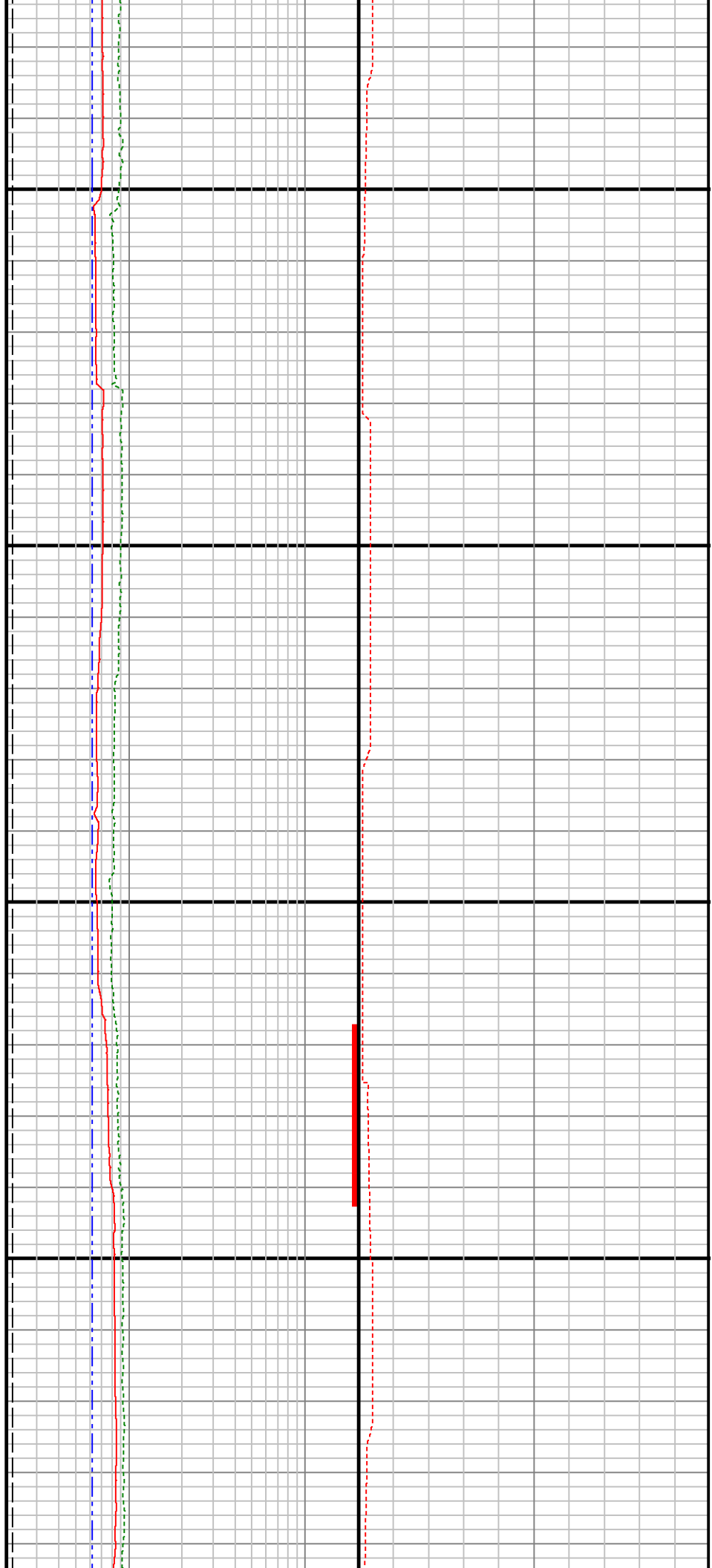


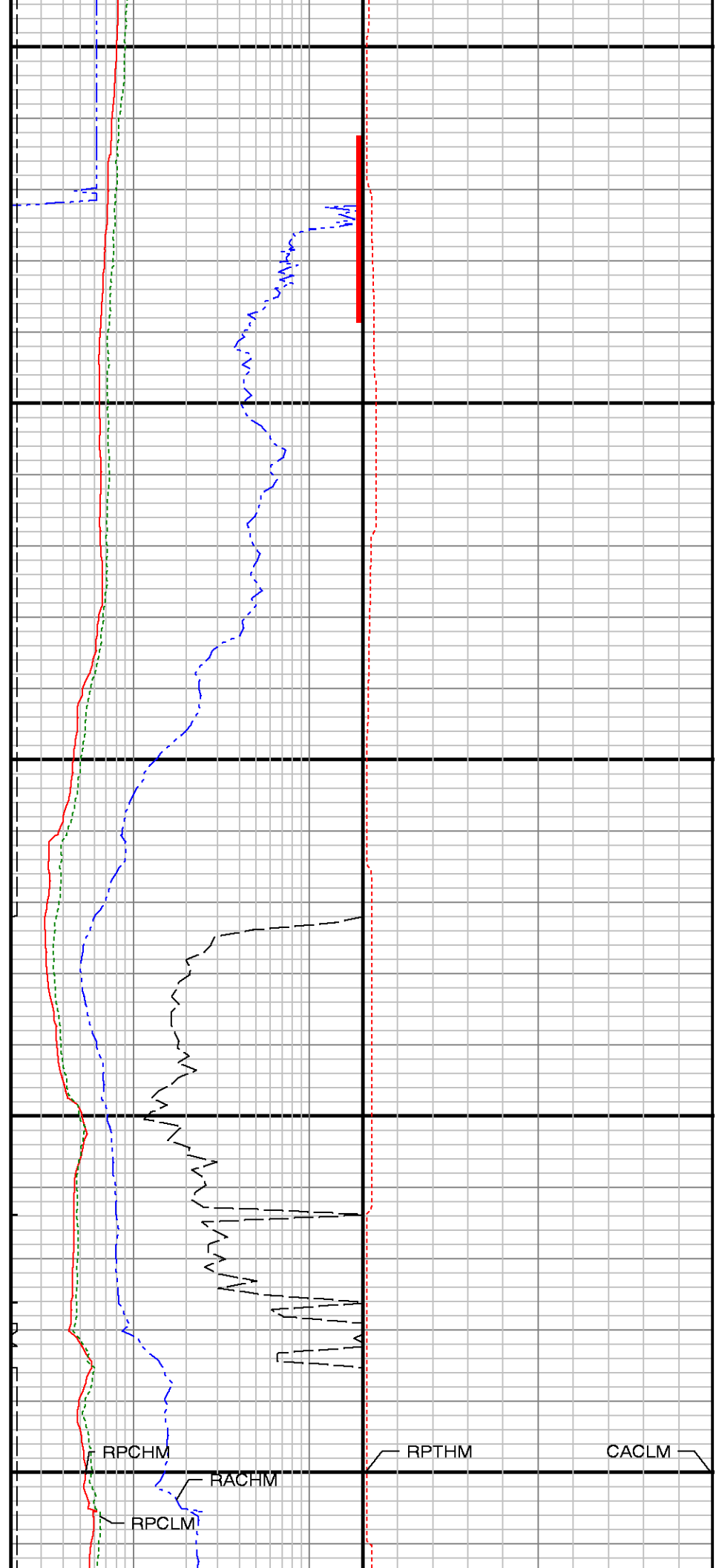
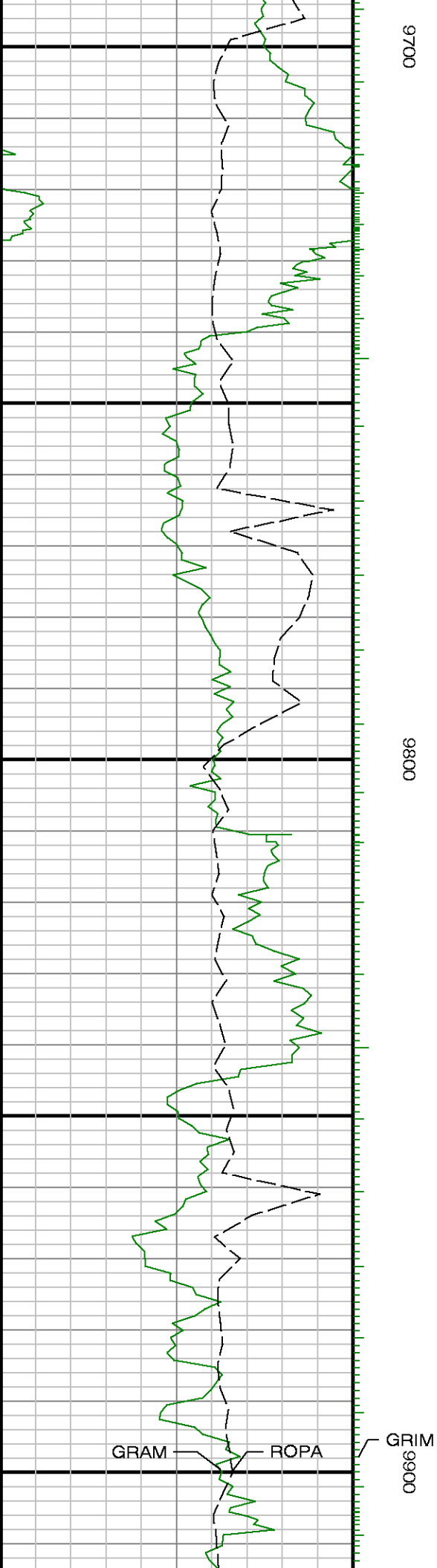


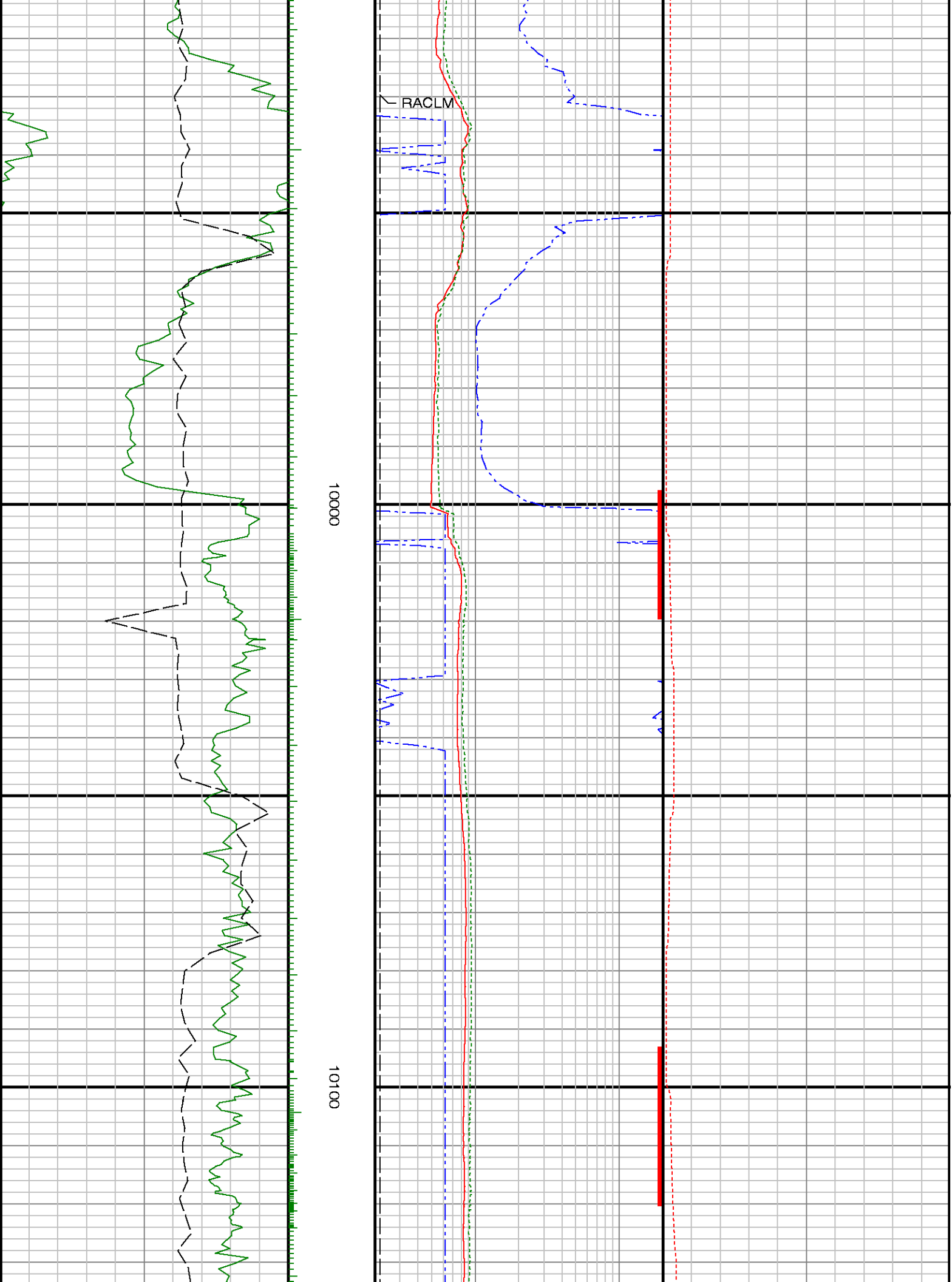


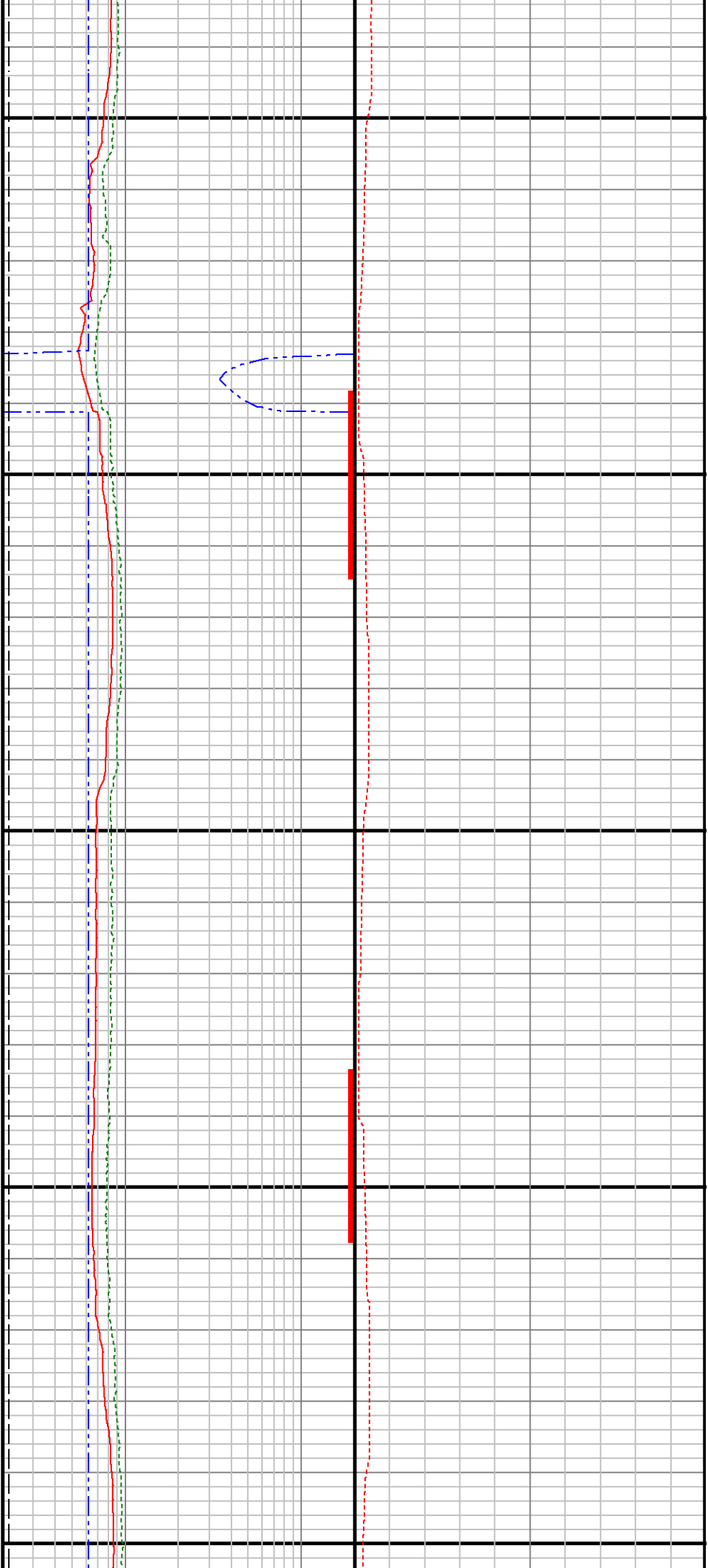
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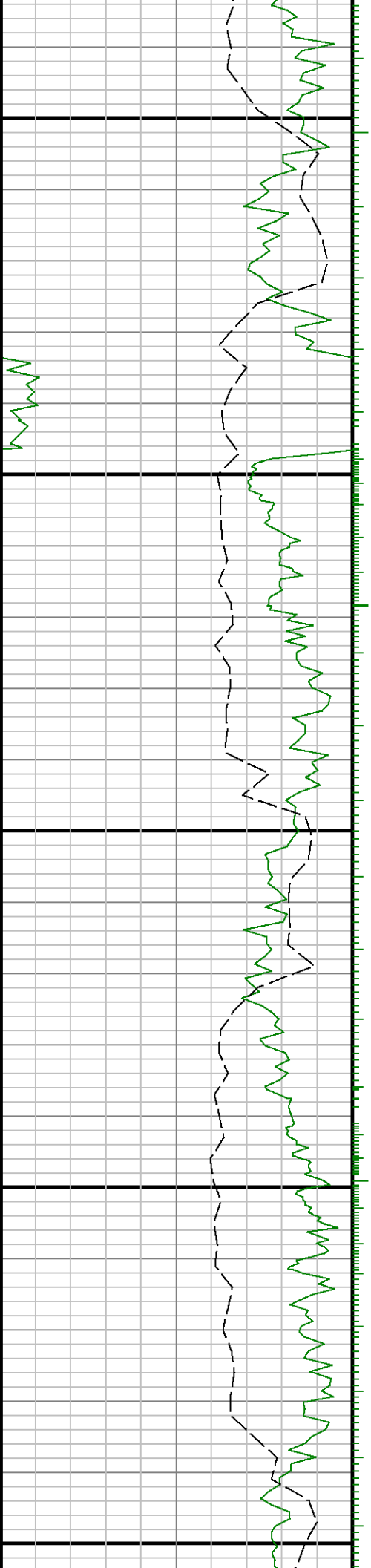


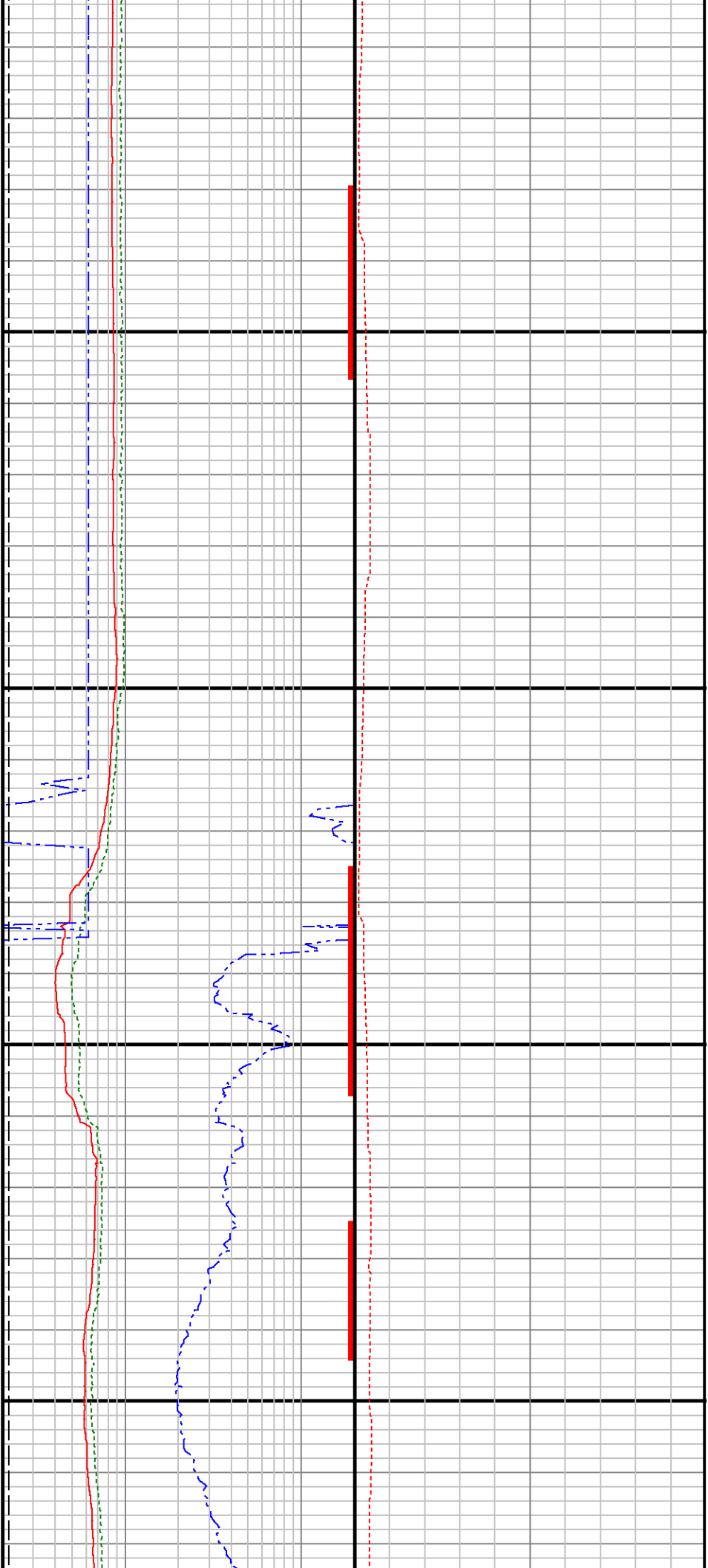




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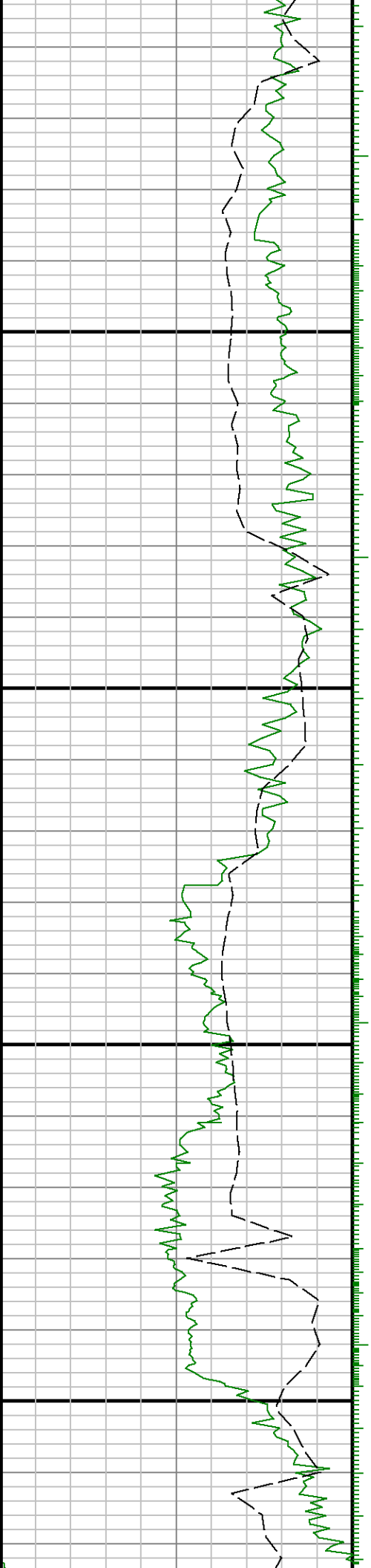
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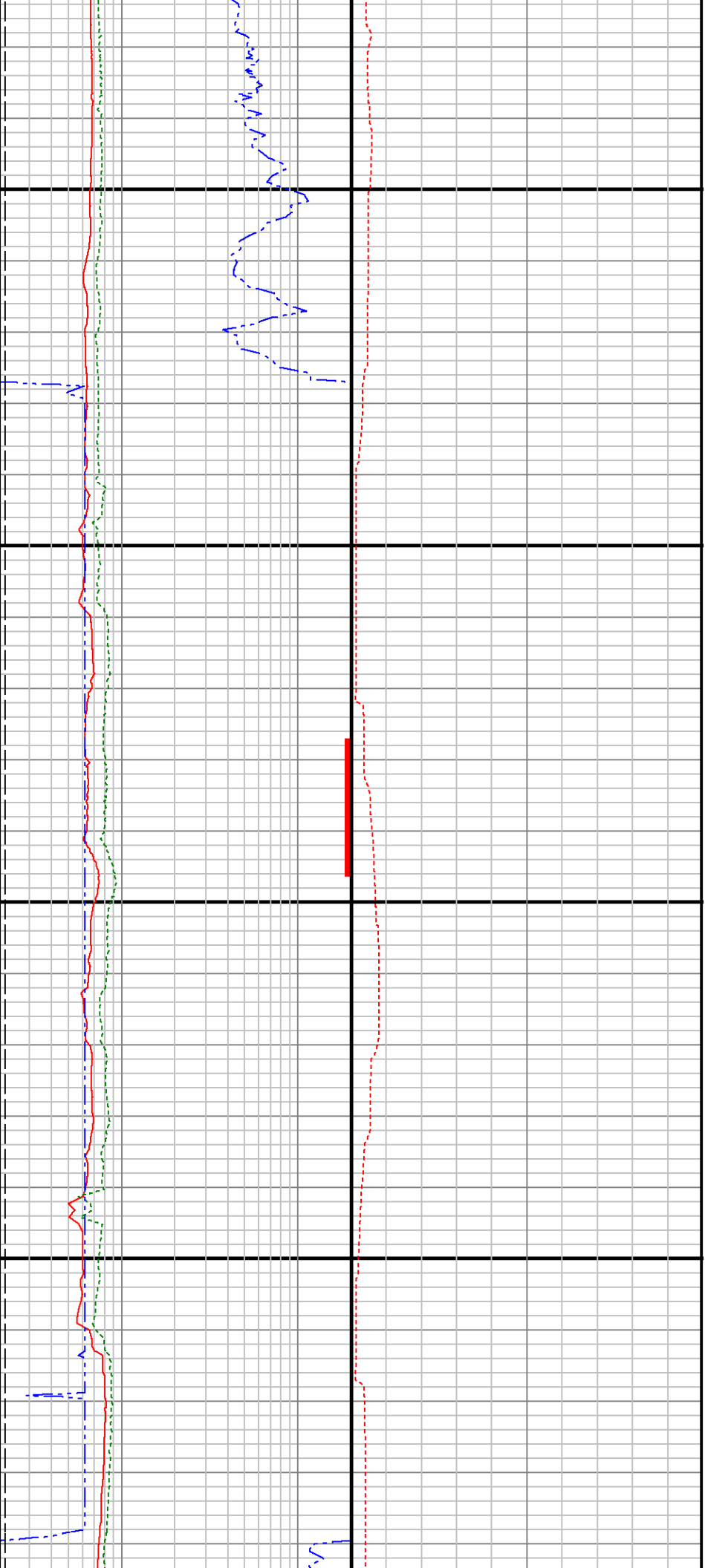




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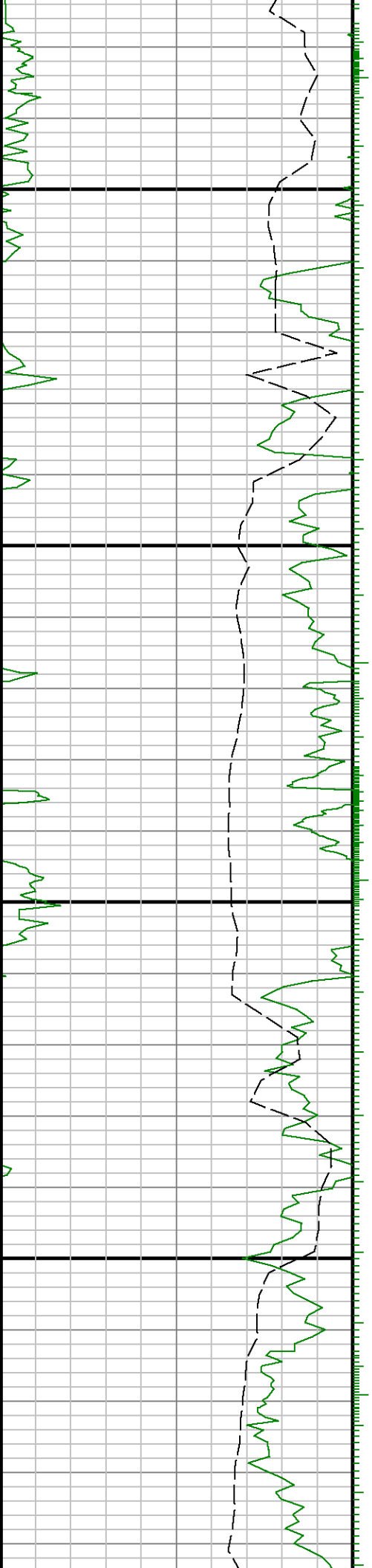
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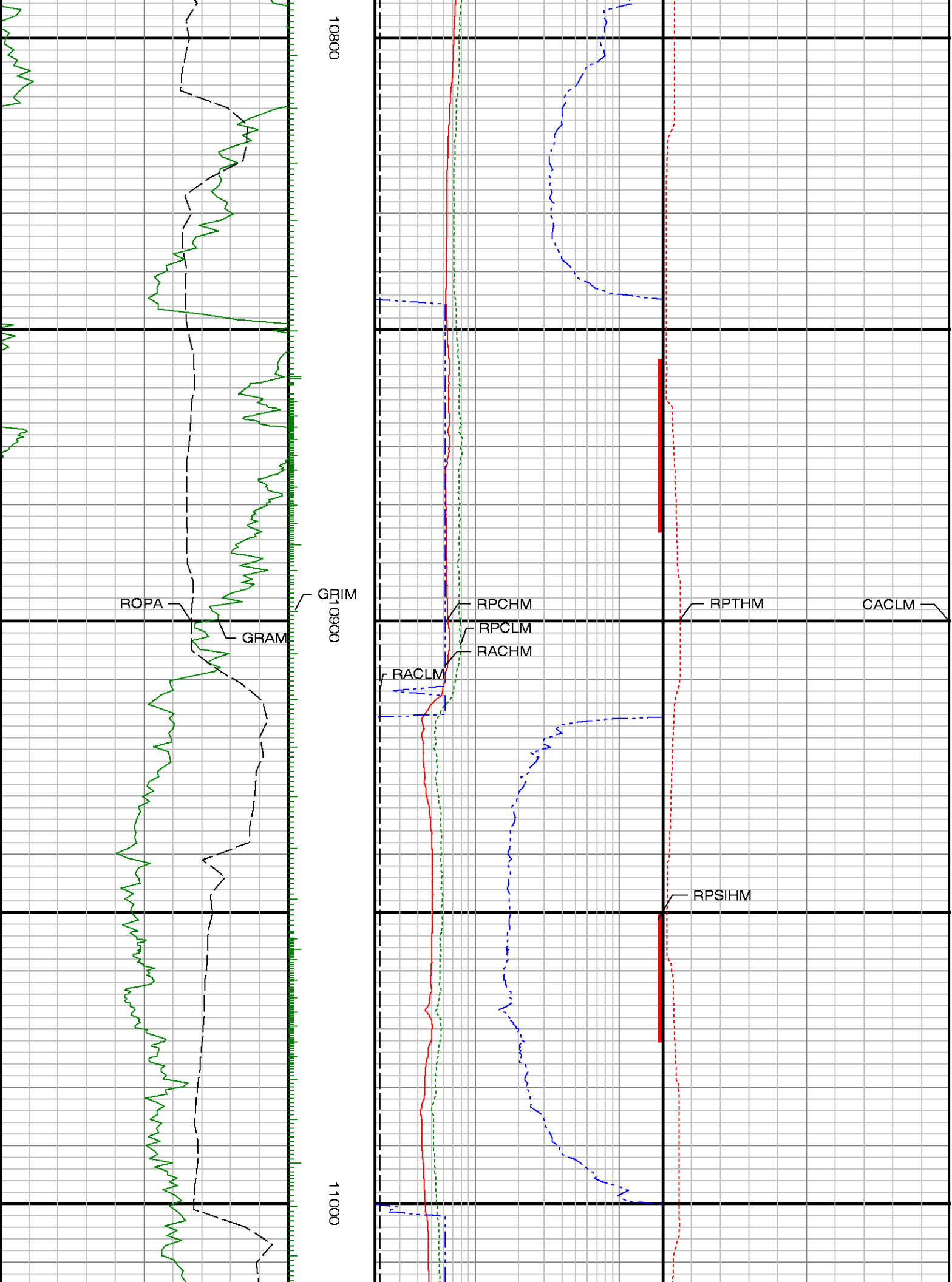


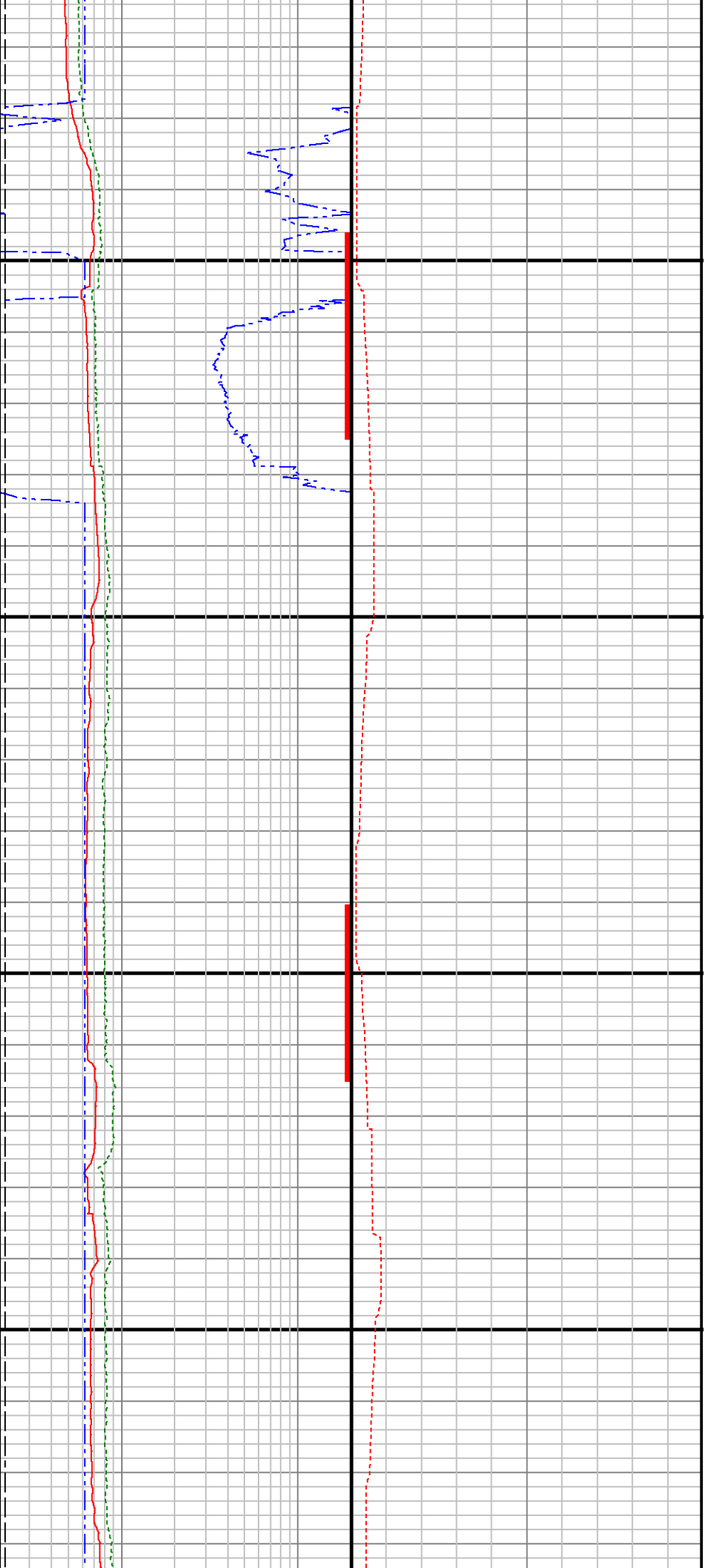


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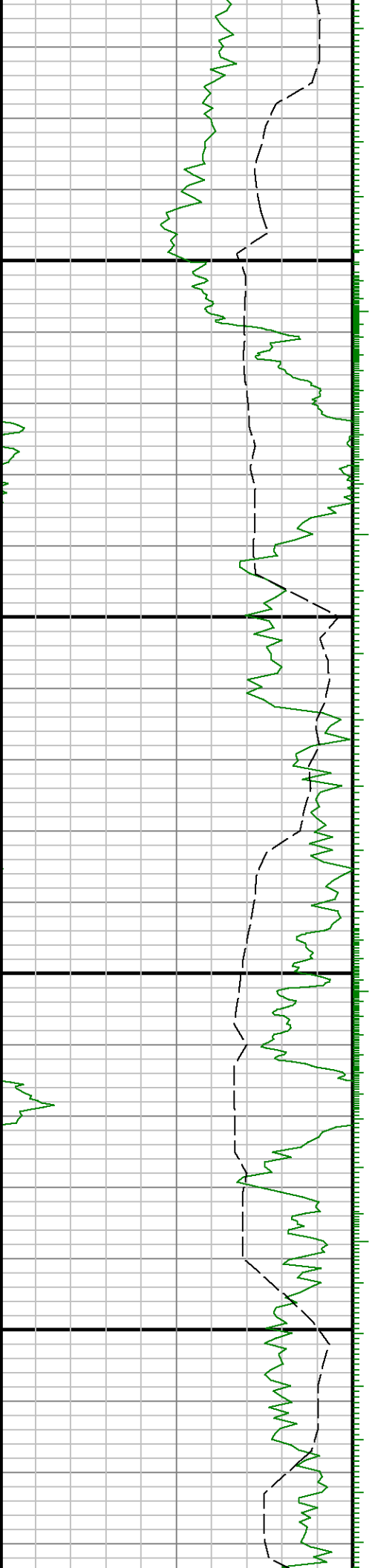


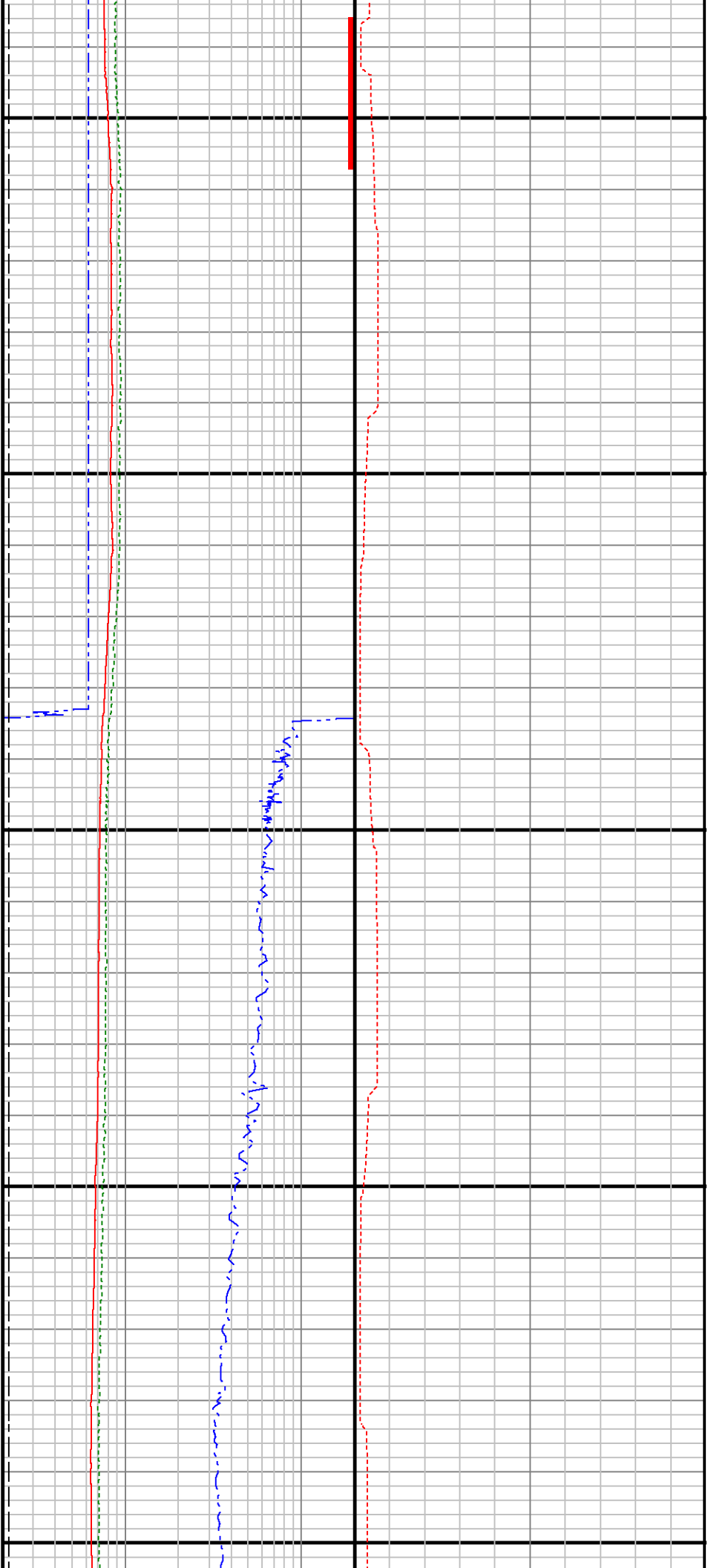




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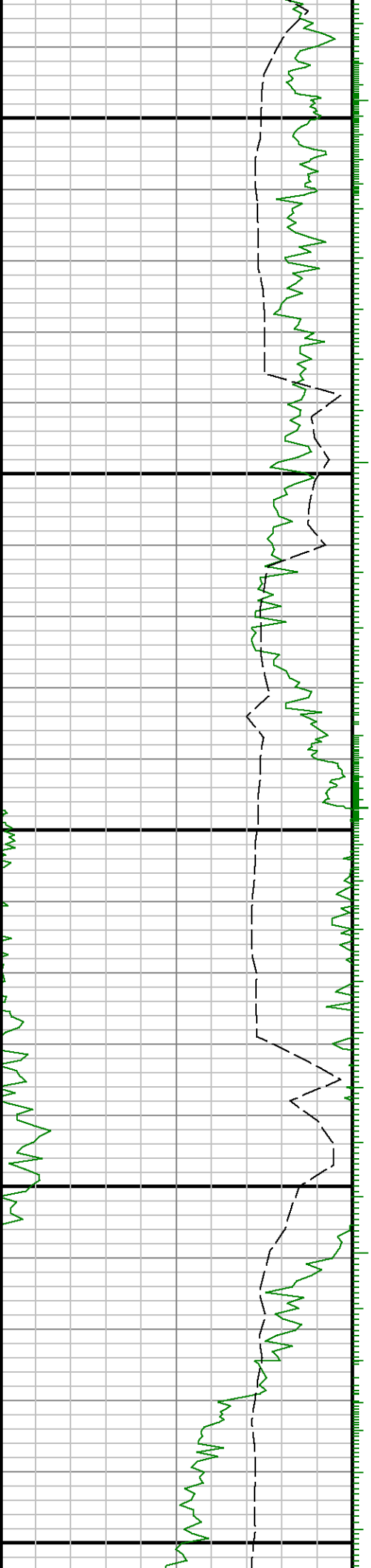
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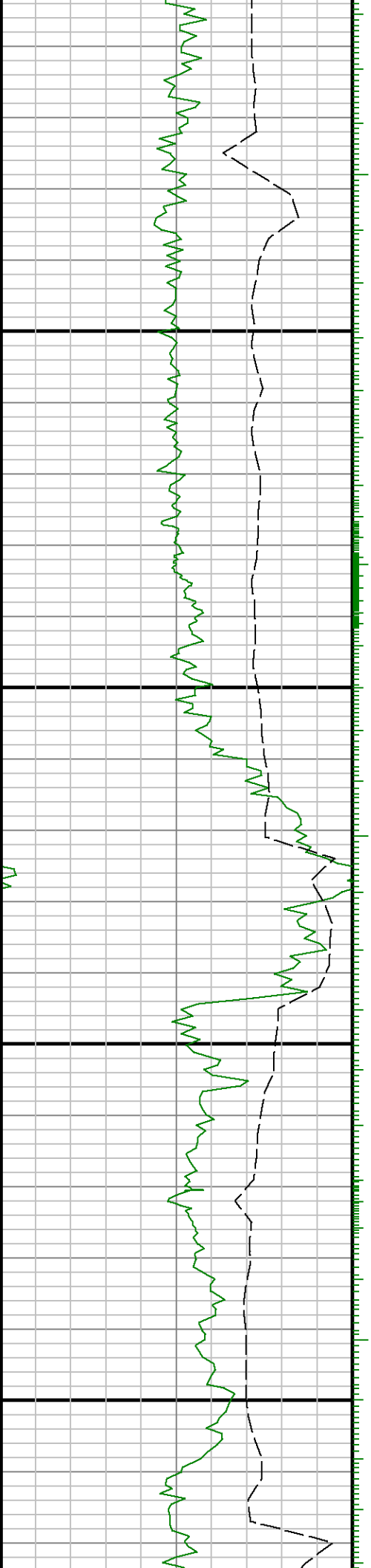
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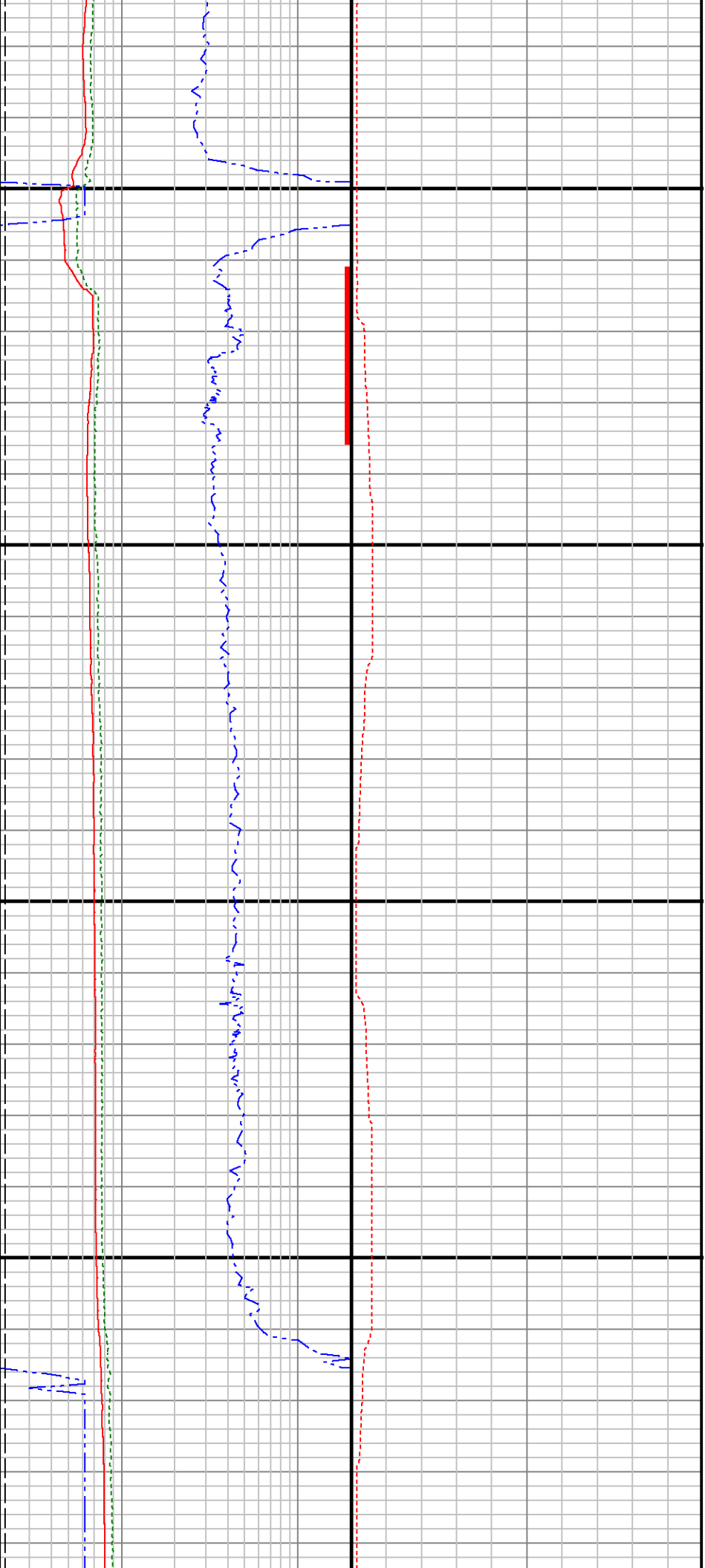




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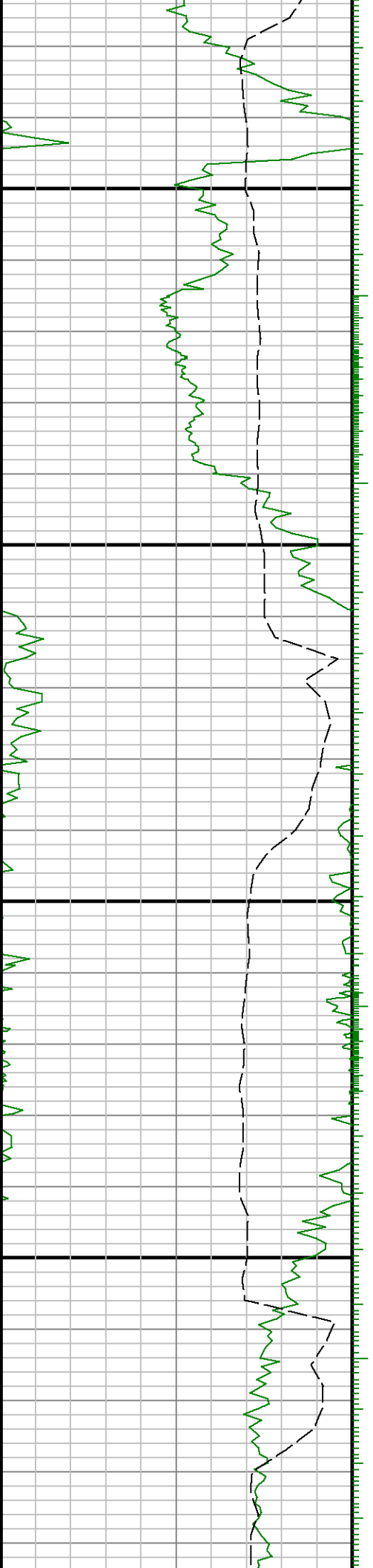
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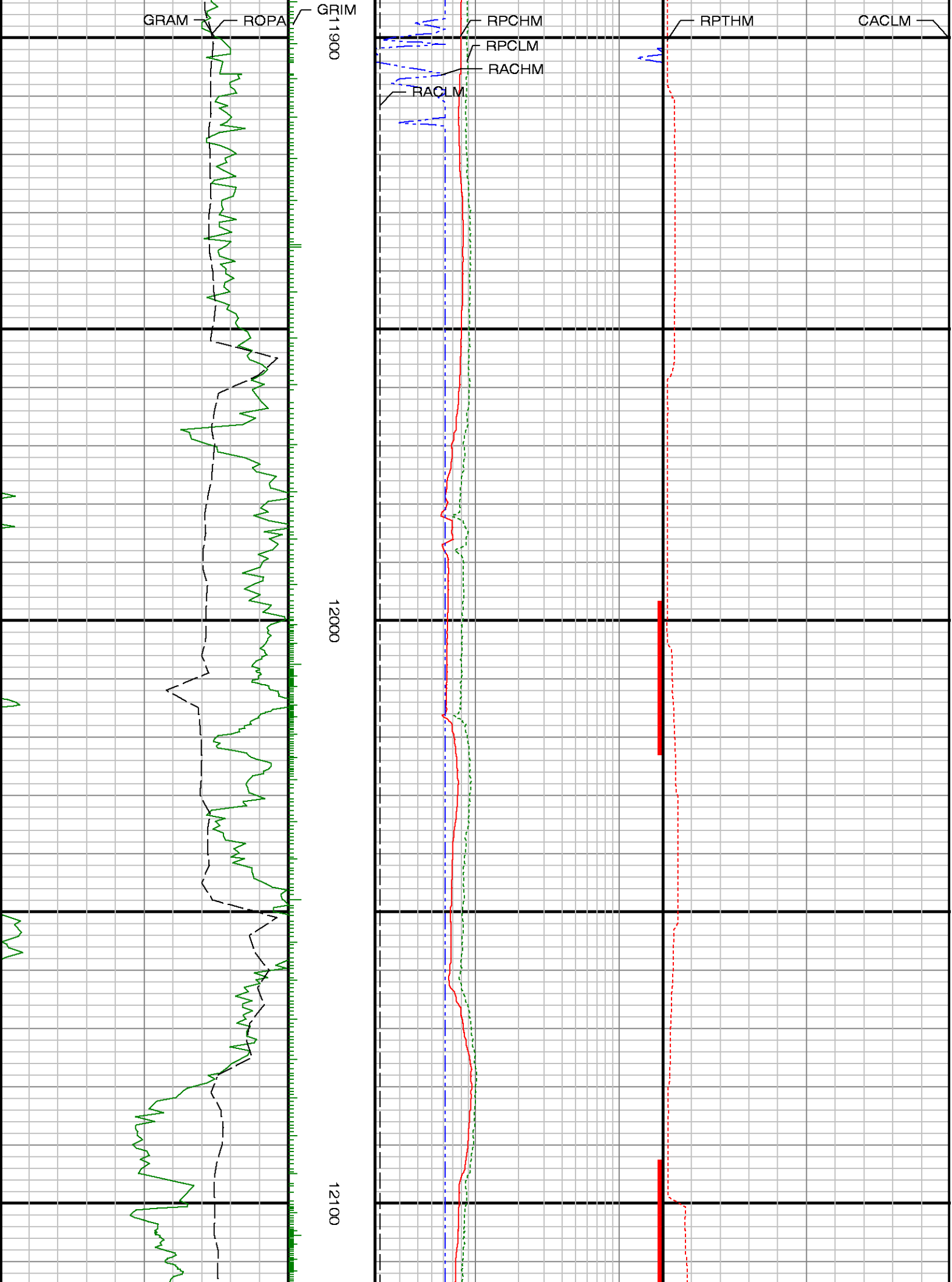


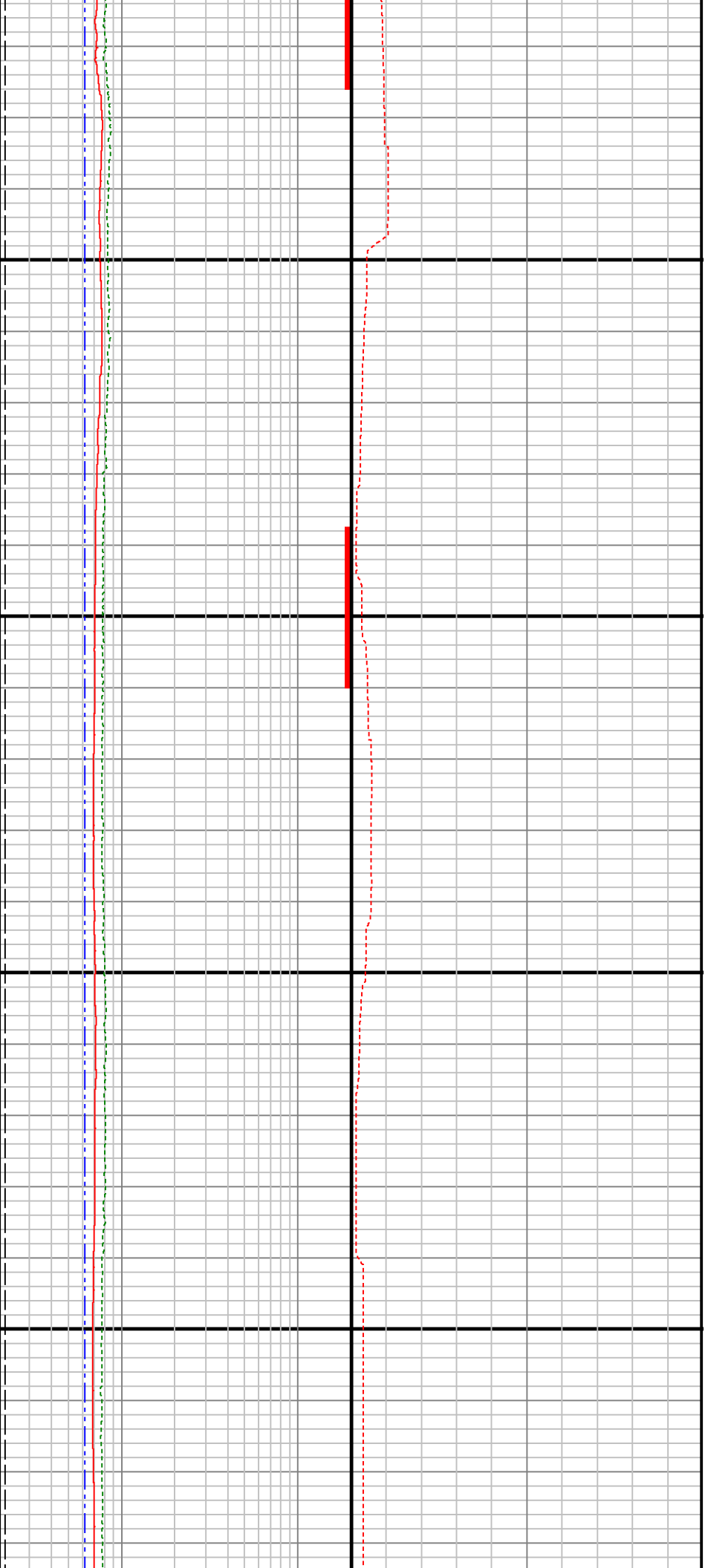


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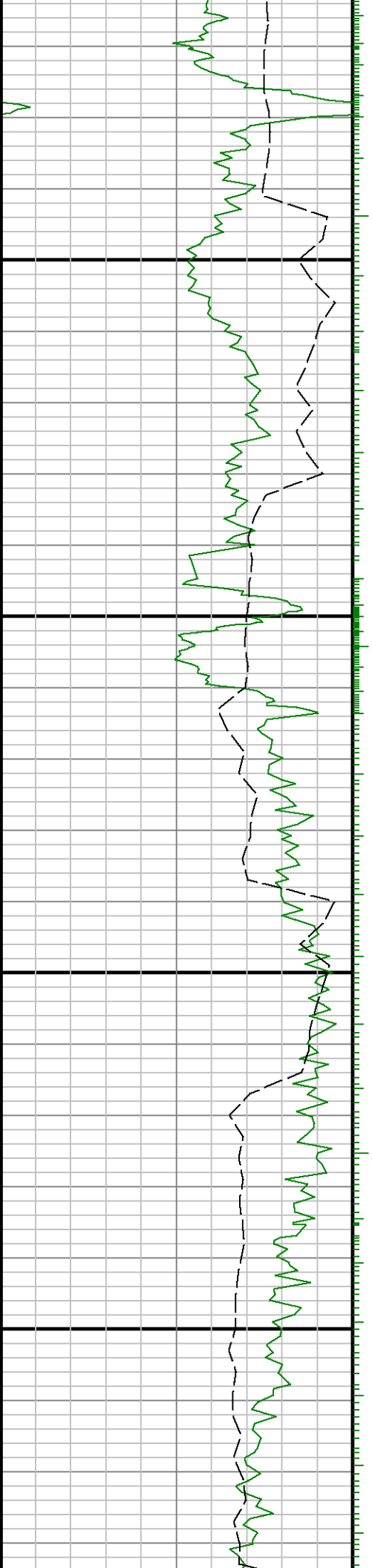


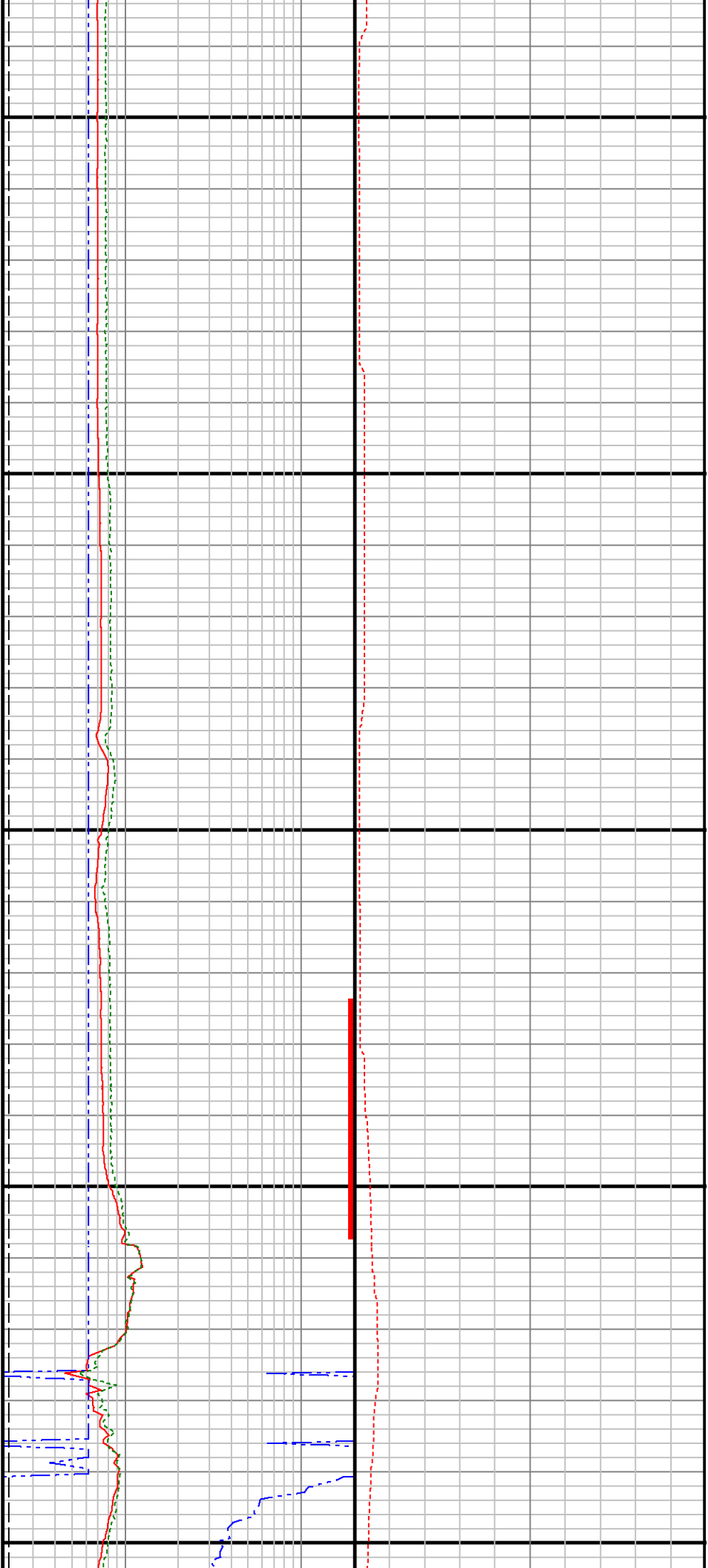




12200

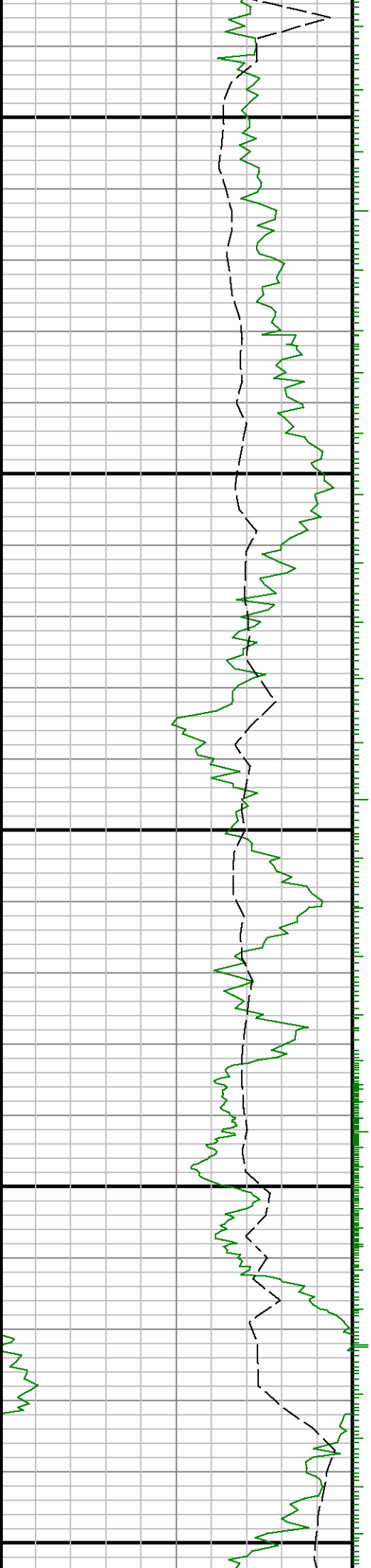
12300

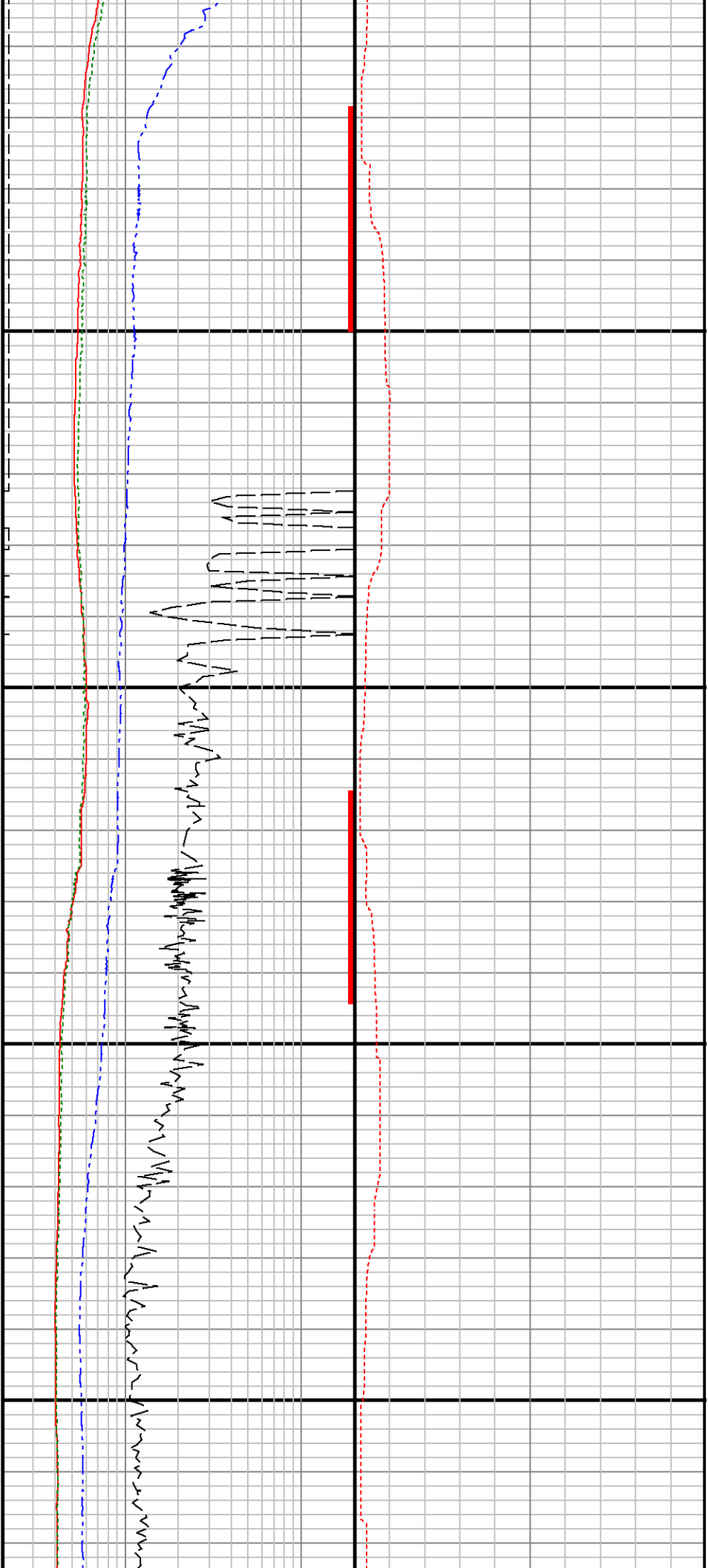




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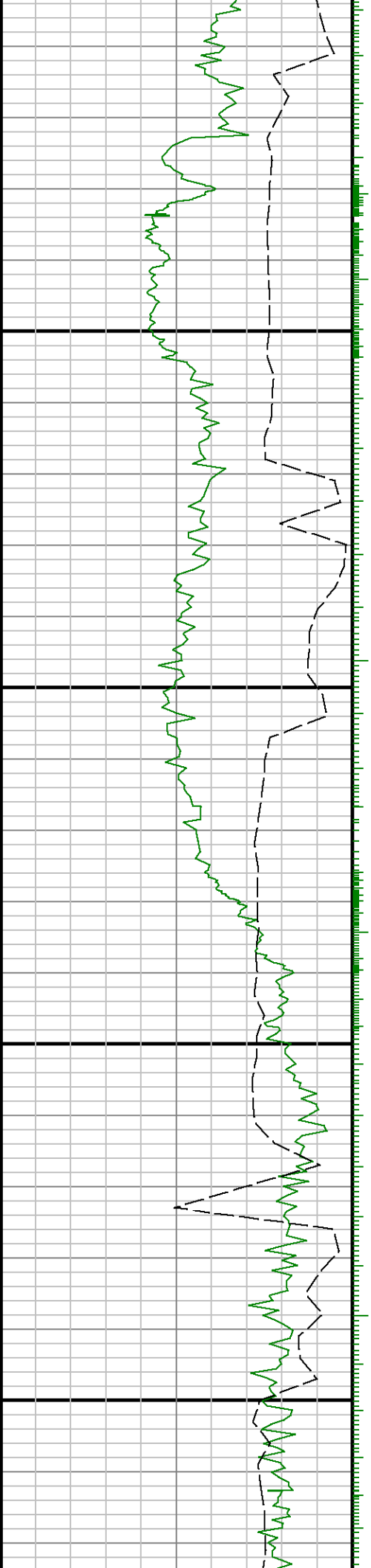
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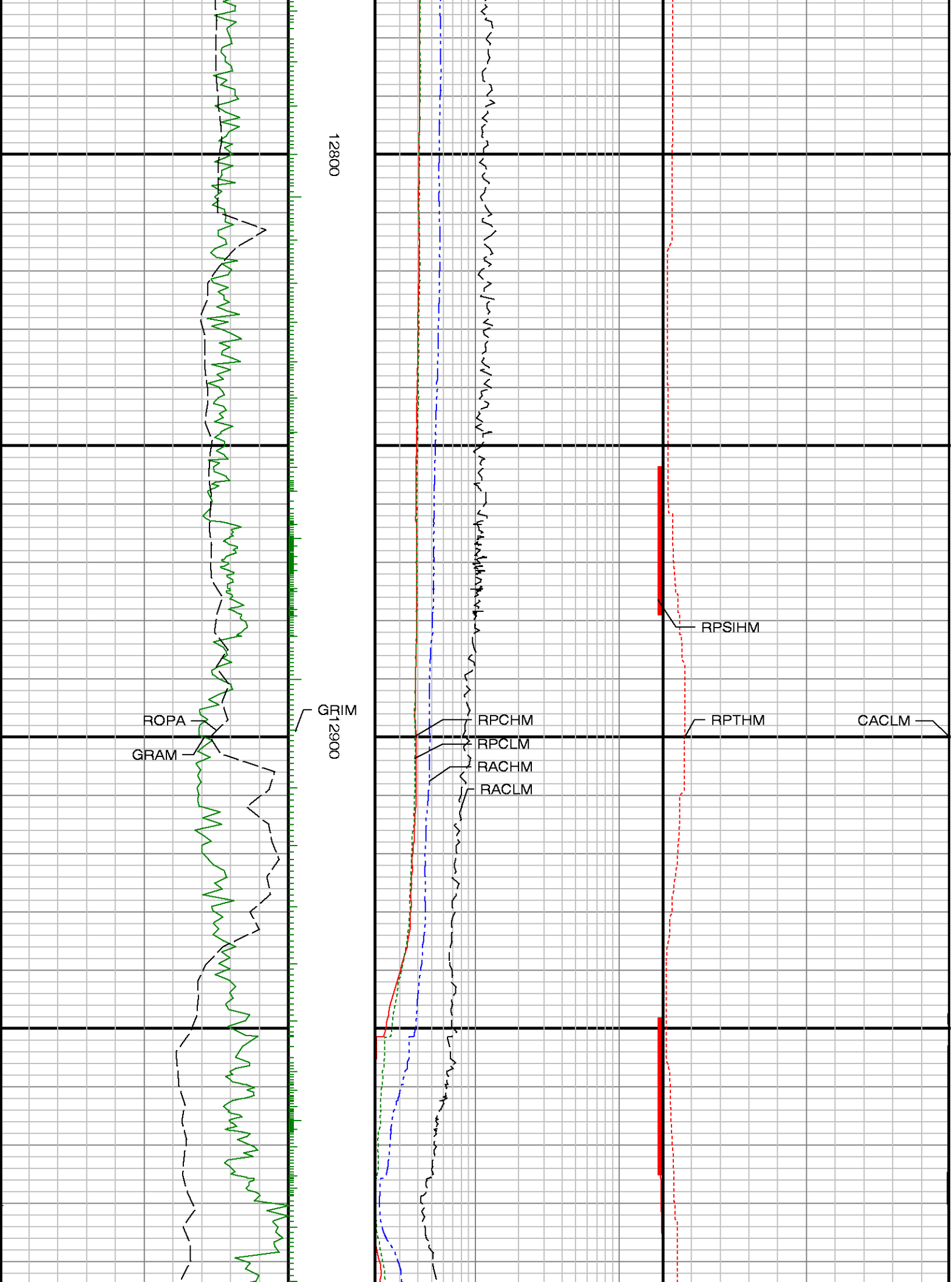


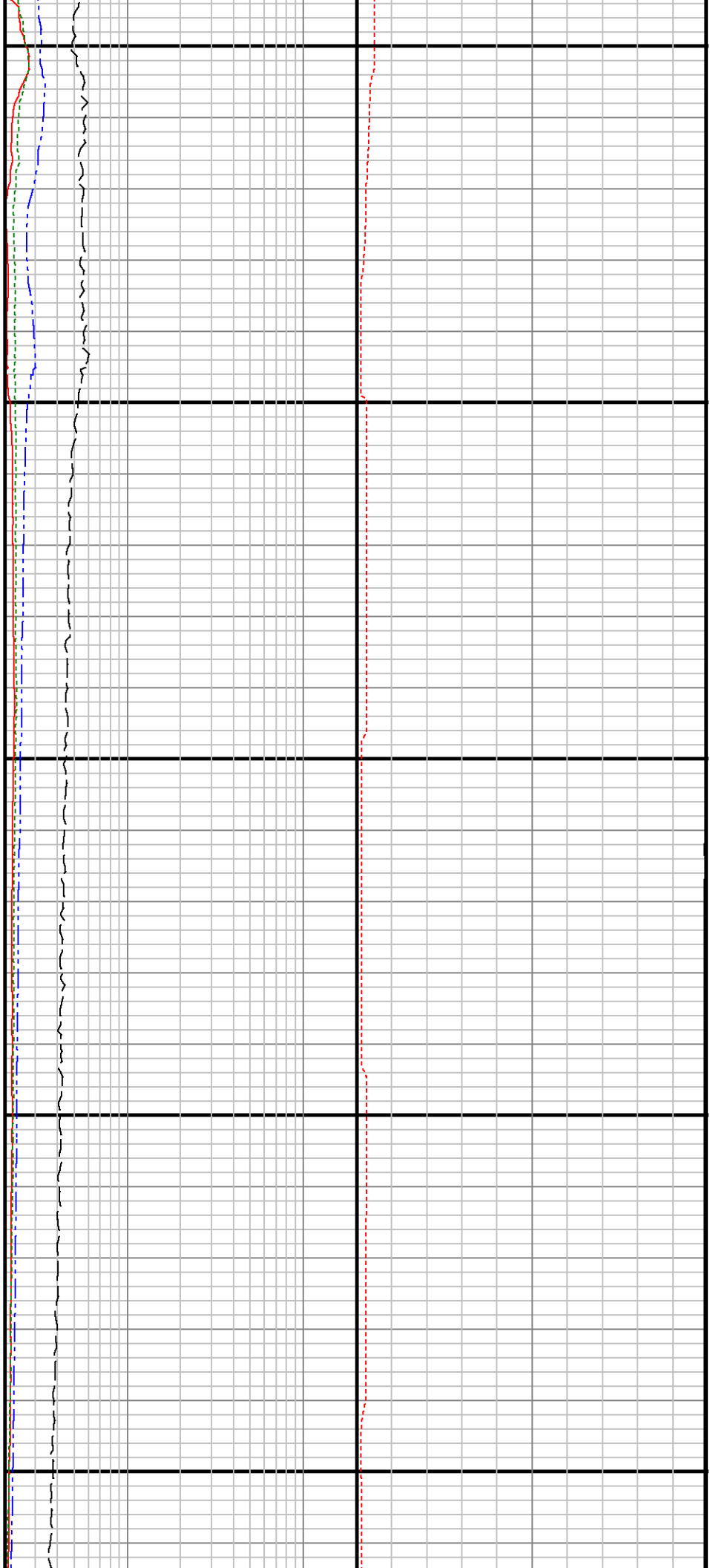


12600

12700



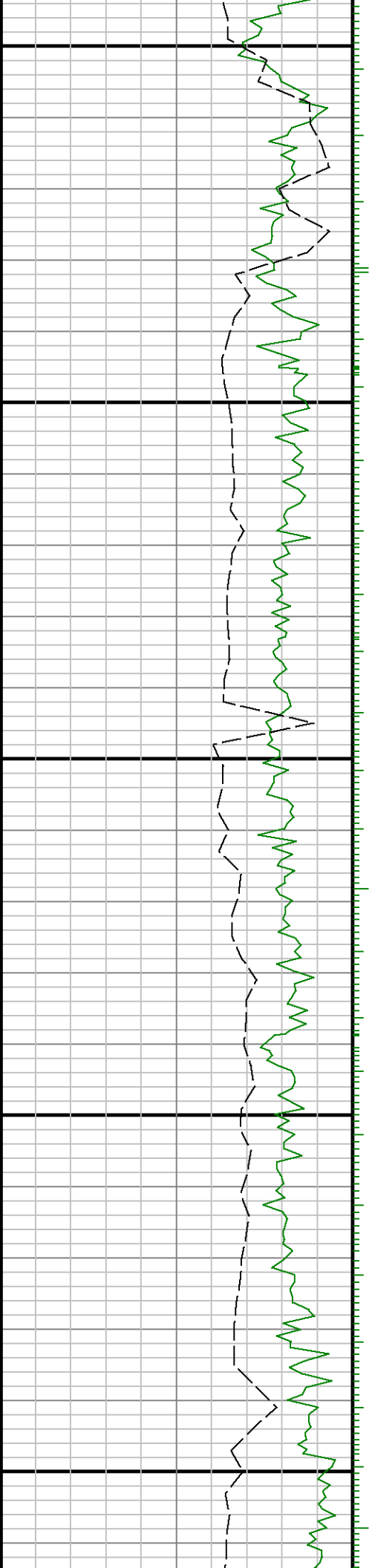


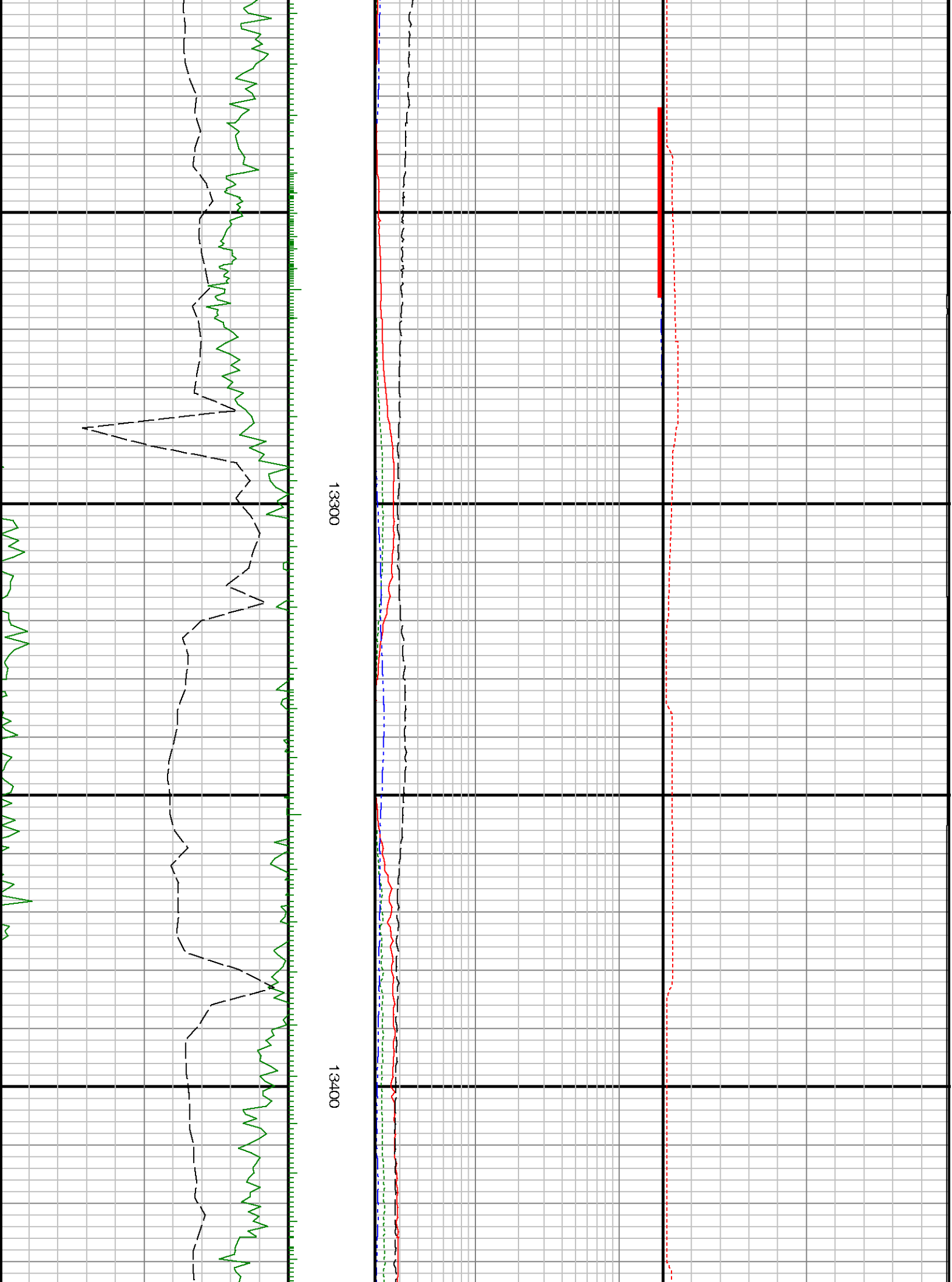


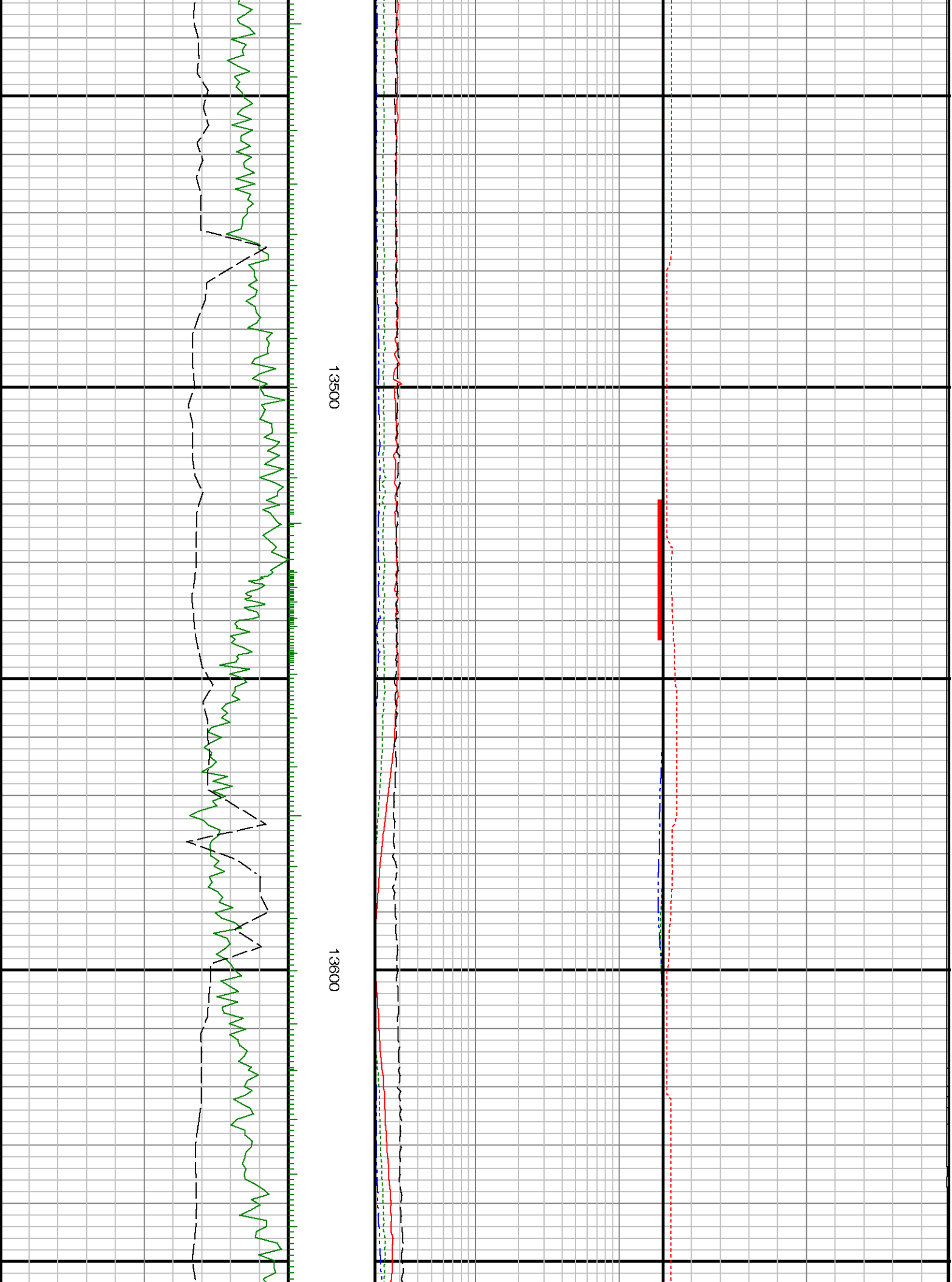
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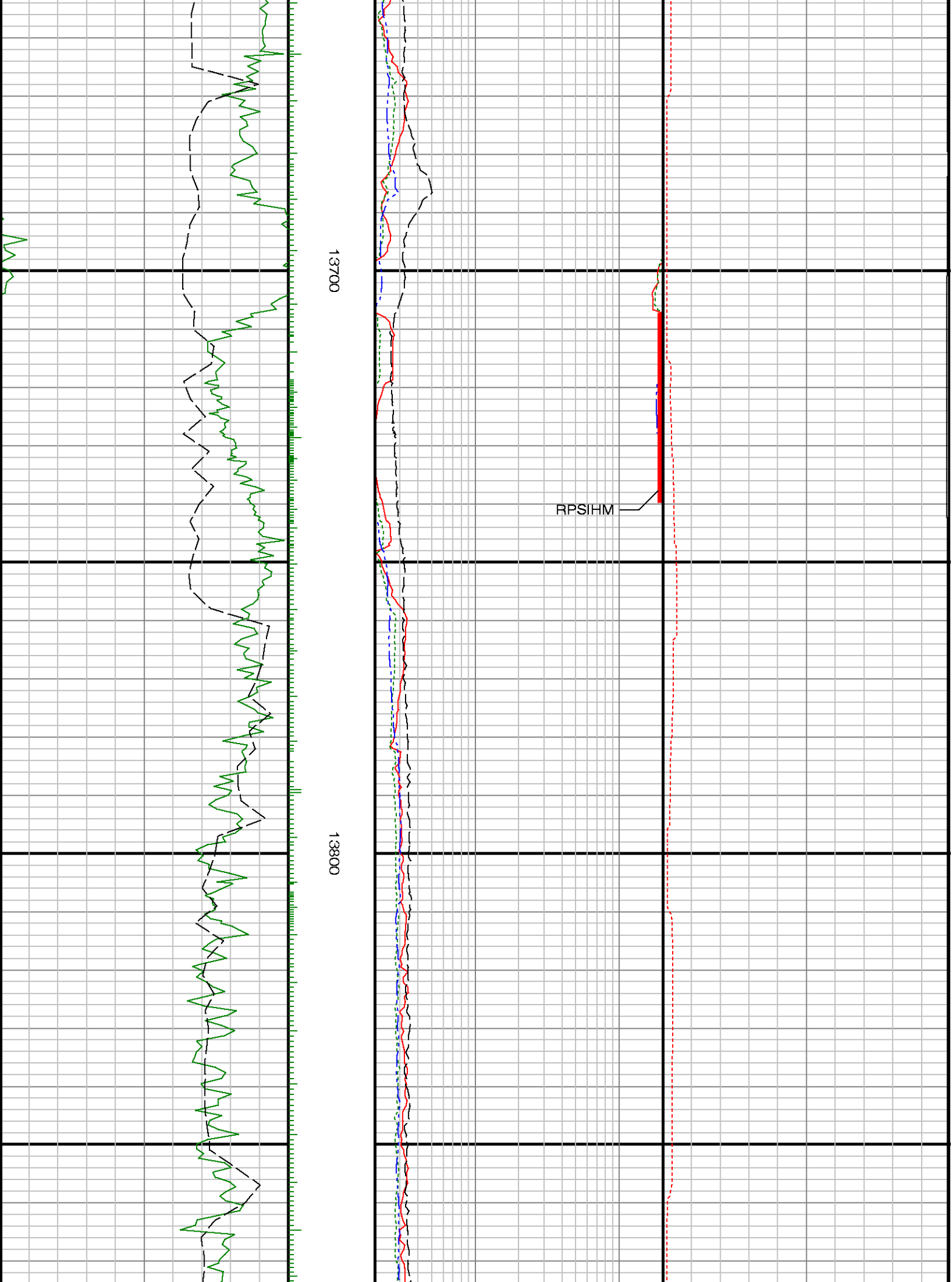
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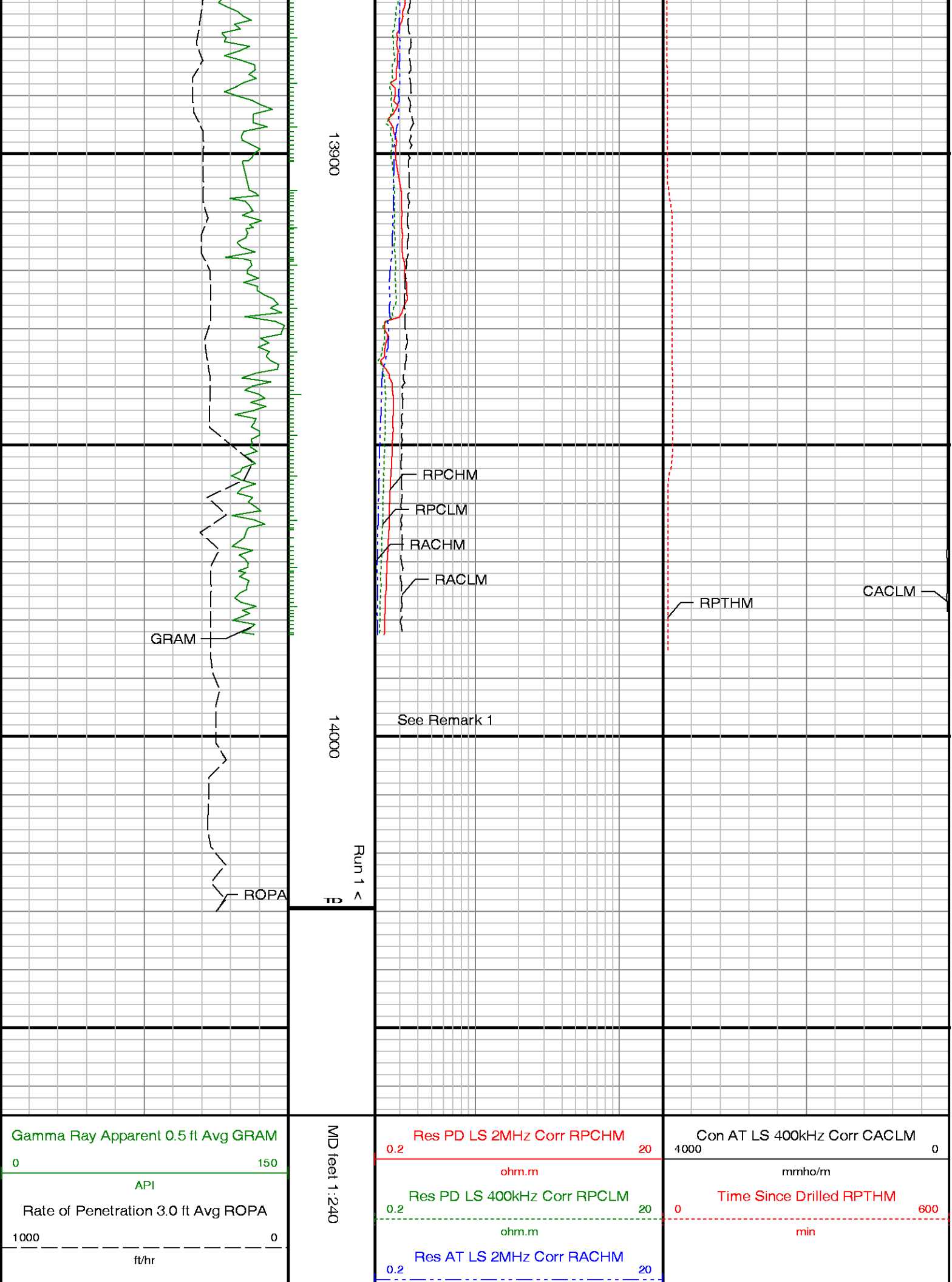
13200











13900

14000

Run 1 < 1

RPCHM
RPCLM
RACHM
RACLM

See Remark 1

RPTHM CACLM

GRAM

ROPA

Gamma Ray Apparent 0.5 ft Avg GRAM

0 150

API

Rate of Penetration 3.0 ft Avg ROP

1000 0

ft/hr

MD feet 1:240

Res PD LS 2MHz Corr RPCHM 0.2 20

ohm.m

Res PD LS 400kHz Corr RPCLM 0.2 20

ohm.m

Res AT LS 2MHz Corr RACHM 0.2 20

Con AT LS 400kHz Corr CACLM 4000 0

mmho/m

Time Since Drilled RPTHM 0 600

min

		<div>ohm.m</div> <div>Res AT LS 400kHz Corr RACLM</div> <div>0.2-----20</div> <div>ohm.m</div>	
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