



## Multiple Propagation Resistivity Gamma Ray

# Gamma Ray

**Company:** *Ward Petroleum*

**Well: Ritchey 26-1-21HN**

**Field:** Weld County

County: Weld State: United States

Surface Location:

€ ¤ Å F Ø Å € Ò Í J Ä Þ

# FEDERAL RESERVE

SEC: 26      TWN: 1N      RGE: 66W

Elevation: 5154.00 ft

Above P.D. 20.00 ft

N/A
5174.00 ft
5154.00 ft

Interval Logged

 th: True | Dip Angle: |

Mag to Reference North Correction

## Casing Record

To (ft)

	1485.00
--	---------

--	--

--	--

--	--	--

## Mud Record

## Deviation Record

Hole Size (in)	Interval (ft)	Inc   Az (Start)	Inc   Az (End)
----------------	---------------	------------------	----------------

8.500	10828.00	5.23	12.37	90.00	177.48
-------	----------	------	-------	-------	--------

[illegible][illegible]

-	-	-	-
-	-	-	-

## Acquisition System

Software Version

Other

Baker Hughes Cadence

RT4.1

Rig: PD 460

[illegible]

## PlotStudio

#### 4.1.7763.3

Contractor: Precision Drilling

## Log Run Summary

[illegible]

No.		(in)		Length (in)		(ft)	(ft)	(ft)	(ft)			(h)
1	1	8.500	PDC	3.00	AutoTrak Curve	1495.00	12310.00	1495.00	12323.00	2017-07-07 08:18	2017-07-09 07:07	41.59

### Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Andrey Clancy	2017-07-07	2017-07-09	Doug Rusco	2017-07-07	2017-07-09			

### 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+ (%)
2017-07-08 06:42	1	7459.00	Oil Based Mud	9.8	19	0	0.0	71/29	Active Pit	33000	0.00
2017-07-09 06:34	1	12096.00	Oil Based Mud	9.8	25	0	0.0	73/27	Active Pit	34000	0.00

### Mud Resistivity Record

Date / Time	Run No.	Measured Depth (ft)	Surface Temp (degF)	Surface			BHCT (degF)	Downhole		
				Rm (ohm.m)	Rmf (ohm.m)	Rmc (ohm.m)		Rm @ BHCT (ohm.m)	Rmf @ BHCT (ohm.m)	Rmc @ BHCT (ohm.m)
2017-07-09 17:38	1	12323.00	95.0	100.000	N/A	N/A	210.0	100.000	N/A	N/A

### 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	ATC_SU	12187651	Near Bit VSS	5.93	6.73	7.000	4.330
1	ATC_SU	12187651	Near Bit Inclination	5.93	6.73	7.000	4.330
1	ATC_MWD	12304801	Gamma (single)	2.75	12.90	7.000	3.250
1	ATC_MWD	12304801	Directional (mag)	12.27	22.42	7.000	3.250
1	OnTrak	12115658	Pressure	1.09	5322.56	6.750	0.000
1	OnTrak	12115658	Gamma (double)	1.98	5323.45	6.750	0.000
1	OnTrak	12115658	Resistivity (4tx)	6.02	5327.49	6.750	0.000
1	OnTrak	12115658	Directional (mag)	11.81	5333.28	6.750	0.000

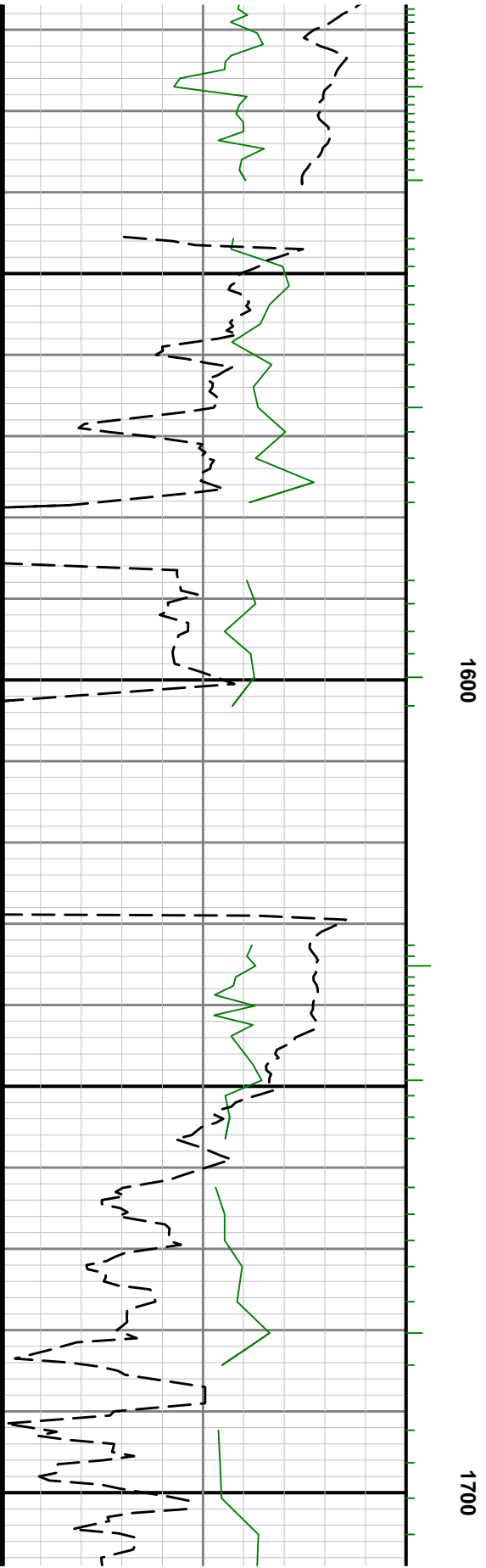
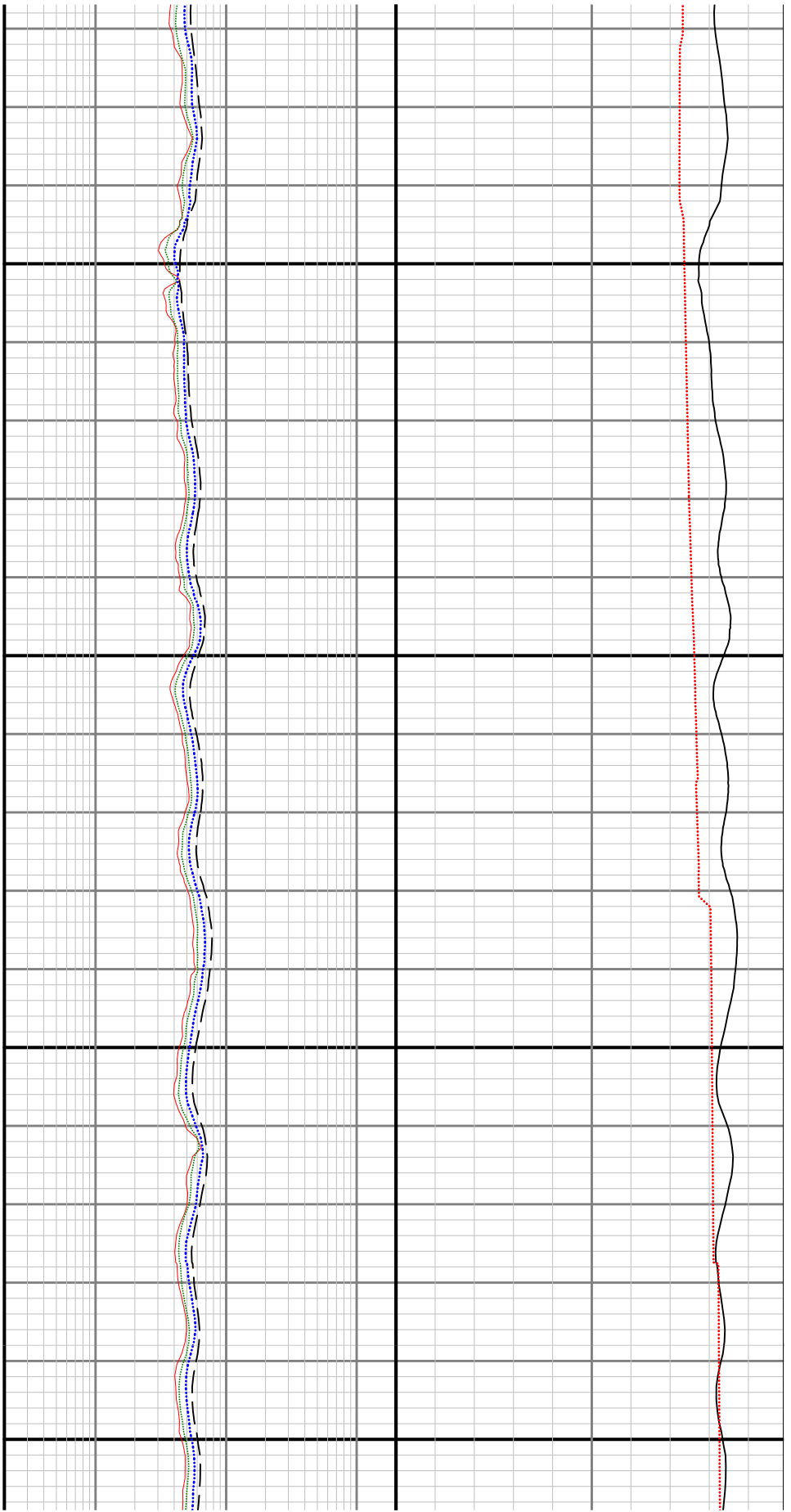
### Service and Tool Mnemonics

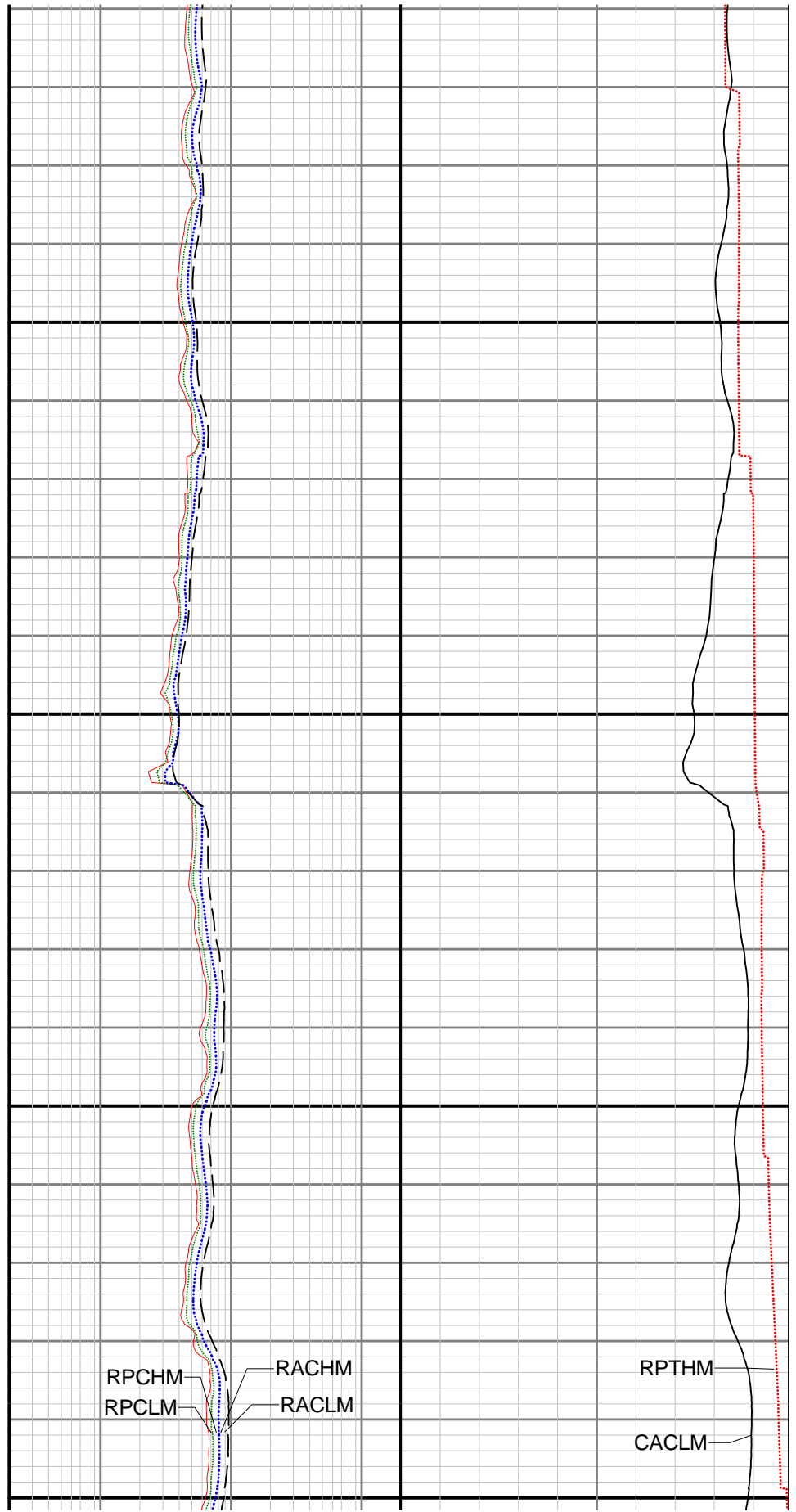
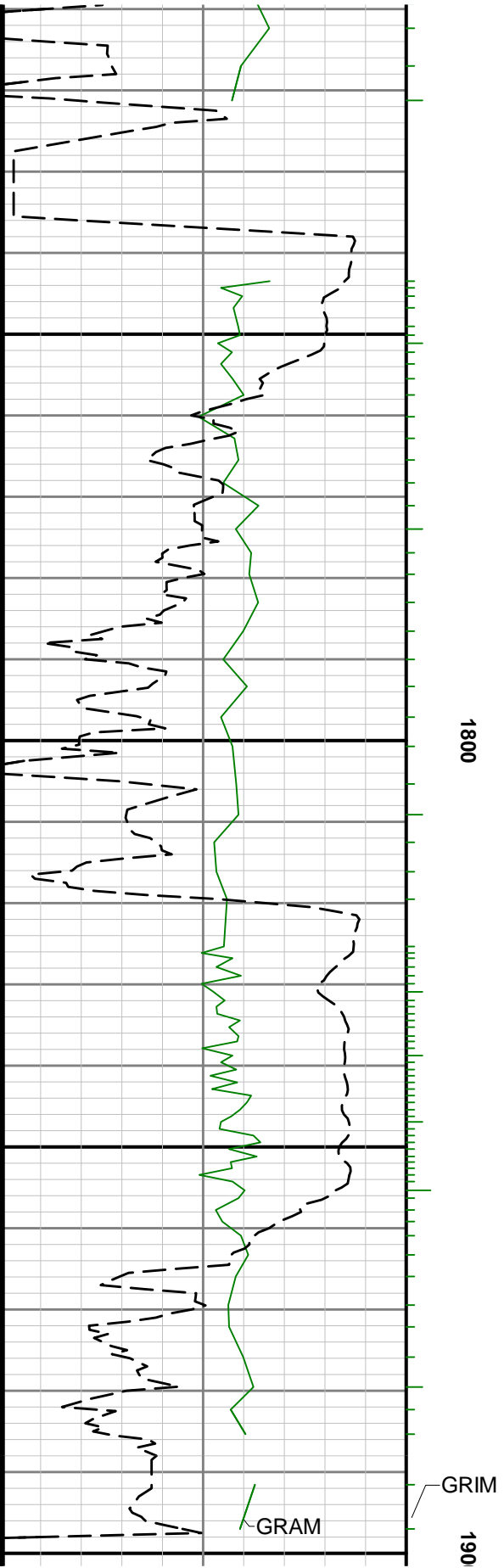
Mnemonic	Name	Description
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_LCPM	Auto Trak Curve LCPM
OTK	OnTrak	Sensor Sub (Inc, Azi, Temp, Azimuthal GR, Res, AP, VSS), OnTrak Platform
BCPM	BCPM	Bi-Directional Communication and Power Module, OnTrak Platform

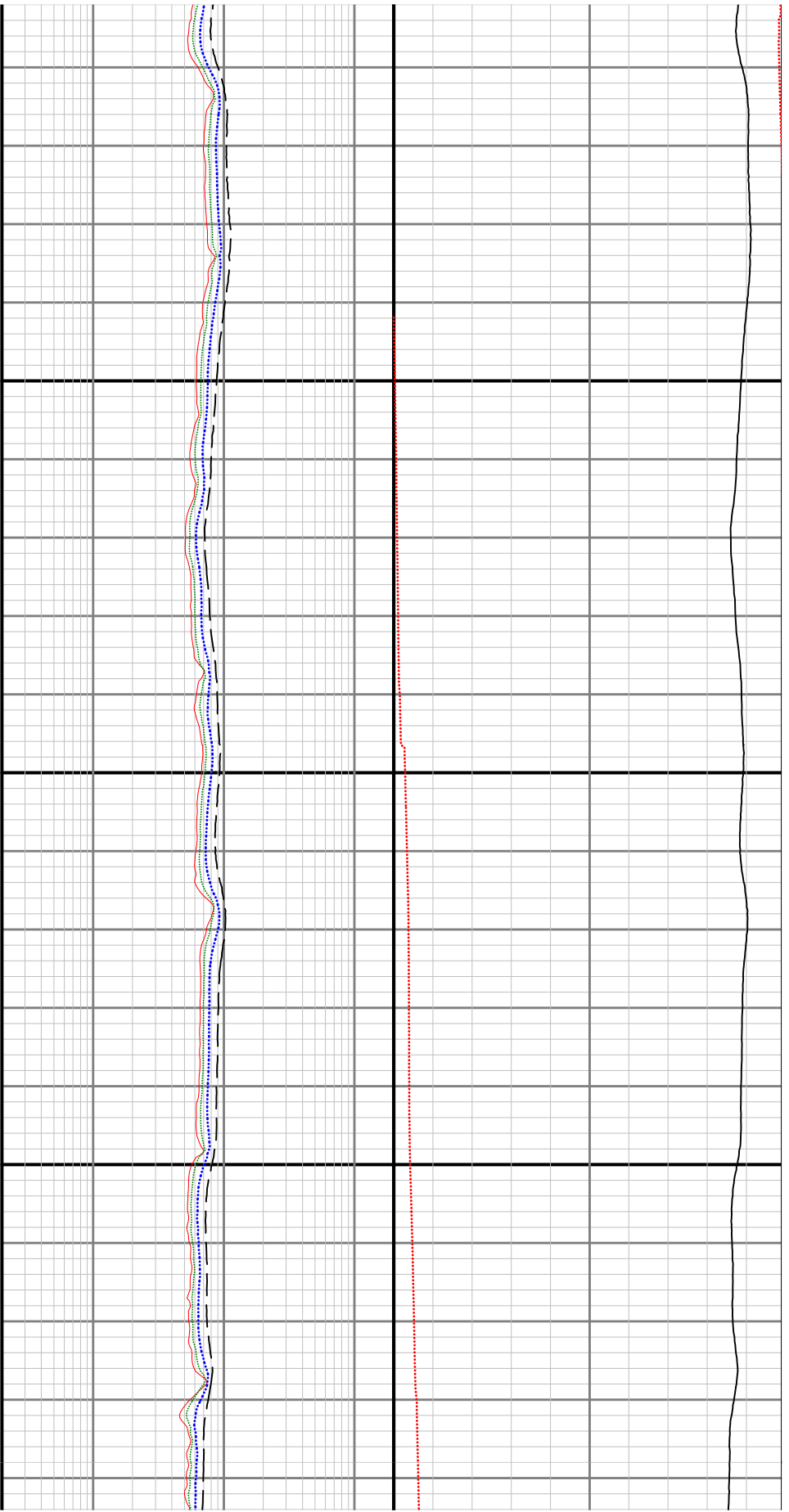
### Comments

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	Öa^/P* @.SY ÖÄÜ"} ÄÄ qä^aÄÄ/Ä &ÖÜ) dæ Ä^/cÄ^ÄÜ`  d  ^ÄÜ:[] æ æä) ÄÜ^• ä cä^c EÖæ { æÄÜ æ Eä ä/Öä^&cä) æDæ @ ää ä Ä FÖä &cä ää äÄ cæ Ä •c^/æ  ^æ •^/ ä  ^Ä:[] Ä F  Ä Ä Ä F HÄ^Ä T ÖÄ F   JÄ Ä J  Ä Ä^XÖÄ F cæ cæ! Ä @ Ä cæ   Ä @ Ä /c^Ä

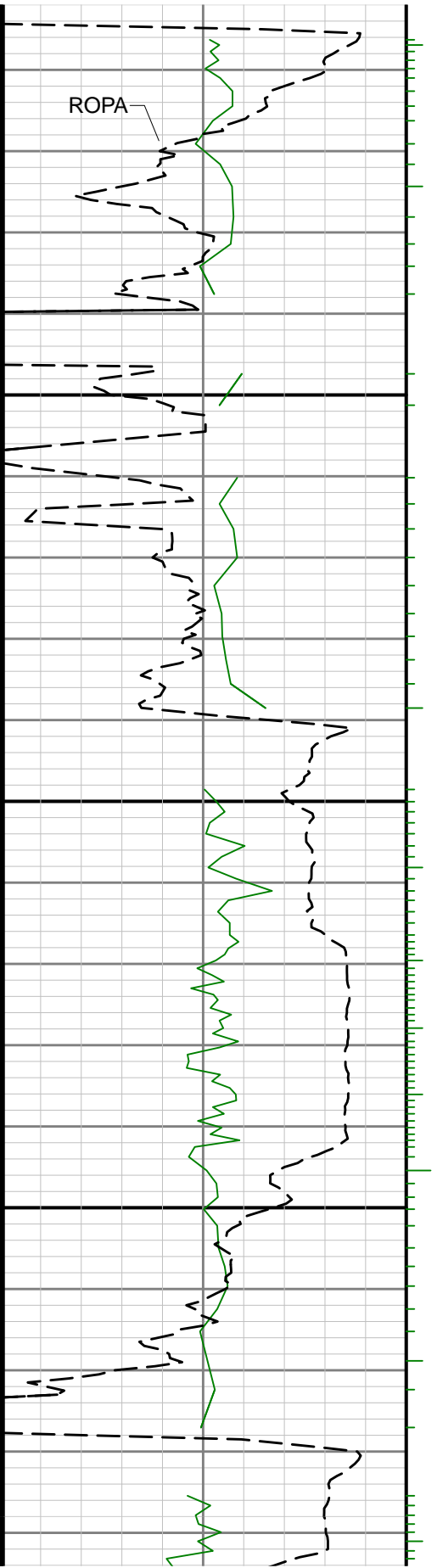


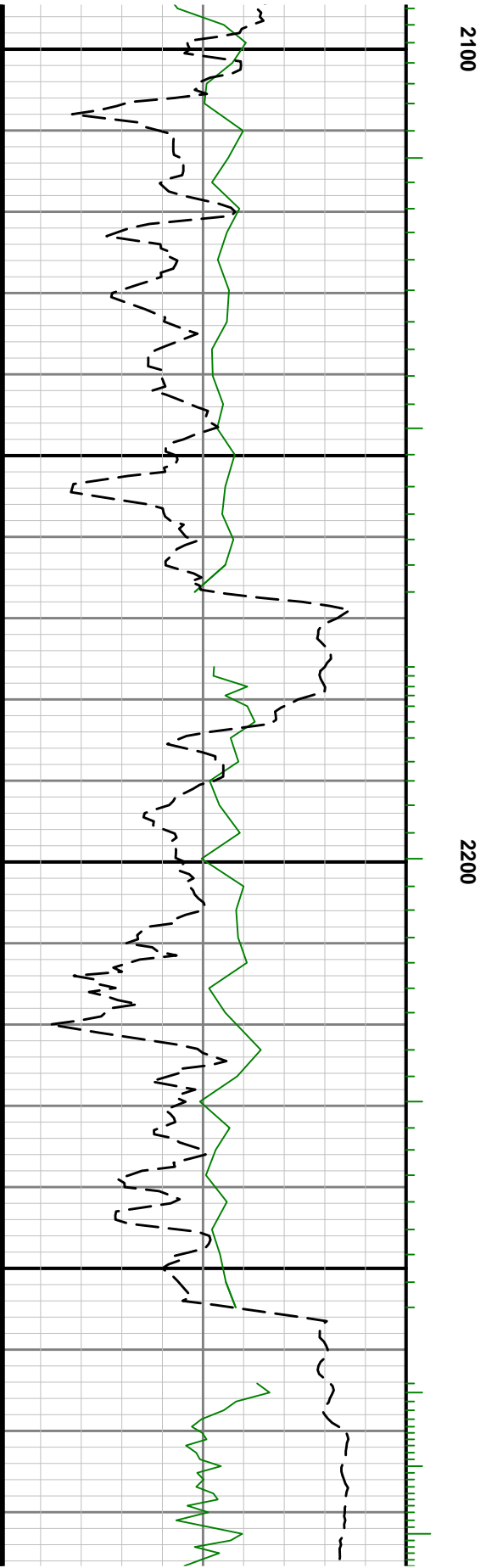
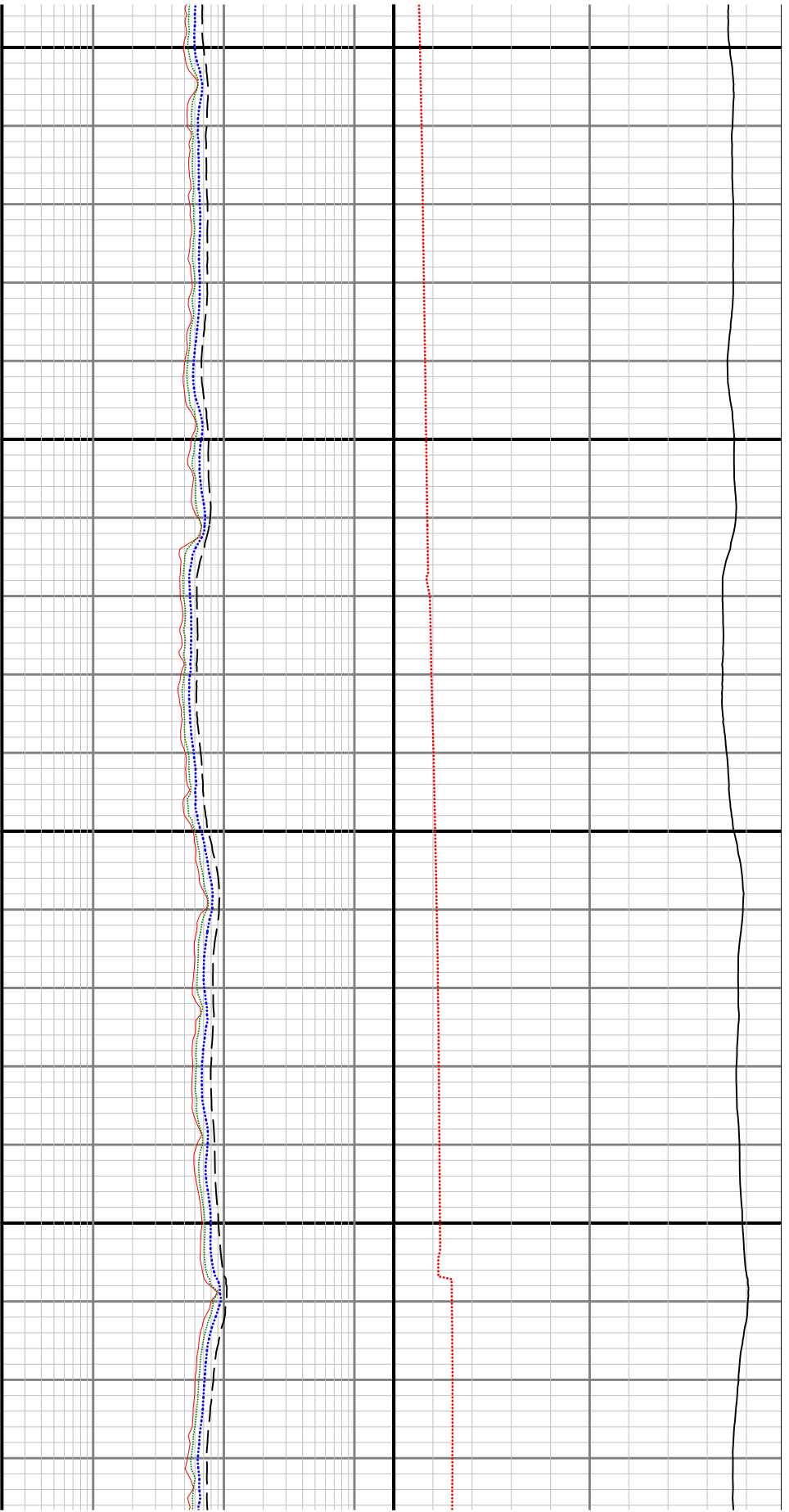


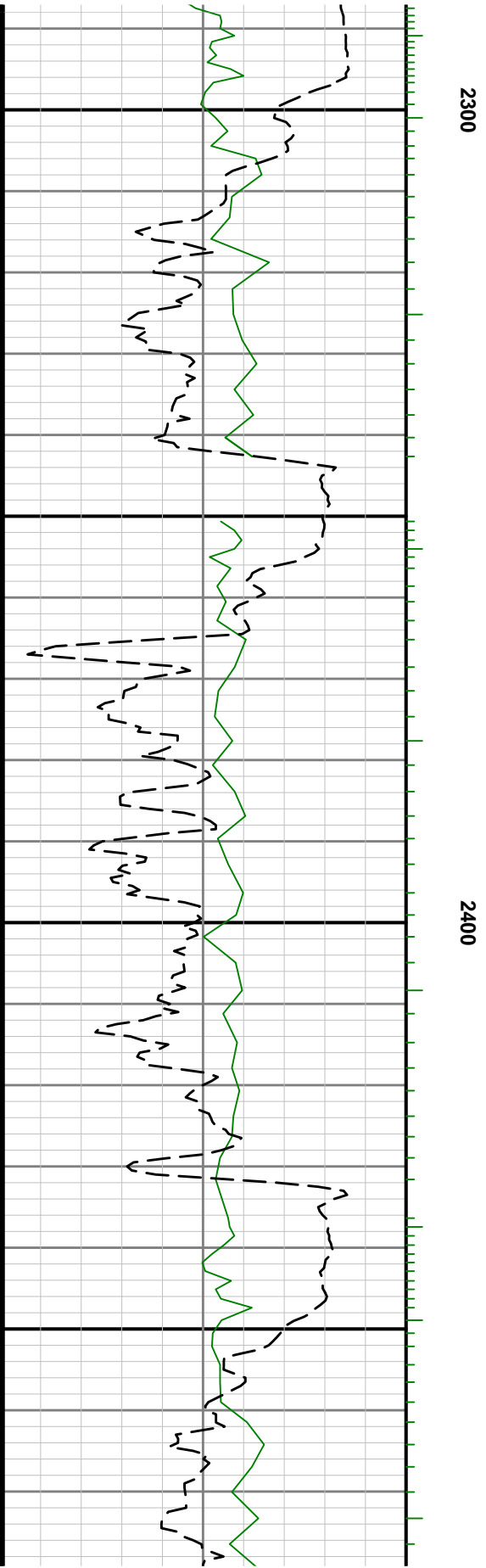
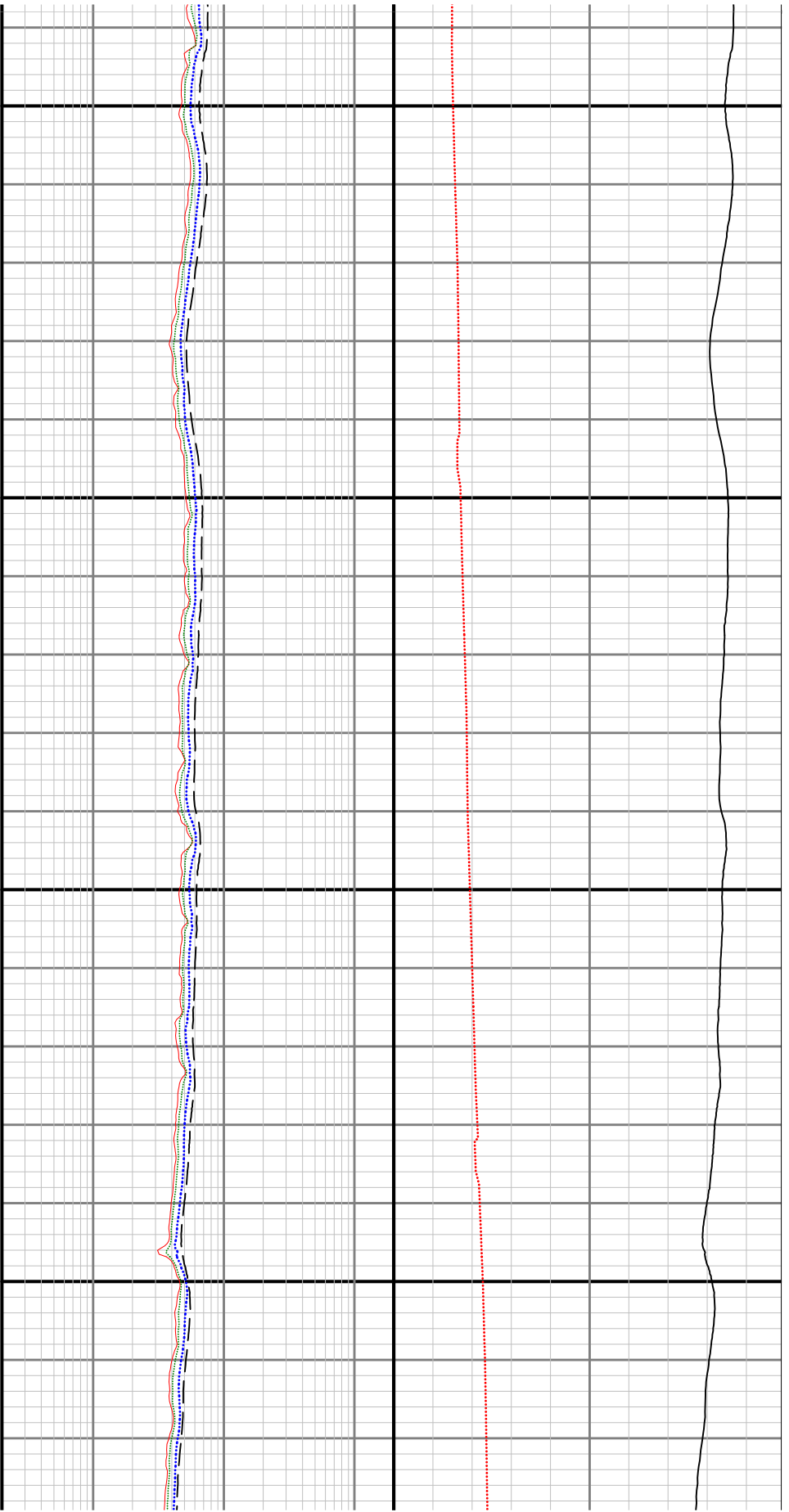




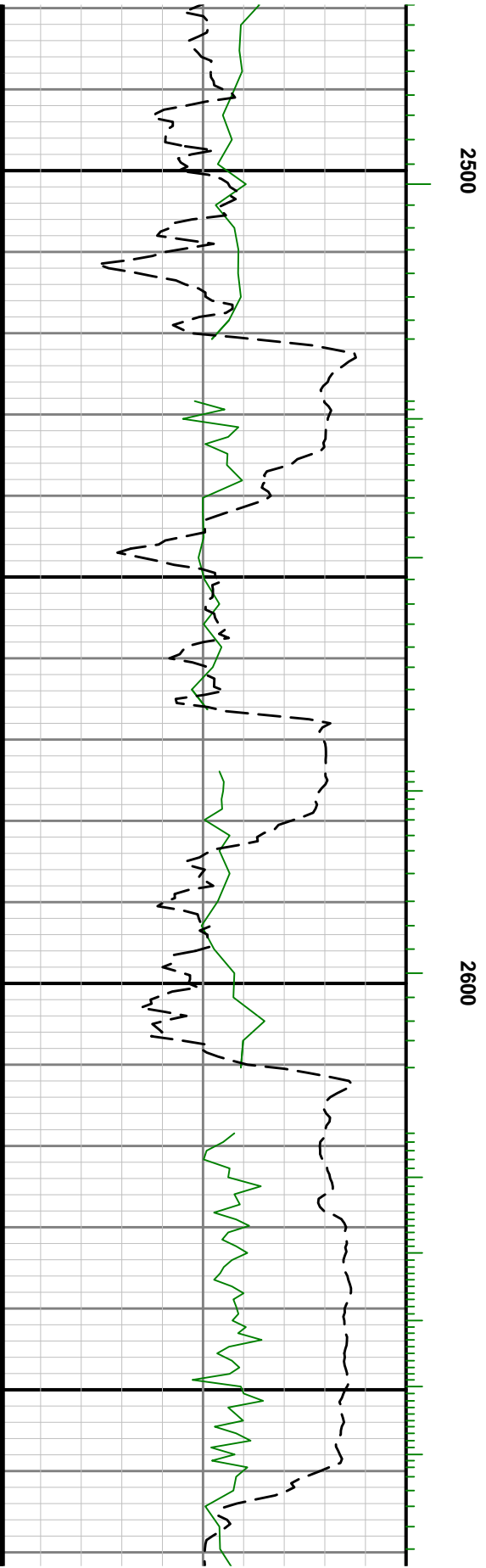
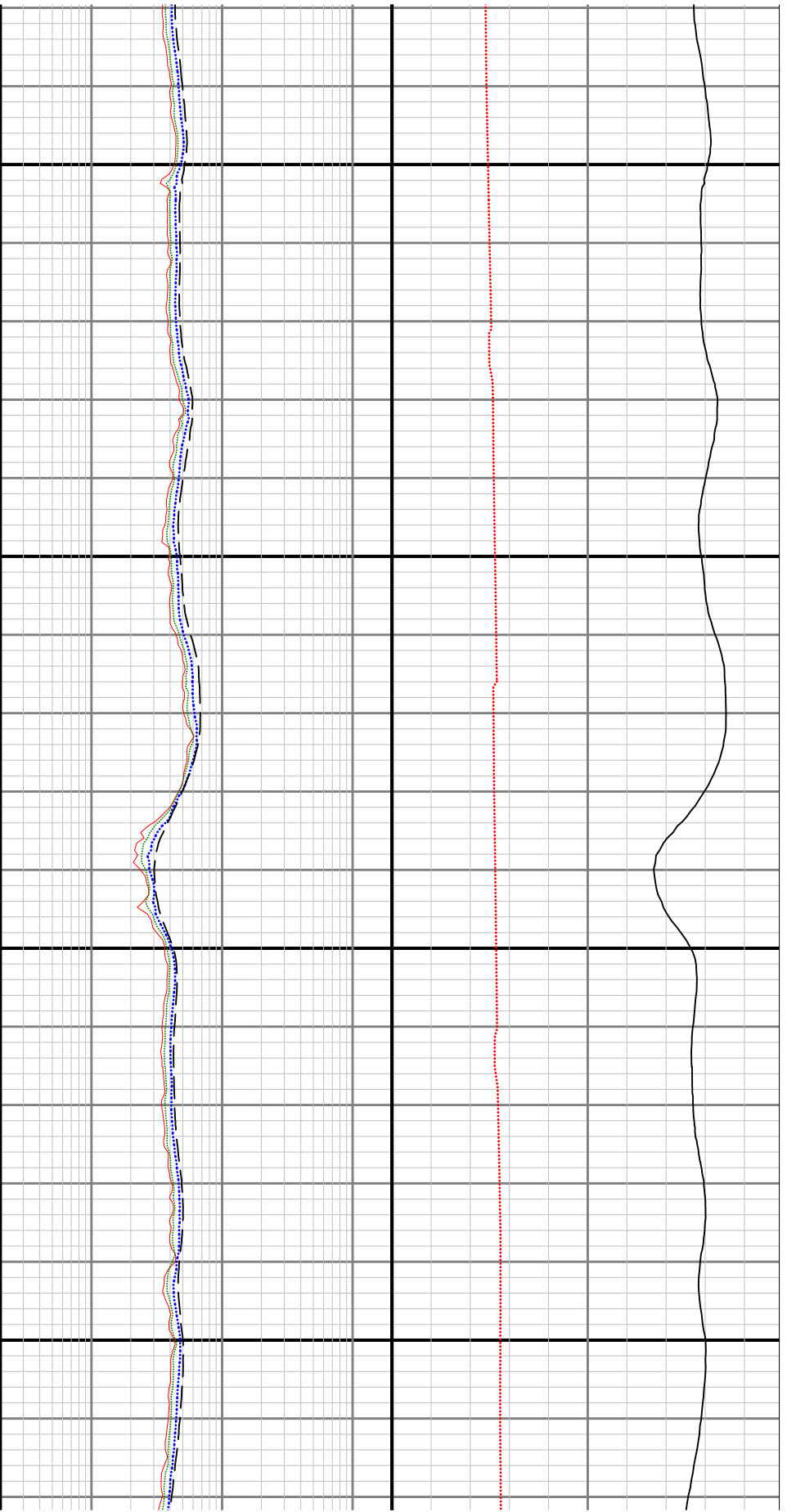
2000

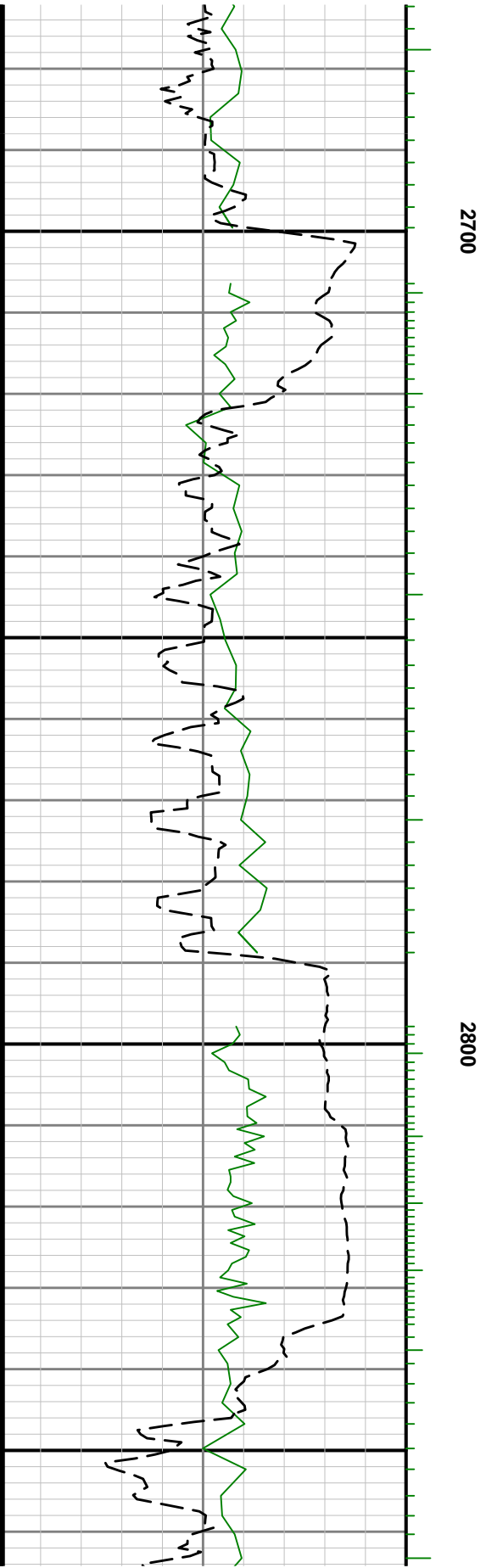
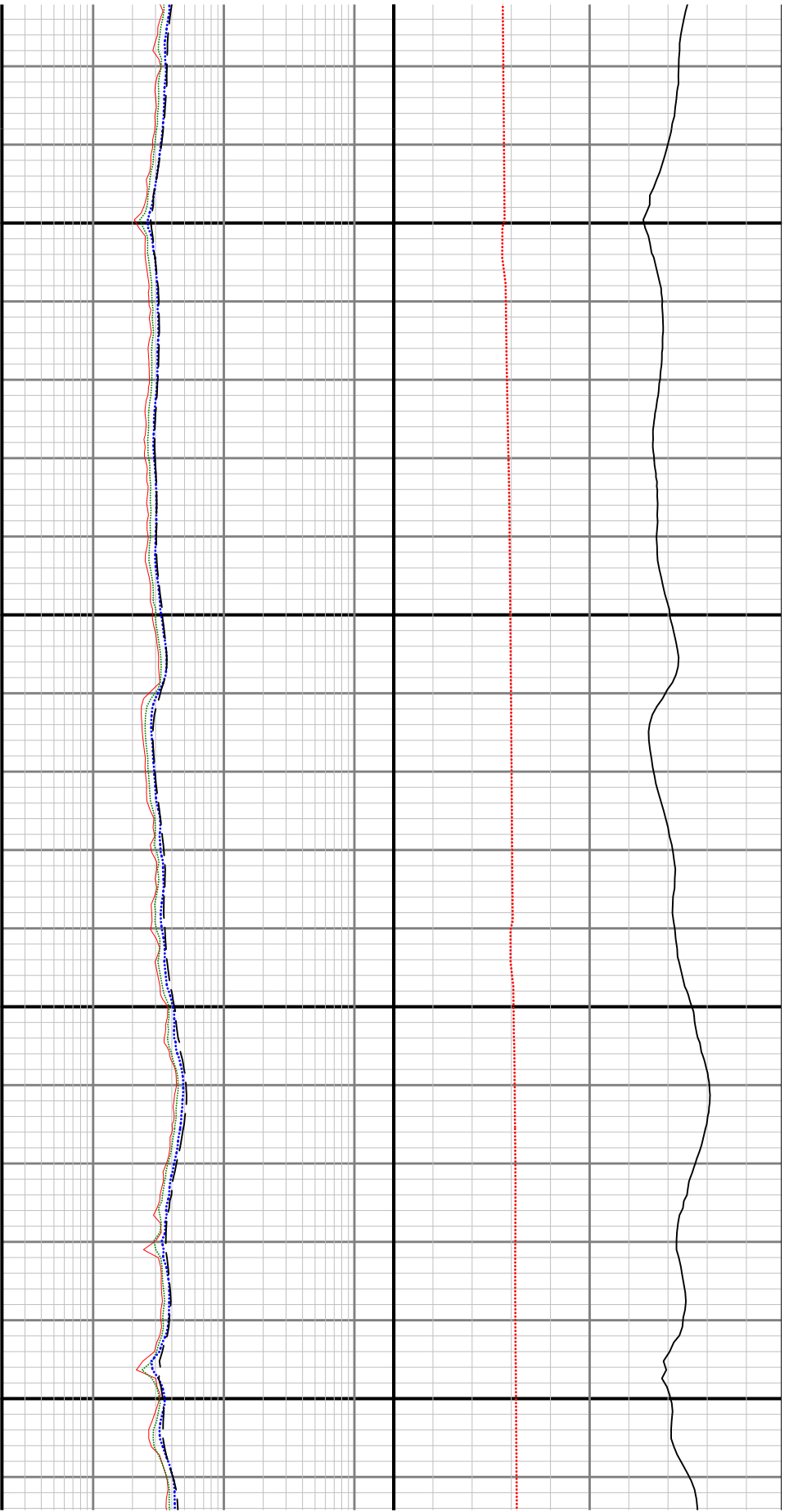


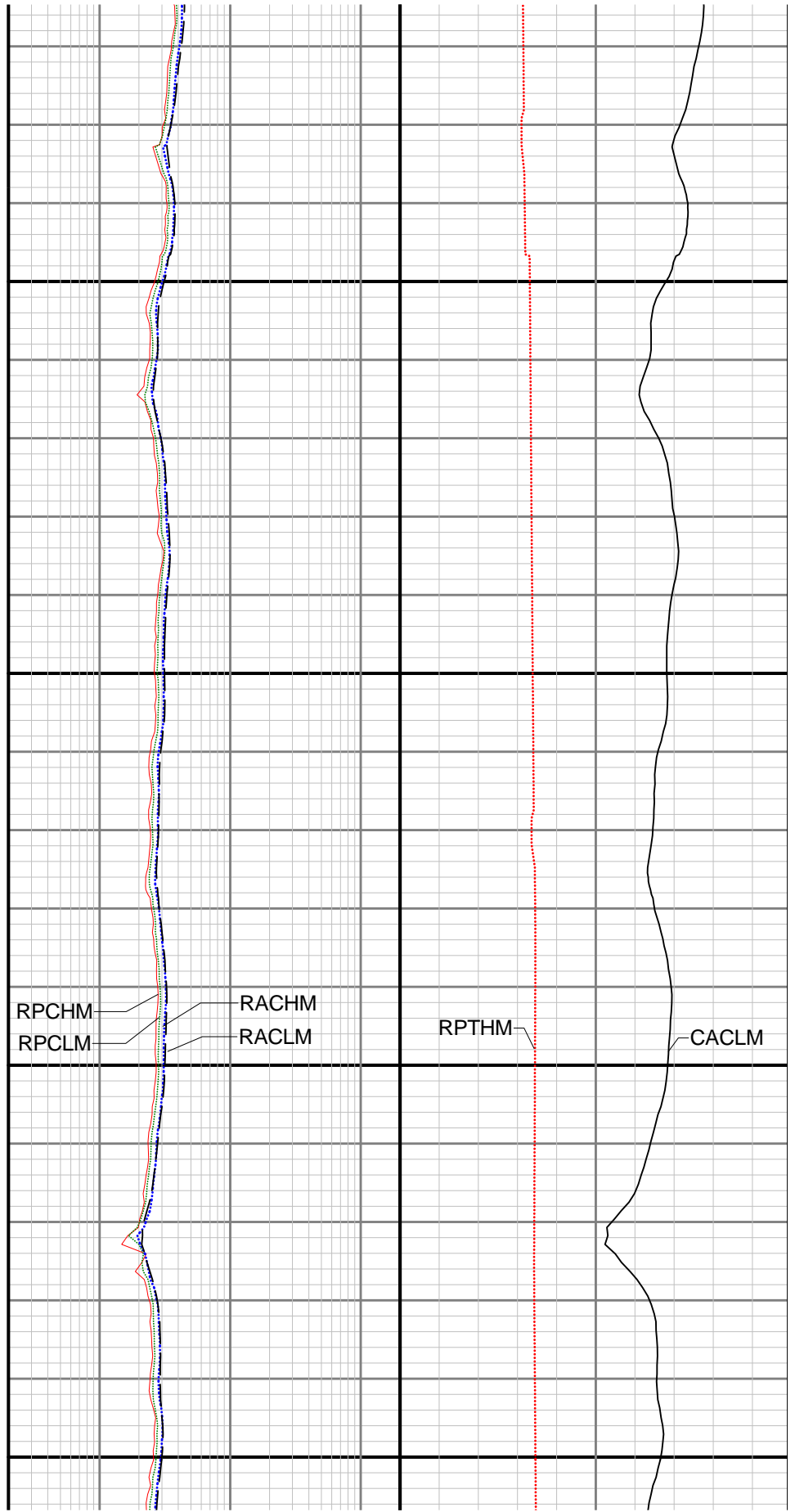
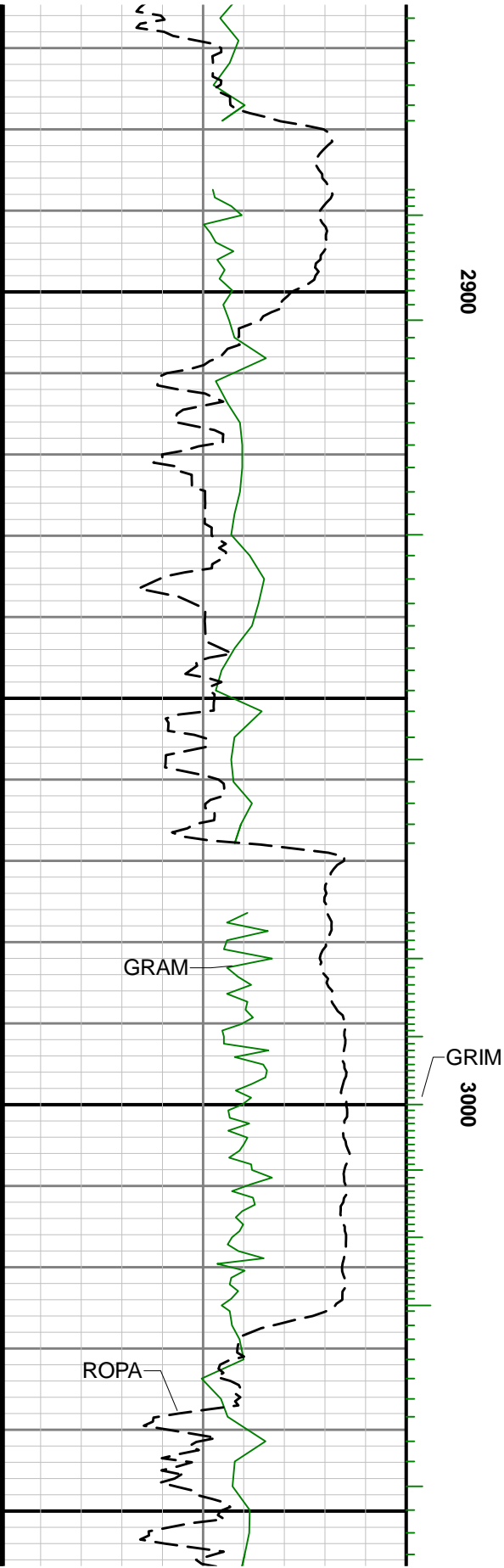


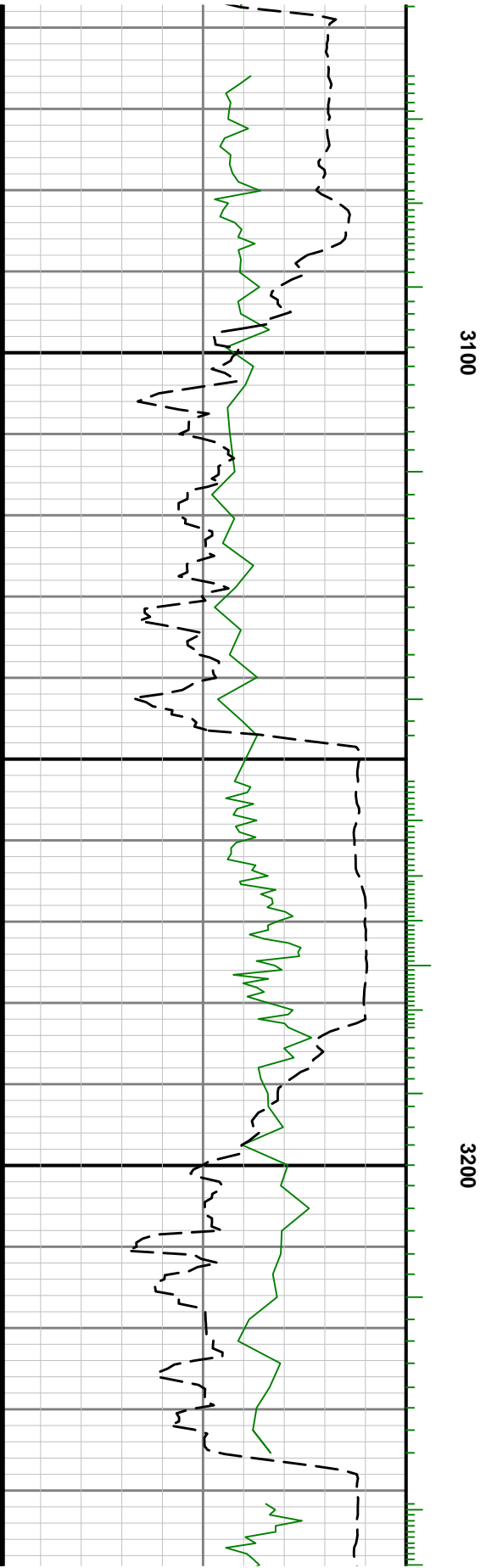
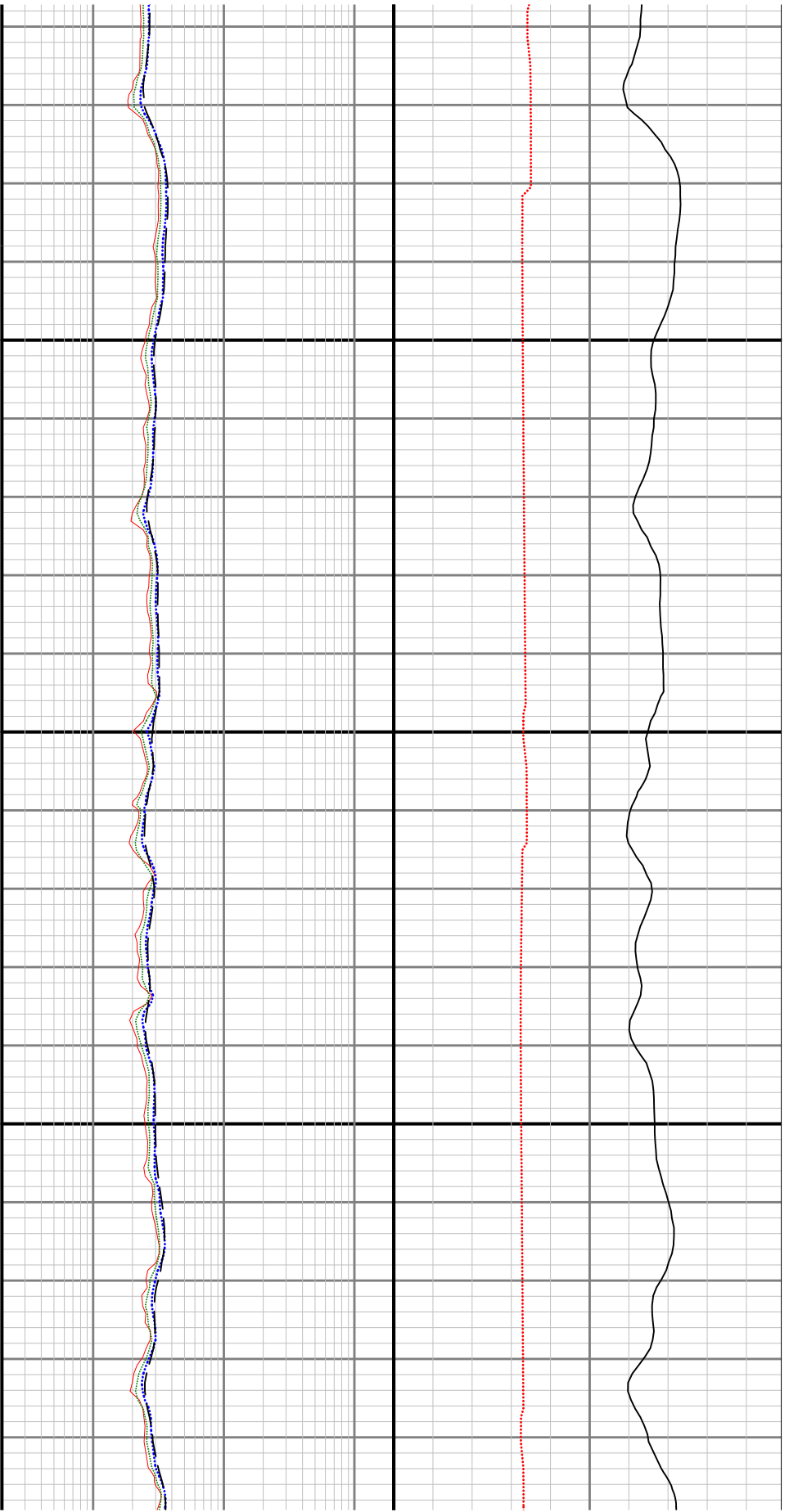


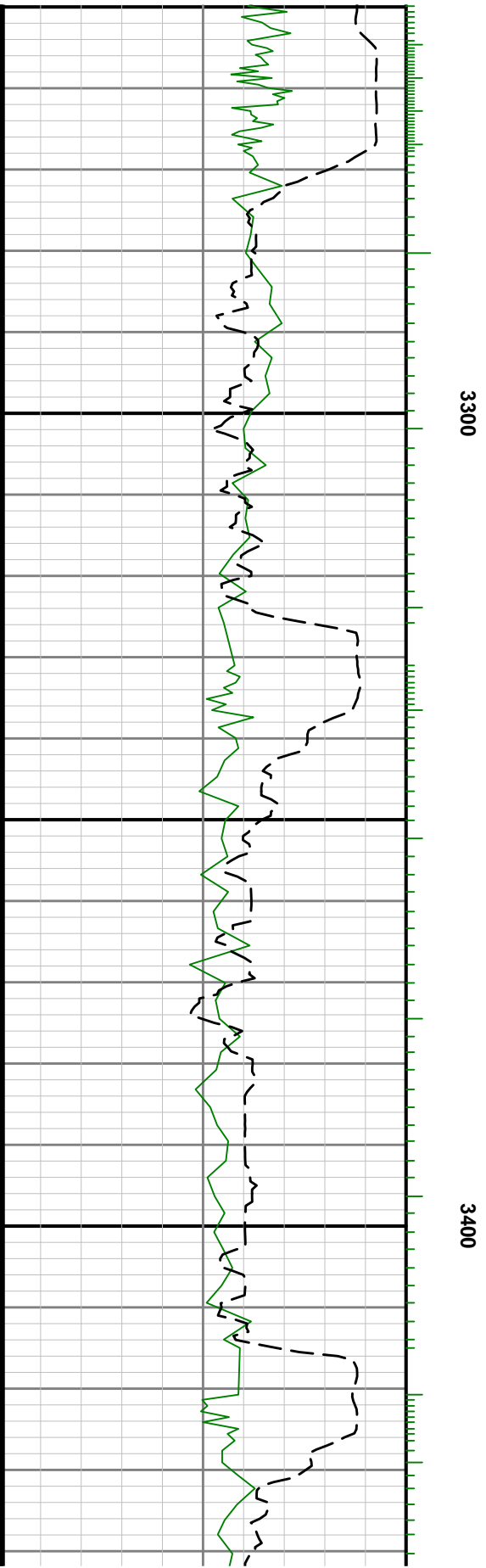
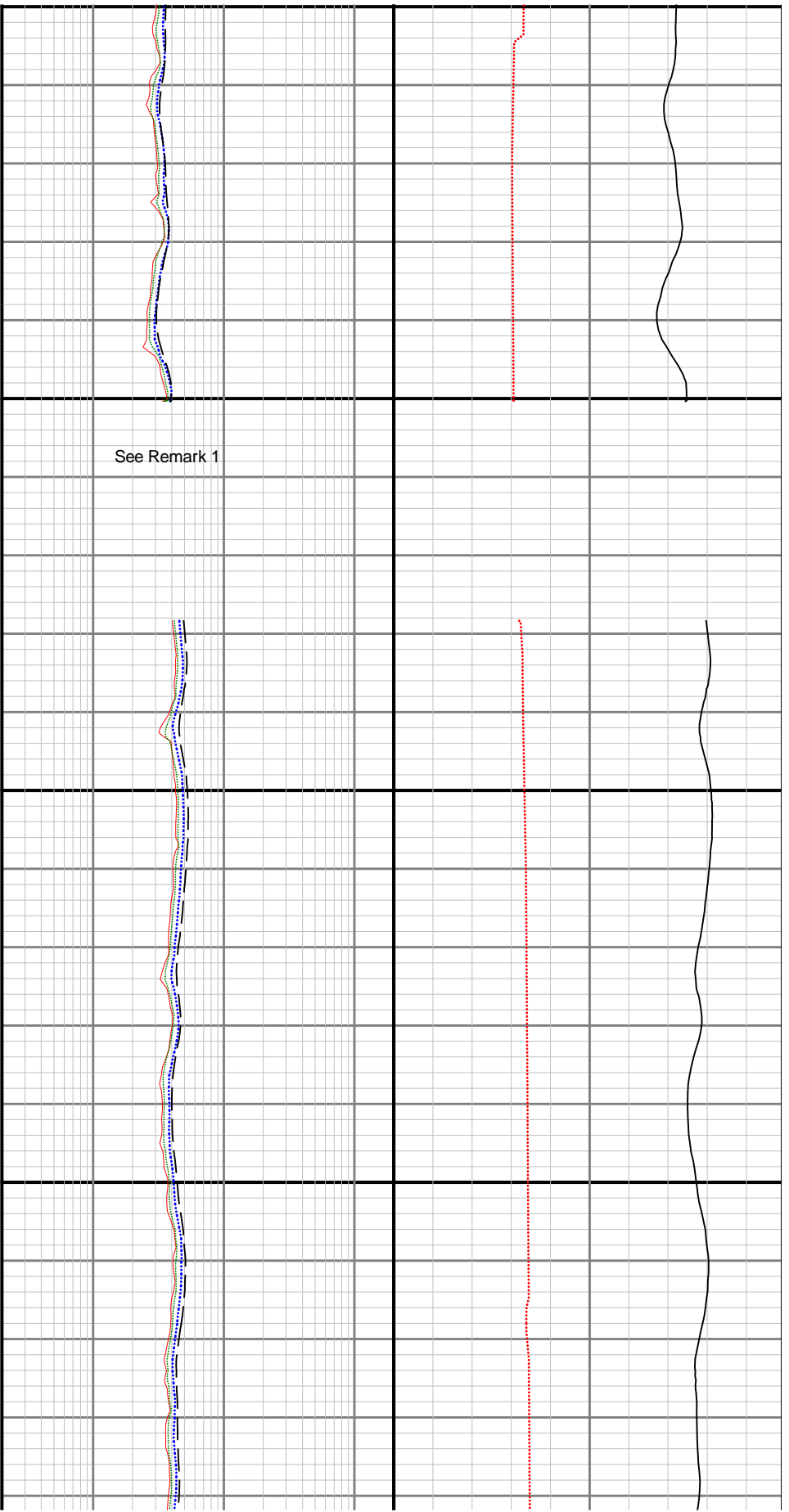


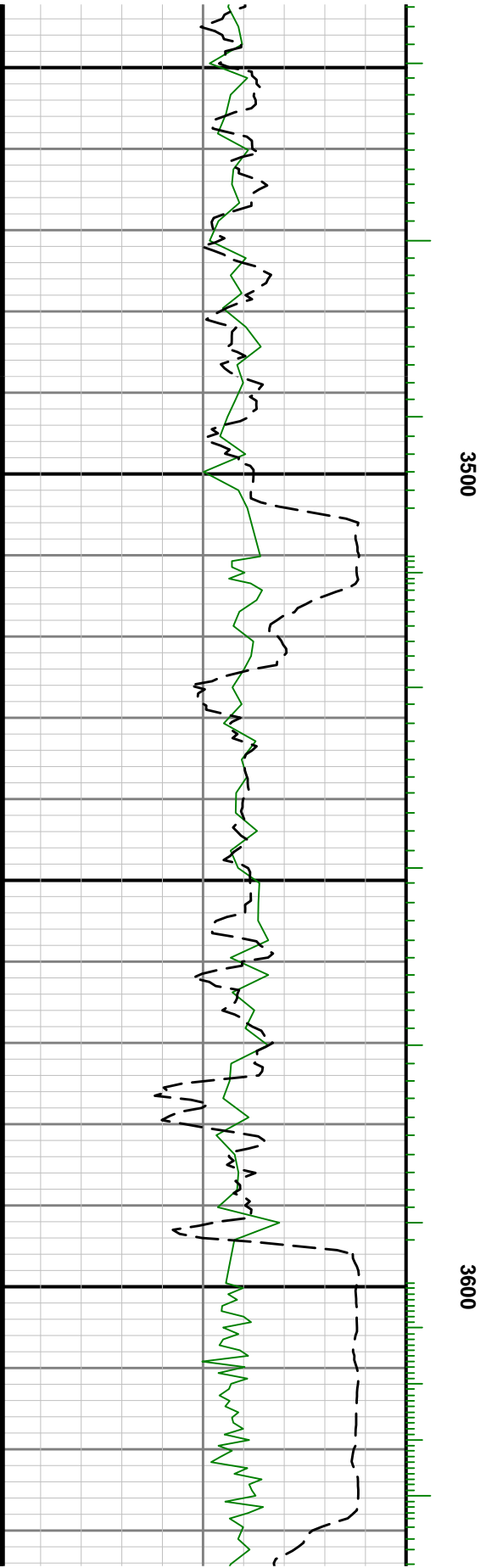
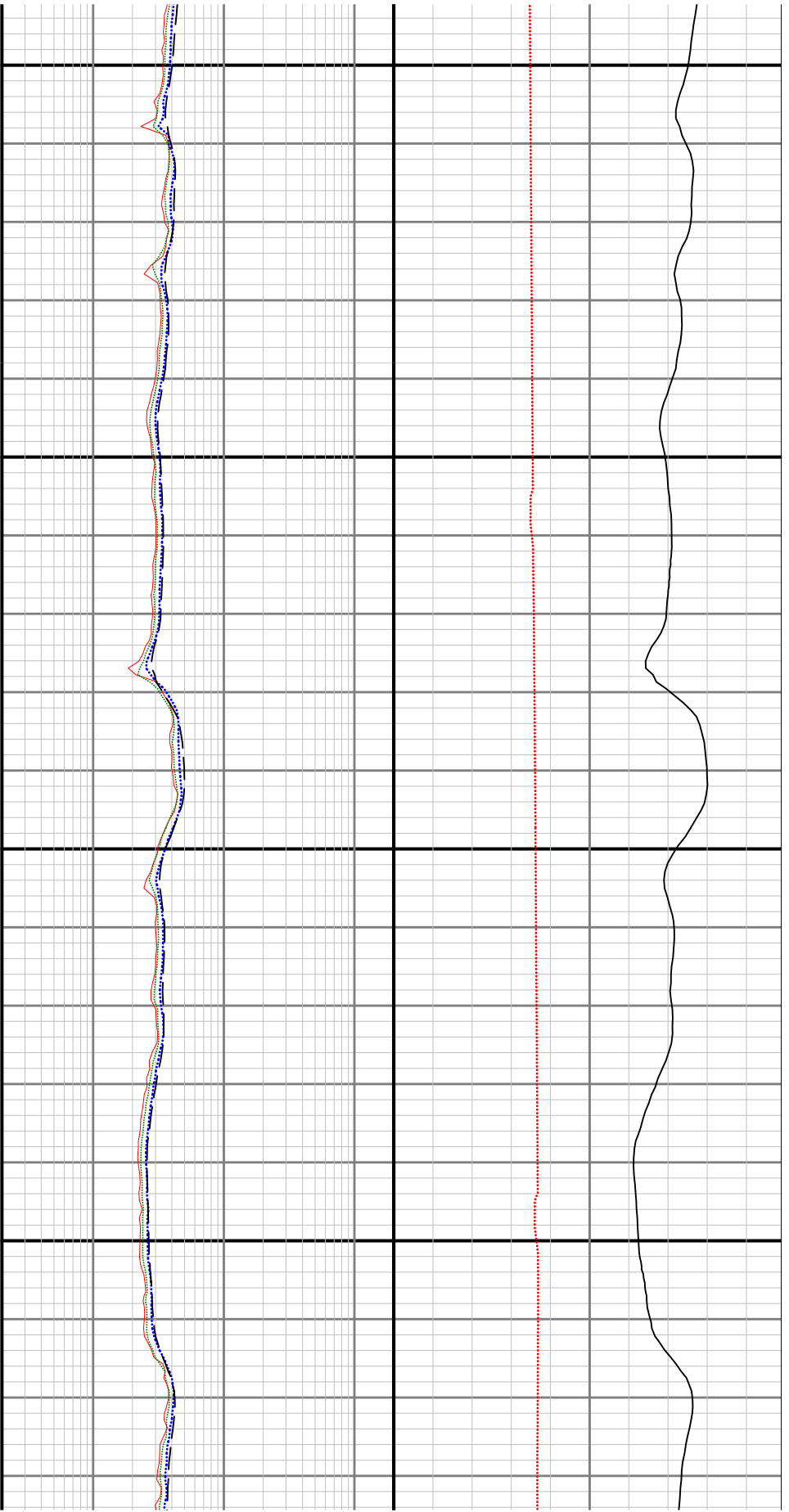


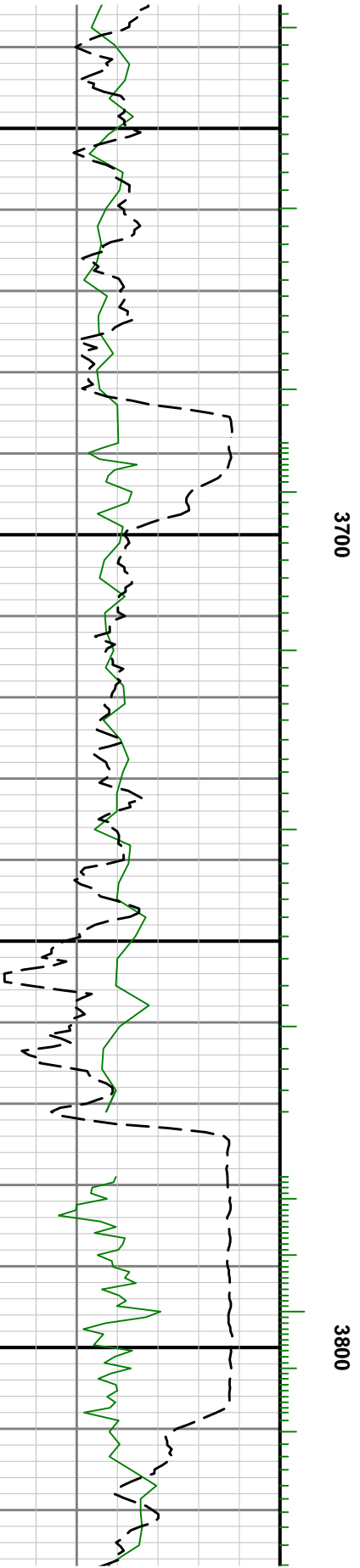
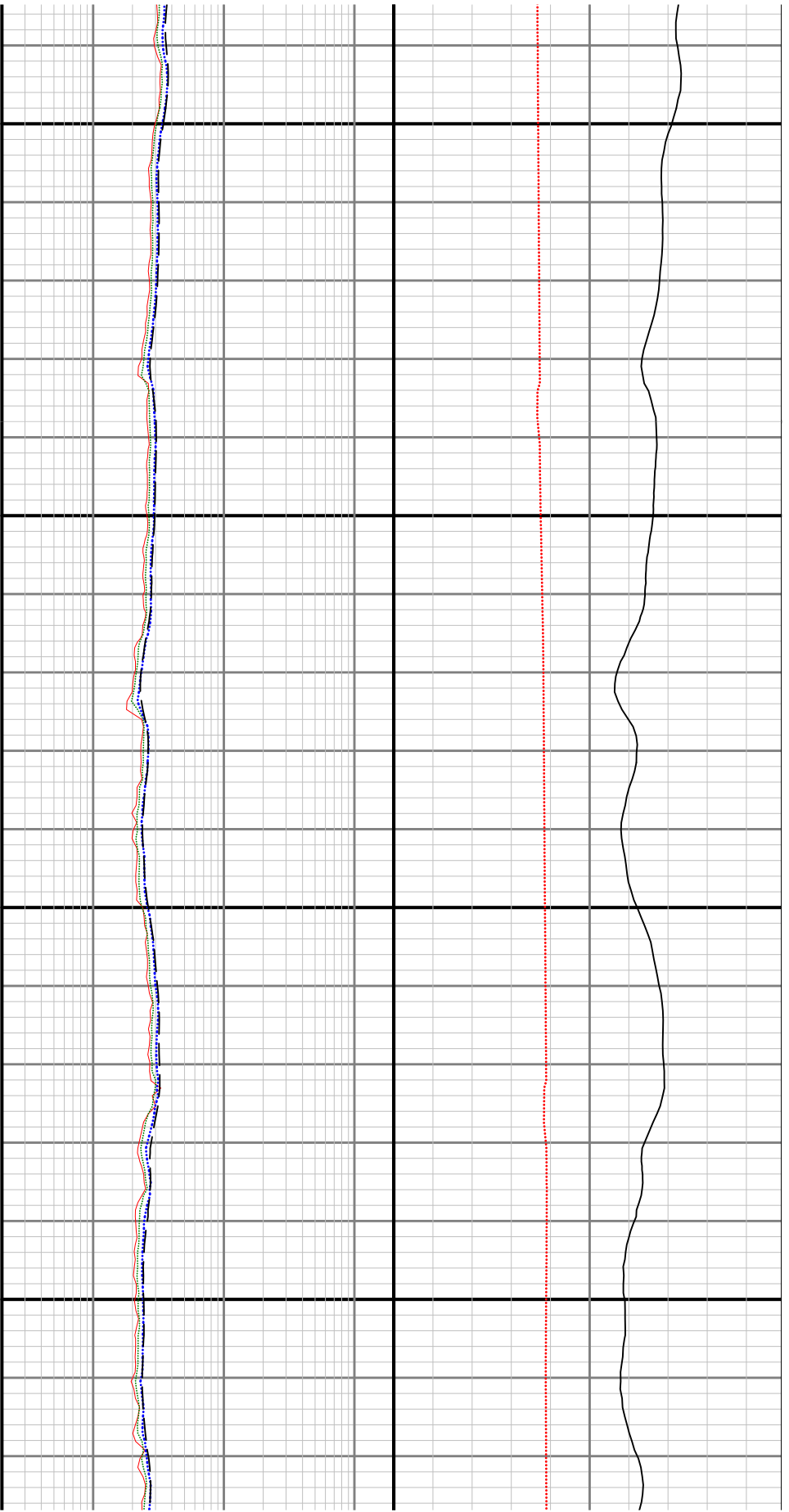


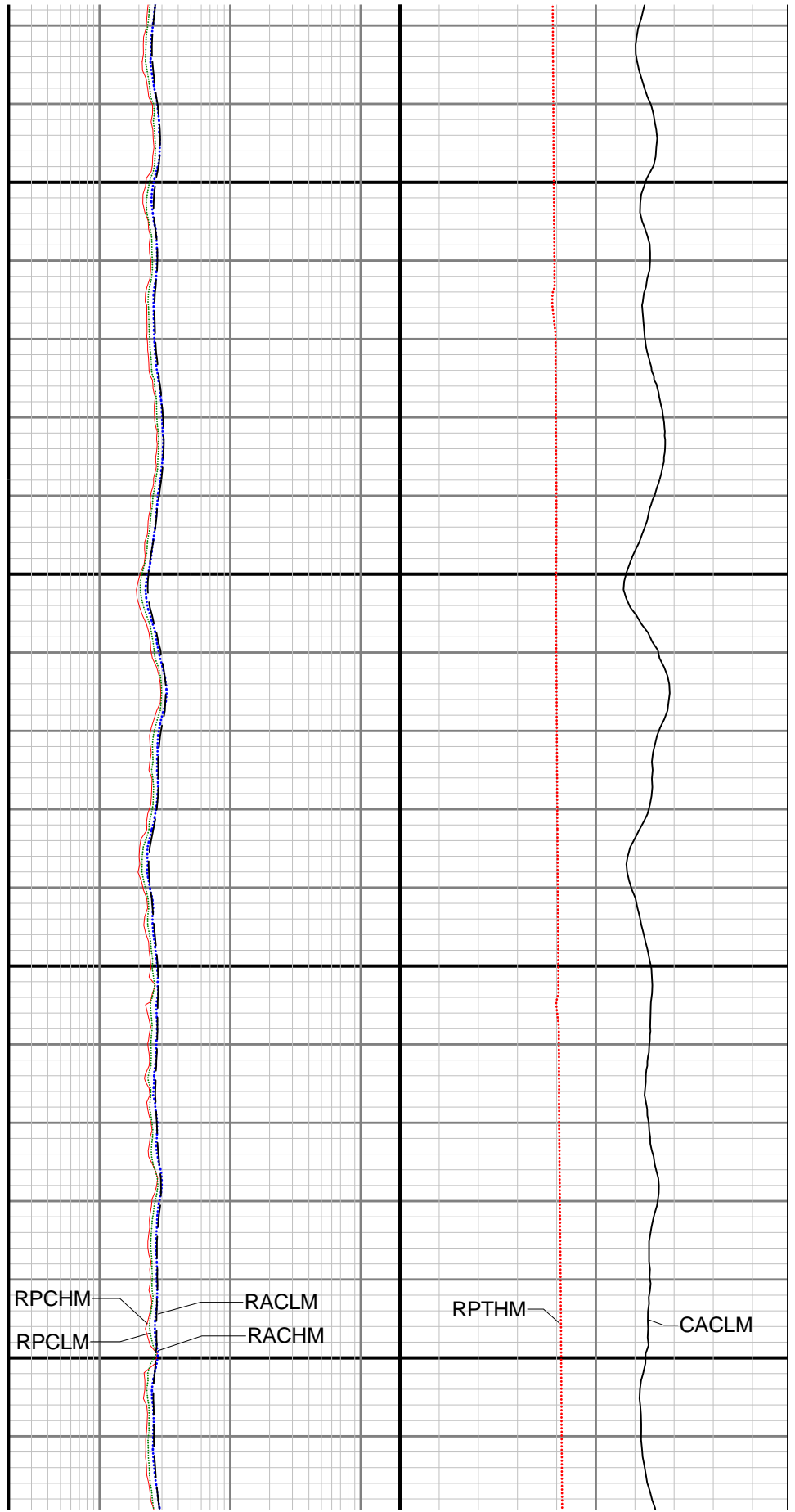
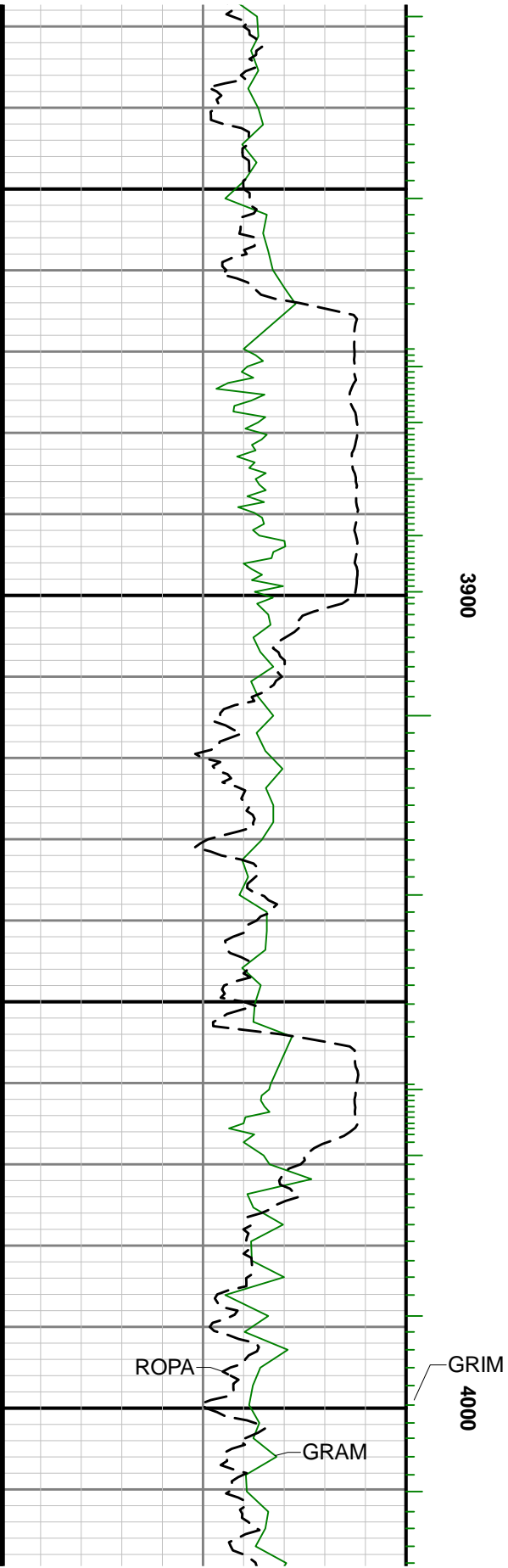




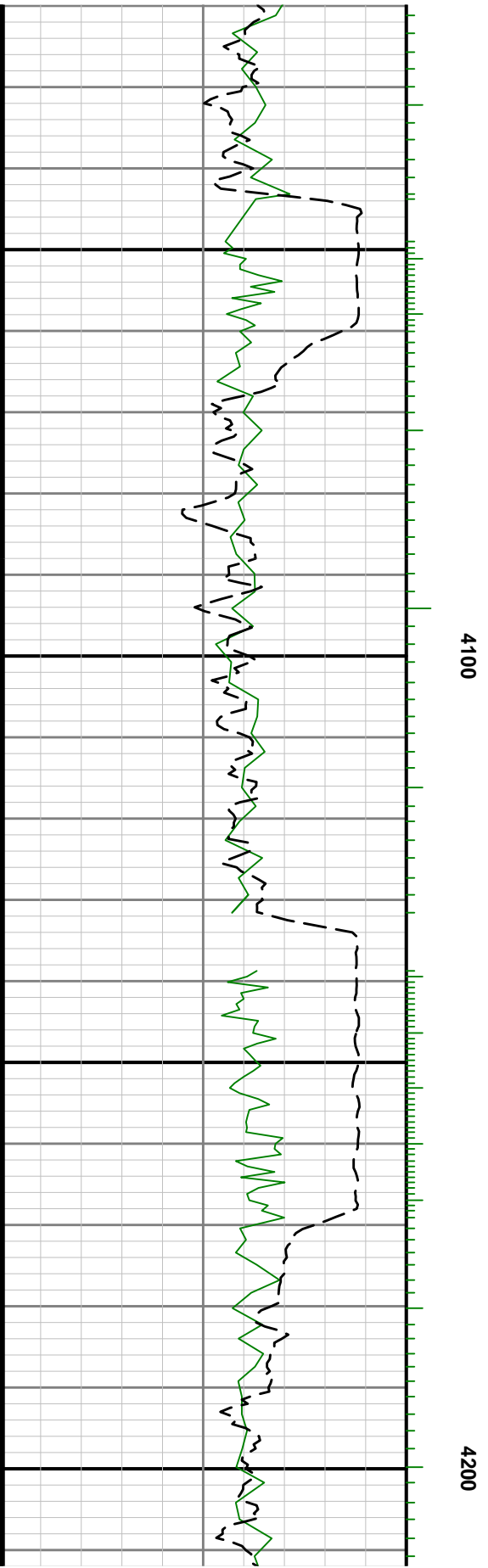
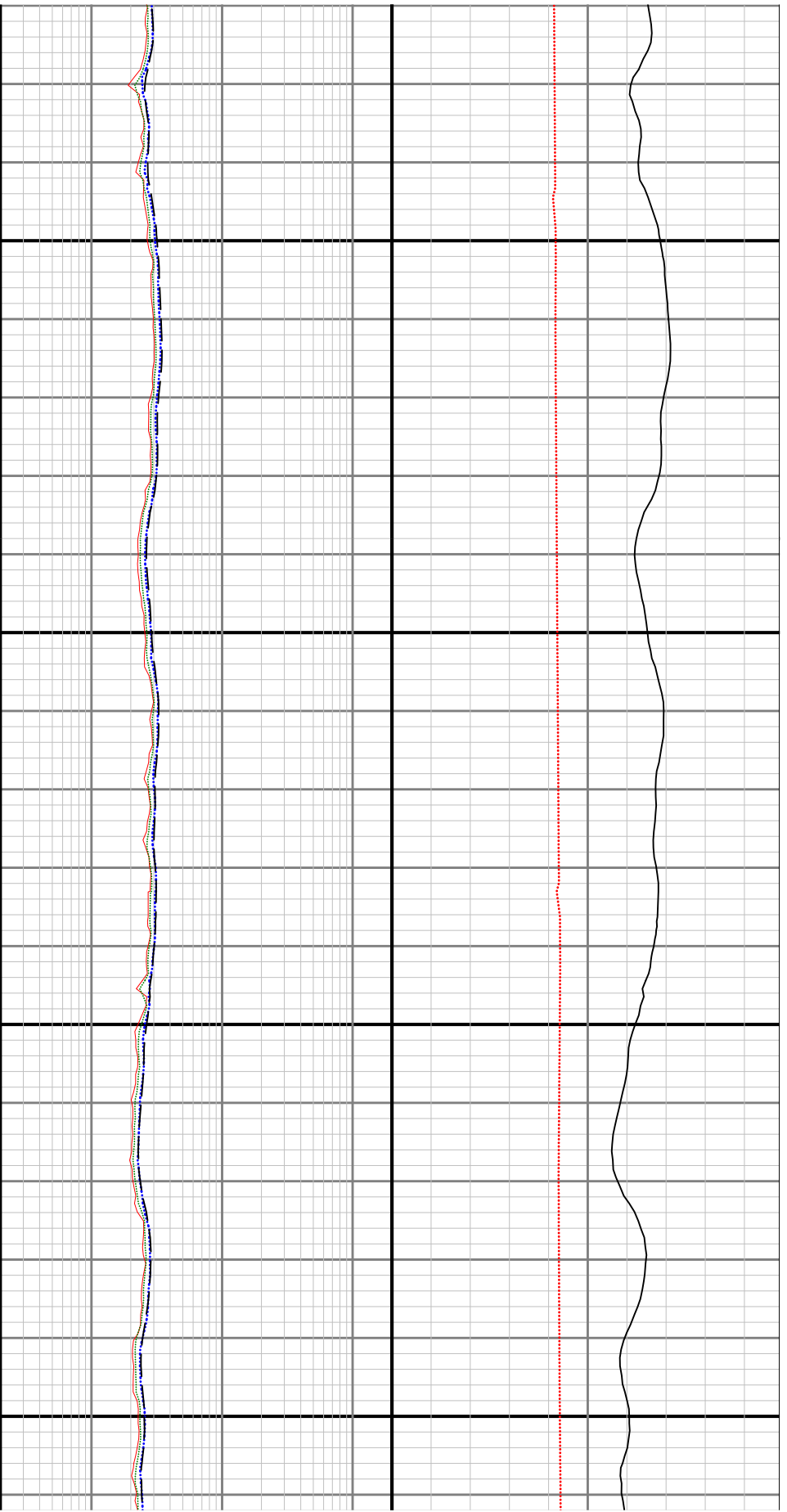


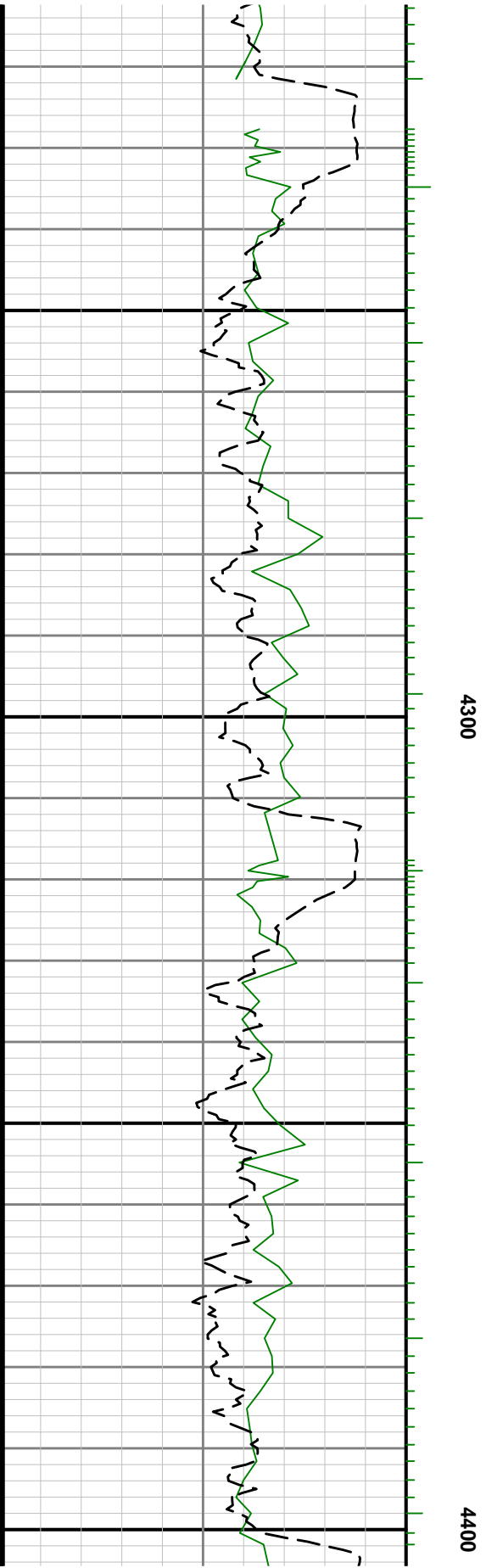
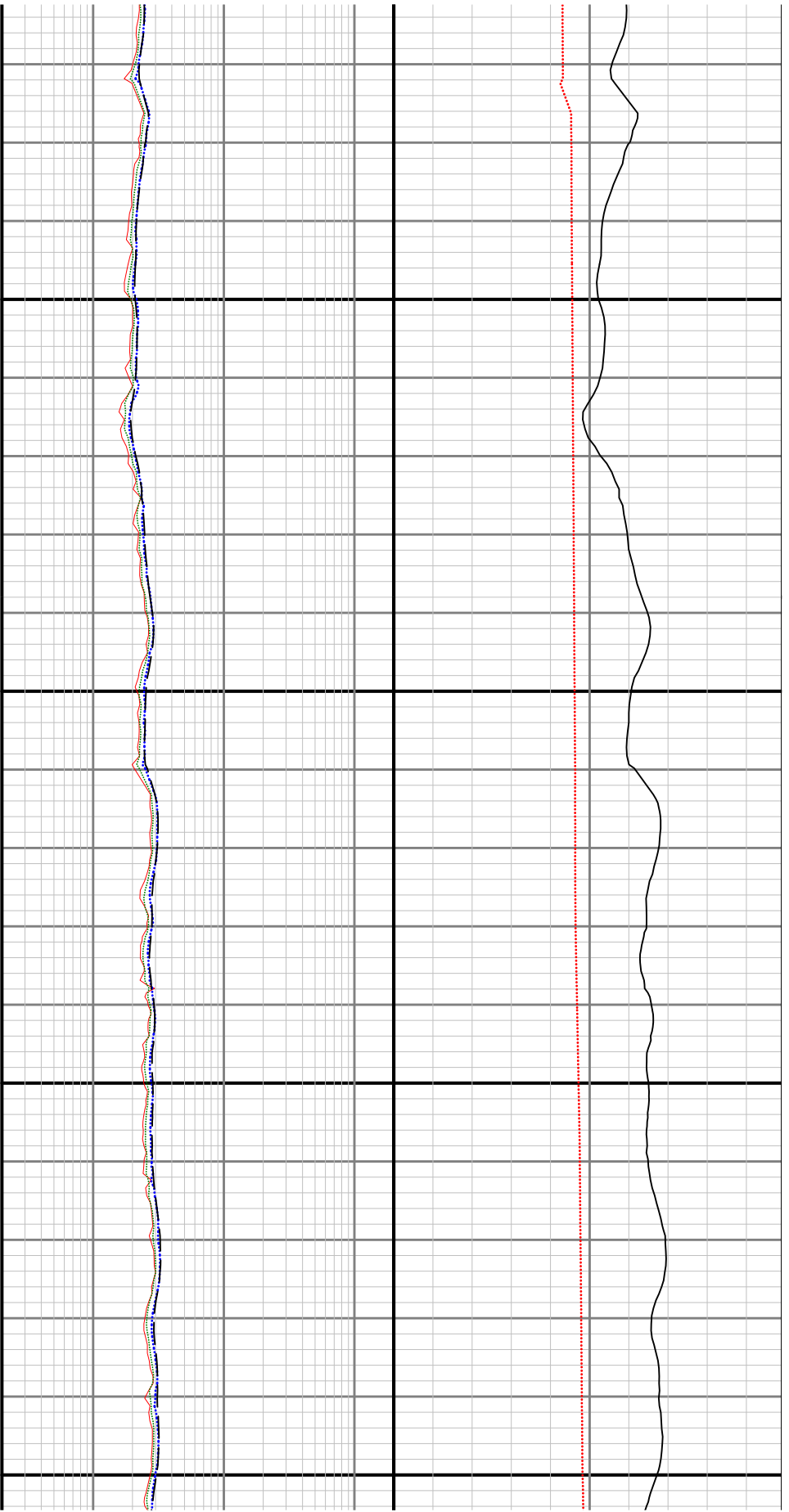


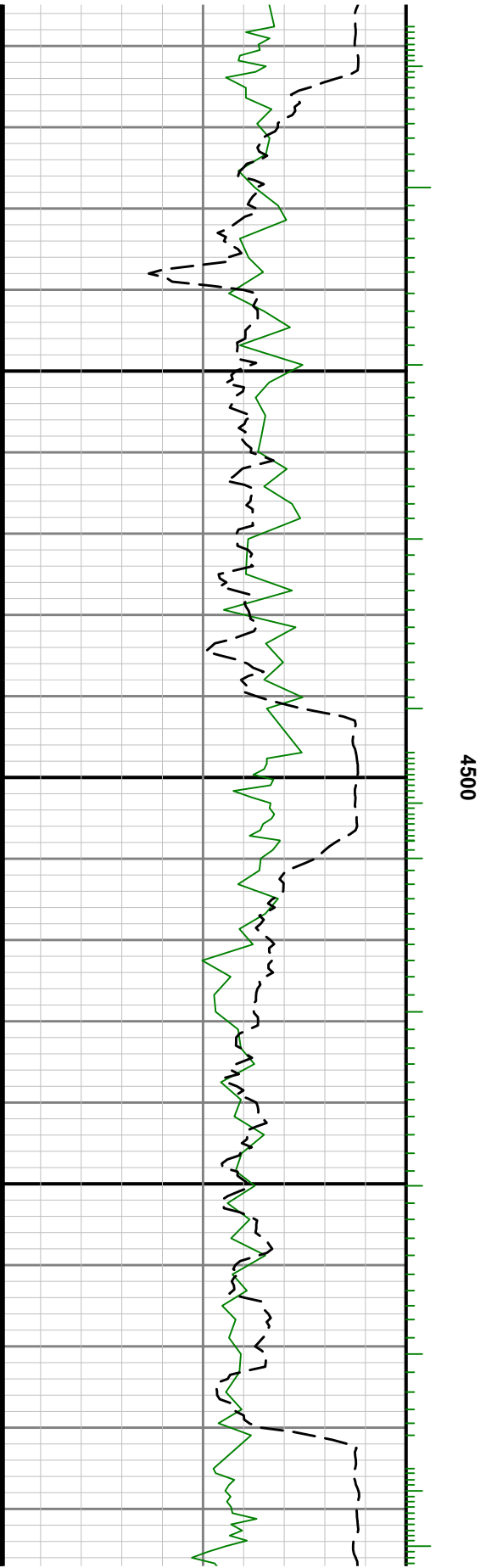
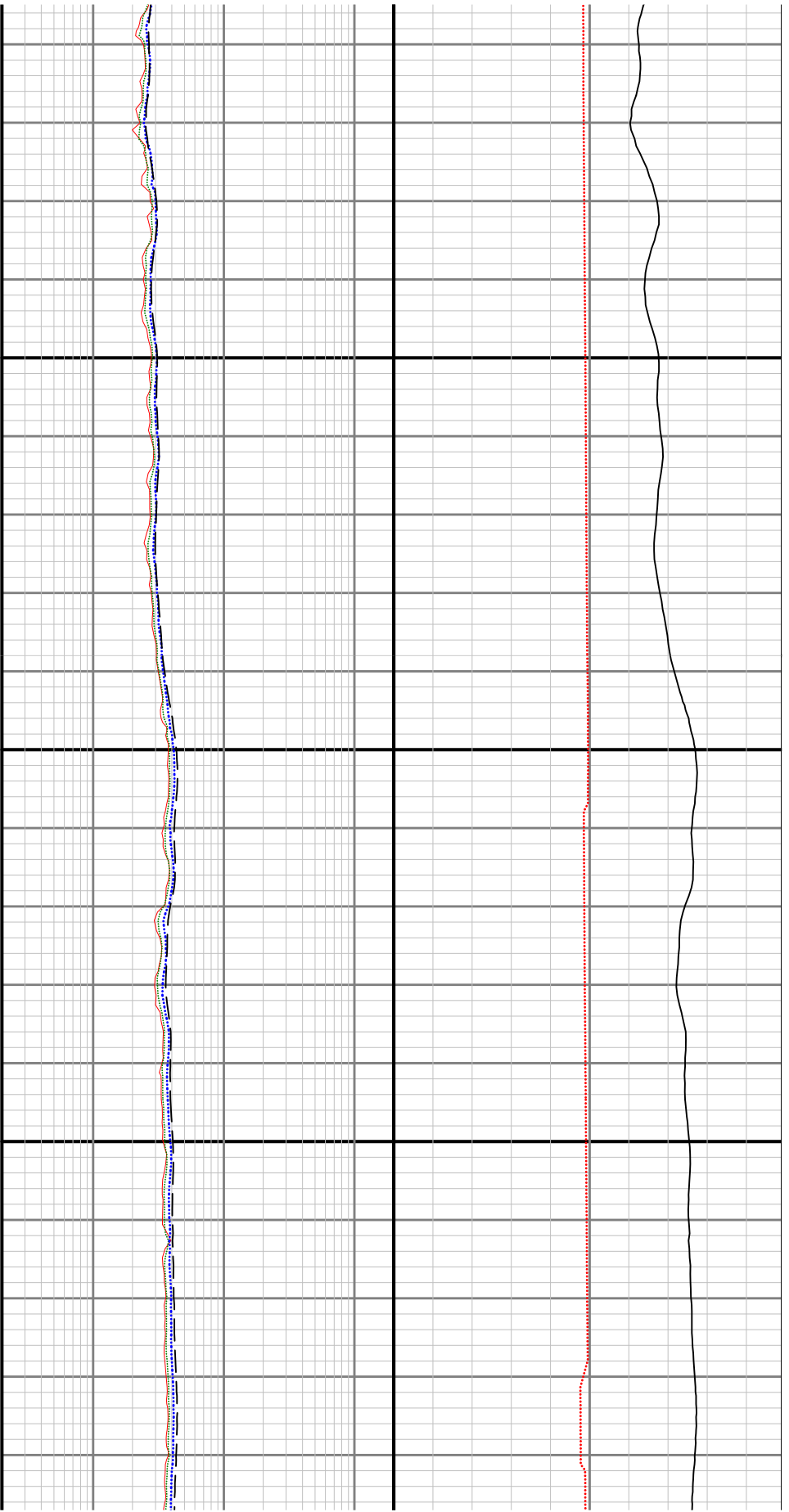


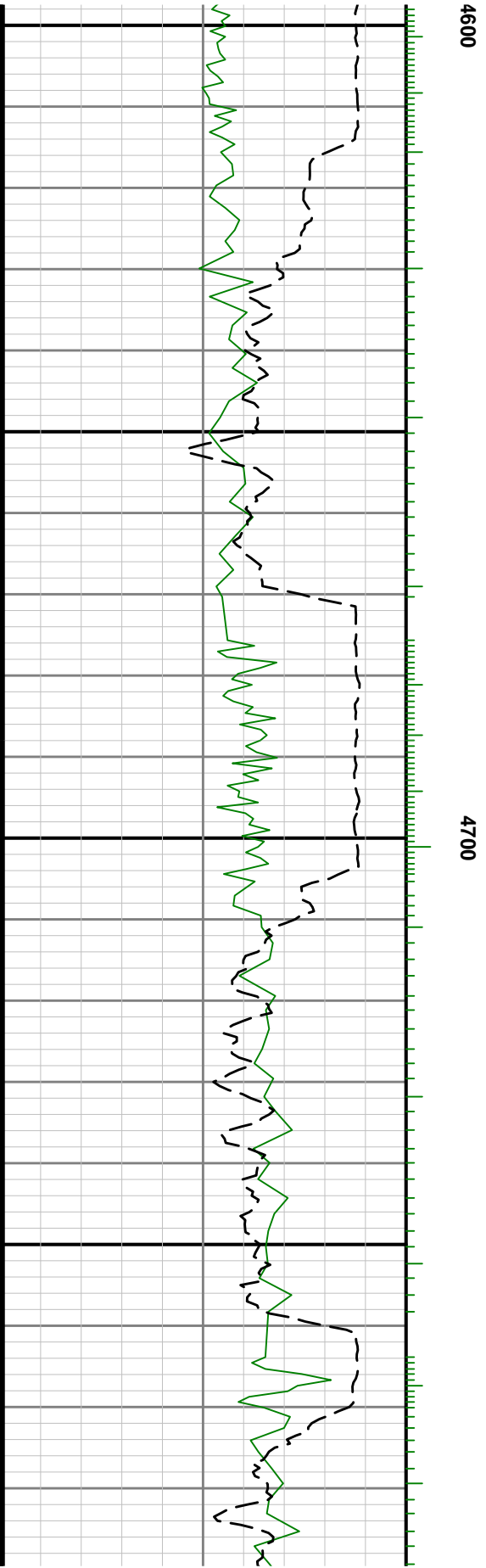
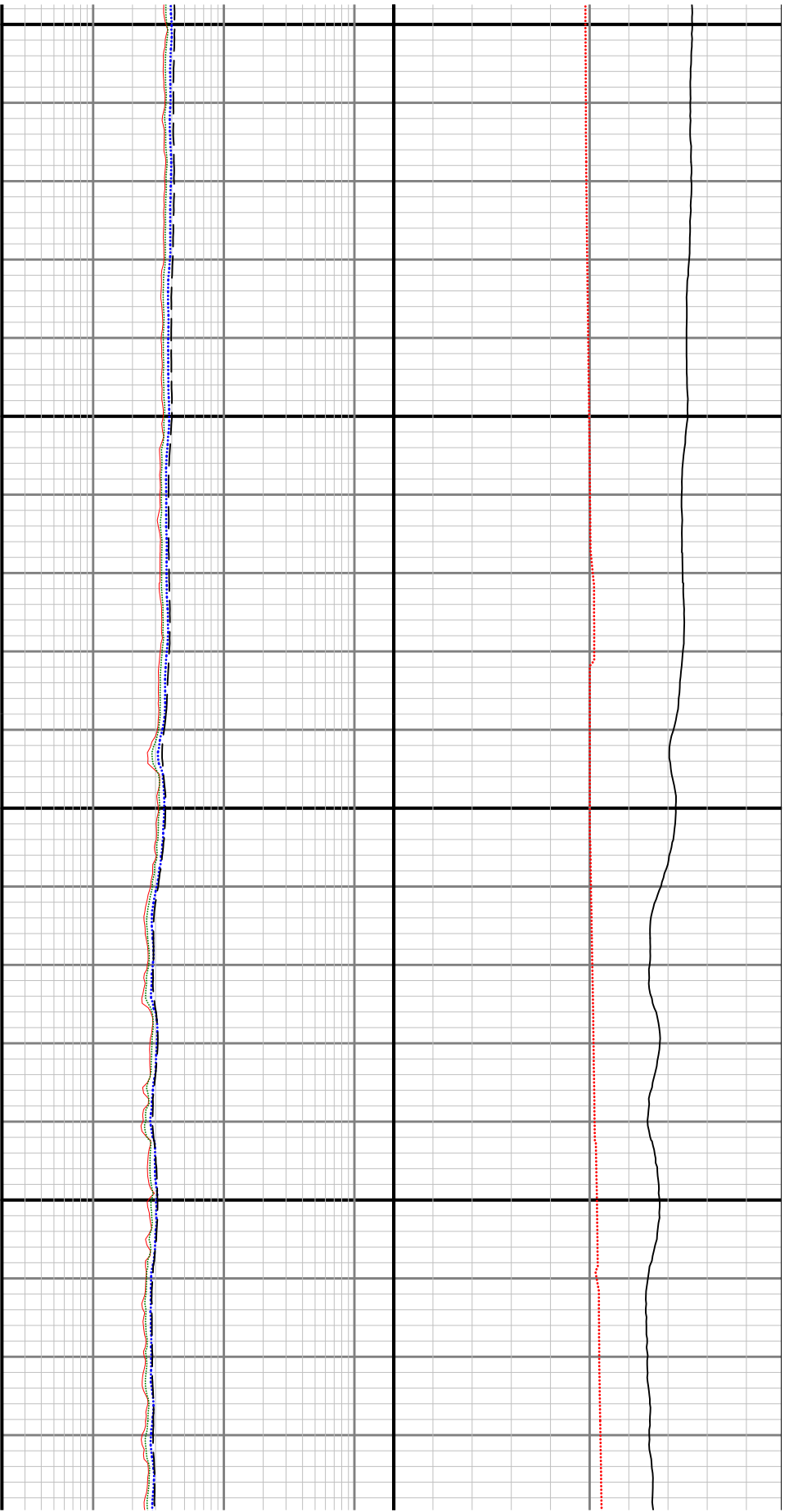


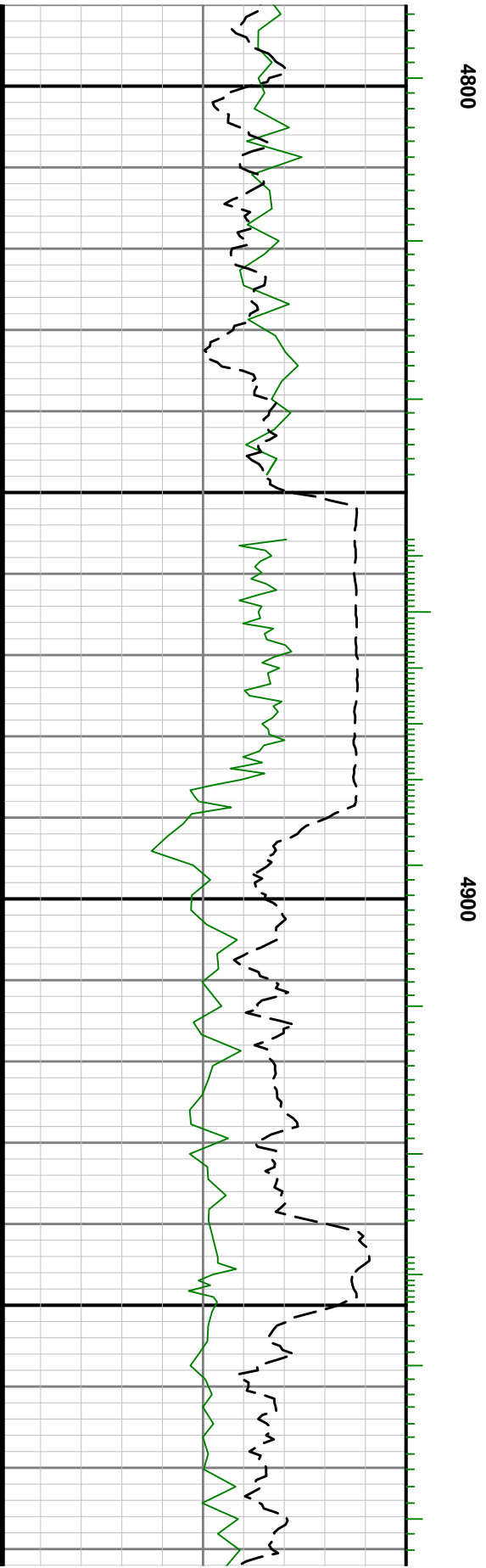
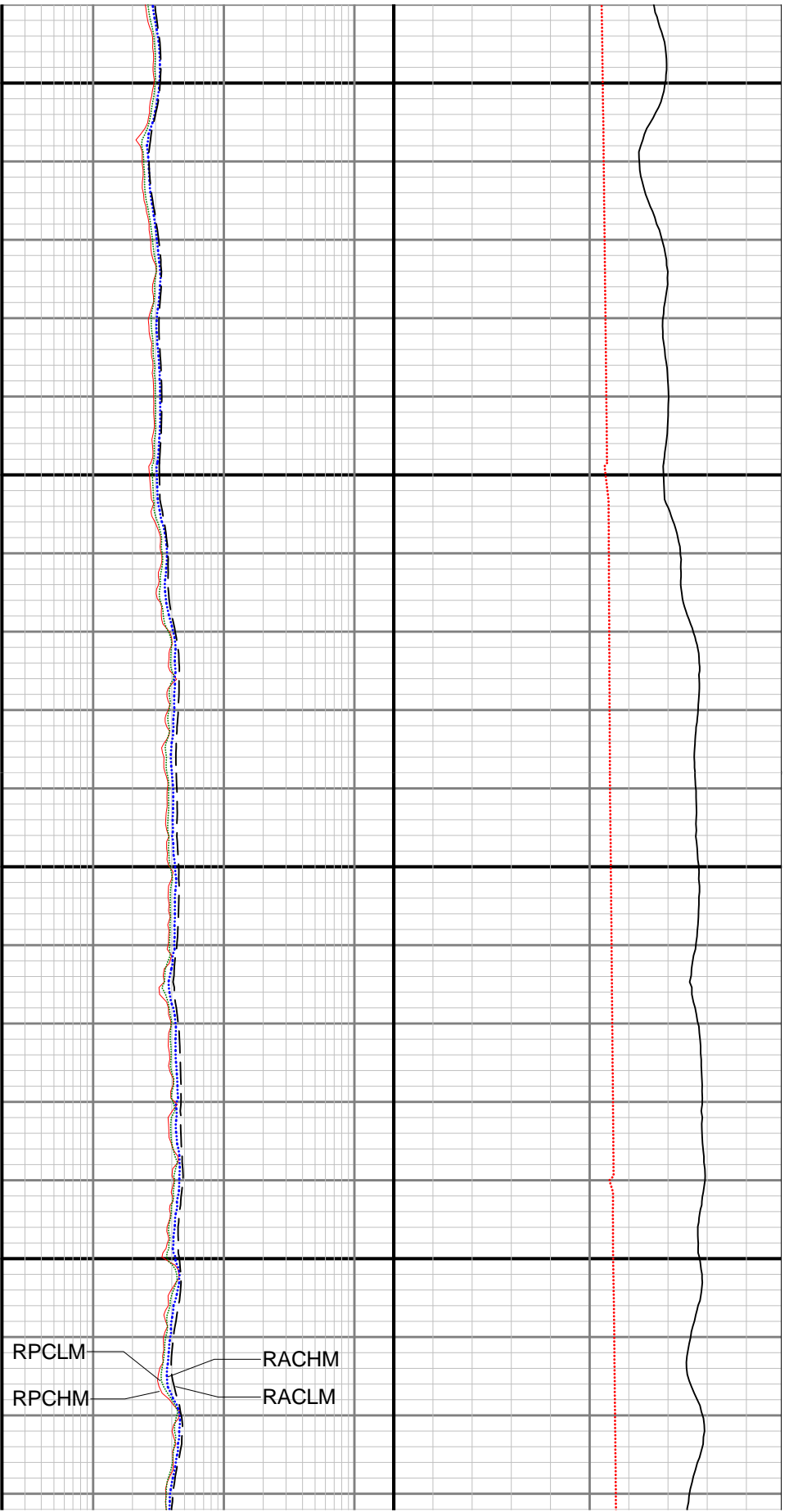


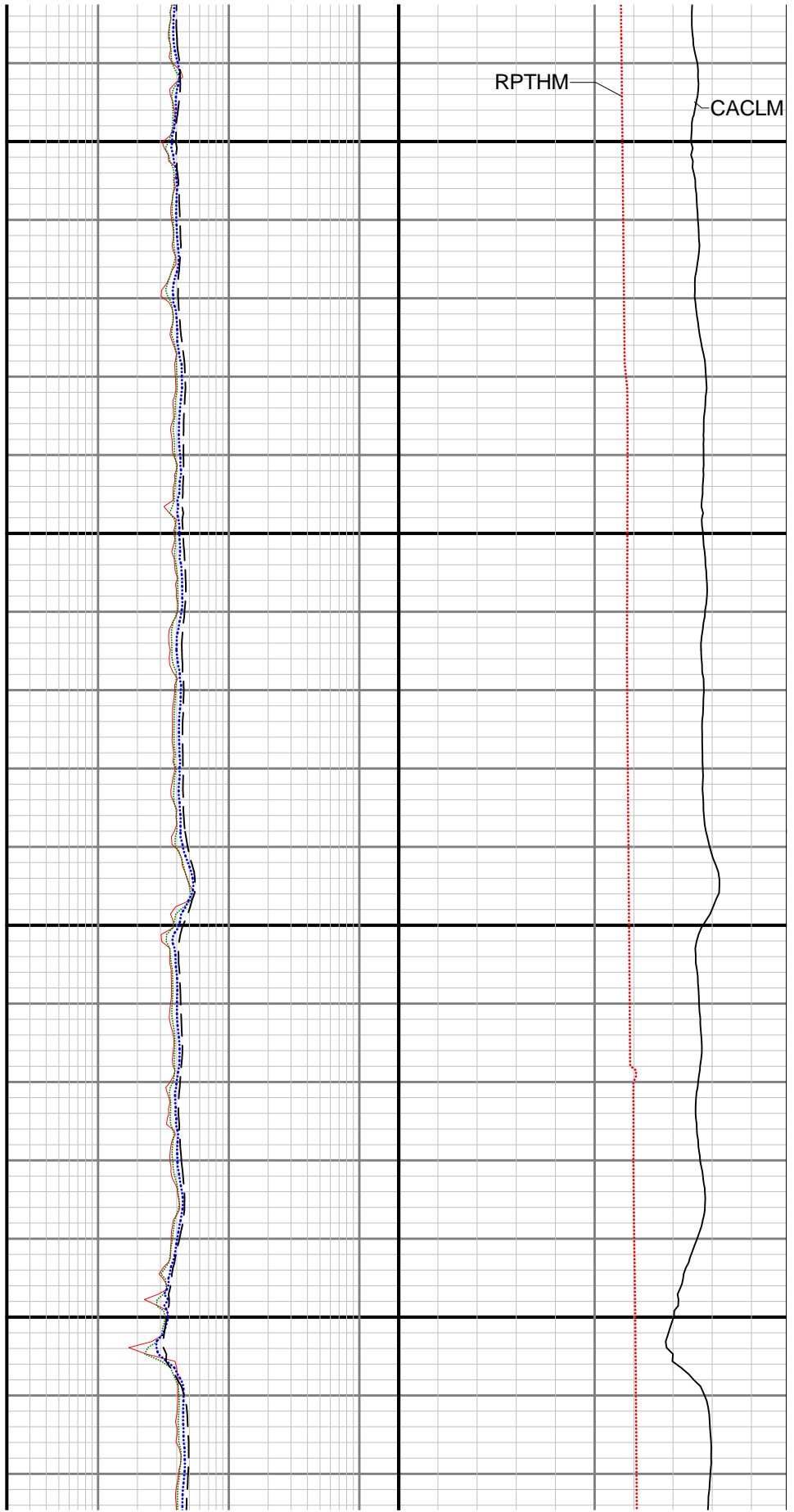
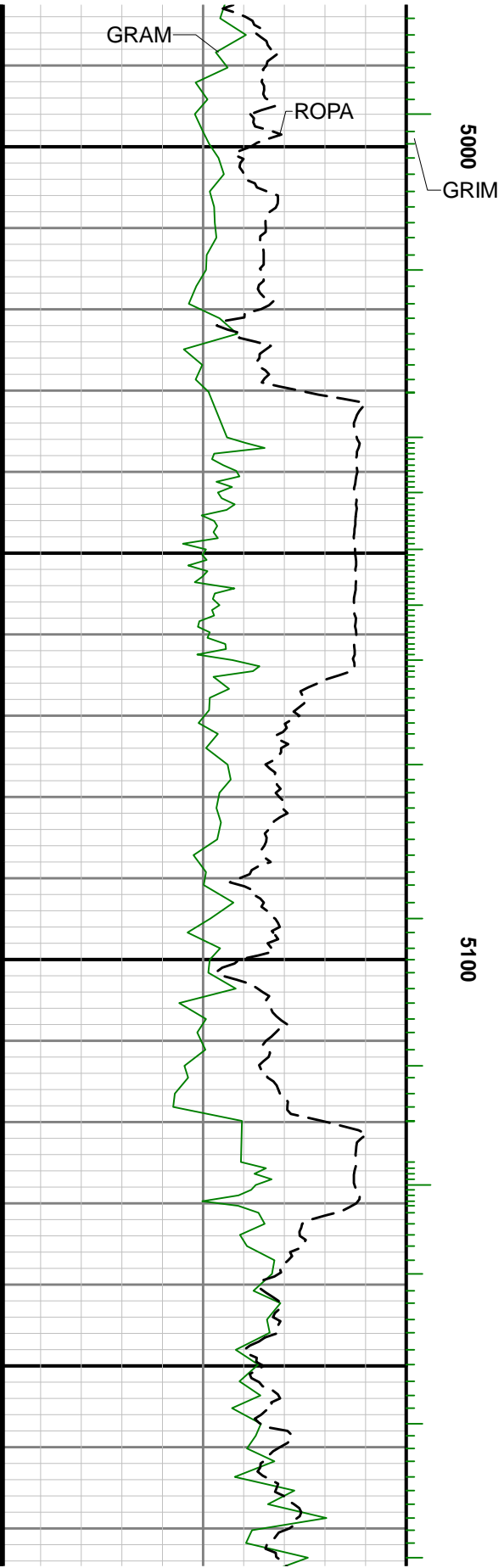


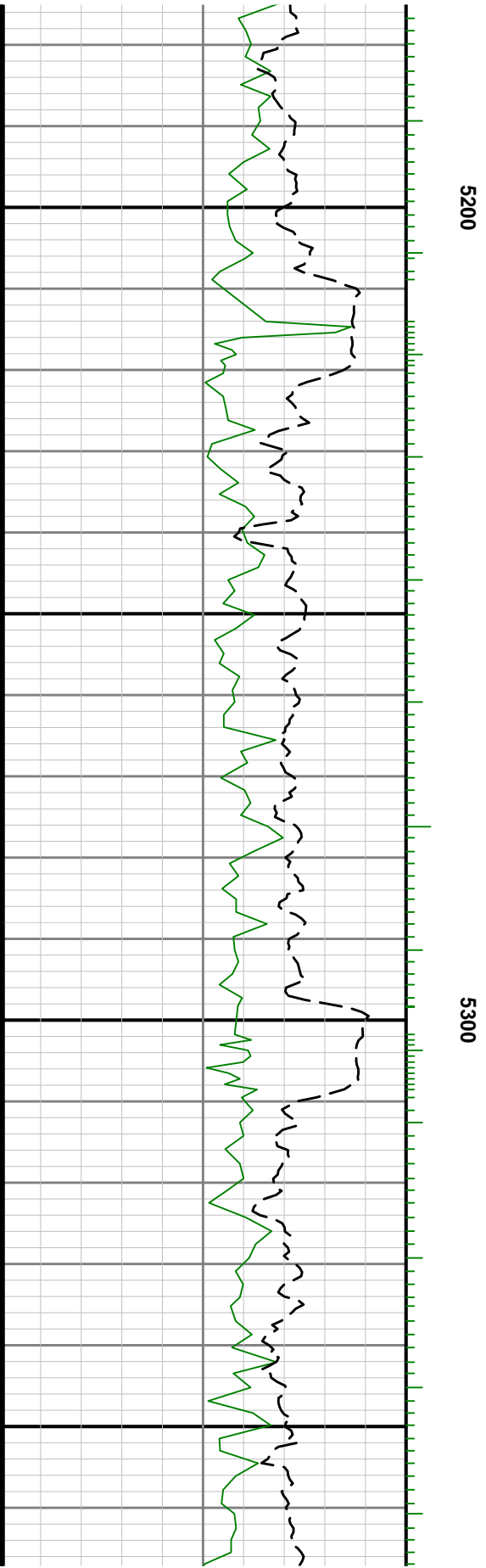
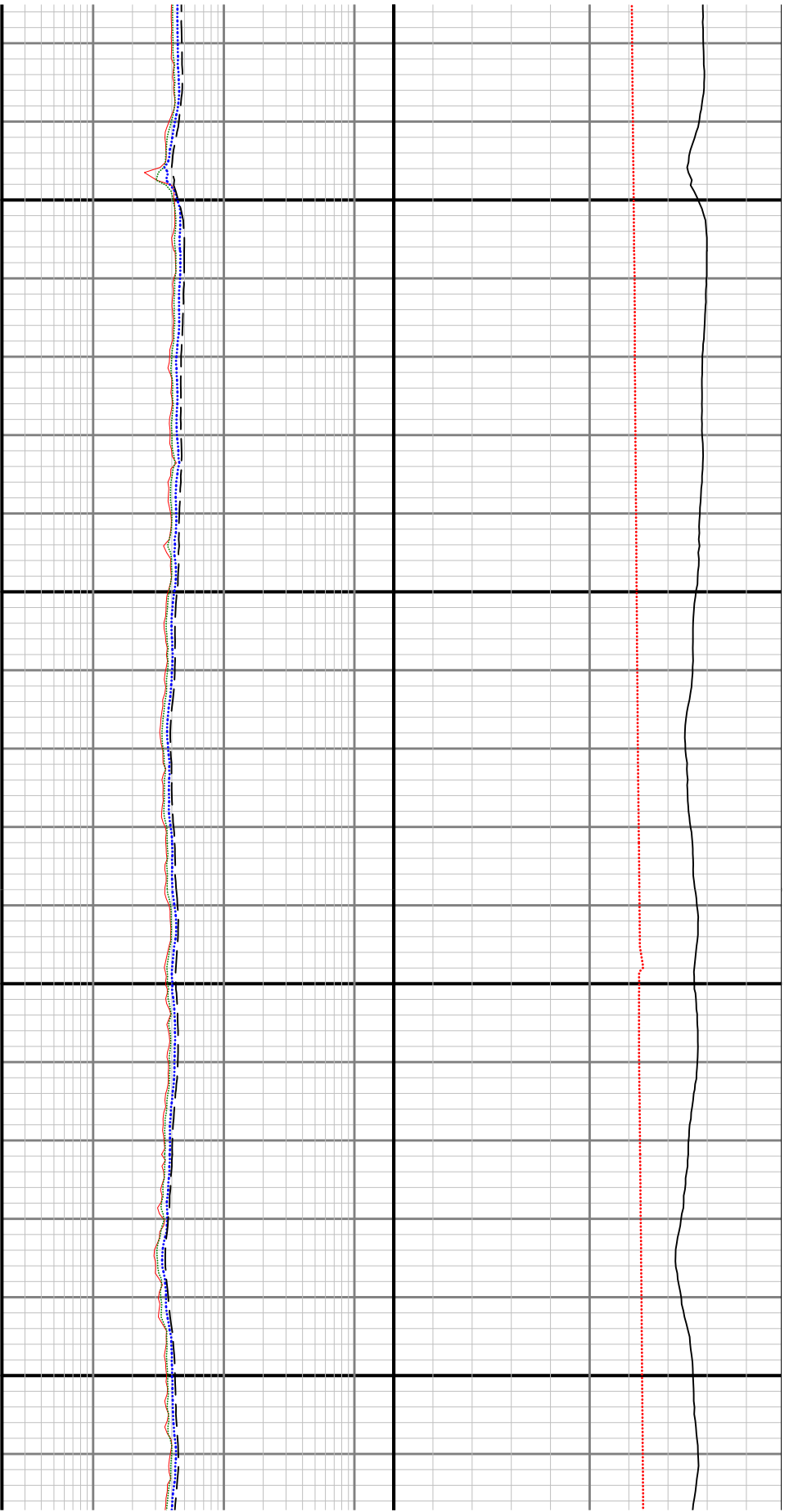


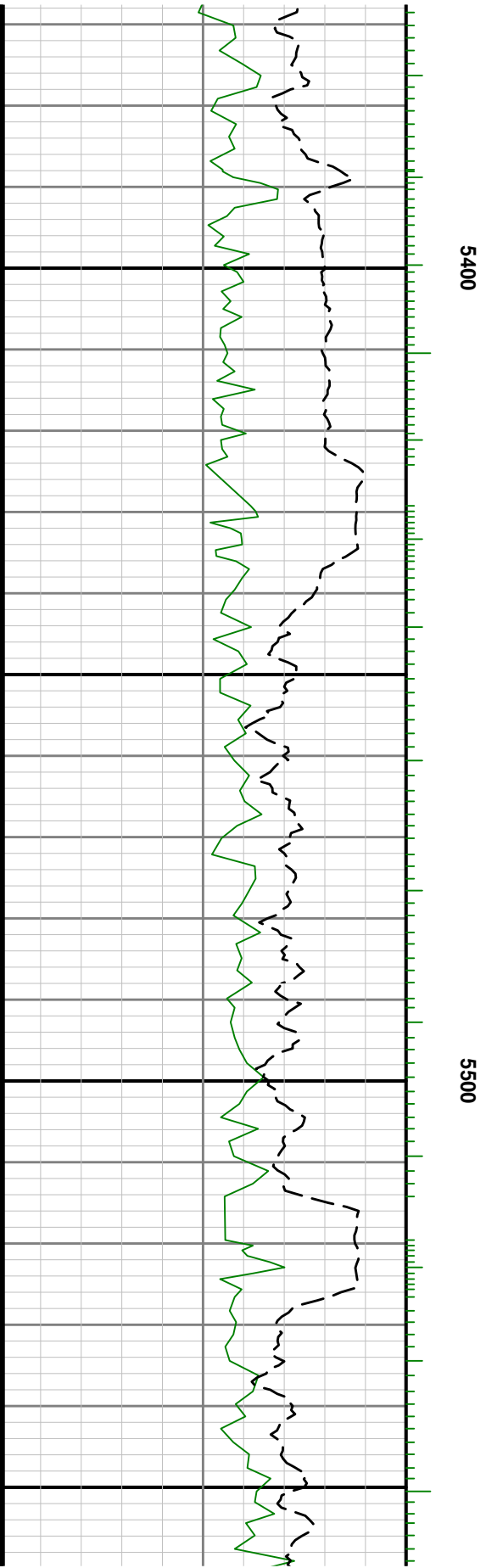




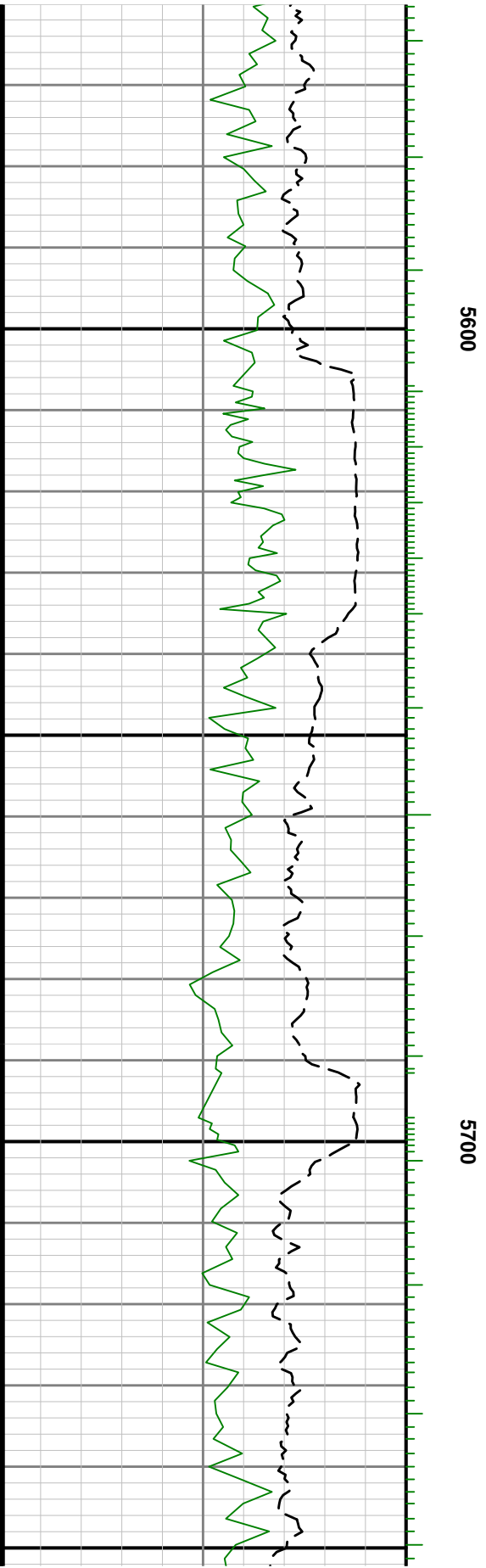
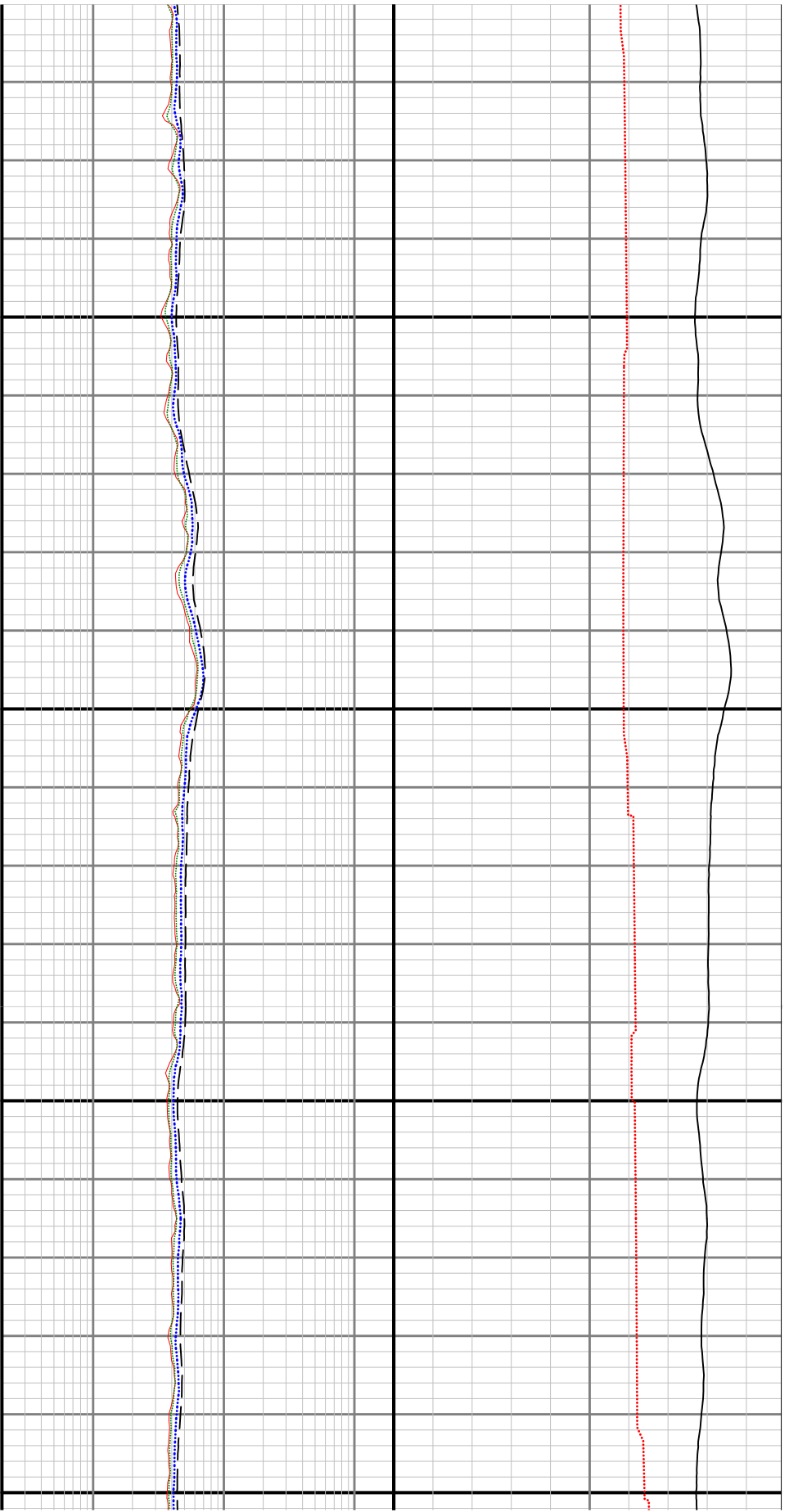


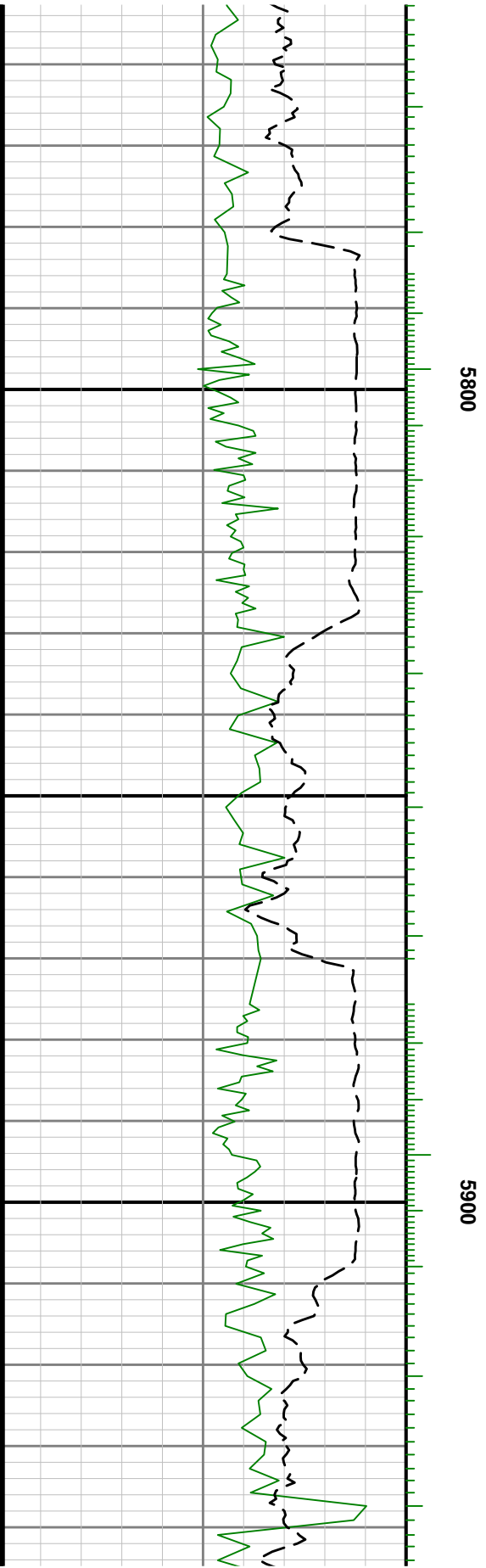
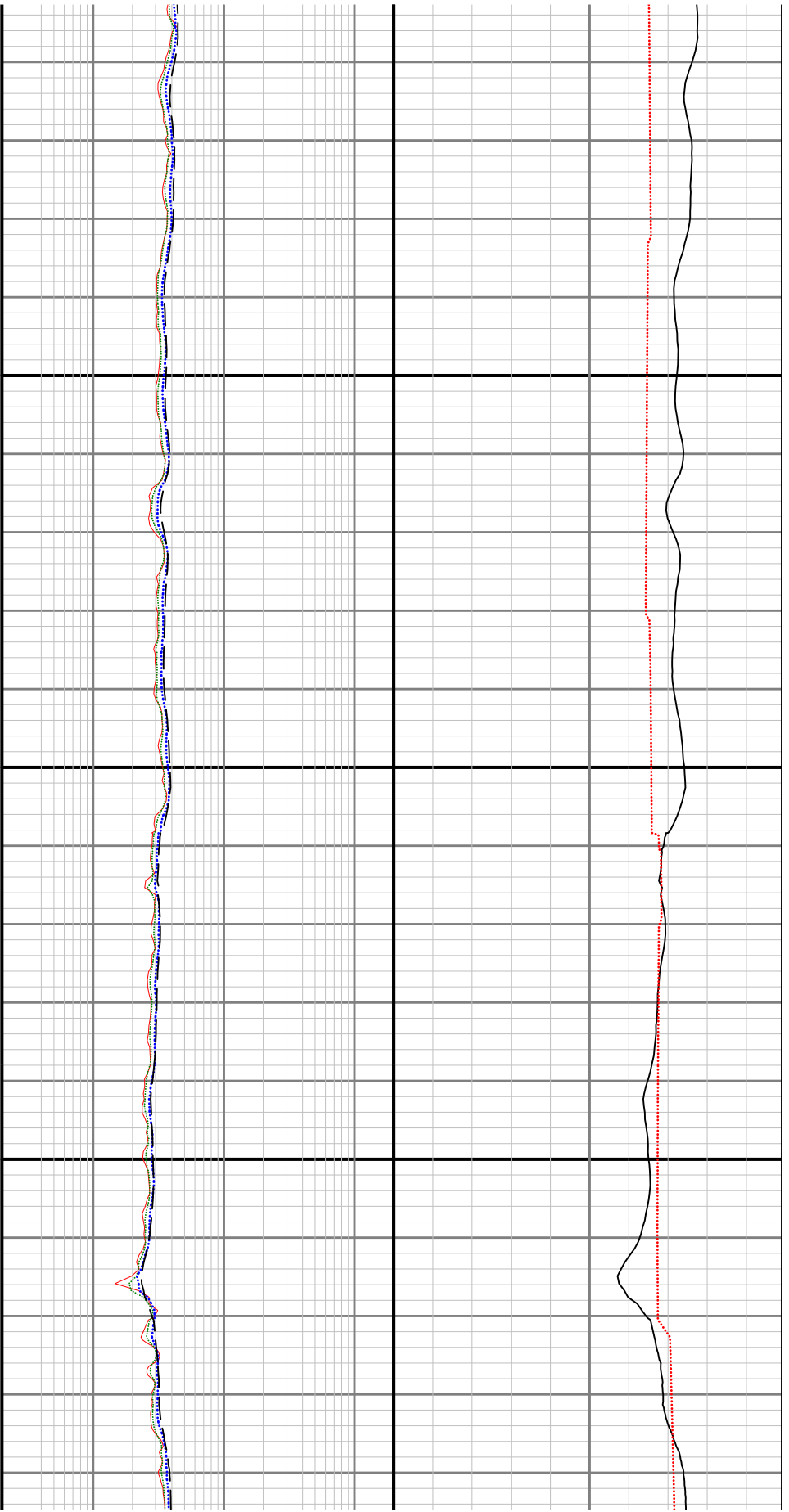


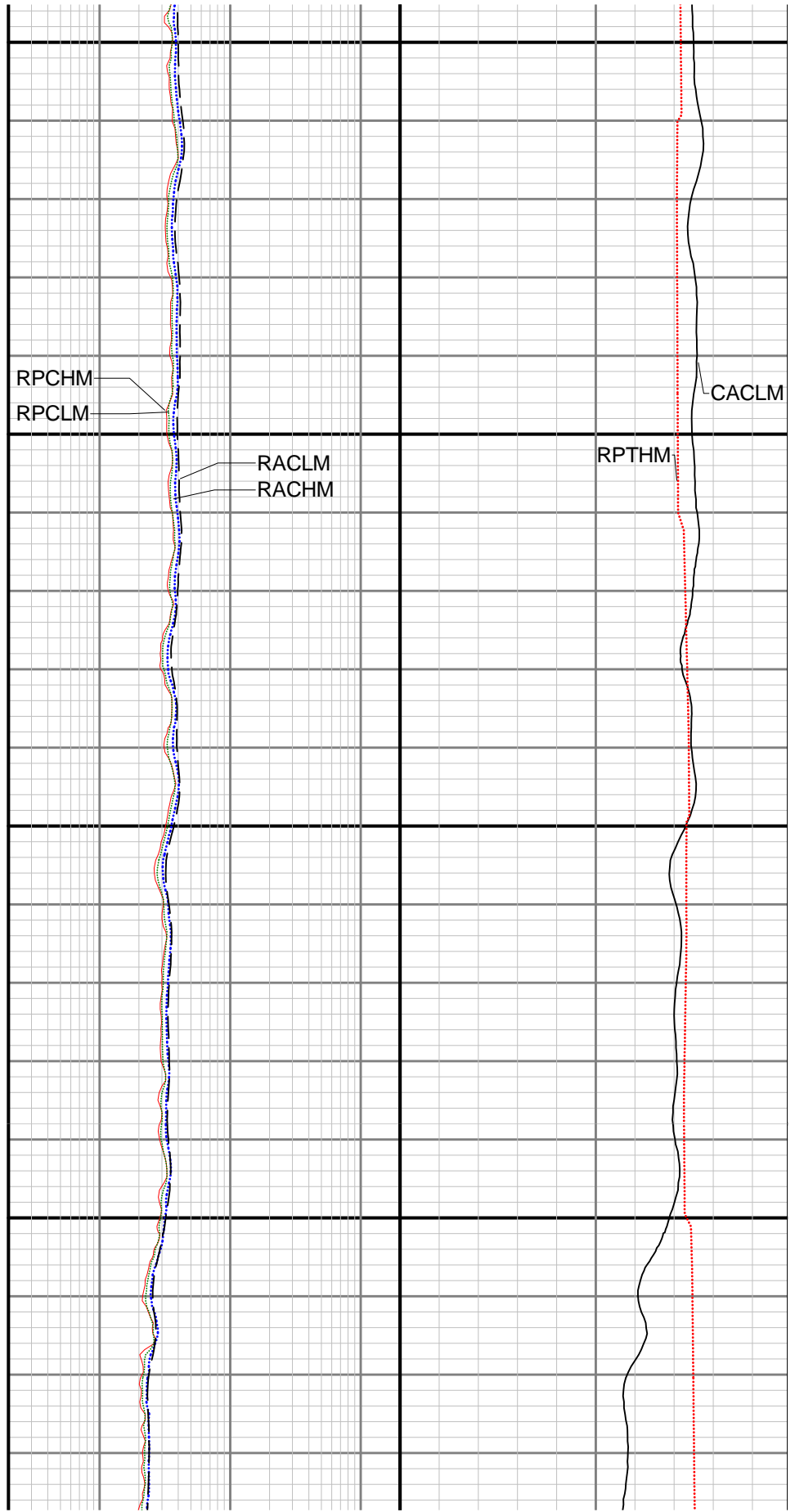
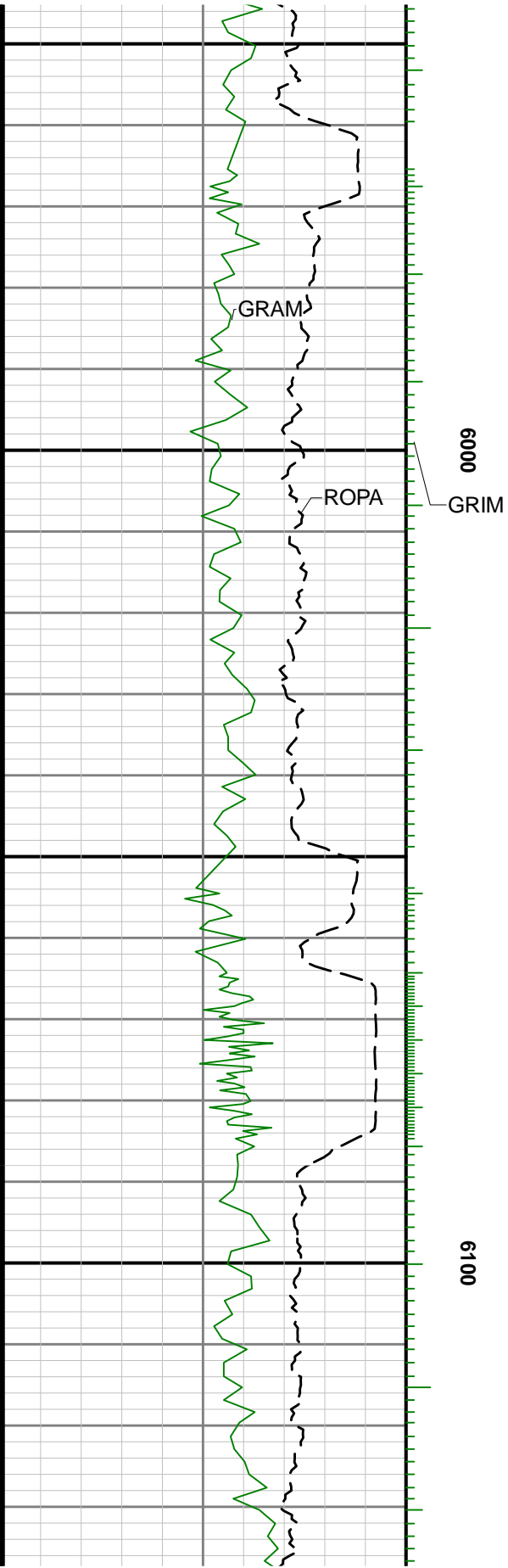


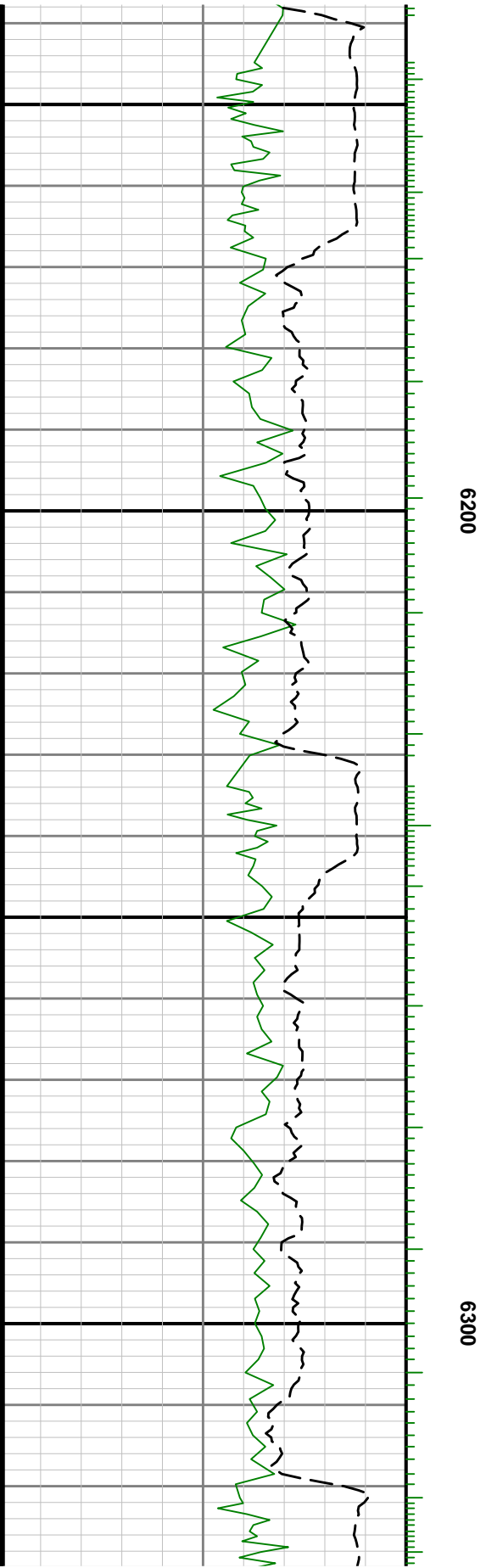


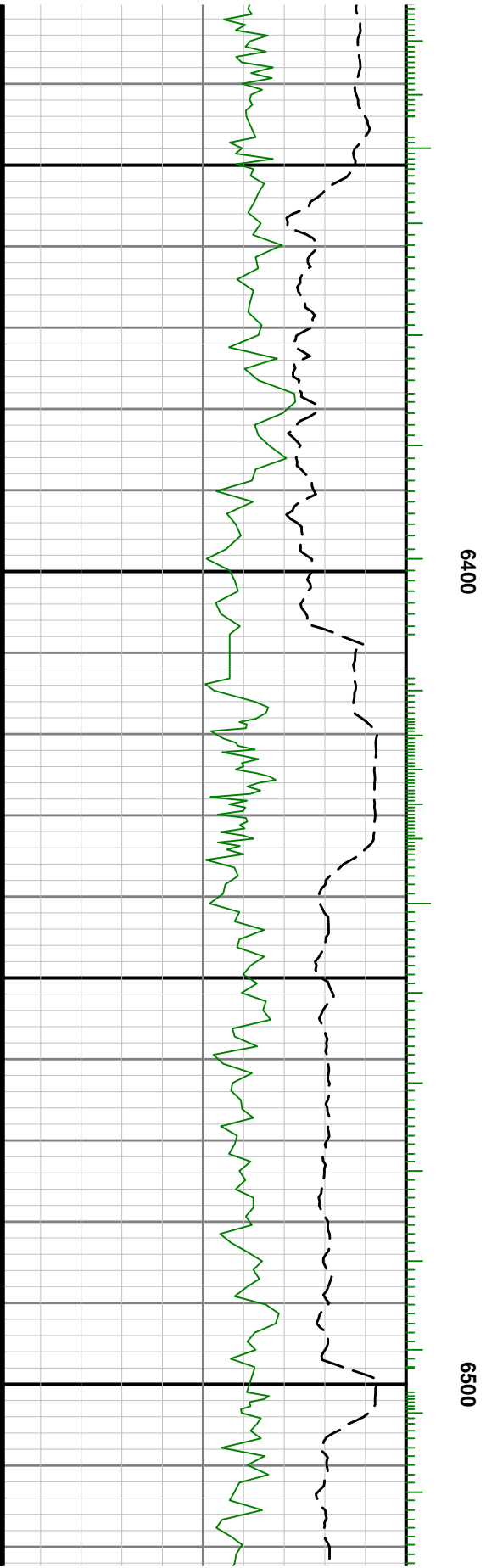
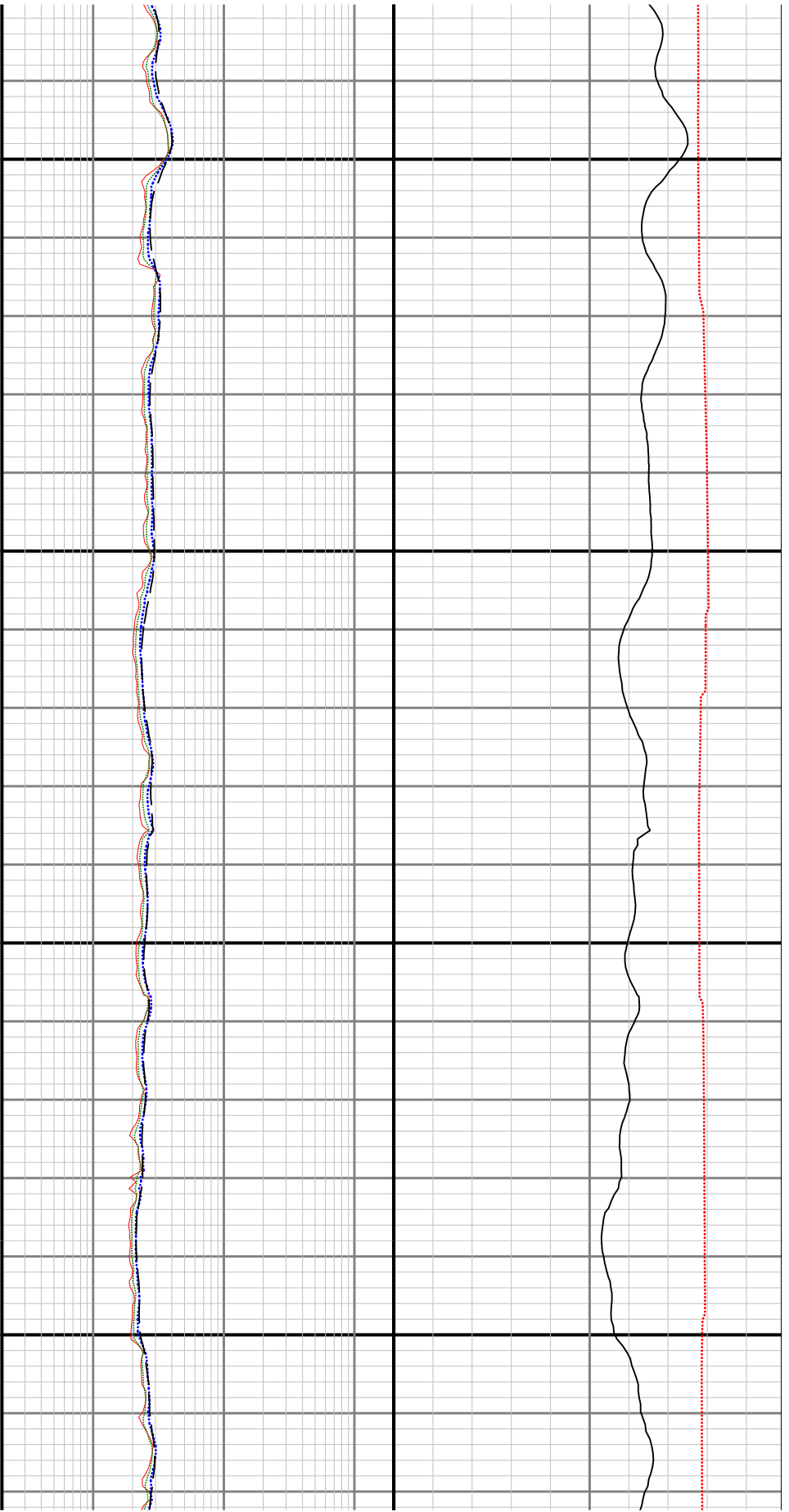


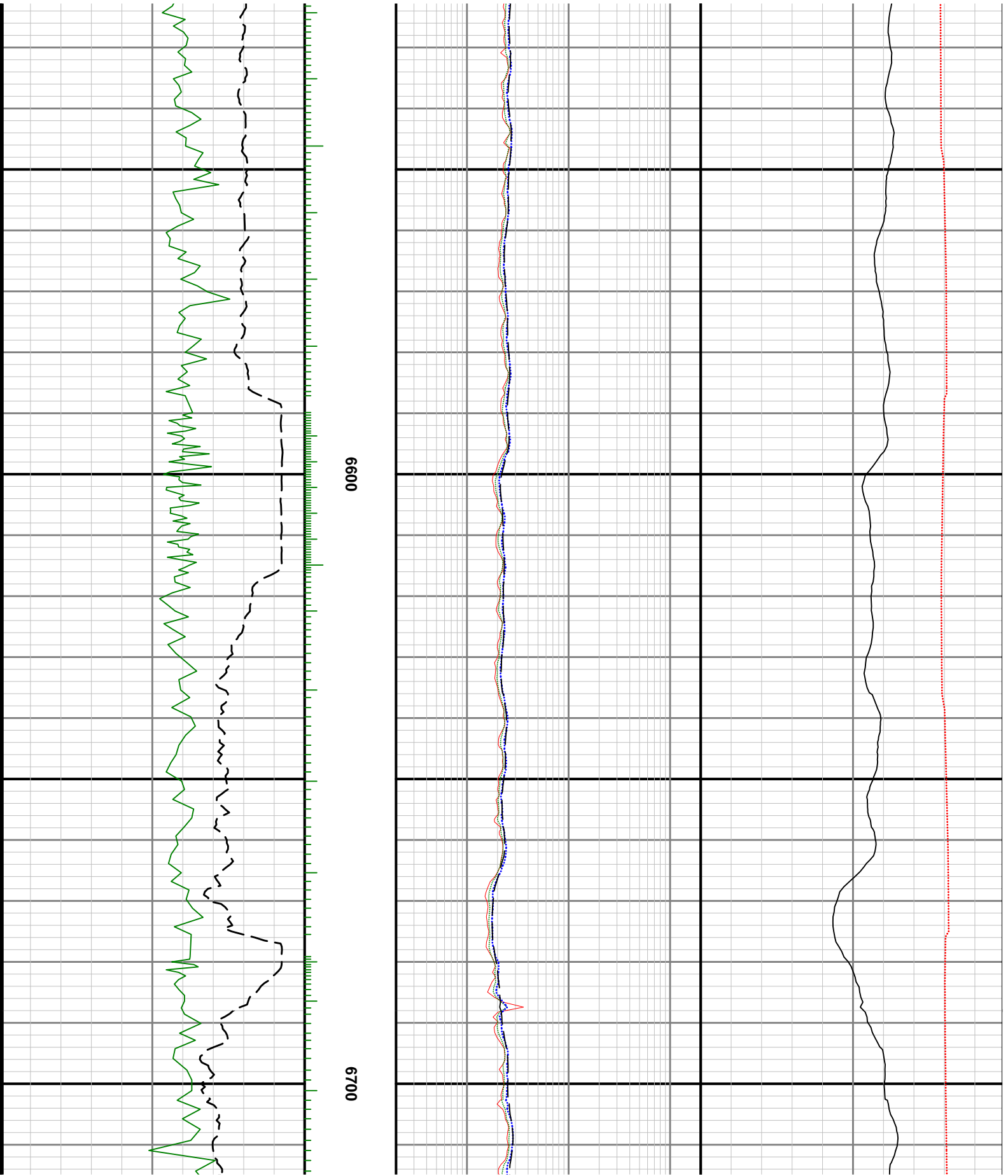


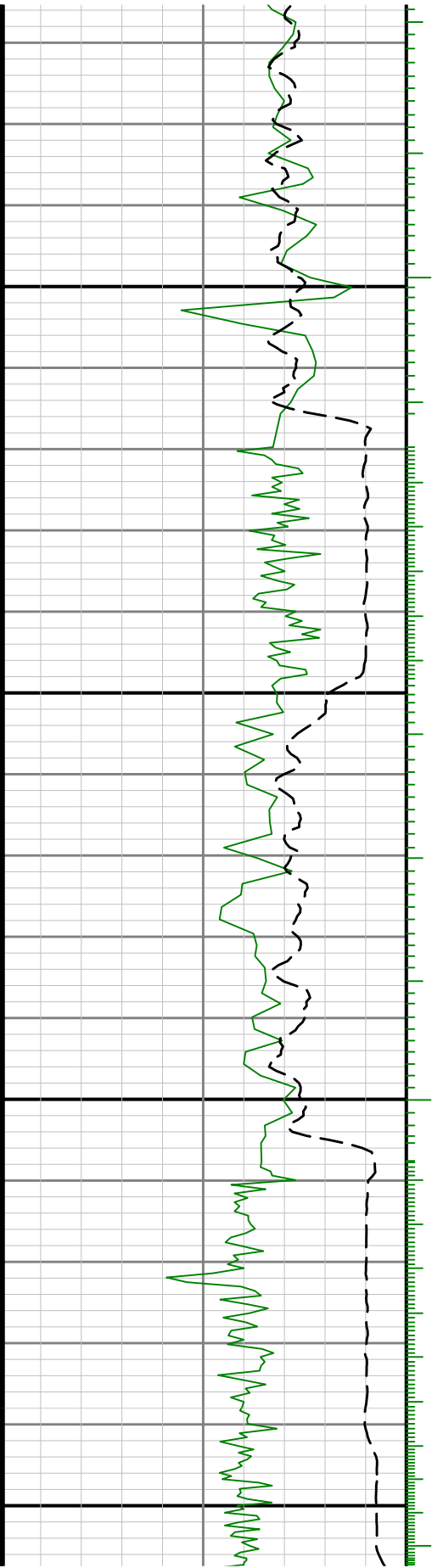






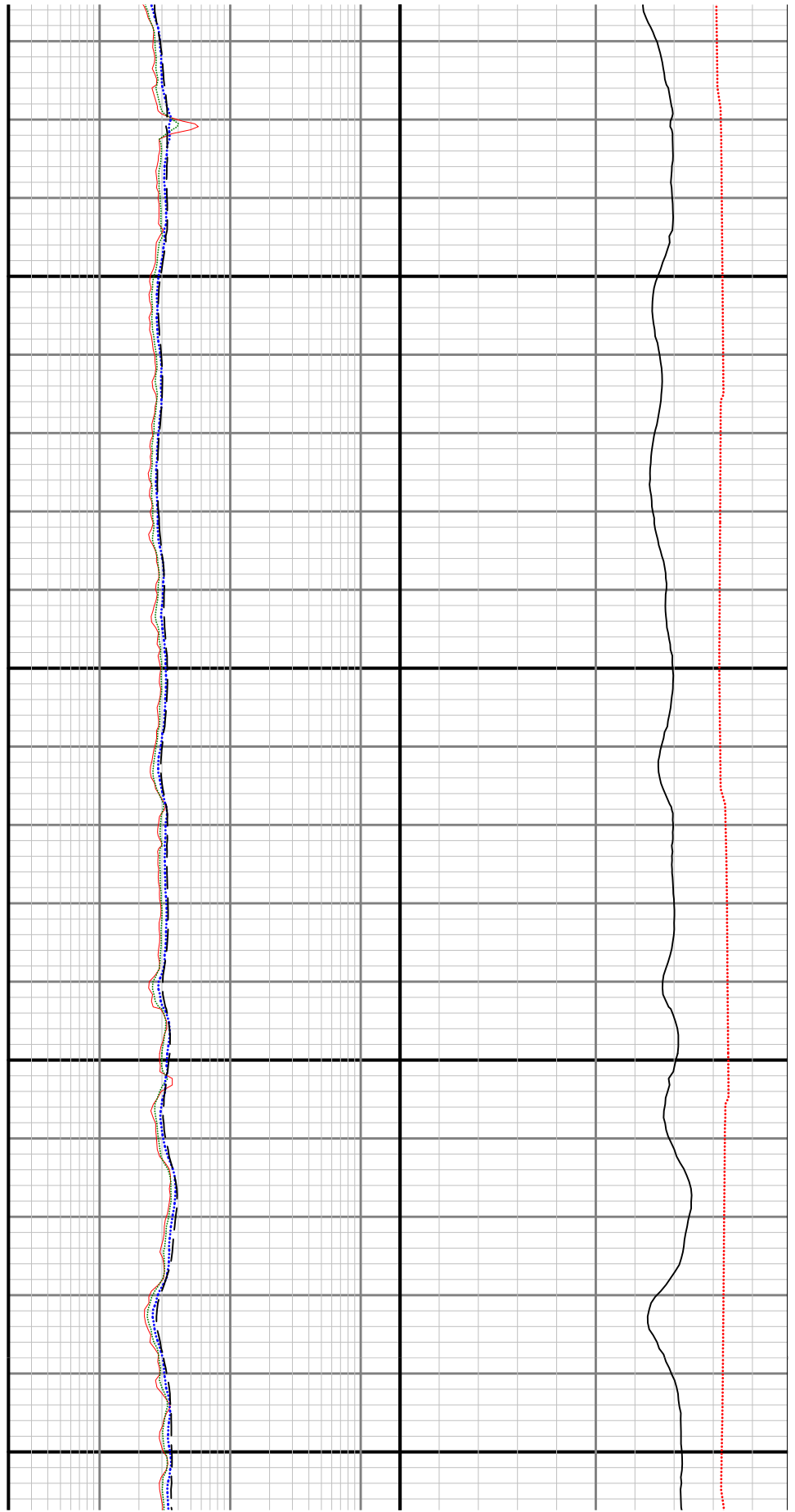


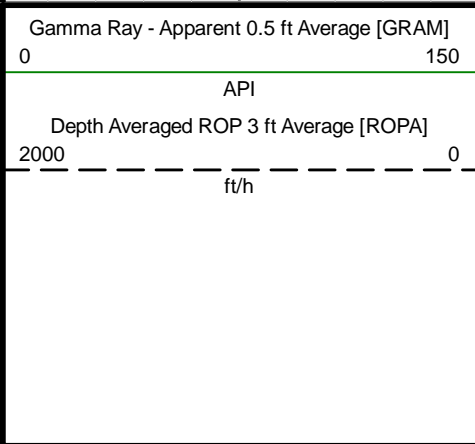
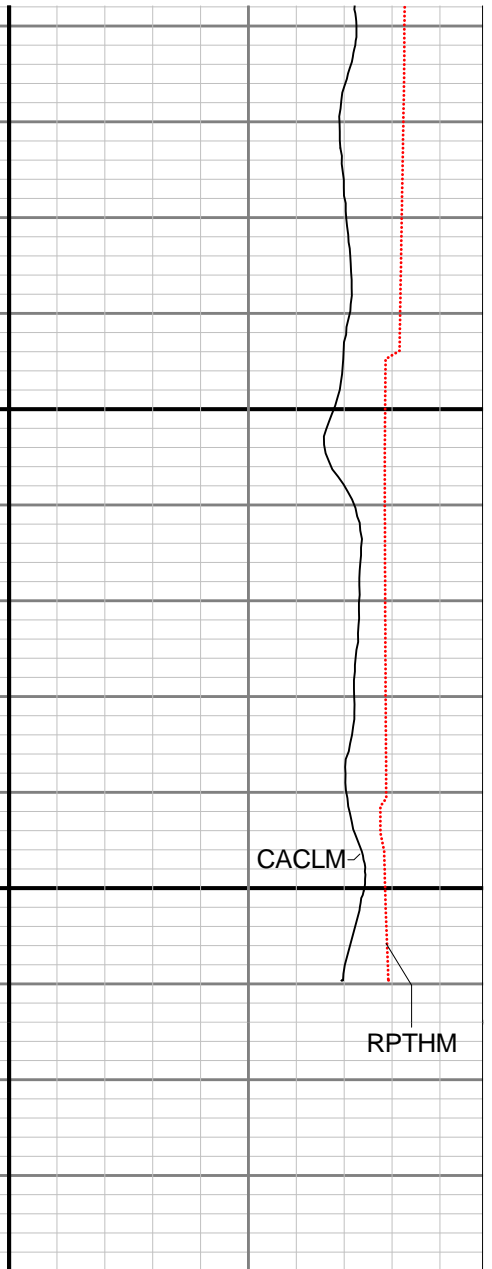
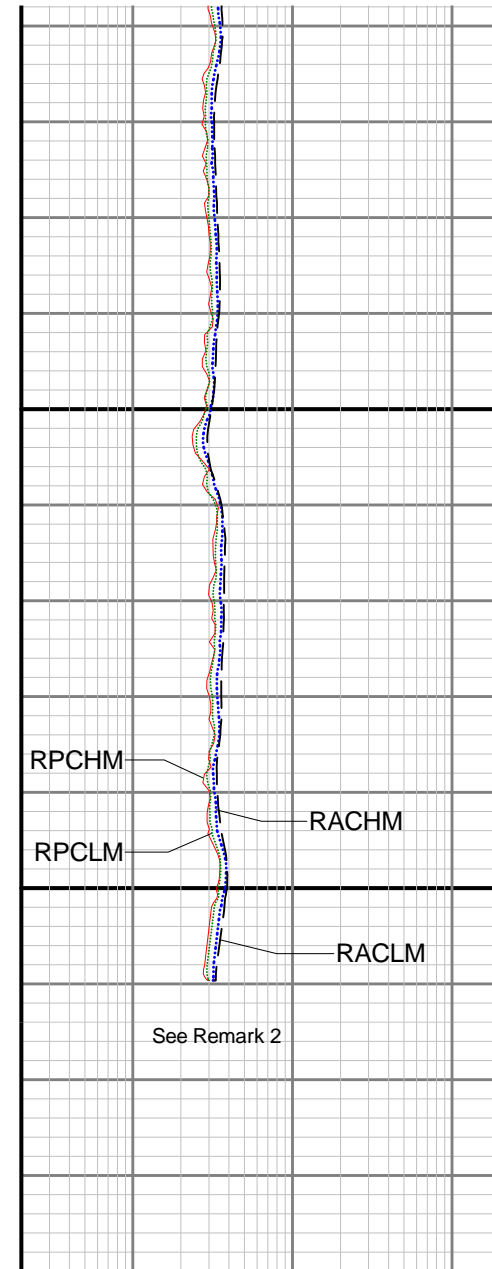
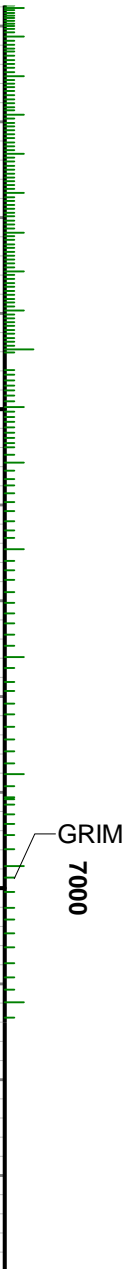
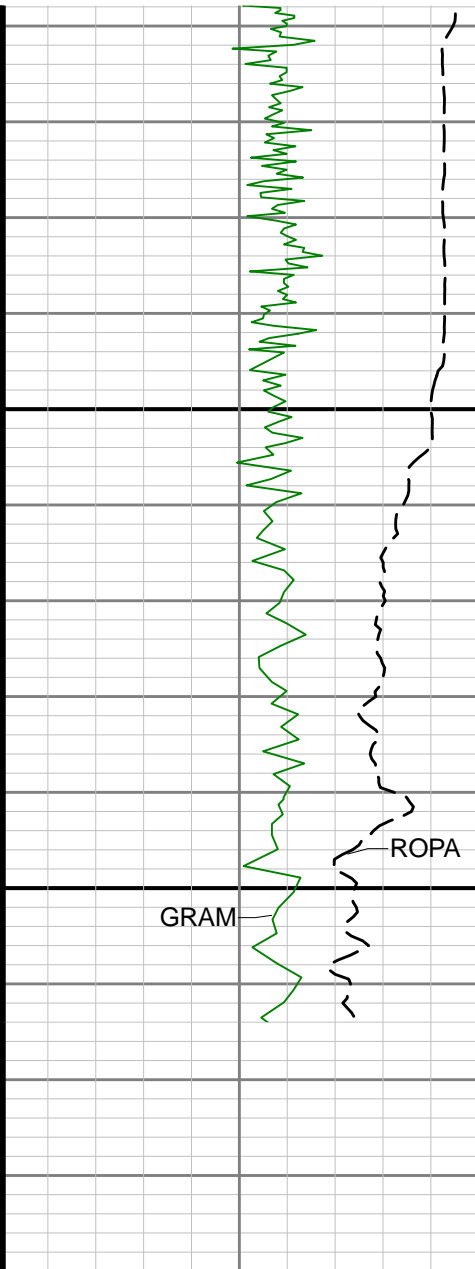




6900

0089





MD 1:240 feet

