

MEMORY LOG



Natural Formation Evaluation
Multiple Propagation Resistivity
Gamma Ray

Scale:

1:240 MD

Company: Anadarko

Well: Azul 13-12HZ

Field: Wattenburg

County: Weld State: United States

Depth Reference:

Driller's Depth

Surface Location:

Final Print

Latitude:

Longitude:

UTM:

SEC: 13

TWN: 1N

RGE: 66W

Permanent Datum (P.D.): Mean Sea Level

Elevation:

0.00 ft

Log Measured From:

Rig Floor

Above P.D.

5088.00 ft

KB: N/A

DF: 5088.00 ft

GL: 5071.00 ft

Dates

Interval Logged

Magnetic Field Reference

Date From: 2018-03-07

Top: (ft)

1862.00

Azi Reference North: True

Dip Angle: (deg)

66.29

Date To: 2018-03-10

Bottom: (ft)

6651.00

Total Magnetic Field Strength: (nT)

52293

Spud Date: 2018-03-07

Mag to Reference North Correction: (deg)

7.85 E

Borehole Record

Casing Record

Hole Size (in)

From (ft)

To (ft)

Size (in)

Weight (lb/ft)

From (ft)

To (ft)

13.000

17.00

1862.00

9.625

25.00

17.00

1862.00

8.500

1862.00

12630.00

Mud Record

Deviation Record

Type

From (ft)

To (ft)

Hole Size (in)

Interval (ft)

Inc | Az (Start)

Inc | Az (End)

Diesel-Oil Based Mud

1862.00

12630.00

8.500

10768.00

19.02 | 123.72

93.45 | 178.13

Acquisition System

Software Version

Other

Baker Hughes Cadence

RT4.1

Rig:

Xtreme 22

PlotStudio

4.1.7763.3

Contractor: Xtreme

Unit:

D&E

District: RMA

©"4239"Dcmgt"Jwi jgu."c"IG"eqorcp{."NNE"ó"Cnn"tki jvu"tgugt xgf0"Dcmgt"Jwi jgu."c"IG"eqorcp{."NNE"cpf"kvu"chhknkcvgu"~ôDJIGö+"rtq xkfgu"vjku"kphqtocvkqp"qp"cp"ôcu"kuö"dcuku"hqt"igpgtcn"kphqtocvkqp" purposes and believes it to be accurate as of the date of publication. BHGE does not make any representation as to the accuracy or completeness of the information and makes no warranties of any kind, specific, implied or oral, to the fullest extent permissible by law, including those of merchantability and fitness for a particular purpose or use. BHGE hereby disclaims any and all liability for any direct, indirect, consequential or special damages, claims for lost profits, or third party claims arising from the use of the information, whether a claim is asserted in contract, tort, or otherwise. The BHGE logo is a trademark of Baker Hughes, a GE company, LLC. GE and the GE monogram are trademarks of General Electric Company used under trademark license.

Logograms are trademarks of General Electric Company used under trademark license.

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 | Bottom | From | To | Start Logging | End Logging | |
| | | | | | | (ft) | (ft) | (ft) | (ft) | | | |
| 1 | 1 | 8.500 | PDC | 2.00 | Steerable | 1862.00 | 6651.00 | 1862.00 | 6651.00 | 2018-03-08 01:10 | 2018-03-10 02:26 | 43.61 |

Crew

| Name | Arrive Wellsite | Depart Wellsite | Name | Arrive Wellsite | Depart Wellsite | Name | Arrive Wellsite | Depart Wellsite |
|-----------------|-----------------|-----------------|-----------|-----------------|-----------------|------|-----------------|-----------------|
| Teni Onafowokan | 2018-03-07 | 2018-03-10 | Will Roth | 2018-03-07 | 2018-03-10 | | | |

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+ (%) |
|------------------|---------|---------------------|----------------------|---------------|----------------|-----|------------------|-------------|------------|-----------------------|--------|
| 2018-03-07 17:39 | 1 | 1862.00 | Diesel-Oil Based Mud | 9.0 | 15 | N/A | N/A | 70/30 | Active Pit | 40000 | 0.00 |
| 2018-03-08 19:00 | 1 | 6456.00 | Diesel-Oil Based Mud | 8.8 | 13 | N/A | N/A | 71/29 | Active Pit | 43000 | 0.00 |
| 2018-03-09 19:00 | 1 | 10837.00 | Diesel-Oil Based Mud | 8.9 | 13 | N/A | N/A | 70.7/29.3 | Active Pit | 43000 | 0.00 |

Mud Resistivity Record

| Date / Time | Run No. | Measured Depth (ft) | Surface Temp (degF) | Rm (ohm.m) | Rmf (ohm.m) | Rmc (ohm.m) | BHCT (degF) | Rm @ BHCT (ohm.m) | Rmf @ BHCT (ohm.m) | Rmc @ BHCT (ohm.m) |
|------------------|---------|---------------------|---------------------|------------|-------------|-------------|-------------|-------------------|--------------------|--------------------|
| 2018-03-10 09:25 | 1 | 6000.00 | 90.0 | 100.000 | N/A | N/A | 200.0 | 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 | OnTrak | 11716143 | Pressure | 1.17 | 5973.40 | 6.750 | 0.000 |
| 1 | OnTrak | 11716143 | Gamma (double) | 2.06 | 5974.29 | 6.750 | 0.000 |
| 1 | OnTrak | 11716143 | Resistivity (4tx) | 6.10 | 5978.33 | 6.750 | 0.000 |
| 1 | OnTrak | 11716143 | Directional (mag) | 11.89 | 5984.12 | 6.750 | 0.000 |

Service and Tool Mnemonics

| Mnemonic | Name | Description |
|----------|--------|--------------------------------------------------------------------------|
| OTK | OnTrak | Sensor Sub (Inc, Azi, Temp, Azimuthal GR, Res, AP, VSS), OnTrak Platform |
| BCPM | BCPM | Bi-Directional Communication and Power Module, OnTrak Platform |

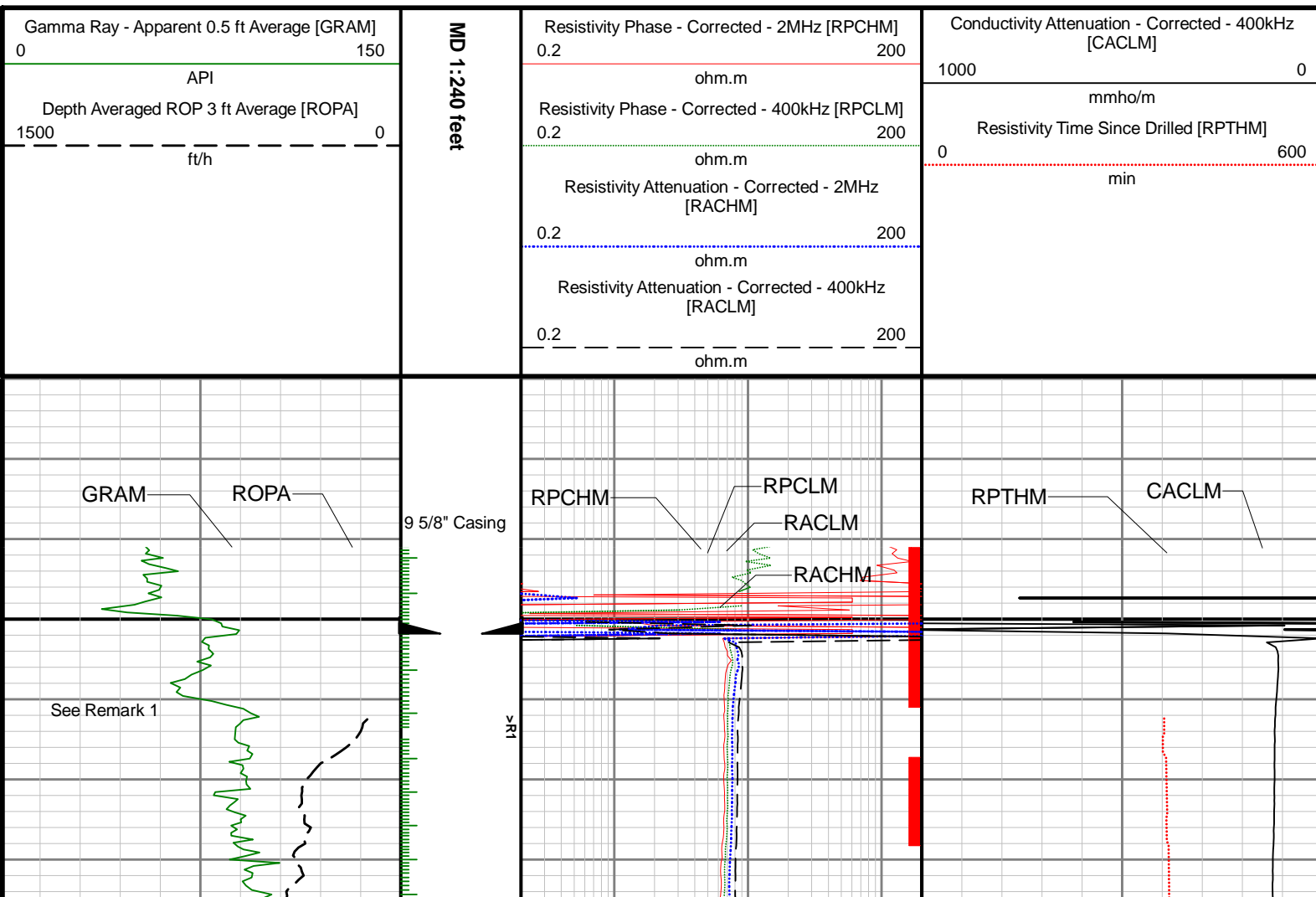
Comments

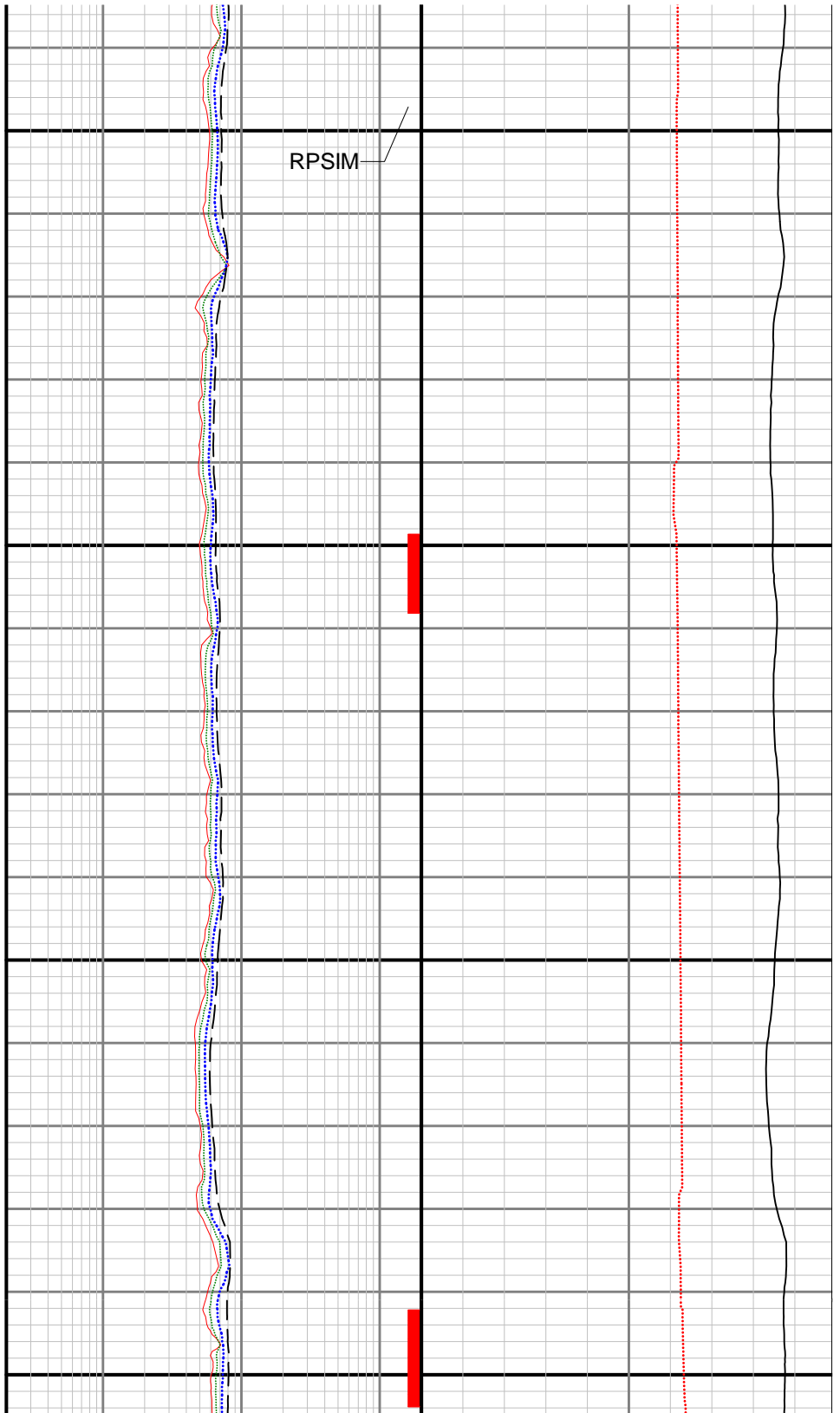
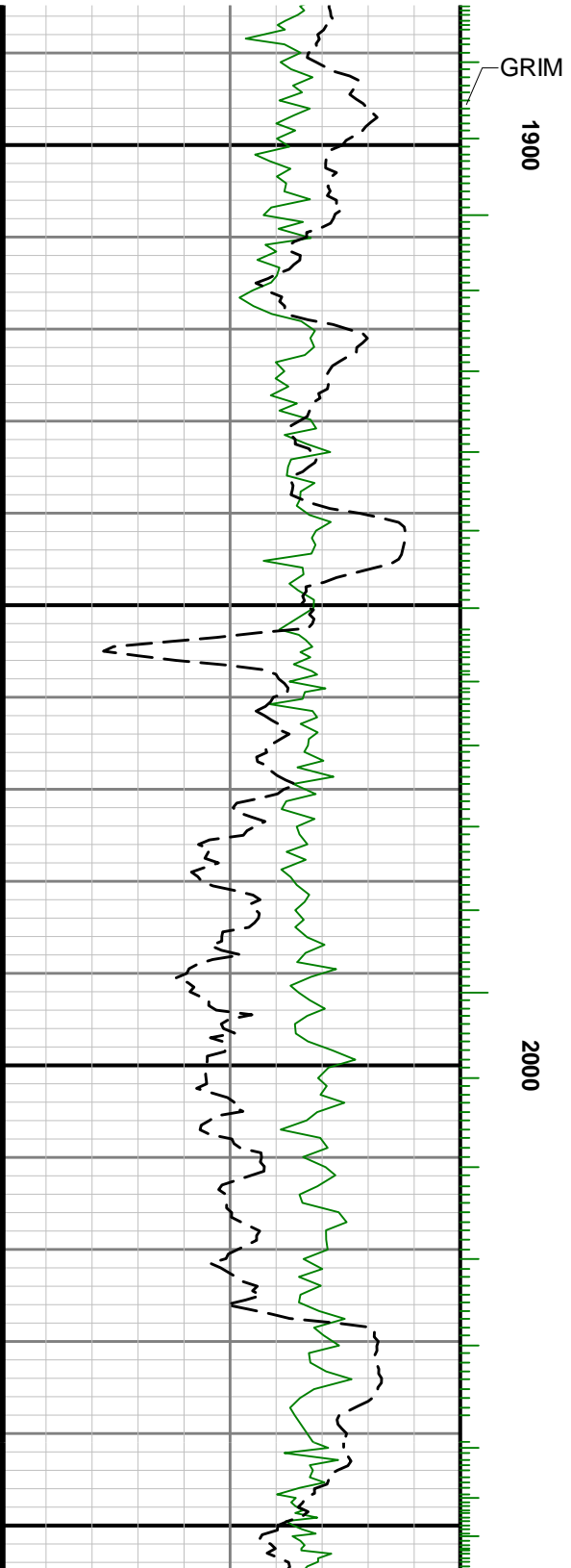
Comments

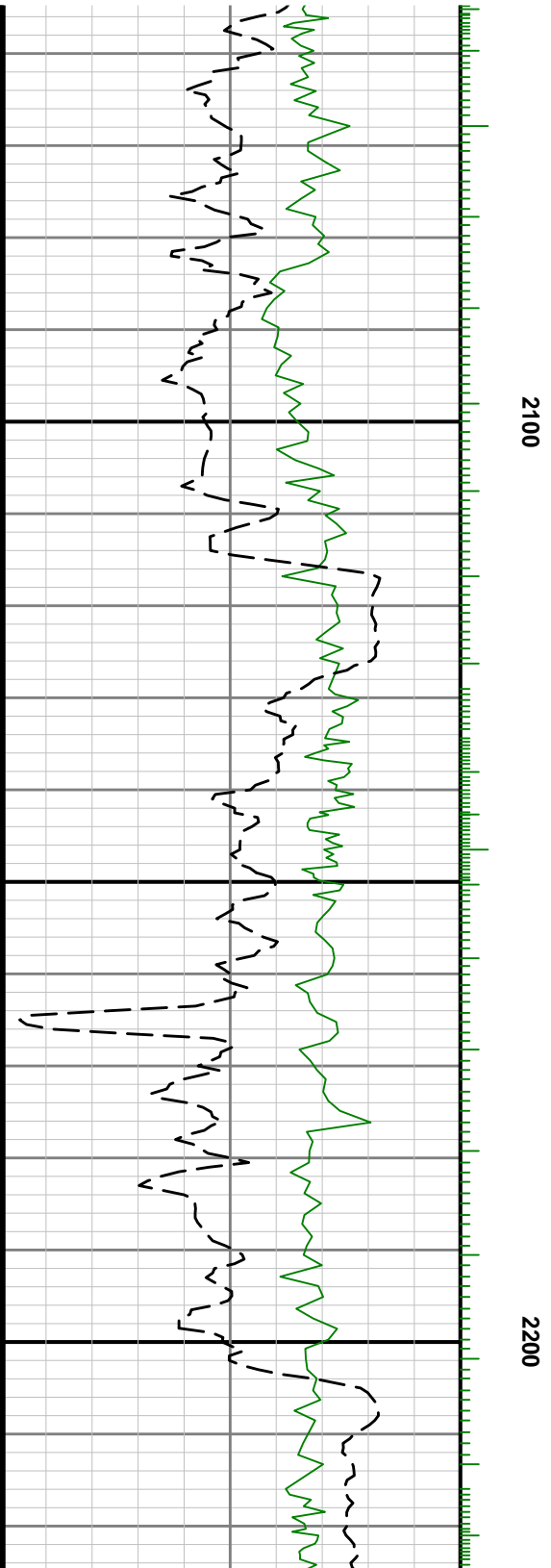
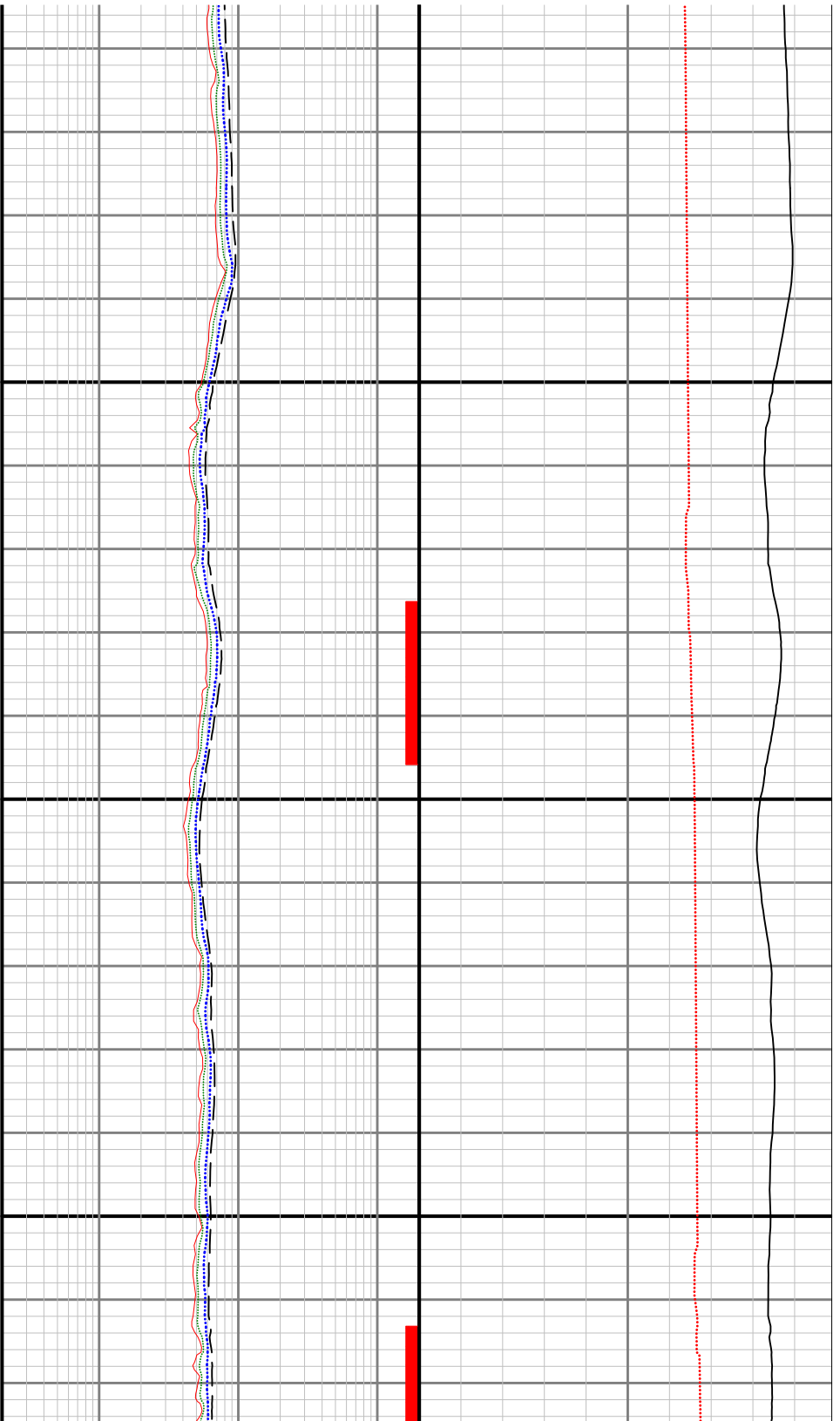
- 1 Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
- 2 A sliding indicator is shown to the right edge of track 2 as a heavy line. The indicator has been depth-shifted to the Resistivity sensor offset to correspond with Resistivity data acquired while sliding.
- 3 Baker Hughes run 1 utilized 6.50 inch OnTrak services (Resistivity, Gamma Ray and Directional) behind a 8 1/2 inch bit and steerable assembly from 1862 to 6651 feet MD (1838 to 6579 feet TVD).
- 4 Numerous gaps are present throughout the log due to surveying while on bottom drilling ahead.
- 5 Gamma Ray (GRAX) scale is presented 0 to 200 API per customer request.

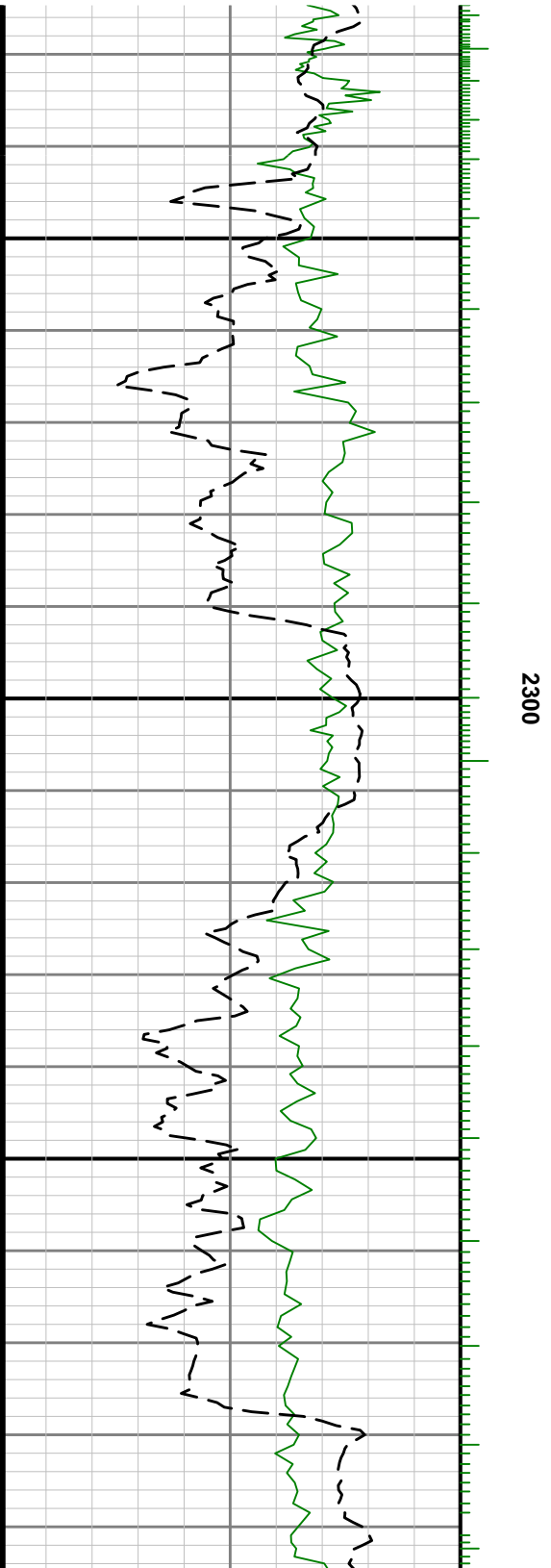
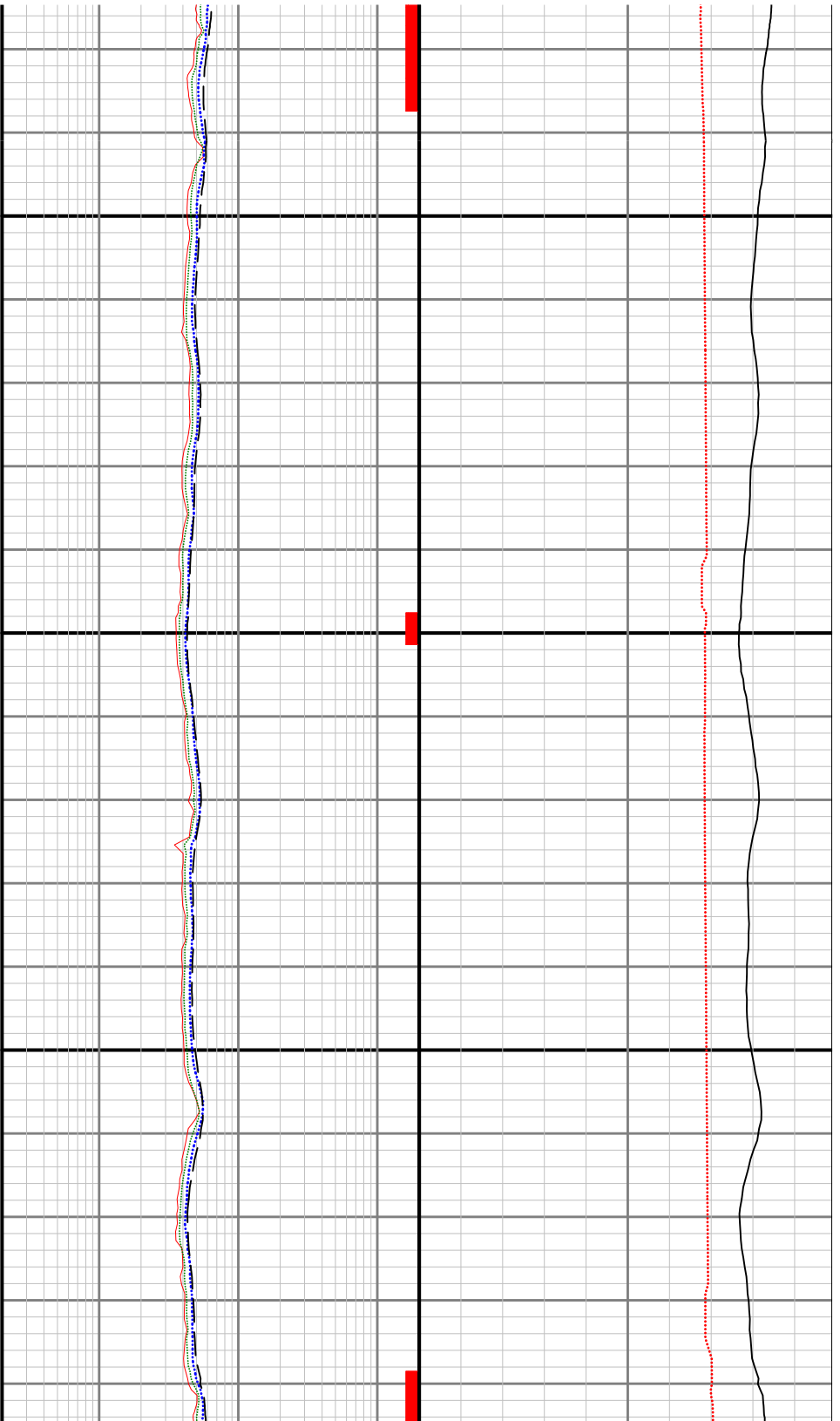
Remarks

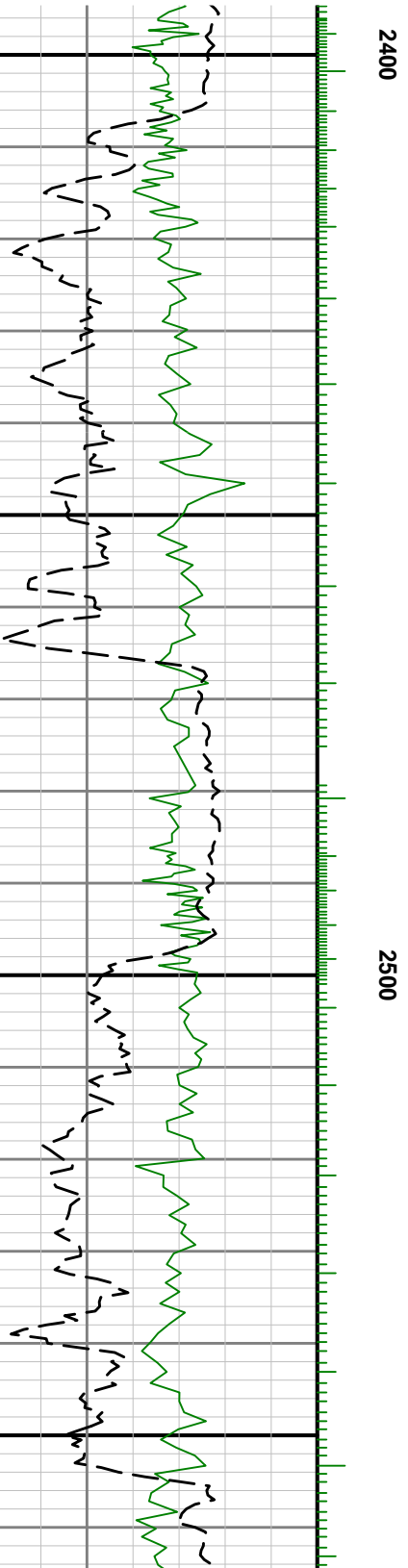
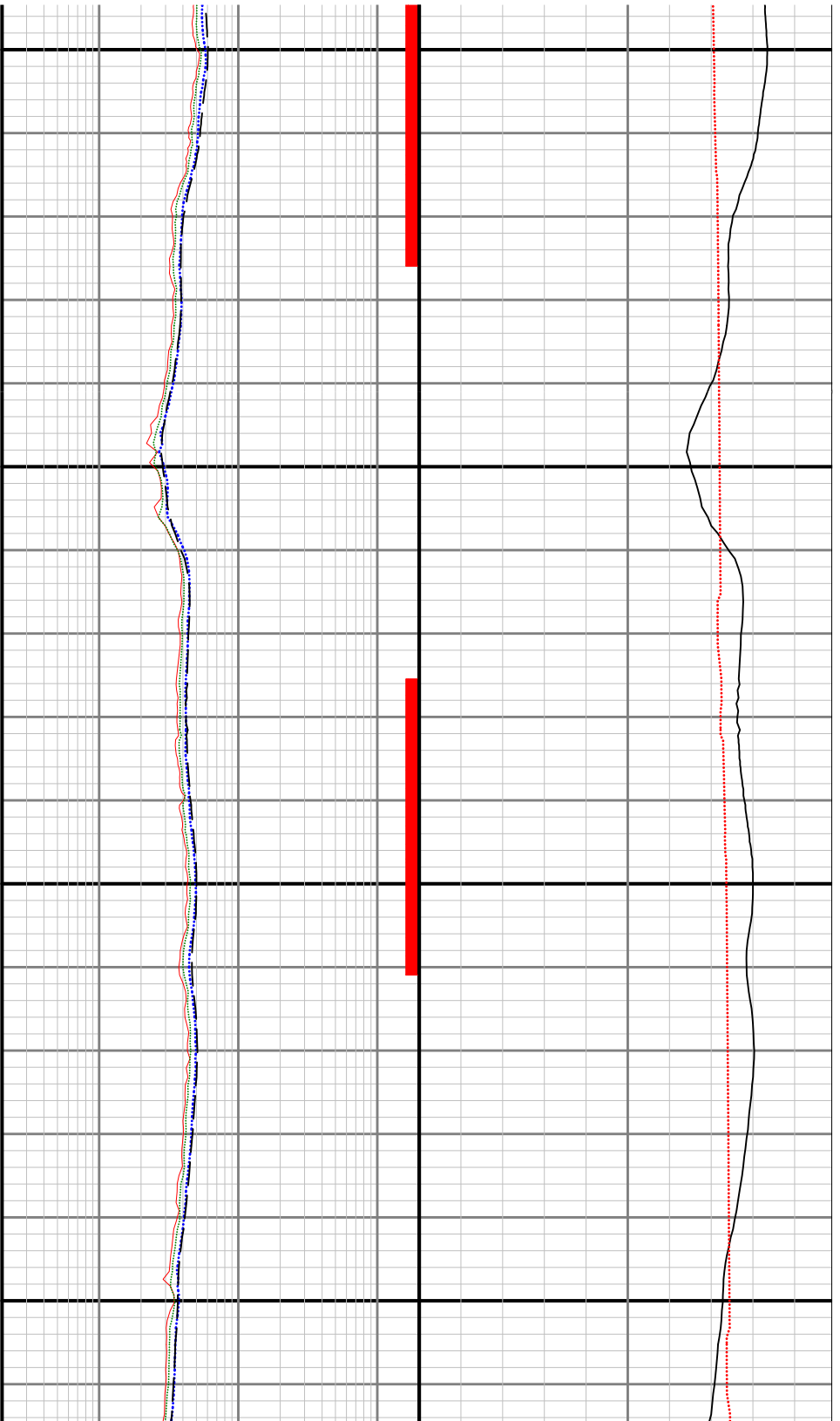
| Number | Measured Depth (ft) | Hole Section (in) | Run No. | Remark |
|--------|---------------------|-------------------|---------|----------------------------------------------------------------------------------------|
| 1 | 1862.00 | 8.500 | 1 | Baker Hughes logging services began 1862 feet MD (1838 feet TVD) per customer request. |

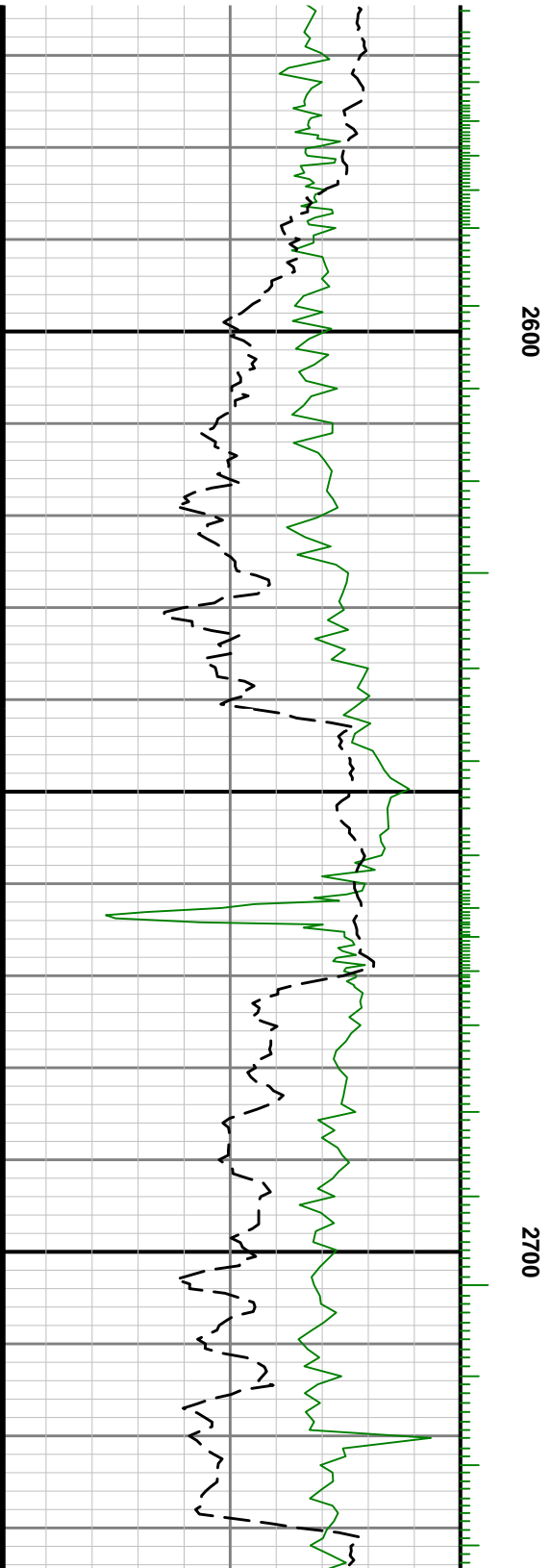


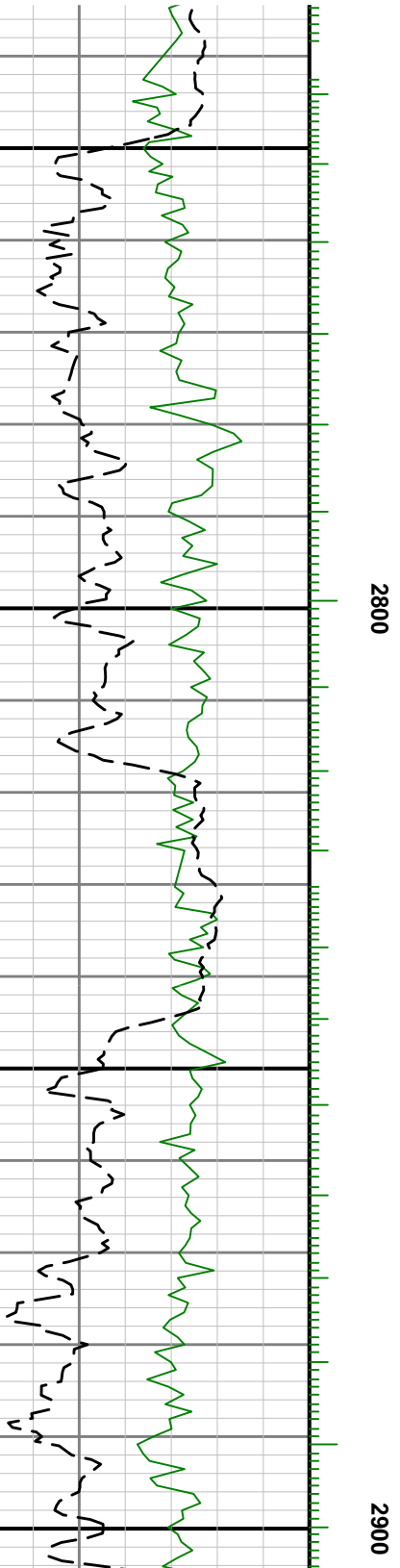
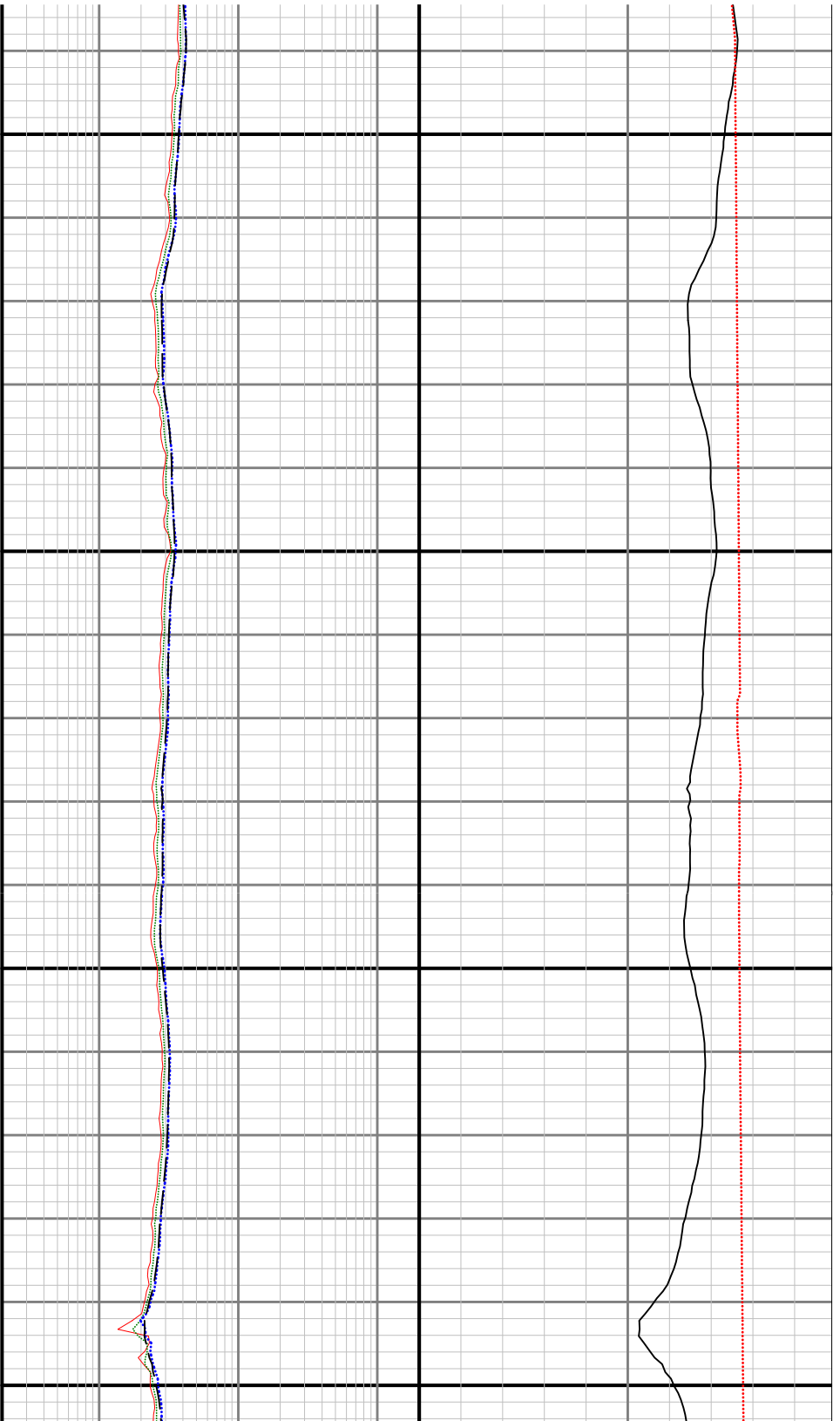


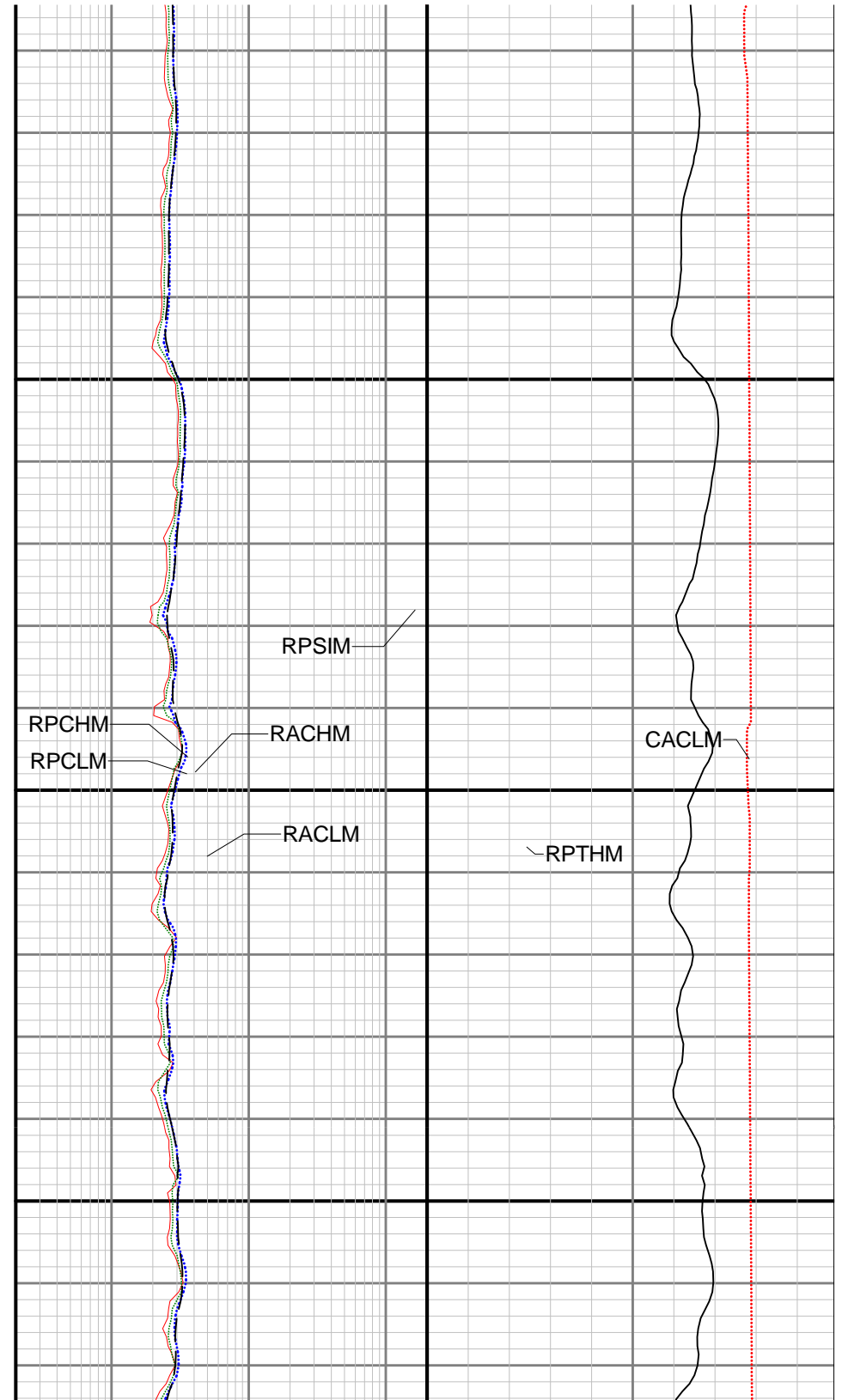
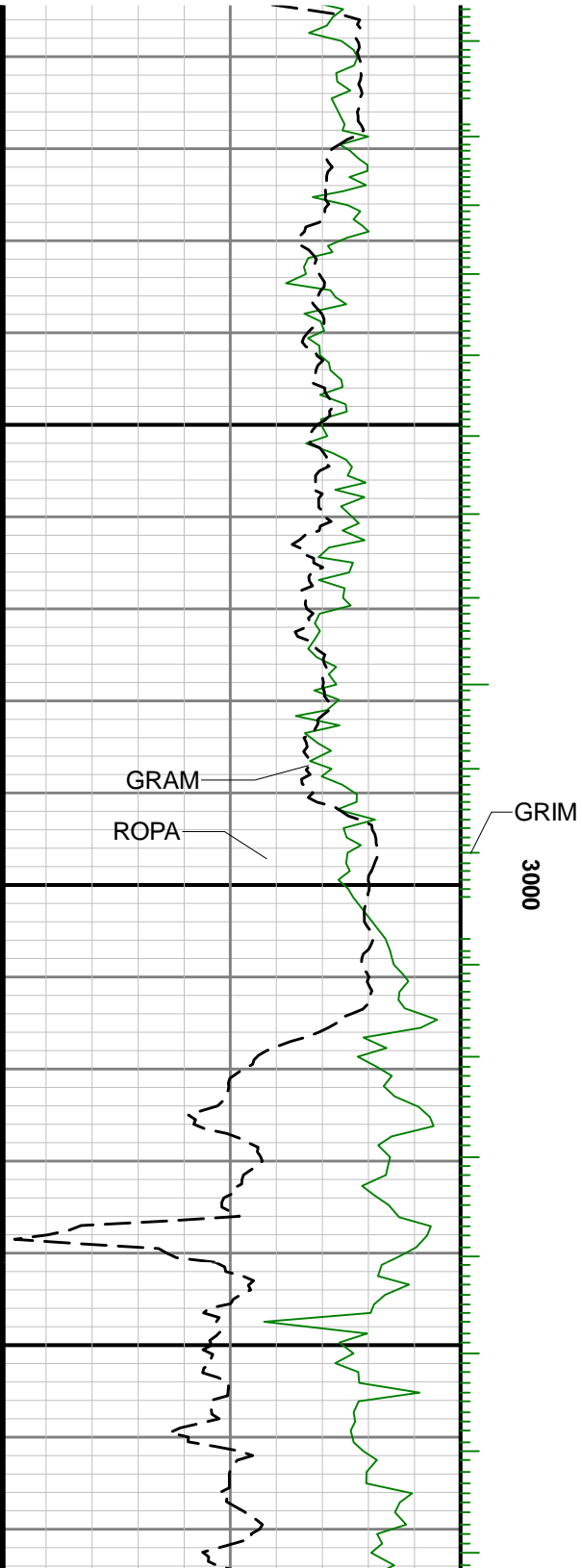


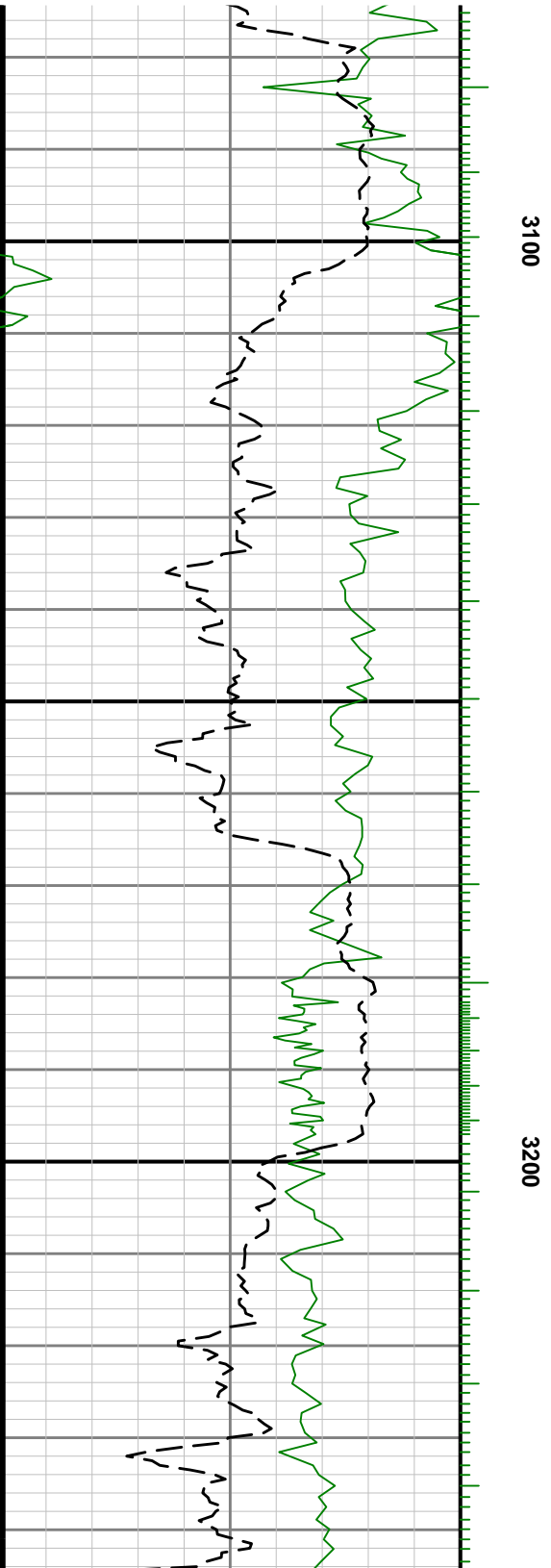


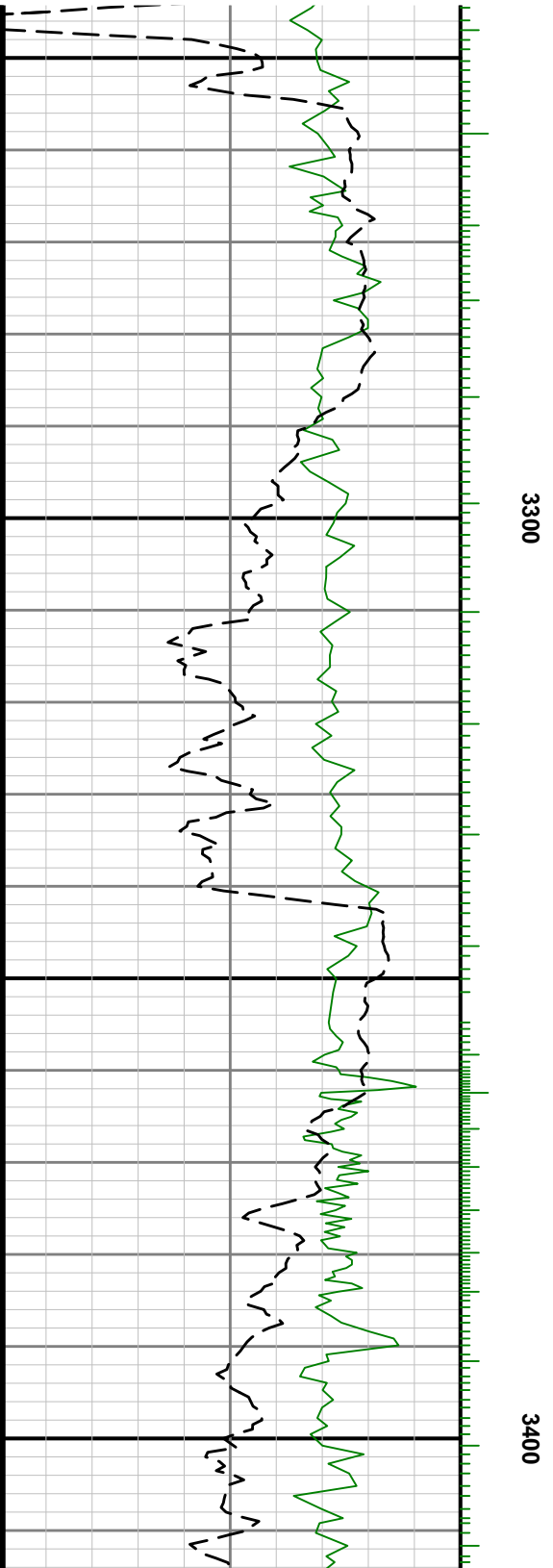
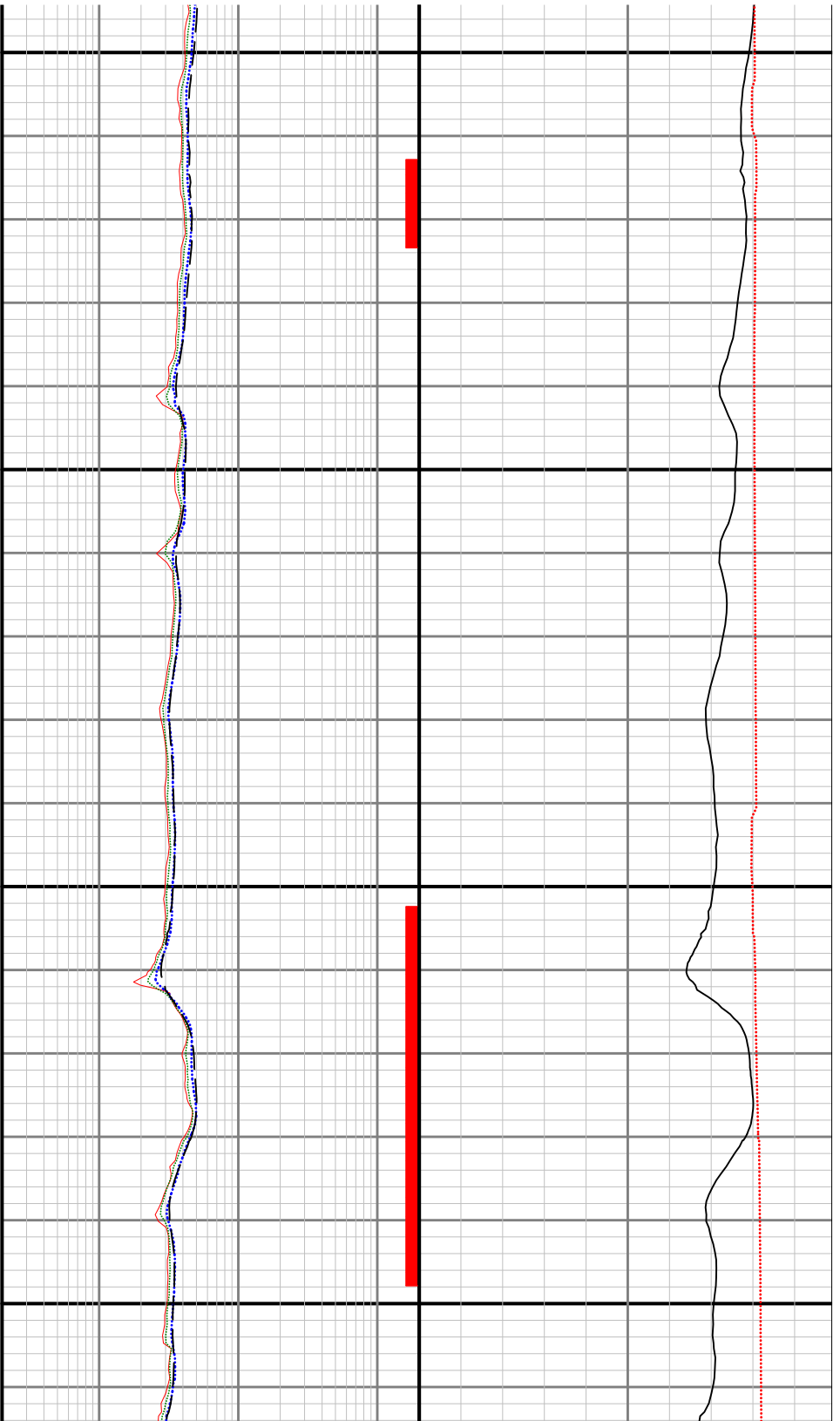


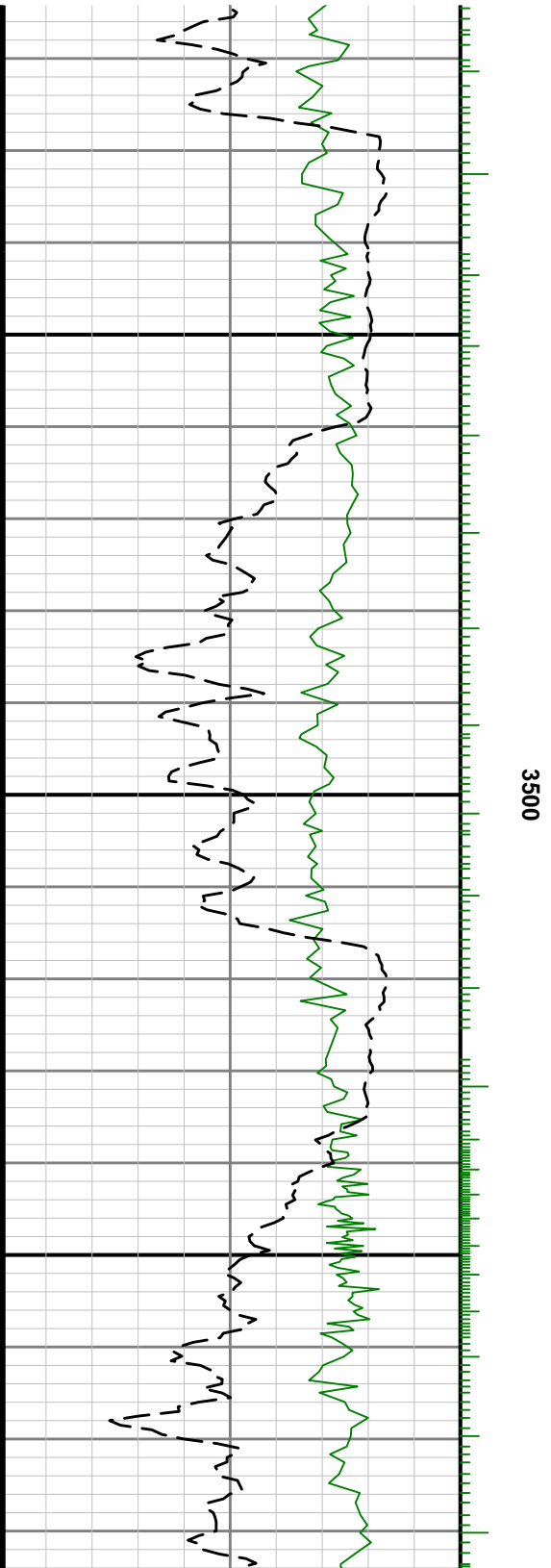
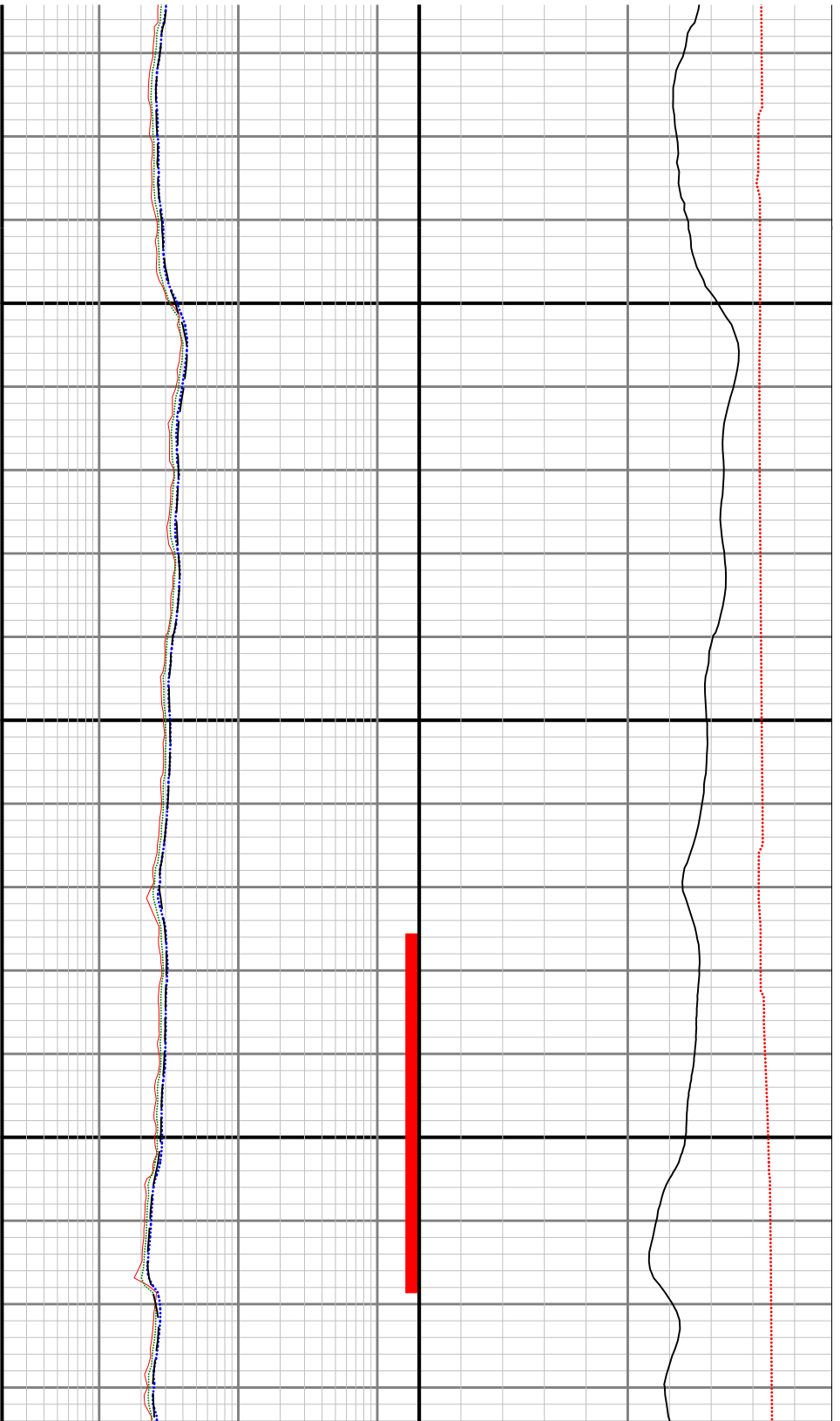


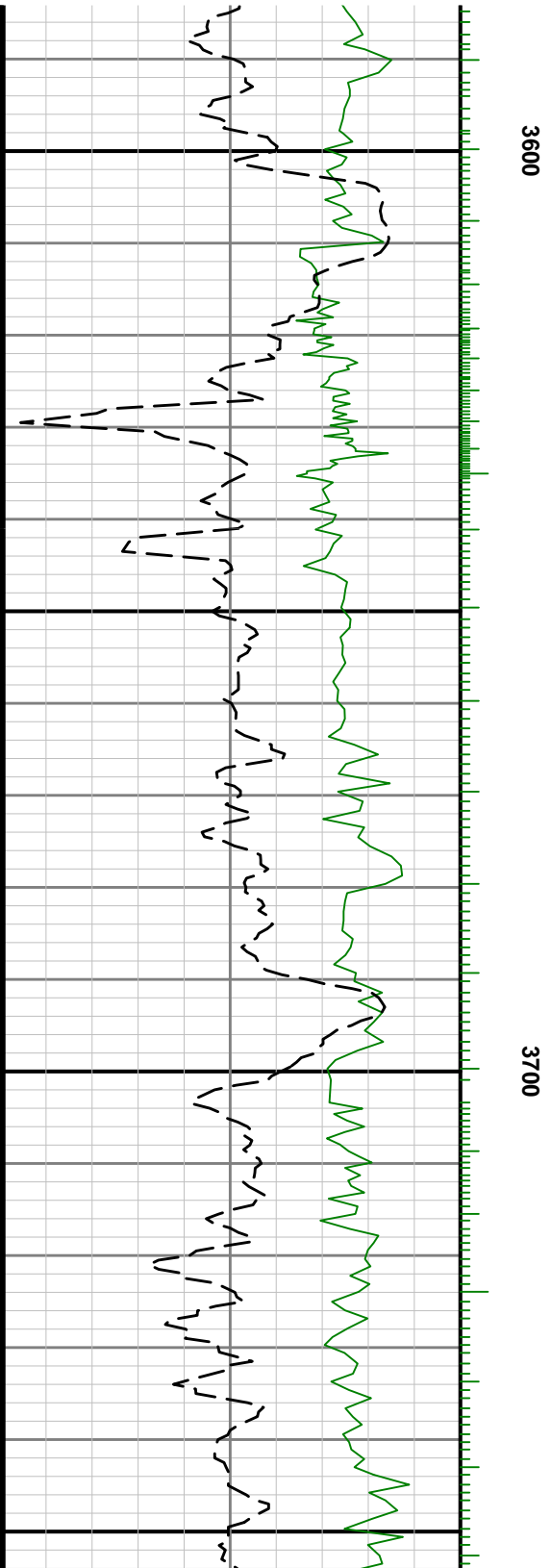
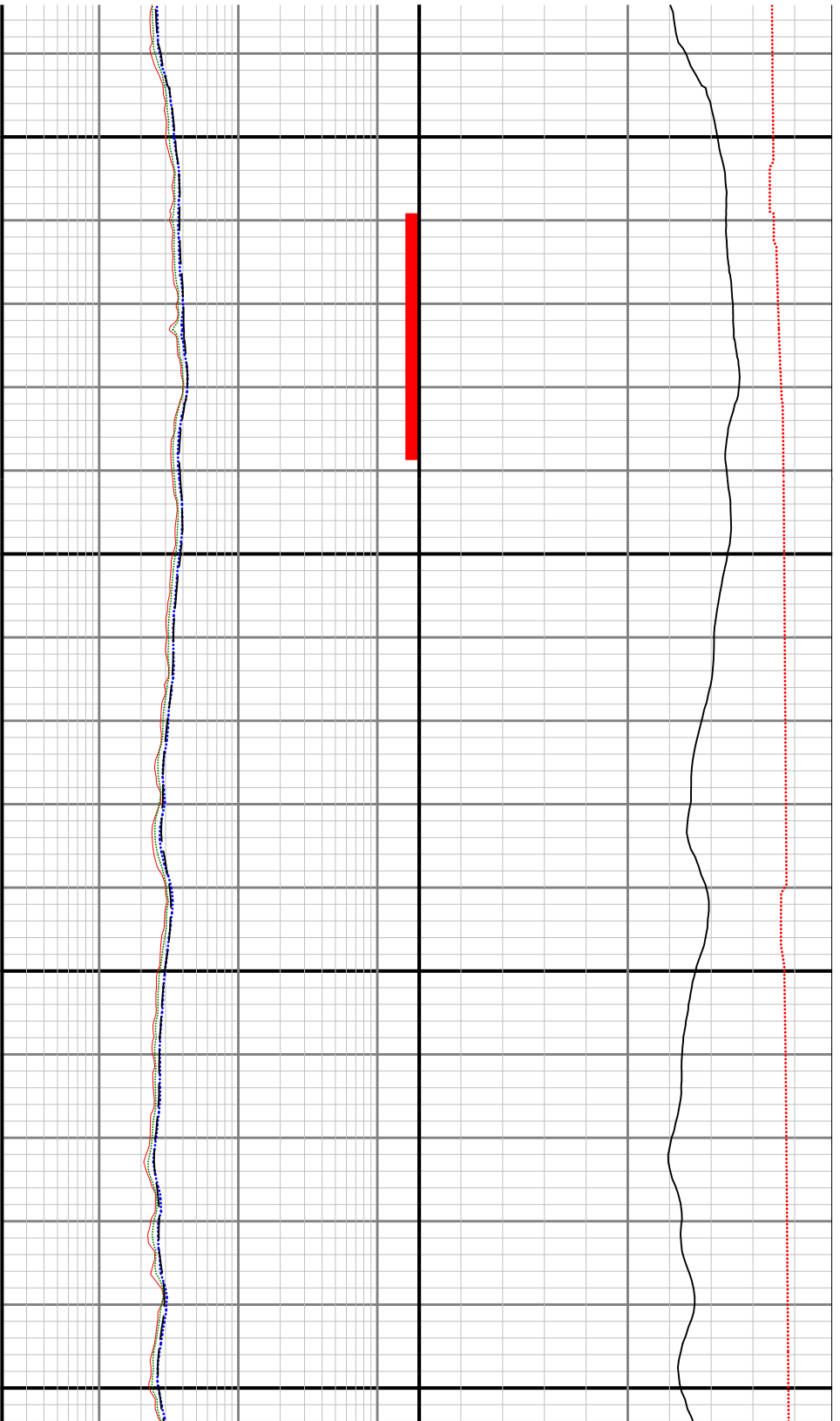


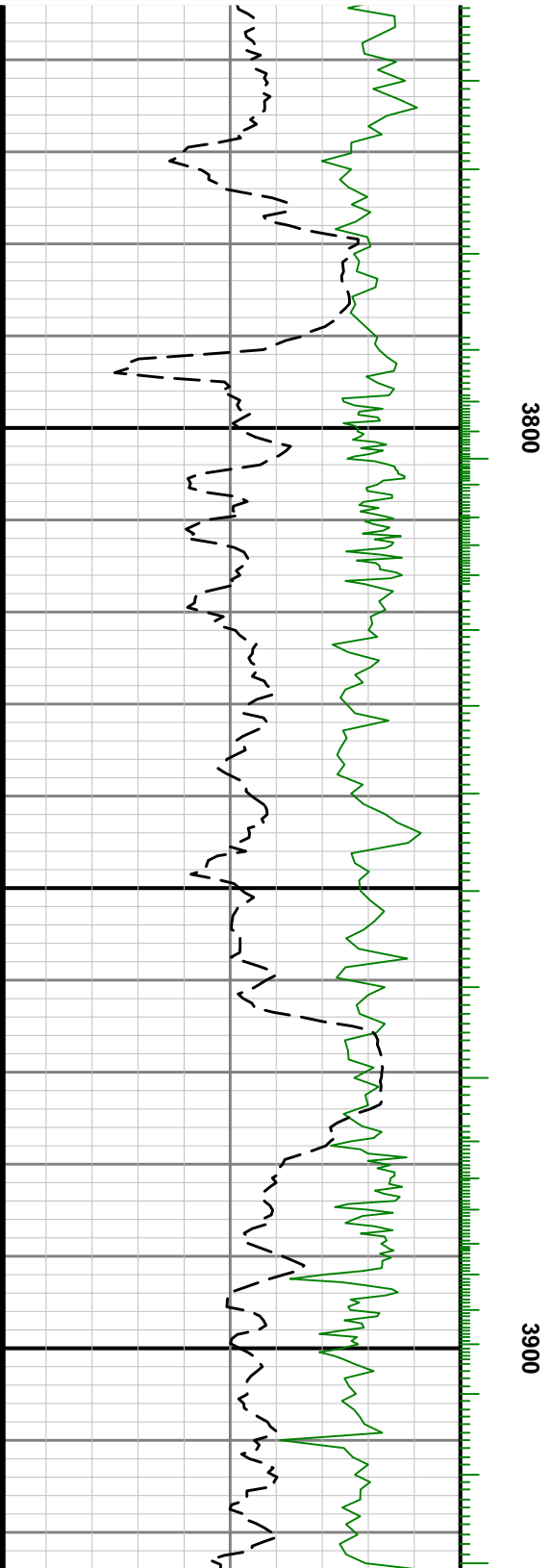
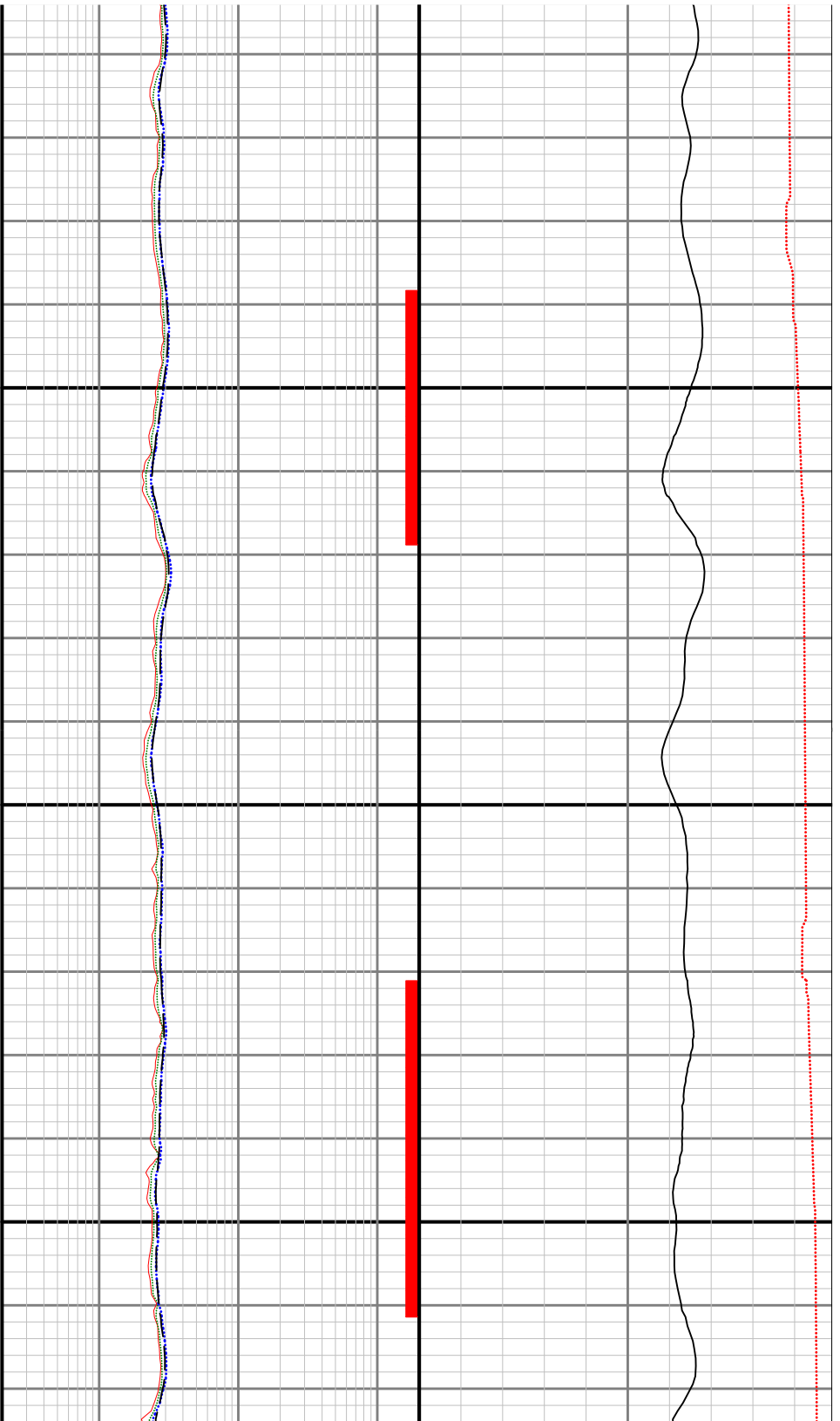


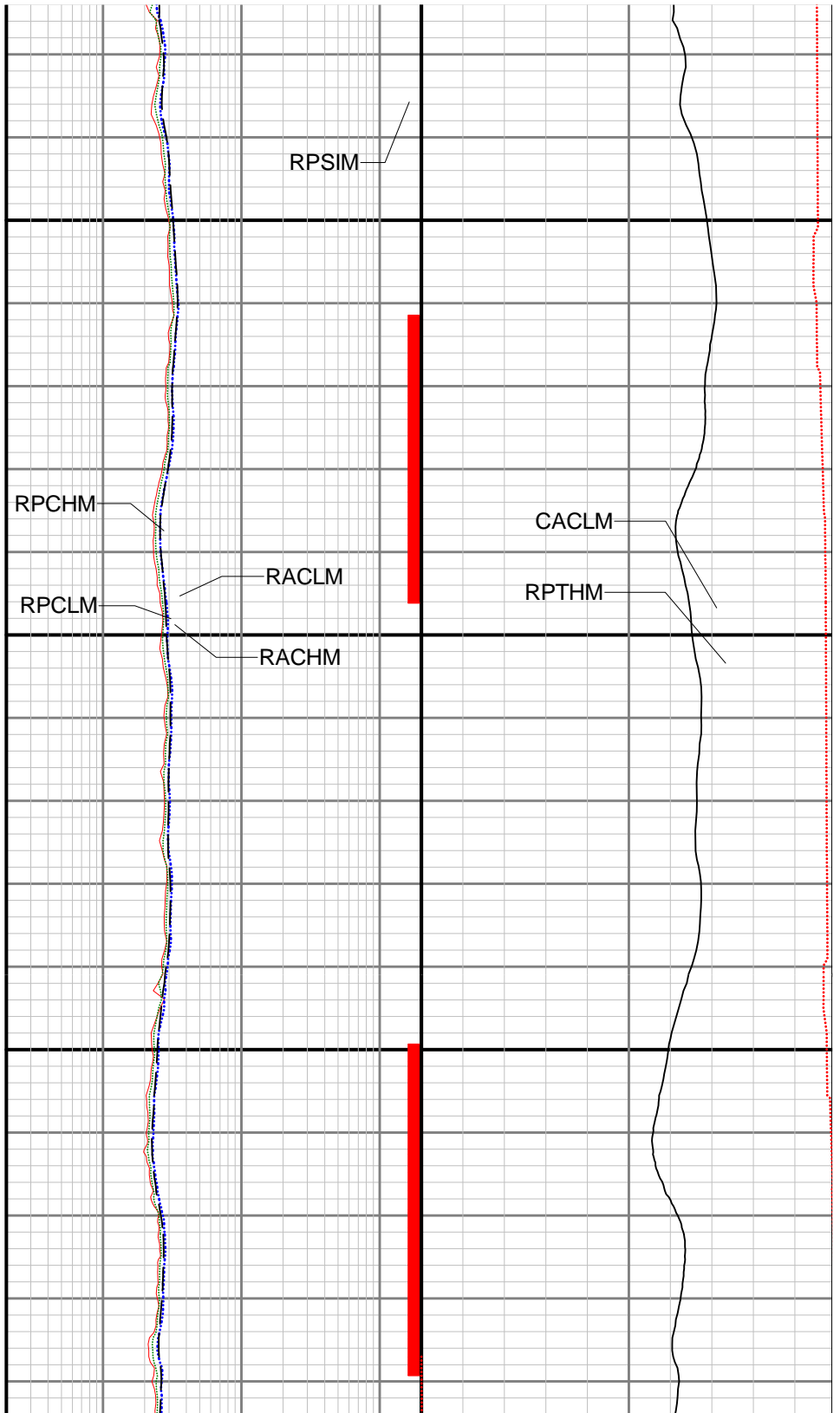
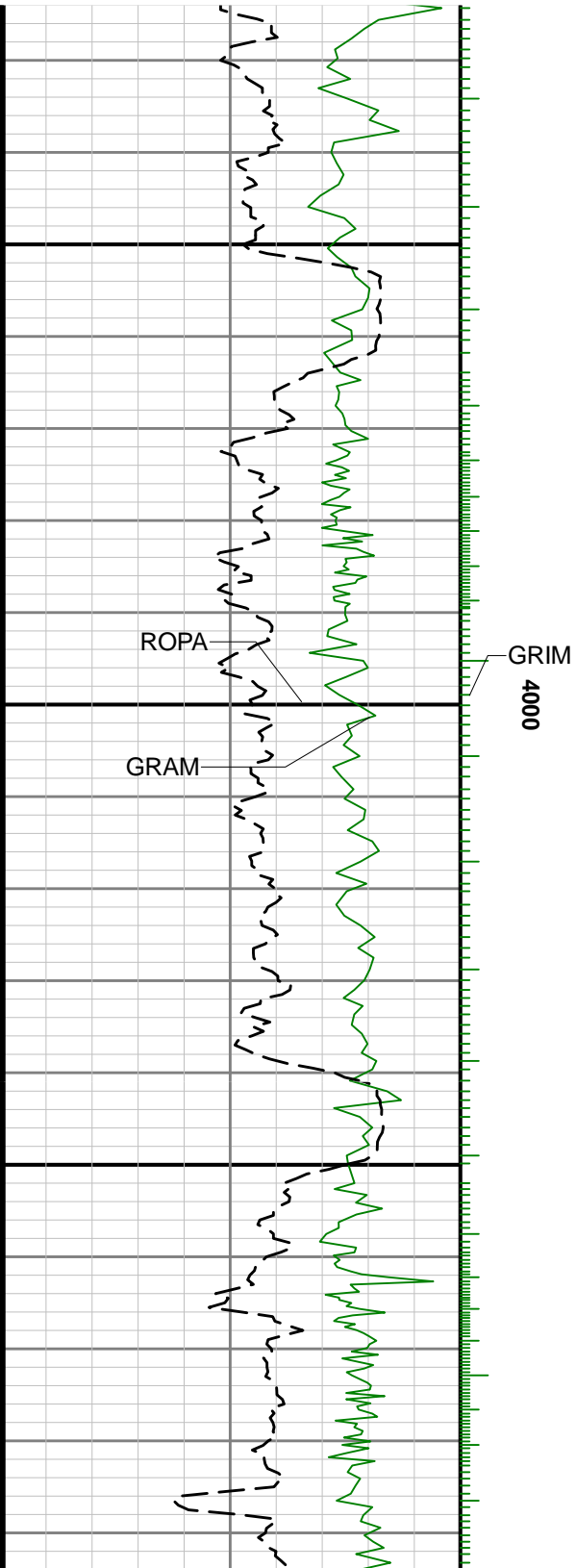


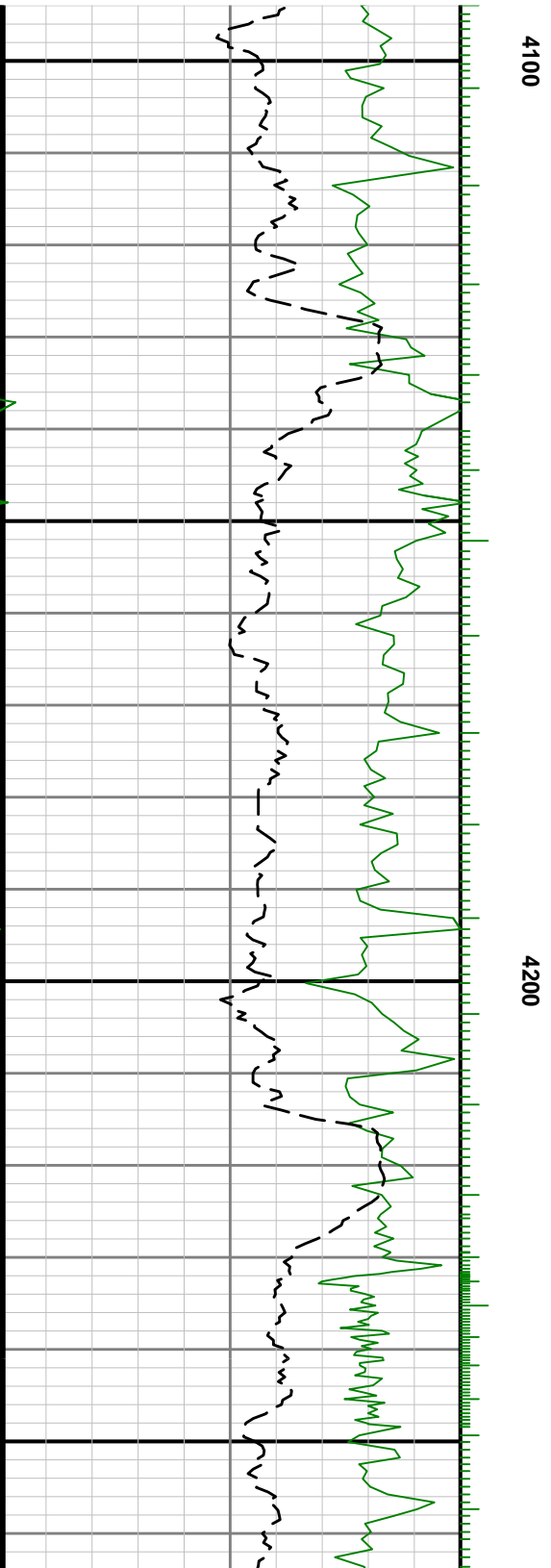
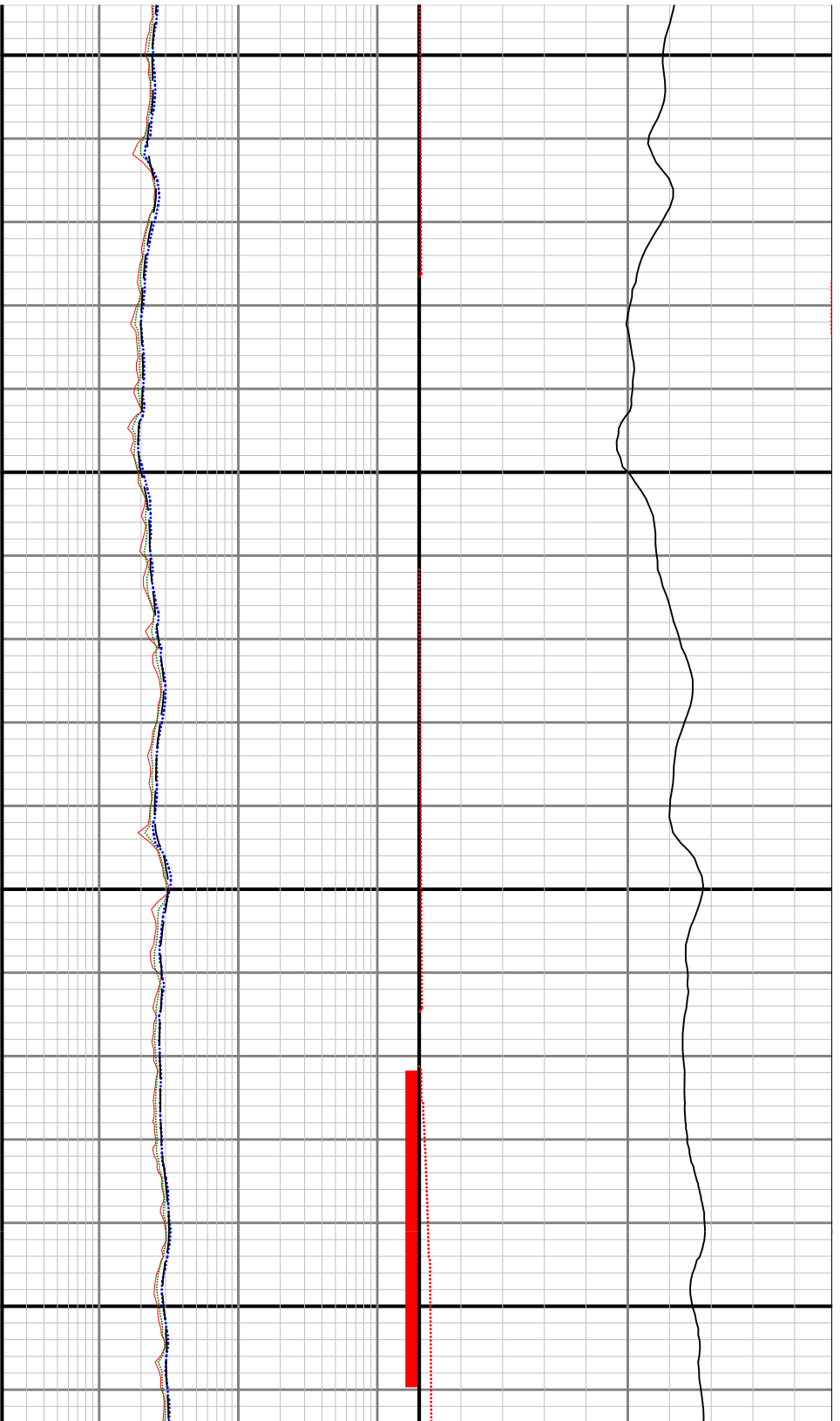


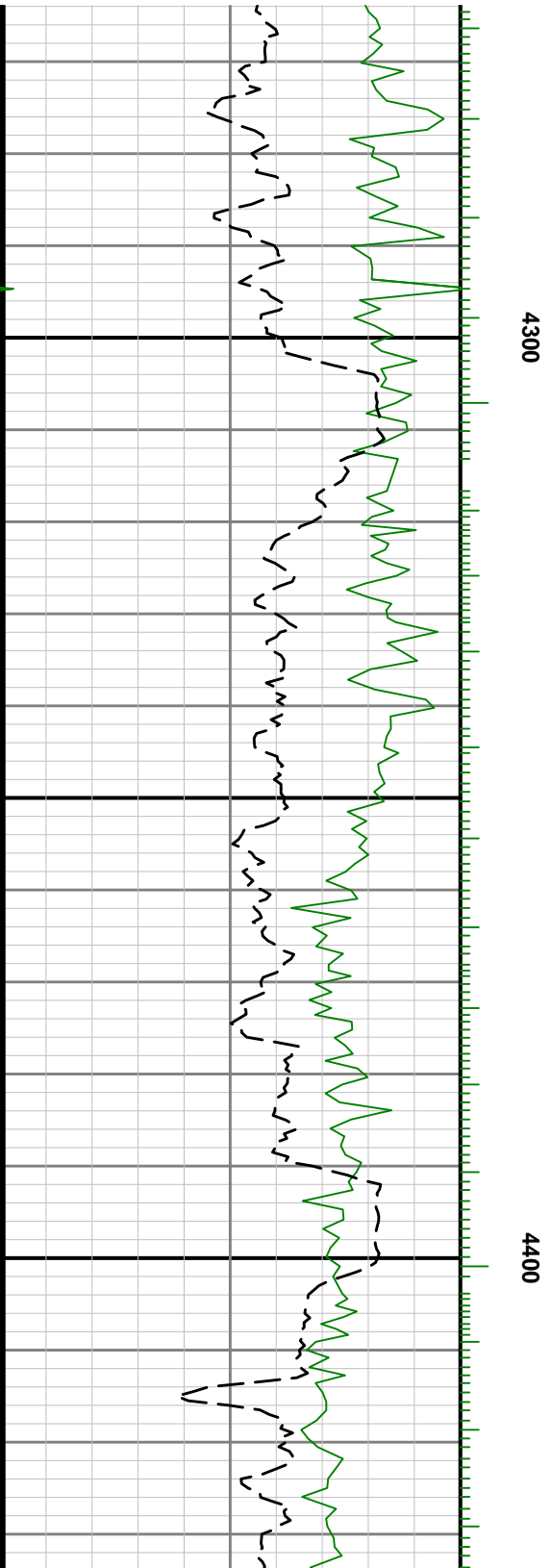
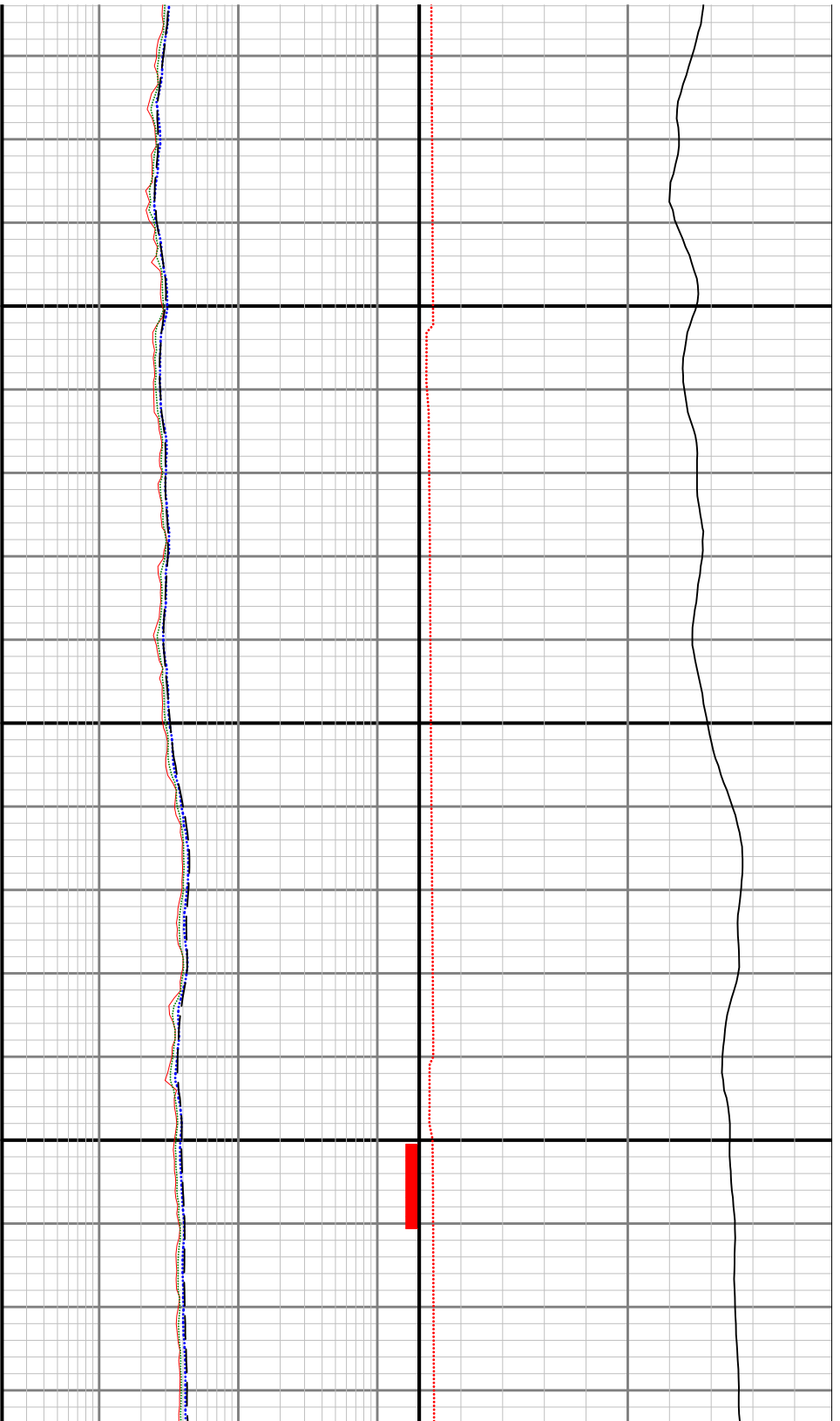


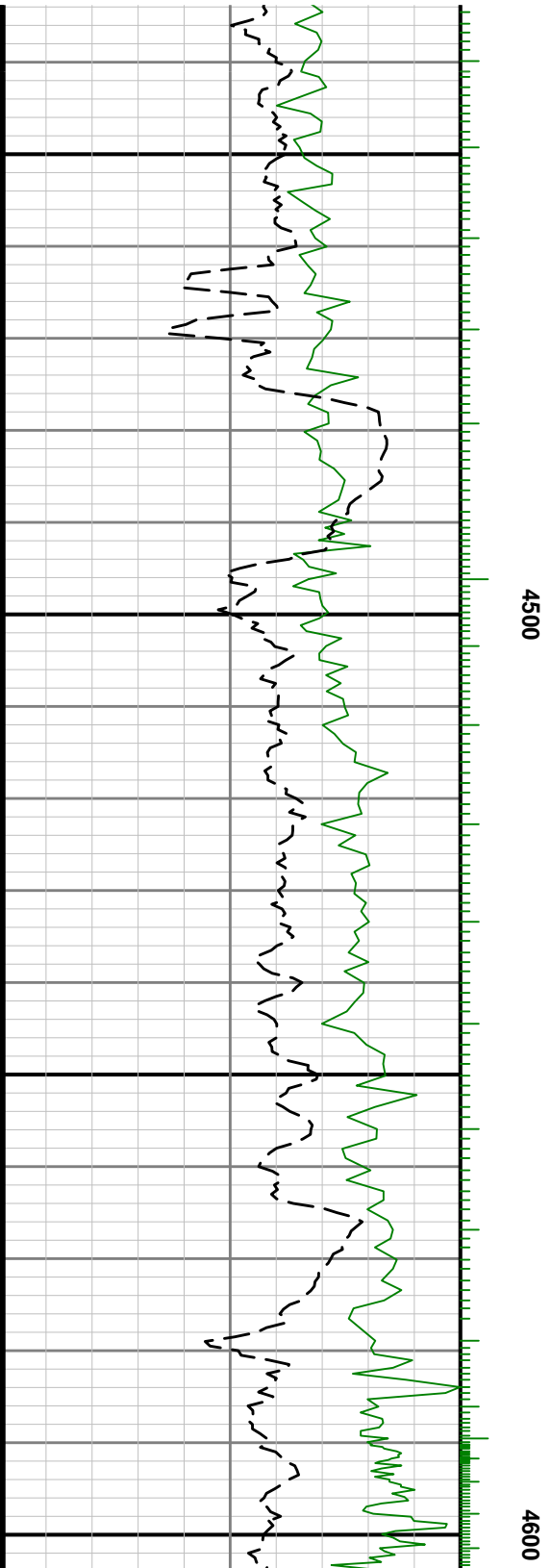
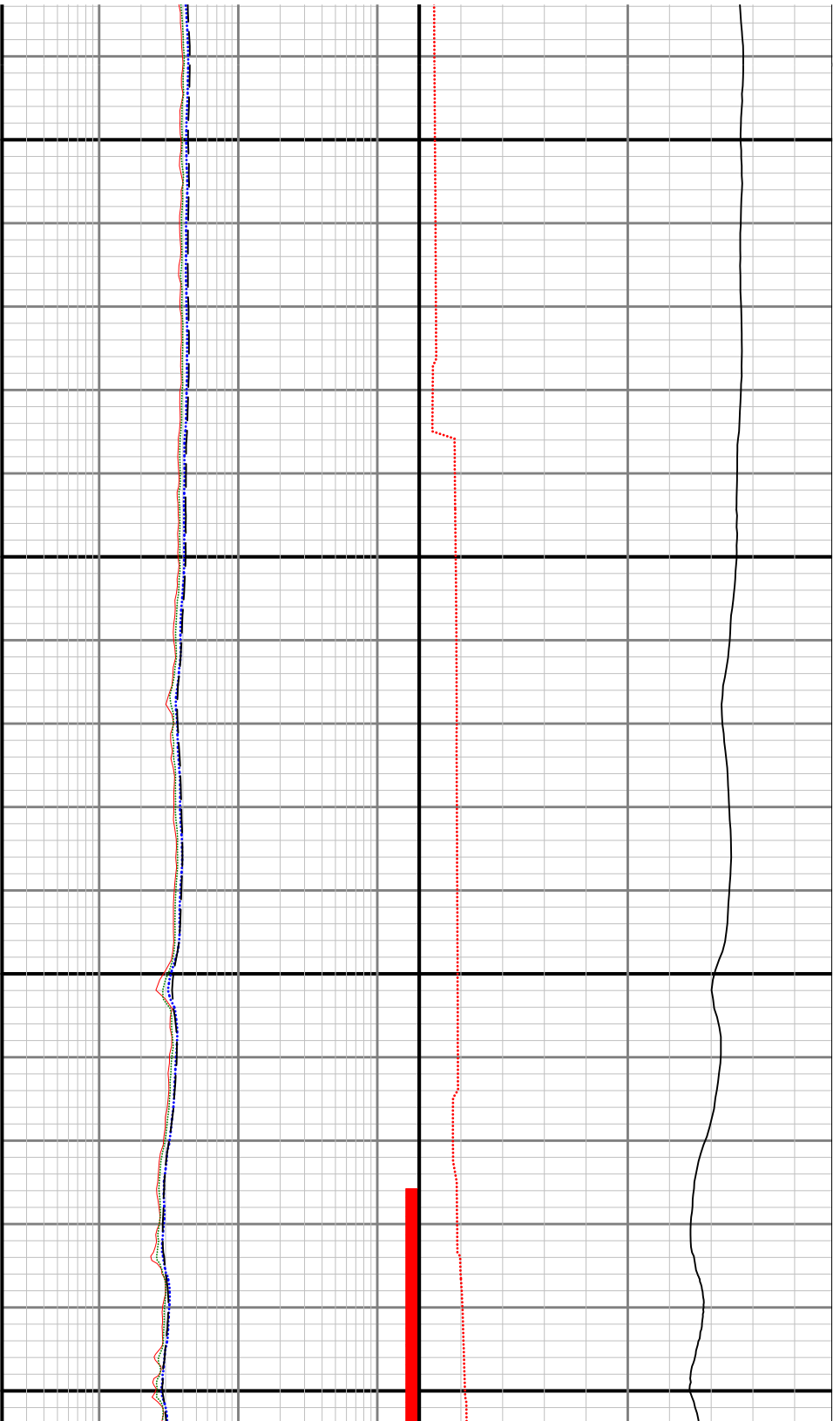








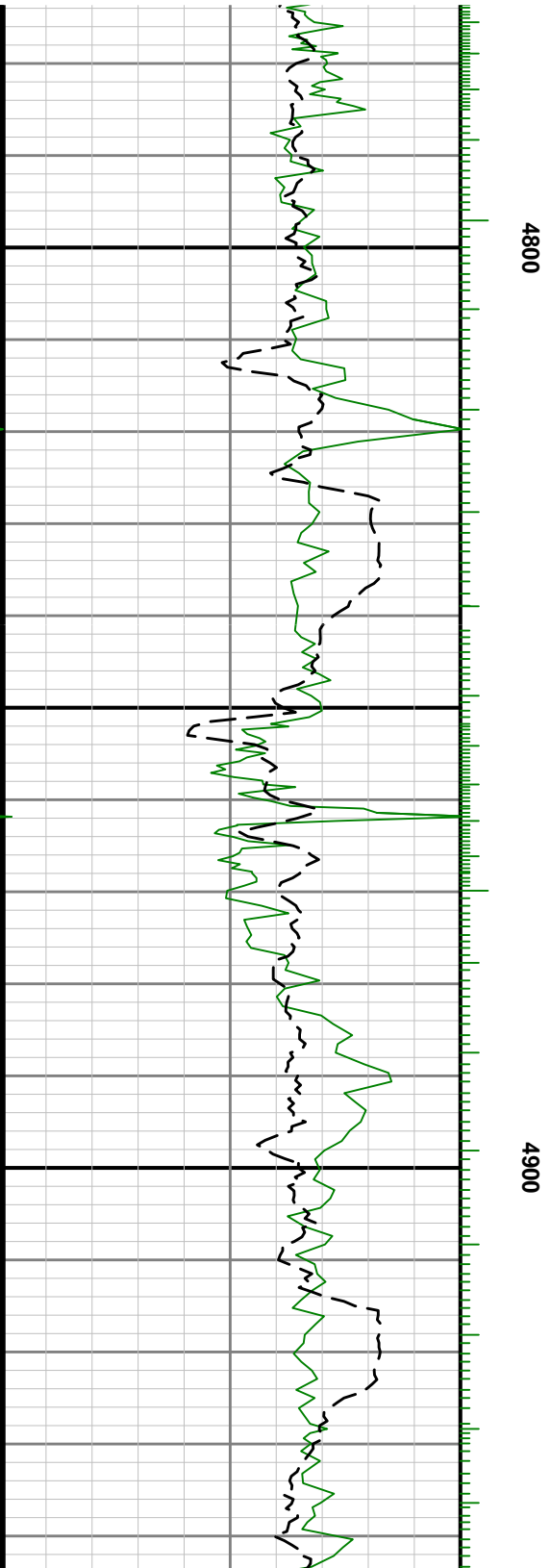
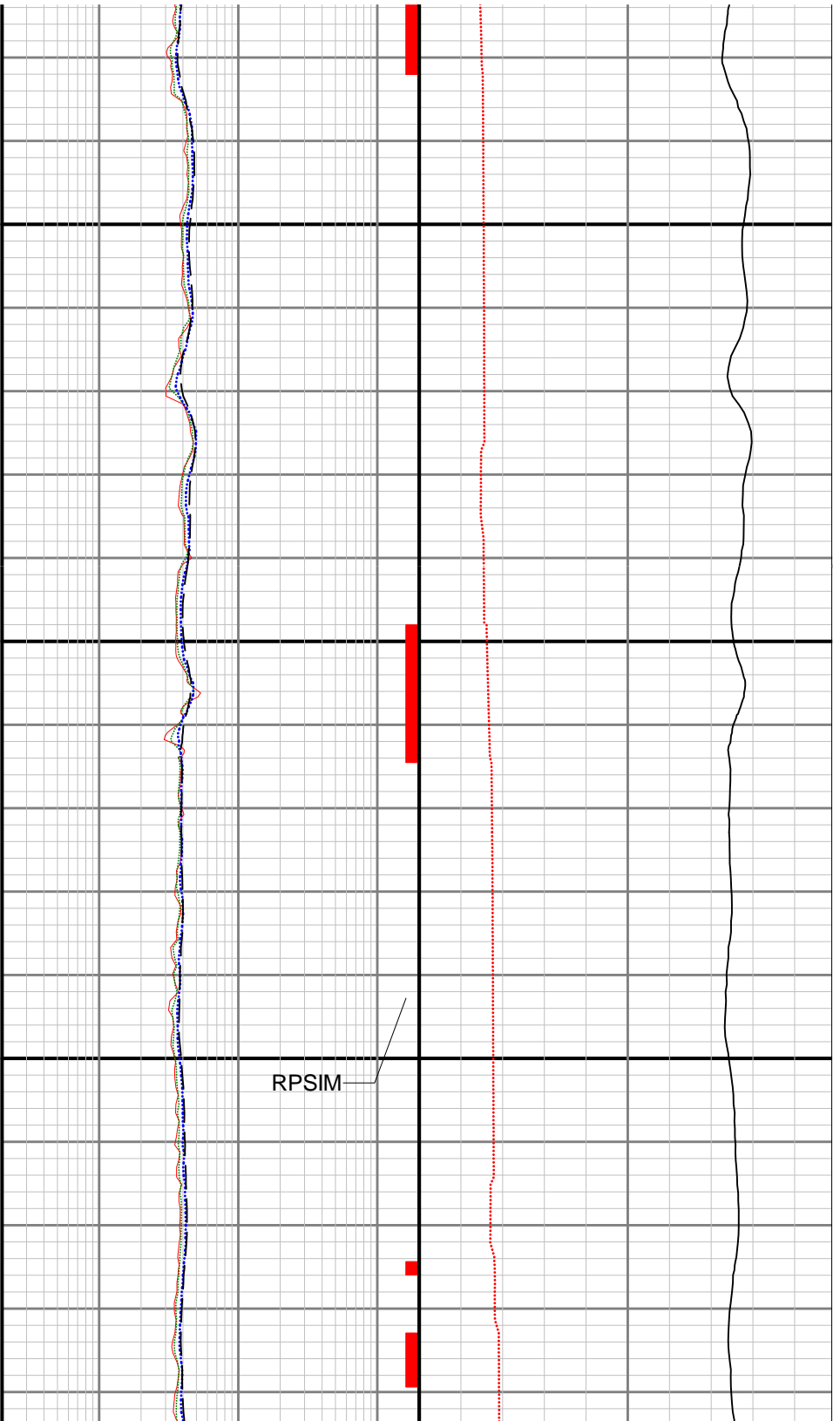


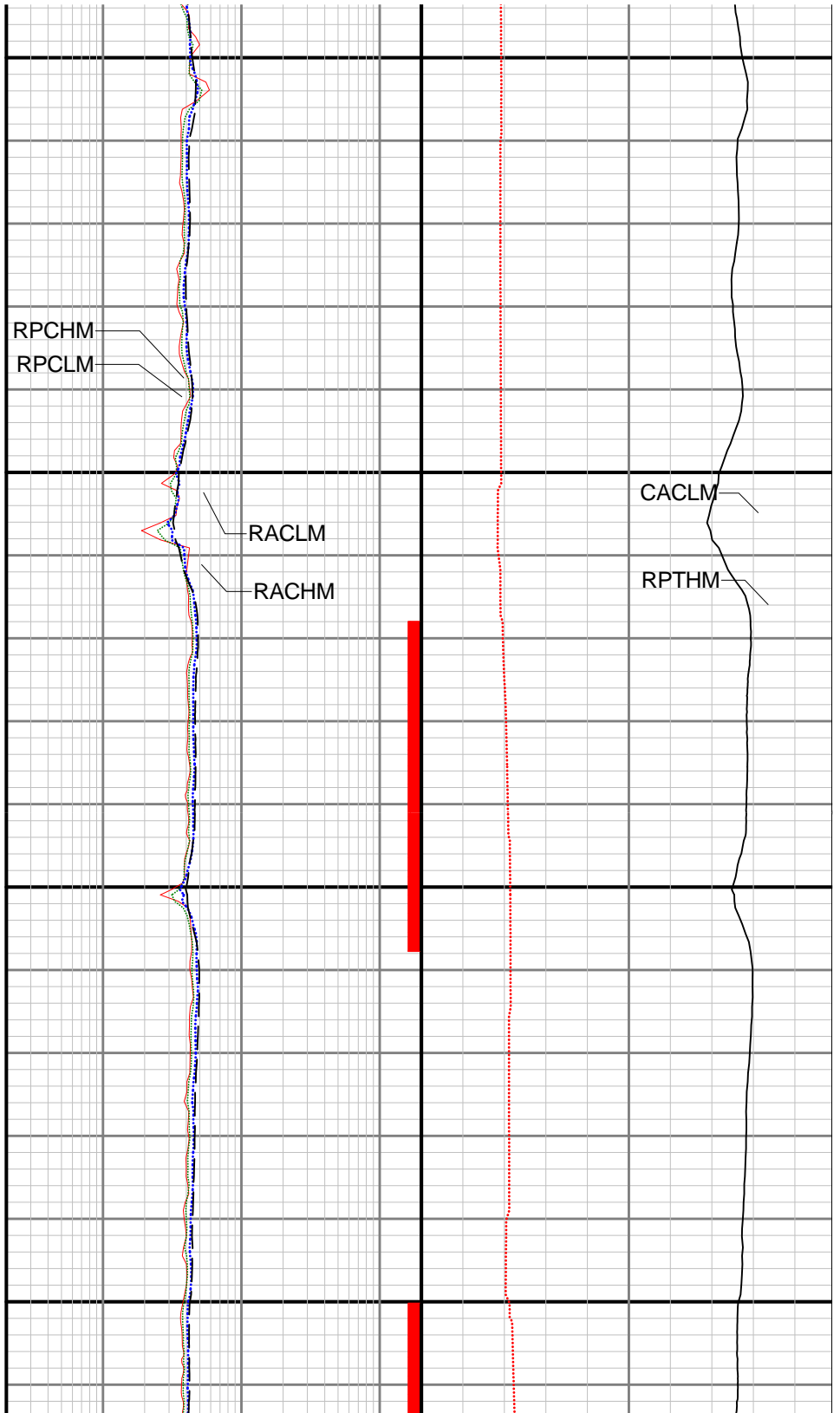
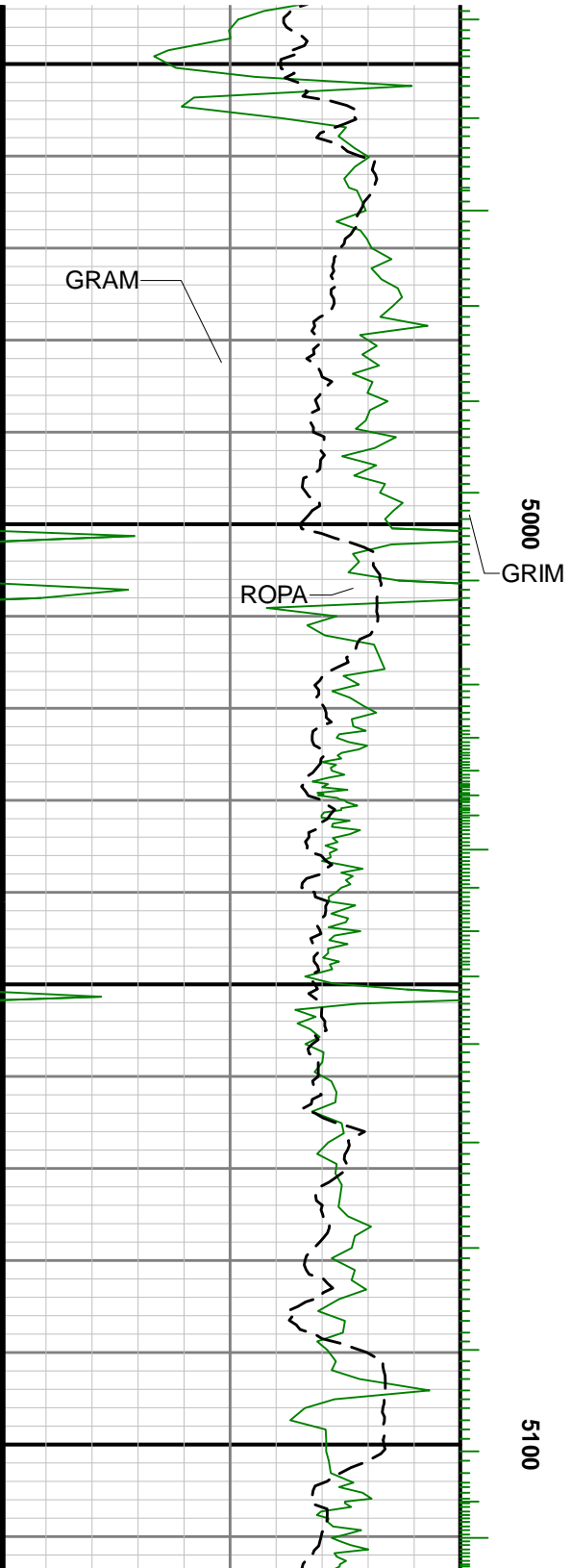


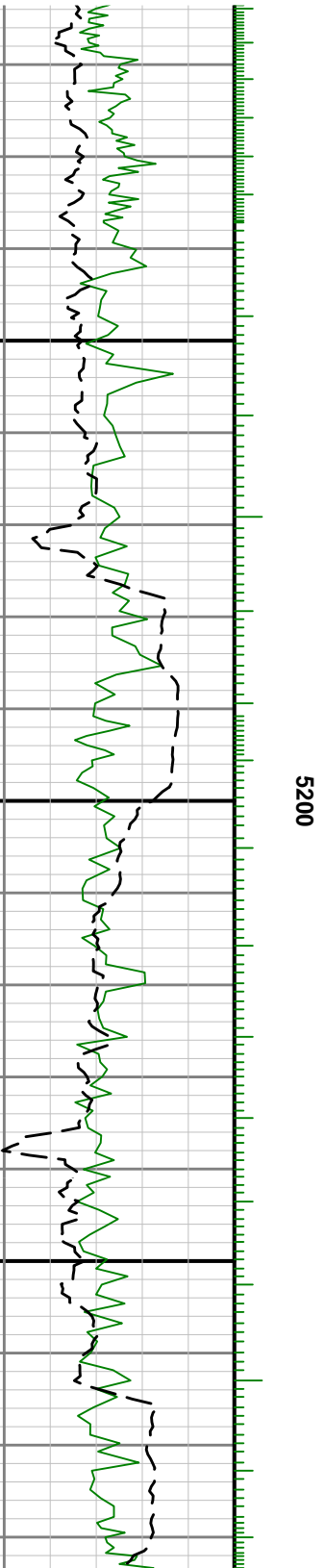
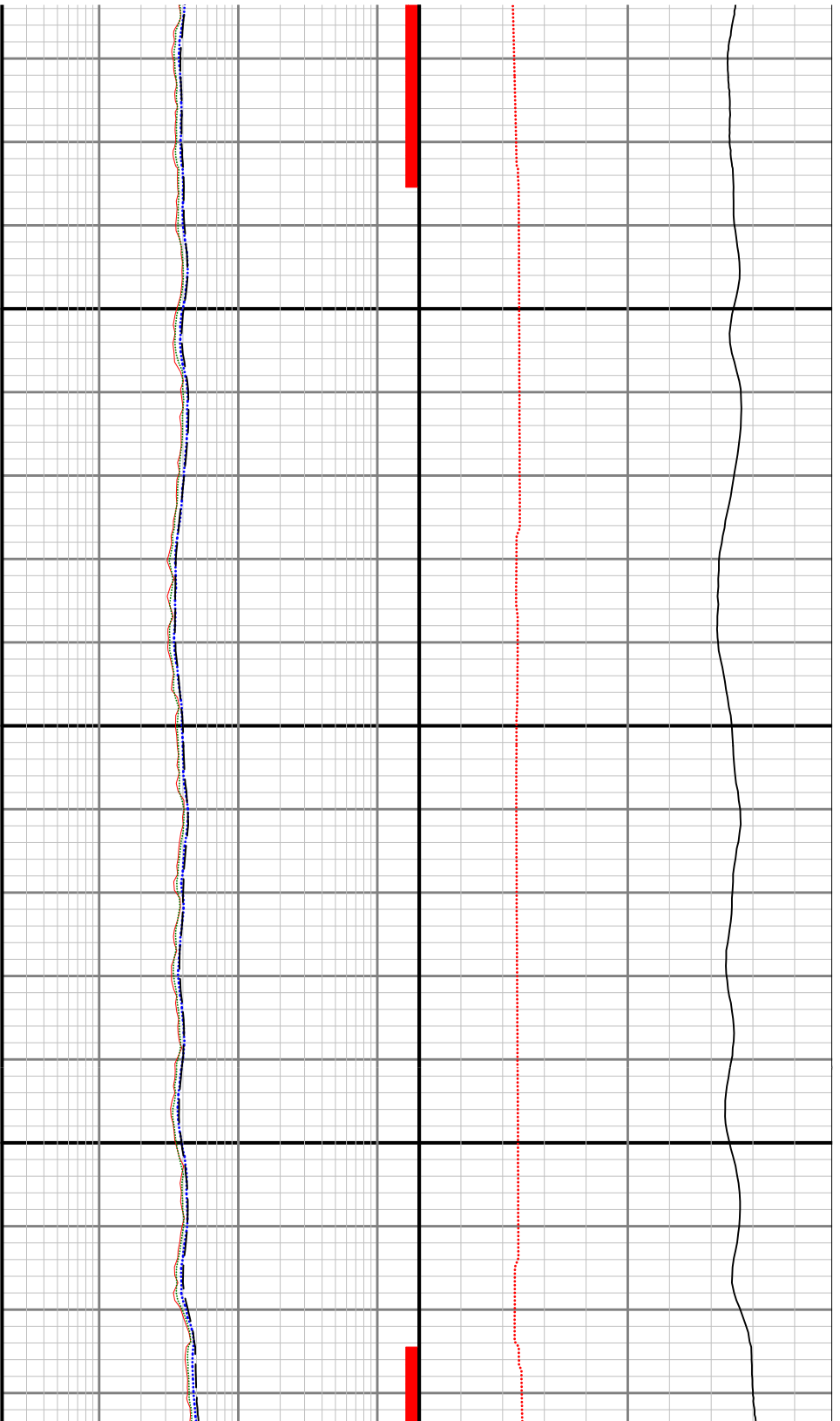


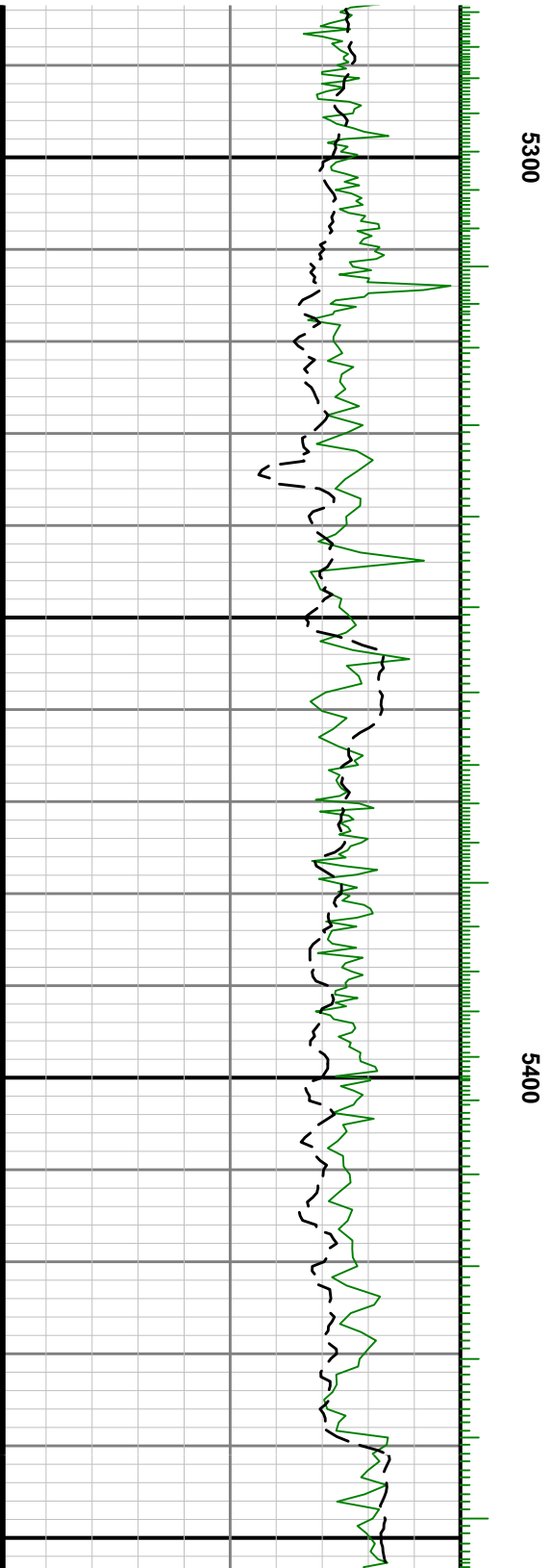
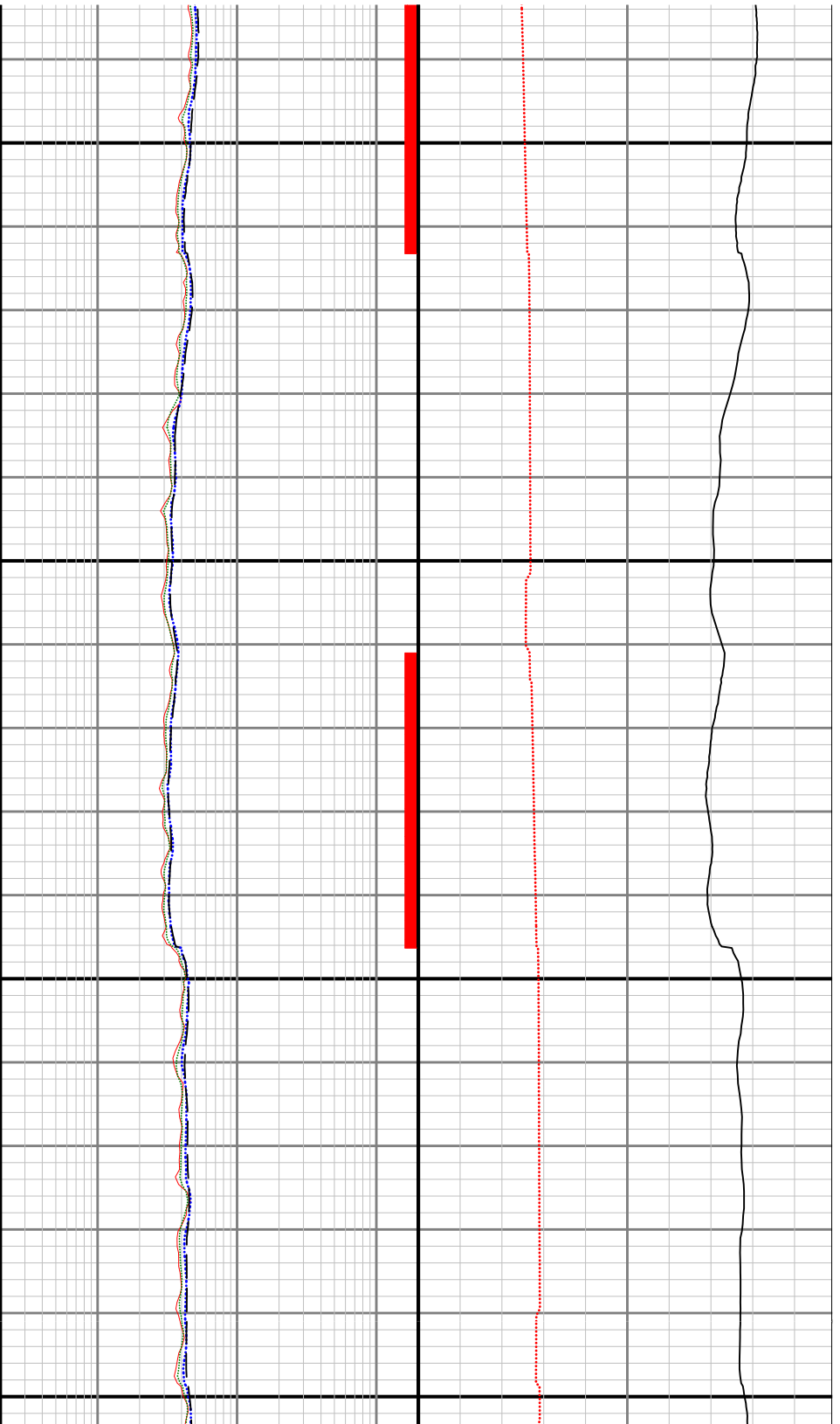
4700

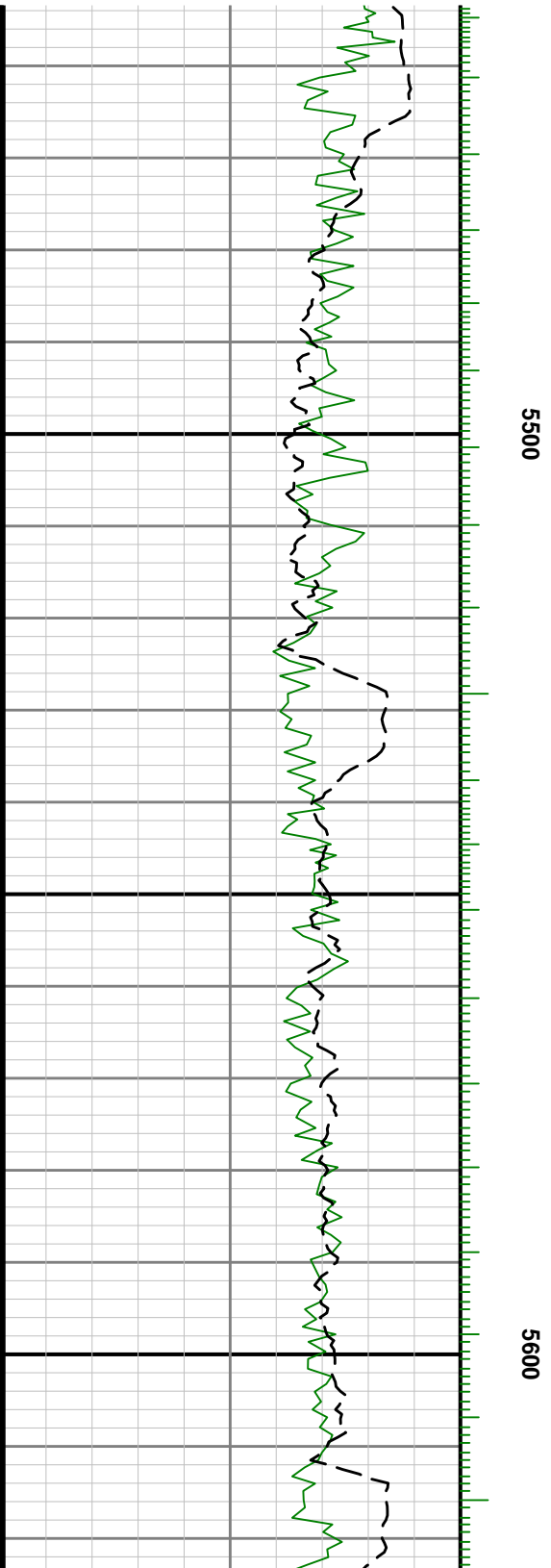
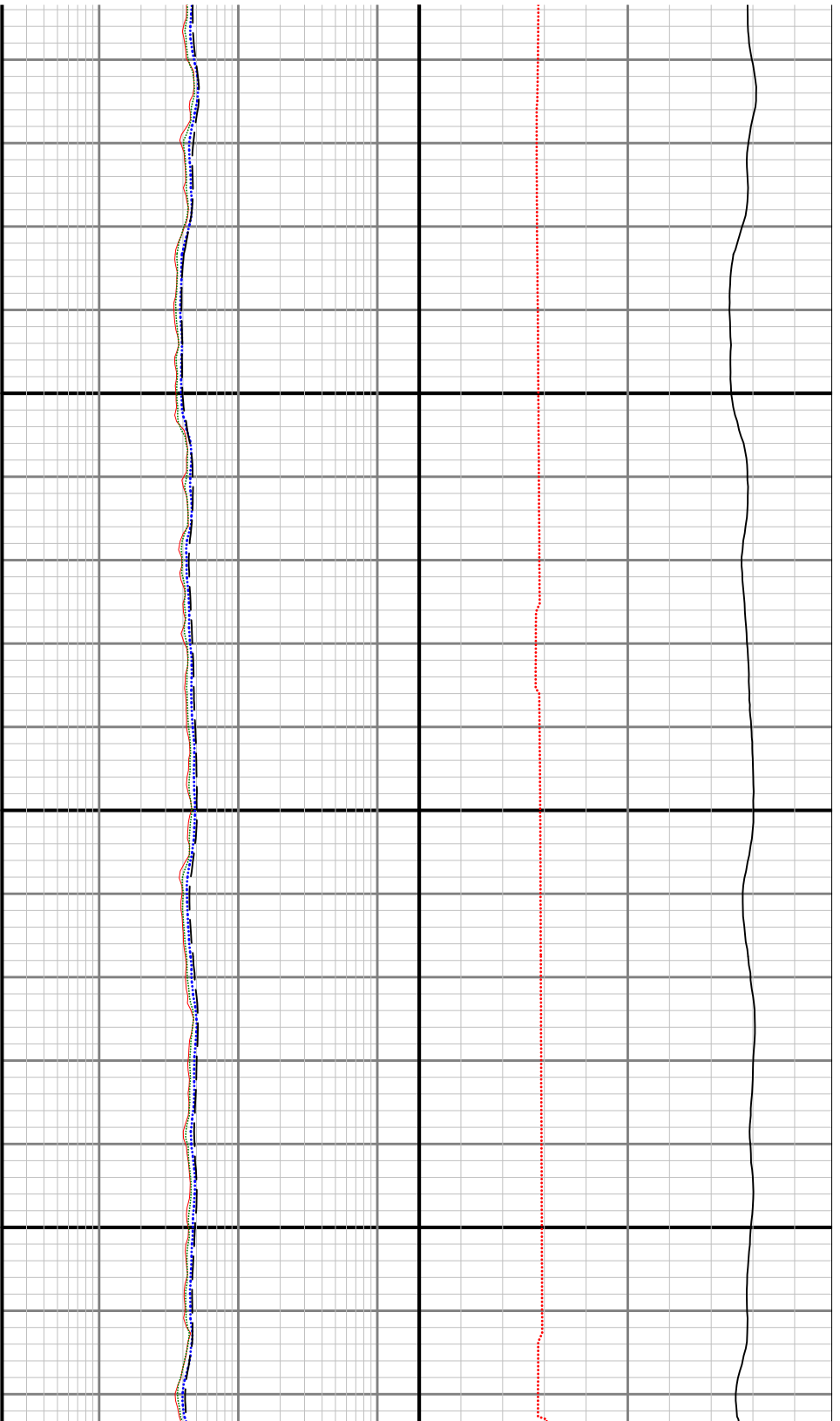


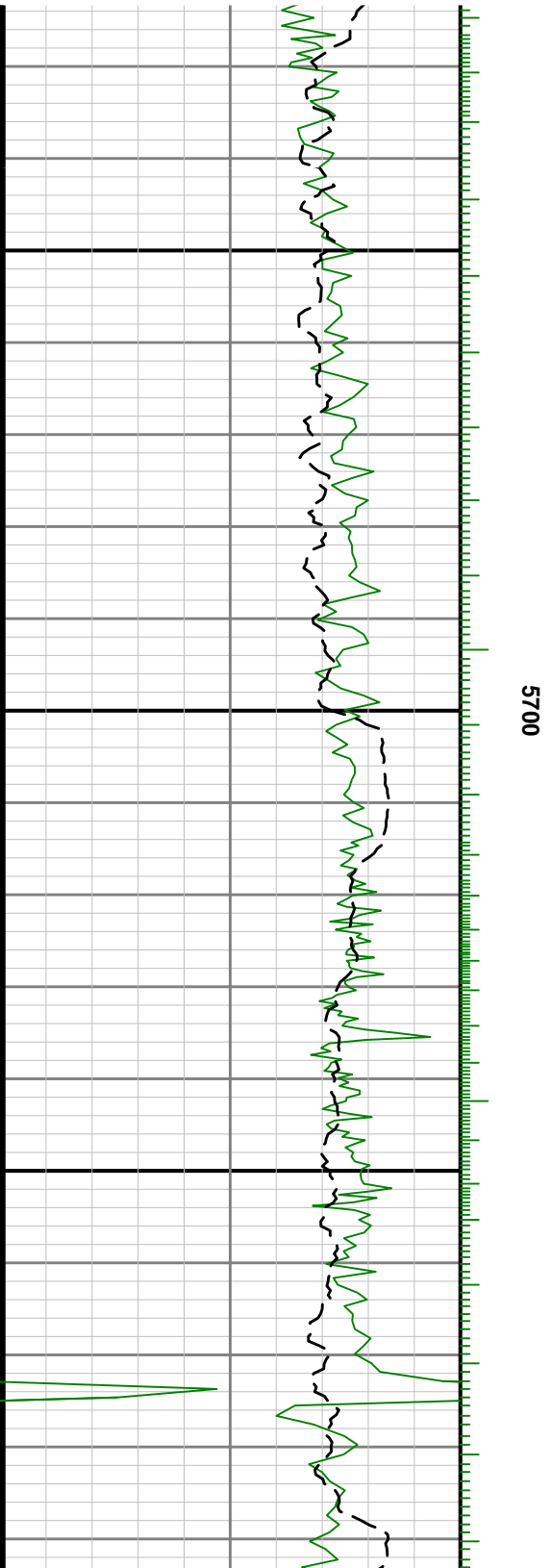
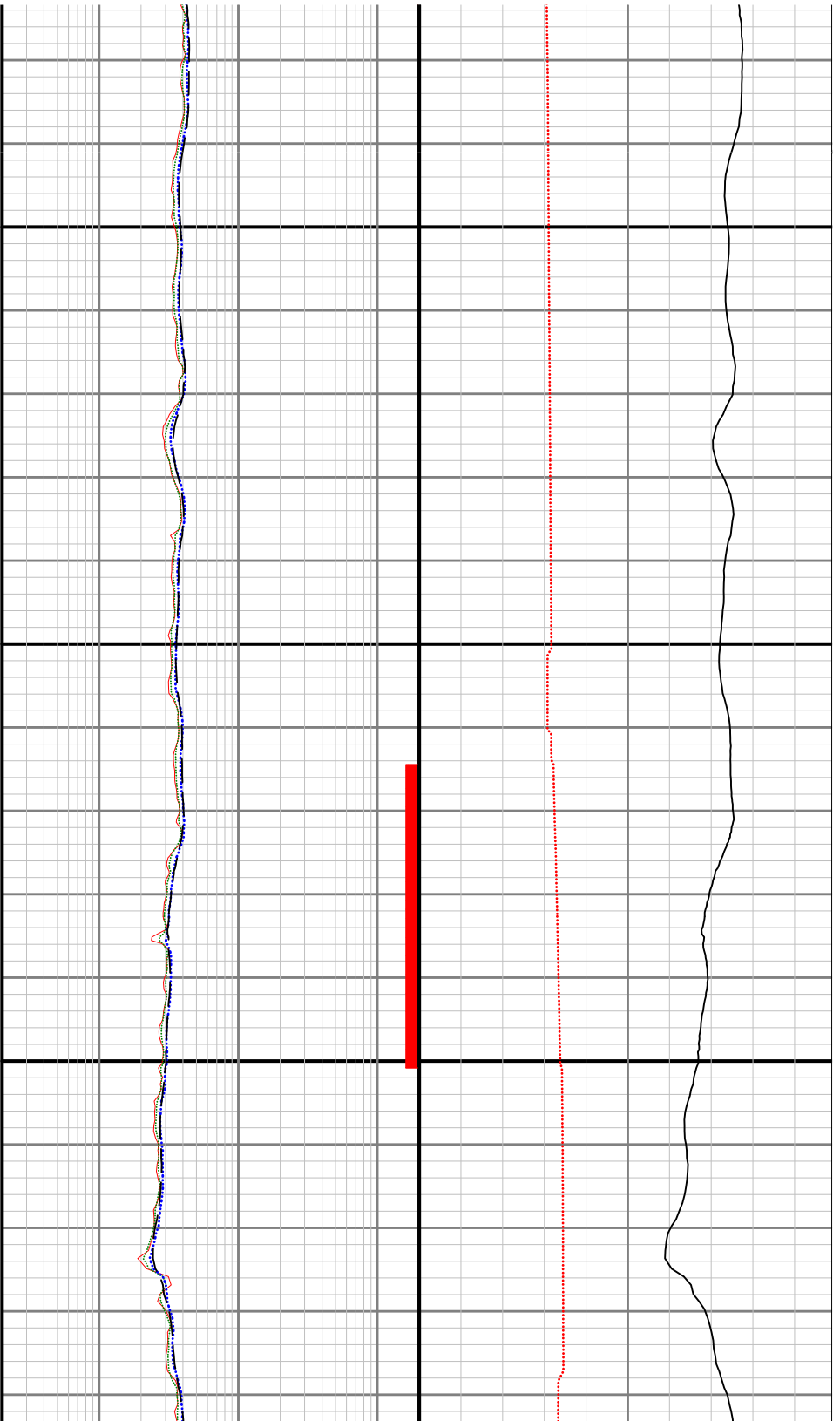


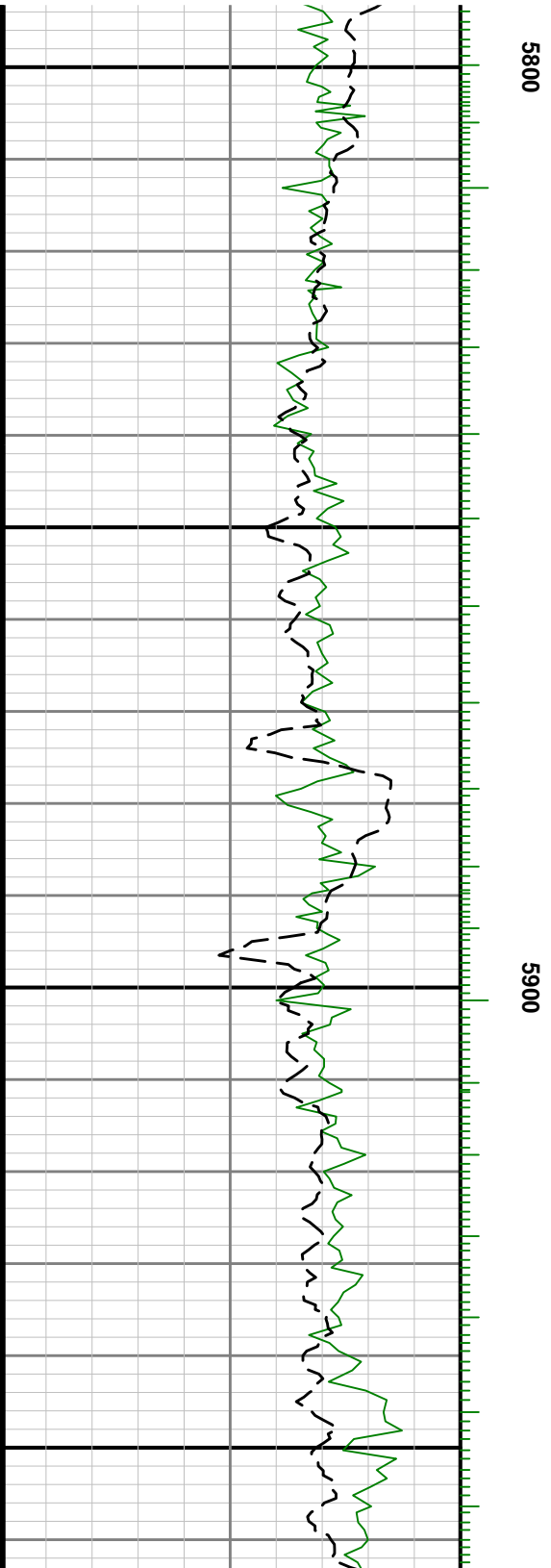
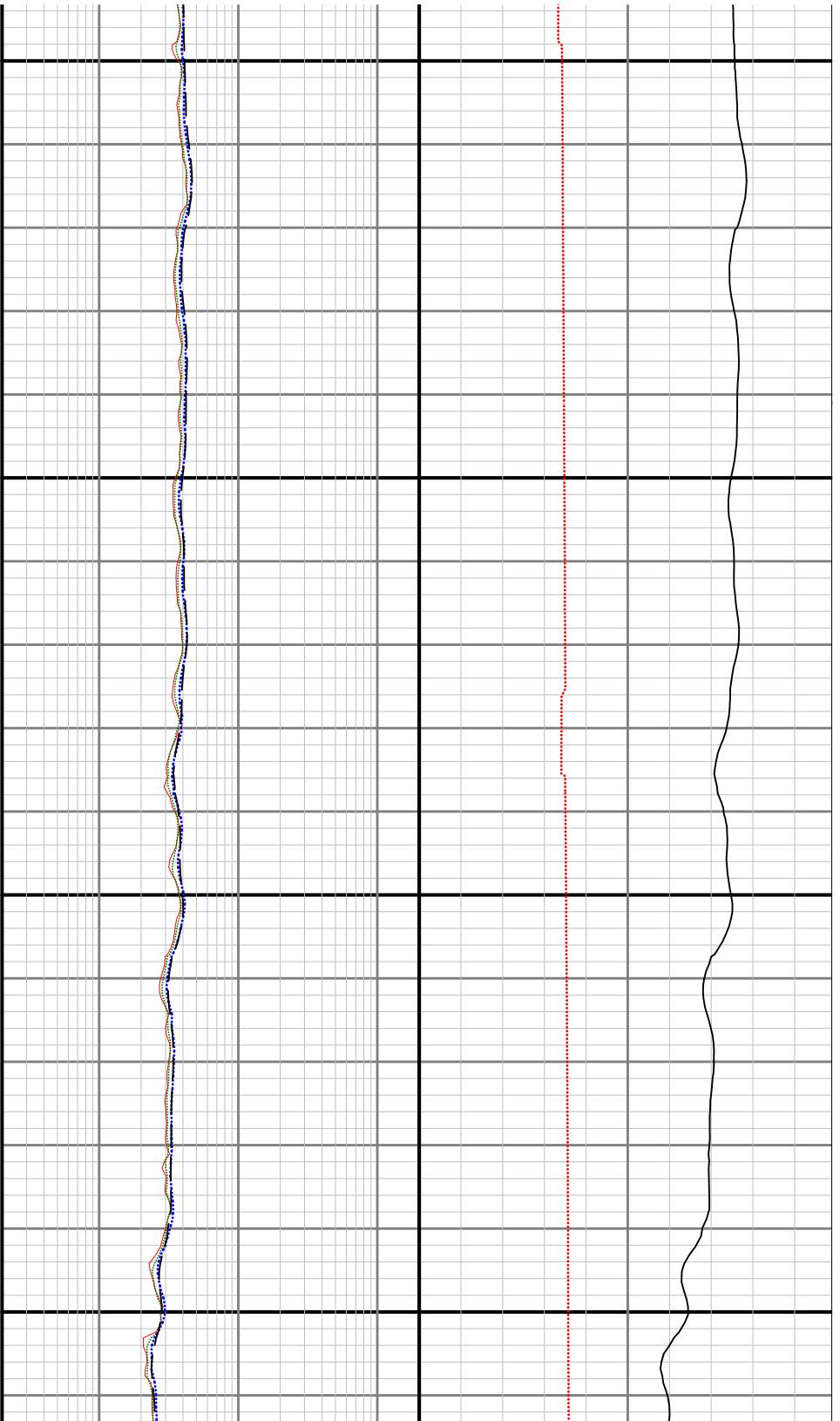


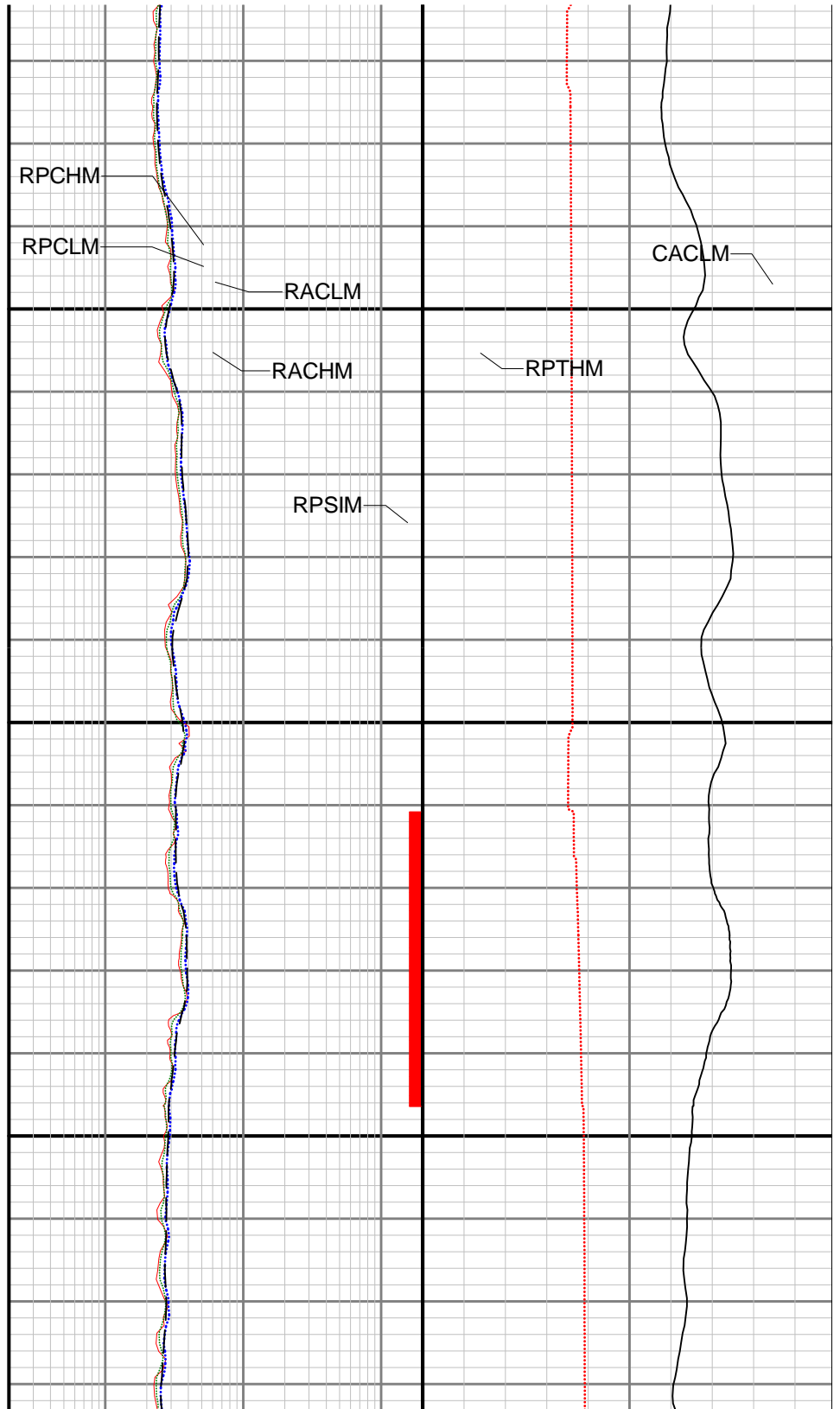
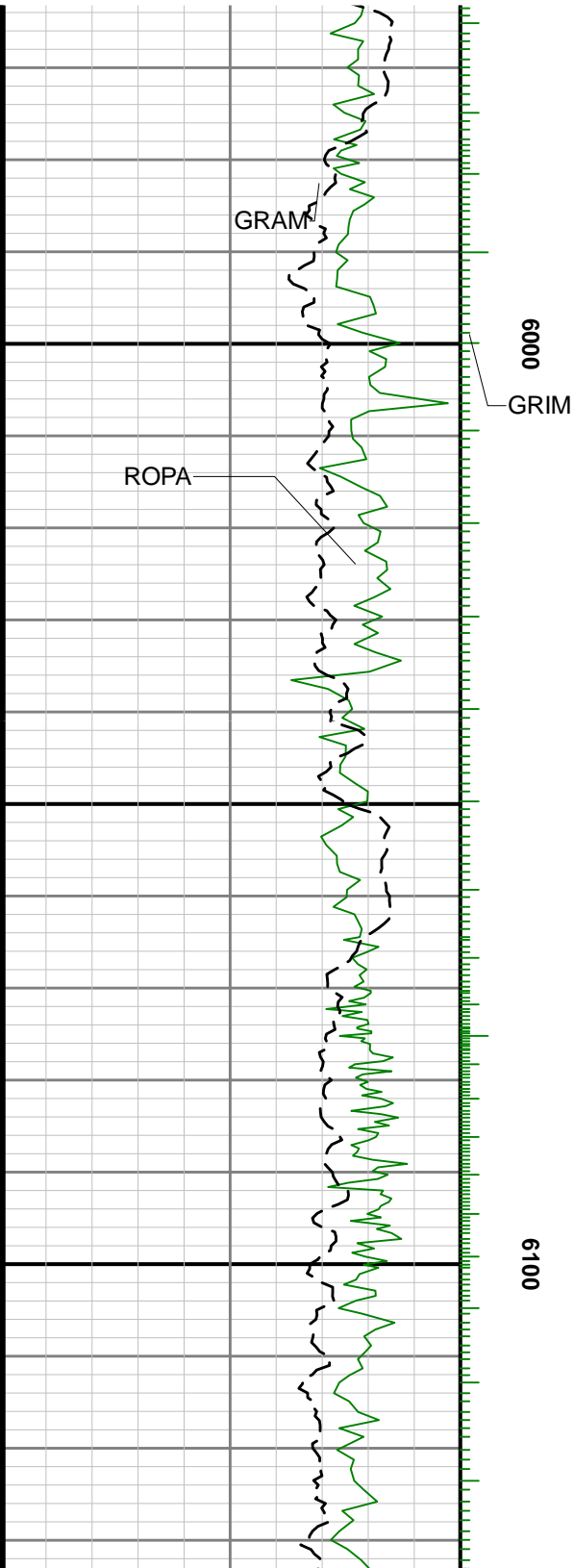


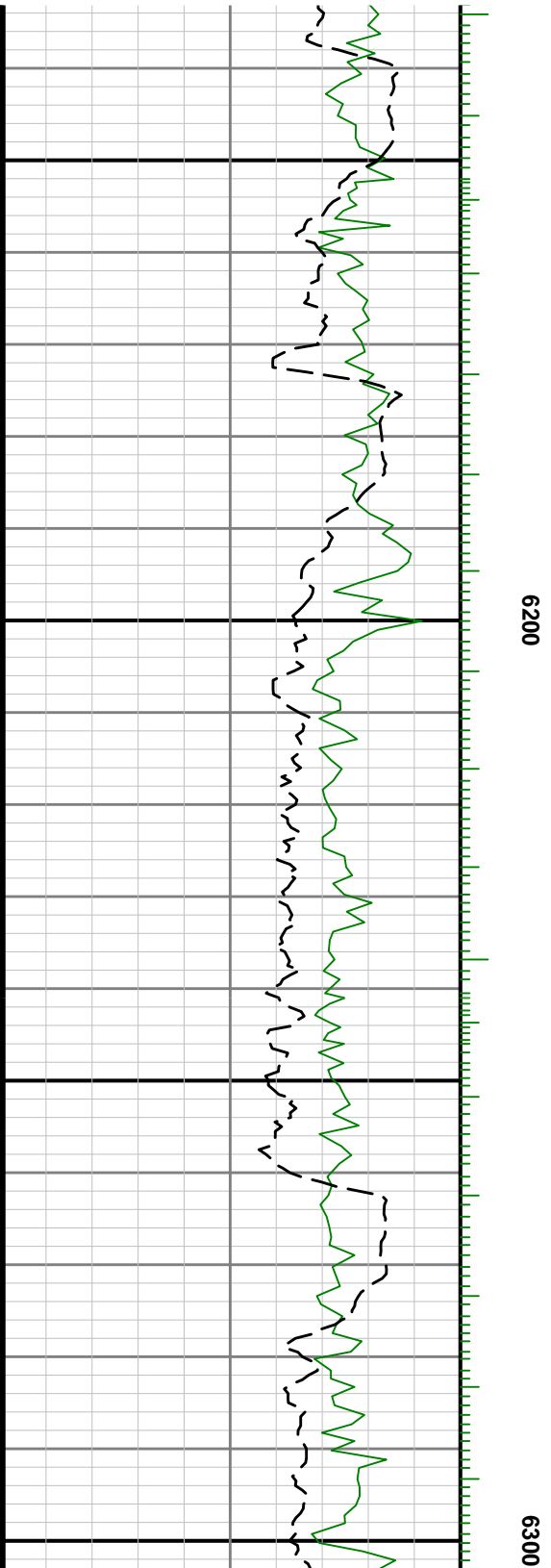
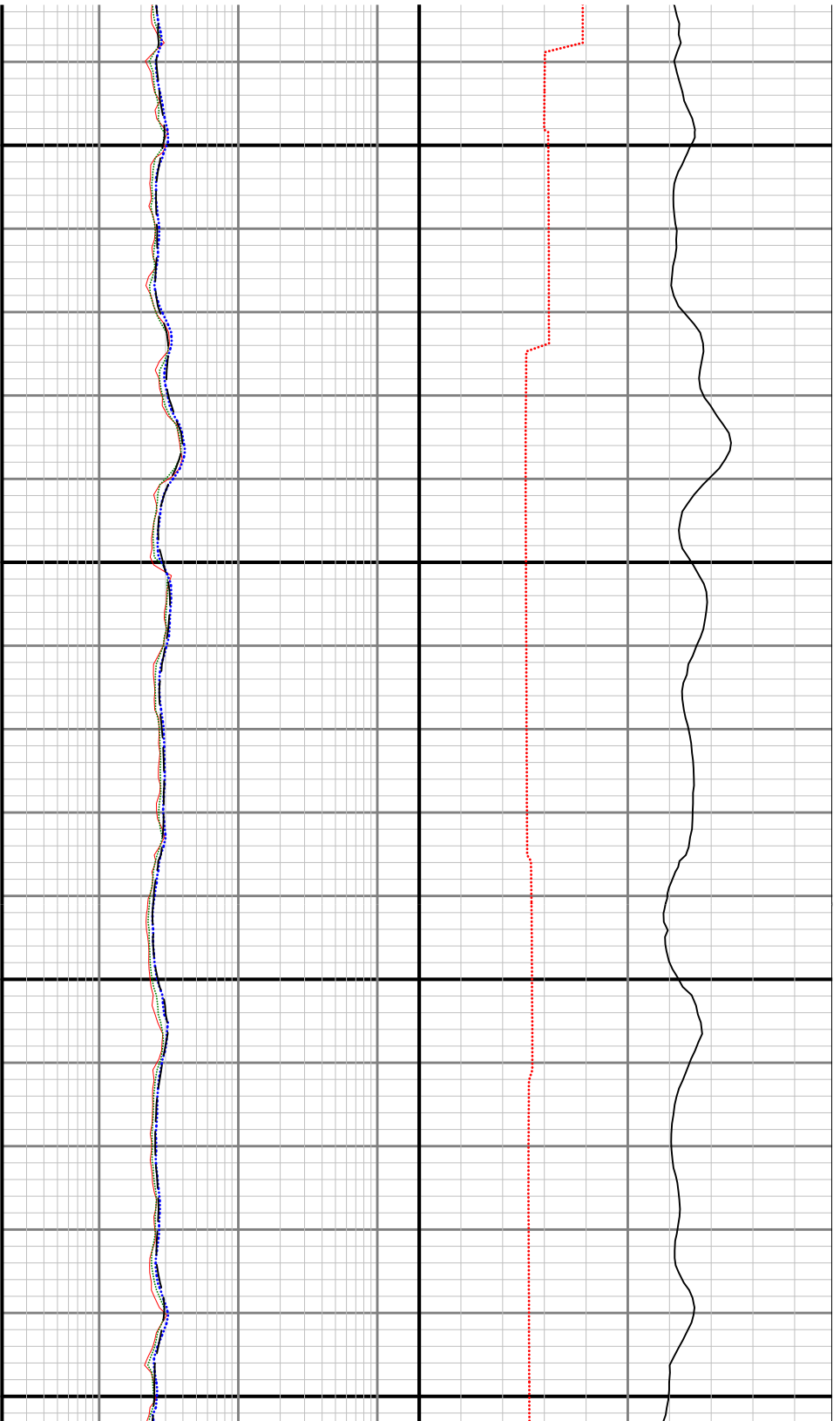


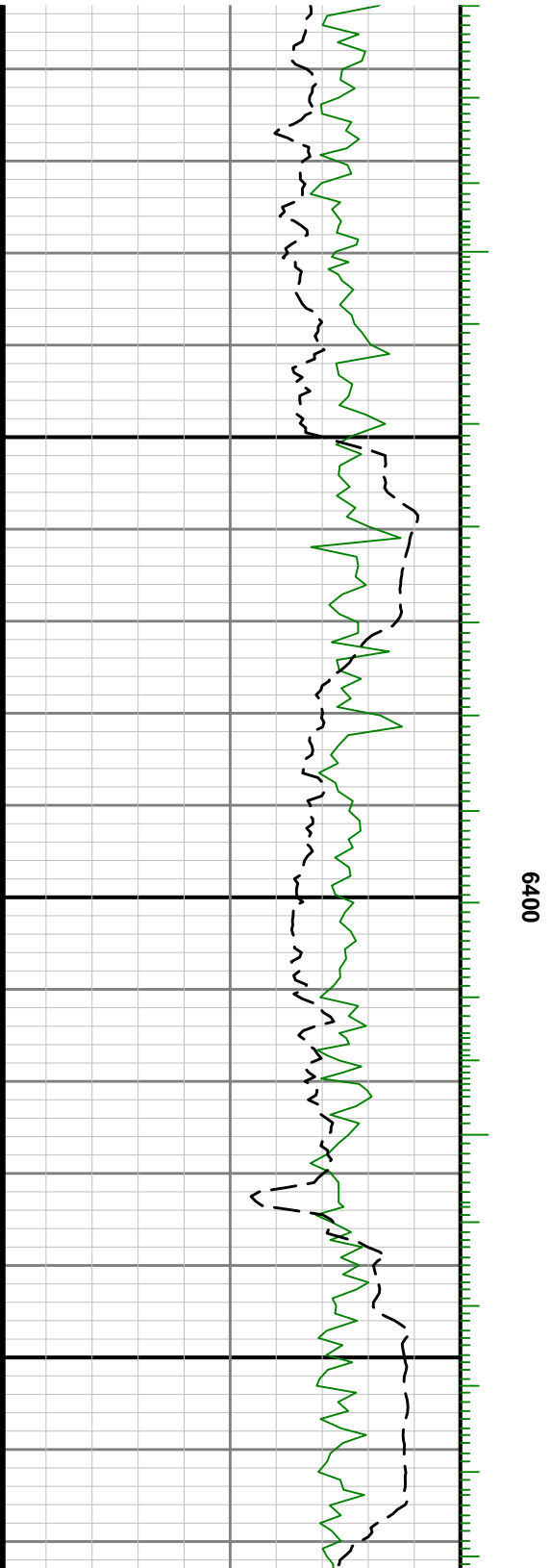
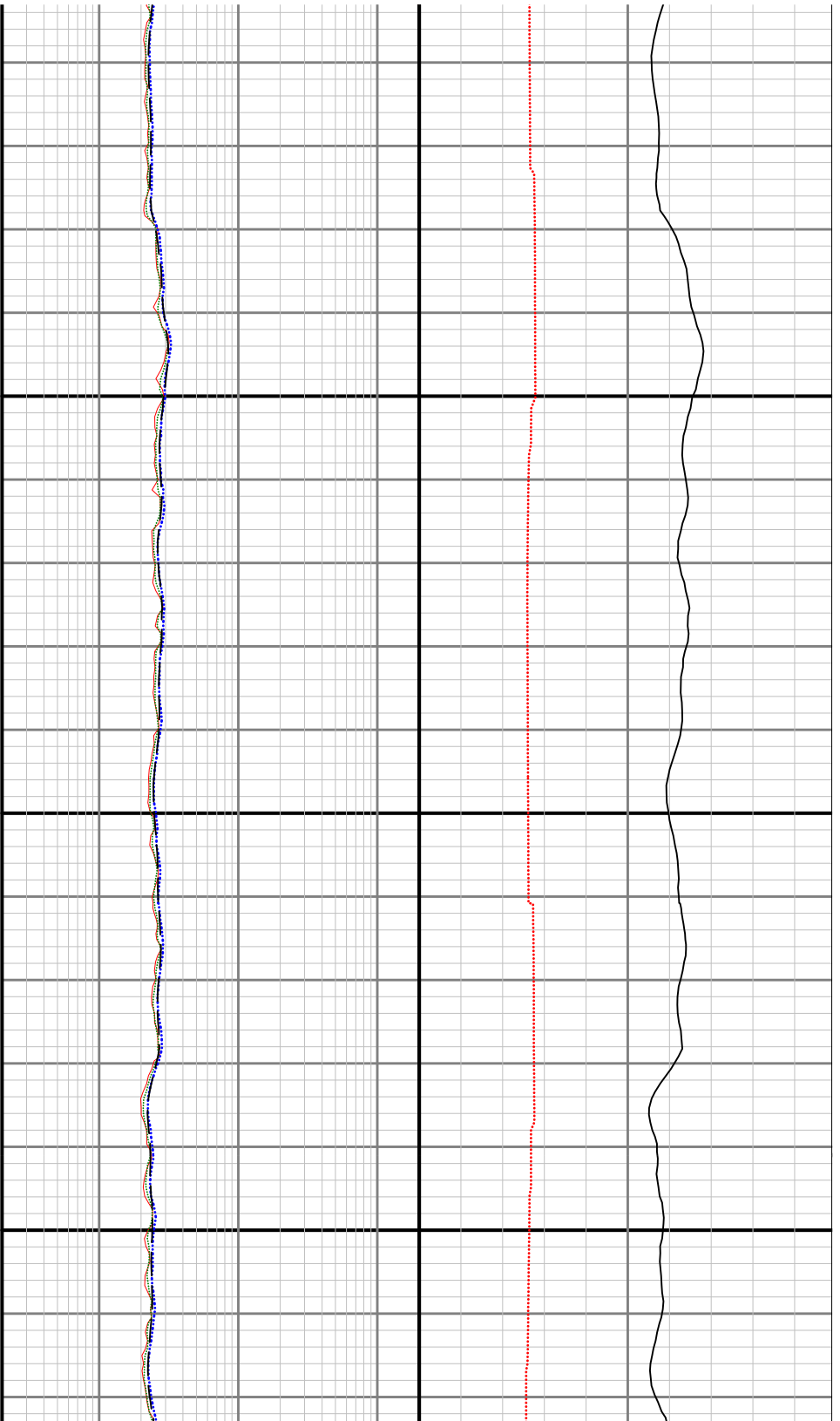


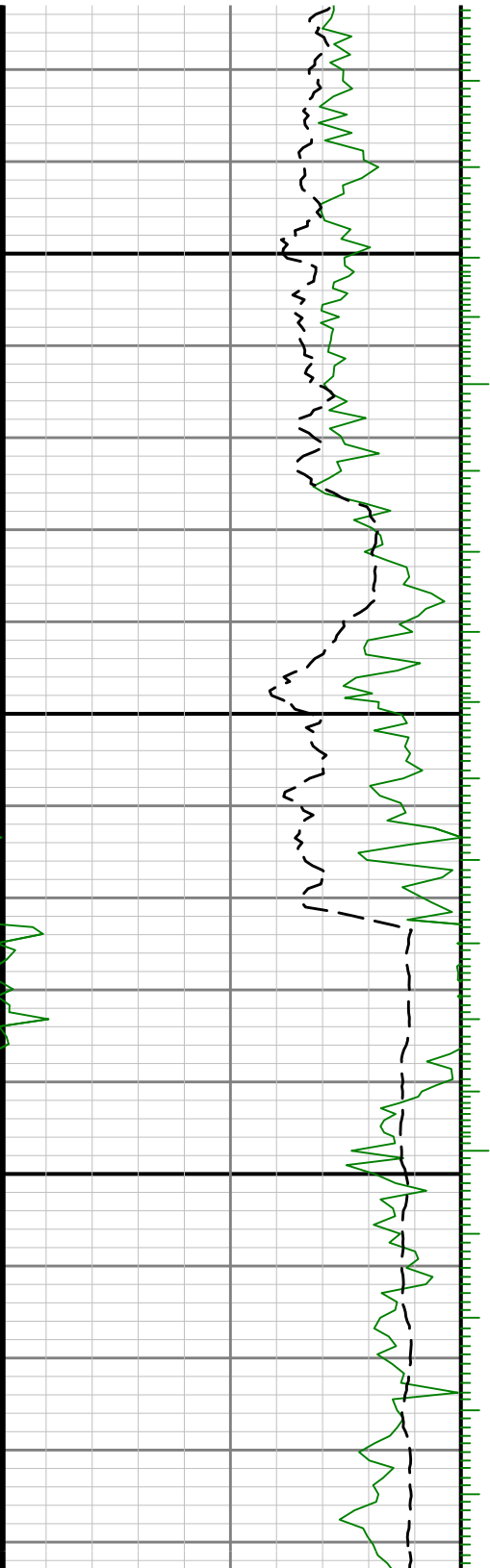












0059

0099



