



LWD MEMORY LOG

Gamma Ray

Scale: 1-240 MWD

Company: SRC Energy

Well: Bost Farm 41N-8C-L

Field: DJ Basin

Driller's Depth

Country: Weld County

State: Colorado

Country: United States

Status: Final Print

API No: 05123476970000

Job ID: 109435691

Permanent Datum (P.D.): Ground Level

Log Measured From: Rig Floor

Elevation: 4881.00 ft

Above P.D. 20.00 ft

Elev. KB: 4901.00 ft

Elev. DF: 4881.00 ft

Elev. GL: 4881.00 ft

Other Services:

Latitude: 040° 25' 03.922" N

Longitude: 104° 49' 44.440" W

Directional

SEC: 7

TWN: 5N

RGE: 66W

Dates

Interval Drilled

Magnetic Field Reference

Date From: 2018-10-10 Top: (ft) 1823.00

Date To: 2018-11-26 Bottom: (ft) 17635.00

Spud Date: 2018-10-10

Azi Reference North: True

Total Magnetic Field Strength: (nT) 52317

Mag to Reference North Correction: (deg) 7.68

Dip Angle: (deg) 66.65

Borehole Record

Casing Record

Mud Record

Deviation Record

Type

From (ft)

To (ft)

Hole Size (in)

Interval (ft)

Inc | Az (Start)

Inc | Az (End)

Water Based Mud

Diesel-Oil Based Mud

Acquisition System

Software Version

Other

Baker Hughes Cadence

RT 4.2

4.2.8155.1

Rig: PD 462

Contractor: Precision Drilling

District: RMD

Unit: D&E

© 2018 Baker Hughes, a GE company, LLC – All rights reserved. Baker Hughes, a GE company, LLC and its affiliates ("BHGE") provides this information on an "as is" basis for general information 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.

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           | 13.500        | PDC      | 6.00                  | Steerable        | 0.00            | 0.00        | 20.00              | 1823.00  | 2018-10-10 09:00 | 2018-10-10 18:30 | 11.83           |
| 2      | 2           | 8.500         | PDC      | 3.00                  | Rotary Steerable | 1823.00         | 17620.00    | 1823.00            | 17635.00 | 2018-11-22 23:30 | 2018-11-25 21:43 | 64.18           |

Crew

| Name        | Arrive Wellsite | Depart Wellsite | Name        | Arrive Wellsite | Depart Wellsite | Name | Arrive Wellsite | Depart Wellsite |
|-------------|-----------------|-----------------|-------------|-----------------|-----------------|------|-----------------|-----------------|
| Alozie Obuh | 2018-11-22      | 2018-11-25      | John Moisan | 2018-11-25      | 2018-11-26      |      |                 |                 |

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+ (%) |
|------------------|---------|---------------------|----------------------|---------------|----------------|----|------------------|-------------|------------|-----------------------|--------|
| 2018-10-10 12:00 | 1       | 833.00              | Water Based Mud      | 8.4           | 1              | 0  | 0.0              | 0/100       | Active Pit | 794                   | 0.00   |
| 2018-11-22 14:30 | 2       | 1823.00             | Diesel-Oil Based Mud | 9.4           | 8              | 0  | 0.0              | 76.5/12.5   | Active Pit | 30888                 | 0.00   |
| 2018-11-23 03:30 | 2       | 3404.00             | Diesel-Oil Based Mud | 9.2           | 12             | 0  | 0.0              | 75.2/15     | Active Pit | 31371                 | 0.00   |
| 2018-11-23 14:00 | 2       | 6672.00             | Diesel-Oil Based Mud | 9.6           | 14             | 0  | 0.0              | 74/14.3     | Active Pit | 34995                 | 0.00   |
| 2018-11-24 03:30 | 2       | 9427.00             | Diesel-Oil Based Mud | 9.8           | 18             | 0  | 0.0              | 72/15       | Active Pit | 38351                 | 0.00   |
| 2018-11-24 14:30 | 2       | 12178.00            | Diesel-Oil Based Mud | 9.9           | 19             | 0  | 0.0              | 71.6/15     | Active Pit | 34516                 | 0.00   |
| 2018-11-25 03:30 | 2       | 14000.00            | Diesel-Oil Based Mud | 9.9           | 19             | 0  | 0.0              | 71.5/15     | Active Pit | 33557                 | 0.00   |
| 2018-11-25 14:00 | 2       | 16548.00            | Diesel-Oil Based Mud | 9.9           | 19             | 0  | 0.0              | 71.5/15     | Active Pit | 31853                 | 0.00   |
| 2018-11-26 03:30 | 2       | 17635.00            | Diesel-Oil Based Mud | 10.0          | 19             | 0  | 0.0              | 71.2/15     | Active Pit | 31853                 | 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 | ZAPS230939    | VSS               | 12.24              | 59.33           | 8.125         | 0.000         |
| 1       | Sensor Sub | ZAPS230939    | Directional (mag) | 12.24              | 59.33           | 8.125         | 0.000         |

|   |            |            |                      |       |       |       |       |
|---|------------|------------|----------------------|-------|-------|-------|-------|
| 1 | Sensor Sub | ZAPS230939 | Pressure             | 32.80 | 79.89 | 8.125 | 0.000 |
| 2 | ATC_SU     | 13809445   | Near Bit Inclination | 5.93  | 6.73  | 7.000 | 4.330 |
| 2 | ATC_SU     | 13809445   | Near Bit VSS         | 5.93  | 6.73  | 7.000 | 4.330 |
| 2 | ATC_MWD    | 14381899   | Gamma (single)       | 2.23  | 12.37 | 7.000 | 3.250 |
| 2 | ATC_MWD    | 14381899   | Directional (mag)    | 12.26 | 22.40 | 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 Depths measurements were 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. These unverified depths are being used to represent logging data.
- 2 Baker Hughes LWD Run 1 utilized 8 inch NaviTrak service (Directional-Only) behind a 13 1/2 inch bit and steerable assembly from Surface to 1823 feet MD (Surface to 1790 feet TVD). No logging data was acquired during this run.
- 3 Baker Hughes LWD Run 2 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind 8 1/2 inch bit and rotary steerable assembly from 1823 to 17635 feet MD (1790 to 7280 feet TVD).
- 4 Gamma Ray Apparent (GRAM) is presented 0 to 300 API per customer request.

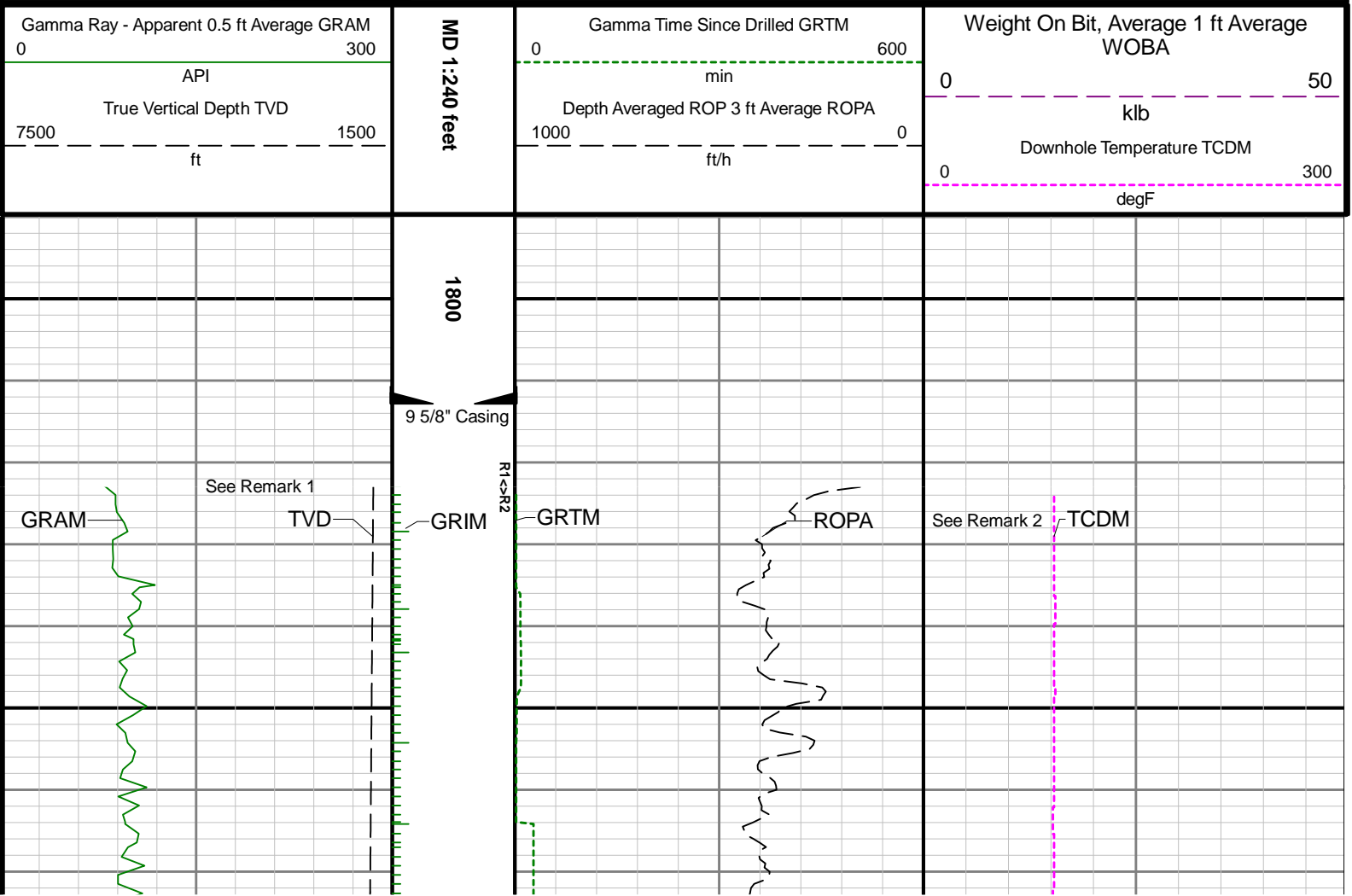
**Remarks**

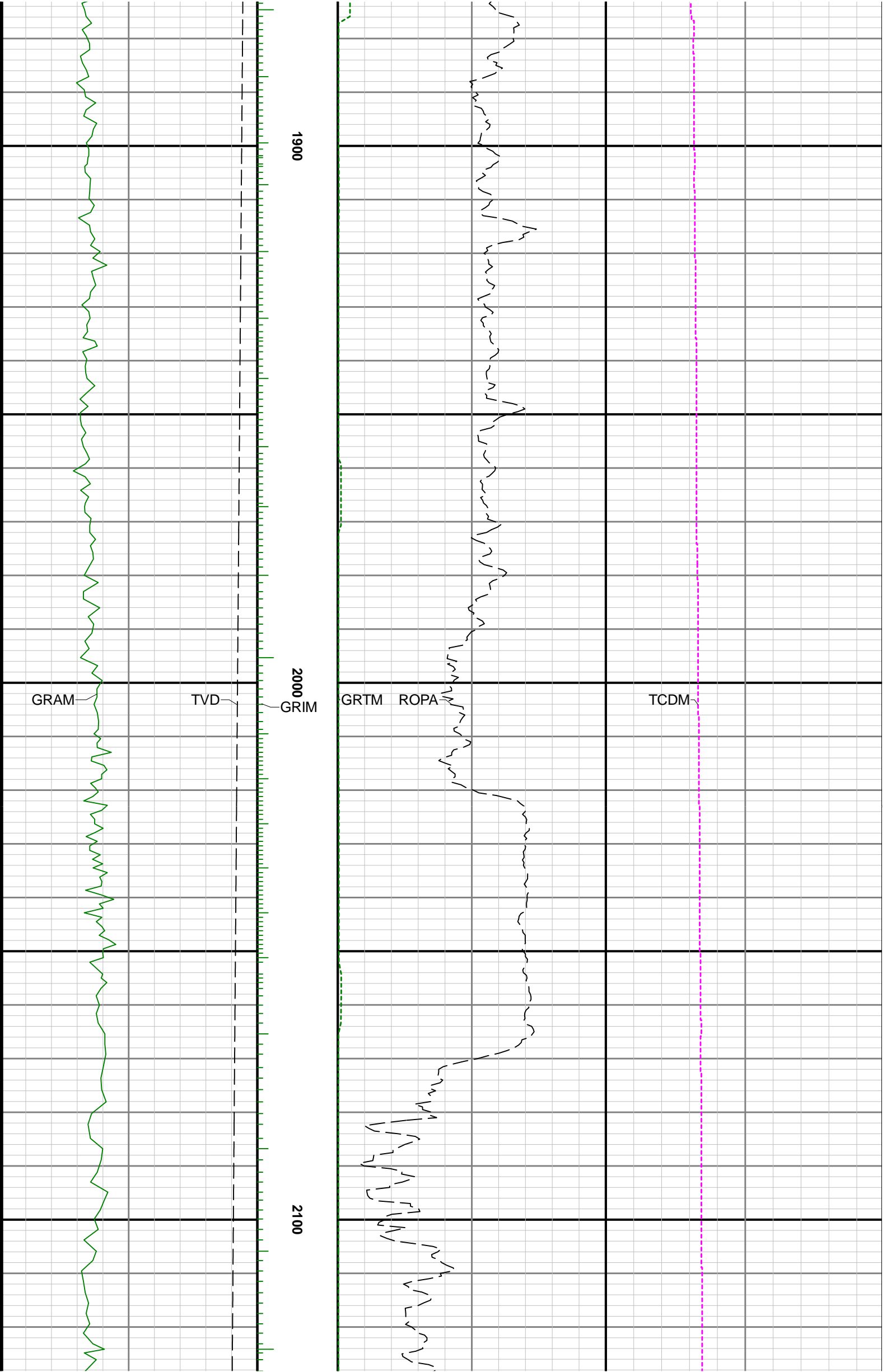
| Number | Measured Depth (ft) | Hole Section (in) | Run No. | Remark  |
|--------|---------------------|-------------------|---------|---|
| 1      | 1823.00             | 8.500             | 2       | Baker Hughes logging services began at 1823 feet MD (1790 feet TVD) per customer request.   |
| 2      | 1830.00             | 8.500             | 2       | The interval from 1823 to 3670 feet MD (1790 to 3580 feet TVD) WOBA data was not present due to remote operations not selecting WOB_SENSOR check box. |
| 3      | 17635.00            | 8.500             | 2       | The interval from 17620 to 17635 feet MD (7280 feet TVD) was not logged due to sensor to bit offset at well TD.                                       |

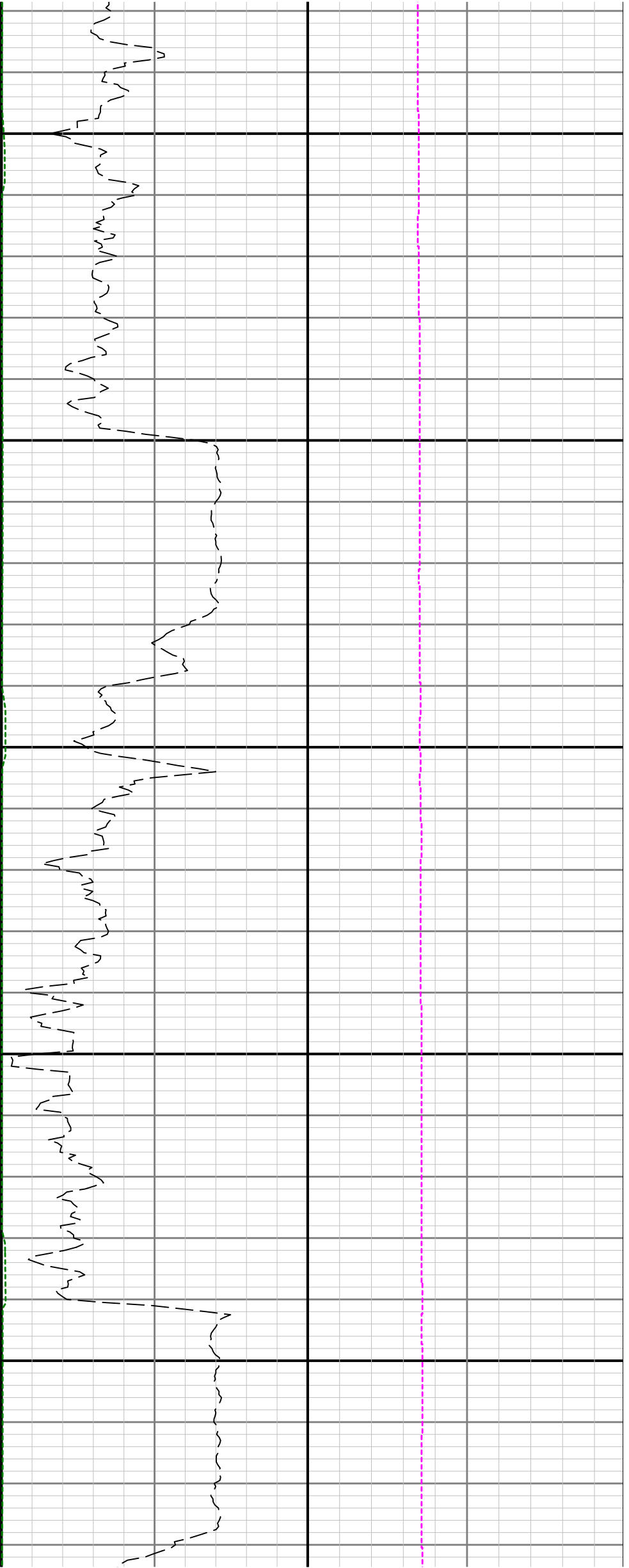
**Curve Mnemonics**

| 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             | Gamma Ray - Apparent - Memory 0.5 ft Average | API      |
| GRIM             | Gamma Ray - Data Point Indicator - Memory    | unitless |
| GRTM             | Gamma Ray - Time Since Drilled - Memory      | min      |
| TCDM             | Directional Real-Time Survey Temperature     | degF     |

|  |                 |                                    |                            |                                  |
|--|-----------------|------------------------------------|----------------------------|----------------------------------|
|  | <b>Company</b>  | SRC Energy                         |                            |                                  |
|  | <b>Well</b>     | Bost Farm 41N-8C-L                 |                            |                                  |
|  | <b>Interval</b> | <b>Date From:</b> 2018-10-10 08:24 | <b>Top:</b> 1823.00 ft     | <b>Date To:</b> 2018-11-26 14:22 |
|  | <b>Created</b>  | 2018-11-26 18:40:07                | <b>Bottom:</b> 17635.00 ft |                                  |

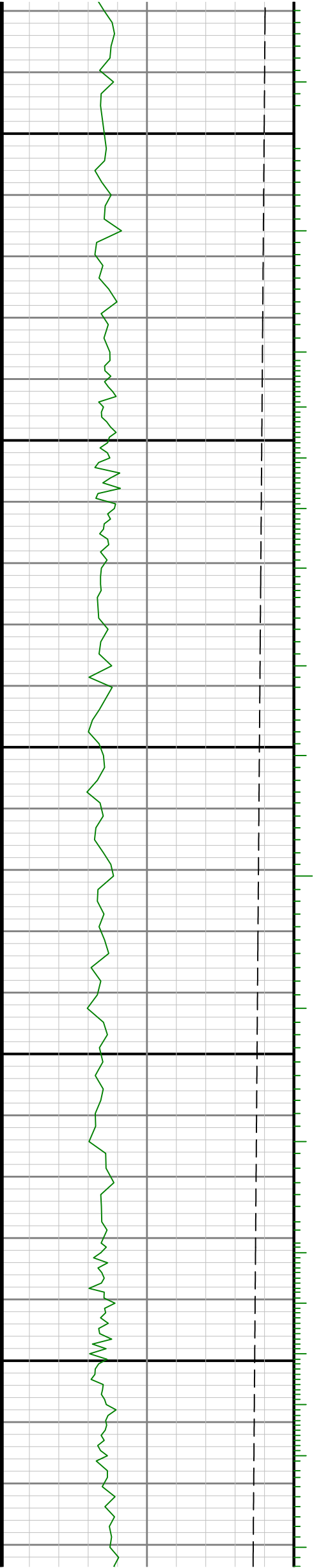






2200

2300

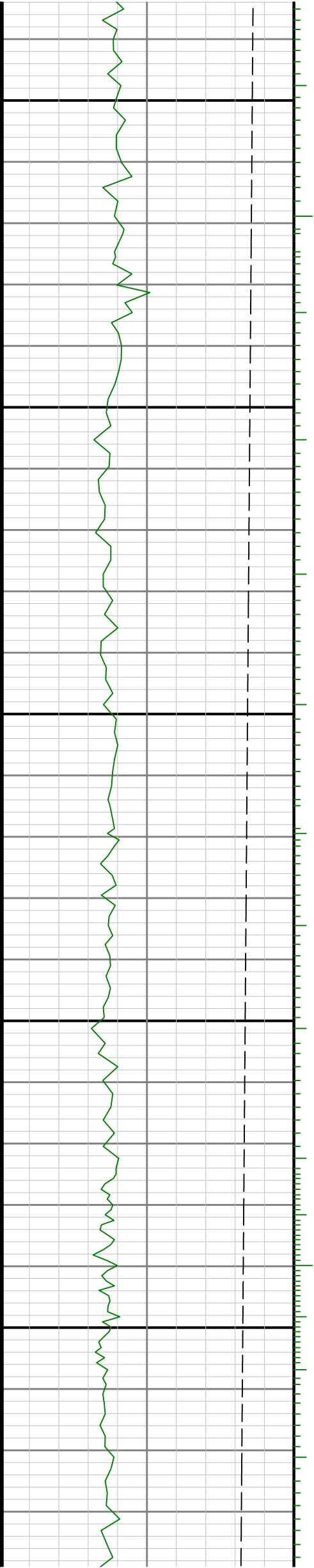


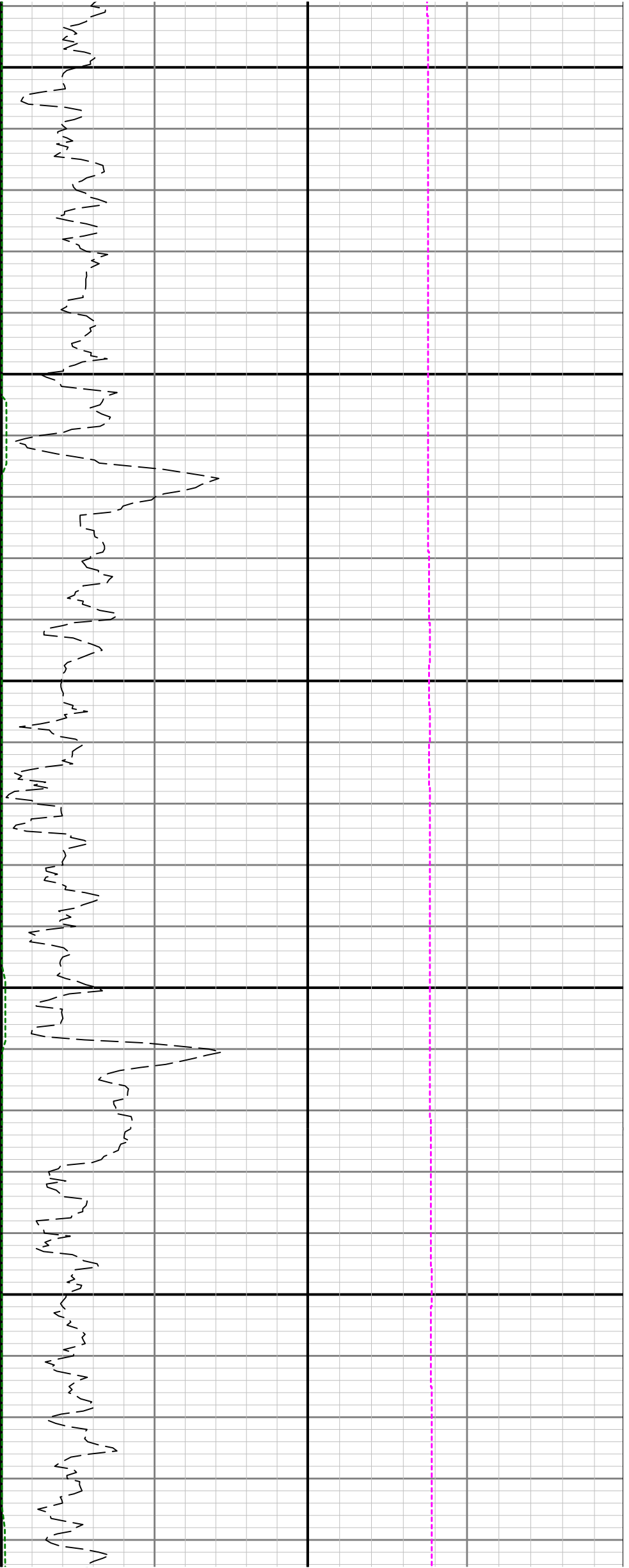


2400

2500

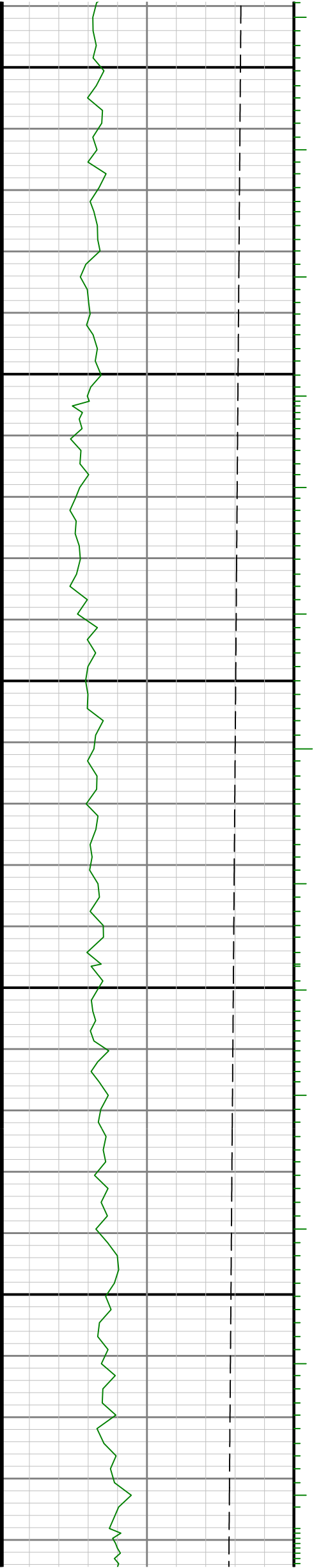
2600

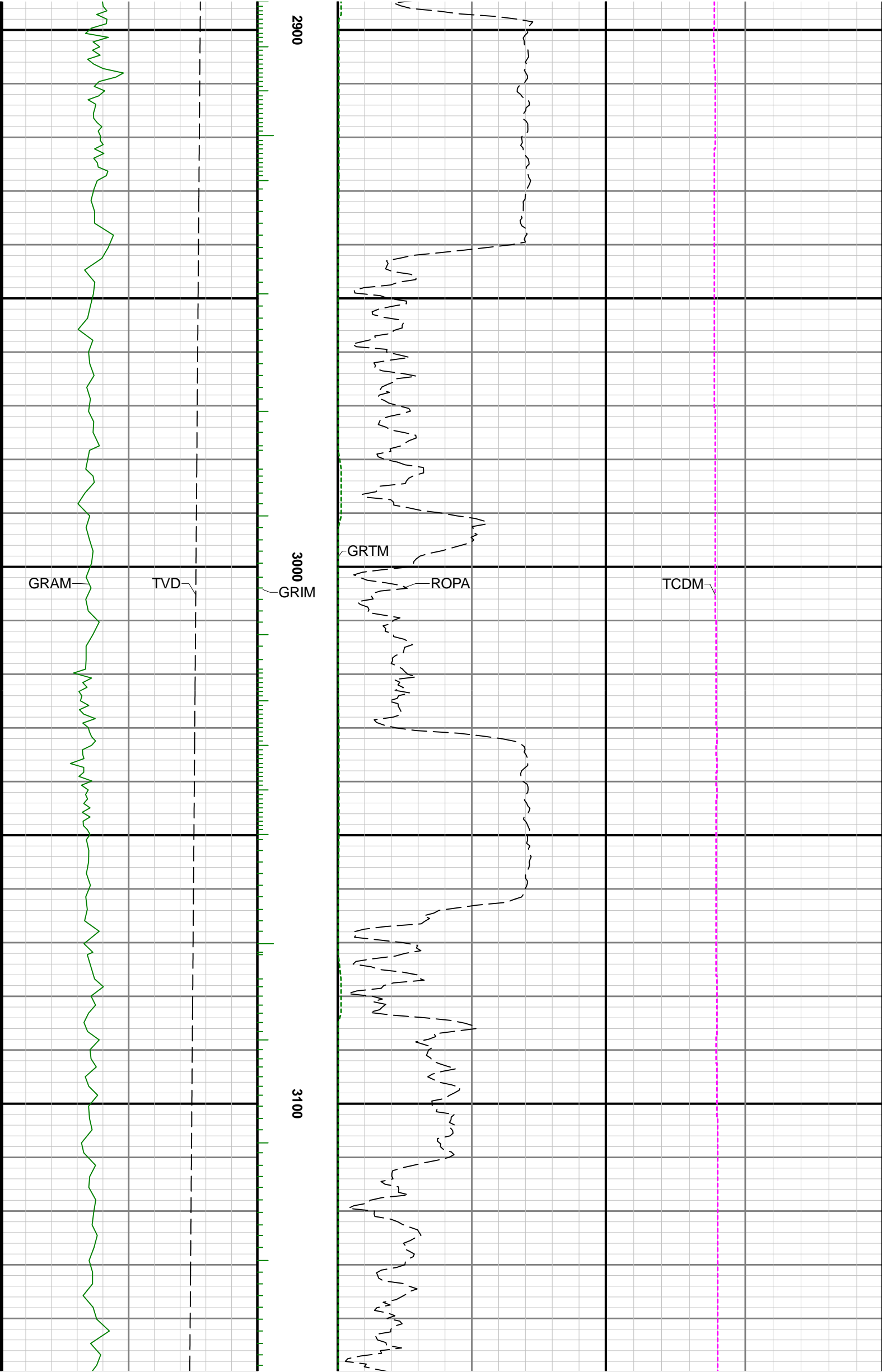


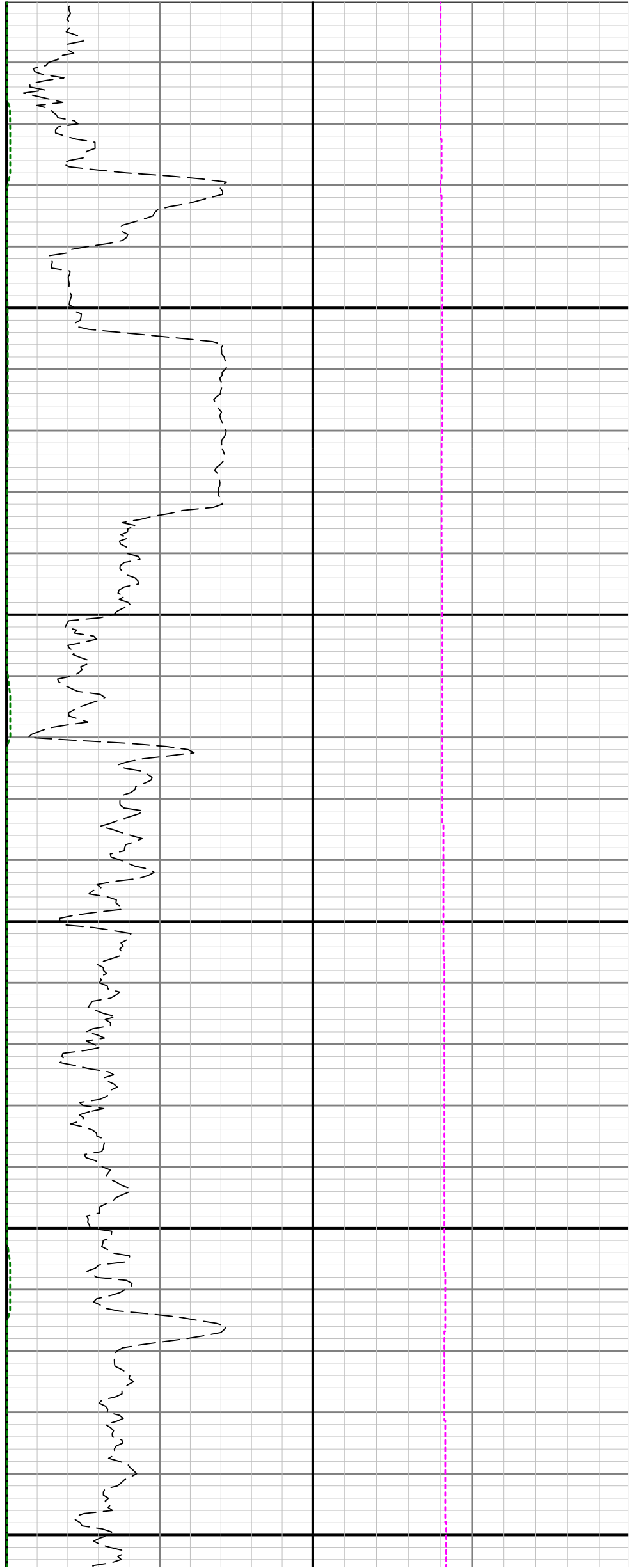


2700

2800



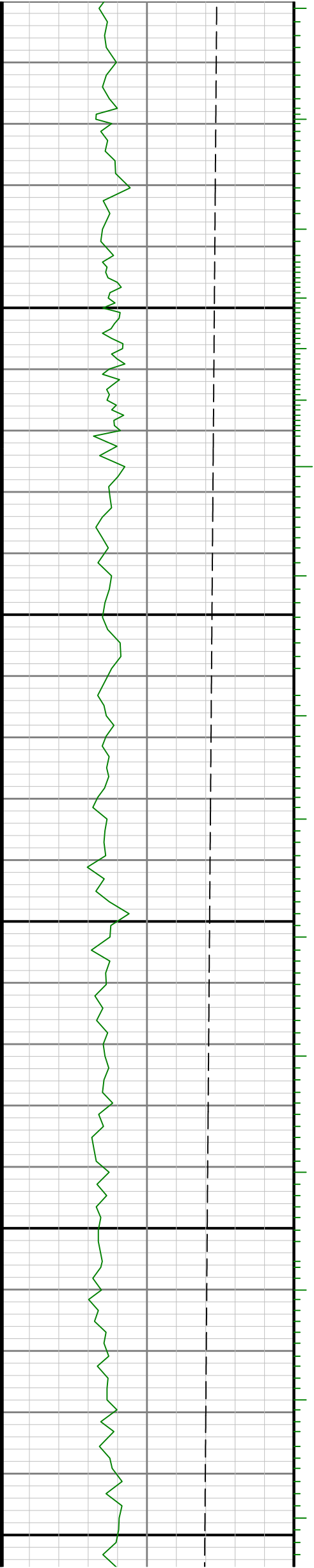


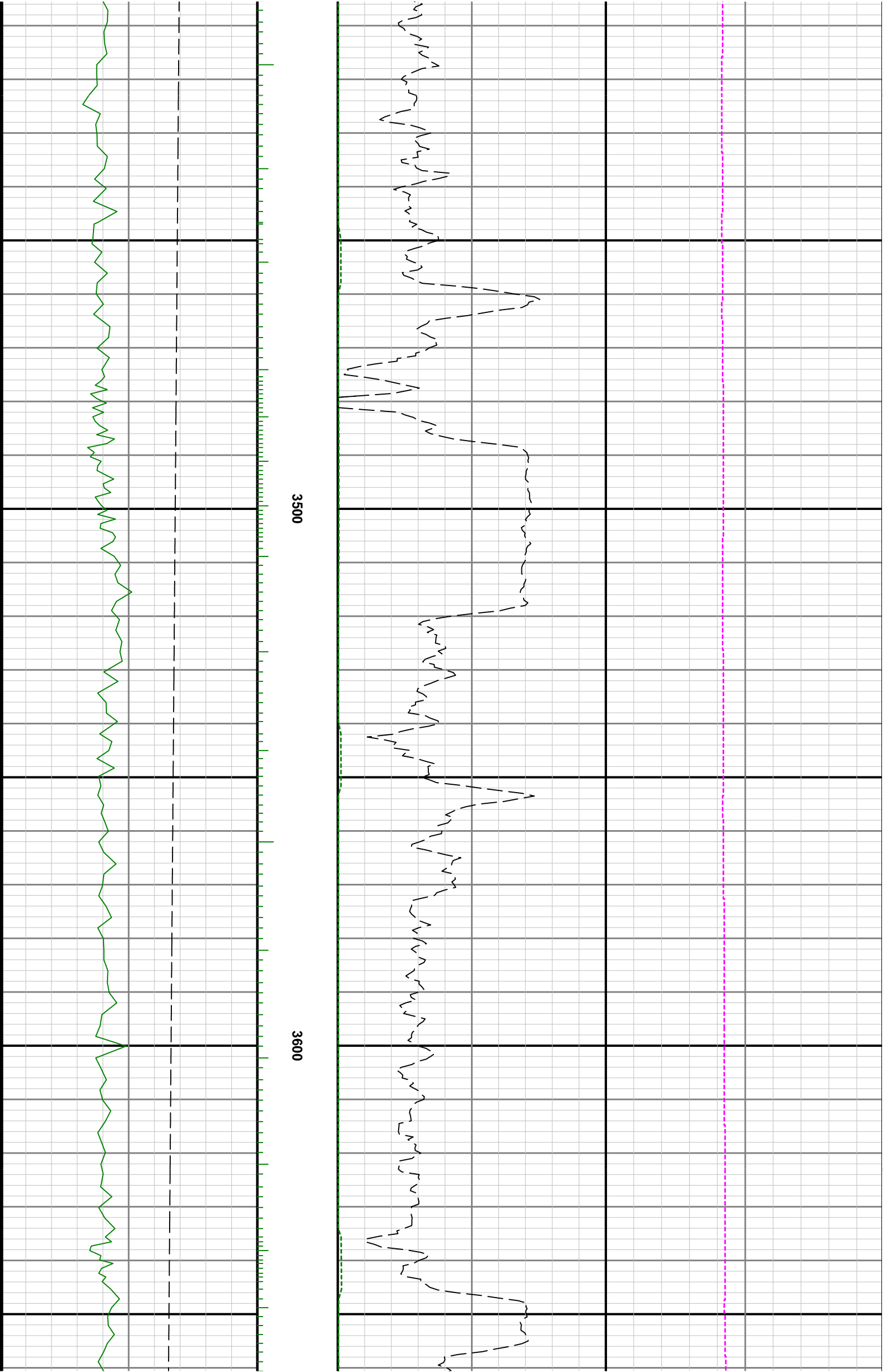


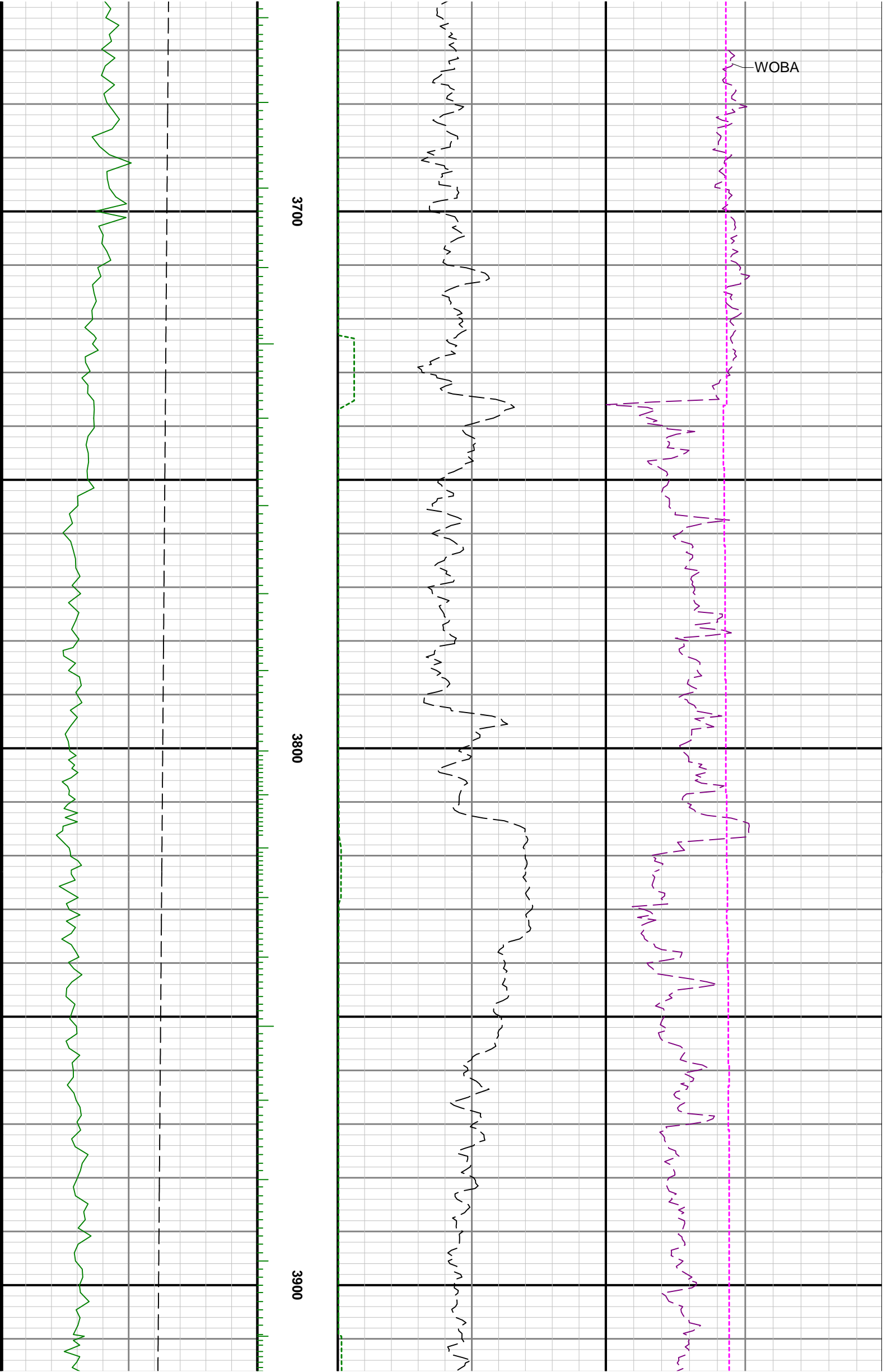
3200

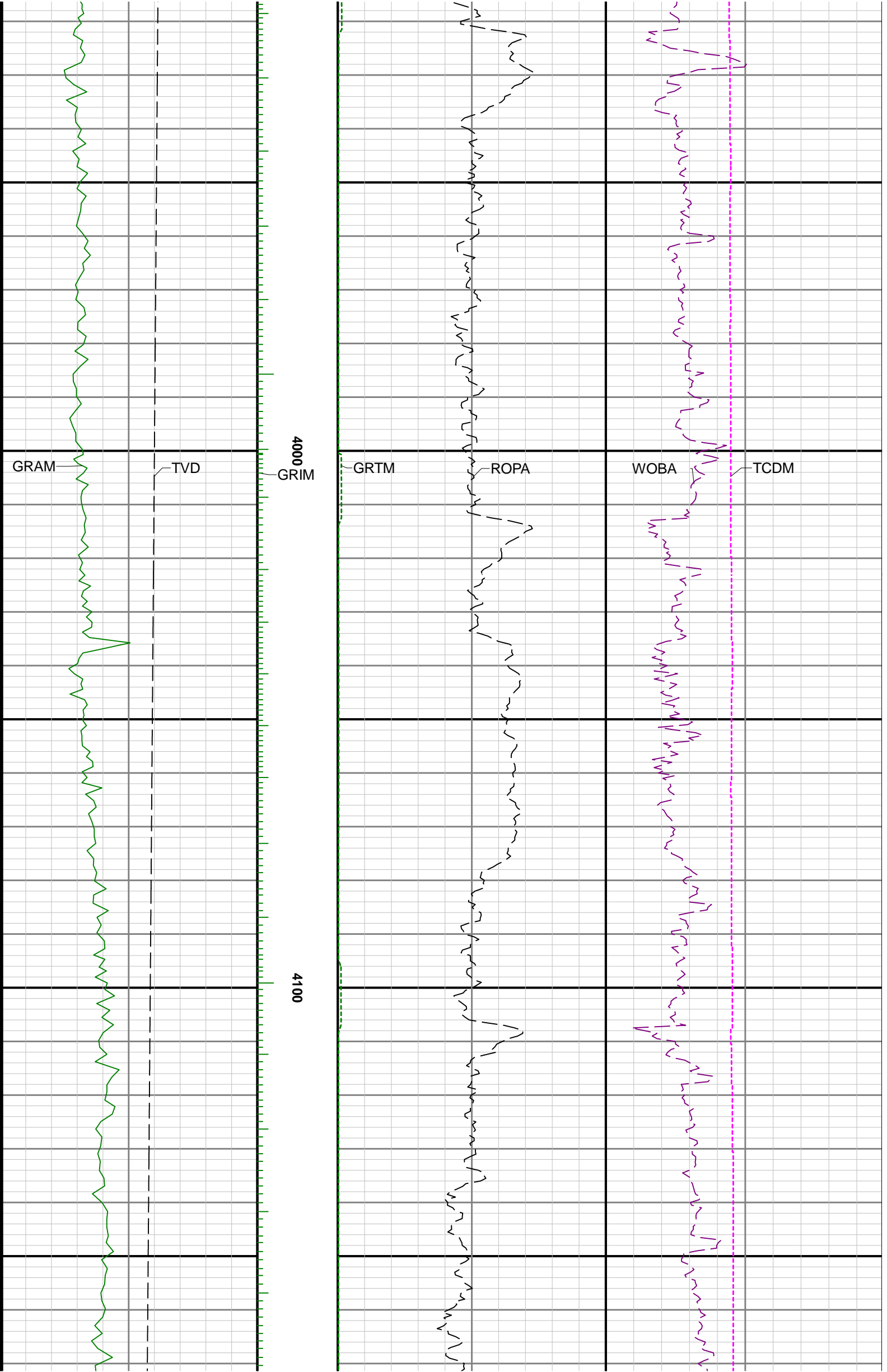
3300

3400









GRAM

TVD

4000  
GRIM

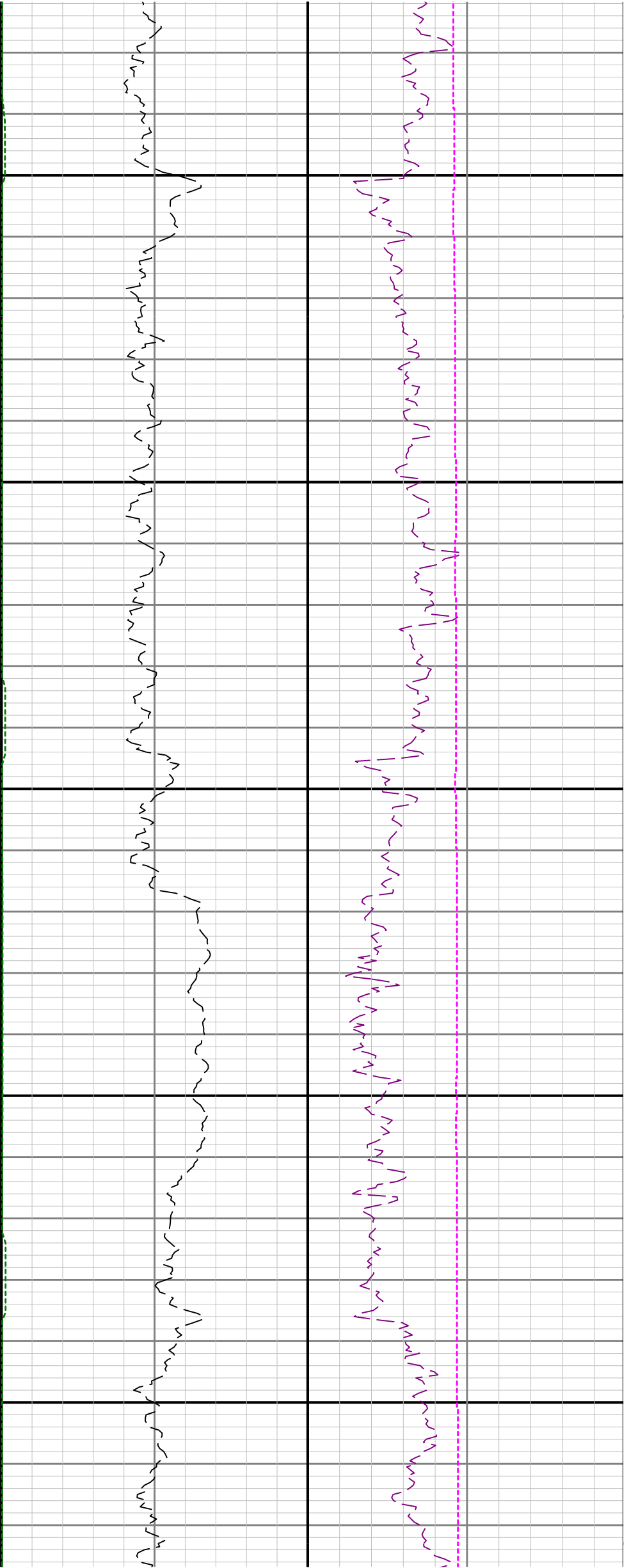
GRTM

ROPA

WOBA

TCDM

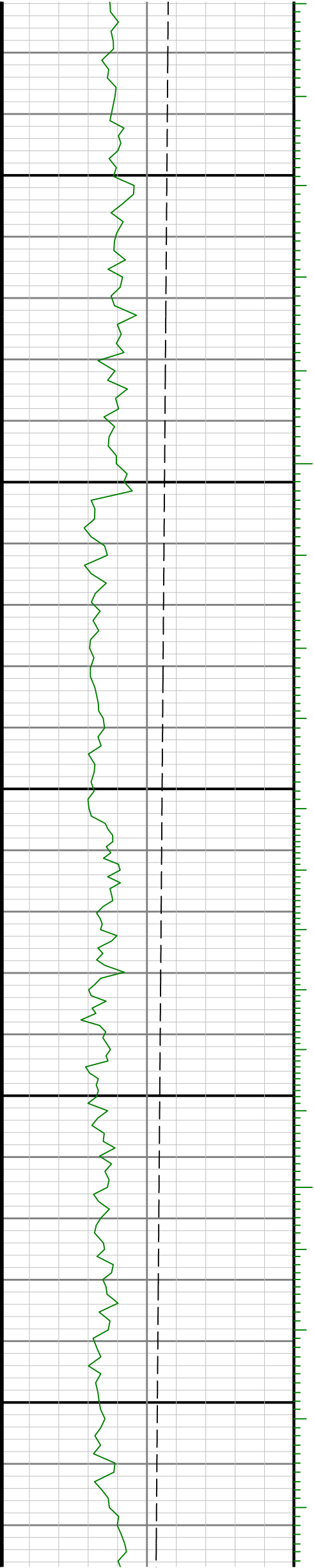
4100

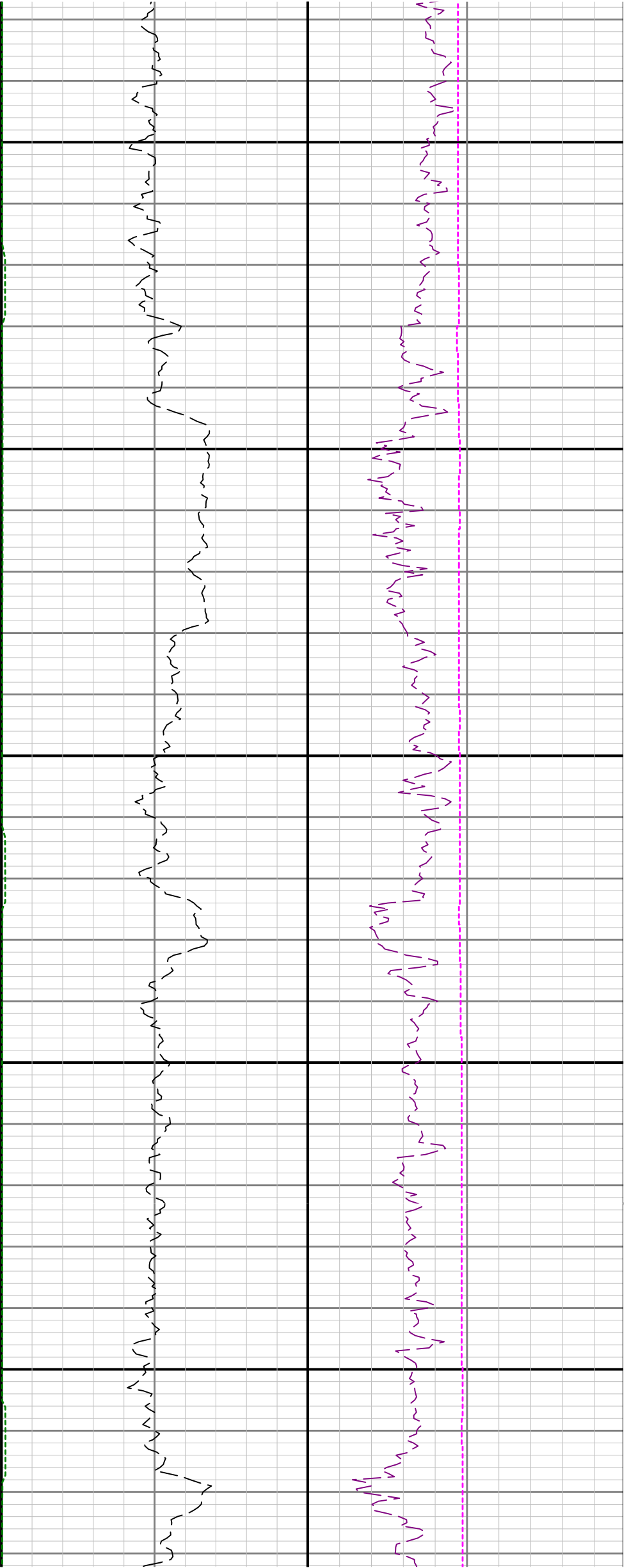


4200

4300

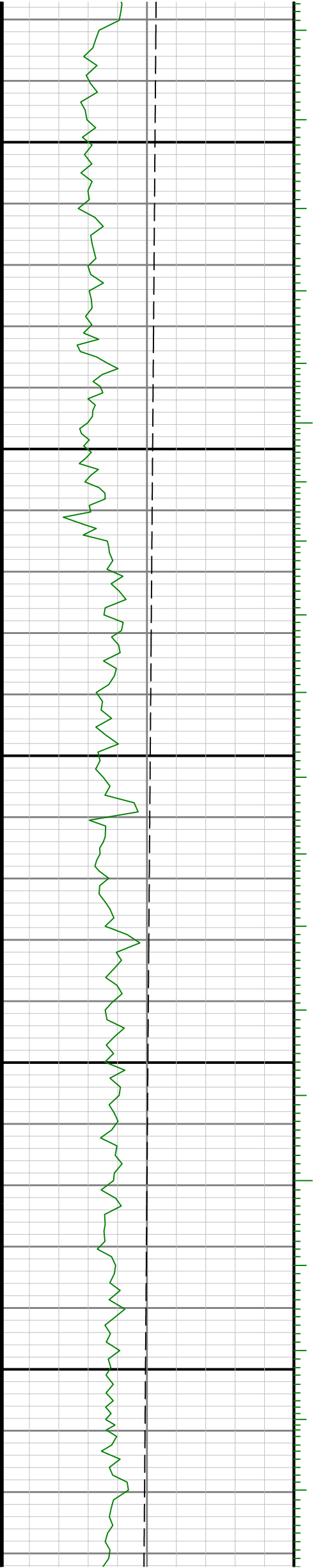
4400

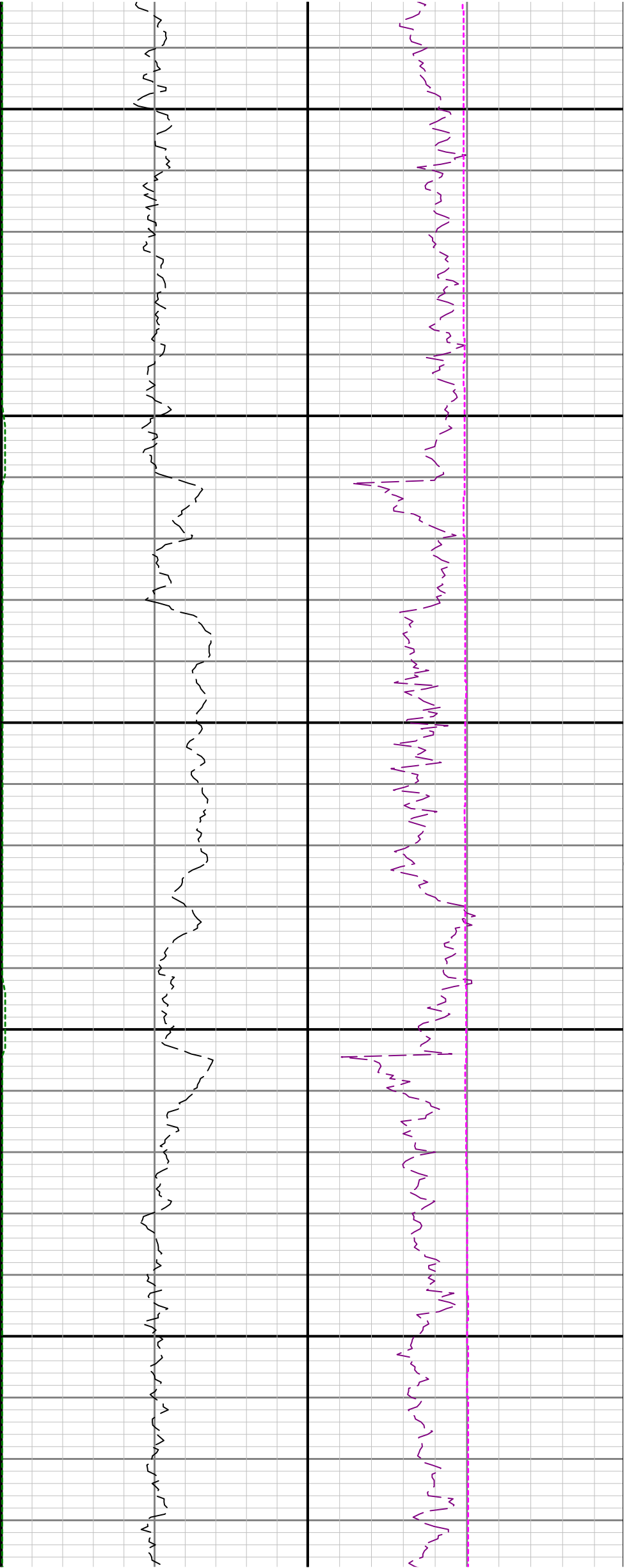




4500

4600

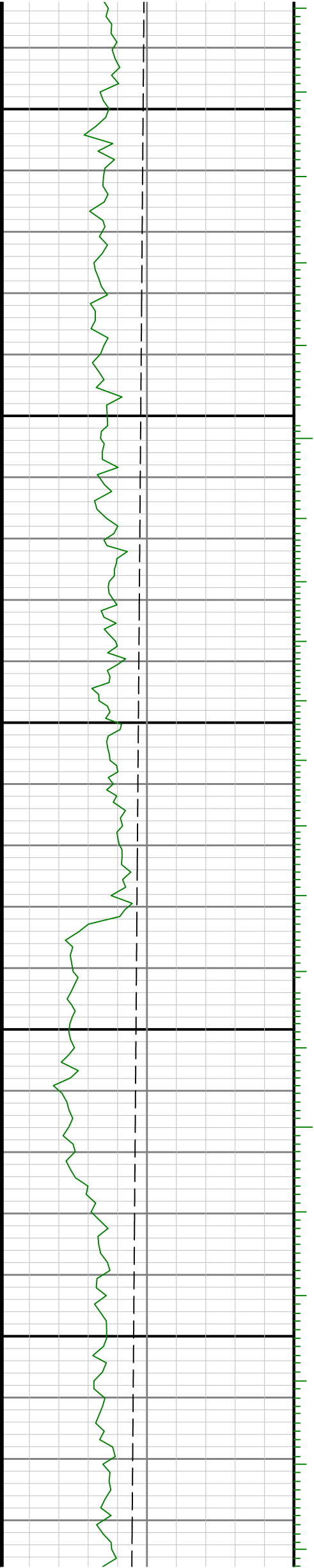


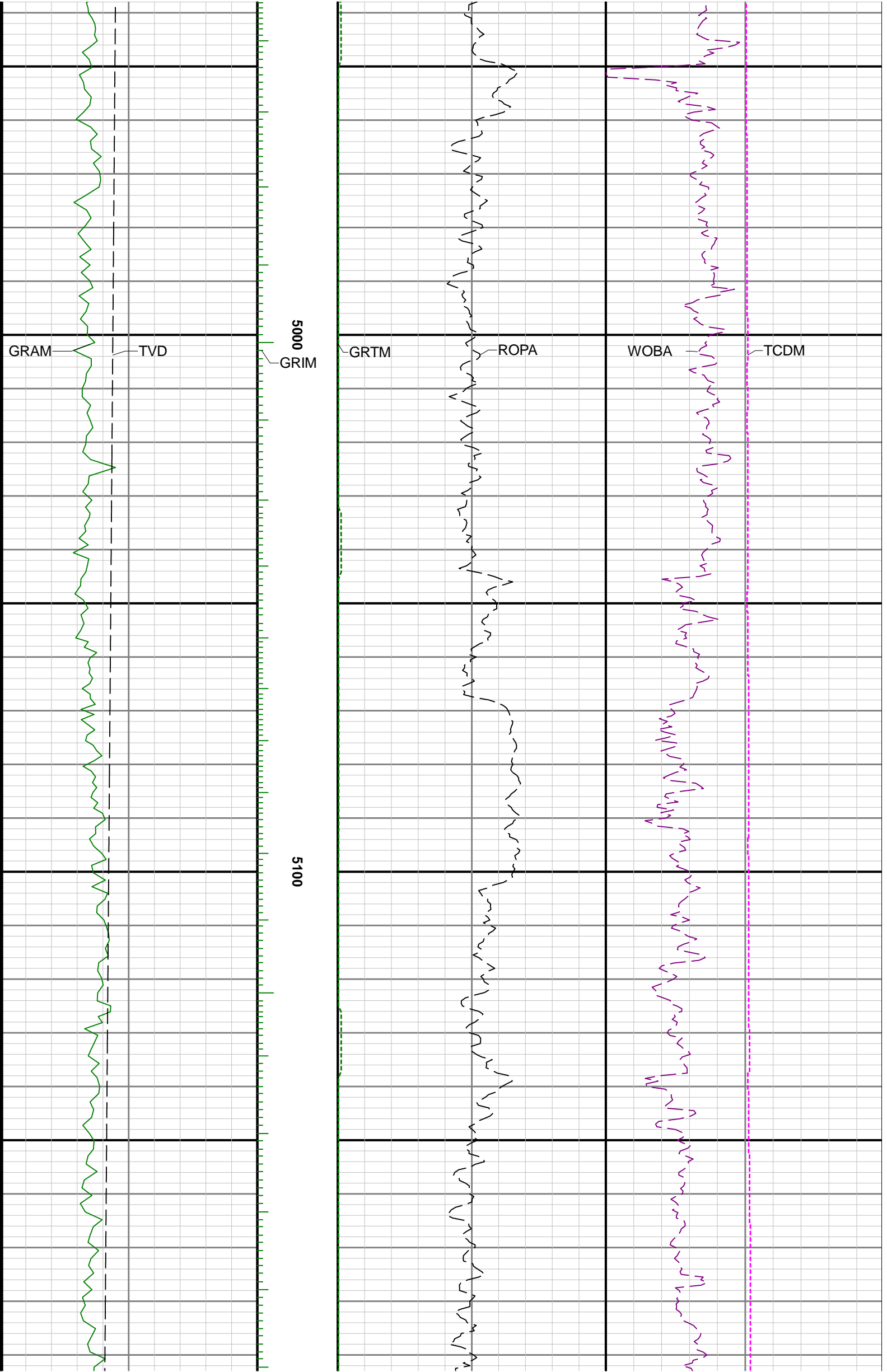


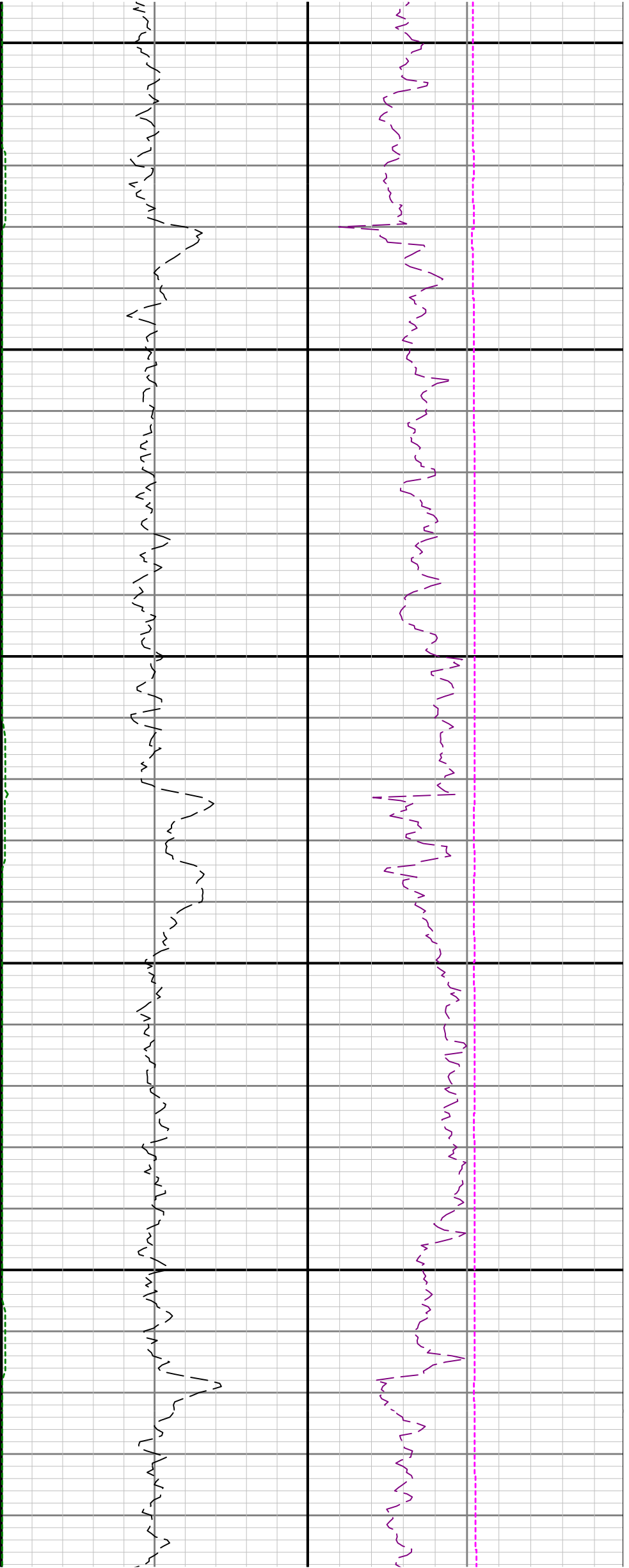
4700

4800

4900



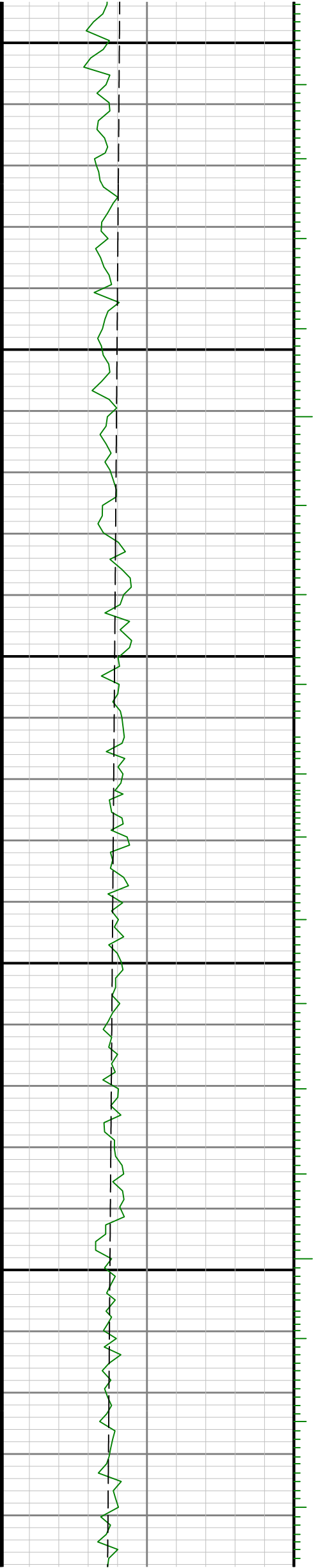


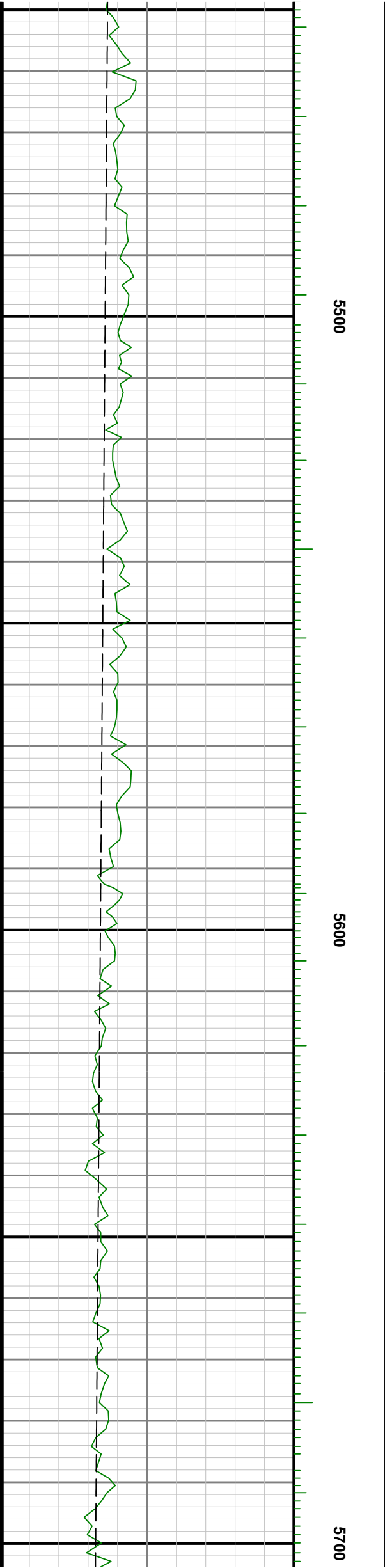
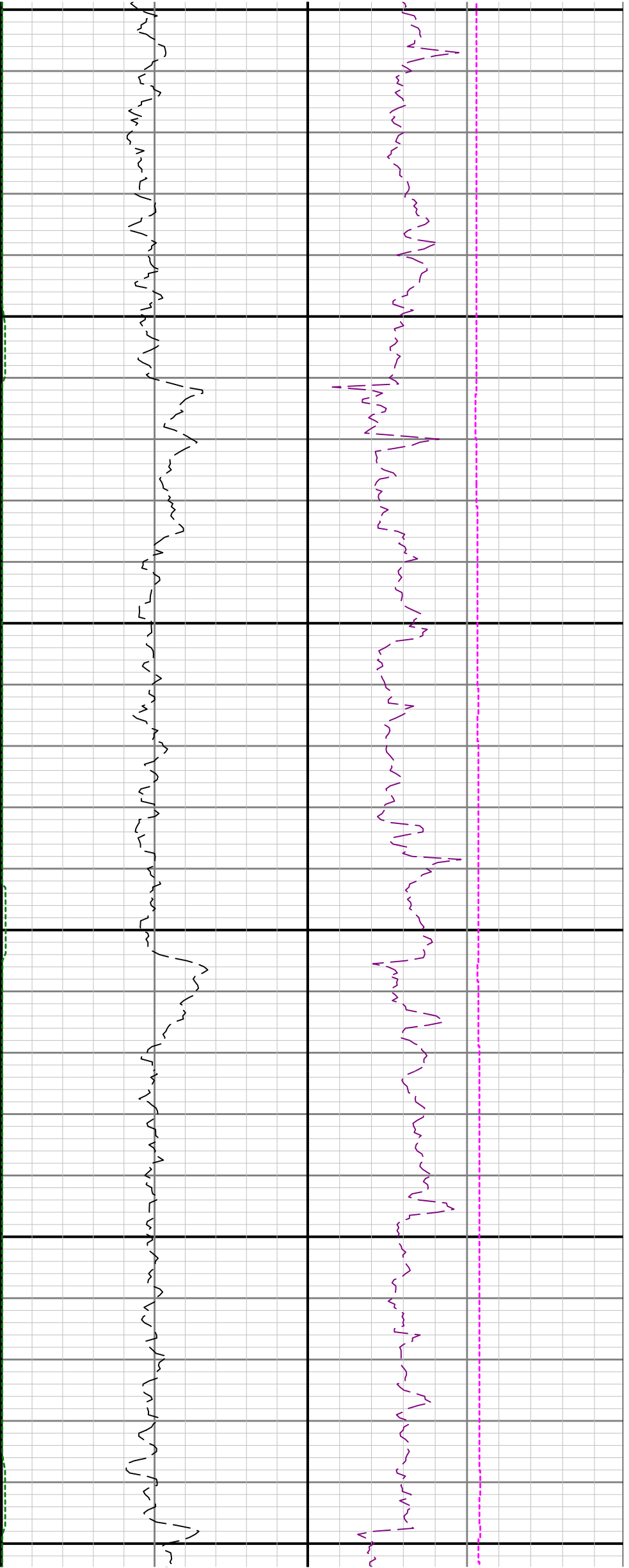


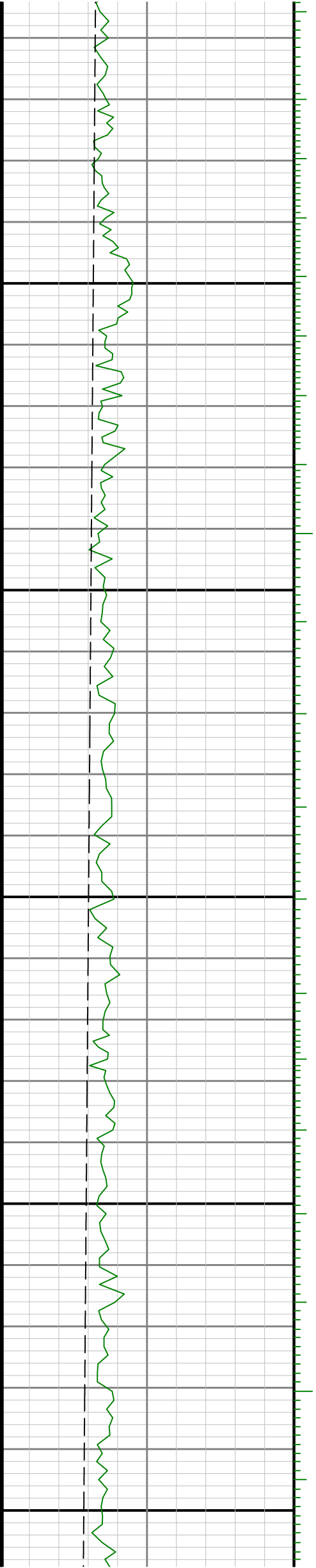
5200

5300

5400

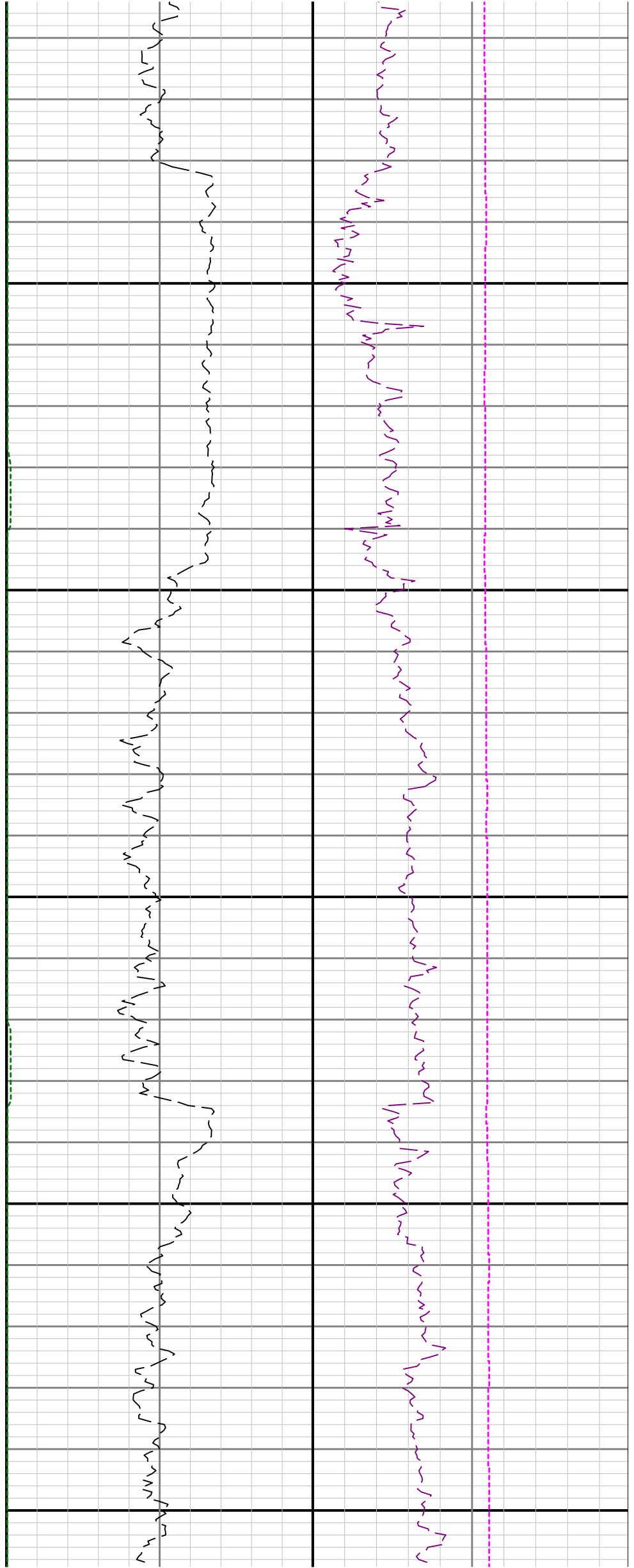


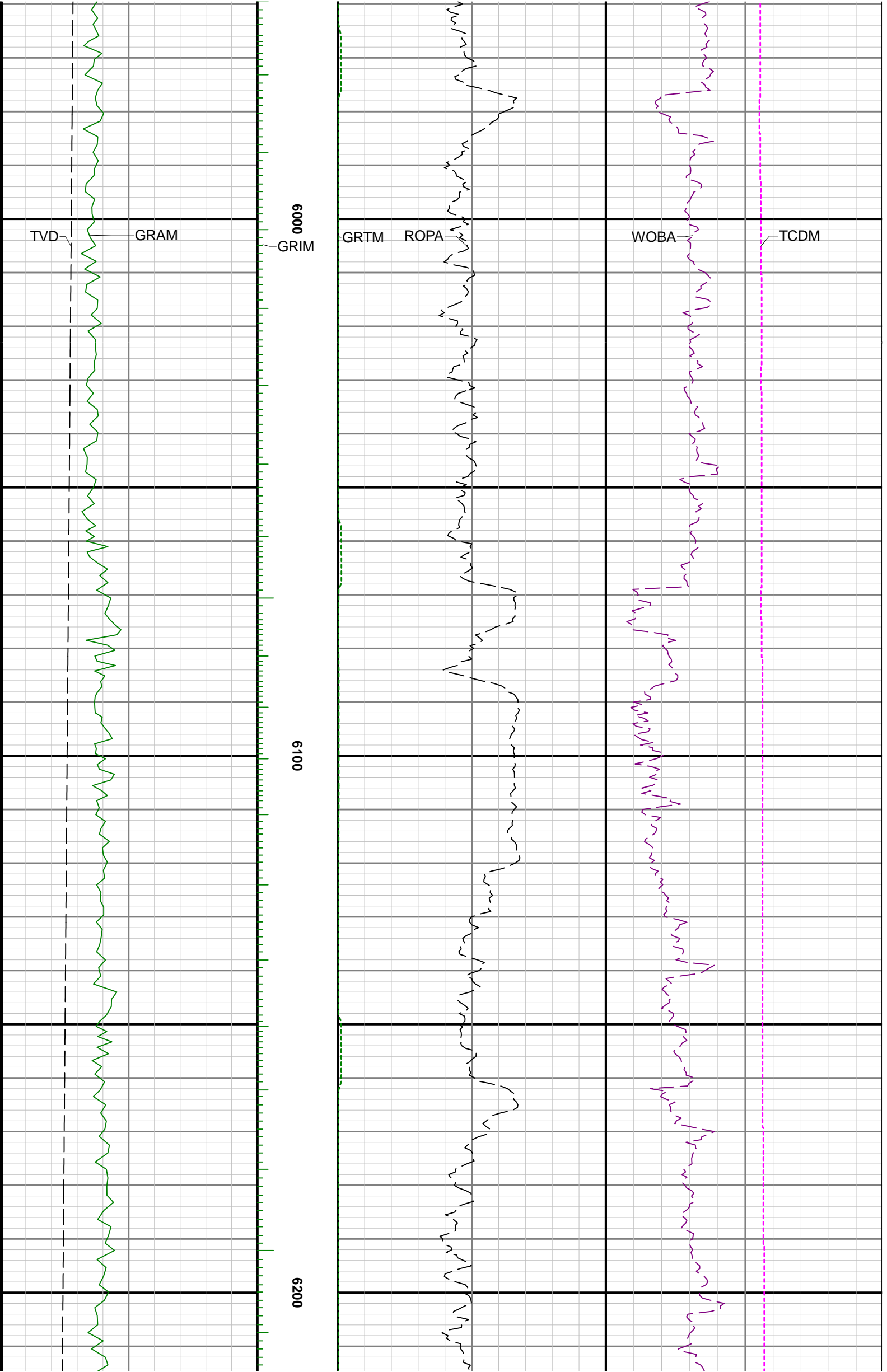


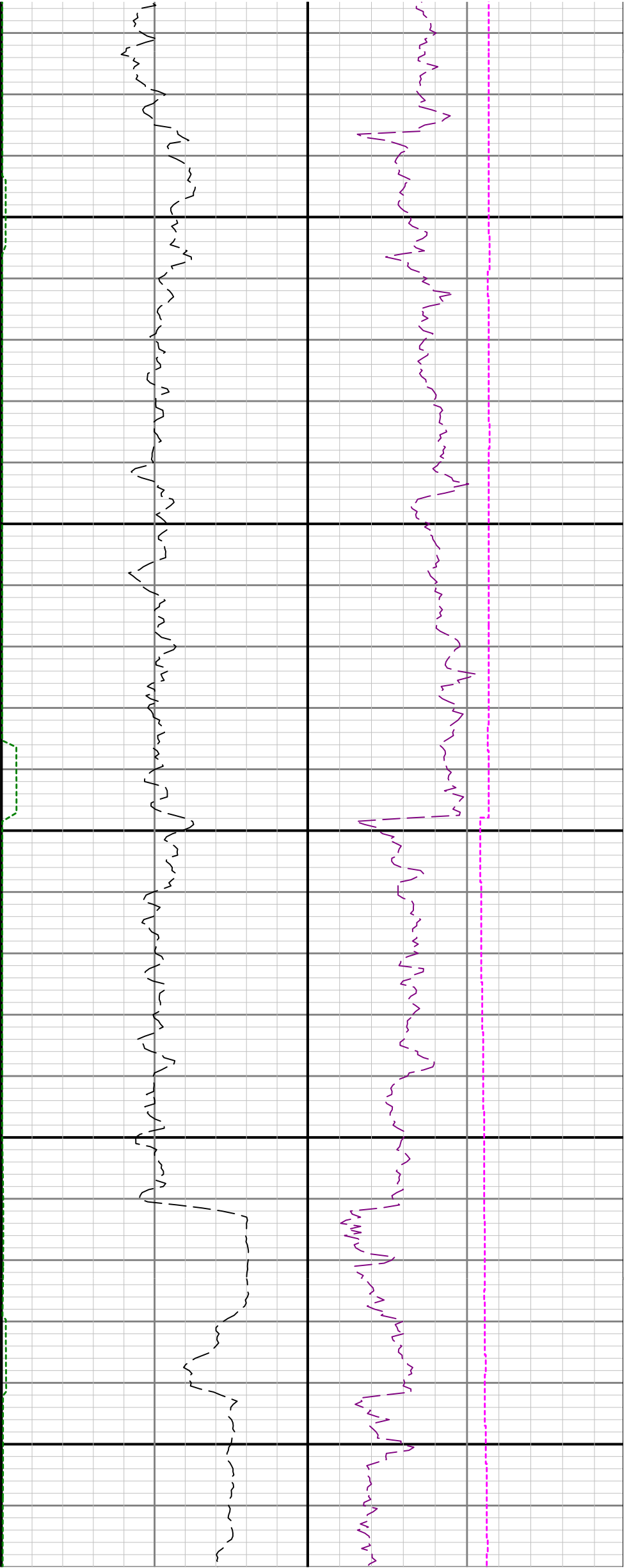


5800

5900

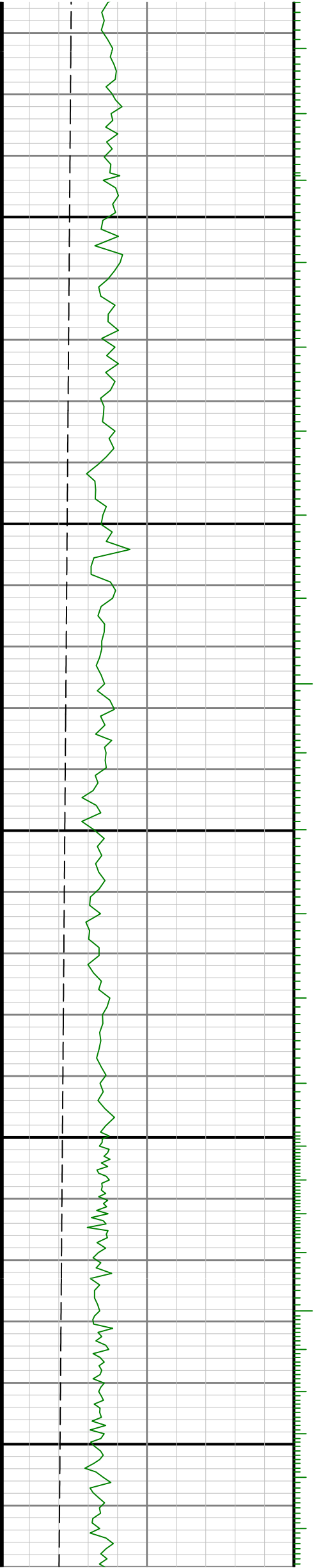


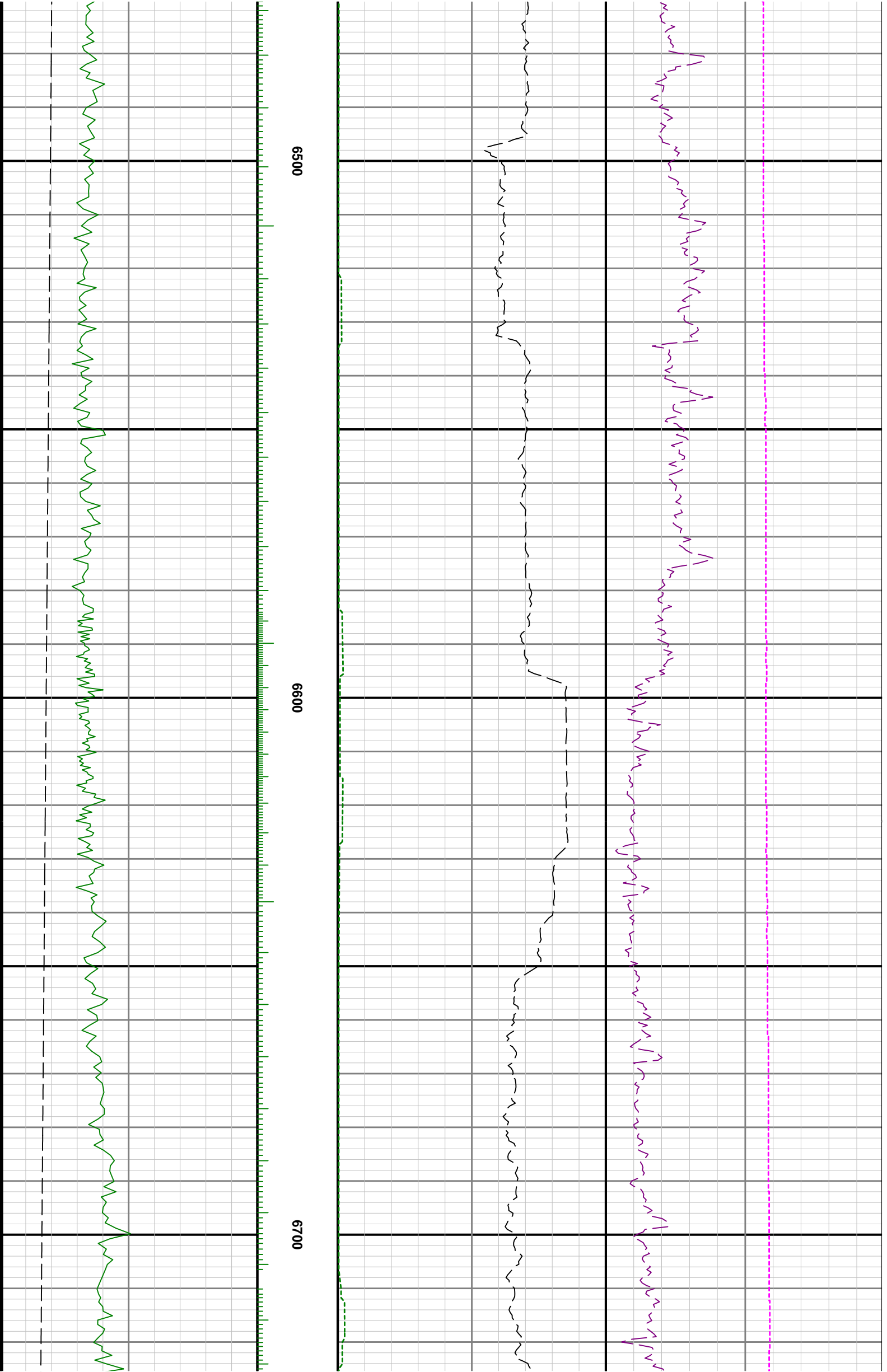


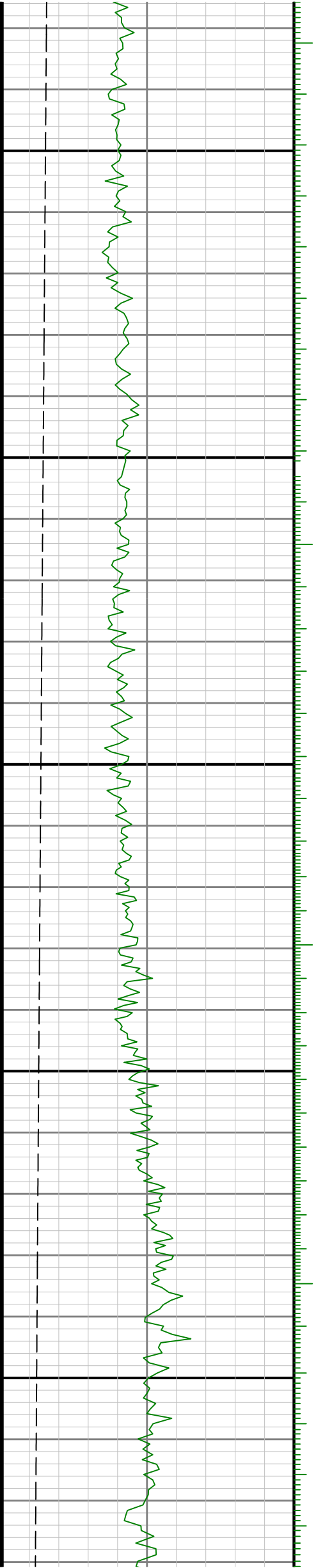


6300

6400

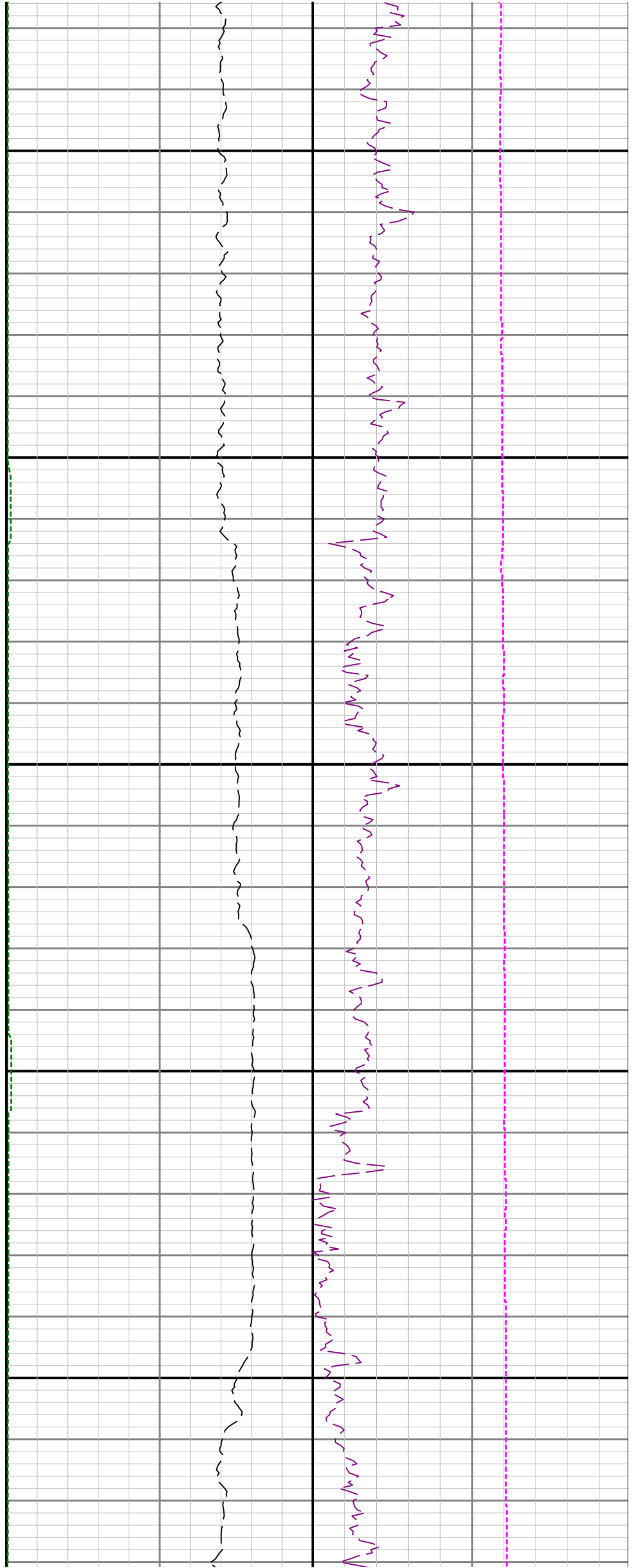


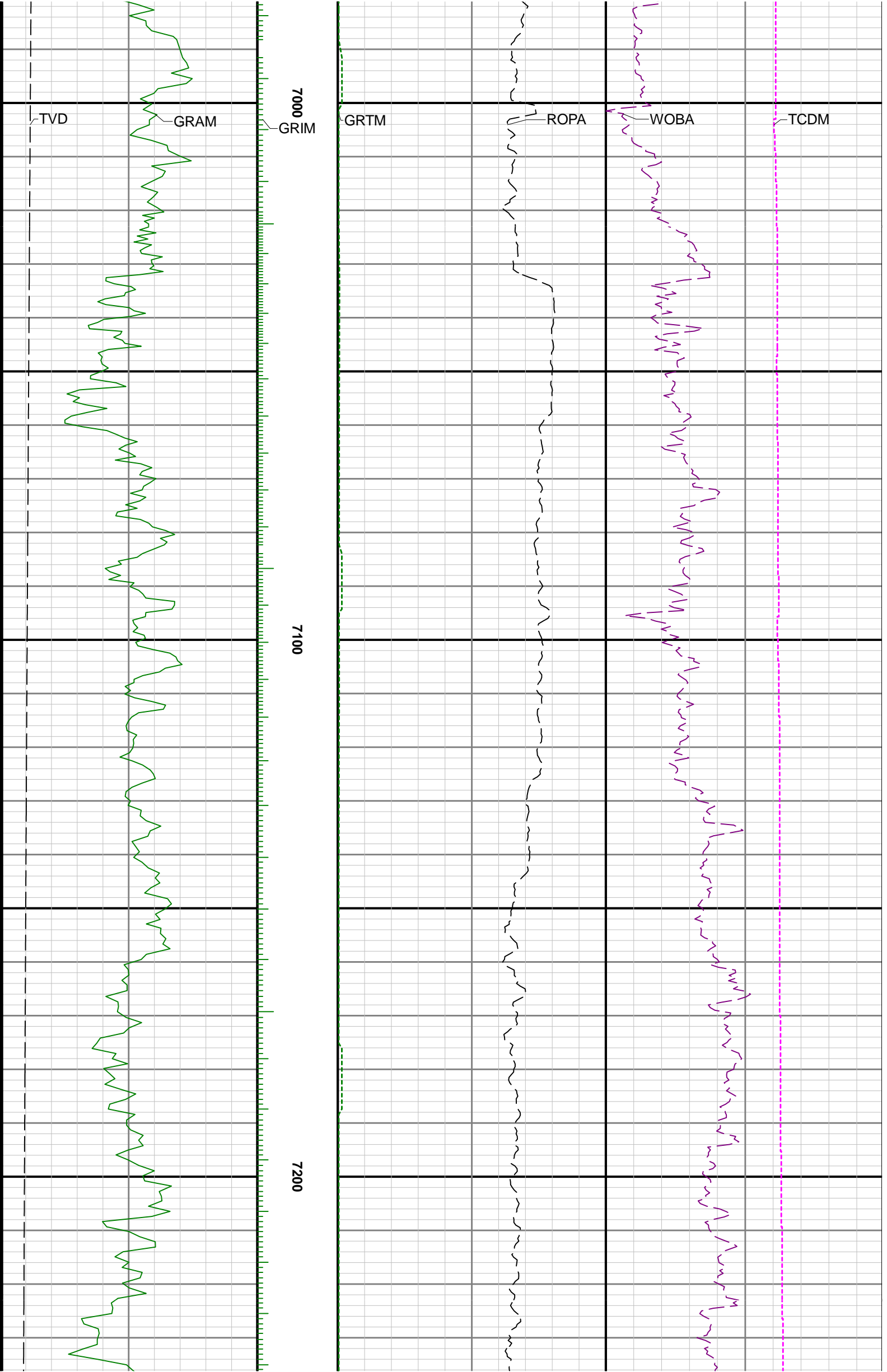


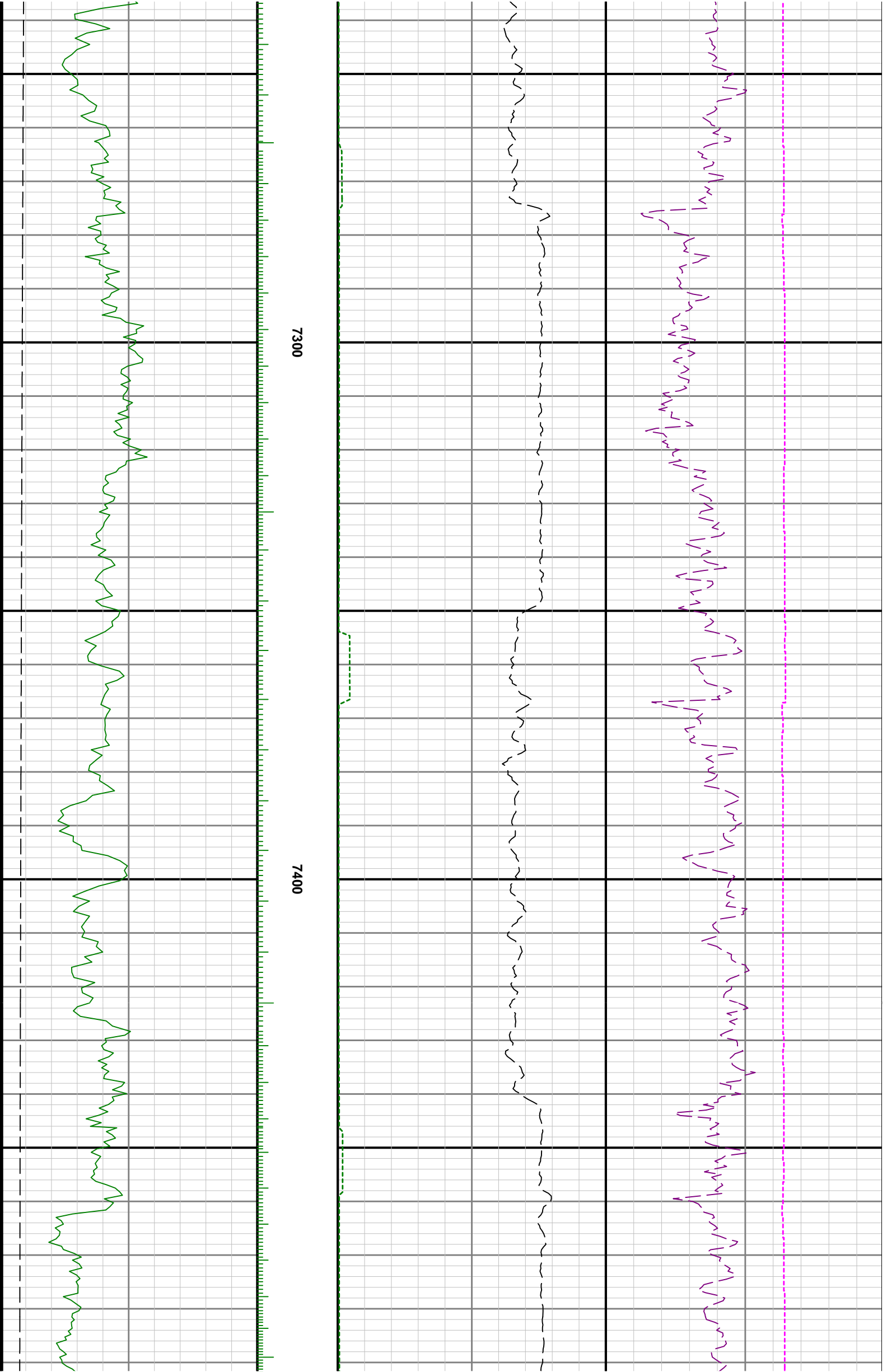


6800

6900

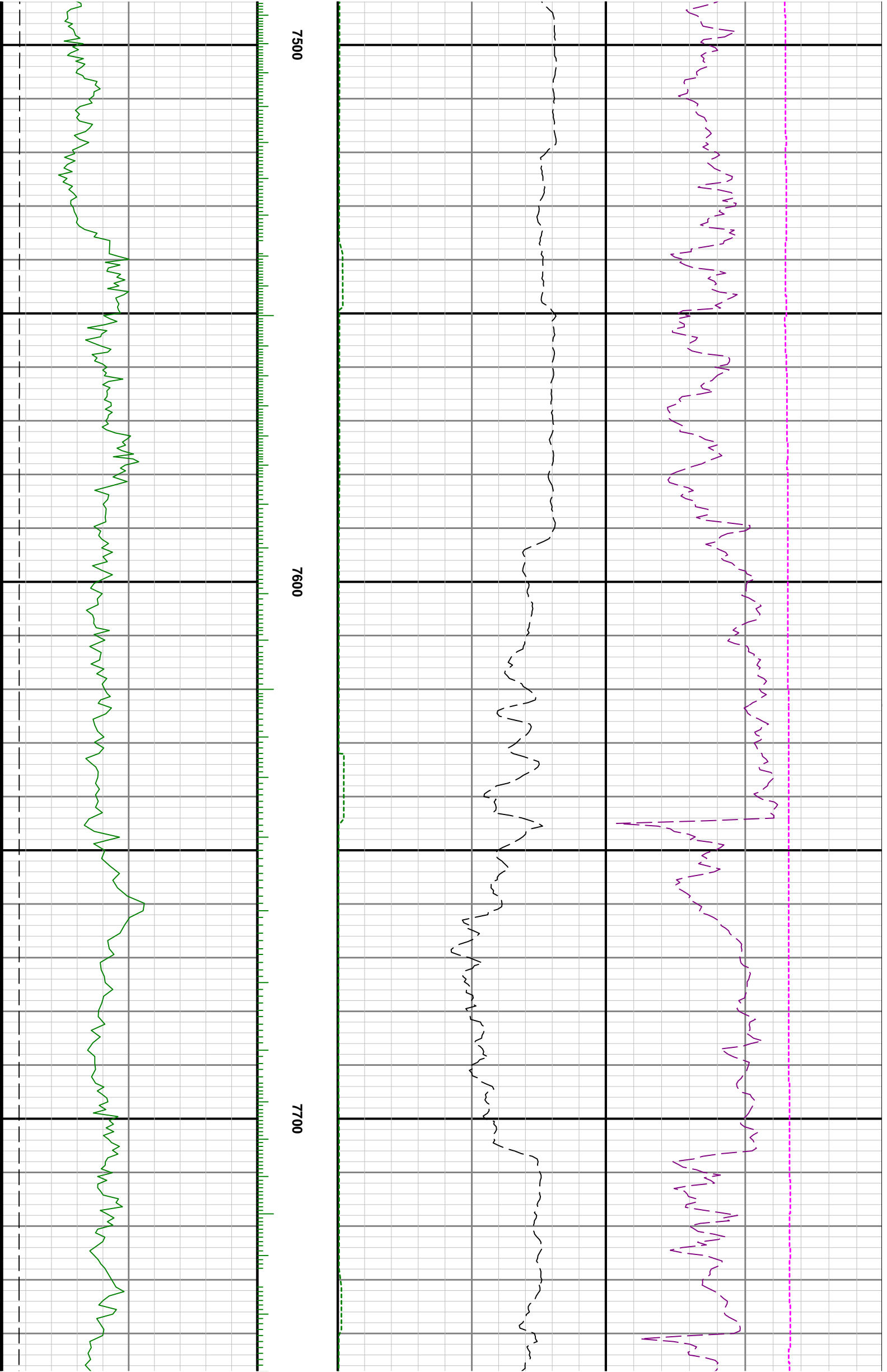


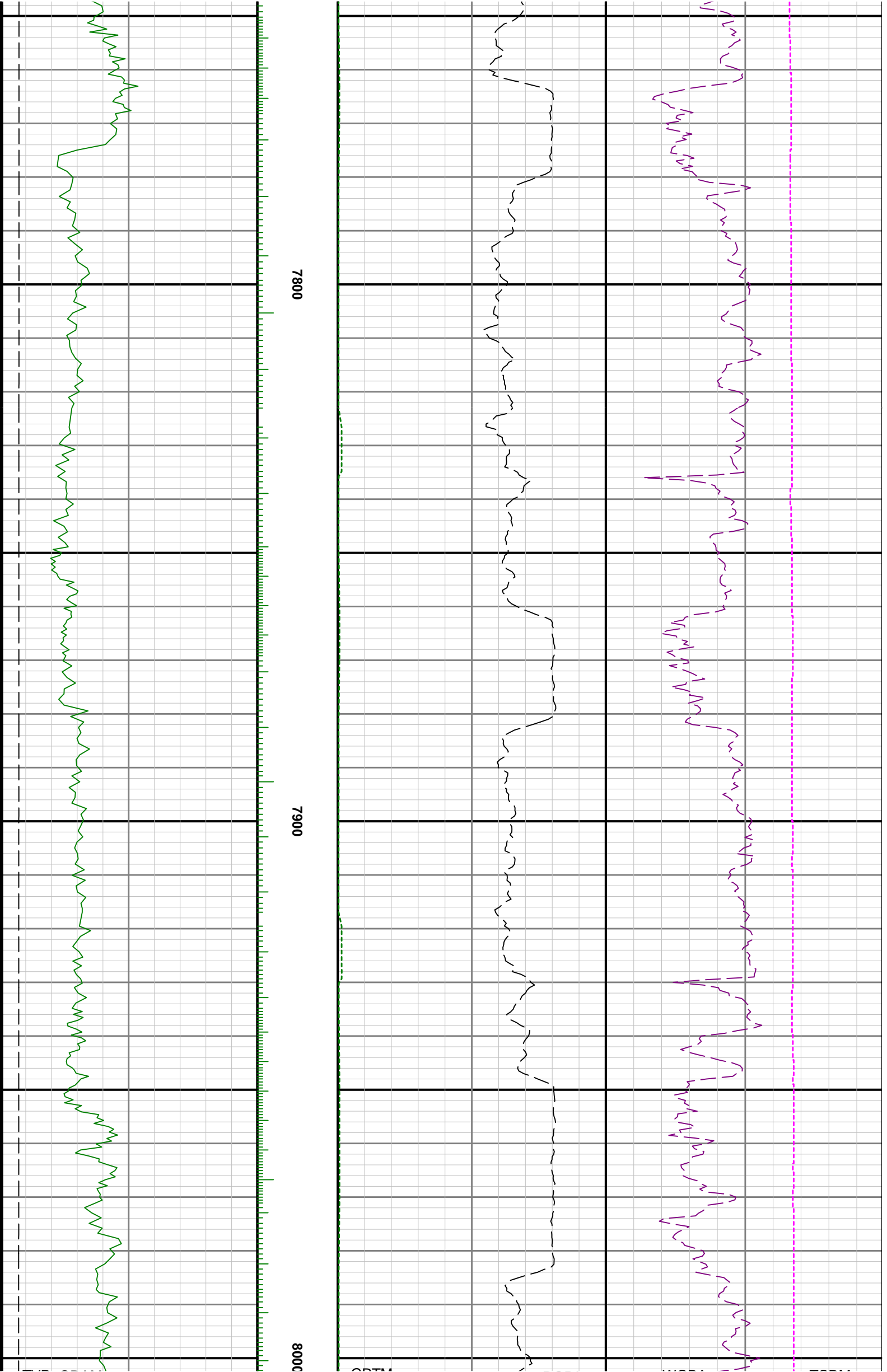


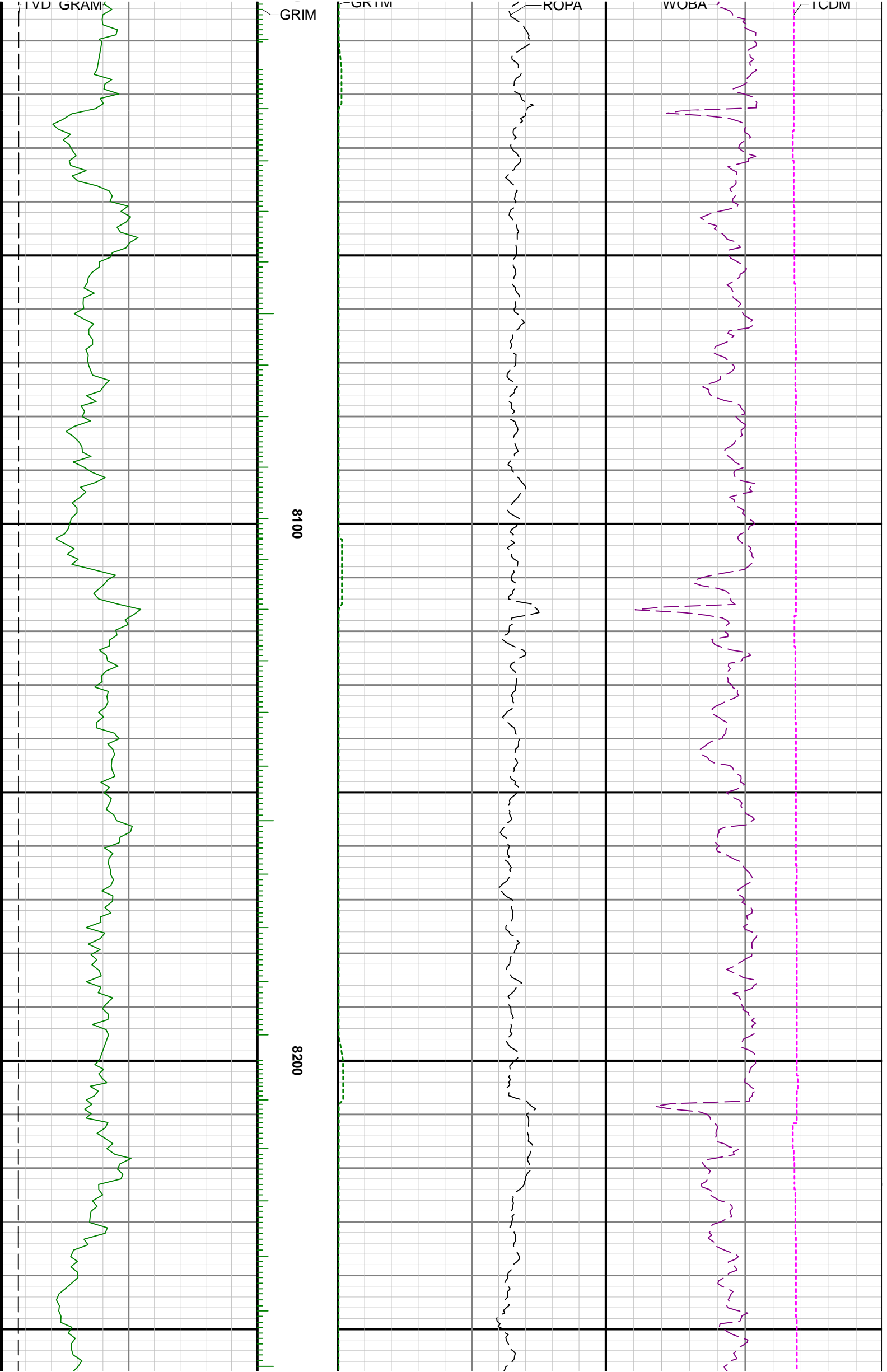


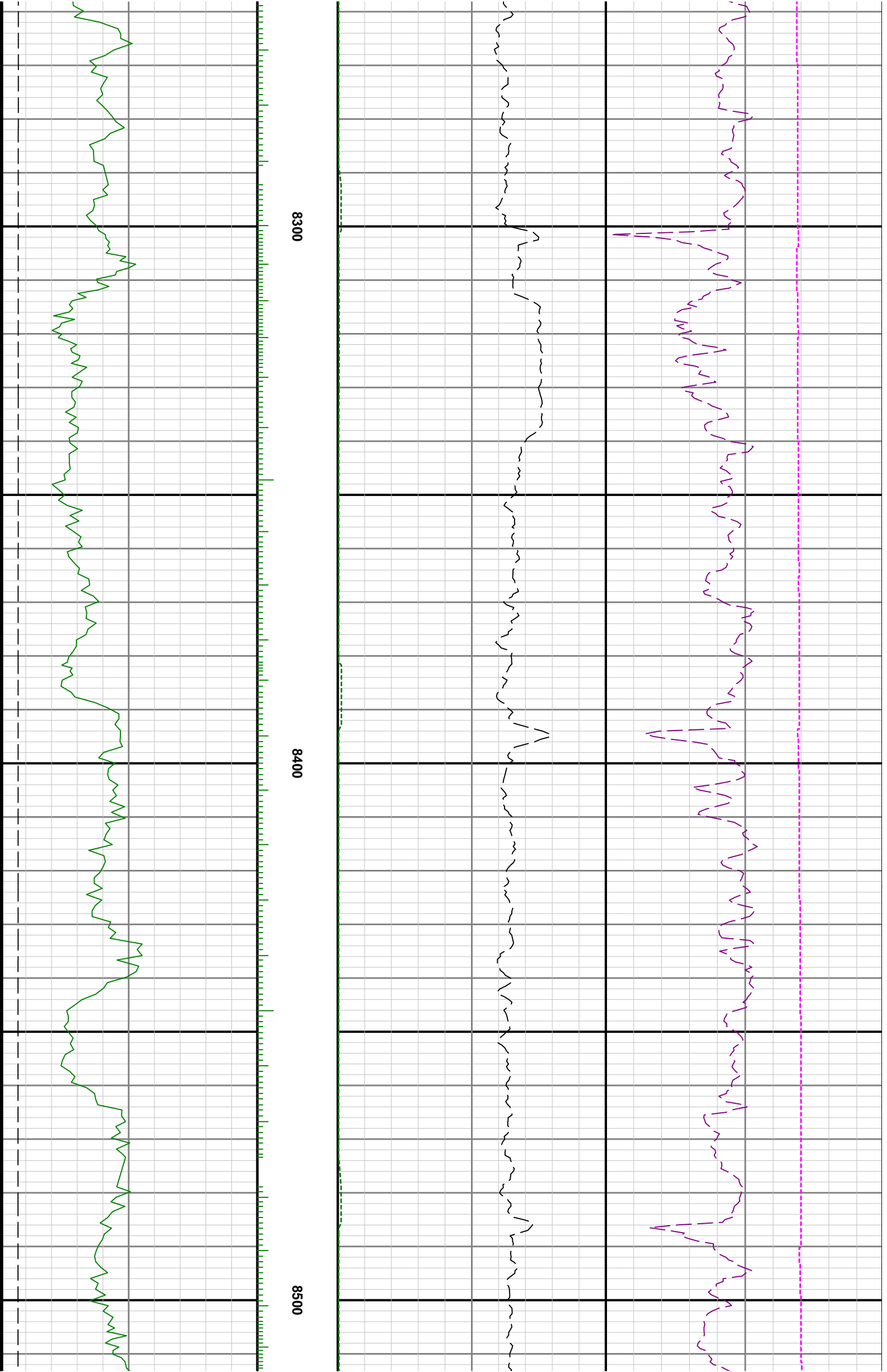
7300

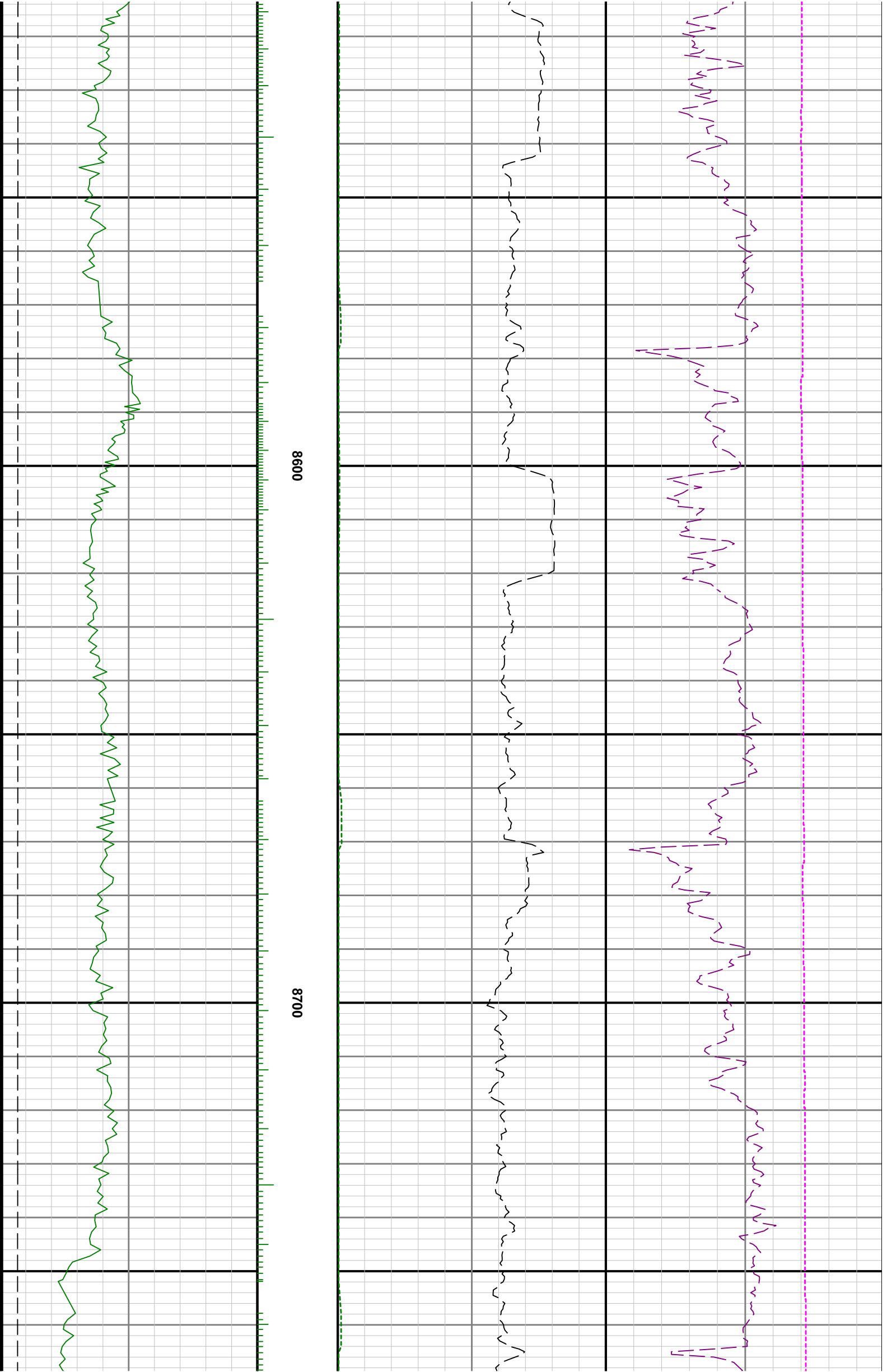
7400





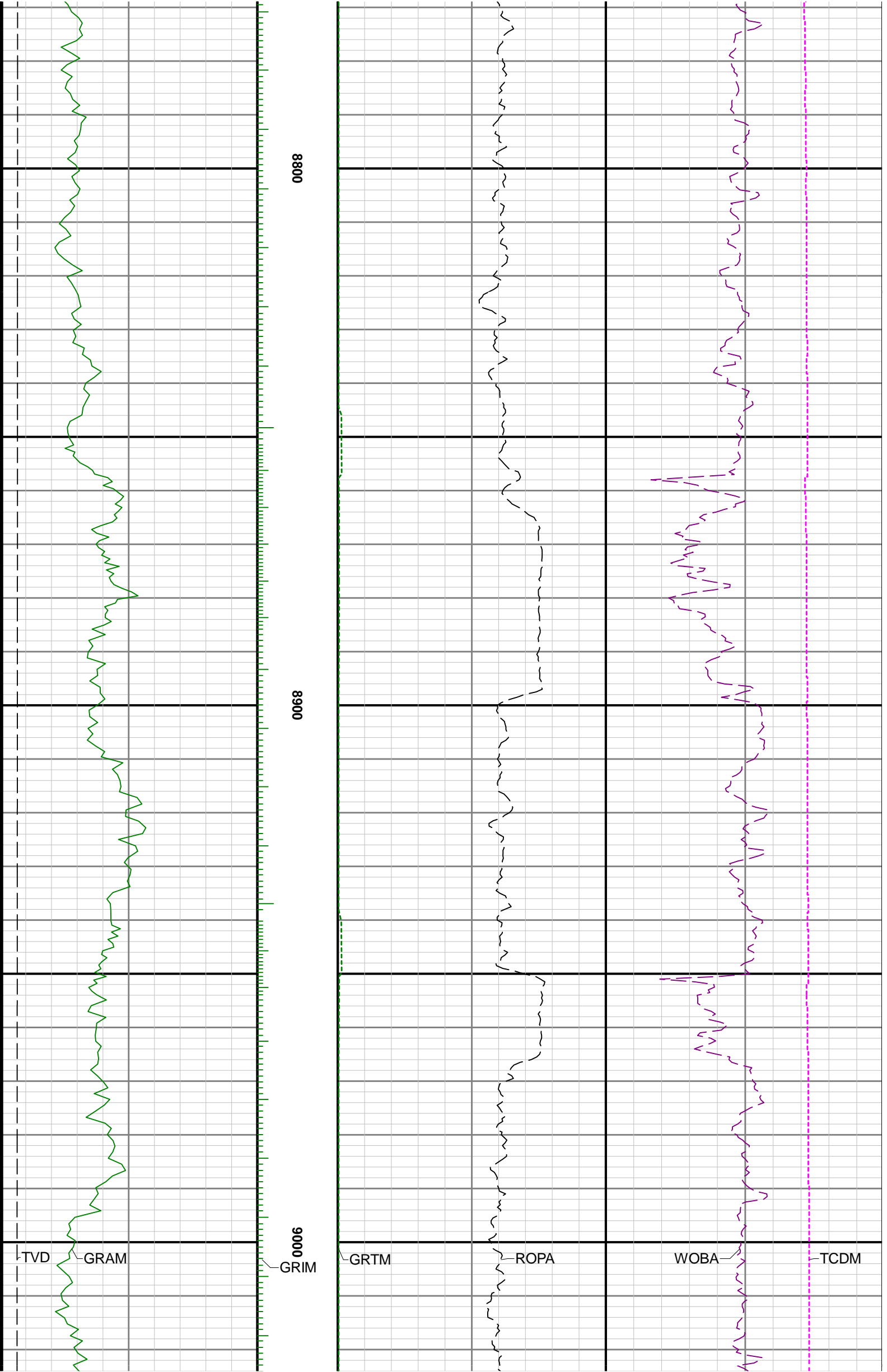


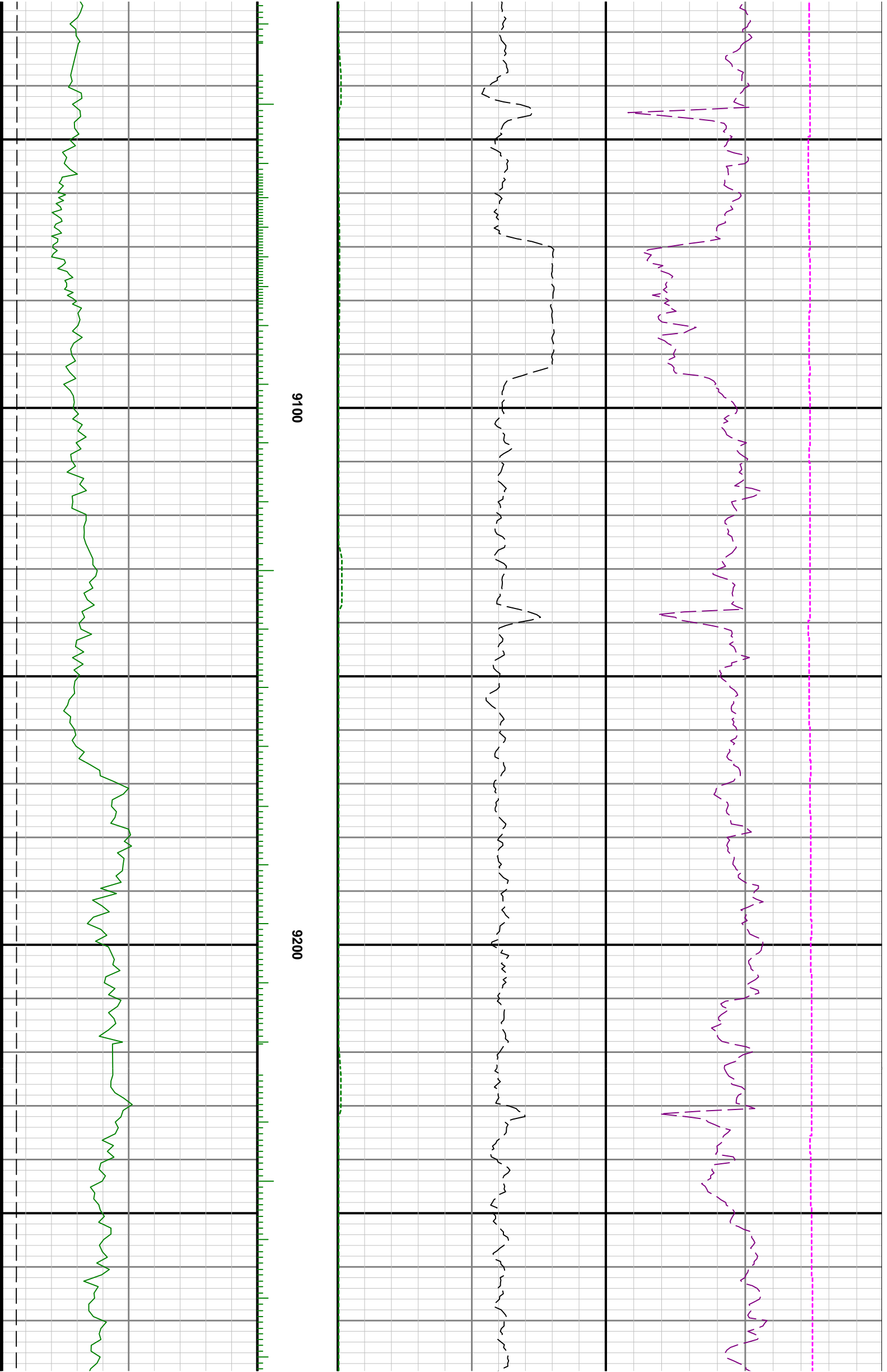


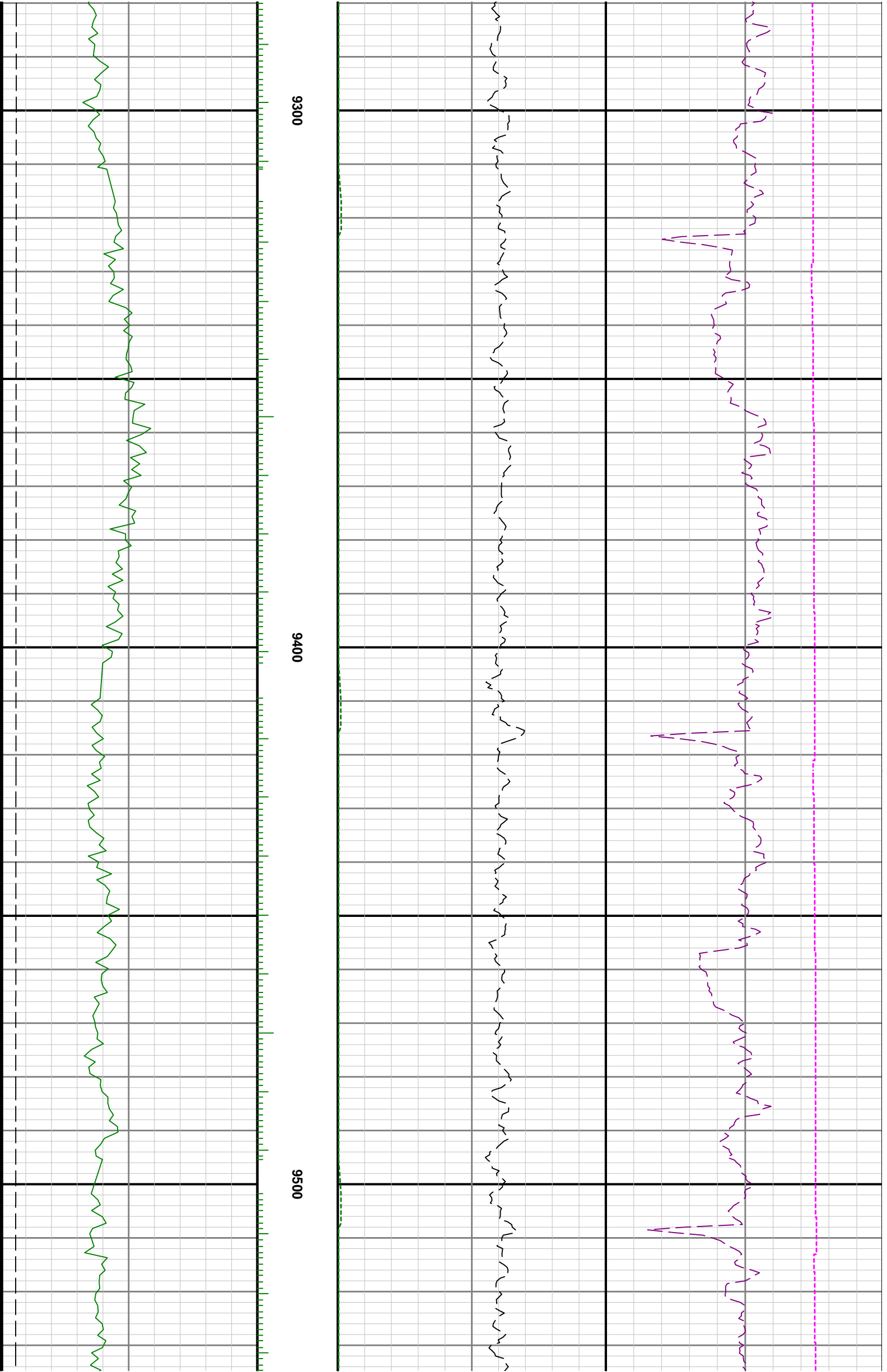


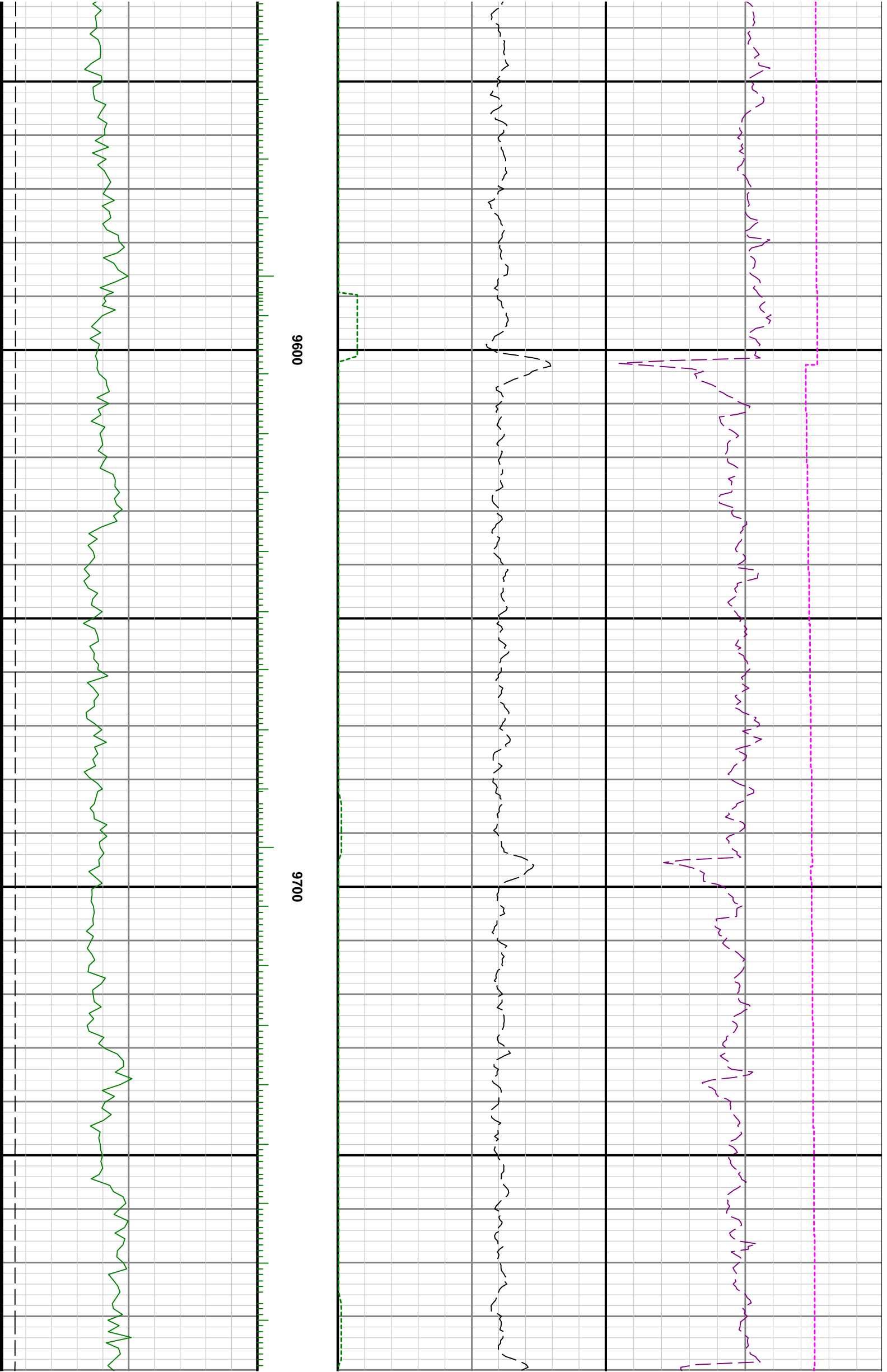
8600

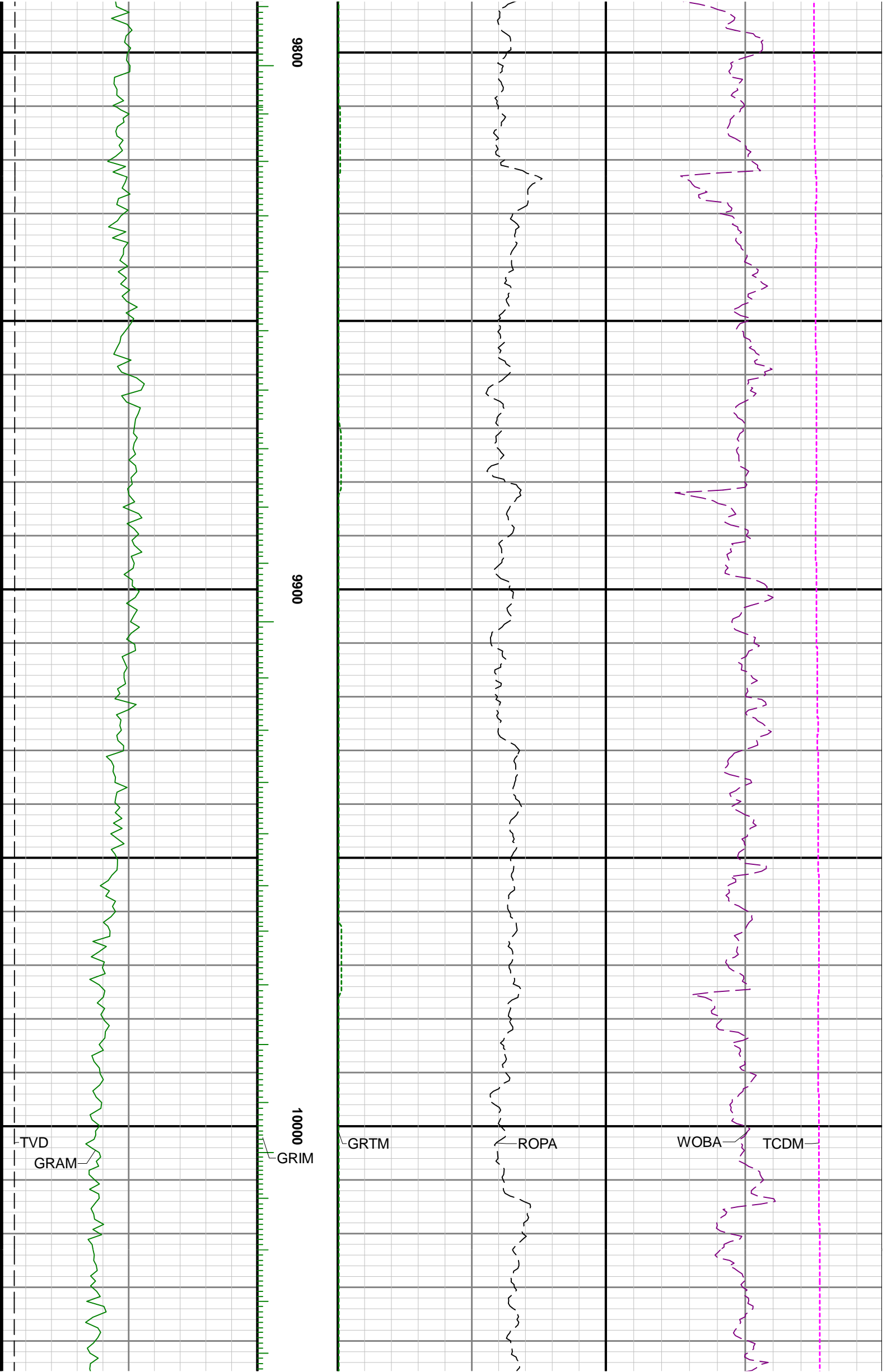
8700

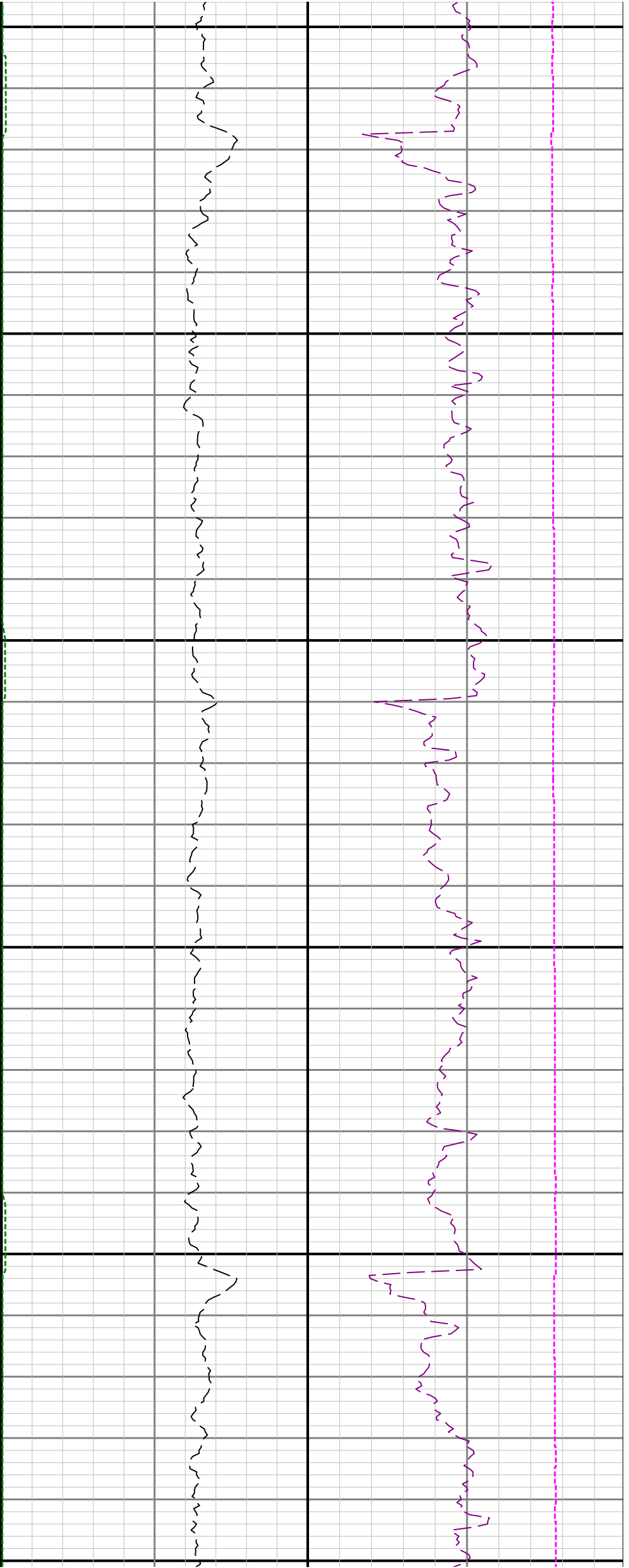








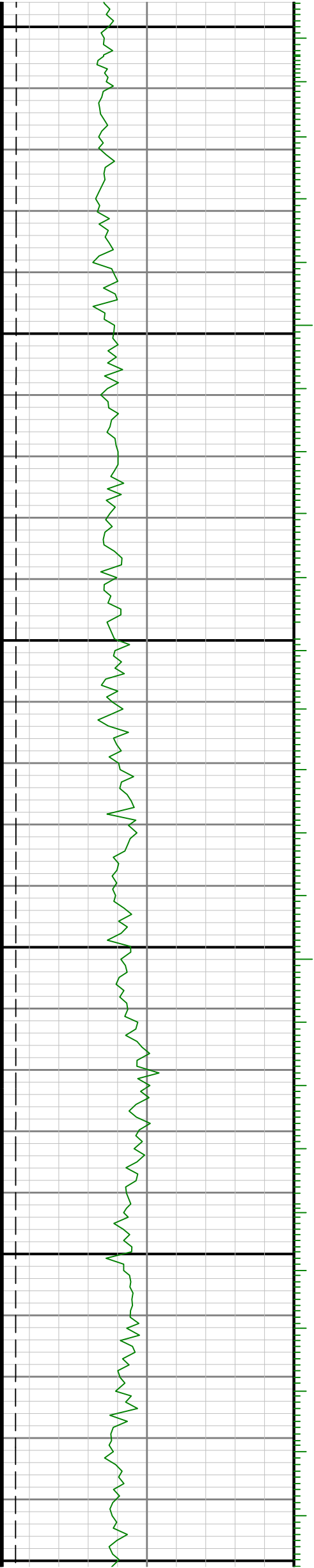


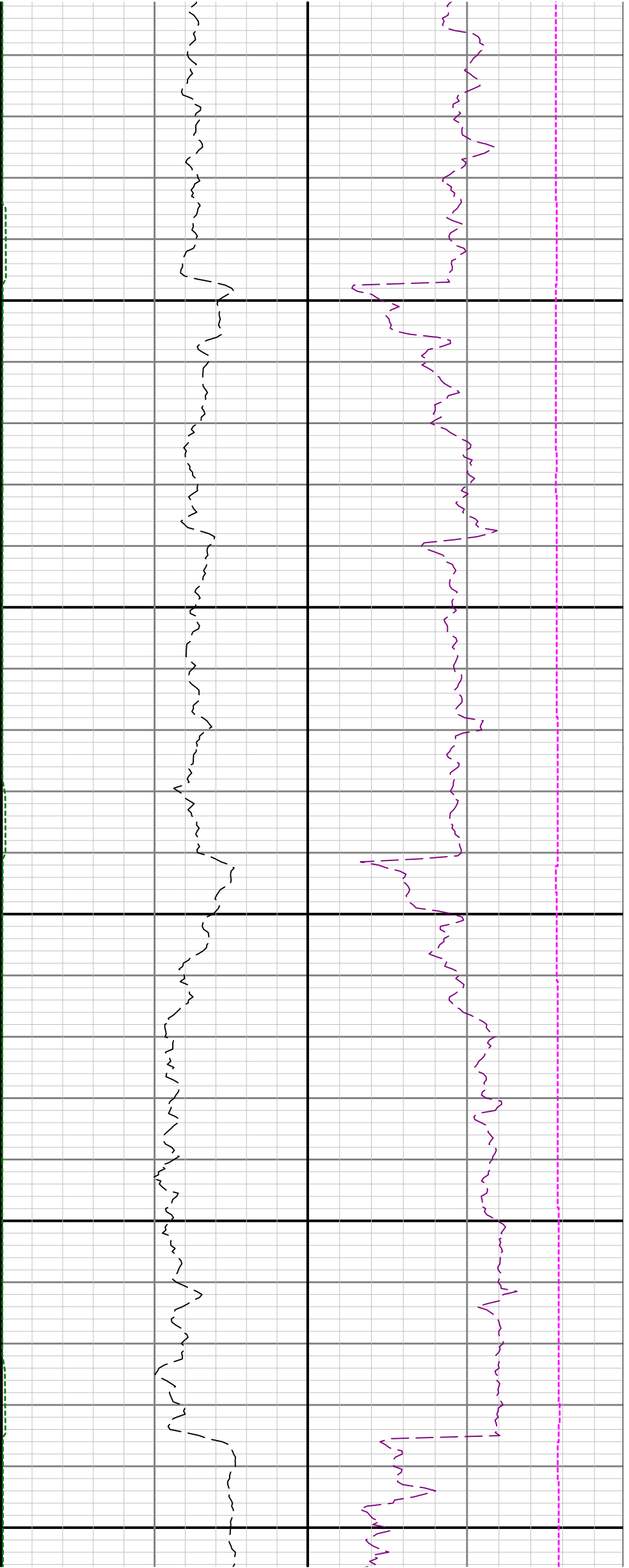


10100

10200

103

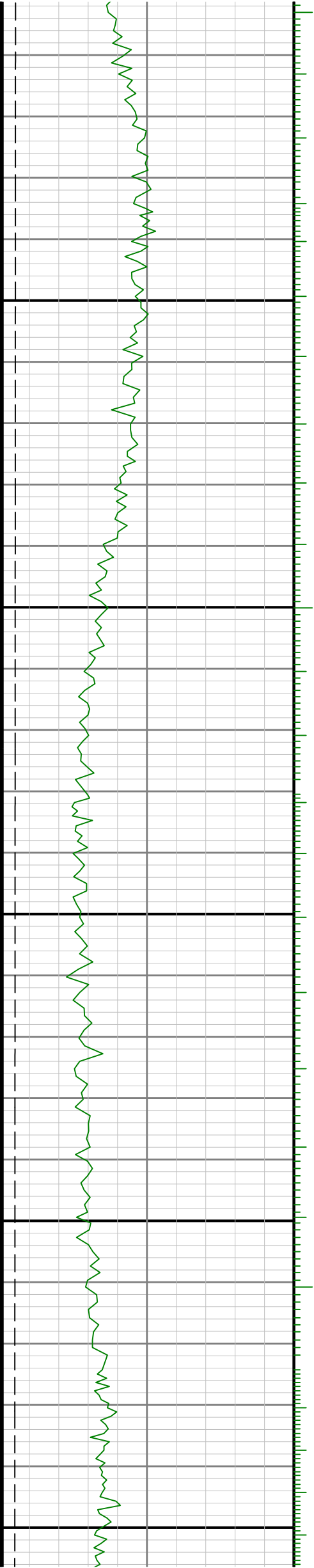


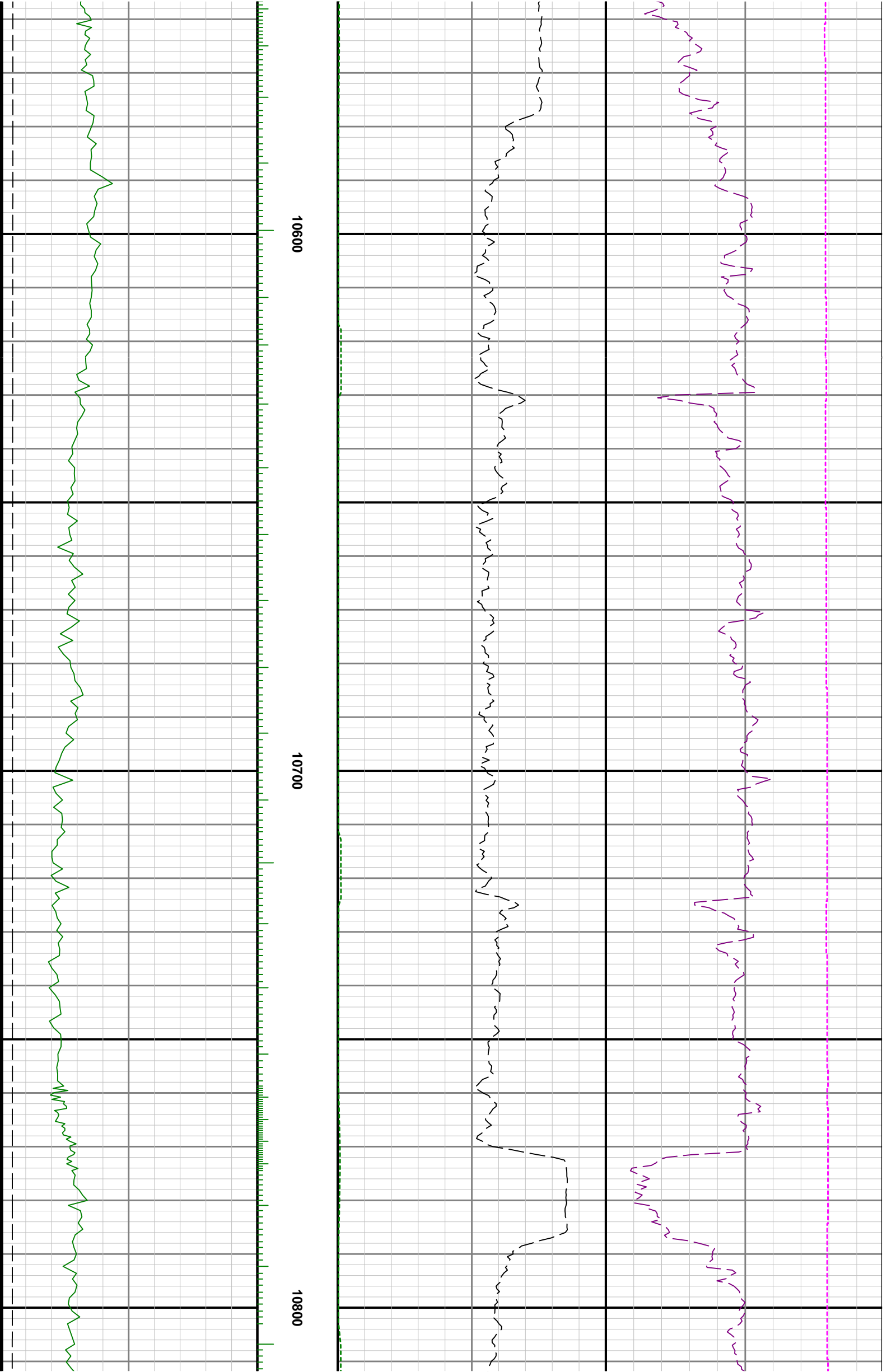


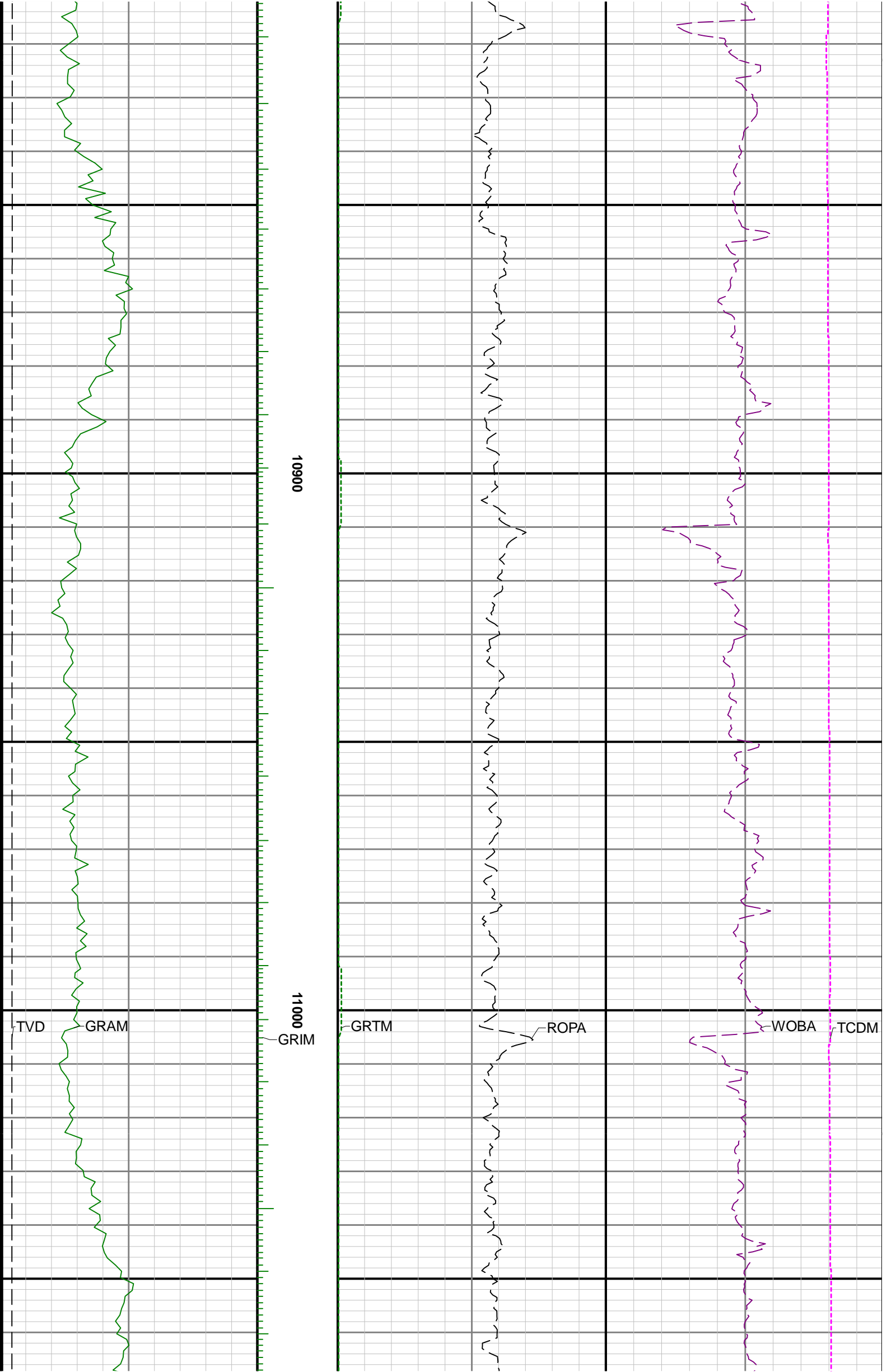
30

10400

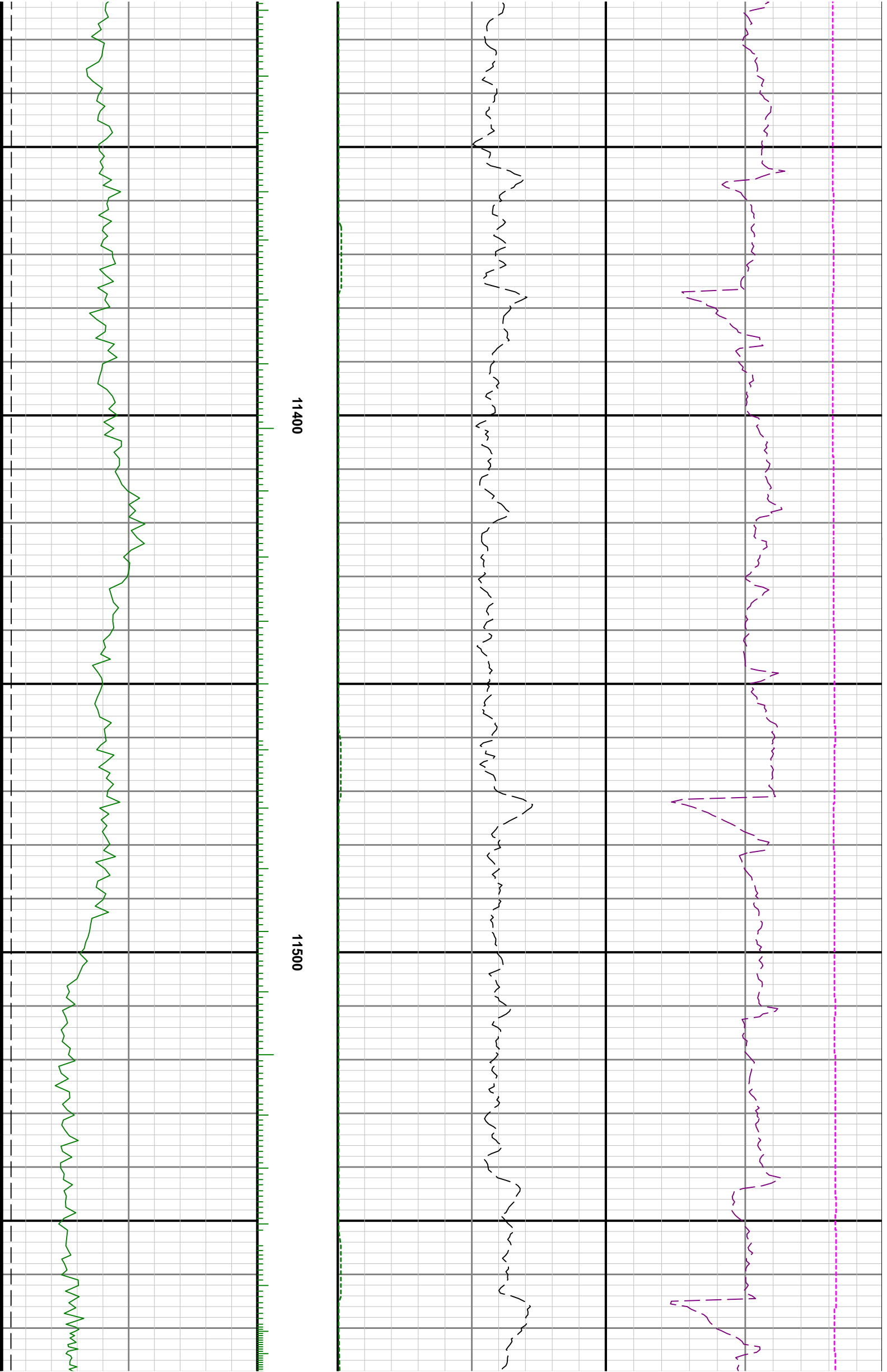
10500

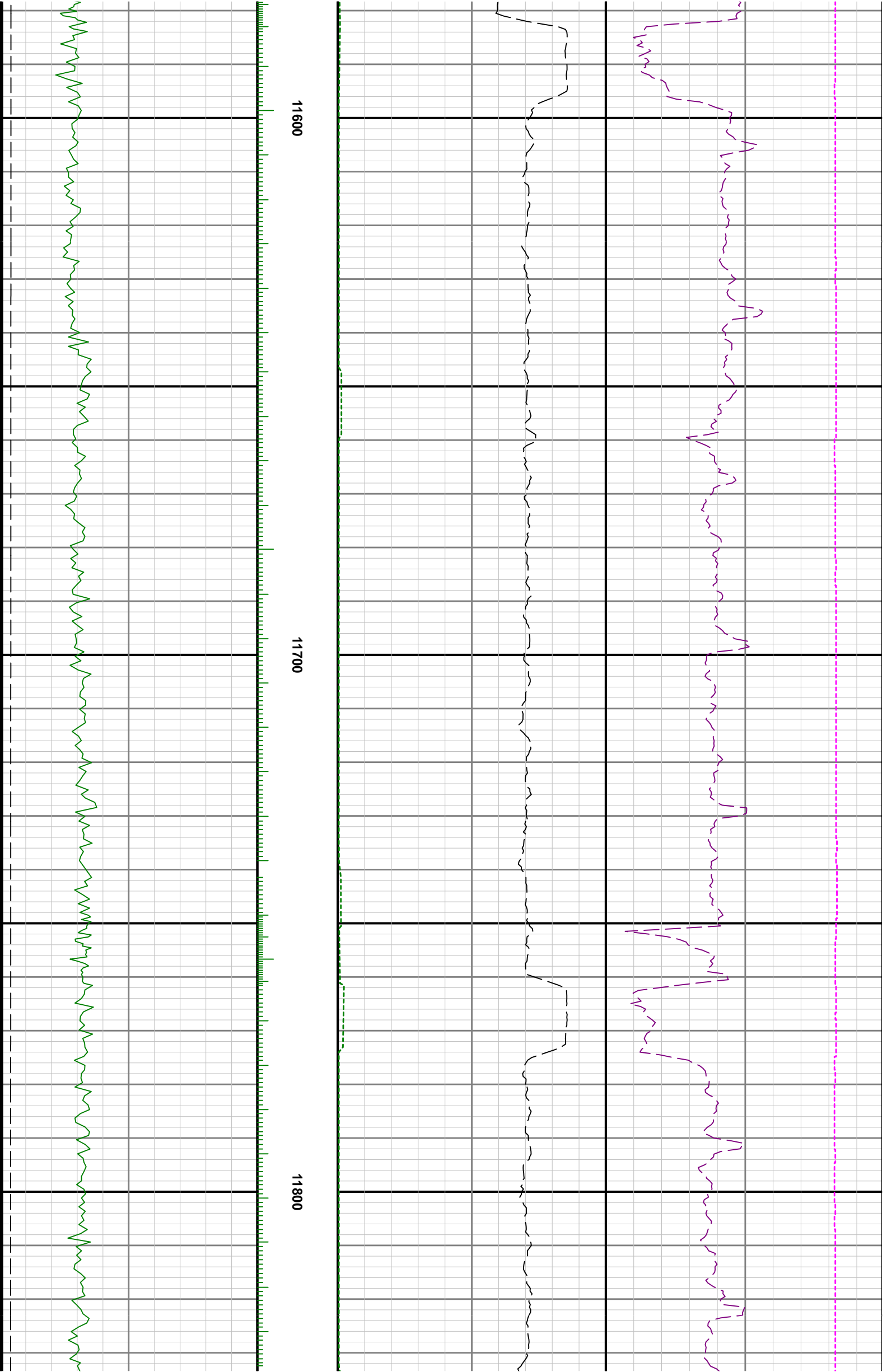


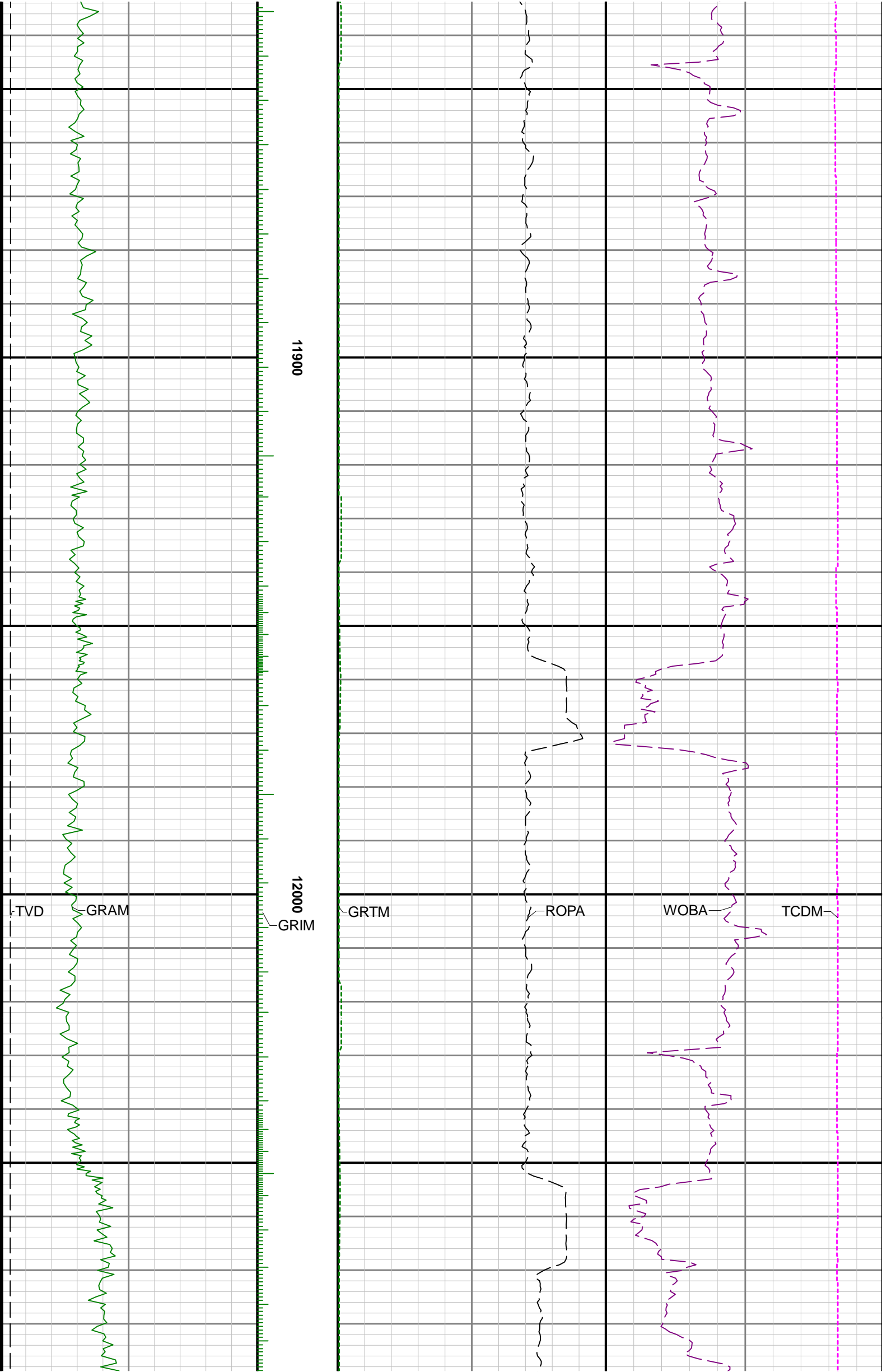


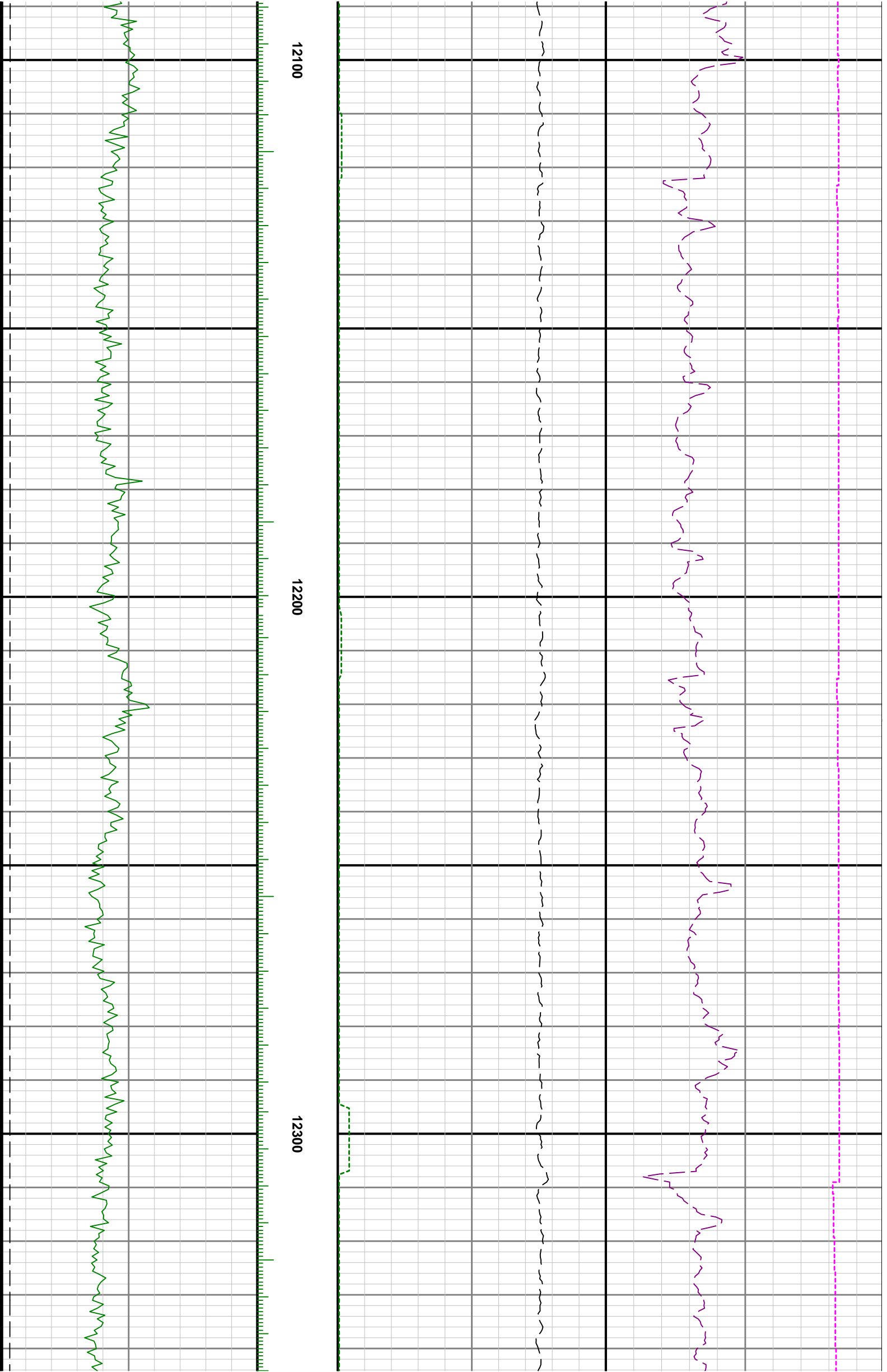


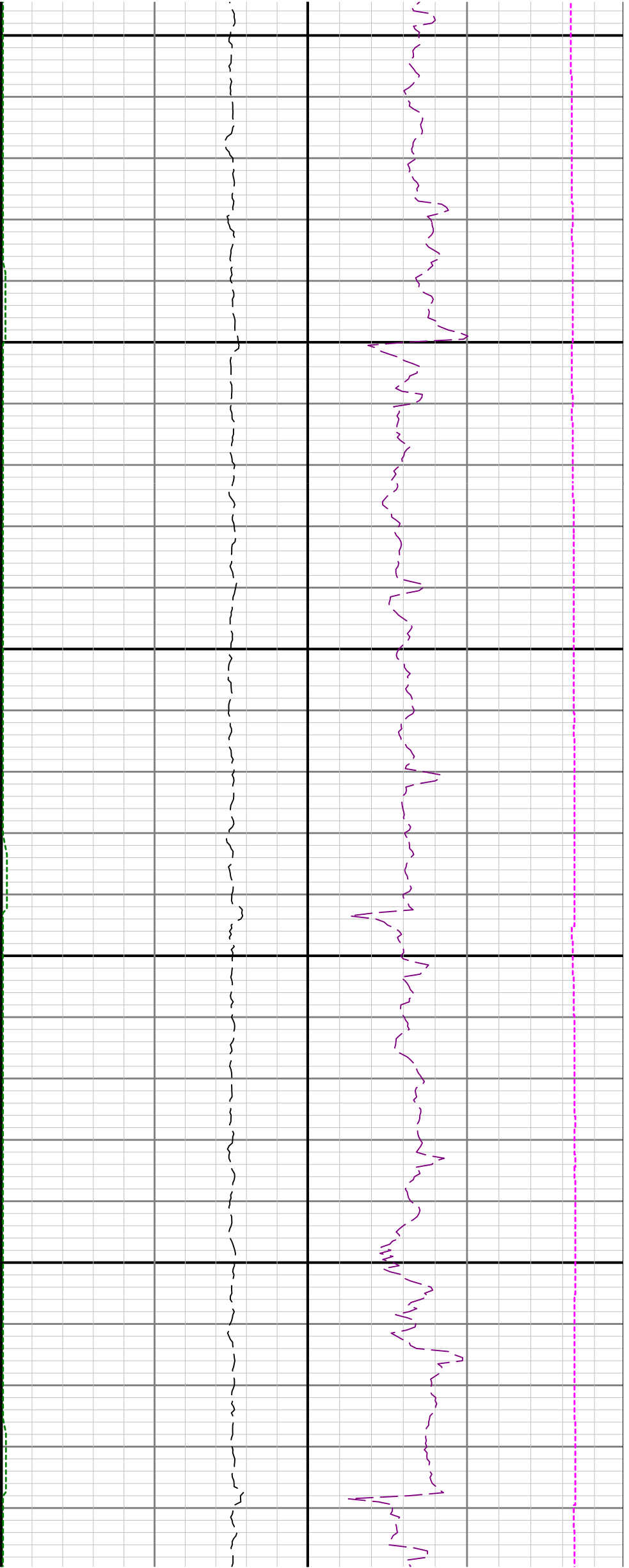








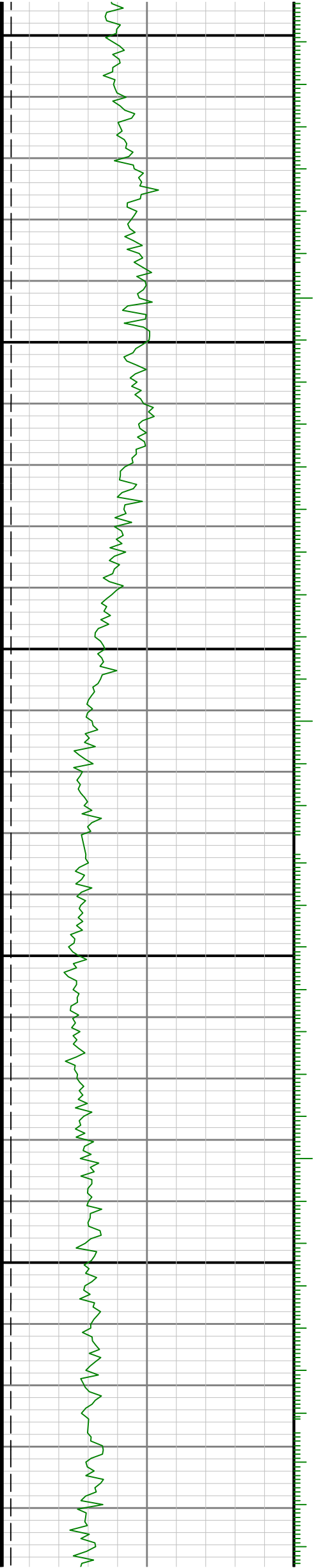


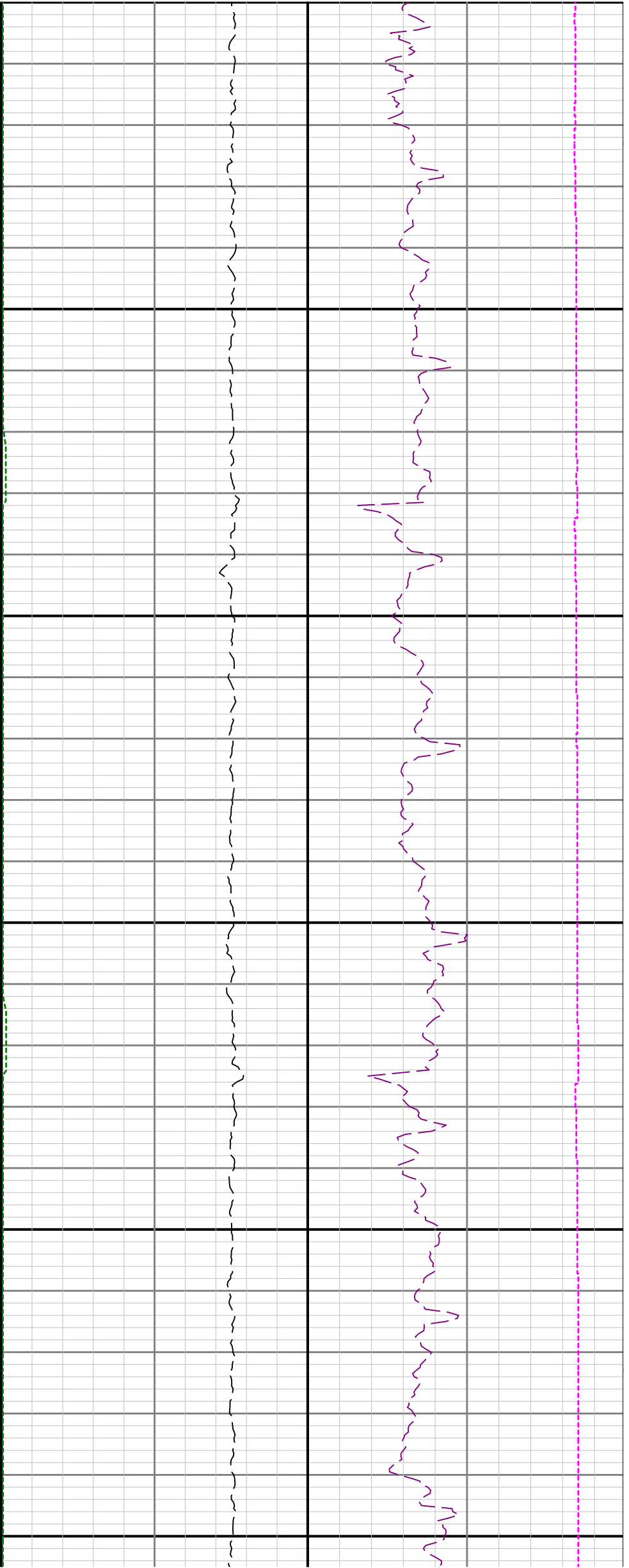


12400

12500

12

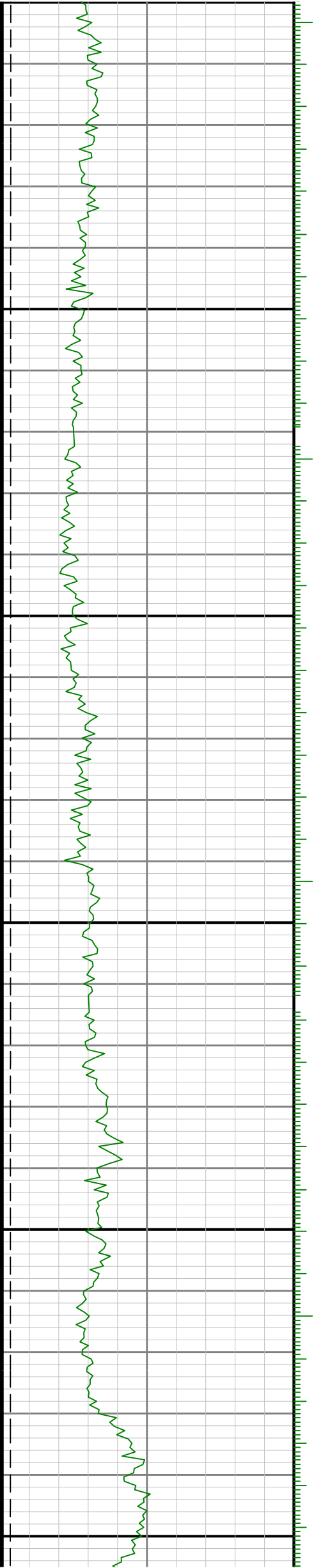


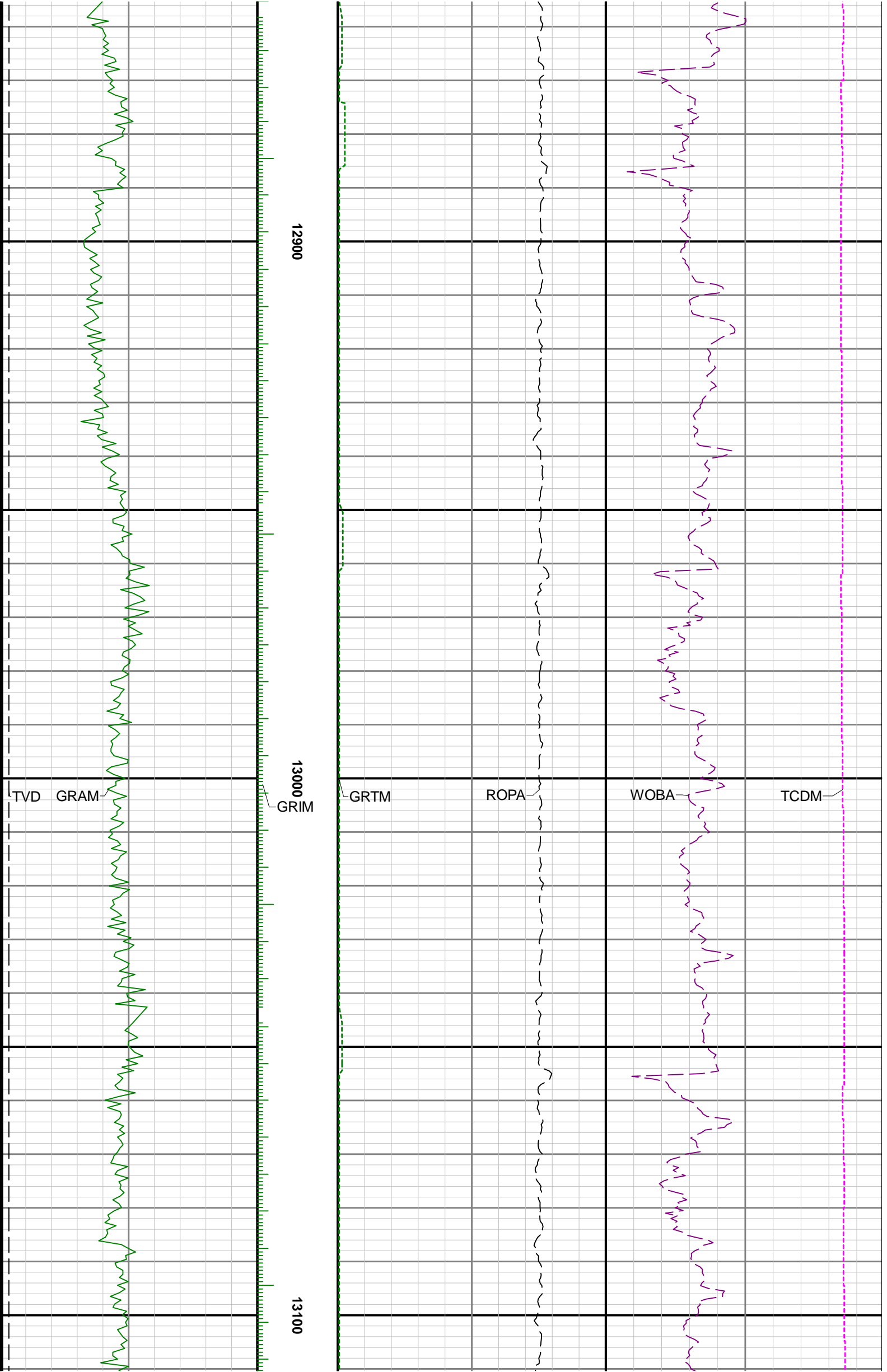


500

12700

12800





12900

13000

13100

TVD GRAM

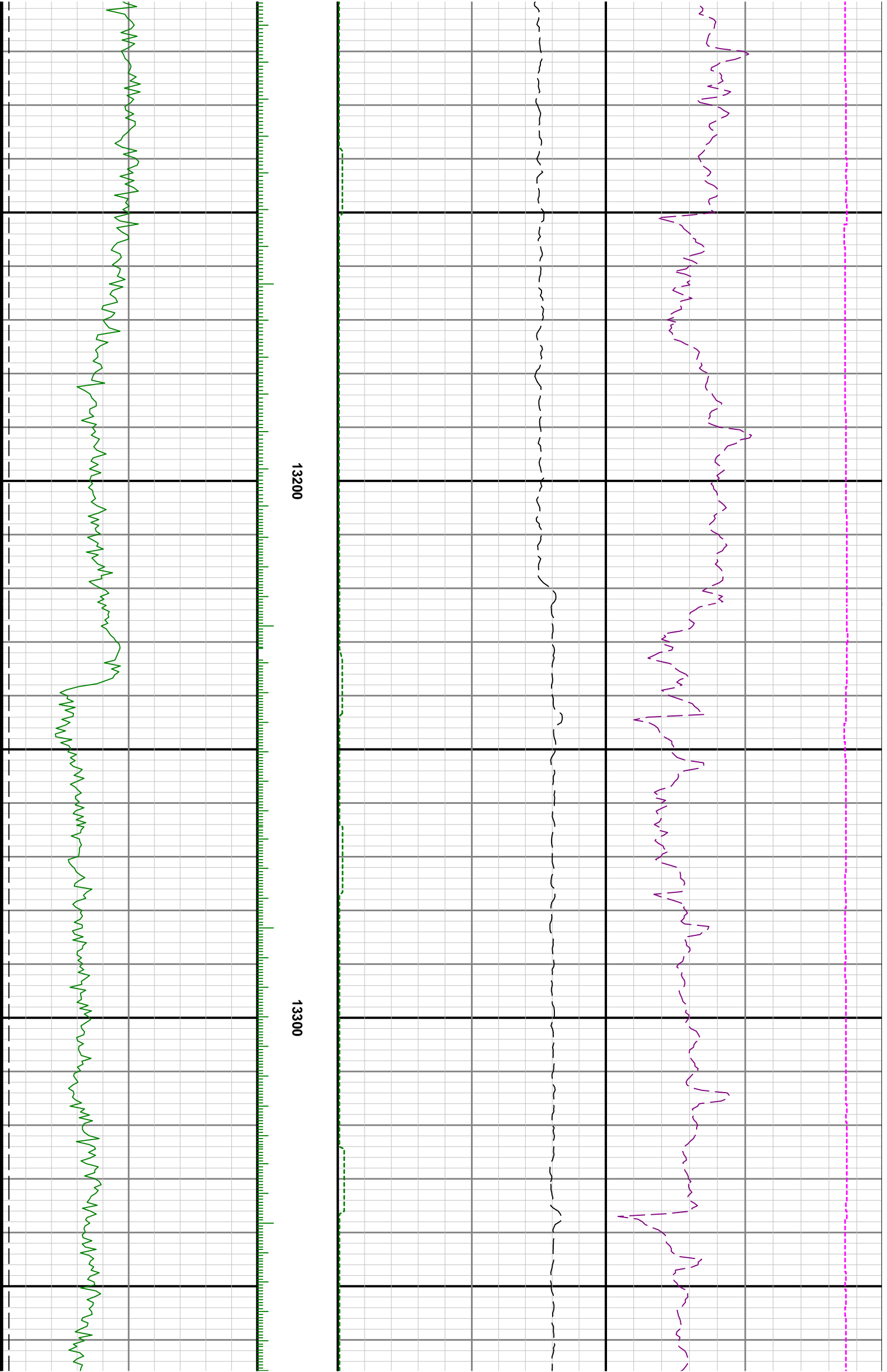
GRIM

GRTM

ROPA

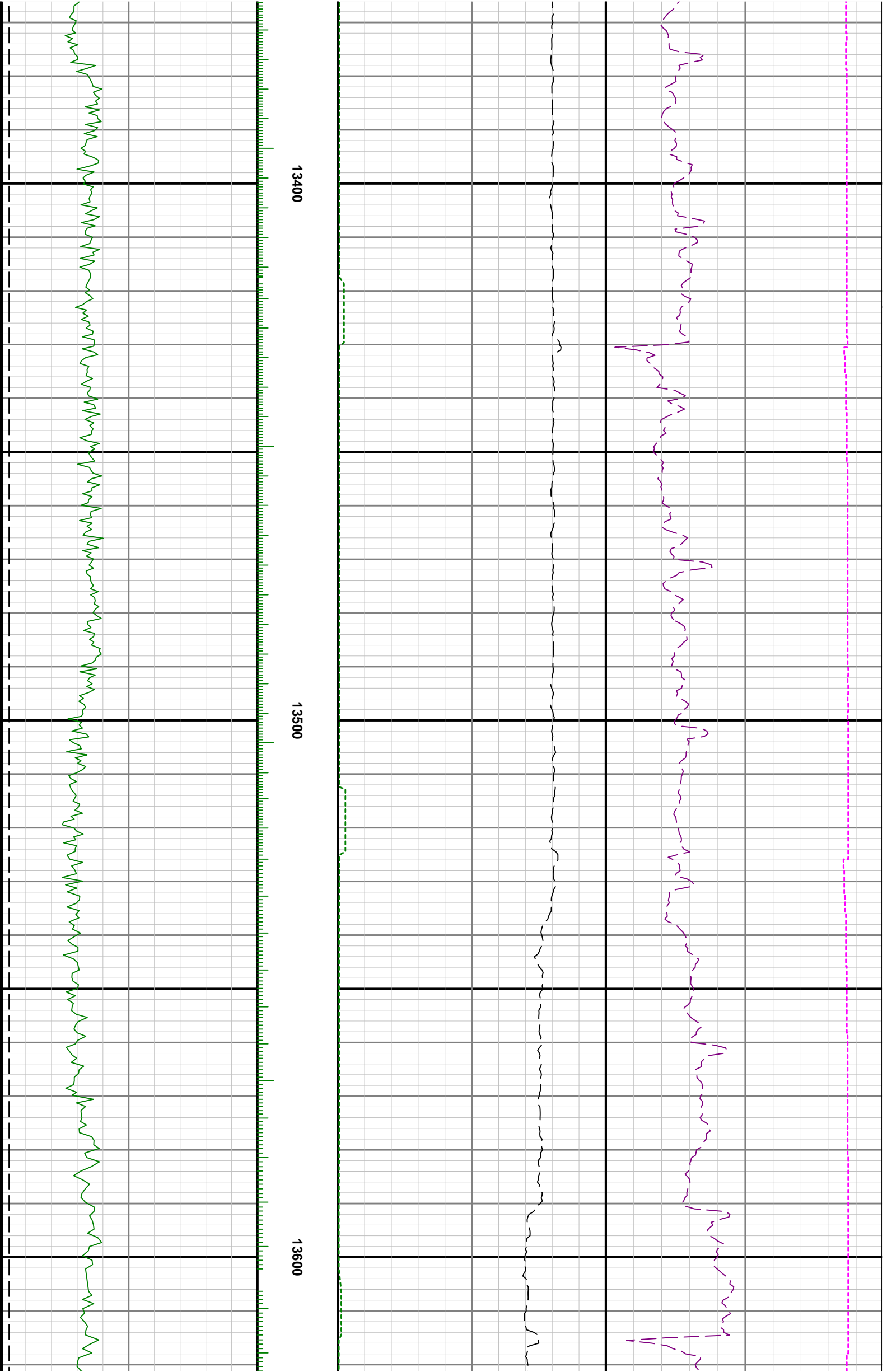
WOBA

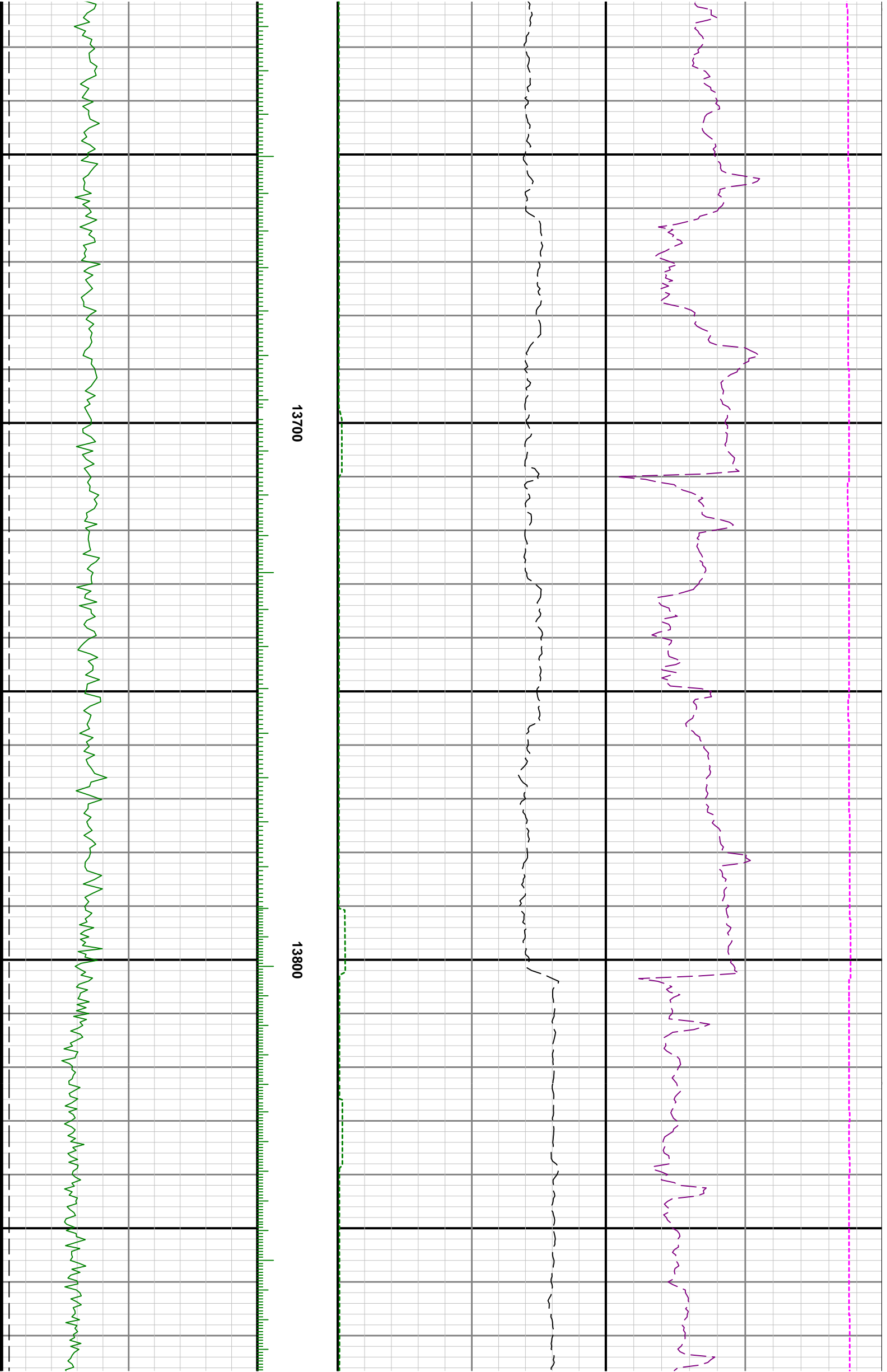
TCDM

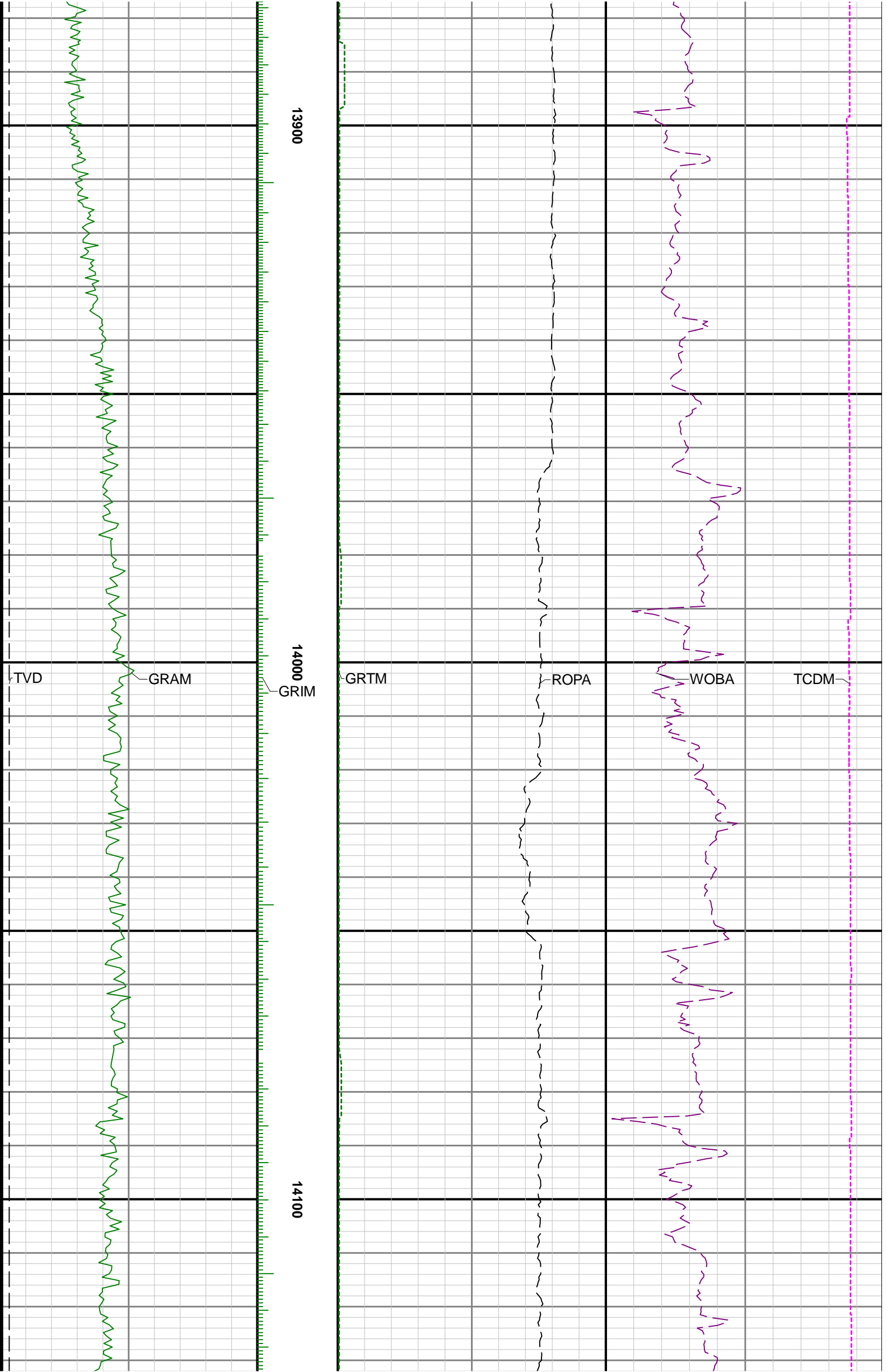


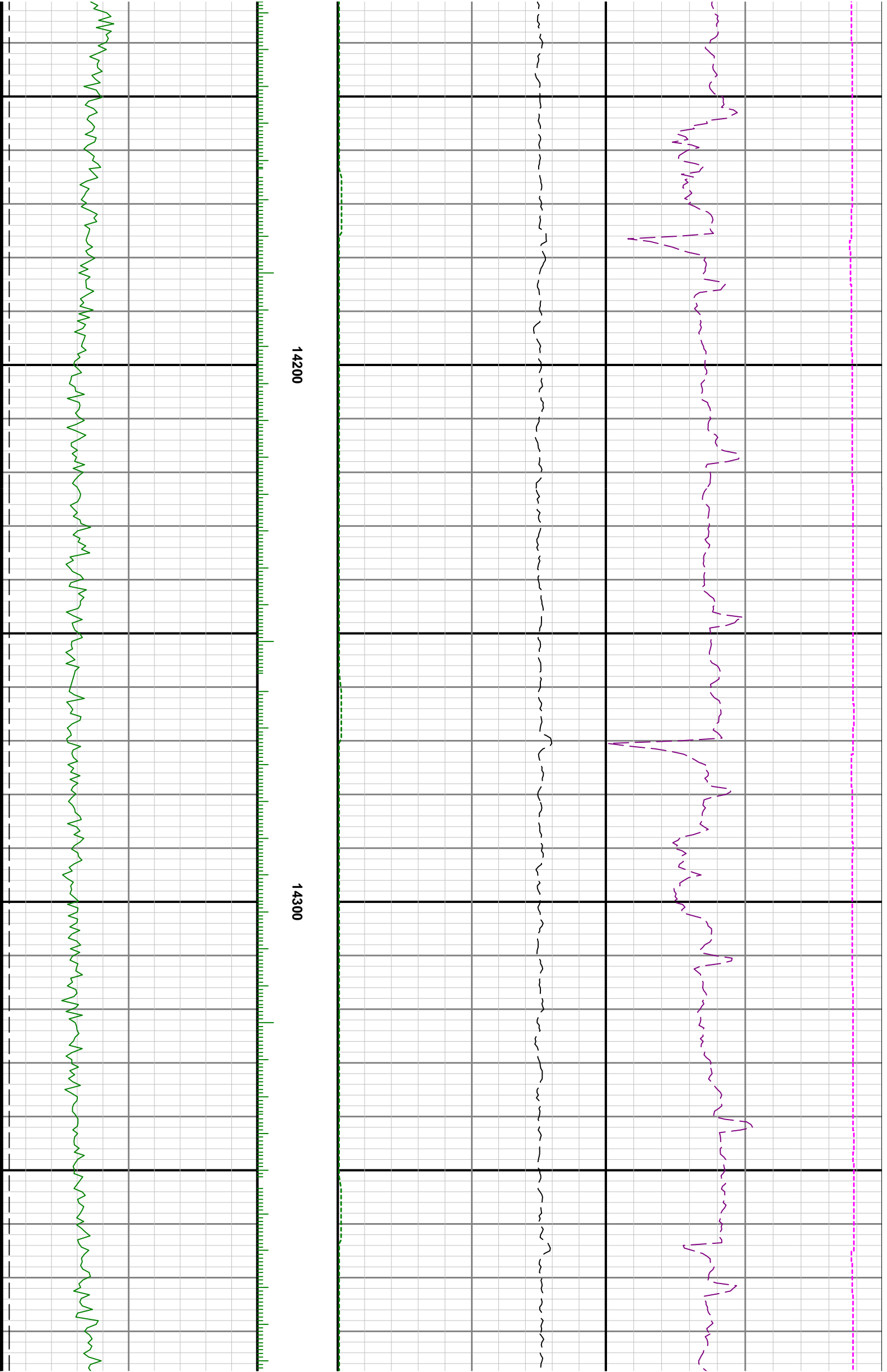
13200

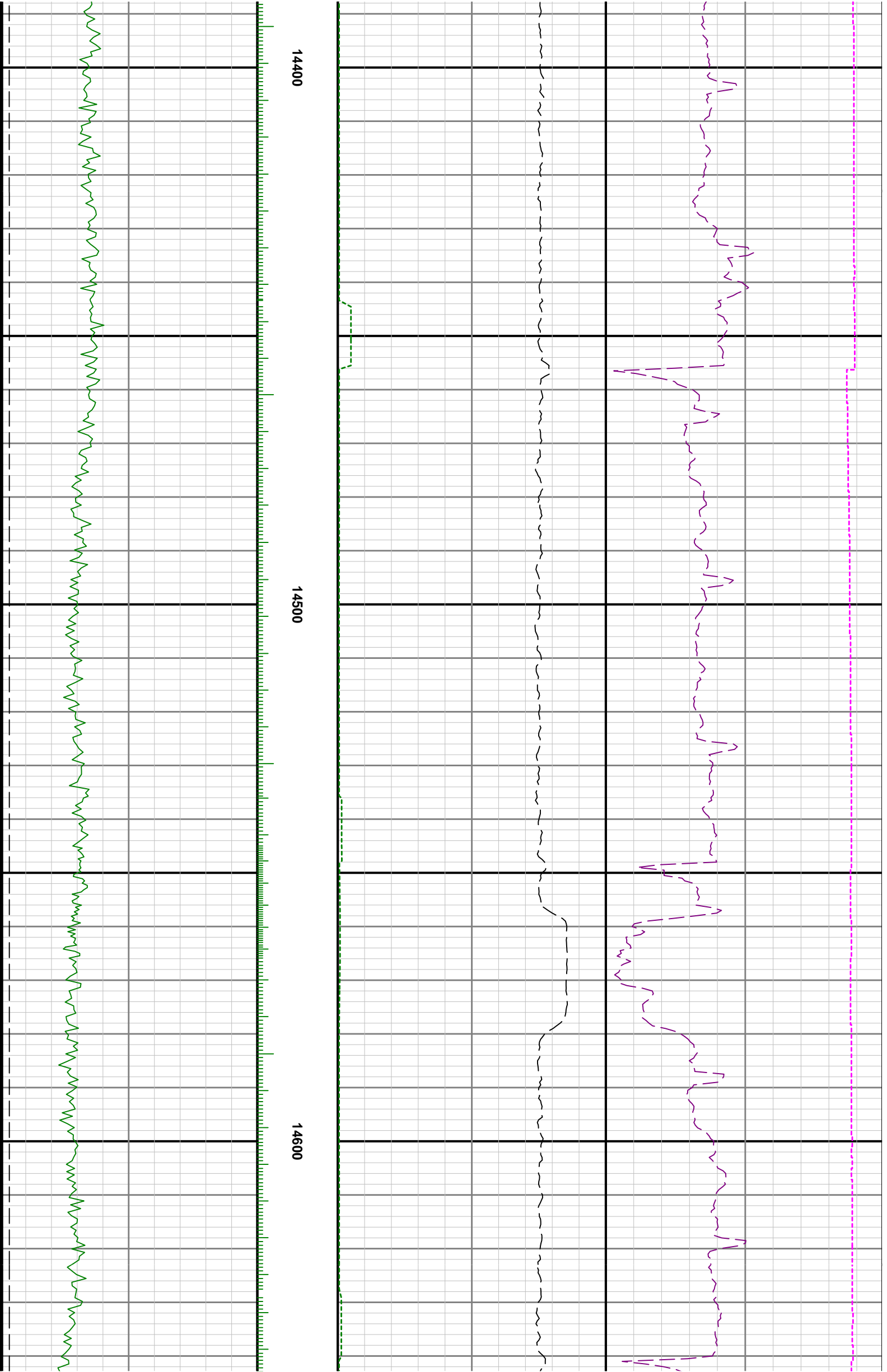
13300

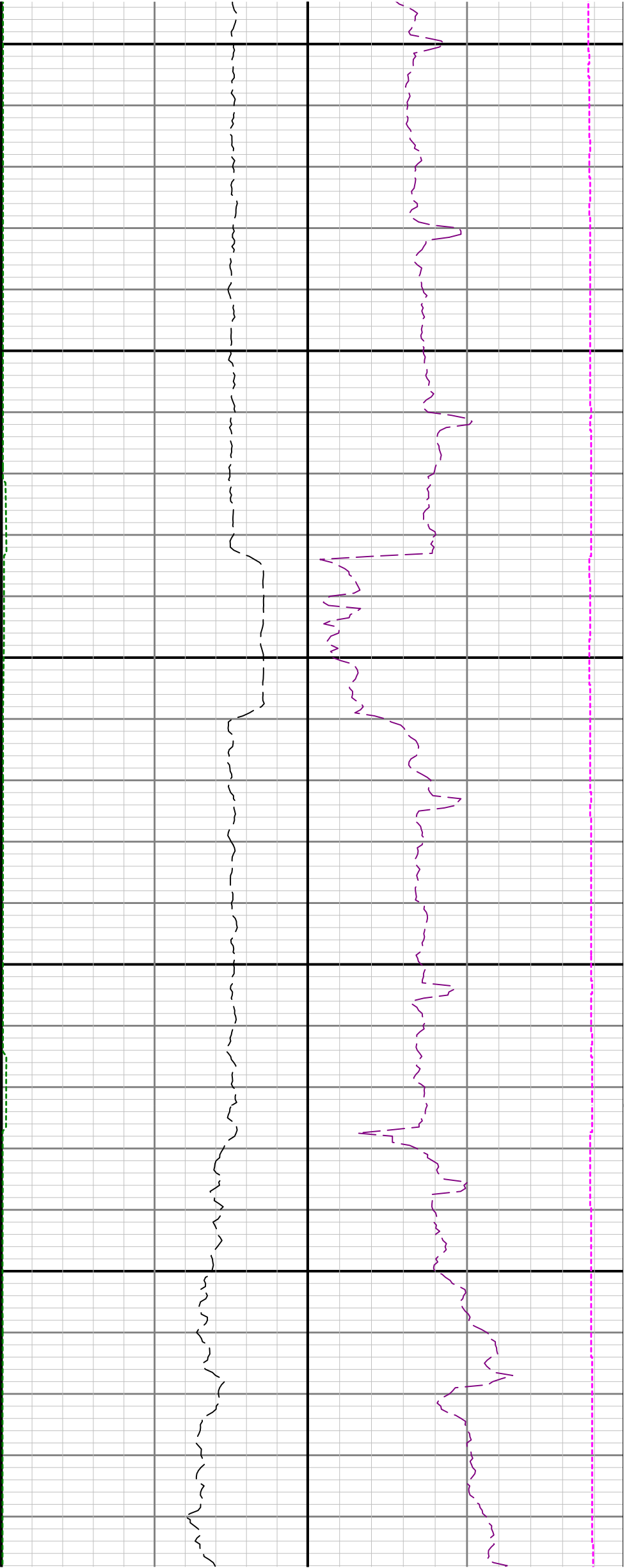








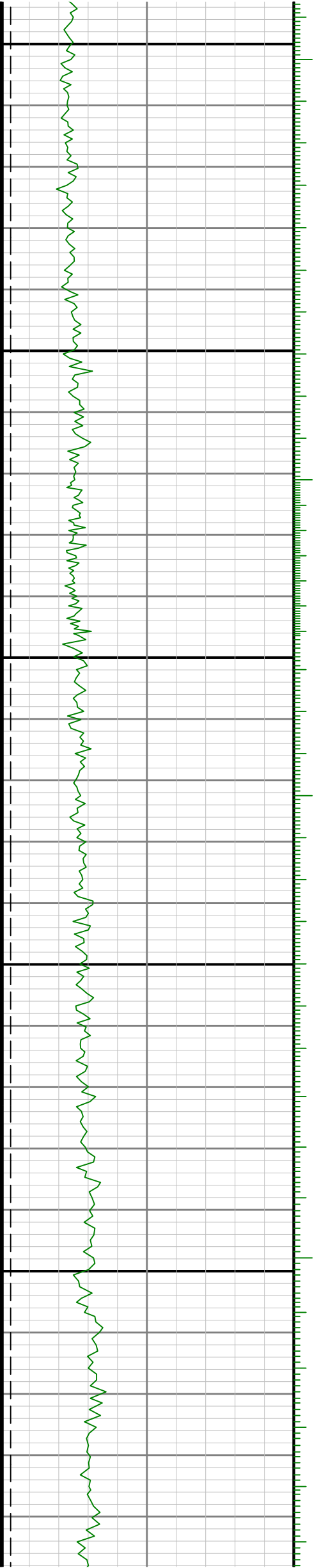


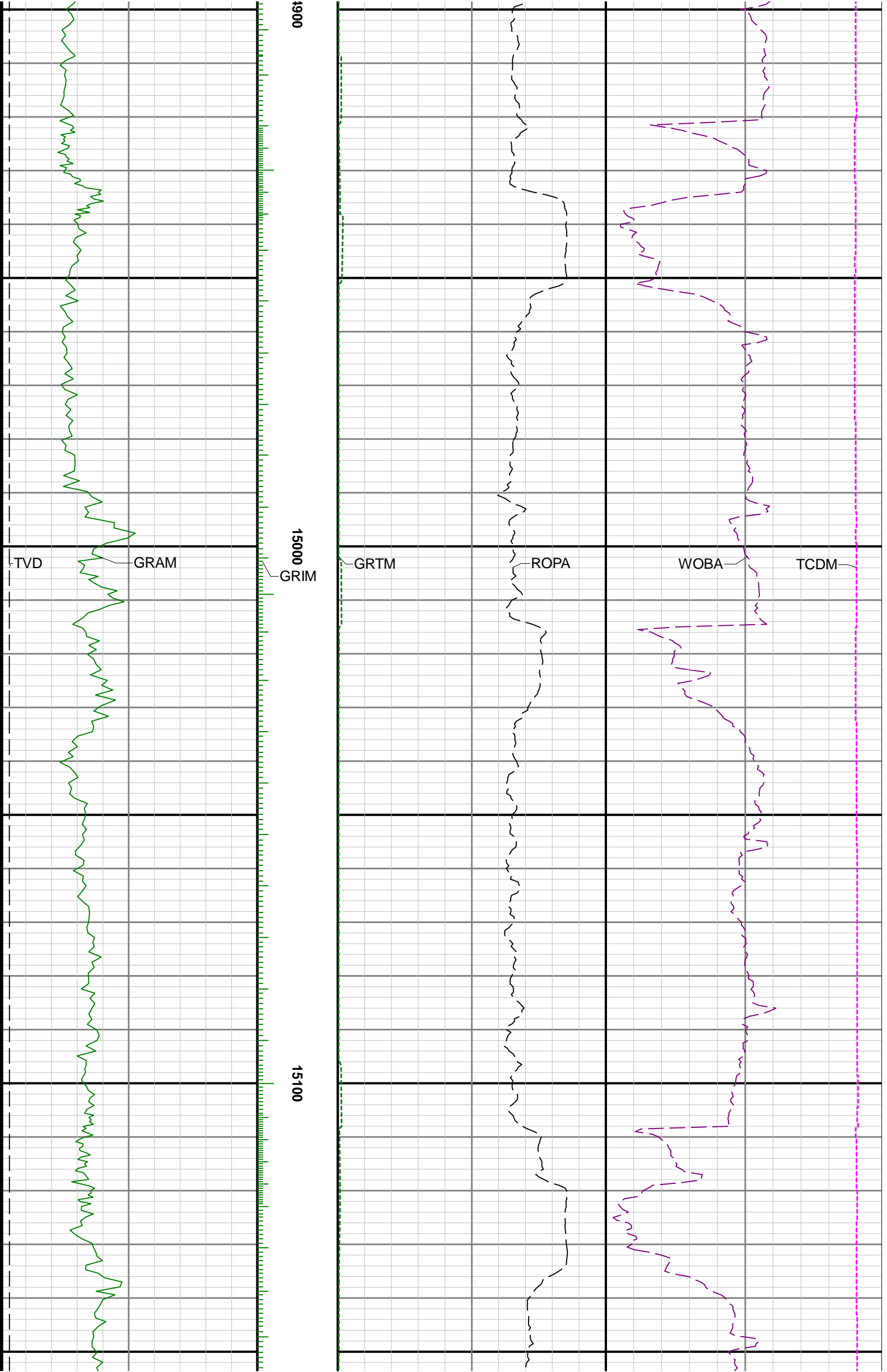


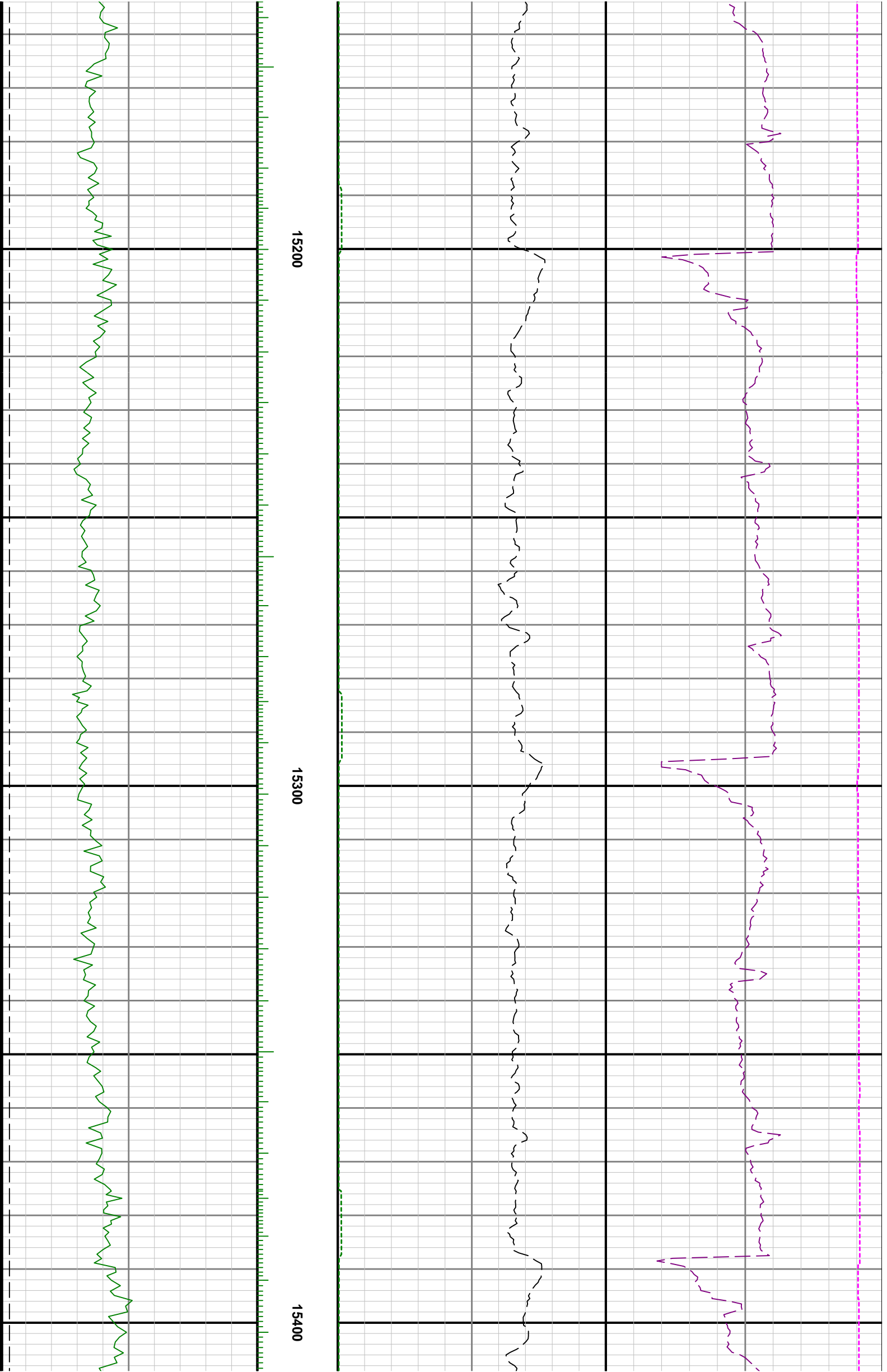
14700

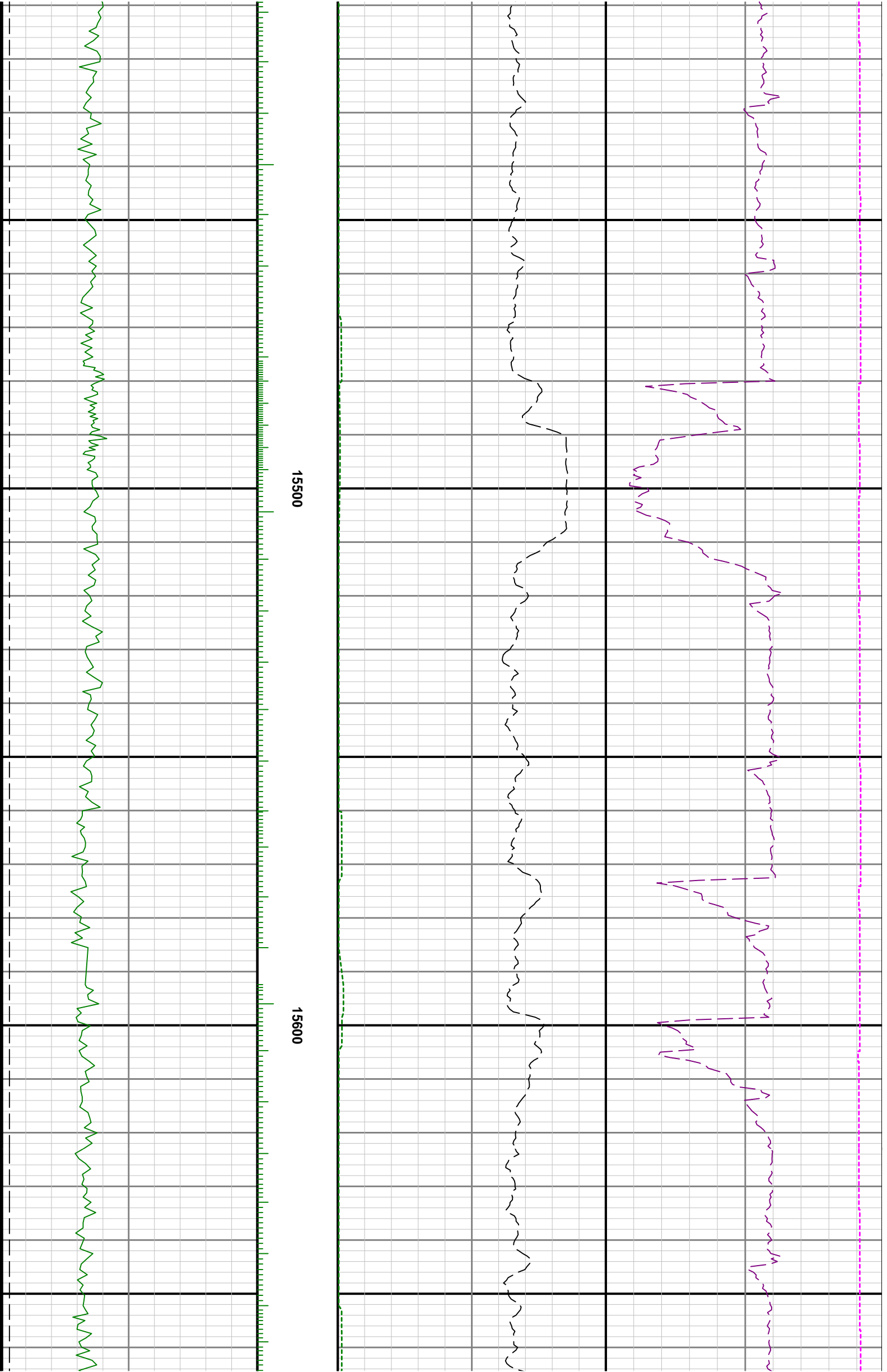
14800

1

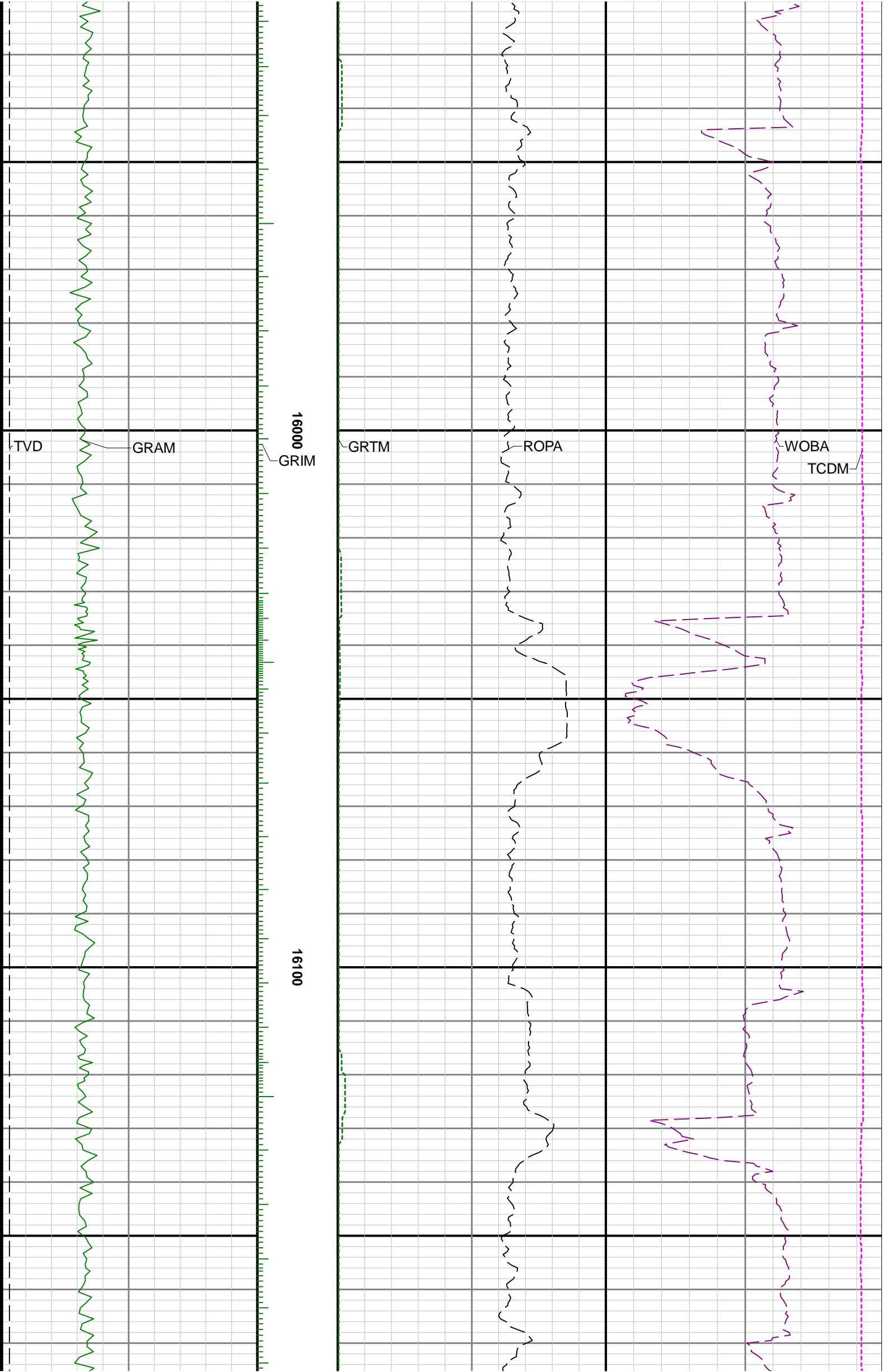


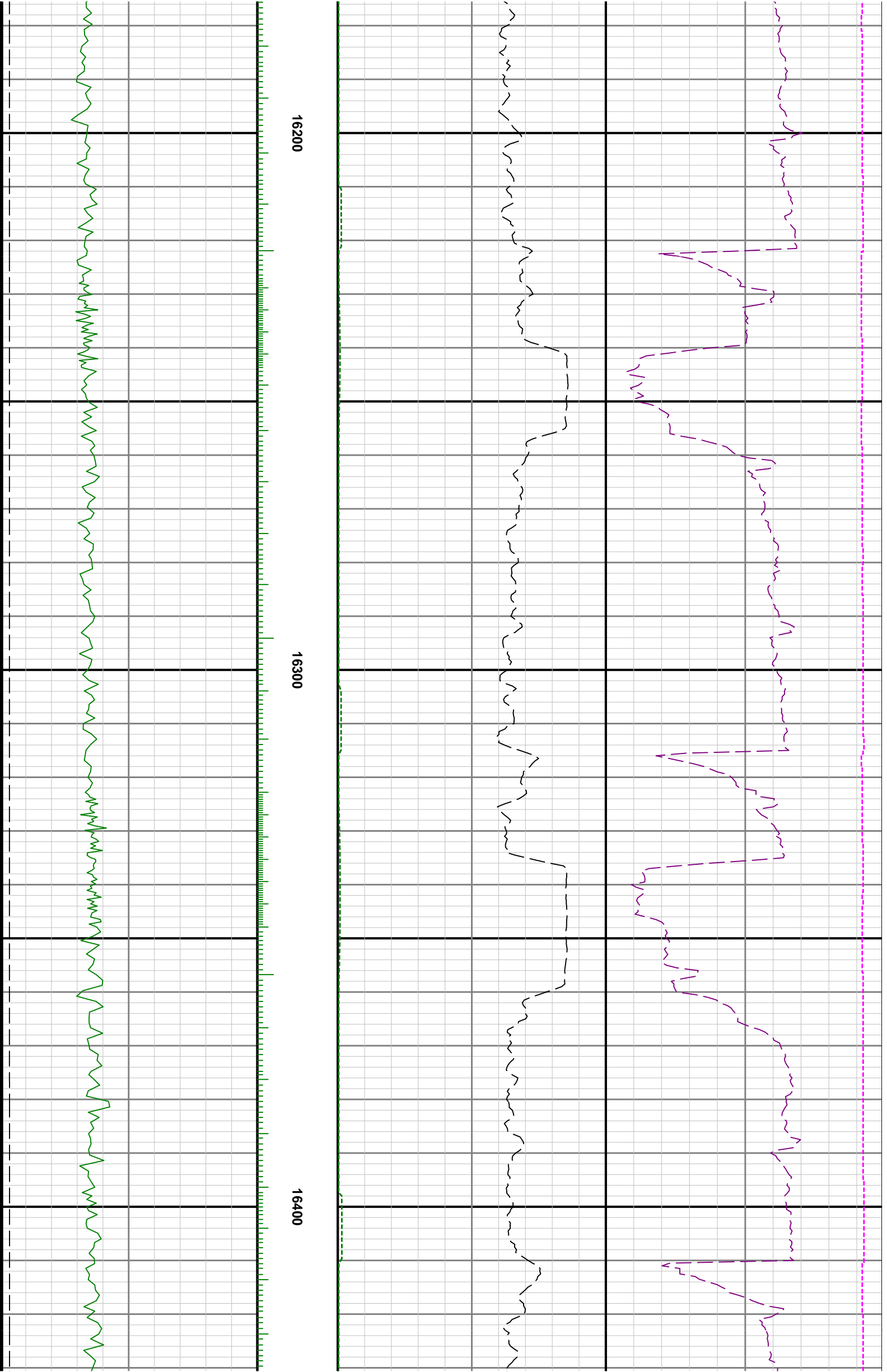


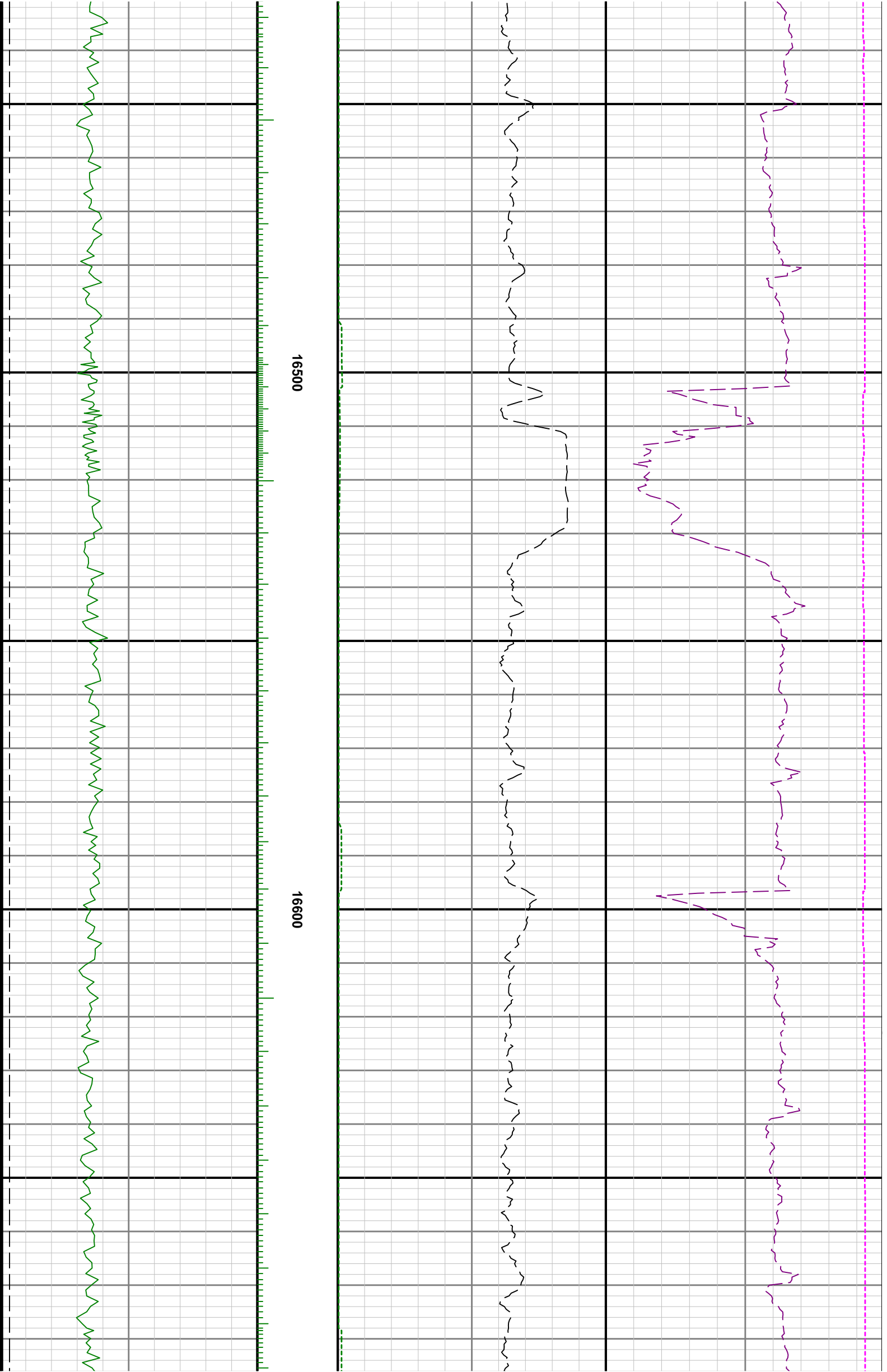


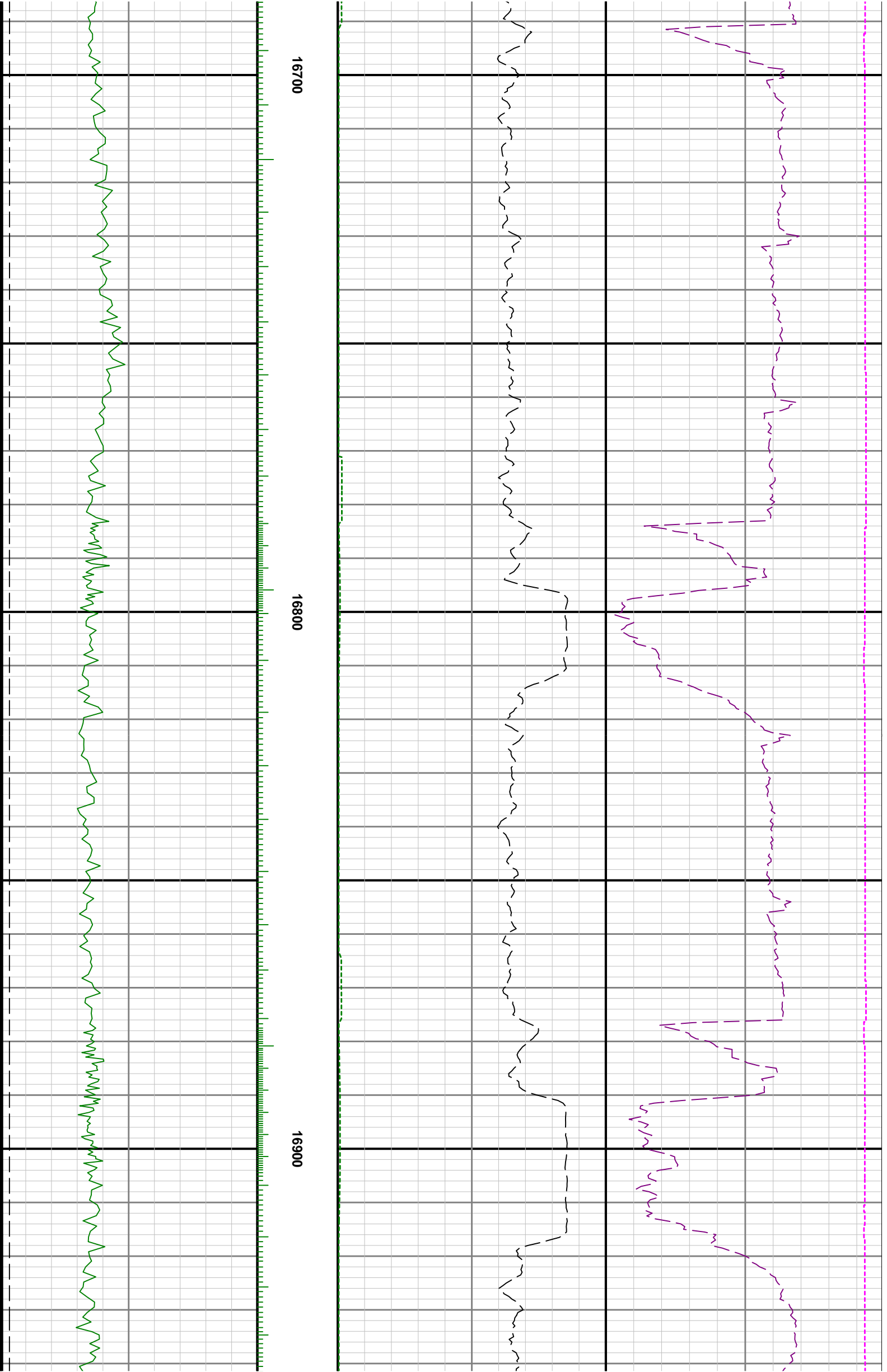


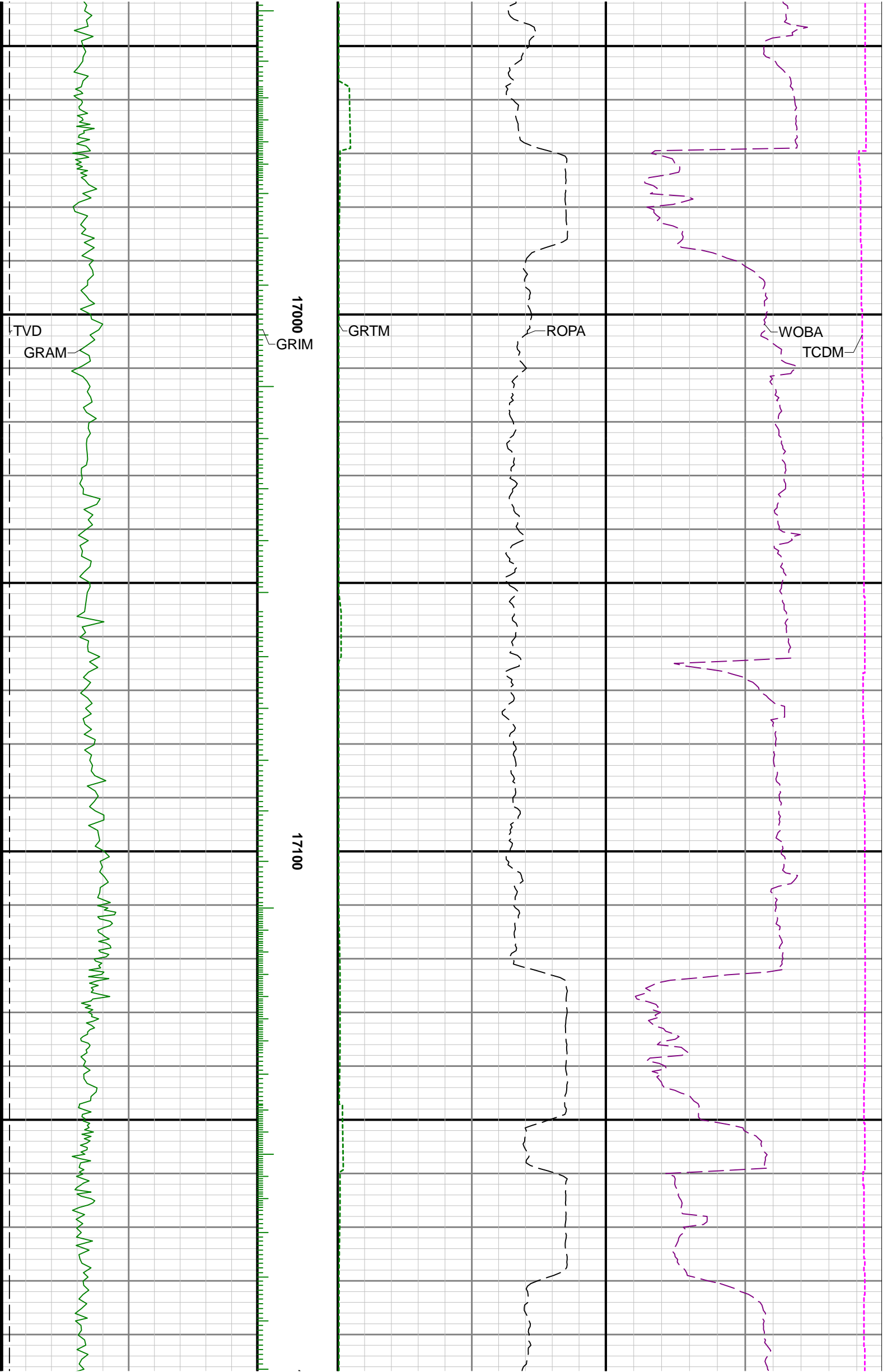


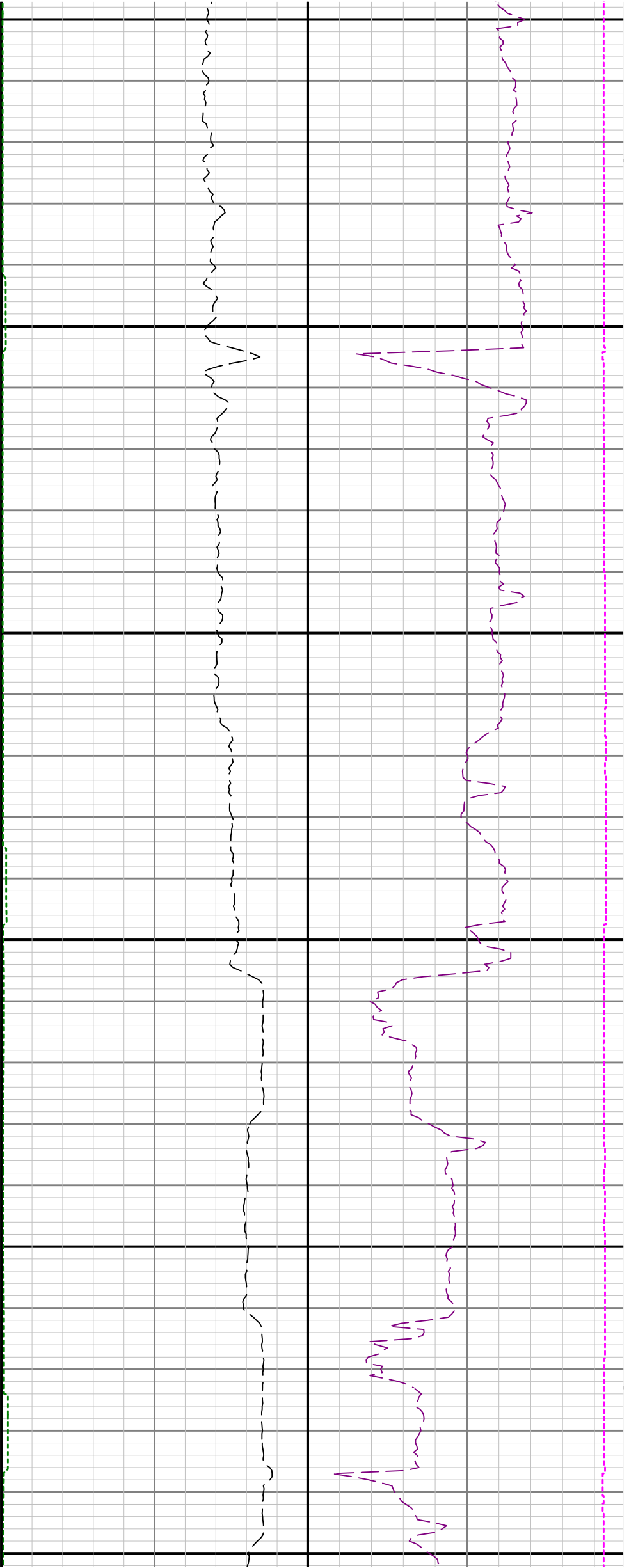












17200

17300

17400

