



Realtime Log

Natural Formation Evaluation  
Gamma Ray

Scale:

Company: Kerr McKee Oil & Gas Onshore LP

1:240

Well: KERR 35N-25HZ

Measured Depth

Field: Weld County (Kerr McGee)

Region: Continental US Country: United States

Status:

Final Print

Surface Location:

Latitude: 40° 7' 56.392" N

Longitude: 104° 50' 30.408" W

Other Services:

Directional  
VSS

API Number:  
05123389830000

Section36

TWN: 2S

Range67W

Permanent Datum (P.D.): Ground Level

Elevation: 4883.00 ft.

Elevations:

Log Measured From:

Rig Floor

16.00 ft.

Above P.D.

KB:

DF:

GL:

N/A  
4899.00 ft.  
4883.00 ft.

Depth Reference:

Driller's Depth

GL:

4883.00 ft.

Interval Logged

Dates

Magnetic Field Reference

Top: 6499.0 ft. Date From: 18/Nov/14

Dip Angle: 66.81°

Azi Reference North:

True

Bottom: 17662.0 ft. Date To: 27/Nov/14

Total

Mag to Reference

8.57°

Spud Date: 17/Nov/14

Field Strength: 52770.9 nT

North Correction:

8.57°

Borehole Record

Casing Record

| Hole Size | From       | To          | Size      | Weight      | From    | To         |
|-----------|------------|-------------|-----------|-------------|---------|------------|
| 8.750 in. | 1105.0 ft. | 7734.0 ft.  | 9.265 in. | 36.00 lb/ft | Surface | 1095.0 ft. |
| 6.125 in. | 7734.0 ft. | 17709.0 ft. | 7.000 in. | 26.00 lb/ft | Surface | 7724.0 ft. |
|           |            |             |           |             |         |            |
|           |            |             |           |             |         |            |
|           |            |             |           |             |         |            |
|           |            |             |           |             |         |            |
|           |            |             |           |             |         |            |
|           |            |             |           |             |         |            |
|           |            |             |           |             |         |            |

Mud Record

Deviation Record

| Type        | From       | To          | Hole Size | Interval | Inc / Az (Start) | Inc / Az (End) |
|-------------|------------|-------------|-----------|----------|------------------|----------------|
| Drill Water | Surface    | 7734.0 ft.  | 8.750 in. | 85.0 ft. | 0.4° / 270.6°    | 0.6° / 327.1°  |
| LSND        | 7734.0 ft. | 17709.0 ft. | 8.750 in. | 42.0 ft. | 0.6° / 327.1°    | 86.3° / 178.3° |
|             |            |             | 6.125 in. | 85.0 ft. | 86.3° / 178.3°   | 87.3° / 179.5° |
|             |            |             |           |          | /                | /              |
|             |            |             |           |          | /                | /              |
|             |            |             |           |          | /                | /              |
|             |            |             |           |          | /                | /              |
|             |            |             |           |          | /                | /              |

Acquisition System

Software Version

Other

Advantage 2.20U4 Rig / Contractor: Xtreme 24 / Xtreme Drilling

PATS 6.4.1.34 Job No: 6837481 / D & E

District / Unit: RMD

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Log Run Summary

| LWD<br>Run<br>No. | BHA<br>Run<br>No. | Bit<br>Run<br>No. | Bit<br>Size<br><br>(in.) | Bit<br>Type | Bit<br>Gauge<br>Length<br><br>(in.) | Assembly<br>Type | Logged Interval  |                     | Bit Depth Interval |                 | Date / Time |       |           |       | Circ.<br>Time<br><br>(hrs.) |
|-------------------|-------------------|-------------------|--------------------------|-------------|-------------------------------------|------------------|------------------|---------------------|--------------------|-----------------|-------------|-------|-----------|-------|-----------------------------|
|                   |                   |                   |                          |             |                                     |                  | Top<br><br>(ft.) | Bottom<br><br>(ft.) | From<br><br>(ft.)  | To<br><br>(ft.) | Start       |       | End       |       |                             |
|                   |                   |                   |                          |             |                                     |                  |                  |                     |                    |                 |             |       |           |       |                             |
| 1                 | 1                 | 1                 | 8.750                    | PDC         | 2.000                               | Steerable        | N/A              | N/A                 | N/A                | N/A             | 18/Nov/14   | 11:00 | 19/Nov/14 | 16:45 | 20                          |
| 2                 | 2                 | 2                 | 8.750                    | PDC         | 2.000                               | Steerable        | 6499.0           | 7674.0              | 6559.0             | 7734.0          | 19/Nov/14   | 17:00 | 21/Nov/14 | 00:00 | 17.86                       |
| 3                 | 3                 | 3                 | 6.125                    | PDC         | 6.000                               | Steerable        | 7687.0           | 17662.0             | 7734.0             | 17709.0         | 22/Nov/14   | 03:03 | 27/Nov/14 | 05:00 | 86                          |

Crew

| Name             | Arrive    | Depart    | Name        | Arrive    | Depart    | Name           | Arrive    | Depart    |
|------------------|-----------|-----------|-------------|-----------|-----------|----------------|-----------|-----------|
|                  | Wellsite  | Wellsite  |             | Wellsite  | Wellsite  |                | Wellsite  | Wellsite  |
| Osagie Otoikhine | 26/Nov/14 | 27/Nov/14 | David Belek | 17/Nov/14 | 27/Nov/14 | Andrew Overbey | 17/Nov/14 | 25/Nov/14 |

Mud Properties Record

| Date / Time |       | LWD<br>Run No. | Measured<br>Depth<br>(ft.) | Mud<br>Type | Density<br>(ppg) | Viscosity<br>(sec/qt) | pH  | Fluid<br>Loss<br>(cc) | Oil /<br>Water | Source      | Total<br>Chlorides<br>(mg/L) | K+<br>(%) |
|-------------|-------|----------------|----------------------------|-------------|------------------|-----------------------|-----|-----------------------|----------------|-------------|------------------------------|-----------|
| 18/Nov/14   | 18:00 | 1              | 1806.0                     | Drill Water | 8.5              | 27                    | 8.1 | N/A                   | 0.5/98.0       | Active Pits | 1600                         | N/A       |
| 20/Nov/14   | 18:00 | 2              | 7734.0                     | LSND        | 9.9              | 47                    | 8.8 | N/A                   | 2.5/88.8       | Active Pits | 1800                         | N/A       |
| 25/Nov/14   | 18:00 | 3              | 16836.0                    | LSND        | 9.4              | 45                    | 9.4 | N/A                   | 5.8/86.0       | Active Pits | 1800                         | N/A       |

Mnemonics

| Curve | Description                       | Units    |
|-------|-----------------------------------|----------|
| GRAX  | Gamma Ray Apparent 0.5 ft AVG     | API      |
| GRIX  | Gamma Ray Data Density            | points   |
| GRSI  | Gamma Ray Sliding Indicator       | unitless |
| GRTX  | Gamma Ray Time Since Drilled      | min.     |
| ROPA  | Rate of Penetration, 3.0 ft Avg   | ft/hr    |
| TCDX  | Downhole Temperature              | degF     |
| TVD   | True Vertical Depth               | ft.      |
| WOBA  | Surface Weight on Bit, 1.0 ft Avg | klbs     |

Equipment and Service Data

| LWD<br>Run<br>No. | Tool | Serial<br>Number | Measurement | Bit<br>Offset<br>(ft.) | Max<br>O.D.<br>(in.) | Min<br>I.D.<br>(in.) |
|-------------------|------|------------------|-------------|------------------------|----------------------|----------------------|
| 1                 | DIR  | 13153787         | Directional | 63.28                  | 6.750                | 0.000                |
| 1                 | SRIG | 12816078         | Gamma       | 59.90                  | 6.750                | 0.000                |
| 2                 | DIR  | 12592568         | Directional | 63.59                  | 6.750                | 0.000                |
| 2                 | SRIG | 12376061         | Gamma       | 60.21                  | 6.750                | 0.000                |
| 3                 | DIR  | 12887296         | Directional | 49.91                  | 4.750                | 0.000                |
| 3                 | SRIG | 11703934         | Gamma       | 46.53                  | 4.750                | 0.000                |

Service and Tool Mnemonics

| Mnemonic | Name                  | Description                                  |
|----------|-----------------------|----------------------------------------------|
| DIR      | Directional           | Wellbore directional survey                  |
| SRIG     | Inclination and Gamma | Probe based gamma ray and inclination module |

Comments

|                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.) Baker Hughes Runs 1 & 2 utilized a 6 1/2 inch NaviGamma (Directional and Gamma Ray) tool behind an 8 3/4 inch bit and steerable assembly from 6499 feet to 7734 feet MD ( 6449 feet to 7227 feet TVD).   |
| 2.) Baker Hughes Run 3 utilized a 4 3/4 inch NaviGamma (Directional and Gamma Ray) tool behind a 6 1/8 inch bit and steerable assembly from 7734 feet to 17709 feet MD ( 7227 feet to 7318 feet TVD).        |
| 3.) A sliding indicator is shown on the left side of track 1 as a heavy line. This indicator has been depth-shifted to the Gamma Ray sensor offset to correspond with Gamma Ray data acquired while sliding. |

Remarks

| Number | Measured | Hole | LWD | Remark |
|--------|----------|------|-----|--------|
|--------|----------|------|-----|--------|

|   | Depth<br>(ft.) | Section<br>(in.) | Run No. |                                                                                                                                                                                               |
|---|----------------|------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 6483           | 8.750            | 2       | The interval from surface to 6499 feet MD (6449 feet TVD) was not logged since logging services began at kick off point.                                                                      |
| 2 | 7693           | 8.750            | 2       | The Interval from 7675 feet to 7735 feet MD (7224 feet to 7227 feet TVD) was logged more than 9 hours after drilling due to tripping for casing and picking up lateral BHA.                   |
| 3 | 16895          | 6.125            | 3       | The Interval from 16880 feet to 16930 feet MD (7305 feet to 7304 feet TVD) was logged more than 9 hours after drilling due to tripping to vertical section TVD in order to fix torque issues. |
| 4 | 17683          | 6.125            | 3       | The interval from 17662 feet to 17709 feet MD (7315 feet to 7318 feet TVD) was not logged due to bit sensor offset at TD.                                                                     |

### Curve Mnemonics

| Curve   | Description                       | Units    |
|---------|-----------------------------------|----------|
| GRAX    | Gamma Ray - Apparent              | API      |
| GRIX    | Gamma Ray - Data Point Indicator  | unitless |
| GRSI    | Gamma Slide Ind.                  | unitless |
| GRTX    | Gamma Ray Time Since Drilled GRTX | min      |
| ROP_AVG | Depth Averaged ROP                | ft/hr    |
| TCDX    | Downhole Temperature              | degF     |
| TVD     | True Vertical Depth TVD           | ft       |
| WOB_AVG | AVERAGE Weight On Bit             | klbf     |

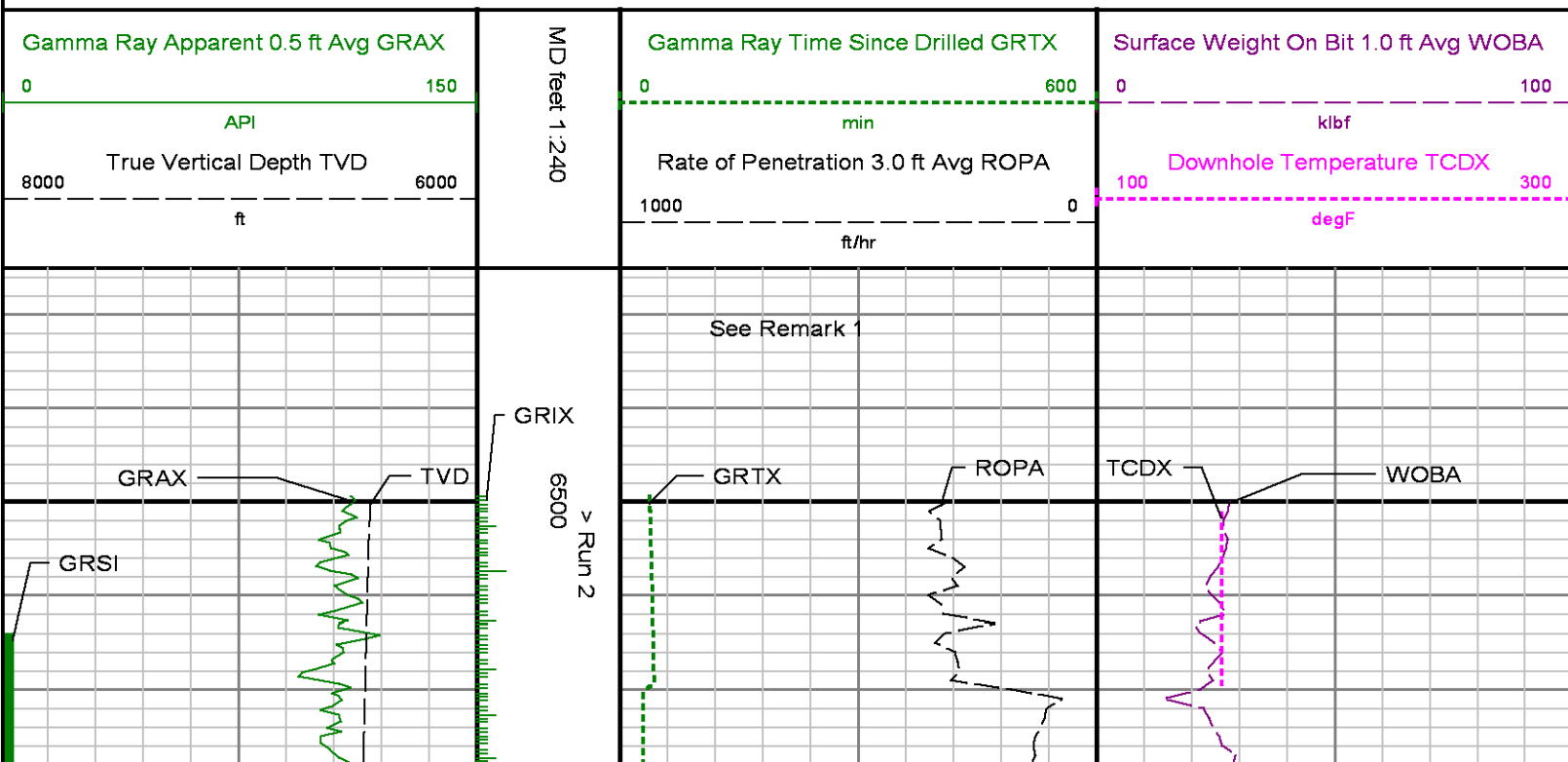


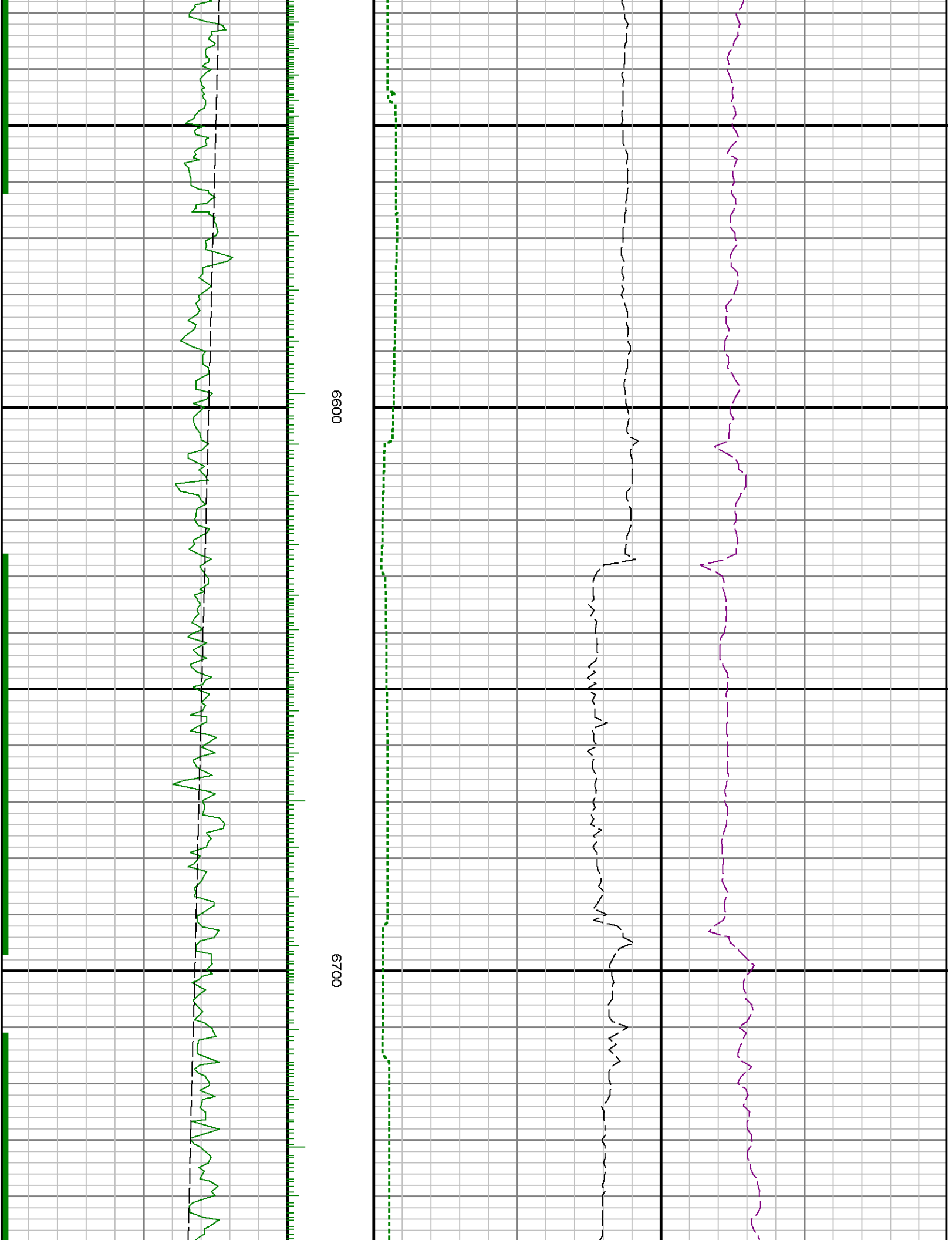
Company : Kerr McKee Oil & Gas Onshore LP

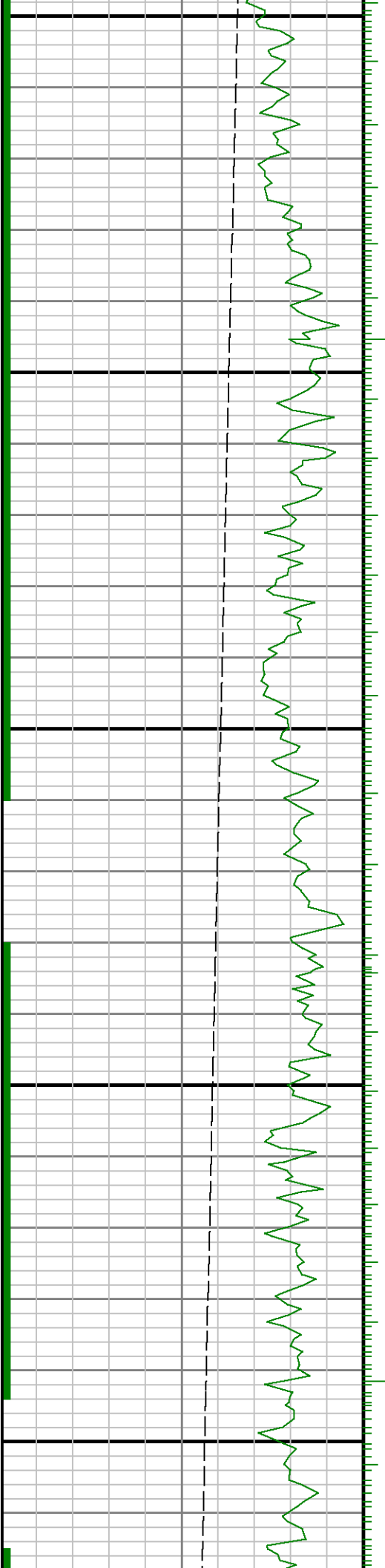
Well : KERR 35N-25HZ

Interval : 6475.00 - 17725.00 feet

Created : 26/Nov/2014 5:05:08 PM



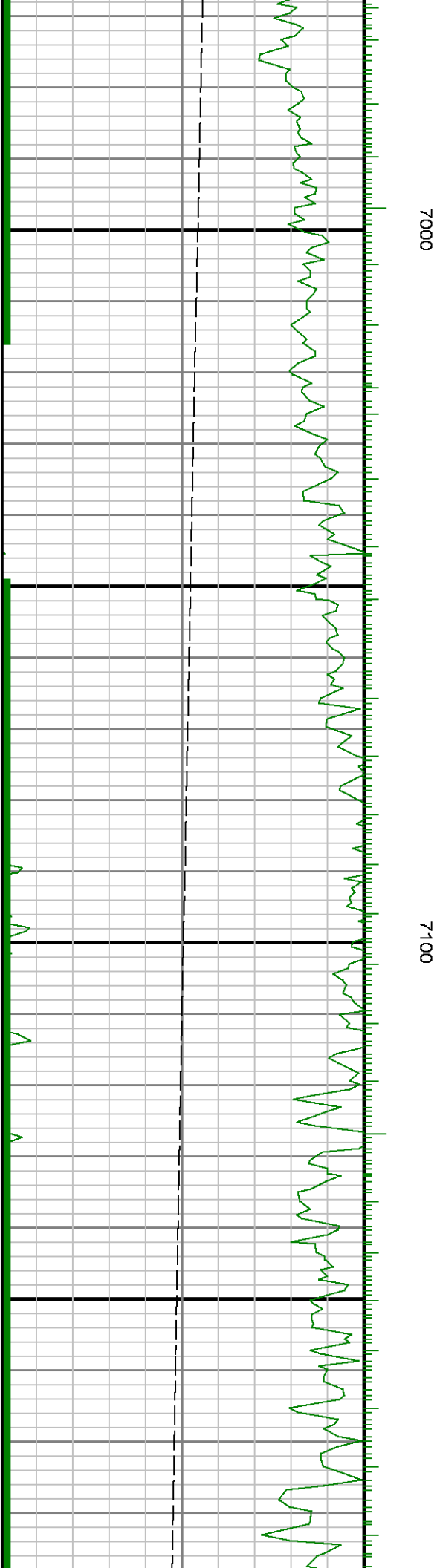
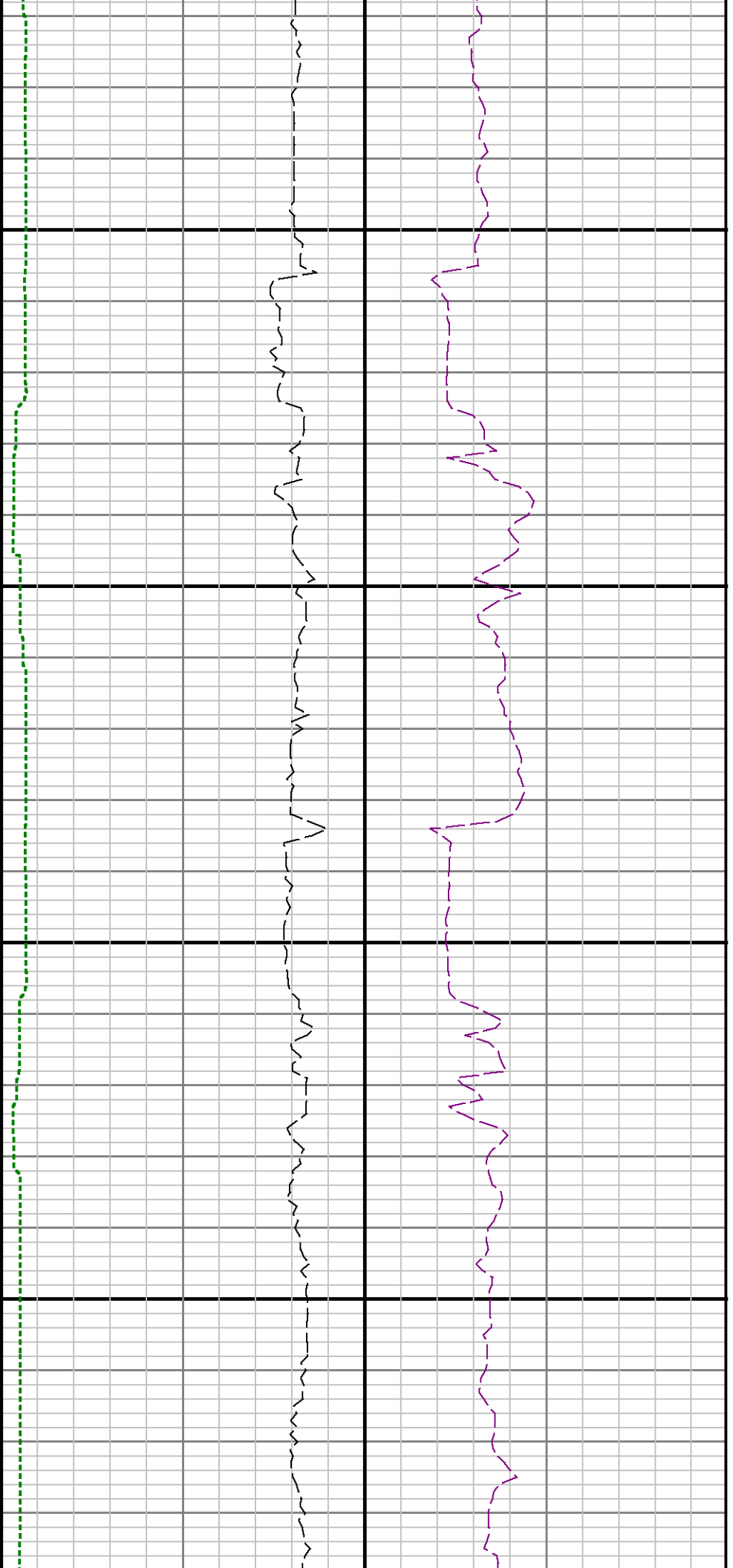


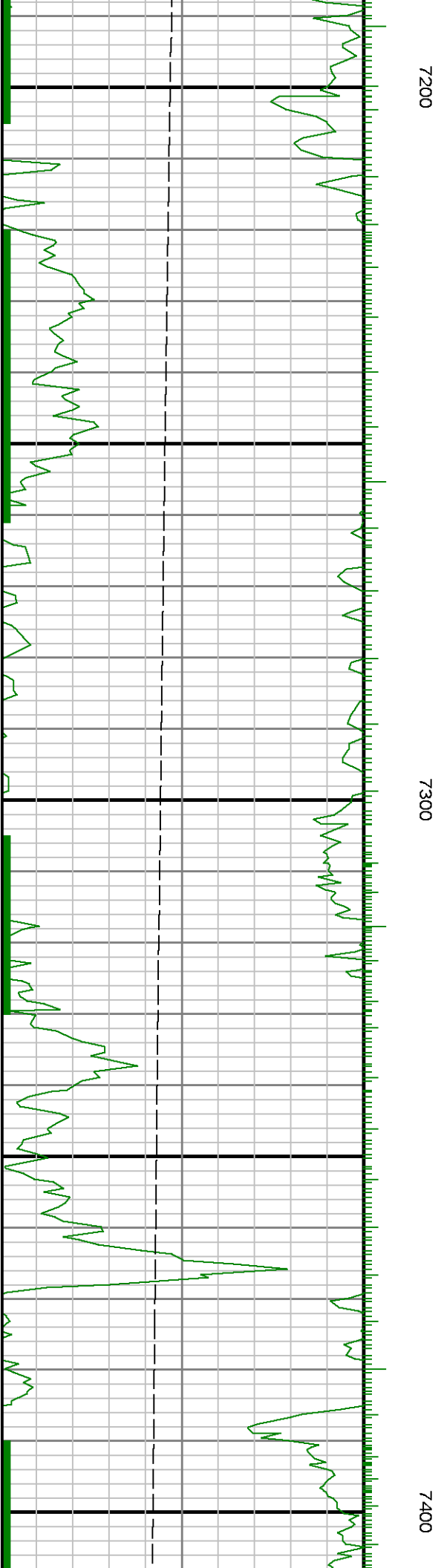
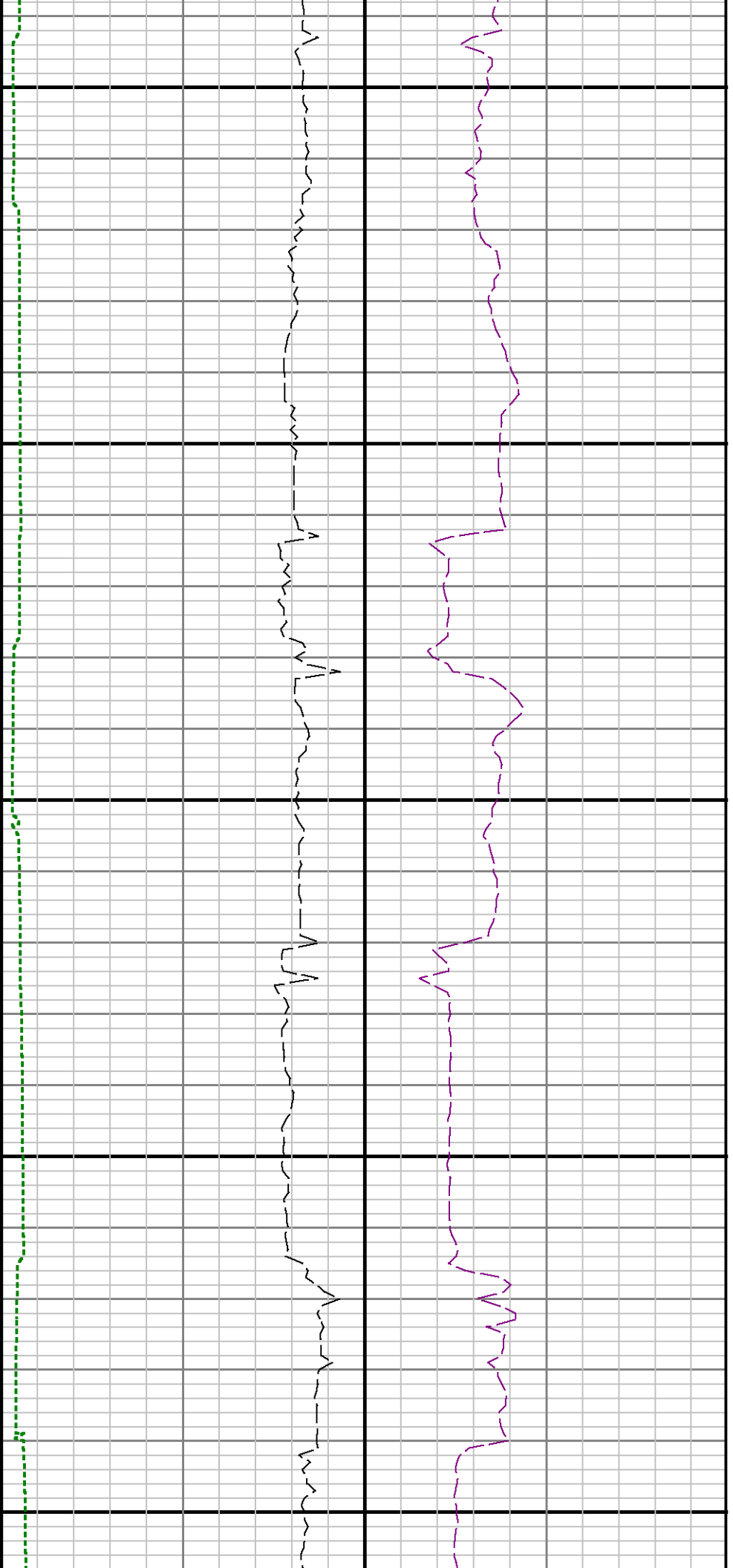


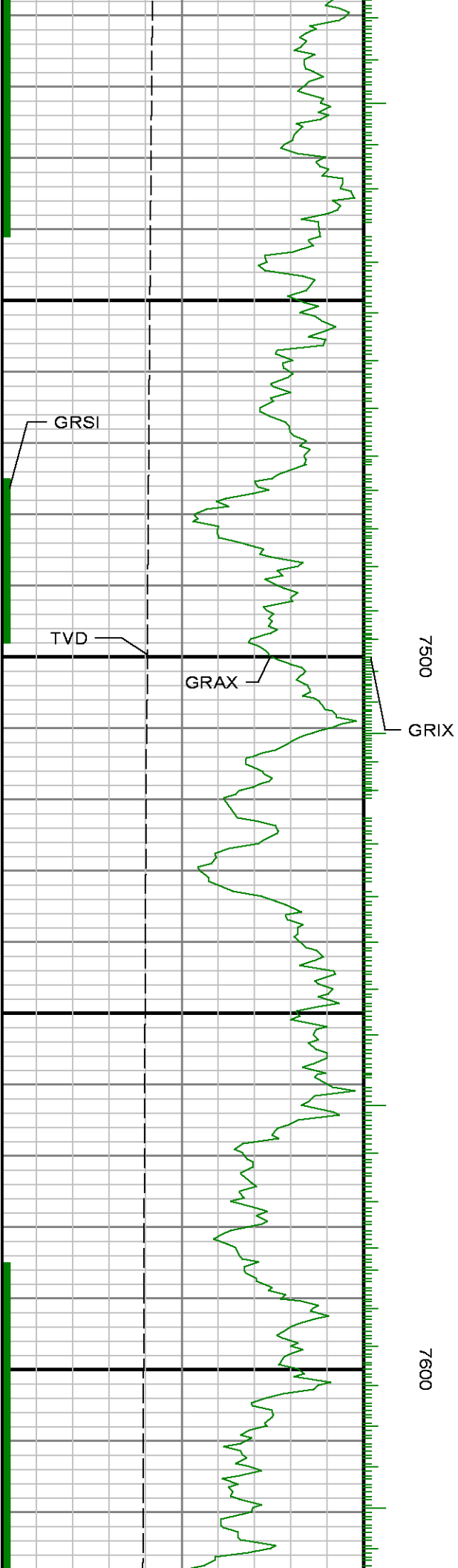
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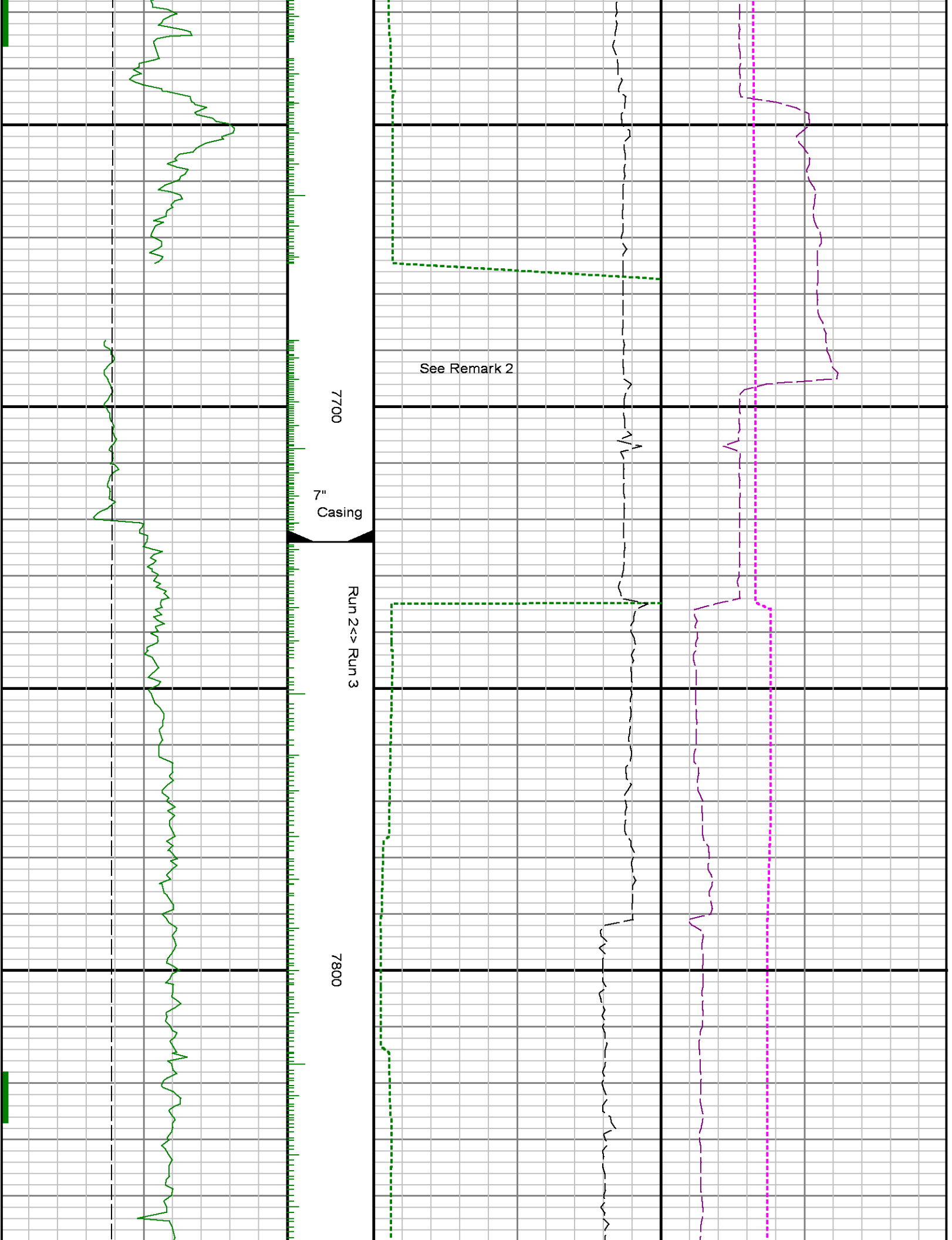


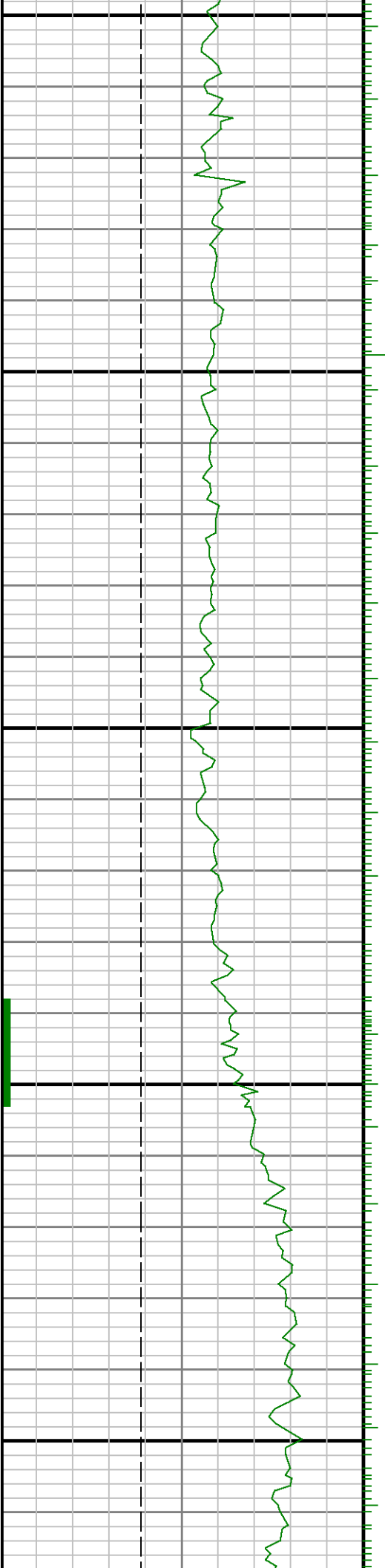






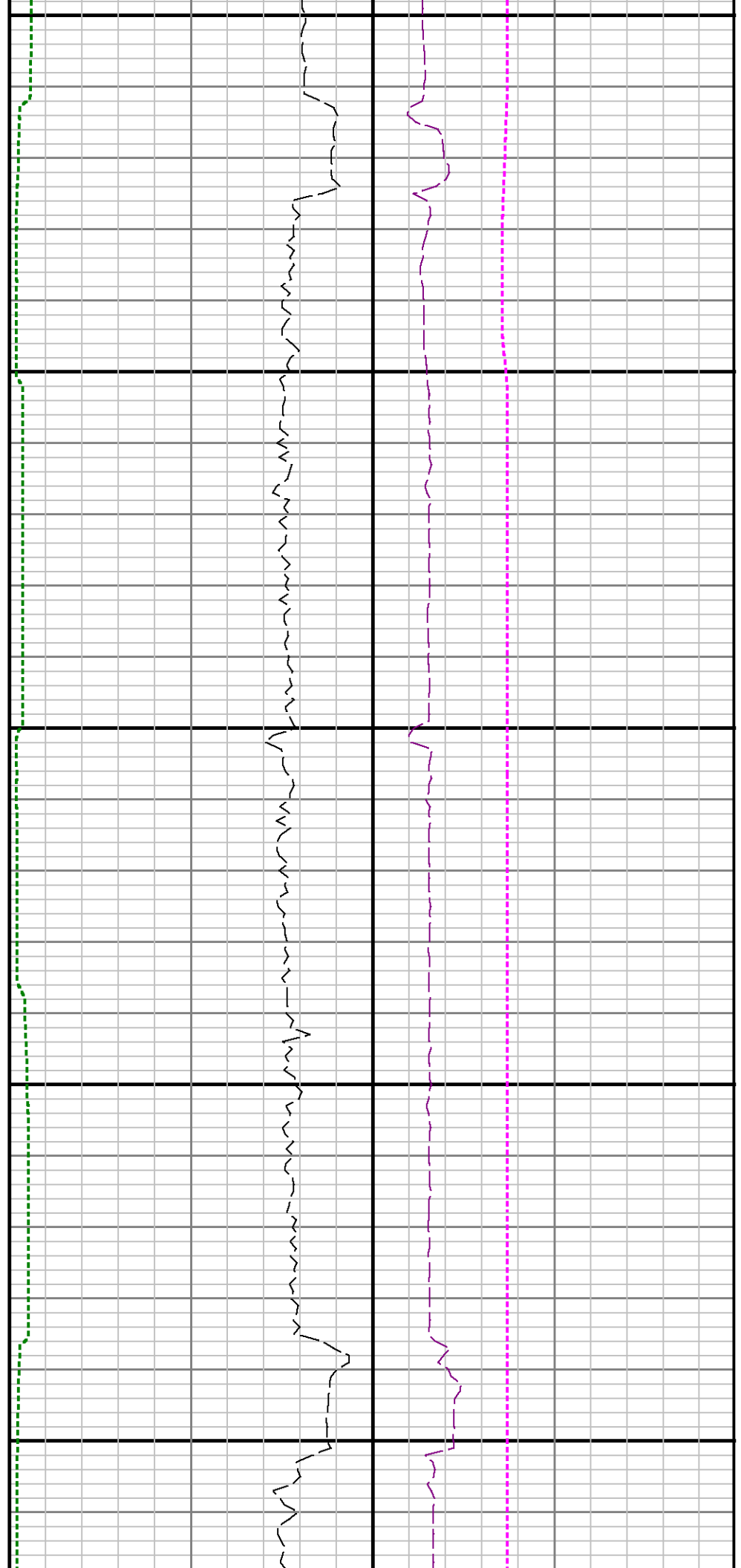


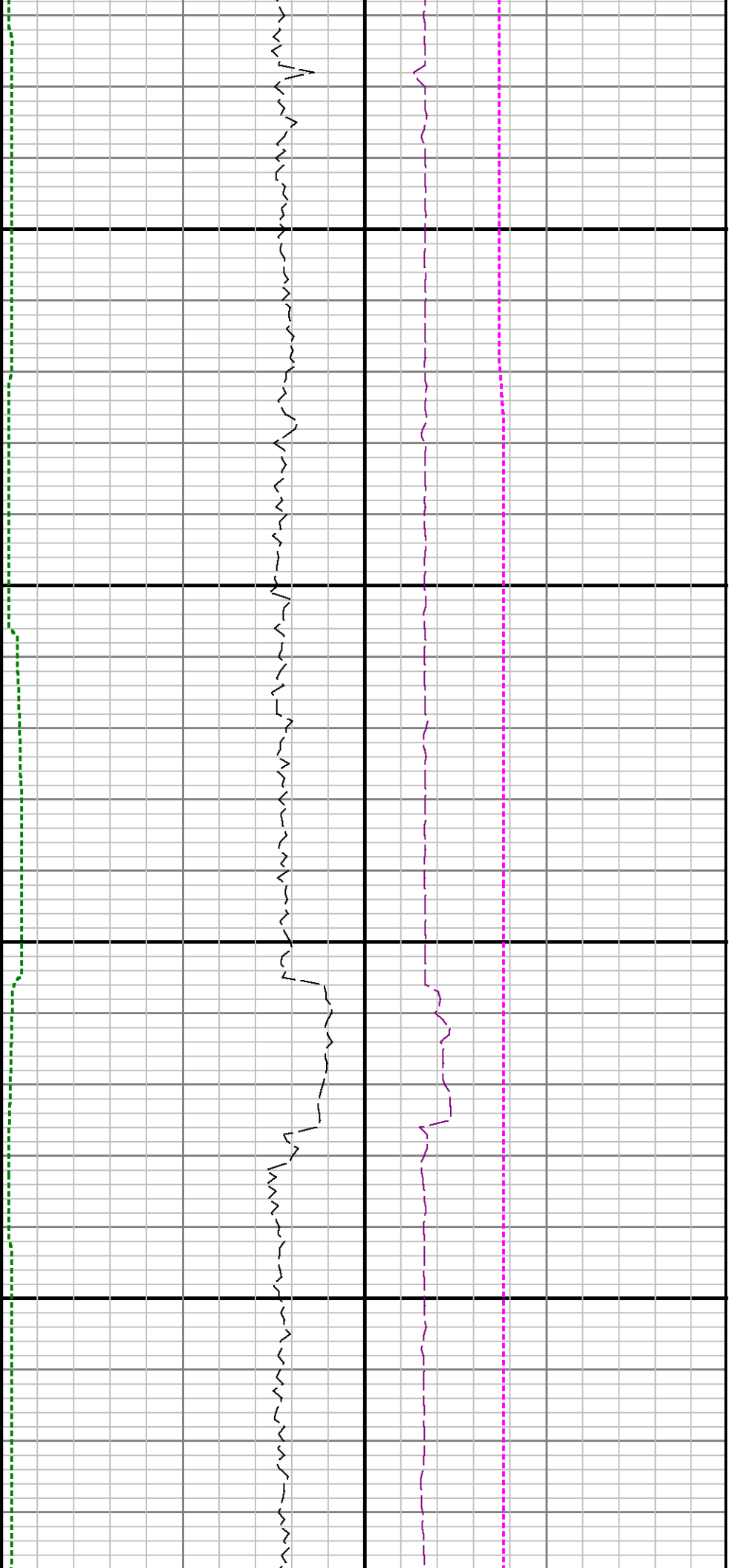




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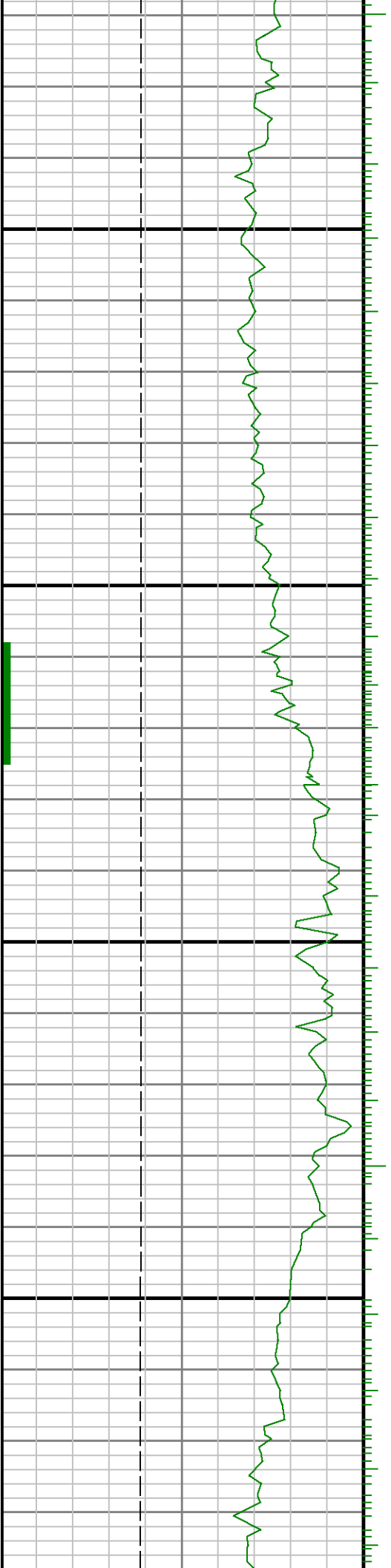
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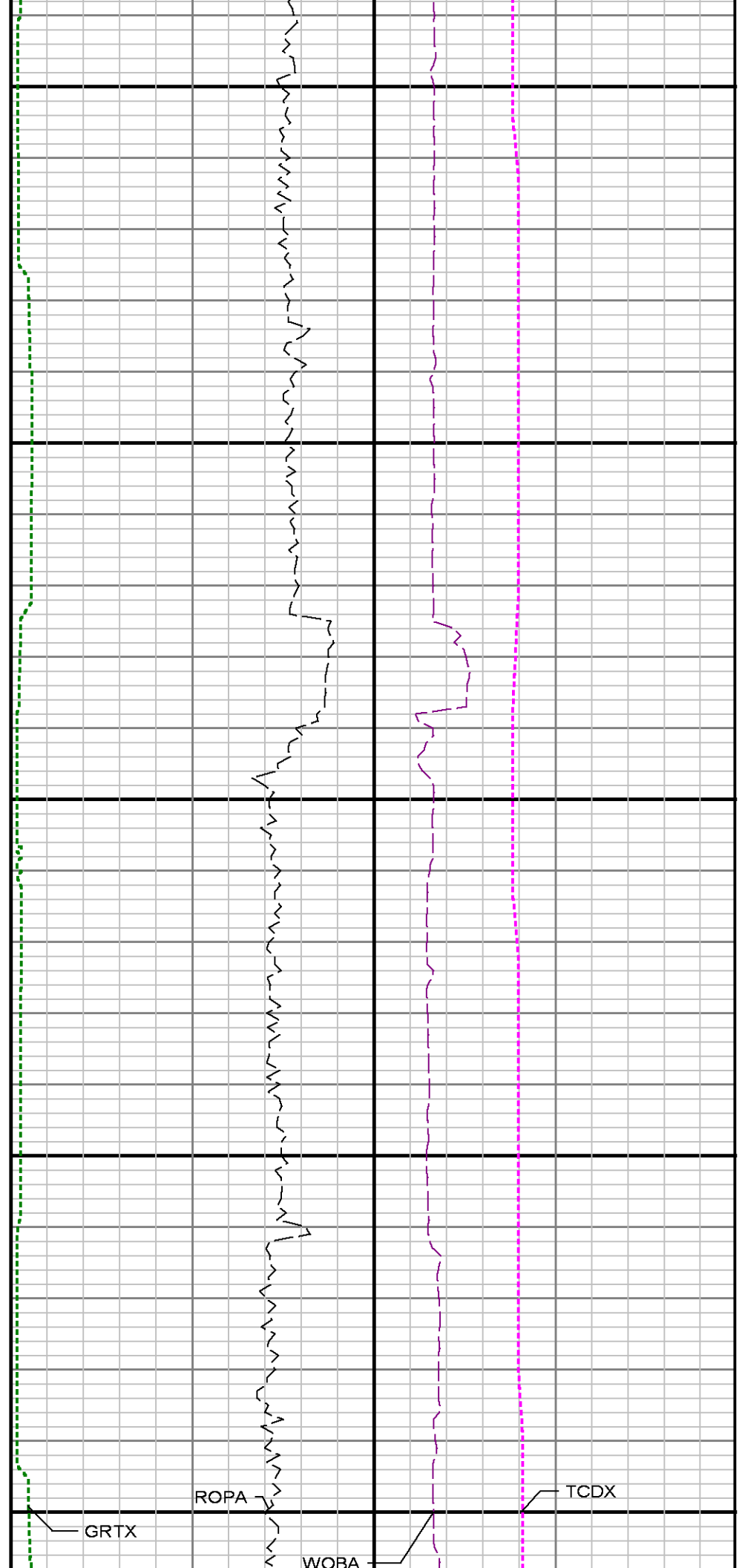
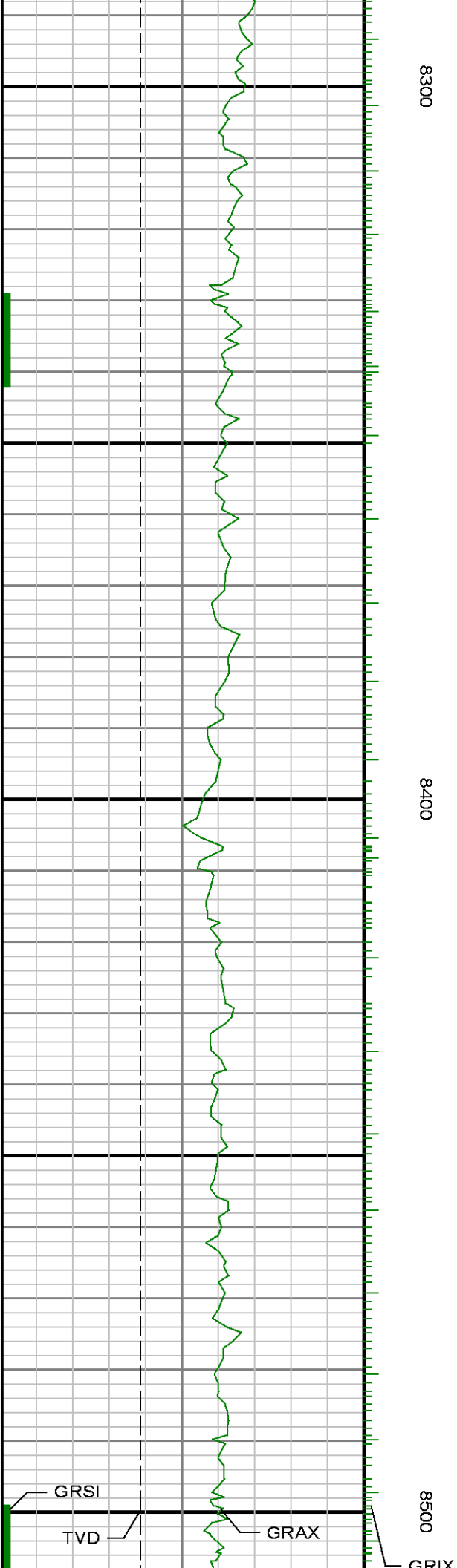


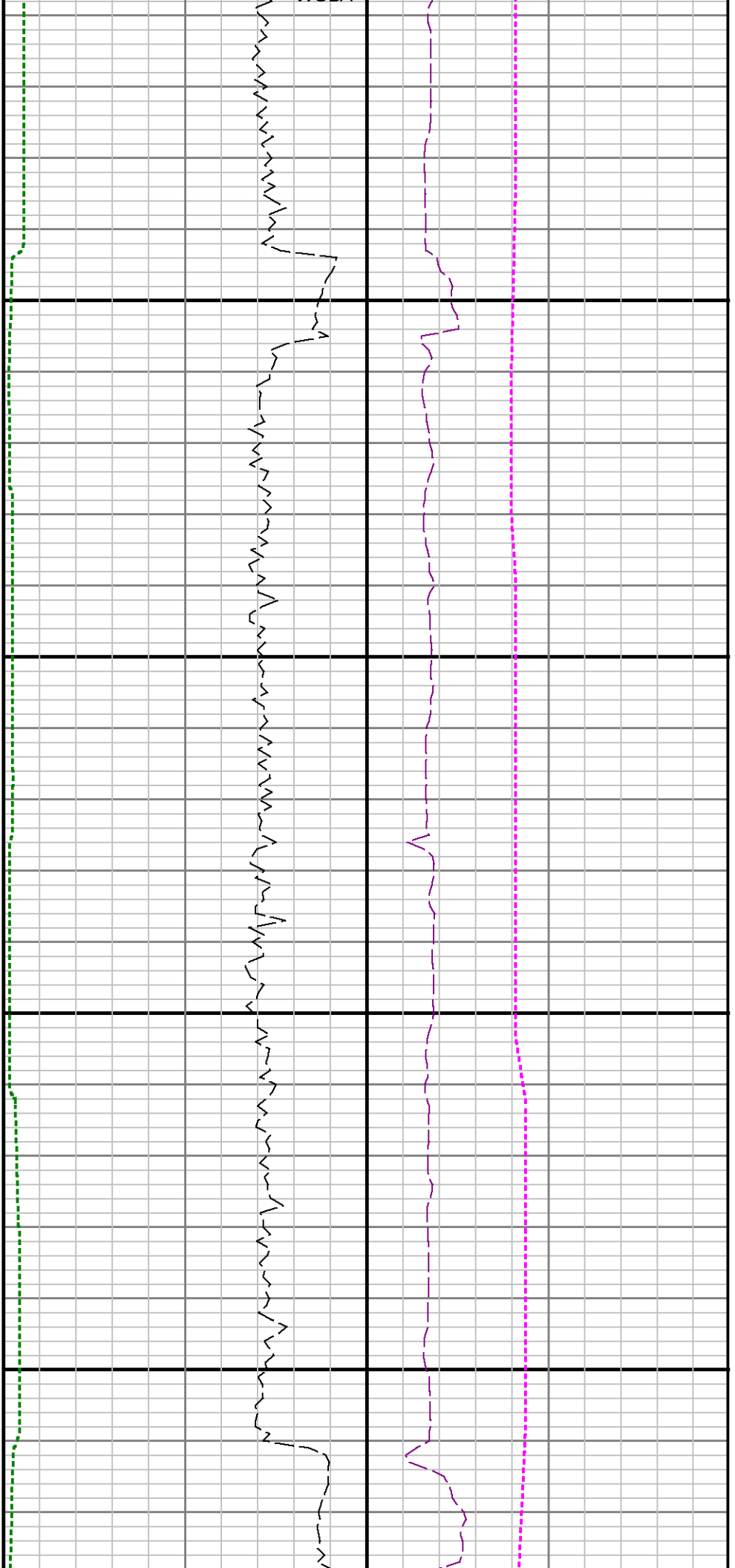


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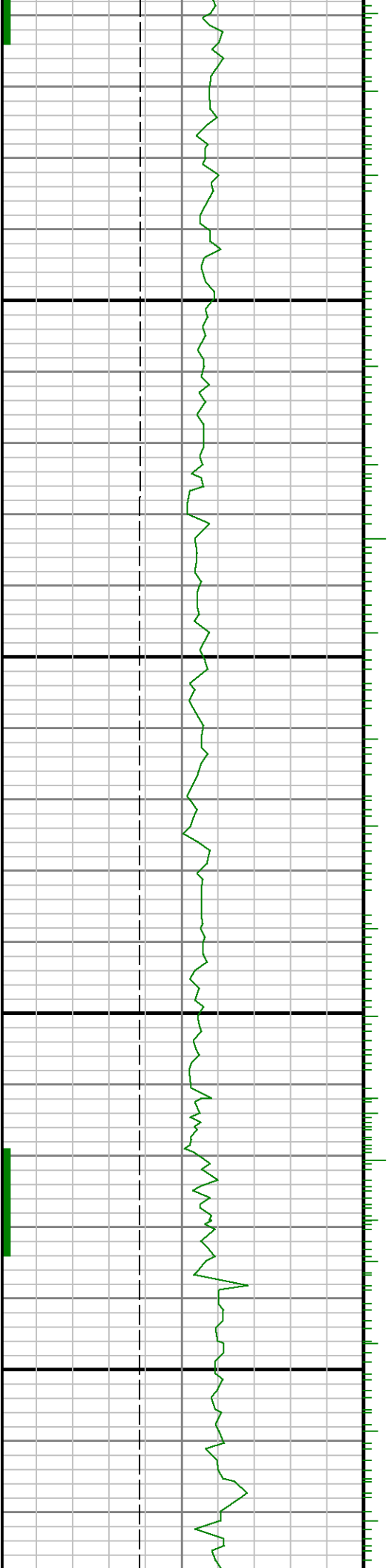


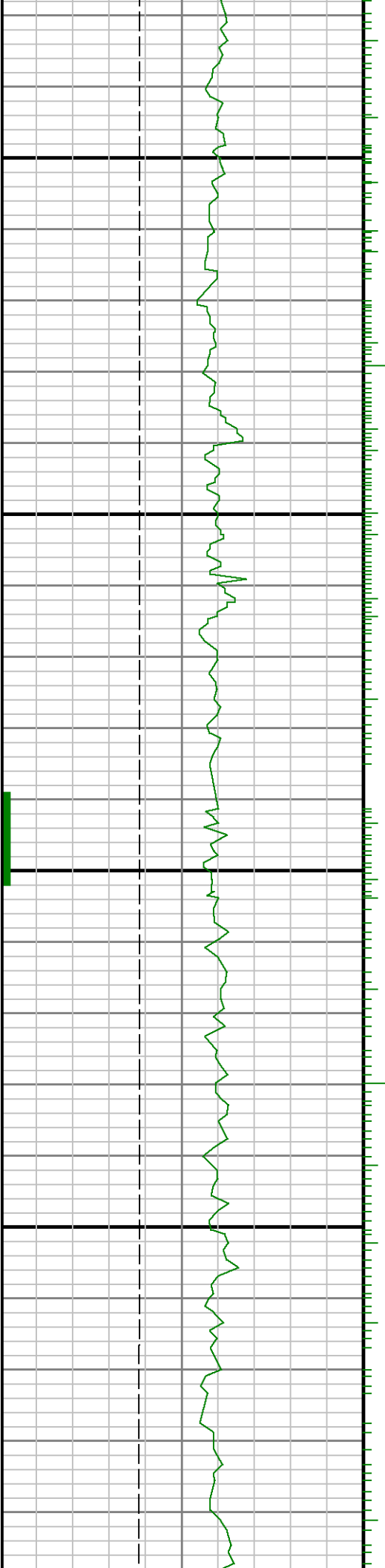




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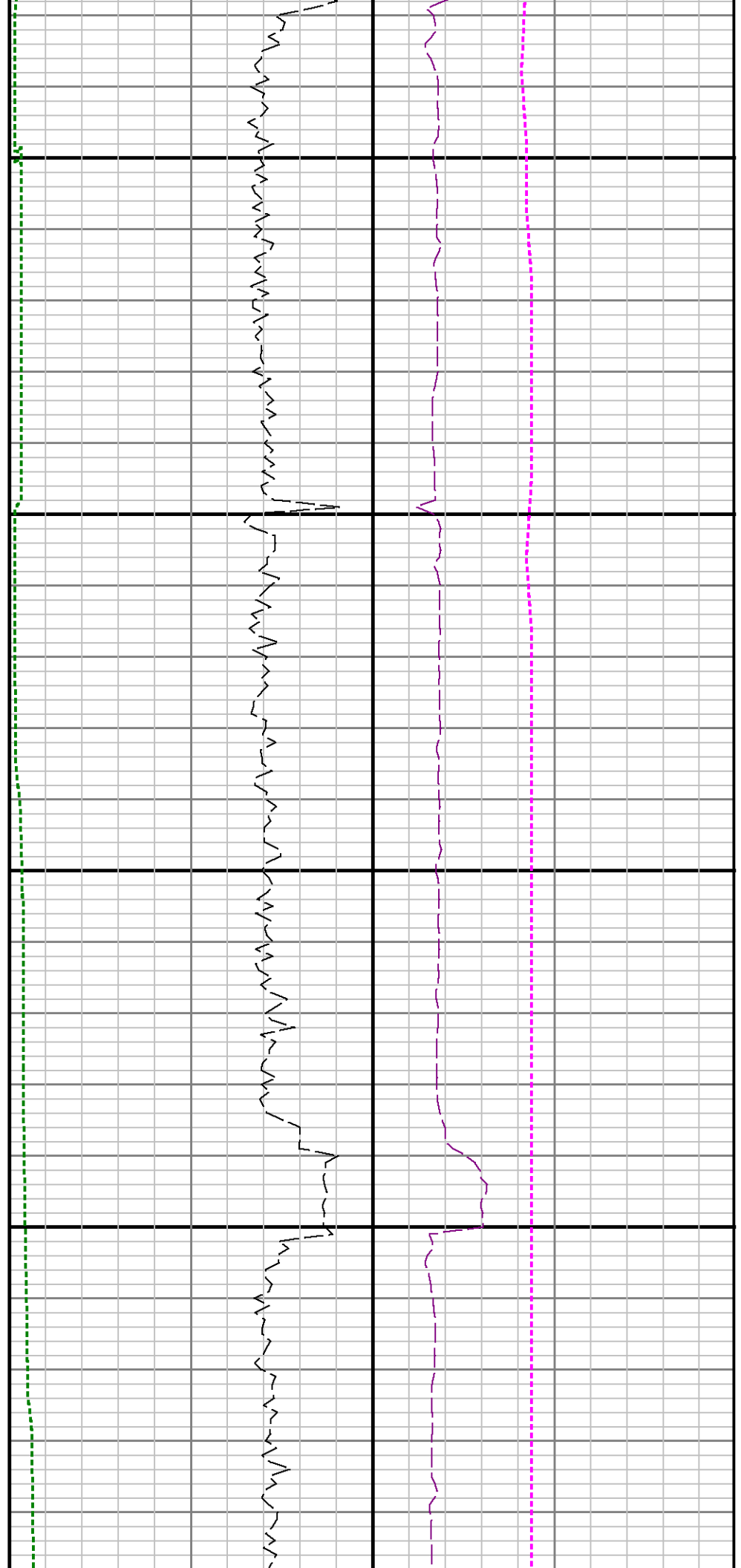
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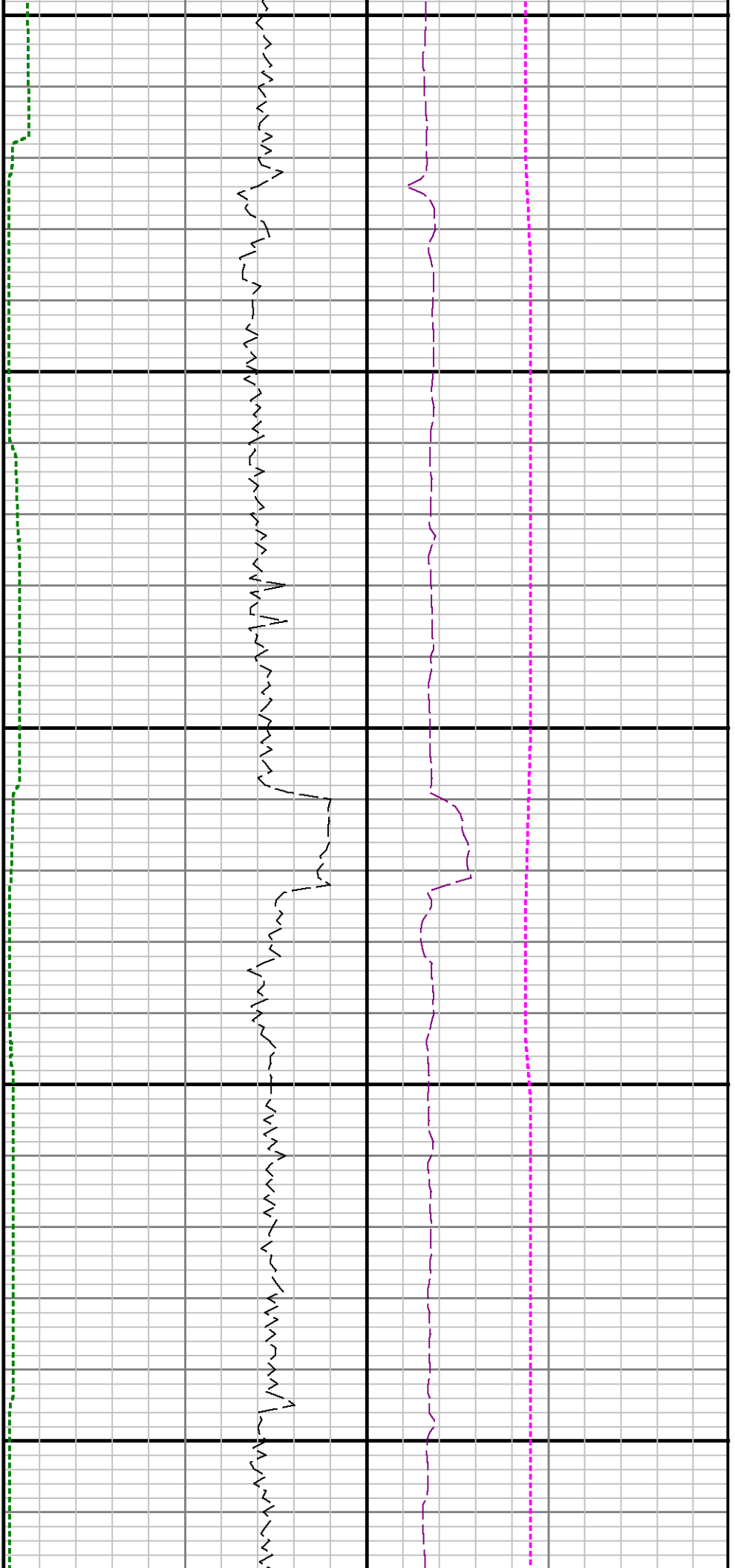




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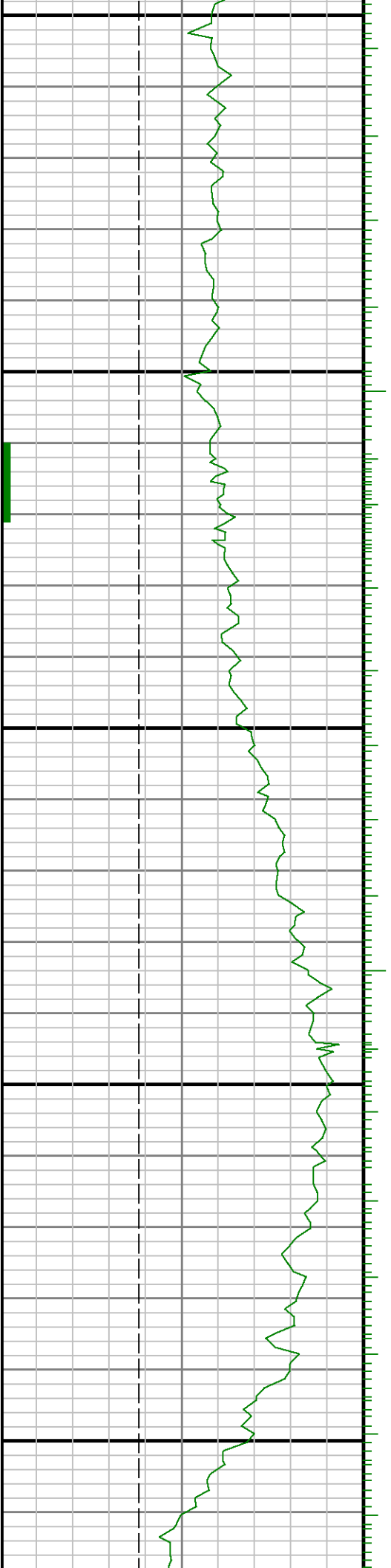
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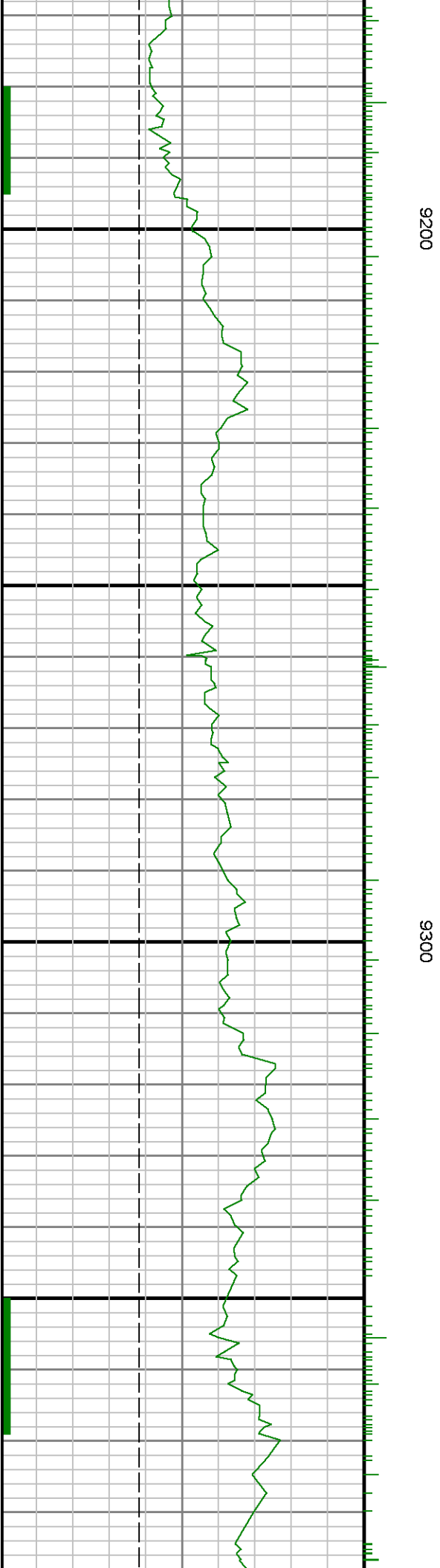




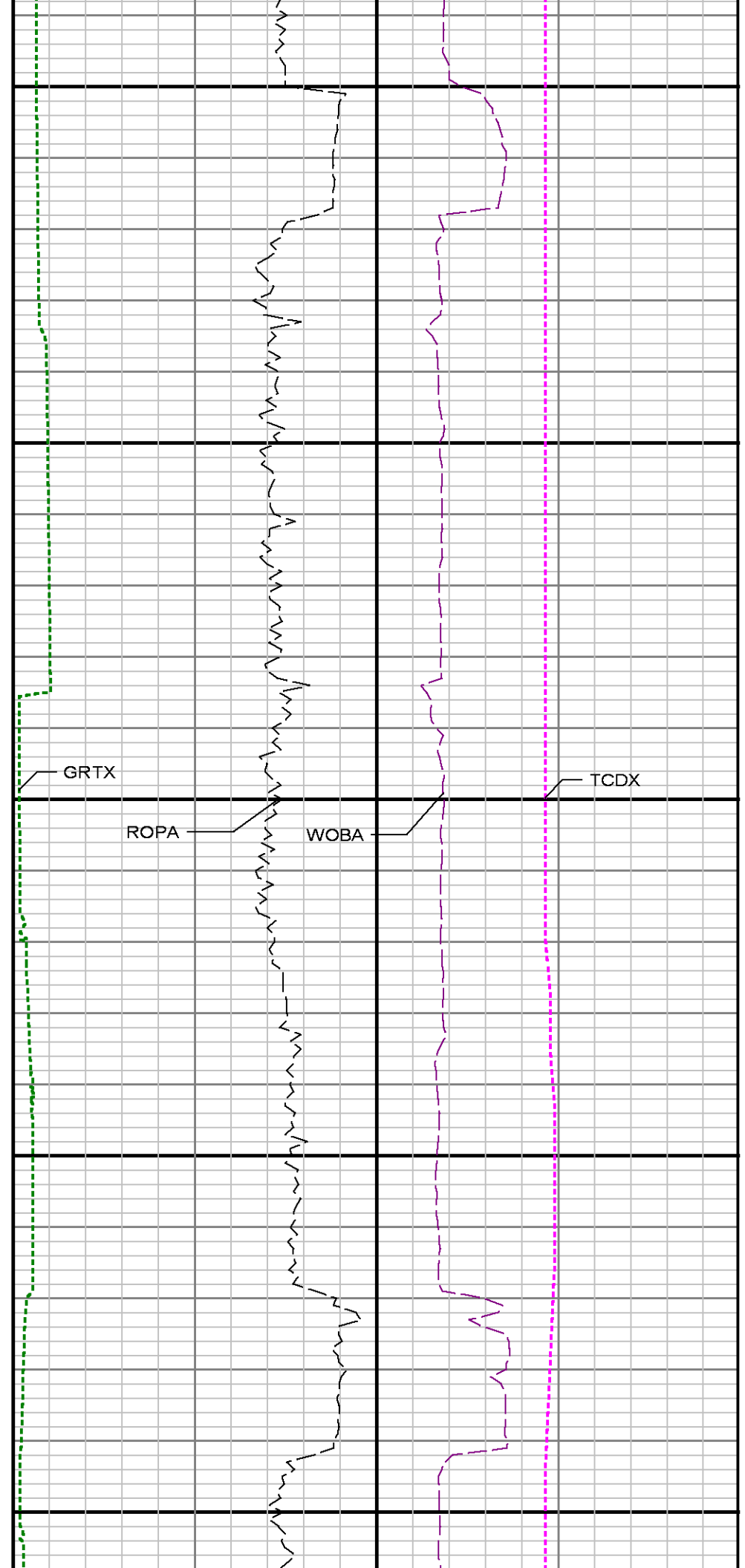
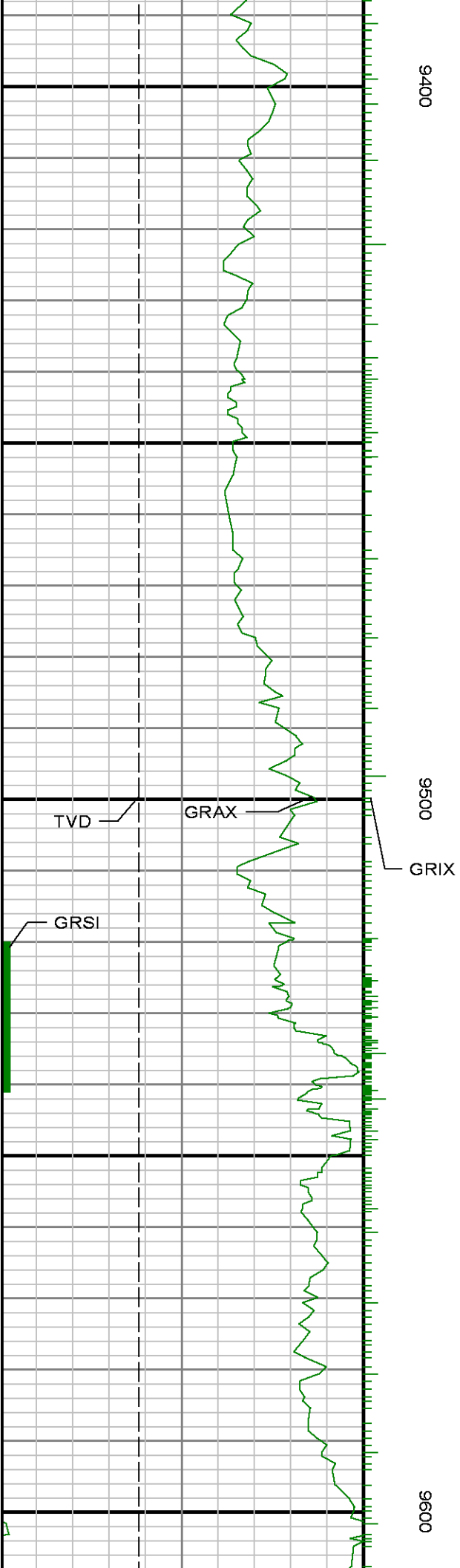
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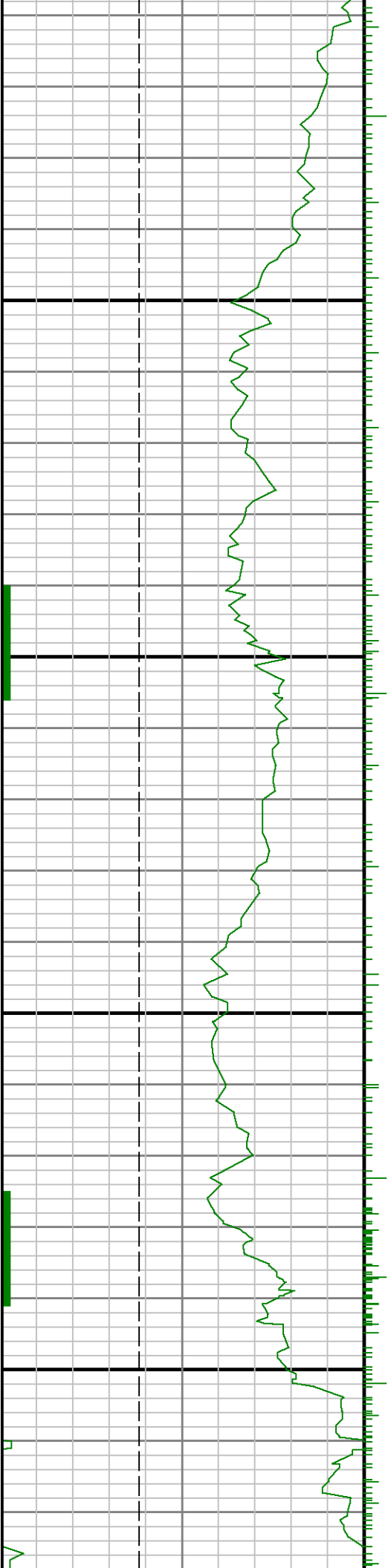
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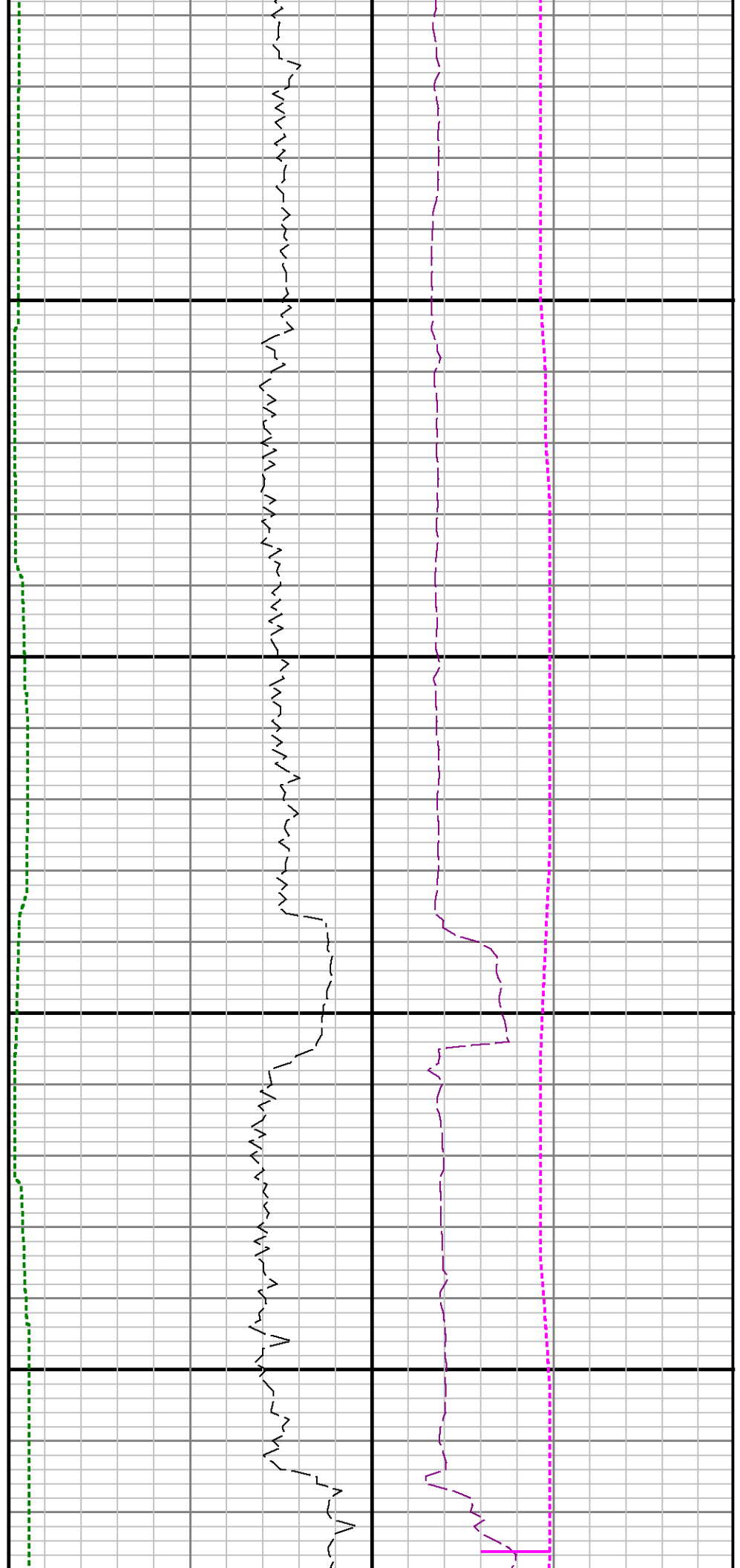


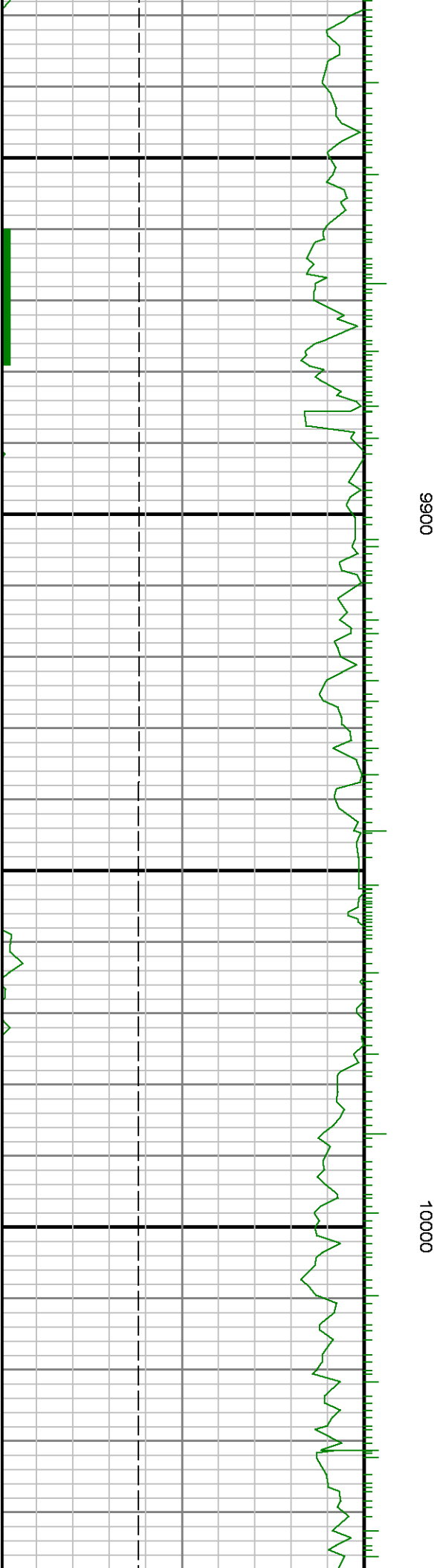
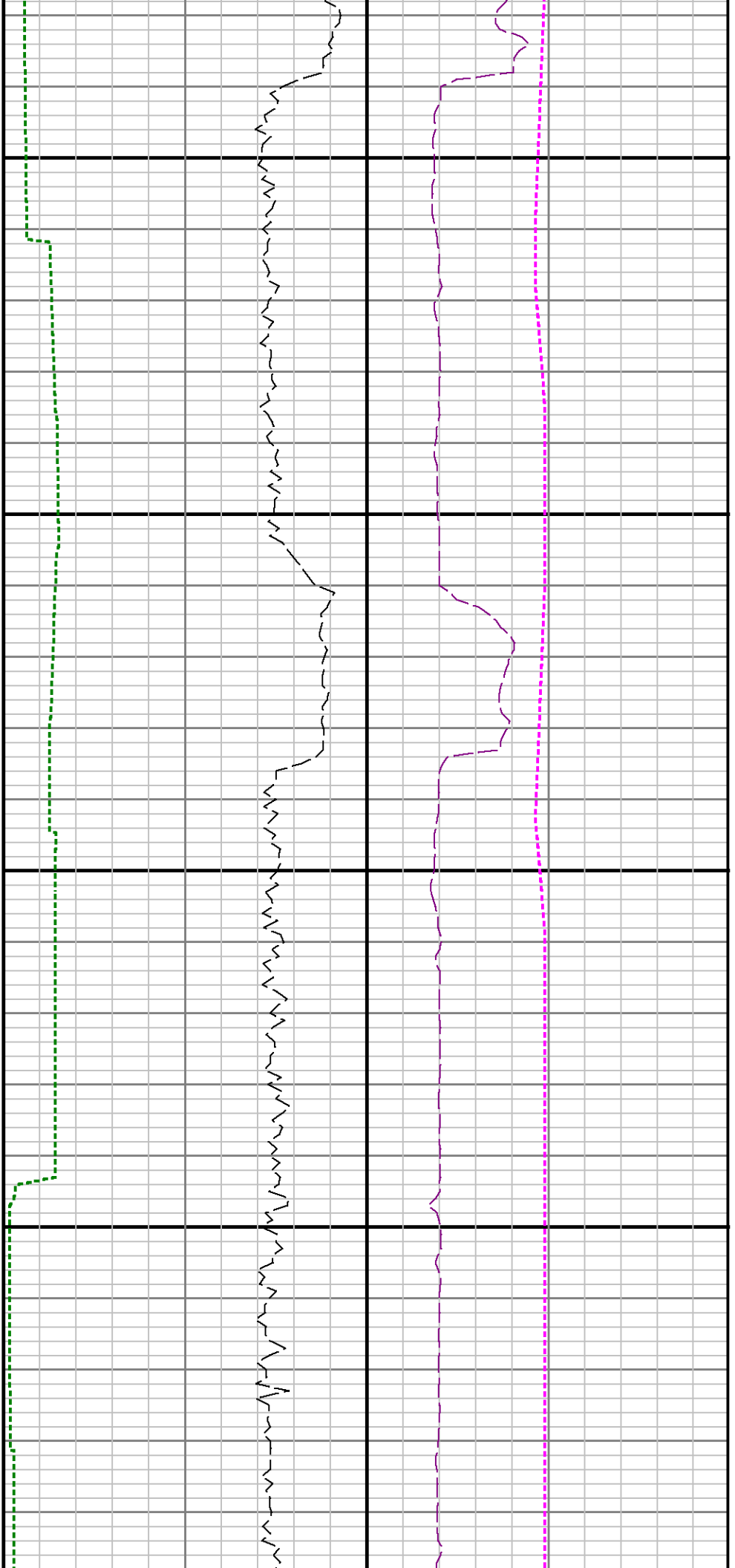




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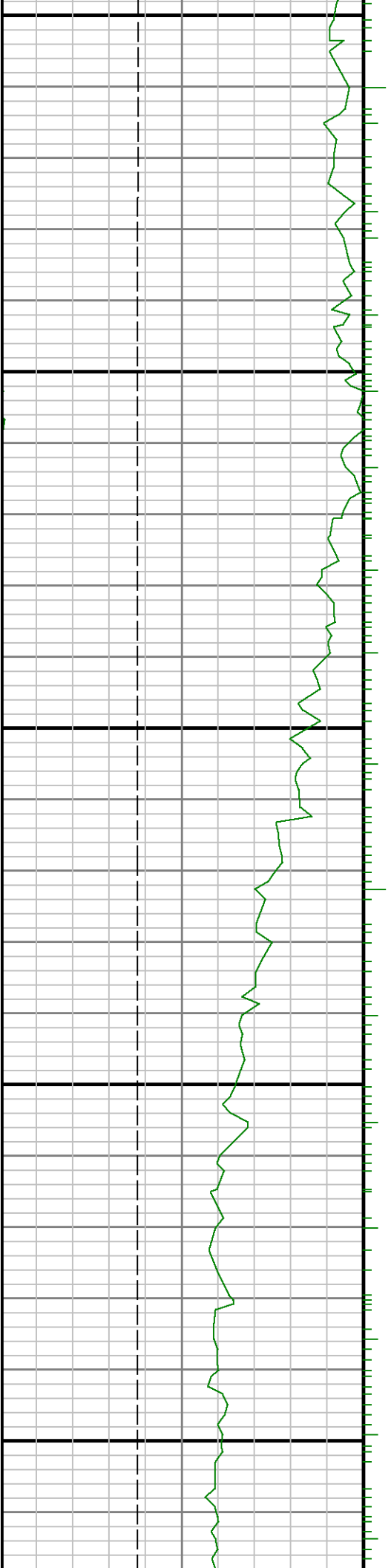






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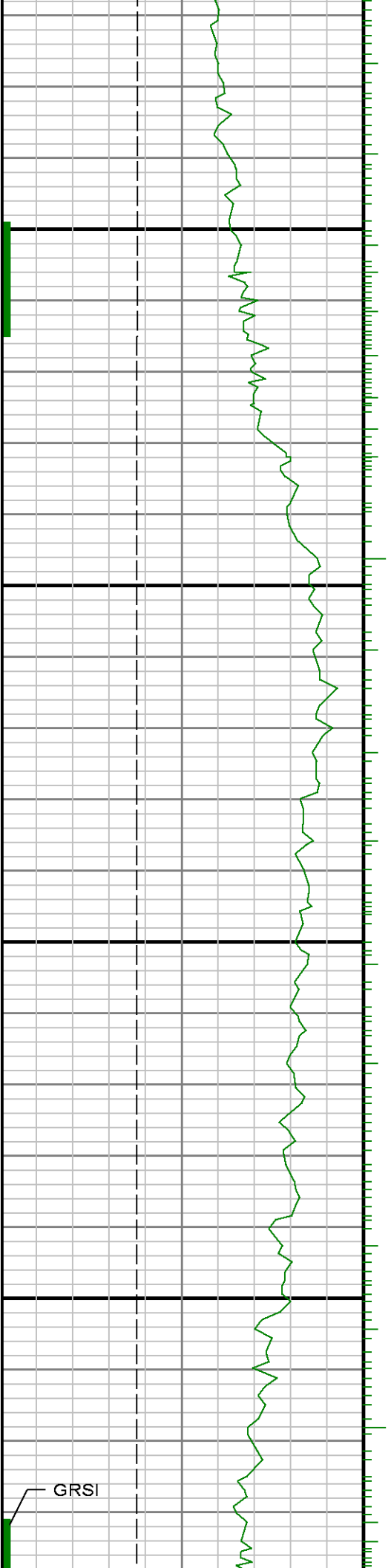
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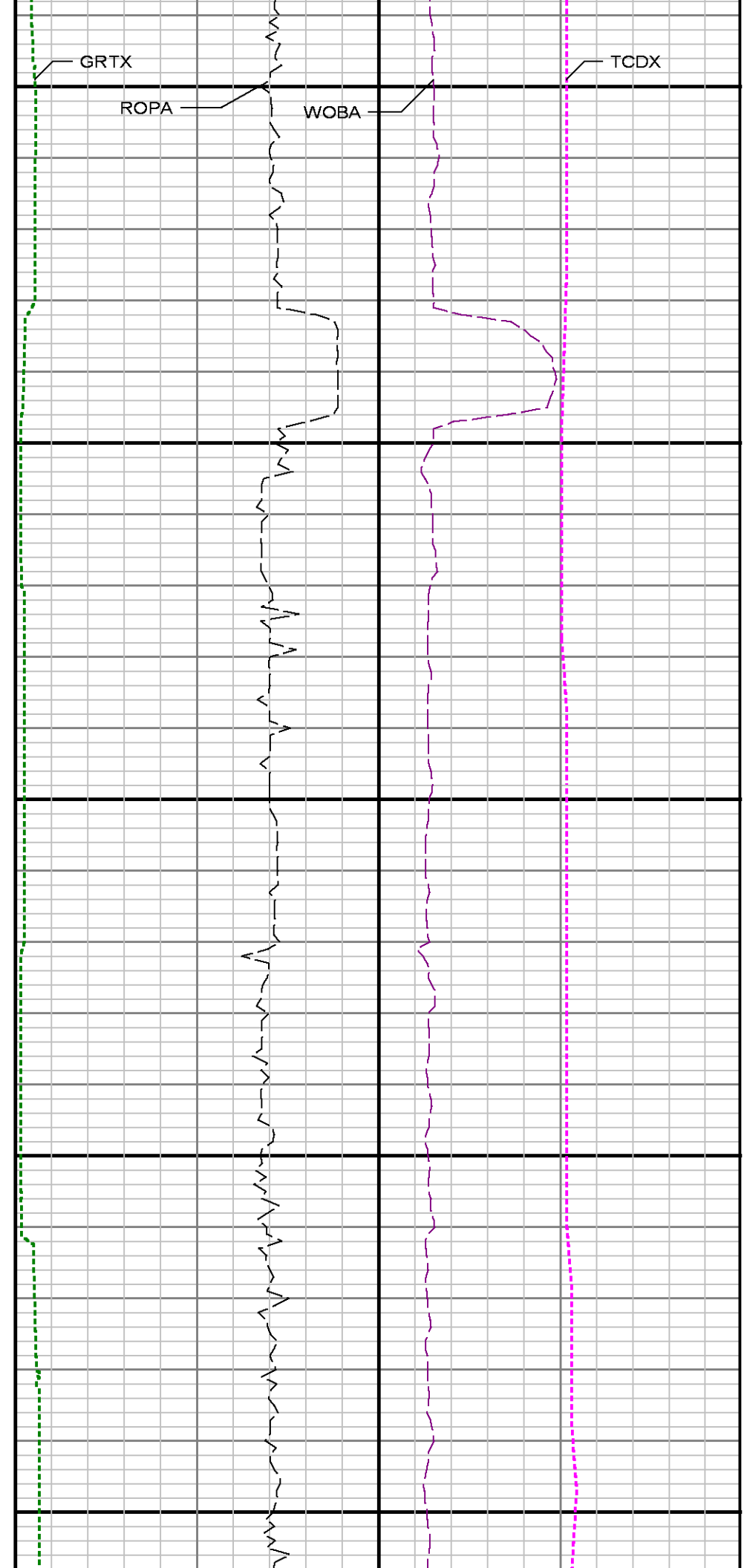
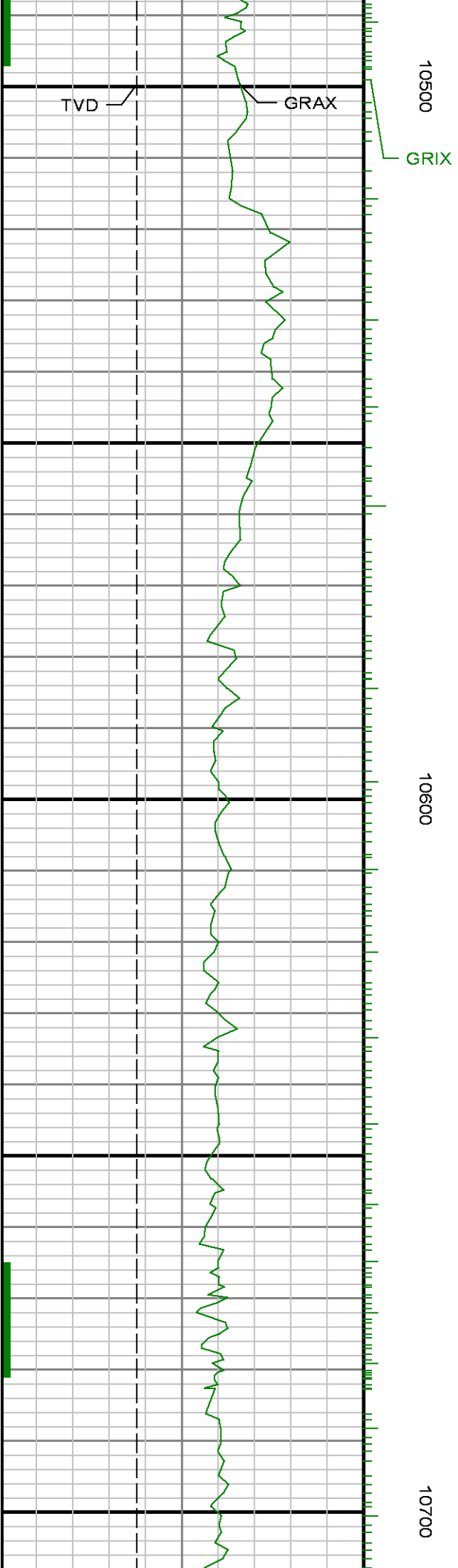


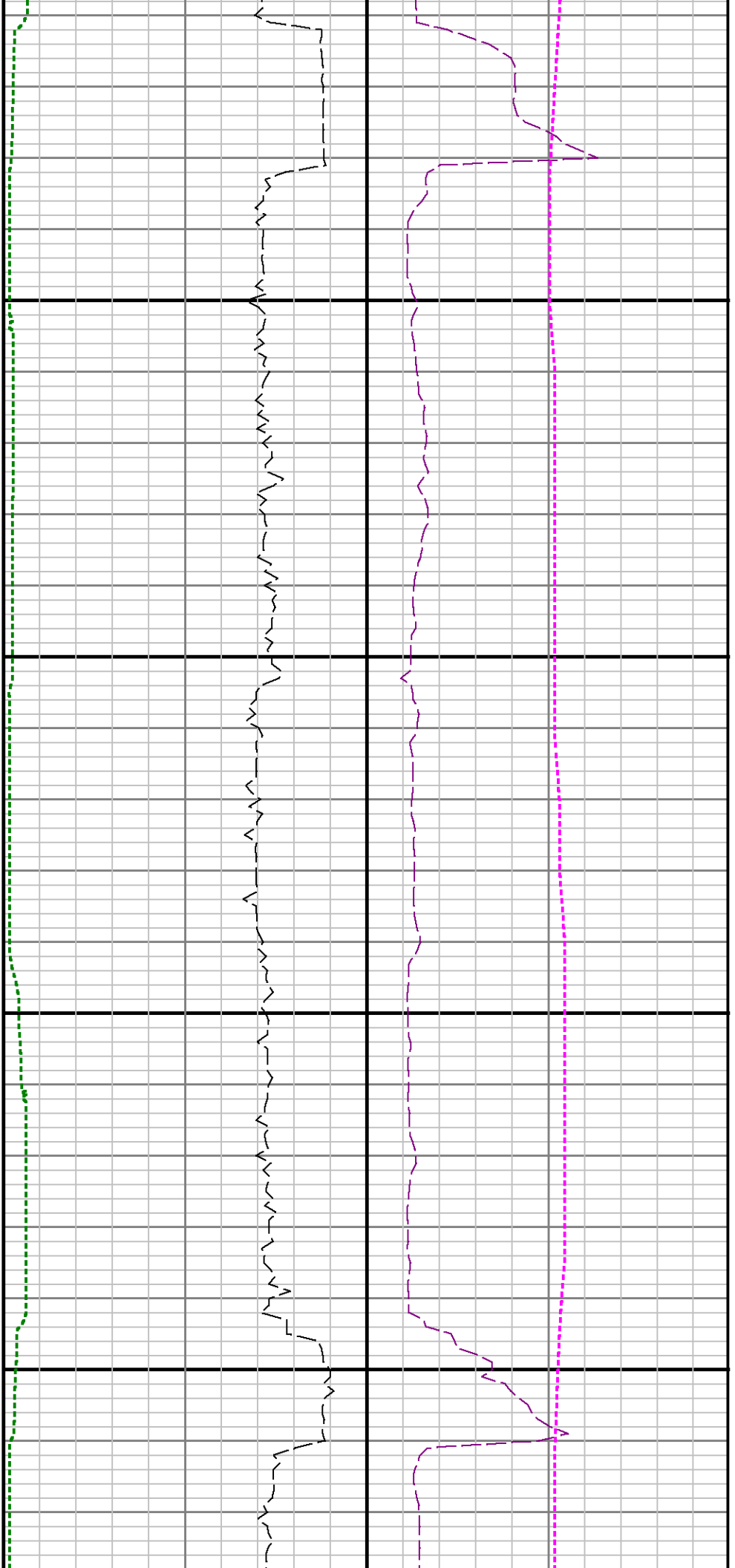
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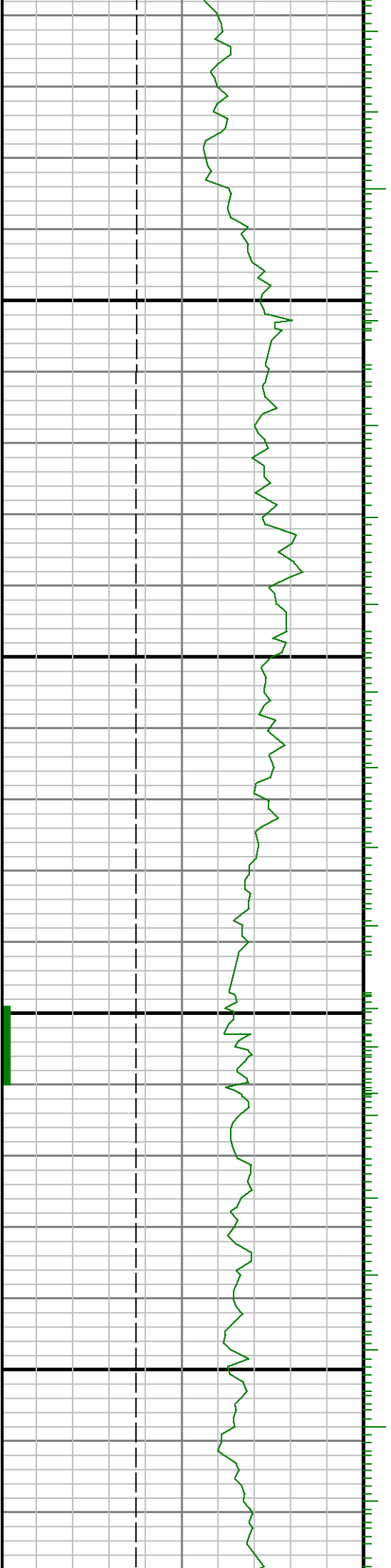
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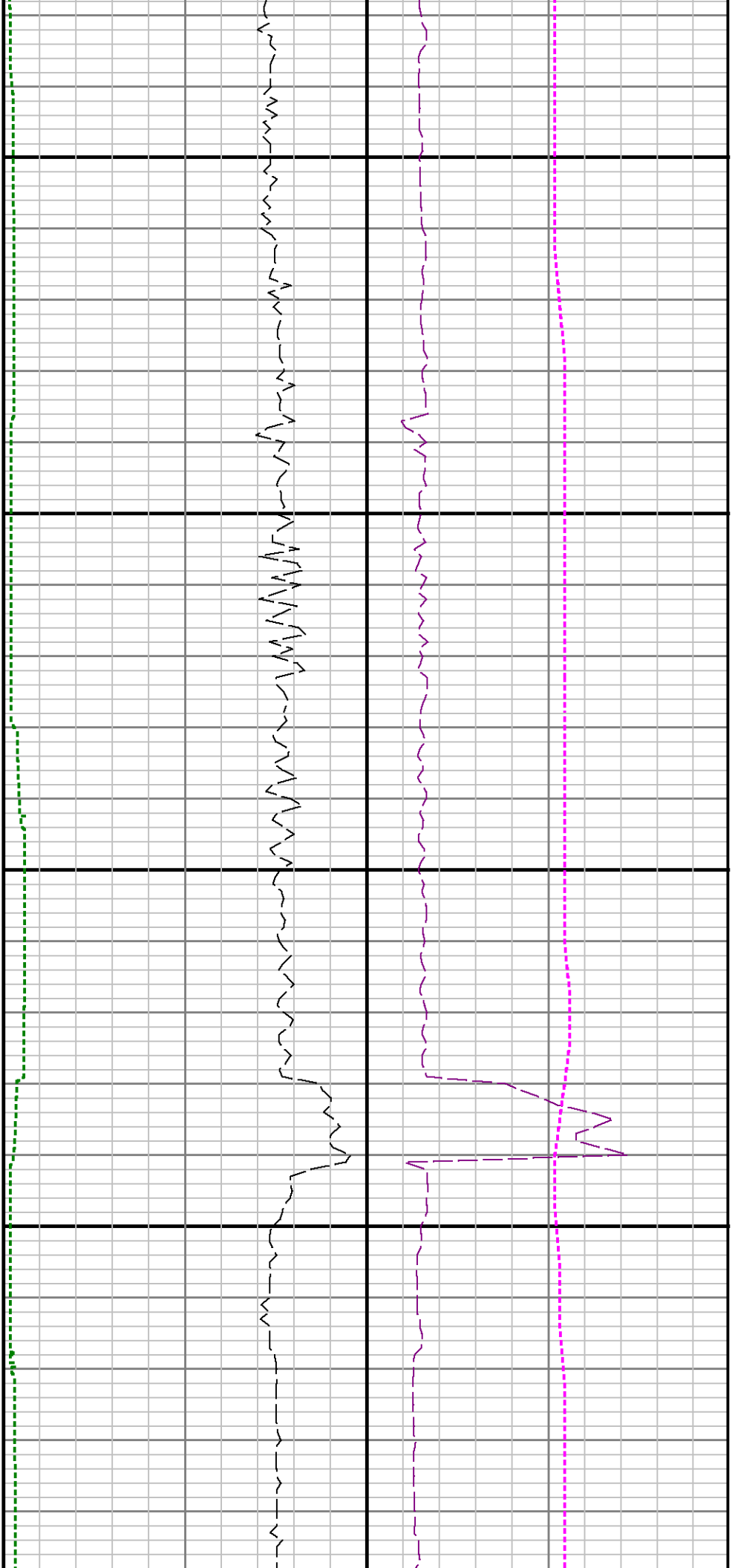




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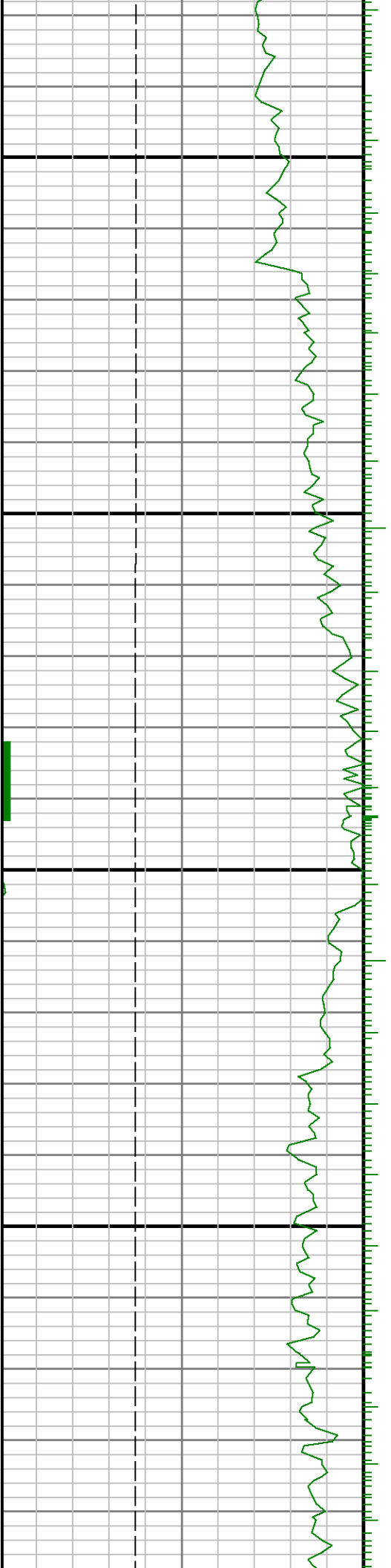
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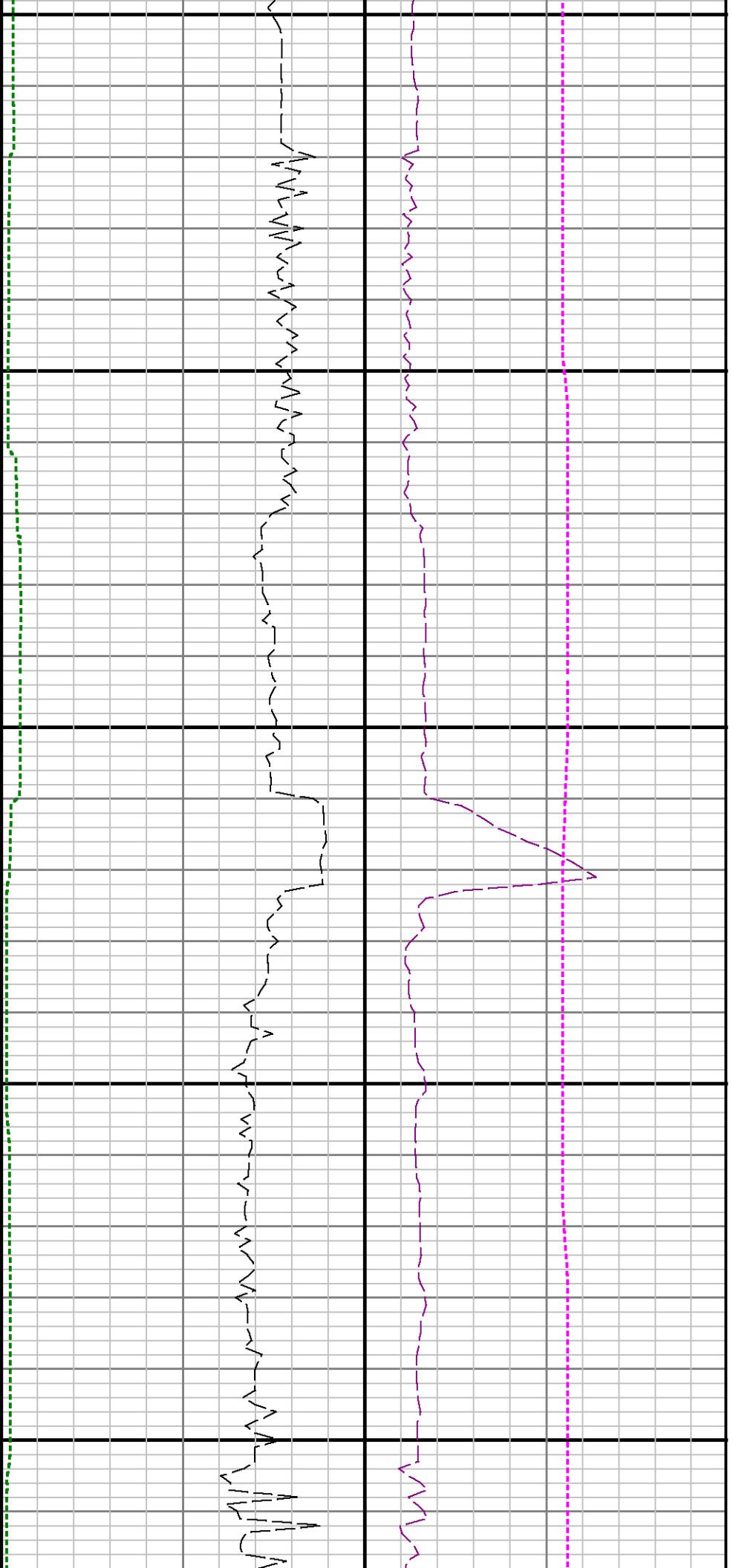


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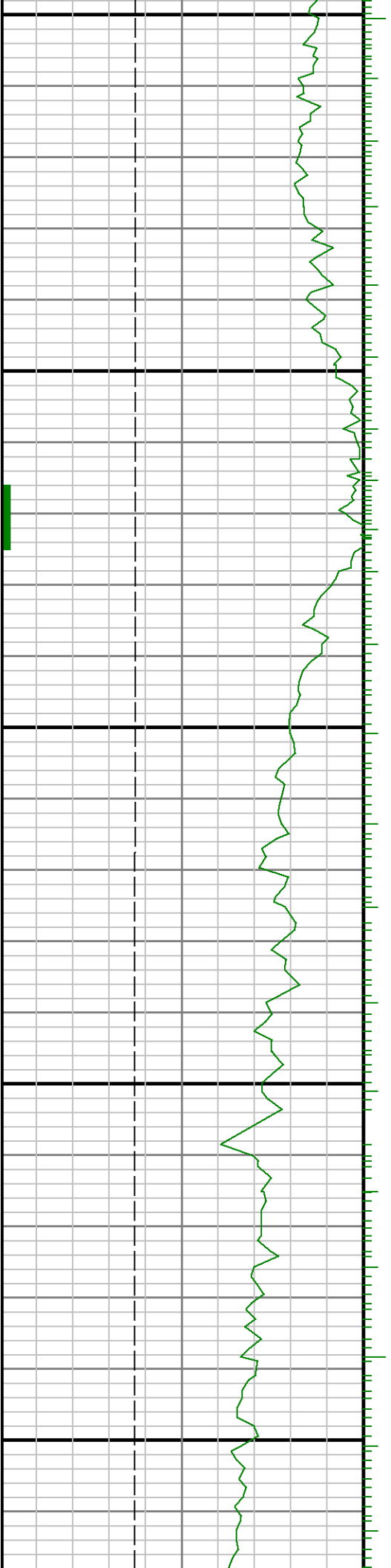


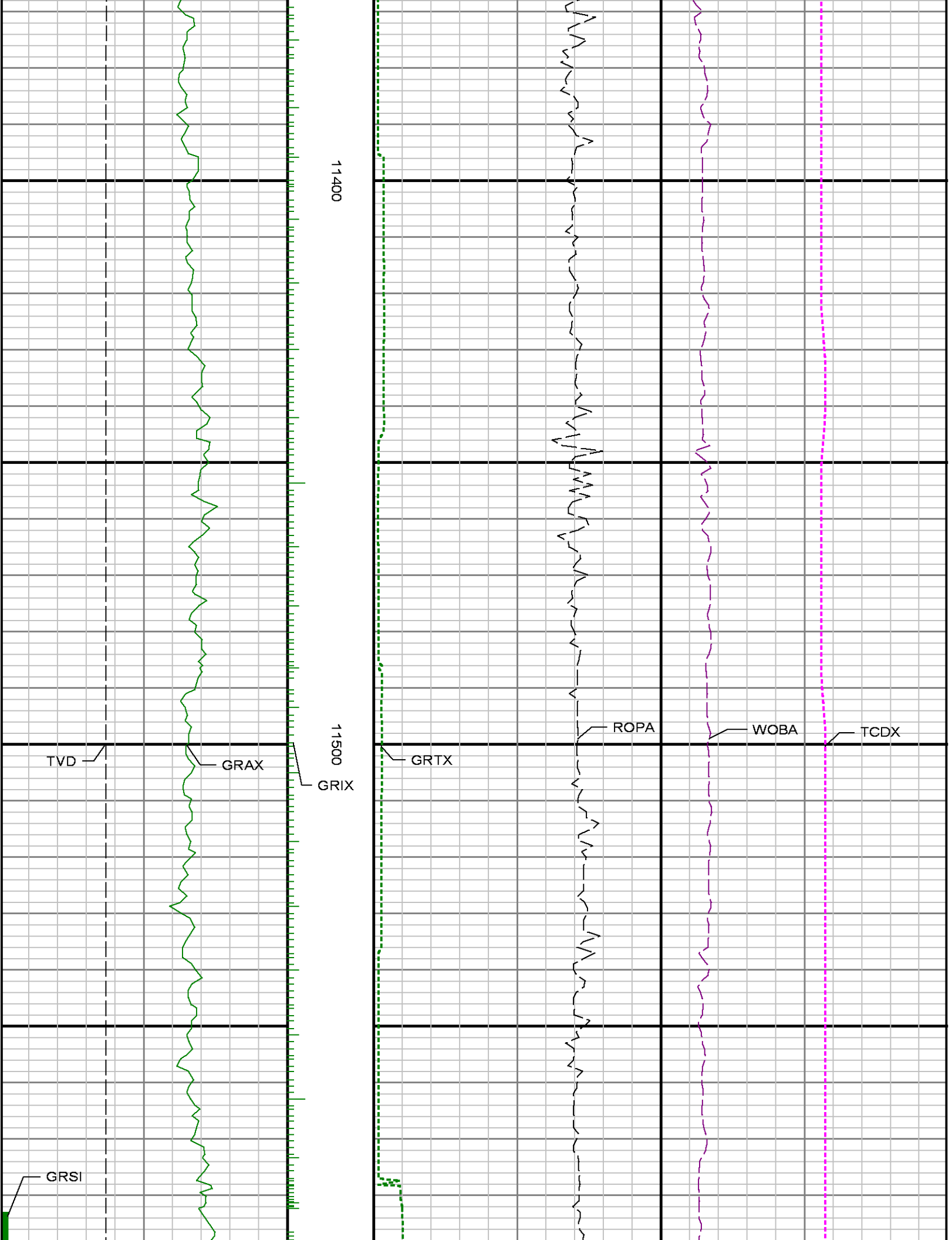


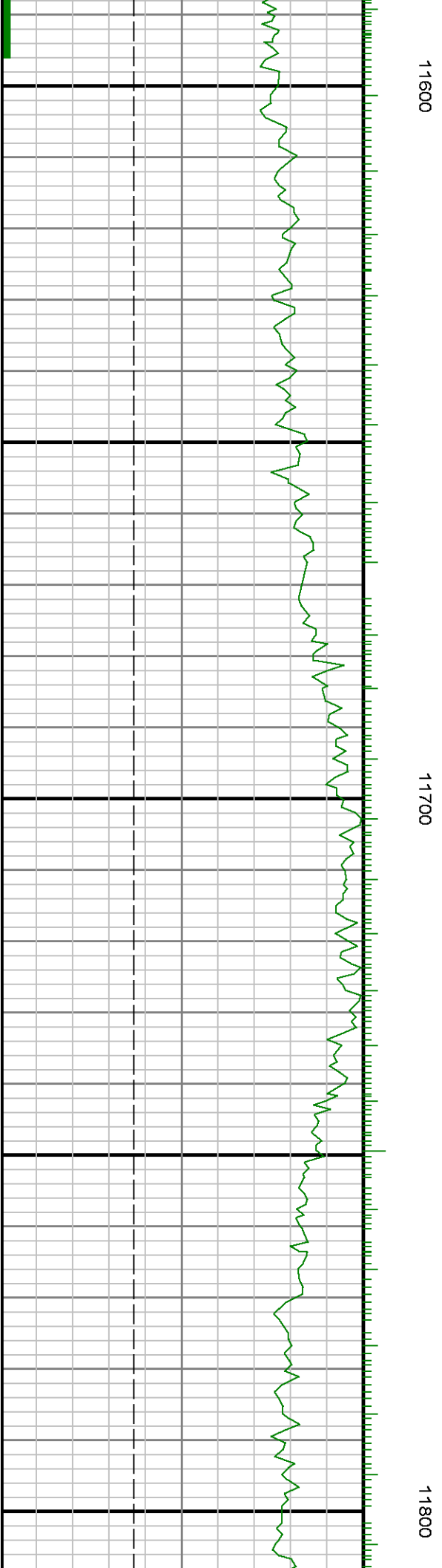
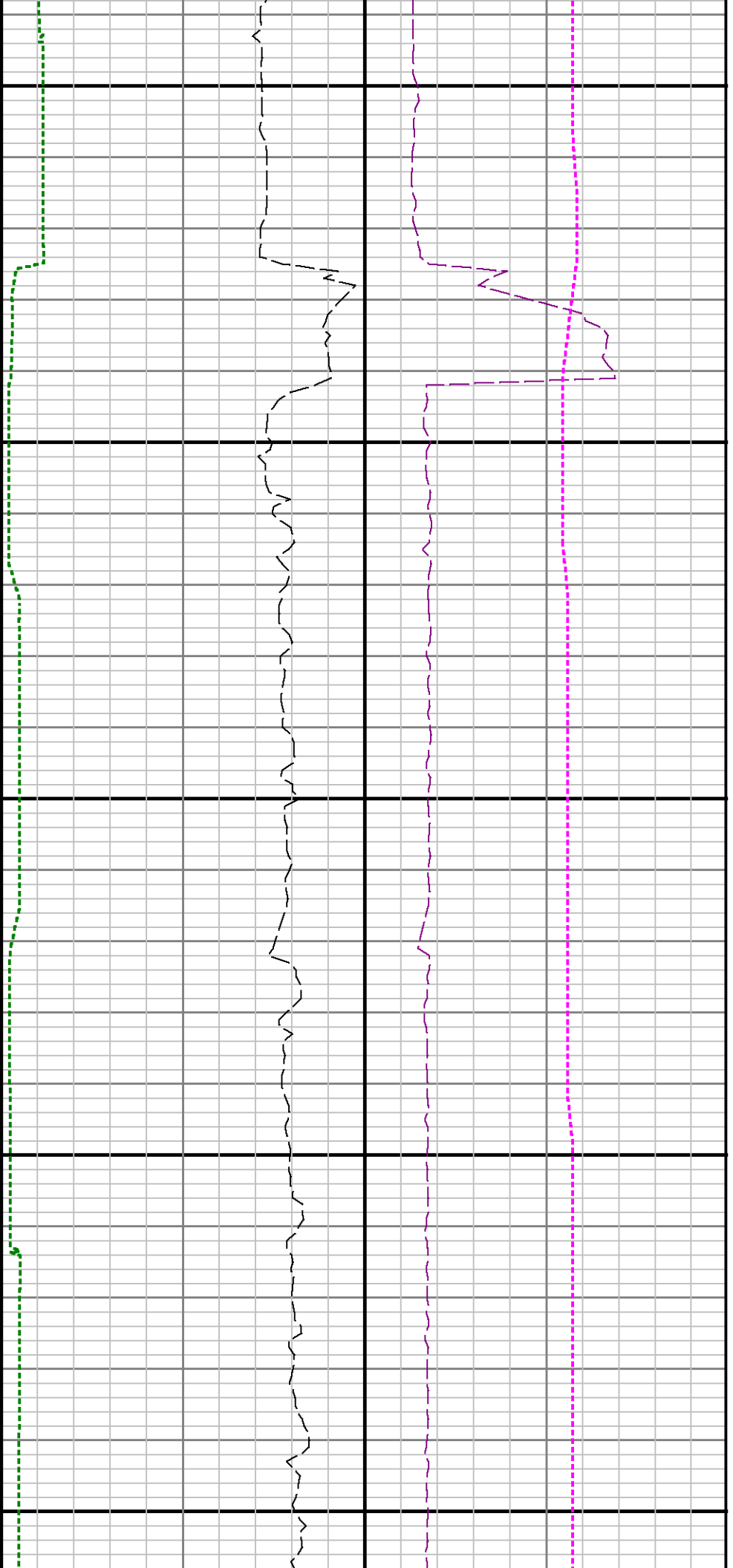


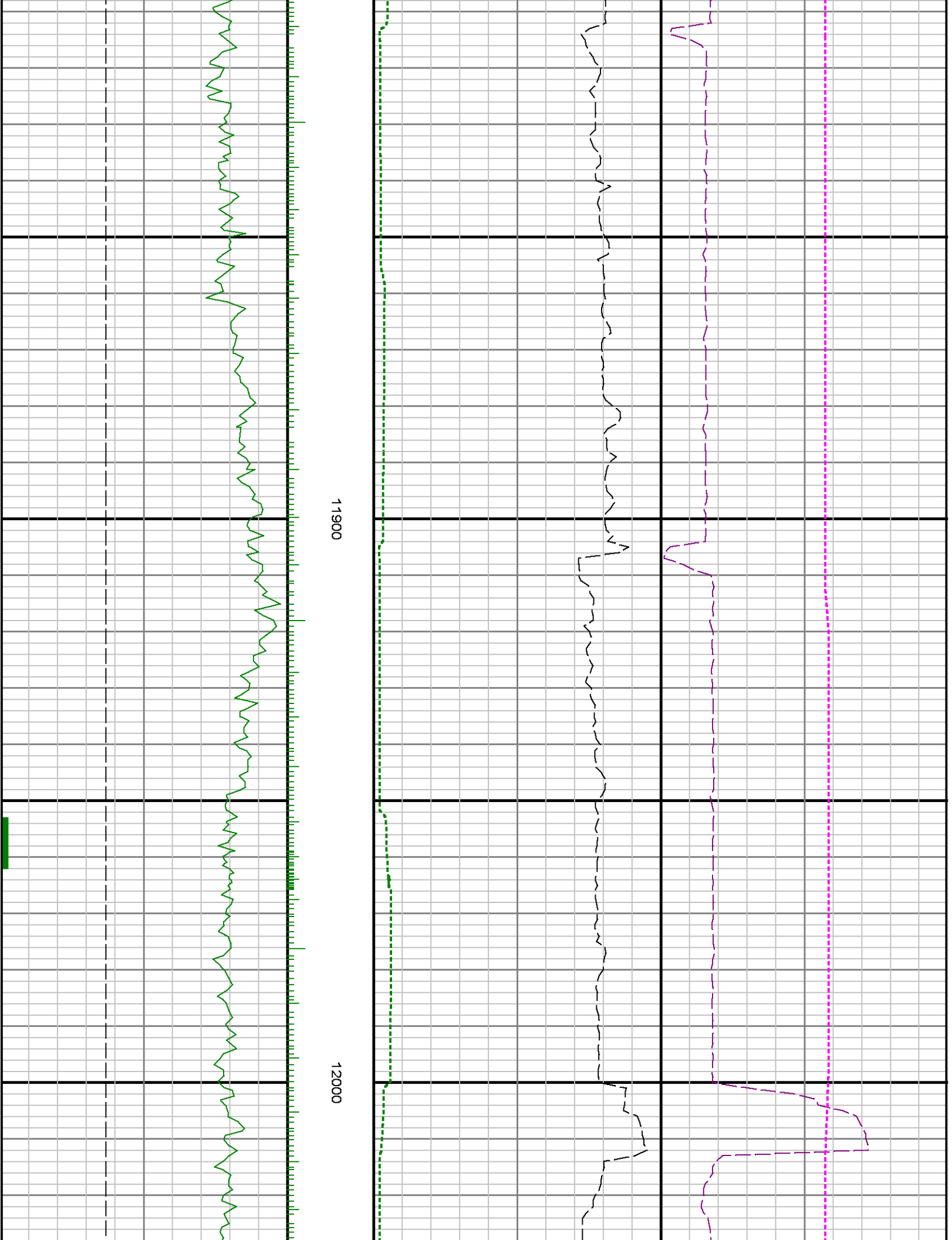
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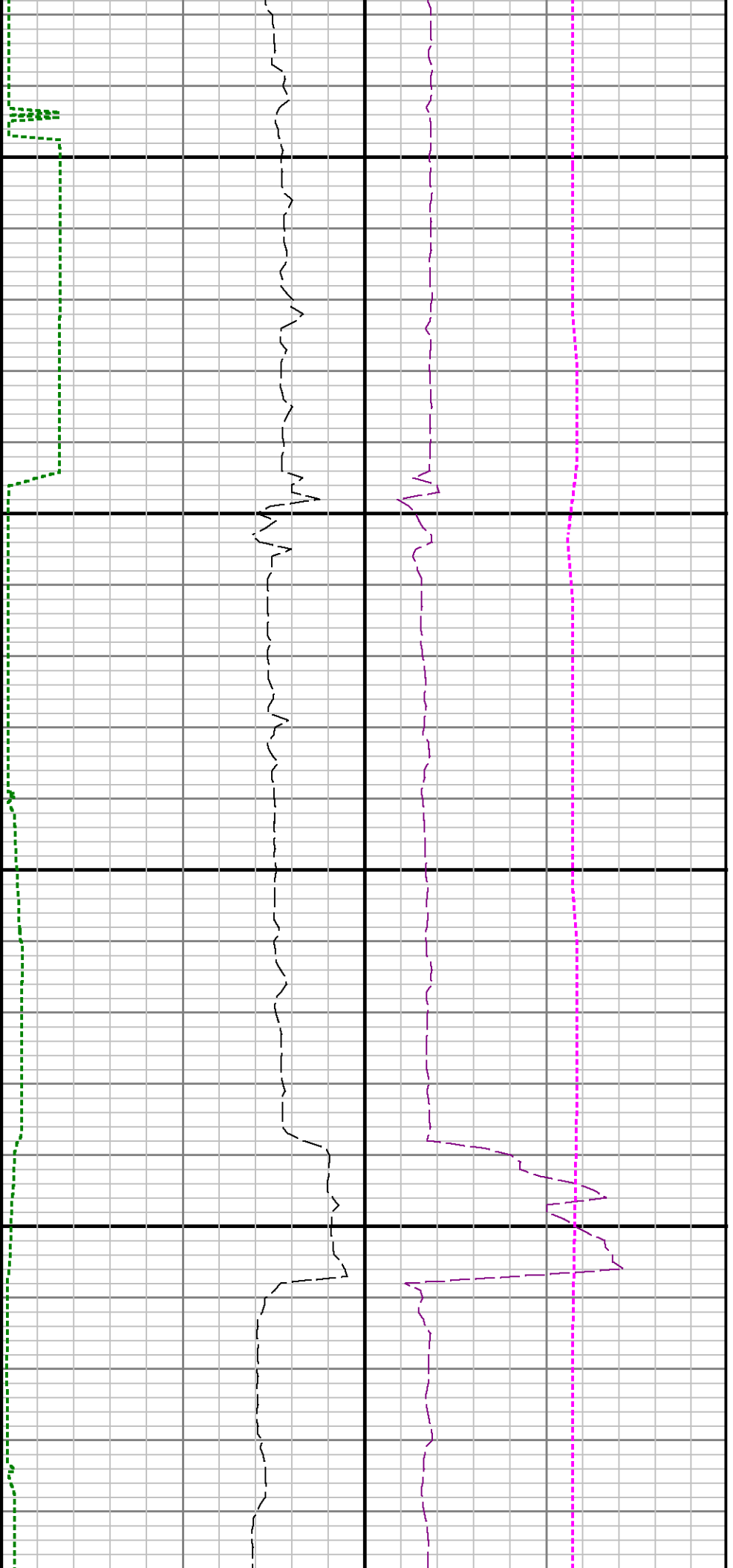
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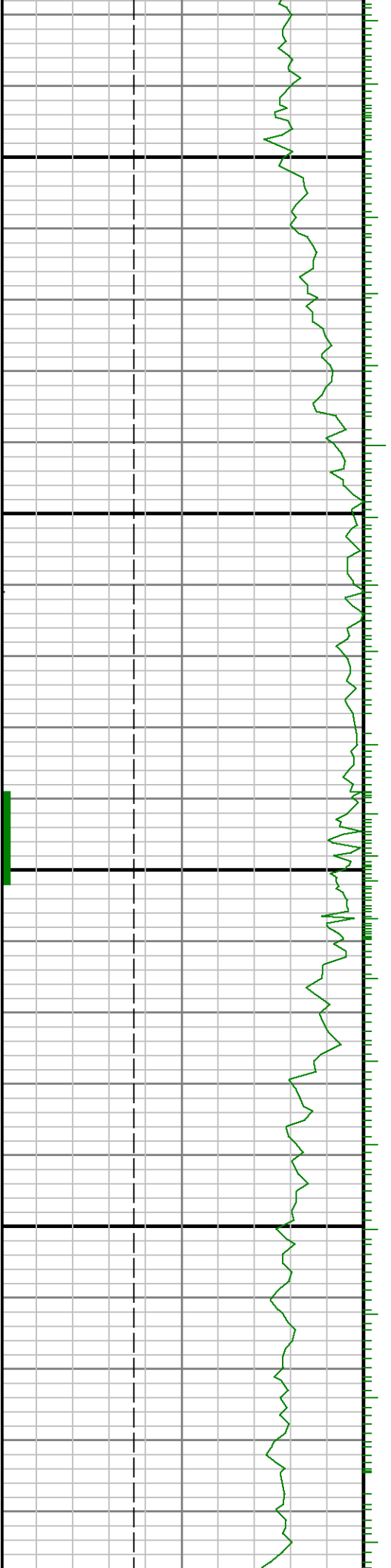


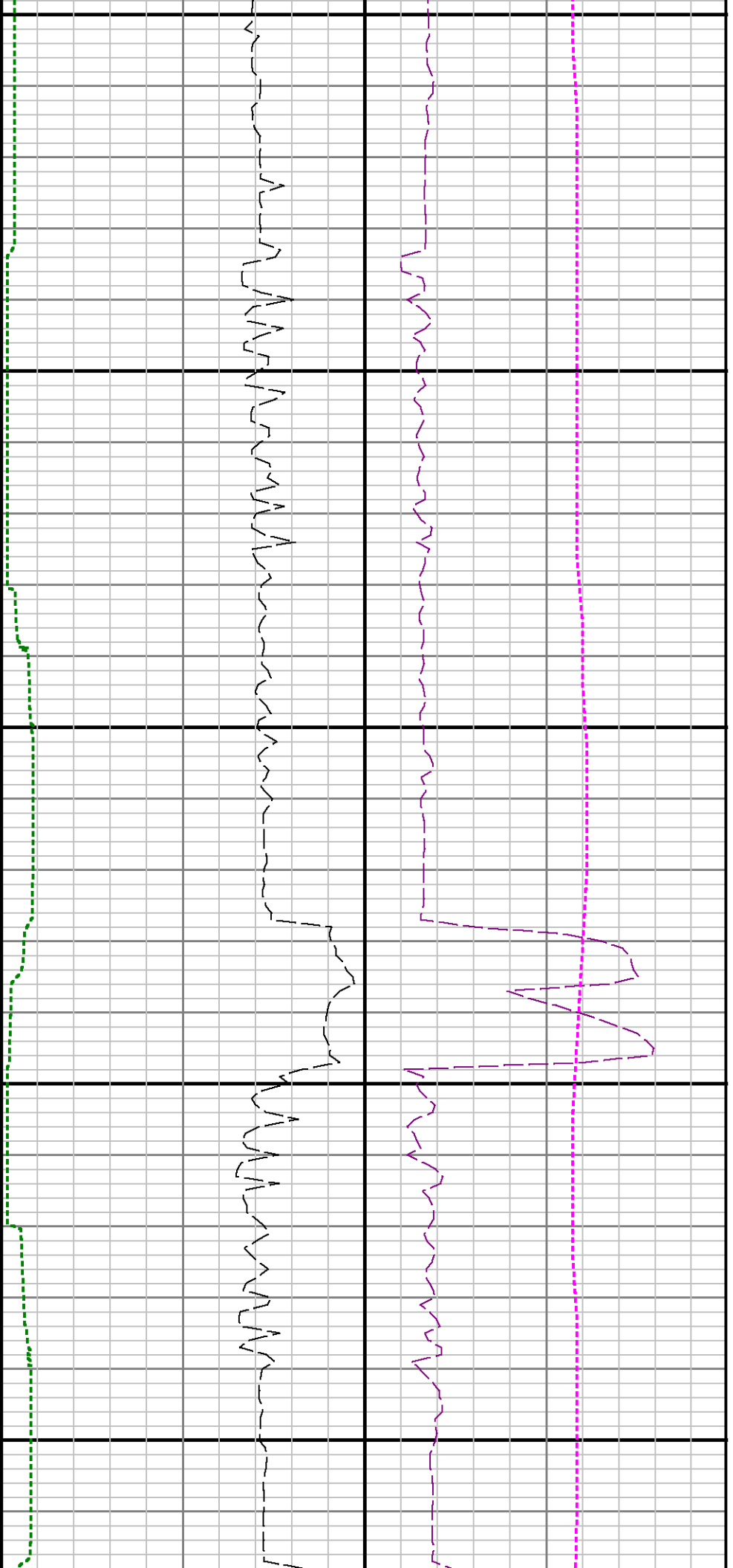




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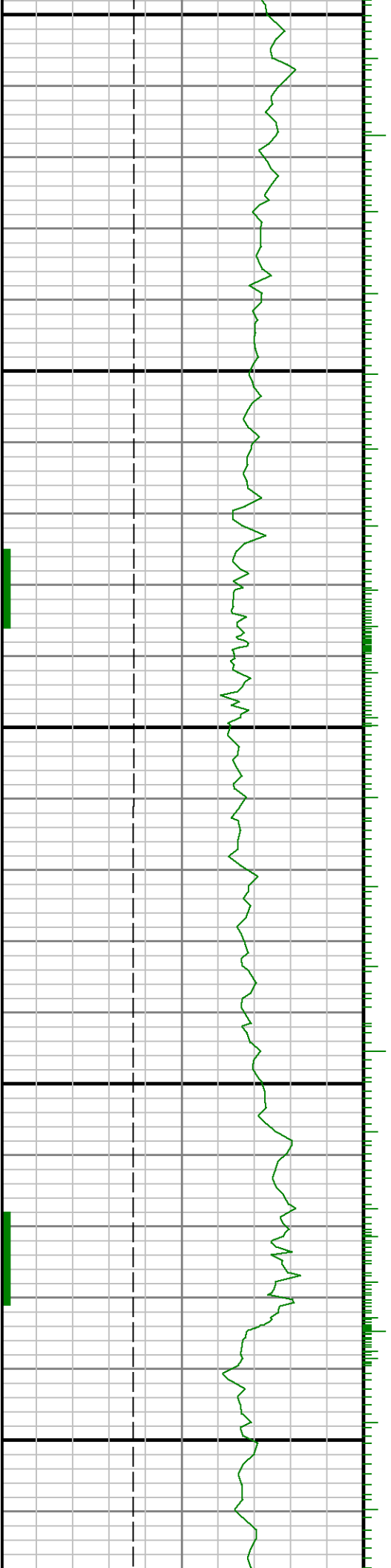
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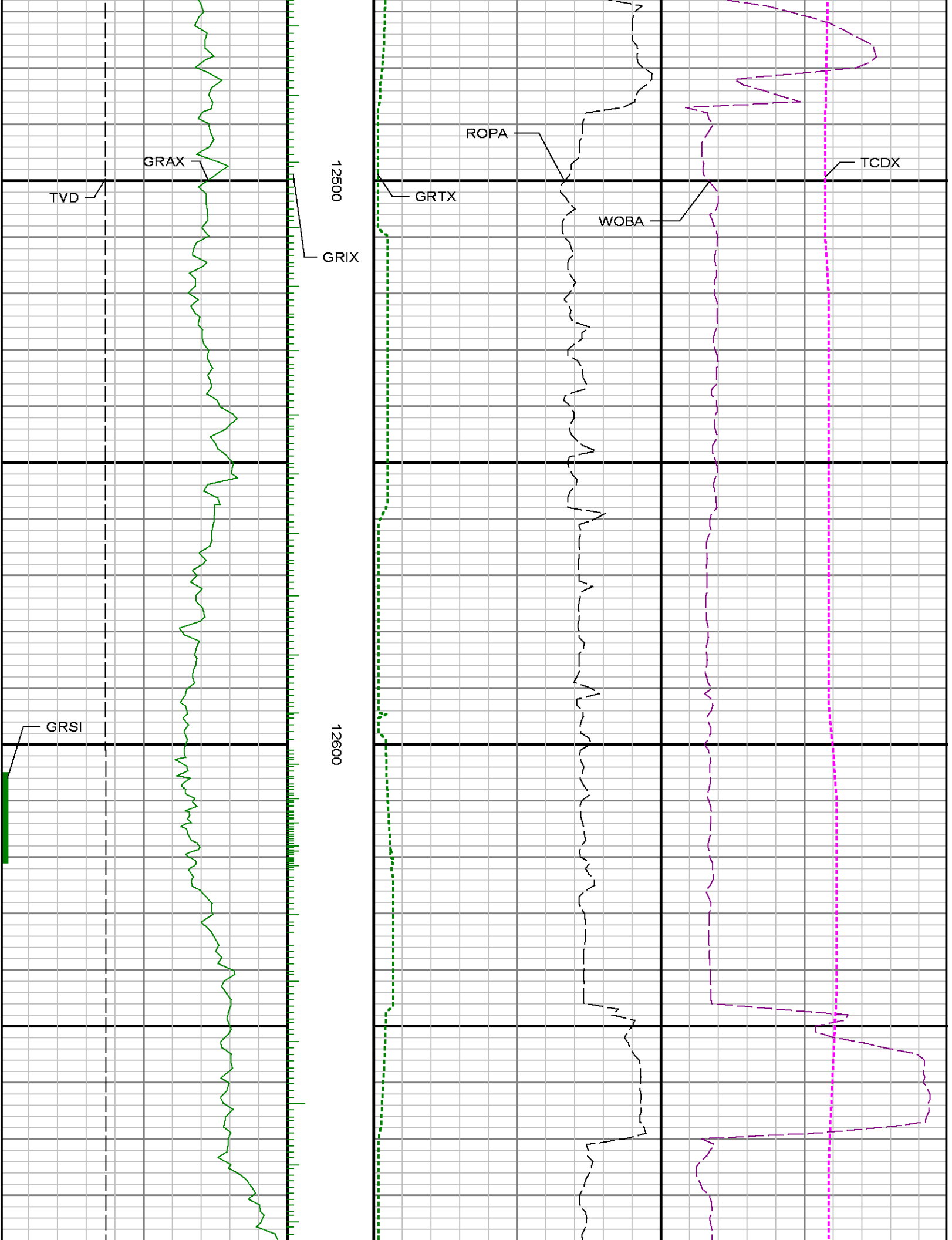


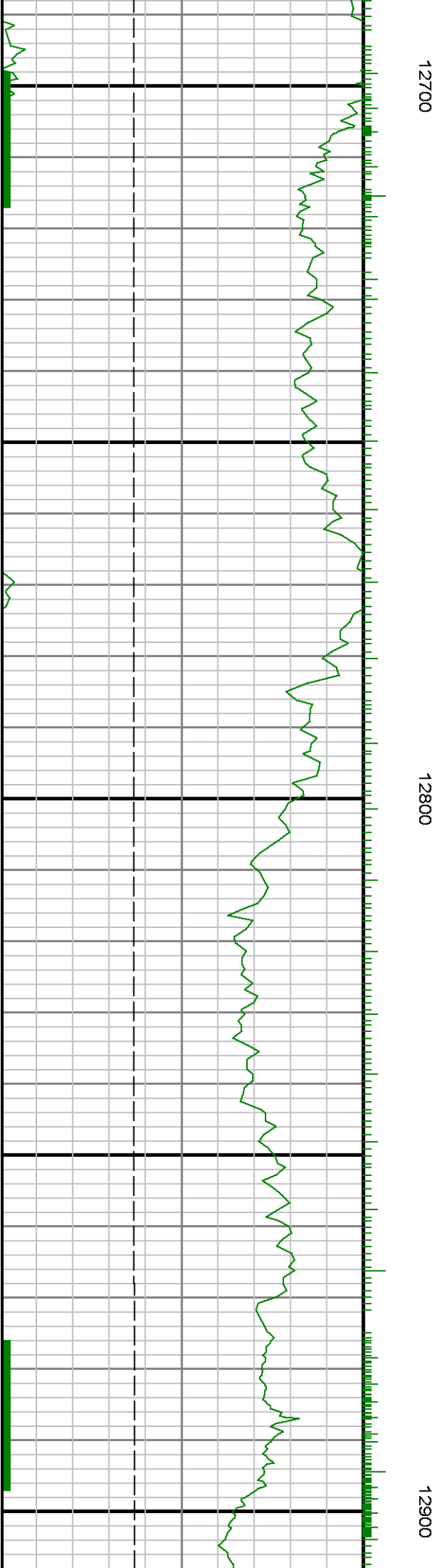
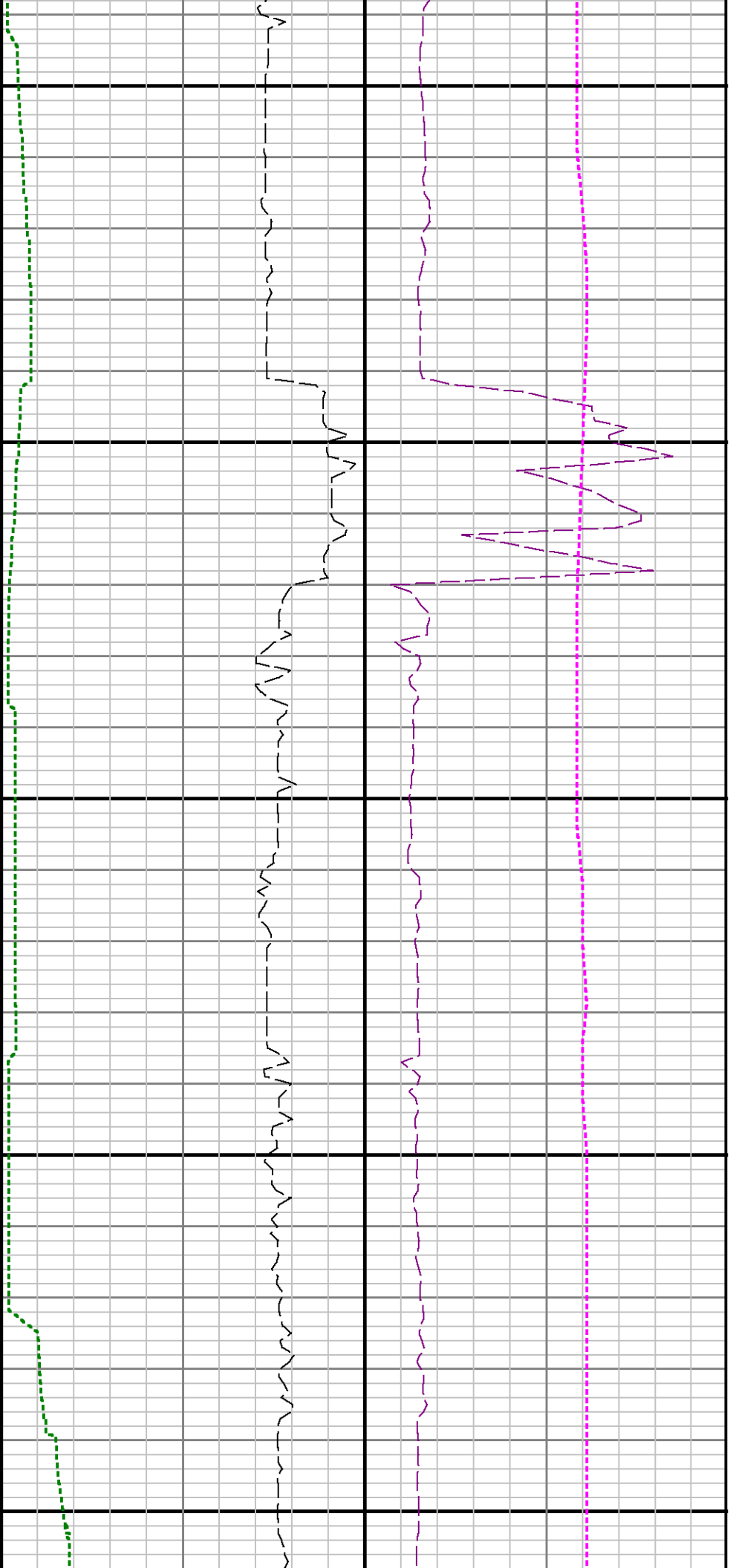


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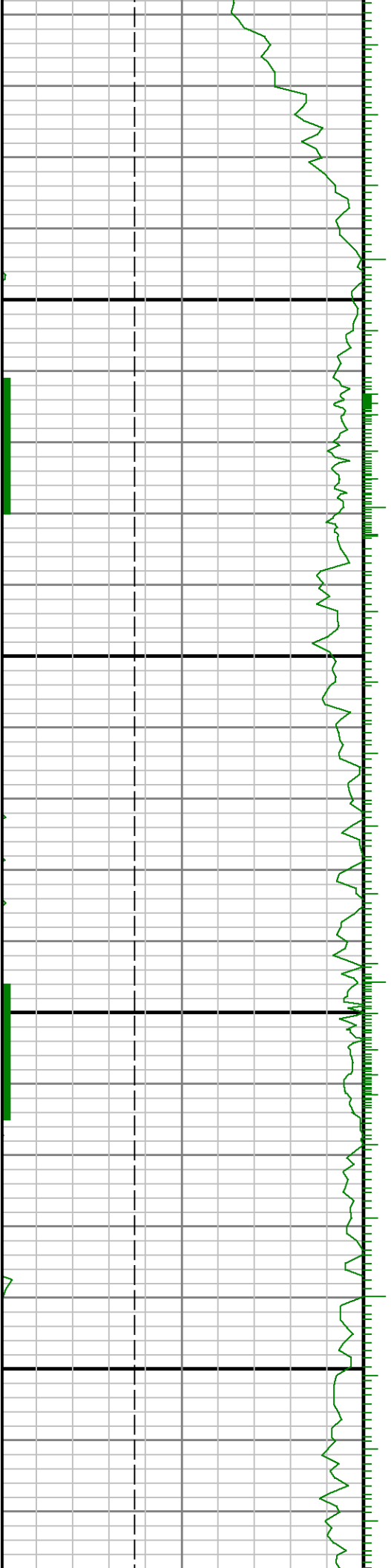


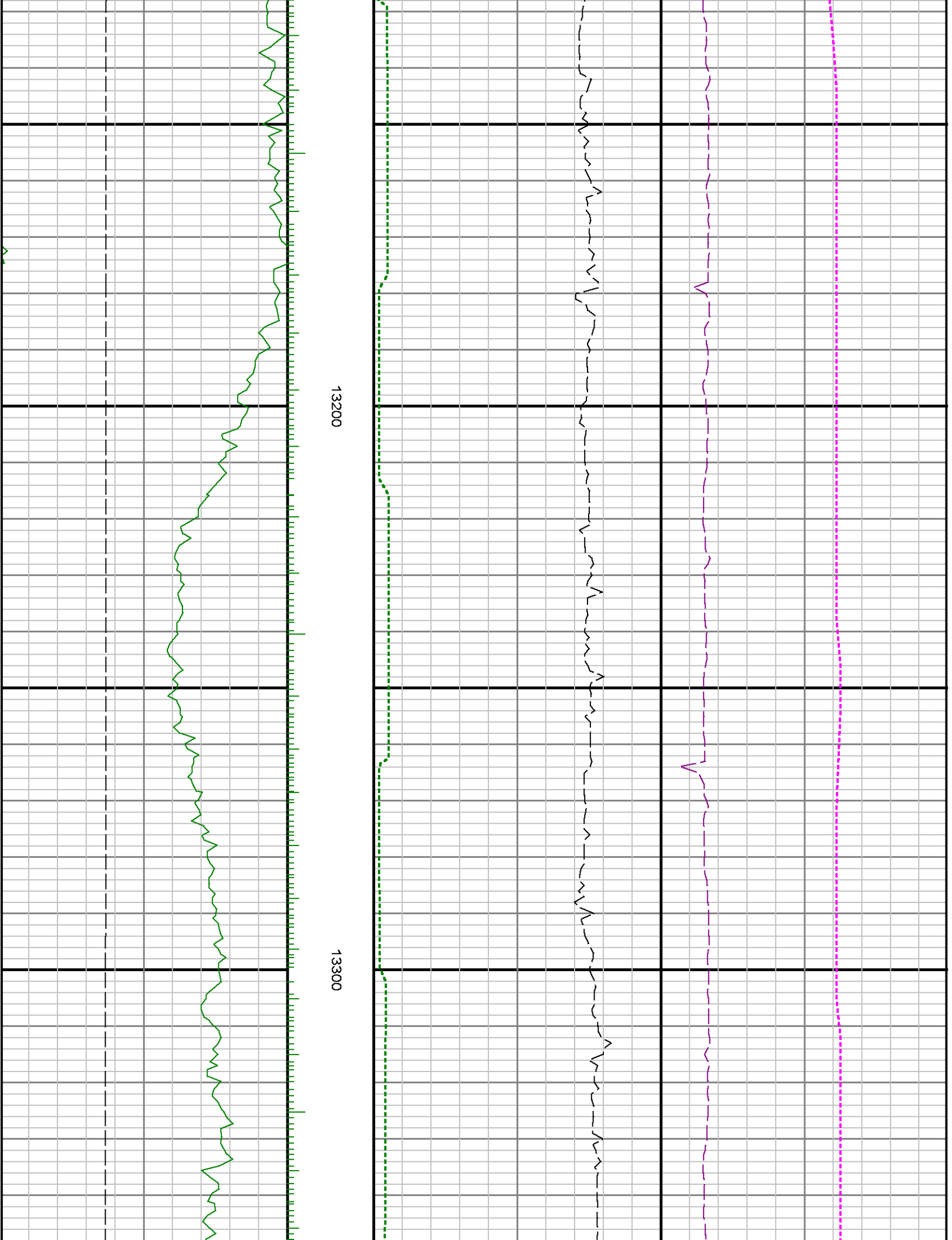


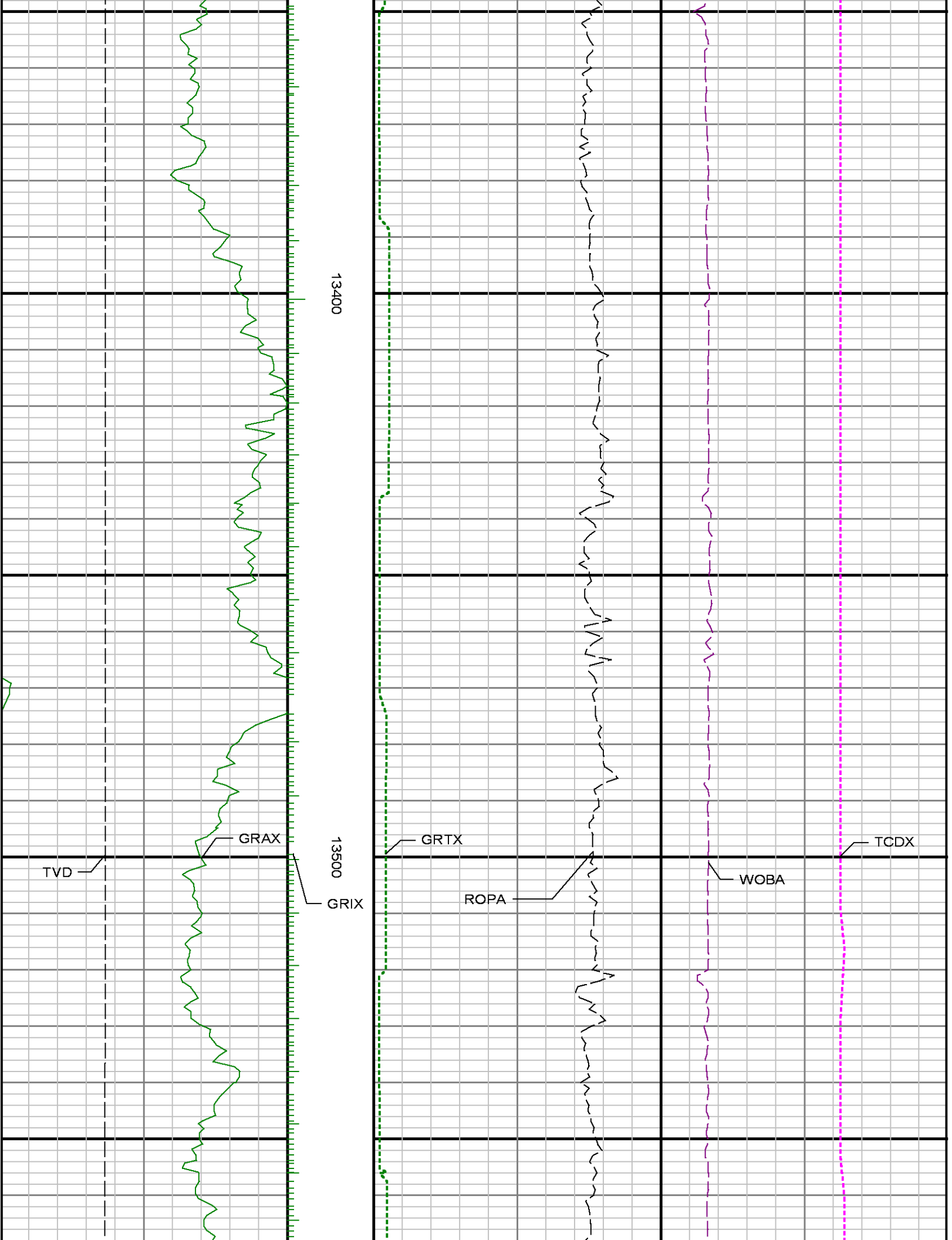


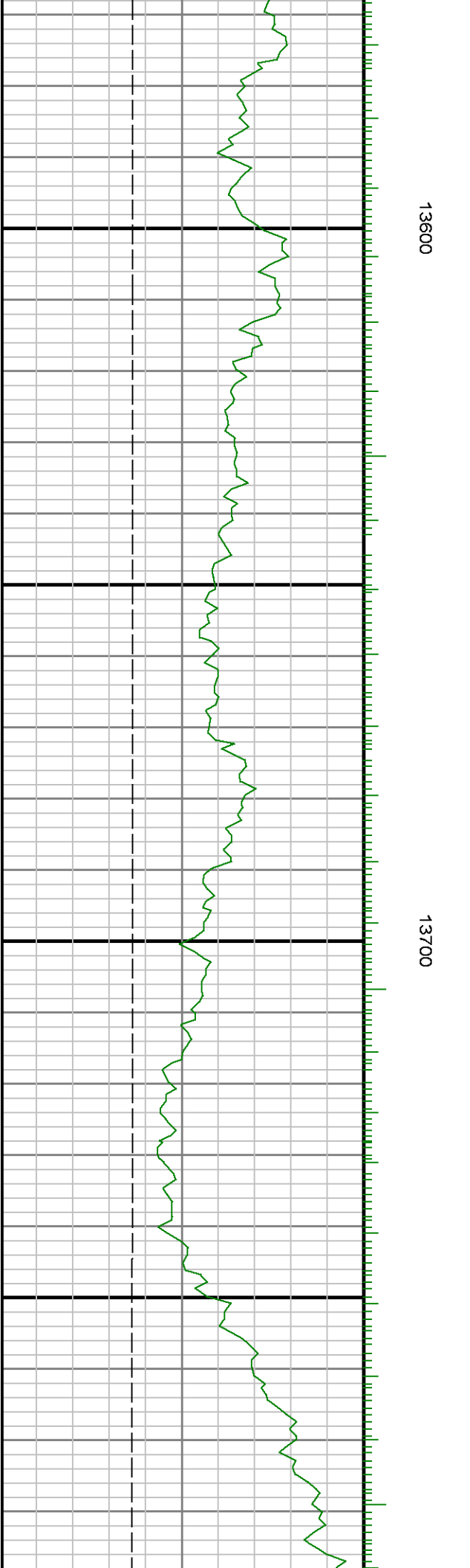
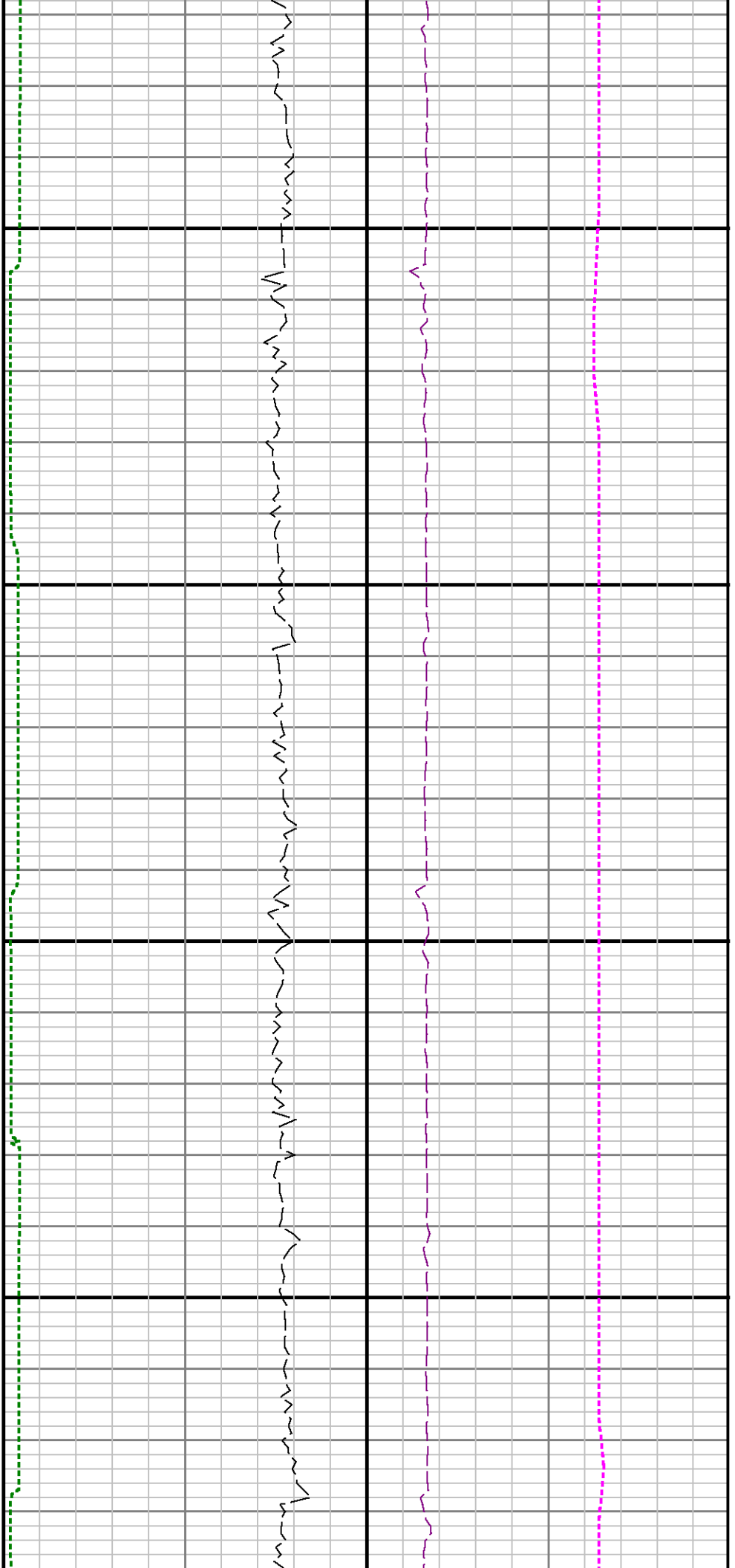
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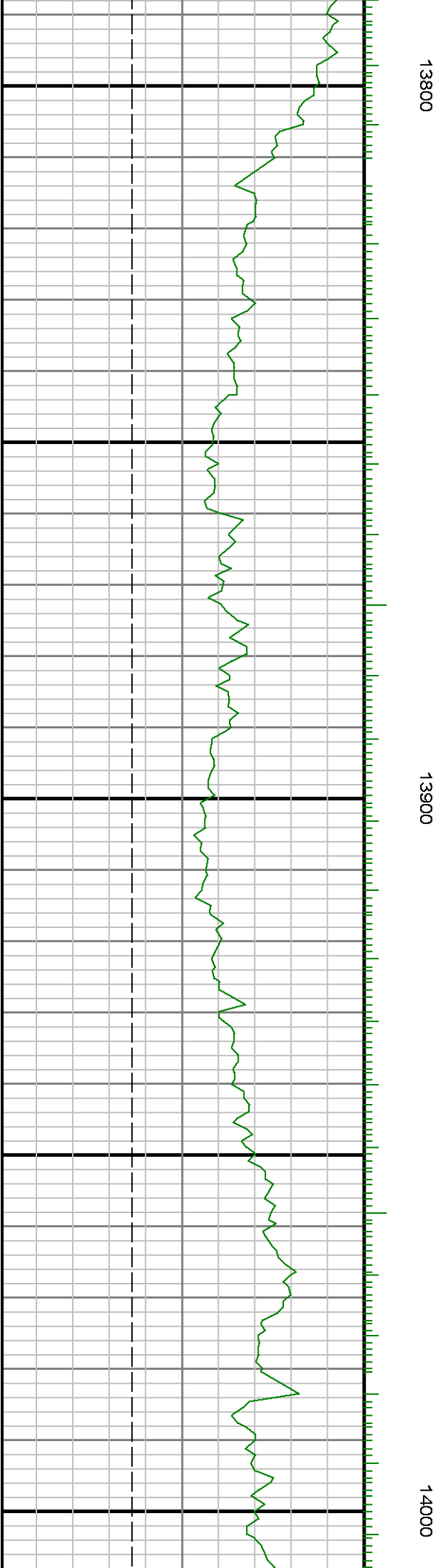
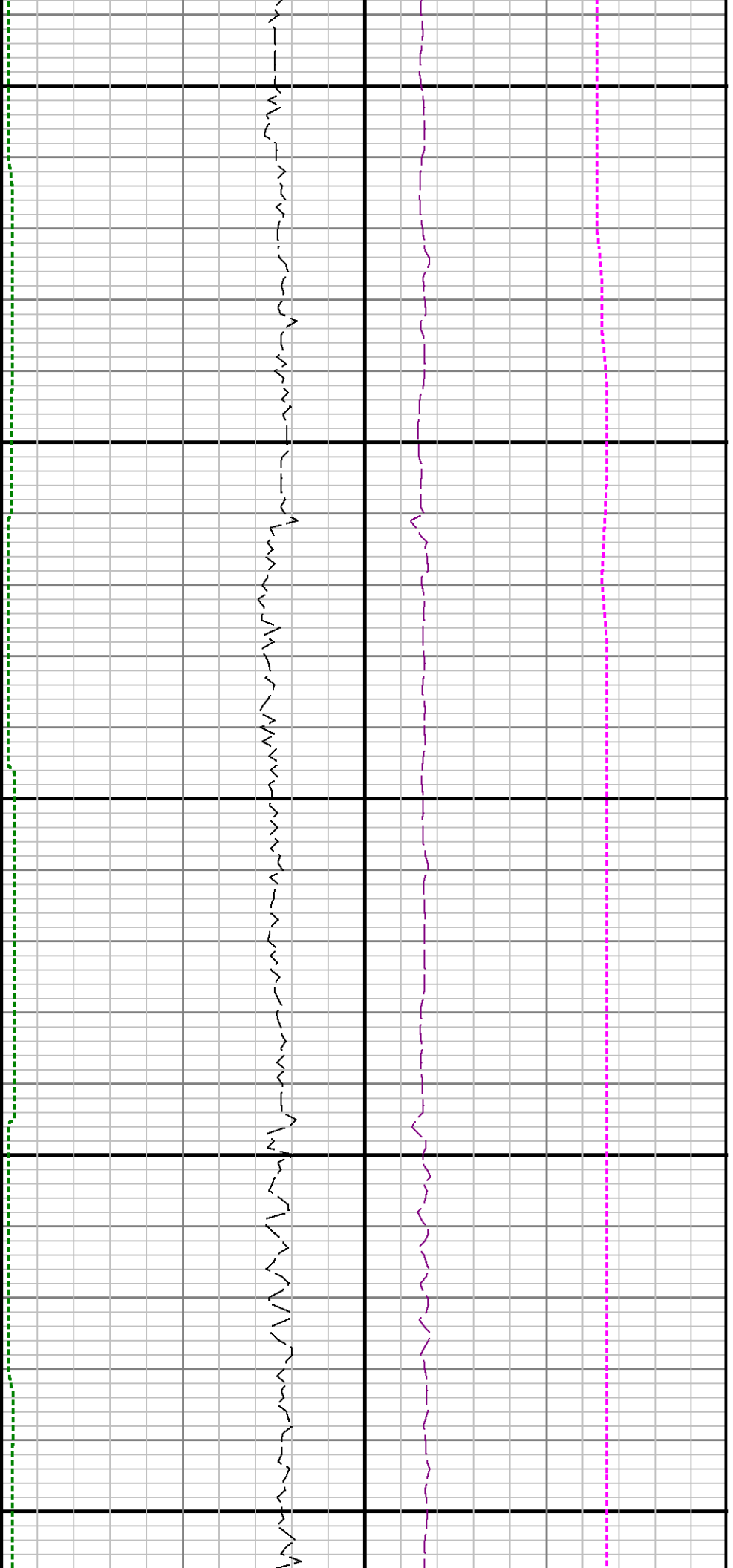
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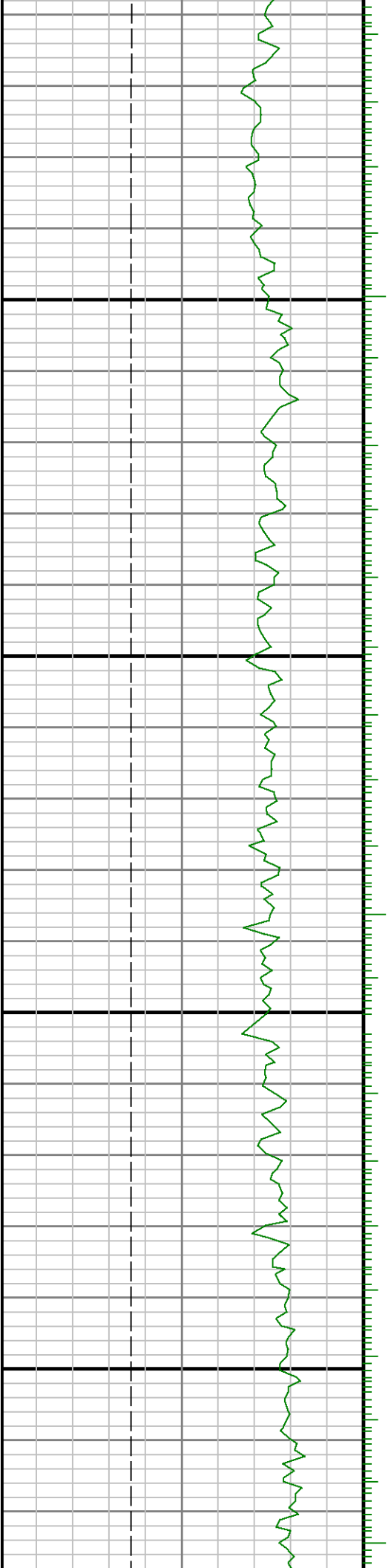


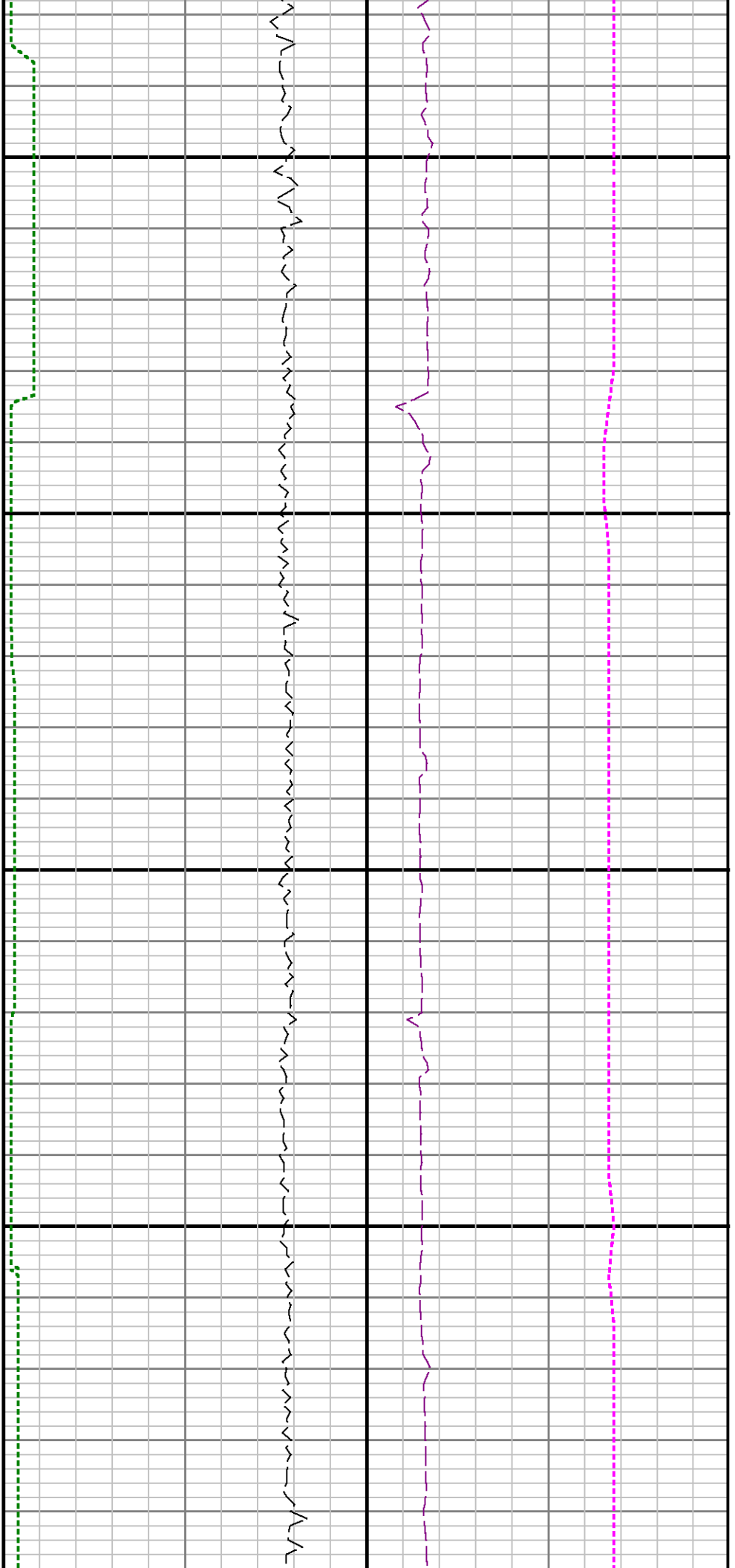




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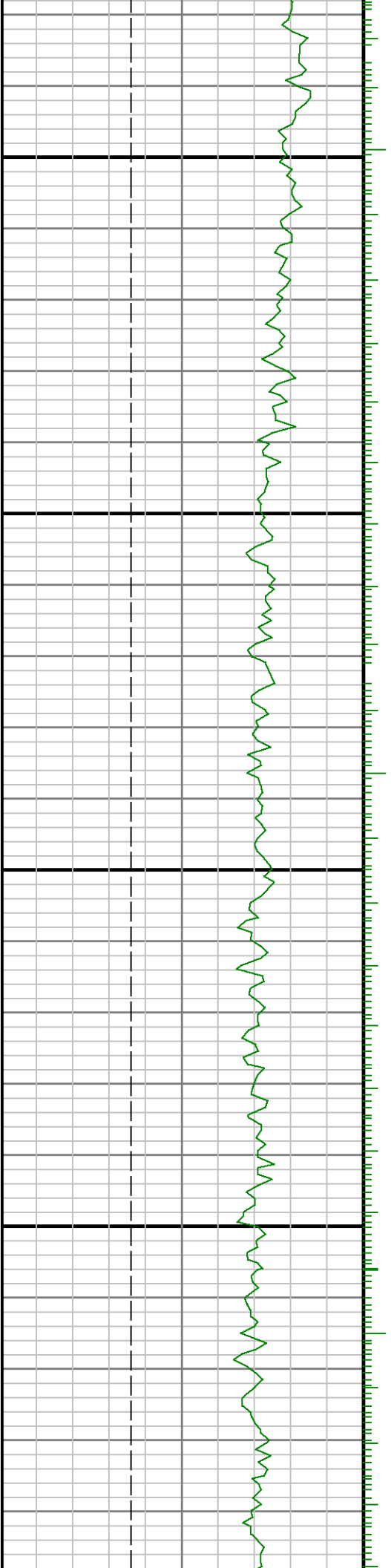
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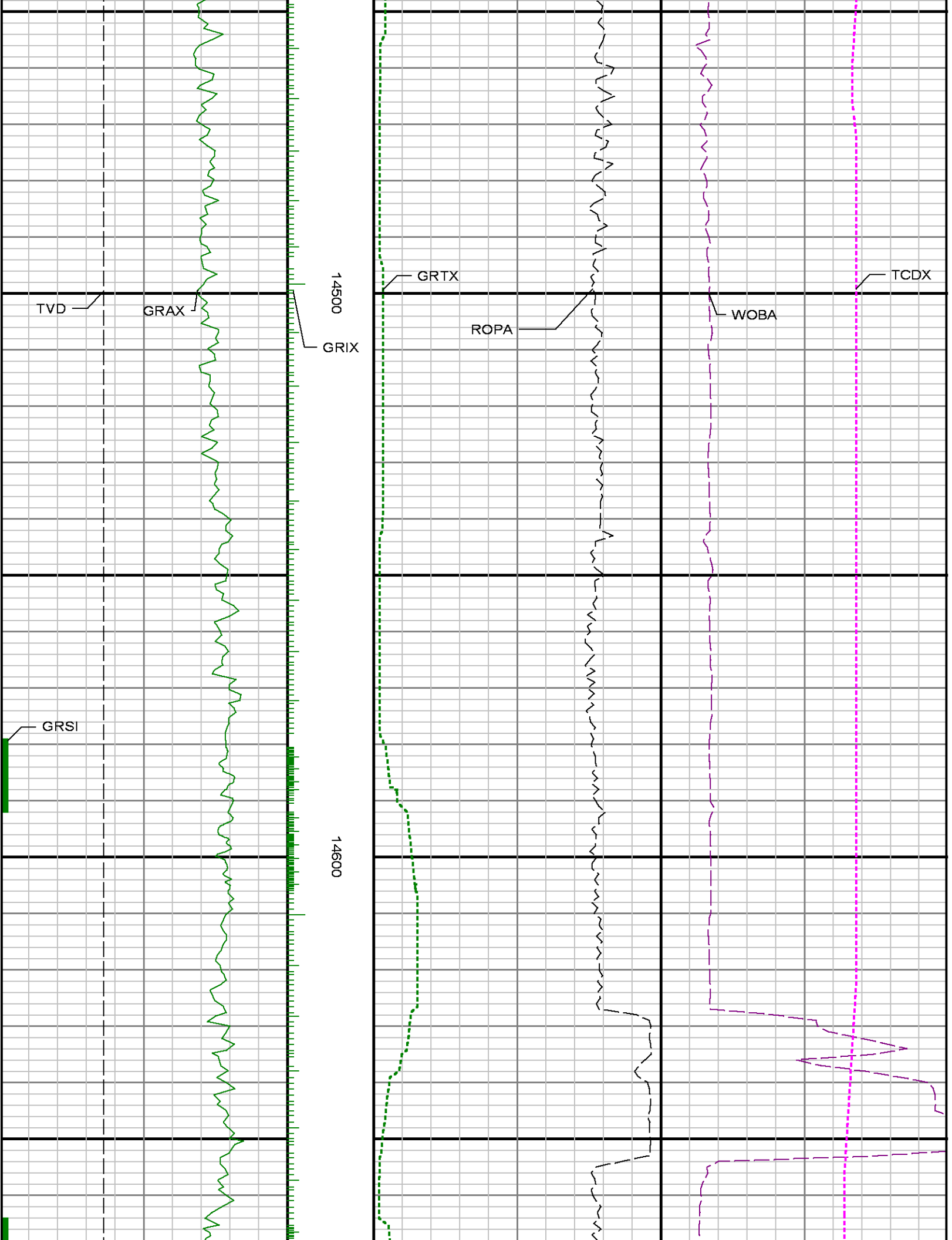




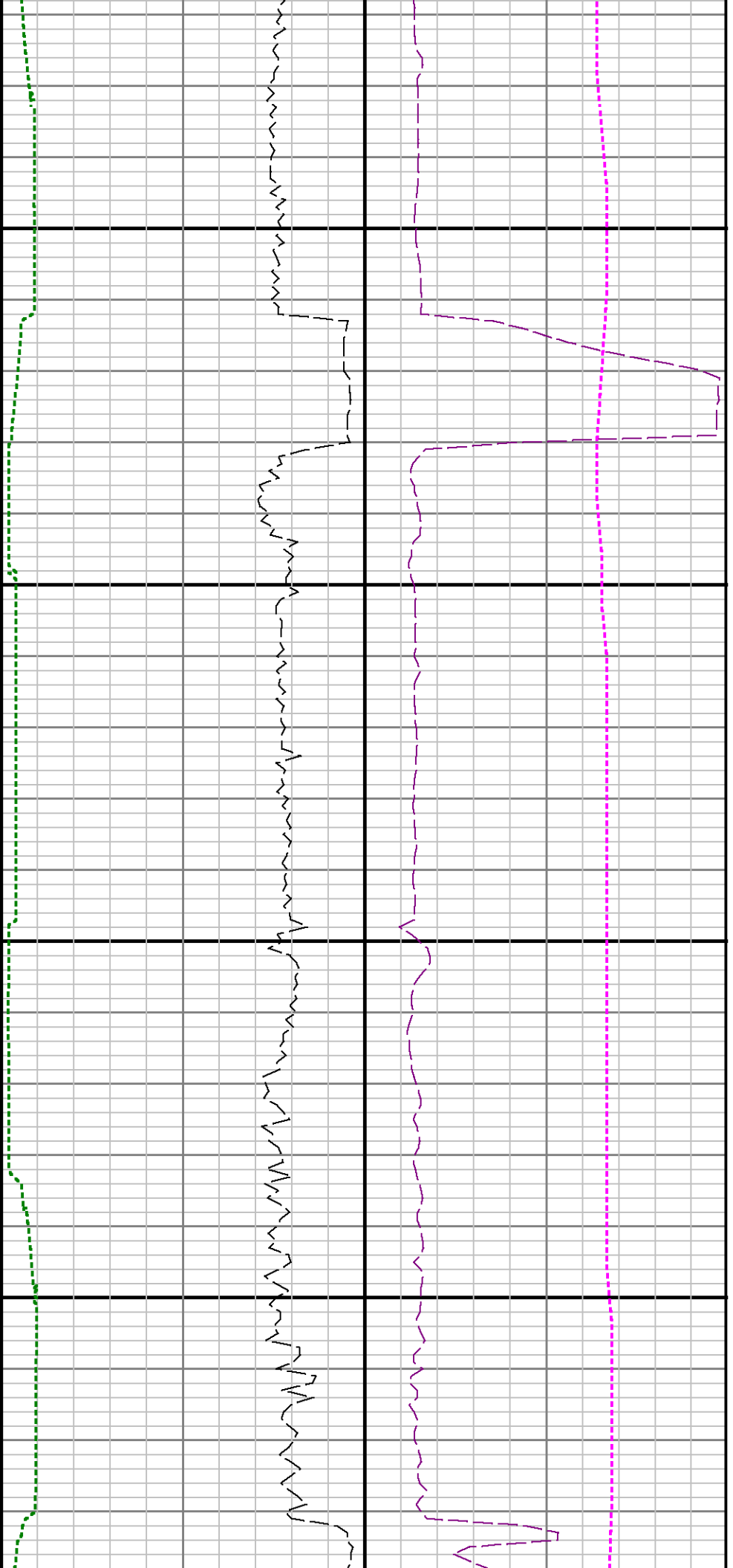
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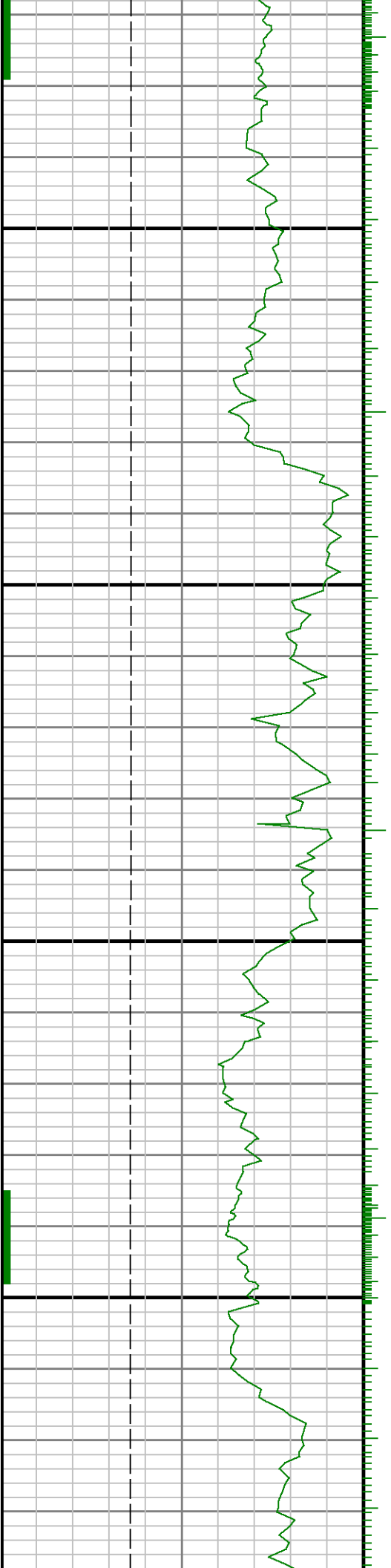


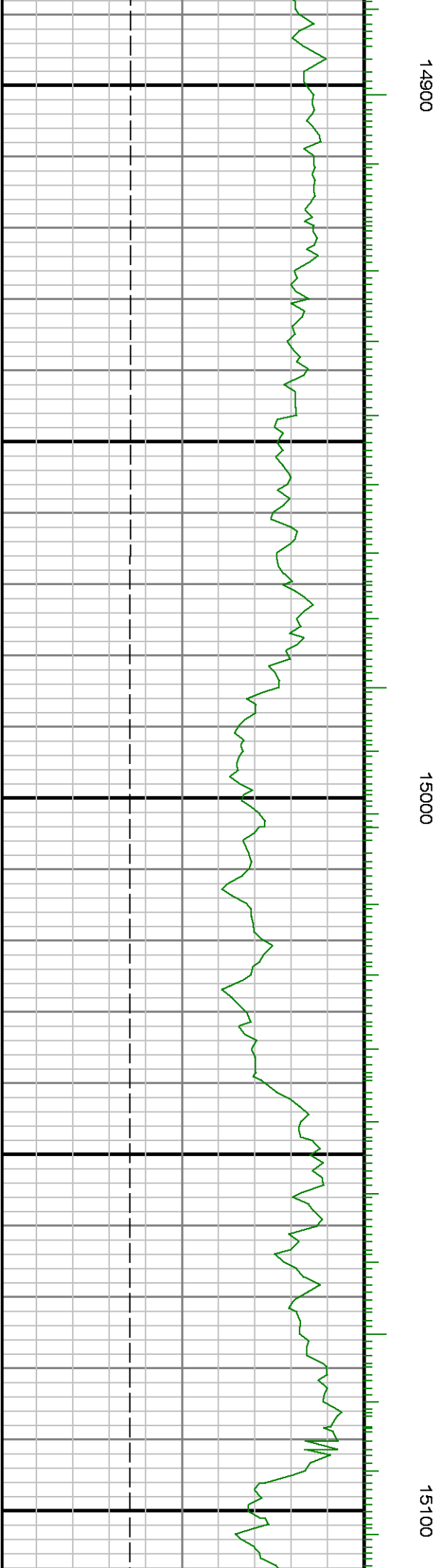
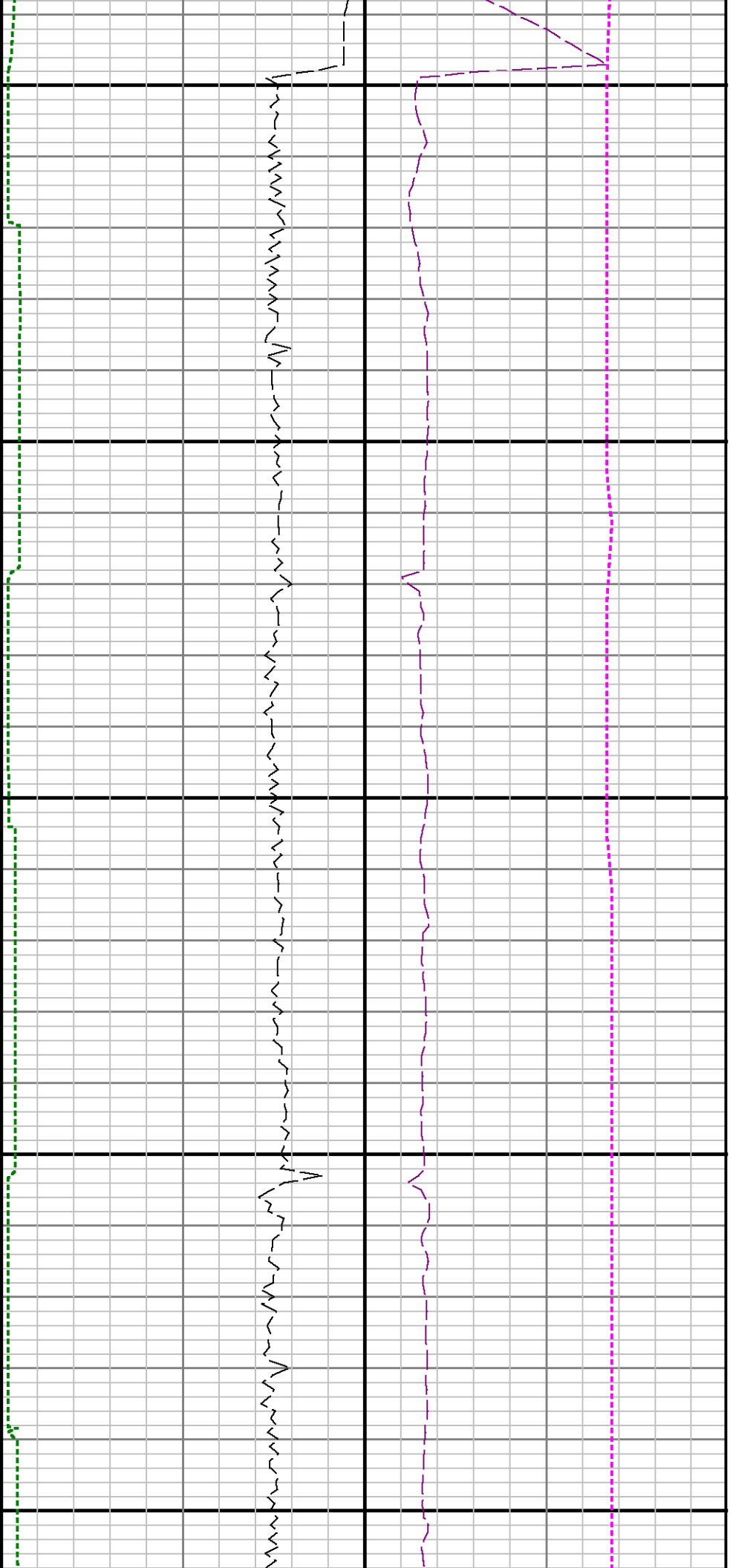


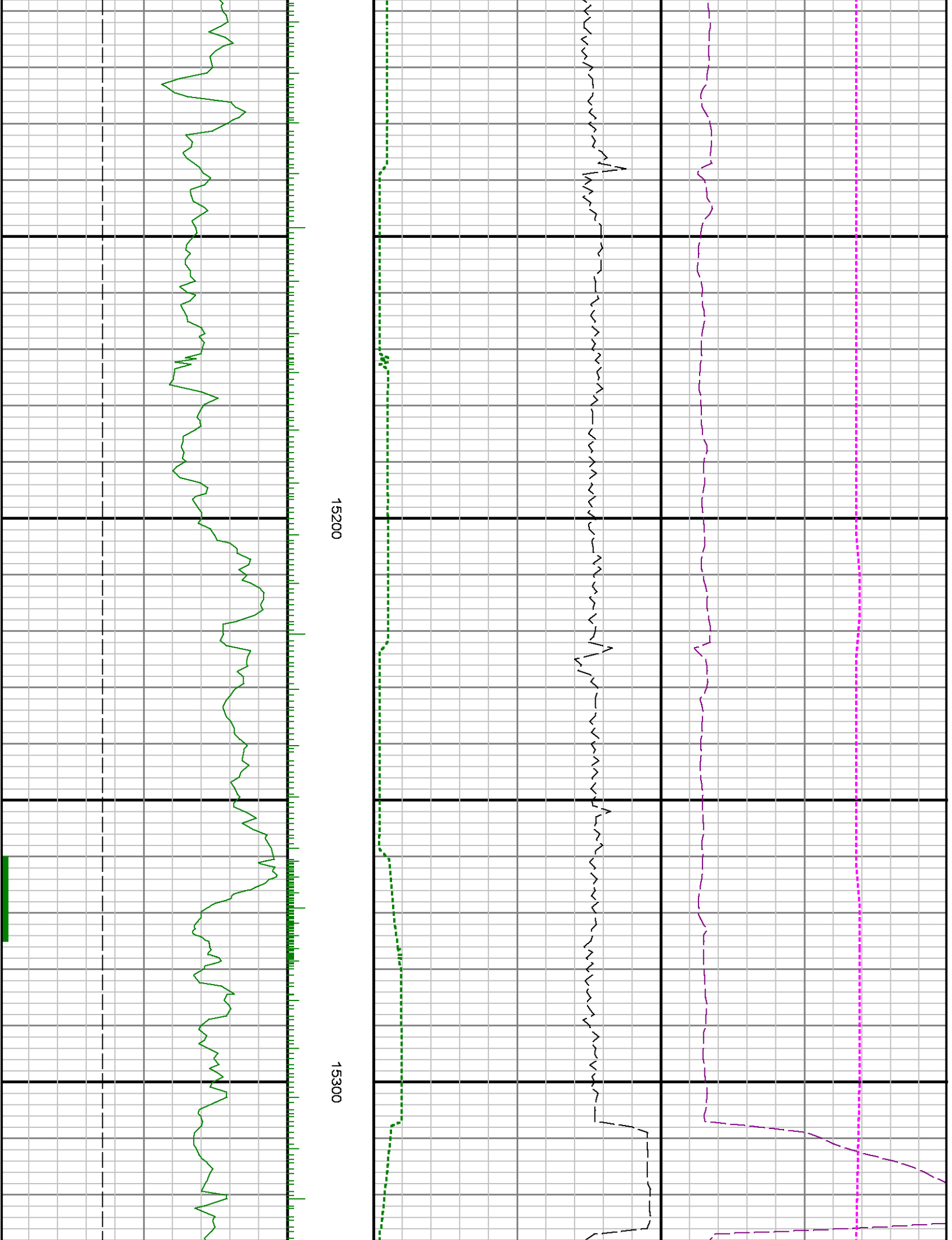


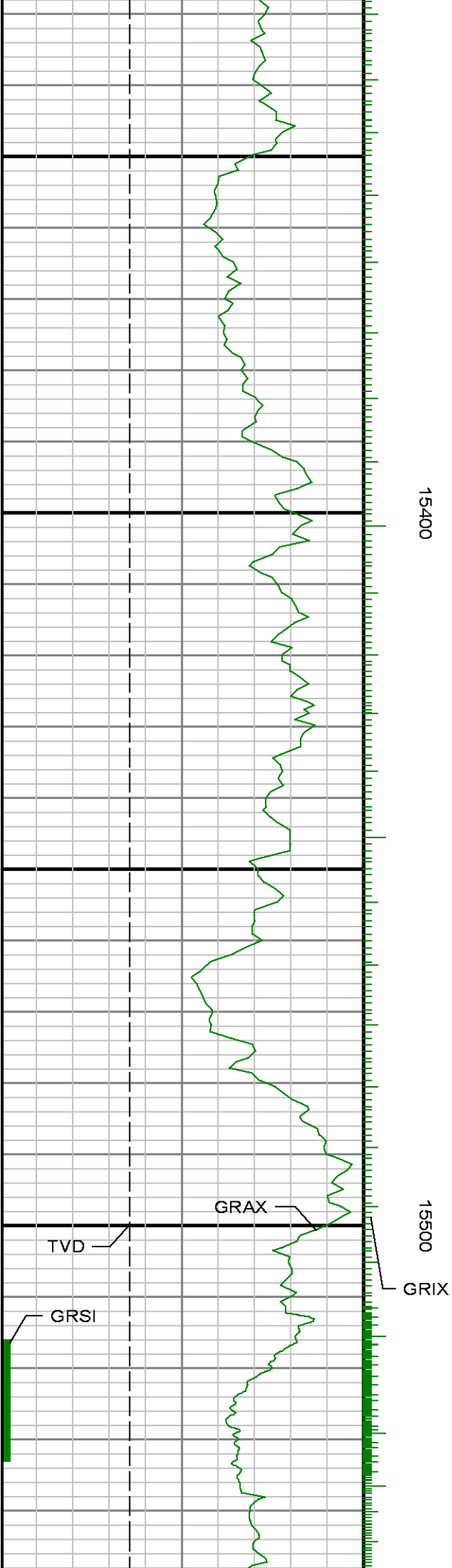
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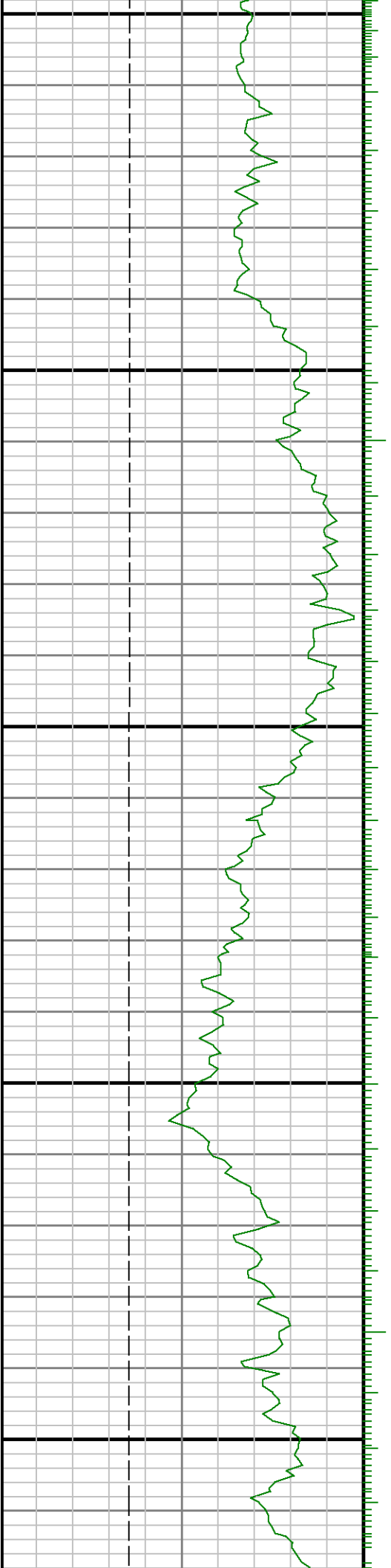


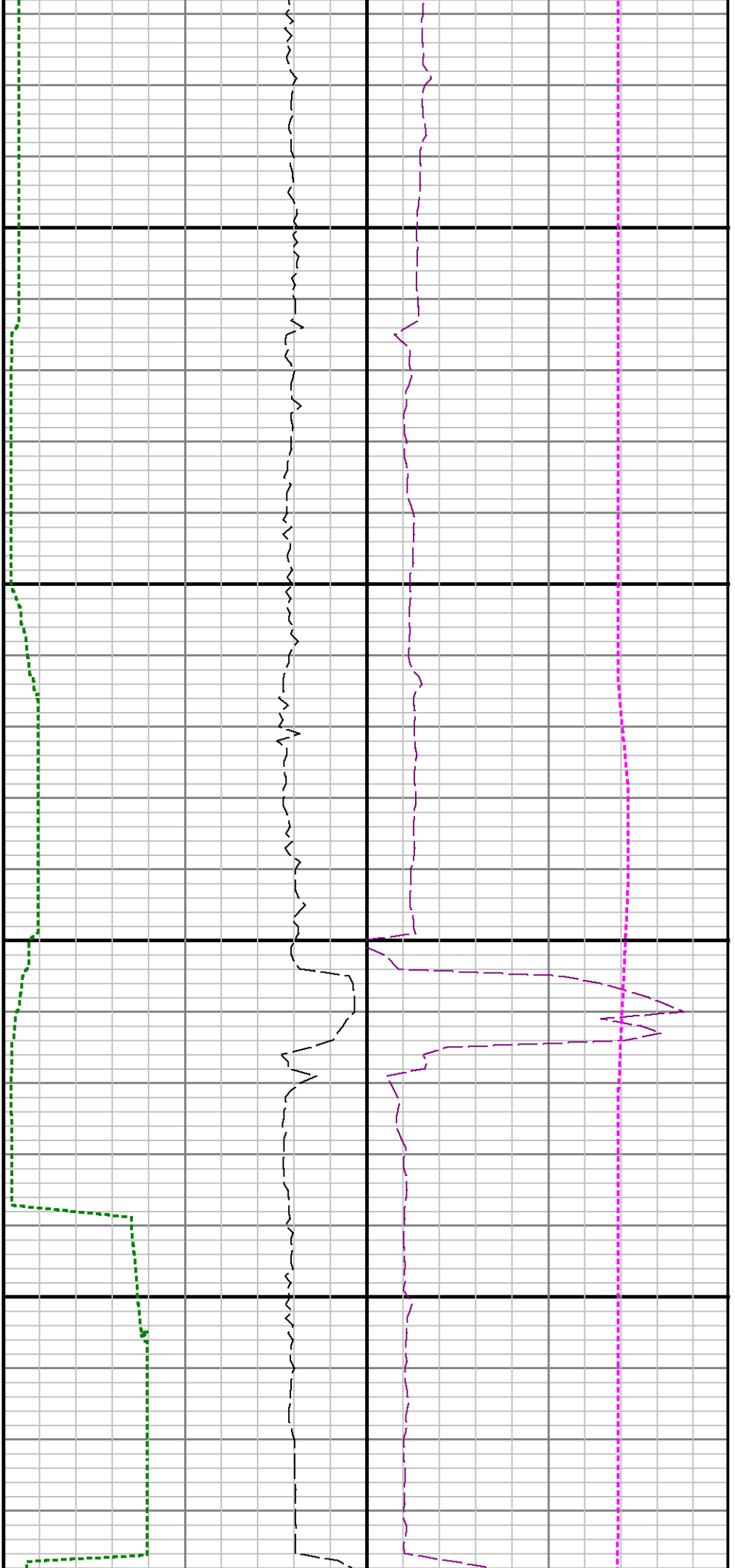




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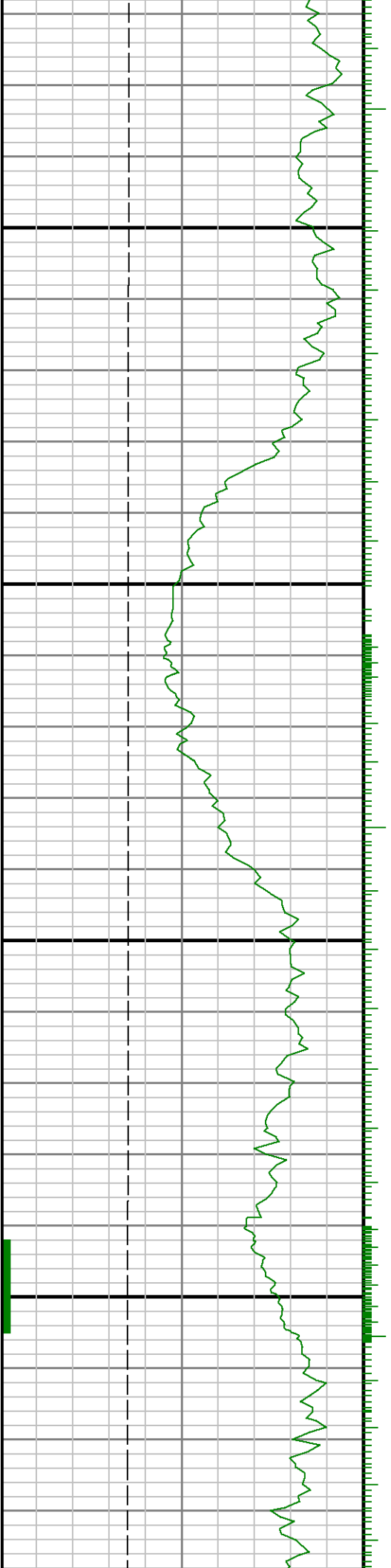
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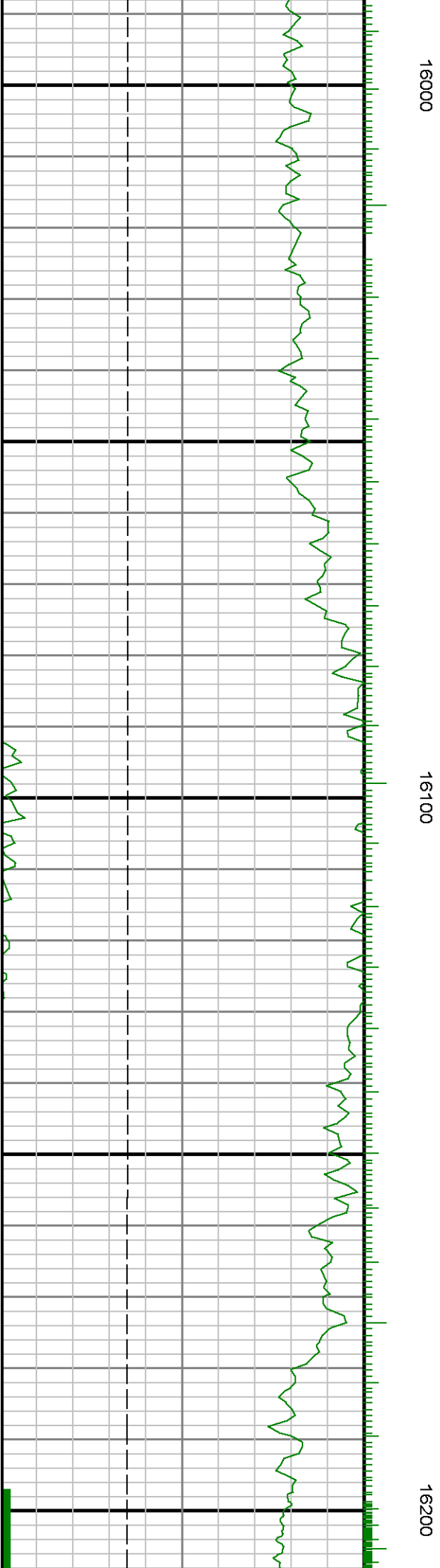




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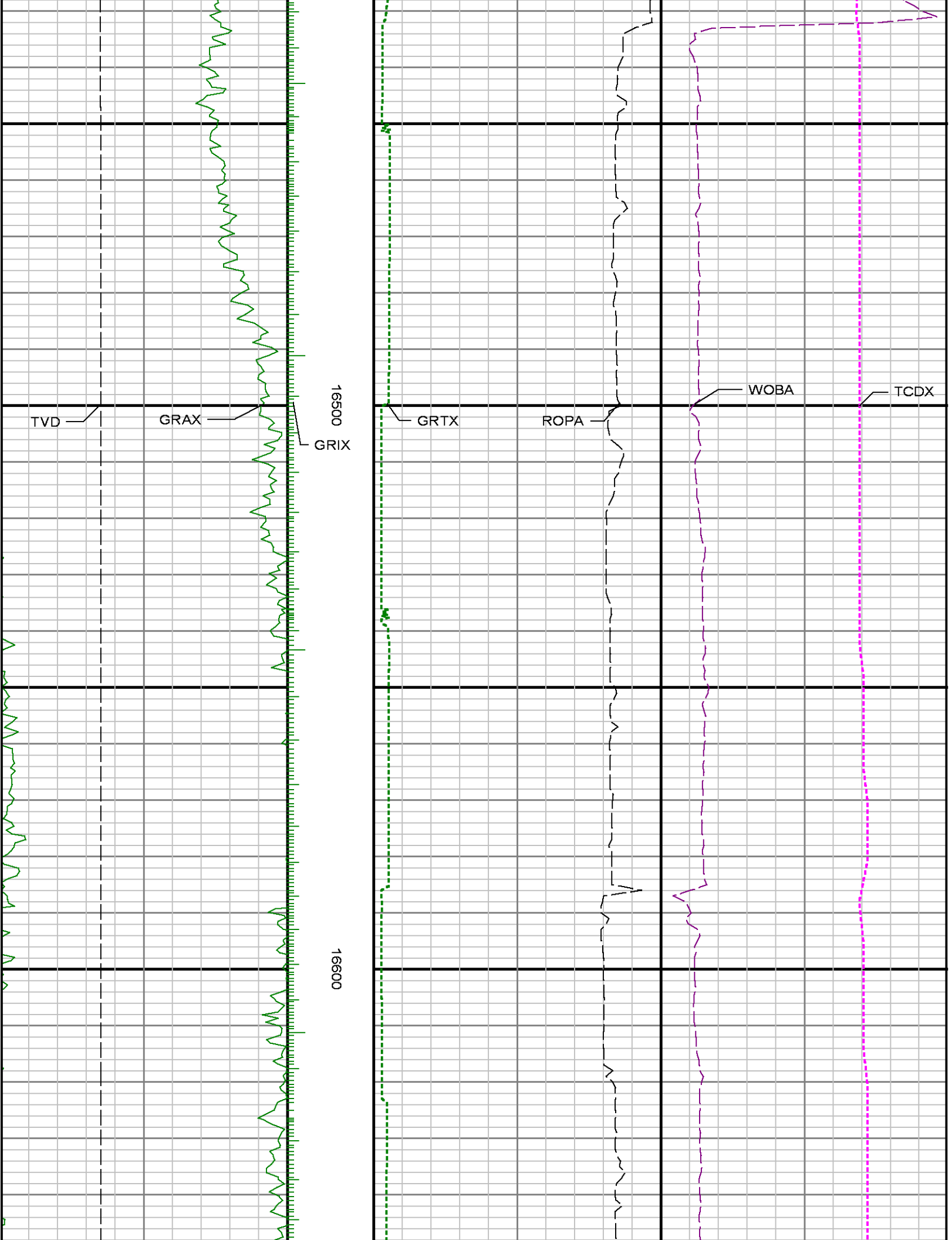




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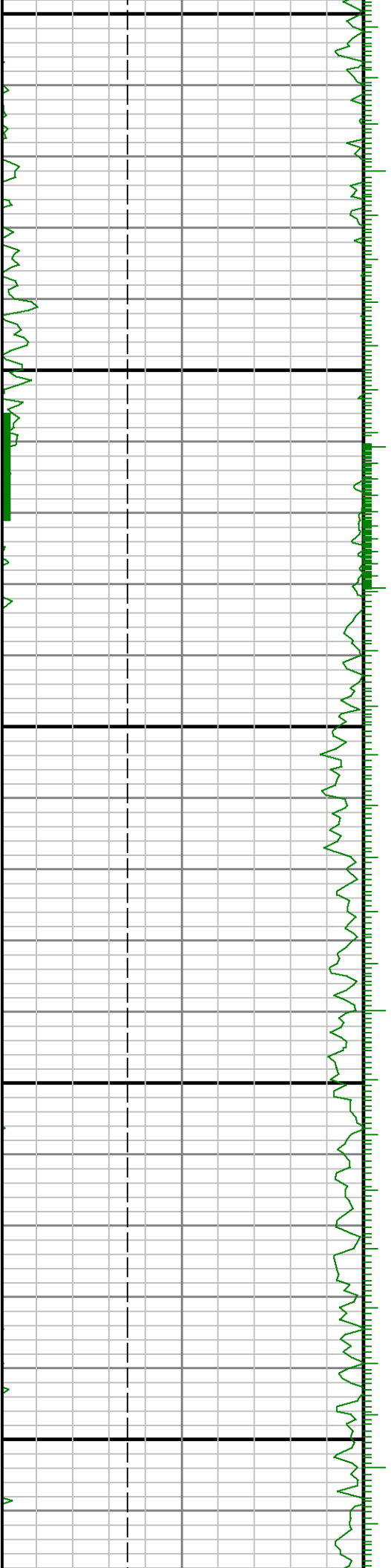


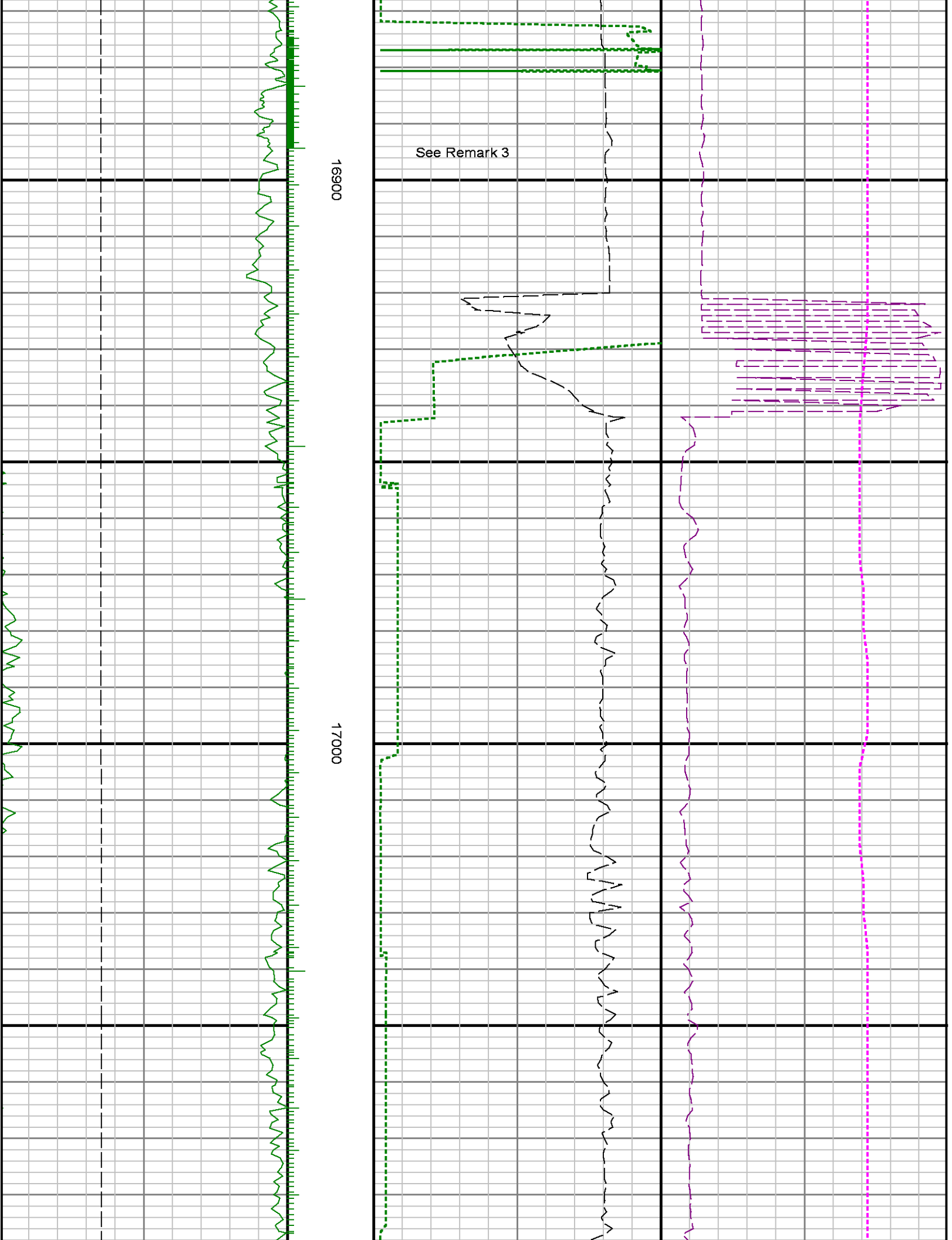


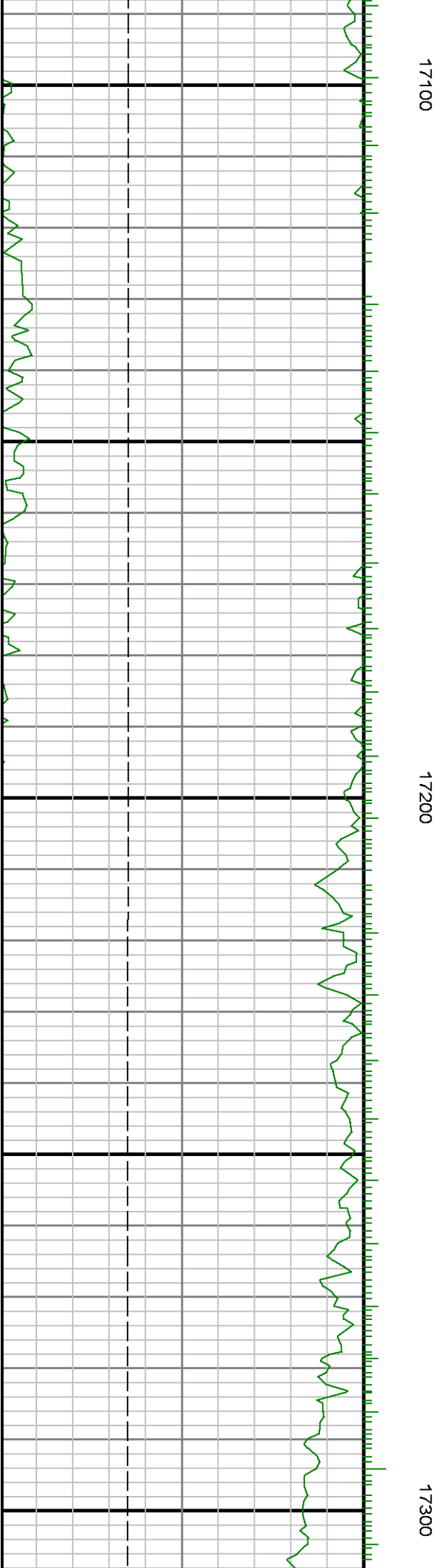
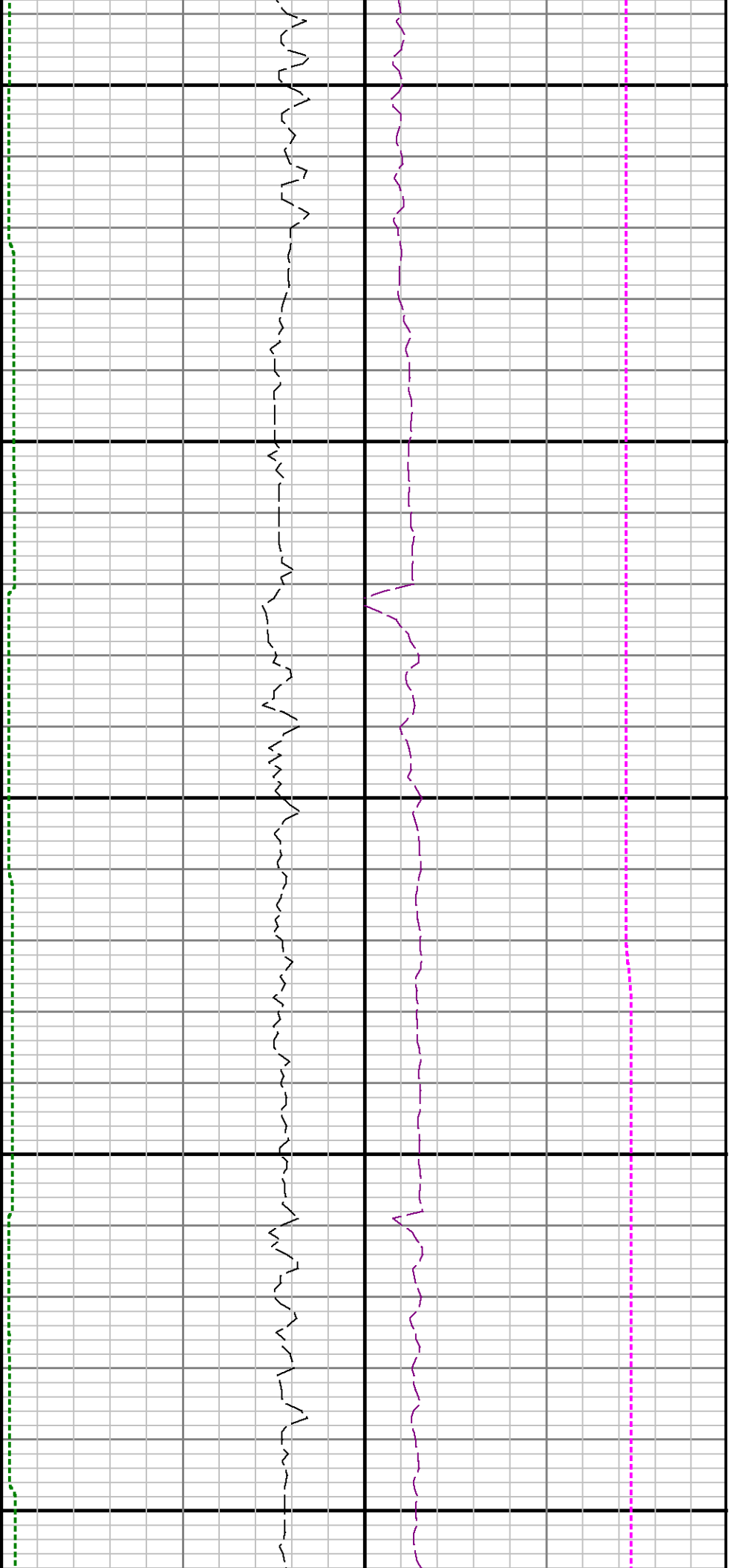


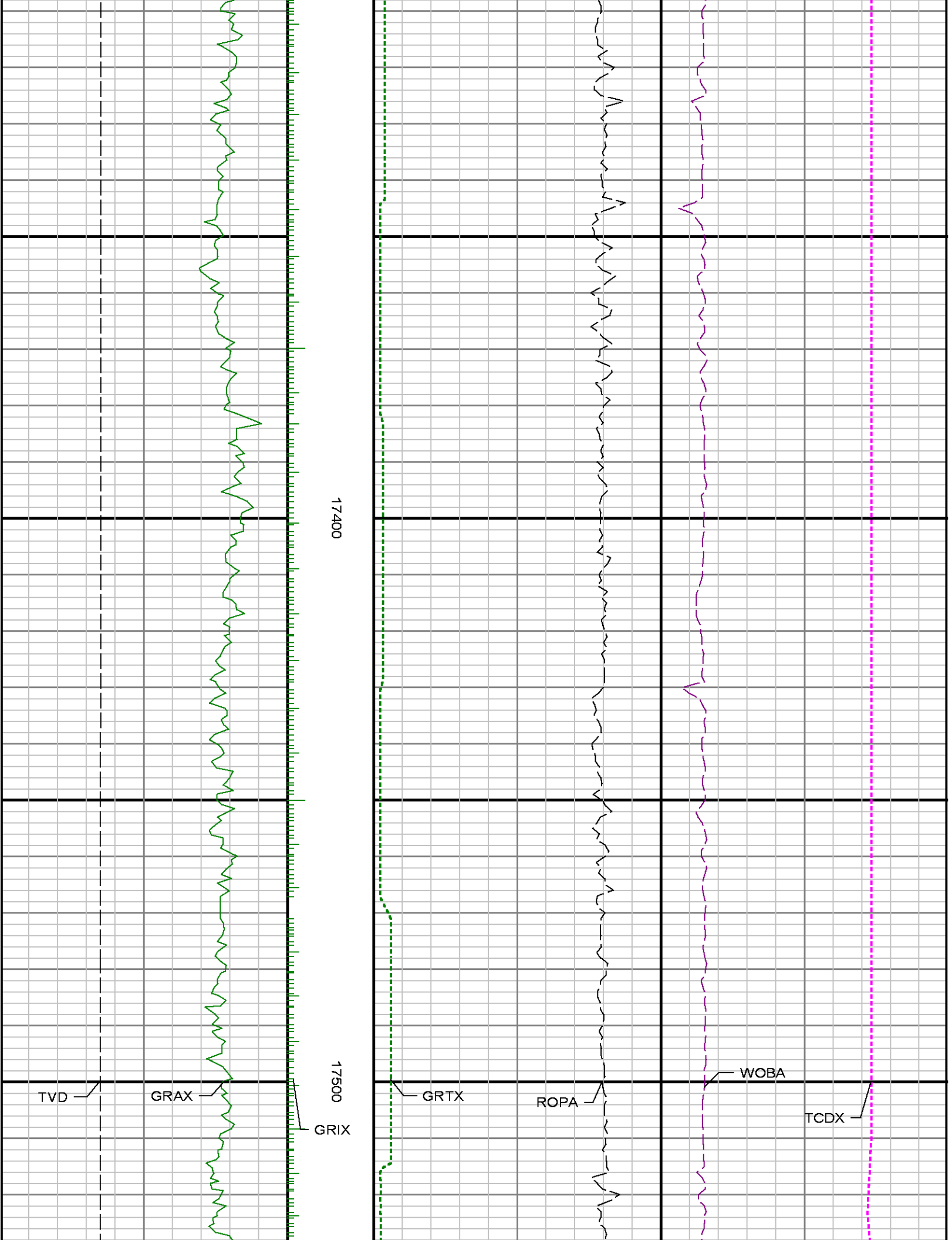
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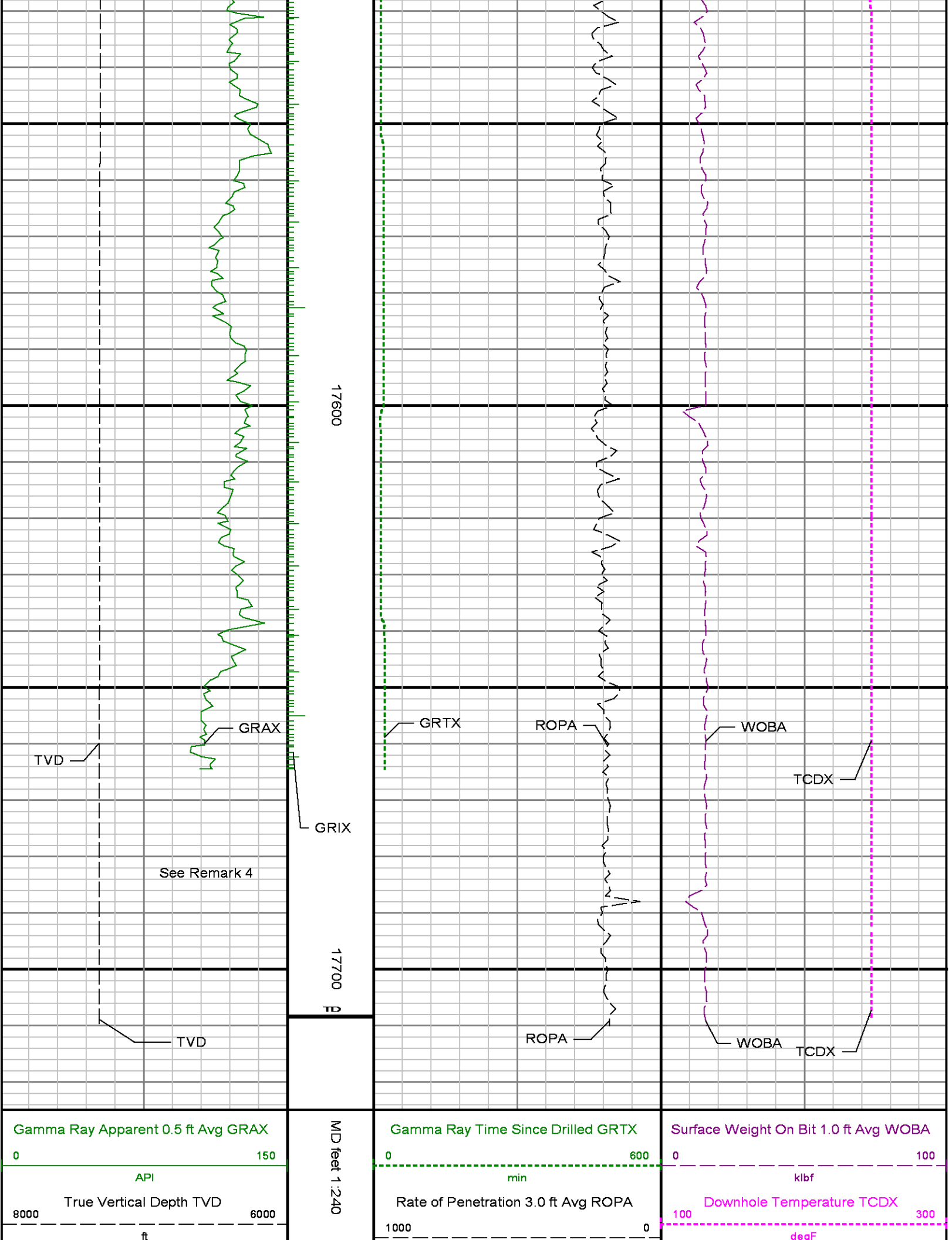
16800











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