


| Real Time Log | | | | | | | | | |
|---|-------------------|-----------------------|--|-------------|---------------------------------|------------------|---------------------------|--|--|
| <div></div> | | | Natural Formation Evaluation Gamma Ray | | | | | | |
| Scale: | Company: Anadarko | | | | | | | | |
| 1:240 | | | Well: NRC 27N-5HZ | | | | | | |
| Measured Depth | | | Field: Weld County (Kerr McGee) | | | | | | |
| Status: Final Print | | | County: Weld County | | State: Colorado | | | | |
| API Number: 05-123-39156-00 | | | Surface Location: Latitude: 40° 4' 17.117" N Longitude: 104° 54' 35.013" W | | Other Services: Directional VSS | | | | |
| Permanent Datum (P.D.): Mean Sea Level | | | Elevation: 5025.00 ft. | | Elevations: N/A | | | | |
| Log Measured From: Drill Floor | | | 5038.00 ft. | | Above P.D. | | KB: 5038.00 ft. | | |
| Depth Reference: Driller's Depth | | | | | | | DF: 5025.00 ft. | | |
| Interval Logged | | | Dates | | Magnetic Field Reference | | | | |
| Top: 1354.0 ft. | | | Date From: 21/Jun/14 | | Dip Angle: 66.66 ° | | Azi Reference North: True | | |
| Bottom: 12656.0 ft. | | | Date To: 27/Jun/14 | | Total | | Mag to Reference | | |
| Spud Date: 22/Jun/14 | | | Field Strength: 52821.0 nT | | North Correction: 8.61 ° | | | | |
| Borehole Record | | | | | | | | | |
| Casing Record | | | | | | | | | |
| Hole Size | From | To | Size | Weight | From | To | | | |
| 13.500 in. | Surface | 1354.0 ft. | 9.625 in. | 51.00 lb/ft | Surface | 1344.0 ft. | | | |
| 8.750 in. | 1354.0 ft. | 7803.0 ft. | 7.000 in. | 39.00 lb/ft | Surface | 7803.0 ft. | | | |
| 6.125 in. | 7803.0 ft. | 12656.0 ft. | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Mud Record | | | | | | | | | |
| Deviation Record | | | | | | | | | |
| Type | From | To | Hole Size | Interval | Inc / Az (Start) | Inc / Az (End) | | | |
| Fresh Water Mud | Surface | 7803.0 ft. | 8.750 in. | 6449.0 ft. | 0.7 ° / 136.6 ° | 85.2 ° / 0.3 ° | | | |
| Water Based Mud | 7803.0 ft. | 12656.0 ft. | 6.125 in. | 4852.0 ft. | 85.2 ° / 0.3 ° | 88.7 ° / 357.5 ° | | | |
| | | | | | / | / | | | |
| | | | | | / | / | | | |
| | | | | | / | / | | | |
| | | | | | / | / | | | |
| Acquisition System Software Version Other | | | | | | | | | |
| Advantage | 2.20U4 | Rig: Xtreme #23 | / Xtreme Drilling | | | | | | |
| PATS | 6.4.1.34 | Job No: 6479039 | / D&E | | | | | | |
| | | District: / Unit: RMD | | | | | | | |

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Log Run Summary

| LWD Run No. | BHA Run No. | Bit Run No. | Bit Size (in.) | Bit Type | Bit Gauge Length (in.) | Assembly Type | Logged Interval | | Bit Depth Interval | | Date / Time | | | | Circ. Time (hrs.) |
|-------------------|-------------------|-------------------|--------------------------|-------------|-------------------------------------|----------------------|-----------------|---------|--------------------|---------|-------------------|--|-------------------|--|---------------------------------|
| | | | | | | | Top | Bottom | From | To | Start | | End | | |
| | | | | | | | (ft.) | (ft.) | (ft.) | (ft.) | | | | | |
| 1 | 1 | 2 | 8.750 | PDC | 3.000 | Steerable | 1308.0 | 7762.0 | 1354.0 | 7803.0 | 22/Jun/2014 05:59 | | 23/Jun/2014 23:29 | | 41.15 |
| 2 | 2 | 3 | 6.125 | PDC | 3.000 | Steerable | 7762.0 | 12608.0 | 7803.0 | 12656.0 | 25/Jun/2014 15:41 | | 27/Jun/2014 03:05 | | 35.02 |

Crew

| Name | Arrive | Depart | Name | Arrive | Depart | Name | Arrive | Depart |
|------------------|-------------|-------------|--------------|-------------|-------------|------------------|-------------|-------------|
| | Wellsite | Wellsite | | Wellsite | Wellsite | | Wellsite | Wellsite |
| Robert Bartlett | 21/Jun/2014 | 27/Jun/2014 | Stephen Gray | 19/Jun/2014 | 27/Jun/2014 | Sumanth Belawadi | 20/Jun/2014 | 27/Jun/2014 |
| Stephan Martinez | 20/Jun/2014 | 27/Jun/2014 | | | | | | |

| Mud Properties Record | | | | | | | | | | | |
|-----------------------|----------------|----------------------------|-----------------|------------------|-------------------|-----|-----------------------|----------------|----------------|-----------------------------|-----------|
| Date / Time | LWD Run No. | Measured Depth (ft.) | Mud Type | Density (ppg) | Viscosity (cp) | pH | Fluid Loss (cc) | Oil / Water | Source | Total Chlorides (ppm) | K+ (%) |
| 22/Jun/2014 | 1 | 7803.0 | Water Based Mud | 8.9 | 28 | 9.1 | N/A | 0 / 94 | Active Mud Pit | 2400 | N/A |
| 26/June/2014 | 2 | 12656.0 | Water Based Mud | 10.0 | 43 | 8.6 | N/A | 4 / 90 | Active Mud Pit | 2000 | 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 | °F |
| TVD | True Vertical Depth | ft |
| WOBA | Surface Weight on Bit, 1.0 ft. Avg. | klbs |

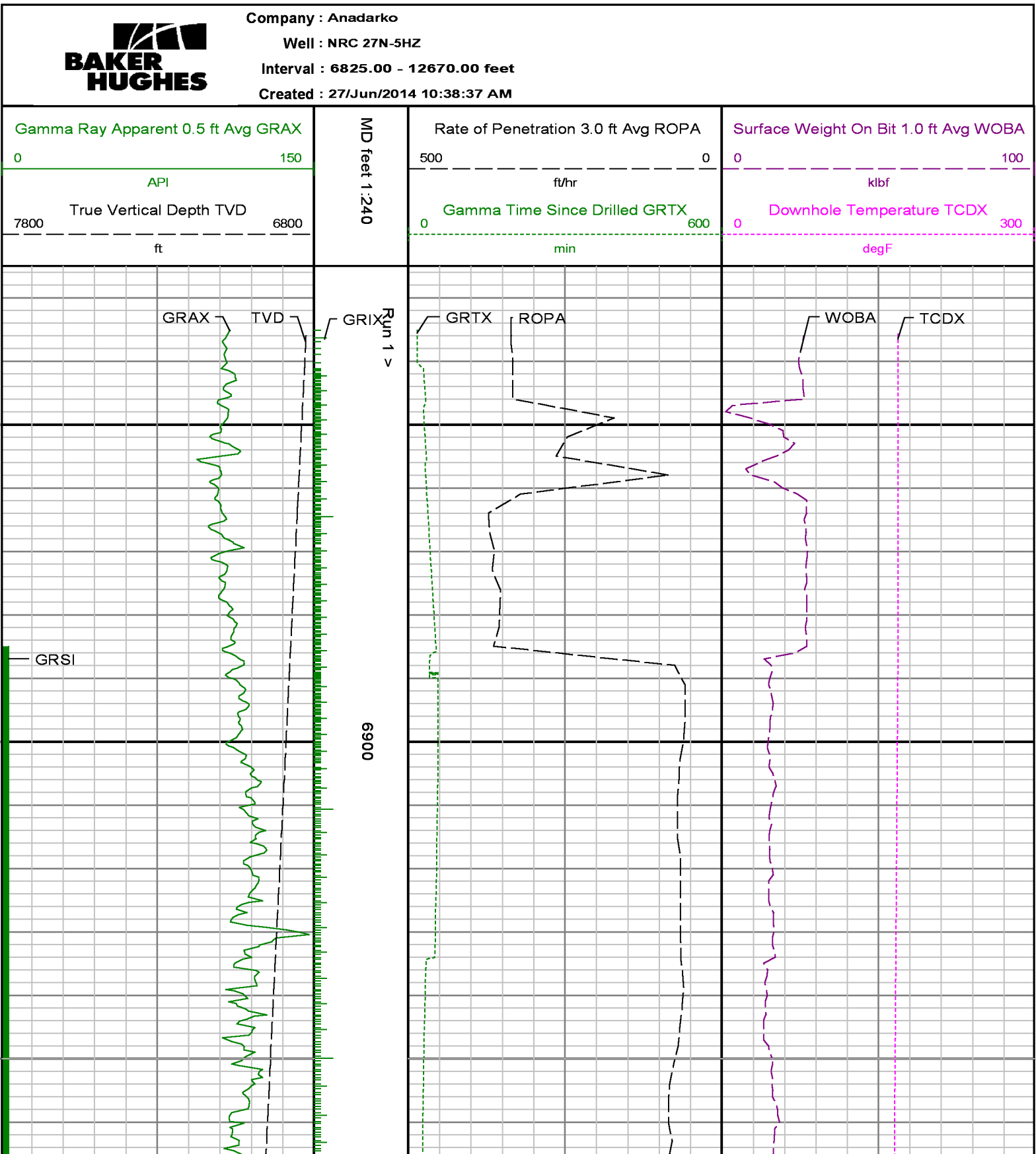
| Equipment and Service Data | | | | | | |
|----------------------------|------|------------------|-------------|-----------------------|----------------------|----------------------|
| LWD Run No. | Tool | Serial Number | Measurement | Bit Offset (ft) | Max O.D. (in.) | Min I.D. (in.) |
| 1 | DIR | 12887296 | Directional | 47.56 | 6.750 | 3.250 |
| 1 | SRIG | 12023988 | Gamma | 44.19 | 6.750 | 3.250 |
| 2 | DIR | 12815870 | Directional | 51.22 | 4.750 | 2.625 |
| 2 | SRIG | 10595781 | Gamma | 47.85 | 4.750 | 2.625 |

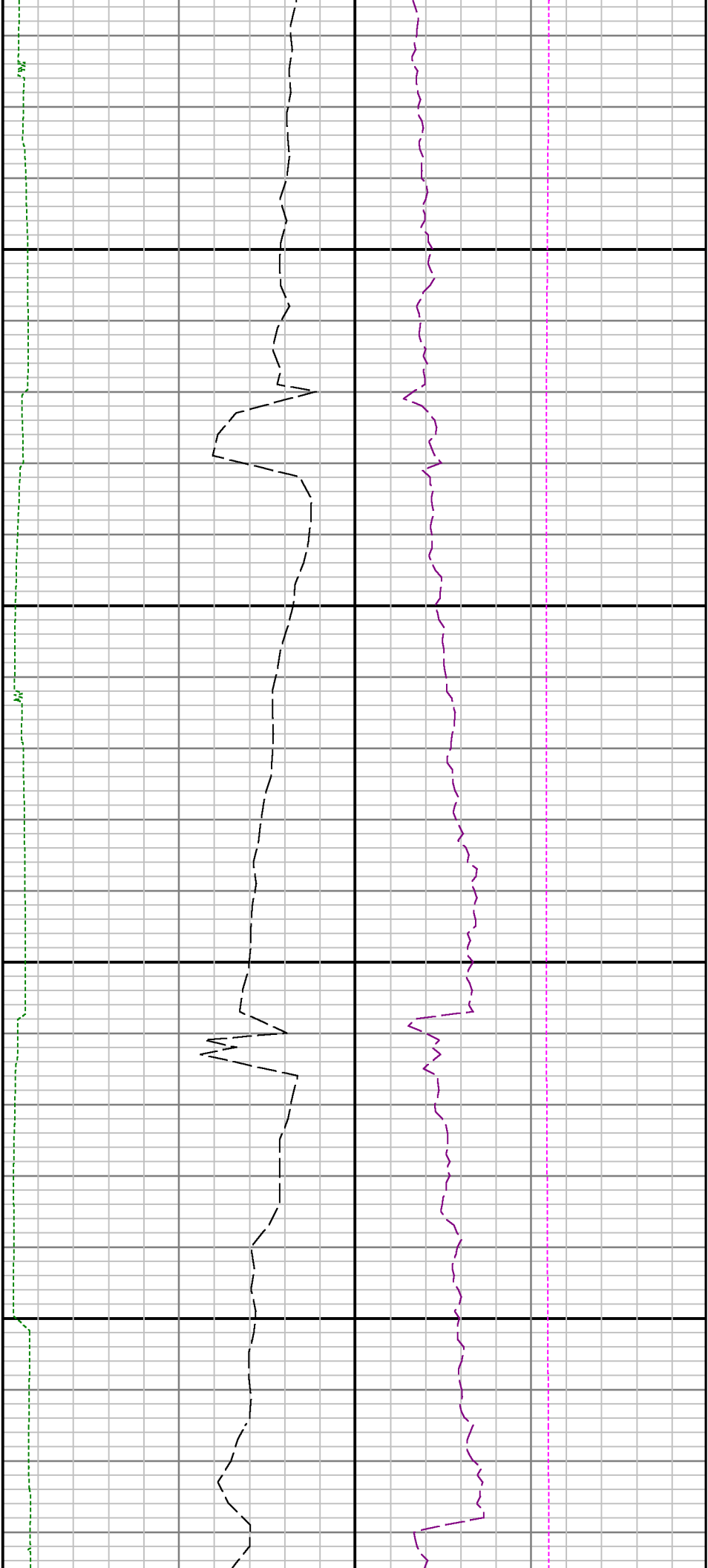
| Service and Tool Mnemonics | | |
|----------------------------|-----------------------|--|
| Mnemonic | Name | Description |
| DIR | Directional | Wellbore directional survey |
| SRIG | Inclination and Gamma | Probe based gamma ray and inclination module |

| Comments | |
|---|--|
| <p>1.) Baker Hughes LWD run 1 utilized 6 3/4 inch NaviTrak Services (VSS, Directional) from 1354 to 6835 ft. MD (1353.95 to 6824.72 ft. TVD) and NaviGamma Services (VSS, Directional, Gamma Ray) from 6835 to 7803 ft. MD (6824.72 to 7453.69 ft. TVD) behind an 8 3/4 inch bit and steerable assembly.</p> <p>2.) Baker Hughes LWD run 2 utilized 4 3/4 inch NaviGamma Services (VSS, Directional, Gamma Ray) from 7803 to 12656 ft. MD (7453.69 to 7474.47 ft. TVD) behind an 6 1/8 inch bit and steerable assembly.</p> <p>3.) Depth measurements 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.</p> | |

| Remarks | | | | |
|---------|---------------------------|--------------------------|----------------|---|
| Number | Measured Depth (ft) | Hole Section (in.) | LWD Run No. | Remark |
| 1 | 7154 | 8.750 | 1 | Intermittent gaps in gamma and drilling data due to depth tracking failure and request by client not to relog |

| | | | | |
|---|-------|-------|---|---|
| | 7754 | 8.750 | 1 | intermittent gaps in gamma and drilling data due to depth tracking failure and request by client not to relog. |
| 2 | 7775 | 8.750 | 2 | The interval from 7762 to 7803 ft. MD (7451.85 to 7453.69 ft. TVD) was logged up to 39.95 hours after being drilled due to a trip out of the hole for intermediate casing operations. |
| 3 | 12625 | 6.125 | 2 | The interval from 12610 to 12656 ft. MD (7473.49 to 7474.47 ft. TVD) does not contain GRAX, GR1X or GRTX due to the bit to sensor offset. |

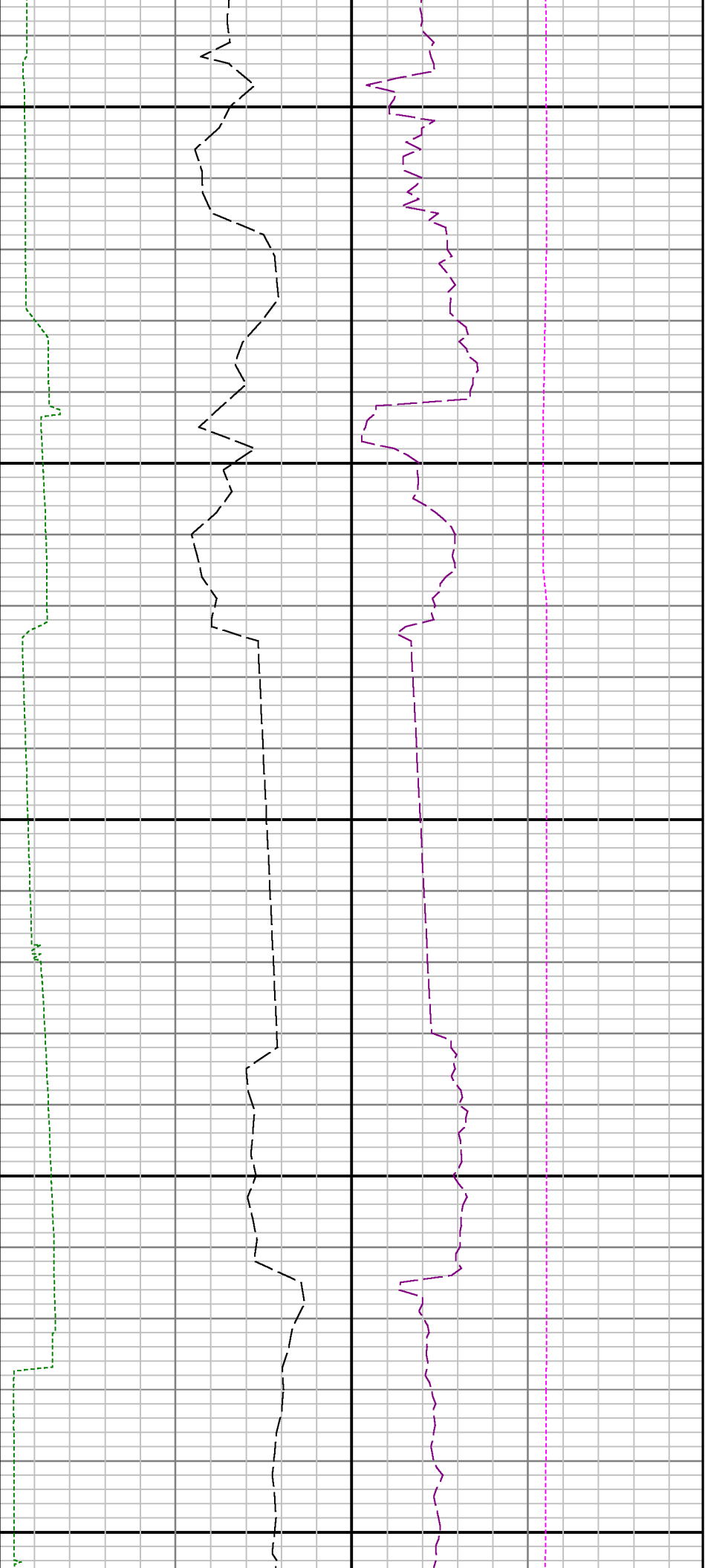




7000

7100

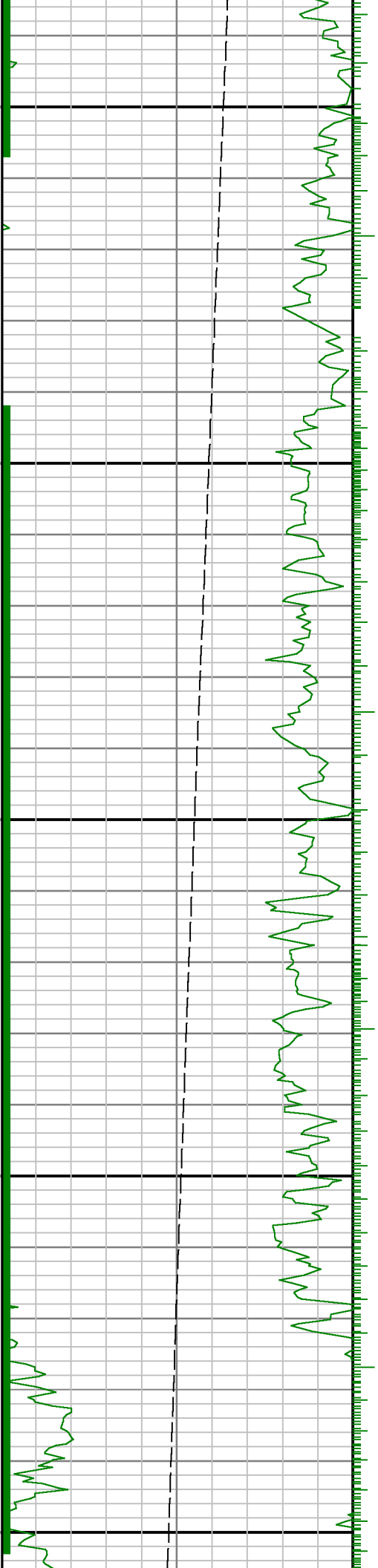
See Remark 1

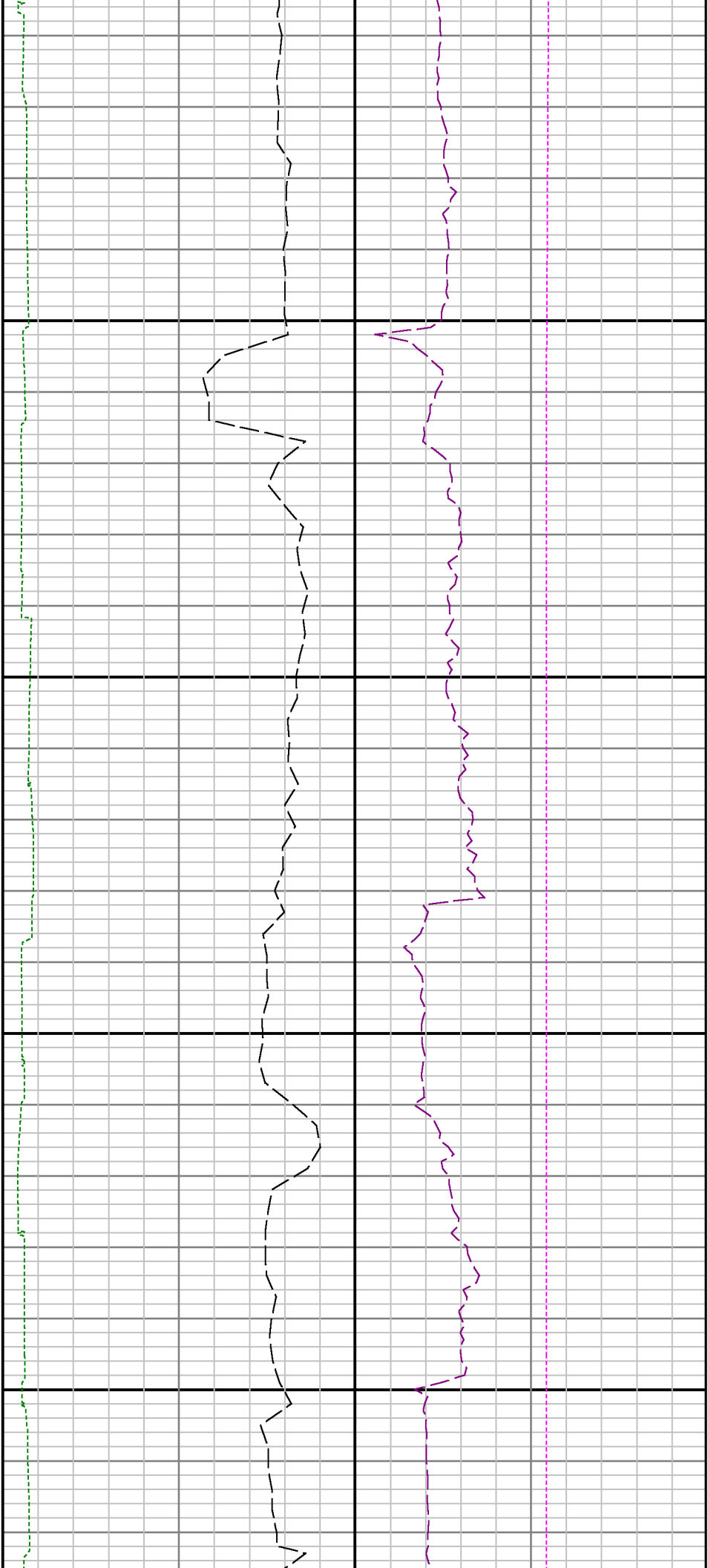


7200

7300

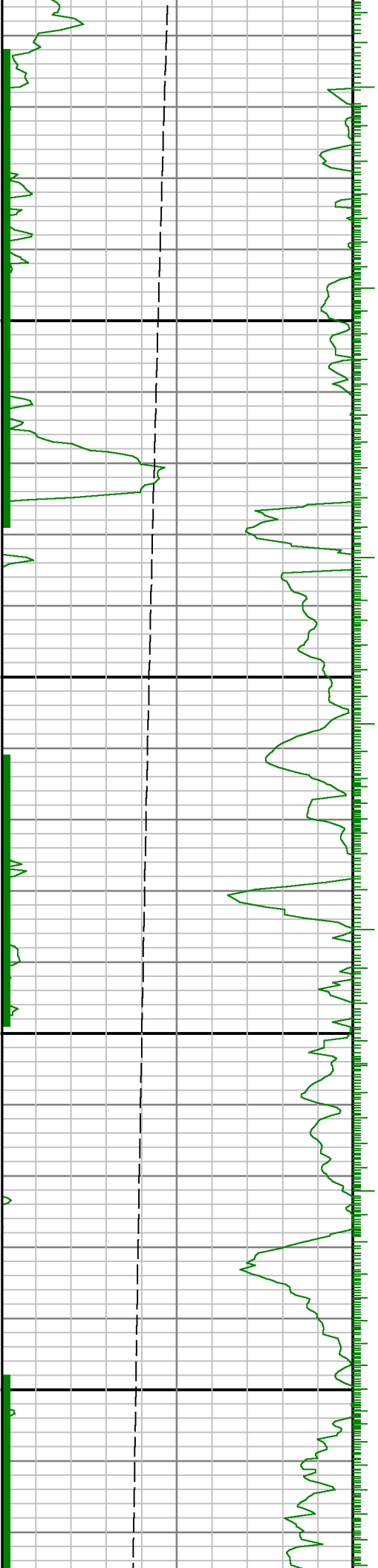
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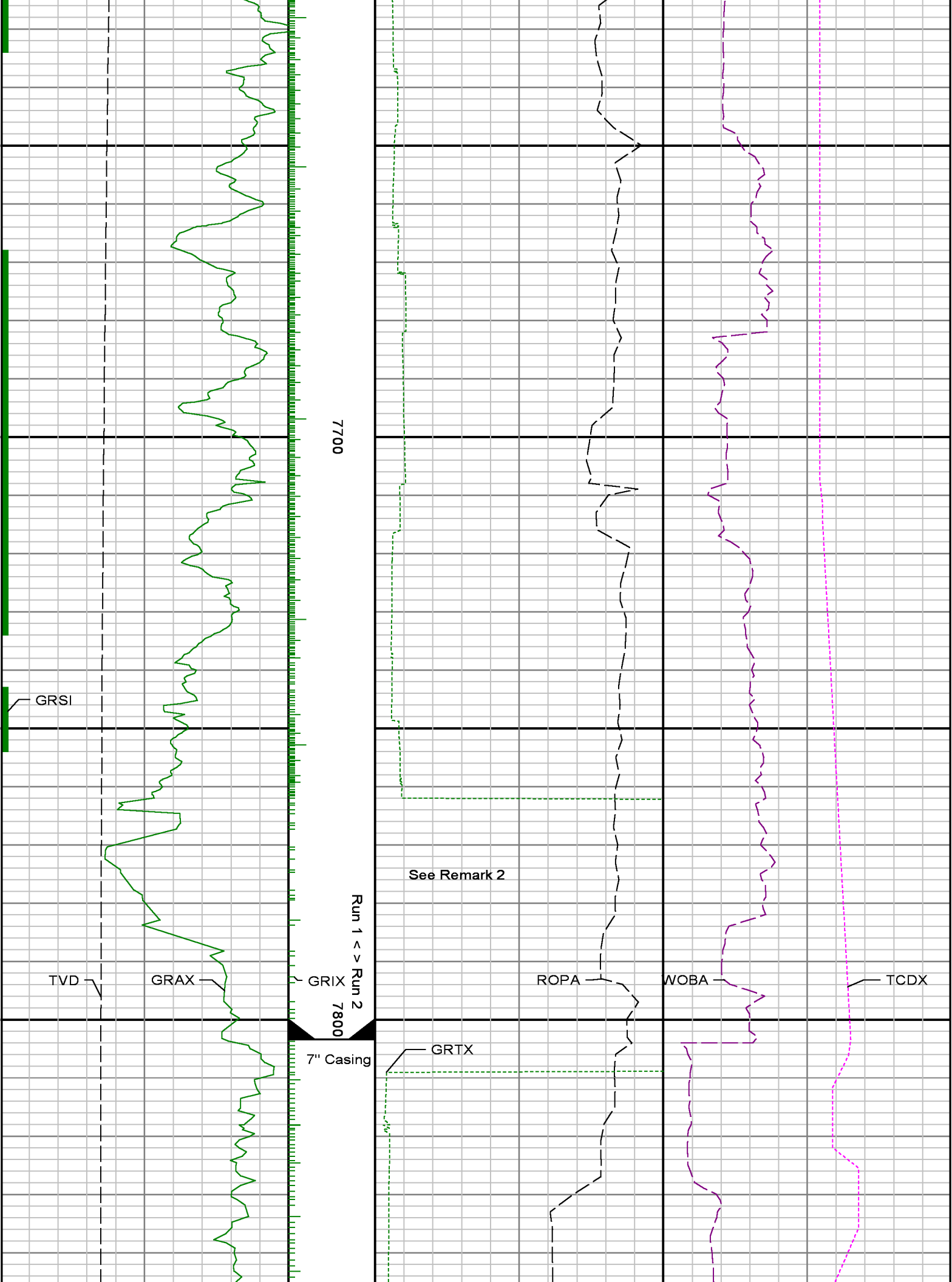


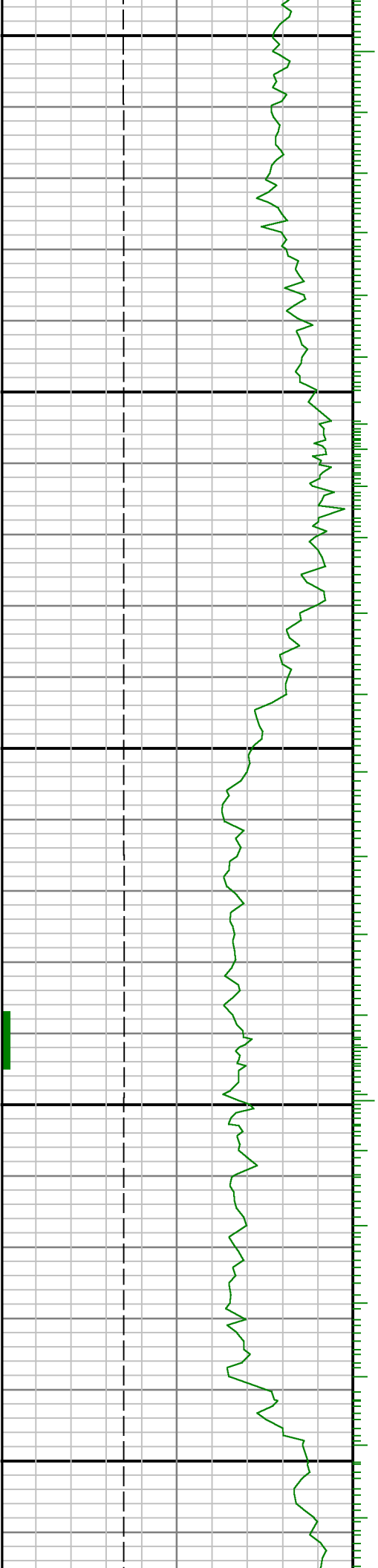


7500

7600

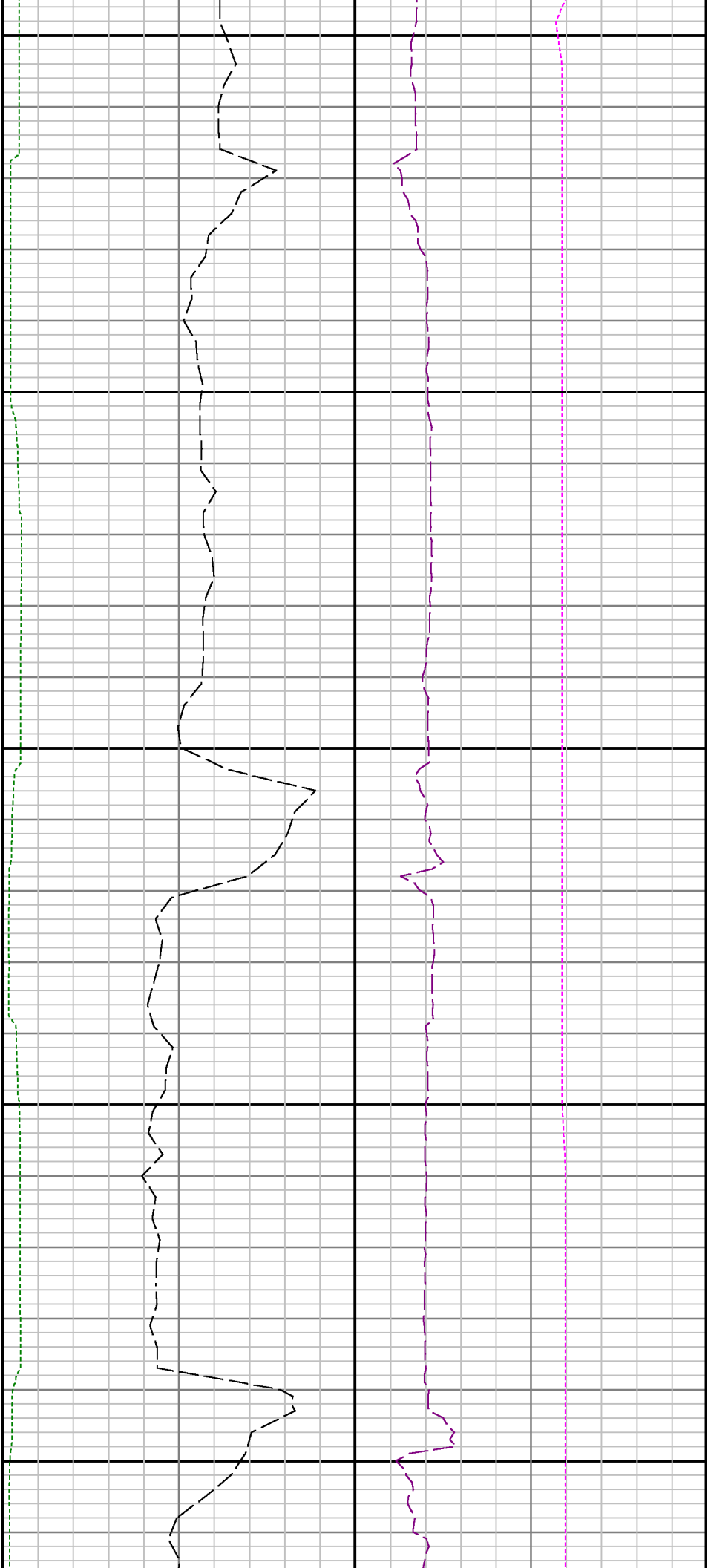






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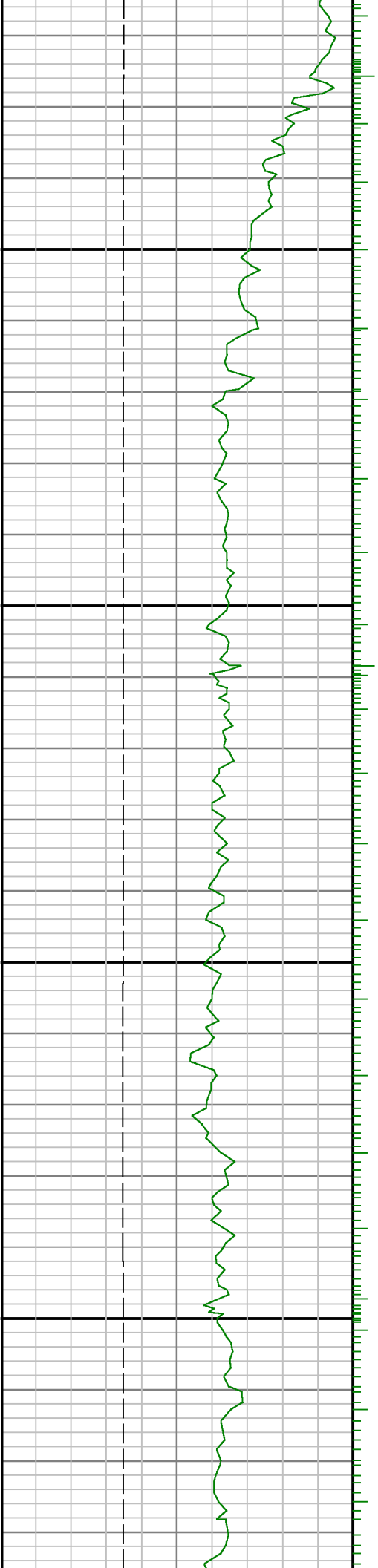
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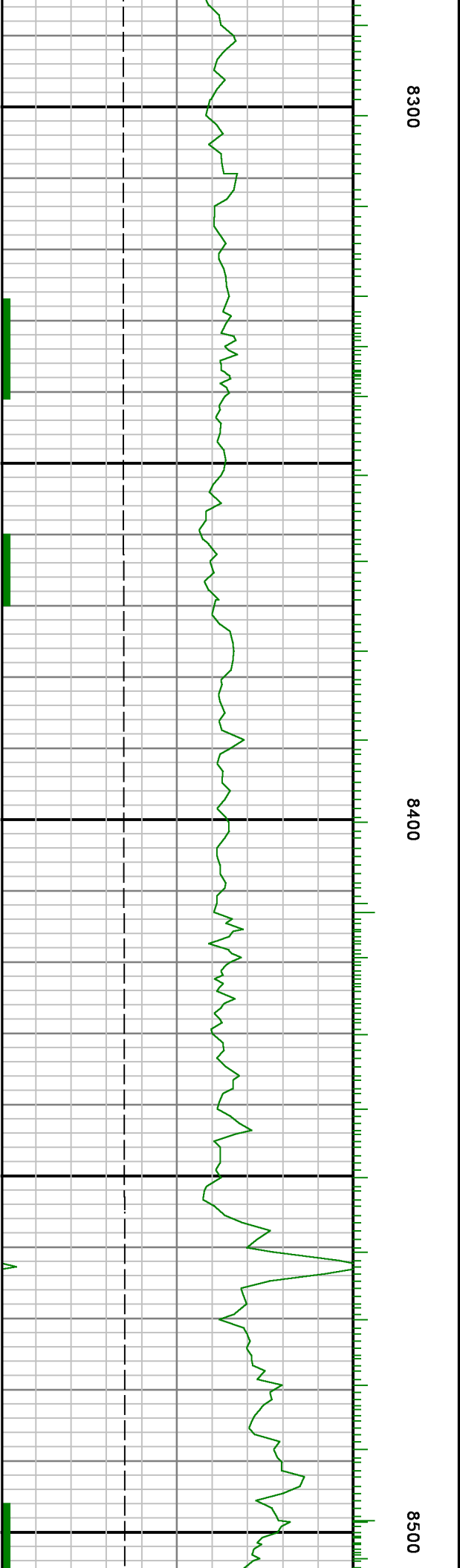
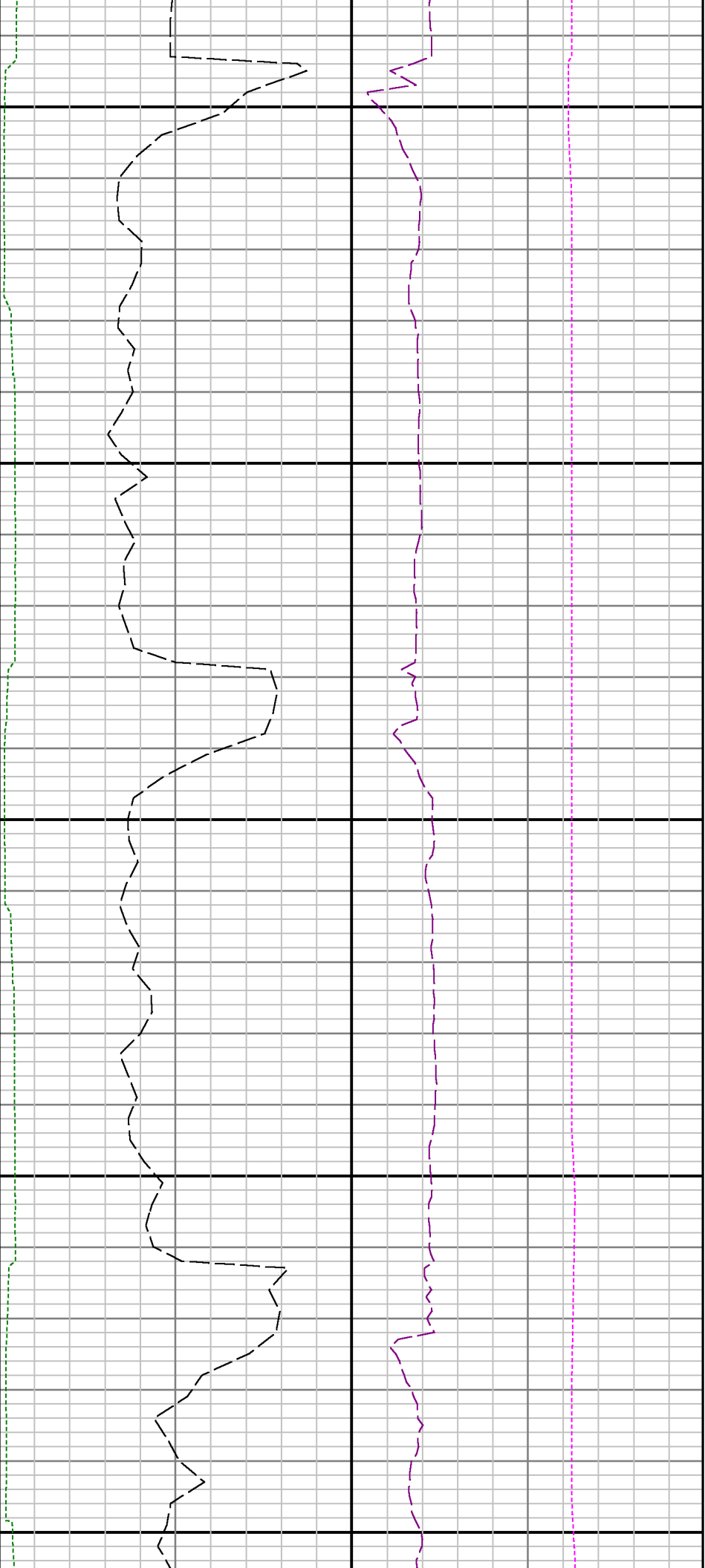


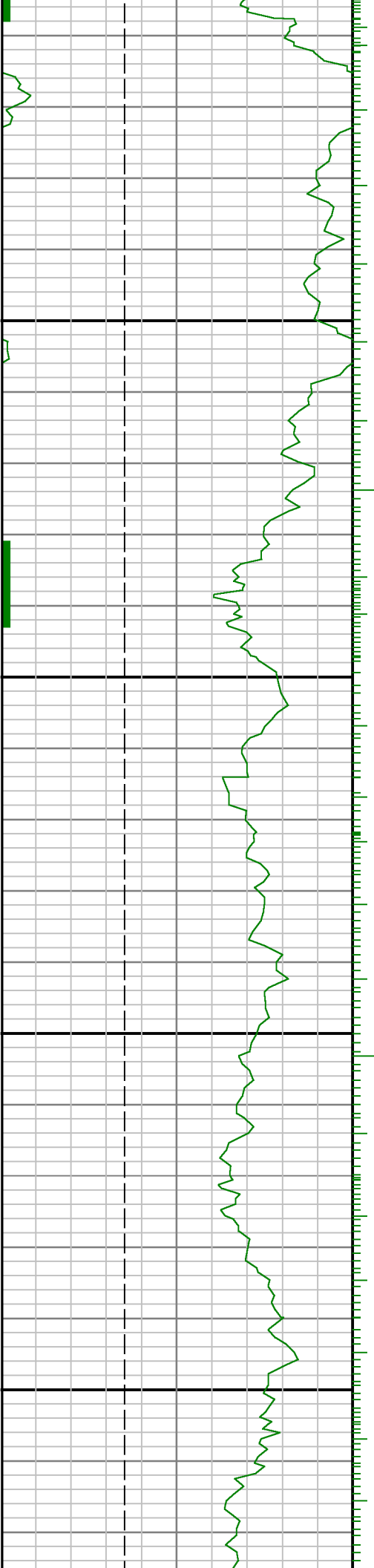


8100

8200

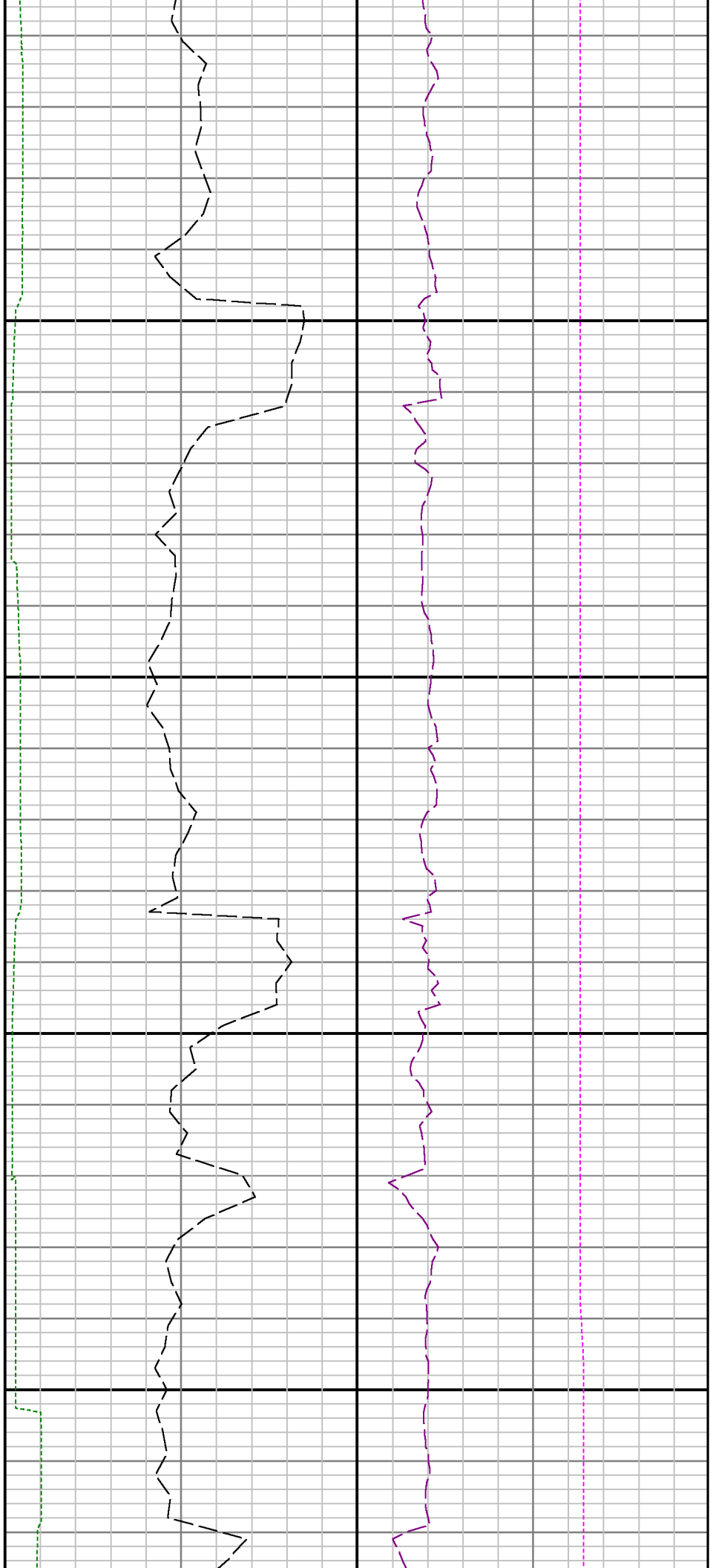


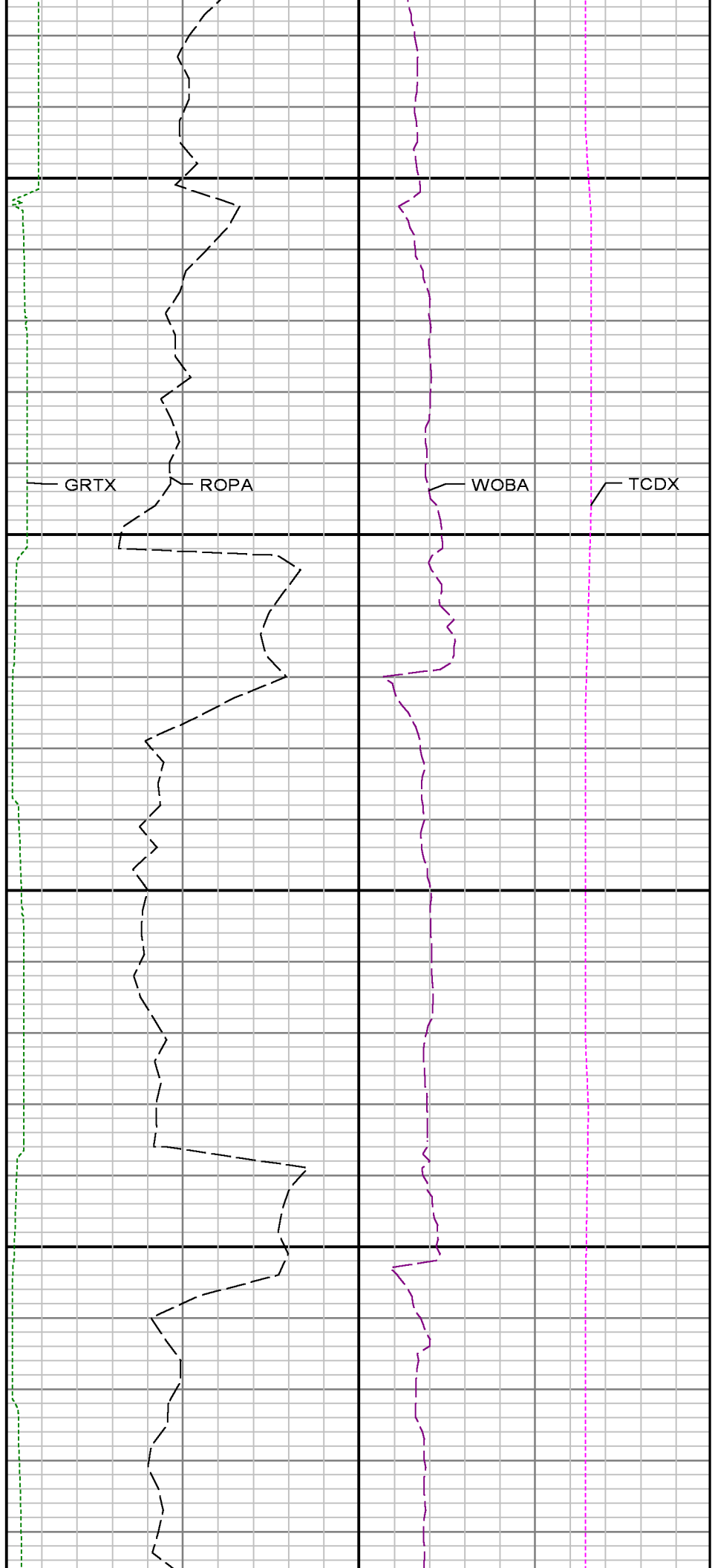
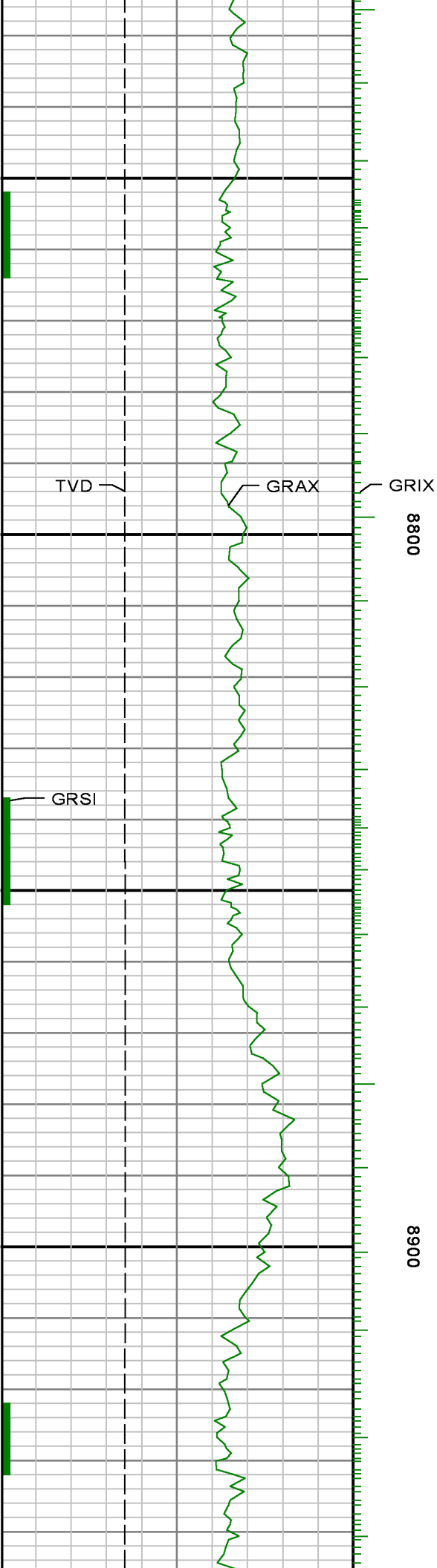


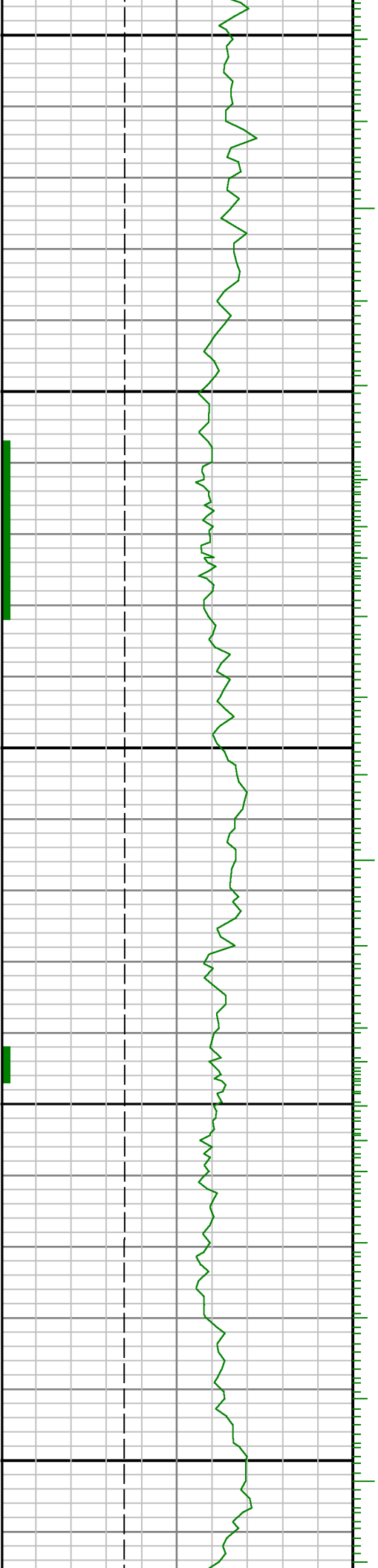


8600

8700

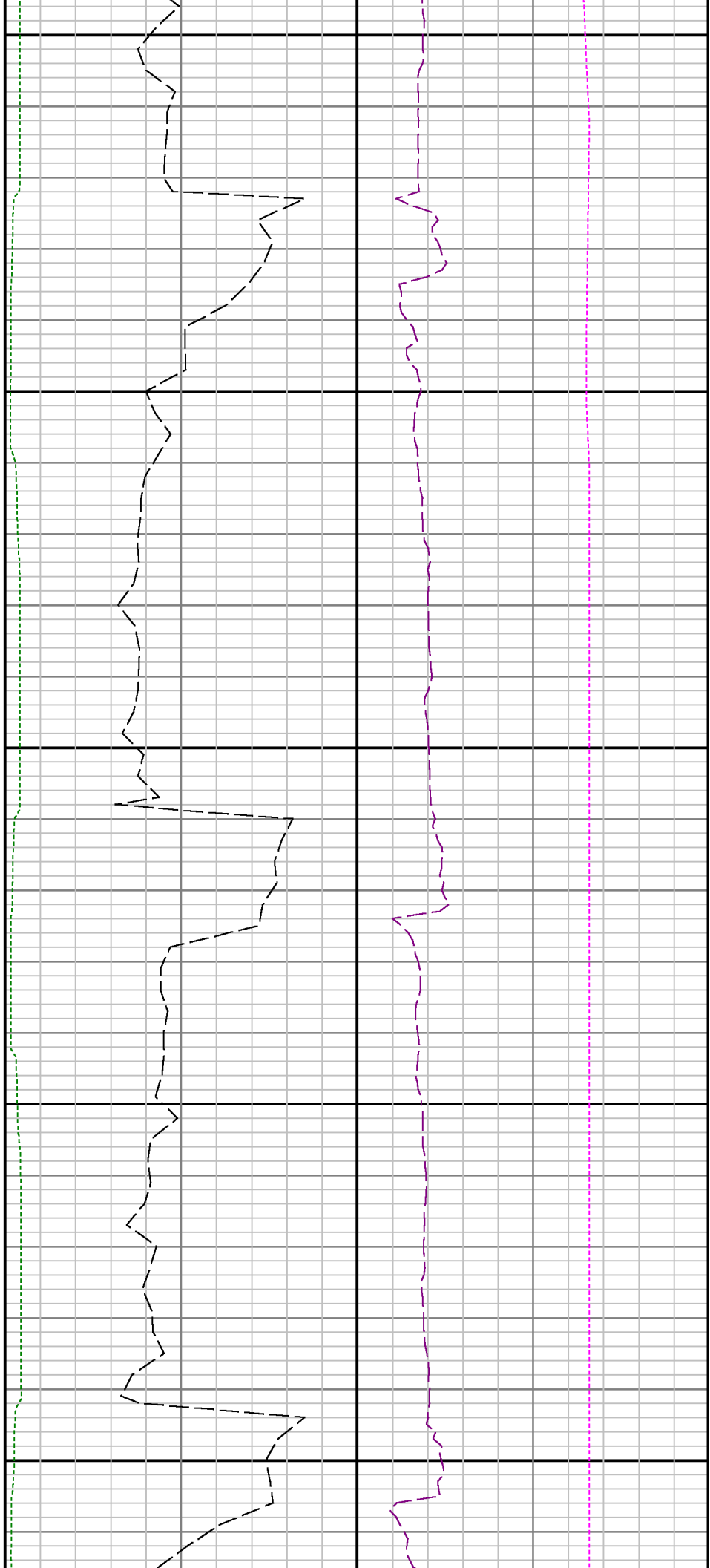


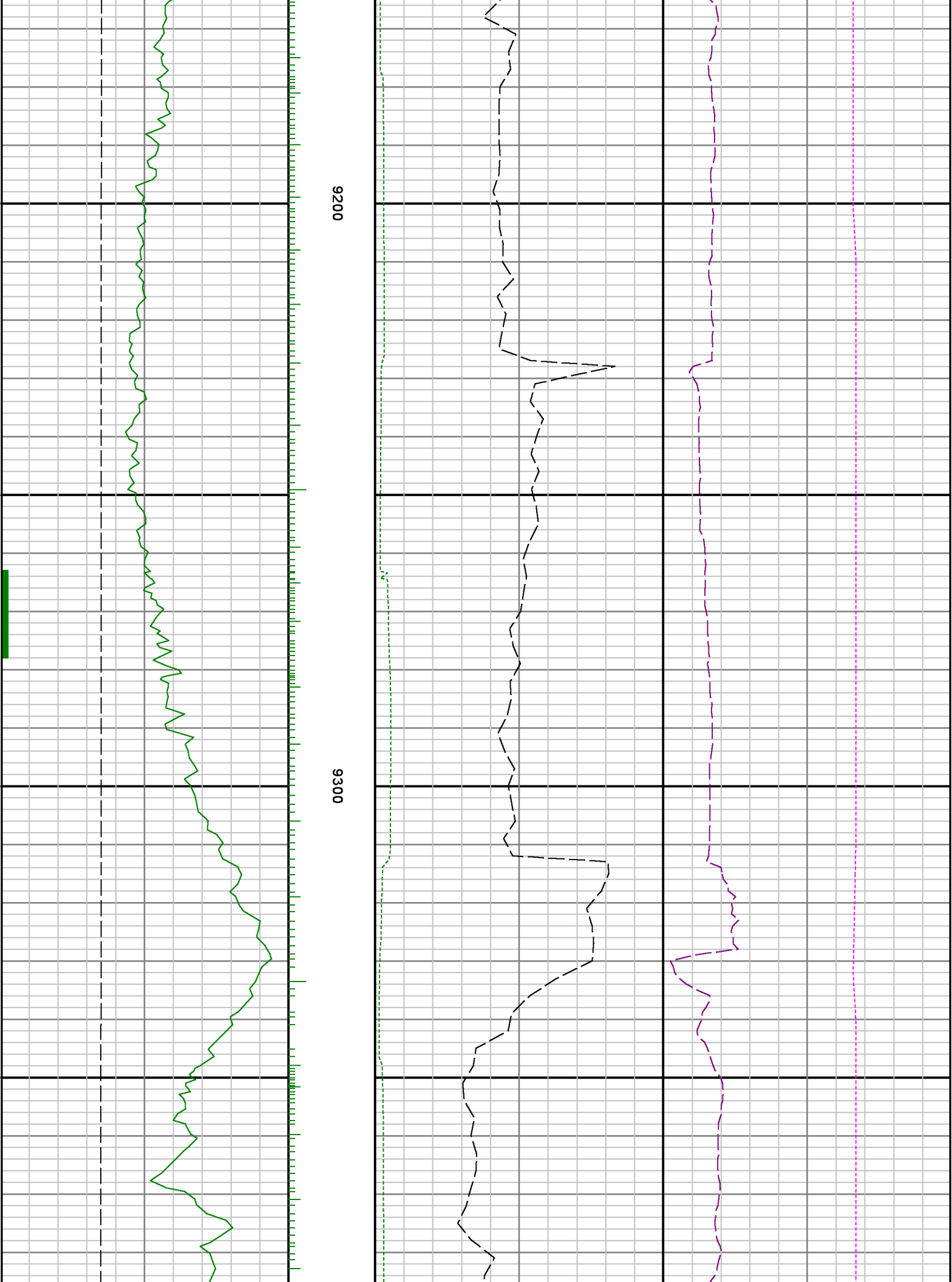


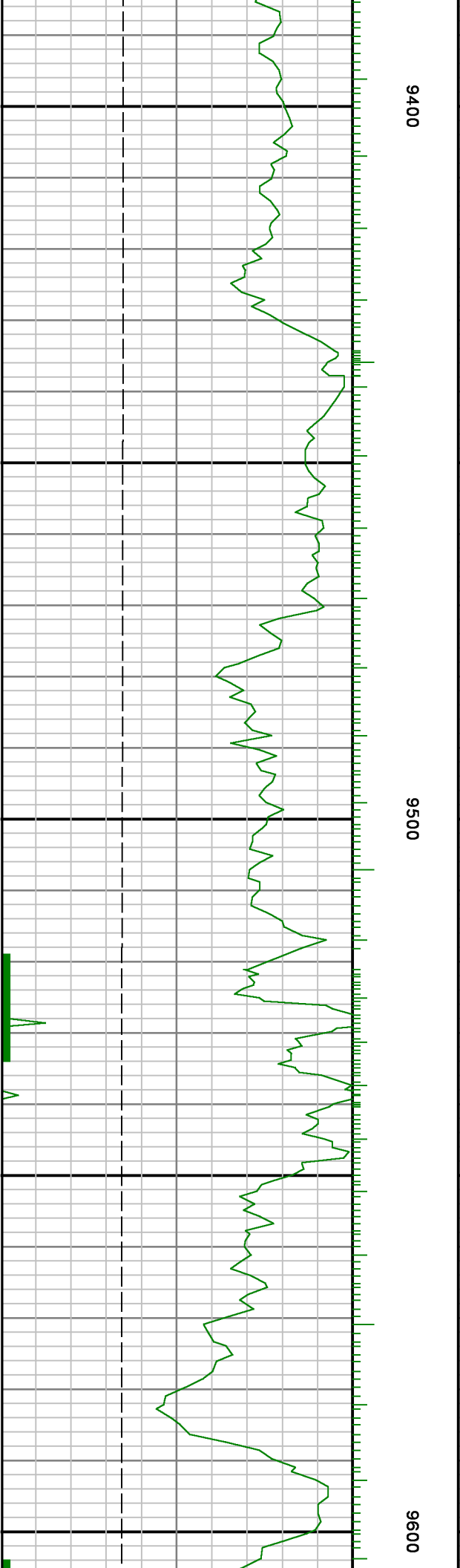
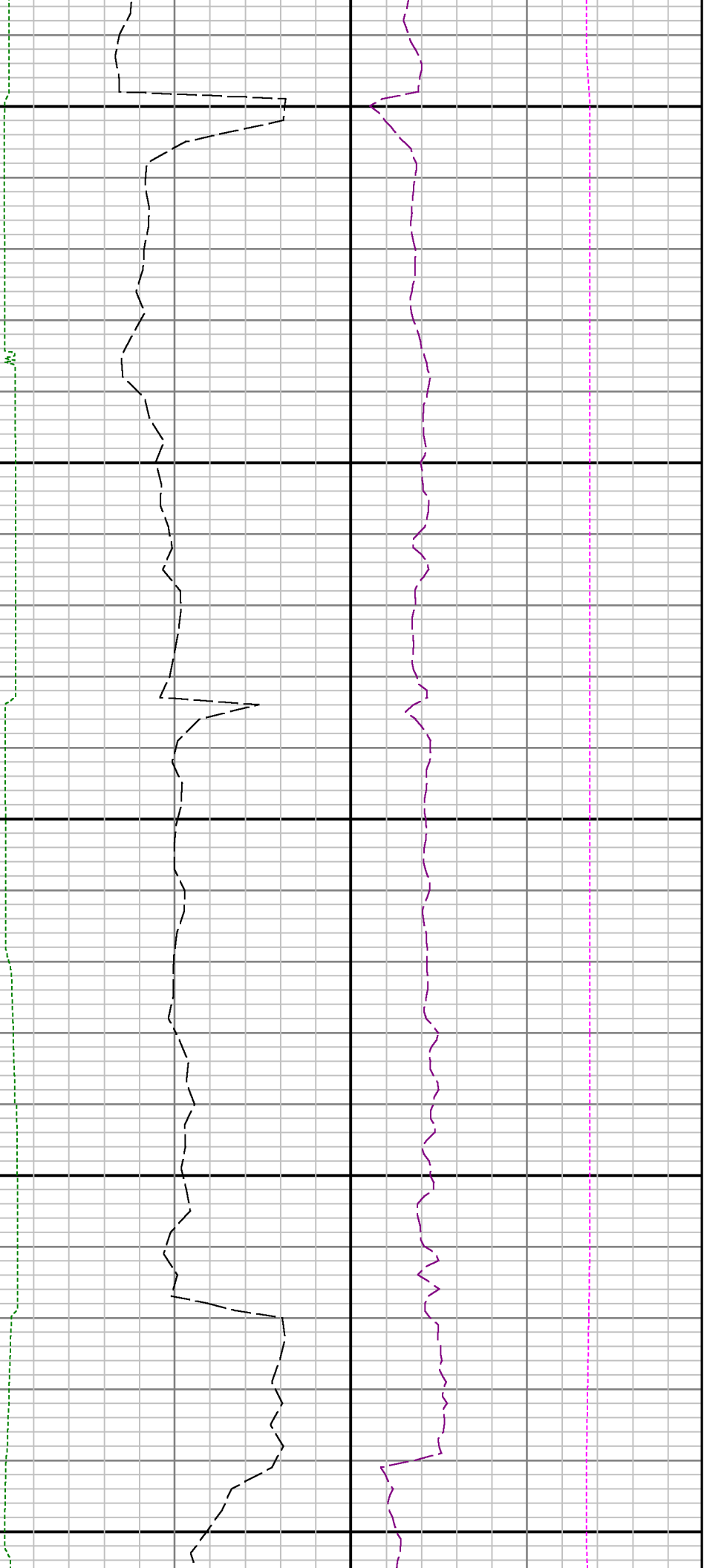


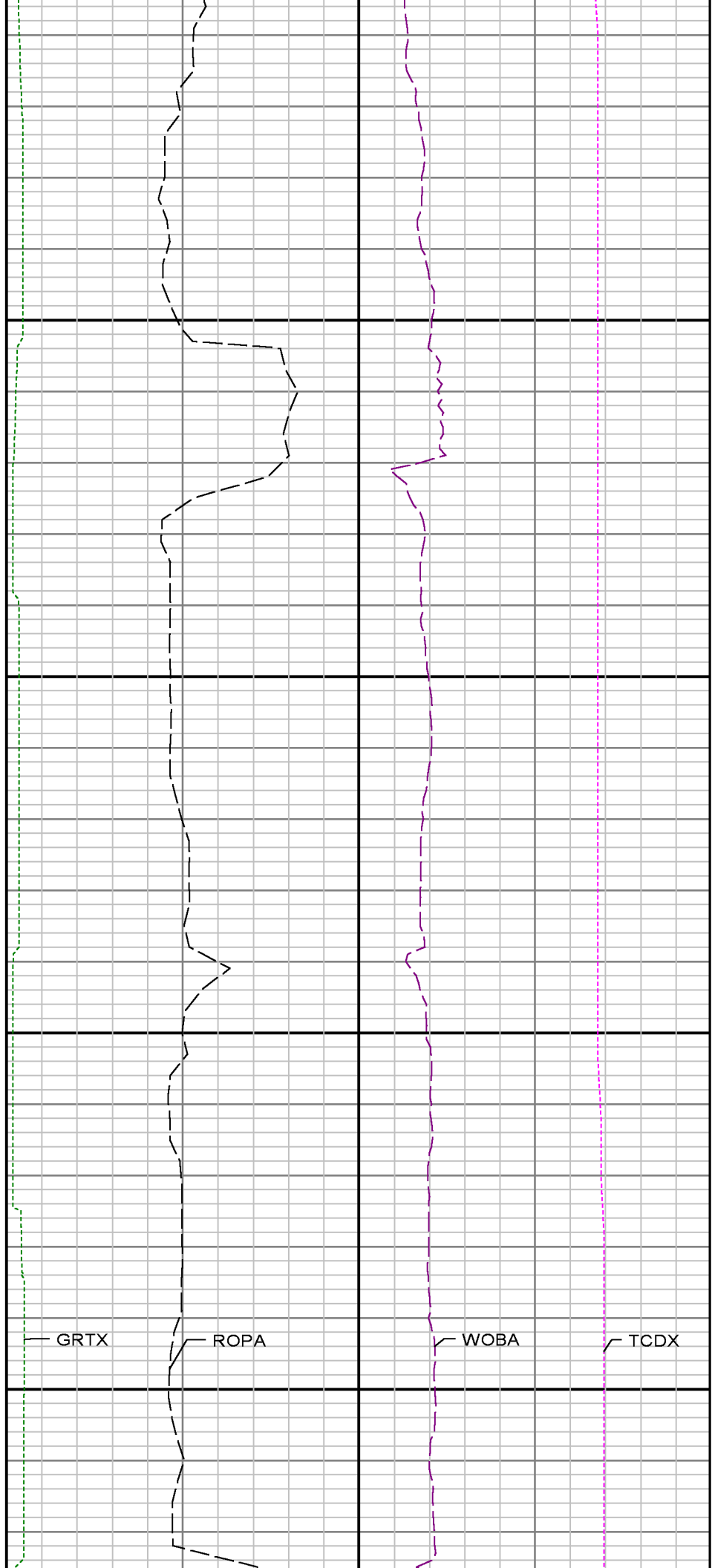
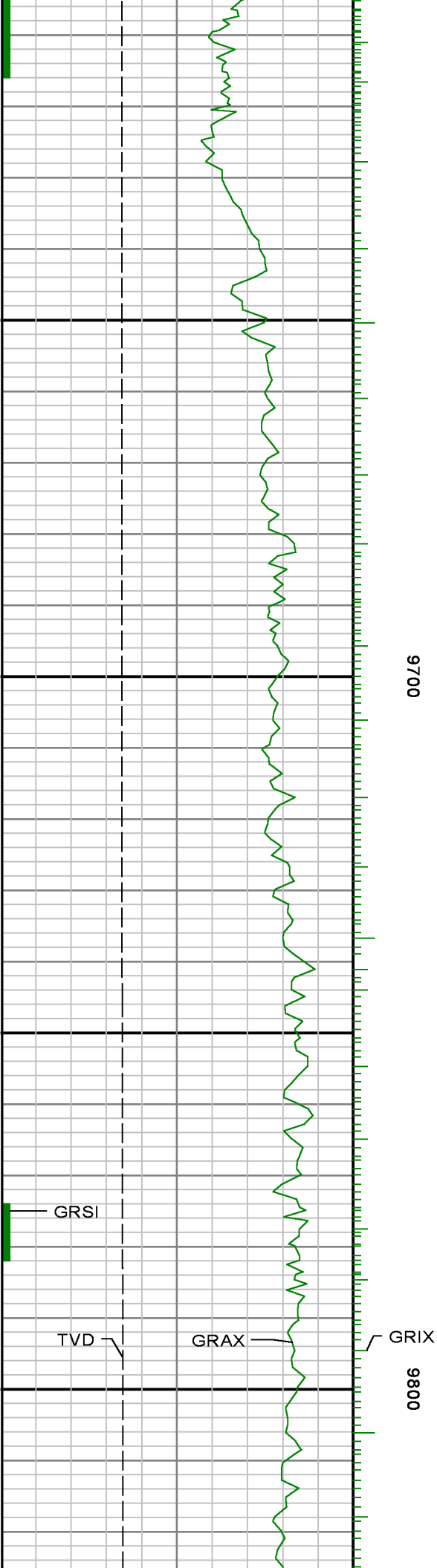
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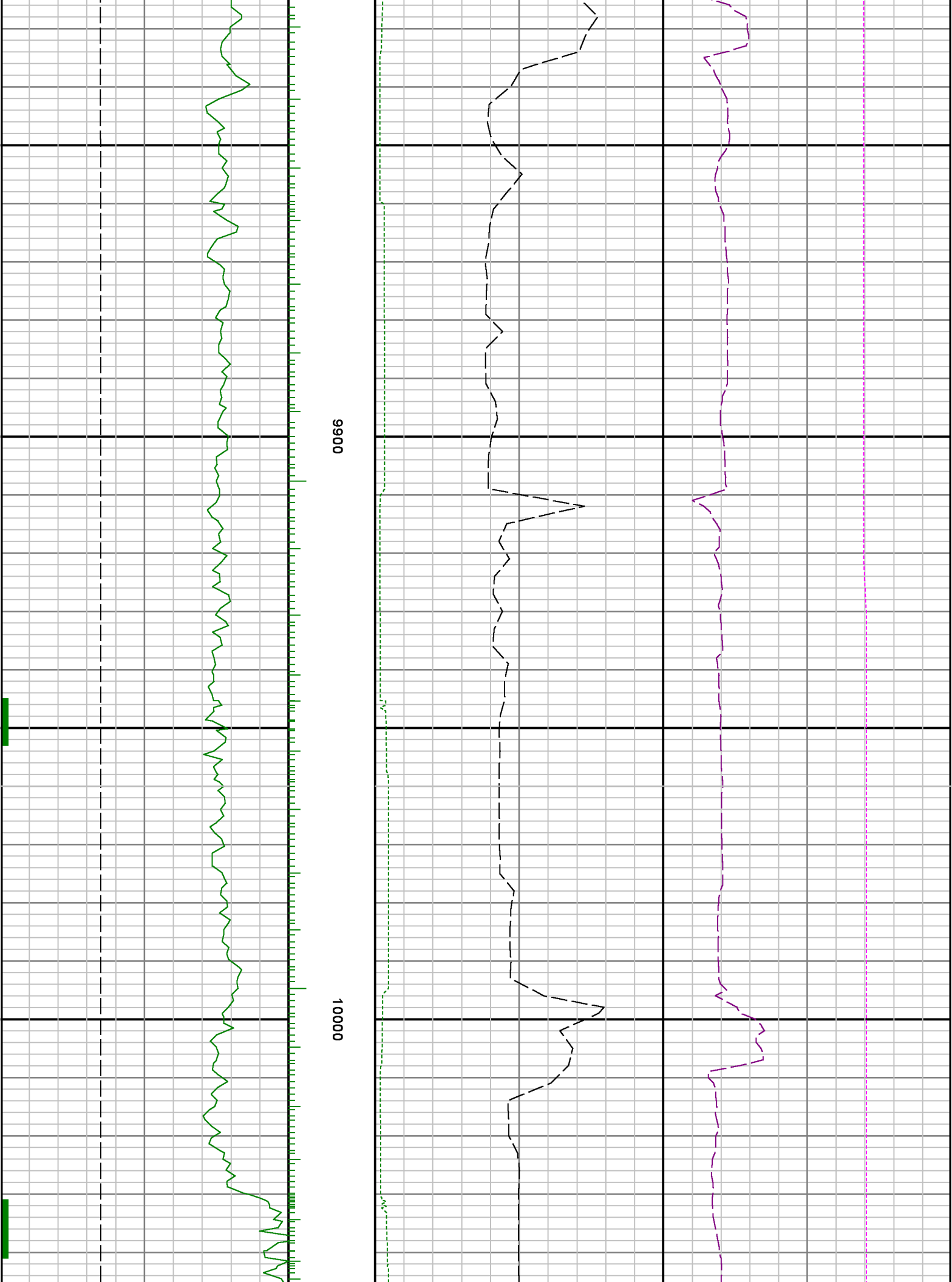
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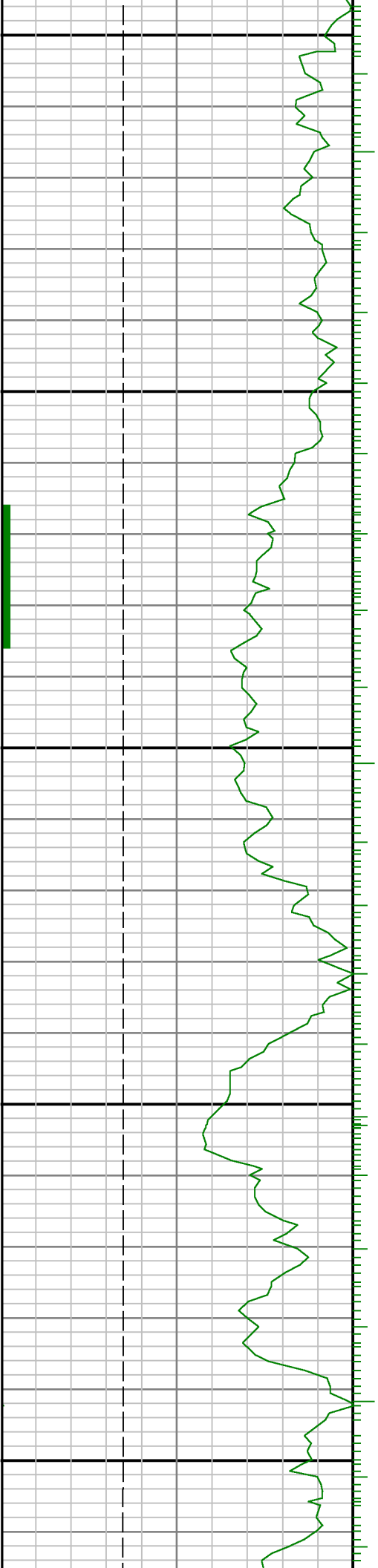


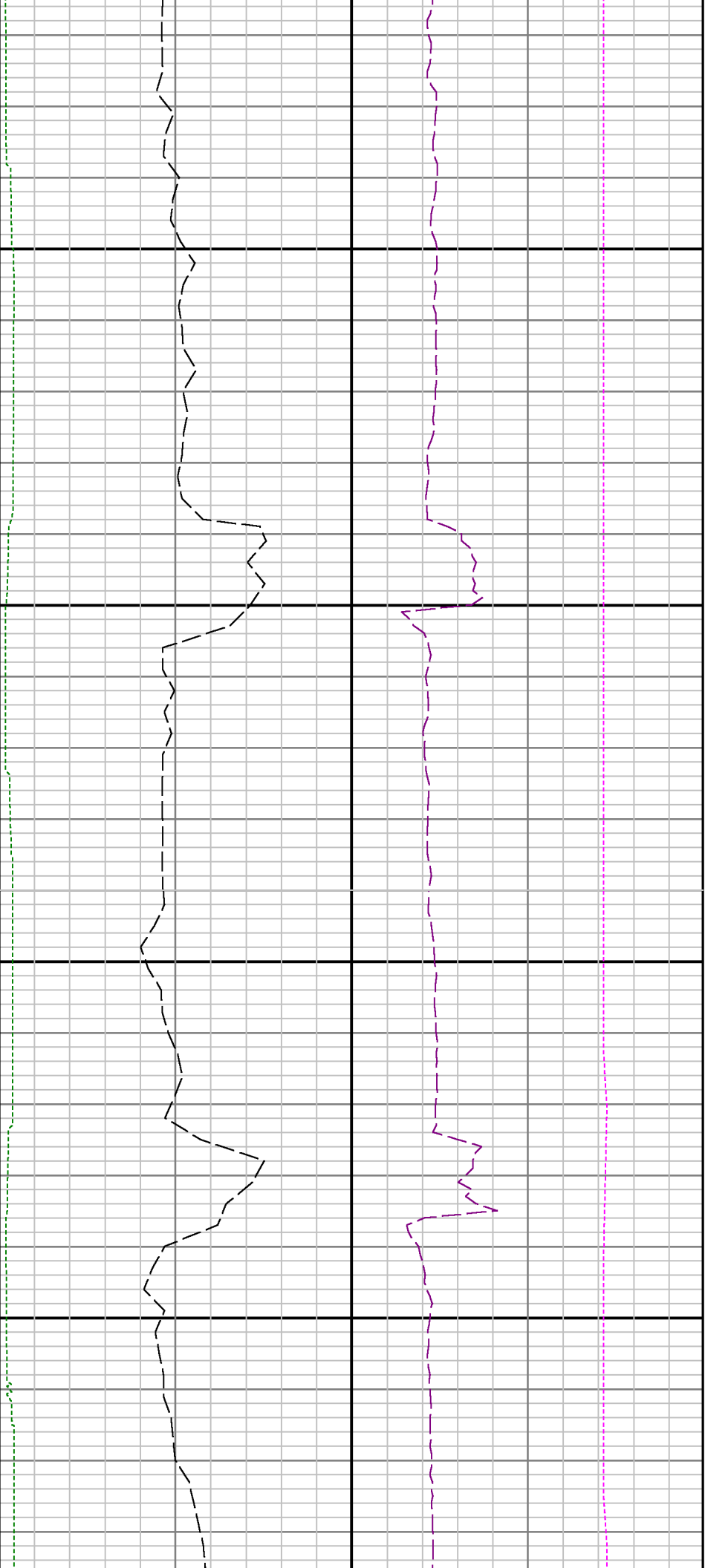




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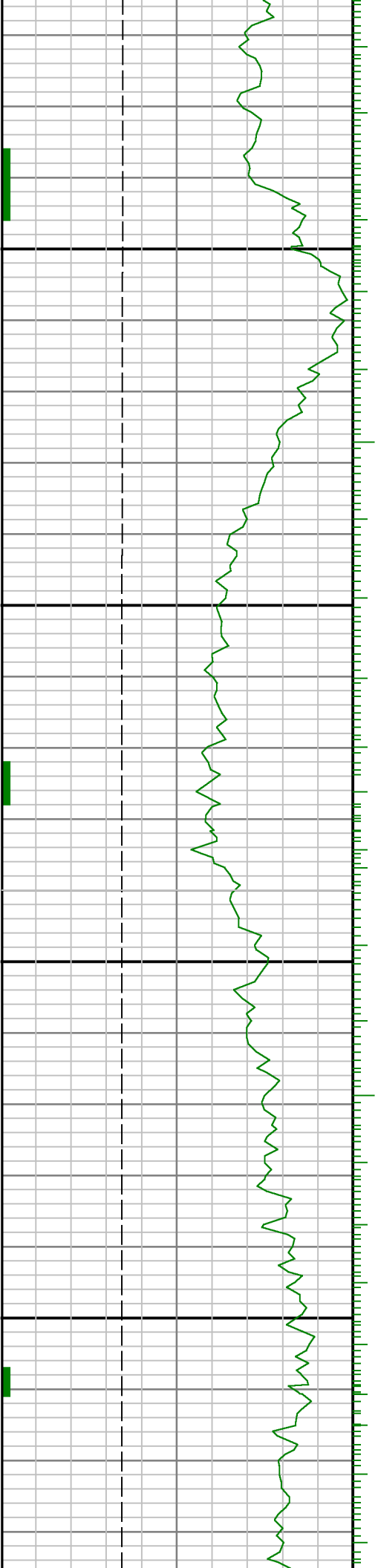
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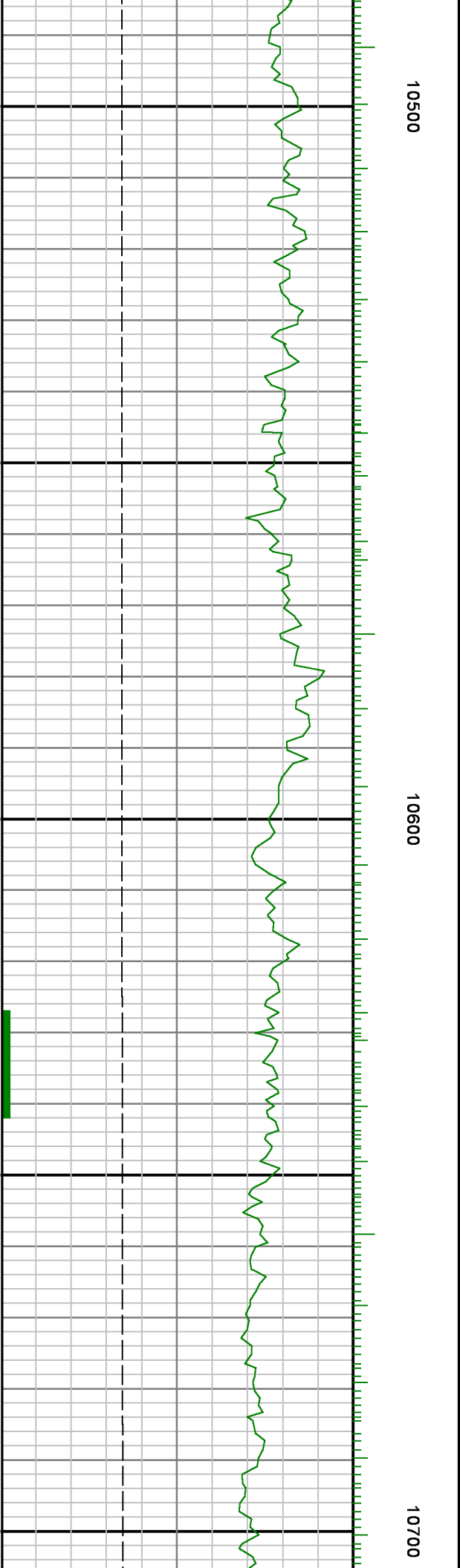
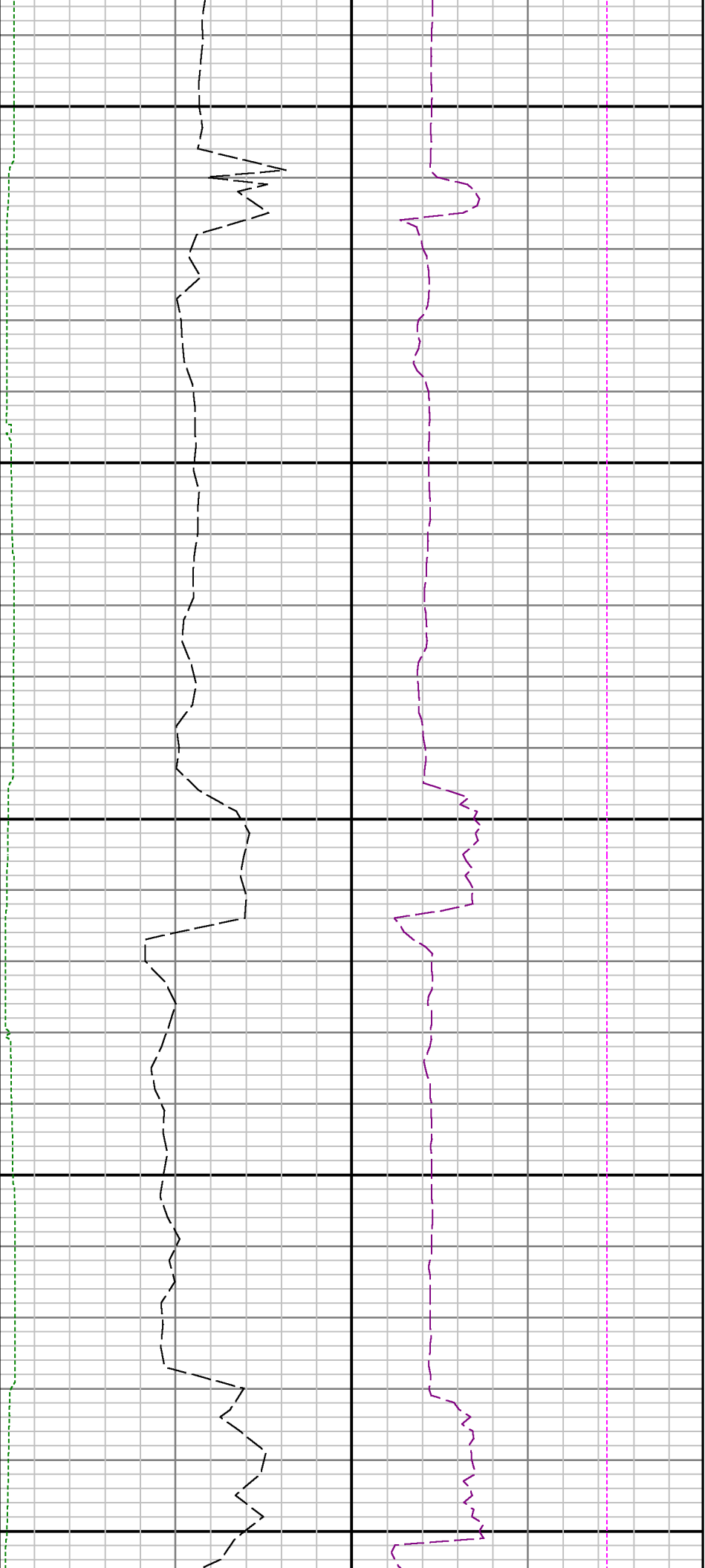


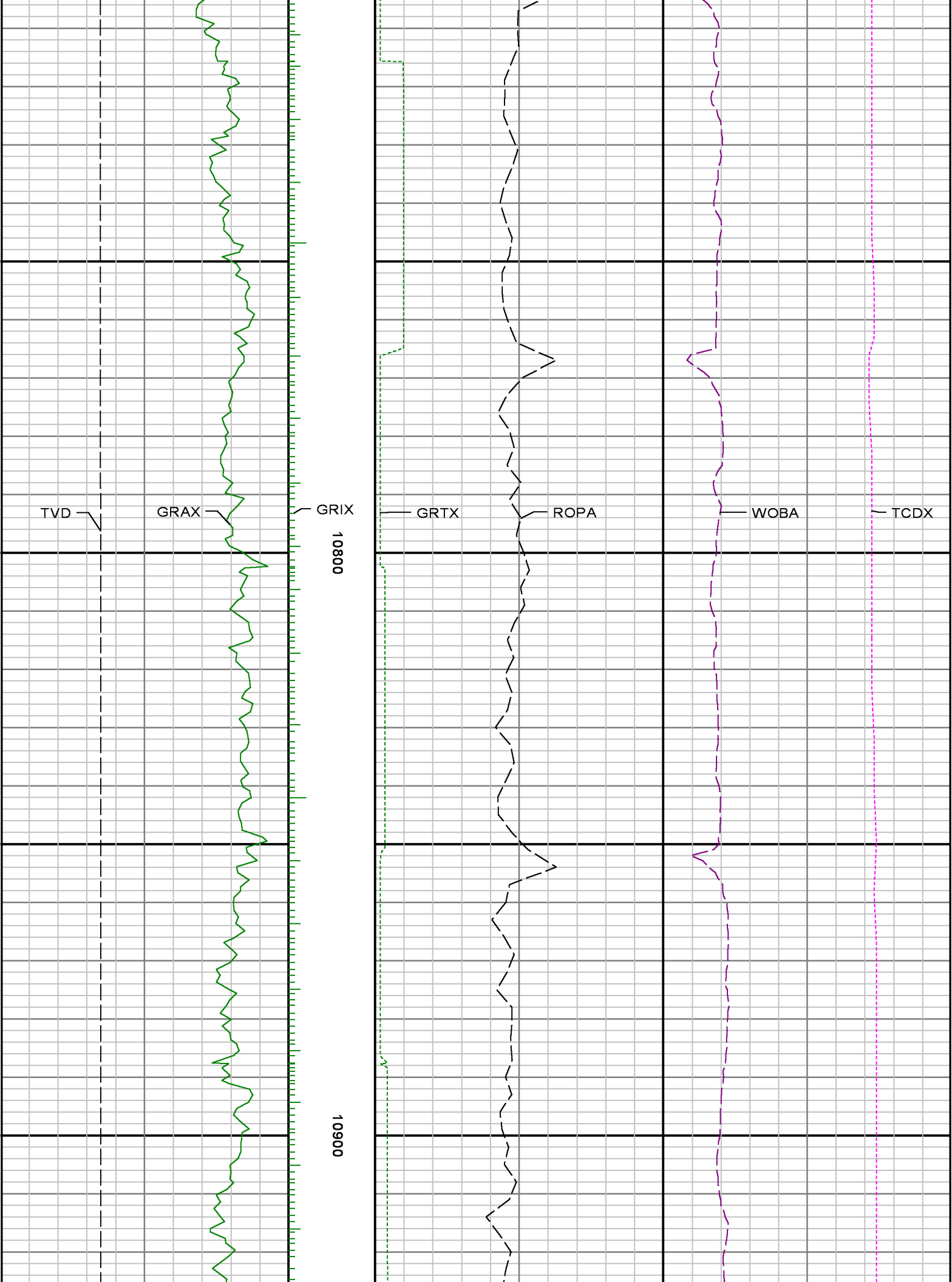


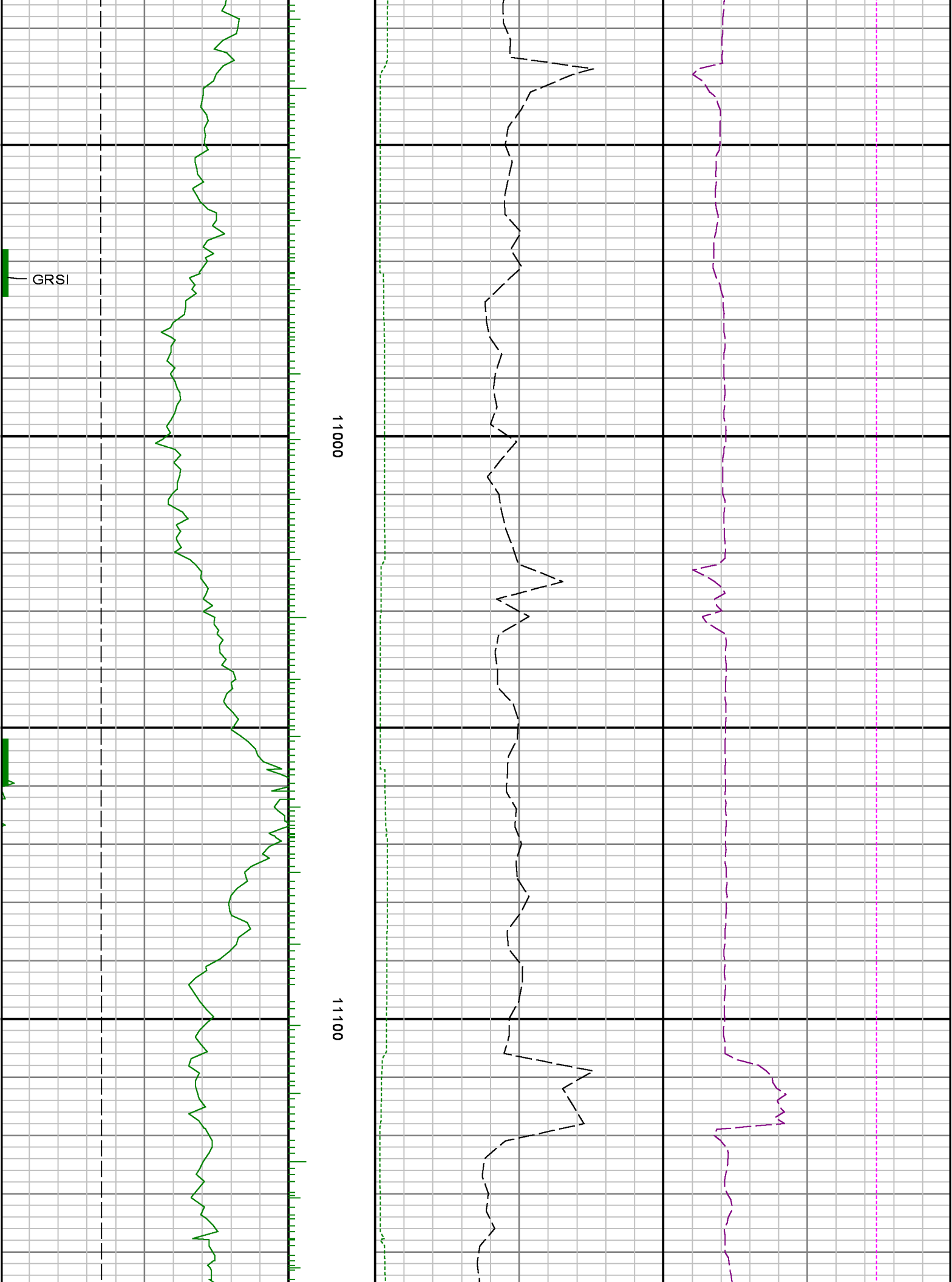
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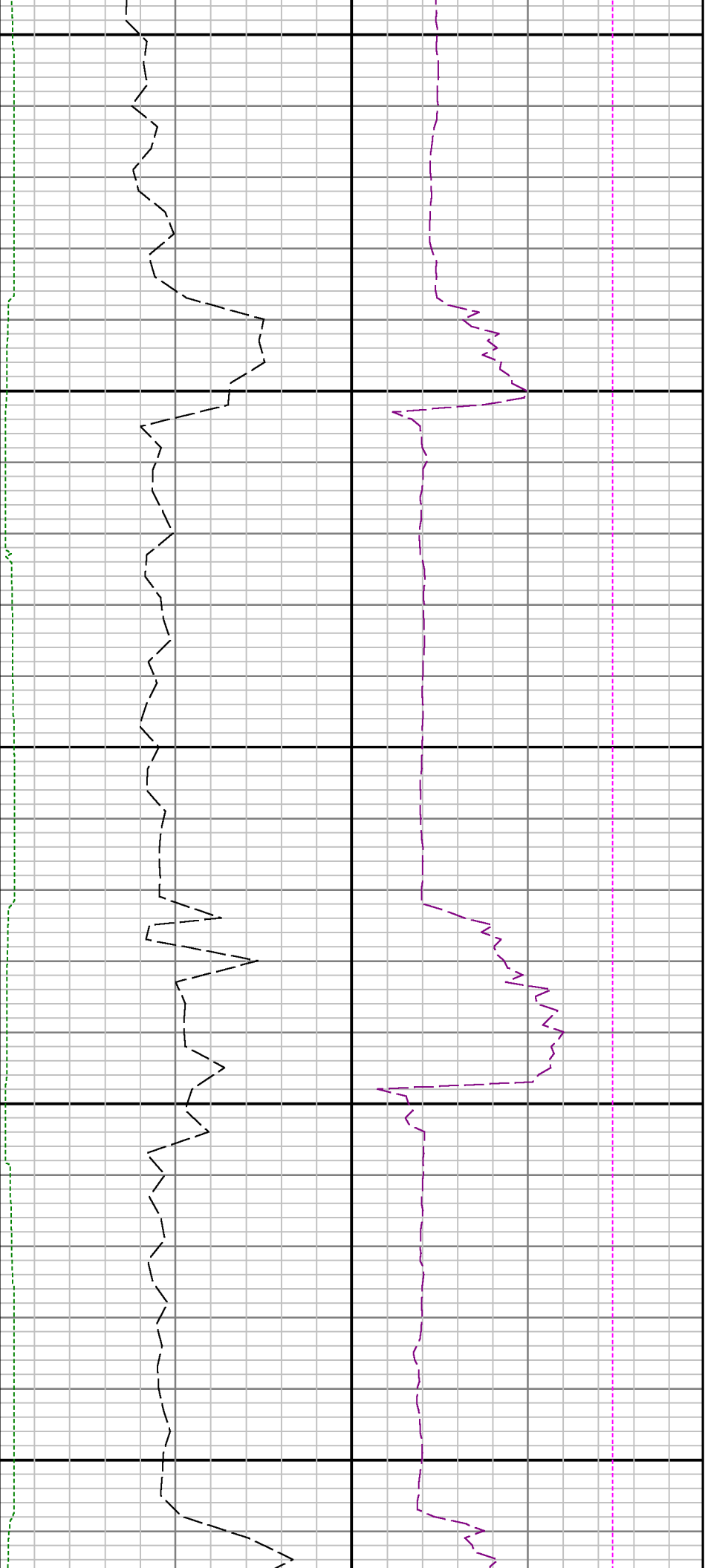
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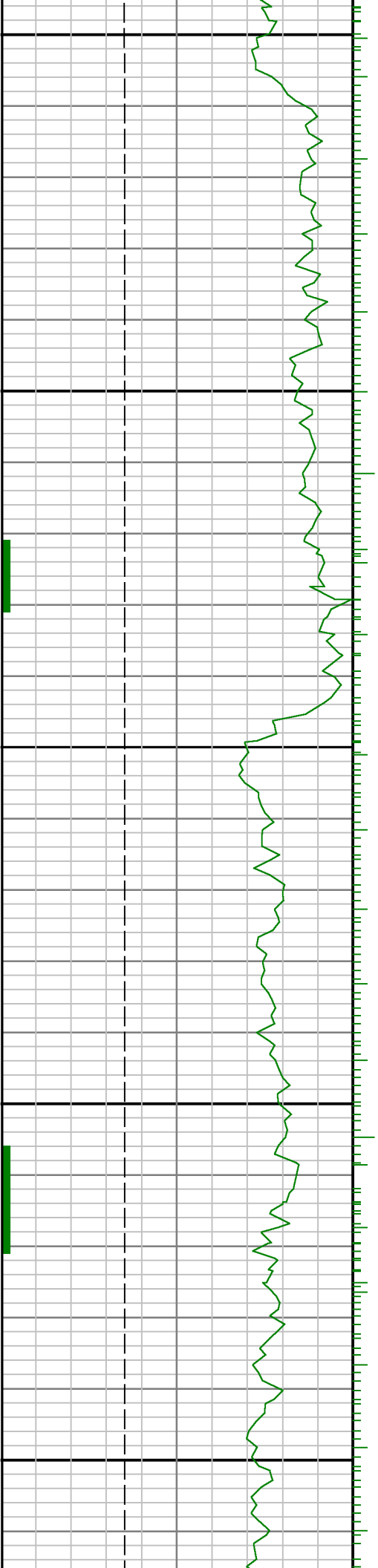


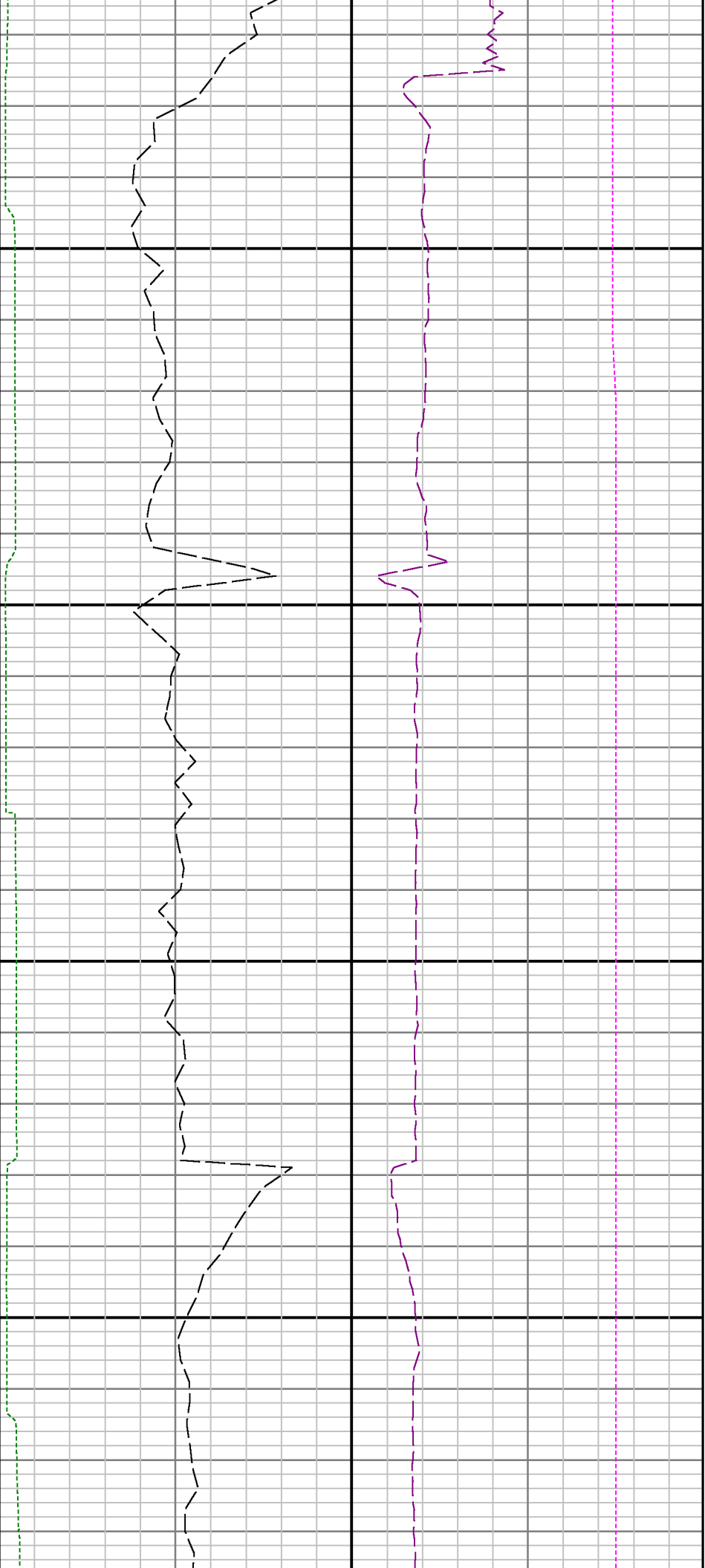




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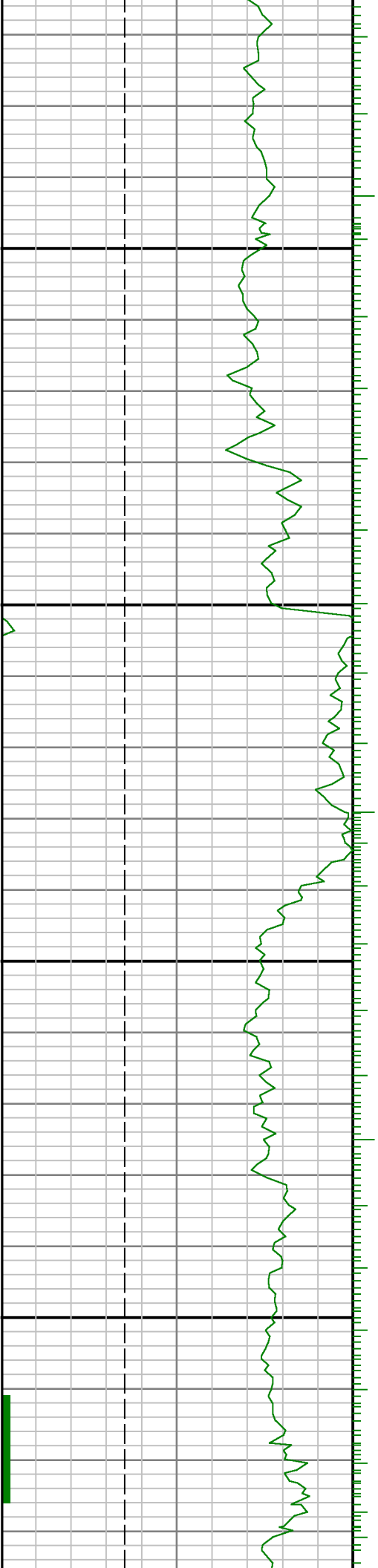
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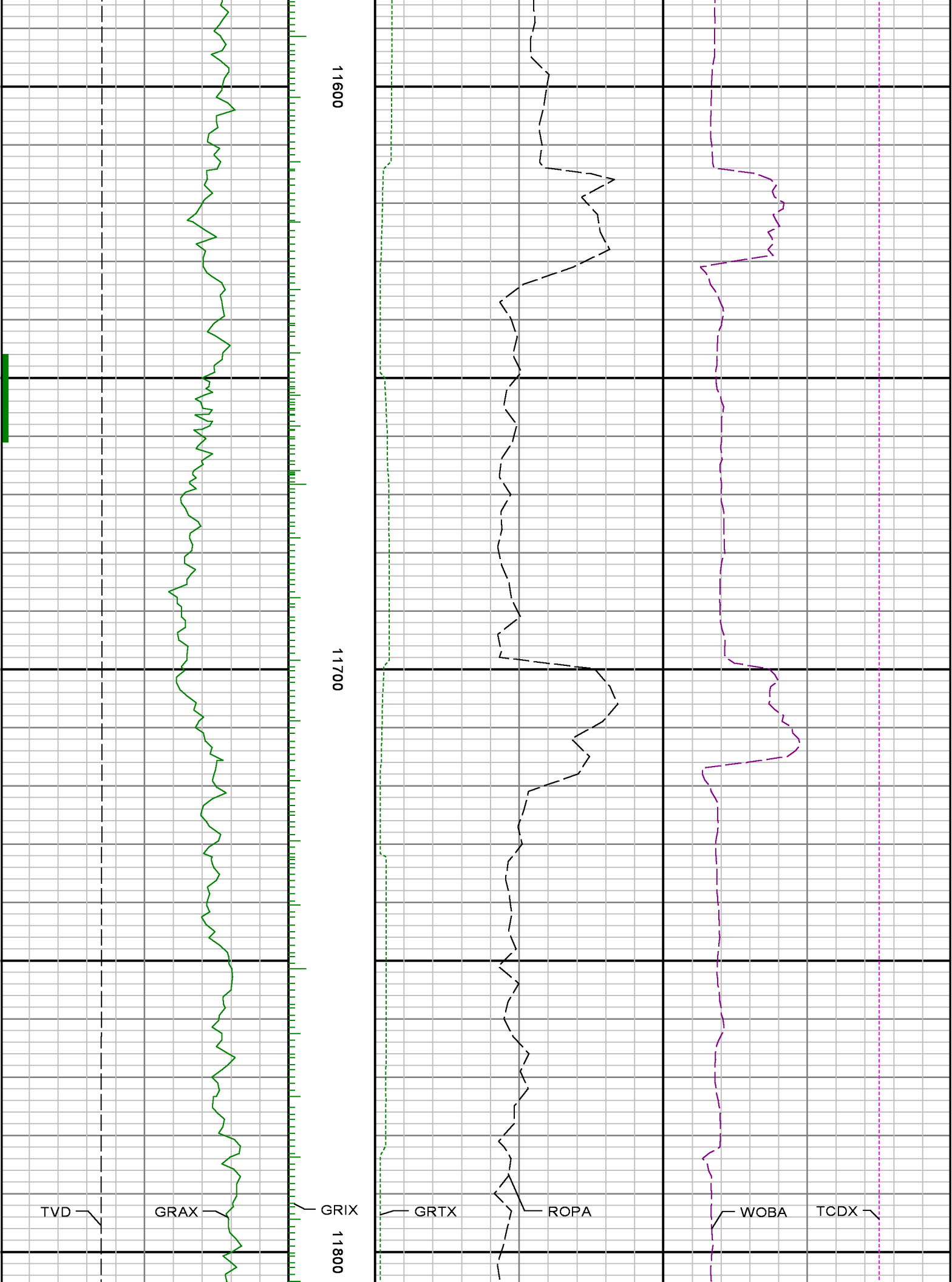


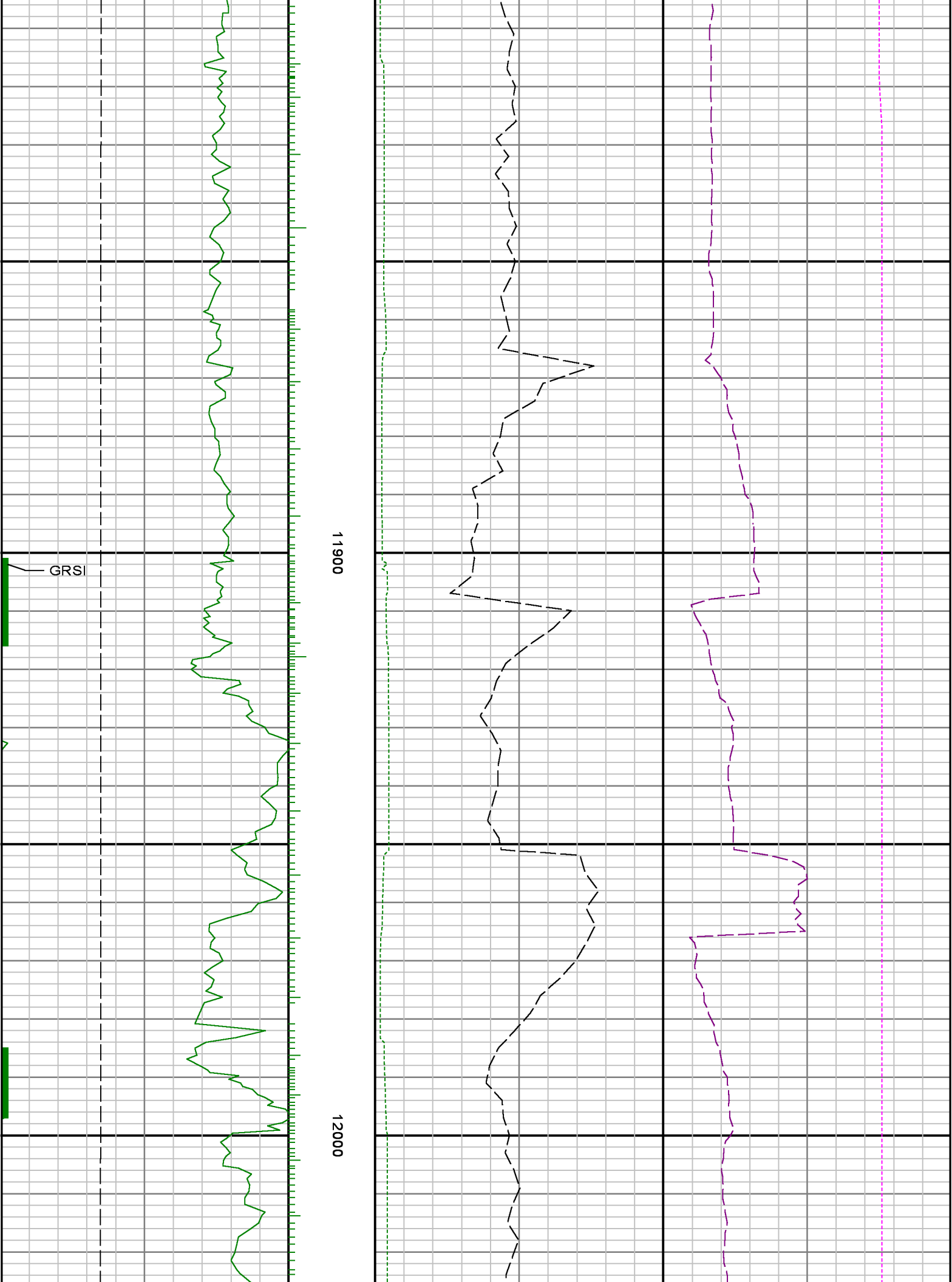


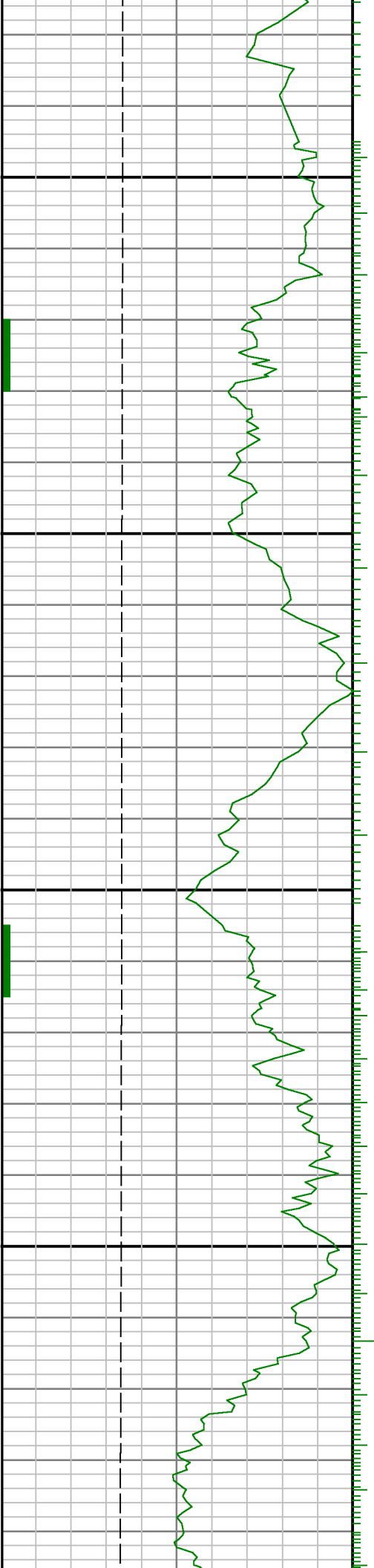
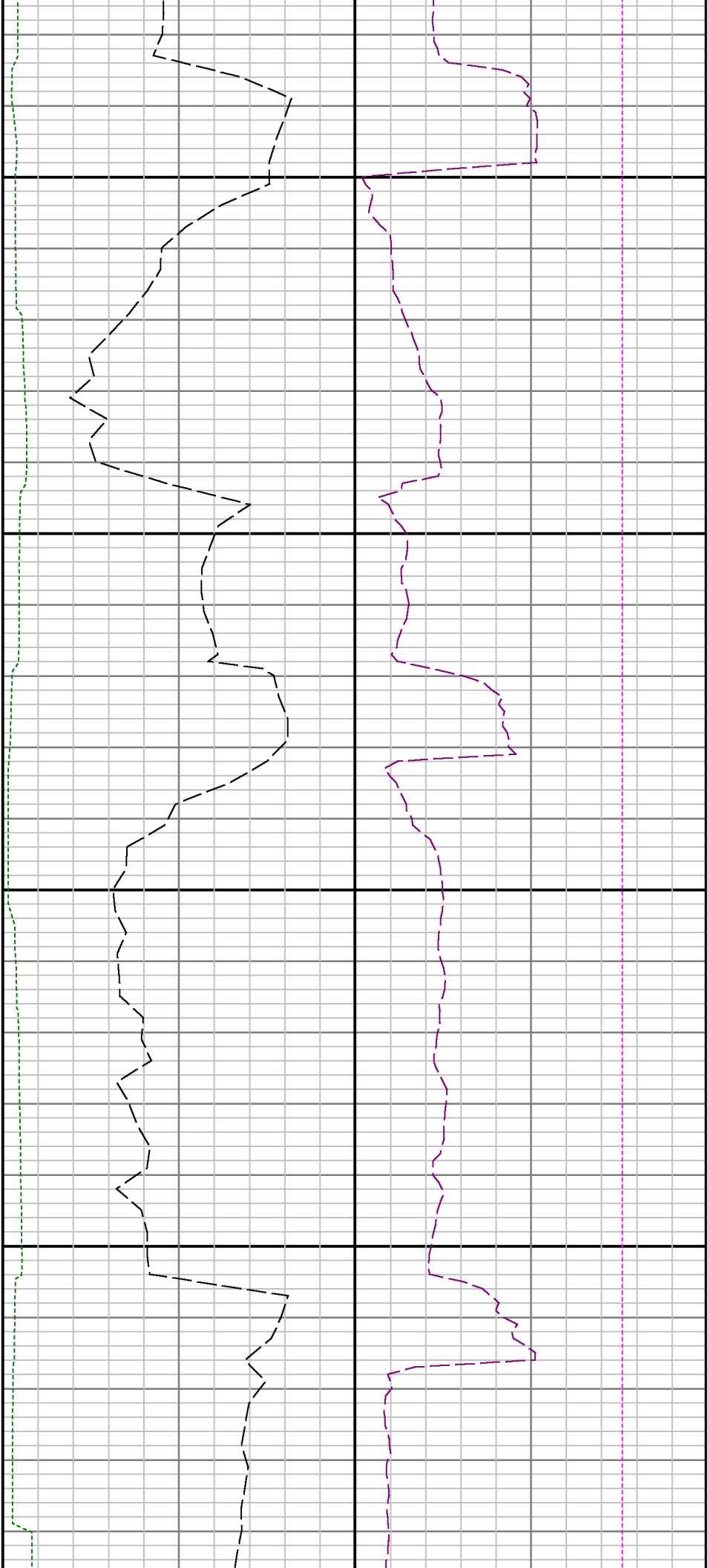
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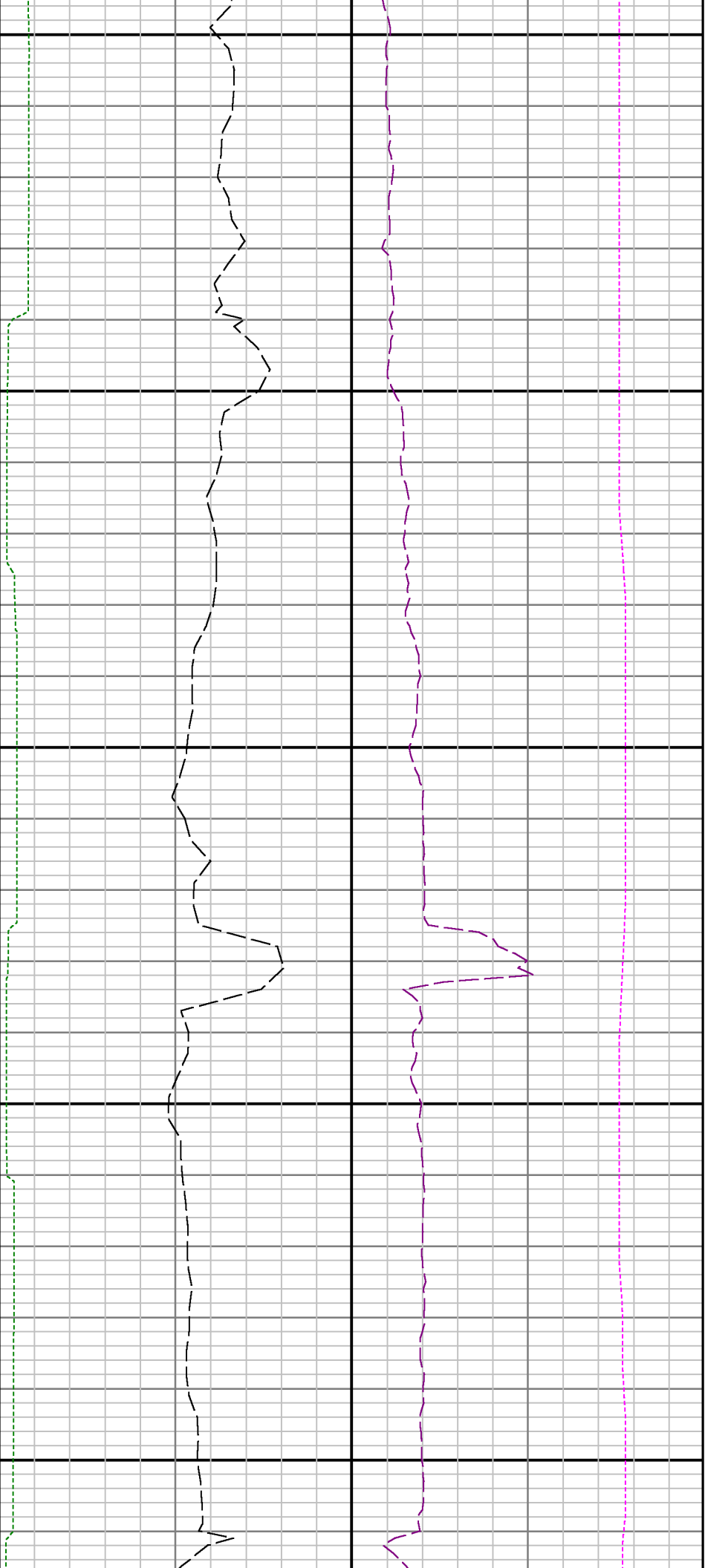
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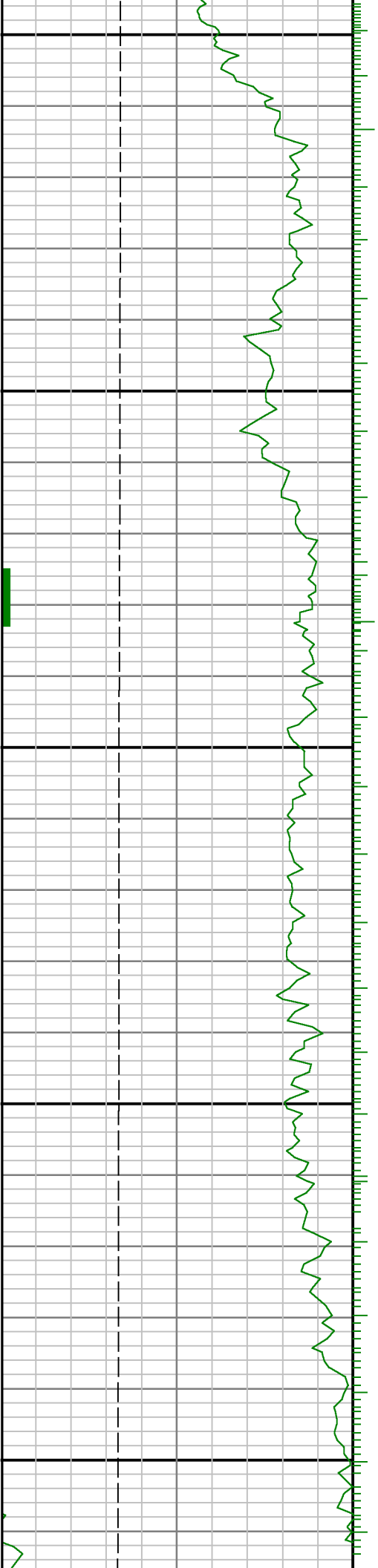


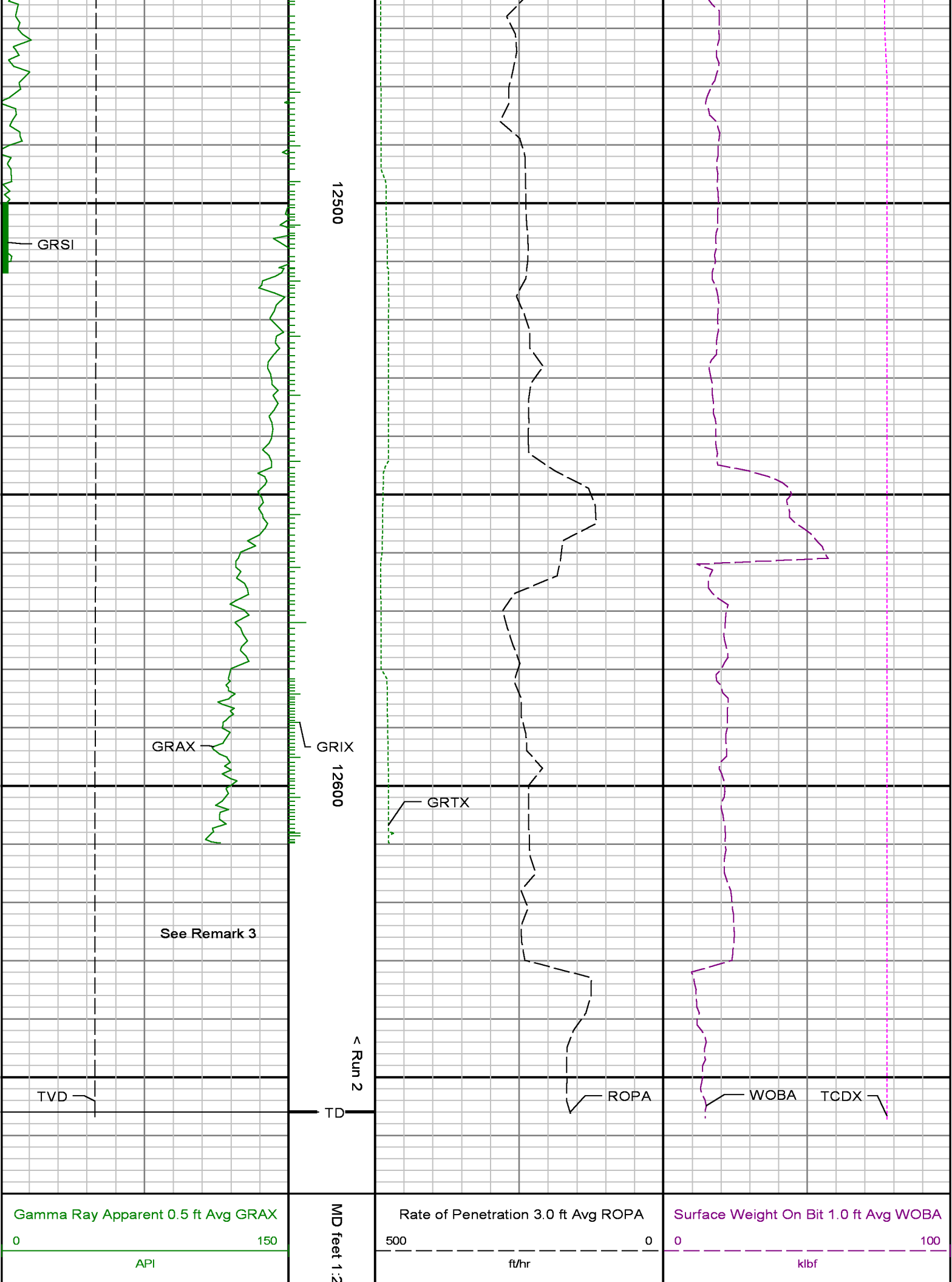




12300

12400





| | | | |
|--|----------------|---|--|
| <div>7800</div> <div>True Vertical Depth TVD</div> <div>6800</div> <div>ft</div> | <div>240</div> | <div>0</div> <div>Gamma Time Since Drilled GRTX</div> <div>600</div> <div>min</div> | <div>0</div> <div>Downhole Temperature TCDX</div> <div>300</div> <div>degF</div> |
|--|----------------|---|--|