



# RADIAL ANALYSIS BOND LOG

Baker Atlas

|   |   |  |                   |
|---|---|--|-------------------|
| File No:<br>CH073162  | Company<br>Well<br>Field<br>County  | WPX ENERGY<br>DUGGAN RWF 524-29<br>RULISON<br>GARFIELD | State<br>COLORADO |
| API No:<br>05045216500000                                   |   |  |                   |
| 29 GS 94W<br>RWF 14-29<br>NABORS SSD 573                    | Location<br>SHL: 545' FSL & 596' FWL<br>BHL: 1304' FSL & 2009' FWL<br>SEC 29 TWP 6S RGE 94W | Other Services<br>RPM                                  |                   |
| Permanent Datum<br>Log Measured From<br>Drill Measured From | G.L. _____ Elevation 5419.2 ft<br>K.B. _____ 26 ft Above P. D.<br>KELLY BUSHING _____       | Elevations<br>KB 5445.2 ft<br>DF<br>GL 5419.2 ft       |                   |

|                              |              |                |      |
|------------------------------|--------------|----------------|------|
| Date                         | 08/JUN/15    |                |      |
| Run                          | ONE          |                |      |
| Service Order                | 575085       |                |      |
| Depth Driller                | 8113 ft      |                |      |
| Depth Logger                 | 8067 ft      |                |      |
| Bottom Logged Interval       | 8057 ft      |                |      |
| Top Logged Interval          | 26 ft        |                |      |
| Time Started                 | 7:30         |                |      |
| Time Finished                | 11:30        |                |      |
| Operator Rig Time            | 4 HRS        |                |      |
| Type of Fluid in Hole        | WATER        |                |      |
| Fluid Density                | N/A          |                |      |
| Salinity                     | N/A          |                |      |
| Fluid Level                  | 80 ft        |                |      |
| Logged Cement Top            | N/A          |                |      |
| Wellhead Pressure            | 0 psi        |                |      |
| Maximum Hole Deviation       | N/A          |                |      |
| Nominal Logging Speed        | 45 fpm       |                |      |
| Maximum Recorded Temperature | 224 degF     |                |      |
| Reference Log                | N/A          |                |      |
| Reference Log Date           | N/A          |                |      |
| Equipment No.                | Location     |                |      |
| Recorded By                  | U. KINSEL    | GRAND JUNCTION | 9721 |
| Witnessed By                 | MR. BOB CADY | GRAND JUNCTION |      |

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In making interpretations of logs, our employees will give the customer the benefit of their best judgement. But since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

| Borehole Record |      |         |
|-----------------|------|---------|
| Bit Size        | From | To      |
| 13.5 In         | 0 ft | 1141 ft |
| 8.75 In         | 0 ft | 8189 ft |

| Casing Record |             |       |      |         |
|---------------|-------------|-------|------|---------|
| Size          | Weight      | Grade | From | To      |
| 9.625 In      | N/A         | N/A   | 0 ft | 1100 ft |
| 4.5 In        | 11.6 lbm/ft | 1-80  | 0 ft | 8113 ft |

|  |
|--|
| Remarks  |
| ALL DATA IN THIS LOG WAS DEPTH SHIFTED TO MATCH THE TOP CCL MARK<br>WITH KB LEVEL AT THE CLIENT'S REQUEST. THE AMOUNT OF LINEAR SHIFT<br>WAS 10 FEET DOWN. |
| SHORT JOINT: 4600' - 4625'   |
| BHT: 224 degF  |

| Equipment Data |      |               |               |               |             |
|----------------|------|---------------|---------------|---------------|-------------|
| Run            | Trip | Tool          | Series Number | Serial Number | Position    |
| 1              | 1    | VDL           | 1426XA        | 10163028      | CENTRALIZED |
| 1              | 1    | GAMMA RAY/CCL | 1355XA        | 10580209      | CENTRALIZED |

***MAIN LOG PRIMARY PRESENTATION***  
***0 PSI***

| MEASUREMENT TYPE | PARAMETER             | VALUE   | UNITS   | TOP    | BOTTOM   |
|------------------|-----------------------|---------|---------|--------|----------|
| RAL              | Amp Gate Start Far    | 331.692 | usec    | 36.531 | 8090.500 |
| RAL              | Amp Gate Start Near   | 199.015 | usec    | 36.531 | 8090.500 |
| RAL              | Amp Gate Start Radial | 199.599 | usec    | 36.531 | 8090.500 |
| RAL              | Amp Gate Width Far    | 25.000  | usec    | 36.531 | 8090.500 |
| RAL              | Amp Gate Width Near   | 25.000  | usec    | 36.531 | 8090.500 |
| RAL              | Amp Gate Width Radial | 25.000  | usec    | 36.531 | 8090.500 |
| RAL              | casing od             | 4.500   | inches  | 36.531 | 8090.500 |
| RAL              | casing wt             | 11.600  | lbm/ft  | 36.531 | 8090.500 |
| RAL              | FB Start Far          | 291.900 | usec    | 36.531 | 8090.500 |
| RAL              | FB Start Near         | 175.391 | usec    | 36.531 | 8090.500 |
| RAL              | FB Start Radial       | 175.391 | usec    | 36.531 | 8090.500 |
| RAL              | FB Thresh Far         | 10.000  | mv      | 36.531 | 8090.500 |
| RAL              | FB Thresh Near        | 4.000   | mv      | 36.531 | 8090.500 |
| RAL              | FB Thresh Radial      | 4.000   | mv      | 36.531 | 8090.500 |
| RAL              | Fluid Travel Time     | 200.000 | usec/ft | 36.531 | 8090.437 |

**DEPTH OFFSETS**  
(for Acquired Curves)

| SERIES | DEPTH OFFSET | ACQUIRED CURVES |     |     |     |     |      |
|--------|--------------|-----------------|-----|-----|-----|-----|------|
| 1426XA | -11.000      | ACAL            | ANR | AR1 | AR2 | AR3 | AR4  |
|        |              | AR5             | AR6 | AR7 | AR8 | CHV | FPR2 |

1426XA -10.040  
1355XA -5.620  
1355XA -1.500  
1355XA 0.000

FPR3 FPR5 TT3 TTR1 TTR2 TTR3  
TTR4 TTR5 TTR6 TTR7 TTR8 XAMP  
AFAR SIG TT5  
CCL  
GR  
TEMP

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

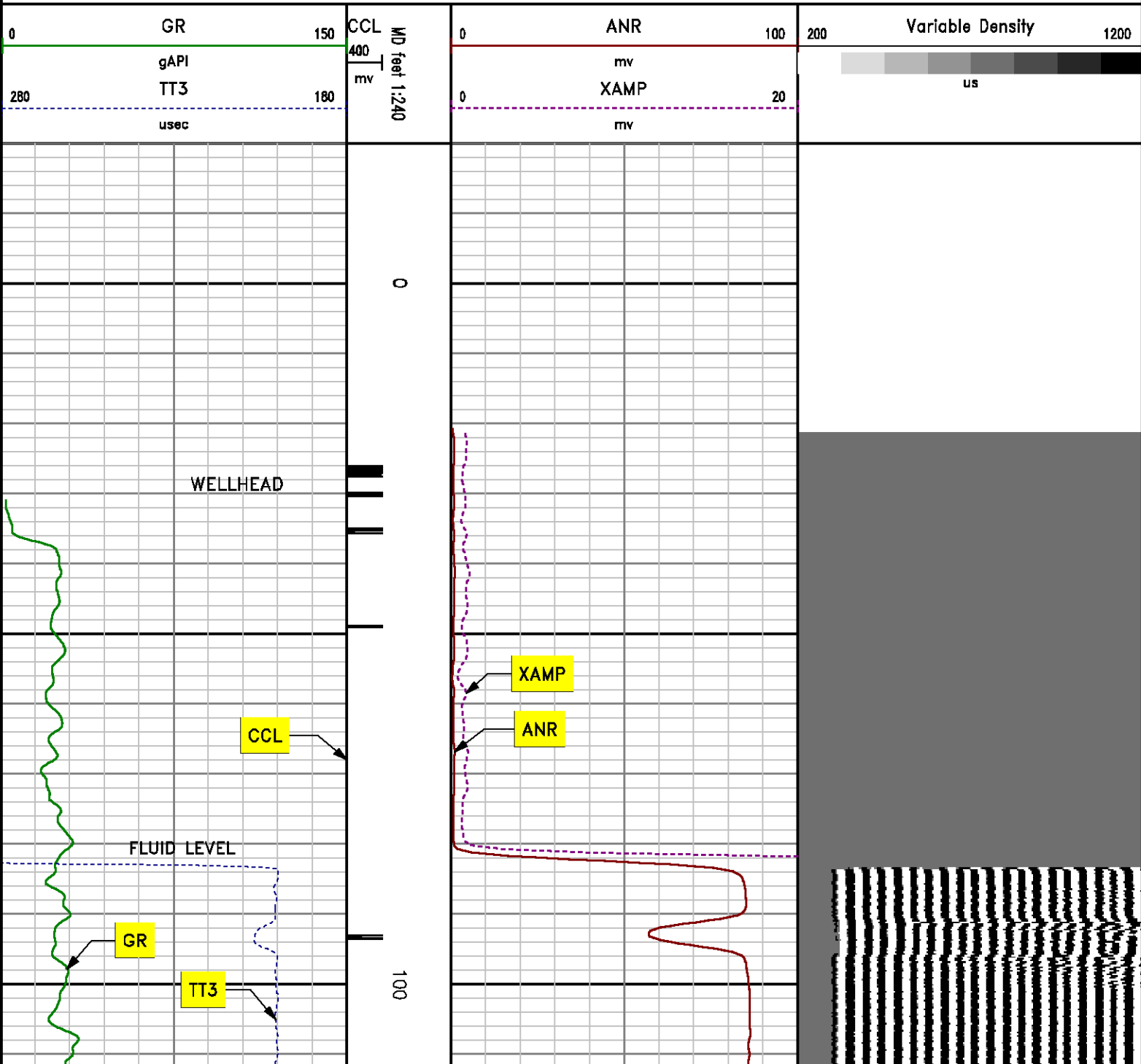
Well : DUGGAN RWF 524-29

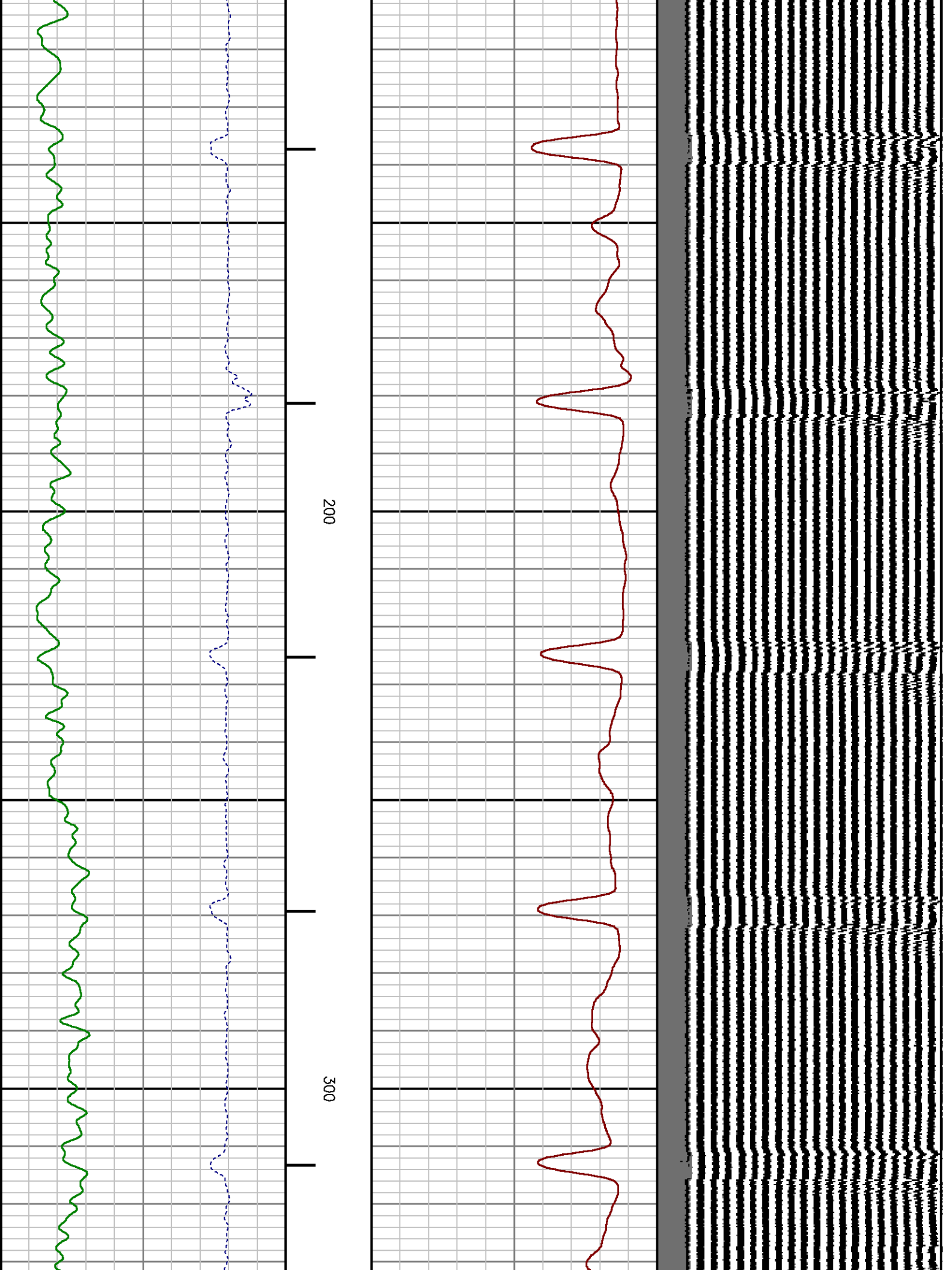
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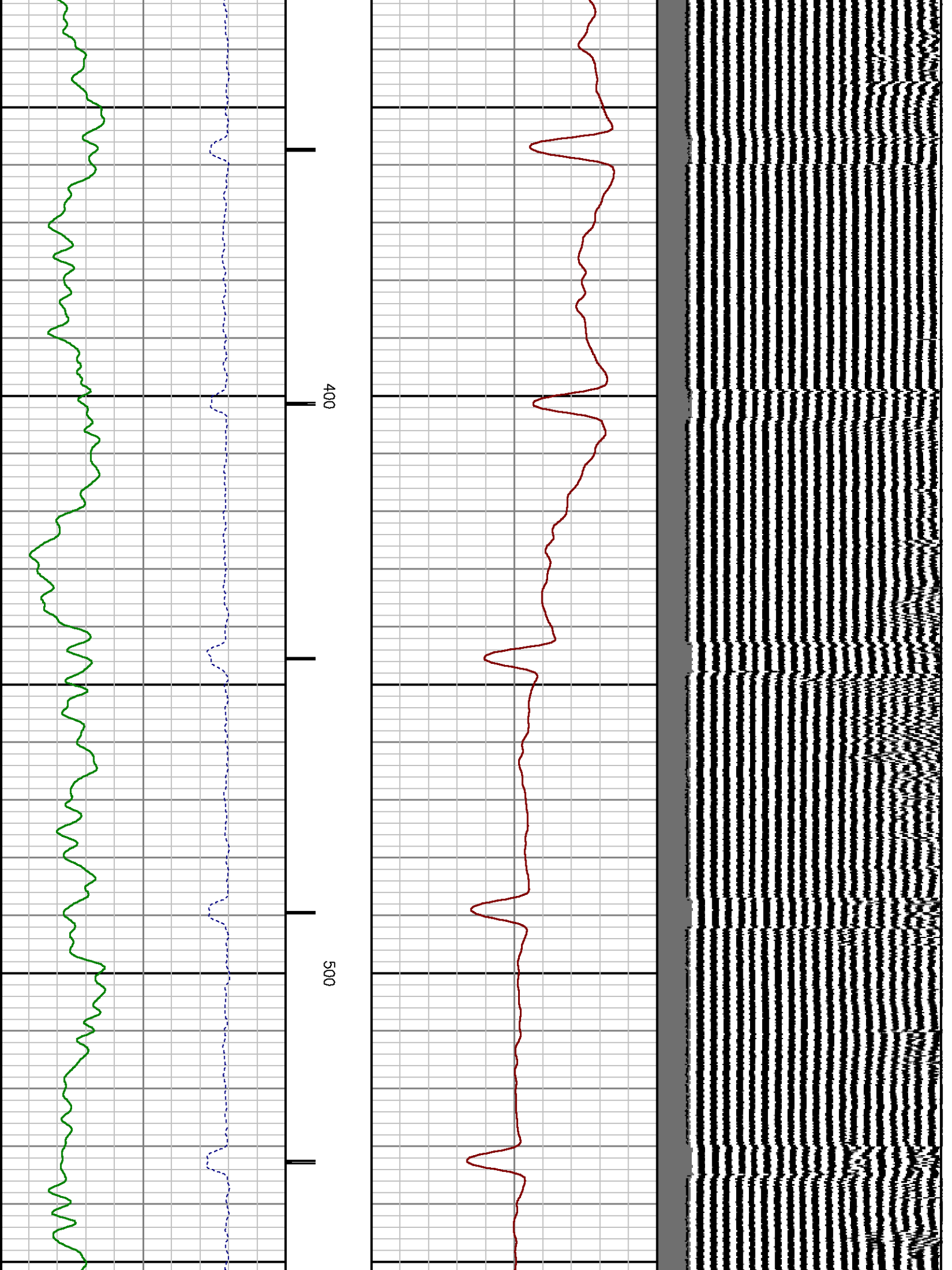
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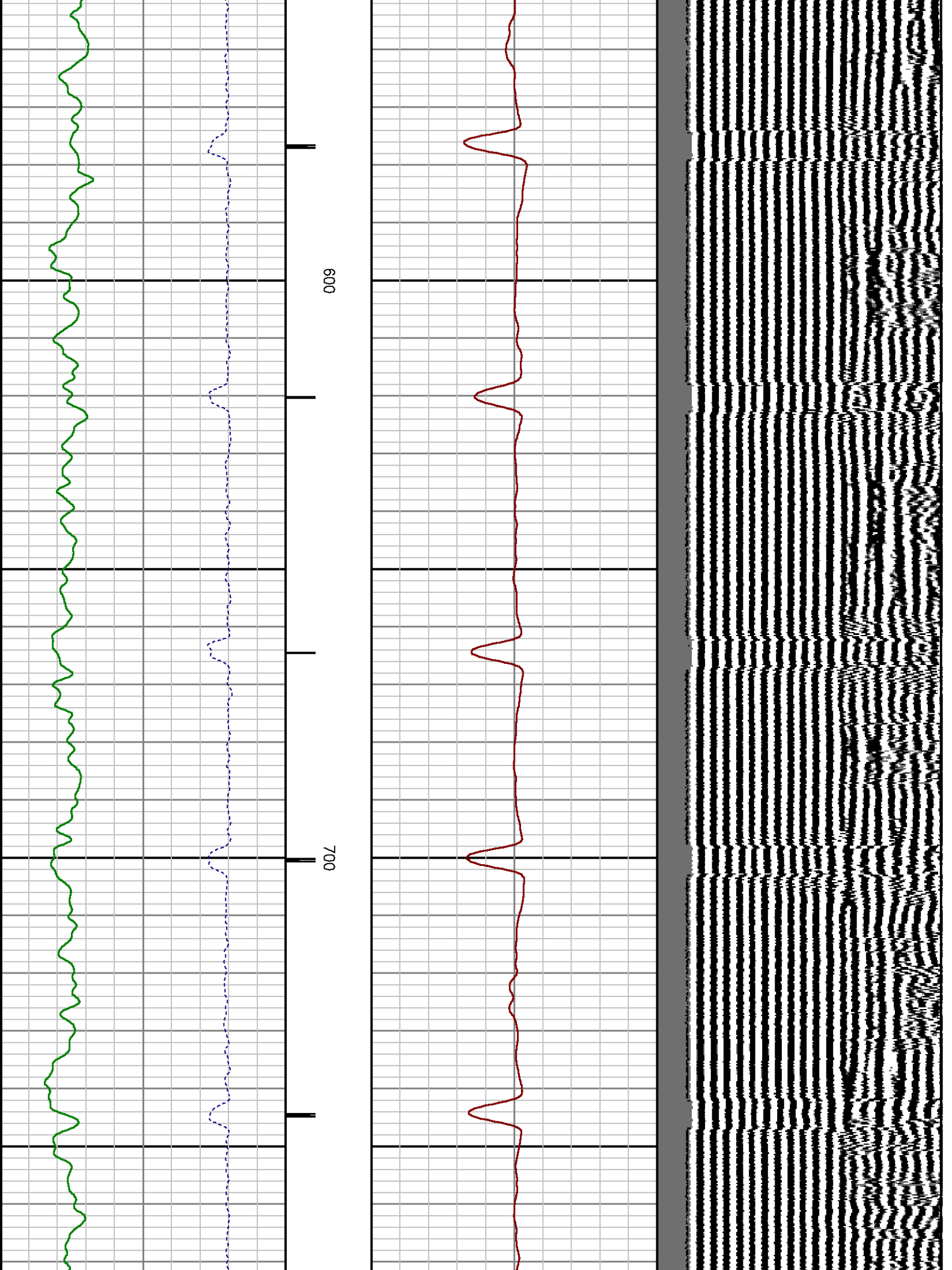
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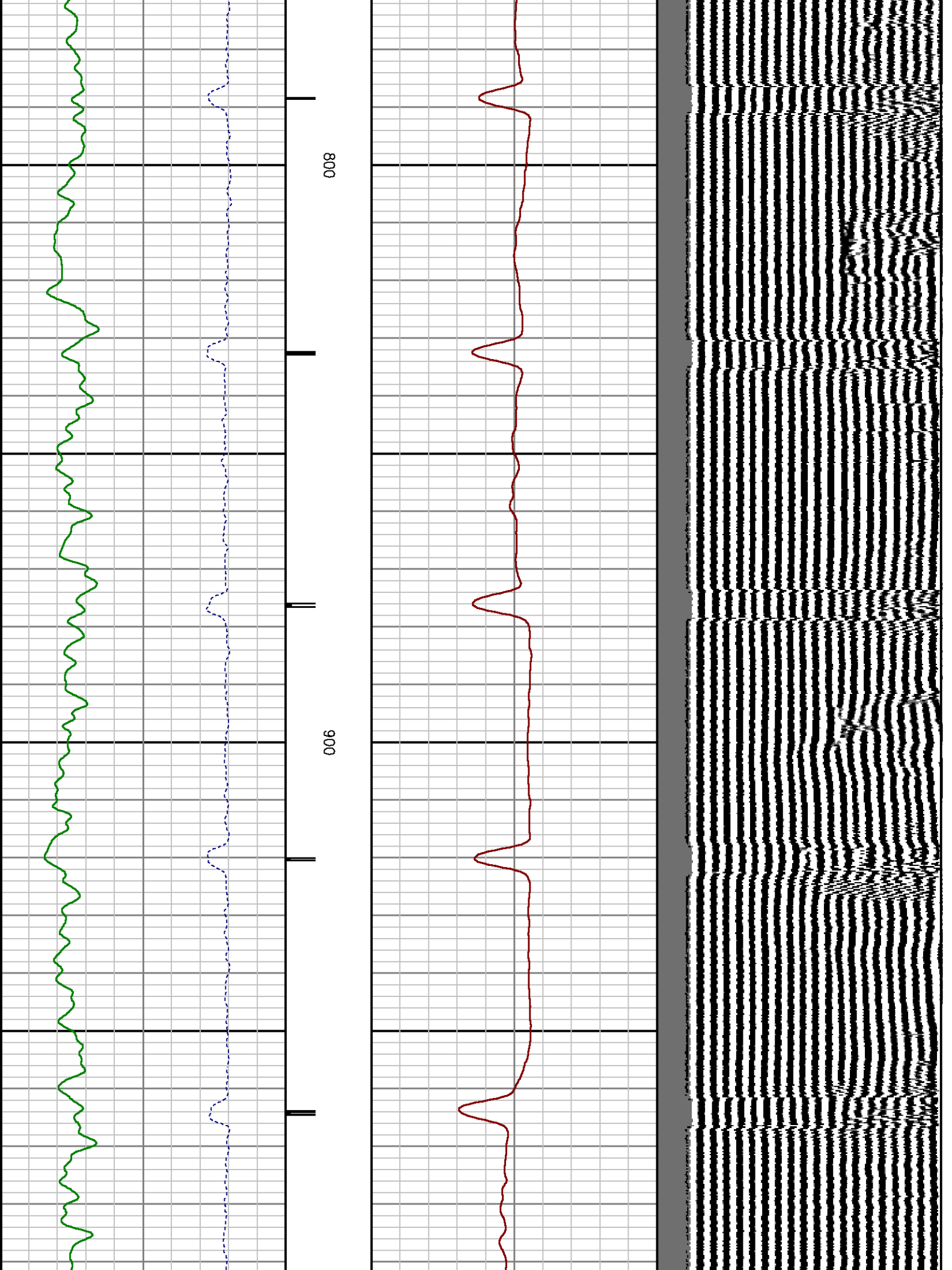
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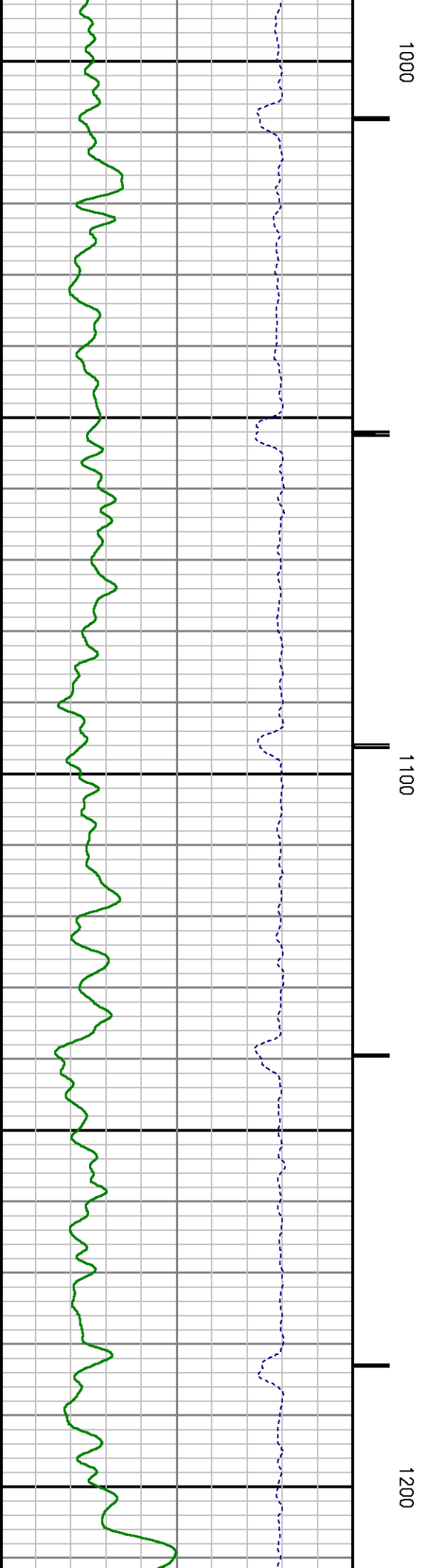
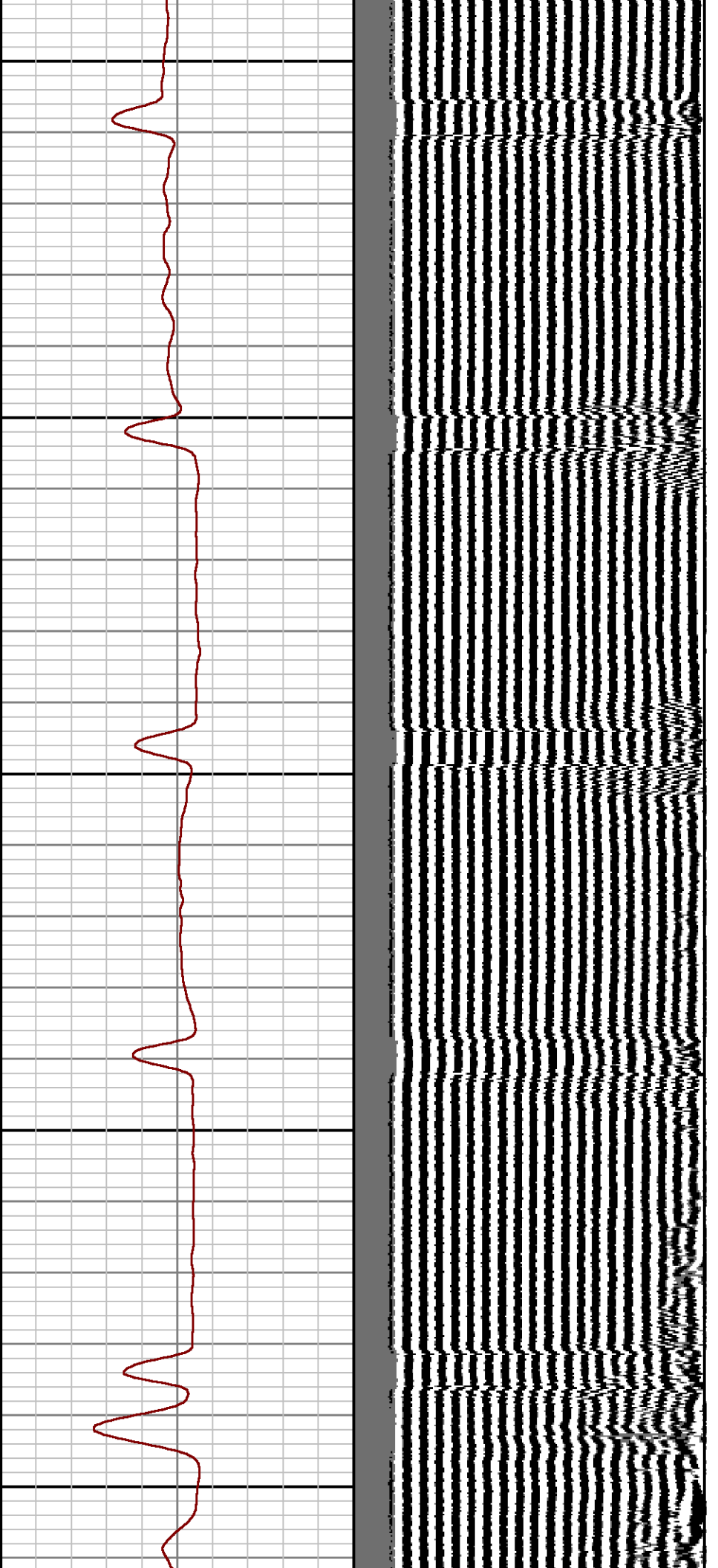




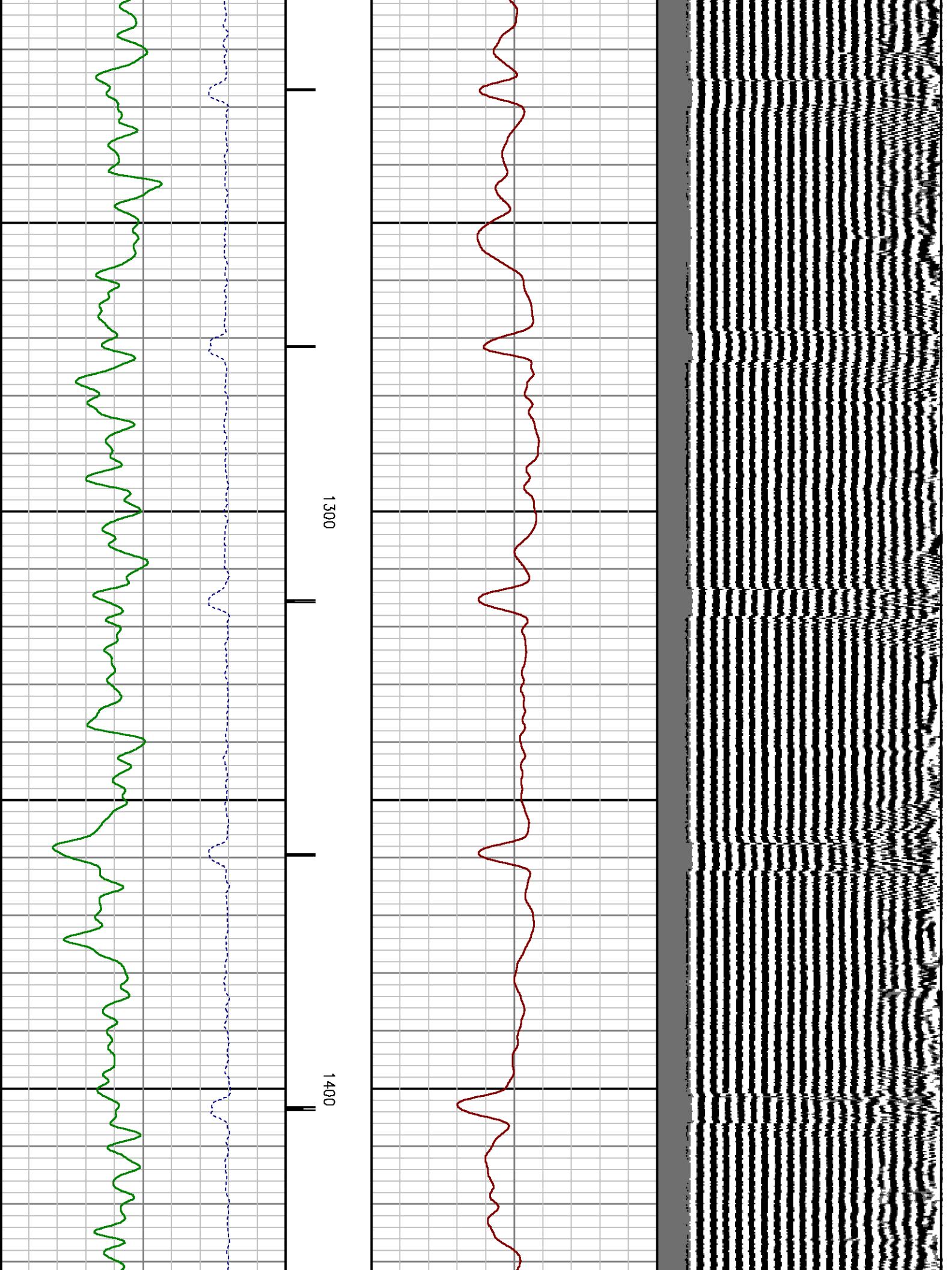


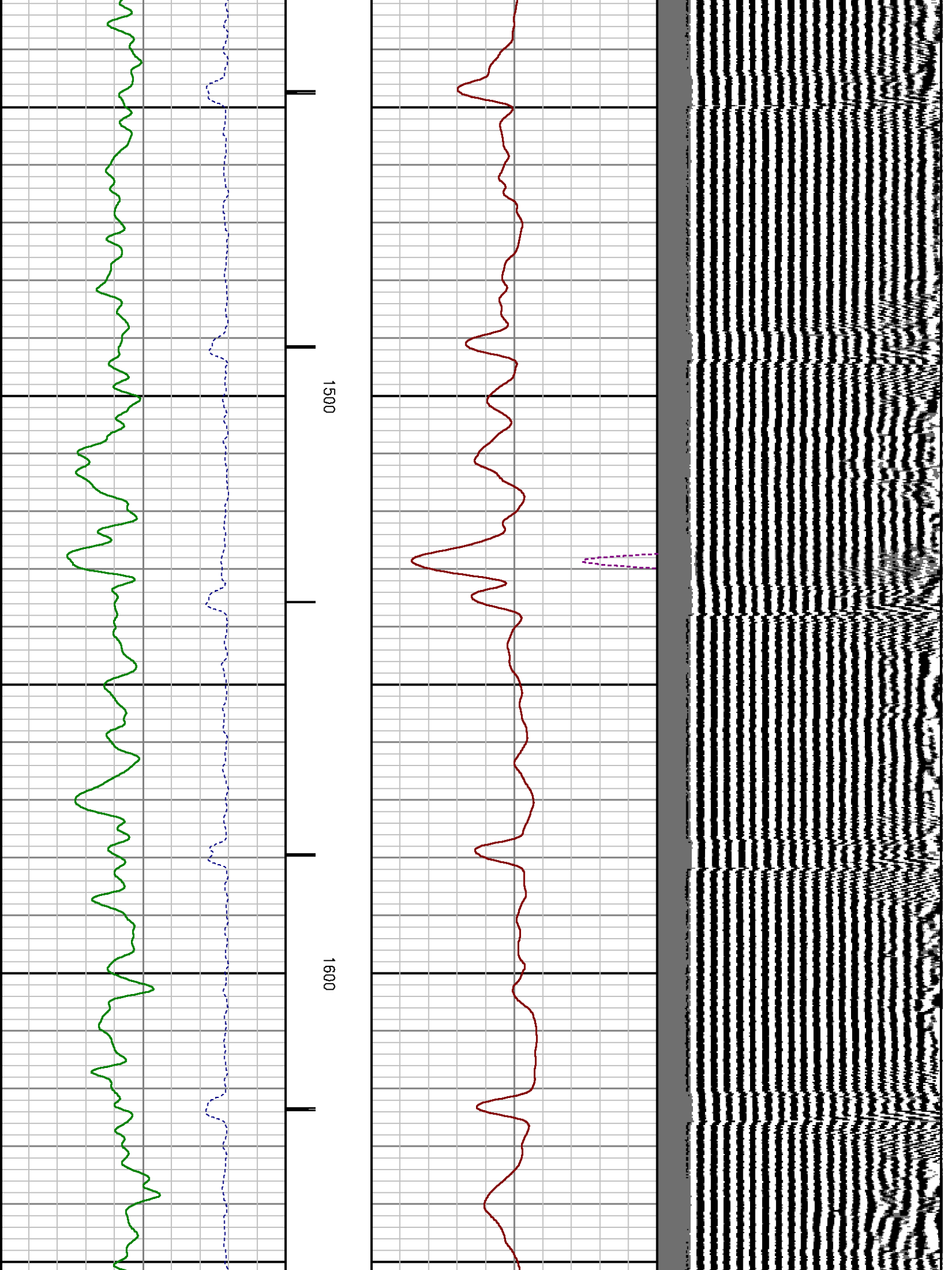


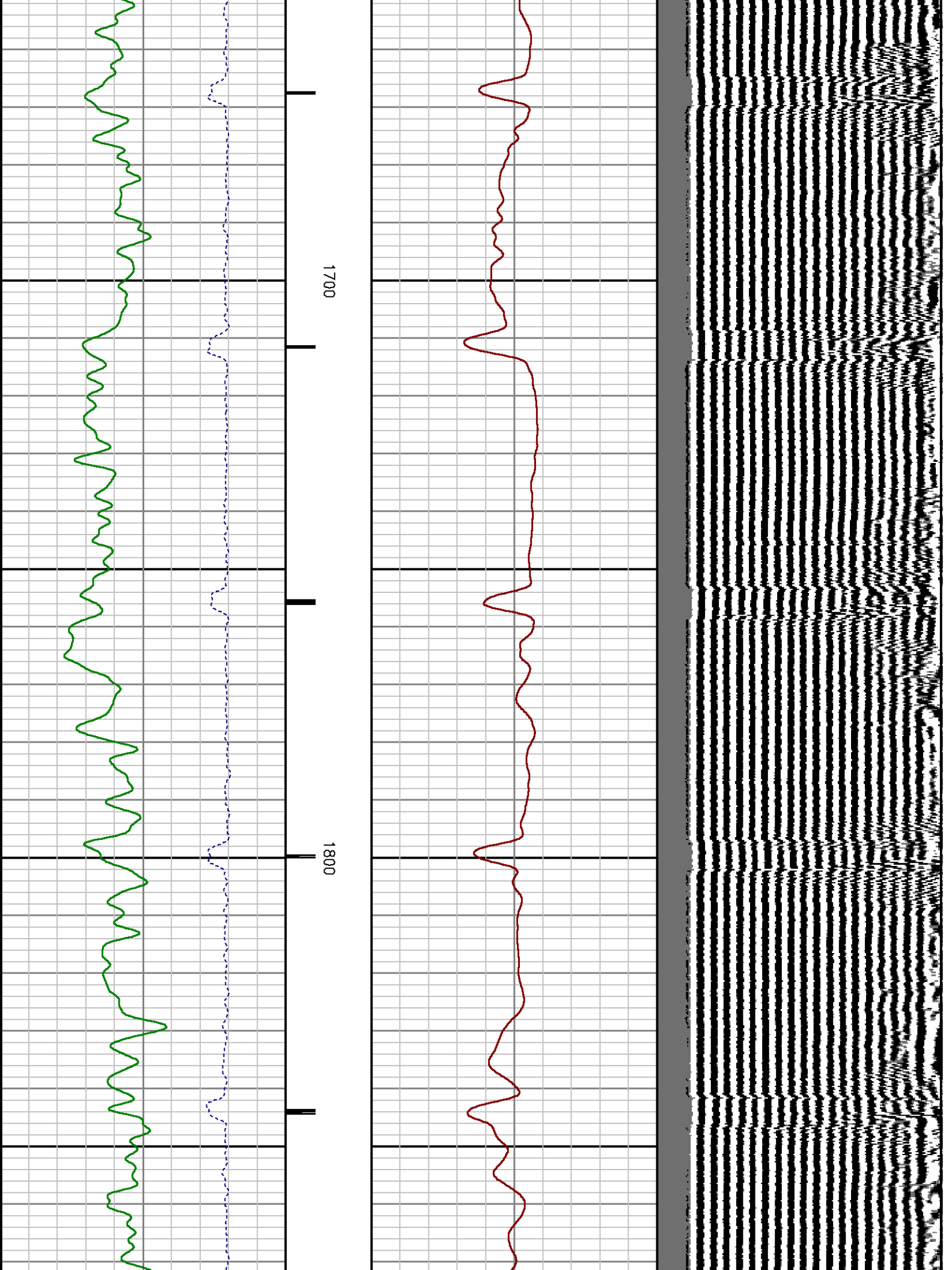


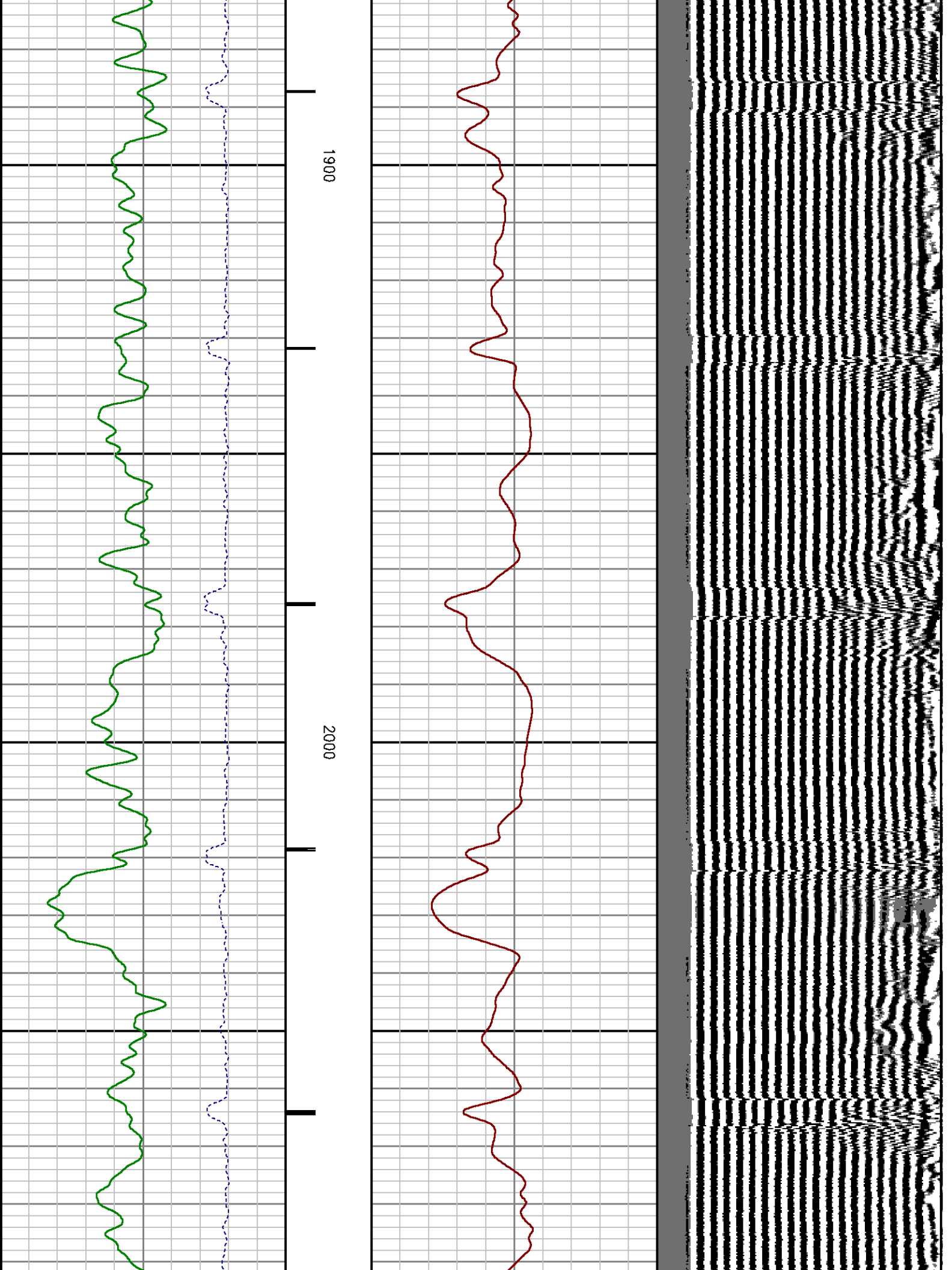


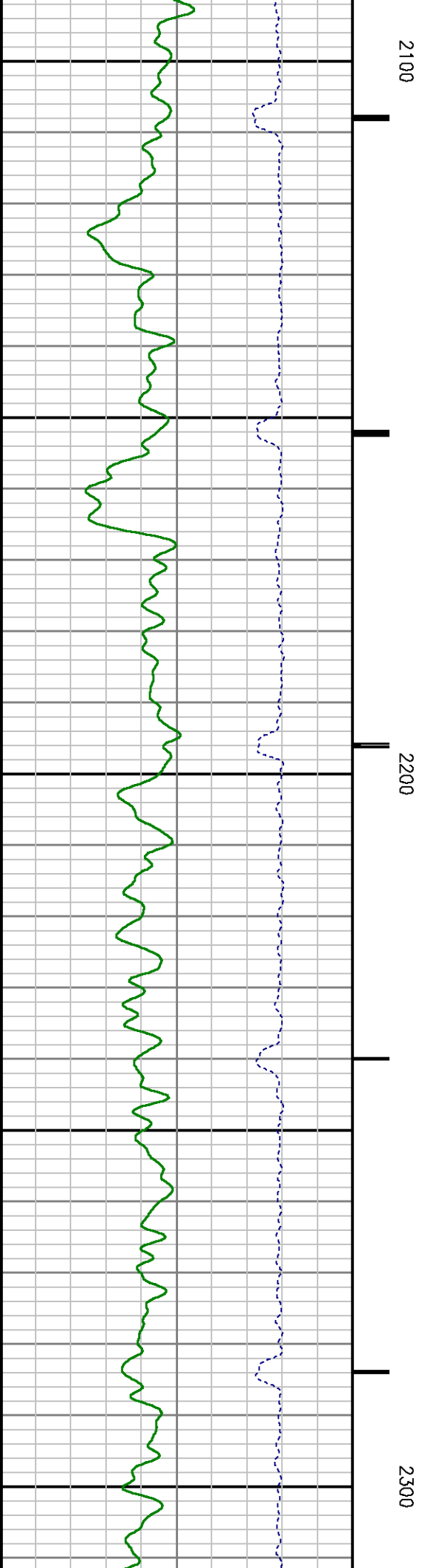
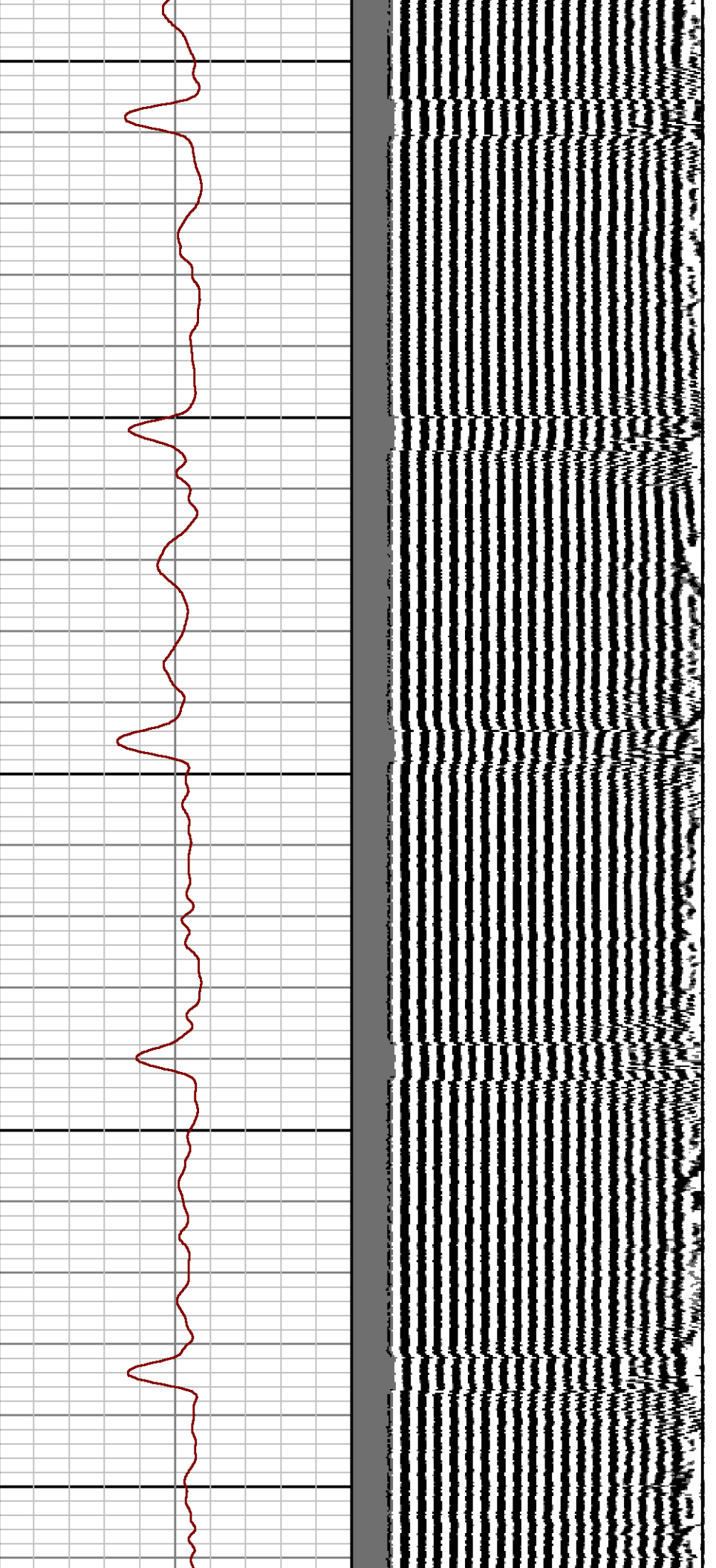


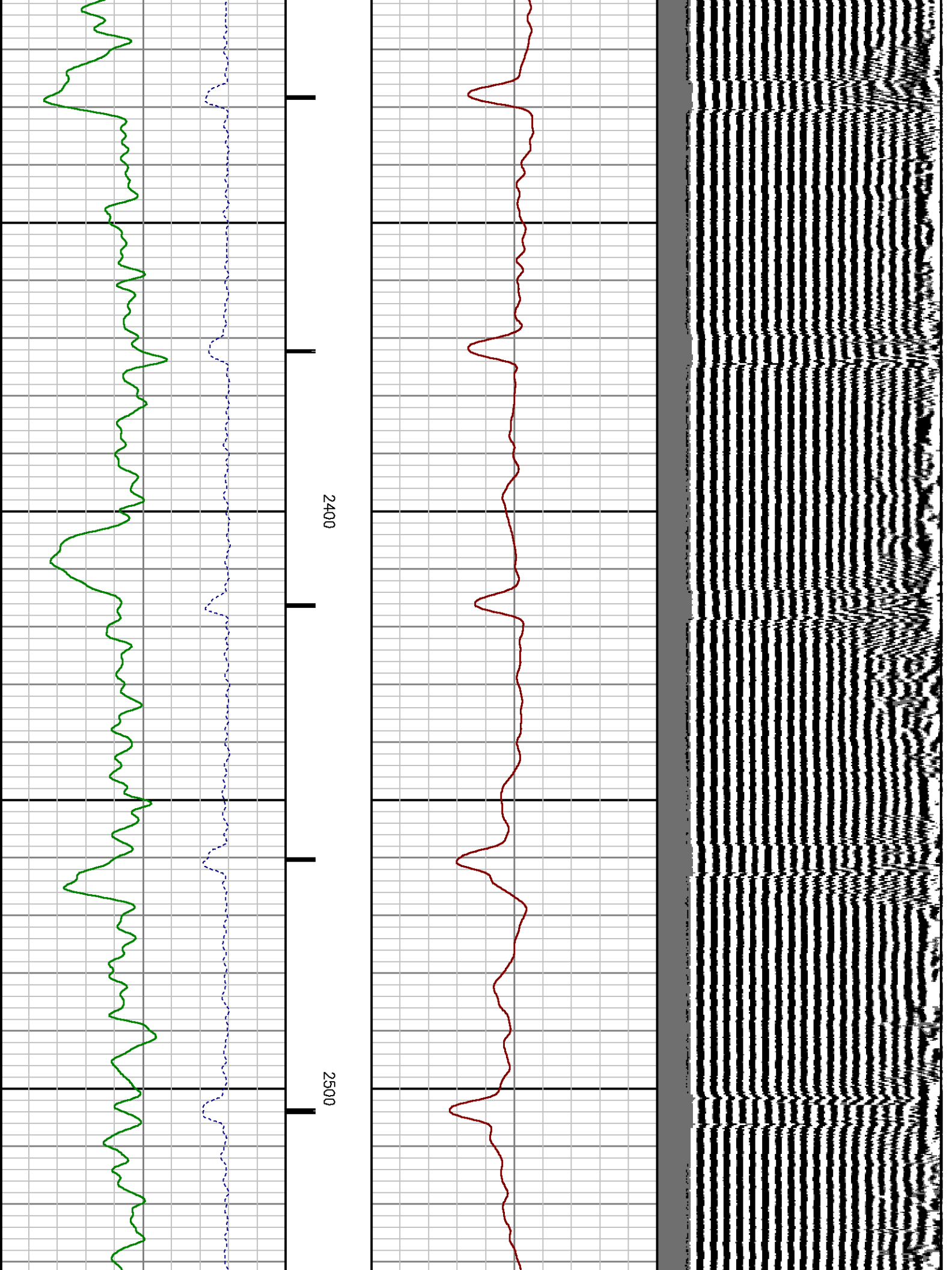




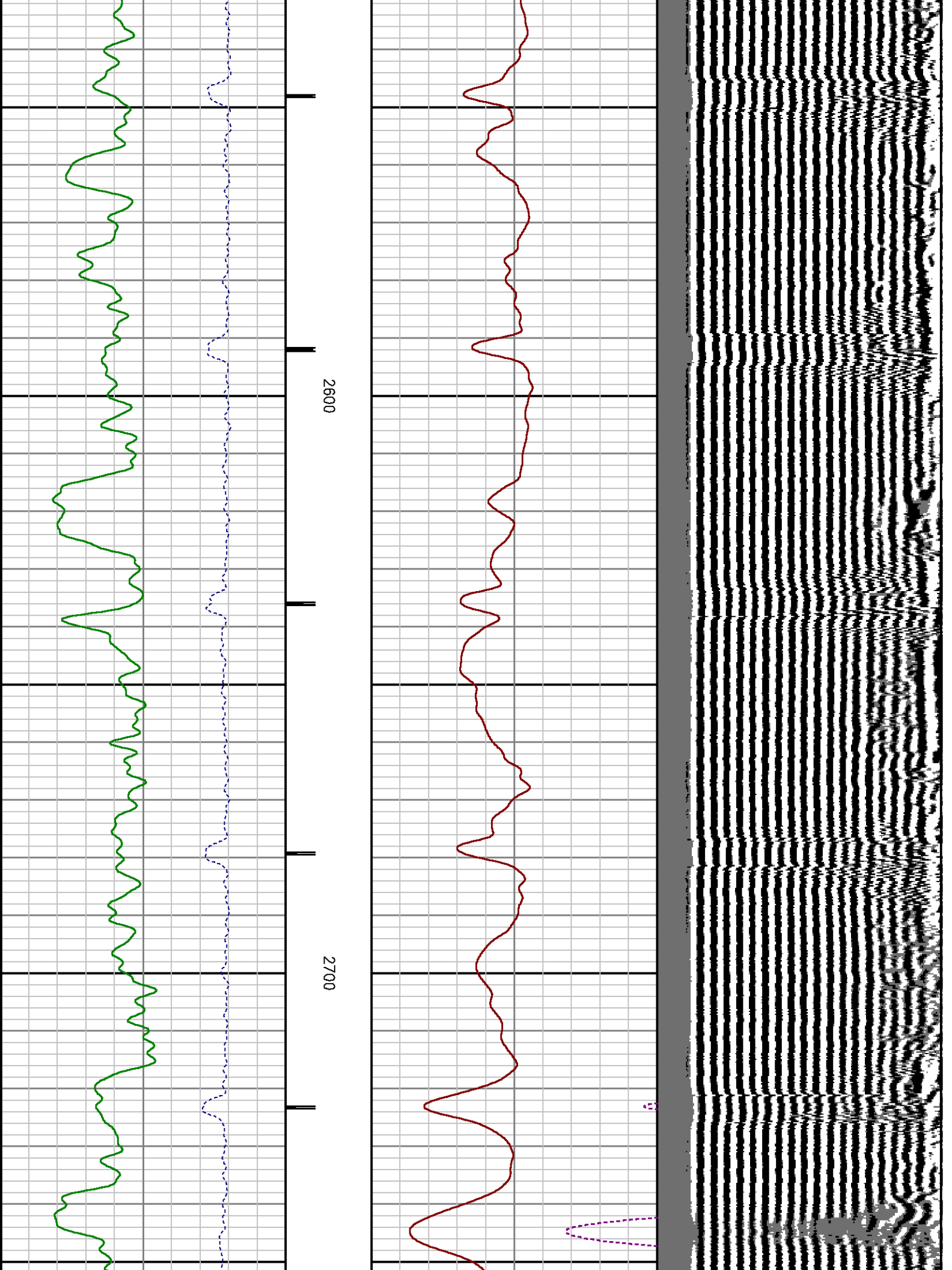


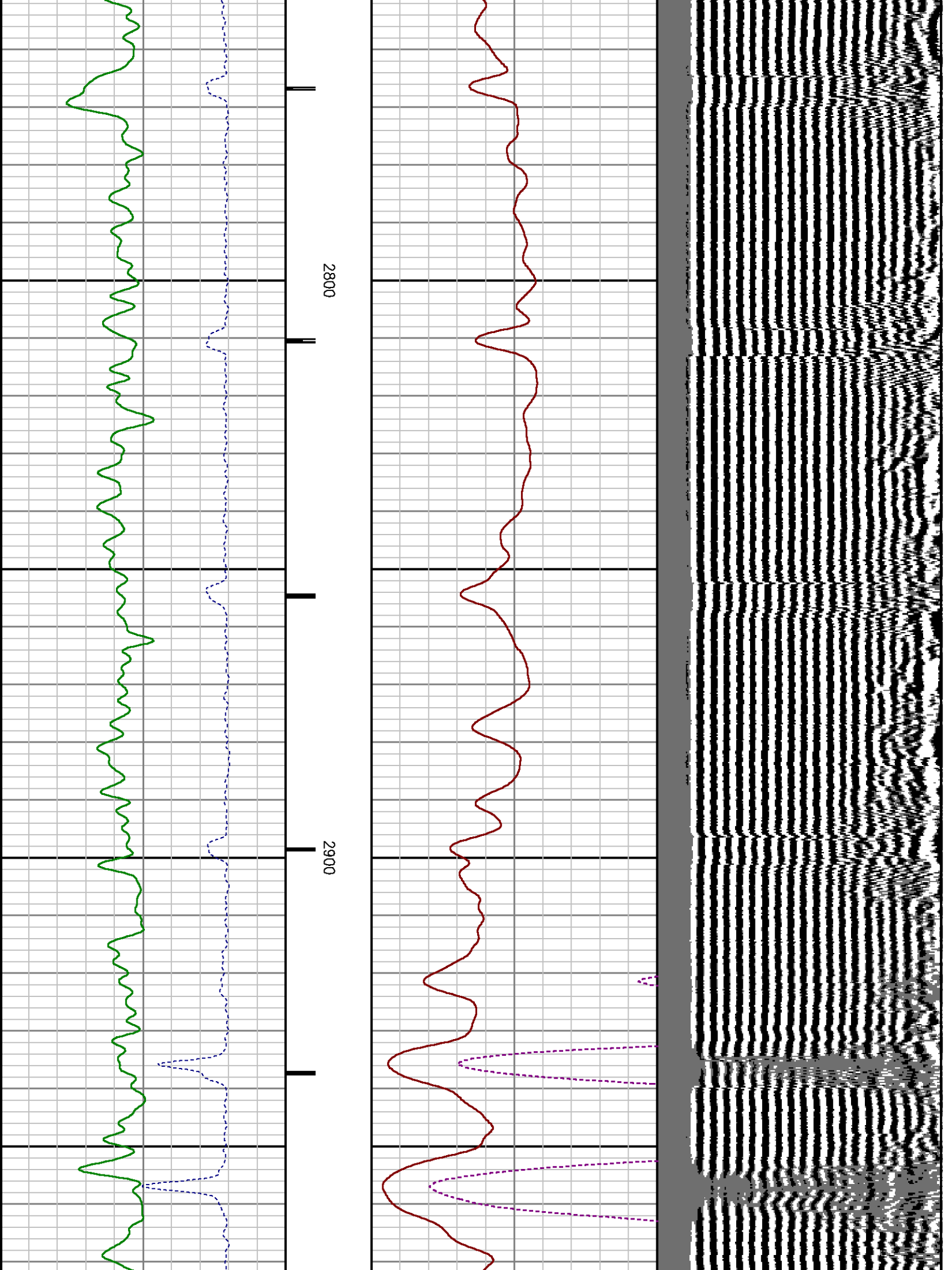




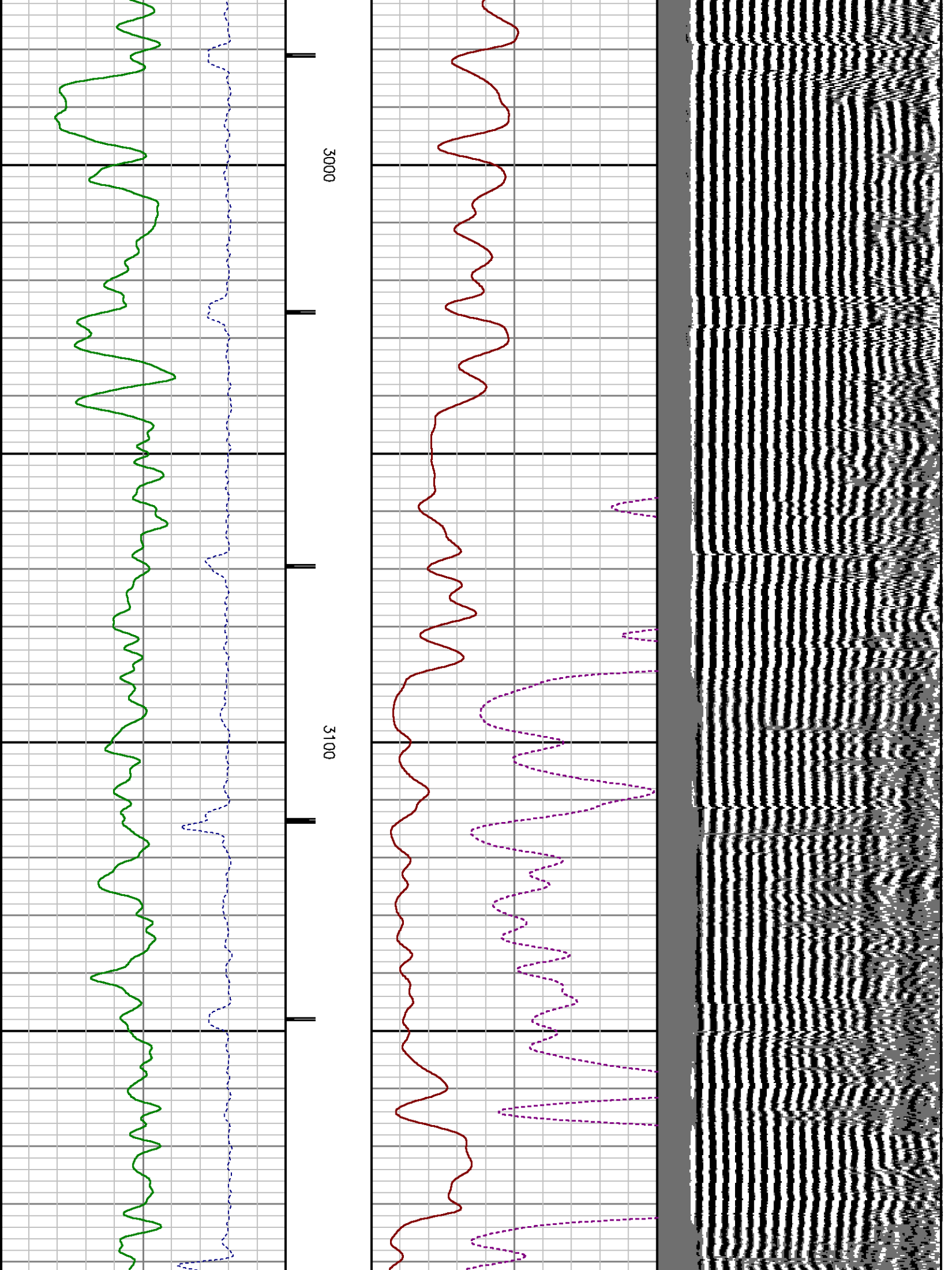


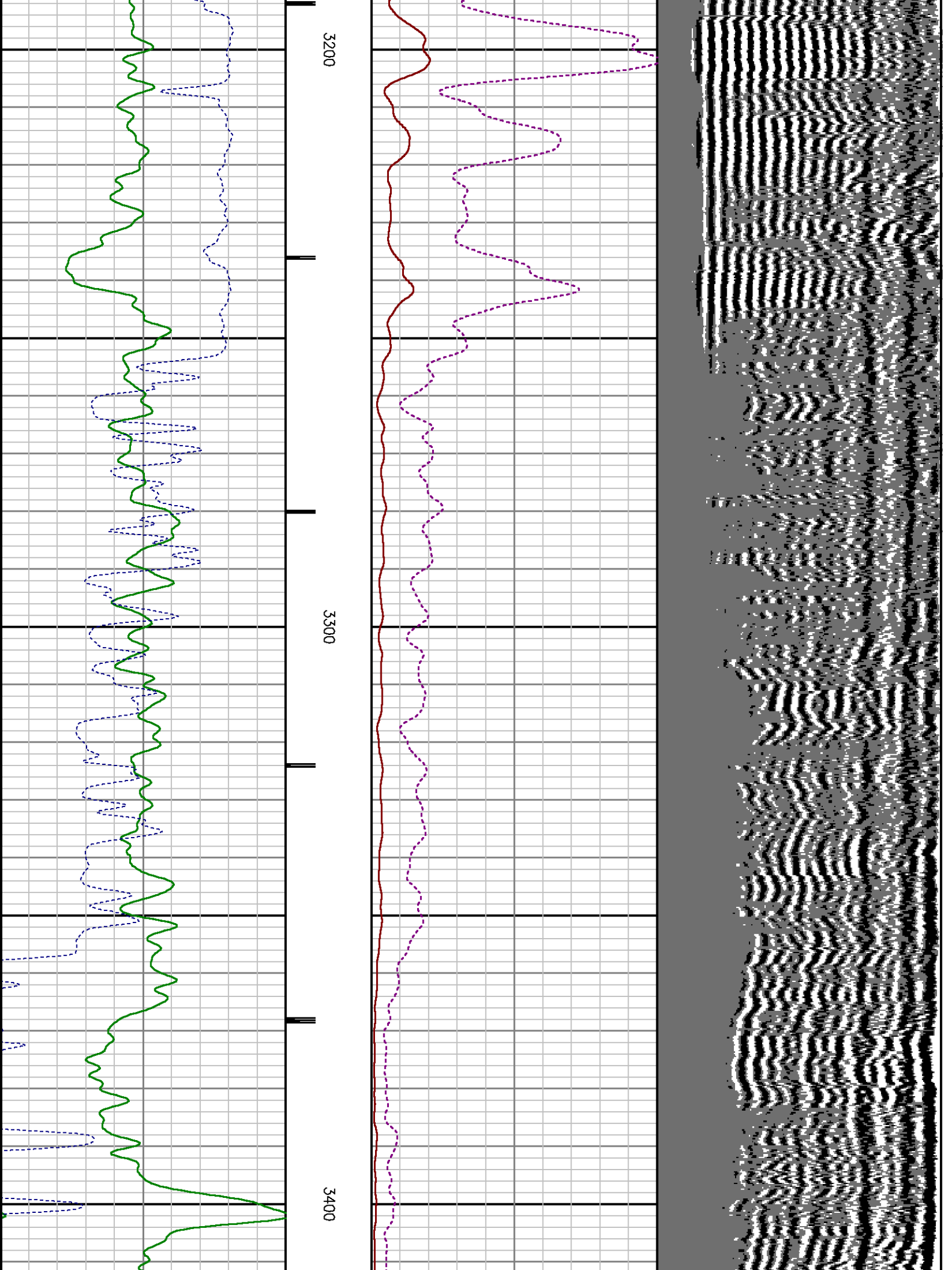


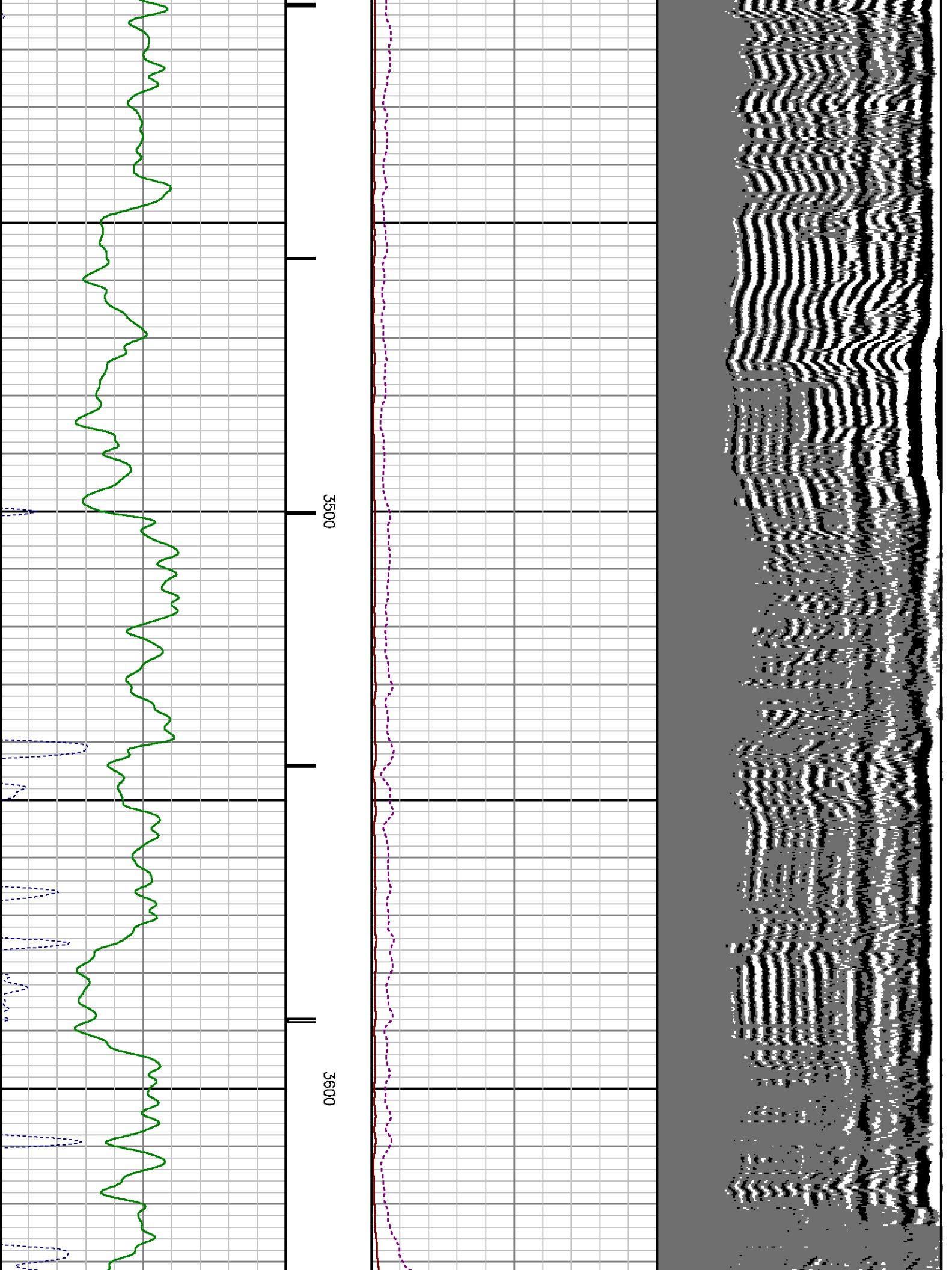


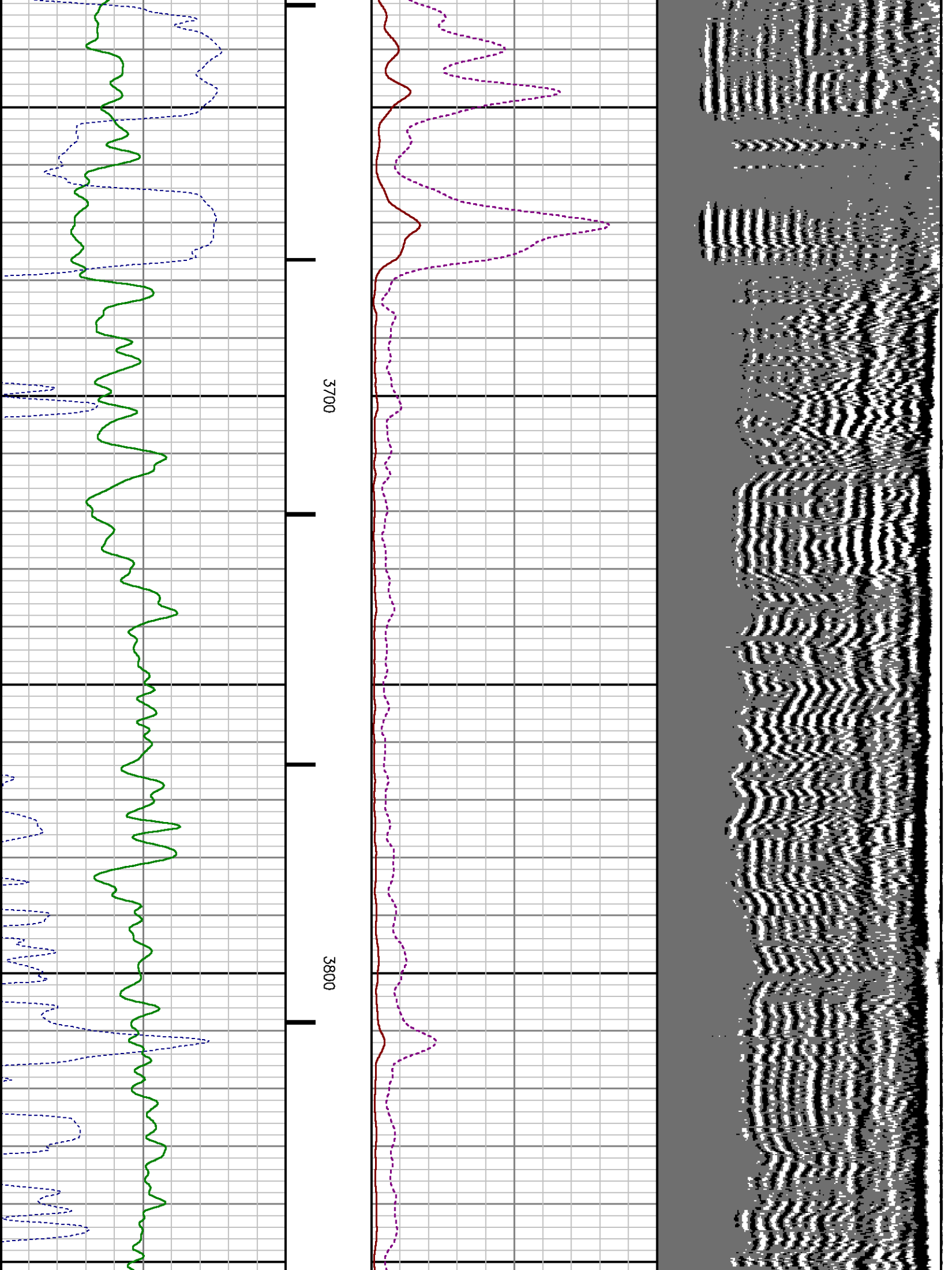


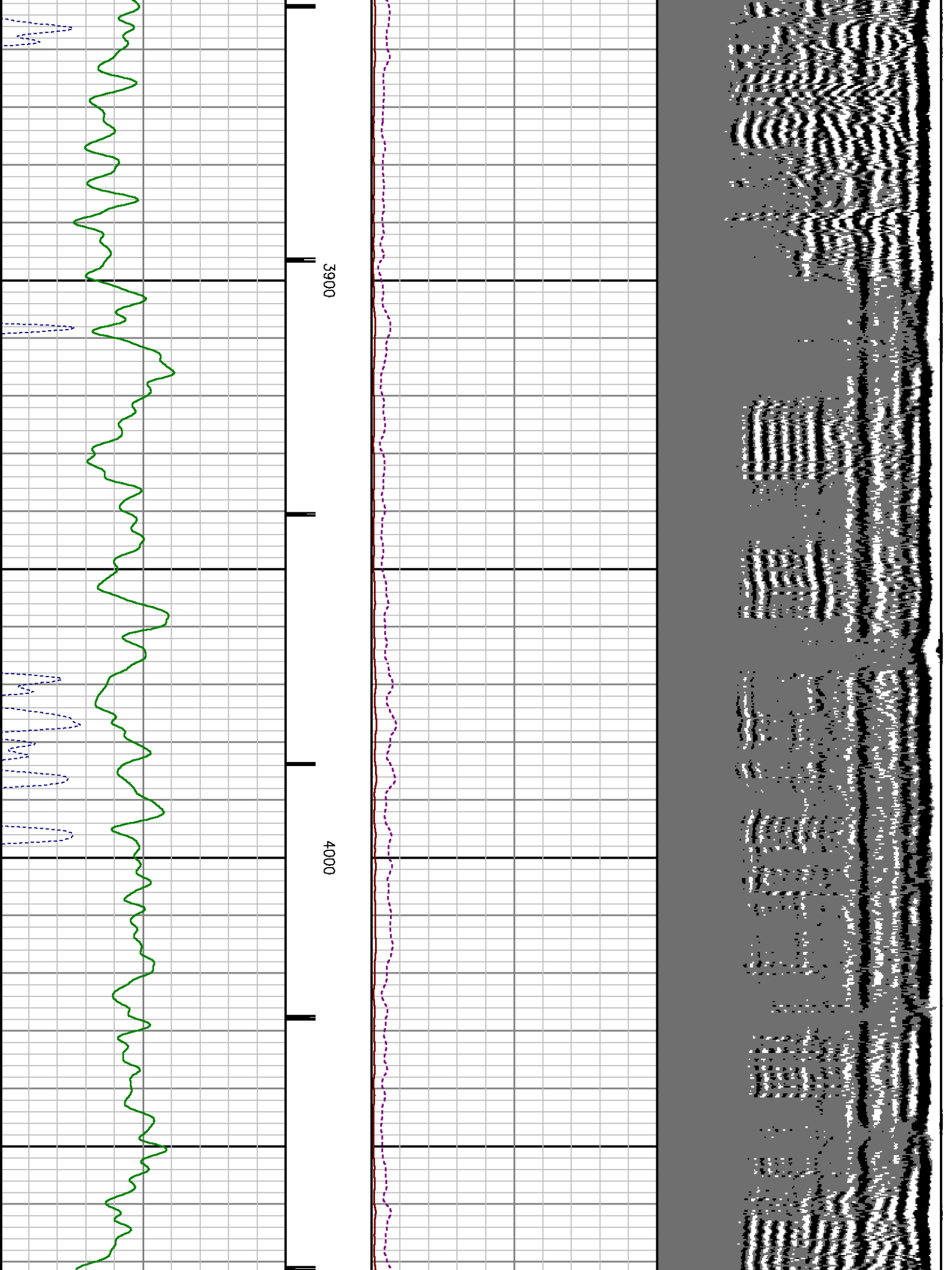


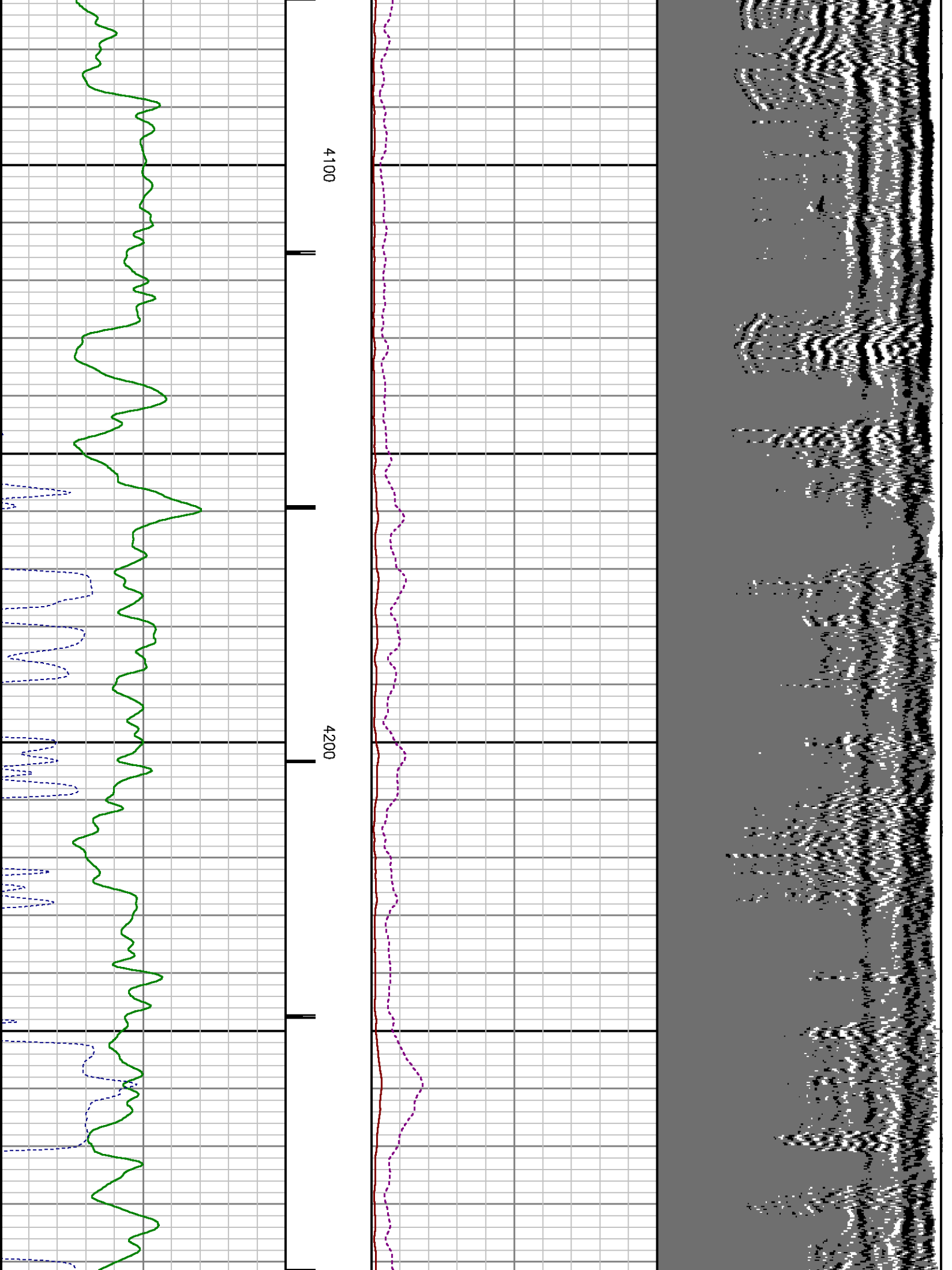


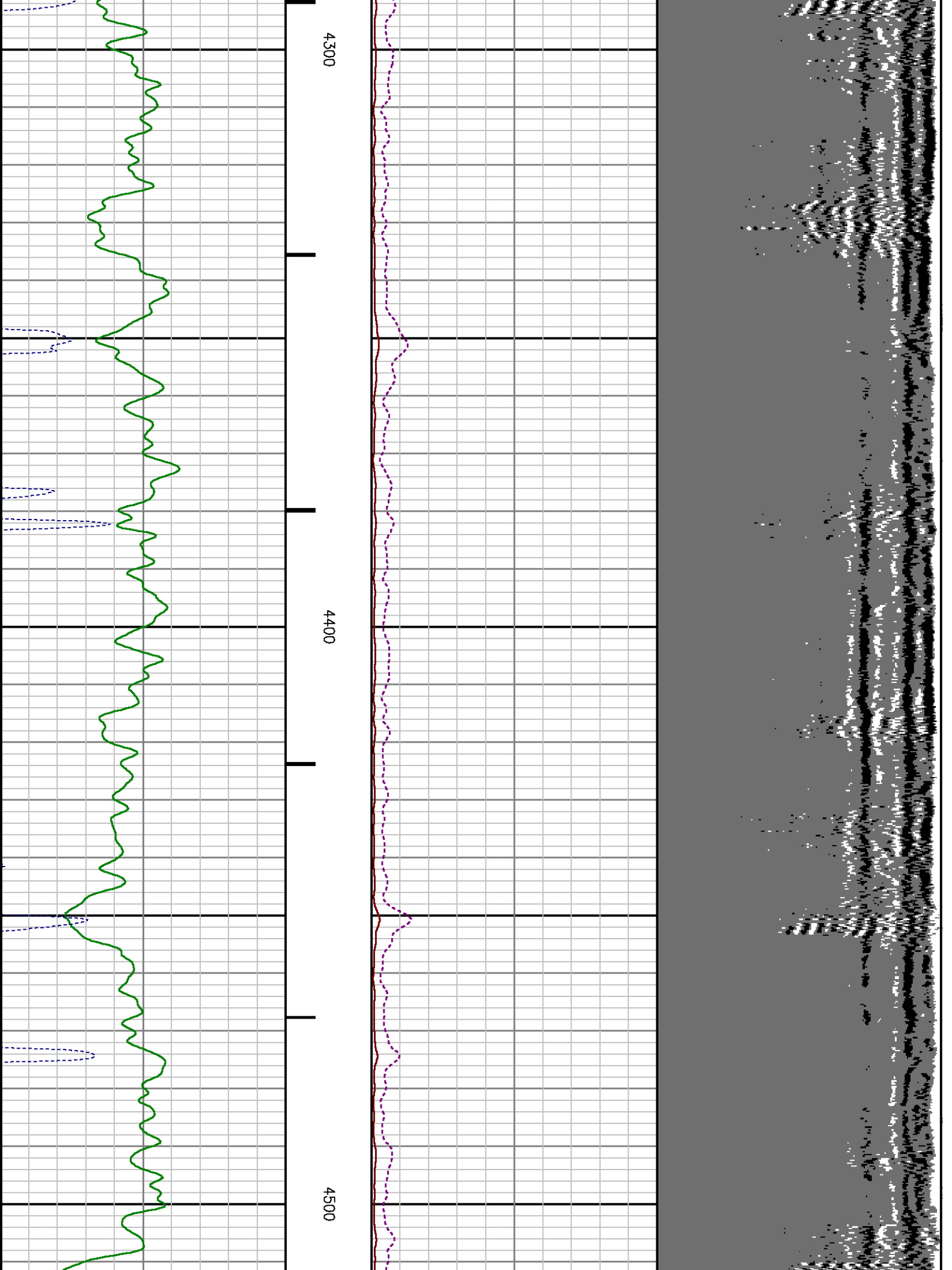




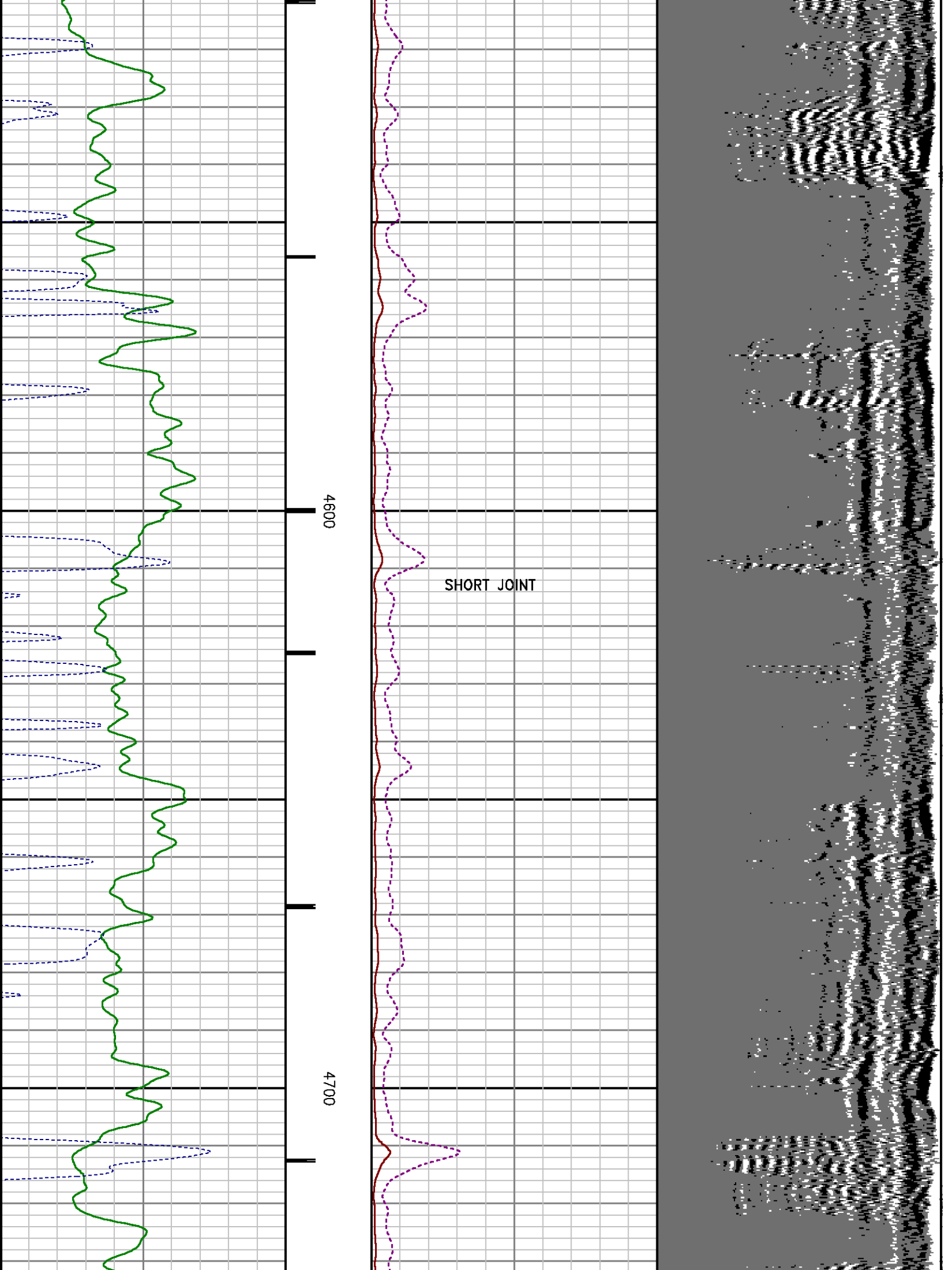




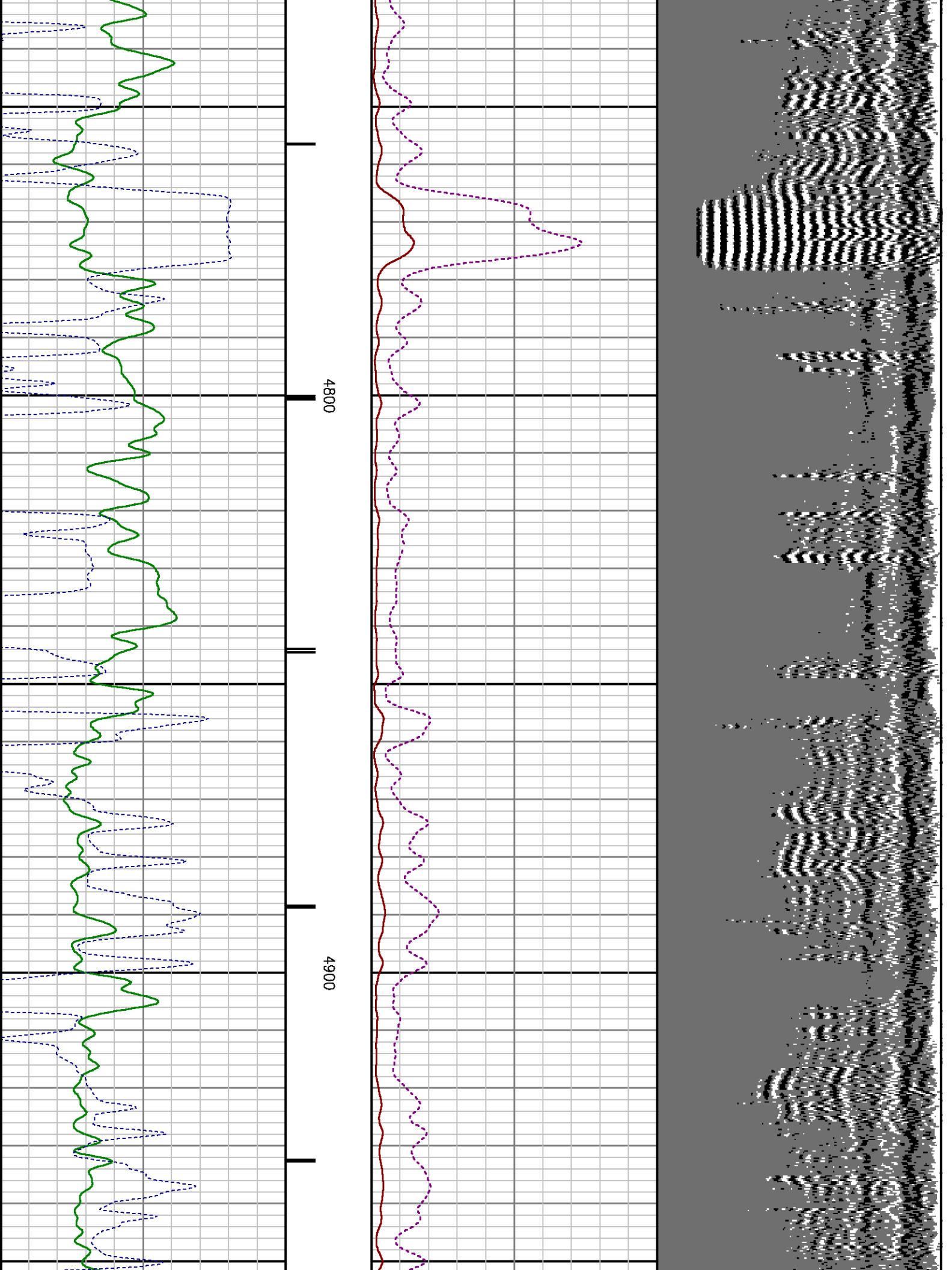


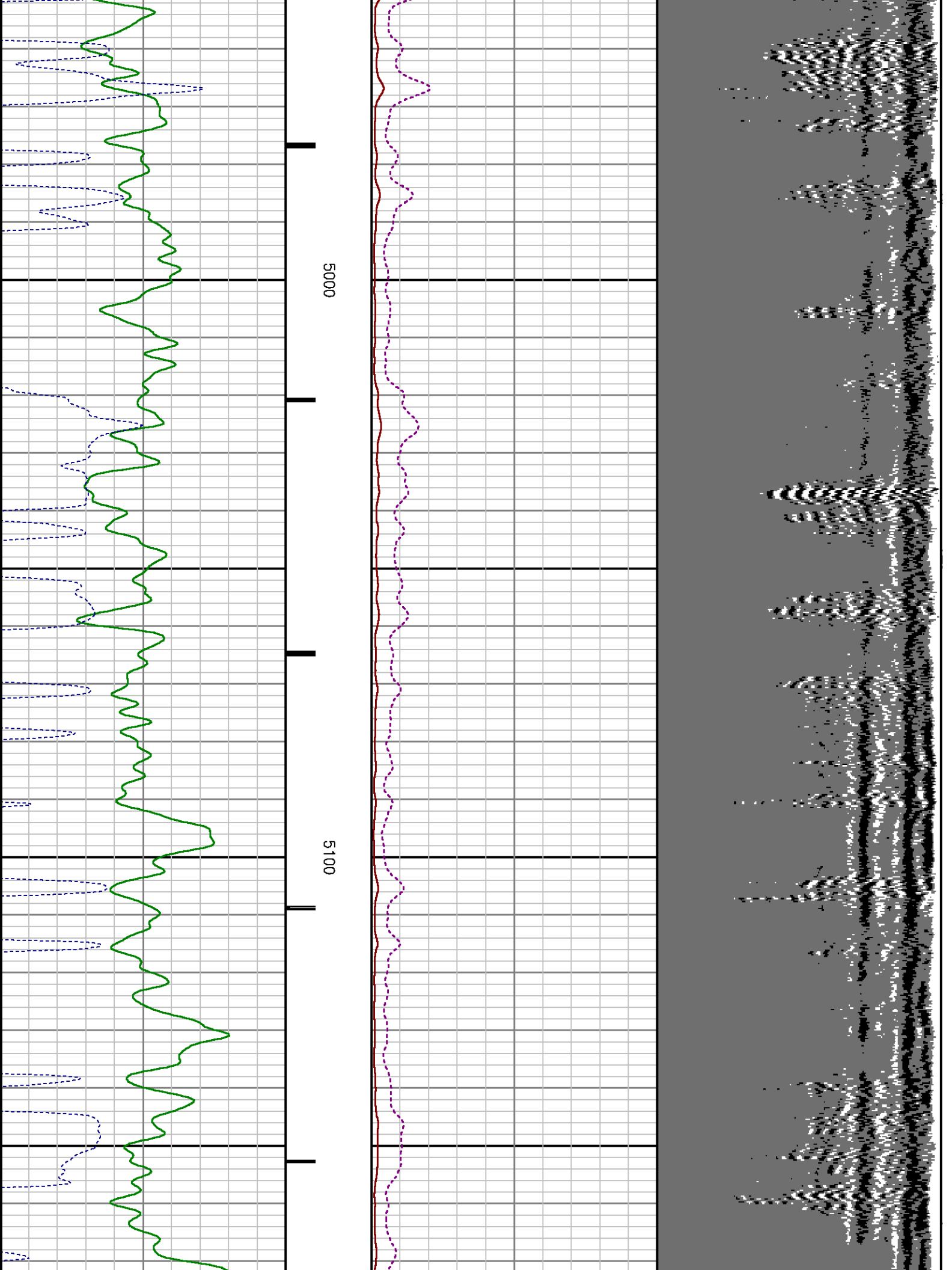


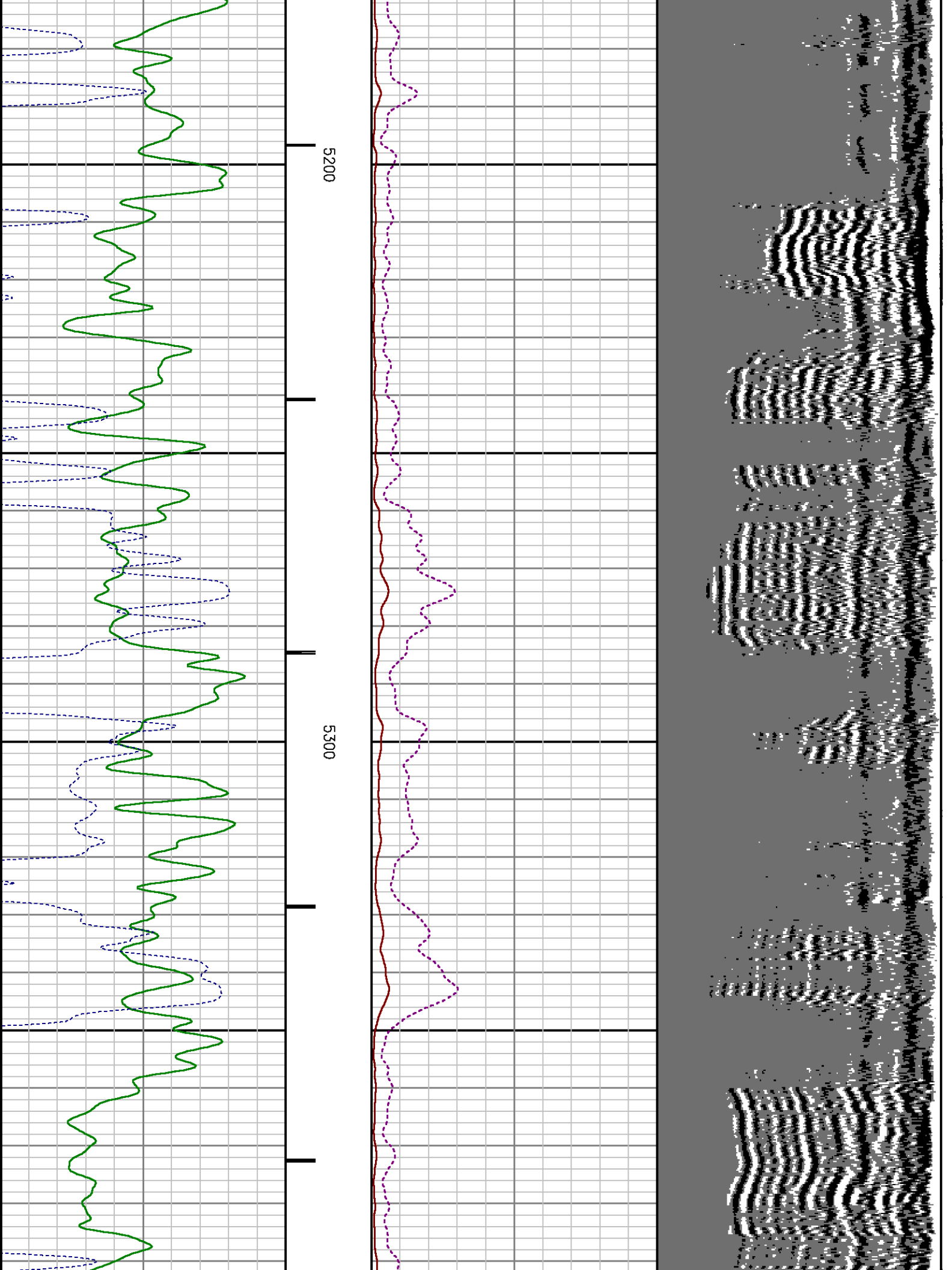


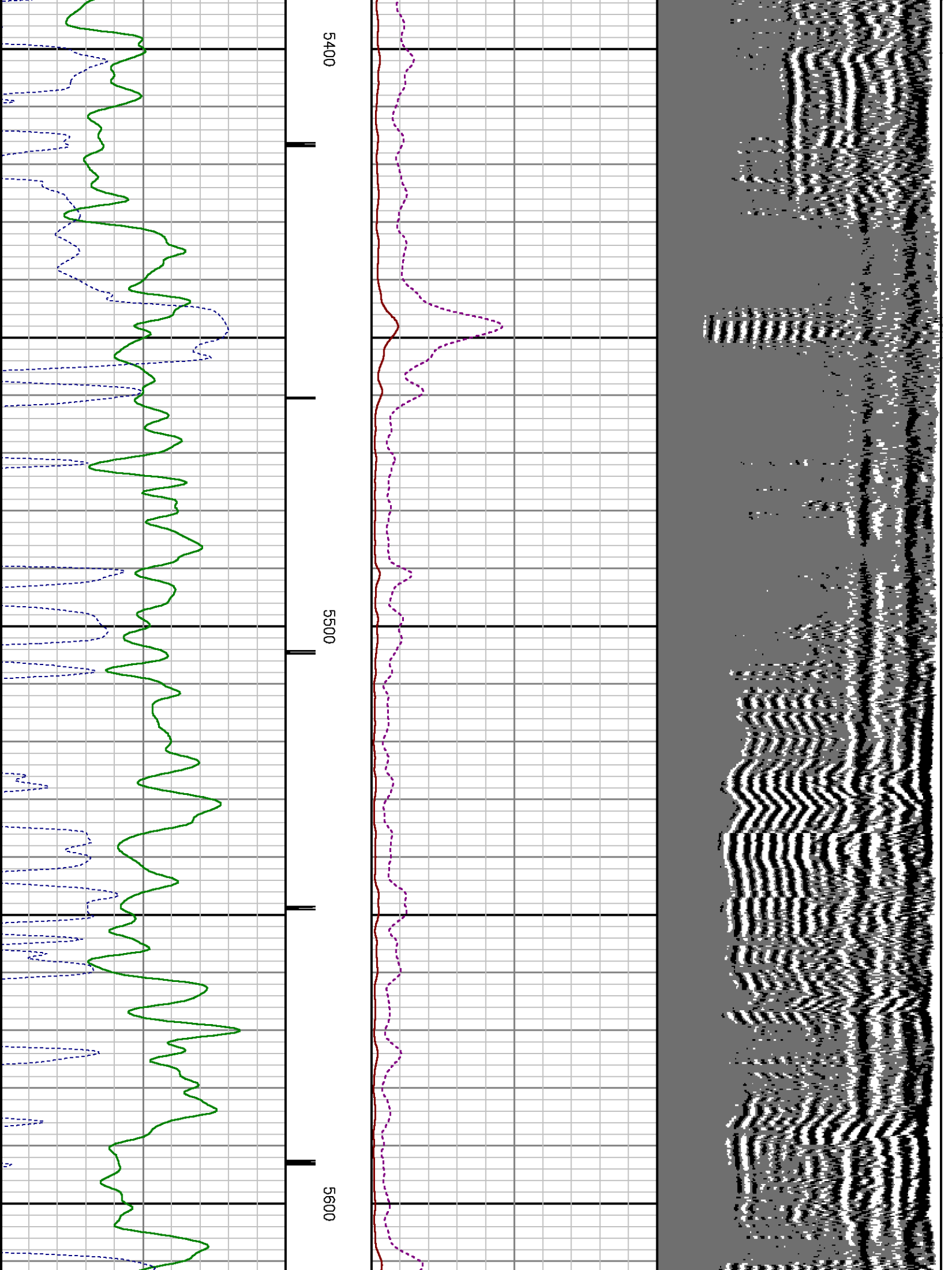


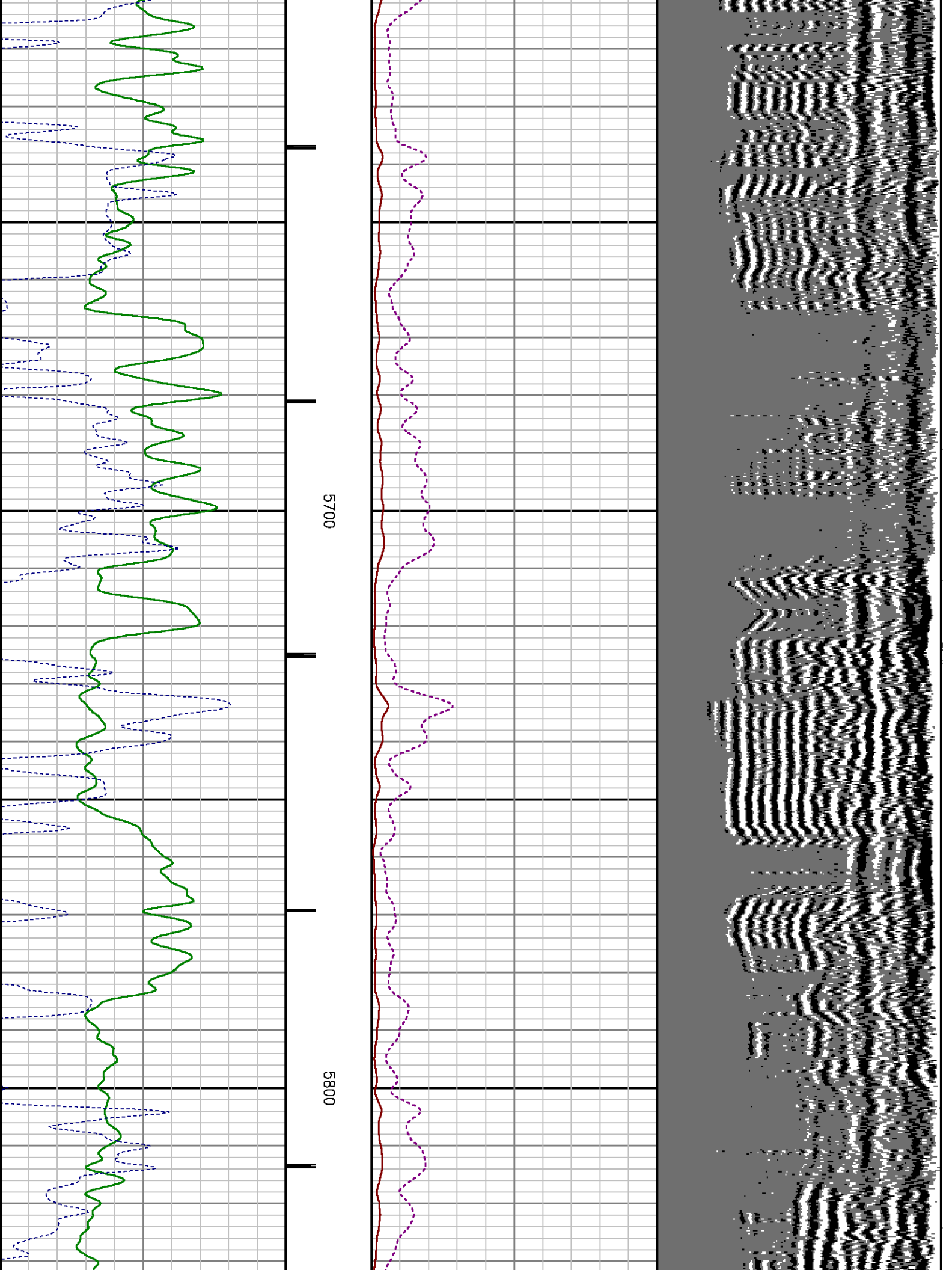


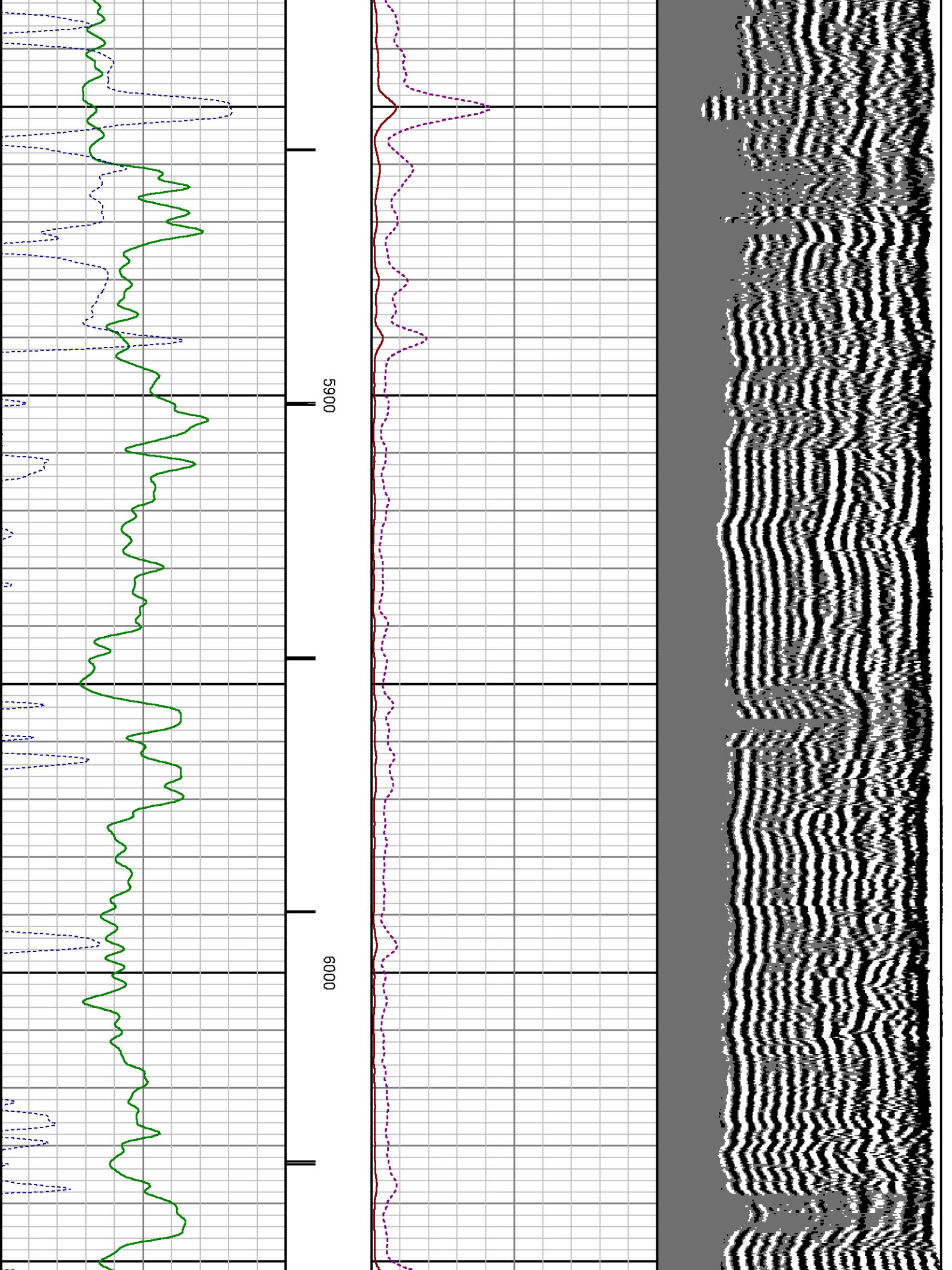


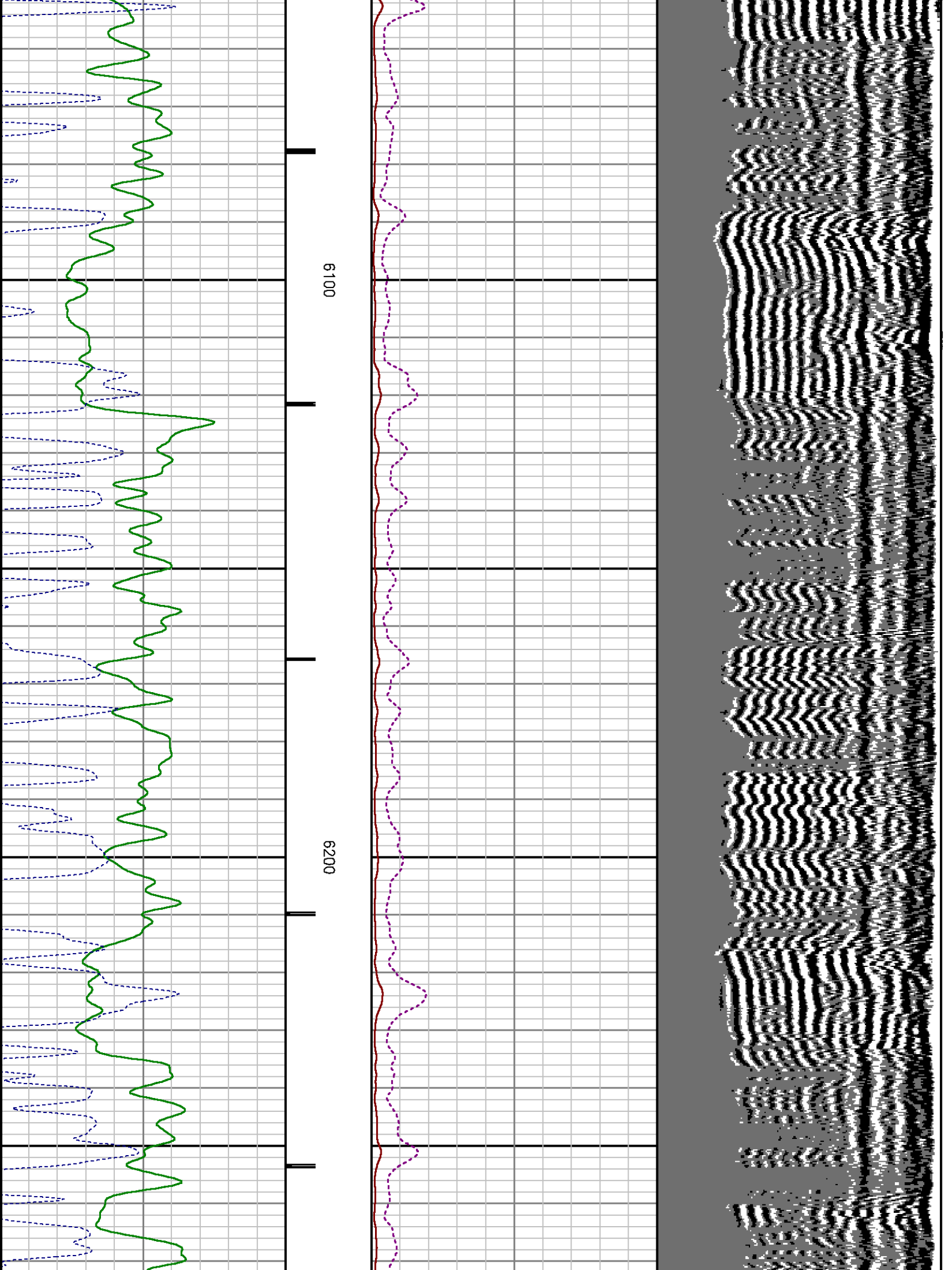




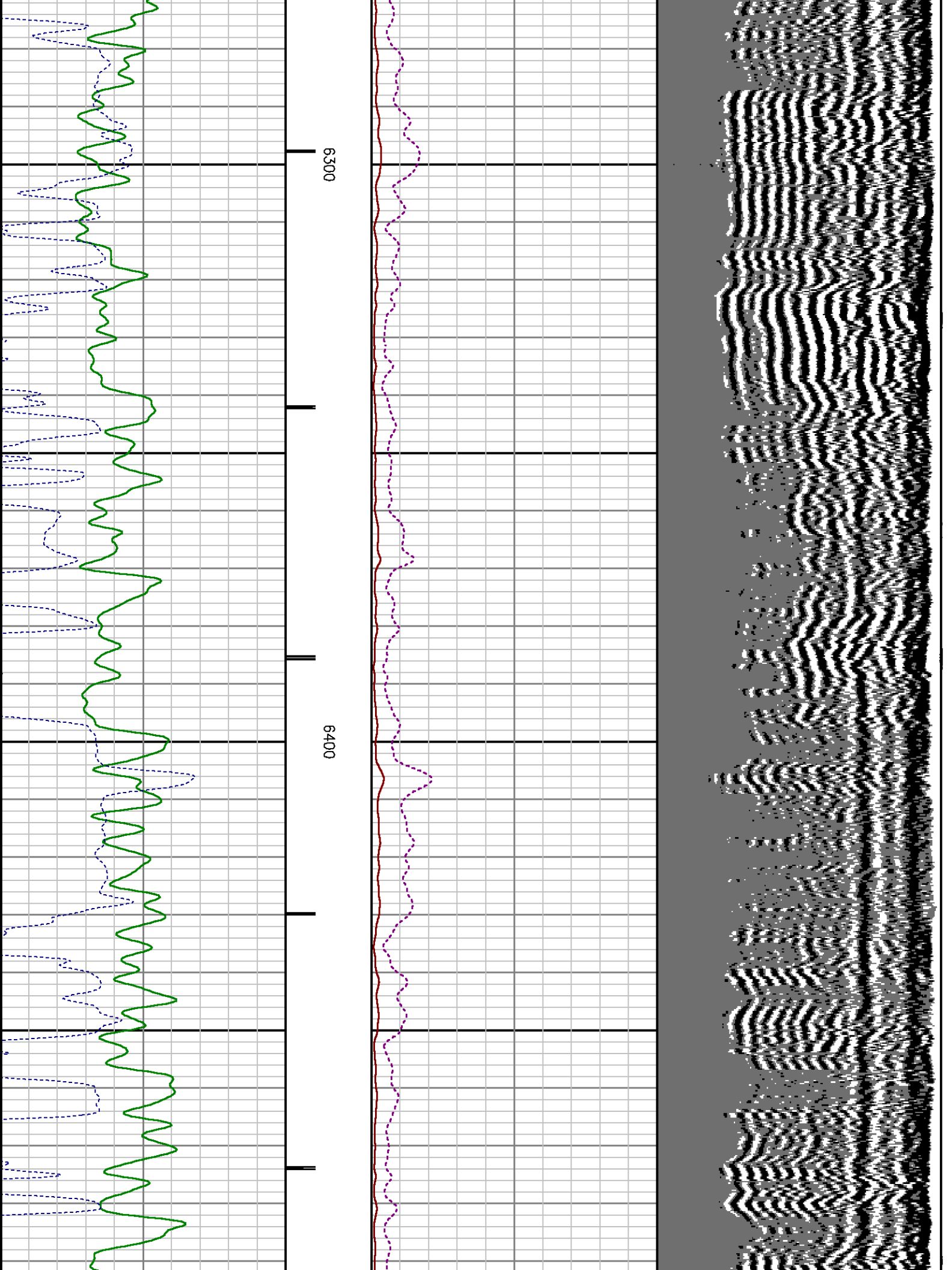




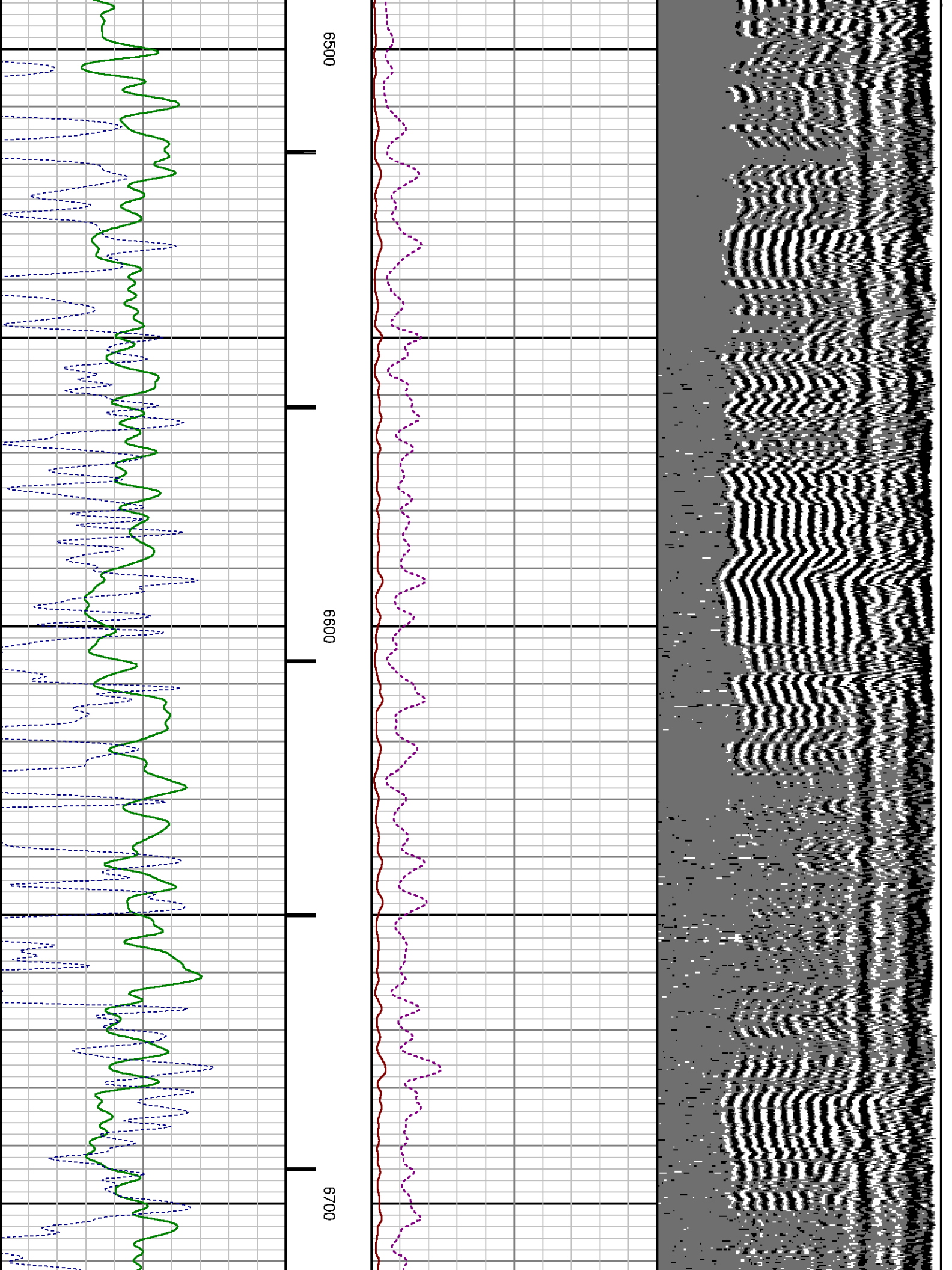


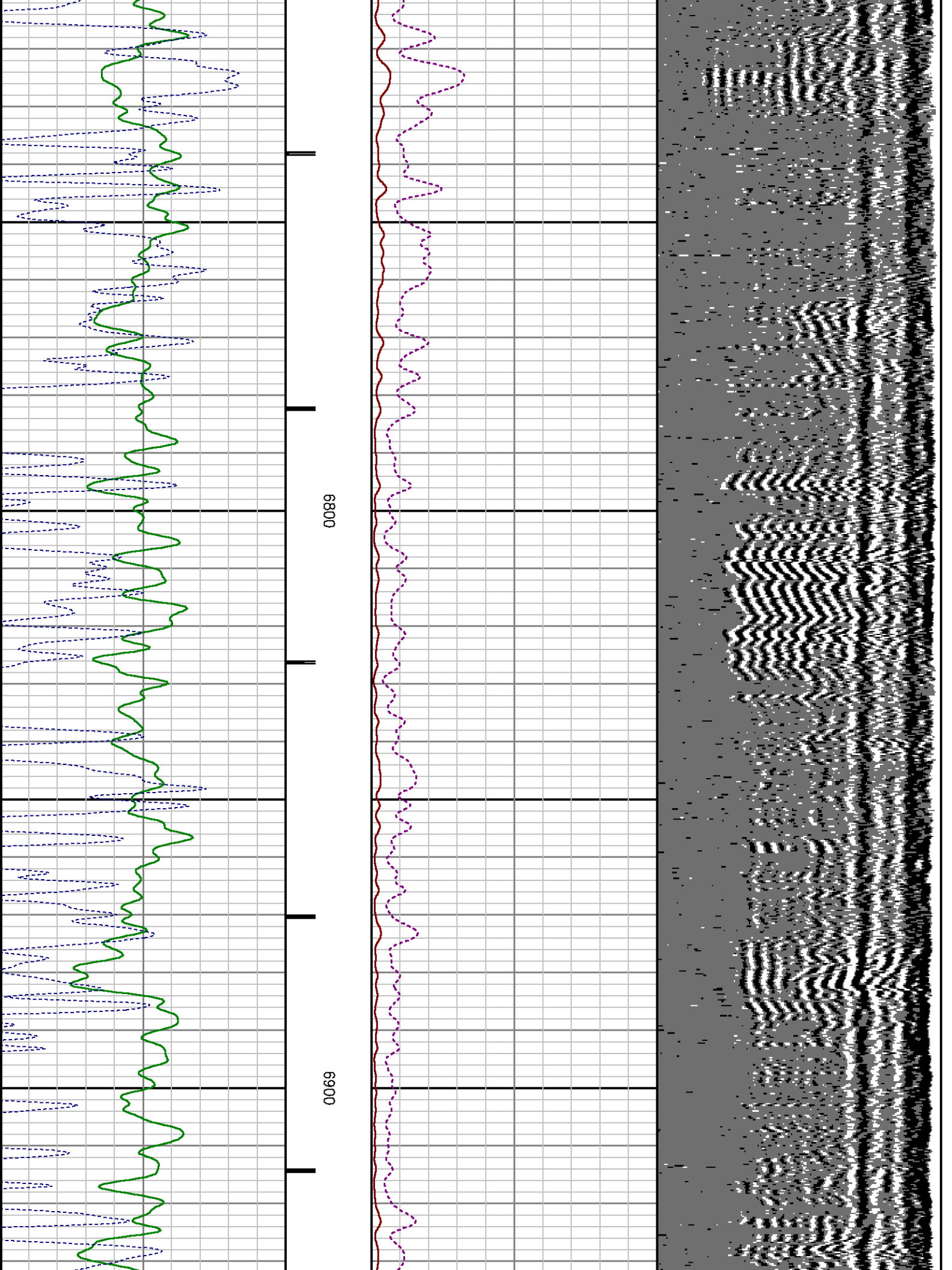


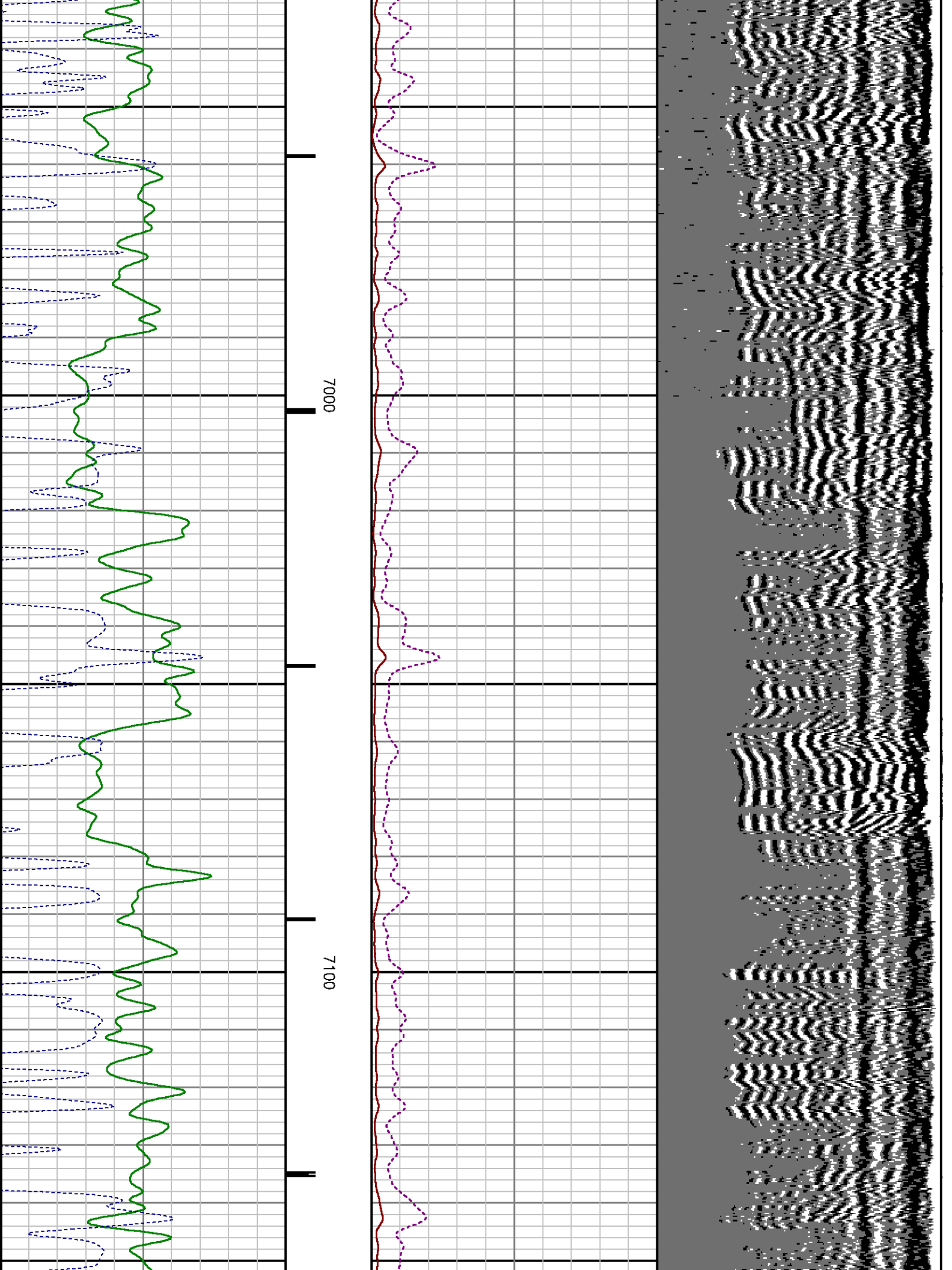


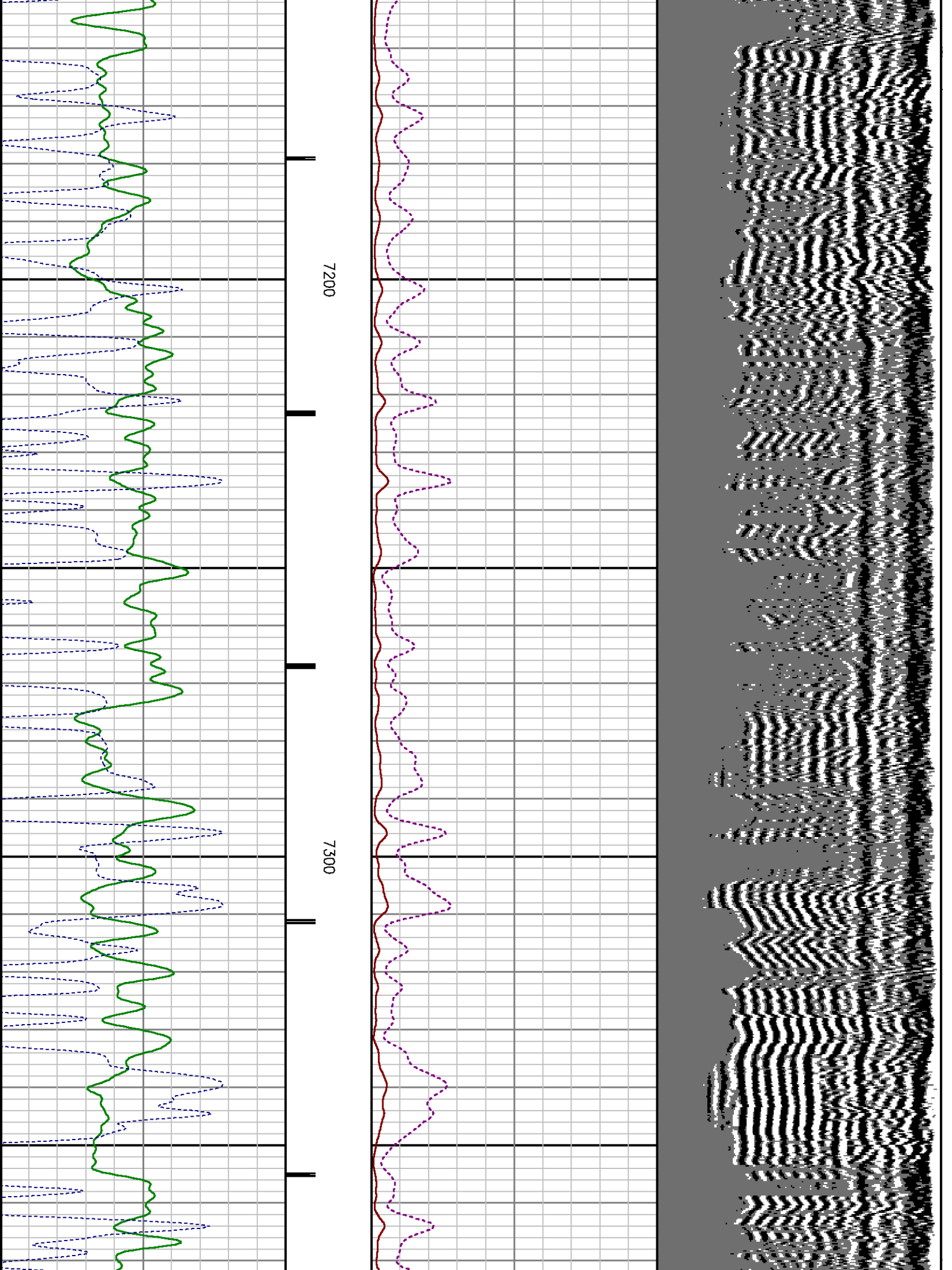


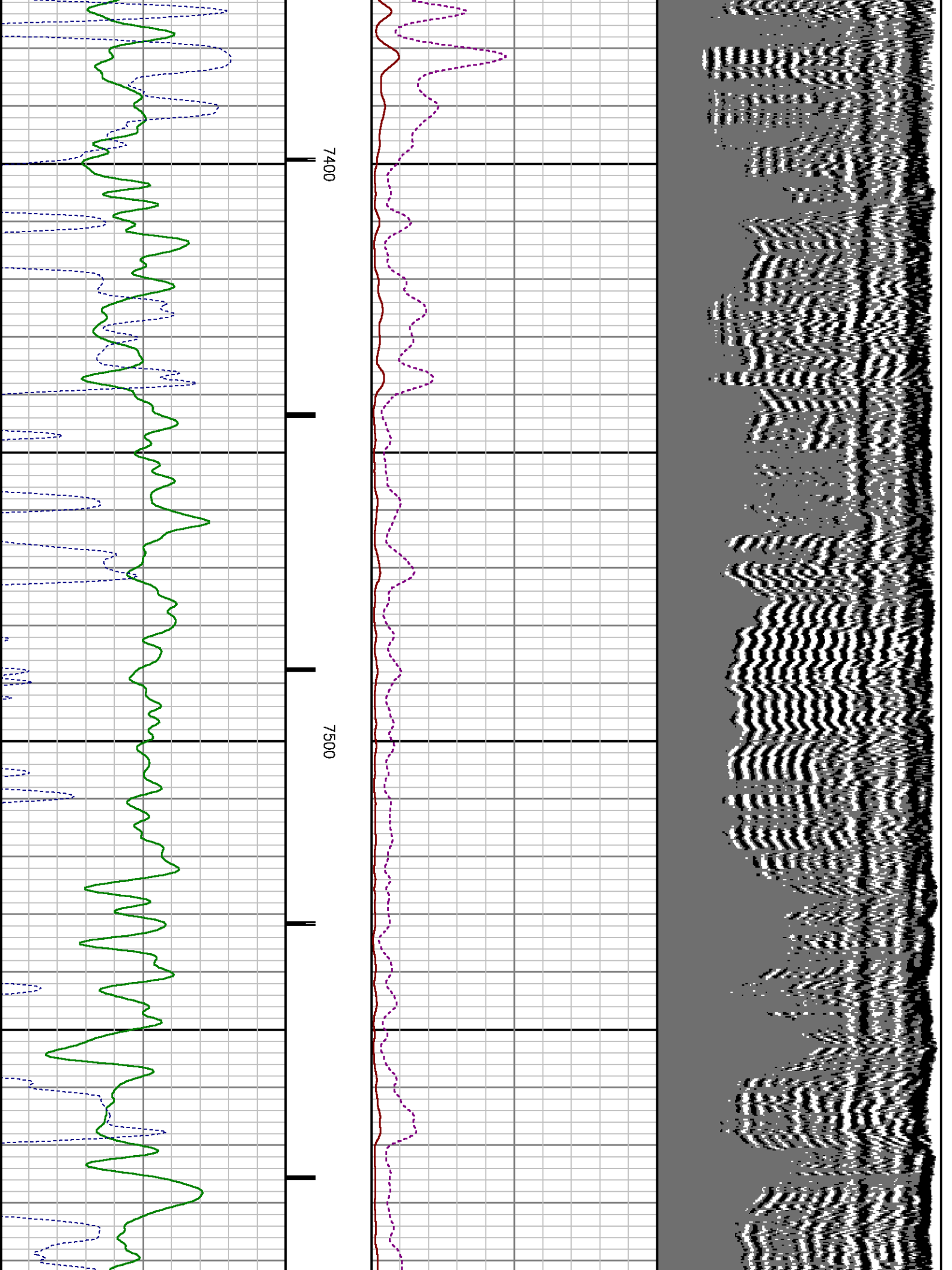




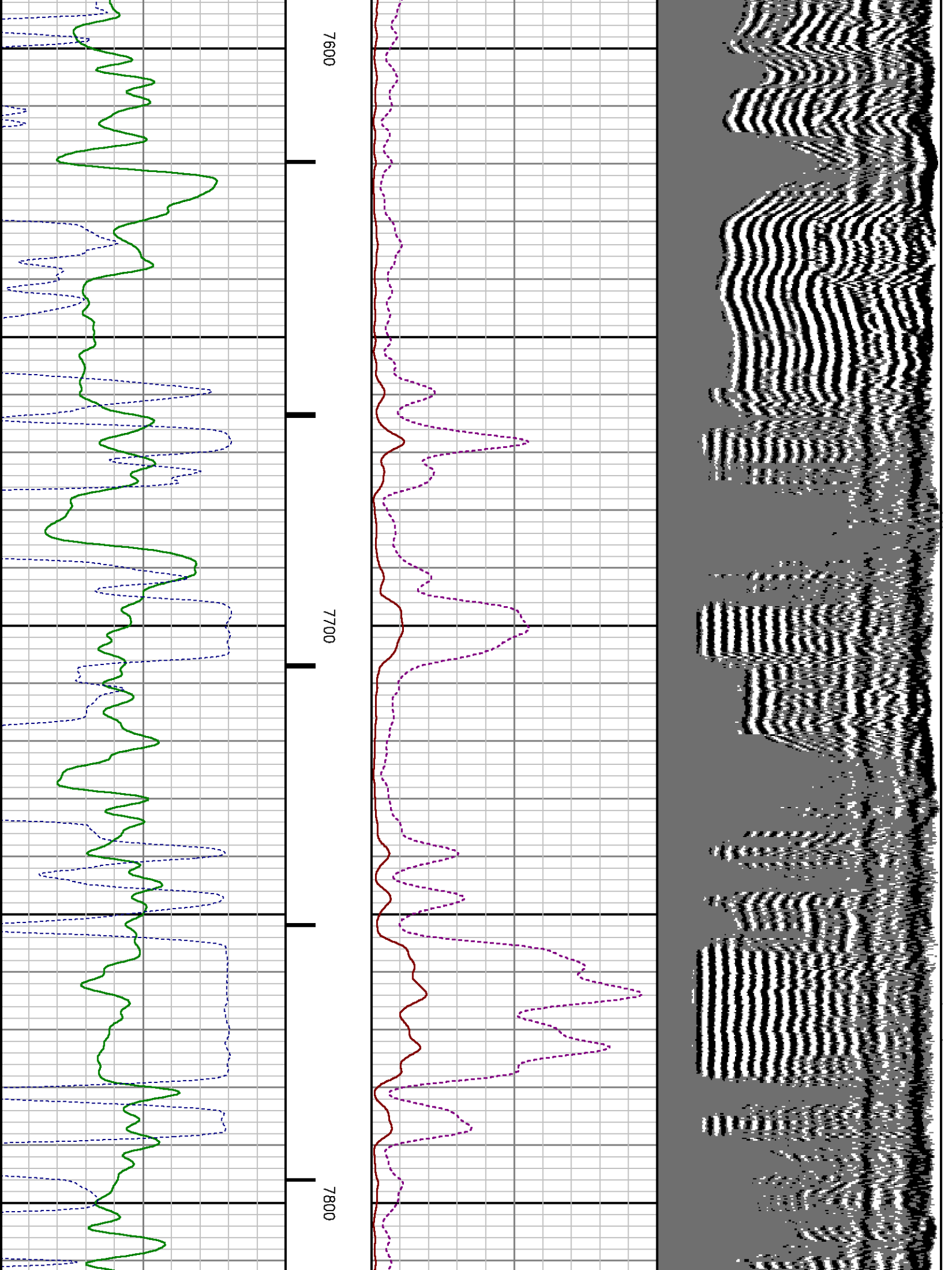


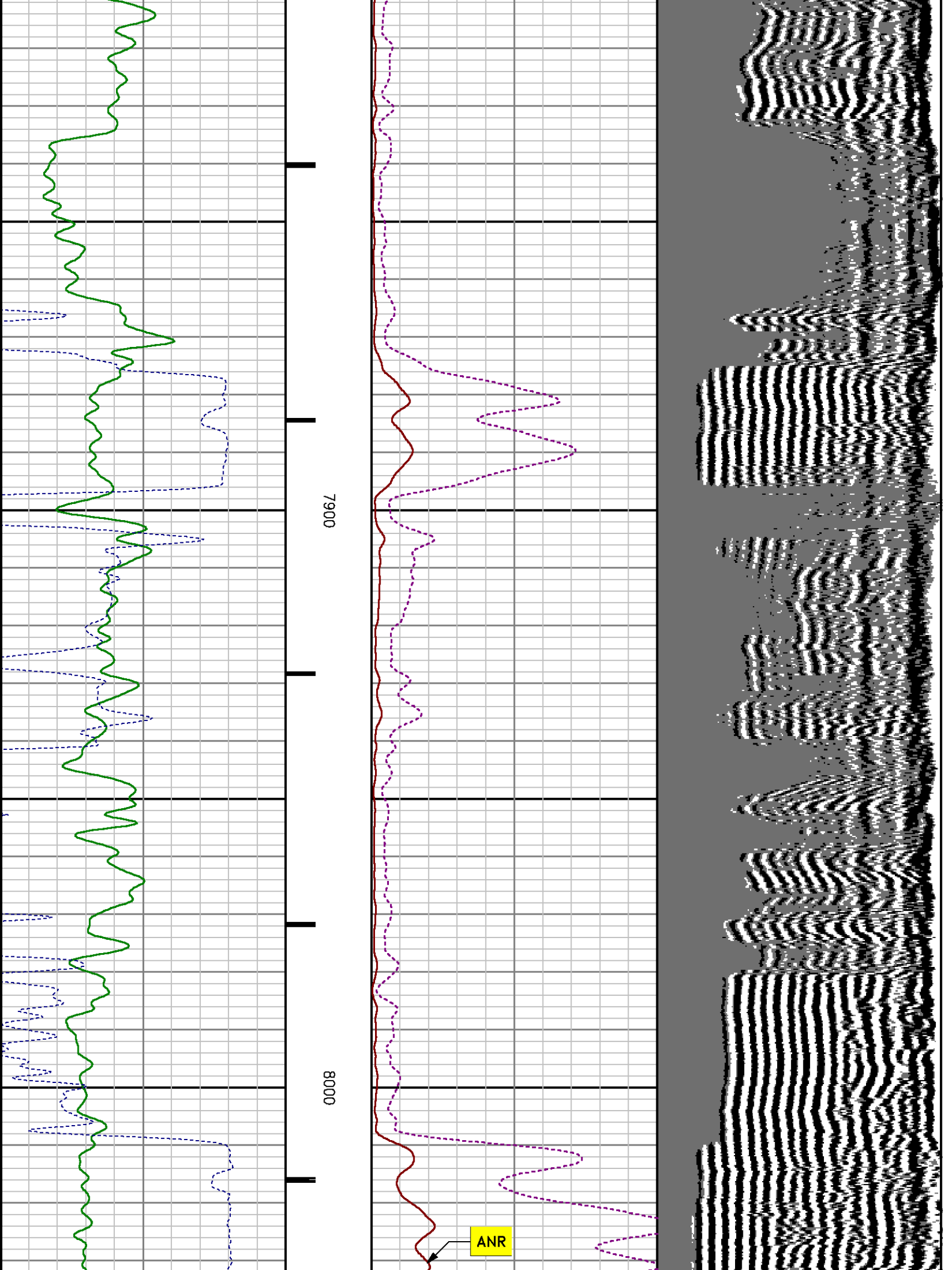


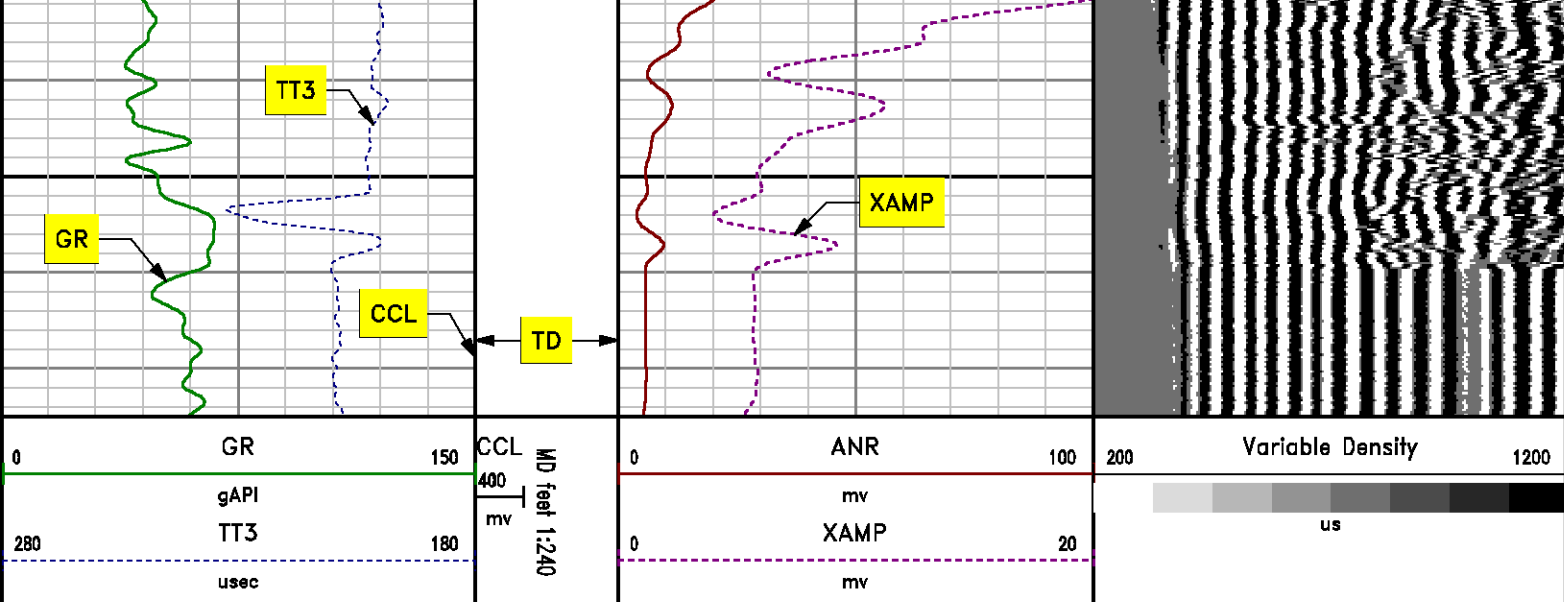












# *MAIN LOG SECONDARY PRESENTATION* *0 PSI*

| MEASUREMENT TYPE | PARAMETER             | VALUE   | UNITS    | TOP    | BOTTOM   |
|------------------|-----------------------|---------|----------|--------|----------|
| RAL              | Amp Gate Start Far    | 331.692 | u sec    | 36.531 | 8090.500 |
| RAL              | Amp Gate Start Near   | 199.015 | u sec    | 36.531 | 8090.500 |
| RAL              | Amp Gate Start Radial | 199.599 | u sec    | 36.531 | 8090.500 |
| RAL              | Amp Gate Width Far    | 25.000  | u sec    | 36.531 | 8090.500 |
| RAL              | Amp Gate Width Near   | 25.000  | u sec    | 36.531 | 8090.500 |
| RAL              | Amp Gate Width Radial | 25.000  | u sec    | 36.531 | 8090.500 |
| RAL              | casing od             | 4.500   | inches   | 36.531 | 8090.500 |
| RAL              | casing wt             | 11.600  | lbm/ft   | 36.531 | 8090.500 |
| RAL              | FB Start Far          | 291.900 | u sec    | 36.531 | 8090.500 |
| RAL              | FB Start Near         | 175.391 | u sec    | 36.531 | 8090.500 |
| RAL              | FB Start Radial       | 175.391 | u sec    | 36.531 | 8090.500 |
| RAL              | FB Thresh Far         | 10.000  | mv       | 36.531 | 8090.500 |
| RAL              | FB Thresh Near        | 4.000   | mv       | 36.531 | 8090.500 |
| RAL              | FB Thresh Radial      | 4.000   | mv       | 36.531 | 8090.500 |
| RAL              | Fluid Travel Time     | 200.000 | u sec/ft | 36.531 | 8090.437 |



# DEPTH OFFSETS

(for Acquired Curves)

| SERIES | DEPTH OFFSET | ACQUIRED CURVES |      |      |      |      |      |
|--------|--------------|-----------------|------|------|------|------|------|
| 1426XA | -11.000      | ACAL            | ANR  | AR1  | AR2  | AR3  | AR4  |
|        |              | AR5             | AR6  | AR7  | AR8  | CHV  | FPR2 |
|        |              | FPR3            | FPR5 | TT3  | TTR1 | TTR2 | TTR3 |
|        |              | TTR4            | TTR5 | TTR6 | TTR7 | TTR8 | XAMP |
| 1426XA | -10.040      | AFAR            | SIG  | TT5  |      |      |      |
| 1355XA | -5.620       | CCL             |      |      |      |      |      |
| 1355XA | -1.500       | GR              |      |      |      |      |      |
| 1355XA | 0.000        | TEMP            |      |      |      |      |      |

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

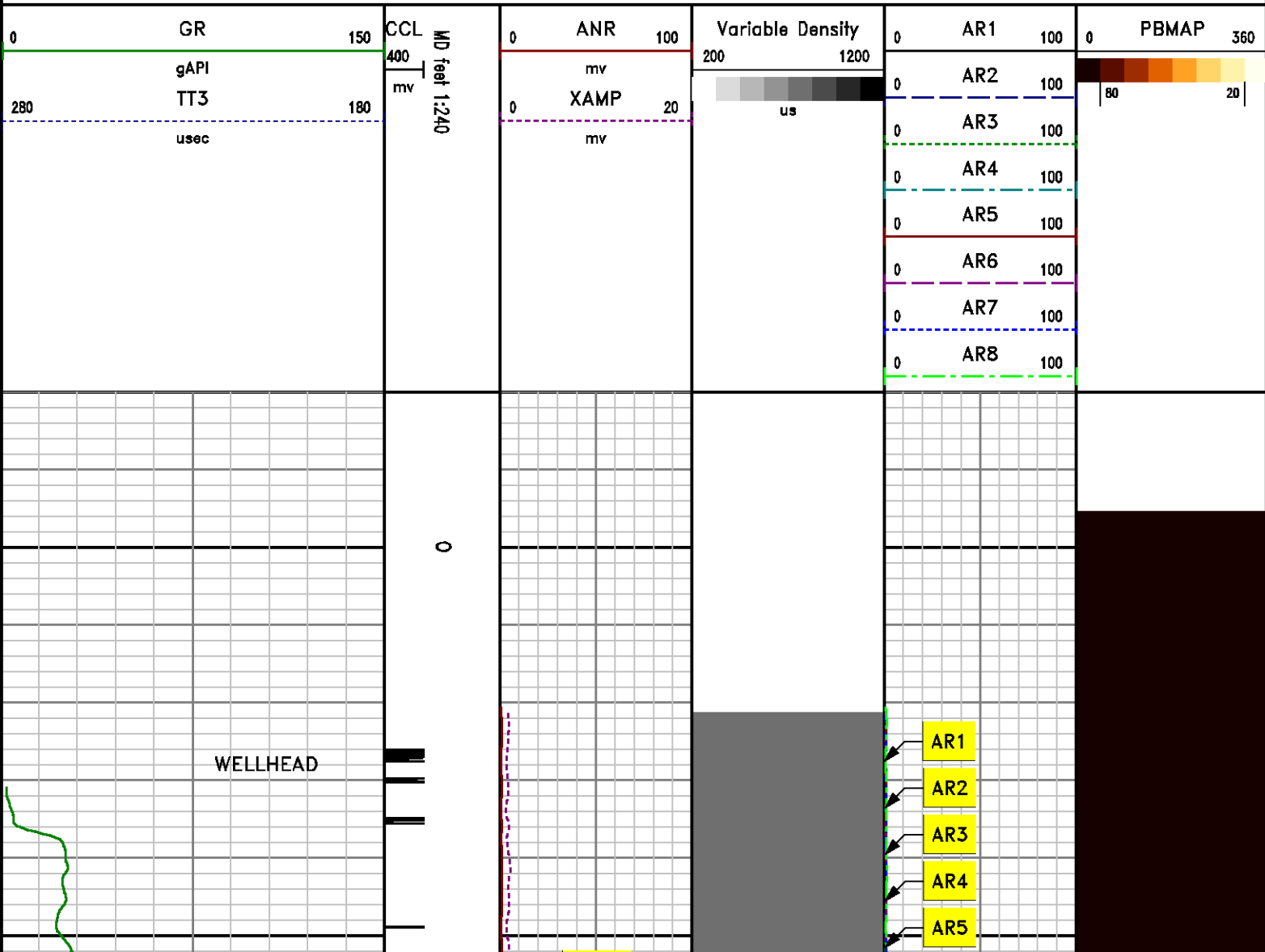
Well : DUGGAN RWF 524-29

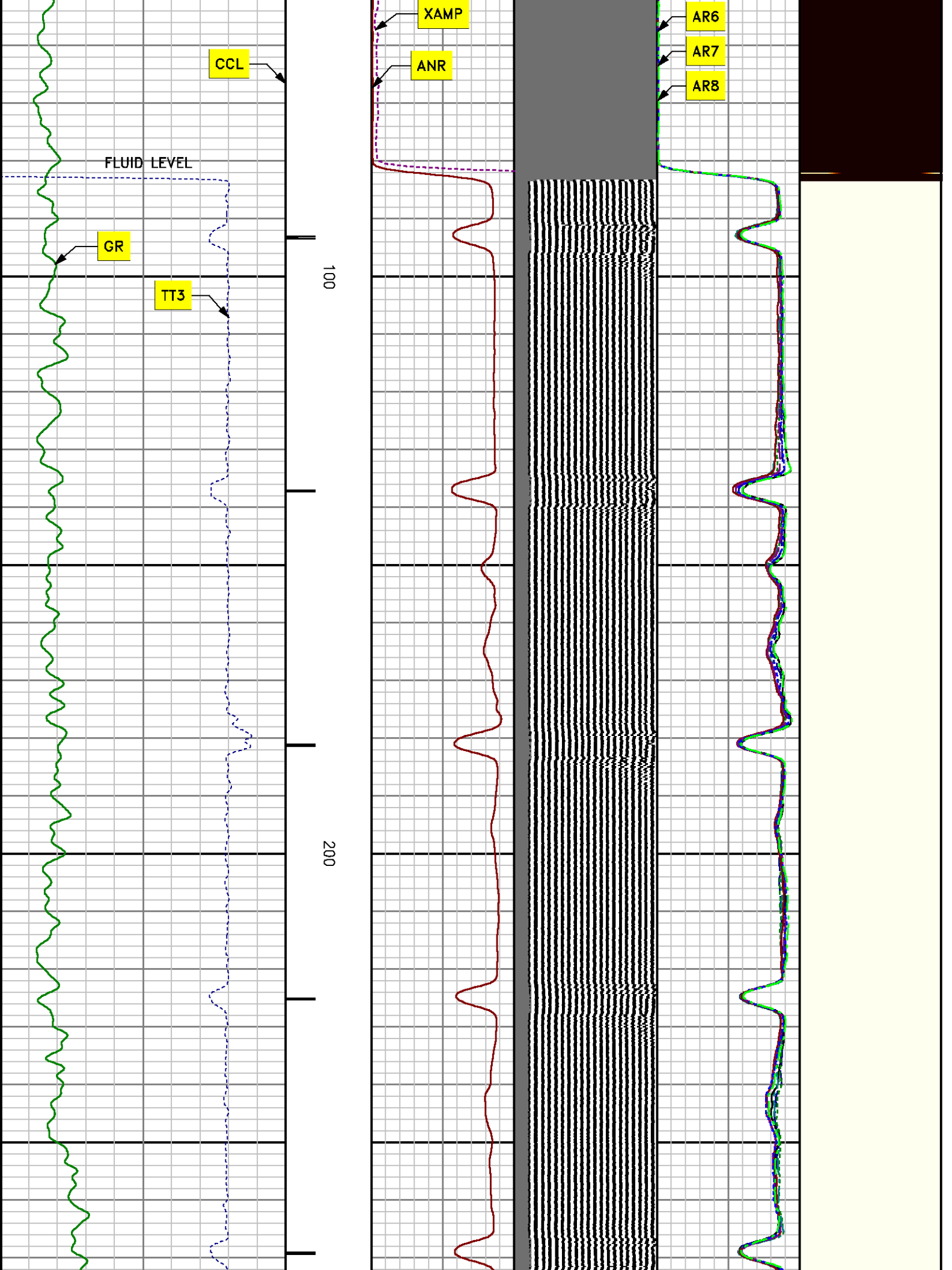
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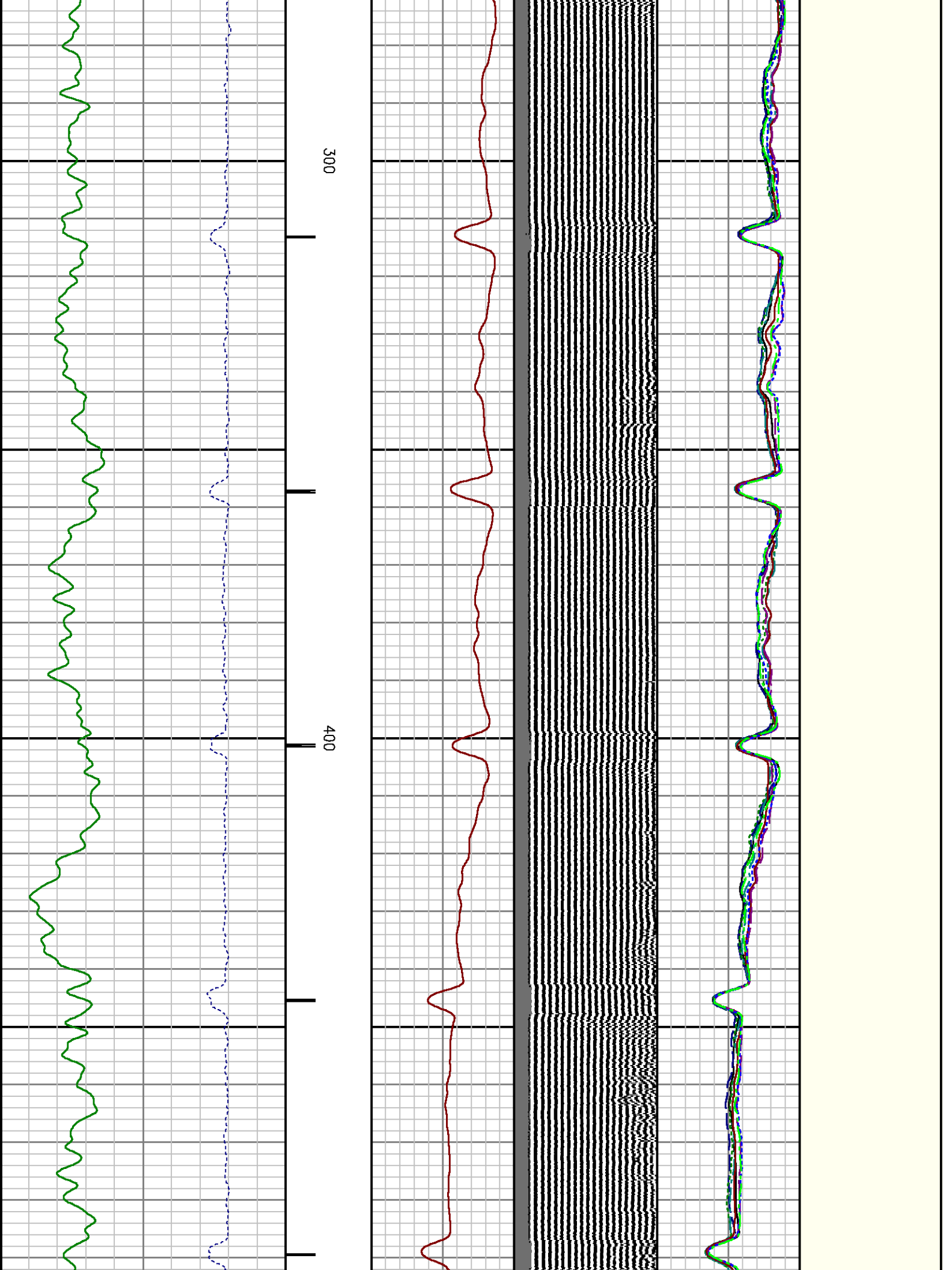
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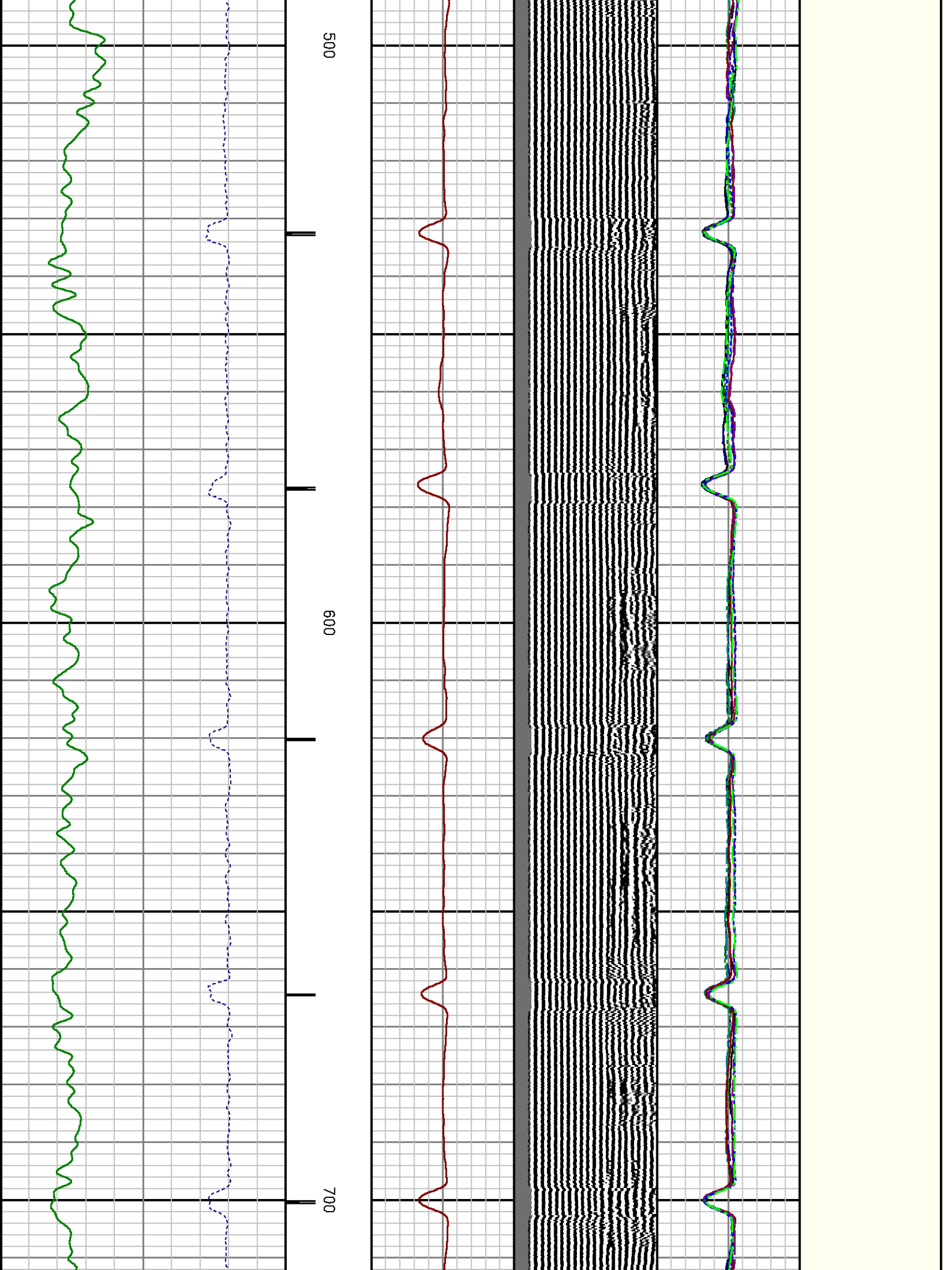
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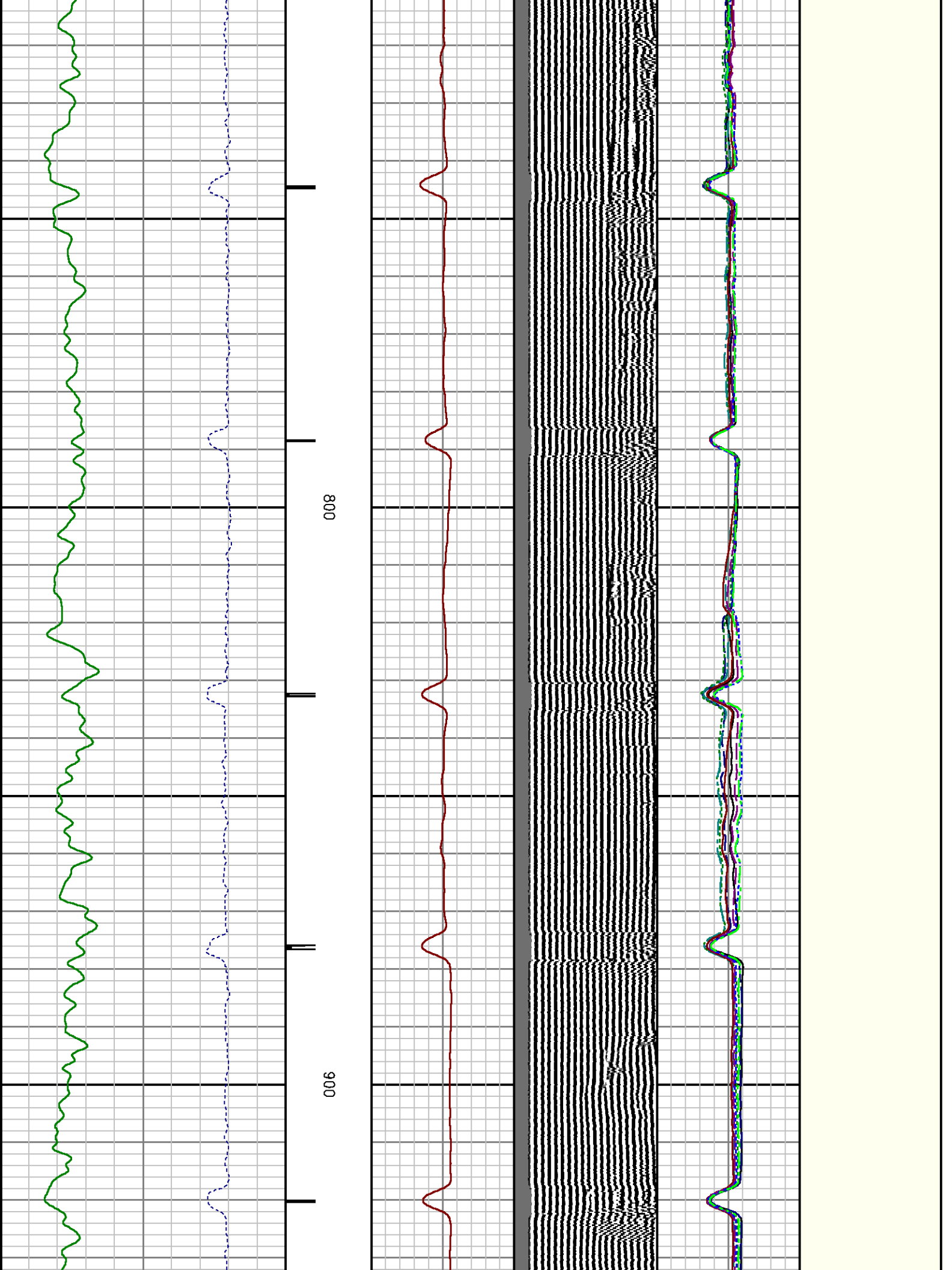
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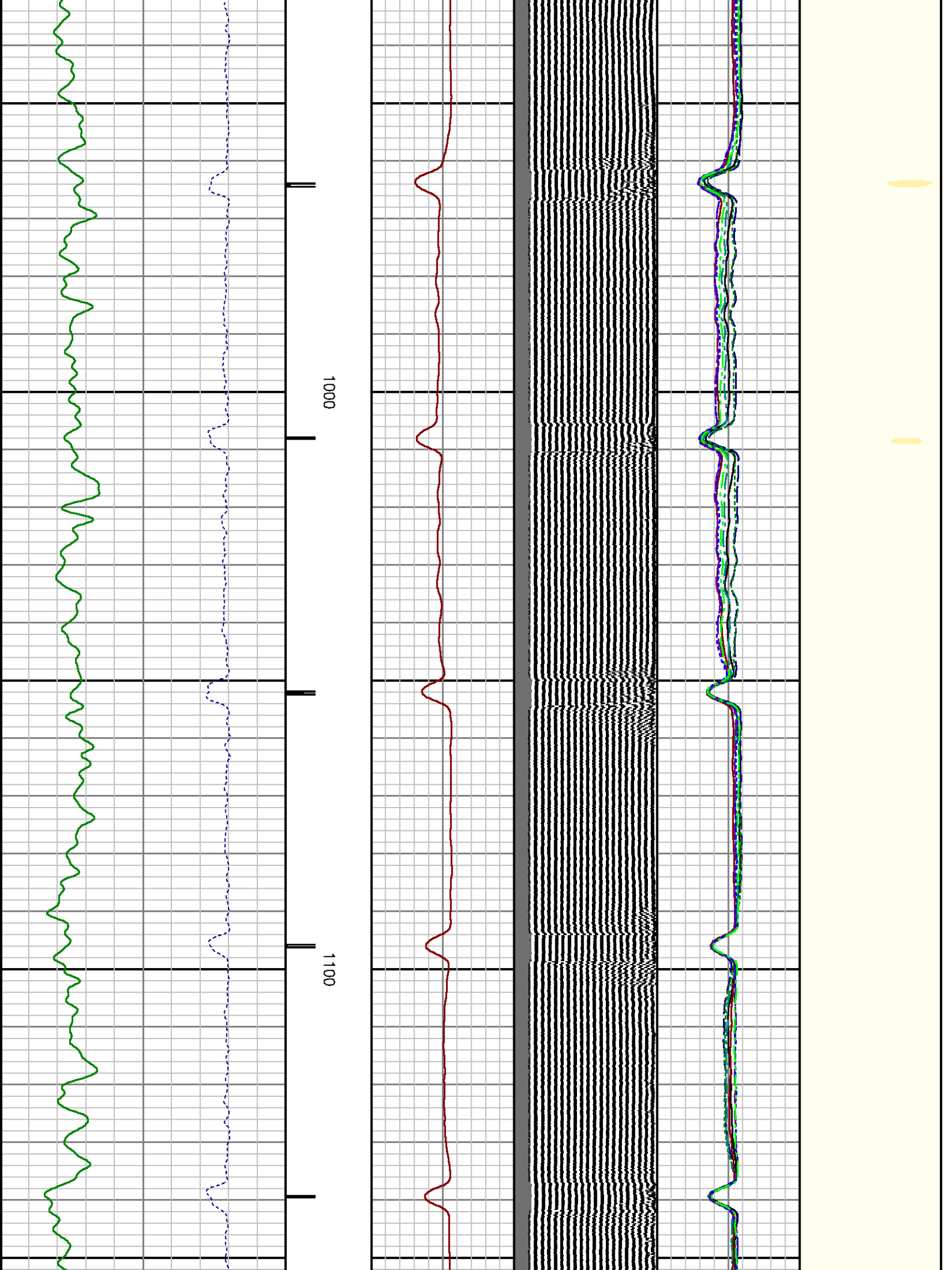


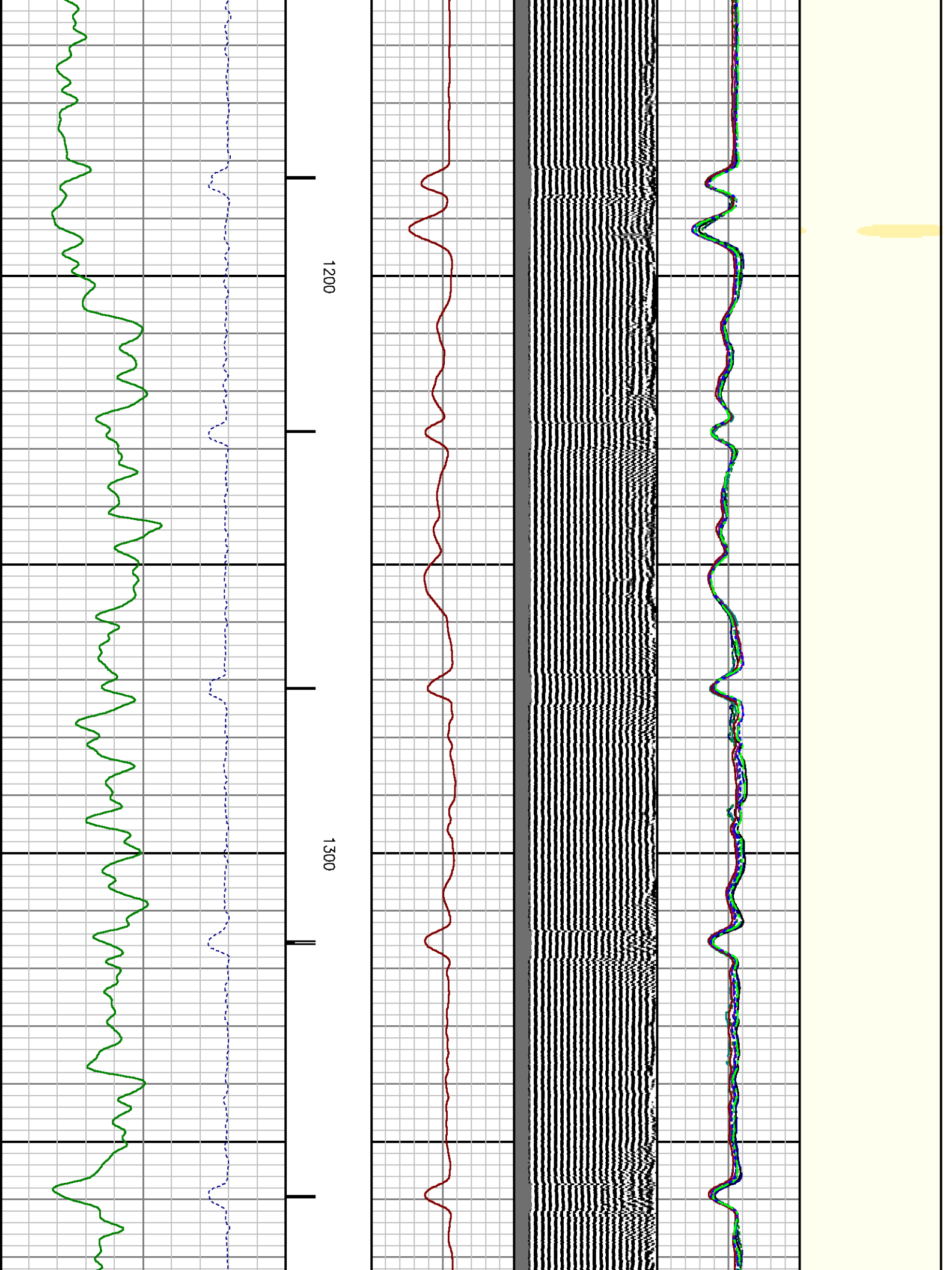






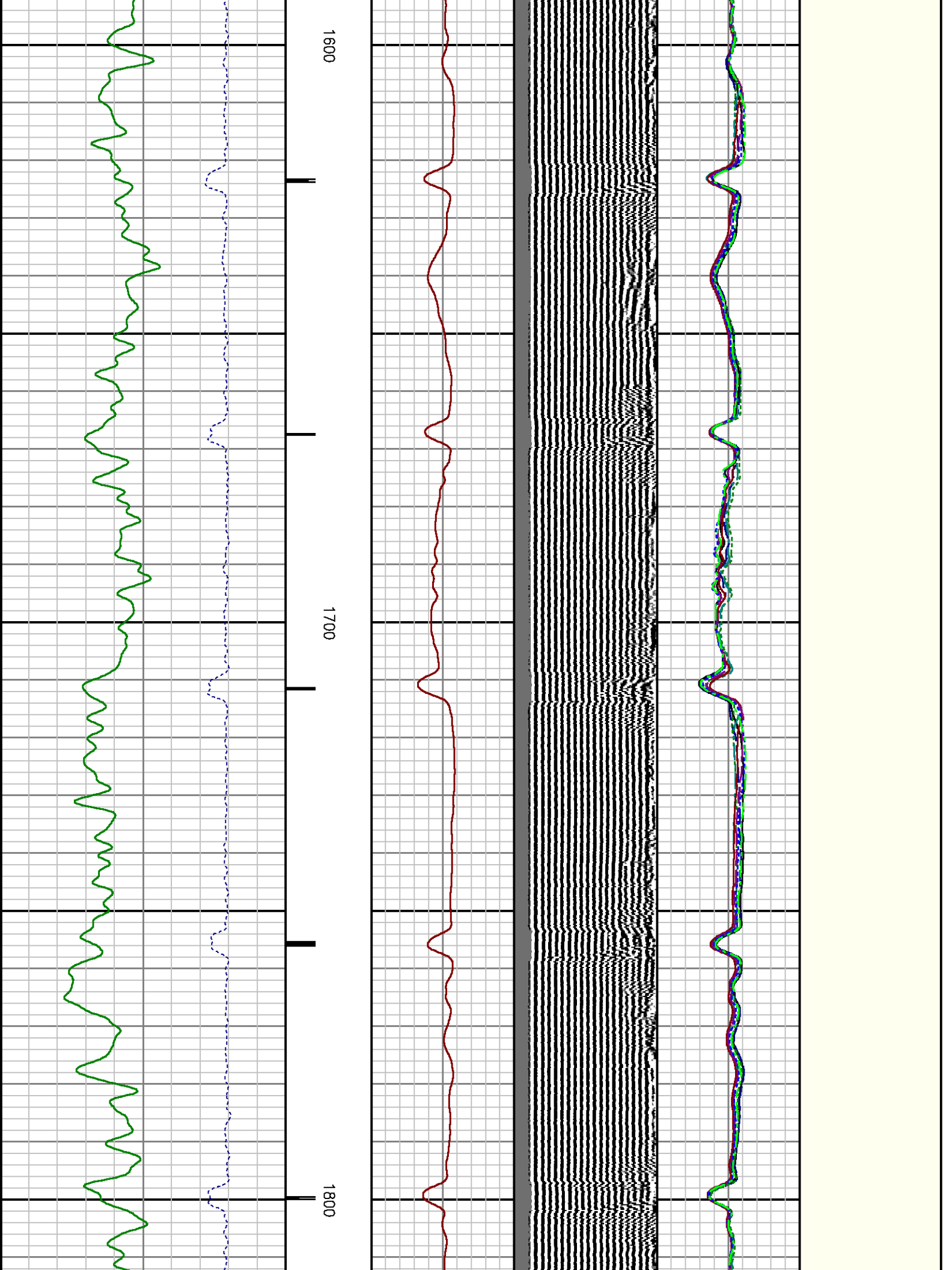


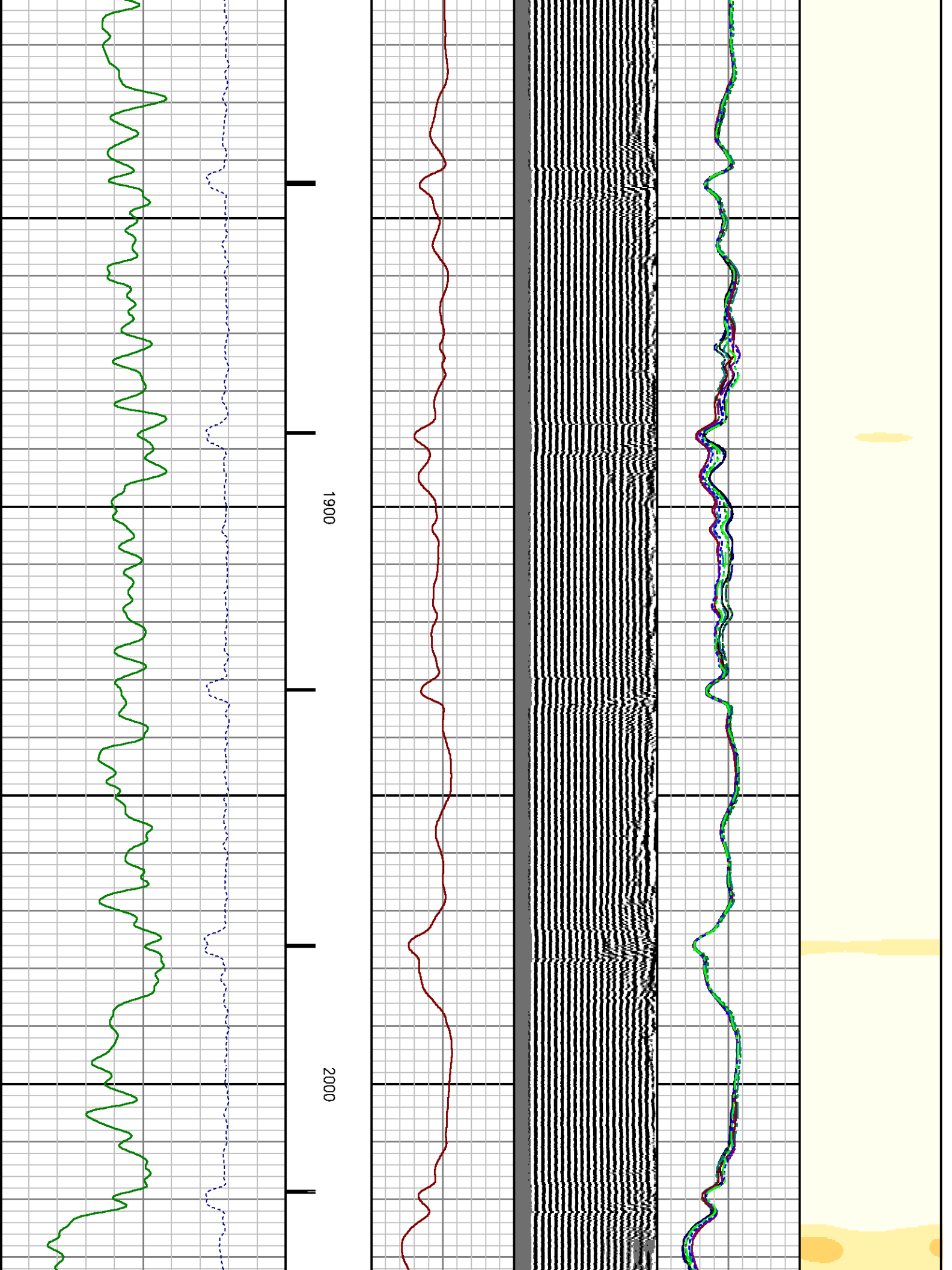


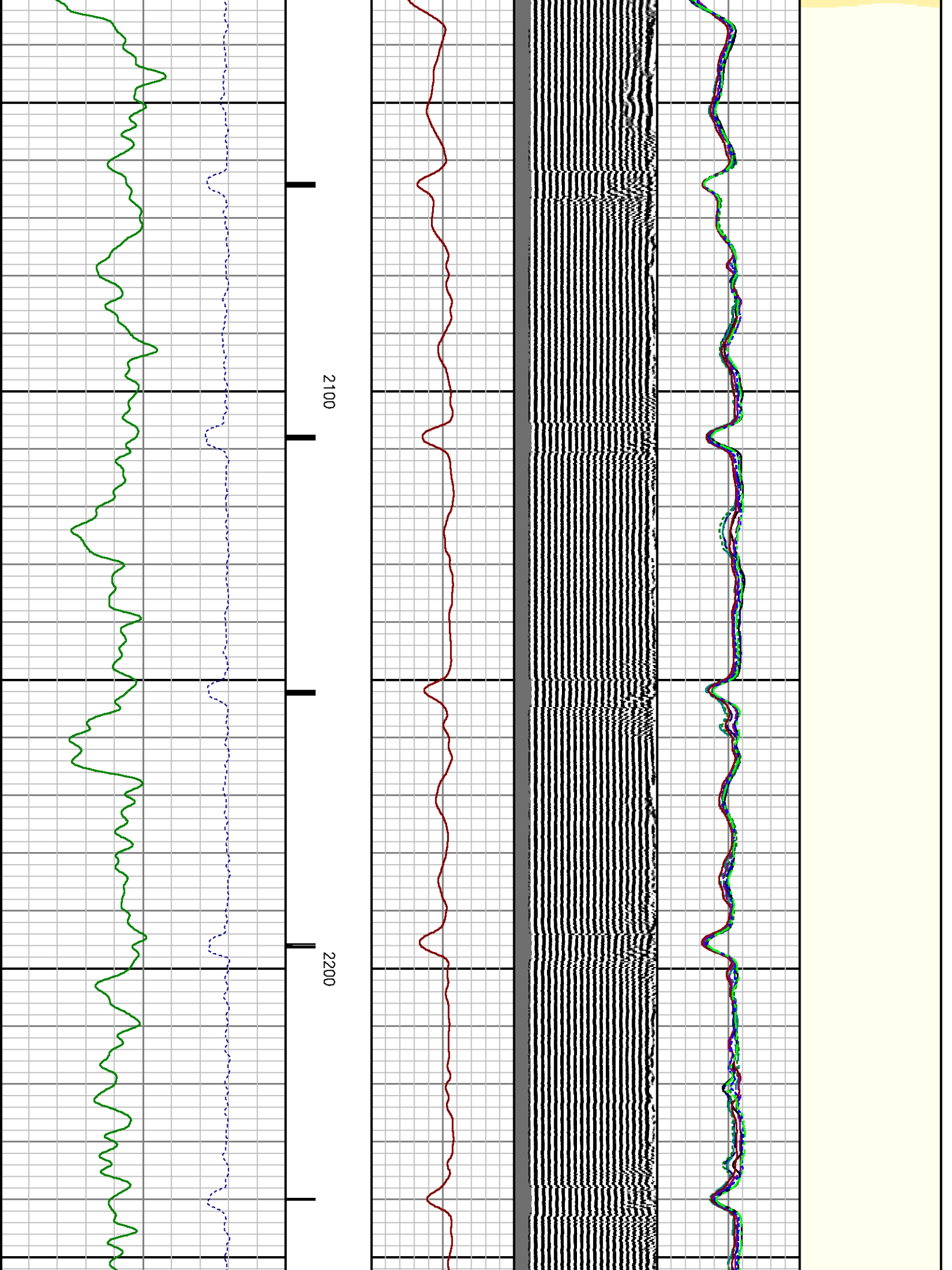


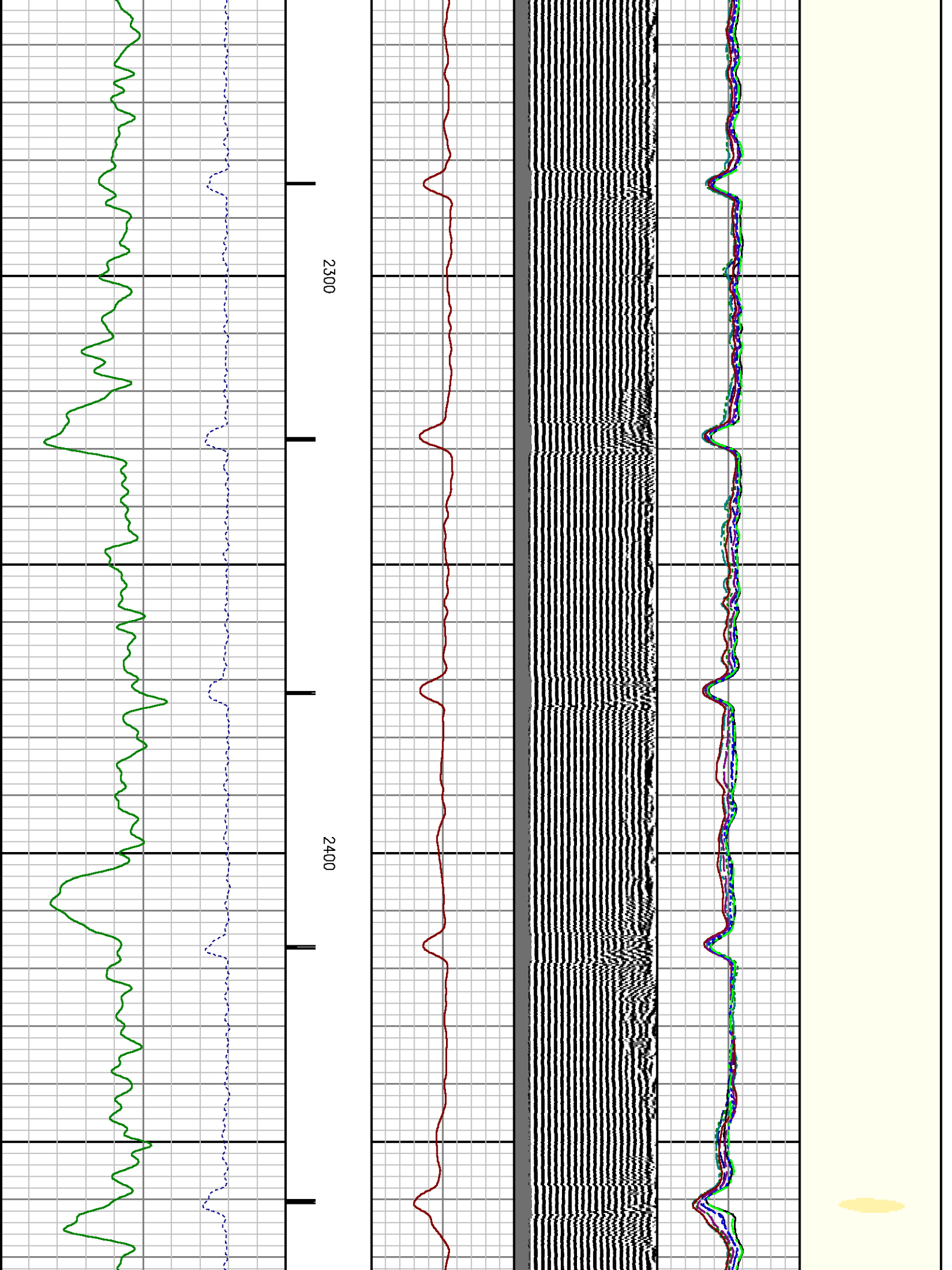


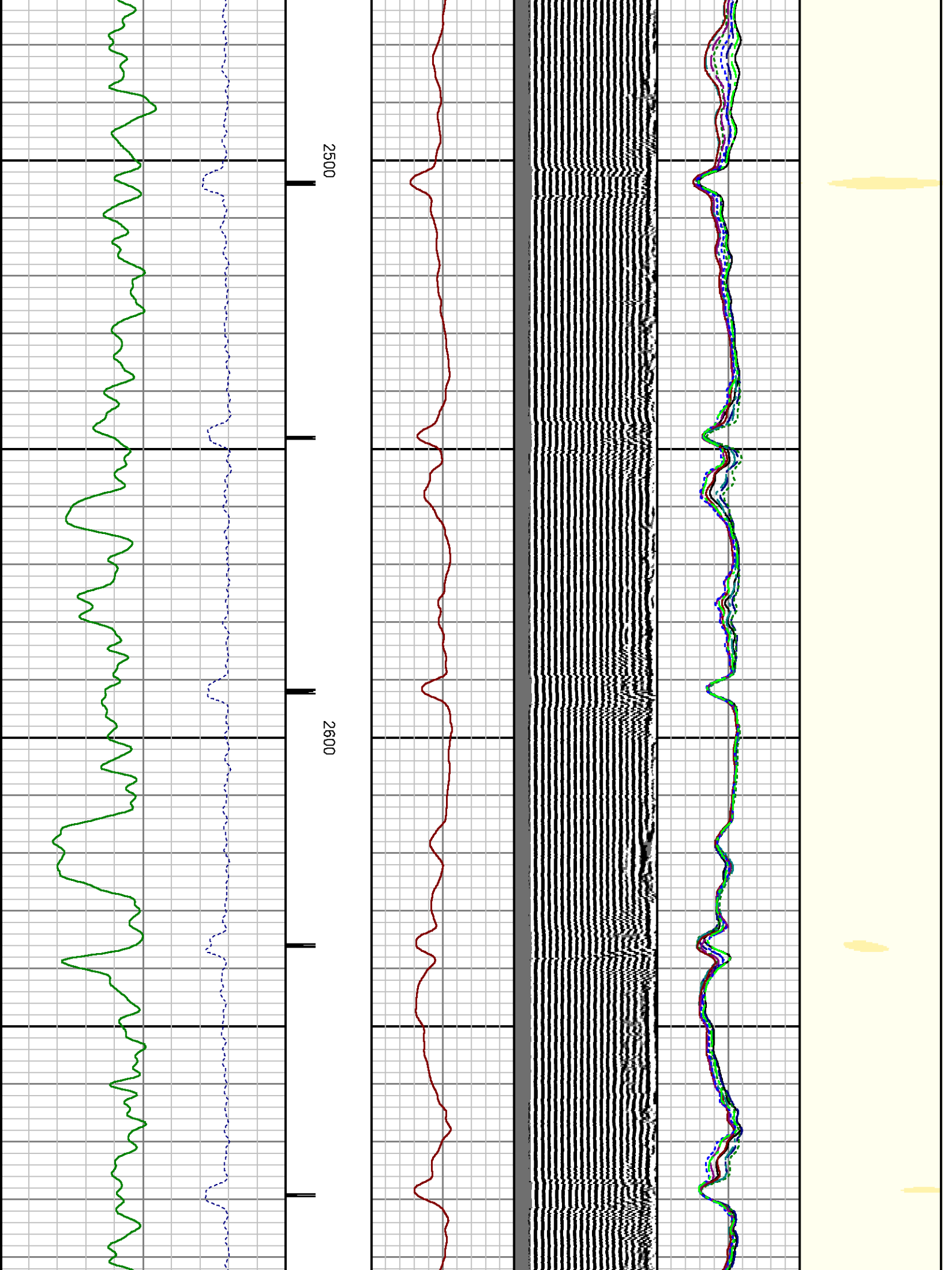




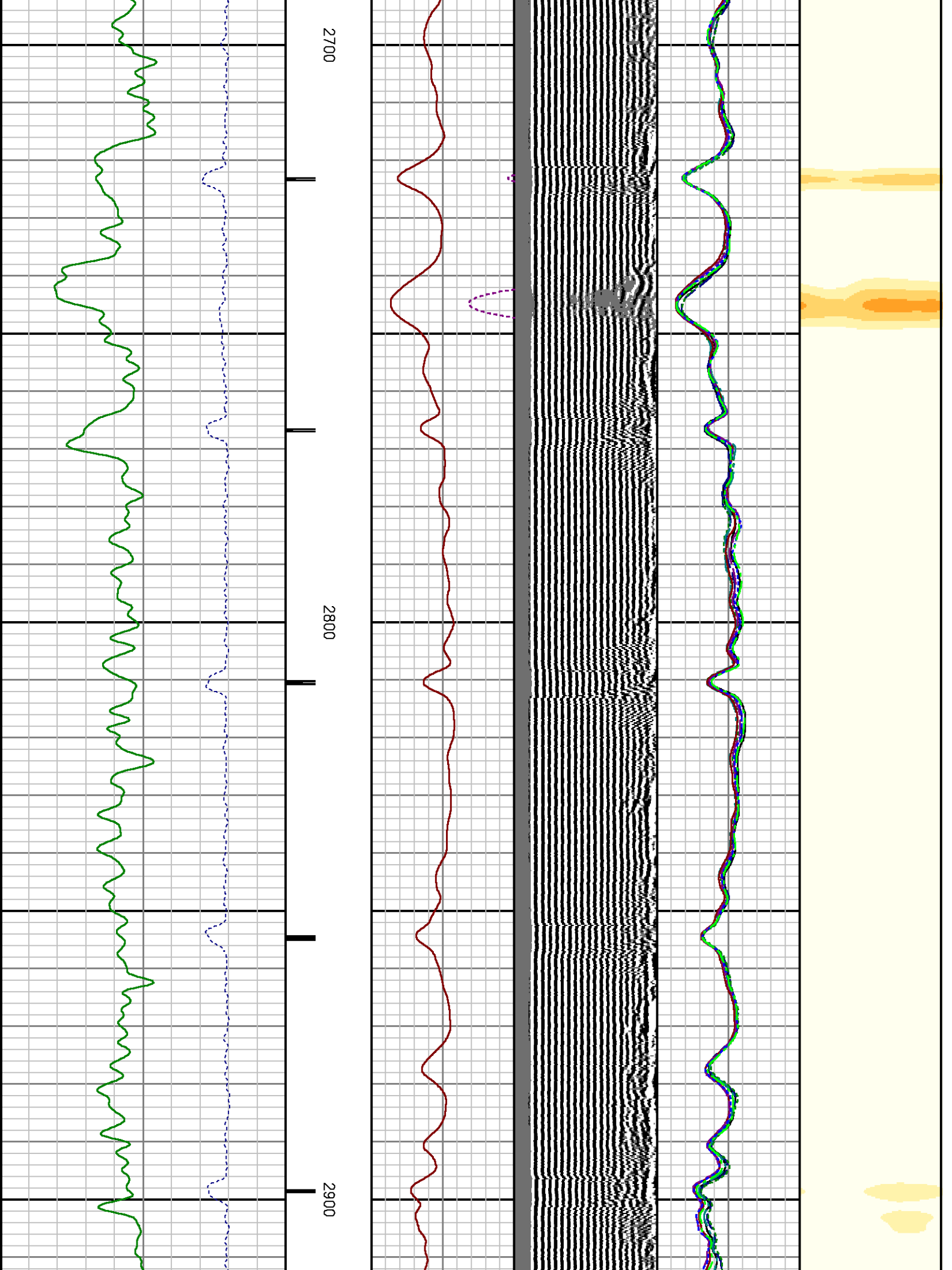




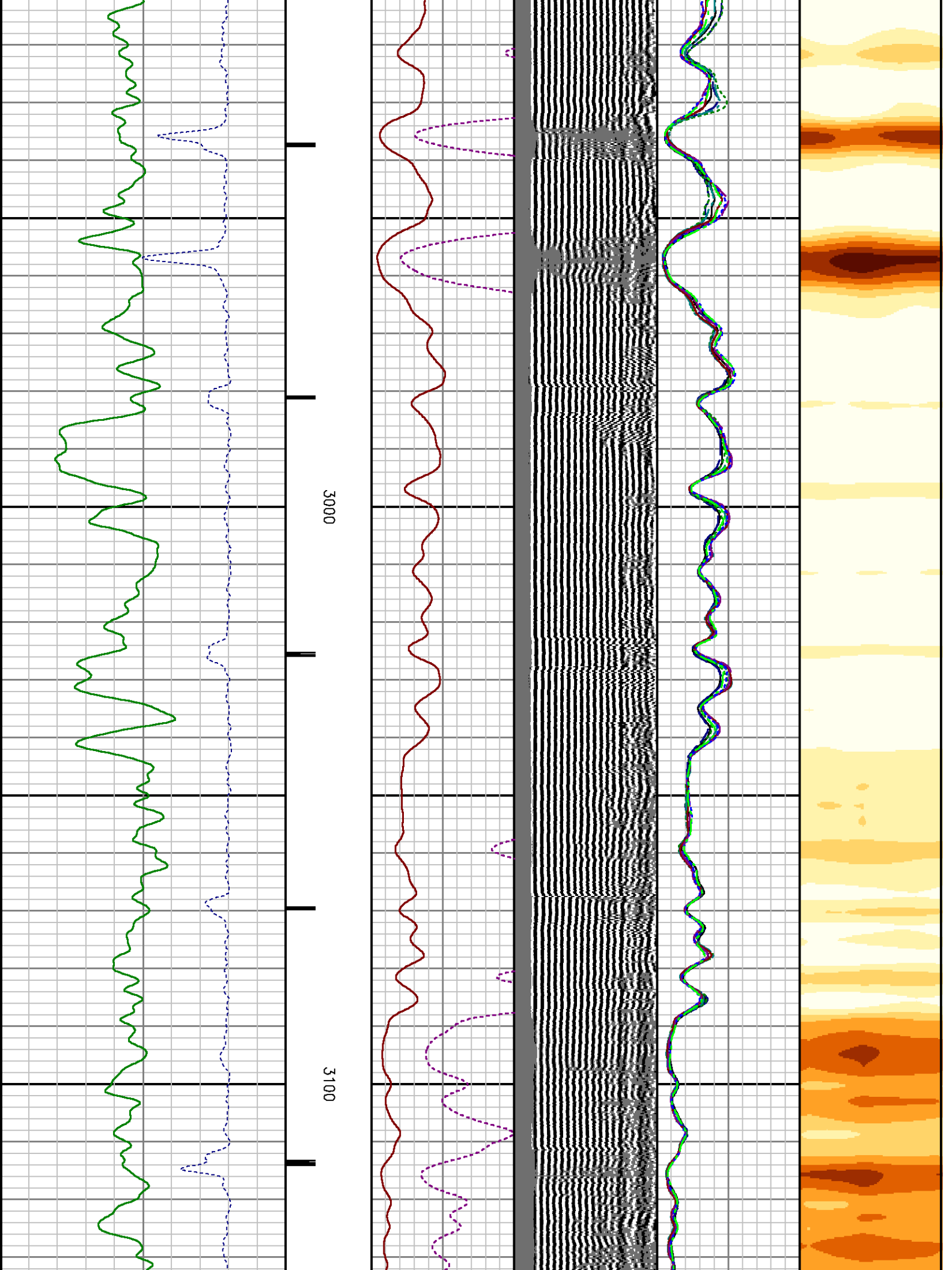


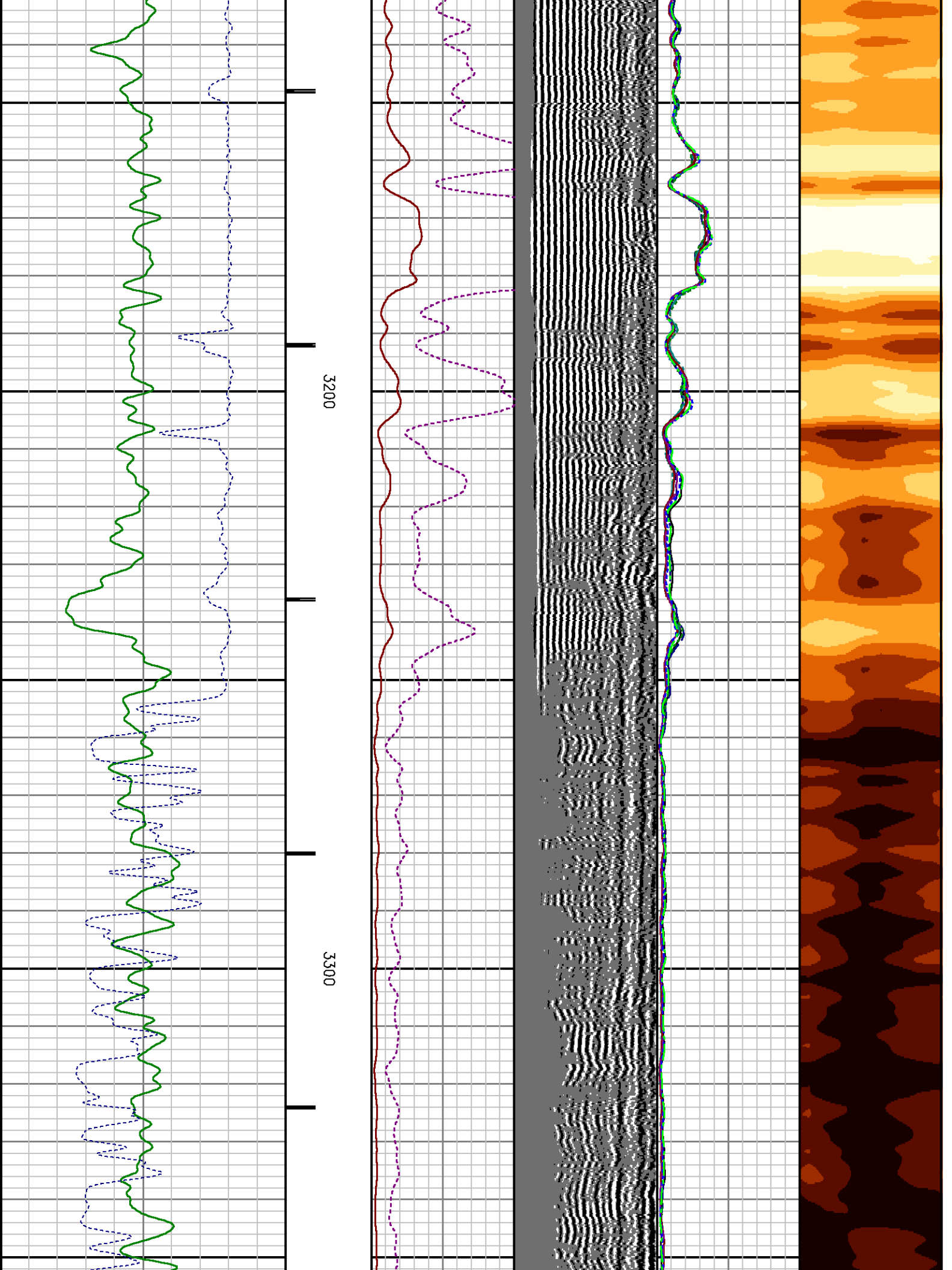


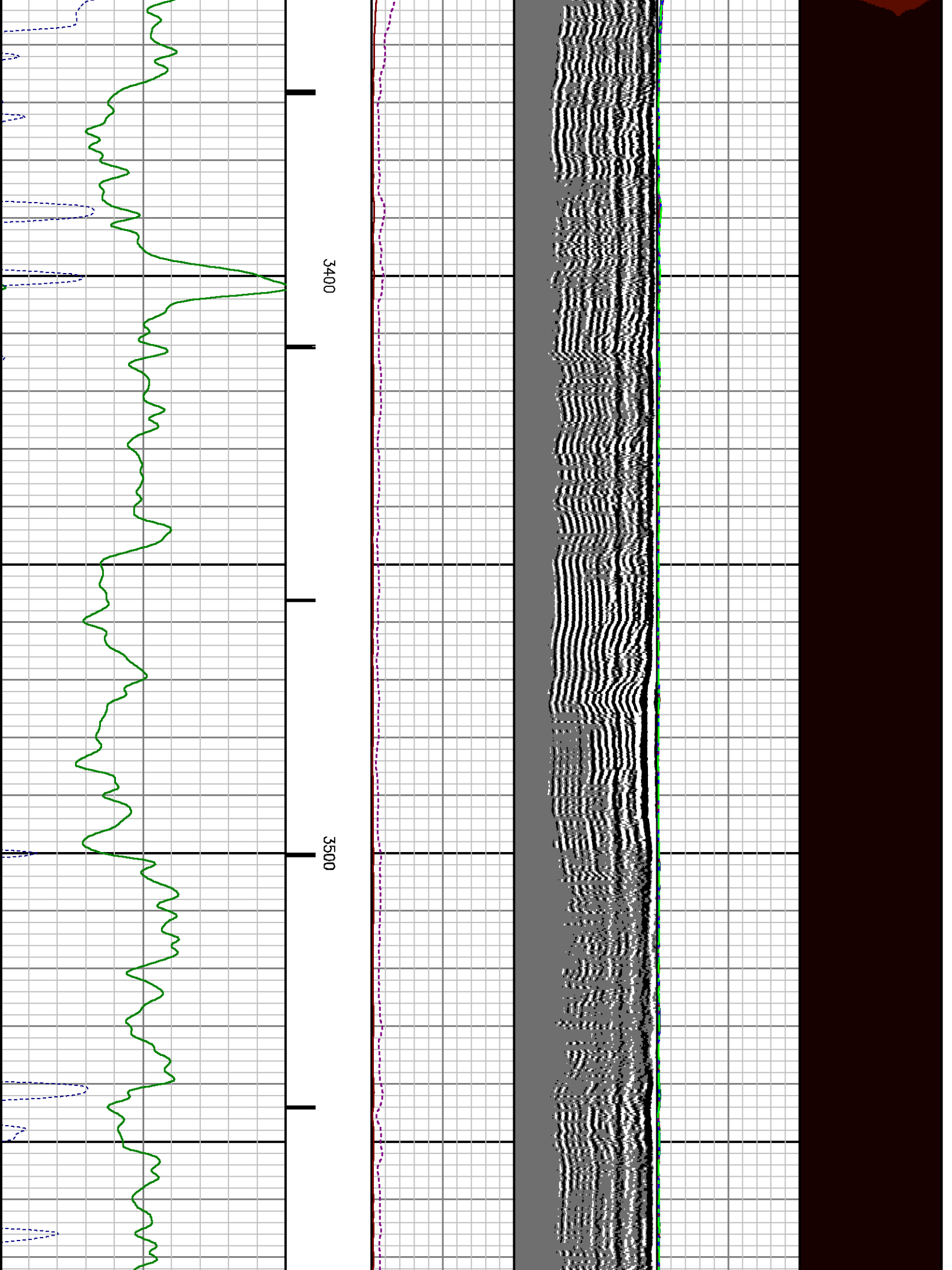


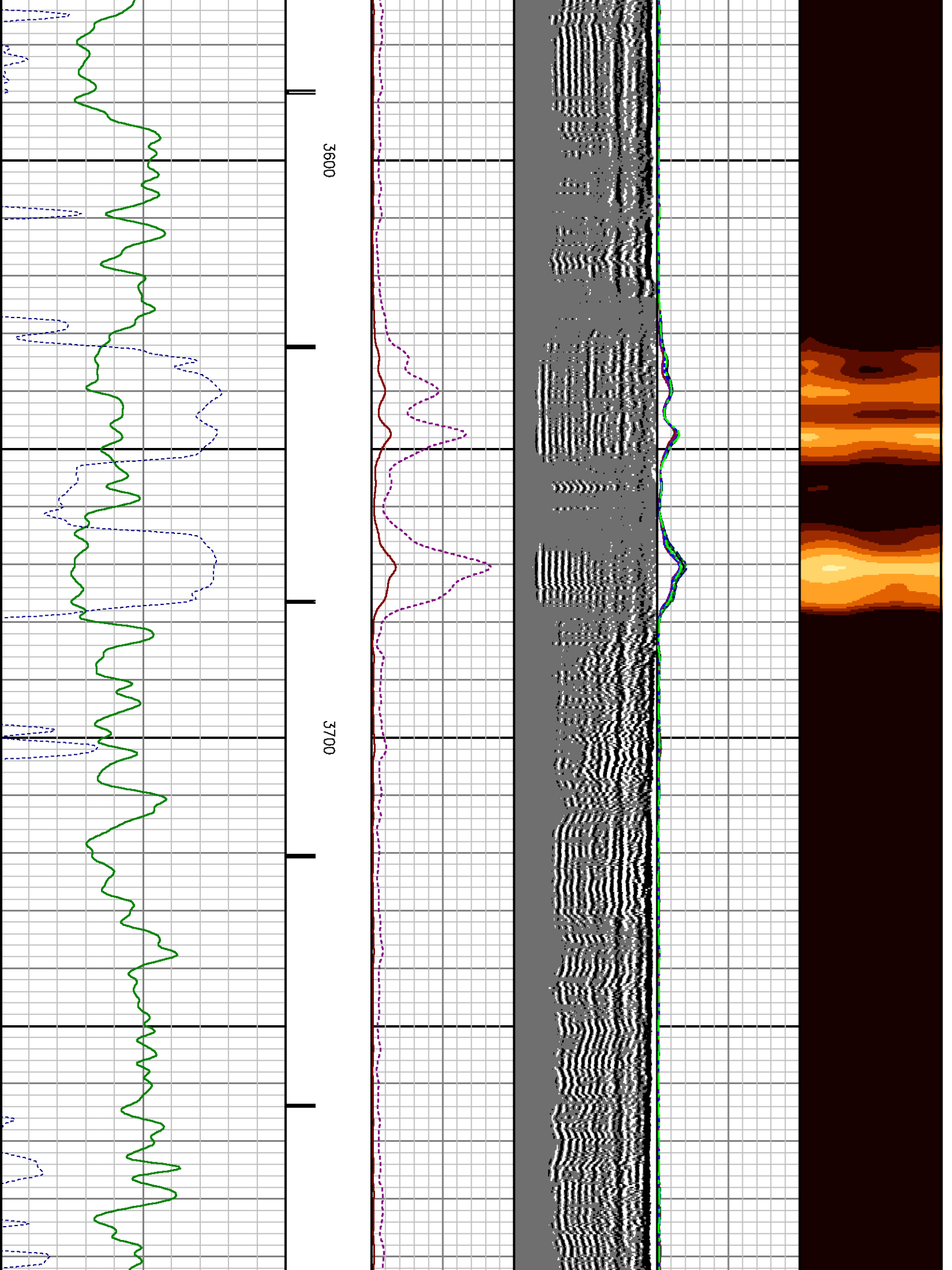


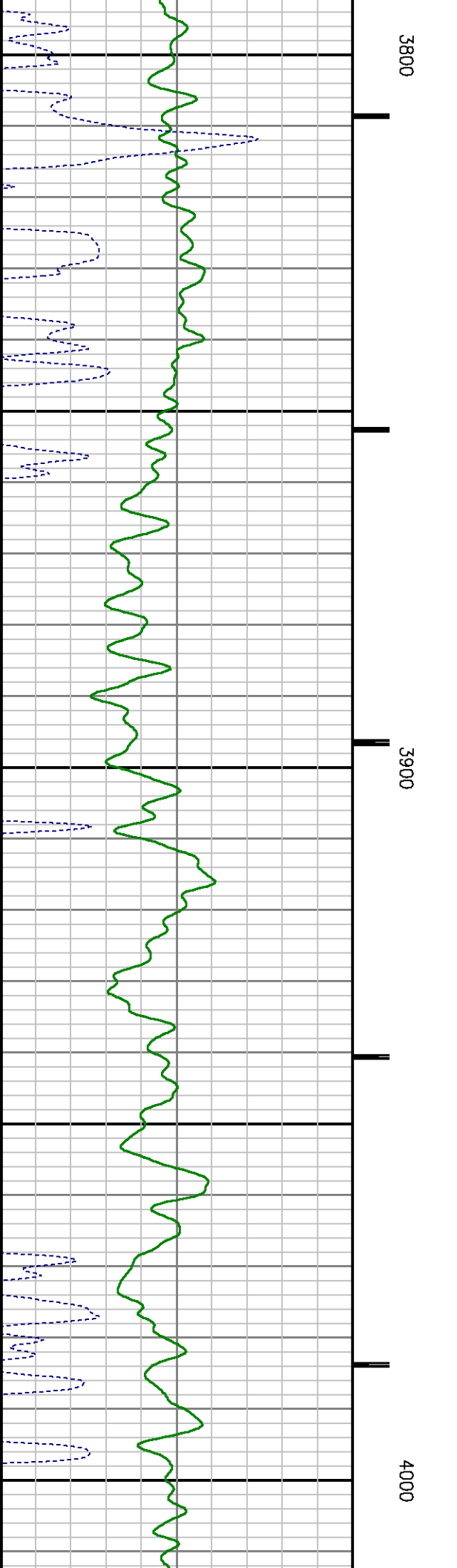
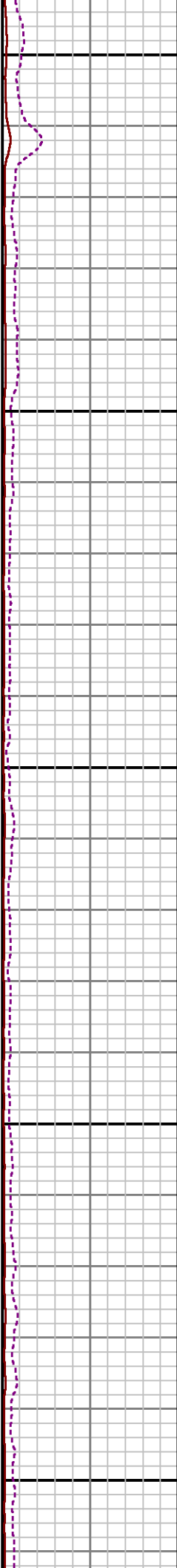
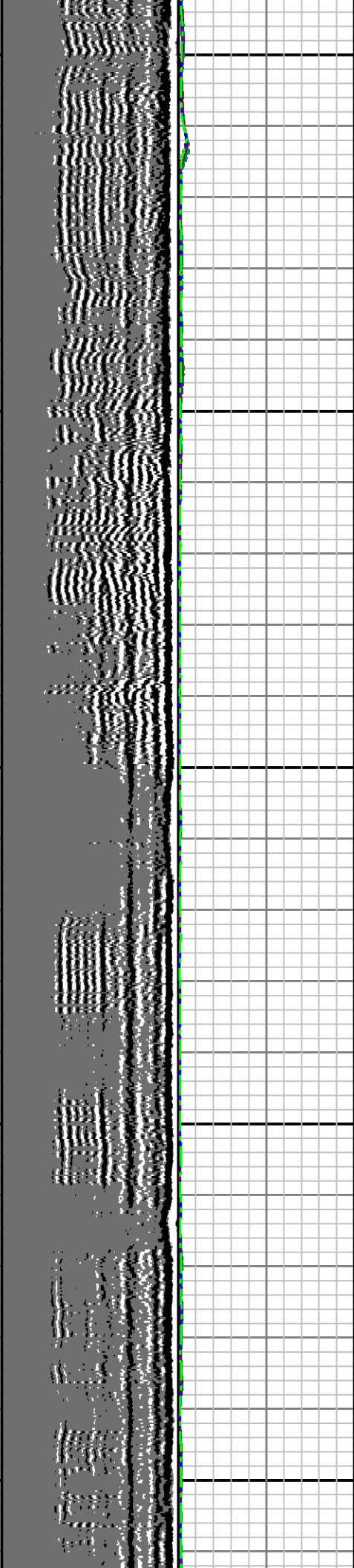


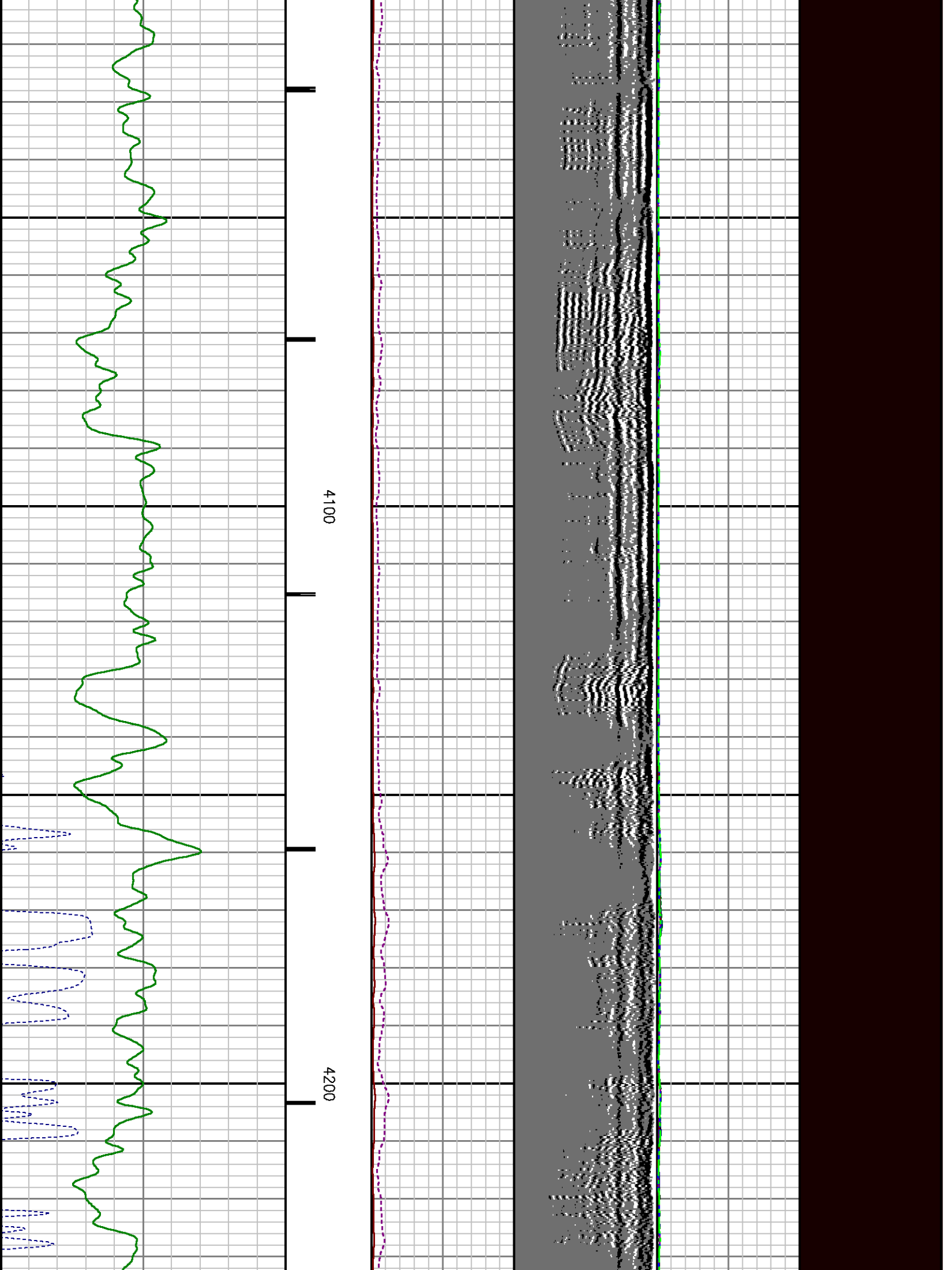


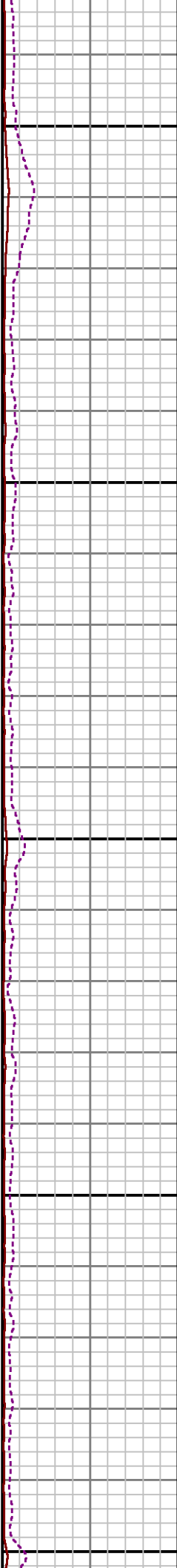
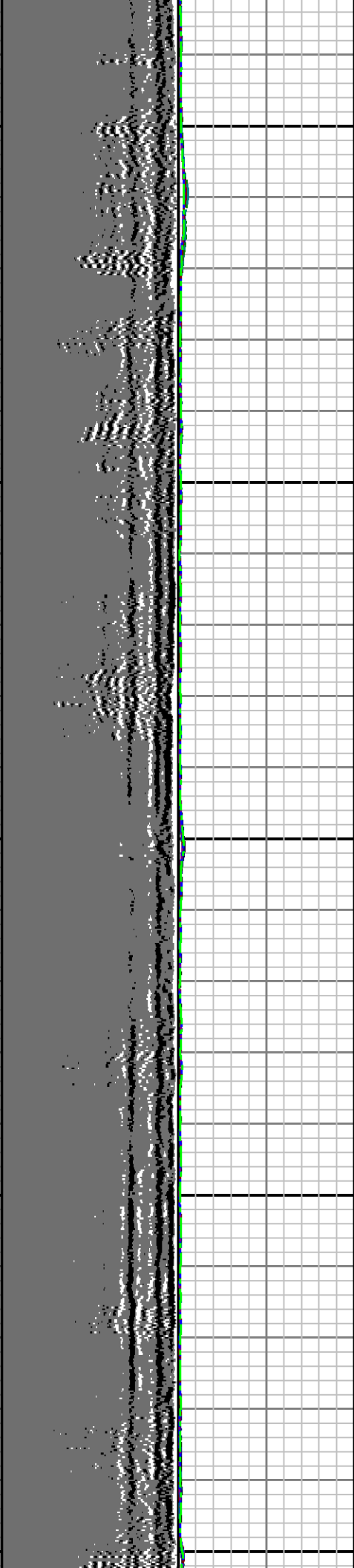






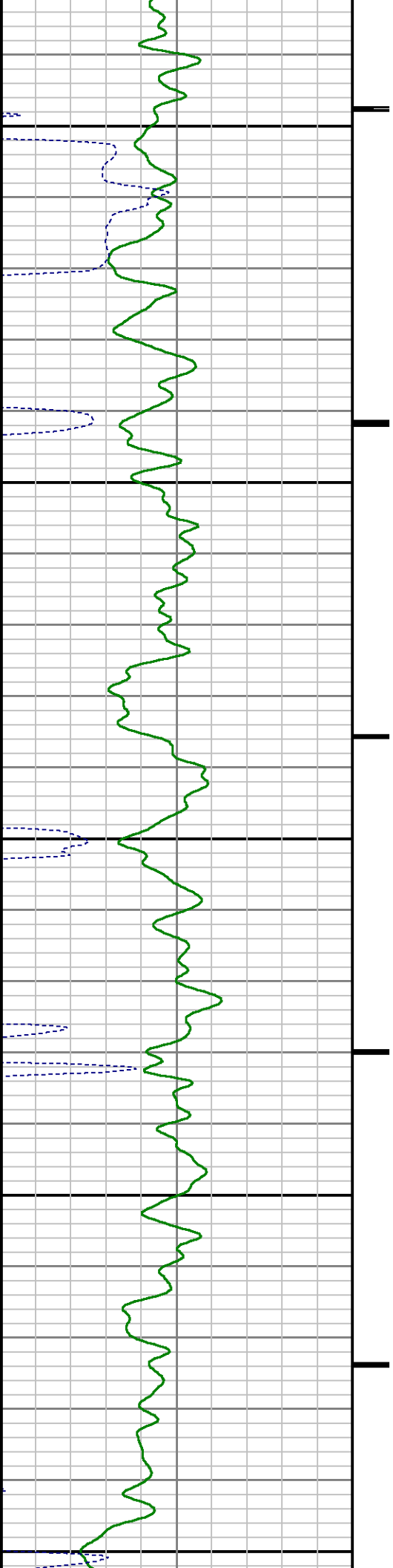




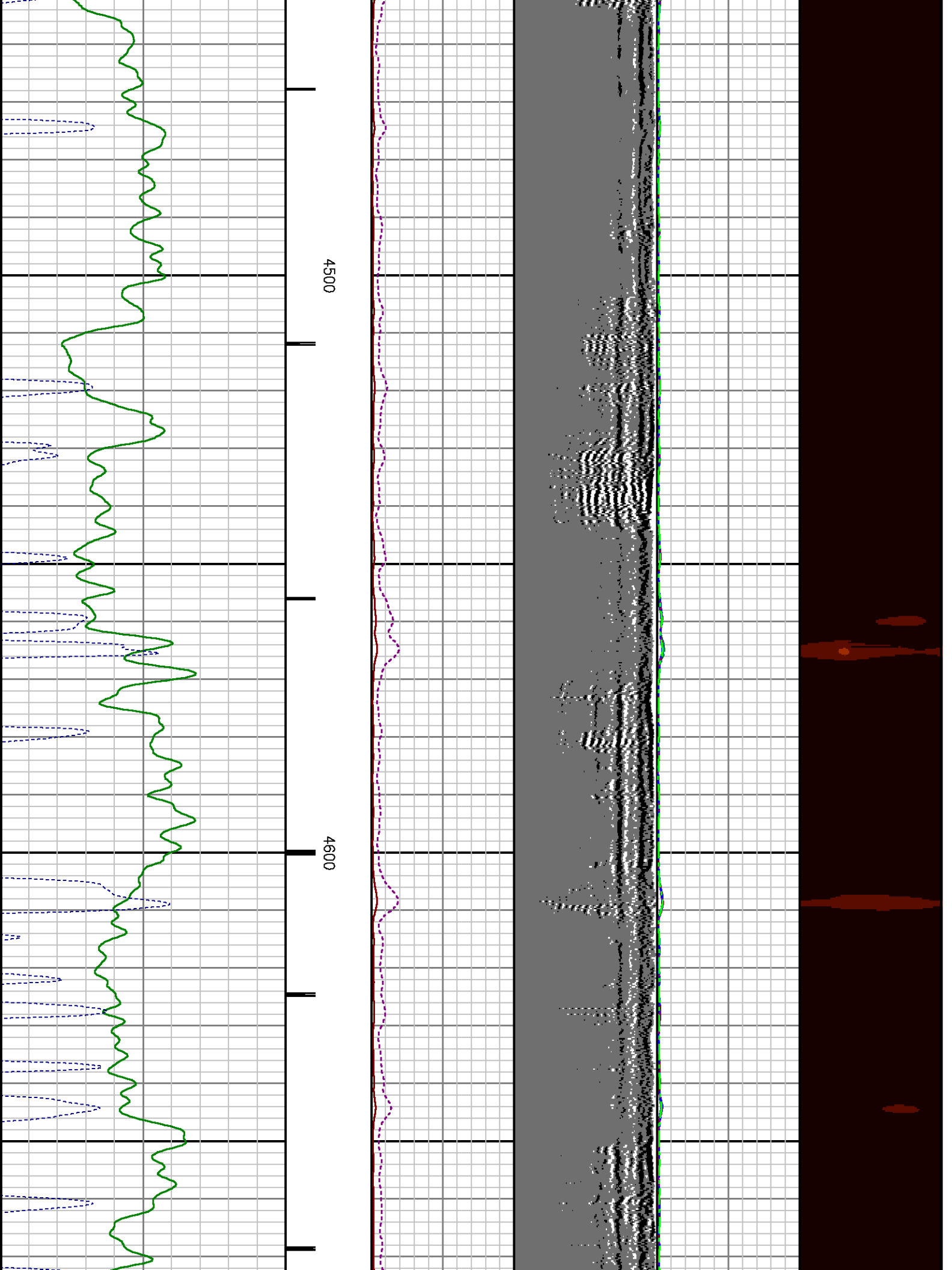


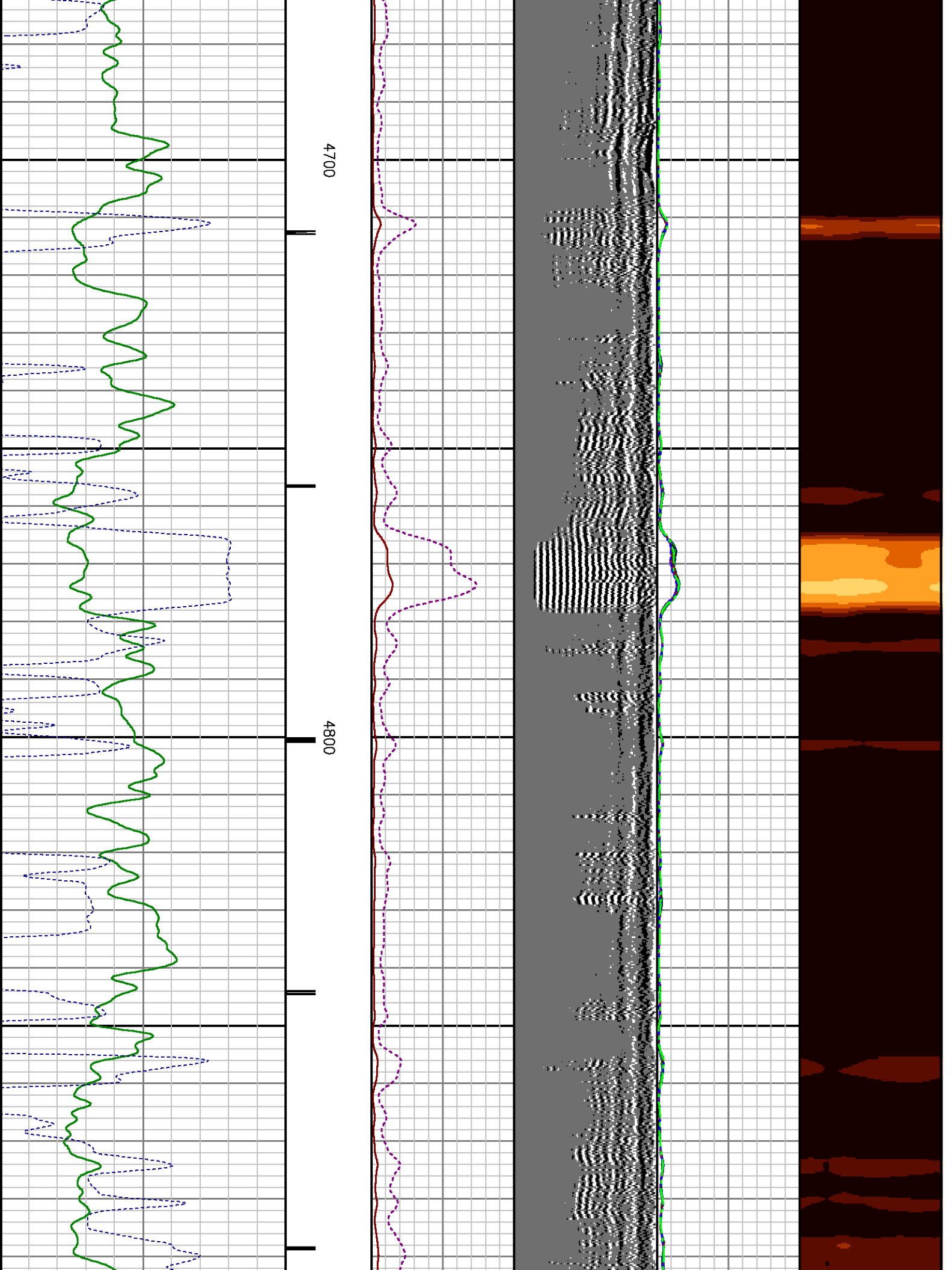
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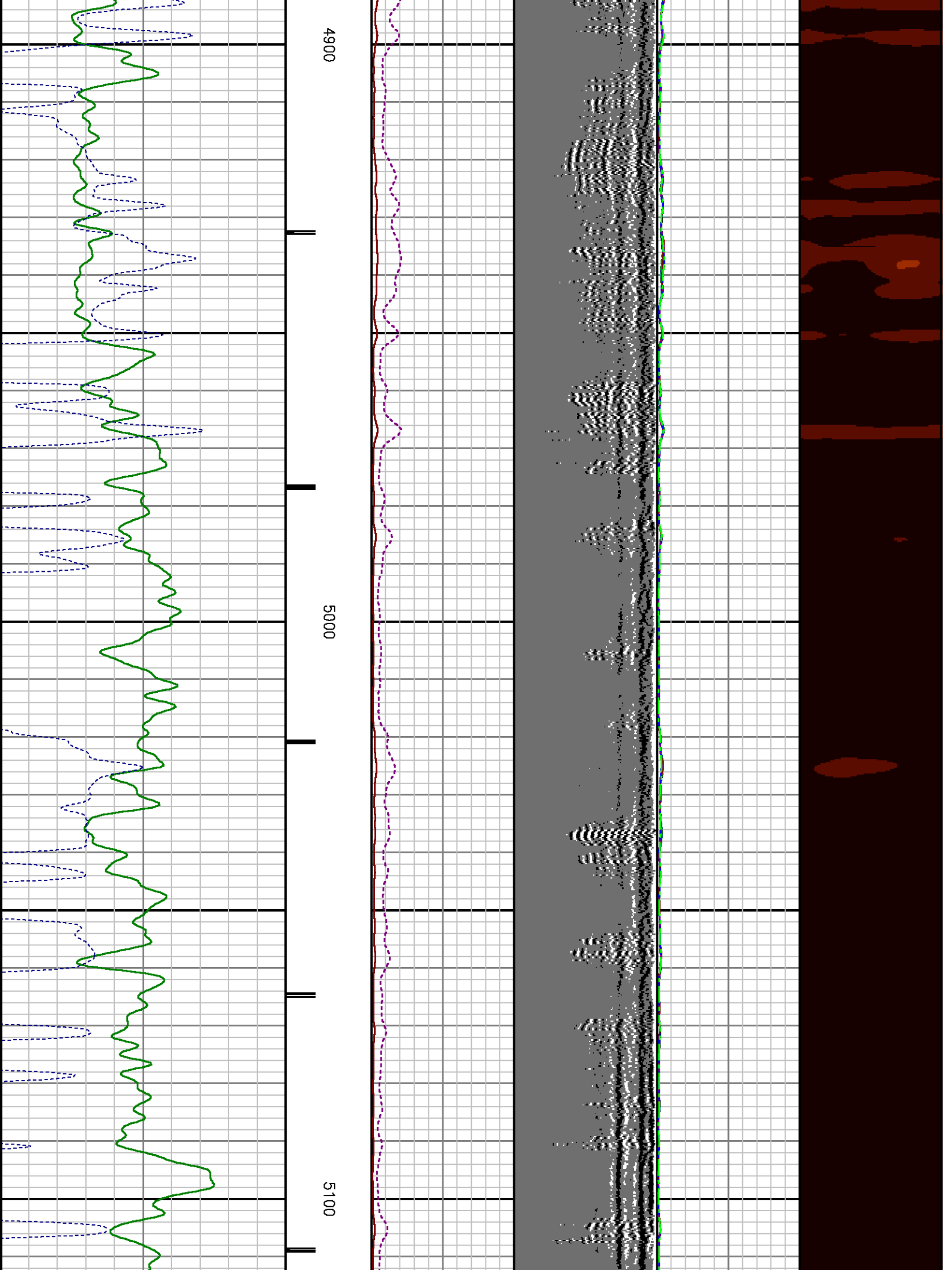
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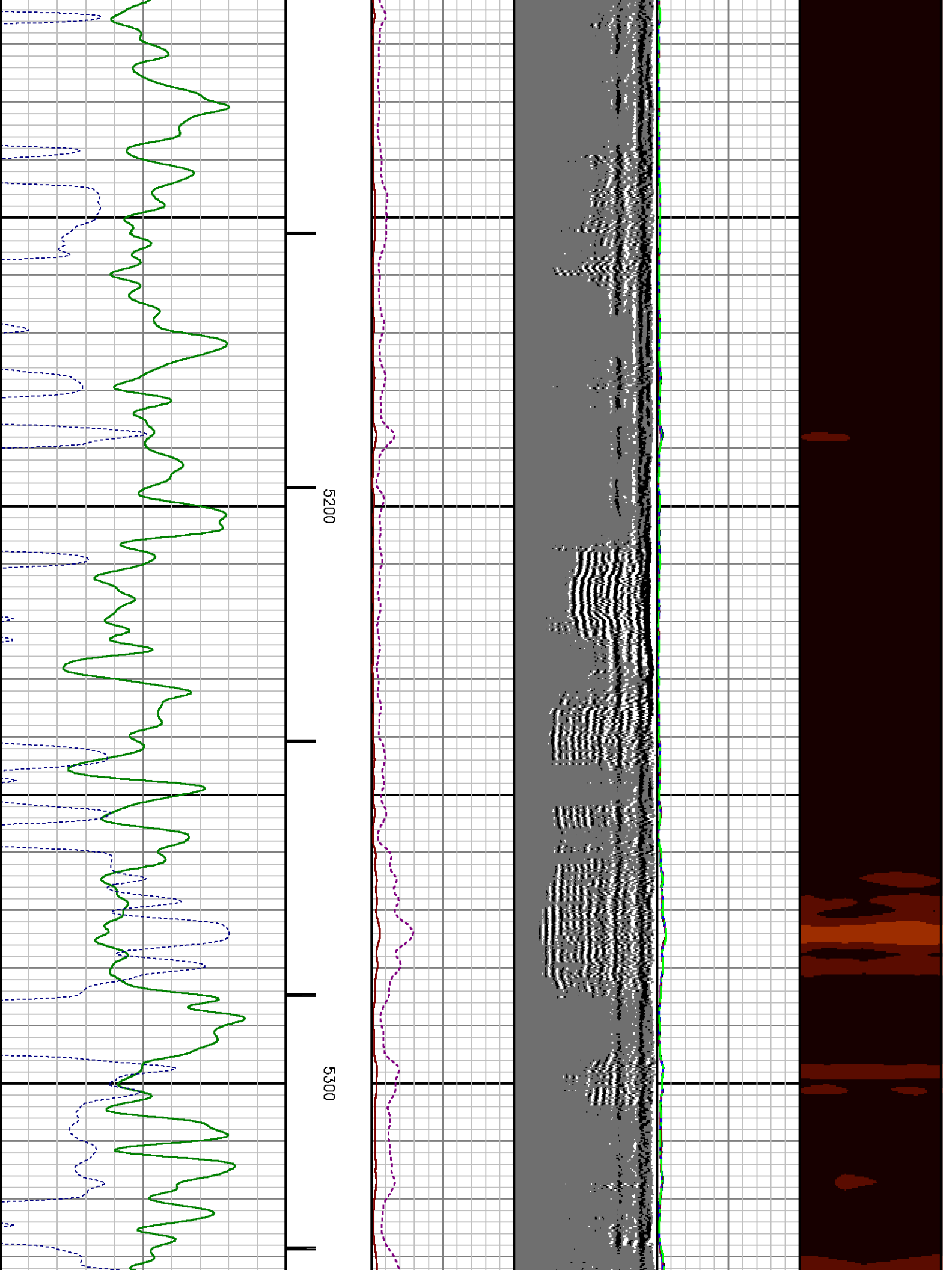


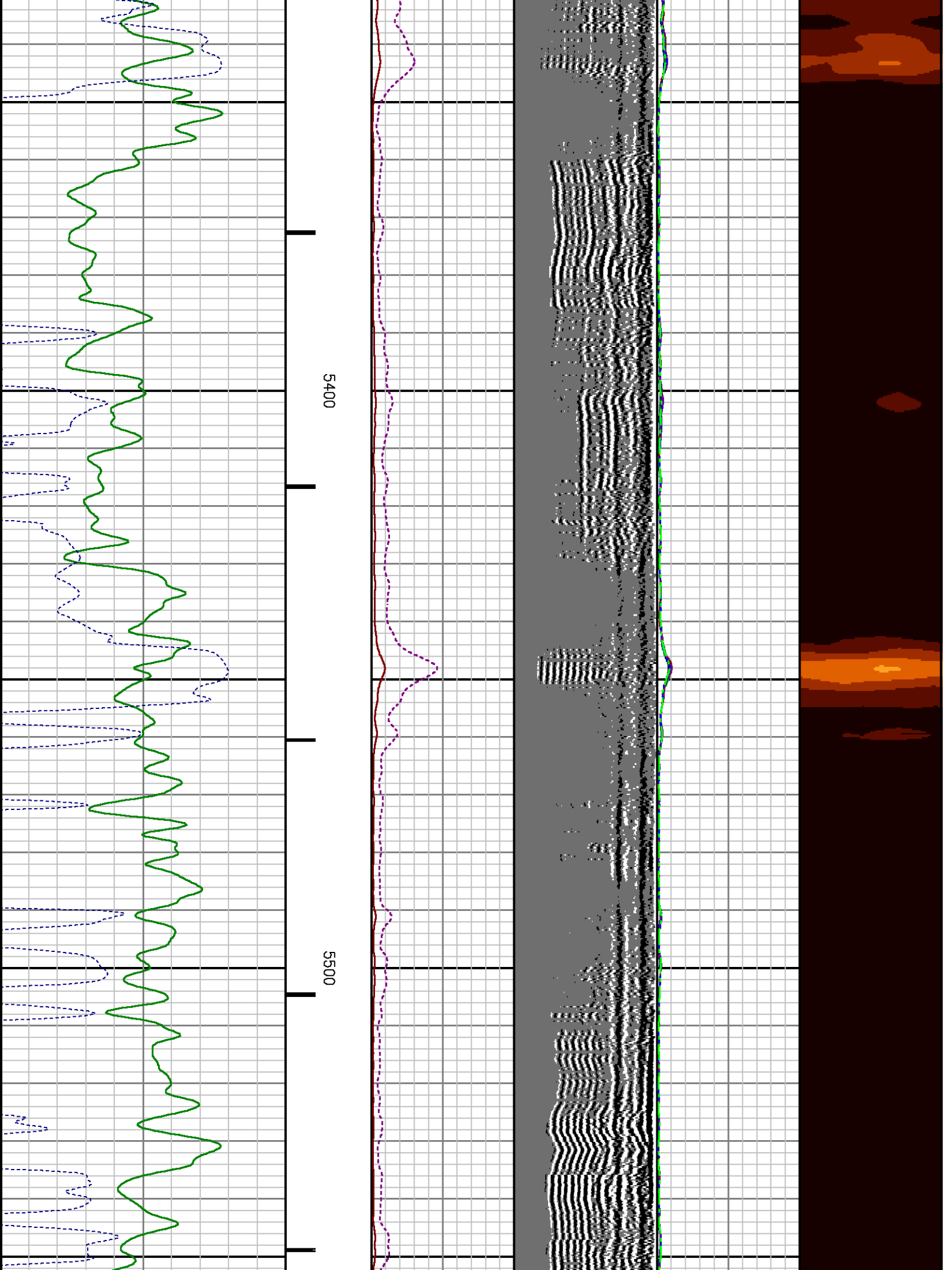


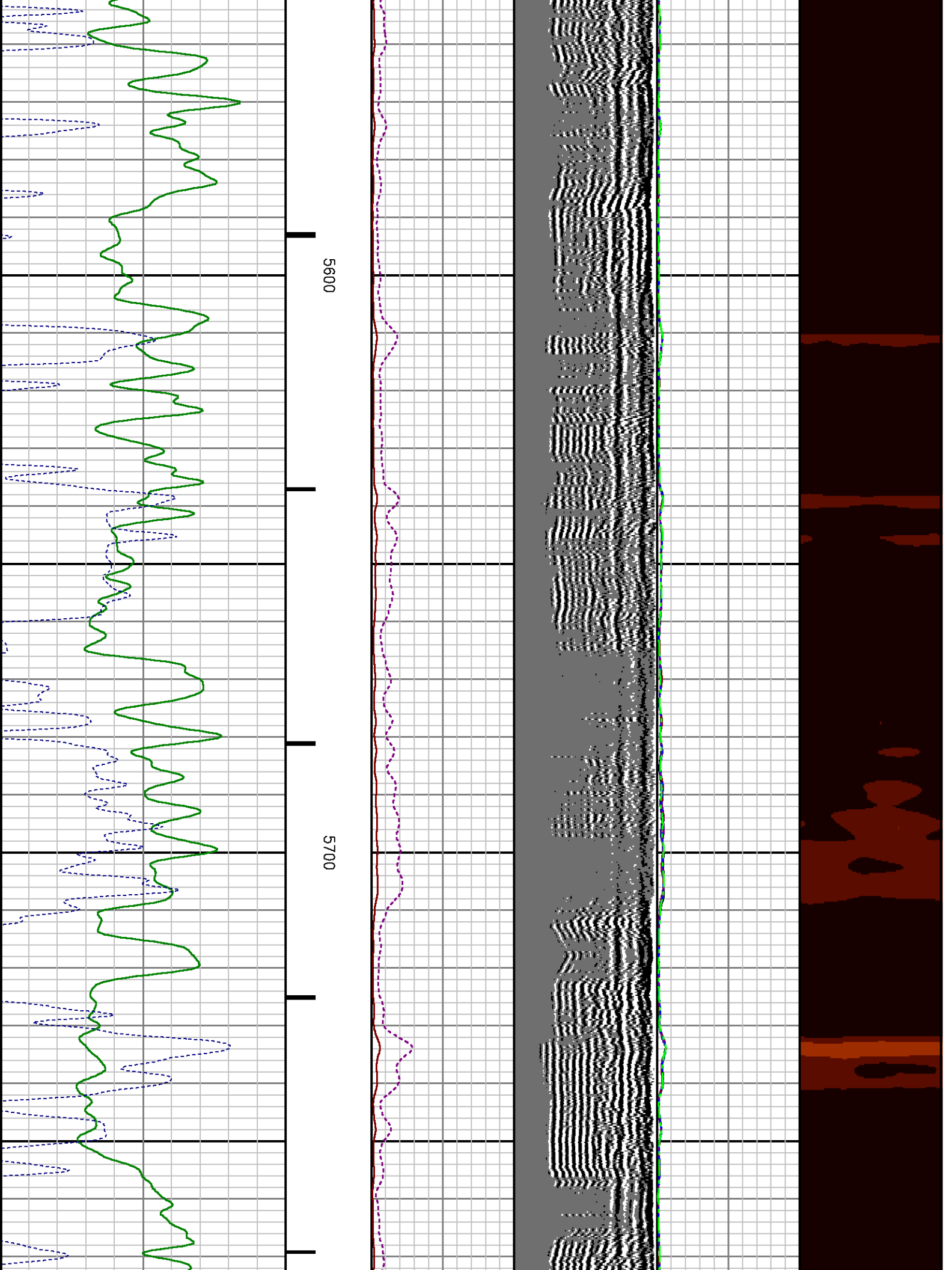


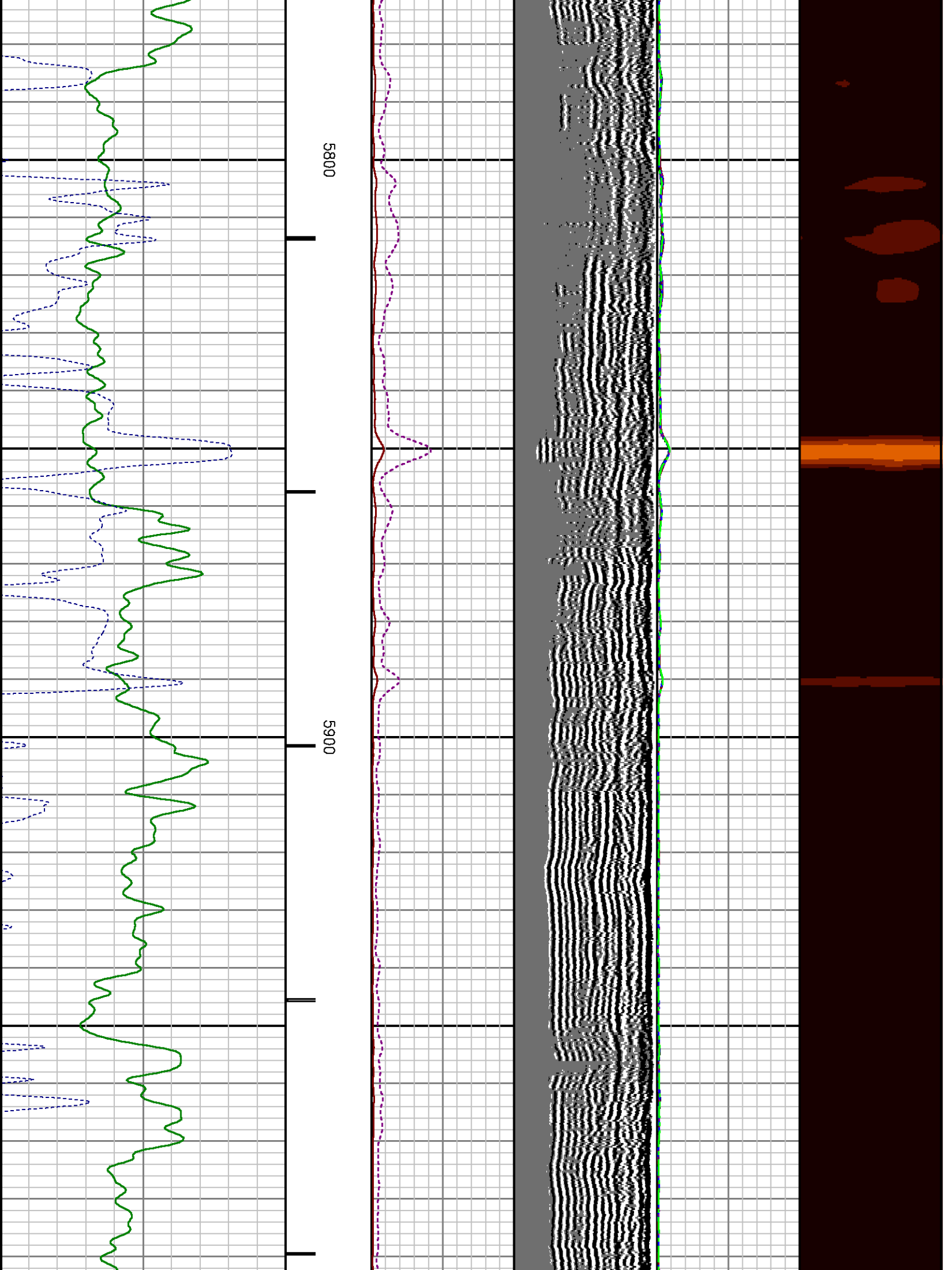




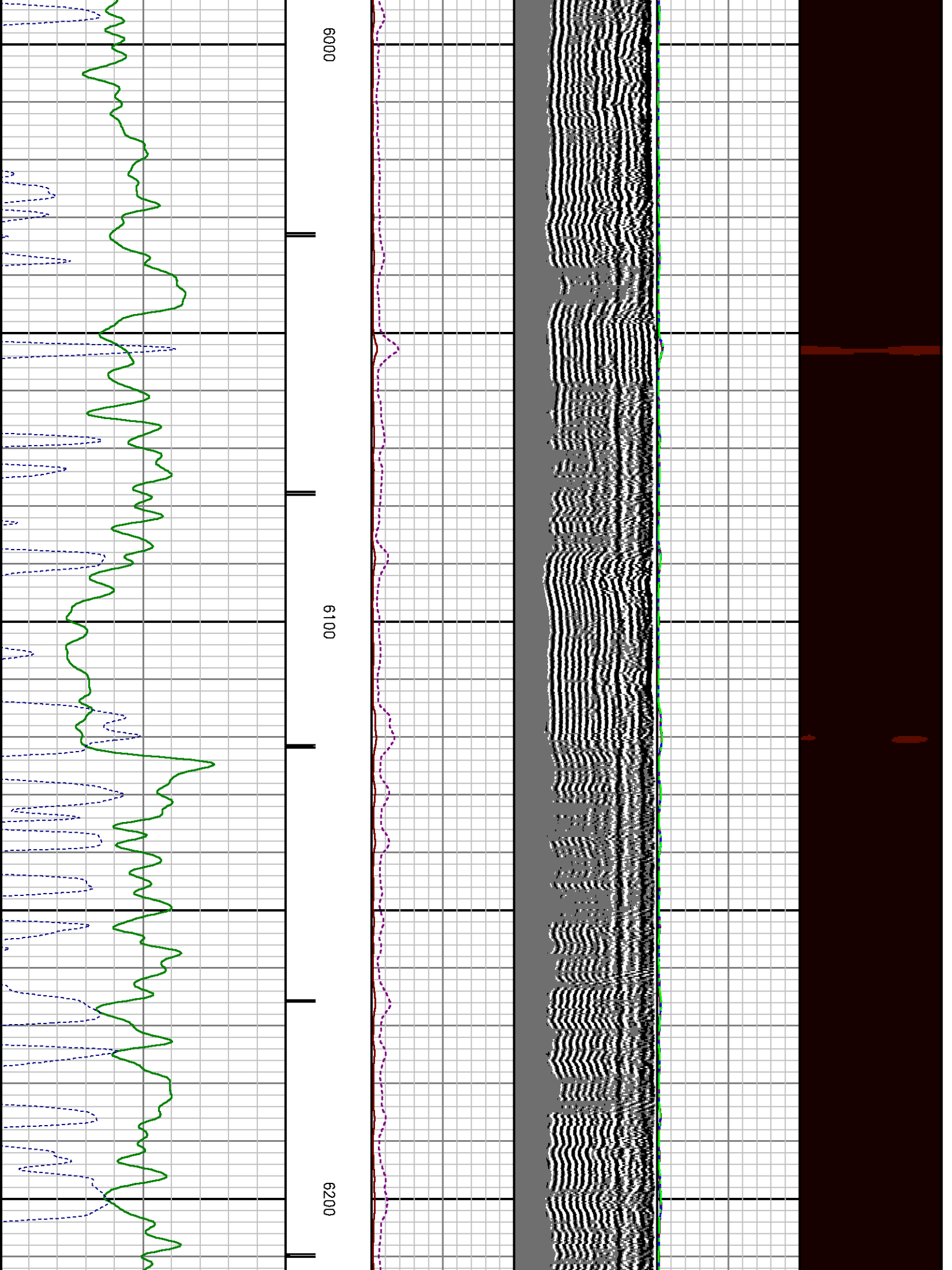


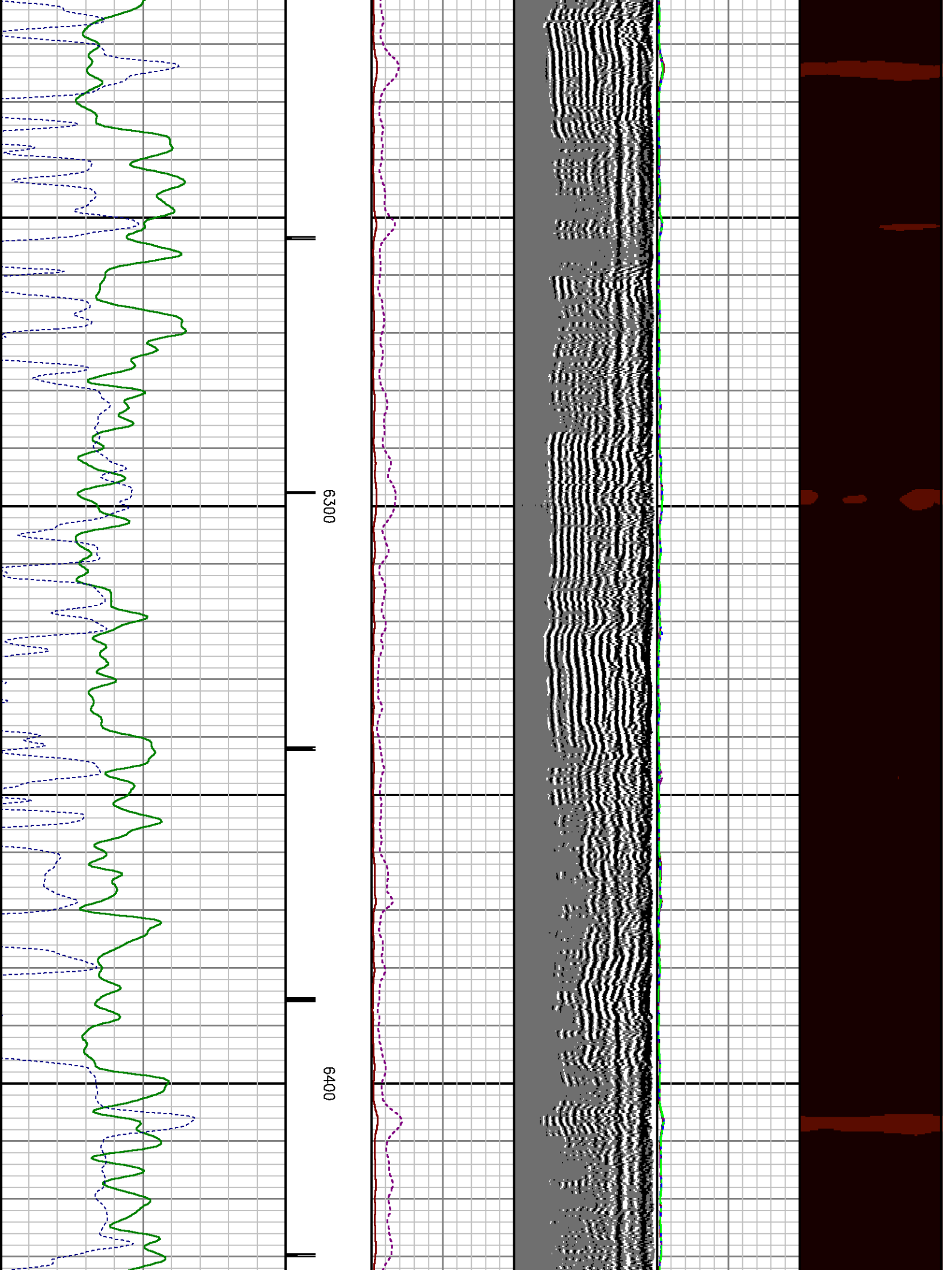


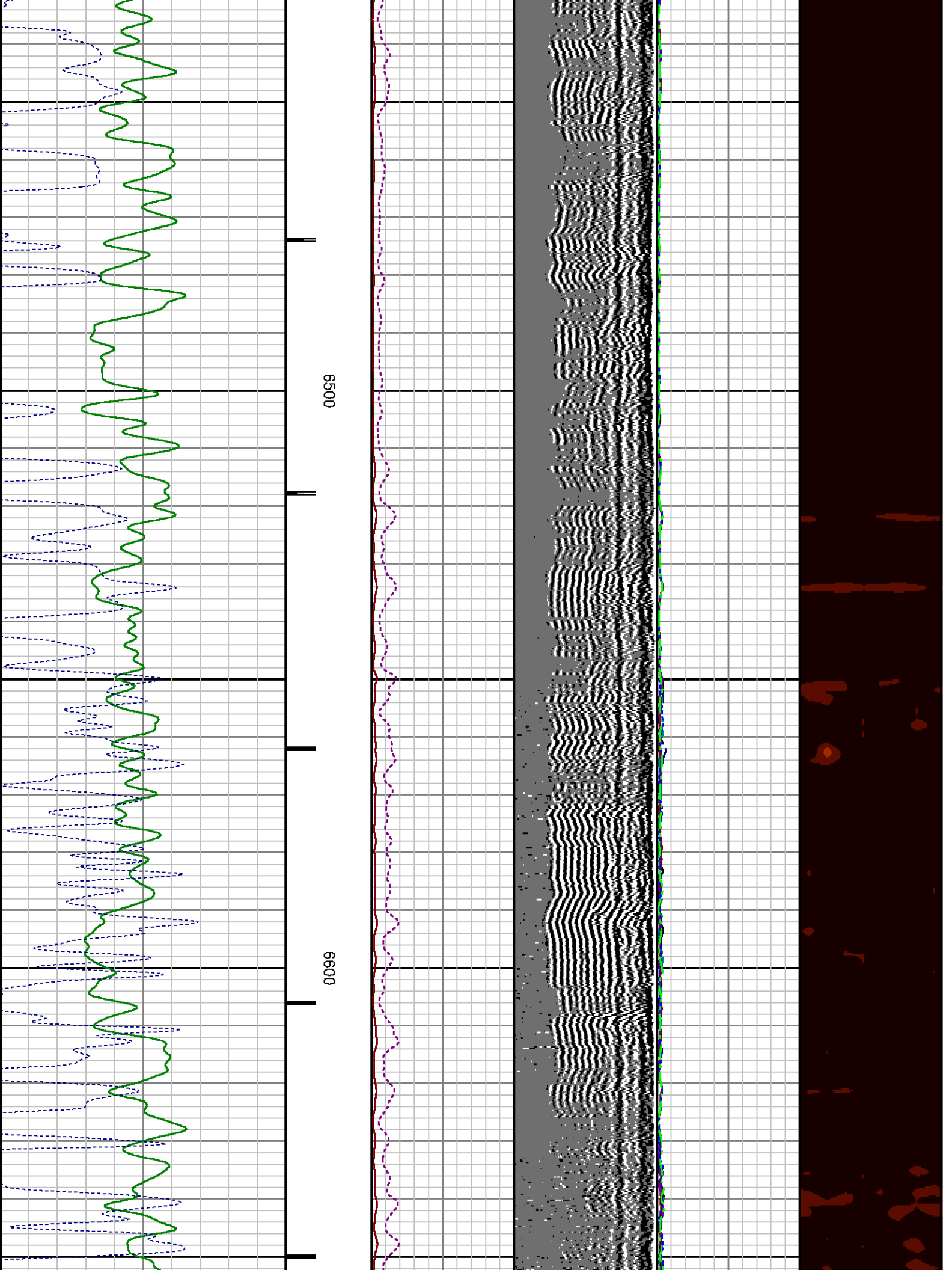


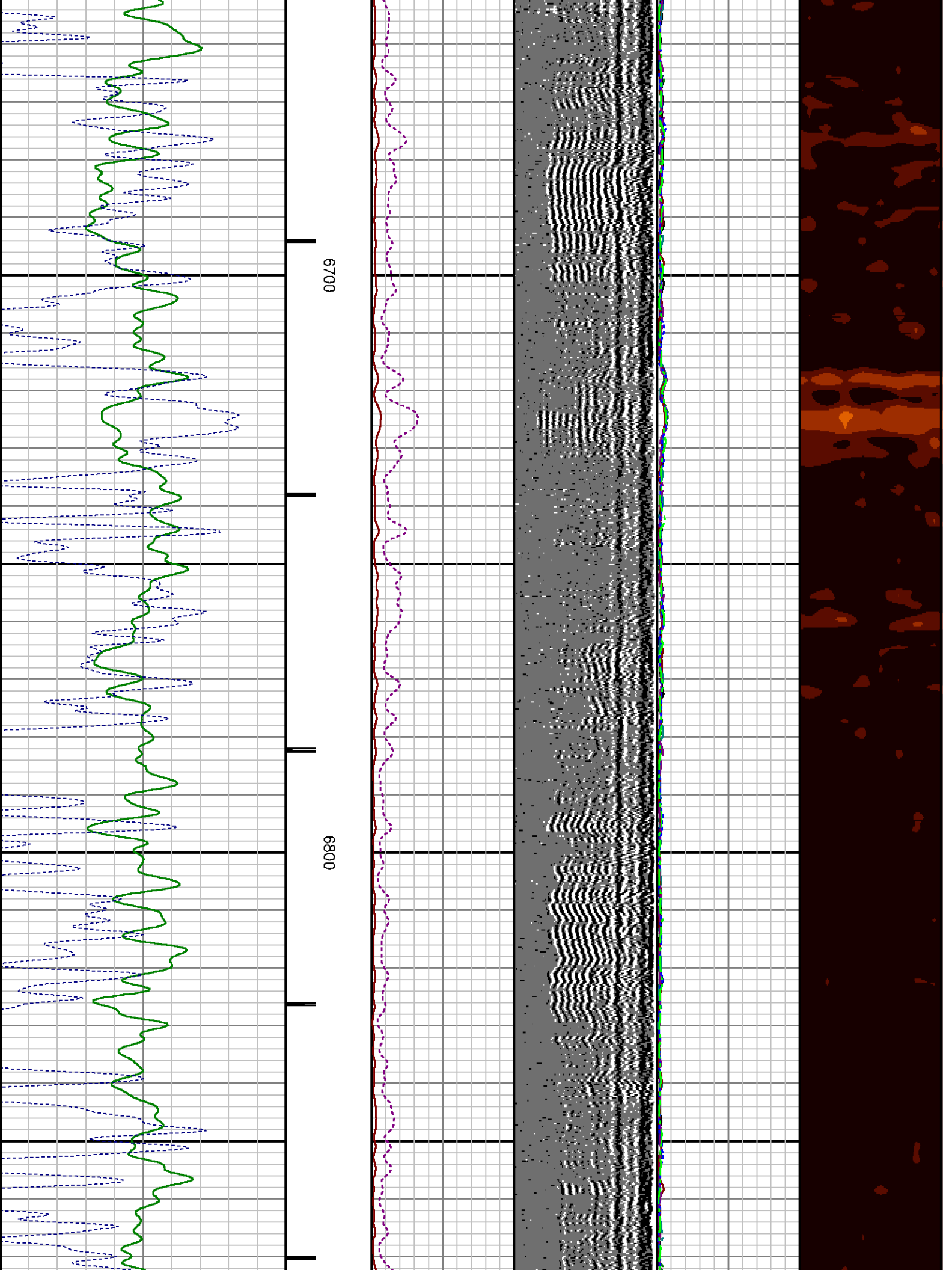


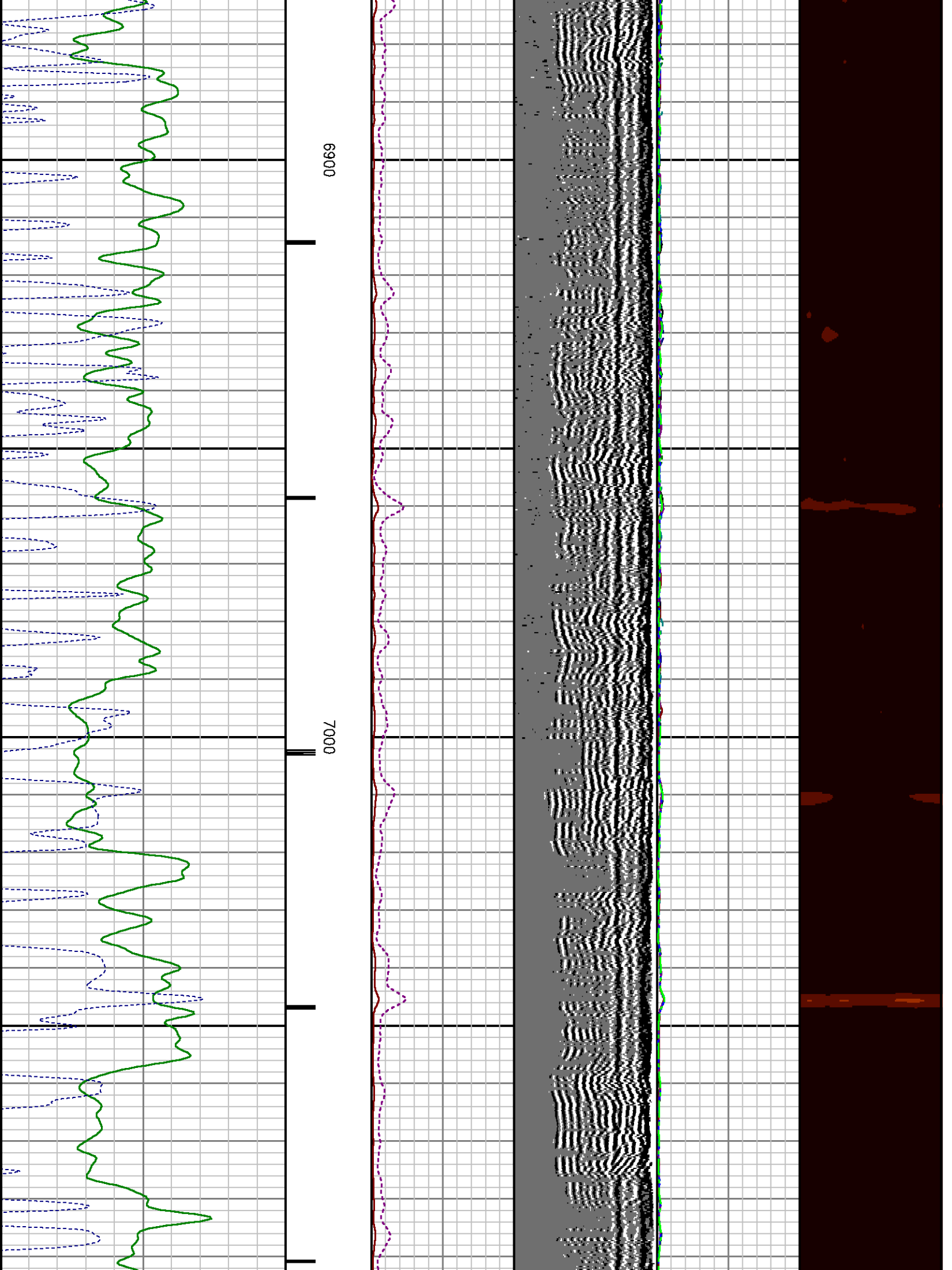


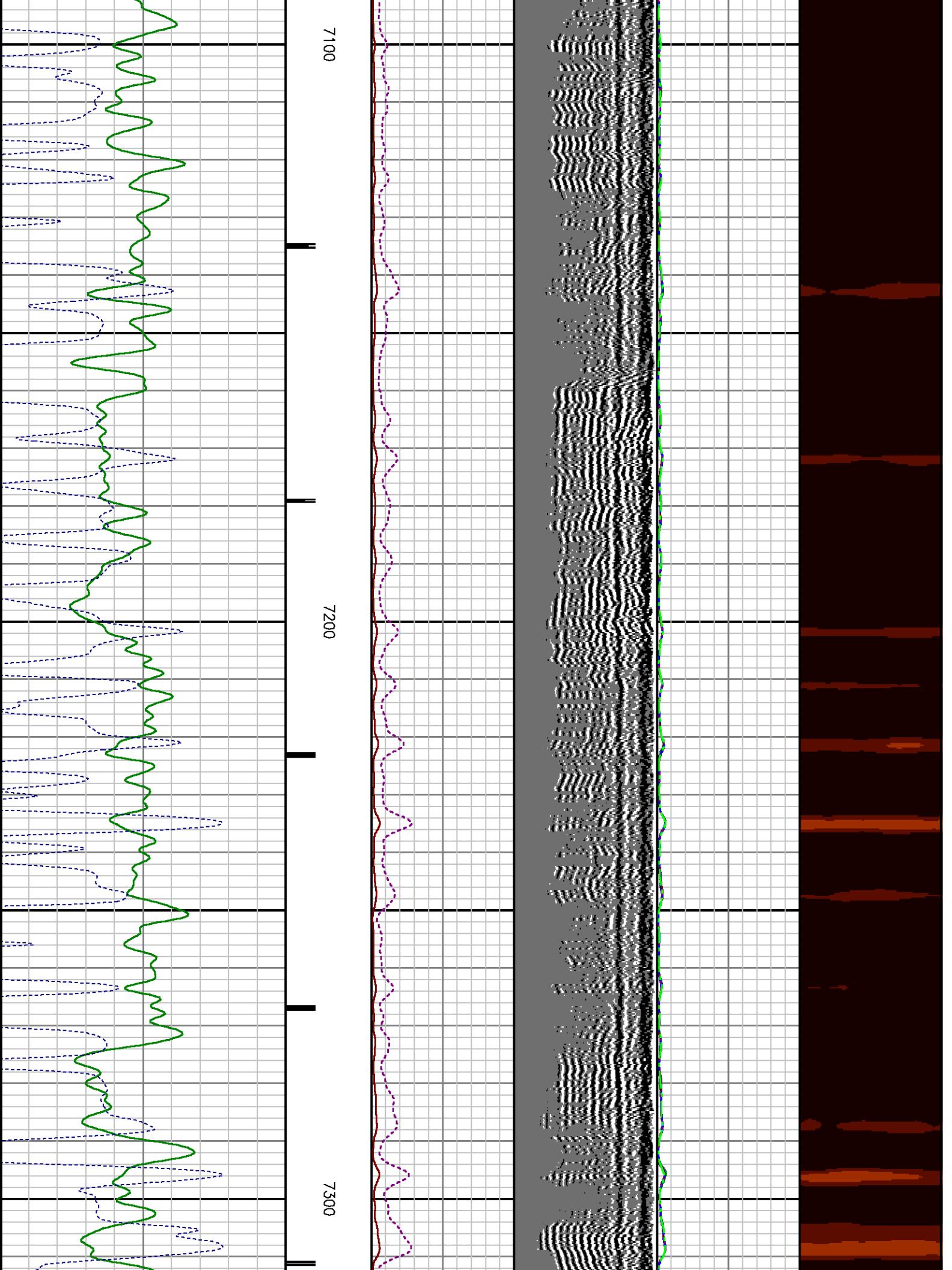




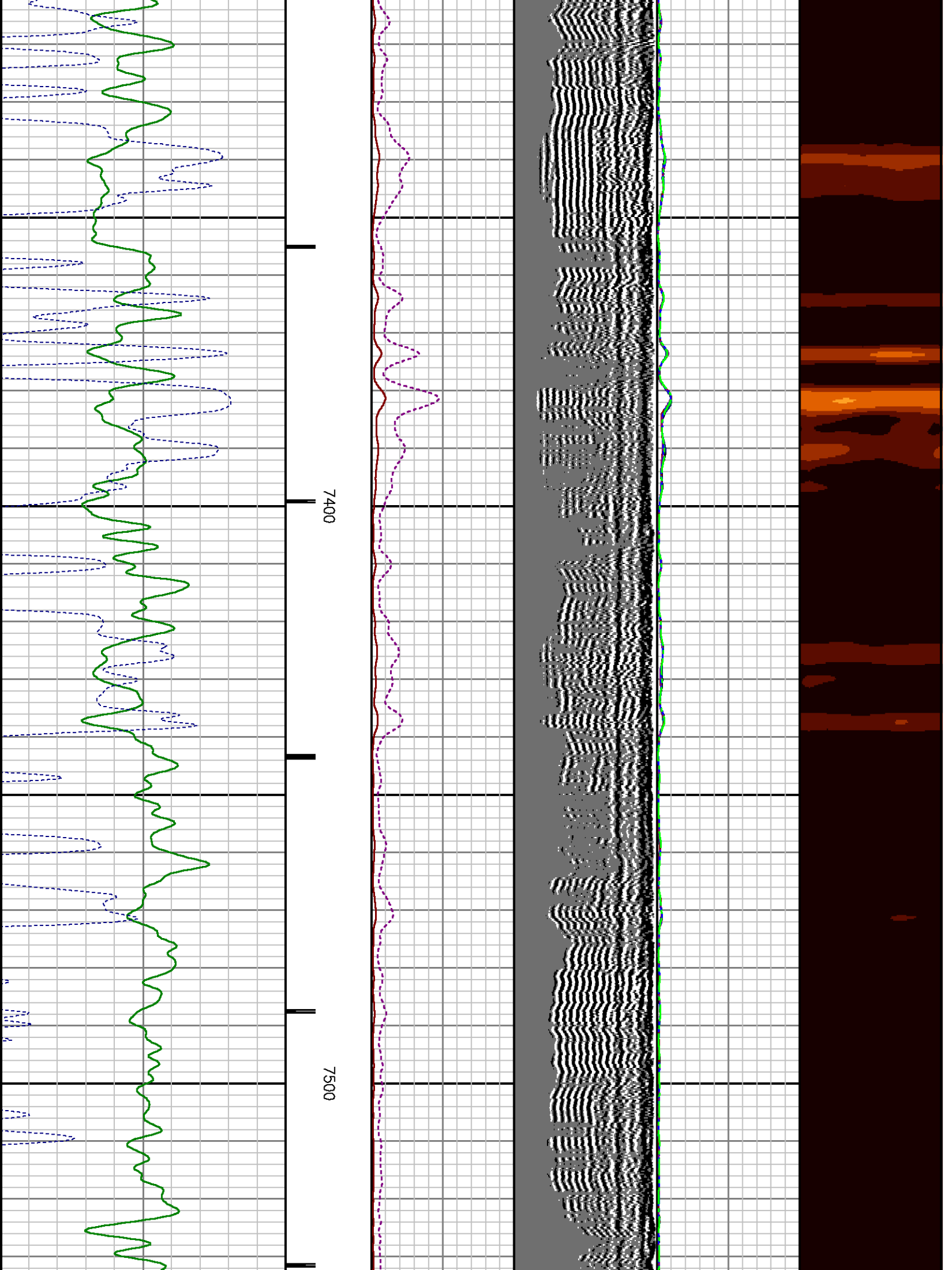




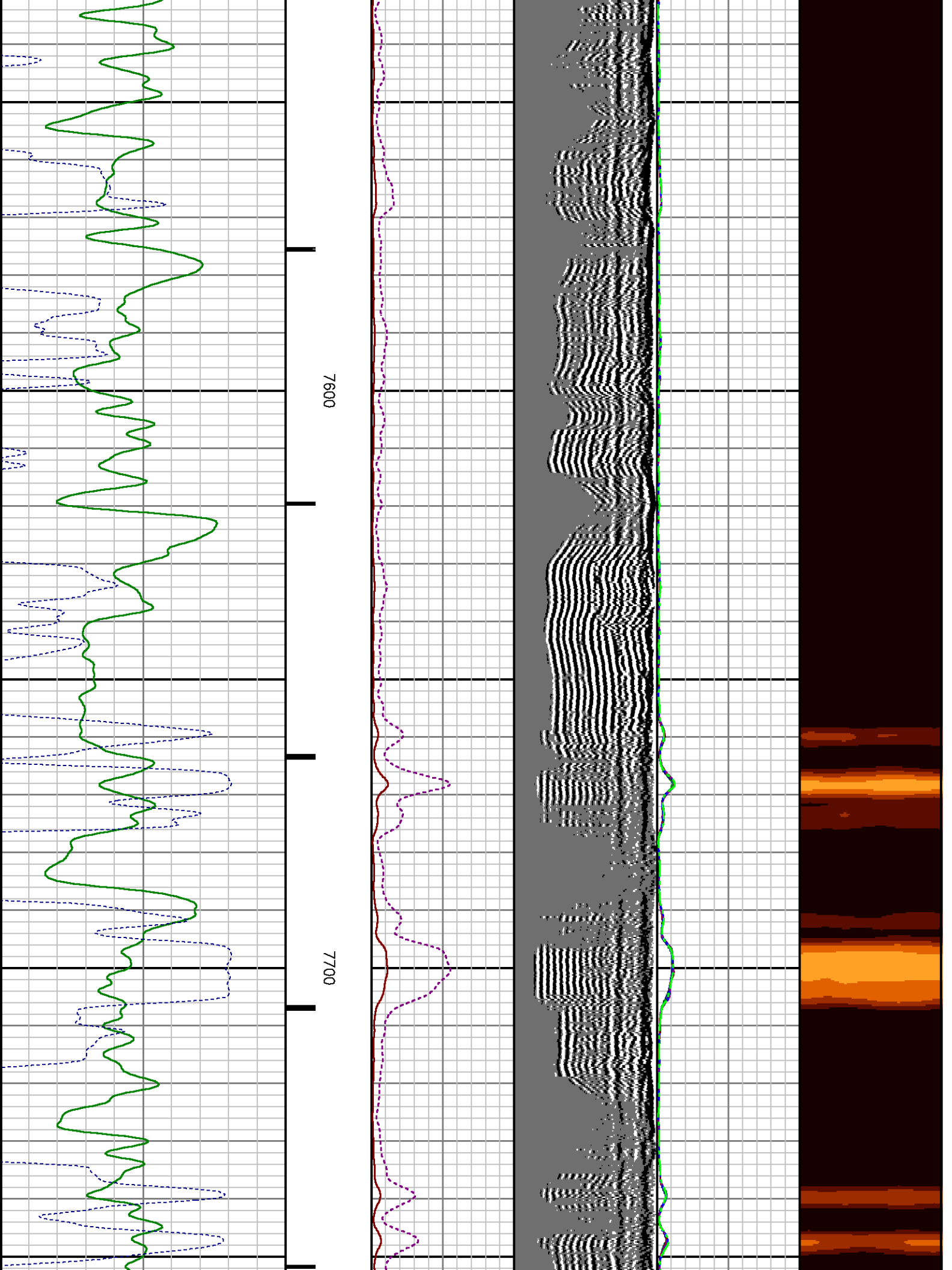


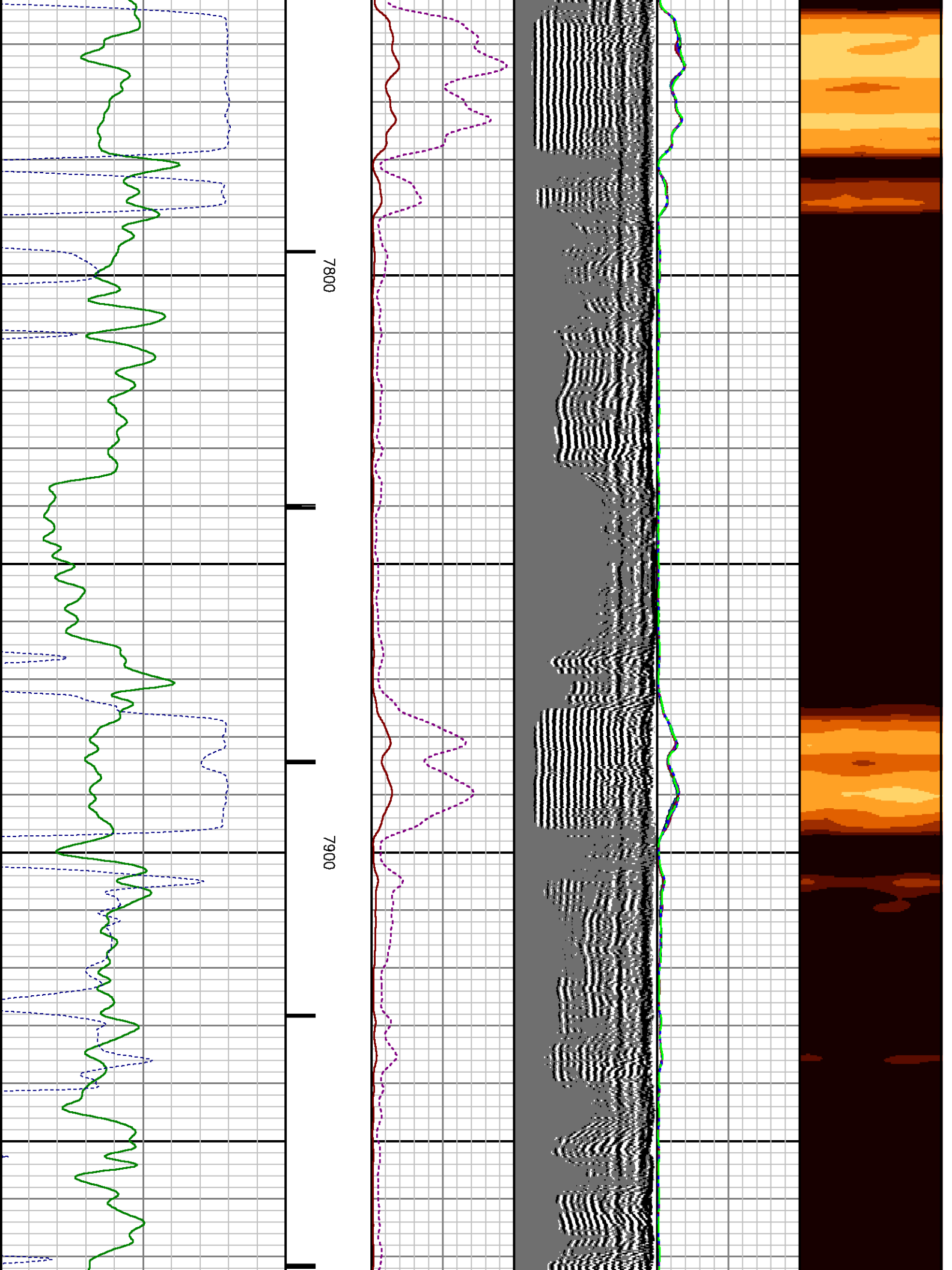


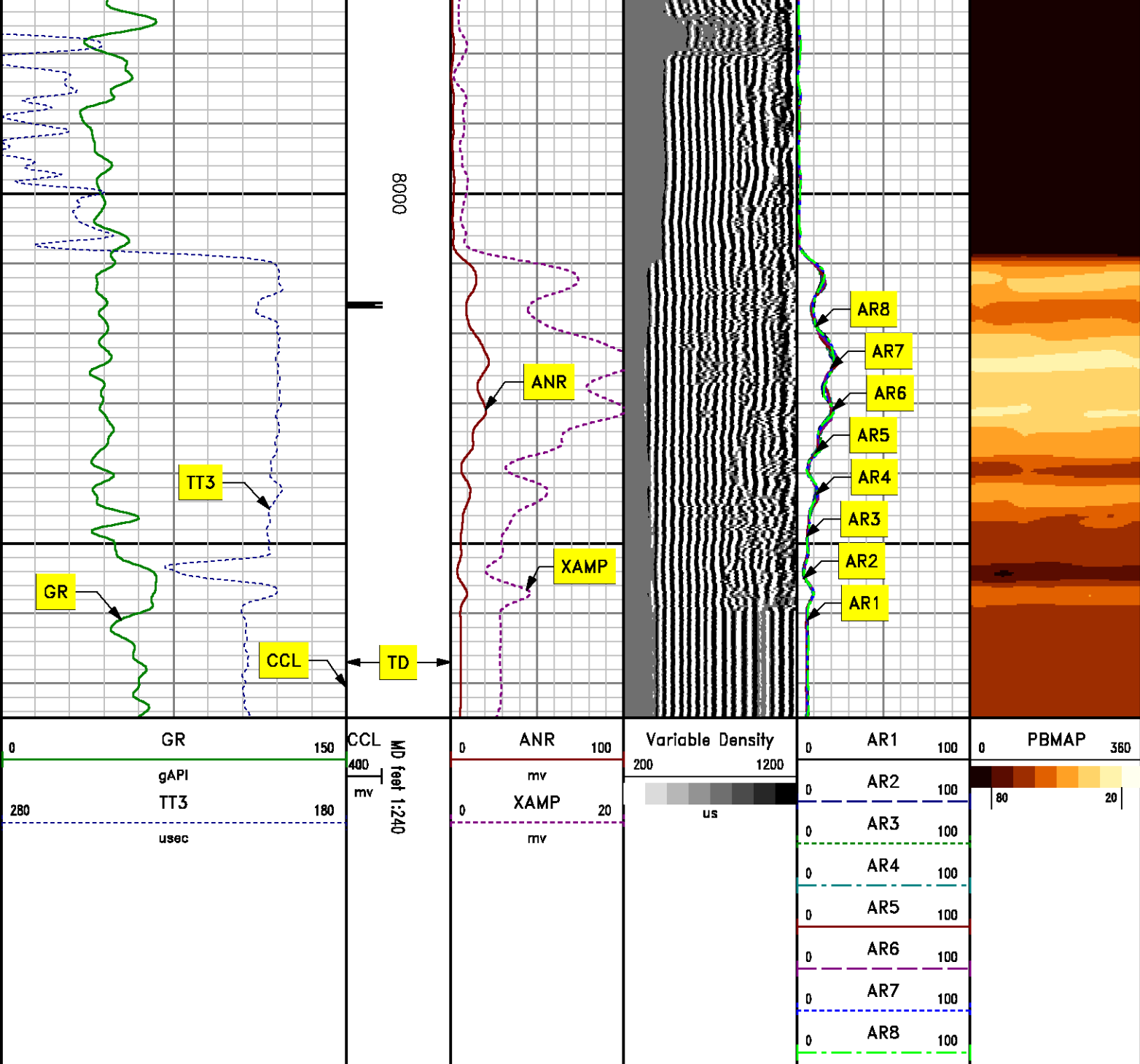












| MEASUREMENT TYPE | PARAMETER             | VALUE   | UNITS   | TOP      | BOTTOM   |
|------------------|-----------------------|---------|---------|----------|----------|
| RAL              | Amp Gate Start Far    | 331.692 | usec    | 7749.937 | 8074.000 |
| RAL              | Amp Gate Start Near   | 199.015 | usec    | 7749.937 | 8074.000 |
| RAL              | Amp Gate Start Radial | 199.599 | usec    | 7749.937 | 8074.000 |
| RAL              | Amp Gate Width Far    | 25.000  | usec    | 7749.937 | 8074.000 |
| RAL              | Amp Gate Width Near   | 25.000  | usec    | 7749.937 | 8074.000 |
| RAL              | Amp Gate Width Radial | 25.000  | usec    | 7749.937 | 8074.000 |
| RAL              | casing od             | 4.500   | inches  | 7749.937 | 8074.000 |
| RAL              | casing wt             | 11.600  | lbm/ft  | 7749.937 | 8074.000 |
| RAL              | FB Start Far          | 291.900 | usec    | 7749.937 | 8074.000 |
| RAL              | FB Start Near         | 175.391 | usec    | 7749.937 | 8074.000 |
| RAL              | FB Start Radial       | 175.391 | usec    | 7749.937 | 8074.000 |
| RAL              | FB Thresh Far         | 10.000  | mv      | 7749.937 | 8074.000 |
| RAL              | FB Thresh Near        | 4.000   | mv      | 7749.937 | 8074.000 |
| RAL              | FB Thresh Radial      | 4.000   | mv      | 7749.937 | 8074.000 |
| RAL              | Fluid Travel Time     | 200.000 | usec/ft | 7749.937 | 8074.000 |

DEPTH OFFSETS

(for Acquired Curves)

| SERIES | DEPTH OFFSET | ACQUIRED CURVES |      |      |      |      |      |
|--------|--------------|-----------------|------|------|------|------|------|
| 1426XA | -11.000      | ACAL            | ANR  | AR1  | AR2  | AR3  | AR4  |
|        |              | AR5             | AR6  | AR7  | AR8  | CHV  | FPR2 |
|        |              | FPR3            | FPR5 | TT3  | TTR1 | TTR2 | TTR3 |
|        |              | TTR4            | TTR5 | TTR6 | TTR7 | TTR8 | XAMP |
| 1426XA | -10.040      | AFAR            | SIG  | TT5  |      |      |      |
| 1355XA | -5.620       | CCL             |      |      |      |      |      |
| 1355XA | -1.500       | GR              |      |      |      |      |      |
| 1355XA | 0.000        | TEMP            |      |      |      |      |      |

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

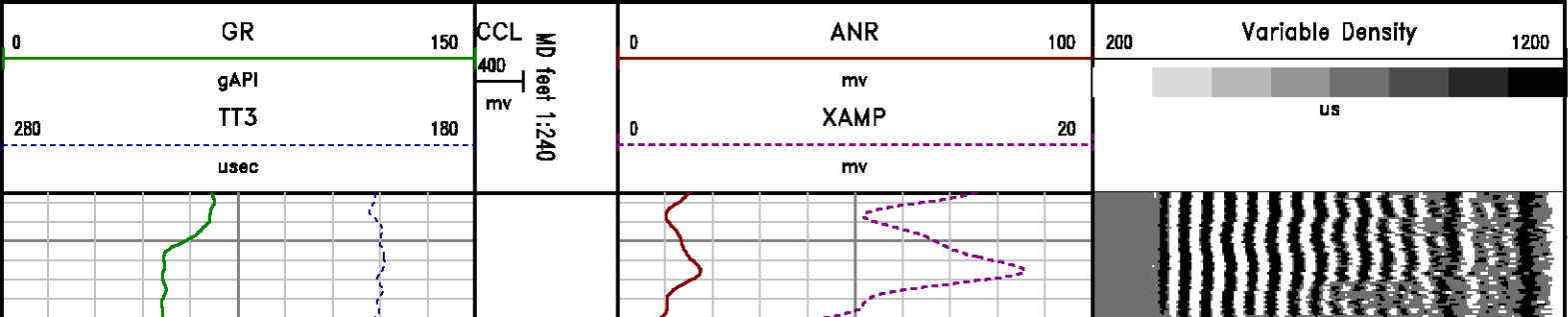
Well : DUGGAN RWF 524-29

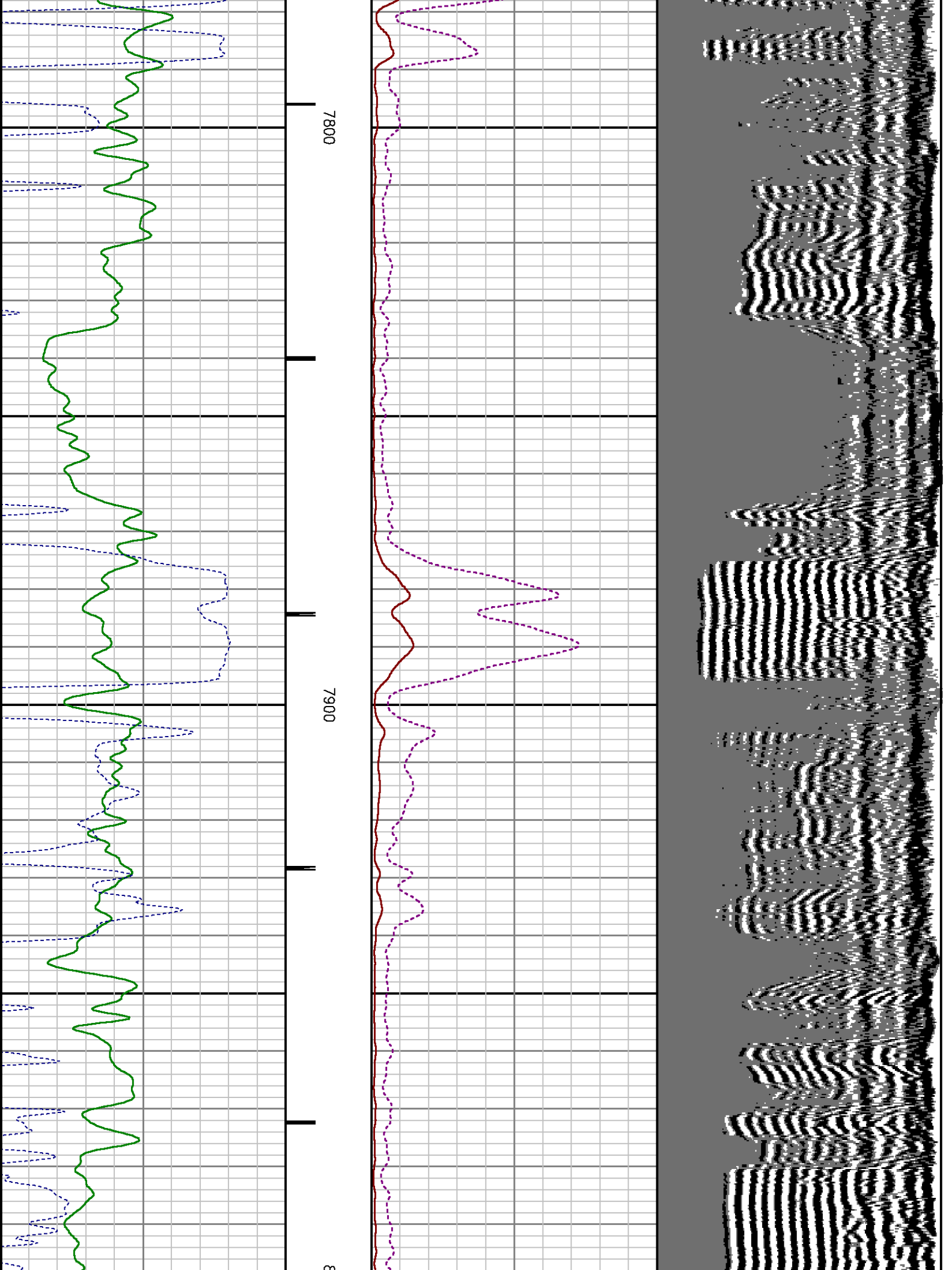
File Name : d:\welldata\524cbl\repeat.xtf

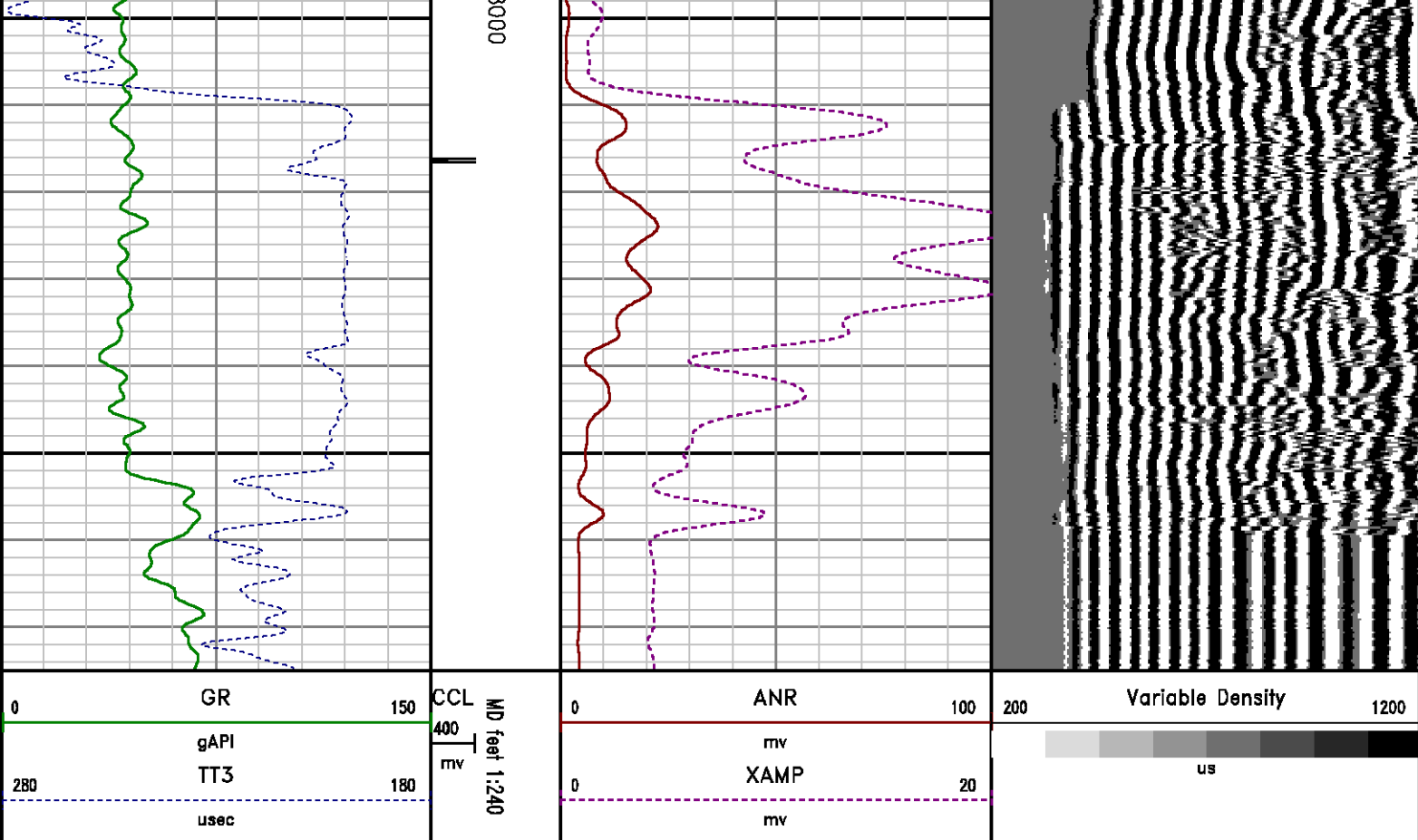
Mode : PlotMgr 5.4.504

Interval : 7765.00 - 8075.00 feet UP

Created : 6/8/2013 8:52:04 AM







## CALIBRATION SUMMARY

## GAMMA RAY

Calibration File: C:\case\calver\GR\209J1.cal

### CALIBRATION SUMMARY

|   |                  |                     |                |                  |                     |                    |  |
|---|------------------|---------------------|----------------|------------------|---------------------|--------------------|--|
| DATE/TIME PERFORMED: Mon Jun 03 09:09:02 2013 |                  | TOOL SERIES: 1355XA |                | ASSET: 209       |                     | SEQ: J1            |  |
| Calibrator #                                  | Background [cps] | Calibrator On [cps] | Multiplicative | Background [api] | Calibrator On [api] | Differential [api] |  |
| S2K WA612                                     | 149.24           | 605.69              | 0.405          | 60.49            | 245.49              | 185.00             |  |

Verification File: C:\case\calver\GR\209J1.VP

### PRIMARY LOG VERIFICATION

|   |                  |                     |                |                  |                     |                    |  |
|---|------------------|---------------------|----------------|------------------|---------------------|--------------------|--|
| DATE/TIME PERFORMED: Mon Jun 03 09:10:36 2013 |                  | TOOL SERIES: 1355XA |                | ASSET: 209       |                     | SEQ: J1            |  |
| Calibrator #                                  | Background [cps] | Calibrator On [cps] | Multiplicative | Background [api] | Calibrator On [api] | Differential [api] |  |
| S2K WA612                                     | 150.93           | 617.24              | 0.405          | 61.17            | 250.17              | 189.00             |  |

# RALSHP

Shop Calibration: C:\case\calver\RALSHP\028JUN8 shp.cal

## SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sat Jun 08 08:15:25 2013 TOOL SERIES: 1426XA ASSET: 028 SEQ: JUN8

Tool Delay [usec] -58.00 Tank OD in 5.50 Tank Wt lbm/ft 15.50 Tank ID in 4.95

| RECEIVER       | Travel Time<br>[usec] | Amp. Gate<br>Start<br>[usec] | Amp. Gate<br>Width<br>[usec] | Zero Gate<br>Start<br>[usec] | Zero Gate<br>Width<br>[usec] | Zero Amp.<br>[mV] | Amp Ref.<br>[mV] | Shop Factor |
|----------------|-----------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------|------------------|-------------|
| CAL Pulse      | 220                   | 216                          | 30                           | 166                          | 25                           | 0.236             | 100.00           | 0.21        |
| 3 Ft. Receiver | 221                   | 216                          | 30                           | 166                          | 25                           | 2.483             | 100.00           | 0.21        |
| 5 Ft. Receiver | 355                   | 350                          | 30                           | 248                          | 25                           | 4.908             | 150.00           | 0.18        |
| Radial #1      | 222                   | 216                          | 30                           | 174                          | 25                           | 3.065             | 100.00           | 0.21        |
| Radial #2      | 222                   | 216                          | 30                           | 174                          | 25                           | 1.271             | 100.00           | 0.21        |
| Radial #3      | 221                   | 216                          | 30                           | 174                          | 25                           | 1.270             | 100.00           | 0.22        |
| Radial #4      | 220                   | 216                          | 30                           | 174                          | 25                           | 0.316             | 100.00           | 0.21        |
| Radial #5      | 220                   | 216                          | 30                           | 174                          | 25                           | -1.474            | 100.00           | 0.21        |
| Radial #6      | 219                   | 216                          | 30                           | 174                          | 25                           | 0.274             | 100.00           | 0.21        |
| Radial #7      | 219                   | 216                          | 30                           | 174                          | 25                           | -1.061            | 100.00           | 0.21        |
| Radial #8      | 222                   | 216                          | 30                           | 174                          | 25                           | 2.310             | 100.00           | 0.21        |

# RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\028JUN8 fld.cal

## WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sat Jun 08 08:16:46 2013 TOOL SERIES: 1426XA ASSET: 028 SEQ: JUN8

Tool Delay [usec] -58.00 Casing OD in 4.50 Casing Wt lbm/ft 11.60 Casing ID in 4.00

| RECEIVER       | Zero Gate<br>Start<br>[usec] | Zero Gate<br>Width<br>[usec] | Zero Amp.<br>[mV] | Full Amp.<br>[mV] | Wellsite Factor | Amp. Ref<br>[mV] |
|----------------|------------------------------|------------------------------|-------------------|-------------------|-----------------|------------------|
| CAL Pulse      | 166                          | 25                           | 0.050             | 0.000             | 1.00            | 100.000          |
| 3 Ft. Receiver | 200                          | 30                           | -0.140            |                   |                 |                  |
| 5 Ft. Receiver | 317                          | 30                           | -0.293            |                   |                 |                  |
| Radial #1      | 200                          | 30                           | -0.192            |                   |                 |                  |
| Radial #2      | 200                          | 30                           | -0.183            |                   |                 |                  |
| Radial #3      | 200                          | 30                           | -0.112            |                   |                 |                  |
| Radial #4      | 200                          | 30                           | -0.112            |                   |                 |                  |
| Radial #5      | 200                          | 30                           | -0.123            |                   |                 |                  |
| Radial #6      | 200                          | 30                           | -0.168            |                   |                 |                  |
| Radial #7      | 200                          | 30                           | -0.095            |                   |                 |                  |
| Radial #8      | 200                          | 30                           | -0.264            |                   |                 |                  |



# TOOL DIAGRAM

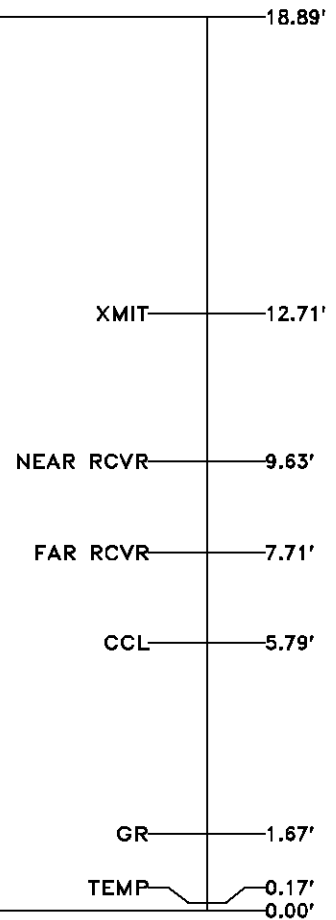
## OTA SHORT CABLE HEAD

### PROBE 2 3/4 DUAL RECEIVER RADII

|               |                 |
|---------------|-----------------|
| Series        | 1426XA          |
| Mnemonic      | PROB            |
| Diameter      | 2.75"           |
| Length        | 11.17'          |
| Measure Point | 0.75' FAR RCVR  |
| Measure Point | 2.67' NEAR RCVR |
| Measure Point | 5.75' XMIT      |
| Temp Rating   | 350.00 °F       |
| Press Rating  | 18000.00 PSI    |

### RAL GR/TEMP/CCL/CHV DETECTOR

|               |              |
|---------------|--------------|
| Series        | 1355XA       |
| Mnemonic      | RAL          |
| Diameter      | 2.75"        |
| Weight        | 85.00 lb     |
| Length        | 6.96'        |
| Measure Point | 0.17' TEMP   |
| Measure Point | 1.67' GR     |
| Measure Point | 5.79' CCL    |
| Temp Rating   | 400.00 °F    |
| Press Rating  | 20000.00 PSI |



Total Length: 18.89'  
Total Weight: Not Available  
Max Diameter: 0' 2.75"



Baker Atlas



Company  
Well  
Field  
County

WPX ENERGY  
DUGGAN RWF 524-29  
RULISON  
GARFIELD

State

COLORADO

Location

SHL: 545' FSL & 596' FWL  
BHL: 1304' FSL & 2009' FWL

Elevations

KB 5445.2 ft  
DF  
GL 5419.2 ft

File No:

CH073162

API No:

05045216600000

29 6S 94W

RWF 14-29

NABORS SSD 573

SEC 29

TWP 6S

RGE 94W