



RADIAL ANALYSIS BOND LOG

Baker Atlas

| | | | |
|---|--|--|--|
| File No: 1550 | Company Well Field County | MARATHON OIL COMPANY 596-29C-21 GRAND VALLEY GARFIELD | State COLORADO |
| API No: 05-045-18087-00 | Location SHL: 1783' FSL & 1425' FWL | | Other Services 3.781 GAUGE |
| SEC 29 TWP 55 RGE 96W | | | |
| Permanent Datum Log Measured From Drill Measured From | G.L. K.B. KELLY BUSHING | Elevation 24 ft Above P. D. | Elevations KB 8204 ft DF 8203 ft GL 8180 ft |

| | | |
|------------------------------|------------------|------------|
| Date | 06/JAN/10 | |
| Run | ONE | |
| Service Order | 576630 | |
| Depth Driller | 9940 ft | |
| Depth Logger | 9776 ft | |
| Bottom Logged Interval | 9776 ft | |
| Top Logged Interval | SURFACE | |
| Time Started | 7:00 | |
| Time Finished | 11:00 | |
| Operator Rig Time | 4 hrs | |
| Type of Fluid in Hole | WATER | |
| Fluid Density | N/A | |
| Salinity | N/A | |
| Fluid Level | FULL | |
| Logged Cement Top | N/A | |
| Wellhead Pressure | 1000 psi | |
| Maximum Hole Deviation | N/A | |
| Nominal Logging Speed | 45 fpm | |
| Maximum Recorded Temperature | N/A | |
| Reference Log | N/A | |
| Reference Log Date | N/A | |
| Equipment No. | 4214 | VERNAL, UT |
| Recorded By | WIESER/SOENEN | |
| Witnessed By | MR. JESS PENNELL | |

- FOLD HERE

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 |
| 8.75 in | SURFACE | 9940 ft |

| Casing Record | | | | |
|---------------|-------------|-------|---------|---------|
| Size | Weight | Grade | From | To |
| 4.5 in | 11.6 lbm/ft | P-110 | SURFACE | 9940 ft |

| Remarks |
|--|
| THIS IS THE FIRST LOG OF THE WELL. WELL WAS LOGGED WITH 1000 psi. |

| Equipment Data | | | | | |
|----------------|------|-------------|---------------|---------------|-------------|
| Run | Trip | Tool | Series Number | Serial Number | Position |
| 1 | 1 | VDL | 1426XA | 495 | CENTRALIZED |
| 1 | 1 | GR/CCI /TEI | 2459XA | 503 | CENTRALIZED |

MAIN SECTION
PRIMARY PRESENTATION
1000 psi

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | TOP | BOTTOM |
|------------------|-----------------------|---------|---------|--------|----------|
| RAL | Amp Gate Start Far | 316.900 | usec | 16.862 | 9795.500 |
| RAL | Amp Gate Start Near | 200.391 | usec | 16.862 | 9795.500 |
| RAL | Amp Gate Start Radial | 200.391 | usec | 16.862 | 9795.500 |
| RAL | Amp Gate Width Far | 30.000 | usec | 16.862 | 9795.500 |
| RAL | Amp Gate Width Near | 30.000 | usec | 16.862 | 9795.500 |
| RAL | Amp Gate Width Radial | 30.000 | usec | 16.862 | 9795.500 |
| RAL | casing od | 4.500 | inches | 16.862 | 9795.500 |
| RAL | casing wt | 11.600 | lbm/ft | 16.862 | 9795.500 |
| RAL | FB Start Far | 291.900 | usec | 16.862 | 9795.500 |
| RAL | FB Start Near | 175.391 | usec | 16.862 | 9795.500 |
| RAL | FB Start Radial | 175.391 | usec | 16.862 | 9795.500 |
| RAL | FB Thresh Far | 10.000 | mv | 16.862 | 9795.500 |
| RAL | FB Thresh Near | 4.000 | mv | 16.862 | 9795.500 |
| RAL | FB Thresh Radial | 4.000 | mv | 16.862 | 9795.500 |
| RAL | Fluid Travel Time | 200.000 | usec/ft | 16.862 | 9795.081 |

DEPTH OFFSETS
(for Acquired Curves)

| SERIES | DEPTH OFFSET | ACQUIRED CURVES | | | | | |
|--------|--------------|-----------------|------|------|------|------|------|
| 1426XA | -15.360 | 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 | -14.360 | AFAR | SIG | TT5 | | | |
| 2459XA | -7.250 | CCL | | | | | |
| 2459XA | -5.390 | GR | | | | | |

Created by : MIXED

Plotted by : PlotMgr, v5.4.504

Company : MARATHON OIL COMPANY

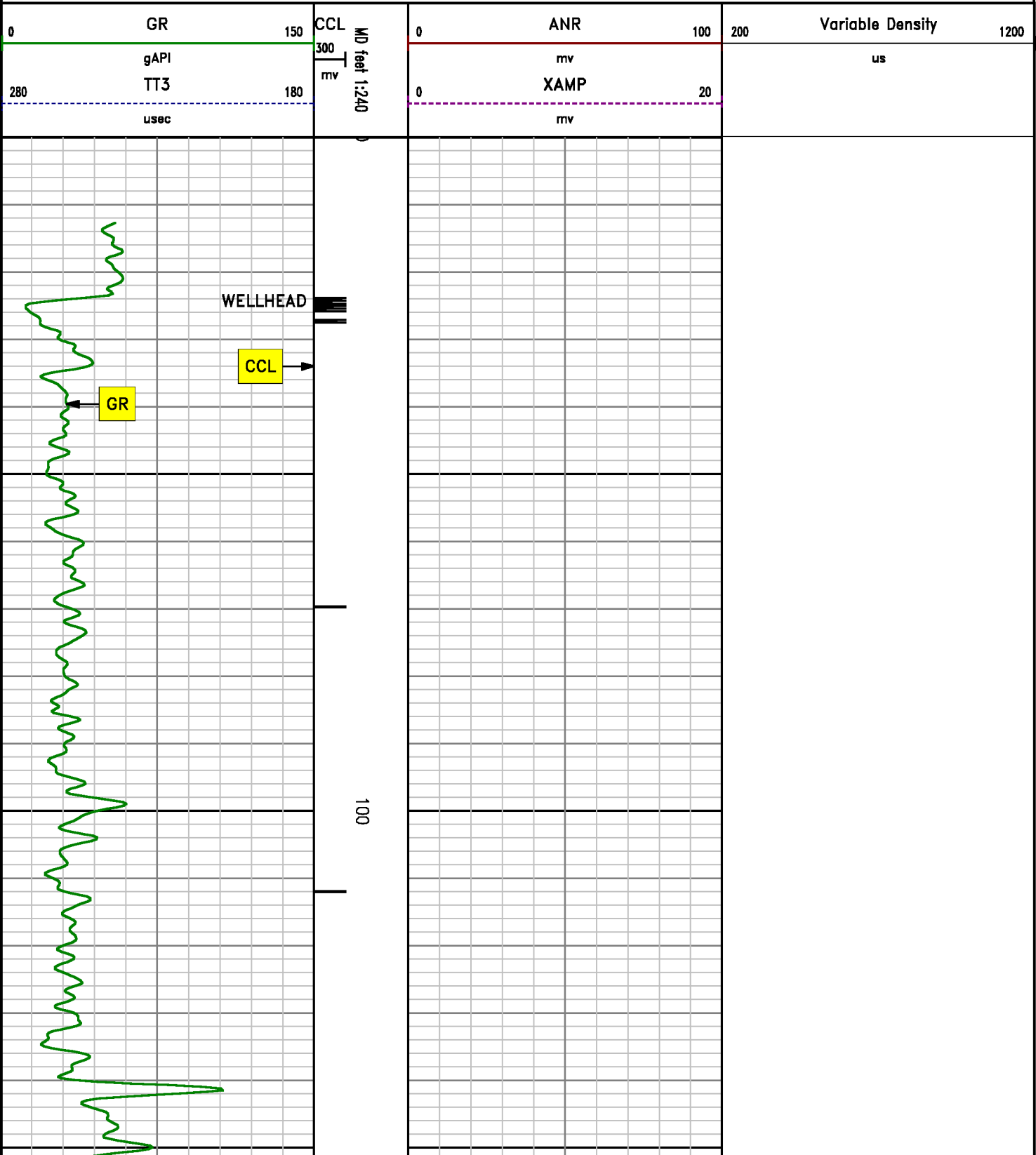
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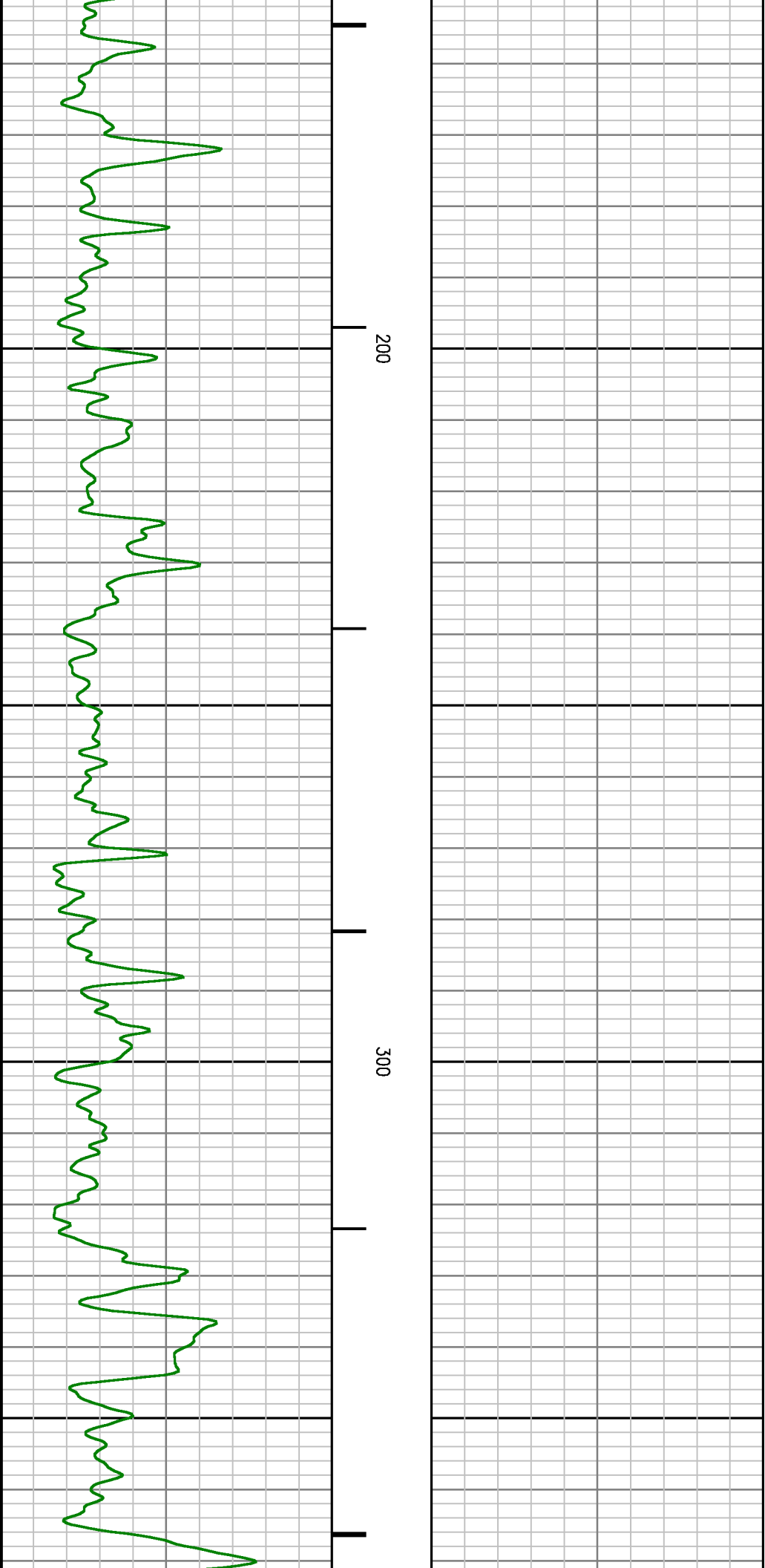
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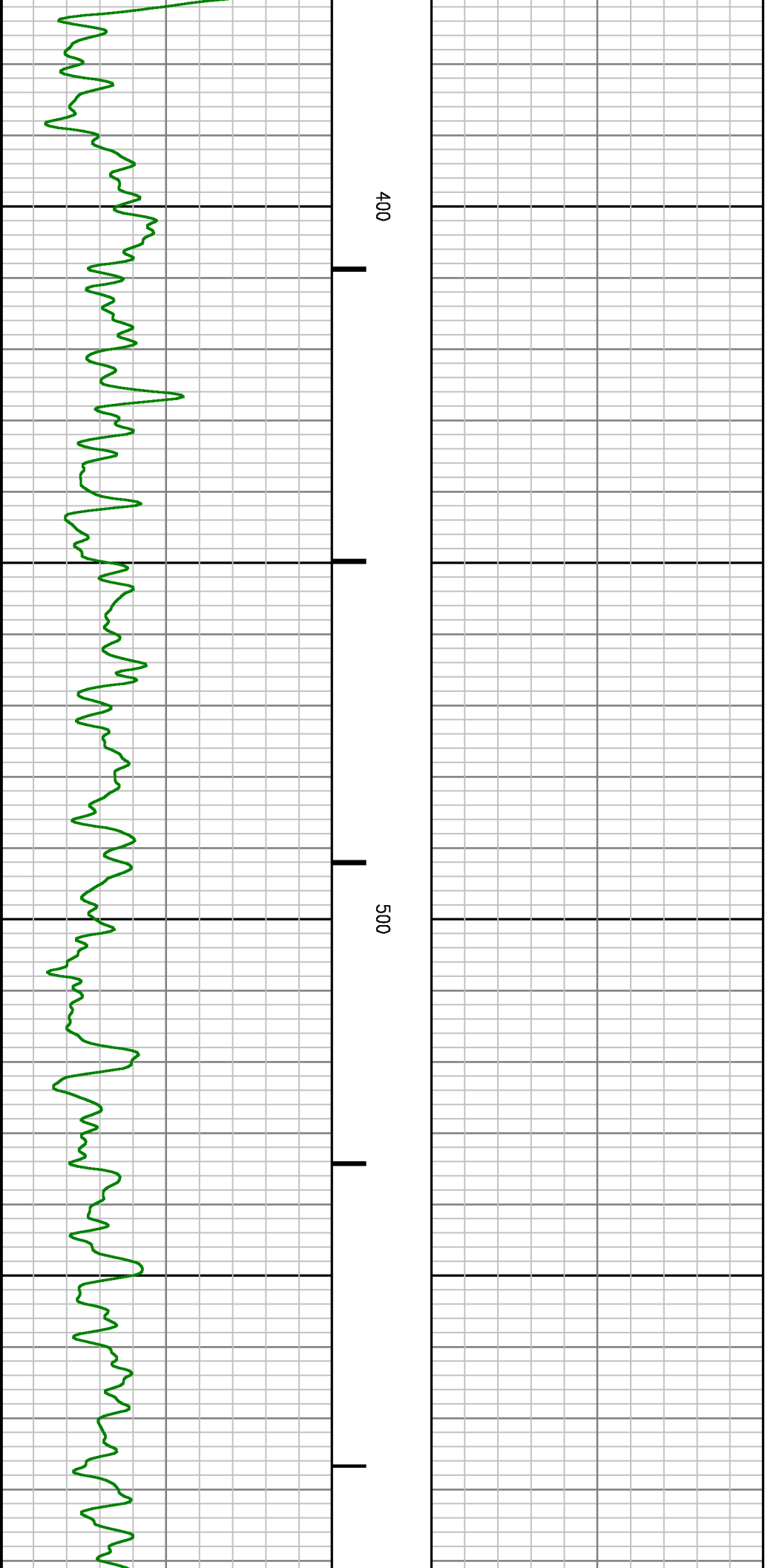
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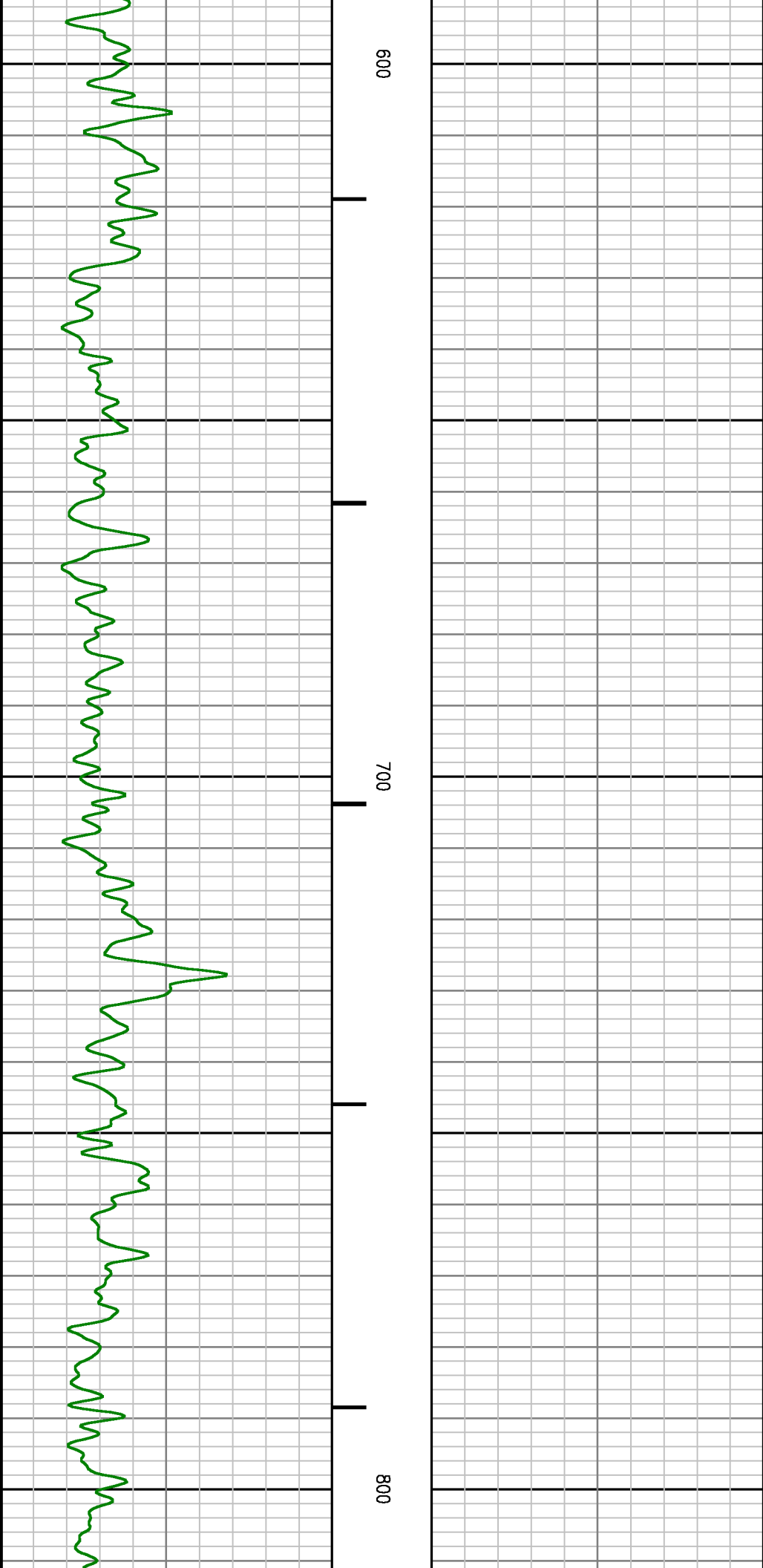
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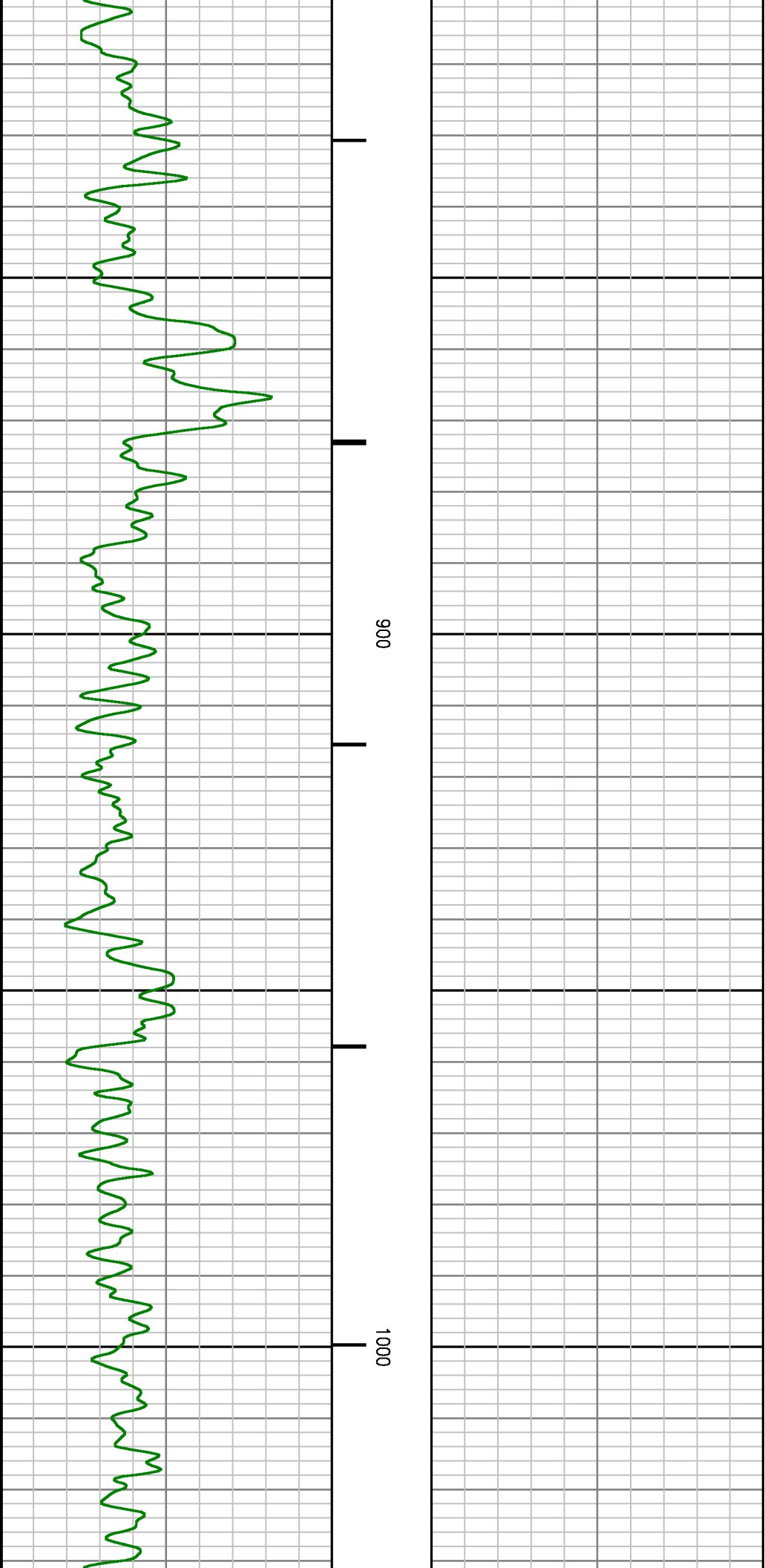
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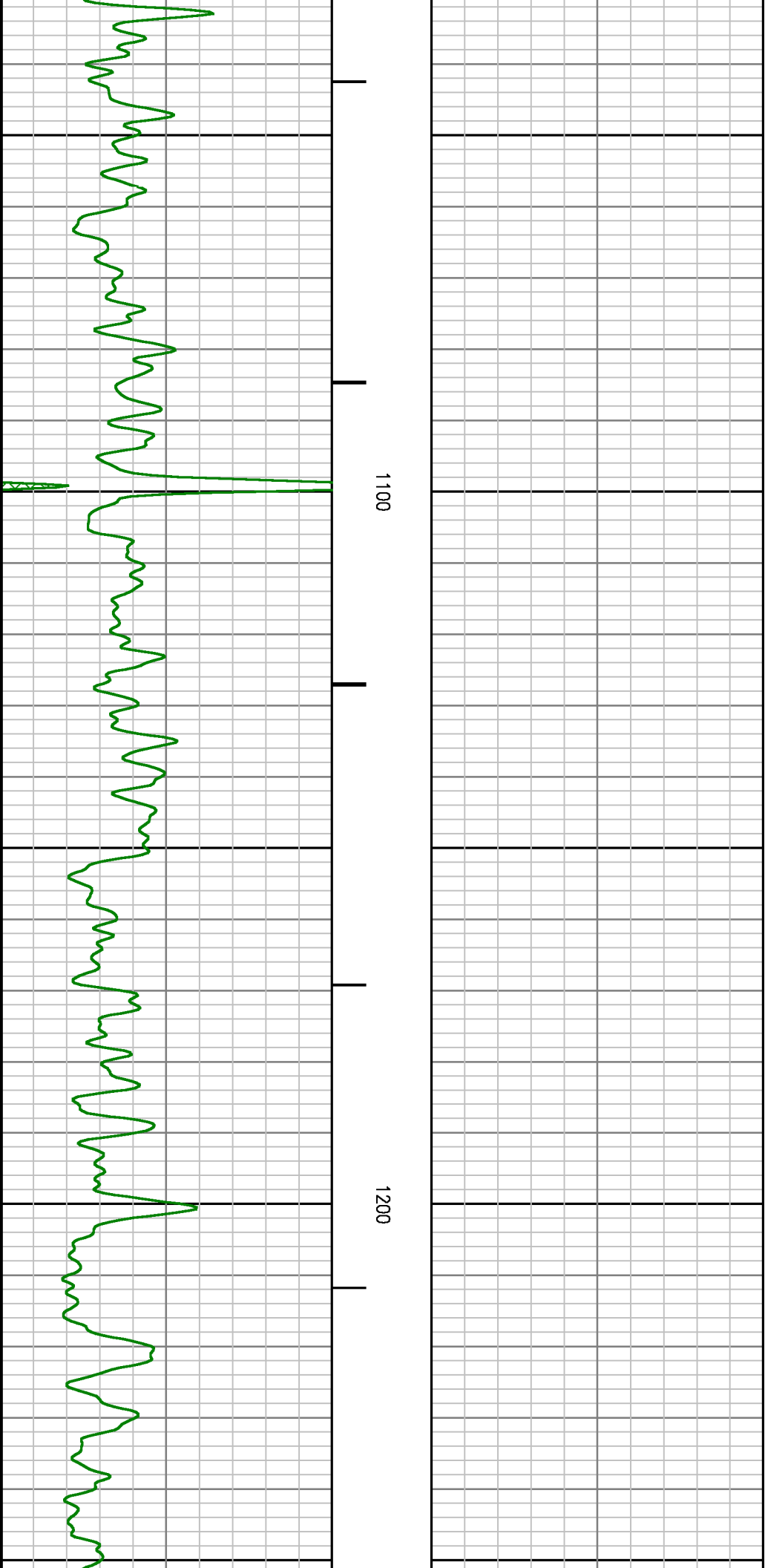


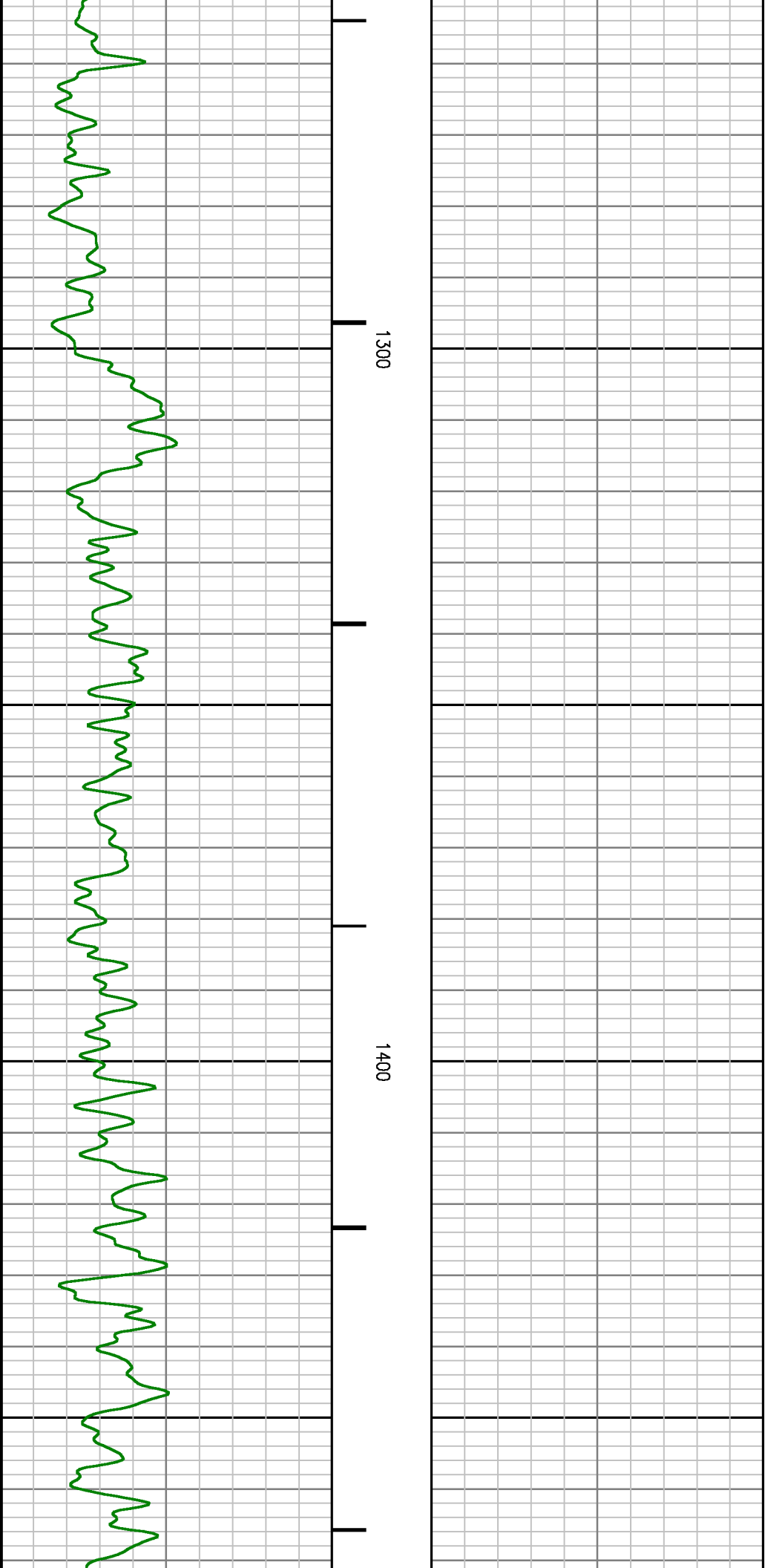


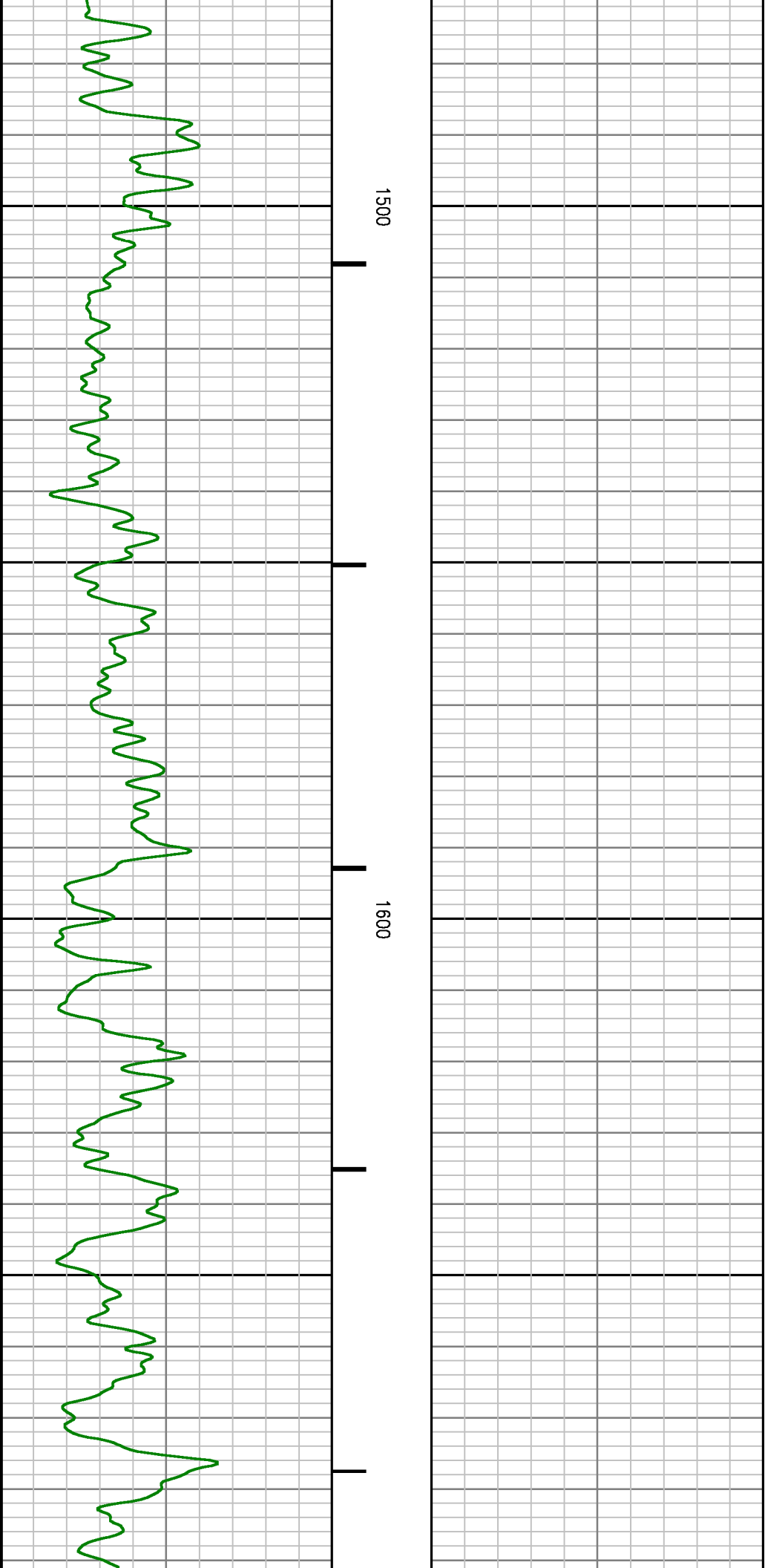


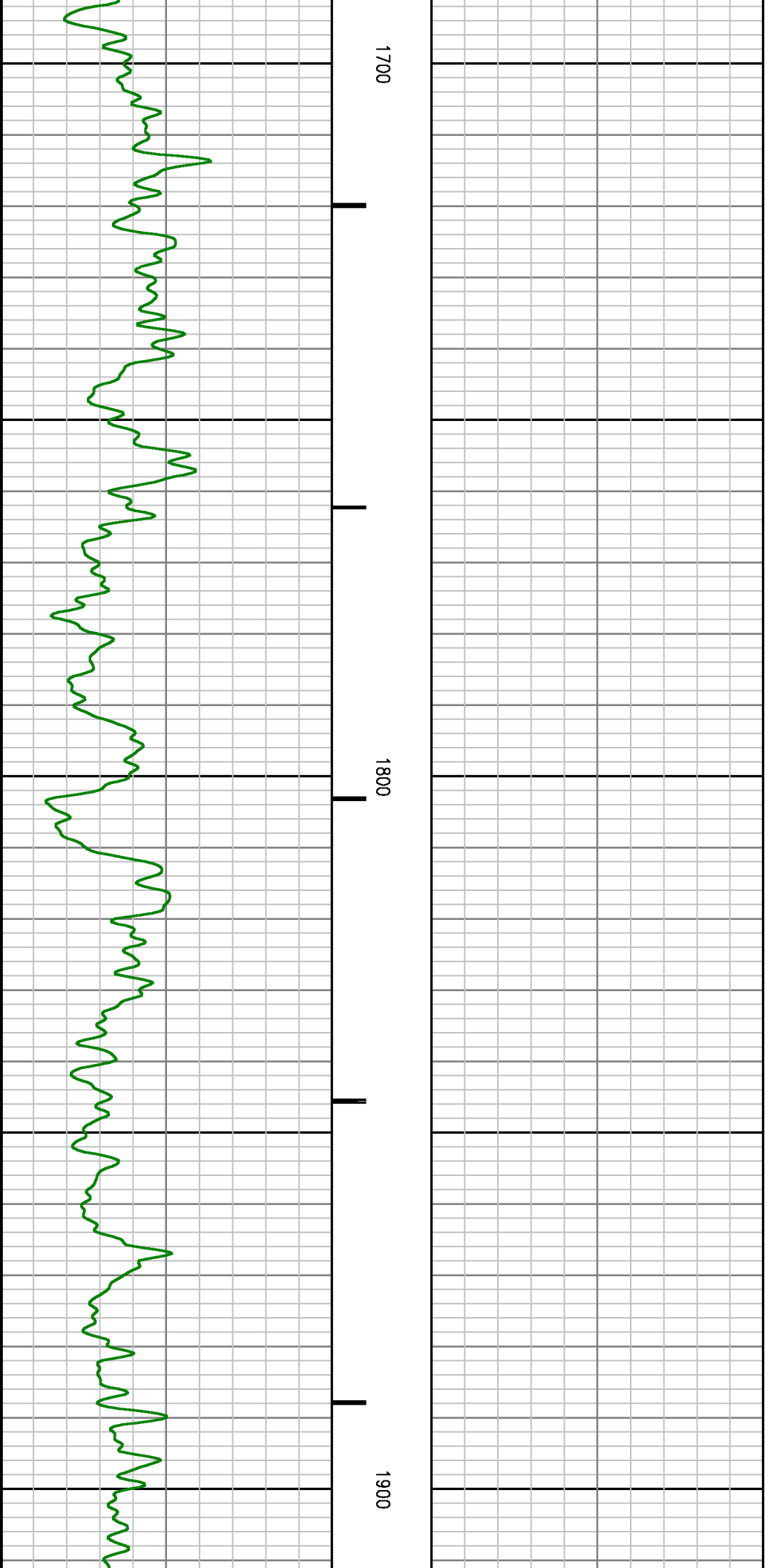


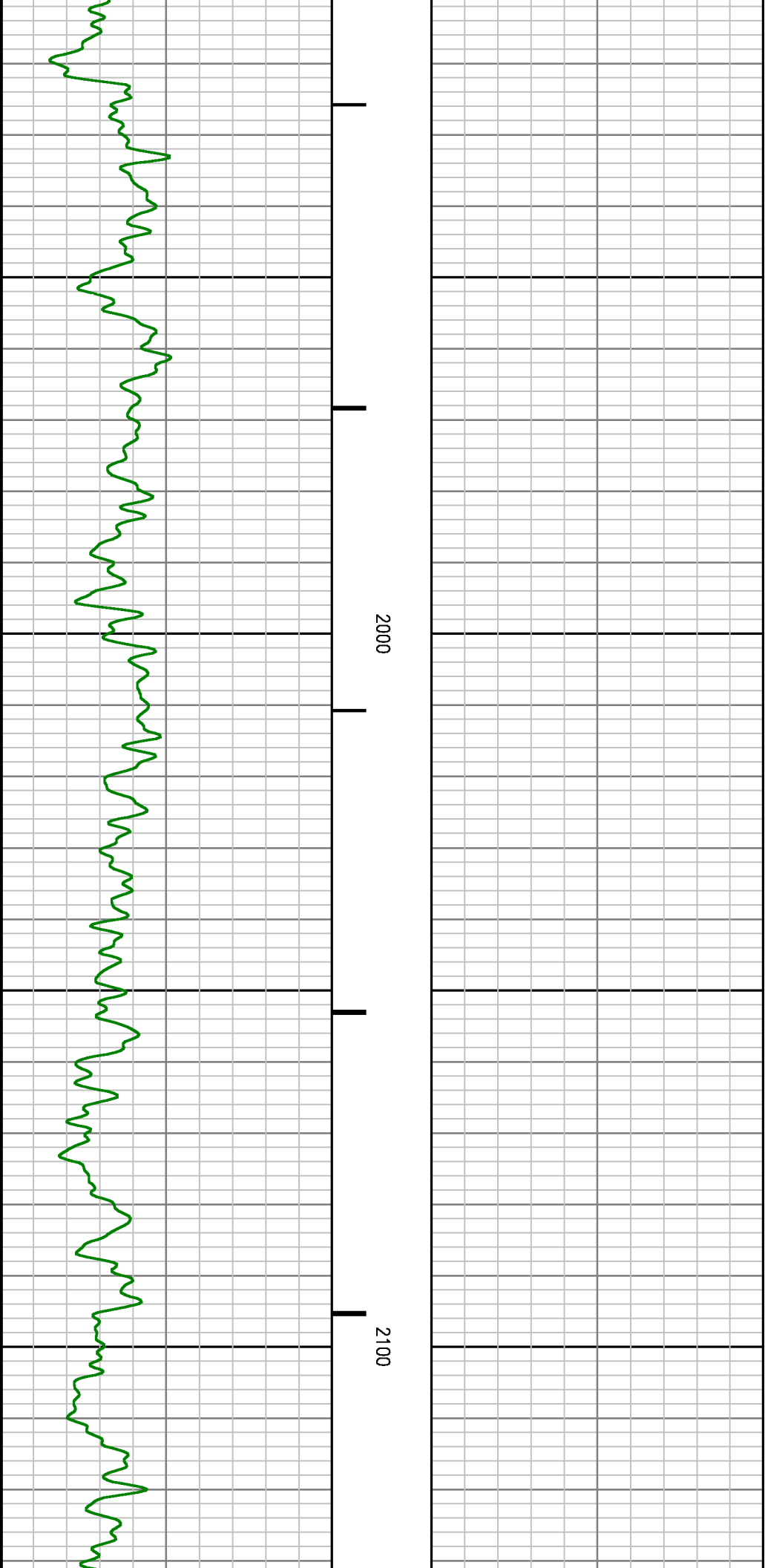


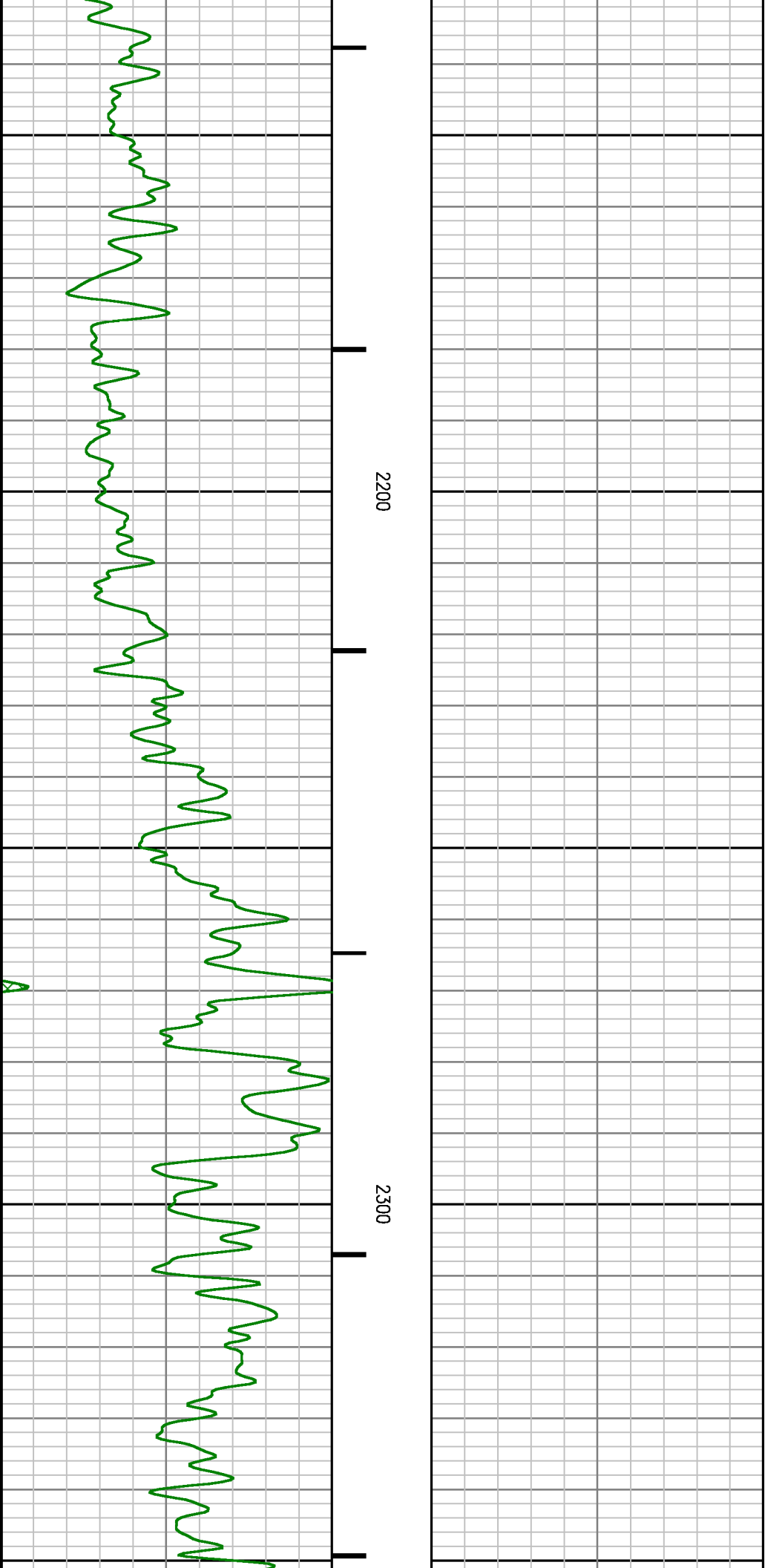


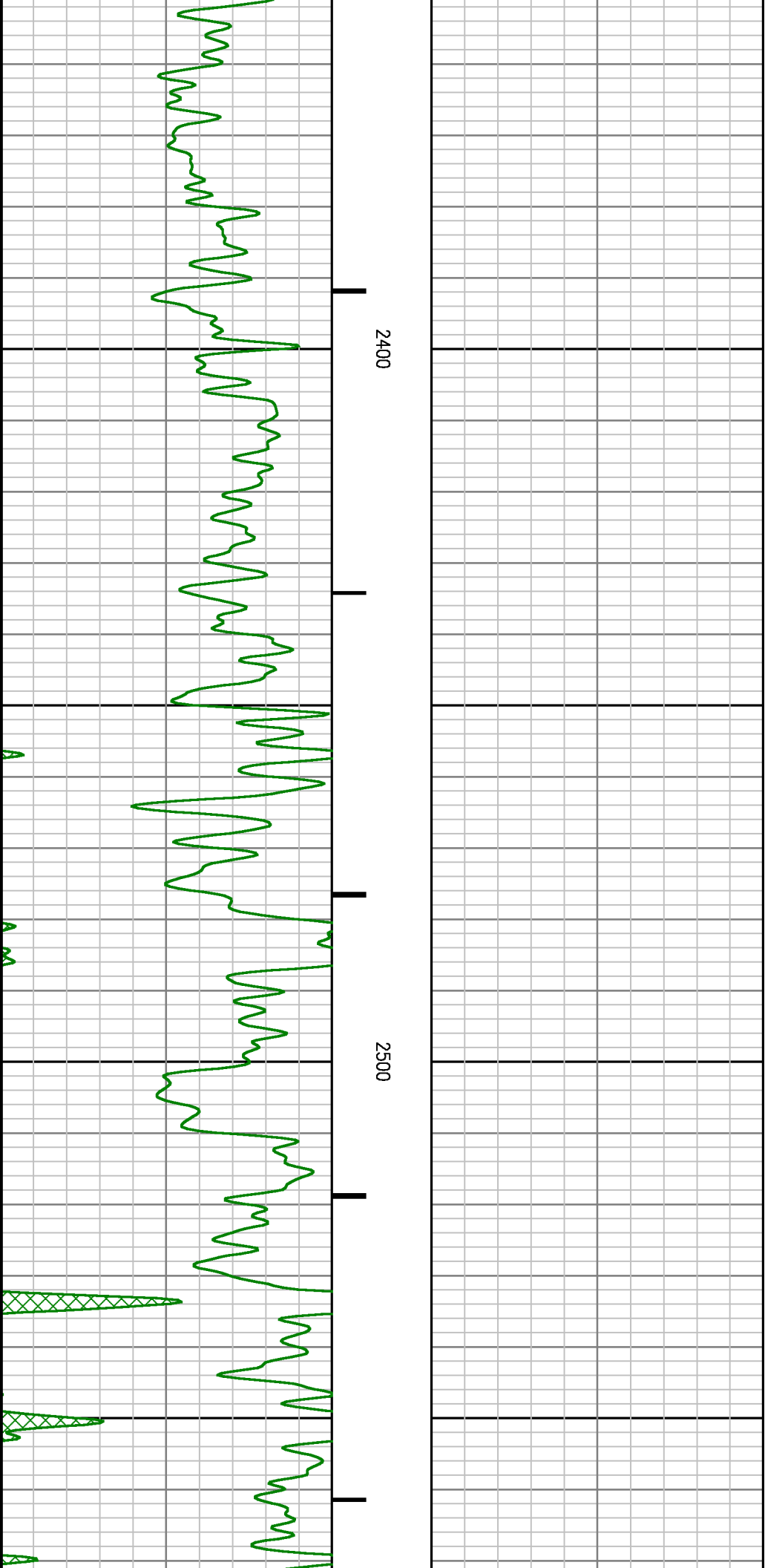


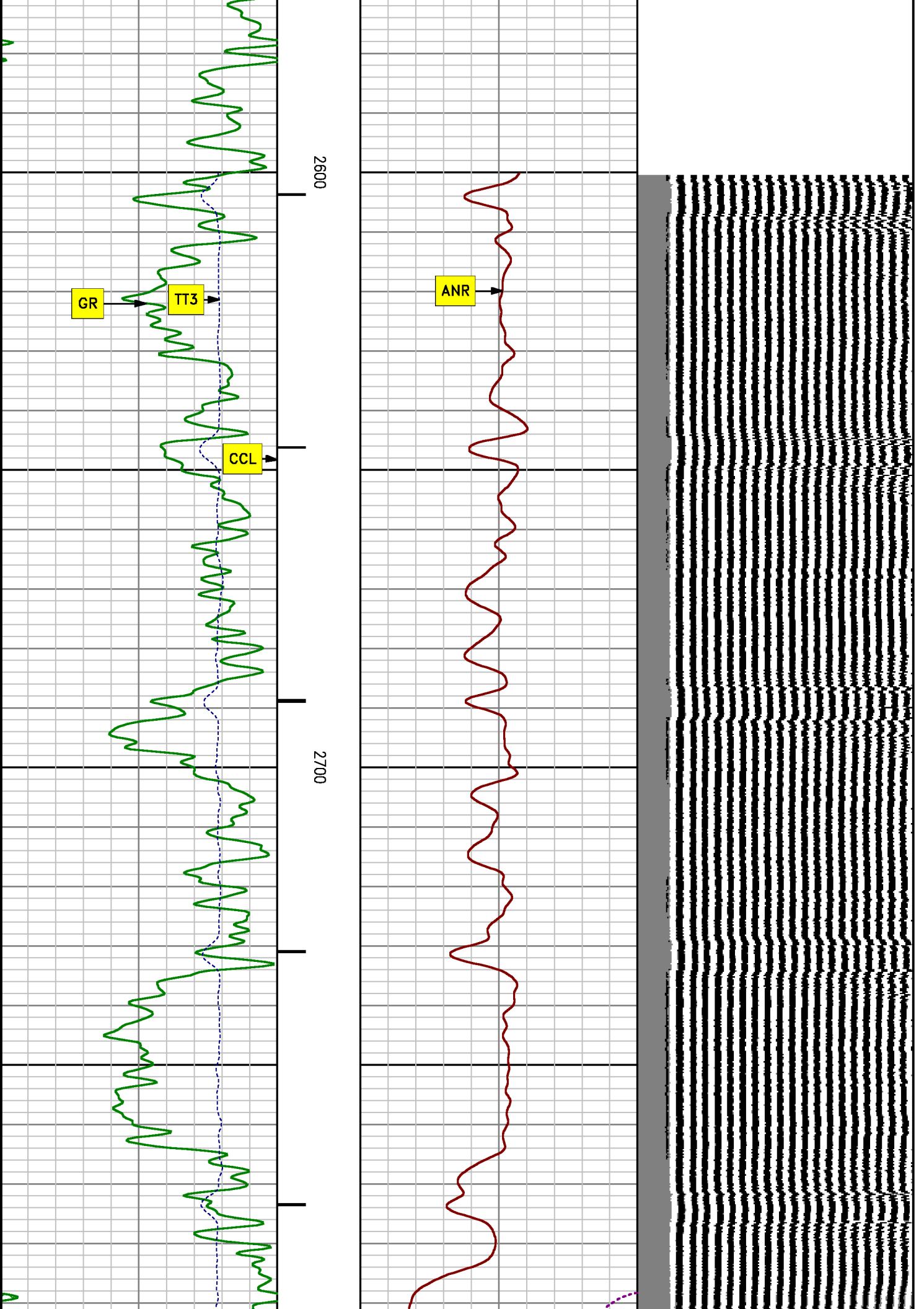


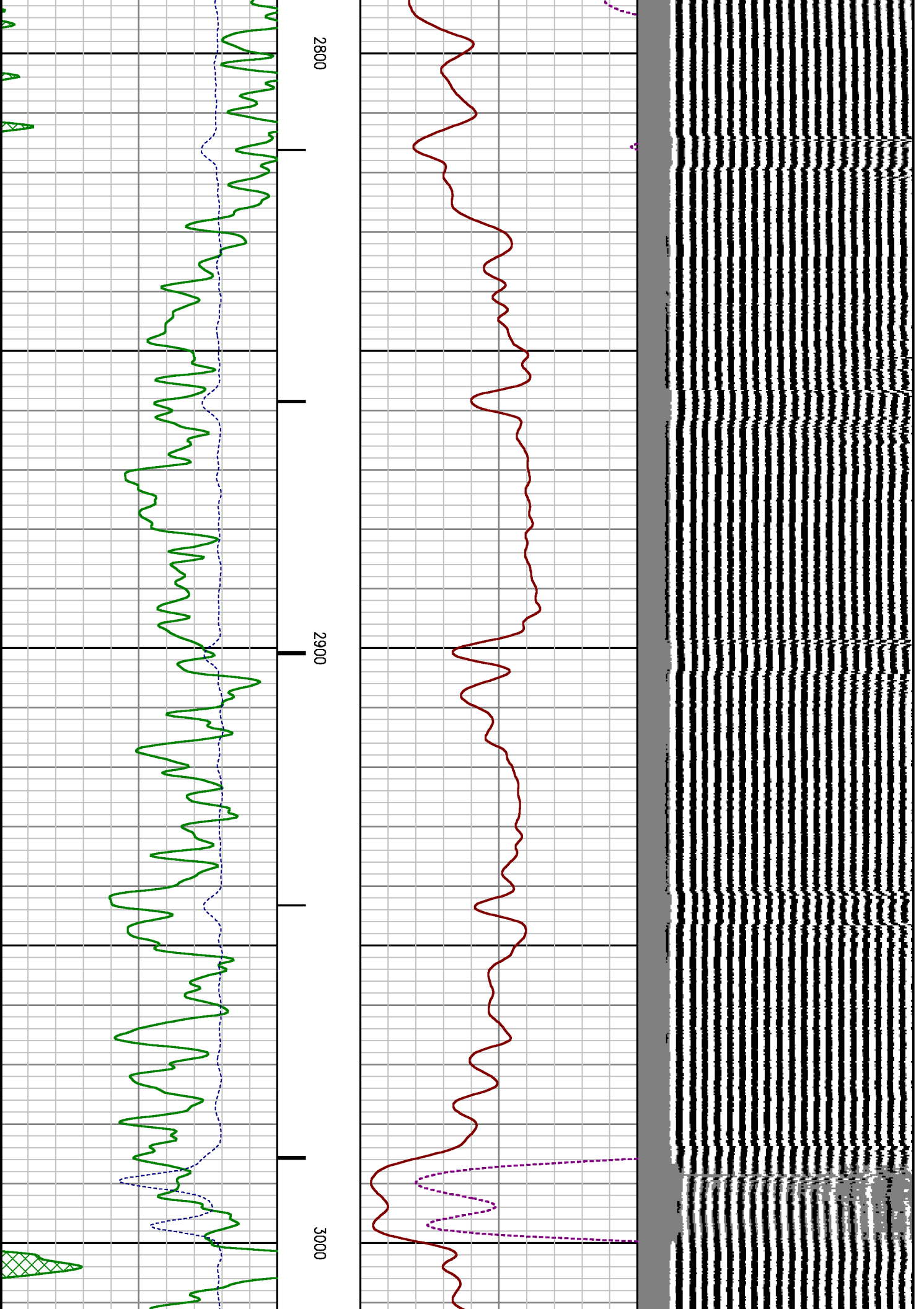


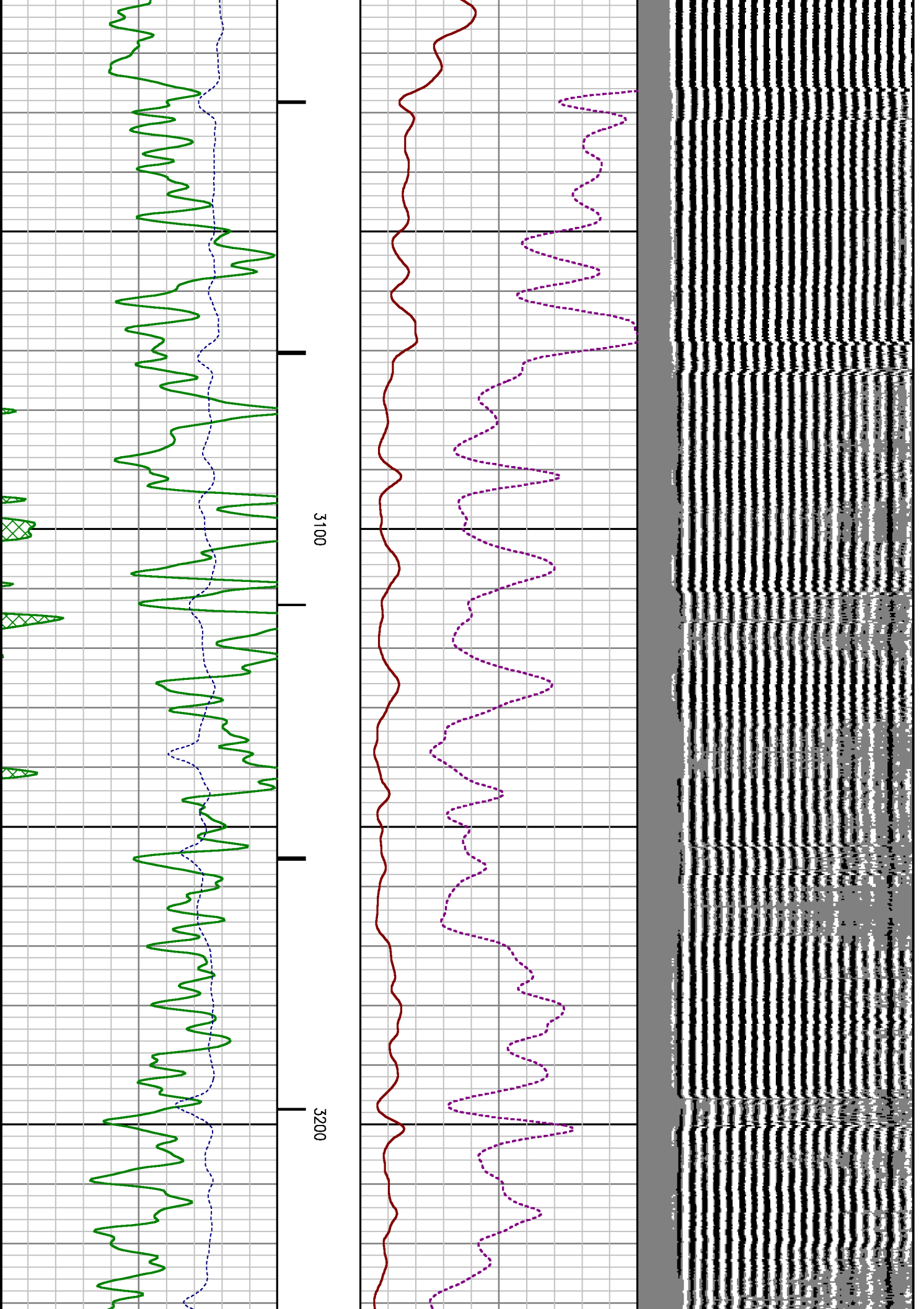


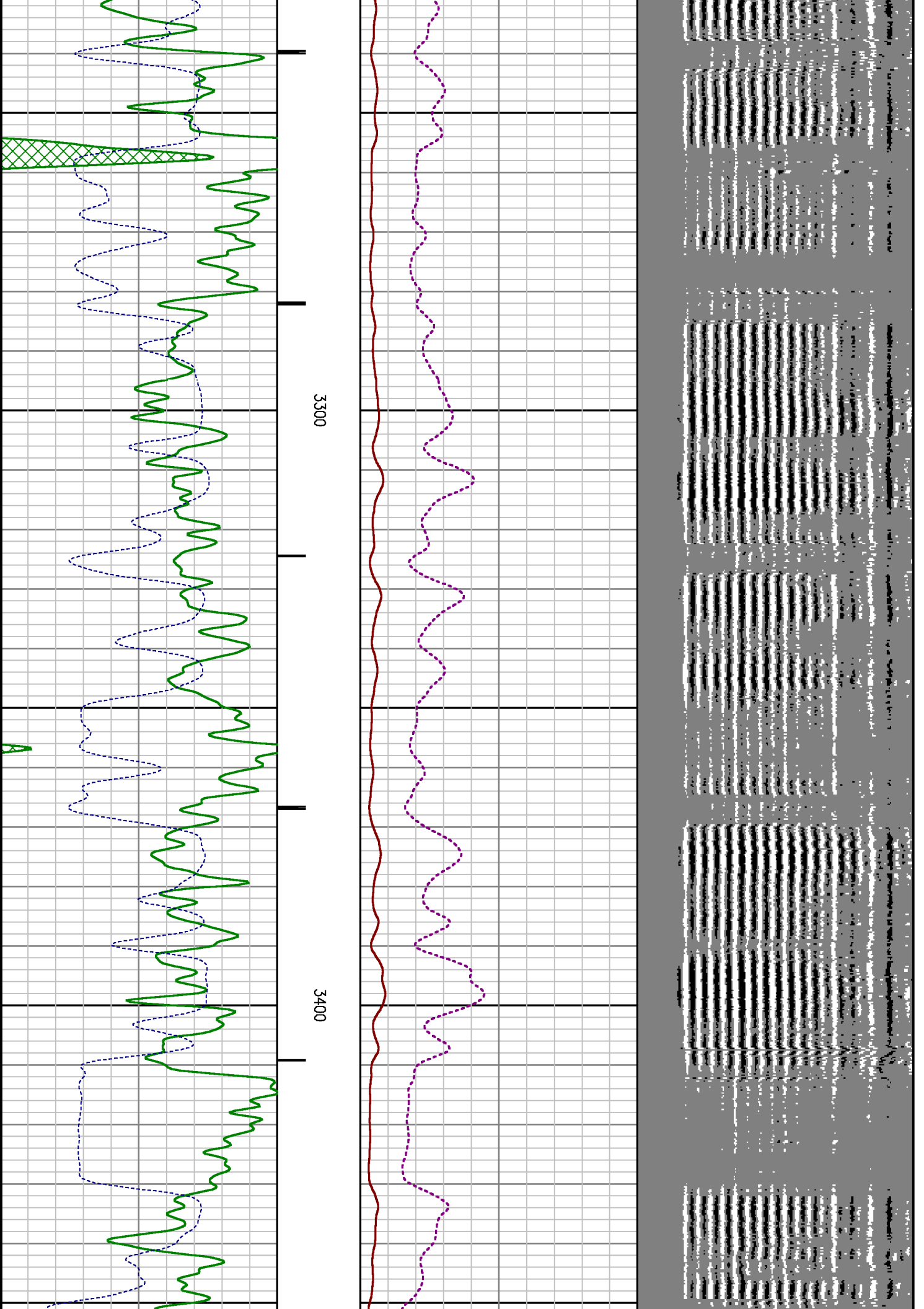


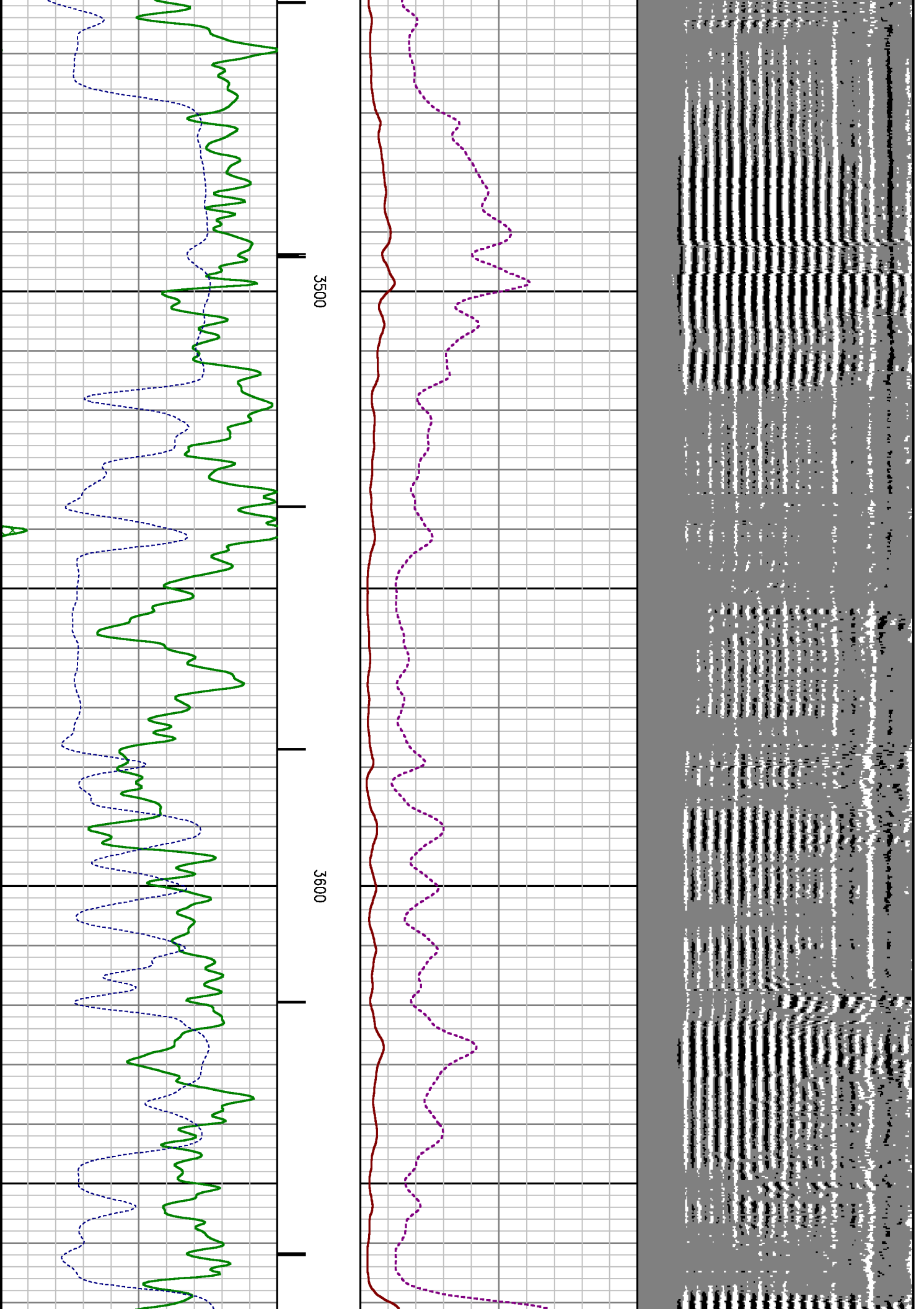


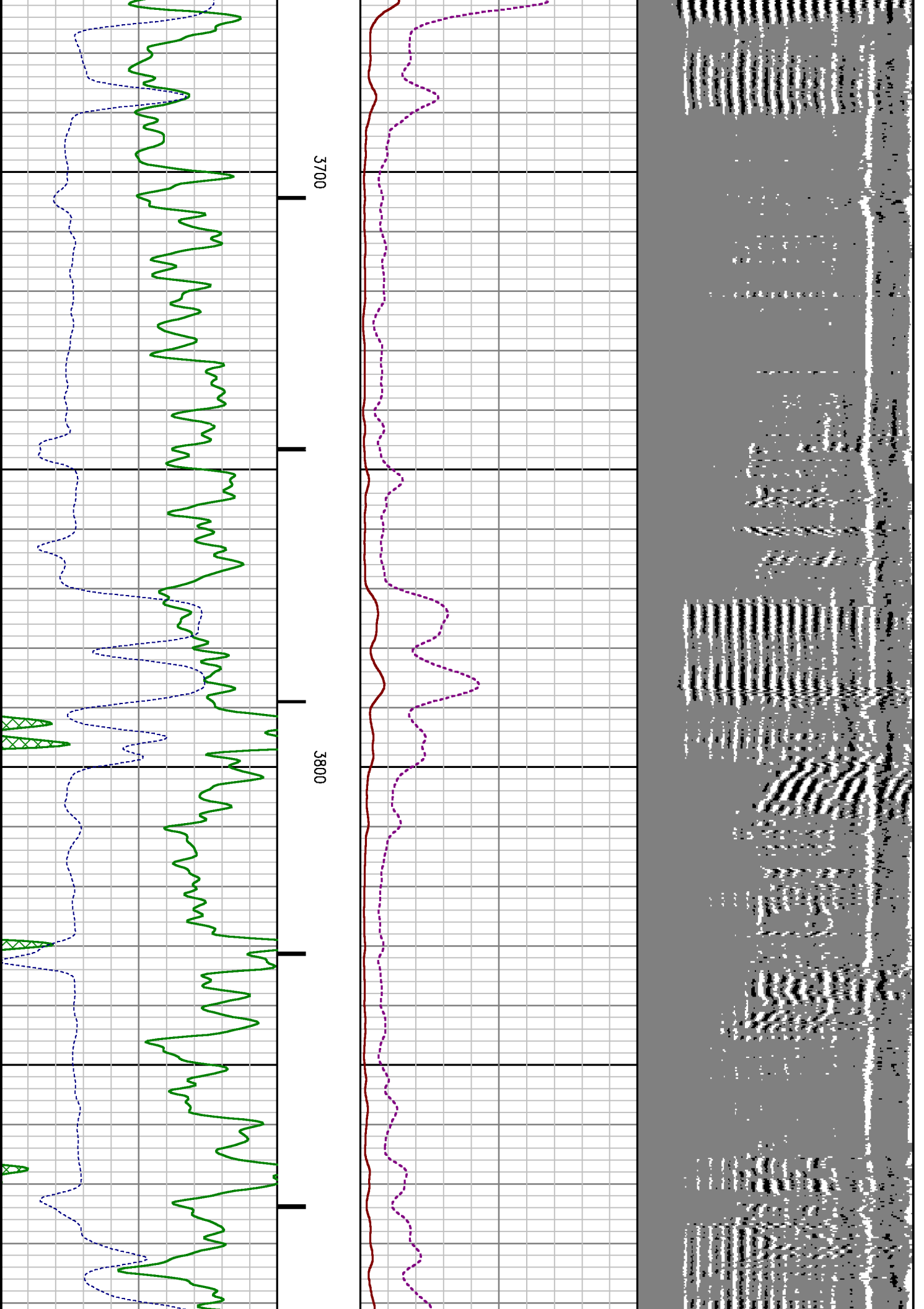


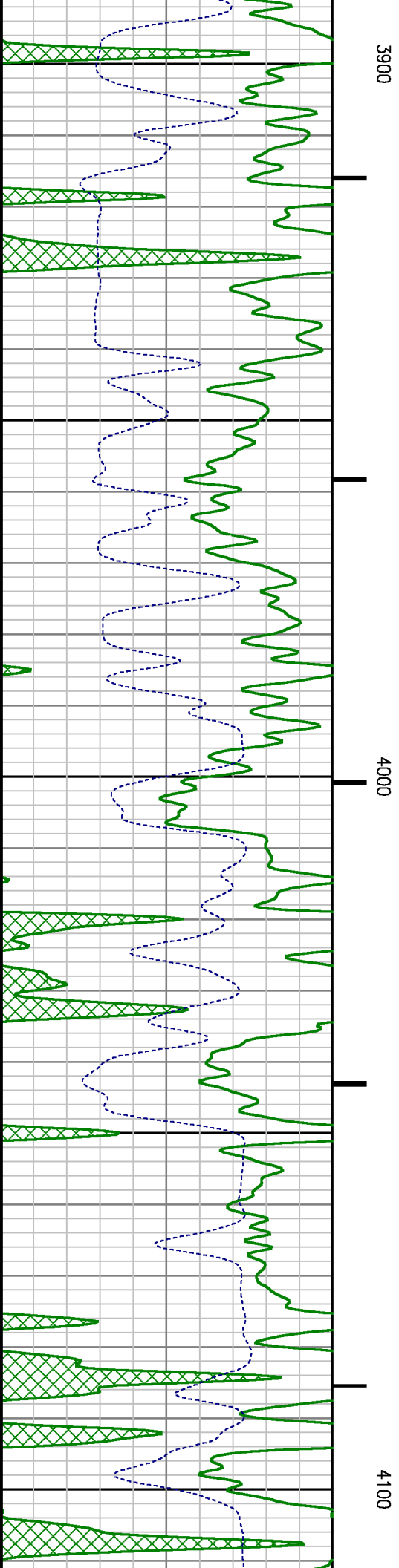
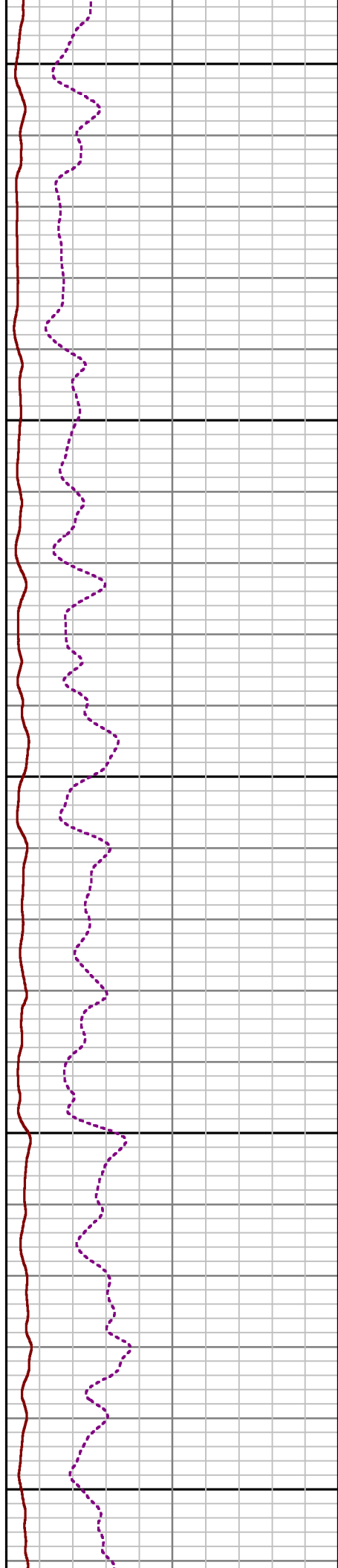
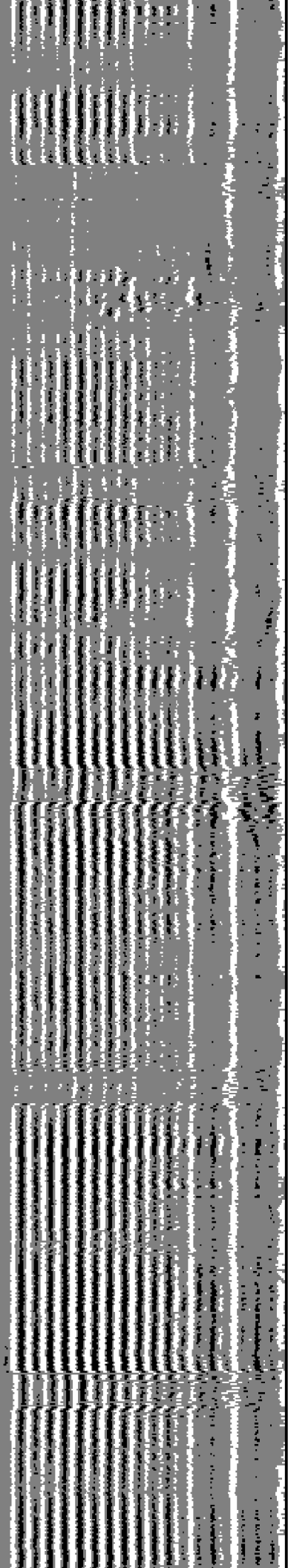


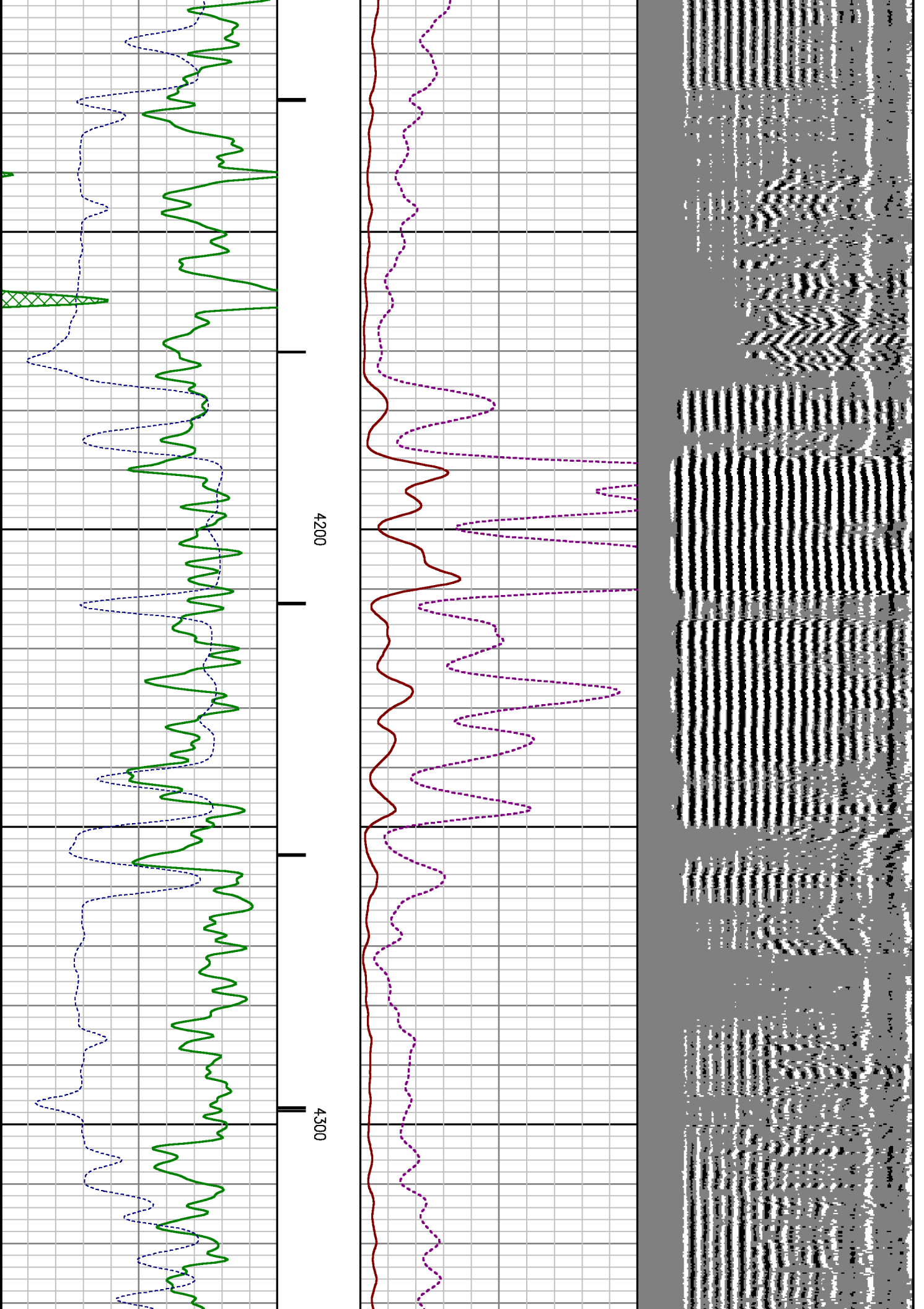


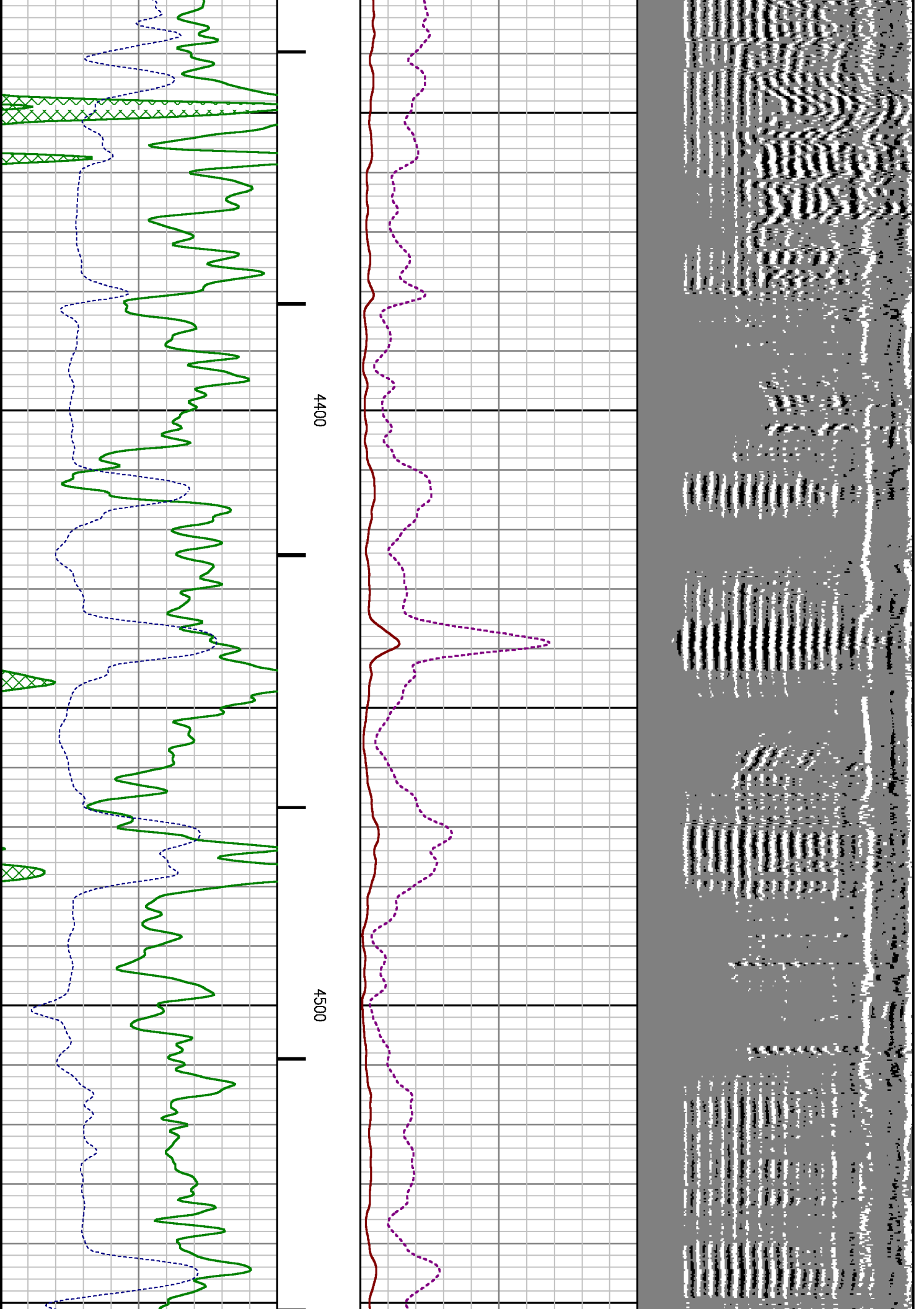


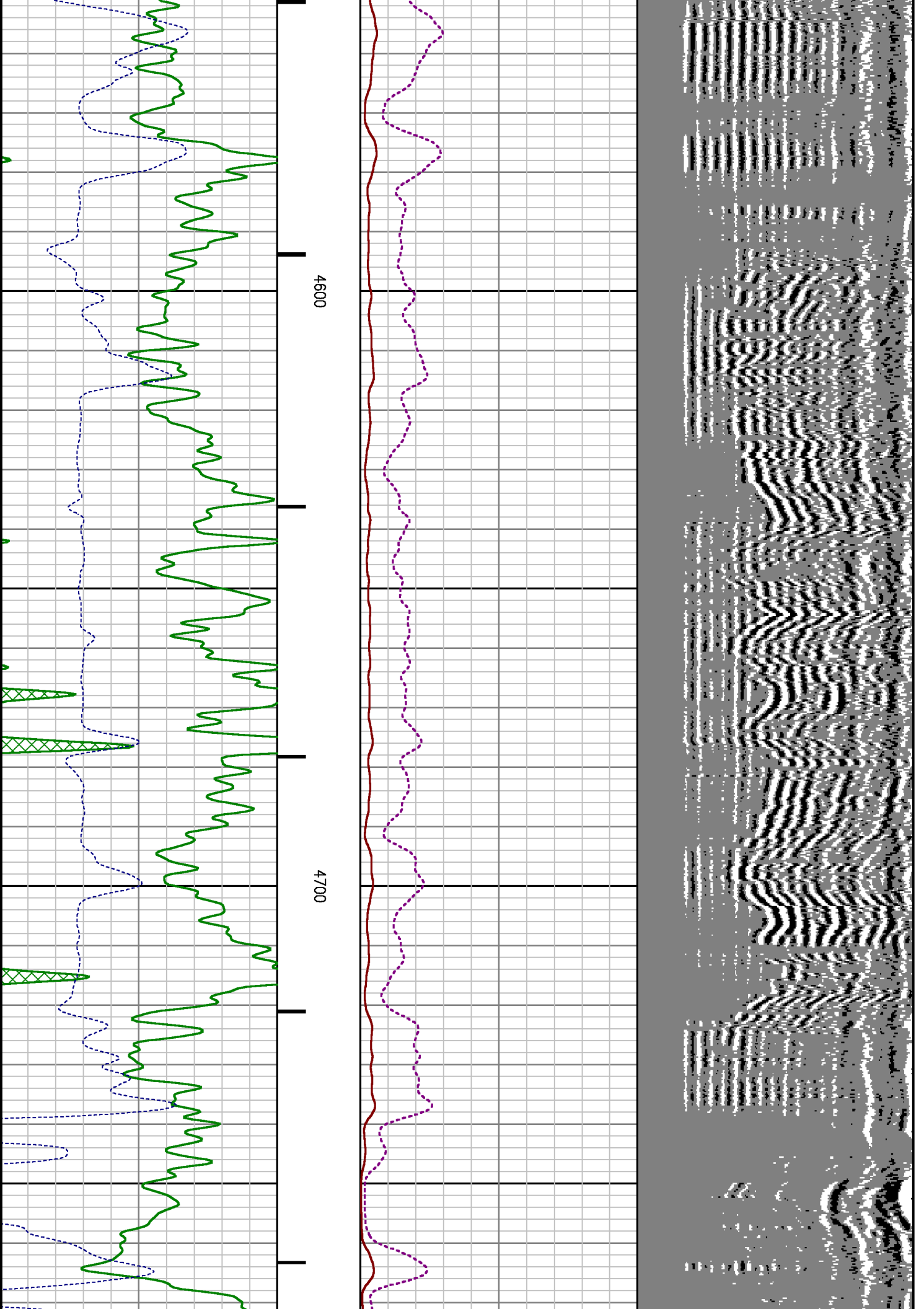


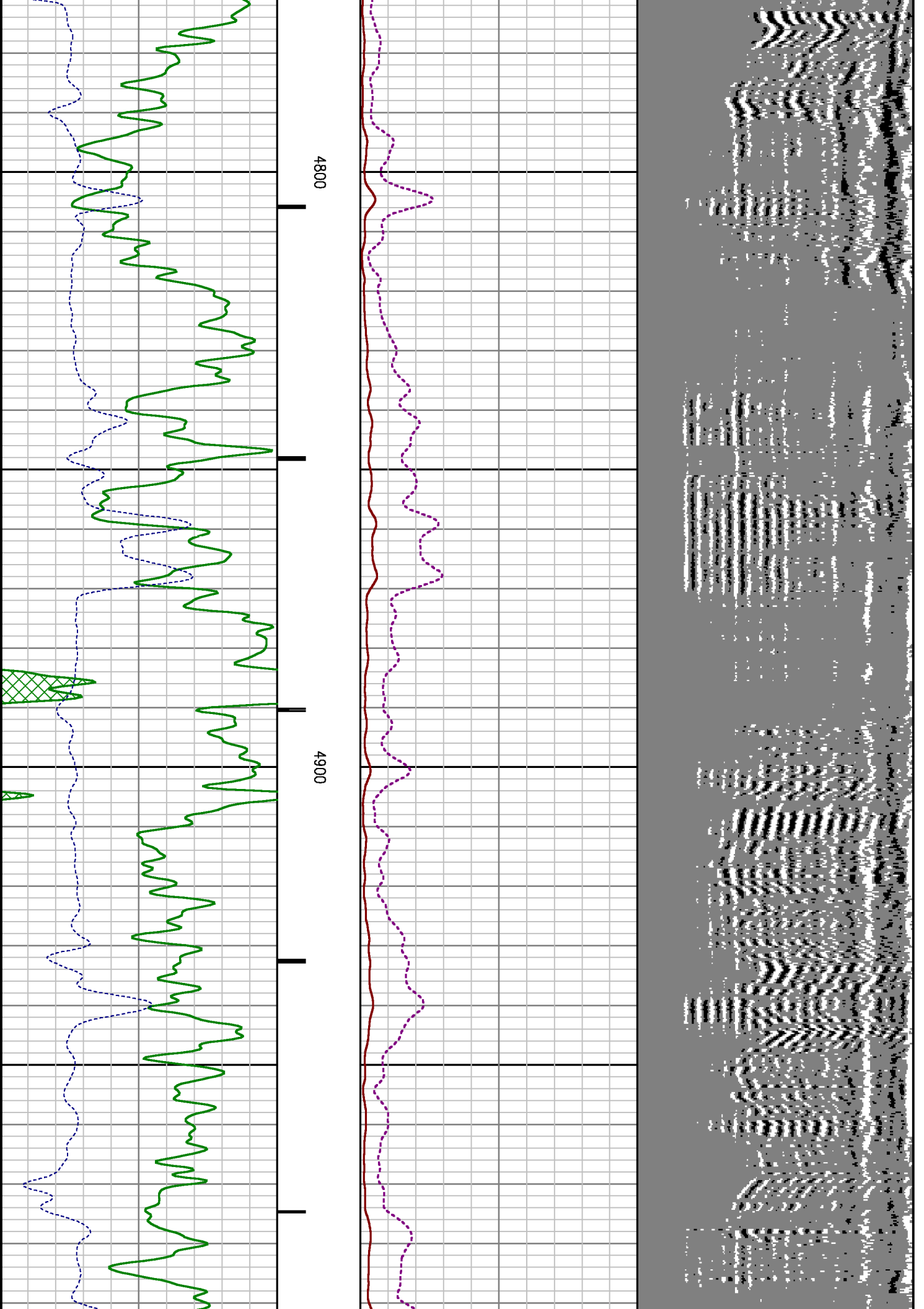


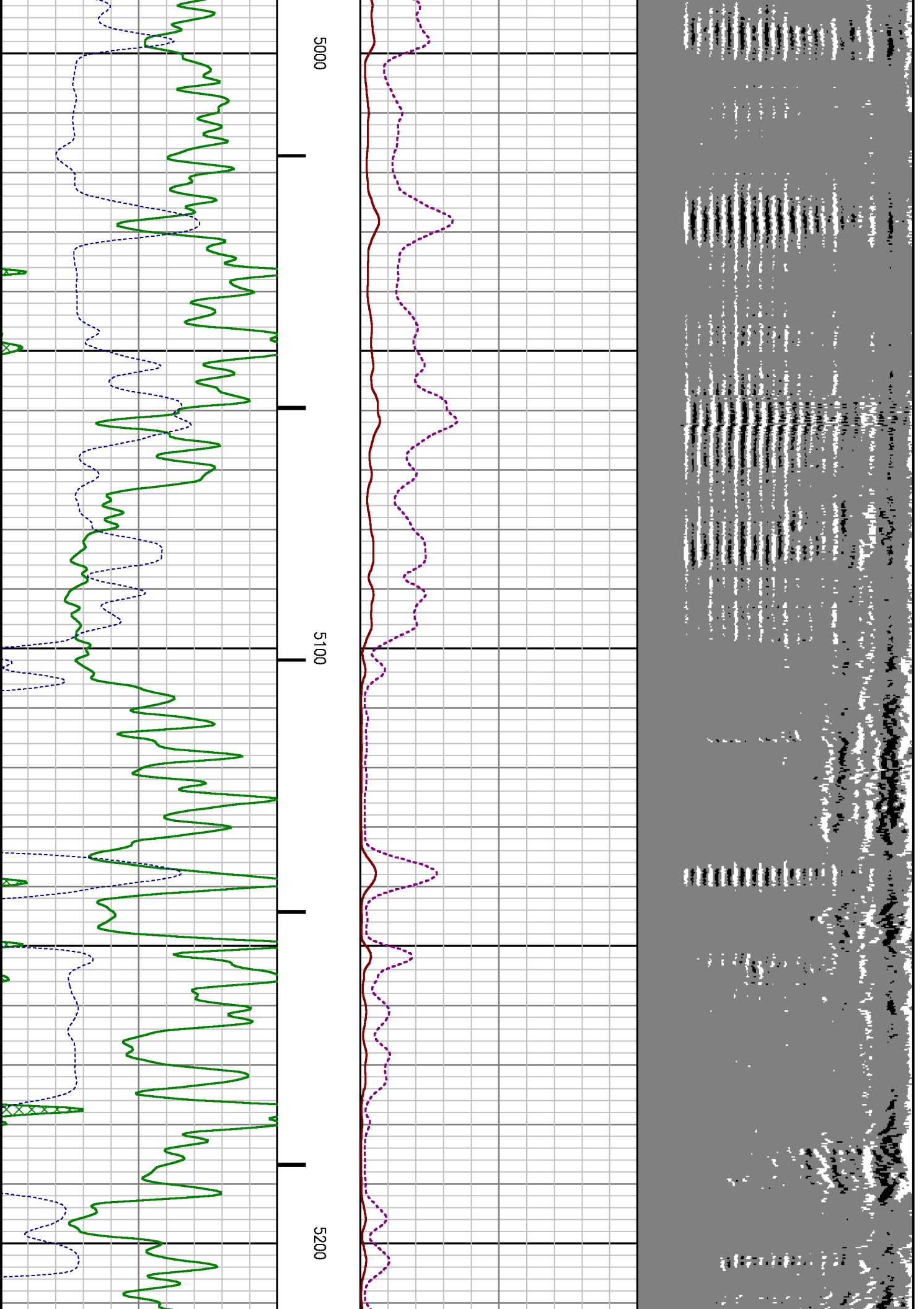


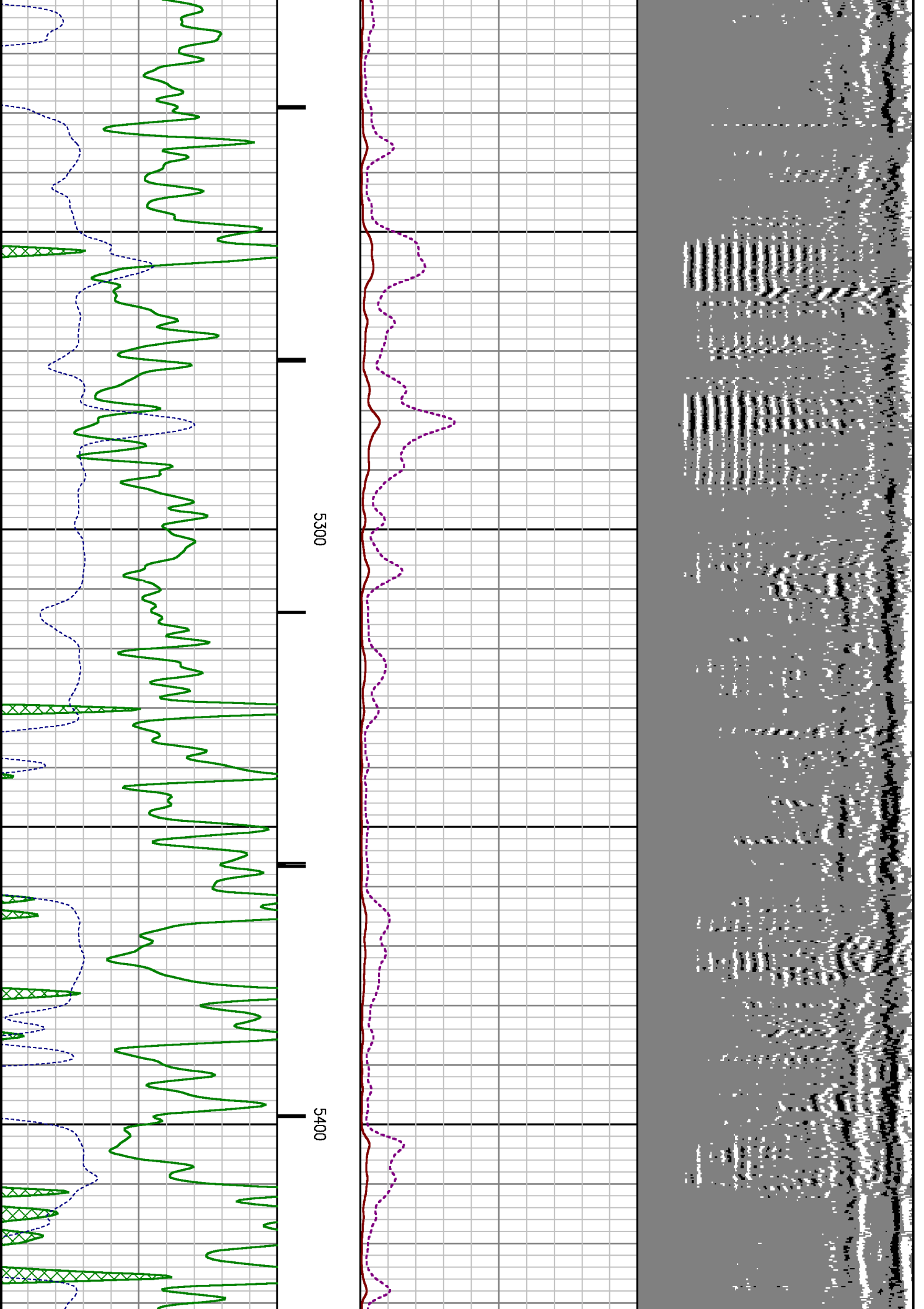


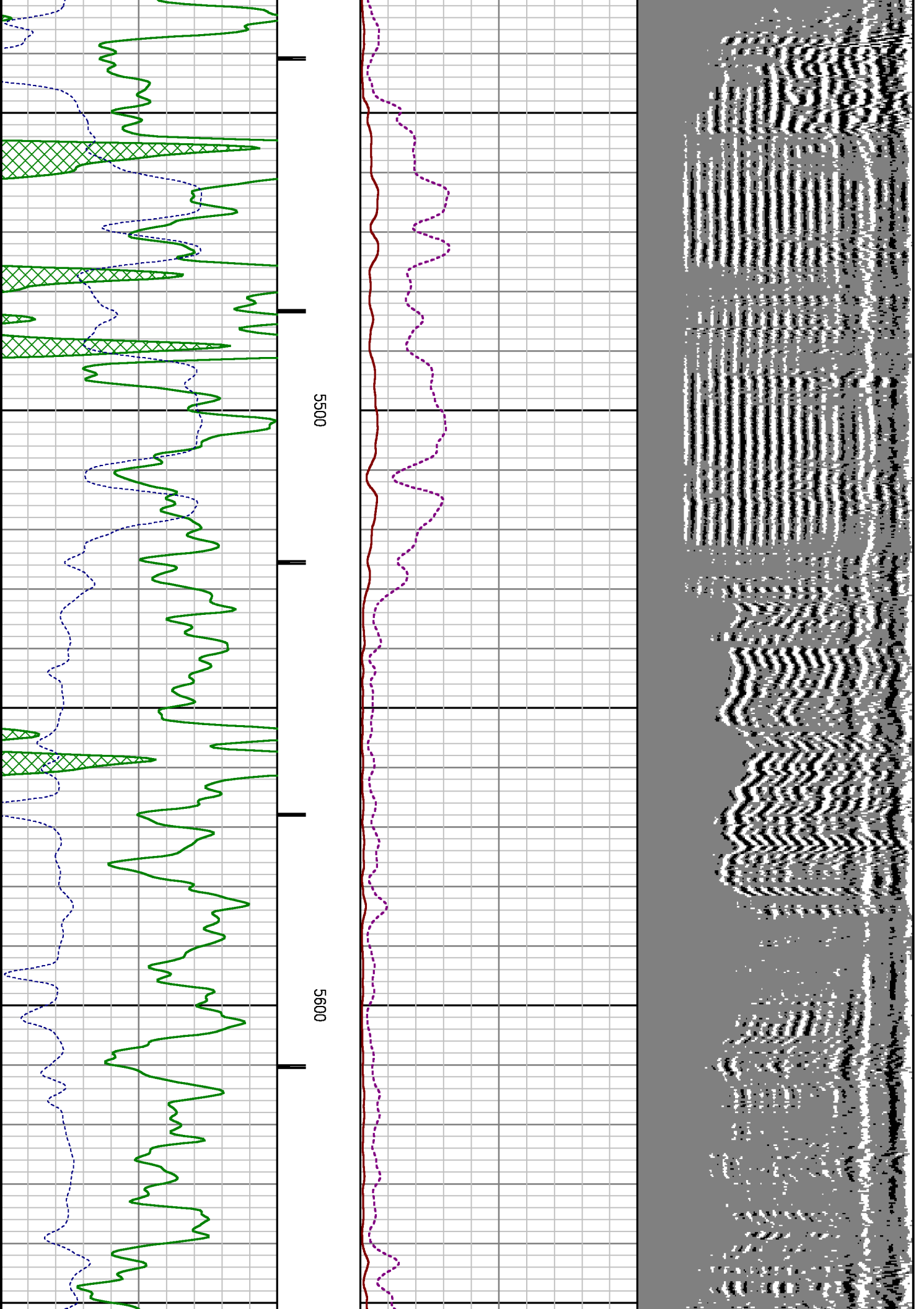


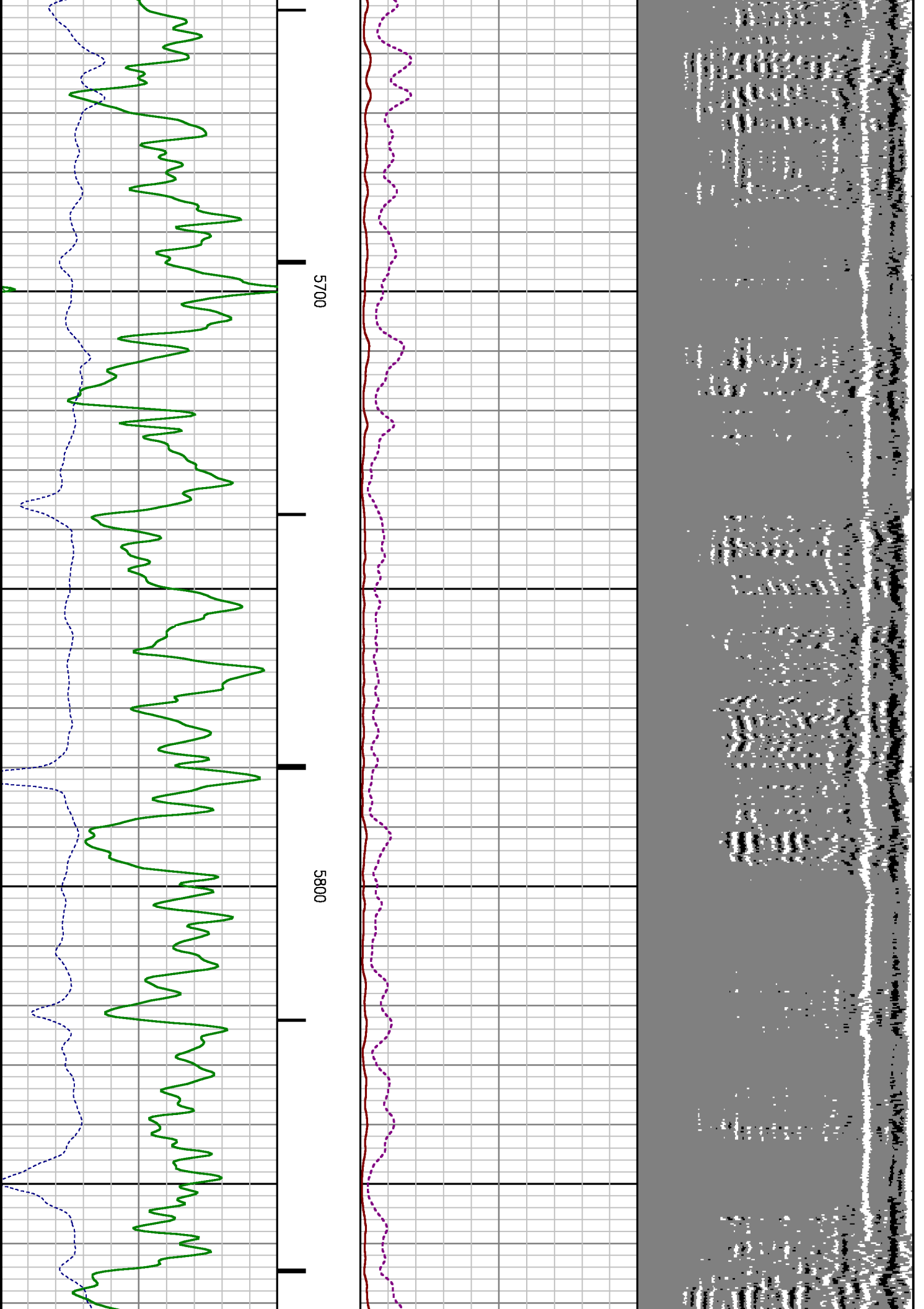


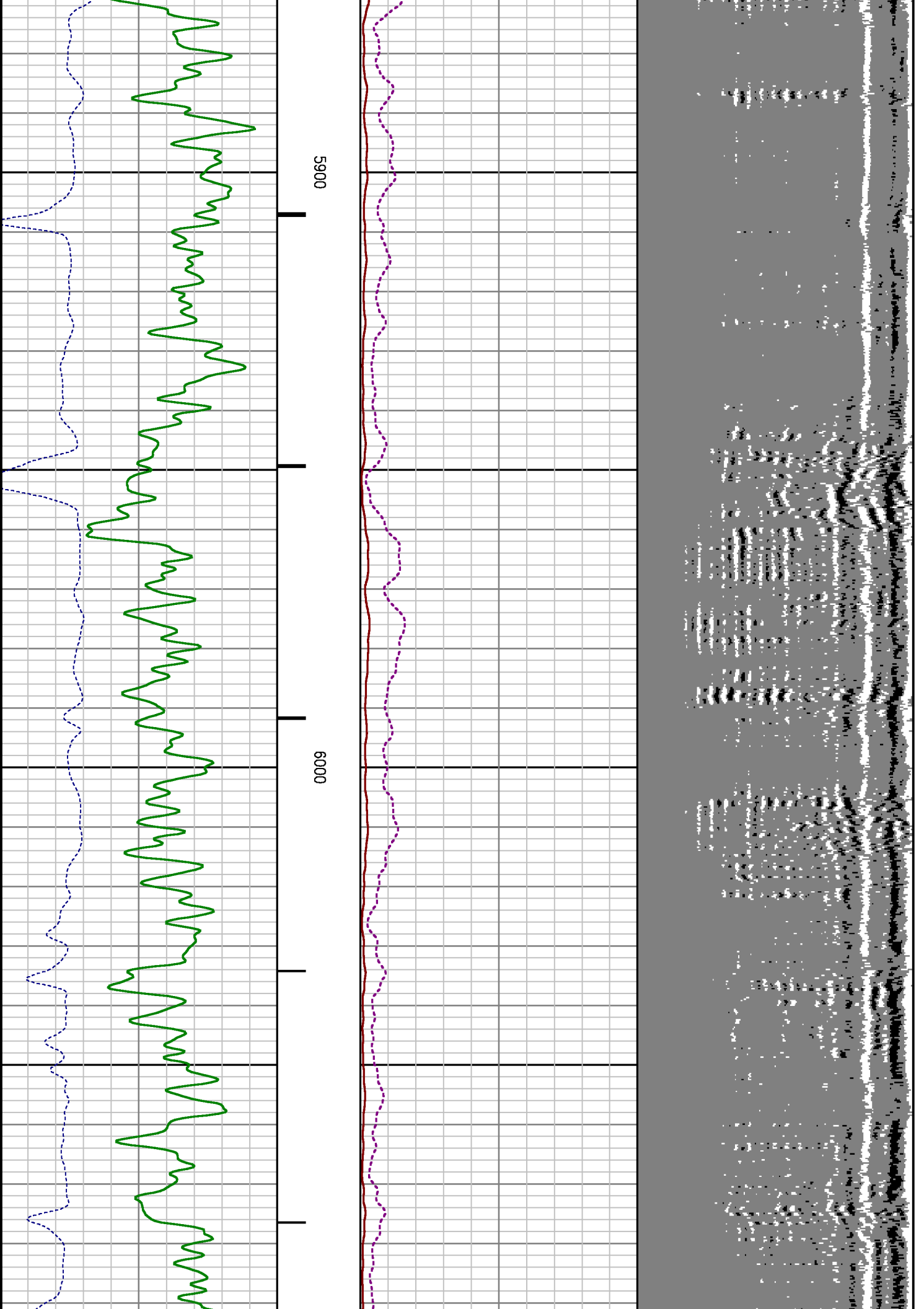


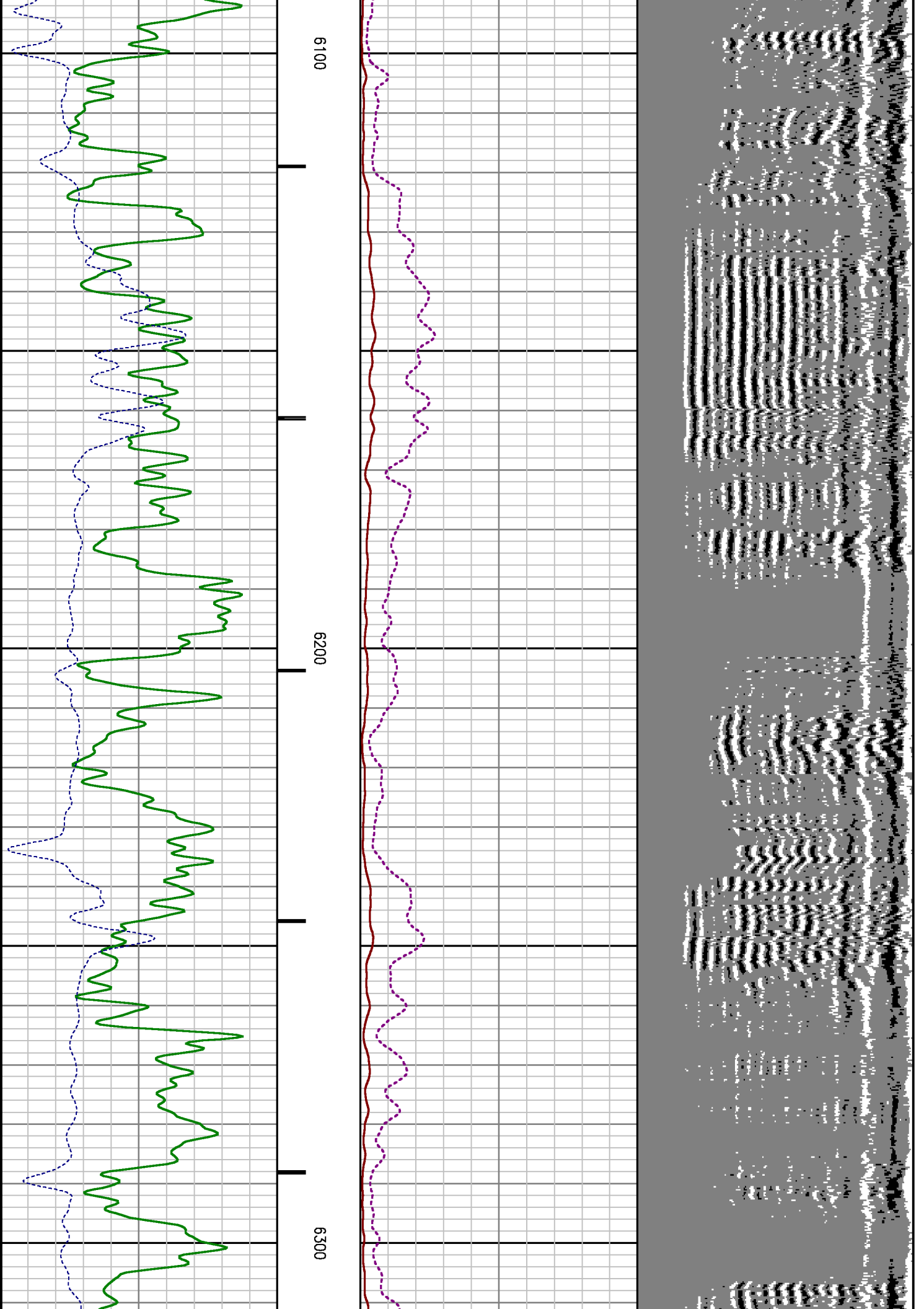


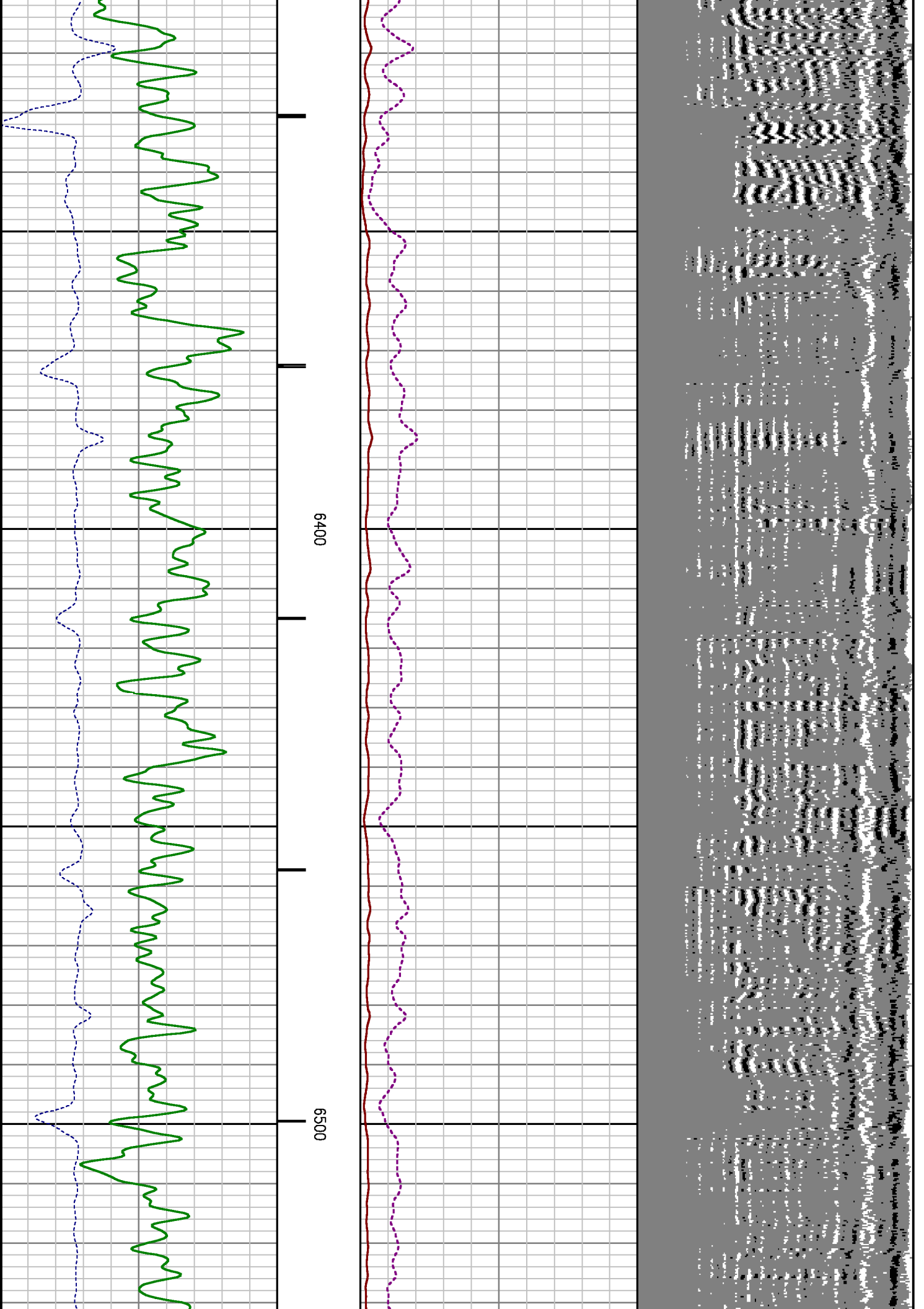


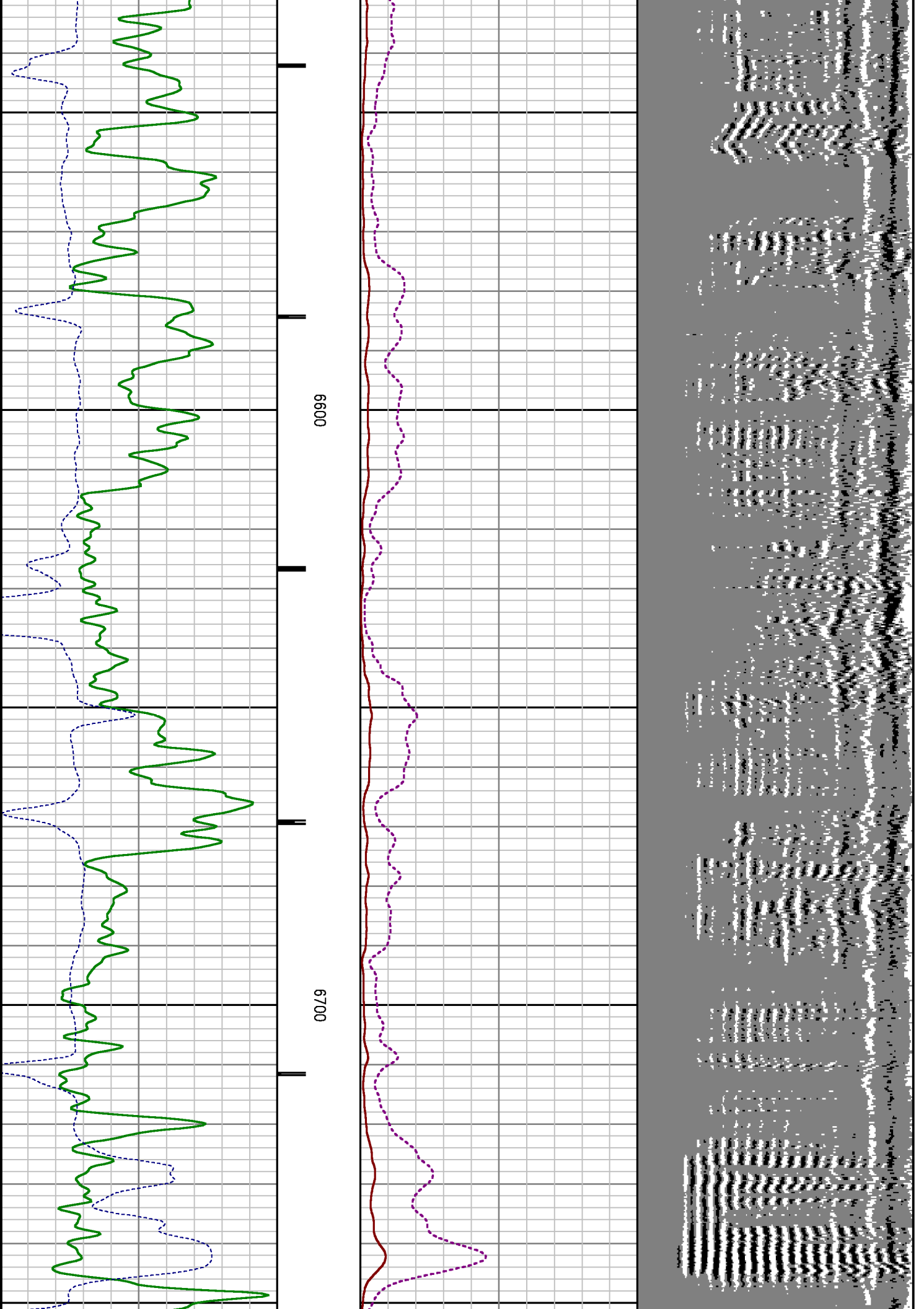


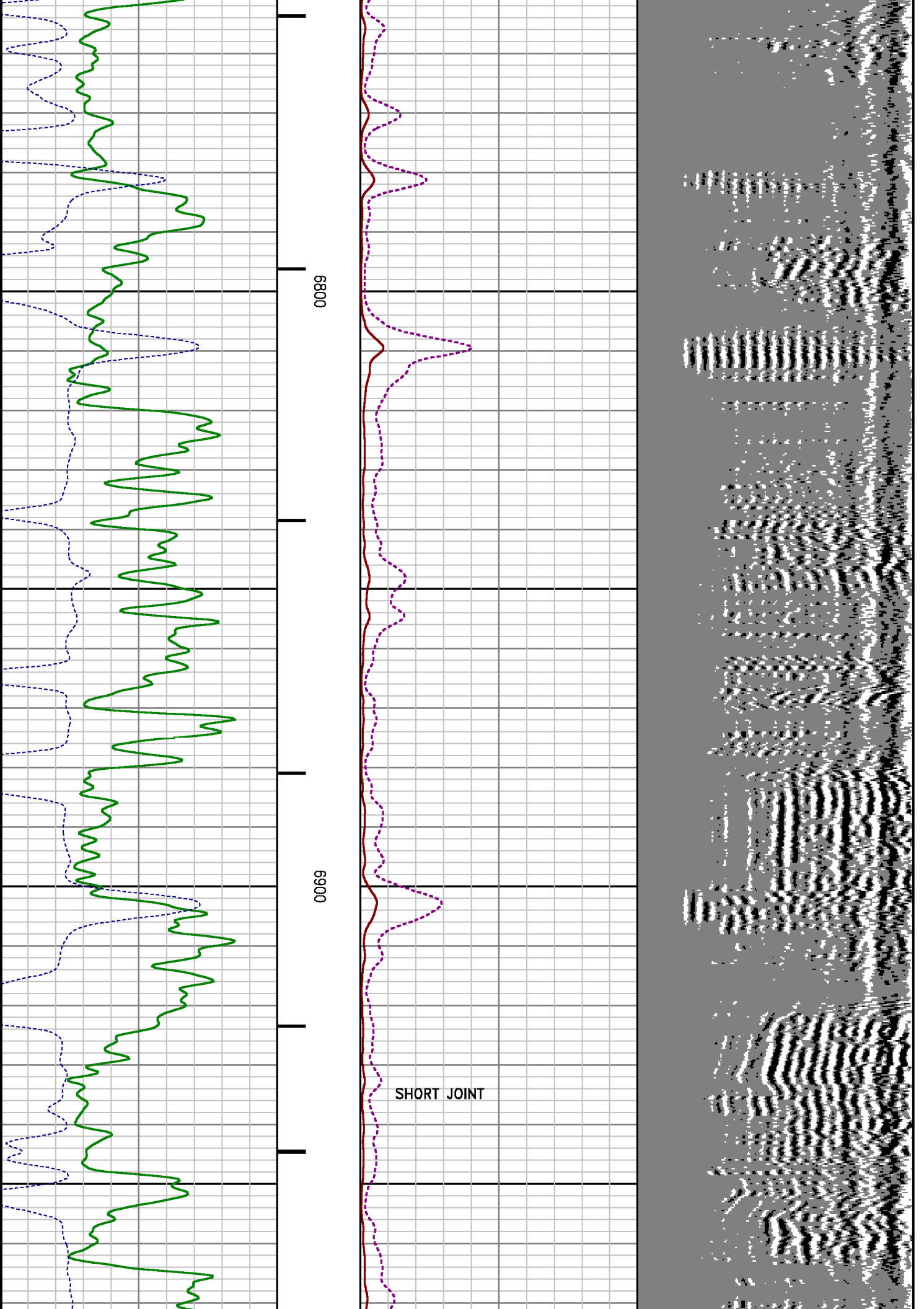


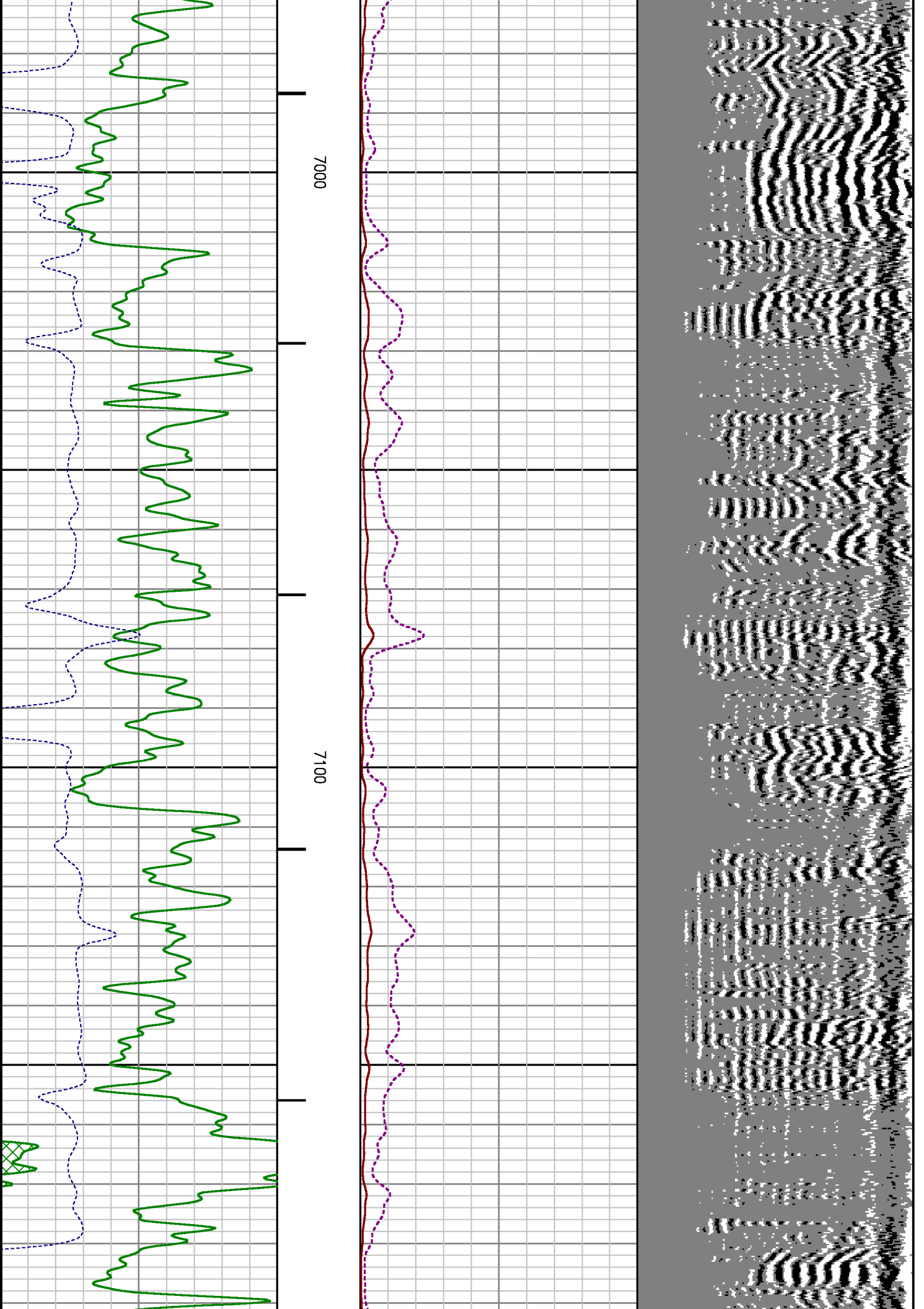


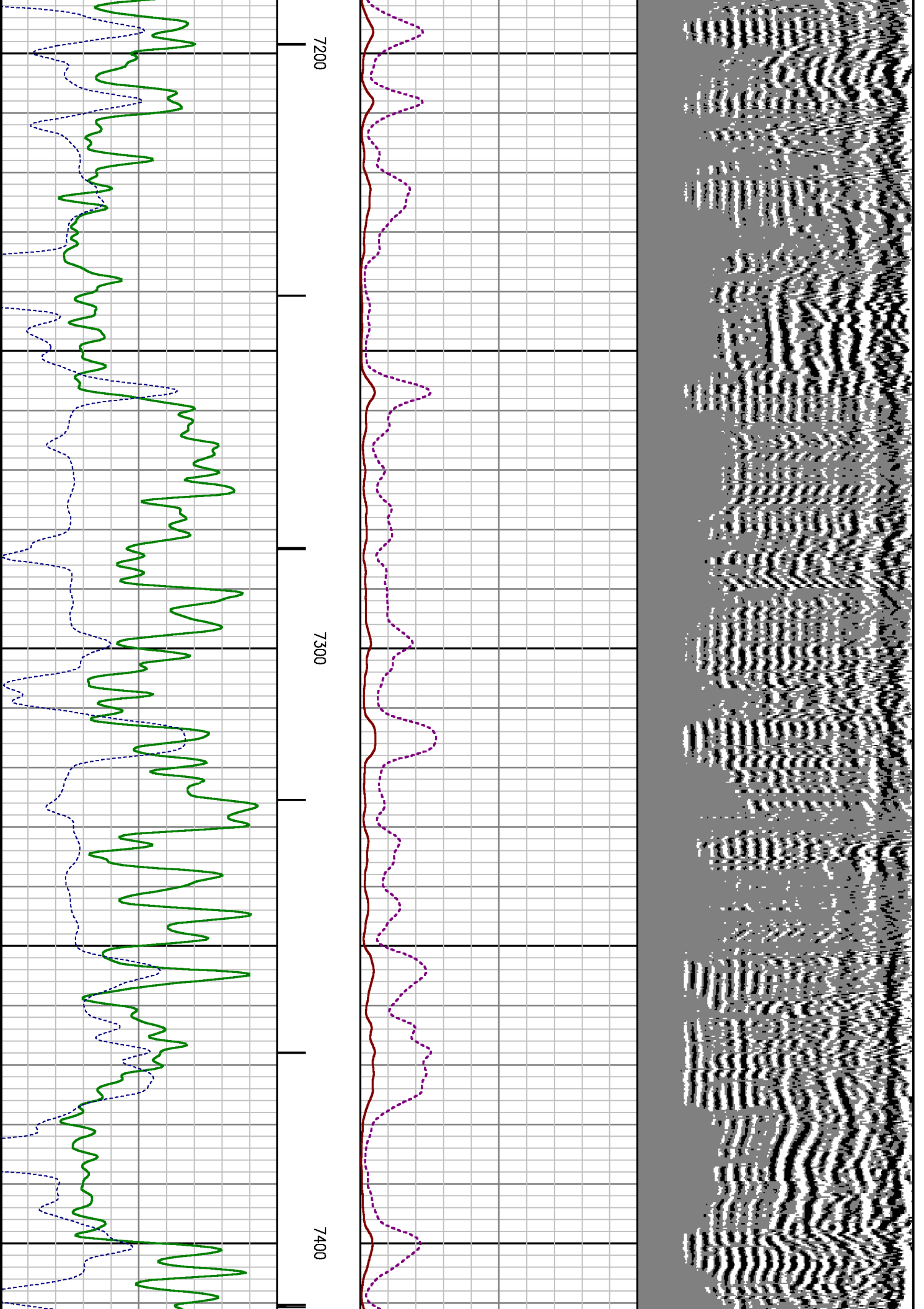


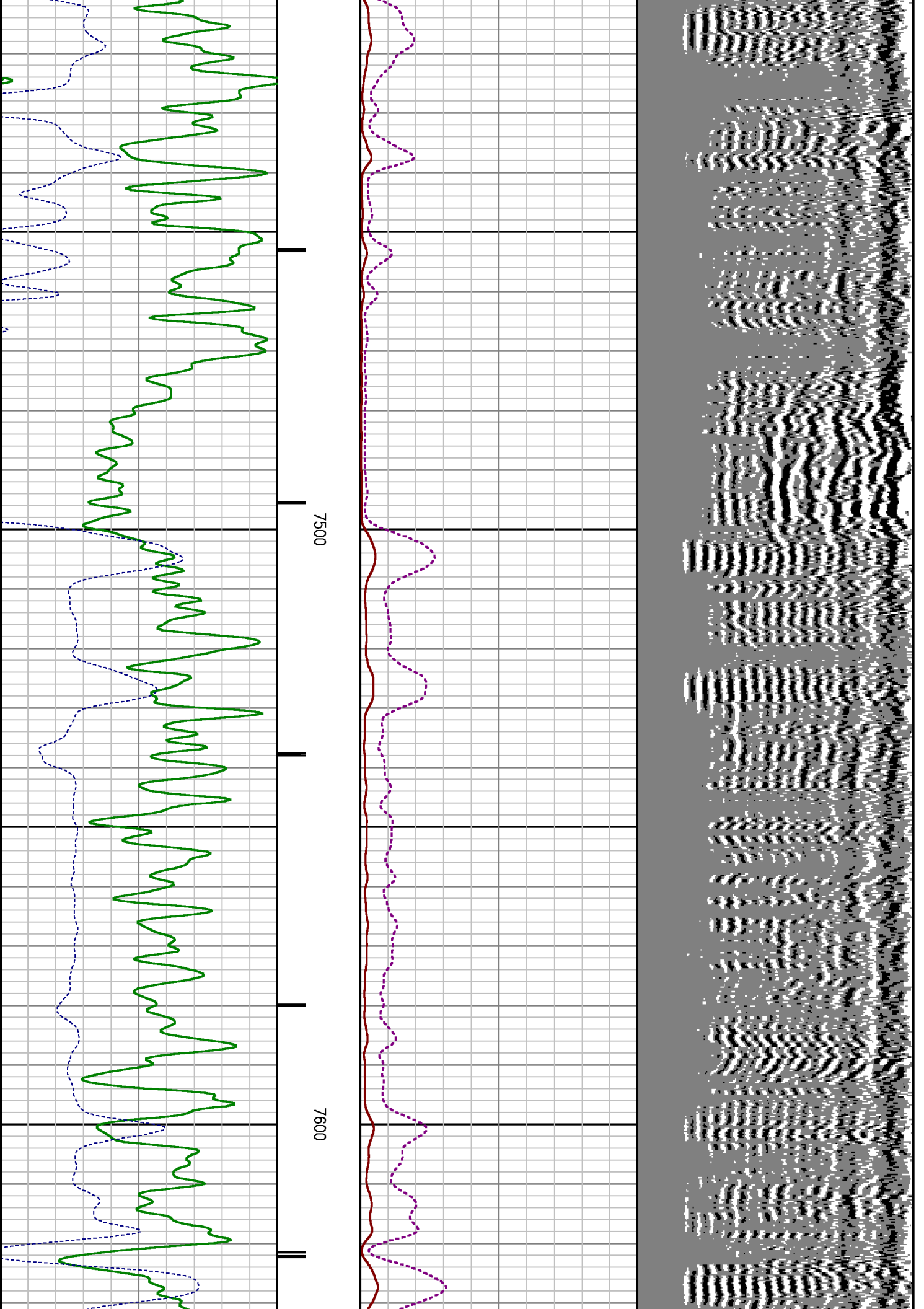


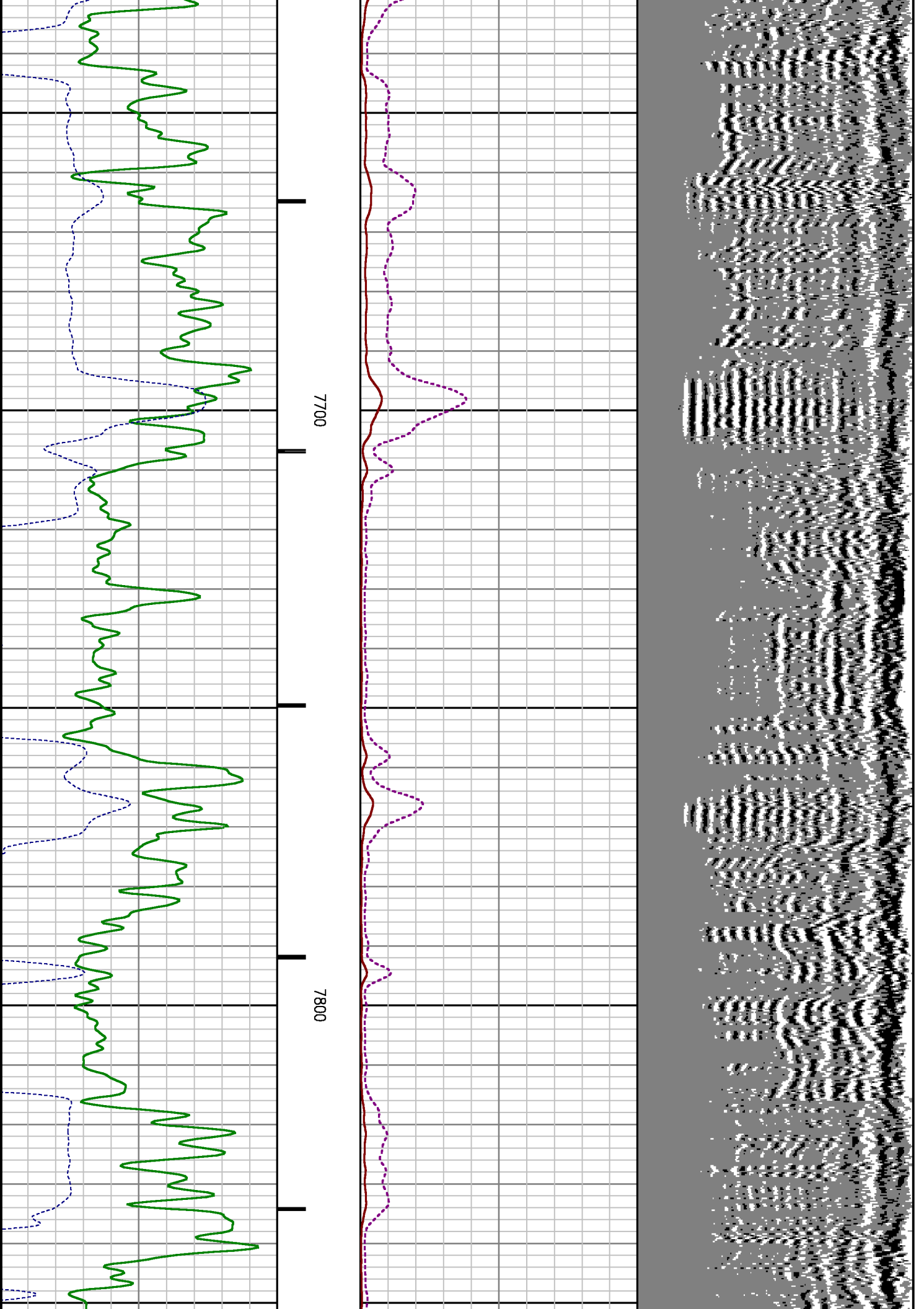


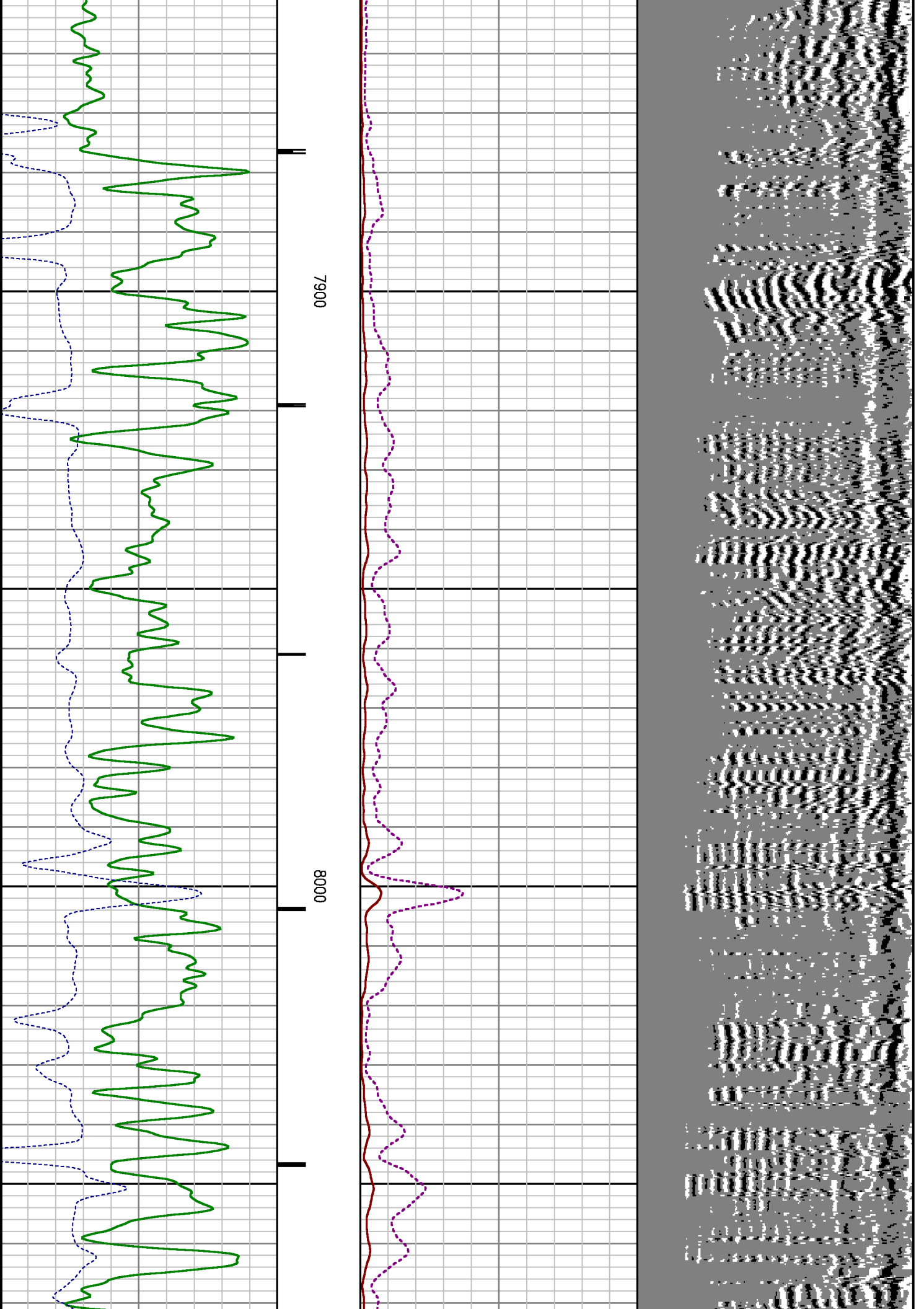


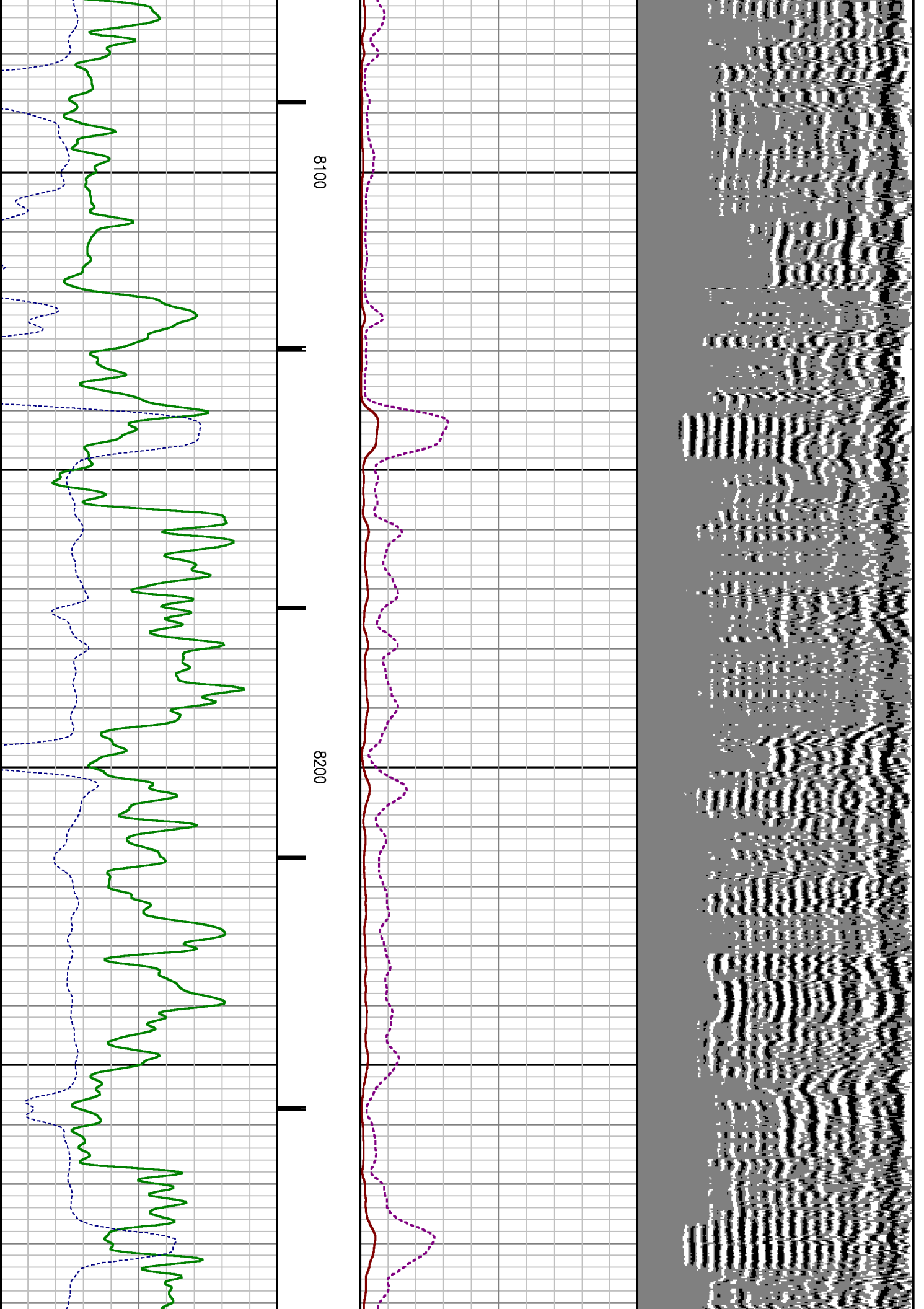


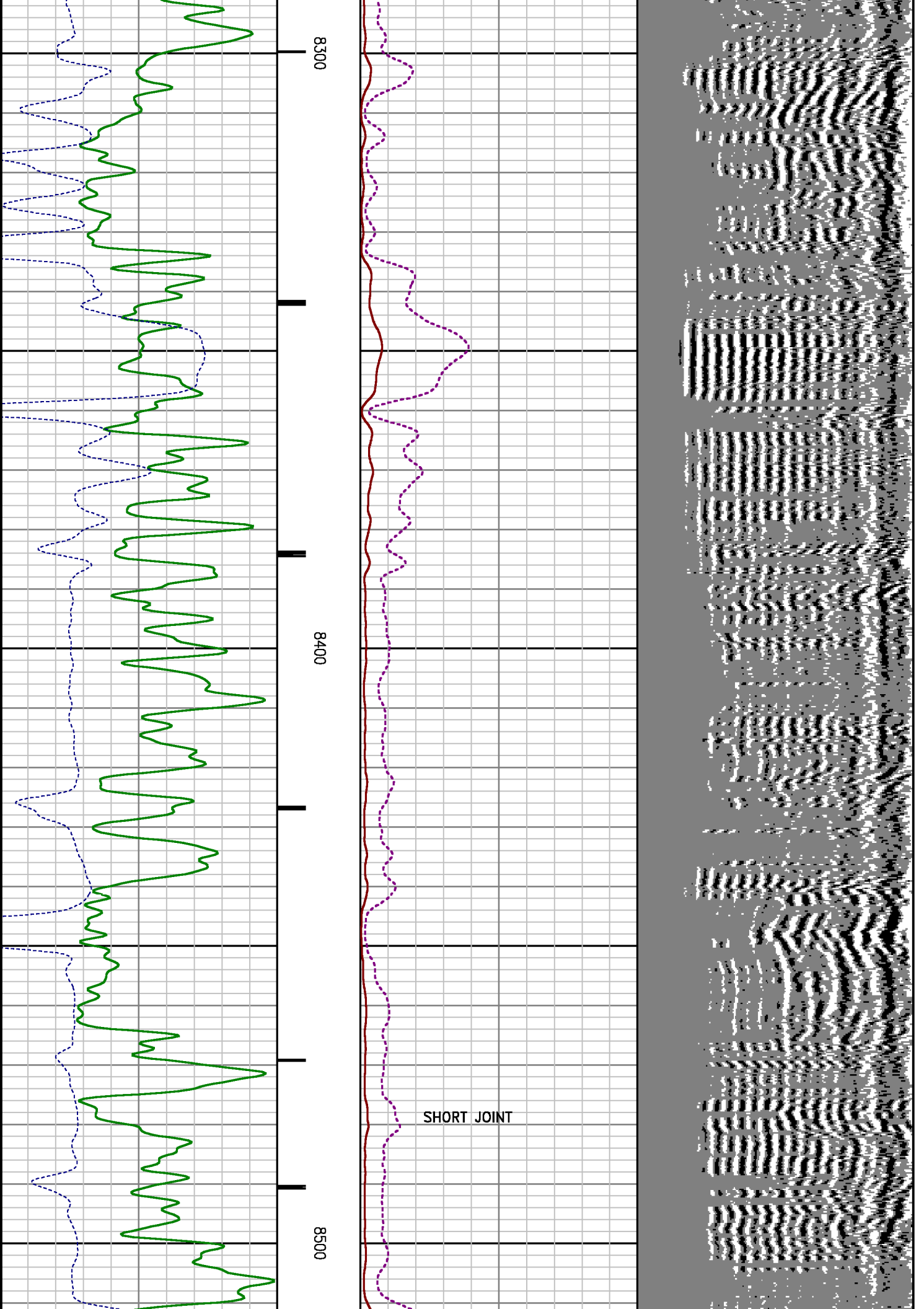


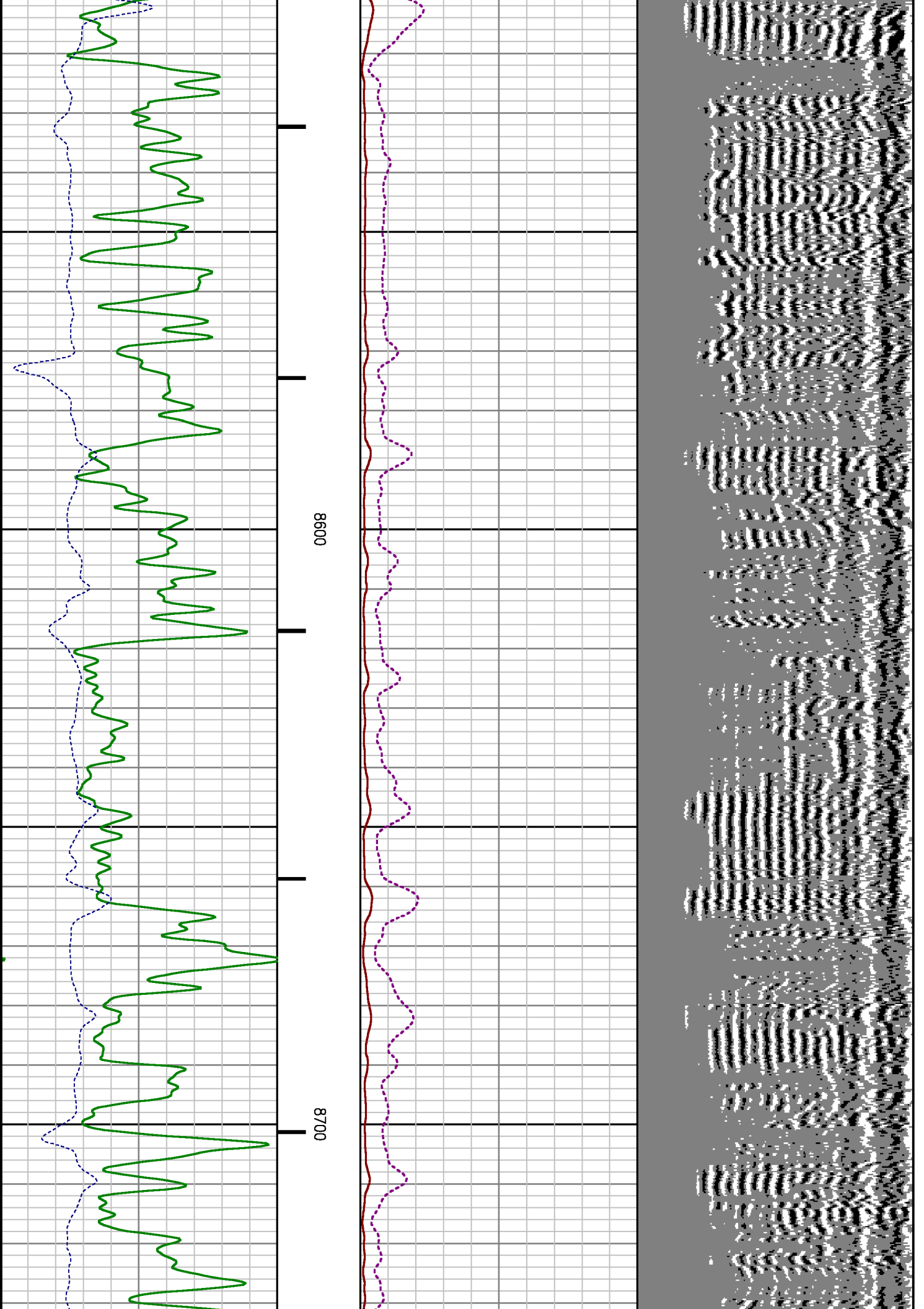


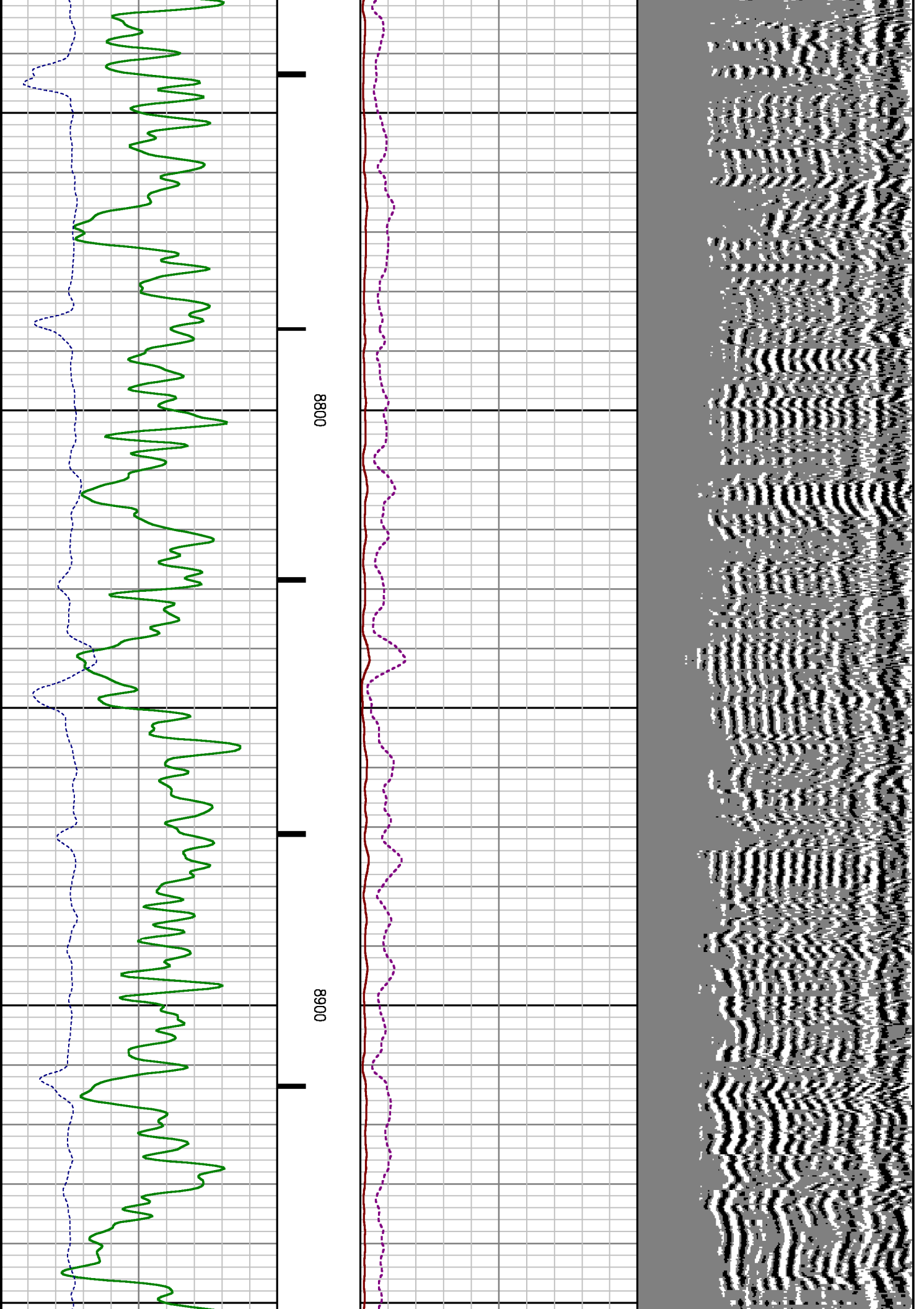


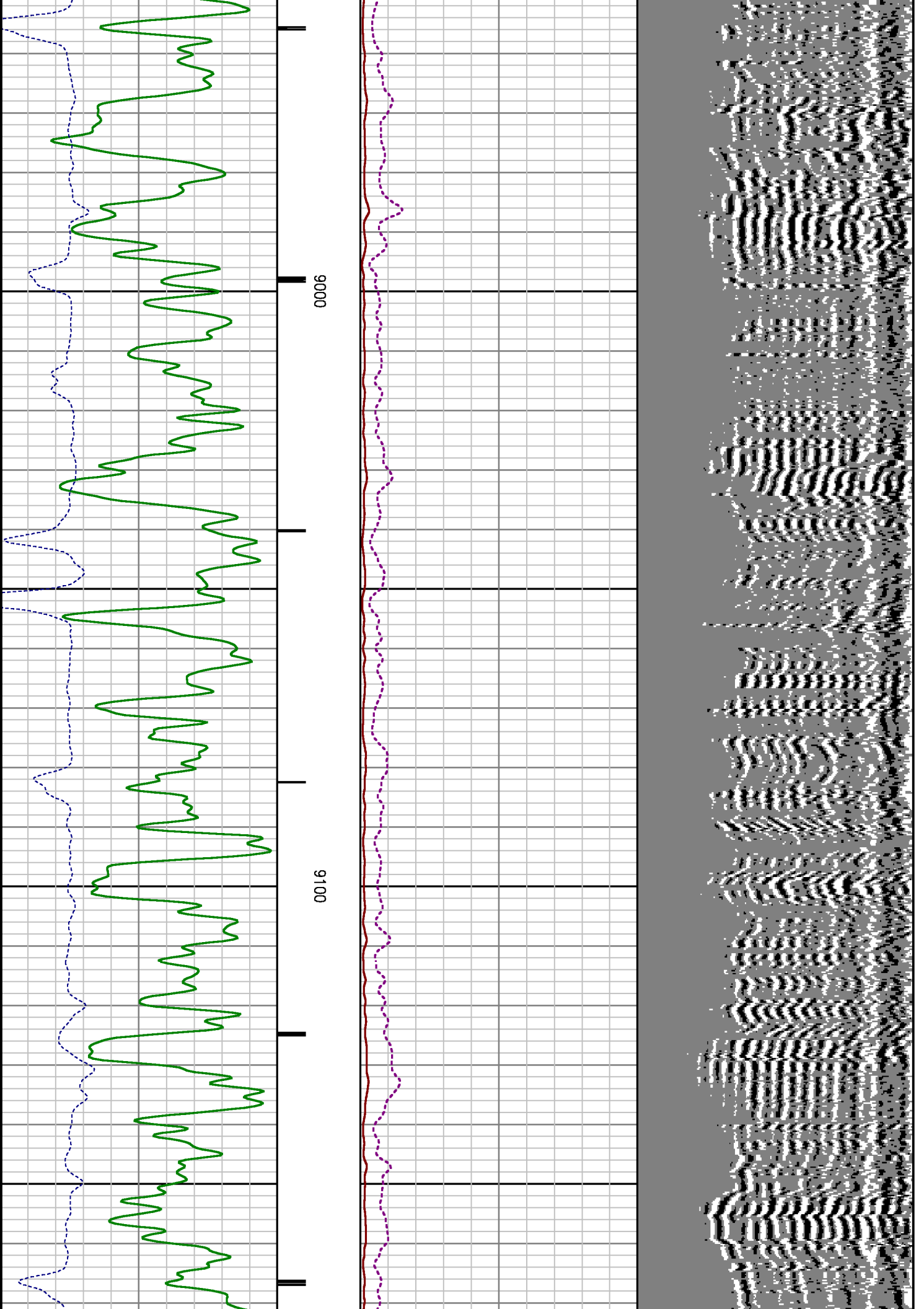


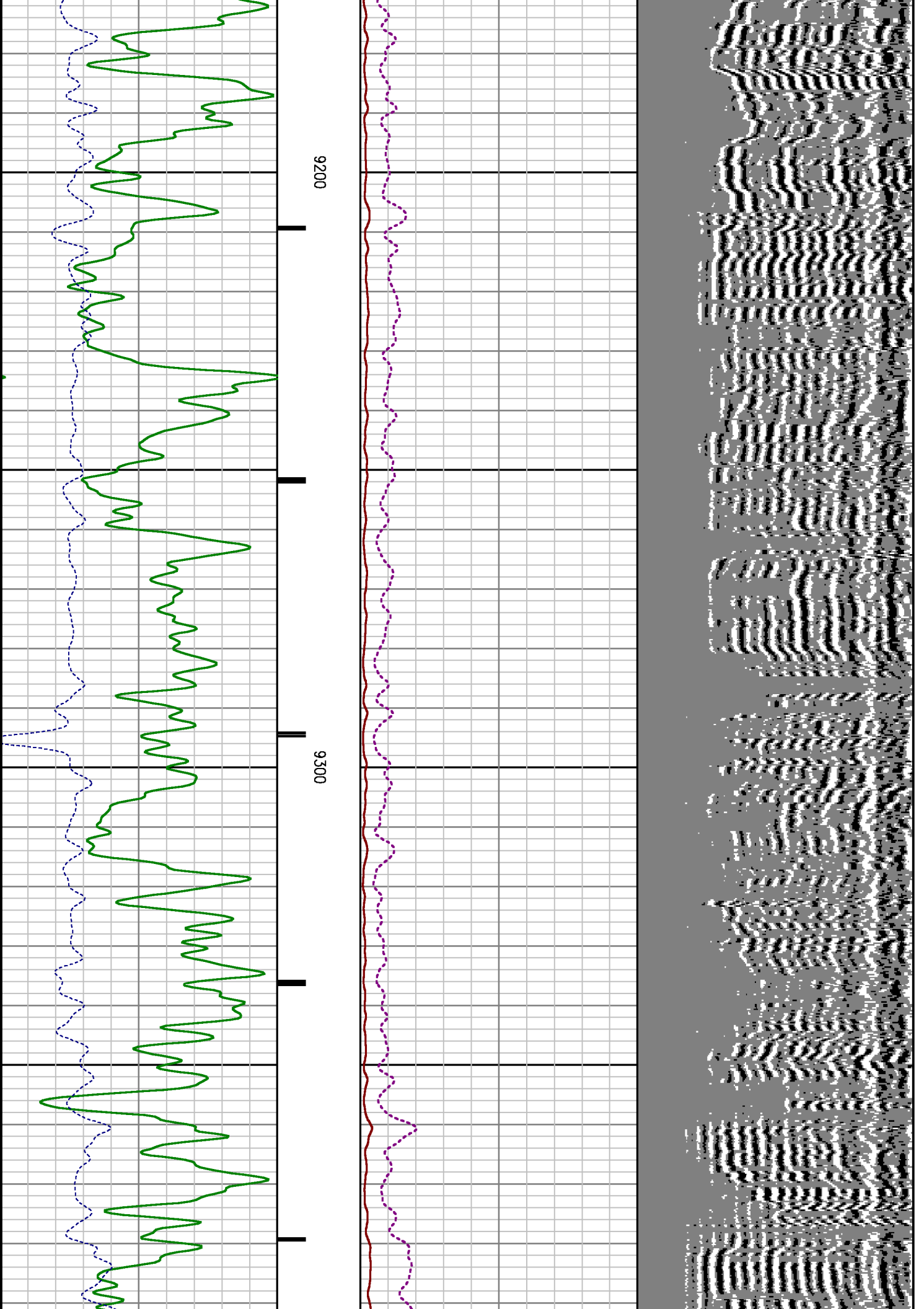


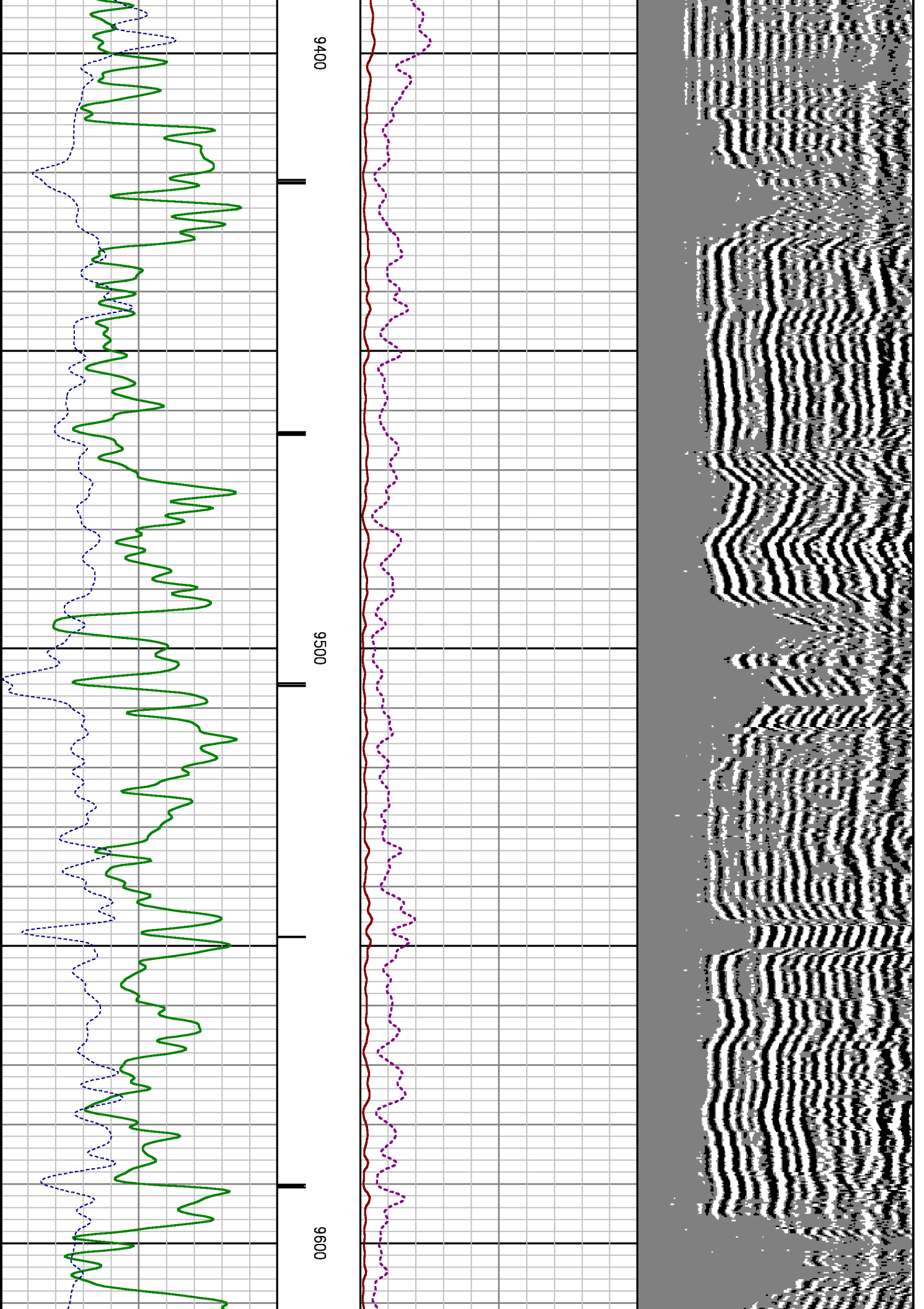


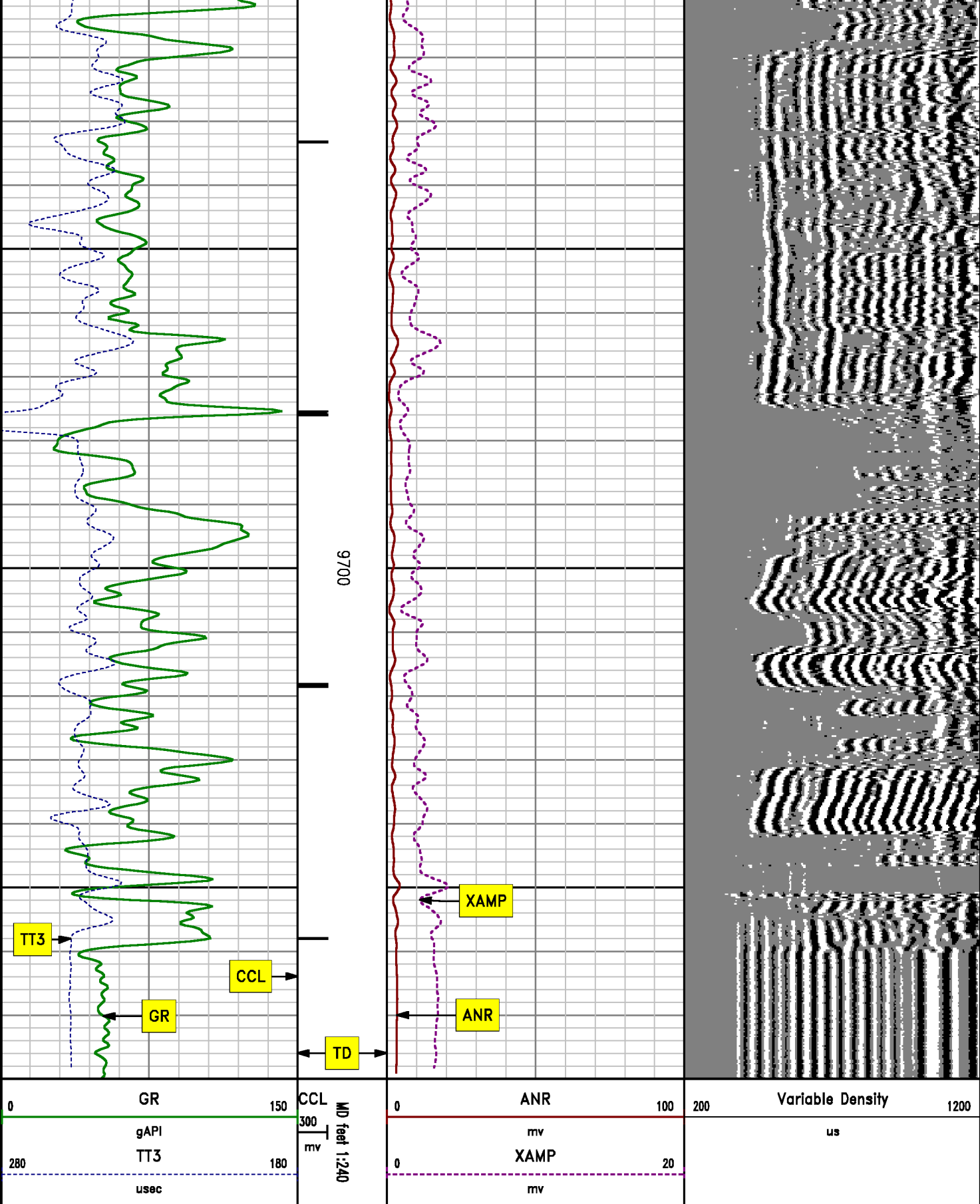












SECONDARY PRESERVATION
1000 psi

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | TOP | BOTTOM |
|------------------|-----------------------|---------|---------|--------|----------|
| RAL | Amp Gate Start Far | 316.900 | usec | 16.862 | 9795.500 |
| RAL | Amp Gate Start Near | 200.391 | usec | 16.862 | 9795.500 |
| RAL | Amp Gate Start Radial | 200.391 | usec | 16.862 | 9795.500 |
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| RAL | FB Thresh Near | 4.000 | mv | 16.862 | 9795.500 |
| RAL | FB Thresh Radial | 4.000 | mv | 16.862 | 9795.500 |
| RAL | Fluid Travel Time | 200.000 | usec/ft | 16.862 | 9795.081 |

DEPTH OFFSETS
(for Acquired Curves)

| SERIES | DEPTH OFFSET | ACQUIRED CURVES | | | | | |
|--------|--------------|-----------------|------|------|------|------|------|
| 1426XA | -15.360 | 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 | -14.360 | AFAR | SIG | TT5 | | | |
| 2459XA | -7.250 | CCL | | | | | |
| 2459XA | -5.390 | GR | | | | | |
| 2459XA | 0.000 | NEU | | | | | |

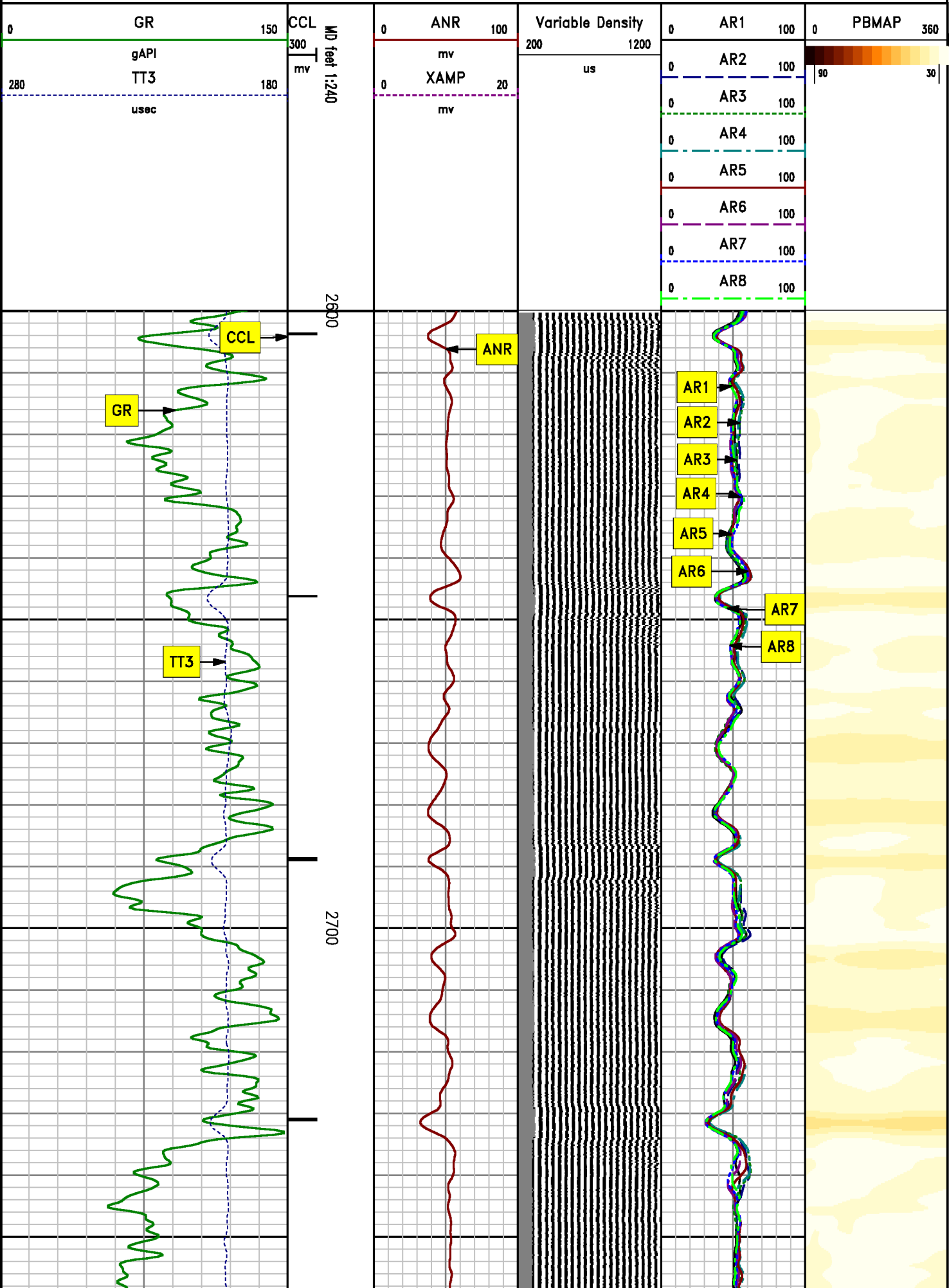
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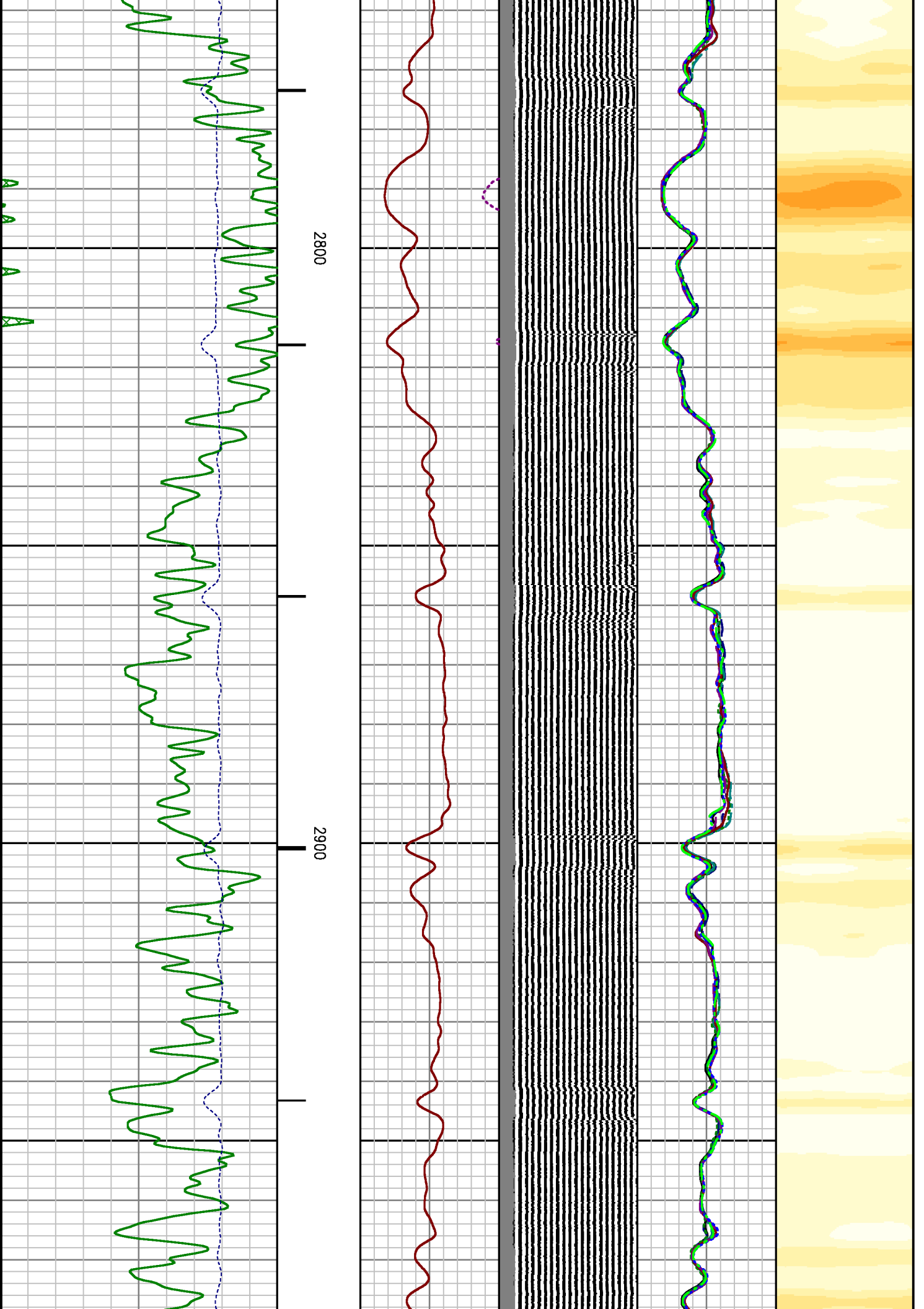
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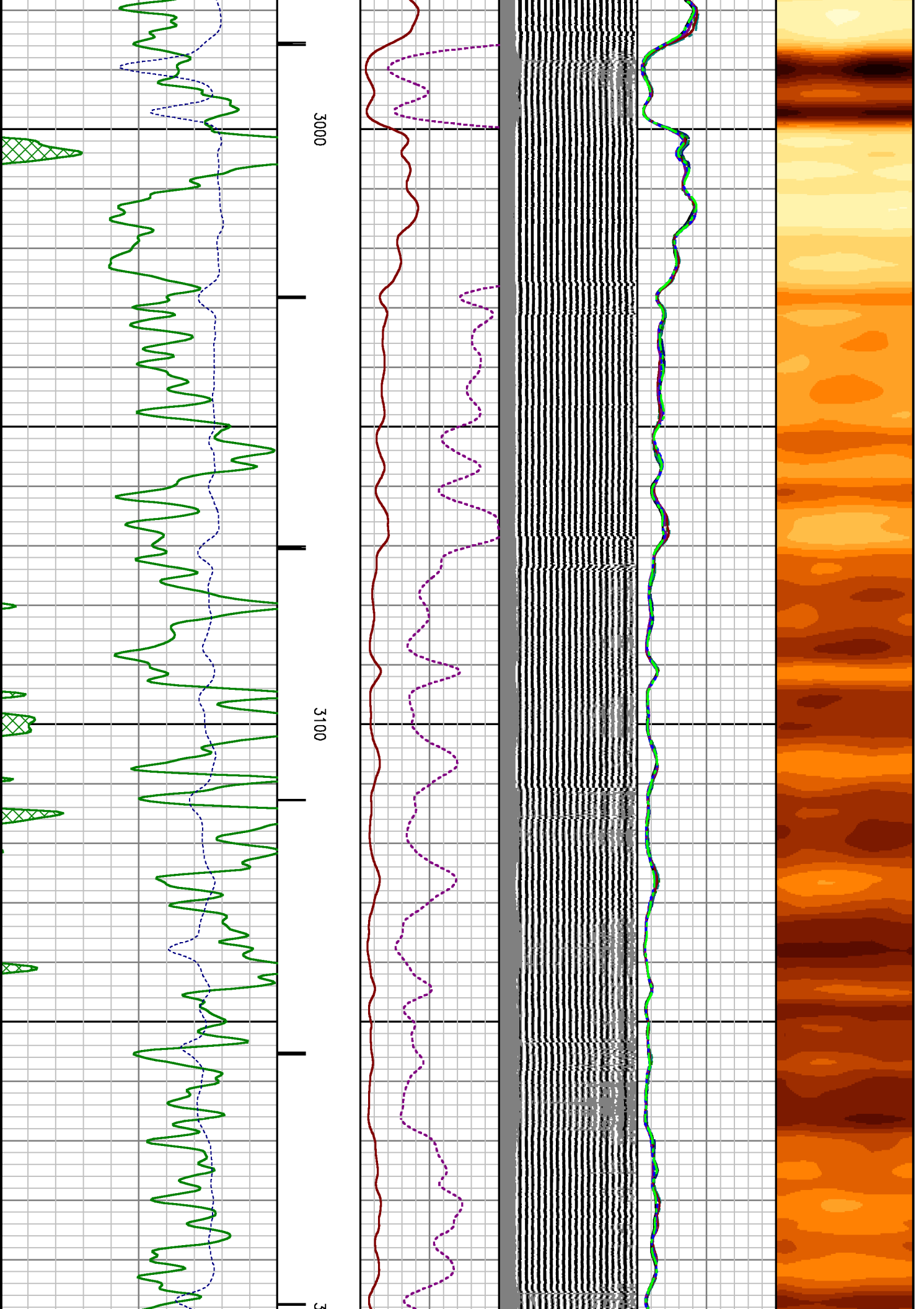
Company : MARATHON OIL COMPANY

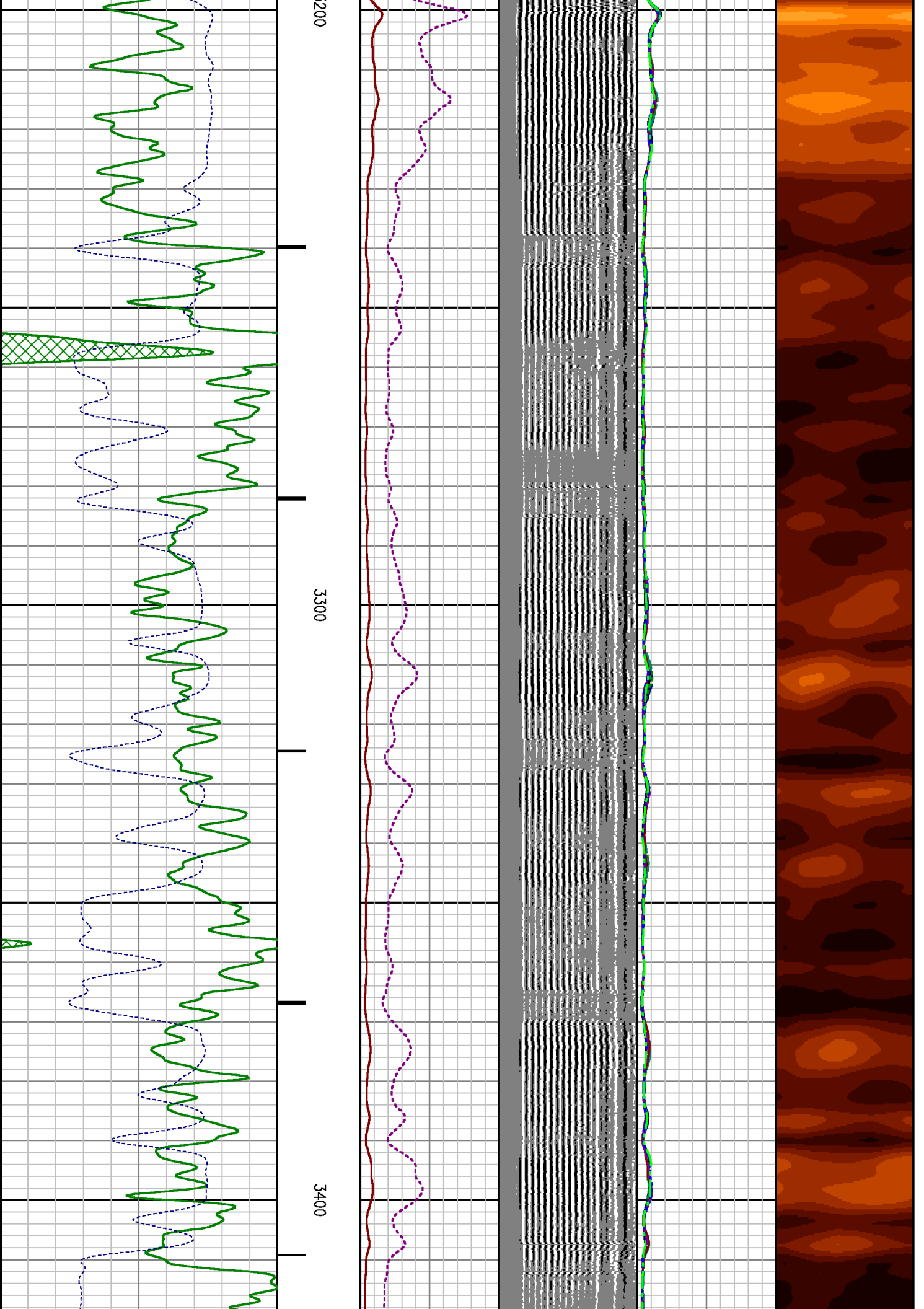
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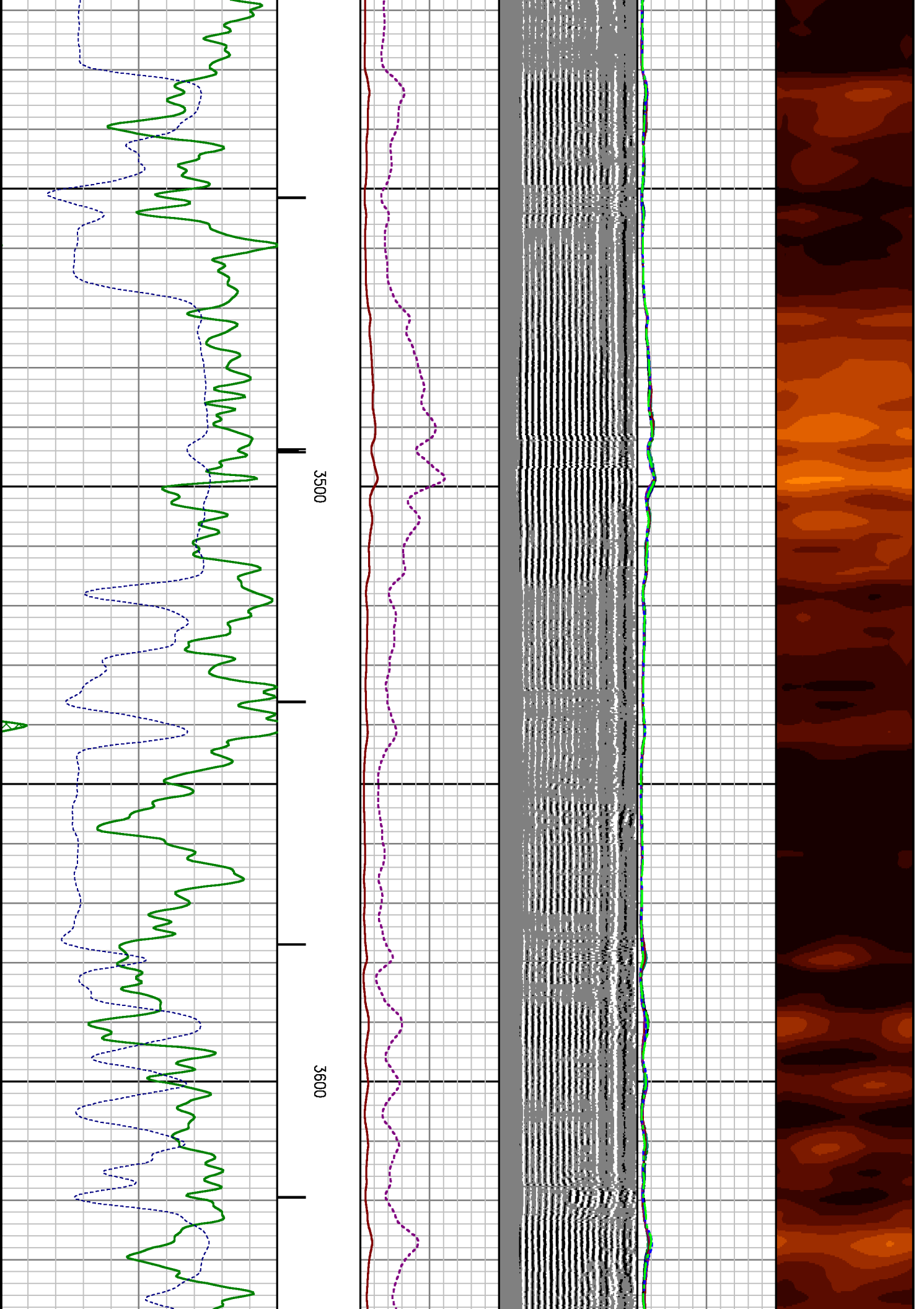
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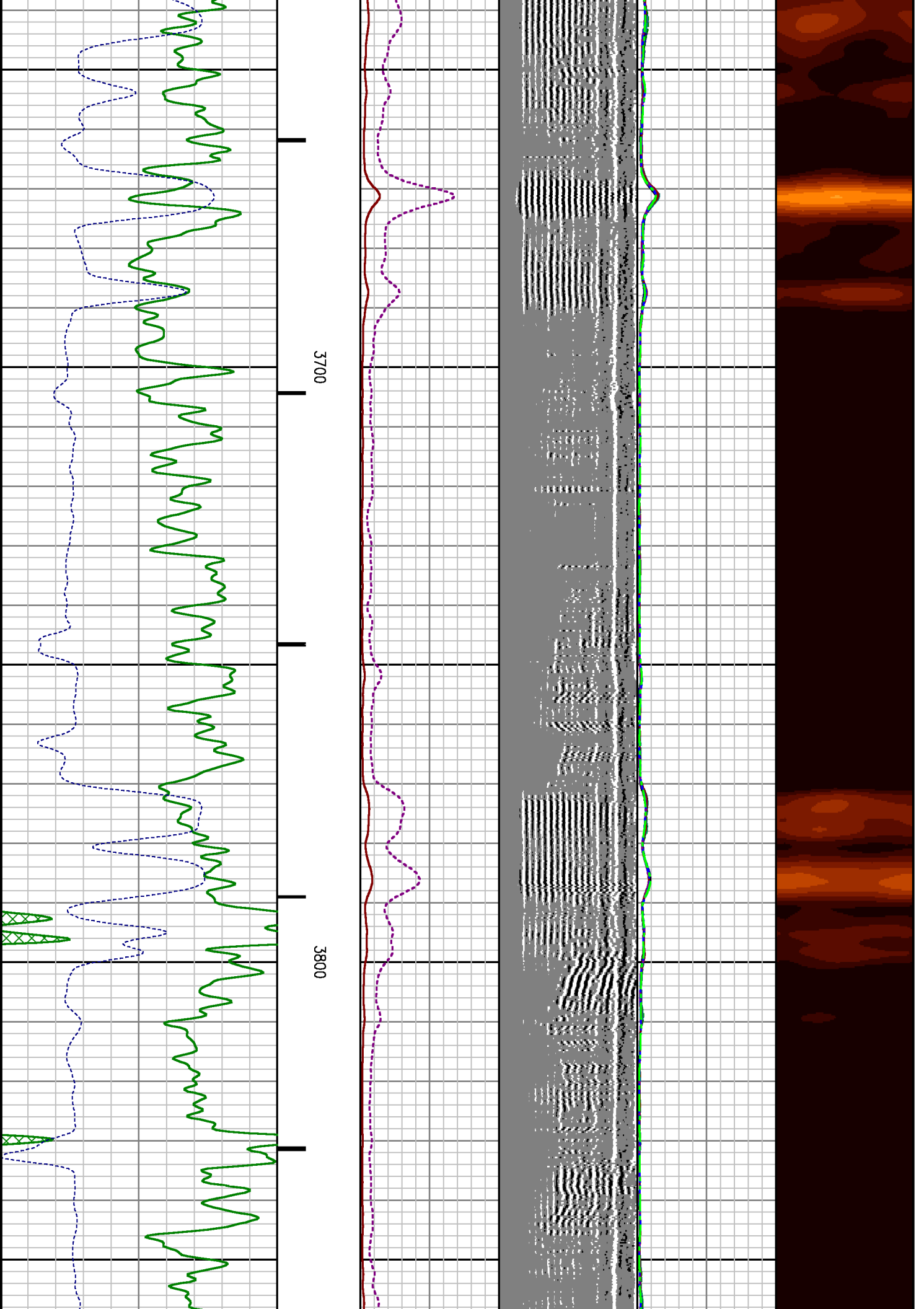


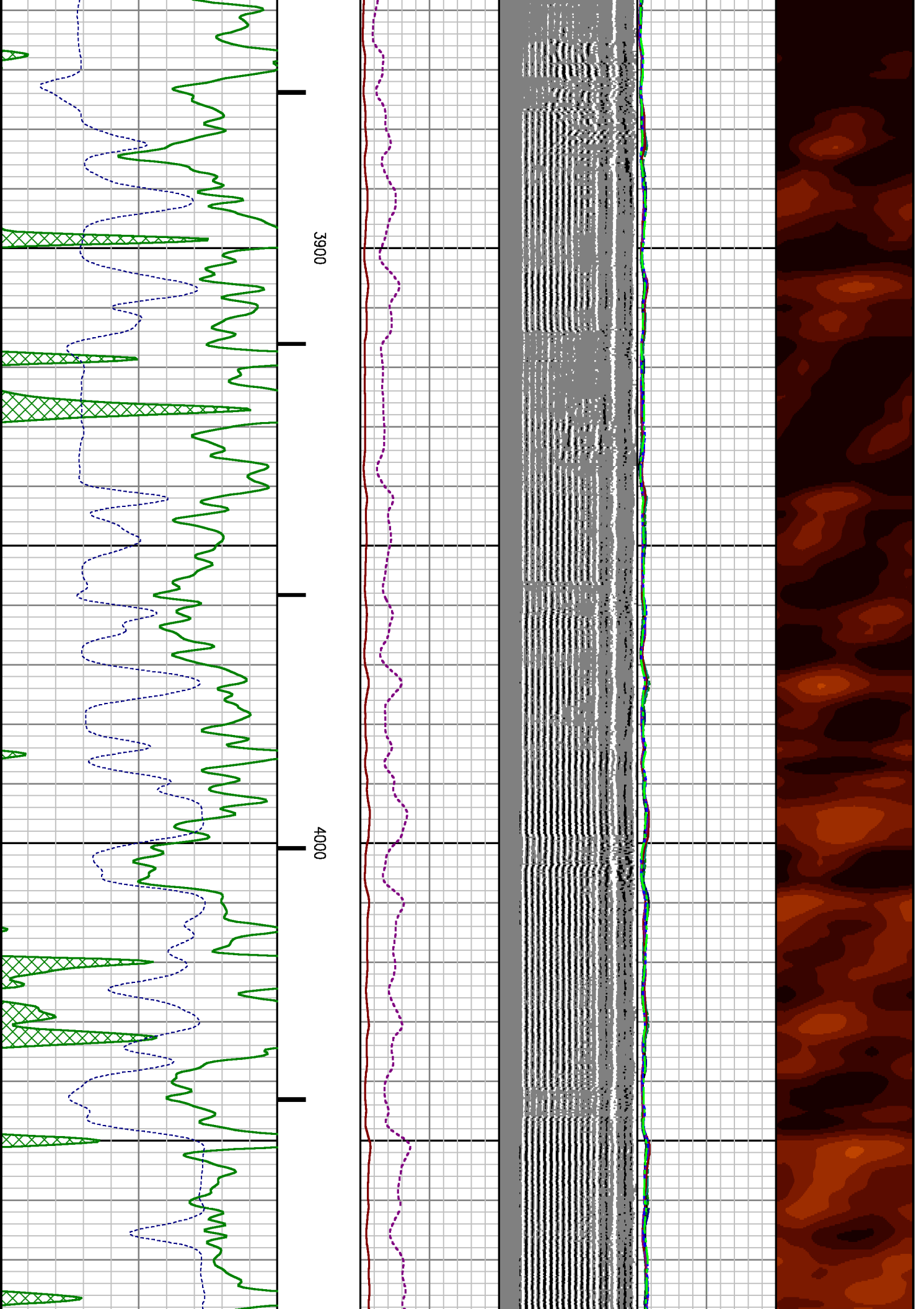


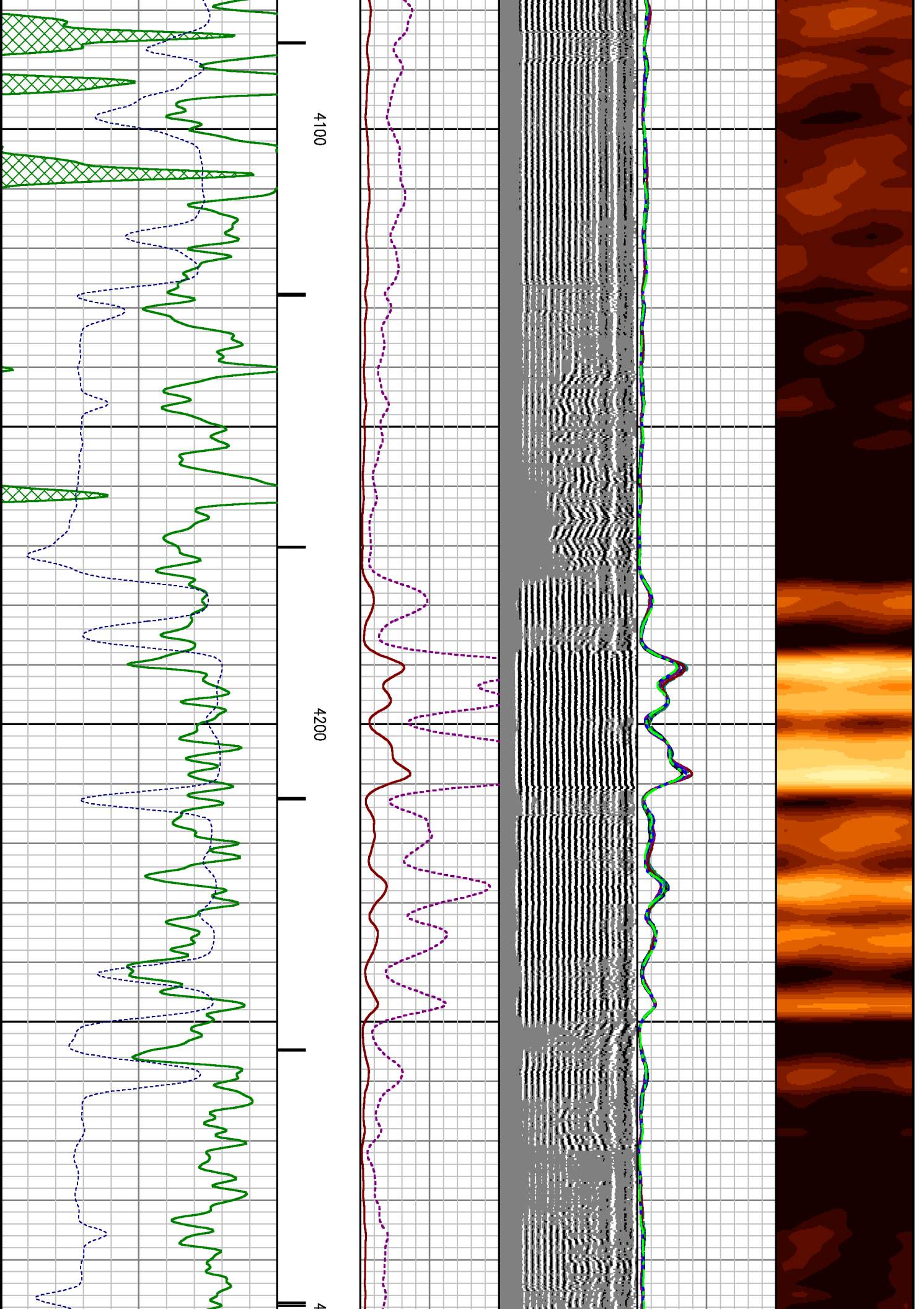


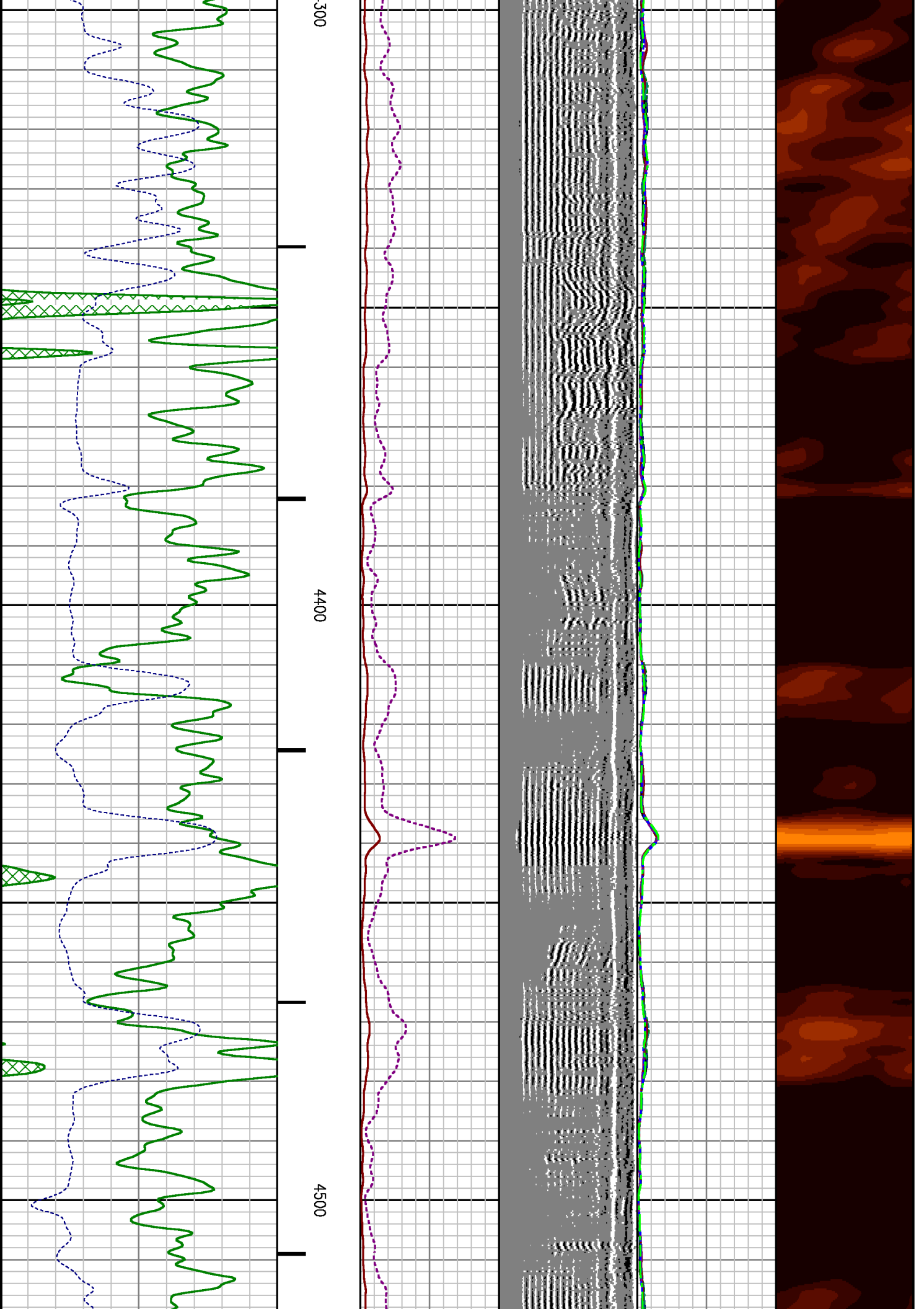


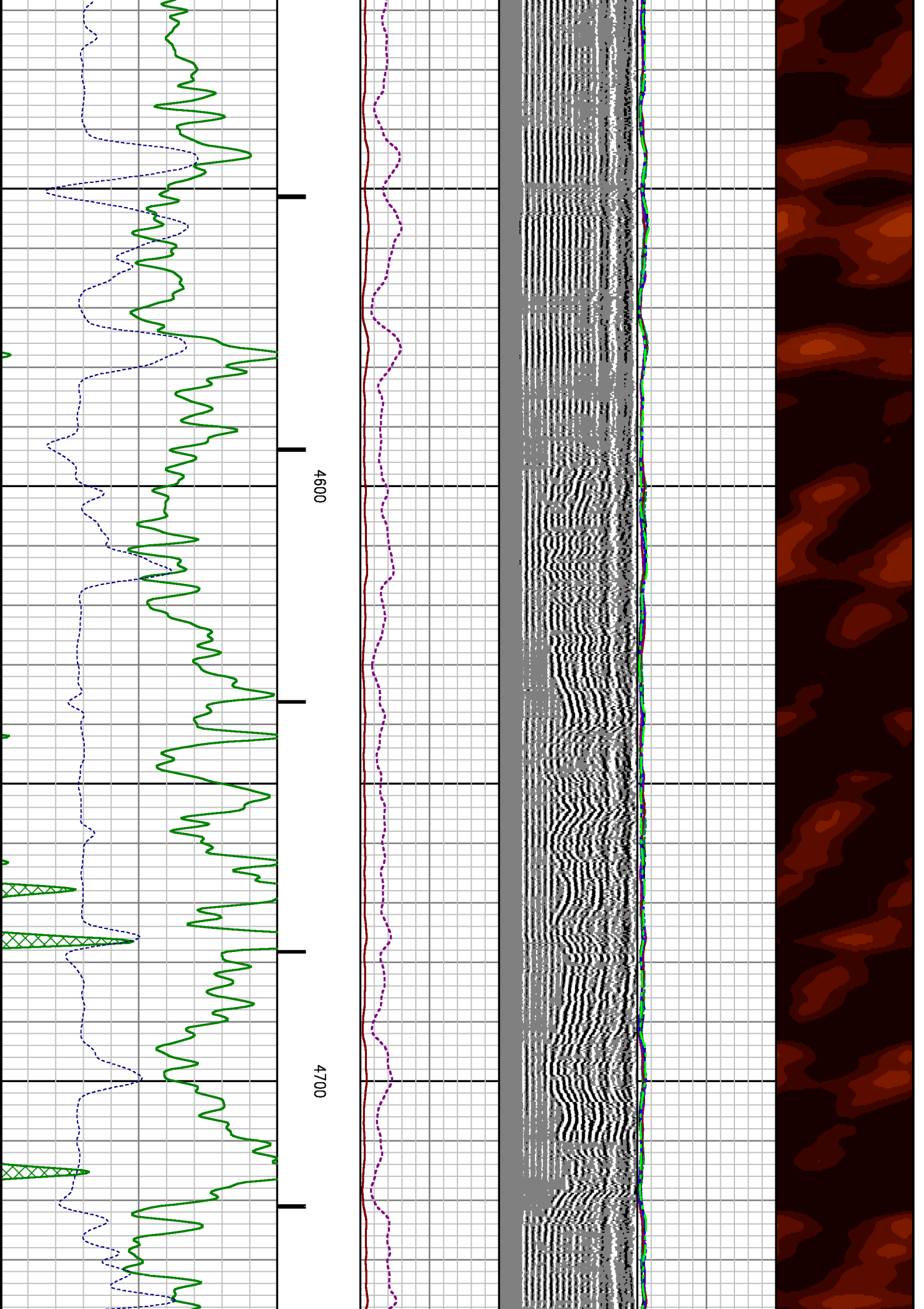


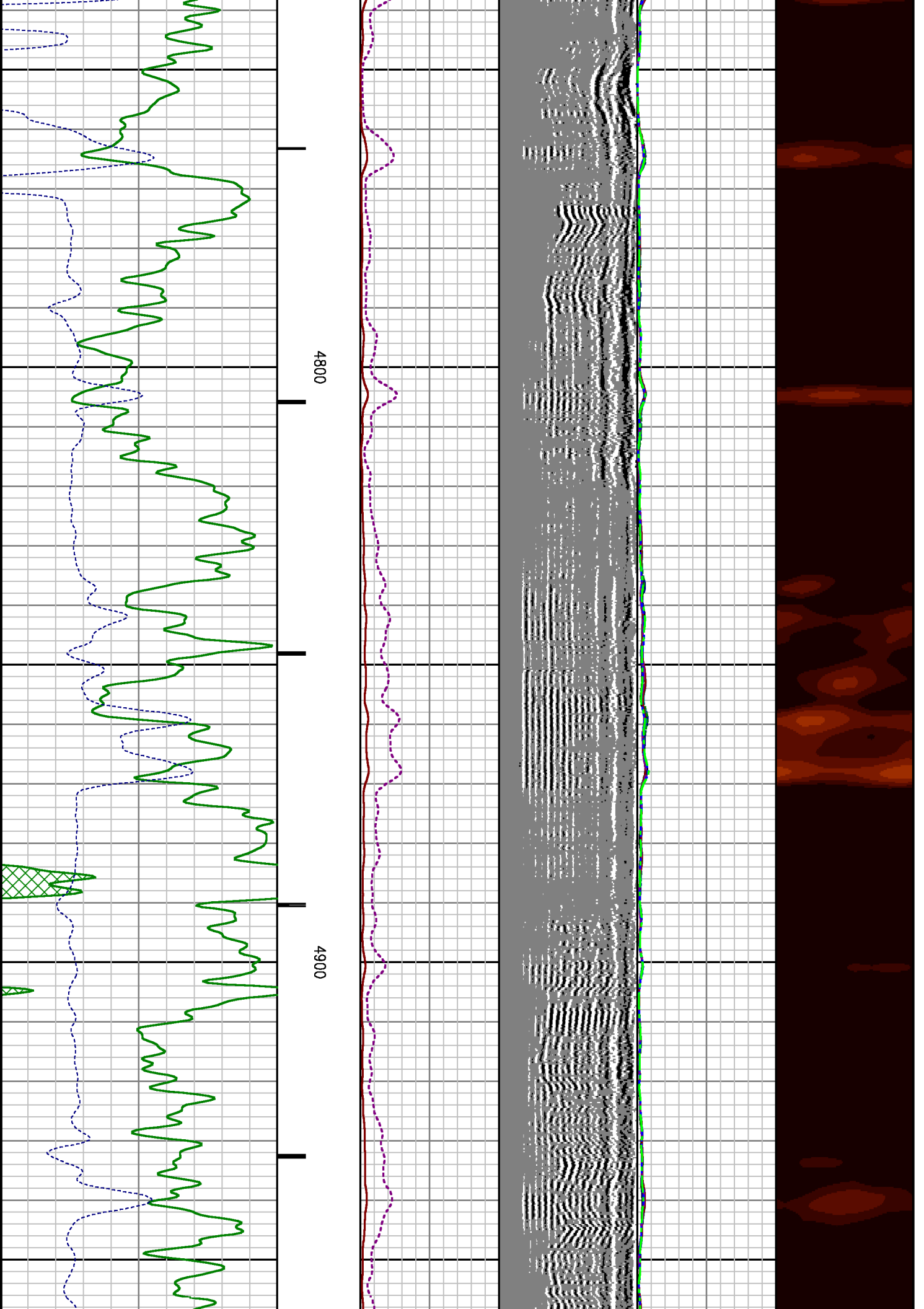


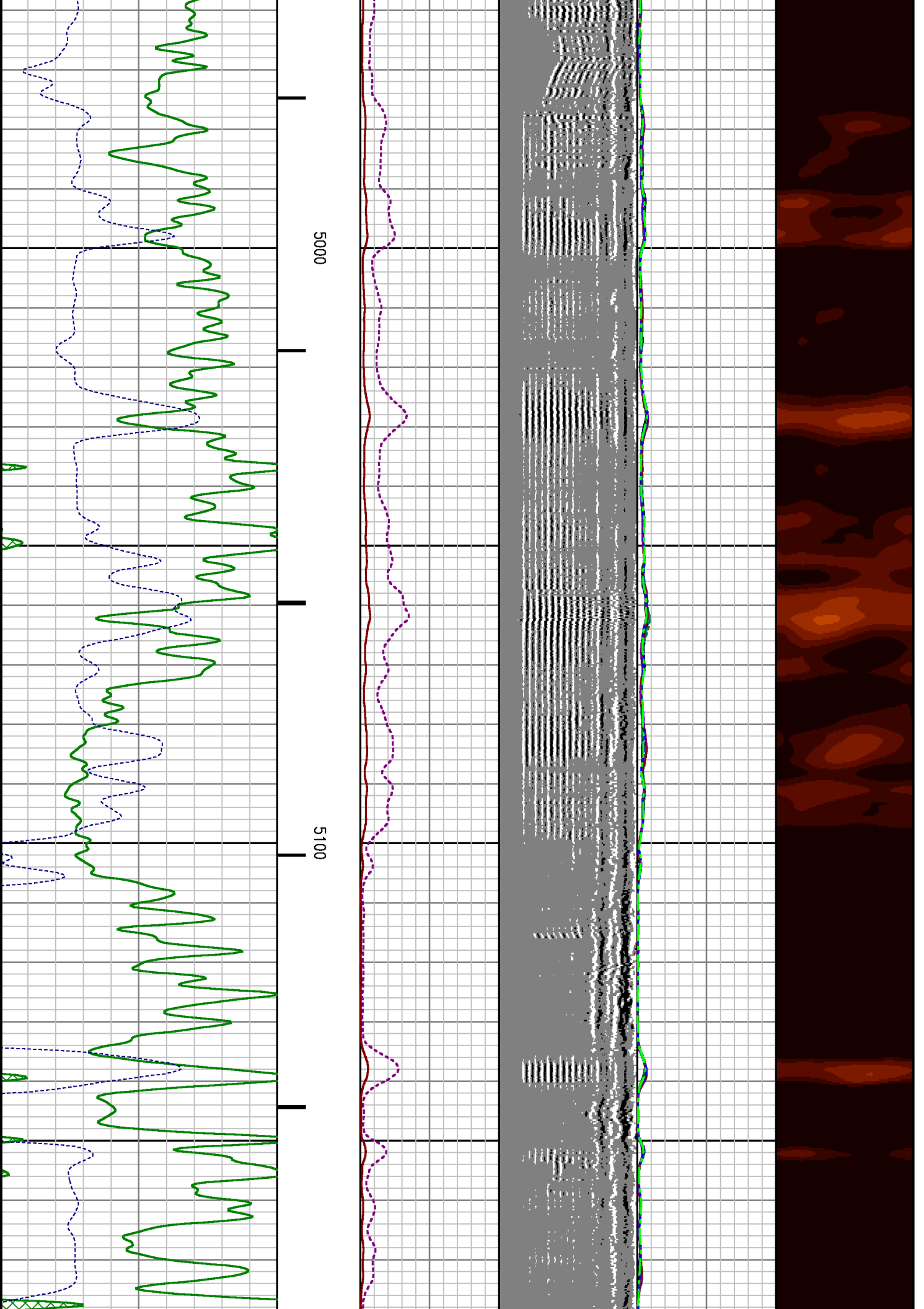


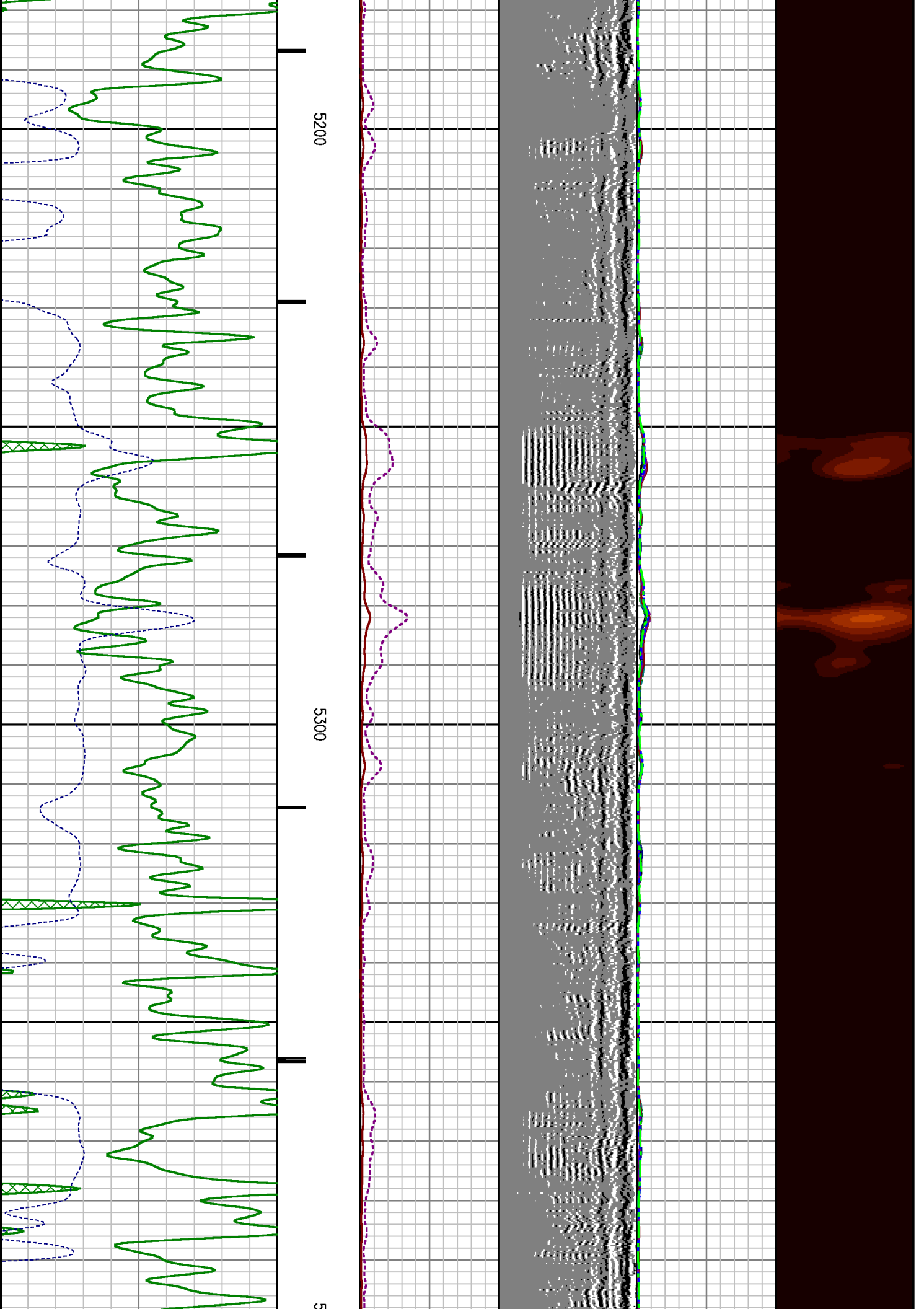


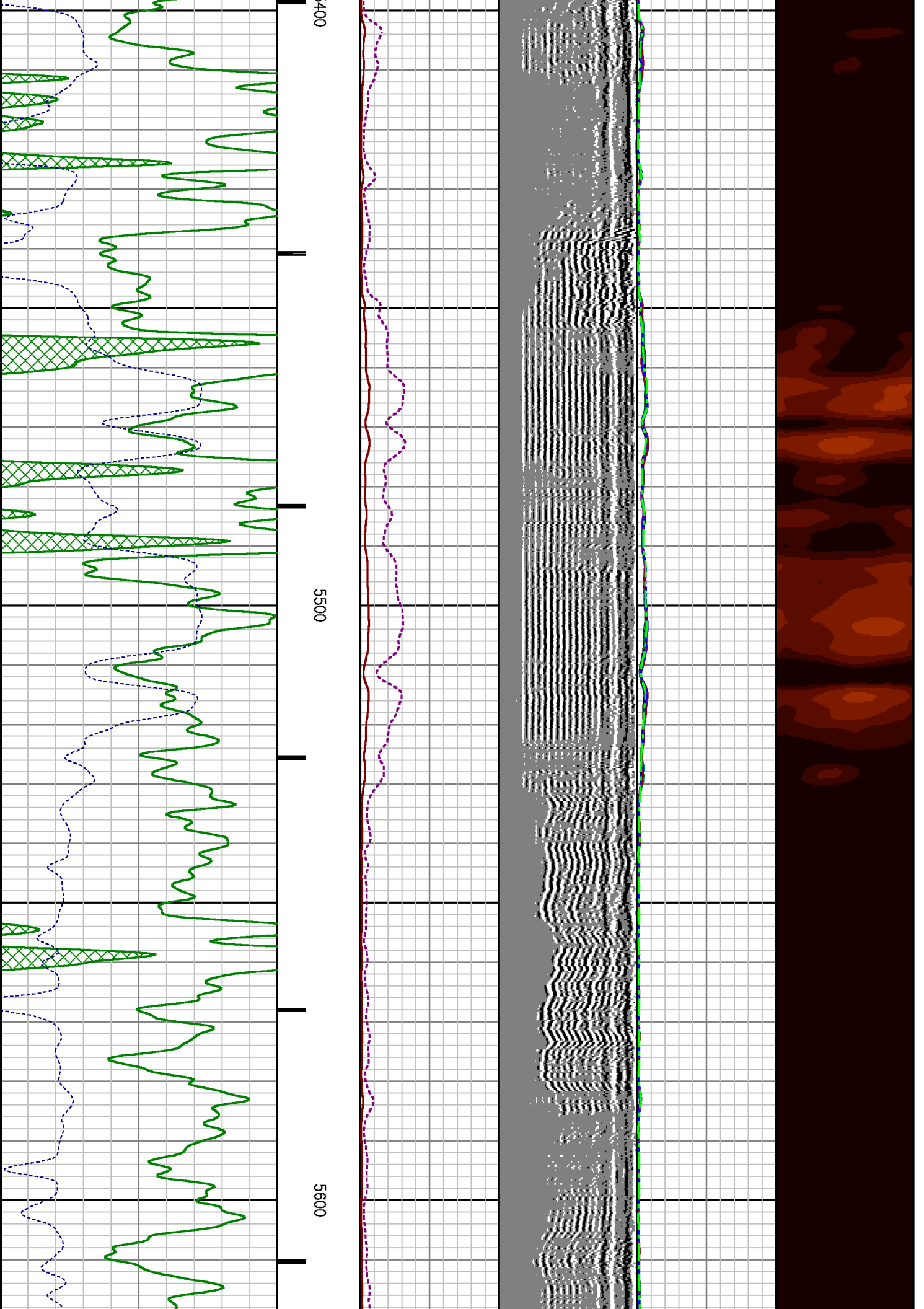


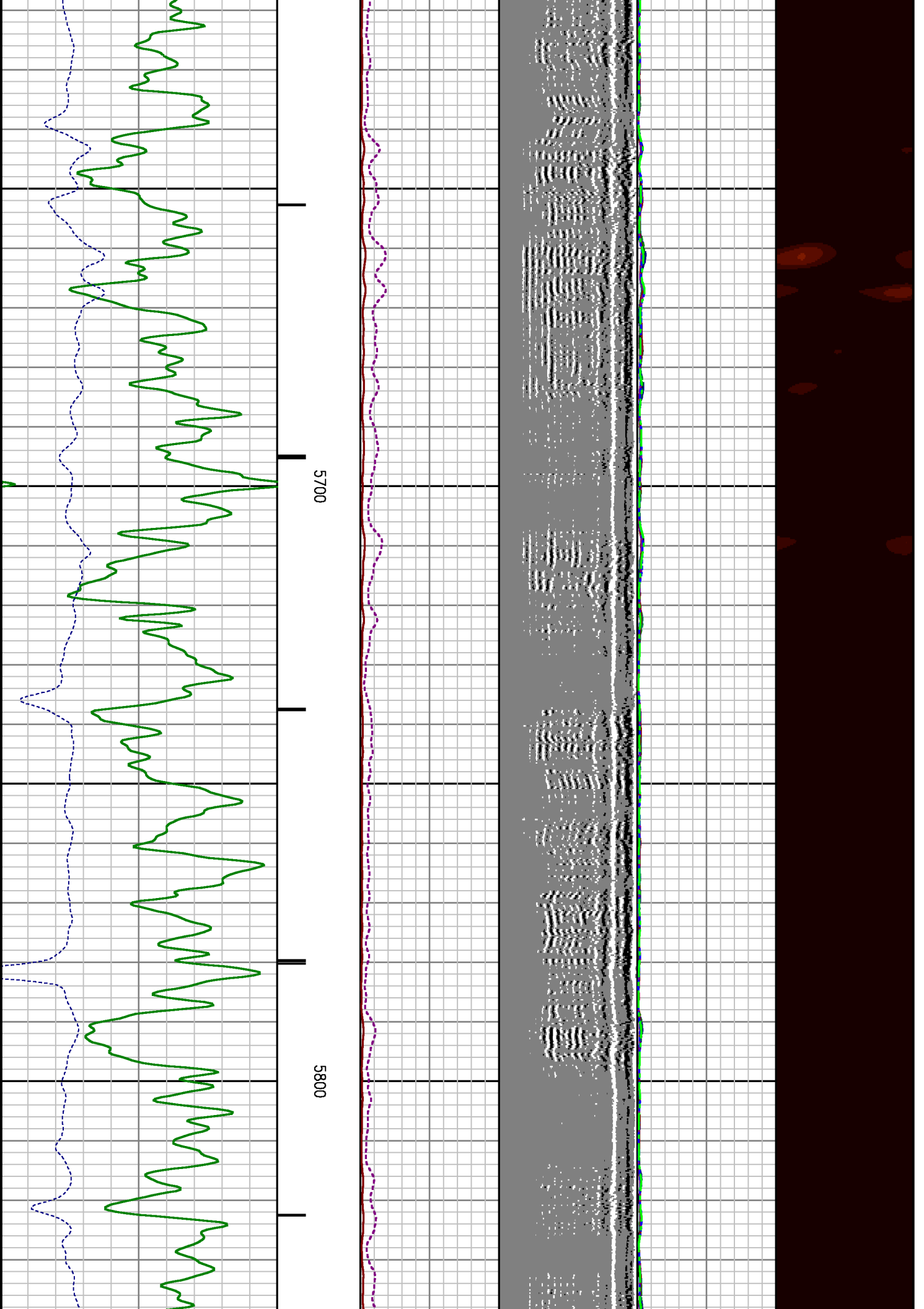


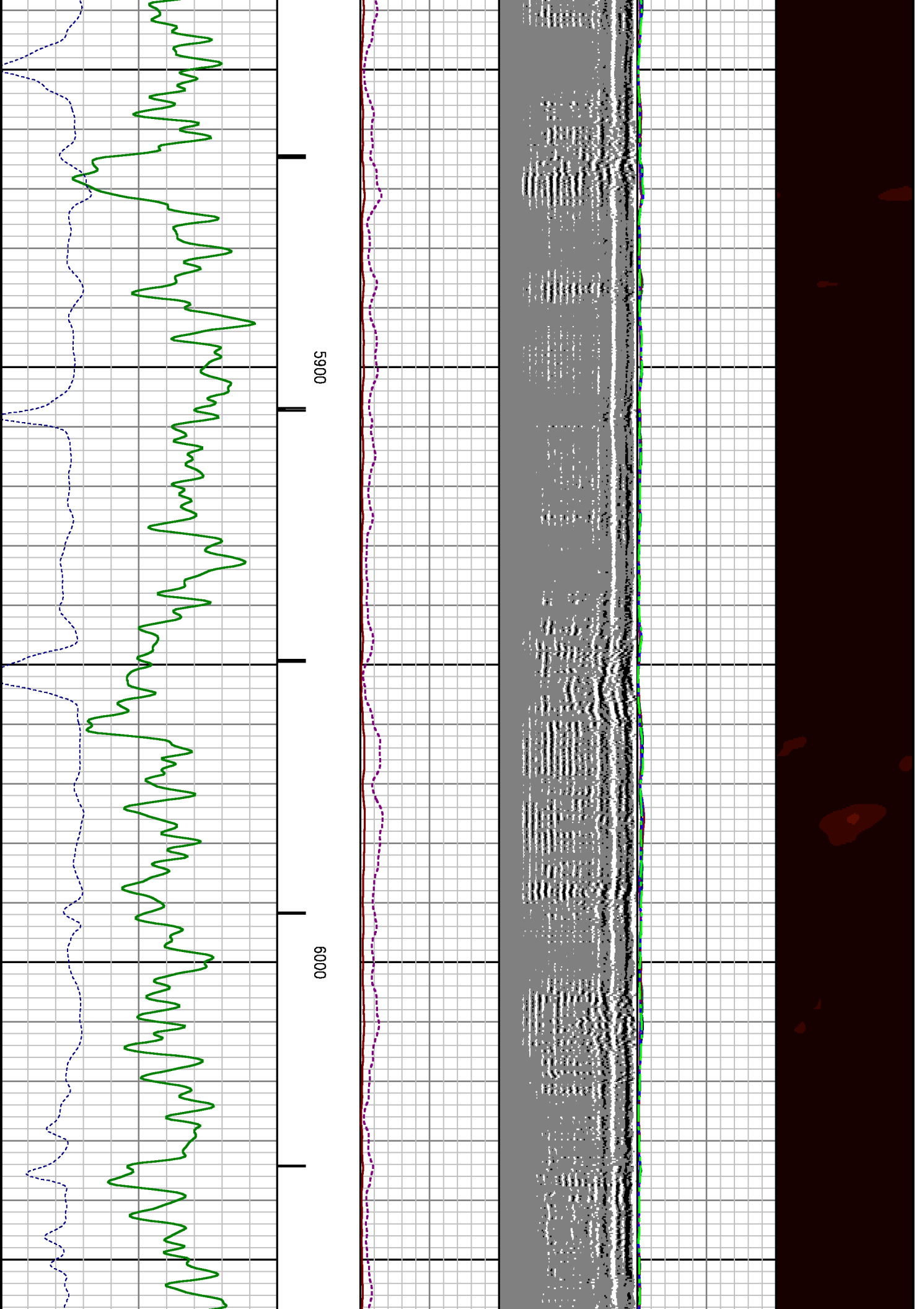


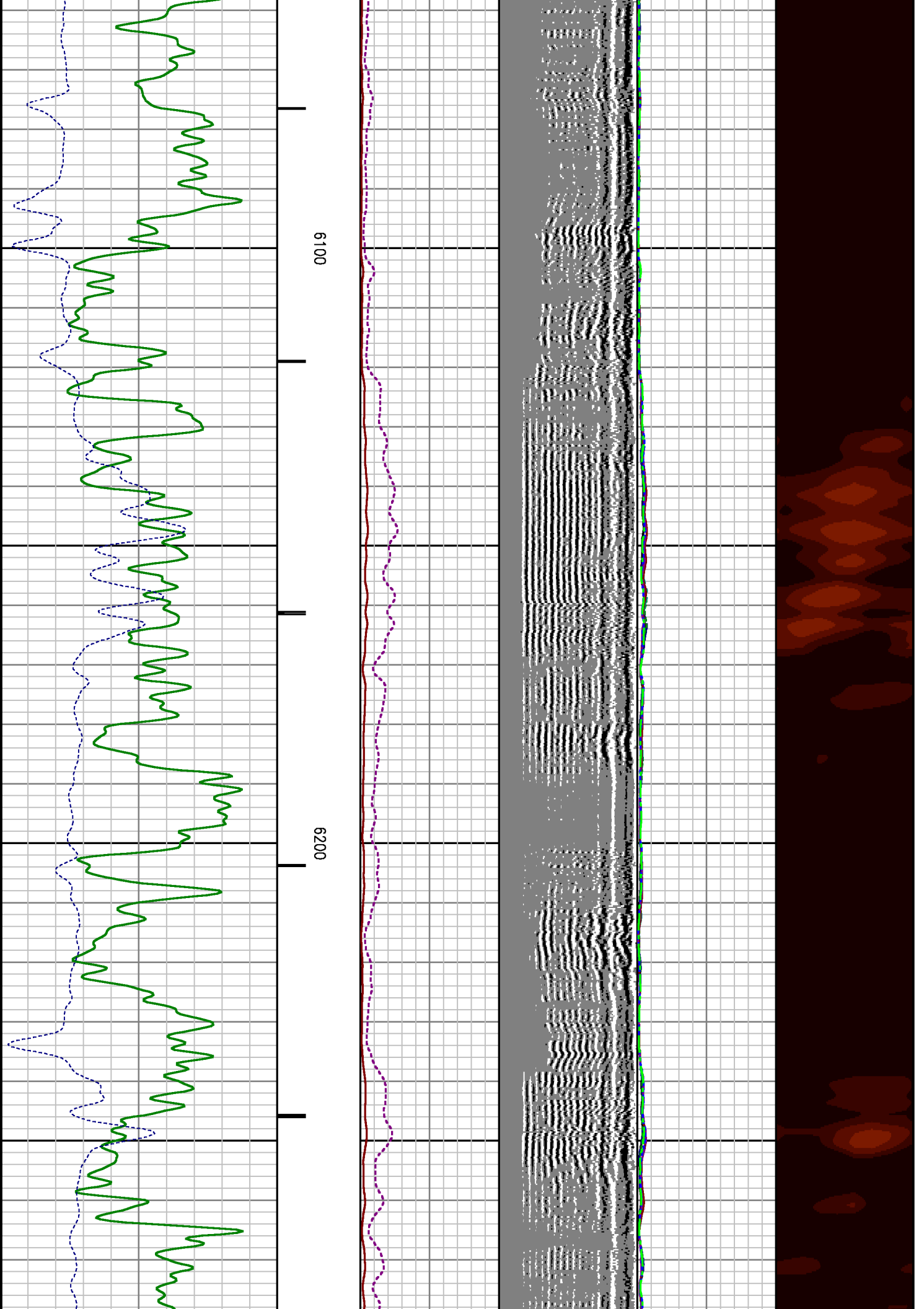


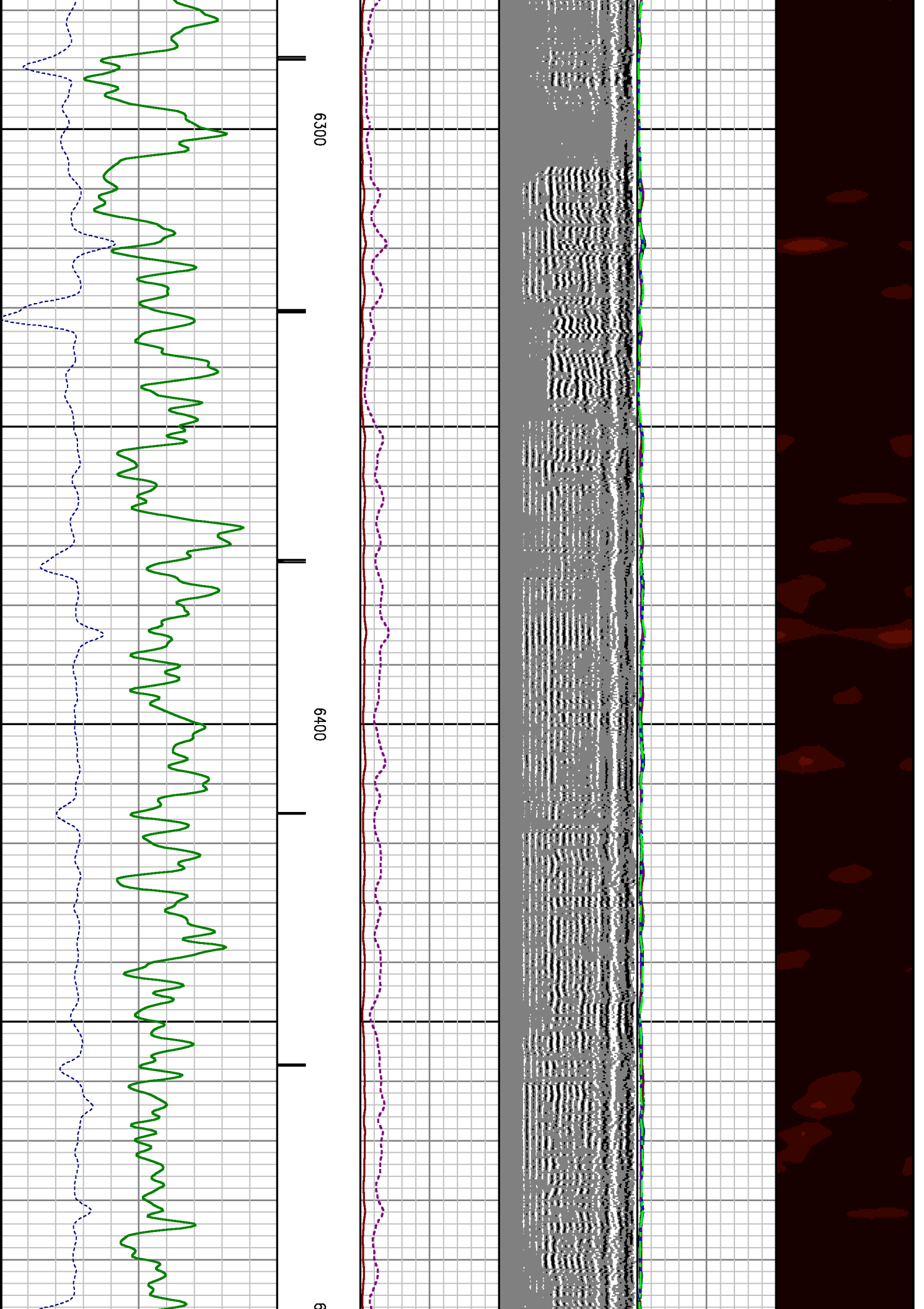


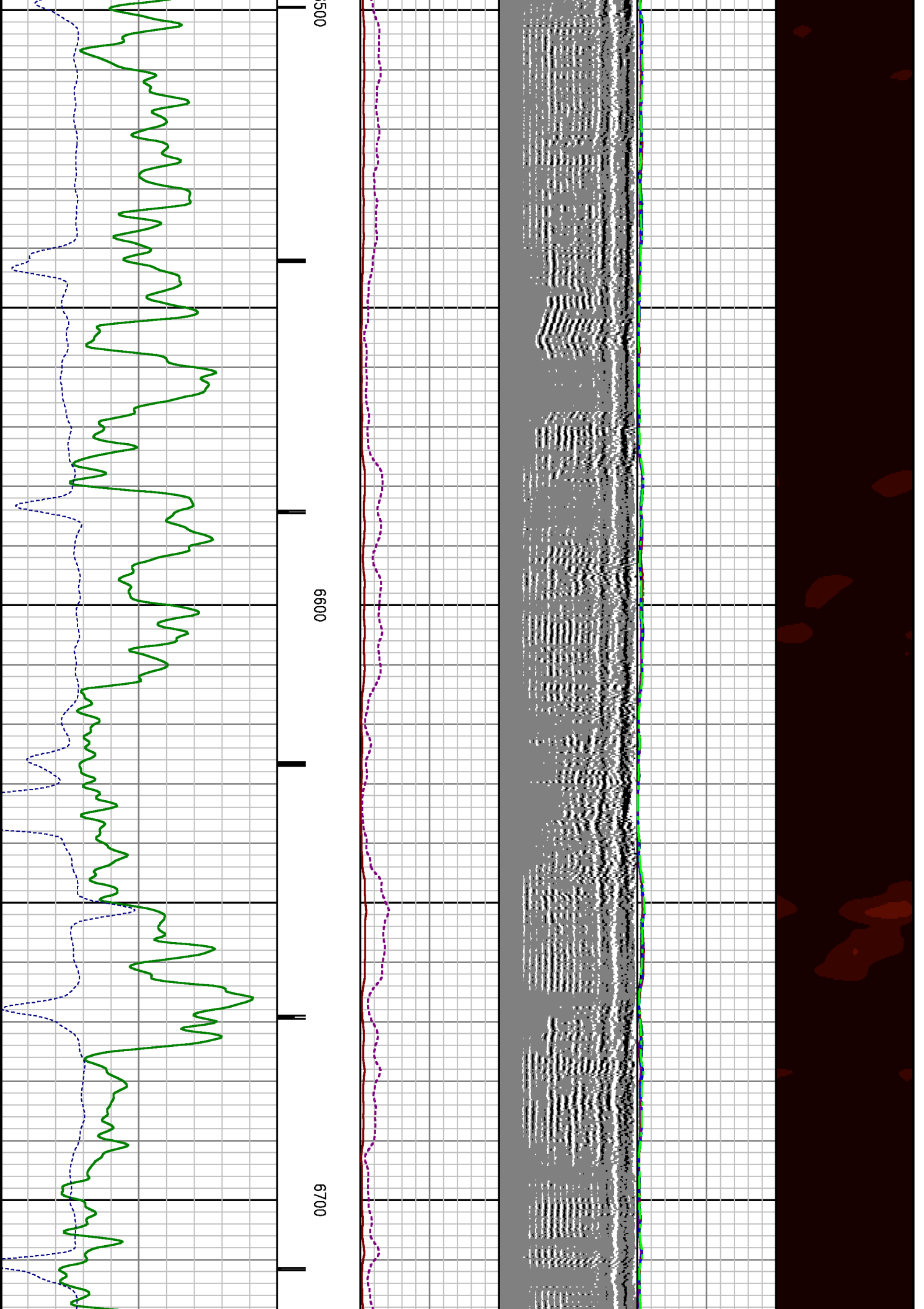


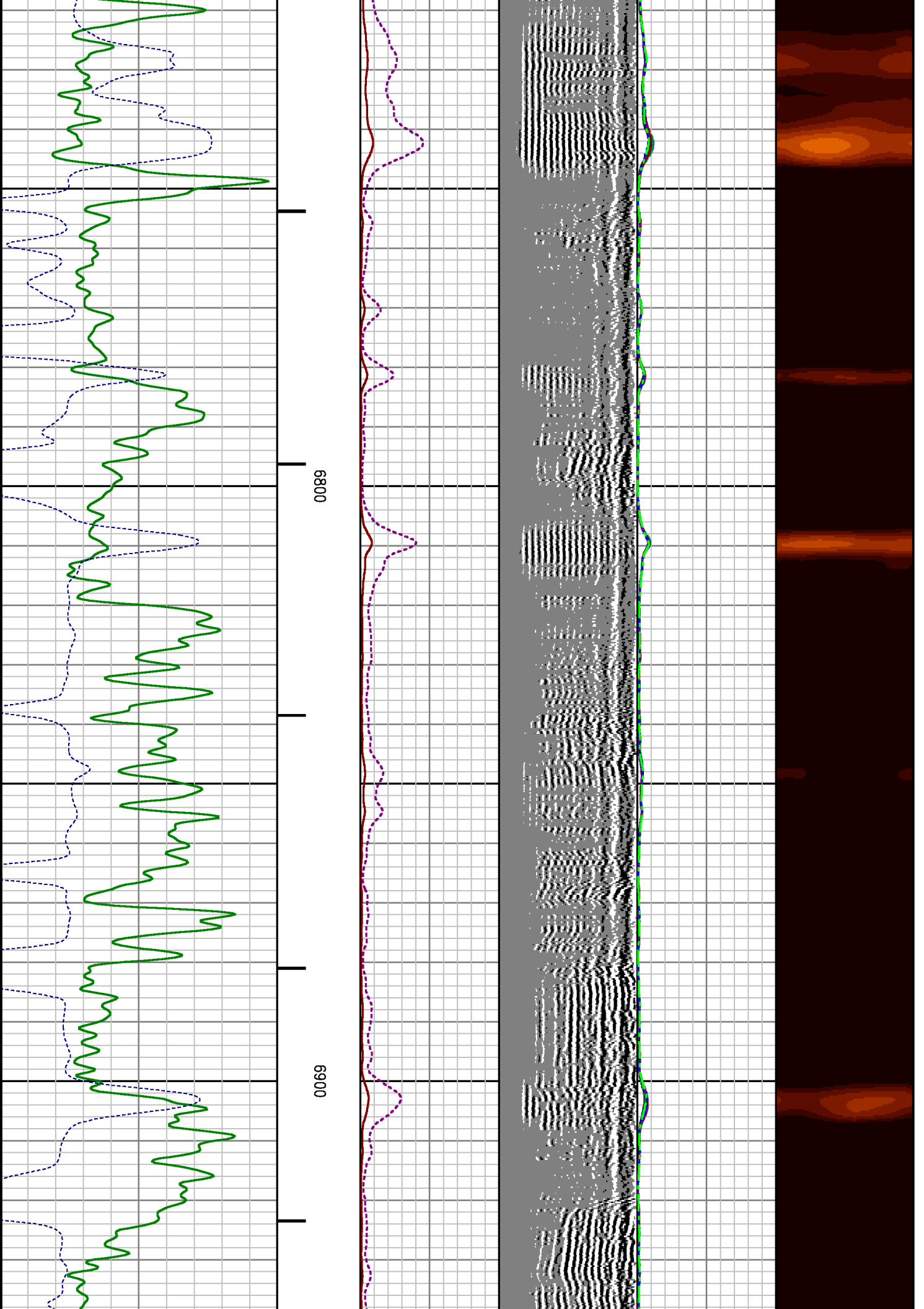


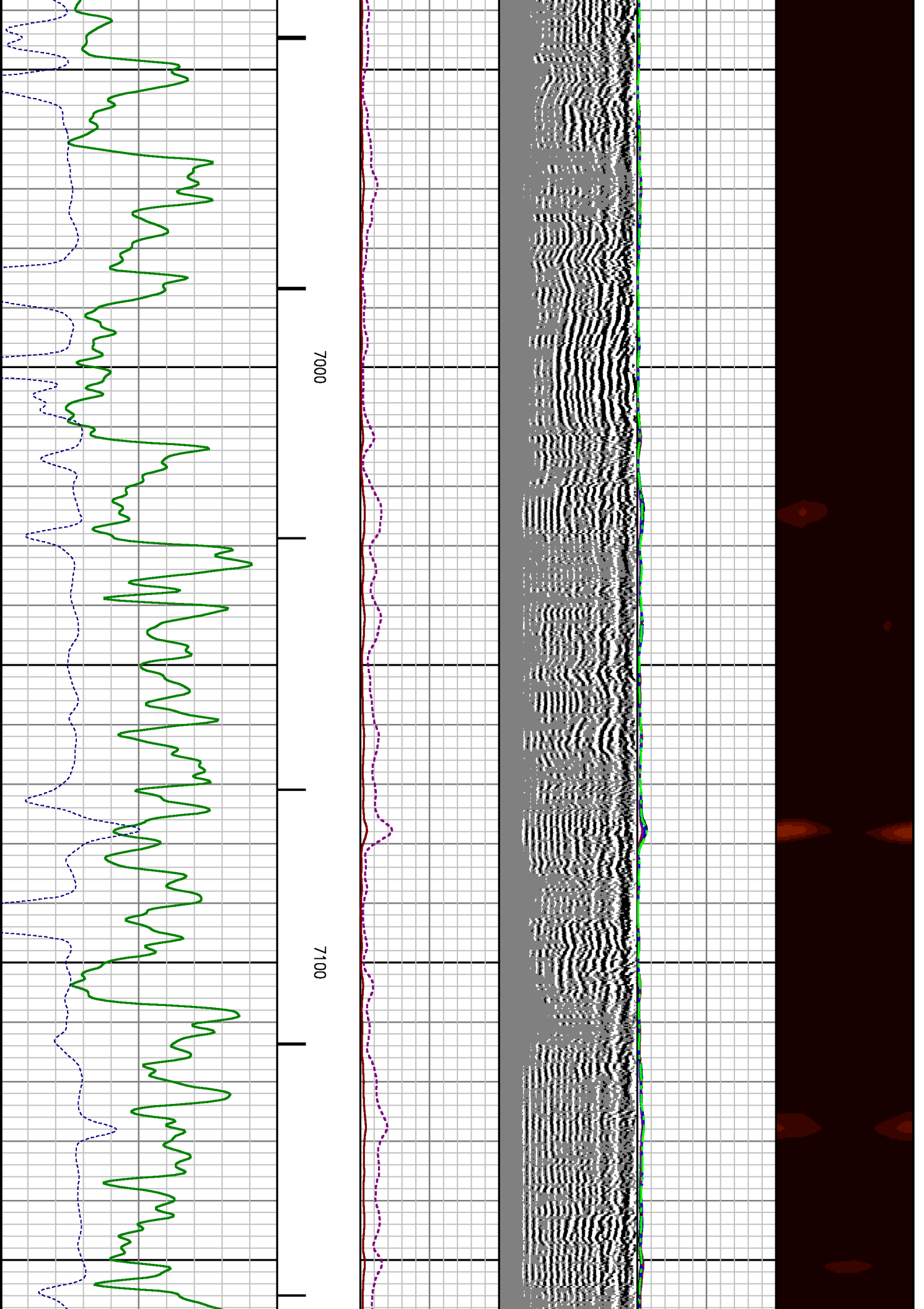


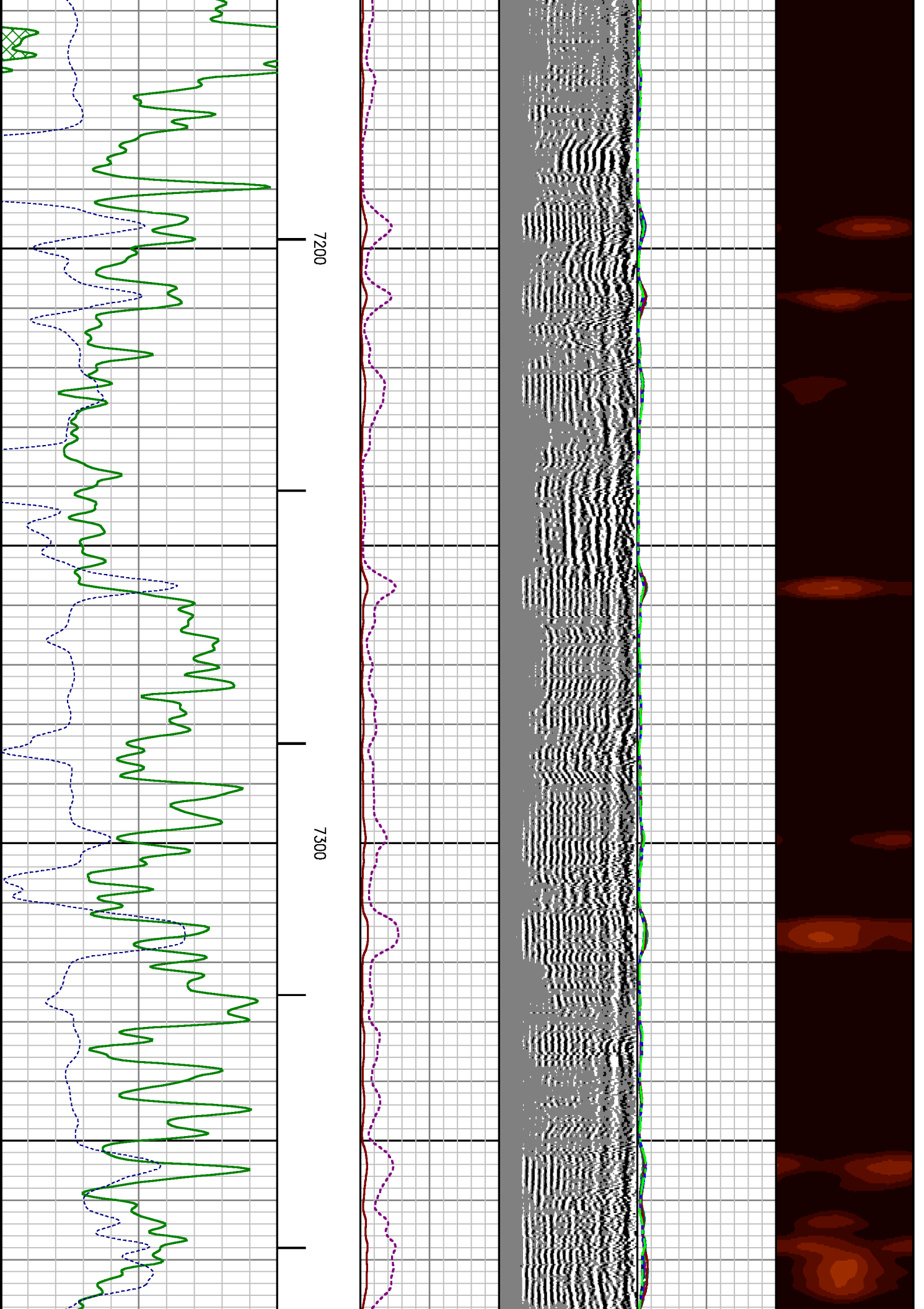


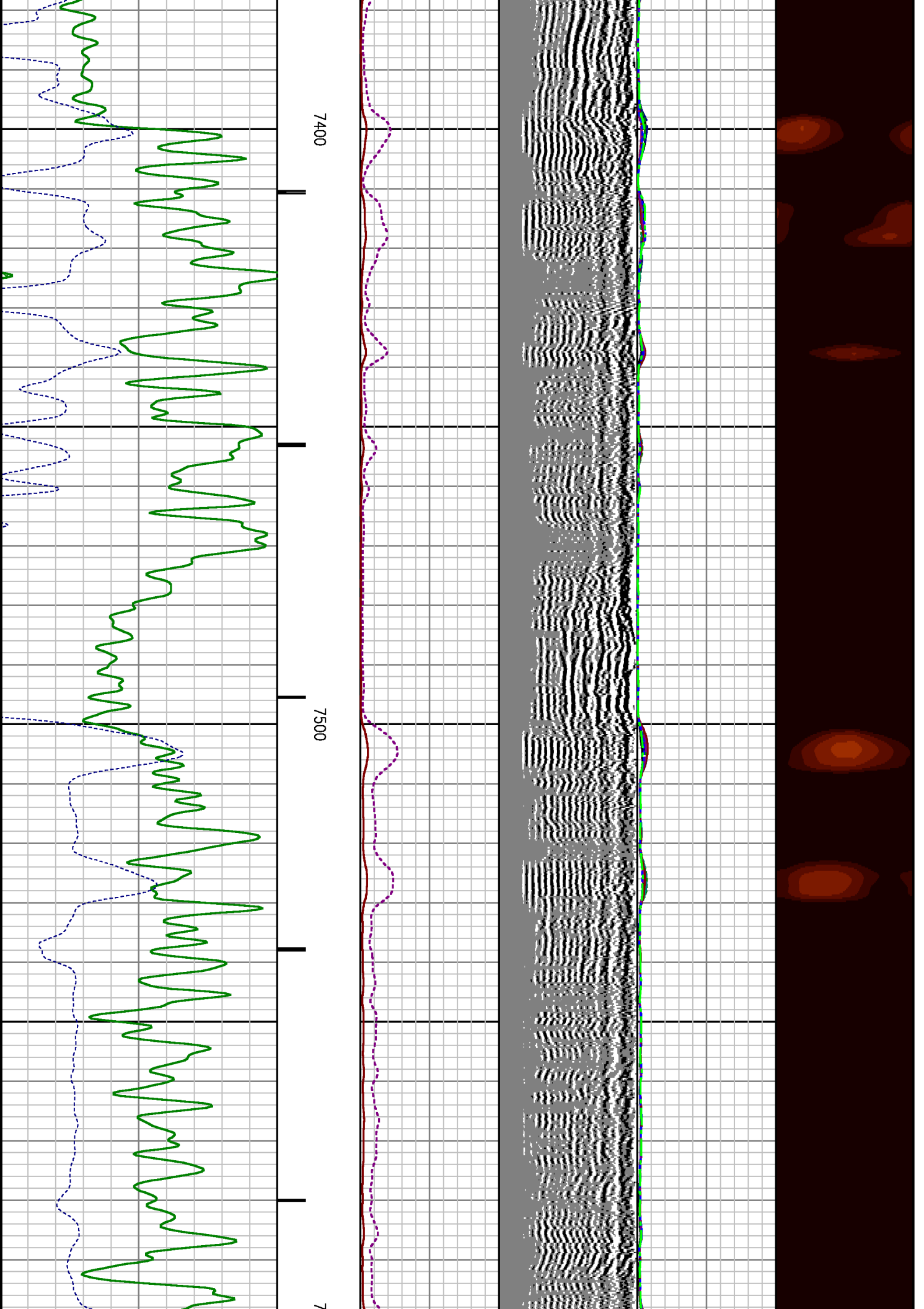


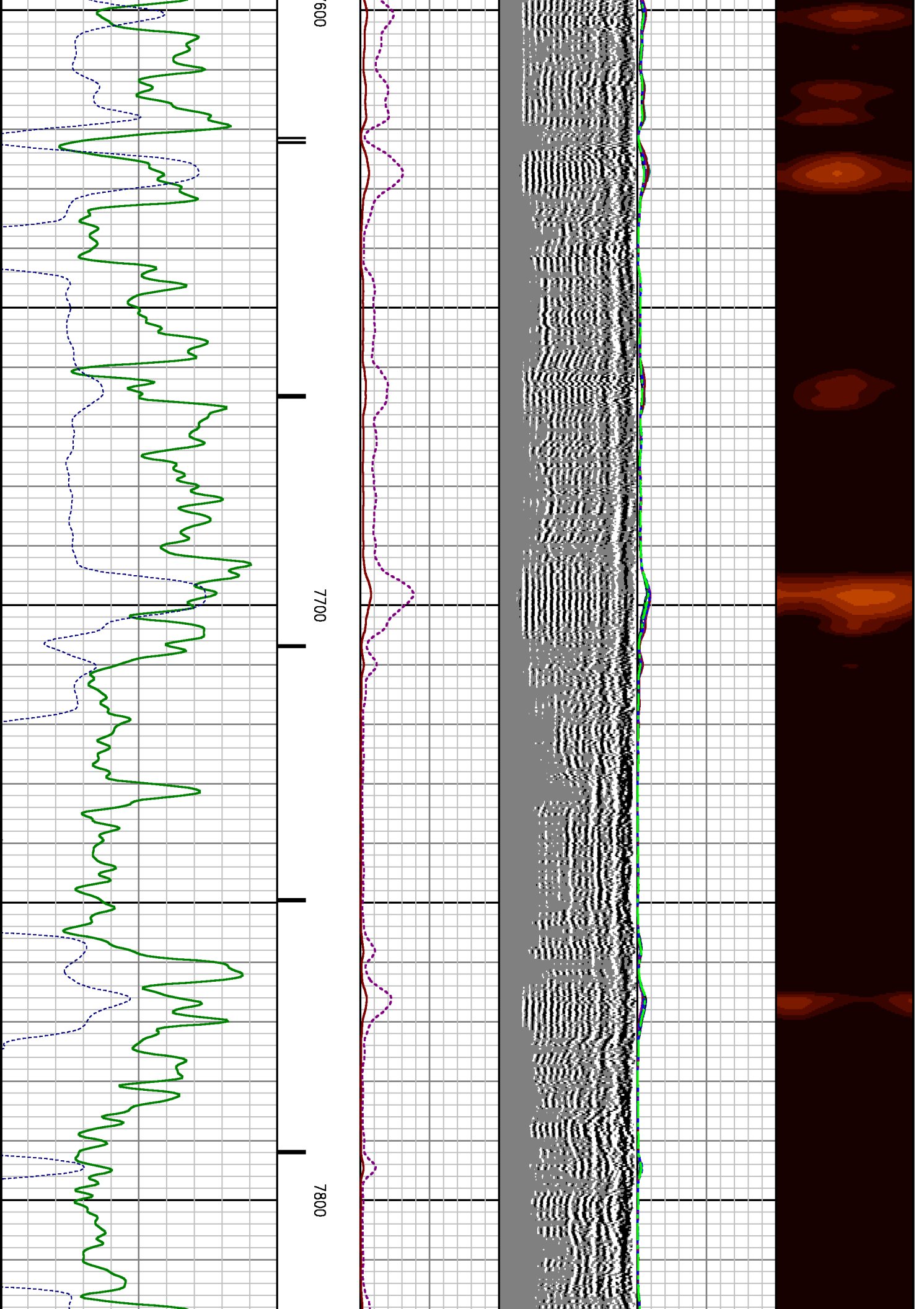


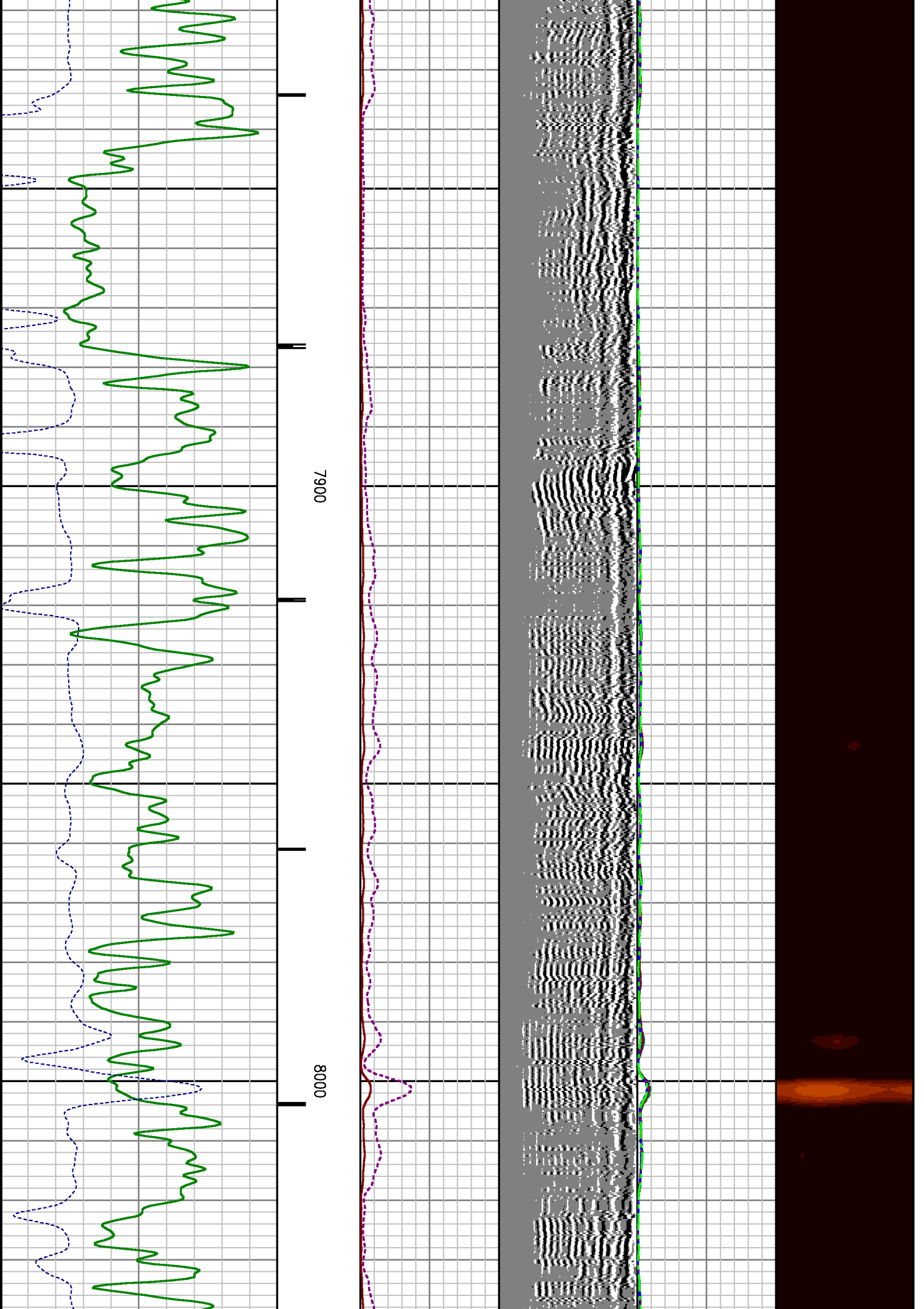


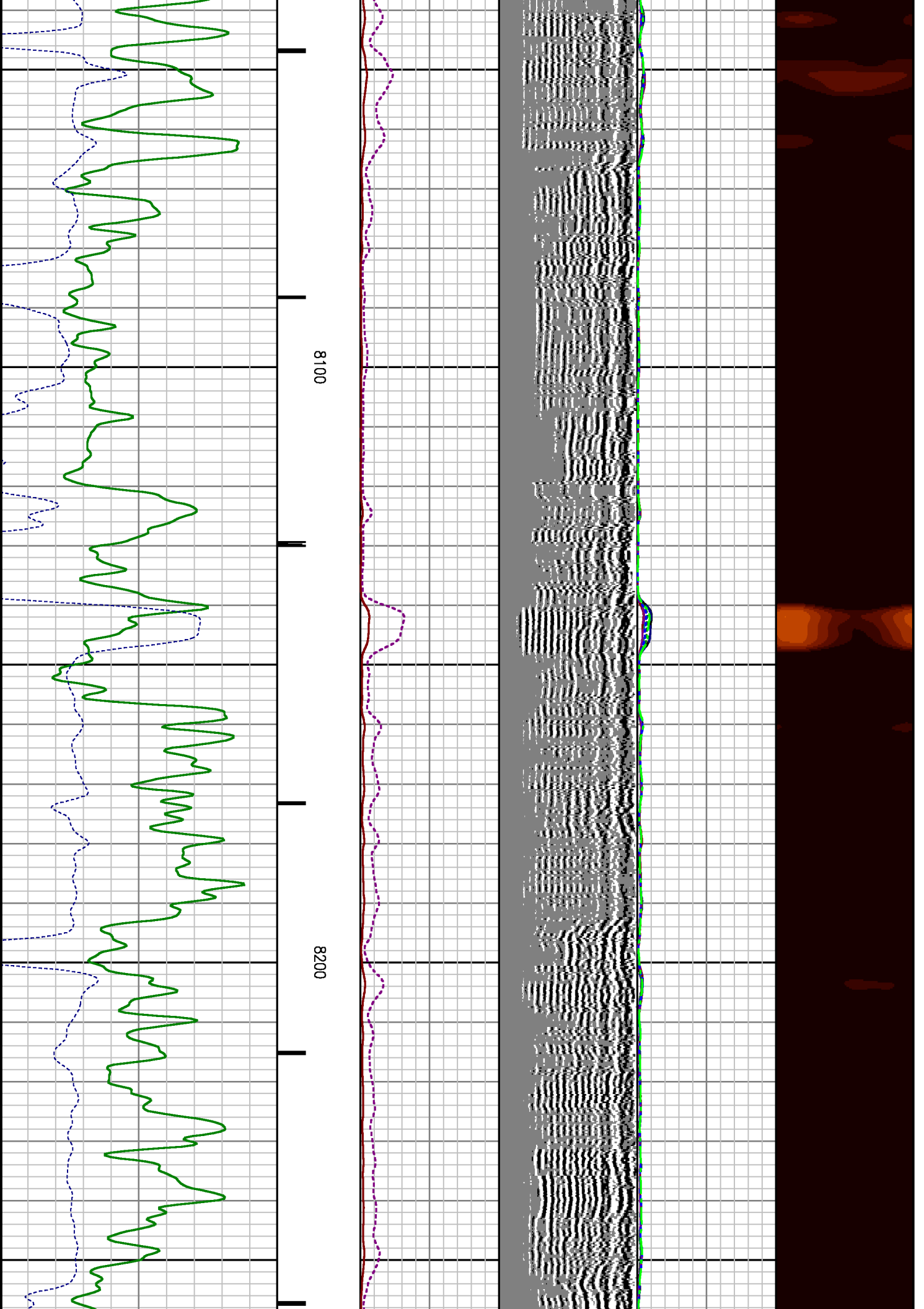


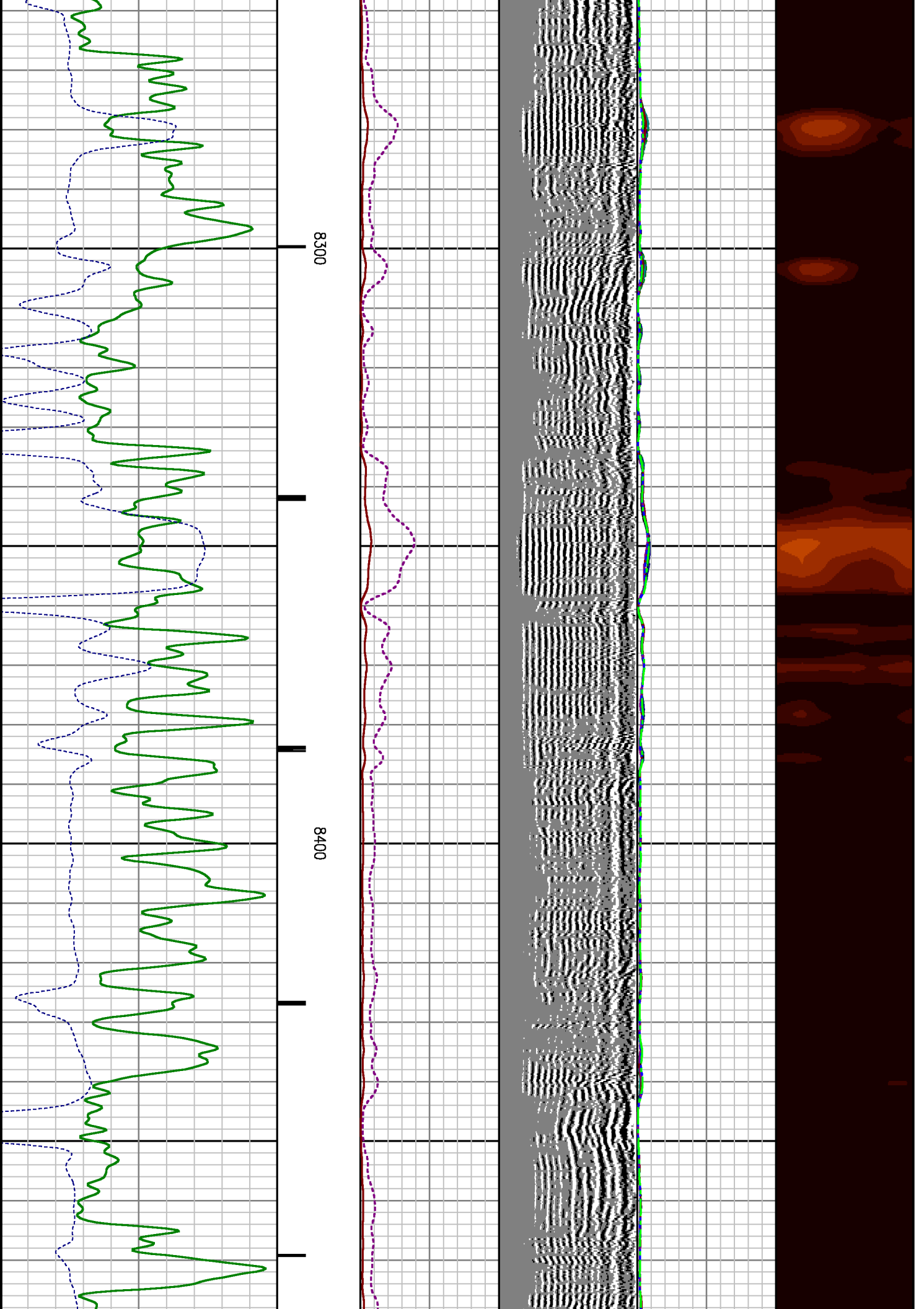


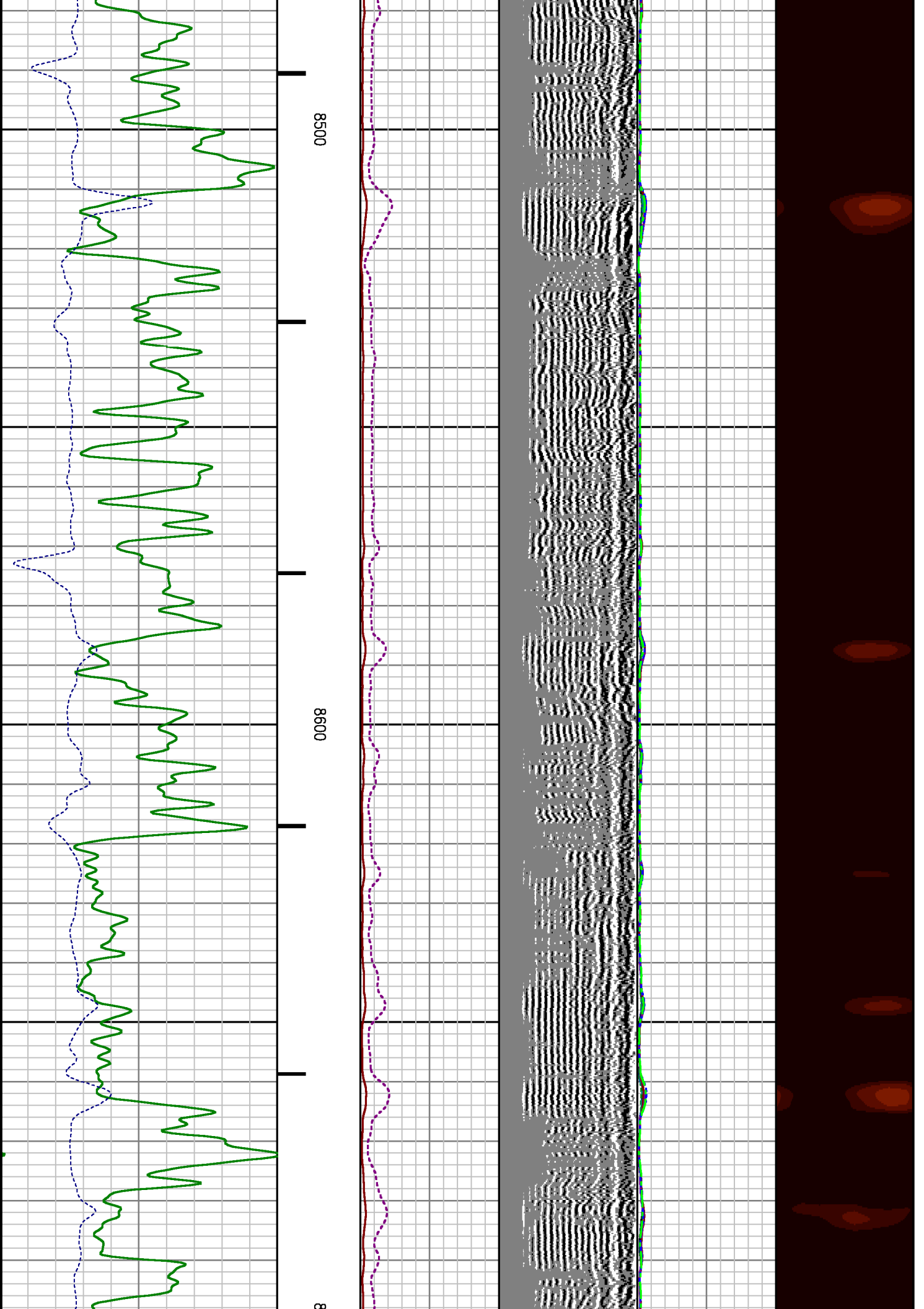


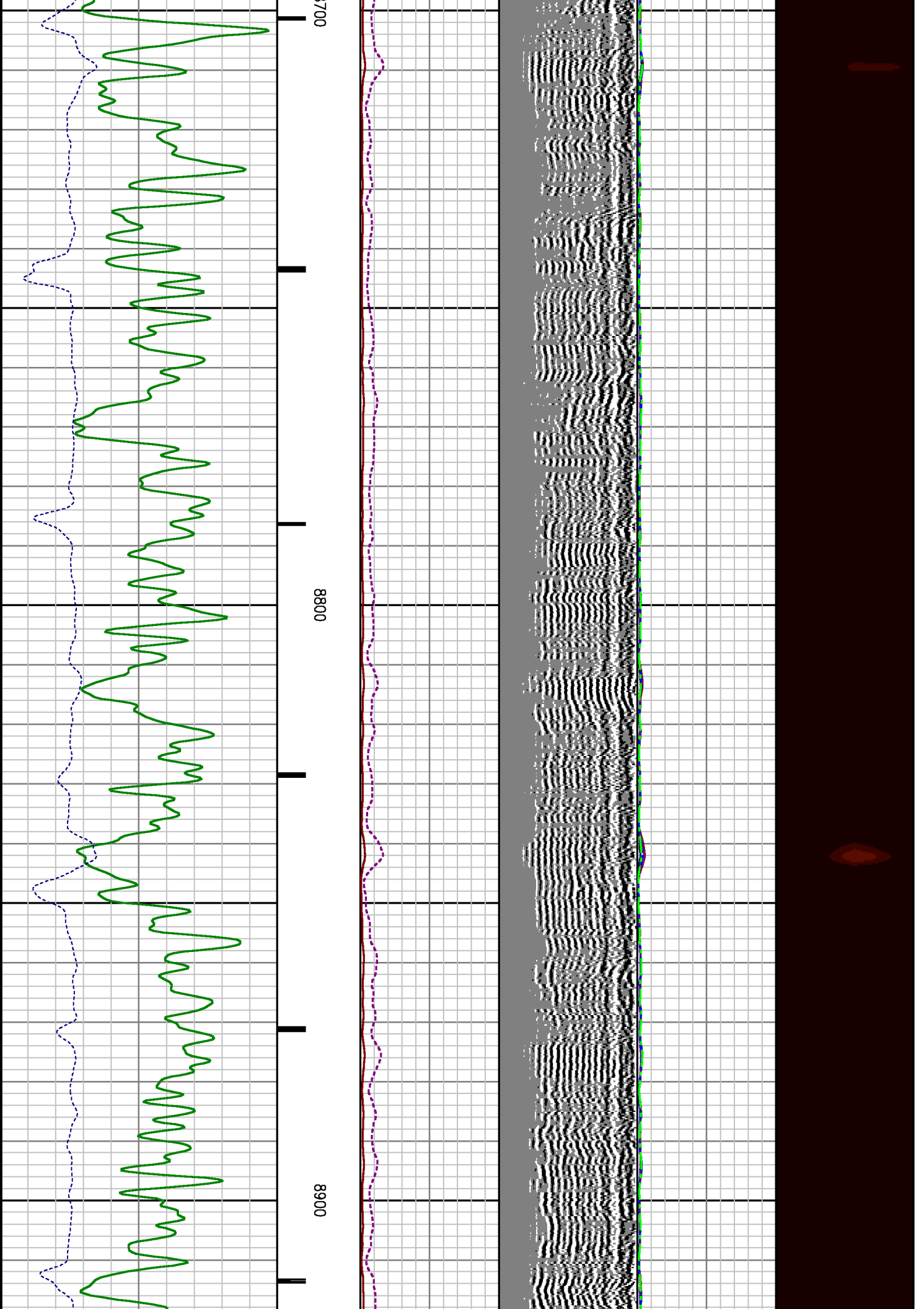


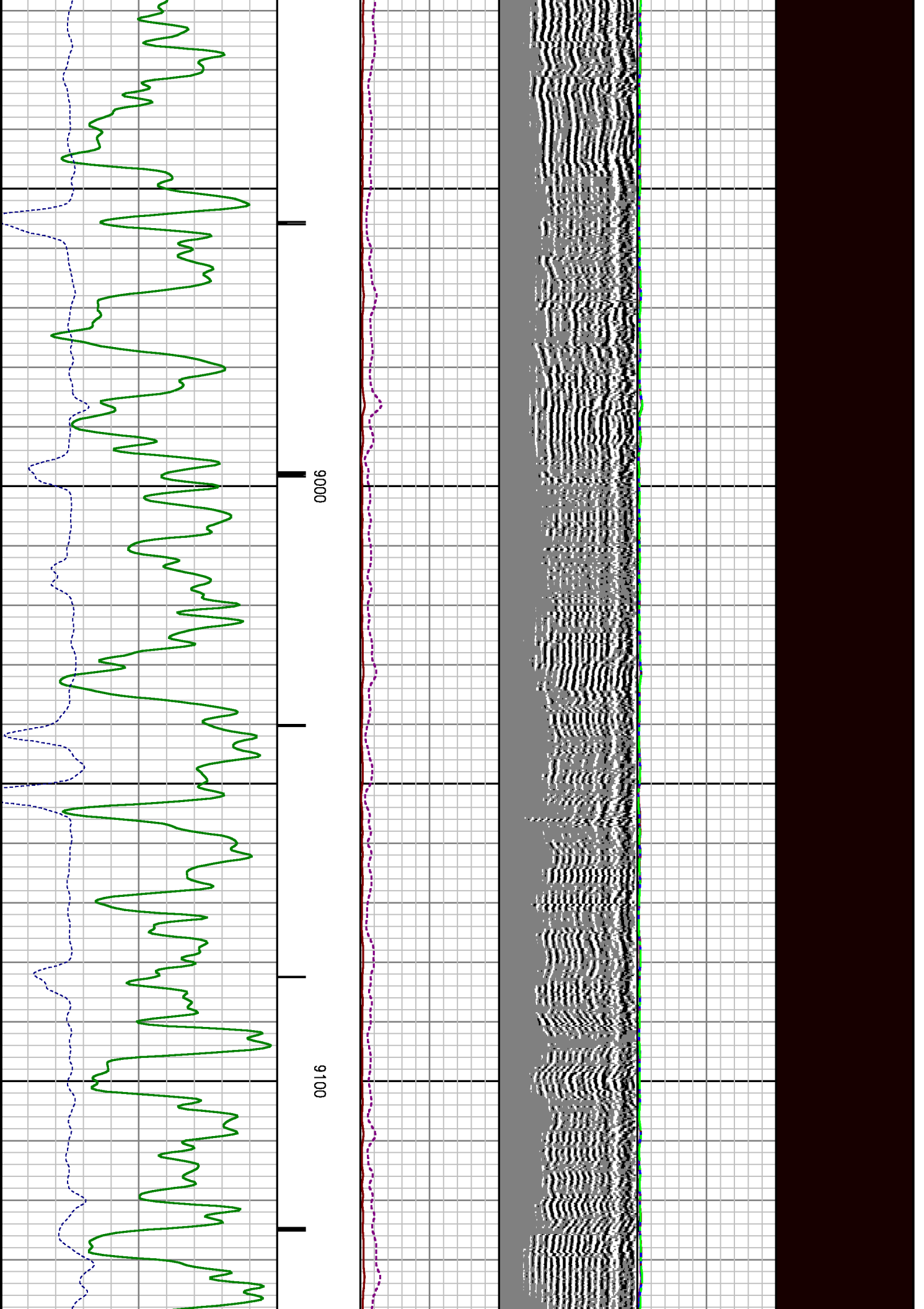


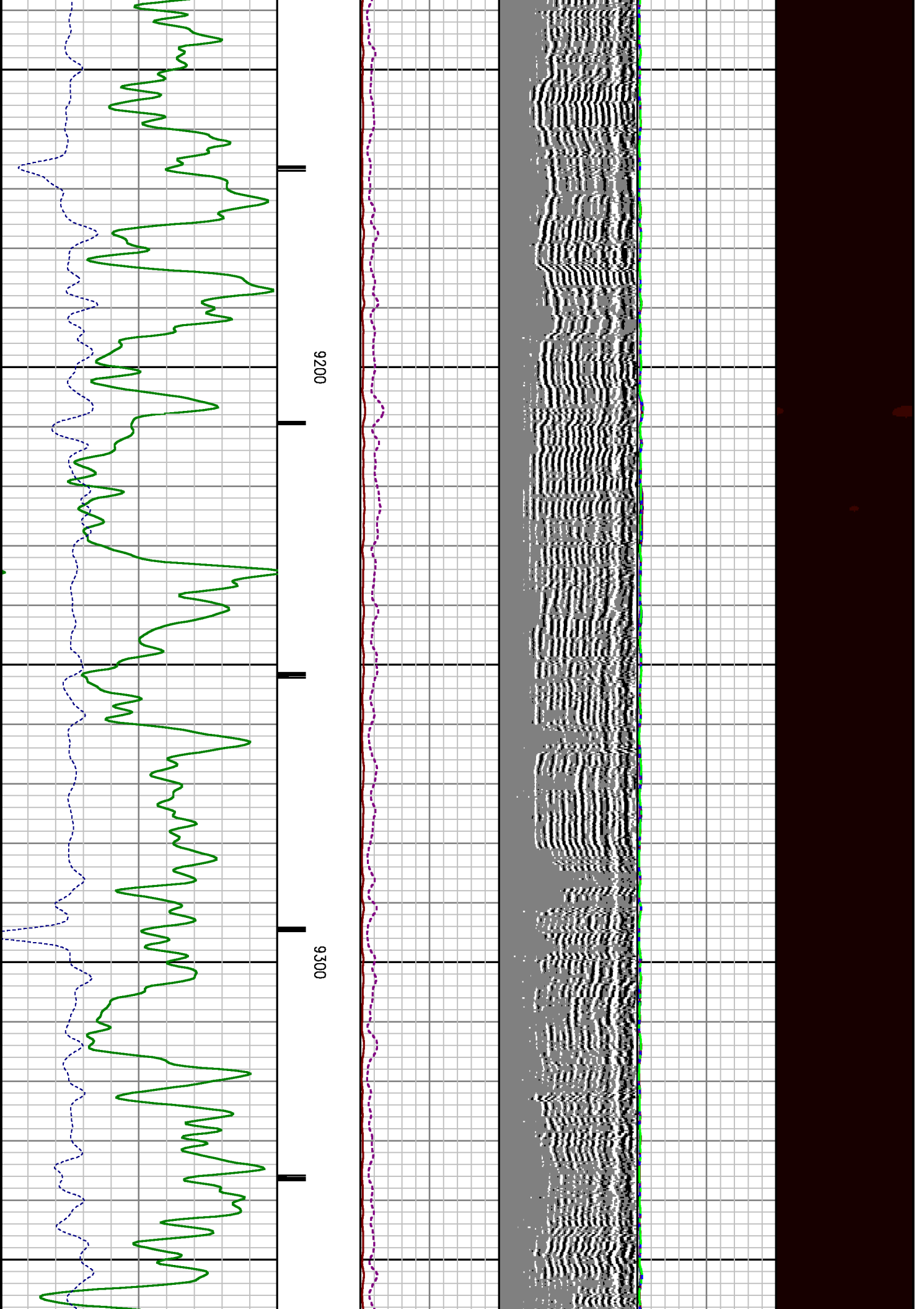


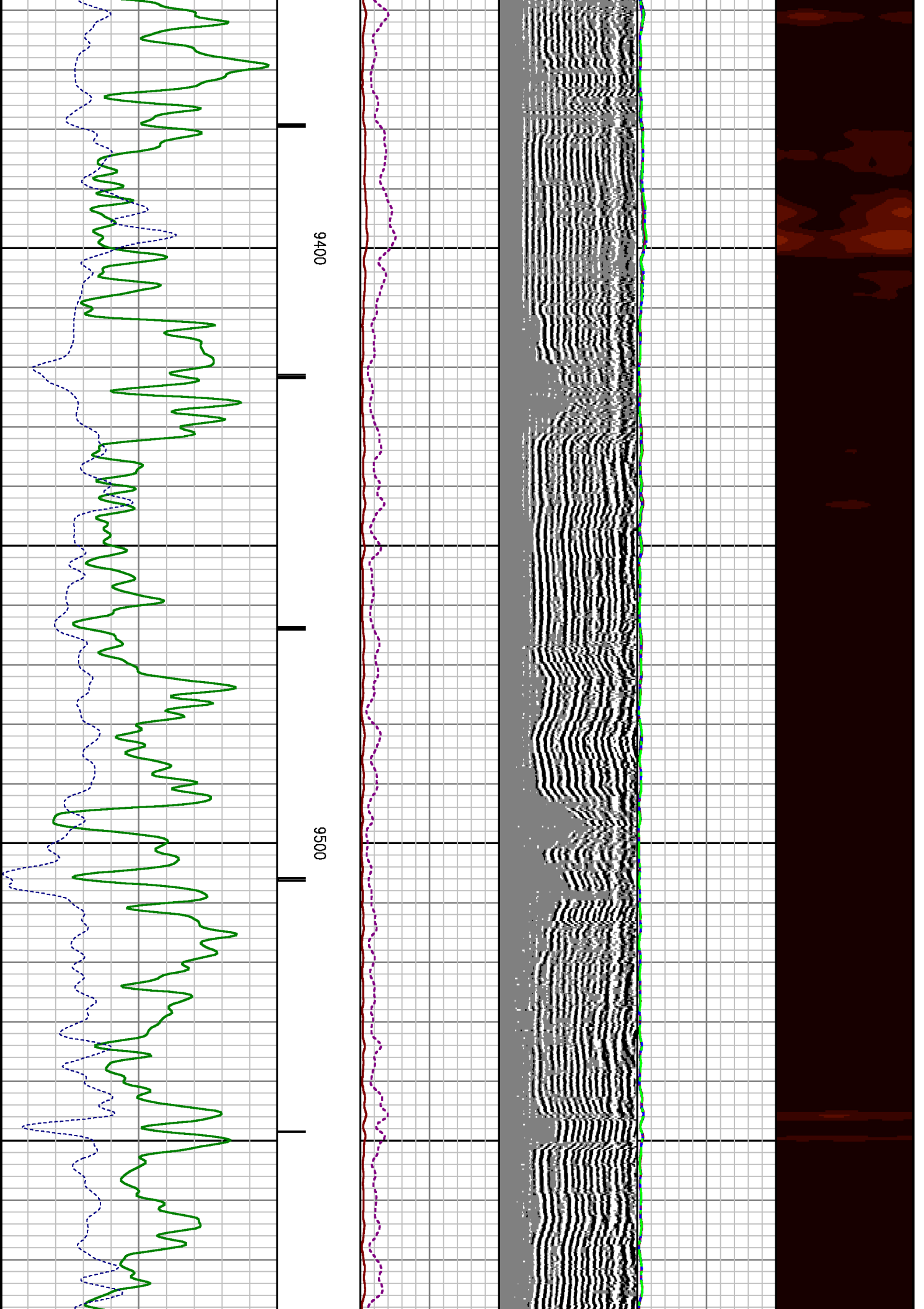


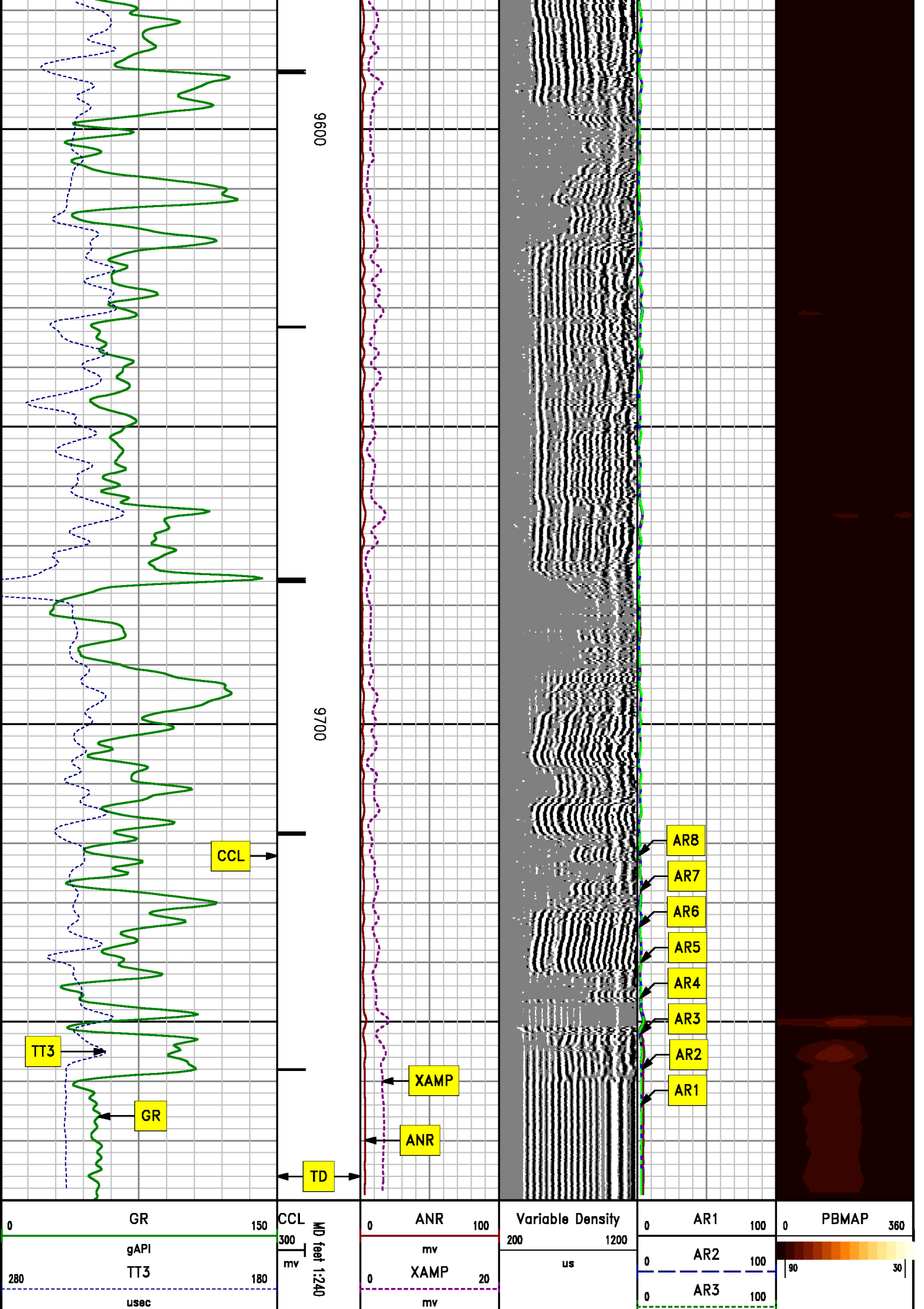












| | | |
|---|-----|-----|
| 0 | AR4 | 100 |
| 0 | AR5 | 100 |
| 0 | AR6 | 100 |
| 0 | AR7 | 100 |
| 0 | AR8 | 100 |

REPEAT SECTION
0 psi

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | TOP | BOTTOM |
|------------------|-----------------------|---------|---------|----------|----------|
| RAL | Amp Gate Start Far | 316.900 | usec | 9508.250 | 9793.500 |
| RAL | Amp Gate Start Near | 200.391 | usec | 9508.250 | 9793.500 |
| RAL | Amp Gate Start Radial | 200.391 | usec | 9508.250 | 9793.500 |
| RAL | Amp Gate Width Far | 30.000 | usec | 9508.250 | 9793.500 |
| RAL | Amp Gate Width Near | 30.000 | usec | 9508.250 | 9793.500 |
| RAL | Amp Gate Width Radial | 30.000 | usec | 9508.250 | 9793.500 |
| RAL | casing od | 4.500 | inches | 9508.250 | 9793.500 |
| RAL | casing wt | 11.600 | lbm/ft | 9508.250 | 9793.500 |
| RAL | FB Start Far | 291.900 | usec | 9508.250 | 9793.500 |
| RAL | FB Start Near | 175.391 | usec | 9508.250 | 9793.500 |
| RAL | FB Start Radial | 175.391 | usec | 9508.250 | 9793.500 |
| RAL | FB Thresh Far | 10.000 | mv | 9508.250 | 9793.500 |
| RAL | FB Thresh Near | 4.000 | mv | 9508.250 | 9793.500 |
| RAL | FB Thresh Radial | 4.000 | mv | 9508.250 | 9793.500 |
| RAL | Fluid Travel Time | 200.000 | usec/ft | 9508.250 | 9793.175 |

DEPTH OFFSETS

| SERIES | DEPTH OFFSET | ACQUIRED CURVES | | | | | |
|--------|--------------|-----------------|------|-----|------|------|------|
| 1426XA | -15.360 | ACAL | ANR | AR1 | AR2 | AR3 | AR4 |
| | | AR5 | AR6 | AR7 | AR8 | CHV | FPR2 |
| | | FPR3 | FPR5 | TT3 | TTR1 | TTR2 | TTR3 |

| | | | | | | | | |
|--------|---------|------|------|------|------|------|------|------|
| 1426XA | -14.360 | AFAR | TTR4 | TTR5 | TTR6 | TTR7 | TTR8 | XAMP |
| 2459XA | -7.250 | CCL | | SIG | TT5 | | | |
| 2459XA | -5.390 | GR | | | | | | |
| 2459XA | 0.000 | NEU | | | | | | |

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : MARATHON OIL COMPANY

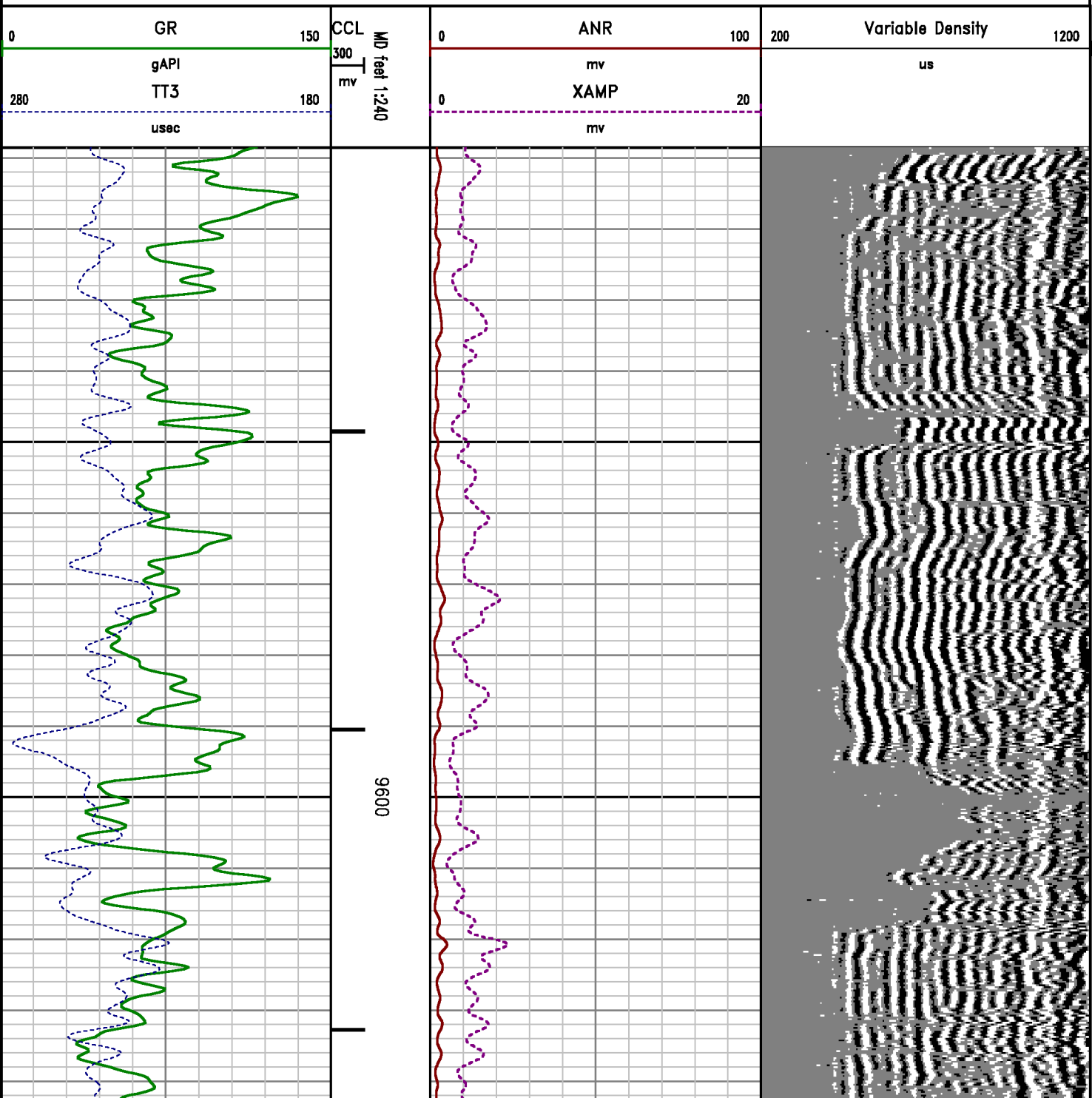
Well : 596-29C-21

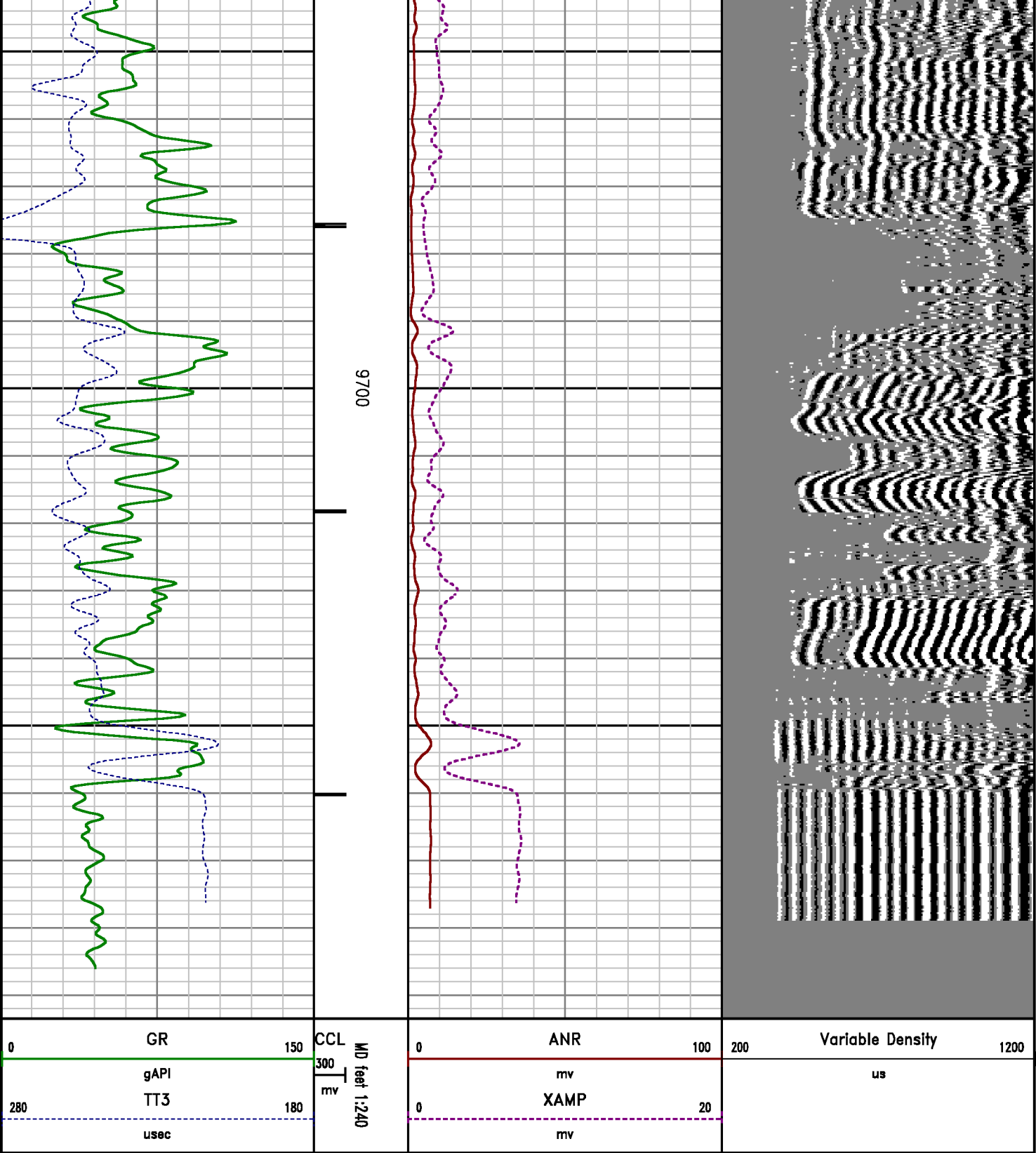
File Name : d:\welldata\radc21\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 9508.50 - 9793.50 feet UP

Created : 1/6/2010 10:32:55 AM





CALIBRATION SUMMARY

RAI SHD

Shop Calibration: C:\case\calver\RALSHP\495JA5_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Jan 06 00:57:37 2010 TOOL SERIES: 1426XA ASSET: 495 SEQ: JA5

Tool Delay [usec] -56.00 Tank OD In 5.50 Tank Wt lbm/ft 15.50 Tank ID In 4.95

| RECEIVER | Travel Time [usec] | Amp. Gate Start [usec] | Amp. Gate Width [usec] | Zero Gate Start [usec] | Zero Gate Width [usec] | Zero Amp. [mV] | Amp Ref. [mV] | Shop Factor |
|----------------|-----------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------|------------------|-------------|
| CAL Pulse | 218 | 216 | 30 | 149 | 25 | -0.313 | 100.00 | 0.13 |
| 3 Ft. Receiver | 218 | 216 | 30 | 153 | 25 | -0.192 | 100.00 | 0.13 |
| 5 Ft. Receiver | 328 | 326 | 30 | 242 | 25 | 0.620 | 150.00 | 0.14 |
| Radial #1 | 219 | 216 | 30 | 157 | 25 | 0.521 | 100.00 | 0.13 |
| Radial #2 | 219 | 216 | 30 | 157 | 25 | 0.012 | 100.00 | 0.13 |
| Radial #3 | 218 | 216 | 30 | 157 | 25 | -0.278 | 100.00 | 0.13 |
| Radial #4 | 218 | 216 | 30 | 157 | 25 | -0.303 | 100.00 | 0.13 |
| Radial #5 | 218 | 216 | 30 | 157 | 25 | -0.351 | 100.00 | 0.13 |
| Radial #6 | 218 | 216 | 30 | 157 | 25 | -0.440 | 100.00 | 0.13 |
| Radial #7 | 218 | 216 | 30 | 157 | 25 | -0.418 | 100.00 | 0.13 |
| Radial #8 | 219 | 216 | 30 | 157 | 25 | -0.349 | 100.00 | 0.13 |

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\495JA6 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Jan 06 15:28:07 2010 TOOL SERIES: 1426XA ASSET: 495 SEQ: JA6

Tool Delay [usec] -56.00 Casing OD In 4.50 Casing Wt lbm/ft 11.60 Casing ID In 4.00

| RECEIVER | Zero Gate Start [usec] | Zero Gate Width [usec] | Zero Amp. [mV] | Full Amp. [mV] | Wellsite Factor | Amp. Ref [mV] |
|----------------|------------------------------|------------------------------|-------------------|-------------------|-----------------|------------------|
| CAL Pulse | 149 | 25 | 0.002 | 0.000 | 0.99 | 100.000 |
| 3 Ft. Receiver | 200 | 30 | 0.974 | | | |
| 5 Ft. Receiver | 317 | 30 | 1.492 | | | |
| Radial #1 | 200 | 30 | 0.885 | | | |
| Radial #2 | 200 | 30 | 0.678 | | | |
| Radial #3 | 200 | 30 | 0.798 | | | |
| Radial #4 | 200 | 30 | 0.814 | | | |
| Radial #5 | 200 | 30 | 0.610 | | | |
| Radial #6 | 200 | 30 | 0.642 | | | |
| Radial #7 | 200 | 30 | 0.674 | | | |
| Radial #8 | 200 | 30 | 0.568 | | | |

GAMMA RAY

Calibration File: C:\case\calver\GR\503JA.cal

CALIBRATION SUMMARY

| | | | | | | | |
|----------------------|--------------------------|------------------------|----------------|---------------------|------------------------|-----------------------|----|
| DATE/TIME PERFORMED: | Sat Jan 02 22:10:46 2010 | TOOL SERIES: | 2459XA | ASSET: | 503 | SEQ: | JA |
| Calibrator # | Background [cps] | Calibrator On [cps] | Multiplicative | Background [api] | Calibrator On [api] | Differential [api] | |
| BA 856 | 42.27 | 210.49 | 1.100 | 46.48 | 231.48 | 185.00 | |

Verification File: C:\case\calver\GR\503JA.VP

PRIMARY LOG VERIFICATION

| | | | | | | | |
|----------------------|--------------------------|------------------------|----------------|---------------------|------------------------|-----------------------|----|
| DATE/TIME PERFORMED: | Sat Jan 02 22:12:58 2010 | TOOL SERIES: | 2459XA | ASSET: | 503 | SEQ: | JA |
| Calibrator # | Background [cps] | Calibrator On [cps] | Multiplicative | Background [api] | Calibrator On [api] | Differential [api] | |
| BA 856 | 42.27 | 215.11 | 1.100 | 46.48 | 236.57 | 190.08 | |

TOOL DIAGRAM

OTA SHORT CABLE HEAD

CENTRALIZER

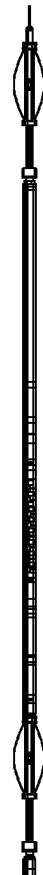
| | |
|----------|----------|
| Series | RALCENT |
| Mnemonic | CENT |
| Diameter | 3.12" |
| Weight | 20.00 lb |

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 |

CENTRALIZER

| | |
|----------|----------|
| Series | RALCENT |
| Mnemonic | CENT |
| Diameter | 3.12" |
| Weight | 20.00 lb |



30.09'

XMIT 21.02'

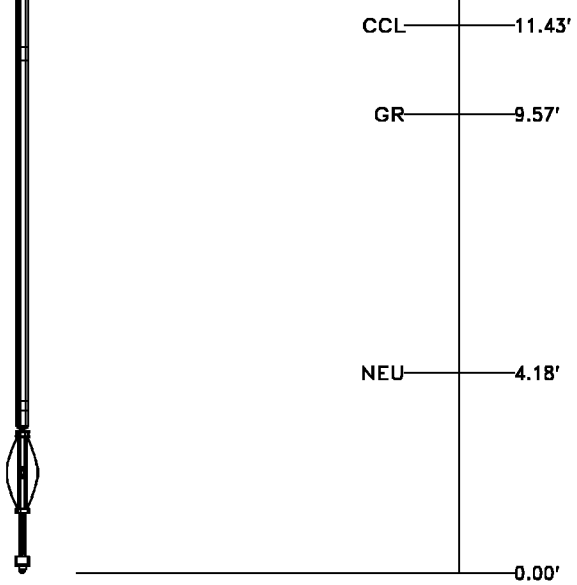
NEAR RCVR 17.94'



FAR RCVR 16.02'

| | |
|-------------------------|-----------|
| <i>Probe GR/CCL/NEU</i> | |
| Series | 2459XA |
| Mnemonic | PROB |
| Diameter | 2.75" |
| Length | 9.42' |
| Measure Point | 1.21' NEU |
| Measure Point | 6.60' GR |
| Measure Point | 8.46' CCL |

| | |
|--------------------|----------|
| <i>CENTRALIZER</i> | |
| Series | RALCENT |
| Mnemonic | CENT |
| Diameter | 3.12" |
| Weight | 20.00 lb |

Total Length: 30.09'
Total Weight: Not Available
Max Diameter: 0' 3.12"



| | | |
|---|--|---|
| <div>  </div> <div> Baker Atlas </div> <div>  </div> | <div>Company</div> <div>MARATHON OIL COMPANY</div> | <div>File No:</div> <div>1550</div> |
| | <div>Well</div> <div>596-29C-21</div> | |
| | <div>Field</div> <div>GRAND VALLEY</div> | <div>API No:</div> <div>05-045-18087-00</div> |
| | <div>County</div> <div>GARFIELD</div> <div>State</div> <div>COLORADO</div> | |
| <div>Location</div> <div>SHL: 1763' FSL & 1425' FWL</div> | | <div>Elevations</div> <div>KB 8204 ft</div> <div>DF 8203 ft</div> <div>GL 8180 ft</div> |
| <div>SEC 29</div> <div>TWP 5S</div> <div>RGE 96W</div> | | |