



Radial Cement Bond
w/Variable Density
Gamma Ray/CCL/Temp Log
FINAL PRINT

Company Great Western Oil & Gas Company
Well Rio LC 12-368HC
Field Wattenberg
County Adams State Colorado

Location: API #: 05-001-10462
NW 1/4
SEC 6 TWP 1S RGE 67W
Permanent Datum GL Elevation 5068'
Log Measured From KB
Drilling Measured From KB
Other Services
Gauge Ring
Elevation
K.B. 5088'
D.F.
G.L. 5068'

Date Sep 14 2019

Run Number One
Depth Driller 18283'
Depth Logger 8250'
Bottom Logged Interval 8248'
Top Log Interval Surface
Open Hole Size 8 1/2"
Type Fluid H2O
Density / Viscosity
Max. Recorded Temp. 238 Deg F
Estimated Cement Top
Time Well Ready 6:15
Time Logger on Bottom 6:50
Equipment Number 59
Location Plattville, CO
Recorded By S Cornett
Witnessed By Dave Pozas

Borehole Record
Run Number Bit From To Size Weight From To

Casing Record
Surface String Size 9 5/8" Wgt/Ft 36# J-55 Top Surface Bottom 1772'
Prot. String
Production String 5 1/2" 17# P-110 Surface 18283'
Liner

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

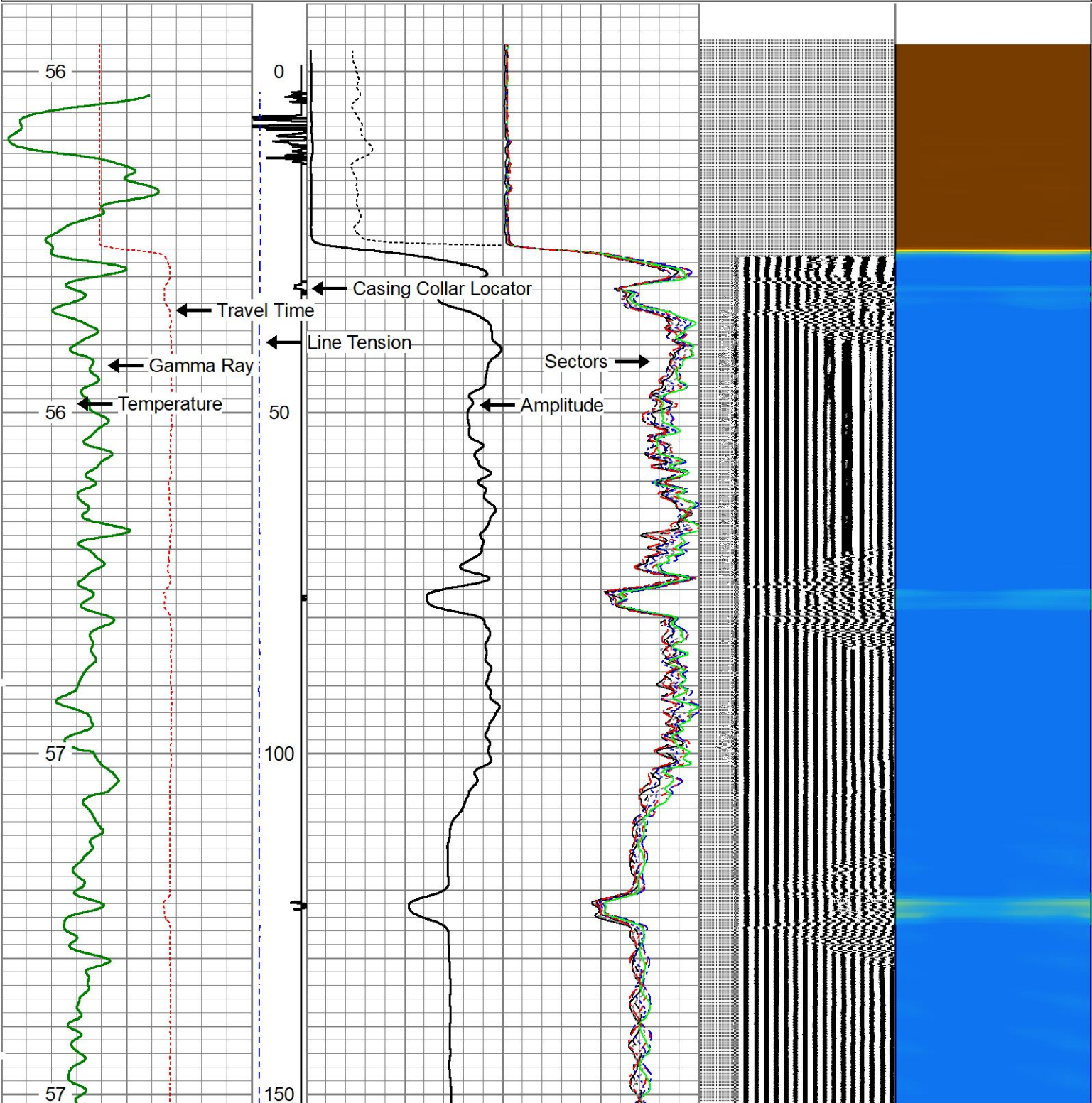
Logged with 0 PSI
Log Correlated to Short Joint @ 7796'-7806'
Tool Ran with 3 Gemco Centerlizers
Thank You For Choosing KLX Energy Services.

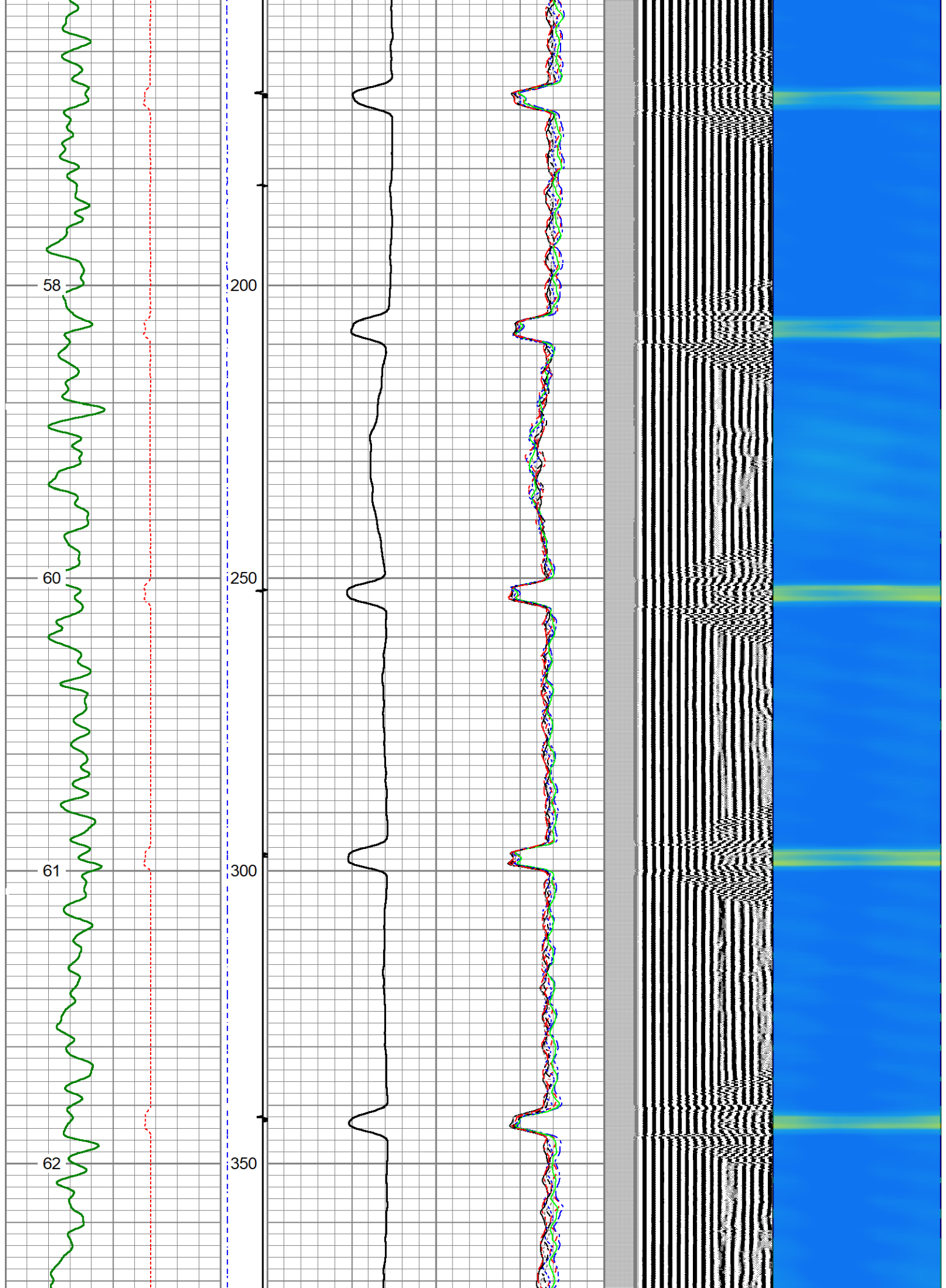


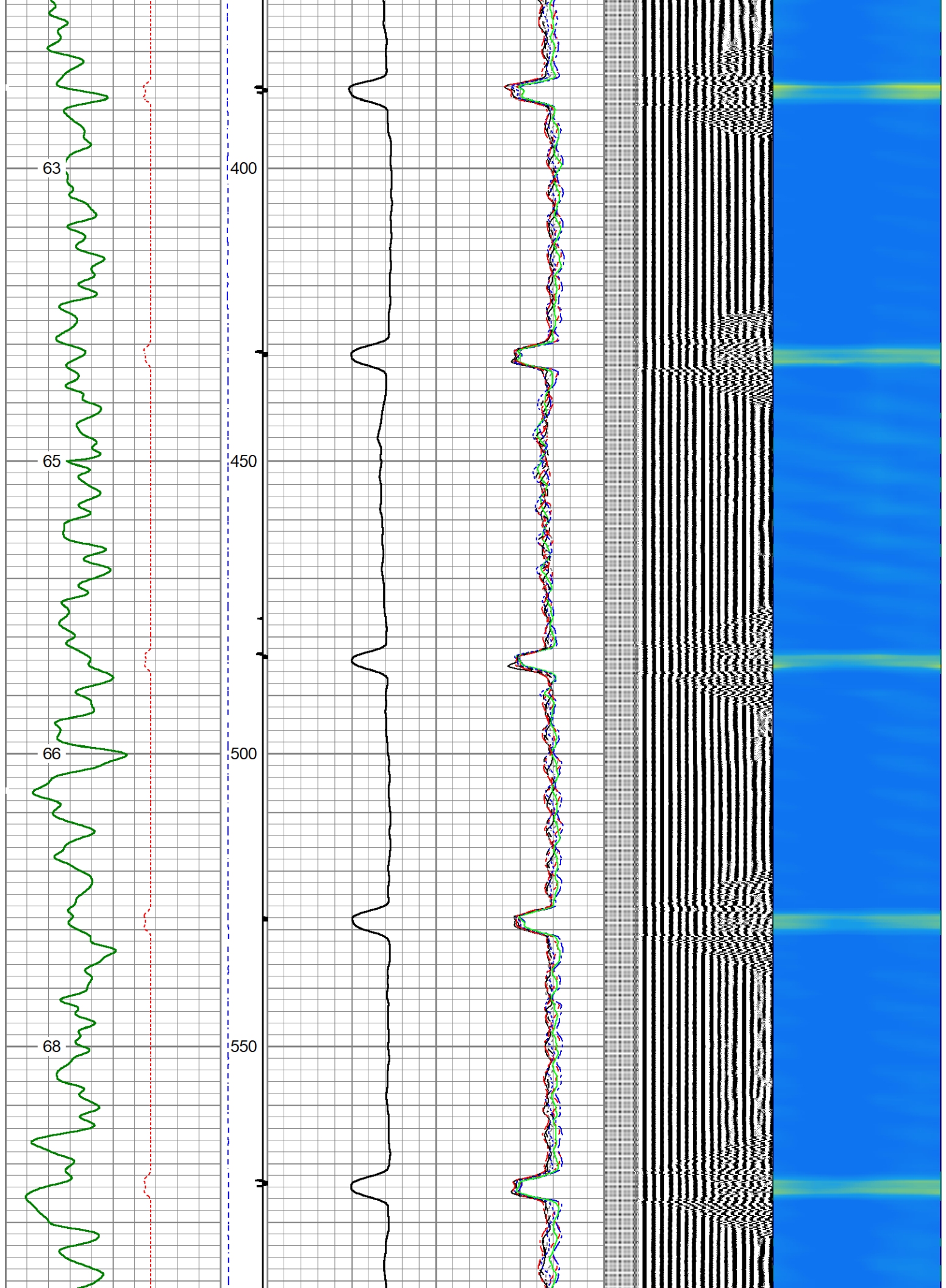
Main Pass 0 PSI

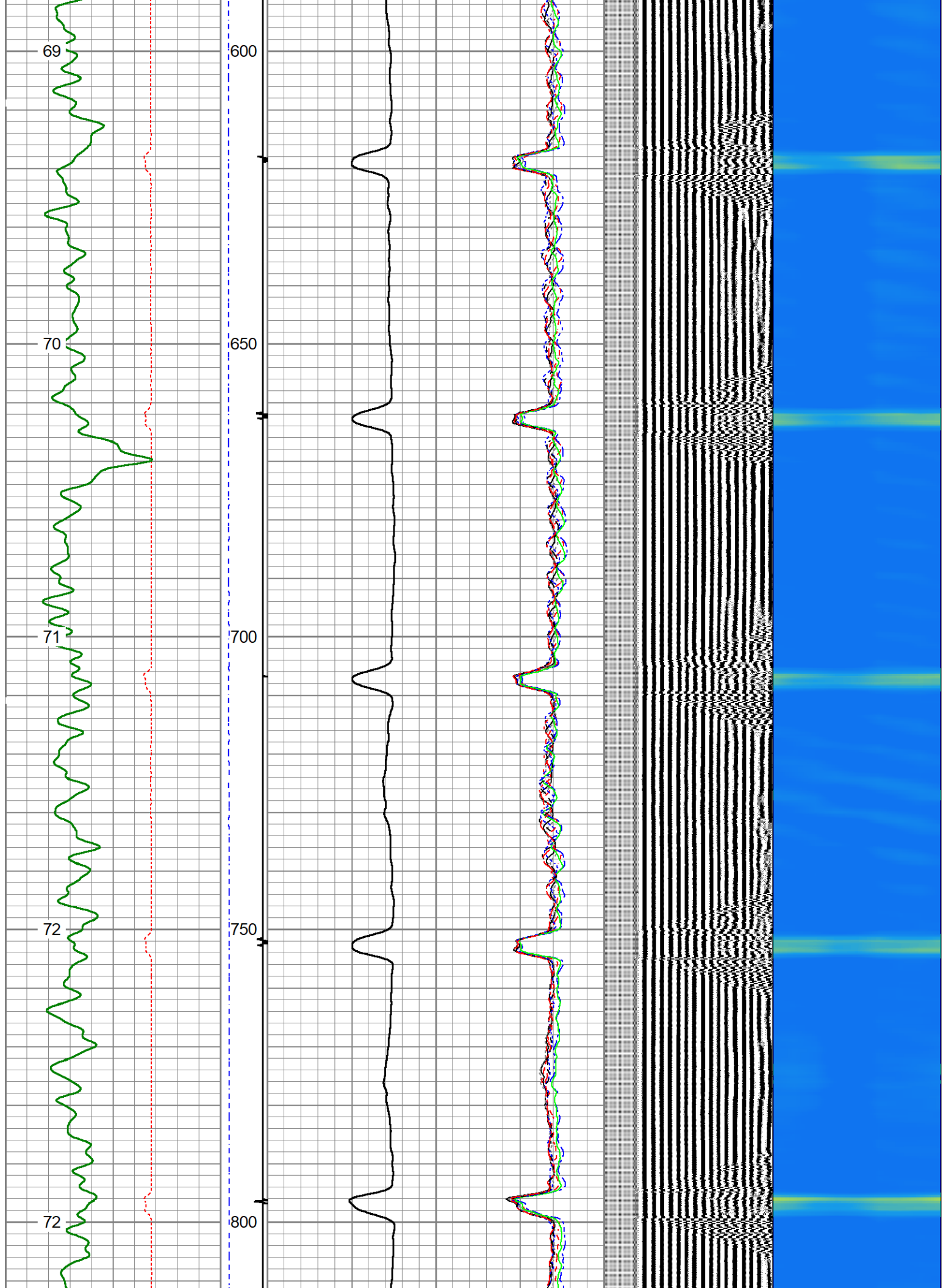
| | |
|---------------------|------------------------------------|
| Database File | gw_rlo_lc_12_368hc_rcbl_9_13_19.db |
| Dataset Pathname | pass22.2 |
| Presentation Format | scbl03 |
| Dataset Creation | Sat Sep 14 09:58:15 2019 |
| Charted by | Depth in Feet scaled 1:240 |

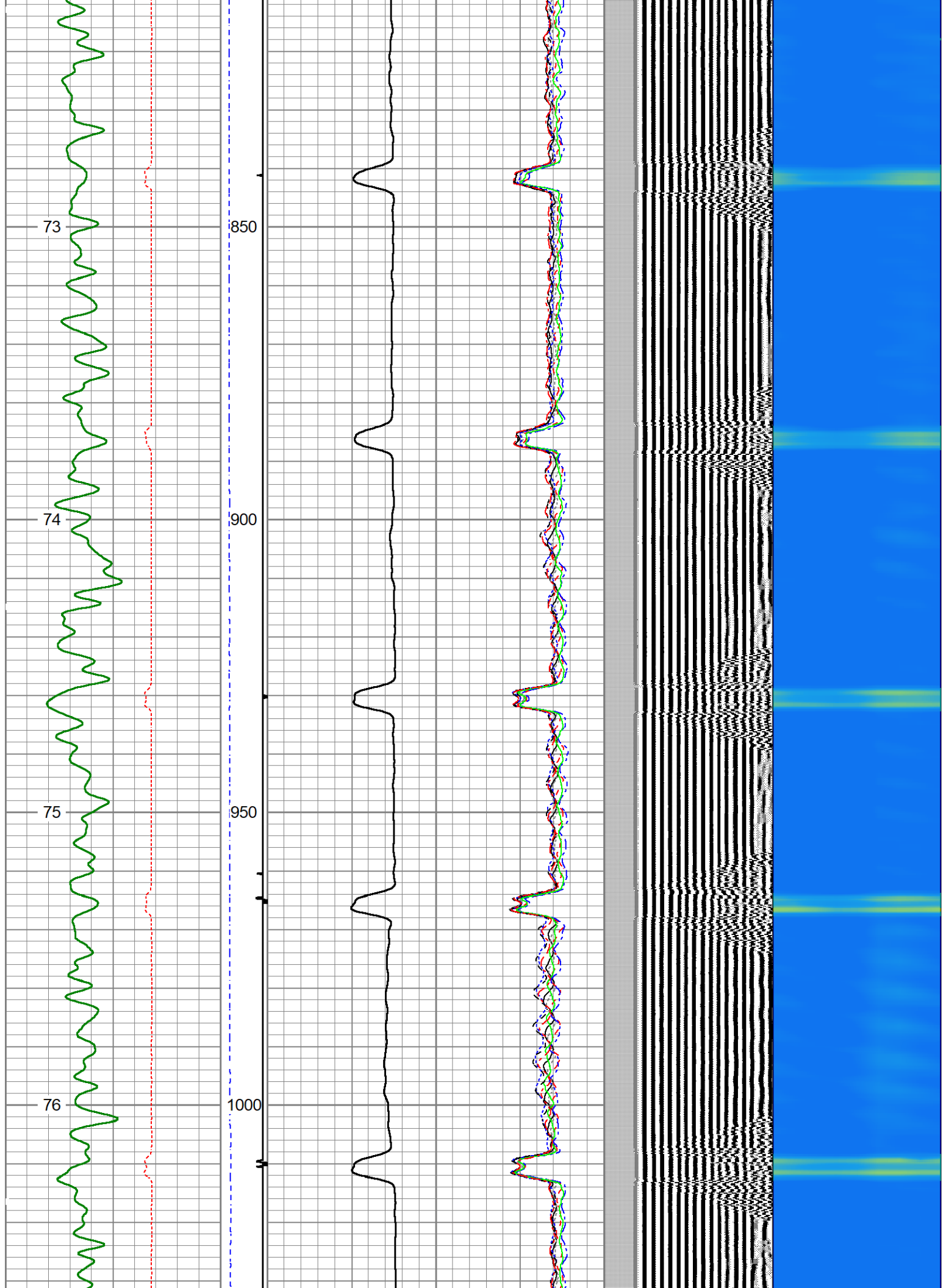
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|--------|--------------------|-----|-------|----|---------------------|-----|----|----------|-----|------------------|--------|------------|---|
| 400 | Travel Time (usec) | 200 | CCL | 0 | Amplitude (mV) | 100 | -5 | Sector 1 | 150 | Variable Density | 1 | Cement Map | 8 |
| 0 | Gamma Ray (GAPI) | 150 | 9 | -1 | Amplified Amplitude | | -5 | Sector 2 | 150 | 200 | (usec) | 1200 | |
| TEMP | | | LTEN | 0 | (mV) | 10 | -5 | Sector 3 | 150 | | | | |
| (degF) | | | (lb) | | | | -5 | Sector 4 | 150 | | | | |
| | | | (2000 | | | | -5 | Sector 5 | 150 | | | | |
| | | | | | | | -5 | Sector 6 | 150 | | | | |
| | | | | | | | -5 | Sector 7 | 150 | | | | |
| | | | | | | | -5 | Sector 8 | 150 | | | | |

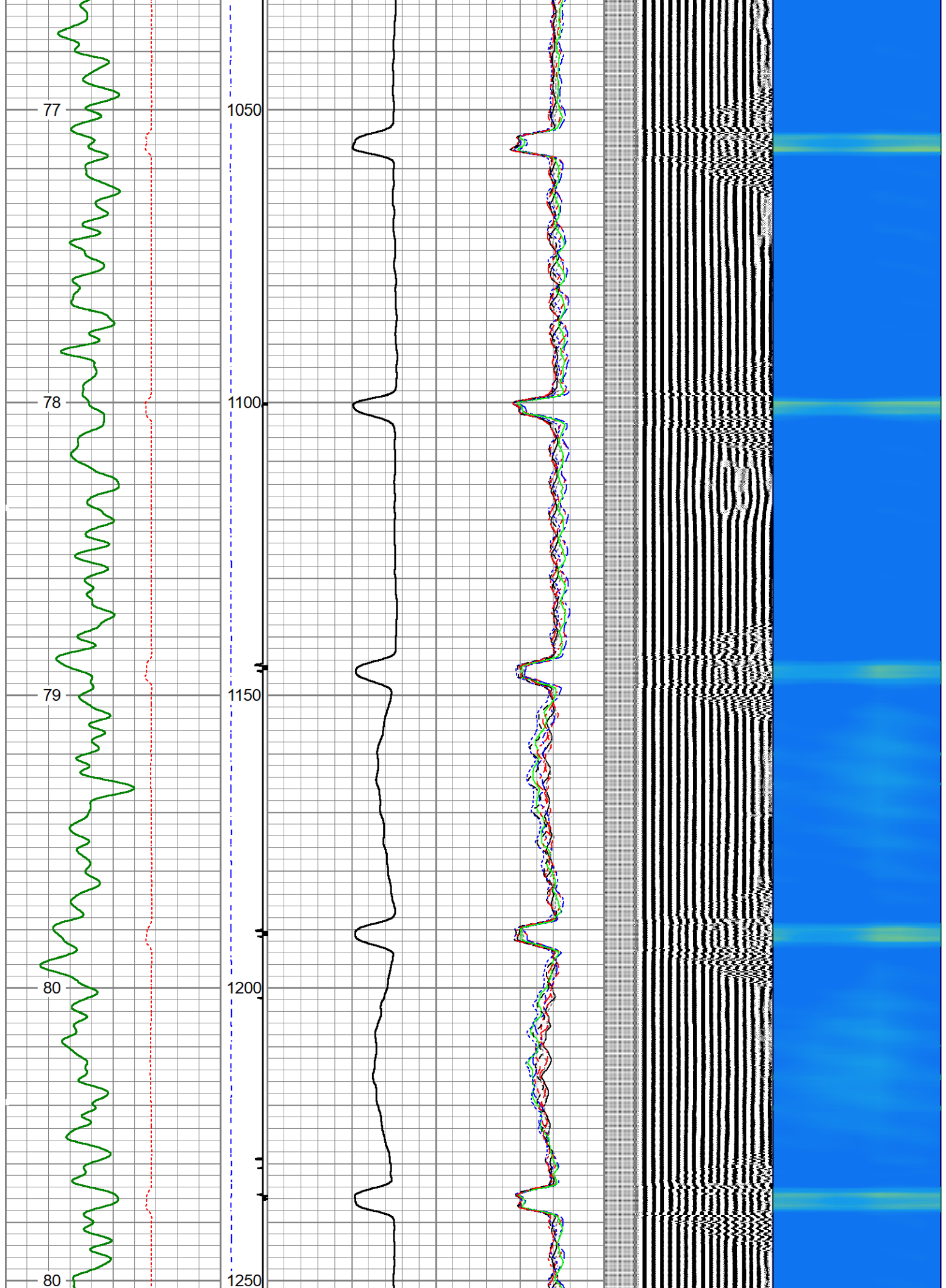


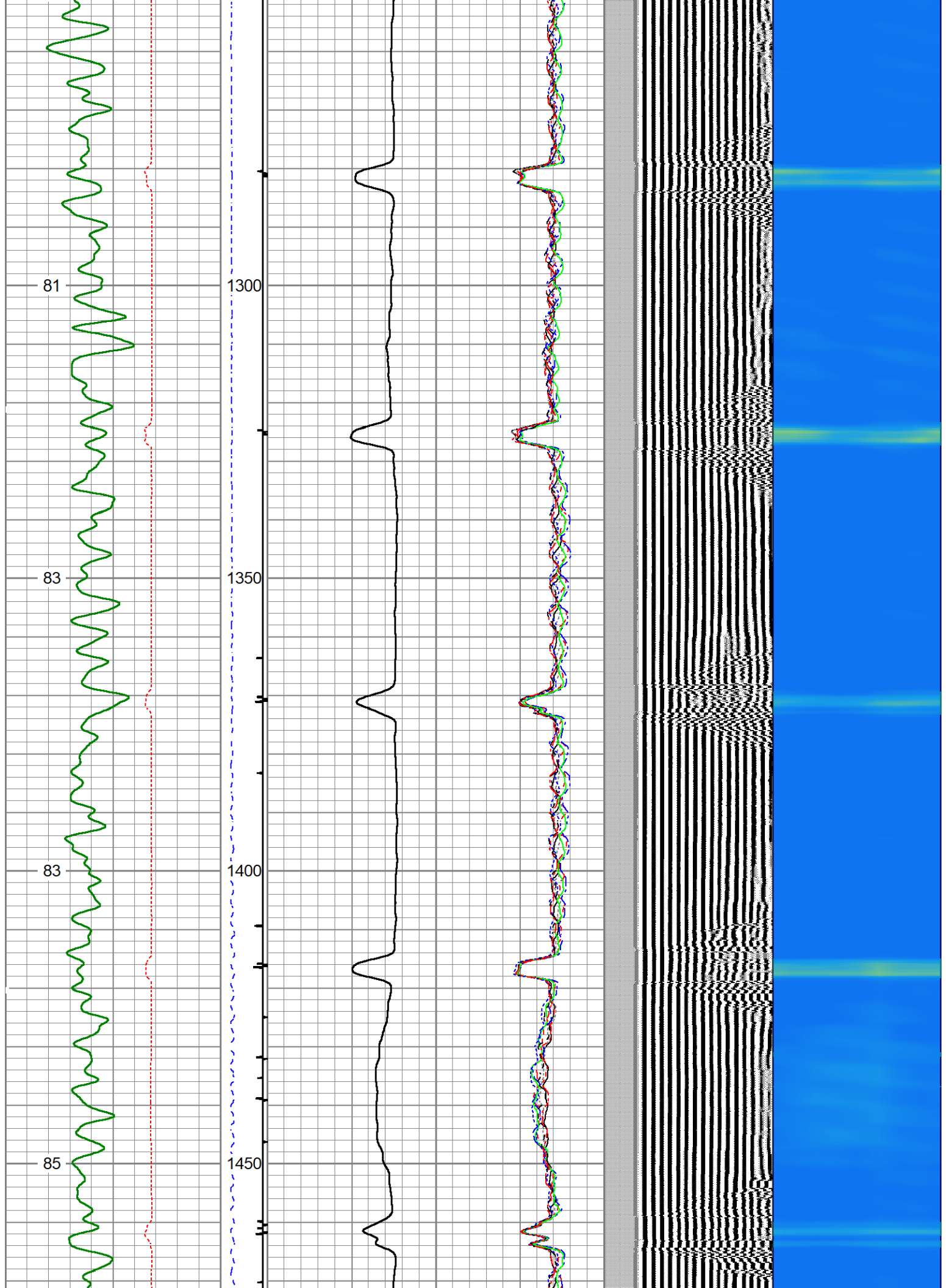


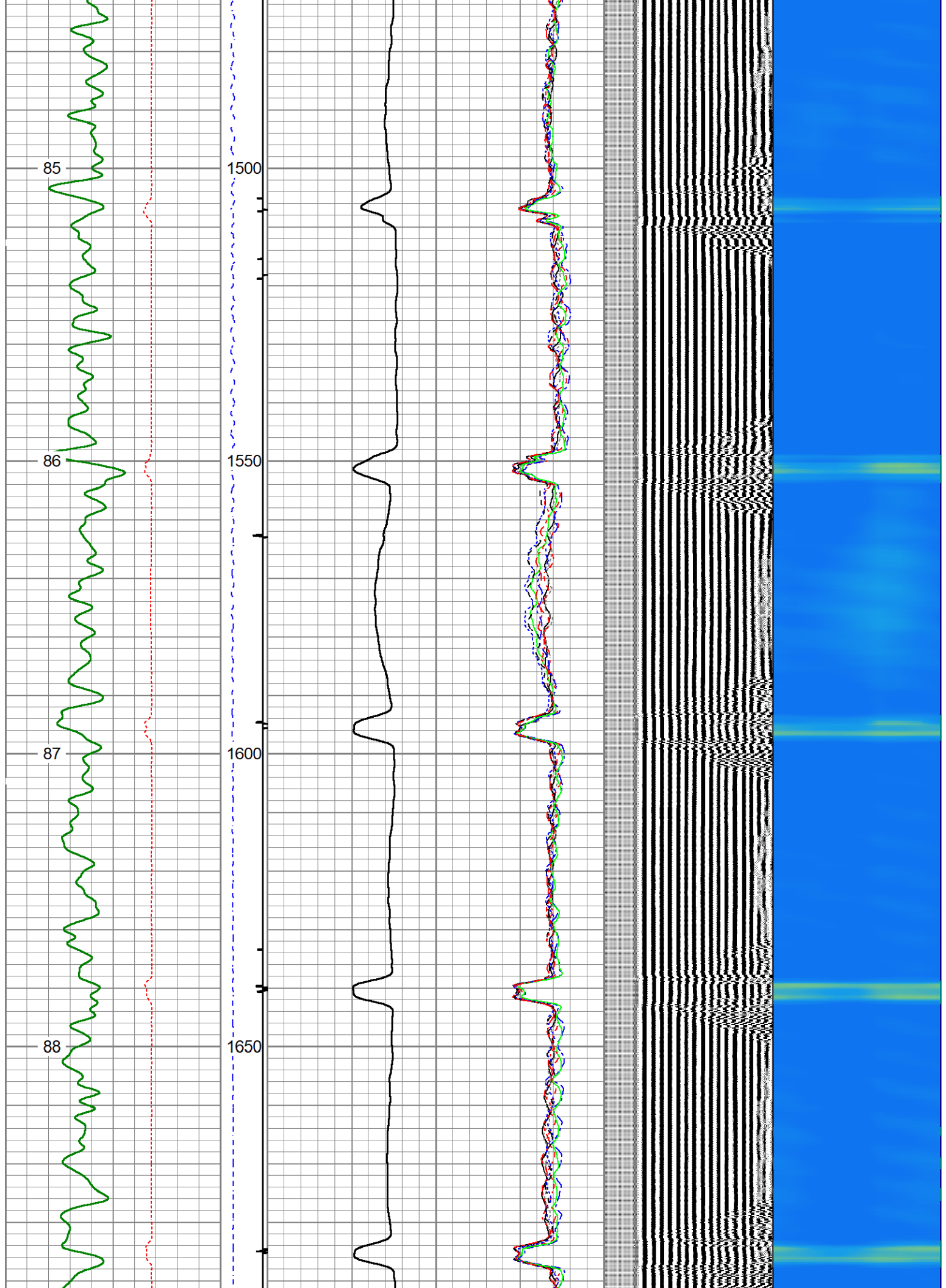


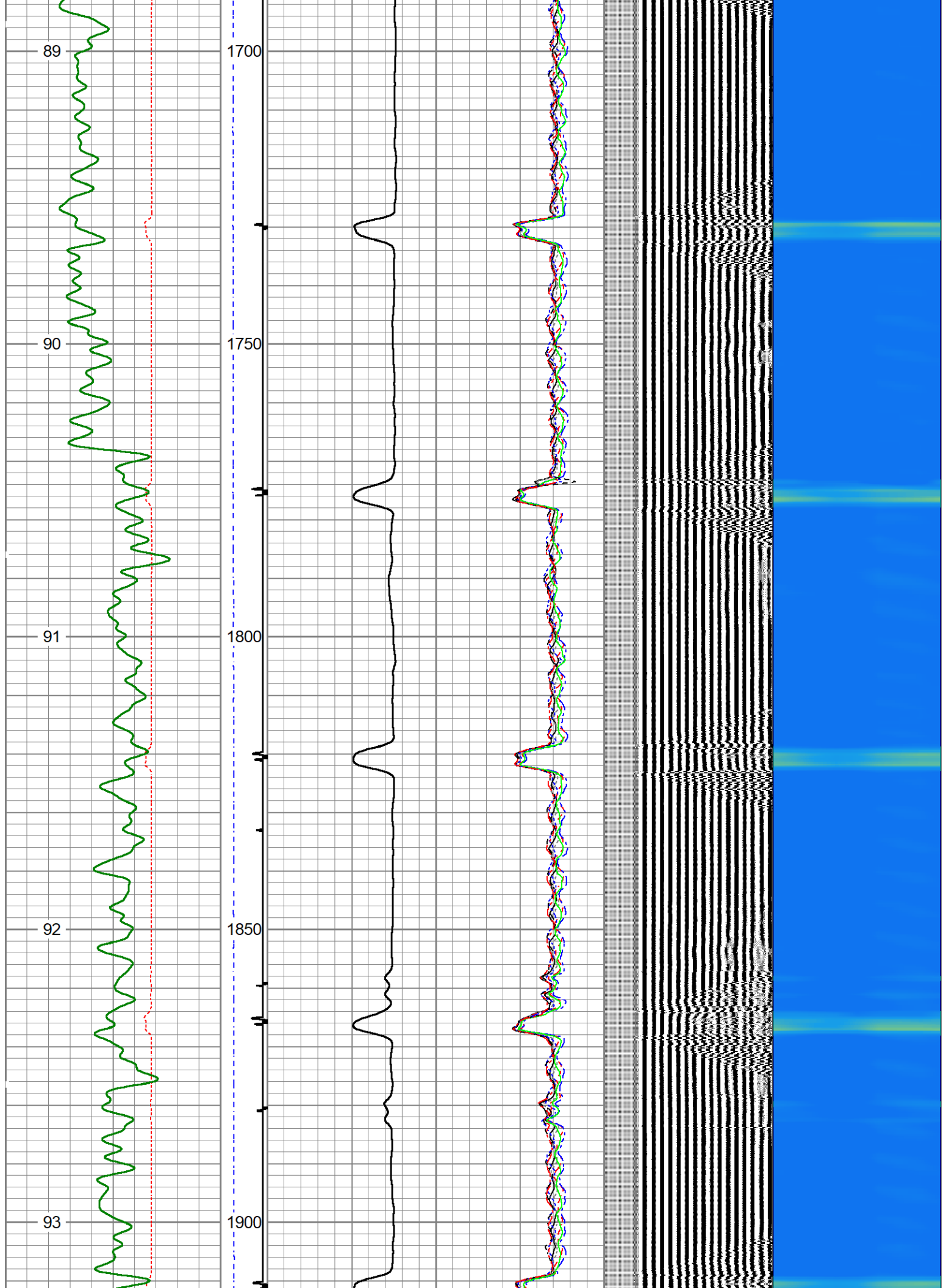


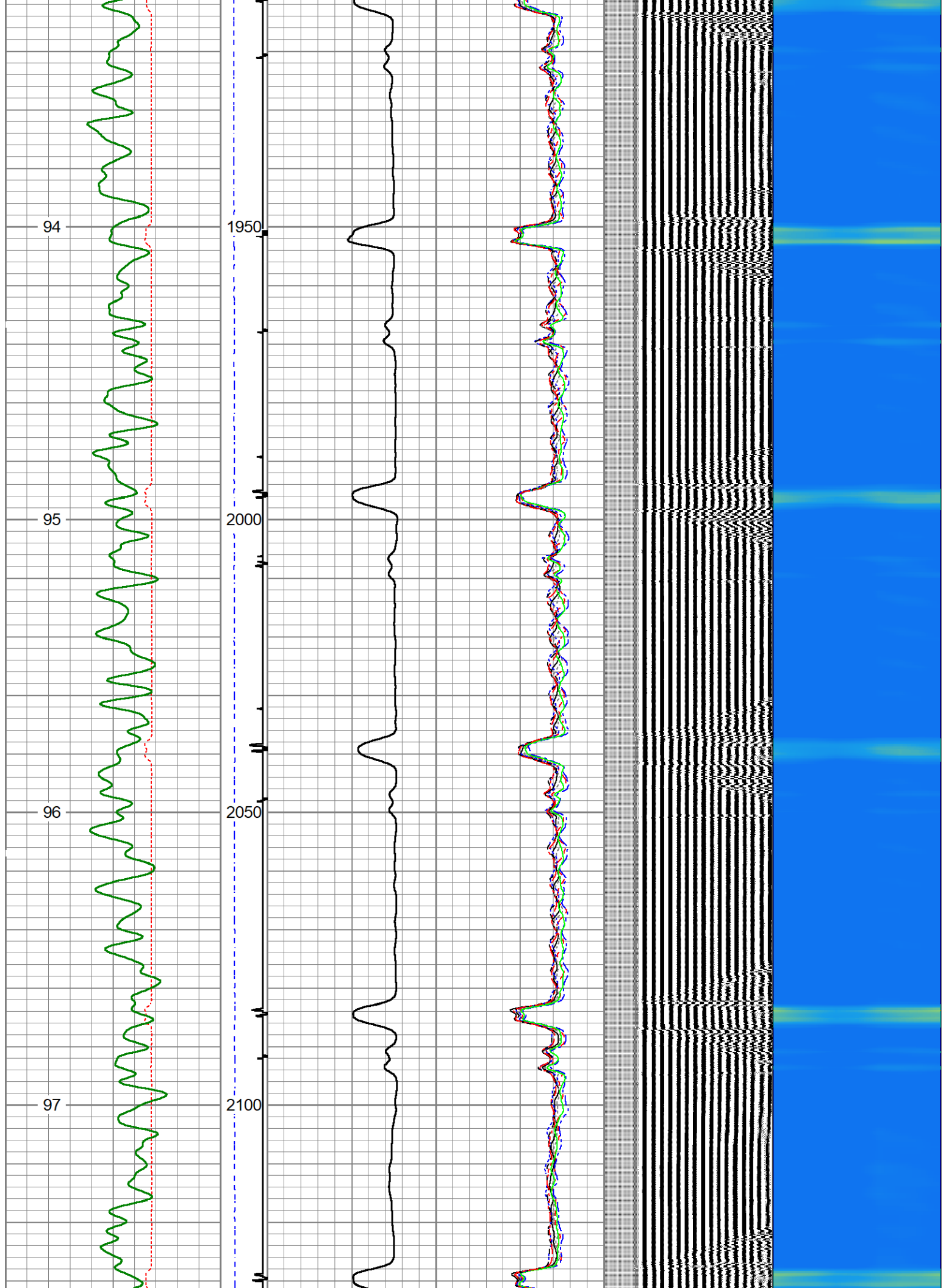


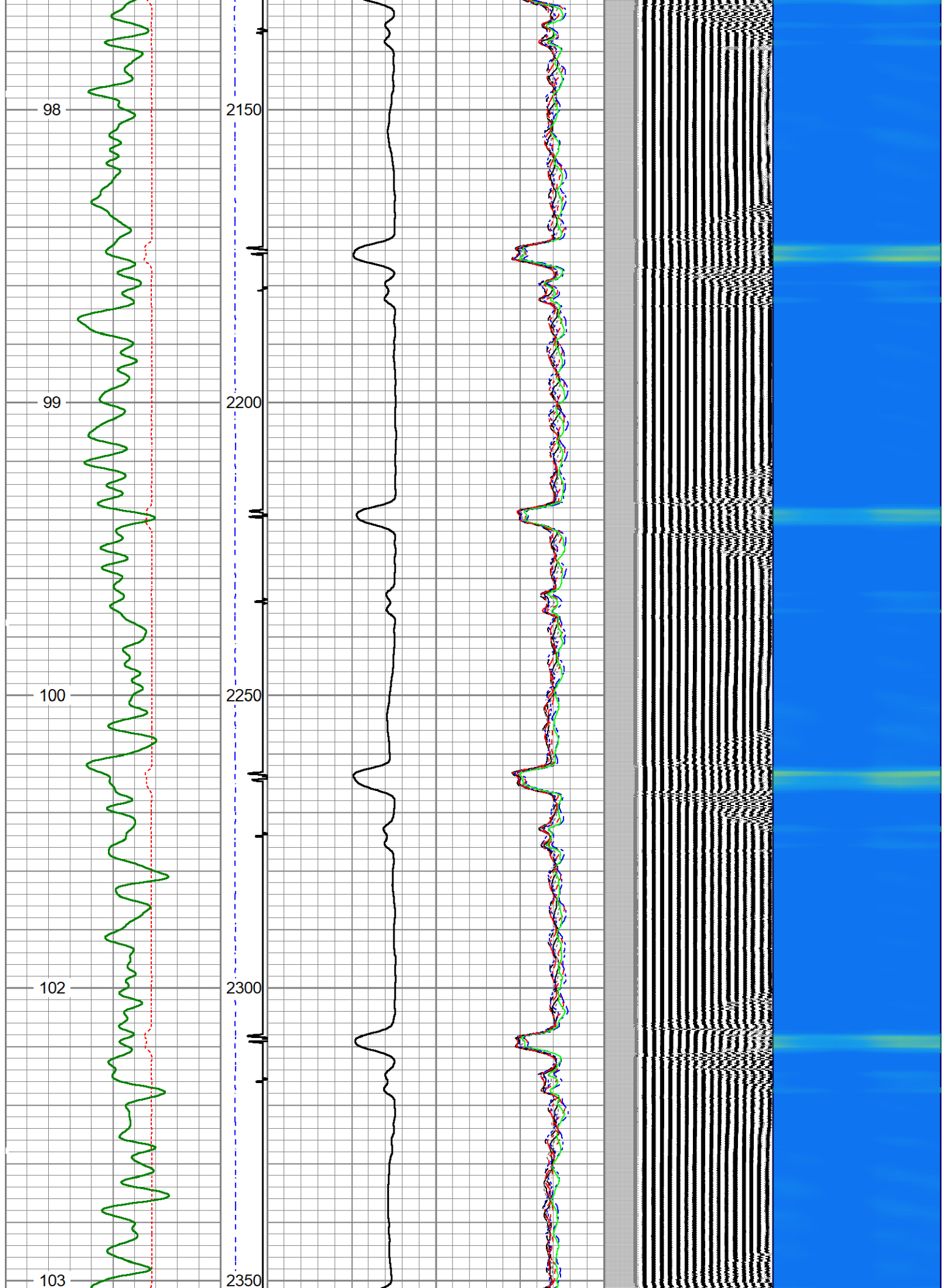


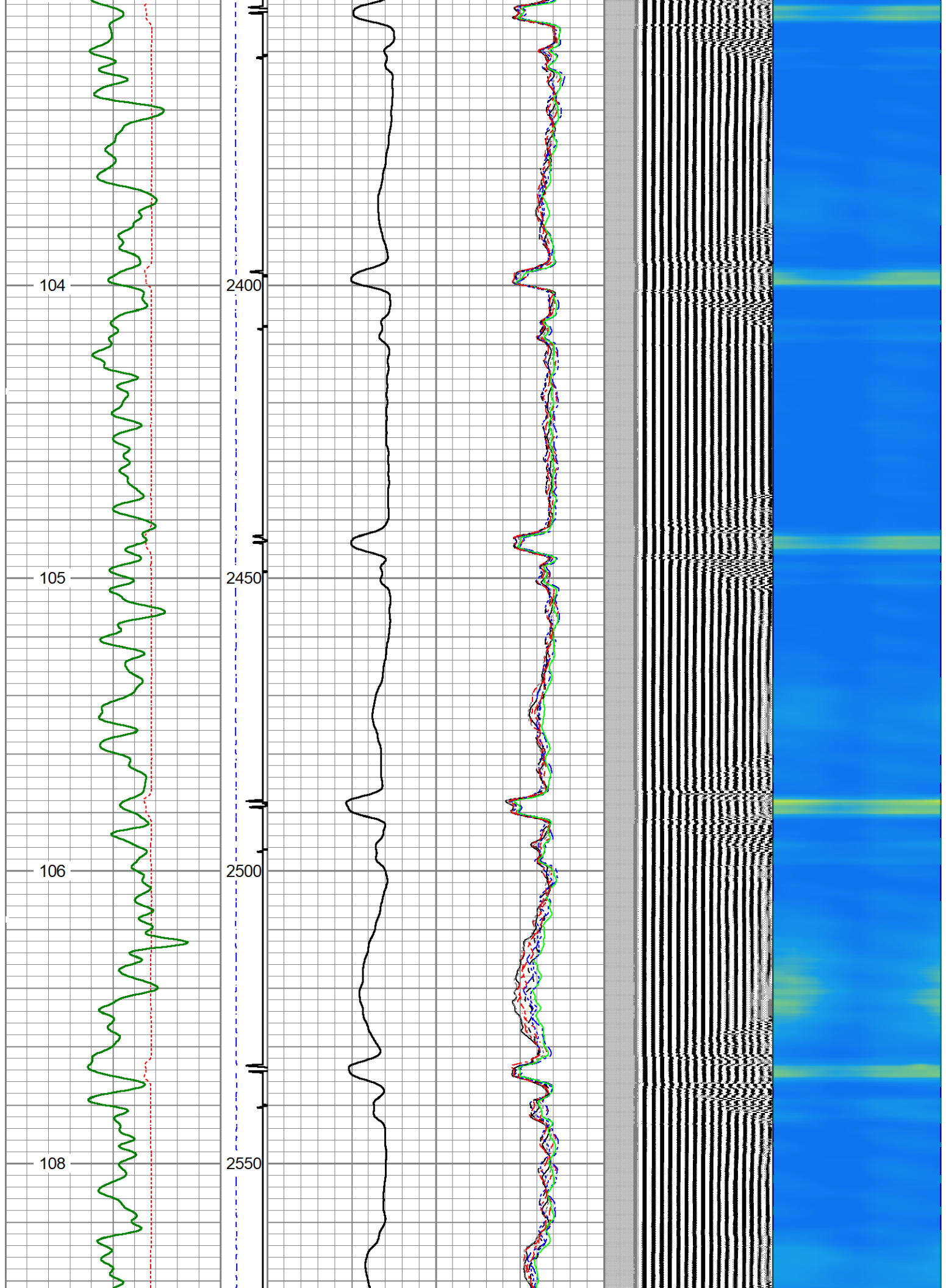


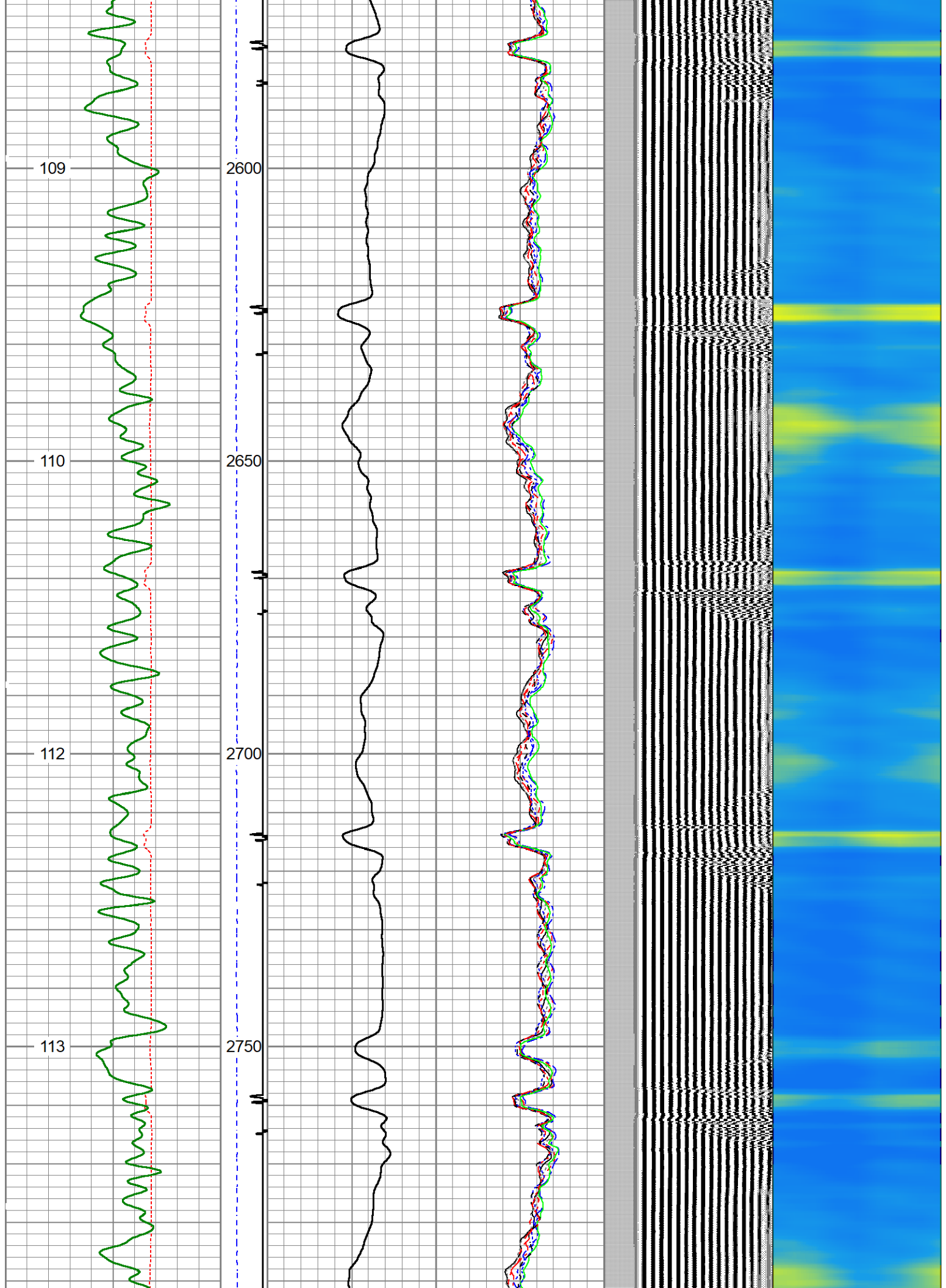


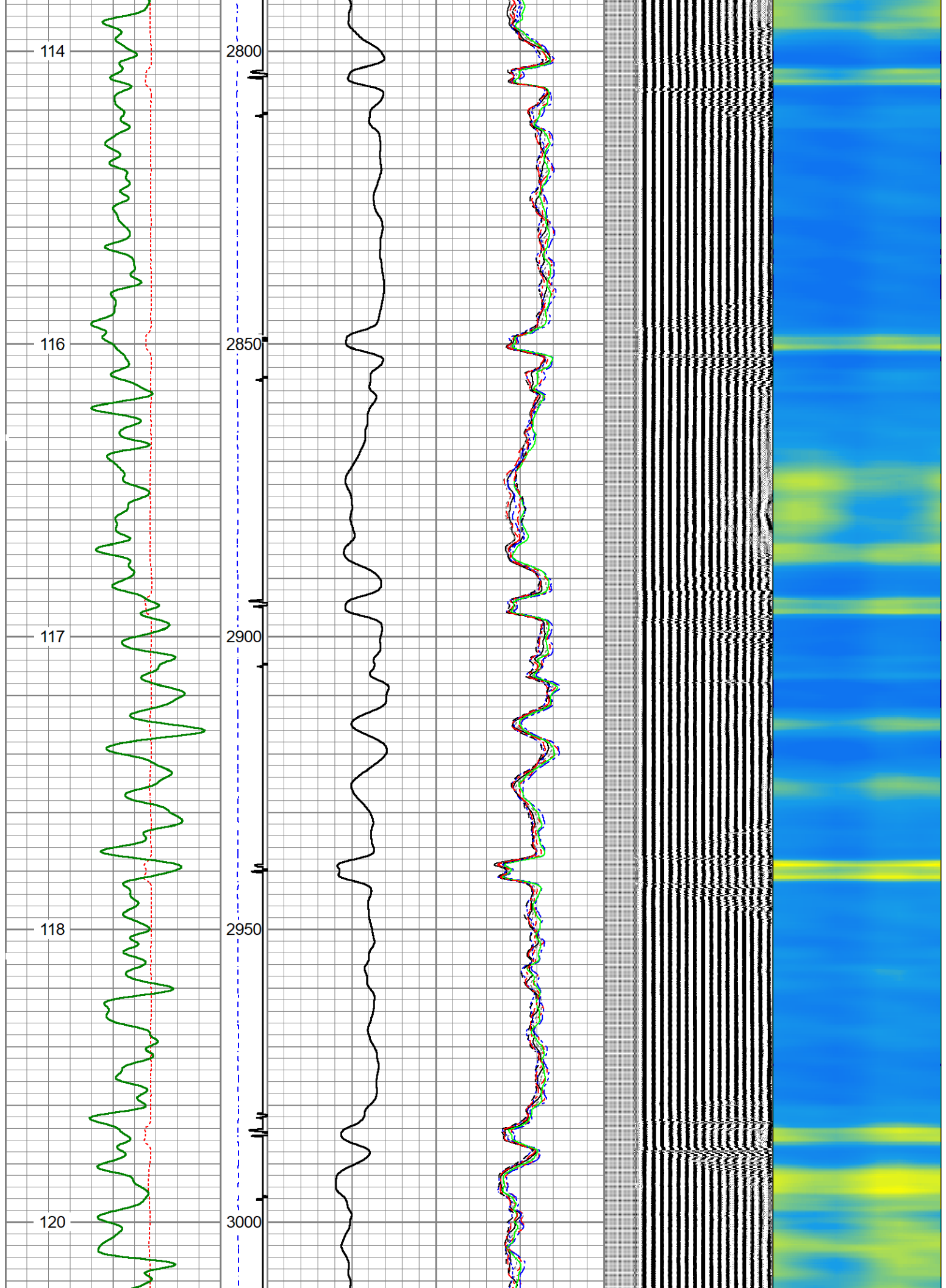


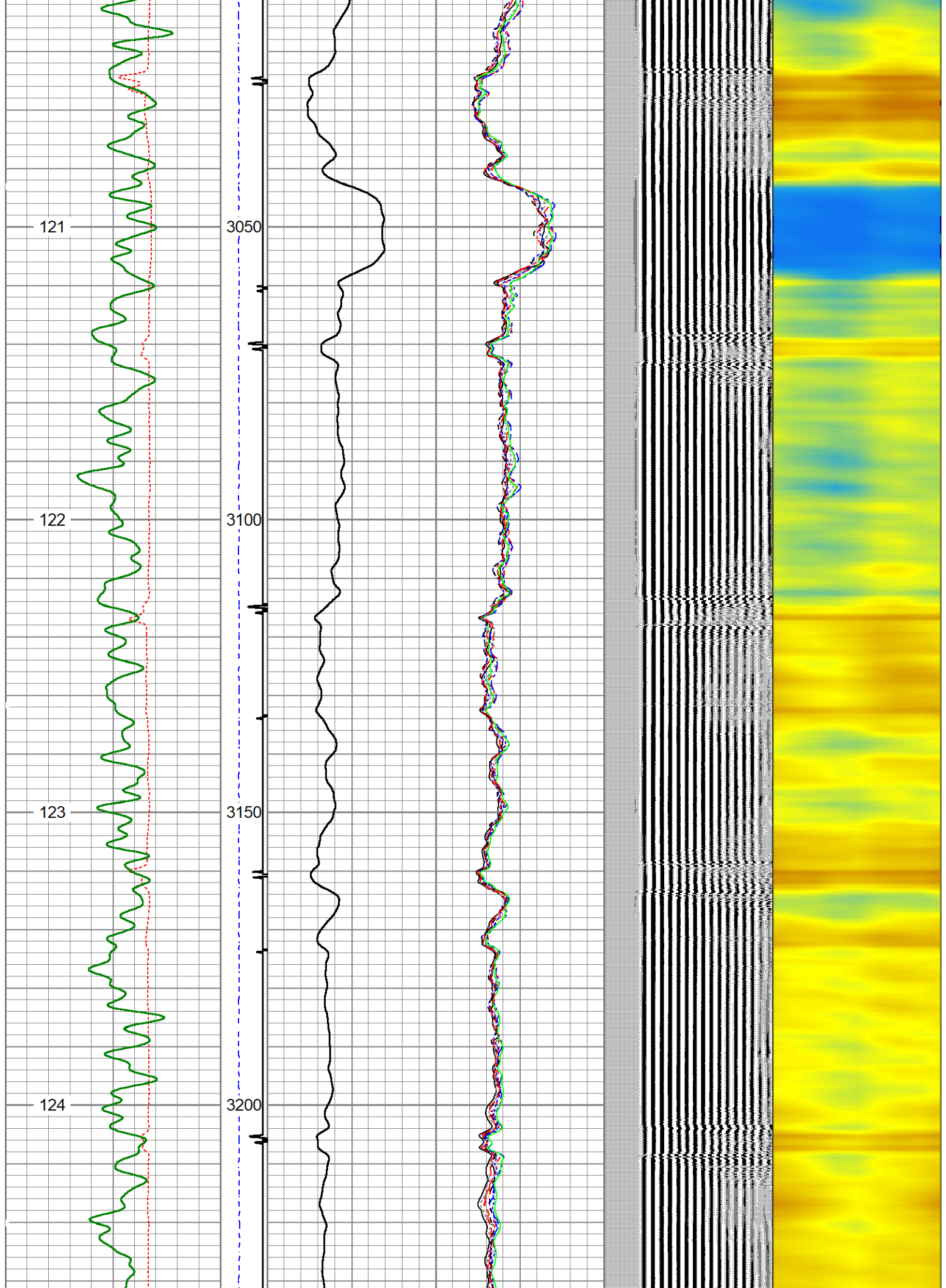


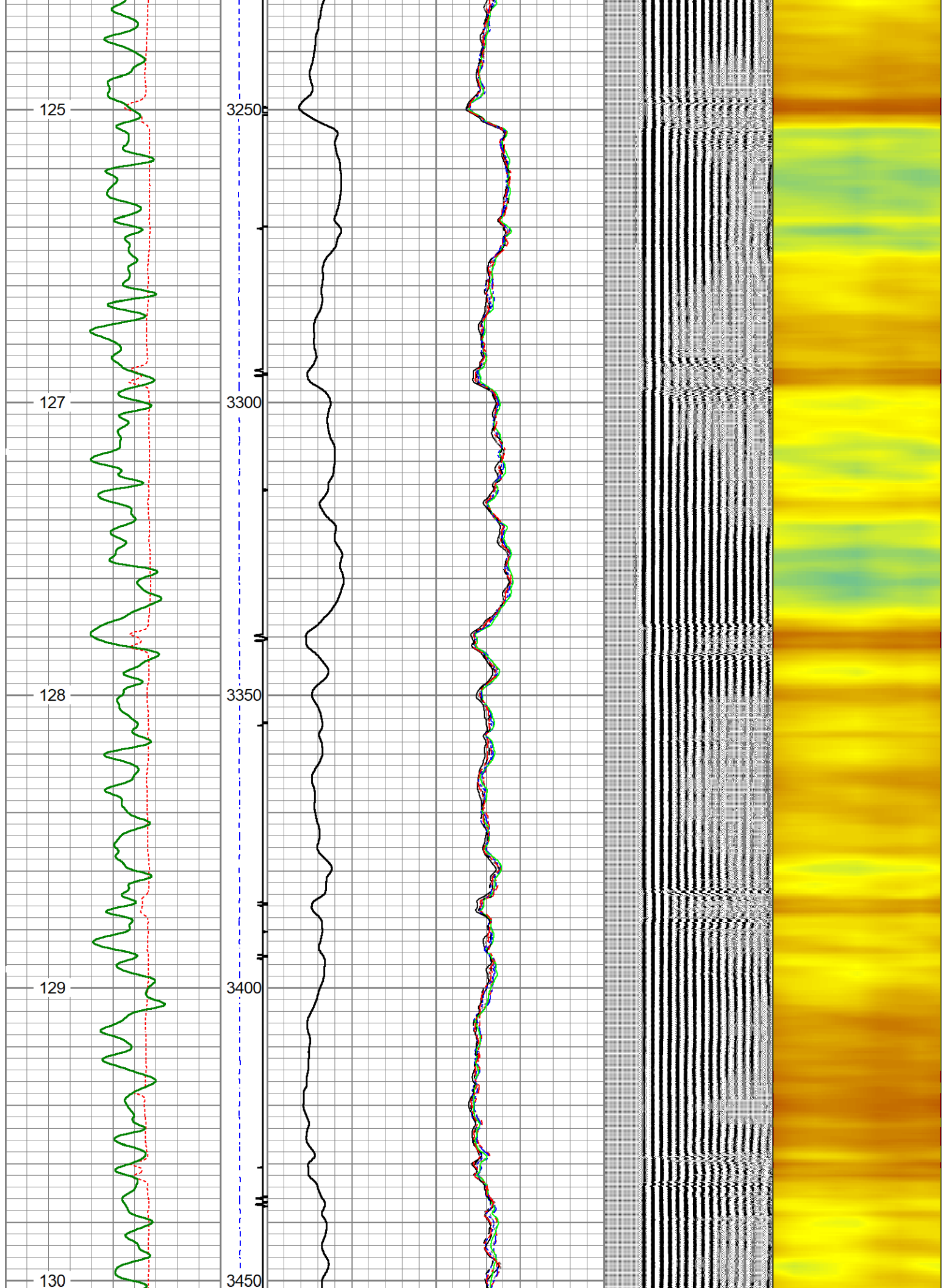


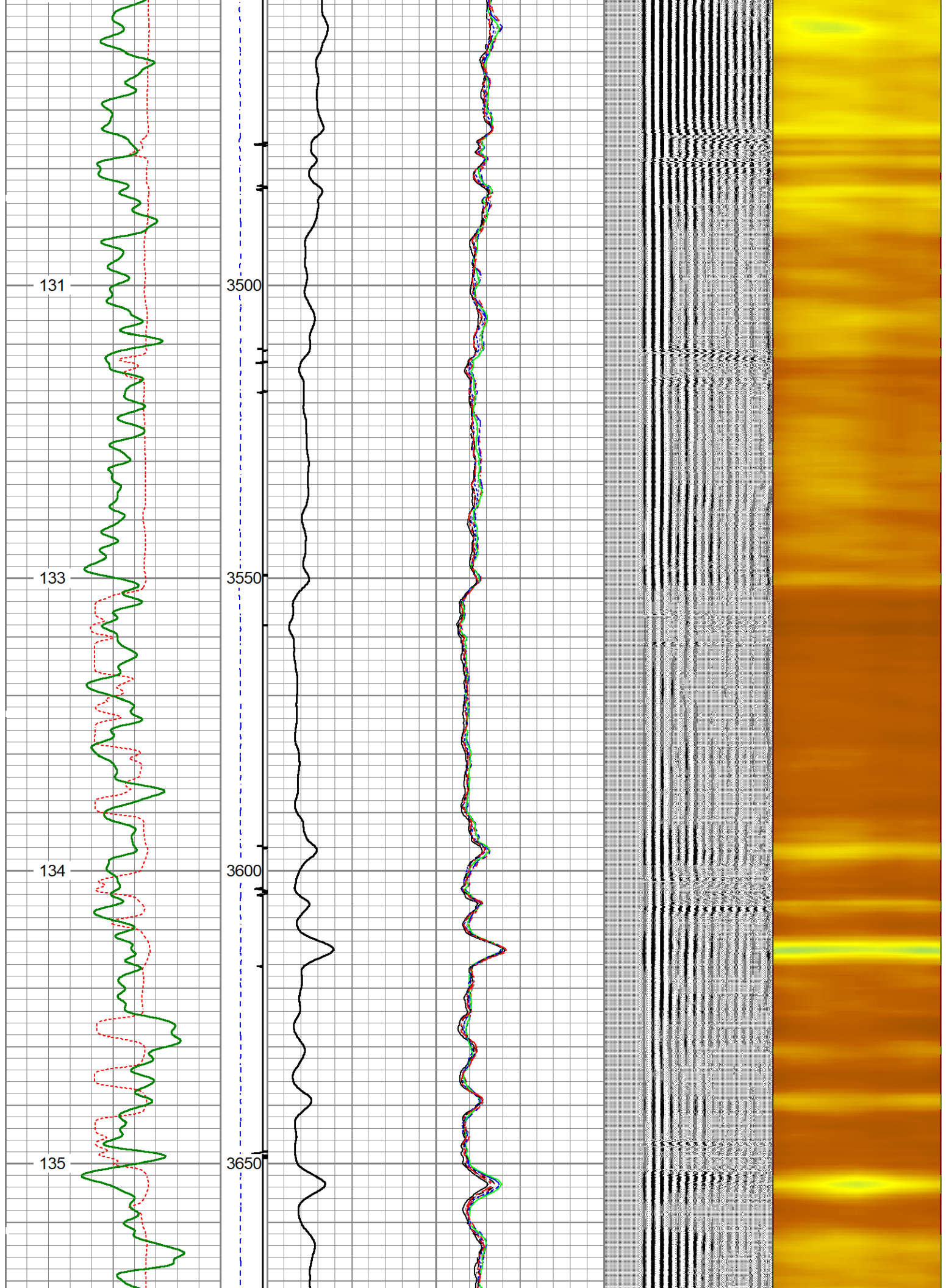


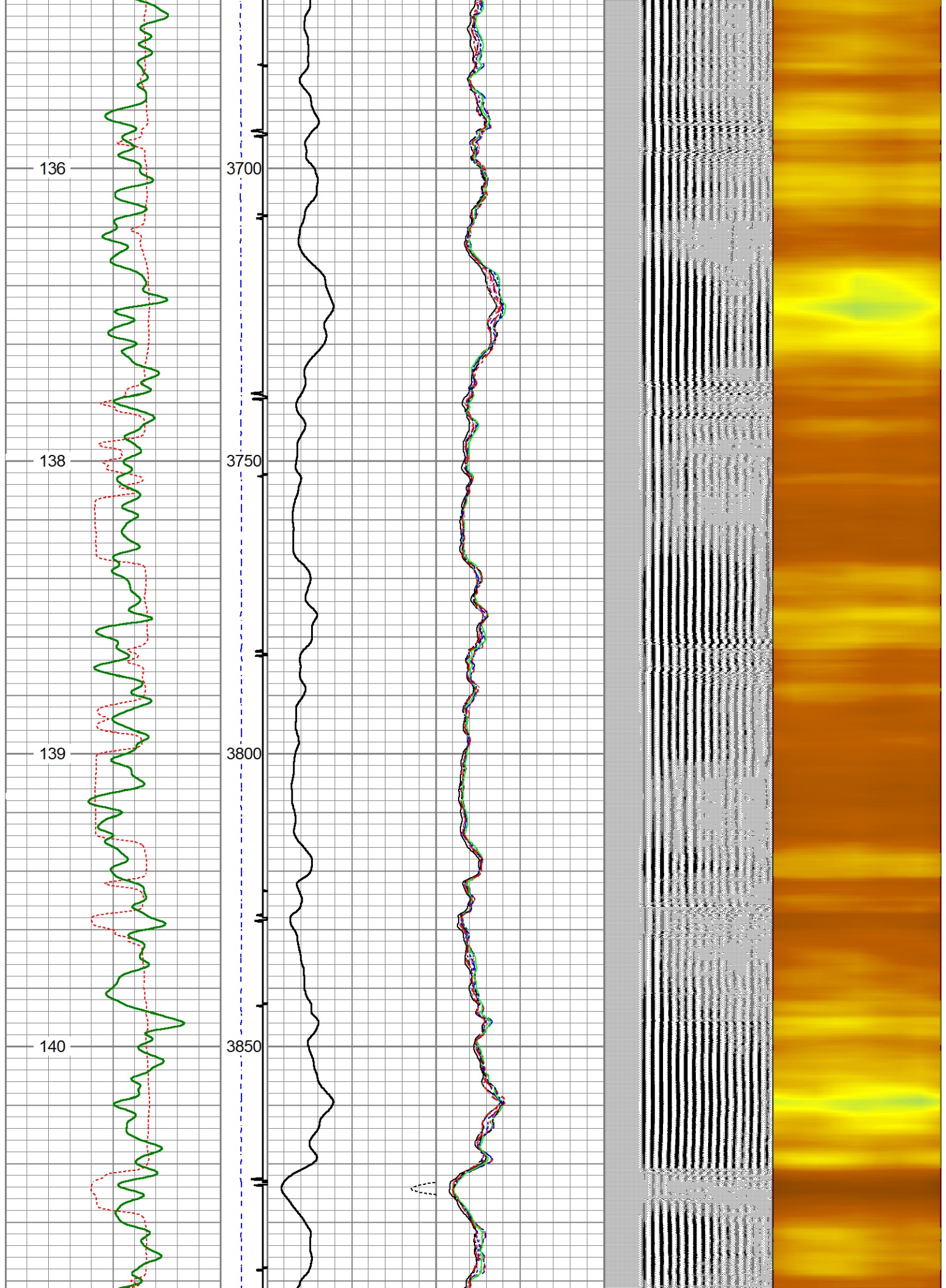


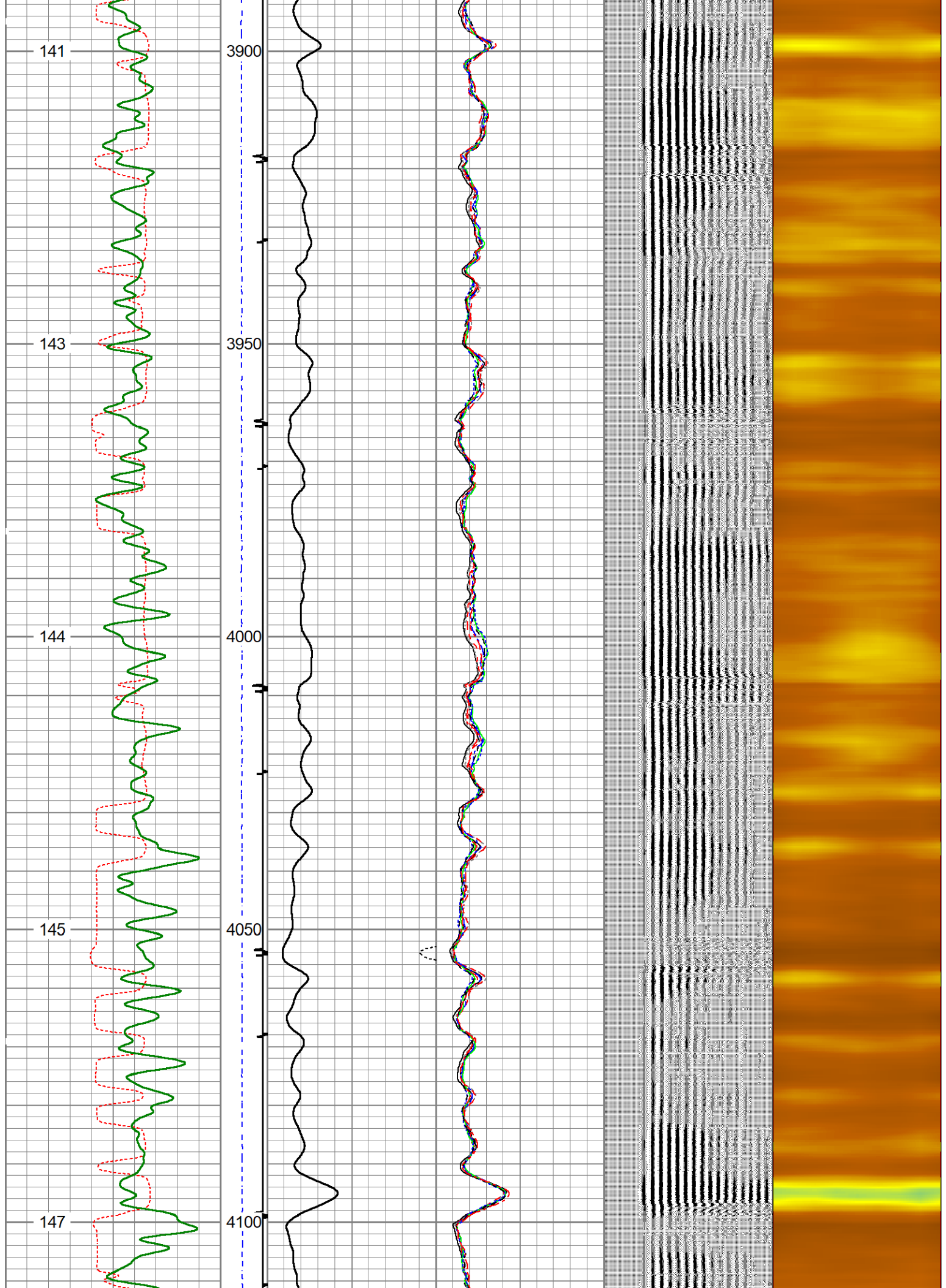


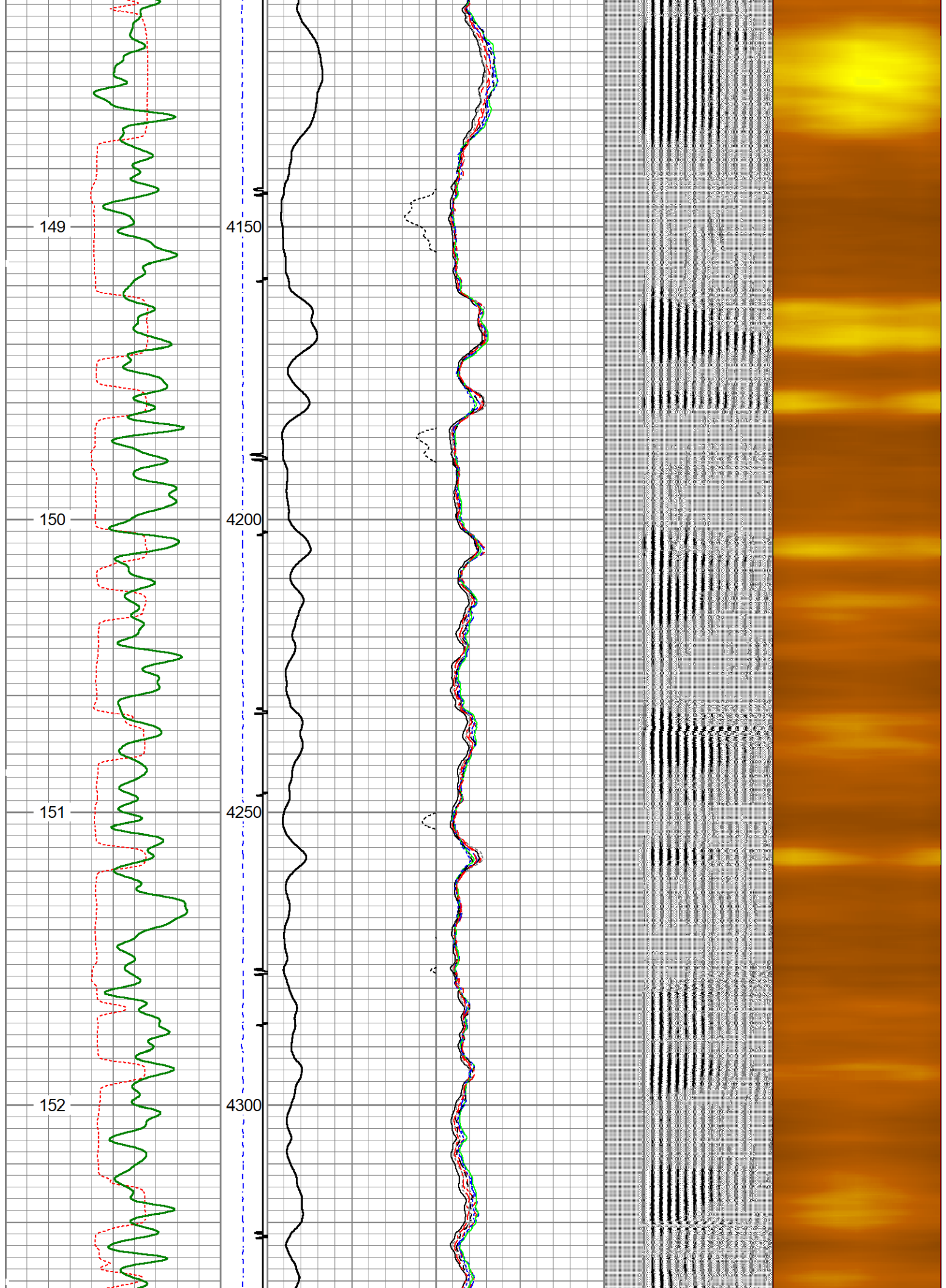


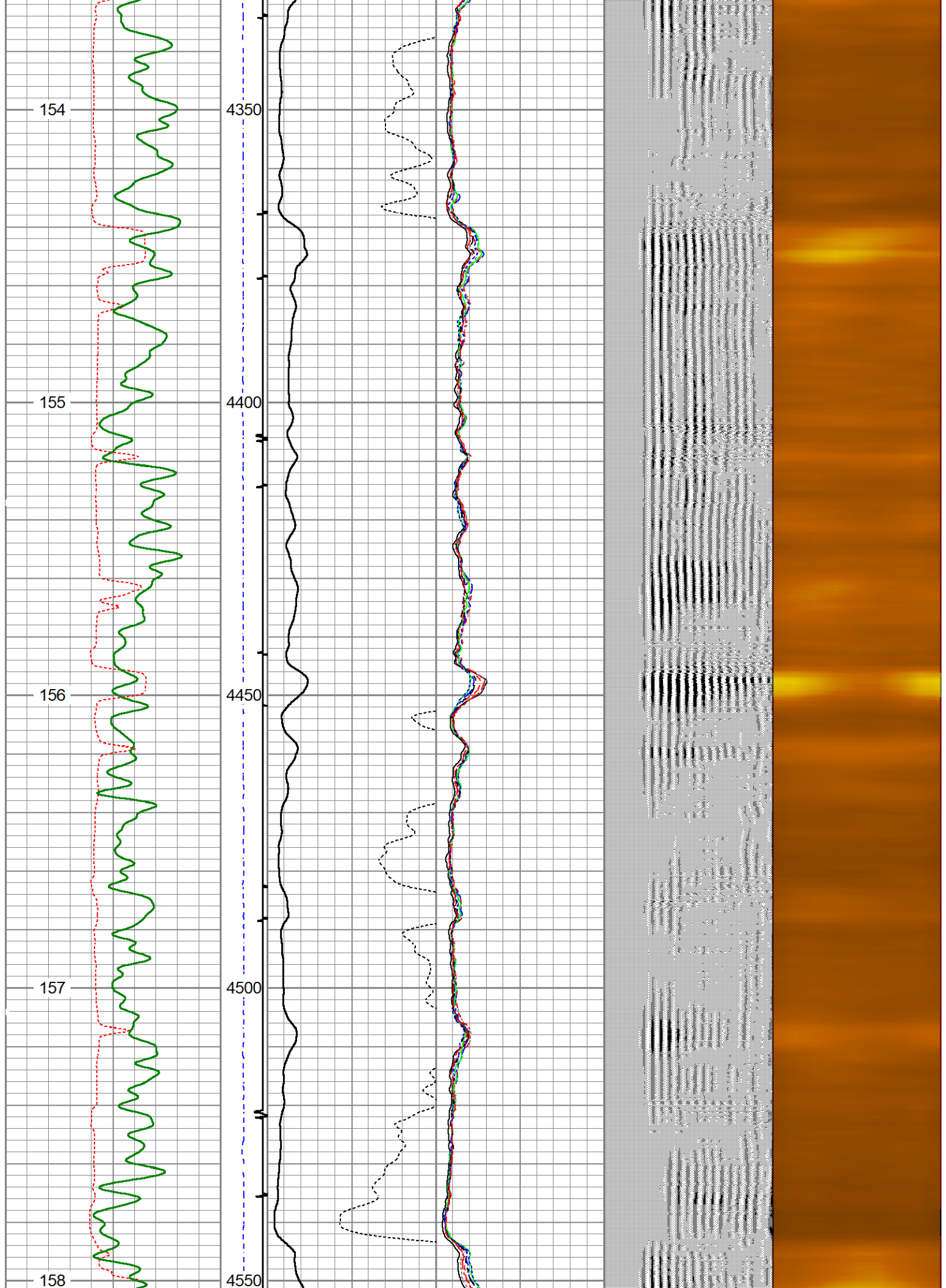


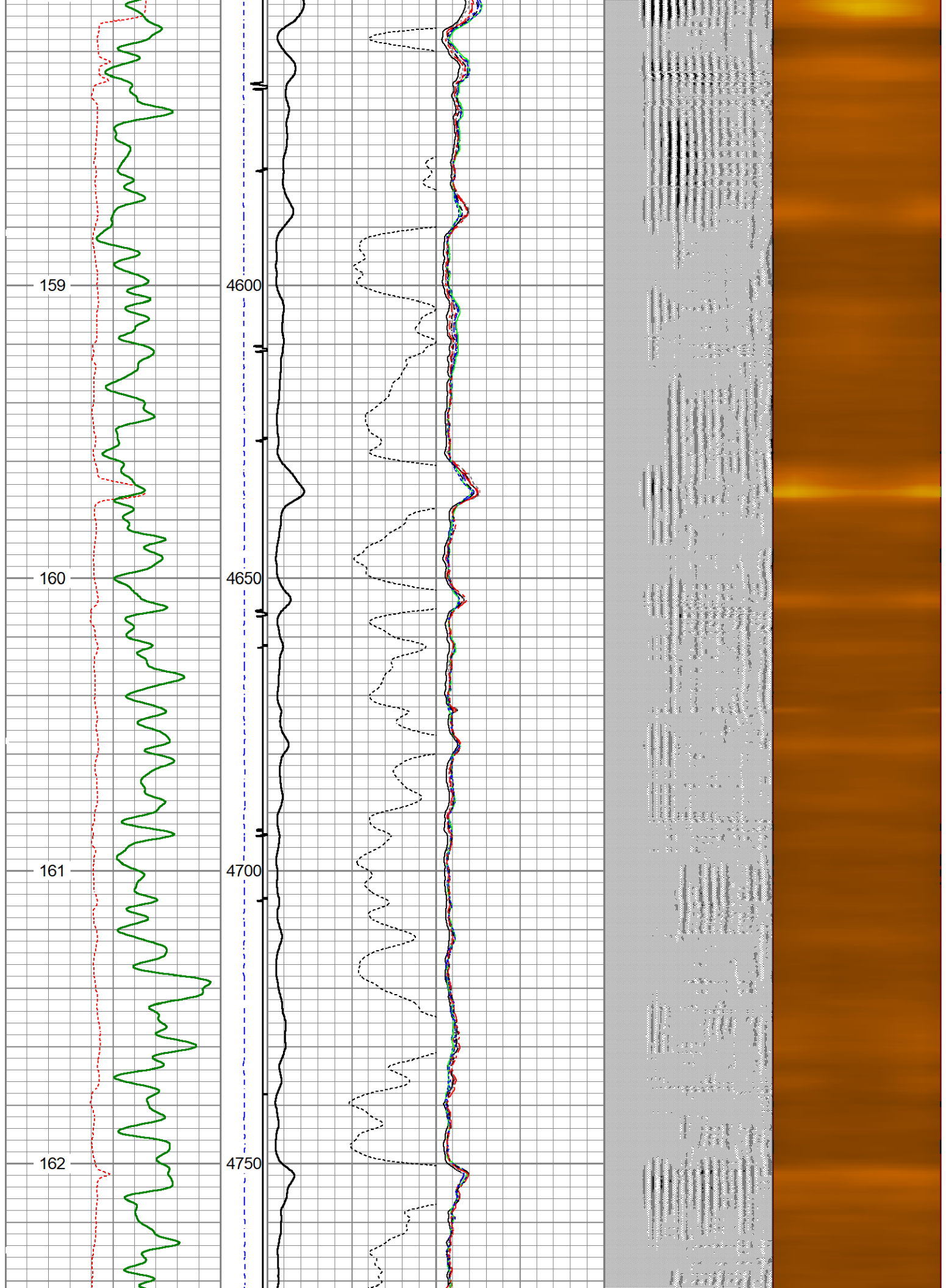


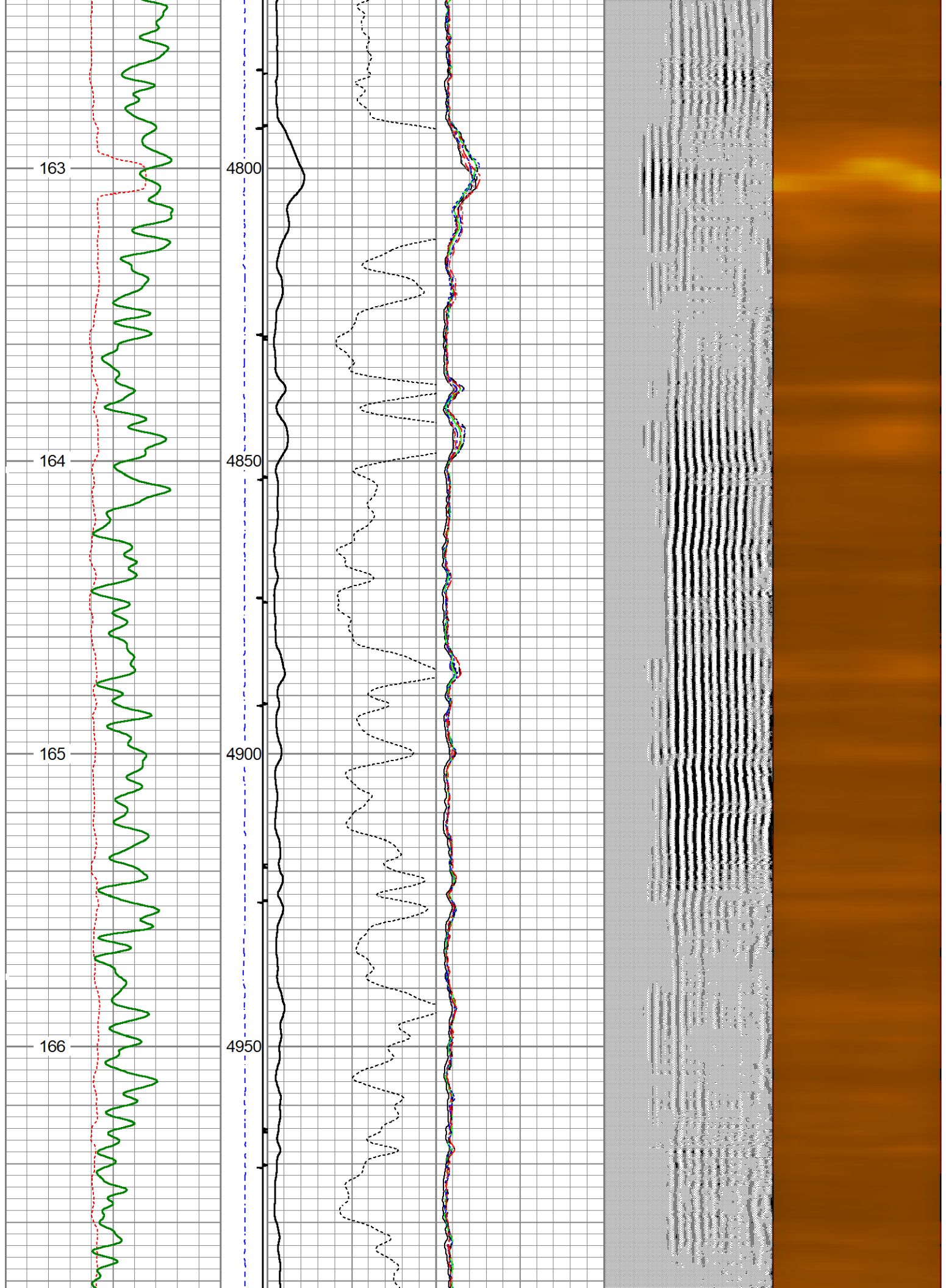


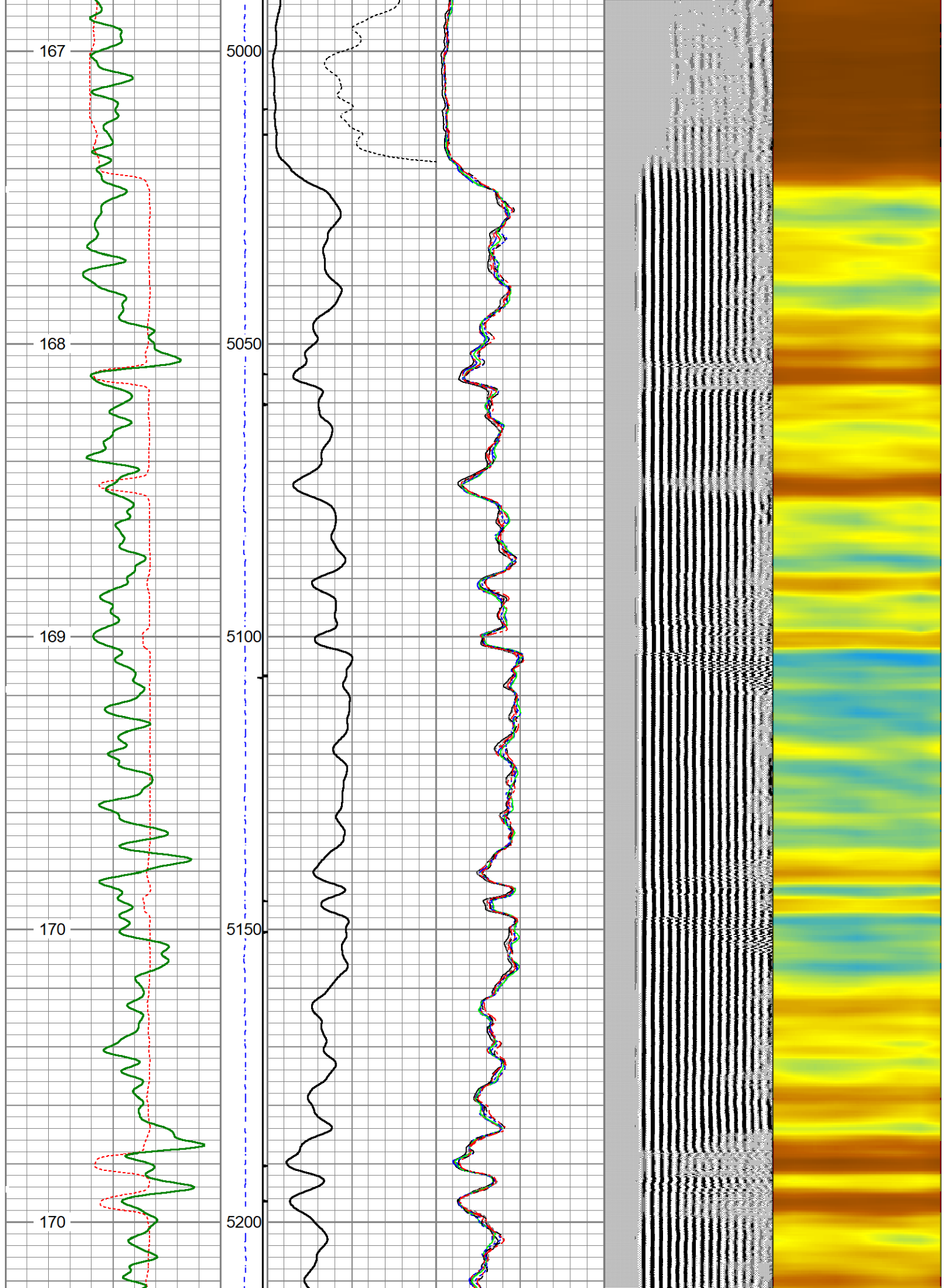


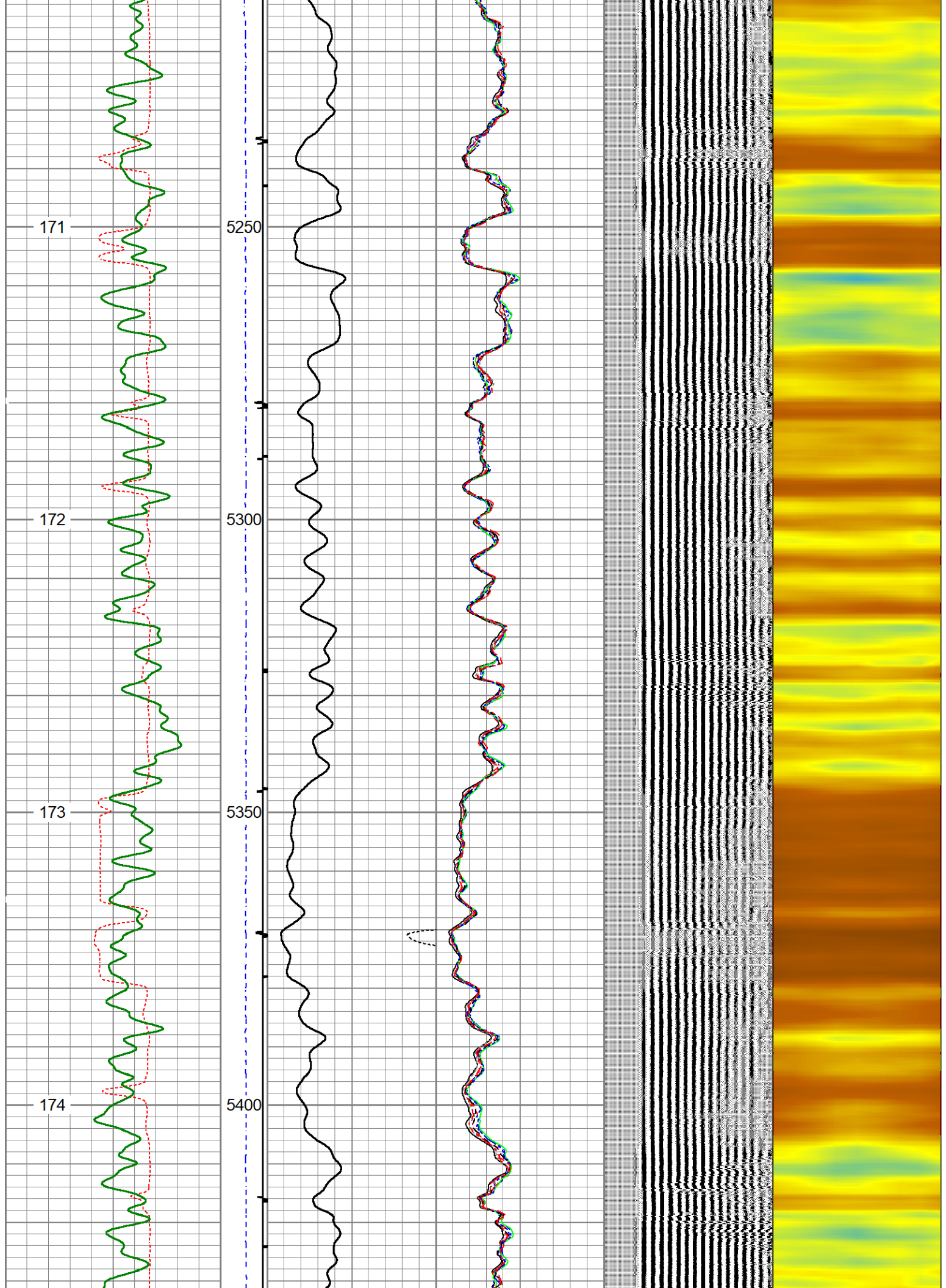


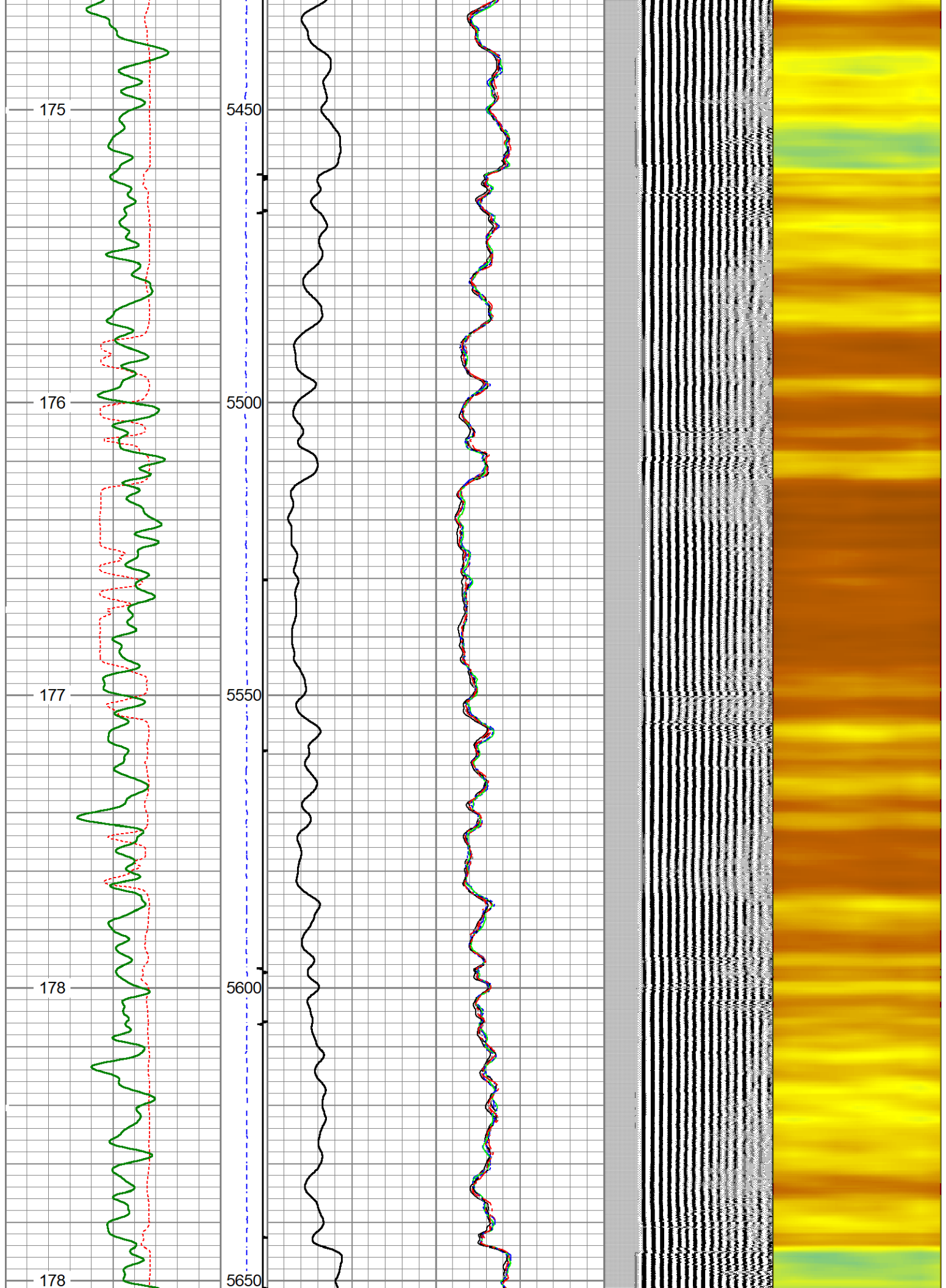


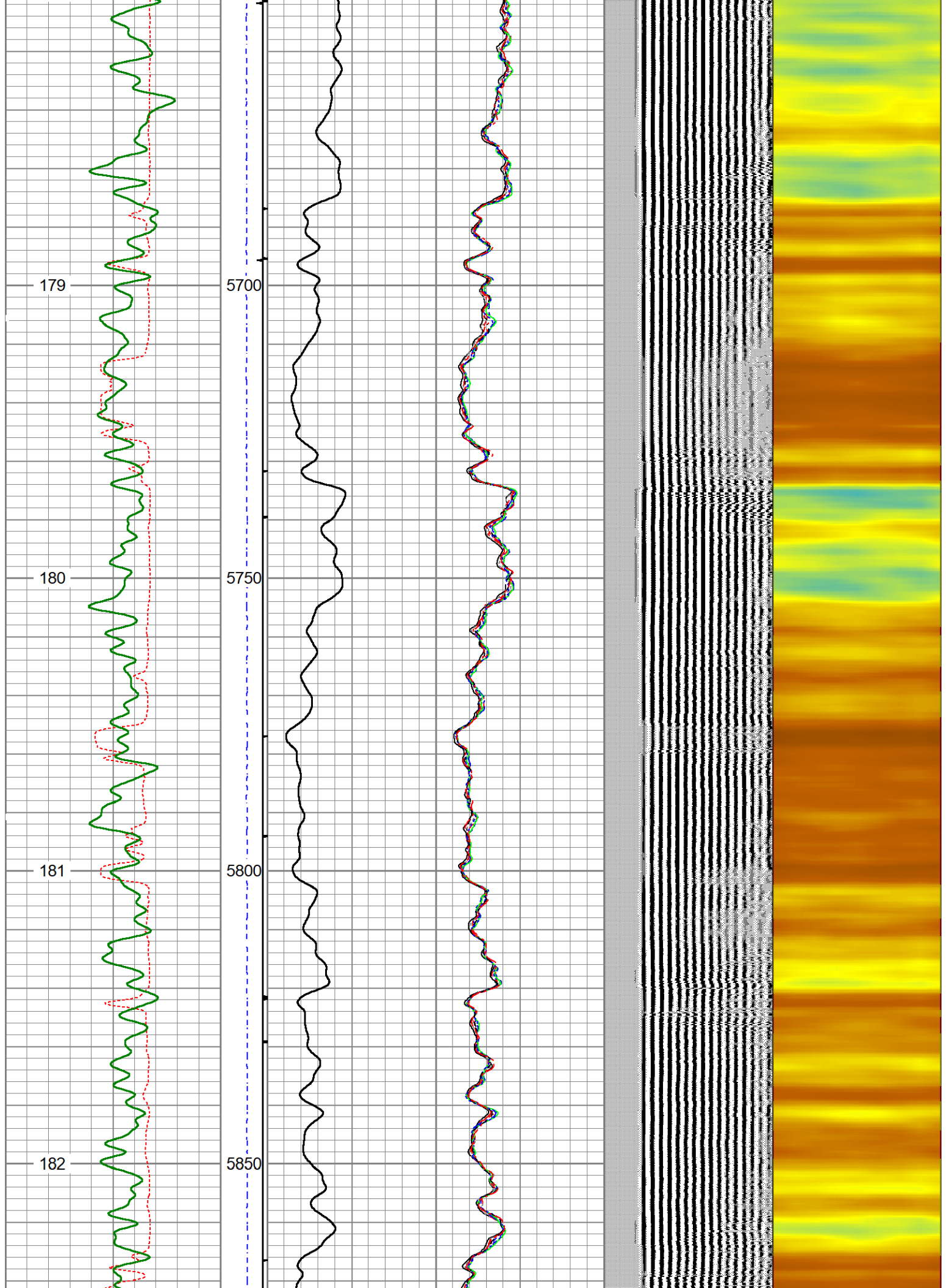


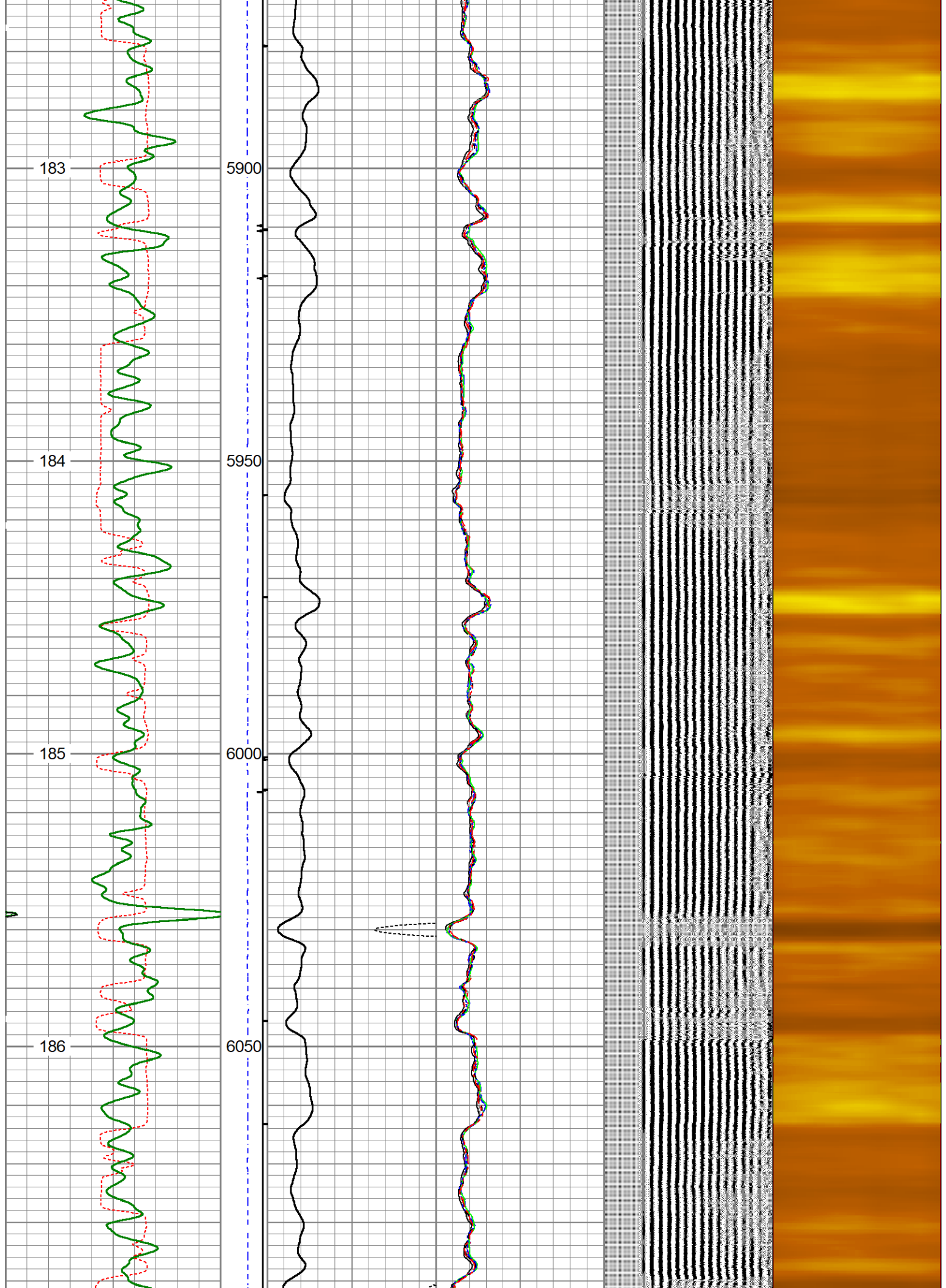


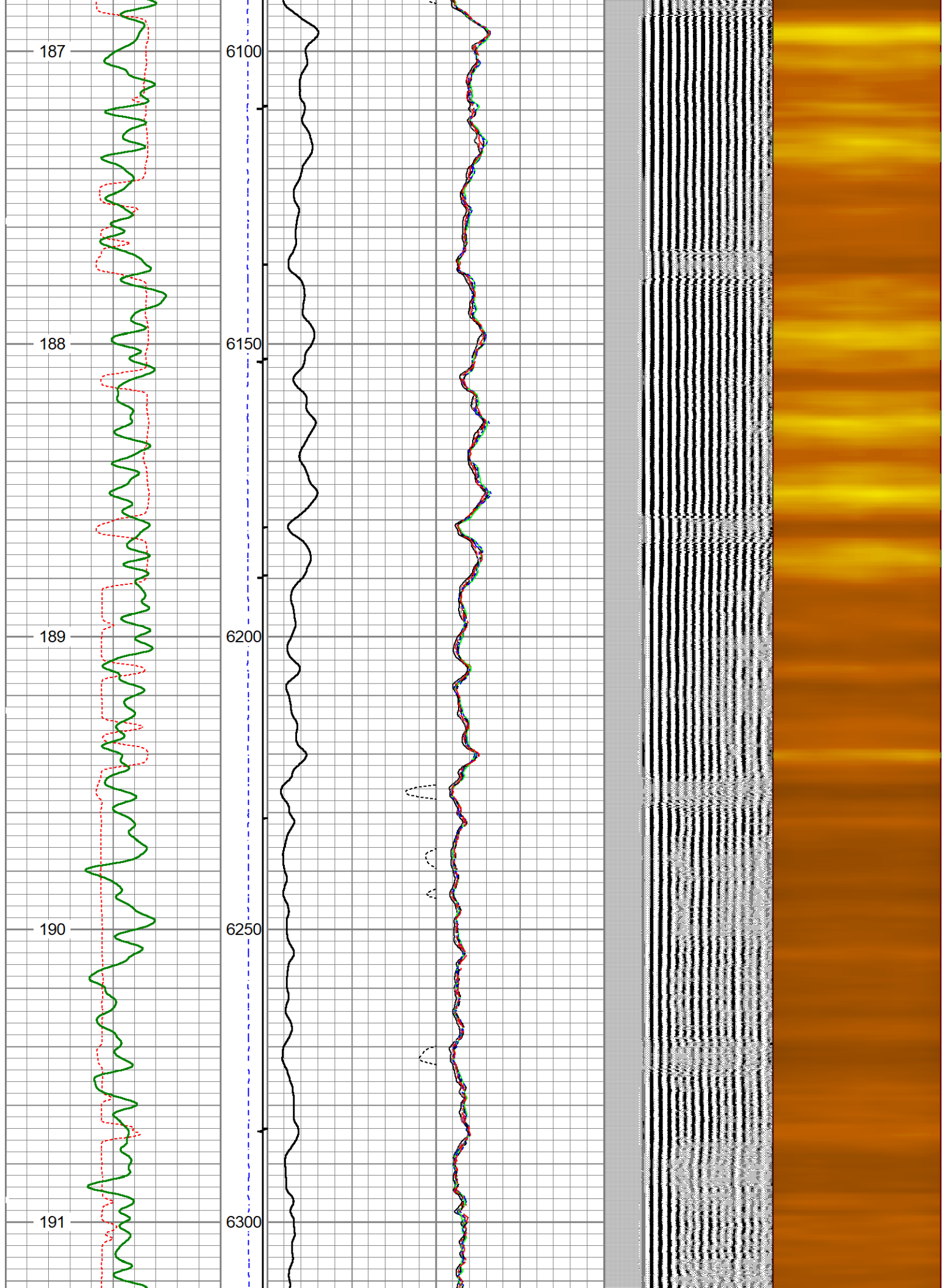


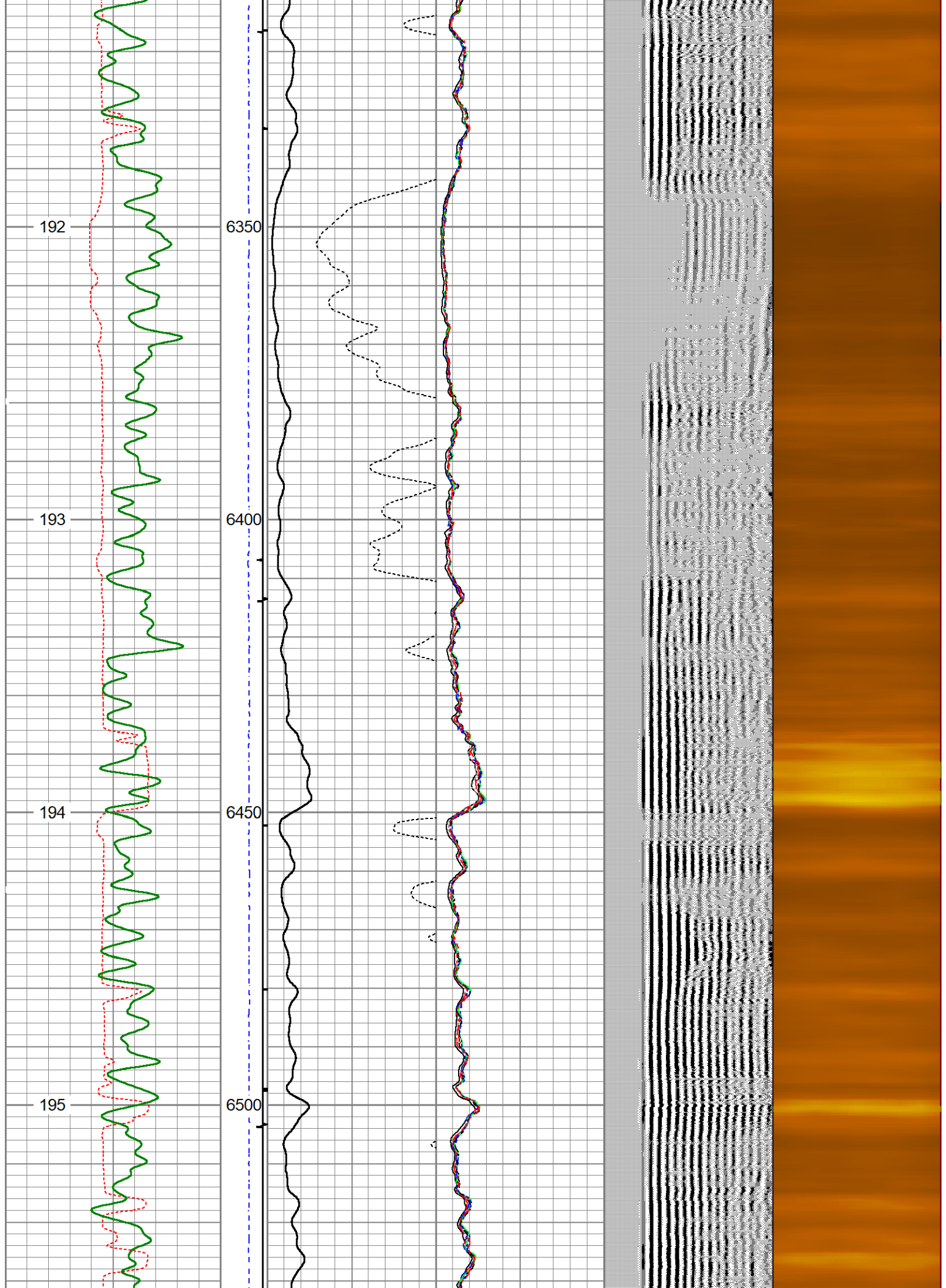


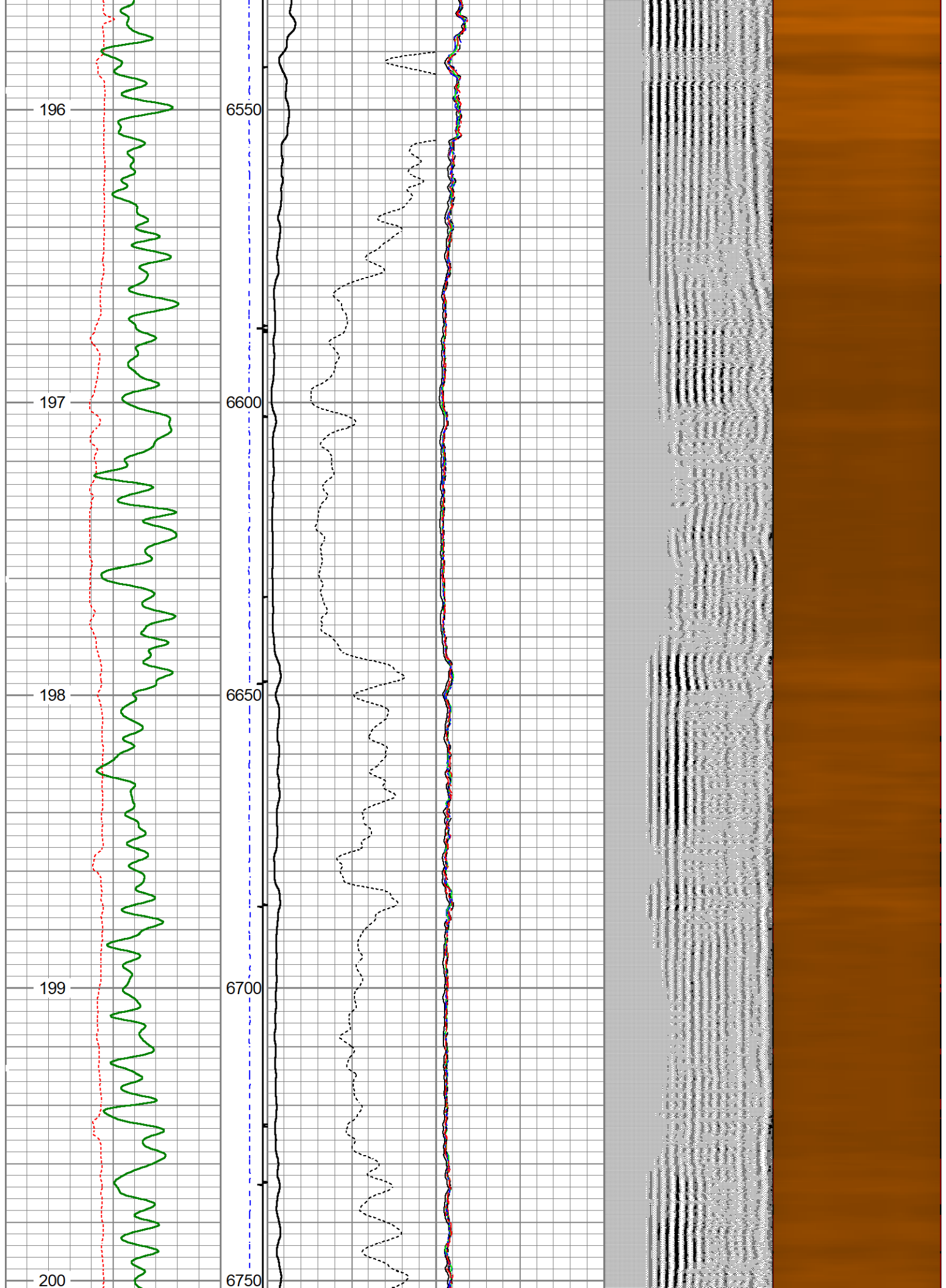


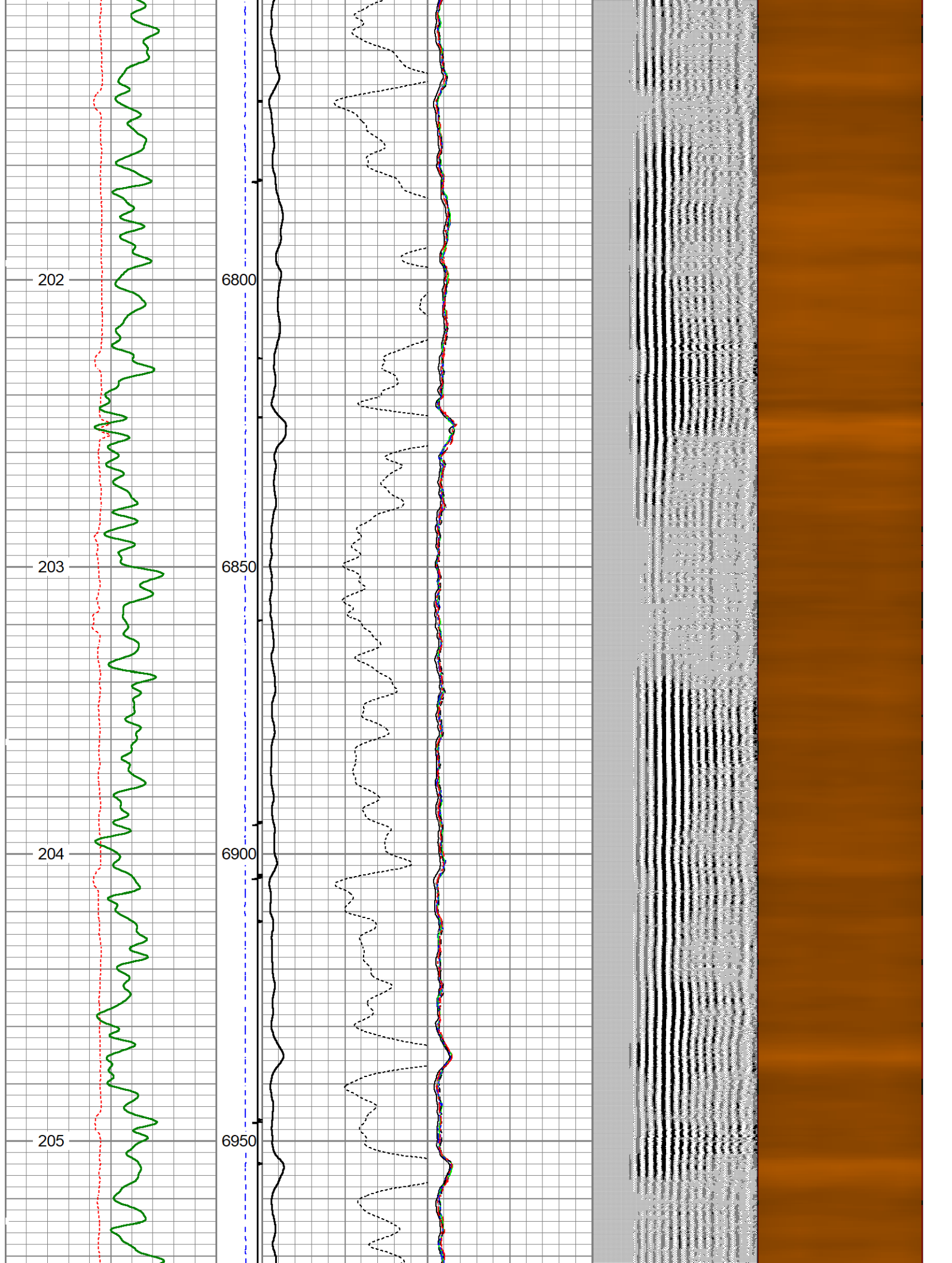


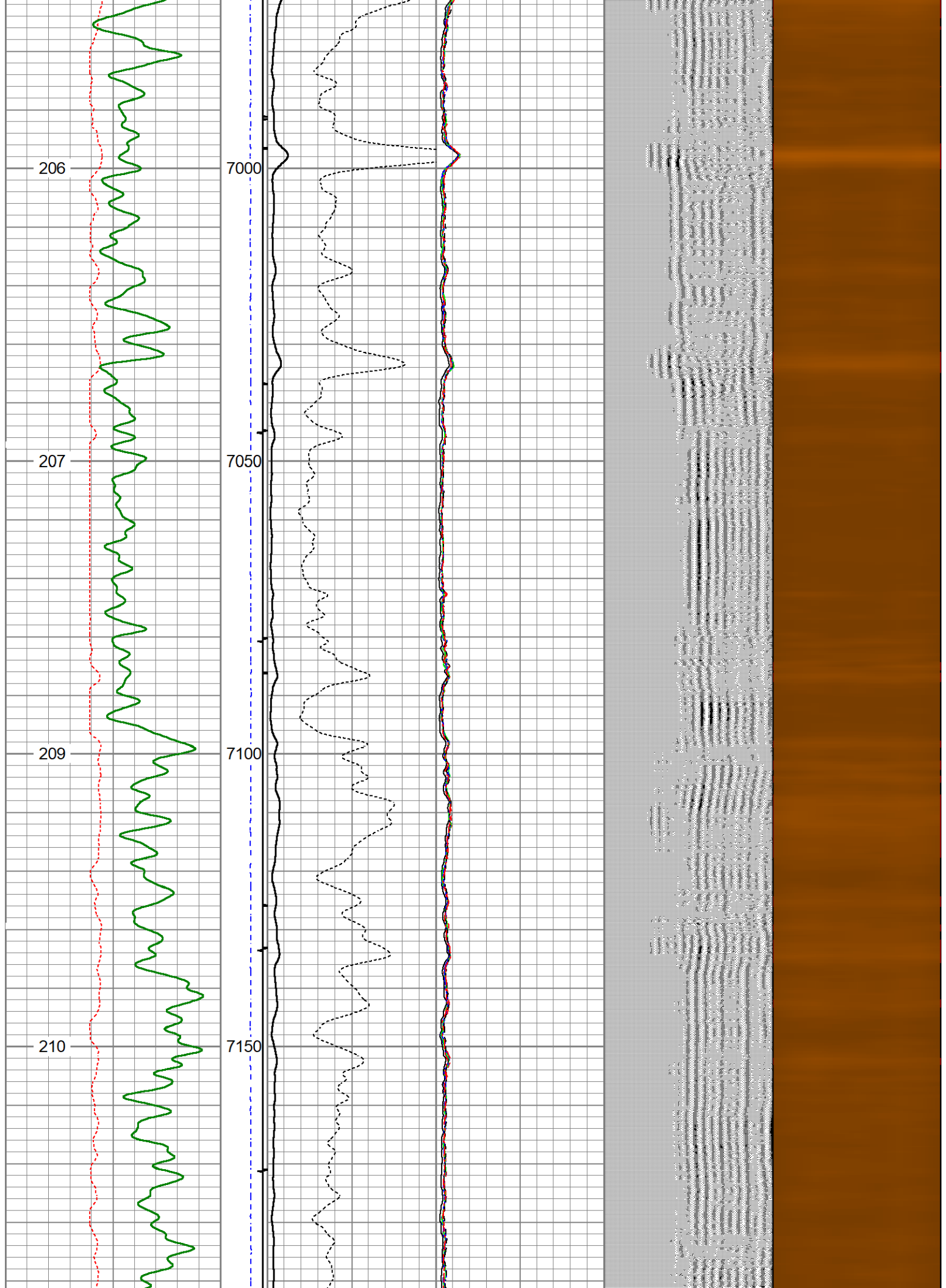








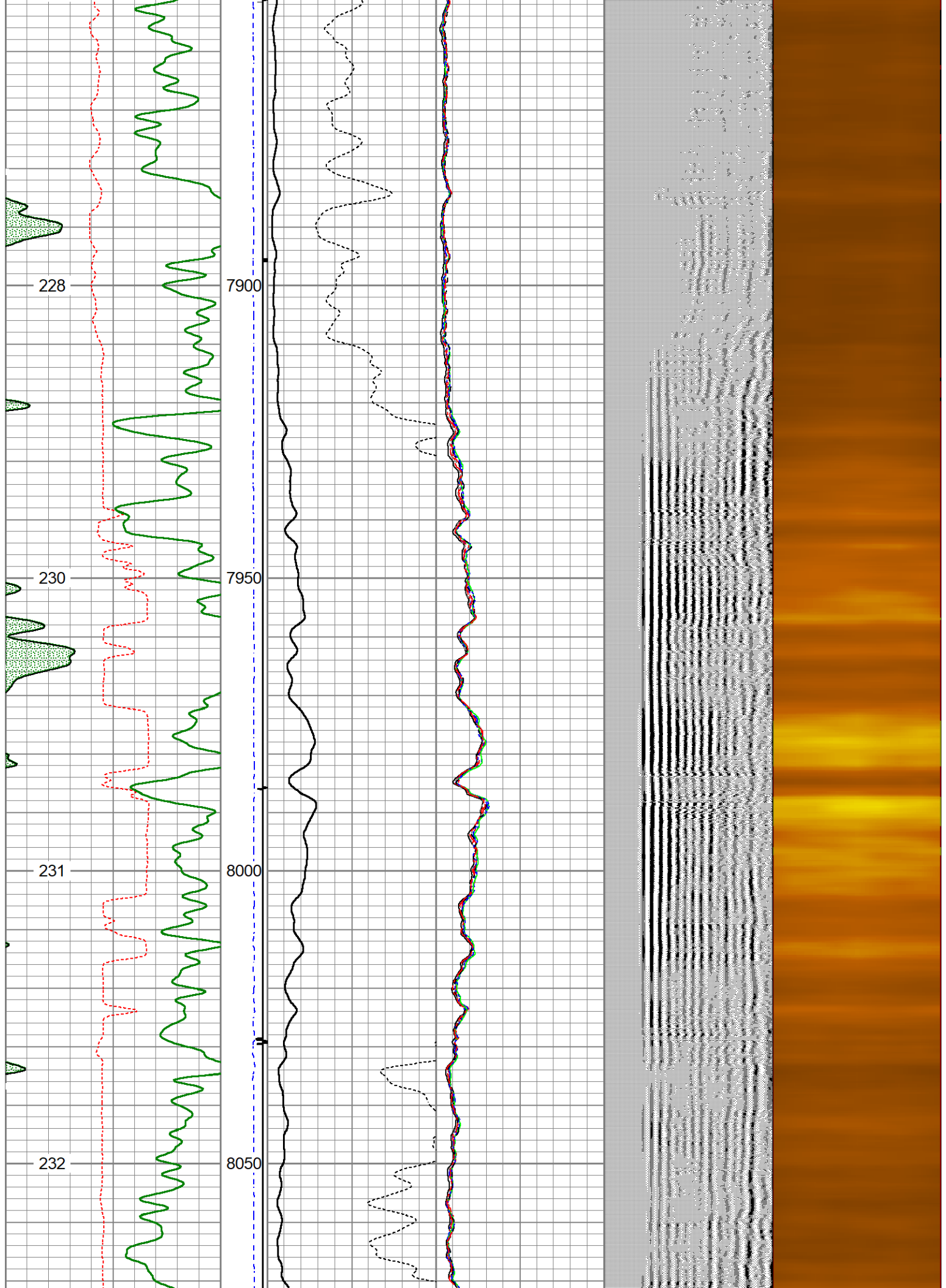


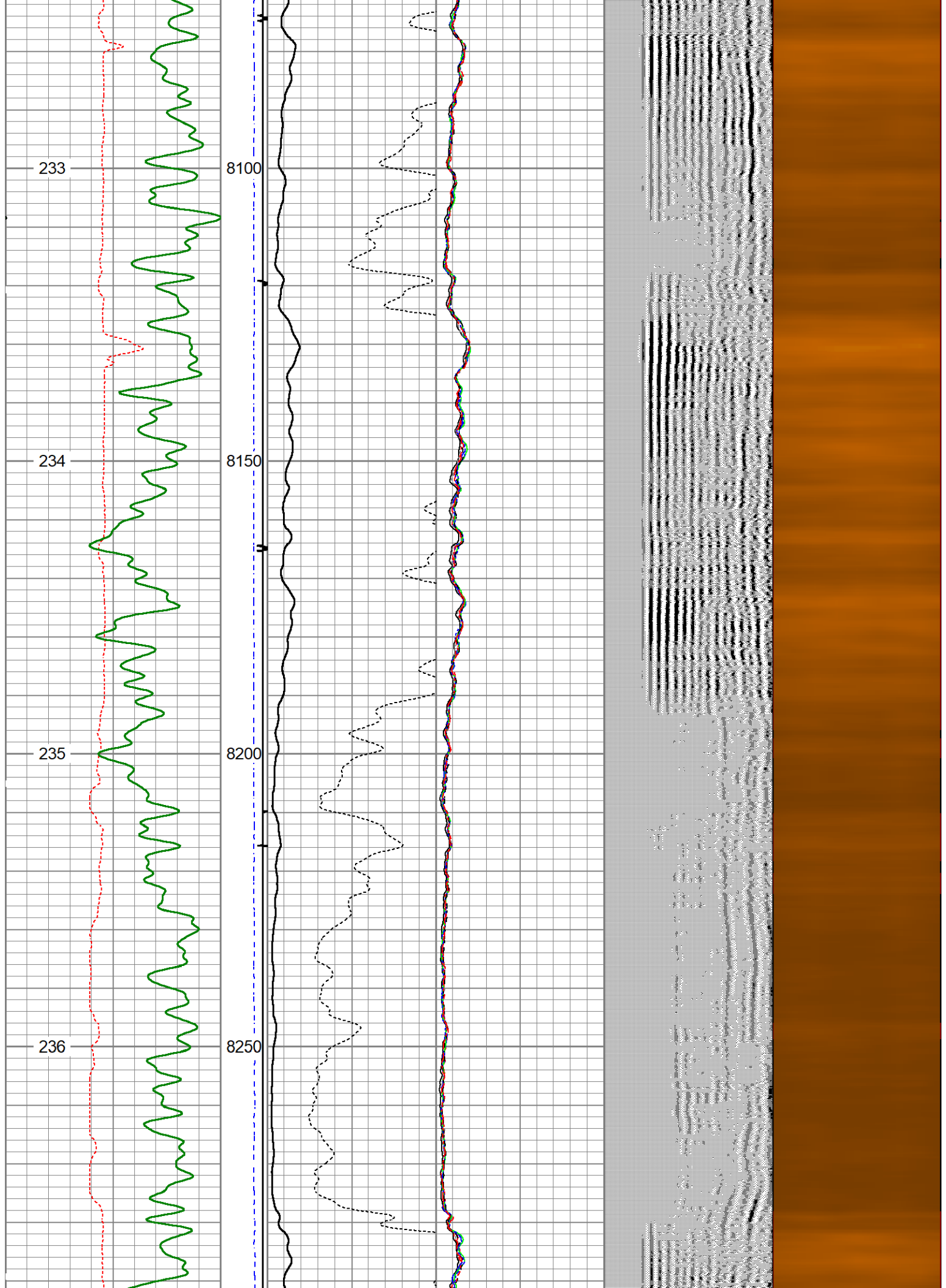


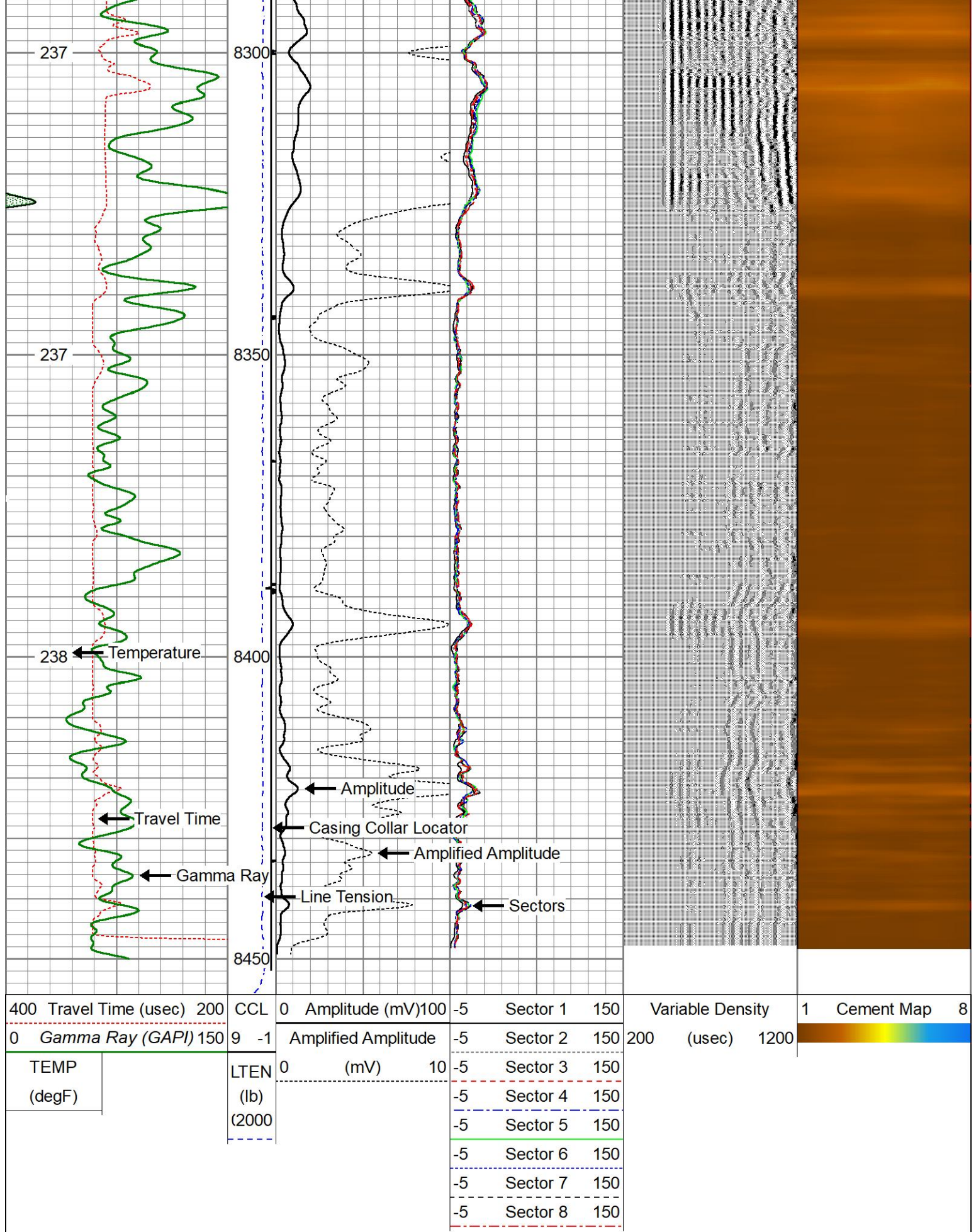






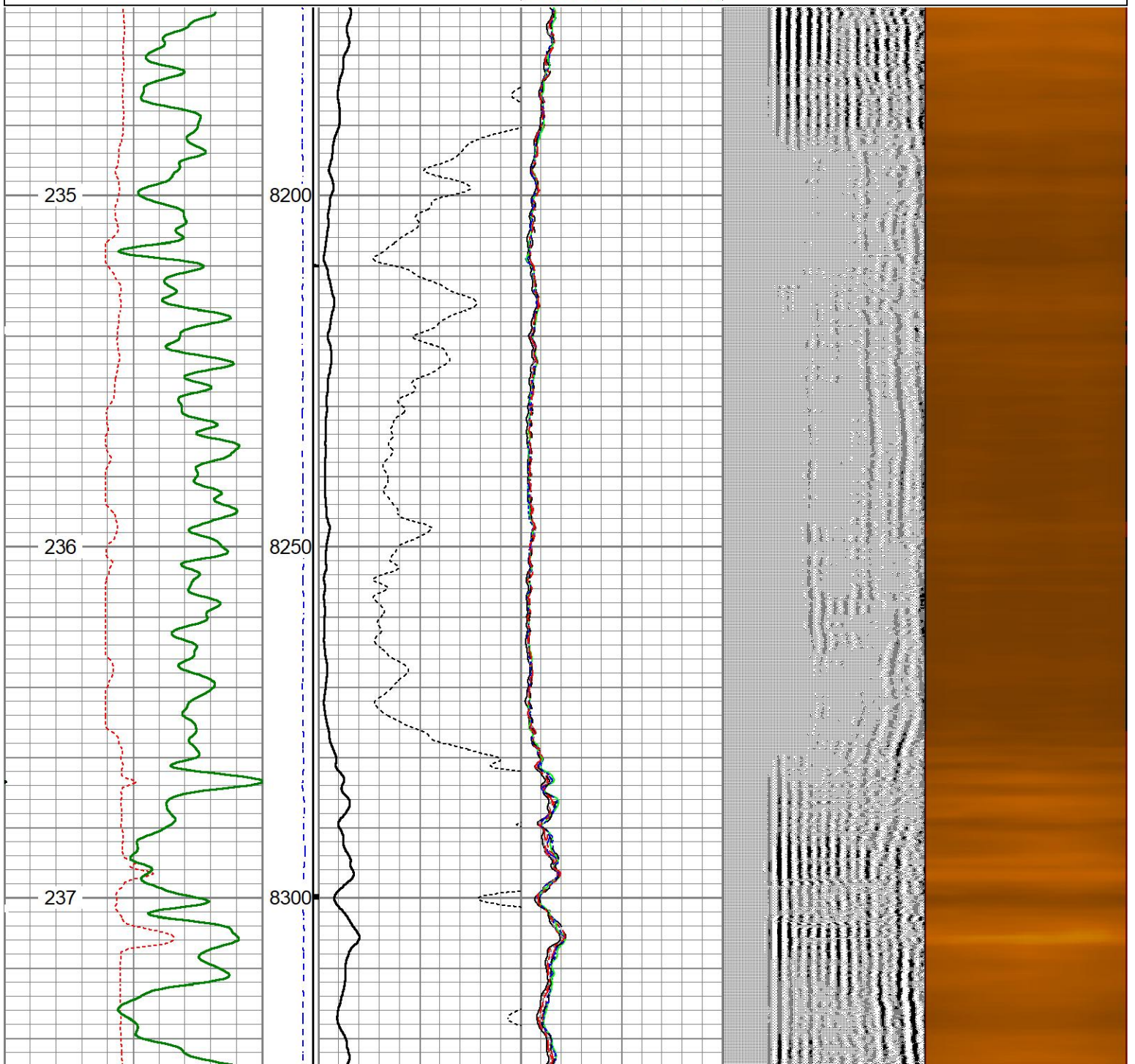


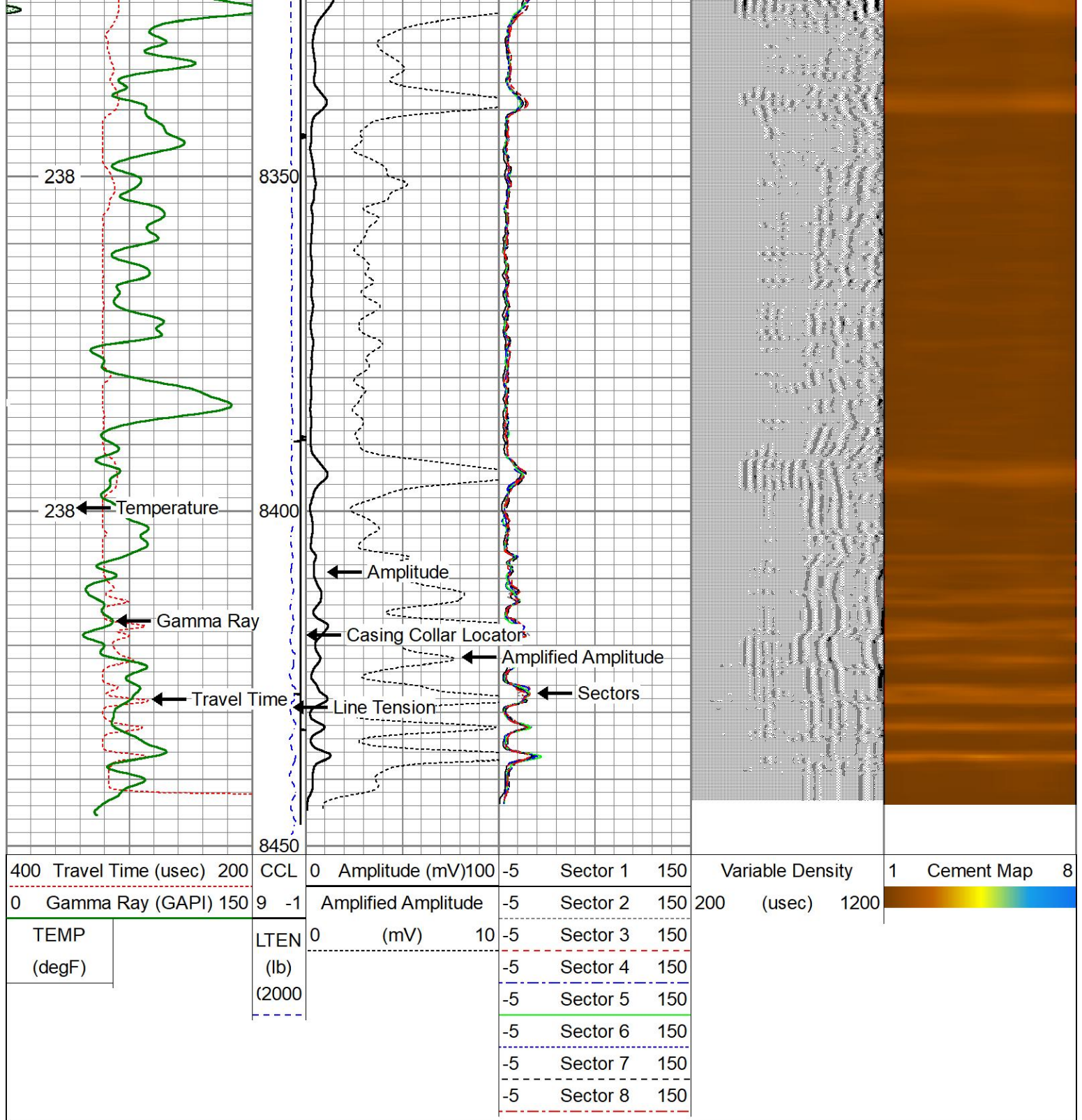




Database File gw_rio_lc_12_368hc_rcbl_9_13_19.db
 Dataset Pathname pass19
 Presentation Format scbl03
 Dataset Creation Sat Sep 14 07:49:24 2019
 Charted by Depth in Feet scaled 1:240

| | | | | | | | | | | | | | |
|--------|--------------------|-----|-------|---|---------------------|-----|----|----------|-----|------------------|------|------------|---|
| 400 | Travel Time (usec) | 200 | CCL | 0 | Amplitude (mV) | 100 | -5 | Sector 1 | 150 | Variable Density | 1 | Cement Map | 8 |
| 0 | Gamma Ray (GAPI) | 150 | 9 -1 | | Amplified Amplitude | | -5 | Sector 2 | 150 | 200 (usec) | 1200 | | |
| TEMP | | | LTEN | 0 | (mV) | 10 | -5 | Sector 3 | 150 | | | | |
| (degF) | | | (lb) | | | | -5 | Sector 4 | 150 | | | | |
| | | | (2000 | | | | -5 | Sector 5 | 150 | | | | |
| | | | | | | | -5 | Sector 6 | 150 | | | | |
| | | | | | | | -5 | Sector 7 | 150 | | | | |
| | | | | | | | -5 | Sector 8 | 150 | | | | |





| | | |
|------------------------------|------------------------------------|------|
| Calibration Report | | |
| Database File | gw_rio_lc_12_368hc_rcbl_9_13_19.db | |
| Dataset Pathname | pass22.2 | |
| Dataset Creation | Sat Sep 14 09:58:15 2019 | |
| Gamma Ray Calibration Report | | |
| Serial Number: | FW1304-44 | |
| Tool Model: | Probe275 | |
| Performed: | (Not Performed) | |
| Calibrator Value: | 1.0 | GAPI |
| Background Reading: | 0.0 | cps |

| | | |
|---------------------|--------|----------|
| Calibrator Reading: | 1.0 | cps |
| Sensitivity: | 1.0000 | GAPI/cps |

Segmented Cement Bond Log Calibration Report

| | |
|------------------------------|-------------------------|
| Serial Number: | 121043 |
| Tool Model: | Probe 2.75 Radii W/Temp |
| Calibration Casing Diameter: | 5.500 in |
| Calibration Depth: | 1094.183 ft |

Master Calibration, performed Sat Sep 14 07:24:31 2019:


| | Raw (v) | | Calibrated (mv) | | Results | |
|-----|---------|-------|-----------------|---------|----------|--------|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | 0.000 | 0.233 | 1.000 | 71.921 | 304.372 | 0.866 |
| CAL | 0.000 | 0.370 | | | | |
| 5' | -0.001 | 0.011 | 1.000 | 71.921 | 6253.873 | 4.435 |
| SUM | | | | | | |
| S1 | 0.010 | 0.240 | 0.000 | 100.000 | 434.358 | -4.152 |
| S2 | 0.002 | 0.236 | 0.000 | 100.000 | 426.334 | -0.718 |
| S3 | 0.001 | 0.233 | 0.000 | 100.000 | 431.181 | -0.463 |
| S4 | 0.002 | 0.228 | 0.000 | 100.000 | 441.641 | -0.766 |
| S5 | 0.001 | 0.231 | 0.000 | 100.000 | 435.143 | -0.579 |
| S6 | 0.002 | 0.242 | 0.000 | 100.000 | 416.938 | -0.718 |
| S7 | 0.001 | 0.241 | 0.000 | 100.000 | 417.554 | -0.484 |
| S8 | 0.001 | 0.238 | 0.000 | 100.000 | 421.074 | -0.421 |


Internal Reference Calibration, performed (Not Performed):

| | Raw (v) | | Calibrated (v) | | Results | |
|-----|---------|-------|----------------|-------|---------|--------|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| CAL | 0.000 | 0.000 | 0.000 | 0.370 | 1.000 | 0.000 |

Air Zero Calibration, performed Thu Sep 05 16:44:52 2019:

| | Raw (v) | | Calibrated (v) | | Results | |
|-----|---------|--|----------------|--|---------|--|
| | Zero | | Zero | | Offset | |
| 3' | 0.000 | | 0.000 | | 0.000 | |
| 5' | 0.000 | | 0.000 | | 0.000 | |
| SUM | | | | | | |
| S1 | 0.000 | | 0.000 | | 0.000 | |
| S2 | 0.000 | | 0.000 | | 0.000 | |
| S3 | 0.000 | | 0.000 | | 0.000 | |
| S4 | 0.000 | | 0.000 | | 0.000 | |
| S5 | 0.000 | | 0.000 | | 0.000 | |
| S6 | 0.000 | | 0.000 | | 0.000 | |
| S7 | 0.000 | | 0.000 | | 0.000 | |
| S8 | 0.000 | | 0.000 | | 0.000 | |

| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb) |
|----------|-------------|-------------------------------------------------------------------------------------|-----------------------------------------|-------------|-----------|-------------|
| HeadVolt | 14.13 |  | CHD-Titan Titan 1 7/16" GO Cablehead | 1.00 | 1.44 | 5.00 |

| | | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------|-------|-------|
| Temp | 11.28 |  | | | | |
| | | | RBT-Probe 2.75 Radii W/Temp (121043) Probe 2.75" Radial with Integral Temperature Sub | 9.39 | 2.75 | 90.00 |
| WVFS8 | 9.05 | | | | | |
| WVFS7 | 9.05 | | | | | |
| WVFS6 | 9.05 | | | | | |
| WVFS5 | 9.05 | | | | | |
| WVFS4 | 9.05 | | | | | |
| WVFS3 | 9.05 | | | | | |
| WVFS2 | 9.05 | | | | | |
| WVFS1 | 9.05 | | | | | |
| WVFCAL | 9.05 | | | | | |
| WVF3FT | 9.05 | | | | | |
| WVF5FT | 8.05 | | | | | |
| HEADVOLT | 4.80 | | | | | |
| CCL | 3.92 | | | | | |
| GR | 2.58 | GR-Probe275 (FW1304-44) Probe 2 3/4" Logging Gamma Ray 6 Pin | 4.80 | 2.75 | 57.00 | |
| Dataset: gw_rio_lc_12_368hc_rcbl_9_13_19.db: field/well/run1/pass22.2 Total length: 15.19 ft Total weight: 152.00 lb O.D.: 2.75 in | | | | | | |



Company Great Western Oil & Gas Company
 Well Rio LC 12-368HC
 Field Wattenberg



Energy Services

County
State

Adams
Colorado

Country