



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well FL Greens 14N-8HZ
Field Wattenberg
County Weld
State Colorado

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Location: API # : 05-123-42272

SEC 8 TWP 1N RGE 66W

Permanent Datum Ground Level Elevation 4925'
Log Measured From Kelly Bushing 20 FT
Drilling Measured From Kelly Bushing

Elevation

K.B. 4945'
D.F. 4944'
G.L. 4925'

Date 17-SEPT-2017

Two

Run Number 12571 FT

Depth Driller 7733 FT

Bottom Logged Interval 7728 FT

Top Log Interval Surface

Open Hole Size 7.875"

Type Fluid Water

Density / Viscosity 8.34 lb/gal

Max. Recorded Temp. 240°F

Estimated Cement Top See Log

Time Well Ready ROA

Time Logger on Bottom 08:35

Equipment Number HD-0343

Location Fort Lupton, CO

Recorded By W.Wacker

Witnessed By Roger Pevler

S. Hopper

D. Finn

<<< 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

Log ran as per customer request
Depth referenced to Casing Tally reported Marker Joint at 6977 FT
Adjusted -9 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 7717 FT with no debris found
Log ran from as deep as possible in heel to surface
Log ran with 2800 PSI Surface Induced Pressure
Logging tools were clean and free of any debris upon completion of operations

Thank you for choosing Reliance Oilfield Services, LLC!!

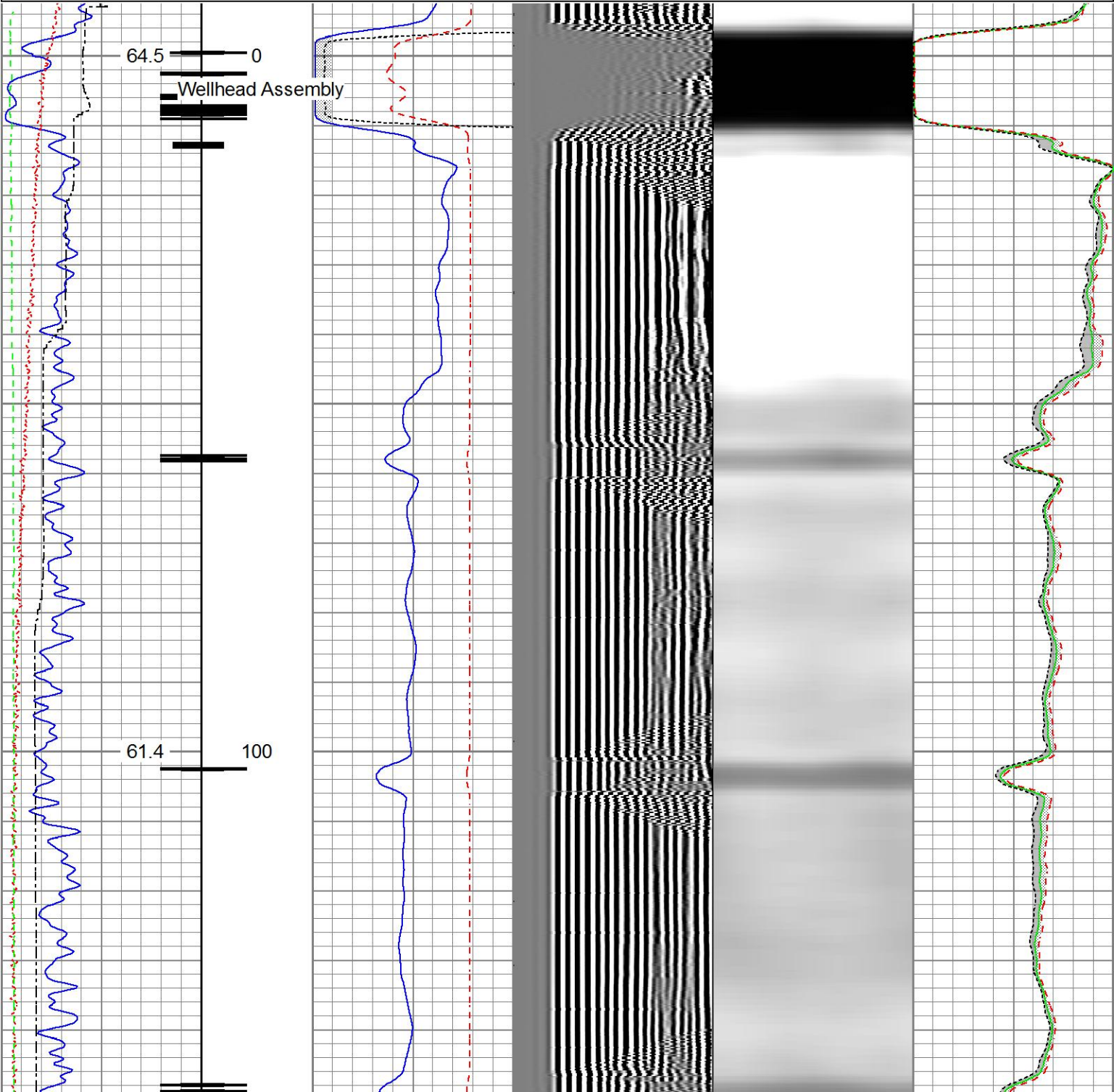


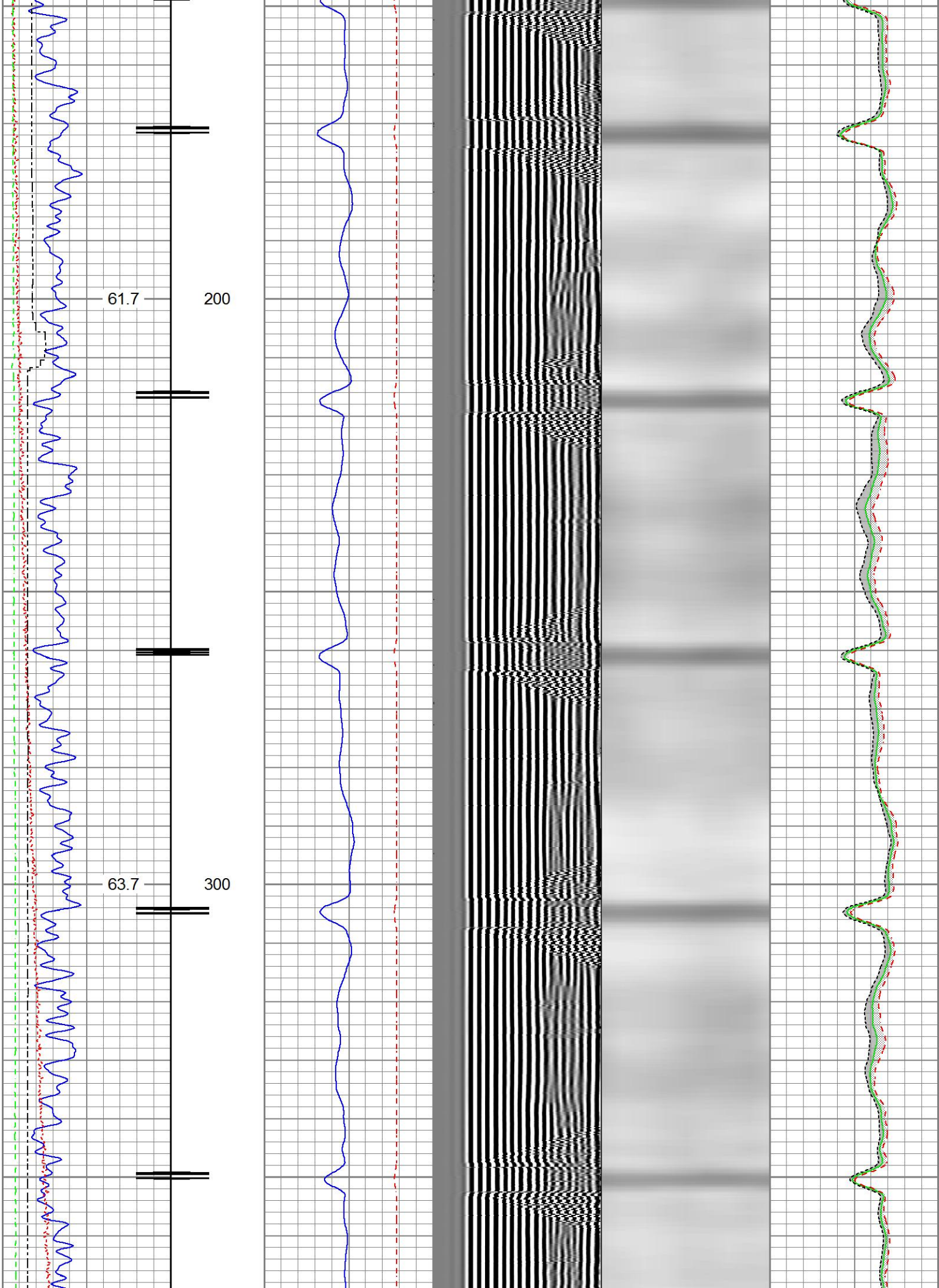
Main Pass

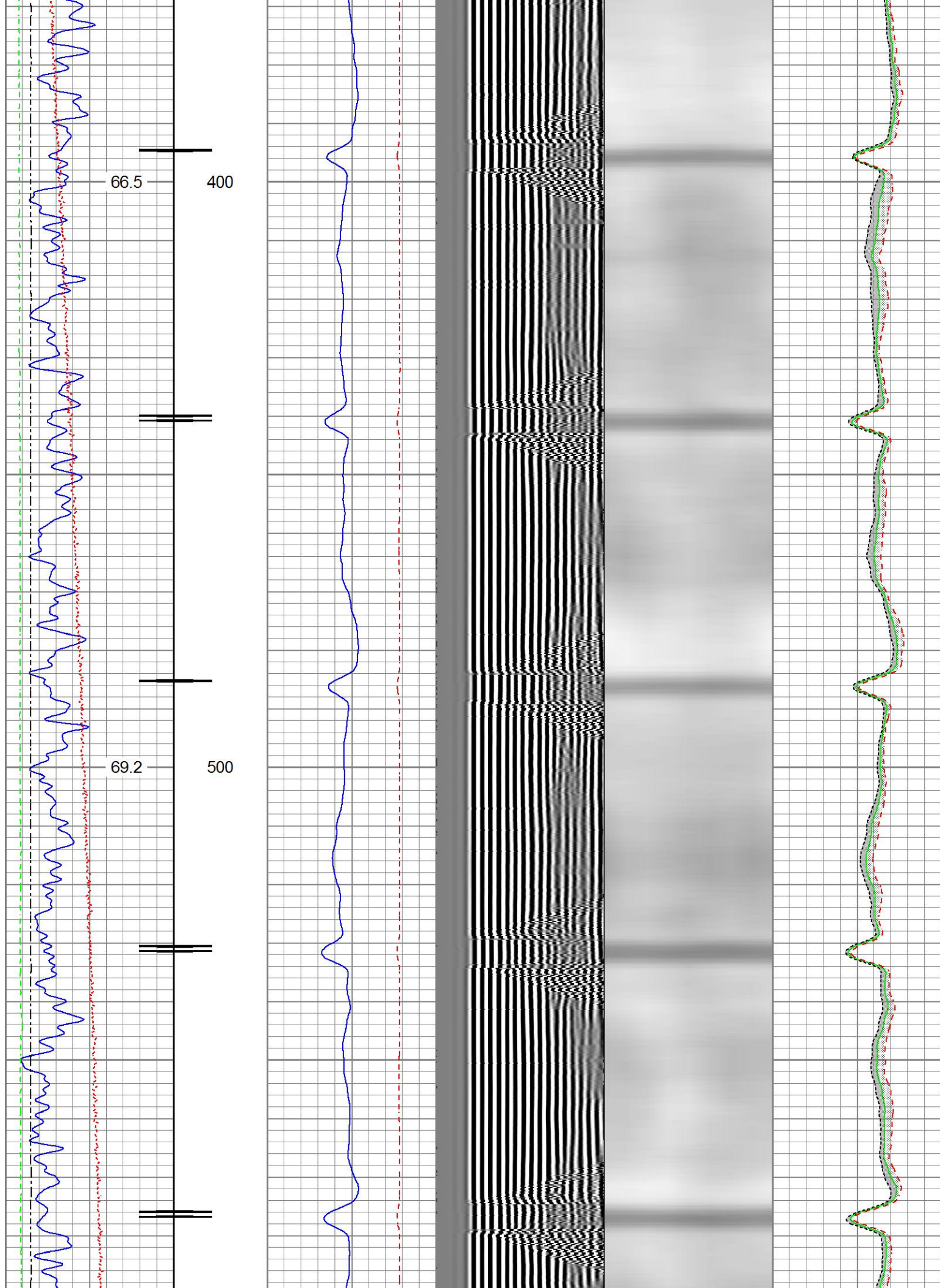
Recorded With 2800 PSI Surface Induced Pressure

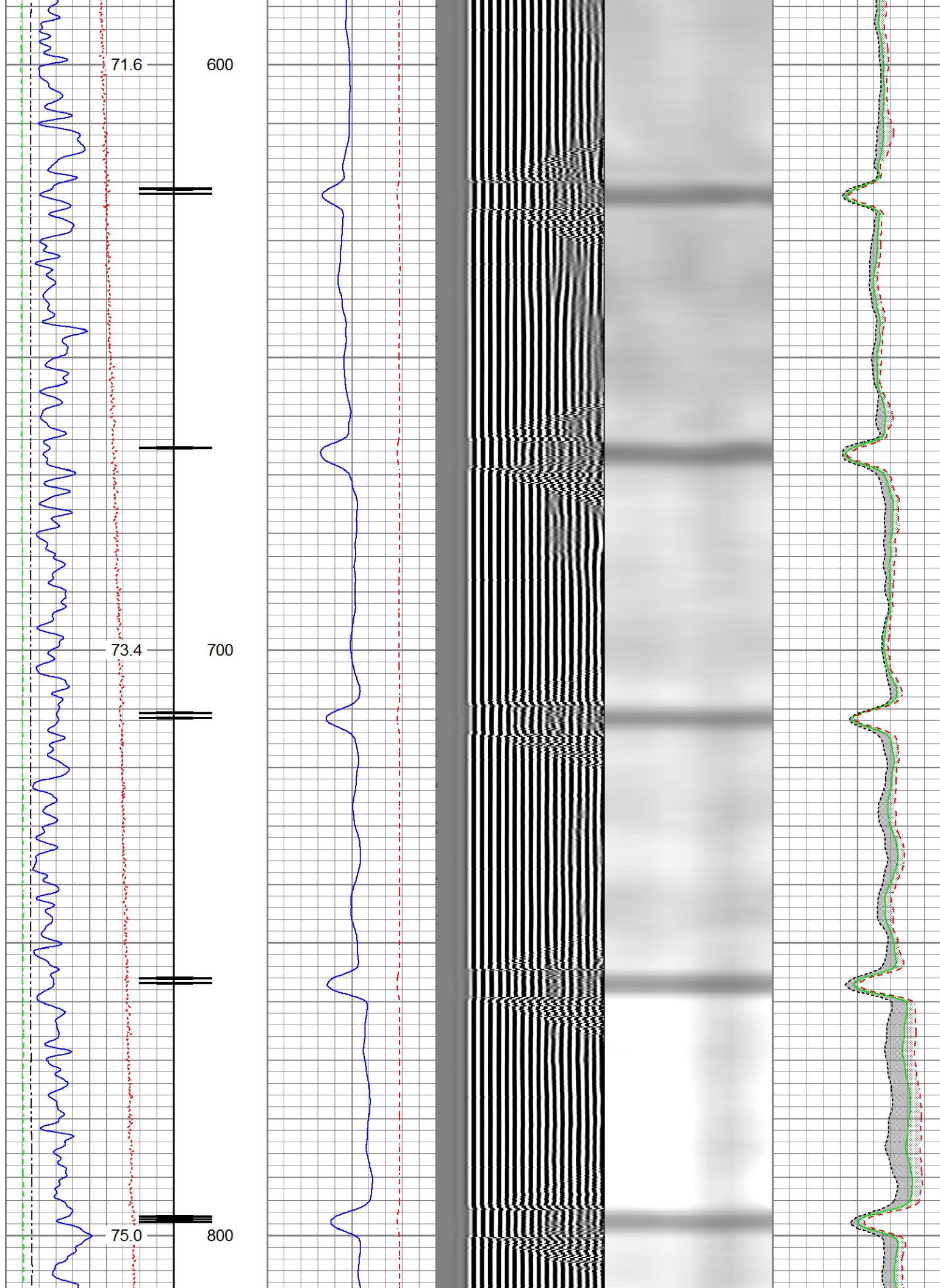
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|---------------------|--|
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| Dataset Pathname | main.1 |
| Presentation Format | ros_radri |
| Dataset Creation | Sun Sep 17 09:42:24 2017 |
| Charted by | Depth in Feet scaled 1:240 |

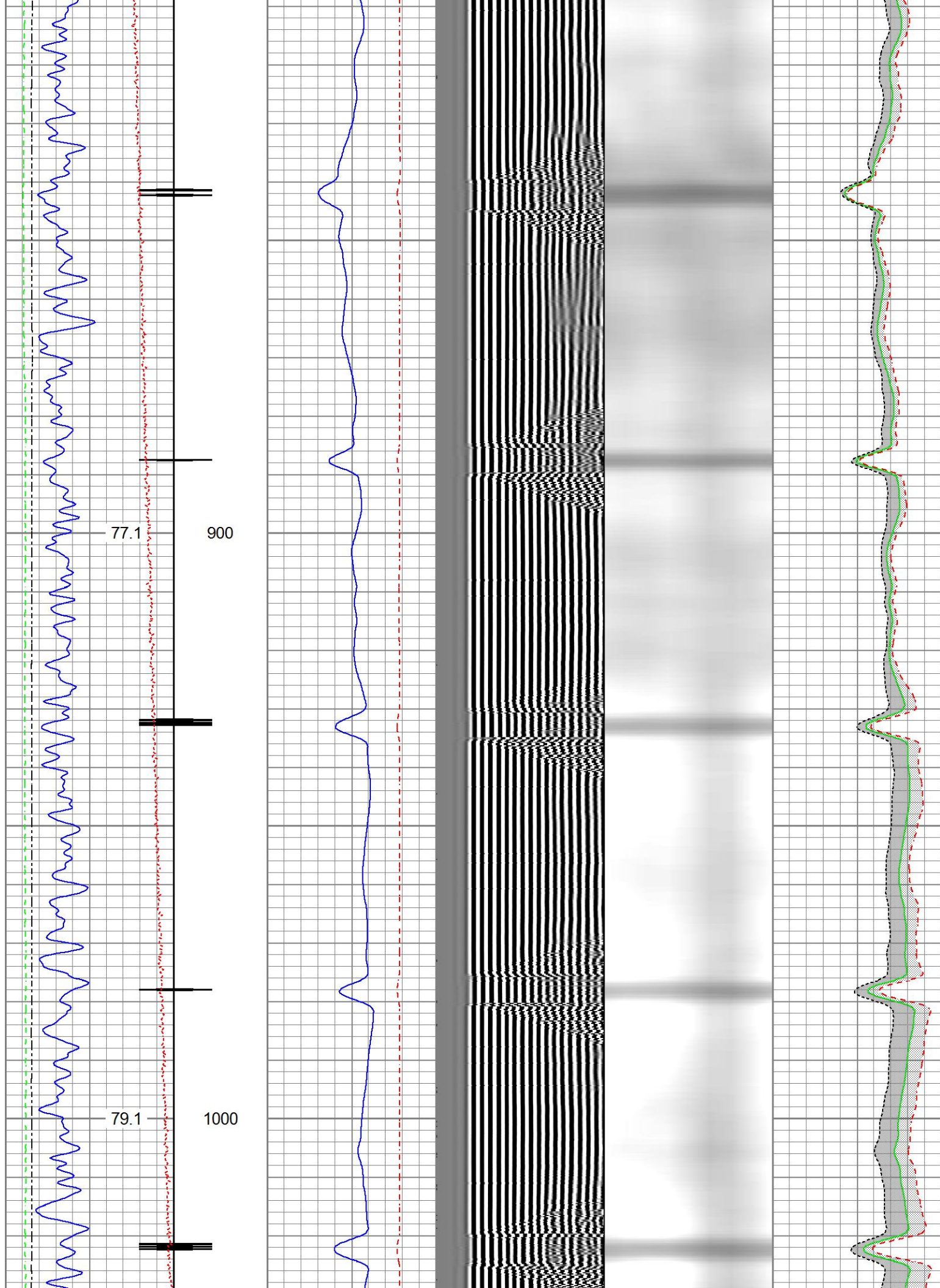
| | | | | | |
|-----------------------|--|------------------|-------------------------|------------|-------------------|
| Gamma Ray | | 3' Amplitude | 5' Variable Density Log | Sector Map | Average Amplitude |
| 0 (GAPI) 120 | | 0 (mV) 100 | 200 1200 | | 0 100 |
| Casing Collar Locator | | 3' Amplitude x 5 | | | Mimimum Amplitude |
| Temperature | | 0 (mV) 20 | | | 0 100 |
| 0 (degF) 20 | | 3' Travel Time | | | Maximum Amplitude |
| Line Speed | | 650 (usec) 150 | | | 0 100 |
| -150 (ft/min) 150 | | | | | |
| Line Tension | | | | | |
| 0 (lb) 2000 | | | | | |

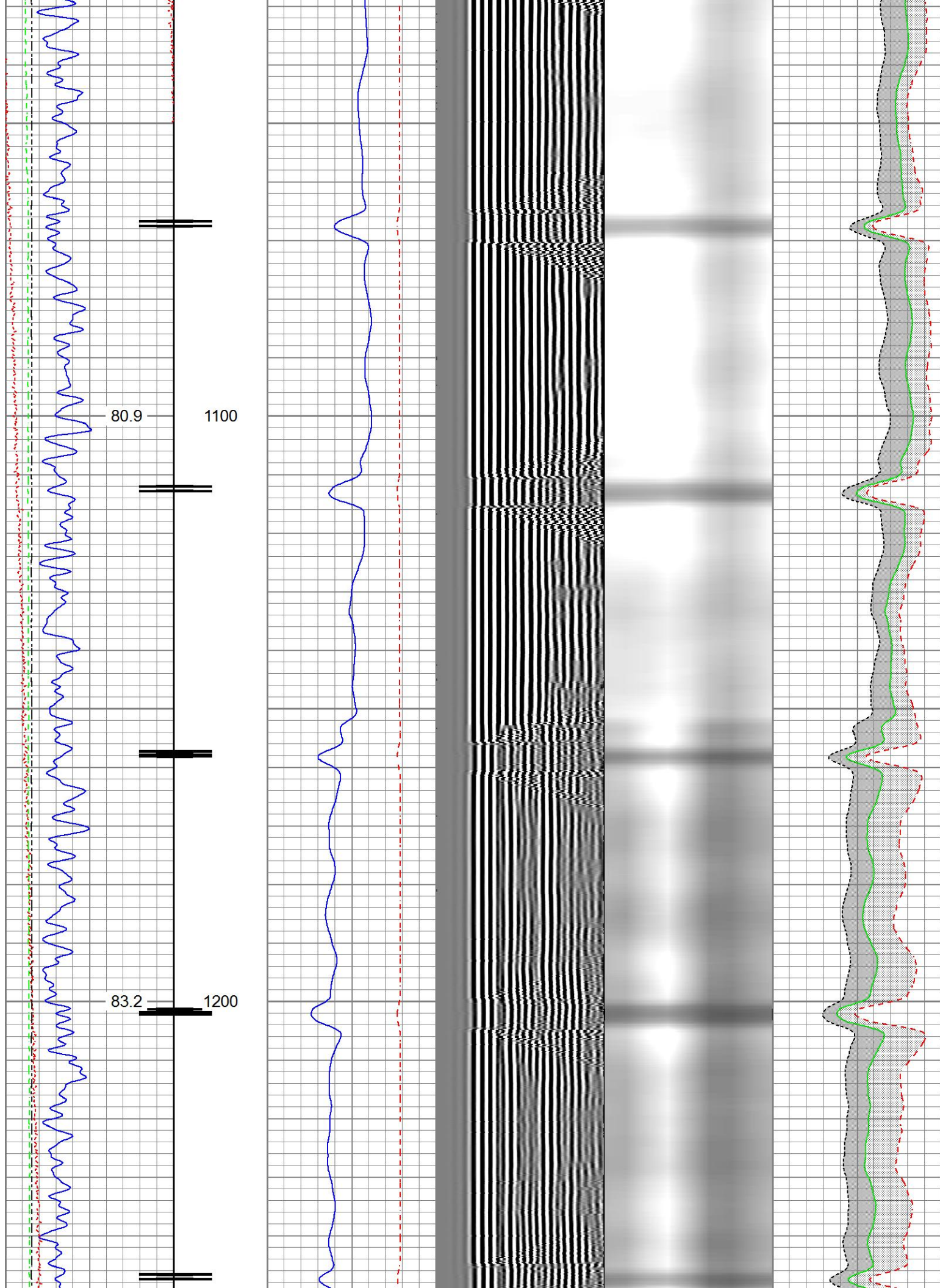


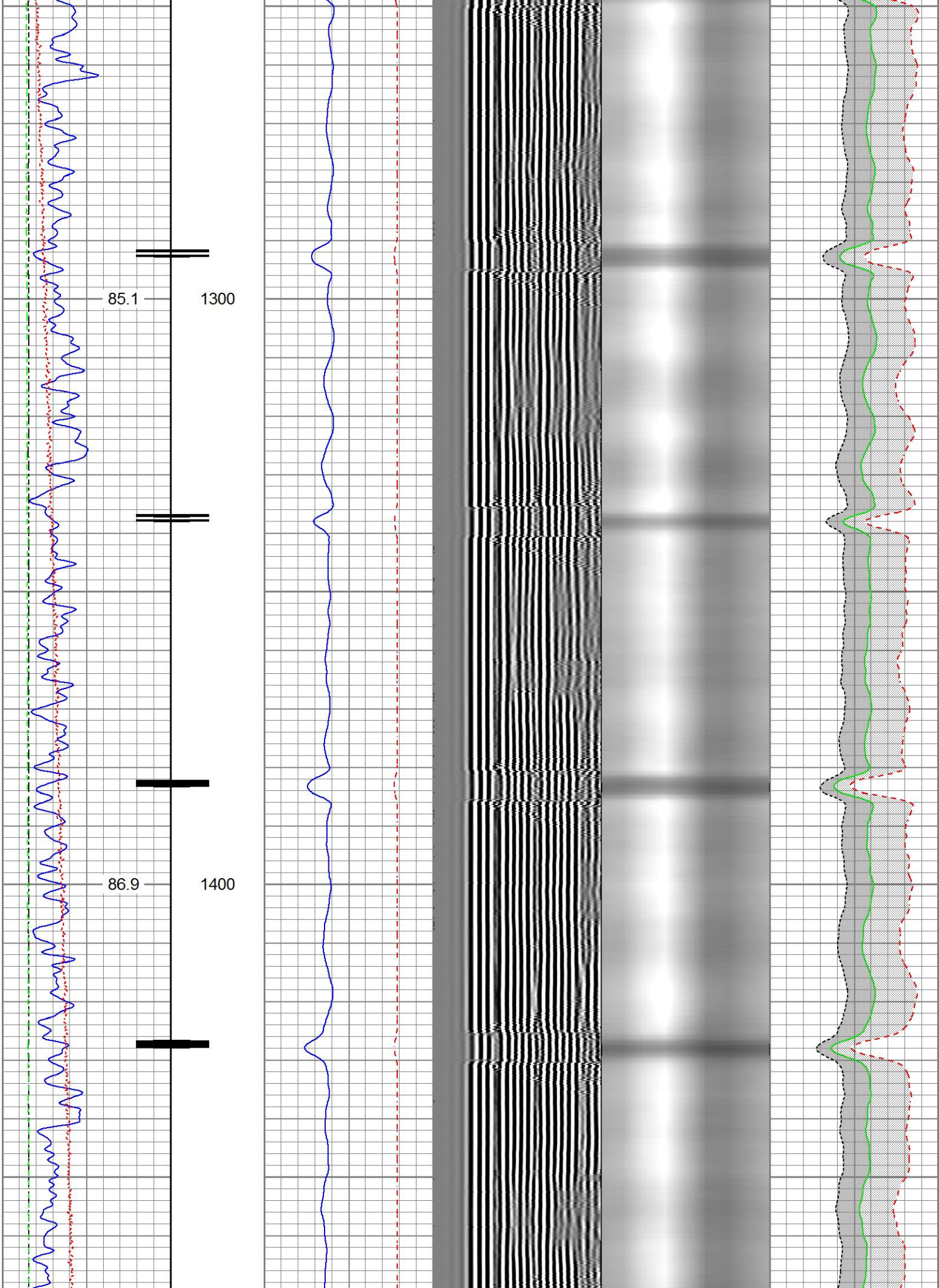


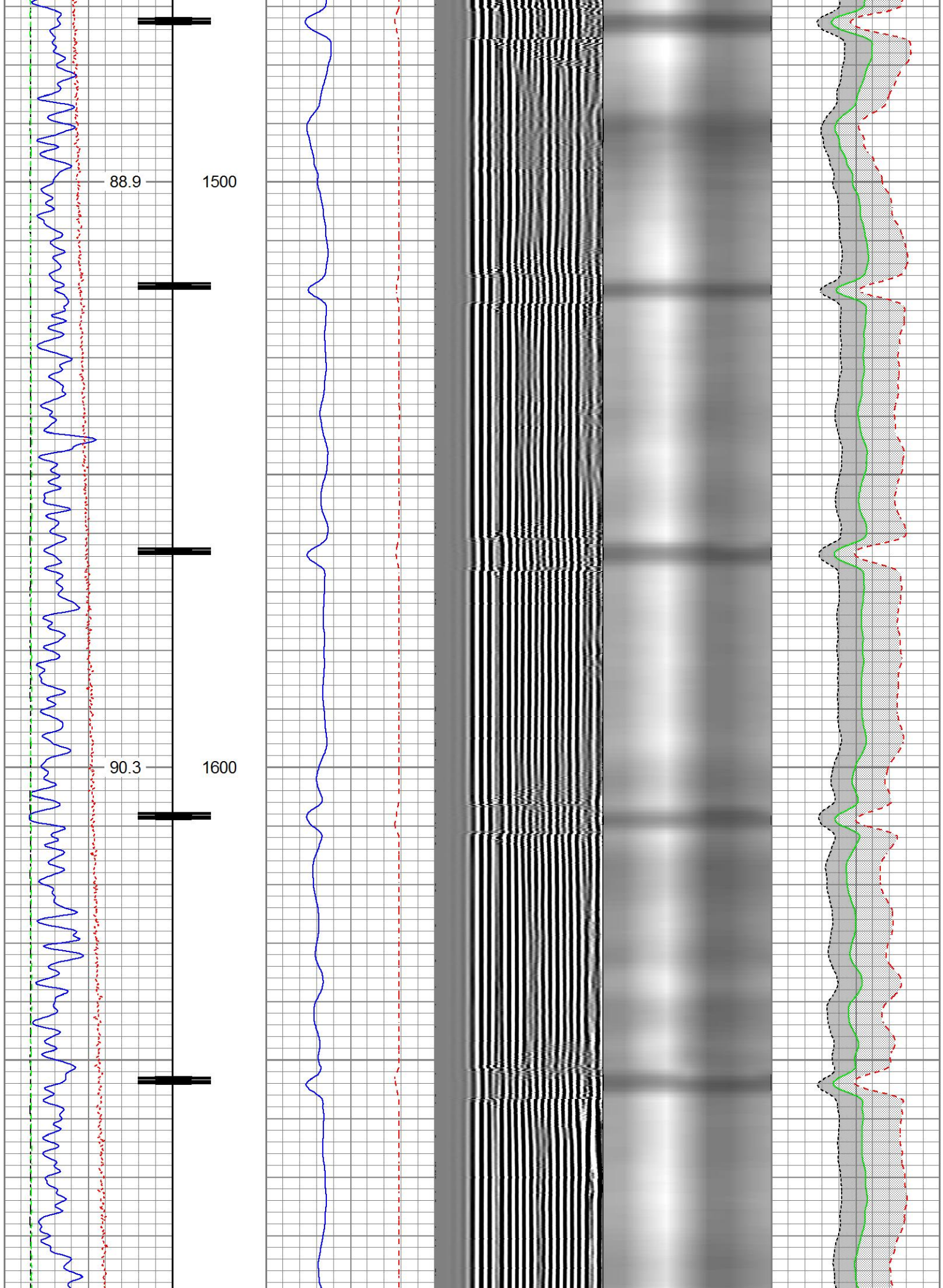


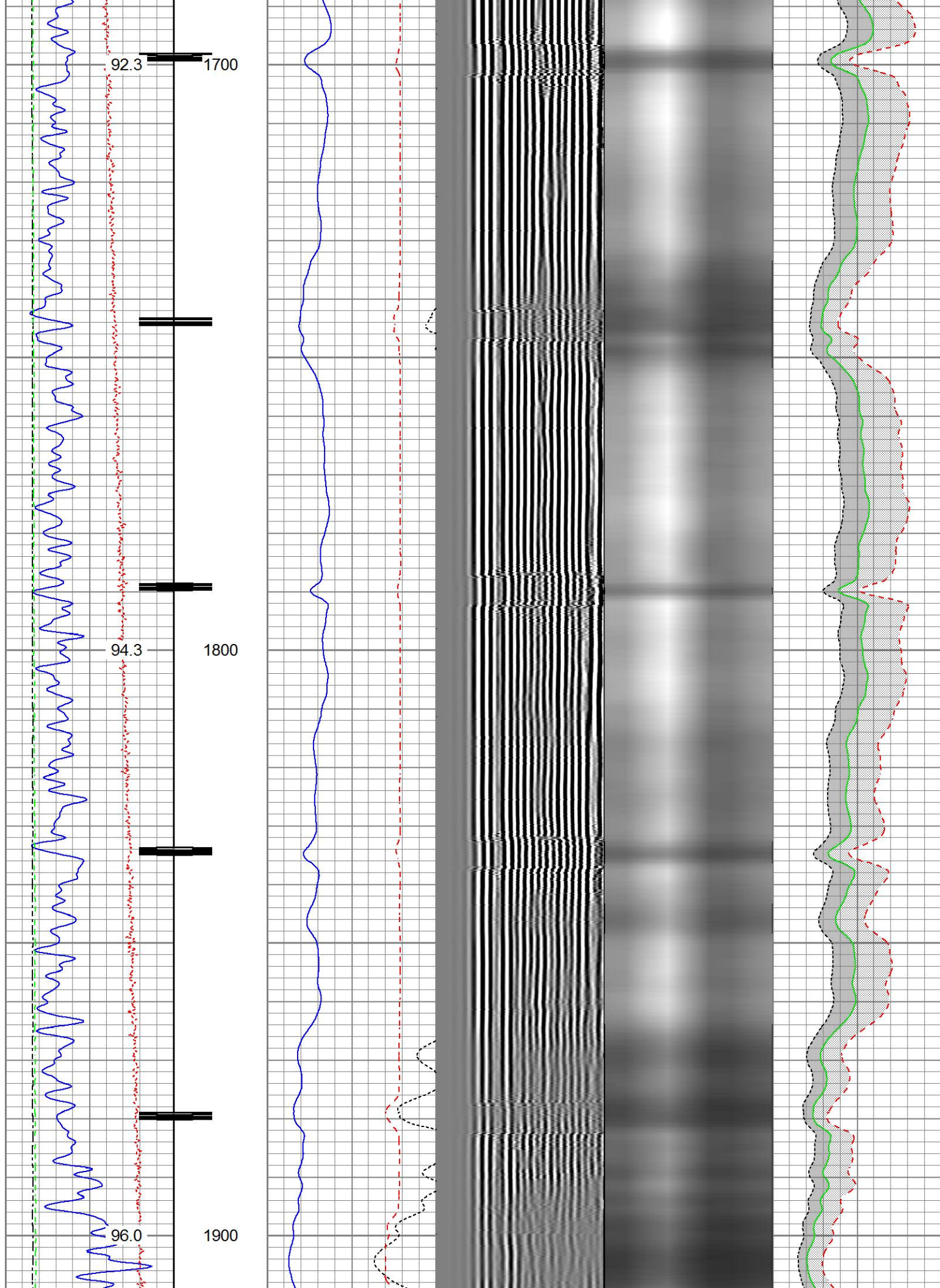


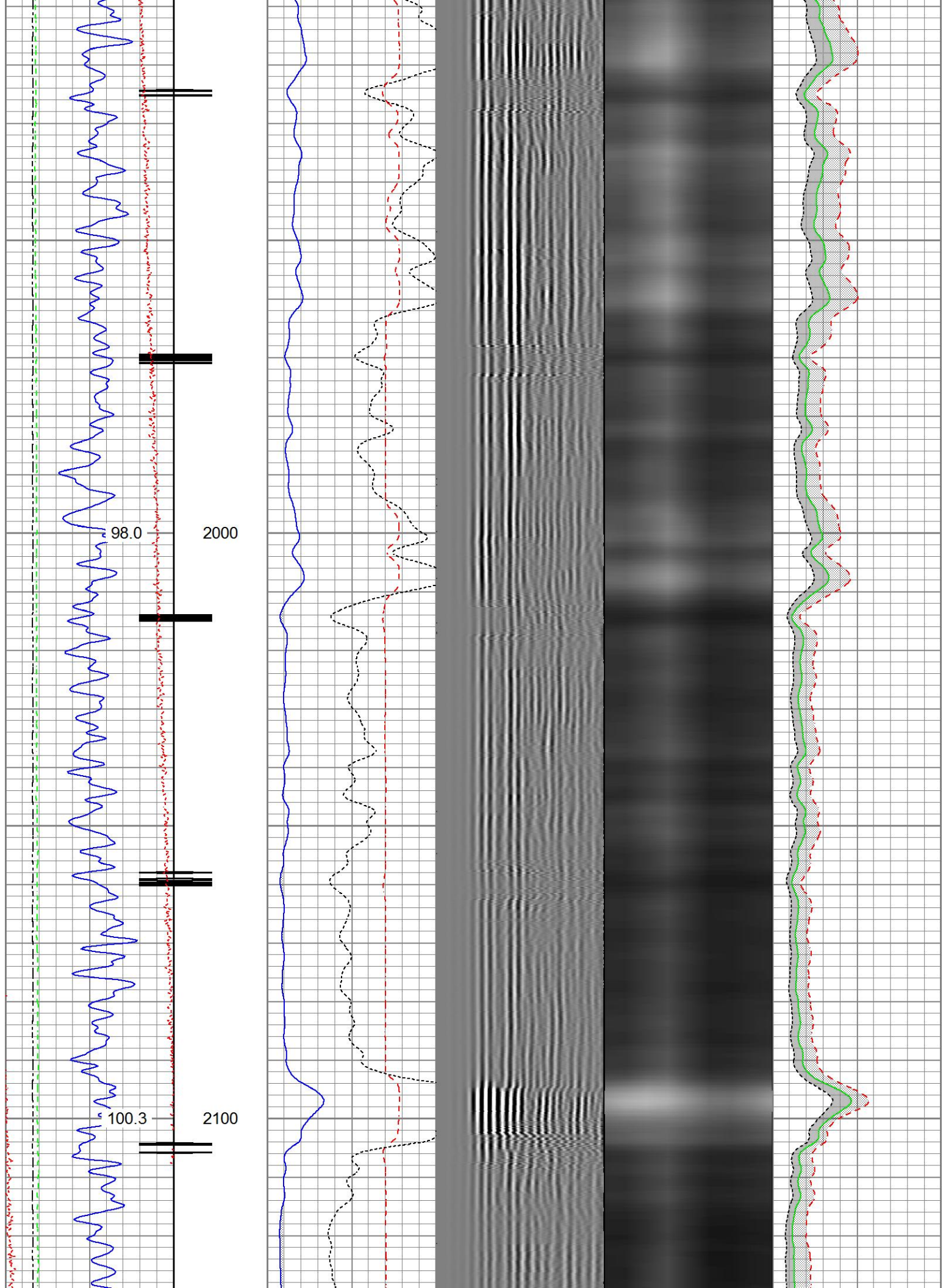


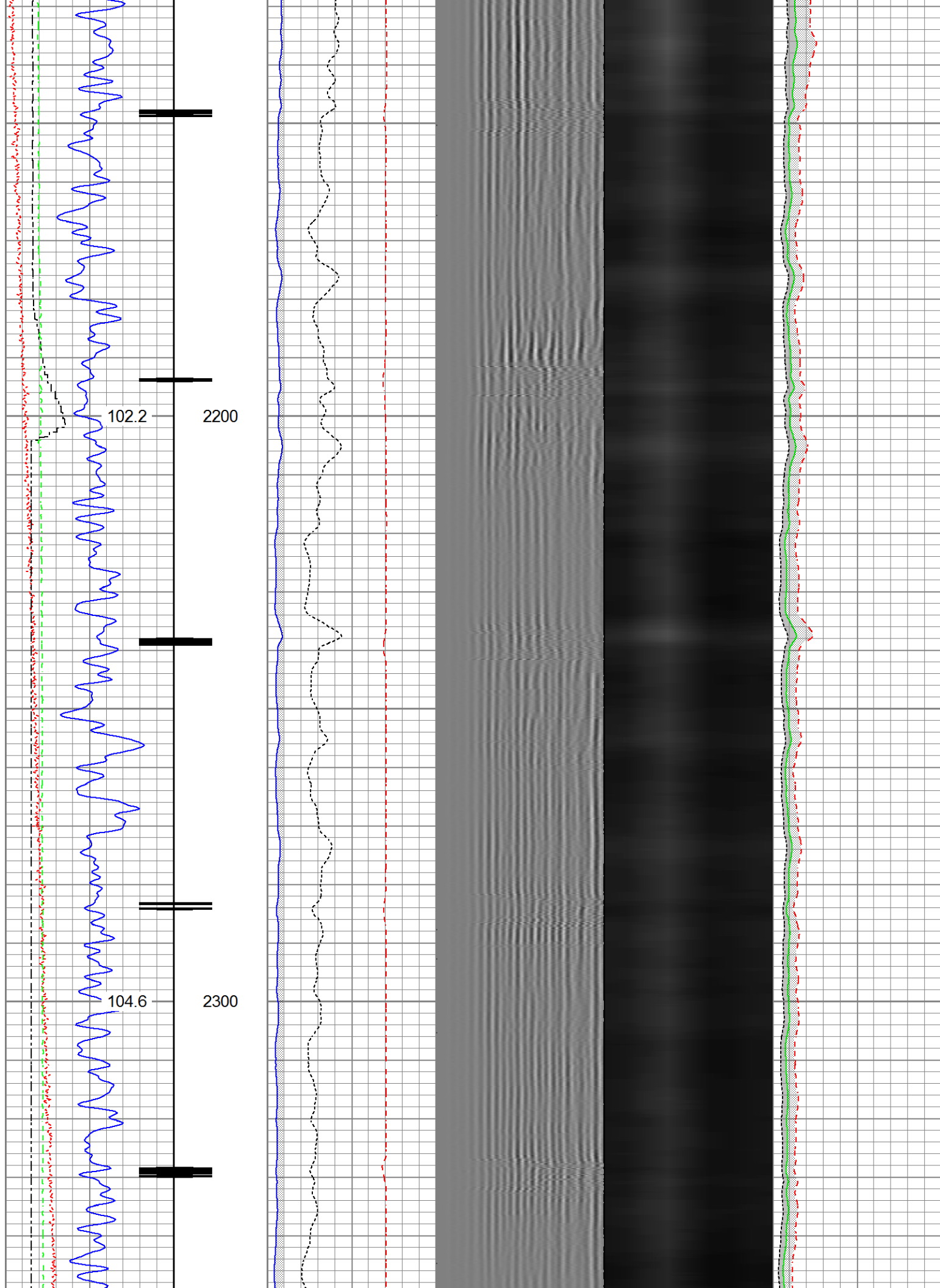


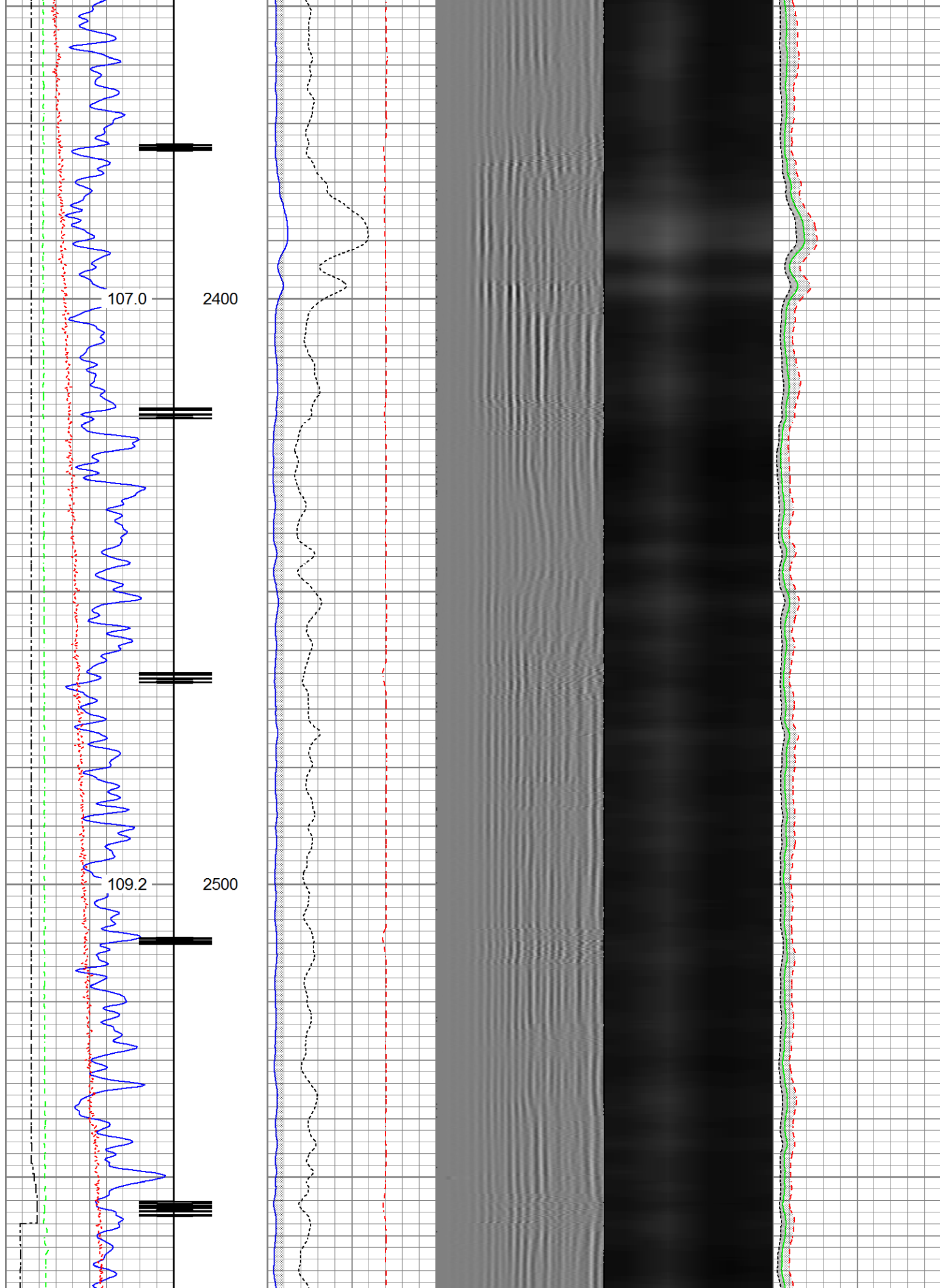


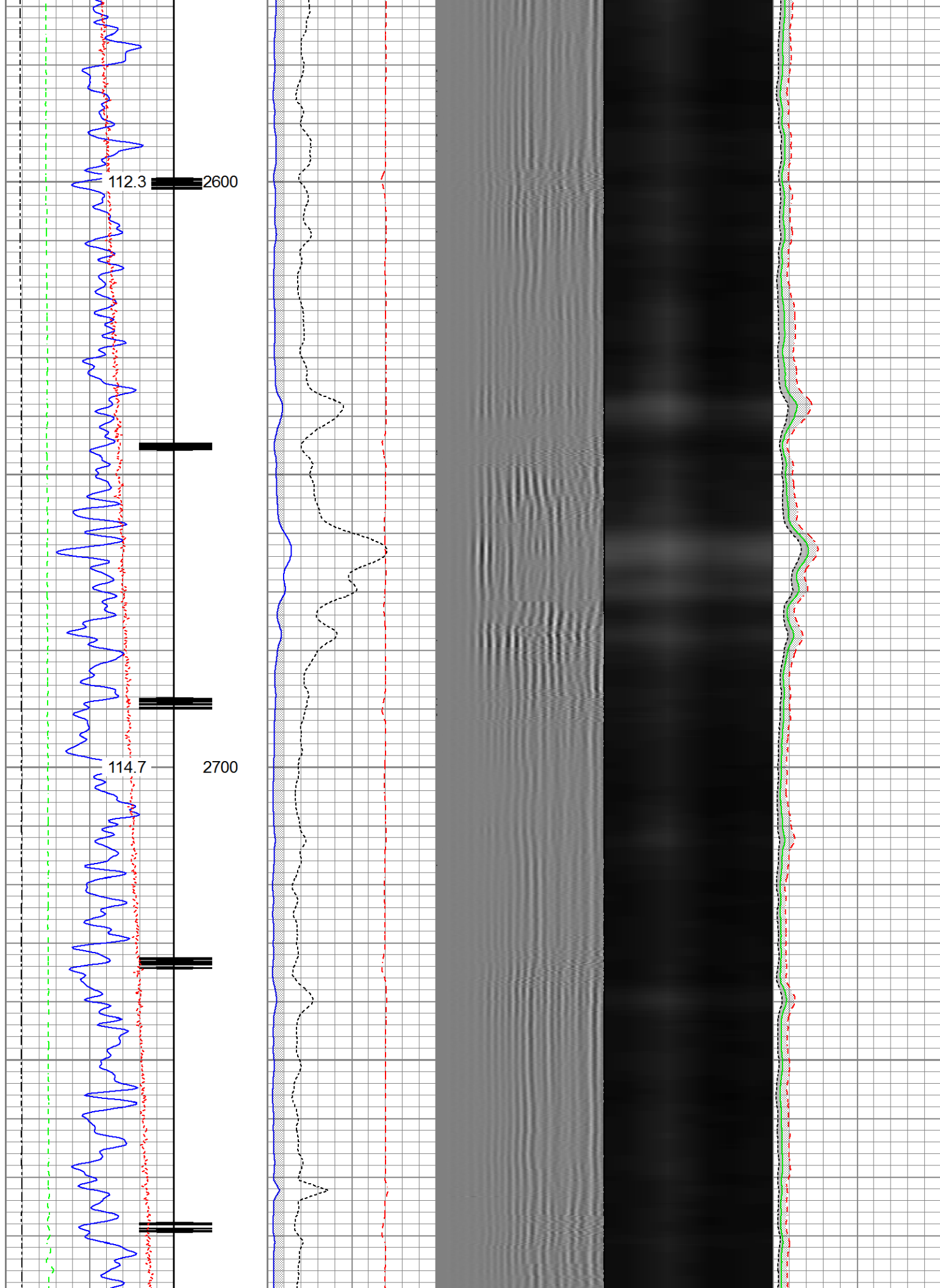


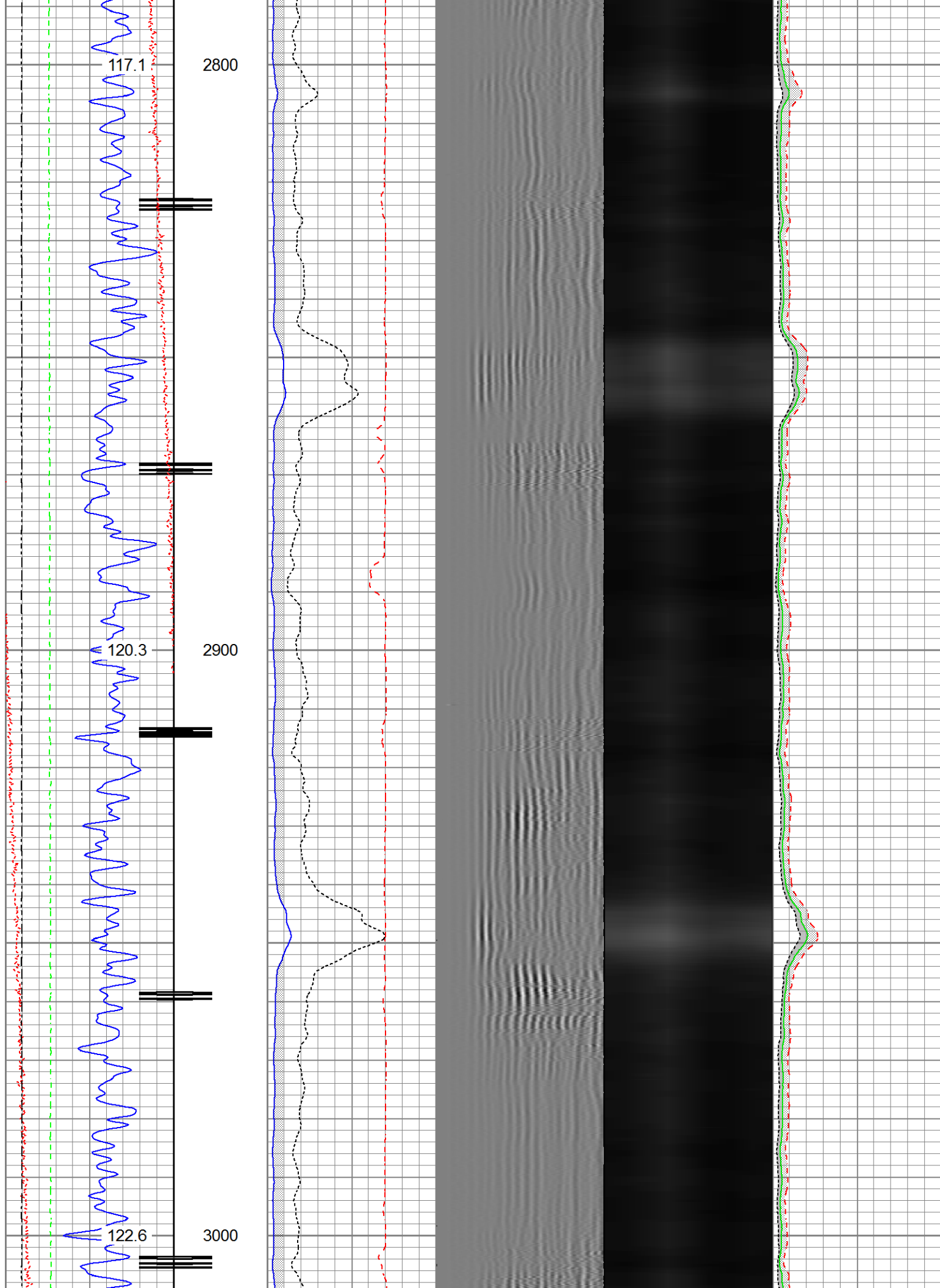


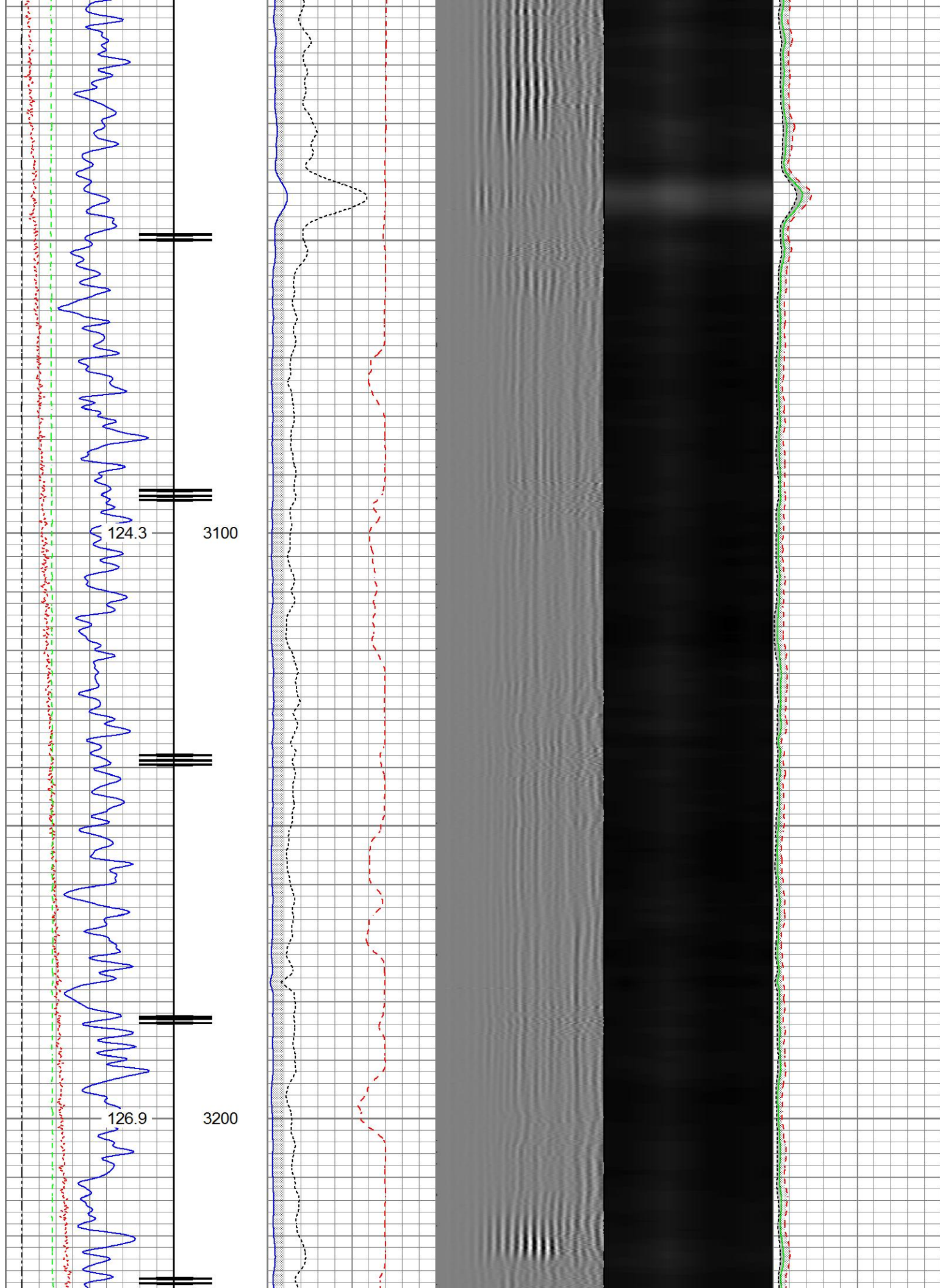


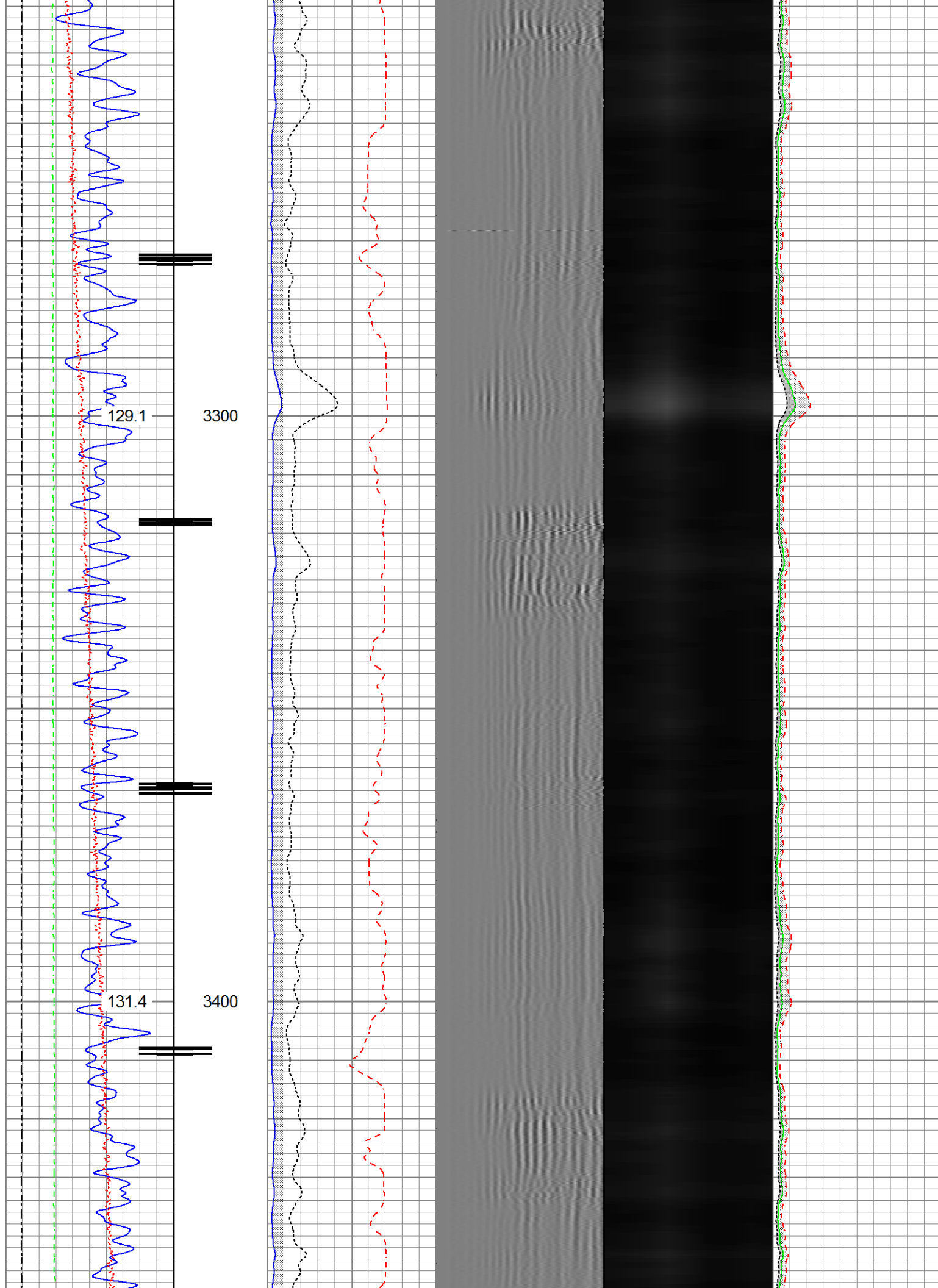


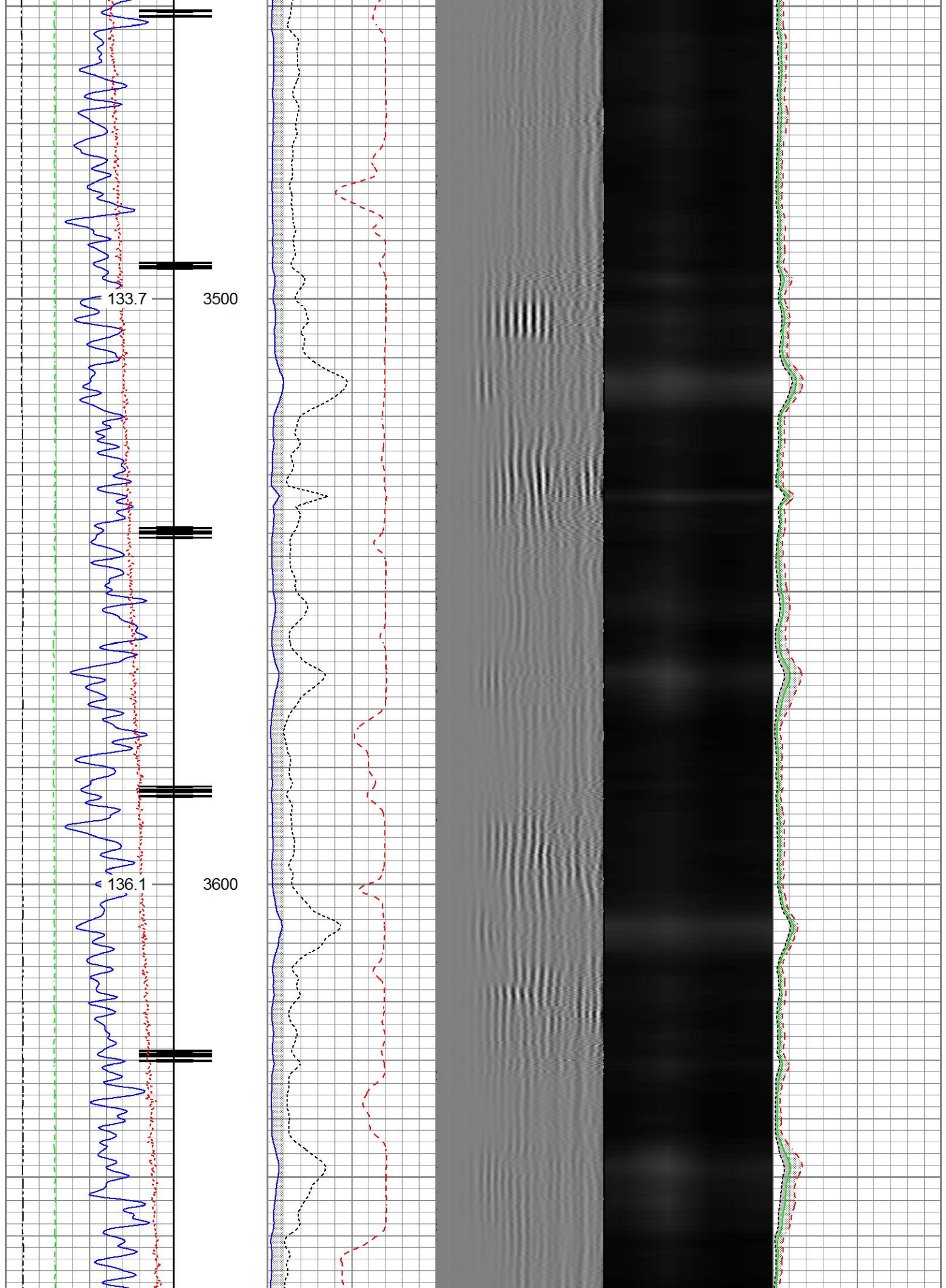


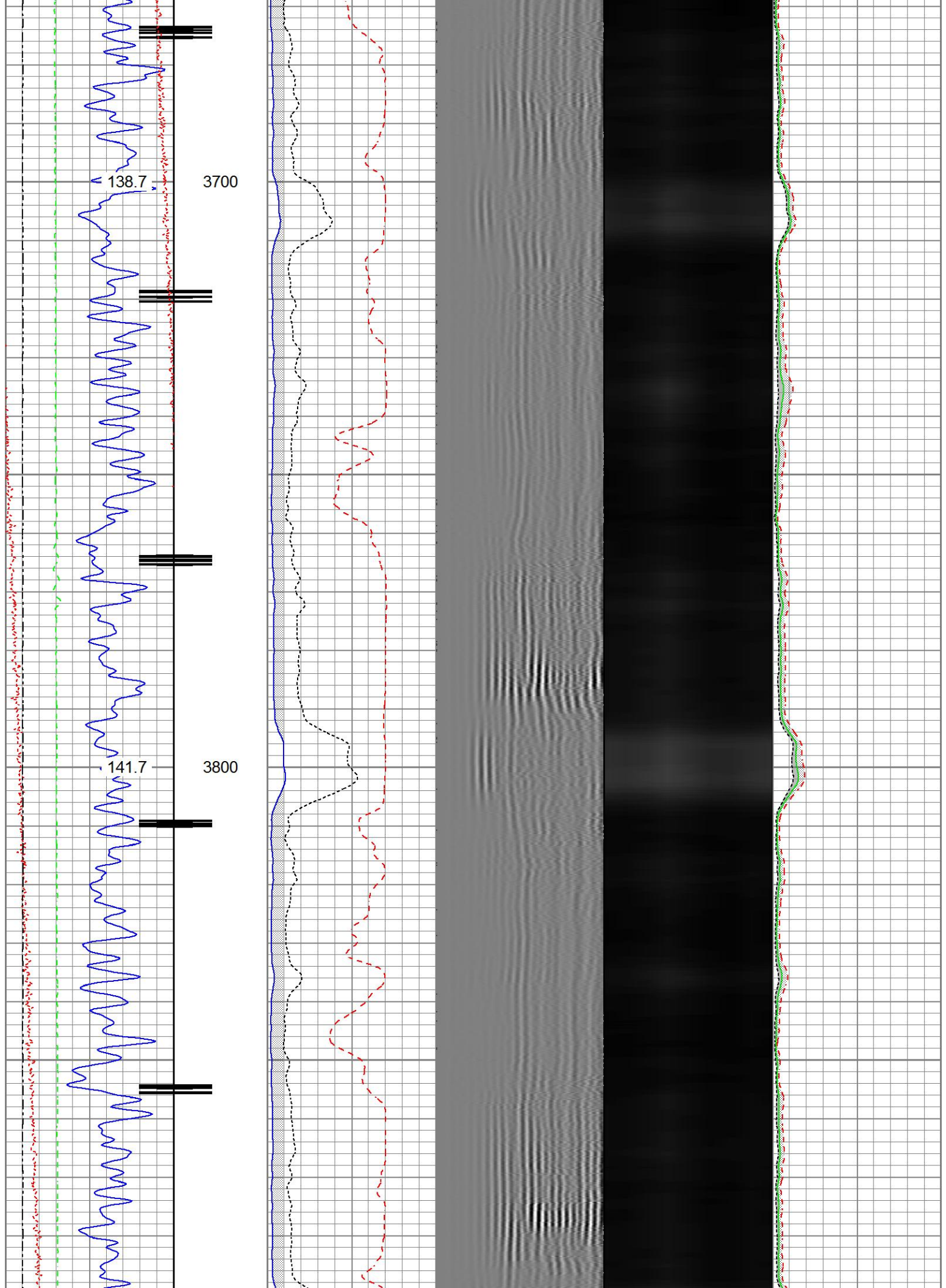


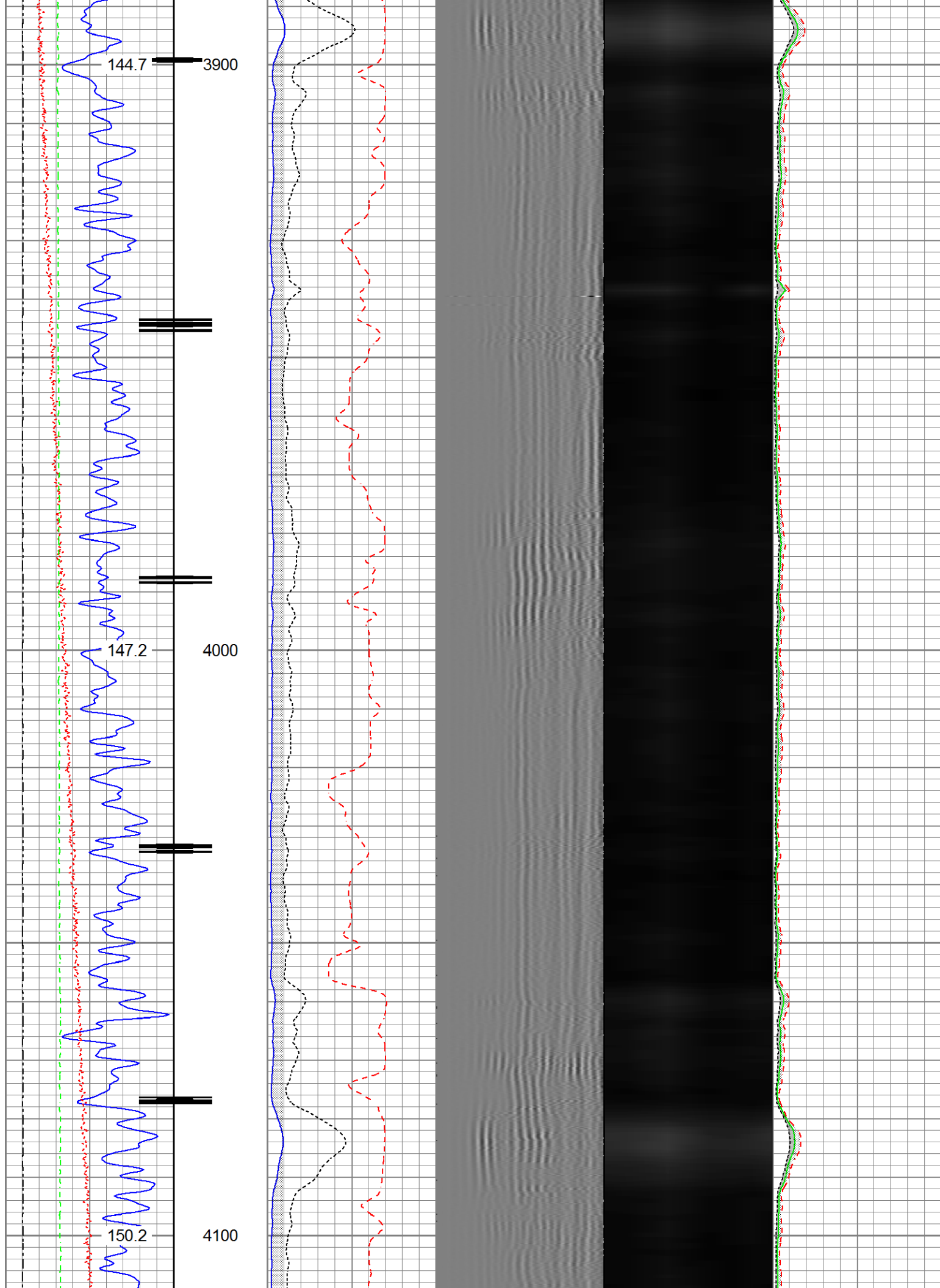


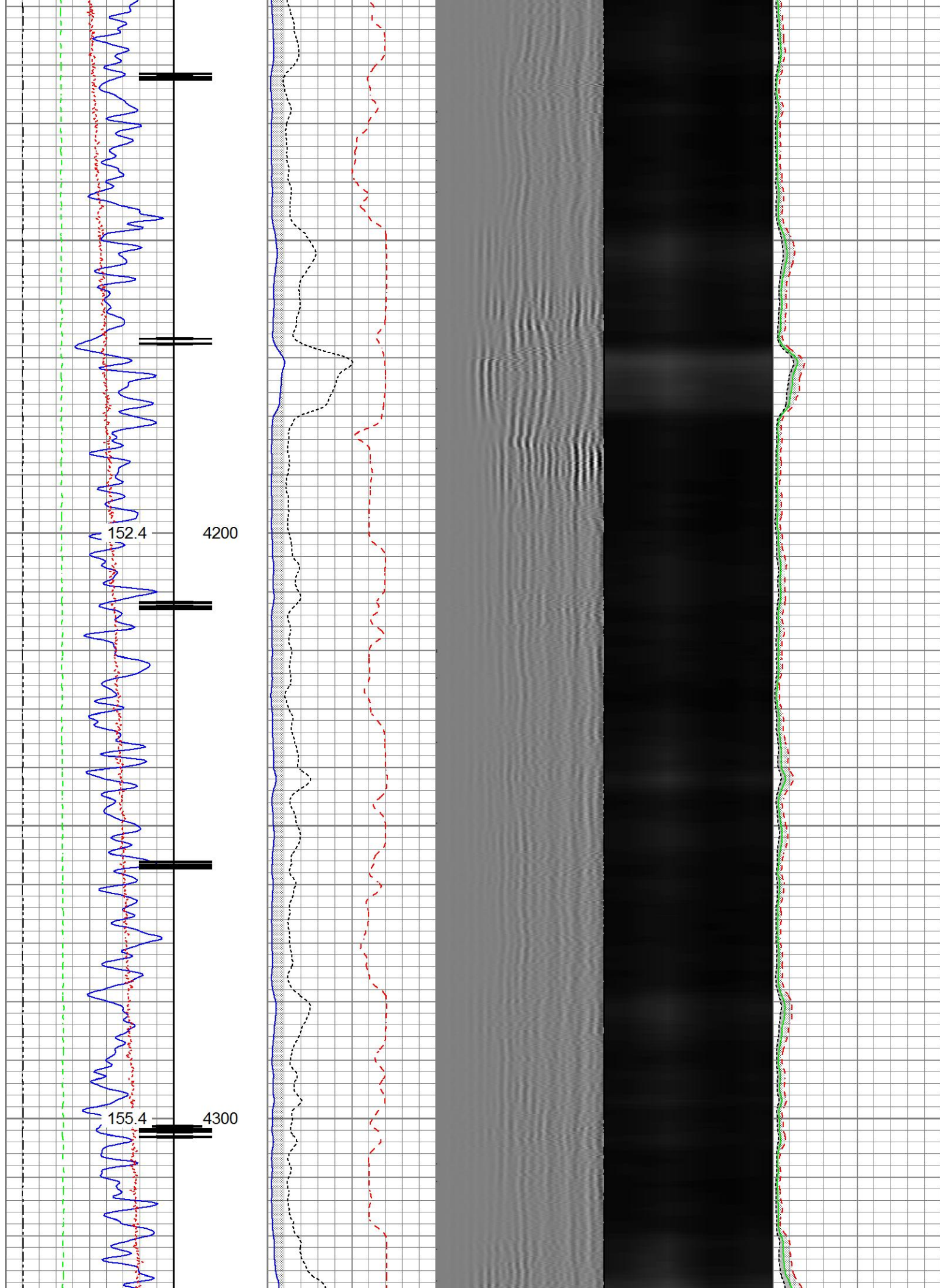


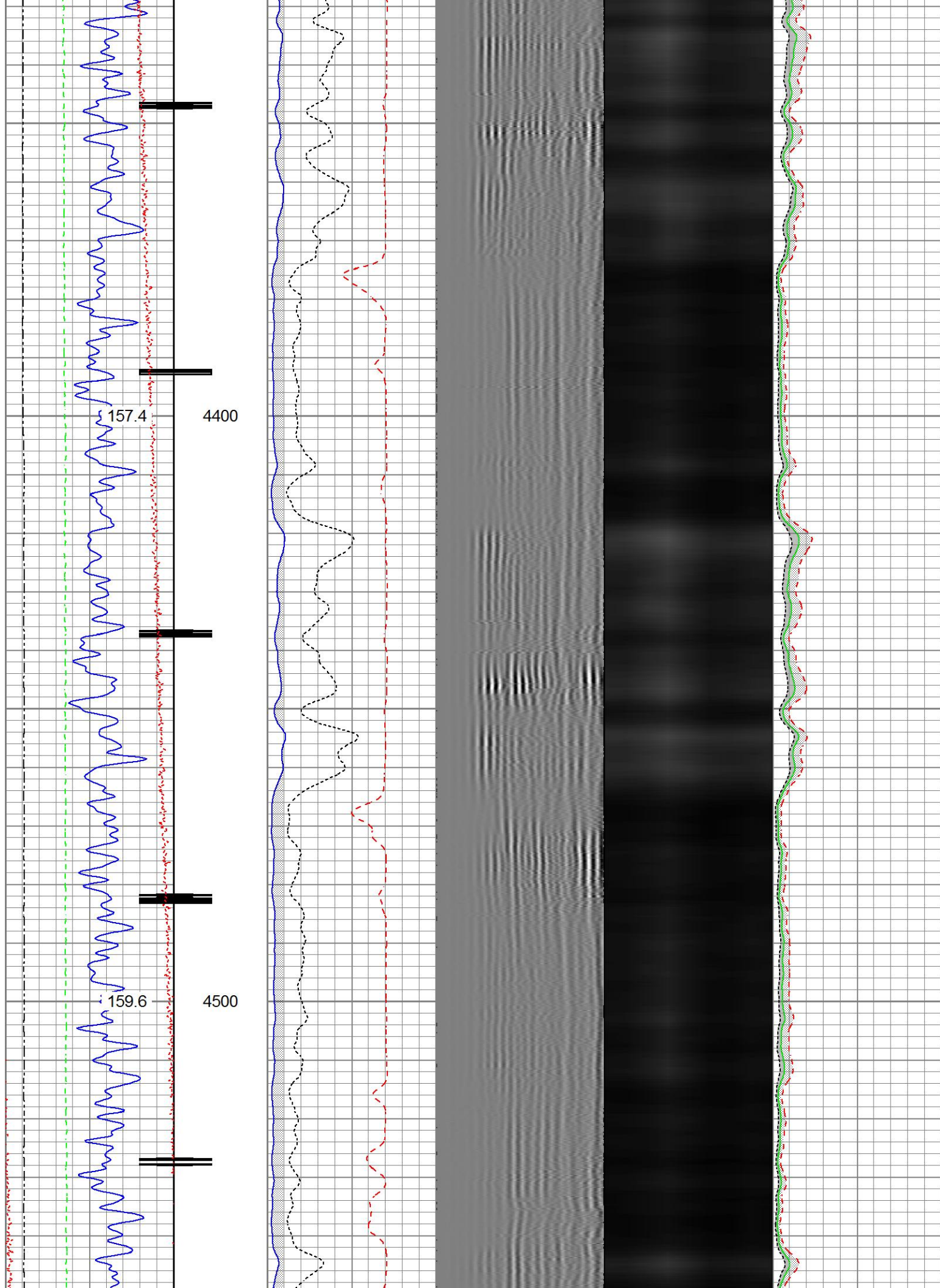


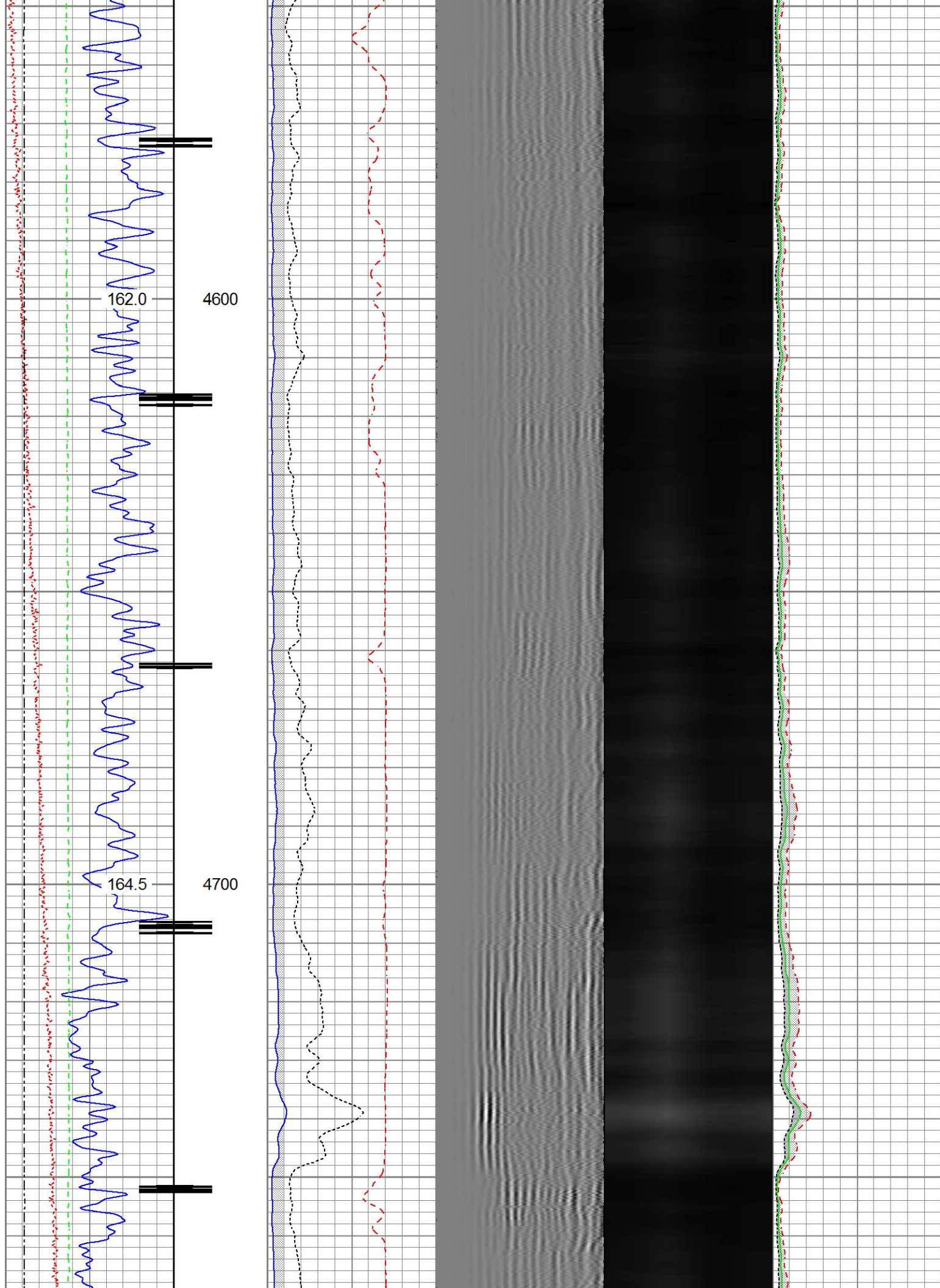


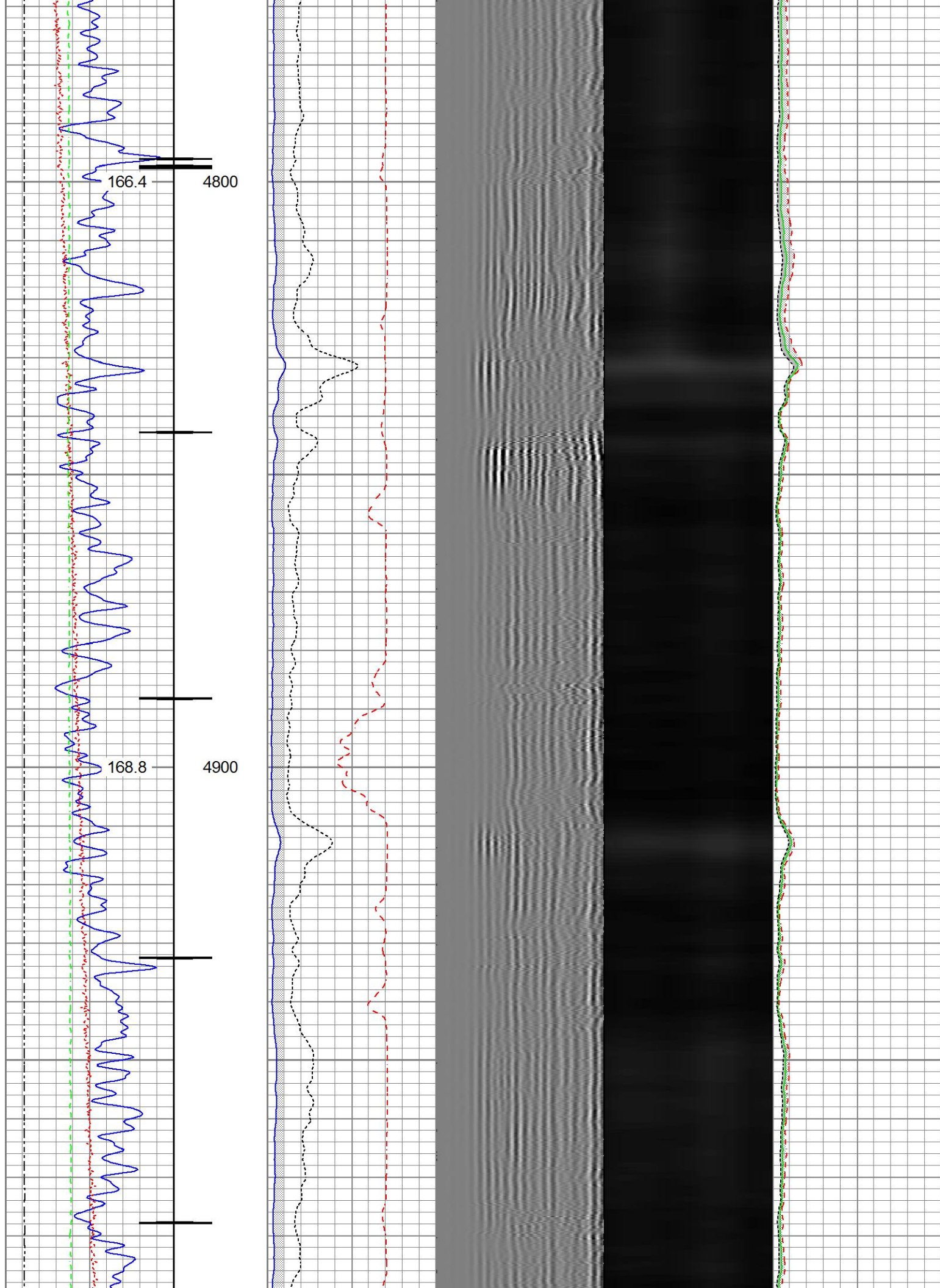


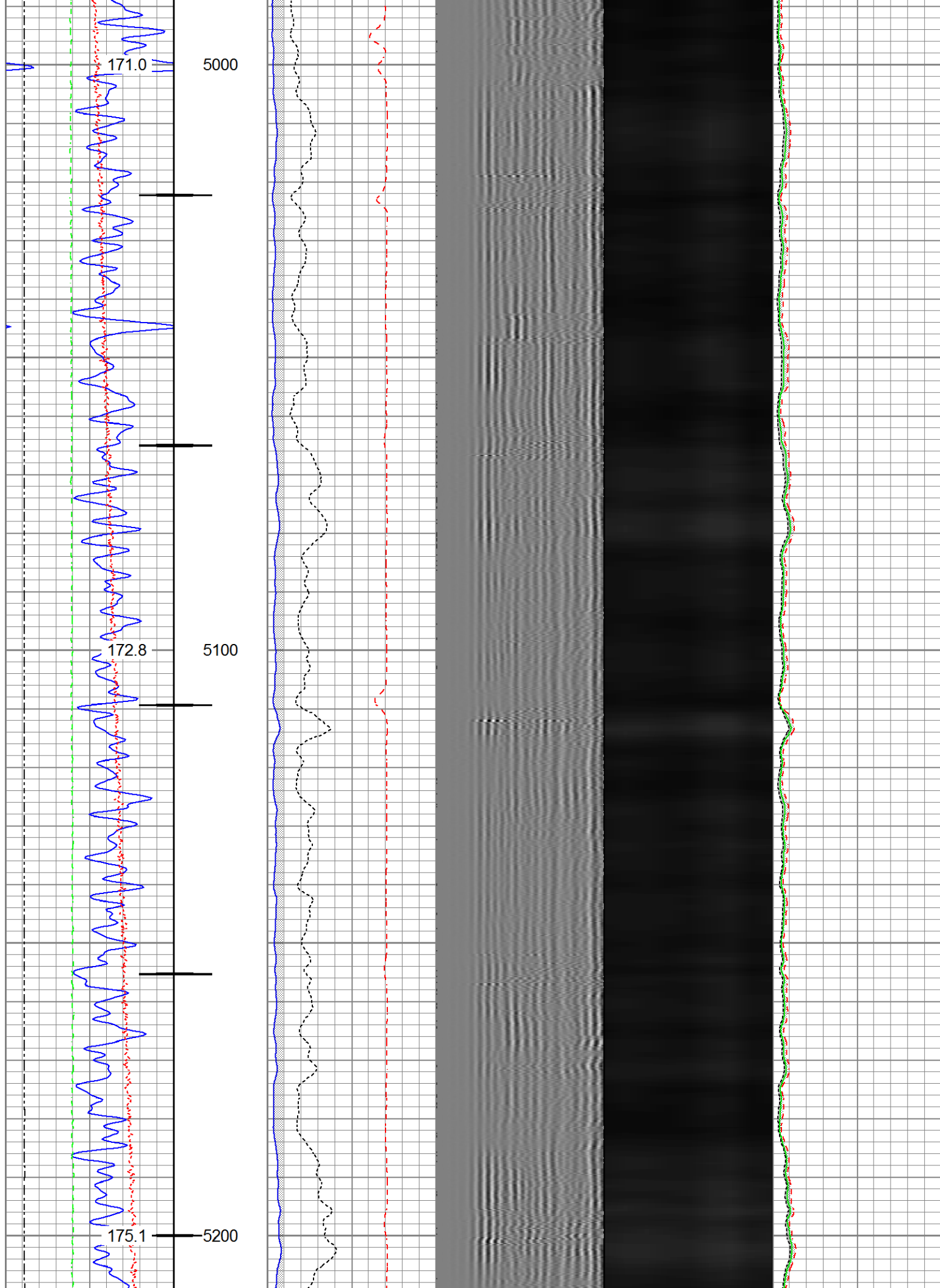


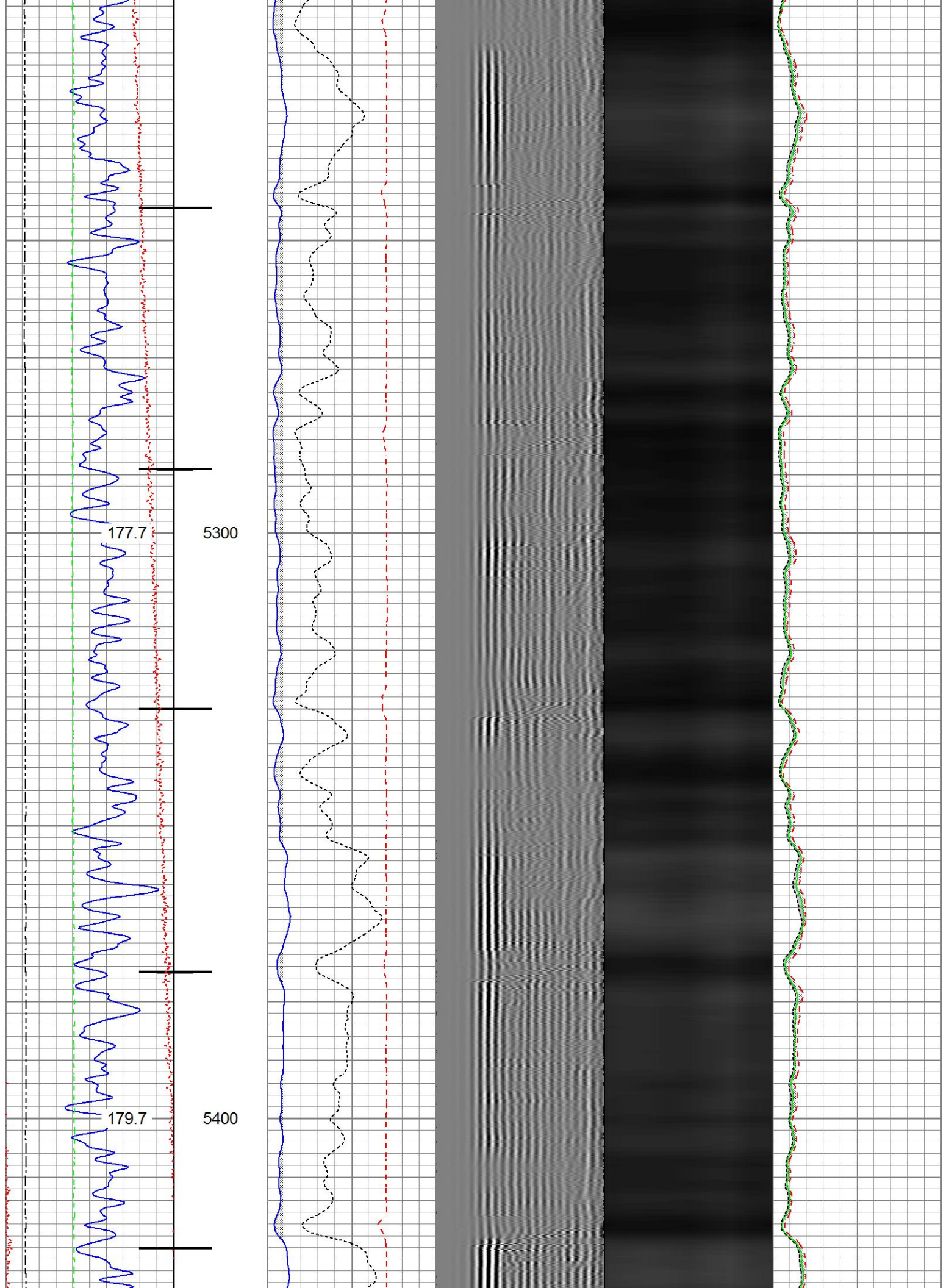


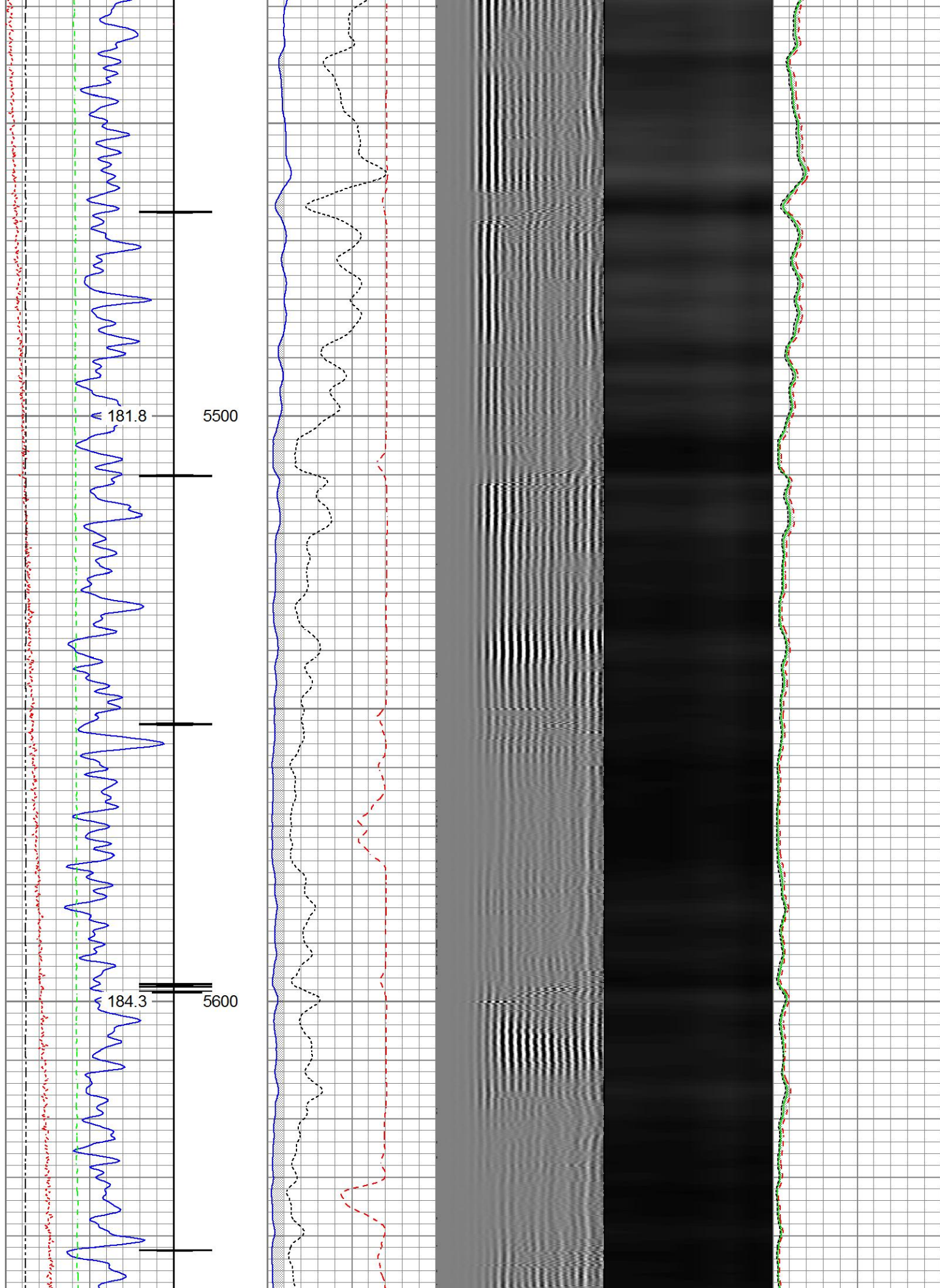


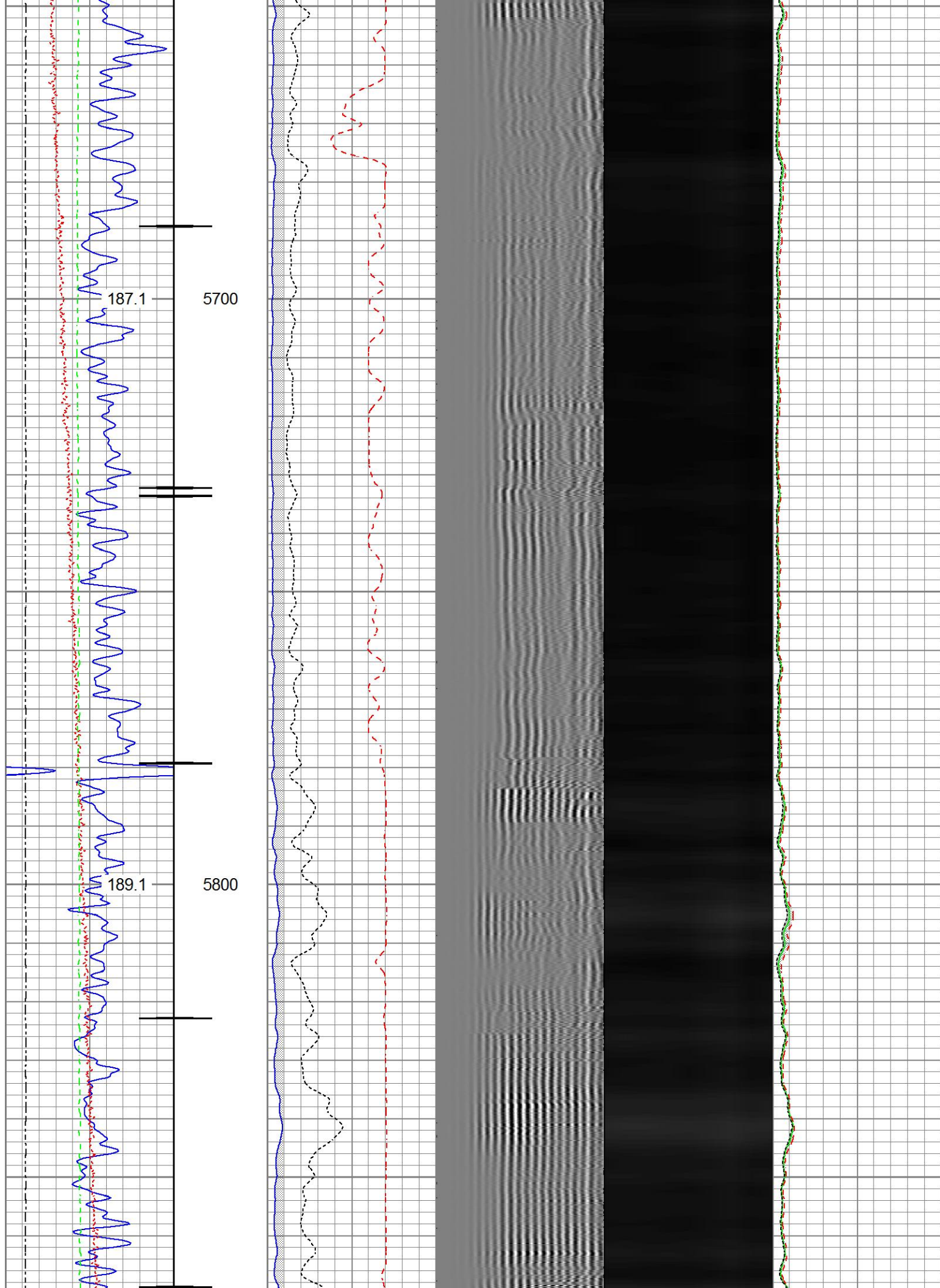


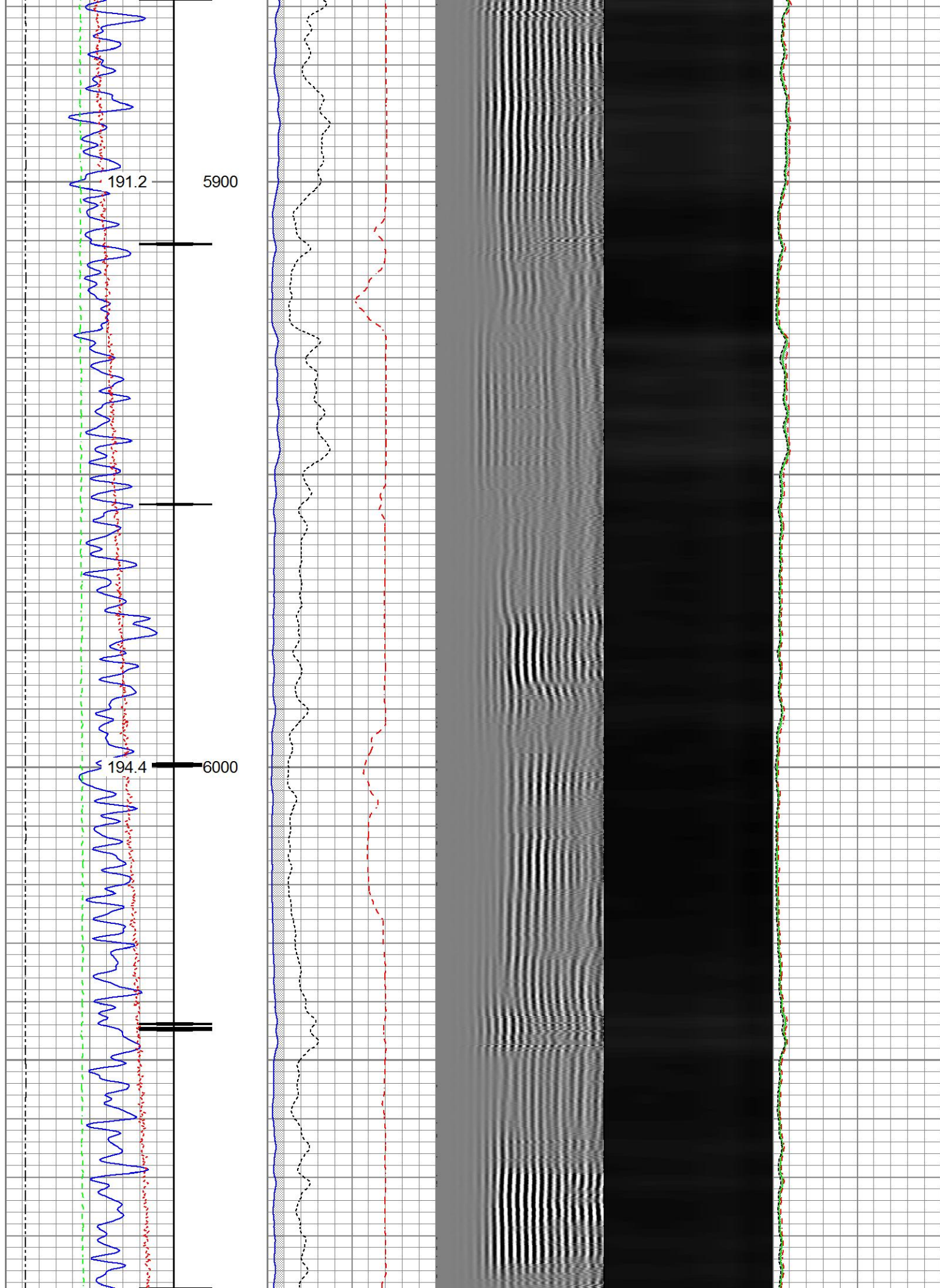


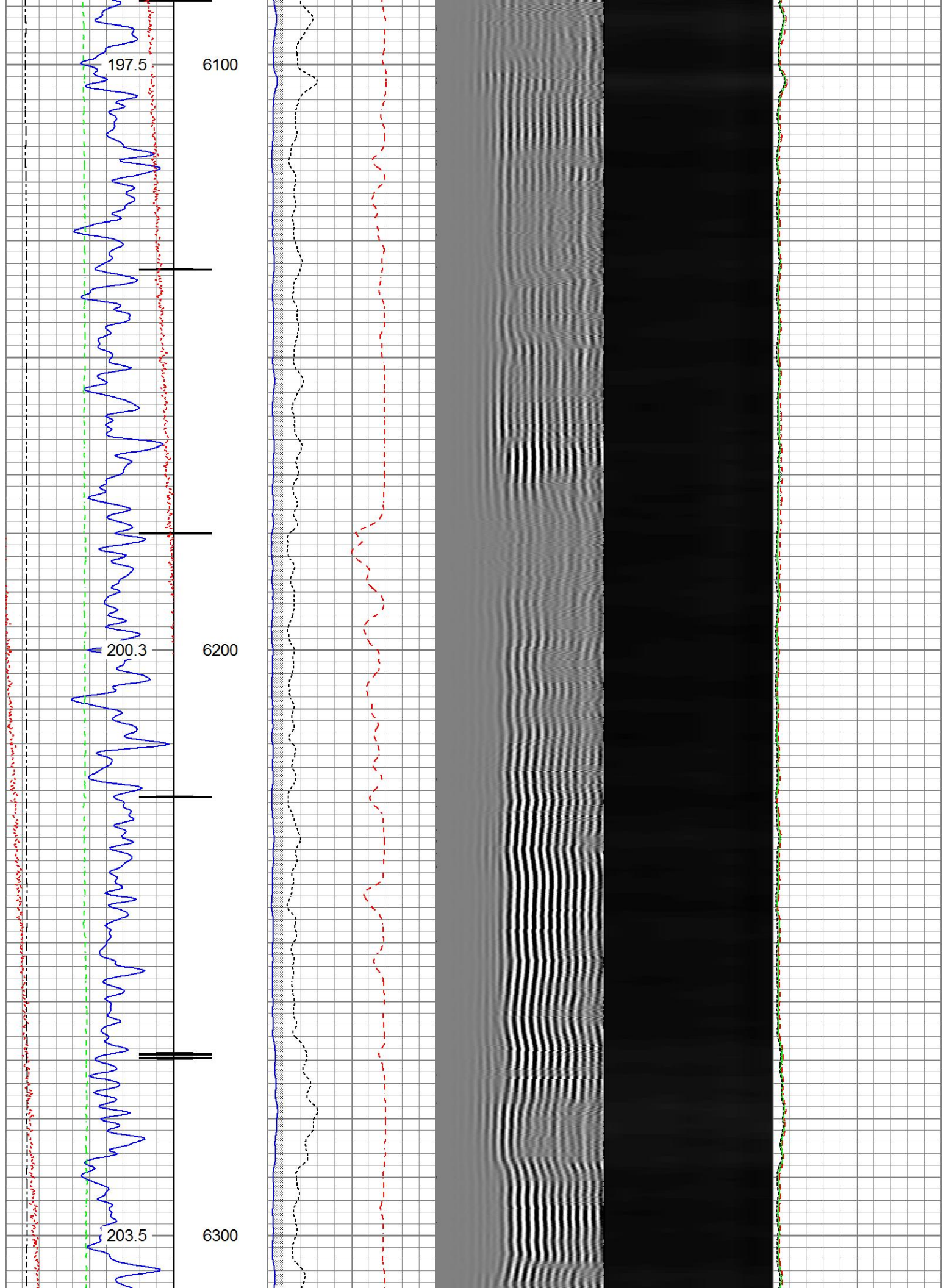


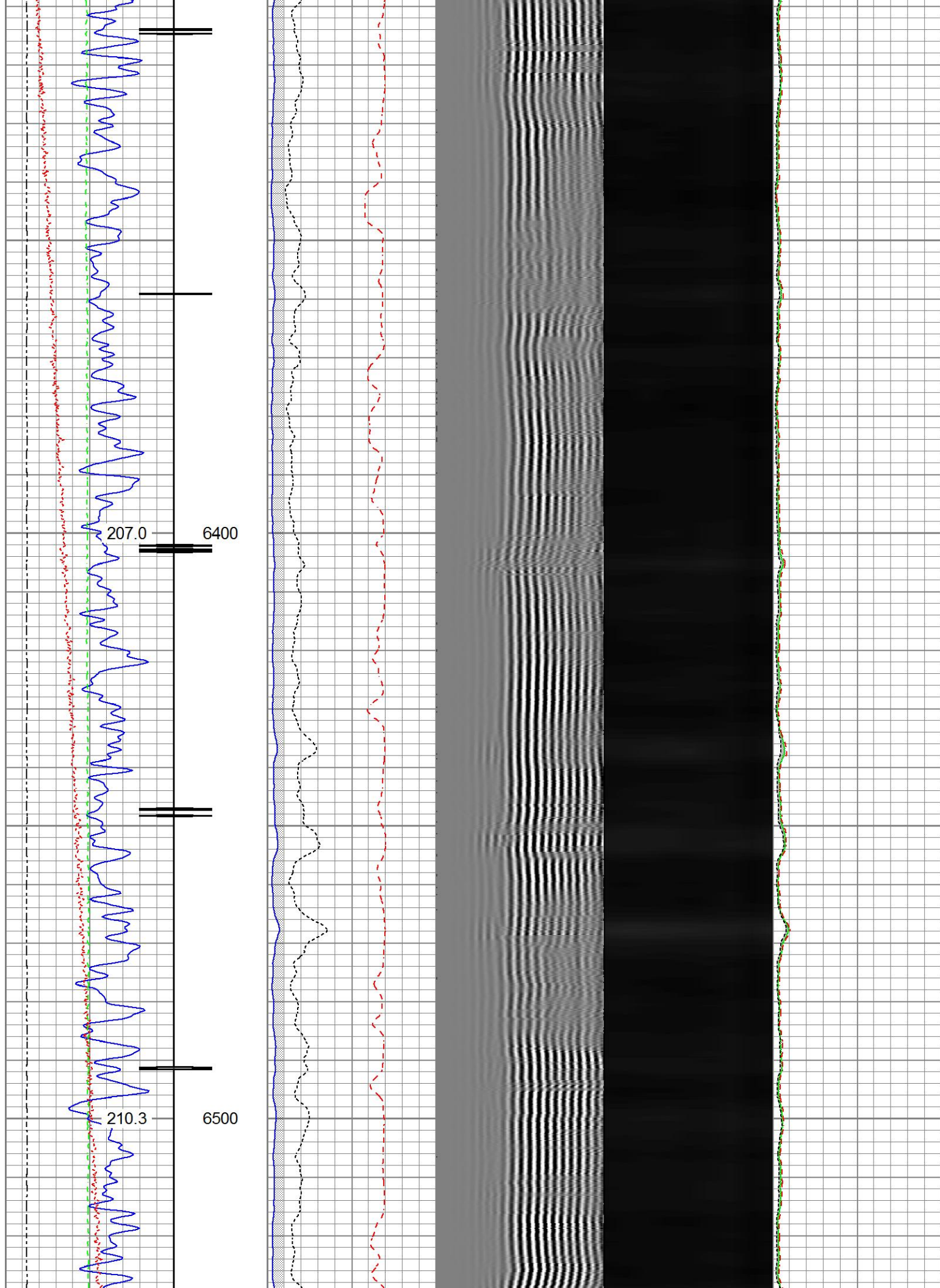


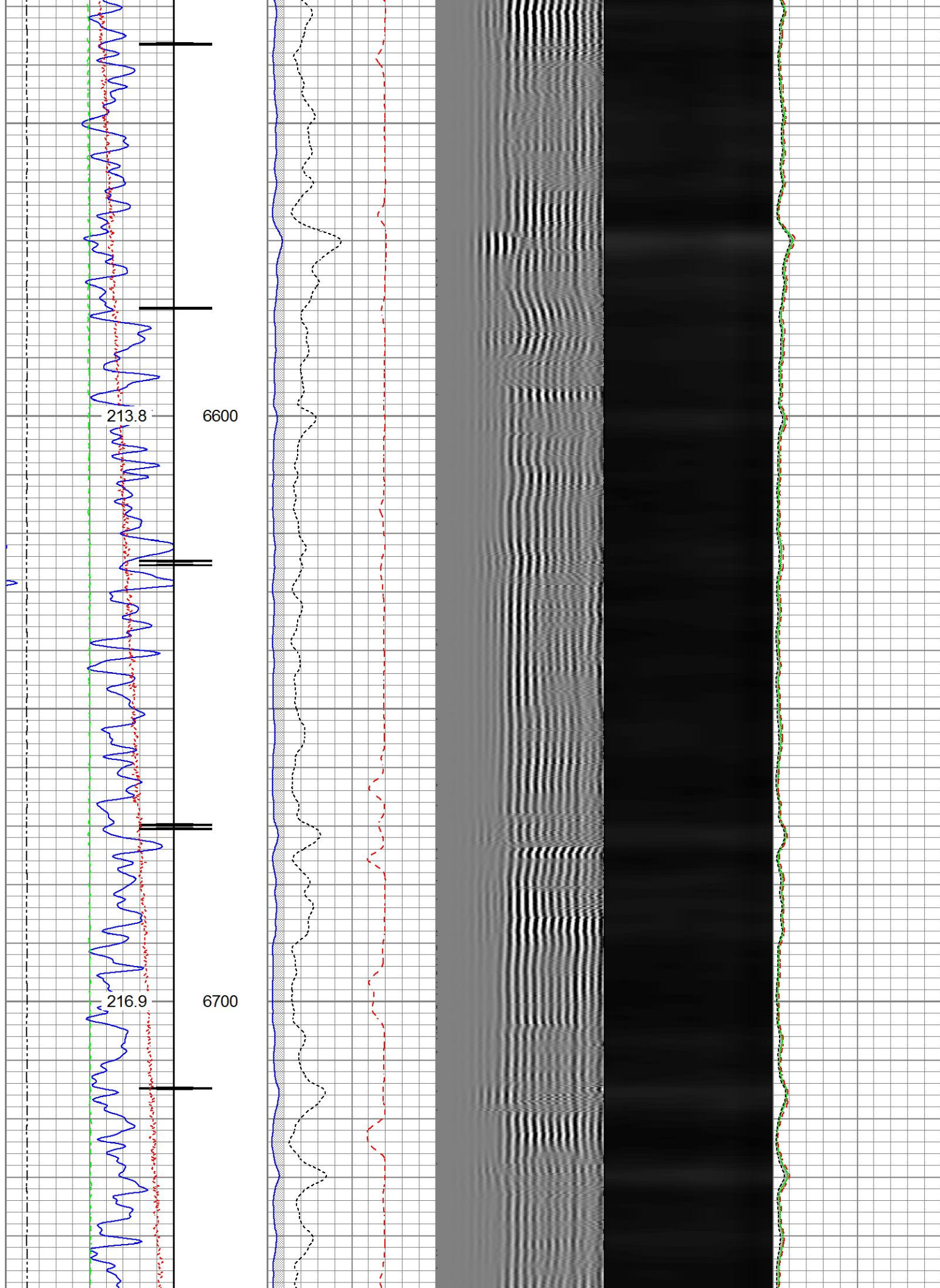


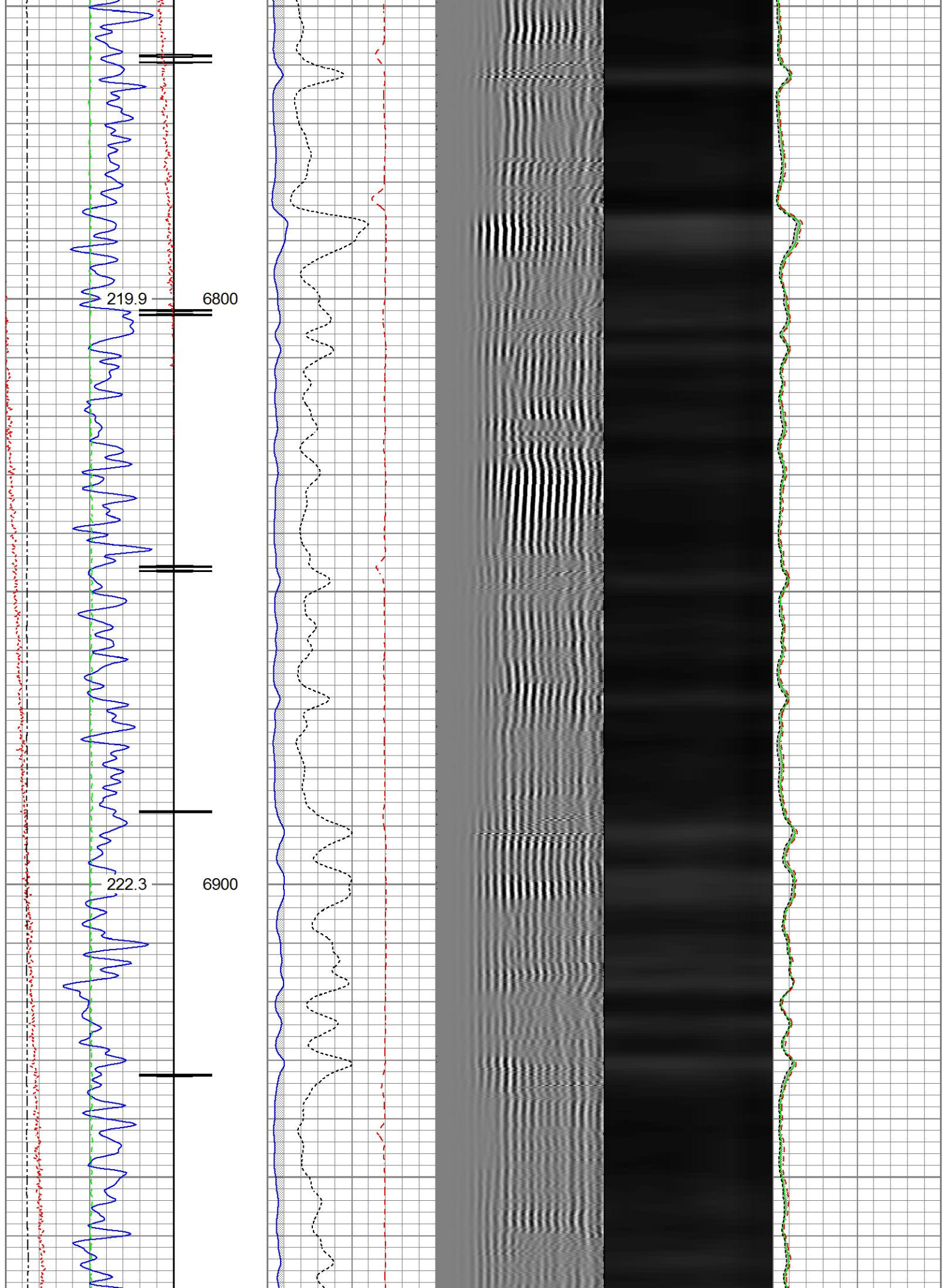


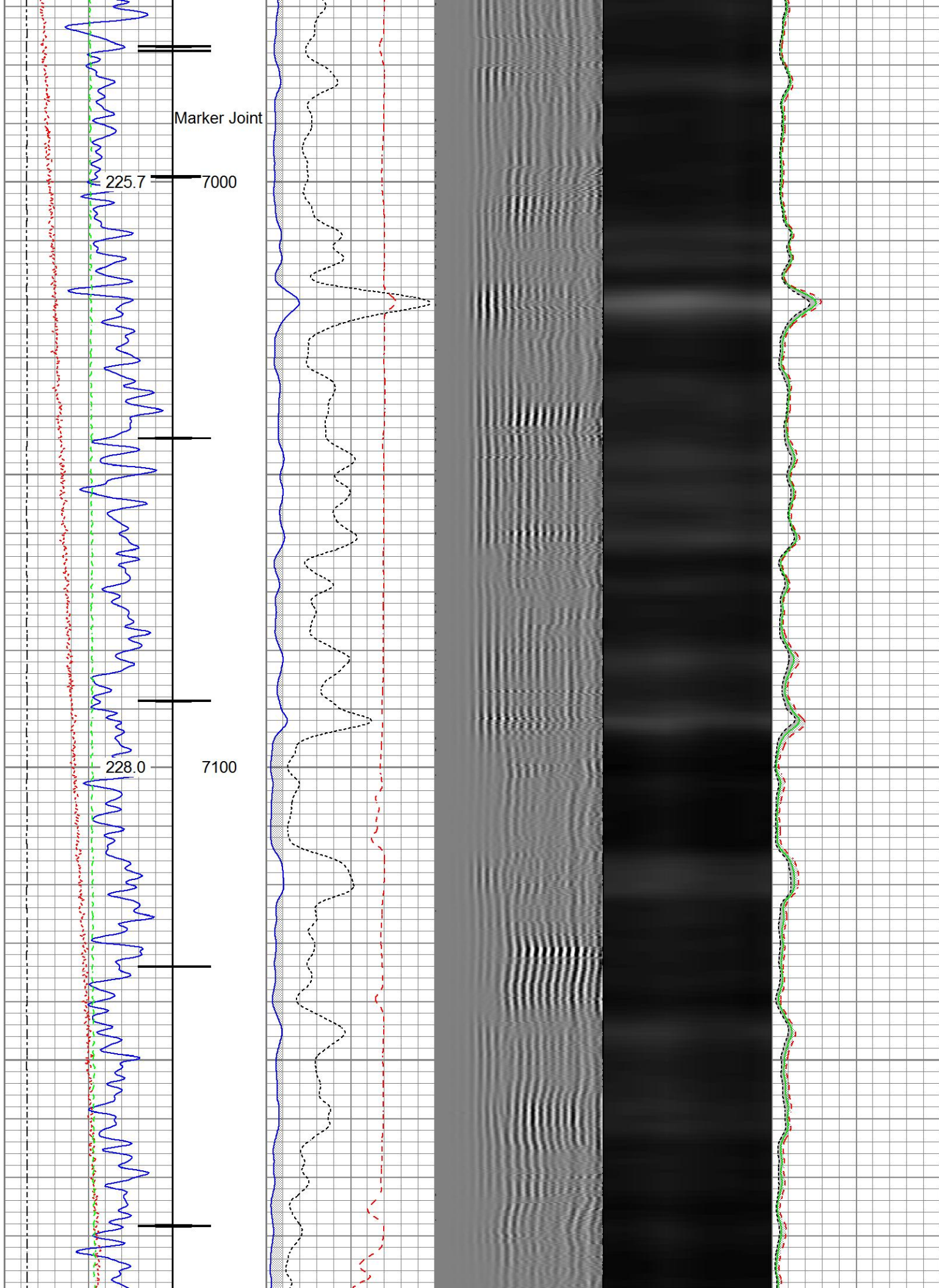


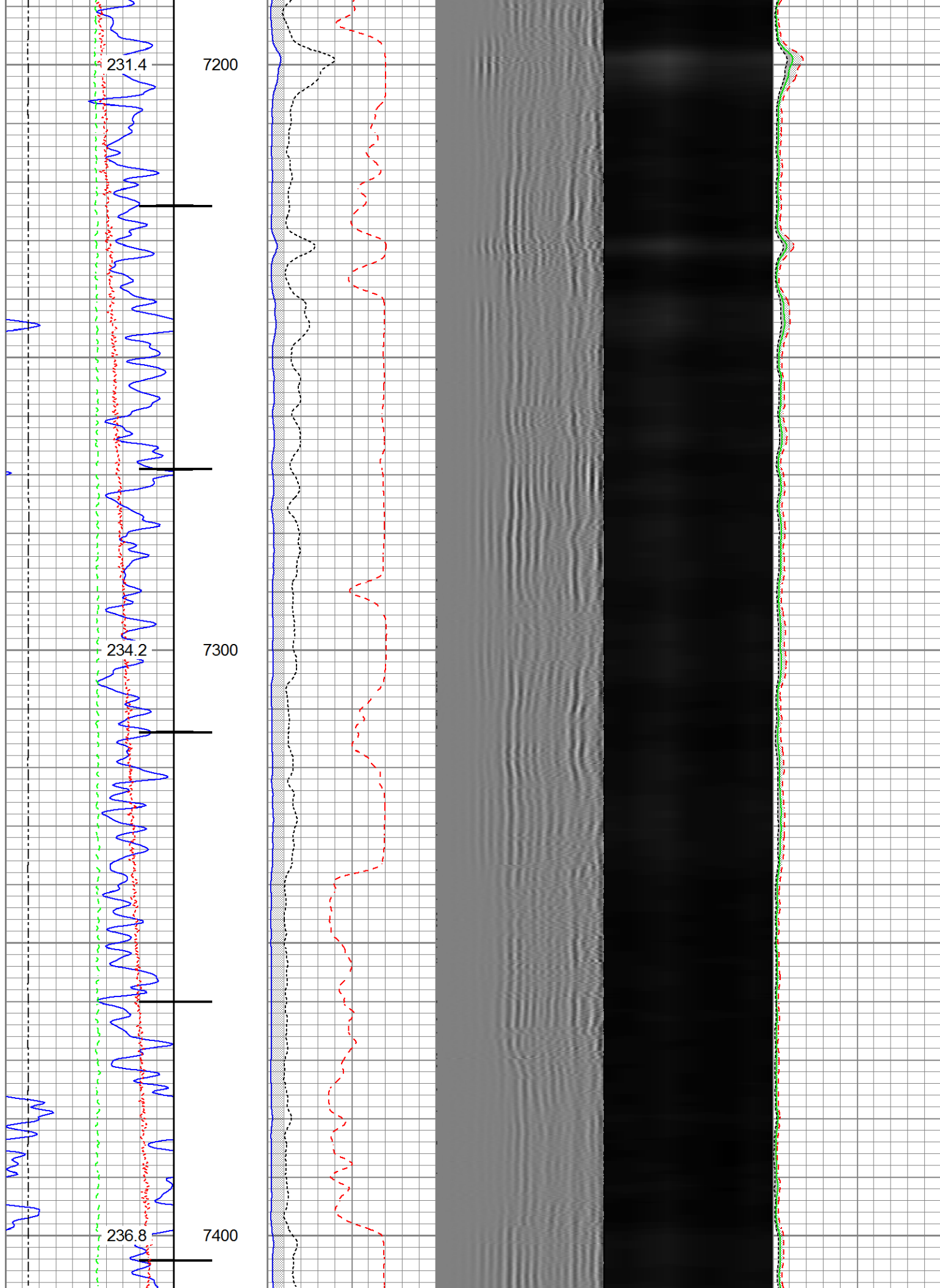


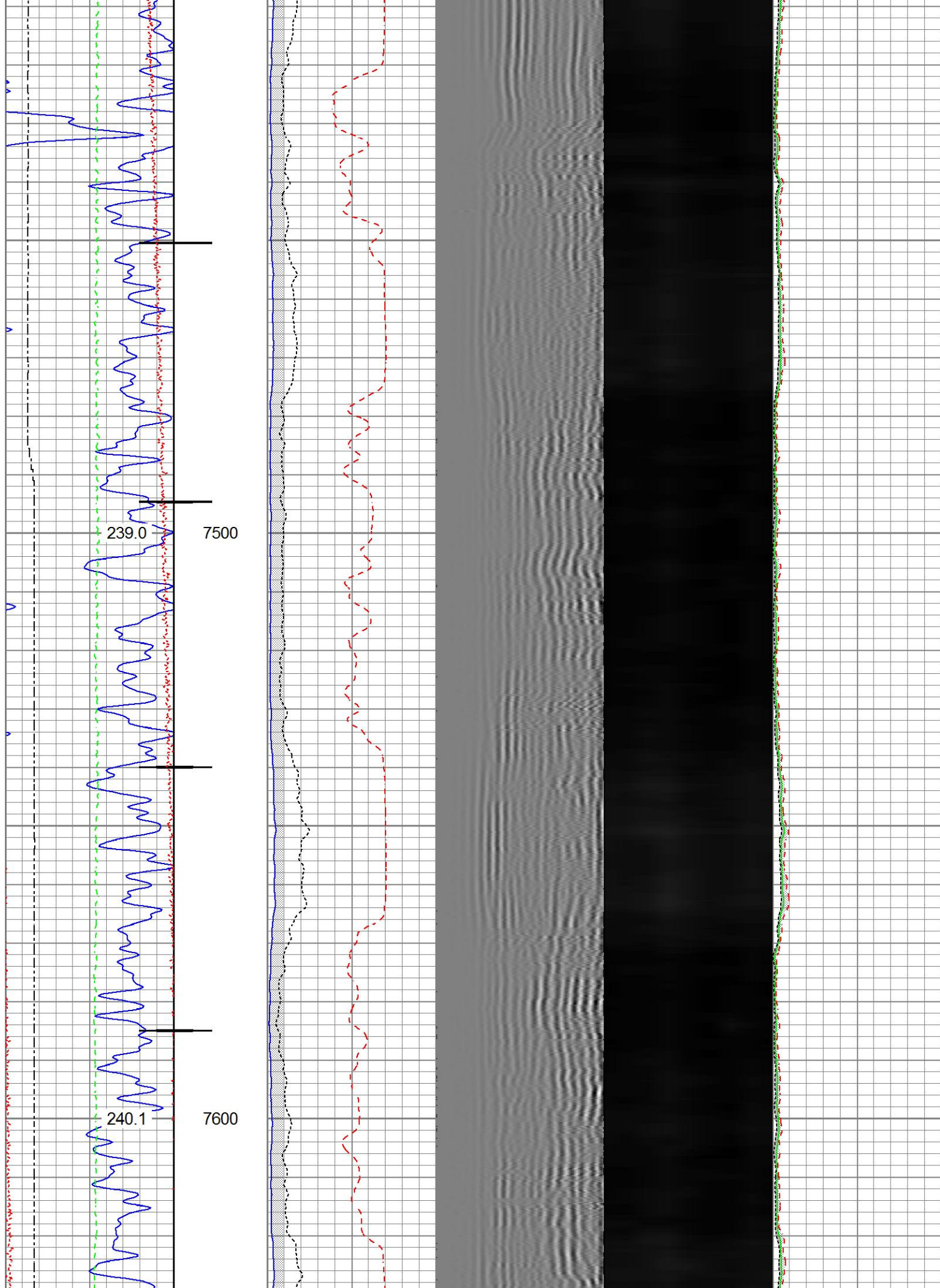


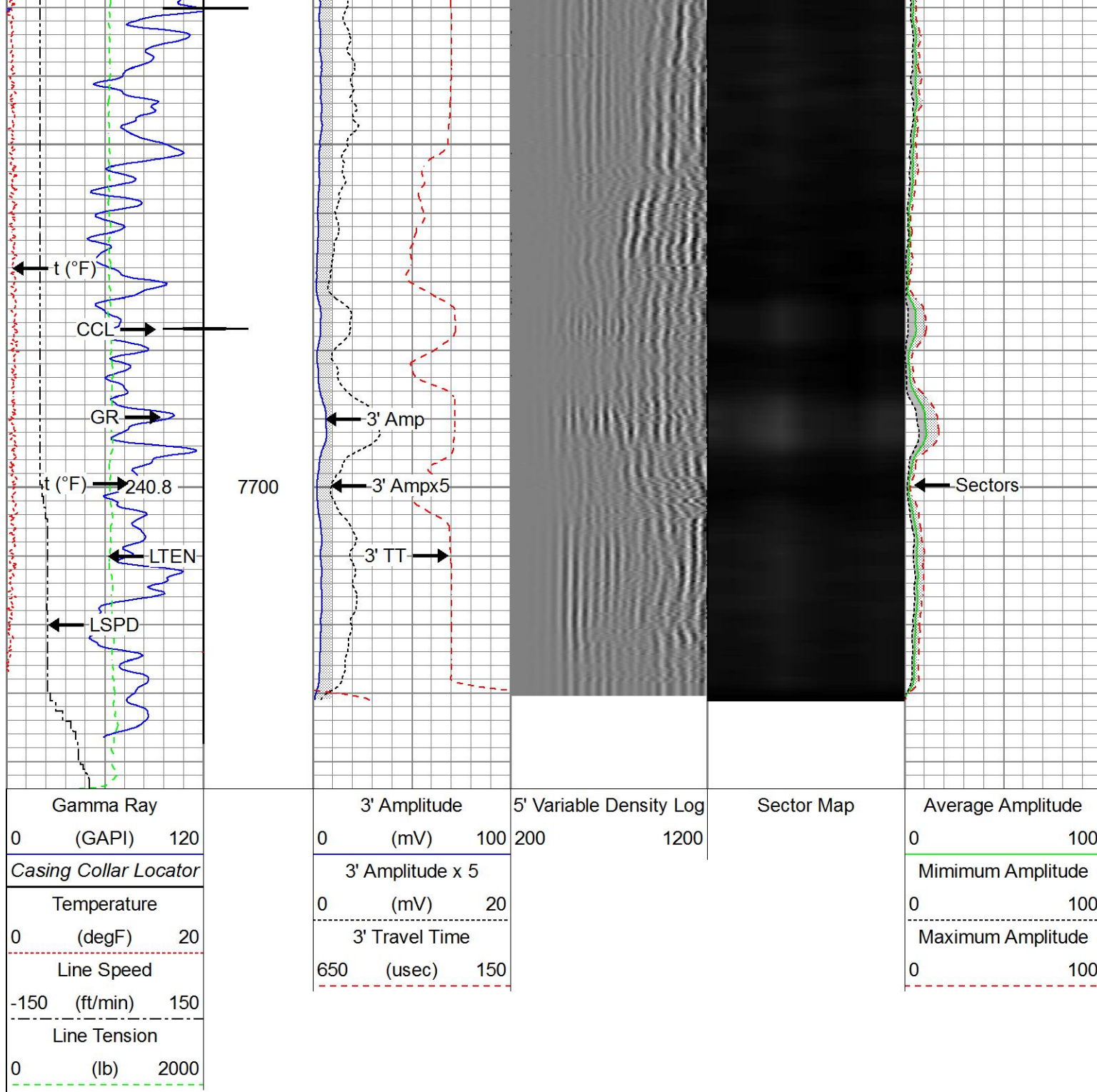








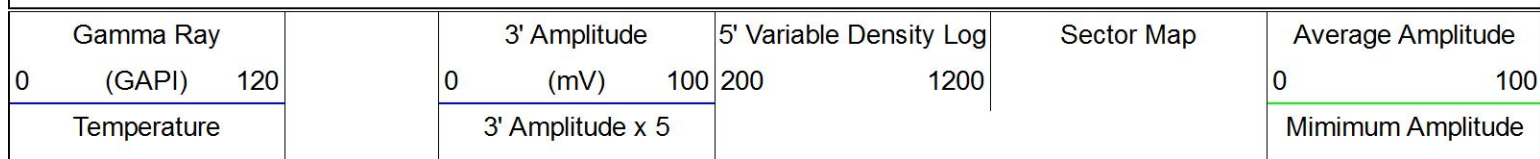


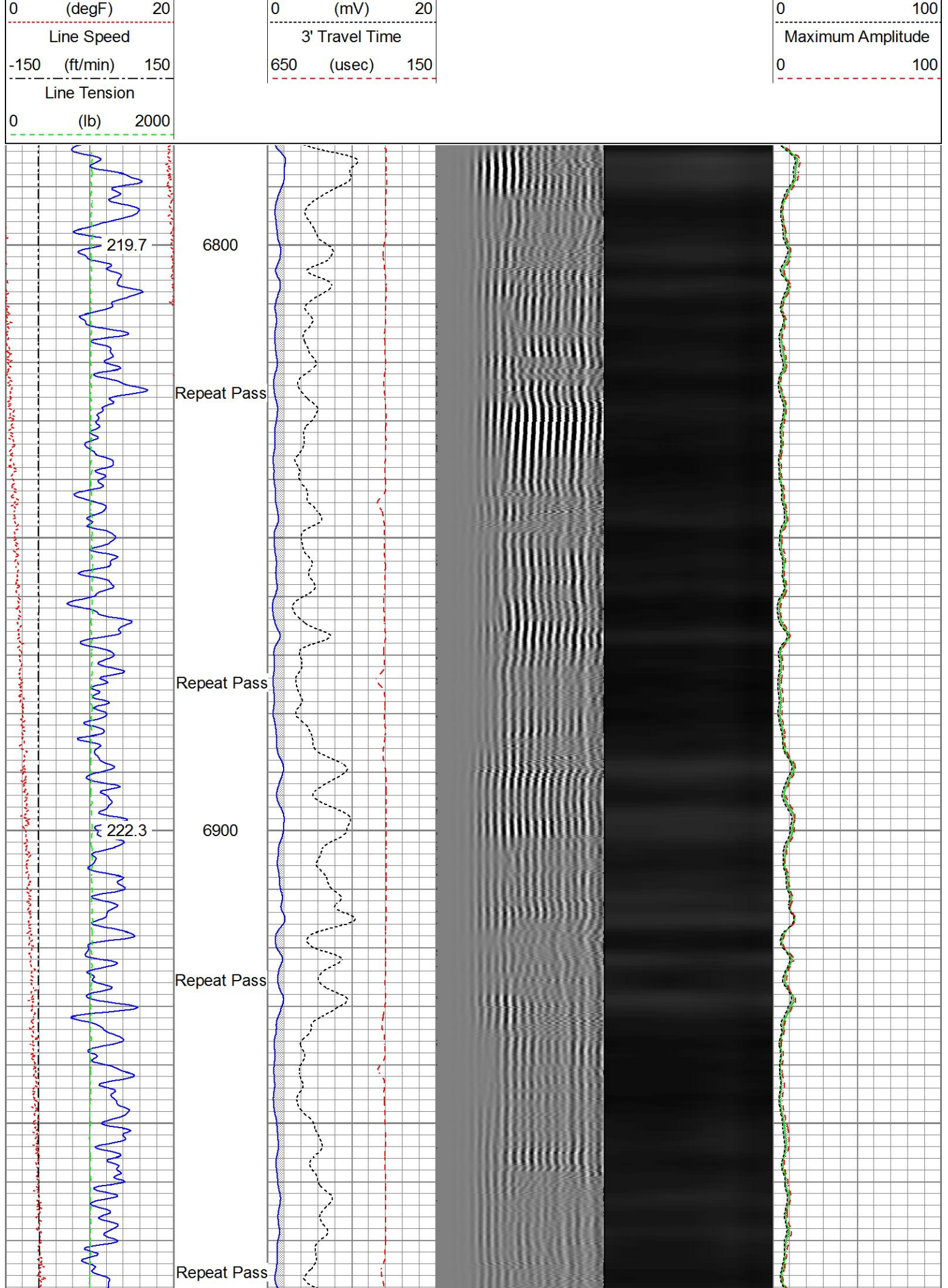


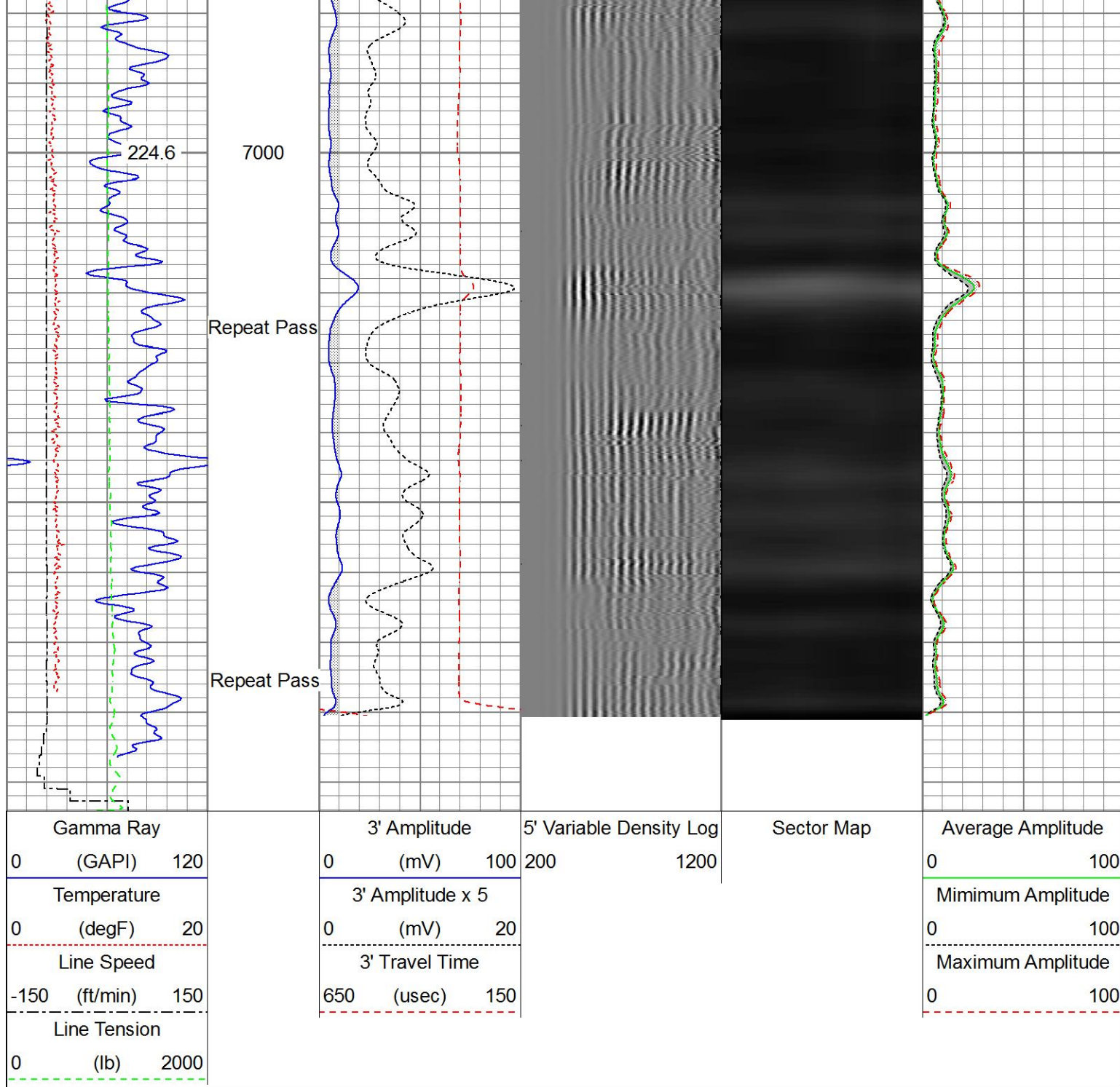
Repeat Pass

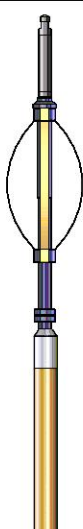
Recorded With 2800 PSI Surface Induced Pressure

Database File anadarko_fl greens 14n-8hz\processed_0512342272_anadarko_fl greens 14n-8hz_rbl_09-17-17.db
 Dataset Pathname repeatrepeat.1
 Presentation Format ros_radri
 Dataset Creation Mon Sep 18 10:22:49 2017
 Charted by Depth in Feet scaled 1:240







| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb) |
|----------|-------------|---|--|-------------|-----------|-------------|
| HeadVolt | 19.51 |  | Titan_Electric_Cable_Heads-Titan_1-11/161.03 Electric Cable Head with 1" Fishing Neck | 1.69 | 1.69 | 5.40 |
| | | | Probe_ELine_BowSpring_Centralizer-P_EE2.88_275 Probe 2-3/4" Electric Inline Bowspring Centralizer | 2.75 | 2.75 | 20.00 |
| | | | | | | |

| | | | | | |
|--|-------|--|---|------------|--------|
| Temp | 16.72 | | | | |
| WVFS8 | 14.55 | | Probe_RADII-C-P_RBT_2750 (FW1302-009.19) | 2.75 | 105.00 |
| WVFS7 | 14.55 | | Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe | | |
| WVFS6 | 14.55 | | | | |
| WVFS5 | 14.55 | | | | |
| WVFS4 | 14.55 | | | | |
| WVFS3 | 14.55 | | | | |
| WVFS2 | 14.55 | | | | |
| WVFS1 | 14.55 | | | | |
| WVFCAL | 14.55 | | | | |
| WVF3FT | 14.55 | | | | |
| WVF5FT | 13.55 | | | | |
| HEADVOLT | 10.30 | | | | |
| | | | | | |
| | | | Probe_ELine_BowSpring_Centralizer-P | EE2.88_275 | 2.75 |
| | | | Probe 2-3/4" Electric Inline Bowspring Centralizer | | 20.00 |
| | | | | | |
| DCCL | 6.51 | | | | |
| CCL | 6.51 | | | | |
| | | | | | |
| GR | 5.30 | | Probe_GR_CCL-P_CGR_2750_S (FW1214.543) | 2.75 | 55.00 |
| | | | Probe 2-3/4" Digital CCL / Gamma Ray Combined | | |
| | | | | | |
| | | | Probe_ELine_BowSpring_Centralizer-P | EE2.88_275 | 2.75 |
| | | | Probe 2-3/4" Electric Inline Bowspring Centralizer | | 20.00 |
| | | | | | |
| Dataset: PROCESSED_0512342272_Anadarko_FL Greens 14N-8HZ_RBL_09-17-17.db: field/well/run1/main Total length: 23.40 ft Total weight: 225.40 lb O.D.: 2.75 in | | | | | |

| Calibration Report | | |
|------------------------------|---|--------|
| Database File | C:\ProgramData\Warrior\Data\Anadarko_FL Greens 14N-8HZ\PROCESSED_0512342272_Anadarko_FL G | |
| Dataset Pathname | main.1 | |
| Dataset Creation | Sun Sep 17 09:42:24 2017 | |
| Gamma Ray Calibration Report | | |
| Serial Number: | FW1212-026 | |
| Tool Model: | P_CGR_2750_S | |
| Performed: | Sat Feb 06 11:32:54 2016 | |
| Calibrator Value: | 1.0 | GAPI |
| Background Reading: | 0.0 | cps |
| Calibrator Reading: | 1.6 | cps |
| Background | 0.0004 | 0.0004 |

Segmented Cement Bond Log Calibration Report

Serial Number: FW1302-001
Tool Model: P_RBT_2750

Calibration Casing Diameter: 5.500 in
Calibration Depth: 3473.195 ft

Master Calibration, performed (Derived):

| | Raw (v) | | Calibrated (mv) | | Results | |
|-----|---------|-------|-----------------|---------|---------|--------|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | 0.000 | 0.603 | 0.800 | 71.921 | 117.950 | 0.744 |
| CAL | 0.002 | 0.712 | | | | |
| 5' | 0.000 | 0.569 | 0.800 | 71.921 | 125.010 | 0.769 |
| SUM | | | | | | |
| S1 | -0.001 | 0.588 | 0.000 | 100.000 | 169.800 | 0.106 |
| S2 | 0.000 | 0.567 | 0.000 | 100.000 | 176.365 | -0.062 |
| S3 | 0.001 | 0.559 | 0.000 | 100.000 | 179.136 | -0.103 |
| S4 | 0.001 | 0.574 | 0.000 | 100.000 | 174.427 | -0.156 |
| S5 | 0.001 | 0.651 | 0.000 | 100.000 | 153.784 | -0.119 |
| S6 | 0.001 | 0.745 | 0.000 | 100.000 | 134.363 | -0.074 |
| S7 | 0.001 | 0.756 | 0.000 | 100.000 | 132.382 | -0.079 |
| S8 | 0.001 | 0.677 | 0.000 | 100.000 | 147.821 | -0.099 |

Internal Reference Calibration, performed (Not Performed):

| | Raw (v) | | Calibrated (v) | | Results | |
|-----|---------|-------|----------------|-------|---------|--------|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| CAL | 0.000 | 0.000 | 0.002 | 0.712 | 1.000 | 0.000 |

Air Zero Calibration, performed Sun Sep 17 07:33:44 2017:

| | 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 | |



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