



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.

Well Robin 9-13HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-45251

SEC 9 TWP 1N RGE 65W

Permanent Datum Ground Level Elevation 4974'

Log Measured From Kelly Bushing

Drilling Measured From Kelly Bushing

Other Services
RBP
JBGR

Elevation
K.B. 5006'
D.F. ---
G.L. 4974'

Date 04-JAN-2018

Run Number Three

Depth Driller 18399 FT

Depth Logger 6495 FT

Bottom Logged Interval 6390 FT

Top Log Interval Surface

Open Hole Size 7.875"

Type Fluid Water

Density / Viscosity 8.34 lb/gal

Max. Recorded Temp. 208°F

Estimated Cement Top See Log

Time Well Ready ROA

Time Logger on Bottom 13.17

Equipment Number HD-363

Location Fort Lupton, CO

Recorded By Greg Lueck

Witnessed By Mr. Justin Cleveland

Borehole Record

Run Number

Bit

From

To

Size

Weight

From

To

Tubing Record

Run Number

Bit

From

To

Size

Weight

From

To

Casing Record

Run Number

Size (in)

Wgt (lbs/ft)

Grade

Top

Bottom

Surface Casing

Intermediate #1

Intermediate #2

Inner

Size (in)

Wgt (lbs/ft)

Grade

Top

Bottom

Surface Casing

Intermediate #1

Intermediate #2

Inner

Size (in)

Wgt (lbs/ft)

Grade

Top

Bottom

Surface Casing

Intermediate #1

Intermediate #2

Inner

Size (in)

Wgt (lbs/ft)

Grade

Top

Bottom

Surface Casing

Intermediate #1

Intermediate #2

Inner

Size (in)

Wgt (lbs/ft)

Grade

Top

Bottom

Surface Casing

Intermediate #1

Intermediate #2

Inner

Size (in)

Wgt (lbs/ft)

Grade

Top

Bottom

Surface Casing

Intermediate #1

Intermediate #2

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Size (in)

Wgt (lbs/ft)

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Top

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Surface Casing

Intermediate #1

Intermediate #2

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Size (in)

Wgt (lbs/ft)

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Size (in)

Wgt (lbs/ft)

Grade

Top

Bottom

Surface Casing

Intermediate #1

Intermediate #2

Inner

Size (in)

Wgt (lbs/ft)

Grade

Top

Bottom

Surface Casing

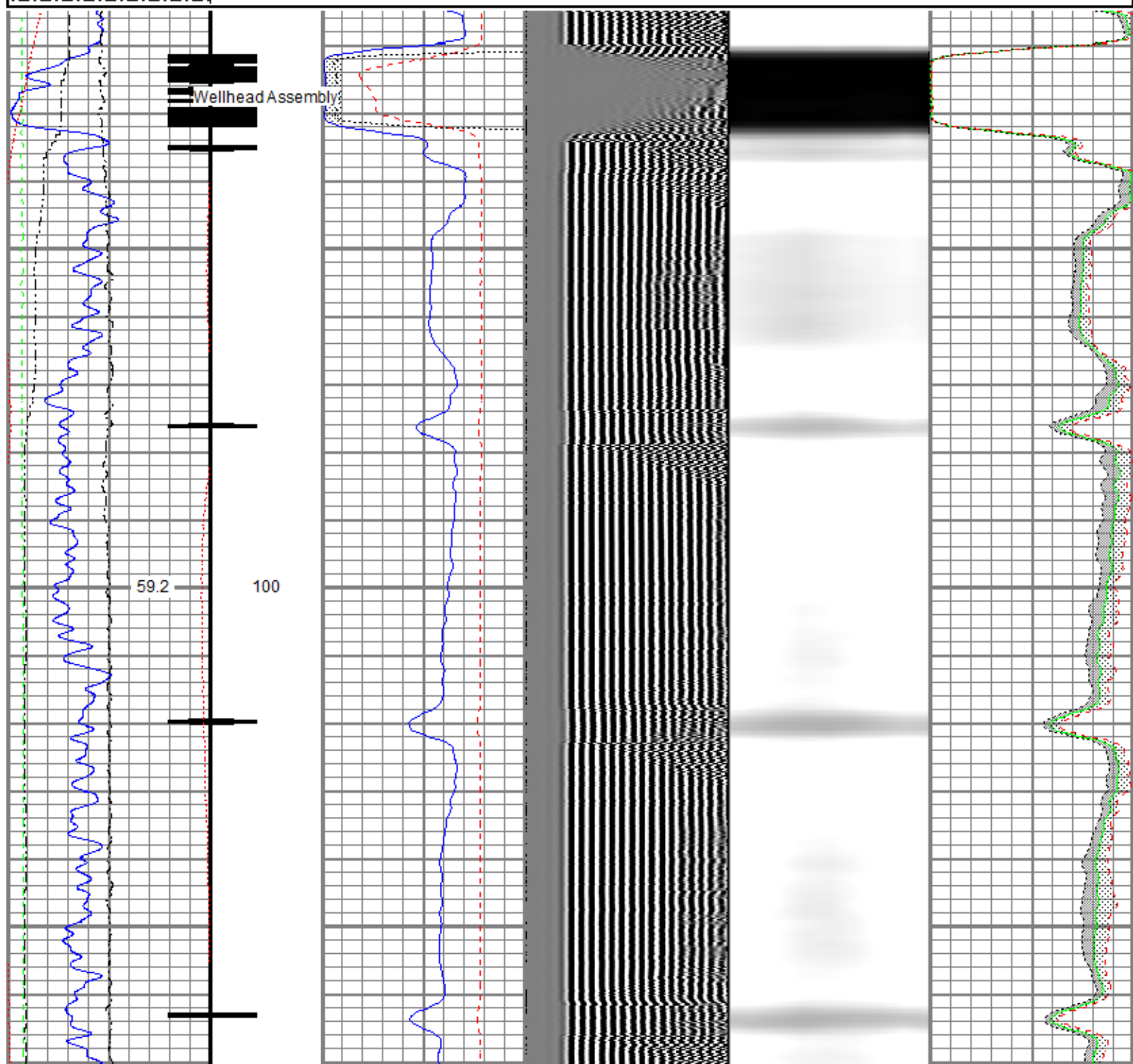
Intermediate #1

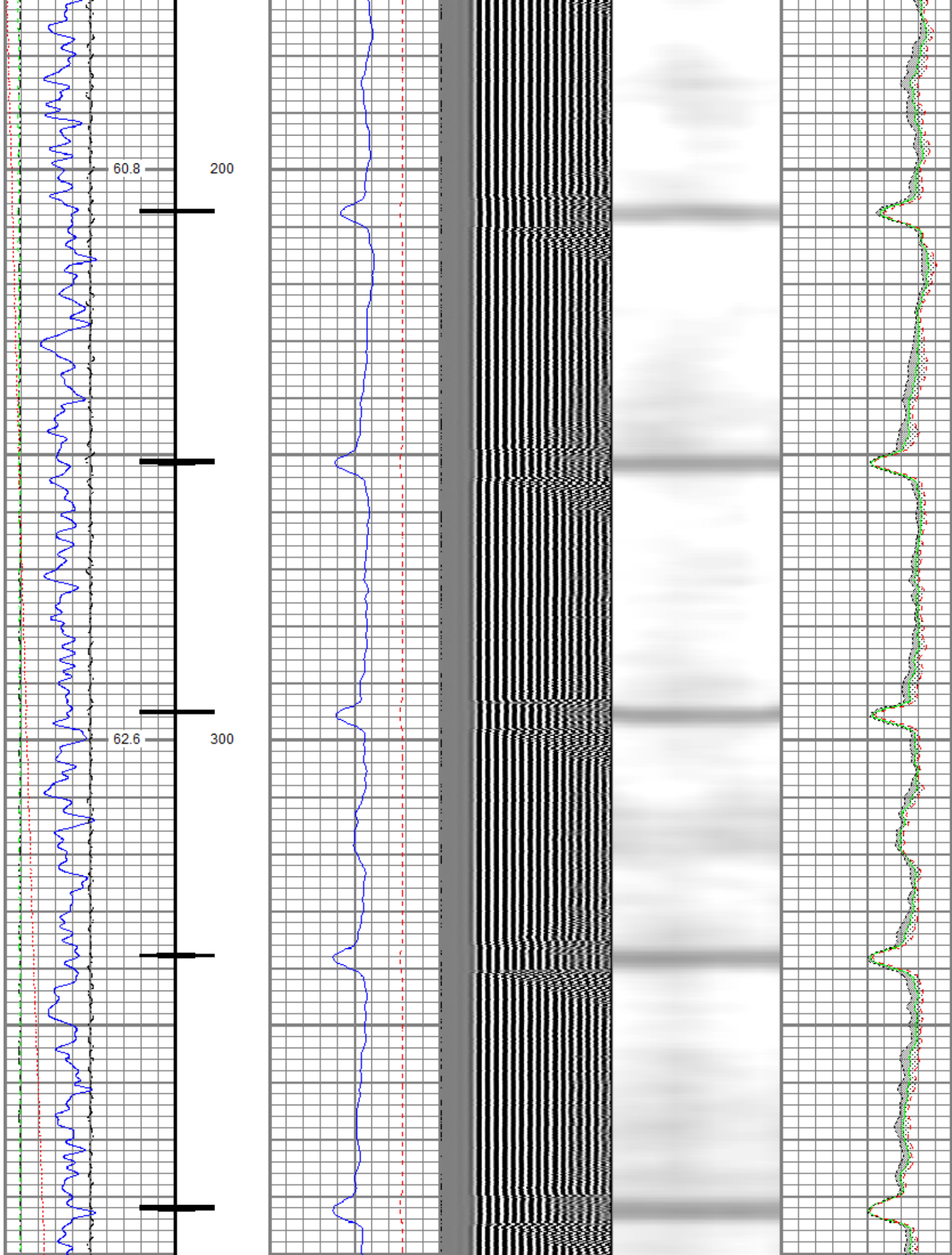
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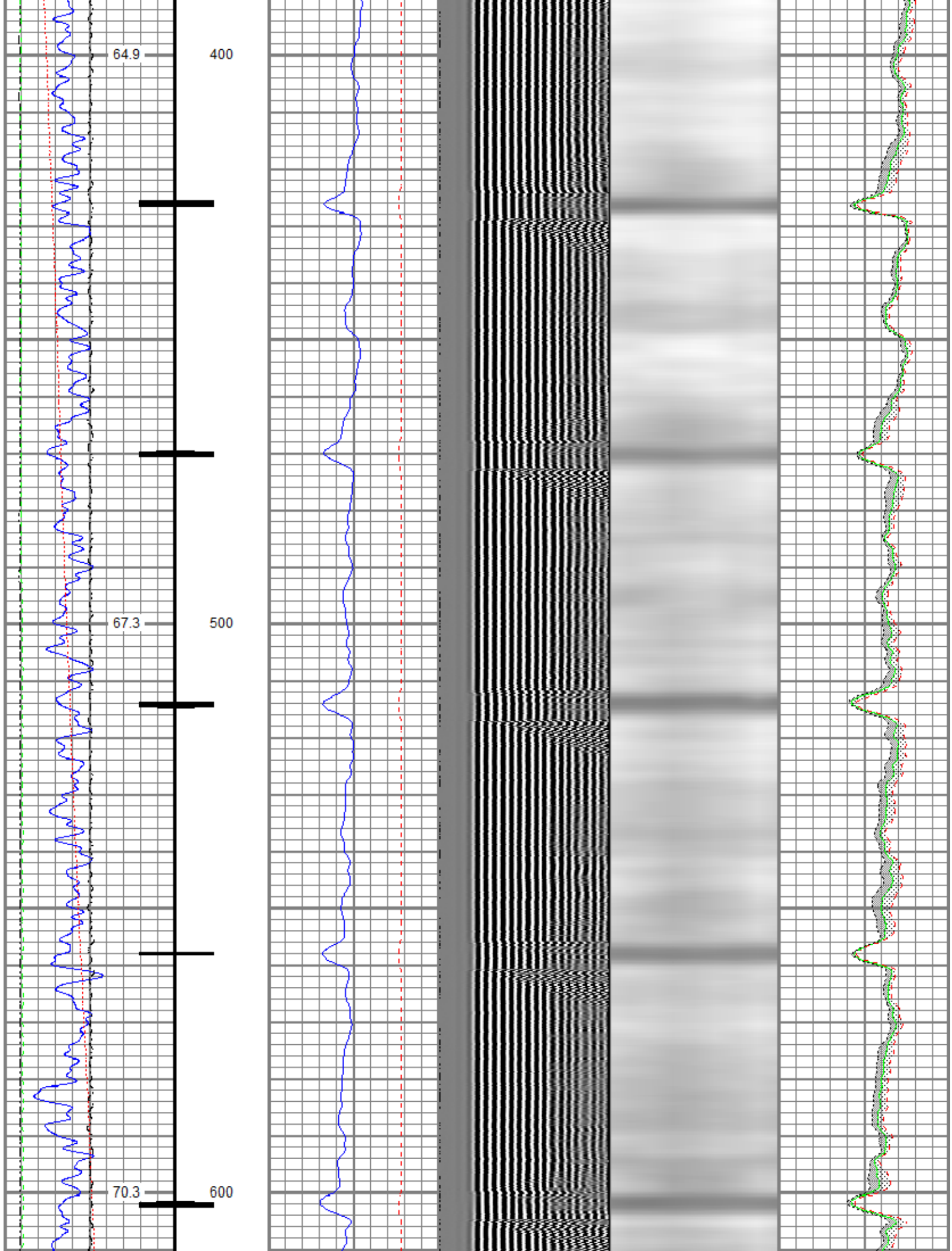
Inner

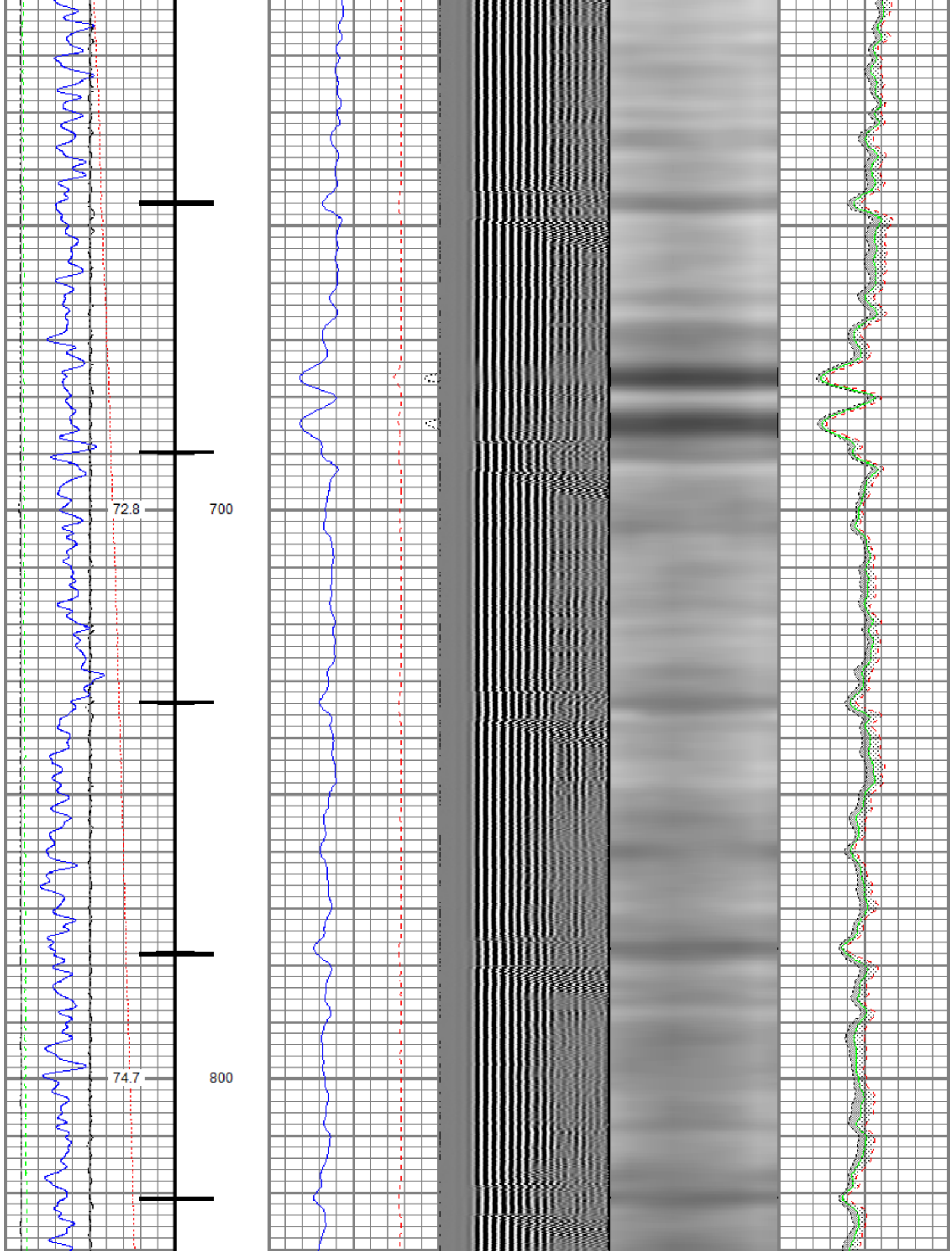
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 Dataset Pathname pass6.1
 Presentation Format ros_radri
 Dataset Creation Sat Jan 06 19:17:11 2018
 Charted by Depth in Feet scaled 1:240

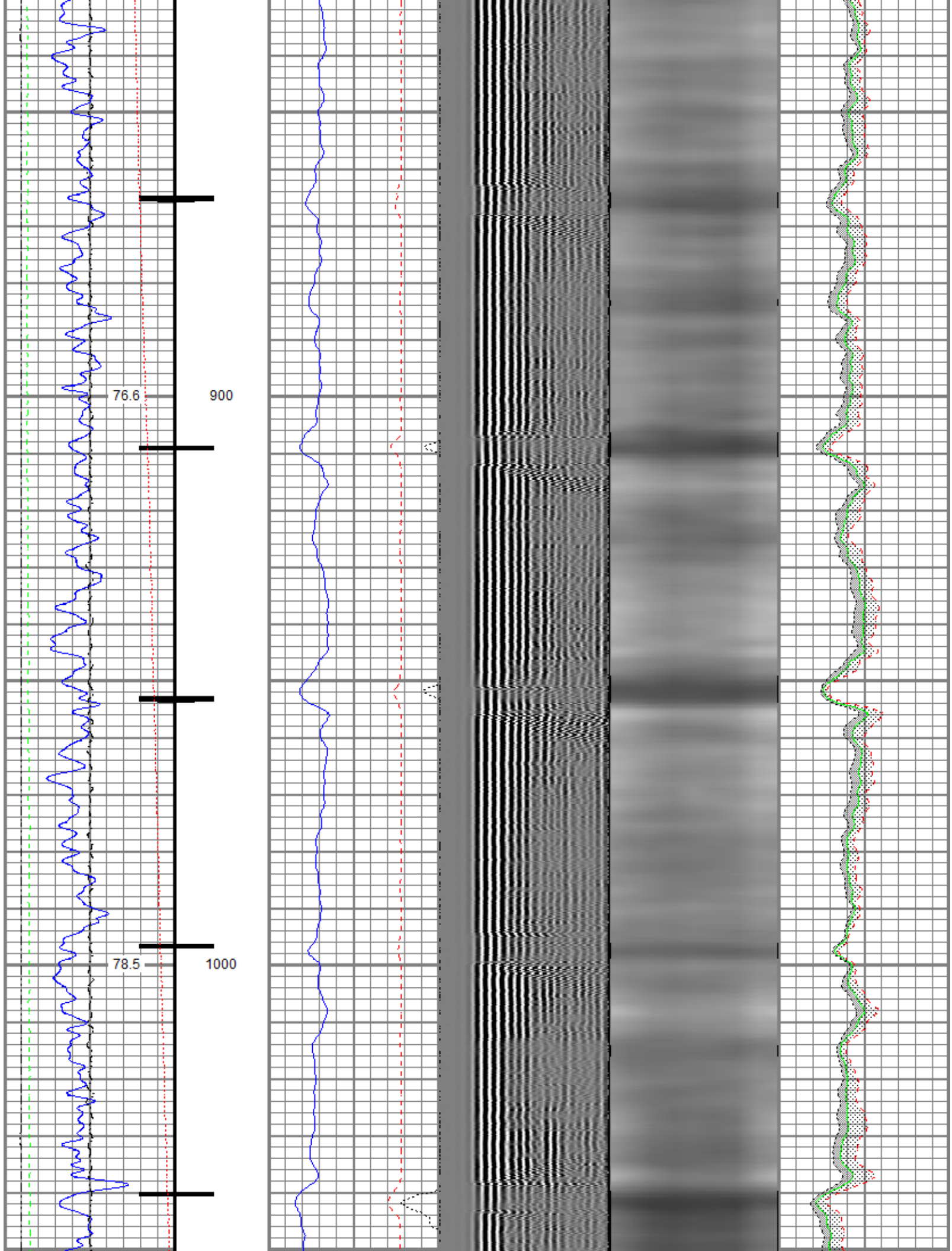
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
(ft/min) 150						
Line Tension (lb) 2000						
Differential Temperature						
(degF) 2						

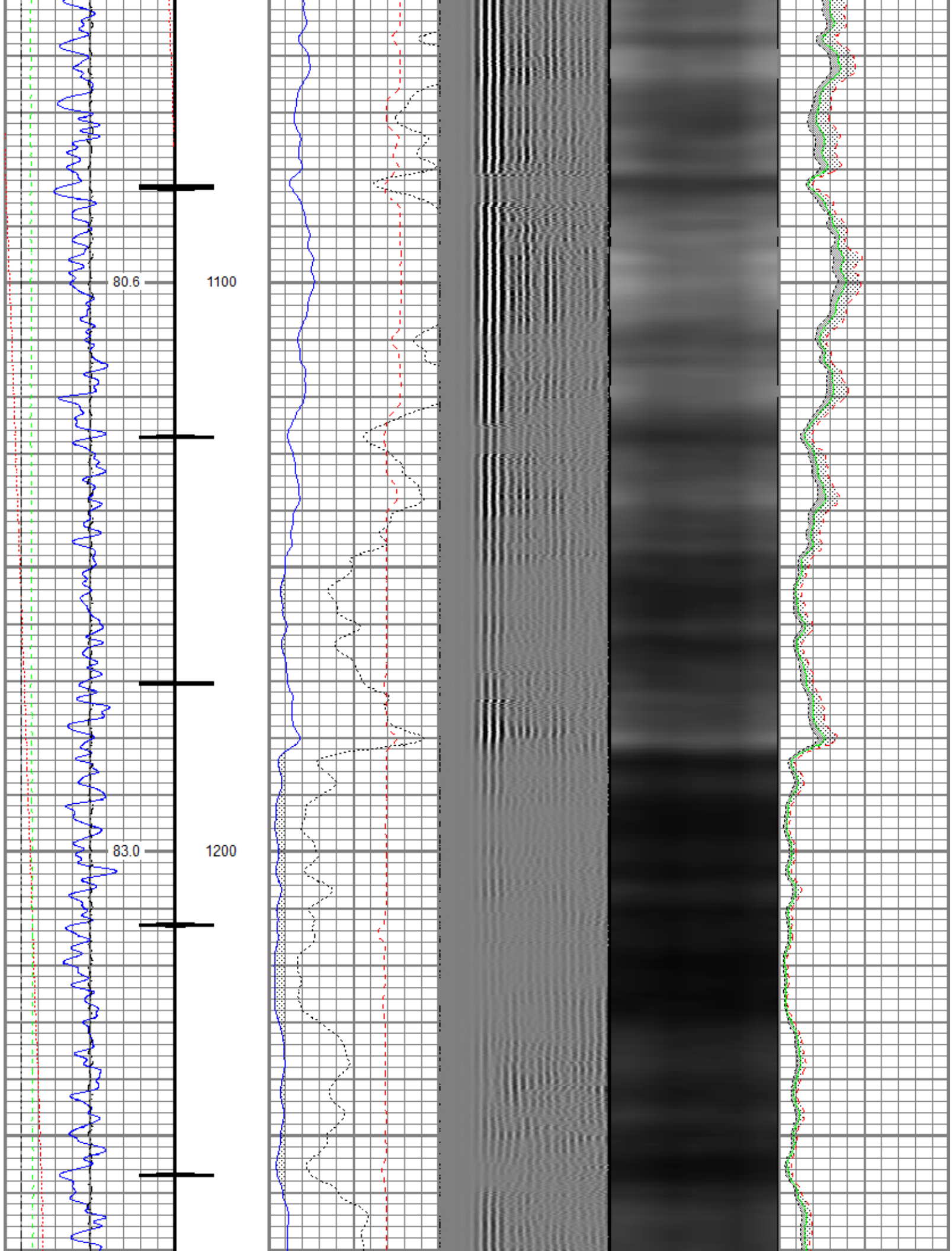


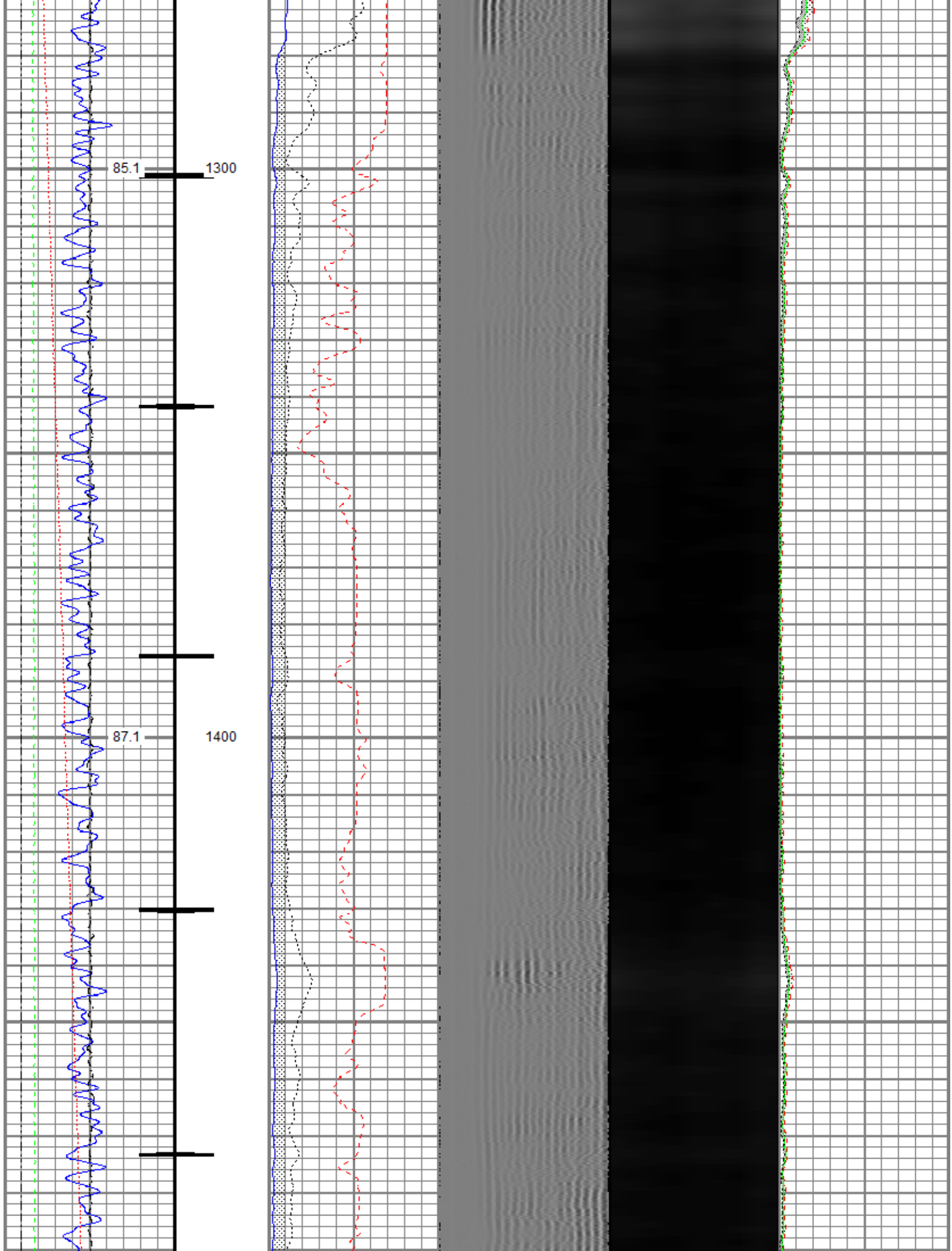


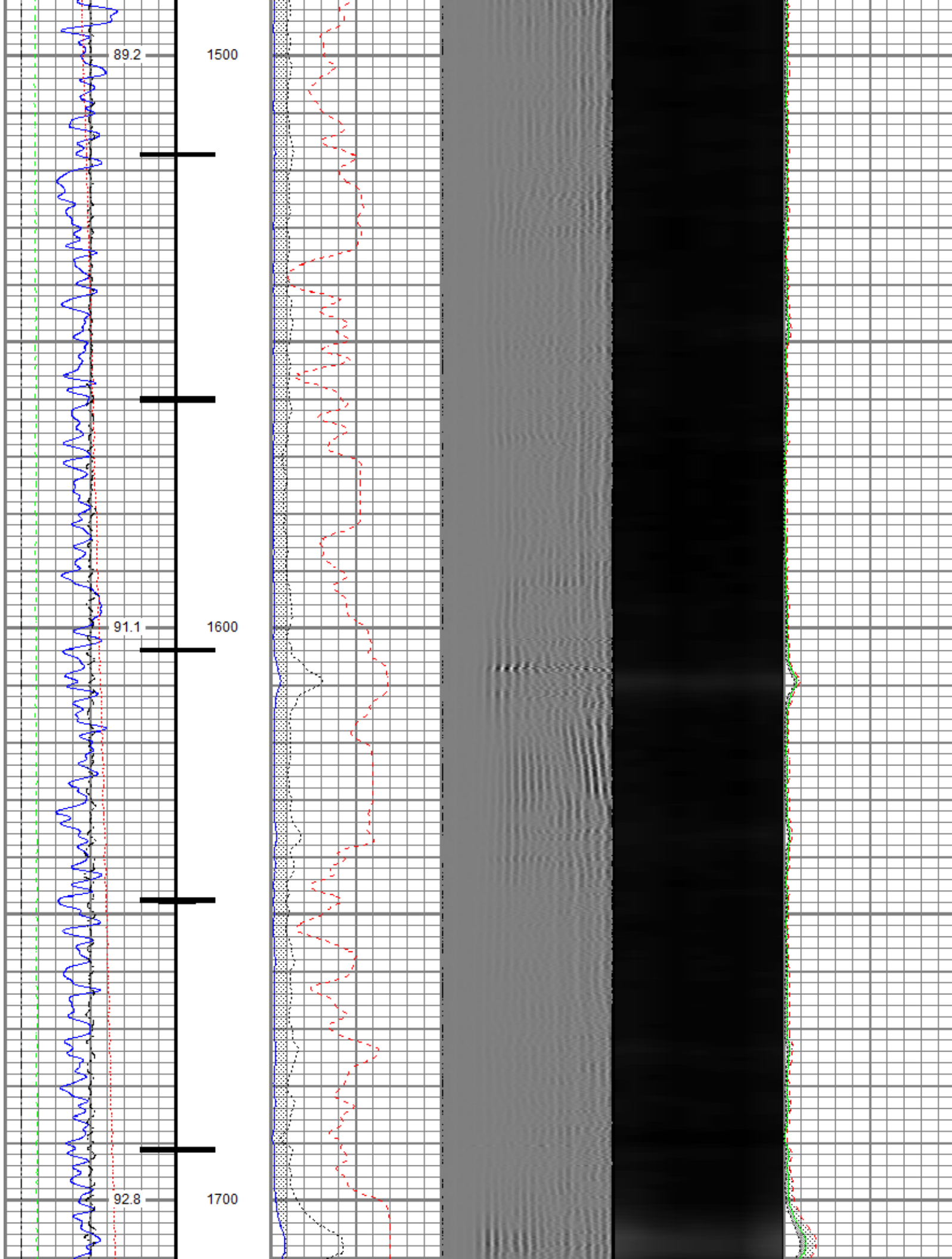


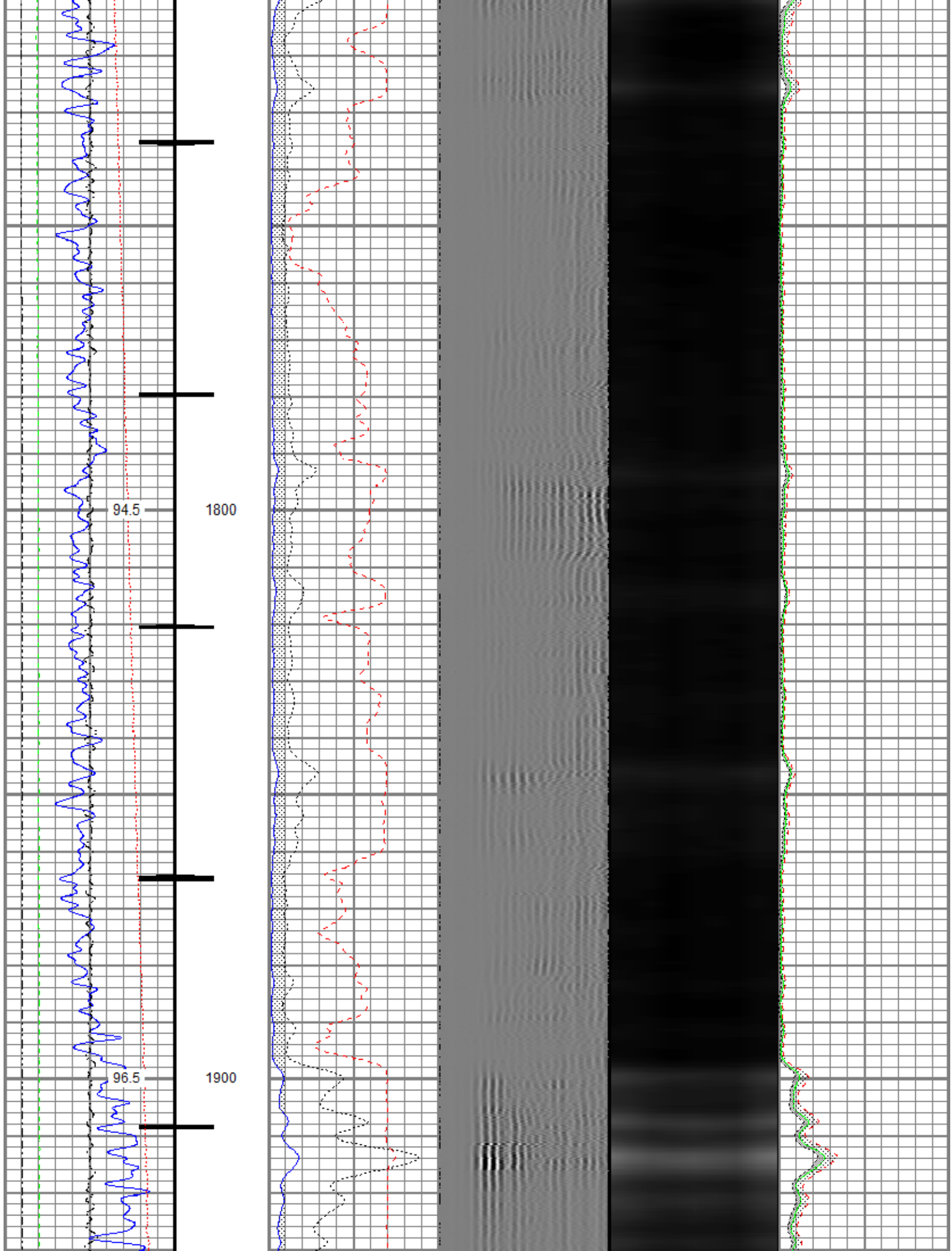


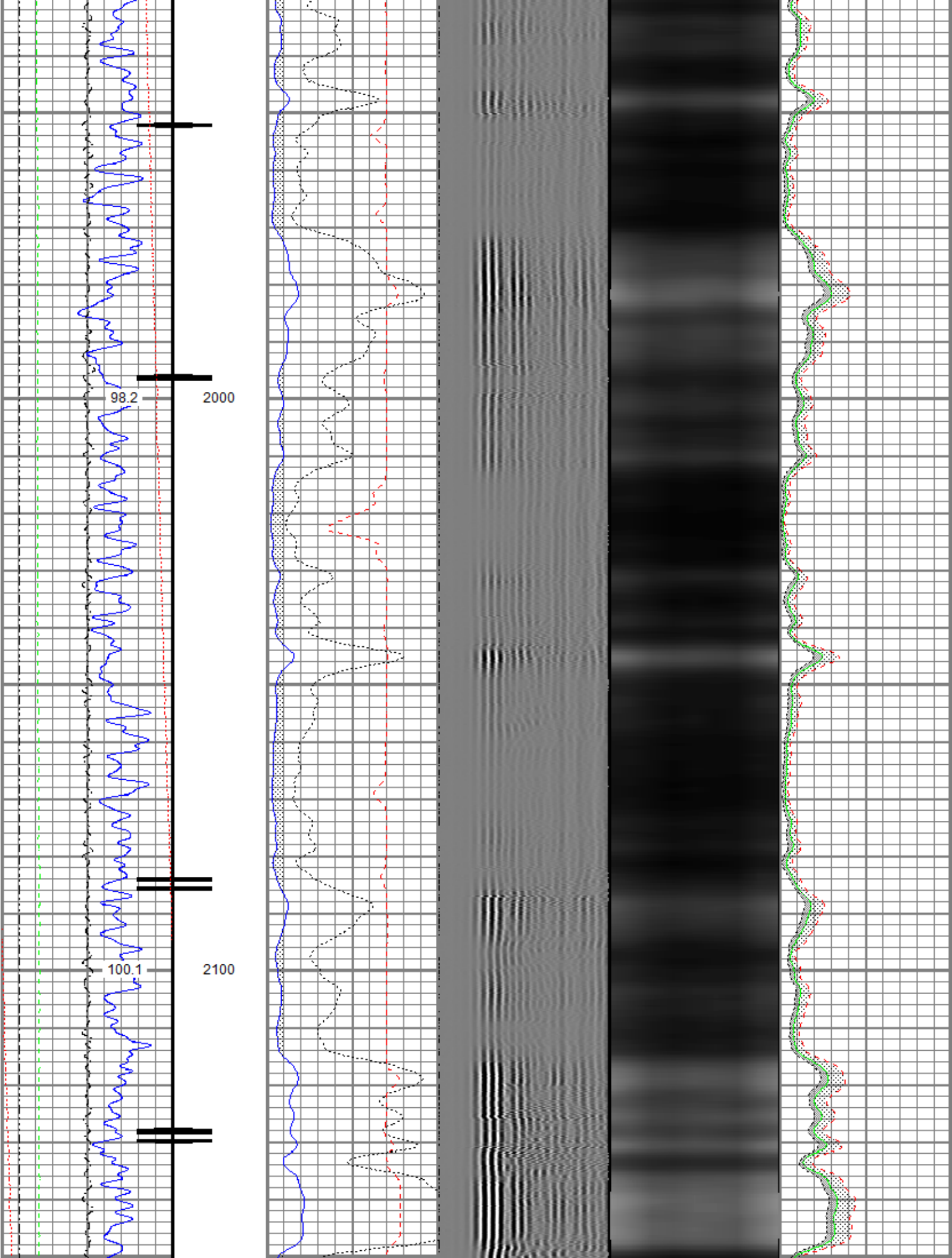


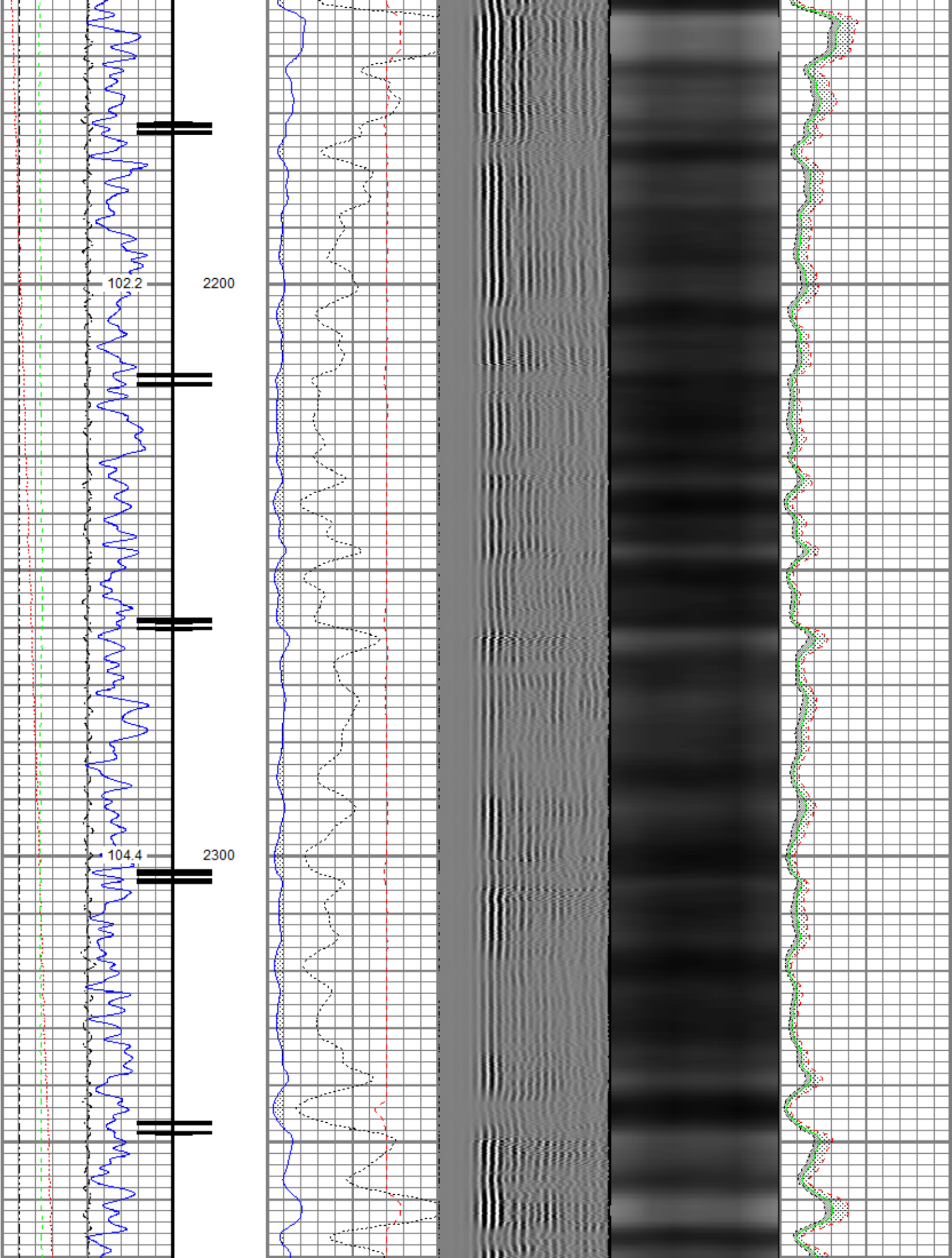


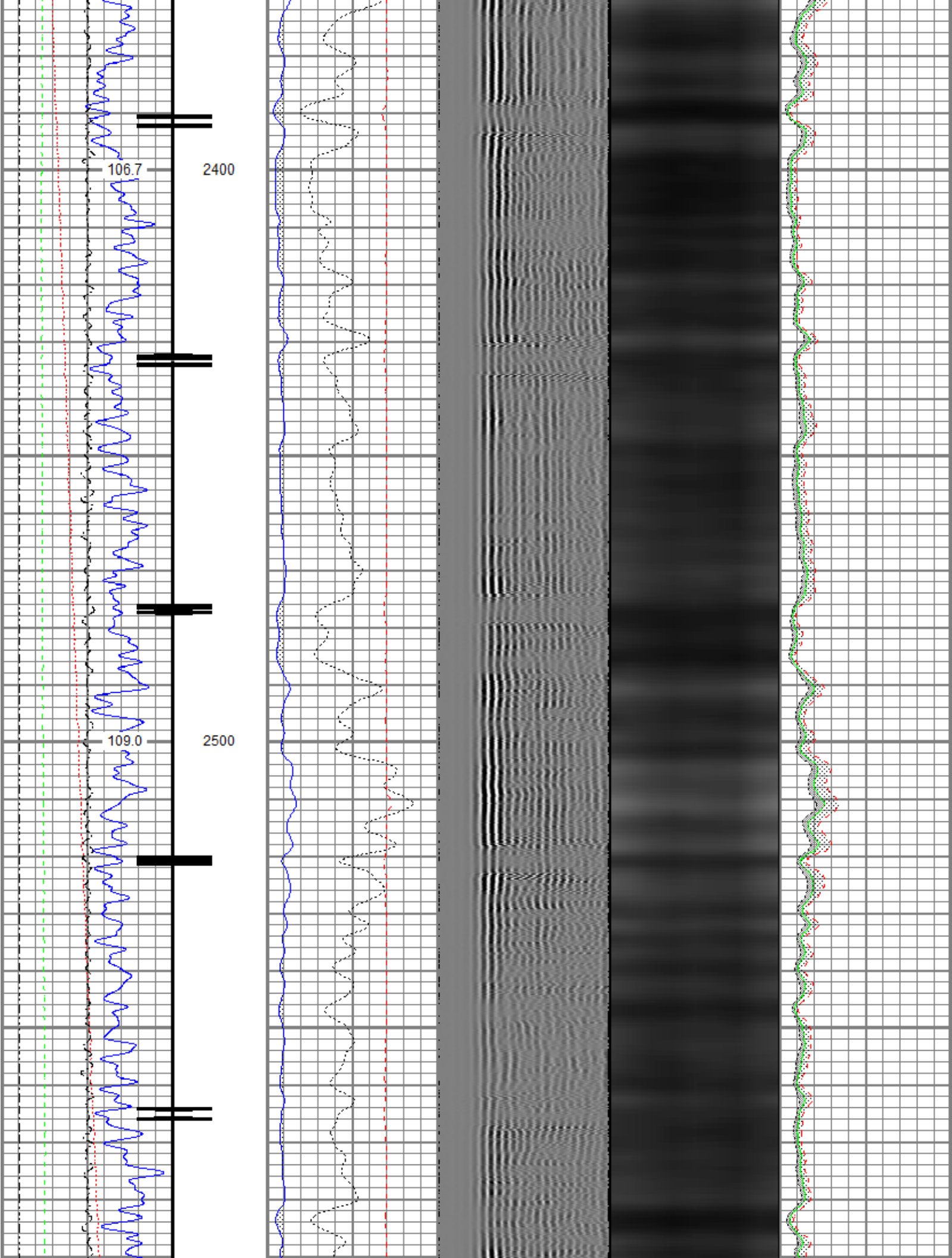


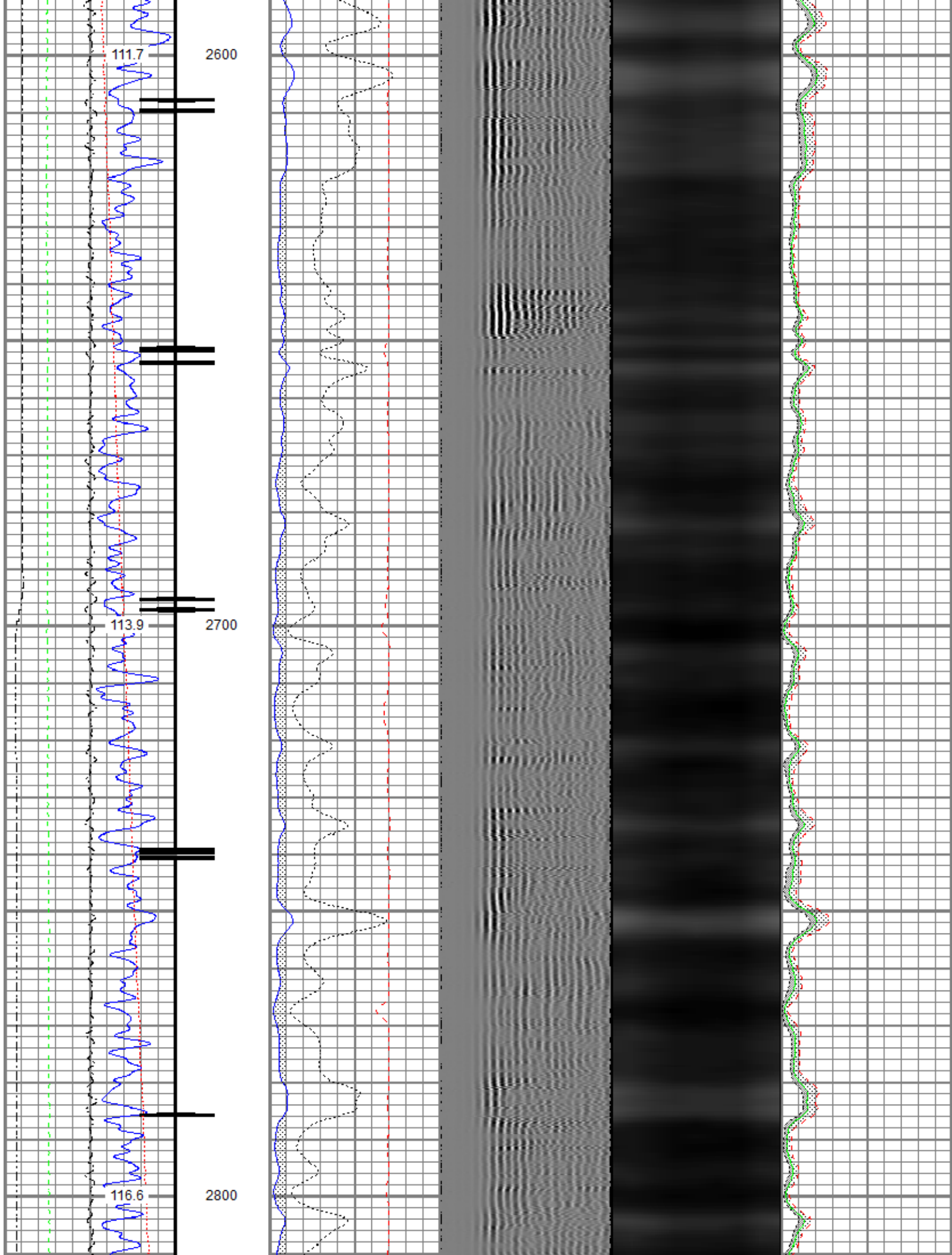


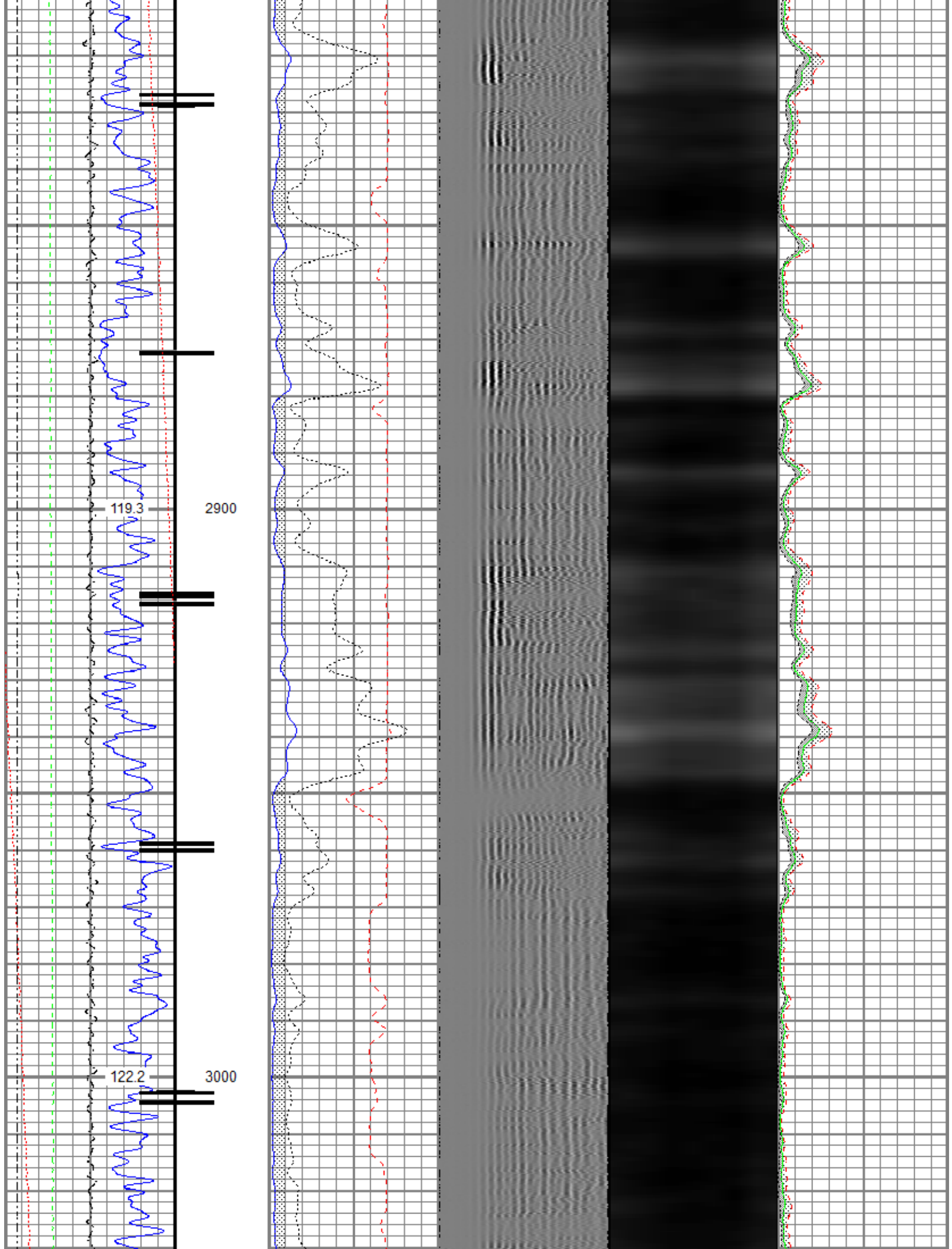


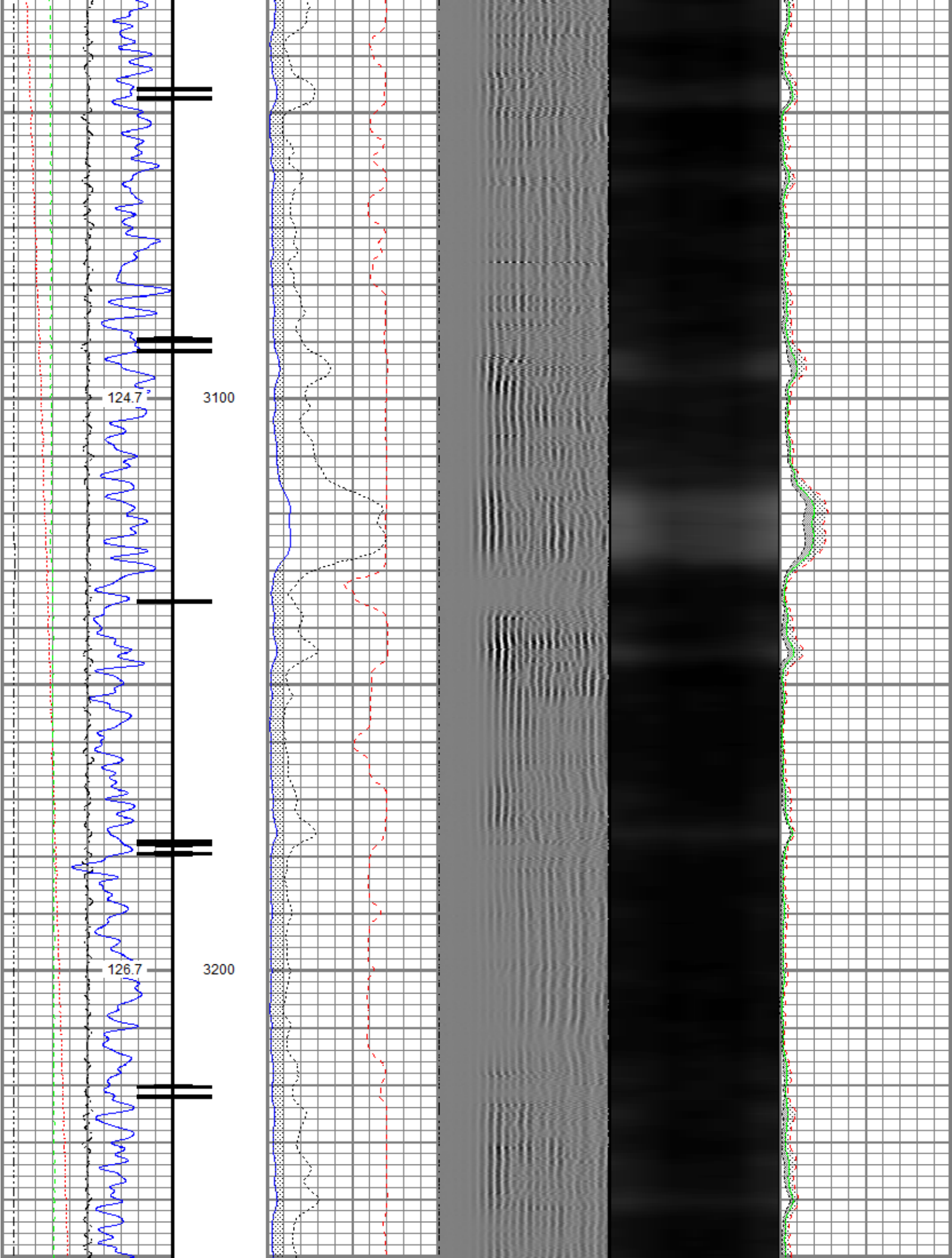


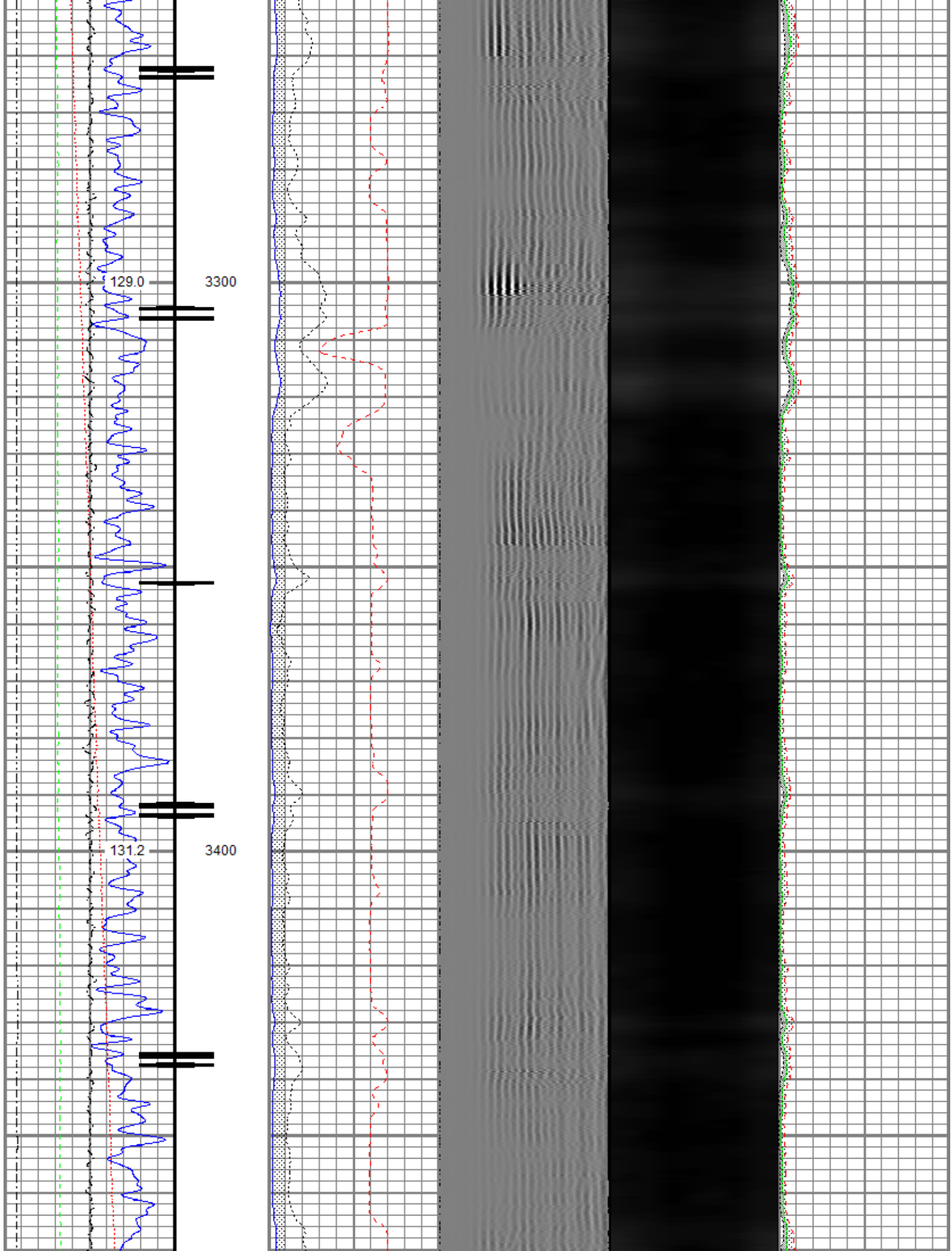


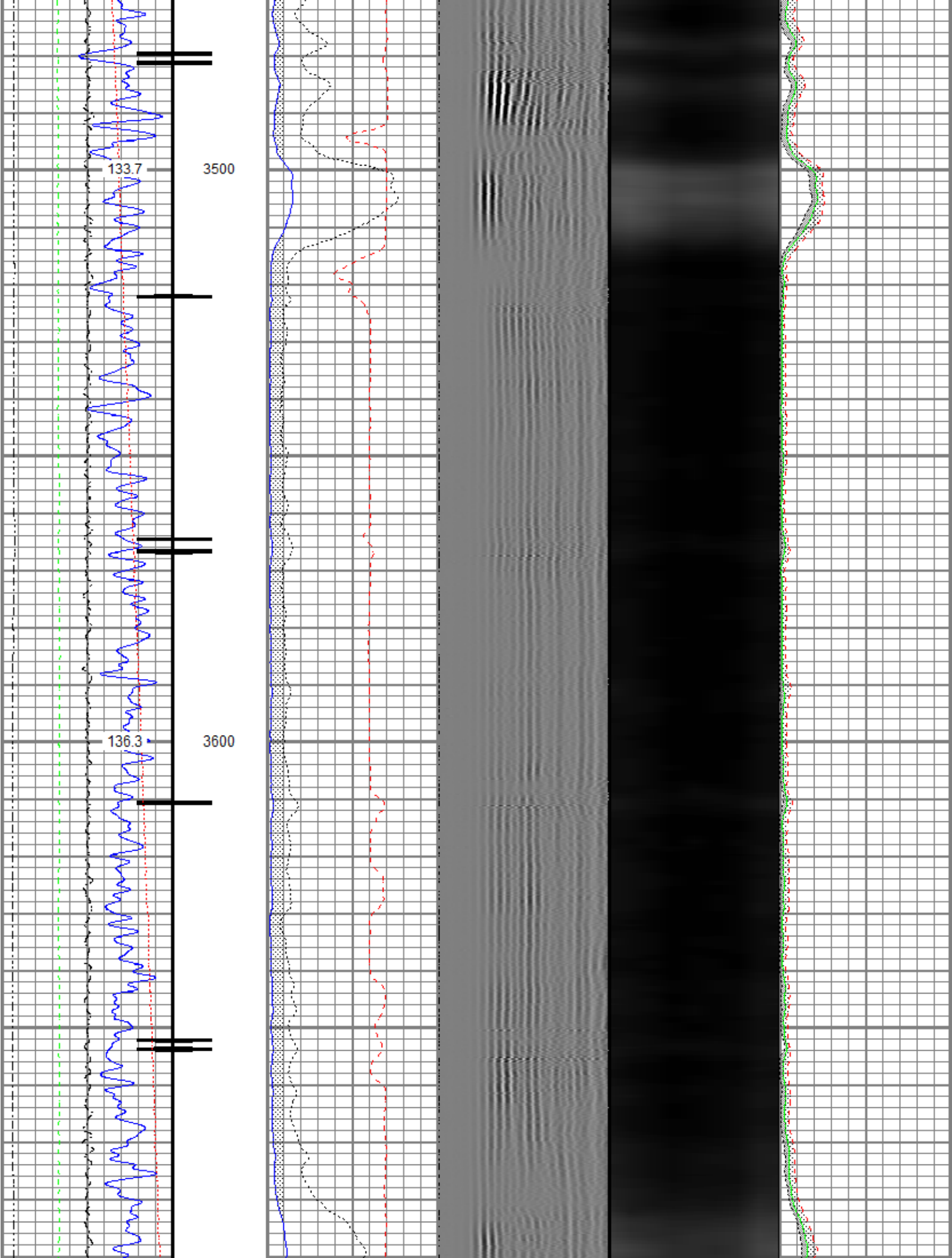


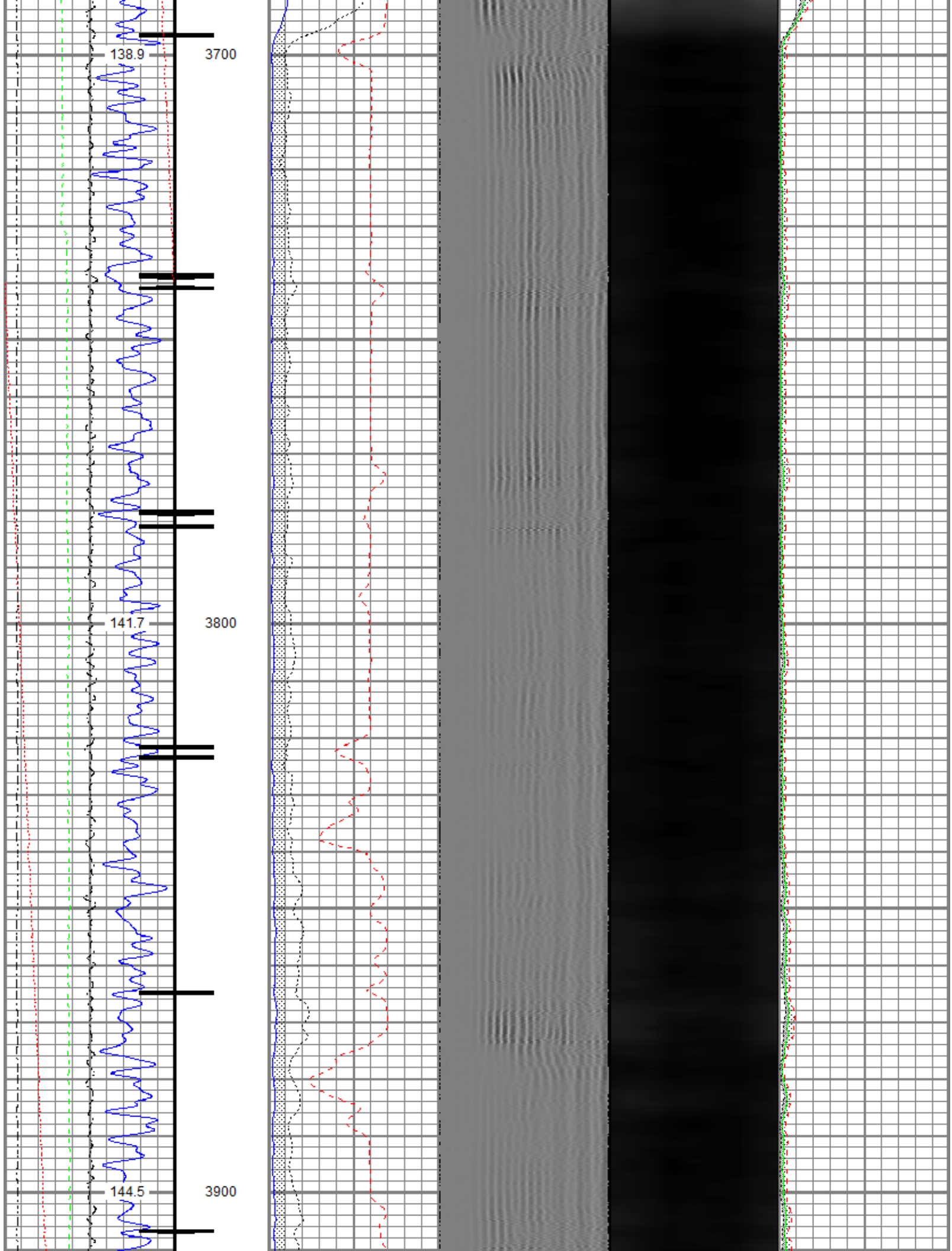


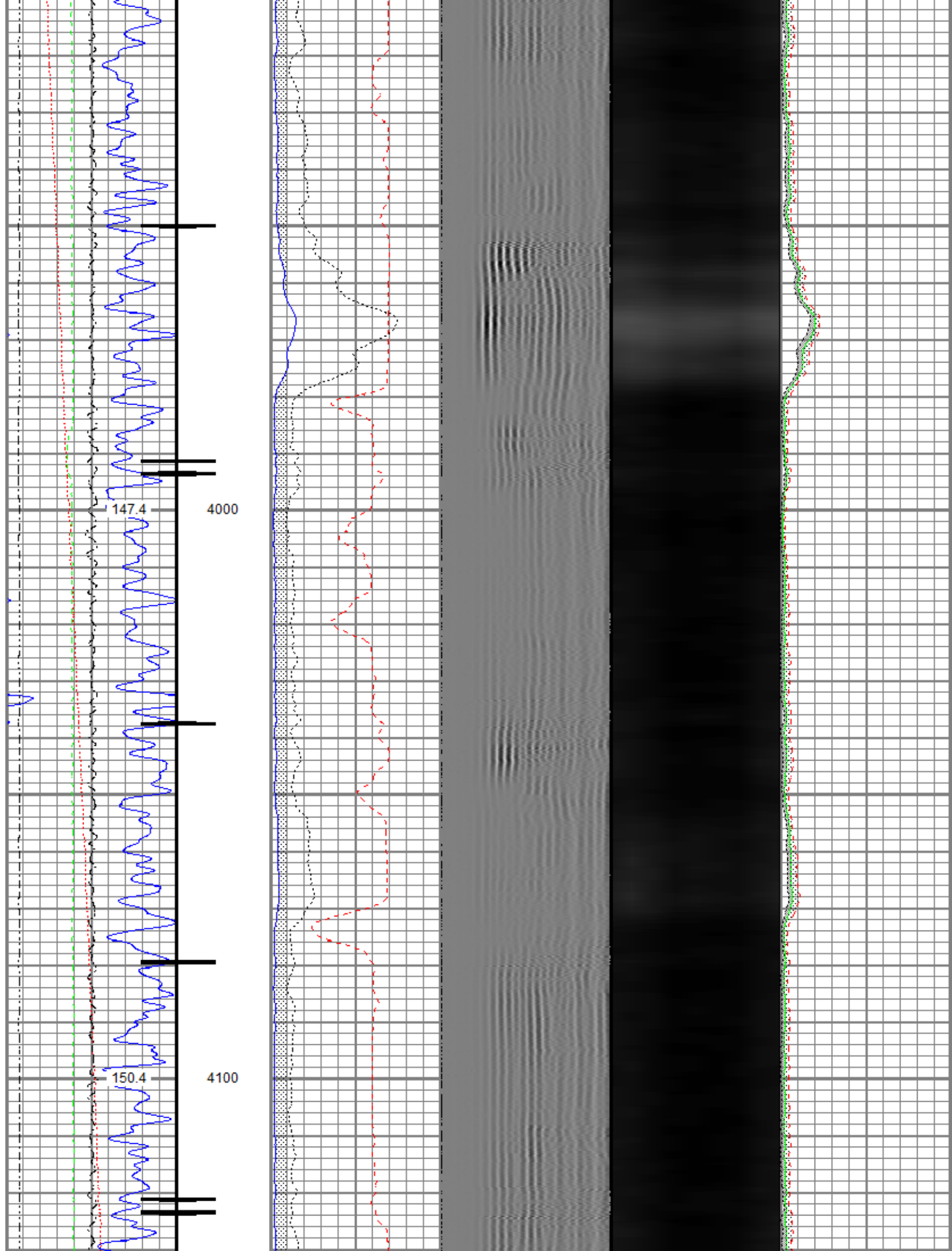


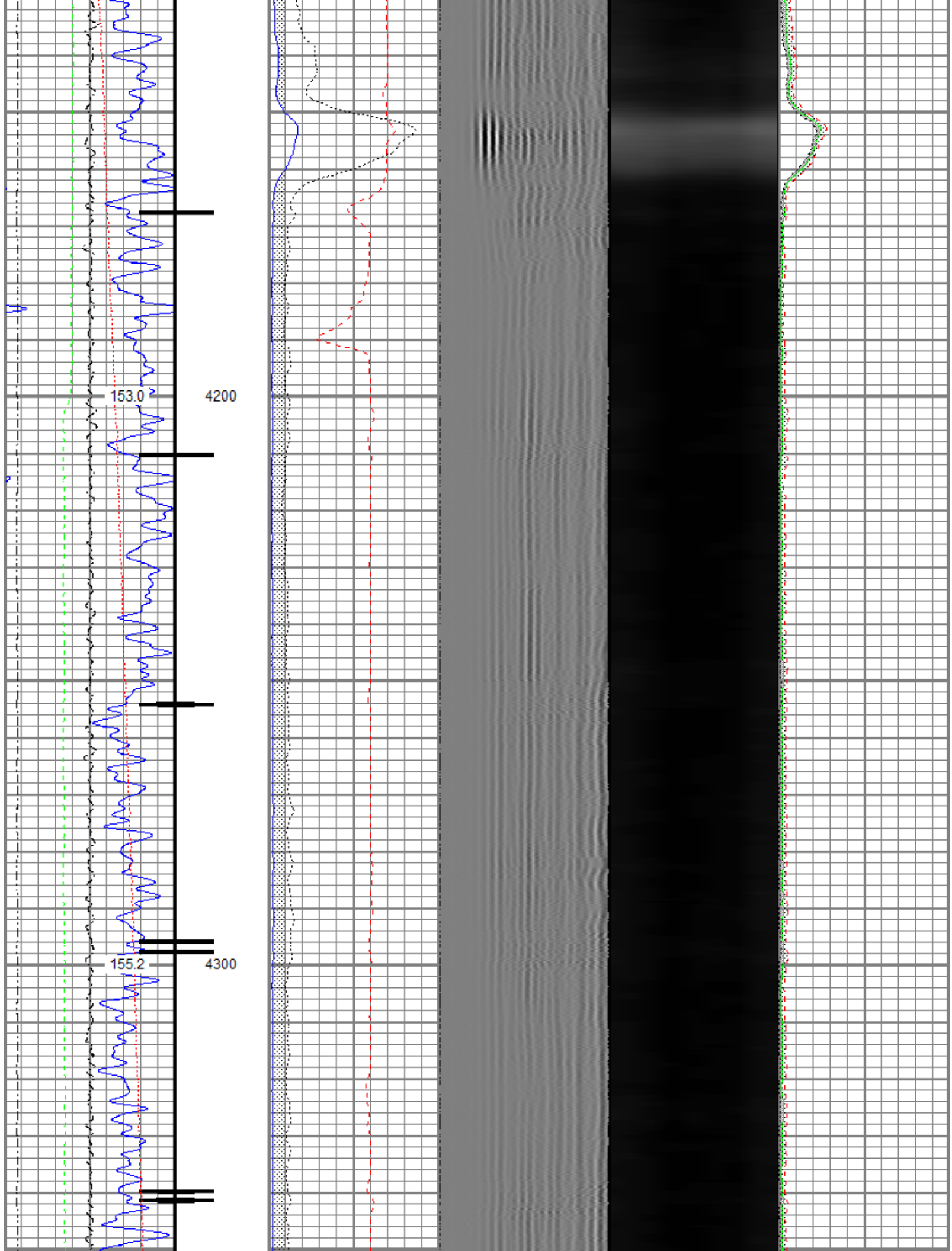


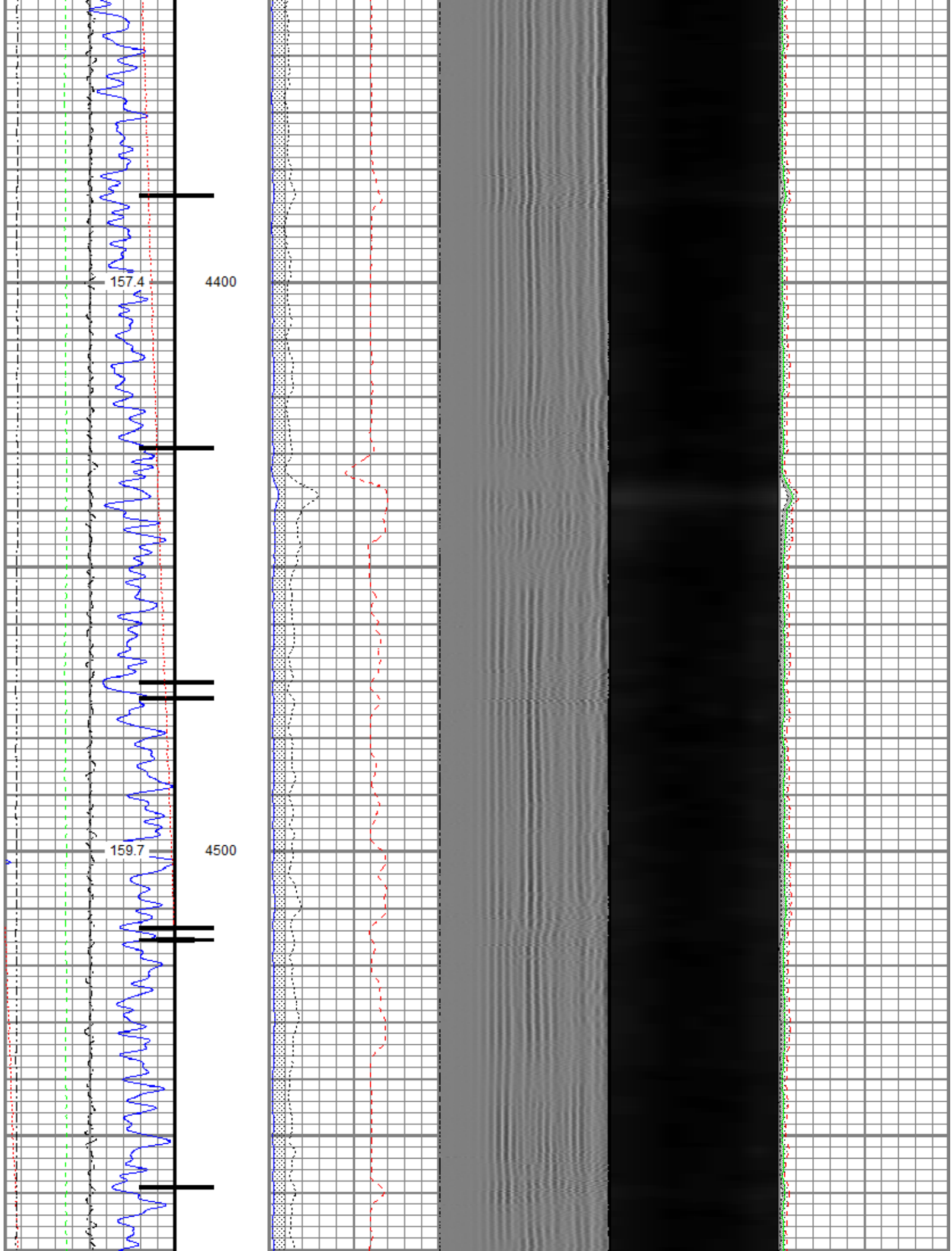


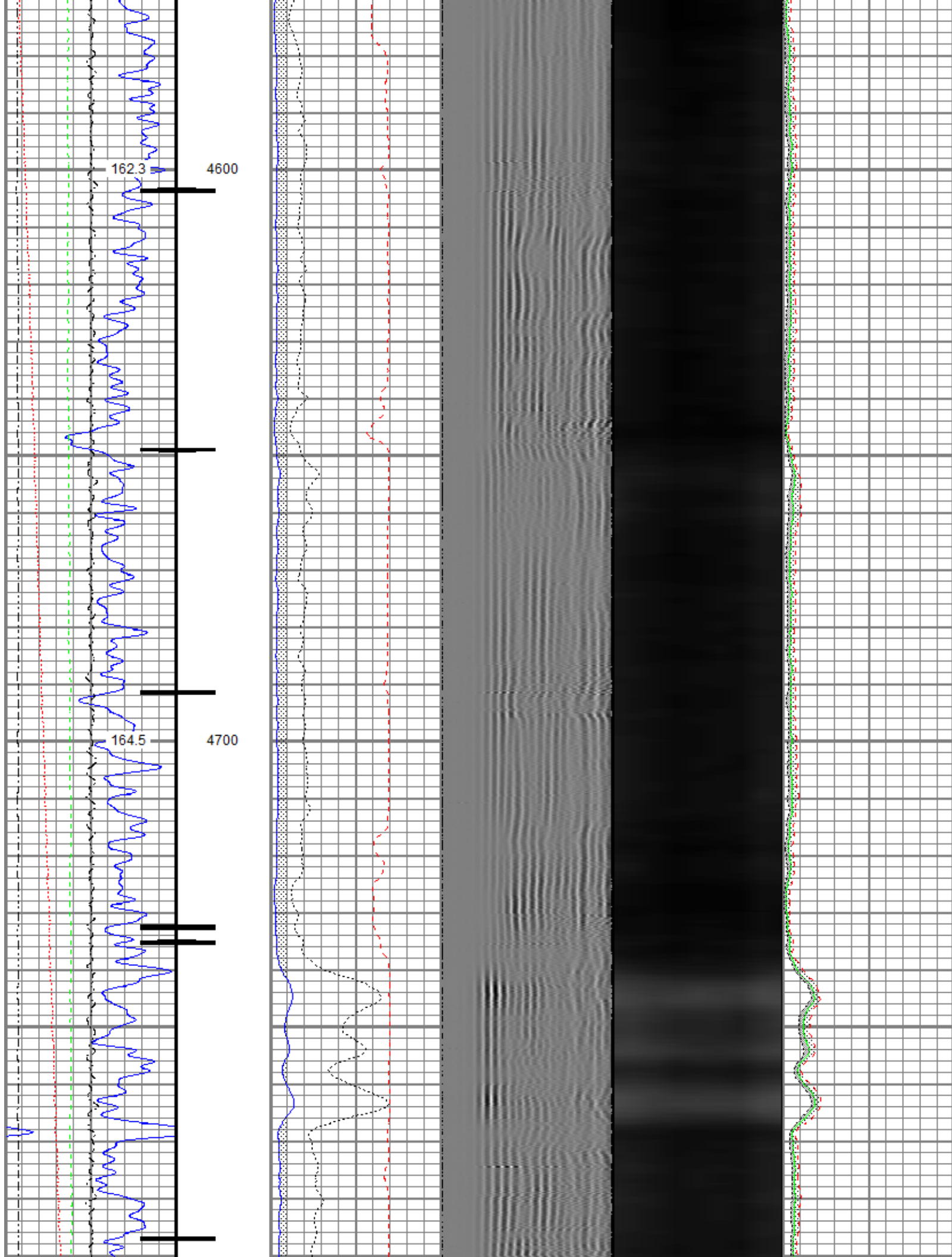


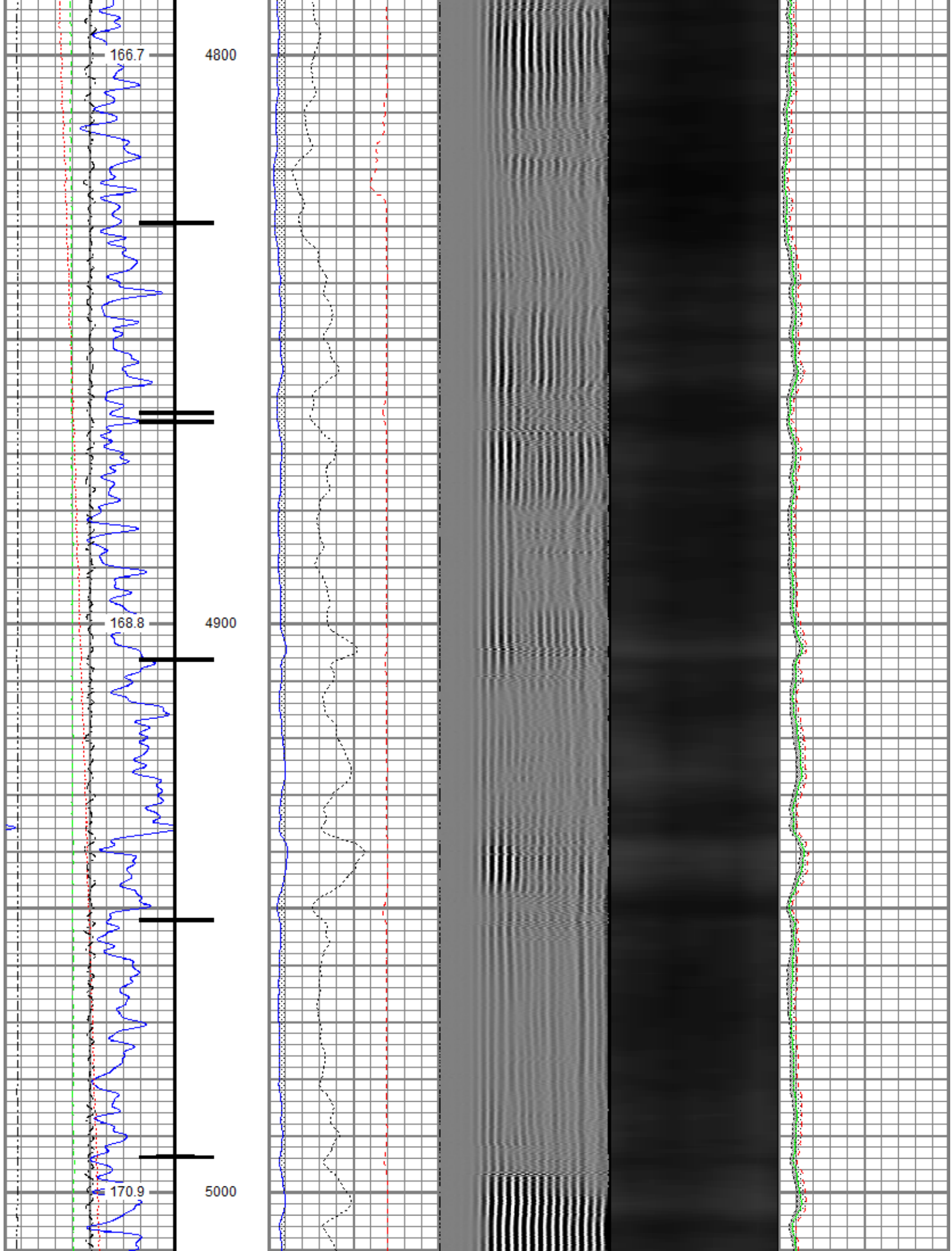


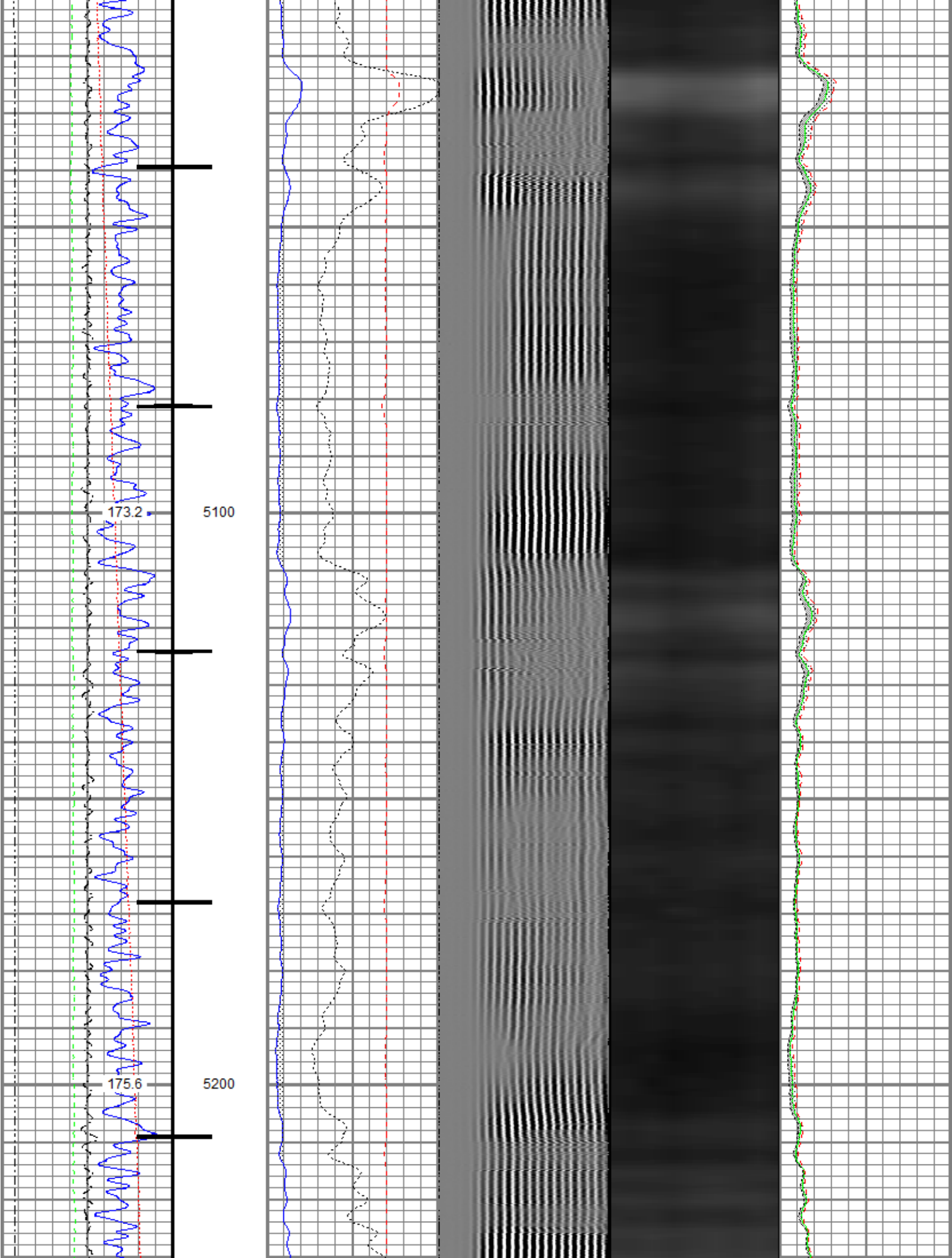


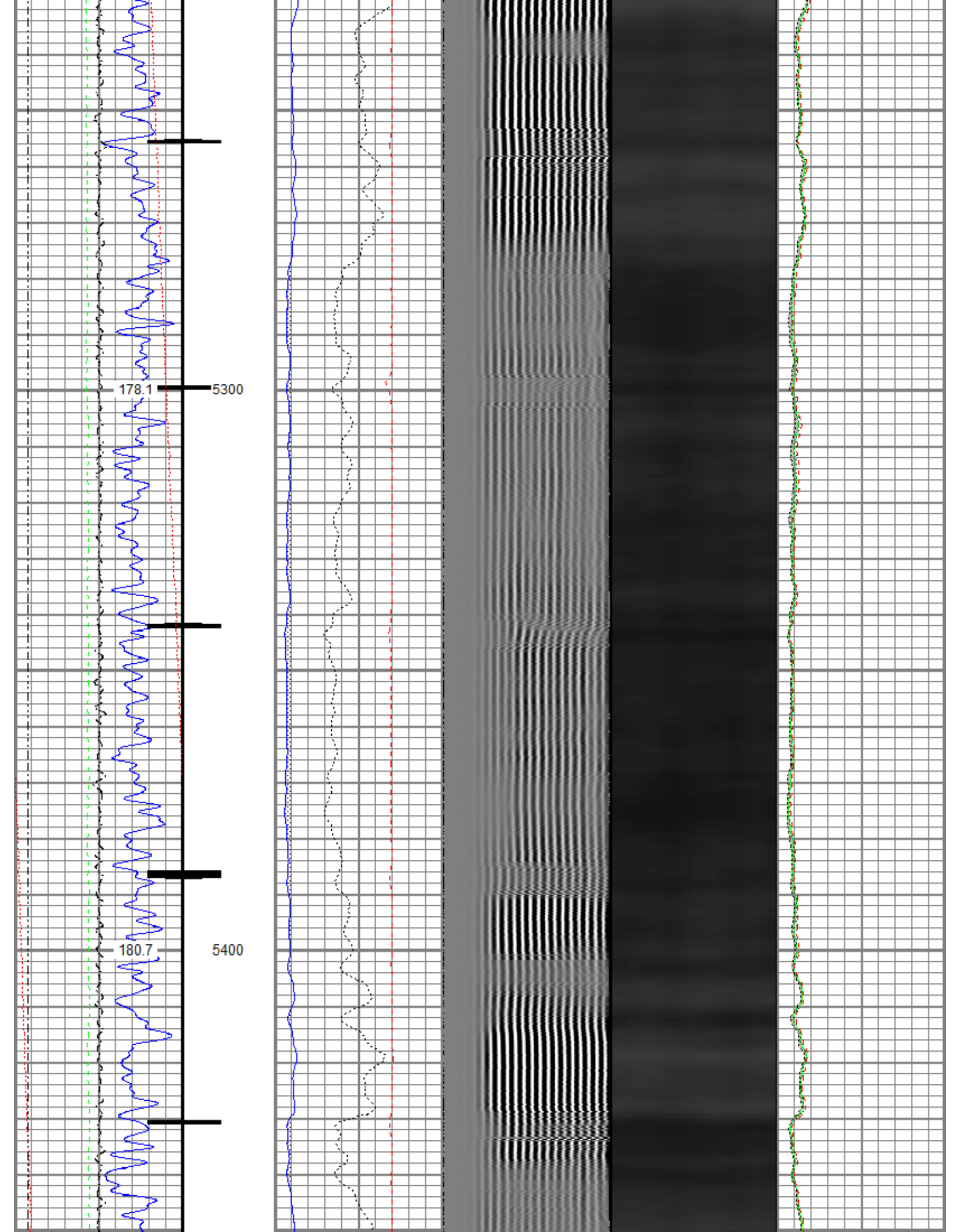


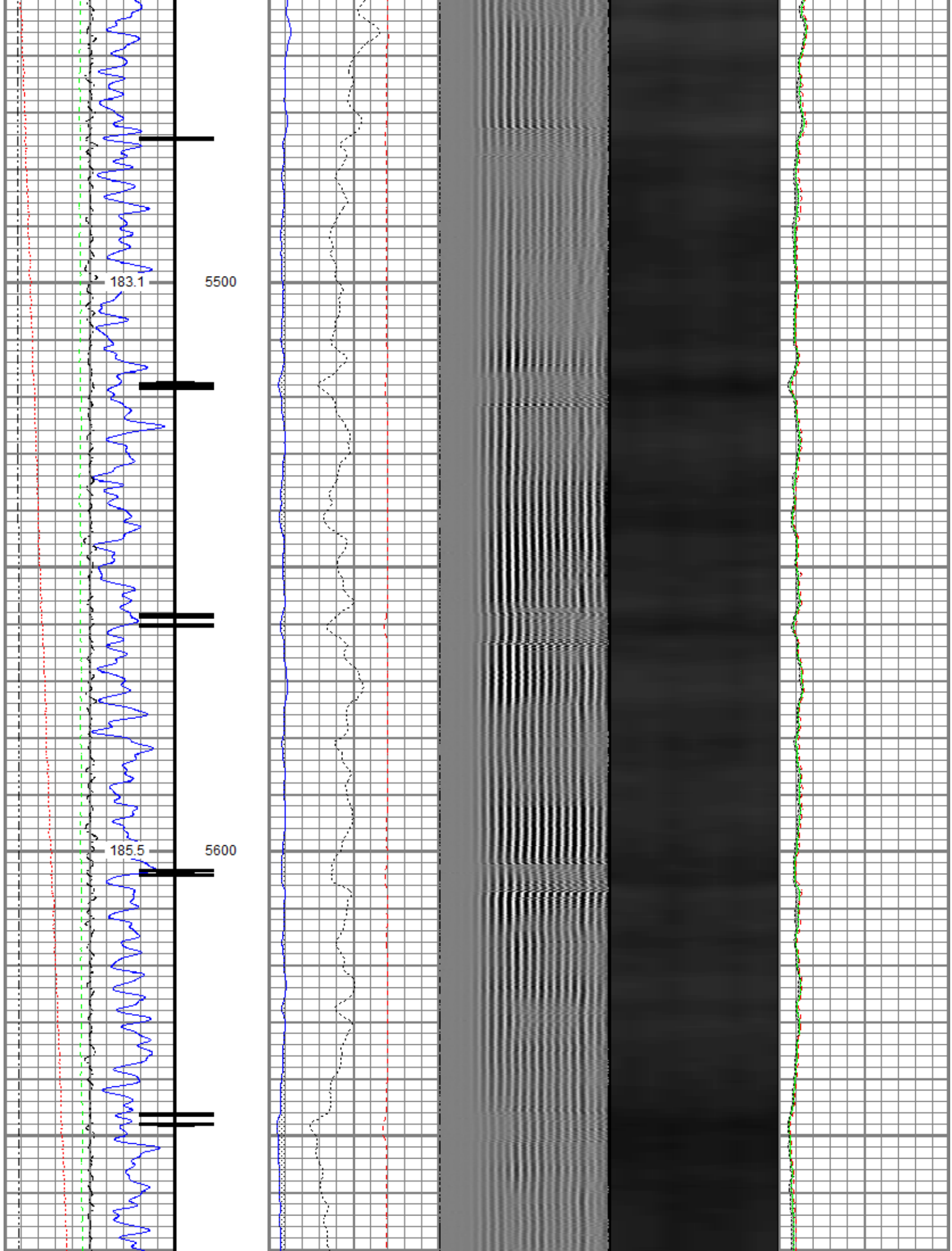


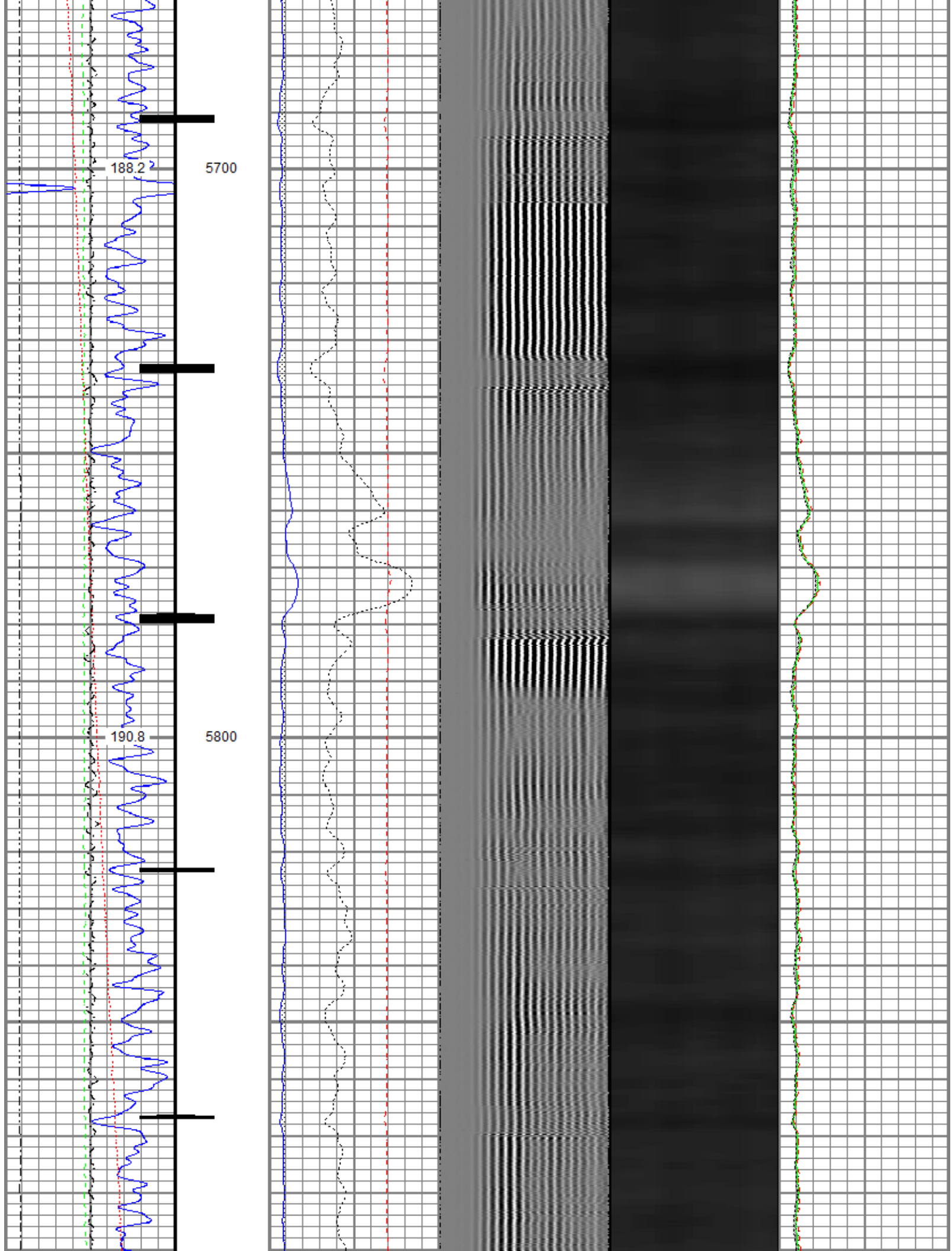


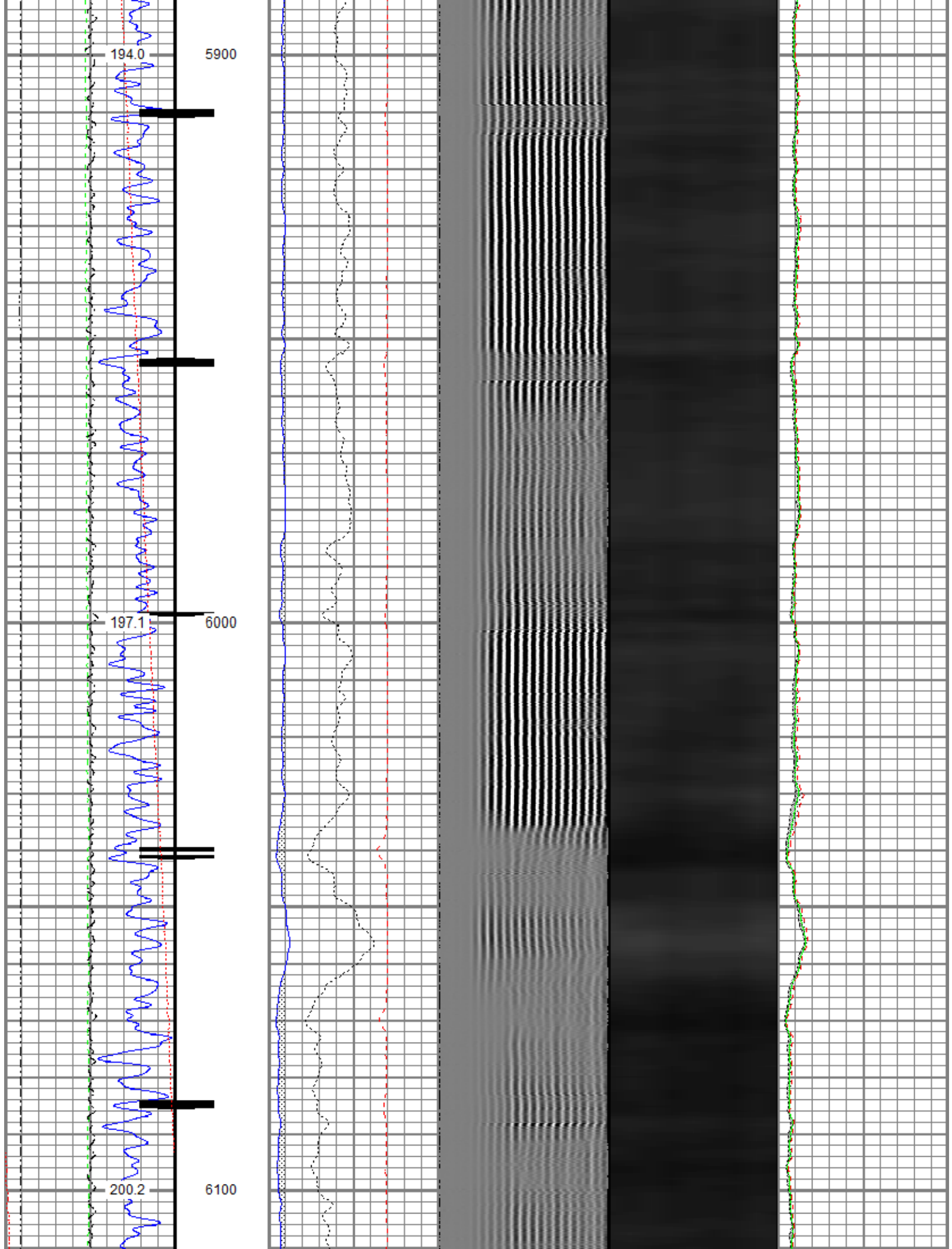


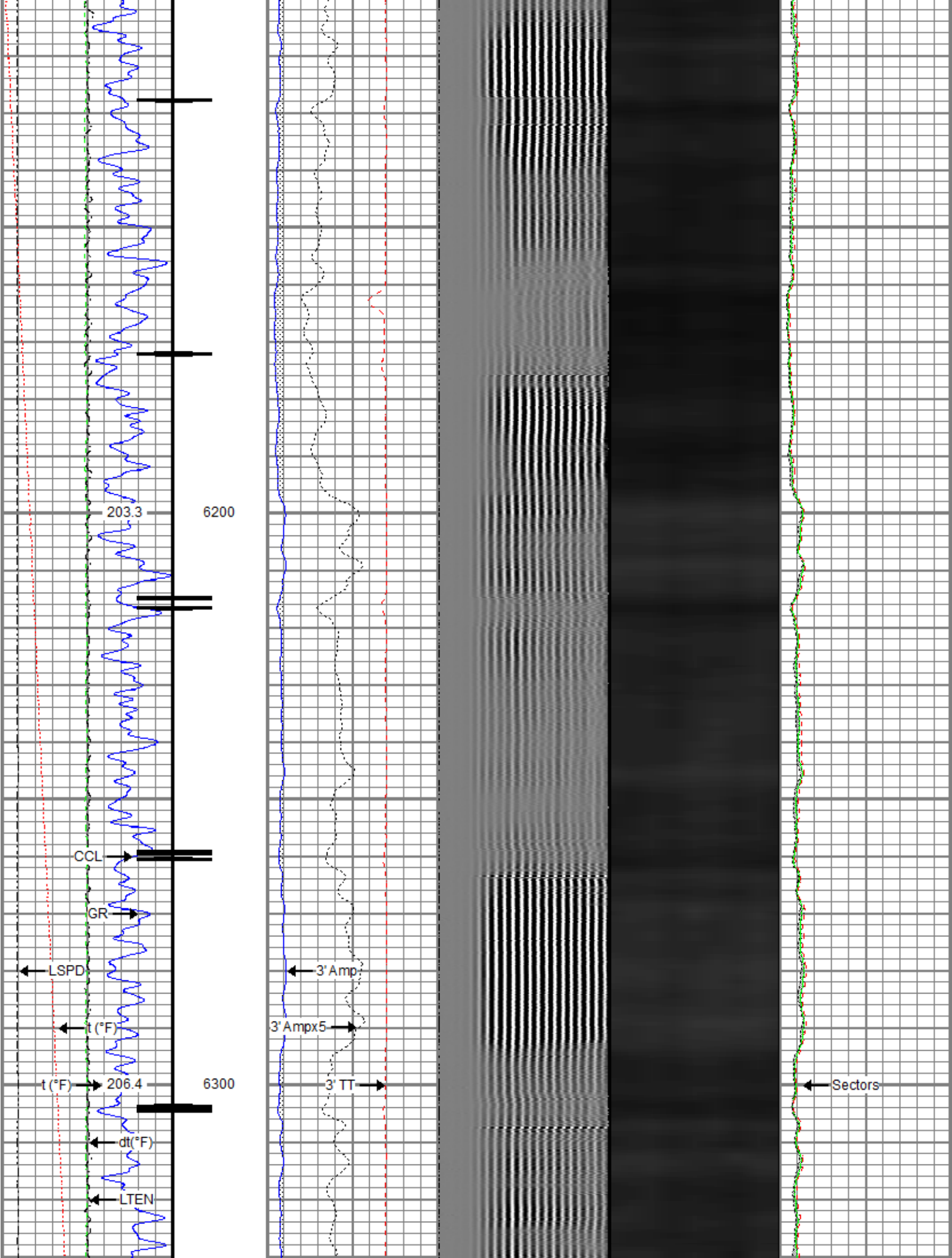


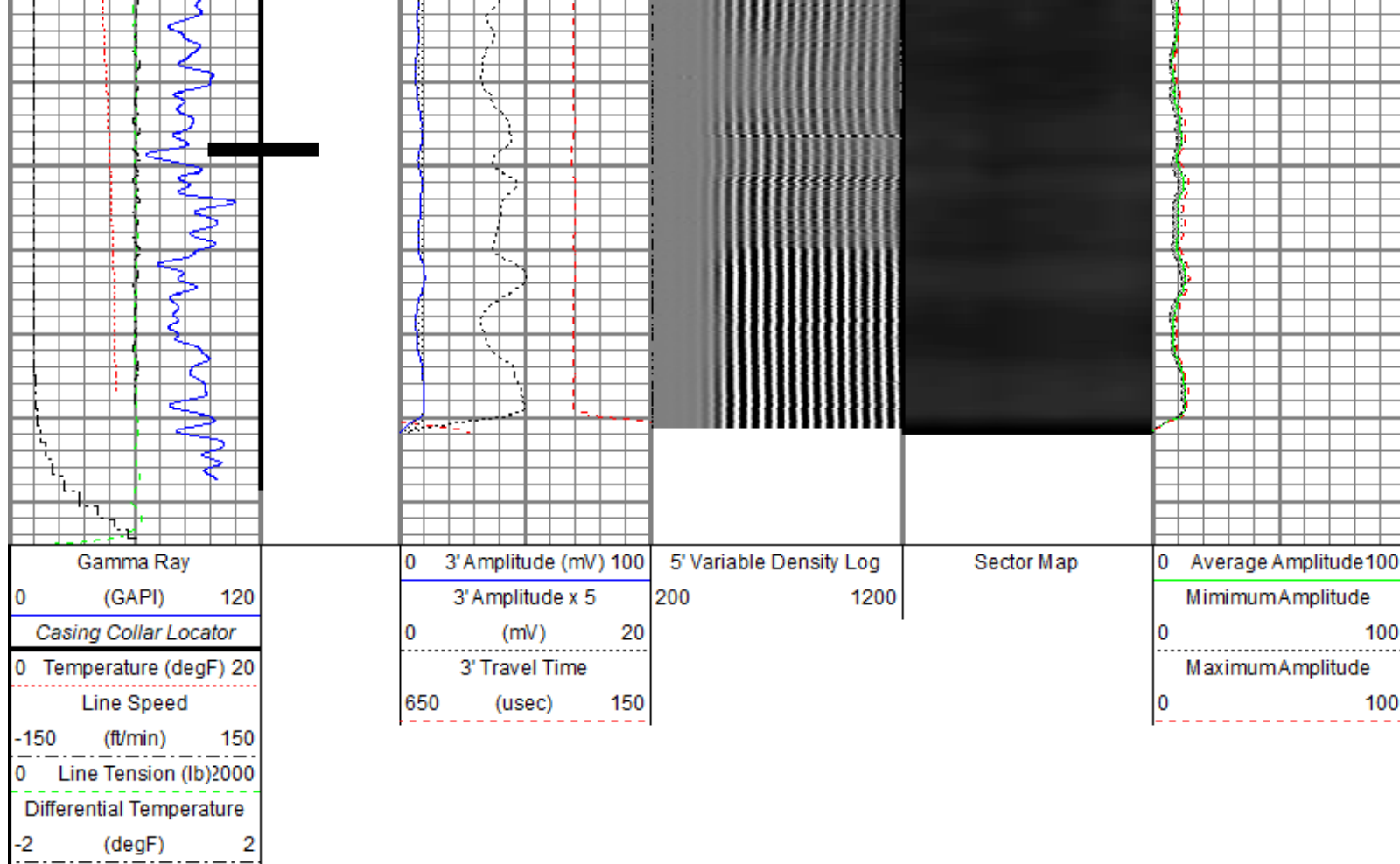








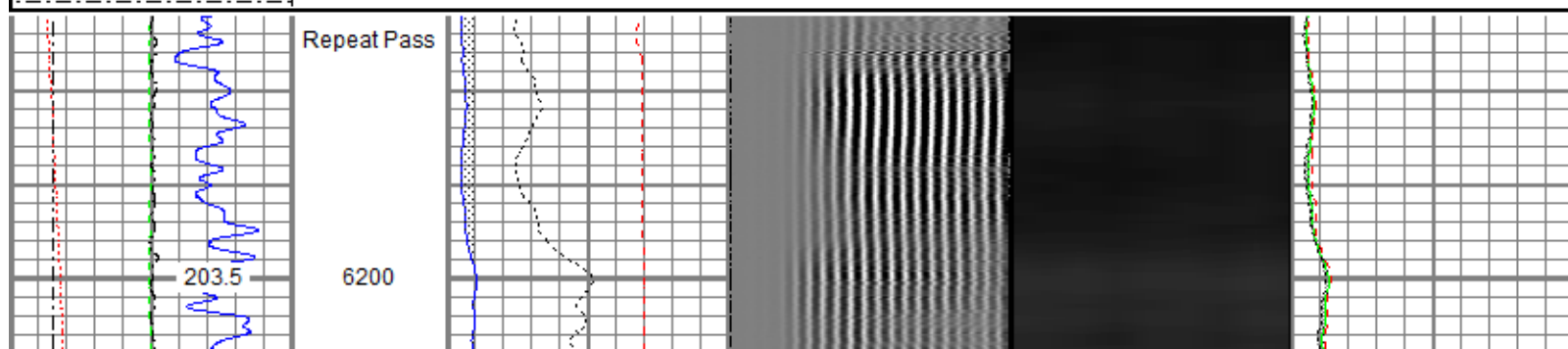
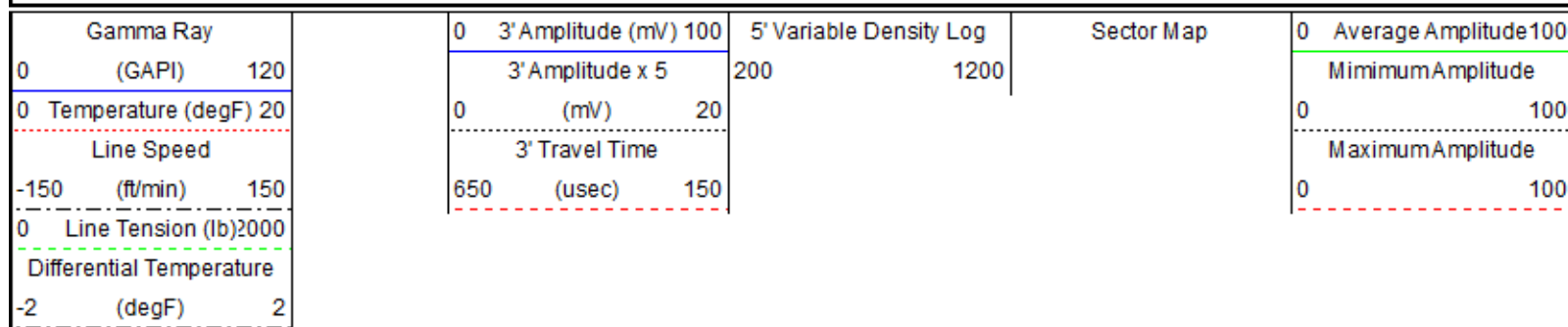




Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure

Database File: anadarko\robin 9-13hz\20180105\processed\0512345251_anadarko_robin 9-13hz_rbl_01-04-18.db
 Dataset Pathname: pass4.1
 Presentation Format: ros_radrii
 Dataset Creation: Sat Jan 06 19:23:23 2018
 Charted by: Depth in Feet scaled 1:240



Repeat Pass

Repeat Pass

Repeat Pass

Repeat Pass

206.8

6300

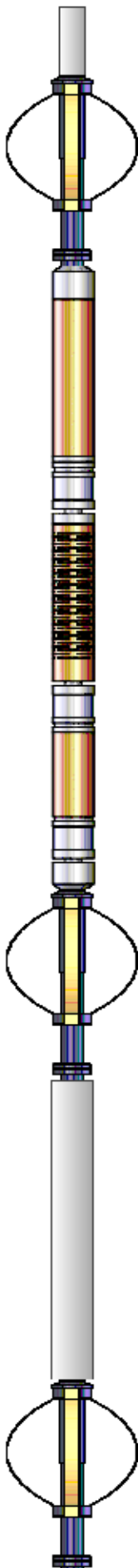
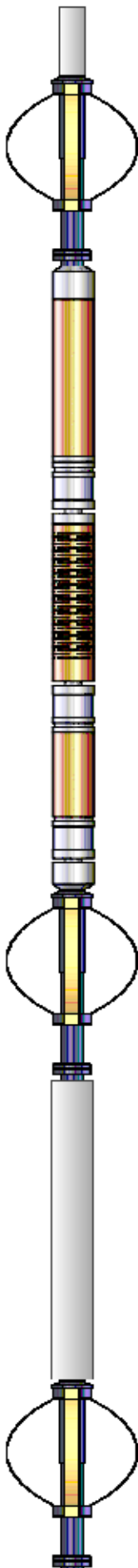
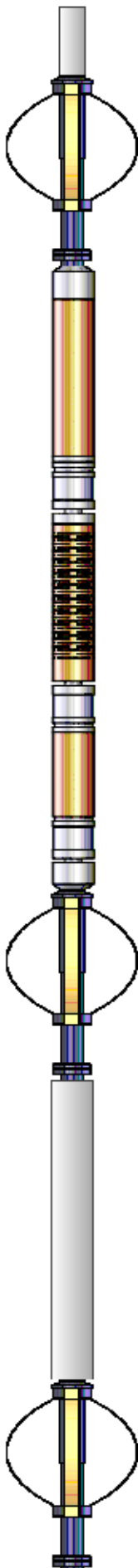
Gamma Ray
(GAPI)
Temperature (degF)
Line Speed
(ft/min)
Line Tension (lb)
Differential Temperature
(degF)

3' Amplitude (mV)
3' Amplitude x 5
(mV)
3' Travel Time
(usec)

5' Variable Density Log

Sector Map

Average Amplitude
Minimum Amplitude
Maximum Amplitude

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
TEMP	16.75		Titan CHD-16875 GO Titan 1-11/16" Assembled Electric Cable Head w/ 1" Fishing Neck	1.03	1.69	5.40
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
			Probe Radii-2750 RBT (FW1305-096) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
WVFS8	14.52					
WVFS7	14.52					
WVFS6	14.52					
WVFS5	14.52					
WVFS4	14.52					
WVFS3	14.52					
WVFS2	14.52					
WVFS1	14.52					
WVFCAL	14.52					
WVF3FT	14.52					
WVF5FT	13.52					
CCL\$2 CCL\$1 GR	6.51		Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
	6.51					
	5.26		Probe GR-CCL-2750 GOB (FW1212-026) Probe 2-3/4" rev.2 Digital Scintillation Gamma Ray/CCL Combined	4.51	2.75	55.00
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00

Dataset: 0512345251_Anadarko_Robin 9-13HZ_RBL_01-04-18.db: field/well/run1/pass6.1

Total length: 23.57 ft

Total weight: 225.40 lb
O.D.: 2.75 in

Calibration Report

Database File C:\ProgramData\Warrior\Data\Anadarko\Robin 9-13HZ\20180105\processed\0512345251_Anadarko_Robin 9-13HZ_RBL_01-04
Dataset Pathname pass6.1
Dataset Creation Sat Jan 06 19:17:11 2018

Gamma Ray Calibration Report

Serial Number: FW1212-026
Tool Model: 2750 GOB
Performed: Sun Nov 12 12:27:51 2017

Calibrator Value: 637.0 GAPI

Background Reading: 113.7 cps
Calibrator Reading: 1029.1 cps

Sensitivity: 0.6959 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1305-096
Tool Model: 2750 RBT

Calibration Casing Diameter: 5.500 in
Calibration Depth: 28.352 ft

Master Calibration, performed Thu Jan 04 06:51:41 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.004	0.518	0.800	71.921	138.256	0.273
CAL	0.004	0.549				
5'	0.004	0.502	0.800	71.921	142.786	0.244
SUM						
S1	0.004	0.511	0.000	100.000	197.084	-0.748
S2	0.004	0.511	0.000	100.000	196.985	-0.743
S3	0.004	0.512	0.000	100.000	196.739	-0.732
S4	0.004	0.512	0.000	100.000	196.753	-0.773
S5	0.004	0.517	0.000	100.000	194.737	-0.756
S6	0.004	0.521	0.000	100.000	193.267	-0.731
S7	0.004	0.524	0.000	100.000	192.111	-0.727
S8	0.004	0.524	0.000	100.000	192.418	-0.738

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.004	0.549	1.000	0.000

Air Zero Calibration, performed Thu Jan 04 06:50:35 2018:

	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

Temperature Calibration Report

Serial Number: FW1305-096
Tool Model: 2750 RBT
Performed: Sun Nov 12 13:42:10 2017

	Reference	Reading
Low Reference:	100.00 degF	109.43 degF
High Reference:	350.00 degF	405.87 degF

Gain: 0.84
Offset: 7.72
Delta Spacing: 1



Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Robin 9-13HZ
Field Wattenberg
County Weld
State Colorado