



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Land Fed 29C-29HZ
Field Wattenberg
County Weld
State Colorado

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Location: API #: 05-123-42399

Other Services
Gauge Ring

SEC 32 TWP 2N RGE 66W

Permanent Datum Ground Level Elevation 4899'
Log Measured From Kelly Bushing 20 FT
Drilling Measured From Kelly Bushing

Elevation
K.B. 4919'
D.F. 4918'
G.L. 4899'

Date 16-AUG-2016

Two

Run Number 13116 FT

Depth Driller 7152 FT

Depth Logger 7147 FT

Bottom Logged Interval Surface

Top Log Interval 7.875"

Open Hole Size Water

Type Fluid 8.34 lbm/gal

Density / Viscosity 228°F

Max. Recorded Temp. 236 FT

Estimated Cement Top 07:00

Time Well Ready 15:15

Time Logger on Bottom HD-0324

Equipment Number Fort Lupton, CO

Location Jack Amidei

Recorded By Chris Hayes

Witnessed By

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top	Bottom		
Surface Casing	9 5/8	36	JD BTC	Surface	1871 FT		
Intermediate #1	5 1/2	17	LTC	Surface	13107 FT		
Intermediate #2							
Liner							

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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 6812 FT
Adjusted log +38 FT to correlate with Marker Joint
Log ran from 7152 FT to surface
Log ran with 2800 PSI surface induced pressure
Logging tools were clean and free of any debris upon completion of operations

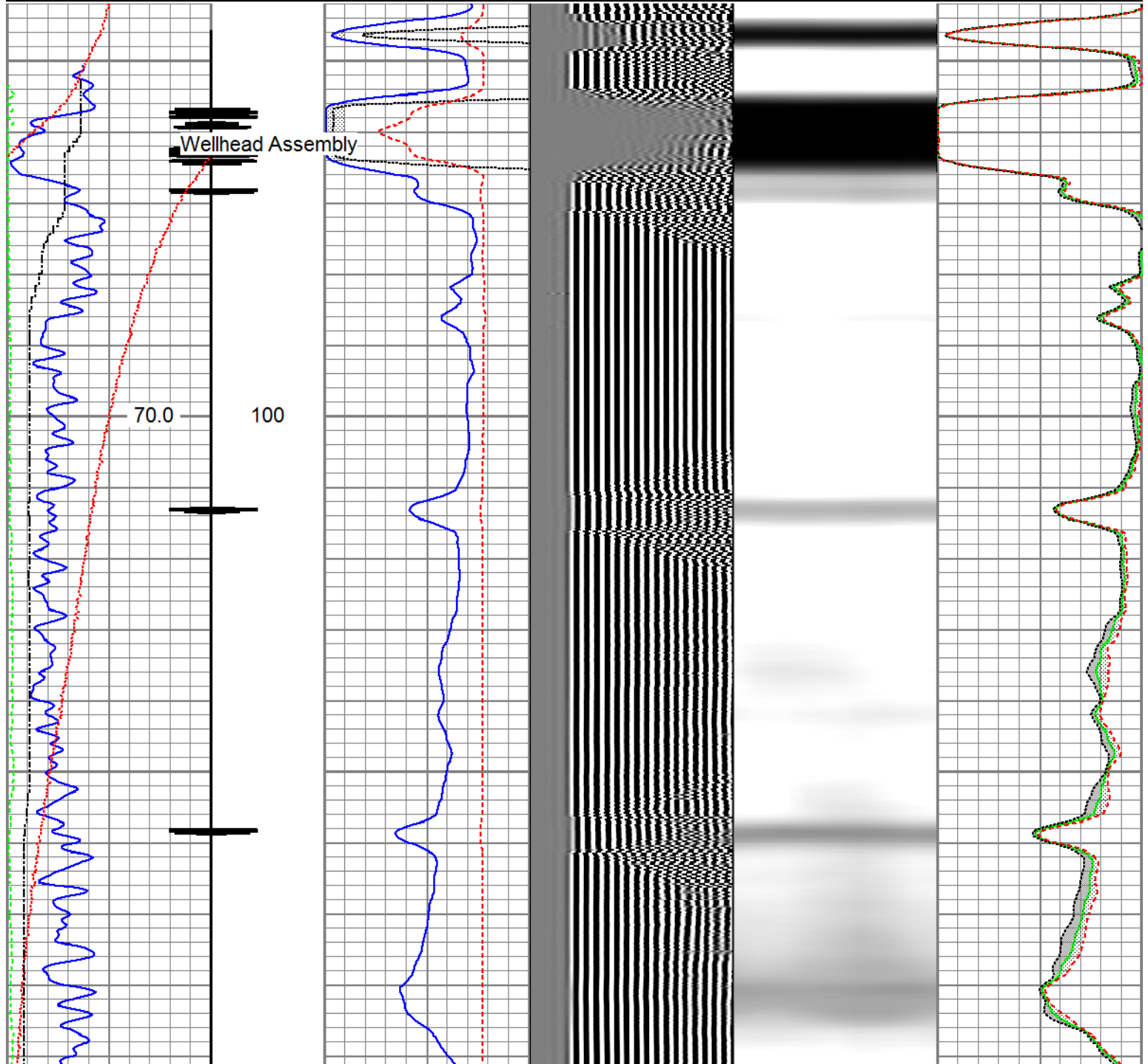
Thank you for choosing Reliance Oilfield Services, LLC!!

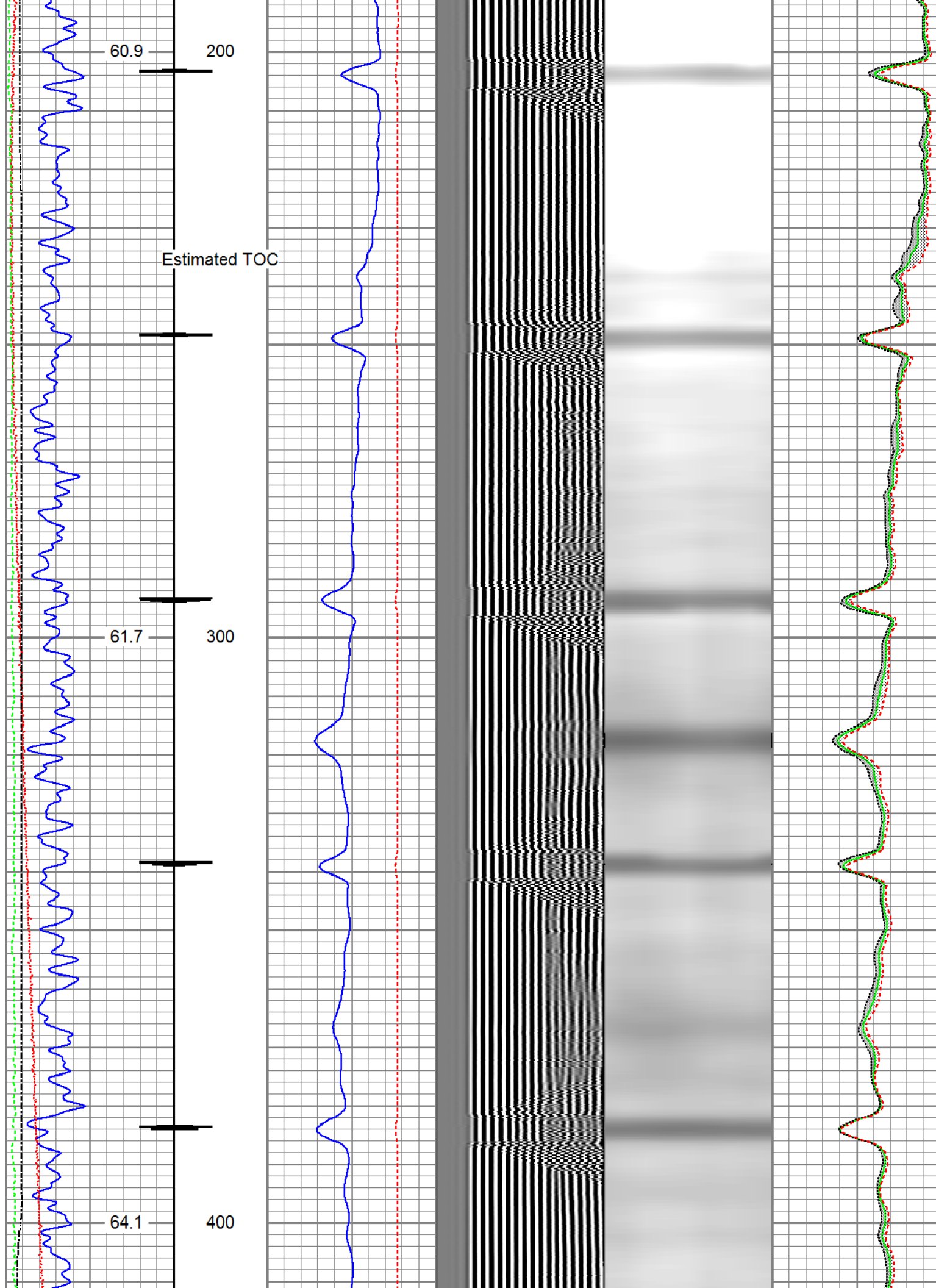


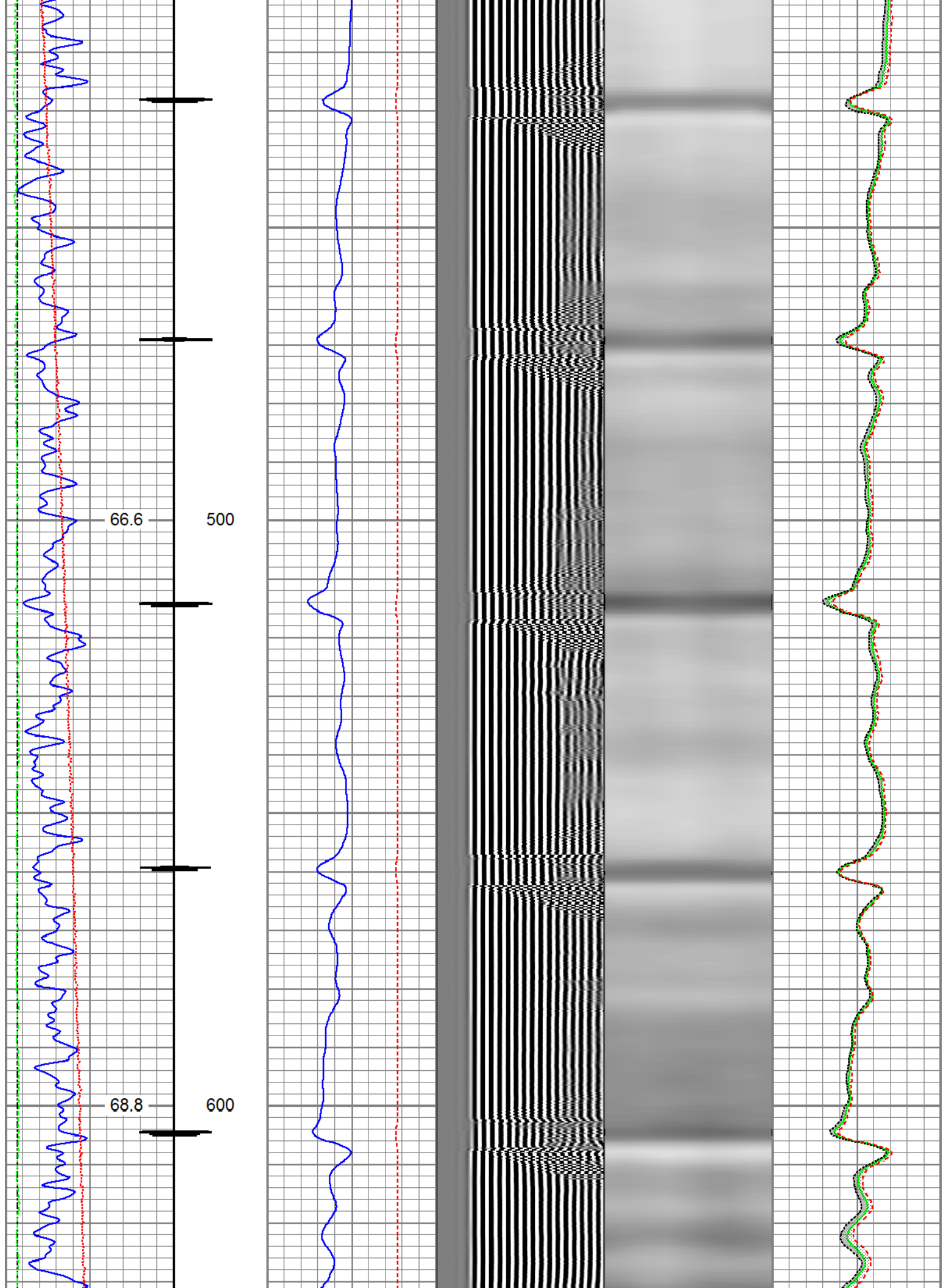
Main Pass

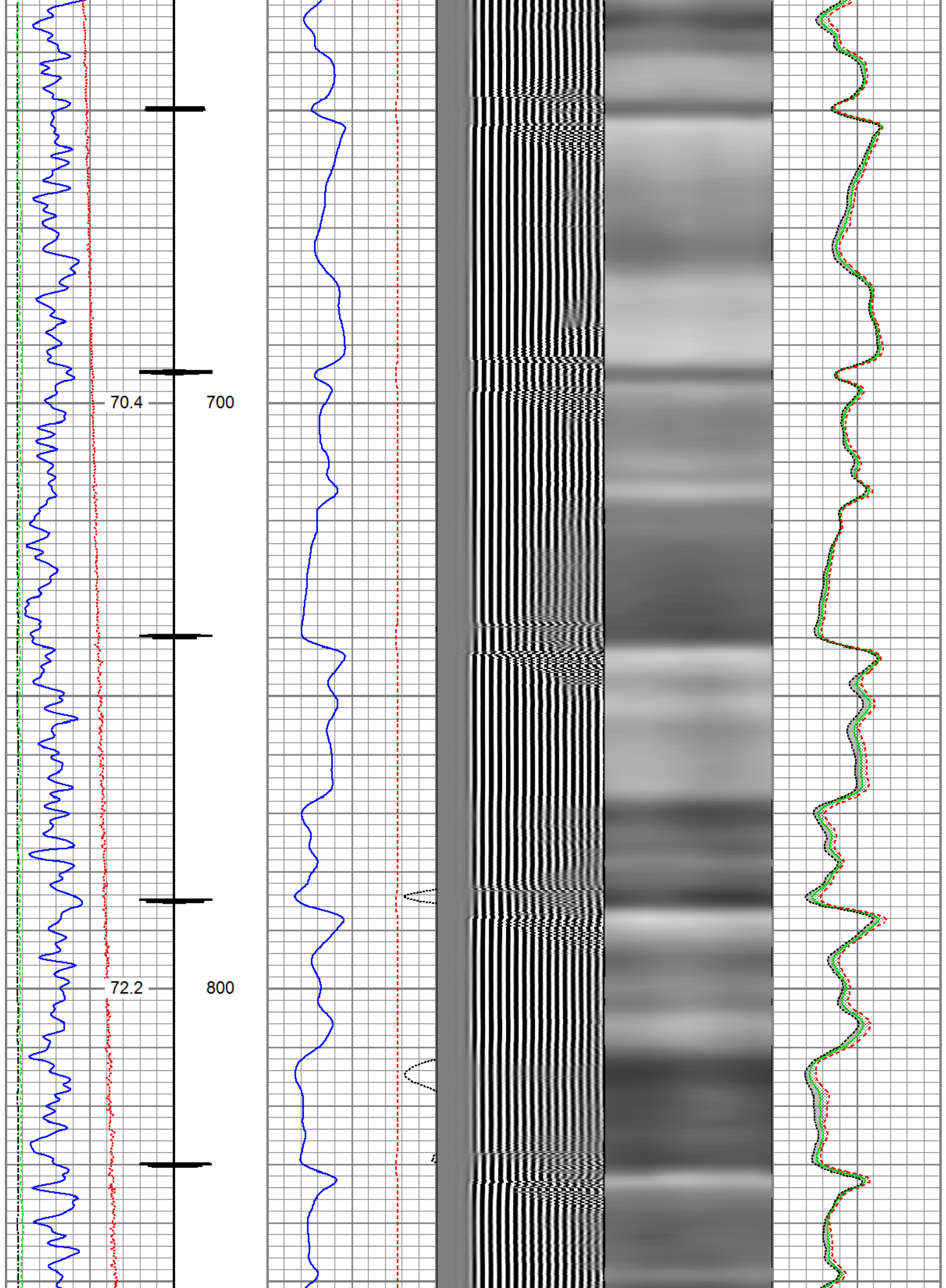
Recorded with 2800 PSI Surface Induced Pressure

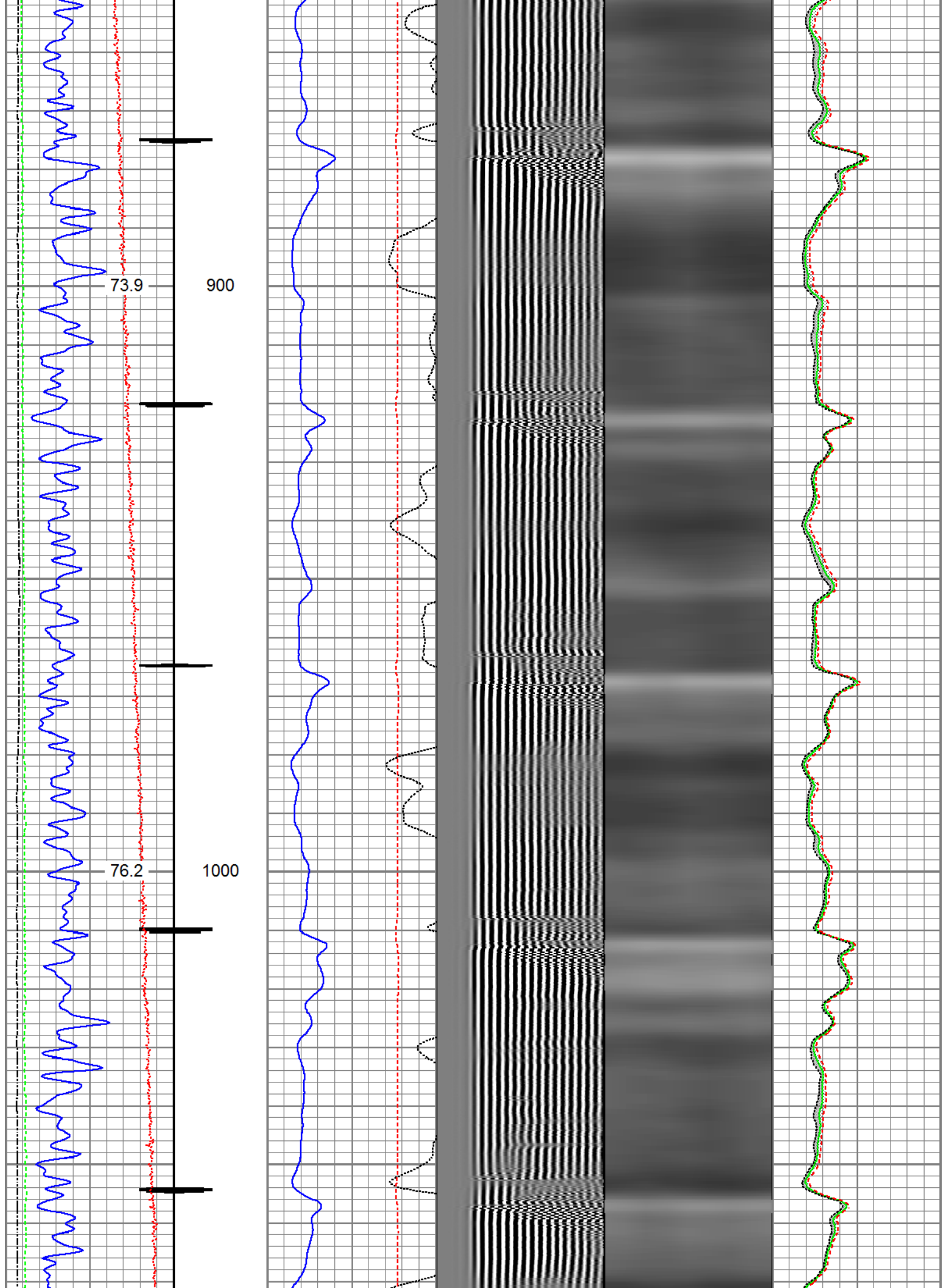
Gamma Ray 0 (GAPI) 120	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map	Average Amplitude 0 100
Casing Collar Locator	3' Amplitude x 5 0 (mV) 20			Minimum Amplitude 0 100
Temperature 0 (degF) 20	3' Travel Time 650 (usec) 150			Maximum Amplitude 0 100
Line Speed -150 (ft/min) 150		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

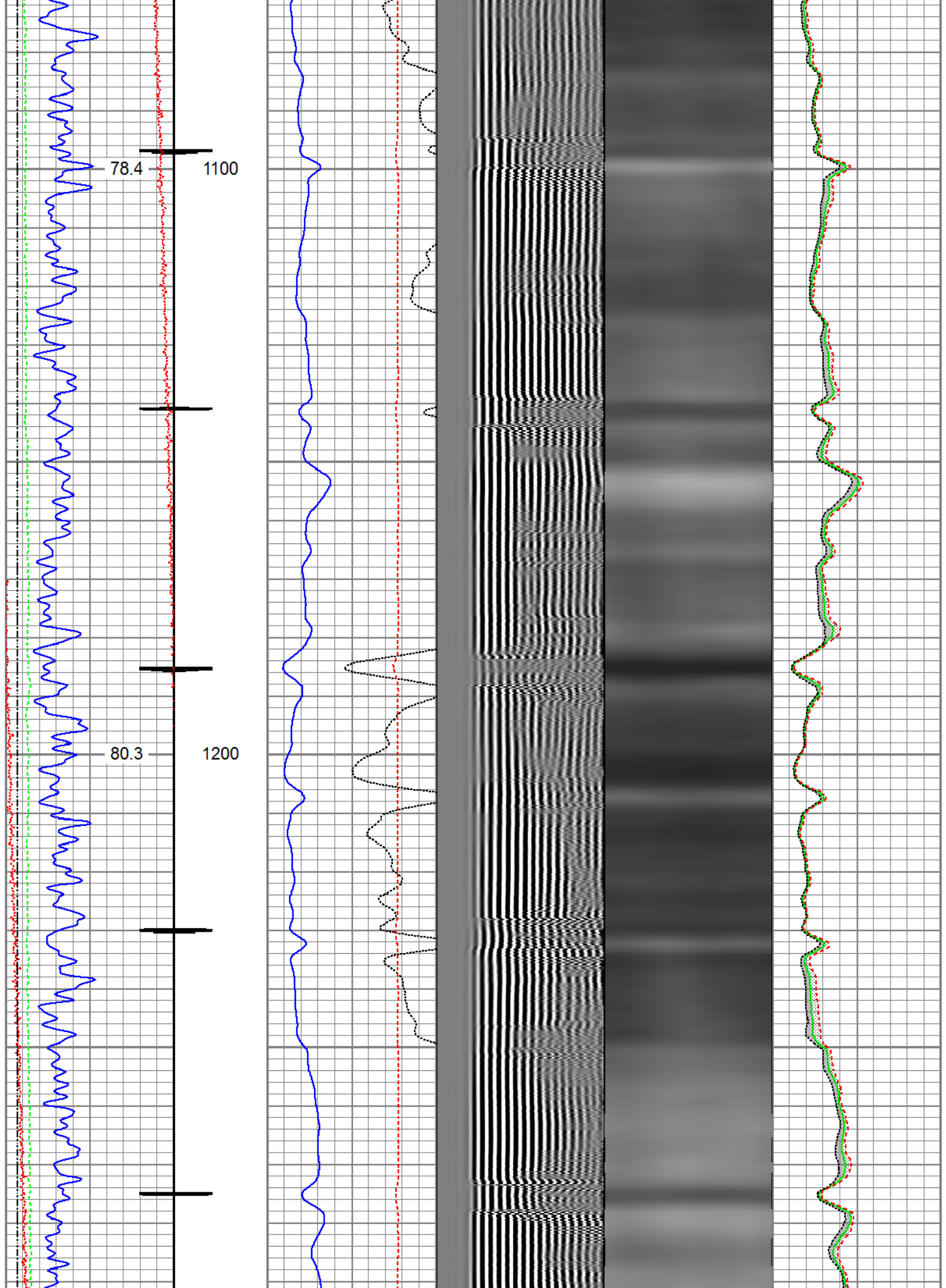


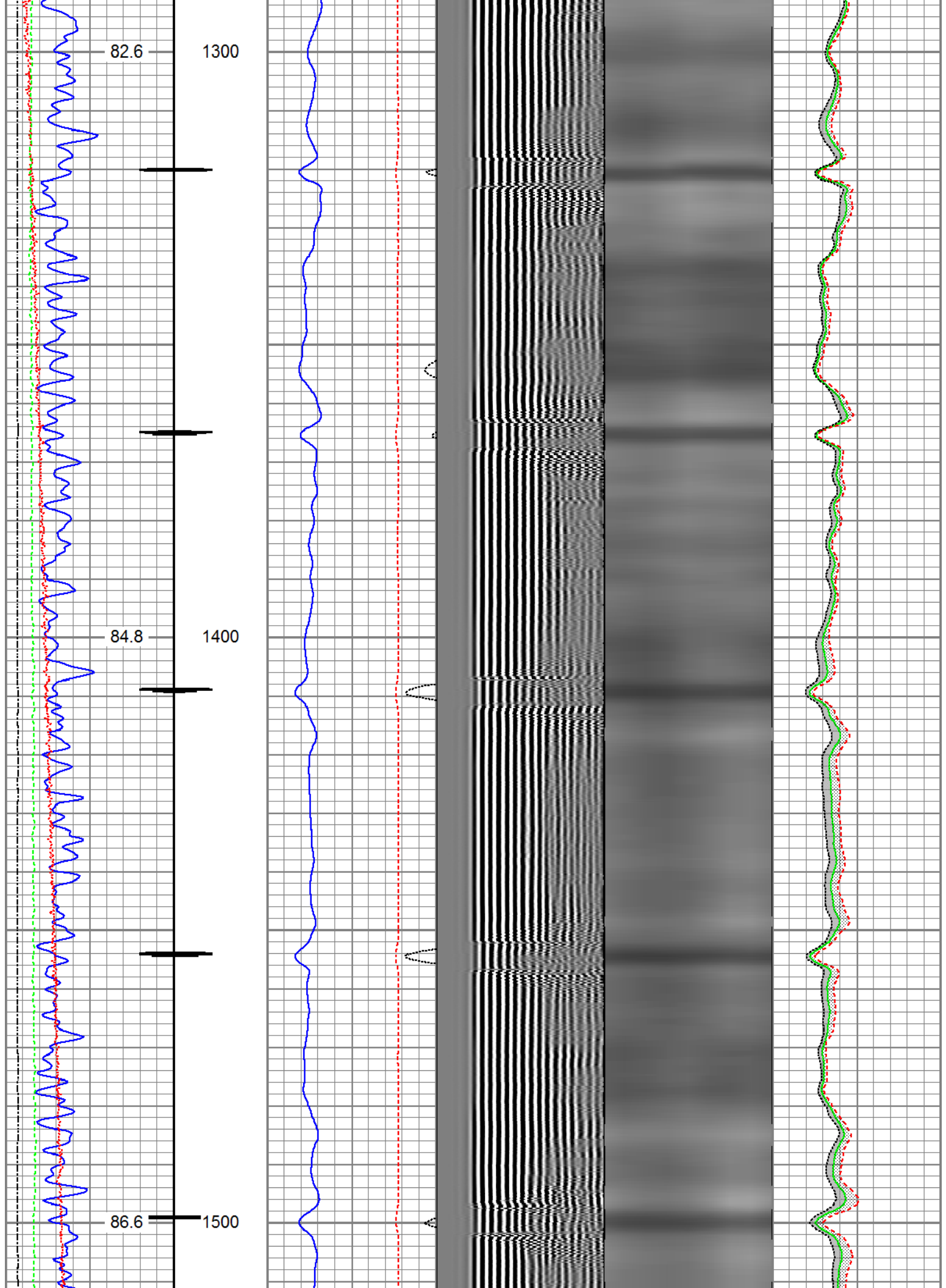


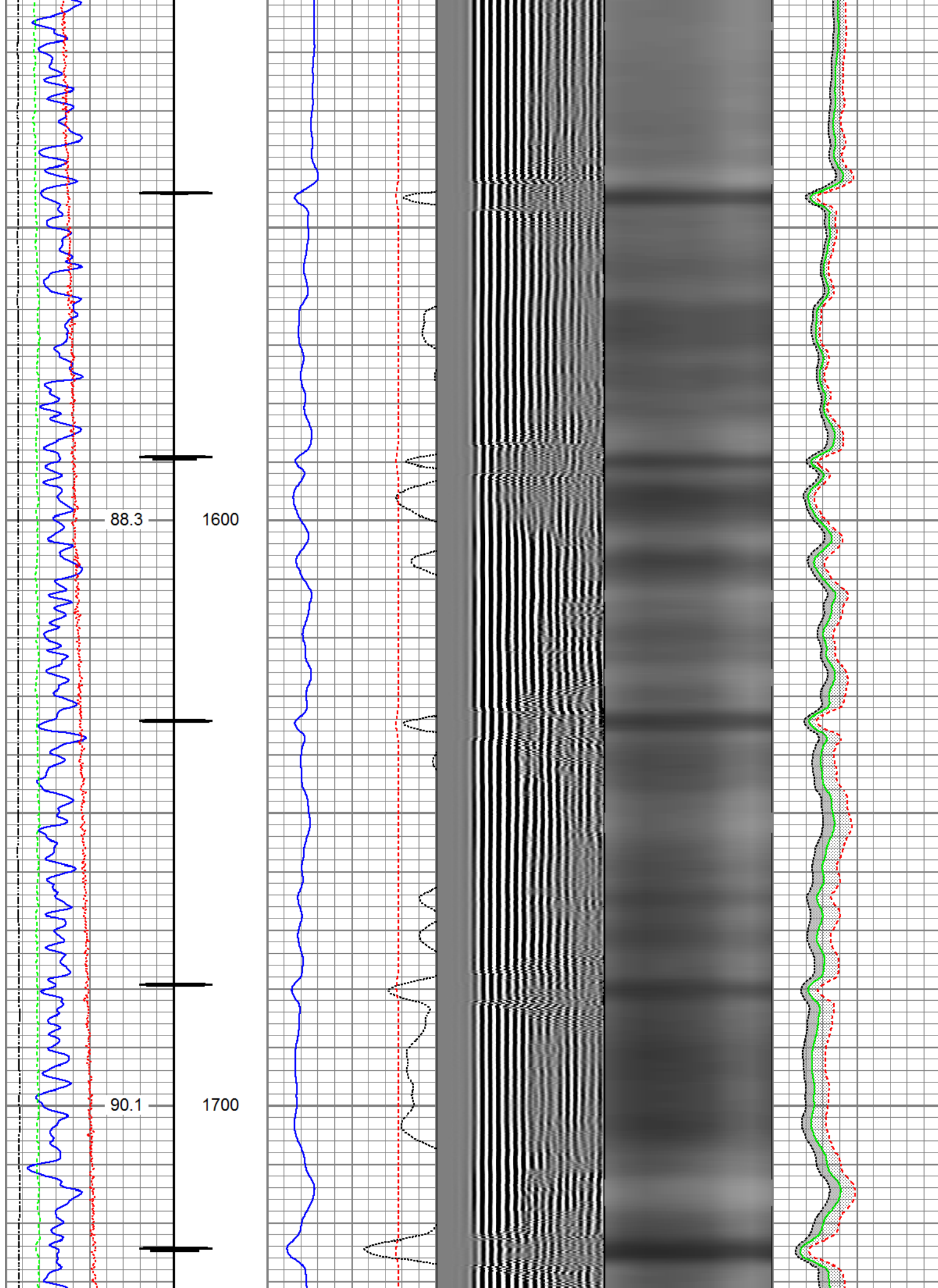


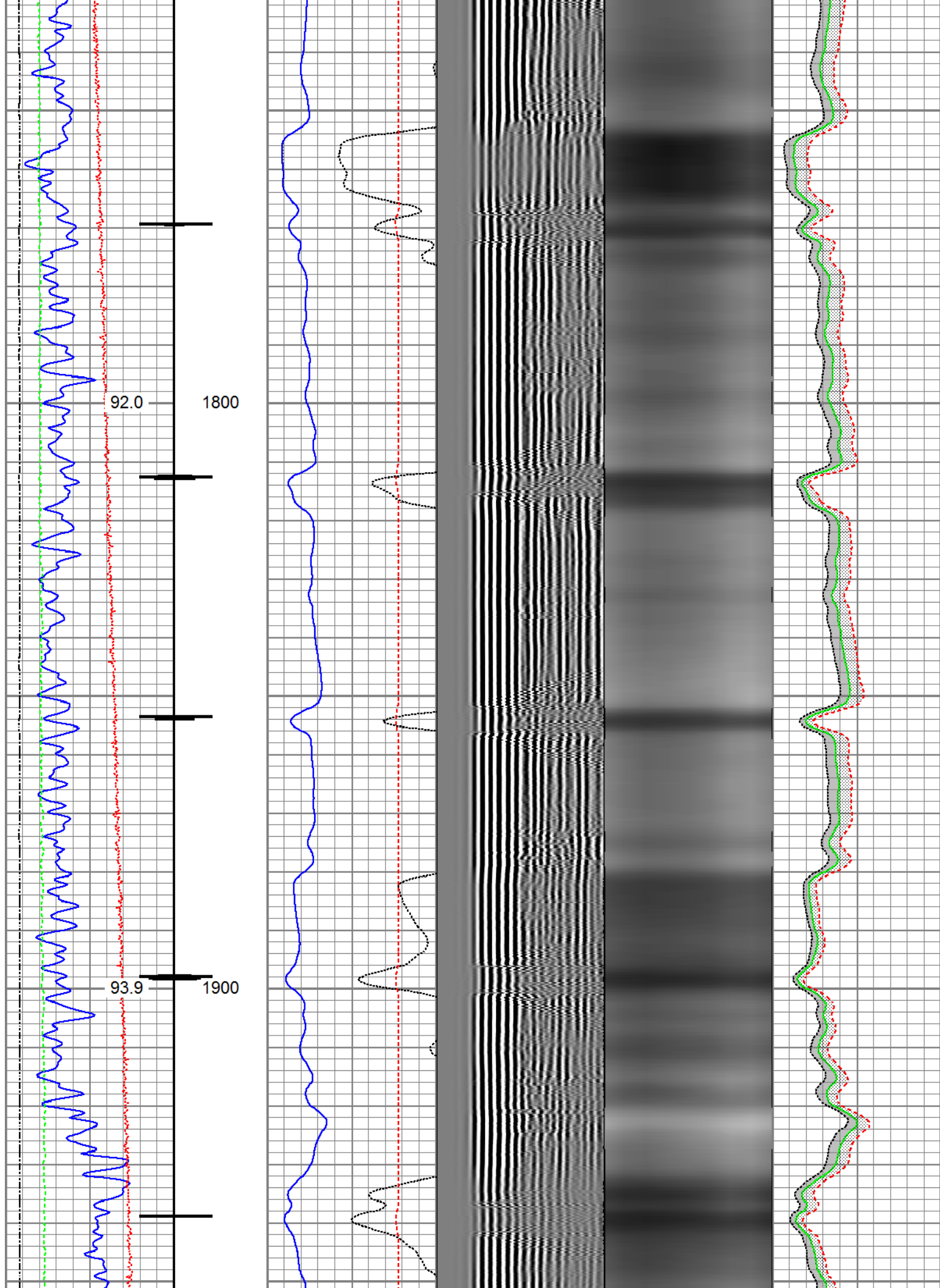


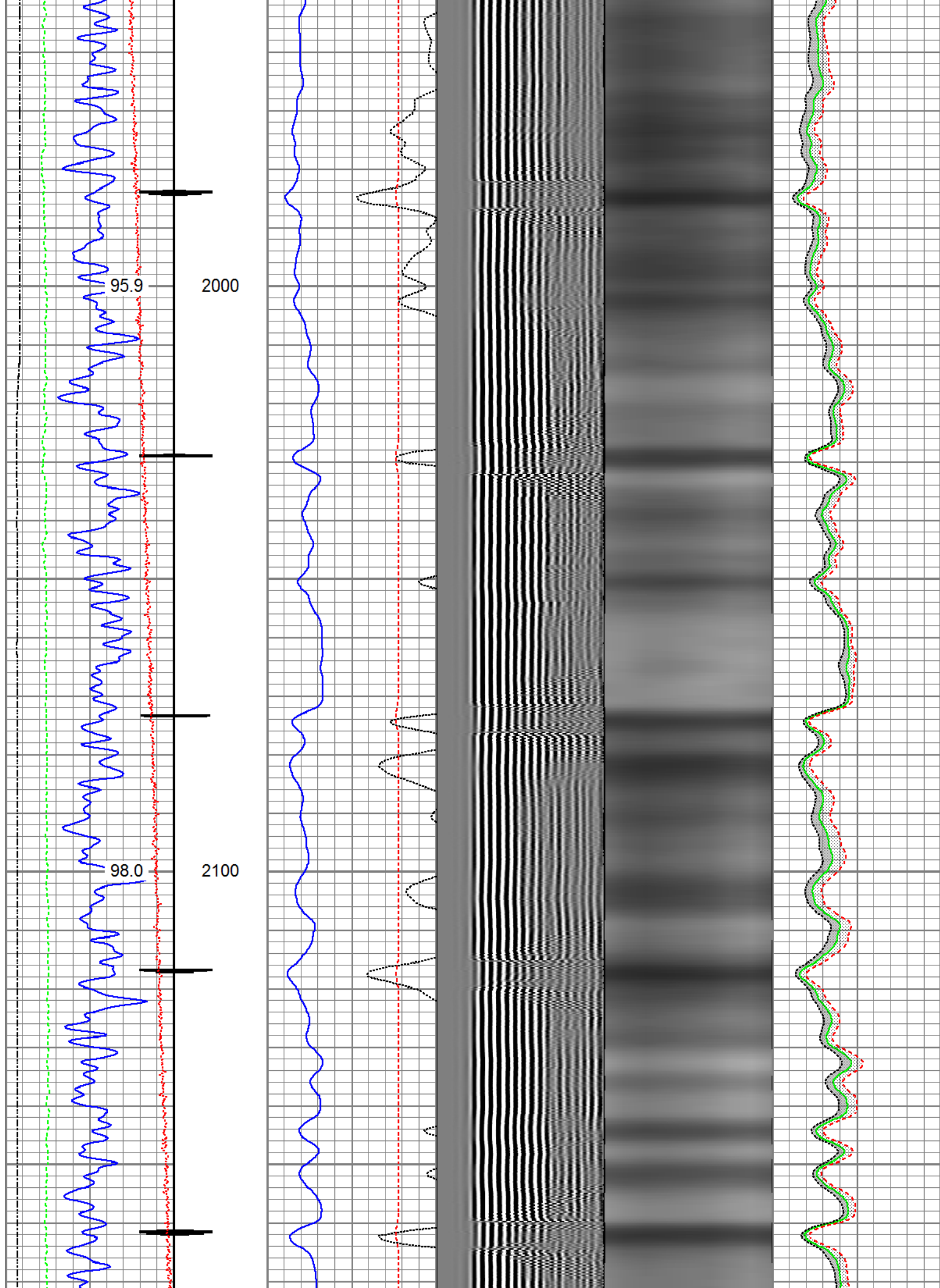


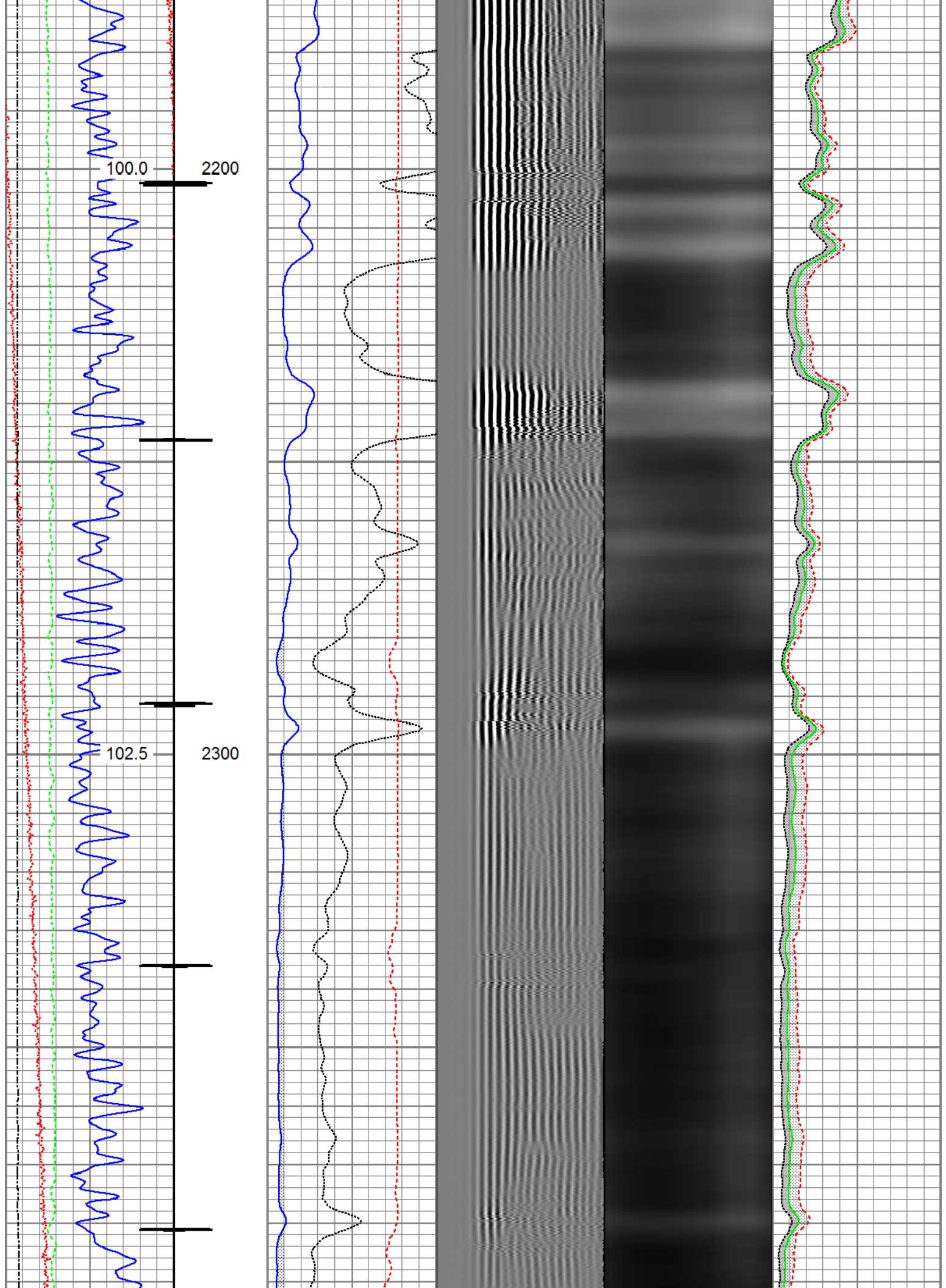


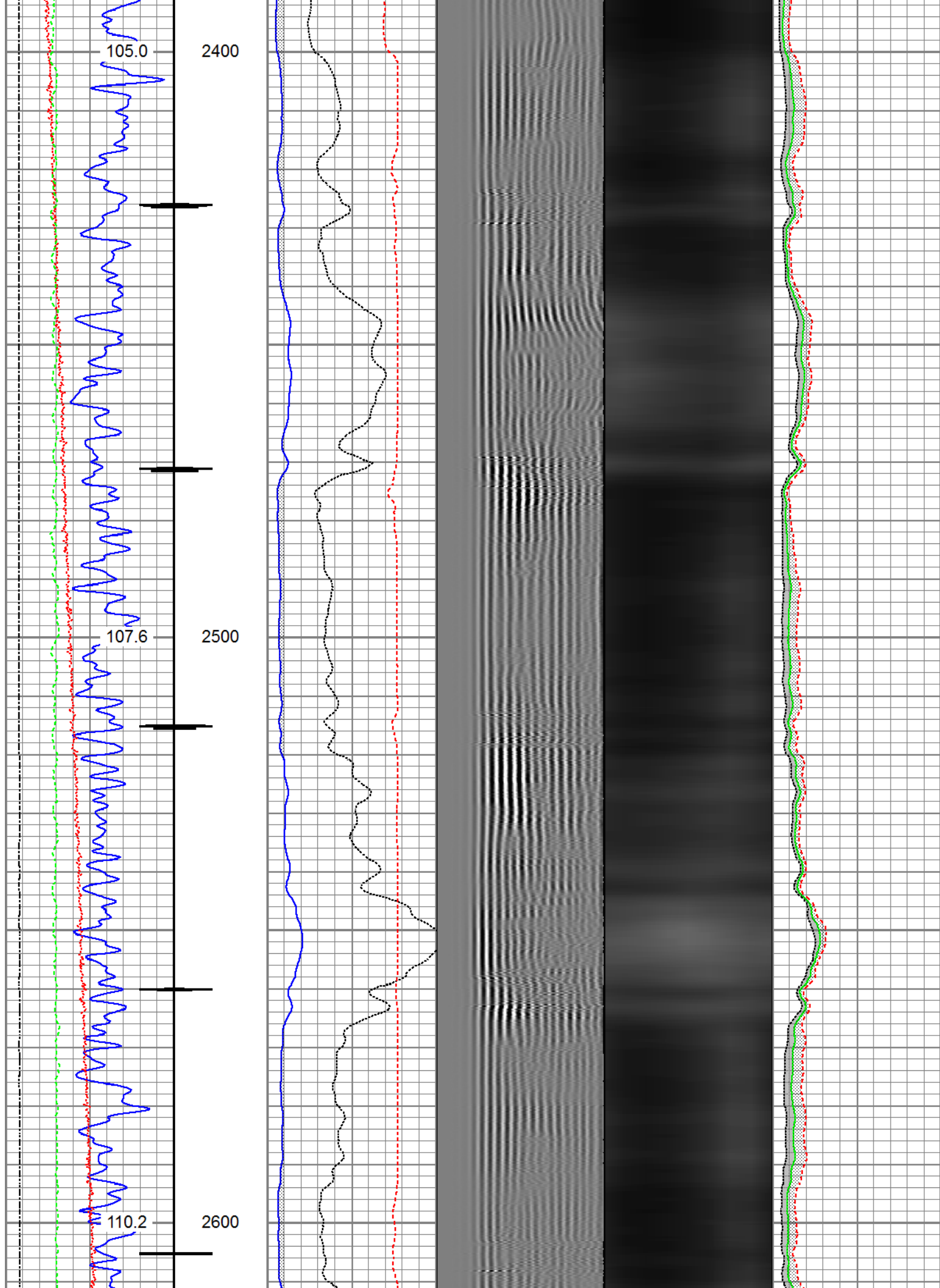


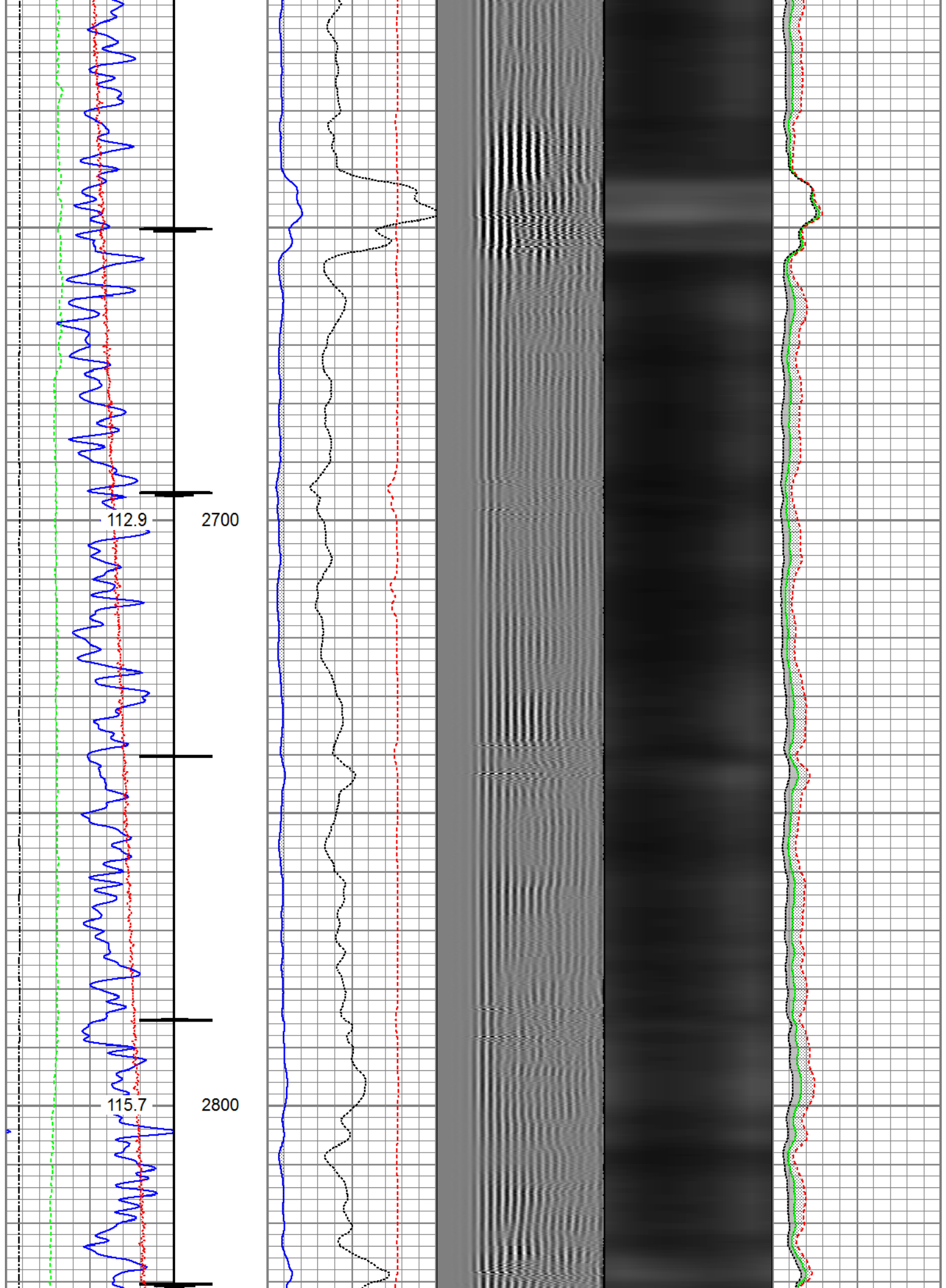


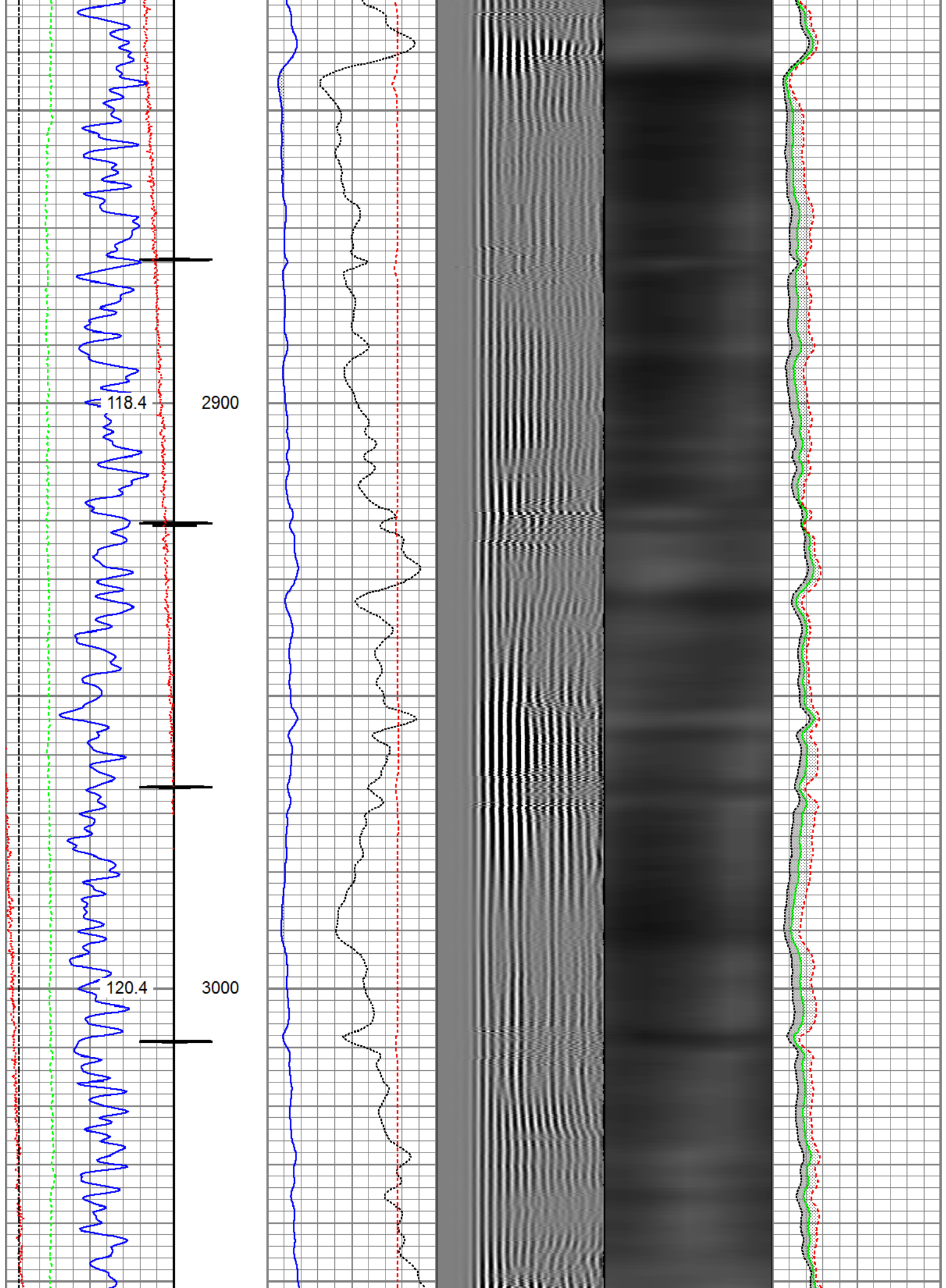


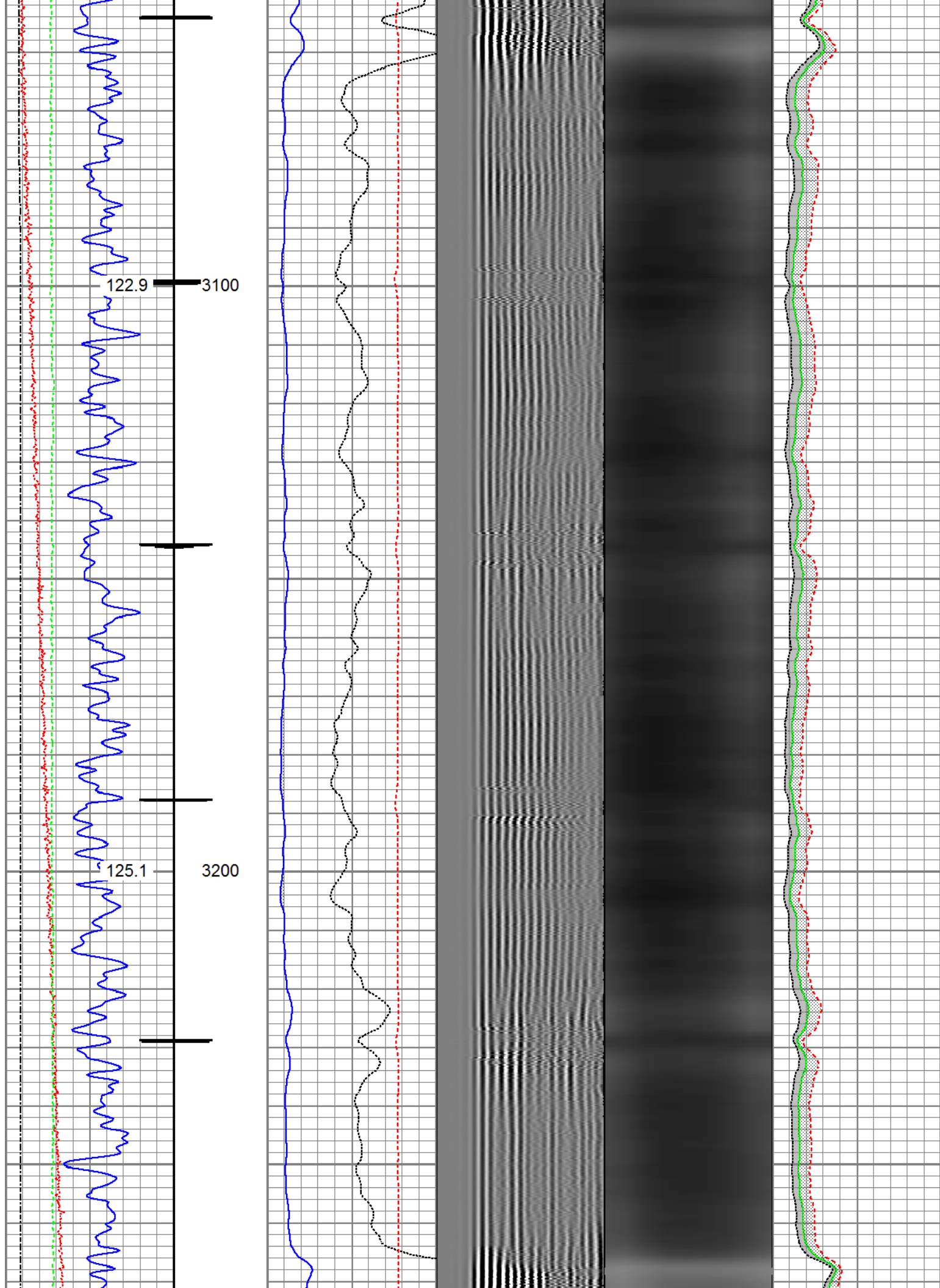


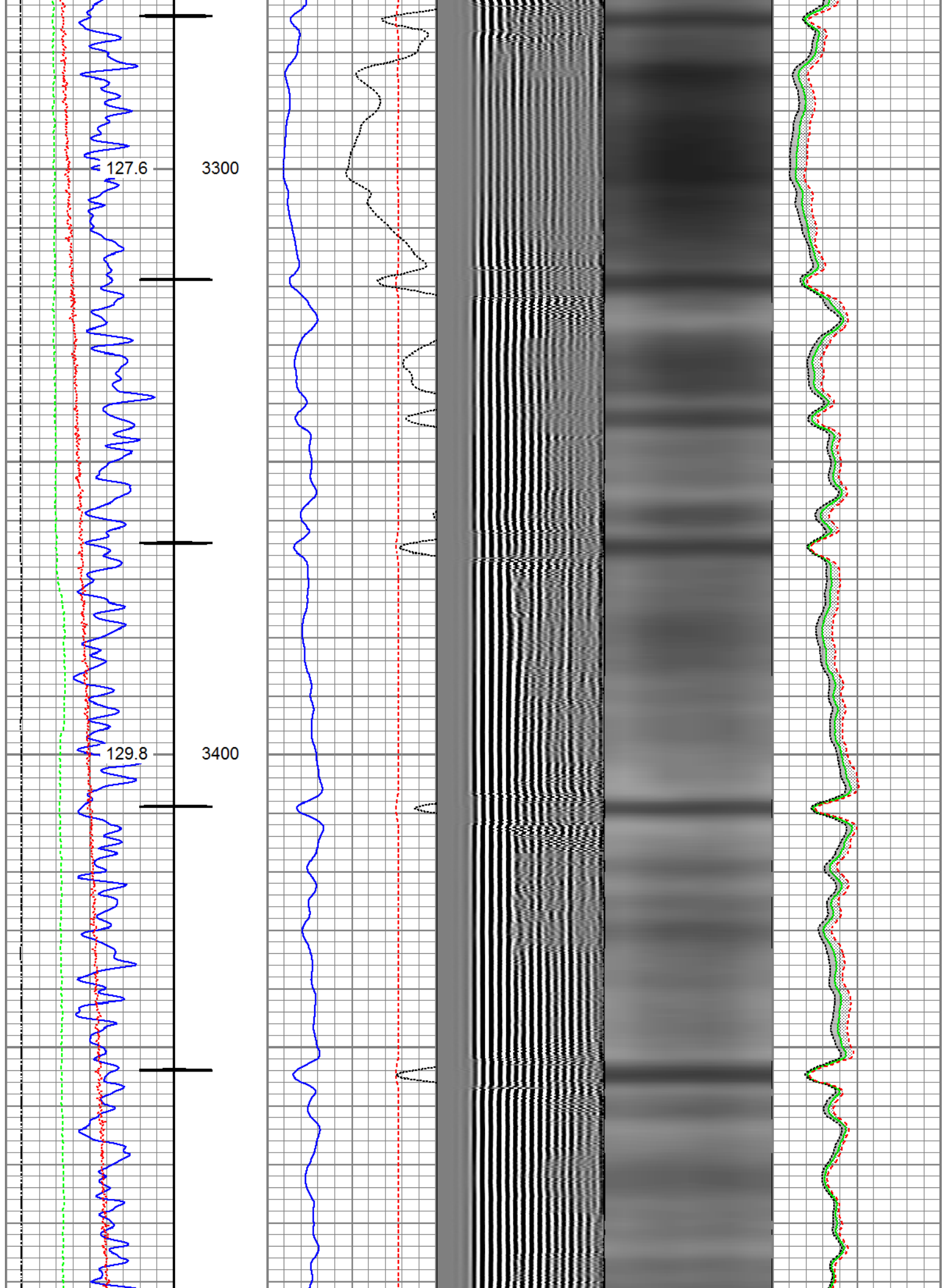


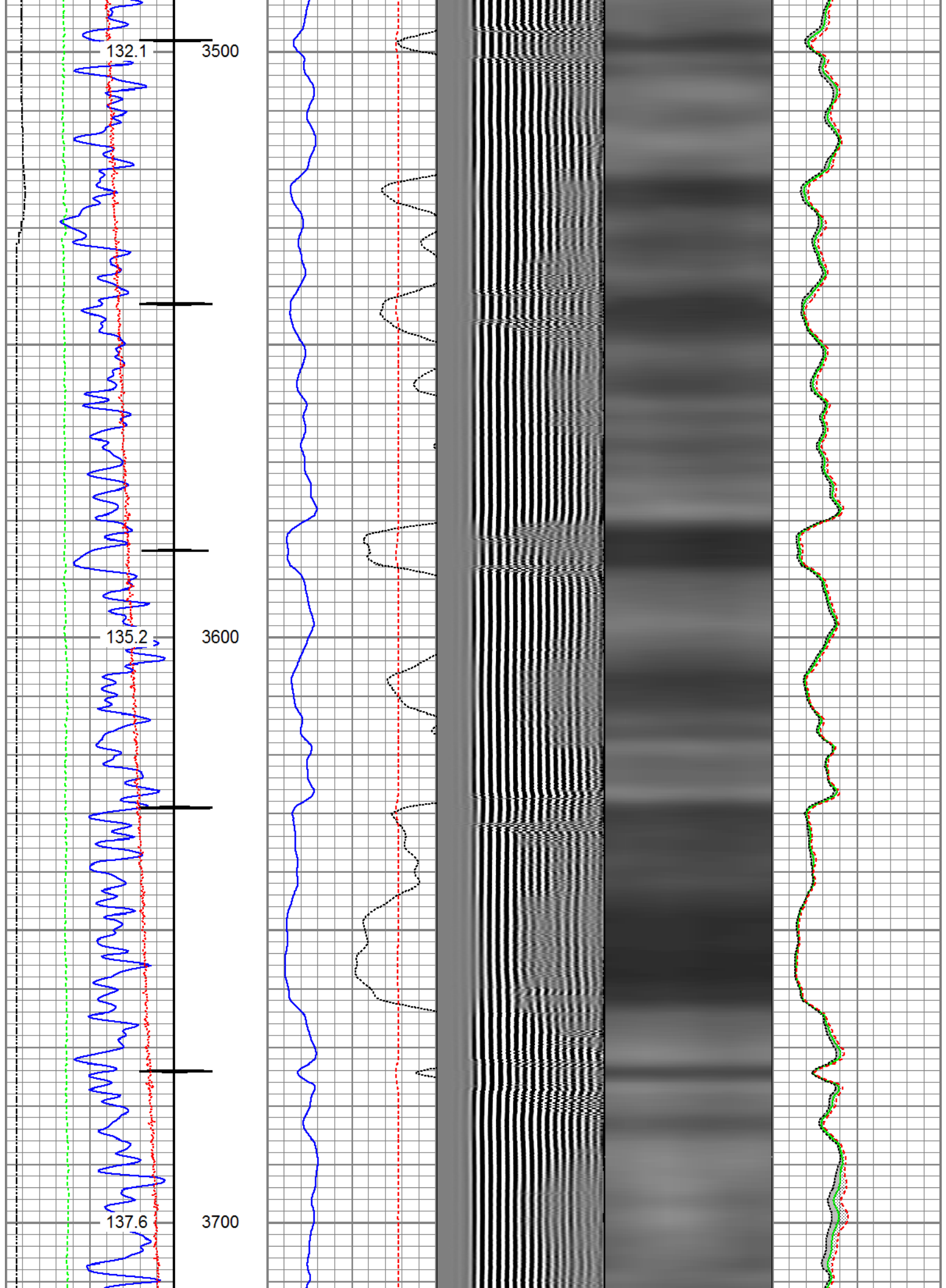


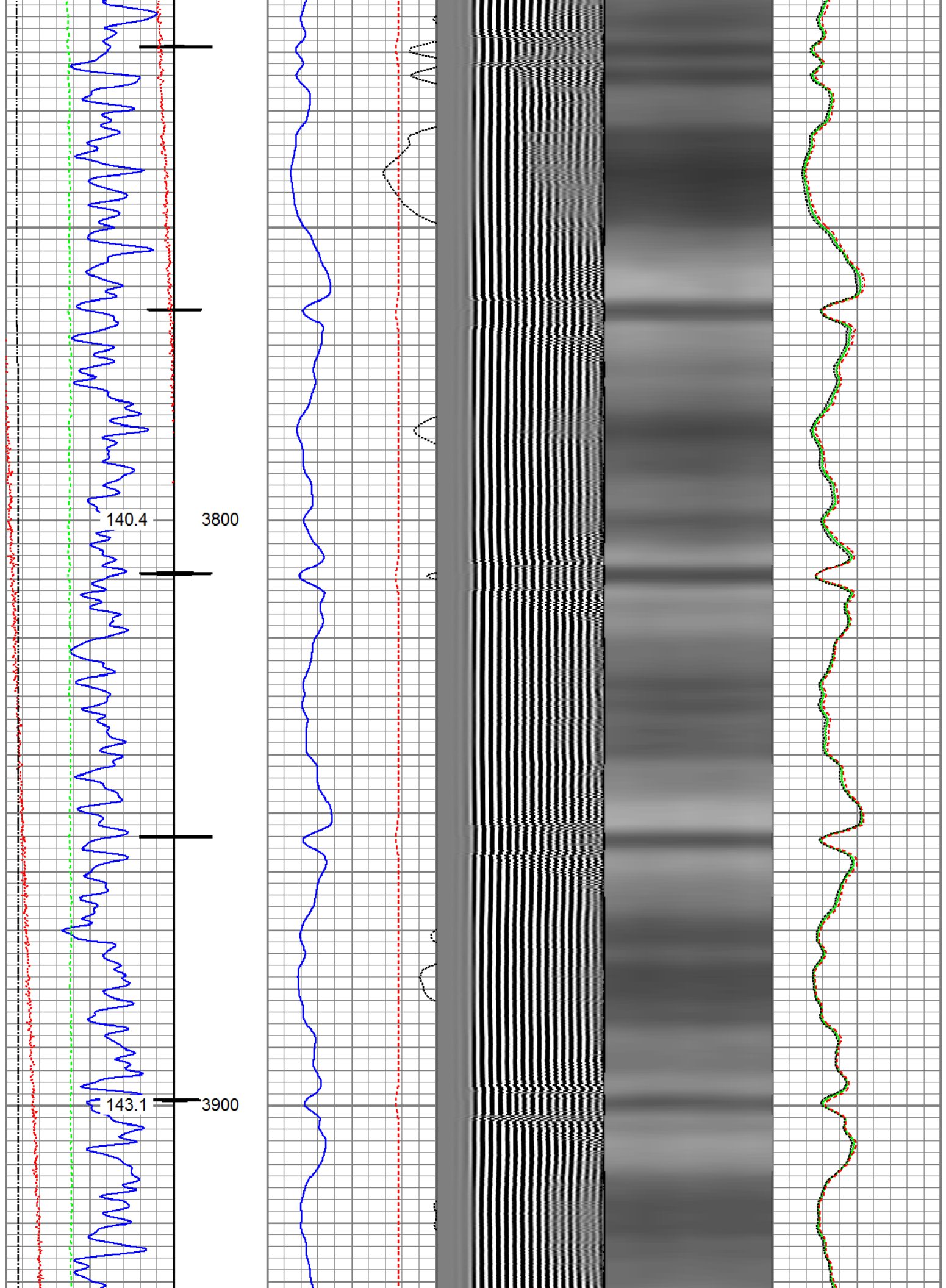


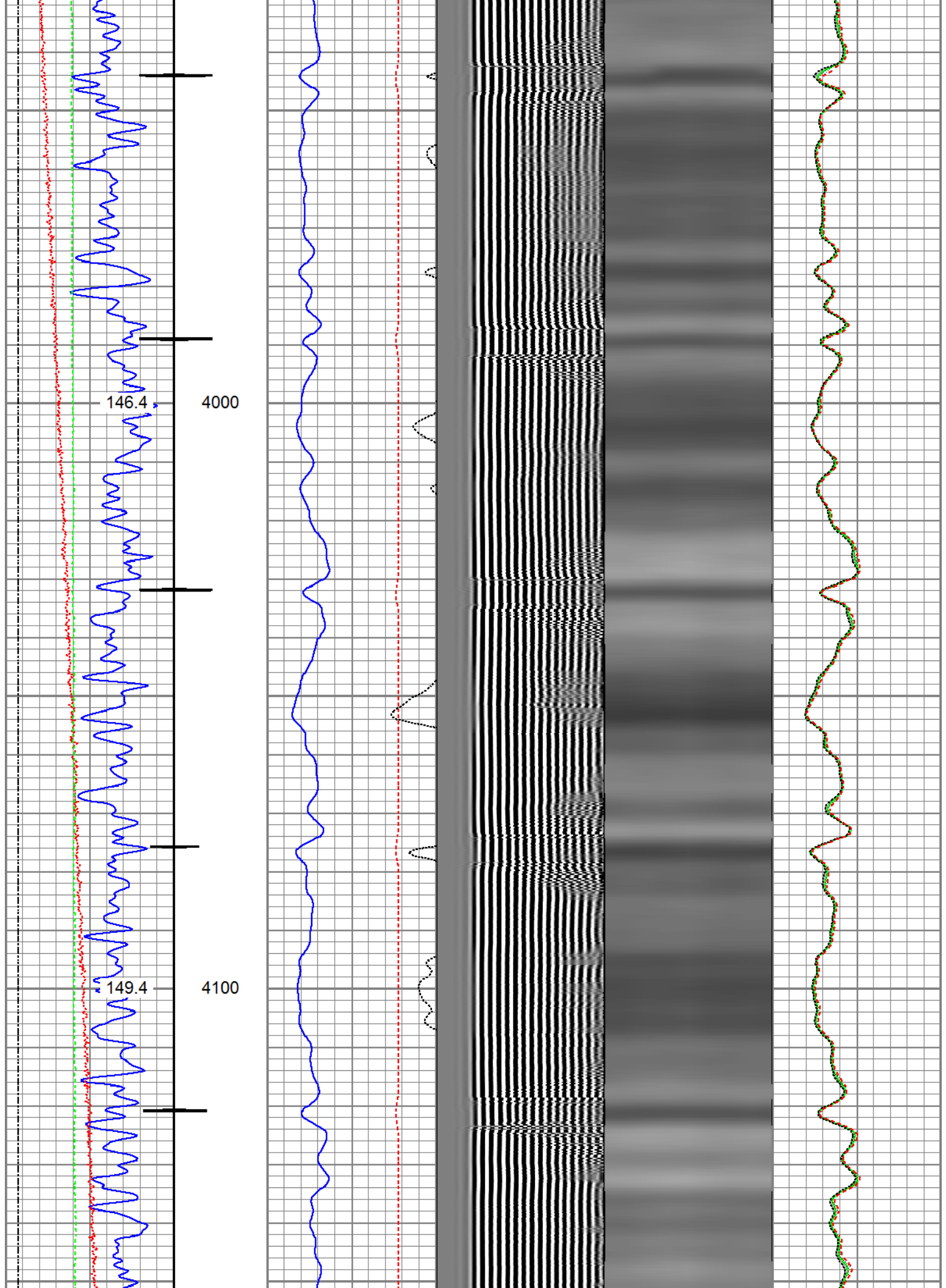


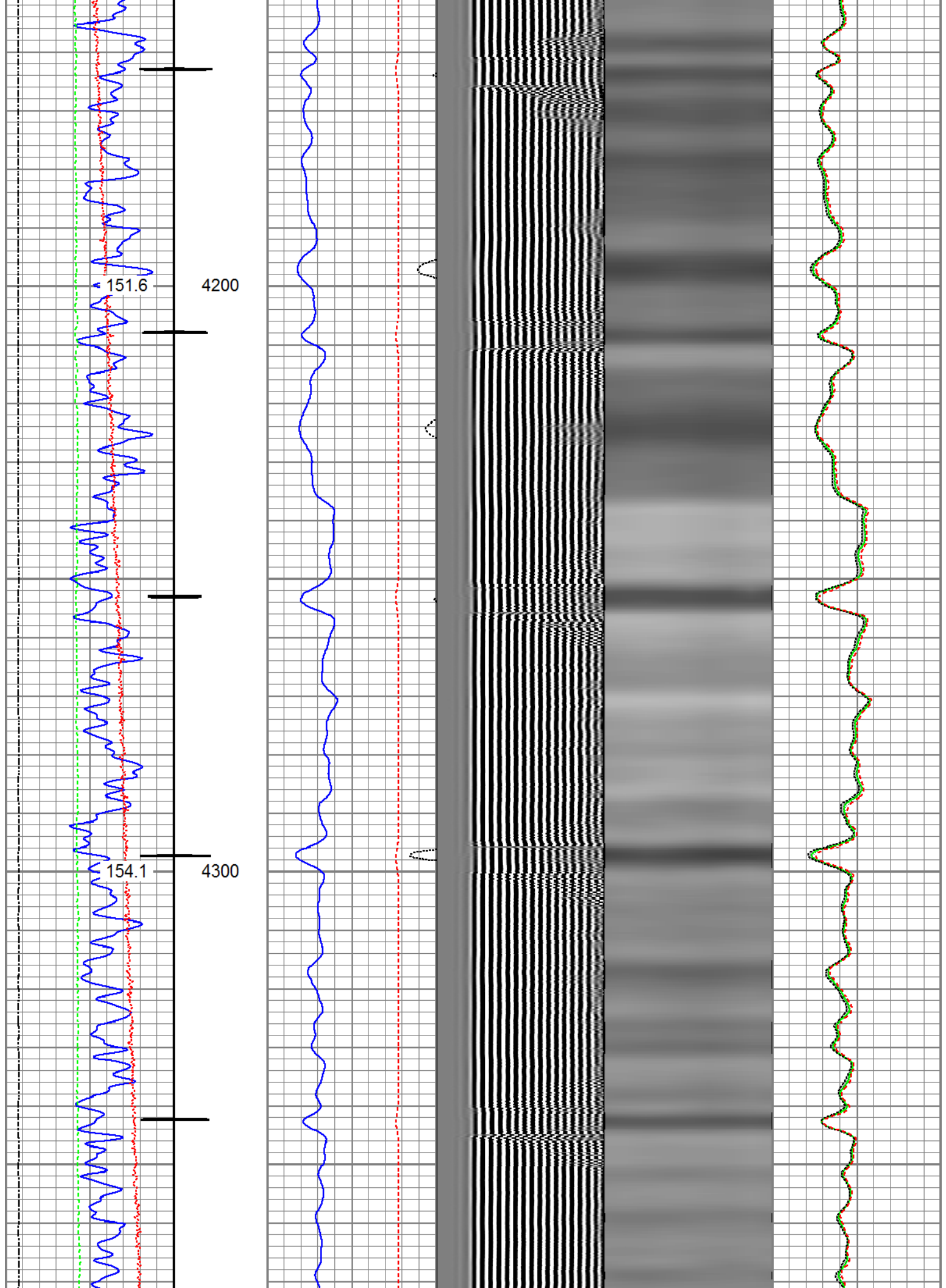


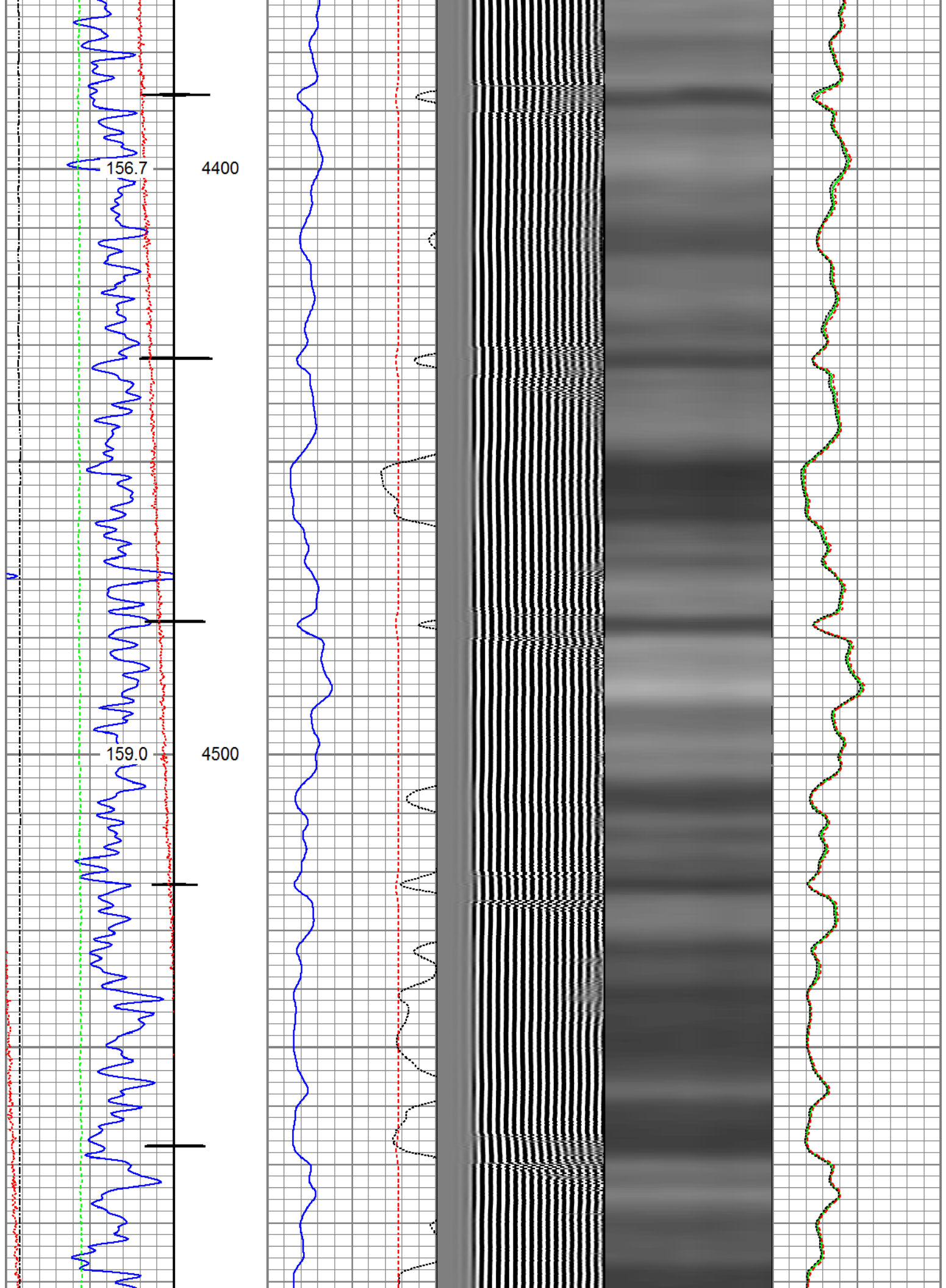


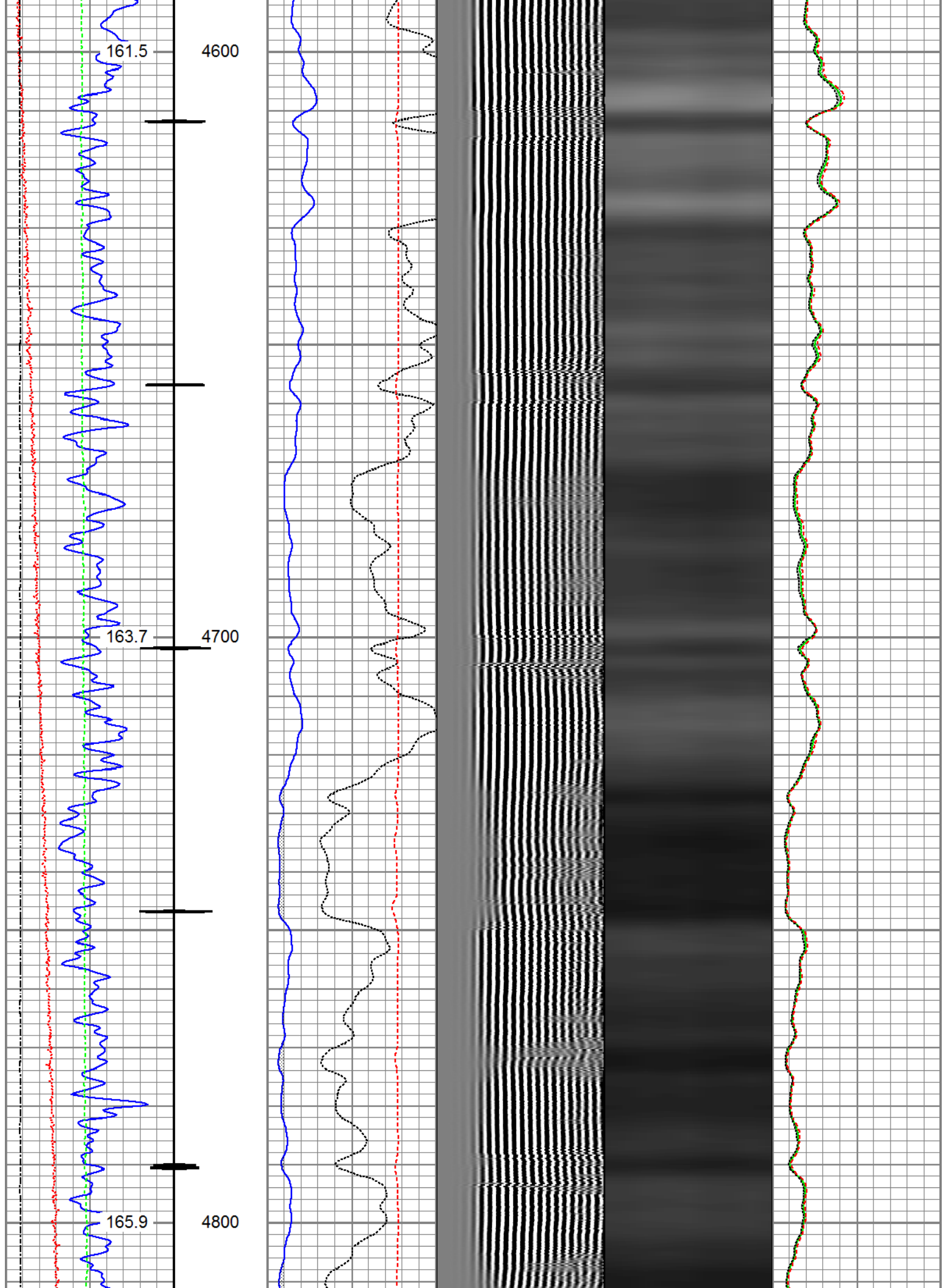


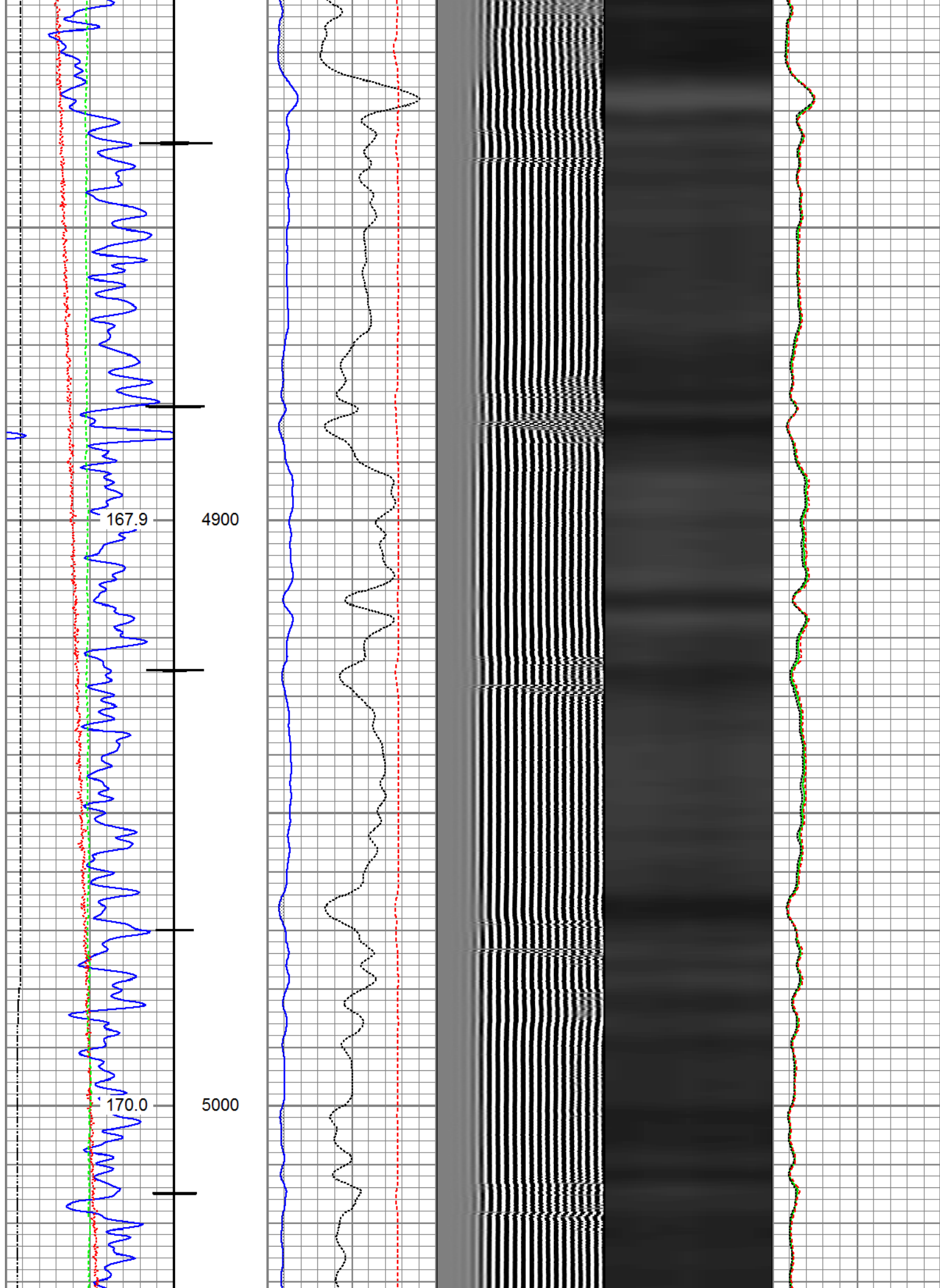


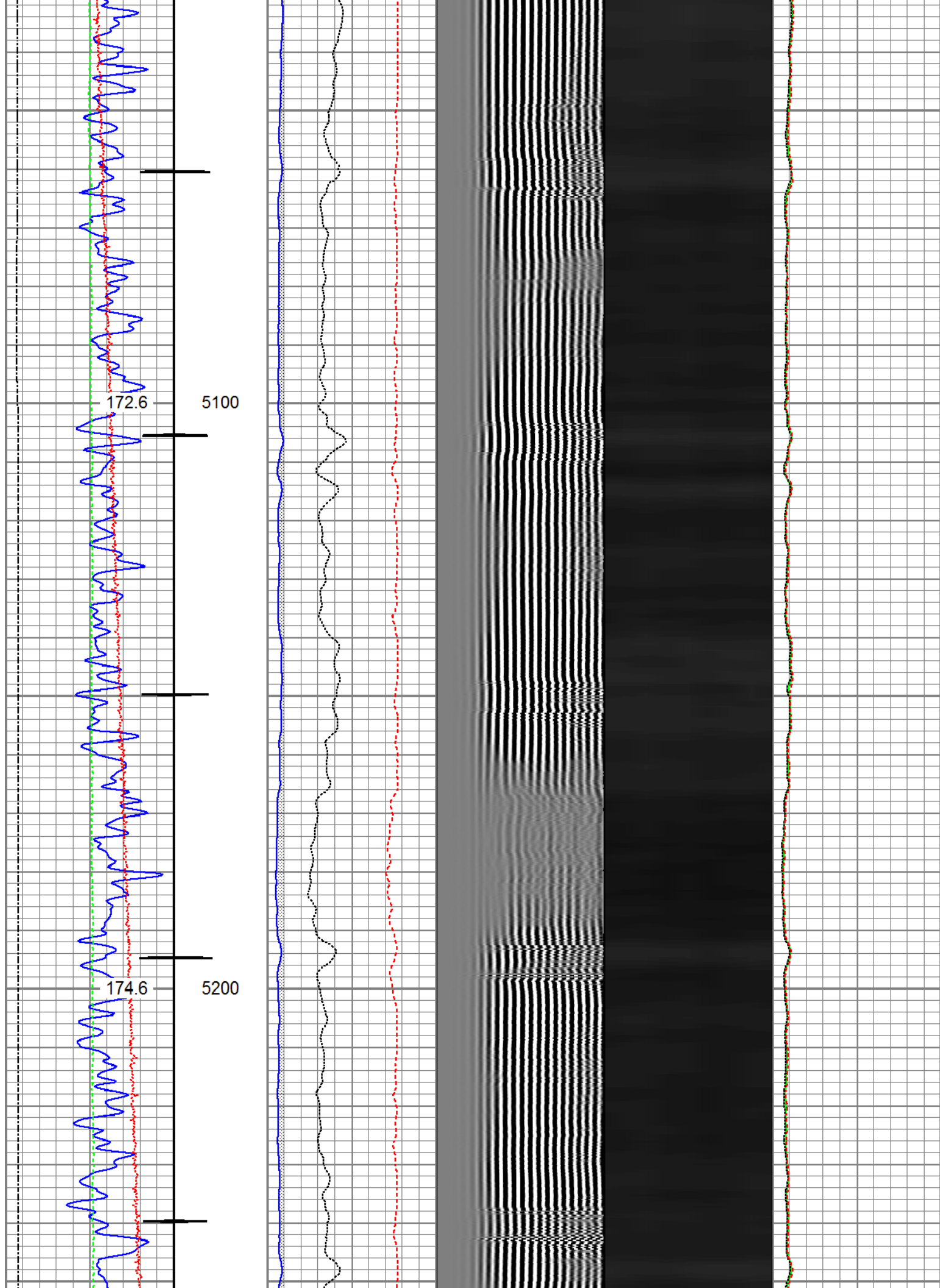


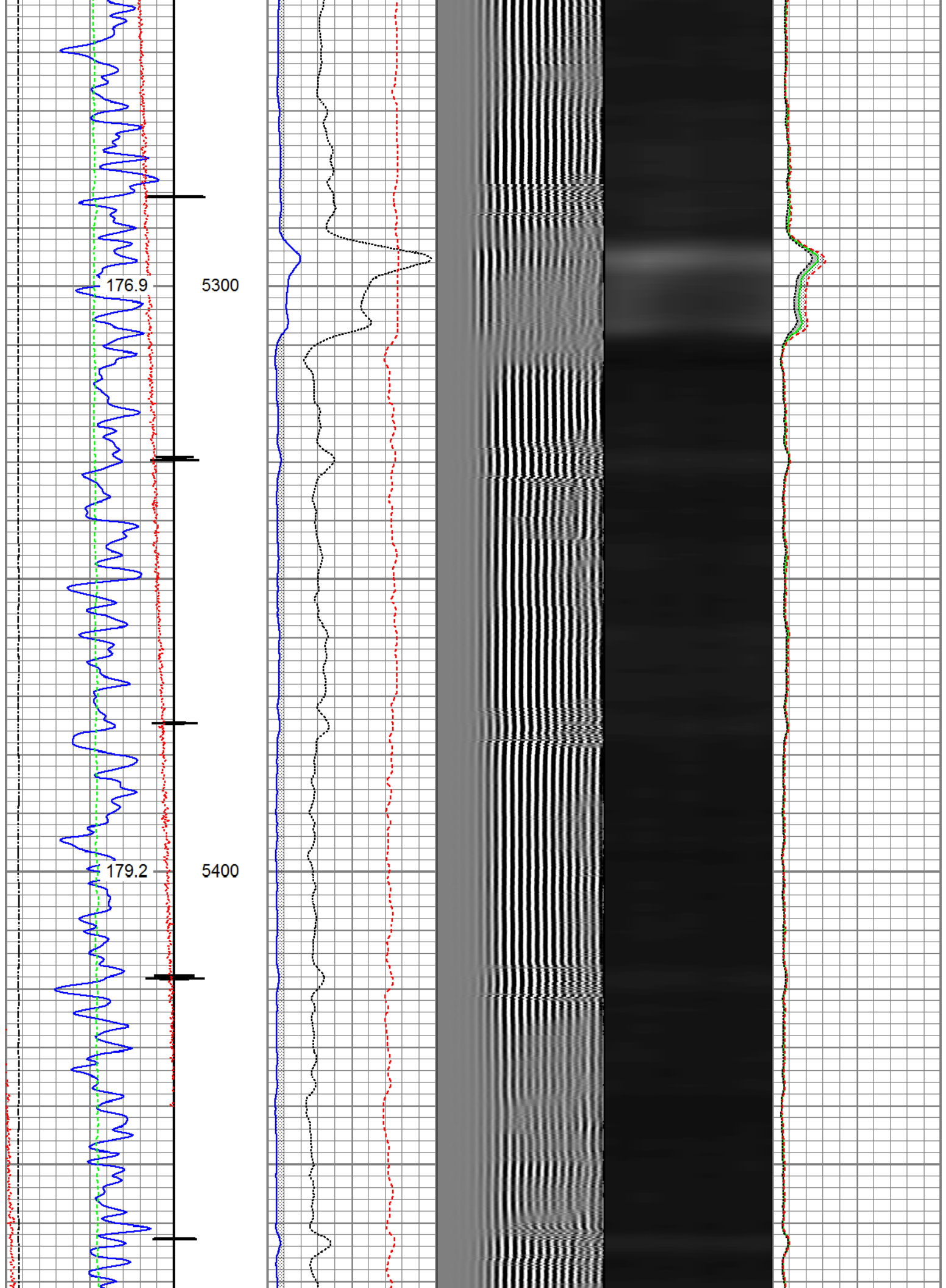


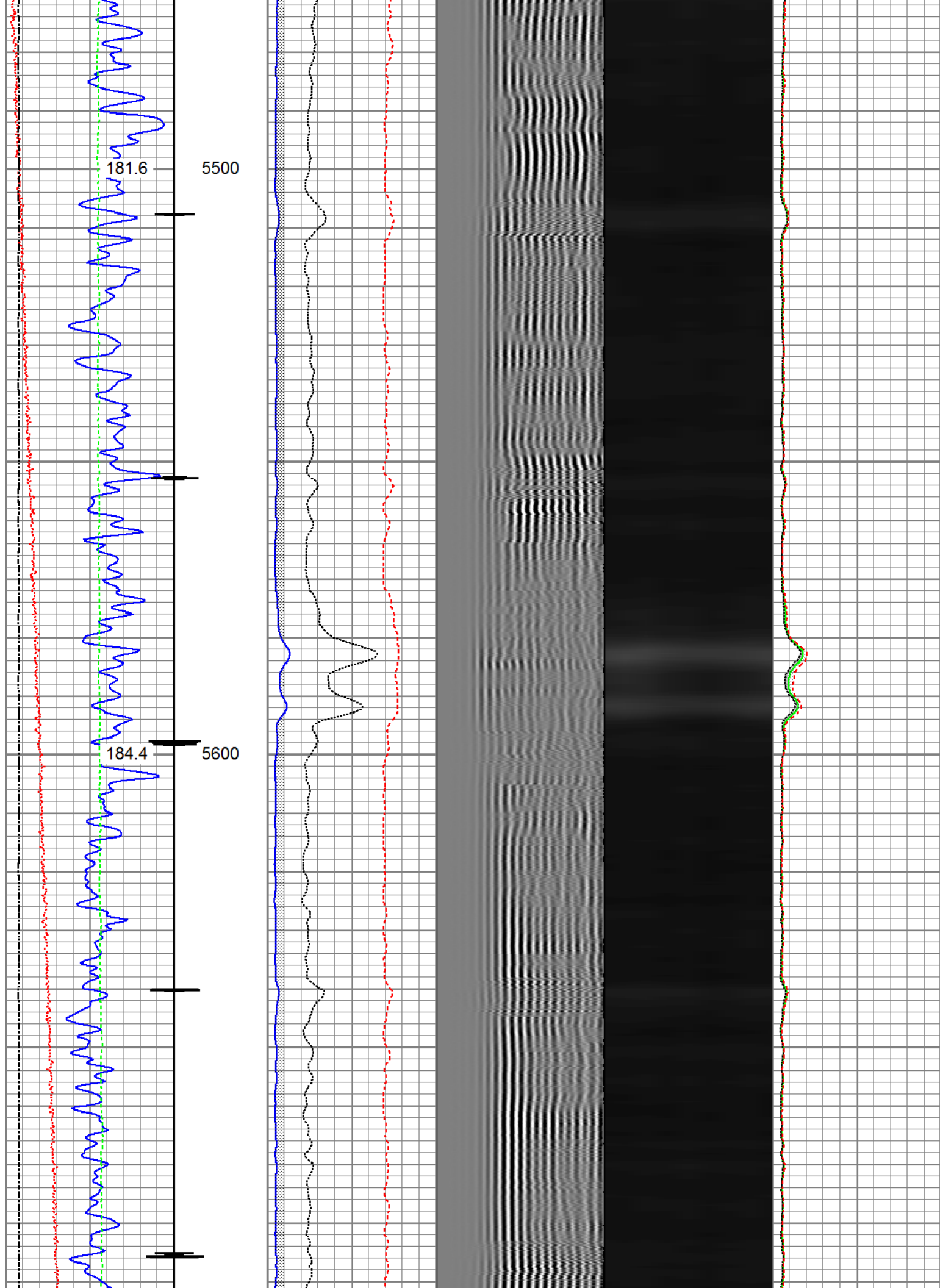


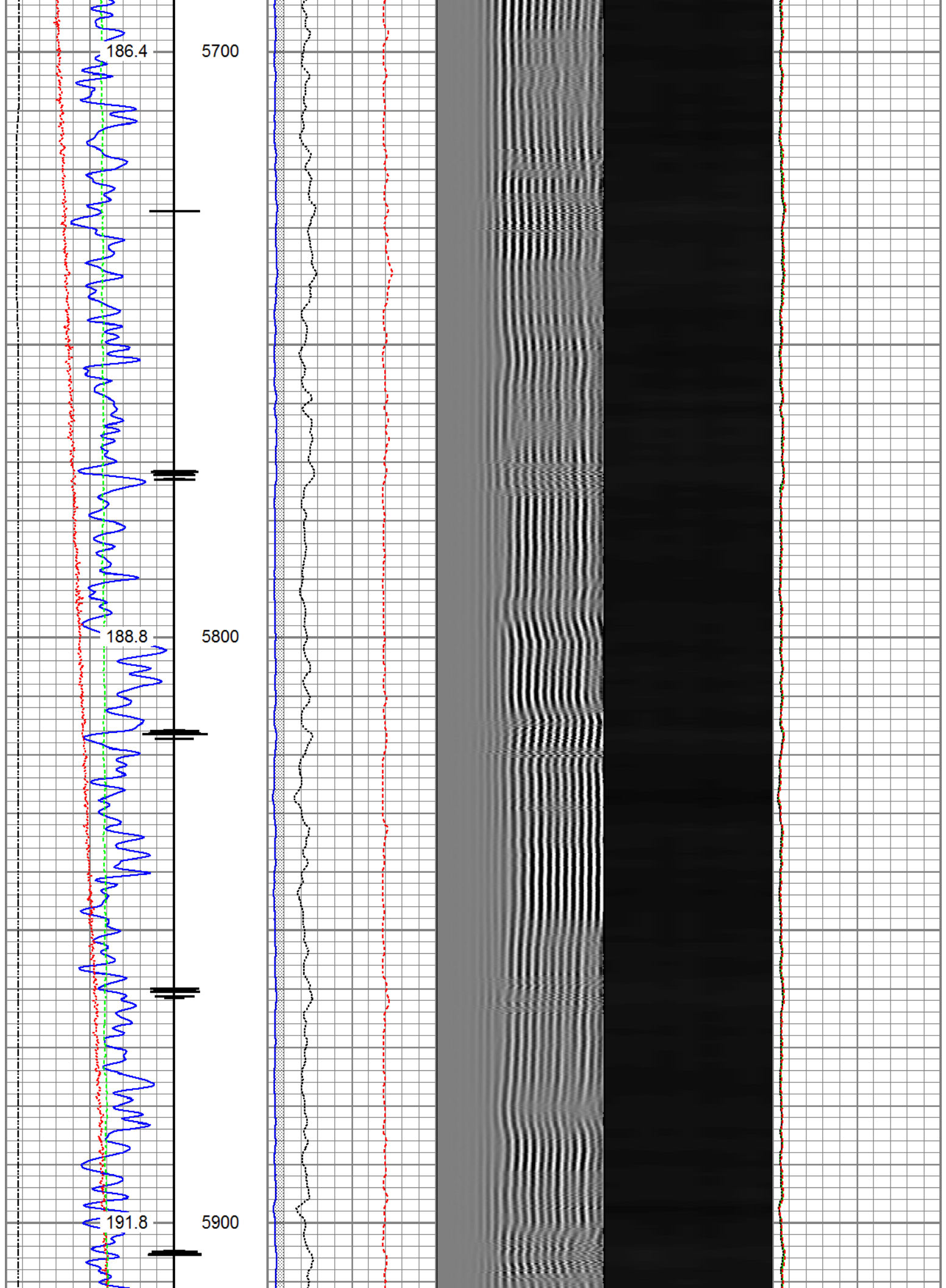


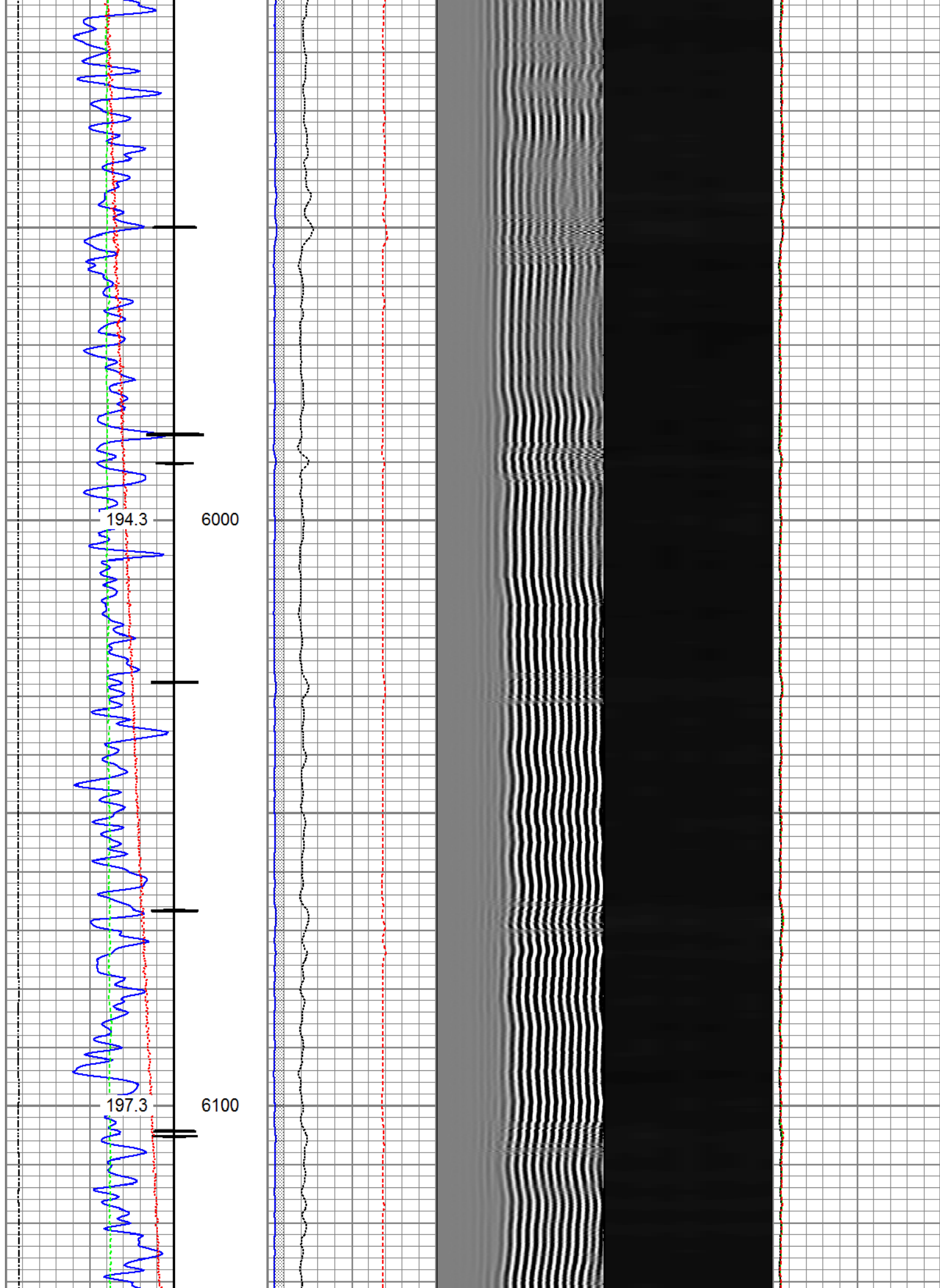


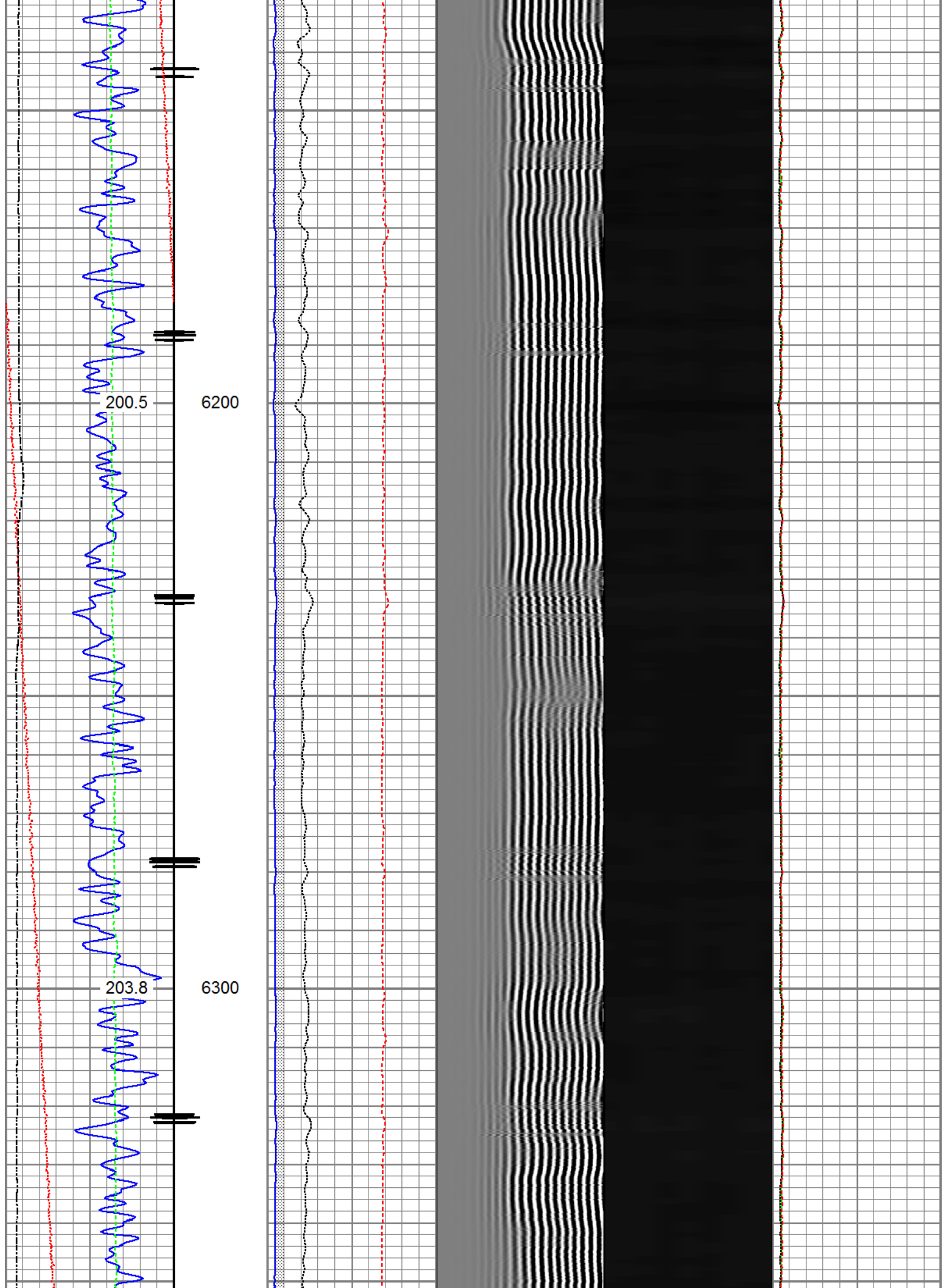


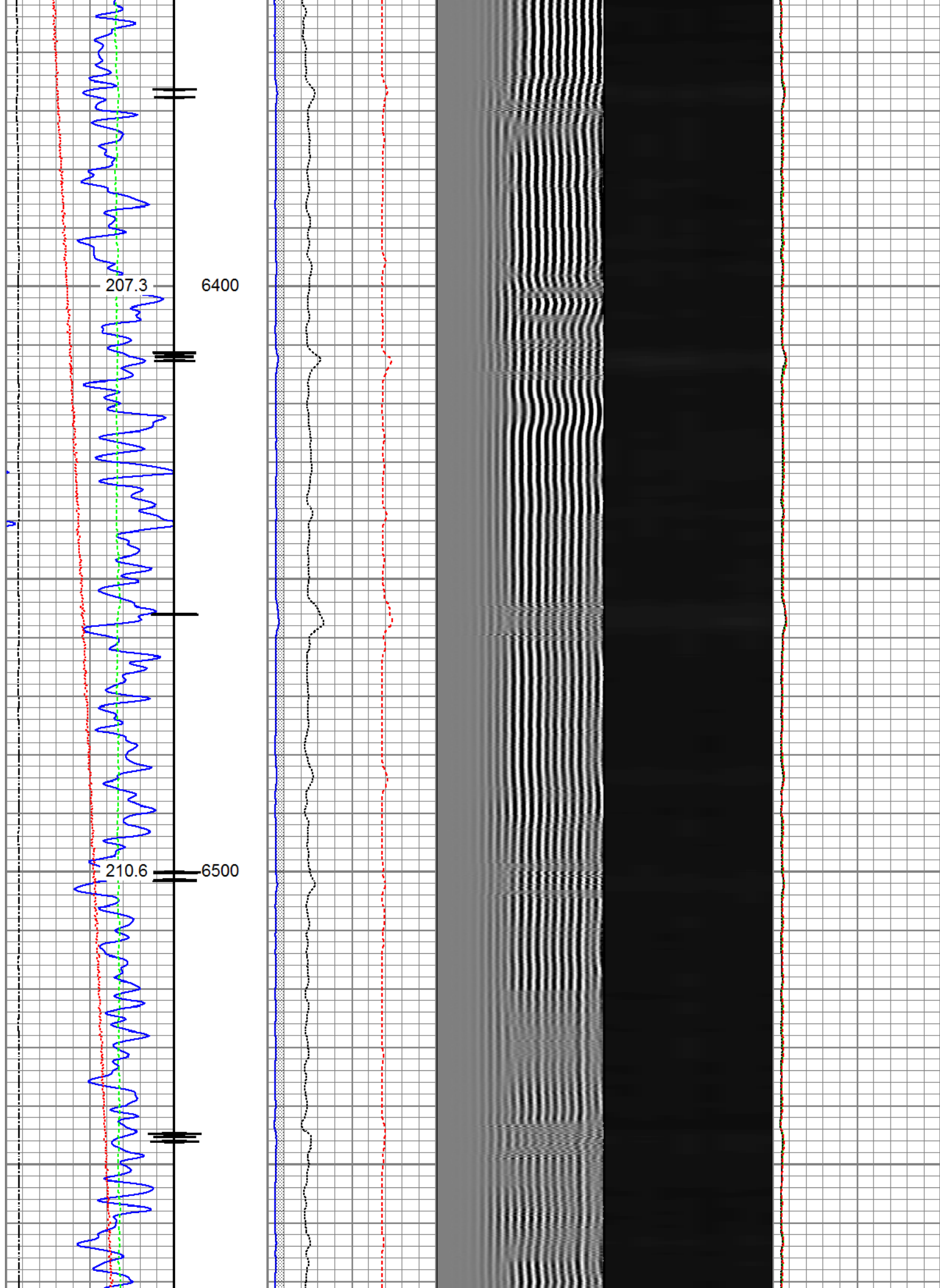


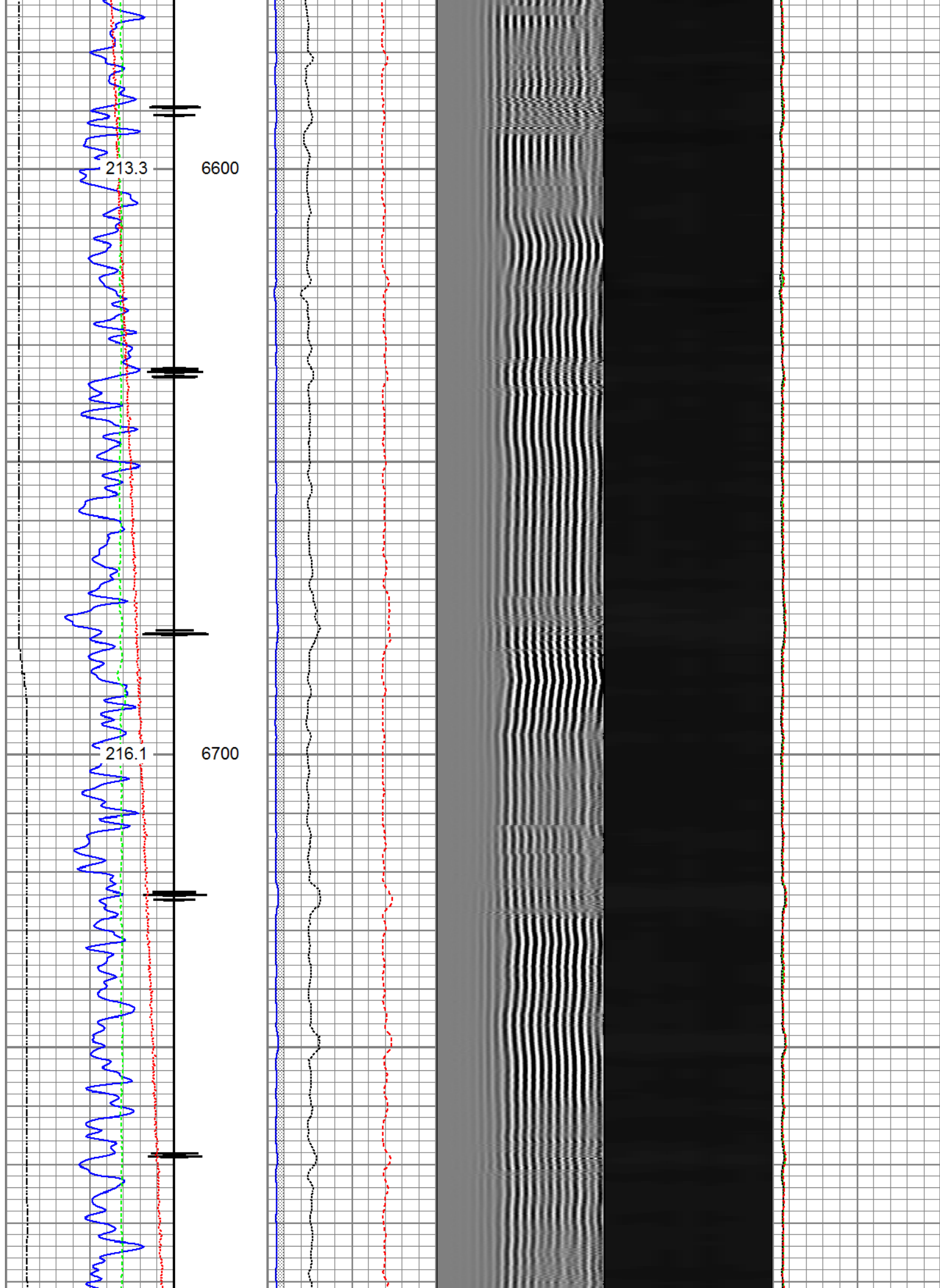


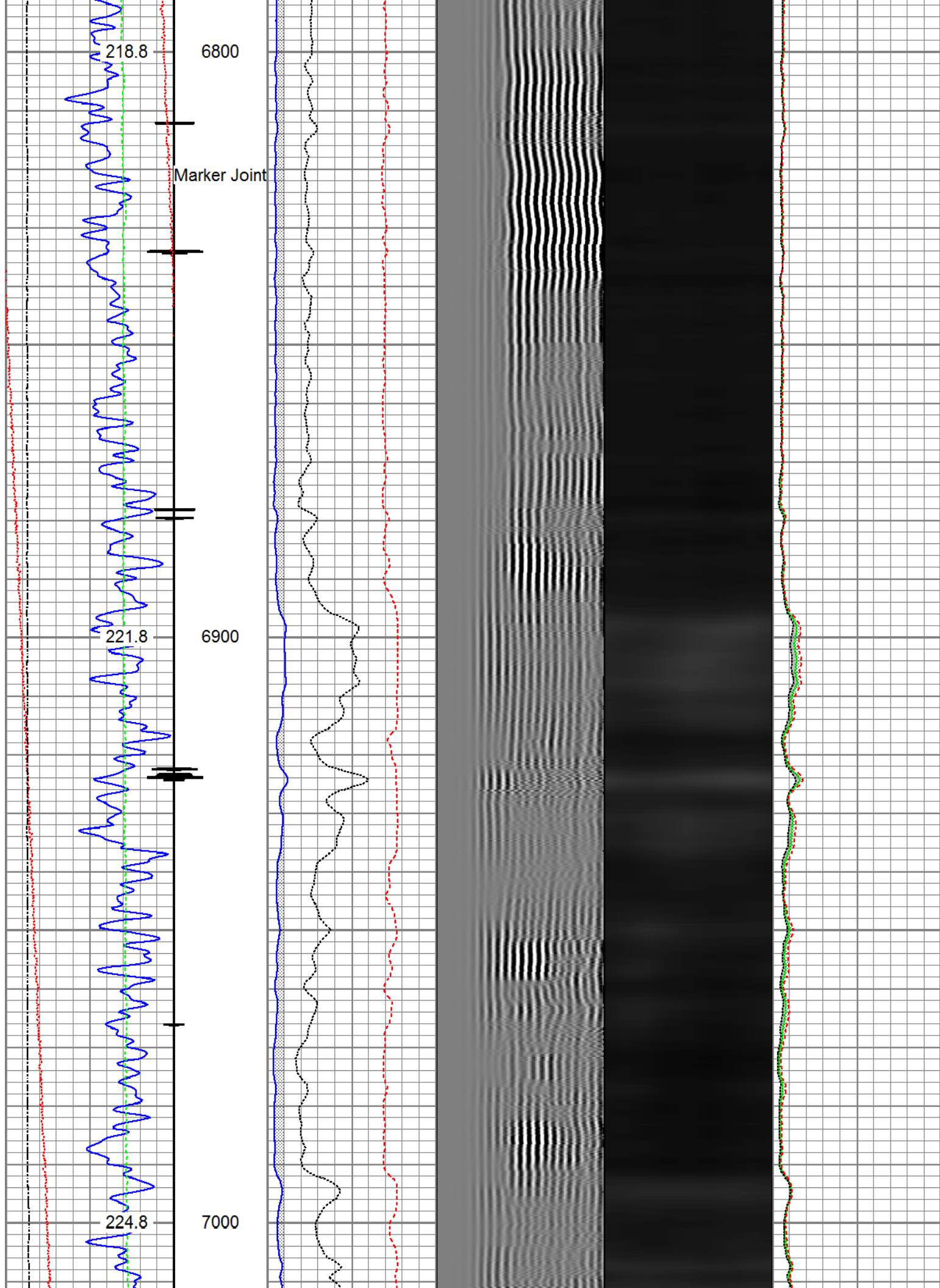


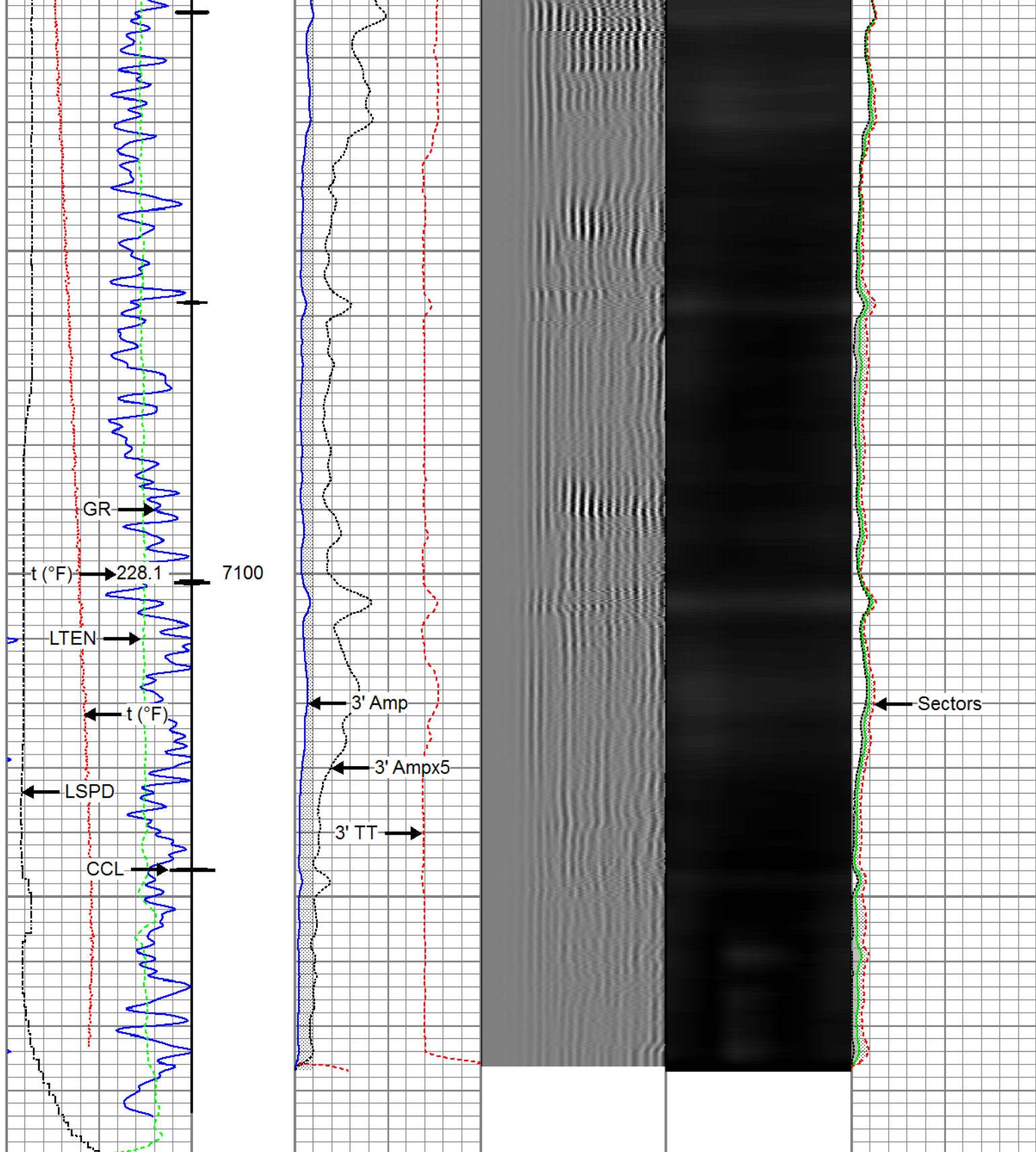












Gamma Ray (GAPI)	3' Amplitude (mV)	5' Variable Density Log	Sector Map	Average Amplitude
0 120	0 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5 (mV)			Minimum Amplitude
	0 20			0 100
Temperature (degF)	3' Travel Time (uSec)			Maximum Amplitude
0 20	650 150			0 100
Line Speed (ft/min)				
-150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

Line Tension
0 (lb) 2000

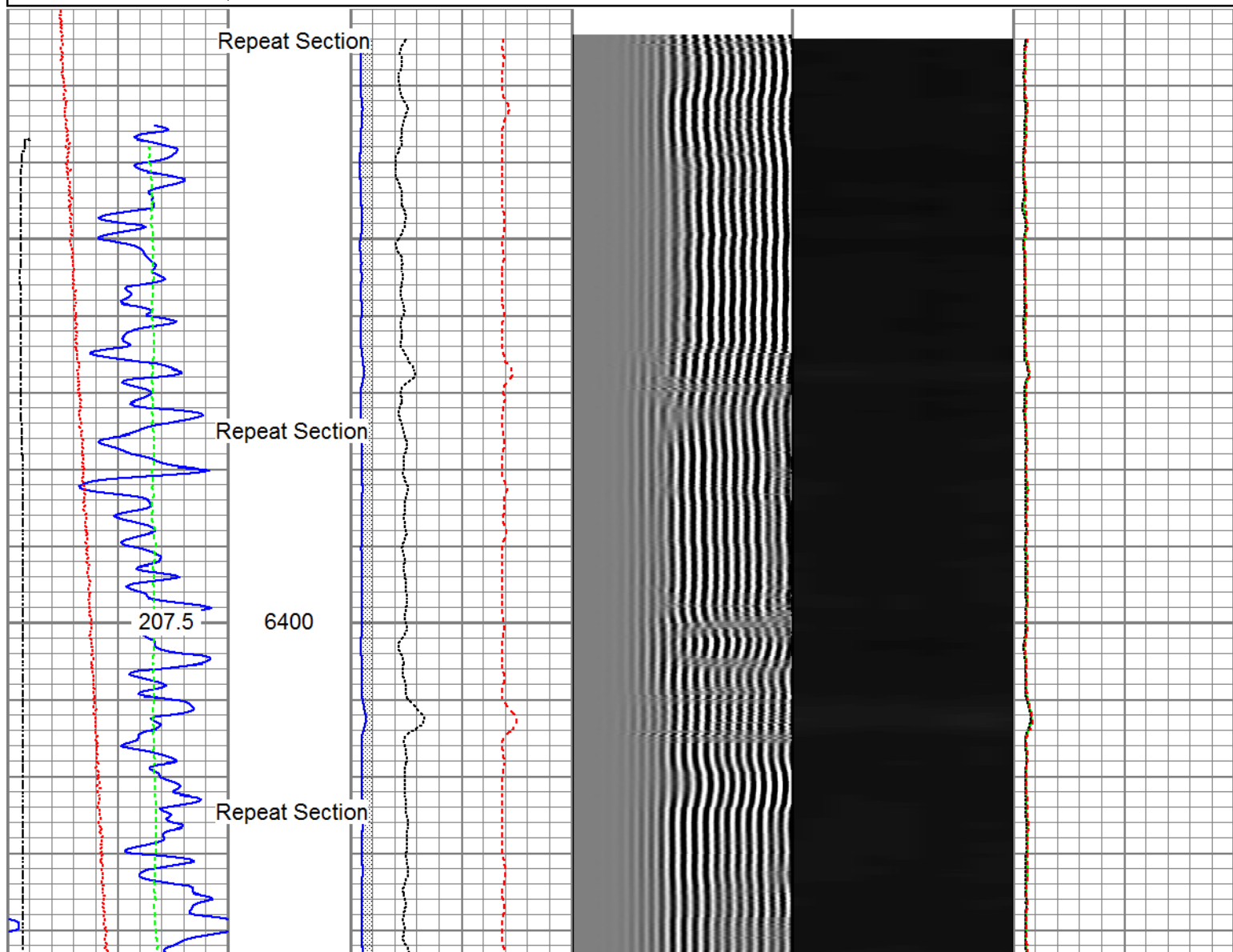


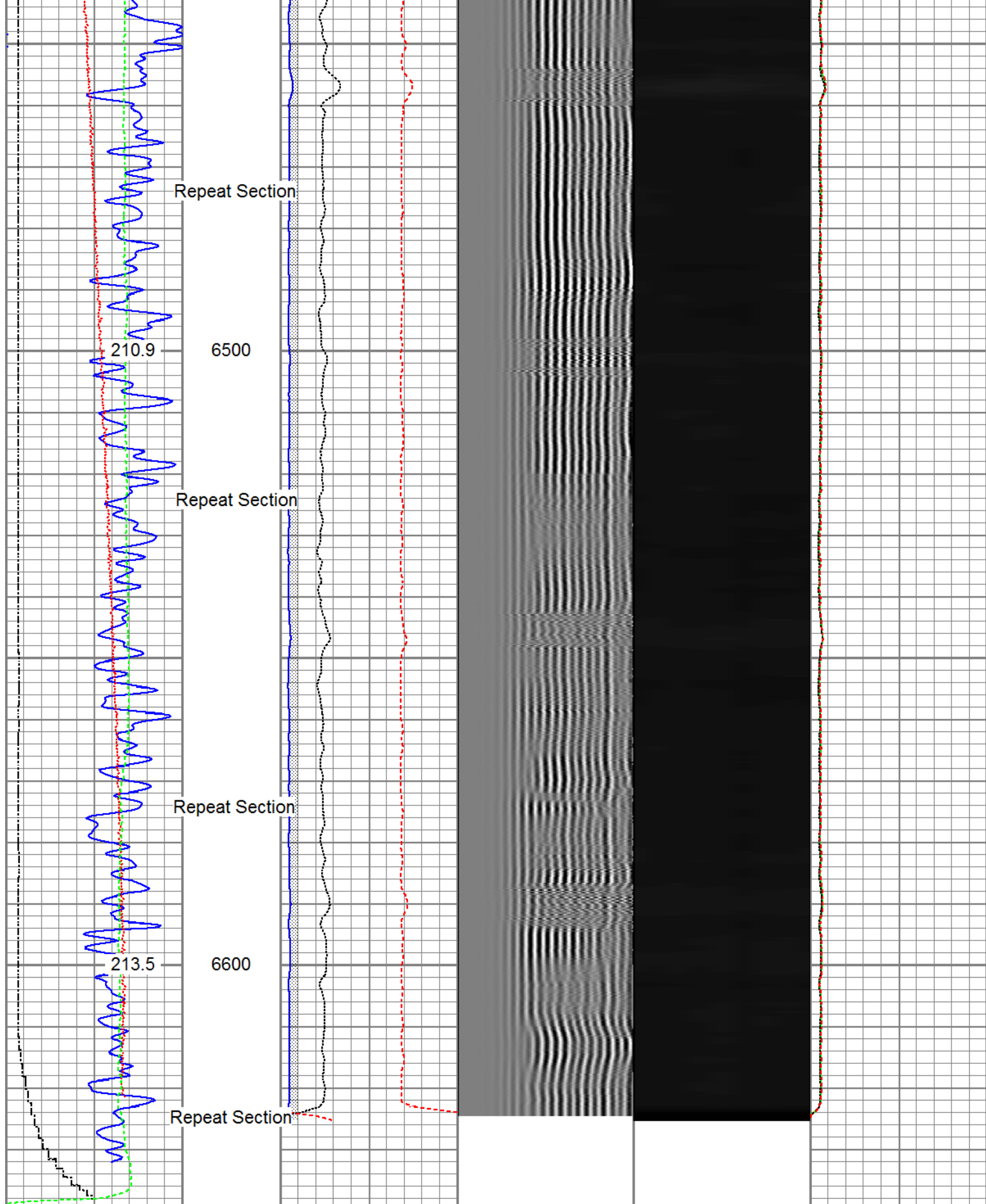
Repeat Pass

Recorded with 2800 PSI Surface Induced Pressure



Database File 0512342399_anadarko_land fed 29c-29hz_08-16-16_rbl_w8\processed_0512342399_anadarko_land
Dataset Pathname pass2.1
Presentation Format ros_radrii
Dataset Creation Wed Aug 17 15:46:51 2016
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
Temperature	3' Amplitude x 5			Minimum Amplitude
0 (degF) 20	0 (mV) 20			0 100
Line Speed	3' Travel Time			Maximum Amplitude
-150 (ft/min) 150	650 (usec) 150			0 100
Line Tension				
0 (lb) 2000				





-150 (ft/min)	150	650 (usec)	150	0	100
Line Tension					
0 (lb)	2000				

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
Temp	16.72		Titan_Electric_Cable_Heads-Titan_1-11/16" 1.03 Electric Cable Head with 1" Fishing Neck	1.03	1.69	5.40
			Probe_ELine_BowSpring_Centralizer-P_EB2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.8875	2.75	20.00
WVFS8	14.55		Probe_RADII-C-P_RBT_2750 (FW1302-0029.19 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	29.19	2.75	105.00
WVFS7	14.55					
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					
DCCL CCL	6.51		Probe_ELine_BowSpring_Centralizer-P_EB2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.8875	2.75	20.00
	6.51					
			Probe_GR_CCL-P_CGR_2750_S (FW12124.54) Probe 2-3/4" Digital CCL / Gamma Ray Combined	124.54	2.75	55.00
GR	3.77					
			Probe_ELine_BowSpring_Centralizer-P_EB2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.8875	2.75	20.00

Dataset:	processed_0512342399_anadarko_land fed 29c-29hz_08-16-16_rbl_w8.db: field/well/run1/pass4.1
Total length:	23.40 ft
Total weight:	225.40 lb
O.D.:	2.75 in

Calibration Report

Database File	c:\programdata\warrior\data\0512342399_anadarko_land fed 29c-29hz_08-16-16_rbl_w8\processed_0
Dataset Pathname	pass4.1
Dataset Creation	Wed Aug 17 15:36:59 2016

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
Sensitivity:	0.6061	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1302-002	
Tool Model:	P_RBT_2750	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	-603.341	ft

Master Calibration, performed (Derived):


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	0.695	0.800	71.921	103.504	-0.061
CAL	0.007	0.769				
5'	0.008	0.516	0.800	71.921	140.074	-0.379
SUM						
S1	0.008	0.688	0.000	100.000	147.101	-1.176
S2	0.009	0.700	0.000	100.000	144.646	-1.247
S3	0.009	0.707	0.000	100.000	143.325	-1.325
S4	0.009	0.699	0.000	100.000	144.881	-1.332
S5	0.009	0.701	0.000	100.000	144.589	-1.315
S6	0.009	0.705	0.000	100.000	143.725	-1.332
S7	0.009	0.691	0.000	100.000	146.488	-1.270
S8	0.008	0.685	0.000	100.000	147.821	-1.215

Internal Reference Calibration, performed Fri Aug 05 07:29:17 2016:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.007	0.769	1.000	0.000

Air Zero Calibration, performed Tue Aug 16 10:22:47 2016:

	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

	Company	Kerr-McGee Oil & Gas Onshore, L.P.
	Well	Land Fed 29C-29HZ
	Field	Wattenberg
	County	Weld
	State	Colorado