



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company		Kerr-McGee Oil & Gas Onshore, L.P.	
Well		Land 14N-32HZ	
Field		Wattenberg	
County		Weld	
State		Colorado	
Company		Kerr-McGee Oil & Gas Onshore, L.P.	
Well		Land 14N-32HZ	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-42389	
Permanent Datum		SEC 32 TWP 2N RGE 66W	
Log Measured From		Ground Level	
Drilling Measured From		Kelly Bushing	
		Elevation 4899'	
		Elevation Gauge Ring	
		K.B. 4919'	
		D.F. 4918'	
		G.L. 4899'	
Date		16-AUG-2016	
Run Number		Two	
Depth Driller		12926 FT	
Depth Logger		7475 FT	
Bottom Logged Interval		7437 FT	
Top Log Interval		Surface	
Open Hole Size		7.875"	
Type Fluid		Water	
Density / Viscosity		8.34 lbm/gal	
Max. Recorded Temp.		231°F	
Estimated Cement Top		400 FT	
Time Well Ready		ROA	
Time Logger on Bottom		15.15	
Equipment Number		HD-0343	
Location		Fort Lupton, CO	
Recorded By		Robert Fogarty	
Witnessed By		Chris Hayes	
Run Number		Borehole Record	
Bit		From	
		To	
		Size	
		Weight	
		From	
		To	
Casing Record		Tubing Record	
Size (in)		Wgt (lbs/ft)	
9 5/8		36	
JD BTC		Surface	
Intermediate #1		5 1/2	
17		HCP 110	
Surface		Top	
Intermediate #2		Bottom	
Liner		12917 FT	

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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 Marker Joint Top at 6832 FT
Adjusted log +3 FT to correlate with Marker JointTop
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

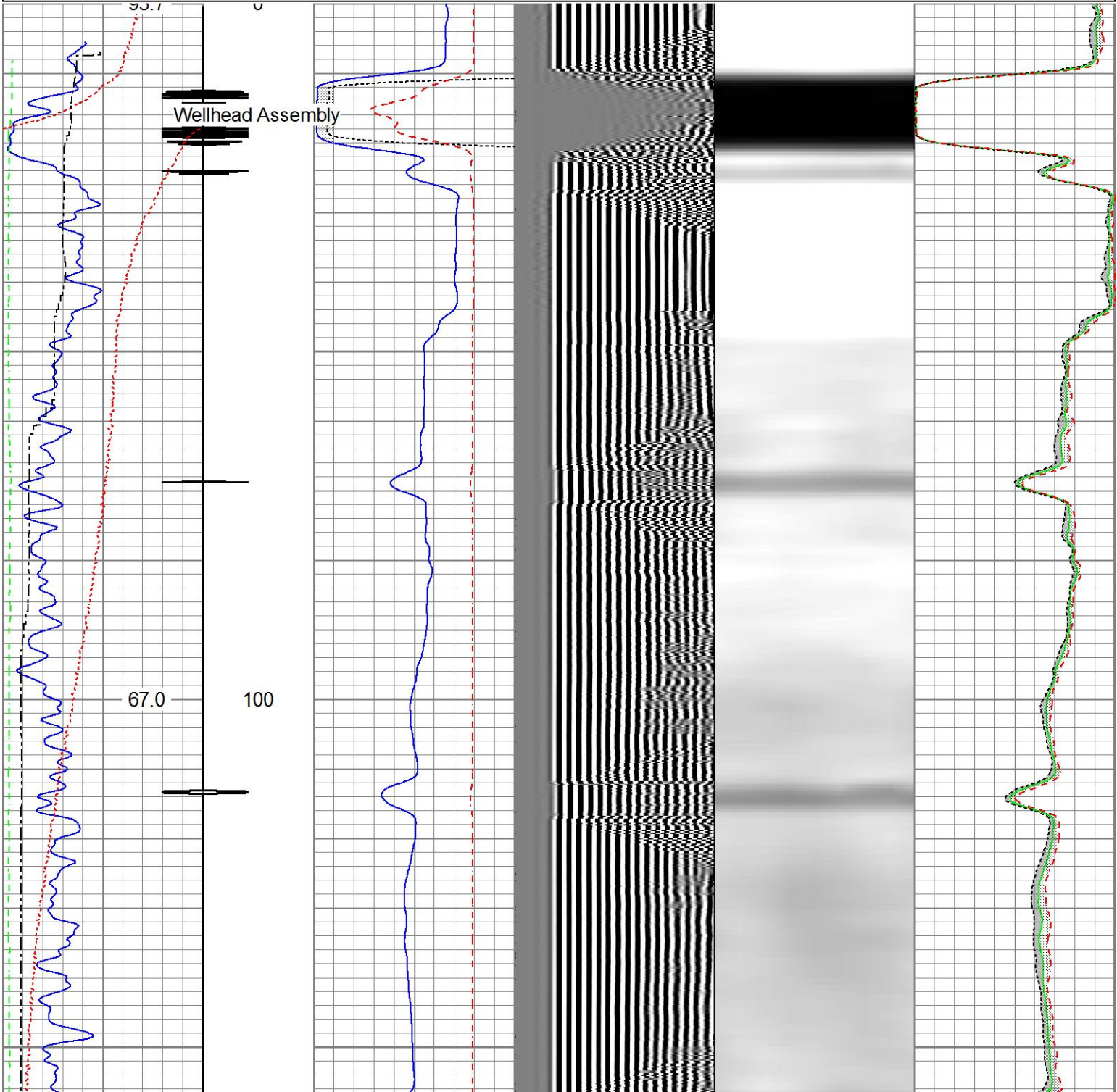
Thank you for choosing Reliance Oilfield Services, LLC!!

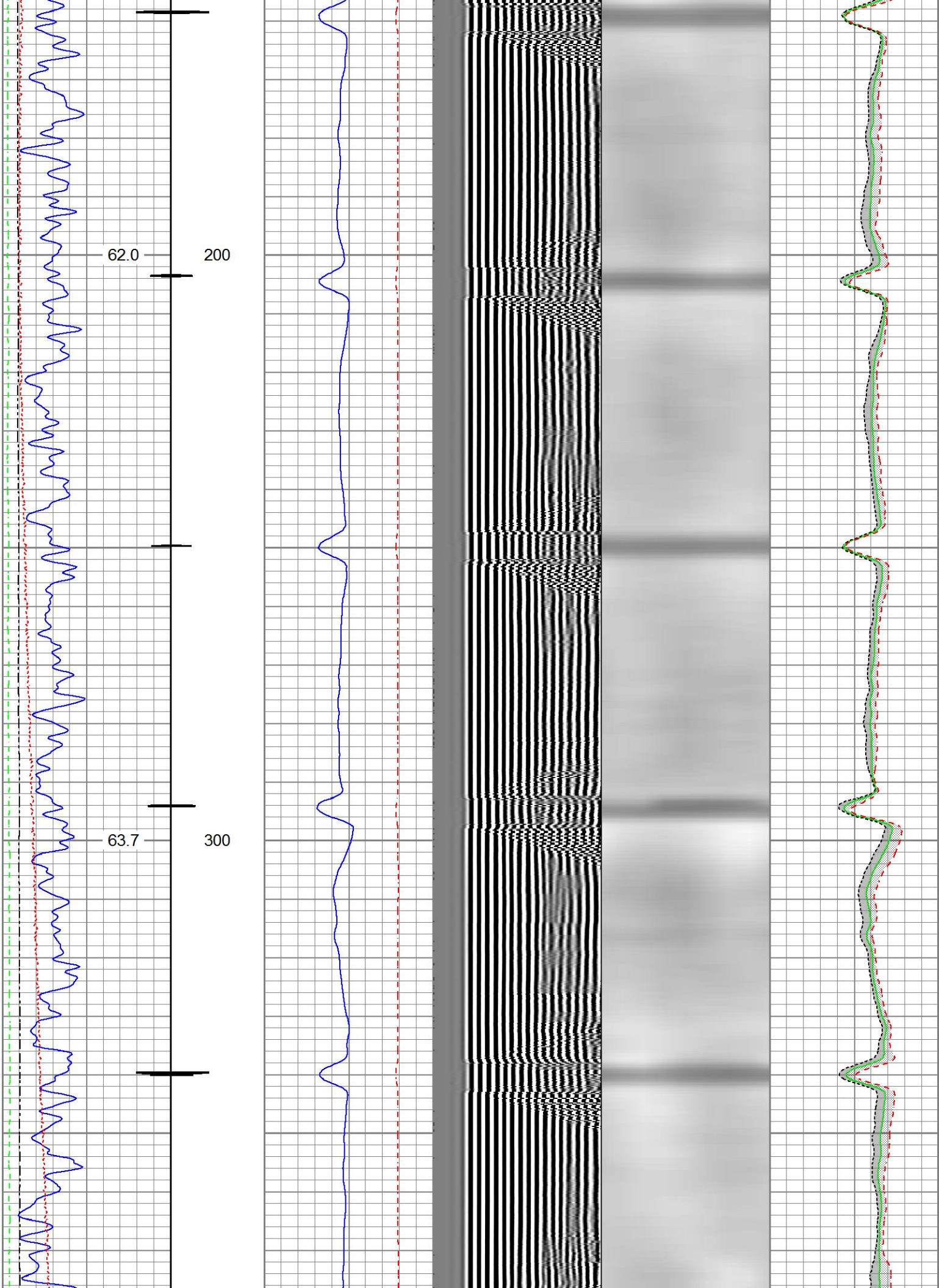


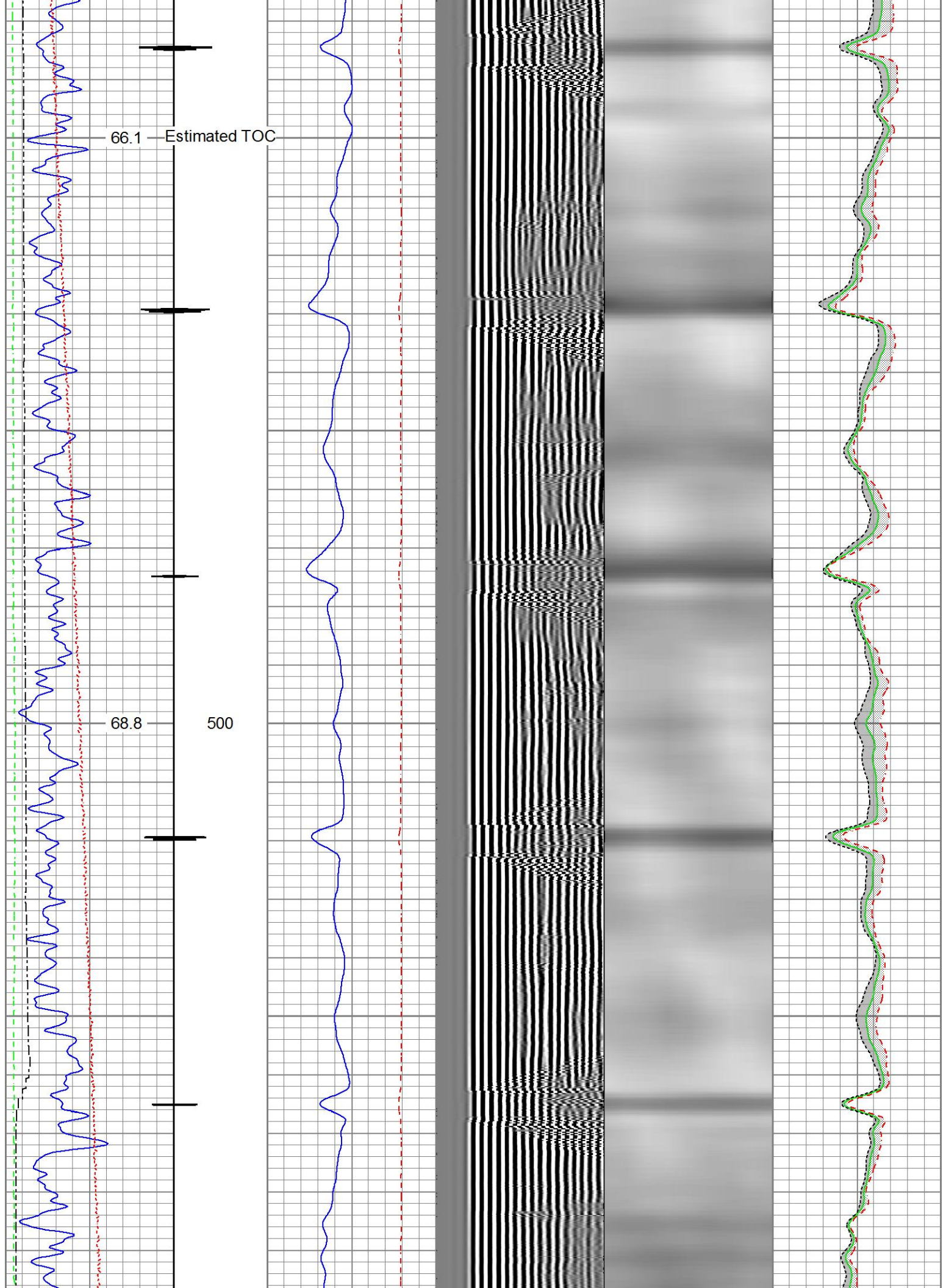
Main Pass

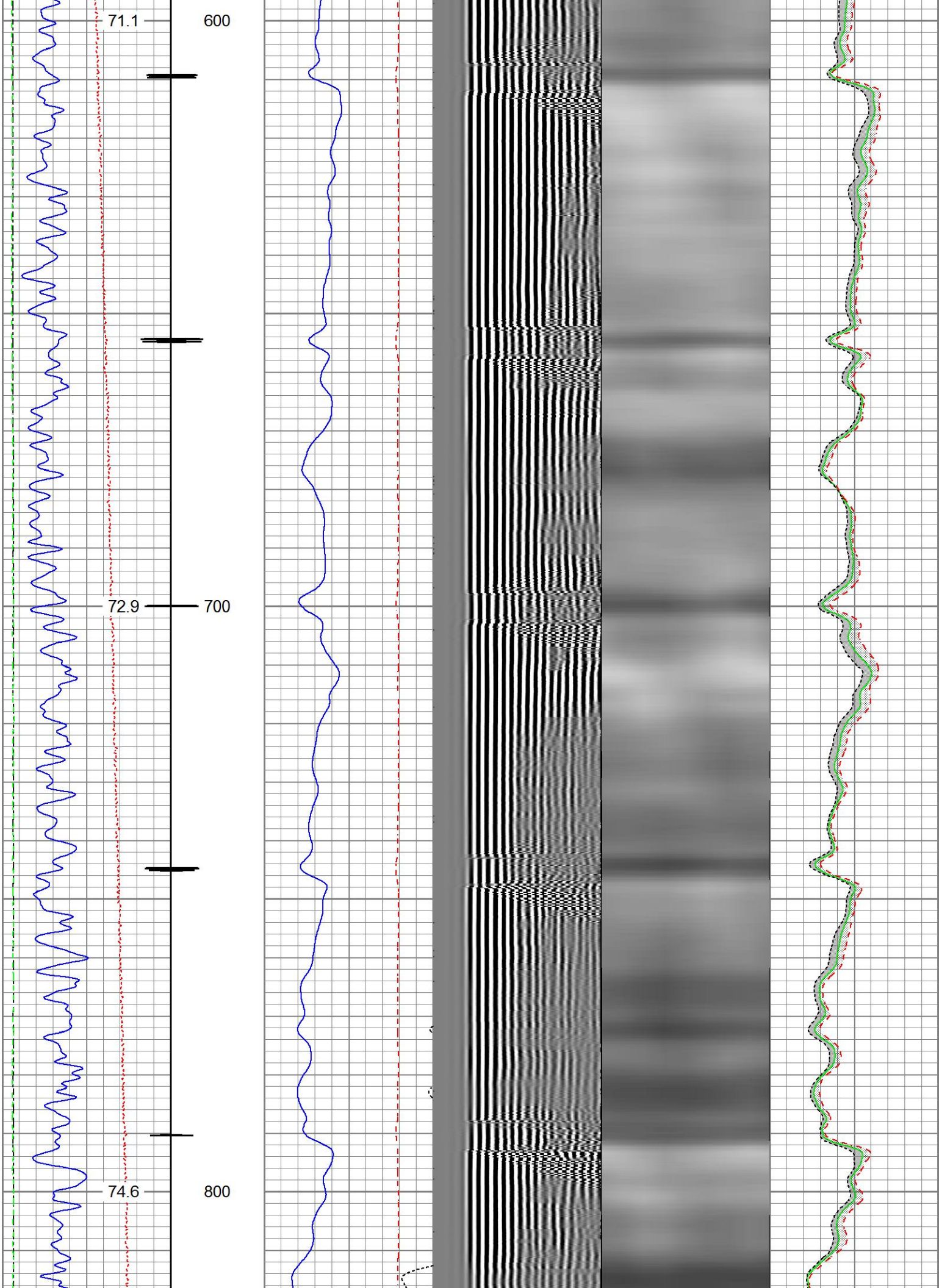
Recorded with 2800 PSI Surface Induced Pressure

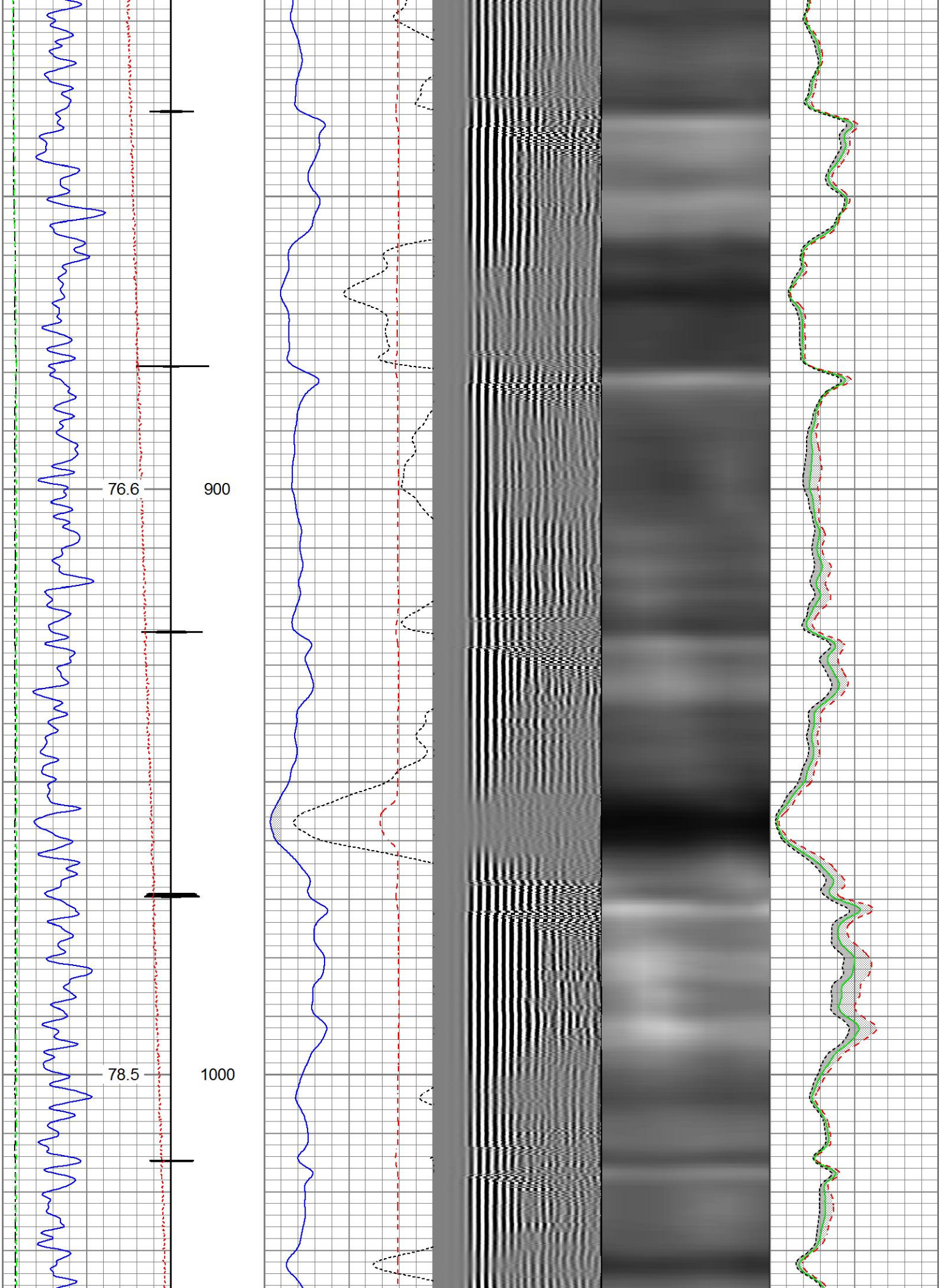
Gamma Ray			3' Amplitude			5' Variable Density Log		Sector Map		Average Amplitude	
0	(GAPI)	120	0	(mV)	100	200	1200			0	100
Casing Collar Locator			3' Amplitude x 5							Minimum Amplitude	
Temperature			0 (mV) 20							0 100	
0 (degF) 20			3' Travel Time							Maximum Amplitude	
Line Speed			650 (usec)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

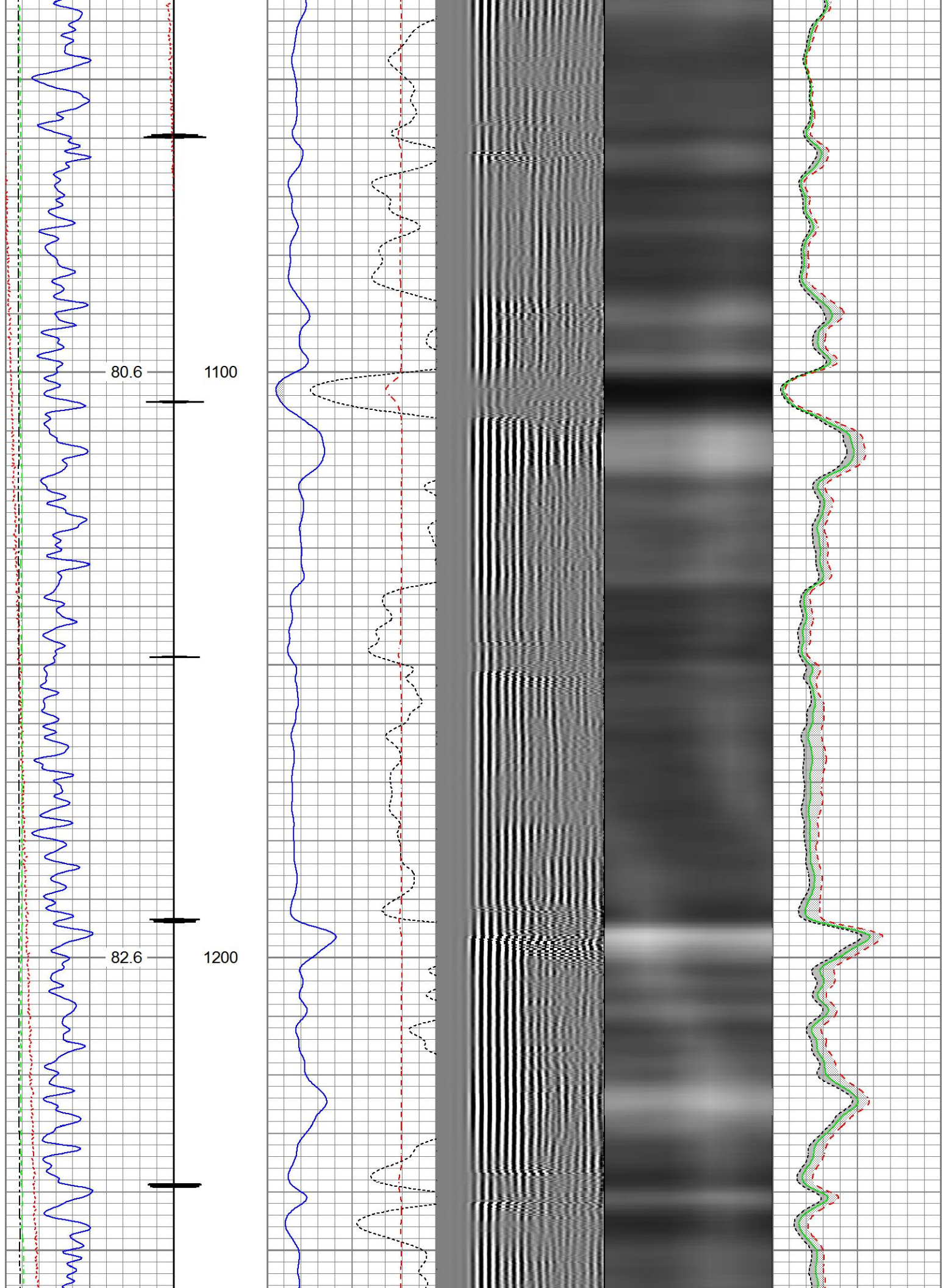


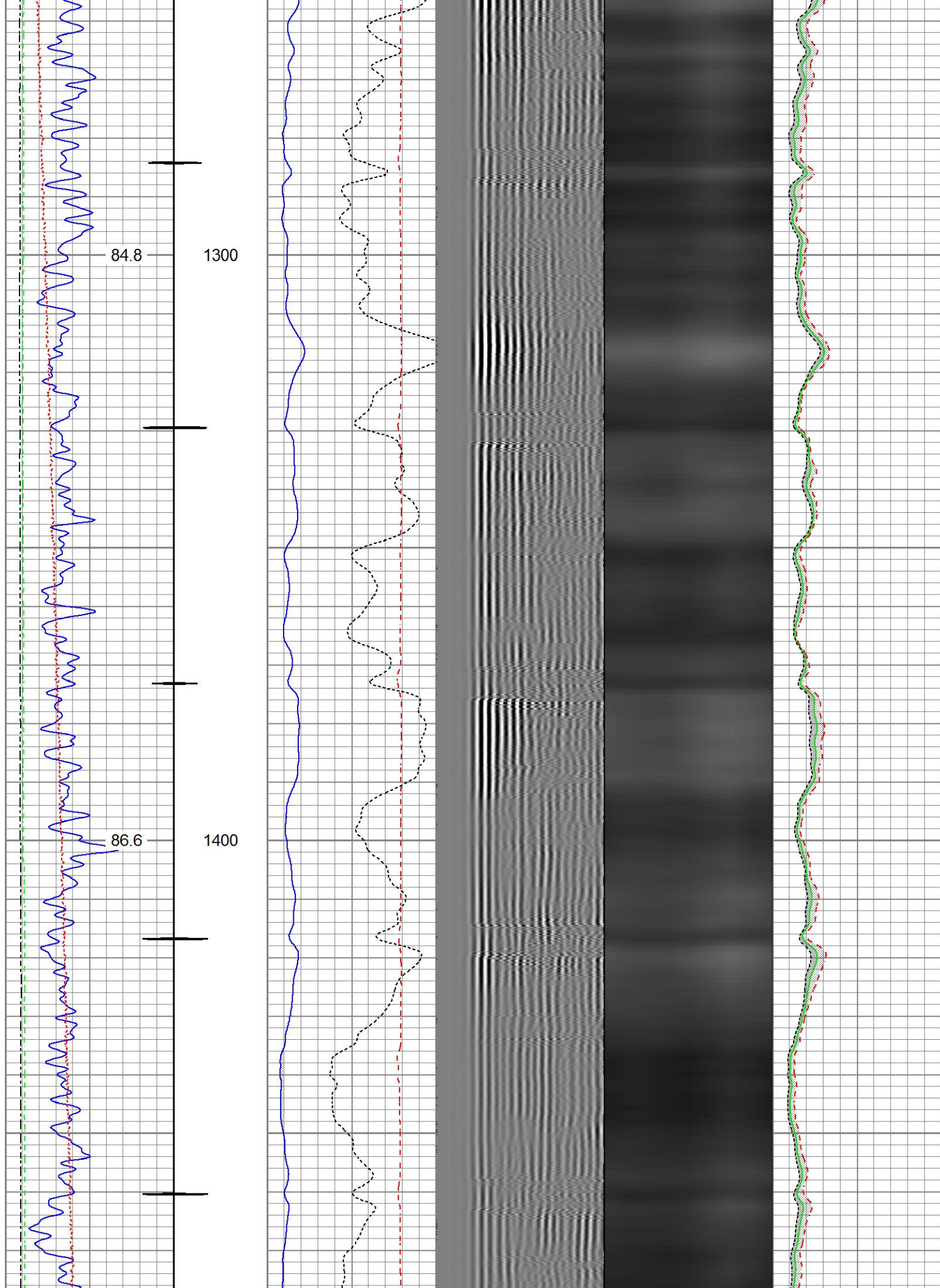


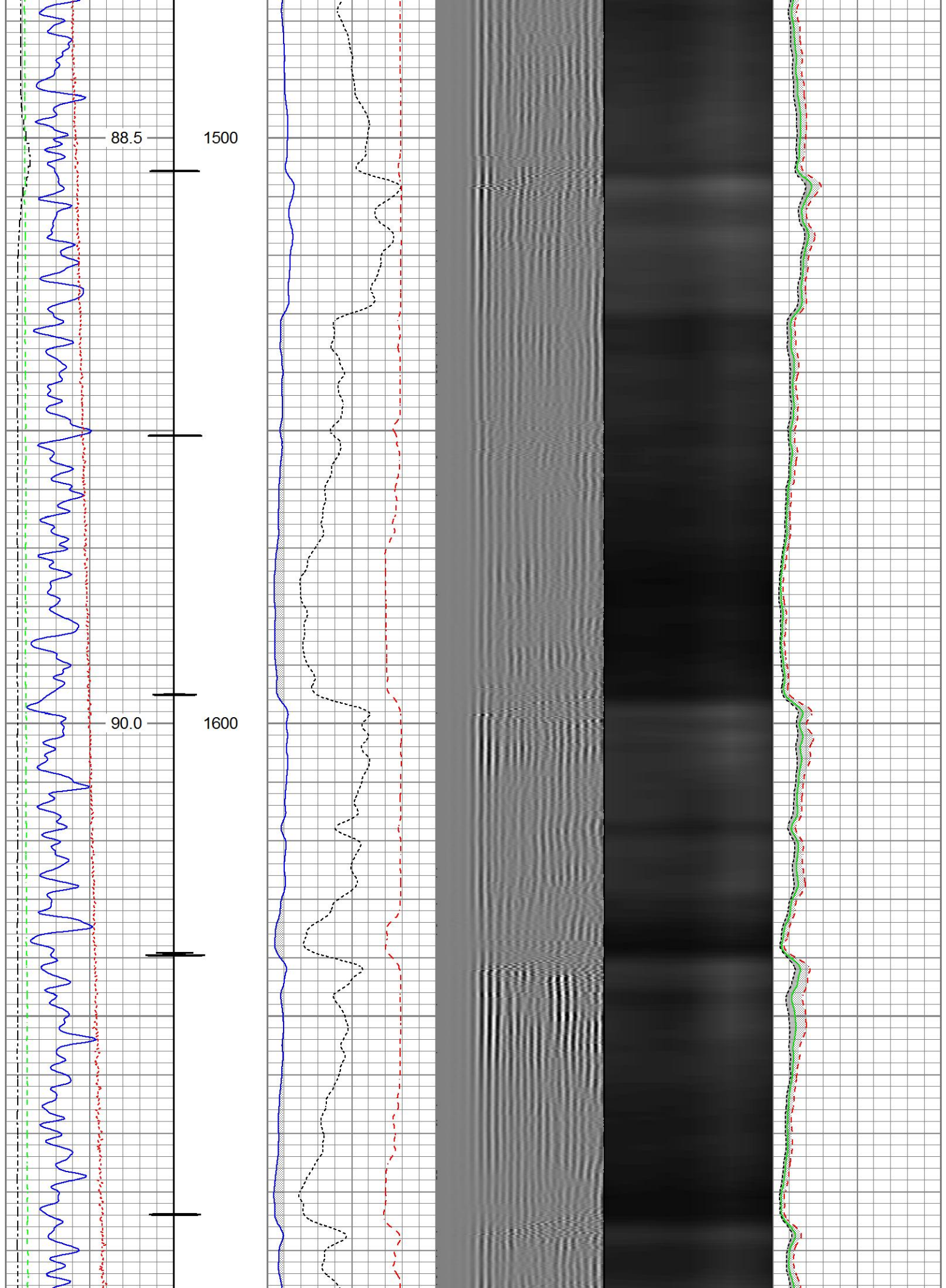


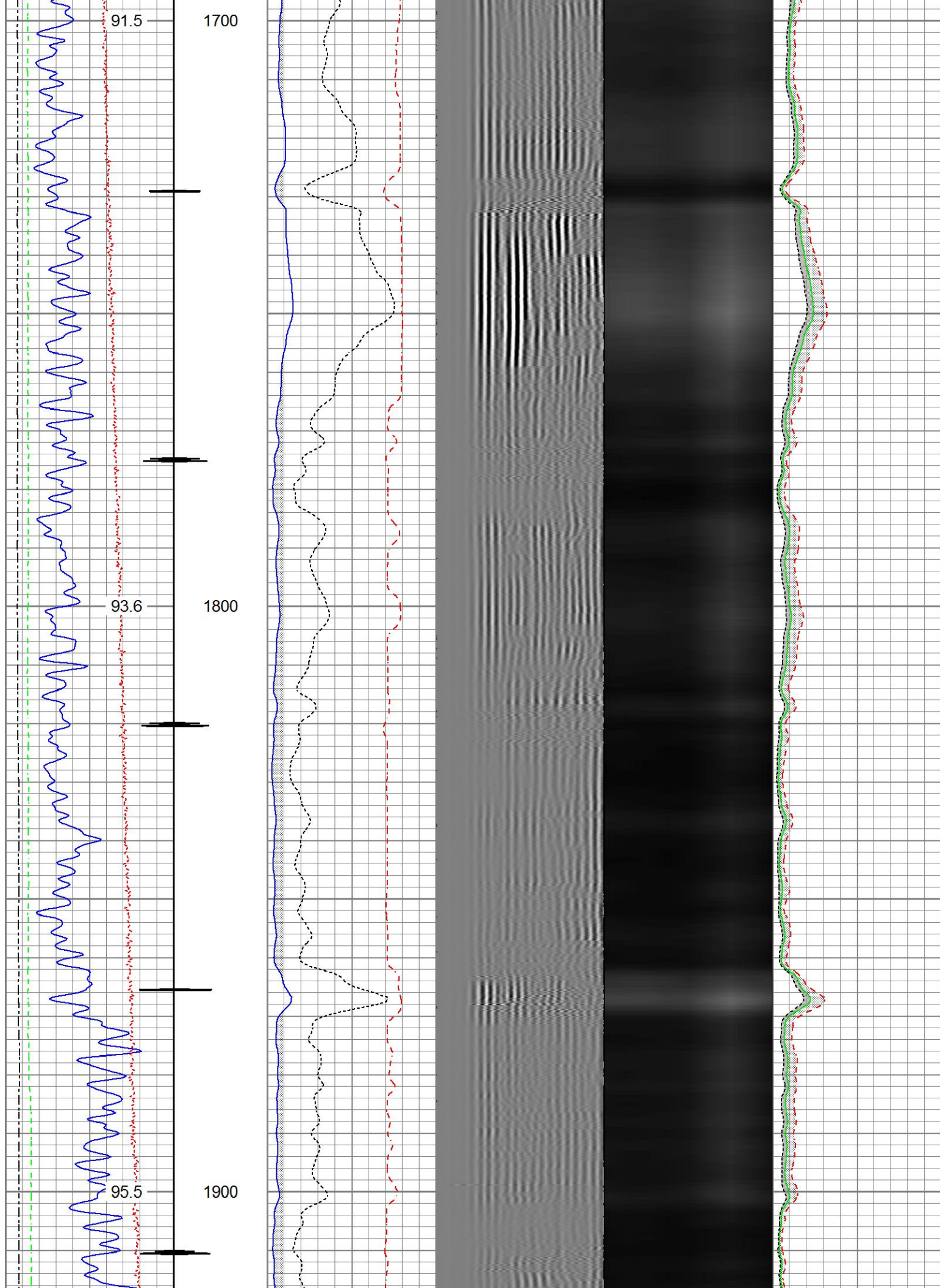


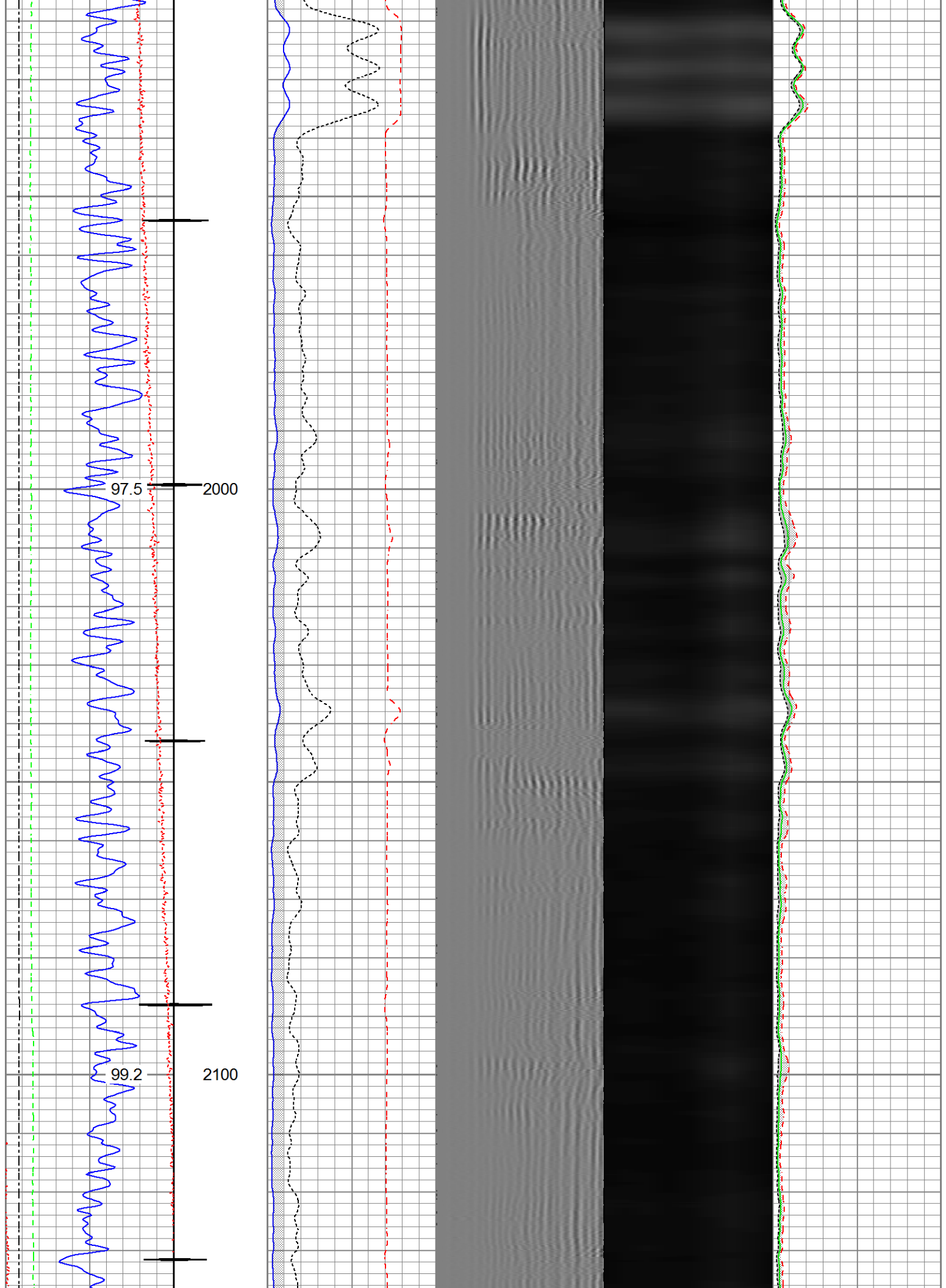


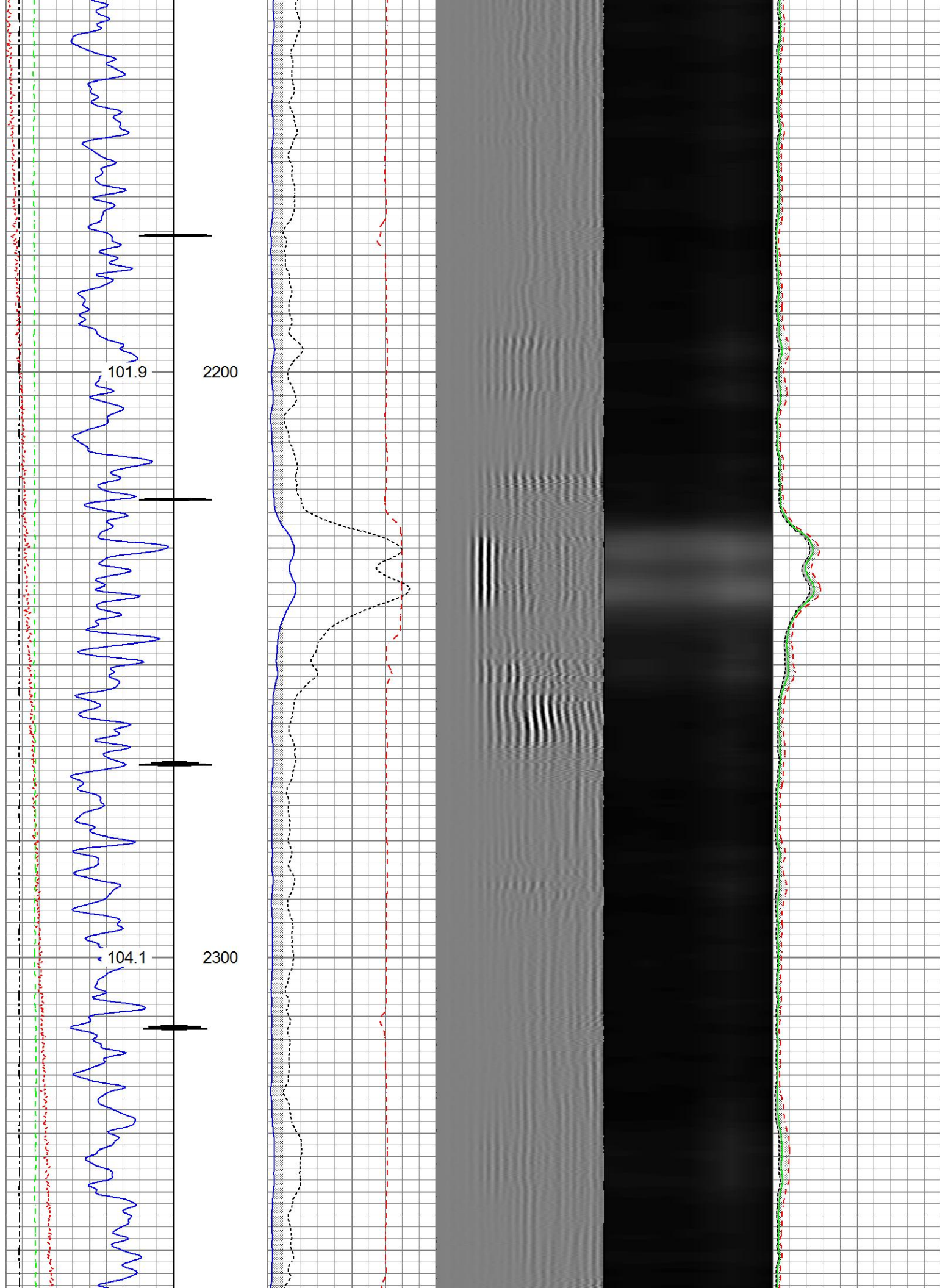


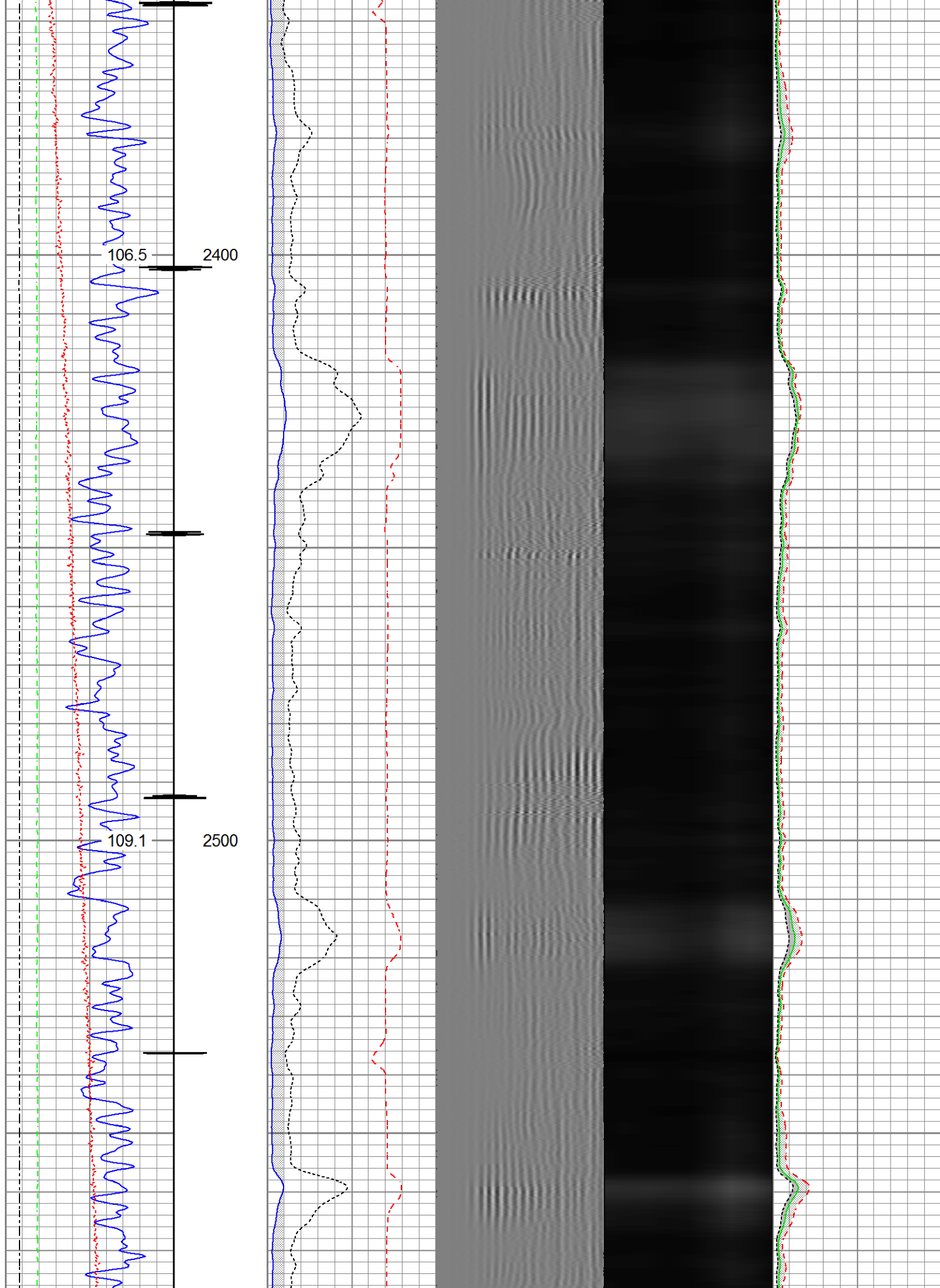


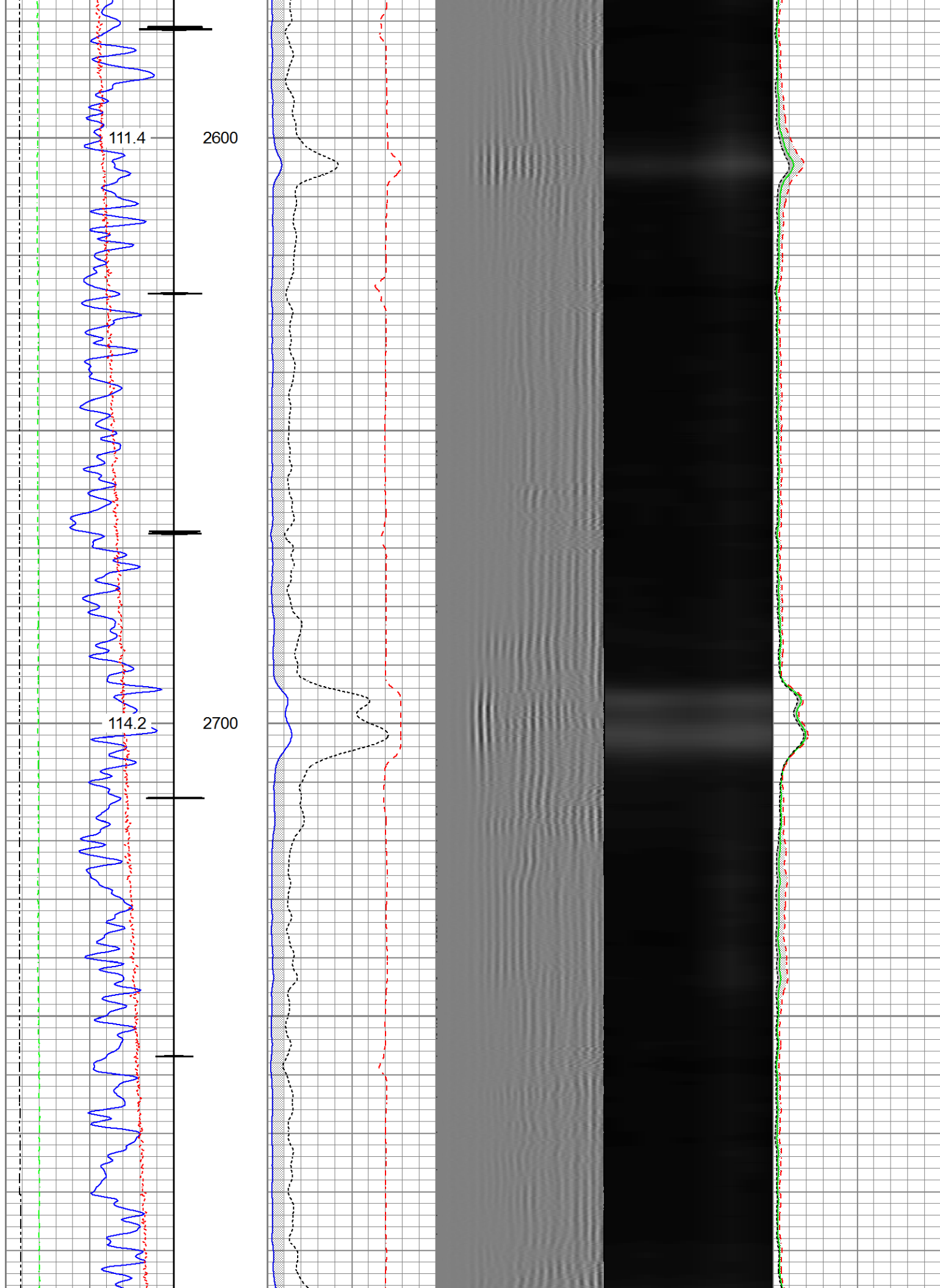


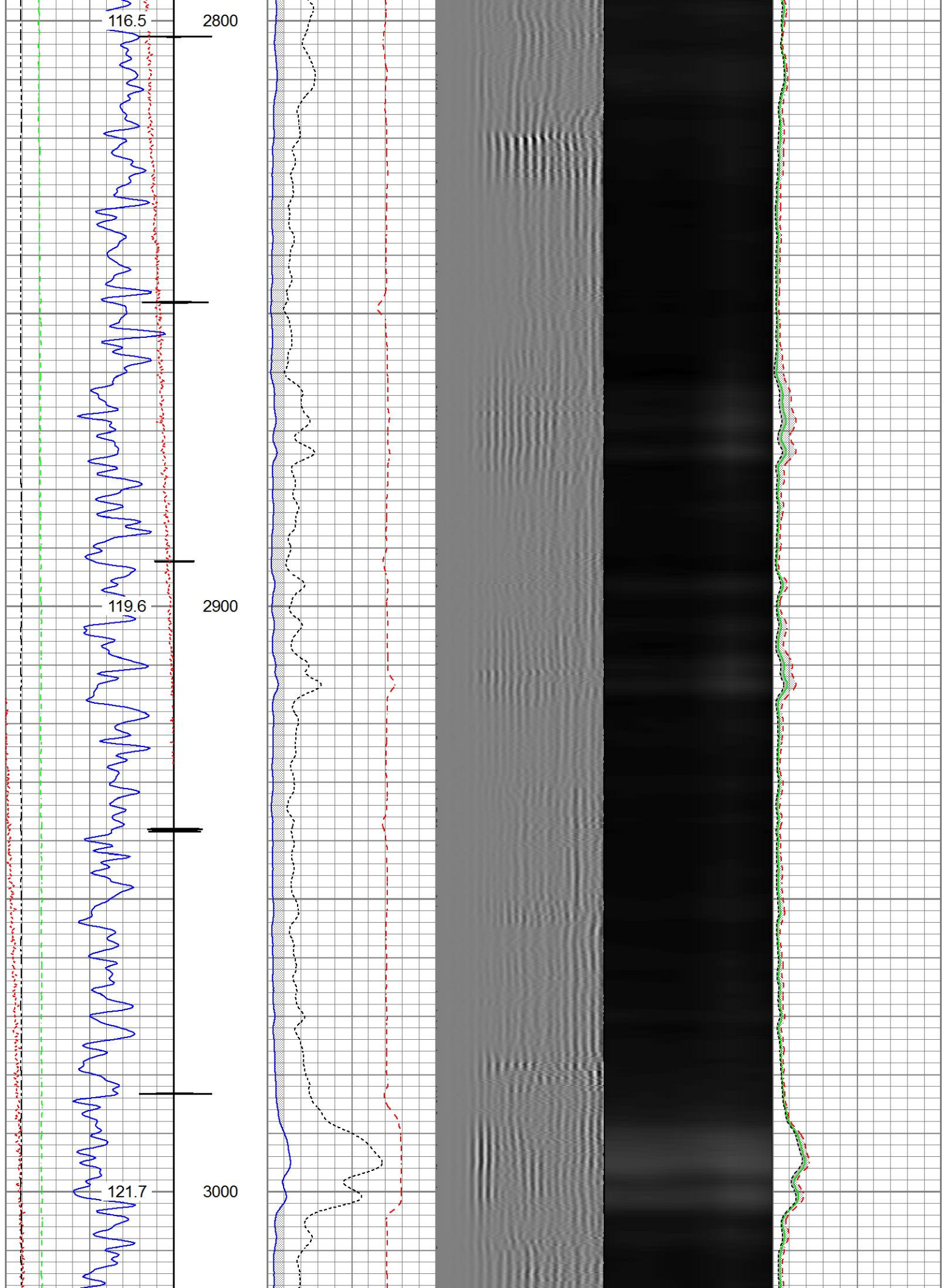


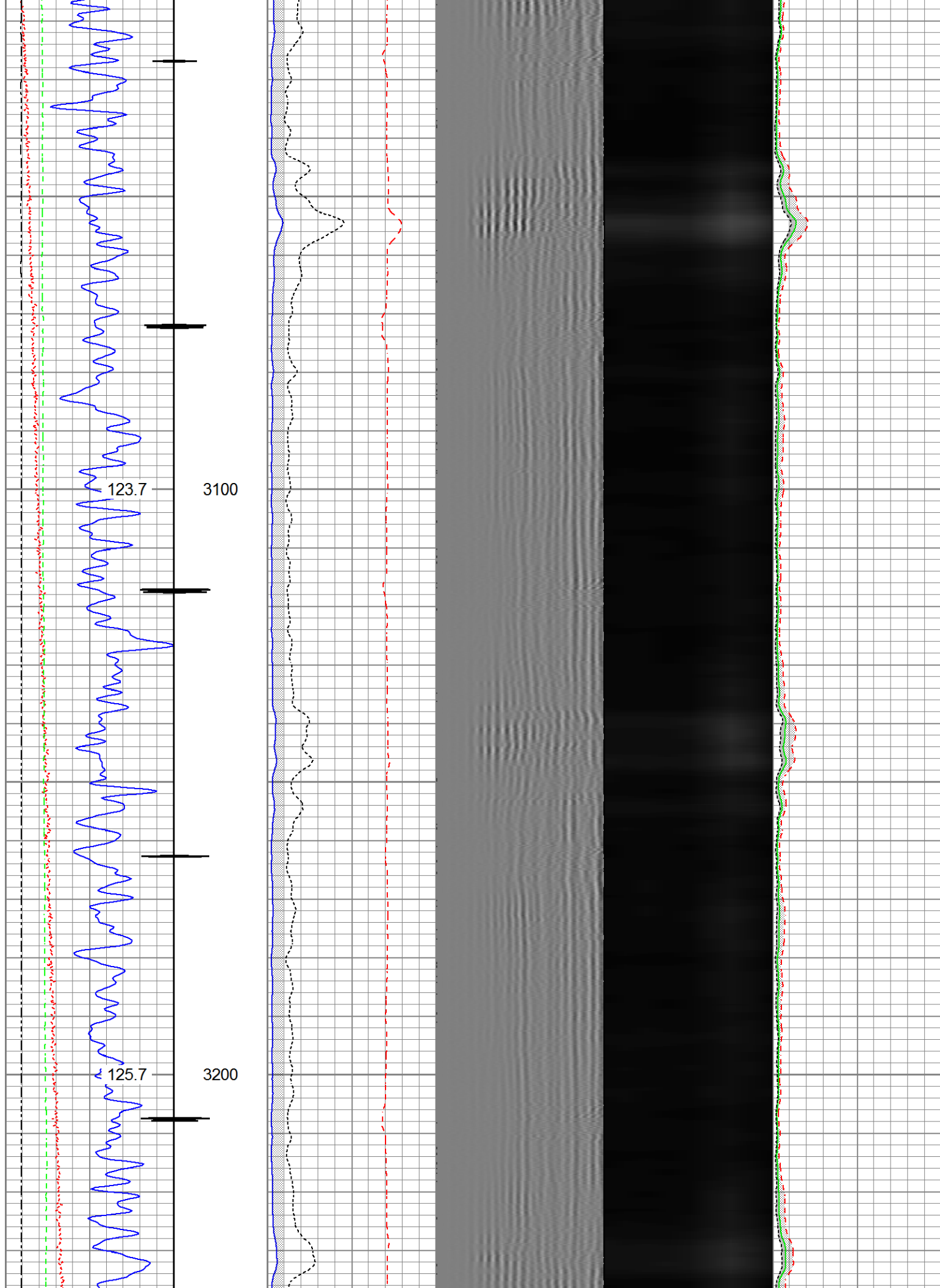


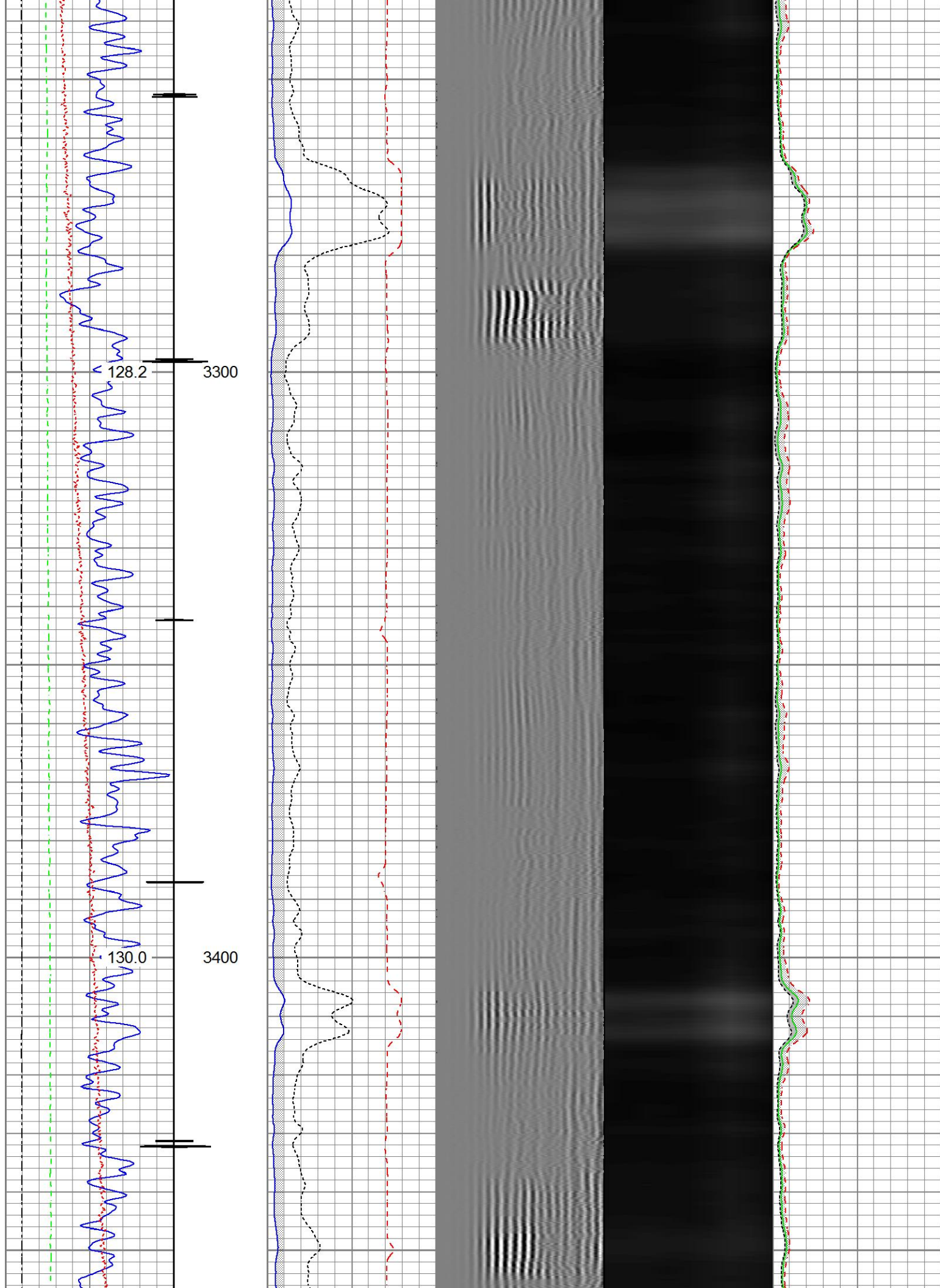


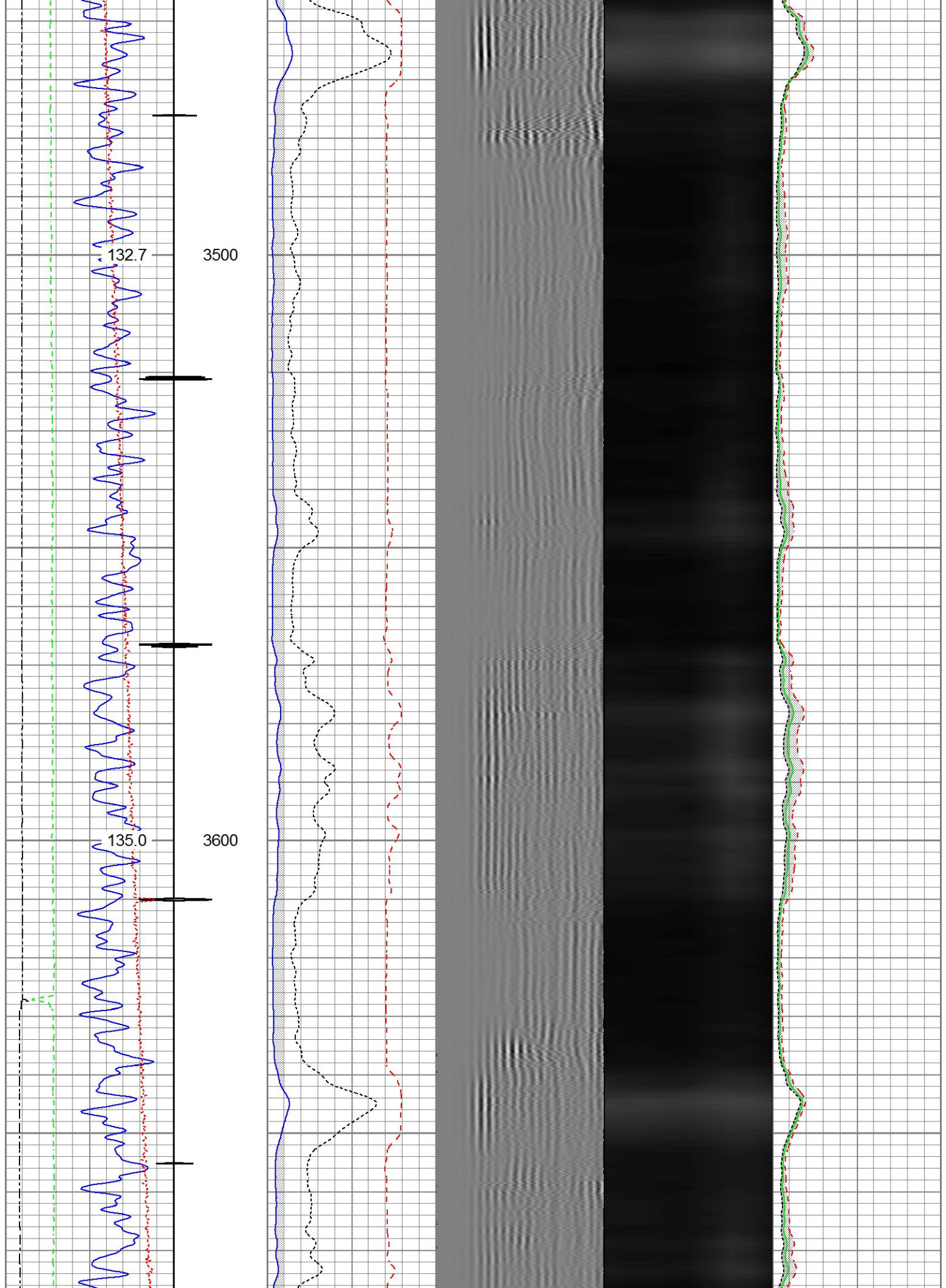


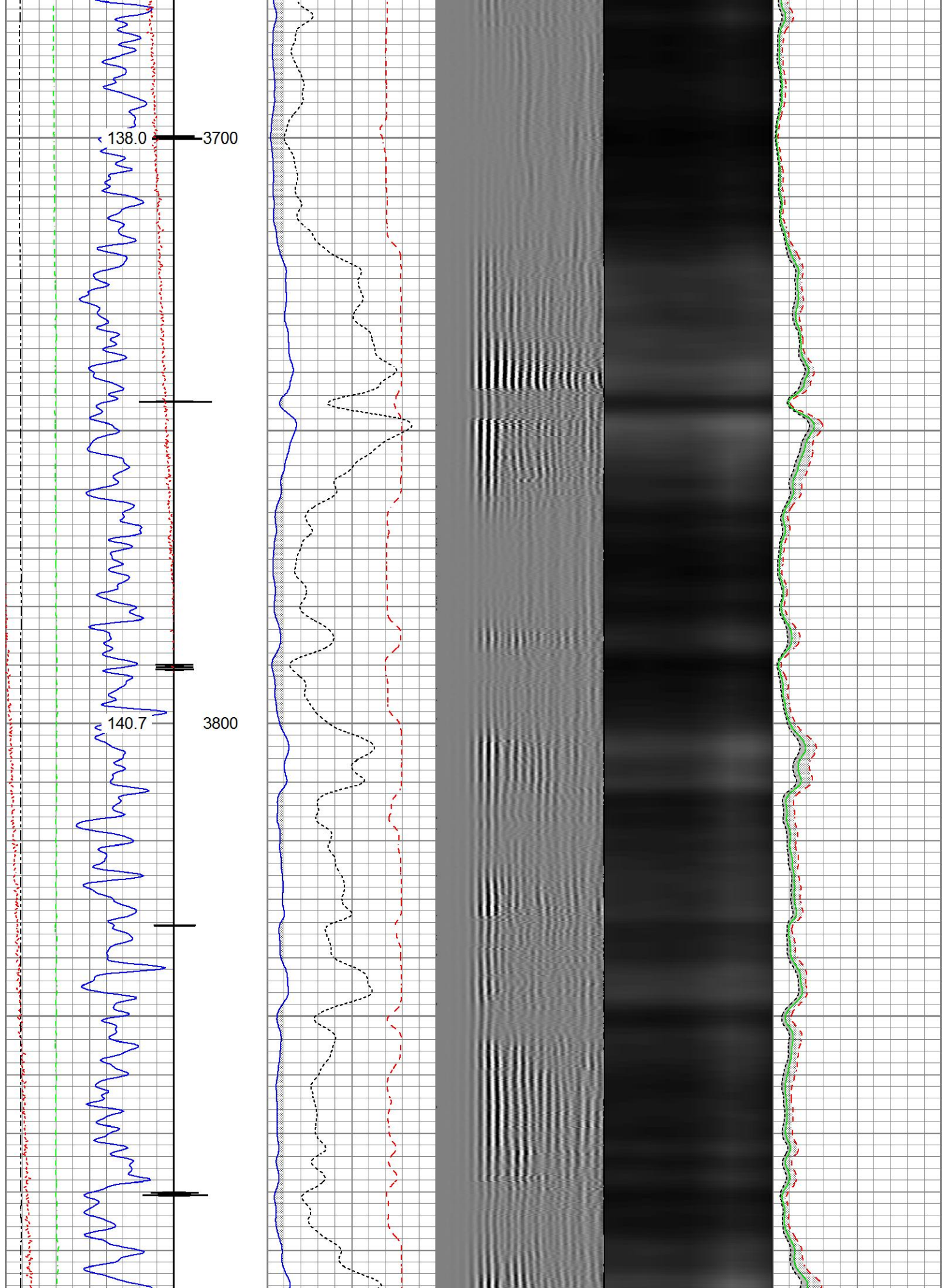


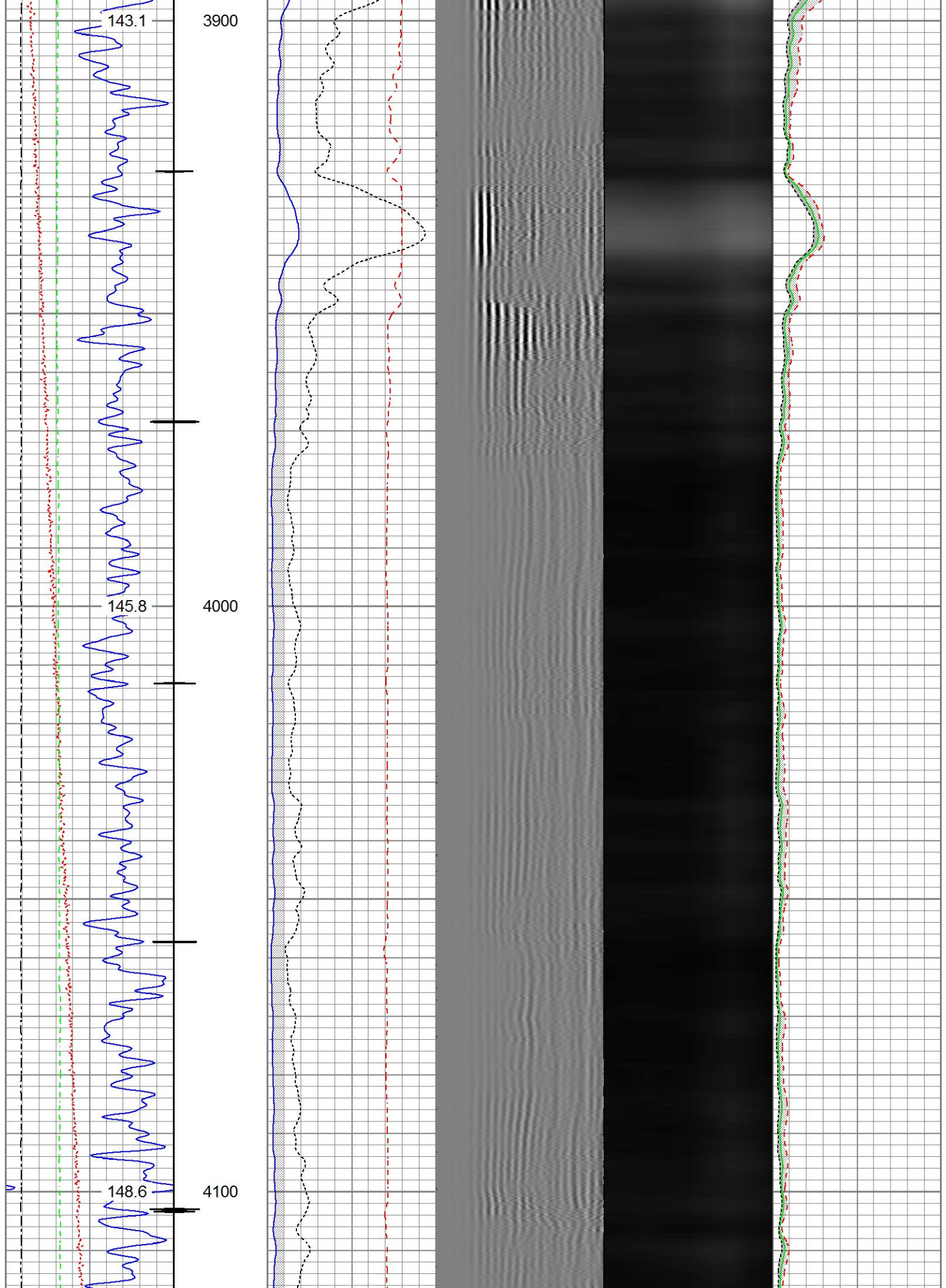


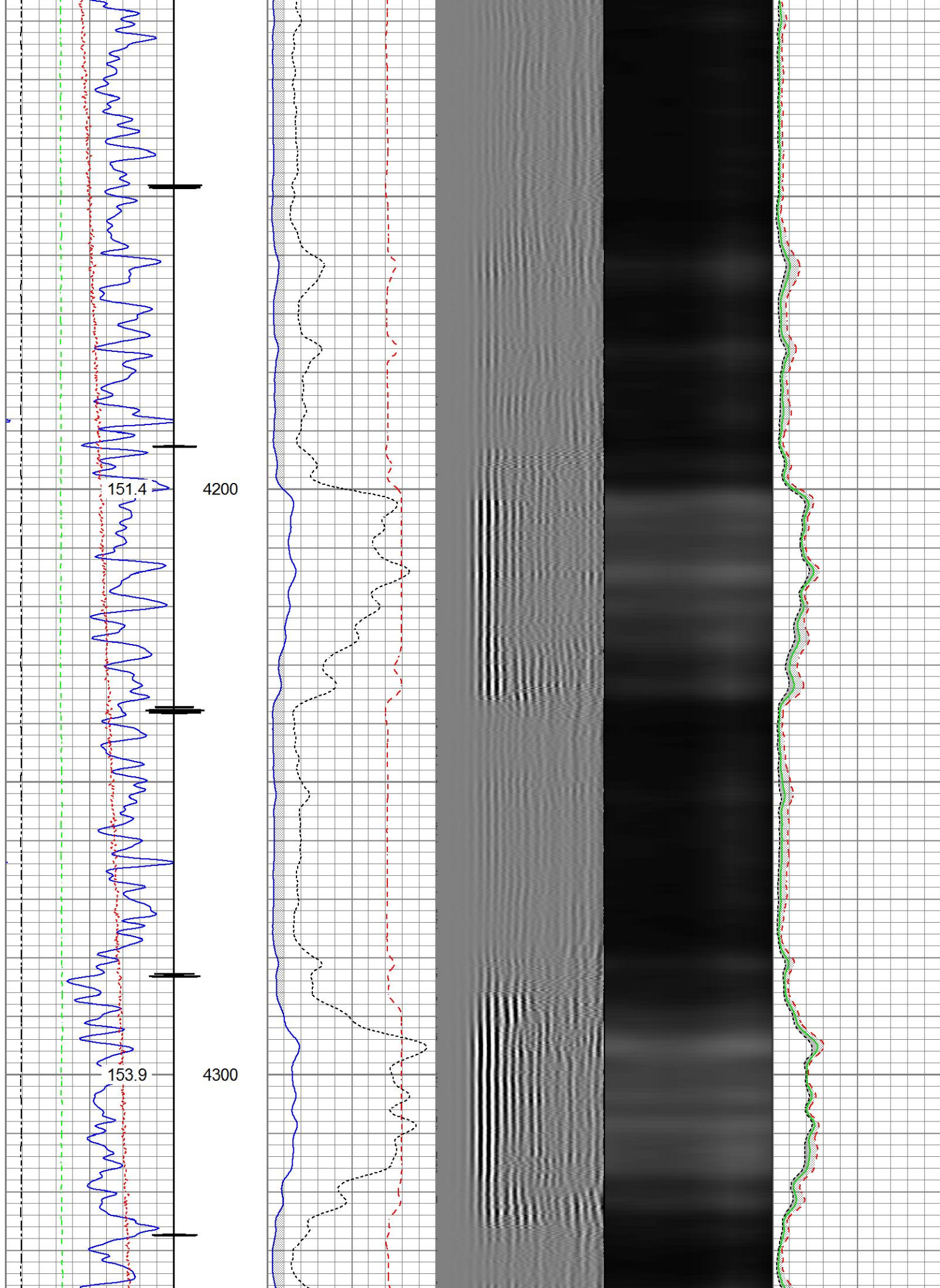


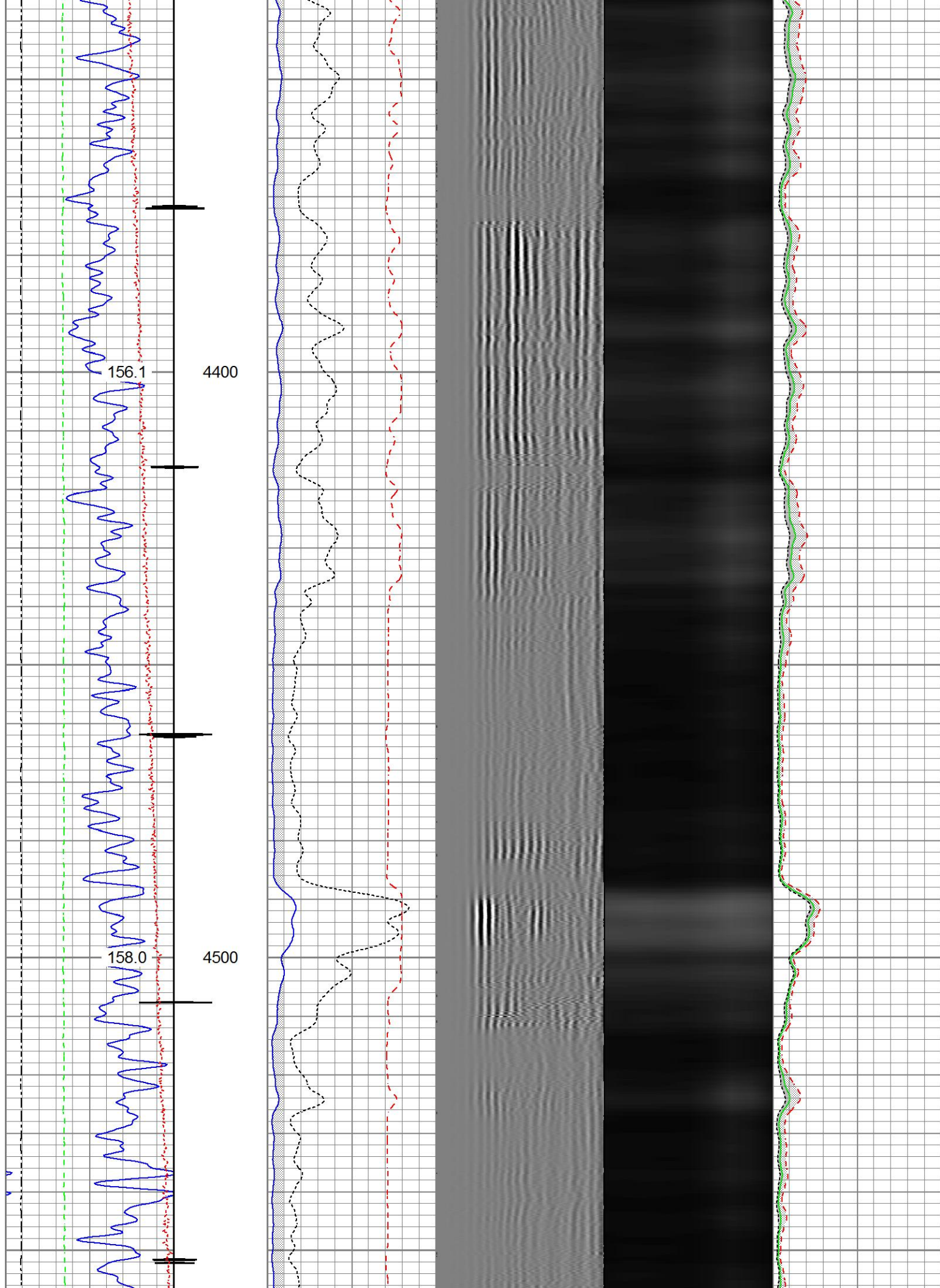


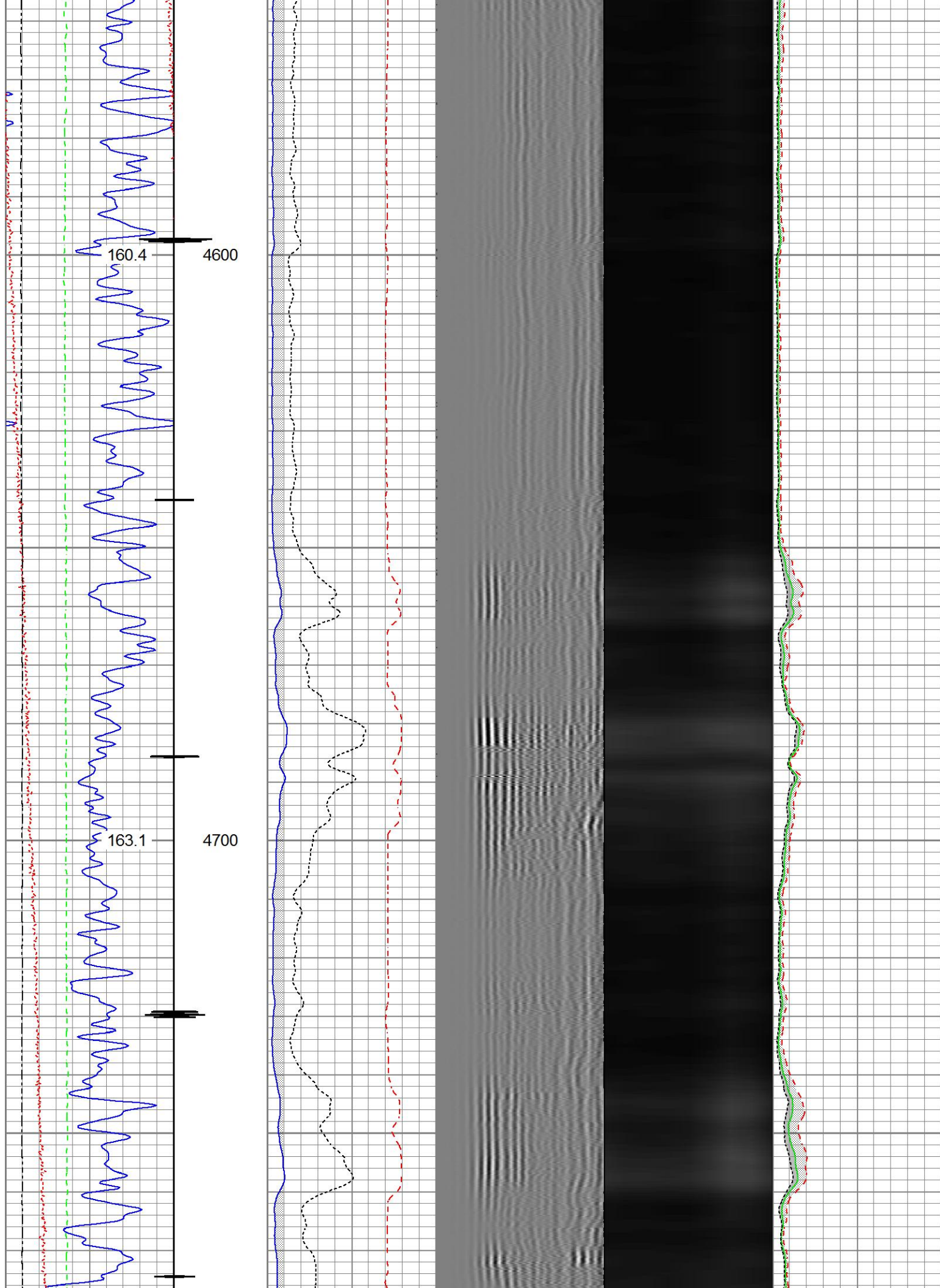


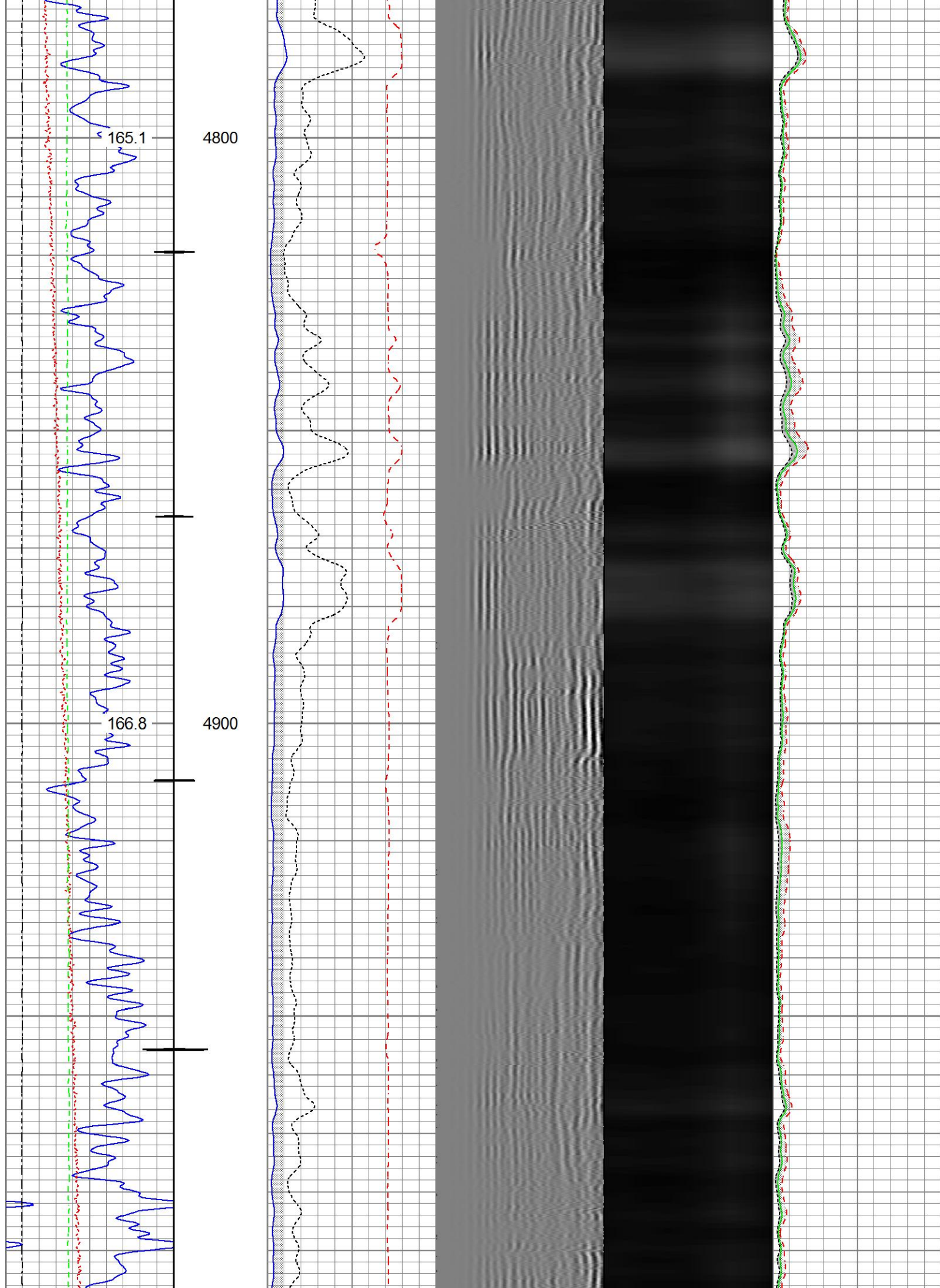


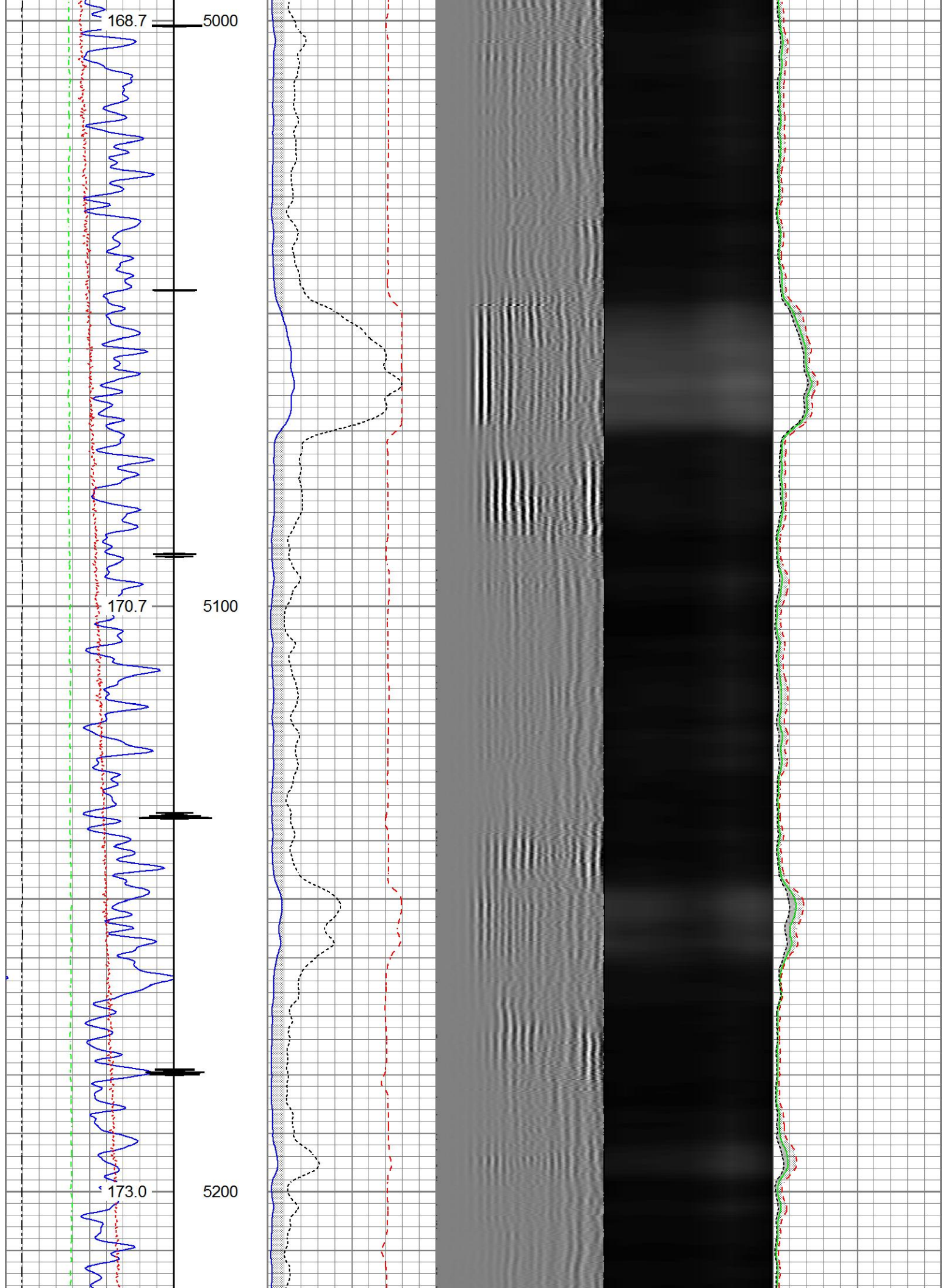


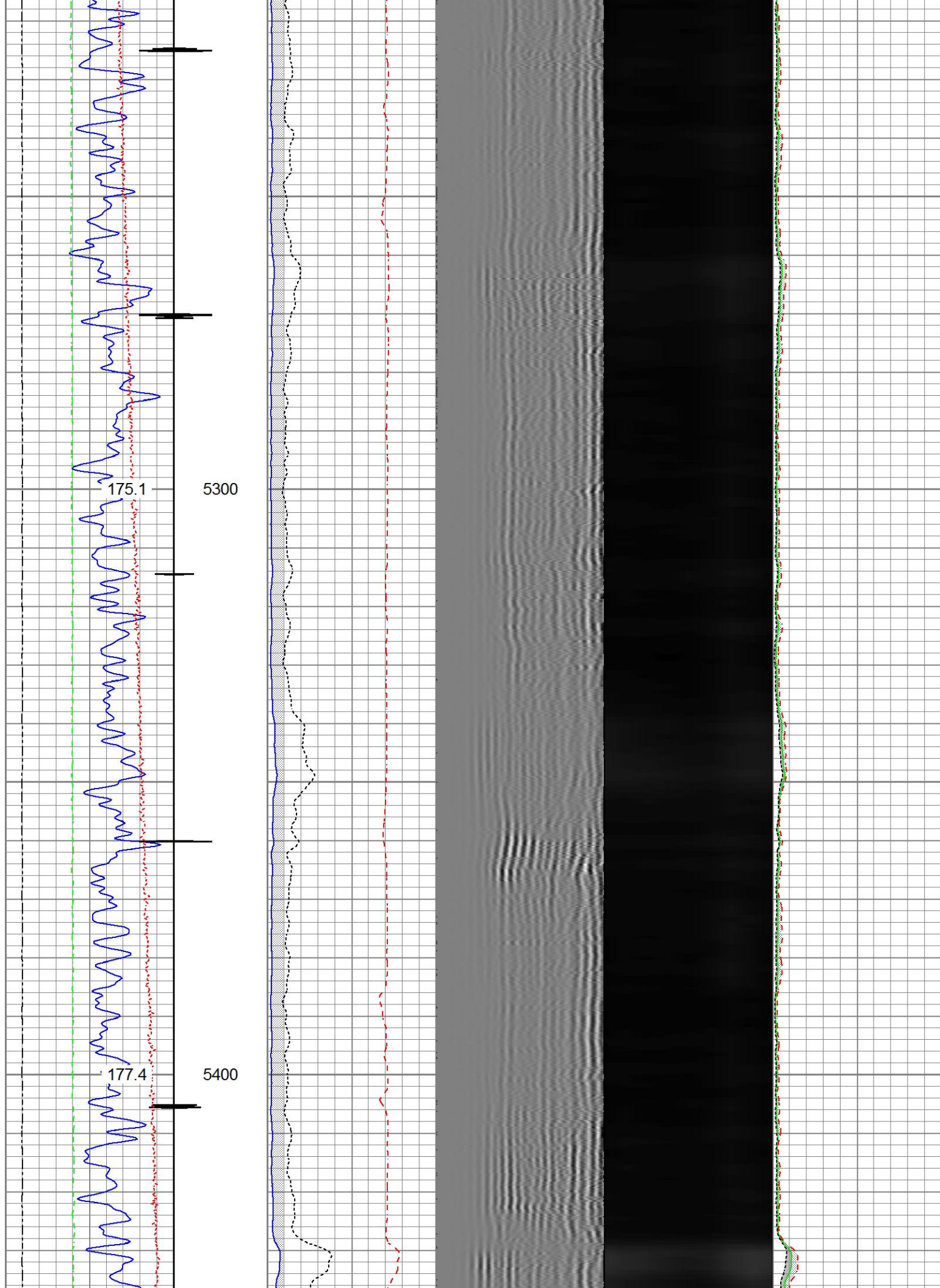


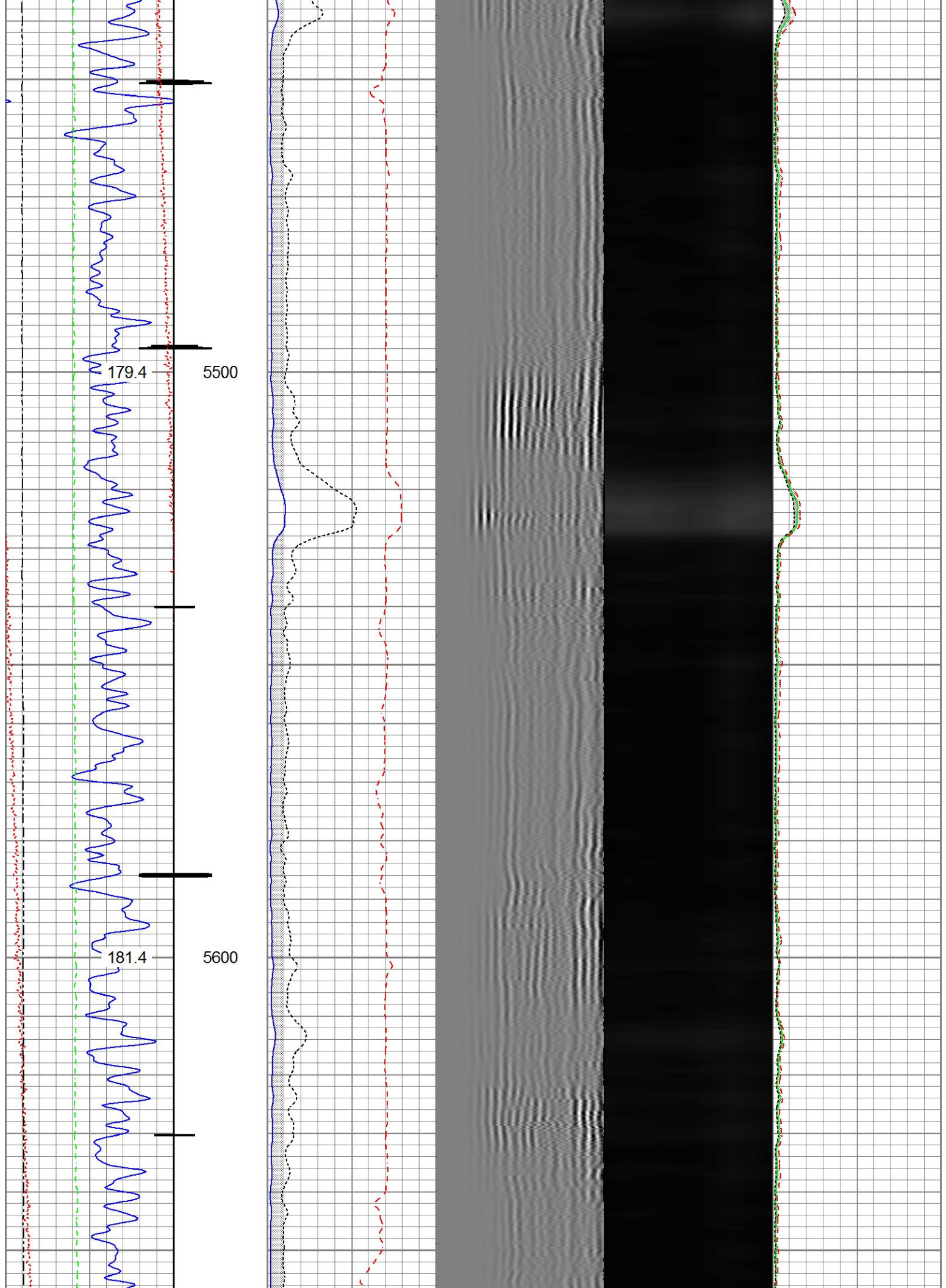


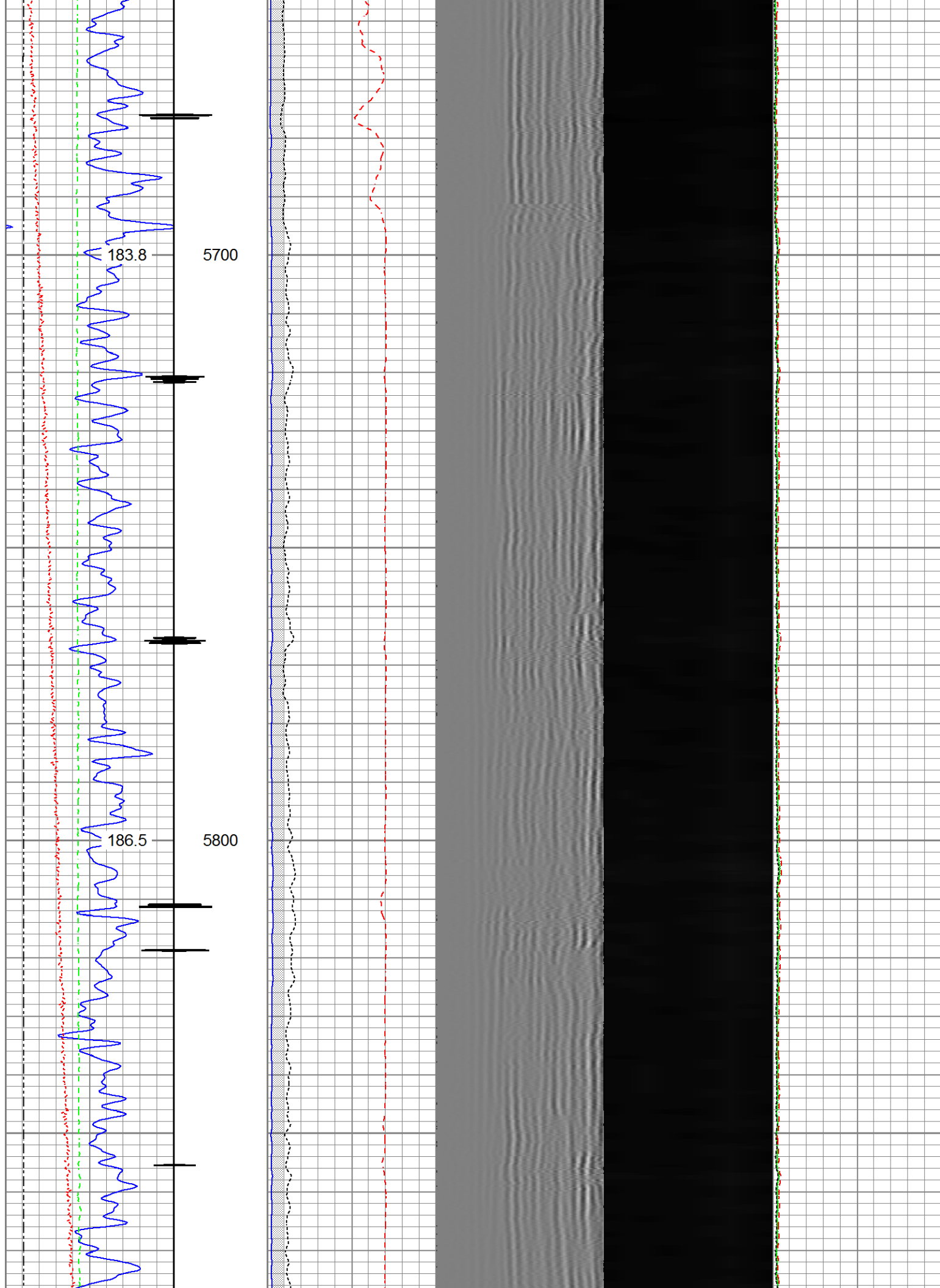


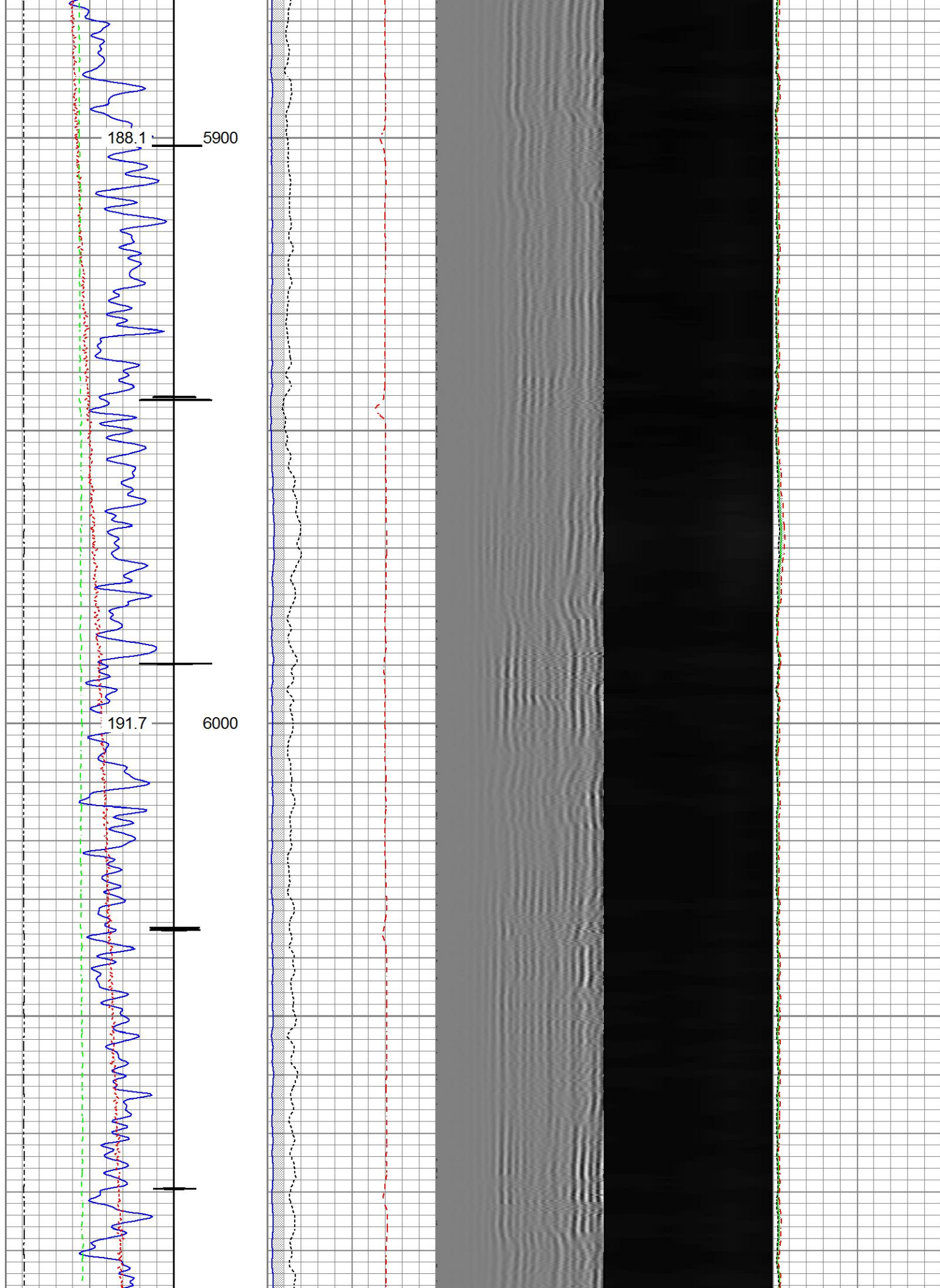


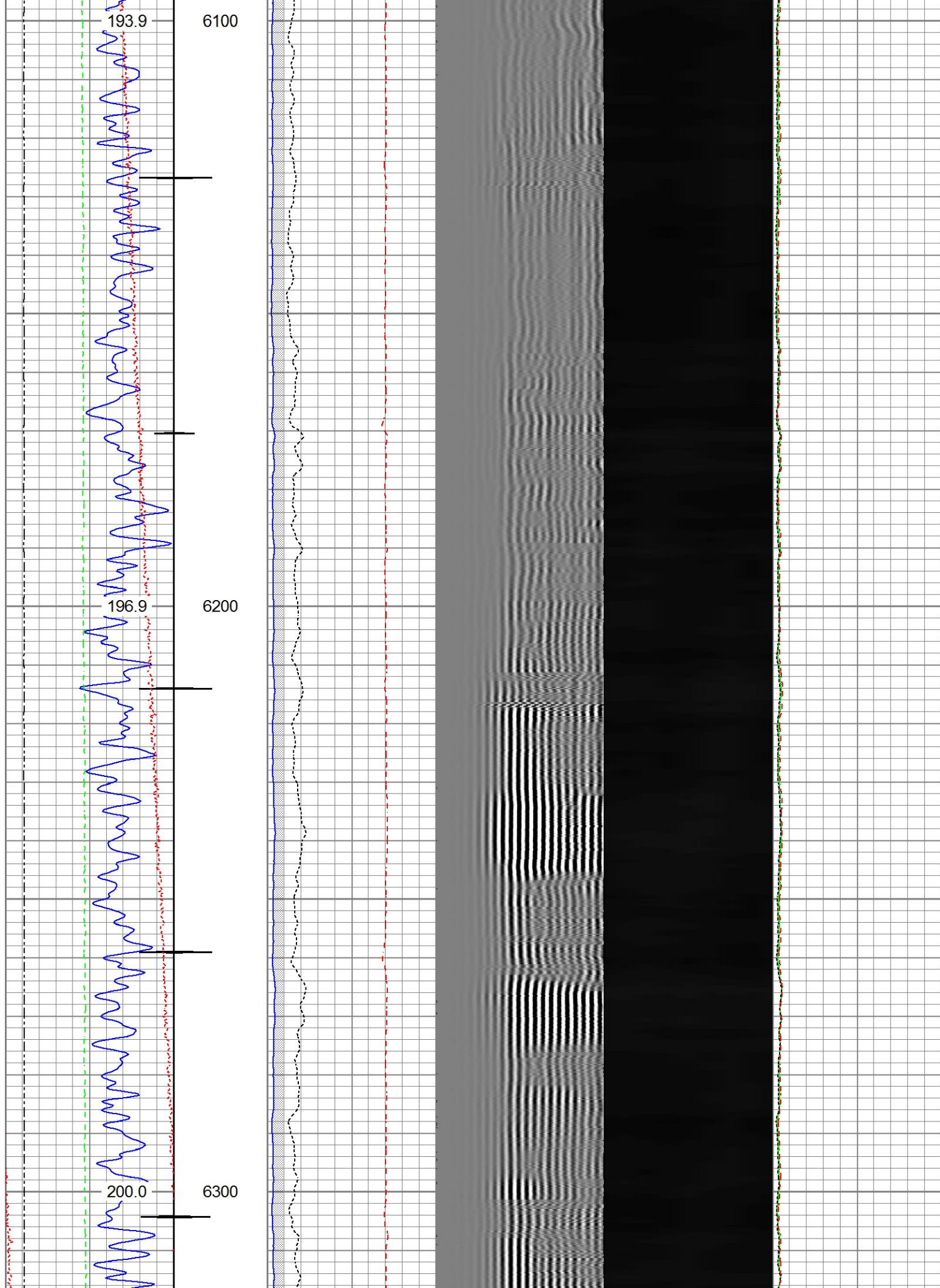


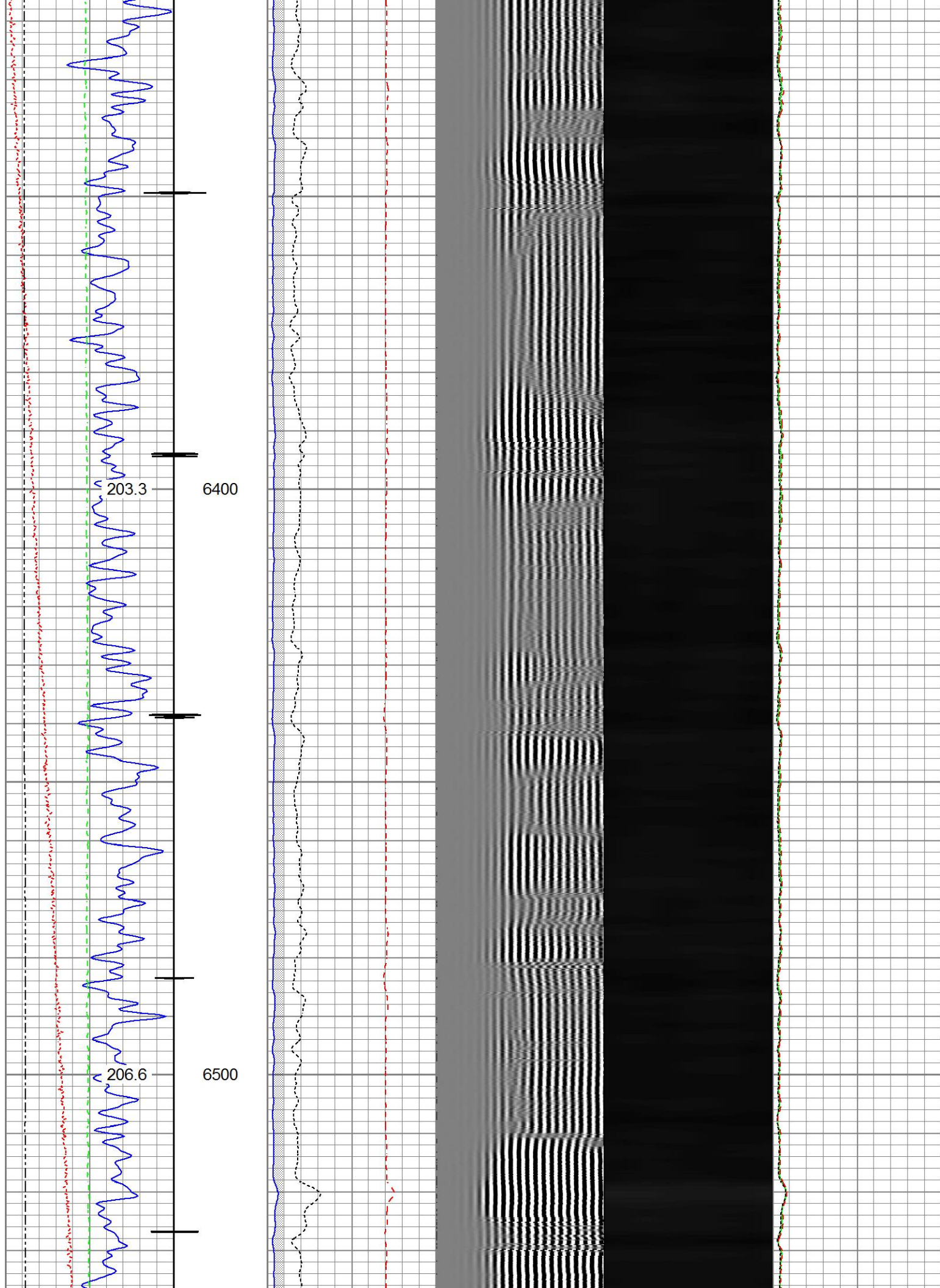


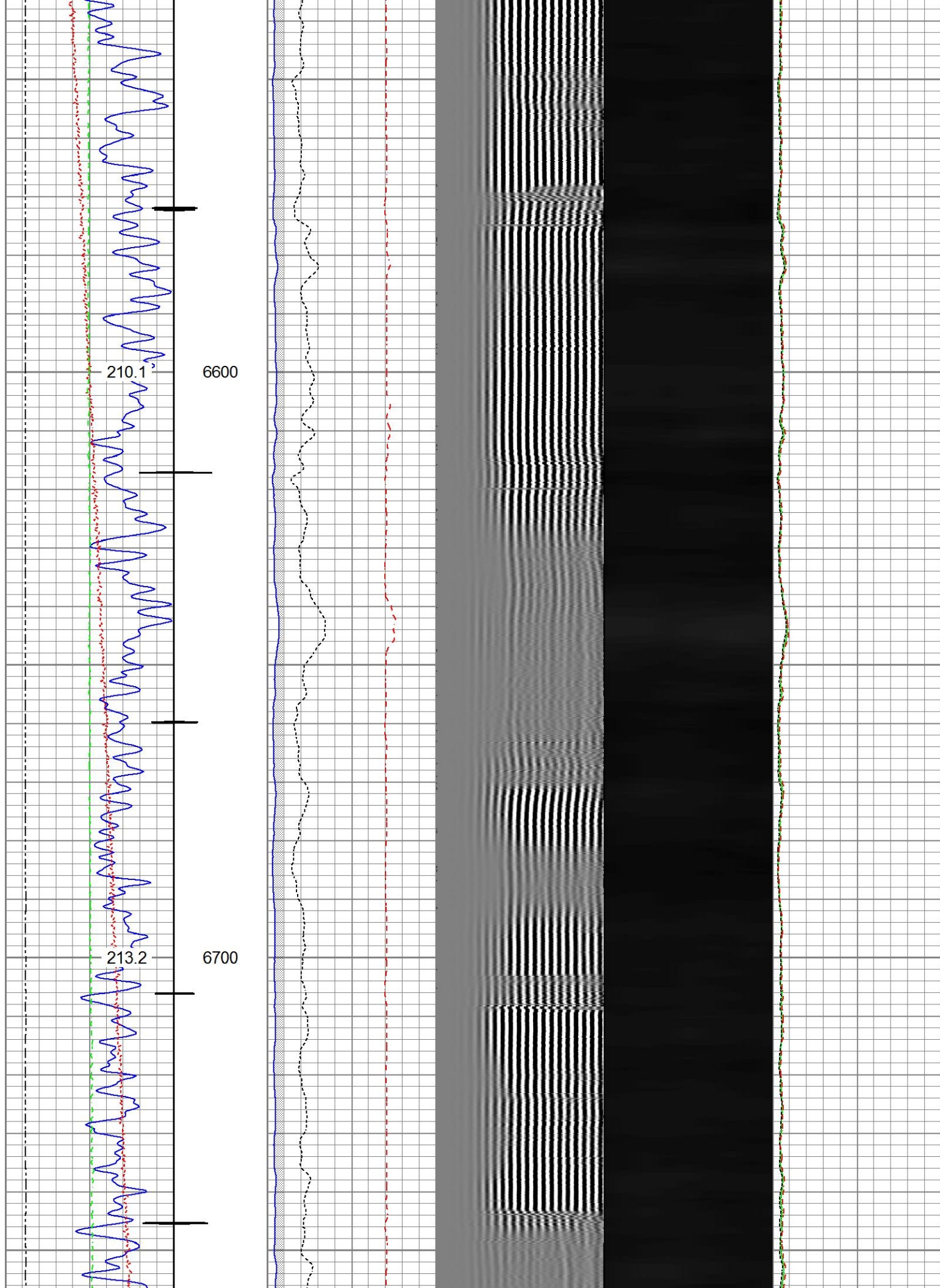


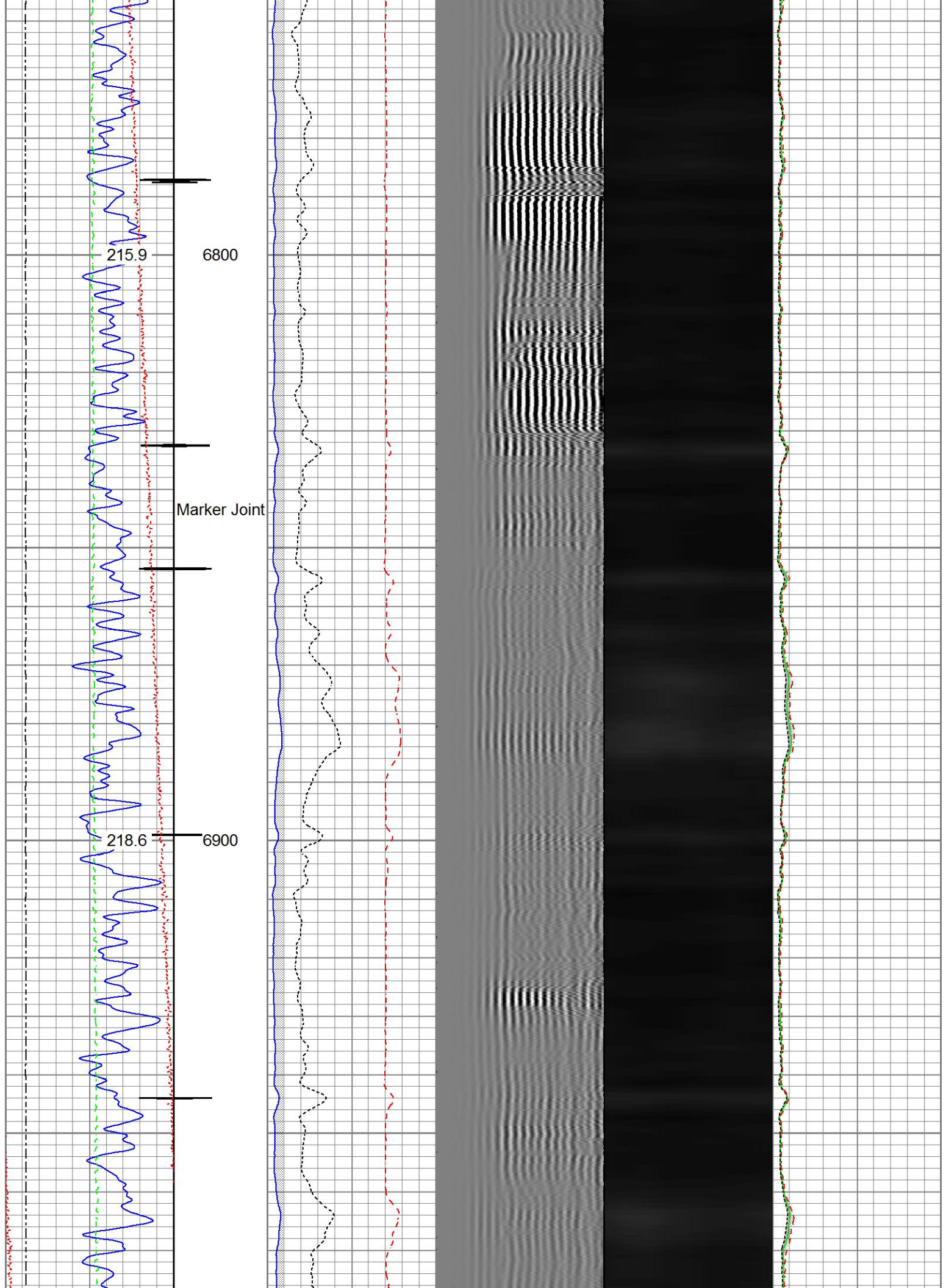


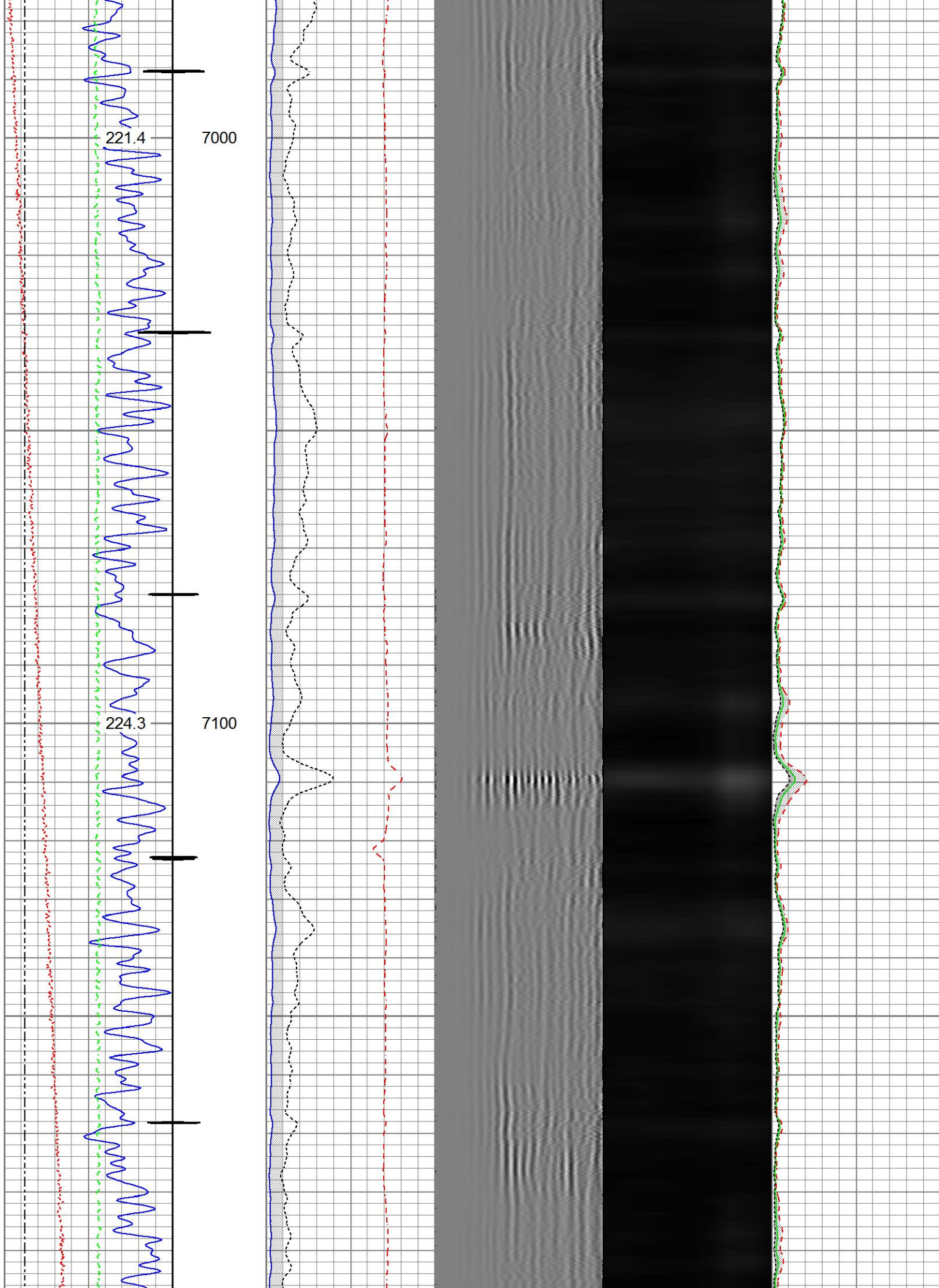


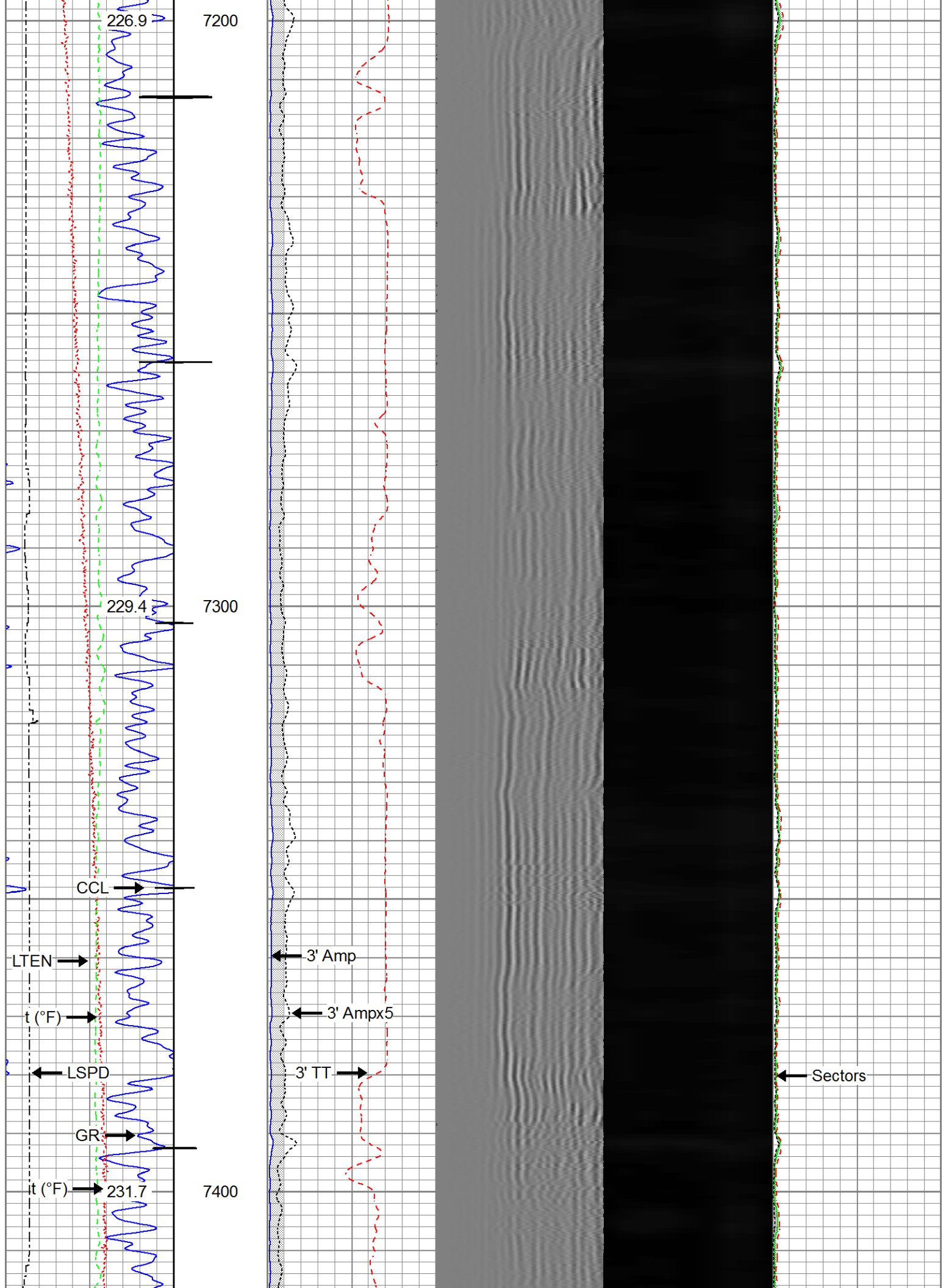


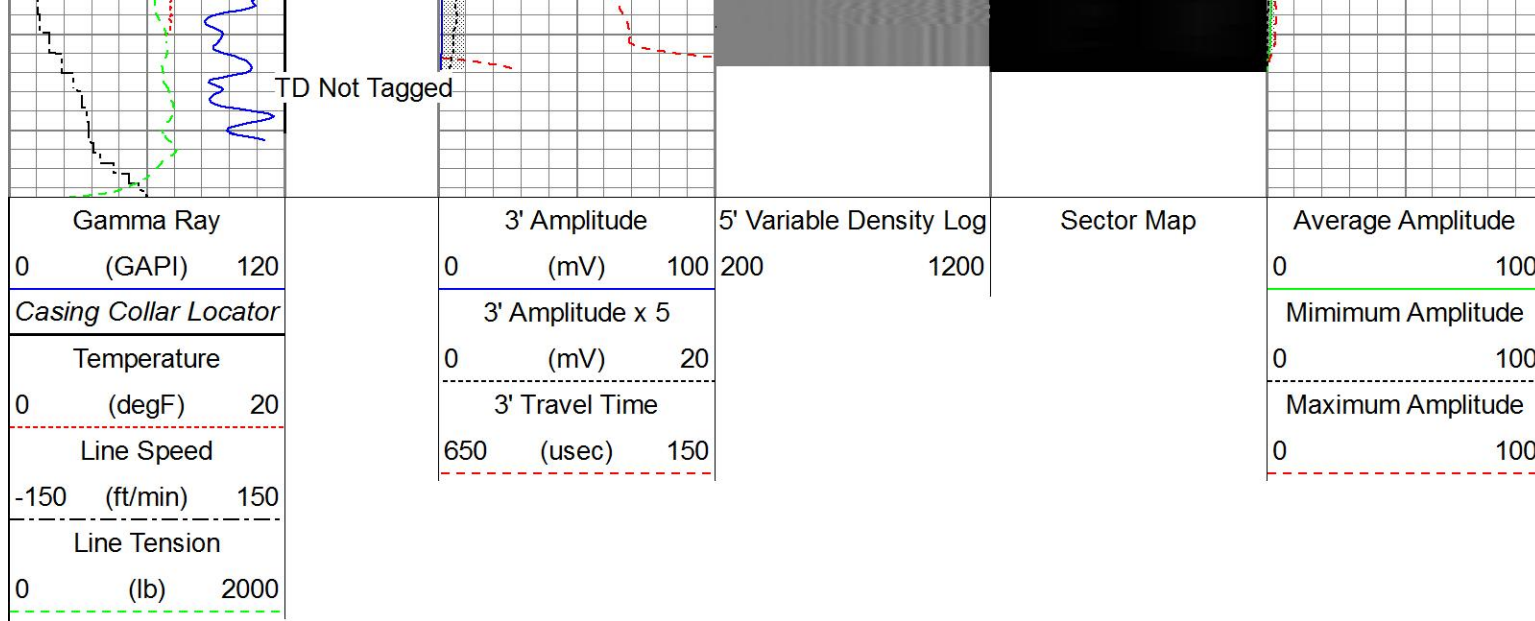








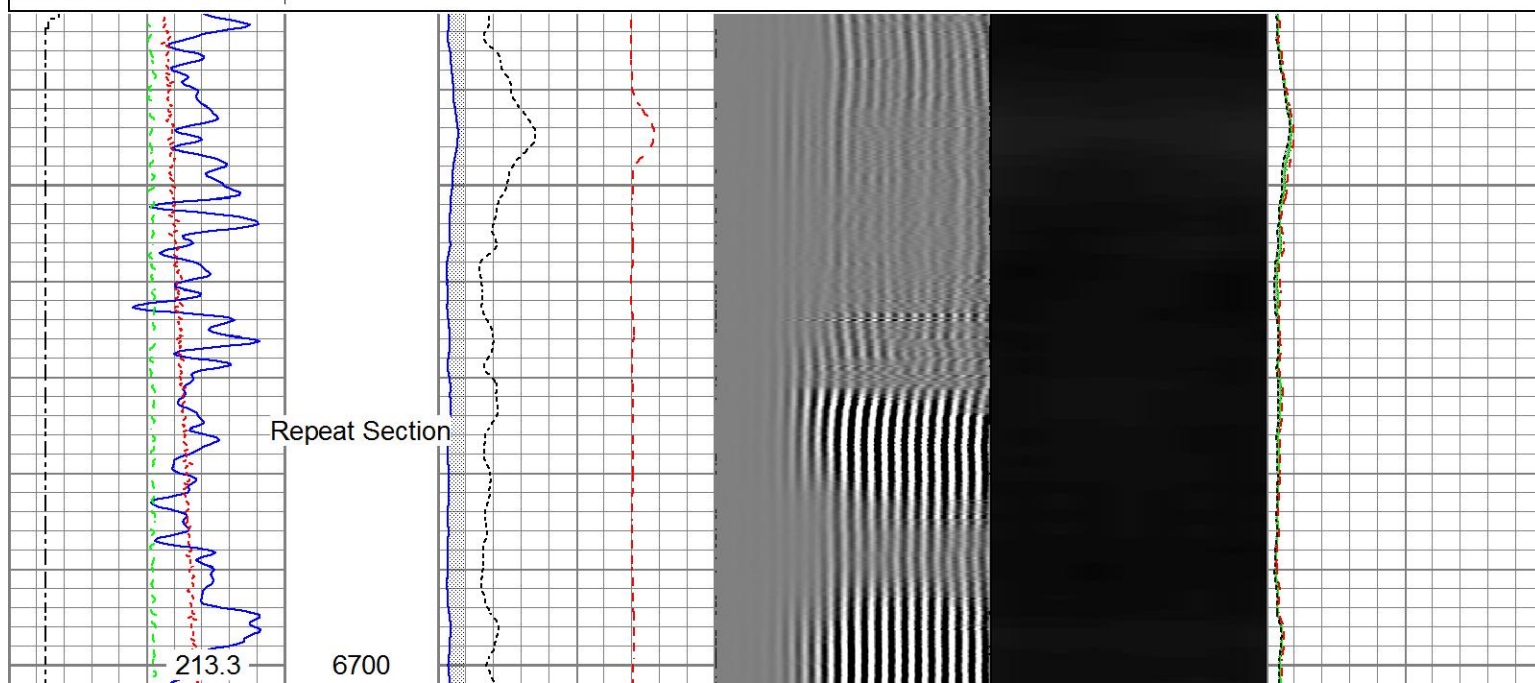
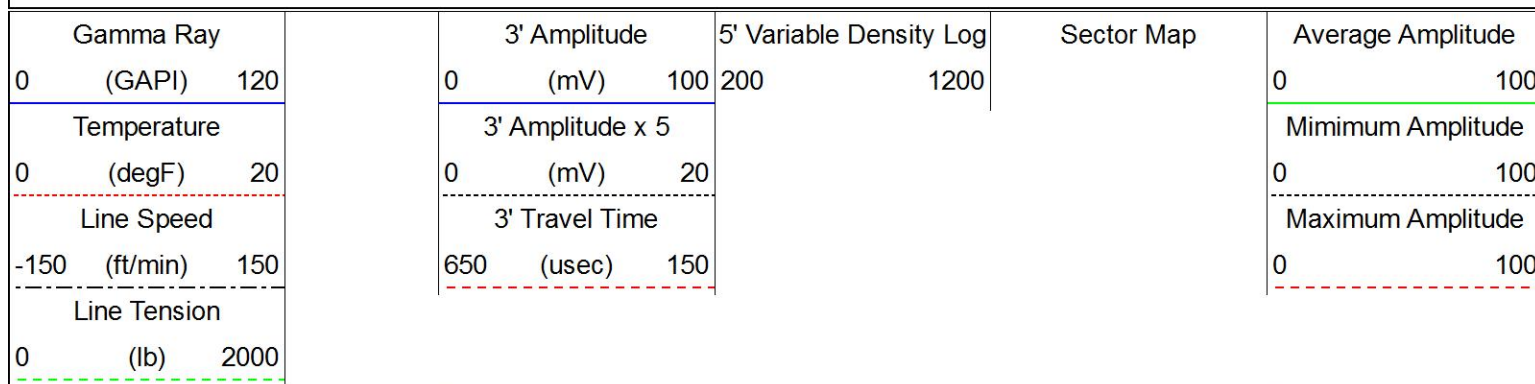


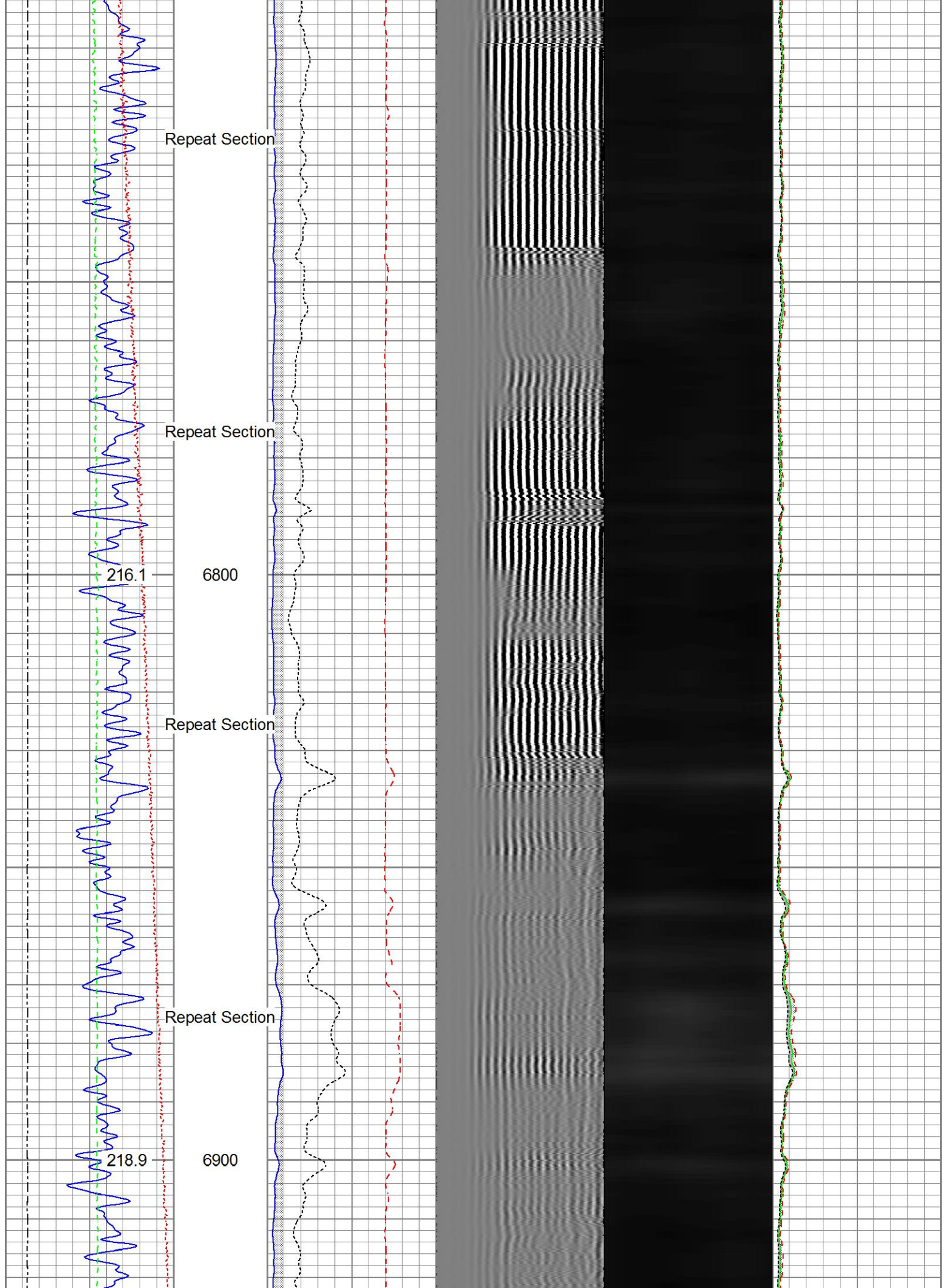


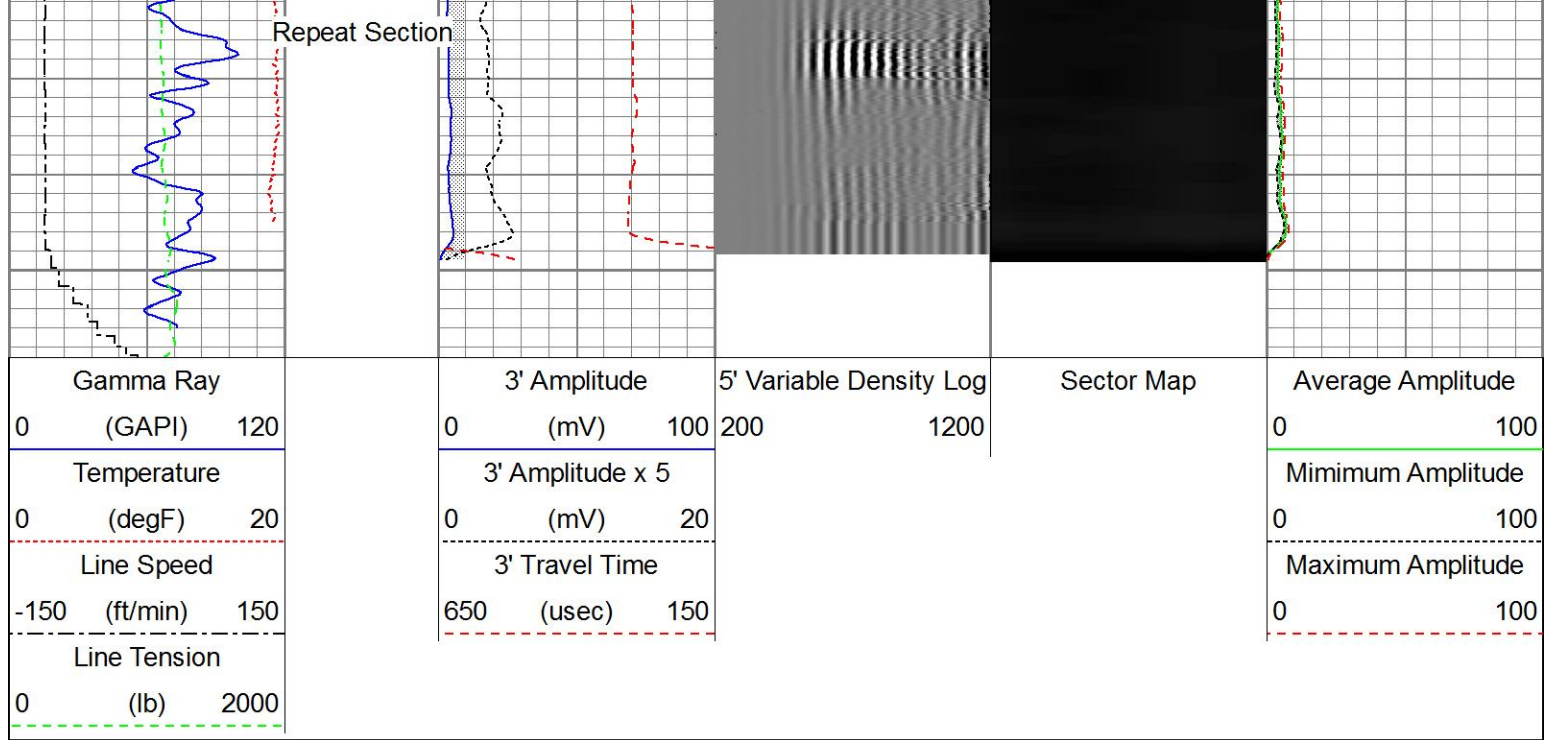
Repeat Pass


Recorded with 2800 PSI Surface Induced Pressure

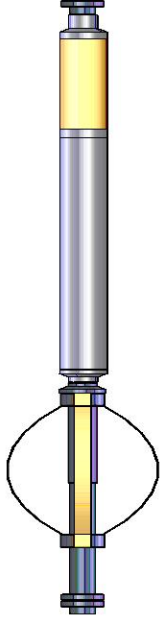
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 Dataset Pathname pass1.
 Presentation Format ros_radii
 Dataset Creation Tue Aug 16 15:05:39 2016
 Charted by Depth in Feet scaled 1:240







Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
Temp	16.75		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
WVFS8	14.58		Probe_RADII-C-P_RBT_2750 (FW1305-099.19 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	2.75	2.75	105.00
WVFS7	14.58					
WVFS6	14.58					
WVFS5	14.58					
WVFS4	14.58					
WVFS3	14.58					
WVFS2	14.58					
WVFS1	14.58					
WVFCAL	14.58					
WVF3FT	14.58					
WVF5FT	13.58					
HeadVolt	10.33		Probe_ELine_BowSpring_Centralizer-P_EE2.88_275 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	2.75	20.00

DCCL	6.51		Probe_GR_CCL-P_CGR_2750_S (FW1304.573)	2.75	55.00
CCL	6.51		Probe 2-3/4" Digital CCL / Gamma Ray Combined		
GR	3.77		Probe_ELine_BowSpring_Centralizer-P_EE2.88275	2.75	20.00
		Probe 2-3/4" Electric Inline Bowspring Centralizer			
Dataset: 0512342389_Anadarko_Land 14N-32HZ_08-16-16_RBL_w8.db: field/well/run1/main					
Total length: 23.43 ft					
Total weight: 225.40 lb					
O.D.: 2.75 in					

Calibration Report	
Database File	0512342389_Anadarko_Land 14N-32HZ_08-16-16_RBL_w8.db
Dataset Pathname	main
Dataset Creation	Tue Aug 16 16:20:59 2016

Gamma Ray Calibration Report		
Serial Number:	FW1307-038	
Tool Model:	P_CGR_2750_S	
Performed:	Wed Aug 10 15:05:44 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.6	cps
Sensitivity:	0.6300	GAPI/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	FW1305-096	
Tool Model:	P_RBT_2750	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	20.000	ft

Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.685	0.800	71.921	103.778	0.792
CAL	0.742	0.747				
5'	0.000	0.642	0.800	71.921	110.722	0.794
SUM						
S1	-0.000	0.663	0.000	100.000	150.724	0.004
S2	0.000	0.667	0.000	100.000	149.981	-0.007
S3	0.000	0.685	0.000	100.000	146.084	-0.022
S4	0.000	0.708	0.000	100.000	141.191	-0.032

S5	0.000	0.723	0.000	100.000	138.283	-0.003
S6	0.000	0.724	0.000	100.000	138.197	-0.021
S7	0.000	0.702	0.000	100.000	142.535	-0.032
S8	0.000	0.683	0.000	100.000	146.568	-0.037

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.742	0.747	1.000	0.000

Air Zero Calibration, performed Tue Aug 16 12:47:47 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 14N-32HZ
Field Wattenberg
County Weld
State Colorado