



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company		Kerr-McGee Oil & Gas Onshore, L.P.	
Well		Butterball 24N2-34HZ	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-44317	
Permanent Datum		SEC 10 TWP 2N RGE 67W	
Log Measured From		Ground Level	
Drilling Measured From		Kelly Bushing	
		Elevation 4916'	
		Elevation K.B. 4936'	
		D.F. ---	
		G.L. 4916'	
Date		19-JUL-2017	
Run Number		One	
Depth Driller		15502 FT	
Depth Logger		6632 FT	
Bottom Logged Interval		6626 FT	
Top Log Interval		Surface	
Open Hole Size		7.825"	
Type Fluid		Water	
Density / Viscosity		8.34 lb/gal	
Max. Recorded Temp.		215 °F	
Estimated Cement Top		See Log	
Time Well Ready		ROA	
Time Logger on Bottom		8:49	
Equipment Number		HD-0331	
Location		Fort Lupton, CO	
Recorded By		R. Cameron	
Witnessed By		Kyle Carver	
Borehole Record		Tubing Record	
Run Number		Bit	
		From	
		To	
		Size (in)	
		Weight (lb/ft)	
		From	
		To	
Casing Record		Size (in)	
Surface Casing		Wgt (lb/ft)	
Intermediate #1		Grade	
Intermediate #2		Top	
Liner		Bottom	

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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 6583 FT
Adjusted +2 FT to correlate with Marker Joint
Log ran from 6632 FT to surface
Log ran with 2800 PSI surface induced pressure
Logging tools were clean and free of any debris upon completion of operations

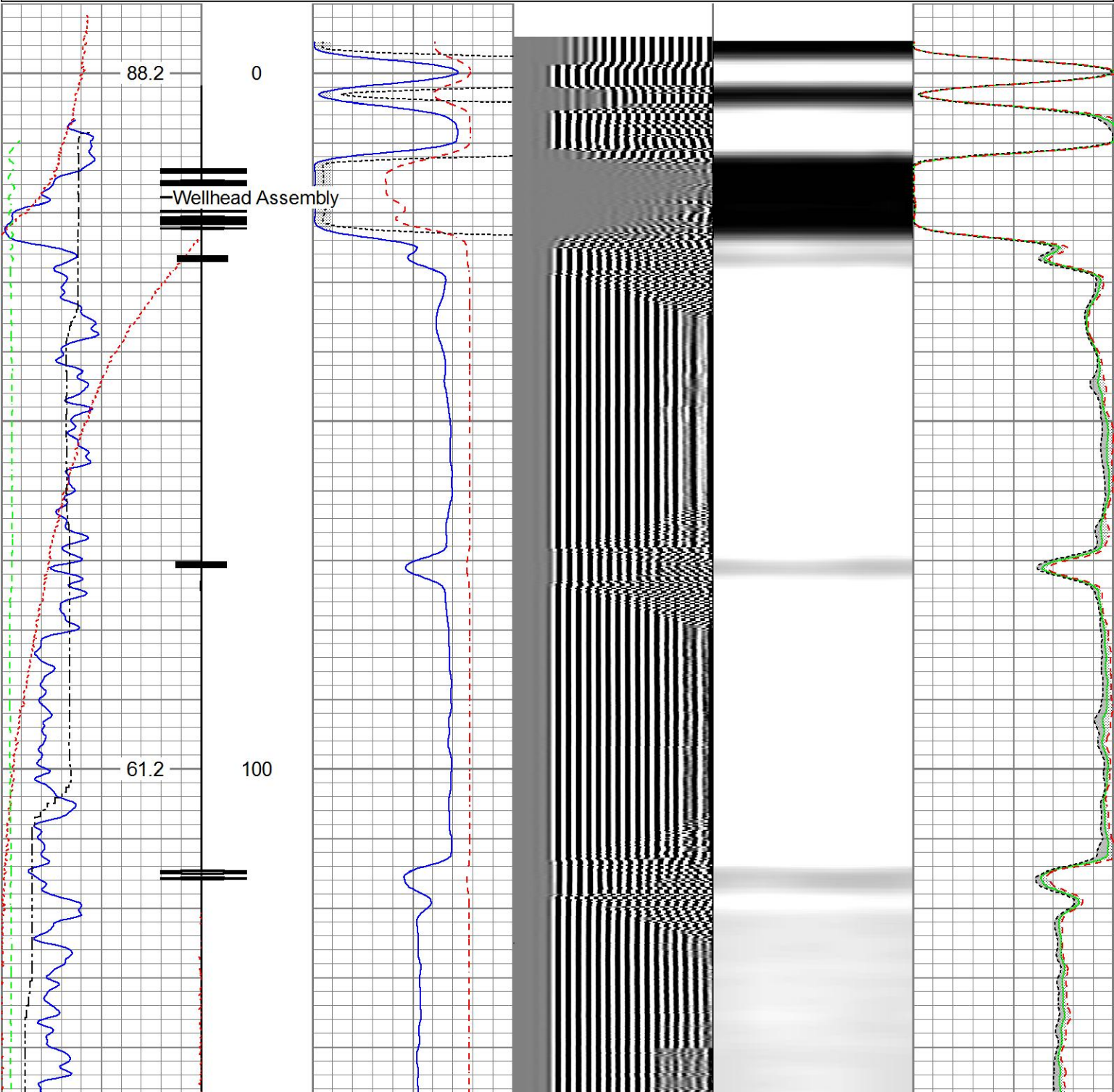
Thank you for choosing Reliance Oilfield Services, LLC!!

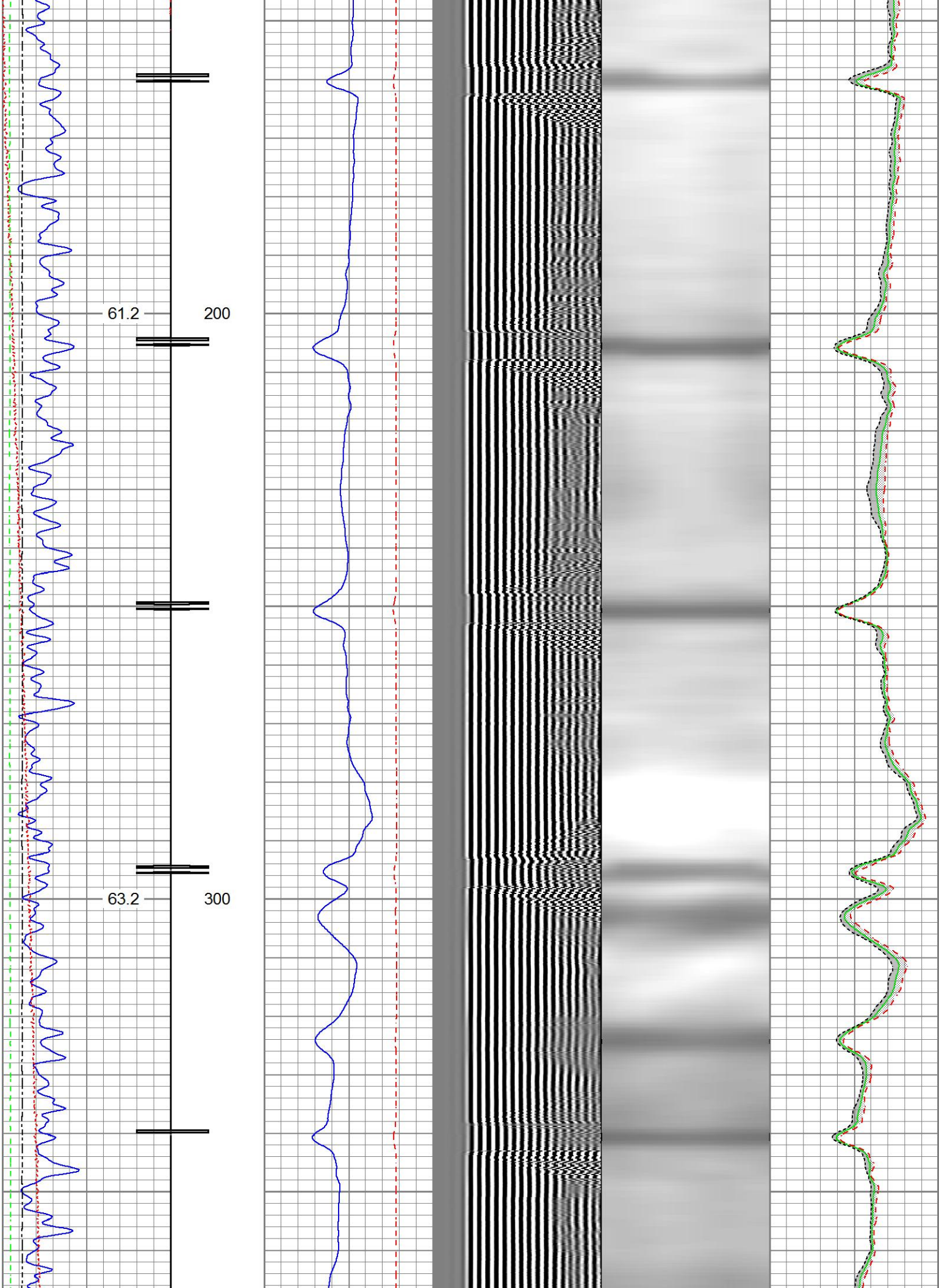


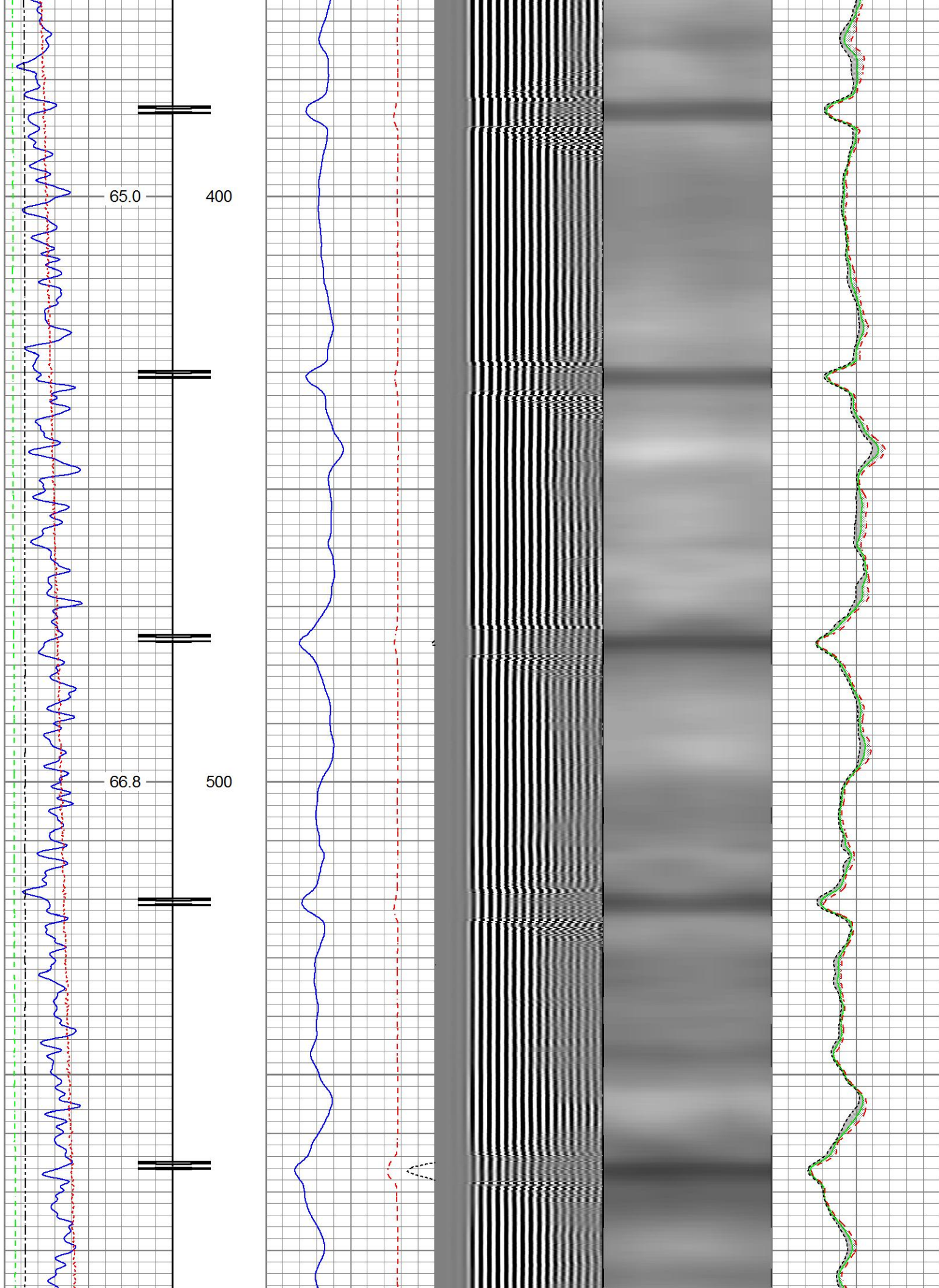
Main Pass

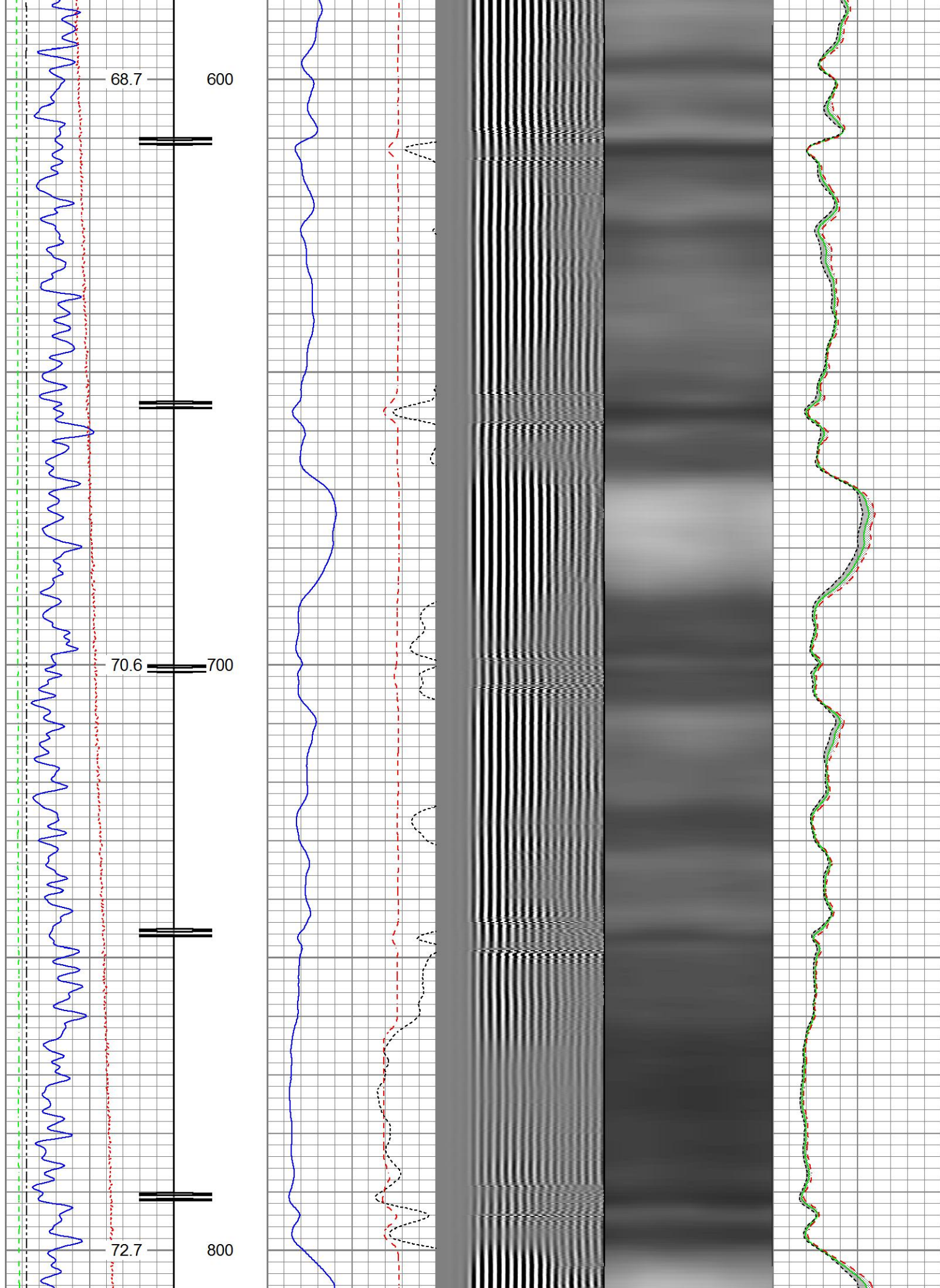
Recorded With 2800 PSI Surface Induced Pressure

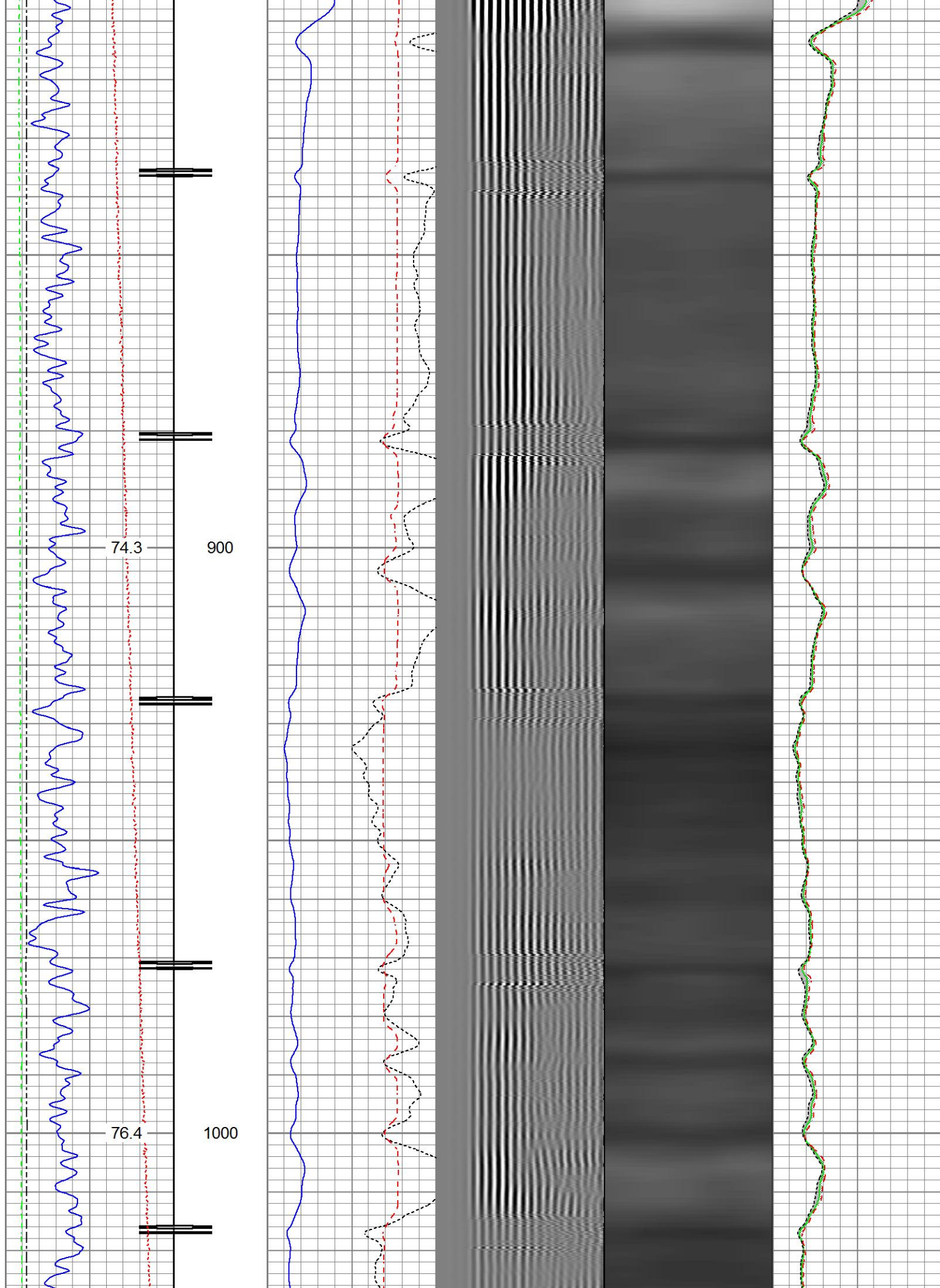
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150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

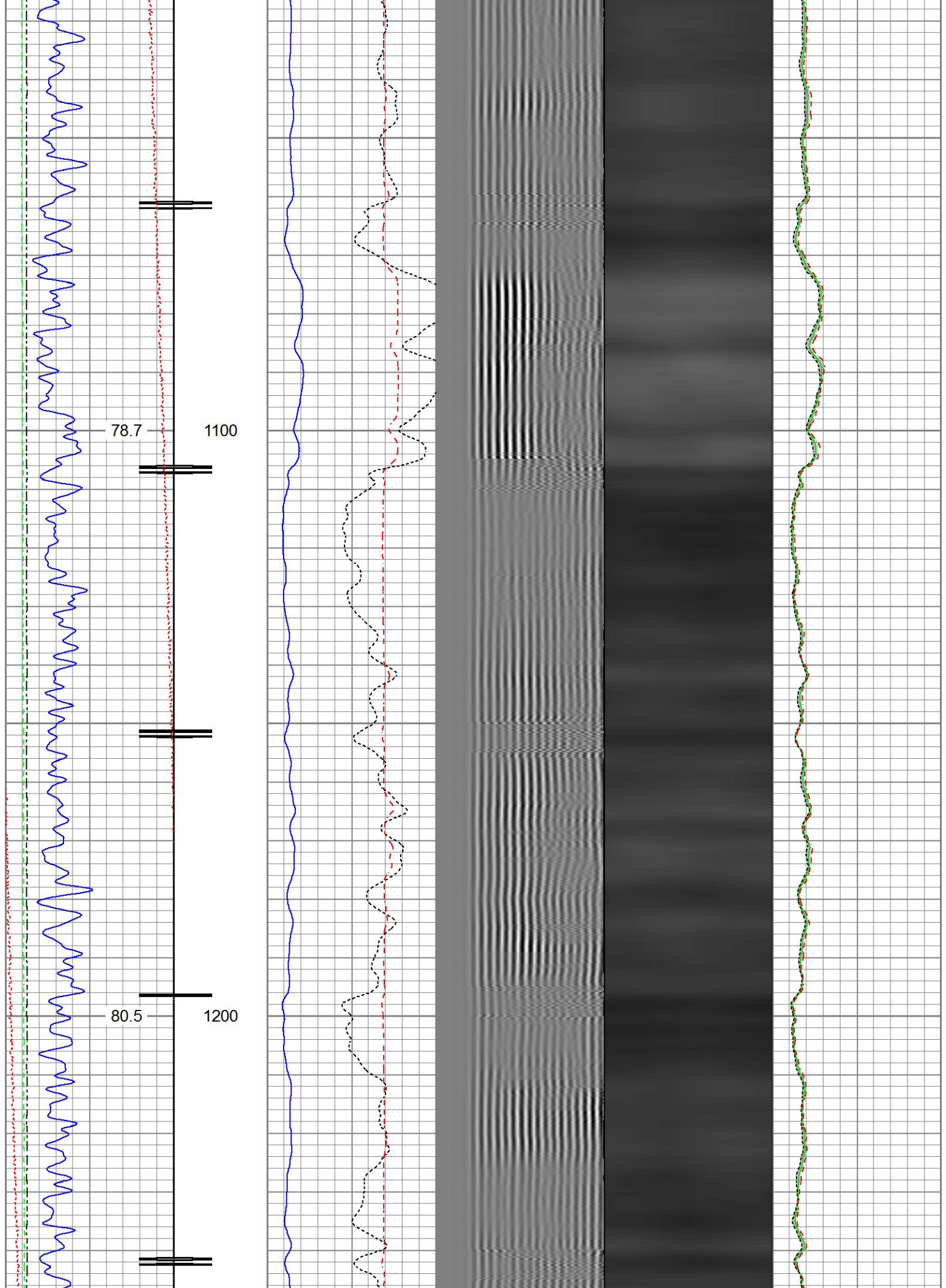


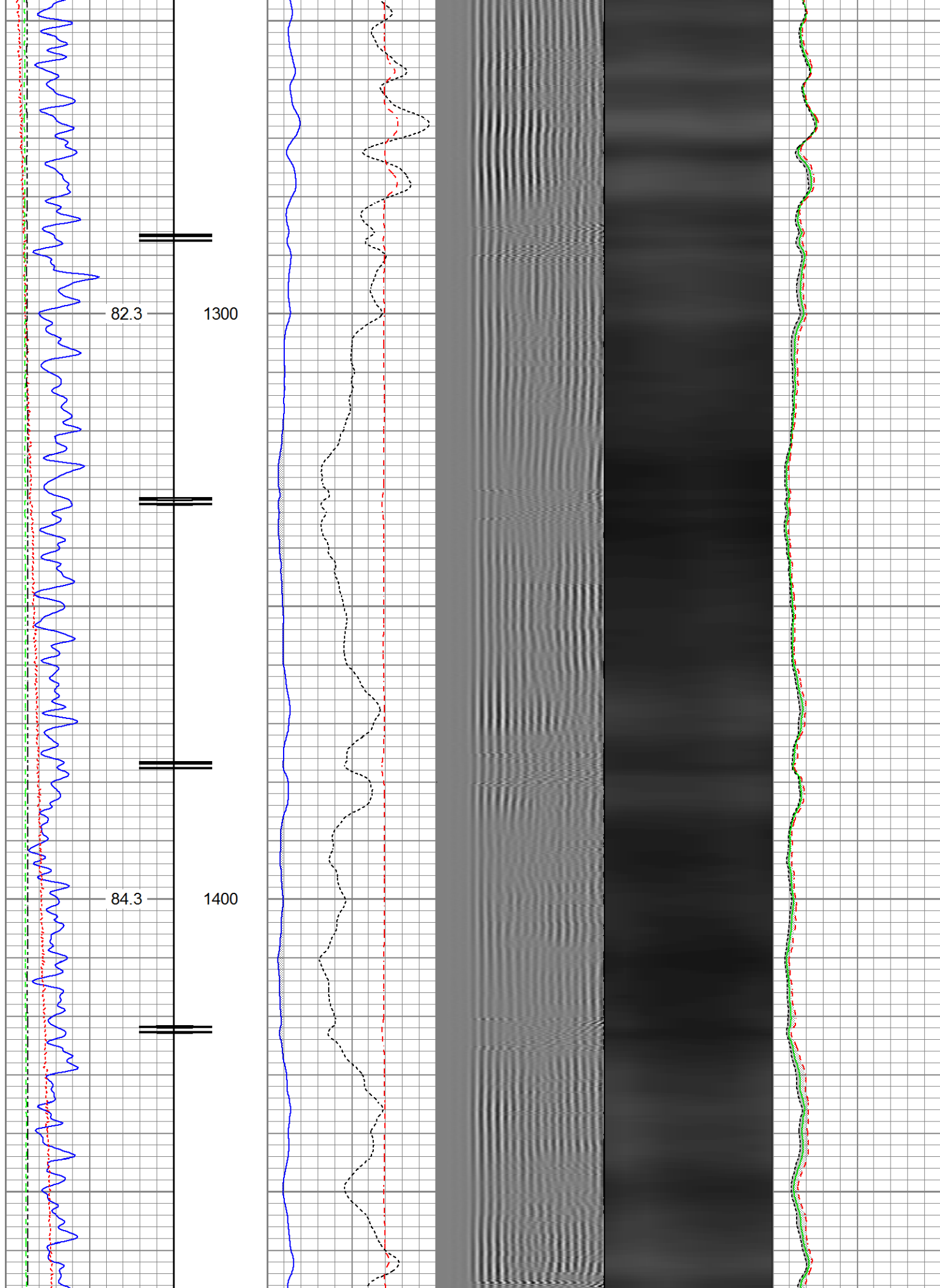


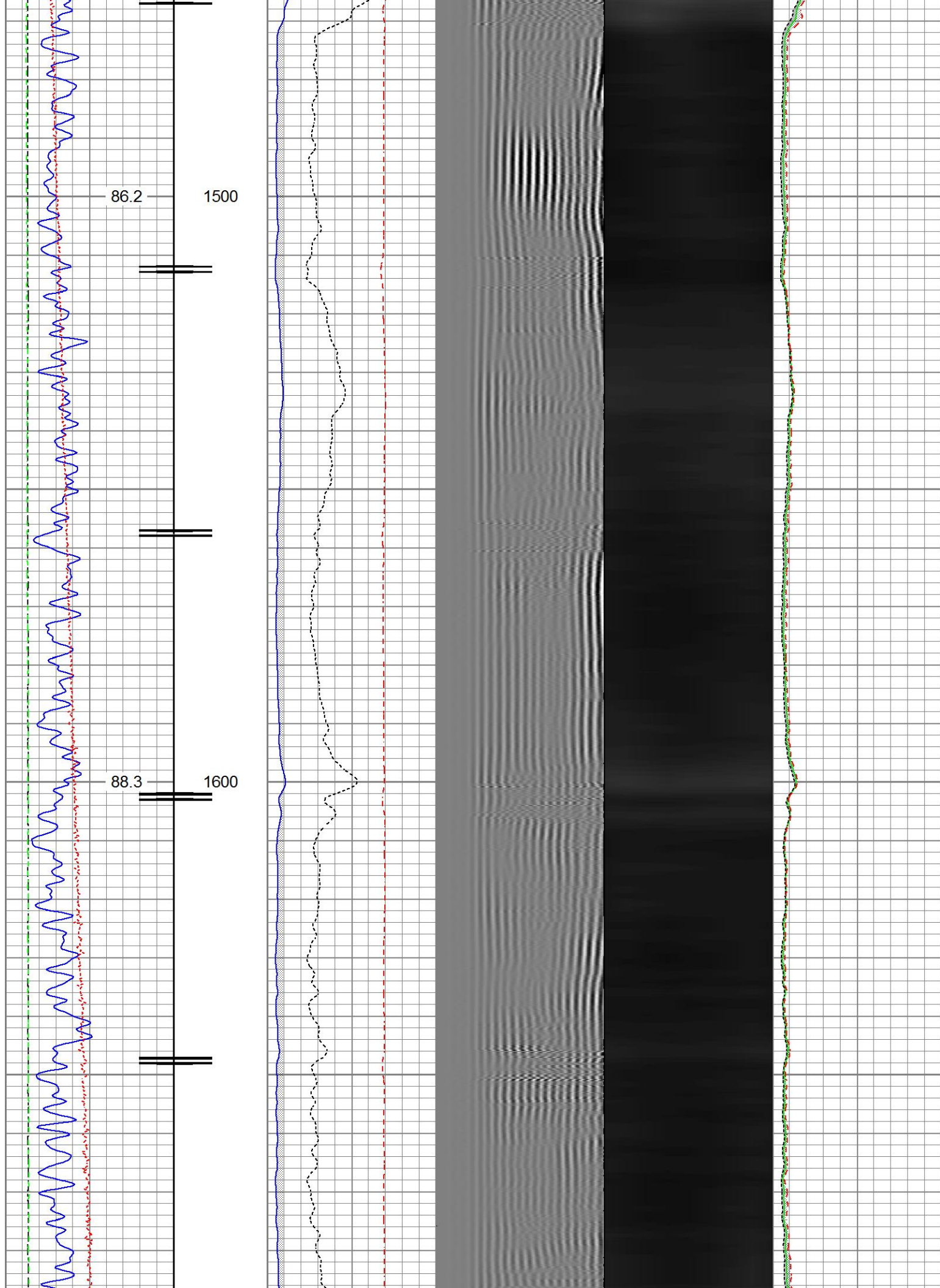


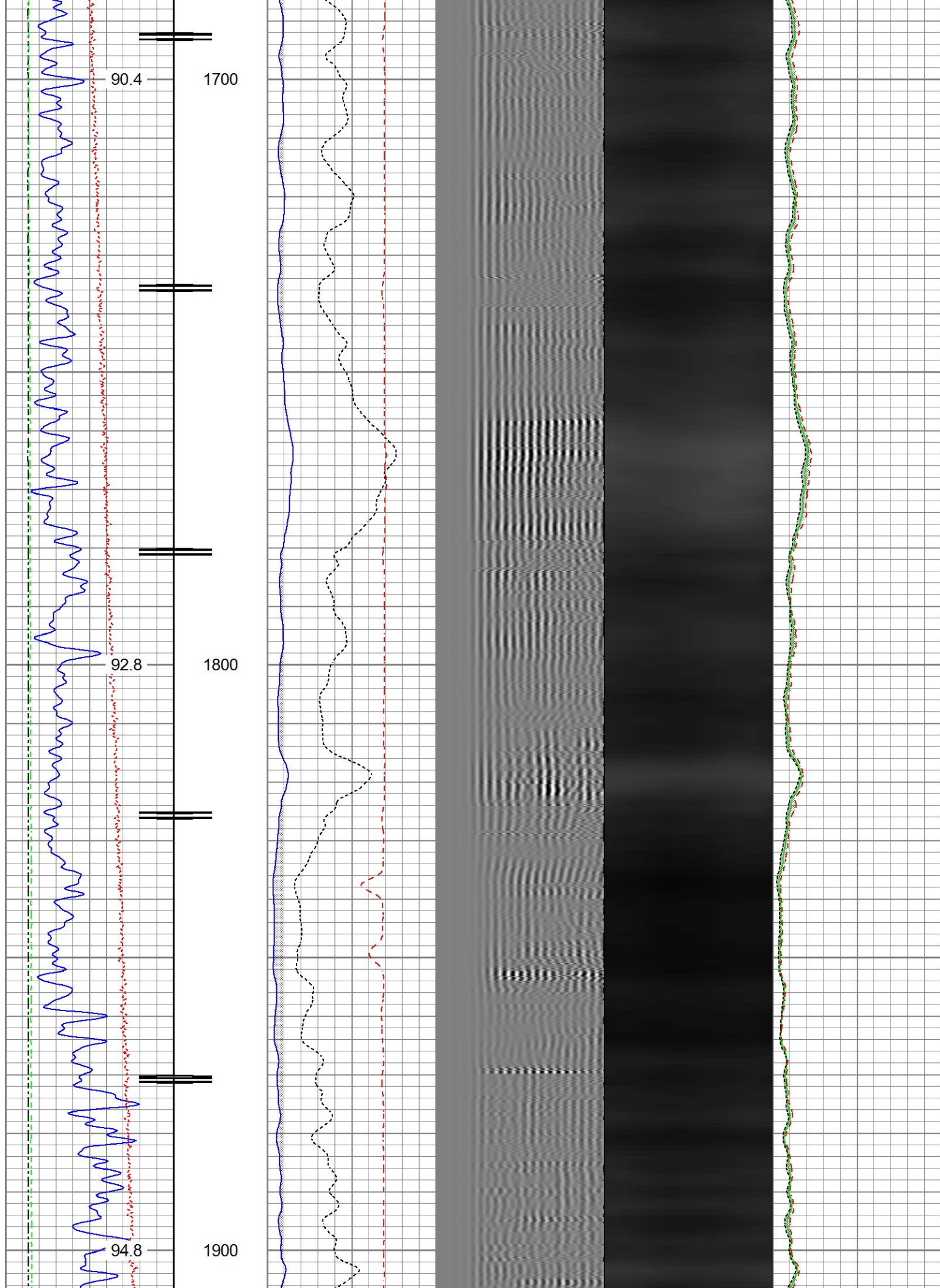


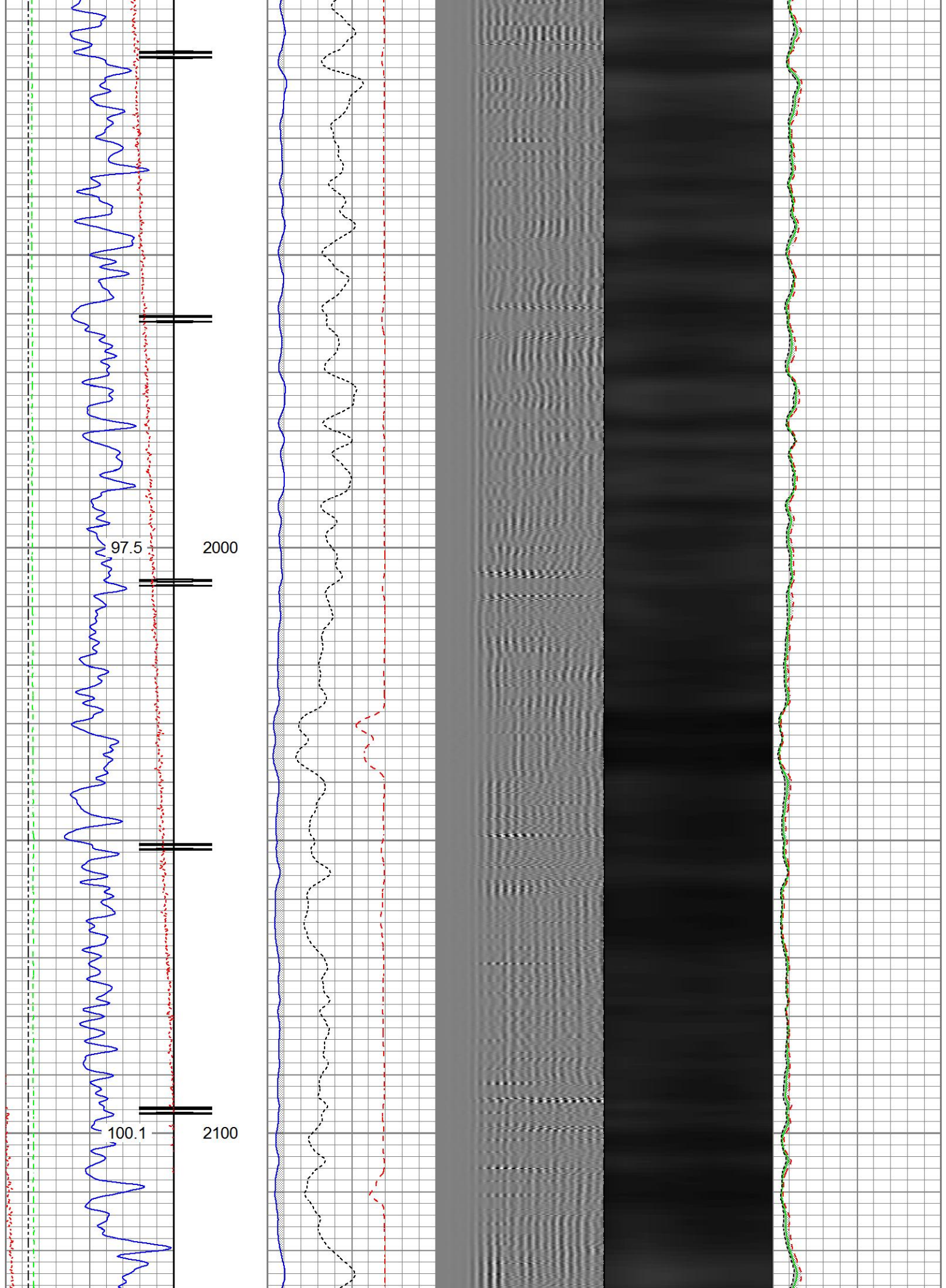


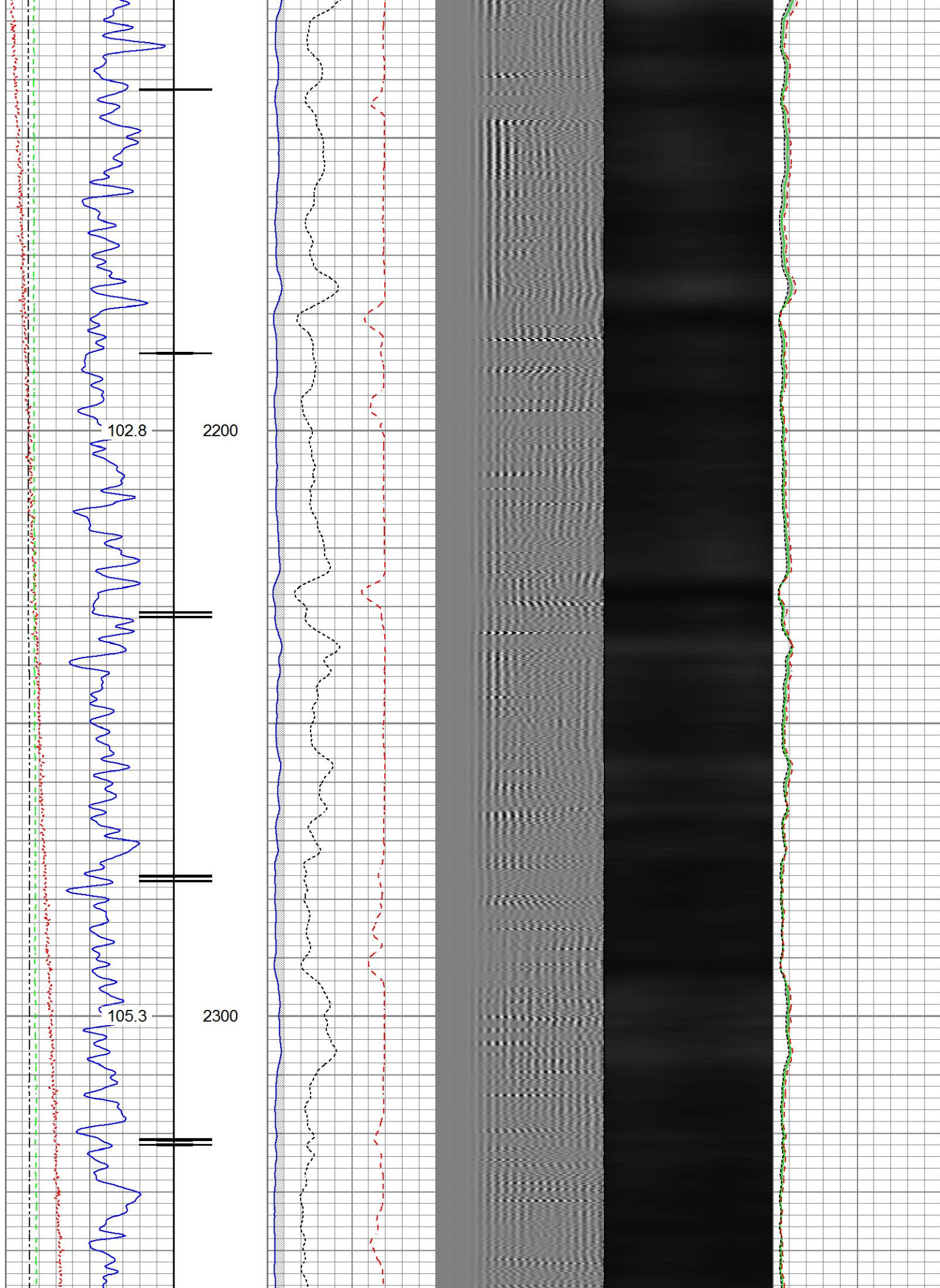


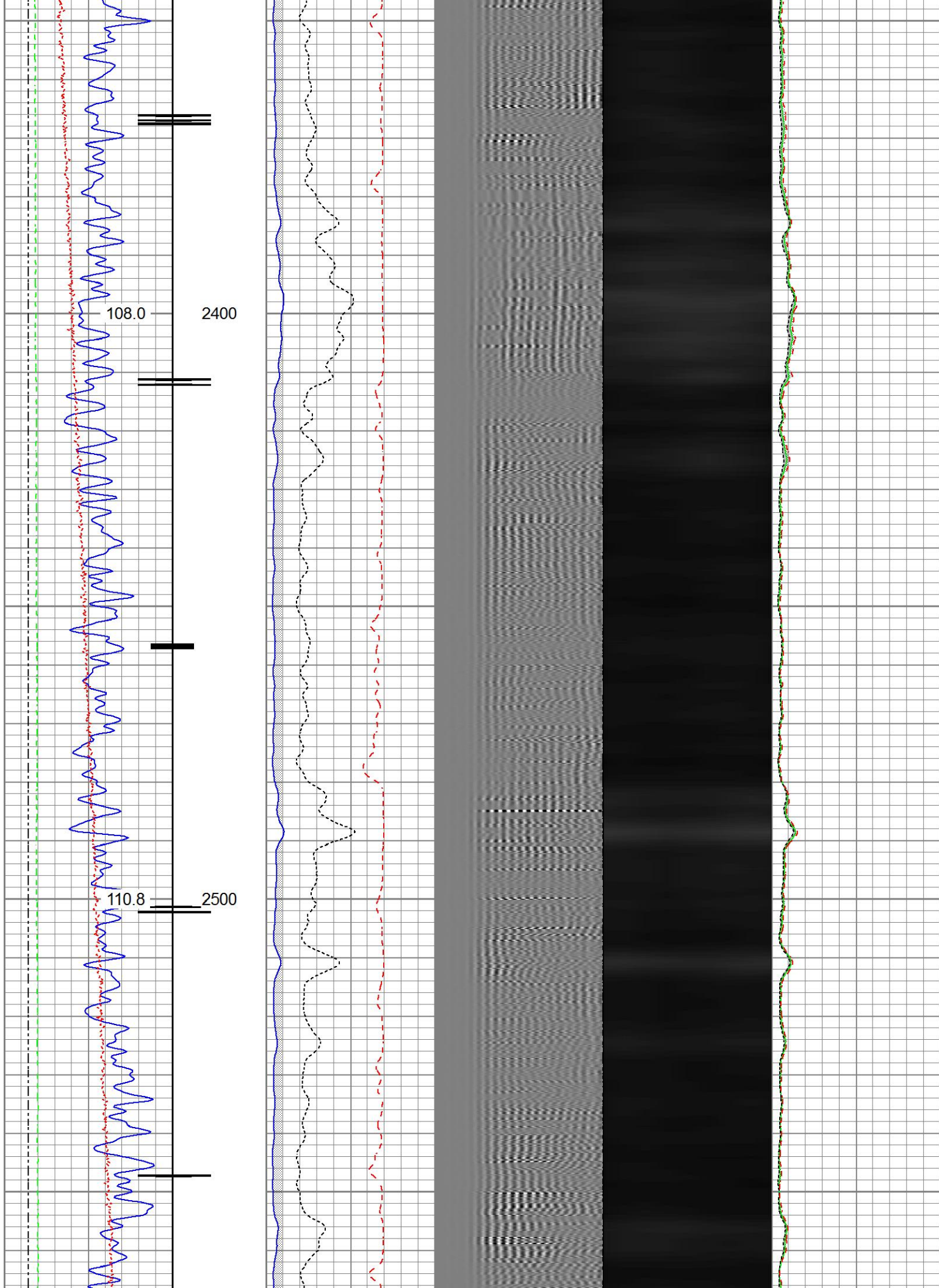


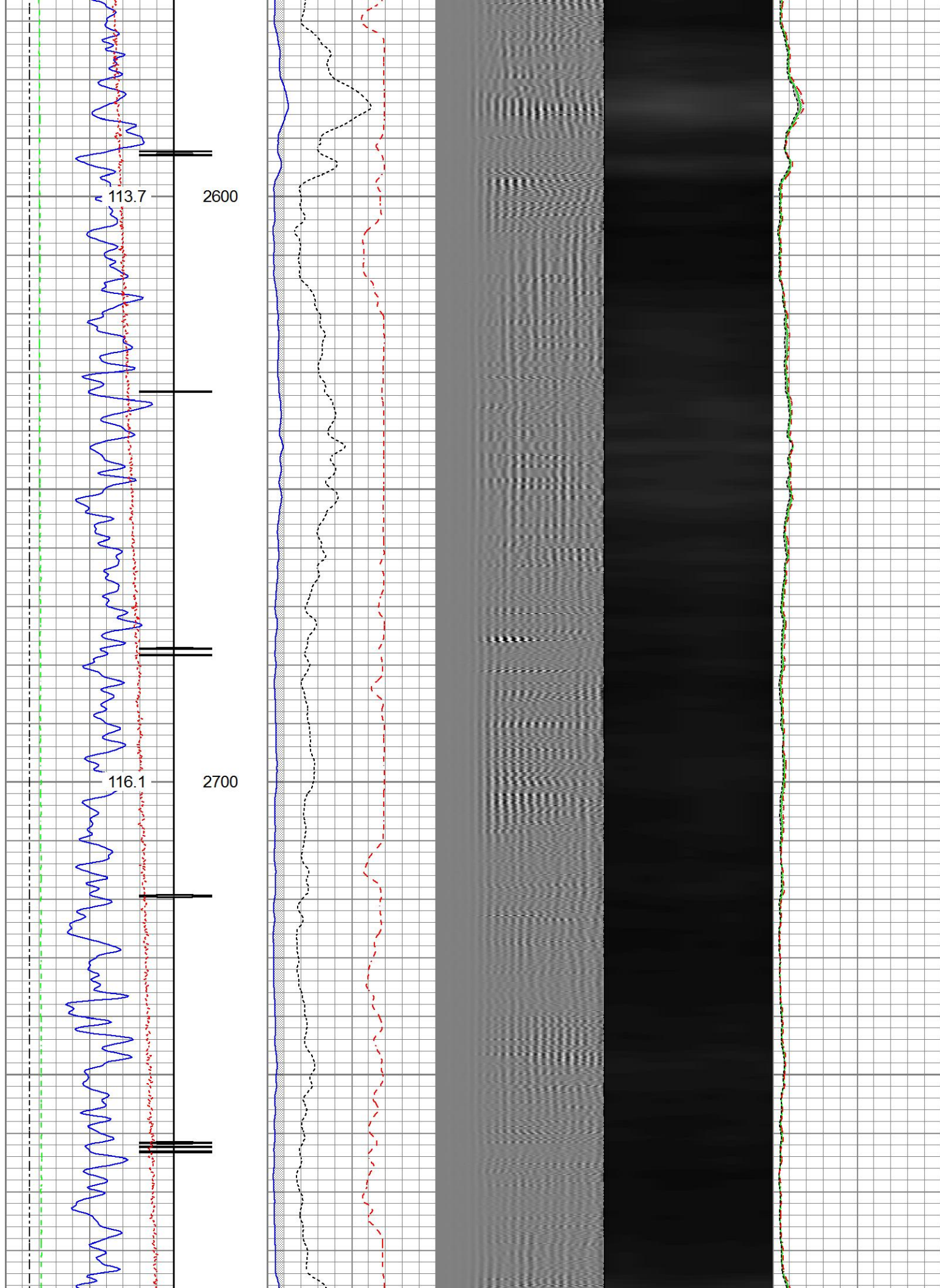


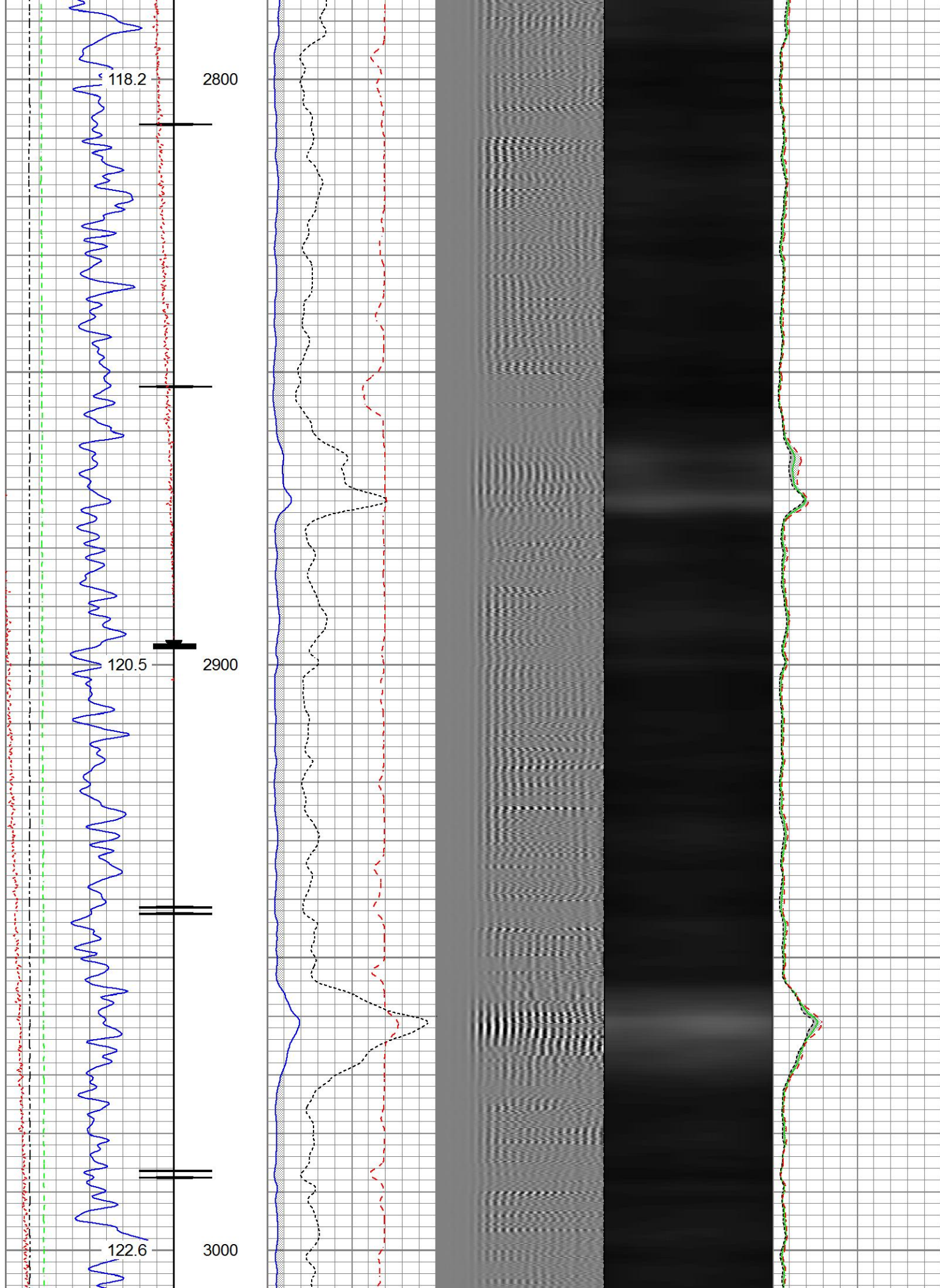


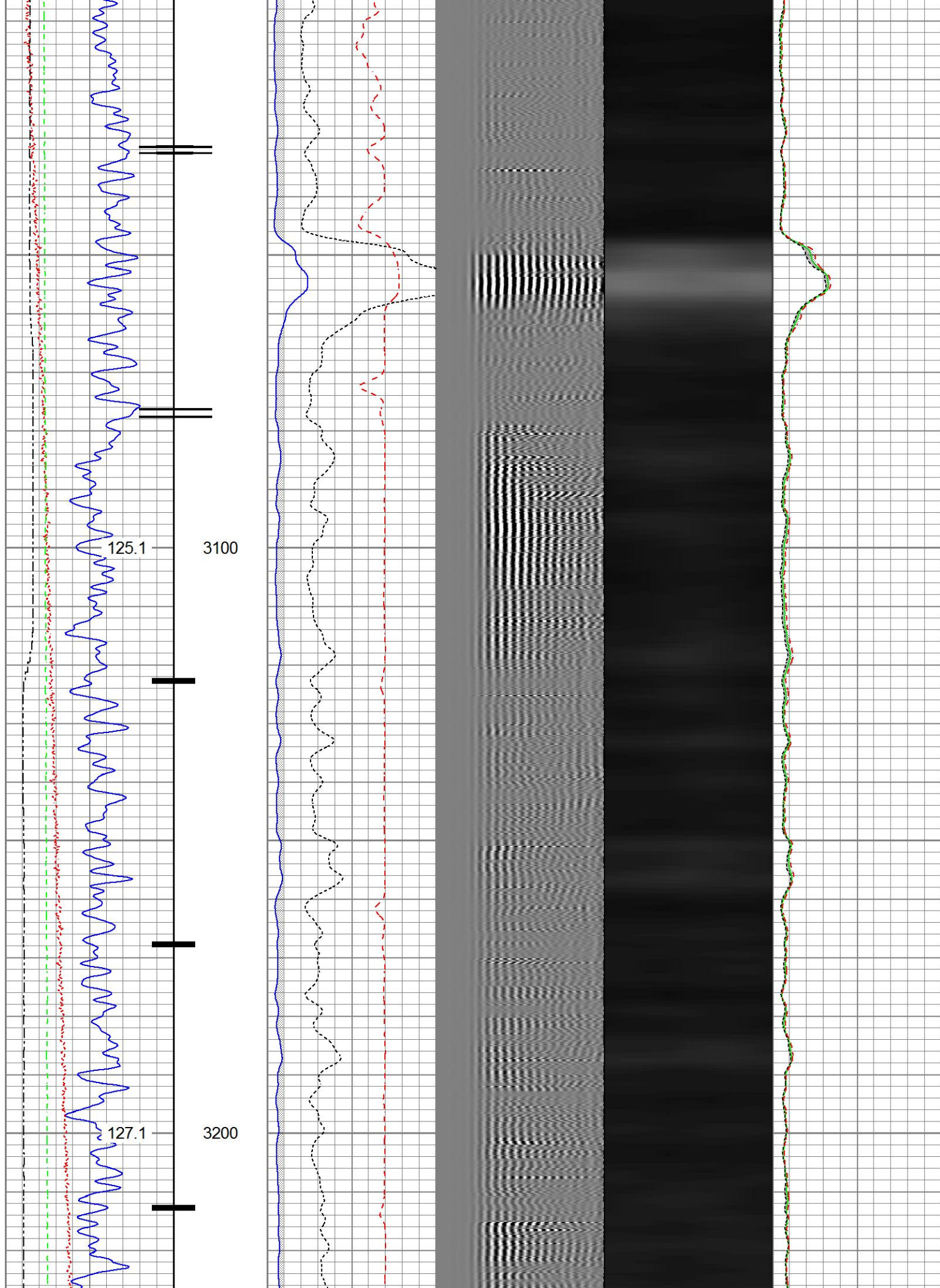


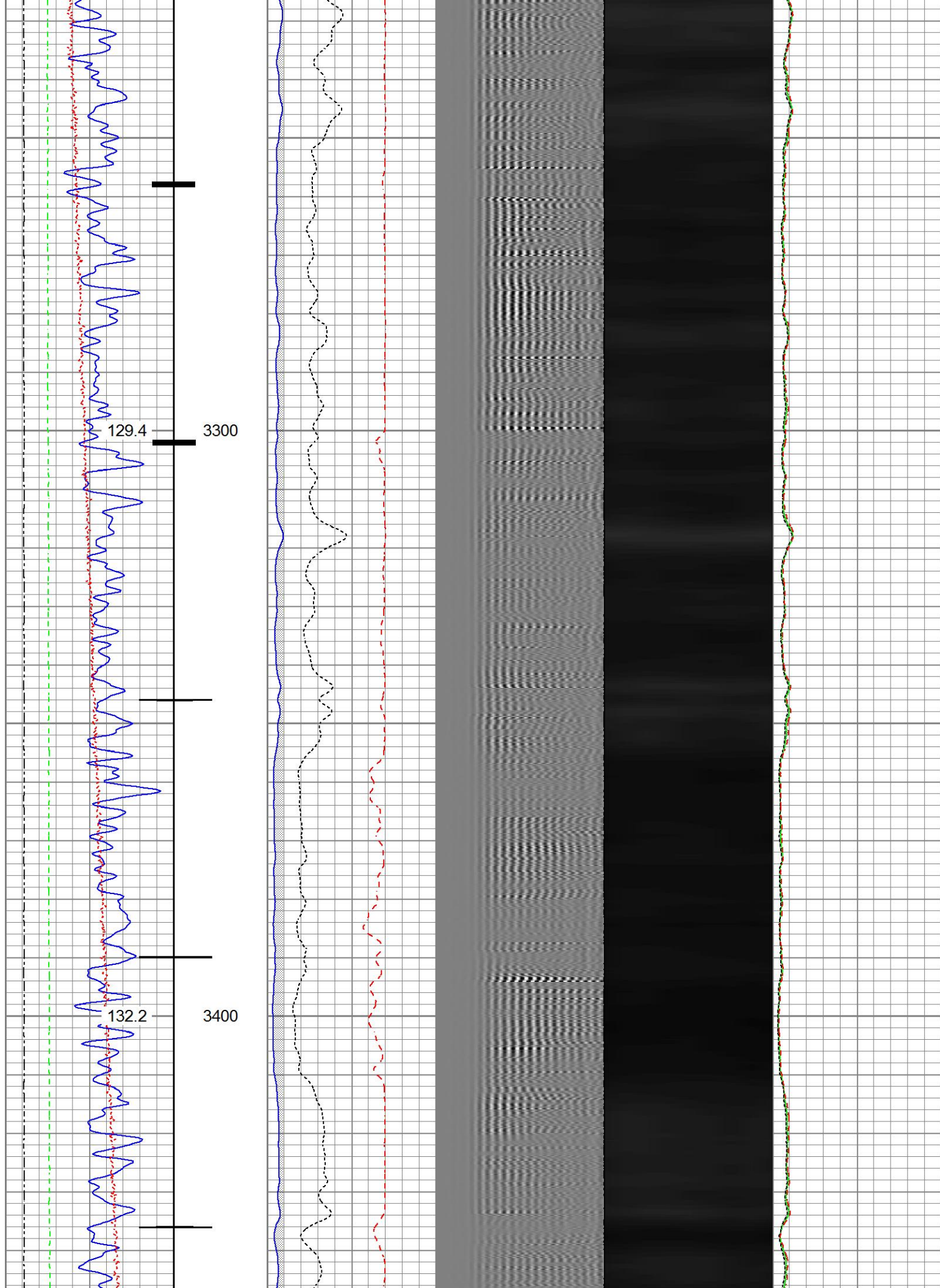


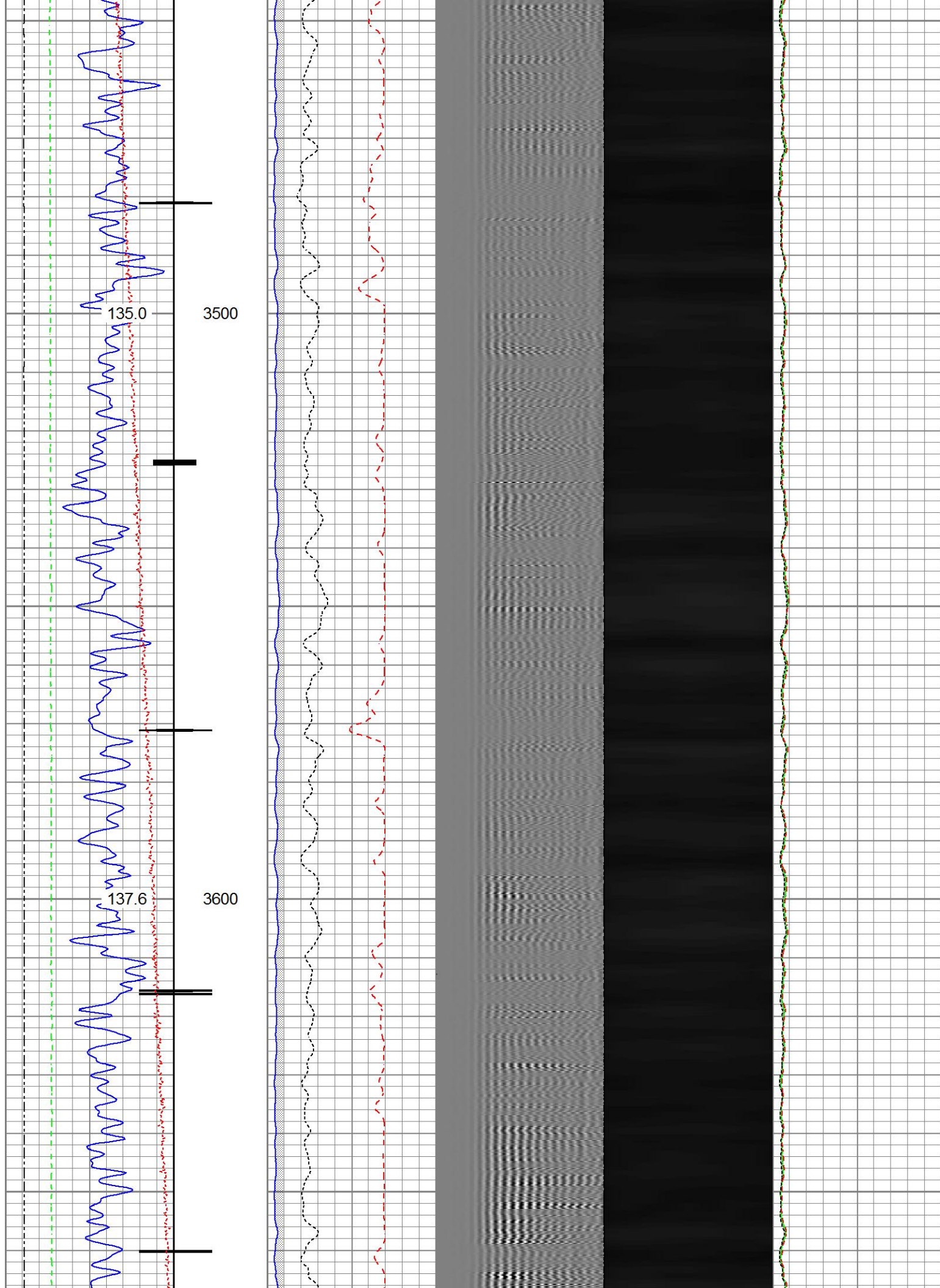


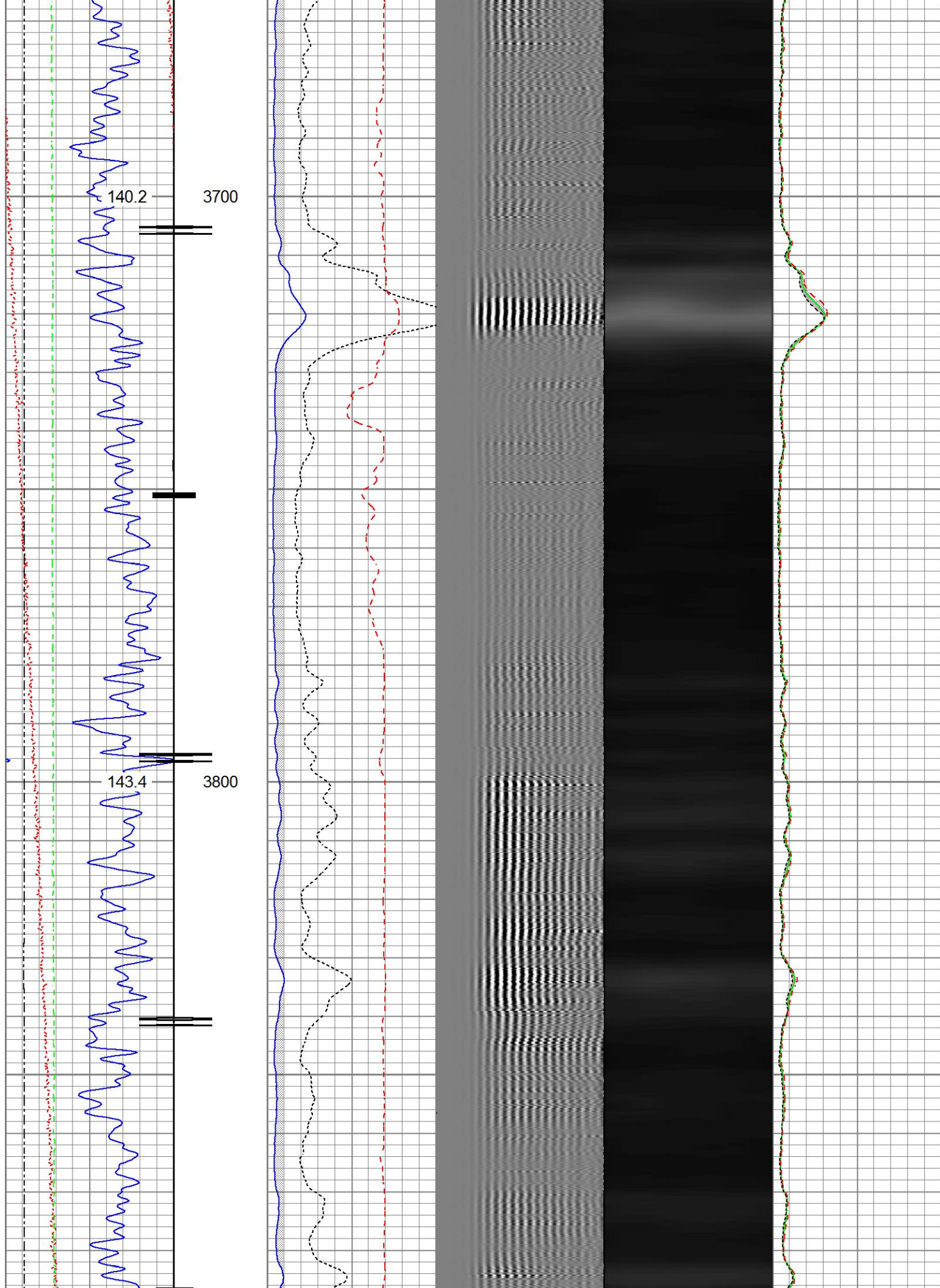


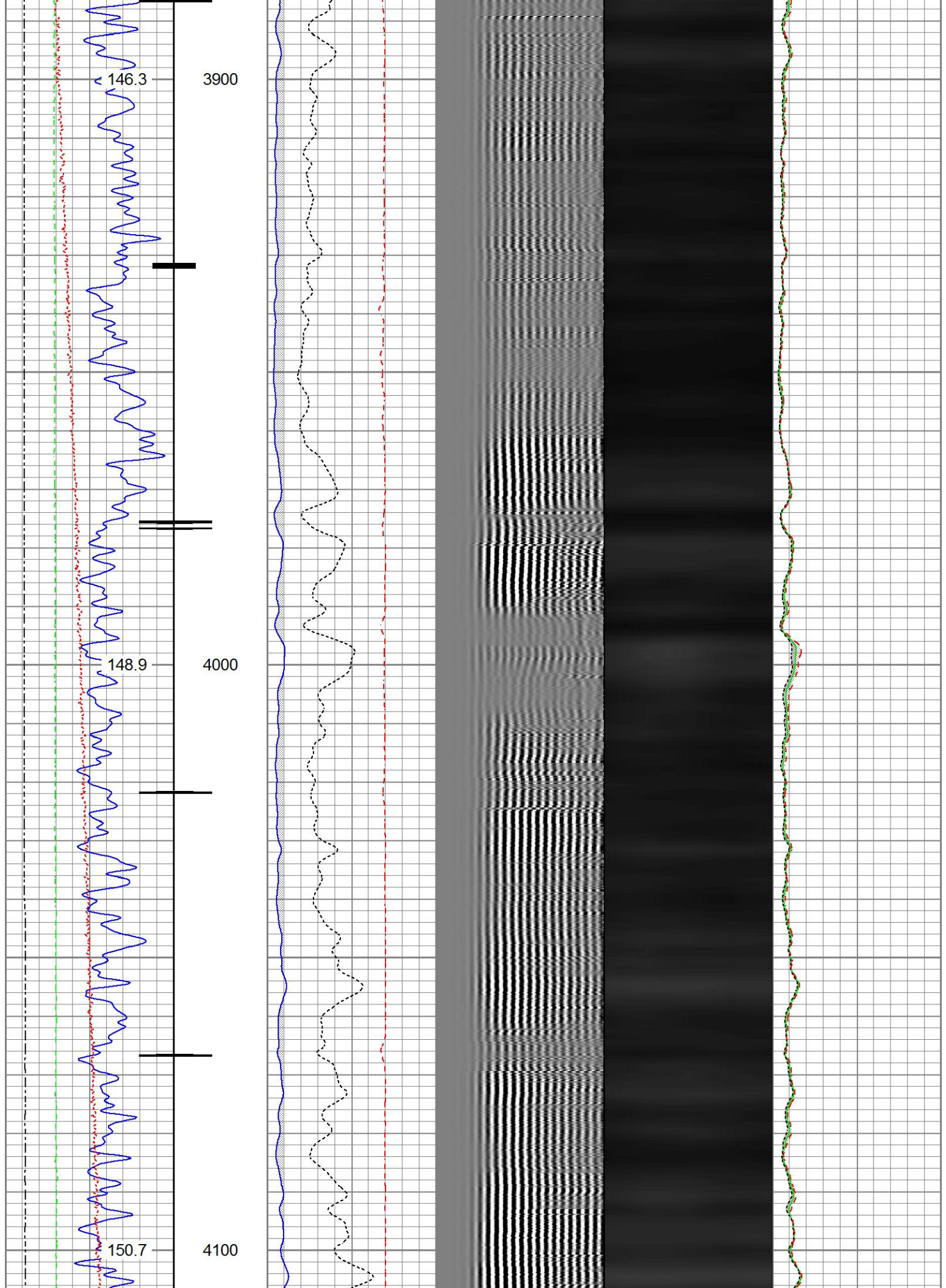


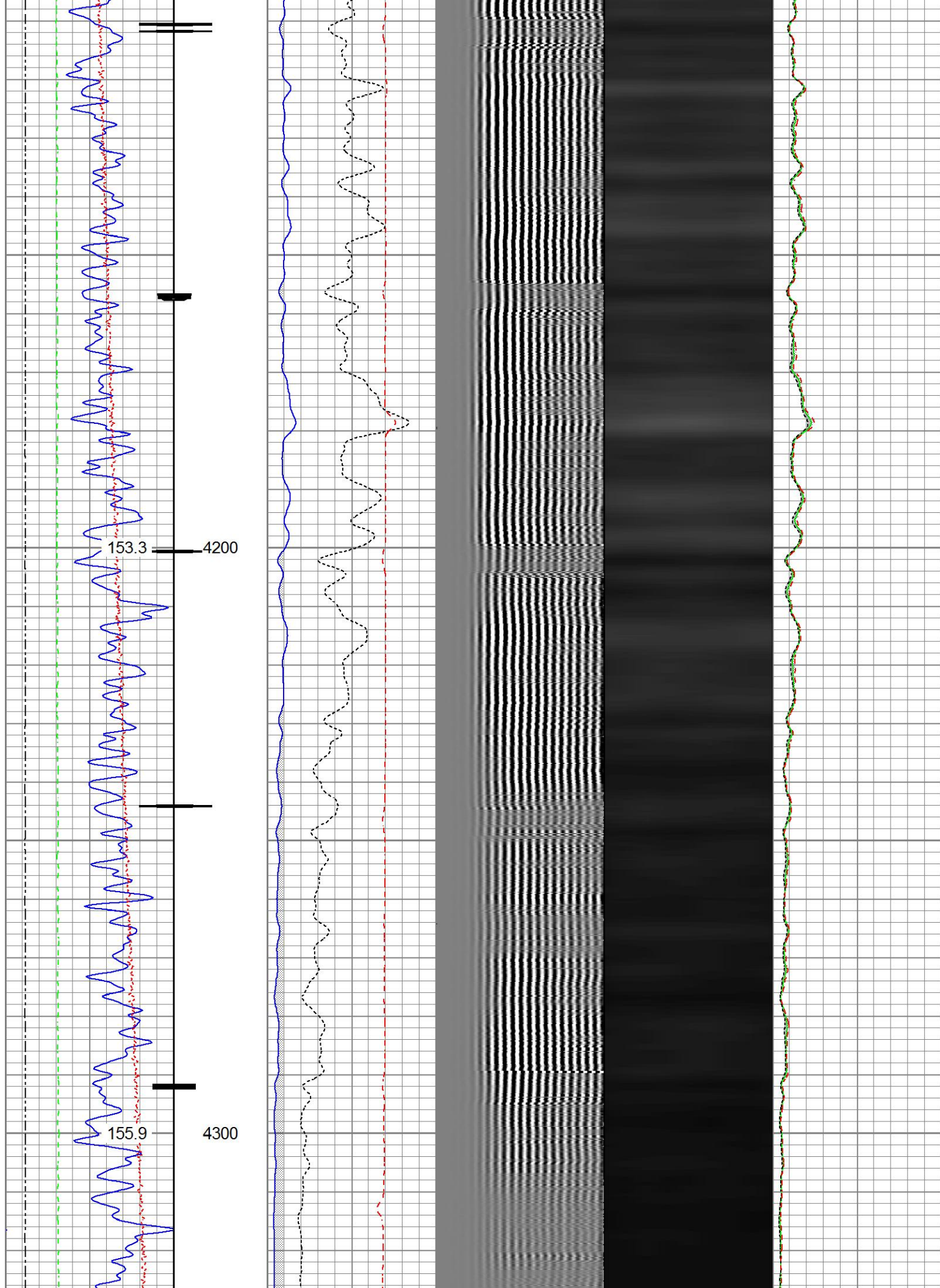


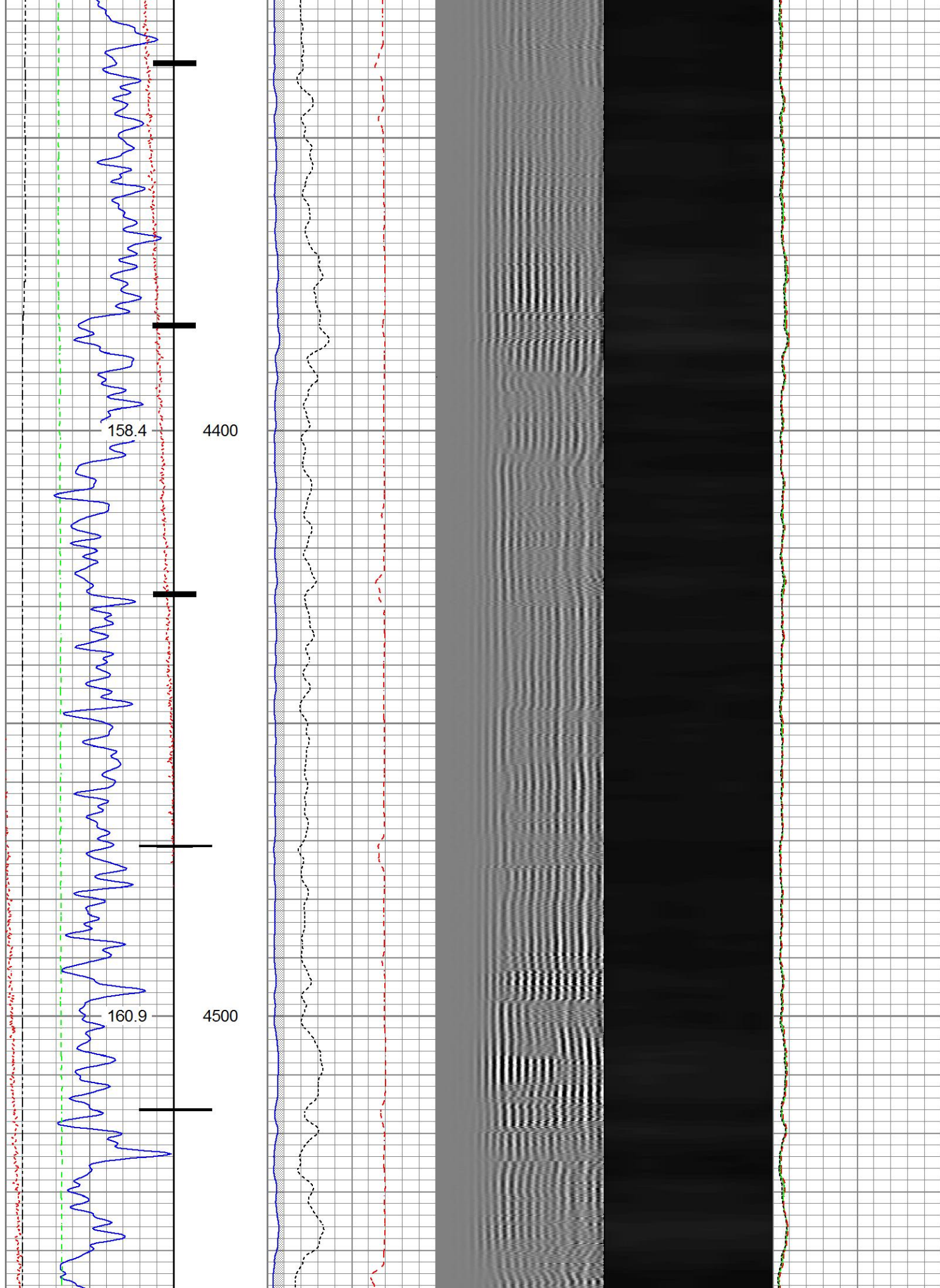


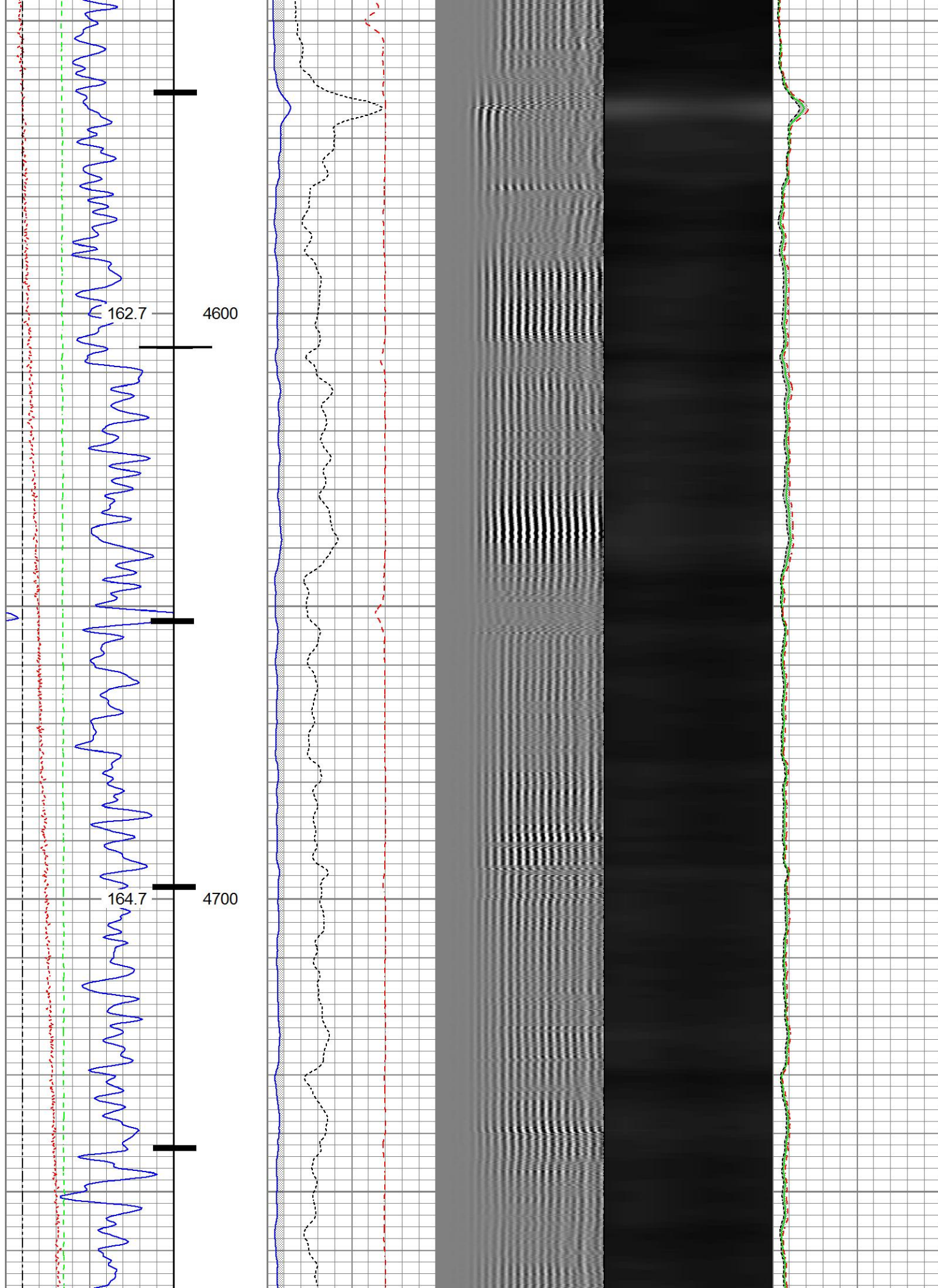


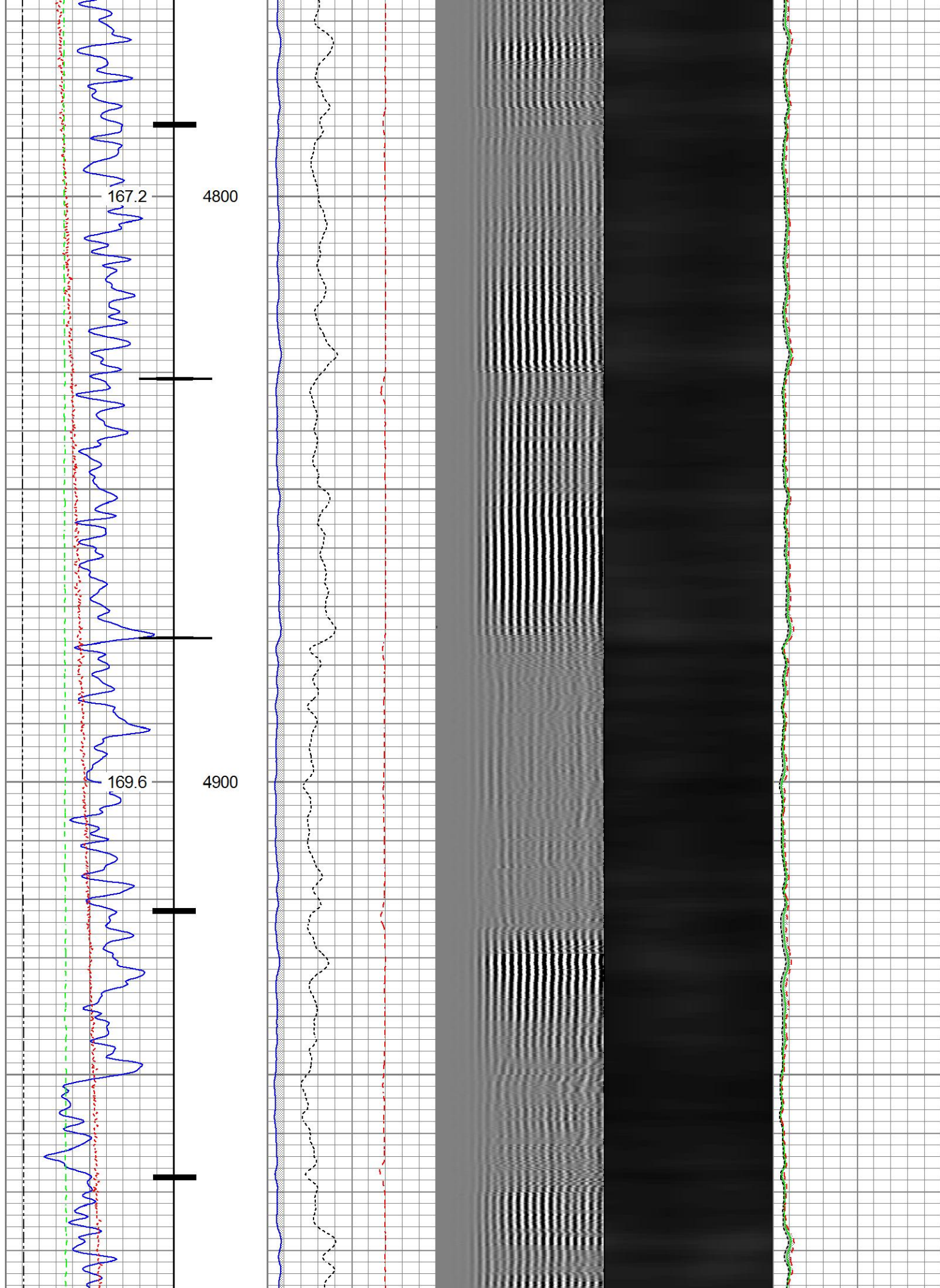


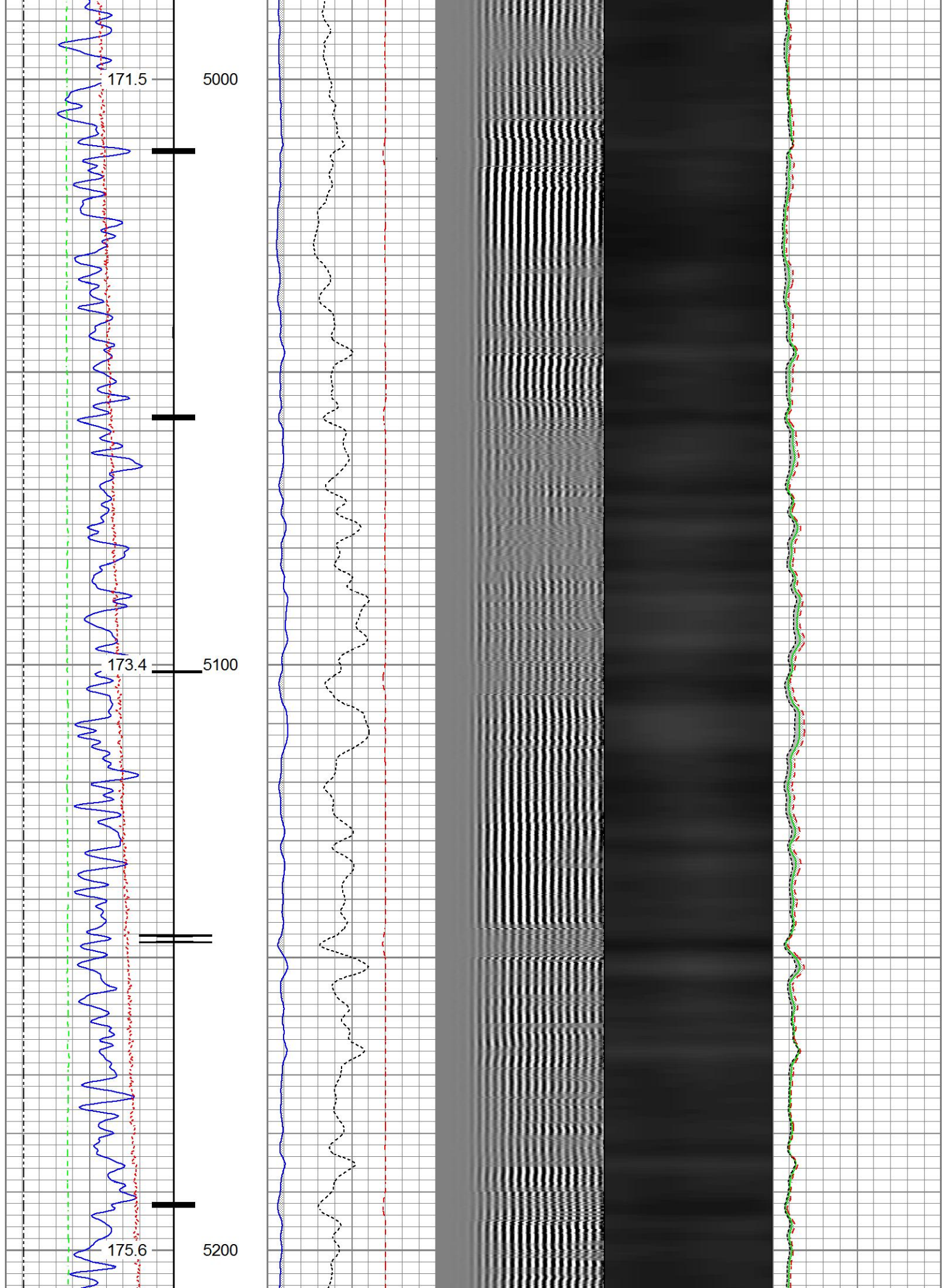


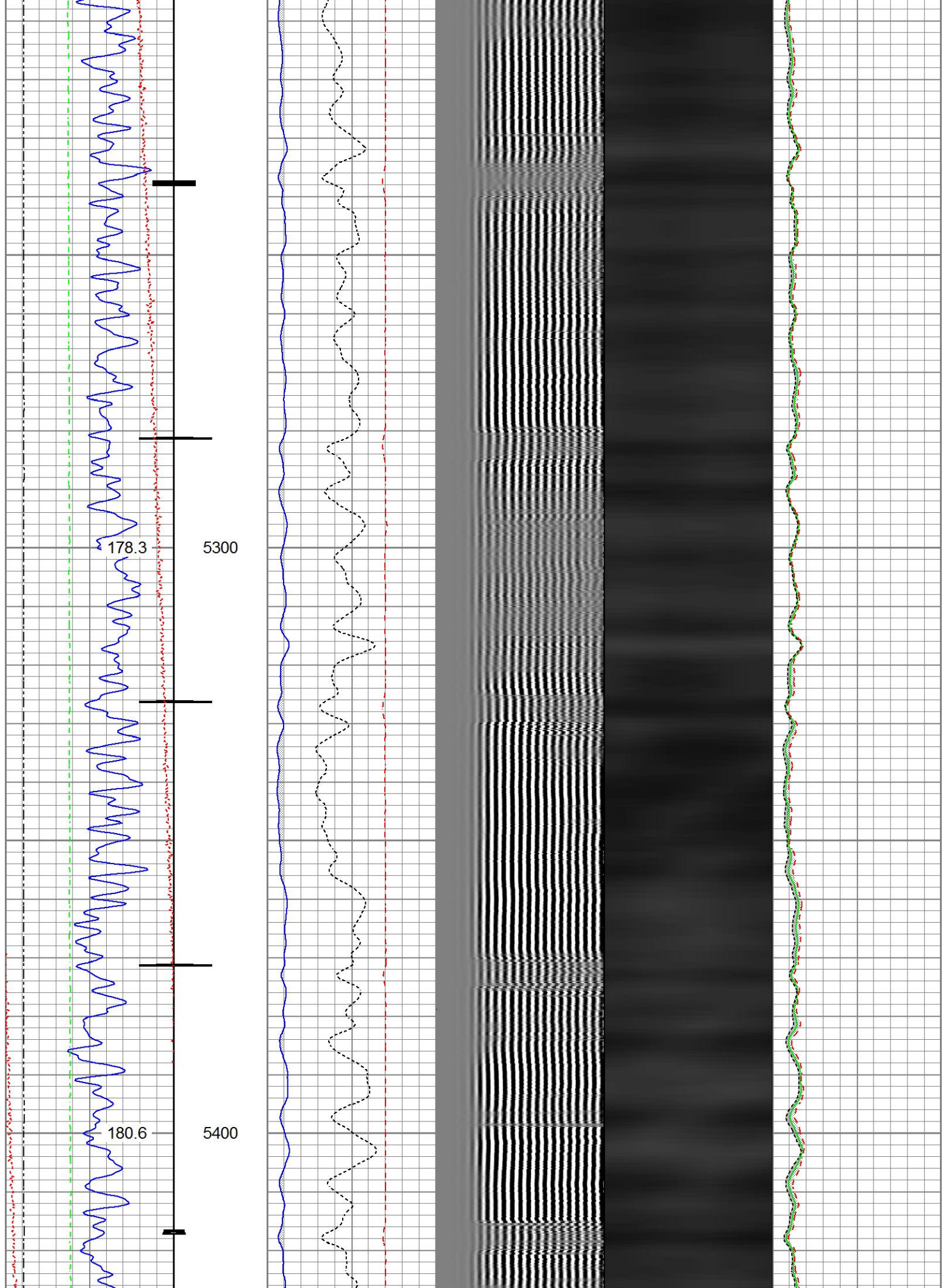


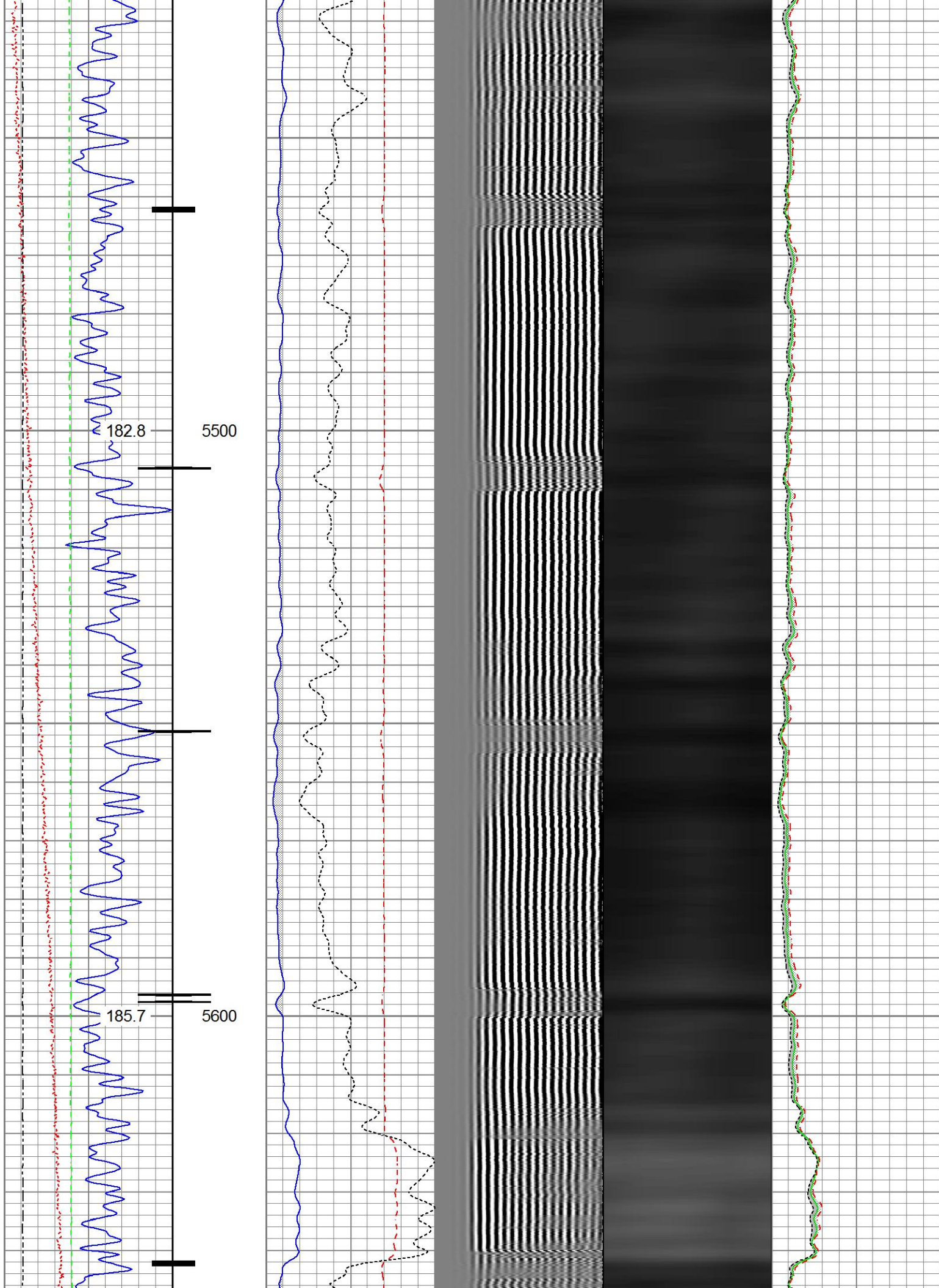


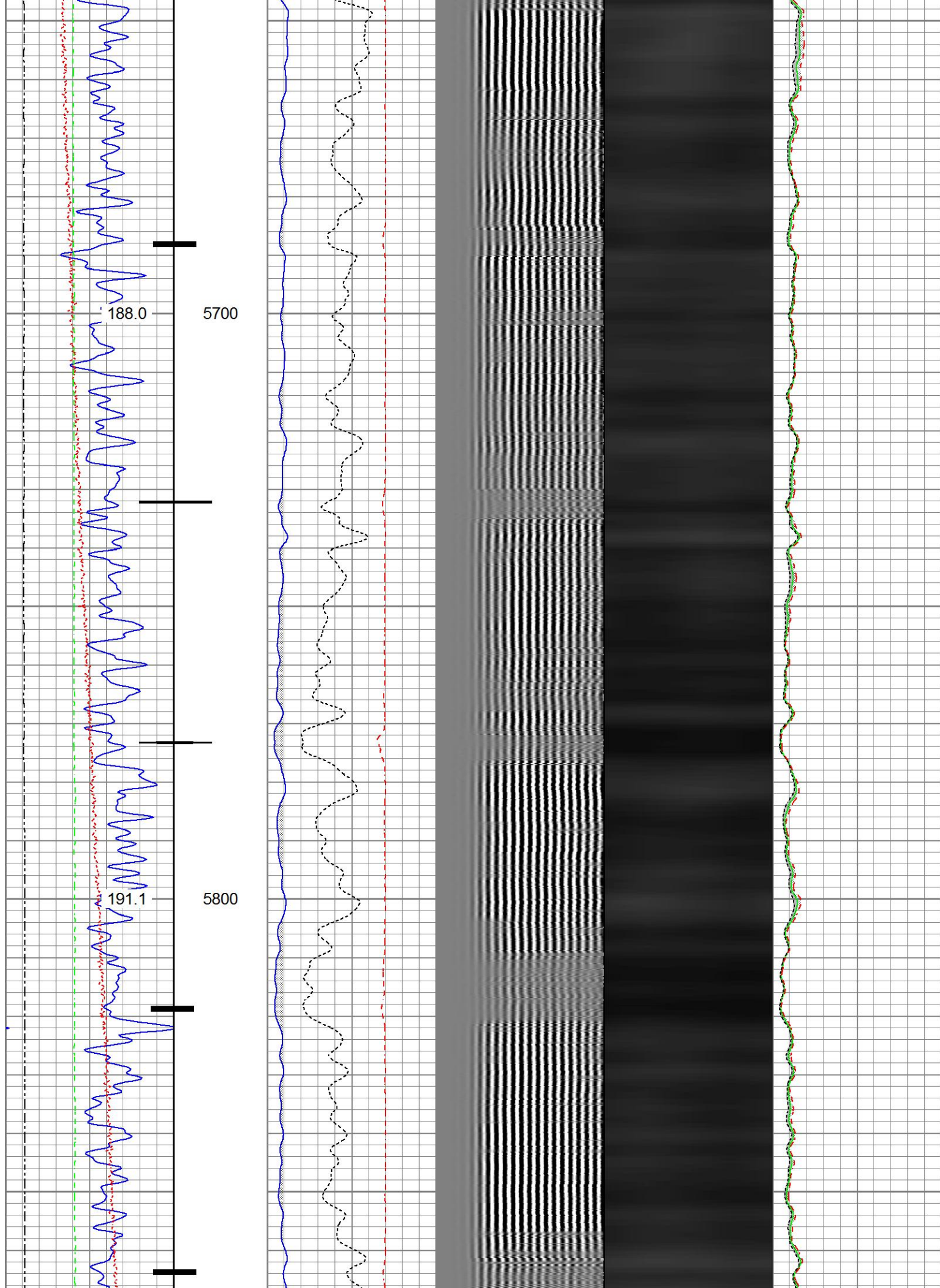


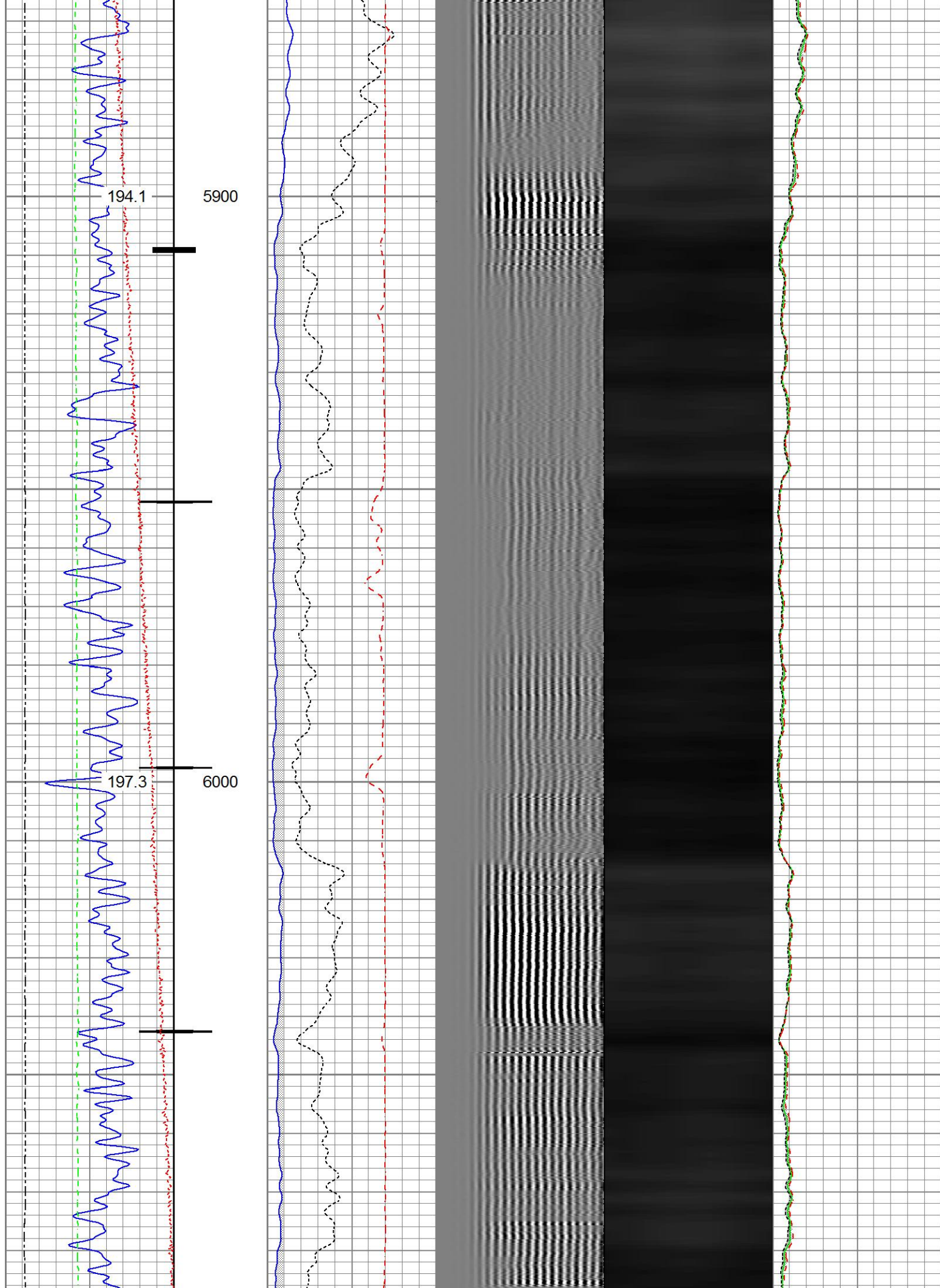


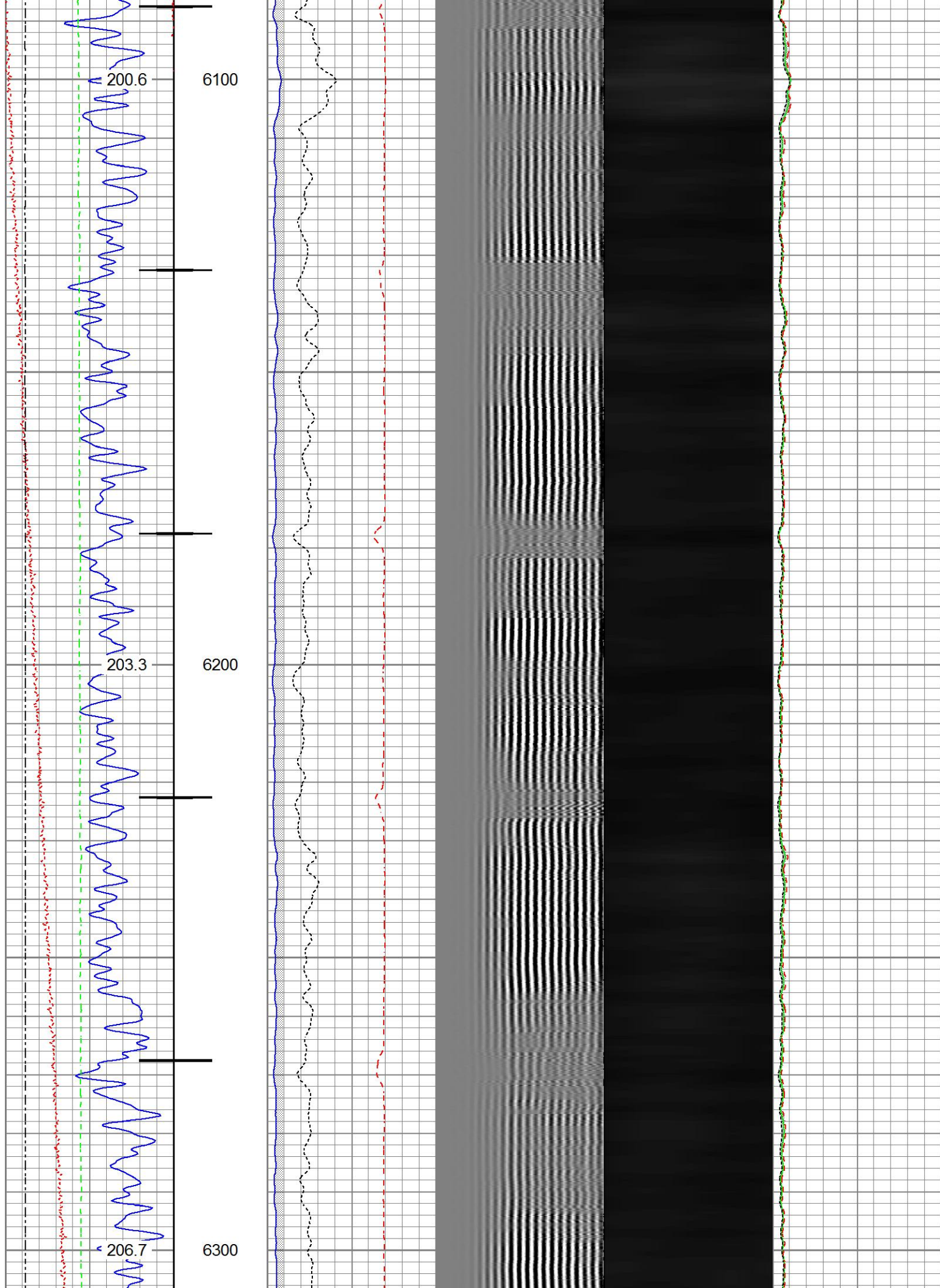


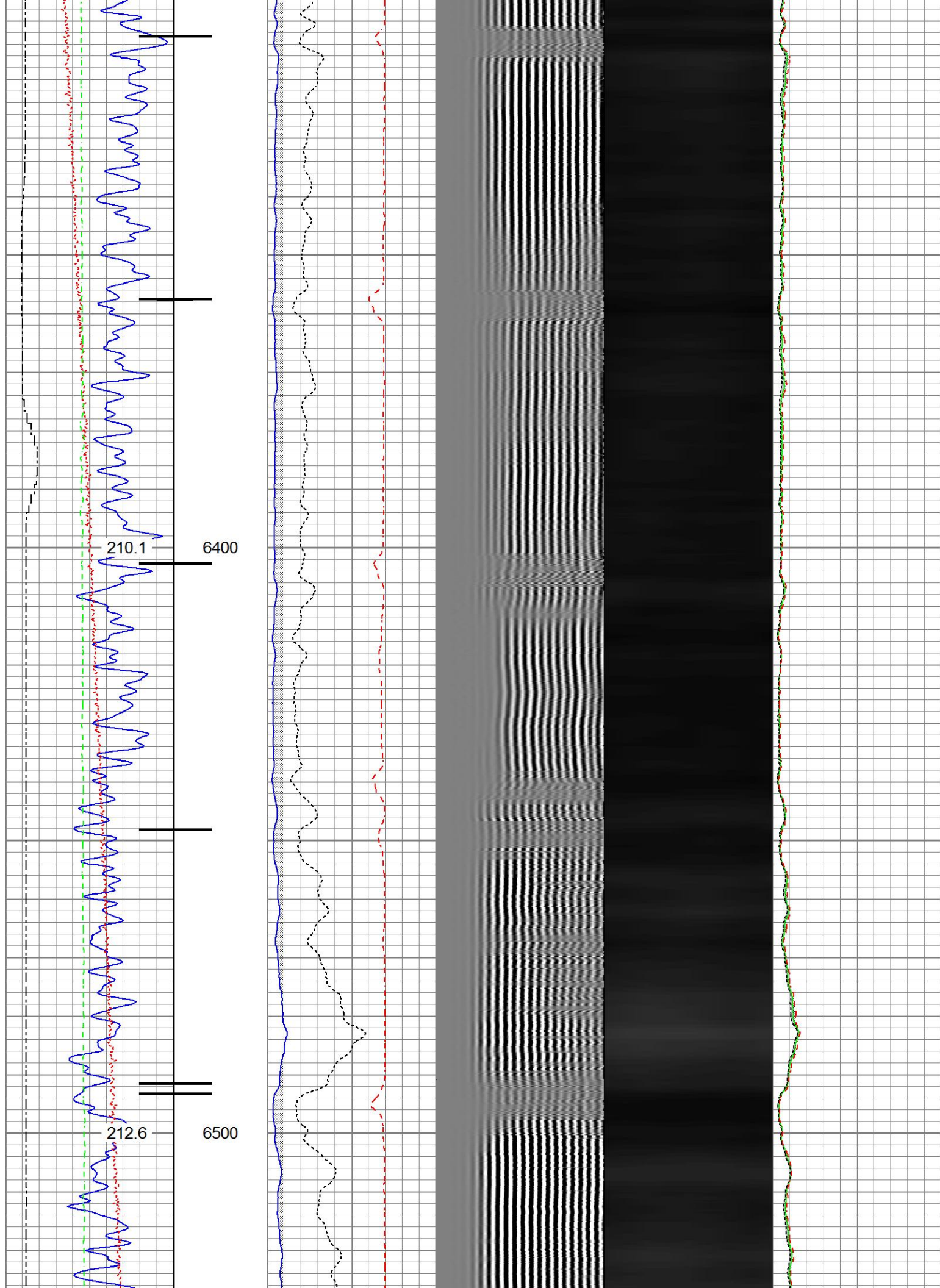


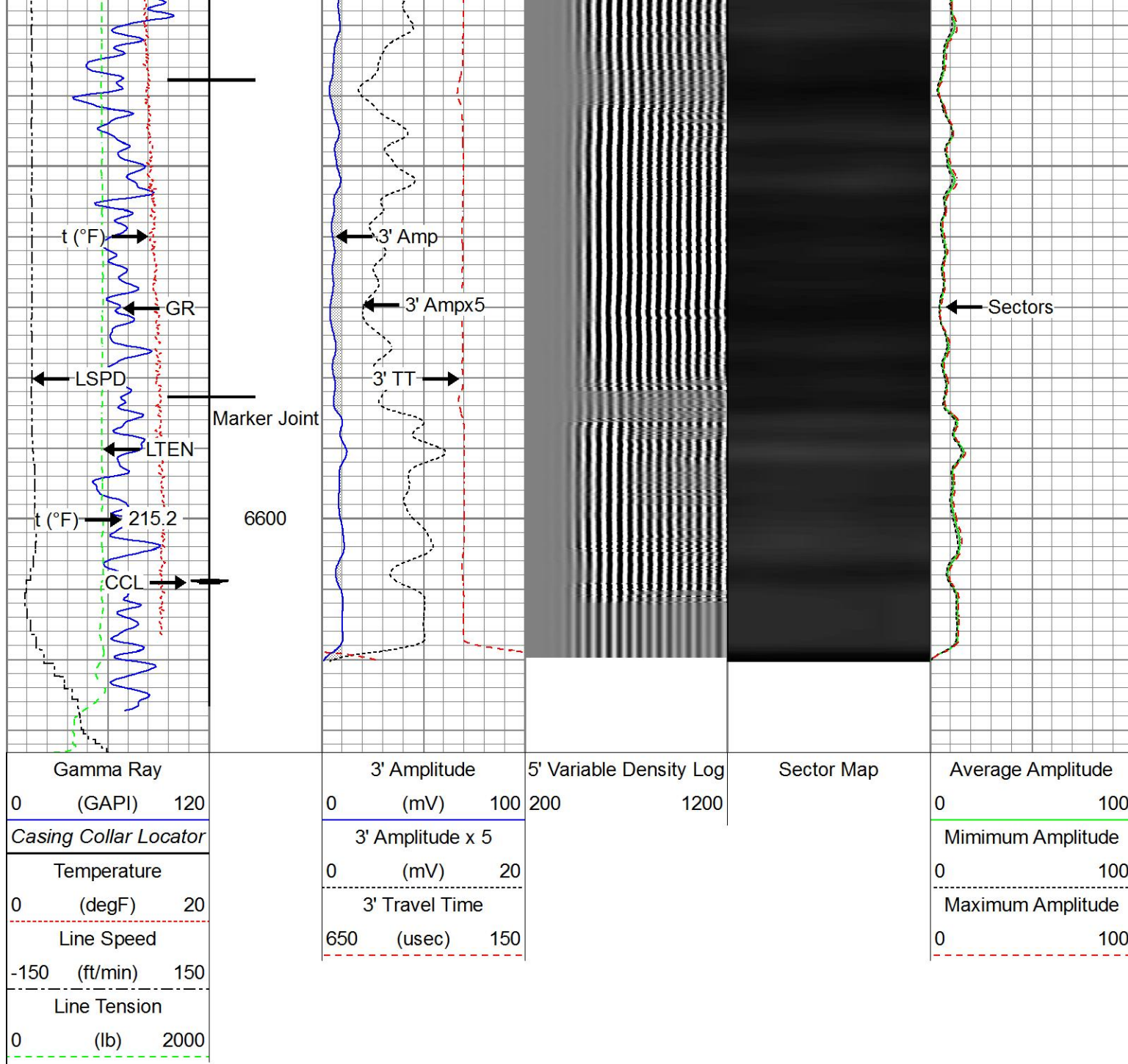








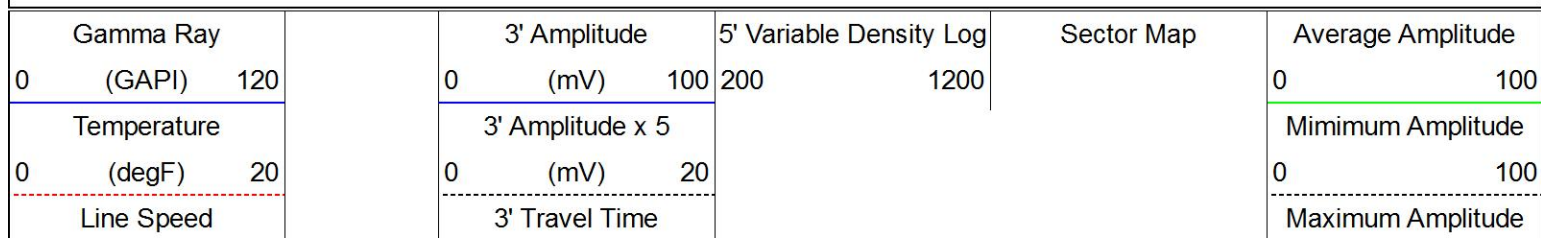


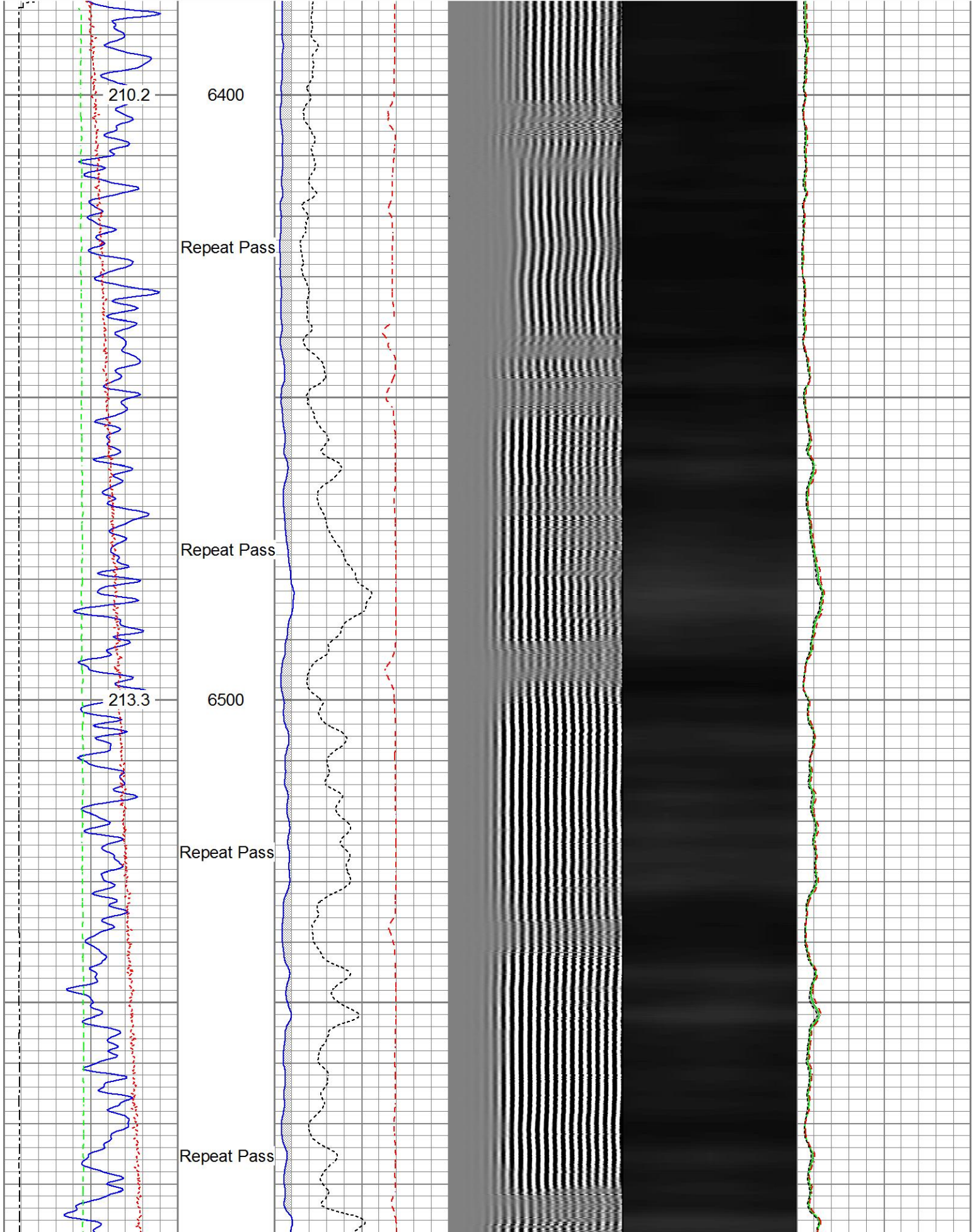
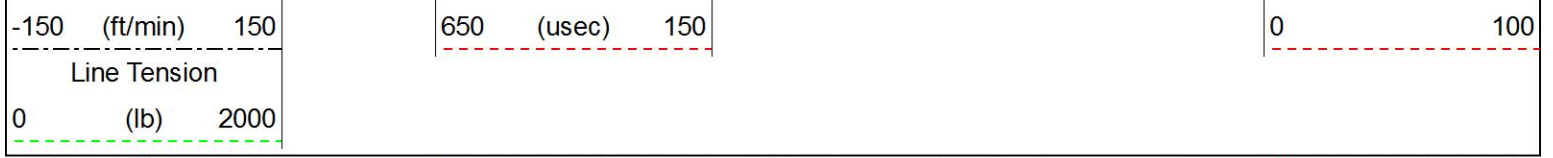


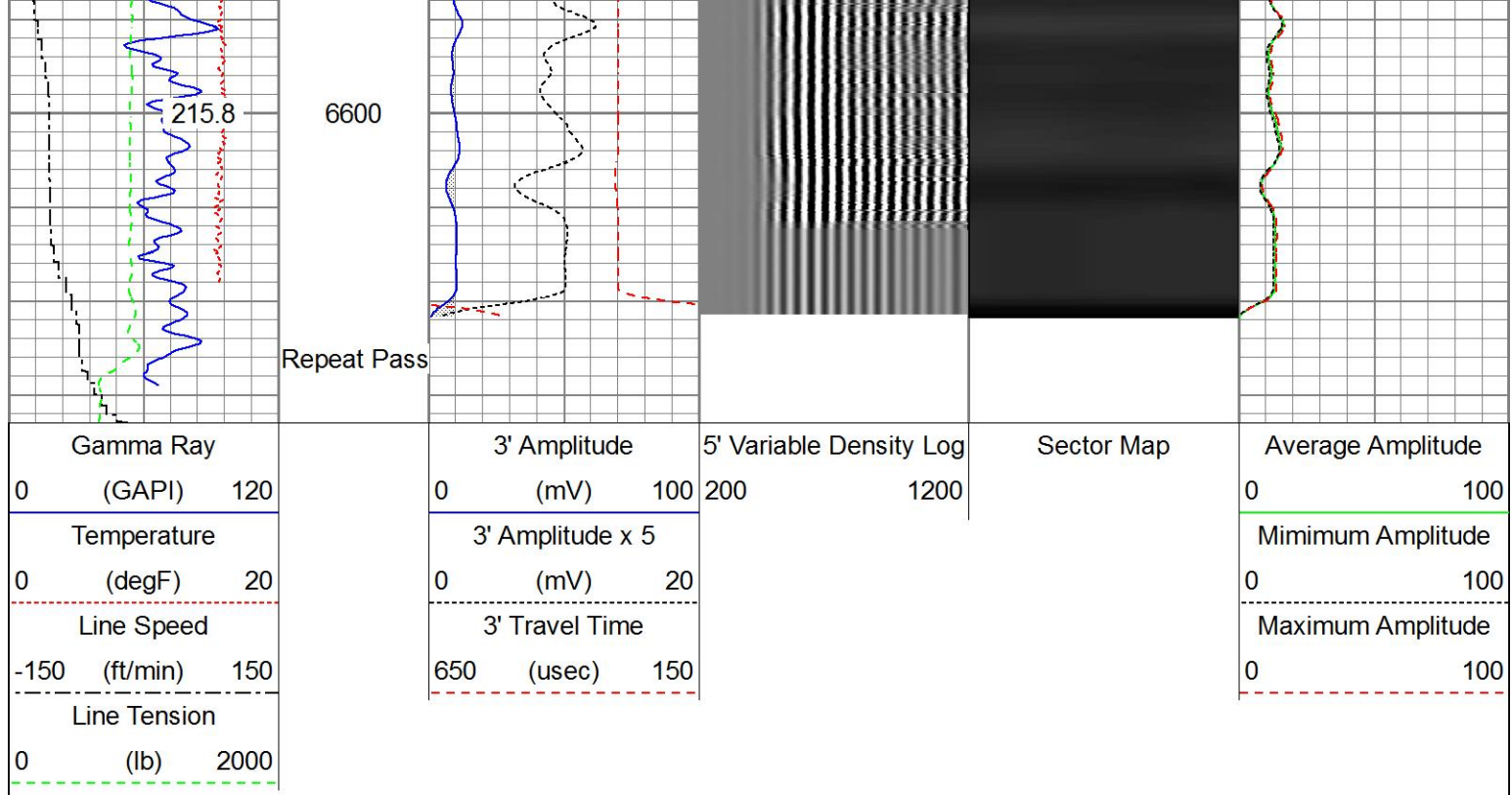
Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure

Database File: anadarko butterball 24n2-34hz\0512344317_anadarko_butterball 24n2-34hz_rbl_07-19-17.db
 Dataset Pathname: pass4
 Presentation Format: ros_radrii
 Dataset Creation: Wed Jul 19 08:46:51 2017
 Charted by: Depth in Feet scaled 1:240







Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan_Electric_Cable_Heads-Titan_1-11/161.03 Electric Cable Head with 1" Fishing Neck		1.69	5.40
			Probe_ELine_BowSpring_Centralizer-P_EE2.88.275 Probe 2-3/4" Electric Inline Bowspring Centralizer		2.75	20.00
HeadVolt	19.51					
Temp	16.72					
WVFS8	14.55		Probe_RADII-C-P_RBT_2750 (FW1305-099.19 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe		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		Probe_ELine_BowSpring_Centralizer-P_EE2.88.275 Probe 2-3/4" Electric Inline Bowspring Centralizer		2.75	20.00

DCCL CCL	6.51		Probe 2-3/4" Electric Inline Bowspring Centralizer	FW1304.543	2.75	55.00
	6.51					
GR	3.77		Probe_GR_CCL-P_CGR_2750_S (FW1304.543) Probe 2-3/4" Digital CCL / Gamma Ray Combined			
			Probe_ELine_BowSpring_Centralizer-P Probe 2-3/4" Electric Inline Bowspring Centralizer	EE2.88275	2.75	20.00
Dataset: 0512344317_Anadarko_Butterball 24N2-34HZ_RBL_07-19-17.db: field/well/run1/pass6 Total length: 23.40 ft Total weight: 225.40 lb O.D.: 2.75 in						

Calibration Report						
Database File	D:\Warrior\Data\Anadarko Butterball 24N2-34HZ\0512344317_Anadarko_Butterball 24N2-34HZ_RBL_07-19-17					
Dataset Pathname	pass6					
Dataset Creation	Wed Jul 19 08:53:31 2017					
Gamma Ray Calibration Report						
Serial Number:	FW1307-038					
Tool Model:	P_CGR_2750_S					
Performed:	Sat Feb 06 11:43:09 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:	FW1305-096					
Tool Model:	P_RBT_2750					
Calibration Casing Diameter:	5.500	in				
Calibration Depth:	93.089	ft				
Master Calibration, performed Wed Jul 19 08:16:22 2017:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.002	0.604	0.800	71.921	118.194	0.514
CAL	0.002	0.631				
5'	0.002	0.581	0.800	71.921	122.852	0.526
SUM						
S1	0.002	0.599	0.000	100.000	167.341	-0.292
S2	0.002	0.599	0.000	100.000	167.341	-0.292

S2	0.002	0.596	0.000	100.000	168.490	-0.339
S3	0.002	0.591	0.000	100.000	170.011	-0.392
S4	0.002	0.591	0.000	100.000	169.800	-0.400
S5	0.002	0.600	0.000	100.000	167.327	-0.388
S6	0.002	0.605	0.000	100.000	165.917	-0.393
S7	0.002	0.608	0.000	100.000	165.171	-0.397
S8	0.002	0.608	0.000	100.000	165.201	-0.397

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.002	0.631	1.000	0.000

Air Zero Calibration, performed Wed Jul 19 08:16:43 2017:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.002		0.000		0.000	
5'	0.002		0.000		-0.000	
SUM						
S1	0.002		0.000		0.000	
S2	0.002		0.000		0.000	
S3	0.002		0.000		0.000	
S4	0.002		0.000		0.000	
S5	0.002		0.000		0.000	
S6	0.002		0.000		0.000	
S7	0.002		0.000		0.000	
S8	0.002		0.000		0.000	



Company Kerr-McGee Oil & Gas Onshore, L.P.
 Well Butterball 24N2-34HZ
 Field Wattenberg
 County Weld
 State Colorado