



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company		Kerr-McGee Oil & Gas Onshore, L.P.	
Well		Cook 2N-16HZ	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-42145	
SEC 16 TWP 2N RGE 65W		Other Services	
Permanent Datum		Ground Level	
Log Measured From		Kelly Bushing	
Drilling Measured From		Kelly Bushing	
Elevation		4883'	
Gauge Ring		K.B. 4908'	
		D.F. 4907'	
		G.L. 4883'	
Date		12-AUG-2016	
Run Number		Two	
Depth Driller		12669 FT	
Depth Logger		7415 FT	
Bottom Logged Interval		7356 FT	
Top Log Interval		Surface	
Open Hole Size		7.875"	
Type Fluid		Water	
Density / Viscosity		8.34 lbm/gal	
Max. Recorded Temp.		243°F	
Estimated Cement Top		Surface	
Time Well Ready		ROA	
Time Logger on Bottom		14:35	
Equipment Number		HD-0343	
Location		Fort Lupton, CO	
Recorded By		Robert Fogarty	
Witnessed By		Mario Torres	
Run Number		Borehole Record	
Bit		From	
To		Size	
Weight		From	
To		Tubing Record	
Casing Record		Size (in)	
Surface Casing		9 5/8	
Intermediate #1		5 1/2	
Intermediate #2		17	
Liner		HCP 110	
		Grade	
		J-55	
		Top	
		Surface	
		Bottom	
		1924 FT	
		12661 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 6443 FT
Adjusted log -7 FT to correlate with Marker Joint
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

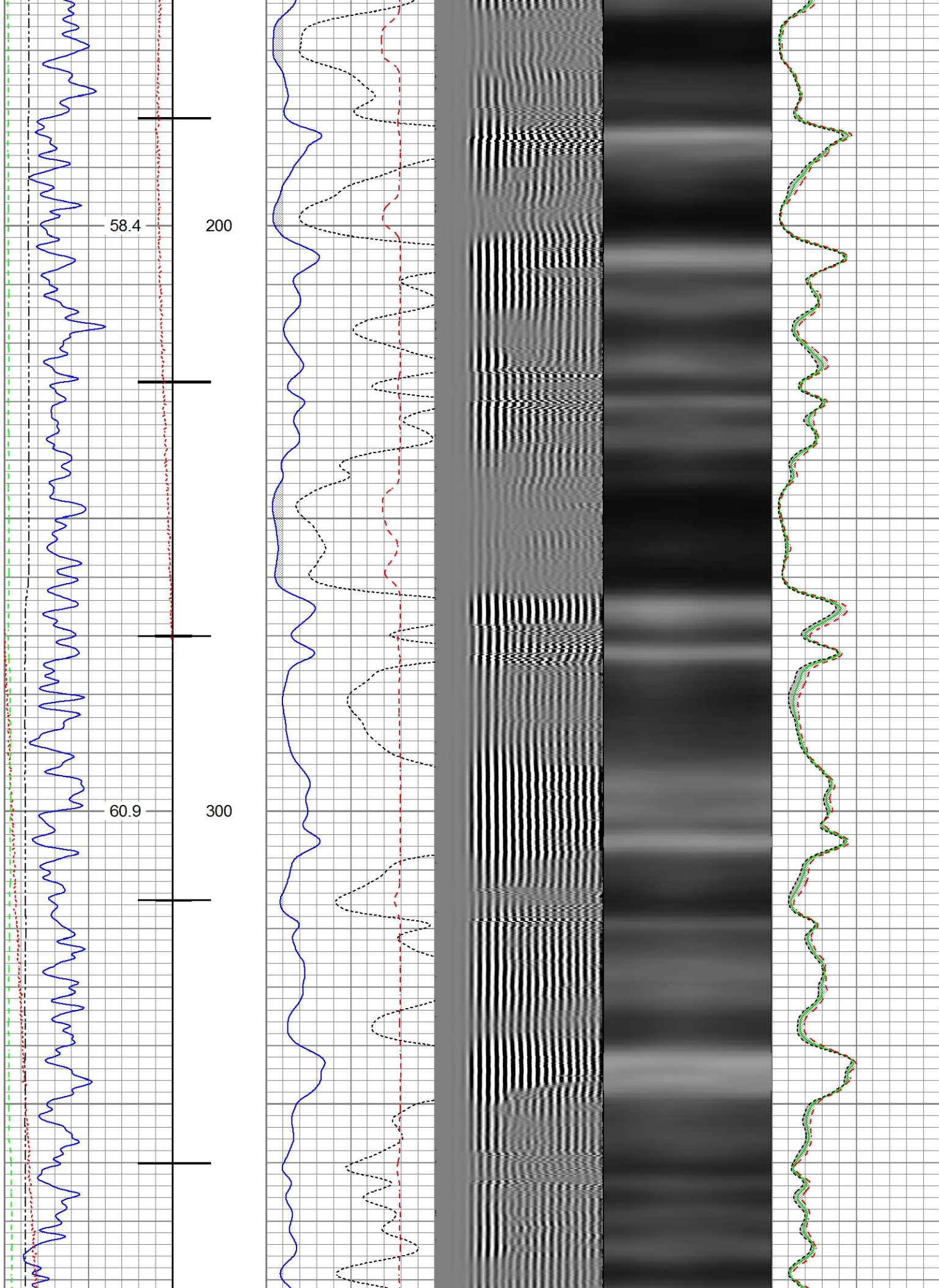
Thank you for choosing Reliance Oilfield Services, LLC!!

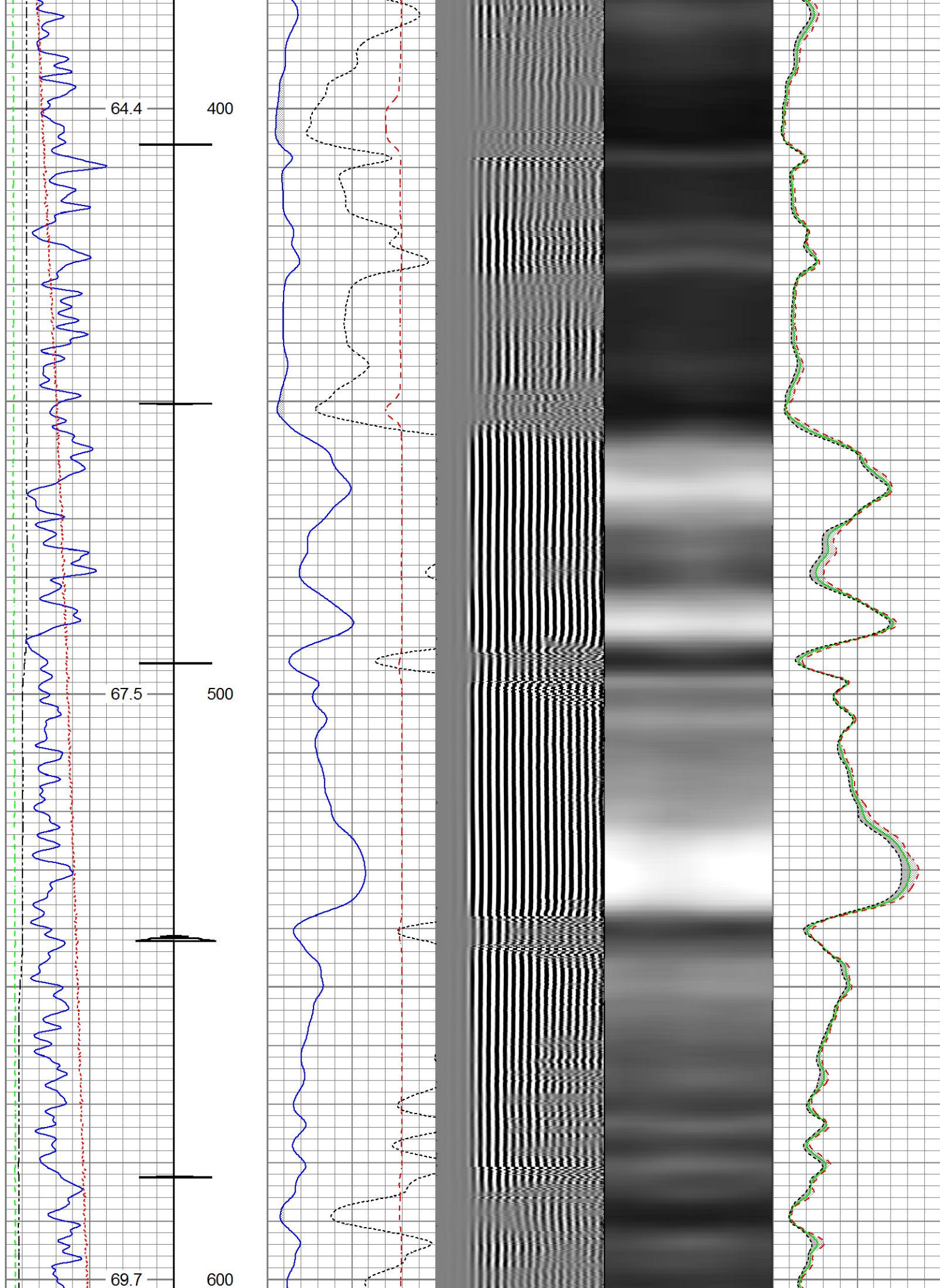


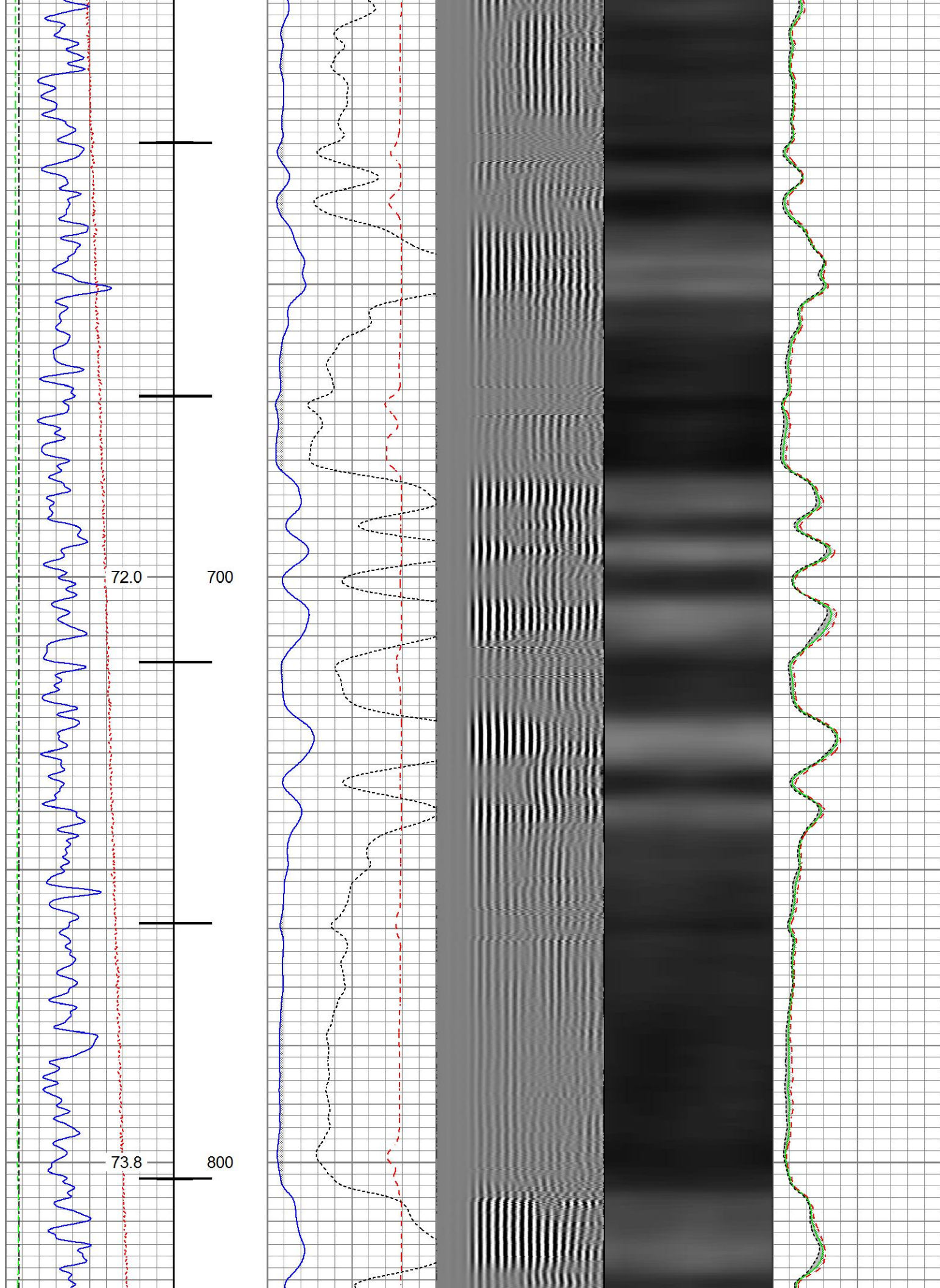
Main Pass

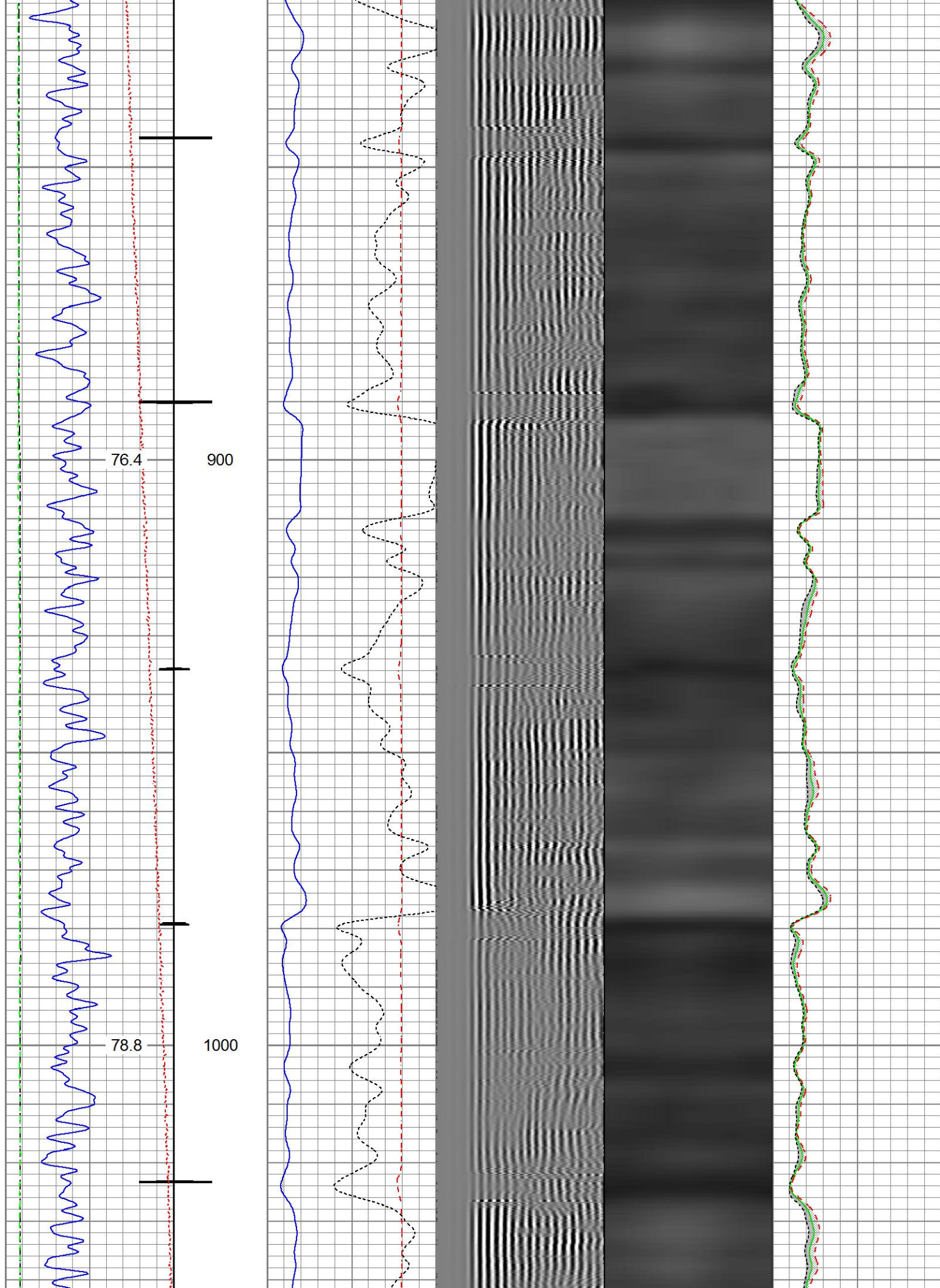
Recorded with 2800 PSI Surface Induced Pressure

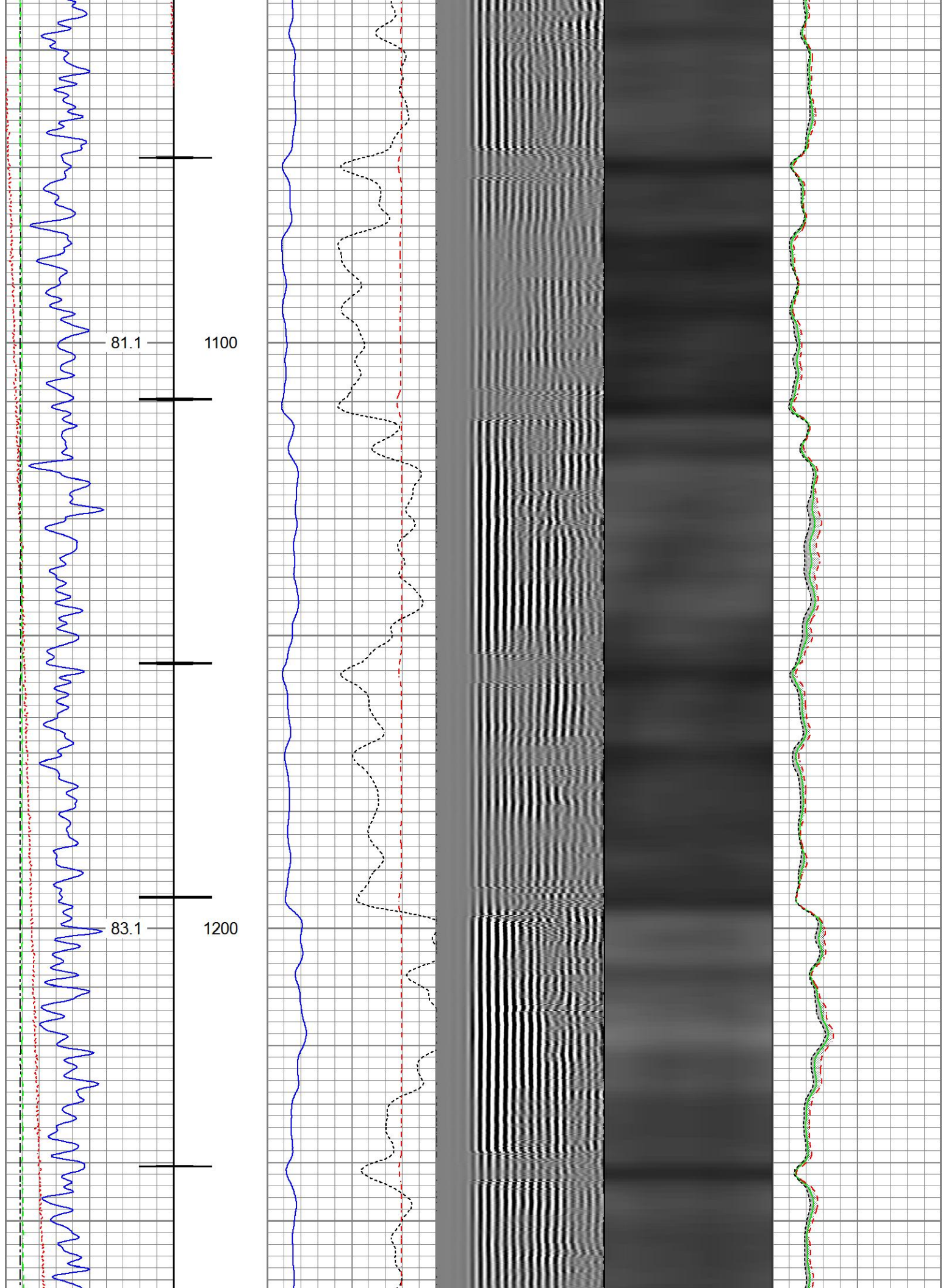
Gamma Ray			3' Amplitude			5' Variable Density Log		Sector Map		Average Amplitude	
0	(GAPI)	120	0	(mV)	100	200	1200			0	100
Casing Collar Locator			3' Amplitude x 5							Minimum Amplitude	
Temperature			0 (mV) 20							0 100	
0	(degF)	20	3' Travel Time							Maximum Amplitude	
Line Speed			650 (usec)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

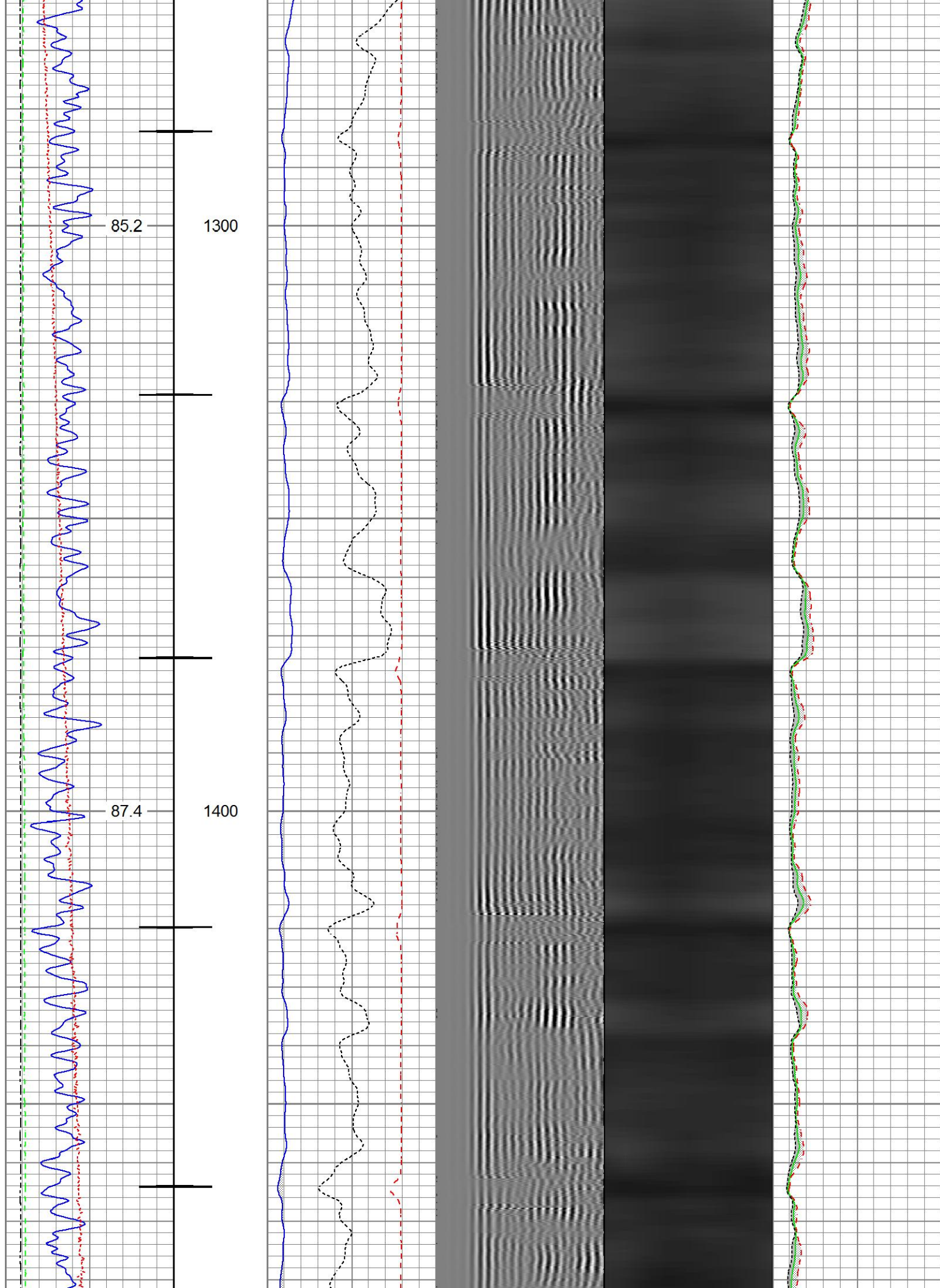


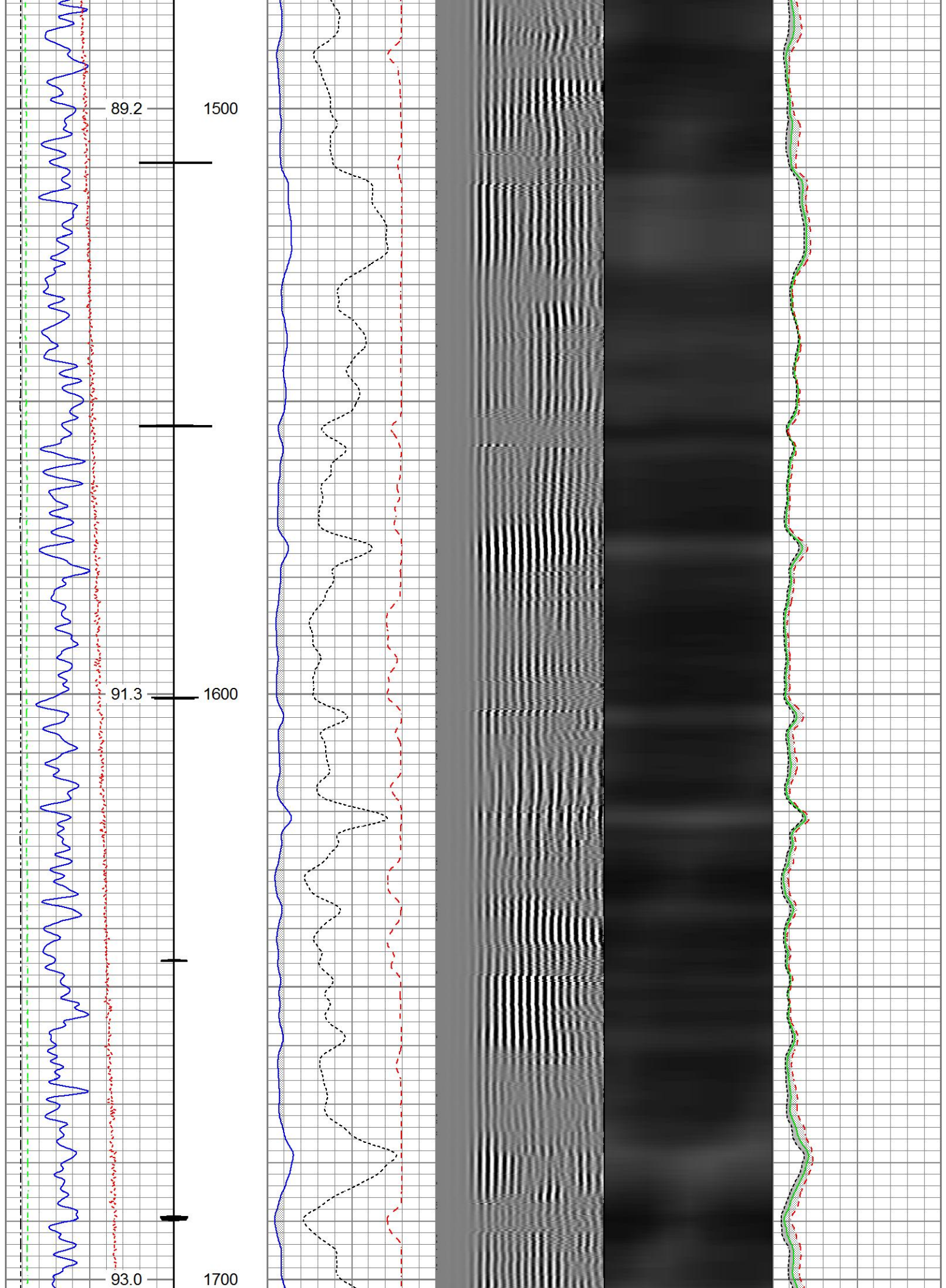


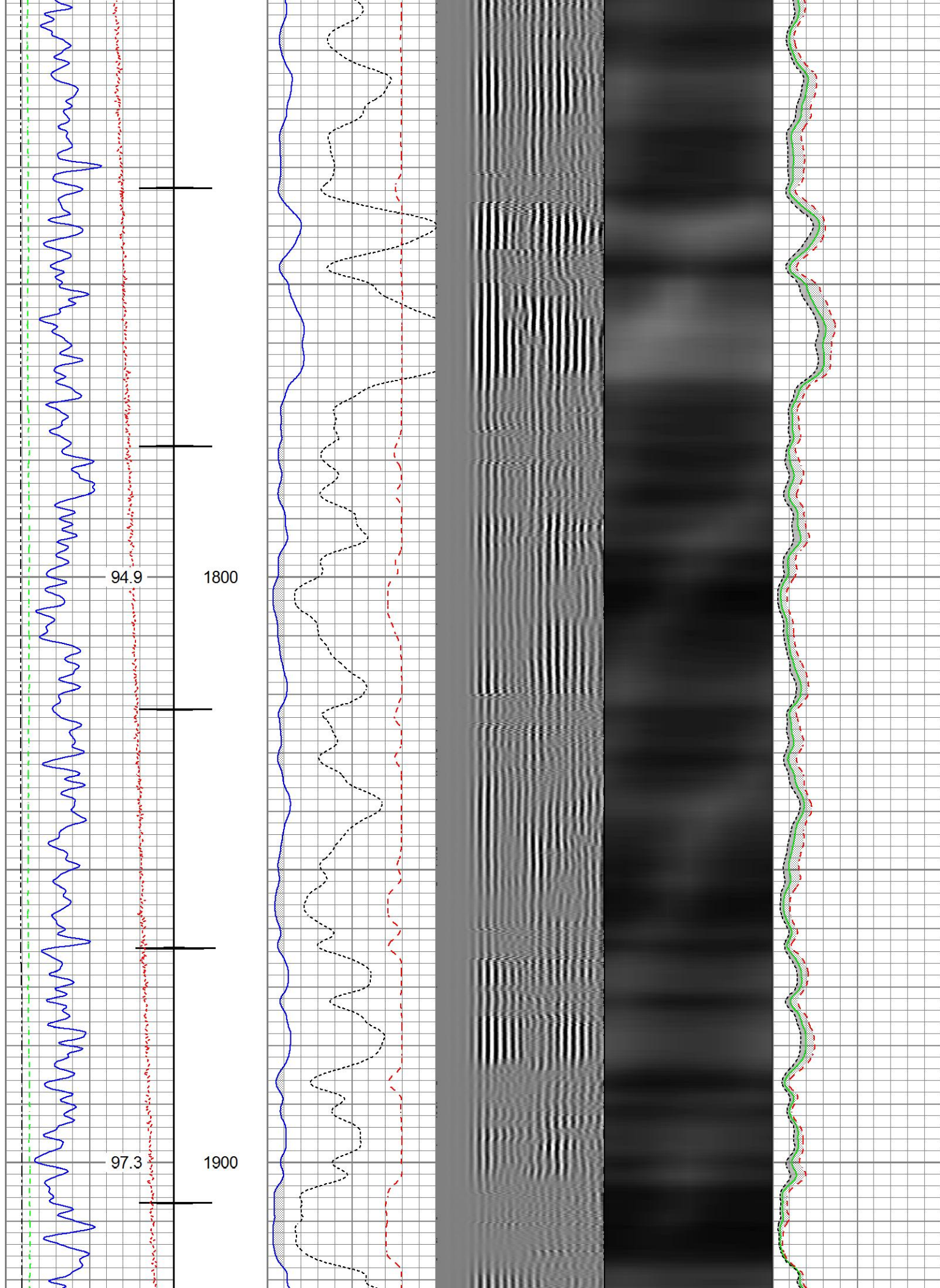


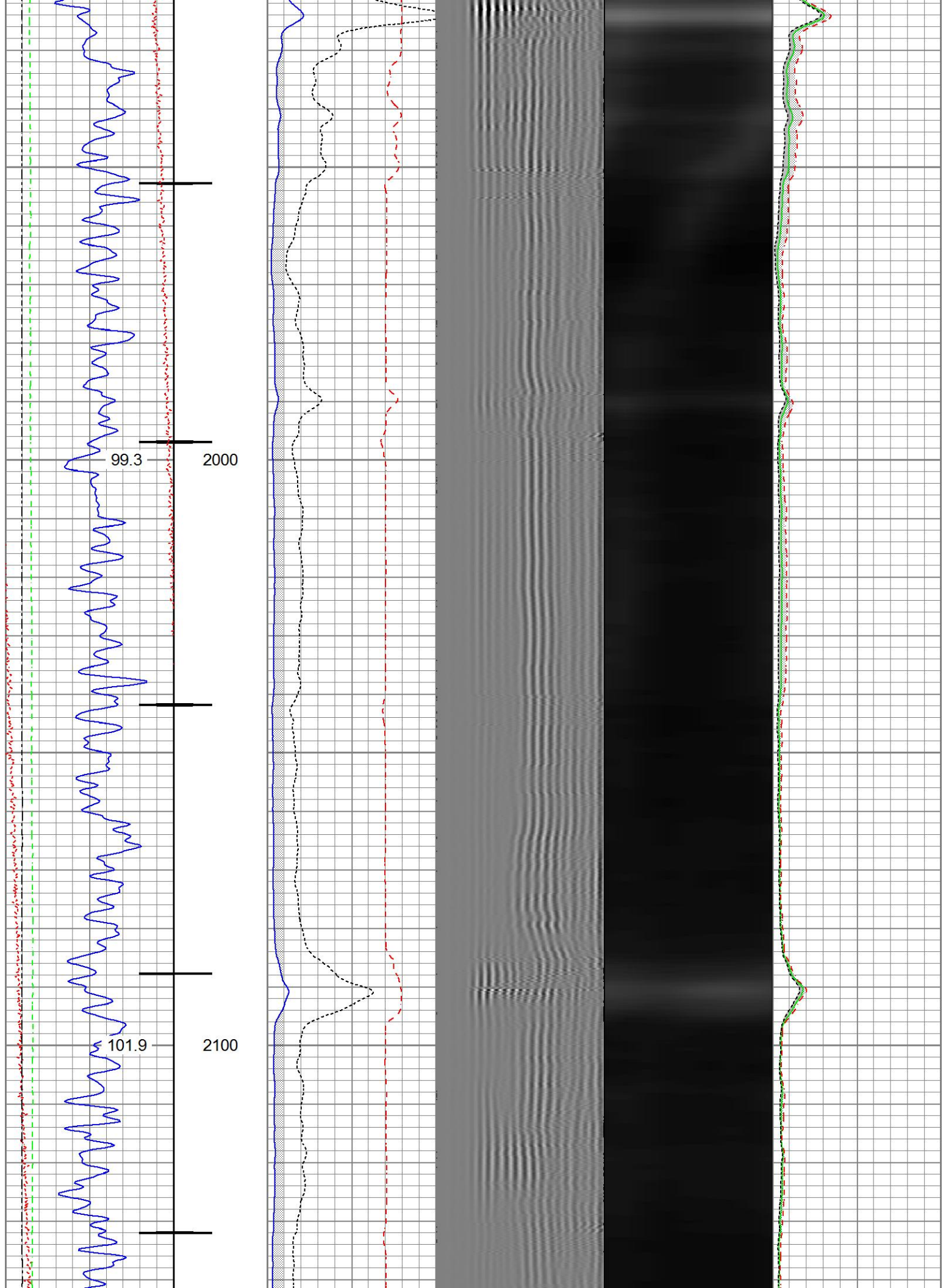


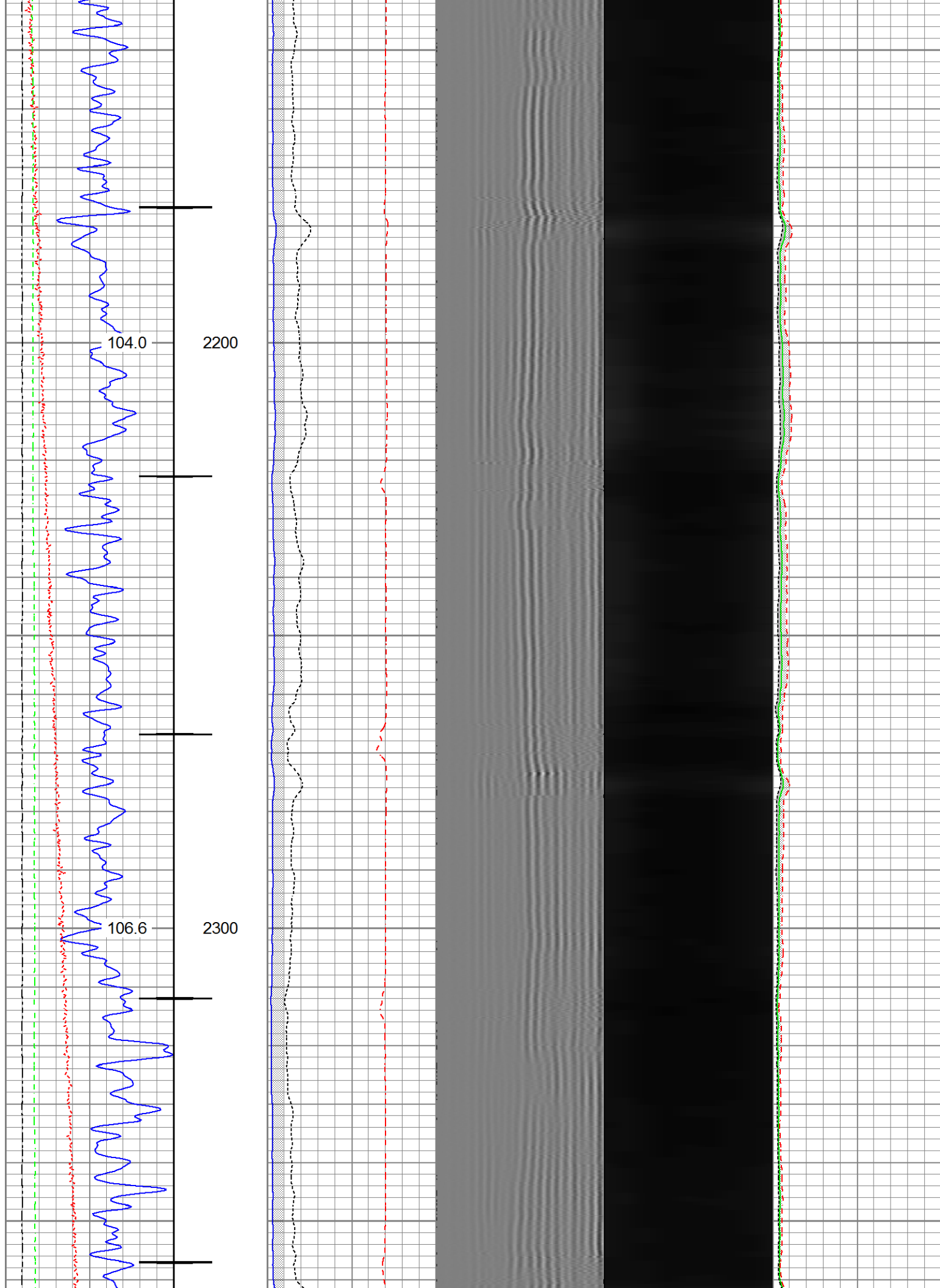


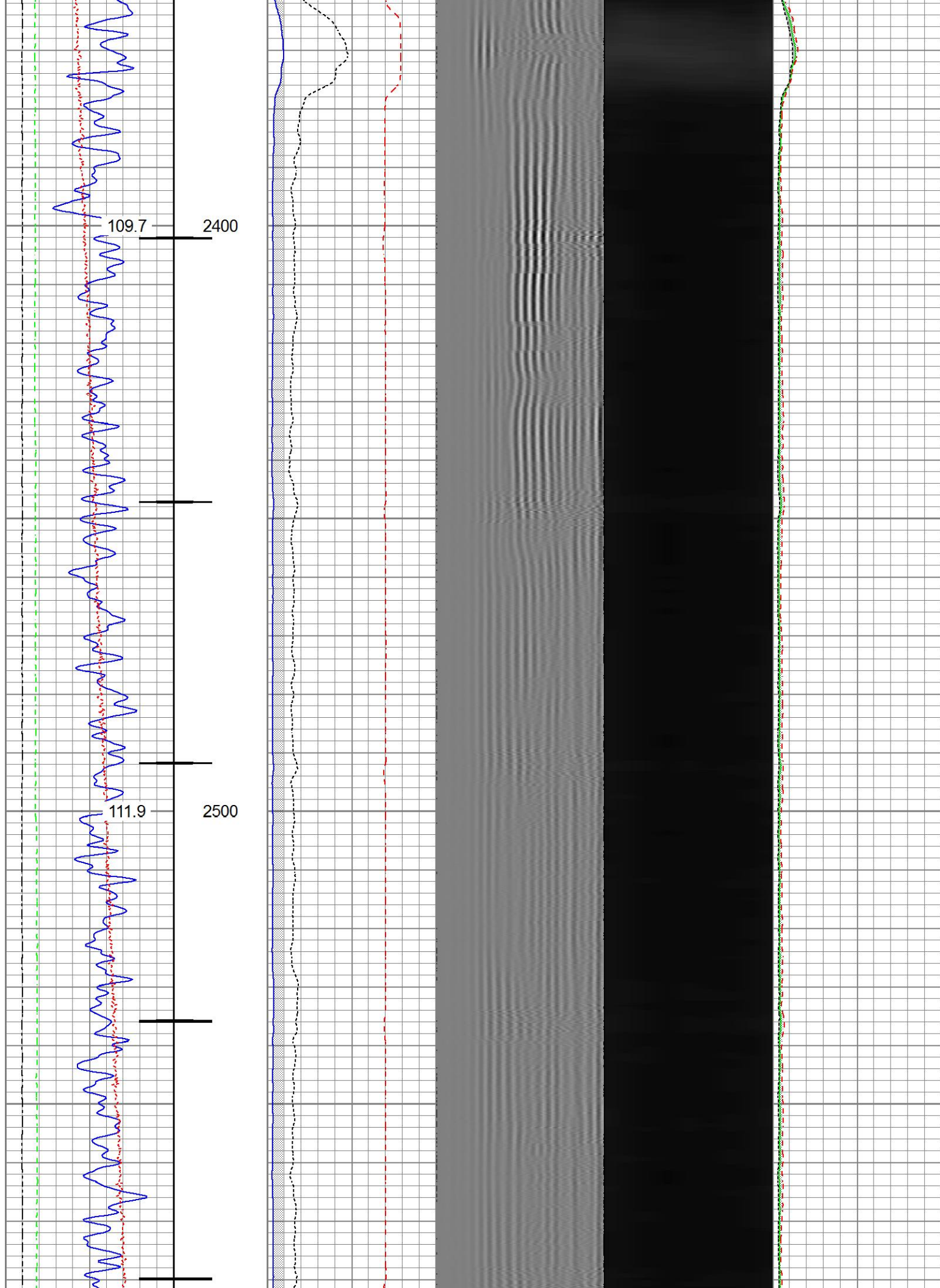


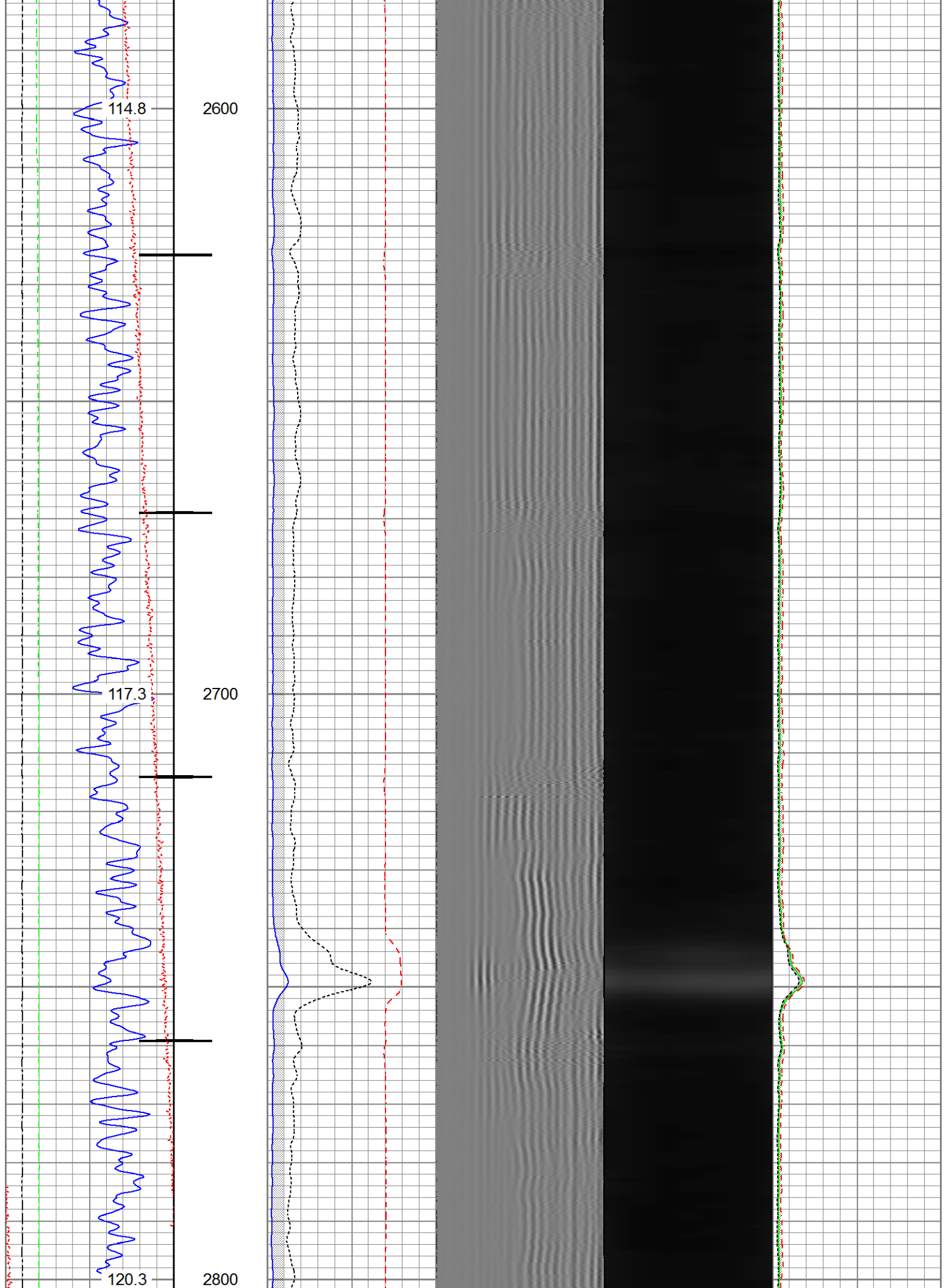


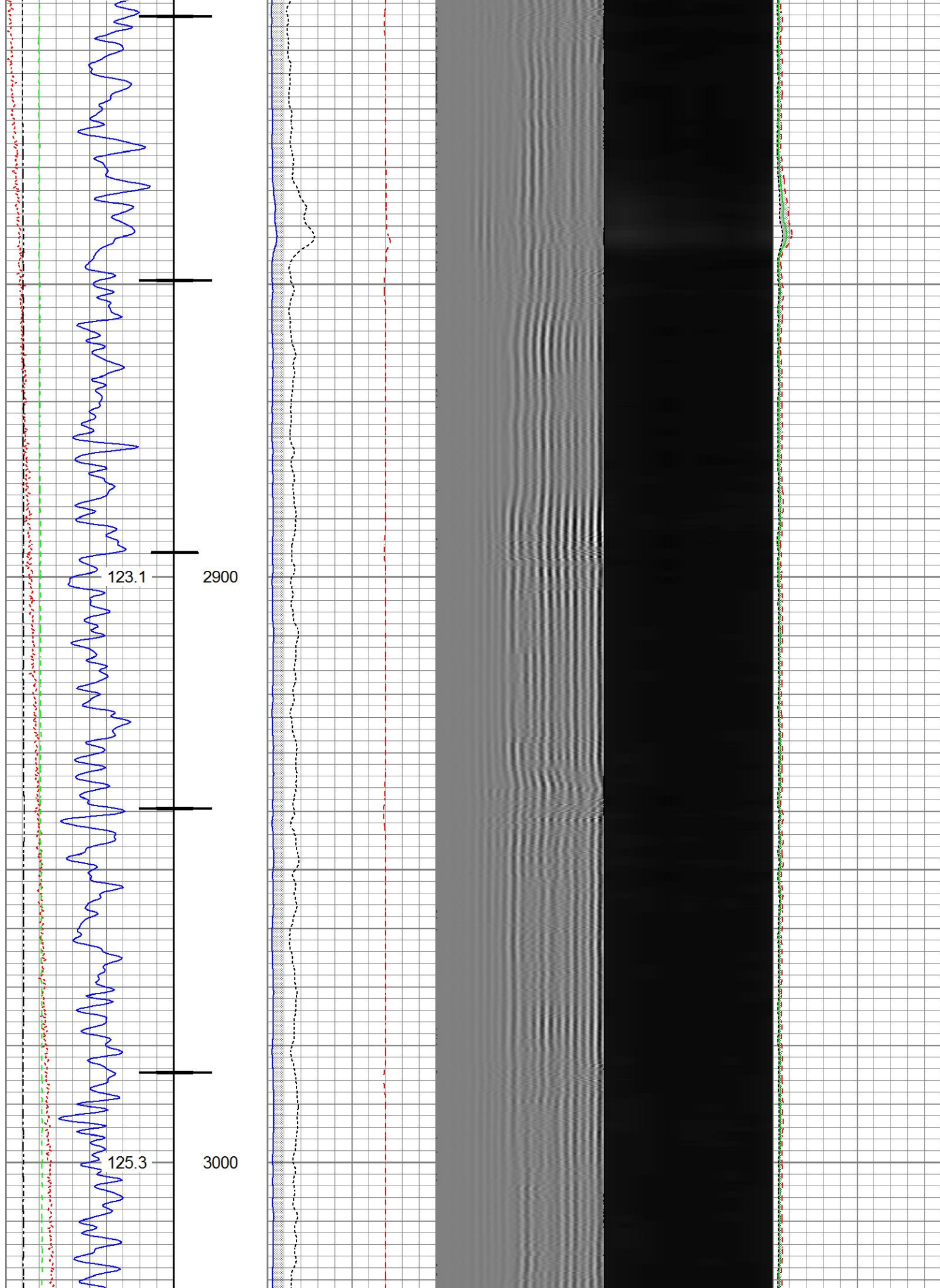


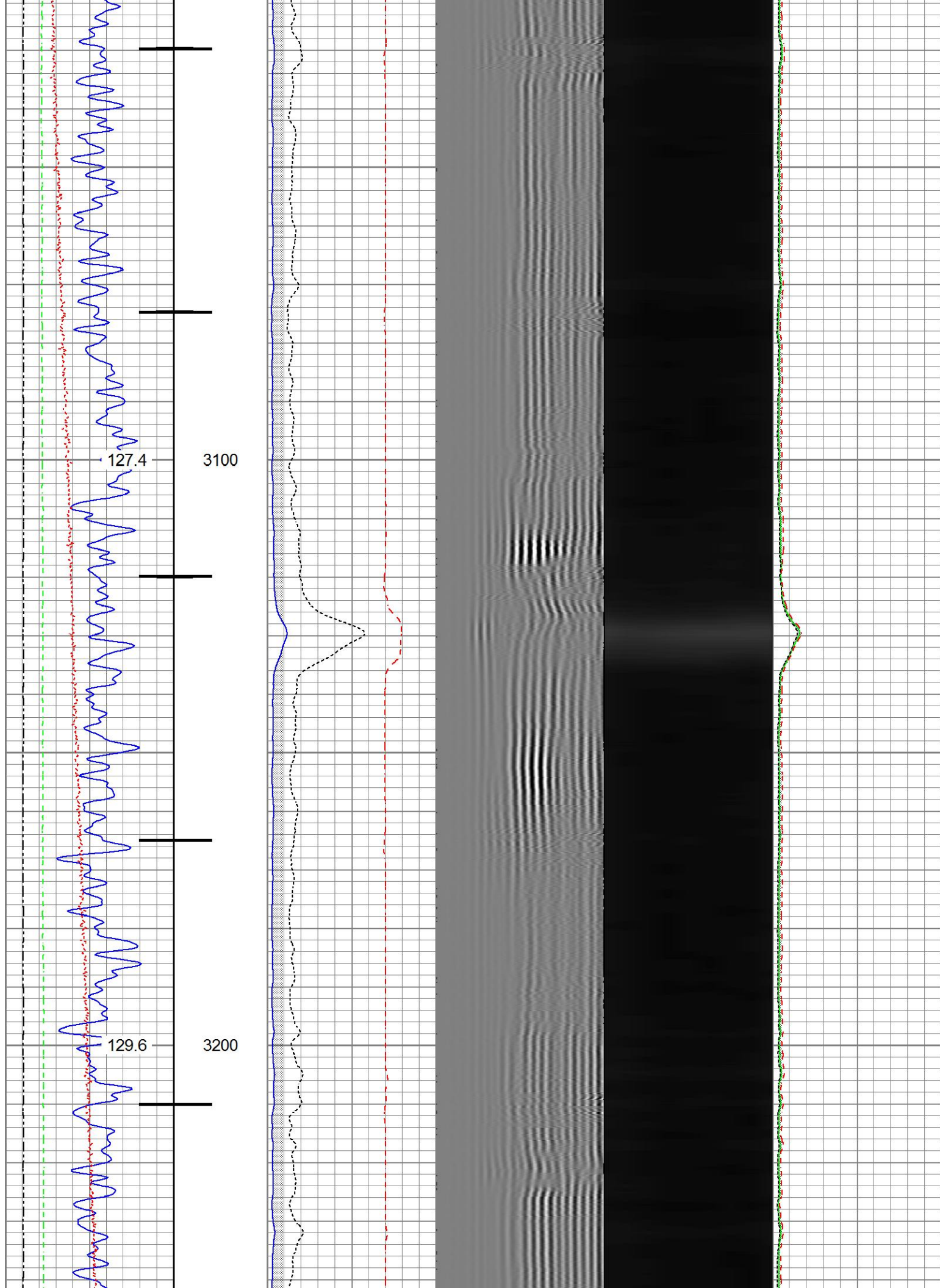


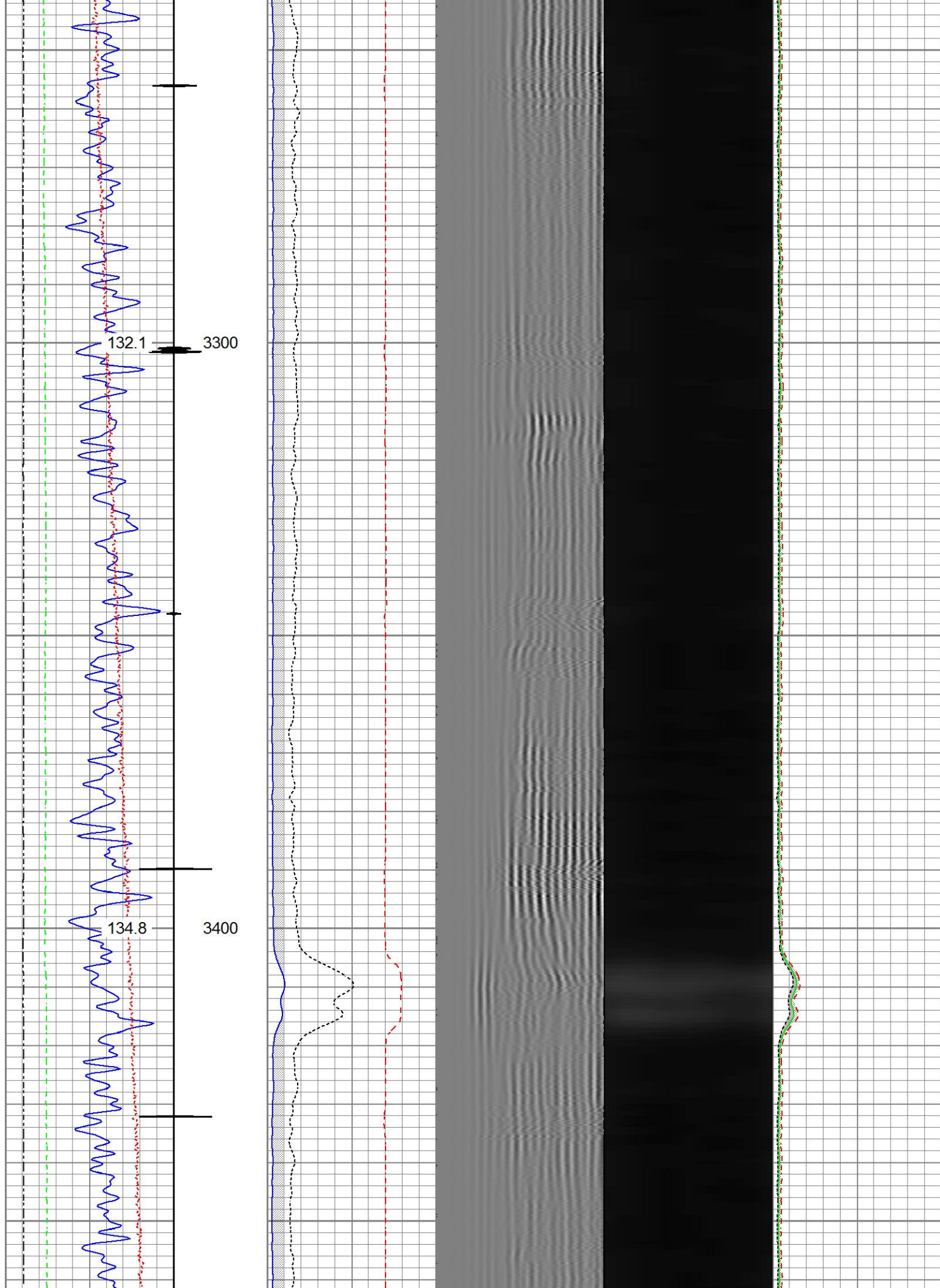


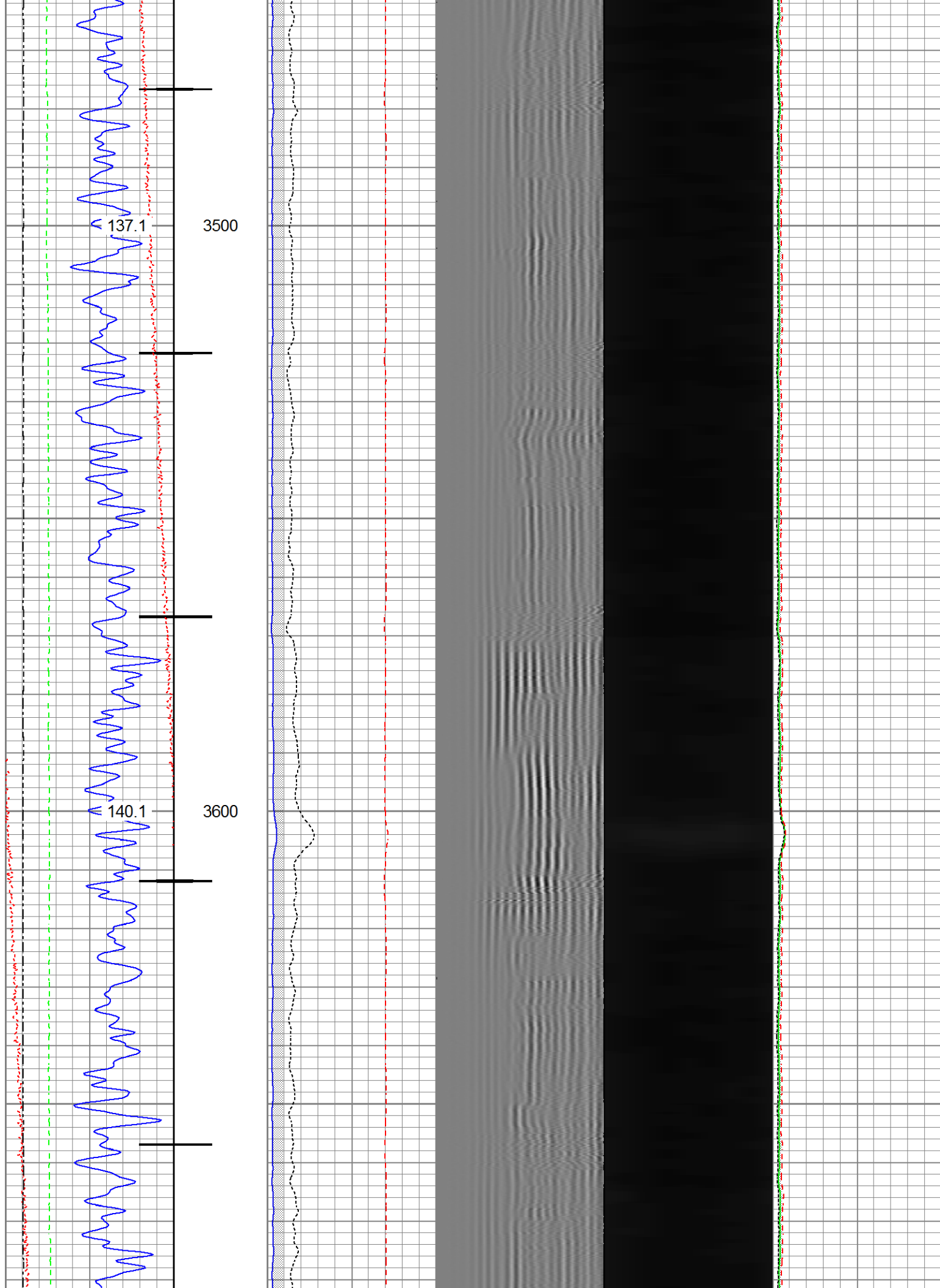


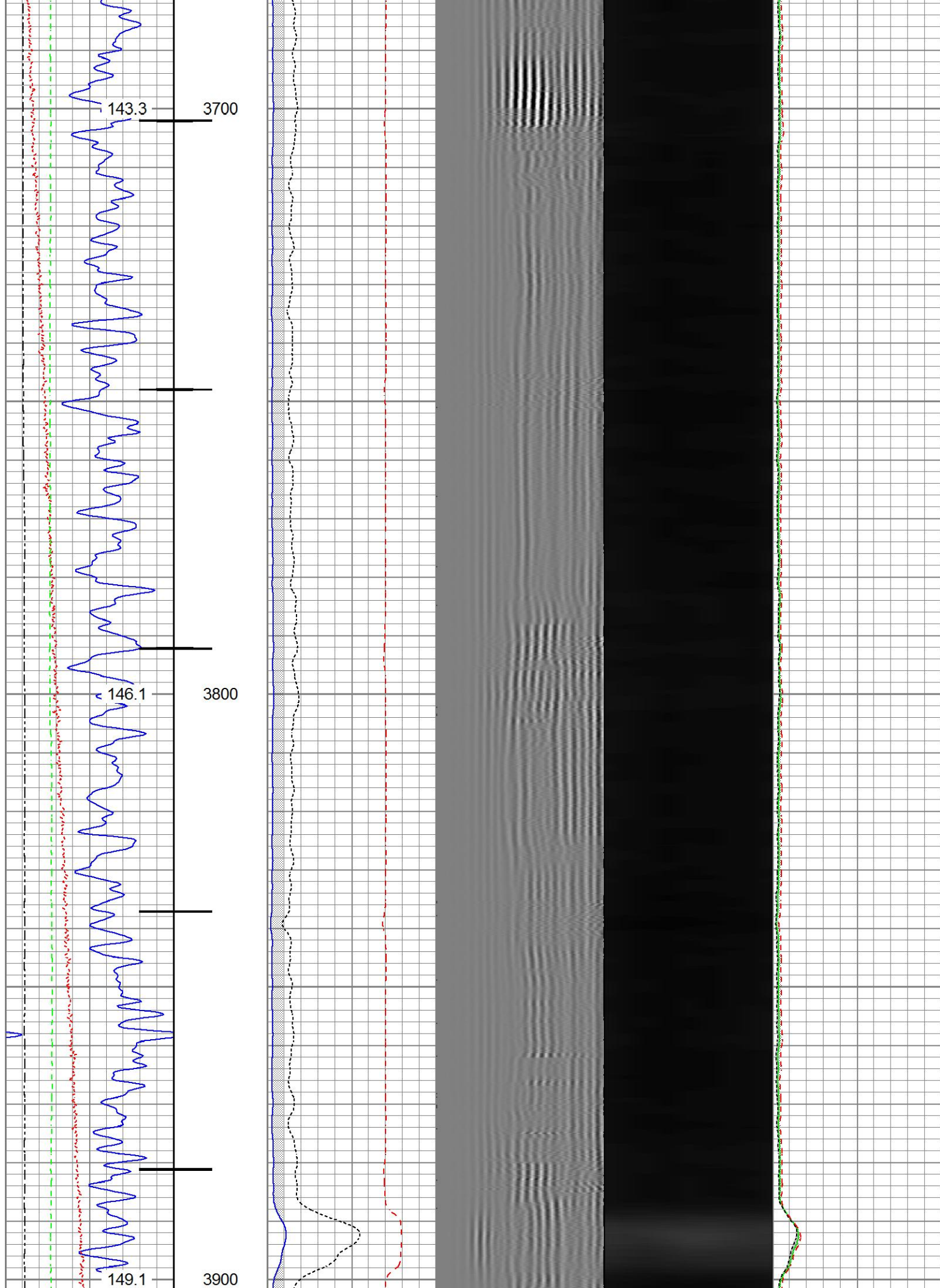


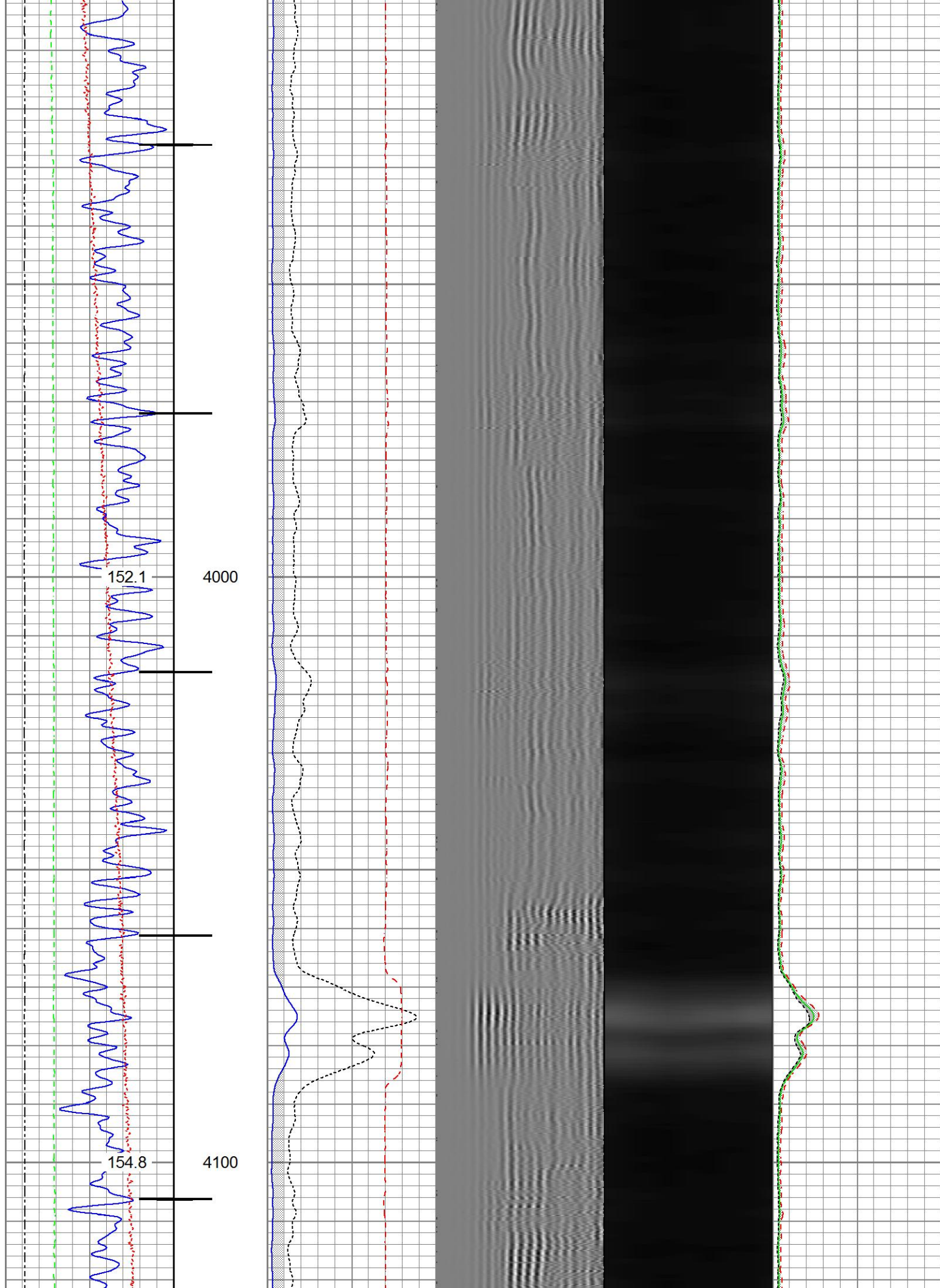


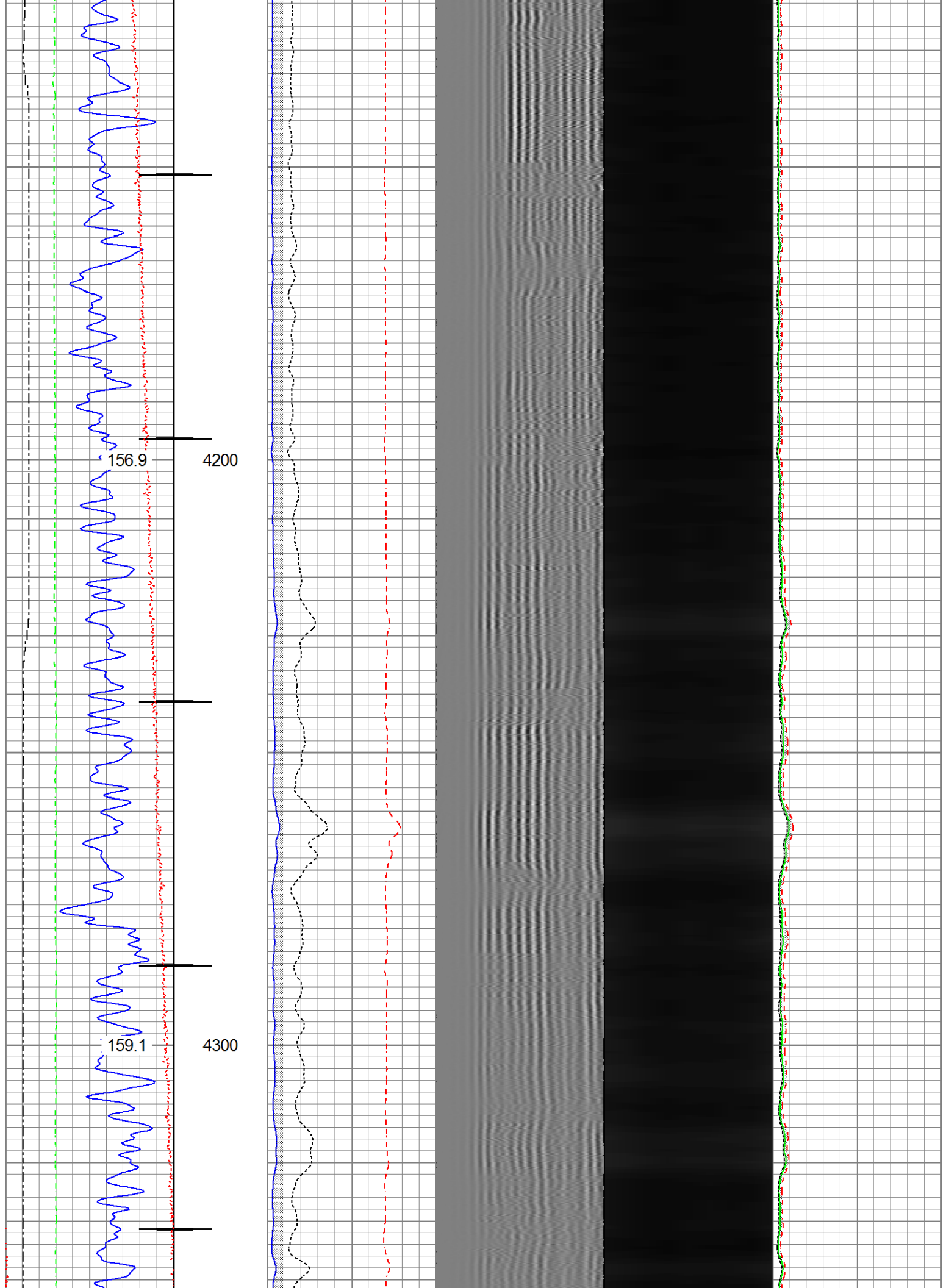


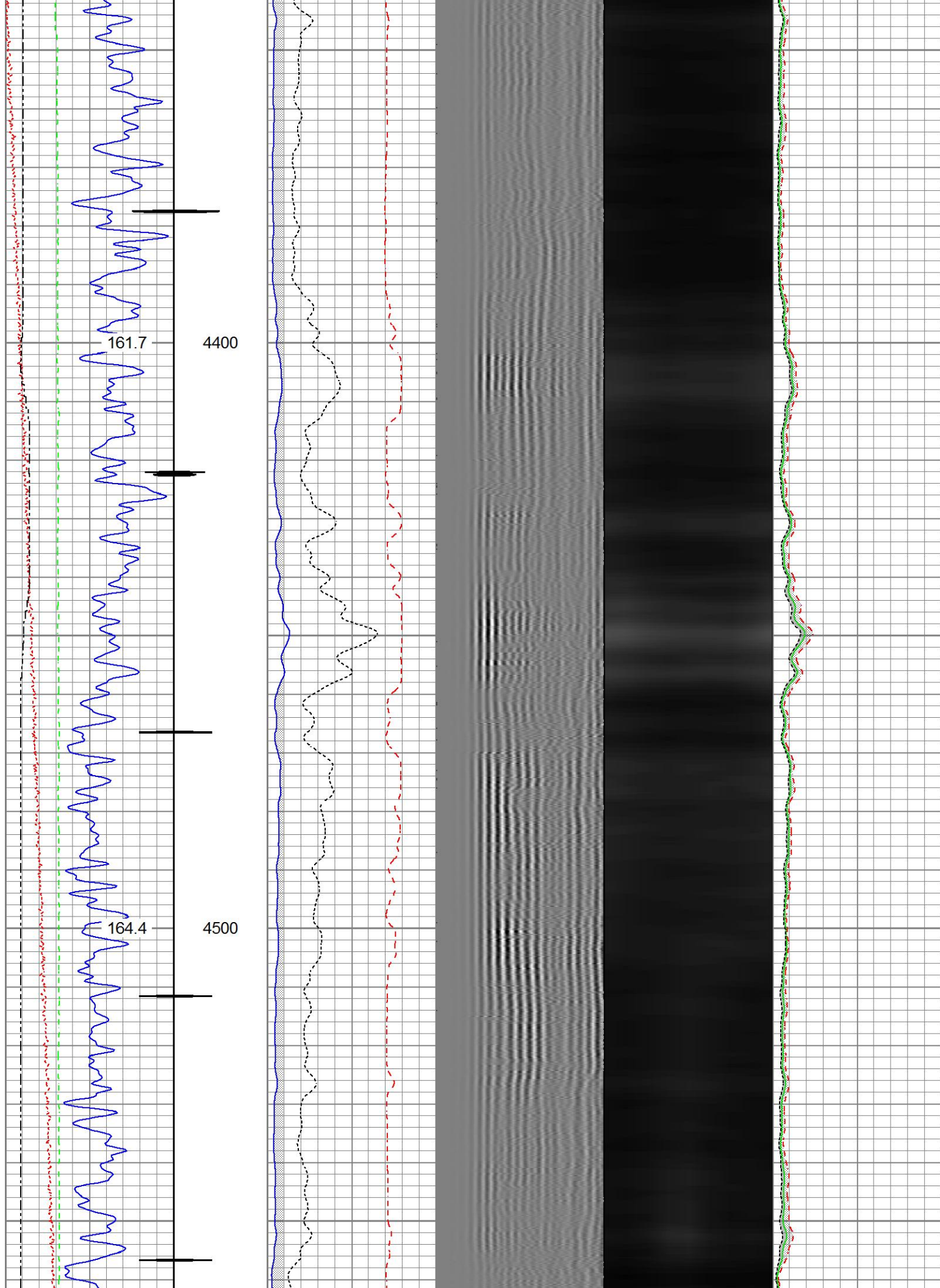


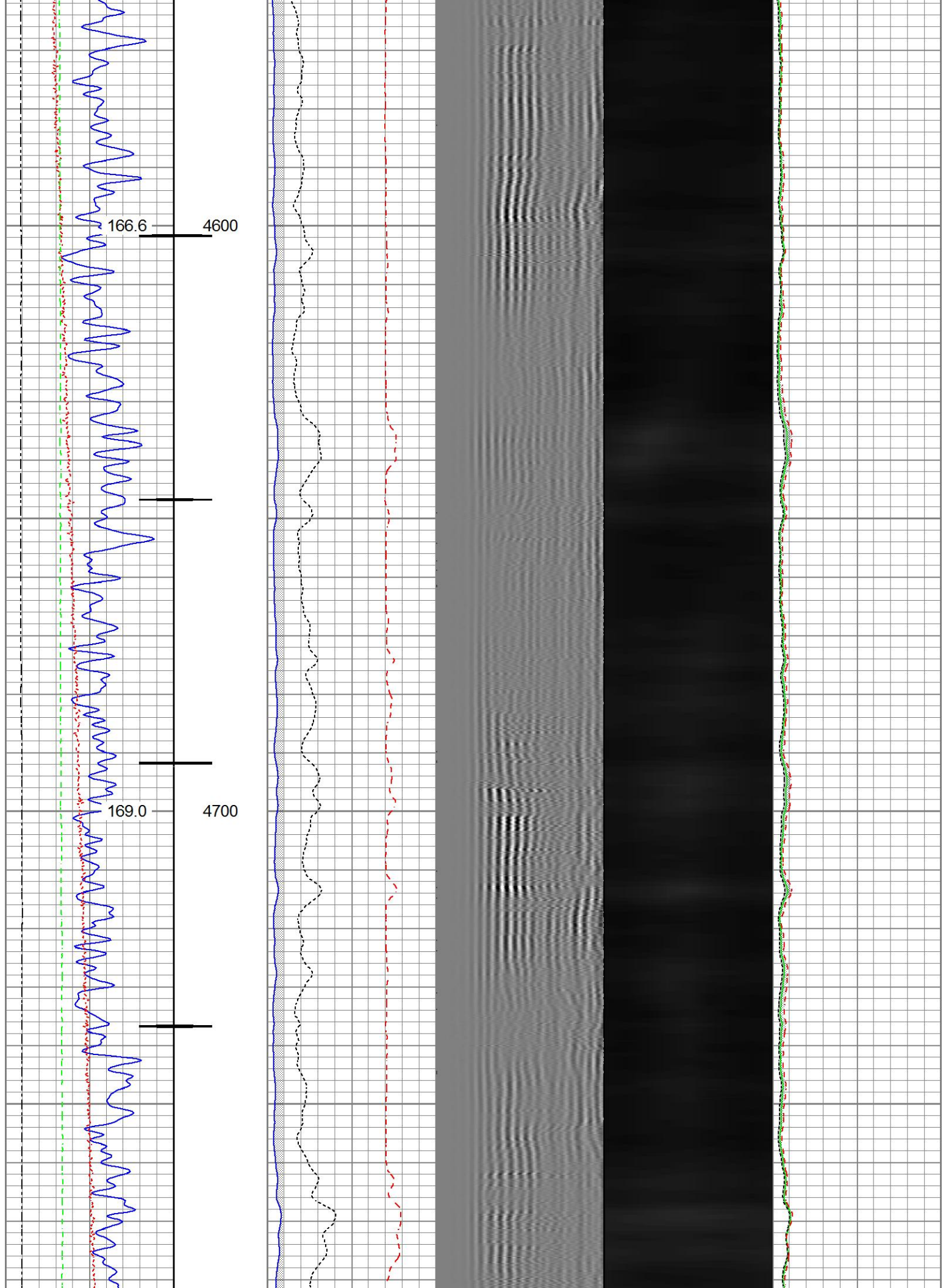


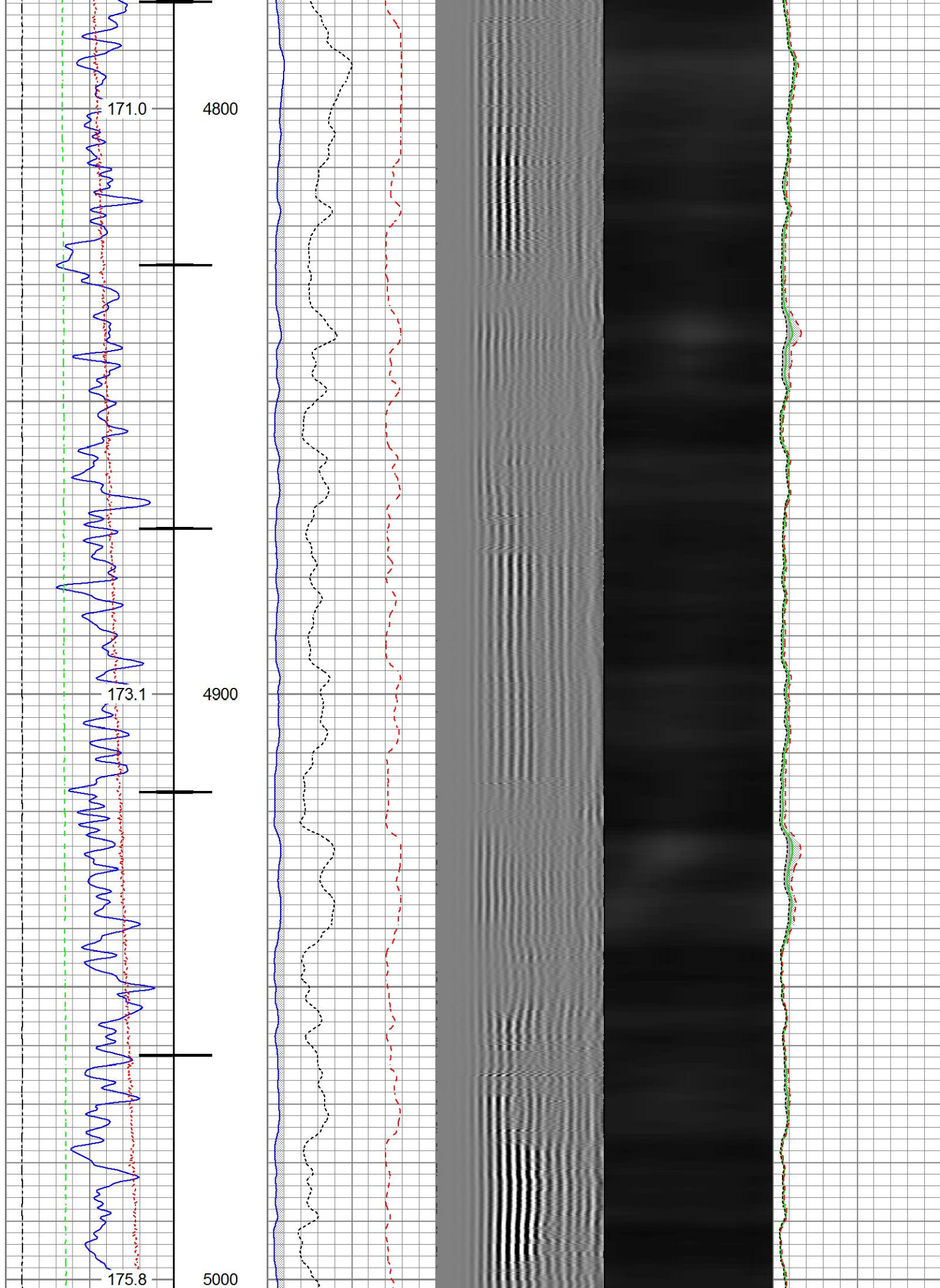


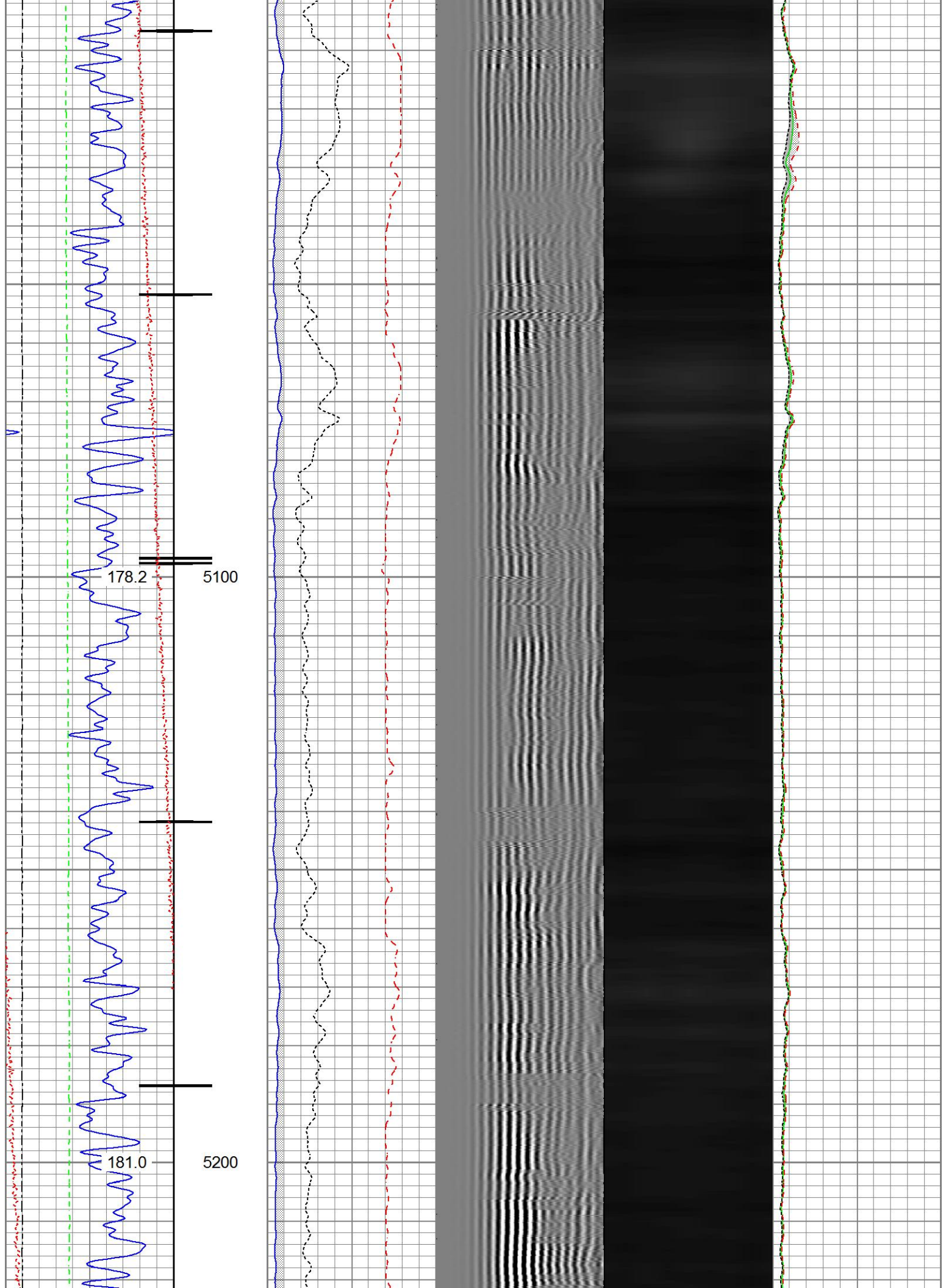


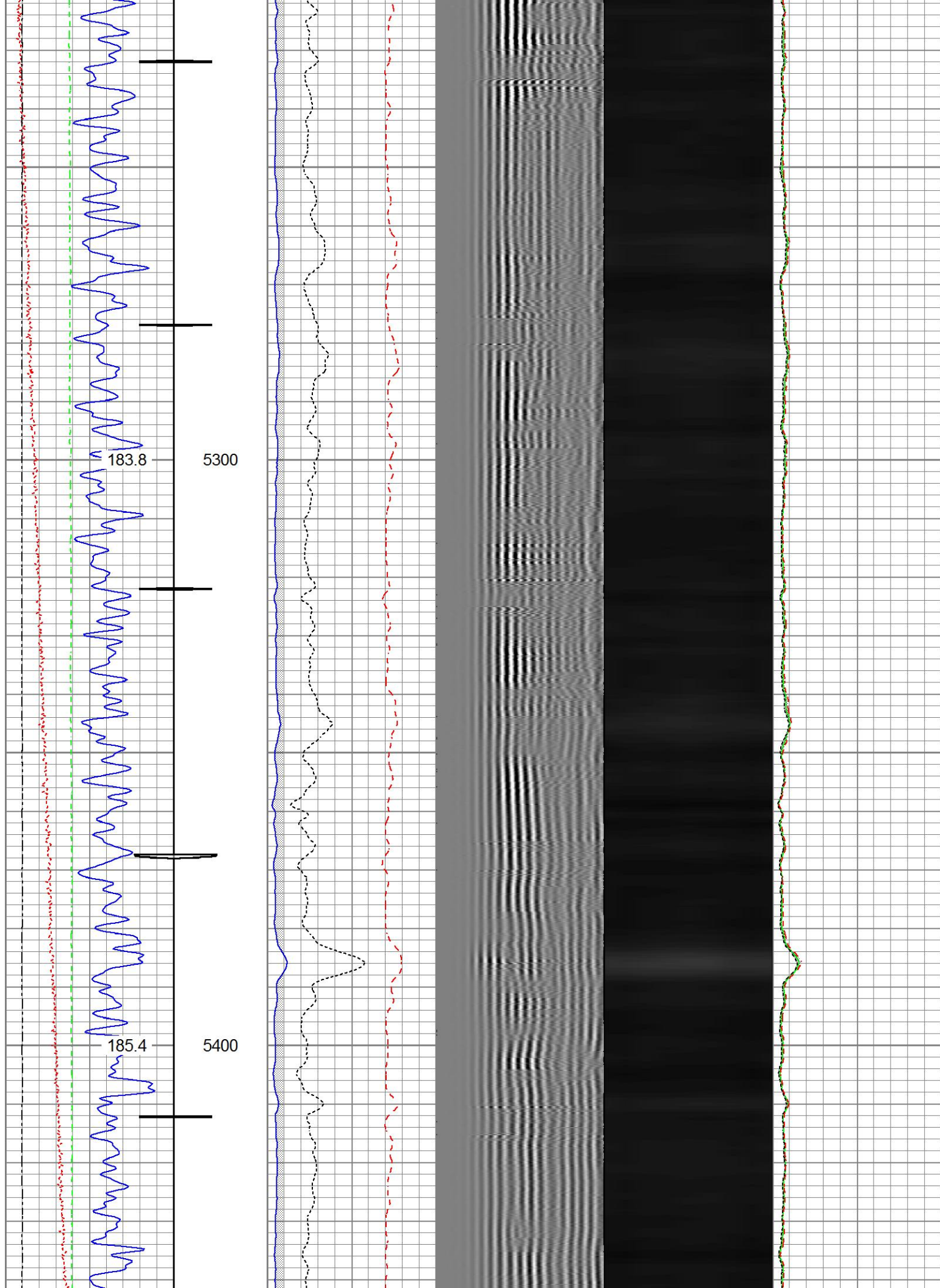


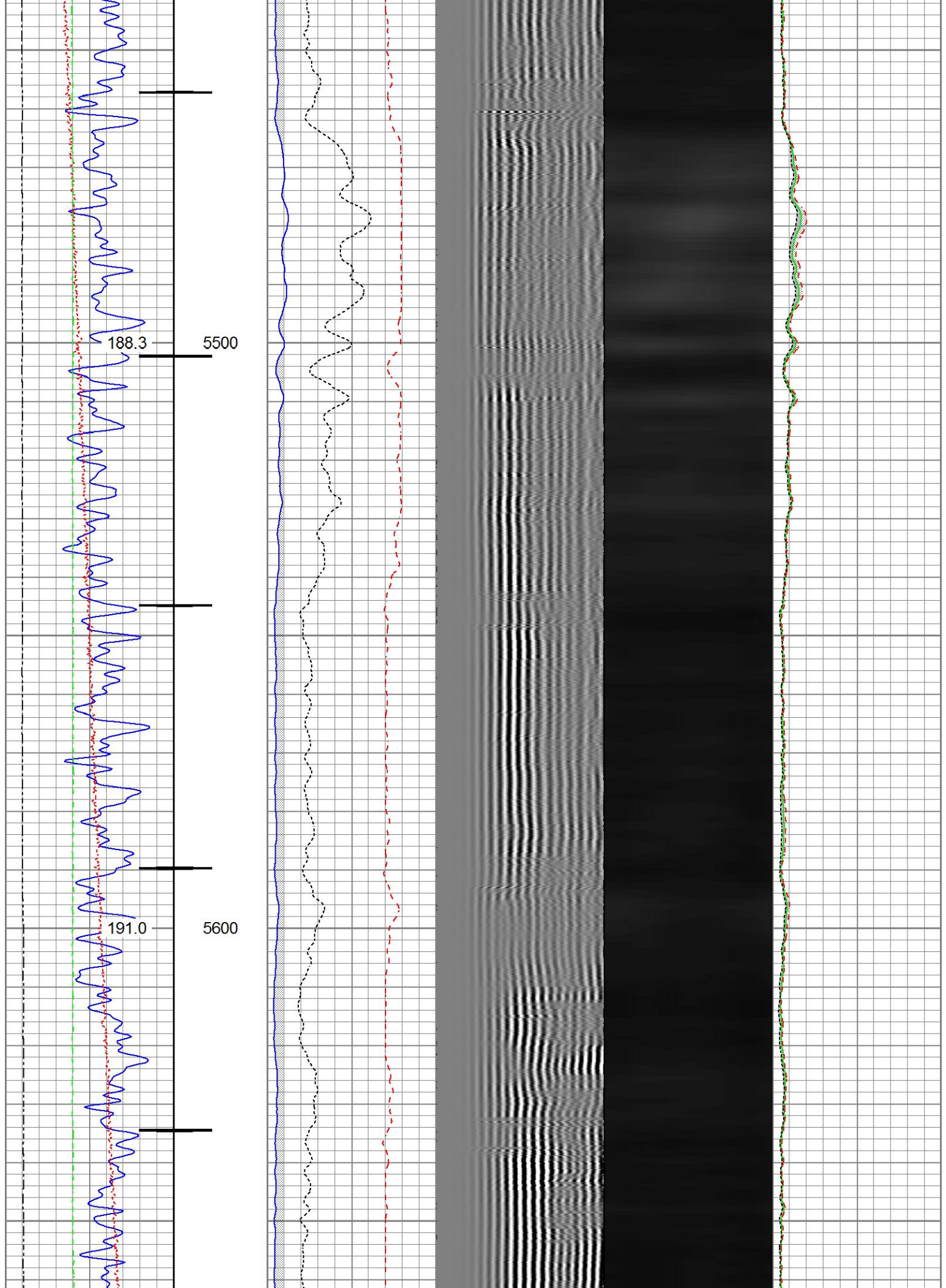


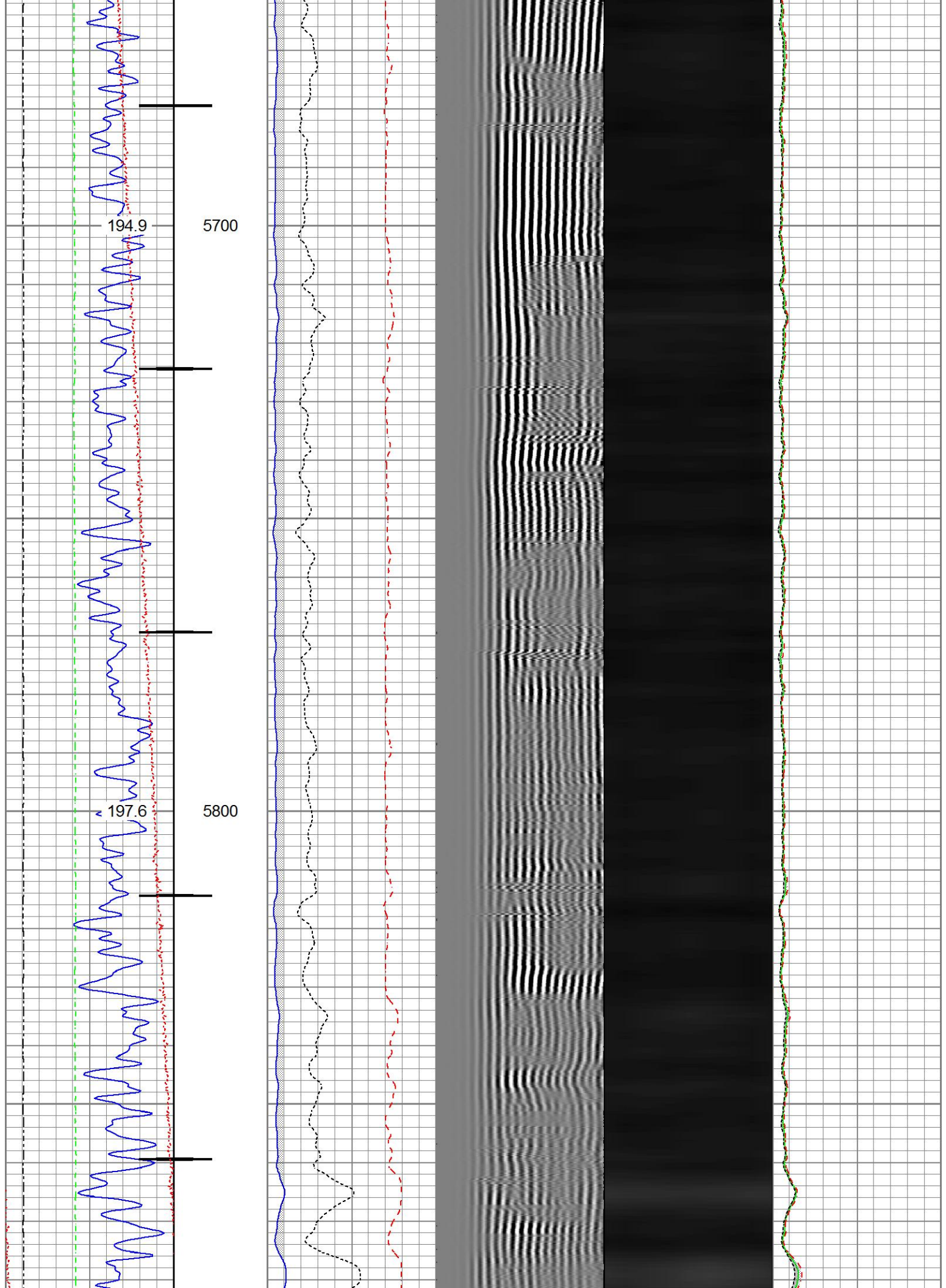


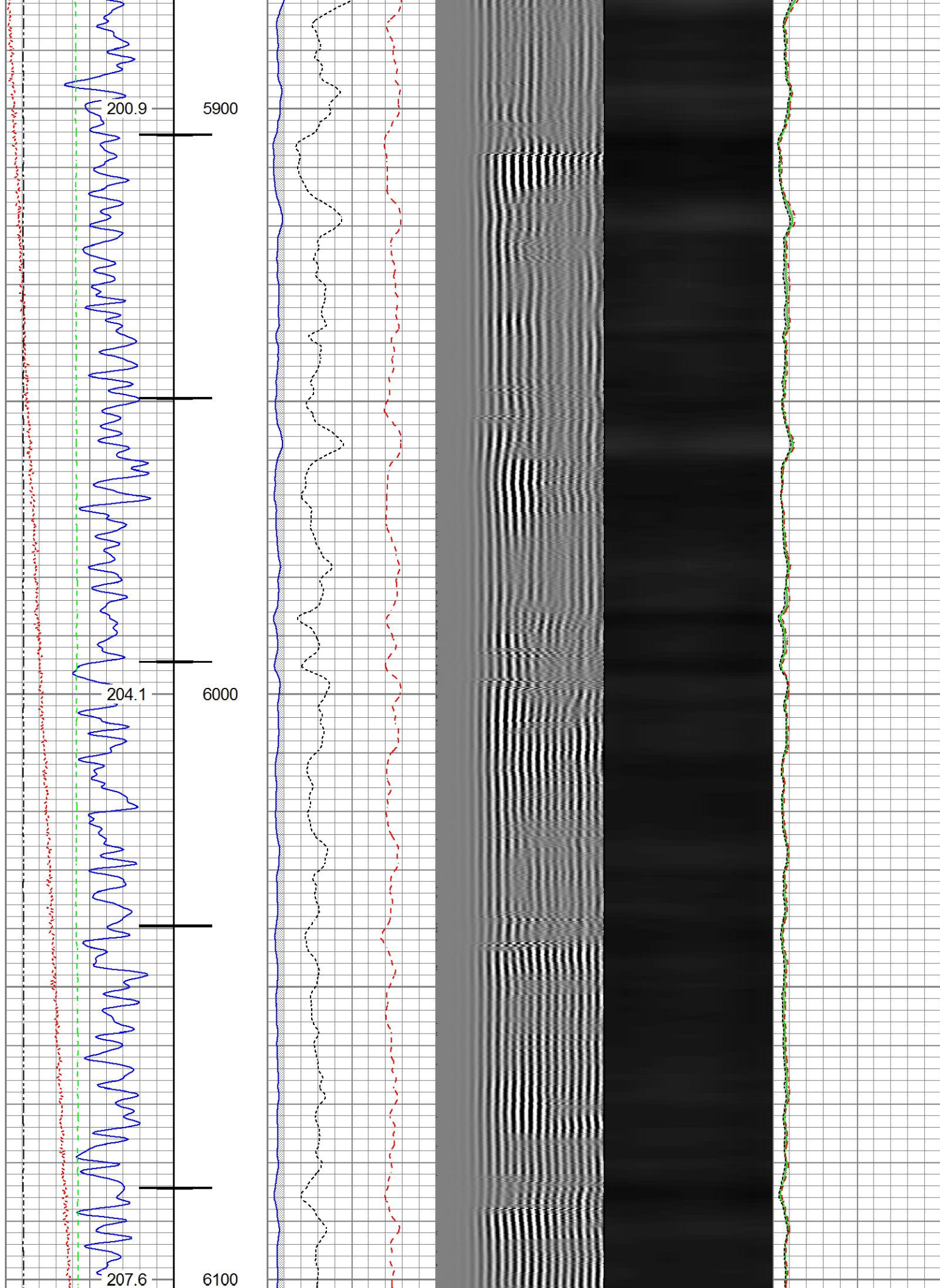


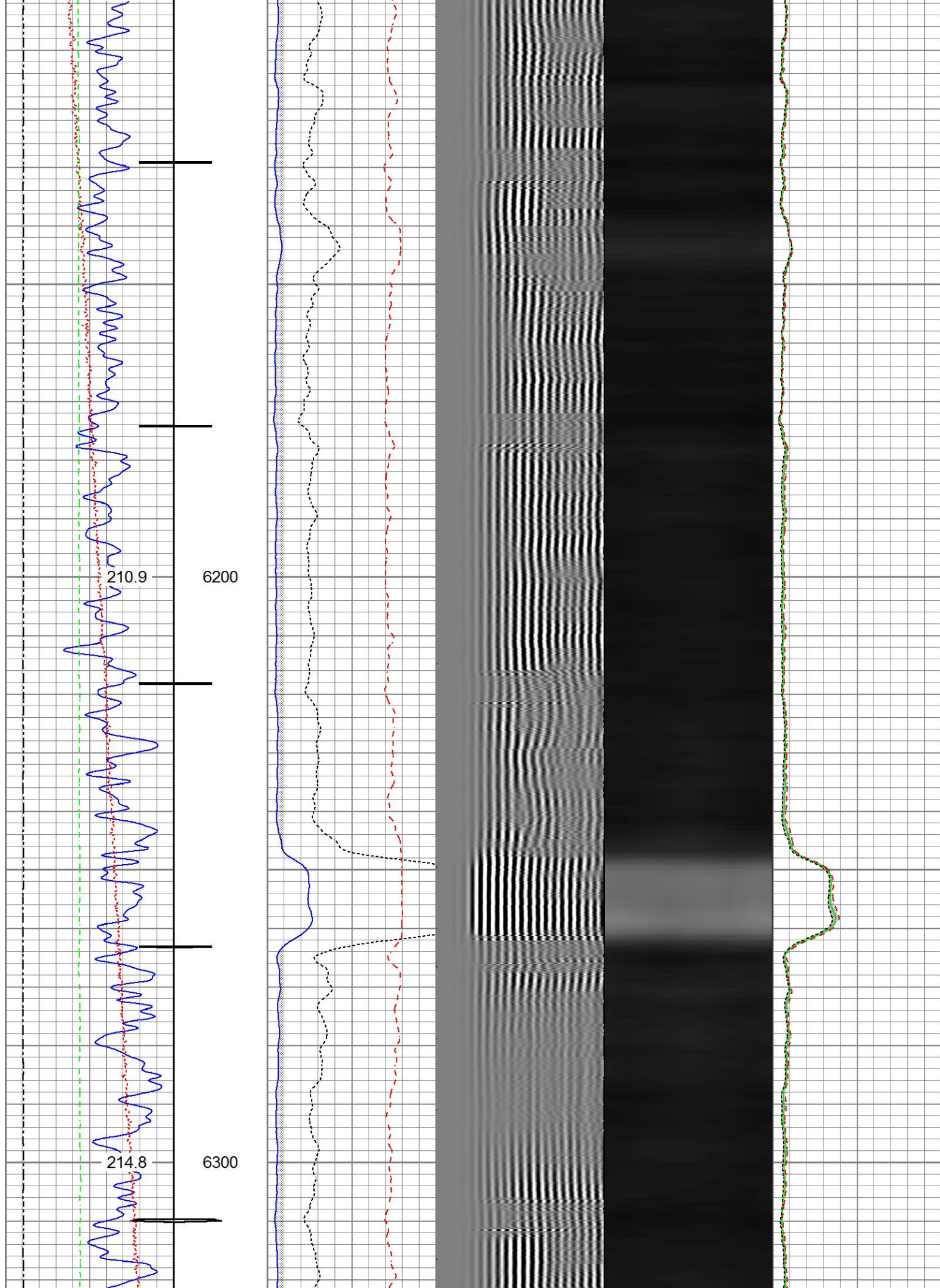


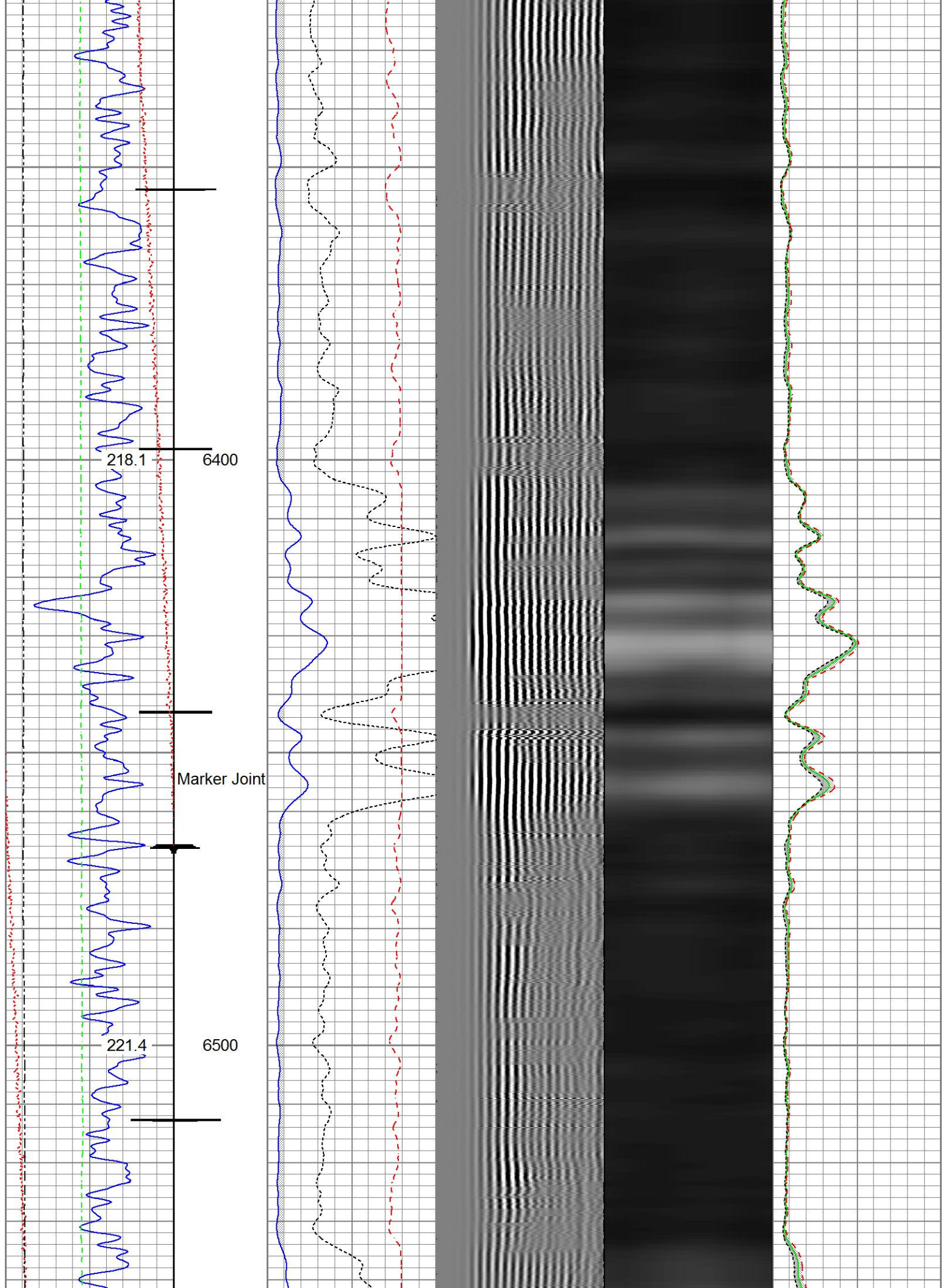


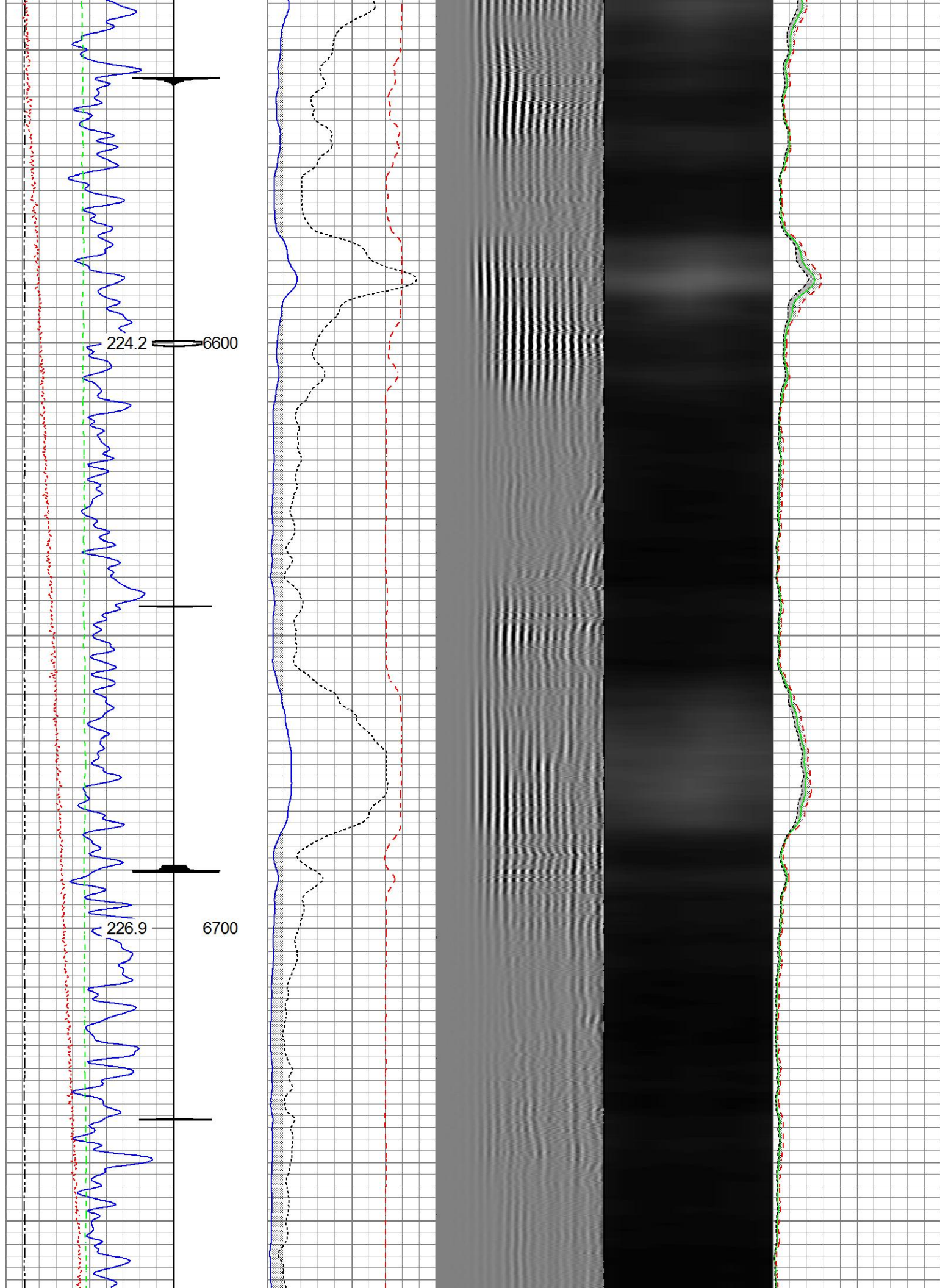


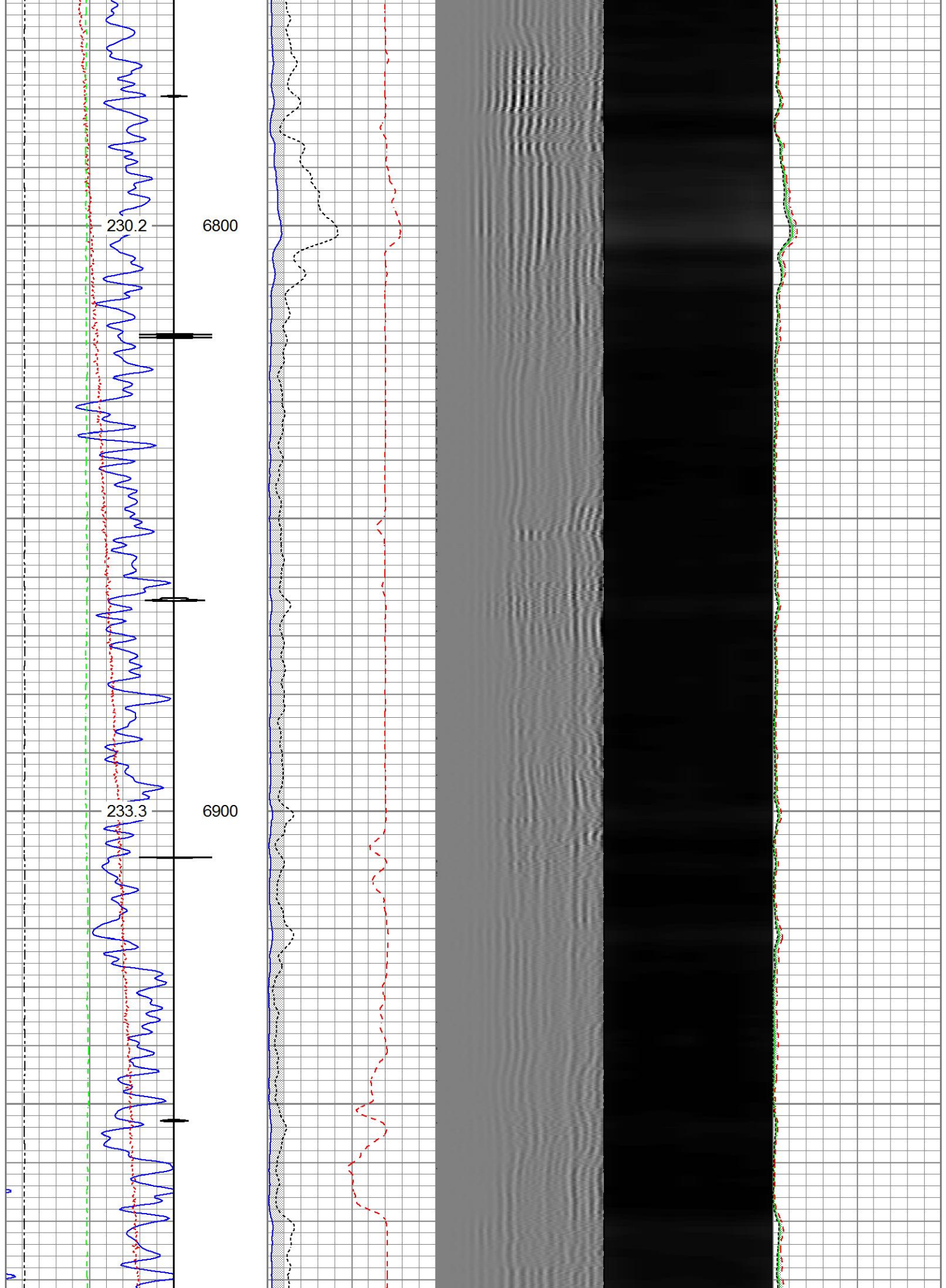


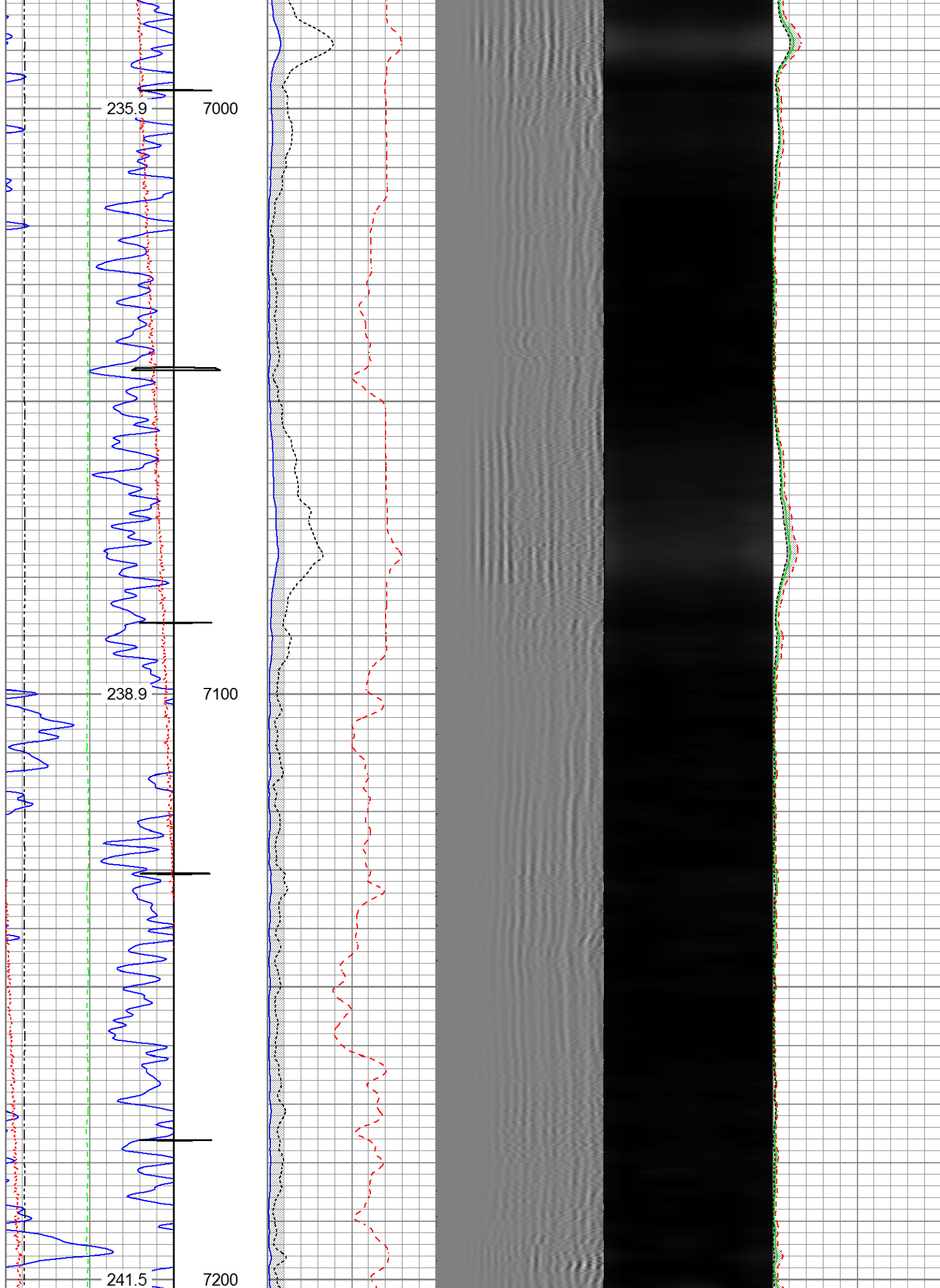


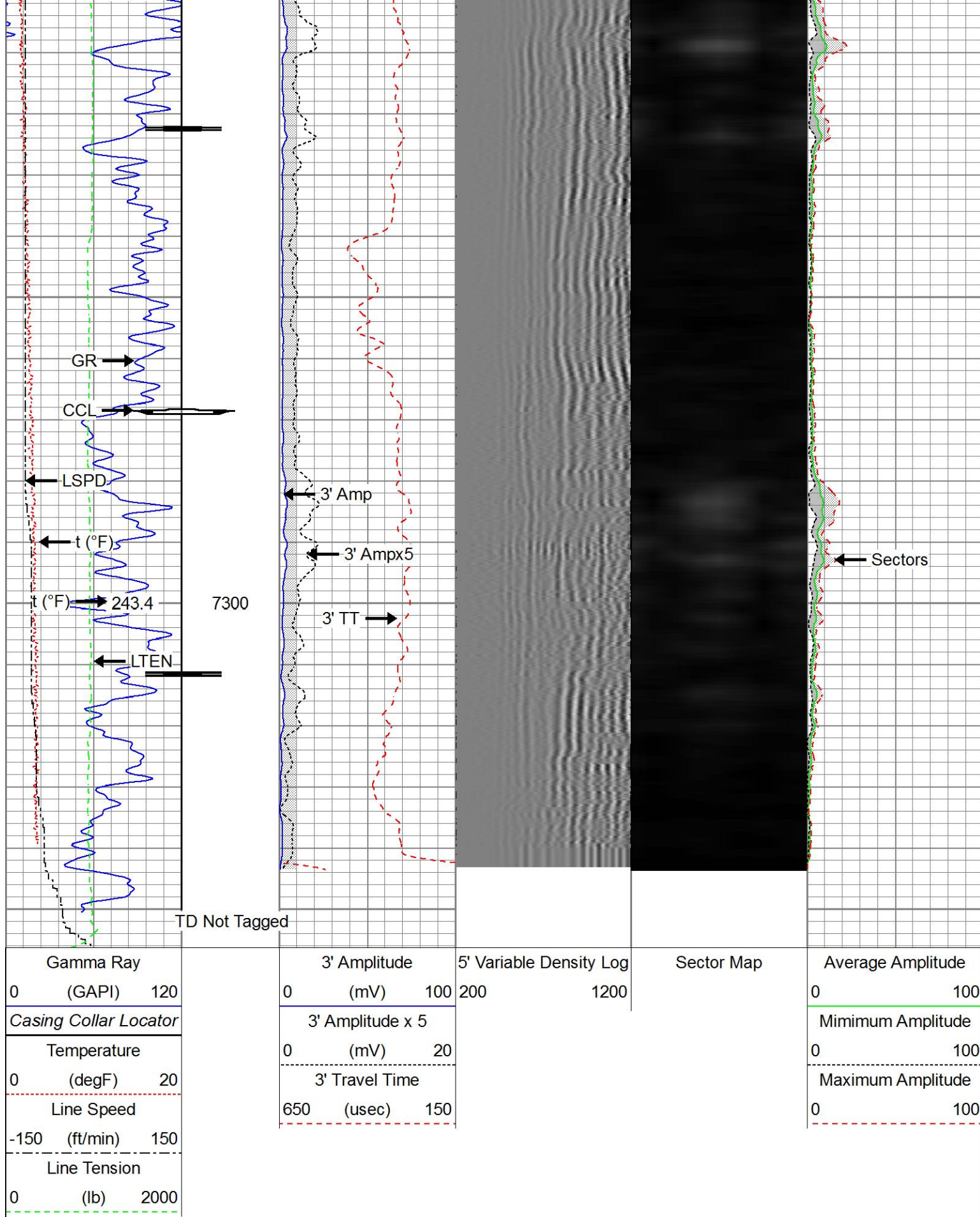








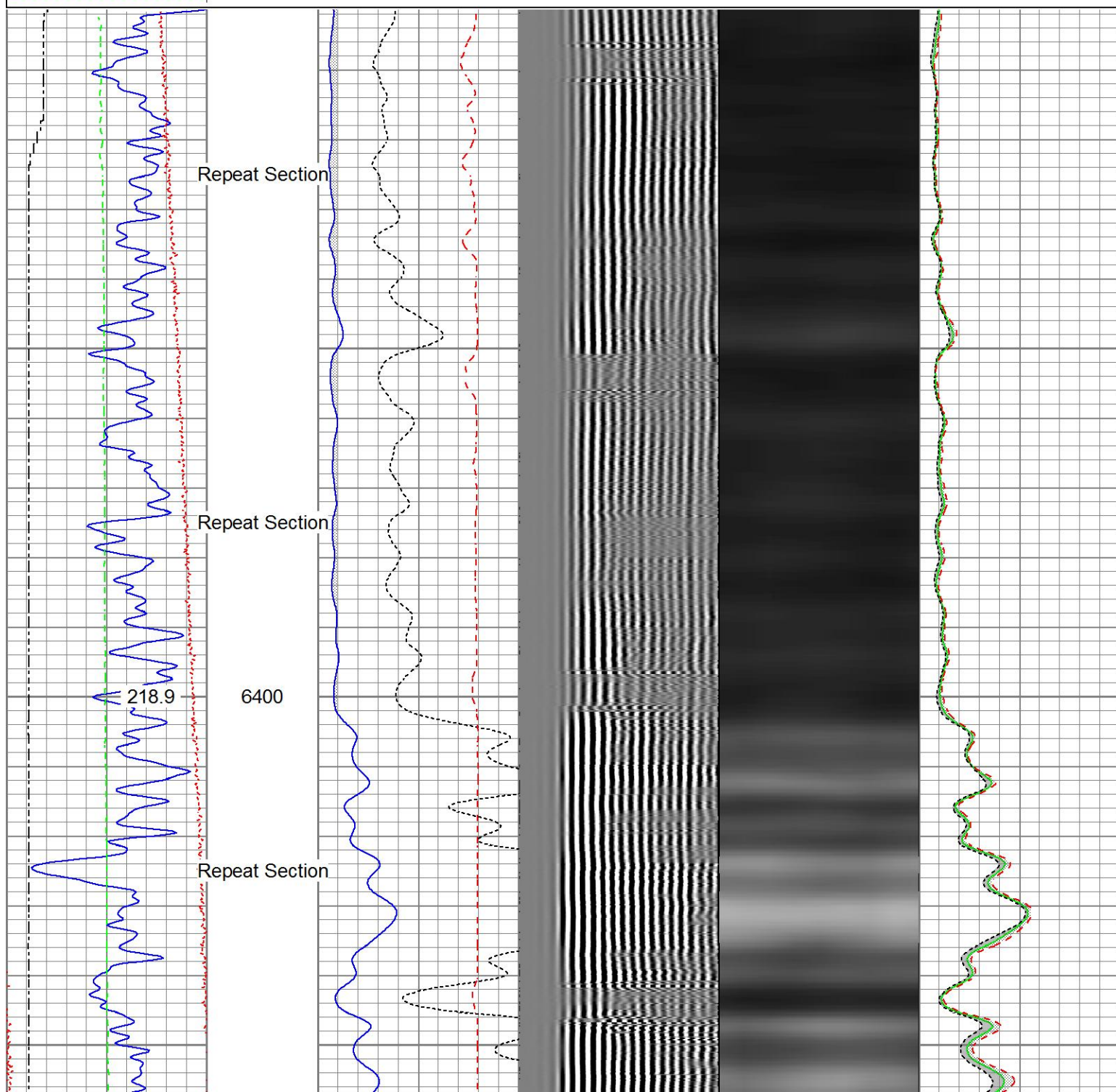


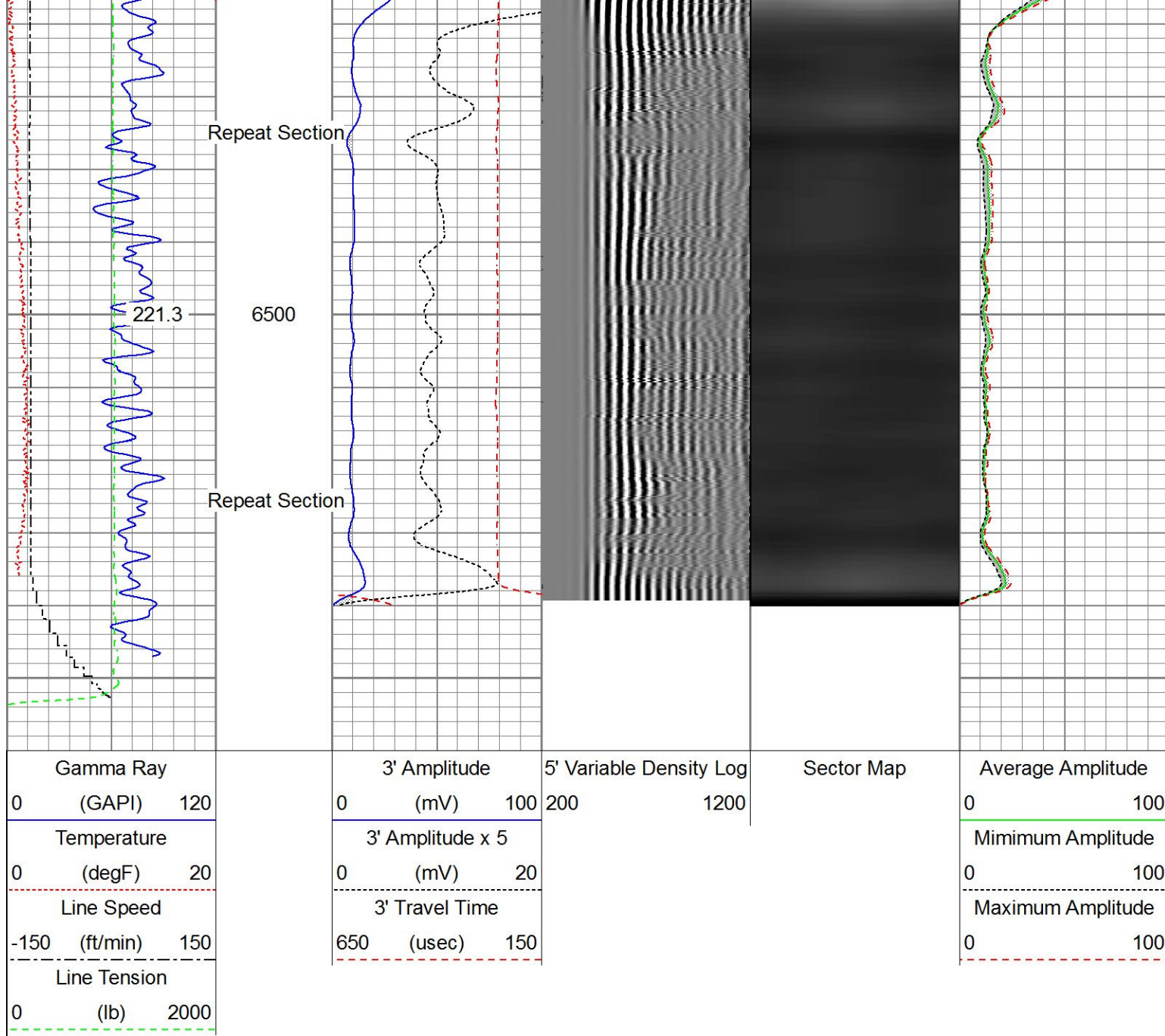



Repeat Pass


Database File 0512342145_anadarko_cook 2n-16hz_08-12-16_rbl_w8.db
 Dataset Pathname pass5
 Presentation Format ros_radil
 Dataset Creation Fri Aug 12 14:26:07 2016
 Charted by Depth in Feet scaled 1:240

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





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 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 (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 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	20.00
DCCL	6.51				
CCL	6.51				
			Probe_GR_CCL-P_CGR_2750_S (FW1304.543) Probe 2-3/4" Digital CCL / Gamma Ray Combined	2.75	55.00
GR	3.77				
			Probe_ELine_BowSpring_Centralizer-P Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	20.00
<div>Dataset: 0512342145_Anadarko_Cook 2N-16HZ_08-12-16_RBL_w8.db: field/well/run1/pass1</div> <div>Total length: 23.40 ft</div> <div>Total weight: 225.40 lb</div> <div>O.D.: 2.75 in</div>					

Calibration Report		
Database File	0512342145_Anadarko_Cook 2N-16HZ_08-12-16_RBL_w8.db	
Dataset Pathname	pass1	
Dataset Creation	Fri Aug 12 14:34:52 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: 352.067 ft

Master Calibration, performed Fri Aug 12 14:02:28 2016:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.005	0.681	0.800	71.921	105.163	0.284
CAL	0.748	0.747				
5'	0.005	0.577	0.800	71.921	124.455	0.148
SUM						
S1	0.001	0.674	0.000	100.000	148.618	-0.114
S2	0.004	0.702	0.000	100.000	143.435	-0.620
S3	0.004	0.703	0.000	100.000	143.092	-0.555
S4	0.004	0.687	0.000	100.000	146.563	-0.632
S5	0.004	0.677	0.000	100.000	148.427	-0.545
S6	0.004	0.664	0.000	100.000	151.454	-0.579
S7	0.004	0.661	0.000	100.000	152.070	-0.544
S8	0.005	0.664	0.000	100.000	151.768	-0.715

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.748	0.747	1.000	0.000

Air Zero Calibration, performed Fri Aug 12 13:50:51 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 Cook 2N-16HZ
Field Wattenberg
County Weld
State Colorado