



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company		Kerr-McGee Oil & Gas Onshore, L.P.					
Well		Gabel 2C-5HZ					
Field		Wattenberg					
County		Weld					
State		Colorado					
Location:		API # : 05-123-44081			Other Services Gauge Ring RBP		
SEC 8		TWP 1N	RGE 66W	Elevation			
Permanent Datum		Ground Level	Elevation	4943'			
Log Measured From		Kelly Bushing	32 FT	K.B. 4975'			
Drilling Measured From		Kelly Bushing		D.F. ---			
				G.L. 4943'			
Date		26-SEPT-2017					
Run Number		Three					
Depth Driller		13078 FT					
Depth Logger		7602 FT					
Bottom Logged Interval		7590 FT					
Top Log Interval		Surface					
Open Hole Size		7.875"					
Type Fluid		Water					
Density / Viscosity		8.34 lb/gal					
Max. Recorded Temp.		242°F					
Estimated Cement Top		See Log					
Time Well Ready		ROA					
Time Logger on Bottom		8:45					
Equipment Number		HD-0311					
Location		Fort Lupton, CO					
Recorded By		R. Cameron					
Witnessed By		Eric Wenzel					
Borehole Record		Tubing Record					
Run Number	Bit	From	To	Size (in)	Weight (lb/ft)	From	To
Casing Record	Size (in)	Wgt (lb/ft)	Grade	Top	Bottom		
Surface Casing	9 5/8	36	J-55	Surface	1852 FT		
Intermediate #1	5 1/2	20	HC P110	Surface	13101 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

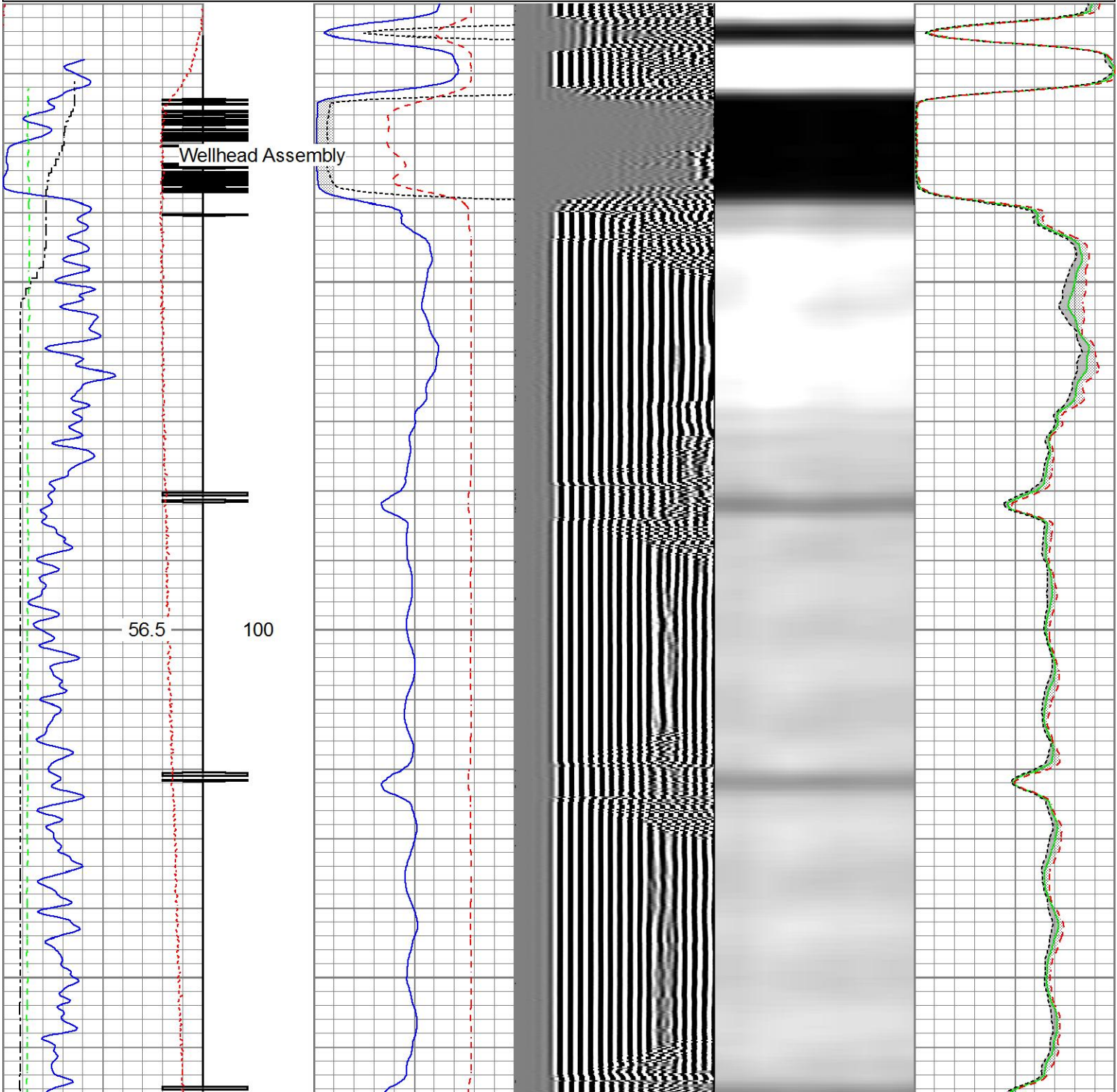
Log ran as per customer request  
Depth referenced to Marker Joint at 6823 FT  
Adjusted + 3 FT to correlate to Marker Joint  
Gauge Ring/Junk Basket ran to 7660 FT with no debris  
Log ran from just above RBP to Surface  
Log ran with 2800 PSI Surface Induced Pressure  
Logging tools were clean and free of any debris upon completion of operations  
  
Thank you for choosing Reliance Oilfield Services, LLC!!



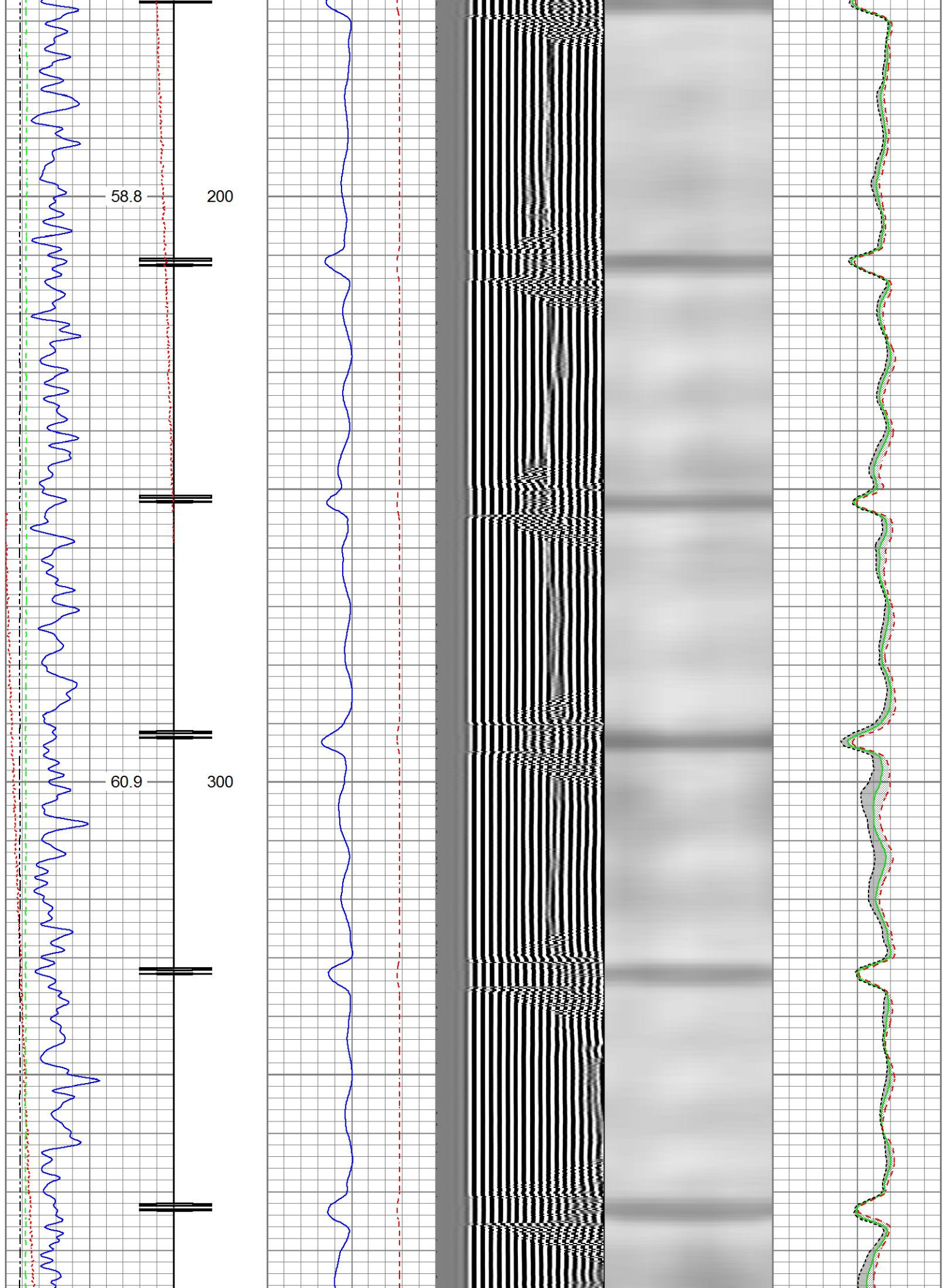
Main Pass

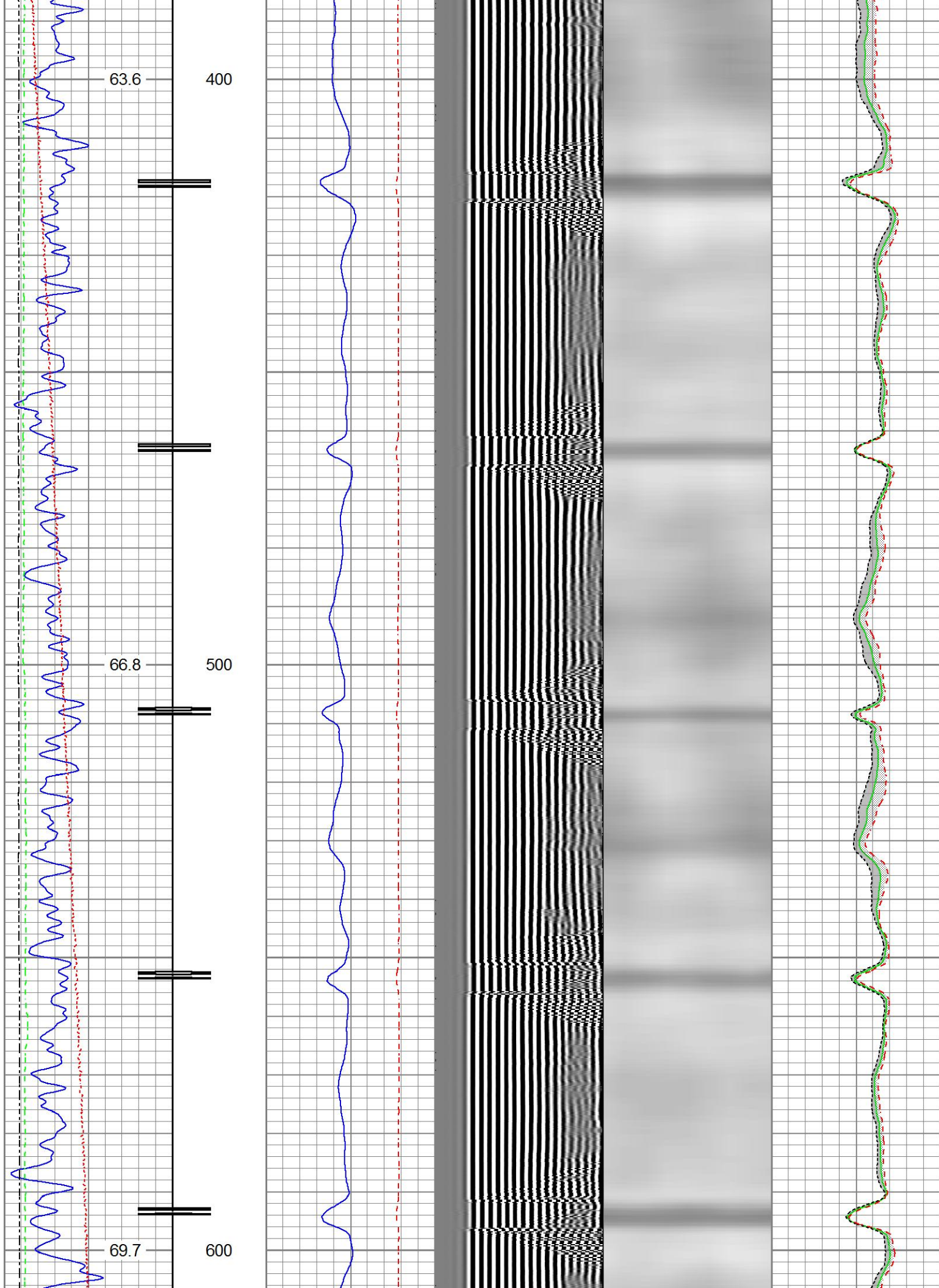
Recorded With 2800 PSI Surface Induced Pressure

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									

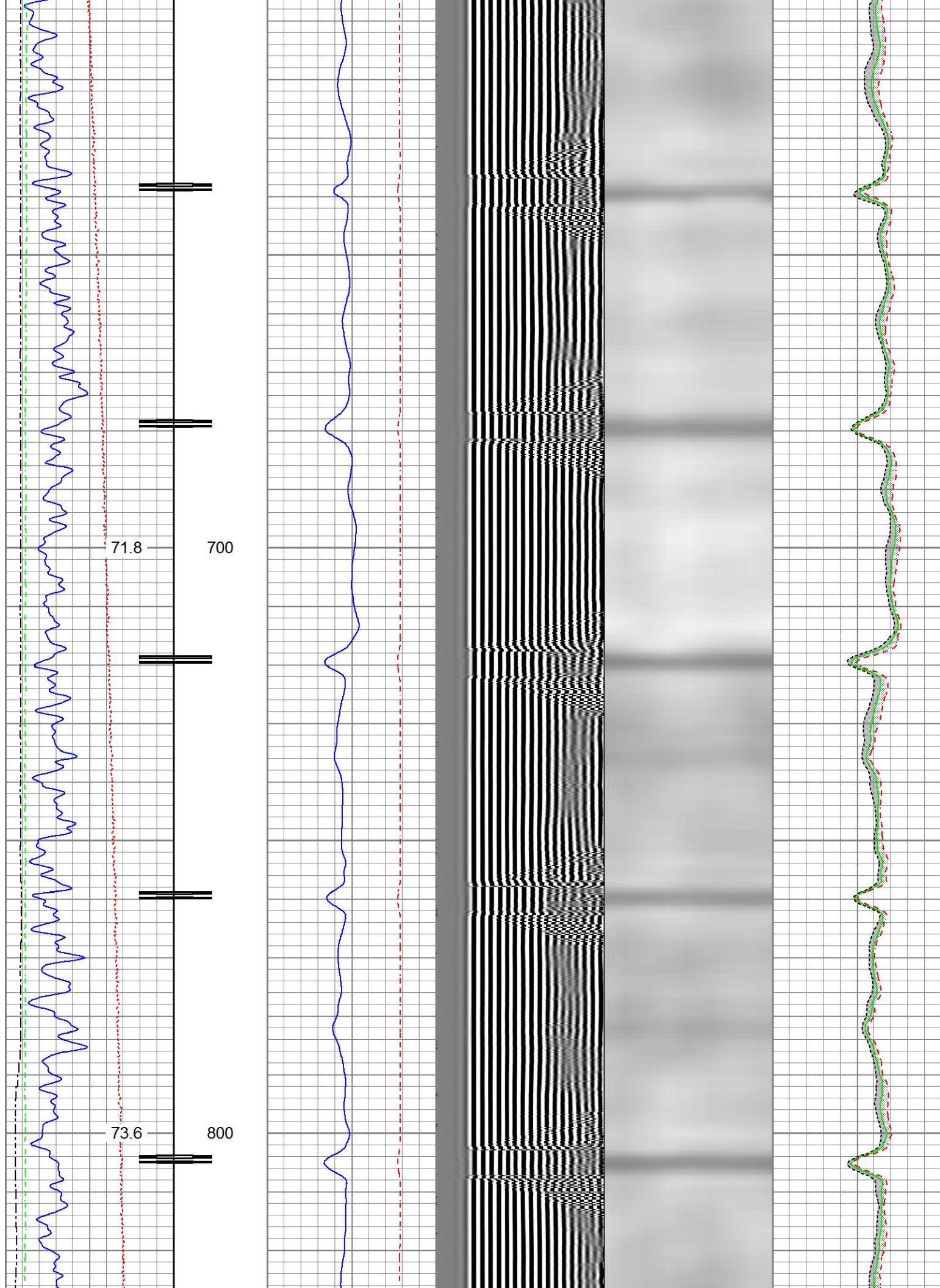


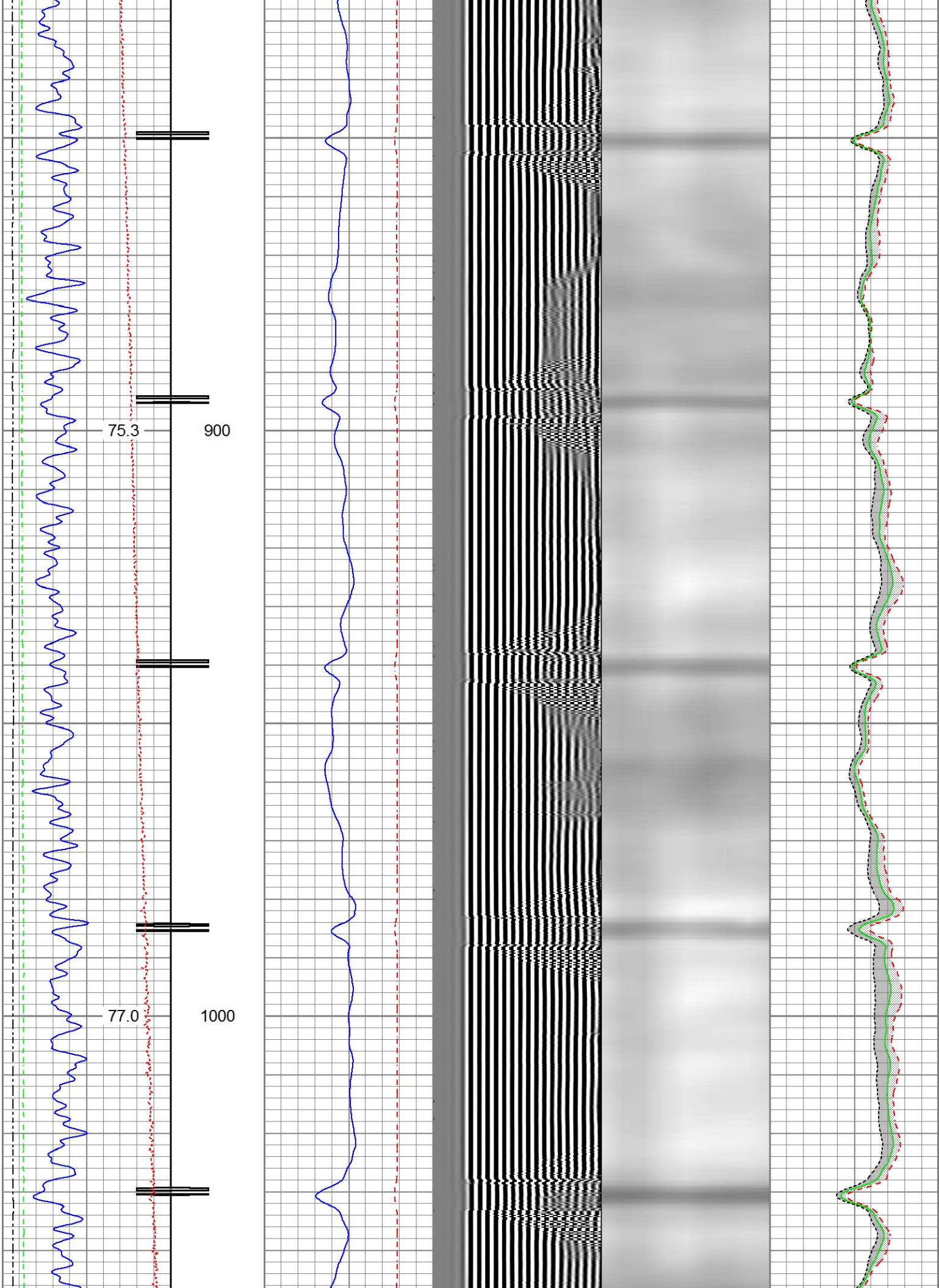




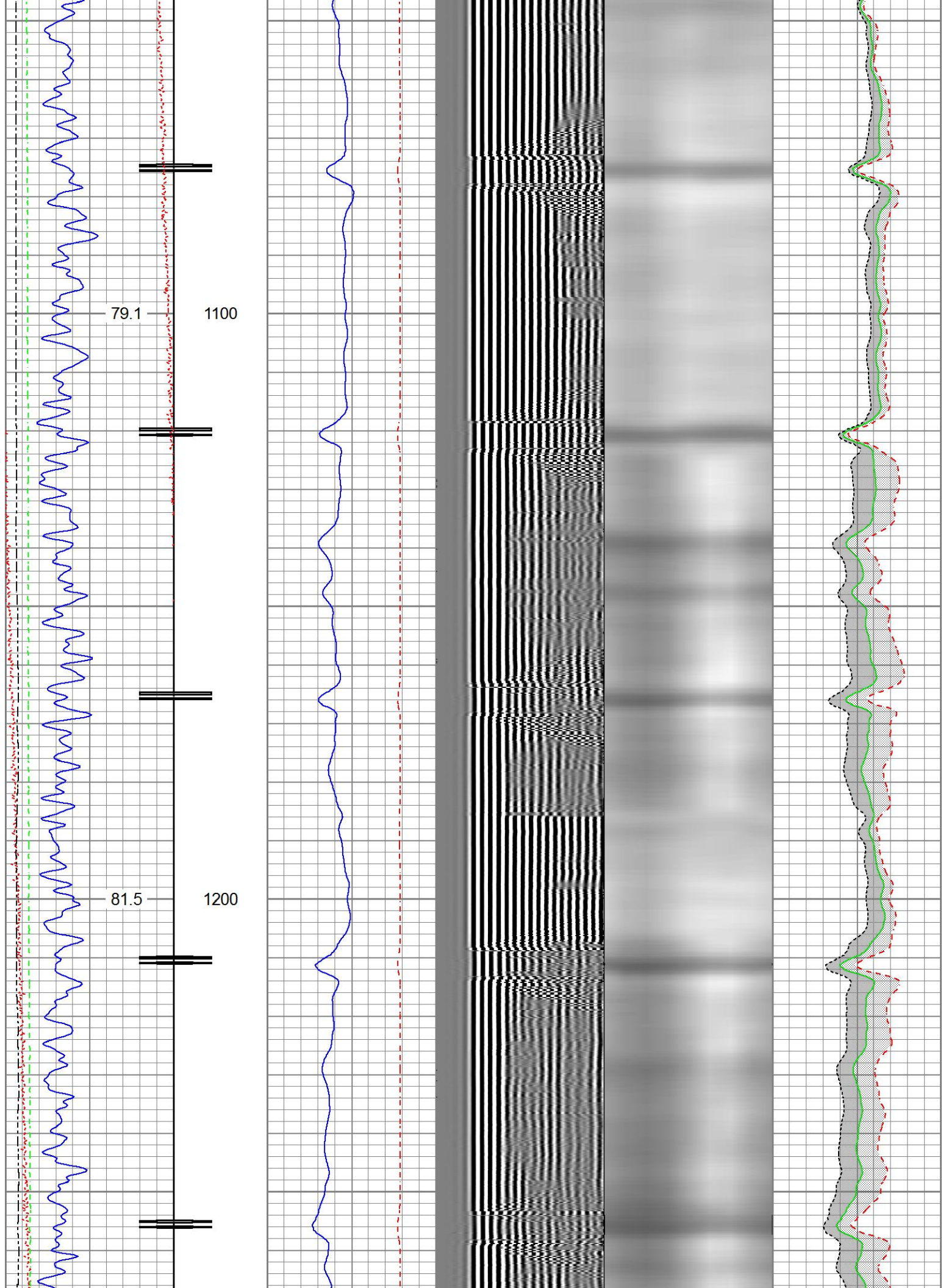




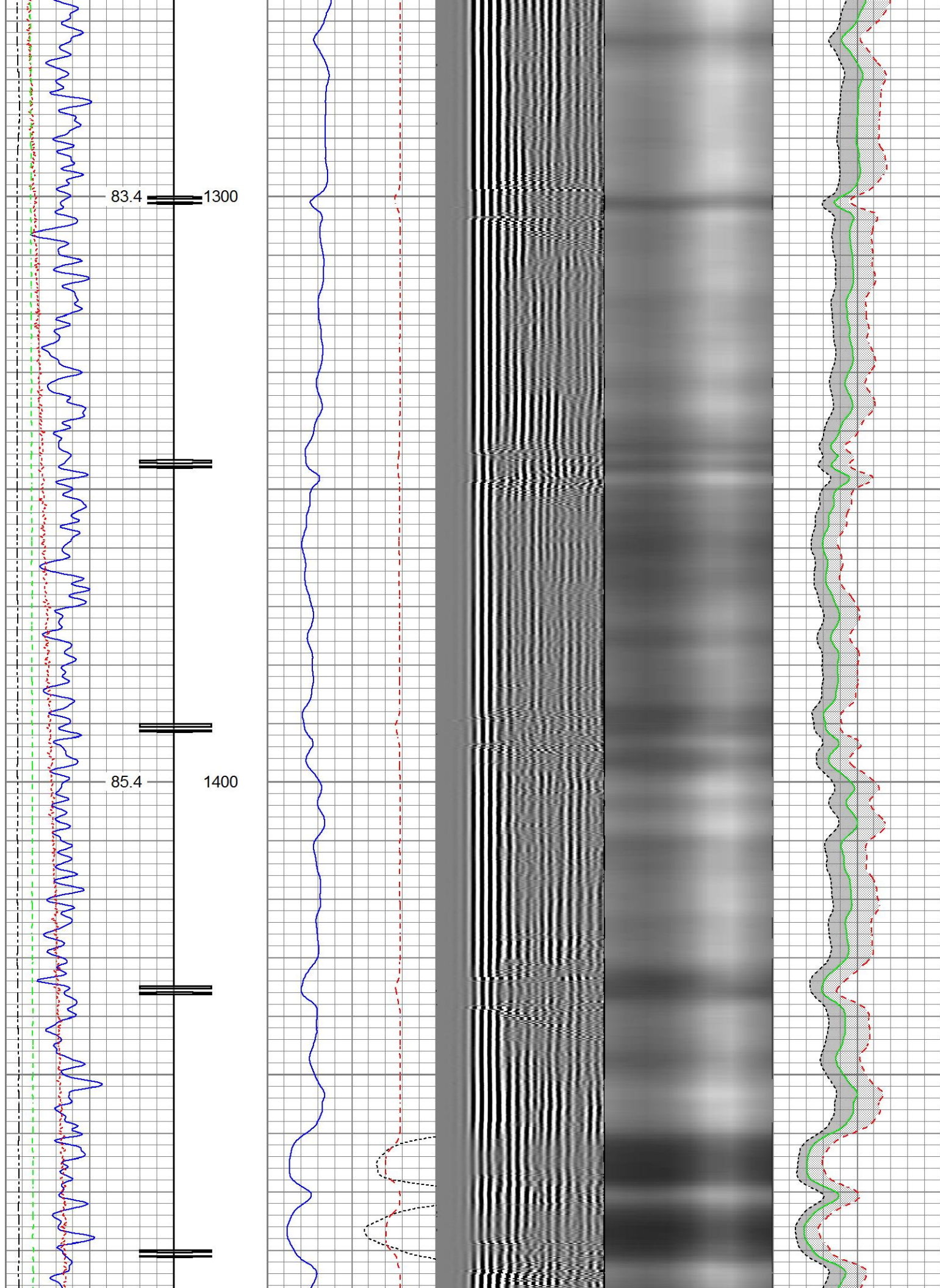




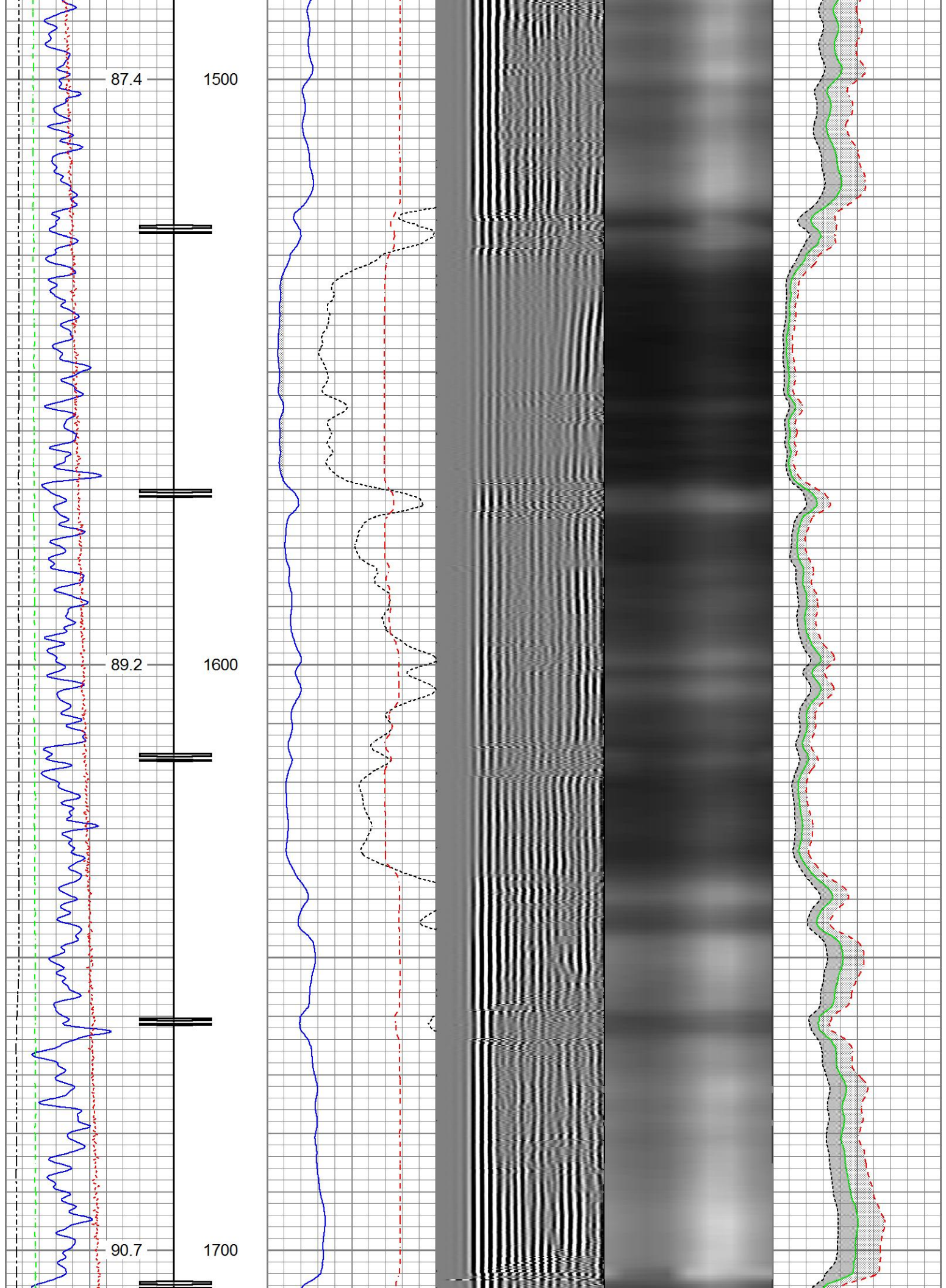




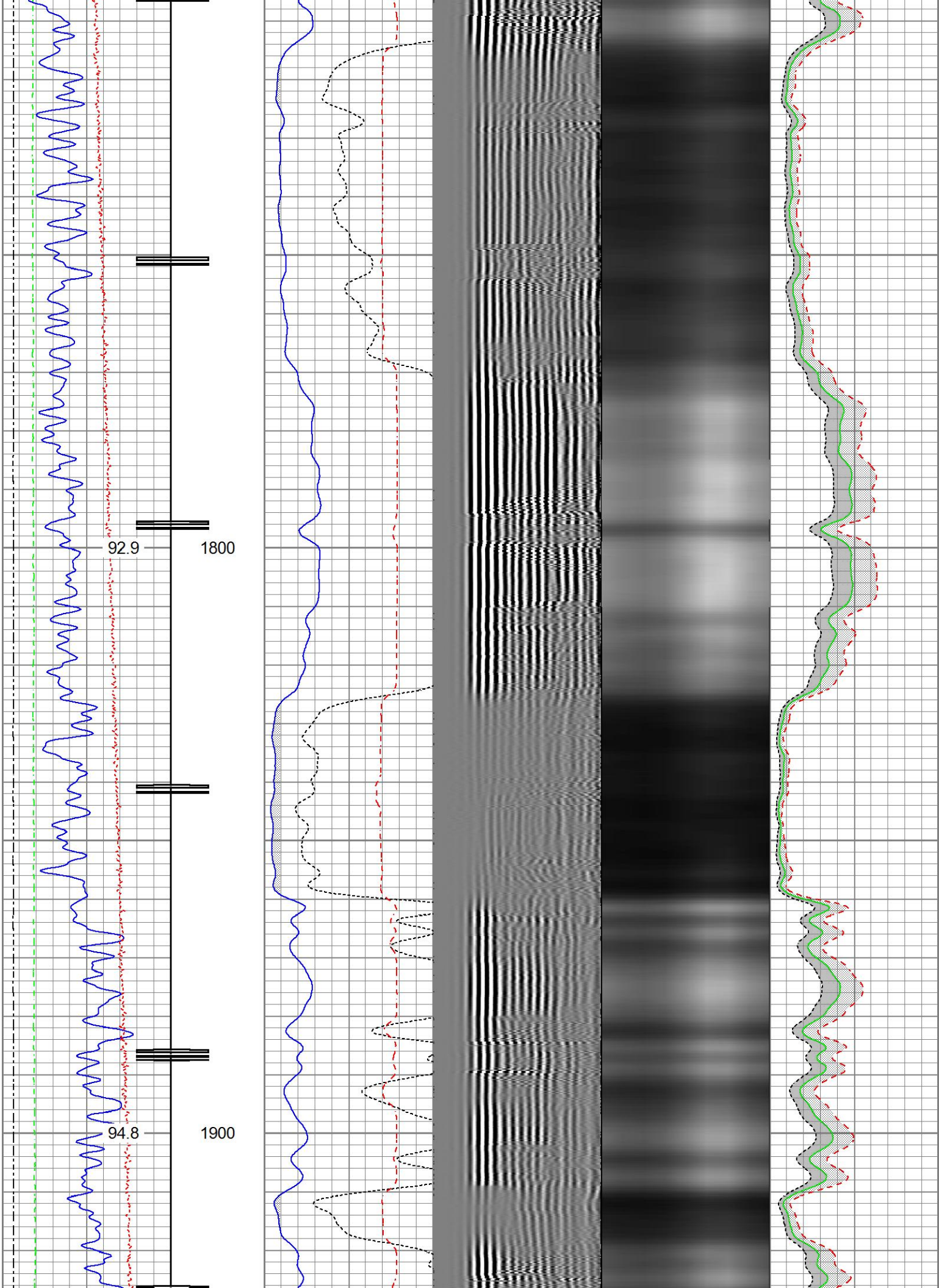




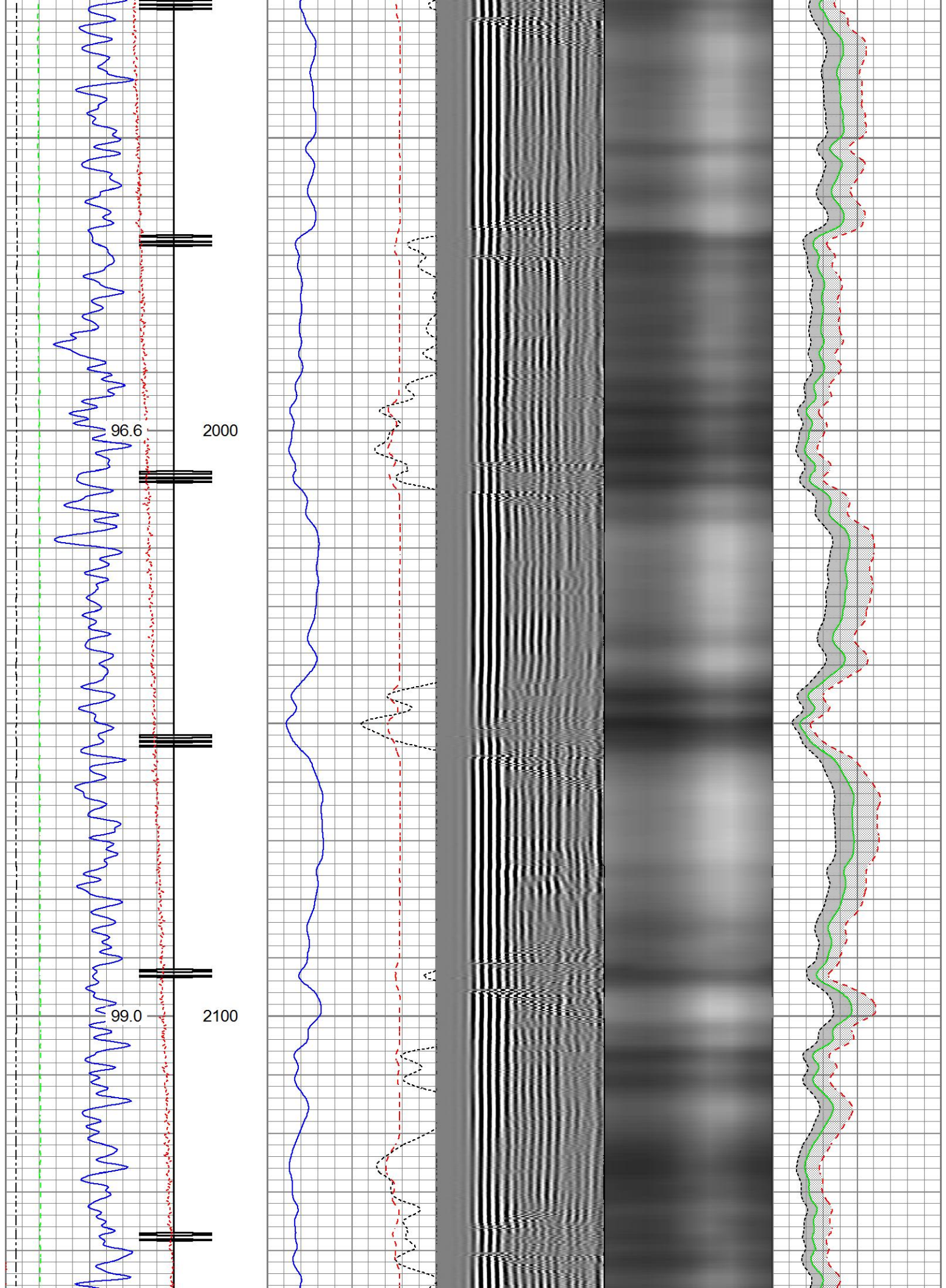




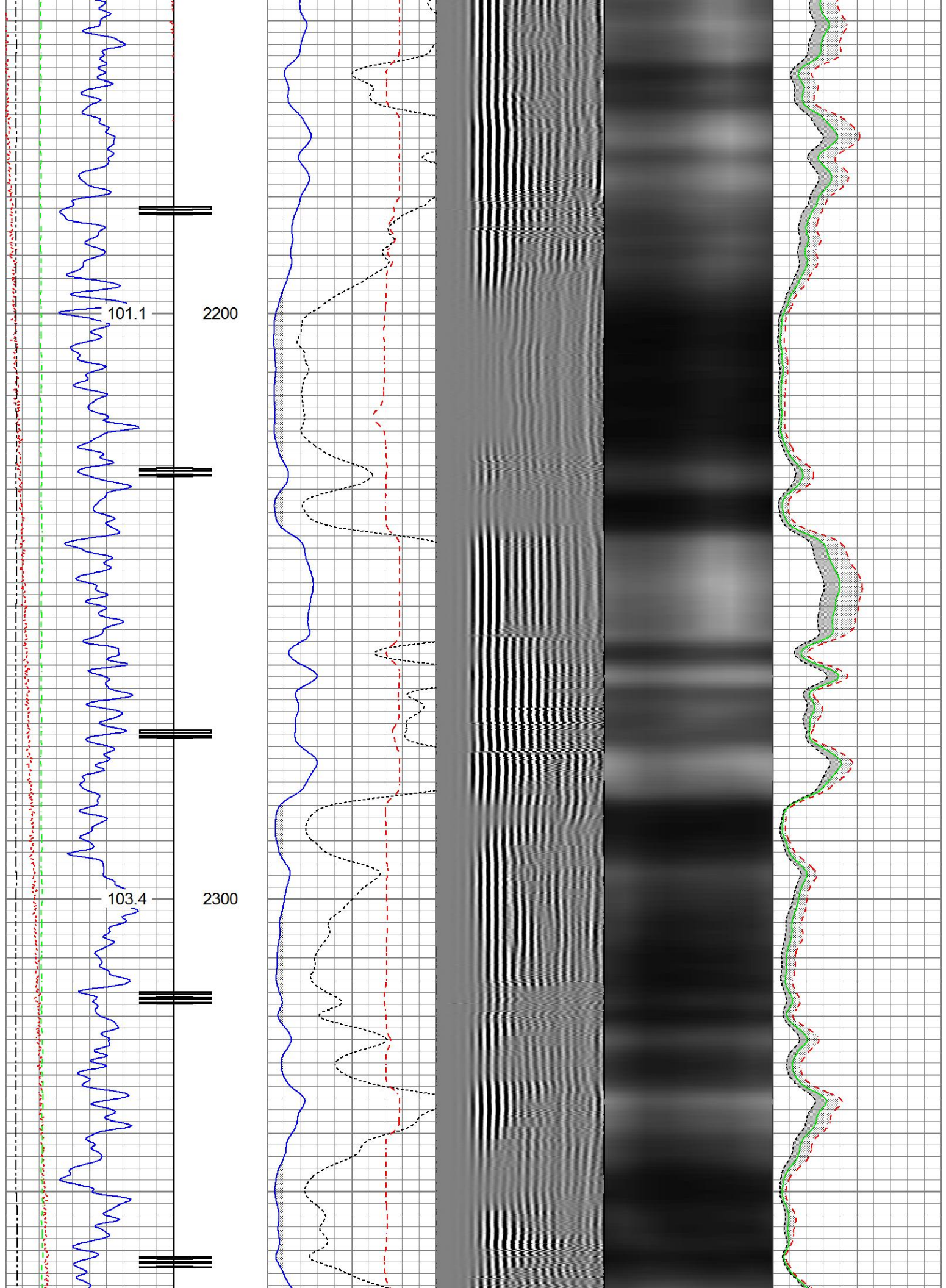




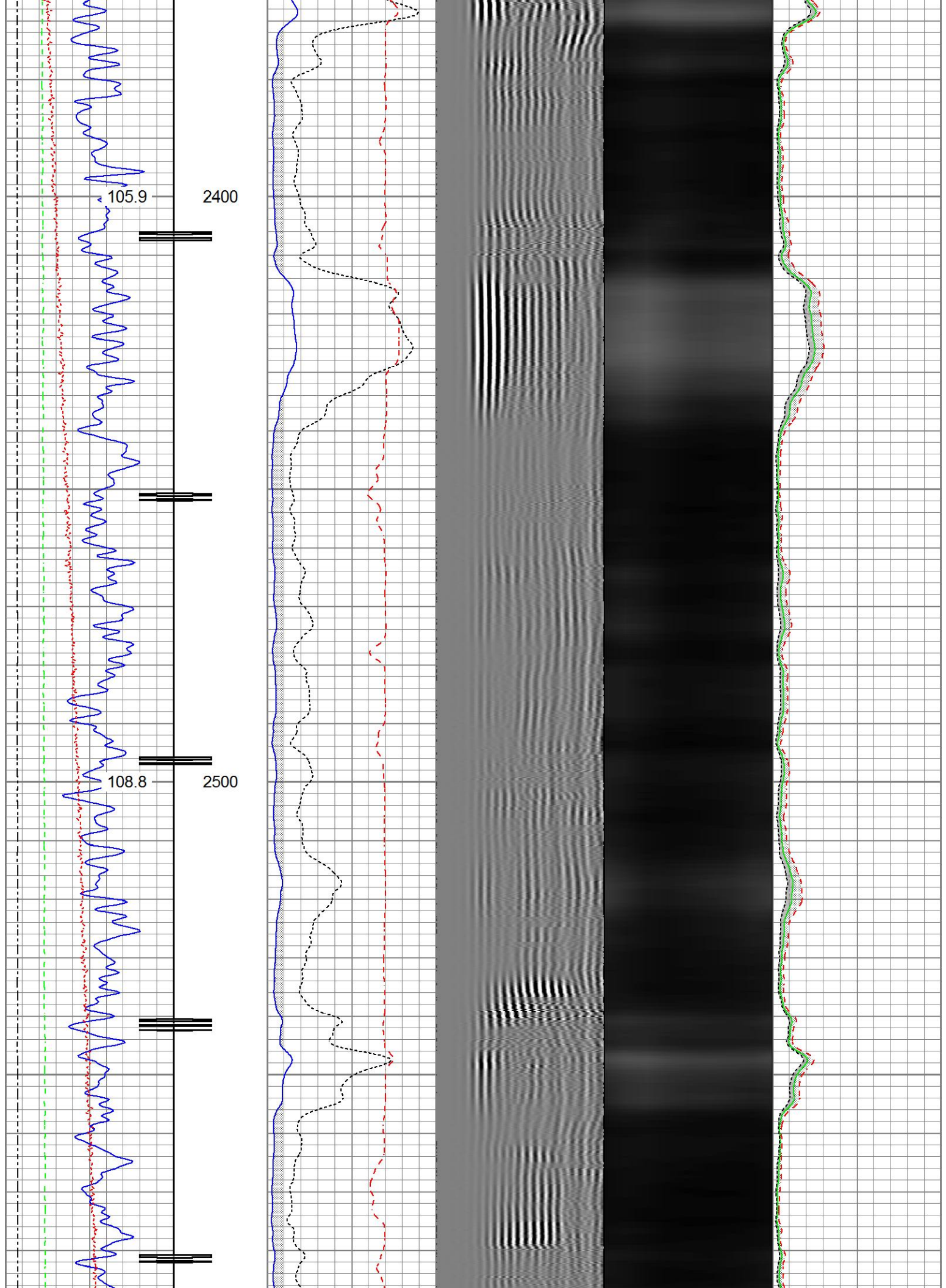


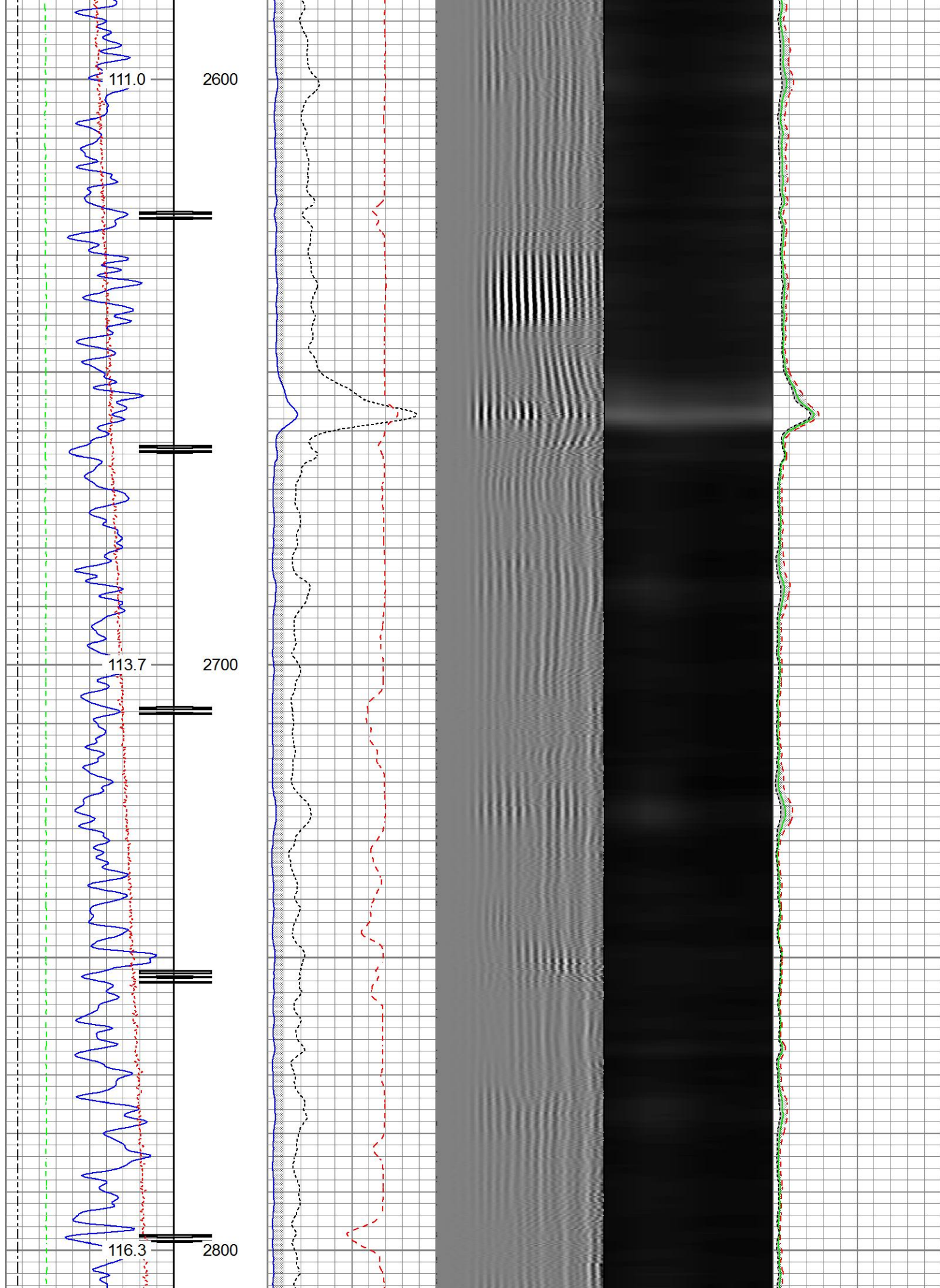




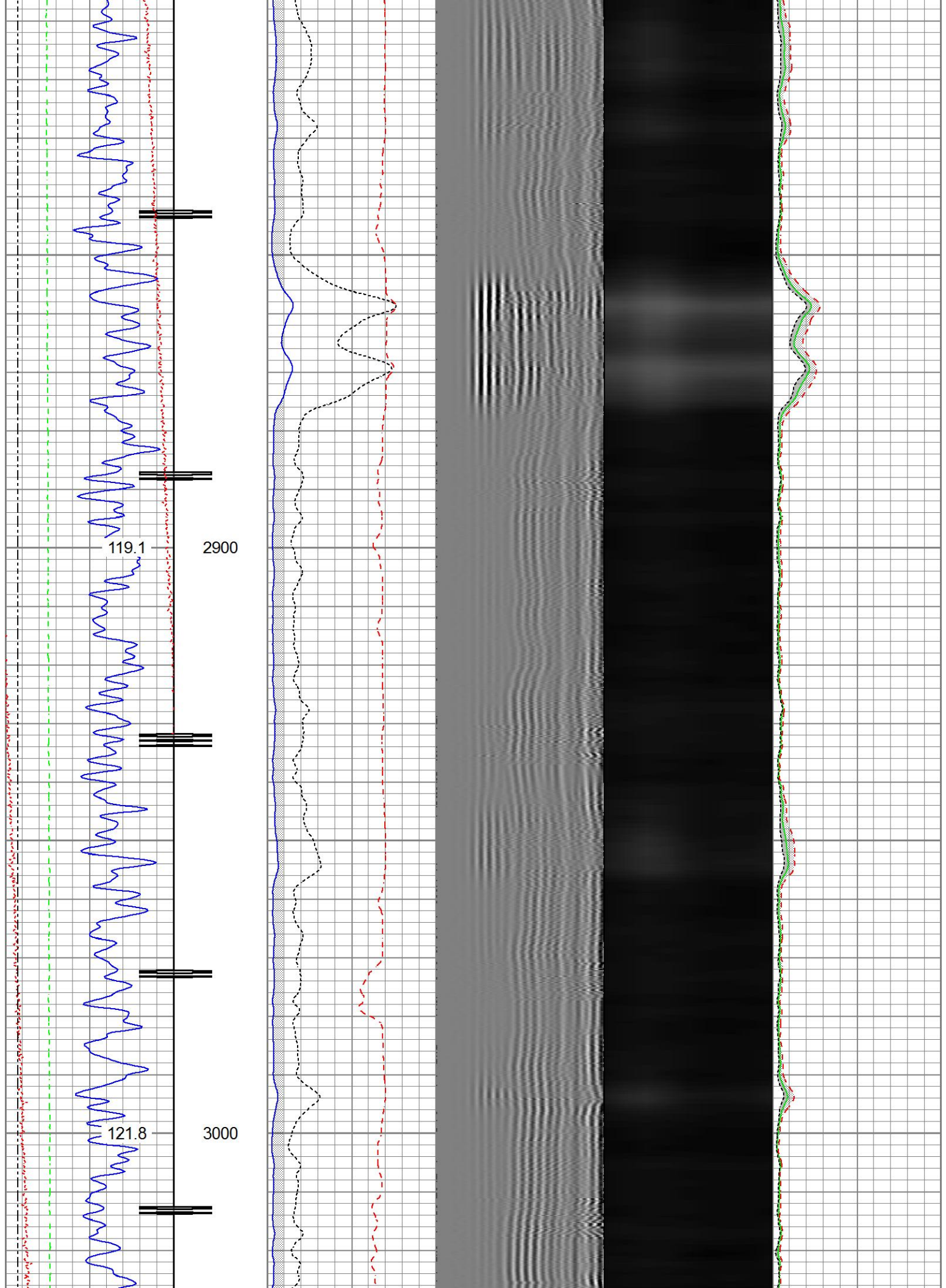


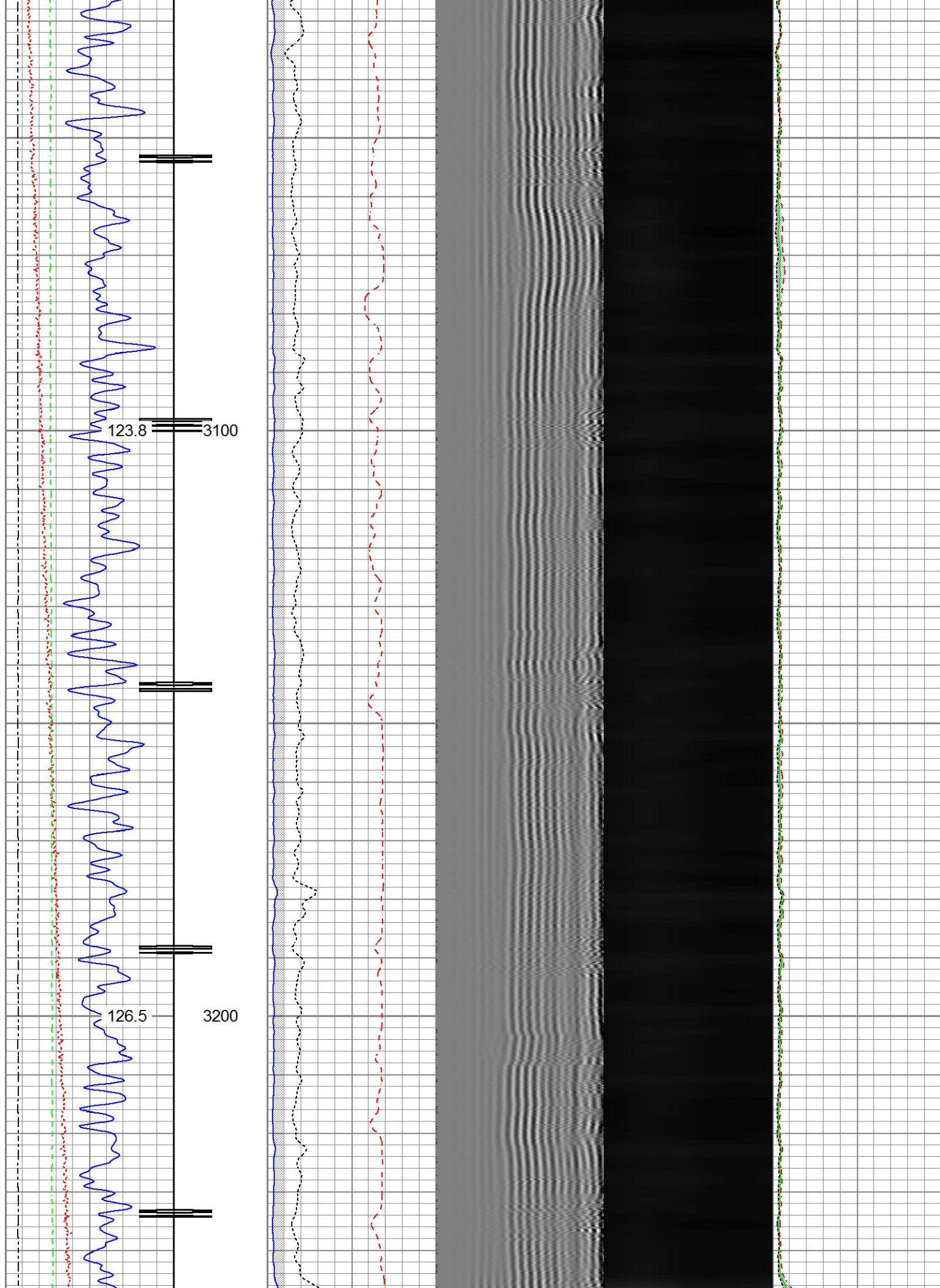




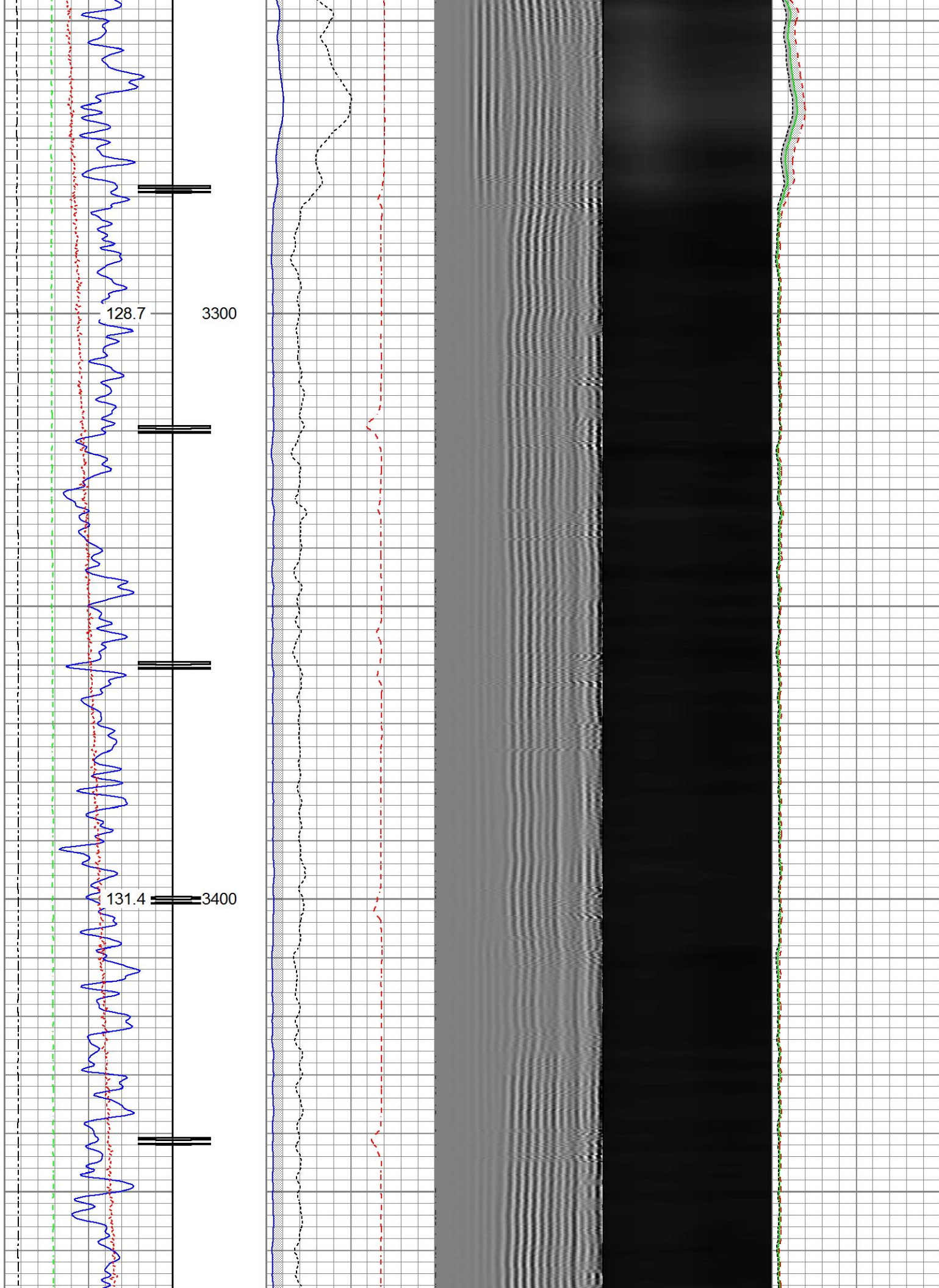


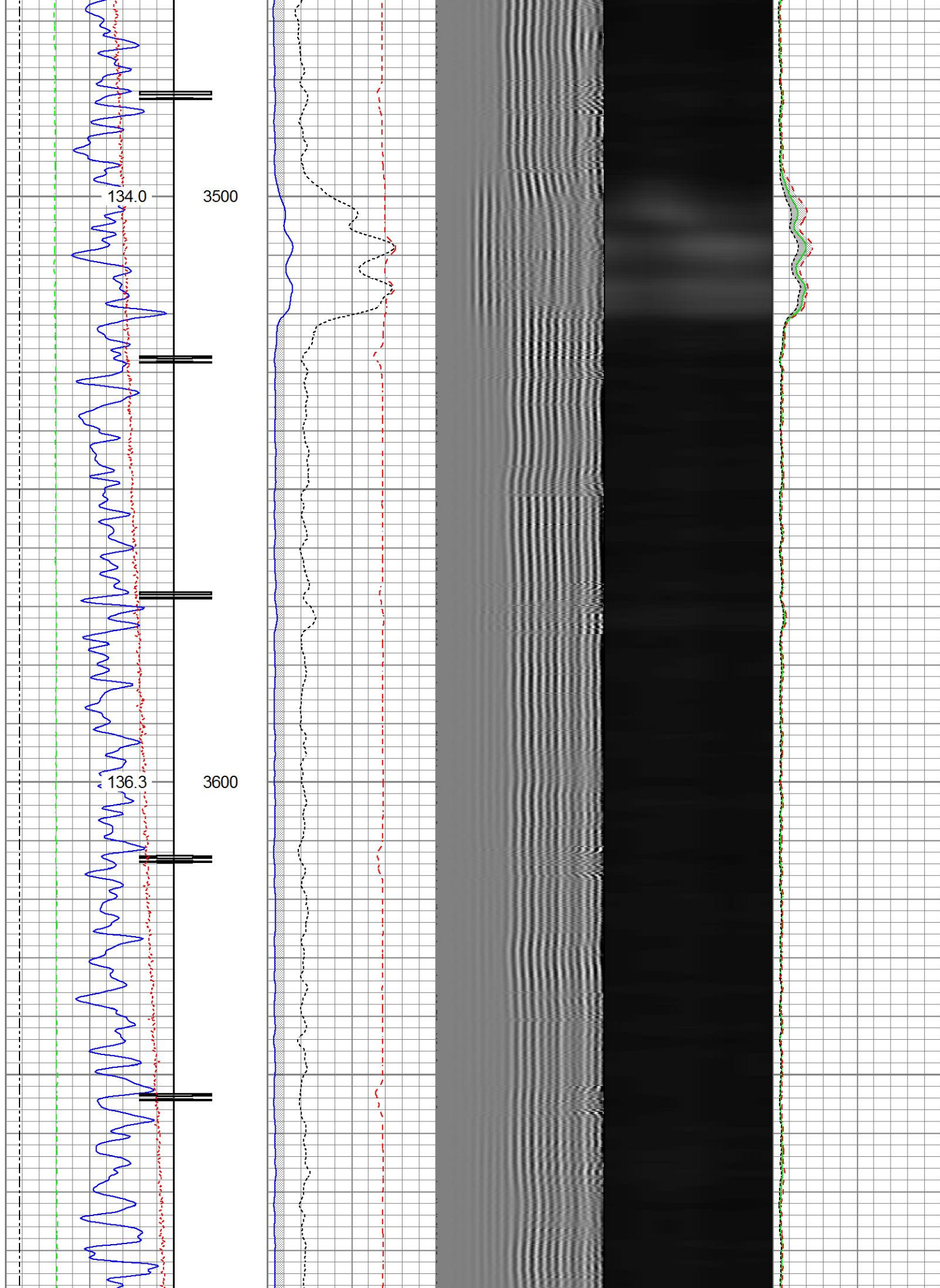




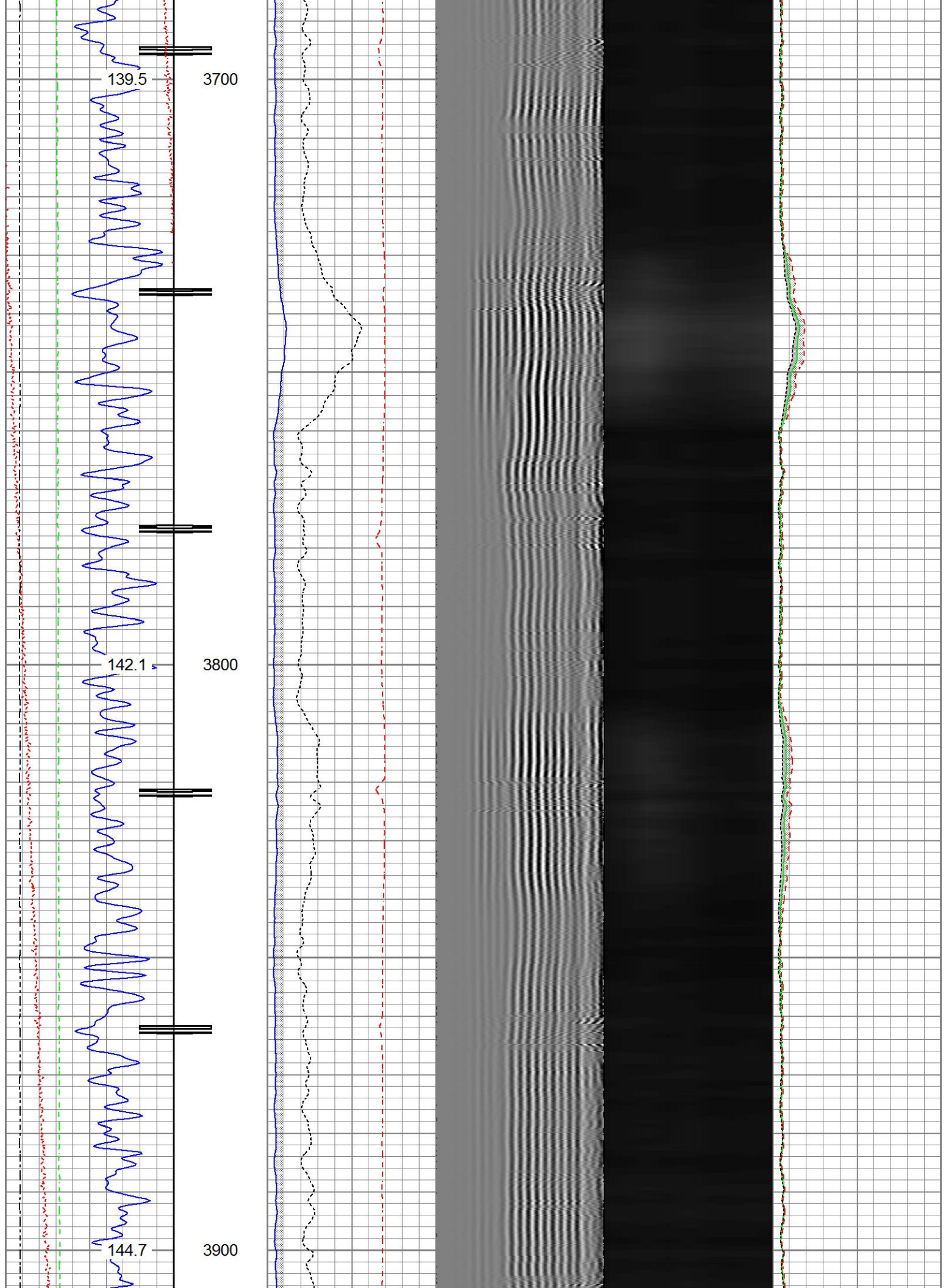


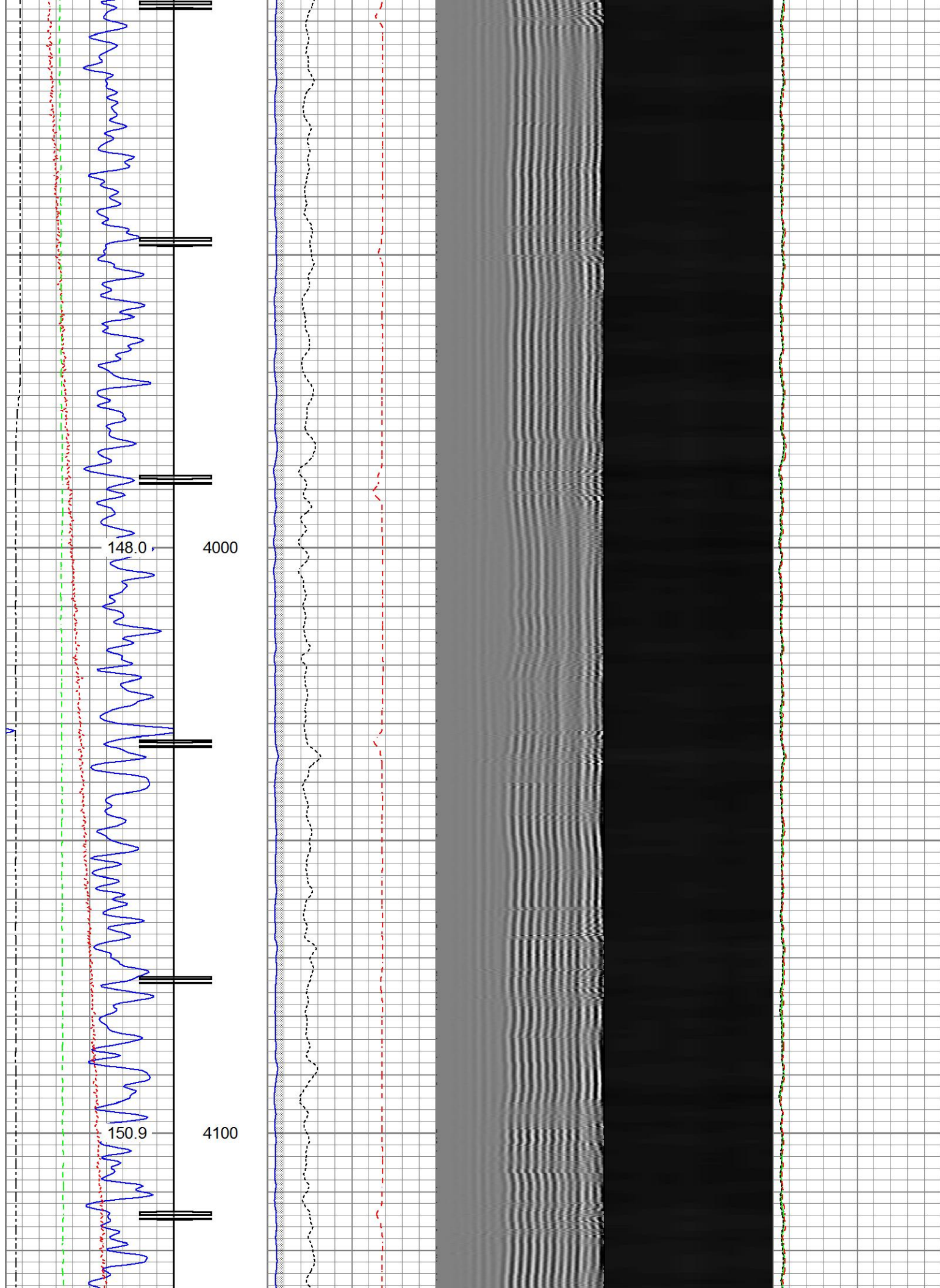




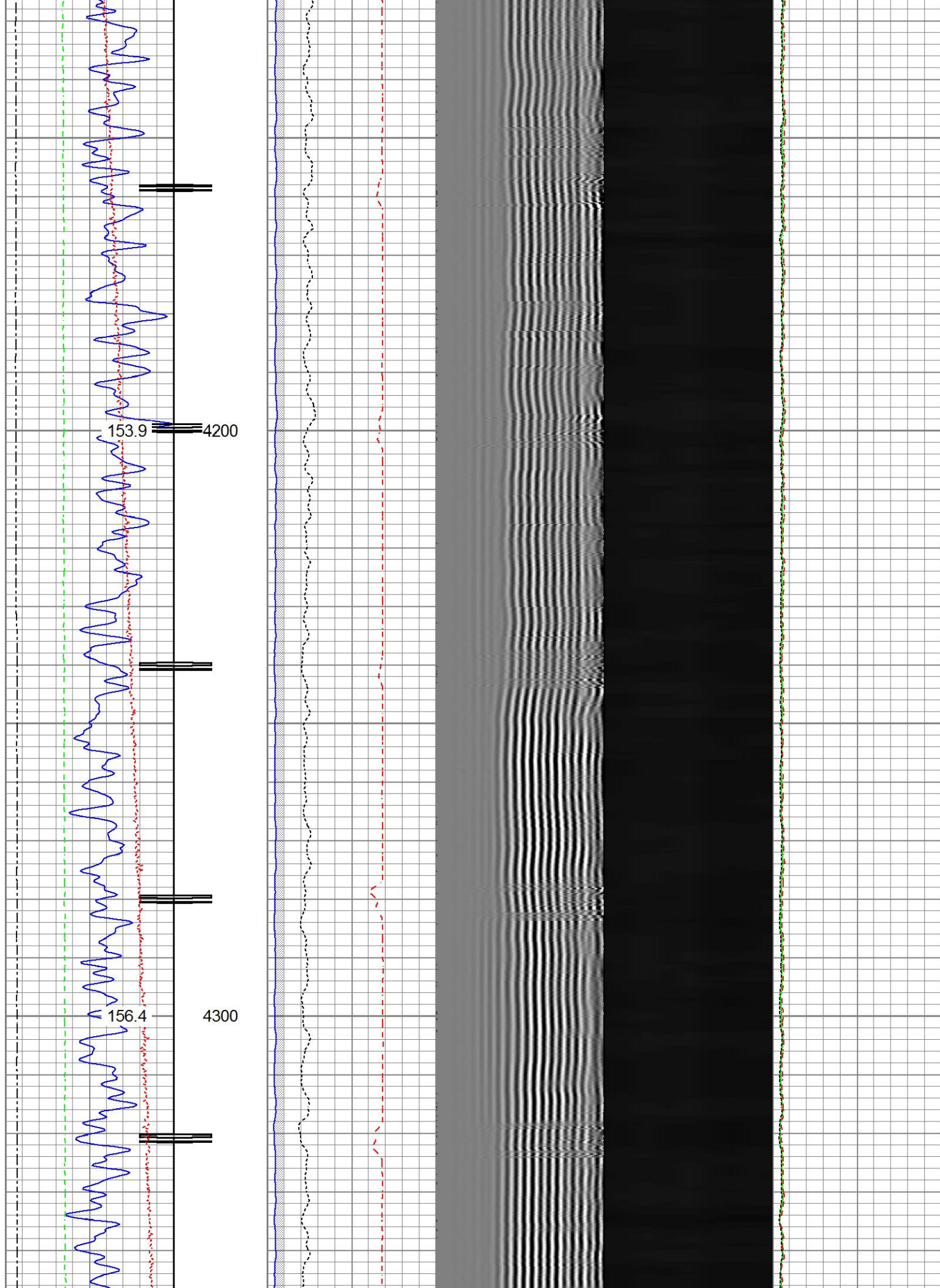


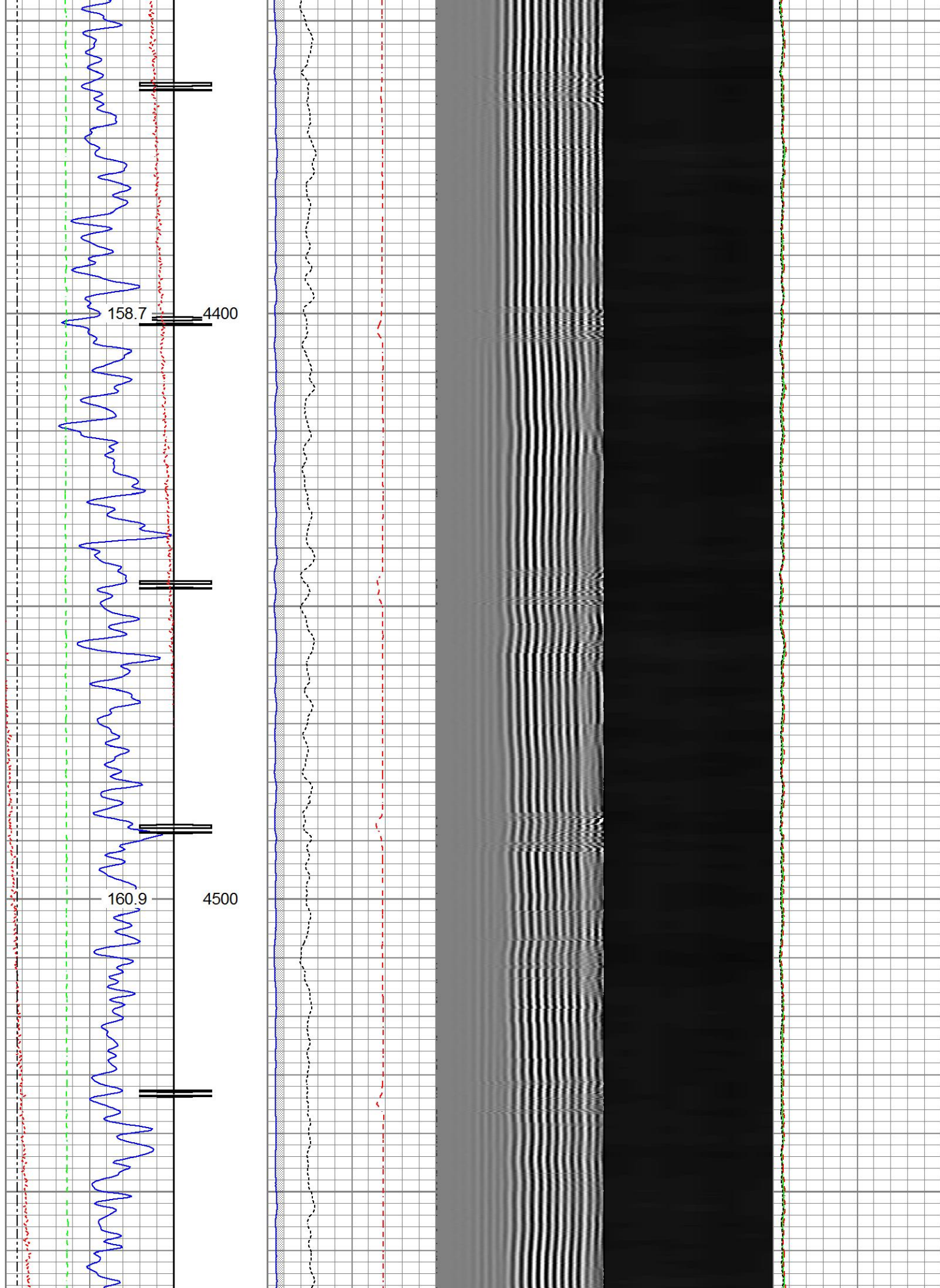




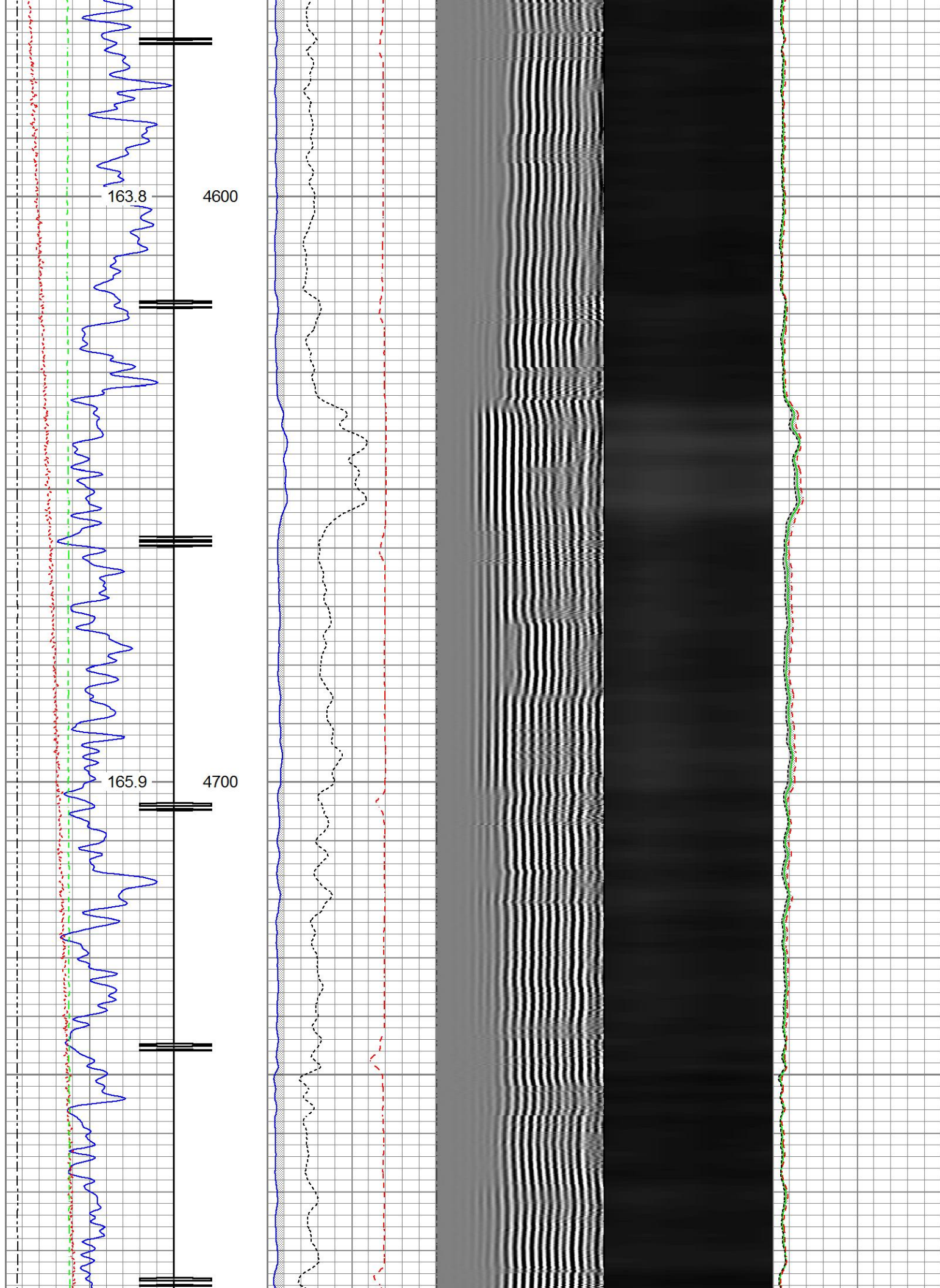


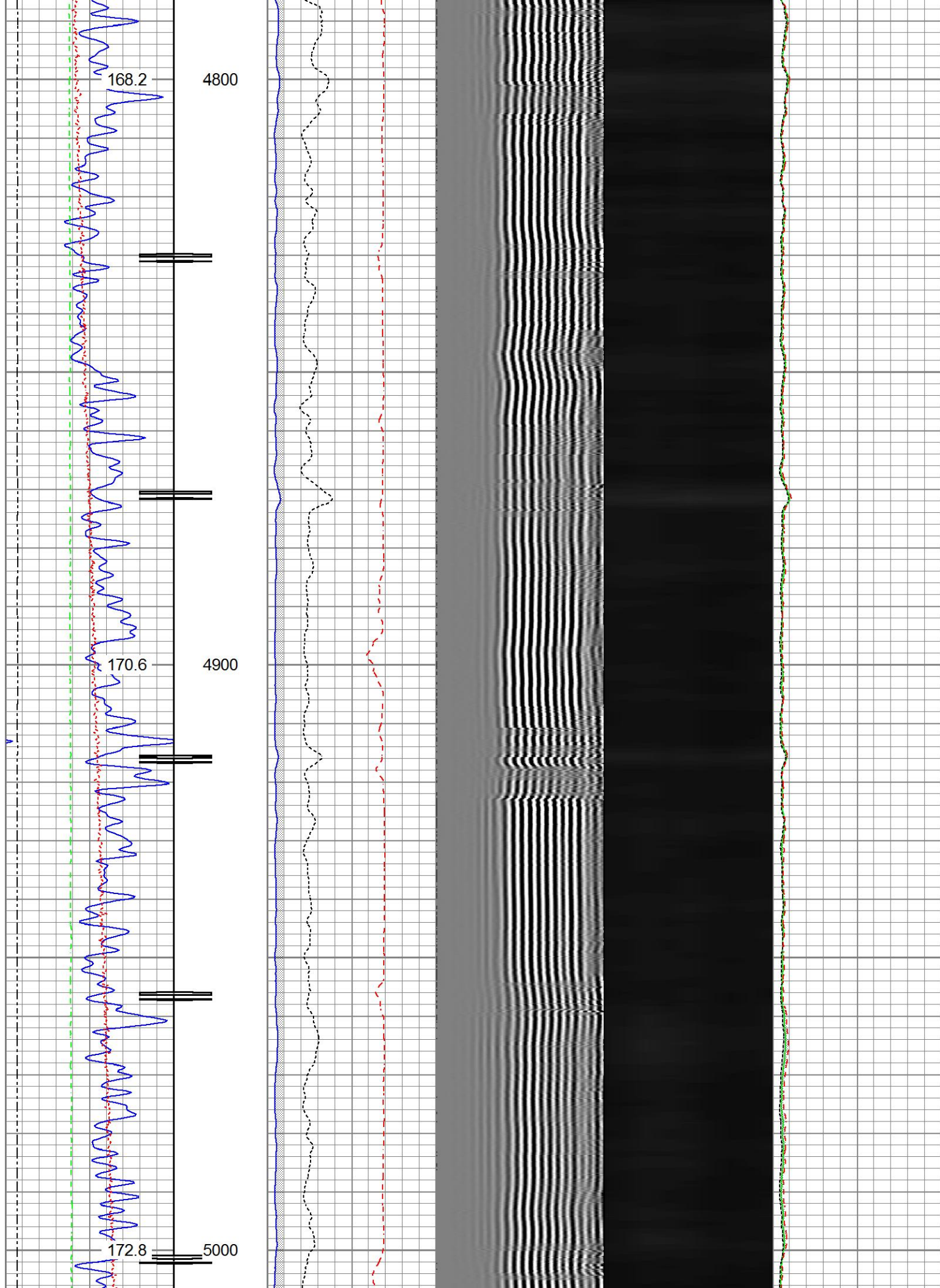




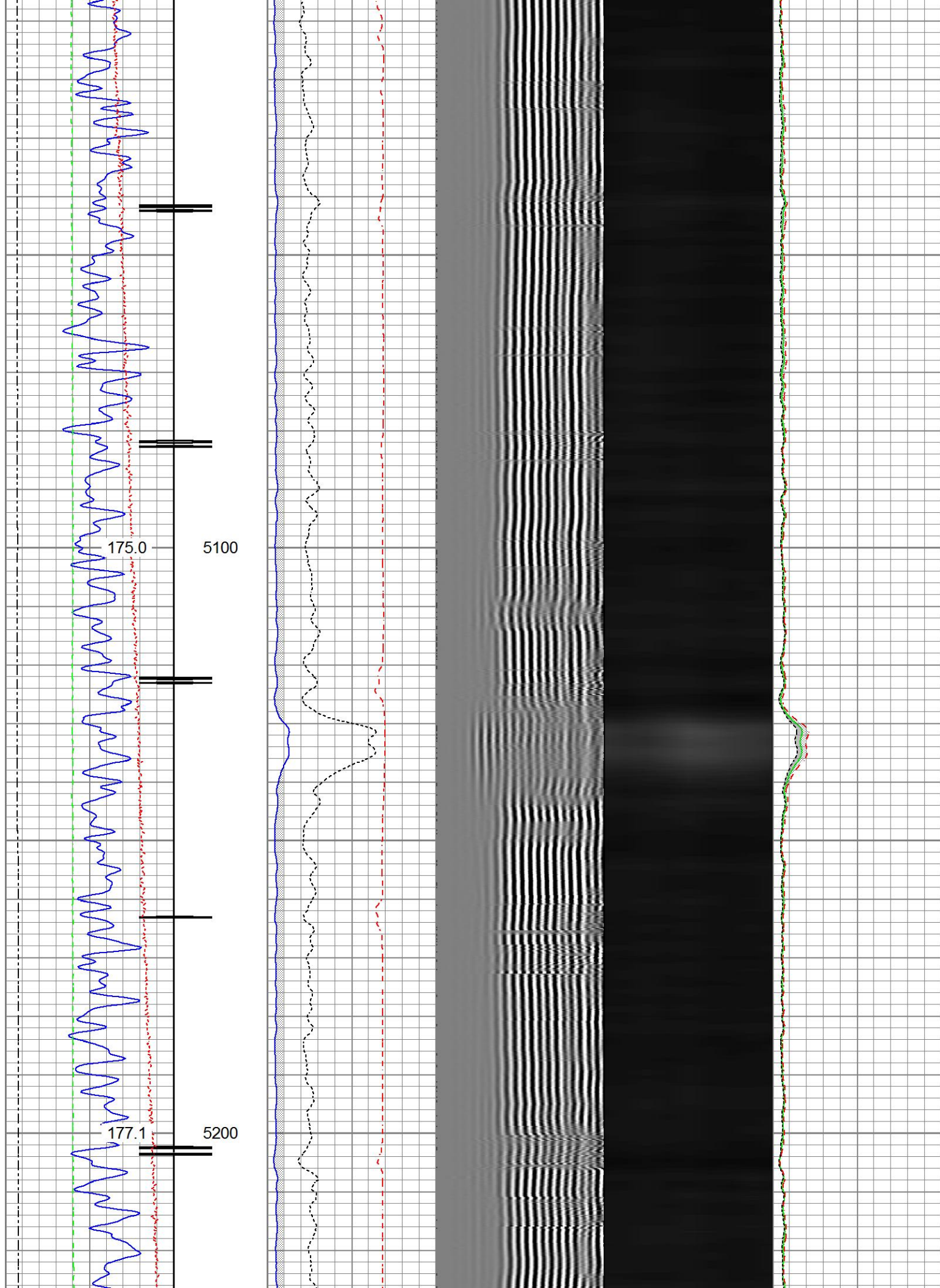


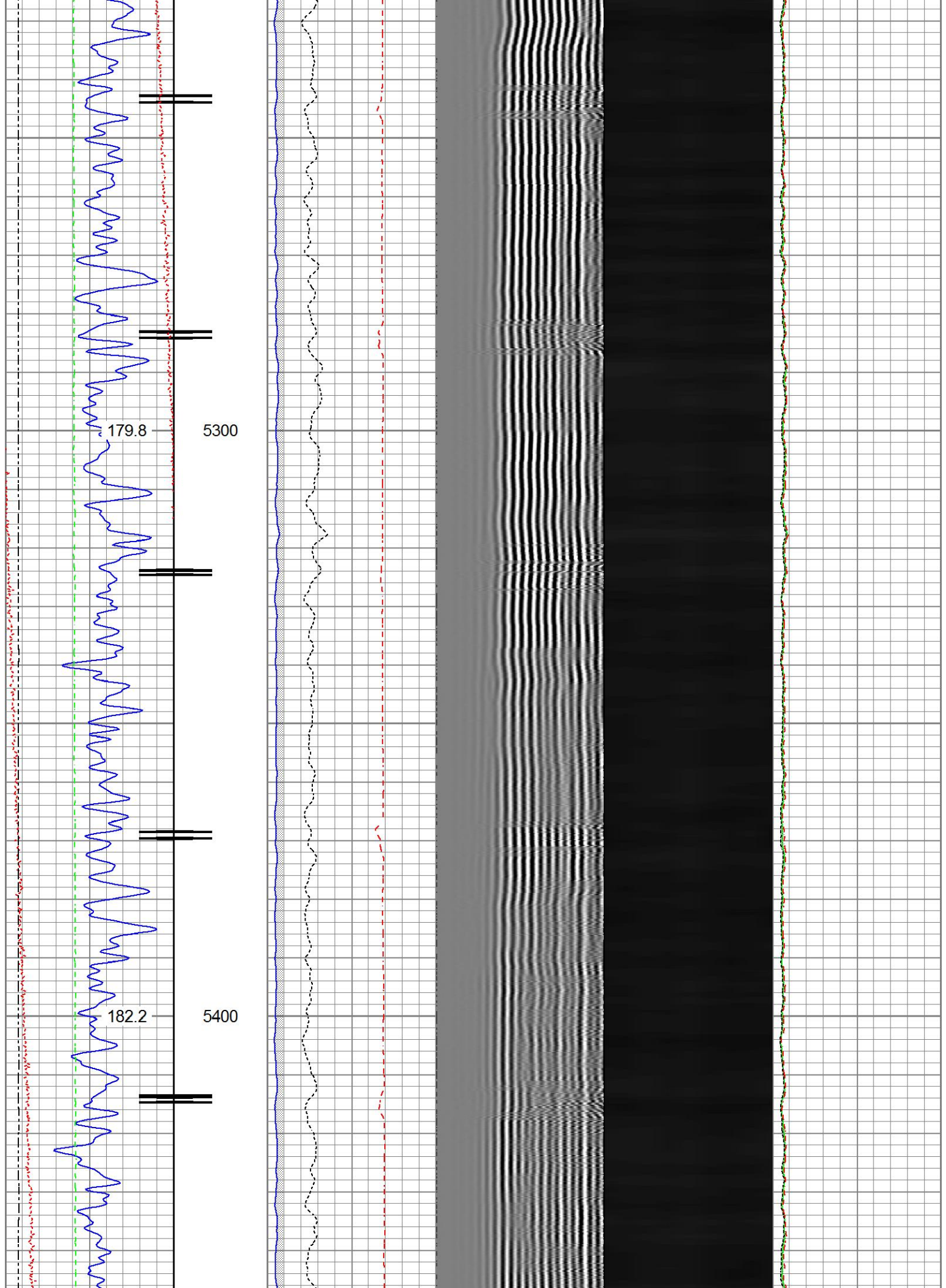




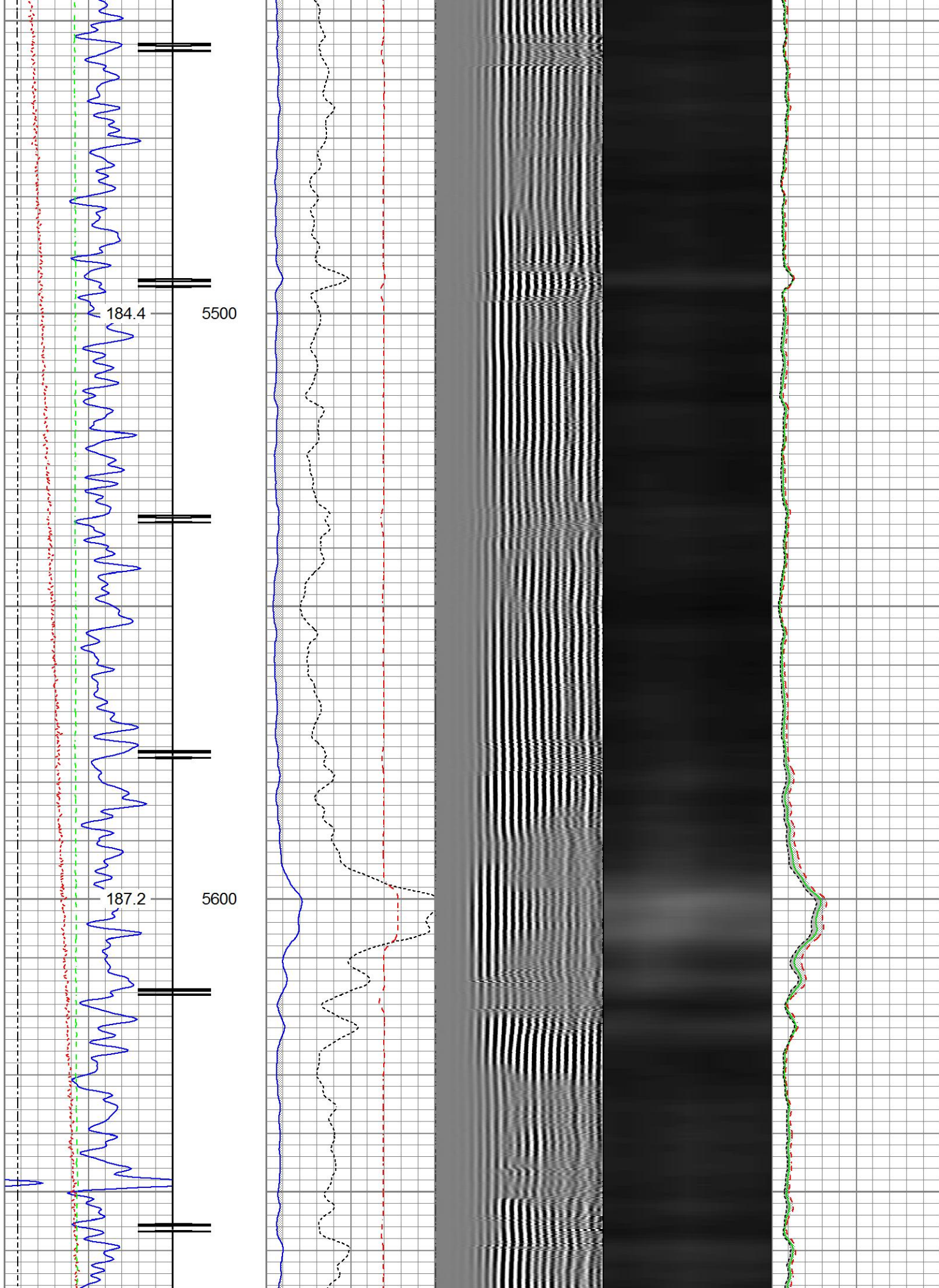


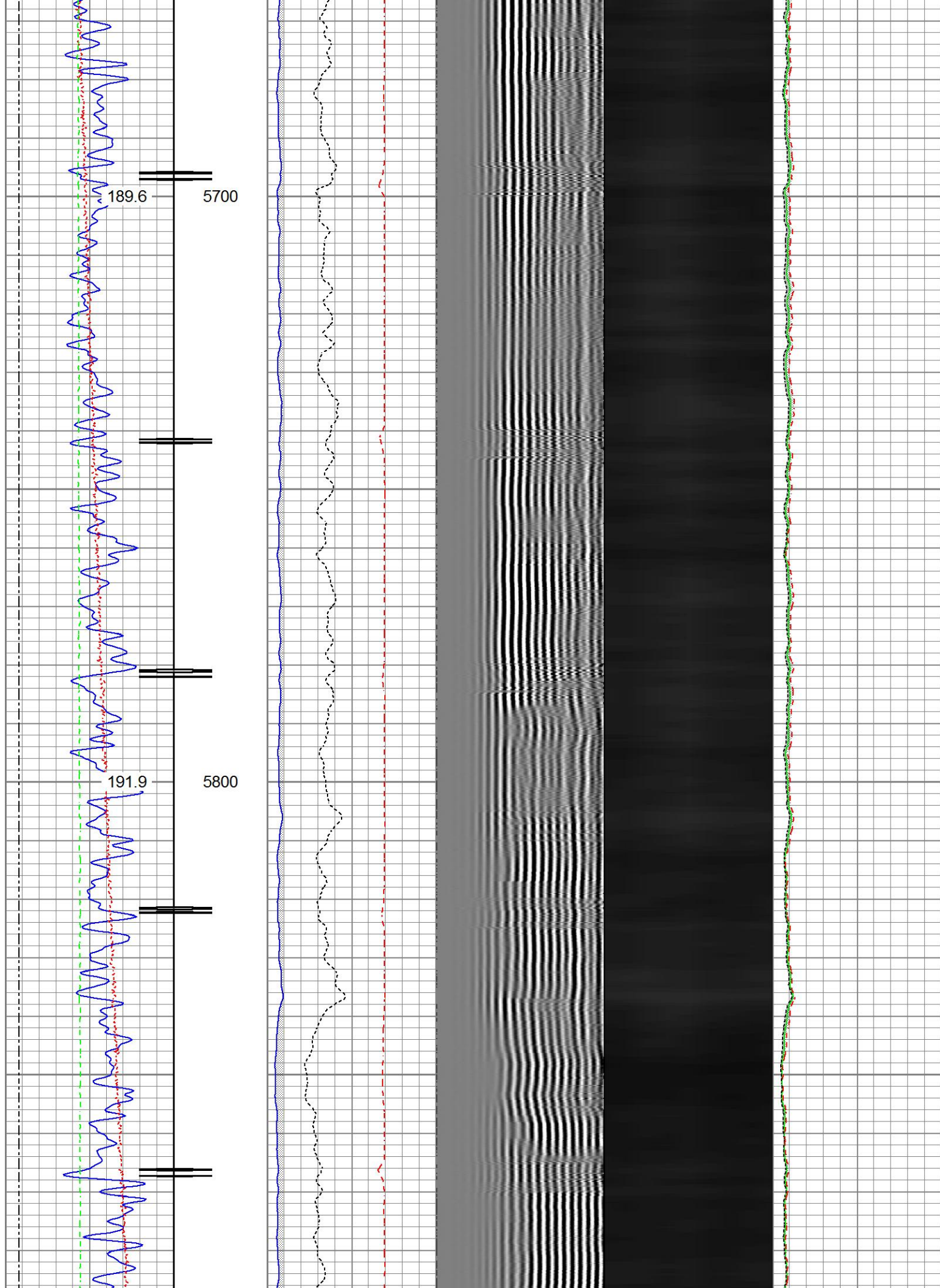




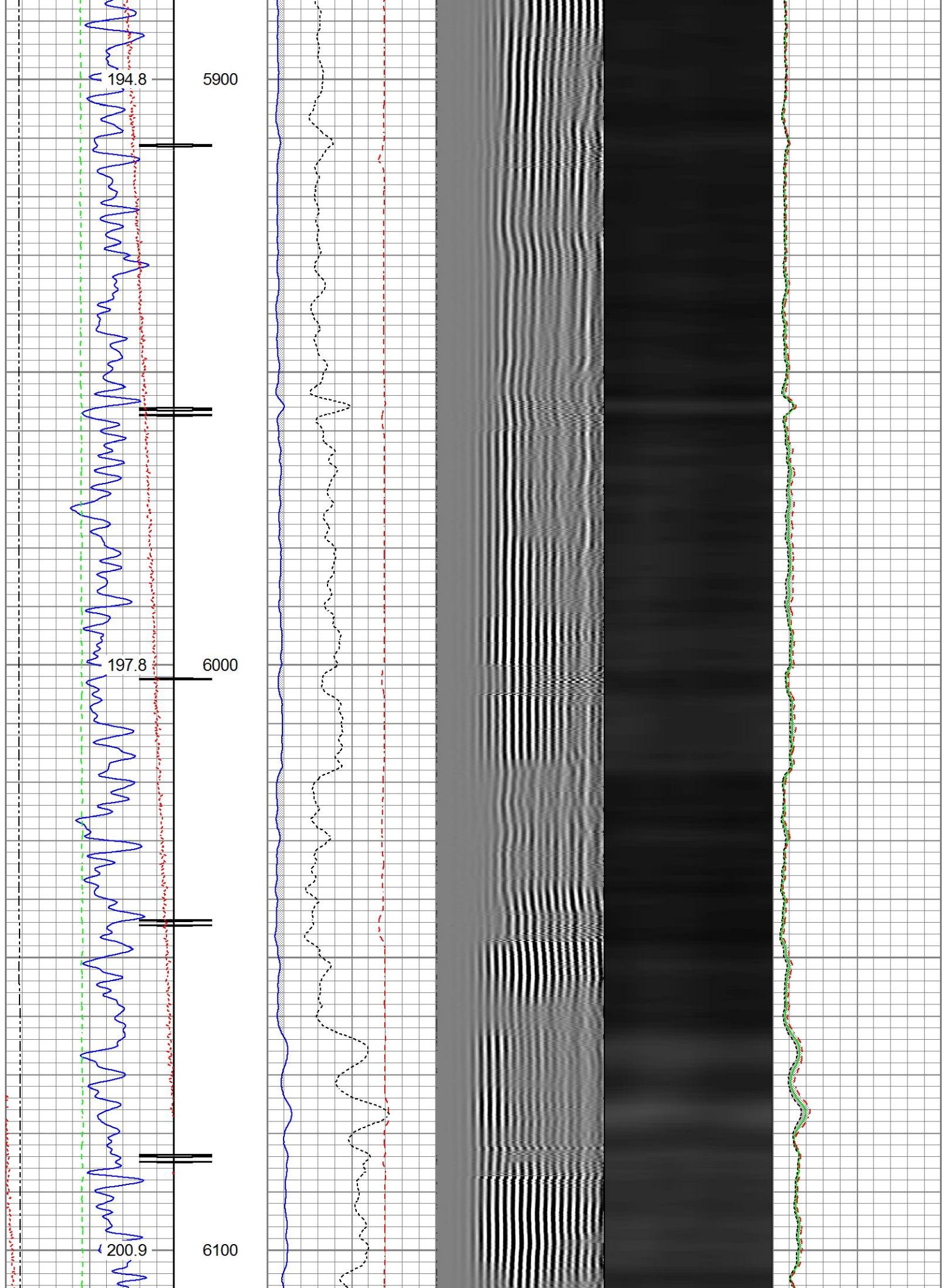


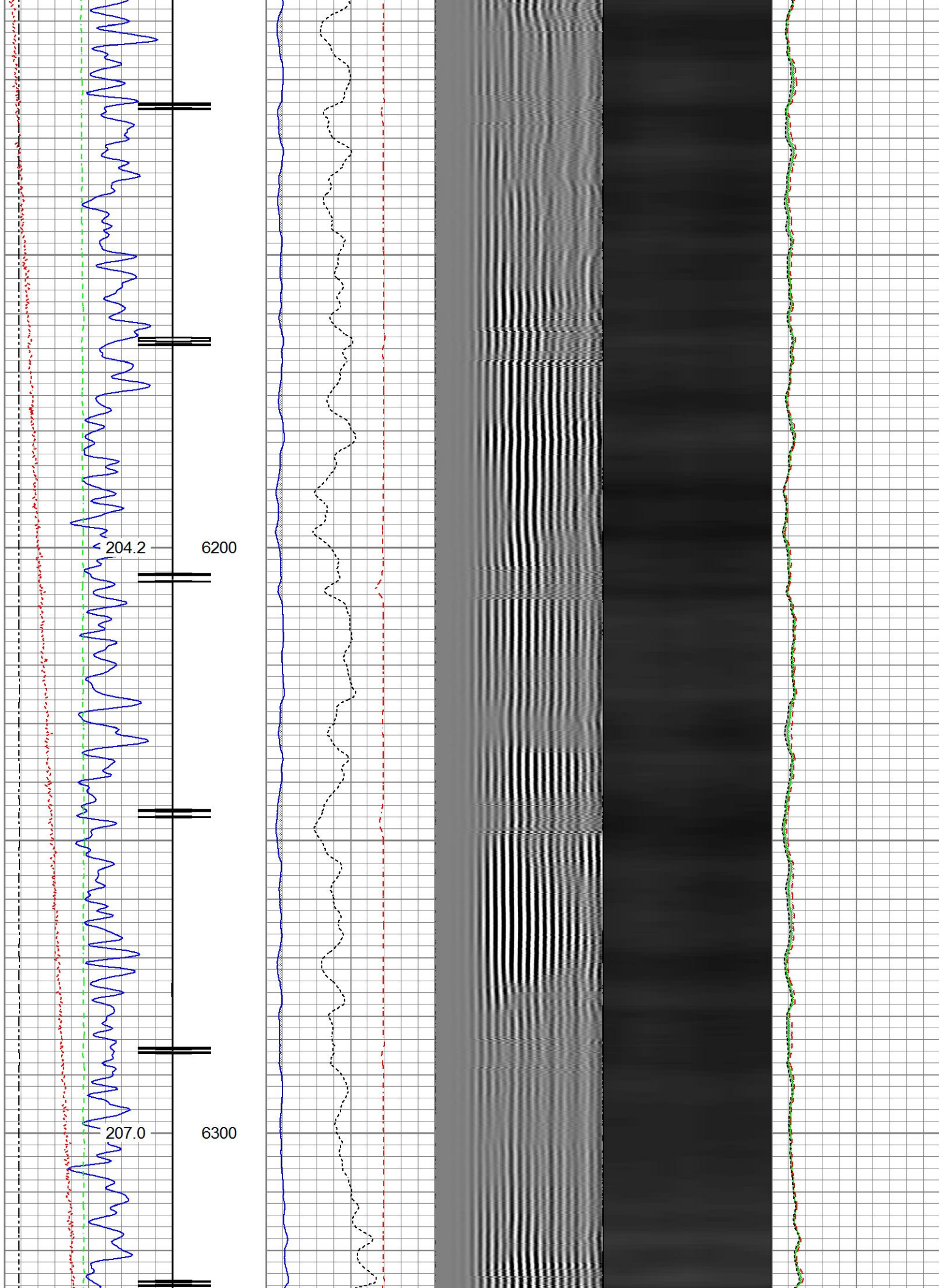




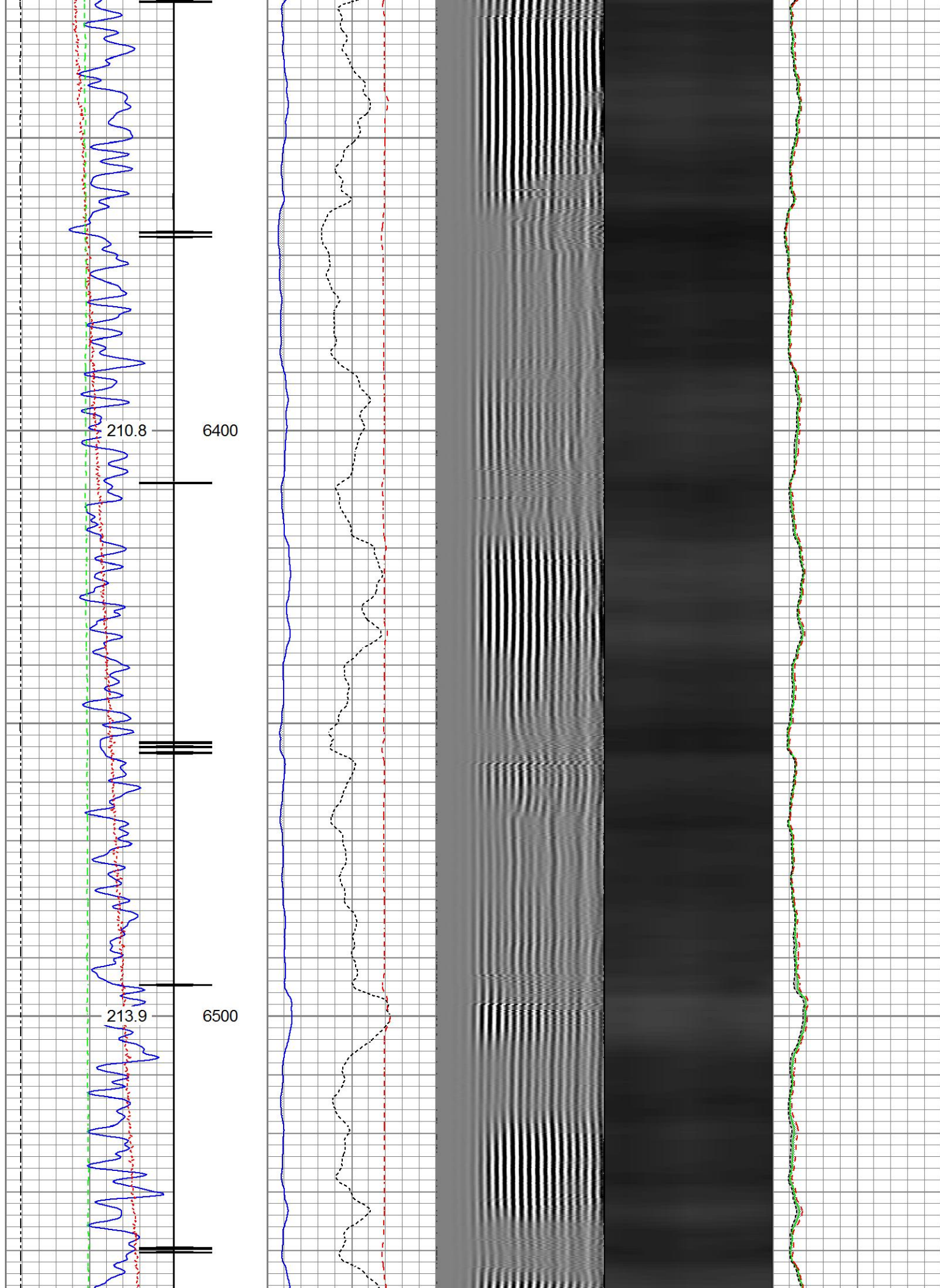


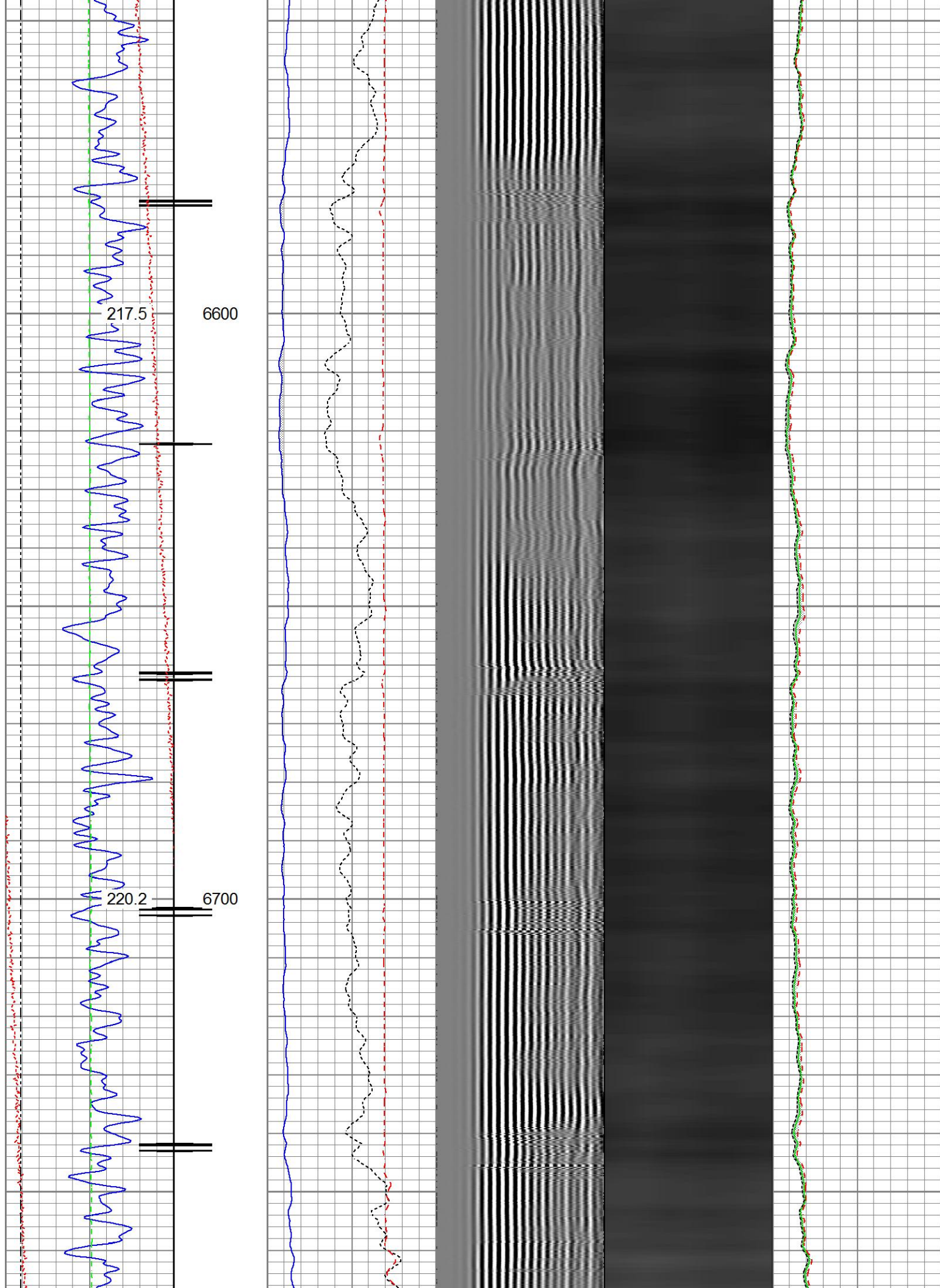




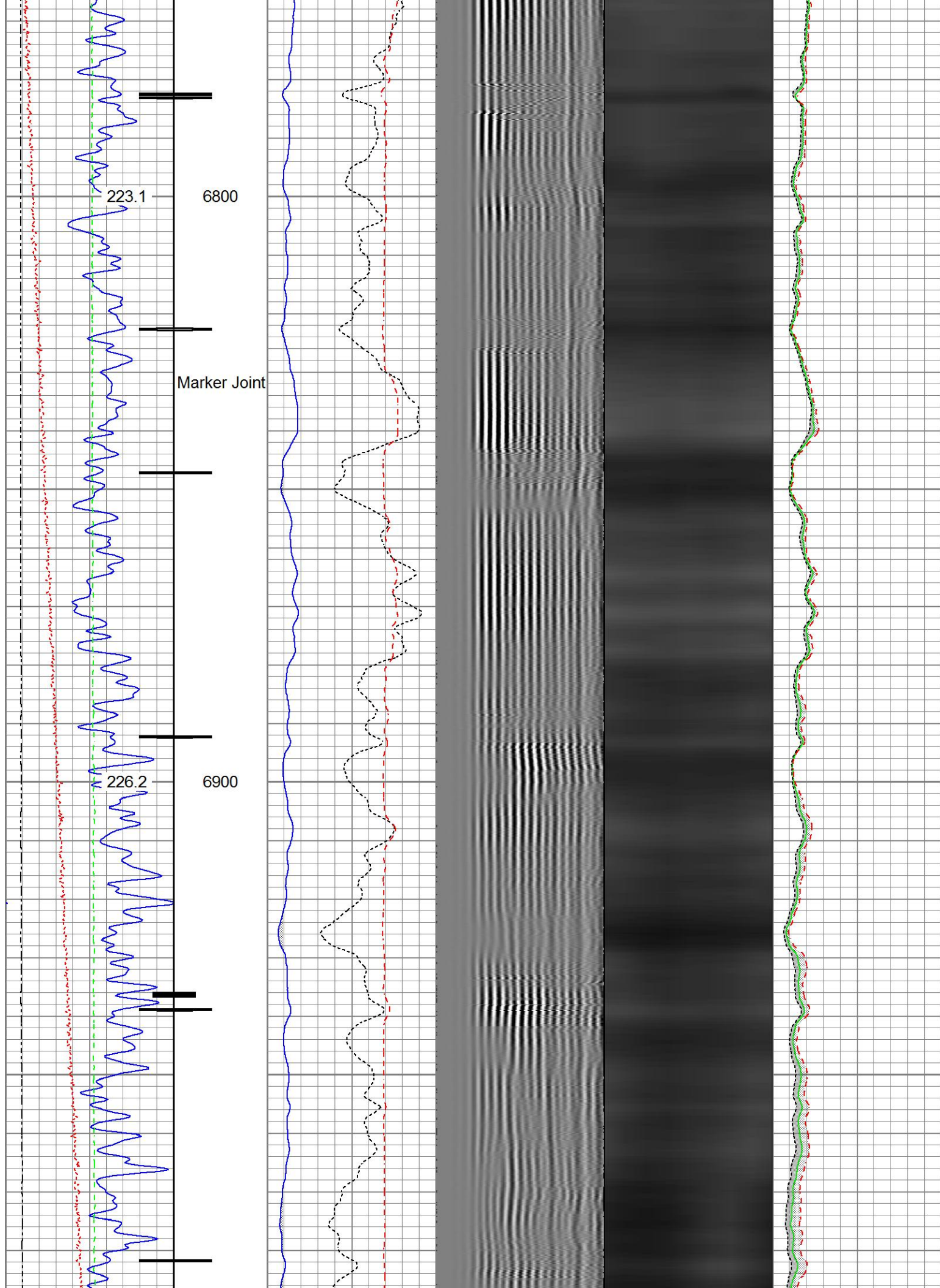


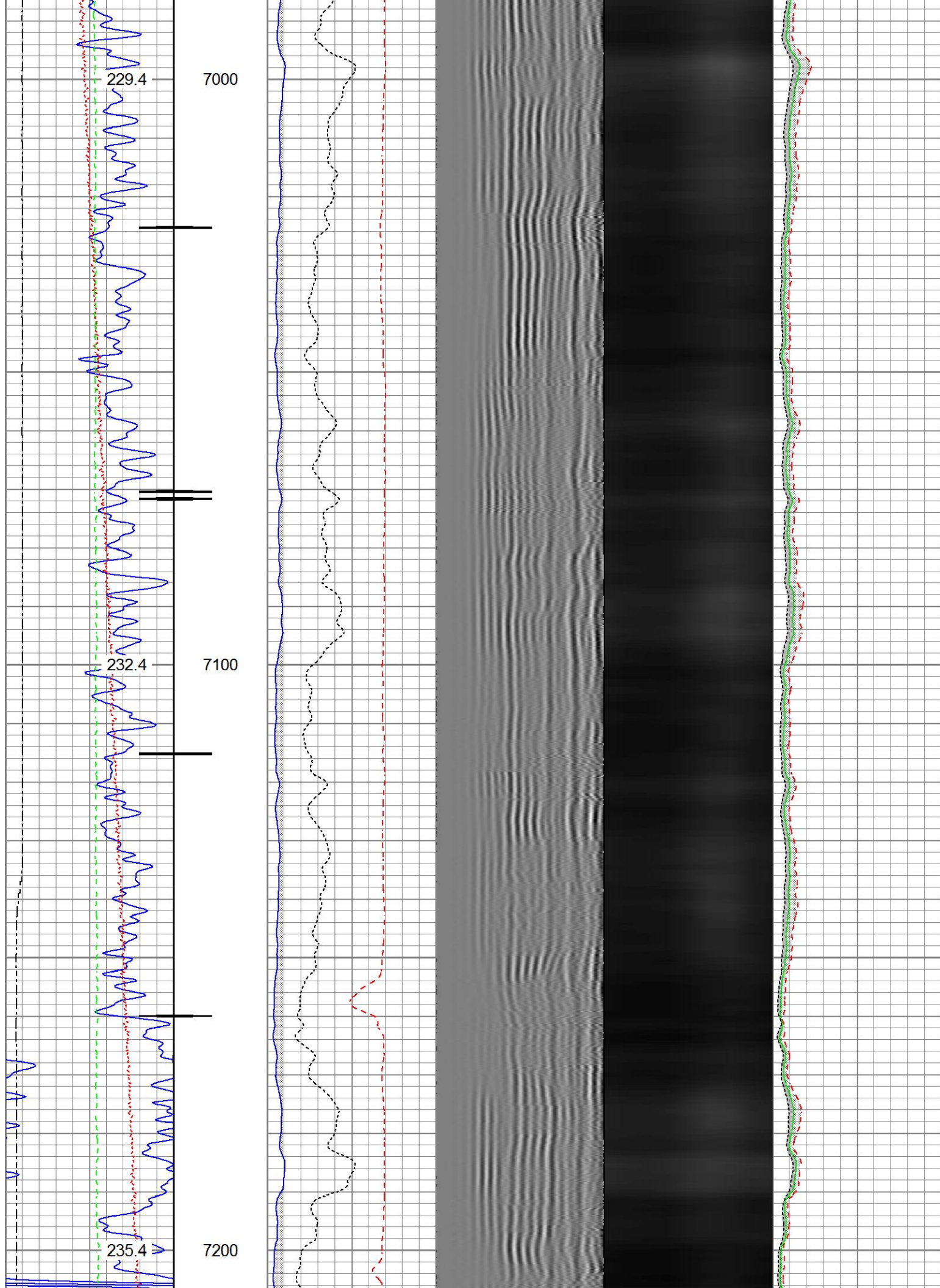




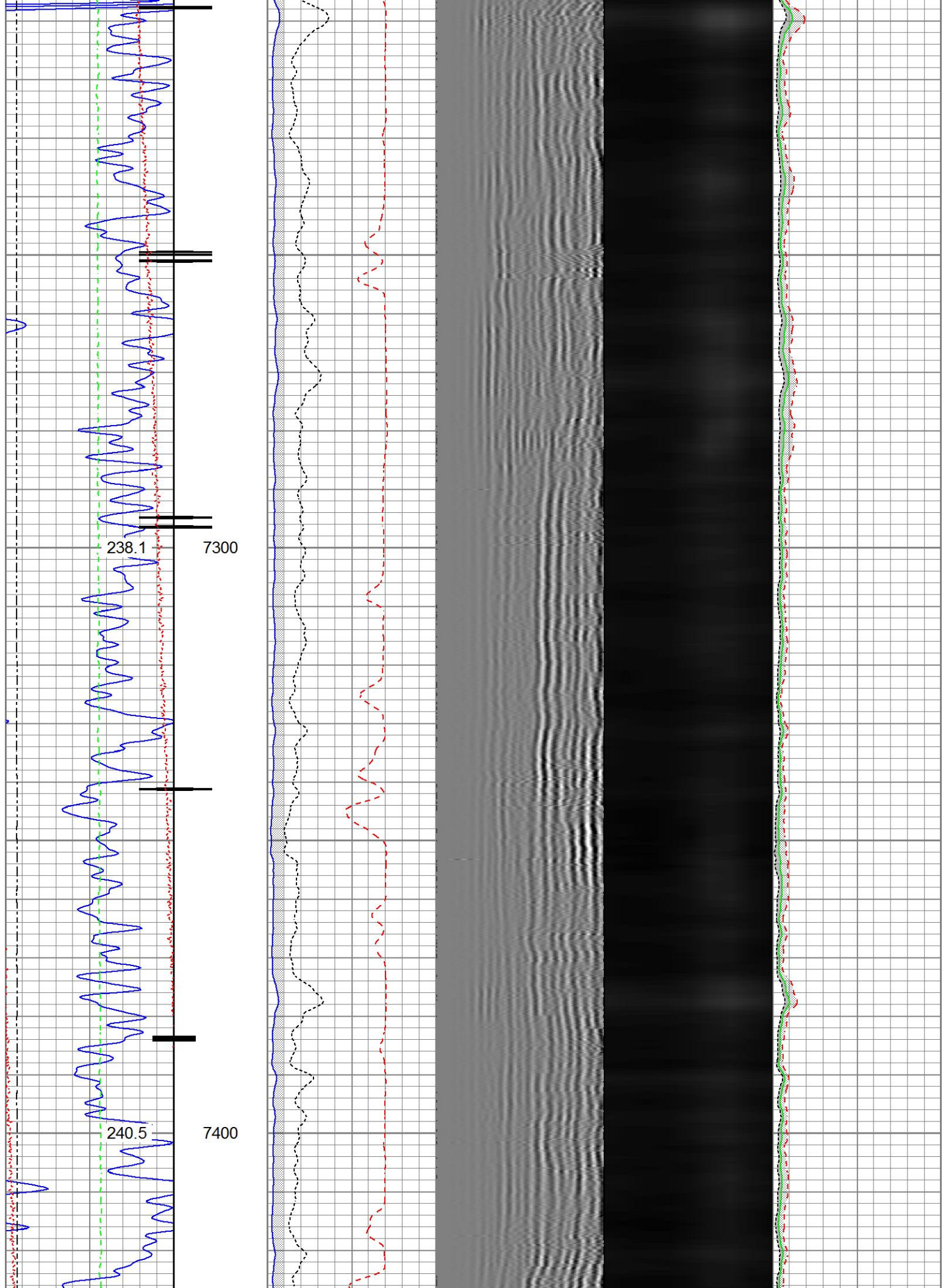


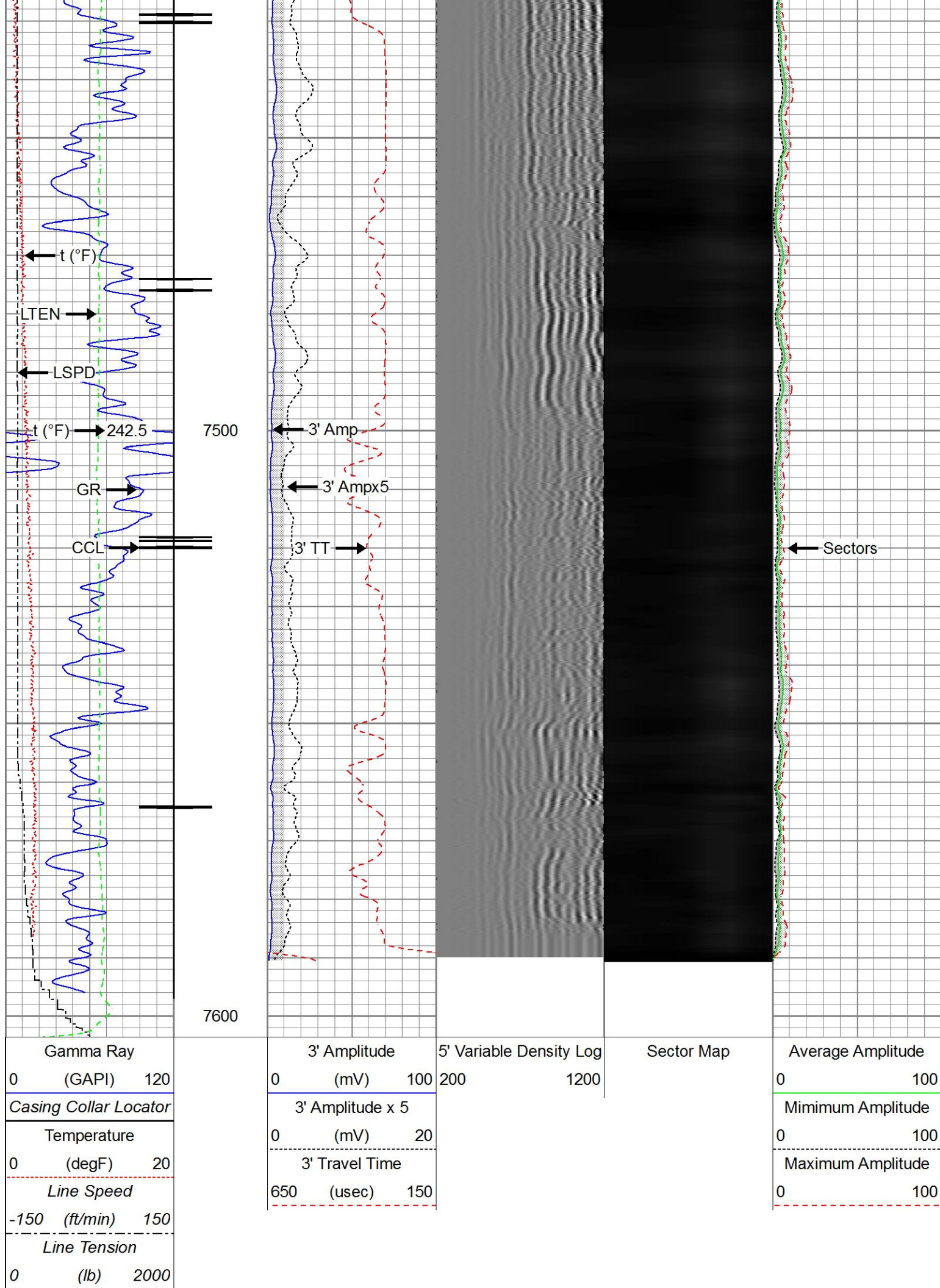














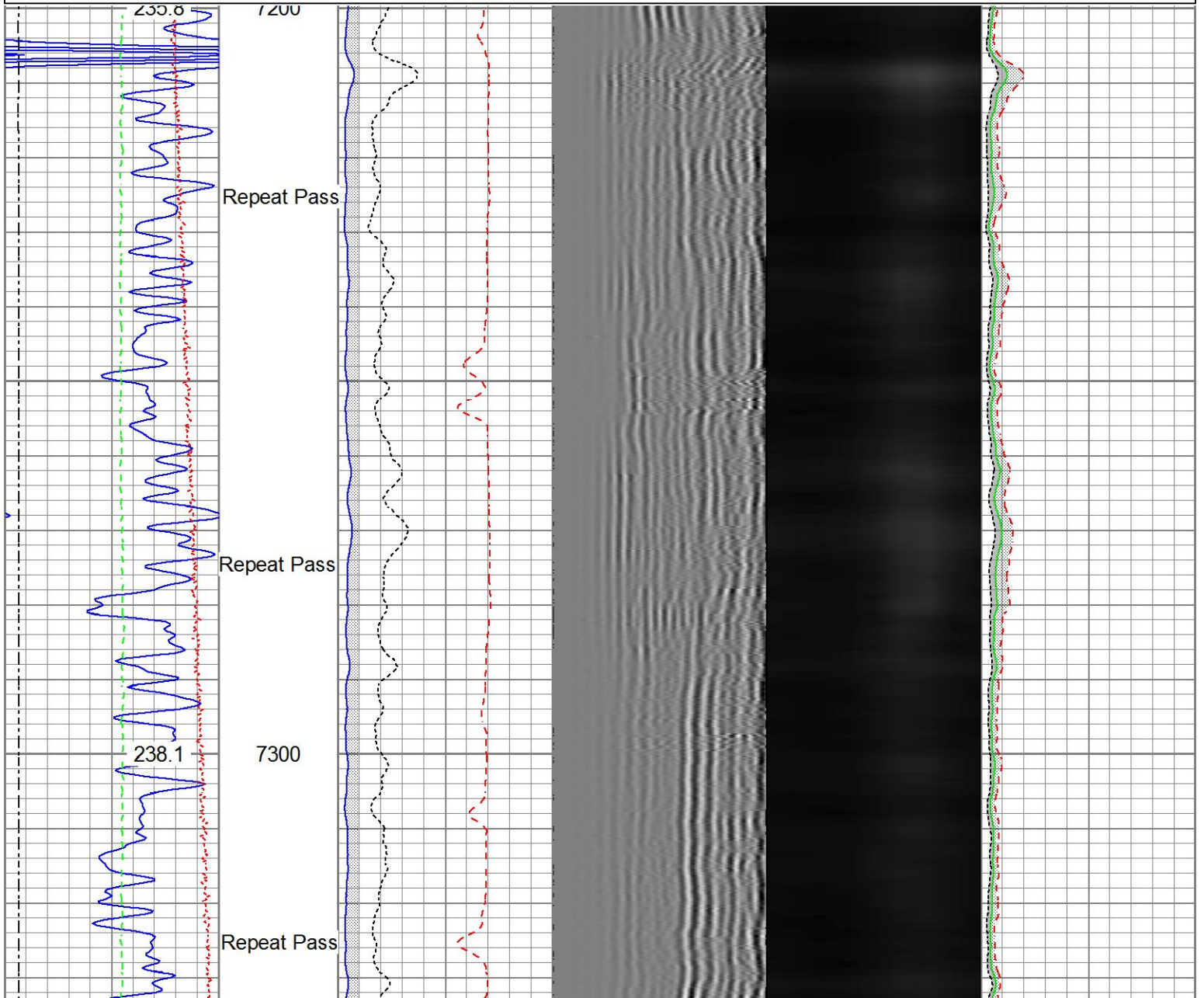


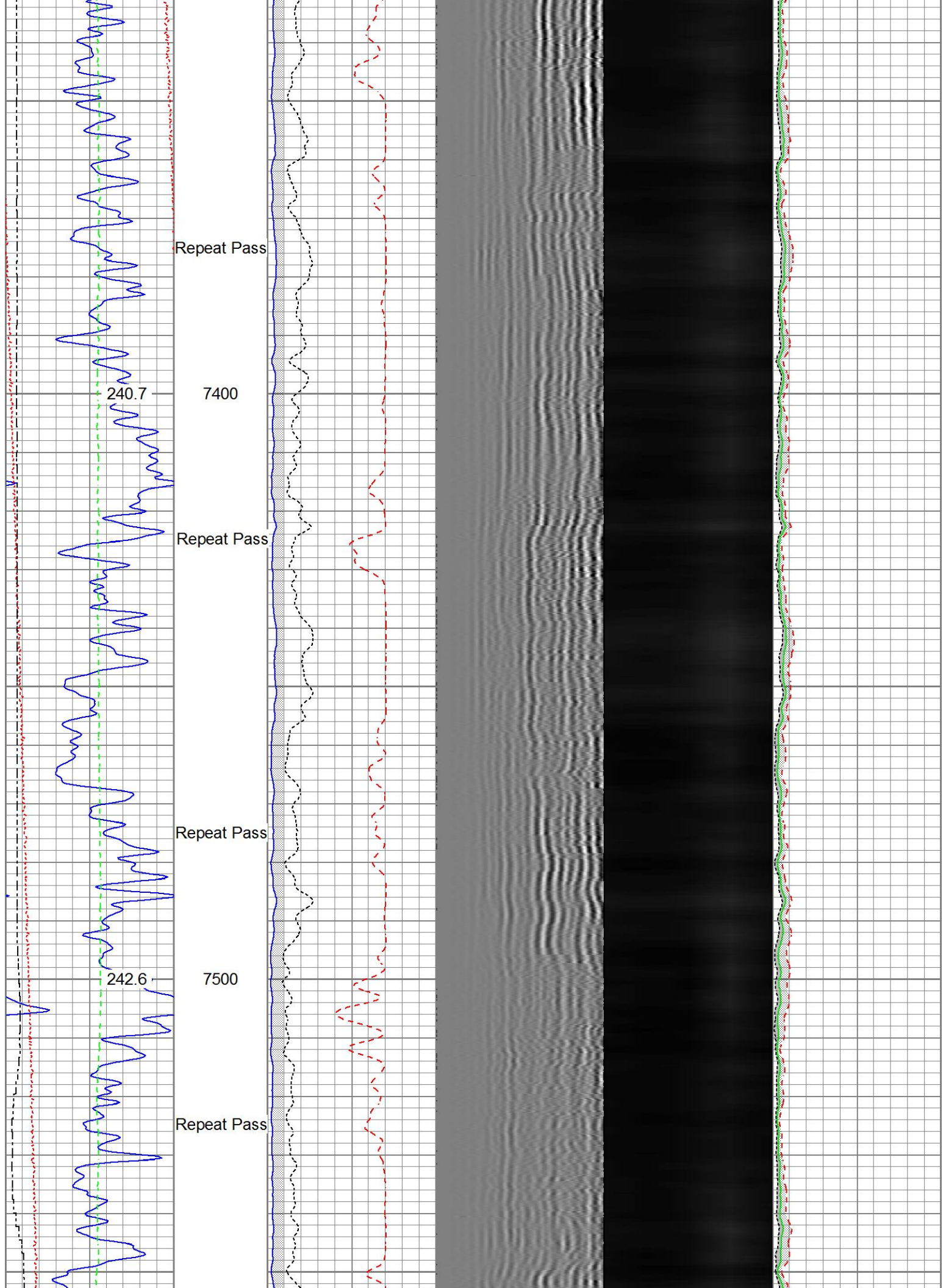
# Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure

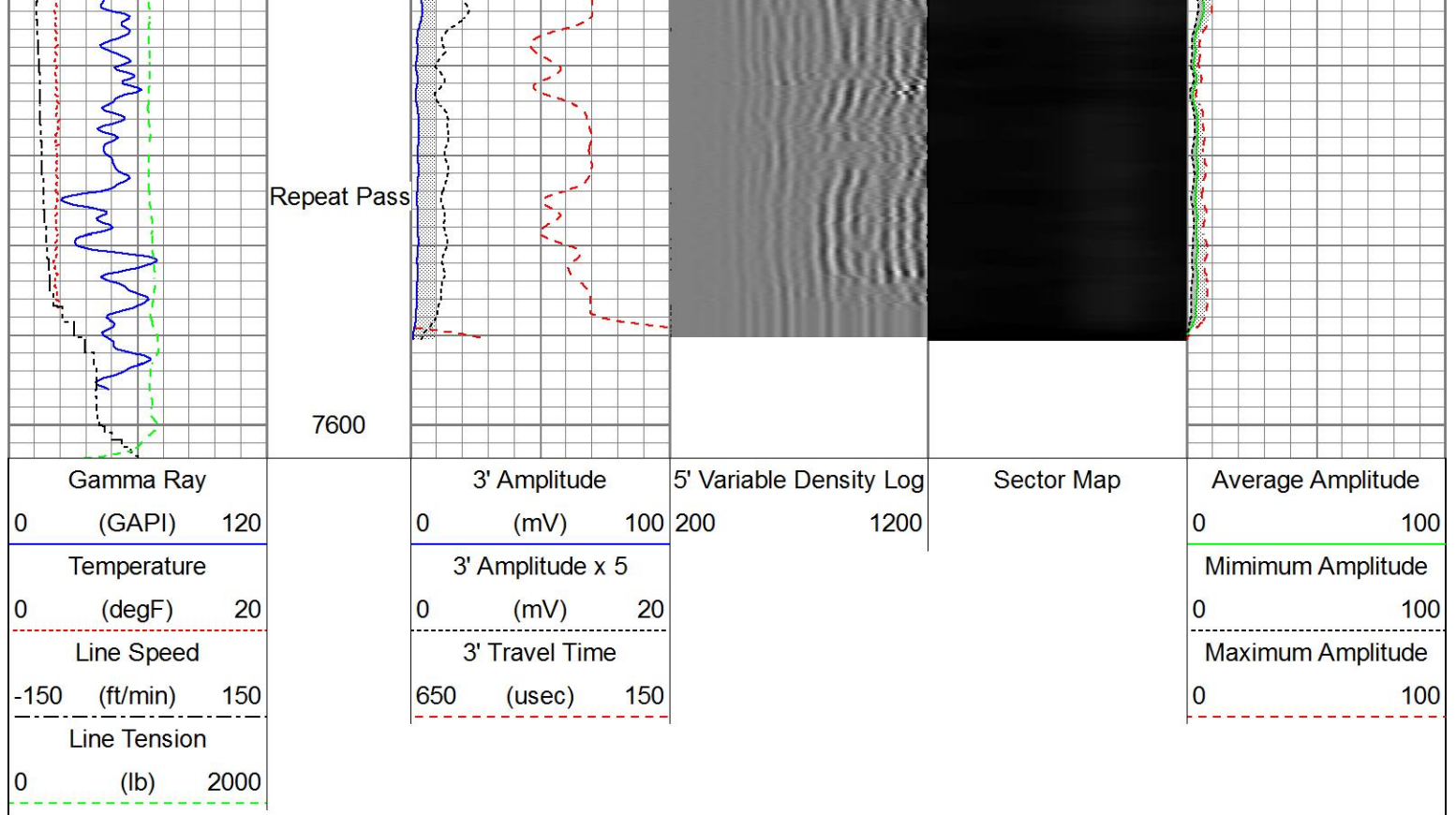
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Dataset Pathname pass2.1  
Presentation Format ros\_radrii  
Dataset Creation Thu Sep 28 10:19:09 2017  
Charted by Depth in Feet scaled 1:240

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)
			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
HeadVolt	19.51					
Temp	16.72					
WVFS8	14.55		Probe_RADII-C-P_RBT_2750 (FW1302-009.19 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	2.75	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					

HEADVOLT	10.00			Probe_ELine_BowSpring_Centralizer-P Probe 2-3/4" Electric Inline Bowspring Centralizer	EE2.88.275	2.75	20.00
DCCL	6.51						
CCL	6.51						
GR	5.30			Probe_GR_CCL-P_CGR_2750_S (FW1214.543) Probe 2-3/4" Digital CCL / Gamma Ray Combined	1214.543	2.75	55.00
				Probe_ELine_BowSpring_Centralizer-P Probe 2-3/4" Electric Inline Bowspring Centralizer	EE2.88.275	2.75	20.00
Dataset: 0512344081_Anadarko_Gabel 2C-5HZ_RBL_09-26-17.db: field/well/run1/pass4 Total length: 23.40 ft Total weight: 225.40 lb O.D.: 2.75 in							

Calibration Report	
Database File	c:\programdata\warrior\data\anadarko_gabel 2c-5hz\0512344081_anadarko_gabel 2c-5hz_rbl_09-26-17.db
Dataset Pathname	pass4.1
Dataset Creation	Thu Sep 28 09:54:30 2017

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:	31.816	ft

Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.670	0.800	71.921	106.250	0.770
CAL	0.004	0.763				
5'	0.000	0.690	0.800	71.921	103.071	0.772
SUM						



SUM						
S1	0.000	0.772	0.000	100.000	129.616	-0.048
S2	0.000	0.839	0.000	100.000	119.286	-0.042
S3	0.000	0.811	0.000	100.000	123.291	-0.049
S4	0.000	0.669	0.000	100.000	149.545	-0.039
S5	0.000	0.573	0.000	100.000	174.479	-0.052
S6	0.001	0.580	0.000	100.000	172.686	-0.125
S7	0.001	0.643	0.000	100.000	155.681	-0.163
S8	0.001	0.727	0.000	100.000	137.667	-0.081

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.004	0.763	1.000	0.000

Air Zero Calibration, performed Tue Sep 26 08:08:21 2017:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.004		0.000		0.000	
5'	0.004		0.000		0.000	
SUM						
S1	0.004		0.000		0.000	
S2	0.004		0.000		0.000	
S3	0.004		0.000		0.000	
S4	0.004		0.000		0.000	
S5	0.004		0.000		0.000	
S6	0.004		0.000		0.000	
S7	0.004		0.000		0.000	
S8	0.004		0.000		-0.000	



Company Kerr-McGee Oil & Gas Onshore, L.P.  
Well Gabel 2C-5HZ  
Field Wattenberg  
County Weld  
State Colorado