



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.  
Well Whisper Rock 4N-25HZ  
Field Wattenberg  
County Weld  
State Colorado

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Location: API #: 05-123-41297  
SEC 26 TWP 4N RGE 68W  
Permanent Datum Ground Level Elevation 4992'  
Log Measured From Kelly Bushing 20 FT  
Drilling Measured From Kelly Bushing  
Other Services  
Gauge Ring  
Elevation  
K.B. 5012'  
D.F. 5011'  
G.L. 4992'

Run Number	Two				
Depth Driller	13545 FT				
Depth Logger	7298 FT				
Bottom Logged Interval	7294 FT				
Top Log Interval	Surface				
Open Hole Size	7.875"				
Type Fluid	Water				
Density / Viscosity	8.34 lb/gal				
Max. Recorded Temp.	223°F				
Estimated Cement Top	Surface				
Time Well Ready	ROA				
Time Logger on Bottom	18:00				
Equipment Number	HD-0311				
Location	Fort Lupton, CO				
Recorded By	Jason Morrison				
Witnessed By	Brian Jolly			Sam Hopper	
Borehole Record				Tubing Record	
Run Number	Bit	From	To	Size (in)	Weight (lb/ft)
					From
					To

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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 6466 FT  
Adjusted -5 FT to correlate with Marker Joint  
Gauge Ring/Junk Basket ran to 7487 FT with no debris found  
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!!

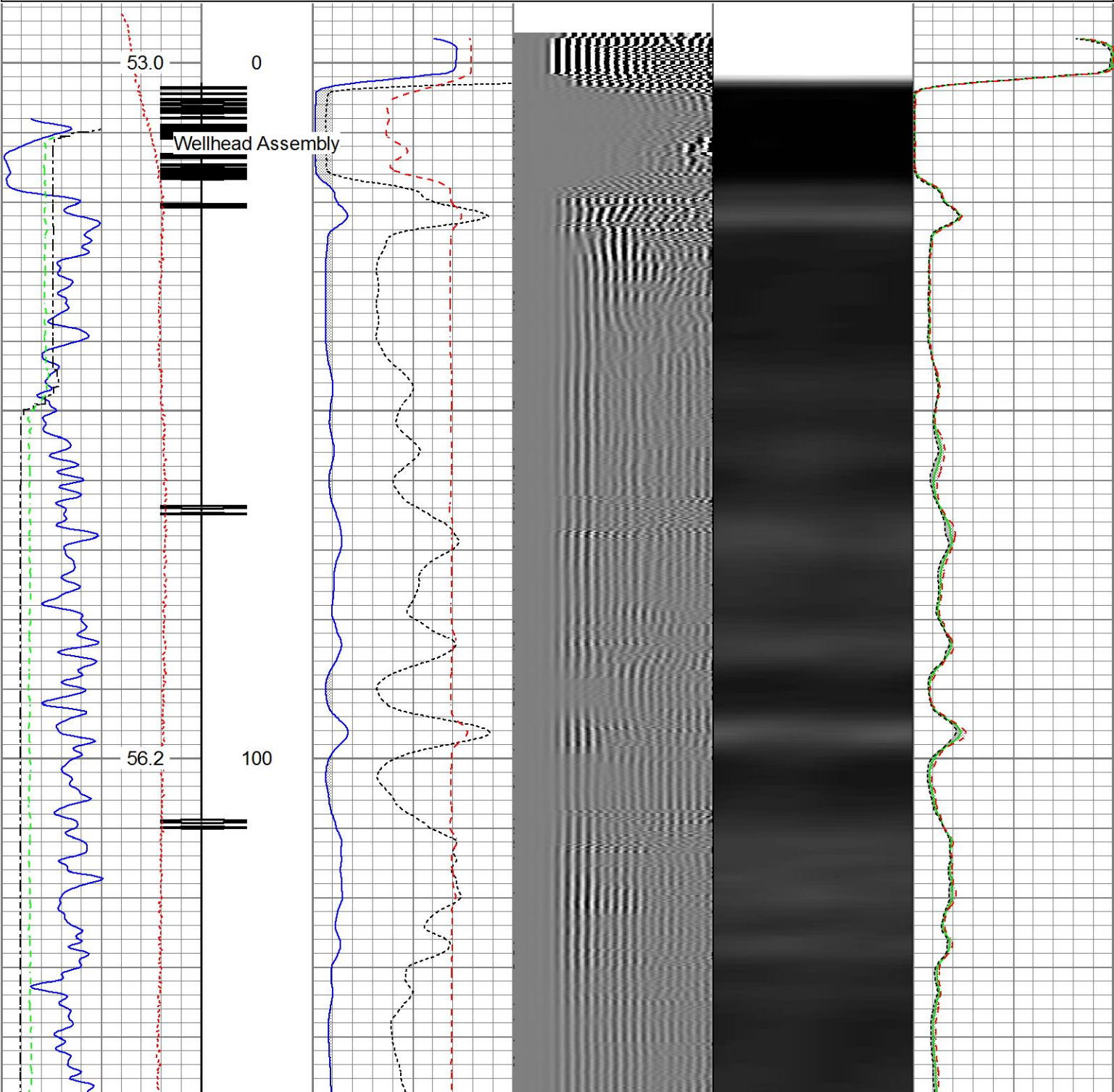


Main Pass

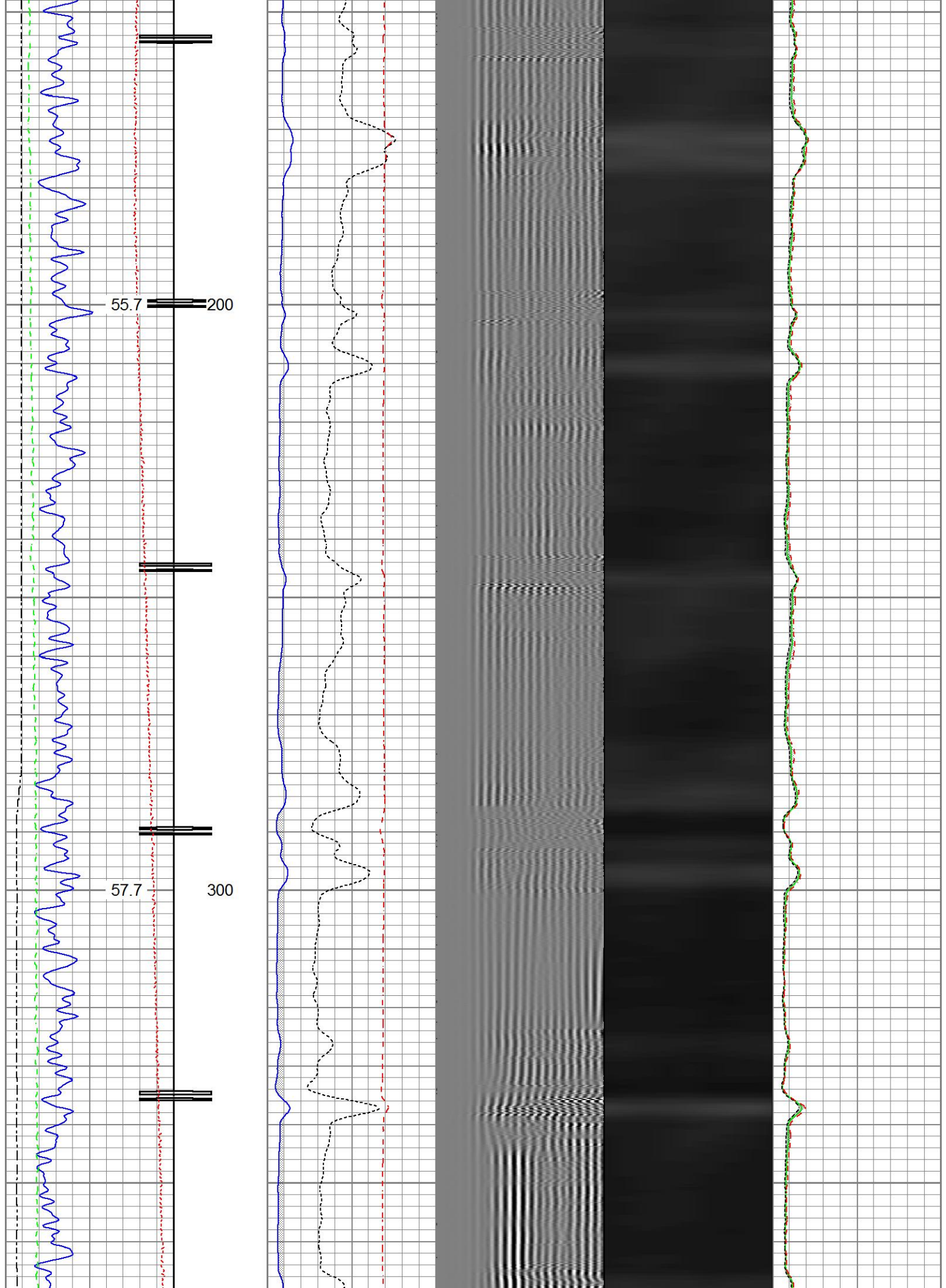
Recorded With 2800 PSI Surface Induced Pressure

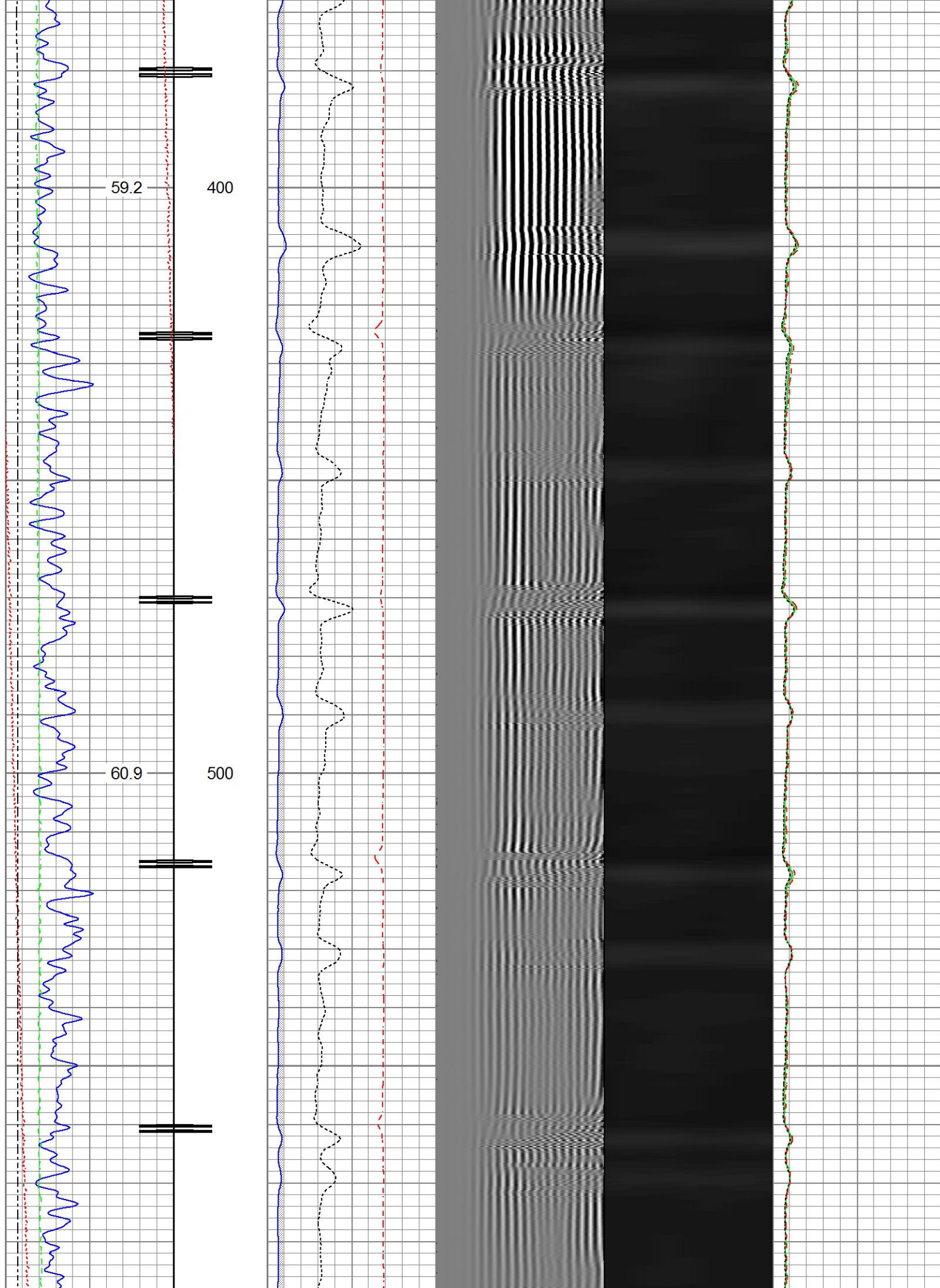
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Dataset Pathname	Main.1
Presentation Format	ros_radri
Dataset Creation	Tue Feb 14 18:59:49 2017
Charted by	Depth in Feet scaled 1:240

Gamma Ray		3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120		0 (mV) 100	200 1200		0 100
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					

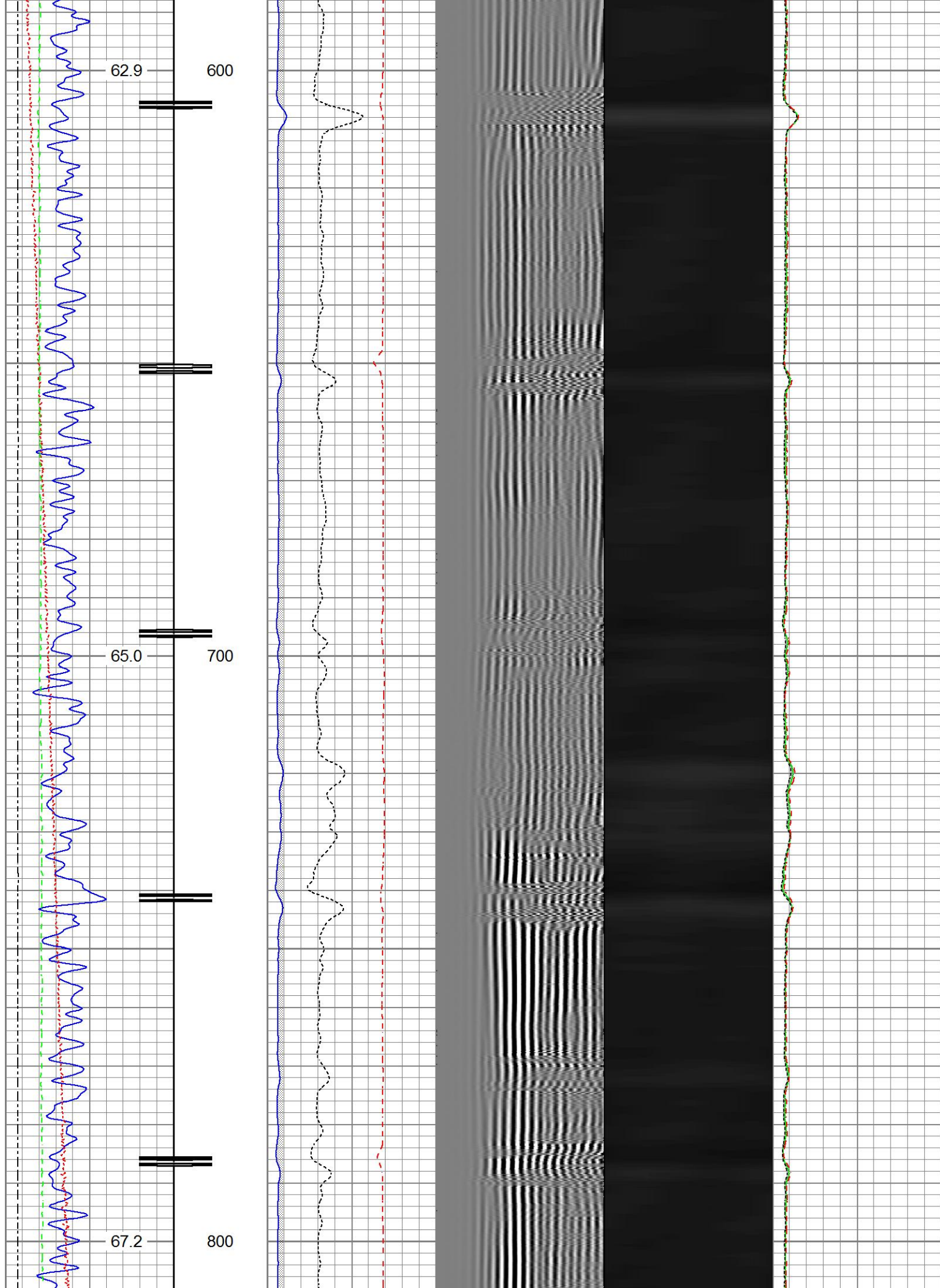


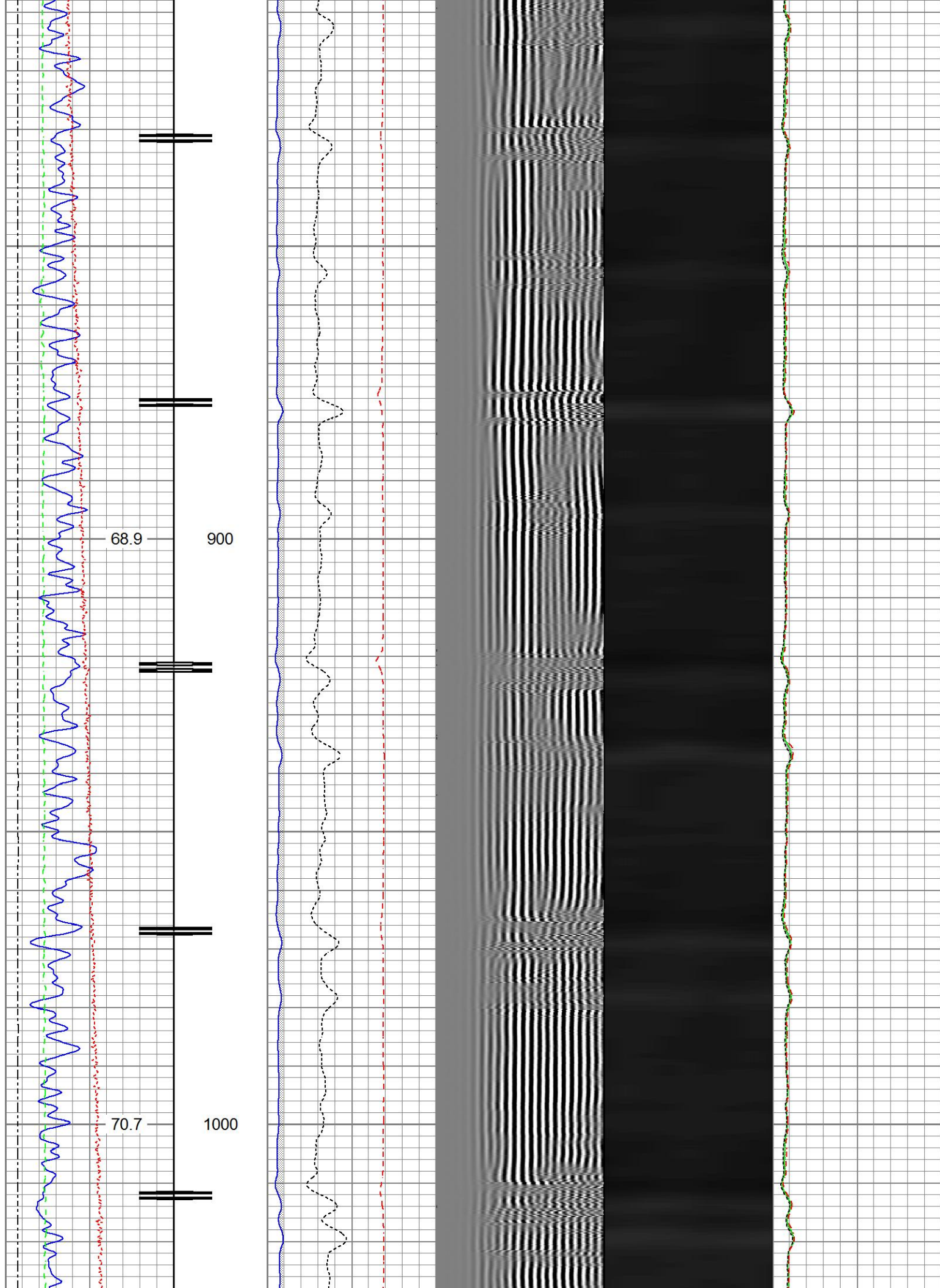




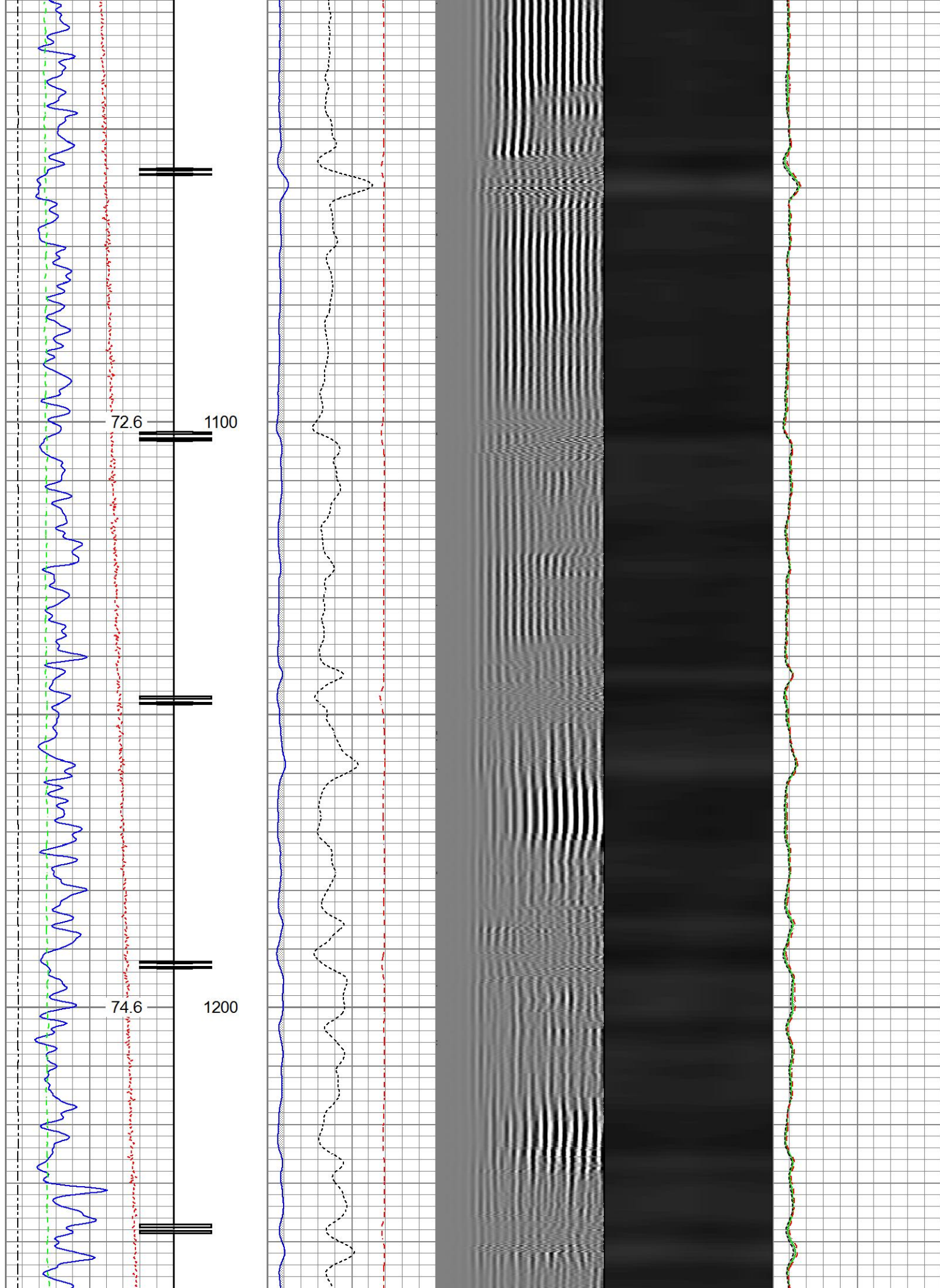


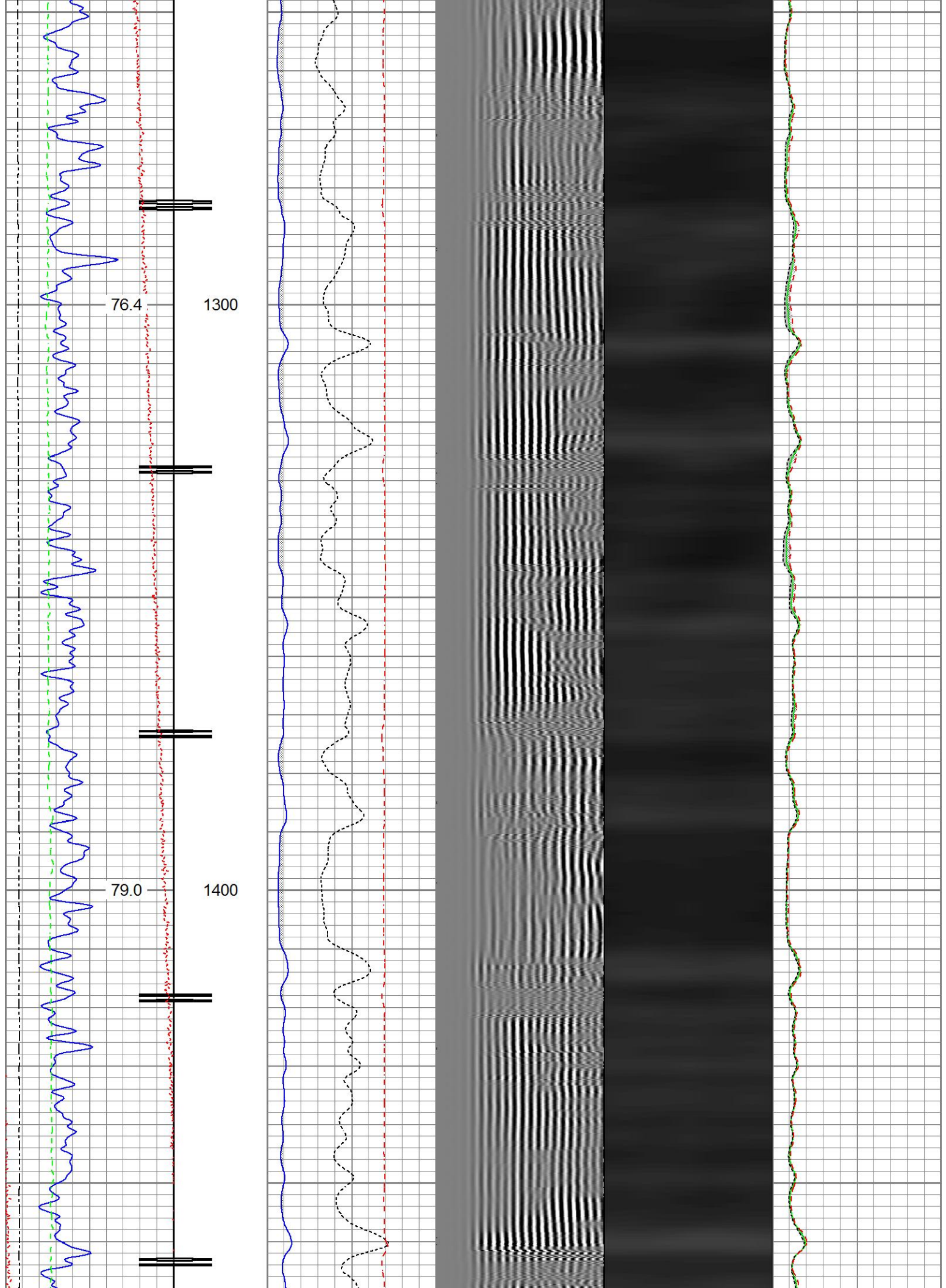




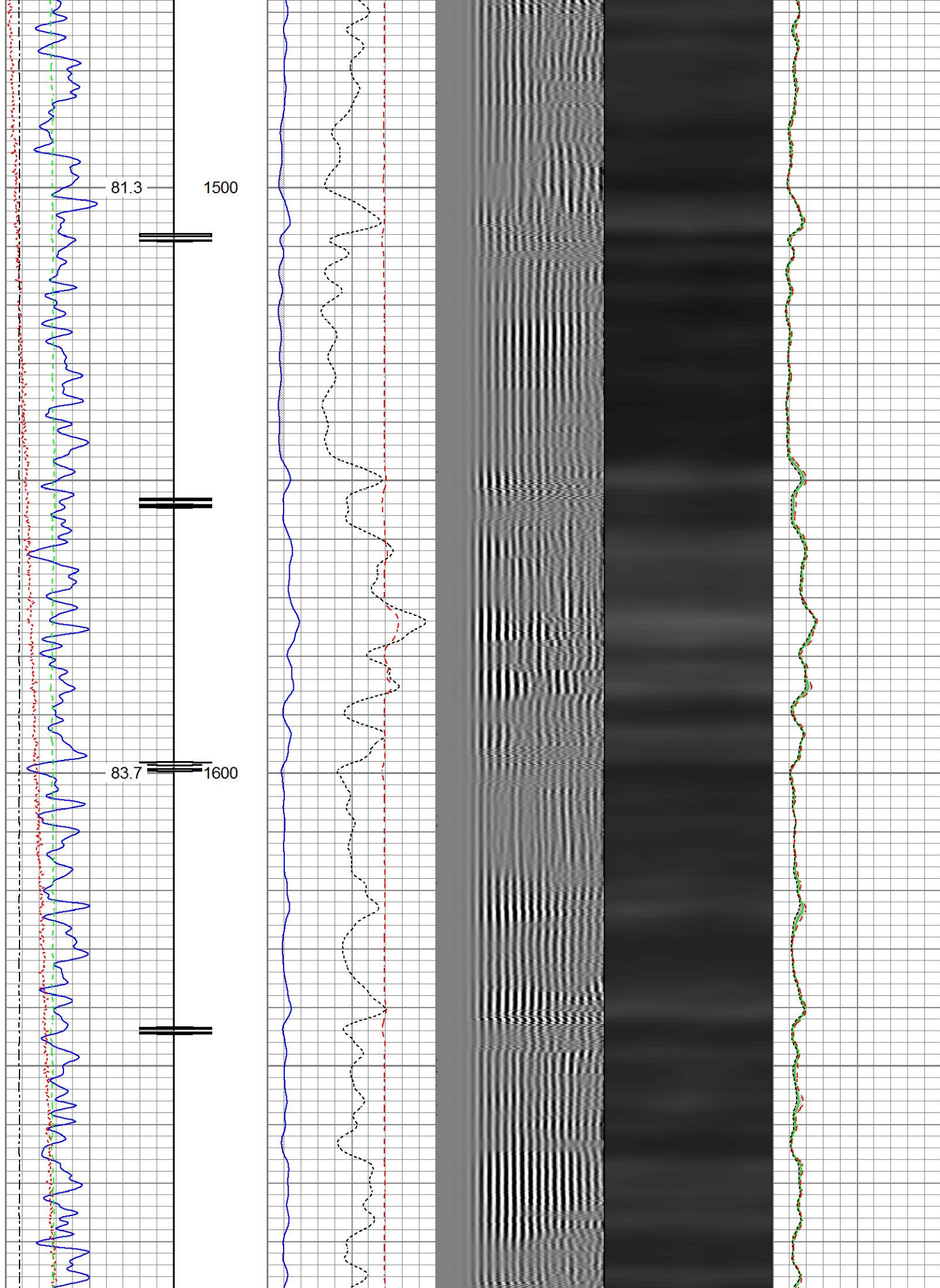


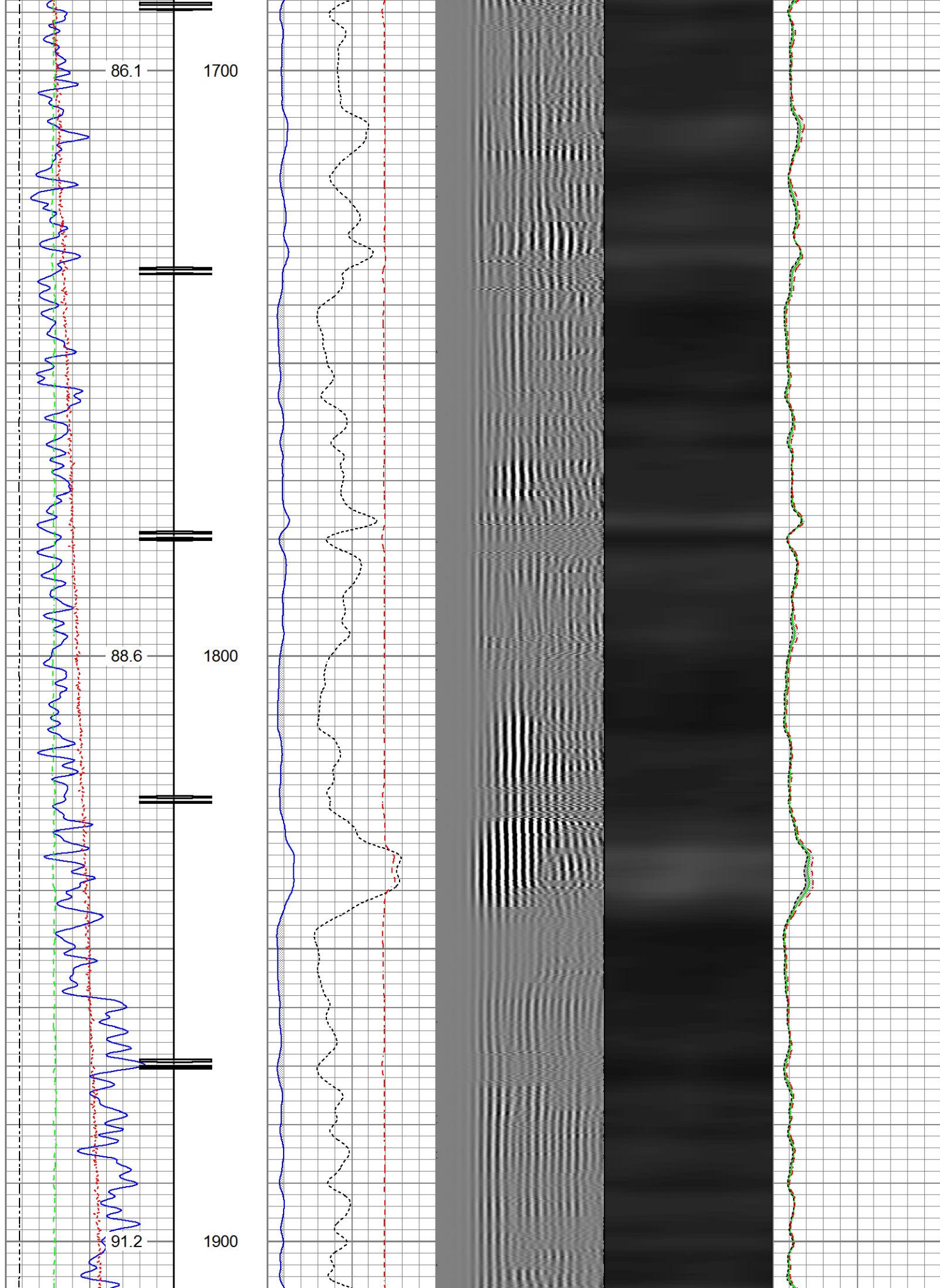




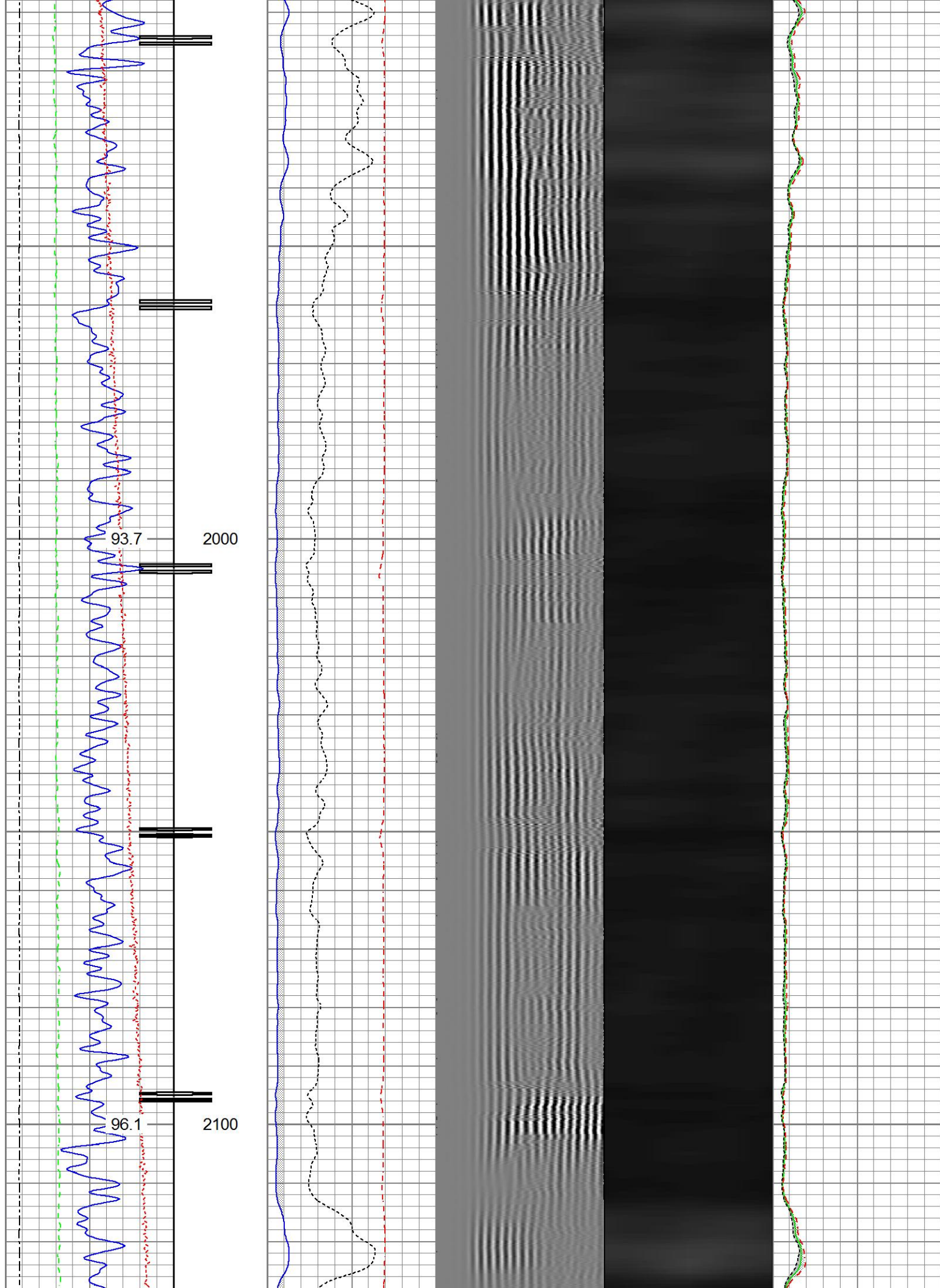


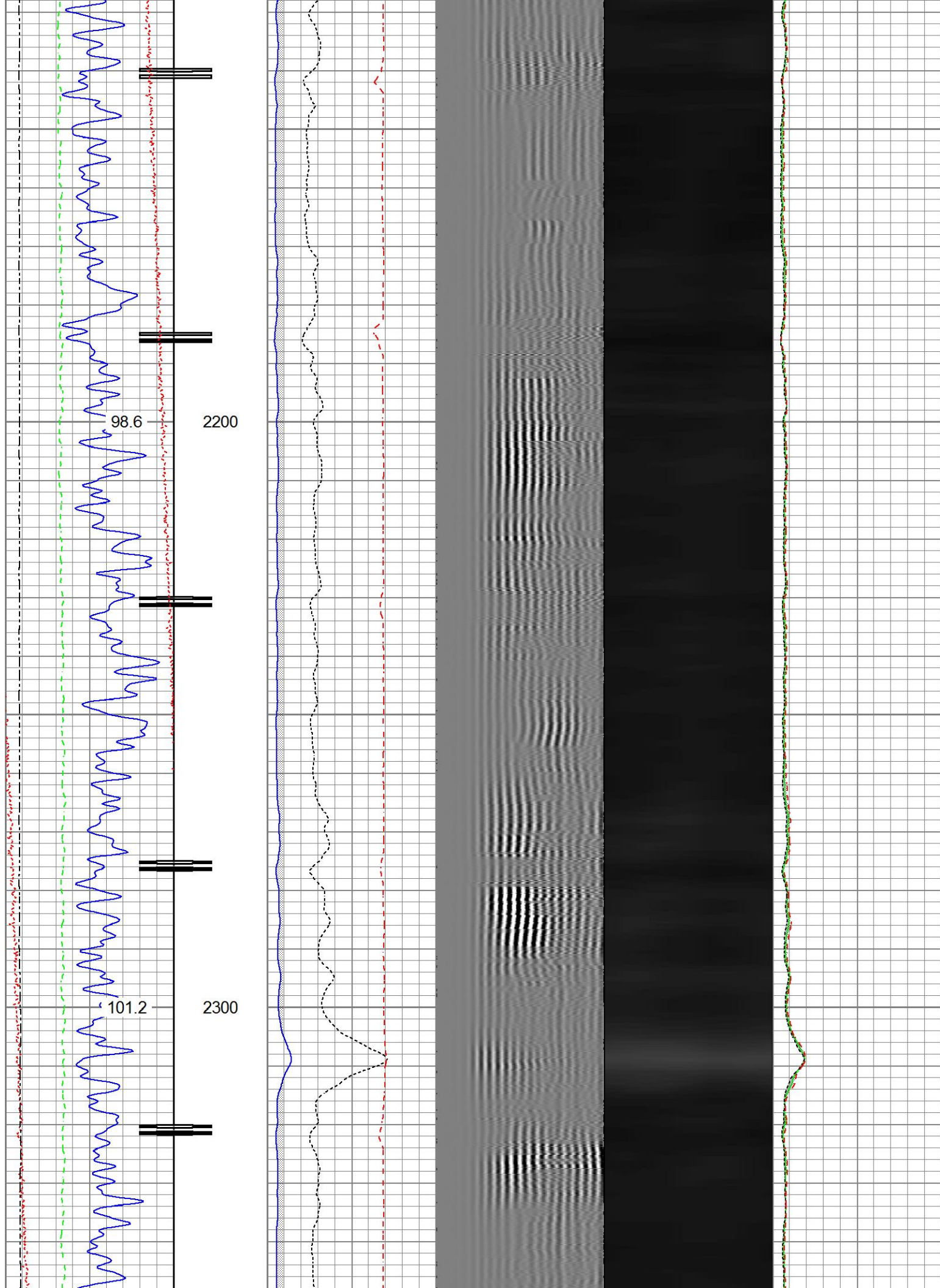




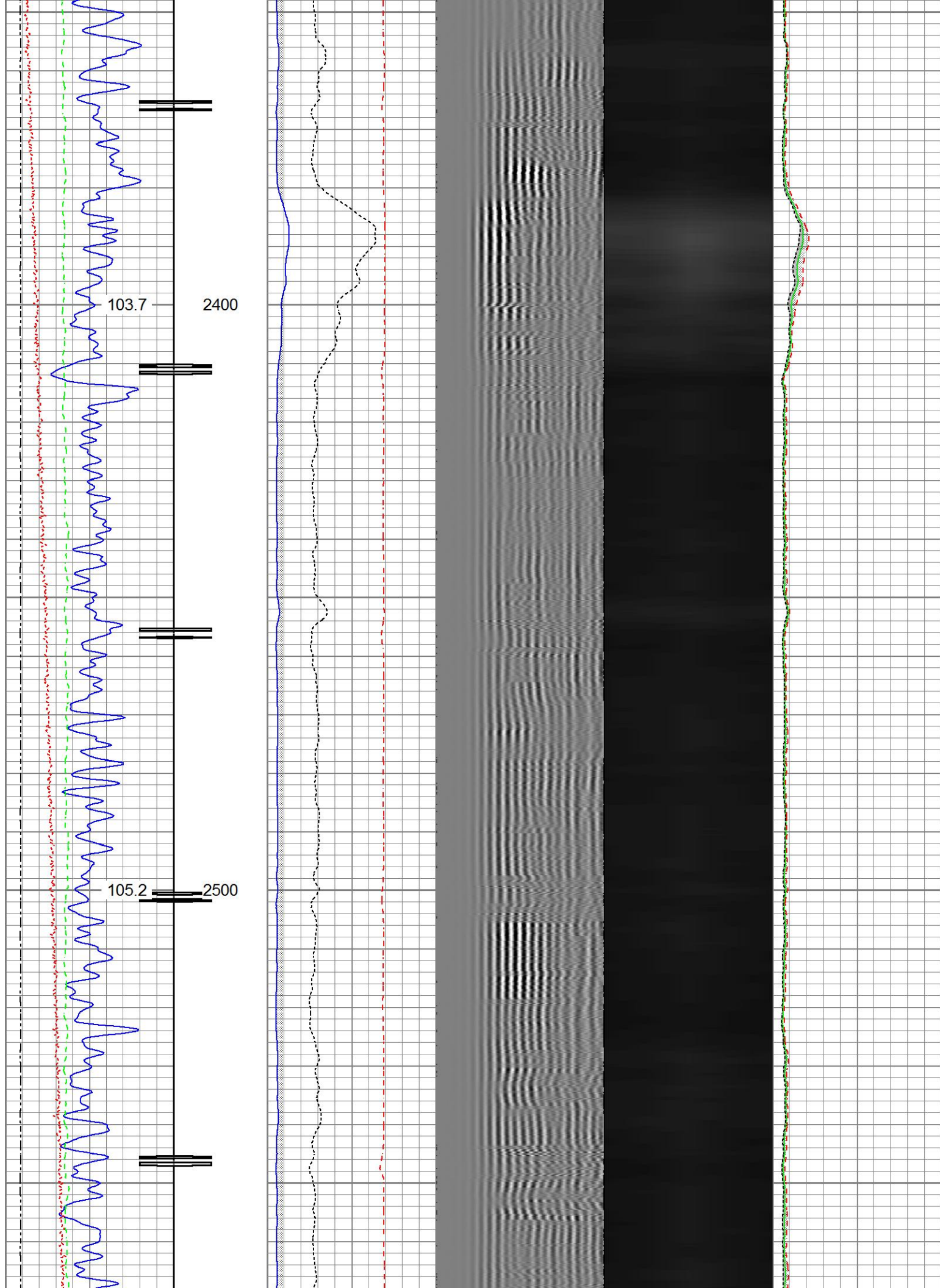


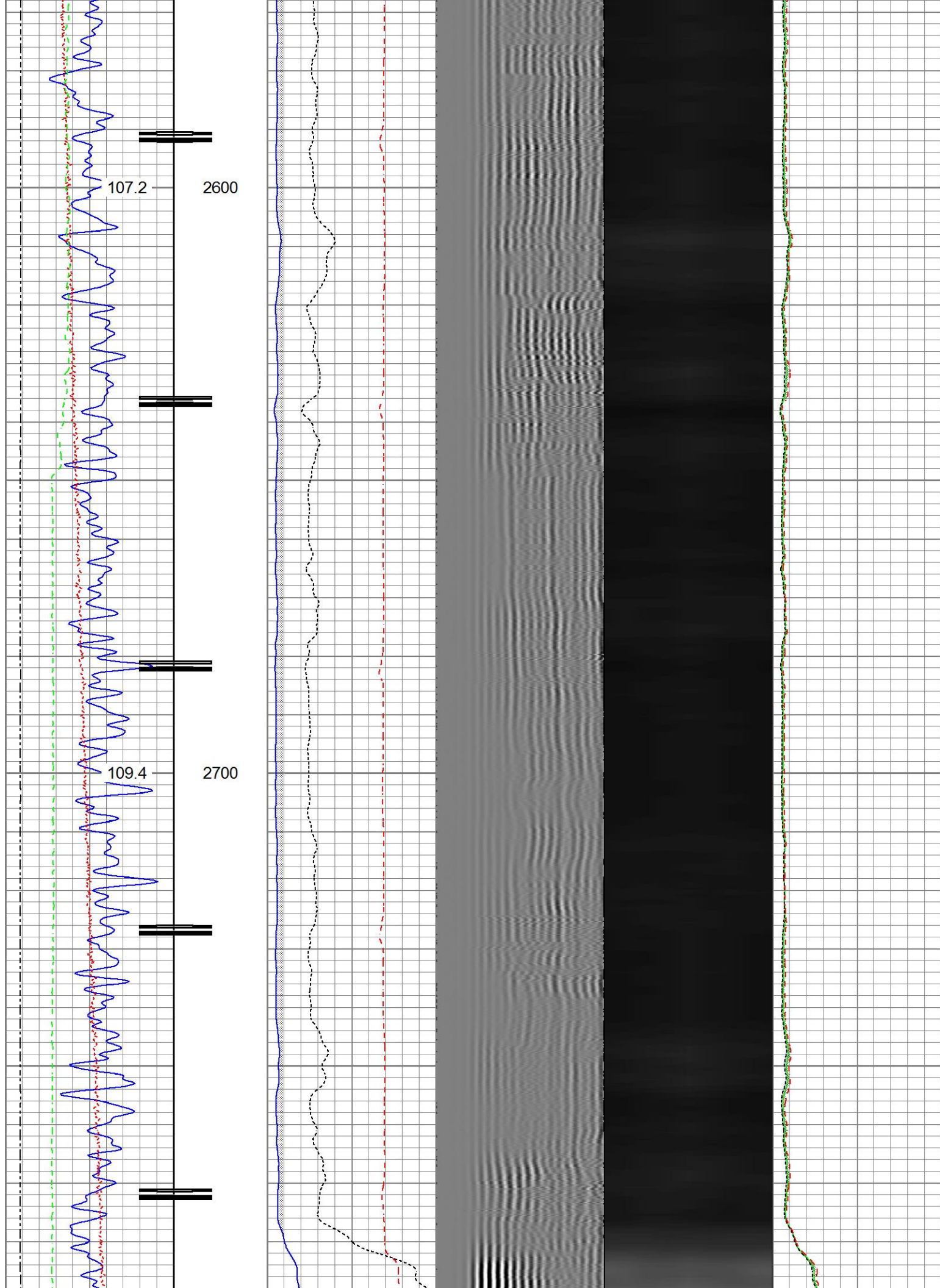




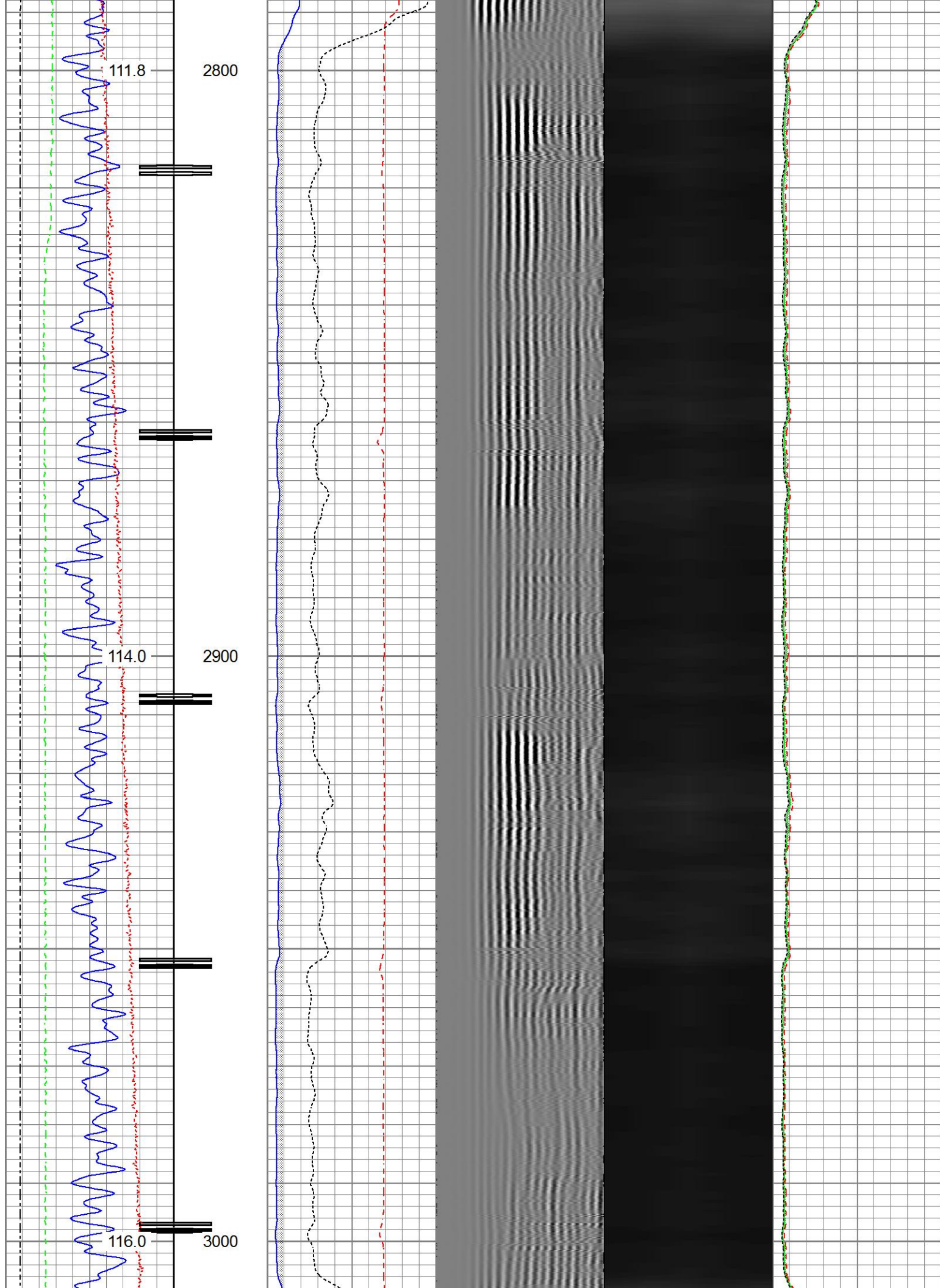


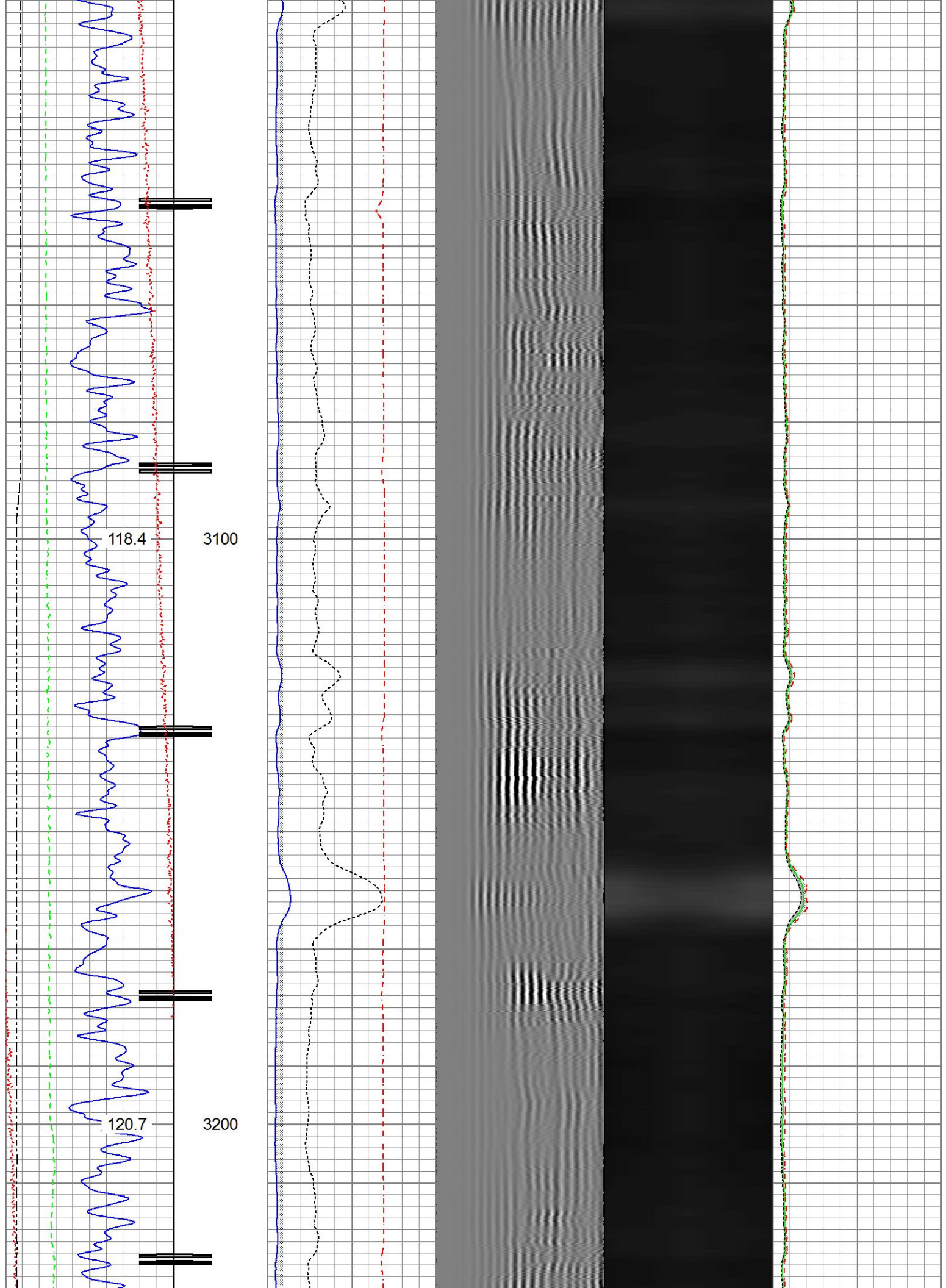




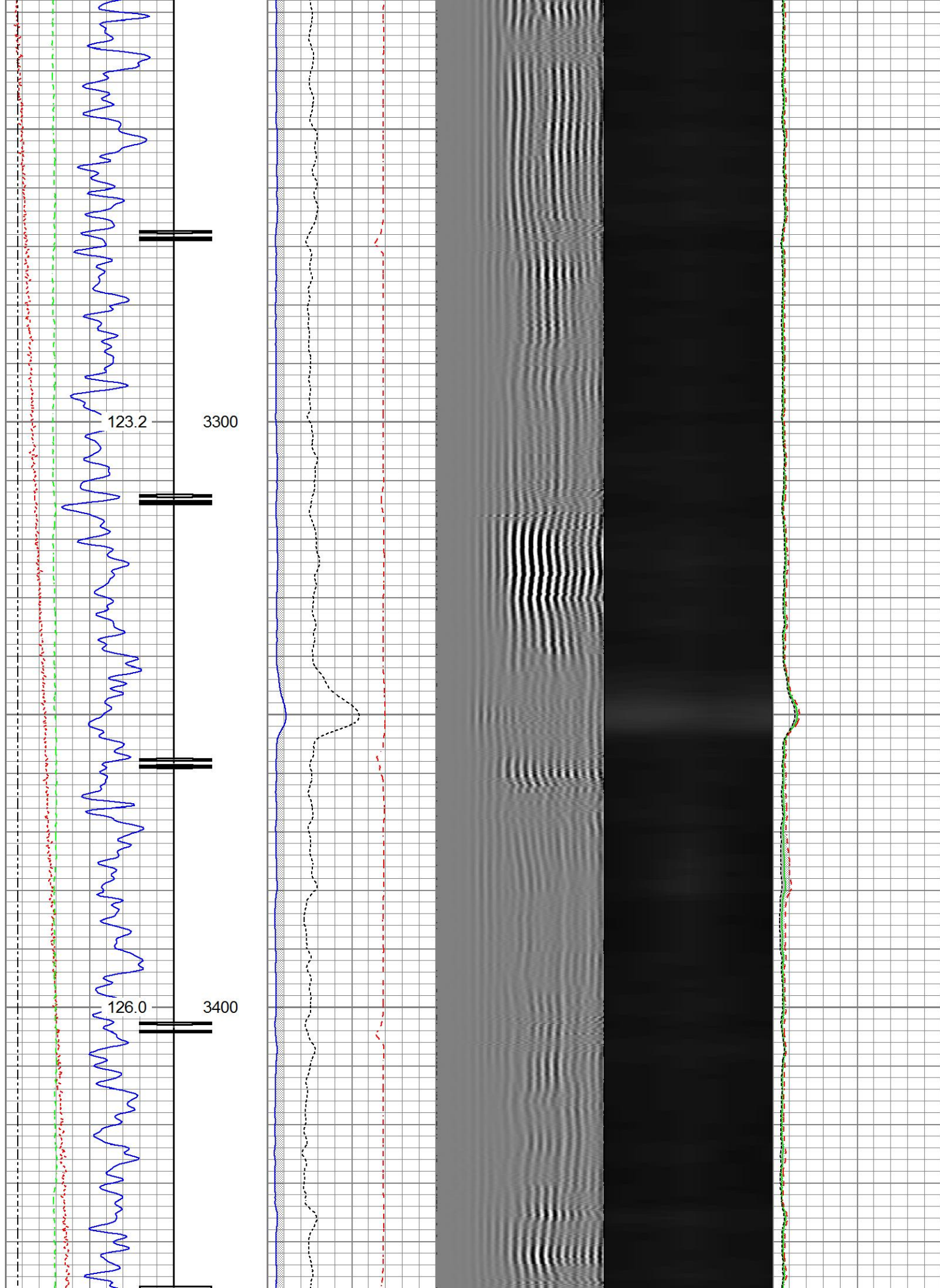


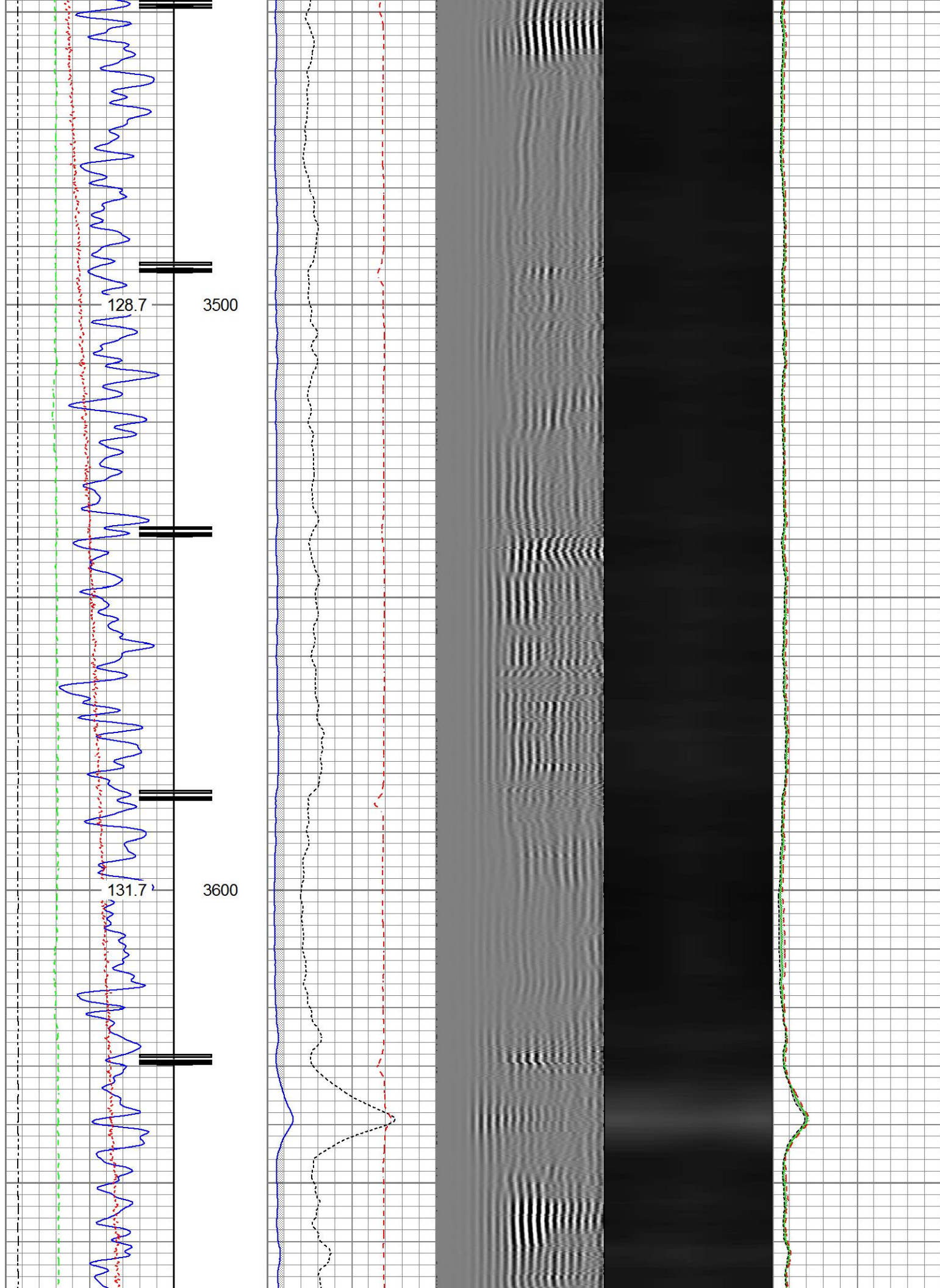




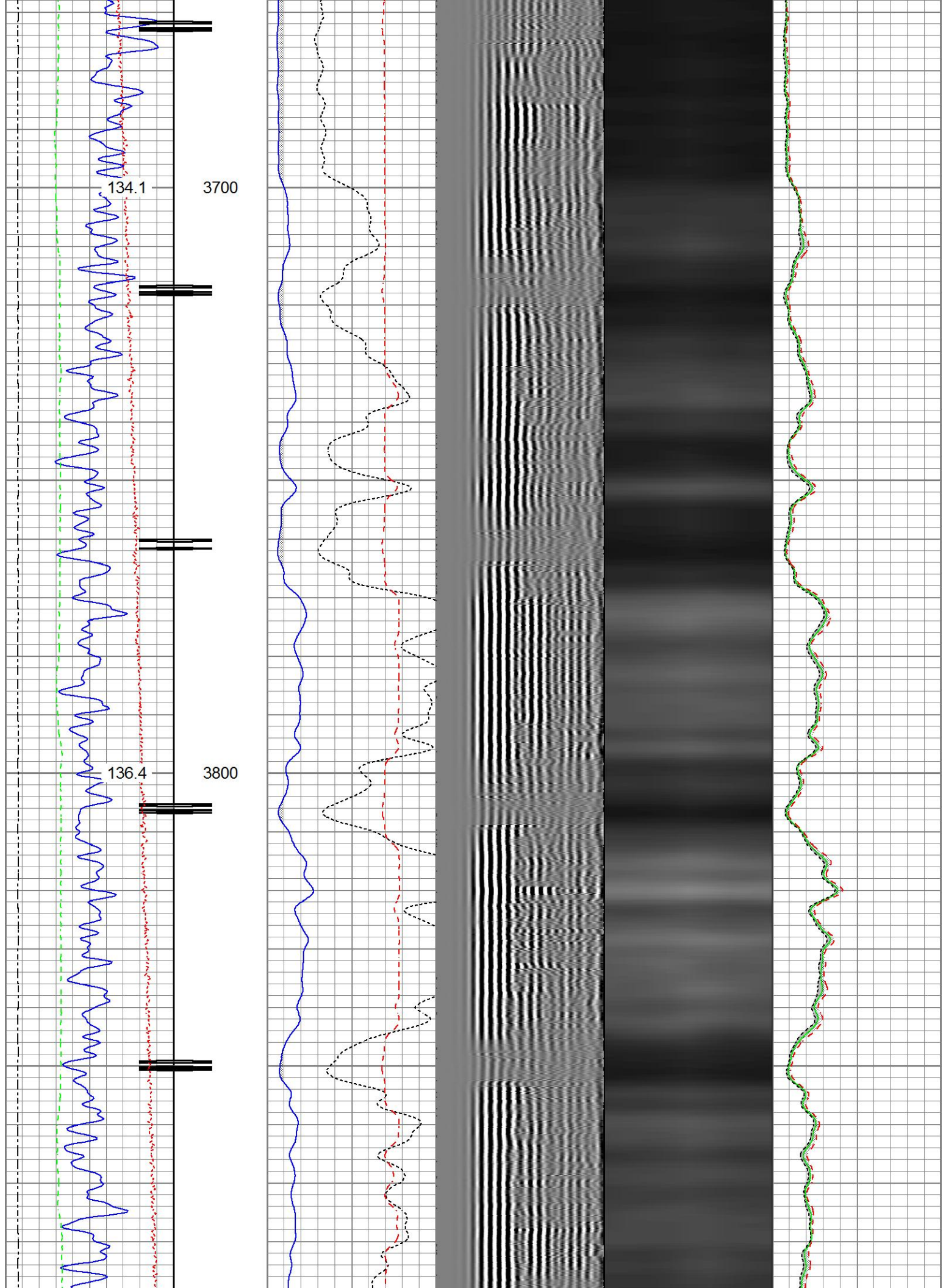


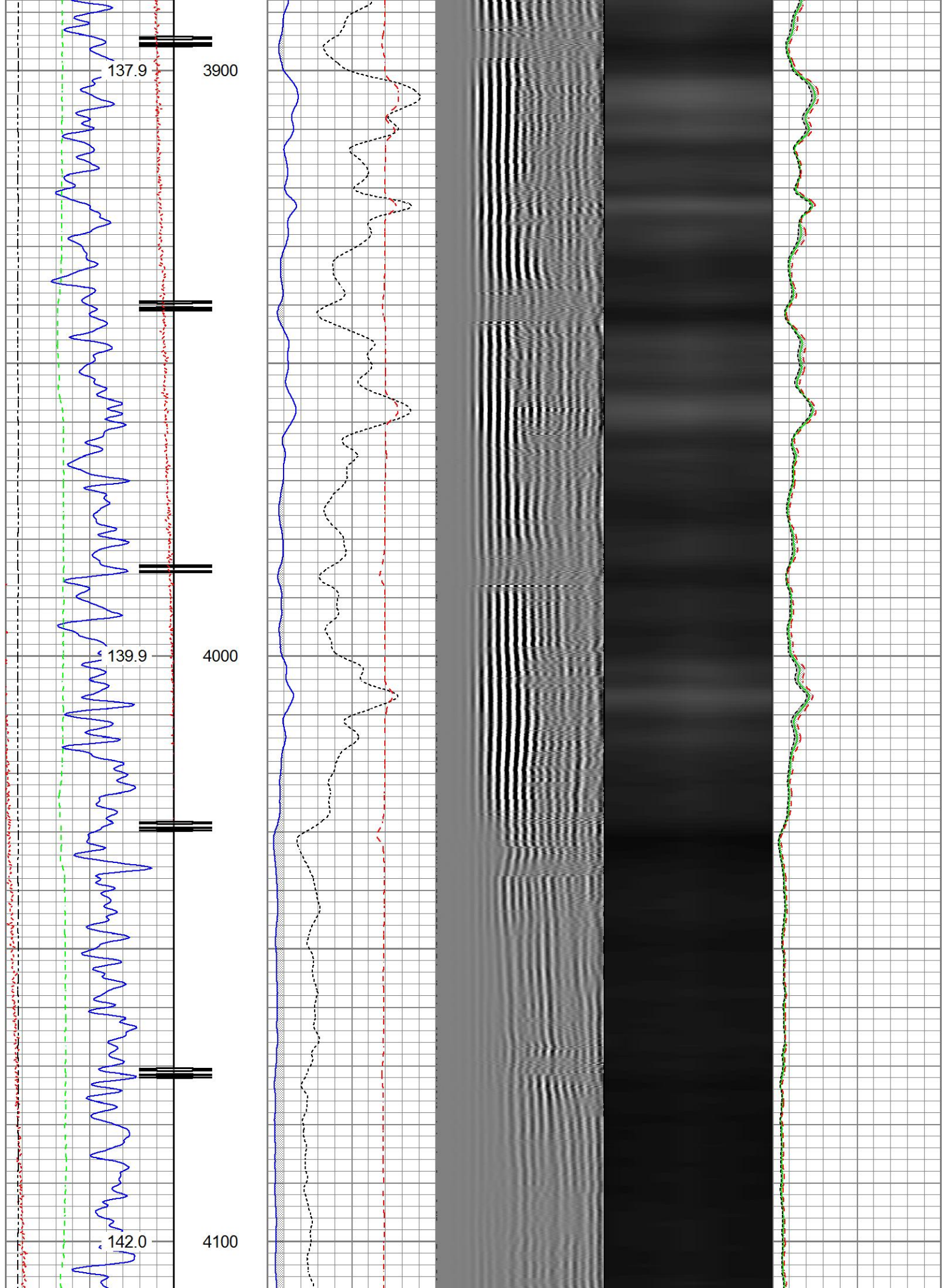




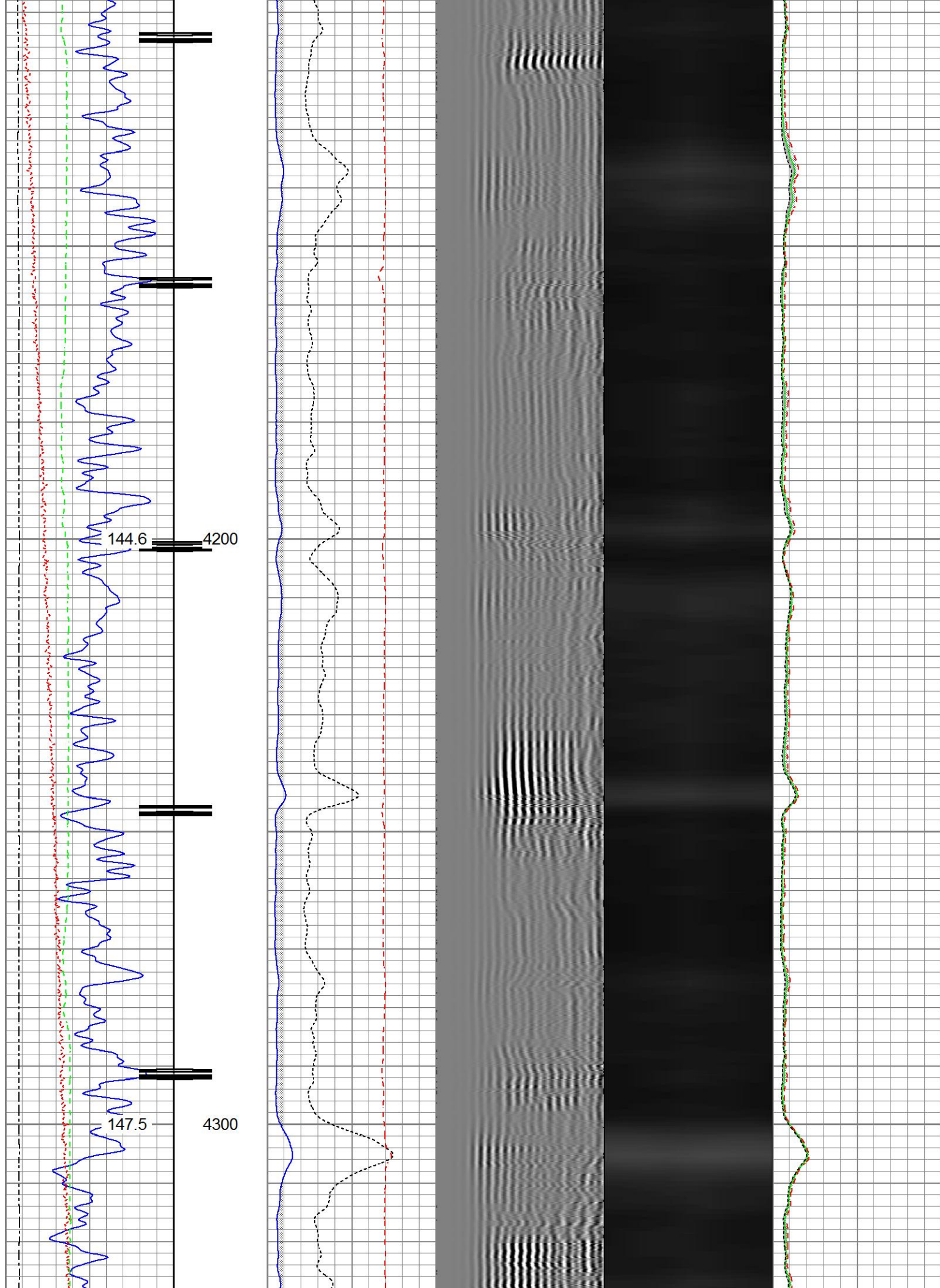


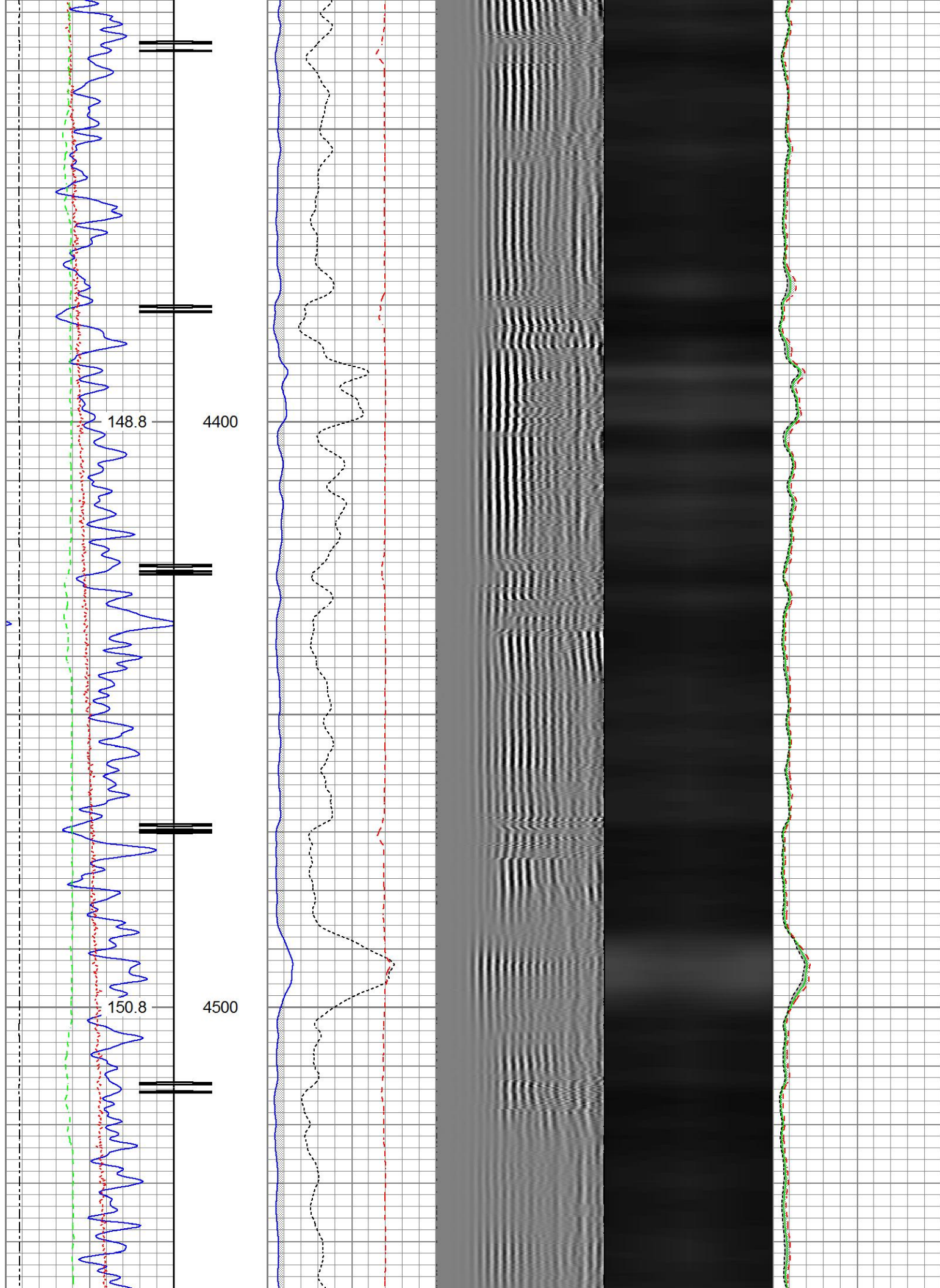




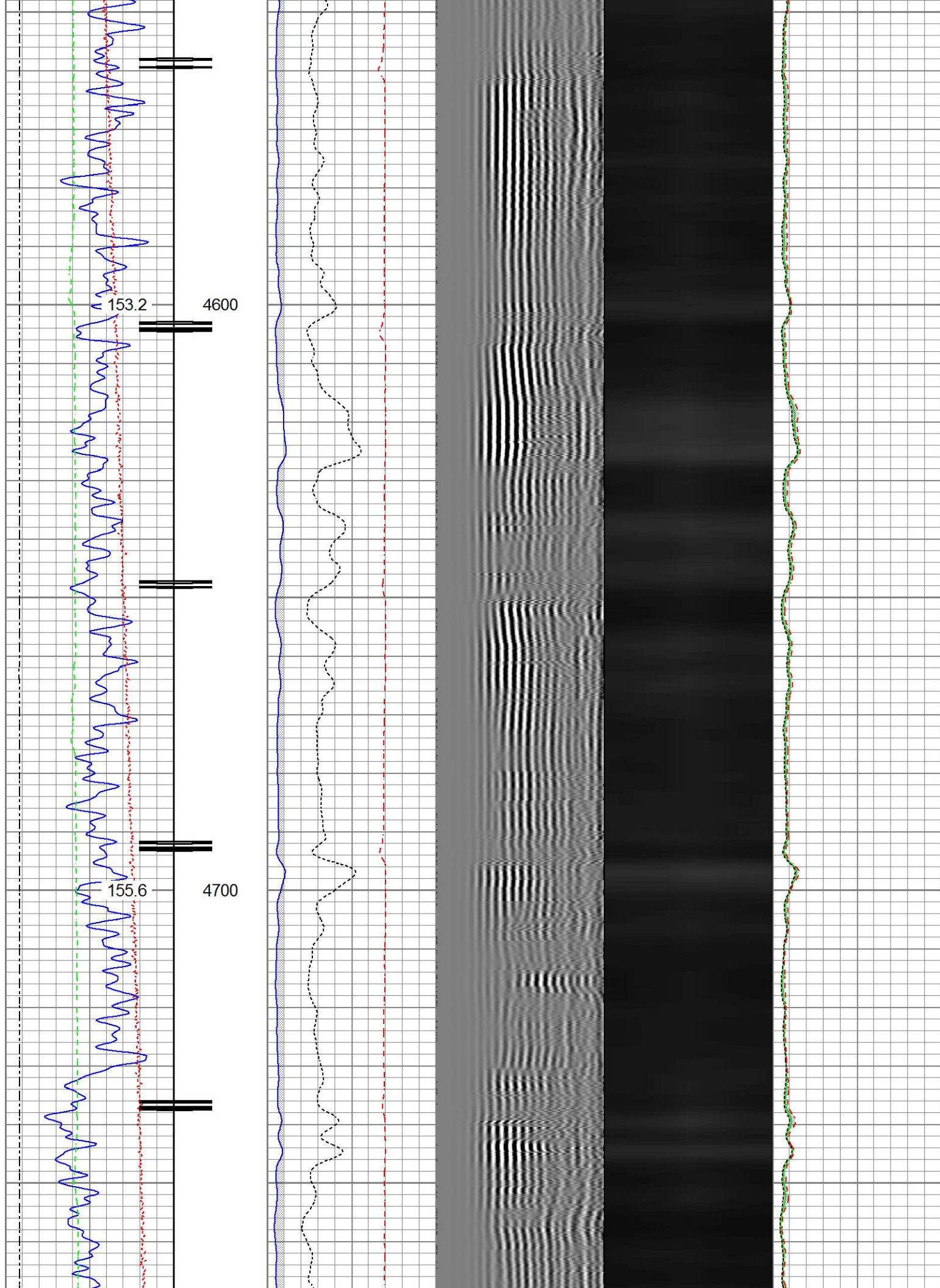


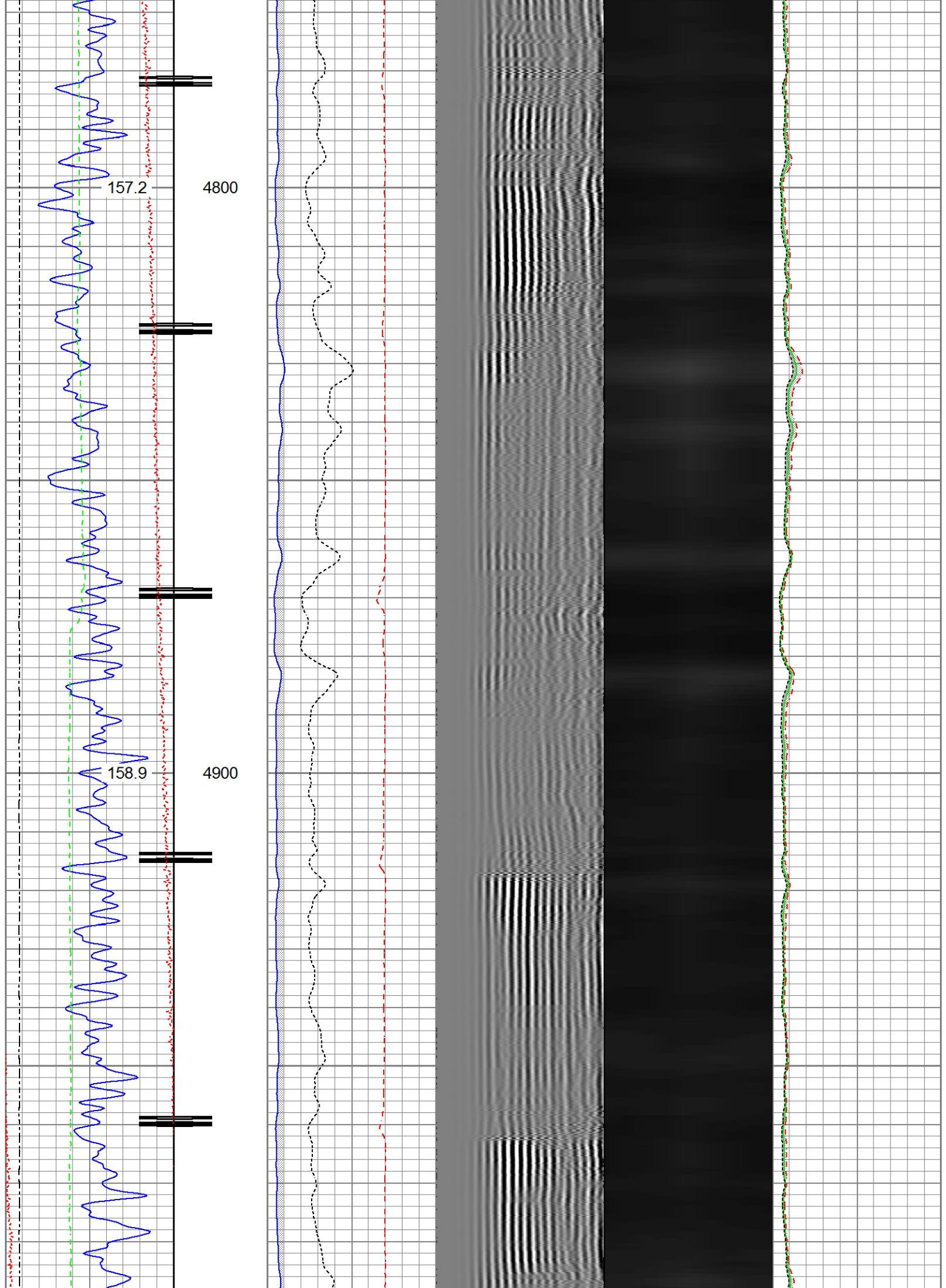




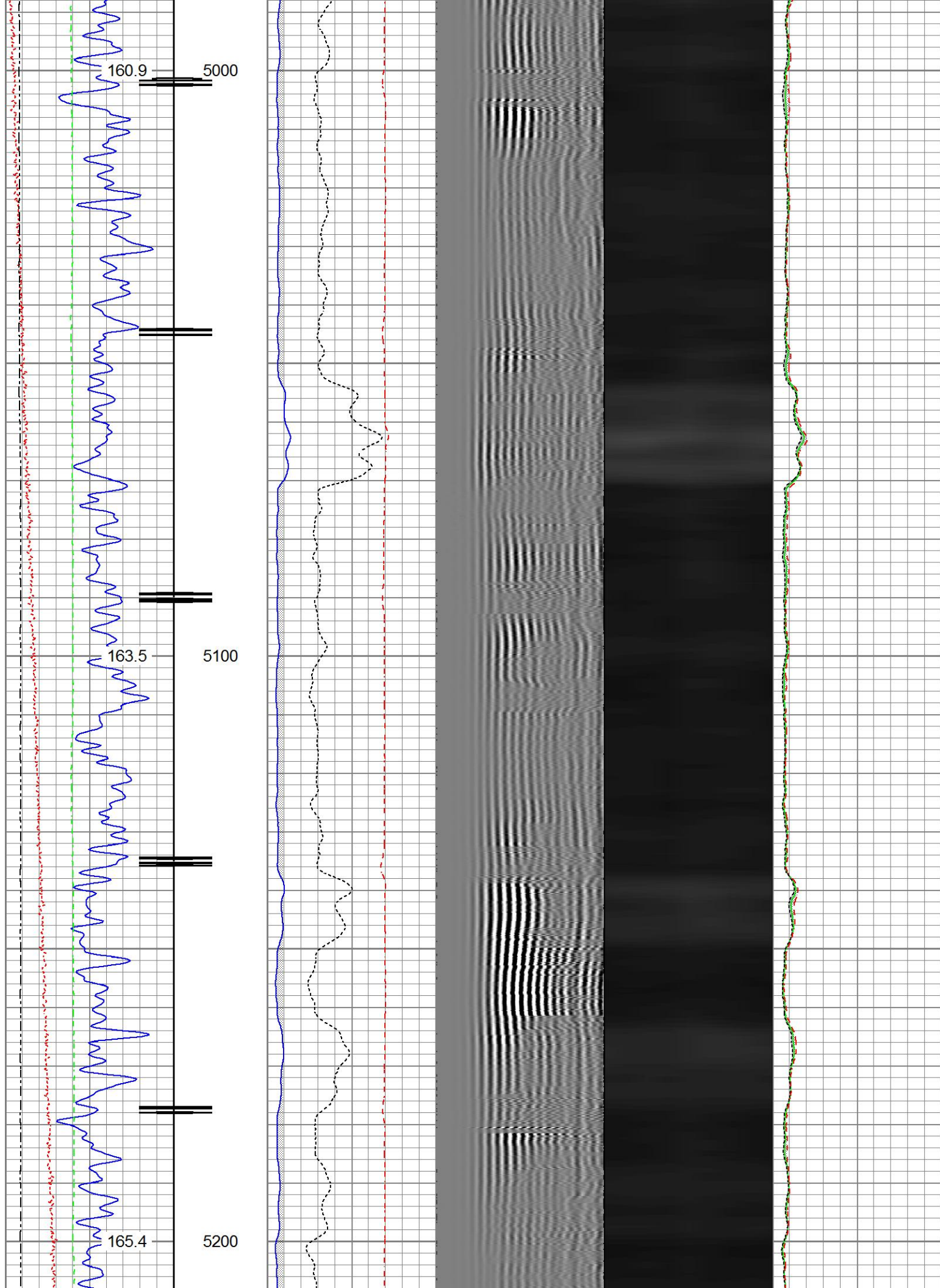


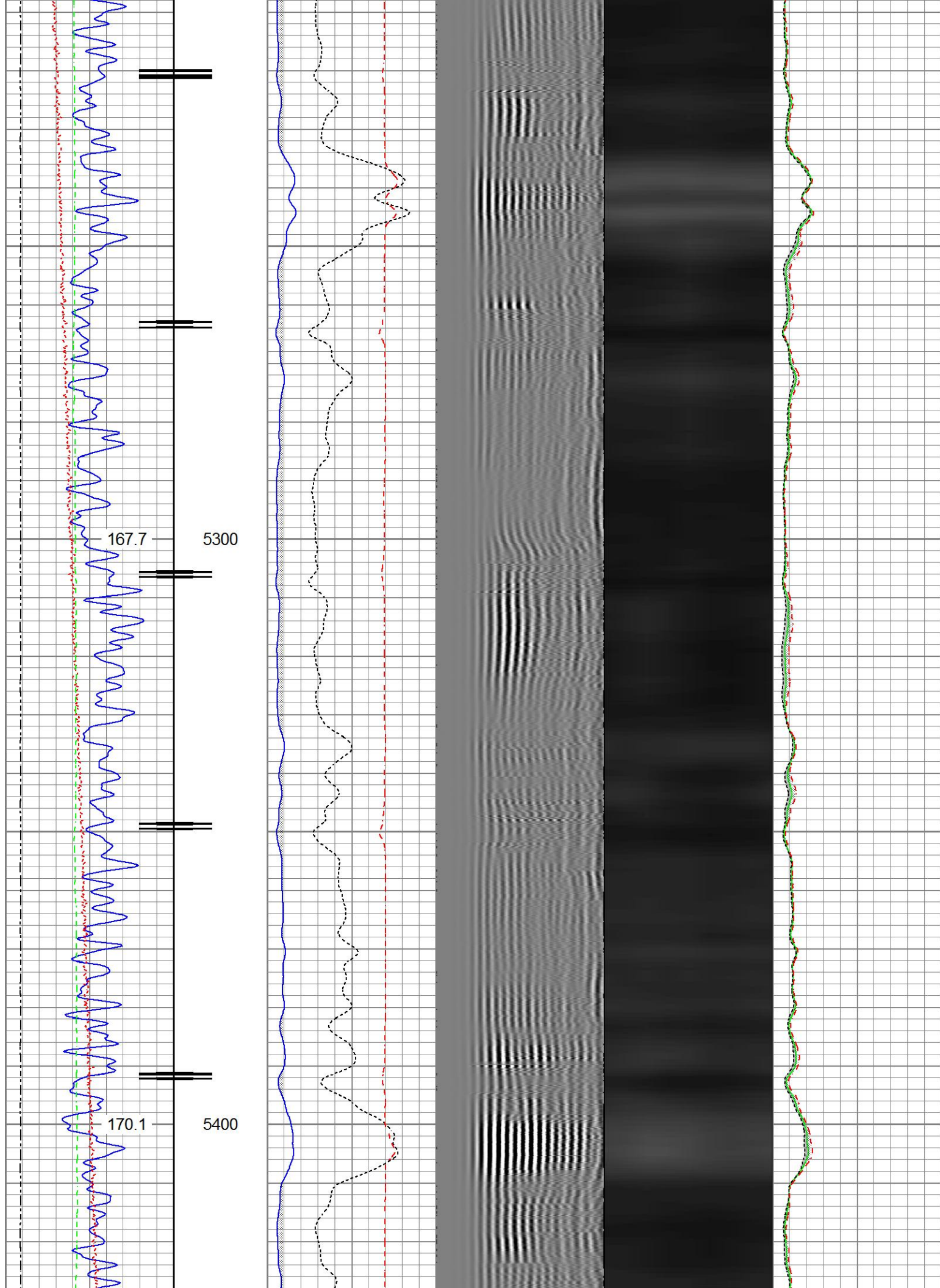




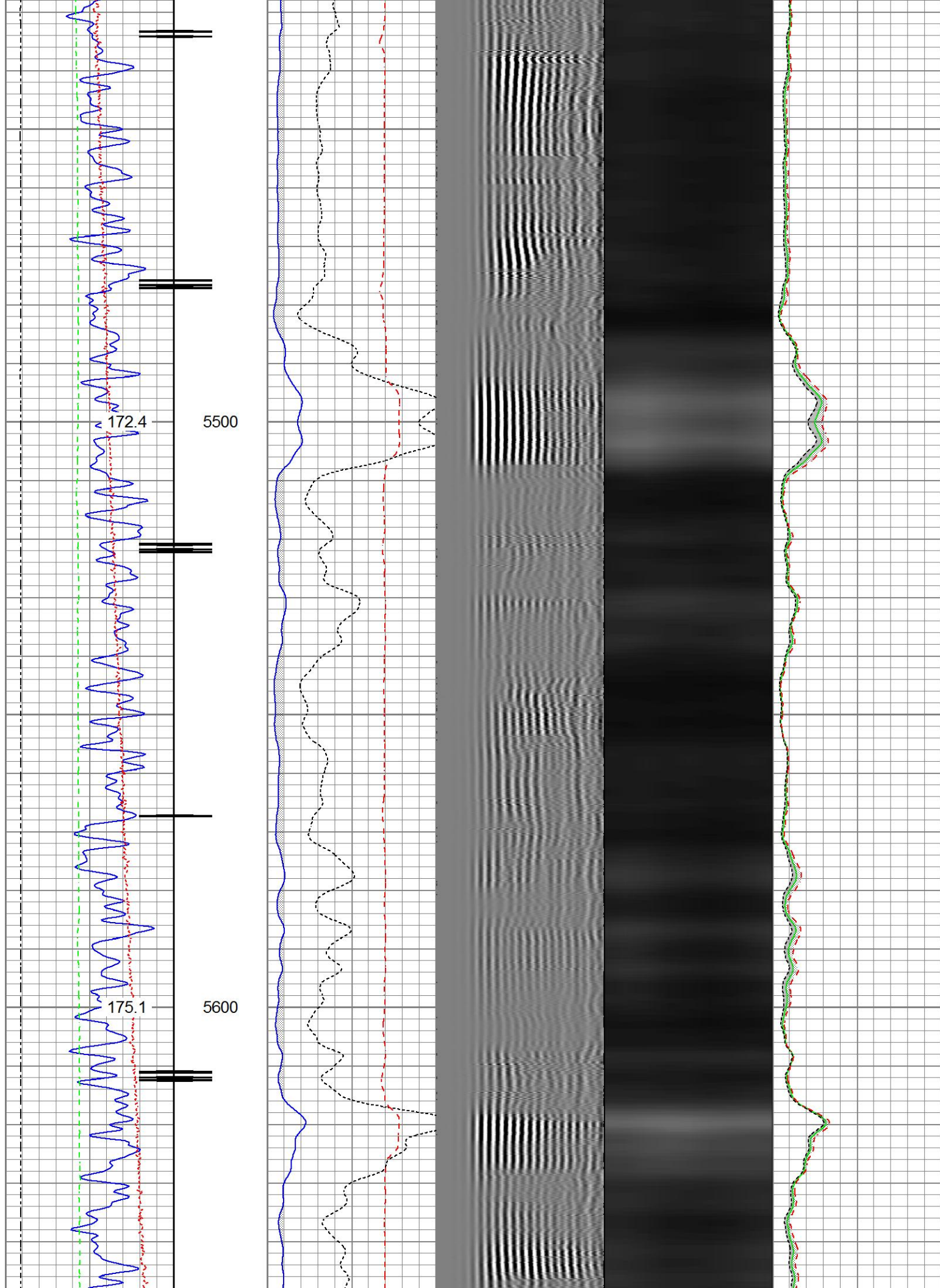


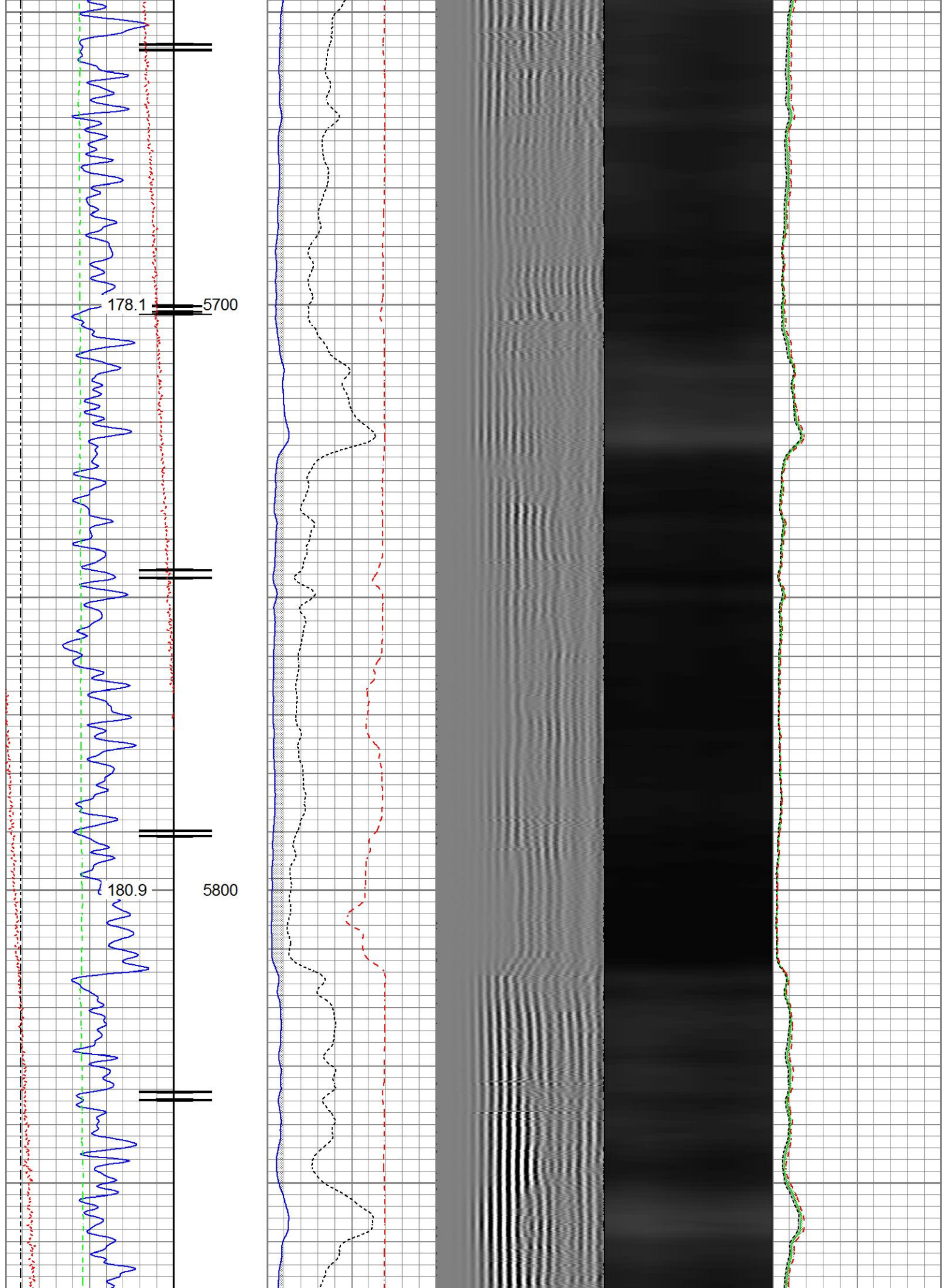




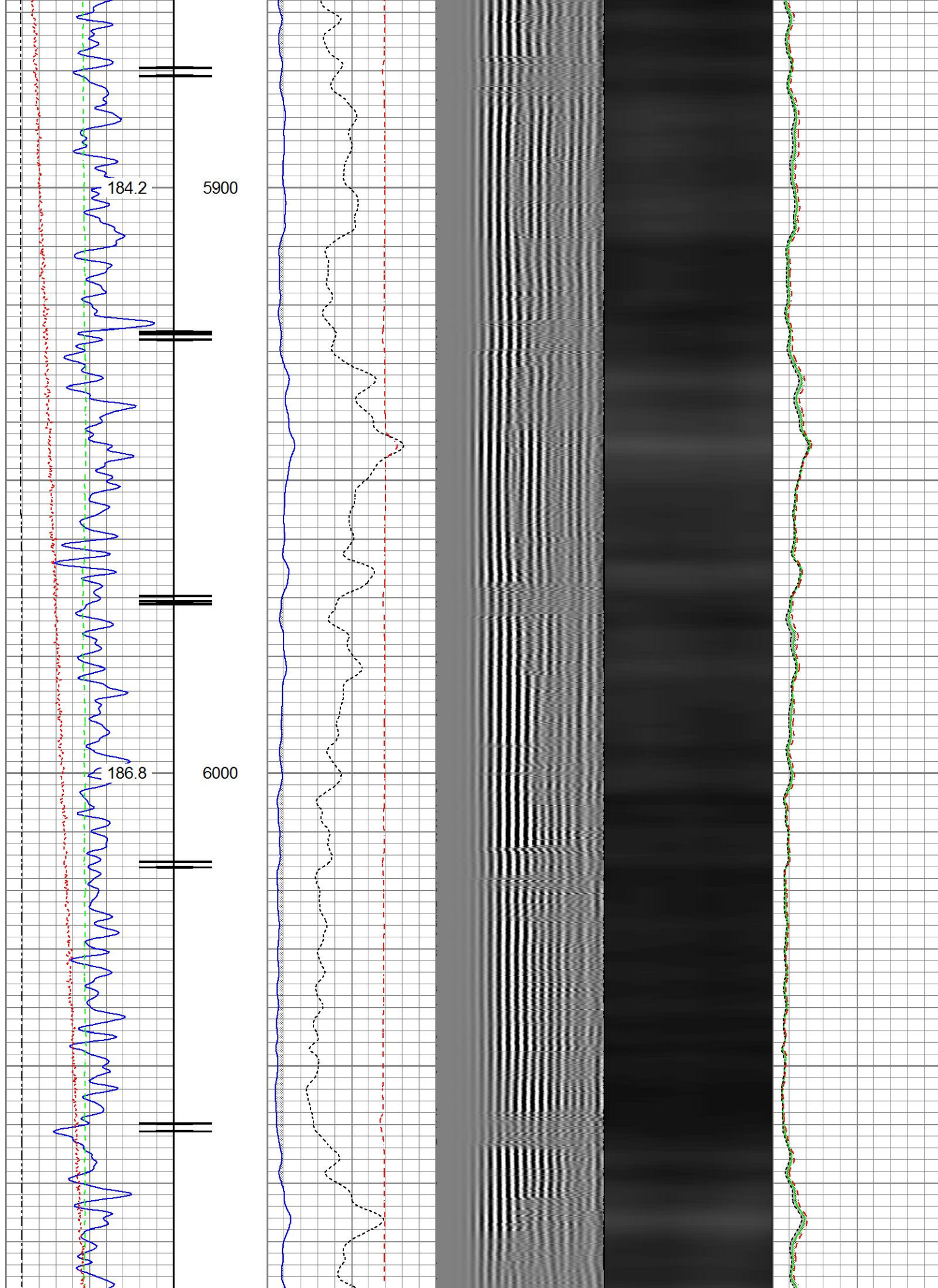


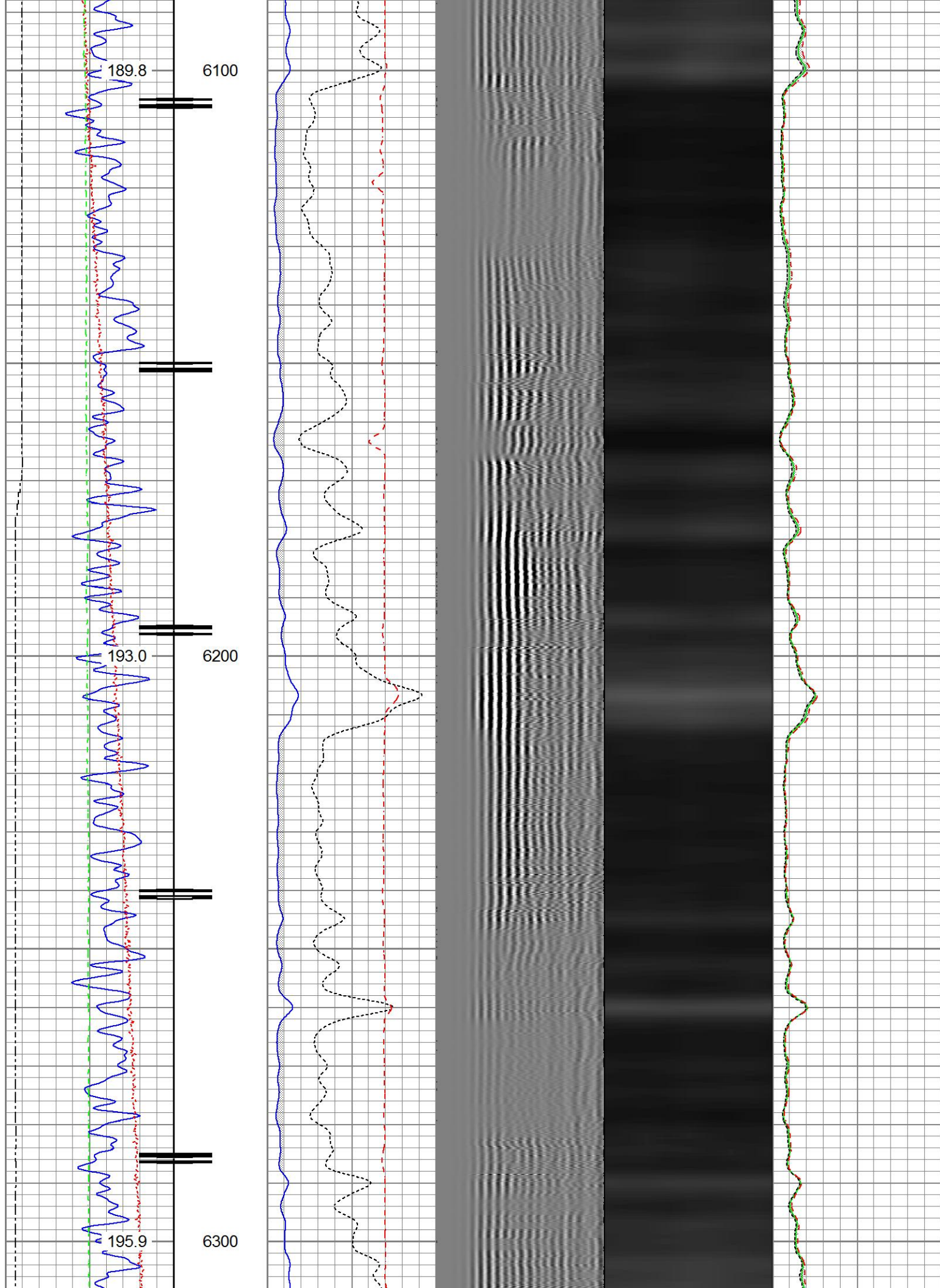




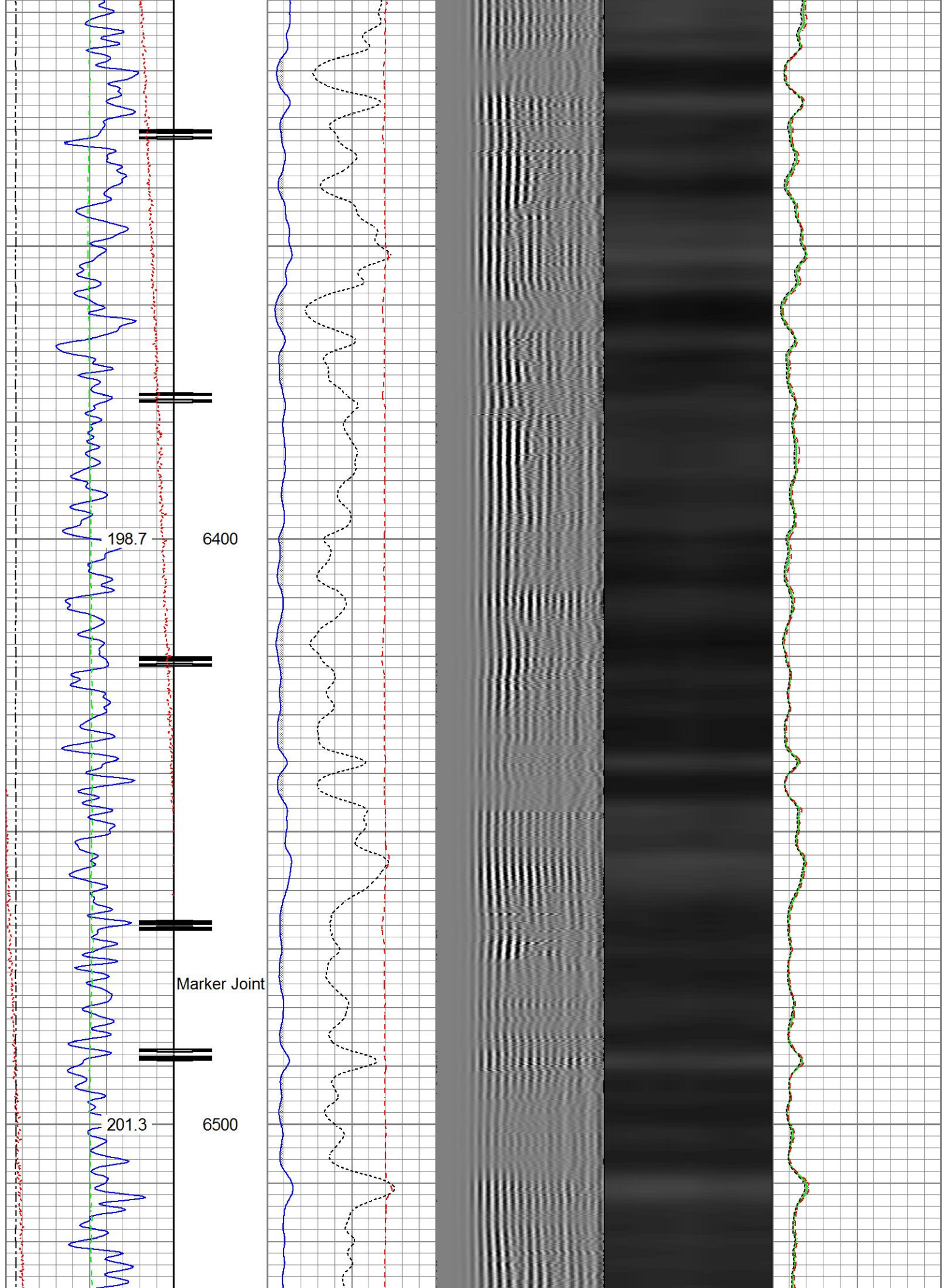


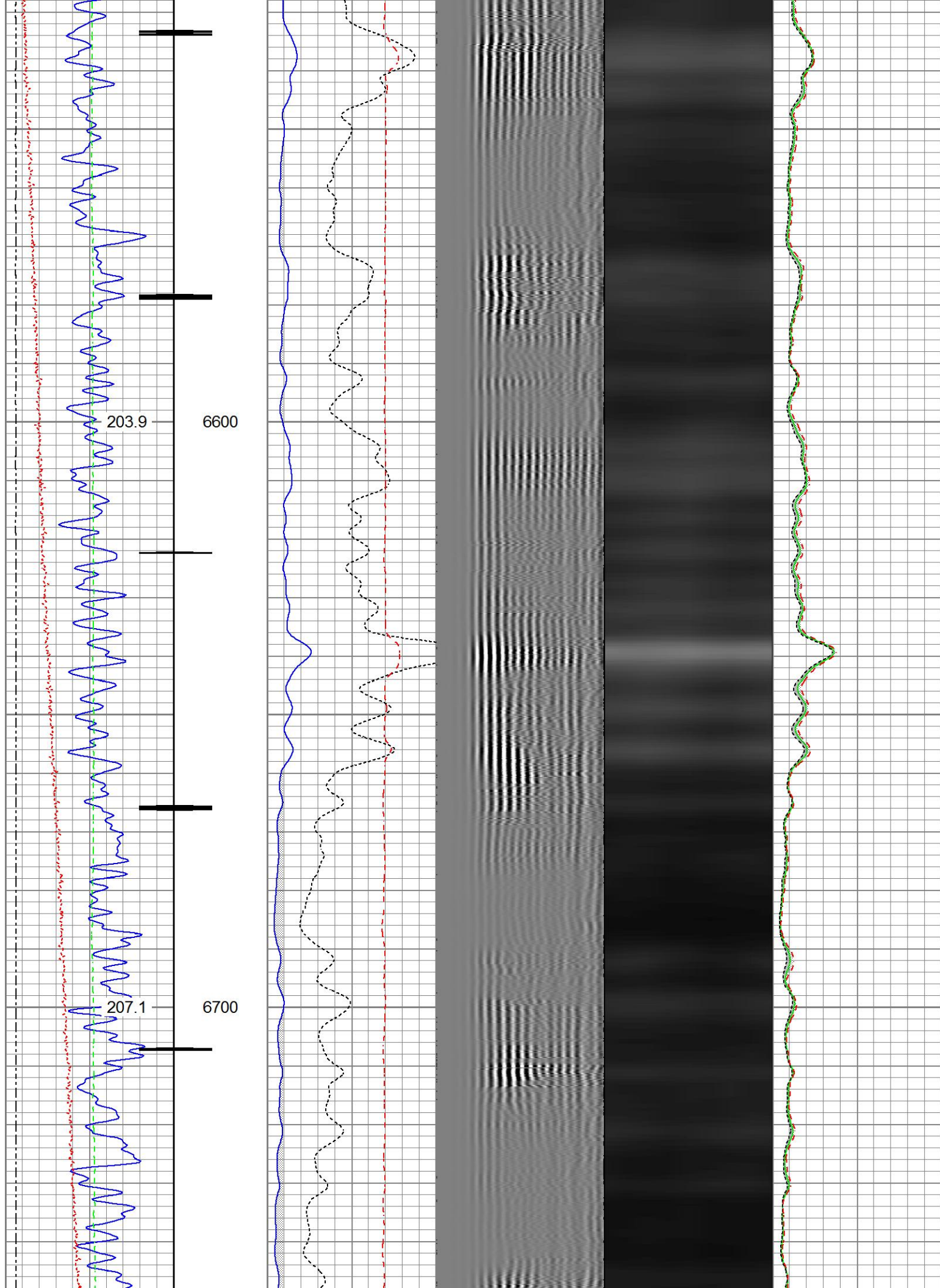




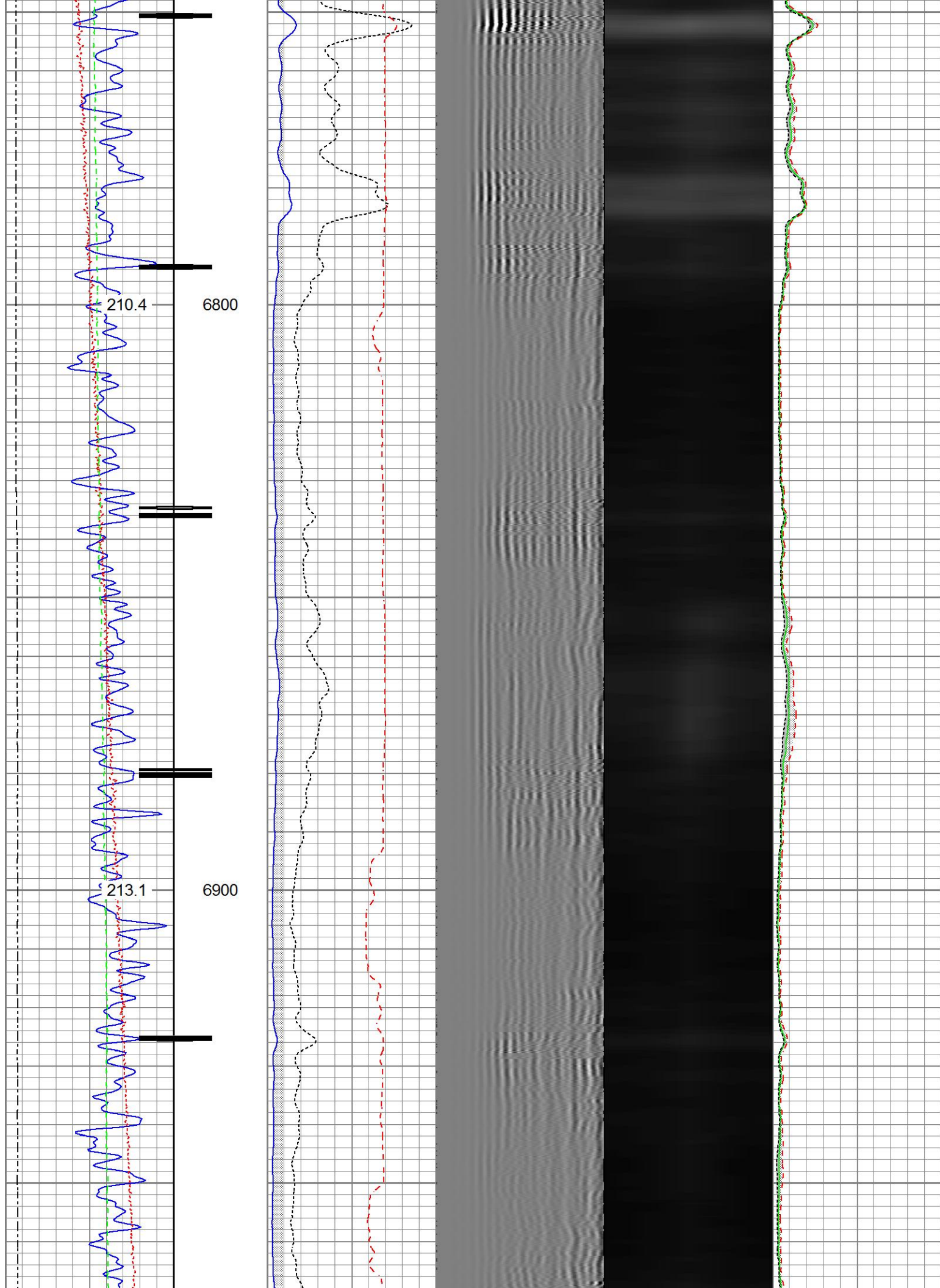


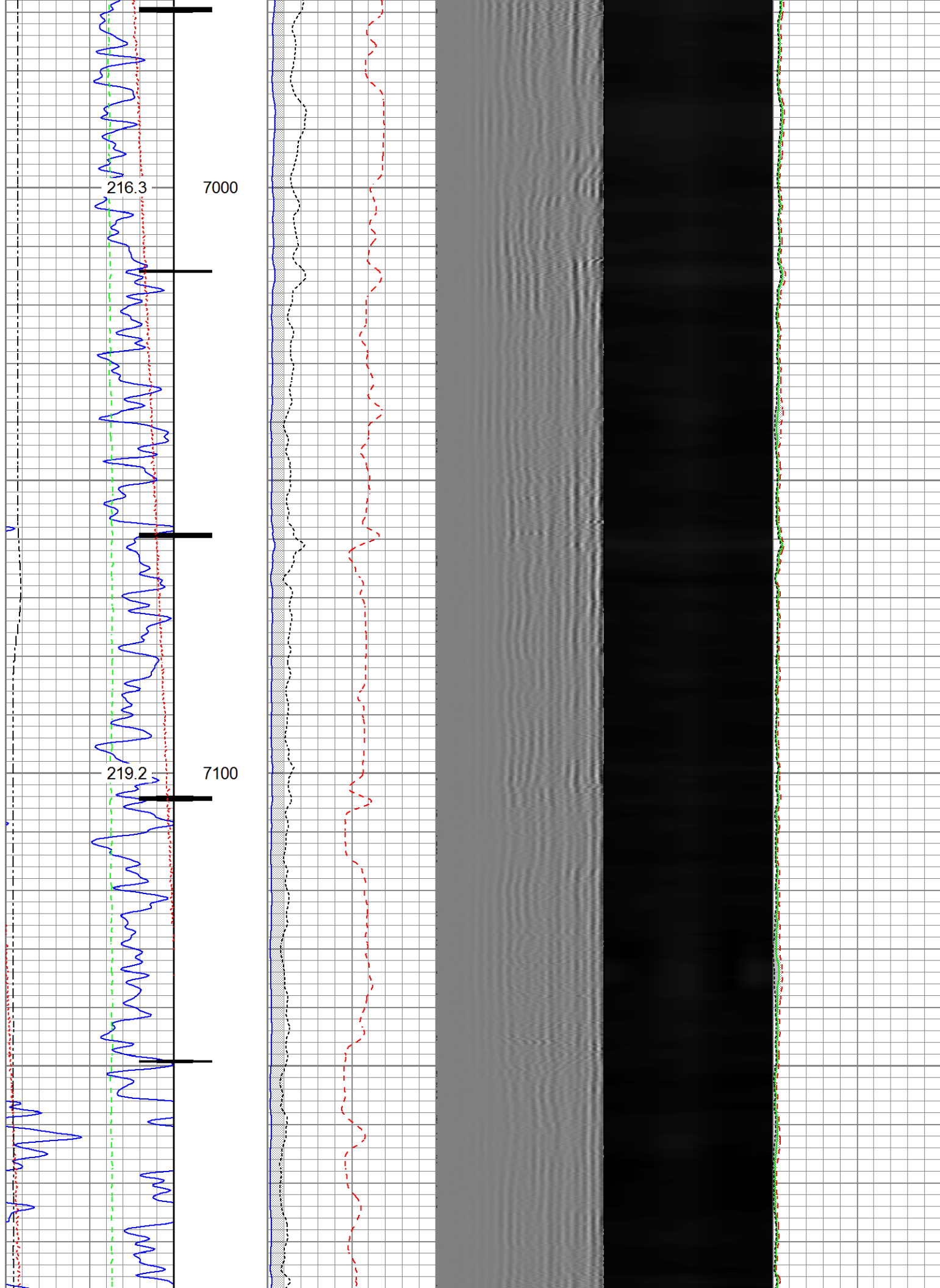




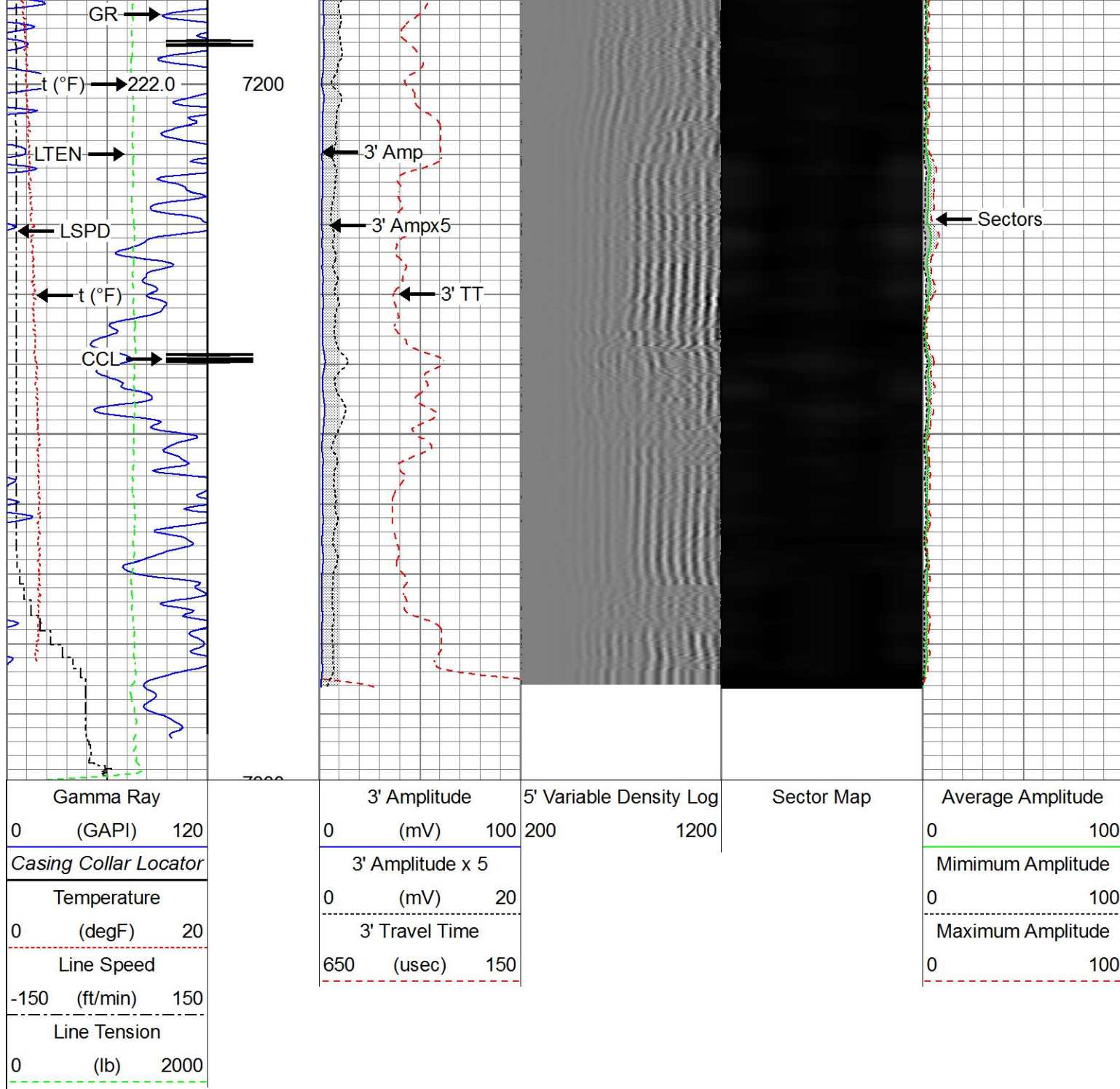








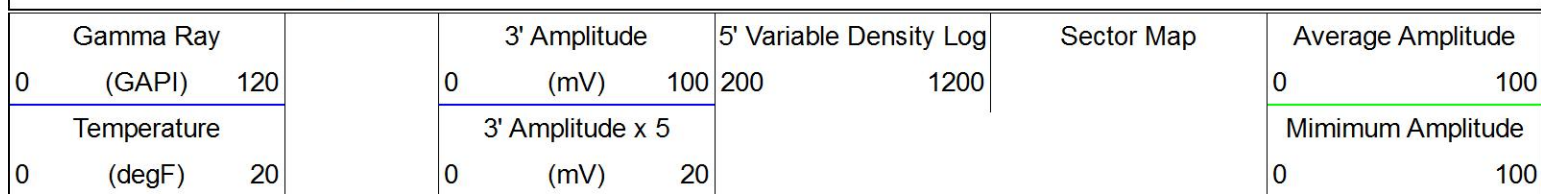




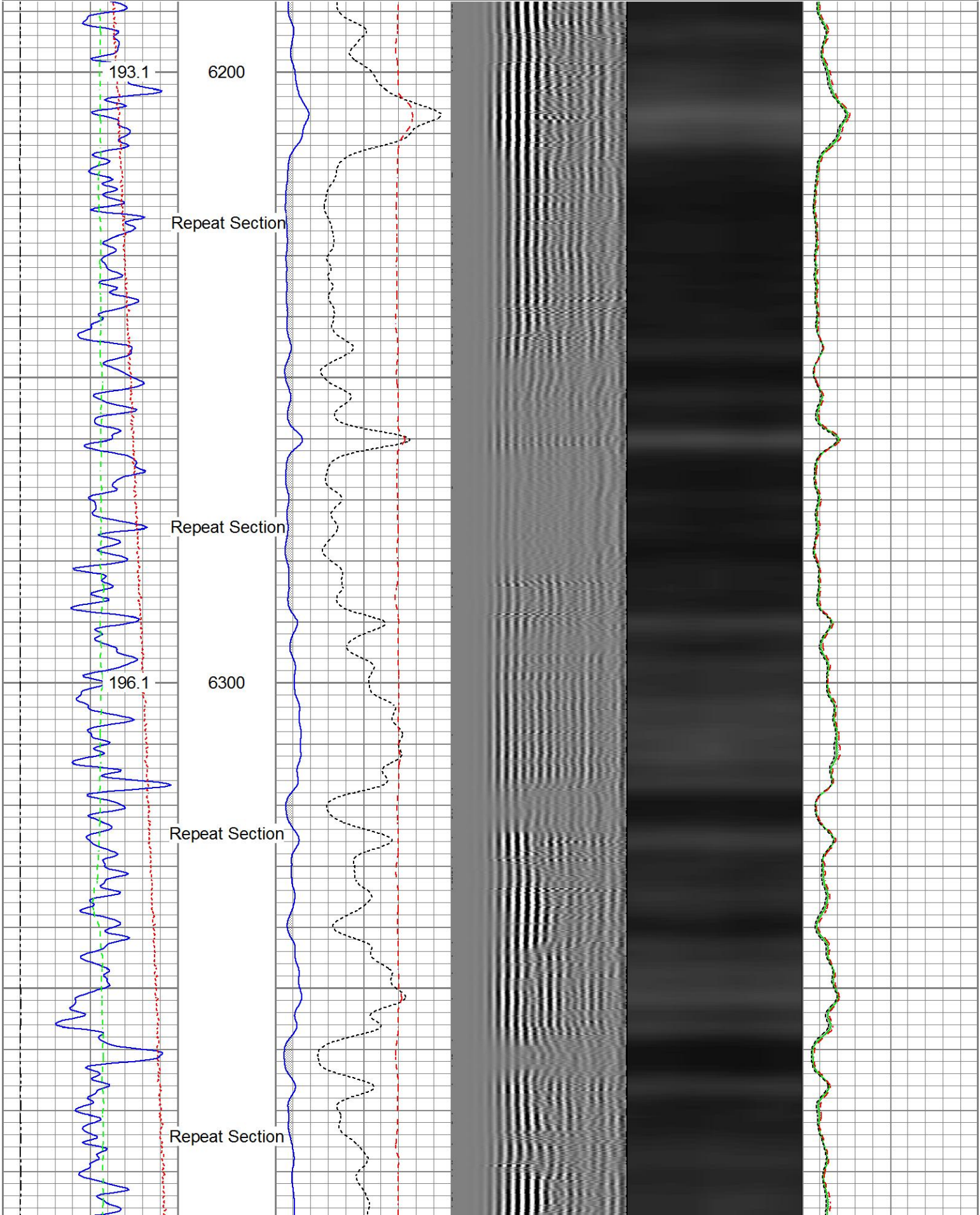
## Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure

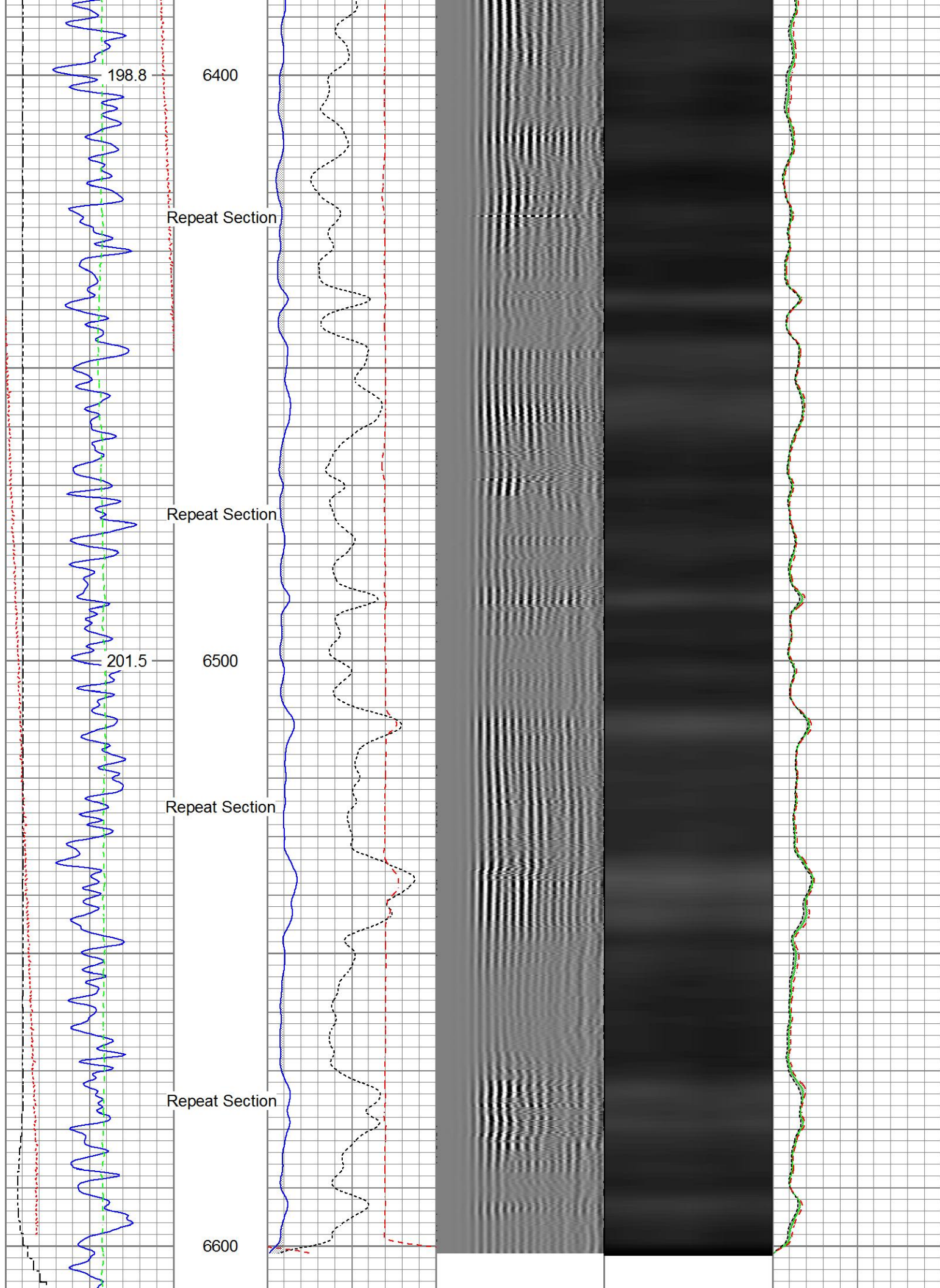
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 Dataset Pathname: repeat.1  
 Presentation Format: ros\_radrii  
 Dataset Creation: Wed Feb 15 10:17:19 2017  
 Charted by: Depth in Feet scaled 1:240







Line Speed		3' Travel Time		Maximum Amplitude	
-150	(ft/min)	150	650	(usec)	150
Line Tension					
0	(lb)	2000			



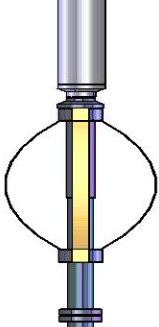




											
Gamma Ray			3' Amplitude		5' Variable Density Log	Sector Map		Average Amplitude			
0	(GAPI)	120	0	(mV)	100	200	1200	0	100		
Temperature			3' Amplitude x 5					Minimum Amplitude			
0	(degF)	20	0	(mV)	20			0	100		
Line Speed			3' Travel Time					Maximum Amplitude			
-150	(ft/min)	150	650	(usec)	150			0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

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
Temp	16.72		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	14.55		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					
DCCL CCL	6.51		Probe_ELine_BowSpring_Centralizer-P_EE2.88_275 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	2.75	20.00
	6.51		Probe_GR_CCL-P_CGR_2750_S (FW1214.541) Probe 2-3/4" Digital CCL / Gamma Ray Combined	2.75	2.75	55.00



GR	3.77		Probe_ELine_BowSpring_Centralizer-P Probe 2-3/4" Electric Inline Bowspring Centralizer	EE2.88,275	2.75	20.00
Dataset: 0512341297_Anadarko_Whisper Rock 4N-25HZ_02-14-17_RBL.db: field/well/run1/Main.1 Total length: 23.40 ft Total weight: 225.40 lb O.D.: 2.75 in						

Calibration Report	
Database File	D:\Warrior\Data\Anadarko_Whisper Rock 4N-25HZ\0512341297_Anadarko_Whisper Rock 4N-25HZ_02-14-
Dataset Pathname	Main.1
Dataset Creation	Tue Feb 14 18:59:49 2017

Gamma Ray Calibration Report		
Serial Number:	FW1211-081	
Tool Model:	P_CGR_2750_S	
Performed:	Sat Feb 06 11:31:52 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:	50.116	ft

Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.639	0.800	71.921	111.300	0.786
CAL	0.004	0.730				
5'	0.000	0.548	0.800	71.921	129.730	0.782
SUM						
S1	0.000	0.611	0.000	100.000	163.780	-0.018
S2	0.000	0.590	0.000	100.000	169.470	-0.017
S3	0.000	0.597	0.000	100.000	167.603	-0.019
S4	0.000	0.619	0.000	100.000	161.532	-0.046
S5	0.000	0.659	0.000	100.000	151.934	-0.053
S6	0.000	0.694	0.000	100.000	144.256	-0.057
S7	0.000	0.688	0.000	100.000	145.390	-0.022
S8	0.000	0.652	0.000	100.000	153.361	-0.017

Internal Reference Calibration, performed (Not Performed):		
	Raw (v)	Calibrated (v)
		Results

	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.004	0.730	1.000	0.000

Air Zero Calibration, performed Tue Feb 14 17:06:22 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



**RELIANCE**  
OILFIELD SERVICES

Company Kerr-McGee Oil & Gas Onshore, L.P.  
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Field Wattenberg  
County Weld  
State Colorado