



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Whisper Rock 1C-25HZ
Field Wattenberg
County Weld
State Colorado

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Location: API #: 05-123-41301

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'

Date 14-FEB-2017

Run Number TWO

Depth Driller 13830 FT

Depth Logger 7715 FT

Bottom Logged Interval 7714 FT

Top Log Interval Surface

Open Hole Size 7.875"

Type Fluid Water

Density / Viscosity 8.34 lb/gal

Max. Recorded Temp. 228 °F

Estimated Cement Top Surface

Time Well Ready ROA

Time Logger on Bottom 16:15

Equipment Number HD-324

Location Fort Lupton, CO

Recorded By G. Lueck

Witnessed By Brian Jolly

Borehole Record

Run Number Bit From To Size Weight From To

Tubing Record

Size Weight From To

Casing Record

Size (in) Wgt (lbs/ft) Grade Top Bottom

Surface Casing

9 5/8 36 J55 BTC Surface 1883 FT

Intermediate #1

5 1/2 17 HCP-110 Surface 13815 FT

Intermediate #2

Liner

<<< Fold Here >>>

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 6725 FT
Adjusted log +6 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 7816 FT with no debris
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!!

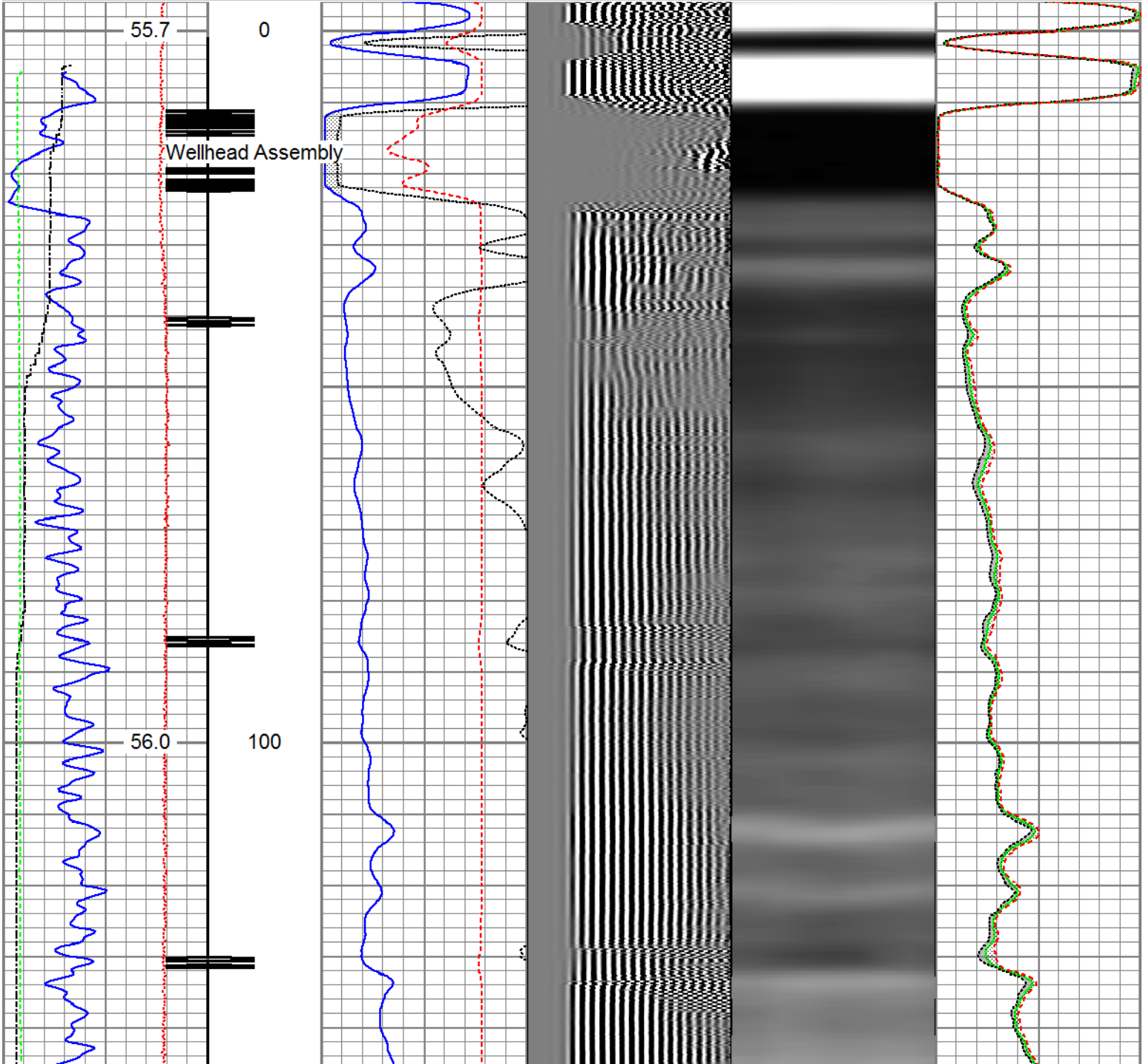


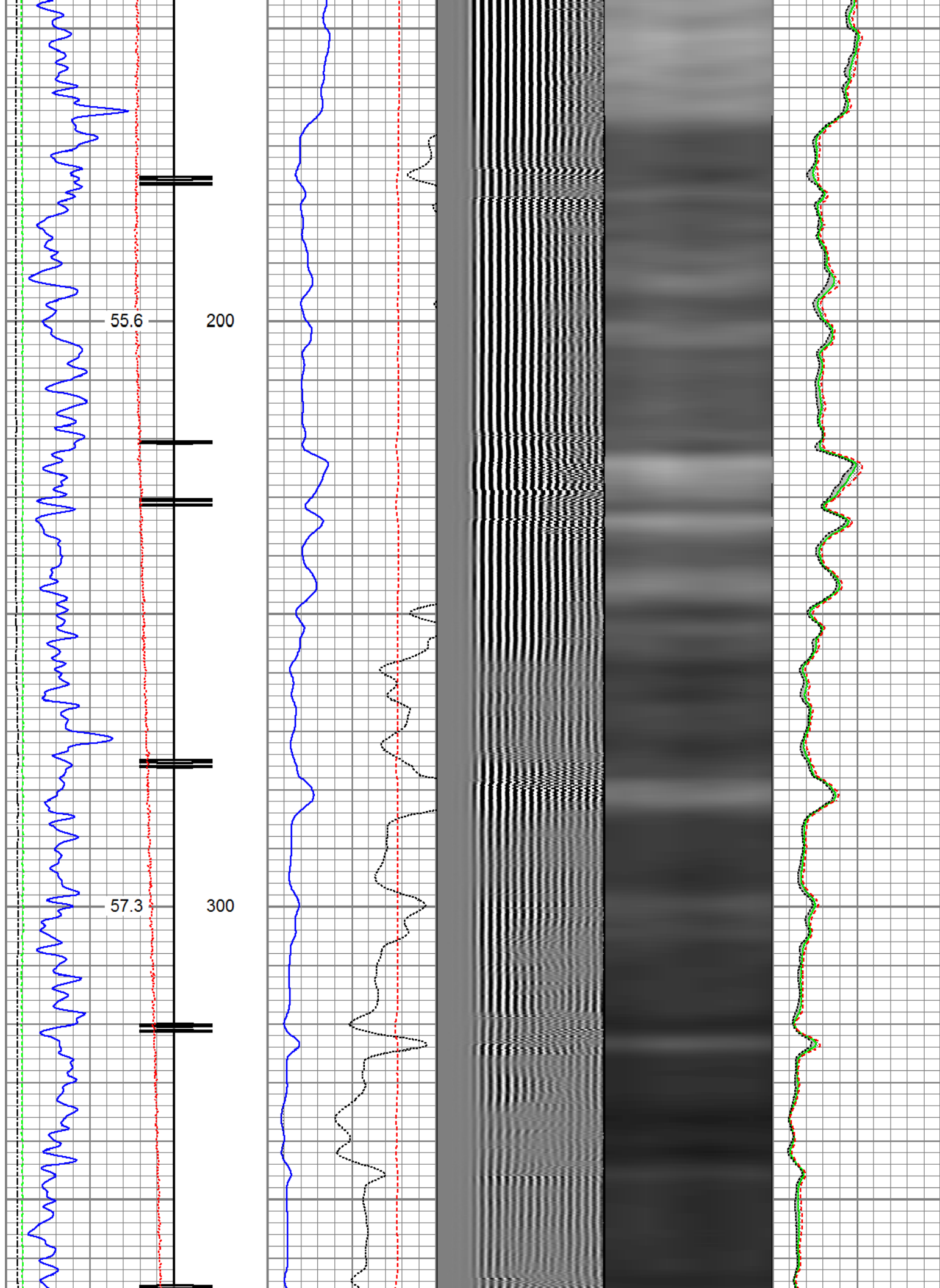
Main Pass

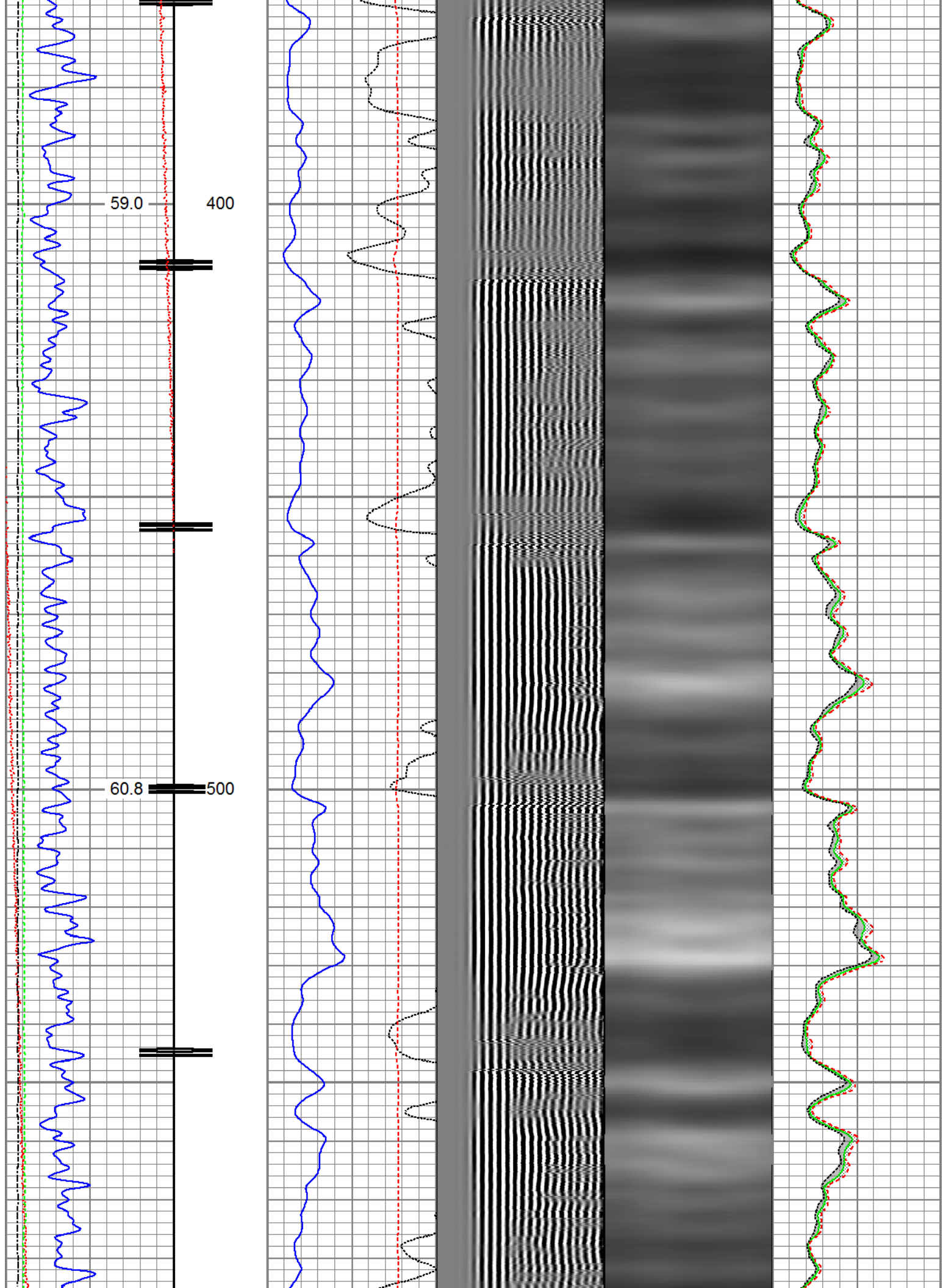
Recorded With 2800 PSI Surface Induced Pressure

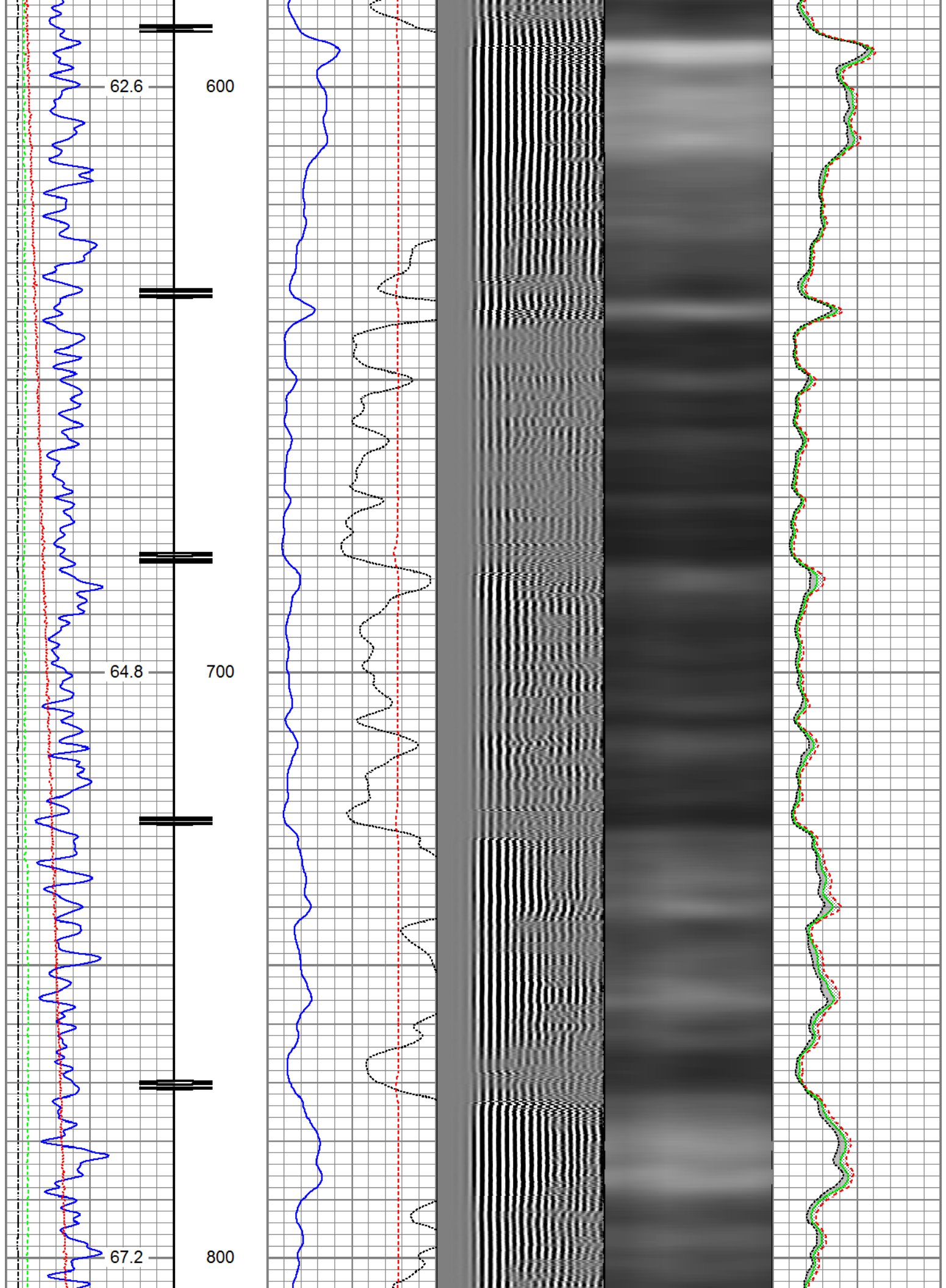
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Dataset Pathname	pass_7.1
Presentation Format	ros_radrii
Dataset Creation	Tue Feb 14 17:30:00 2017
Charted by	Depth in Feet scaled 1:240

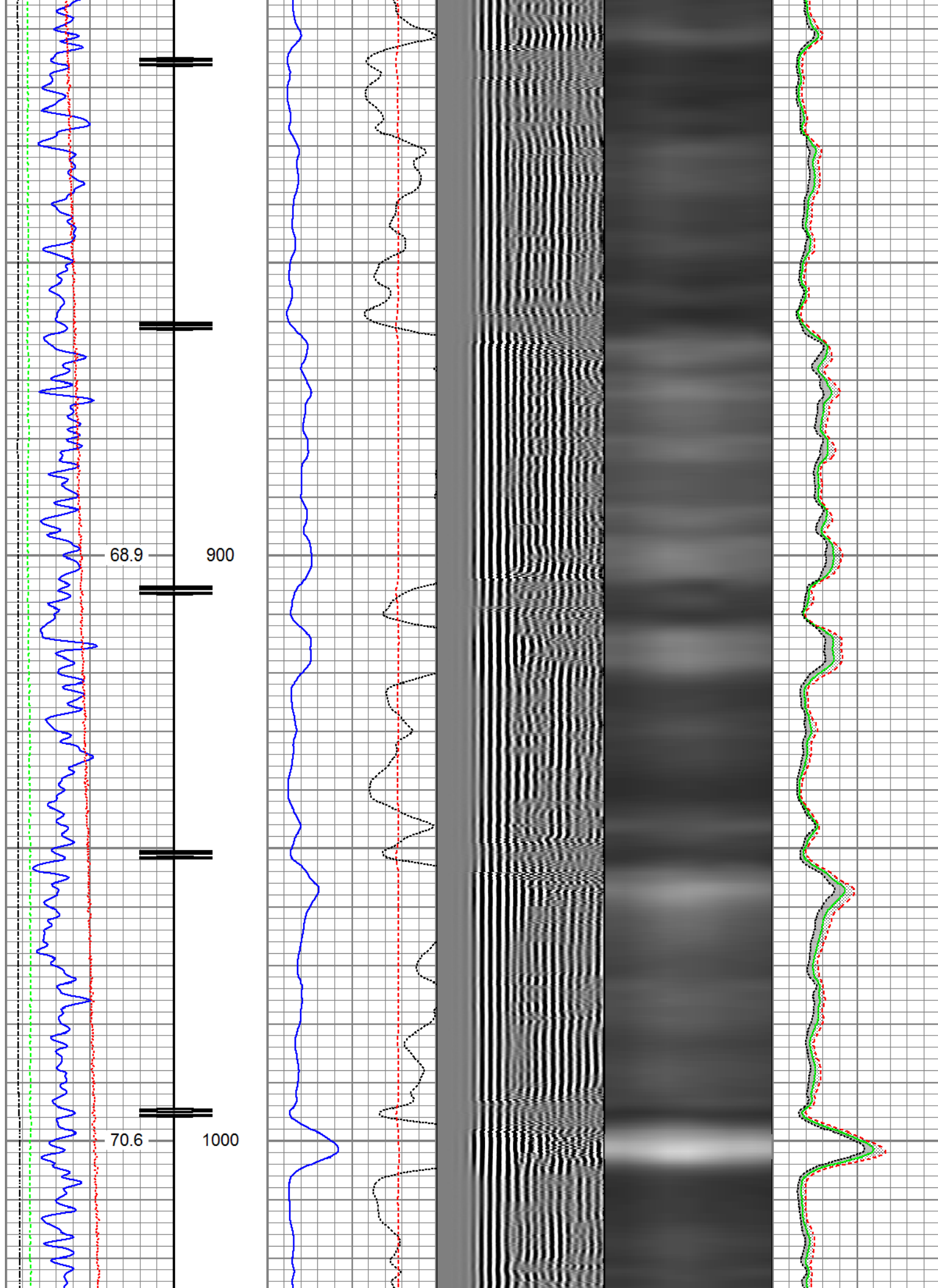
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
Temperature	3' Travel Time			Maximum Amplitude
0 (degF) 20	650 (usec) 150			0 100
Line Speed				
-150 (ft/min)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

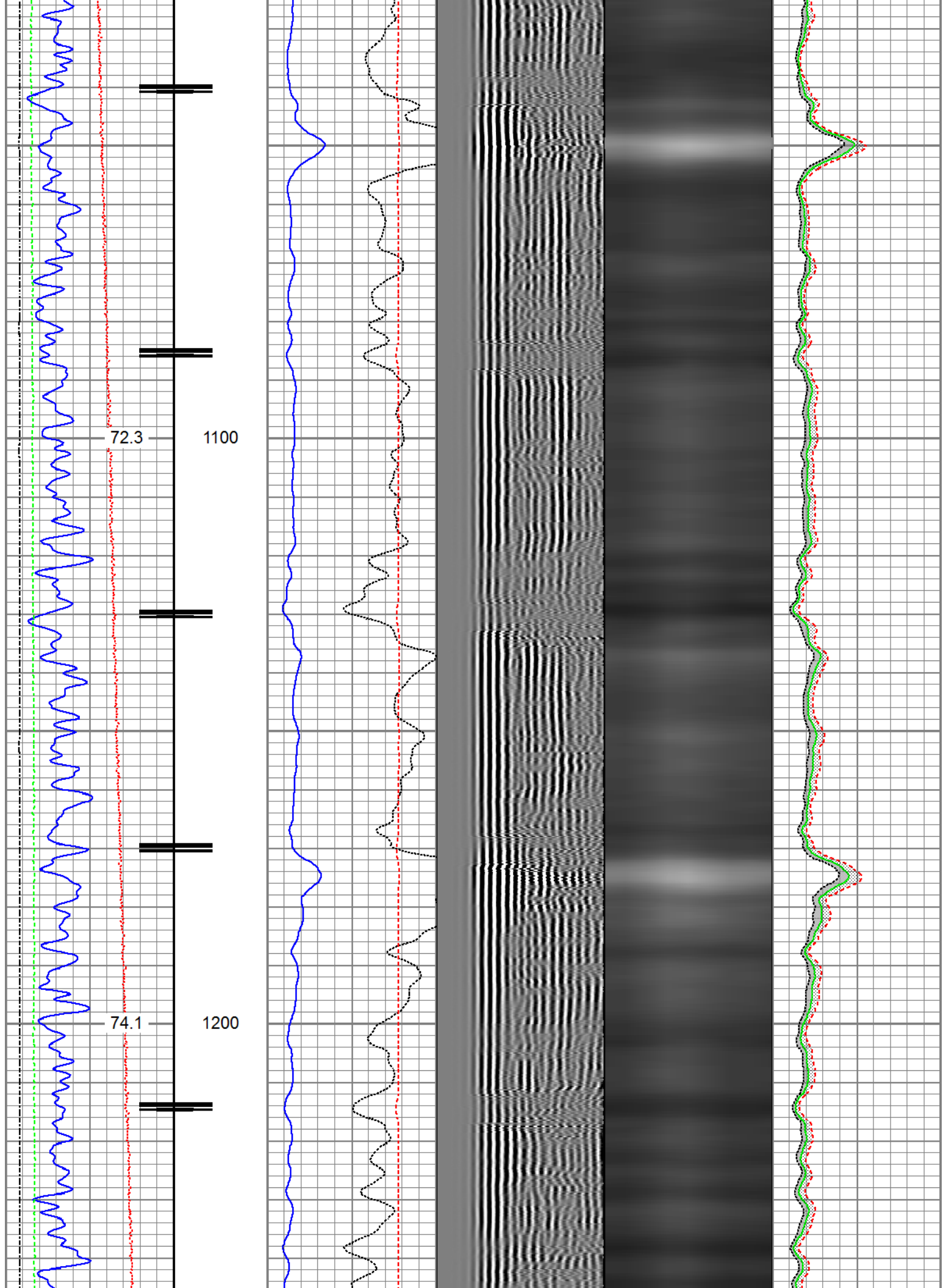


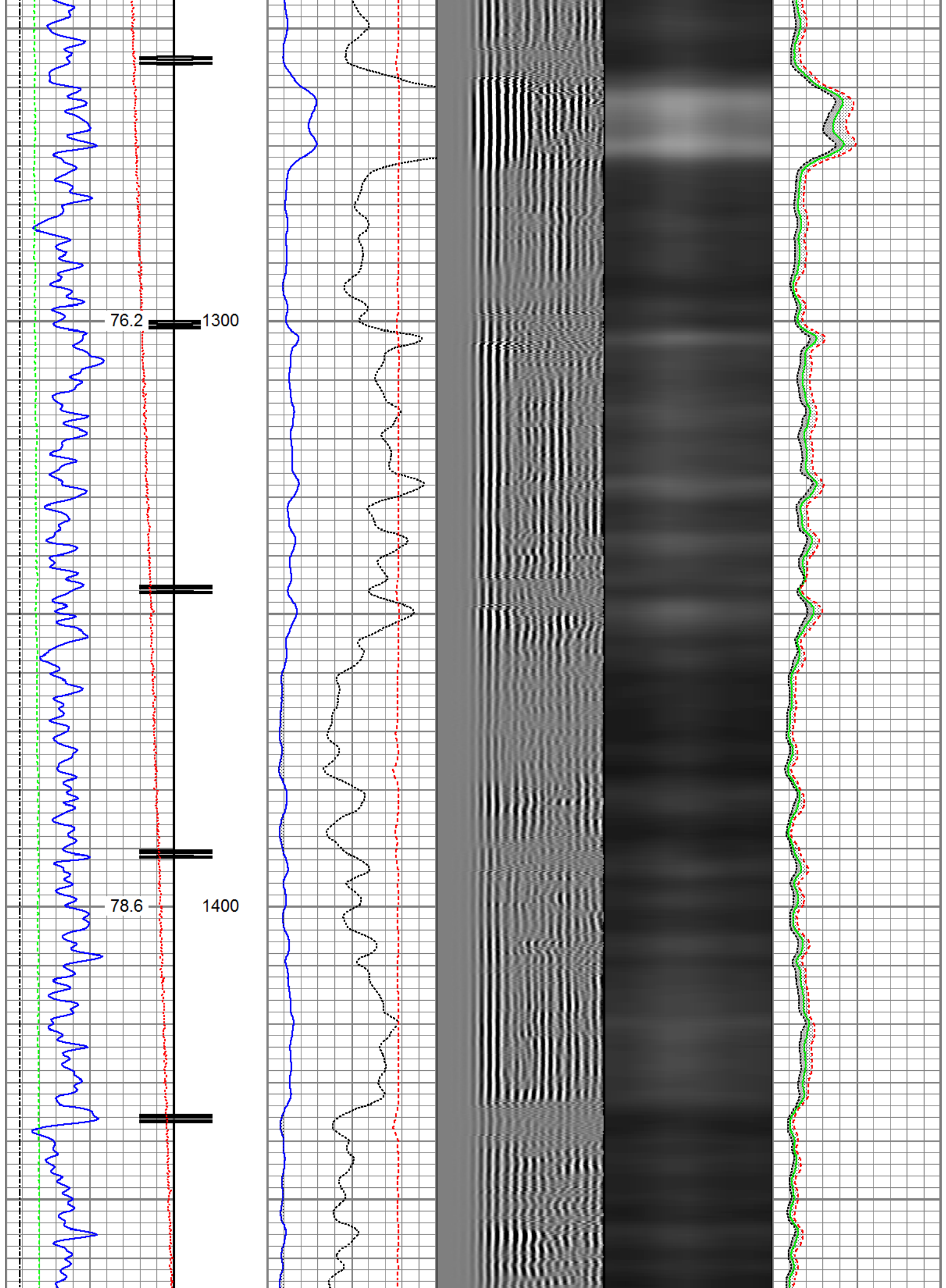


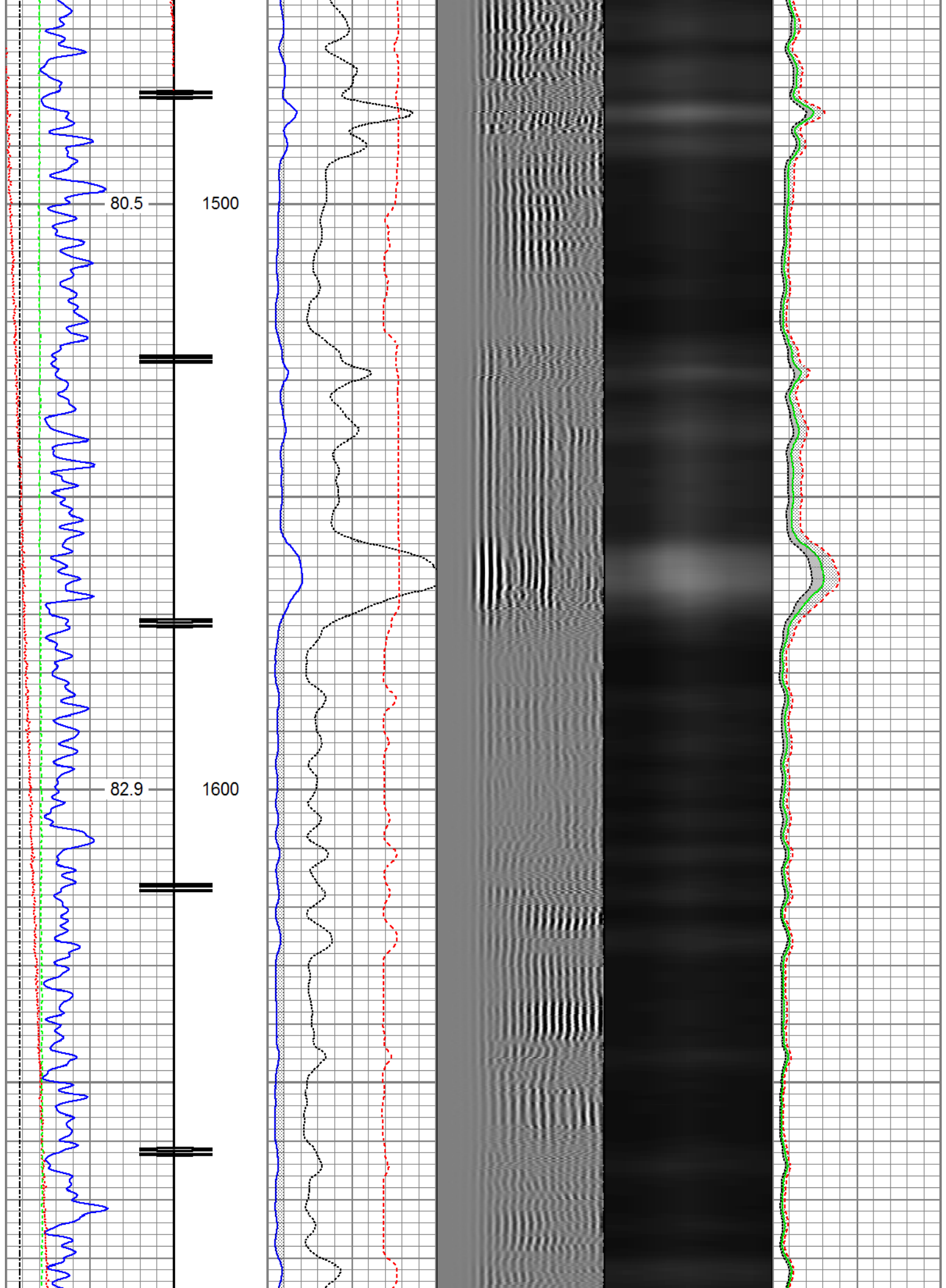


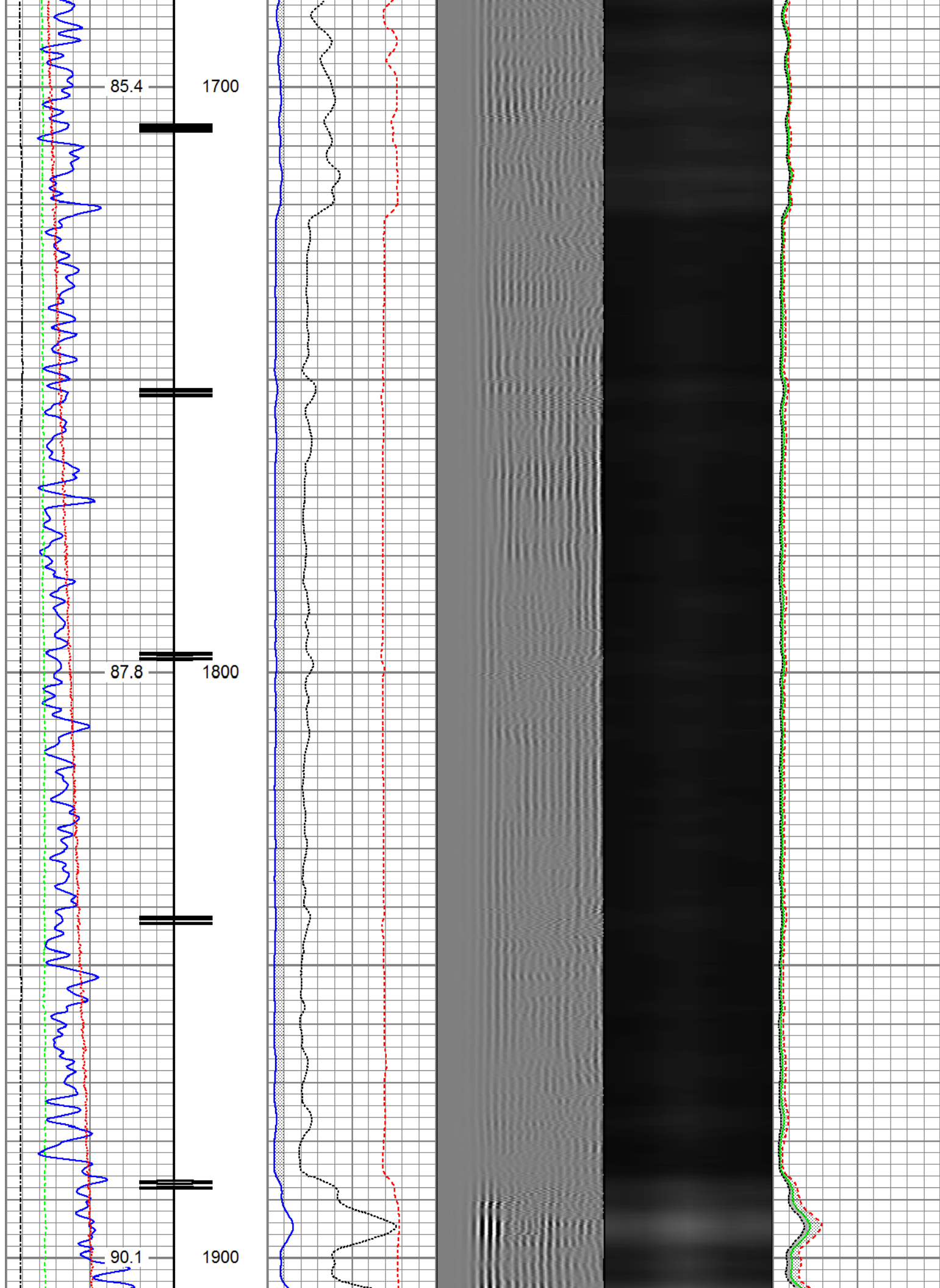


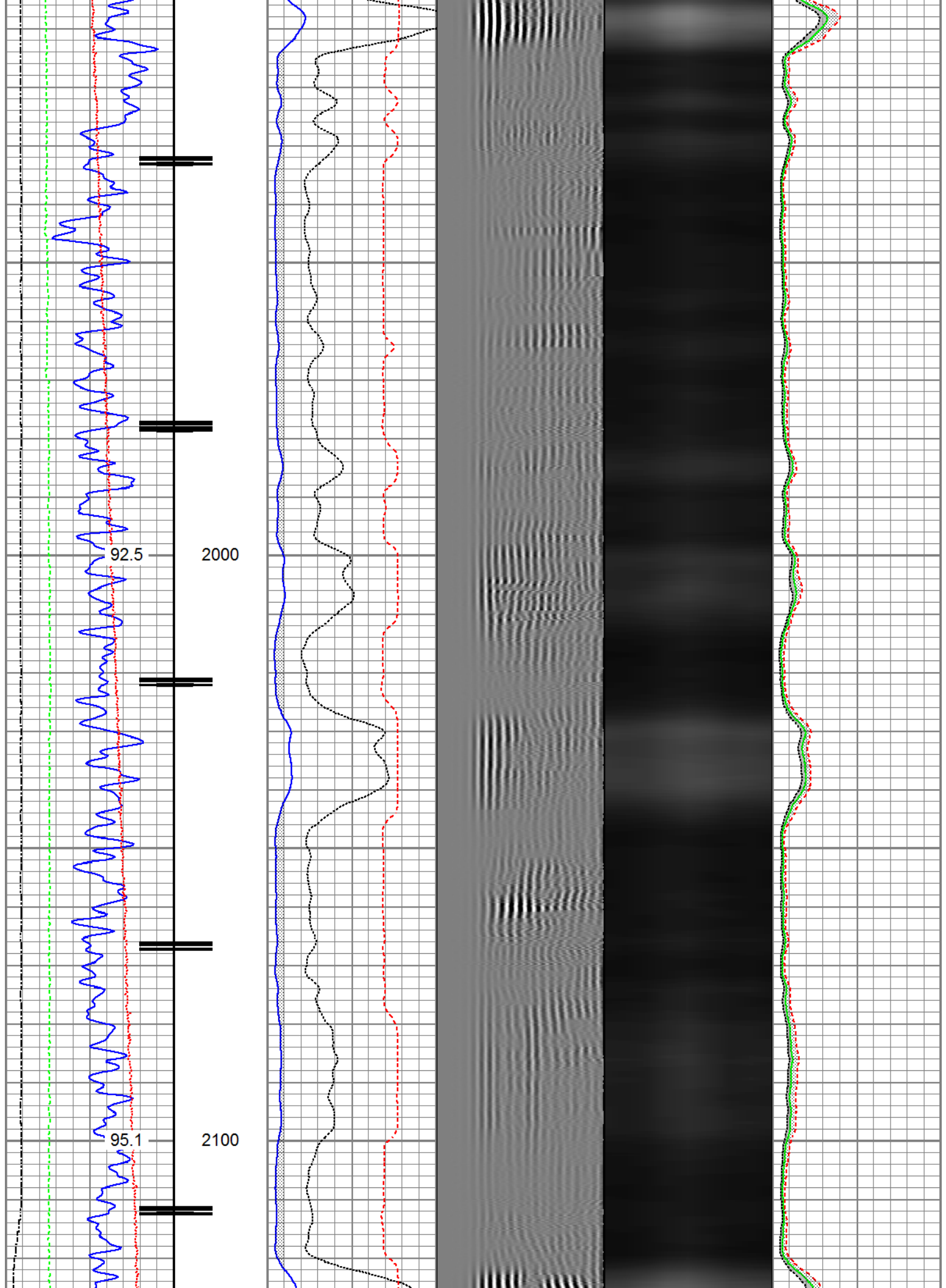


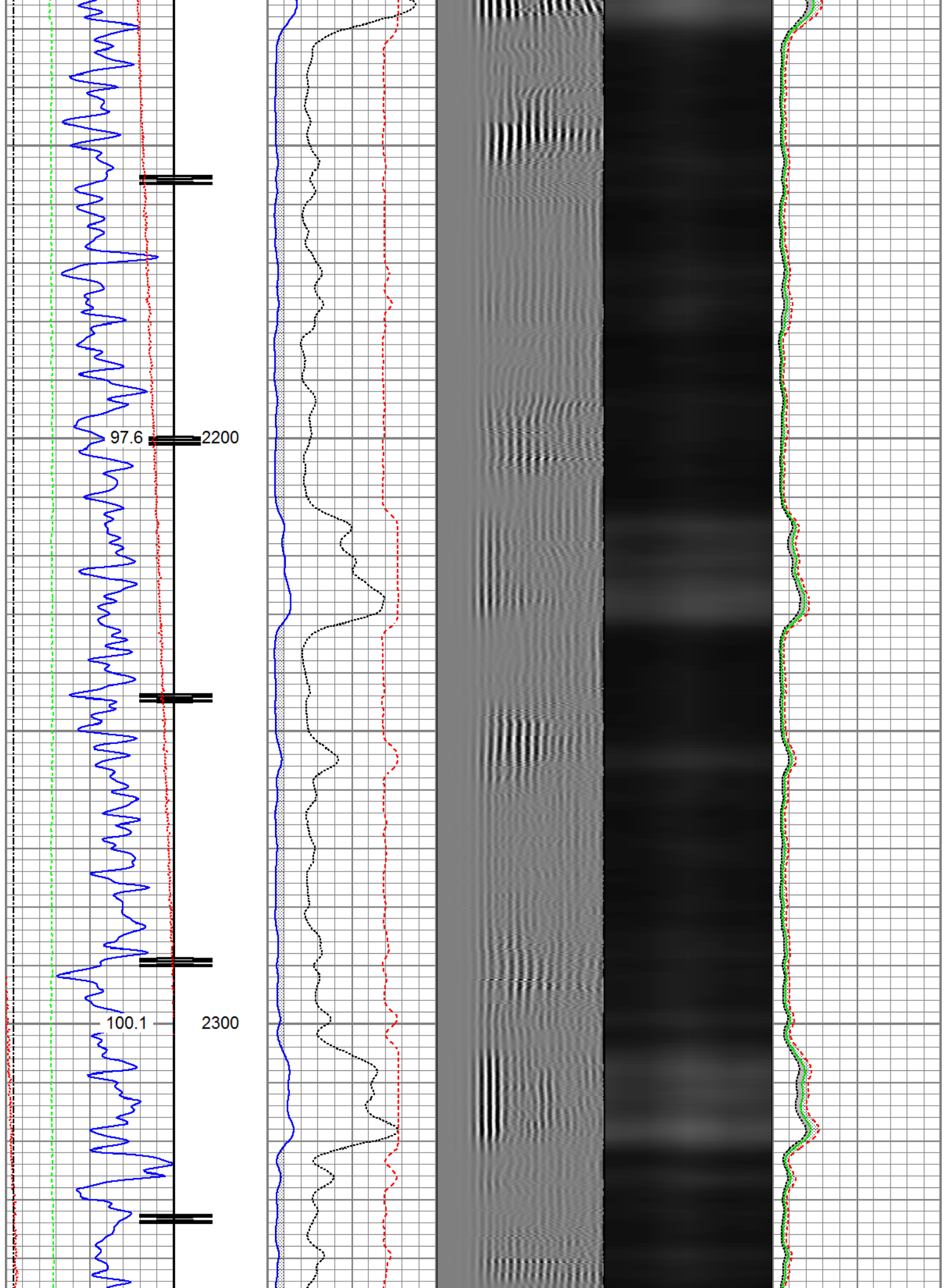


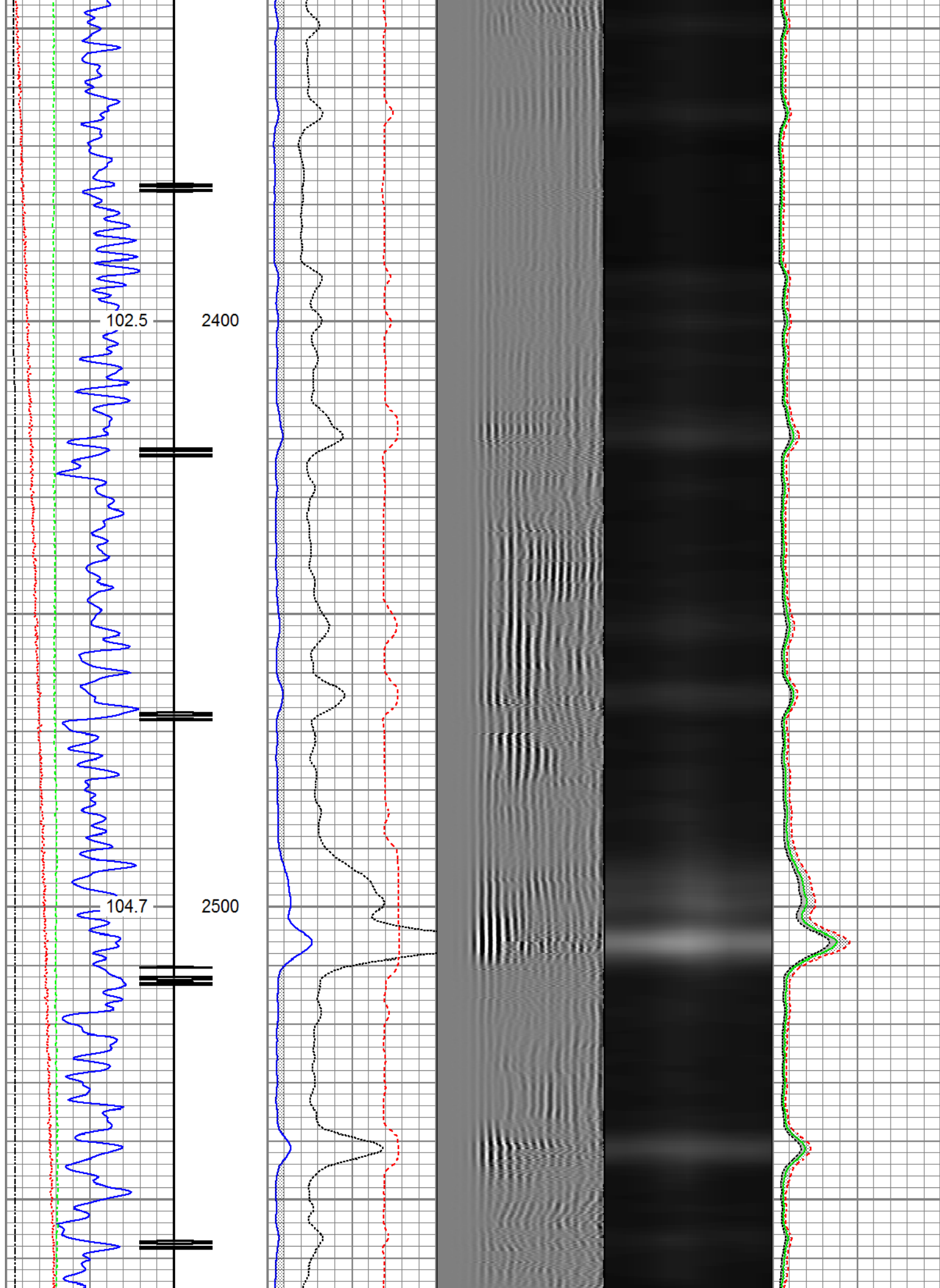


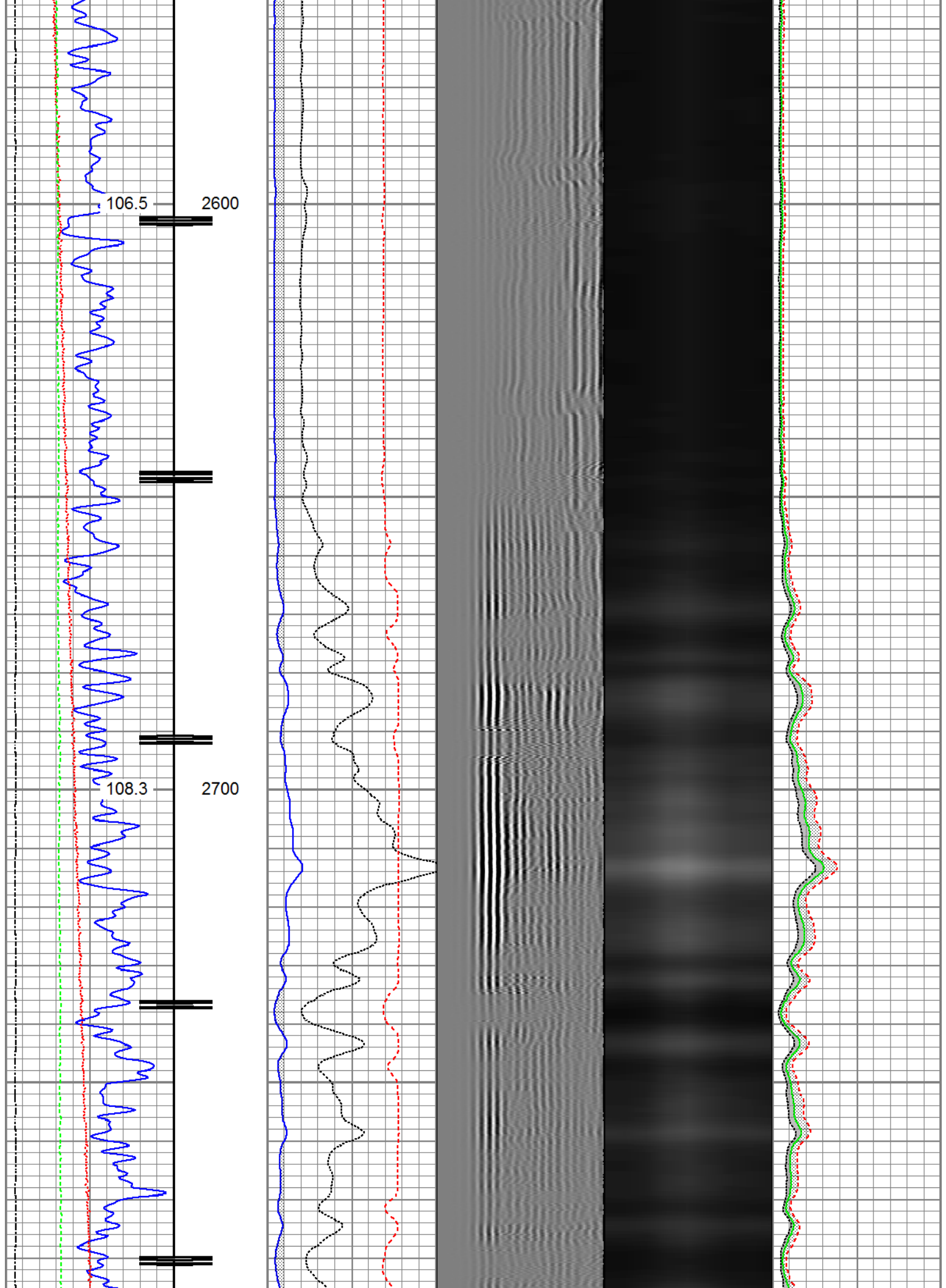


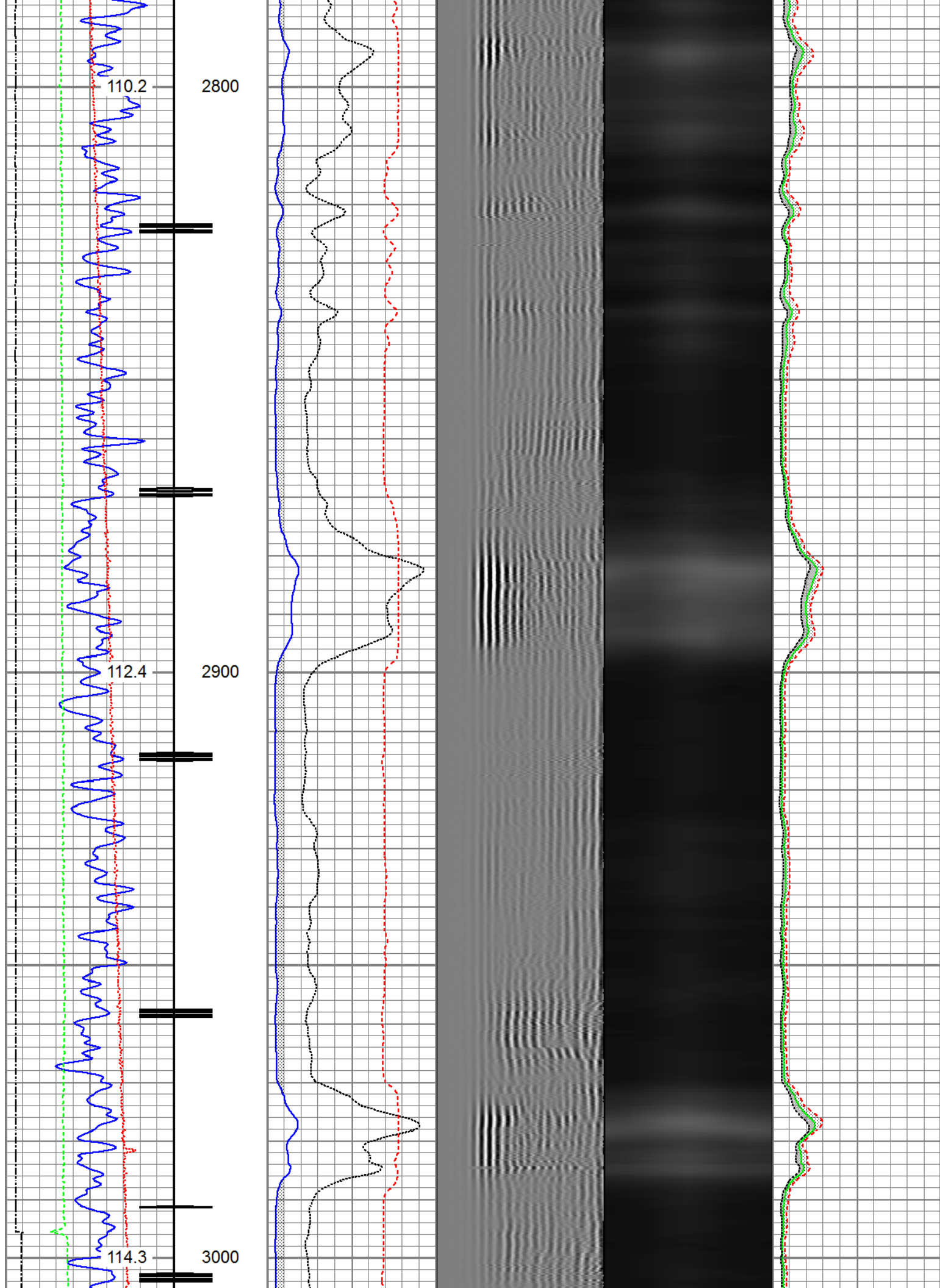


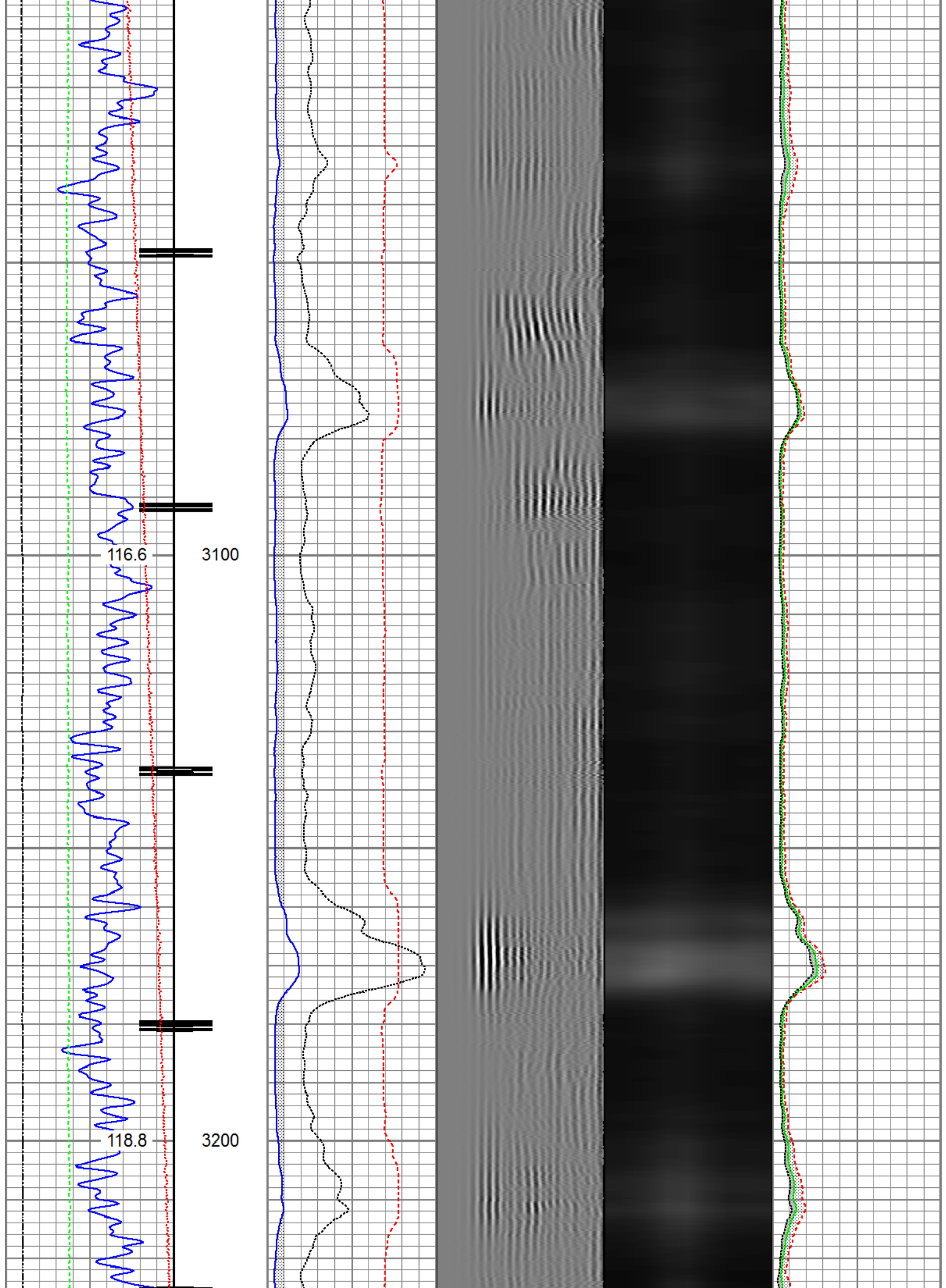


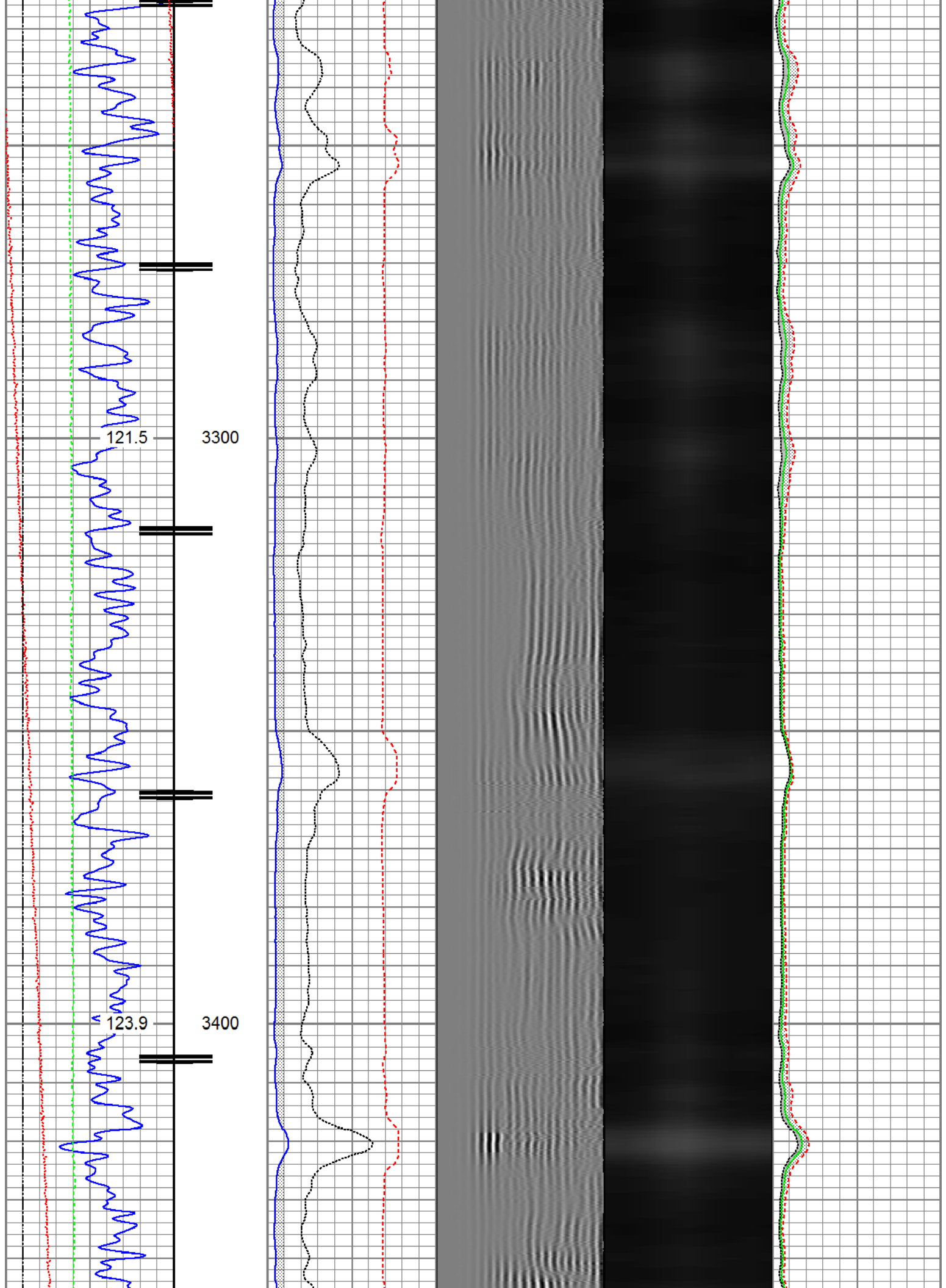


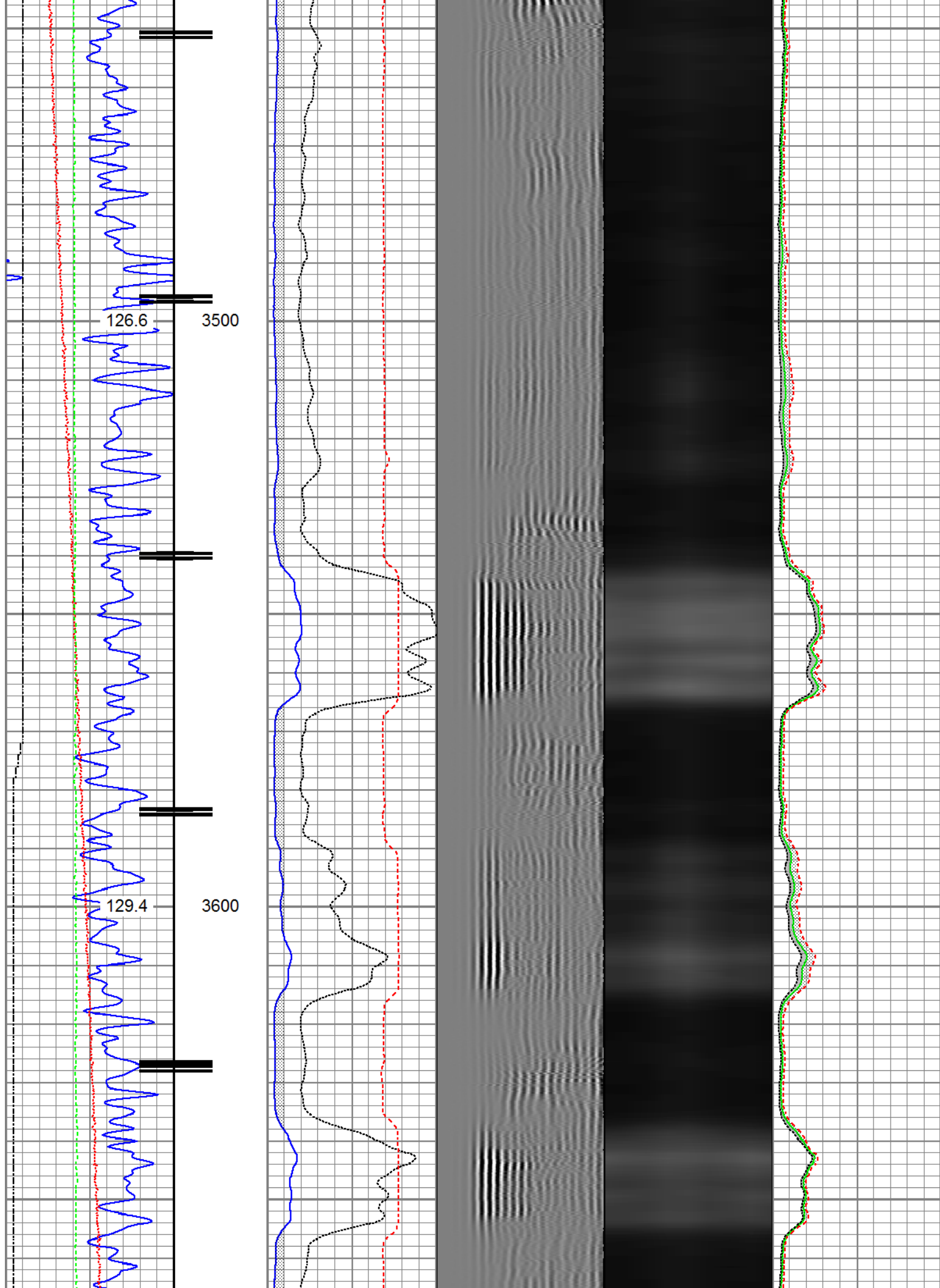


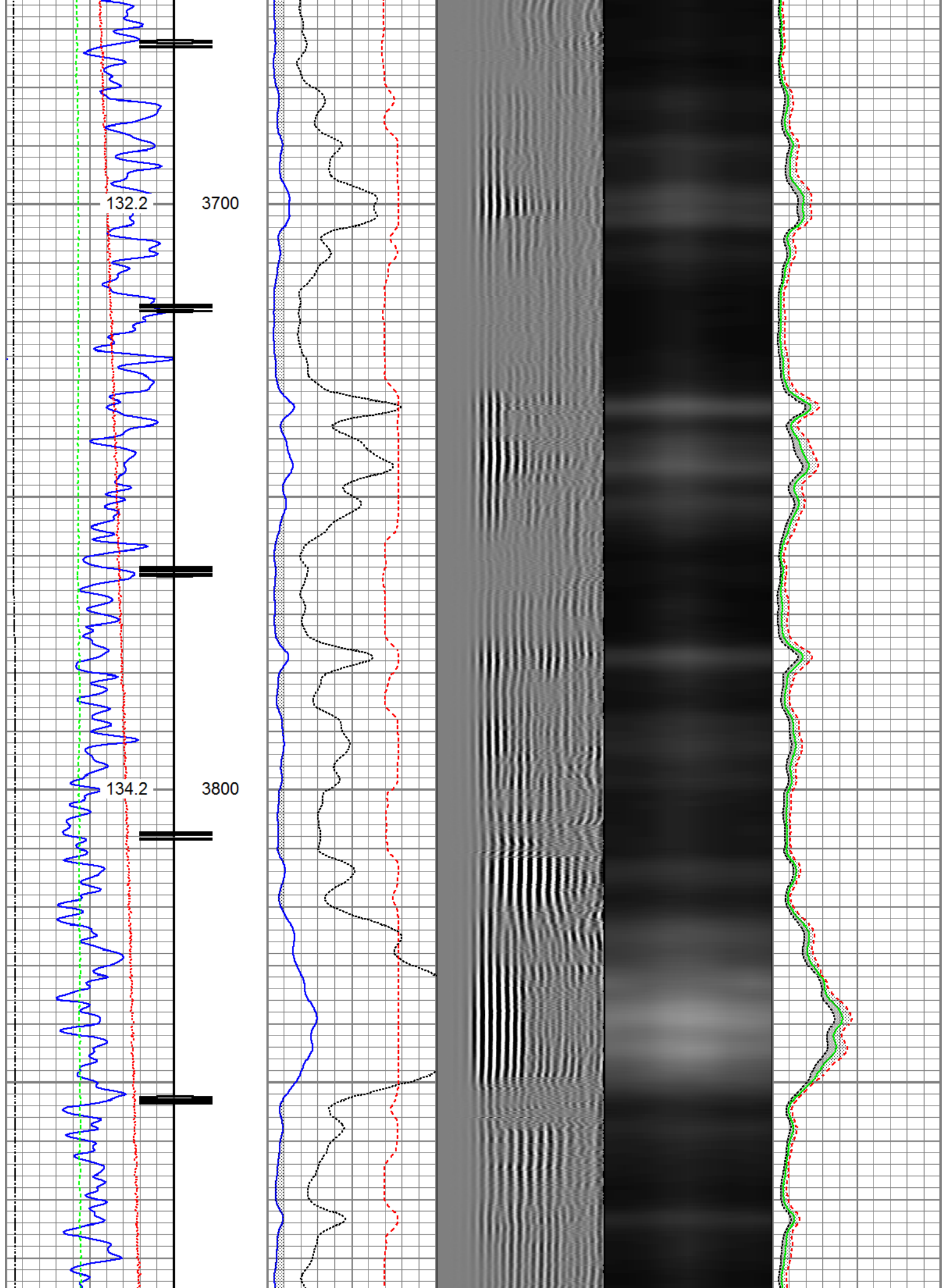


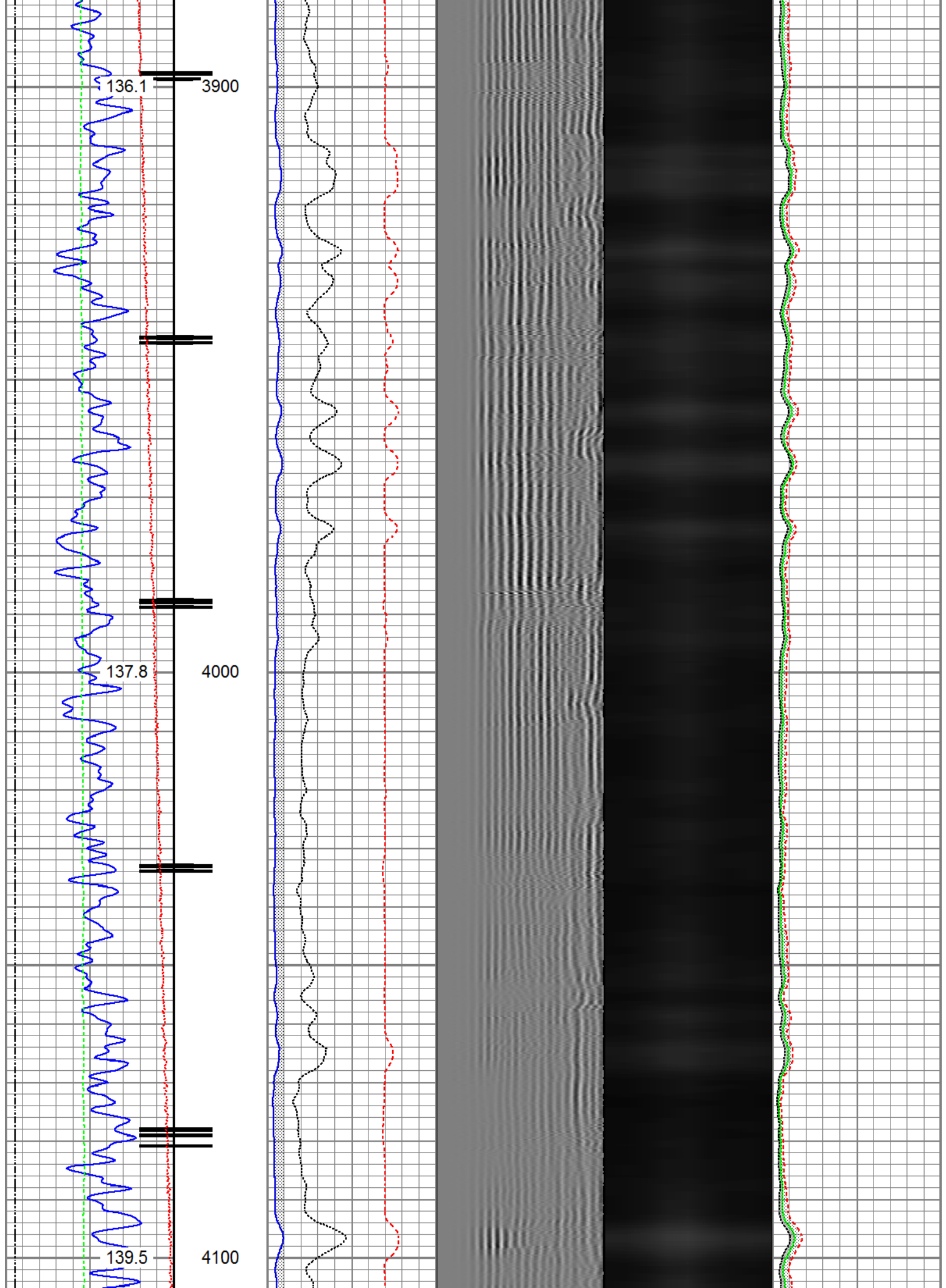


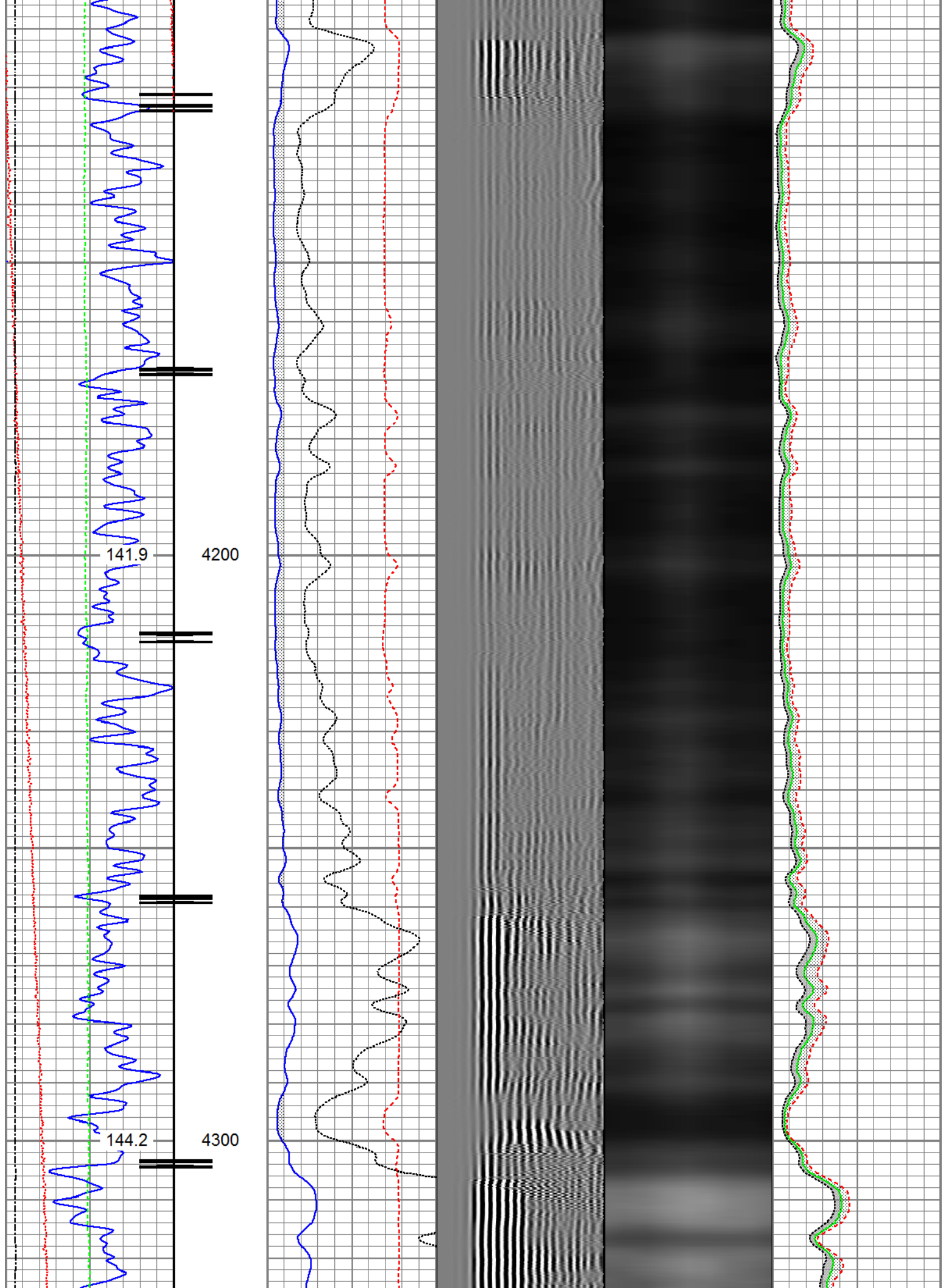


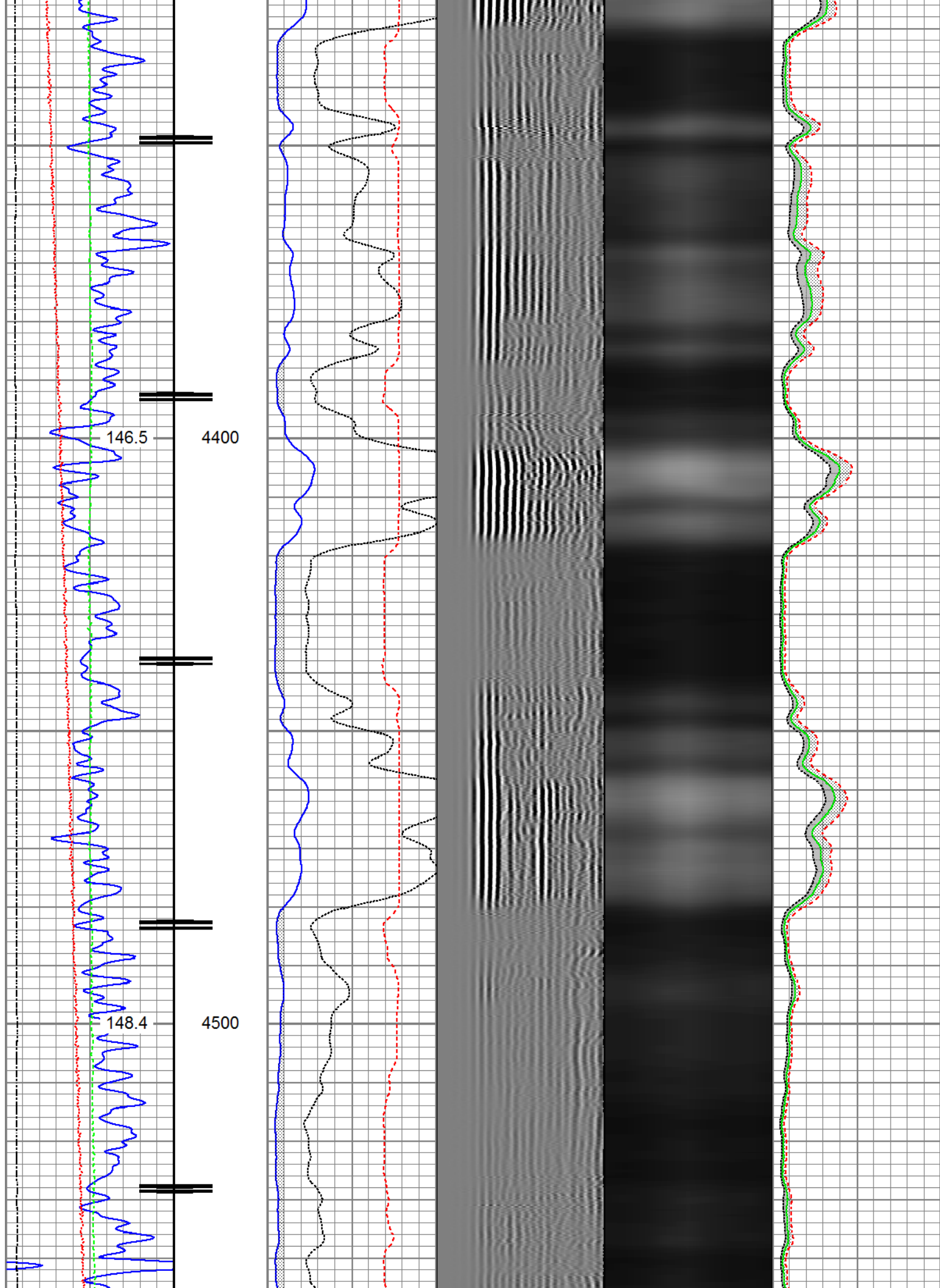


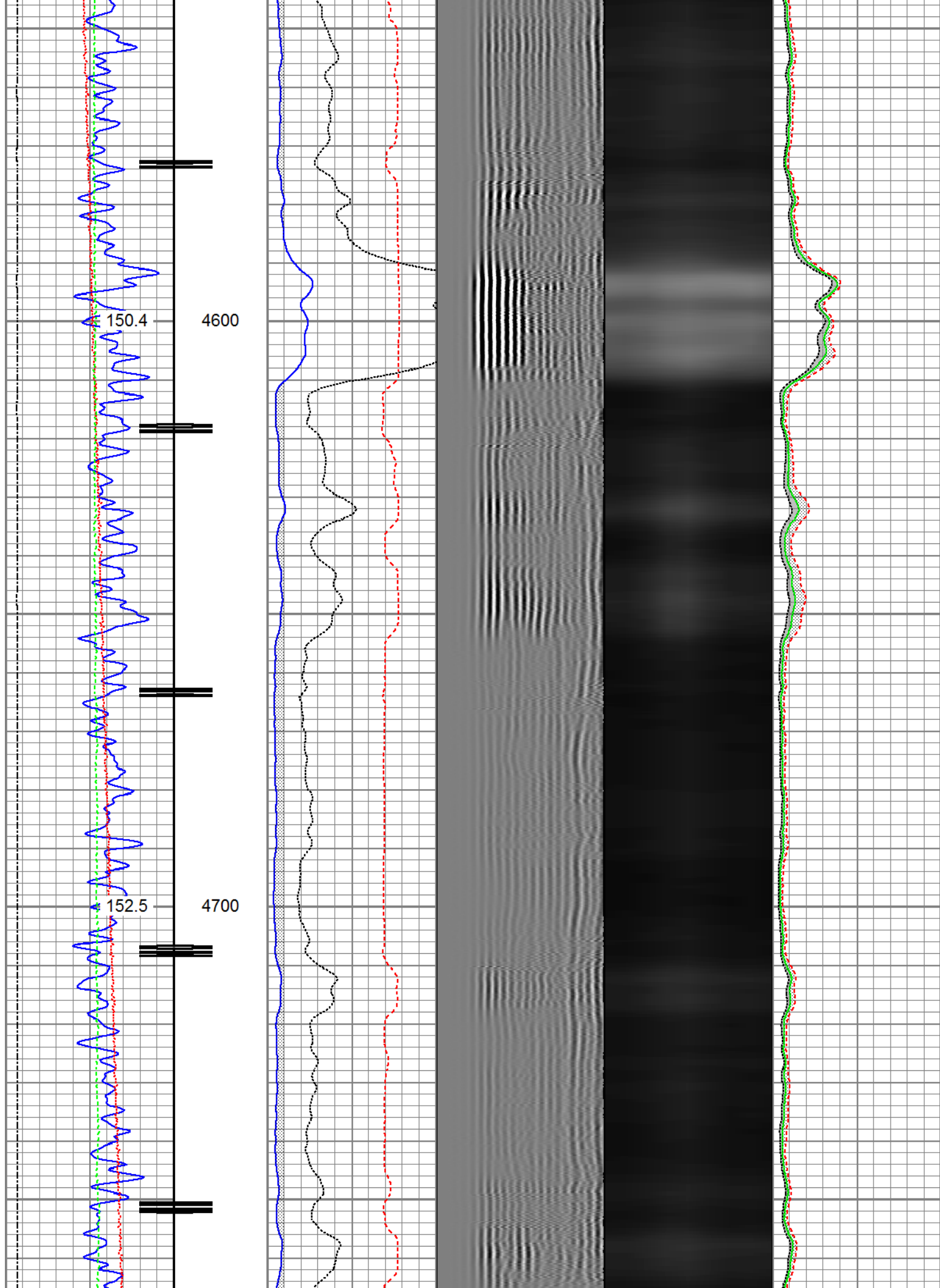


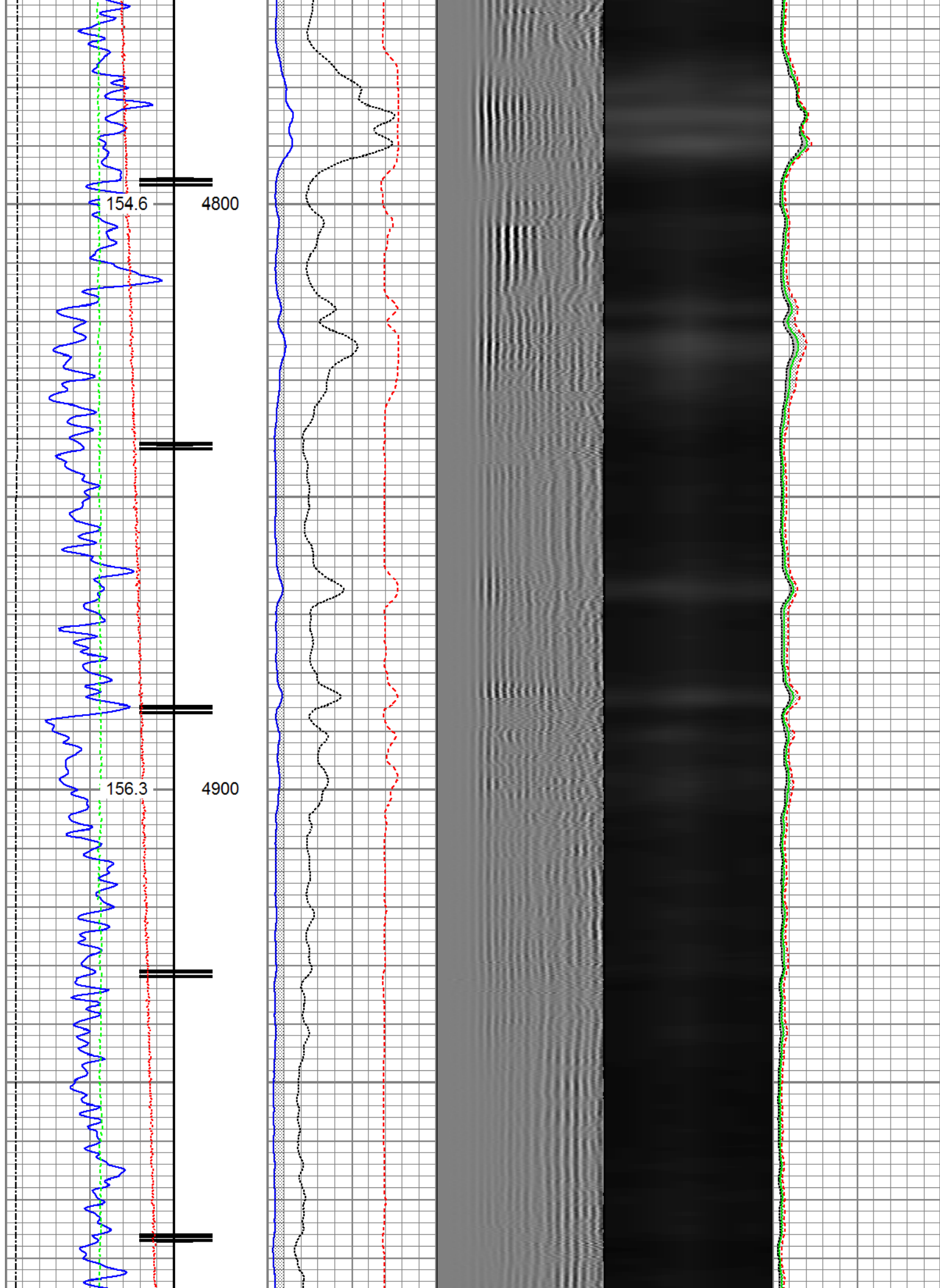


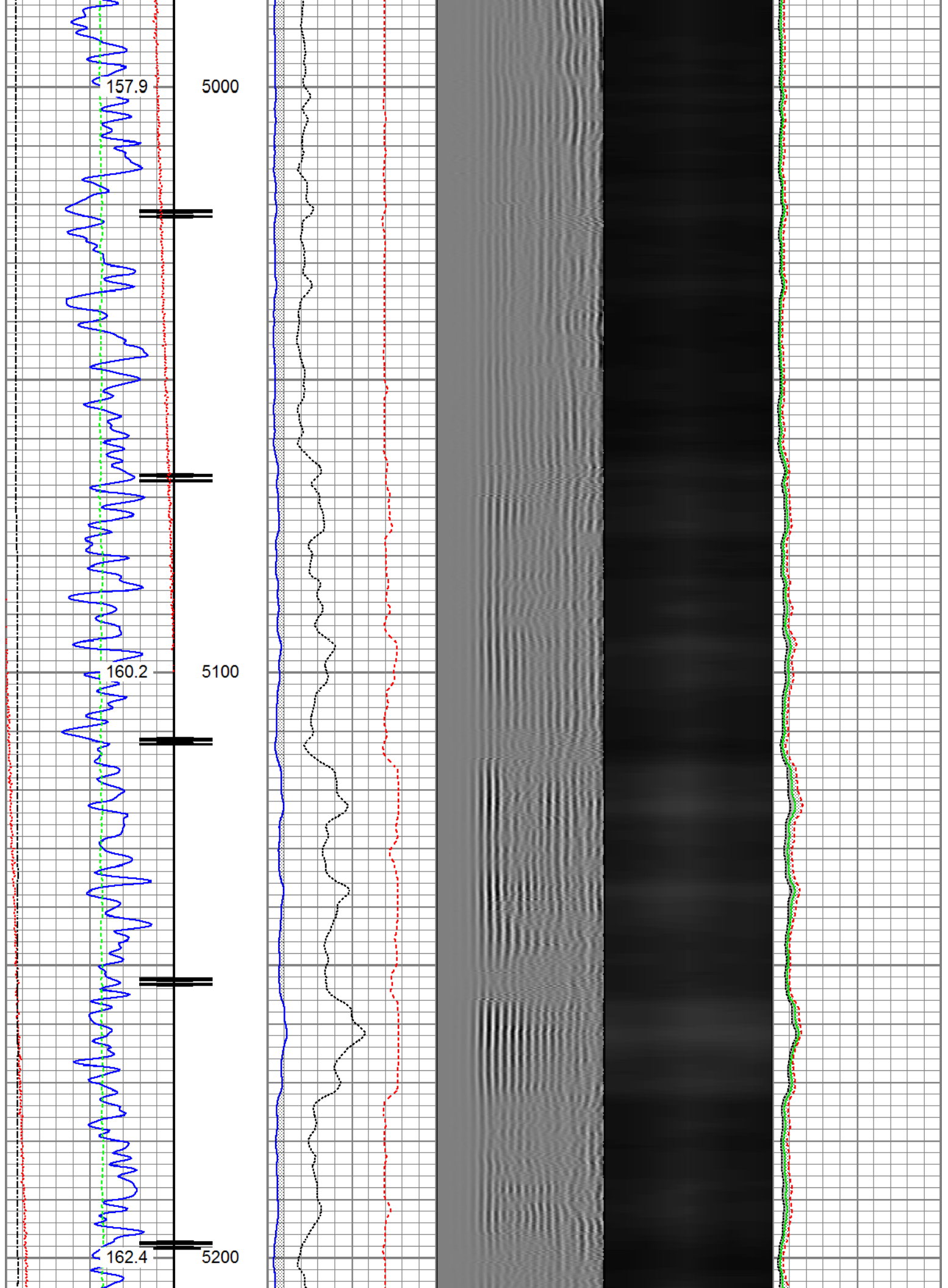


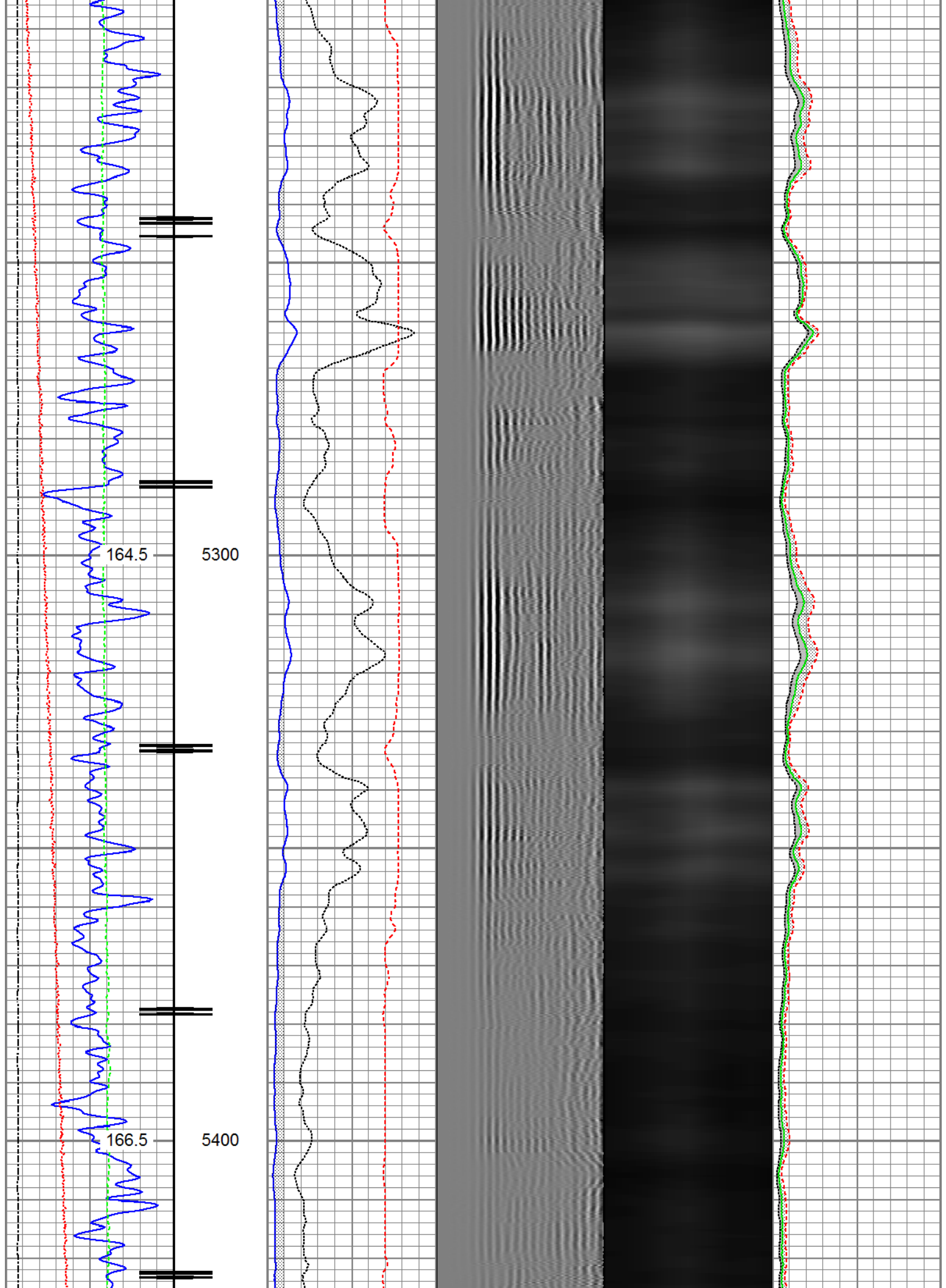


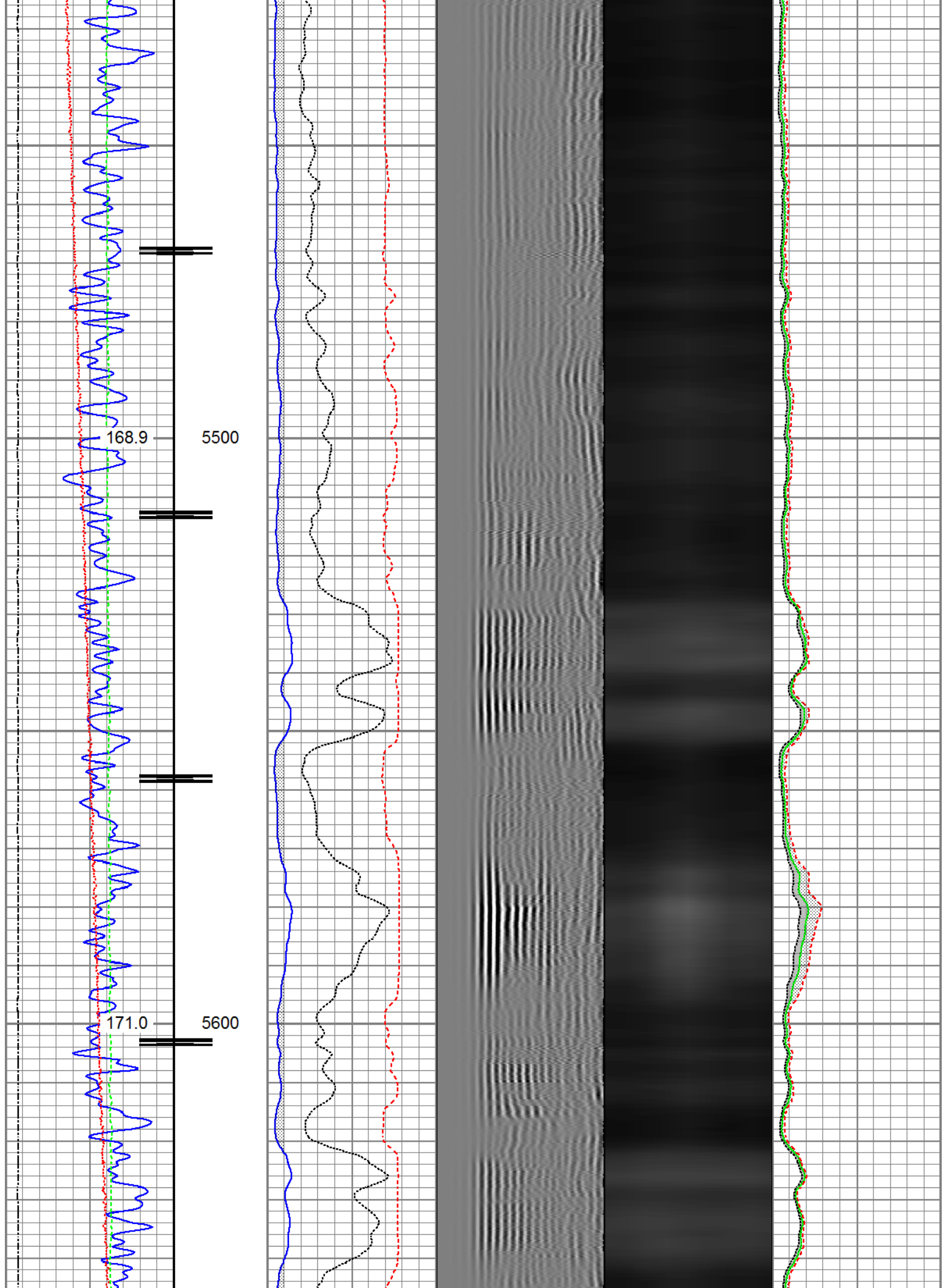


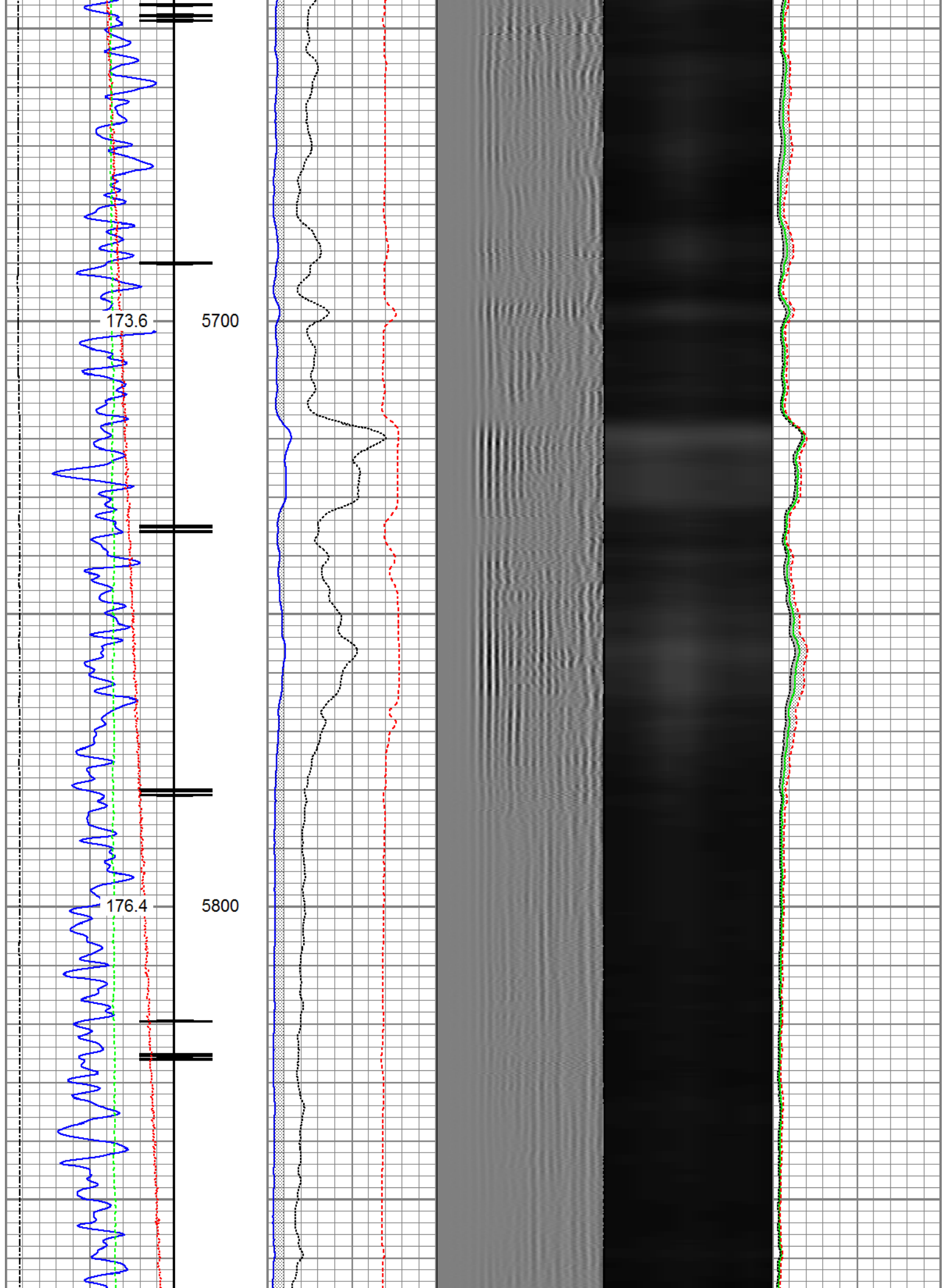


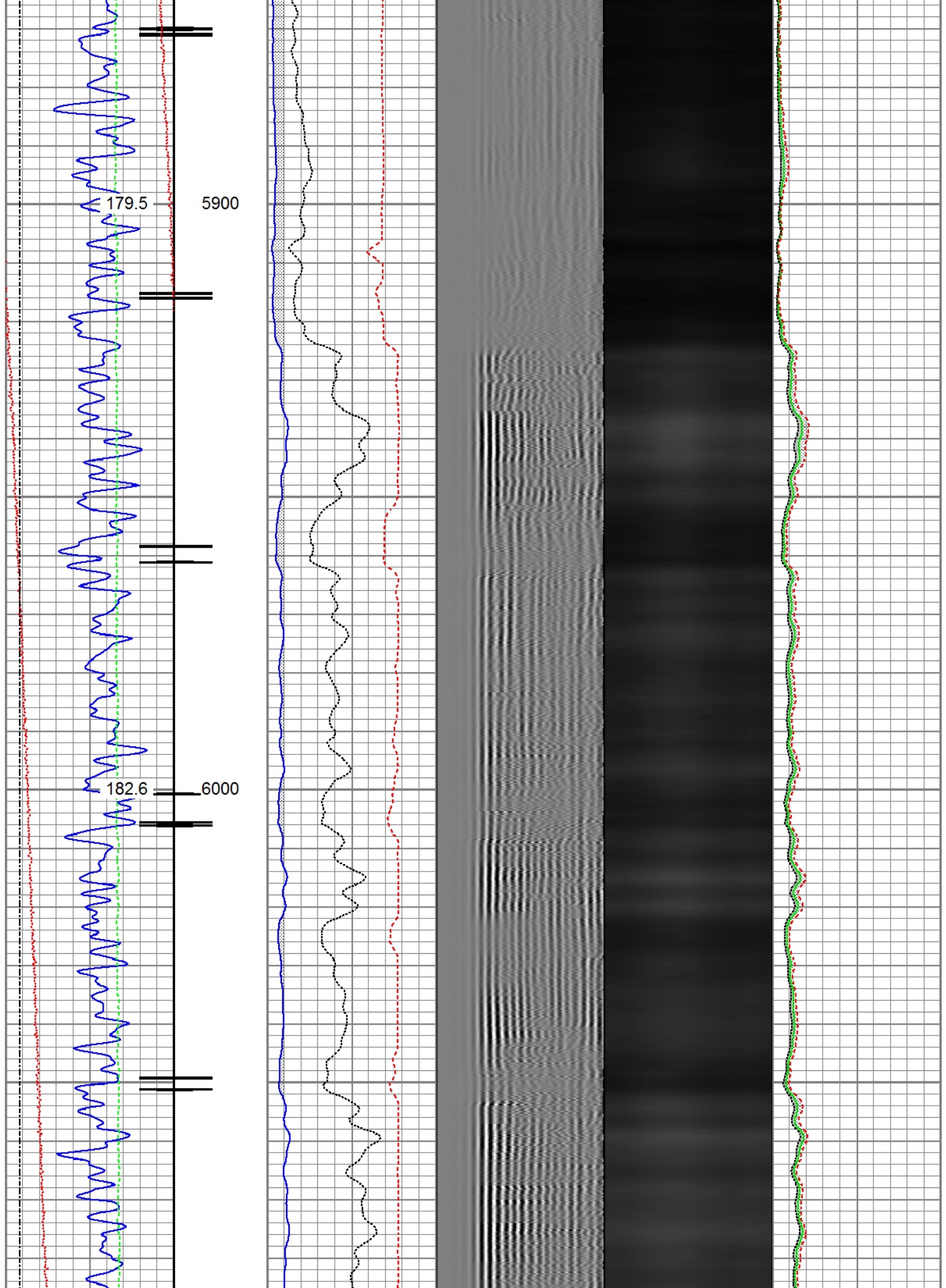


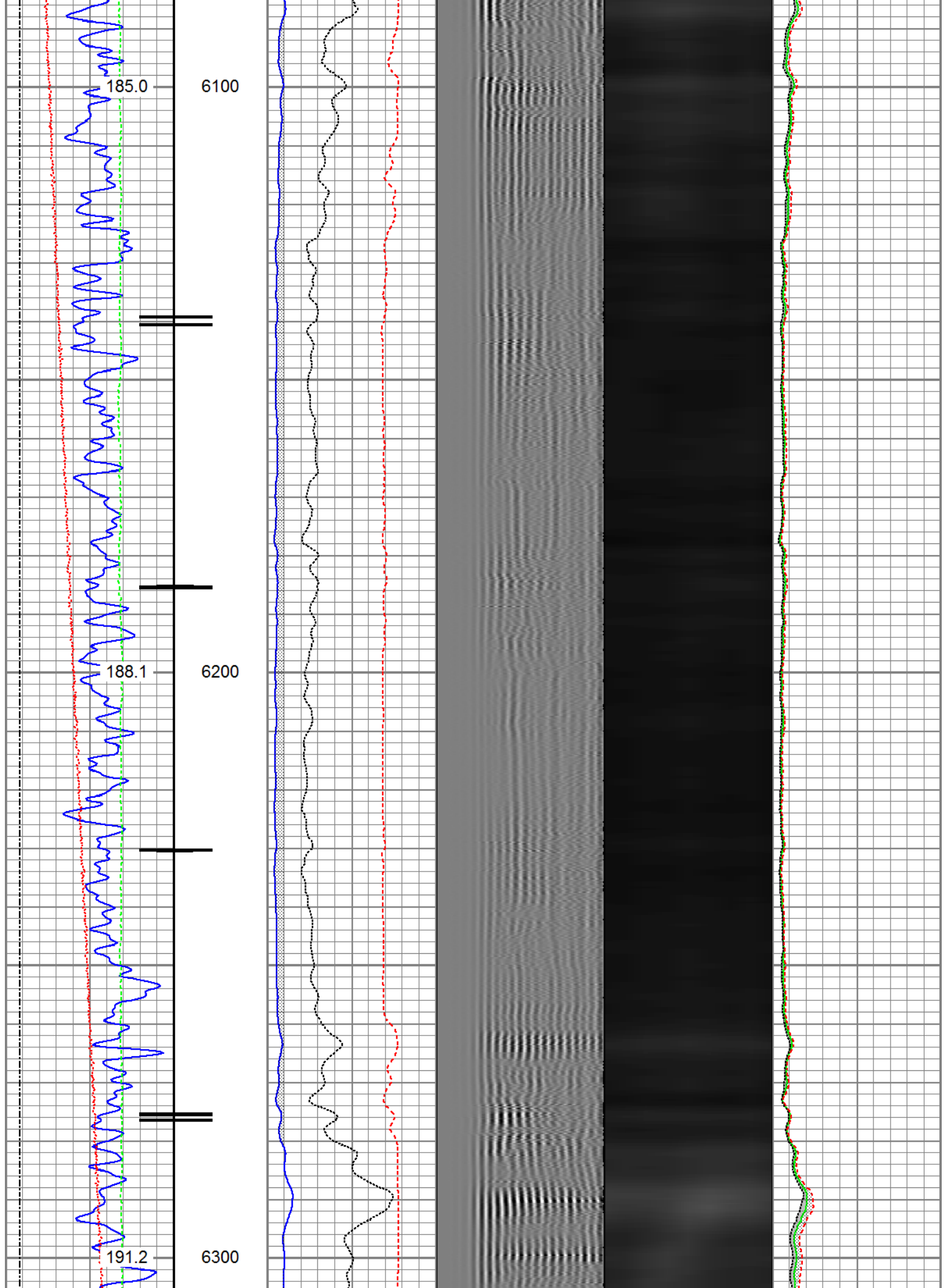


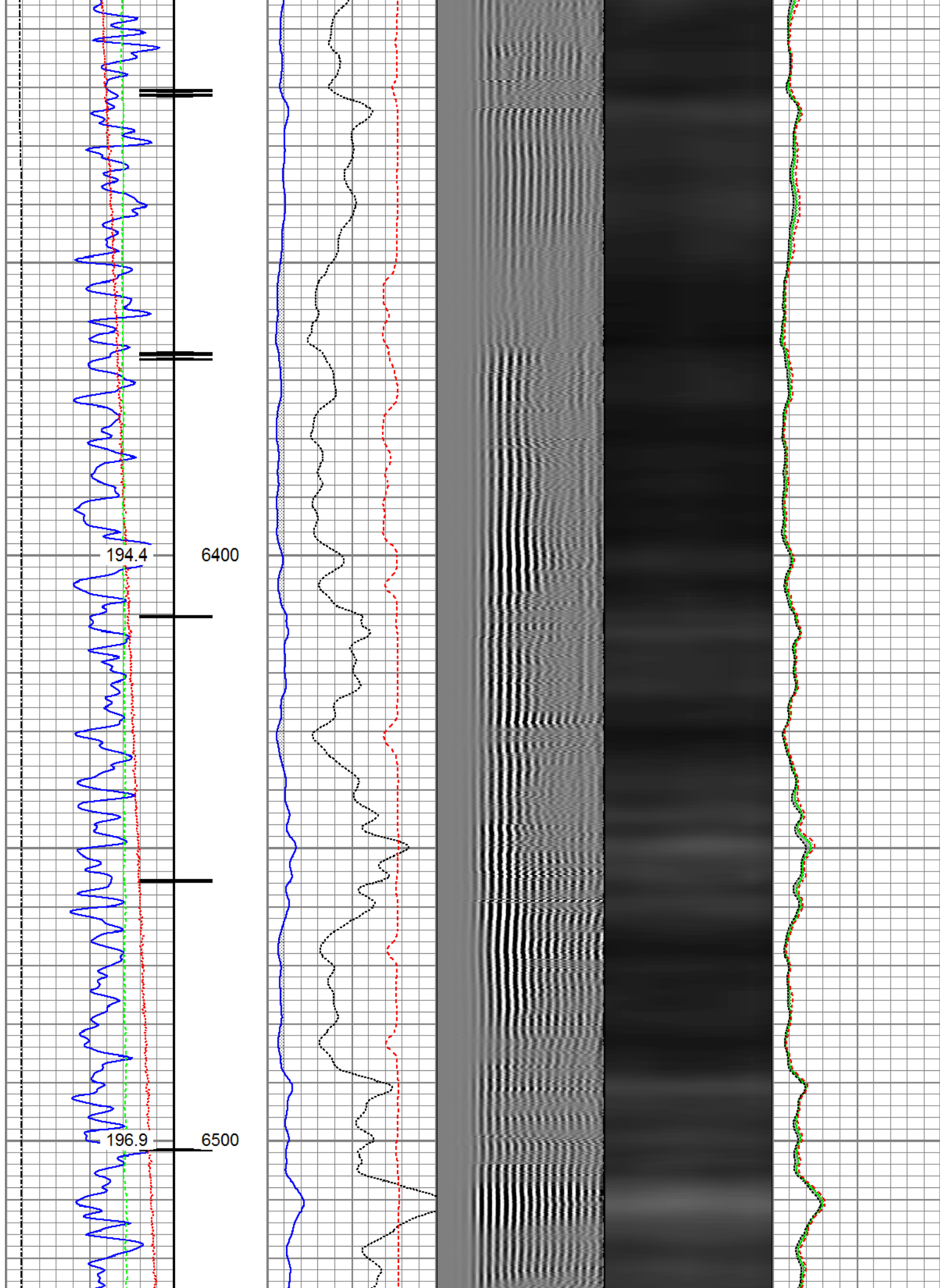


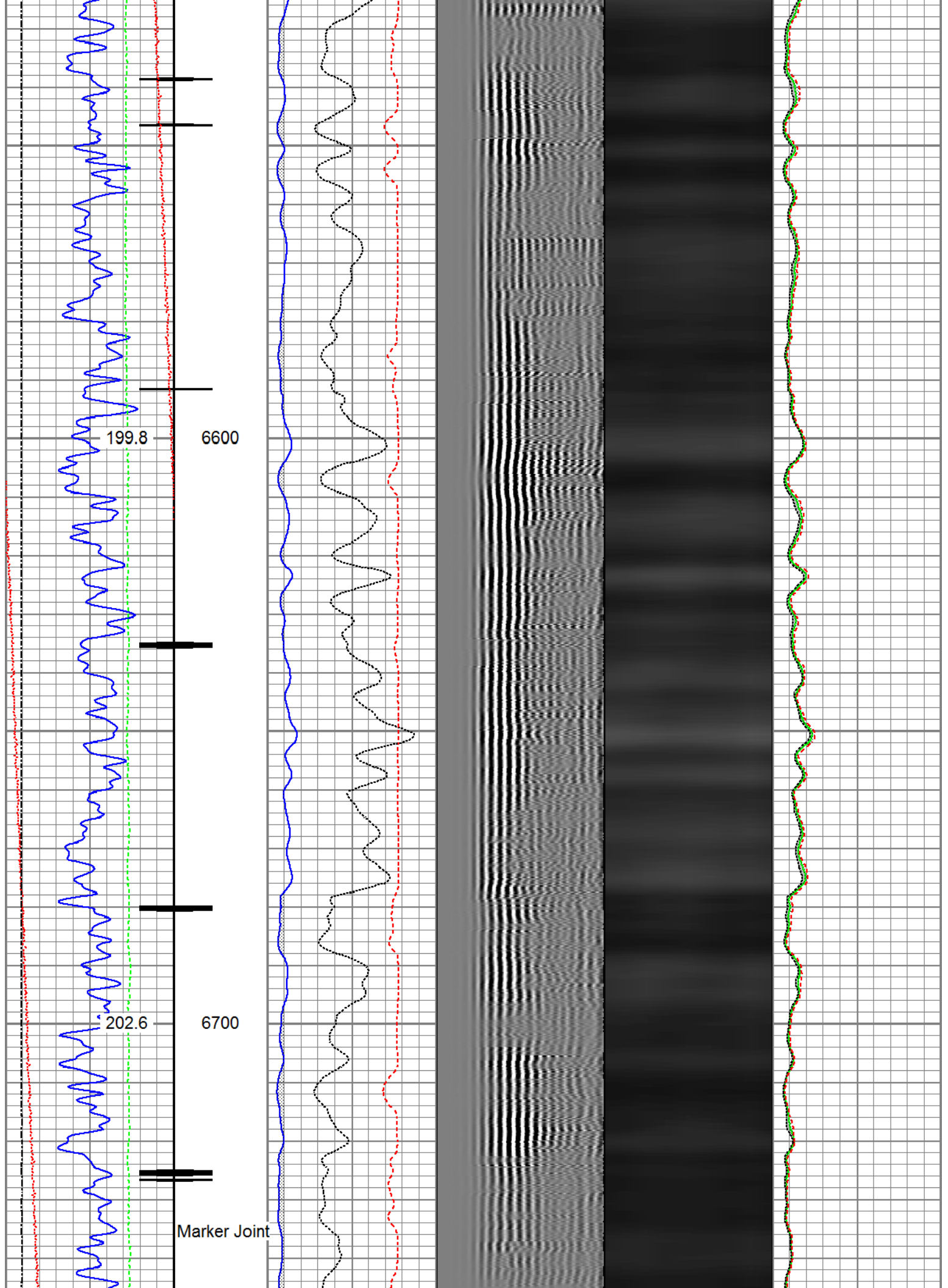


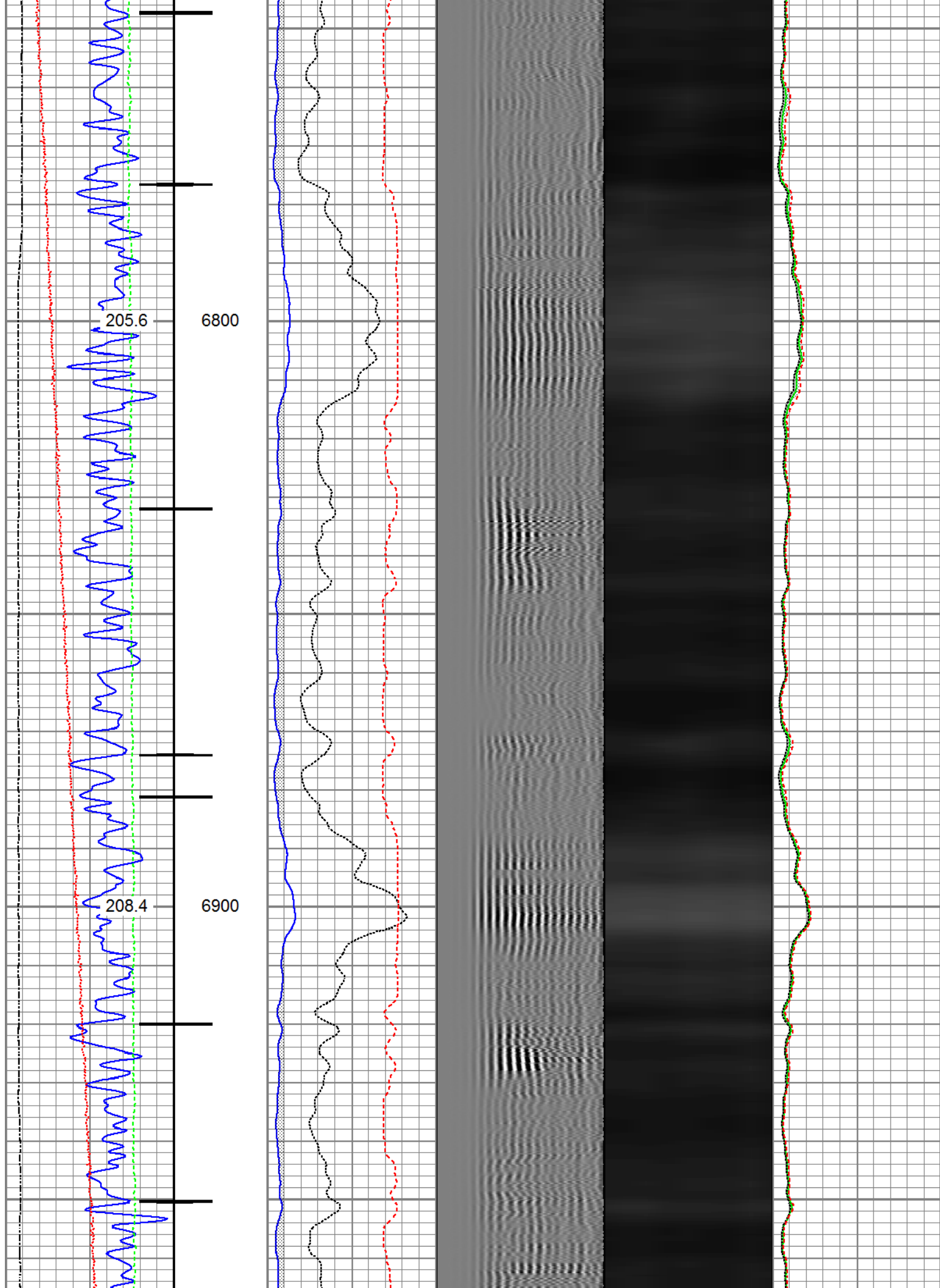


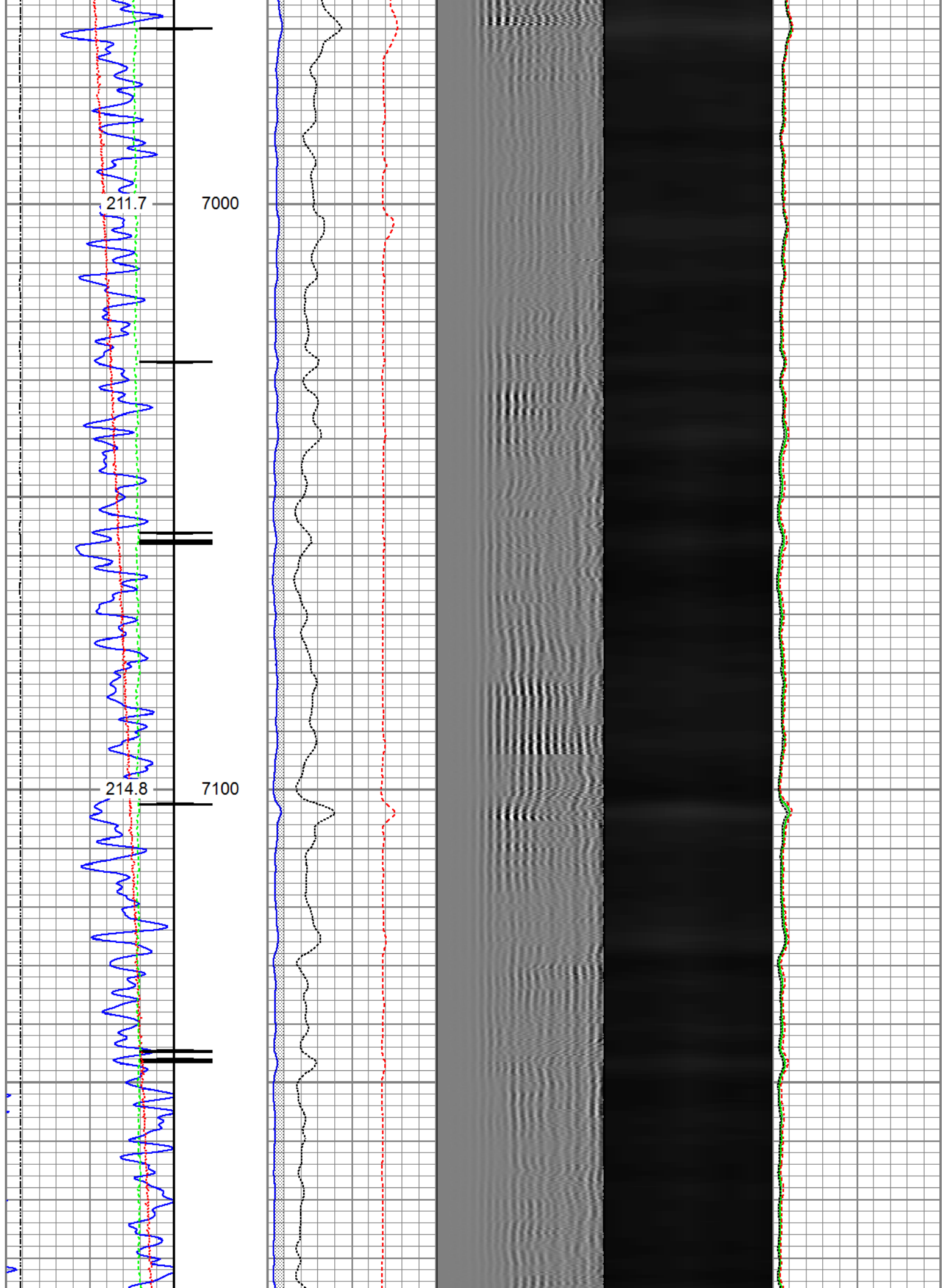


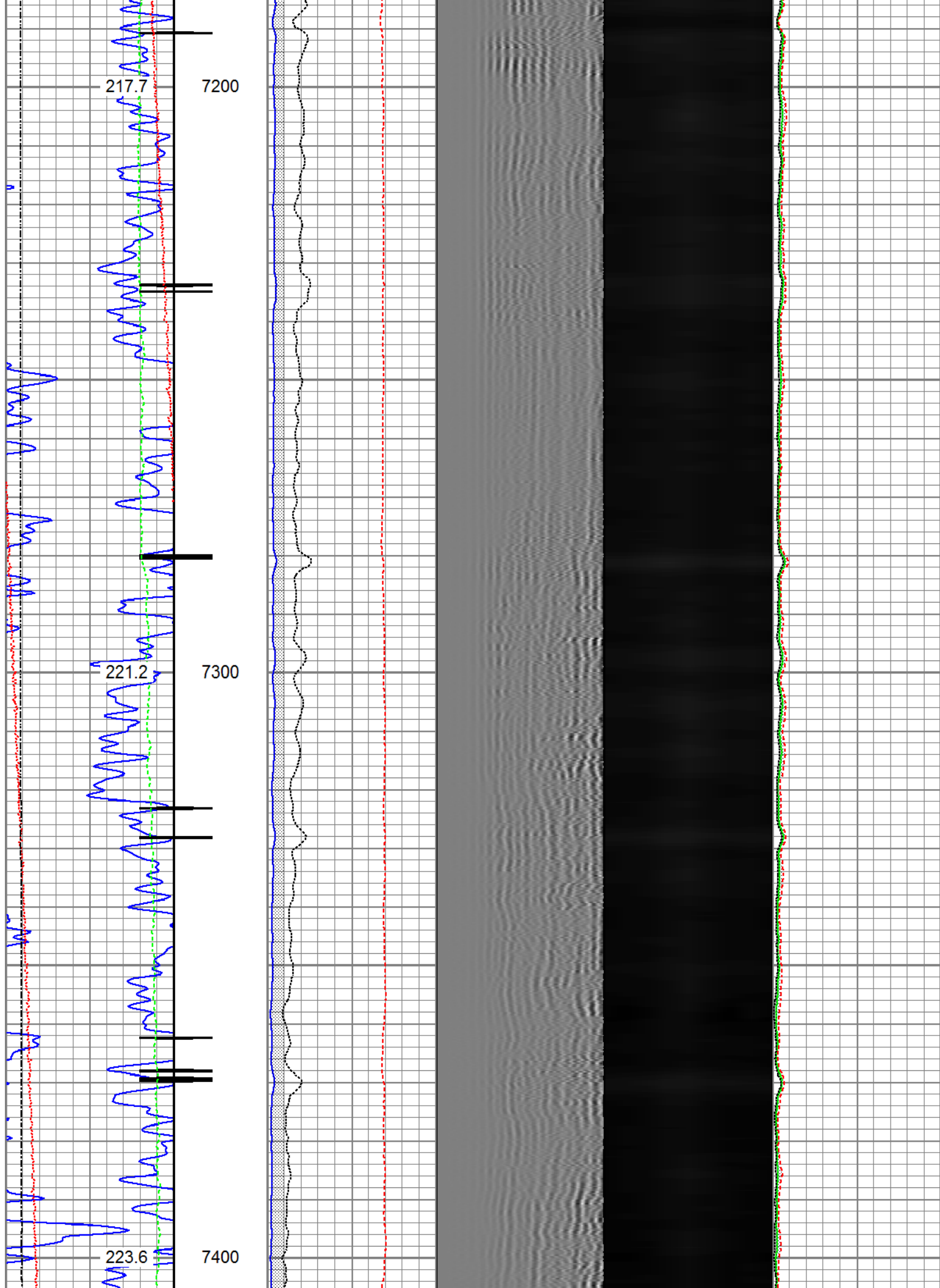


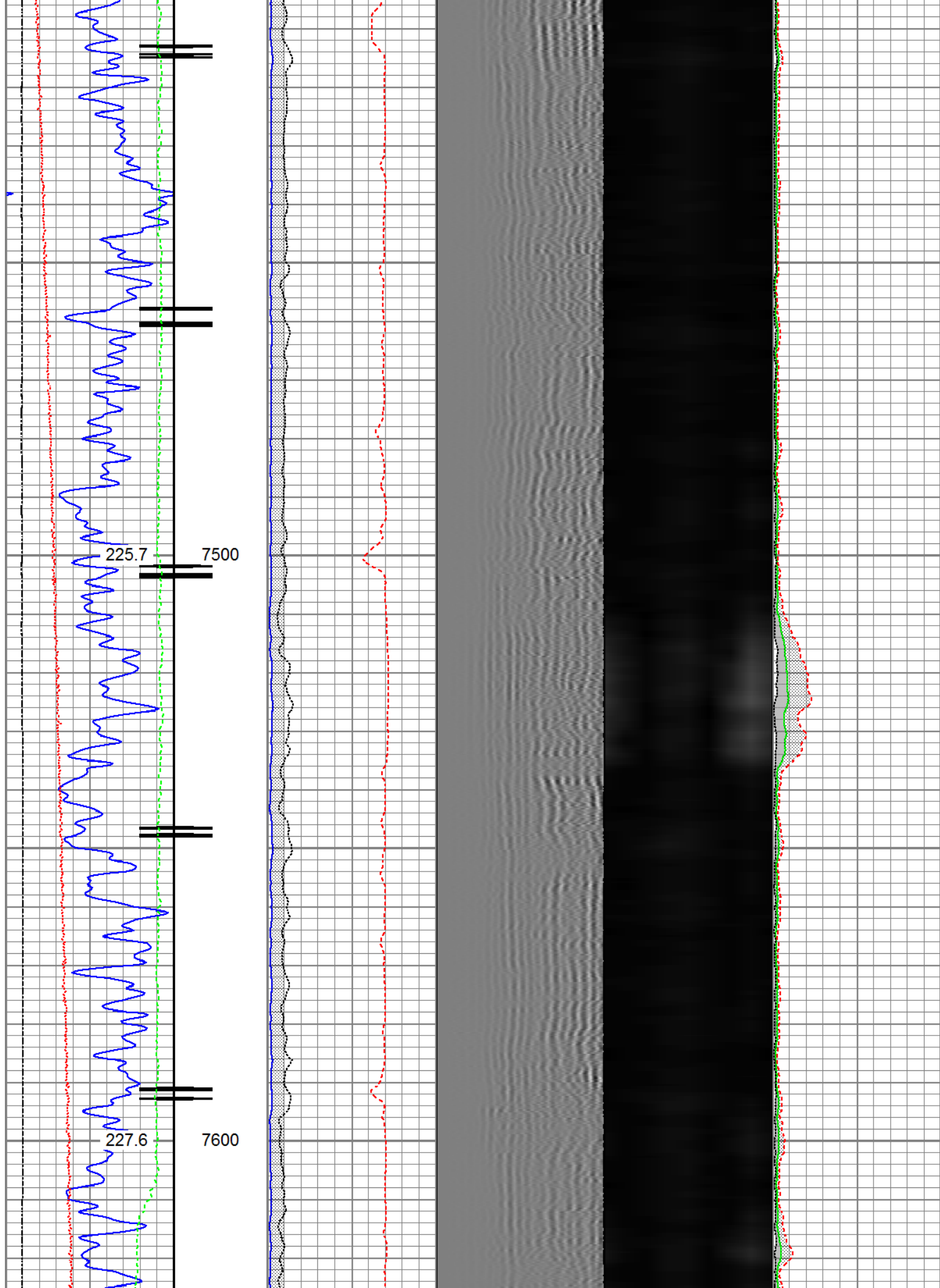


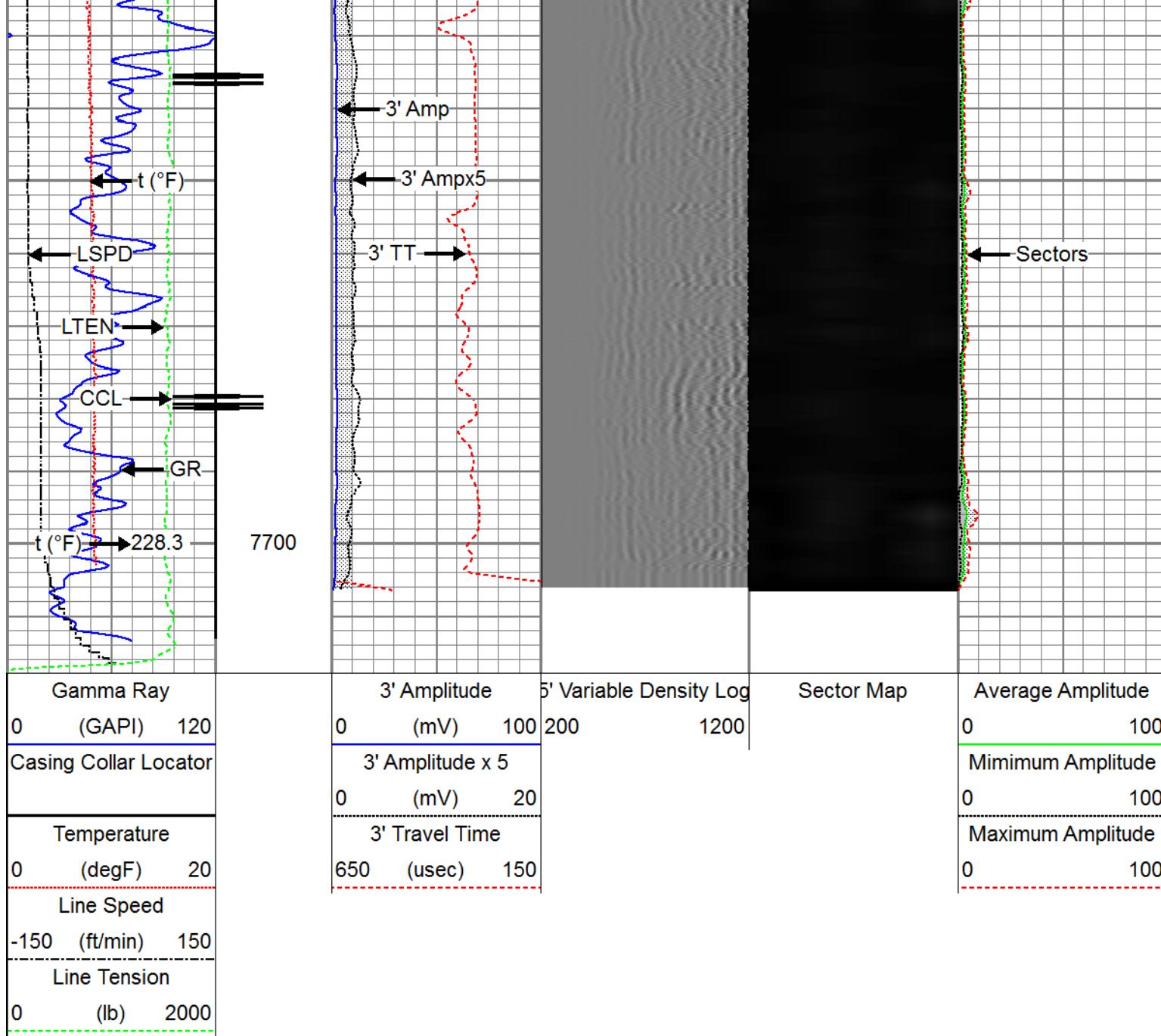








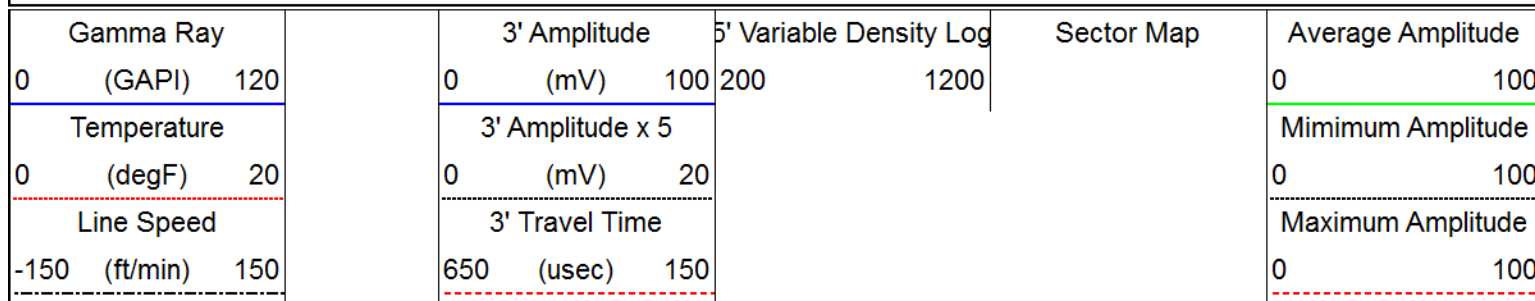




Repeat Pass

Recorded with 2800 PSI Surface Induced Pressure

Database File anadarko_whisper rock 1c-25hz_02-14-17_rbl\processed_0512341301_anadarko_whisper rock 1c-2
 Dataset Pathname pass_4.1
 Presentation Format ros_radrii
 Dataset Creation Wed Feb 15 09:04:31 2017
 Charted by Depth in Feet scaled 1:240

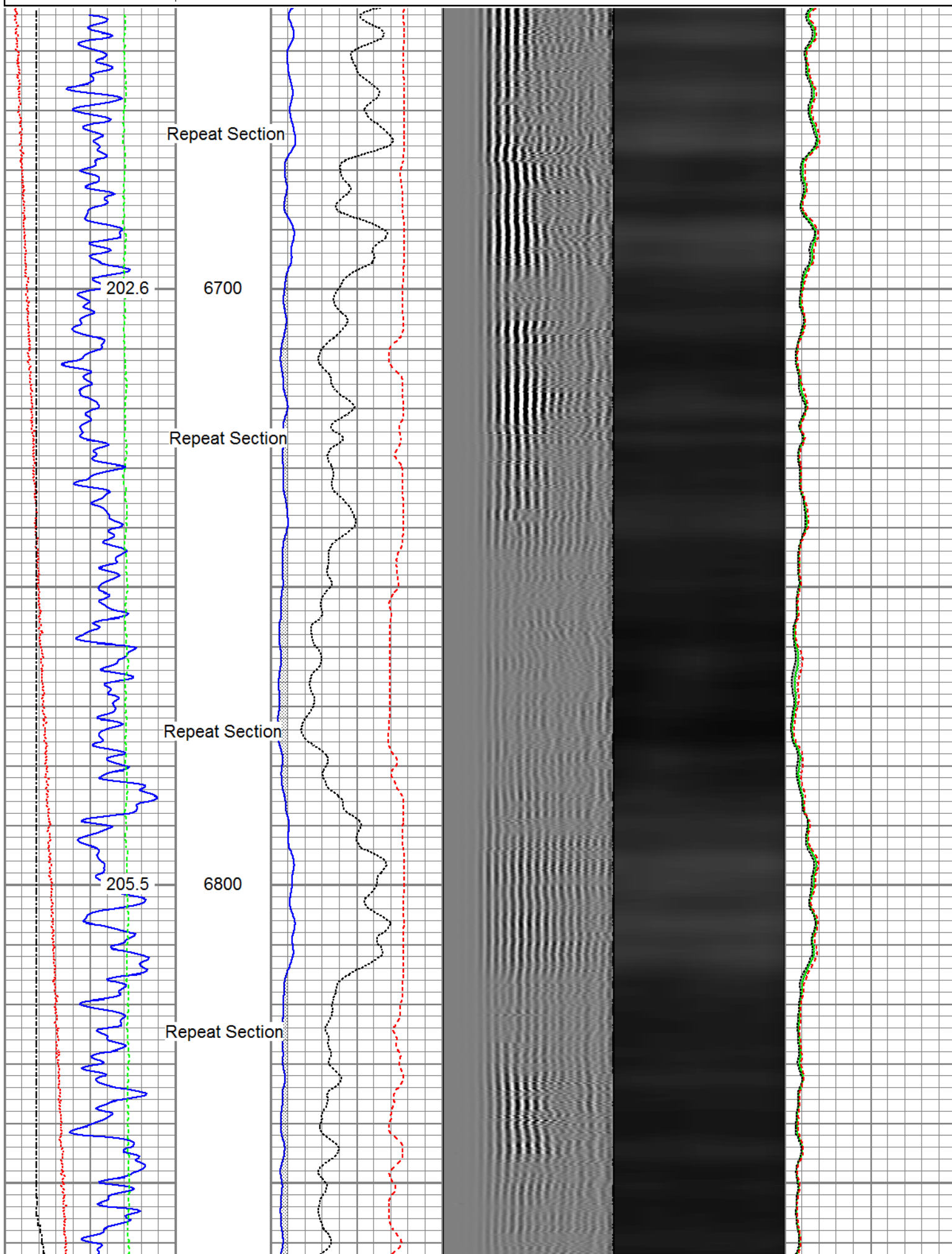


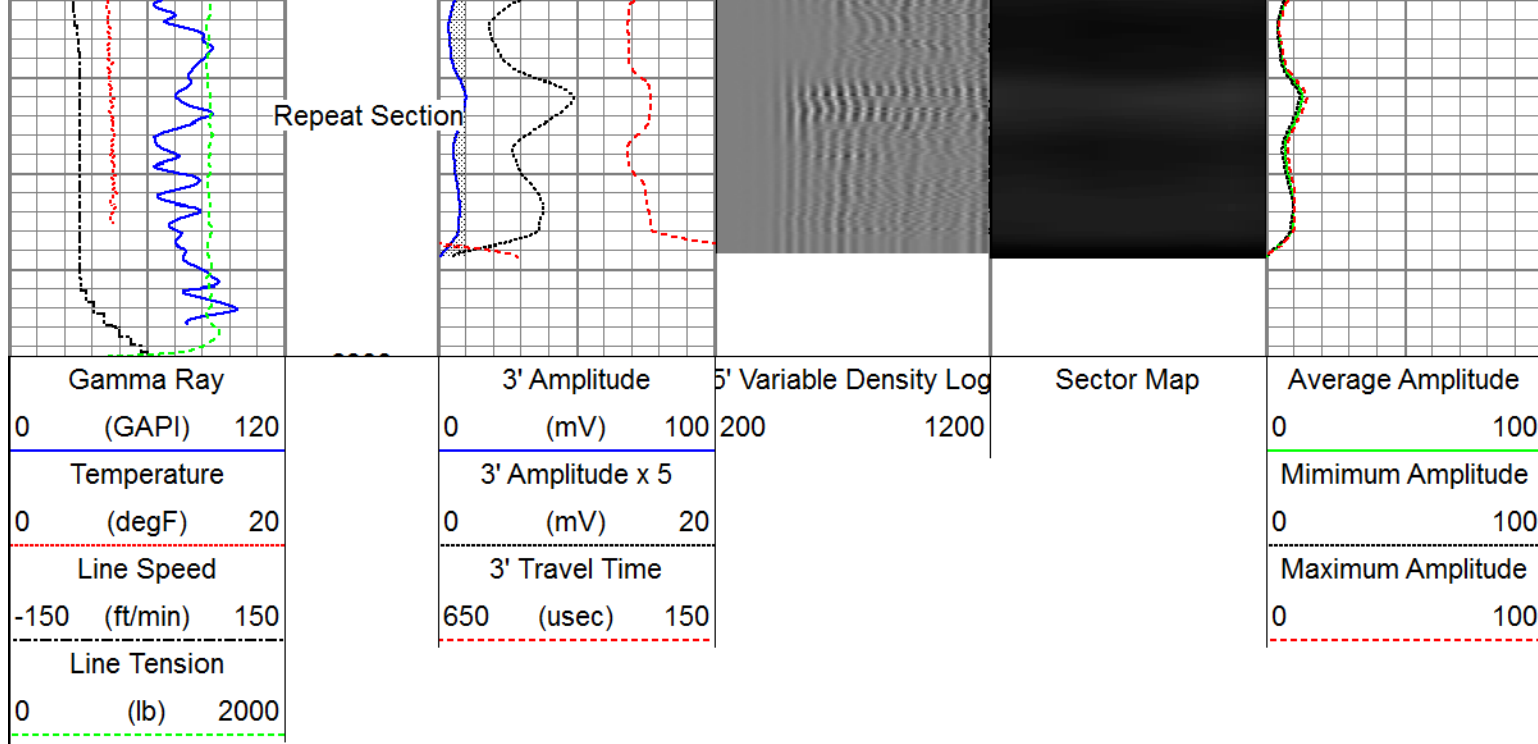
Line Tension

0

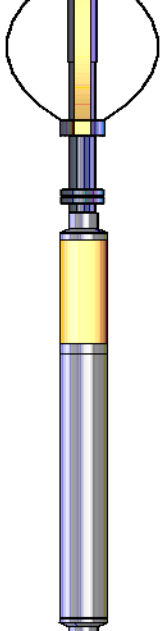
(lb)

2000





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan_Electric_Cable_Heads-Titan_1-11/16" 1.03 Electric Cable Head with 1" Fishing Neck	1.03	1.69	5.40
			Probe_ELine_BowSpring_Centralizer-P_EB2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.8875	2.75	20.00
			Probe_RADII-C-P_RBT_2750 (FW1302-0019.19 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	19.19	2.75	105.00
Temp	13.84					
WVFS8	11.67					
WVFS7	11.67					
WVFS6	11.67					
WVFS5	11.67					
WVFS4	11.67					
WVFS3	11.67					
WVFS2	11.67					
WVFS1	11.67					
WVFCAL	11.67					
WVF3FT	11.67					
WVF5FT	10.67					
HeadVolt	7.42					

DCCL CCL GR	3.63		Probe_ELine_BowSpring_Centralizer-P_EB	2.8875	2.75	20.00
	3.63		Probe 2-3/4" Electric Inline Bowspring Centralizer			
			Probe_GR_CCL-P_CGR_2750_S (FW1307)	4.54	2.75	55.00
	0.89		Probe 2-3/4" Digital CCL / Gamma Ray Combined			
Dataset: PROCESSED_0512341301_Anadarko_Whisper Rock 1C-25HZ_02-14-17_RBL.db: field/well/run1/pass_7.1						
Total length: 20.52 ft						
Total weight: 205.40 lb						
O.D.: 2.75 in						

Calibration Report	
Database File	C:\ProgramData\Warrior\Data\Anadarko_Whisper Rock 1C-25HZ_02-14-17_RBL\PROCESSED_051
Dataset Pathname	pass_7.1
Dataset Creation	Tue Feb 14 17:30:00 2017

Gamma Ray Calibration Report		
Serial Number:	FW1307-038	
Tool Model:	P_CGR_2750_S	
Performed:	Thu Nov 10 10:56:13 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:	FW1302-001	
Tool Model:	P_RBT_2750	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	32.413	ft

Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.000	0.676	0.800	71.921	105.147	0.833
CAL	0.007	0.653				
5'	-0.002	0.582	0.800	71.921	121.913	1.026
SUM						
S1	0.000	0.671	0.000	100.000	149.106	-0.070
S2	-0.001	0.720	0.000	100.000	138.824	0.083

S3	-0.001	0.747	0.000	100.000	133.718	0.101
S4	-0.001	0.737	0.000	100.000	135.552	0.083
S5	-0.001	0.708	0.000	100.000	141.019	0.181
S6	-0.001	0.664	0.000	100.000	150.486	0.132
S7	-0.001	0.643	0.000	100.000	155.188	0.168
S8	-0.001	0.642	0.000	100.000	155.548	0.097

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.007	0.653	1.000	0.000

Air Zero Calibration, performed Tue Feb 14 12:57:32 2017:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.007		0.000		-0.000	
5'	0.009		0.000		-0.002	
SUM						
S1	0.006		0.000		0.000	
S2	0.008		0.000		-0.001	
S3	0.008		0.000		-0.001	
S4	0.008		0.000		-0.001	
S5	0.009		0.000		-0.002	
S6	0.008		0.000		-0.001	
S7	0.008		0.000		-0.001	
S8	0.008		0.000		-0.001	



RELIANCE
DILLFIELD SERVICES

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