



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company SRC Energy Inc  
Well Boomerang 28C-3-L  
Field Wattenberg  
County Weld State Colorado

Location: API #: 05-123-45997  
SEC 5 TWP 5N RGE 66W  
Permanent Datum Ground Level Elevation 4790'  
Log Measured From Ground Level 0 FT  
Drilling Measured From Kelly Bushing  
Other Services  
JBGR  
RBP  
CNL  
Elevation  
K.B. 4790'  
D.F. ---  
G.L. 4770'

Company SRC Energy Inc  
Well Boomerang 28C-3-L  
Field Wattenberg  
County Weld  
State Colorado

Date	25-APR-2018		
Run Number	Three		
Depth Driller	18065 FT (GL)		
Depth Logger	6669 FT		
Bottom Logged Interval	6662 FT		
Top Log Interval	Surface		
Open Hole Size	8.5"		
Type Fluid	Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	224°F		
Estimated Cement Top	See Log		
Time Well Ready	ROA		
Time Logger on Bottom	08:28		
Equipment Number	HD-0363		
Location	Fort Lupton, CO		
Recorded By	R. Emmerling	S. Hopper	
Witnessed By	Nate Brehmer		
Borehole Record			
Run Number	Bit	From	To
		Size	Weight
			From
			To
Tubing Record			
Casing Record	Size (in)	Wgt (lbs/ft)	Grade
Surface Casing	---	---	---
Intermediate #1	5 1/2	20	HCP-110
Intermediate #2			Surface
Inner			---
			18050.82 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

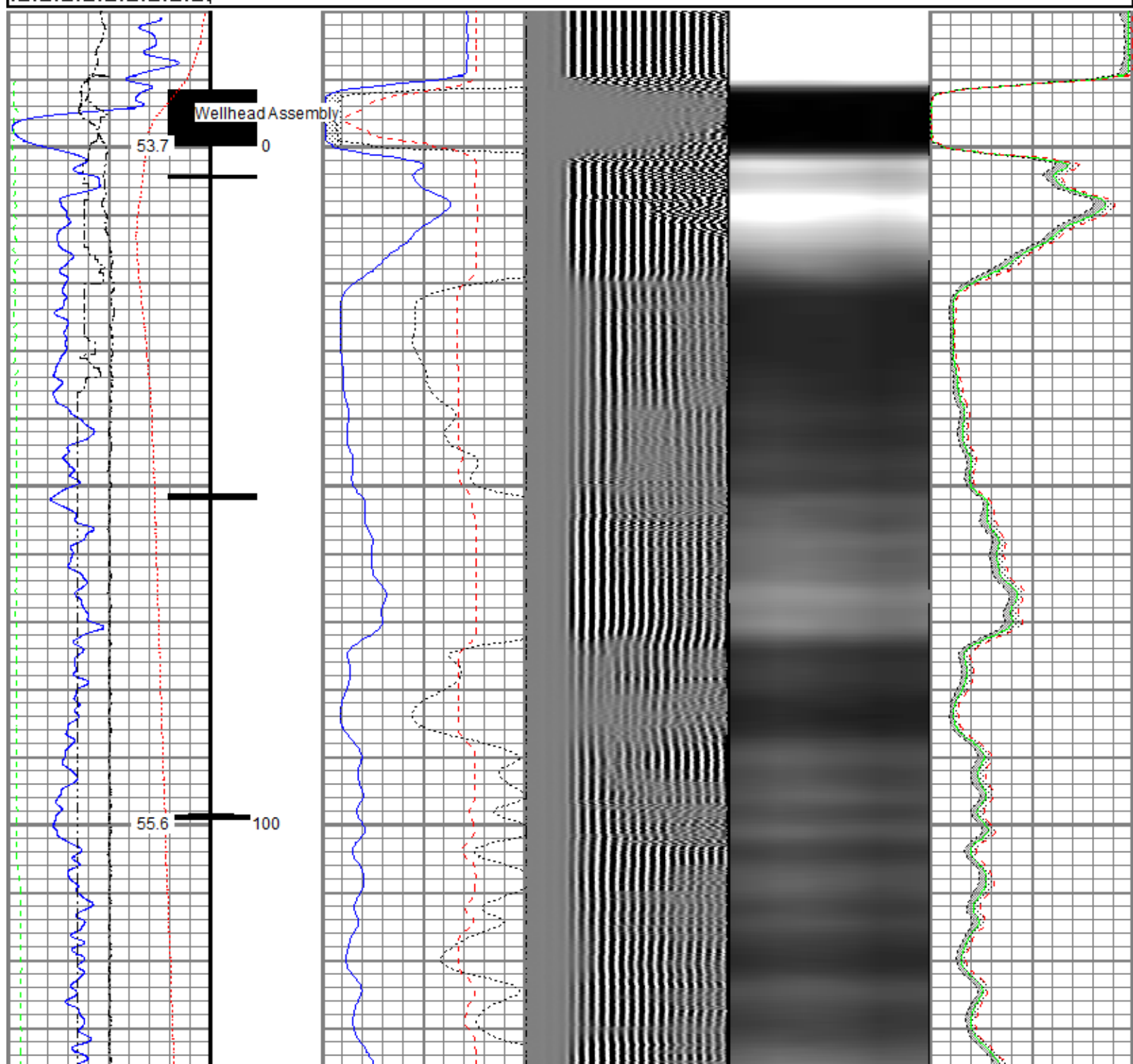
Log ran as per customer request  
Depth referenced to Ground Level at 0 FT  
Adjusted 0 FT to correlate with Ground Level  
Log ran from approximately 50 FT above RBP  
Gauge Ring/Junk Basket ran to 7123 FT with no debris  
Marker Joint logged from 6629 FT - 6649 FT  
Log ran with 2500 PSI Surface Induced Pressure  
Logging tools were clean and free of debris upon completions of operations  
Thank you for choosing Reliance Oilfield Services, LLC!!

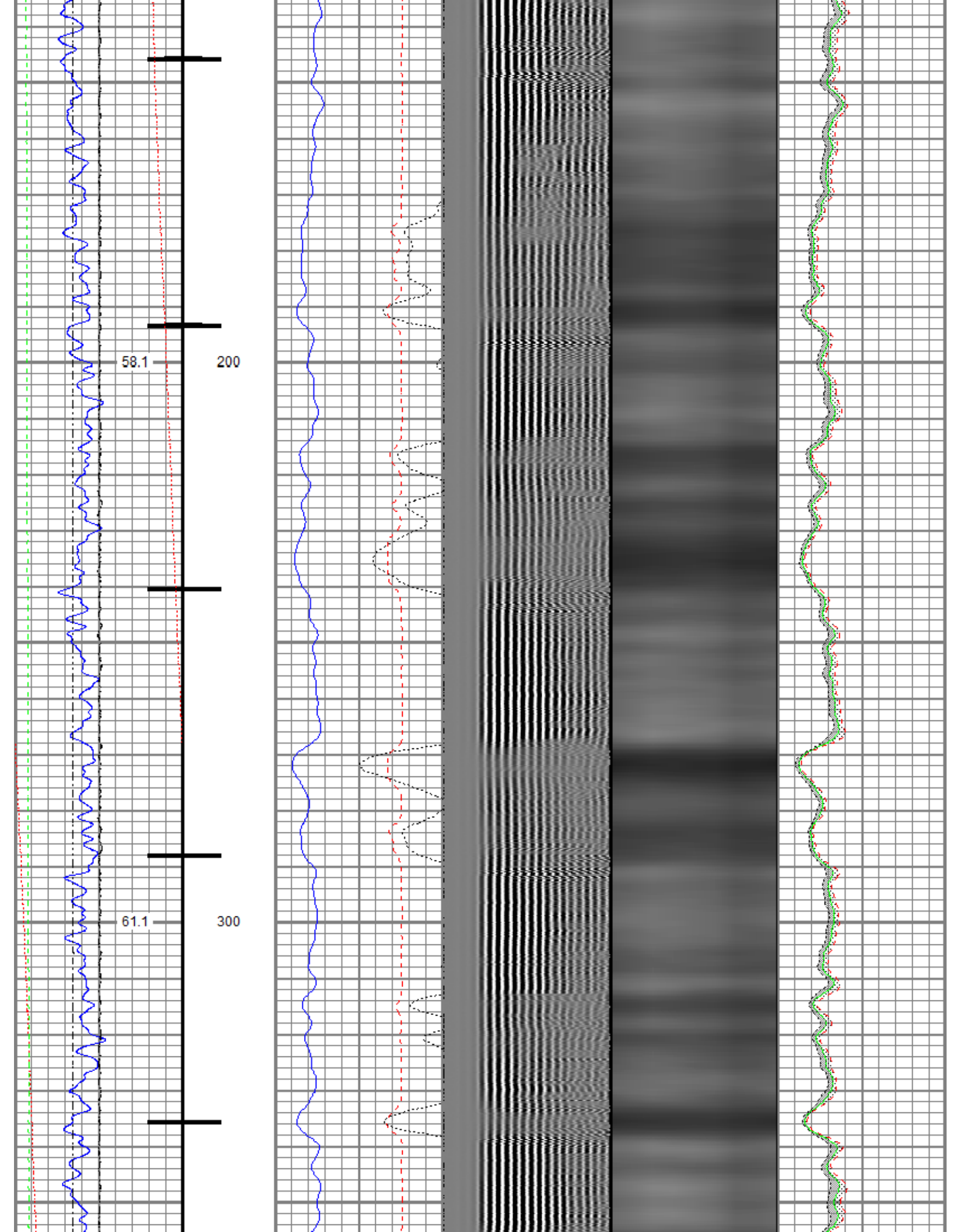
Main Pass

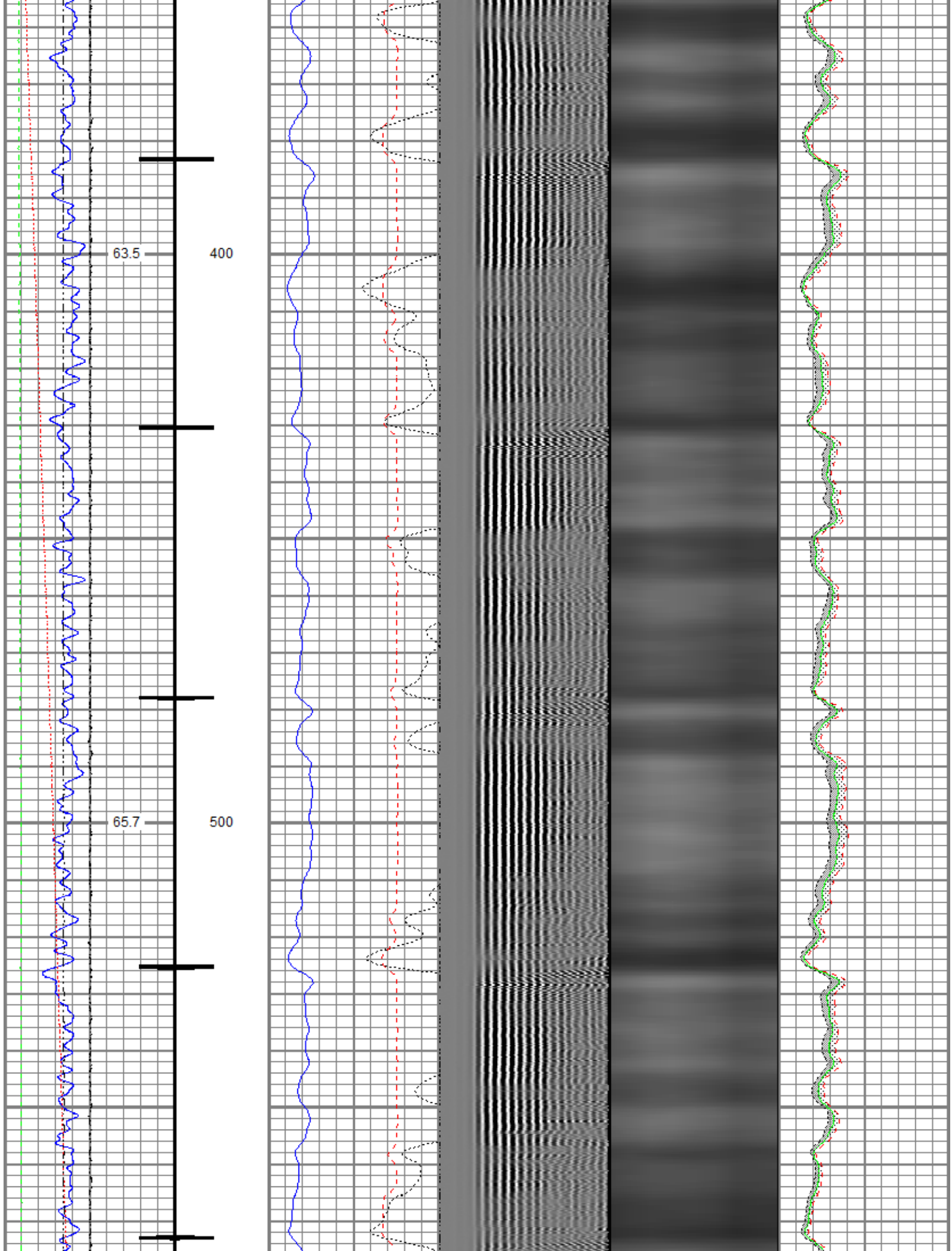


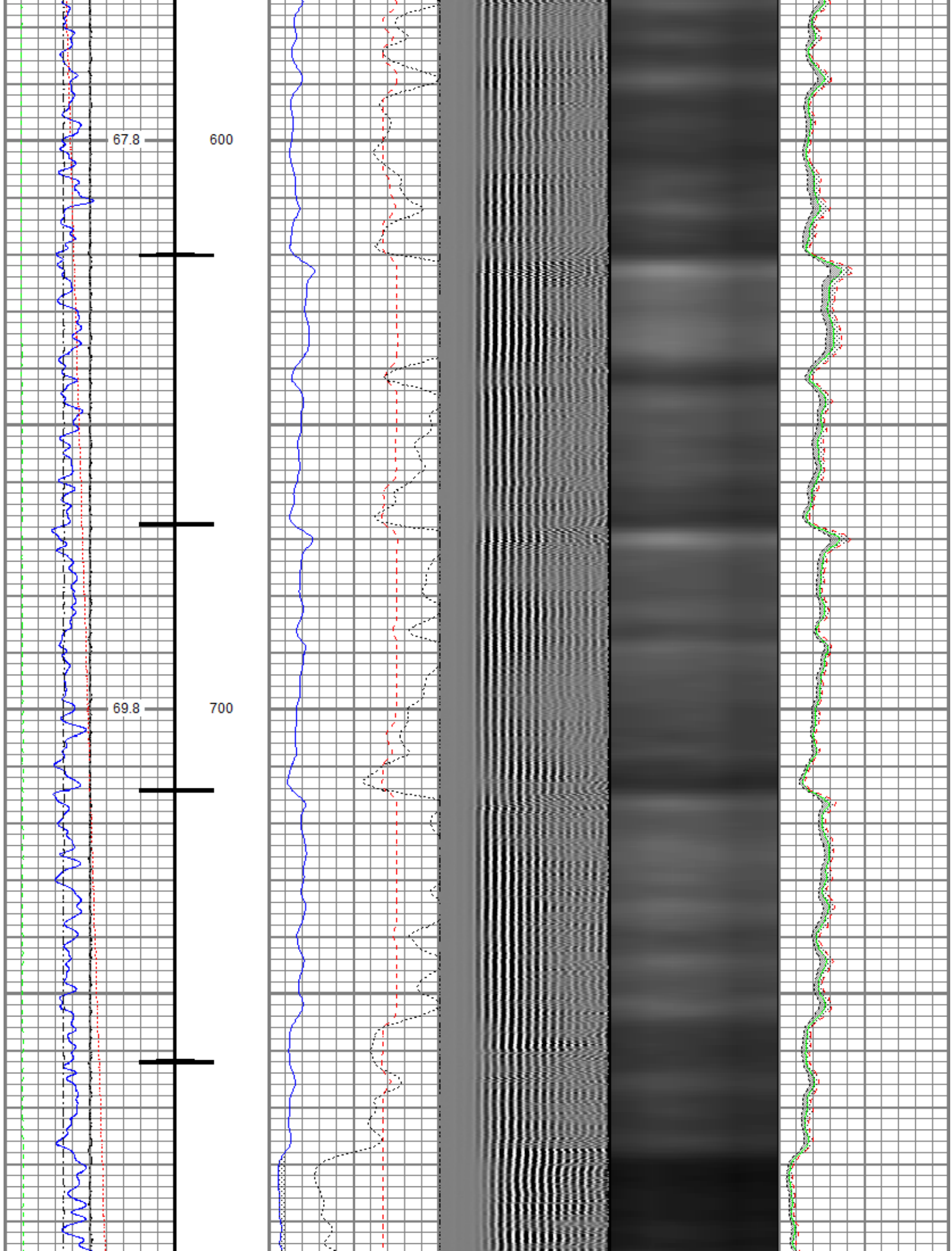
Database File boomerang 28c-3-lsrc energy\_boomerang 28c\_3\_l\_rbl\_04-25-18.db  
 Dataset Pathname well\_16/RBL\_CNL/pass4.1  
 Presentation Format ros\_radri  
 Dataset Creation Wed Apr 25 11:02:37 2018  
 Charted by Depth in Feet scaled 1:240

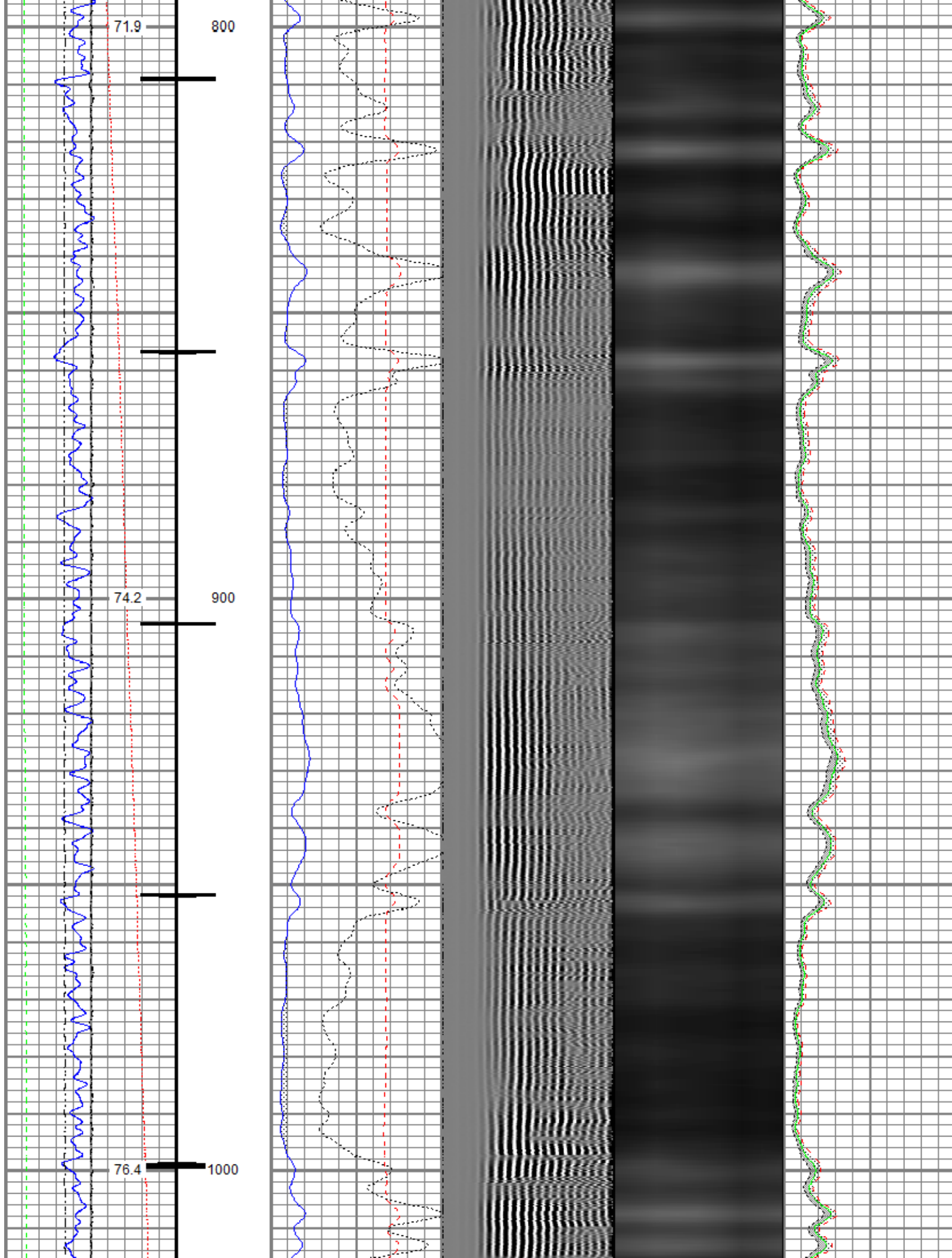
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
-150 (ft/min) 150						
Line Tension (lb) 2000						
Differential Temperature						
-2 (degF) 2						

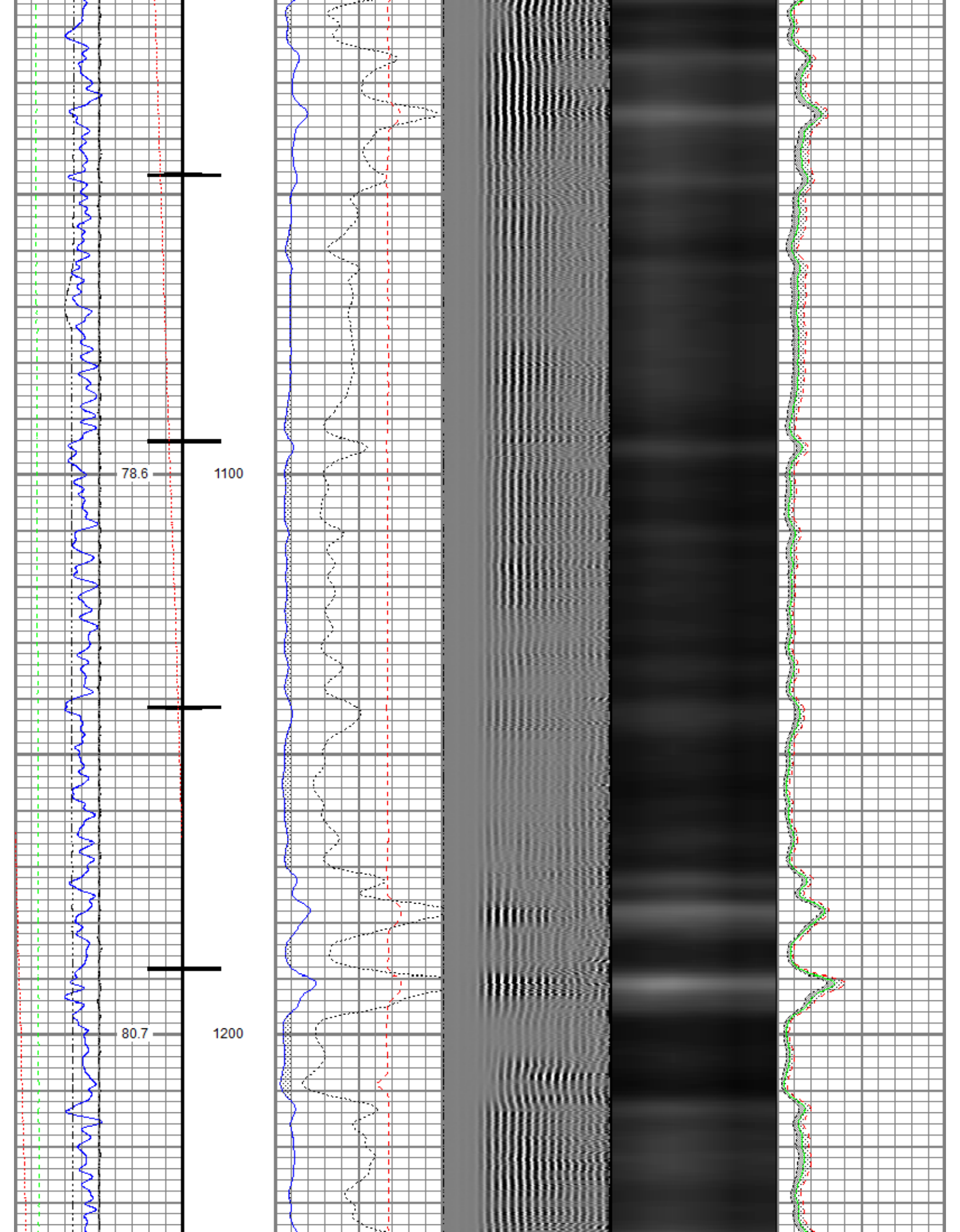


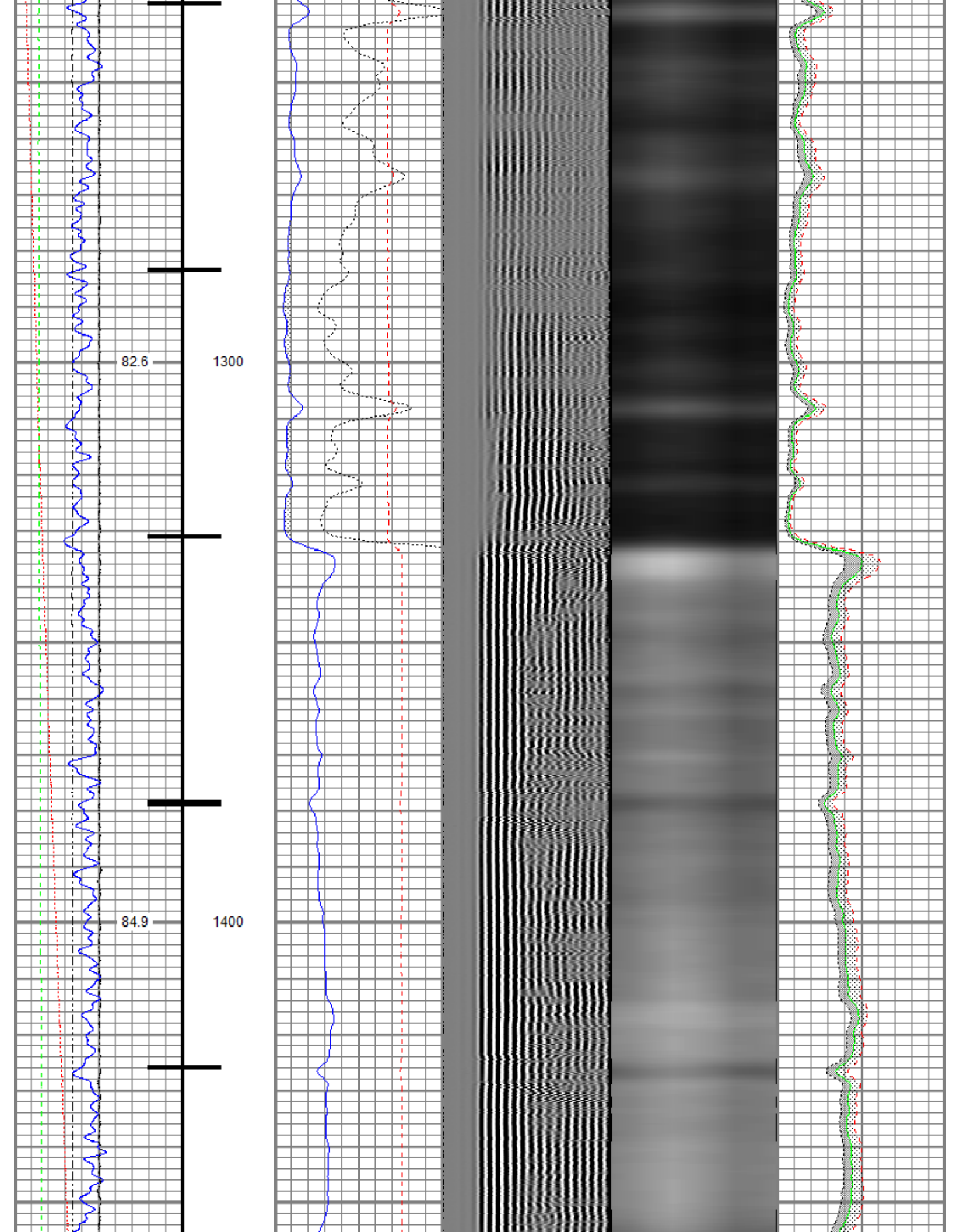


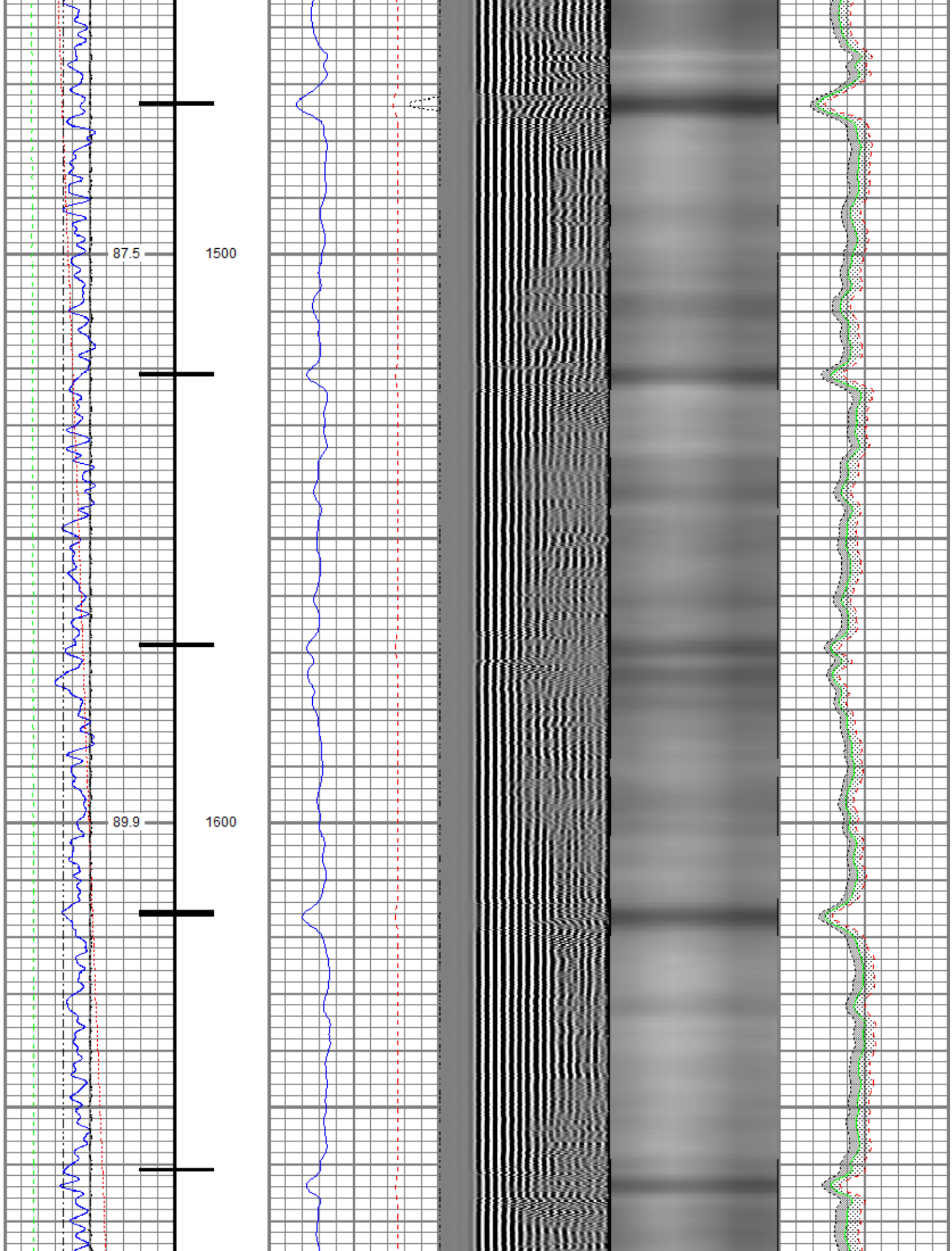


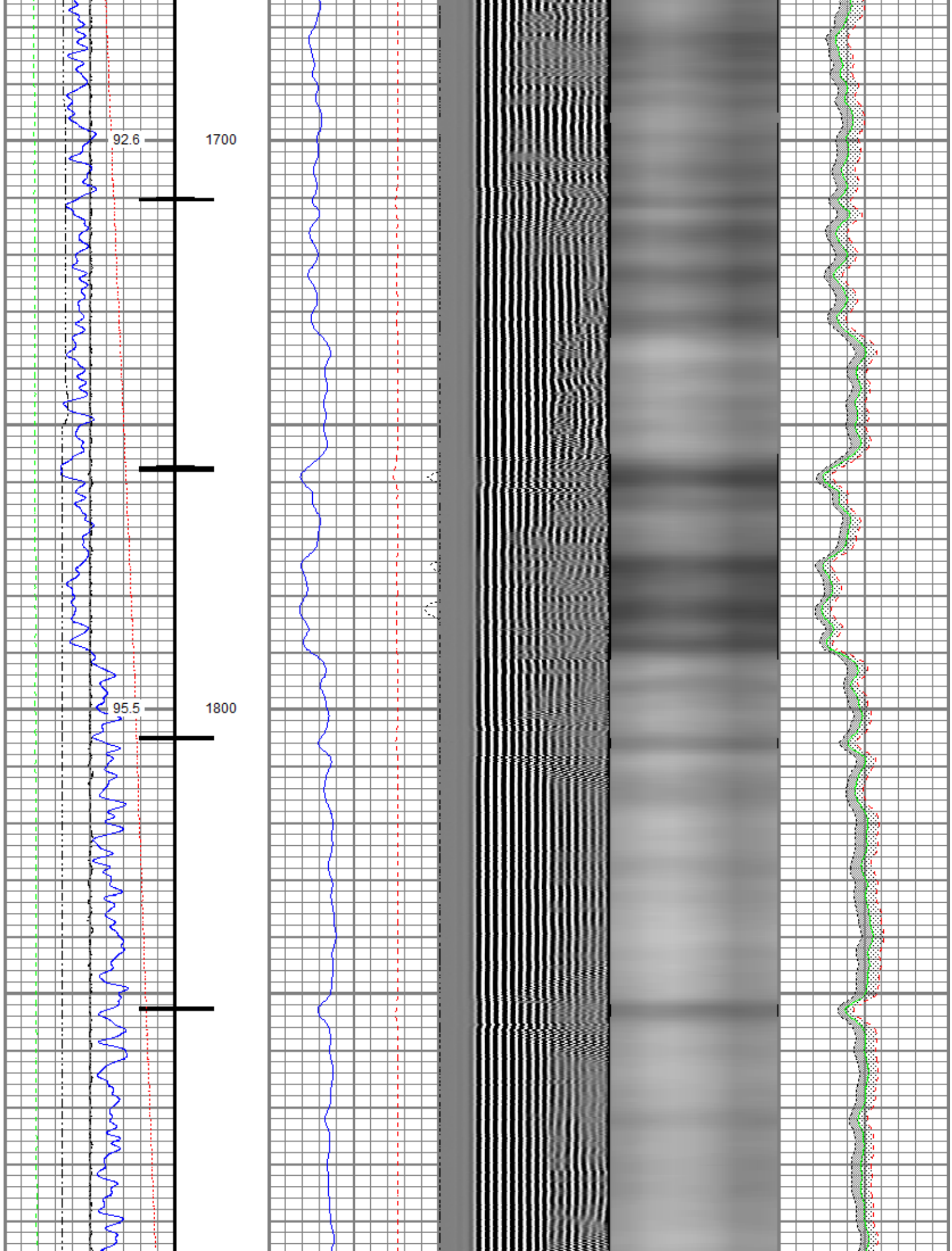


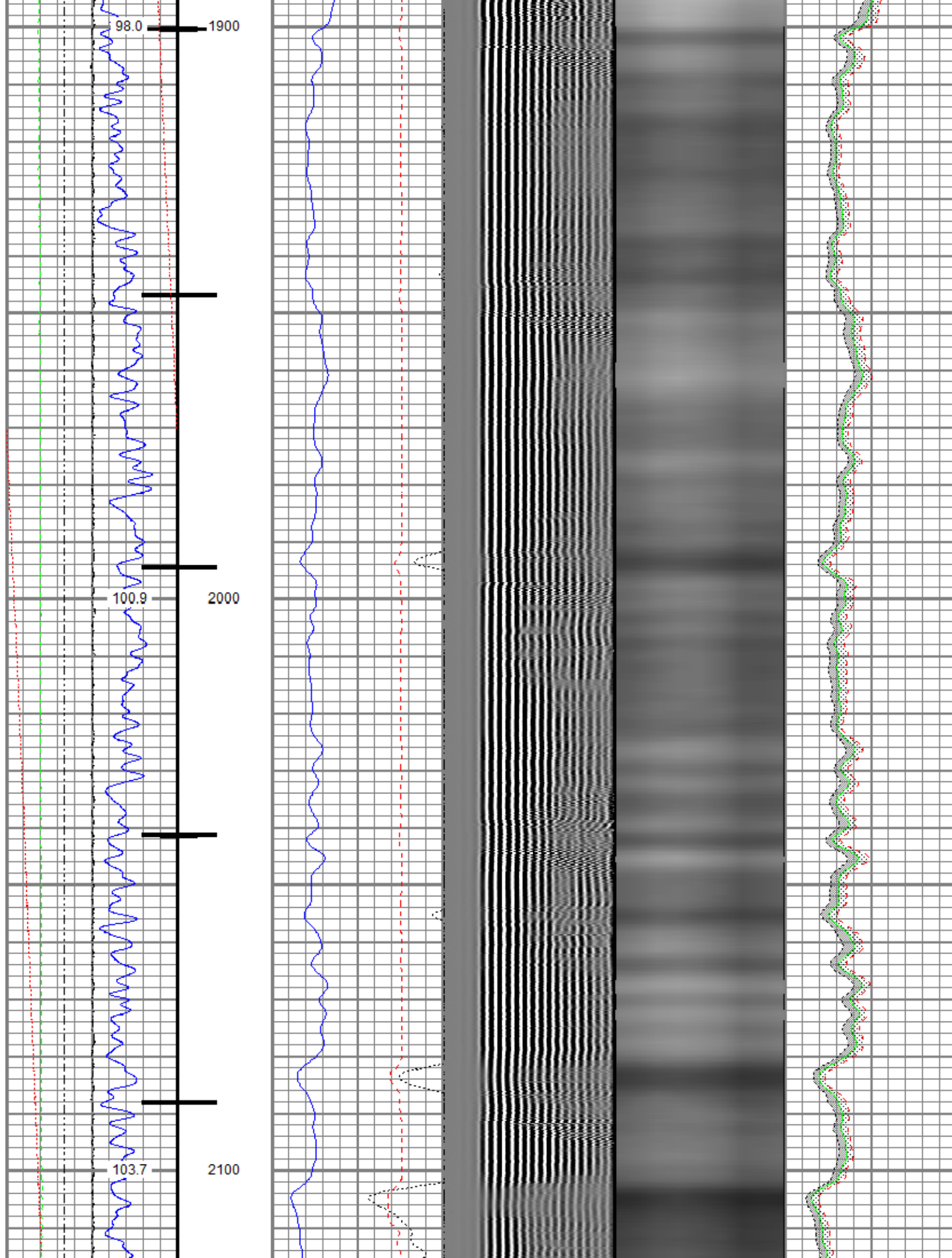


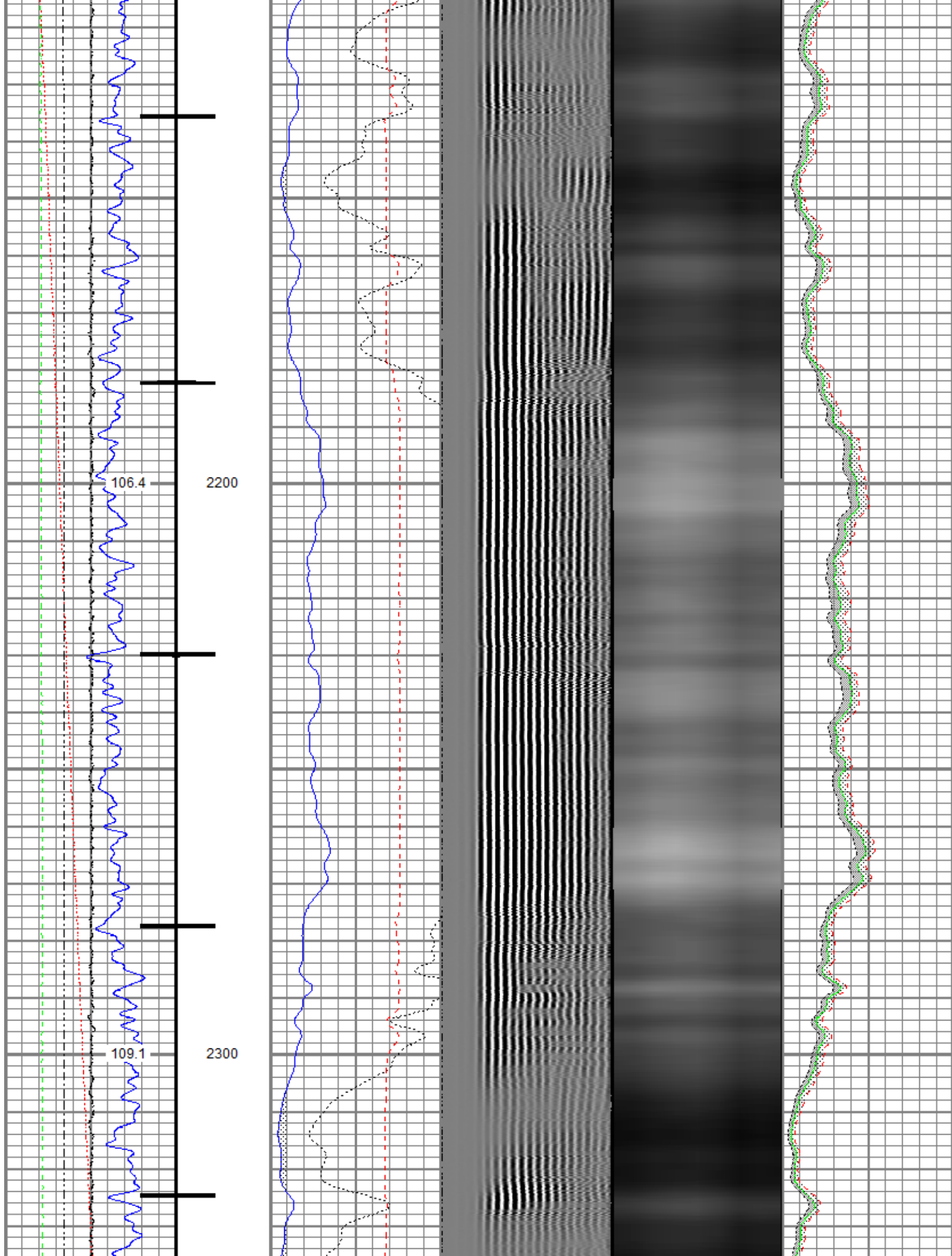


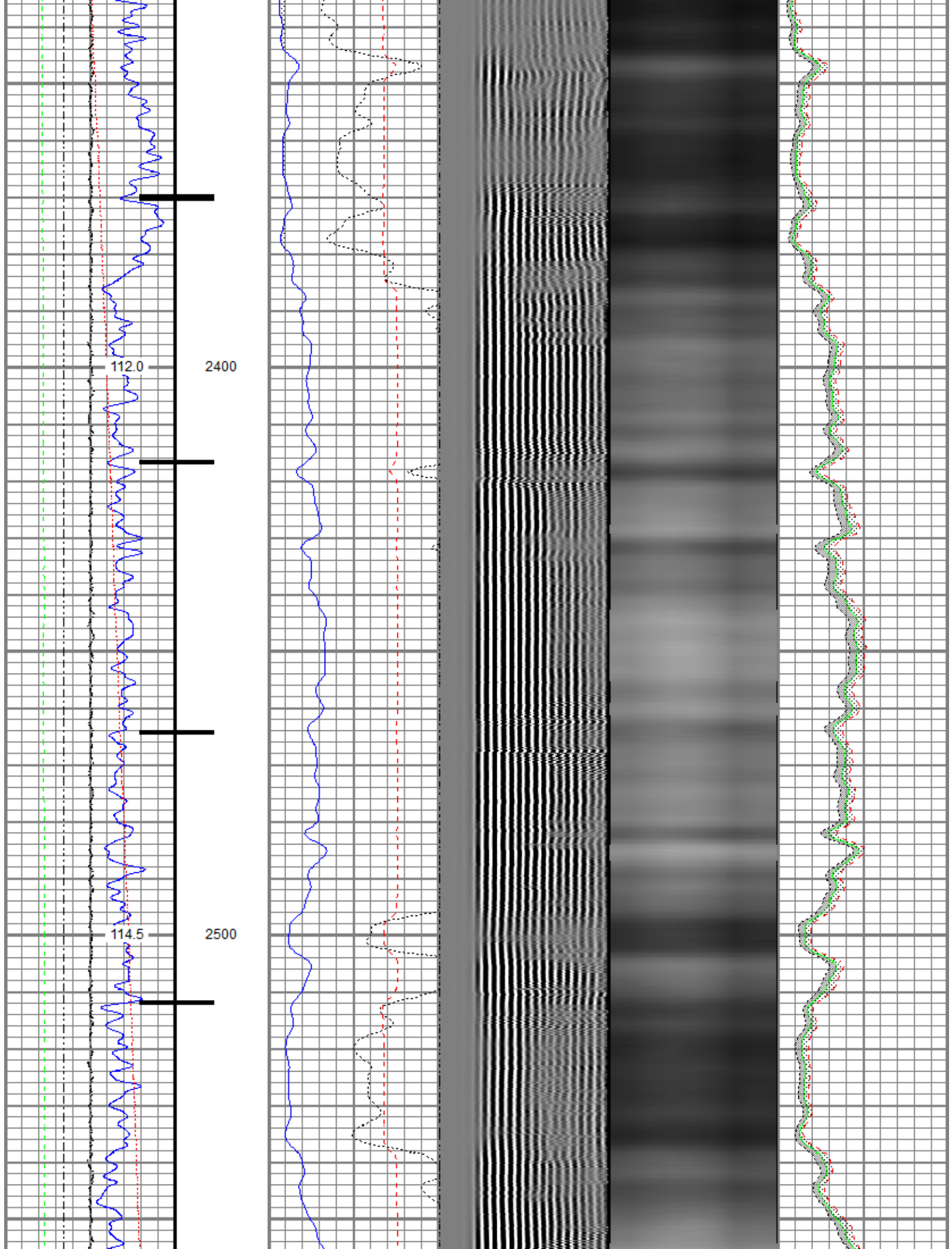


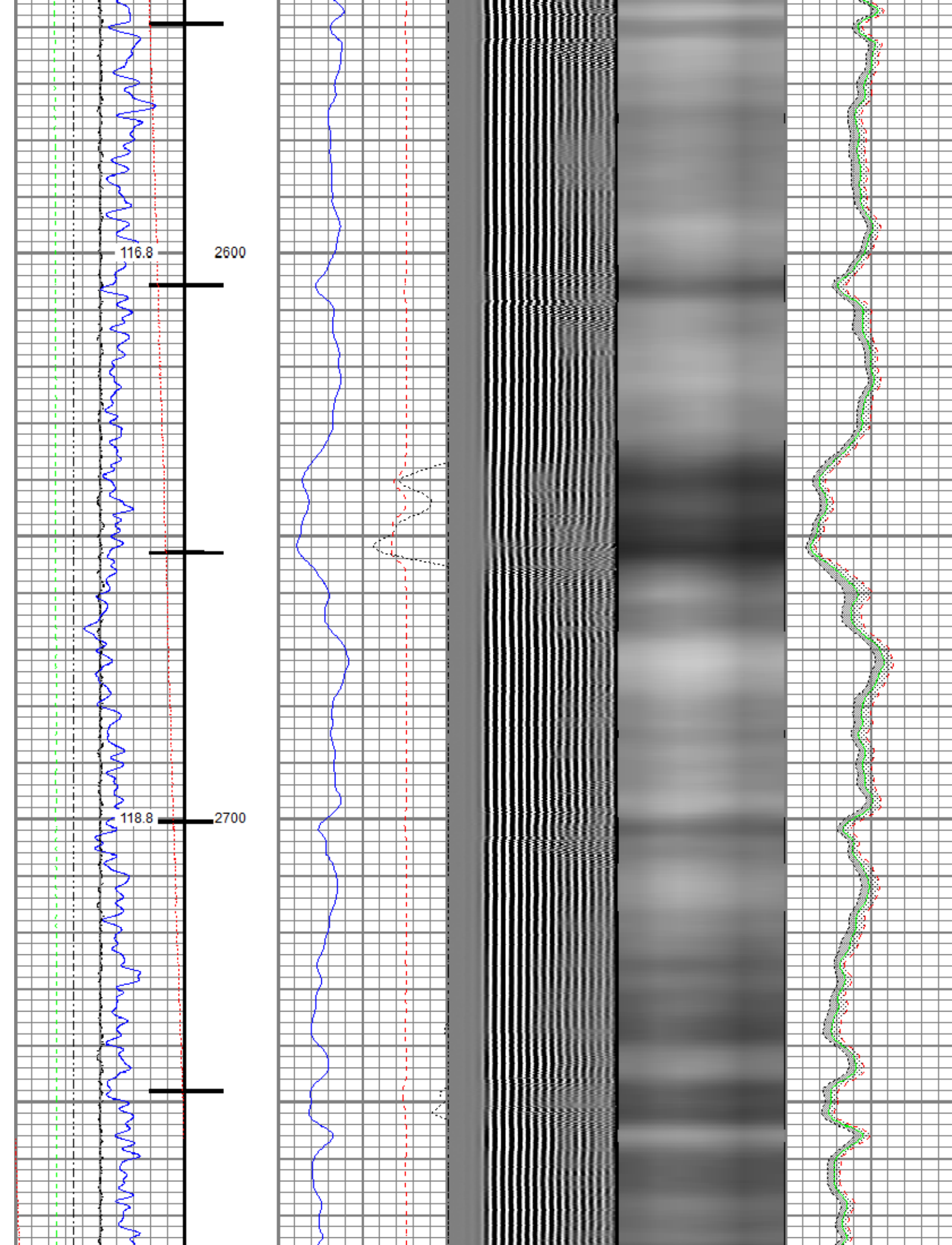


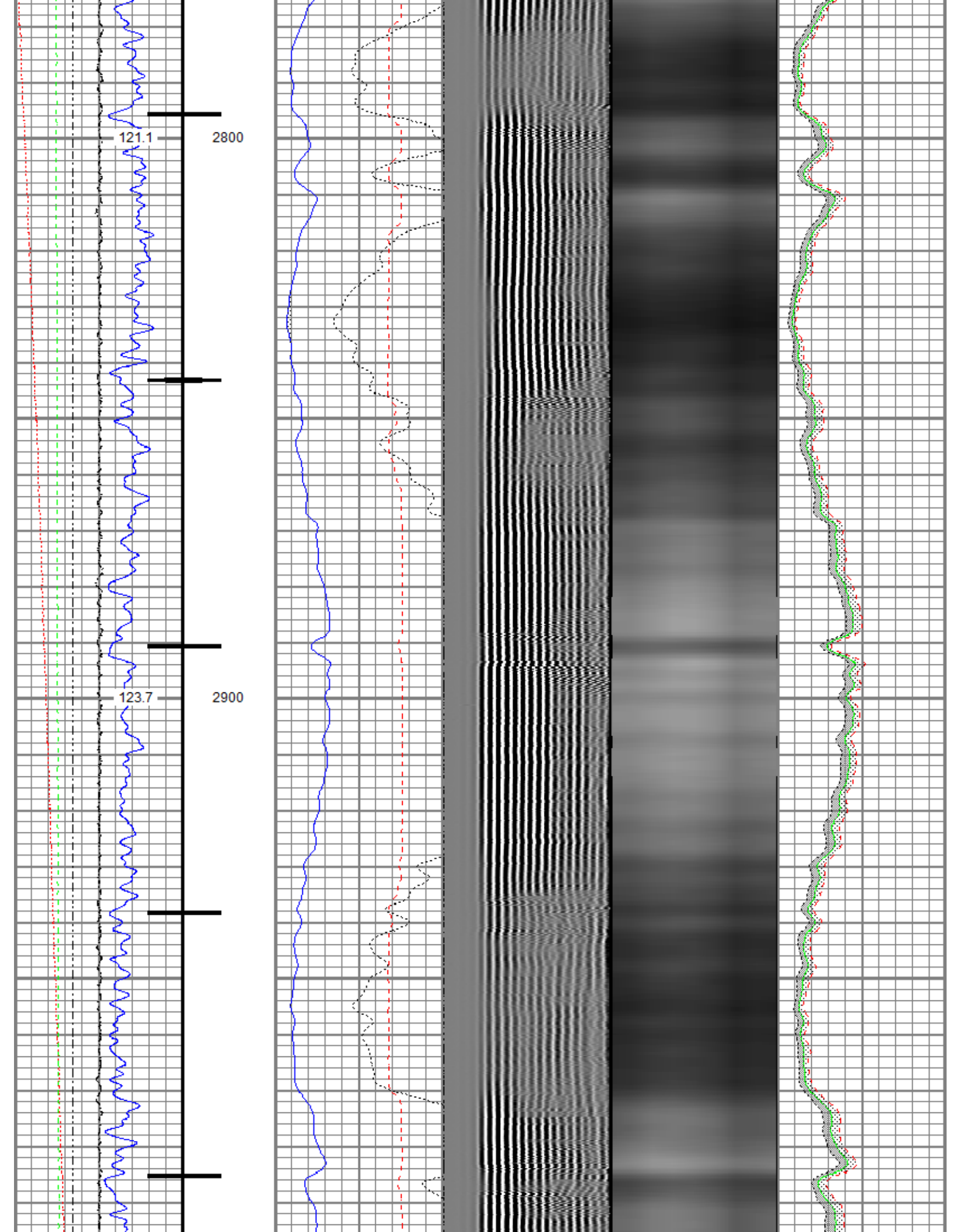


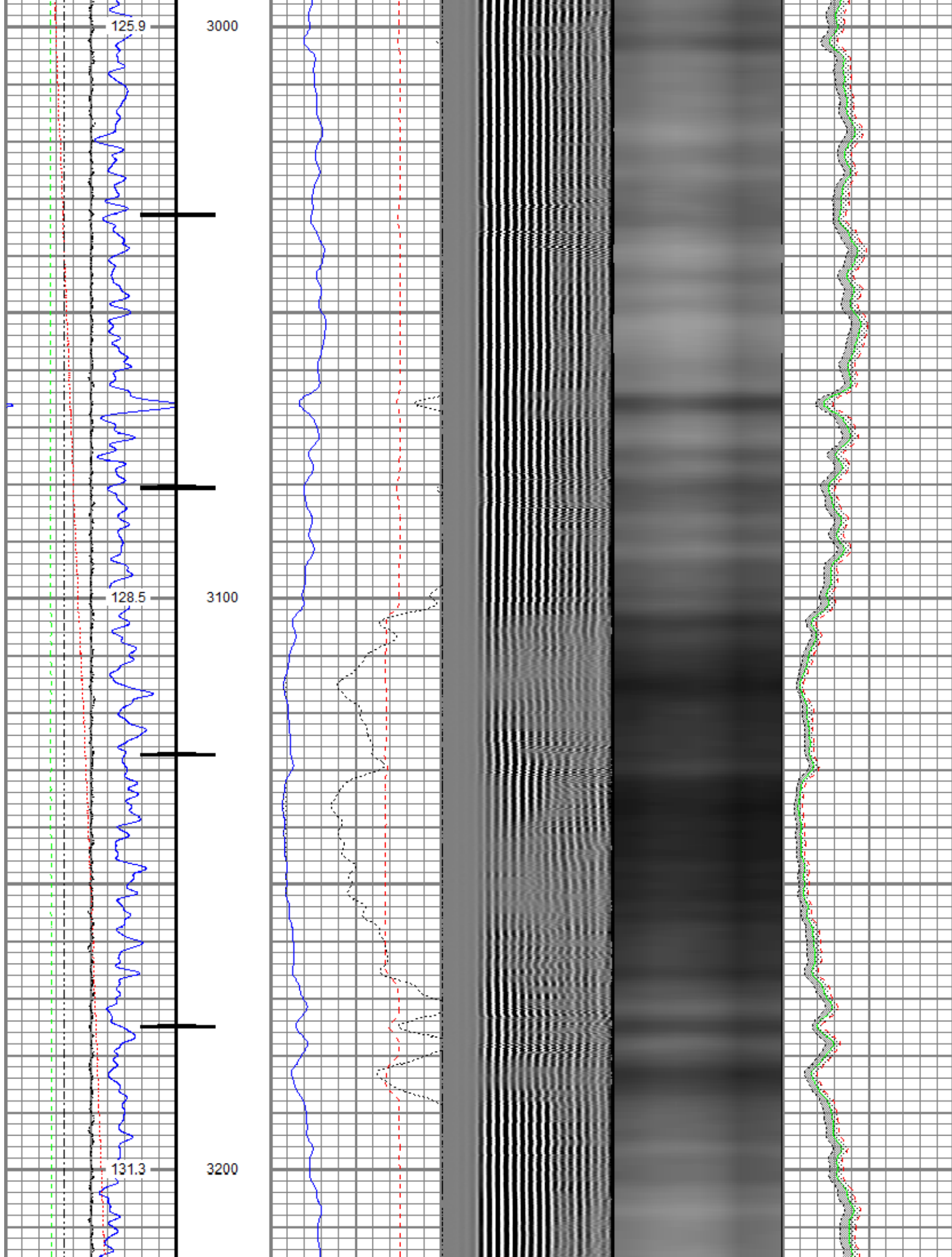


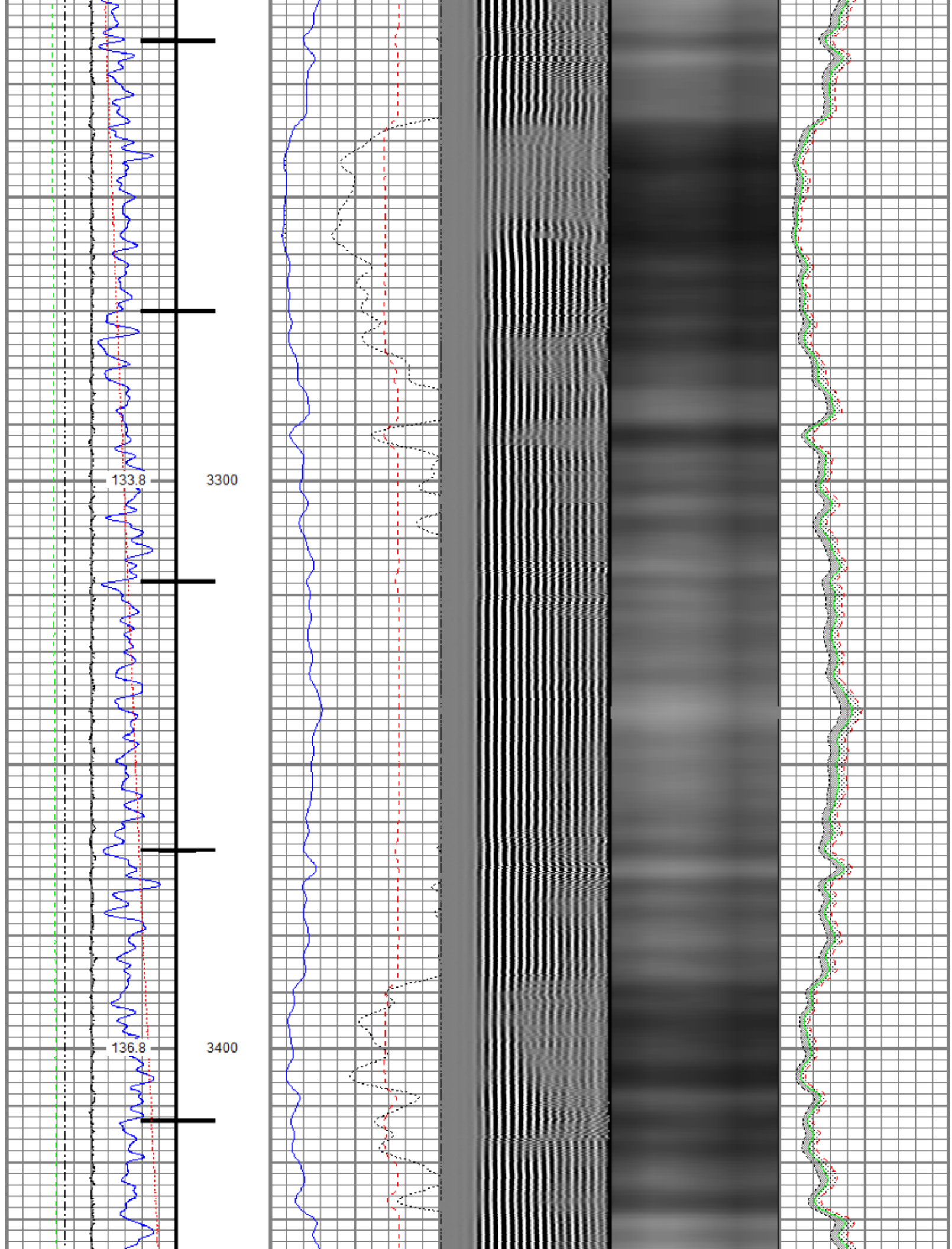


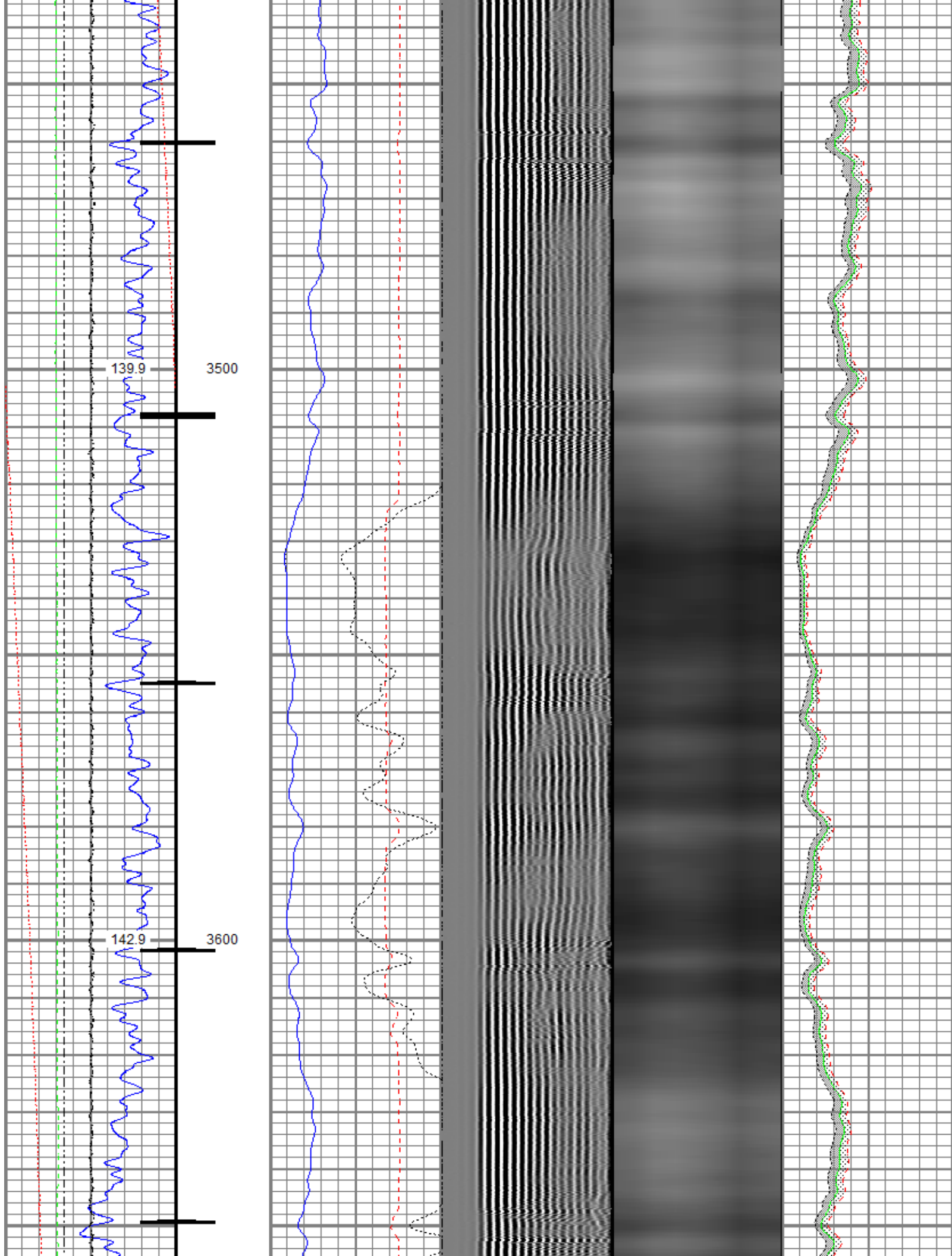


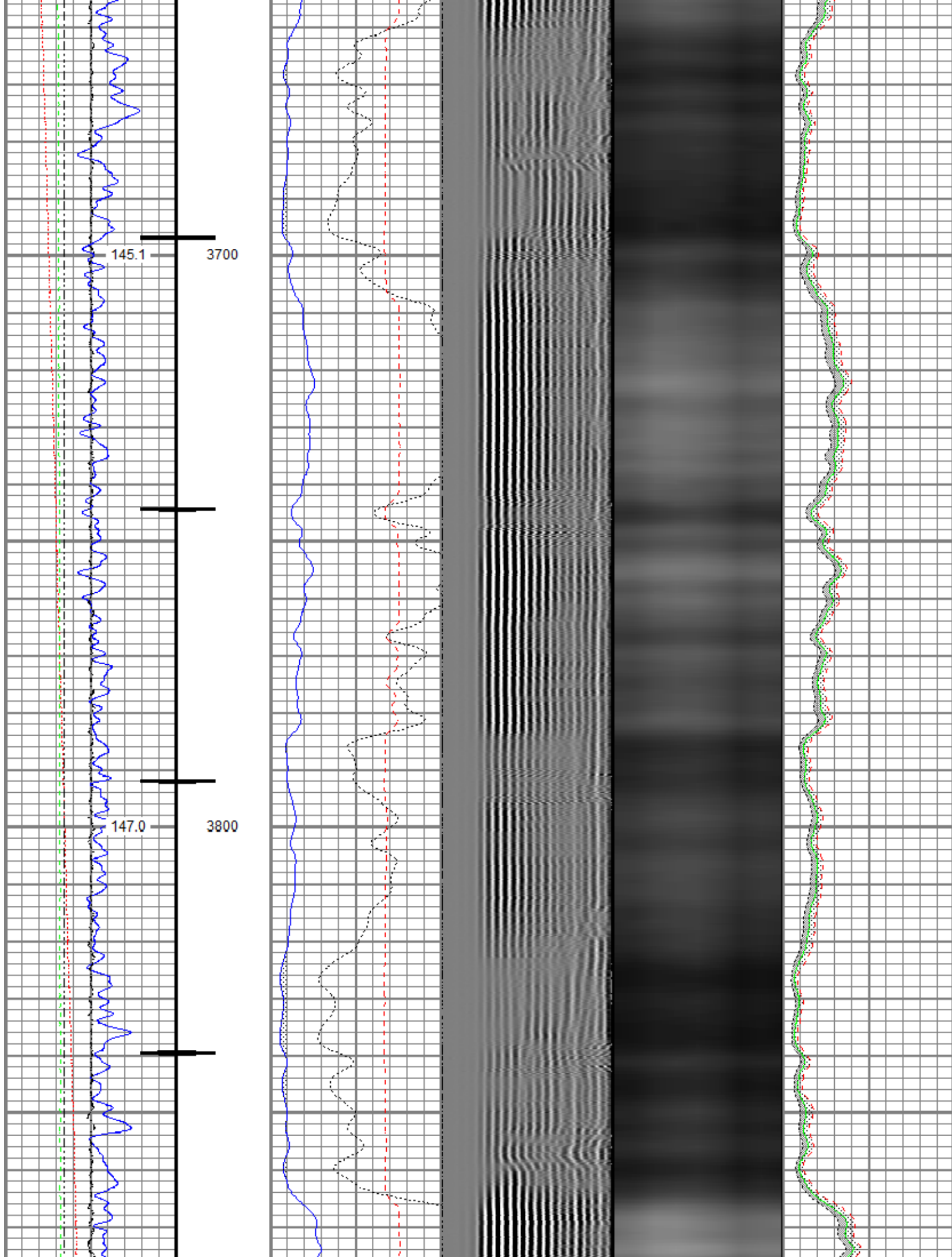


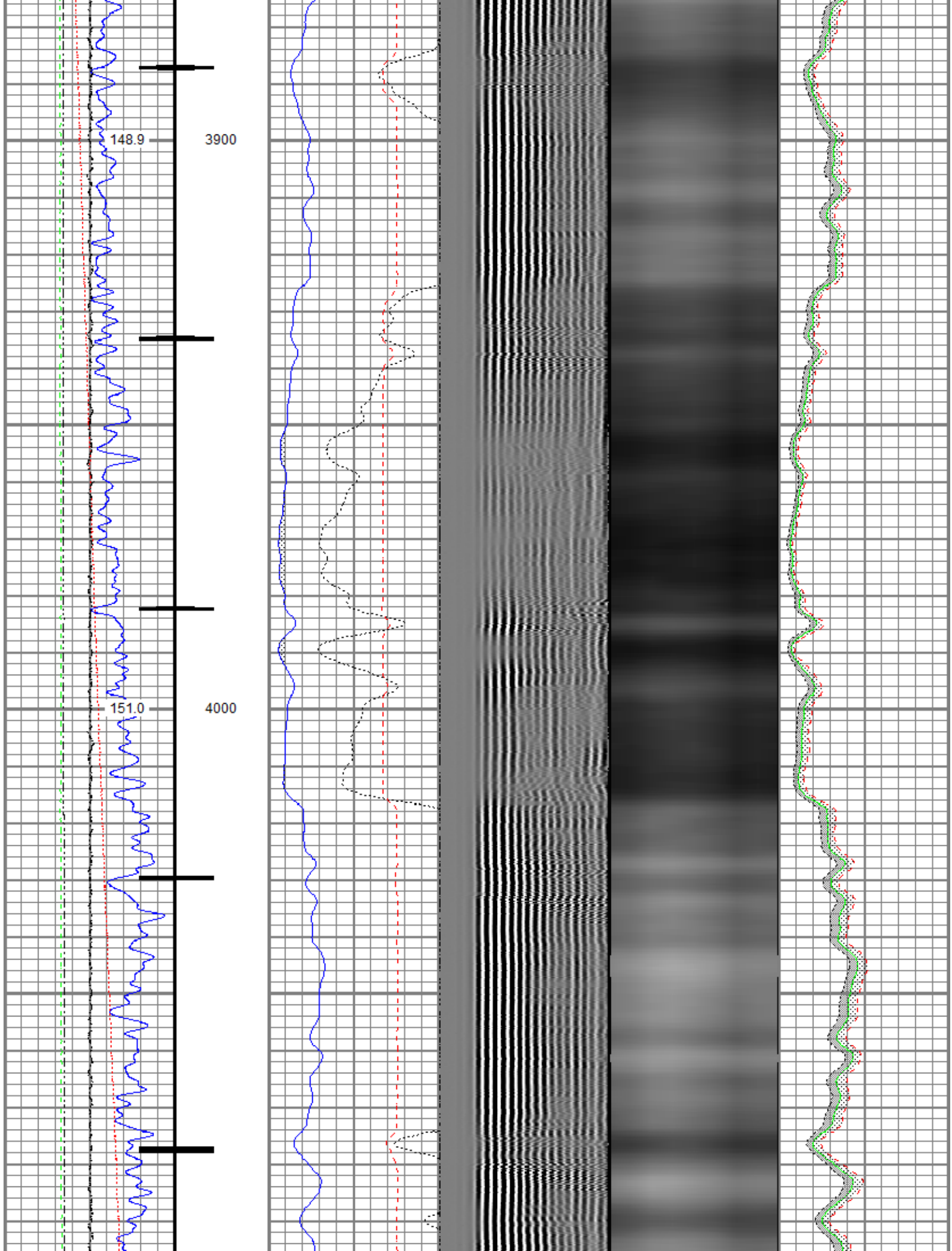


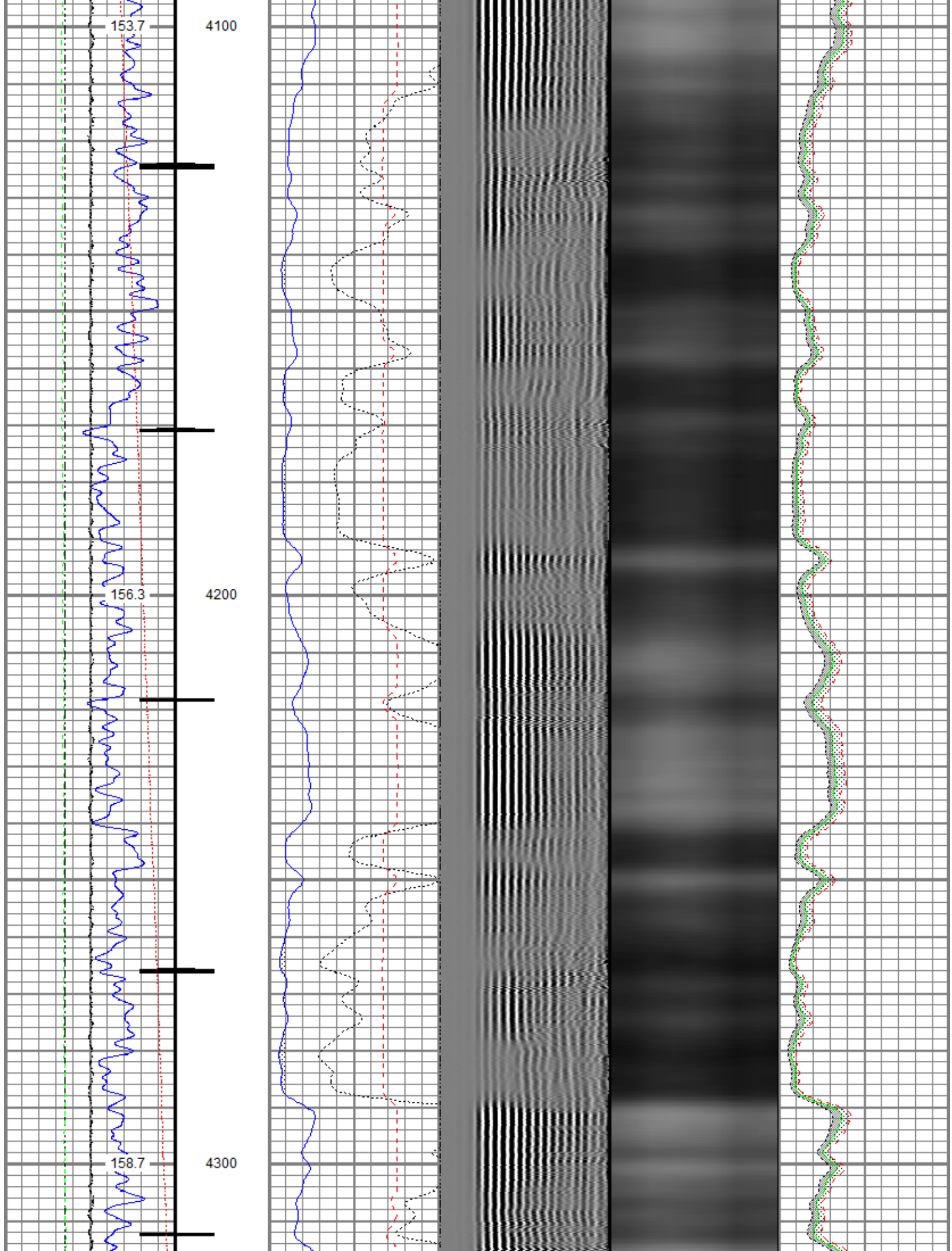


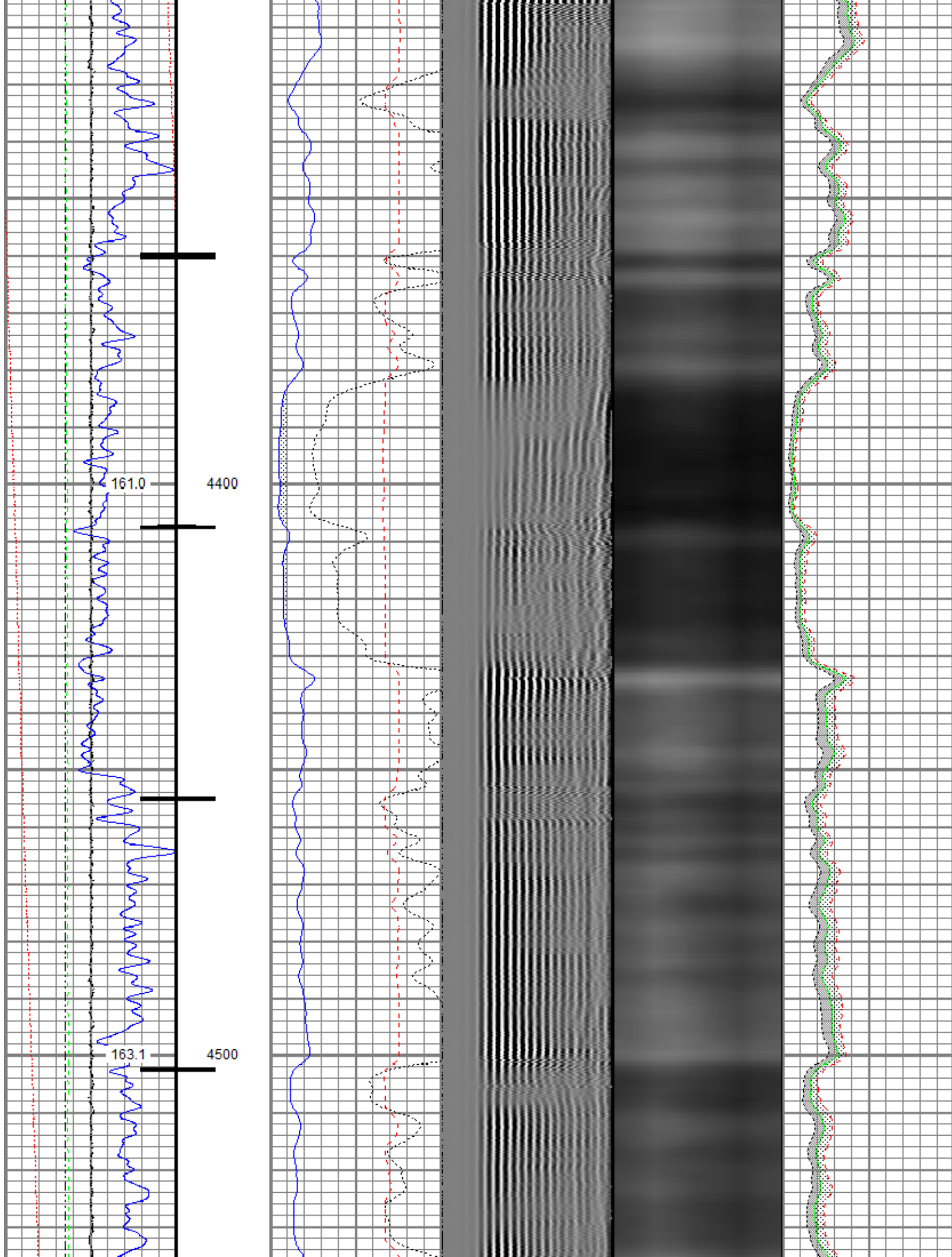


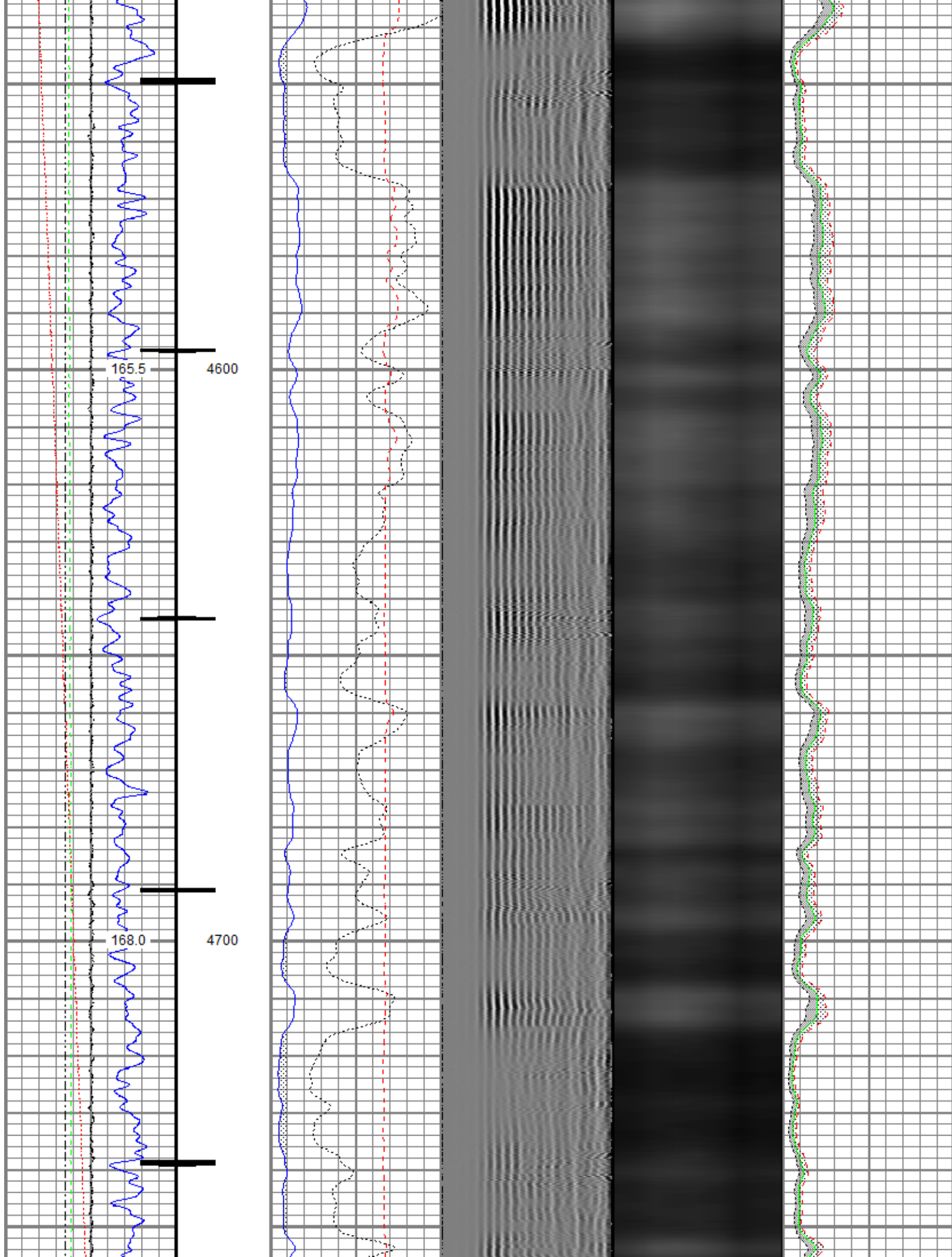


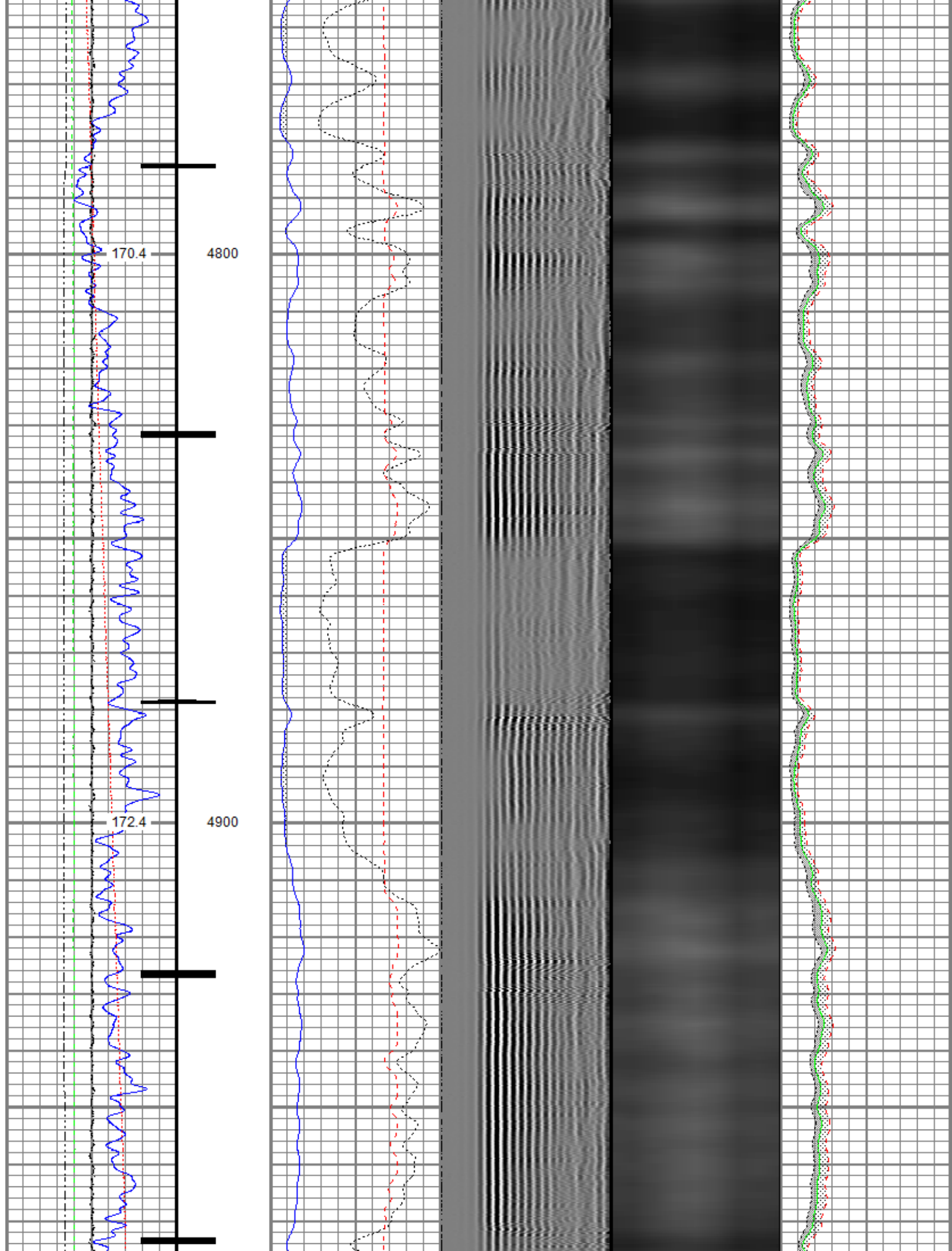


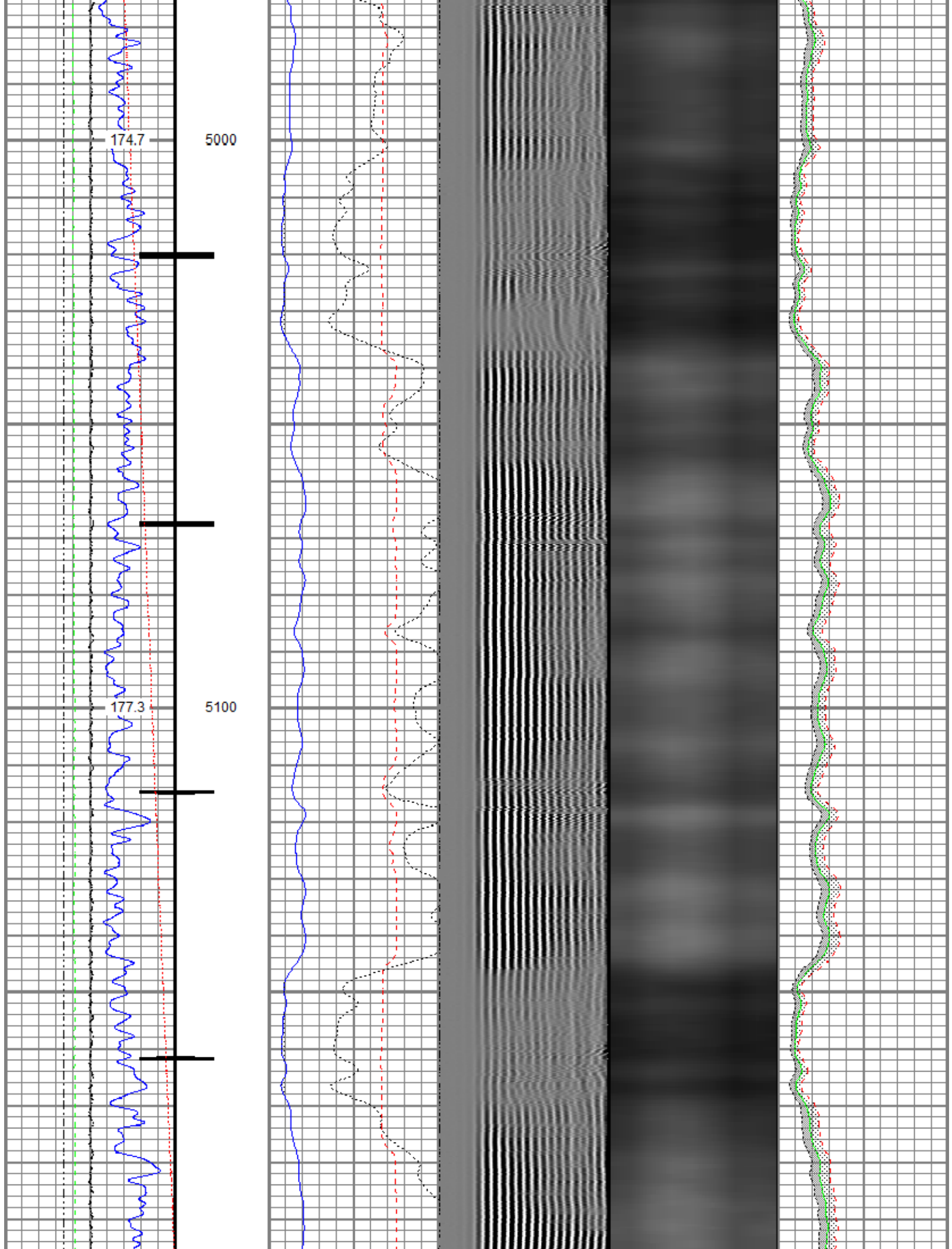


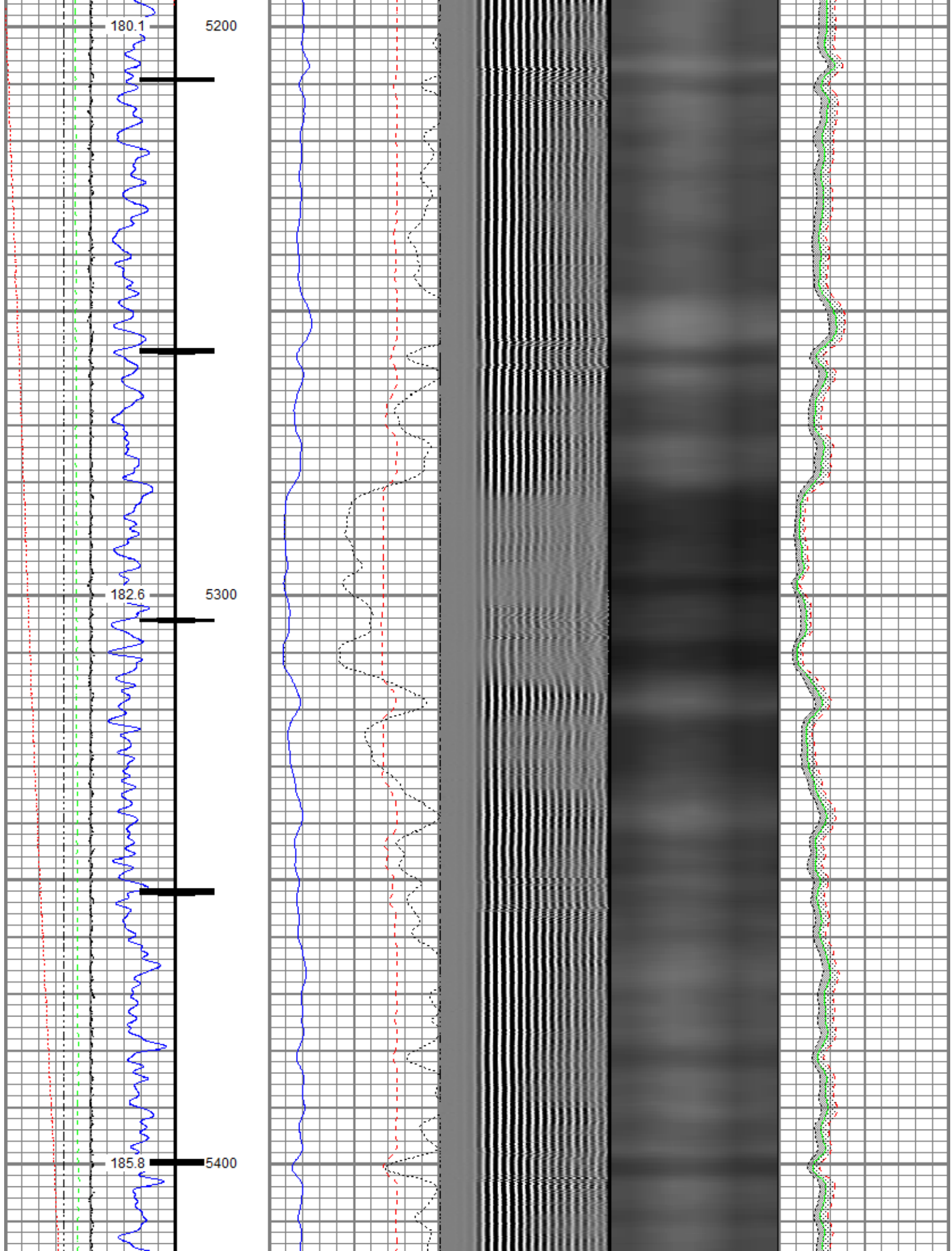


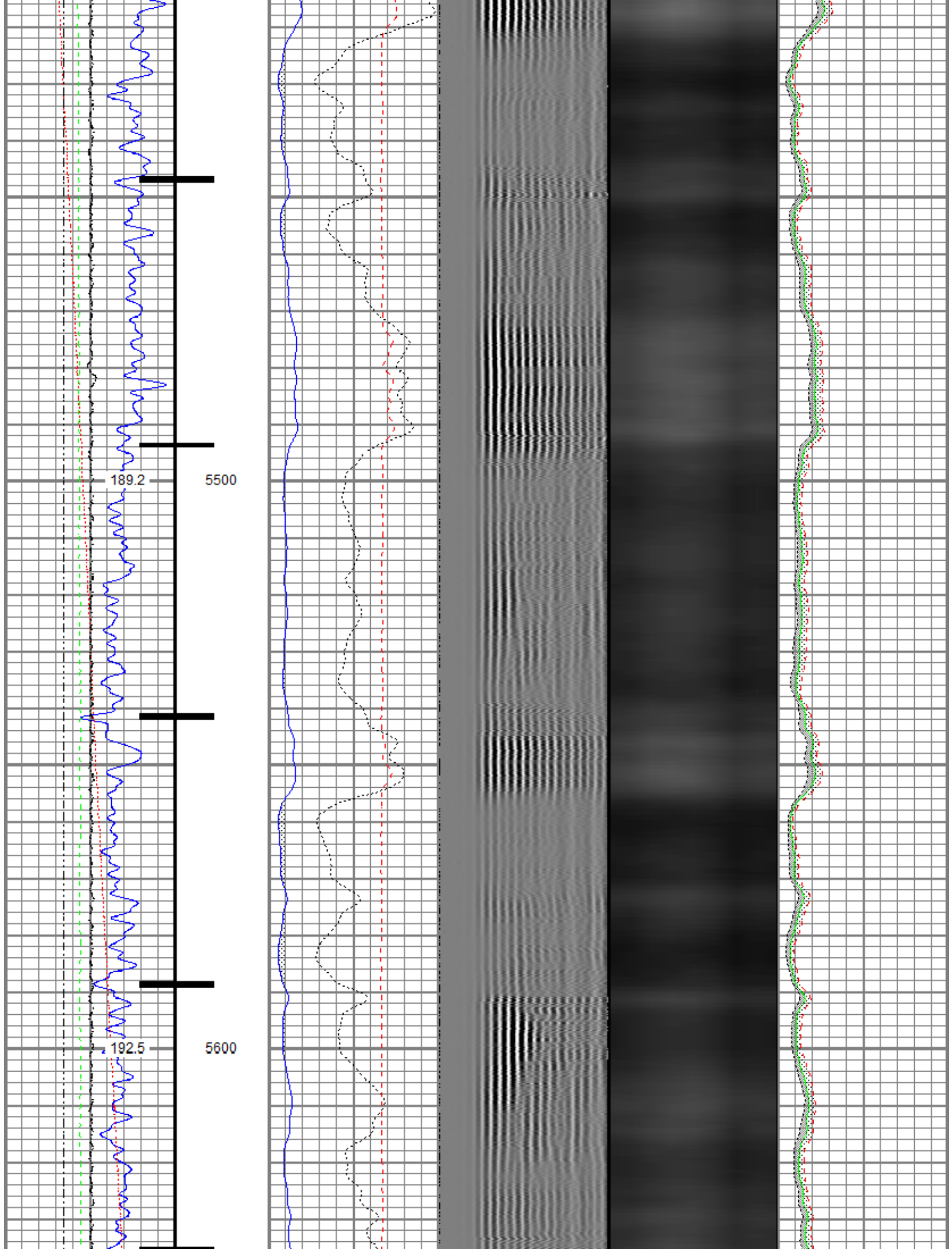


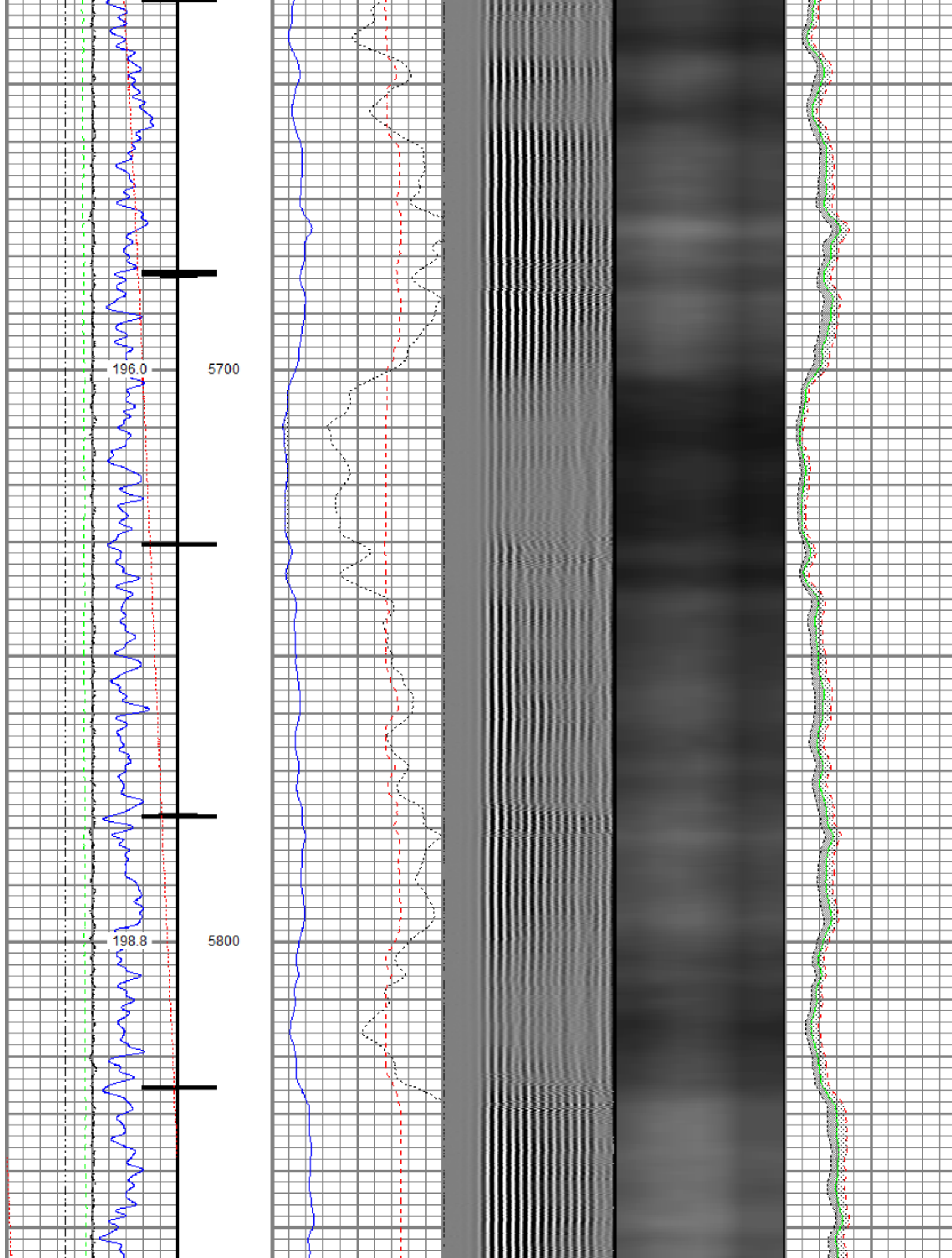


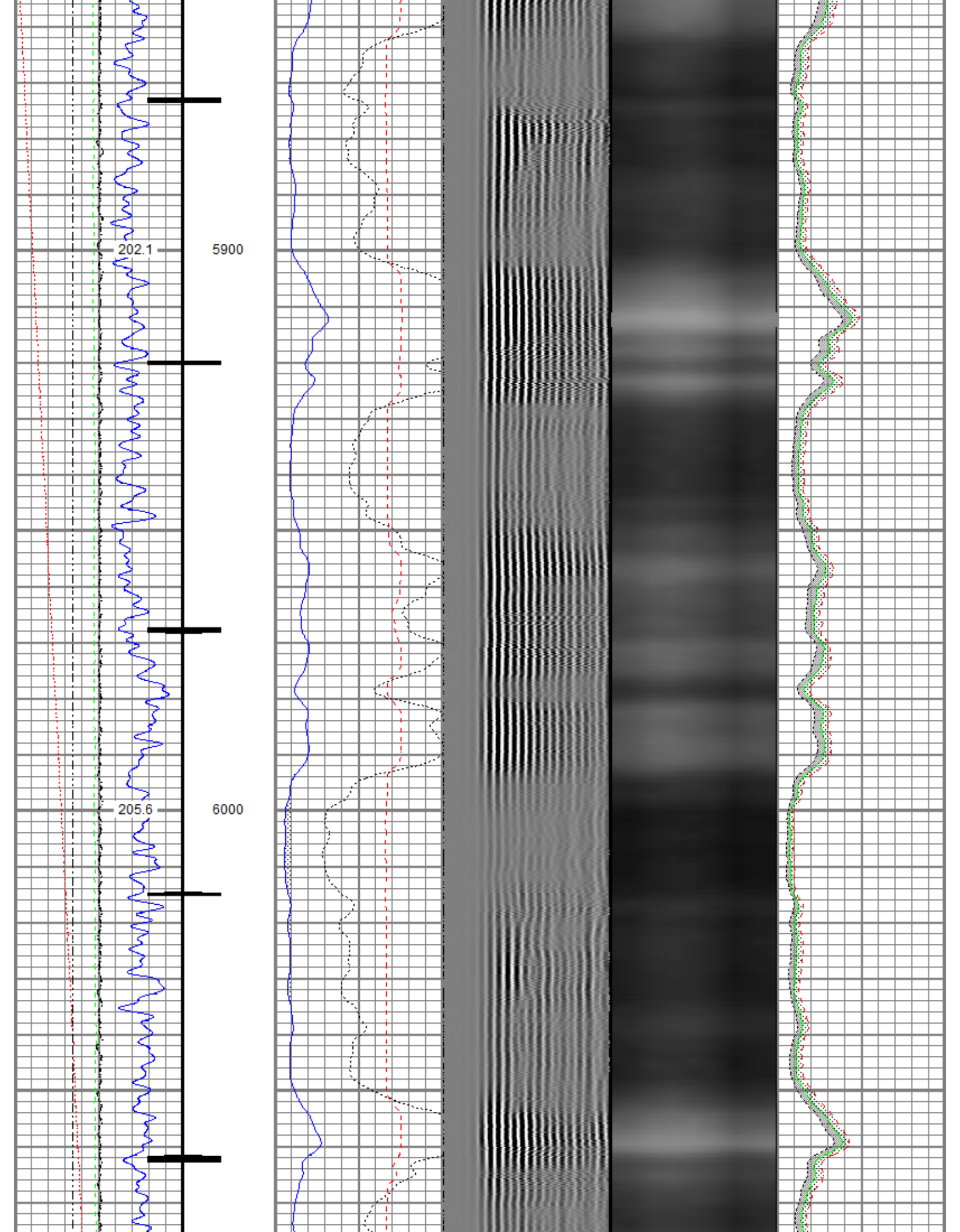


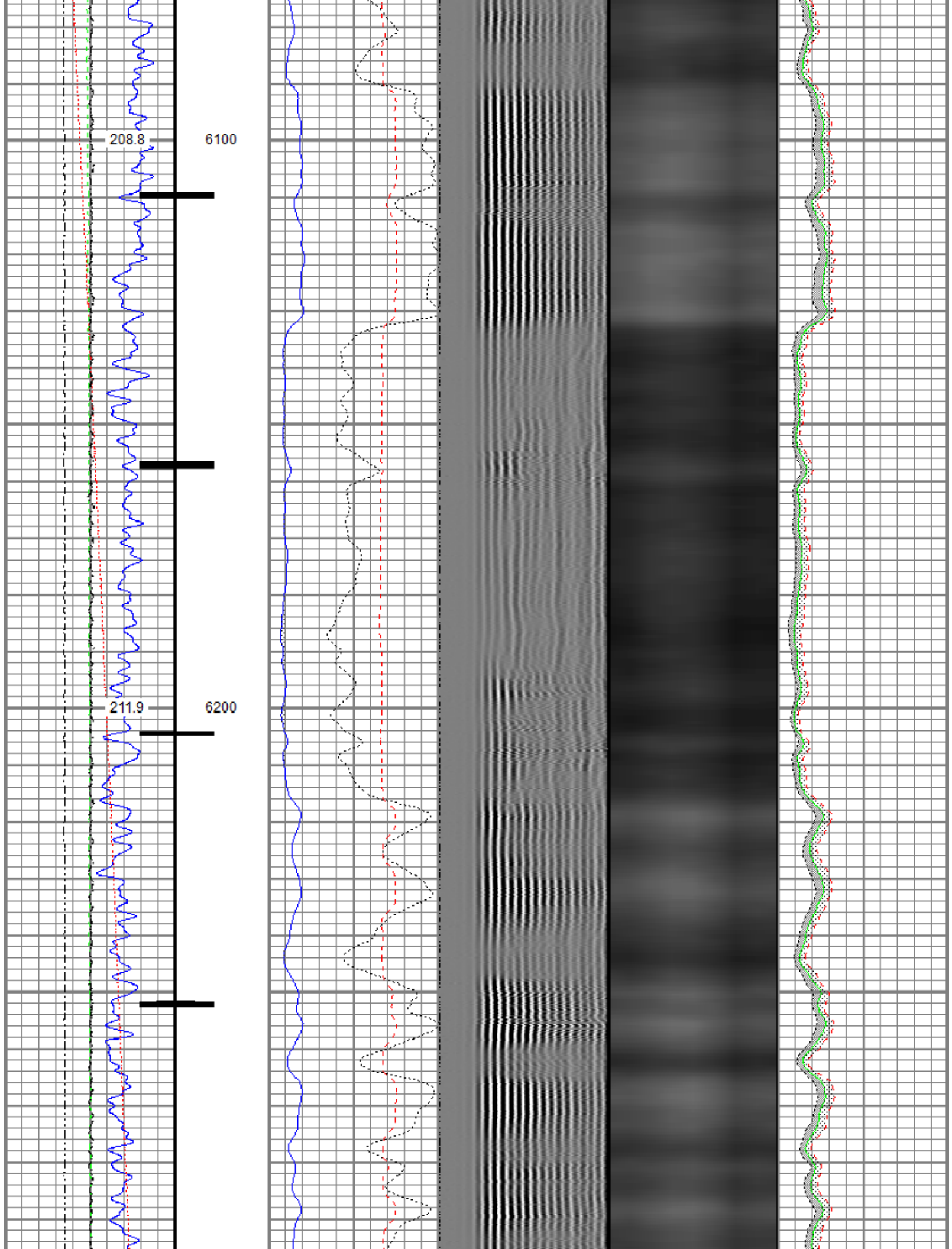


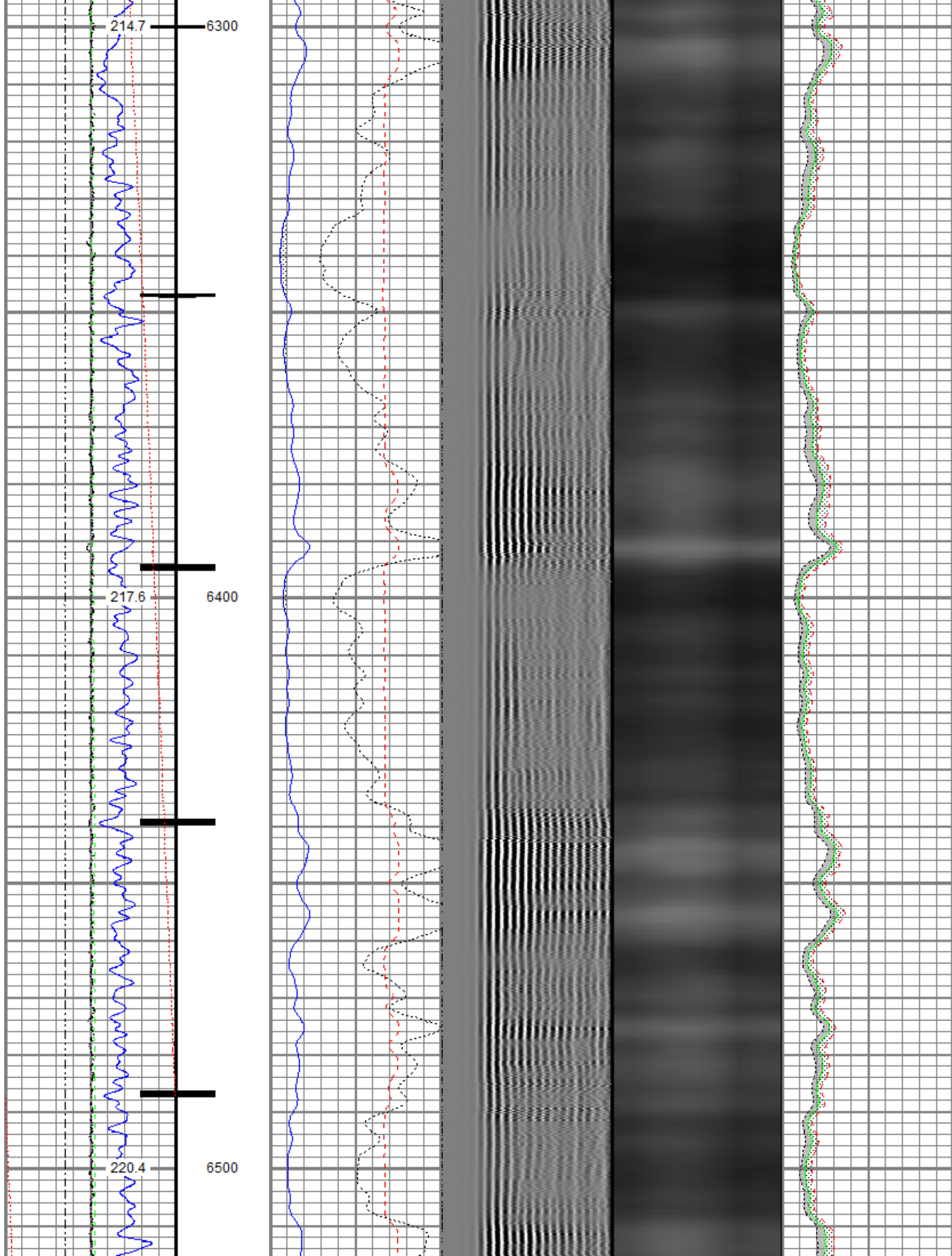


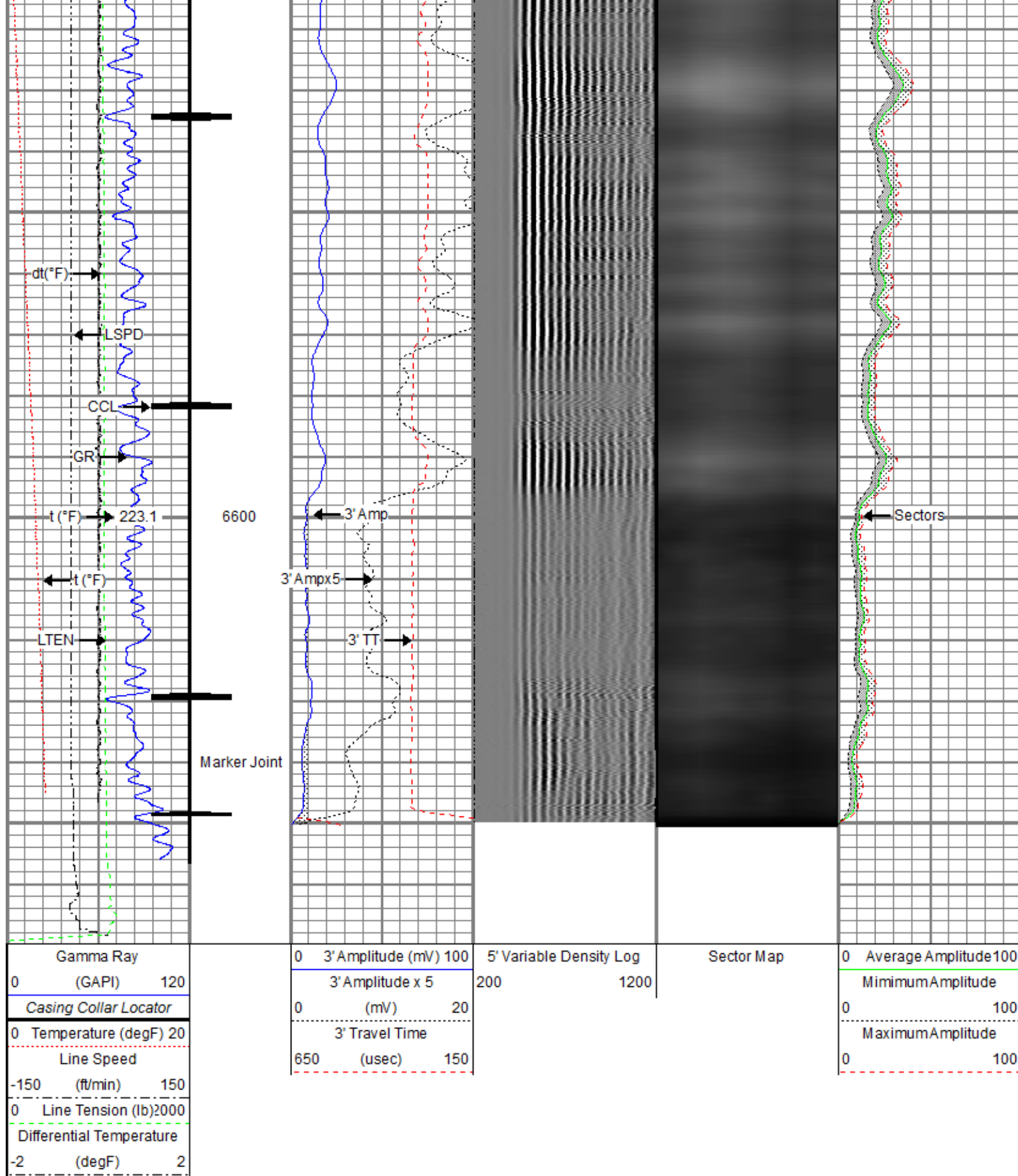












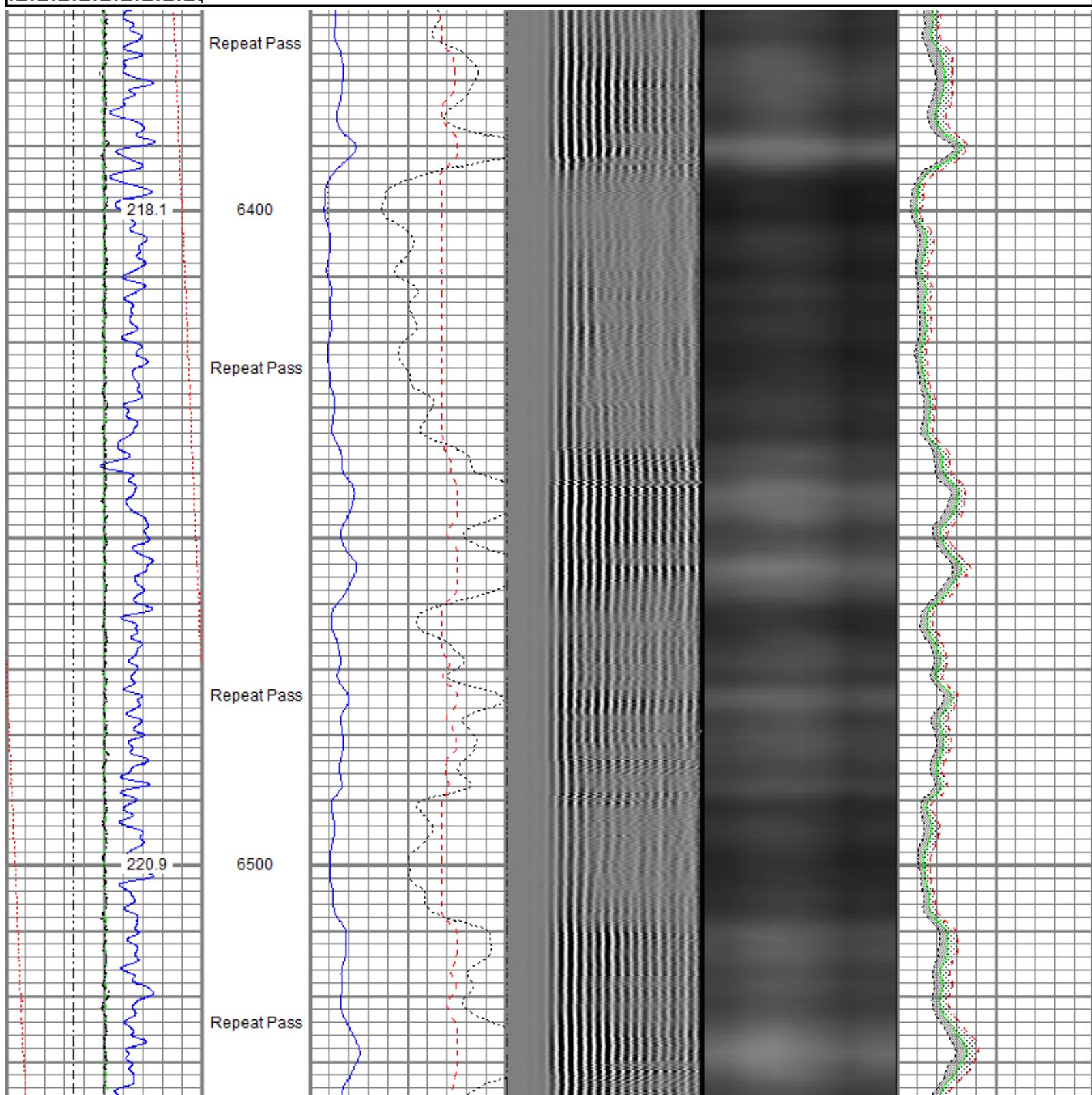
Repeat Pass

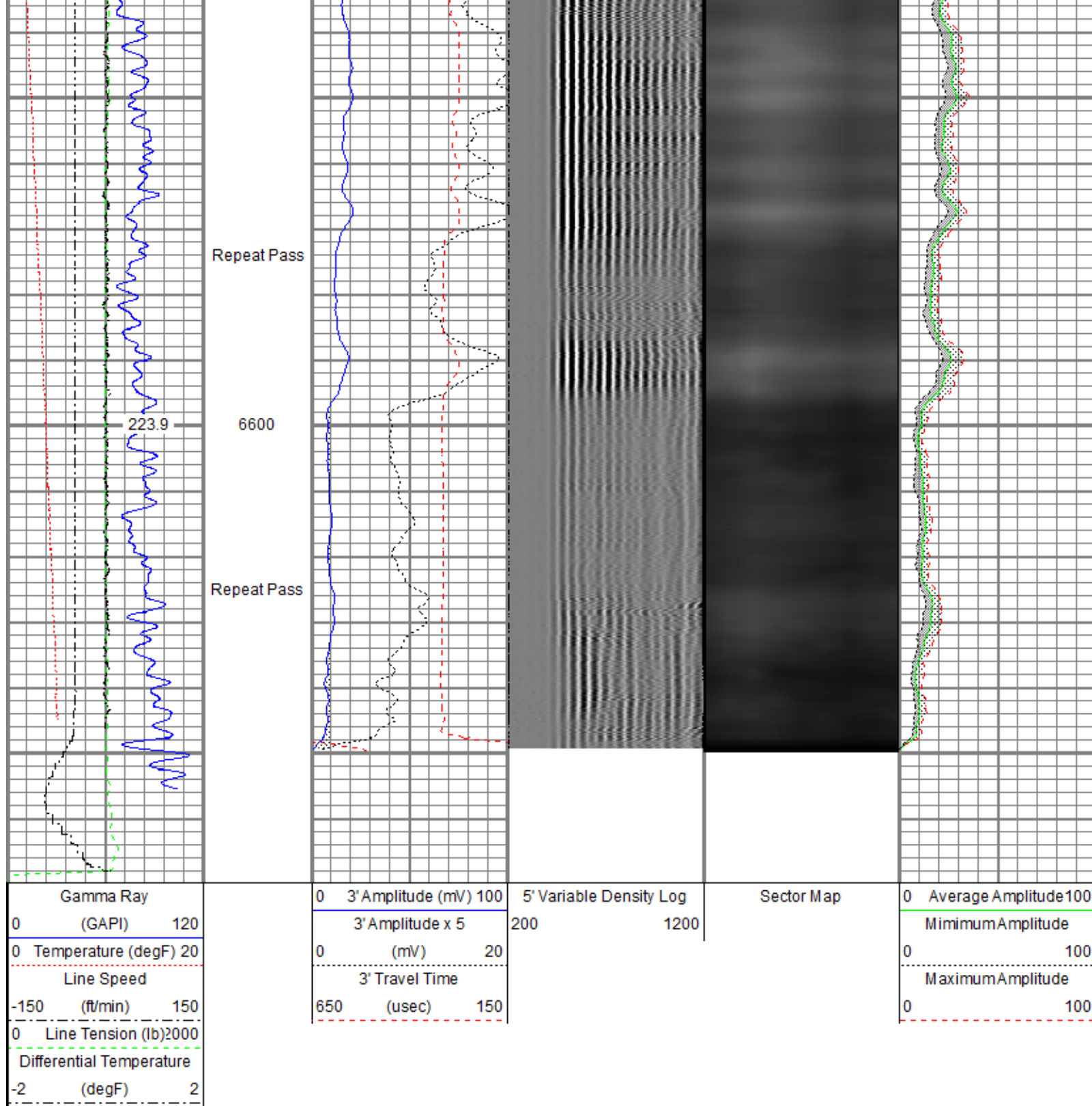



Recorded With 2500 PSI Surface Induced Pressure


Database File boomerang 28c-3-l\src energy\_boomerang 28c\_3\_l\_rbl\_04-25-18.db  
 Dataset Pathname well\_16/RBL\_CNL/pass2.1  
 Presentation Format ros\_radri  
 Dataset Creation Wed Apr 25 11:14:06 2018  
 Charted by Depth in Feet scaled 1:240

Gamma Ray			0 3' Amplitude (mV) 100			5' Variable Density Log			Sector Map			0 Average Amplitude 100		
0	(GAPI)	120	3' Amplitude x 5			200	1200			Minimum Amplitude			0	100
0	Temperature (degF)	20	0 (mV) 20									Maximum Amplitude		
Line Speed			3' Travel Time											
-150	(ft/min)	150	650 (usec) 150											
0	Line Tension (lb)	2000												
Differential Temperature														
-2	(degF)	2												





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan CHD-14375 GO Titan 1-7/16" Assembled Electric Cable Head w/ 1" Fishing Neck	1.03	1.44	3.60
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00

TEMP	22.08							
WVFS8	19.84			Probe Radii-2750 RBT (FW1305-096) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00	
WVFS7	19.84							
WVFS6	19.84							
WVFS5	19.84							
WVFS4	19.84							
WVFS3	19.84							
WVFS2	19.84							
WVFS1	19.84							
WVFCAL	19.84							
WVF3FT	19.84							
WVF5FT	18.84		Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00		
CCL\$2	11.83			Probe GR-CCL-2750 6PB (101001) Probe 2-3/4" rev.1 Digital Scintillation Gamma Ray/CCL Combined with 6 Pin Bottom for CNT	4.80	2.75	55.00	
CCL\$1	11.83							
GR	10.50							
CNLSC	4.53			Probe CN-2750 BL (FW1308-020_A1483) Probe 2-3/4" Compensated Neutron with Bottom Load	5.03	2.75	60.00	
CNSSC	4.12							
				Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00	
Dataset: SRC Energy_Boomerang 28C_3_L_RBL_04-25-18.db: field/well_16/RBL_CNL/pass4.1								
Total length: 28.90 ft								
Total weight: 283.60 lb								
O.D.: 2.75 in								

Calibration Report			
Database File	C:\ProgramData\Warrior\Data\Boomerang 28C-3-L\SRC Energy_Boomerang 28C_3_L_RBL_04-25-18.db		
Dataset Pathname	well_16/RBL_CNL/pass4.1		
Dataset Creation	Wed Apr 25 11:02:37 2018		
Compensated Neutron Calibration Report			
Serial Number:		FW1308-020_A1483	
Tool Model:		2750 BL	
CALIBRATION		Wed Oct 11 09:42:11 2017	
Detector	Readings	Target	Normalization

Short Space	3241.60	cps	0.00	cps	1.0000
Long Space	452.04	cps	0.00	cps	1.0000

## PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

## POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

## Gamma Ray Calibration Report

Serial Number:	101001	
Tool Model:	2750 6PB	
Performed:	Sun Nov 12 11:25:32 2017	
Calibrator Value:	637.0	GAPI
Background Reading:	100.6	cps
Calibrator Reading:	981.1	cps
Sensitivity:	0.7235	GAPI/cps

## Segmented Cement Bond Log Calibration Report

Serial Number:	FW1305-096	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	0.000	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.001	0.594	0.800	71.921	119.947	0.654
CAL	0.590	0.585				
5'	0.001	0.562	0.800	71.921	126.748	0.639
SUM						
S1	-0.002	0.597	0.000	100.000	166.996	0.382
S2	0.001	0.589	0.000	100.000	170.073	-0.235
S3	0.002	0.585	0.000	100.000	171.469	-0.286
S4	0.001	0.589	0.000	100.000	170.305	-0.229
S5	0.001	0.598	0.000	100.000	167.574	-0.194
S6	0.002	0.609	0.000	100.000	164.680	-0.306
S7	0.001	0.637	0.000	100.000	157.292	-0.220
S8	0.001	0.639	0.000	100.000	156.910	-0.201

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.590	0.585	1.000	0.000

Air Zero Calibration, performed Wed Apr 25 07:42:49 2018:

	Raw (v)		Calibrated (v)		Results
	Zero		Zero		Offset
3'	0.007		0.000		-0.000
5'	0.009		0.000		0.001
SUM					
S1	-0.002		0.000		0.000
S2	0.008		0.000		0.000
S3	0.007		0.000		0.000
S4	0.009		0.000		-0.000
S5	0.007		0.000		-0.000
S6	0.006		0.000		0.001
S7	0.012		0.000		0.001
S8	0.006		0.000		0.000

#### Temperature Calibration Report

Serial Number: FW1305-096  
Tool Model: 2750 RBT  
Performed: Sun Nov 12 13:42:10 2017

	Reference	Reading
Low Reference:	100.00 degF	109.43 degF
High Reference:	350.00 degF	405.87 degF

Gain: 0.84  
Offset: 7.72  
Delta Spacing: 1



Company	SRC Energy Inc
Well	Boomerang 28C-3-L
Field	Wattenberg
County	Weld
State	Colorado