

# Radial Cement Bond Gamma Ray Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.		
Well	Bat 3N2-9HZ		
Field	Wattenberg		
County	Weld		
State	Colorado		
Company	Kerr-McGee Oil & Gas Onshore, L.P.	Location:	API #: 05-123-41287
Well	Bat 3N2-9HZ	SEC 9	TWP 1N RGE 65W
Field	Wattenberg	Permanent Datum	Ground Level
County	Weld	Log Measured From	Kelly Bushing
State	Colorado	Drilling Measured From	Kelly Bushing
			Elevation
			K.B. 4956'
			D.F. 4955'
			G.L. 4931'

Date	04-AUG-2015
Run Number	One
Depth Driller	11868 FT
Depth Logger	7510 FT
Bottom Logged Interval	7502 FT
Top Log Interval	Surface
Open Hole Size	7.875"
Type Fluid	Water
Density / Viscosity	8.34 lbm/gal
Max. Recorded Temp.	---
Estimated Cement Top	Surface
Time Well Ready	ROA
Time Logger on Bottom	8:30 A.M.
Equipment Number	HD-0119
Location	FT. Lupton, CO
Recorded By	J. Morrison
Witnessed By	Josh Gustafson

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top	Bottom		
Surface Casing	9 5/8	36	J-55	Surface	1586 FT		
Intermediate #1	5 1/2	17	P110	Surface	11868 FT		
Intermediate #2							
Liner							

<<< Fold Here >>>

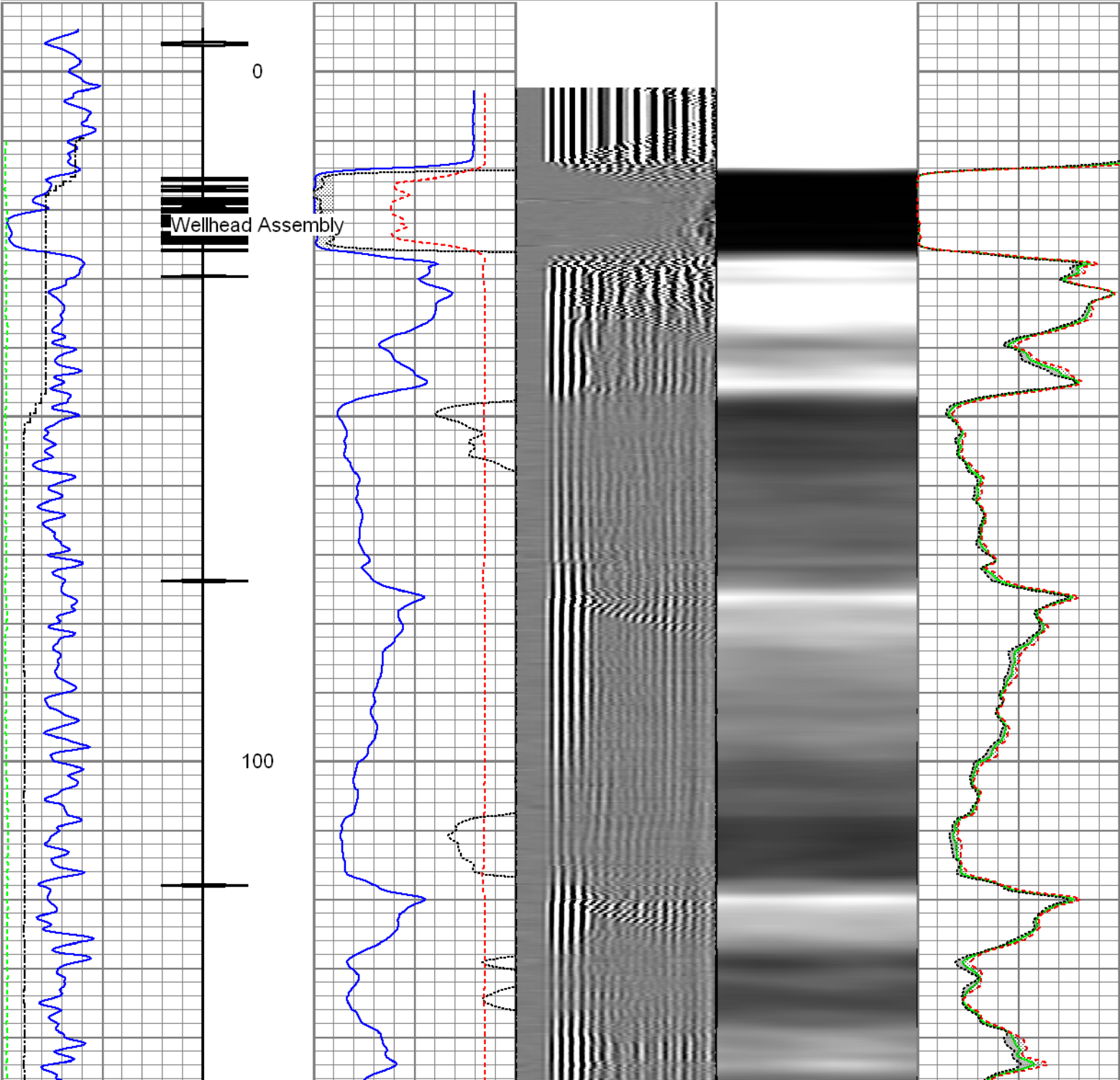
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

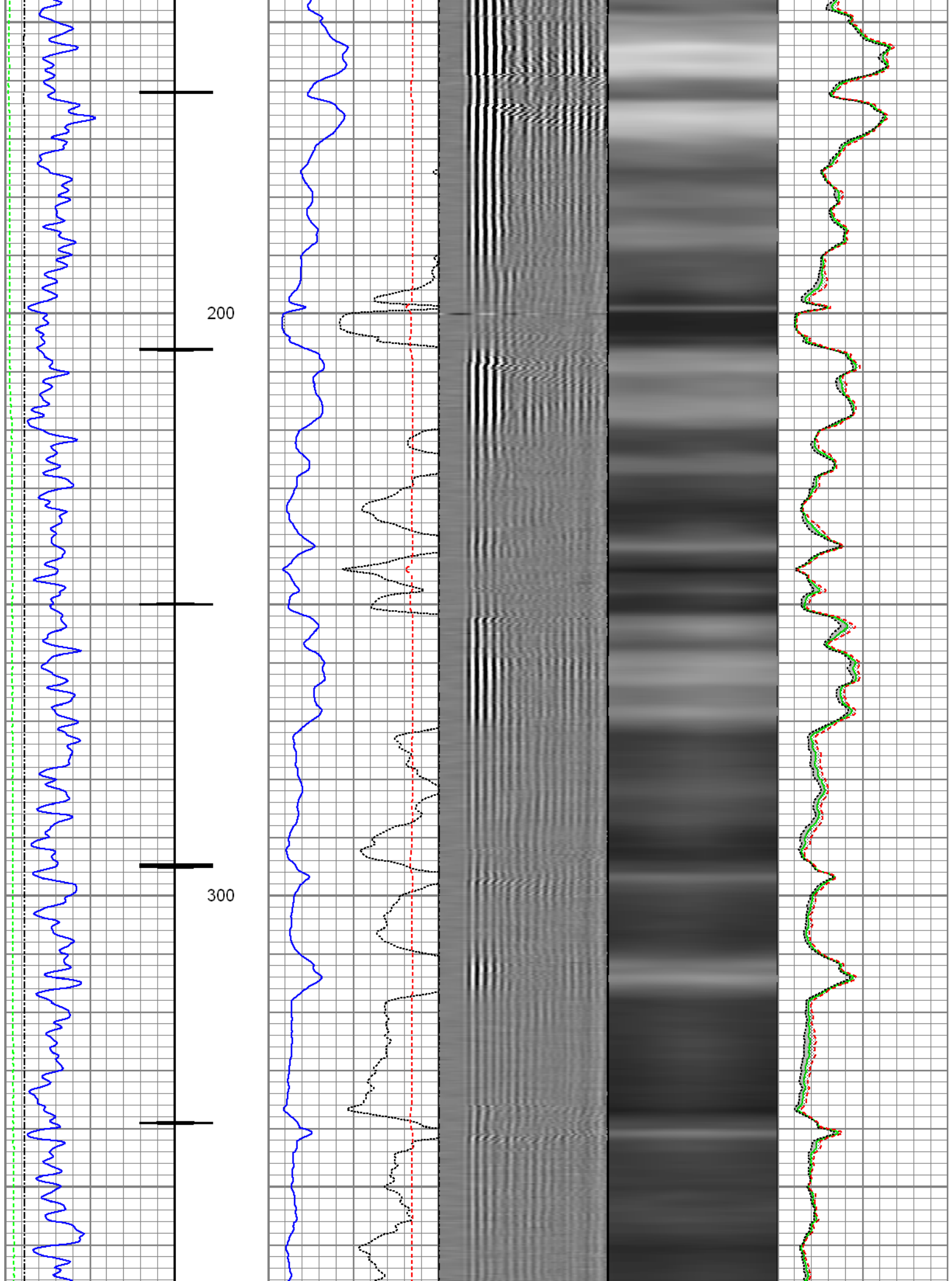
## Comments

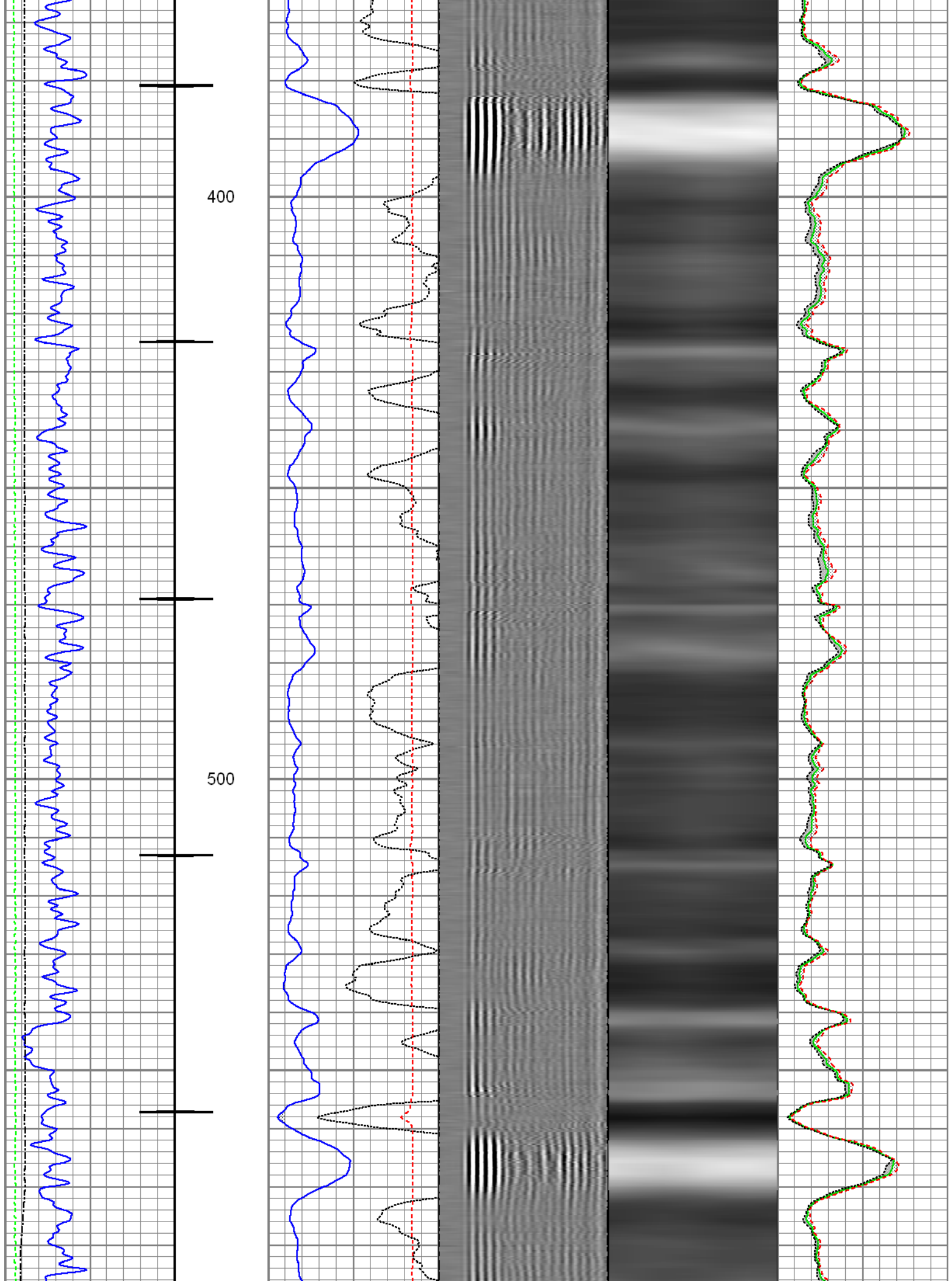
Log ran as per customer request  
Casing Tally reported Marker Joint at 6534 FT  
Recorded Marker Joint at 6530 - 6552 FT  
Log ran from as deep as possible in heel to surface  
Recorded with 2800 PSI surface induced pressure  
Logging tools were clean and free of debris upon completion of operations  
  
Thank you for choosing FMC Technologies Completion Services, Inc.!!

Database File: 0512341287\_anadarko\_bat 3n2-9hz\_08-04-15\_rbl.db  
Dataset Pathname: Main.5  
Presentation Format: rbt004  
Dataset Creation: Tue Aug 04 10:58:24 2015 by Calc 7.0 B1  
Charted by: Depth in Feet scaled 1:240

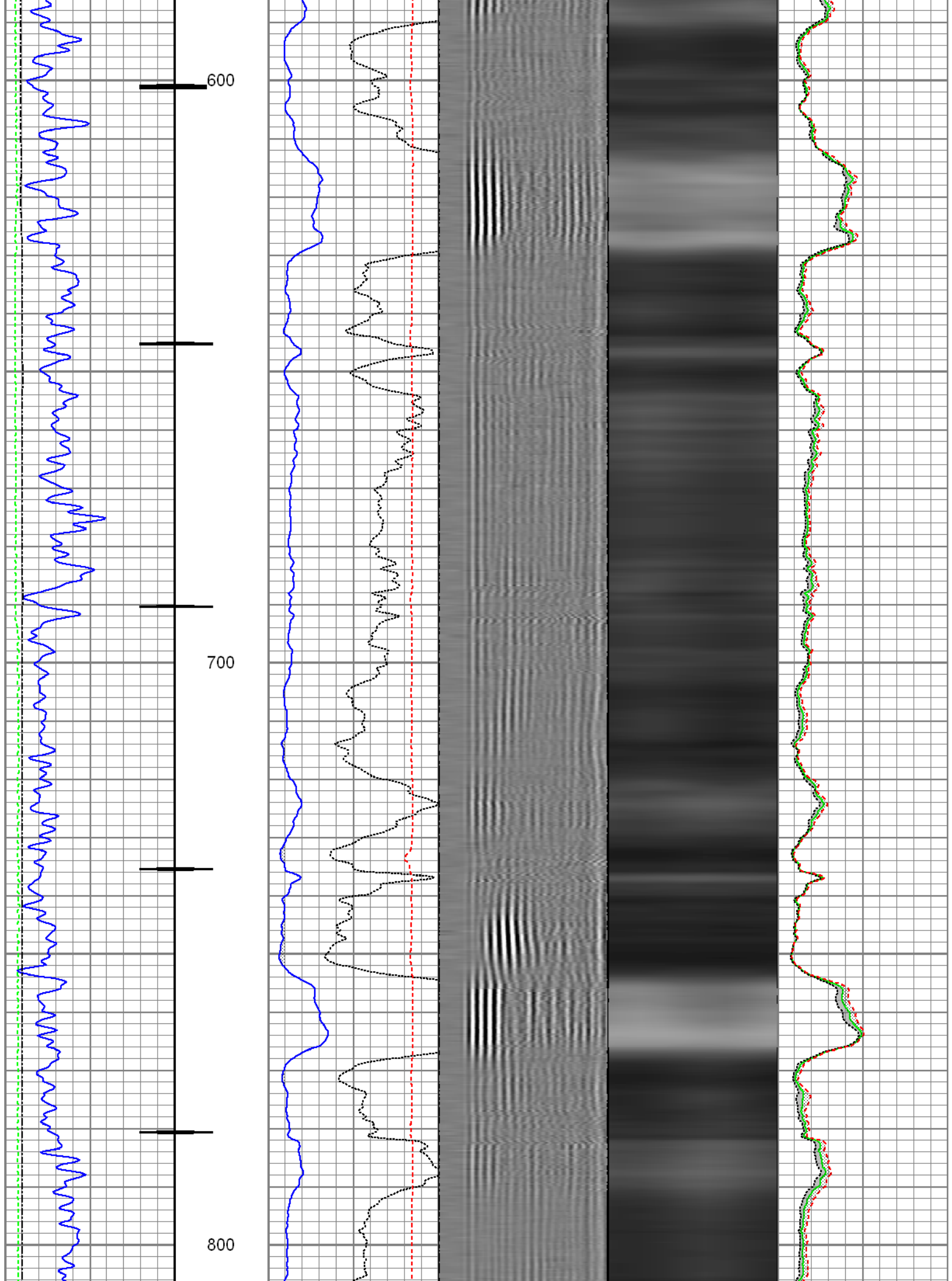
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Line Speed	0 (mV) 20			0 100
-150 (ft/min) 150	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000				

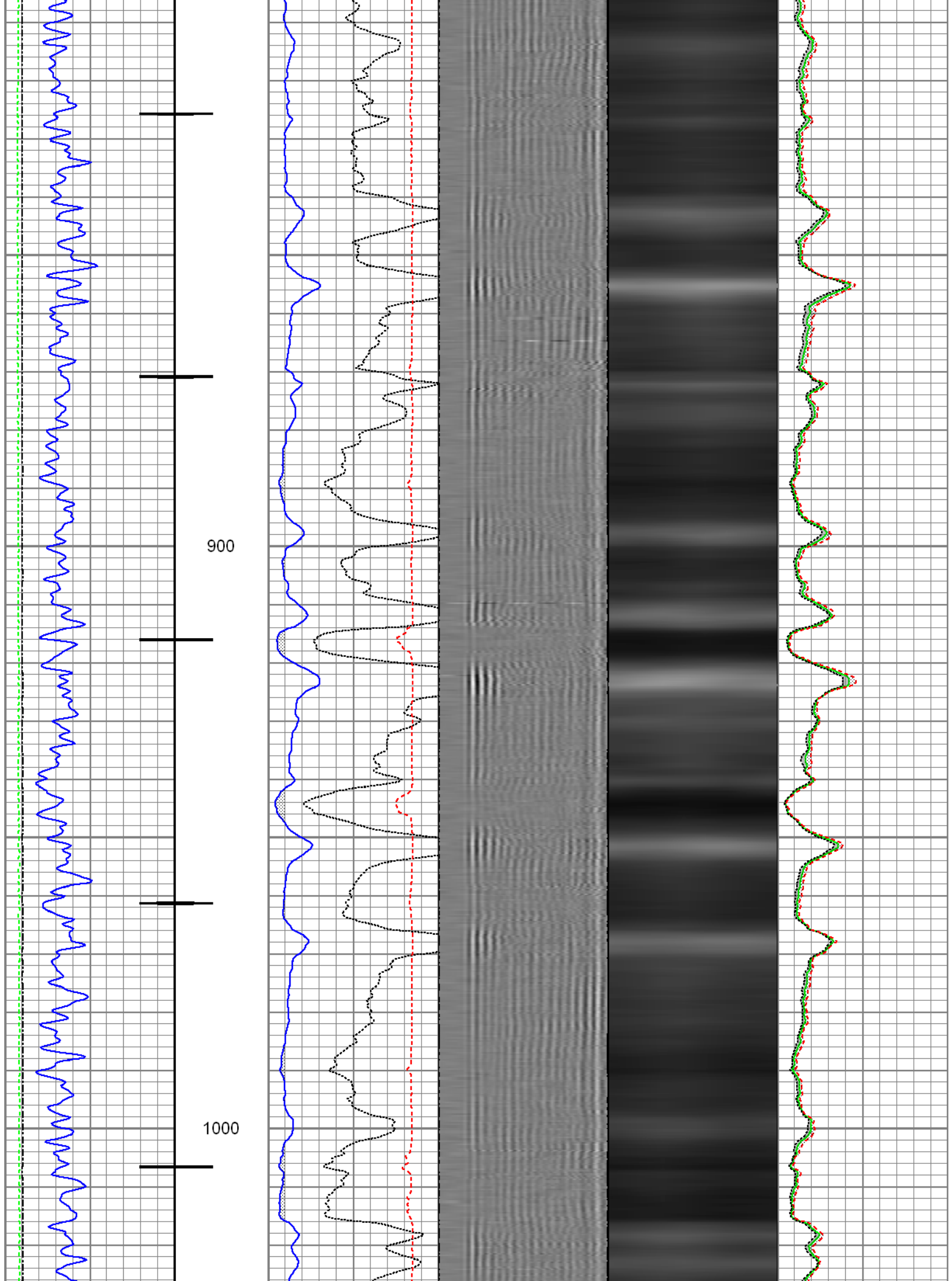


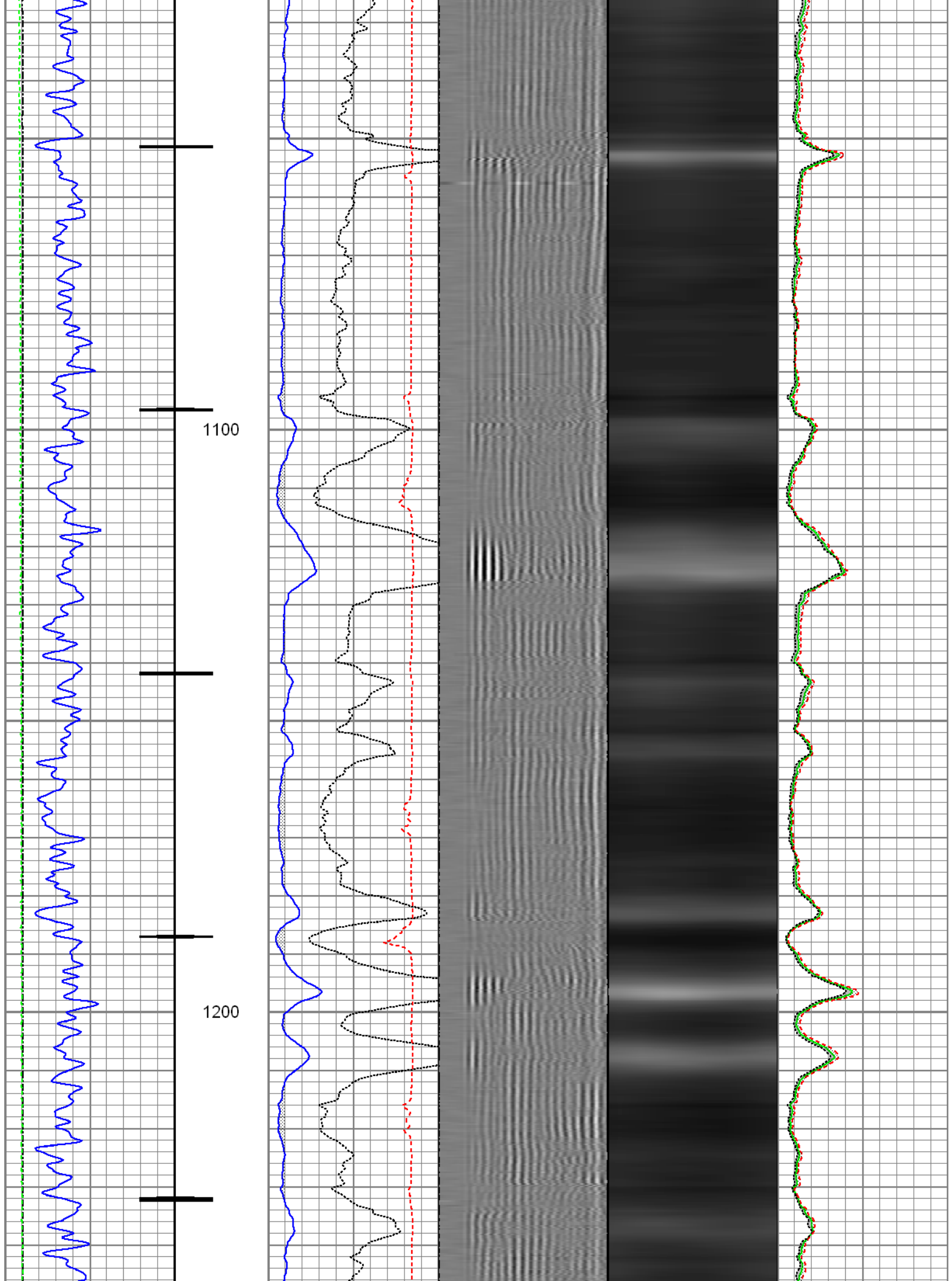


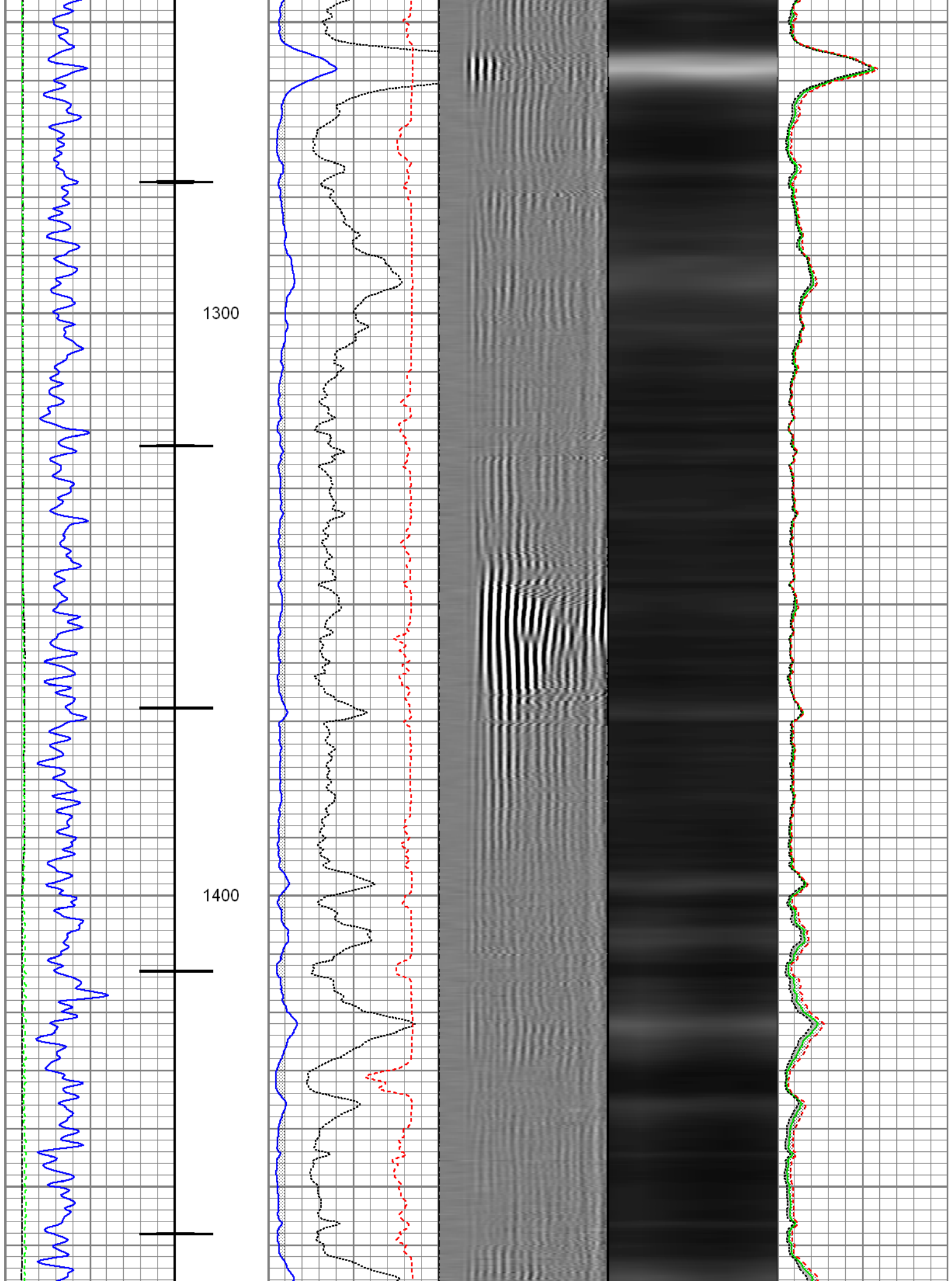


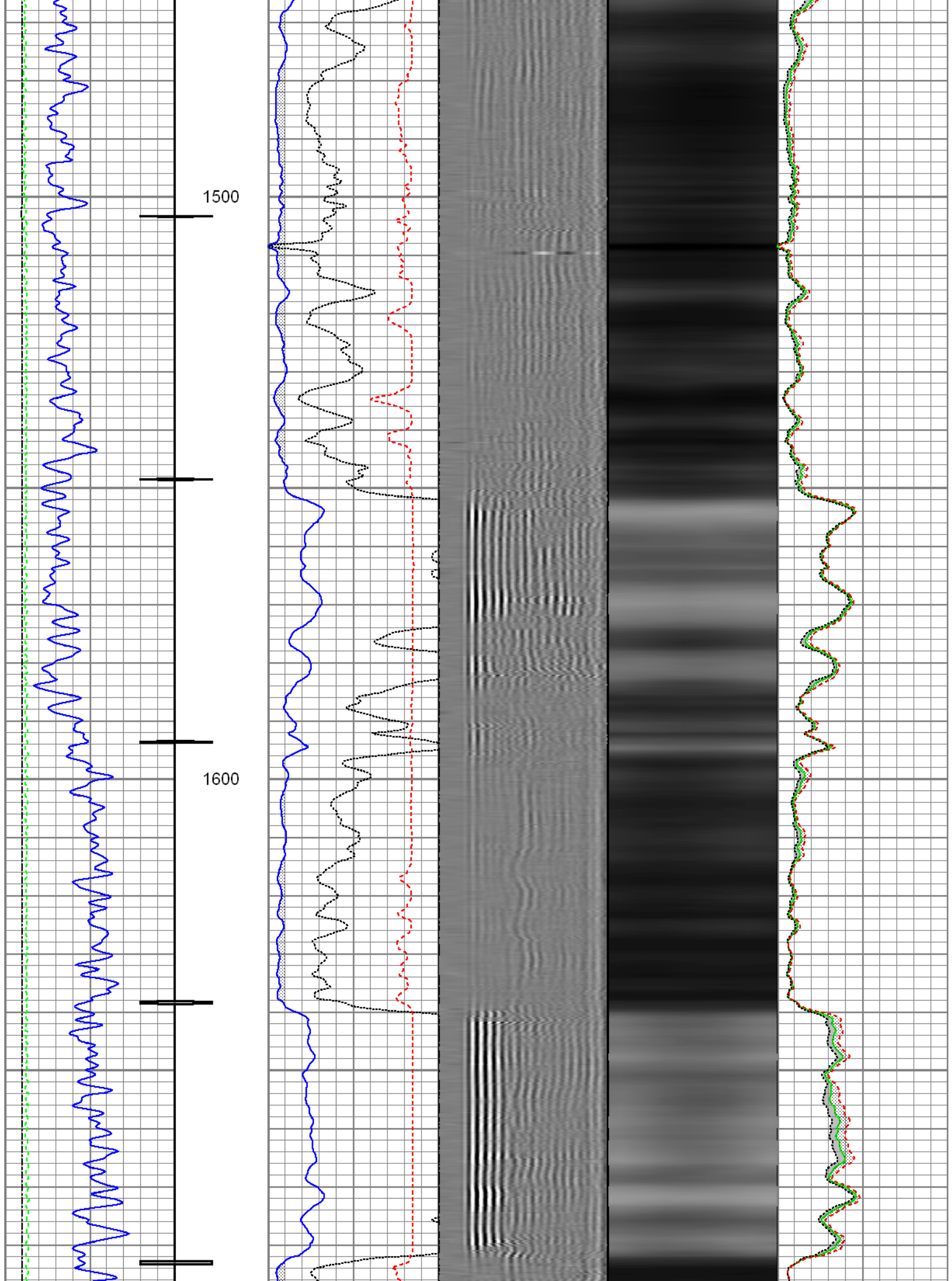




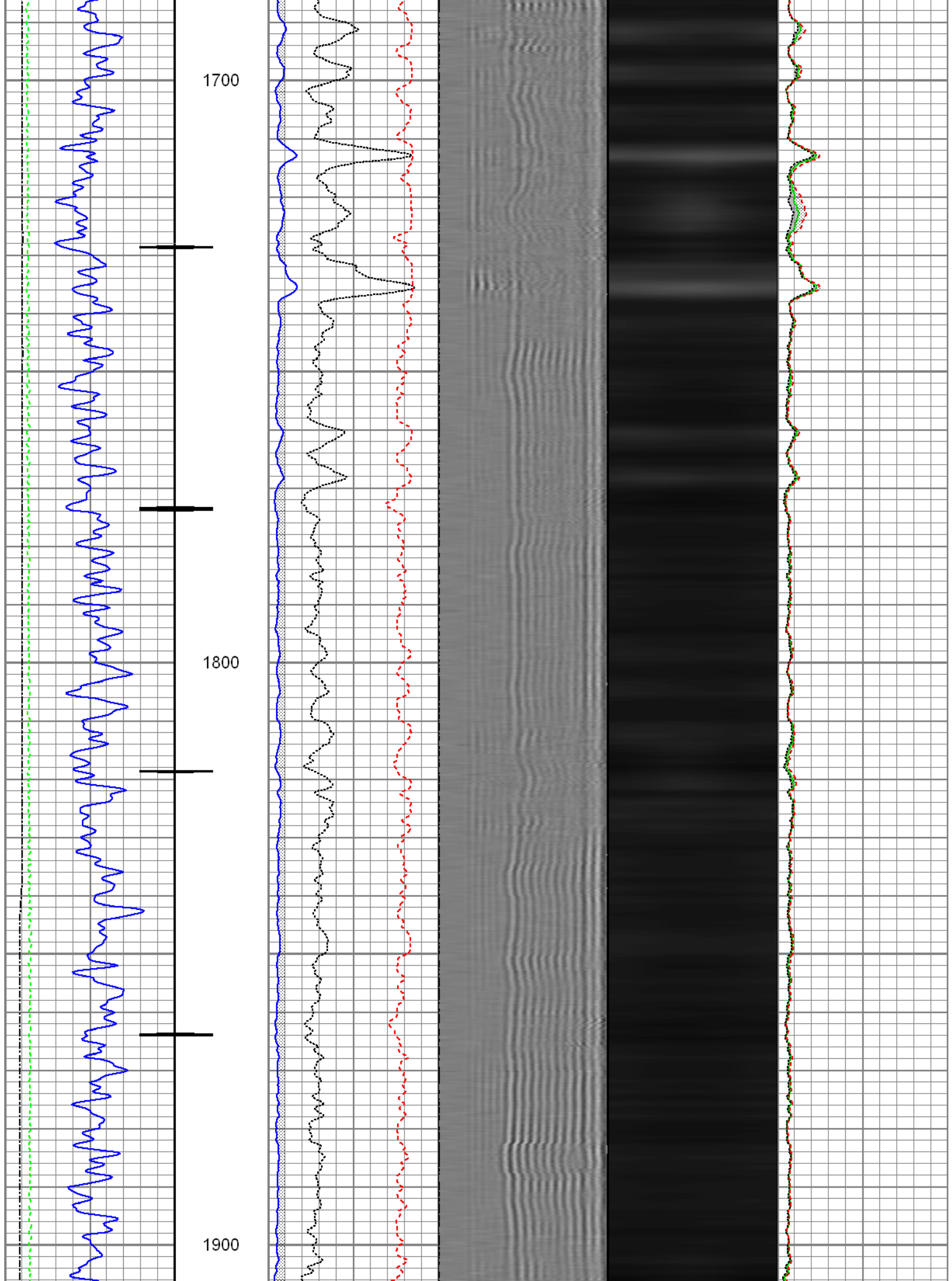


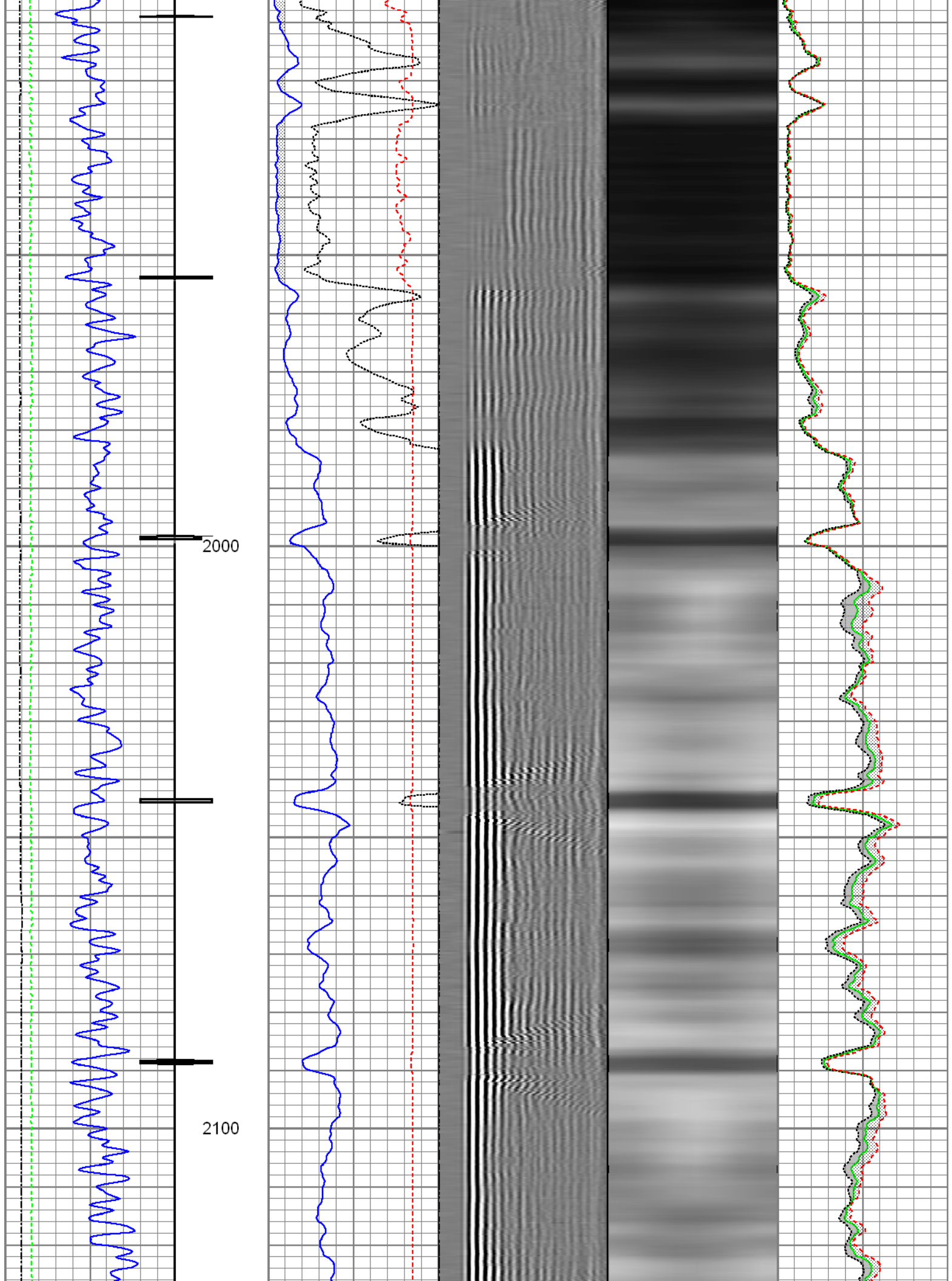


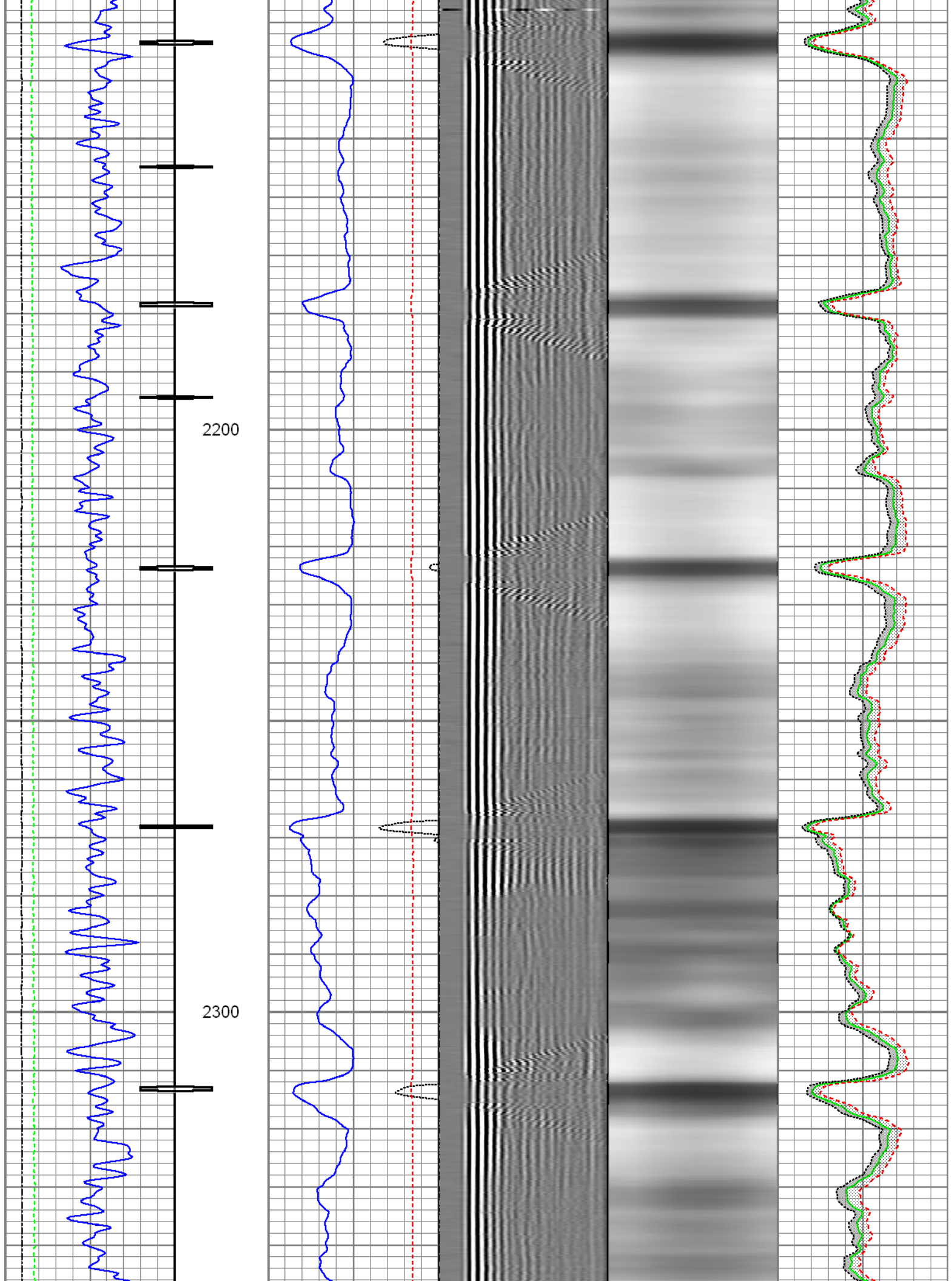


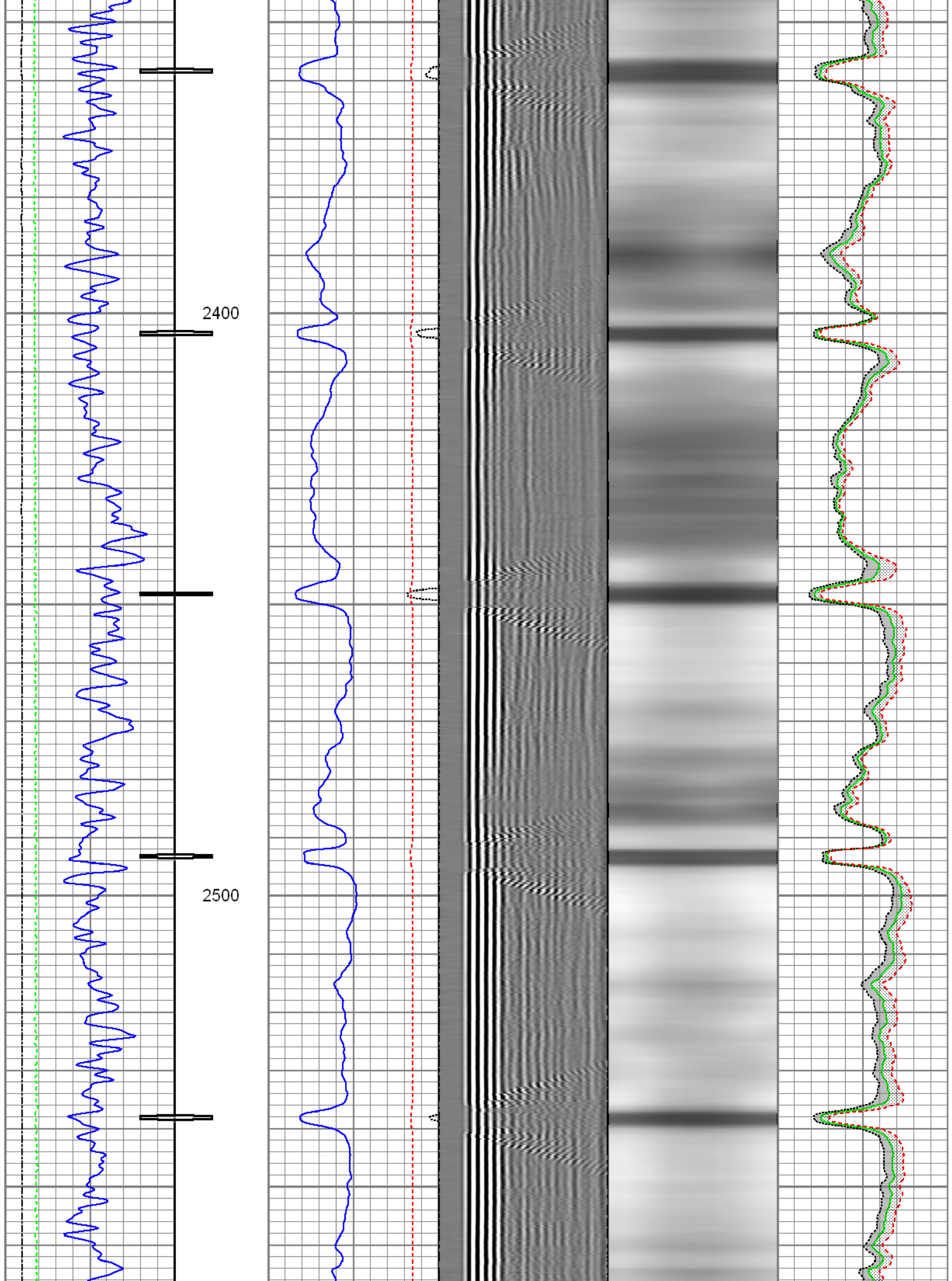




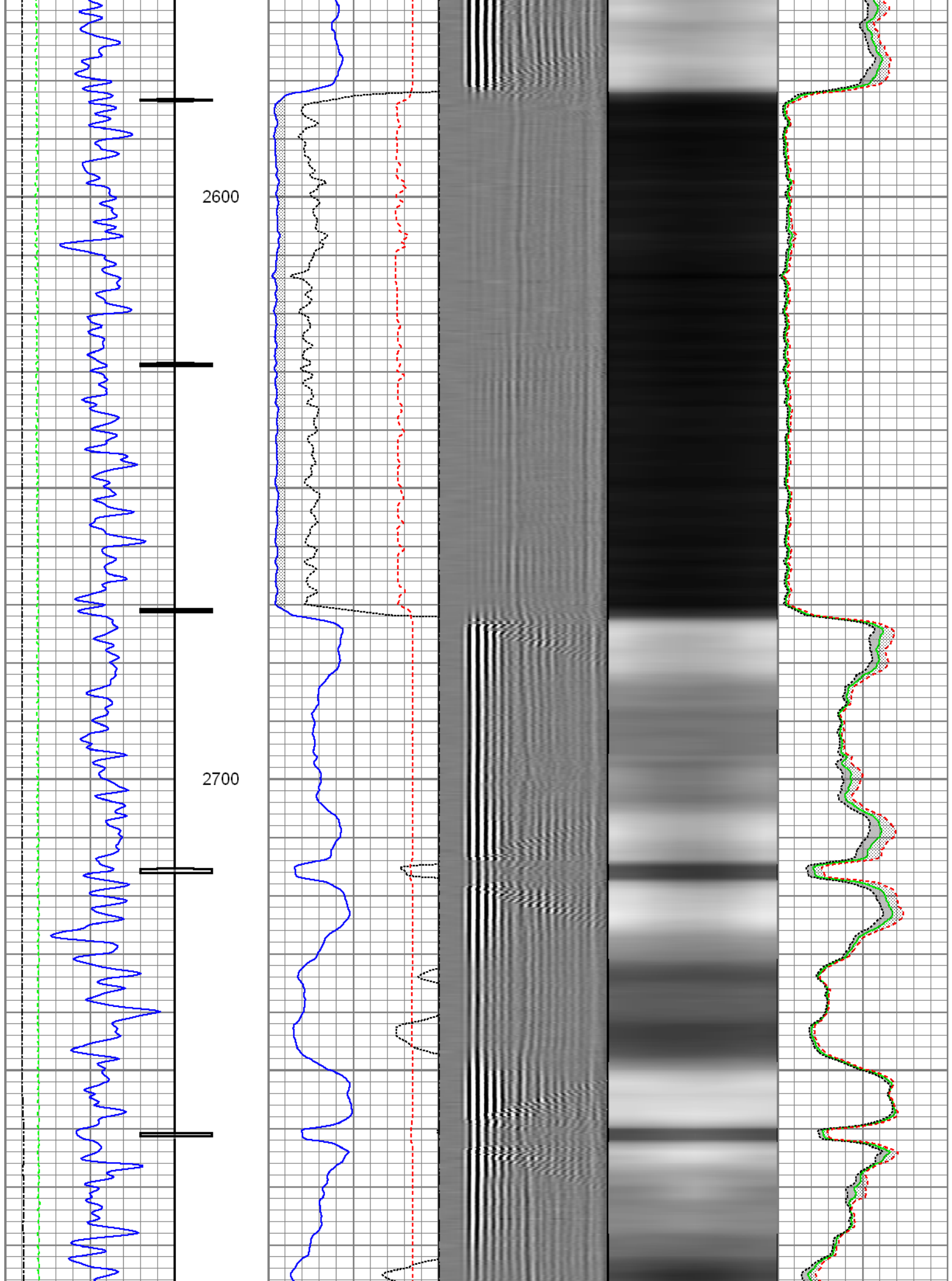




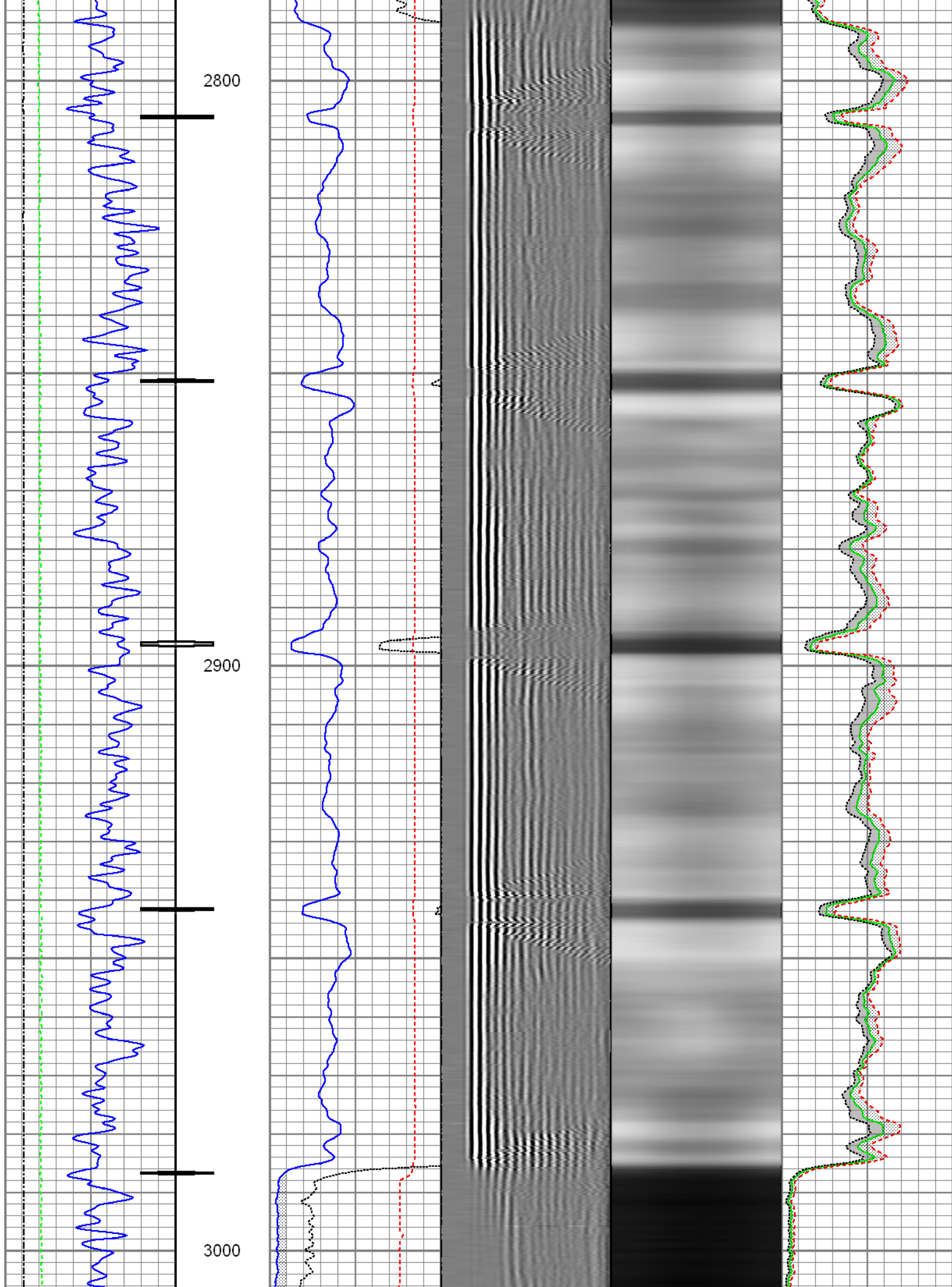


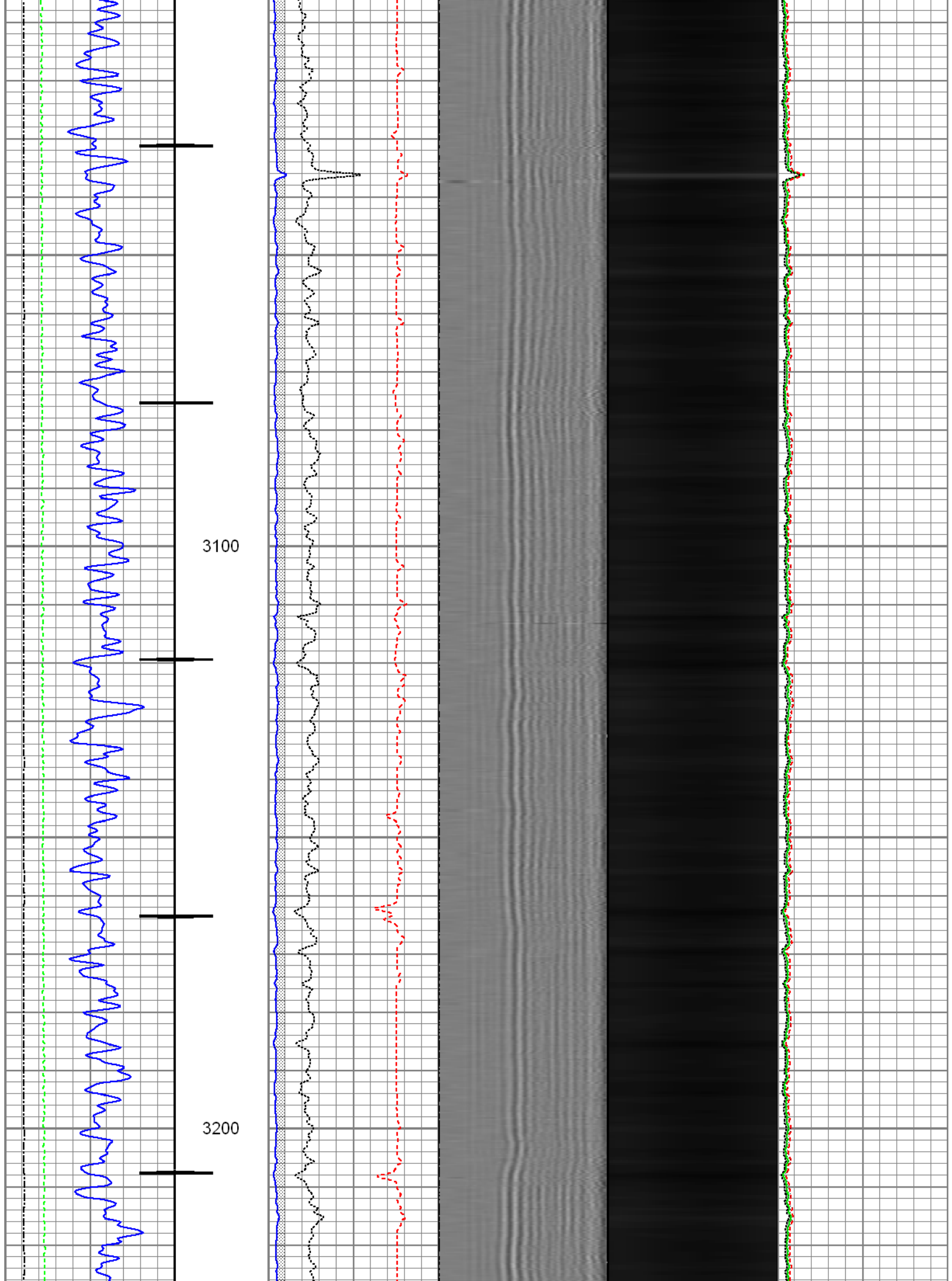


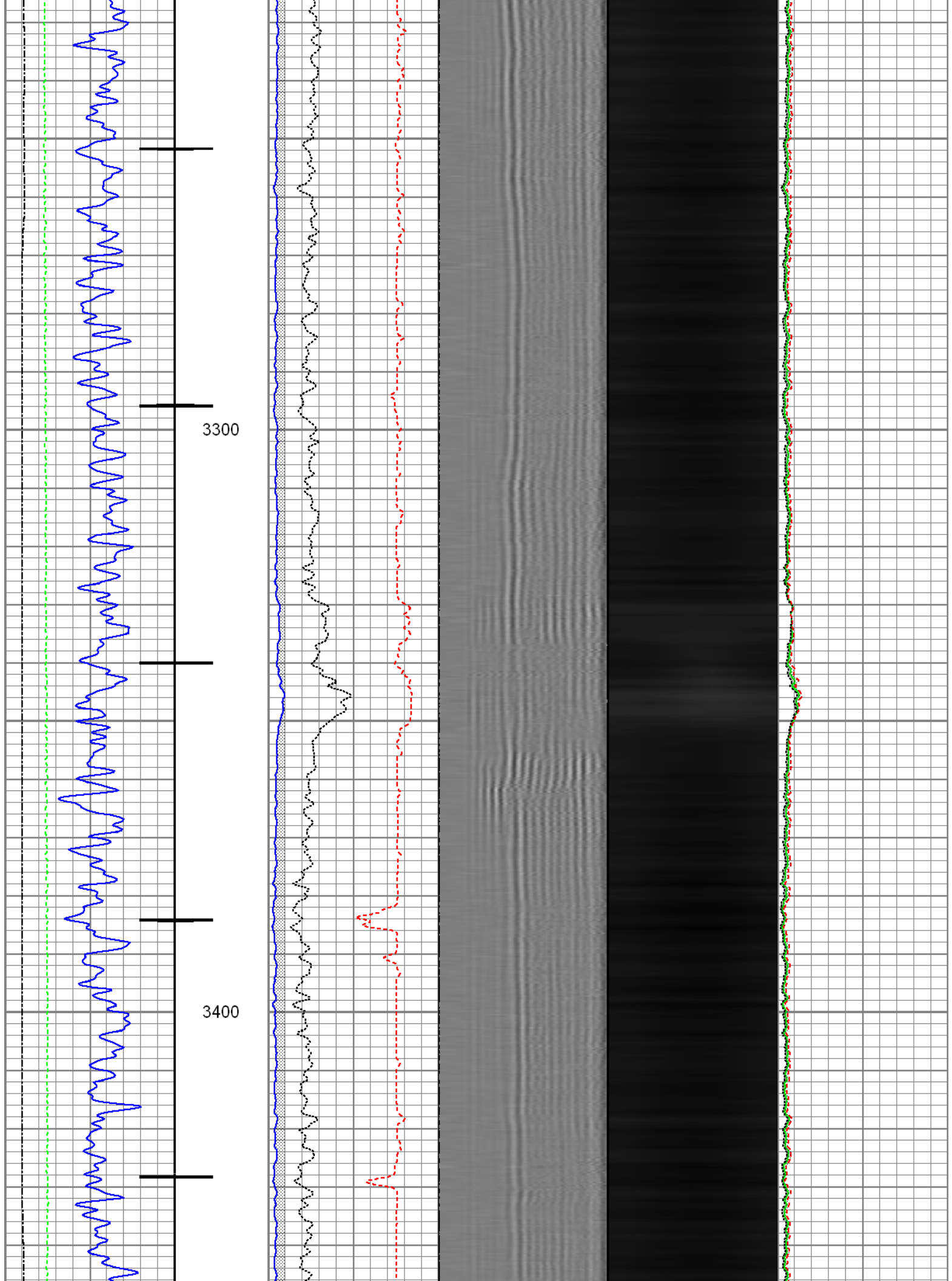


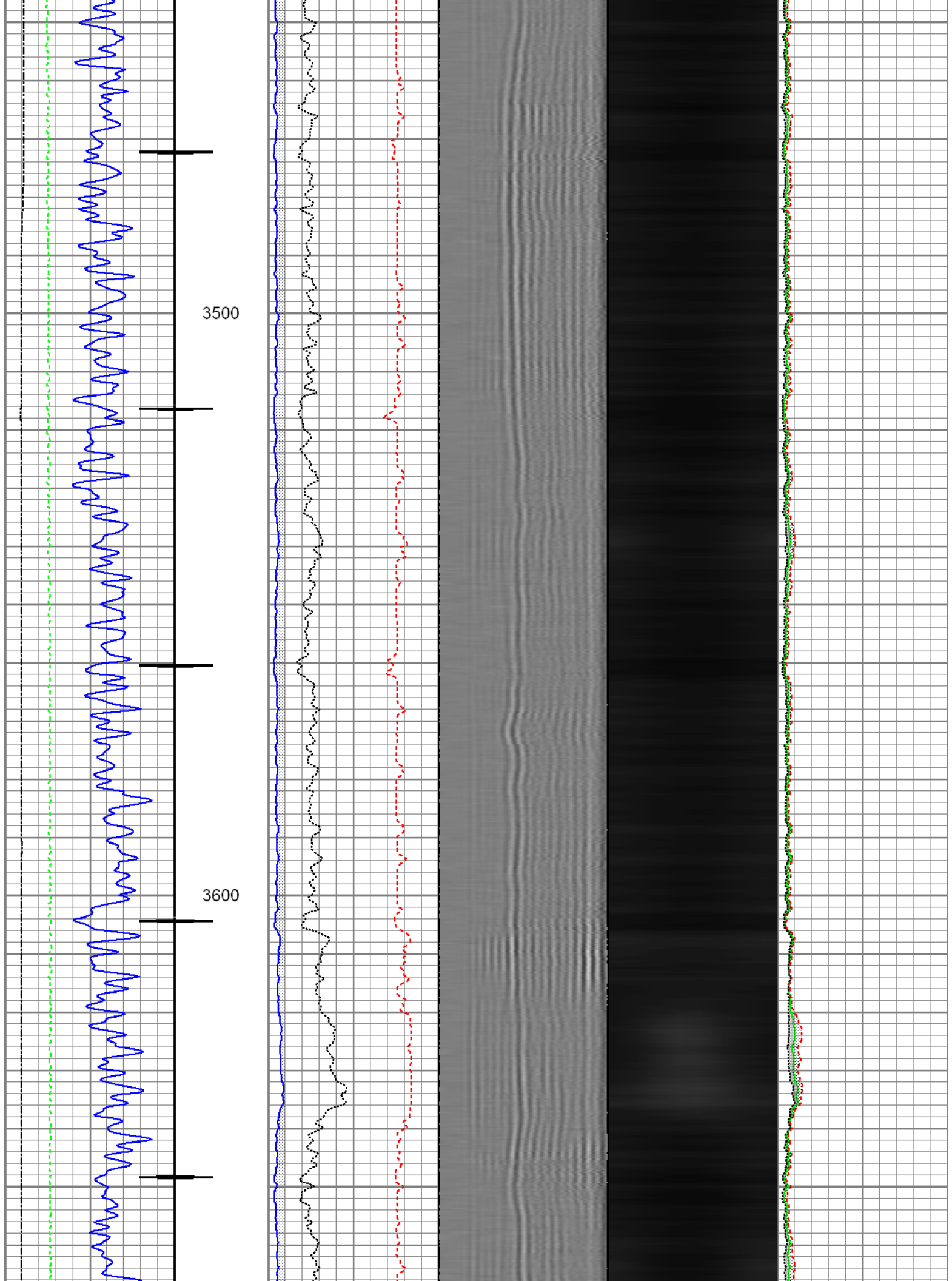


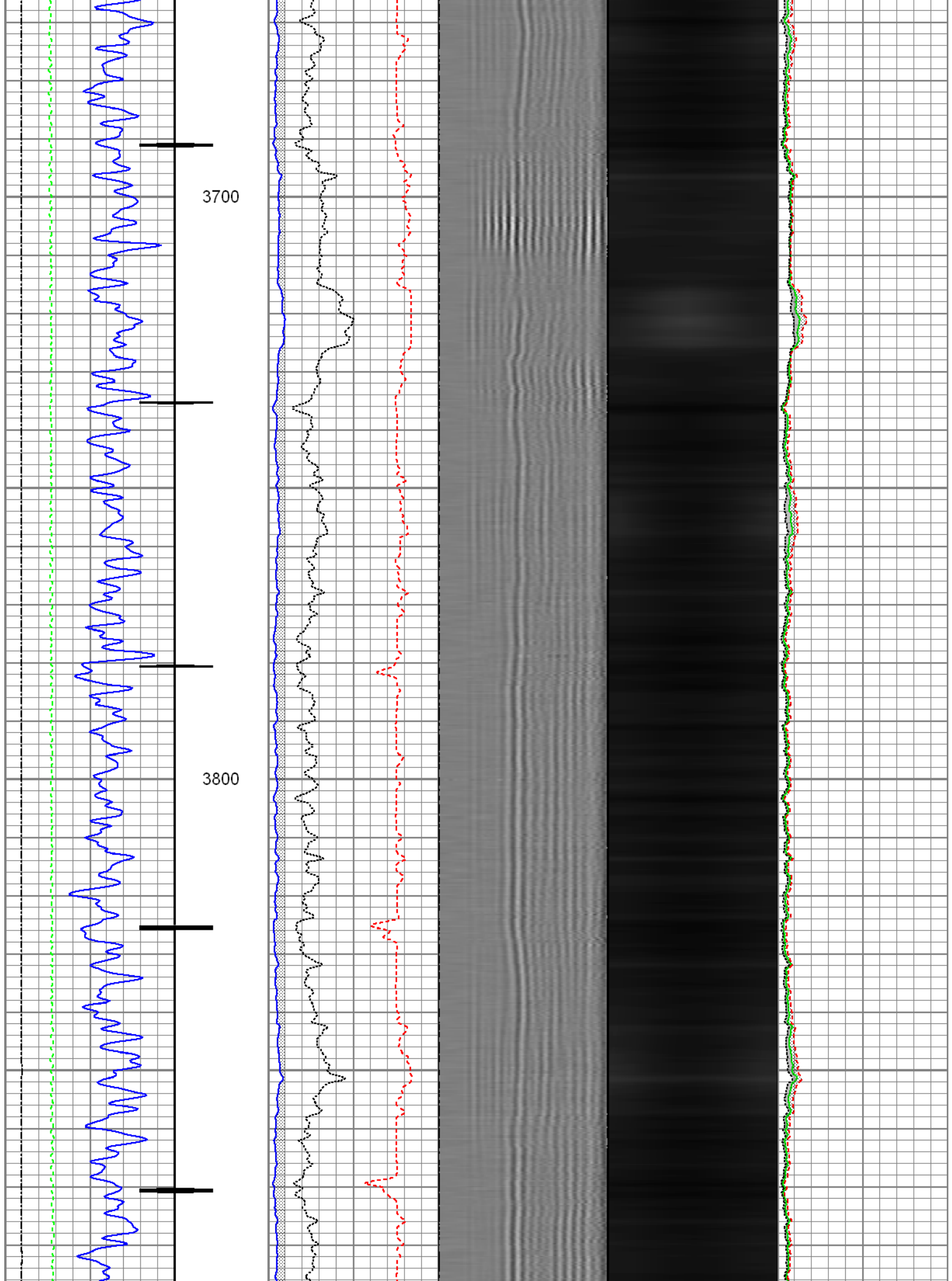




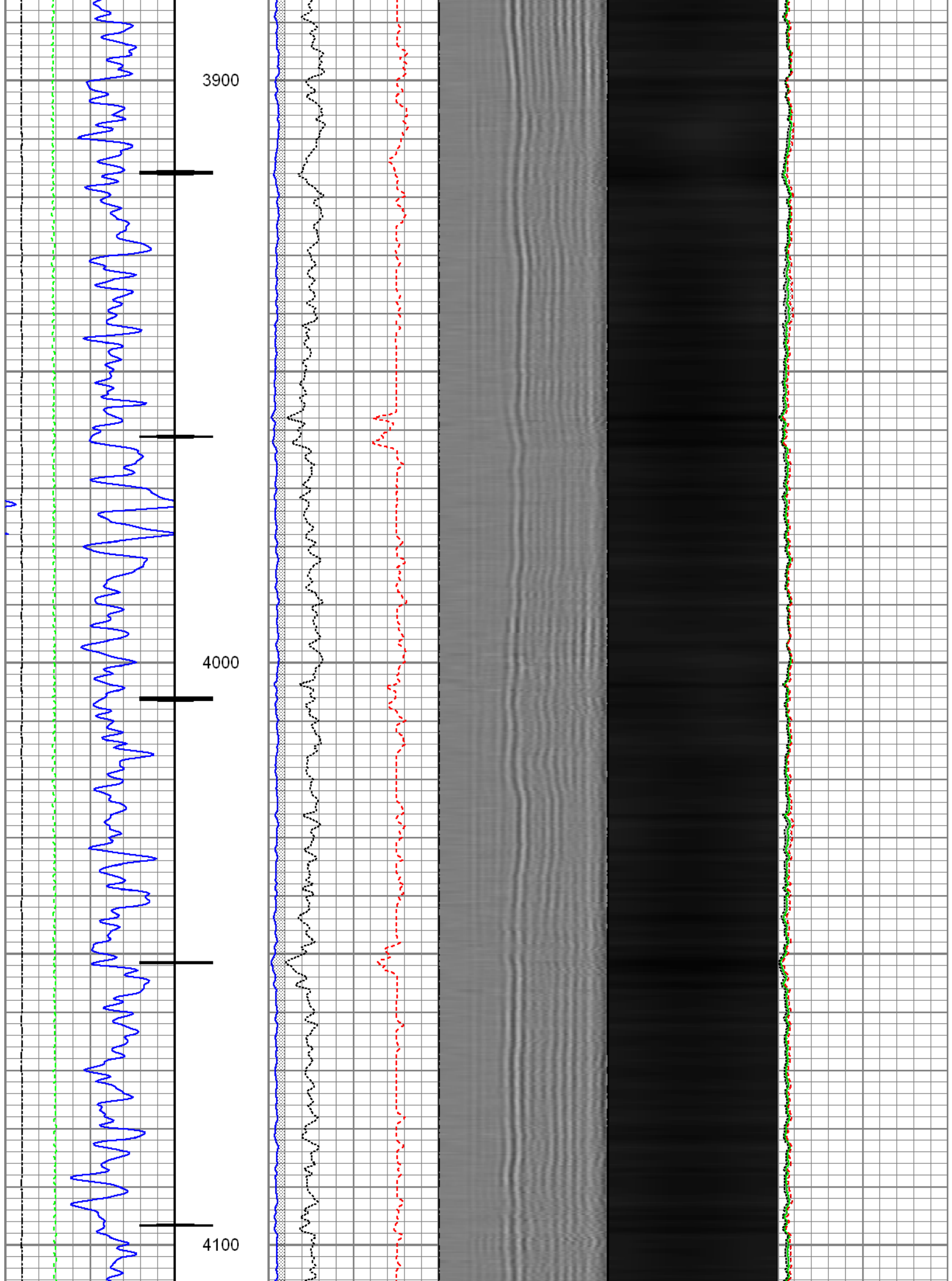


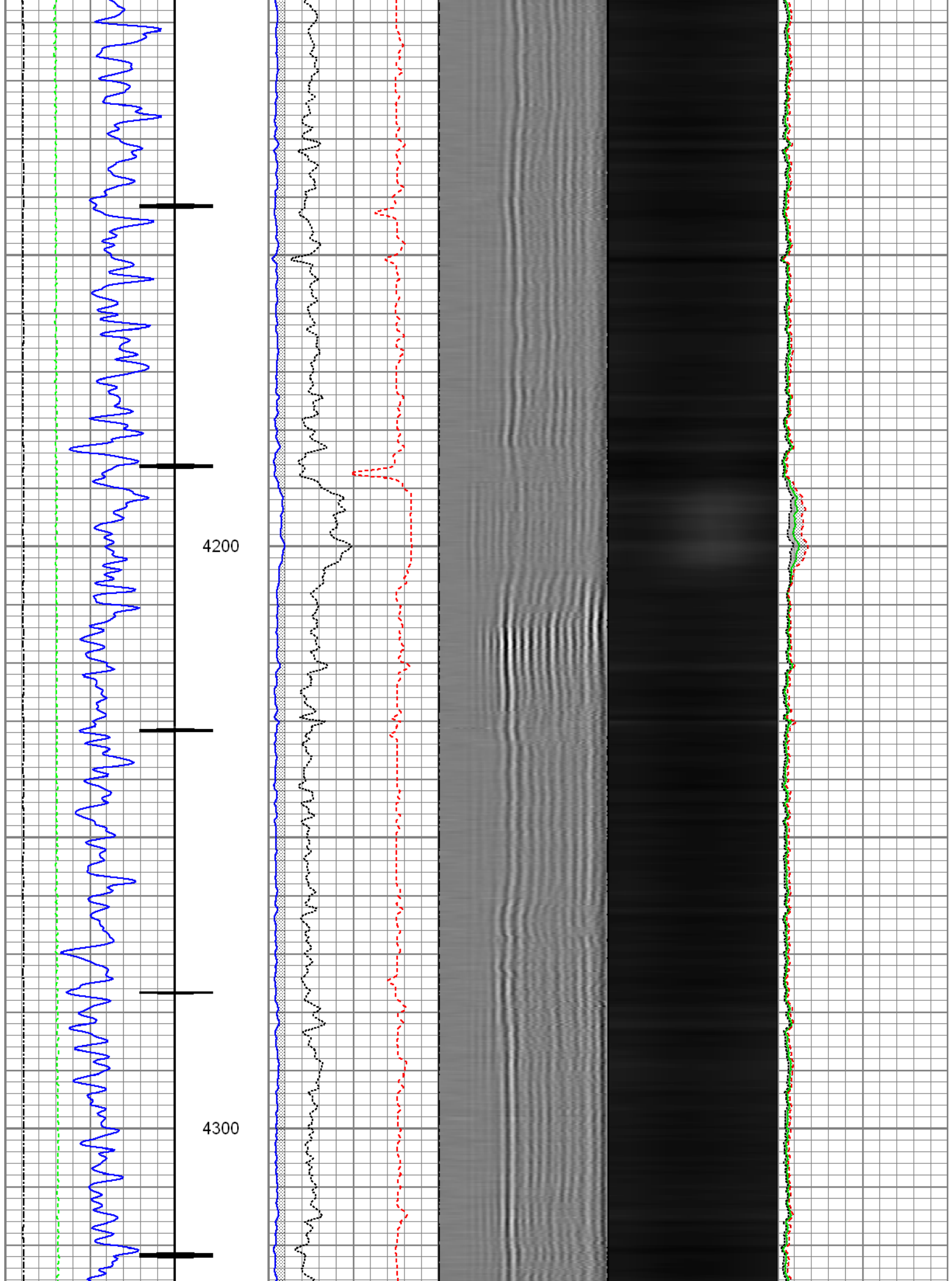


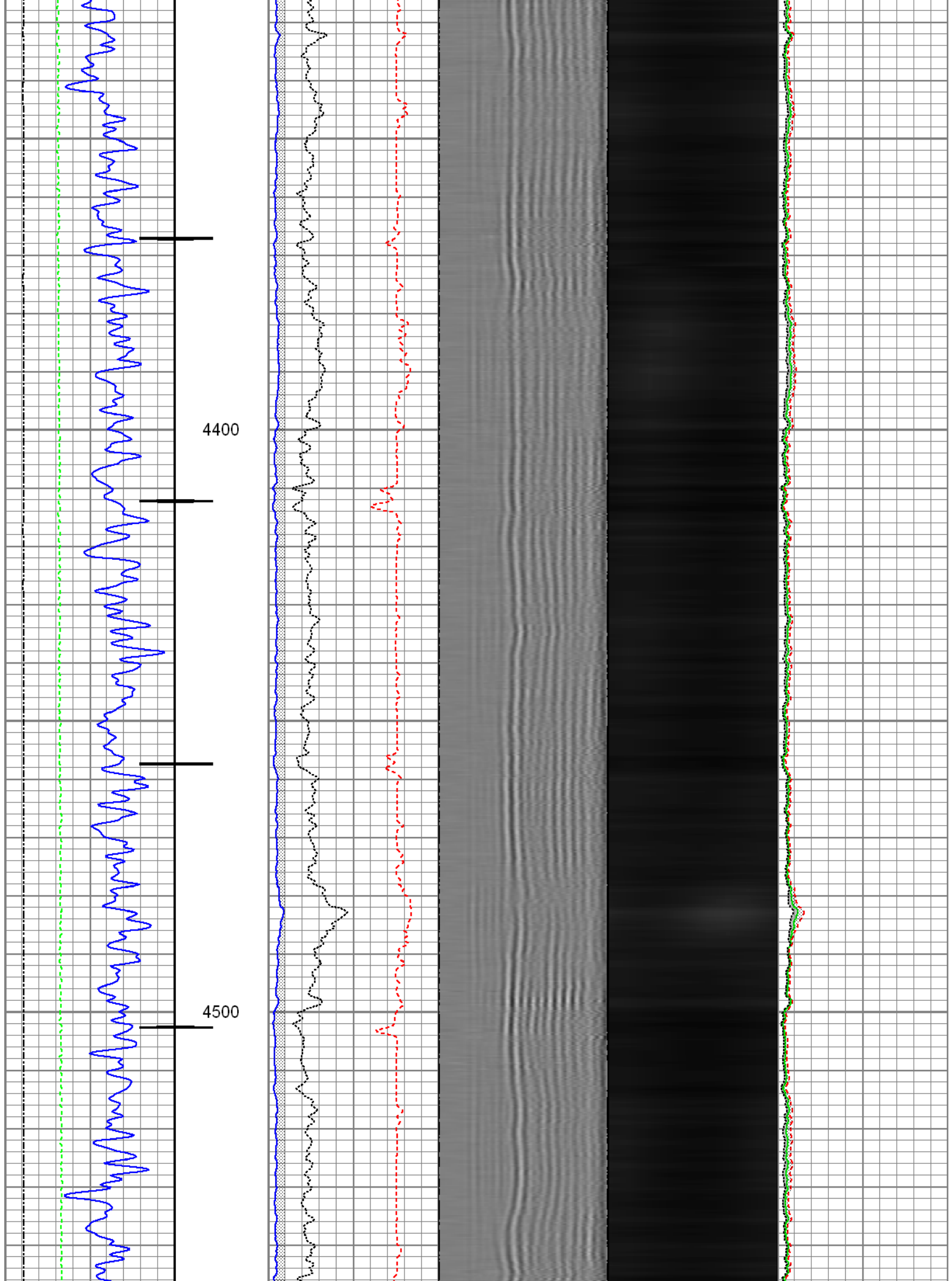


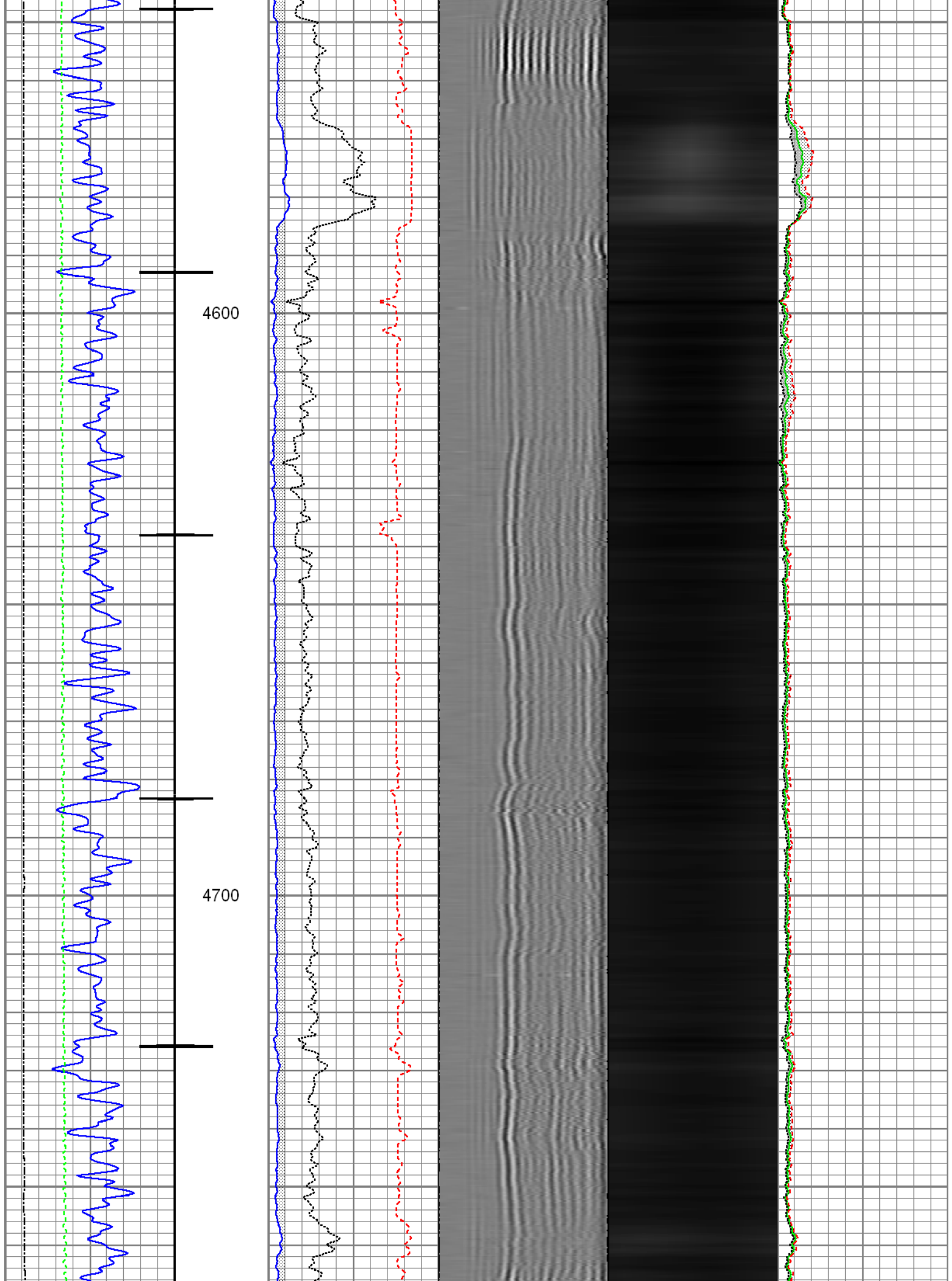


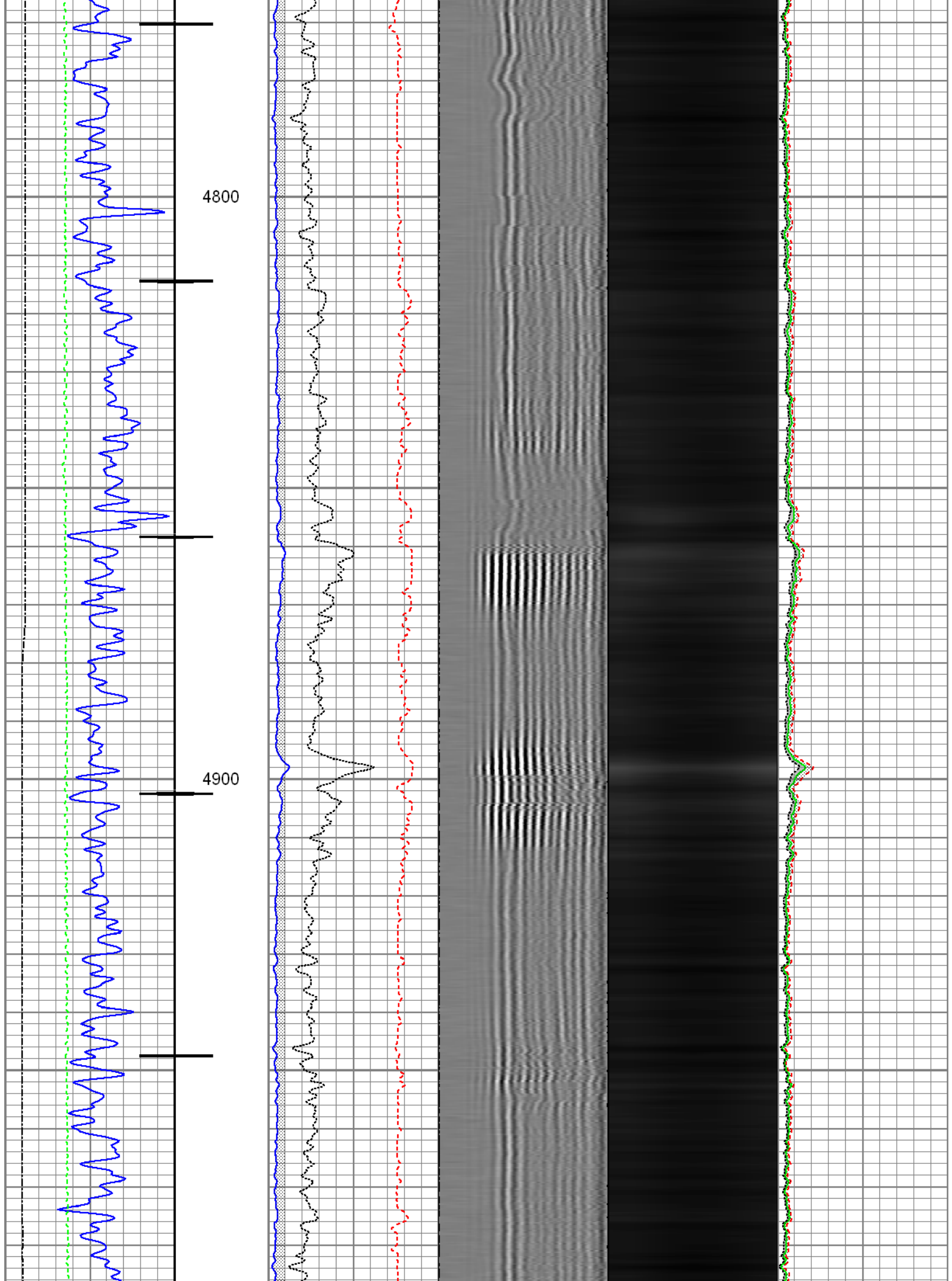




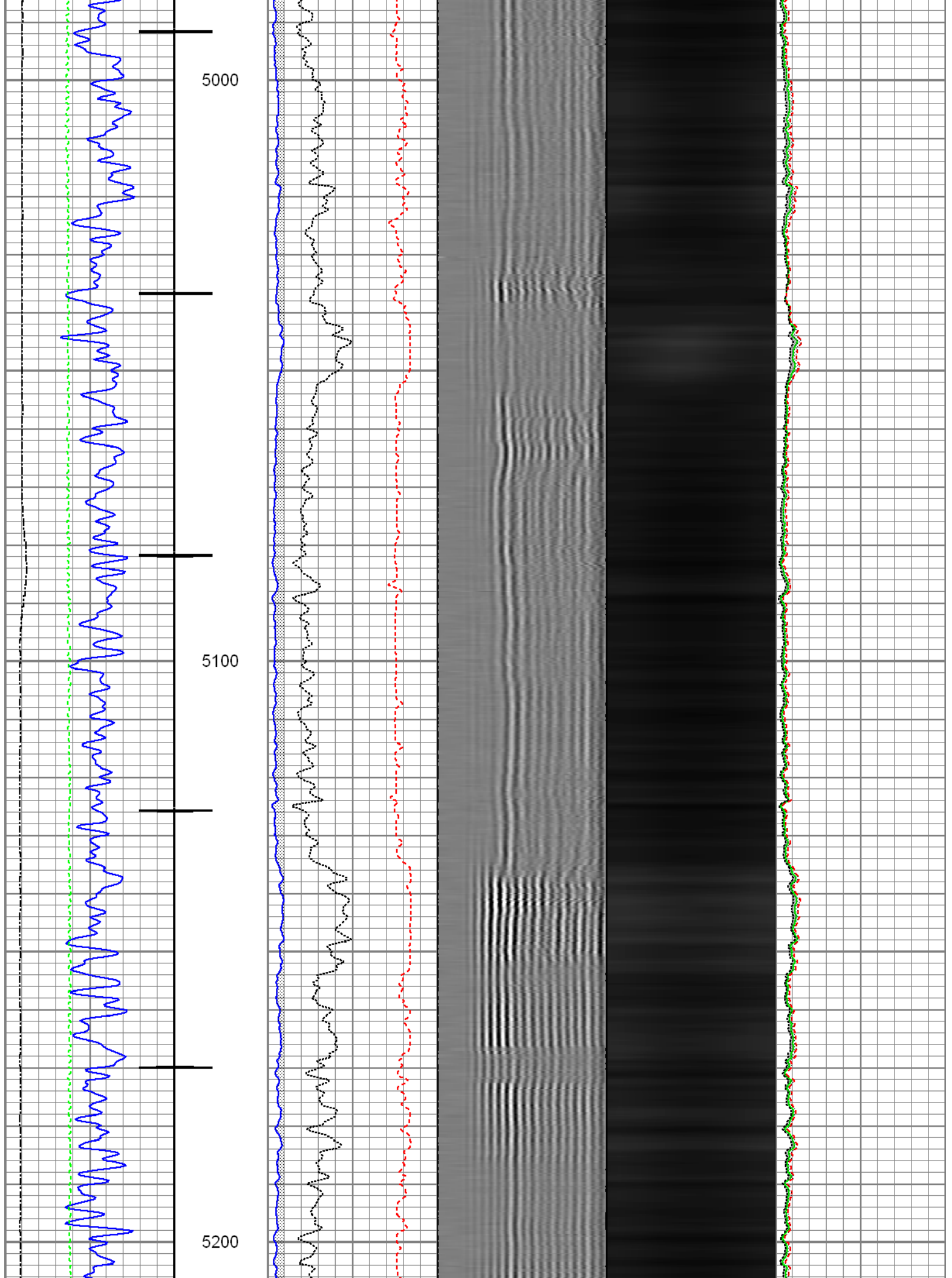


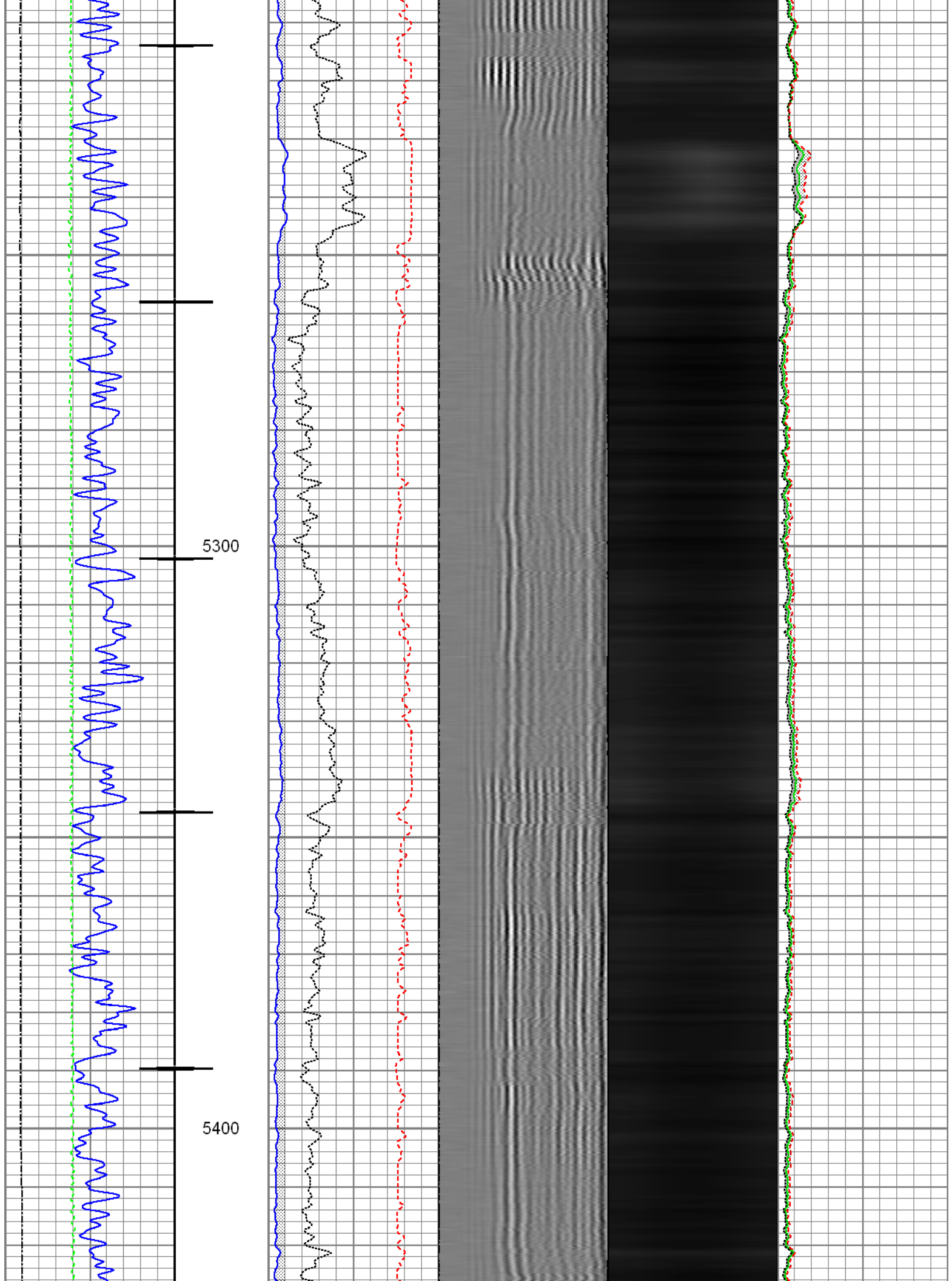


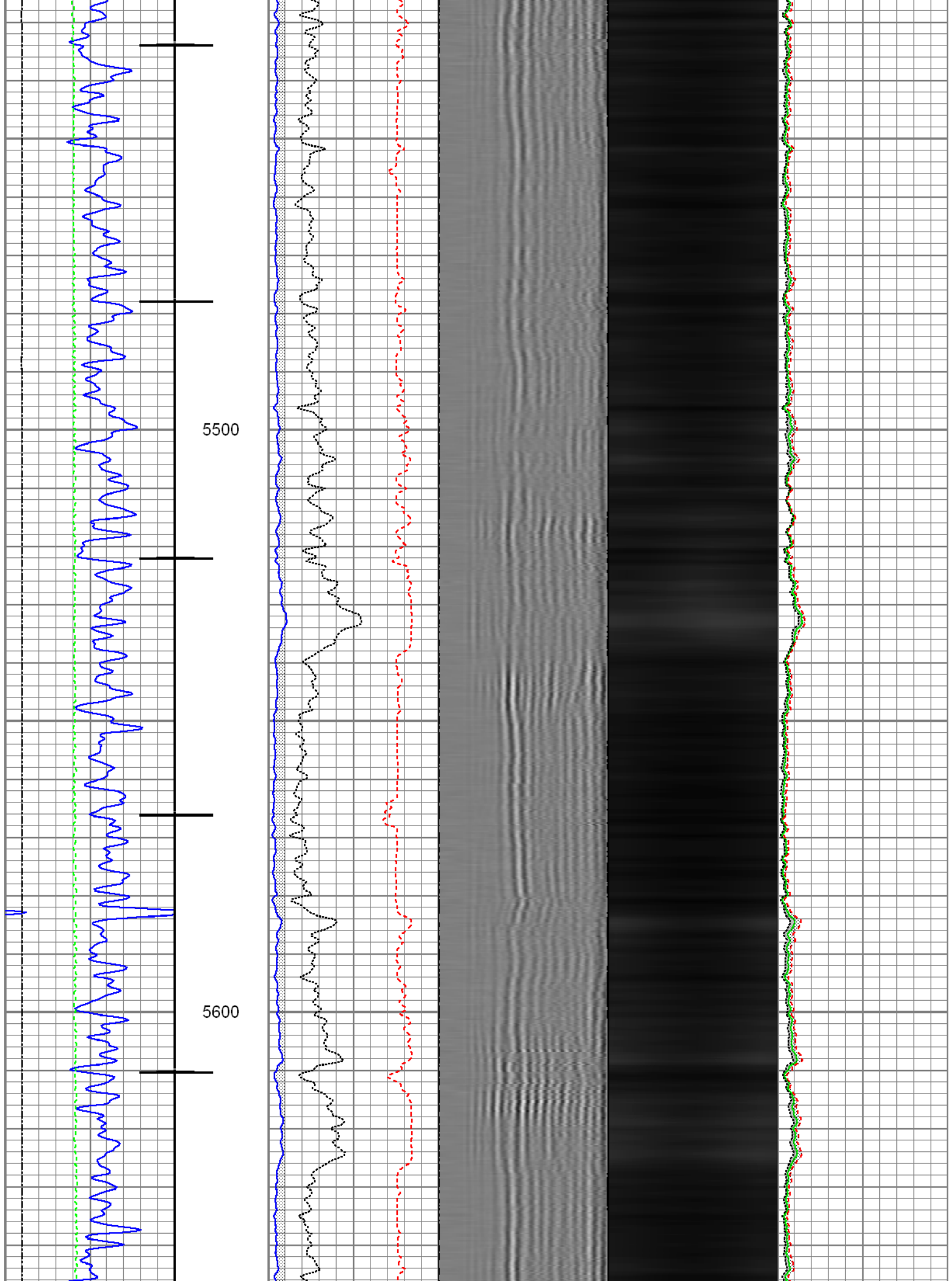


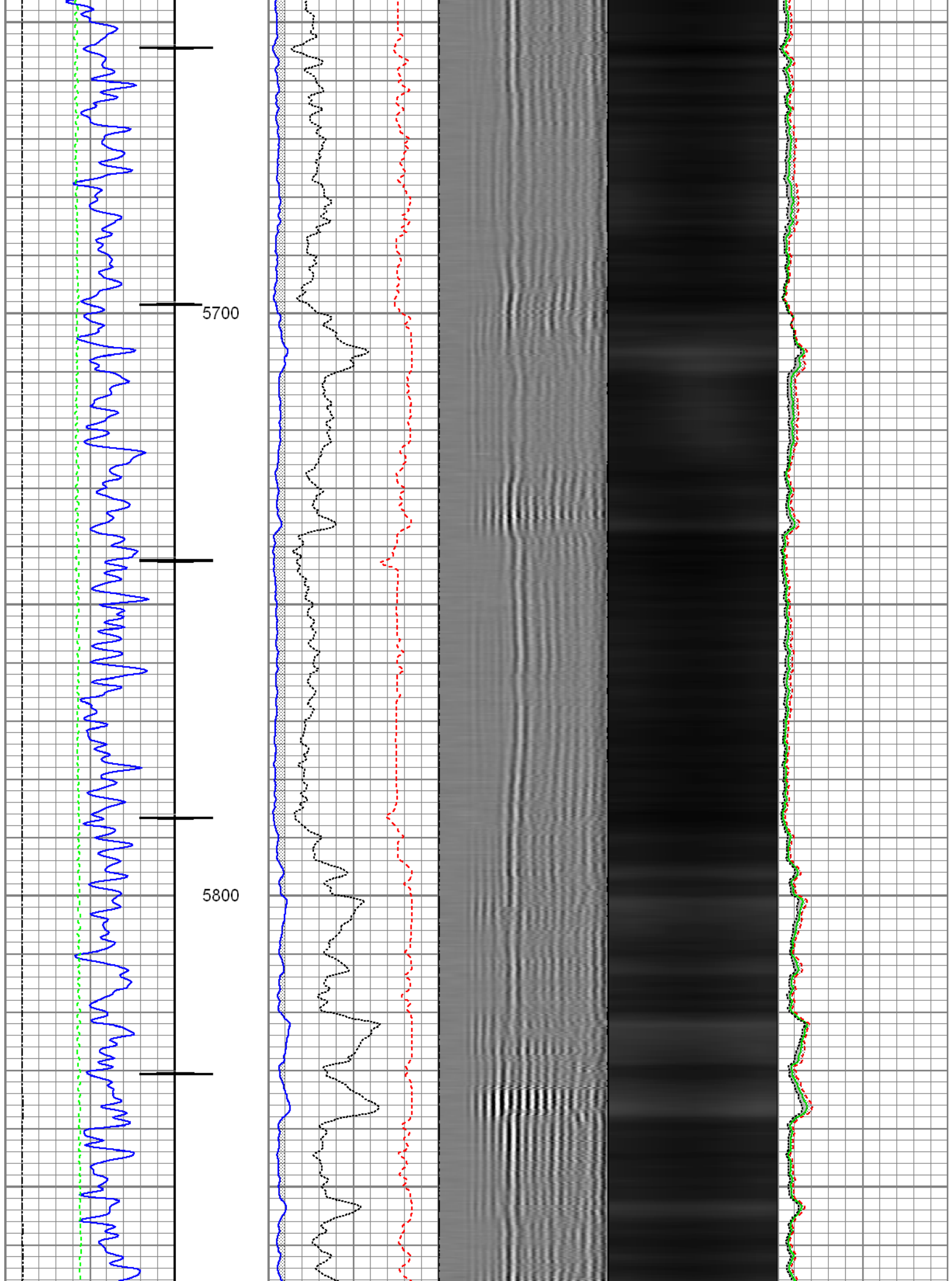


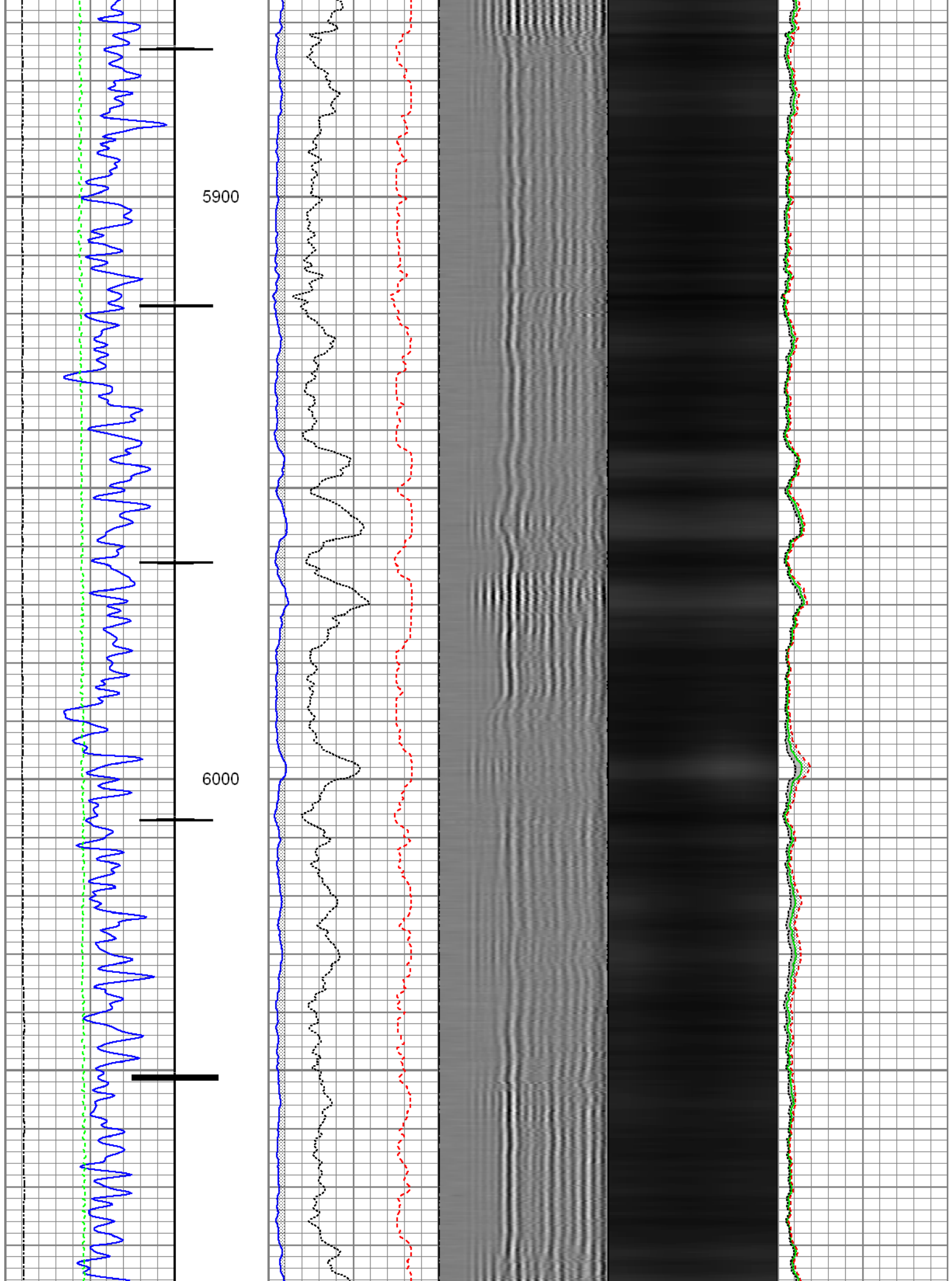




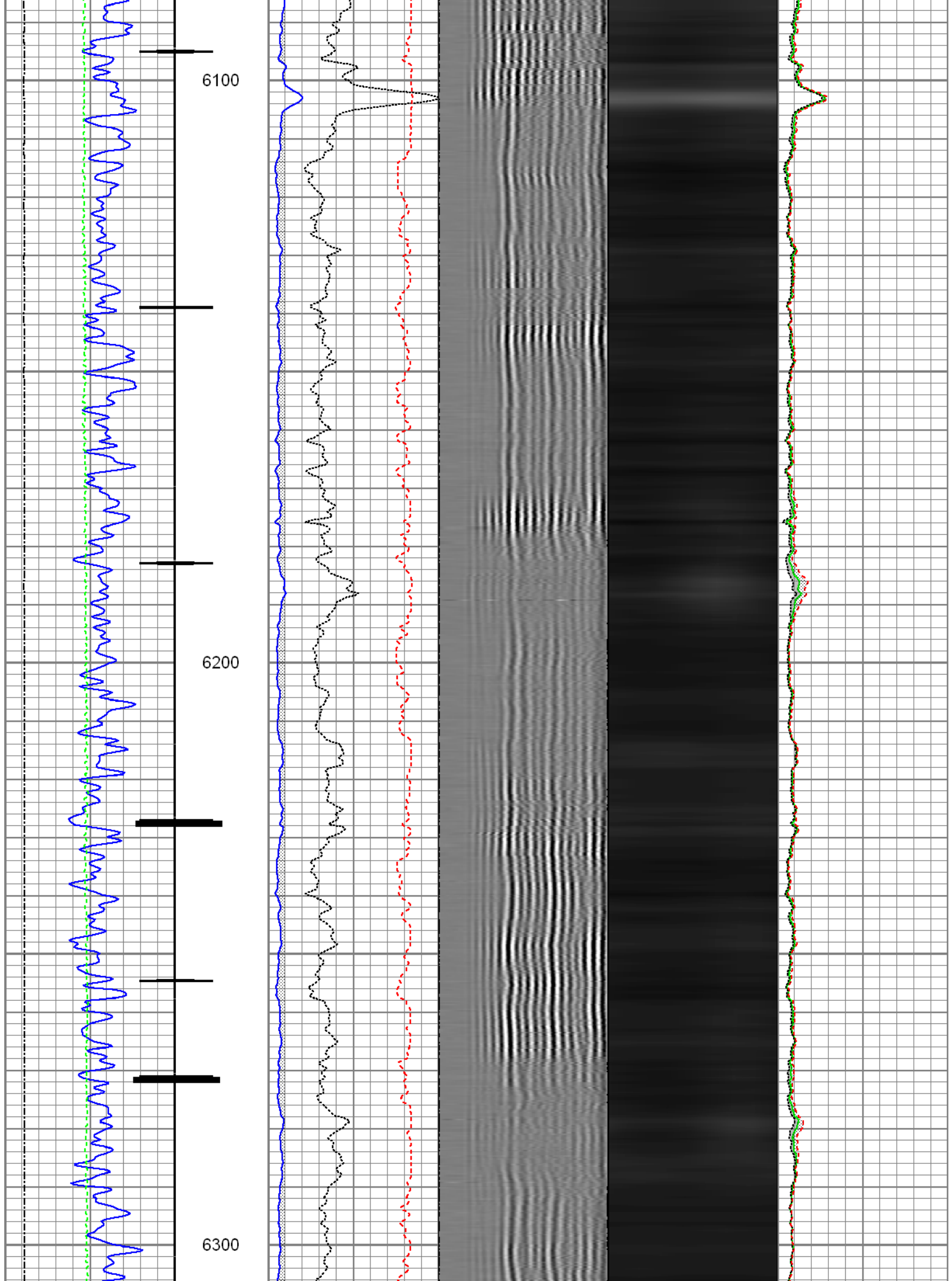


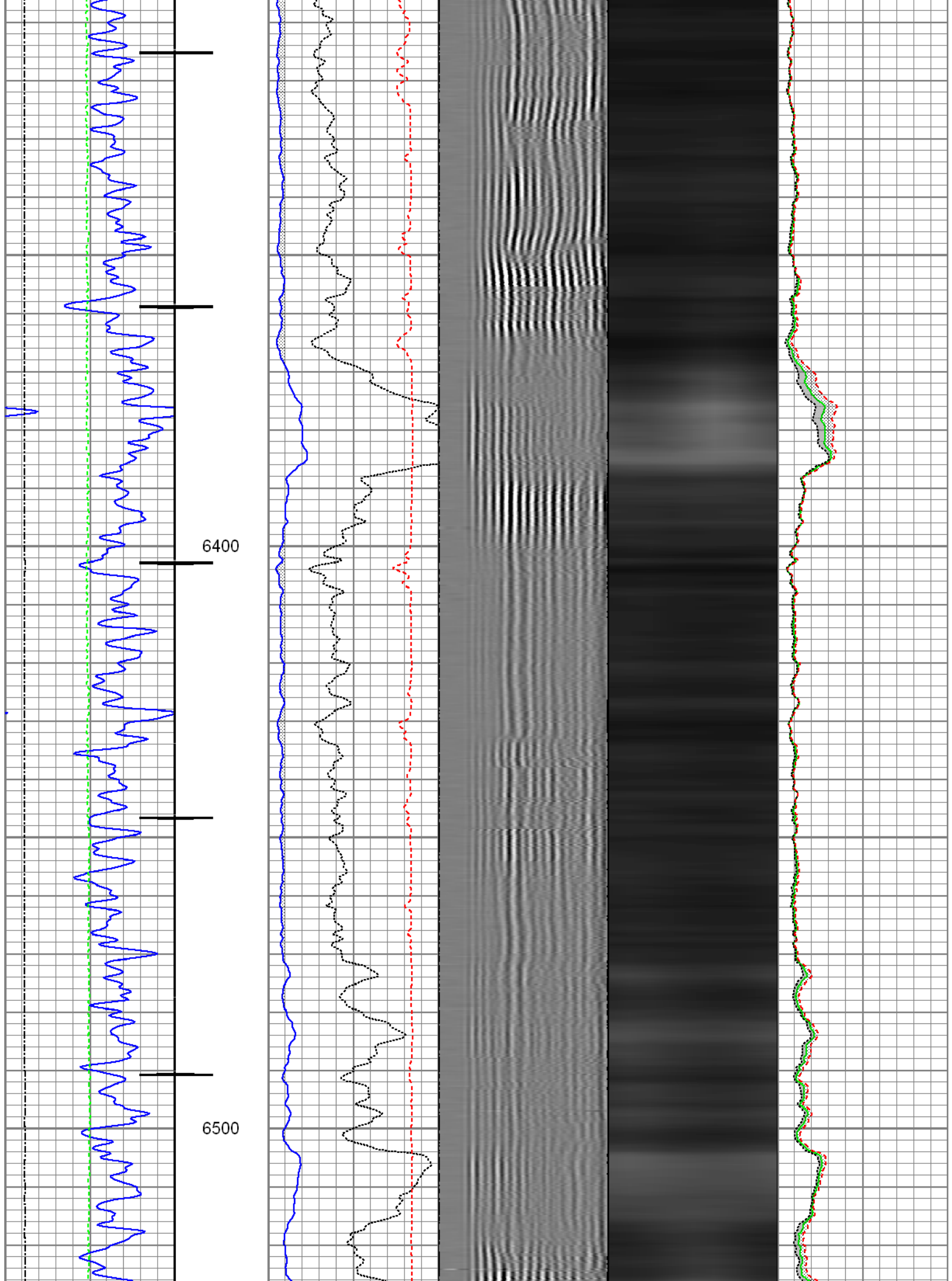


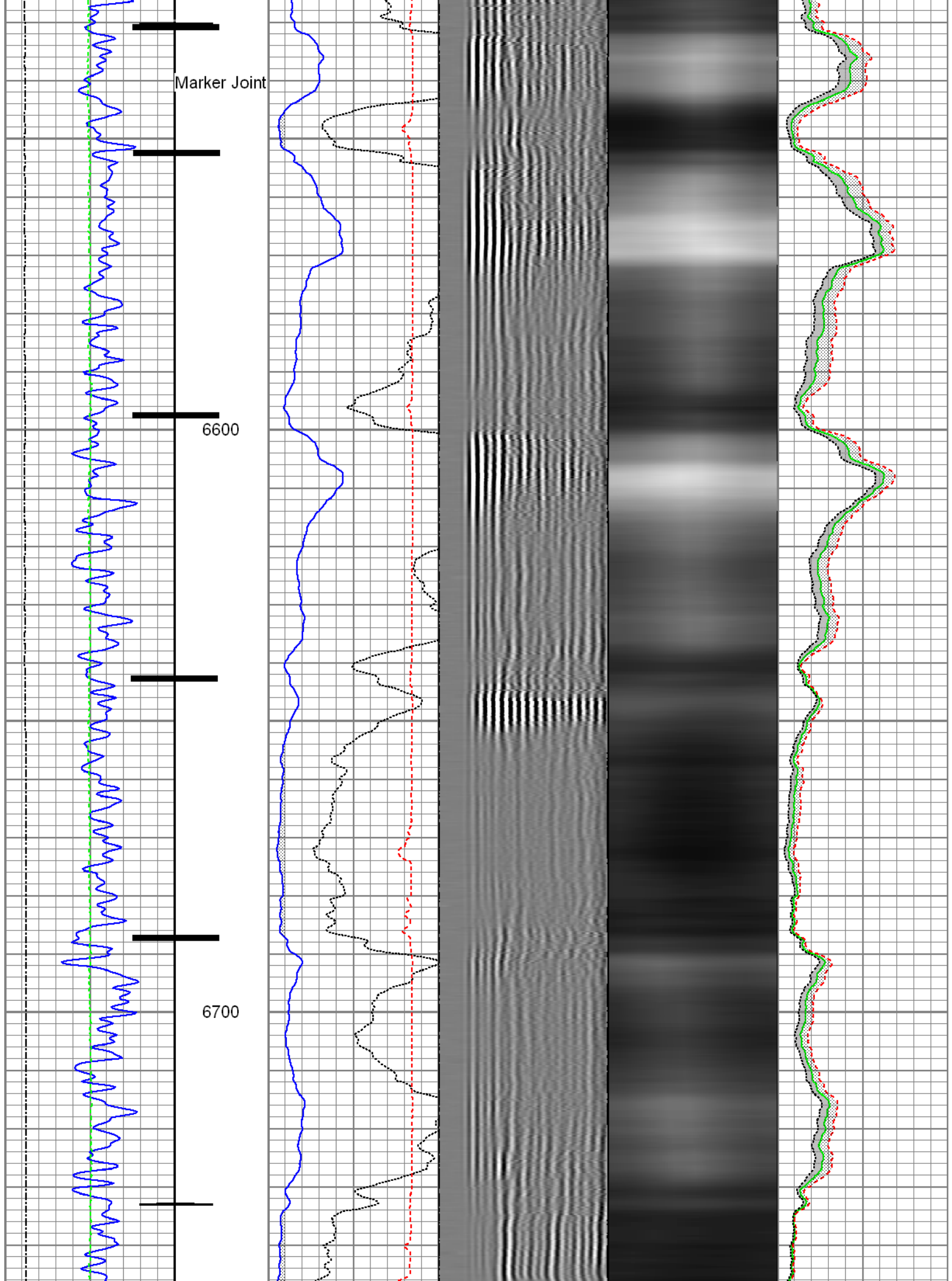


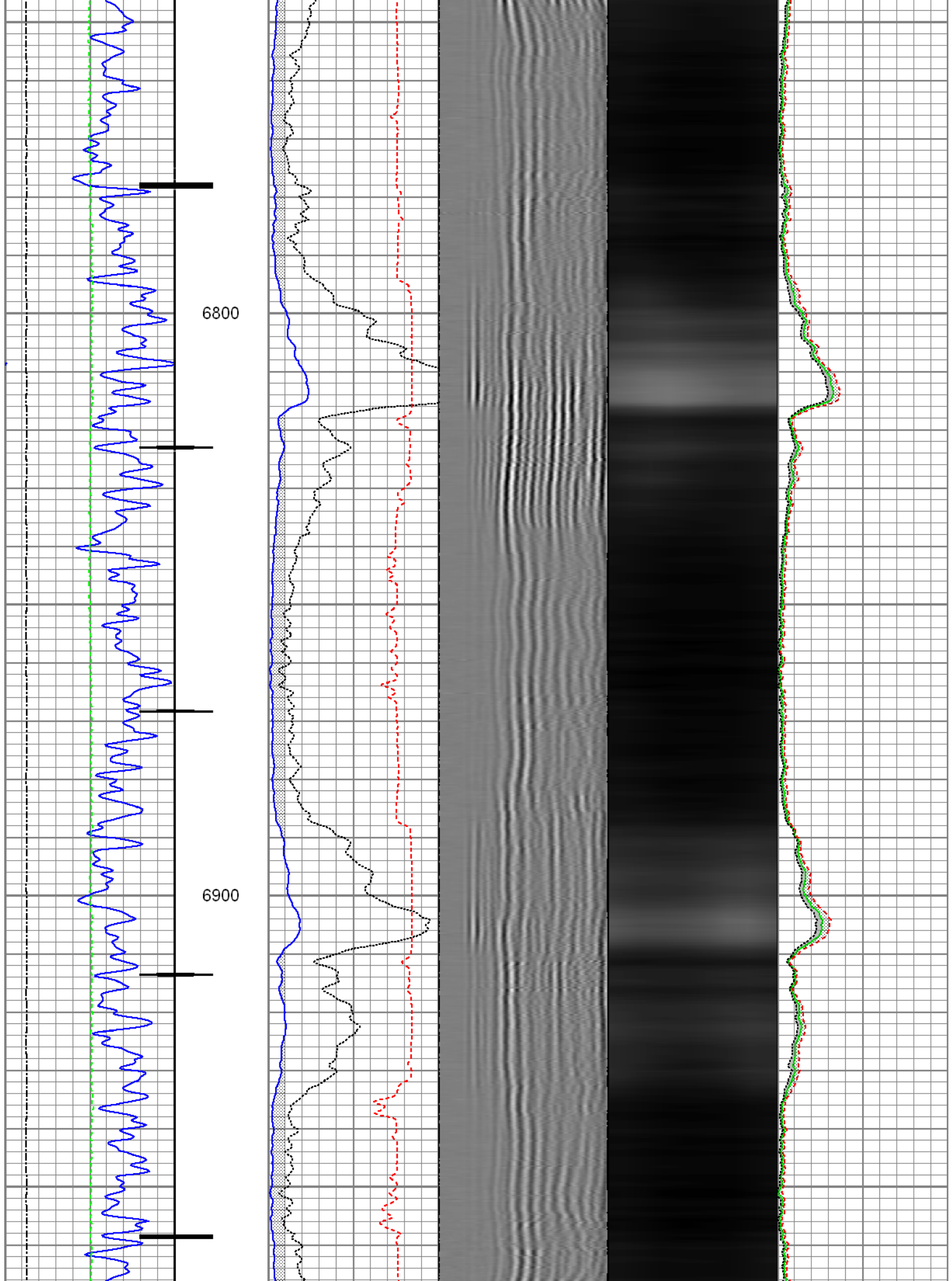




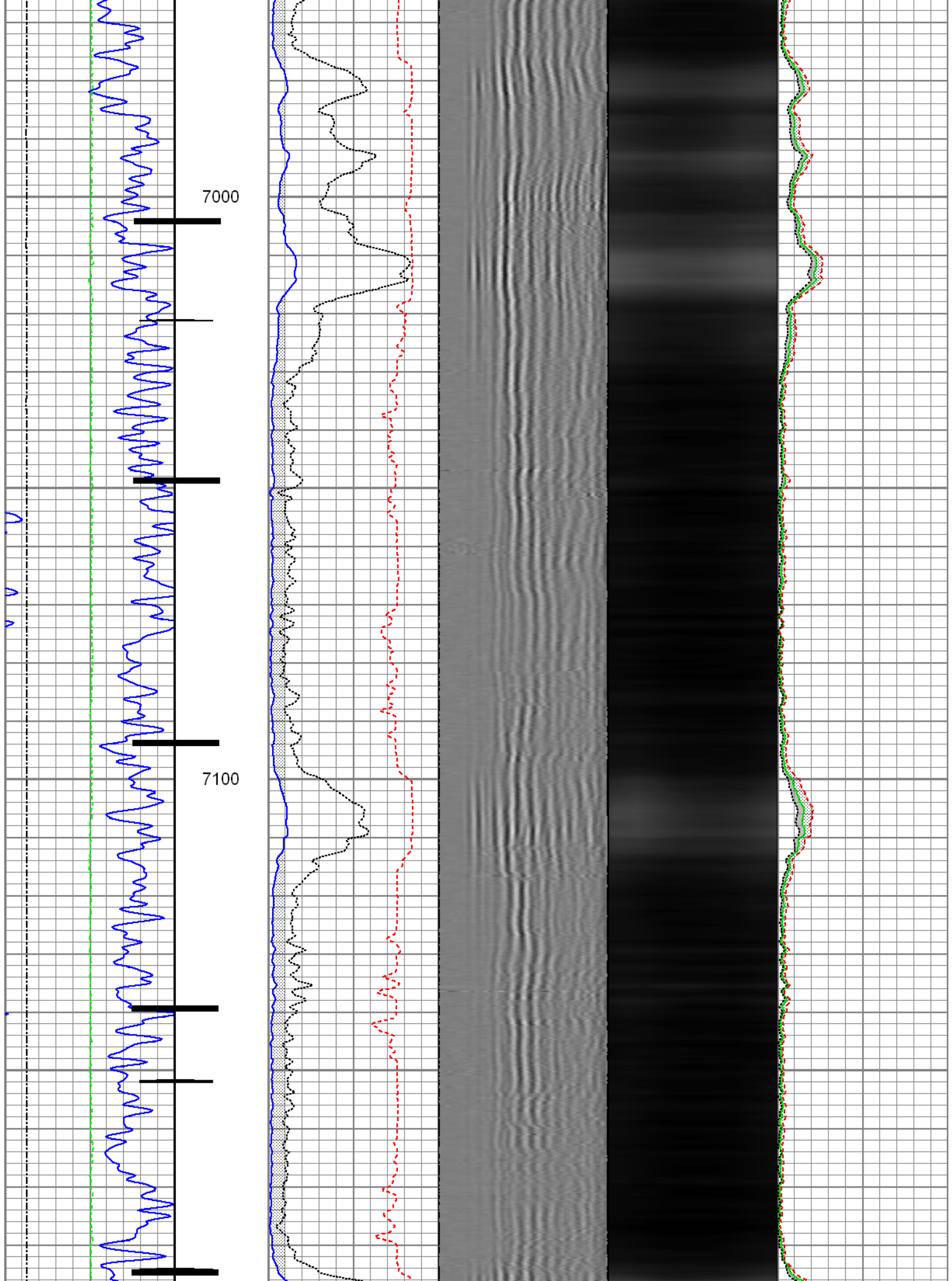




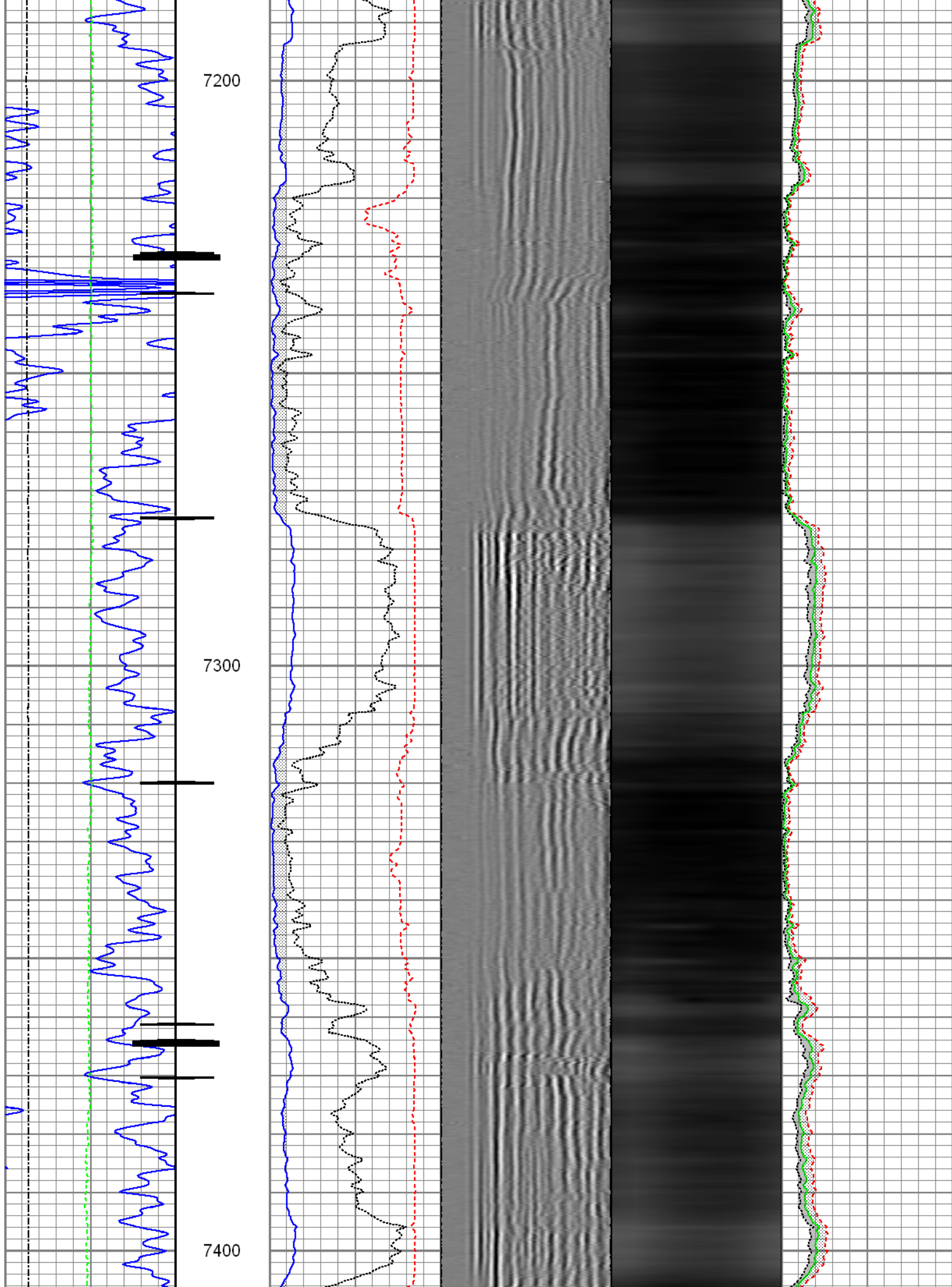


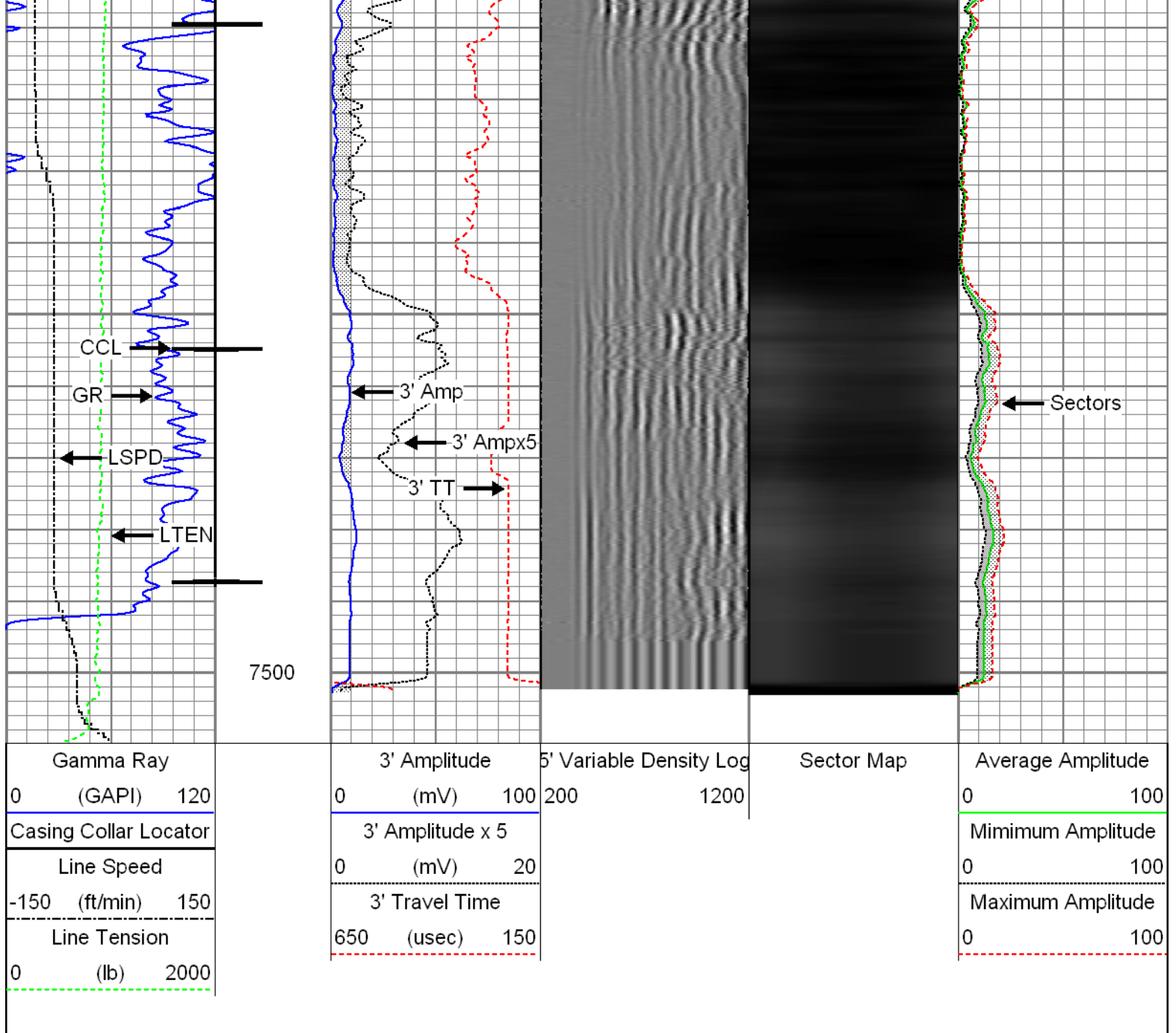








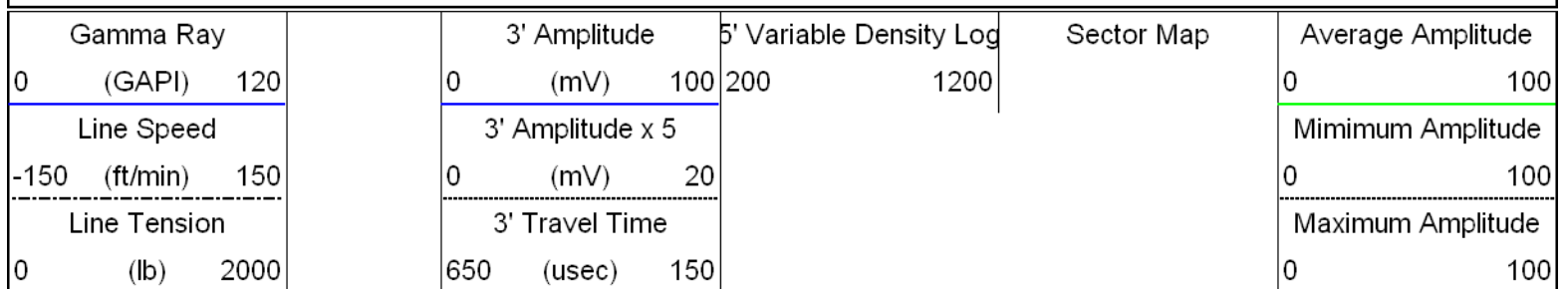


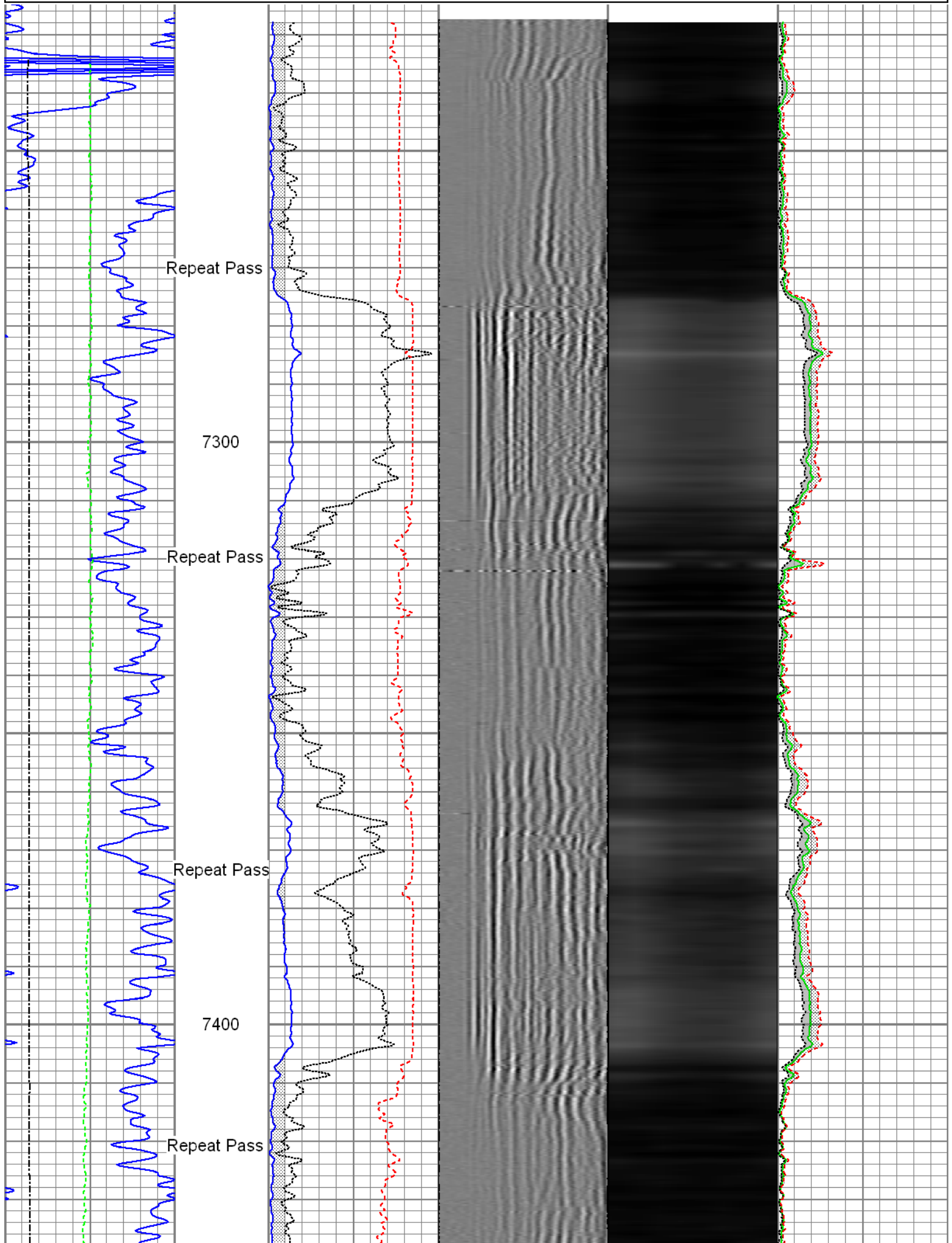


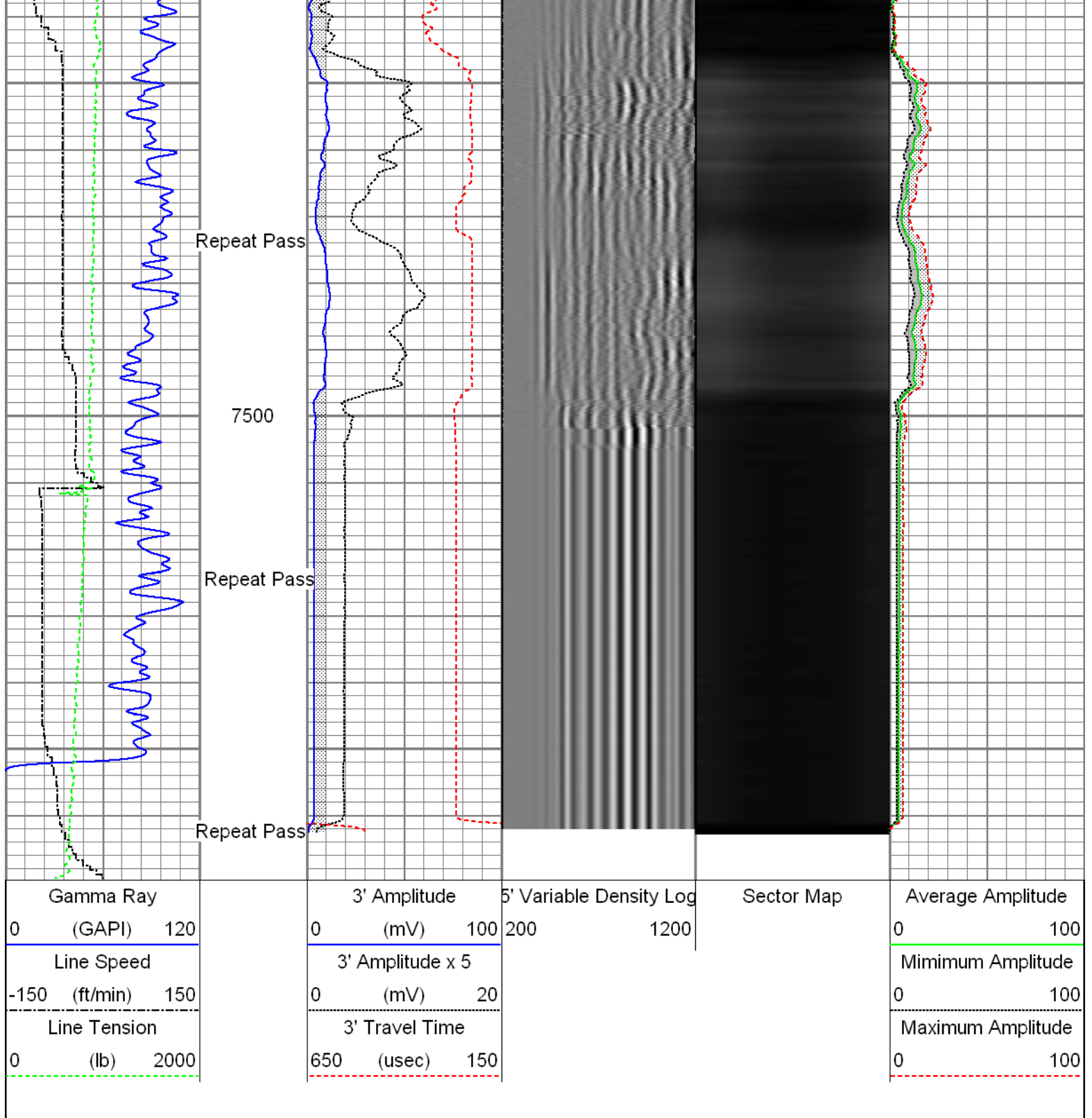
## Repeat Pass


Recorded with 2800 PSI Surface Induced Pressure

Database File: 0512341287\_anadarko\_bat 3n2-9hz\_08-04-15\_rbl.db  
 Dataset Pathname: repeat  
 Presentation Format: rbt004  
 Dataset Creation: Tue Aug 04 08:44:53 2015 by Log 7.0 B1  
 Charted by: Depth in Feet scaled 1:240







Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	17.33		T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			UW_AGS-UW_AGS_001 (218874) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW_XTU-UW_XTU_002 (218874) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (10013899) Production Gamma Ray	1.93	1.69	9.50





Master Calibration, performed Tue Aug 04 07:28:12 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.003	0.777	0.800	71.921	91.199	1.049
5FT	-0.006	0.608	0.800	71.921	115.830	1.504
S1	-0.004	0.757	0.000	100.000	131.497	0.482
S2	-0.004	0.754	0.000	100.000	131.936	0.483
S3	-0.003	0.754	0.000	100.000	132.029	0.395
S4	-0.004	0.786	0.000	100.000	126.598	0.464
S5	-0.002	0.798	0.000	100.000	124.859	0.305
S6	-0.003	0.792	0.000	100.000	125.781	0.430
S7	-0.003	0.787	0.000	100.000	126.578	0.328
S8	-0.002	0.767	0.000	100.000	130.036	0.321

Gamma Ray Calibration Report

Serial Number: 10013899  
 Tool Model: UW\_PGR\_020  
 Performed: Sun Jun 13 13:33:21 1993  
  
 Calibrator Value: 1.0 GAPI  
  
 Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps  
  
 Sensitivity: 1.0000 GAPI/cps



Company Kerr-McGee Oil & Gas Onshore, L.P.  
 Well Bat 3N2-9HZ  
 Field Wattenberg  
 County Weld  
 State Colorado