



Radial Cement Bond  
Variable Density Log  
W/Gamma Ray/CCL

Company		Noble Energy	
Well		NCLP PC AA04-64-1HN	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-37171	
Permanent Datum		SEC 4 TWP 6N RGE 63W	
Log Measured From		Ground Level Elevation 4711'	
Drilling Measured From		Kelly Bushing 24' APD	
		Kelly Bushing	
		Elevation	
		K.B. 4735'	
		D.F. 4734'	
		G.L. 4711'	
Date		09-JAN-2014	
Run Number		One	
Depth Driller		16210'	
Depth Logger		7066'	
Bottom Logged Interval		7054'	
Top Log Interval		Surface	
Open Hole Size		8 3/4"	
Type Fluid		Water	
Density / Viscosity		8.4	
Max. Recorded Temp.		NA	
Estimated Cement Top		NA	
Time Well Ready		20:00	
Time Logger on Bottom		20:30	
Equipment Number		13034	
Location		Brighton, CO	
Recorded By		Jarod Lee	
Witnessed By		Bill Mansfield	
Run Number		Bit	
From		To	
Size		Weight	
From		To	
Casing Record		Size	
Surface String		9 5/8"	
Prot. String		7"	
Production String		4.5"	
Liner		4.5"	
Short Joint		4.5"	

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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 Correlated to 24' Drilling Rig KB

Main Pass and Repeat Pass logged with zero Pressure on surface

Short Joint @ 5476' - 5490'

Thank You for using Allied Wireline

(303)659-4609



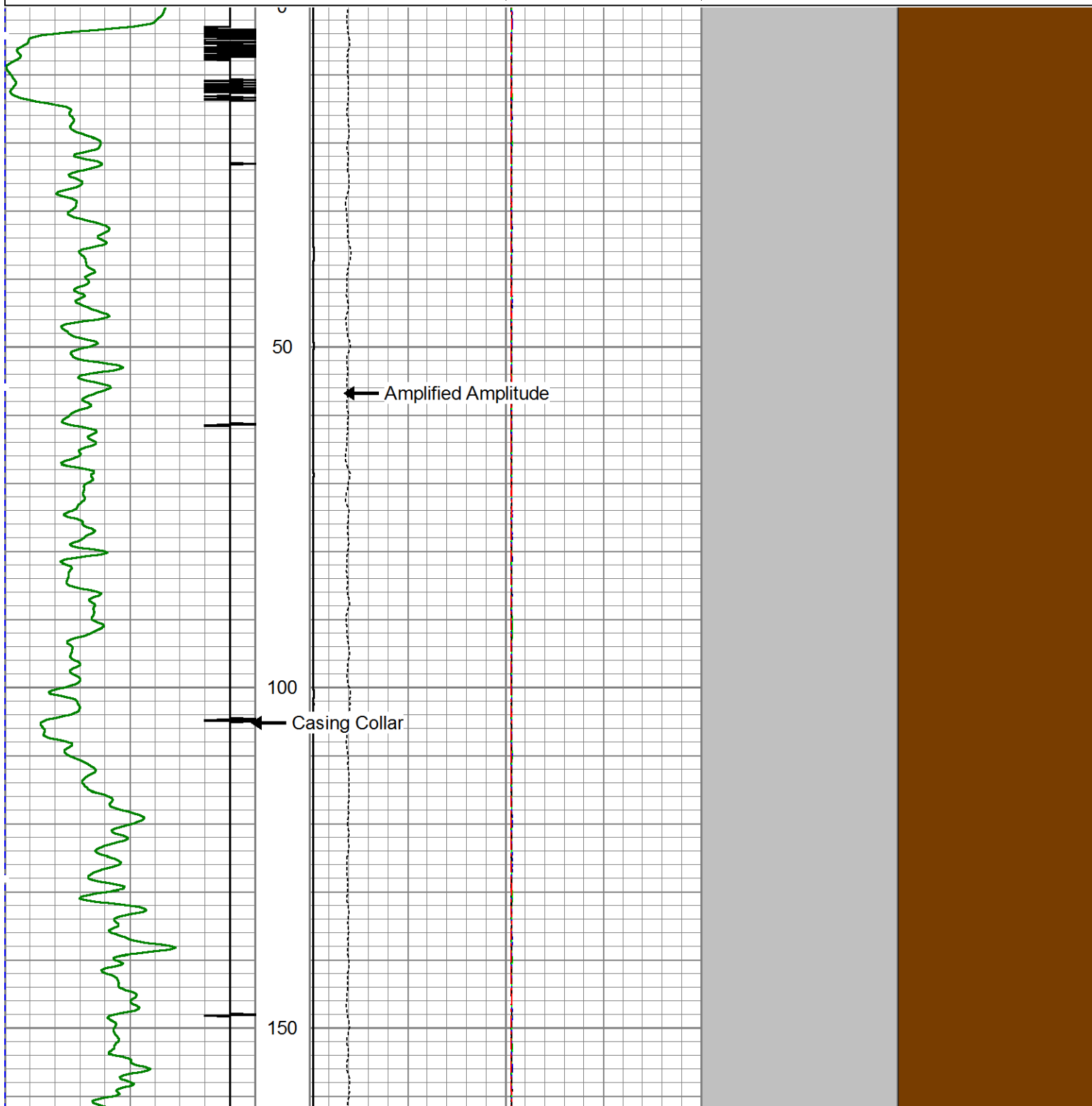
Main Pass (0 PSI)

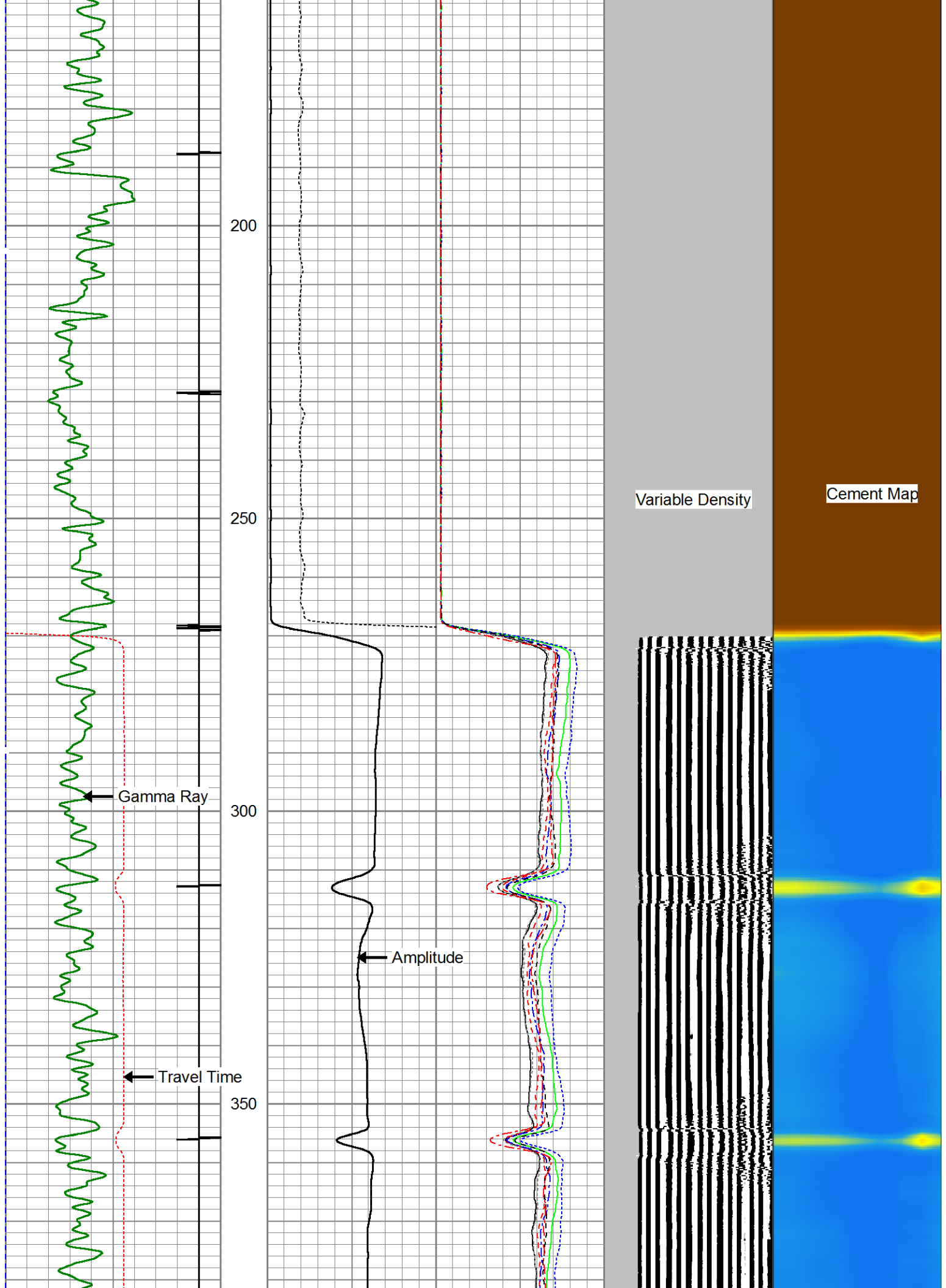
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Dataset Pathname: pass3.3  
Presentation Format: scbl03  
Dataset Creation: Fri Jan 10 13:40:58 2014 by Calc 7.0 B1  
Charted by: Depth in Feet scaled 1:240

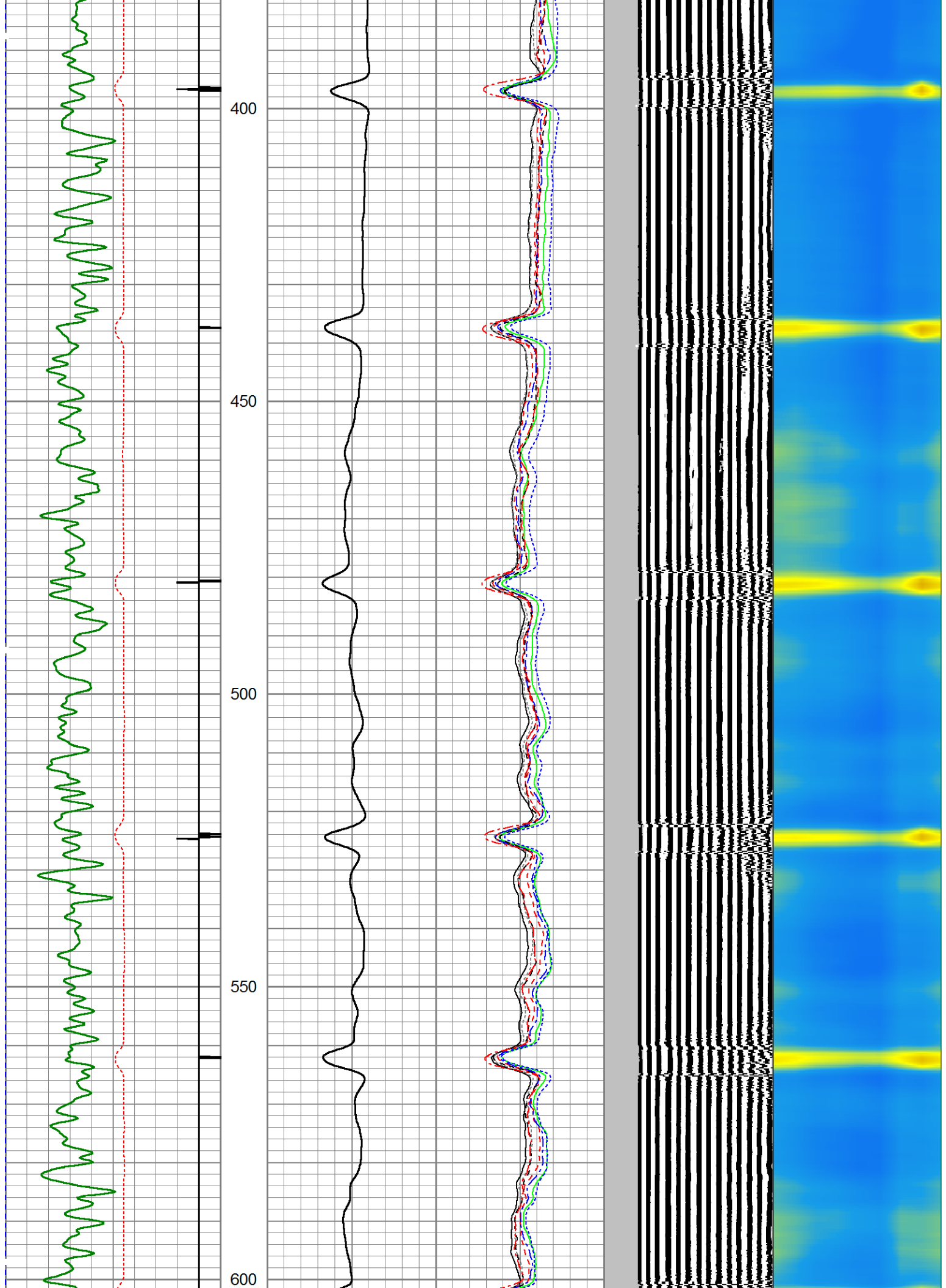
400 Travel Time (usec) 200  
9 Casing Collar -1  
0 Gamma Ray (GAPI) 150  
0 Line Tension (lb) 5000

0	Amplitude (mV)	100	-5	AMPS1	150
Amplified Amplitude		-5	AMPS2	150	
0	(mV)	10	-5	AMPS3	150
		-5	AMPS4	150	
		-5	AMPS5	150	
		-5	AMPS6	150	
		-5	AMPS7	150	
		-5	AMPS8	150	

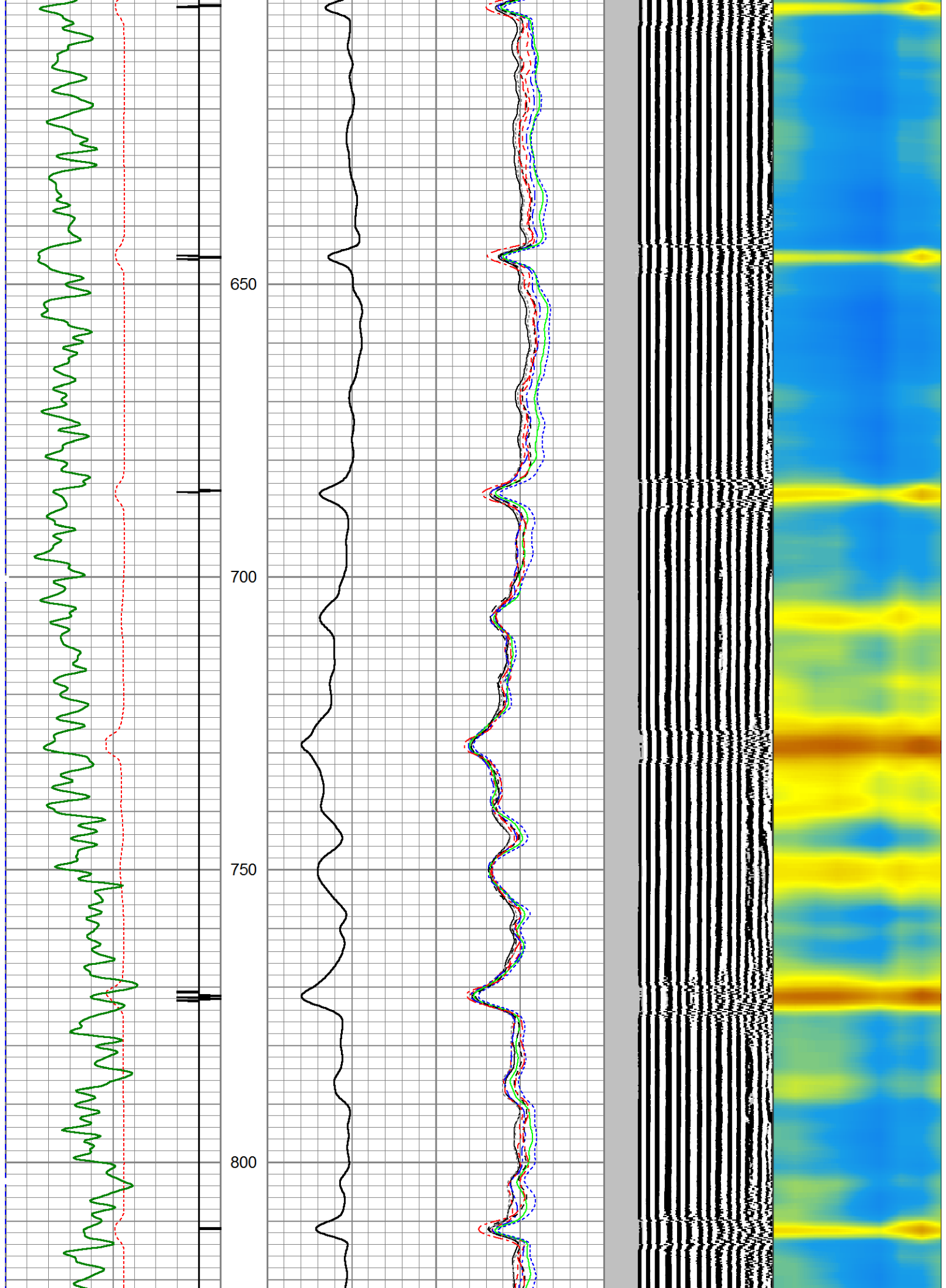
Variable Density 1 Cement Map 8  
200 1200 0 100

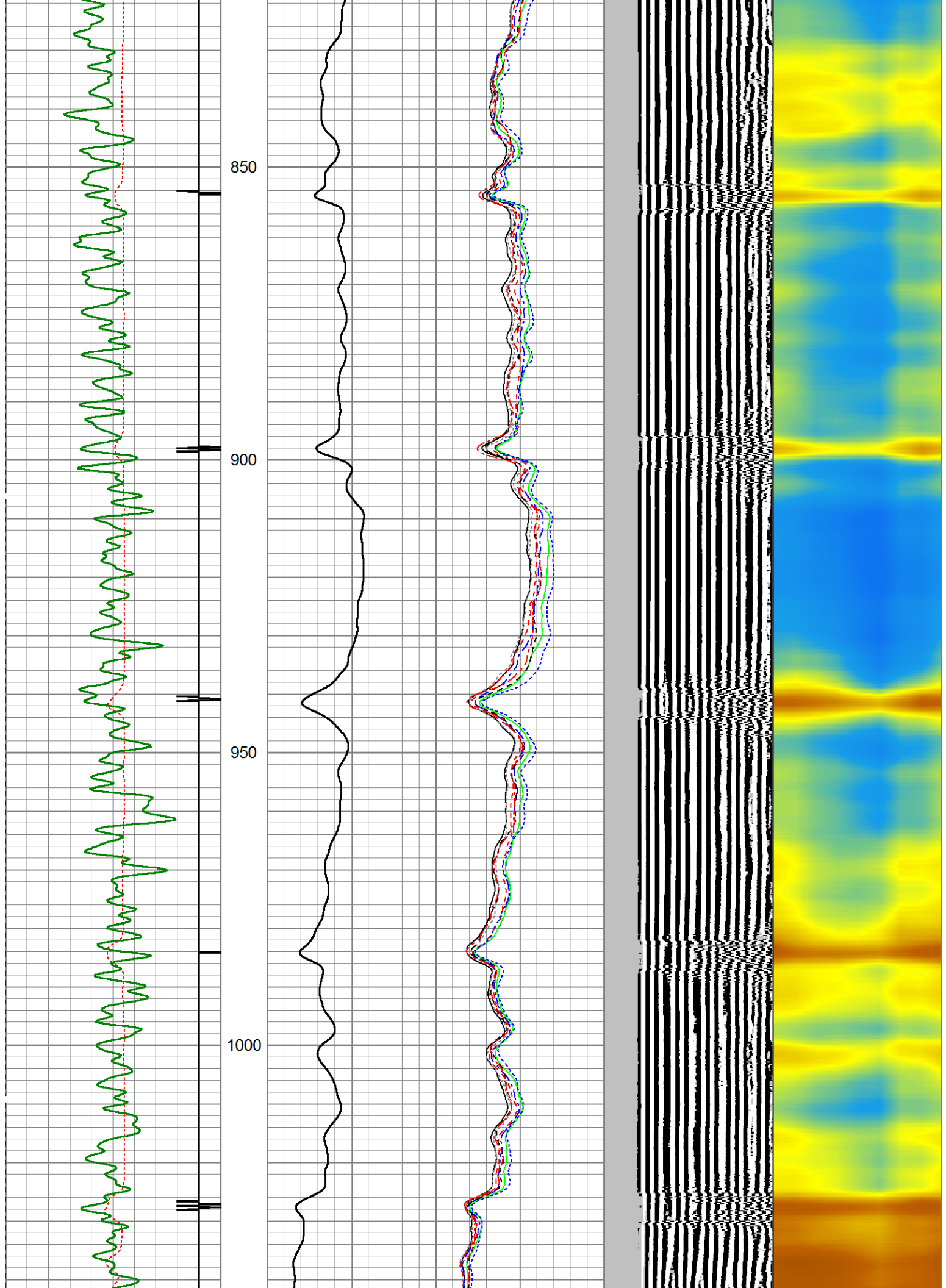


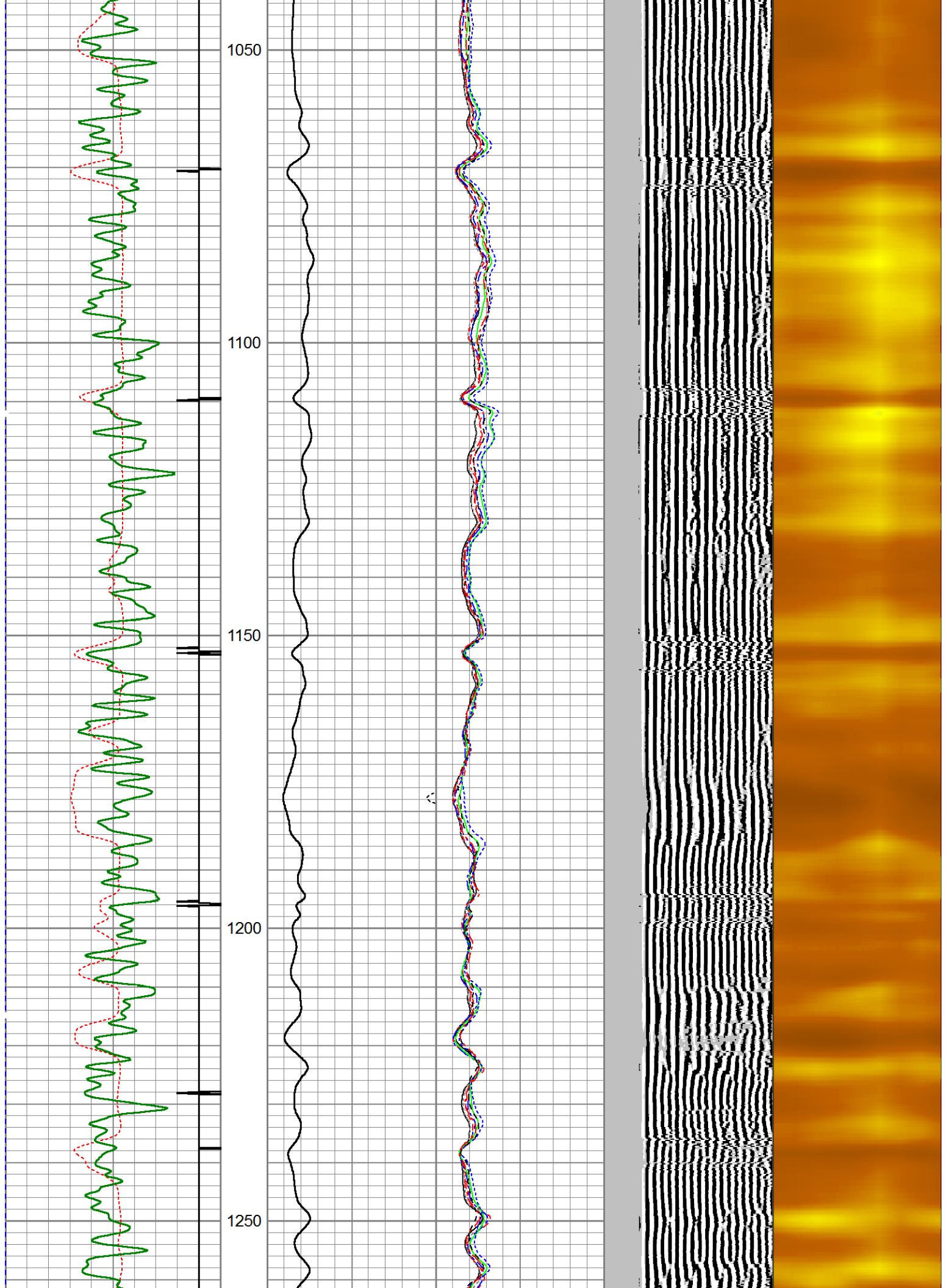


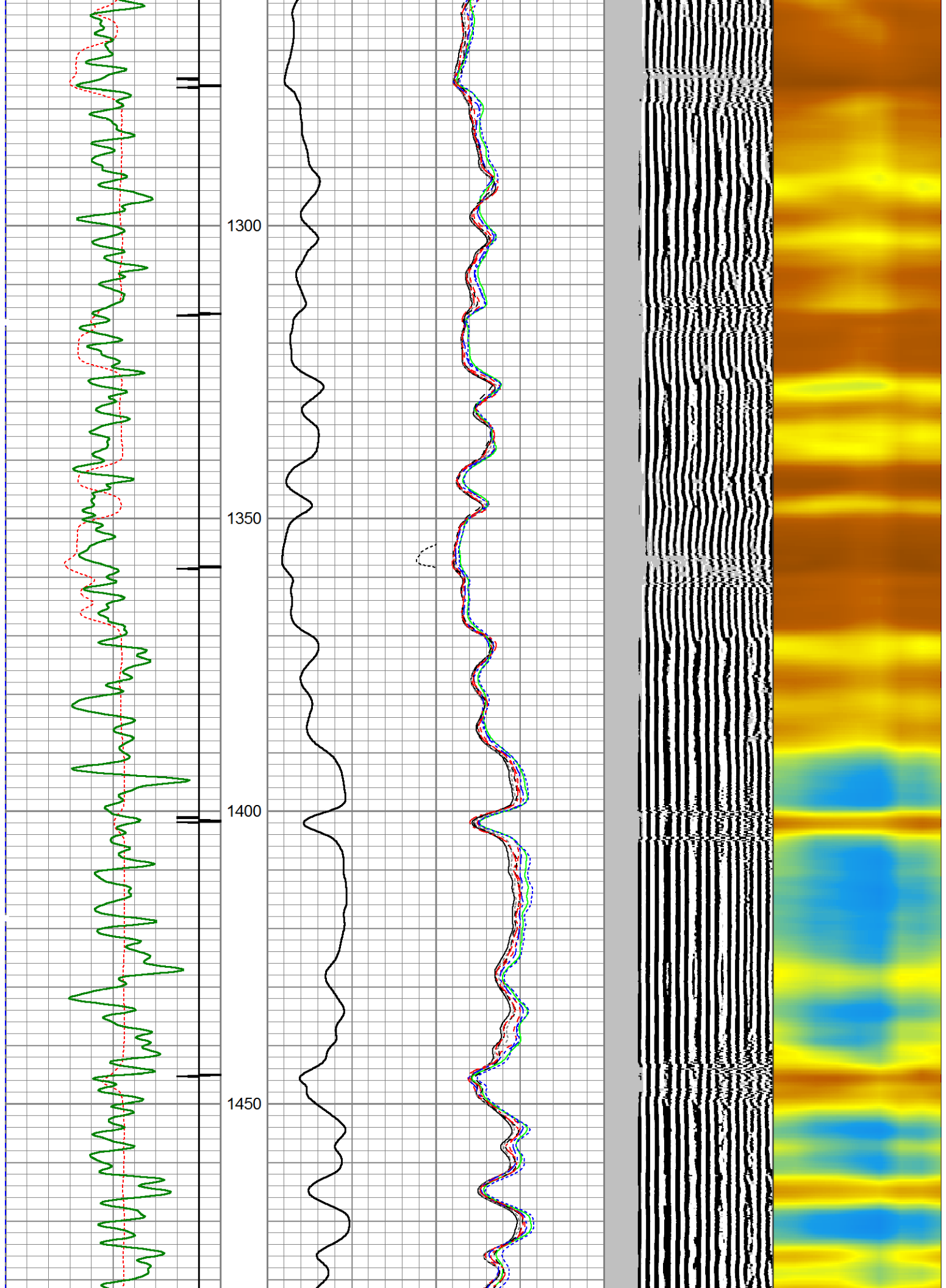


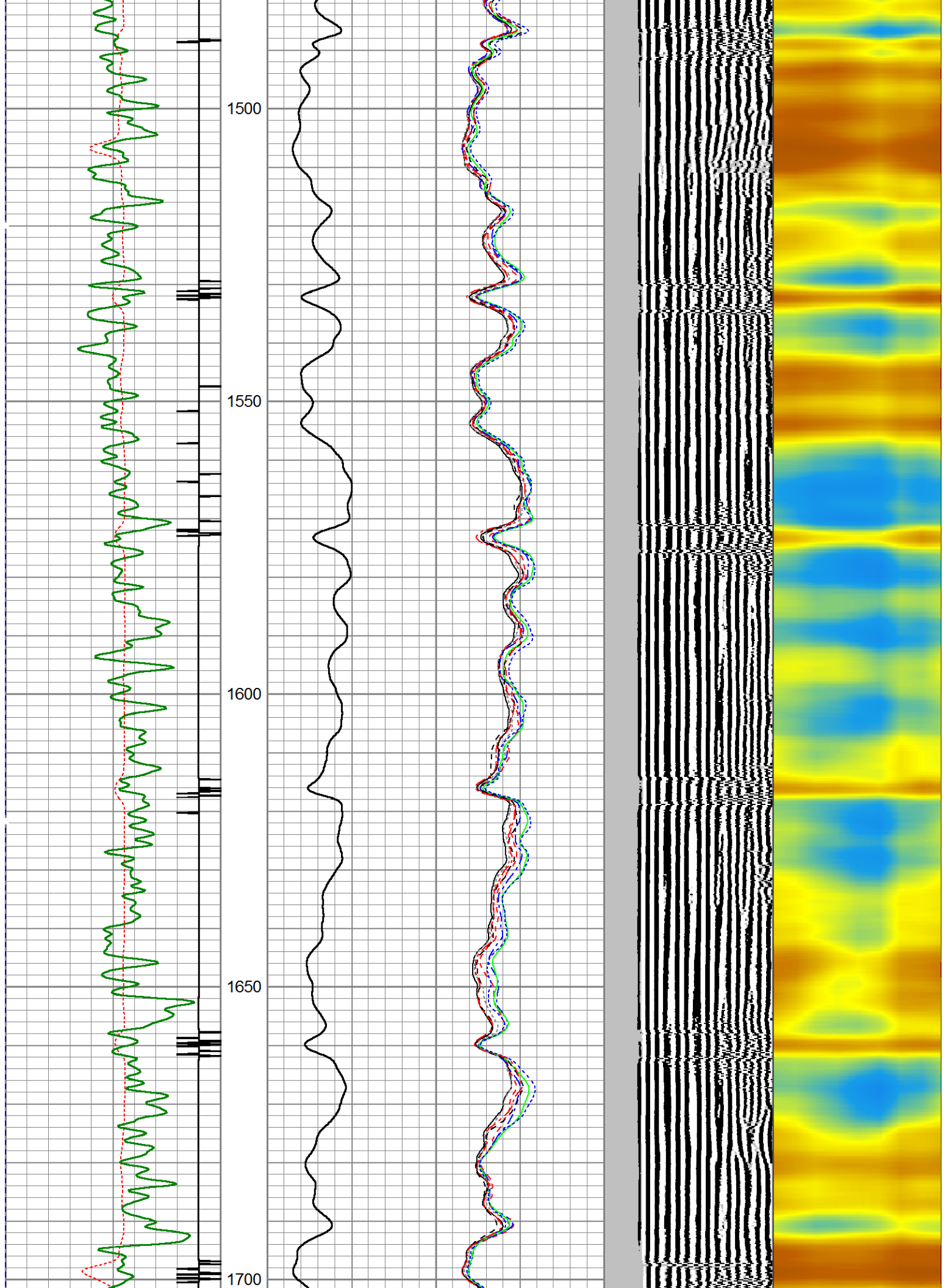




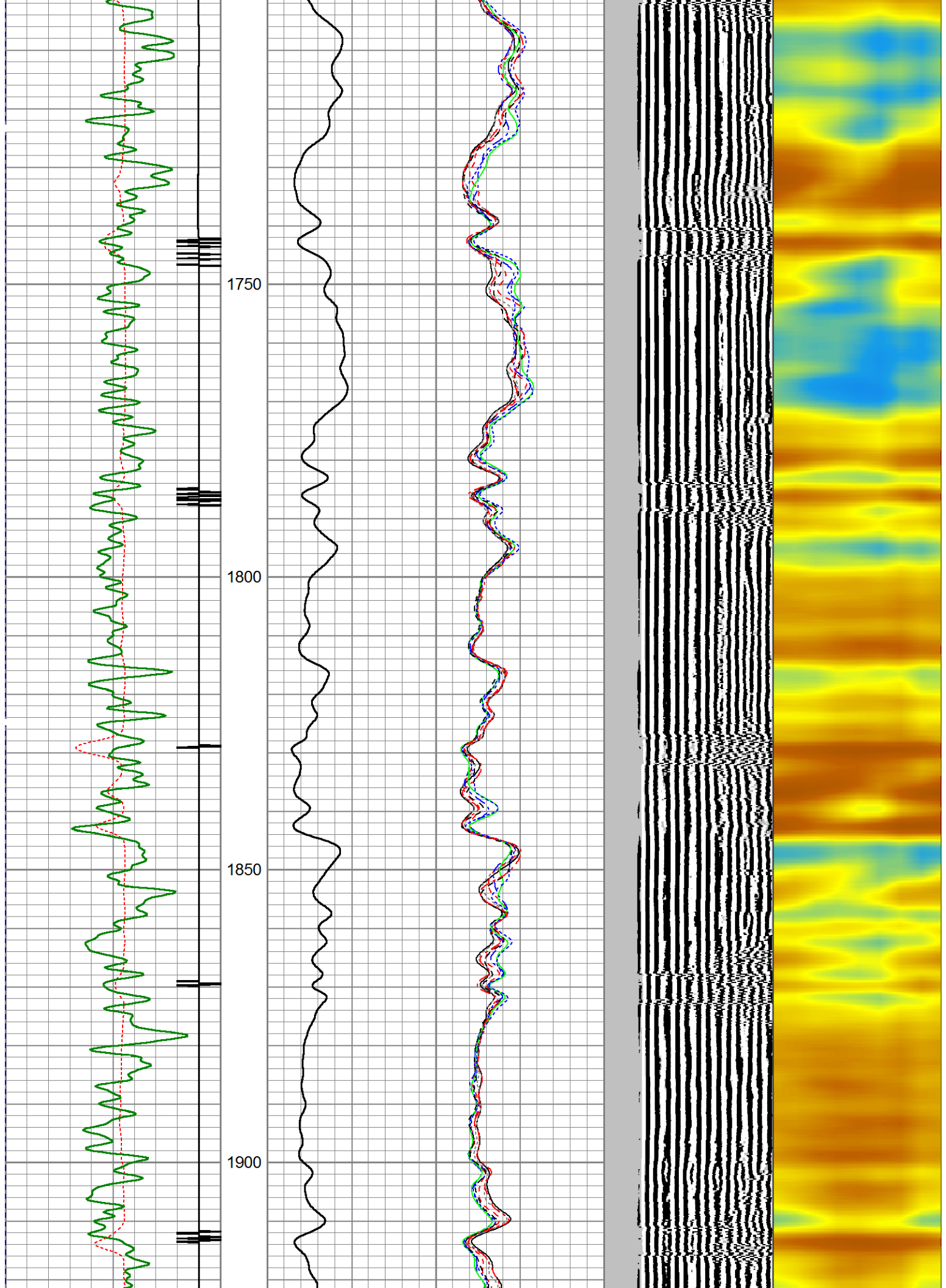


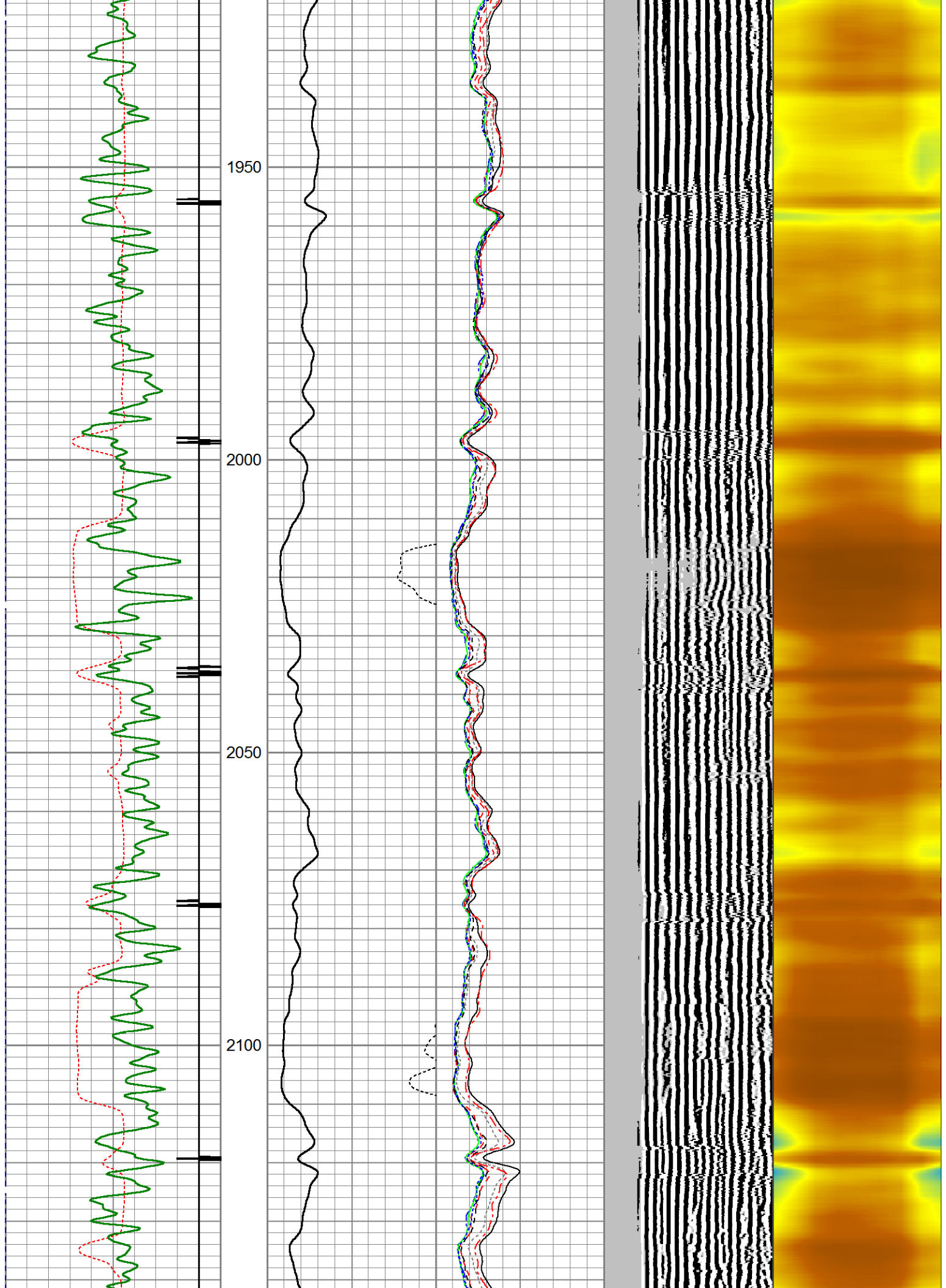


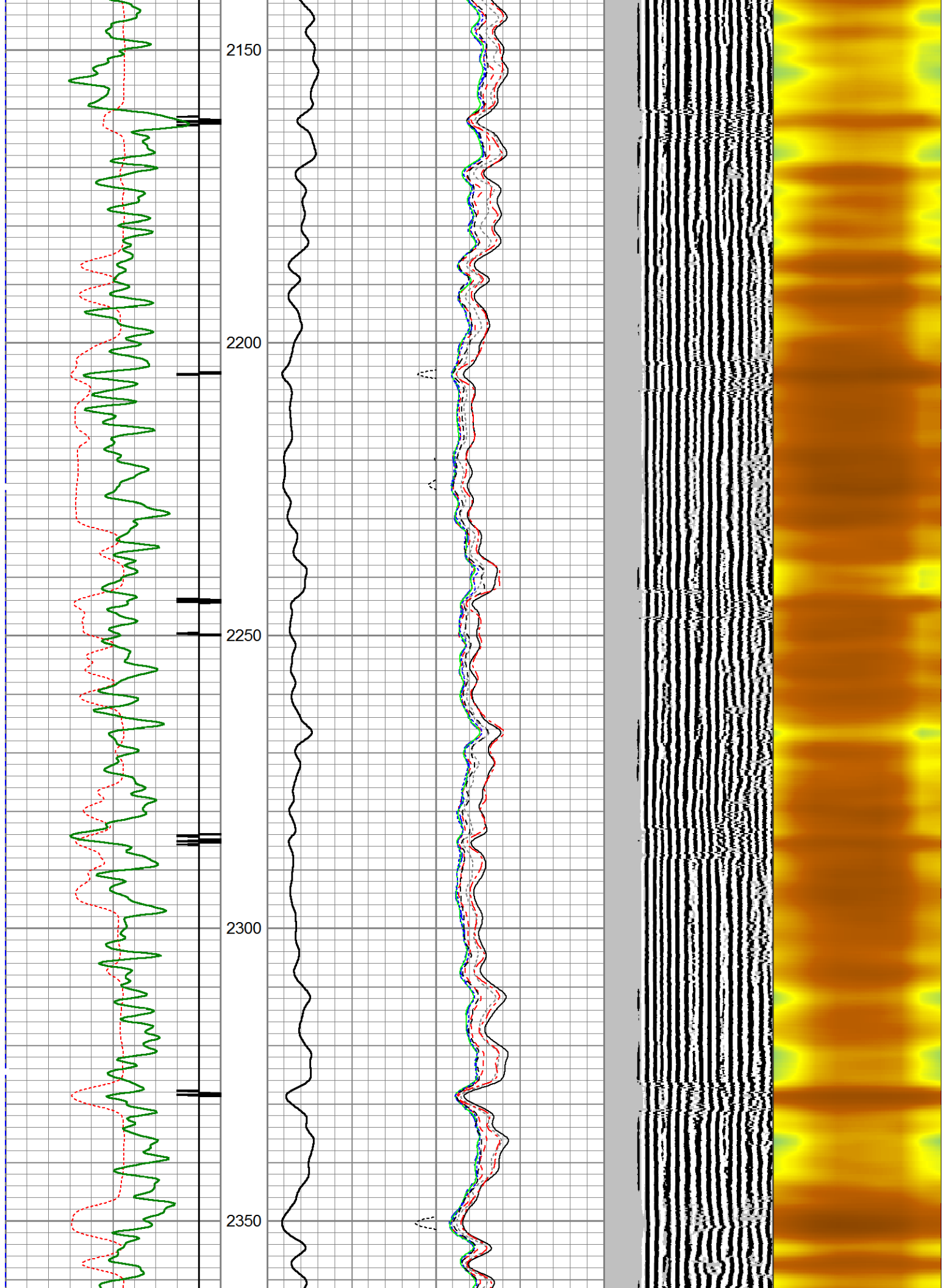




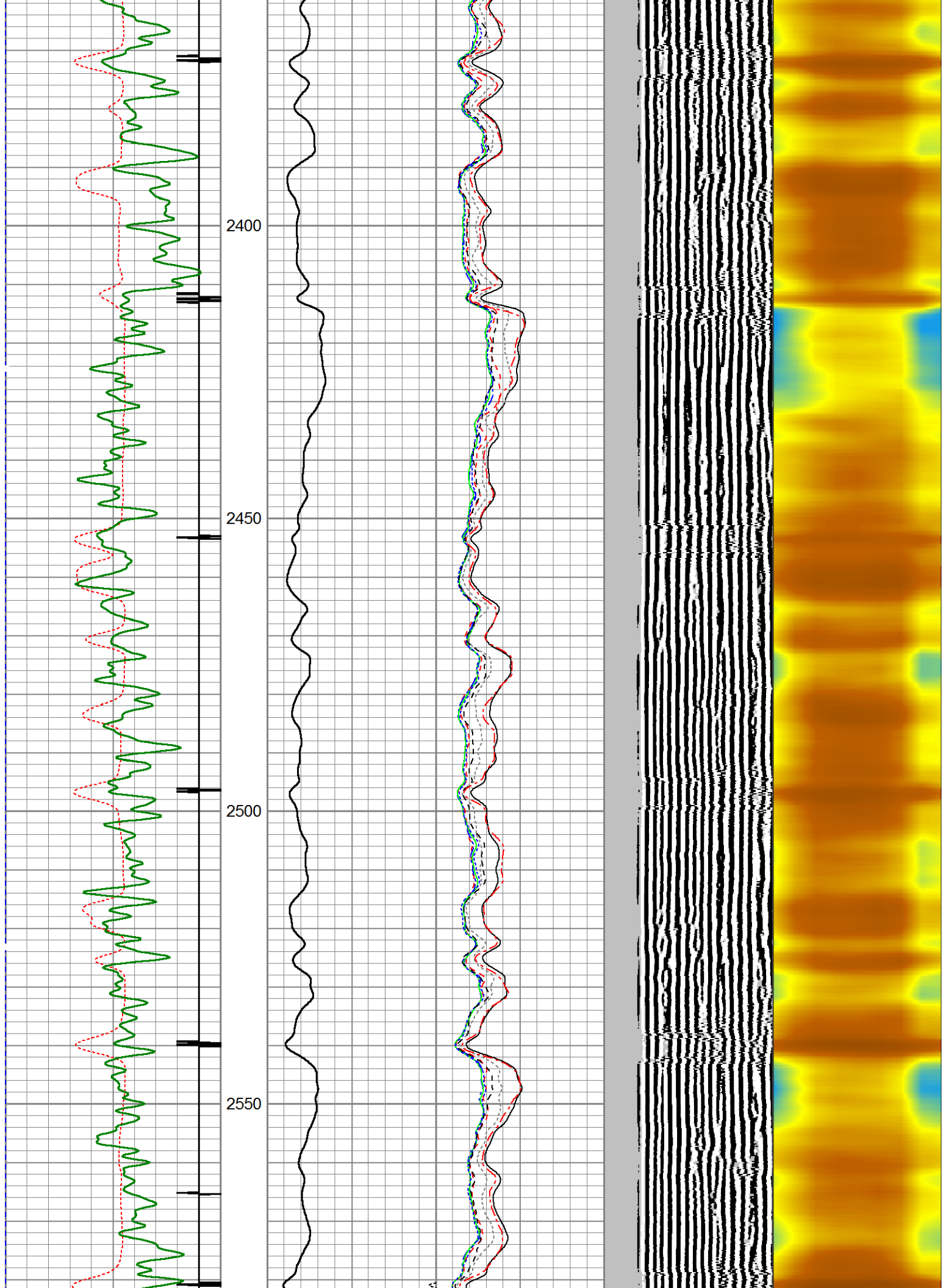


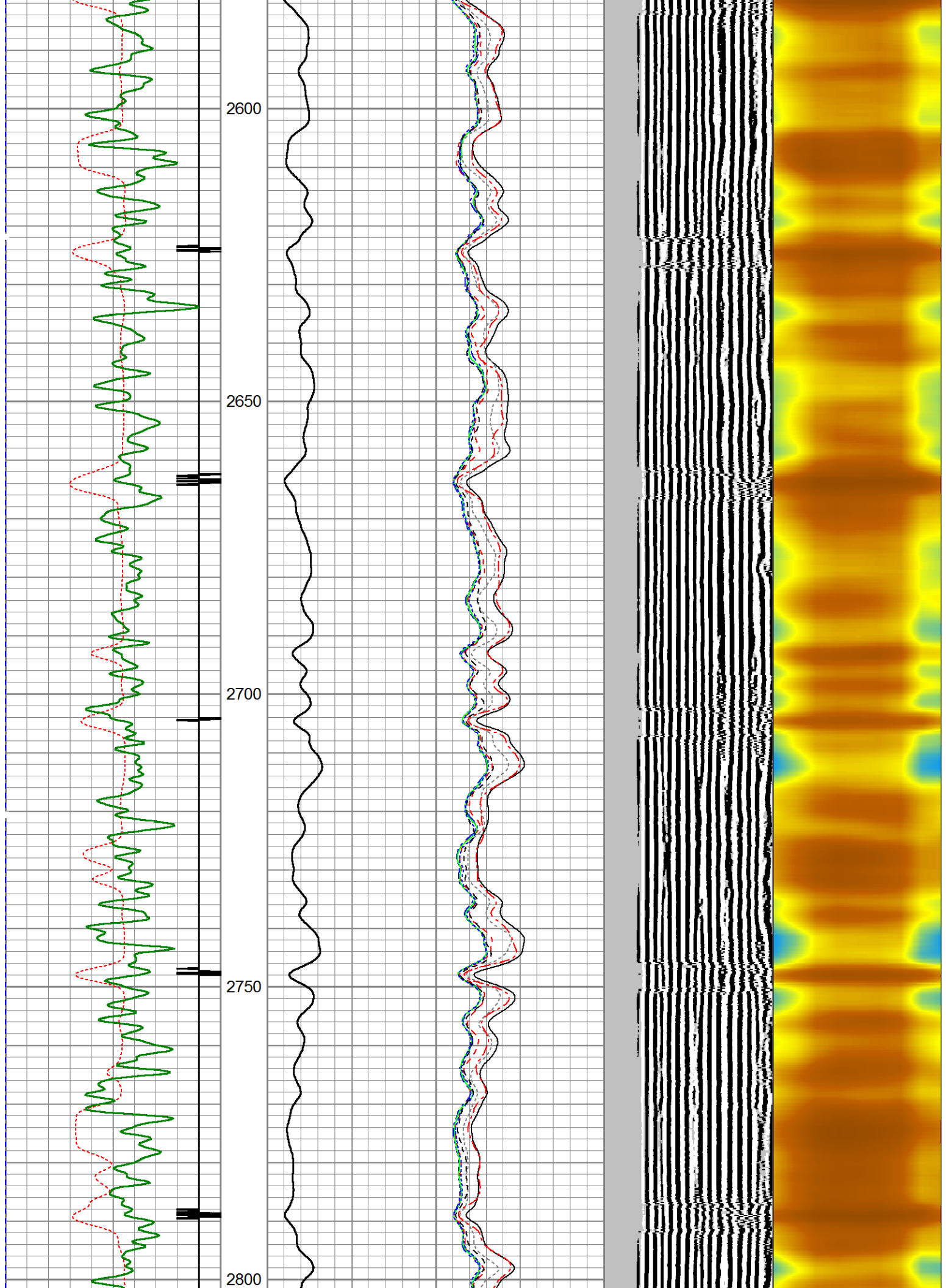


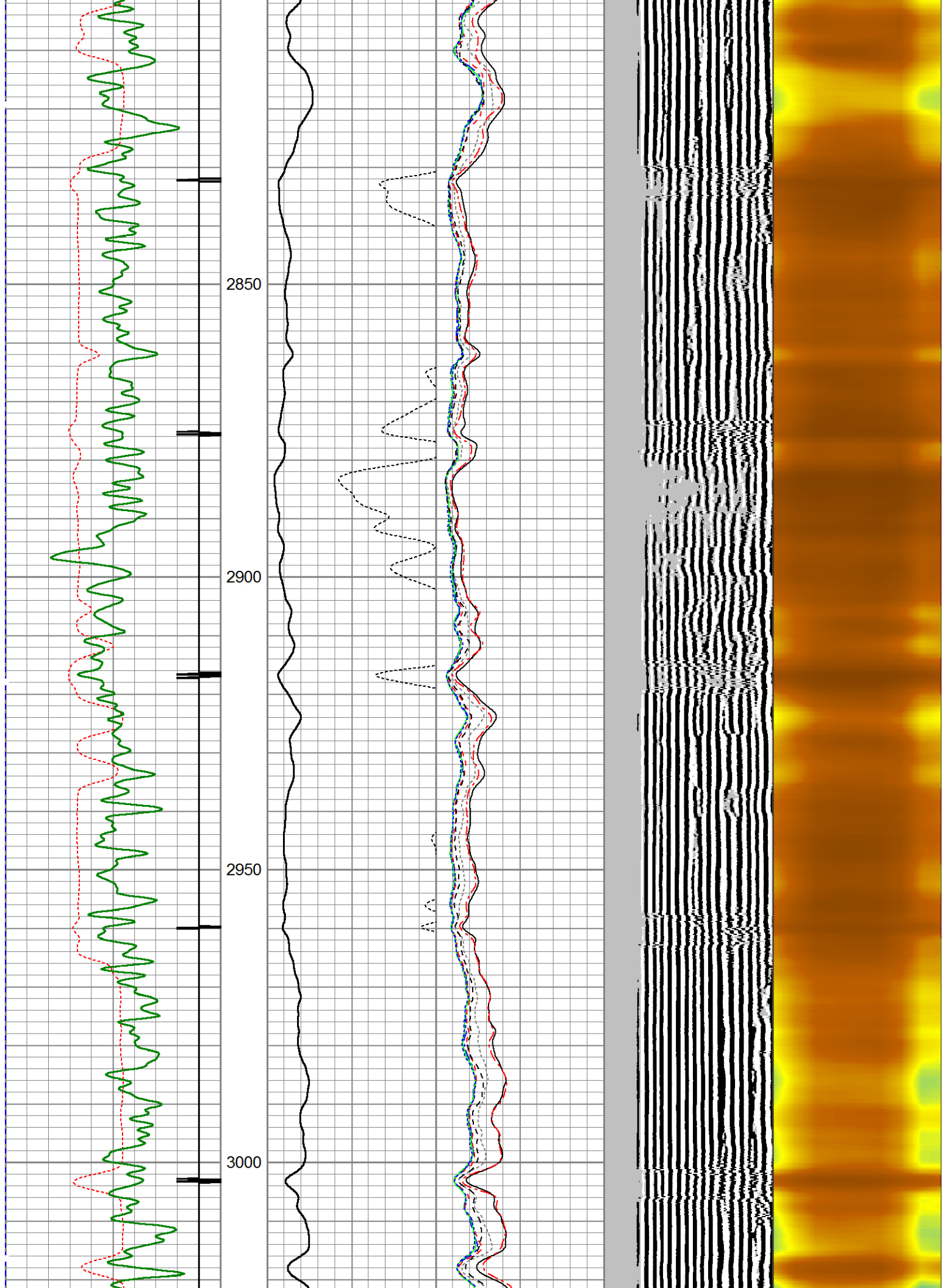


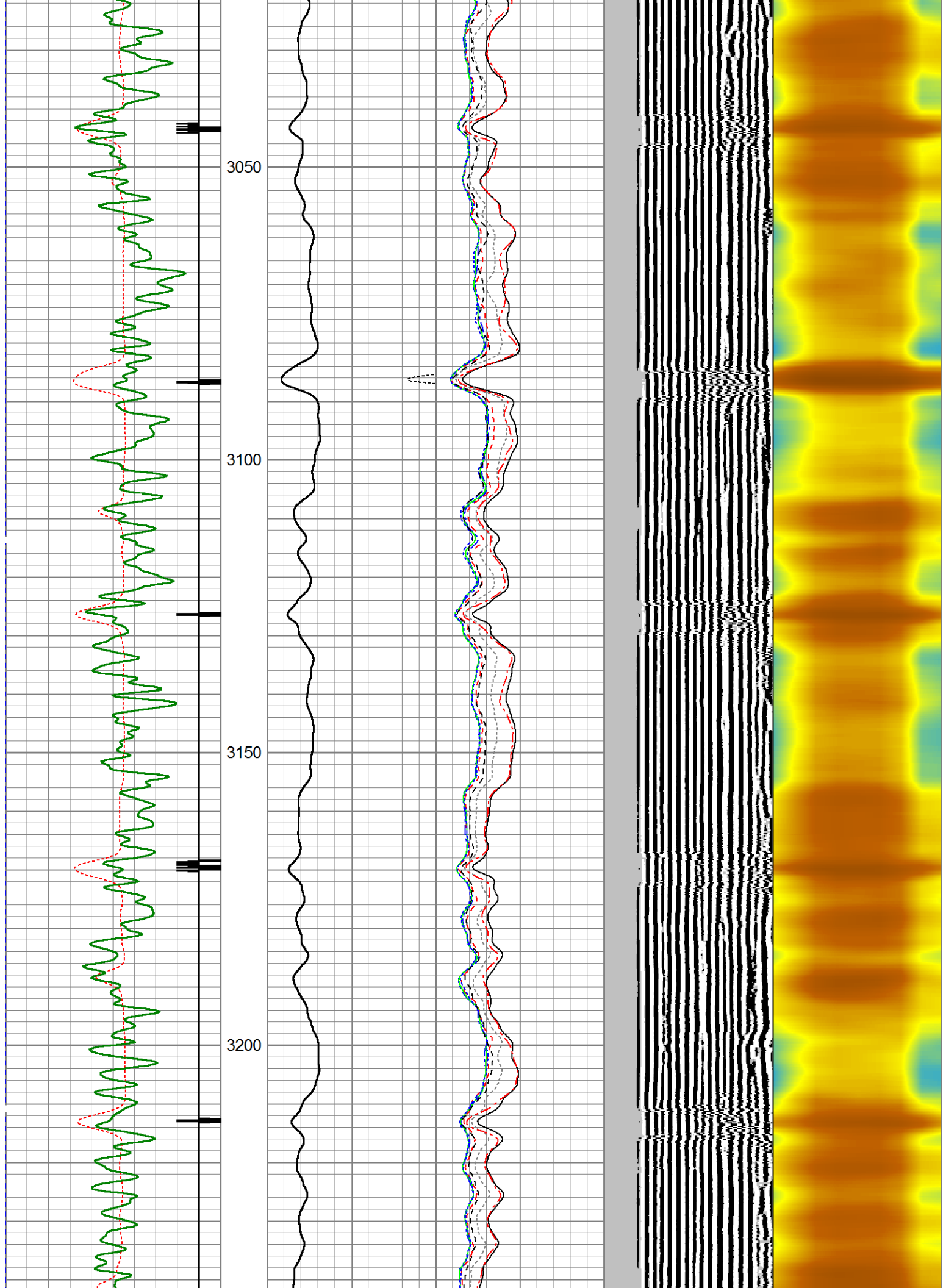


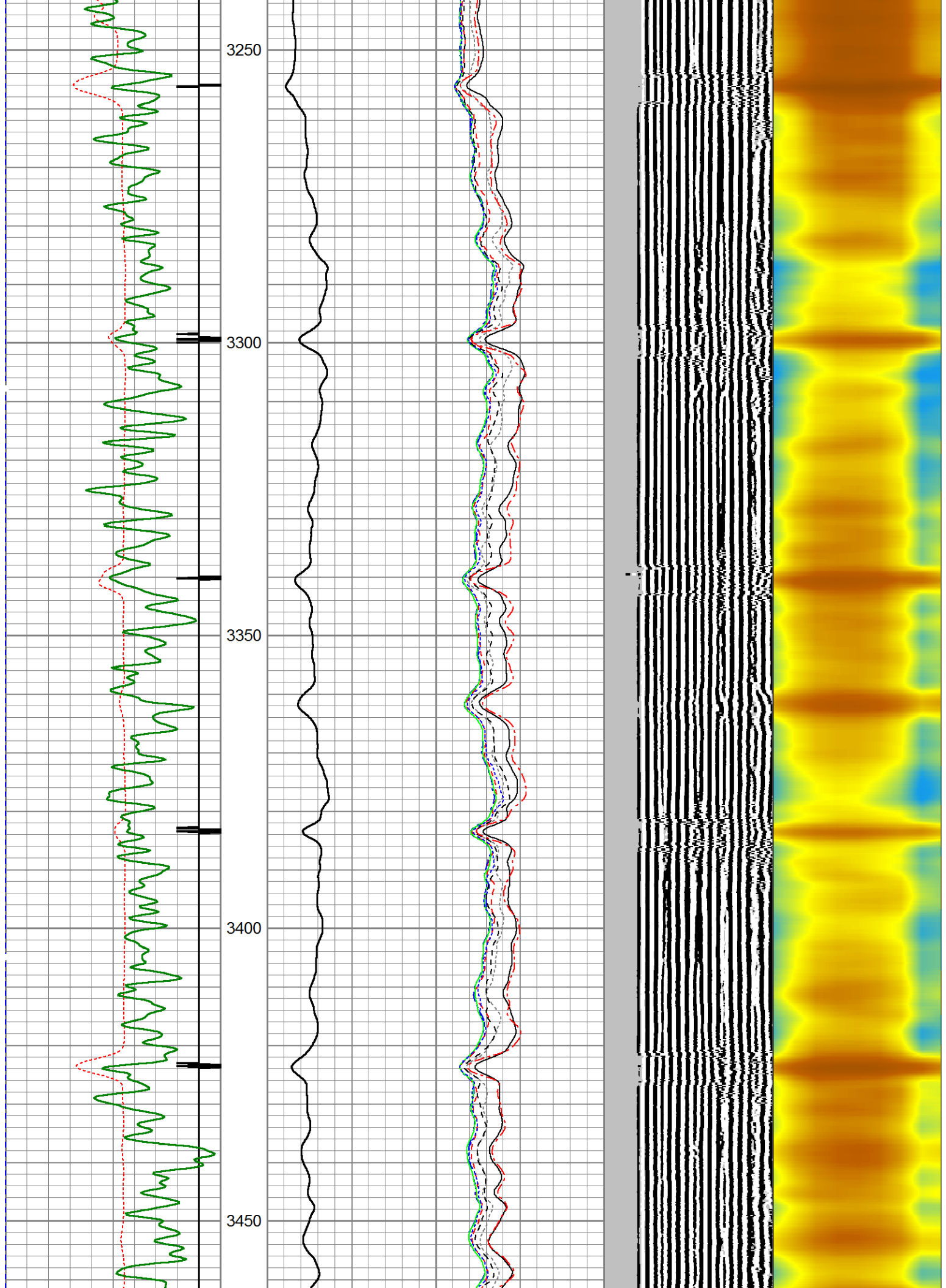




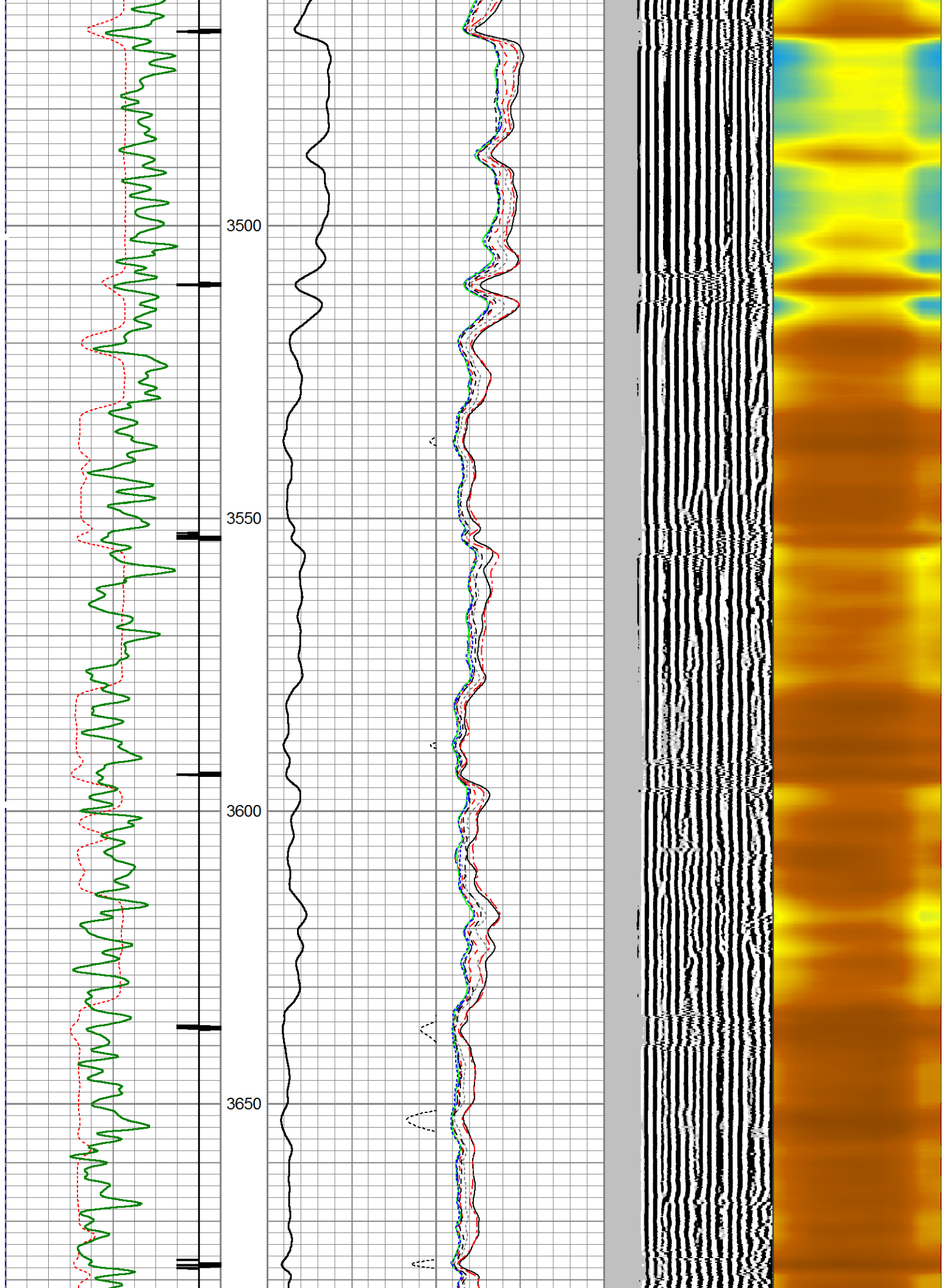


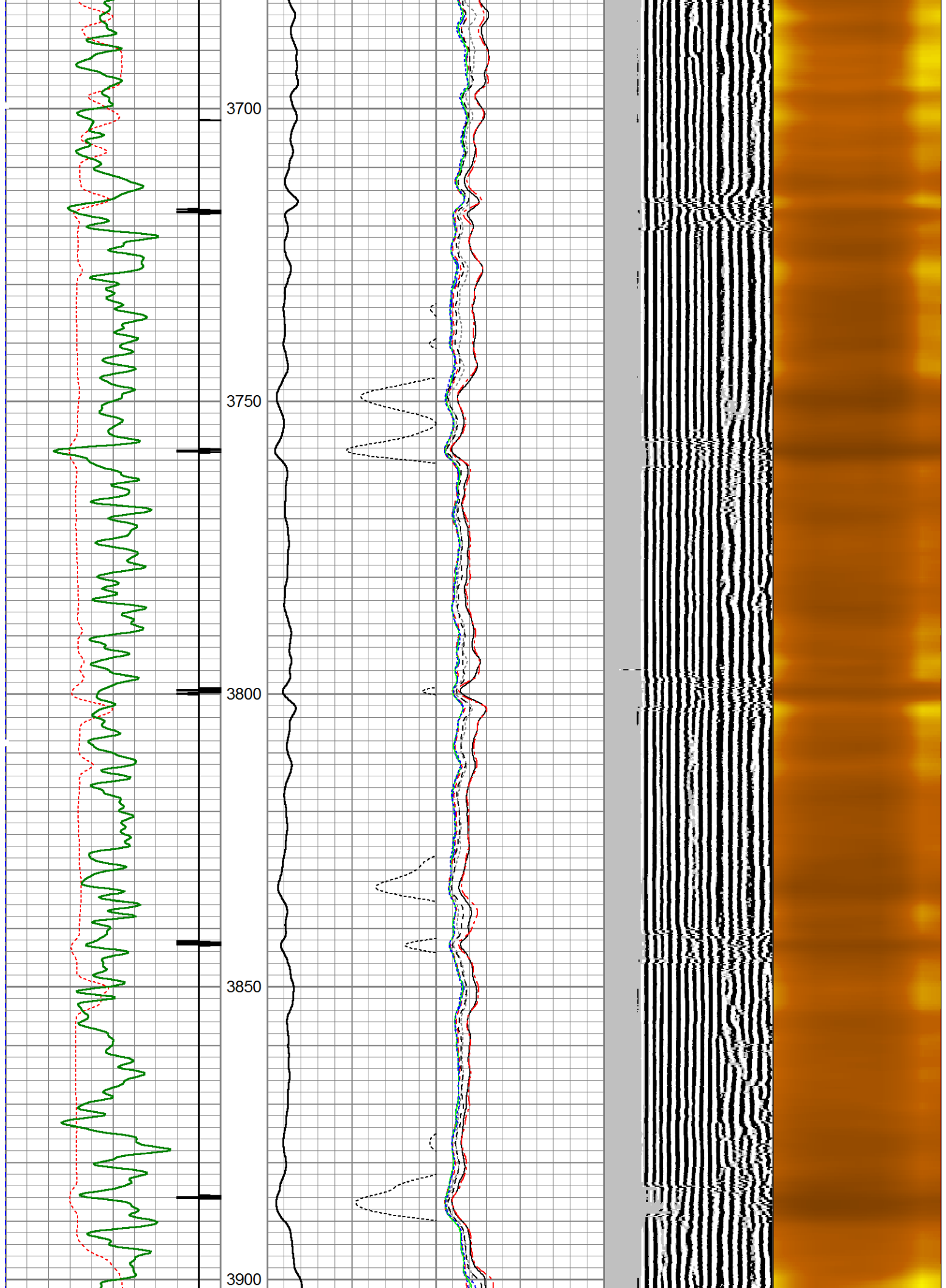


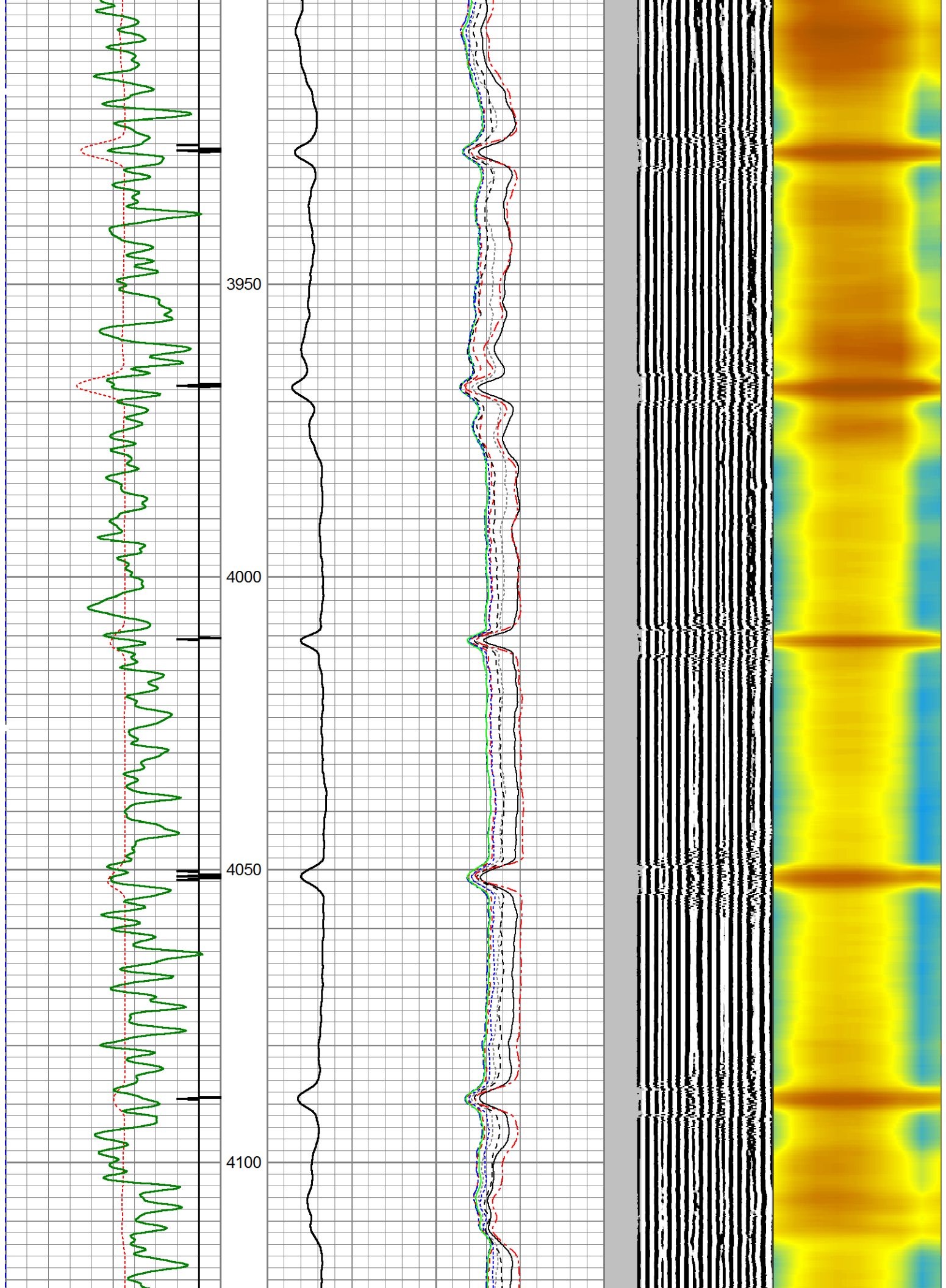




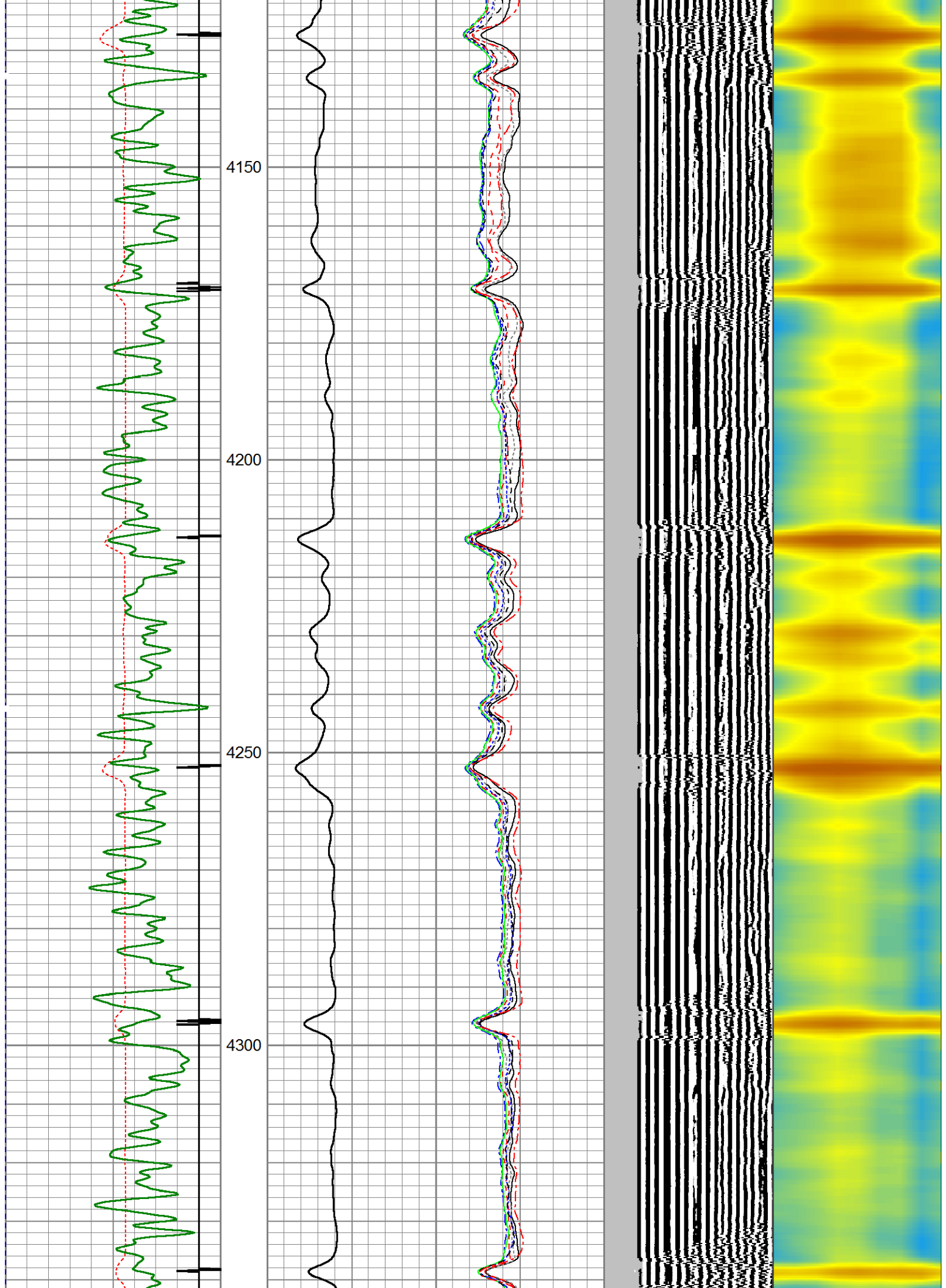


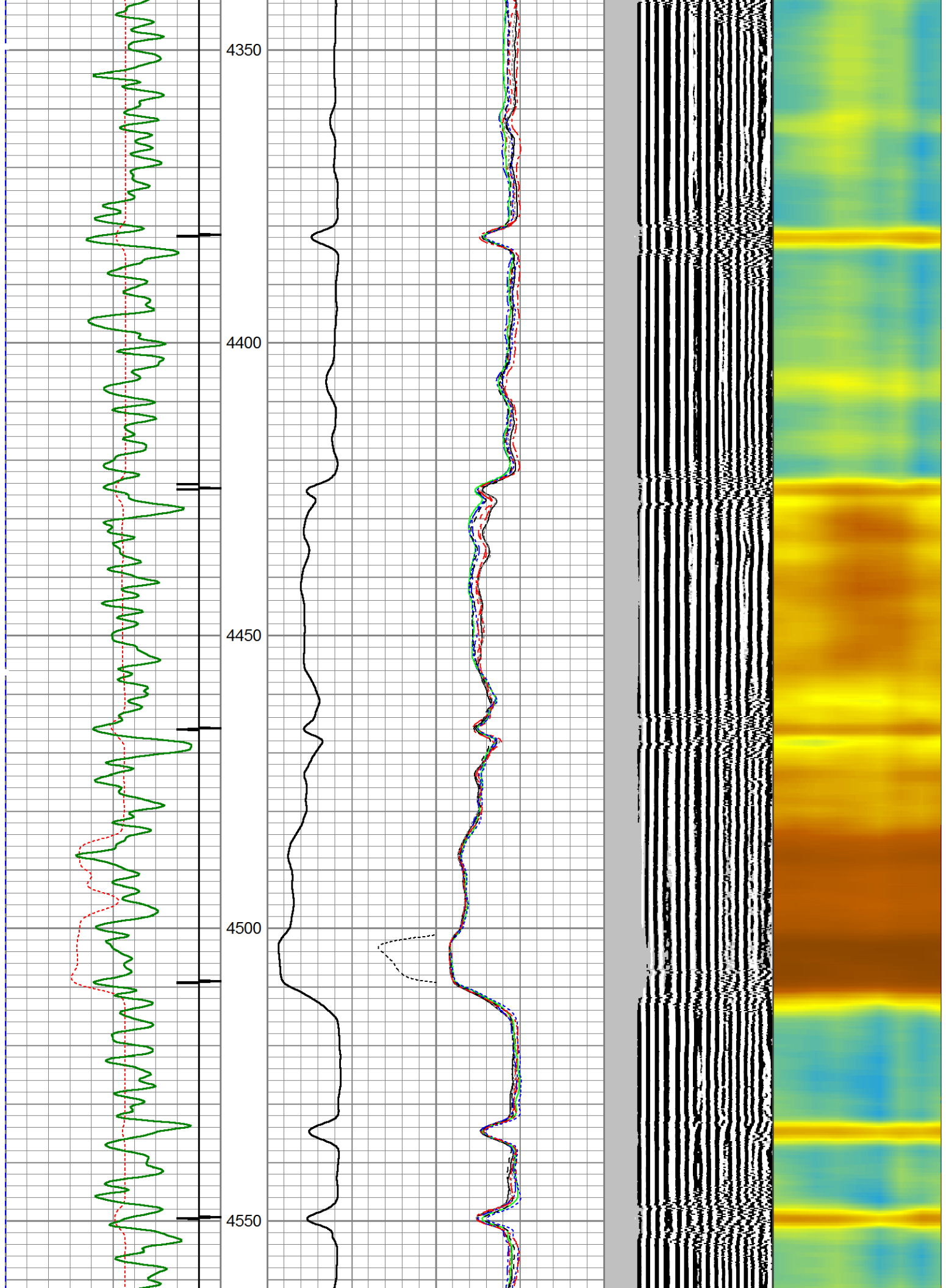


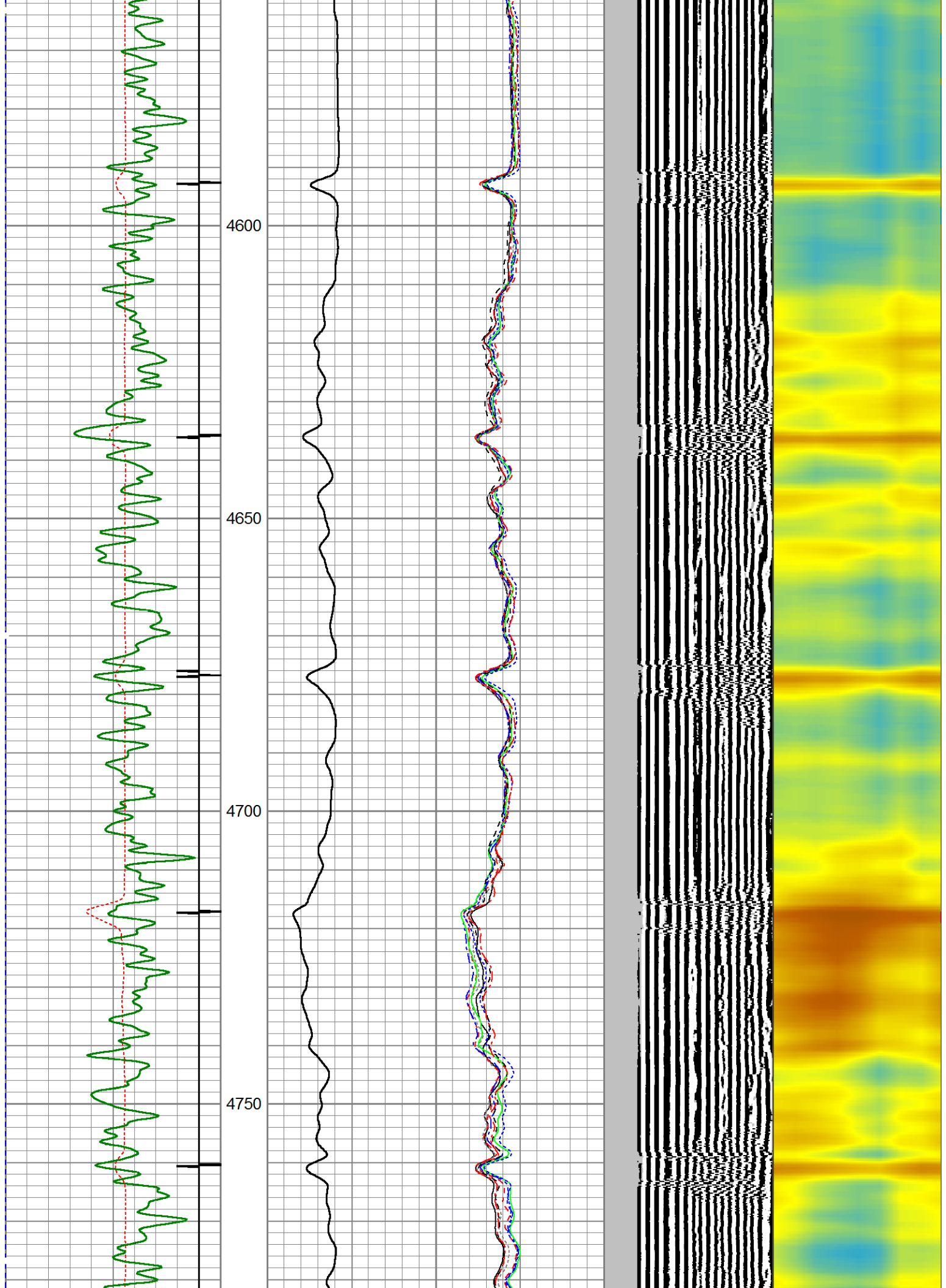


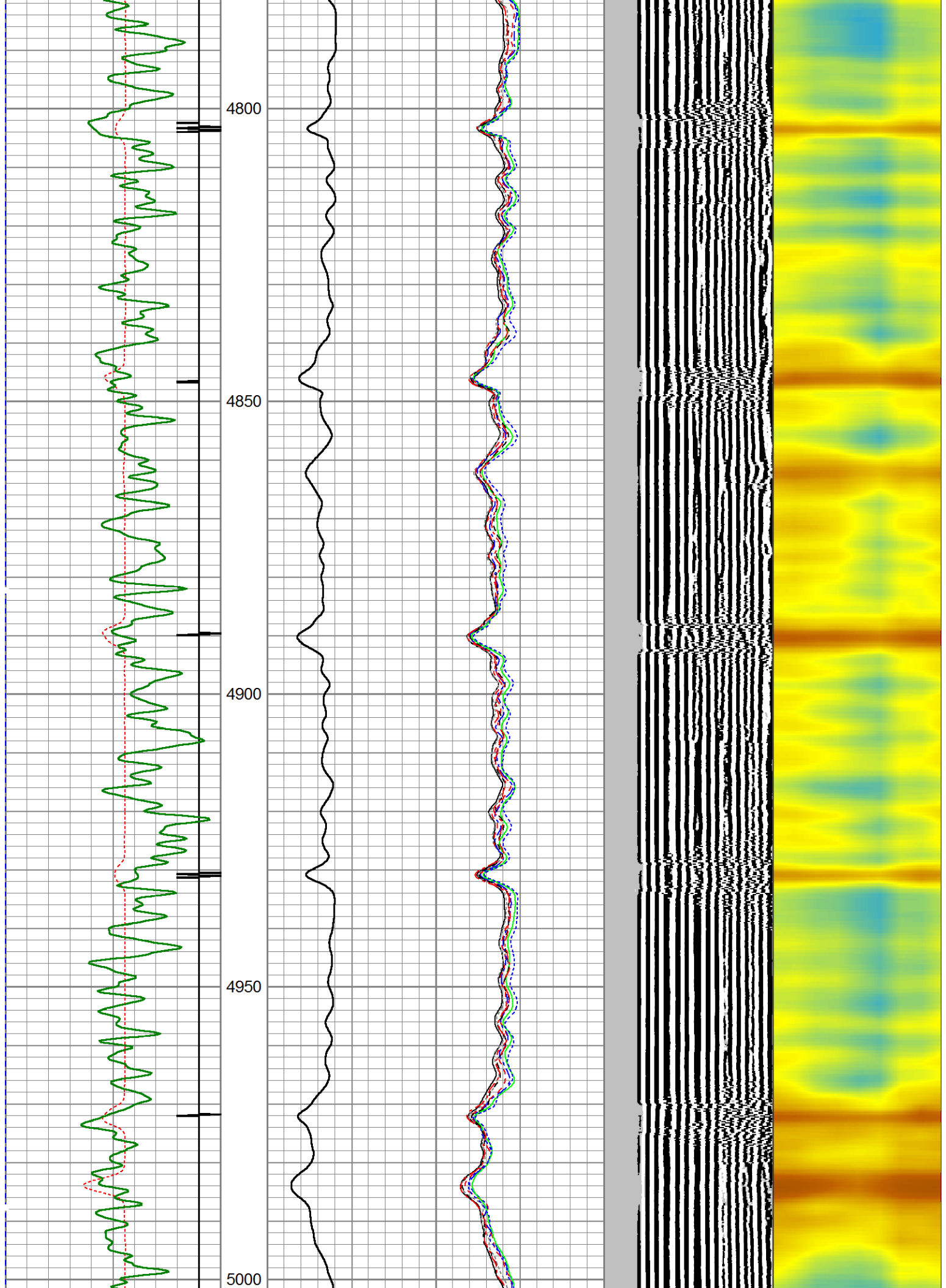


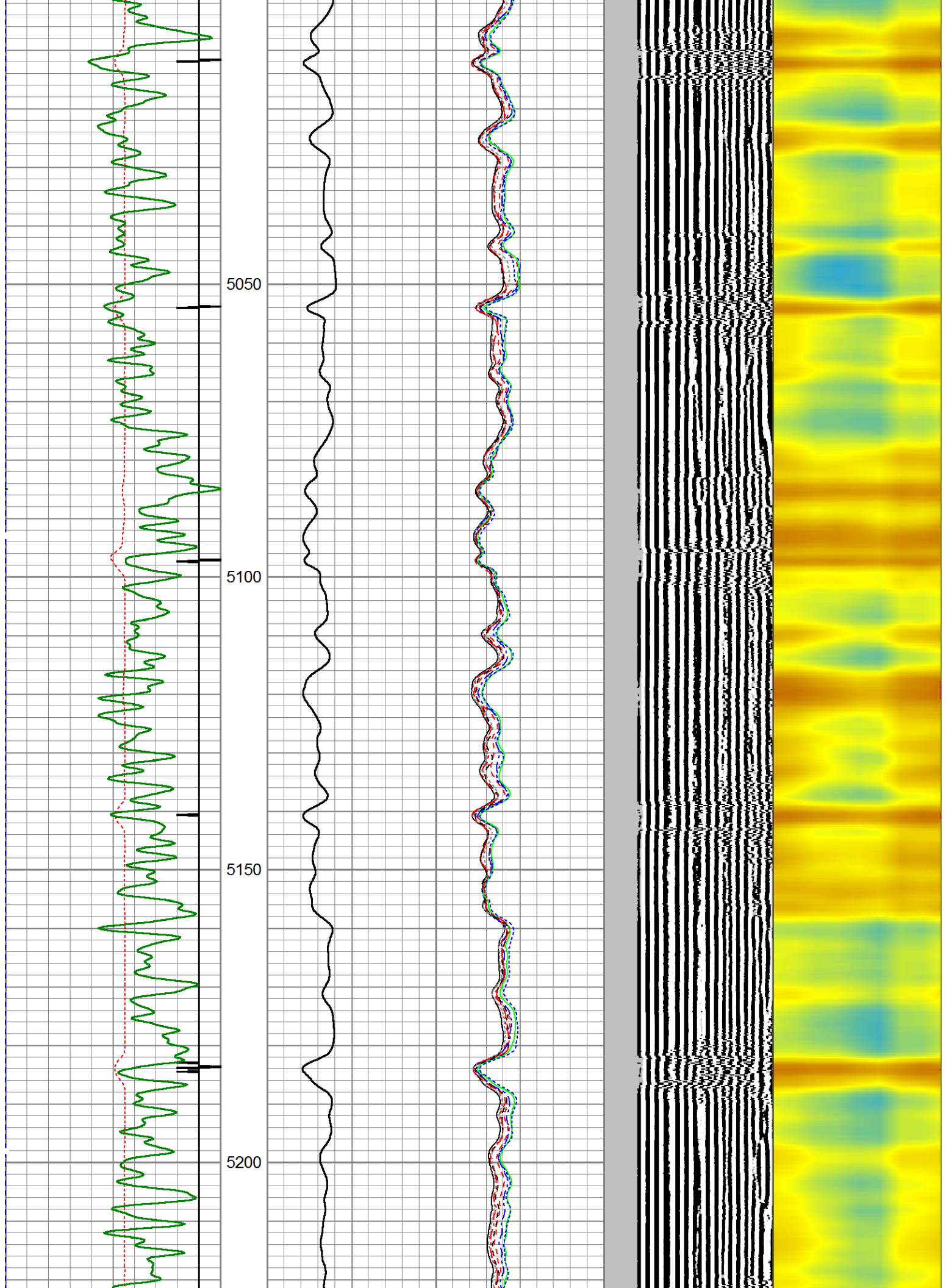




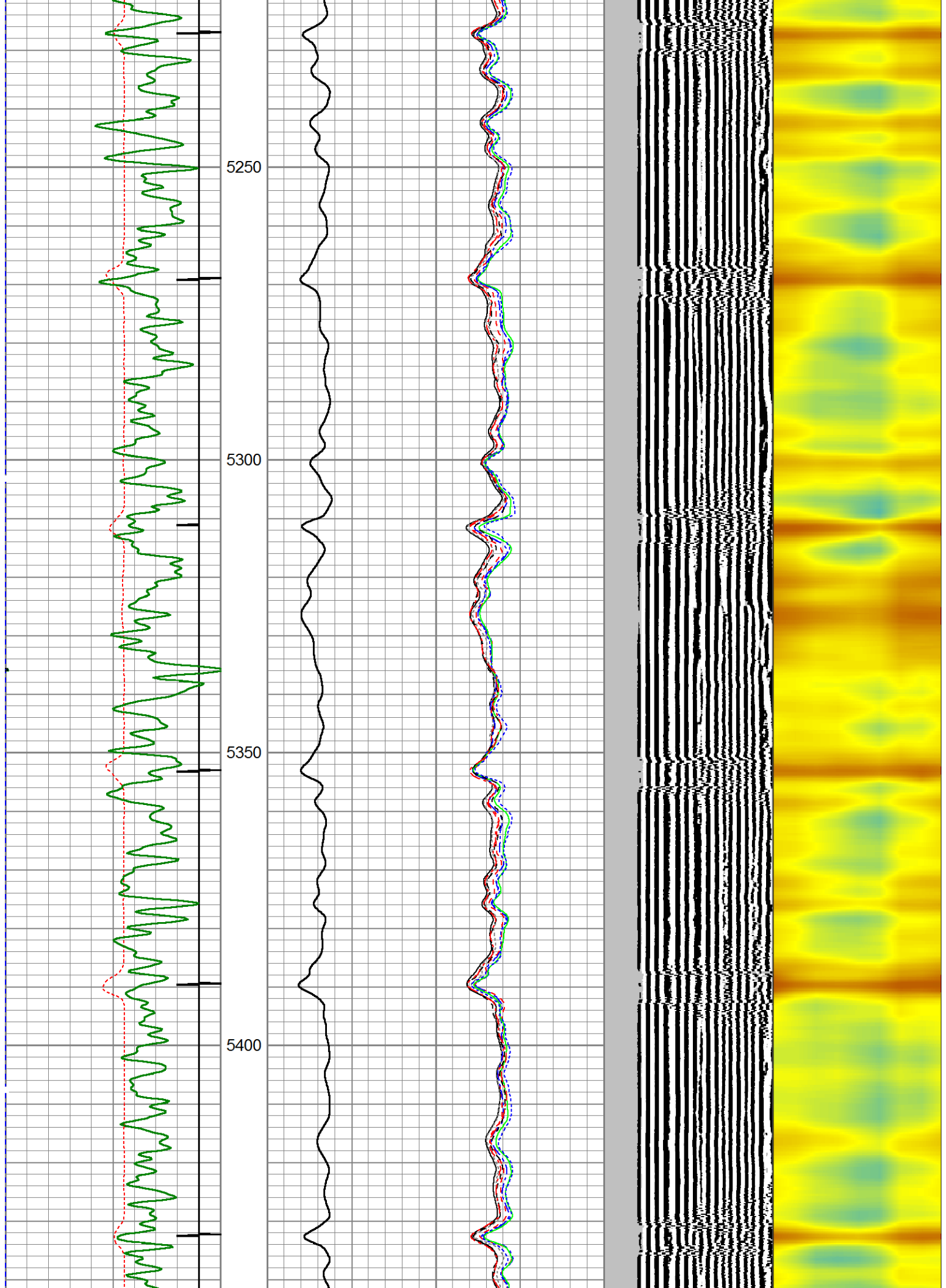


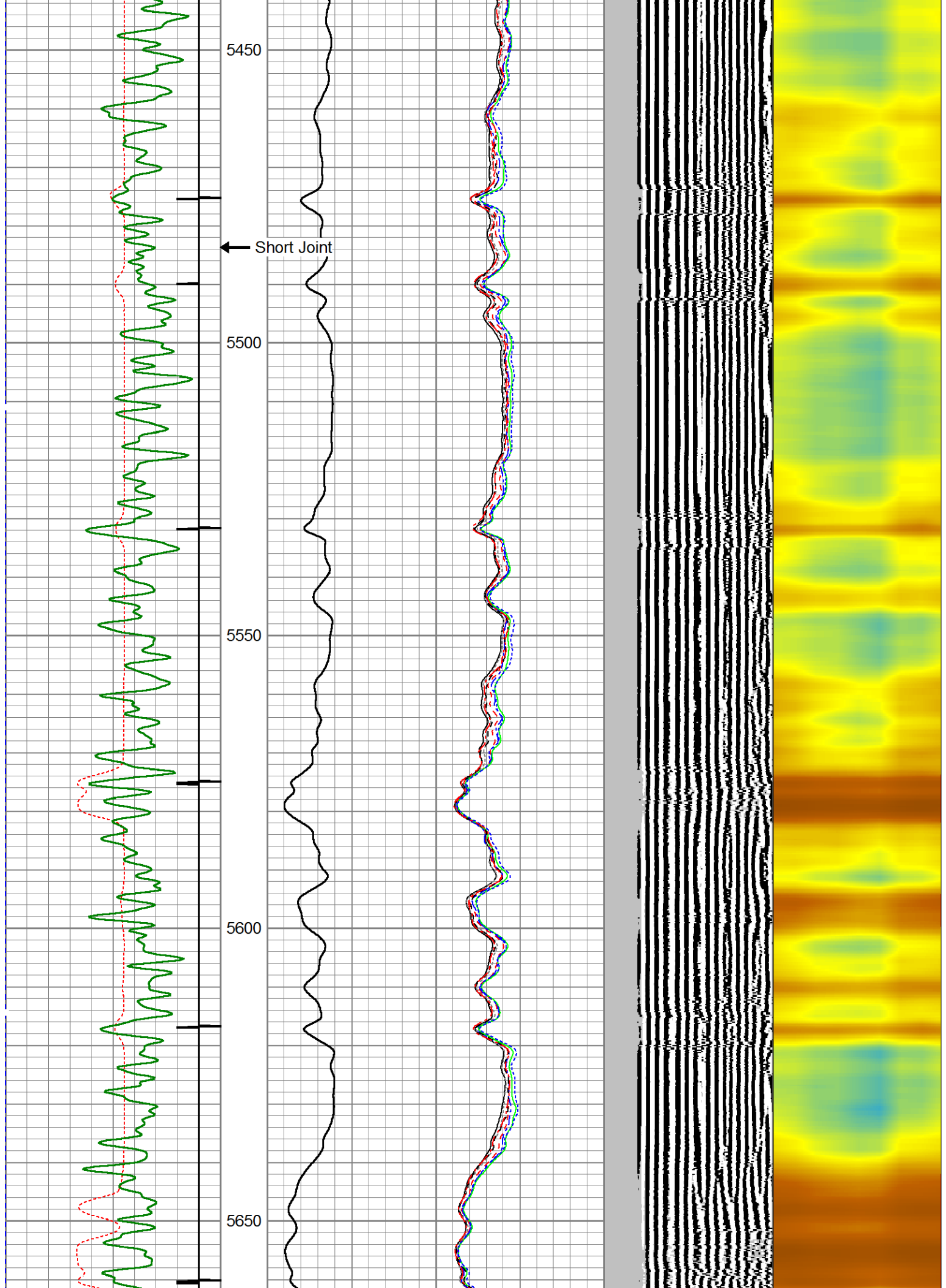


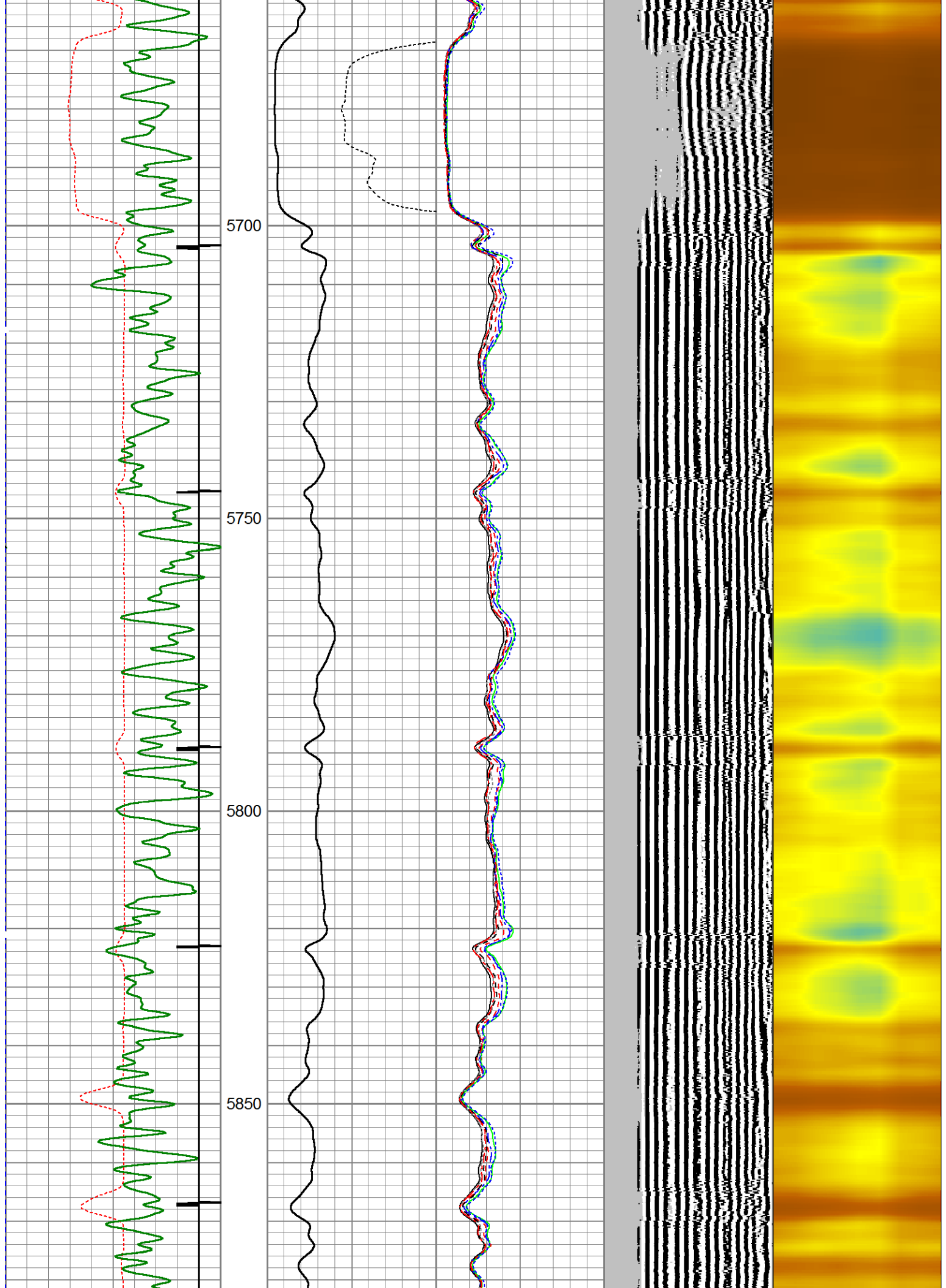




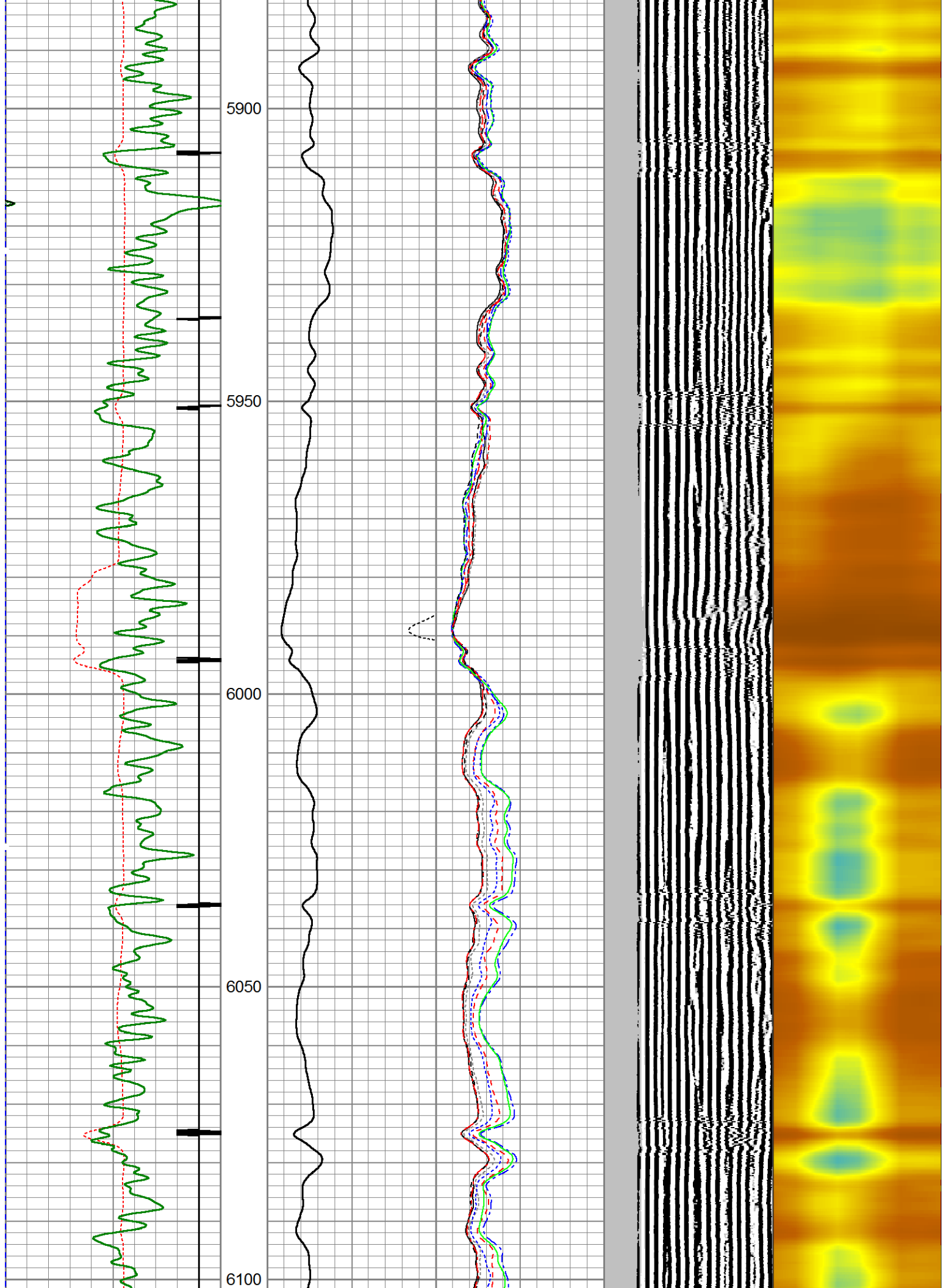


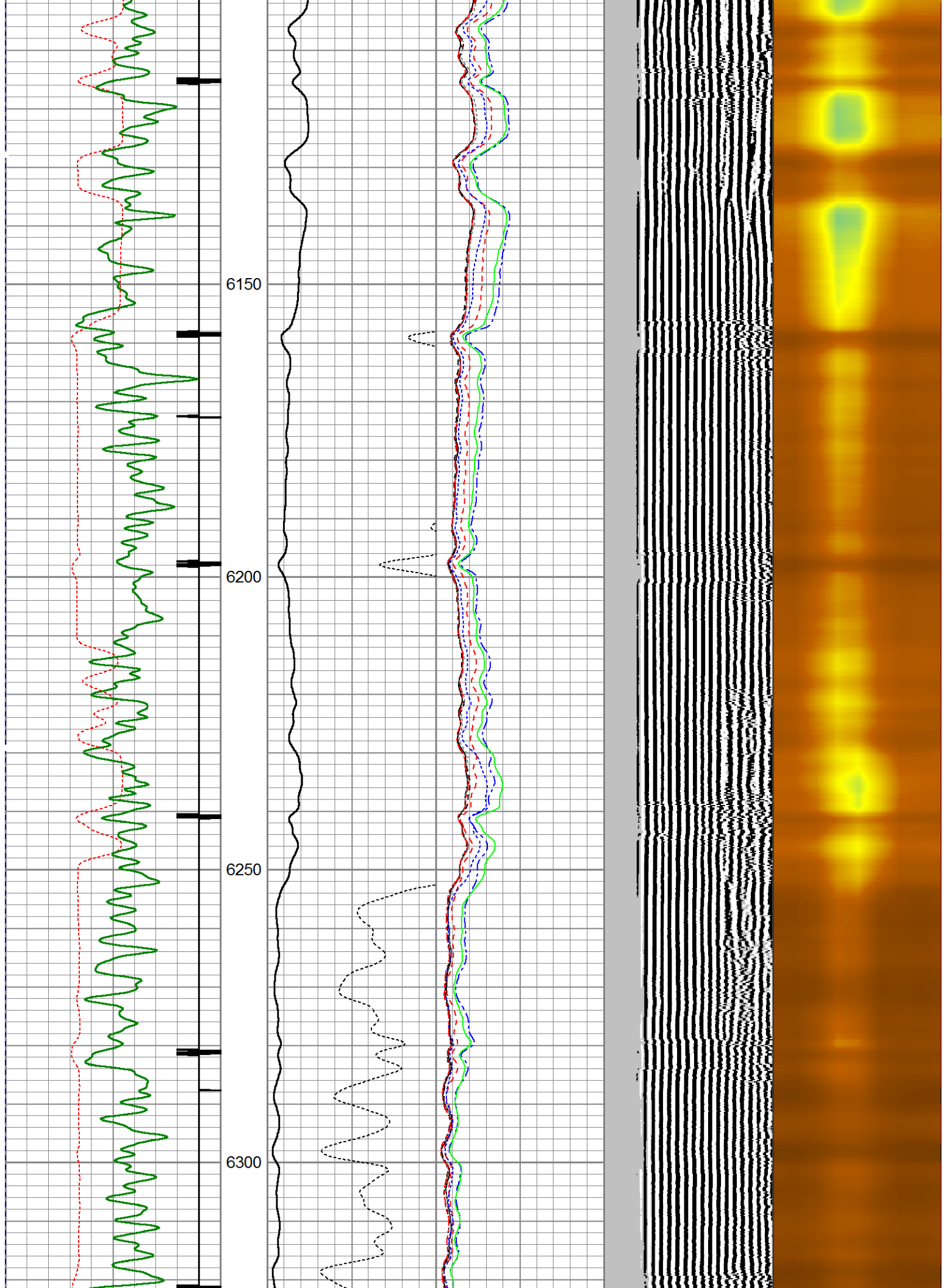


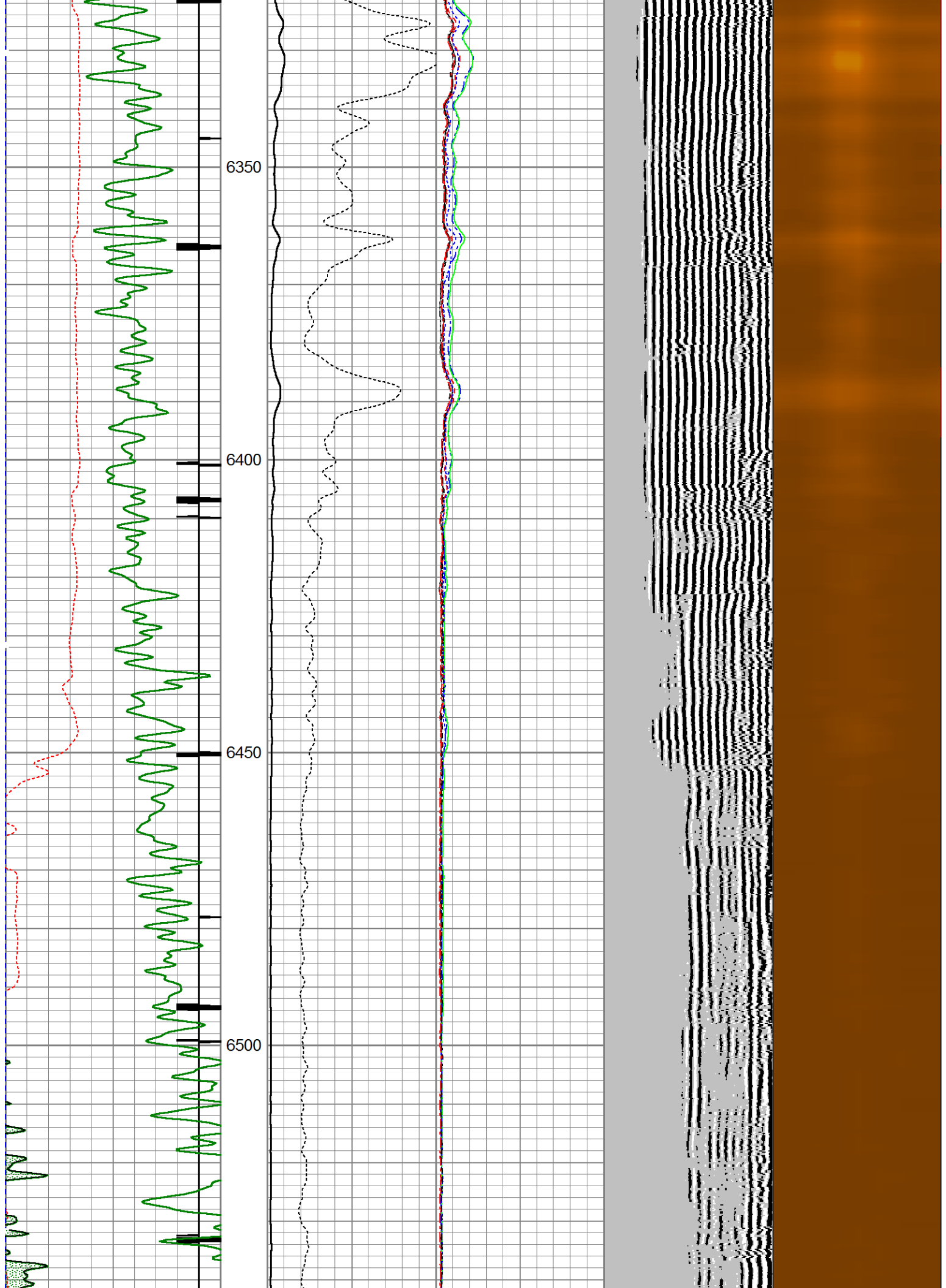


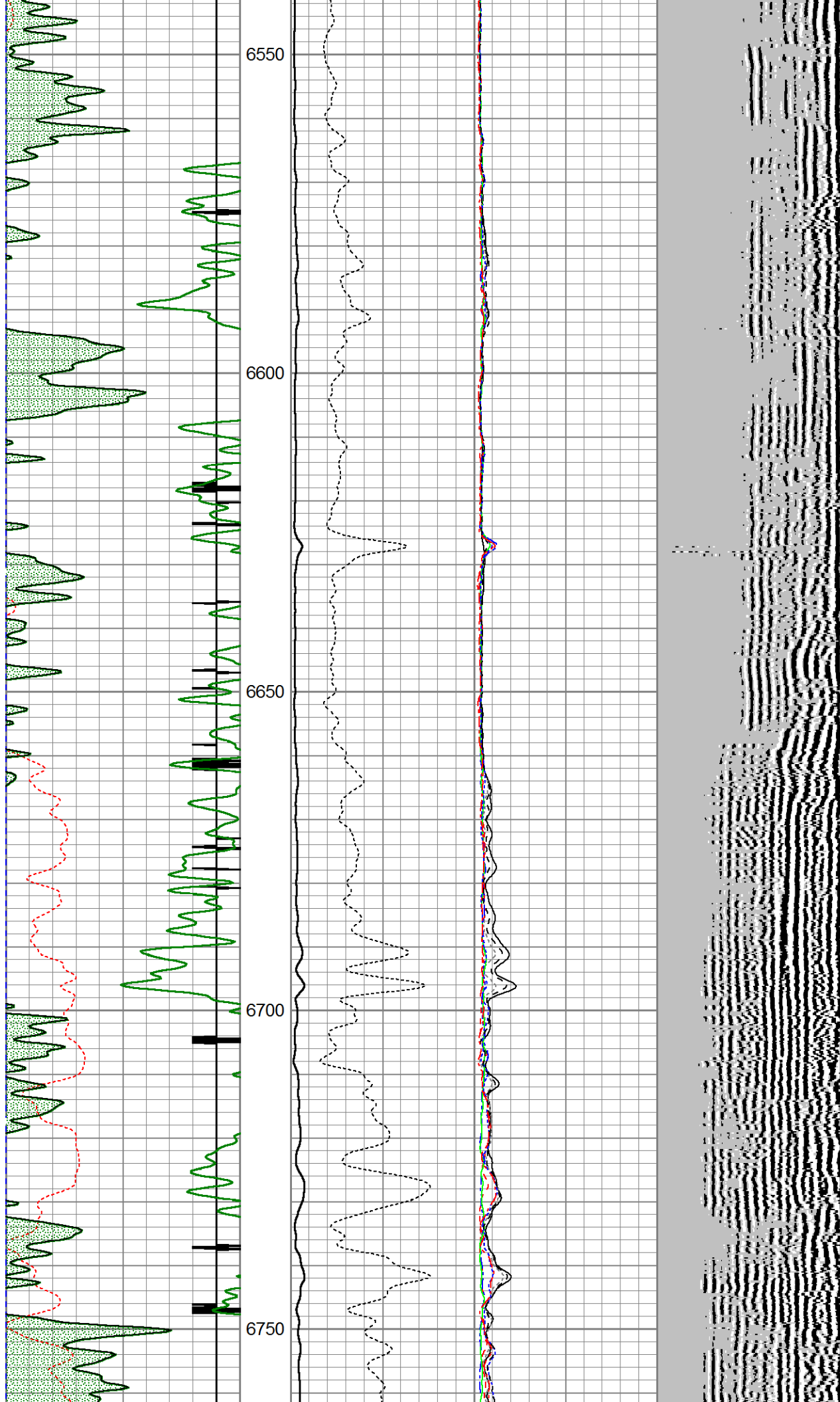


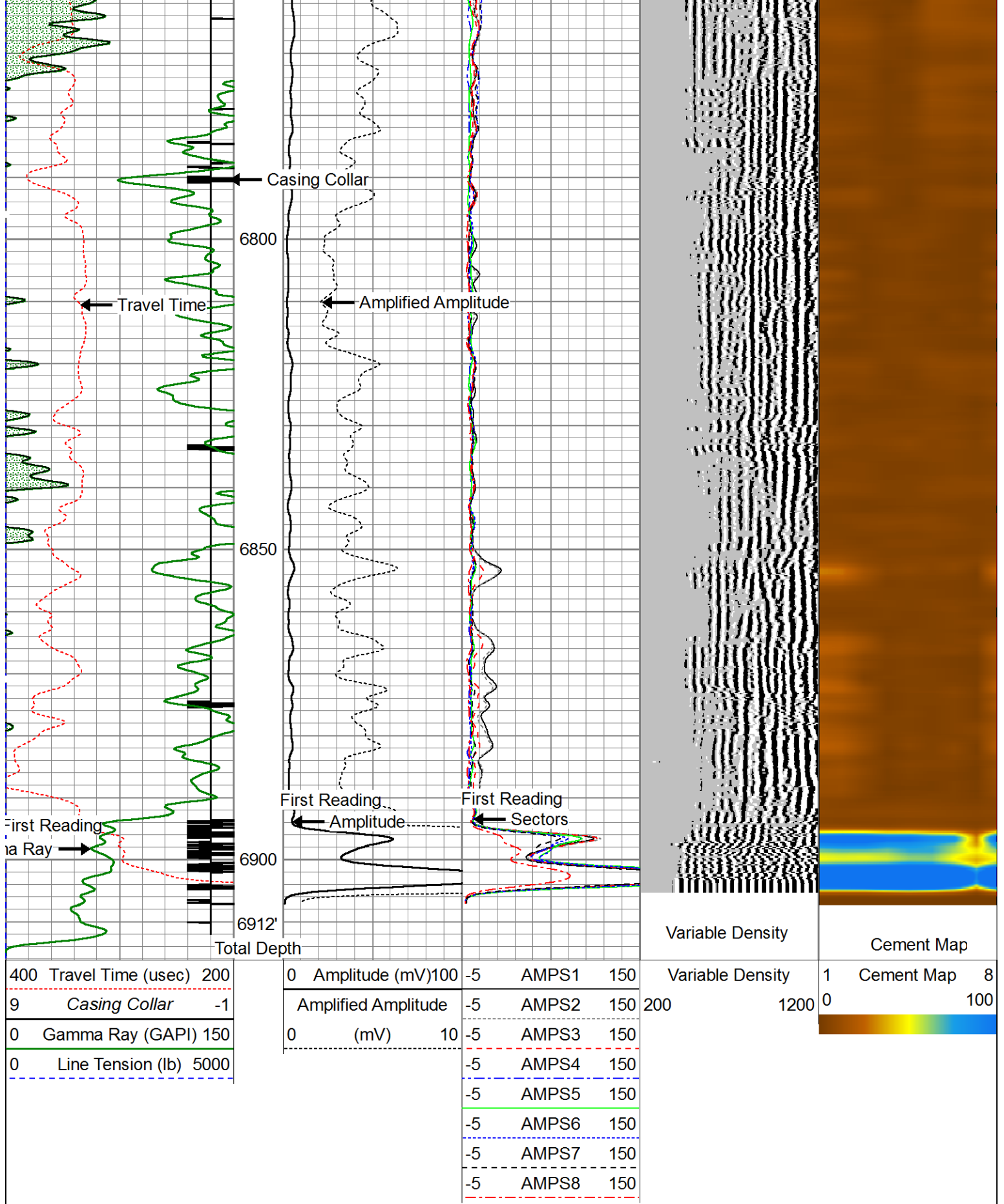












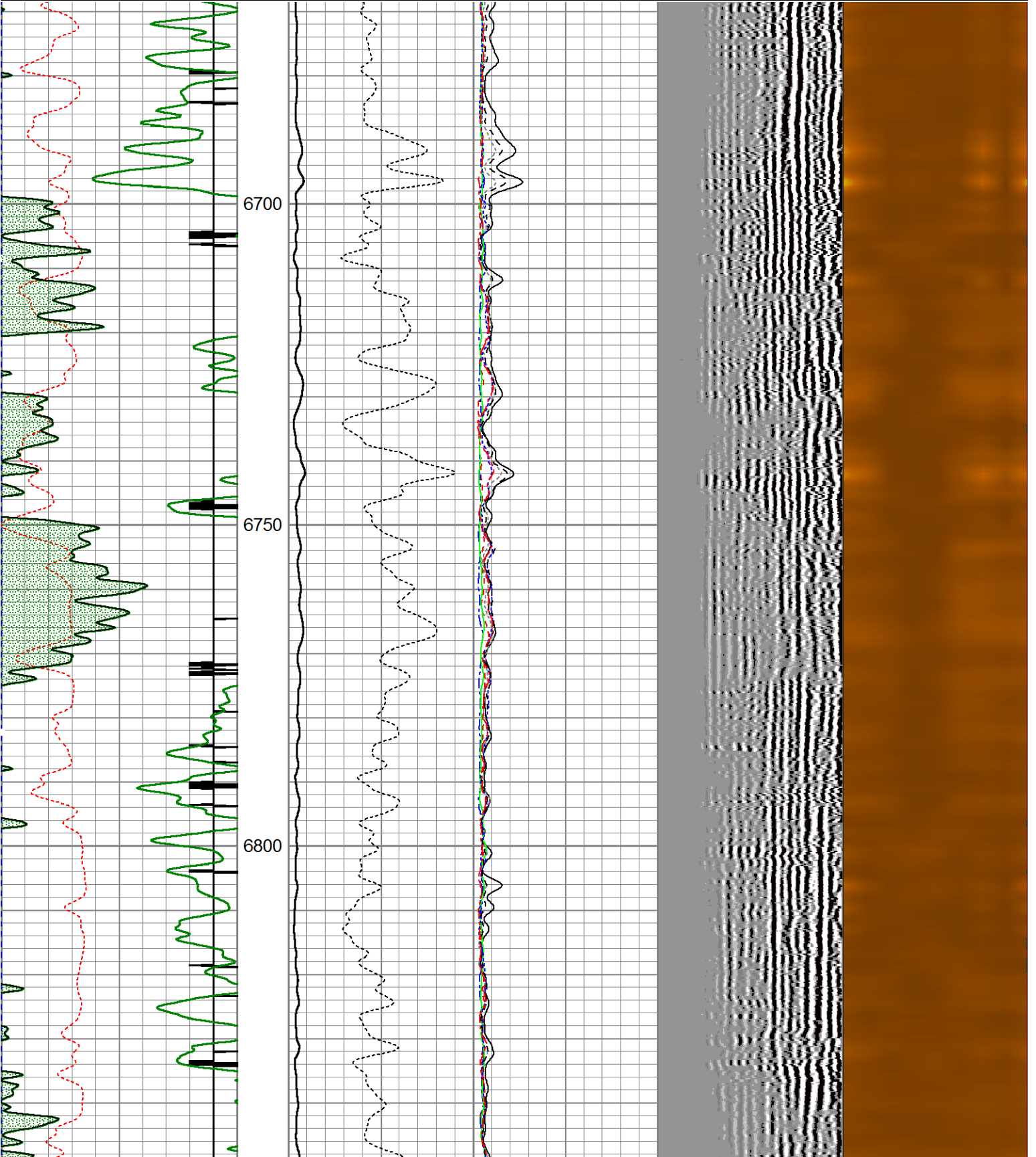
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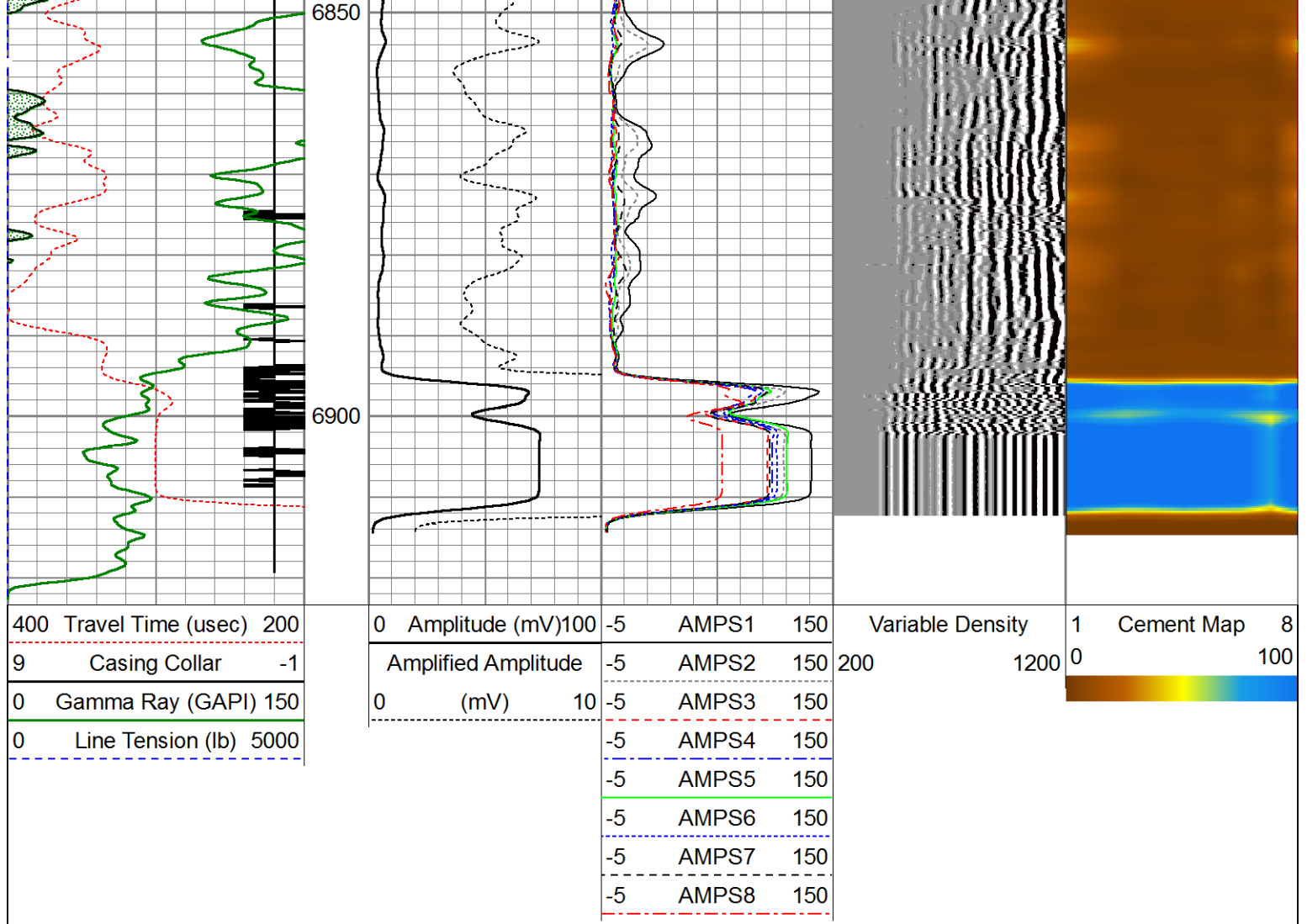


400	Travel Time (usec)	200
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	5000

0	Amplitude (mV)	100
	Amplified Amplitude	
0	(mV)	10
-5	AMPS1	150
-5	AMPS2	150
-5	AMPS3	150
-5	AMPS4	150
-5	AMPS5	150
-5	AMPS6	150
-5	AMPS7	150
-5	AMPS8	150

Variable Density	1	Cement Map	8
200	1200	0	100





#### Calibration Report

Database File: K:\Noble\noble nclp pc aa04-64-1hn.db  
 Dataset Pathname: pass3  
 Dataset Creation: Thu Jan 09 14:33:30 2014 by Log 7.0 B1

#### Gamma Ray Calibration Report

Serial Number: 101135-Dig  
 Tool Model: Probe275  
 Performed: Wed Jan 08 13:15:34 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 0.8500 GAPI/cps

#### Segmented Cement Bond Log Calibration Report

Serial Number: 101130  
 Tool Model: Probe

Calibration Casing Diameter: 7.000 in  
 Calibration Depth: 305.525 ft

Master Calibration, performed Thu Jan 09 14:39:49 2014:

Raw (v)

Calibrated (mv)

Results

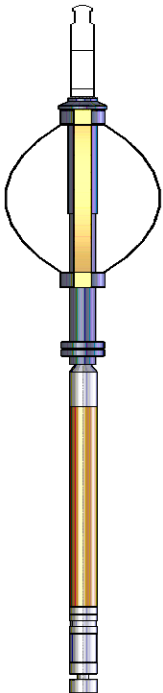
Zero	Cal	Zero	Cal	Gain	Offset
0.008	0.638	1.000	62.165	97.085	1.240
0.008	1.050				
0.008	0.742	1.000	62.165	83.273	0.342
0.008	0.596	0.000	100.000	148.040	-1.345
0.008	0.591	0.000	100.000	156.363	-1.328
0.008	0.610	0.000	100.000	167.079	-1.338
0.008	0.650	0.000	100.000	163.783	-1.230
0.008	0.692	0.000	100.000	162.236	-1.160
0.008	0.720	0.000	100.000	161.433	-1.106
0.008	0.697	0.000	100.000	145.140	-1.164
0.008	0.644	0.000	100.000	155.275	-1.244

Internal Reference Calibration, performed Mon Oct 10 09:42:03 2005.

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.008	1.050	1.000	0.000

Air Zero Calibration, performed Thu Jan 09 13:51:12 2014:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.010	0.000	-0.002
5'	0.012	0.000	-0.004
SUM			
S1	0.004	0.000	0.004
S2	0.010	0.000	-0.002
S3	0.010	0.000	-0.002
S4	0.010	0.000	-0.002
S5	0.010	0.000	-0.002
S6	0.011	0.000	-0.003
S7	0.011	0.000	-0.003
S8	0.011	0.000	-0.003

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			Titan Cable_head	1.00	1.44	10.00
			Probe275 2.75" Centralizer	2.88	2.75	20.00



