



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

Company		Noble Energy	
Well		Wells Ranch AA26-64-1HN	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-37565	
SEC 25 TWP 6N RGE 63W		TEMP	
Permanent Datum		Ground Level	
Log Measured From		24' Kelly Bushing	
Drilling Measured From		Kelly Bushing	
Elevation		4790'	
K.B. 4814'		D.F. 4813'	
G.L. 4790'			
Date		December 3, 2013	
Run Number		1	
Depth Driller		11438'	
Depth Logger		6634'	
Bottom Logged Interval		6622'	
Top Log Interval		Surface	
Open Hole Size		8.125	
Type Fluid		Fresh Water	
Density / Viscosity		8.33	
Max. Recorded Temp.		209 Deg F	
Estimated Cement Top		780'	
Time Well Ready		9:00	
Time Logger on Bottom		10:07	
Equipment Number		13033	
Location		Brighton	
Recorded By		C. Rail	
Witnessed By		Bill Mansfield	
Borehole Record		Tubing Record	
Run Number		Bit	
One		From	
Two		To	
Three		Size	
Four		Weight	
Casing Record		From	
Surface String		To	
Prot. String		Size	
Production String		Weight	
Liner		From	
Short Joint		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

Primary Log on Well. Well Logged using 24' KB.

Main Pass and Repeat Pass Logged with Zero Pressure on Surface.

Short Joint @ 5600' To 5614'

Estimated Top of Cement @ 780'

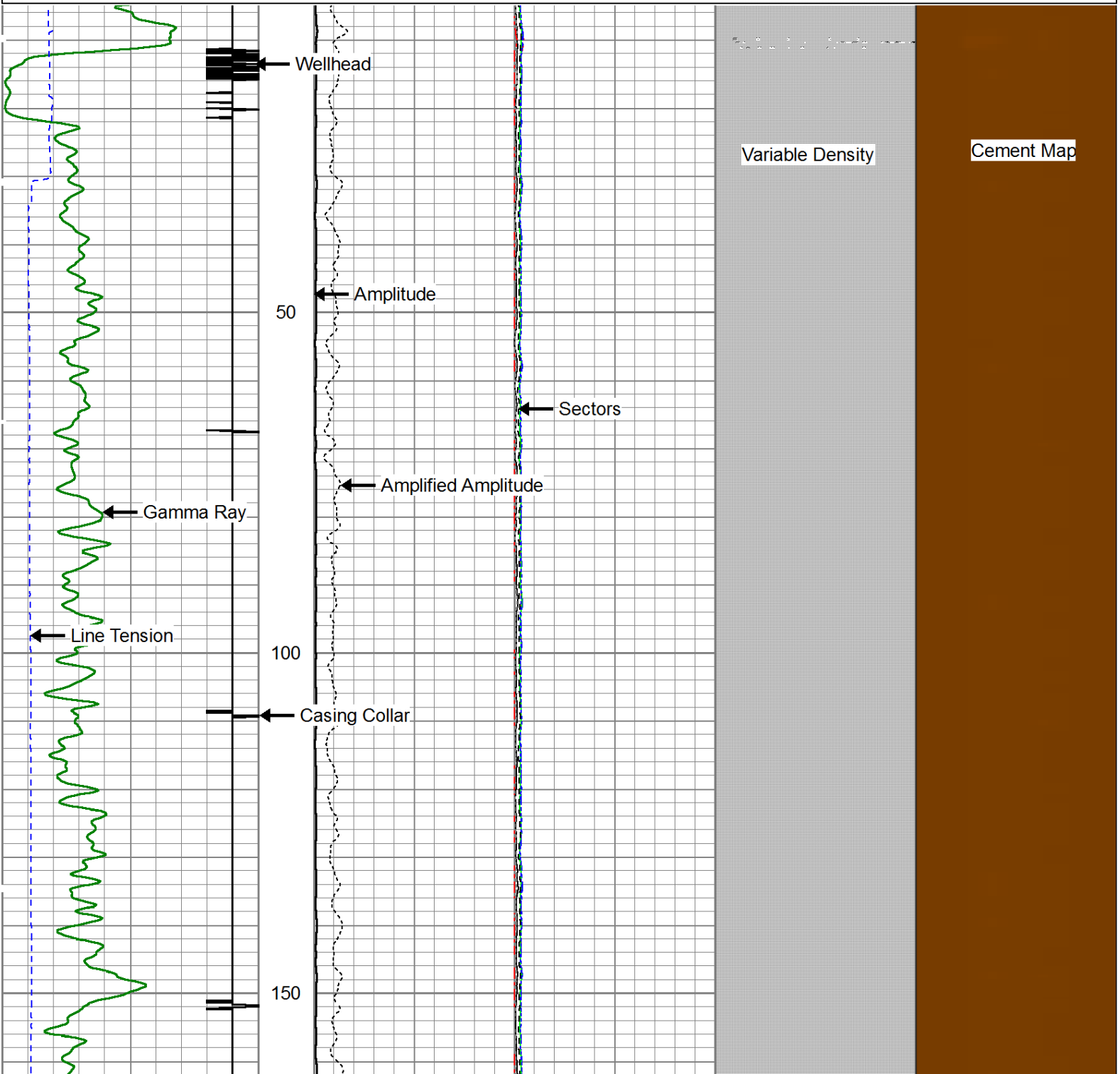
Thank you for using Allied Wireline.  
(303)659-4609

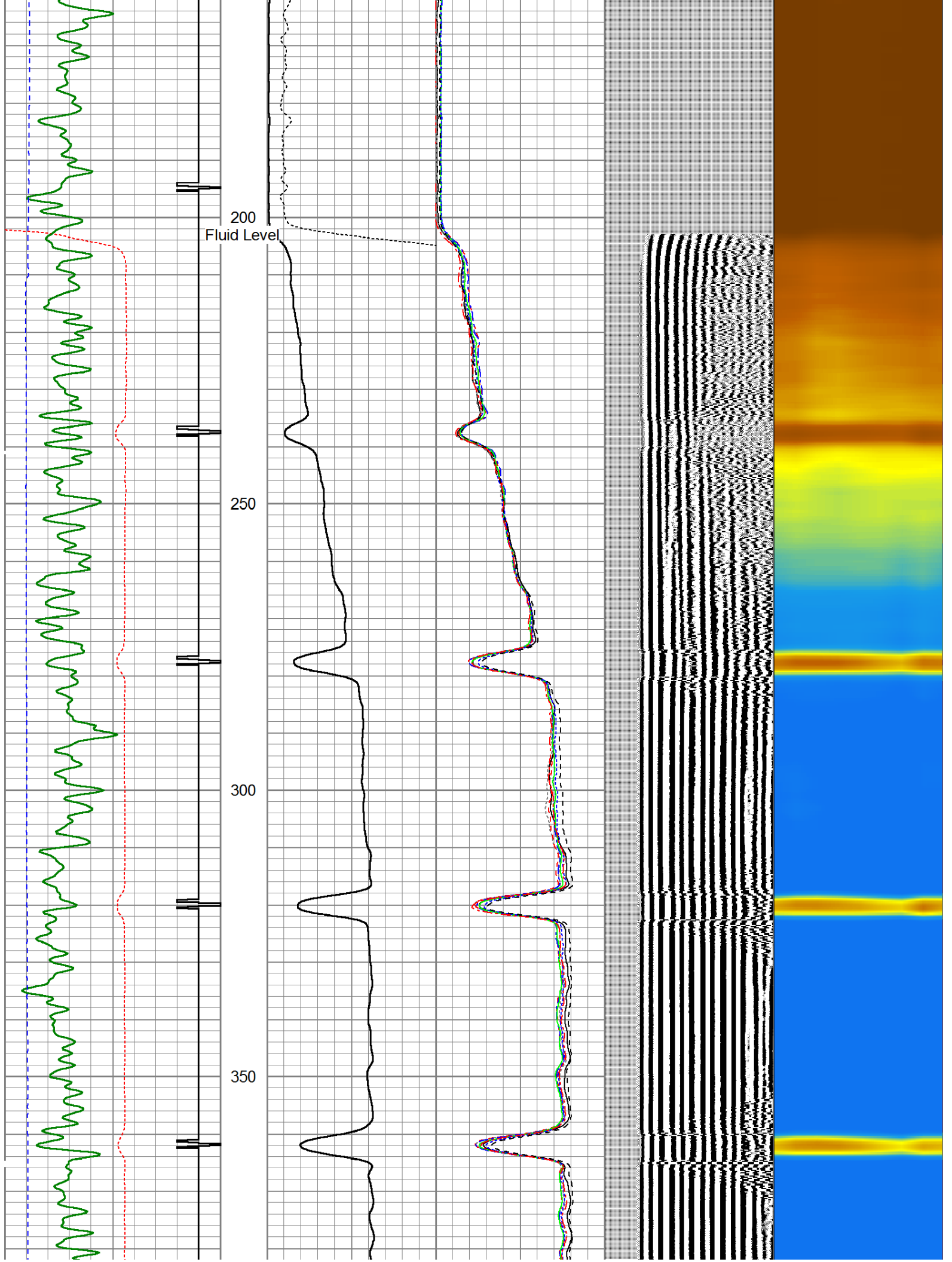


Main Pass ( 0 PSI )

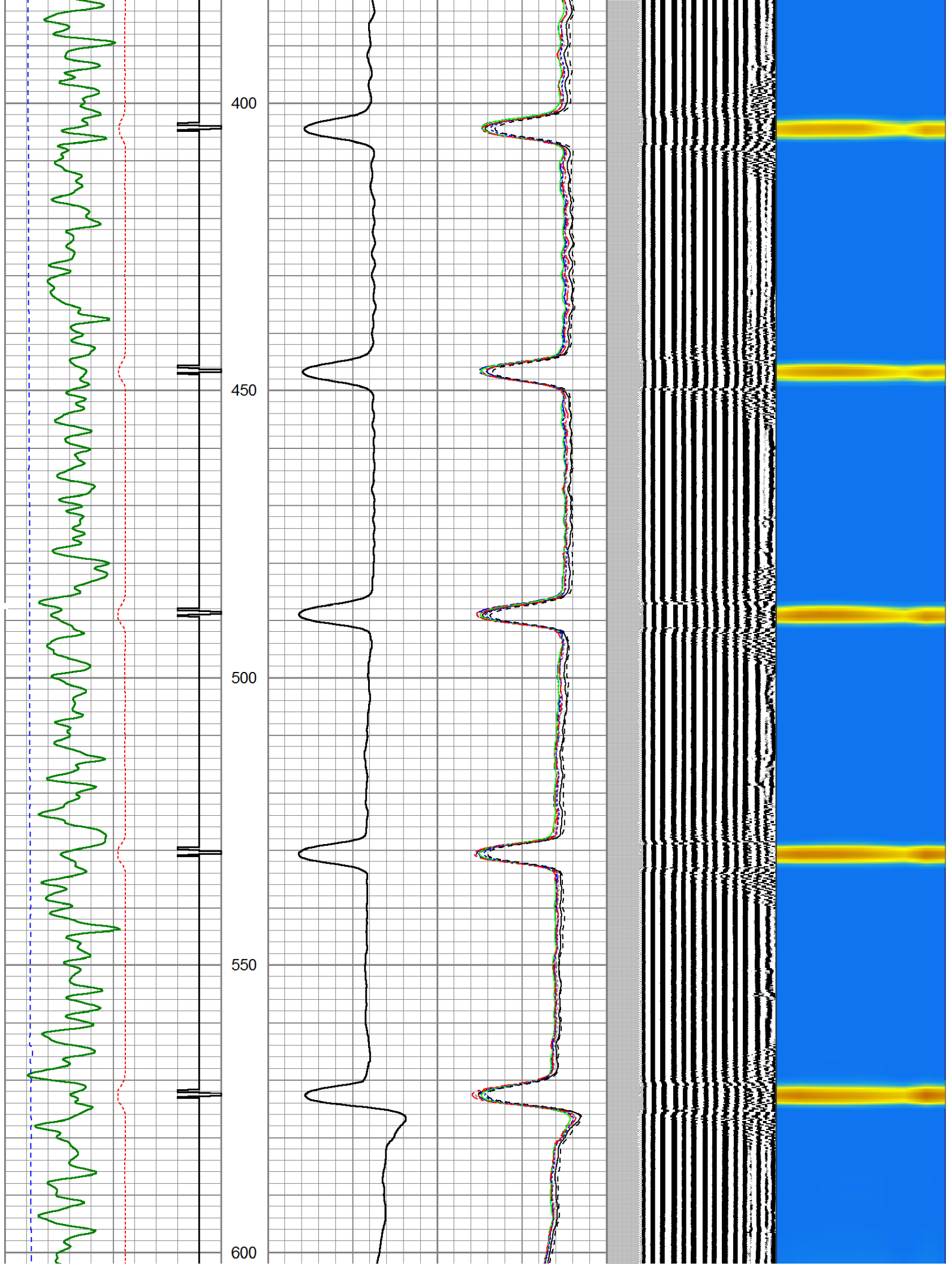
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Dataset Pathname: pass5  
Presentation Format: scbl03  
Dataset Creation: Tue Dec 03 15:01:09 2013 by Calc 0  
Charted by: Depth in Feet scaled 1:240

400	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	AMPS1	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1		Amplified Amplitude		-5	AMPS2	150	200	1200	0	100
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	AMPS3	150				
0	Line Tension (lb)	2000				-5	AMPS4	150				
						-5	AMPS5	150				
						-5	AMPS6	150				
						-5	AMPS7	150				
						-5	AMPS8	150				

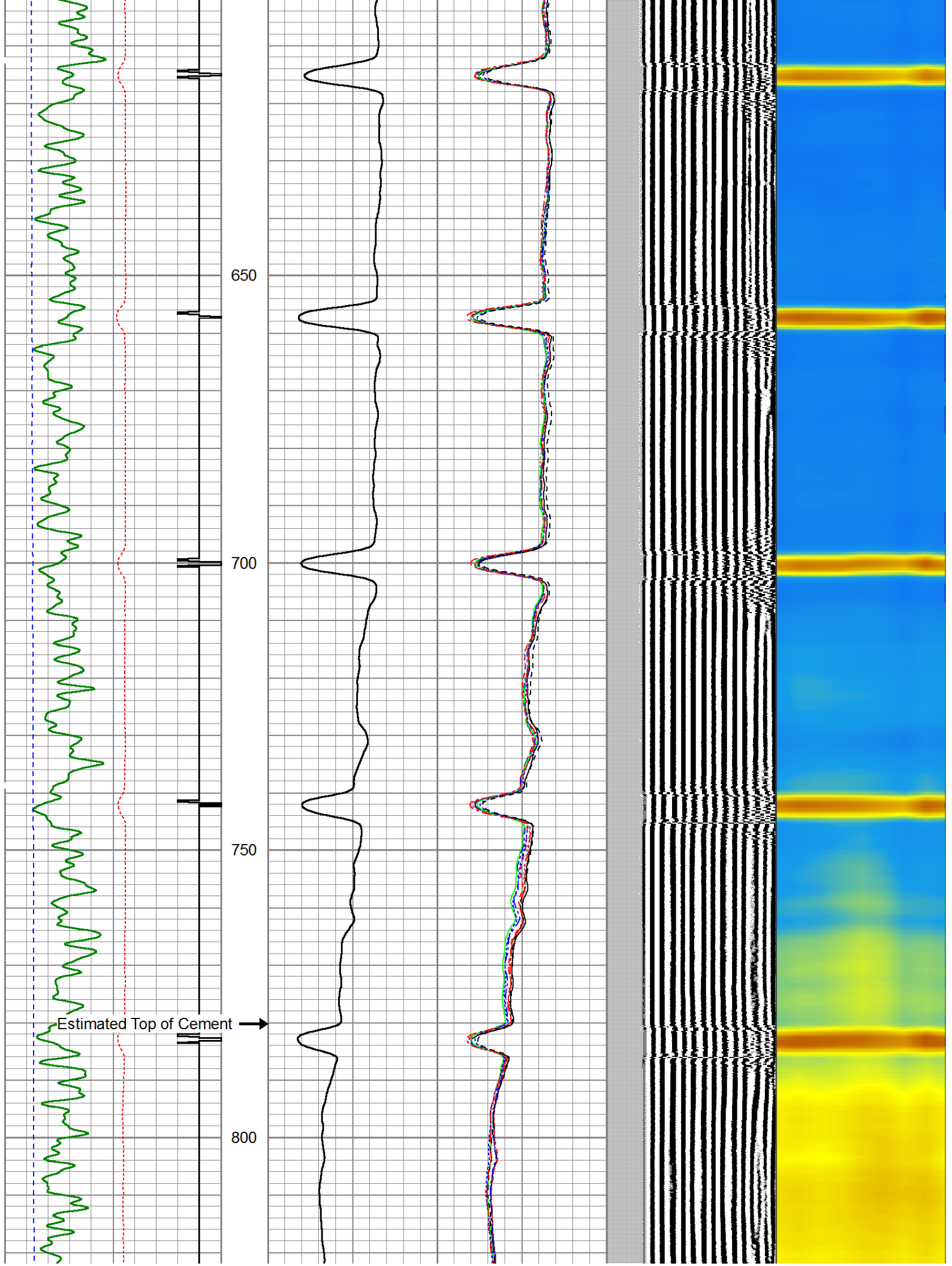


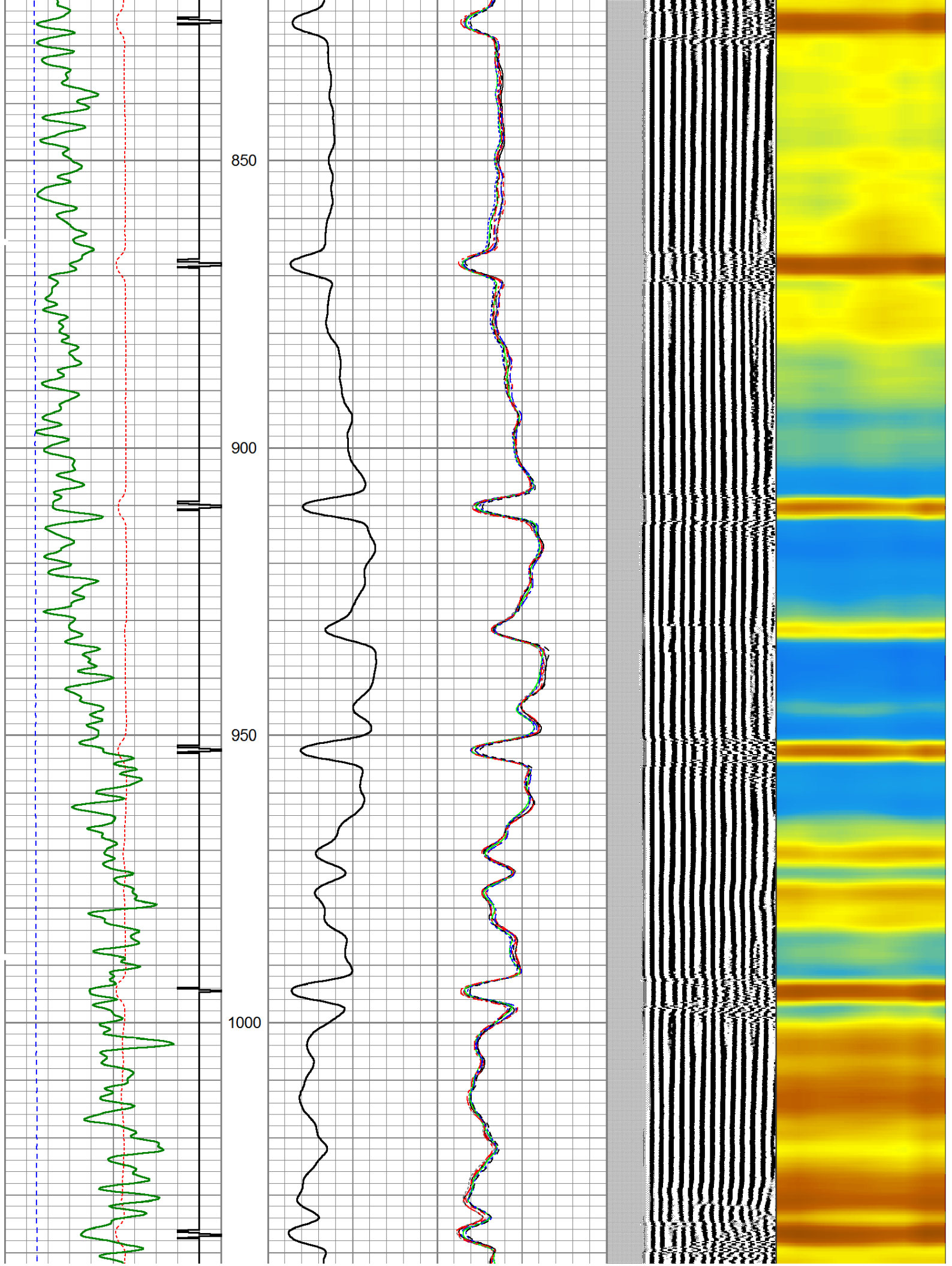


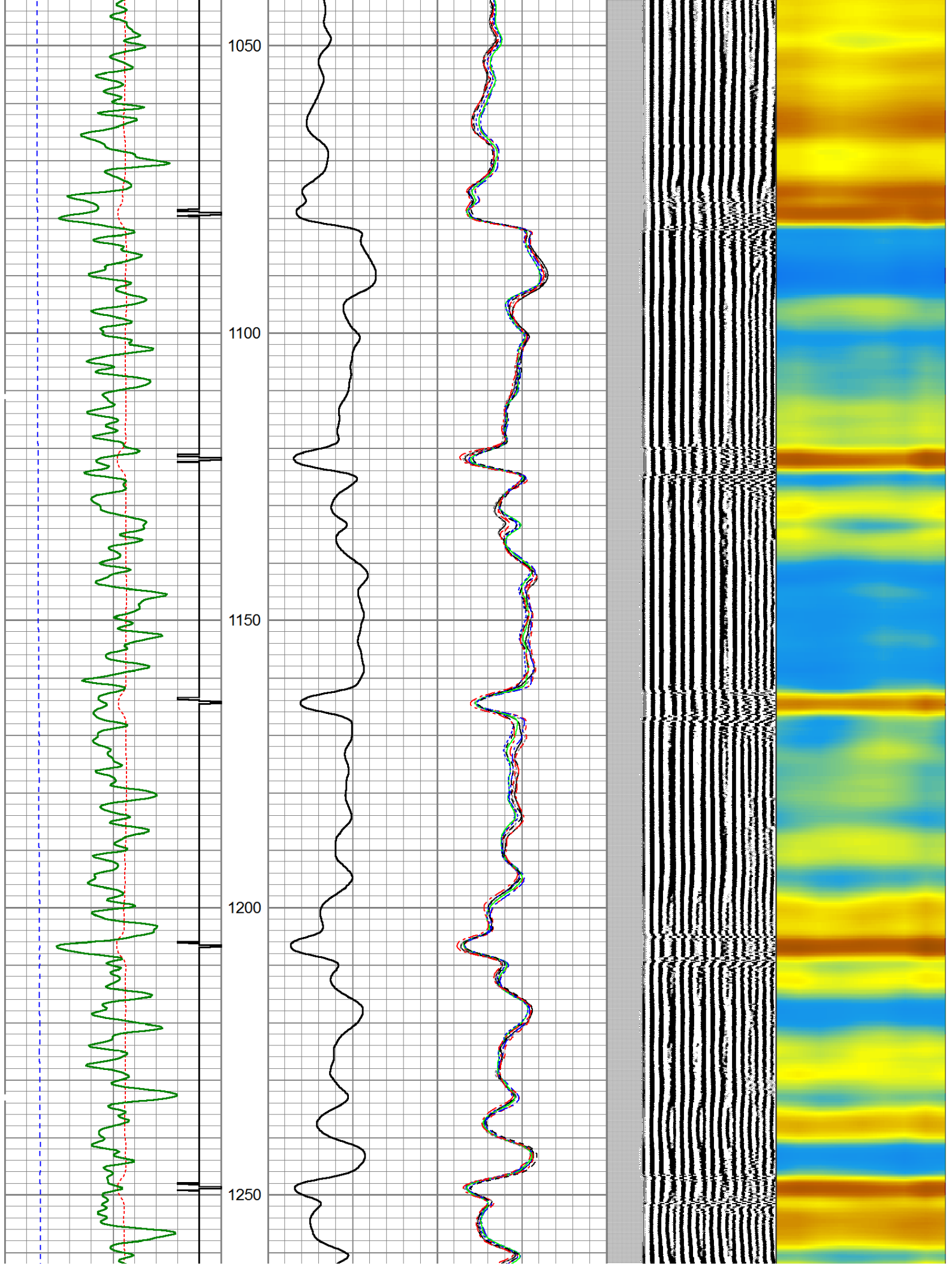




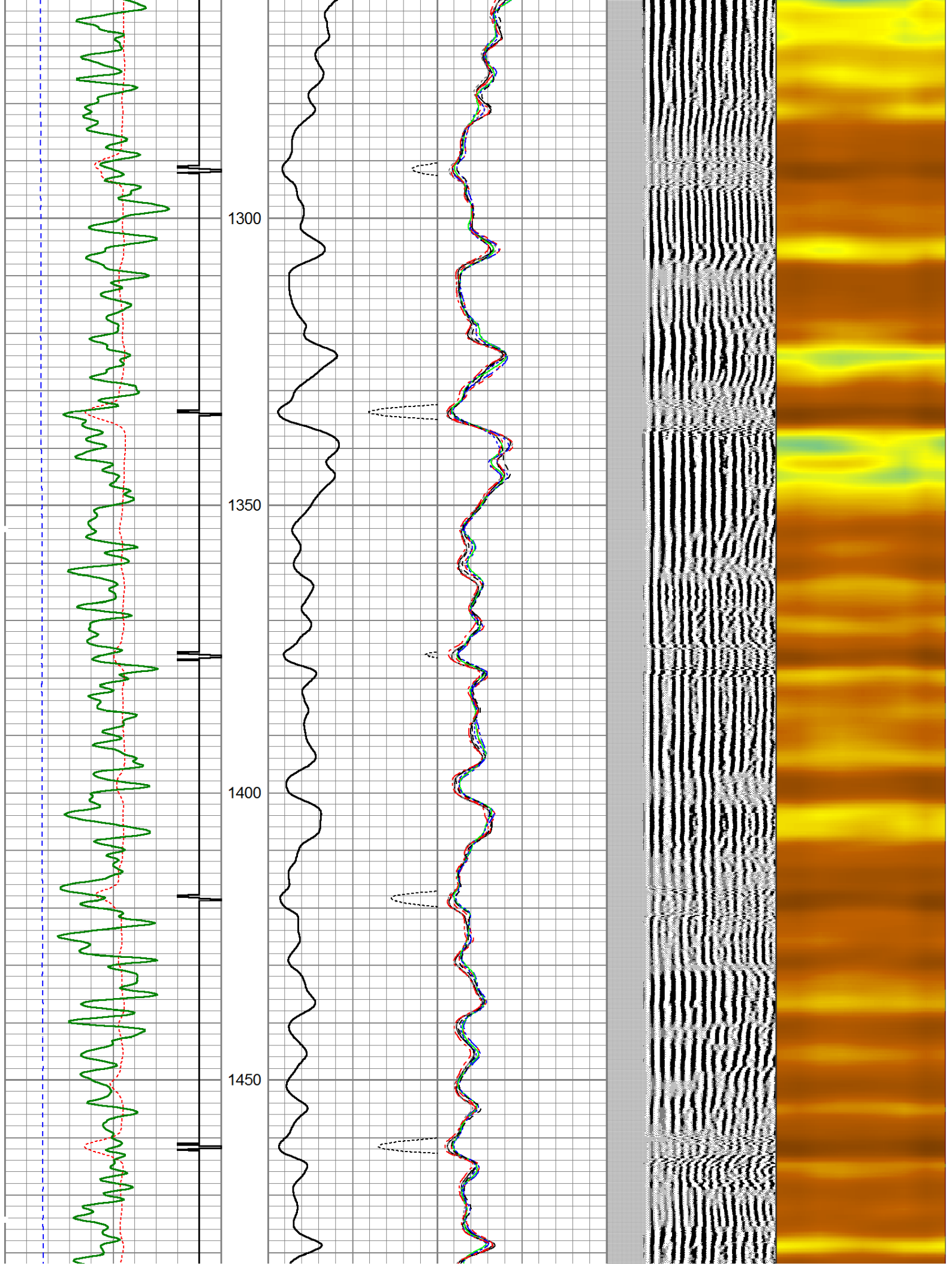


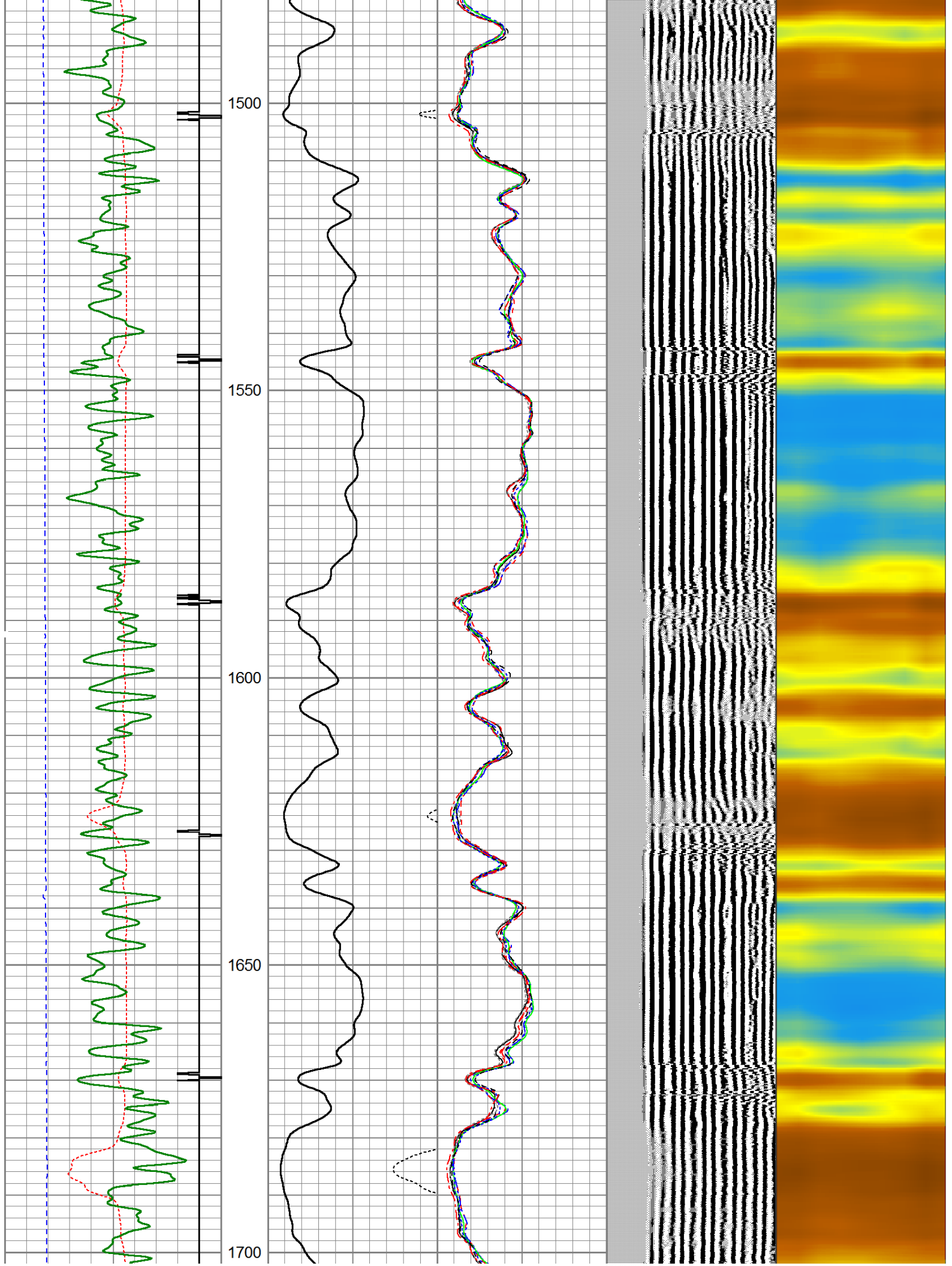




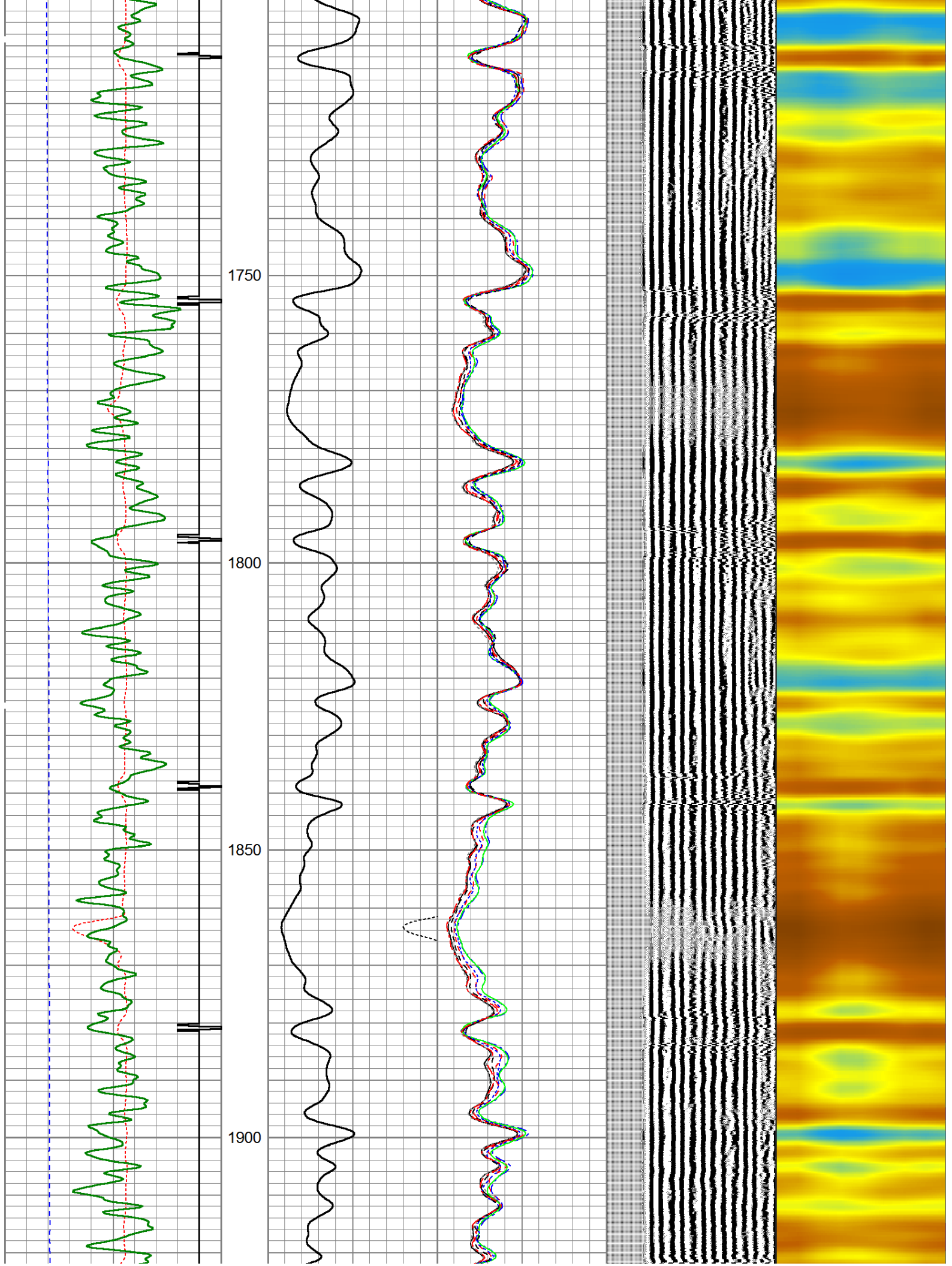




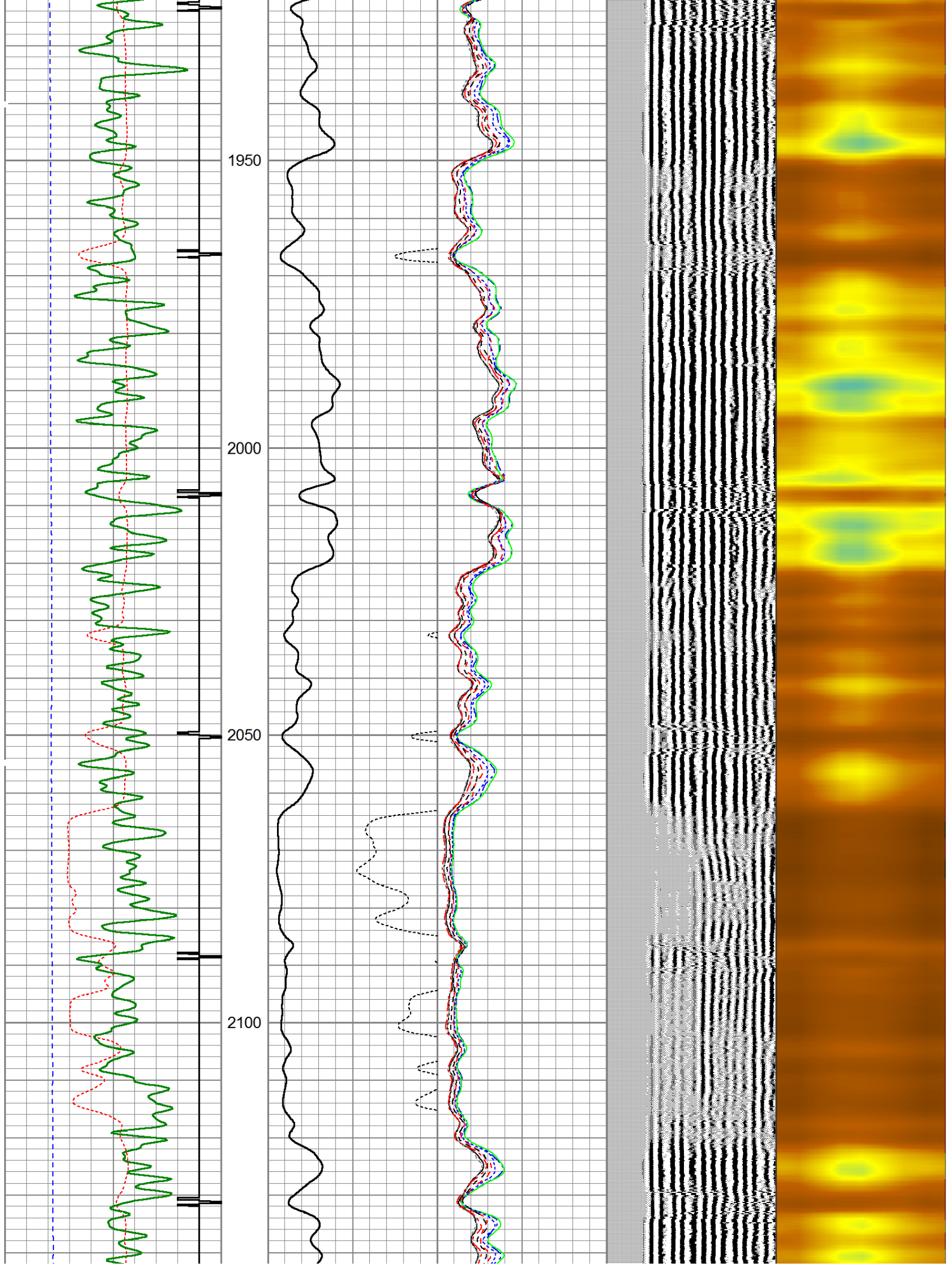


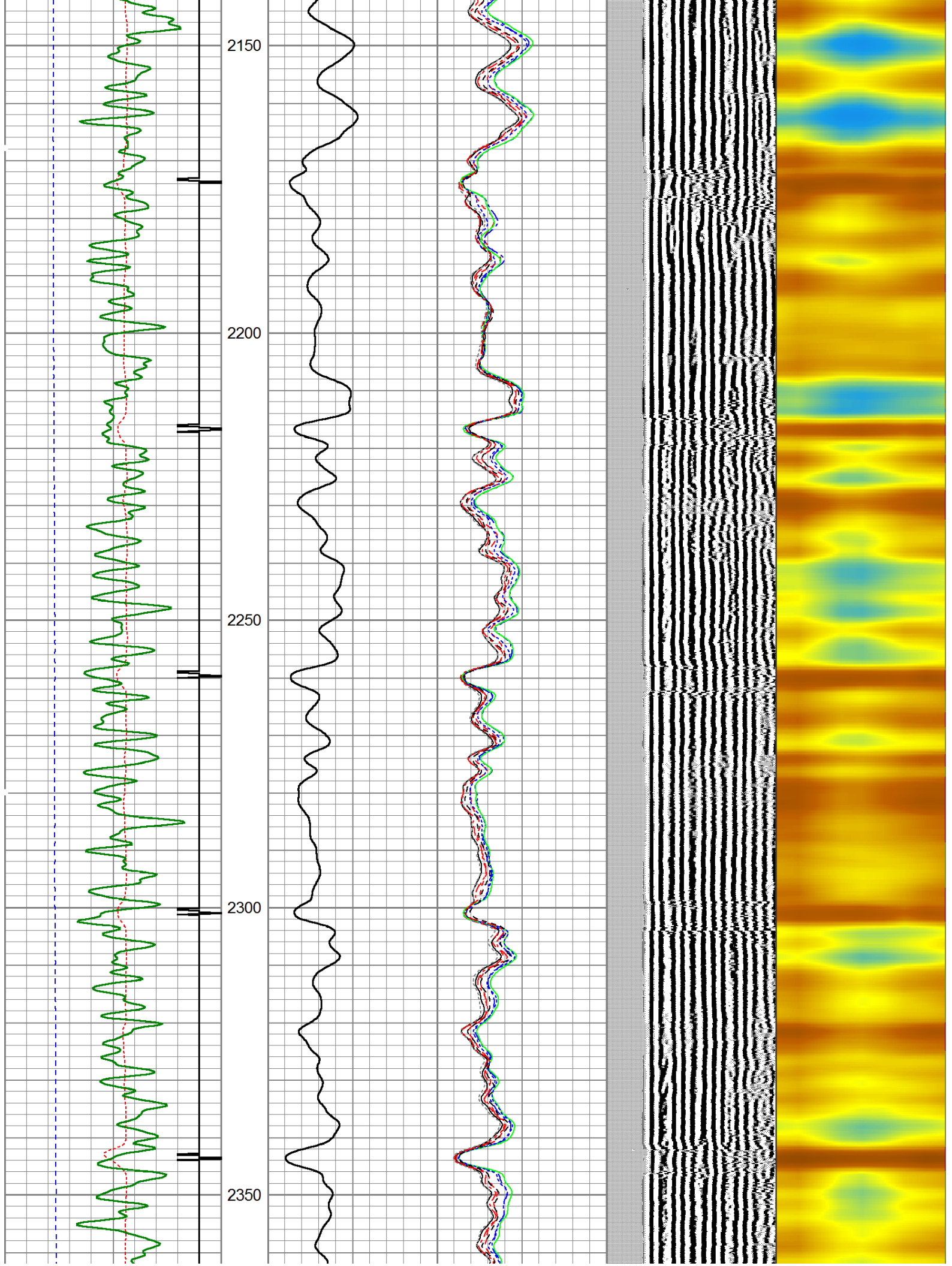




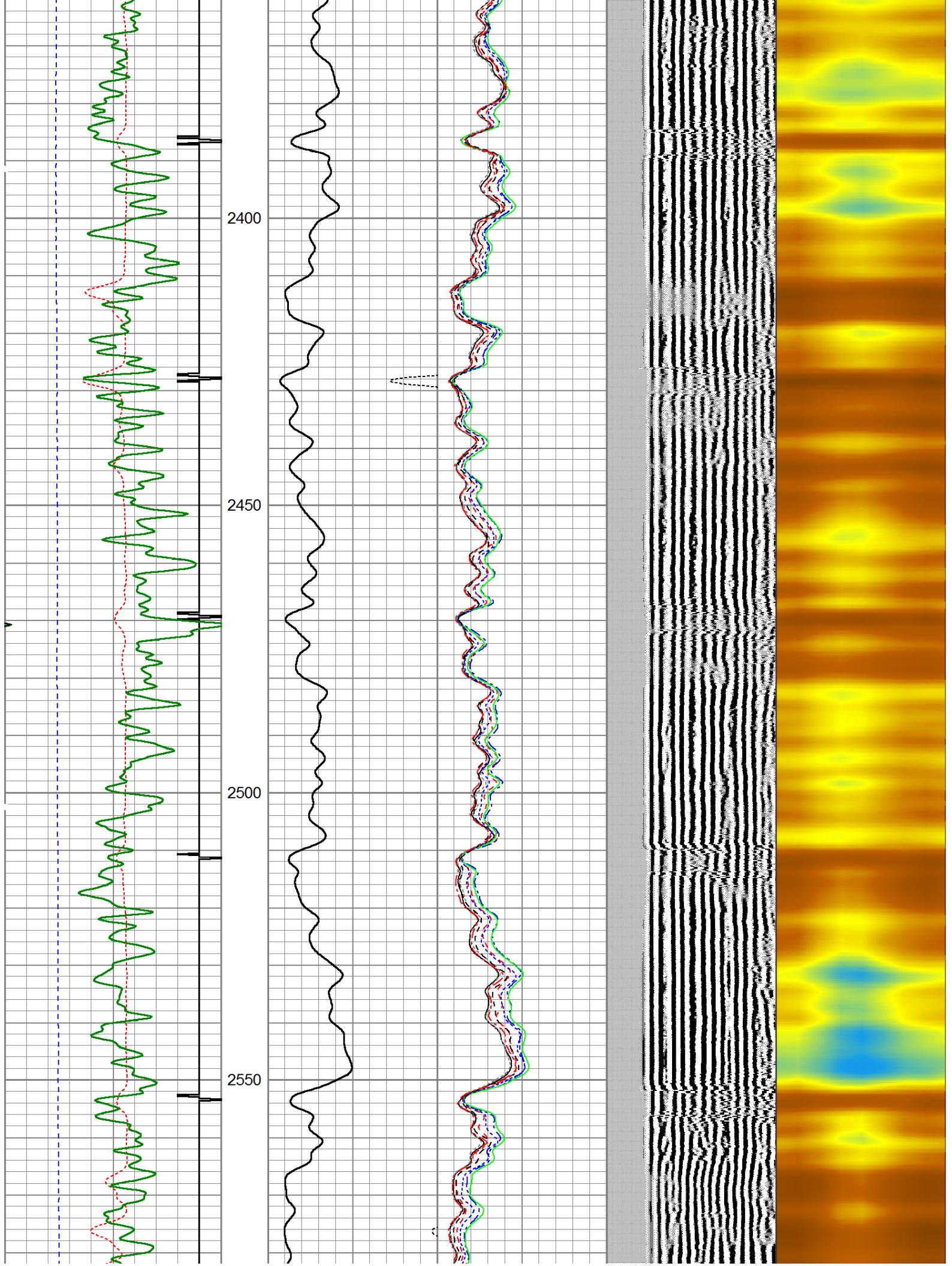




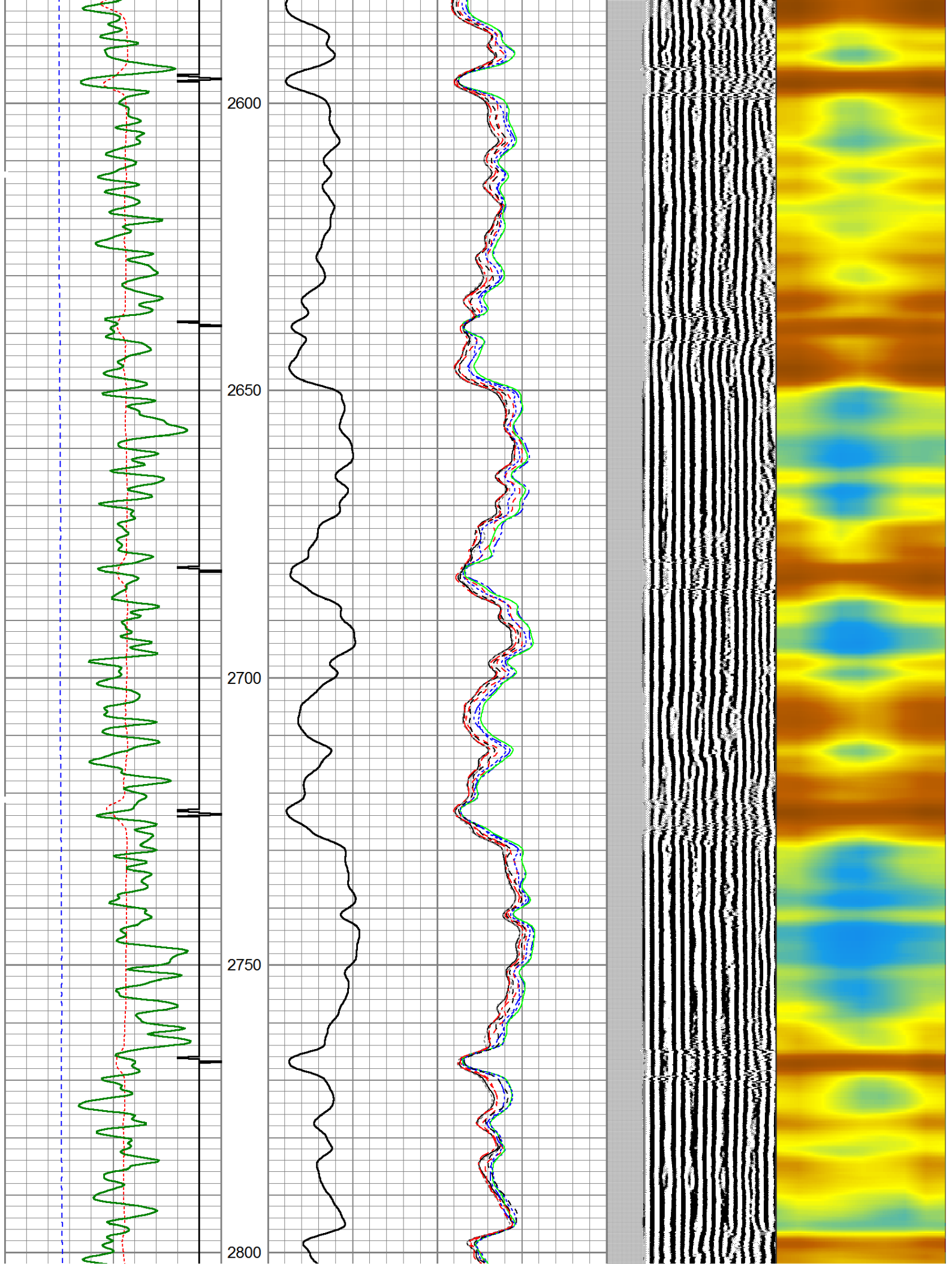


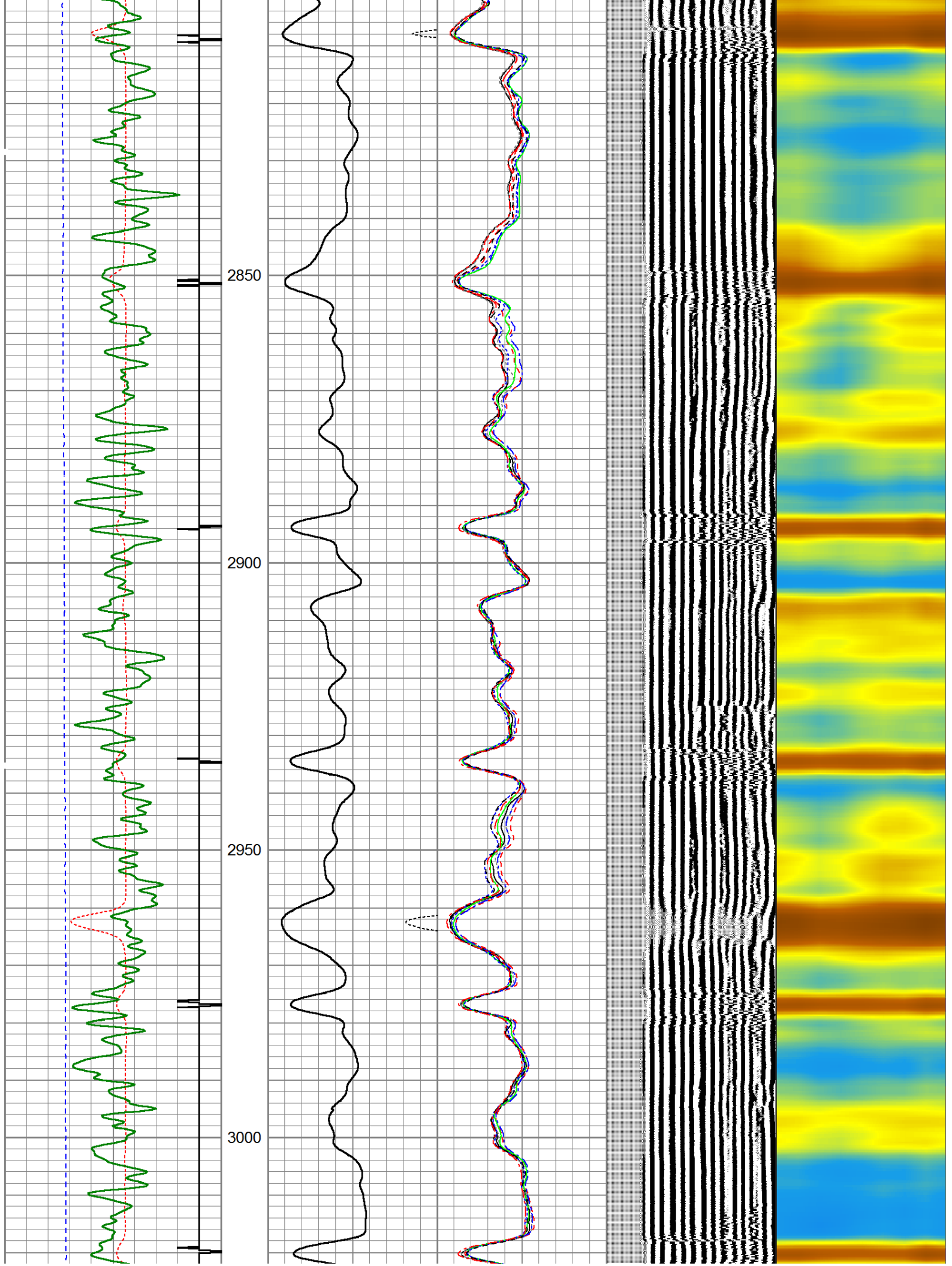


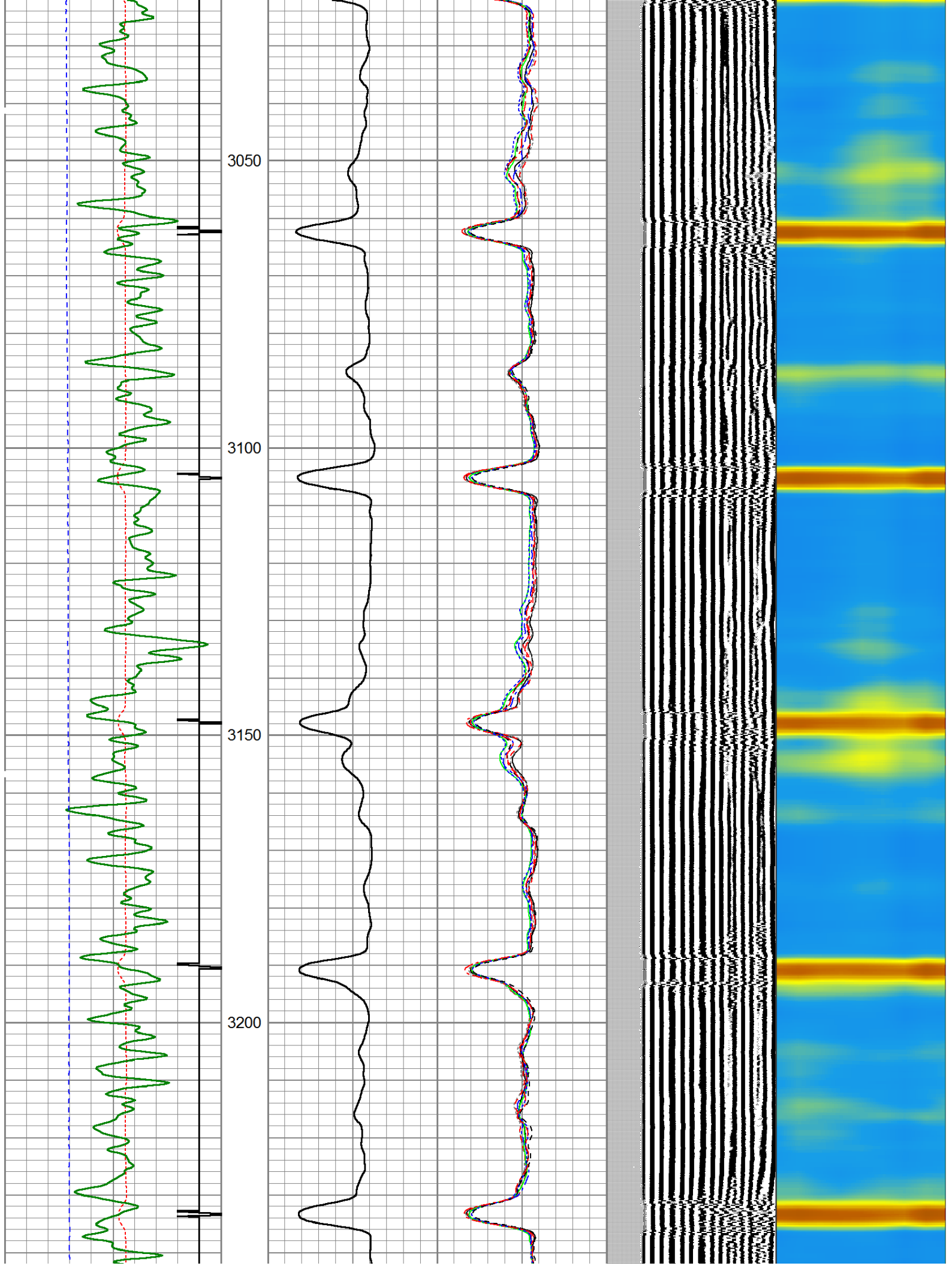




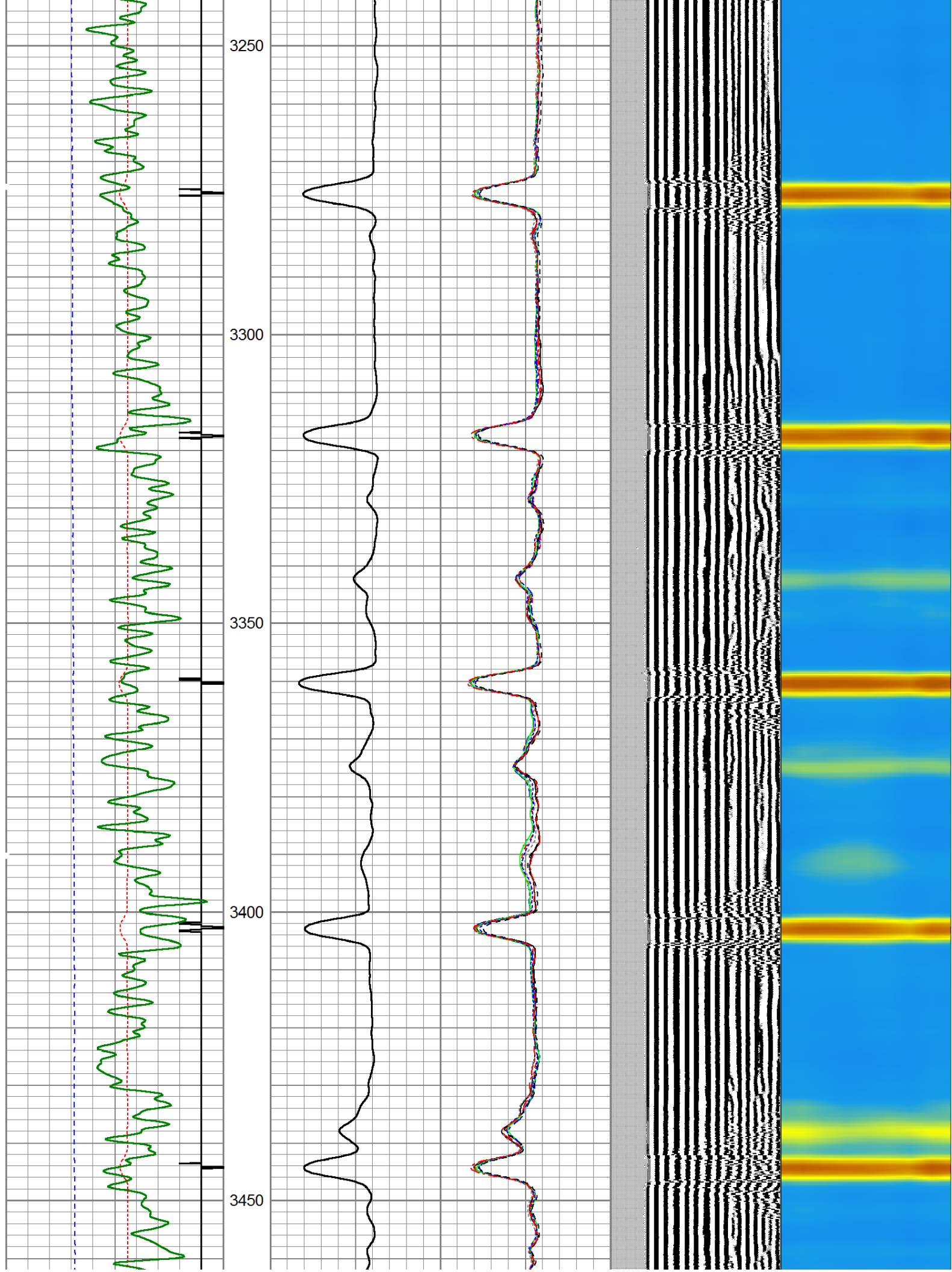


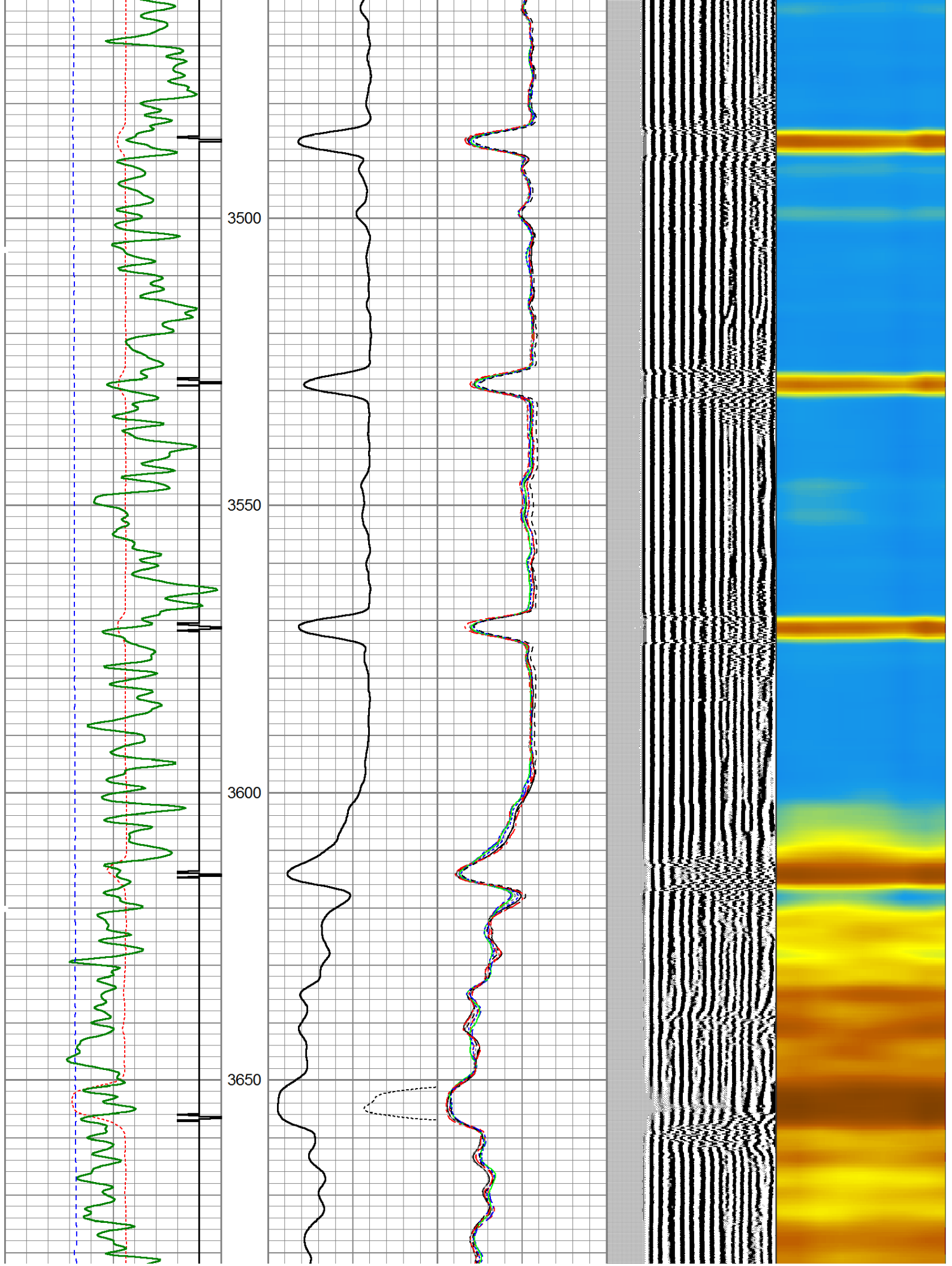


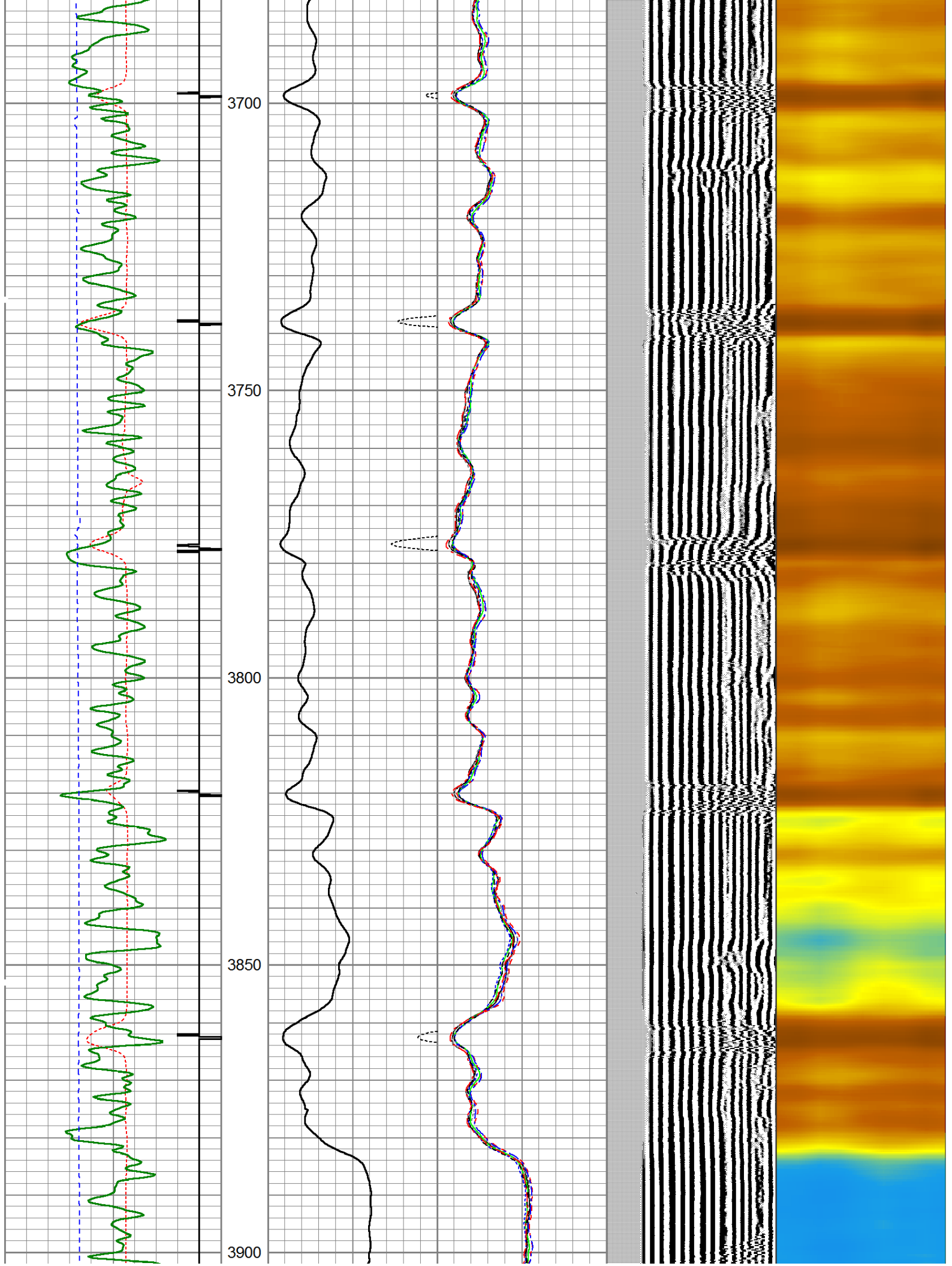




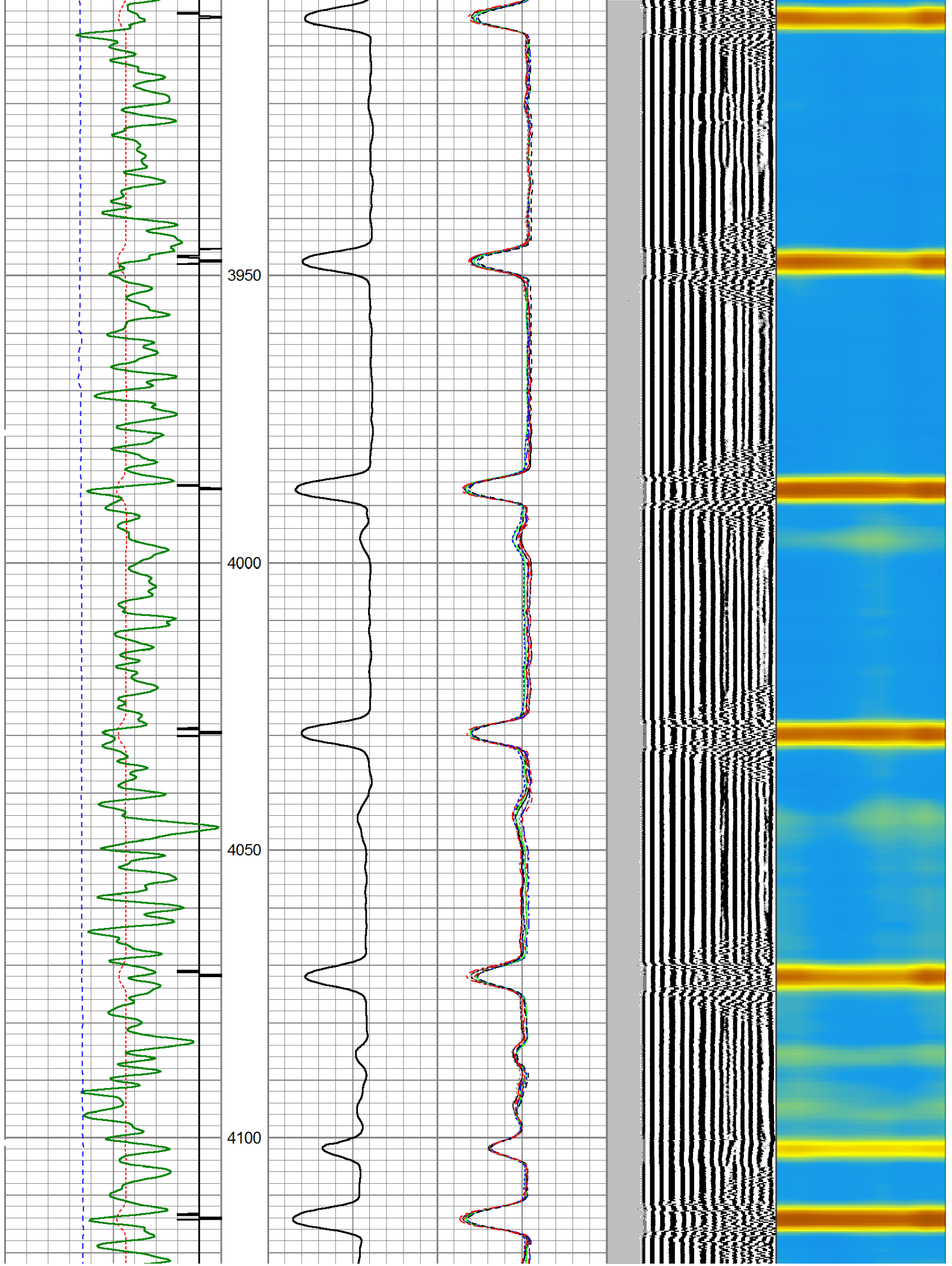


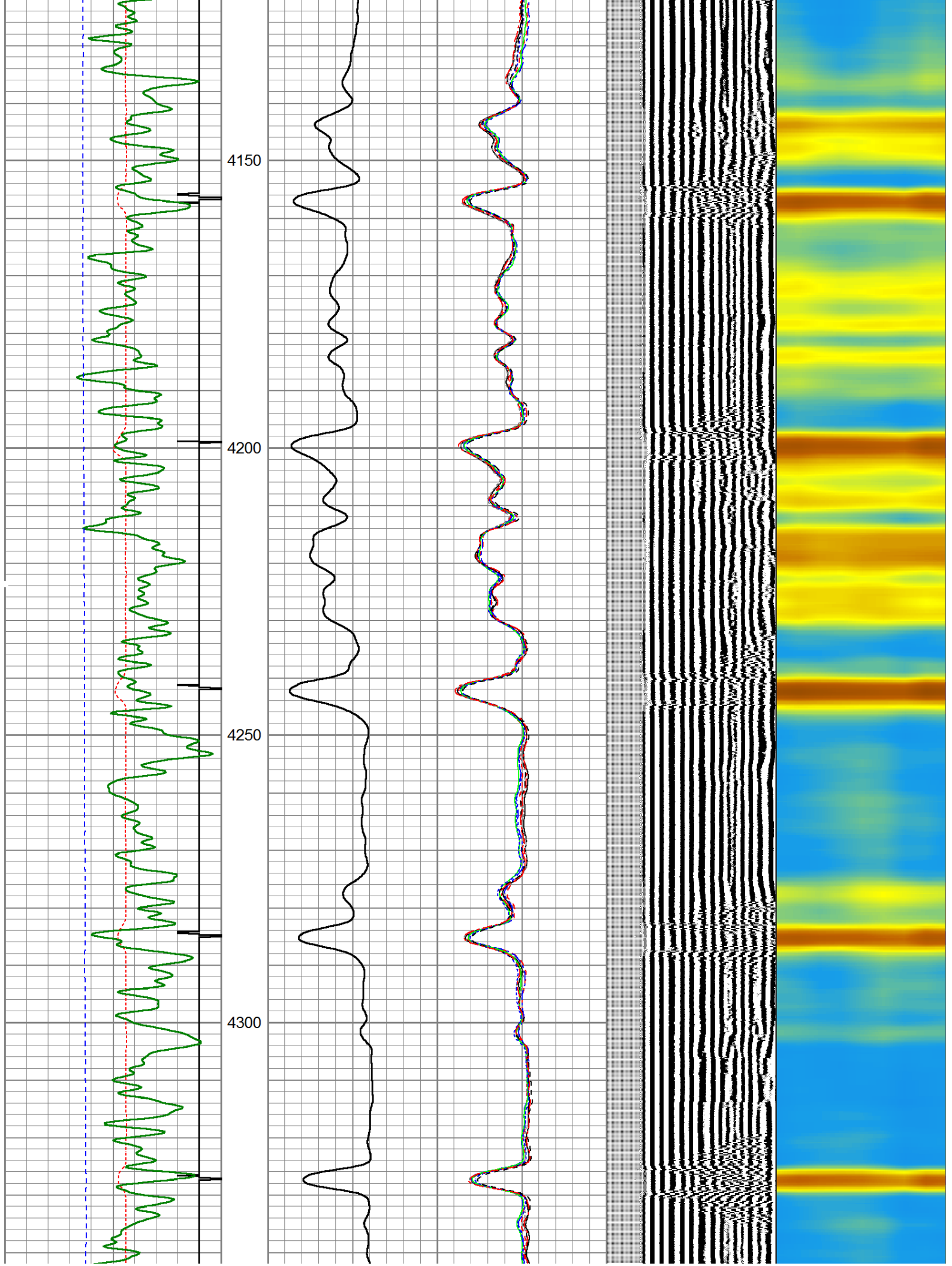


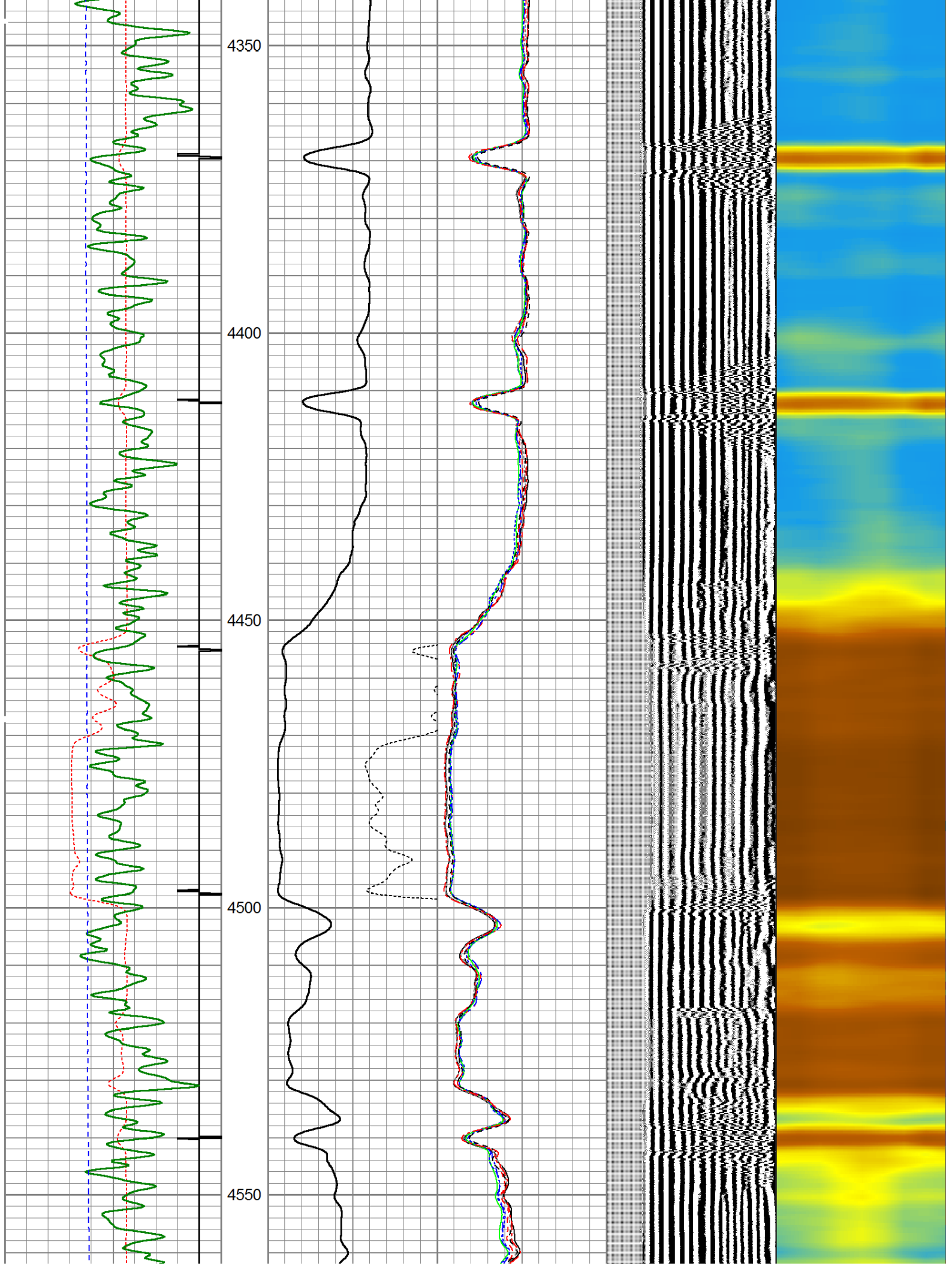




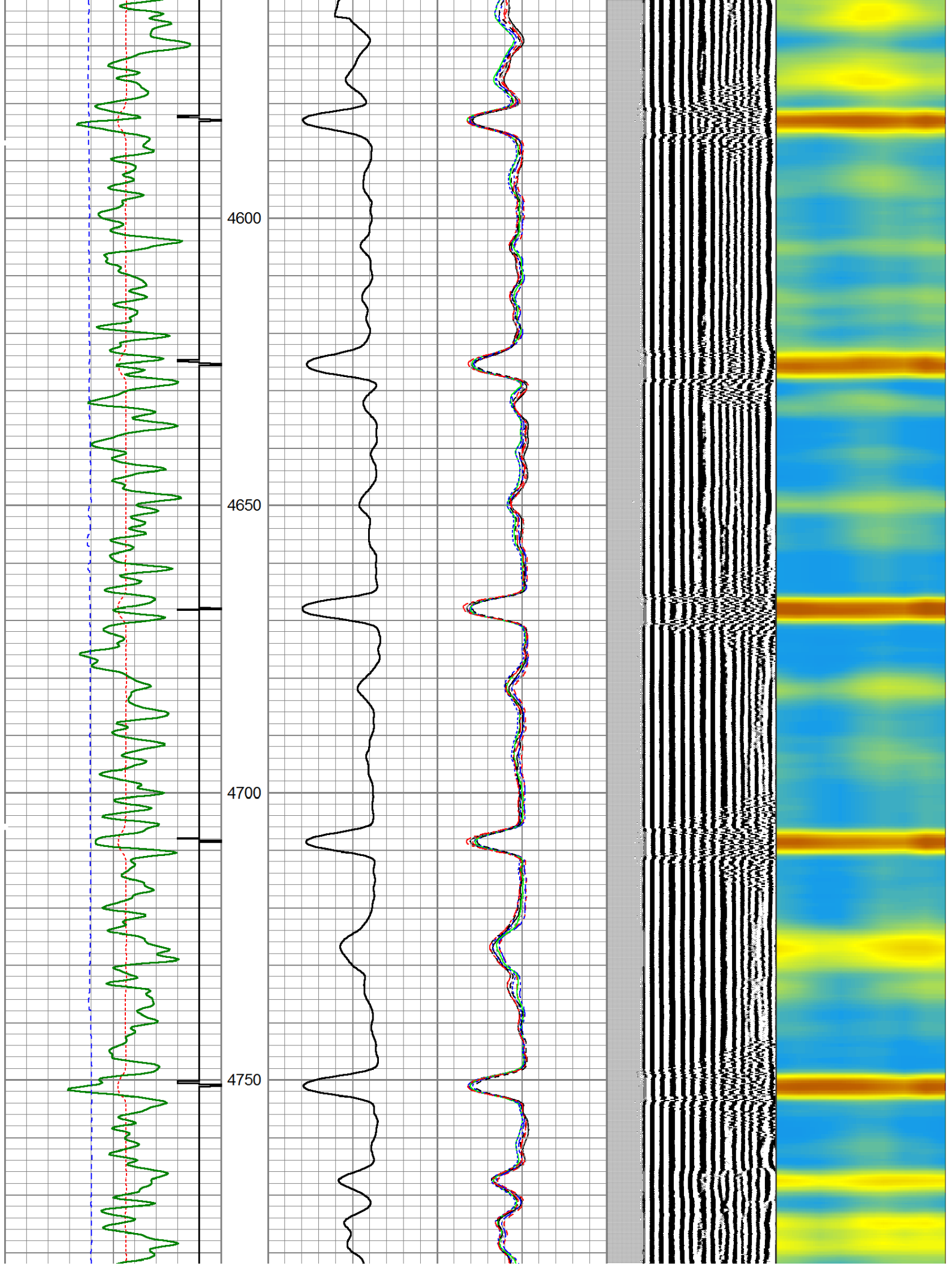


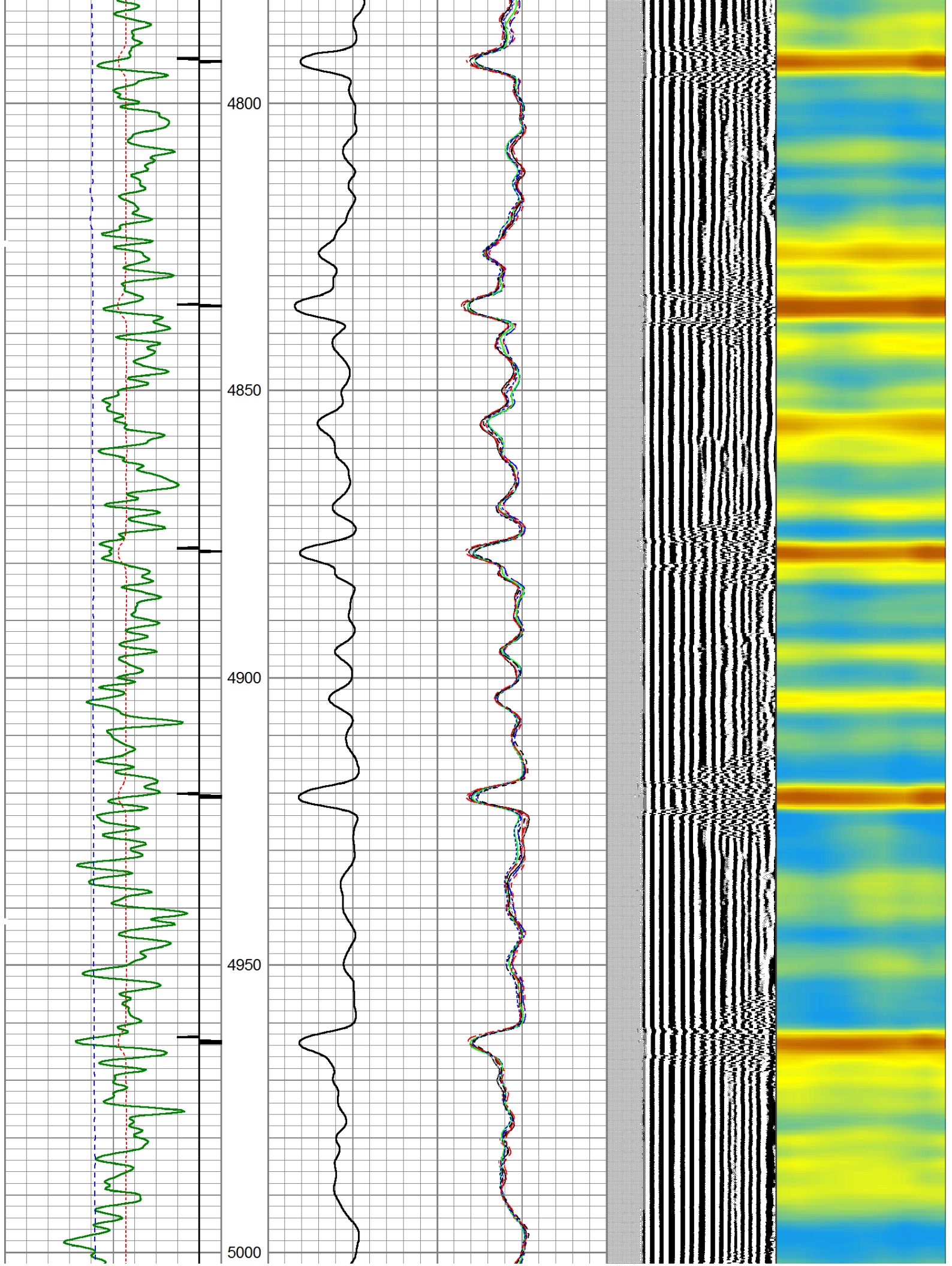


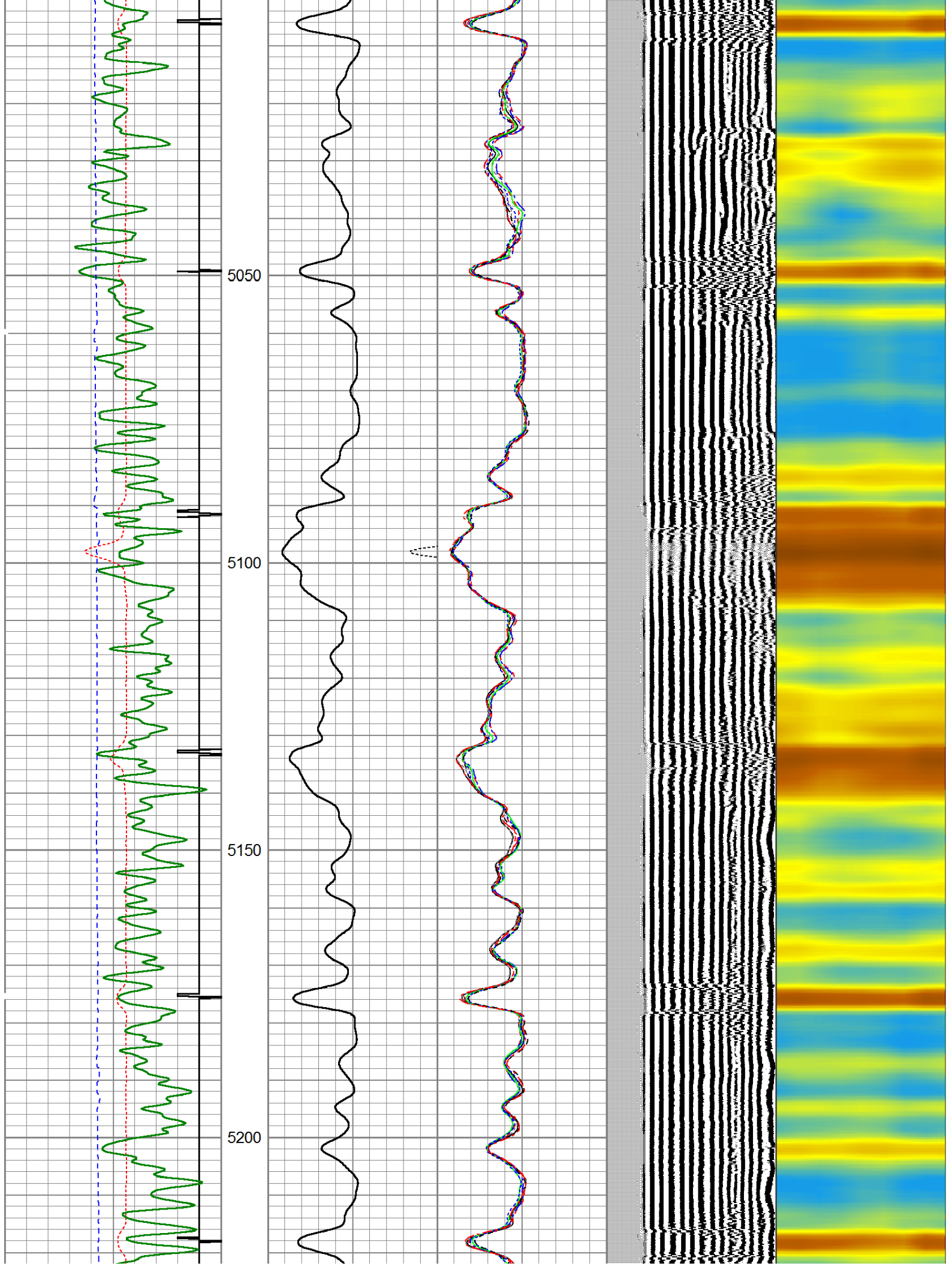




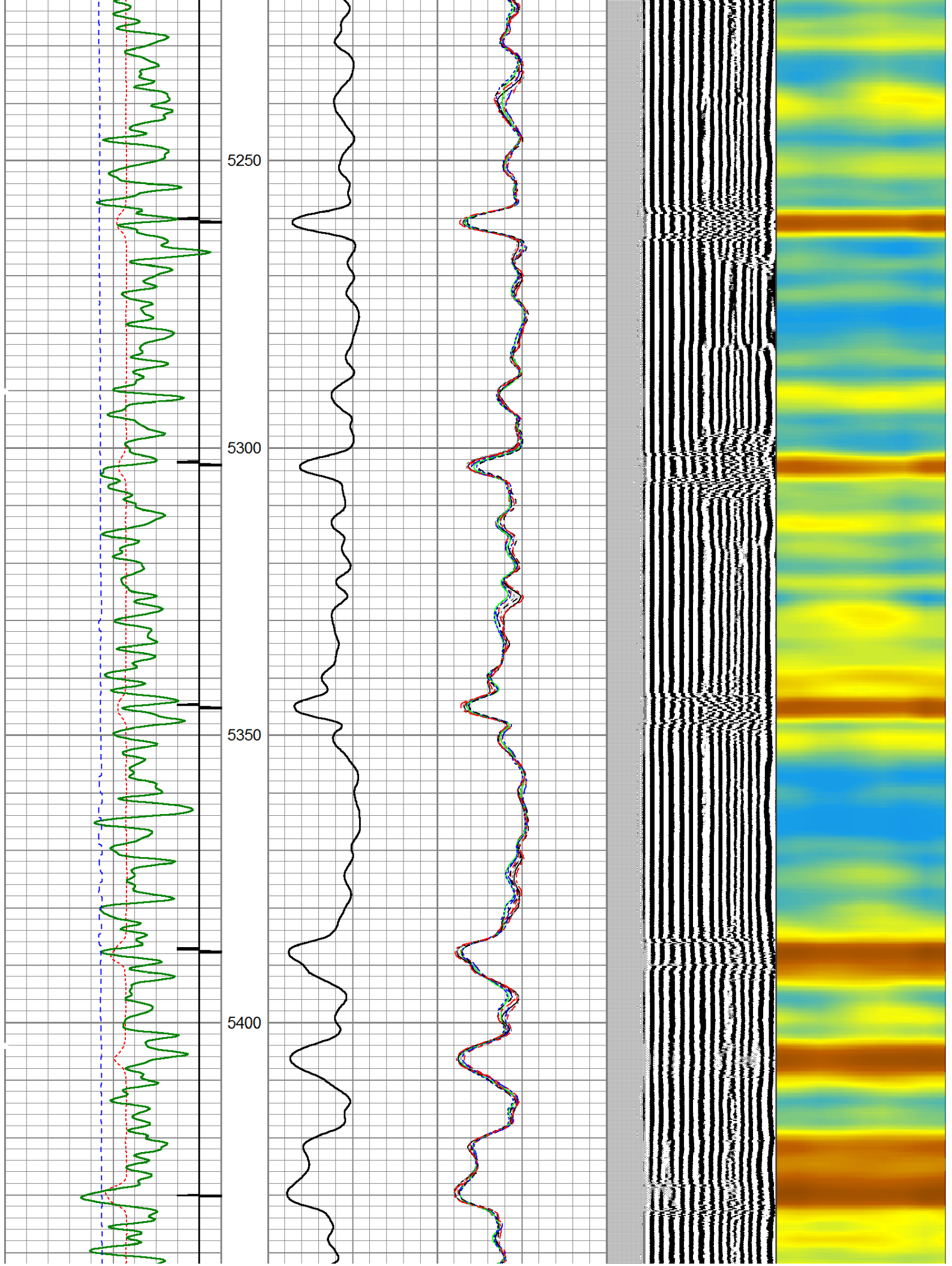


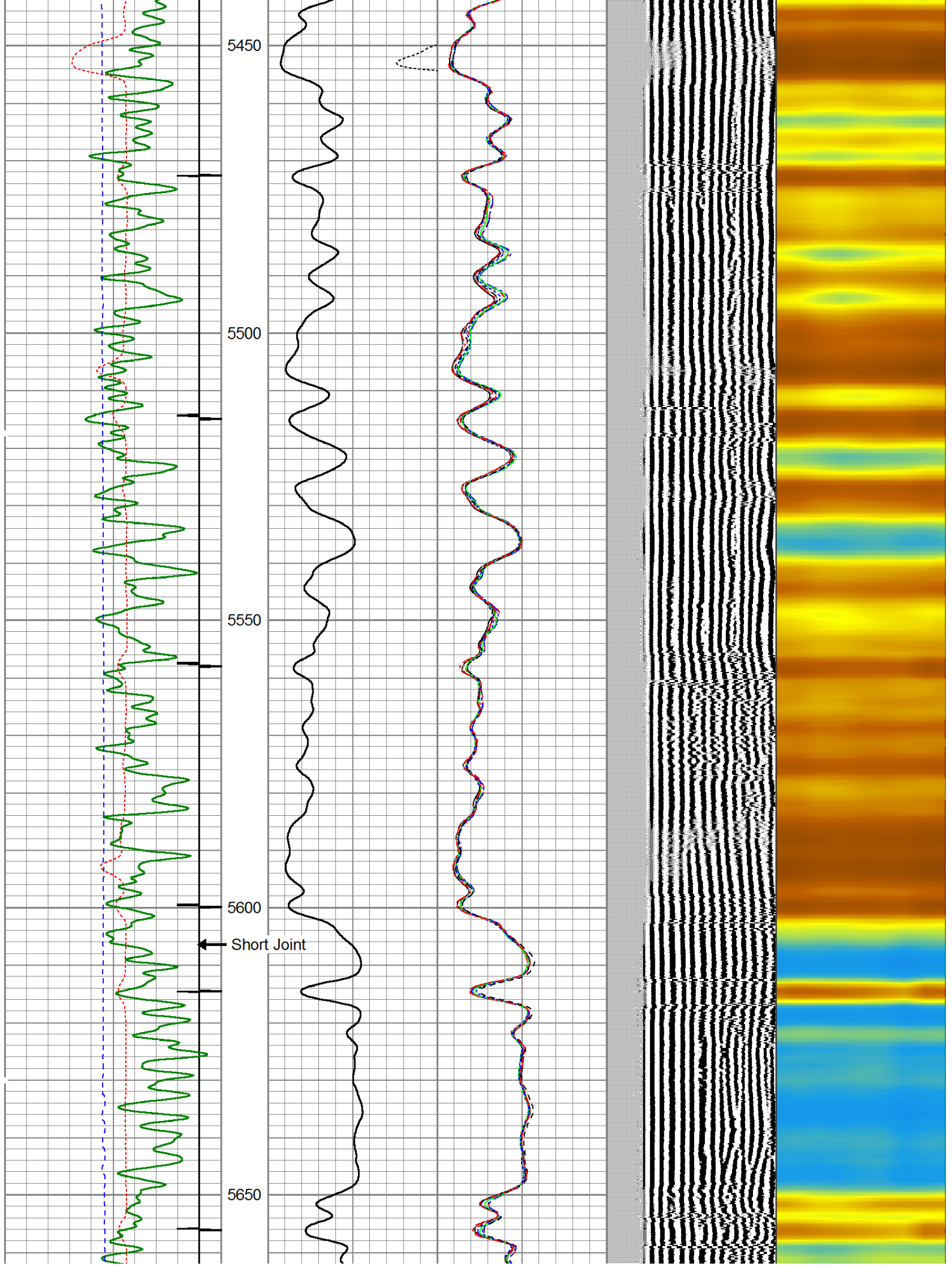


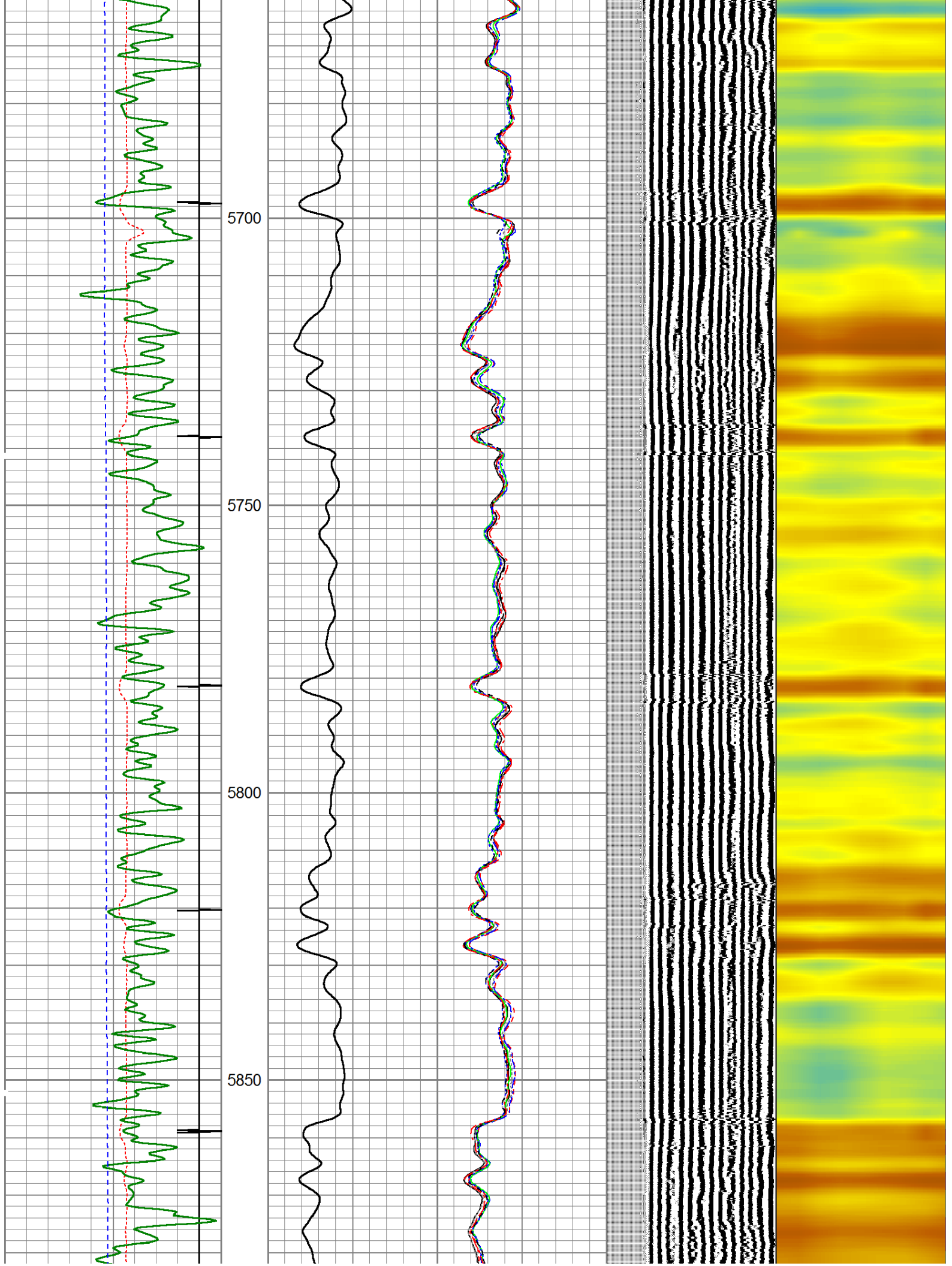




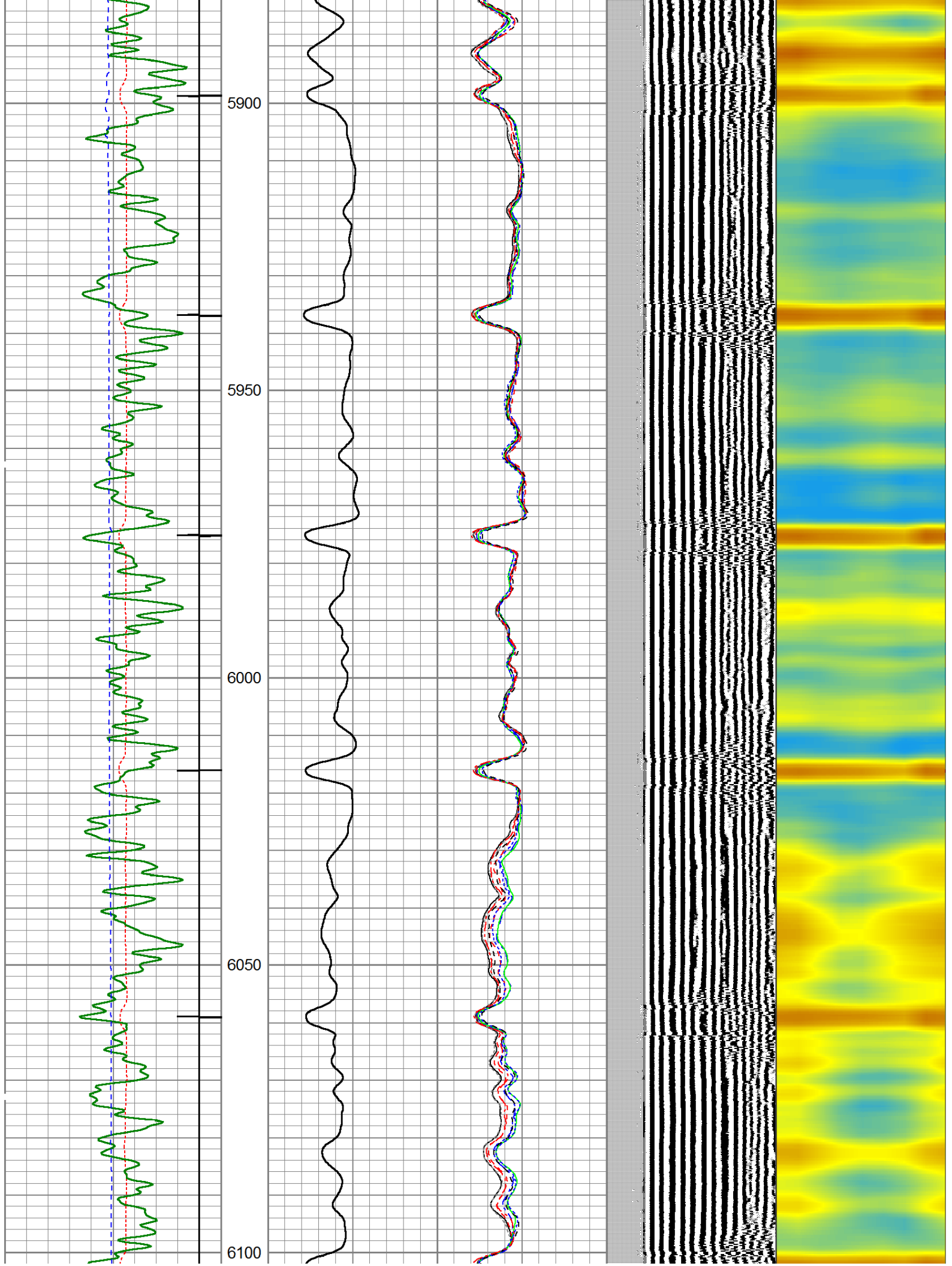


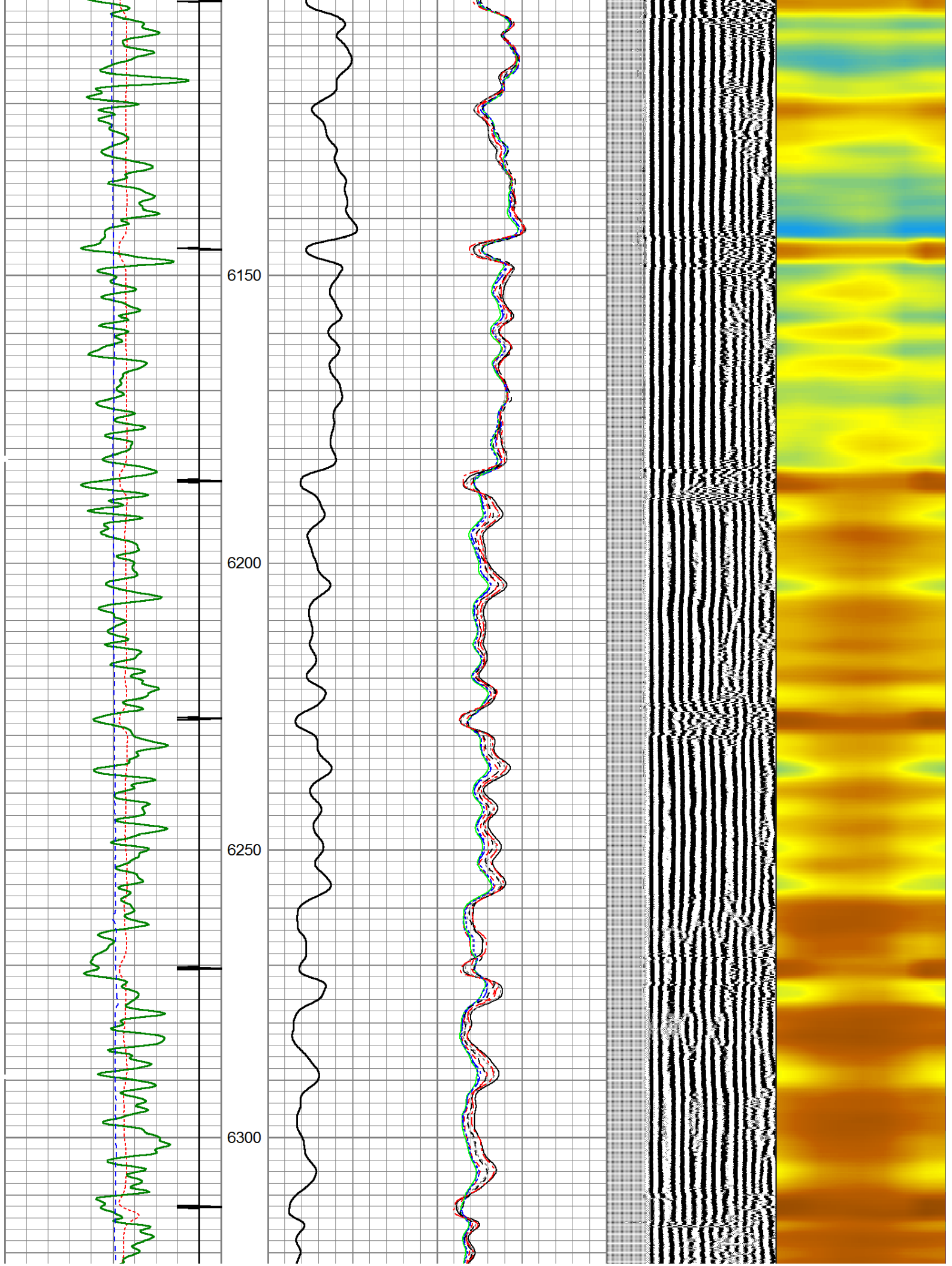




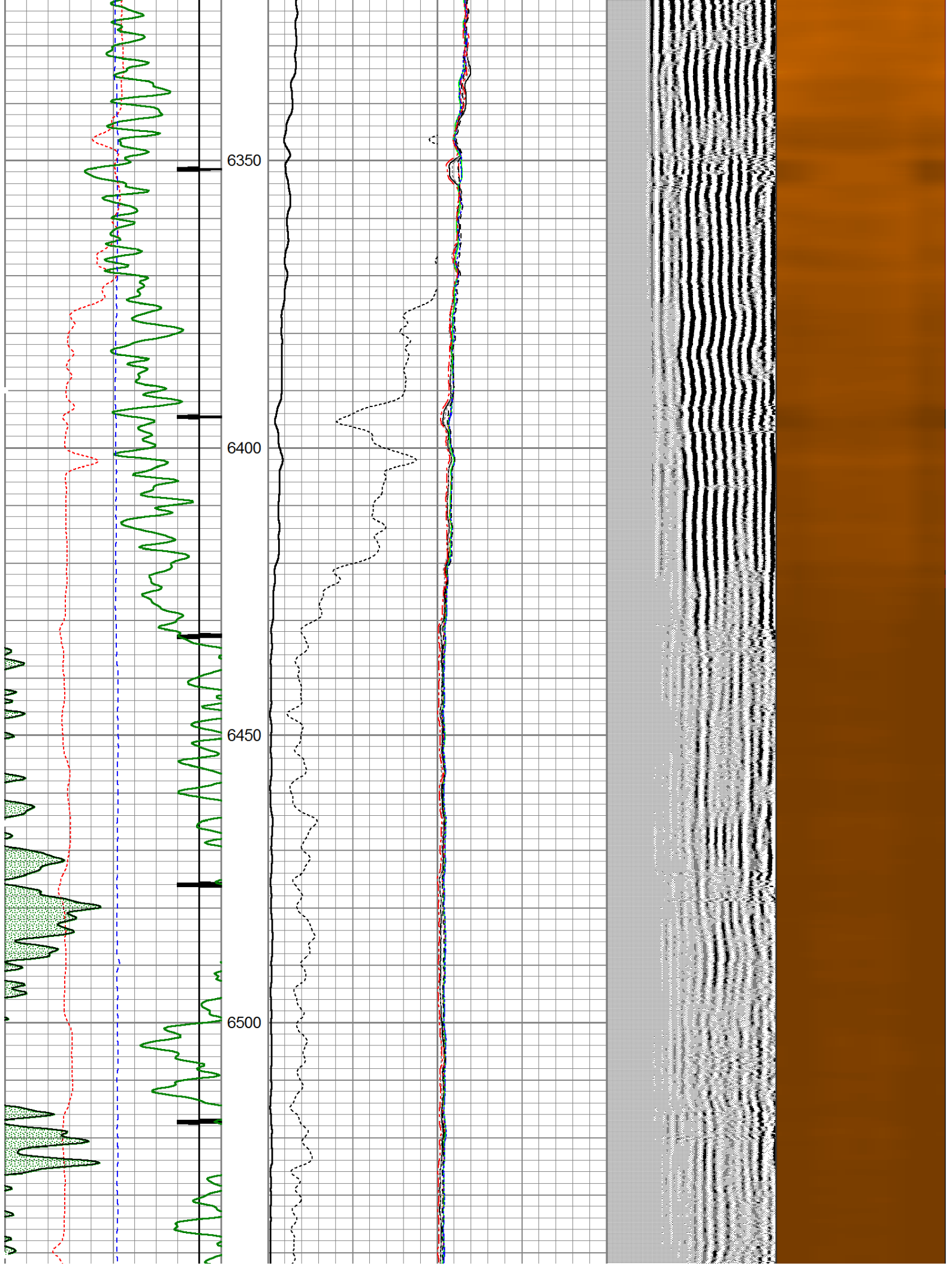




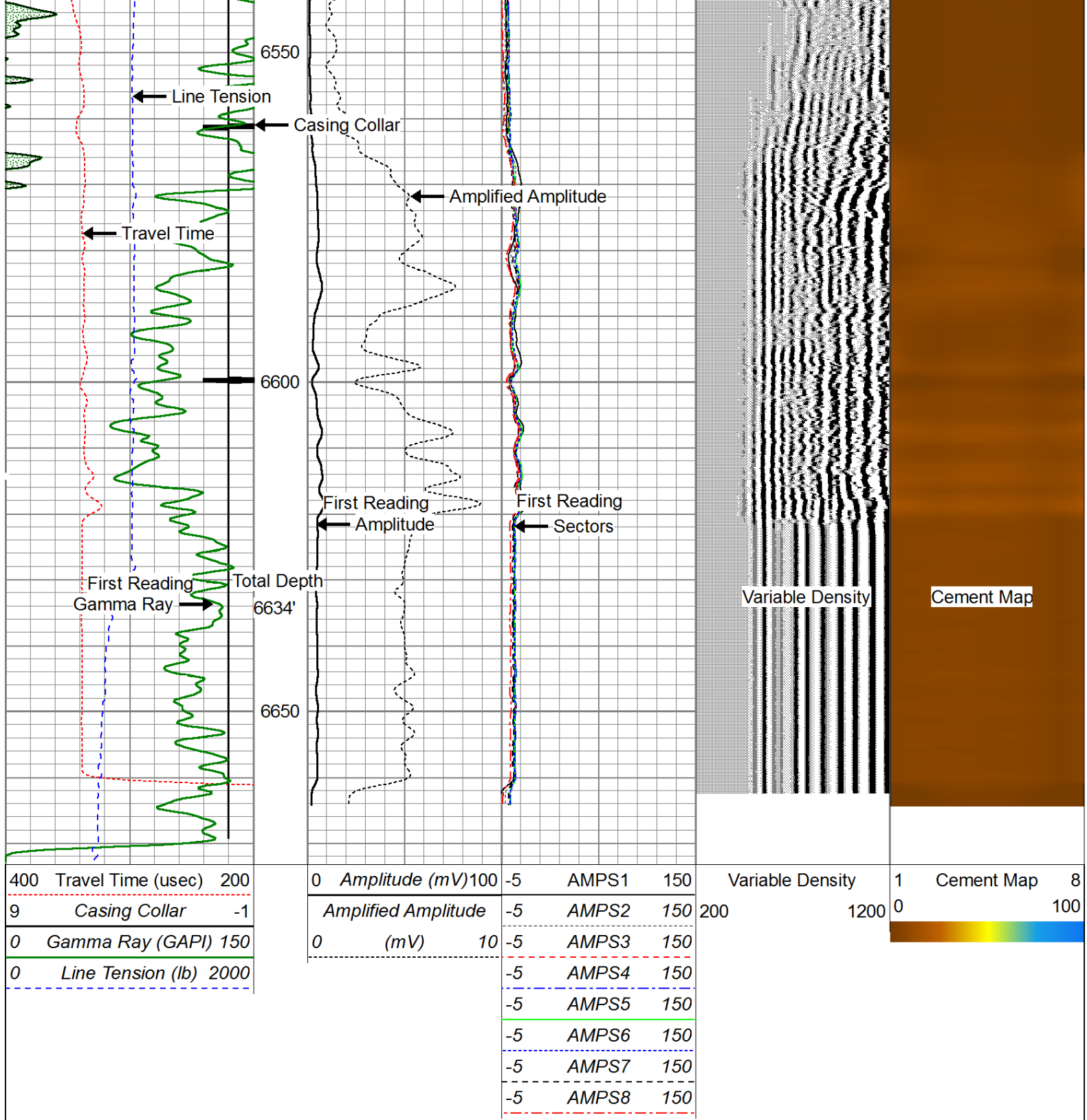












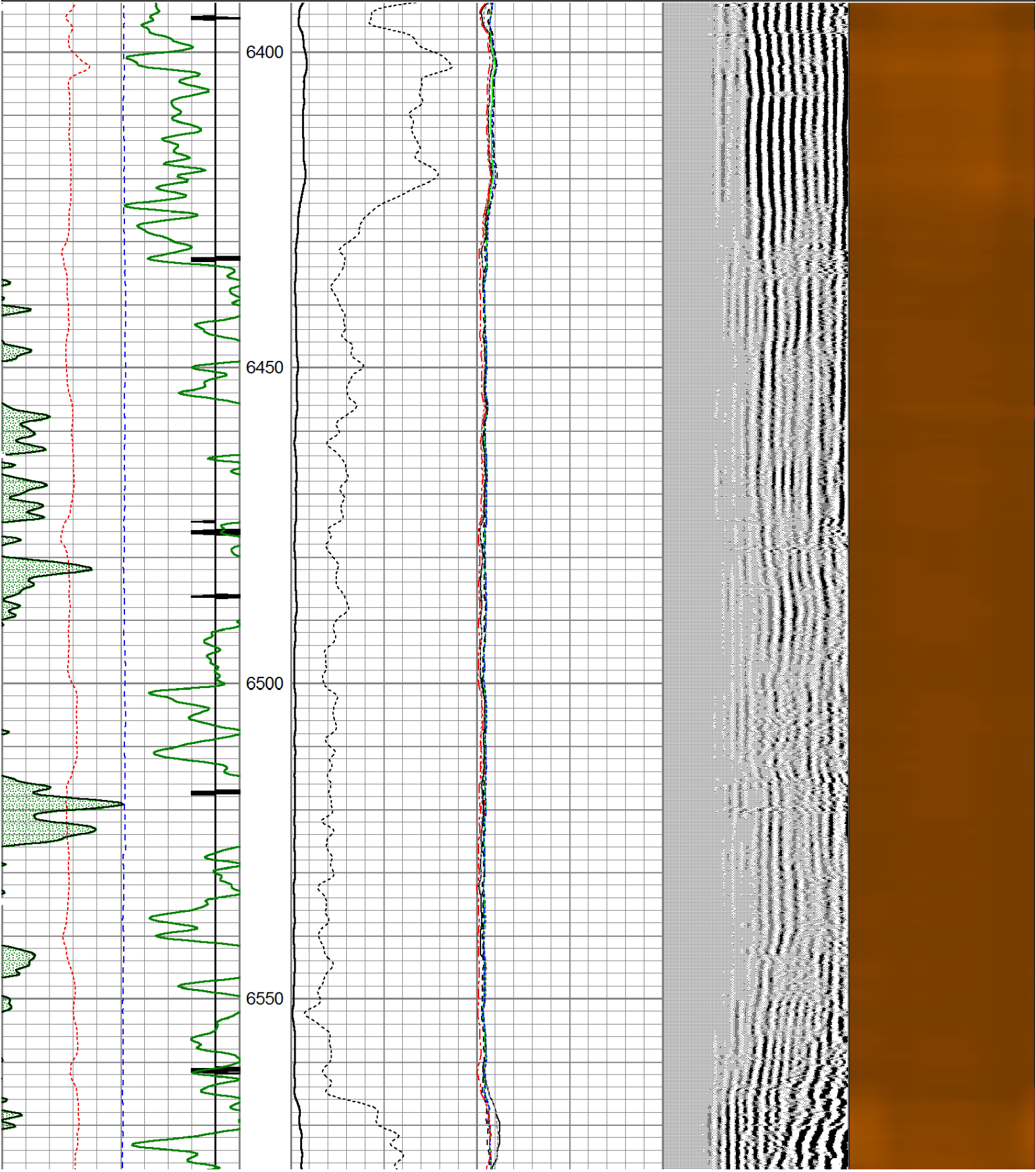
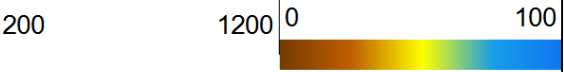
# Repeat Pass ( 0 PSI )

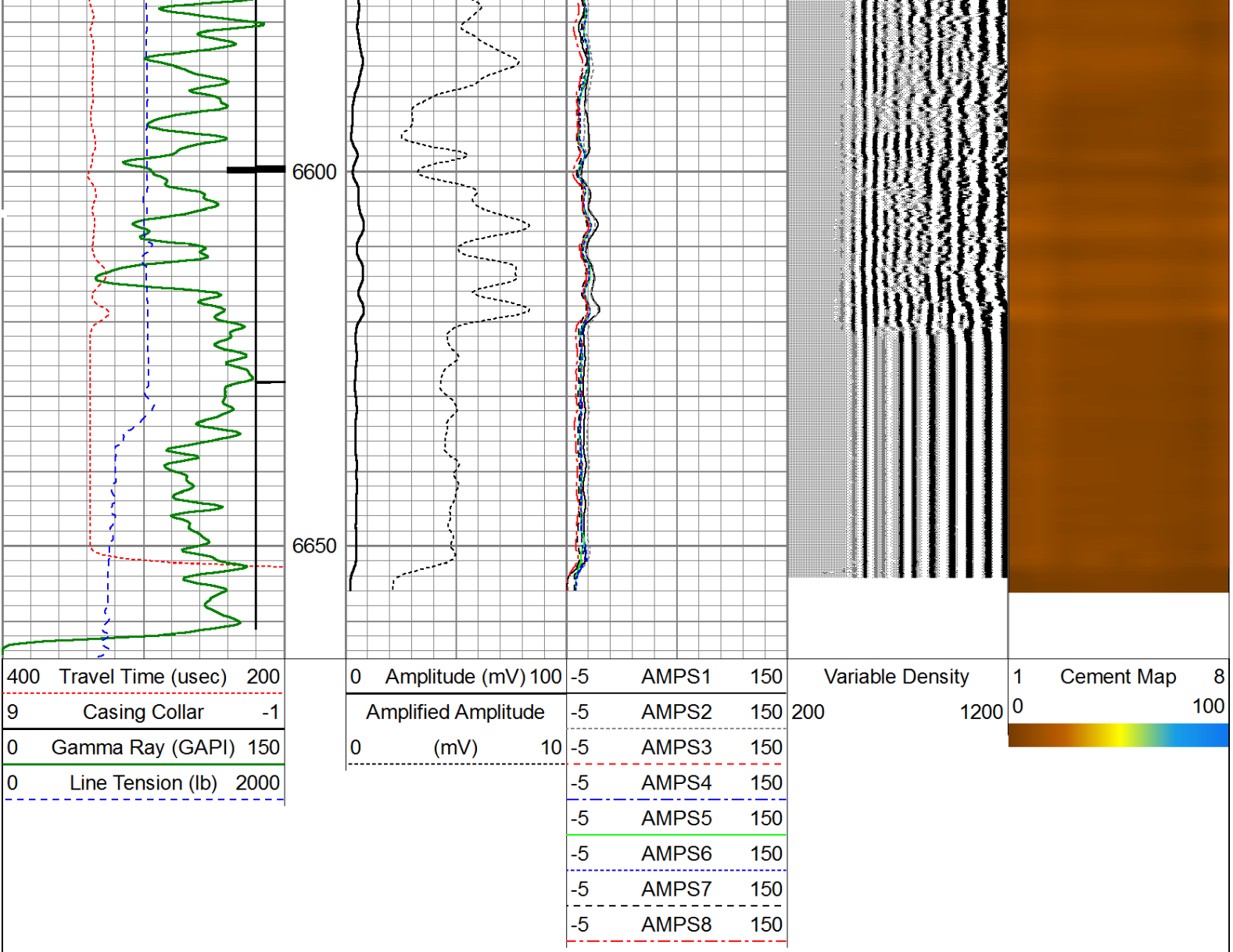
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 Dataset Pathname: pass2  
 Presentation Format: scbl03  
 Dataset Creation: Tue Dec 03 10:06:47 2013 by Log 0  
 Charted by: Depth in Feet scaled 1:240

400	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	AMPS1	150	Variable Density	1	Cement Map	8
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9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	2000

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





Calibration Report				
Database File:	noble energy wells ranch aa26-64-1hn.db			
Dataset Pathname:	pass5			
Dataset Creation:	Tue Dec 03 15:01:09 2013 by Calc 0			
Gamma Ray Calibration Report				
Serial Number:	110108-Dig			
Tool Model:	Probe275			
Performed:	Fri Nov 29 14:39:10 2013			
Calibrator Value:	1.0	GAPI		
Background Reading:	0.0	cps		
Calibrator Reading:	1.0	cps		
Sensitivity:	0.8500	GAPI/cps		
Temperature Calibration Report				
Serial Number:	110108-Dig			
Tool Model:	Probe275			
Performed:	Sun Jun 13 13:33:21 1993			
	Reference		Reading	
Low Reference:	0.00	degF	0.00	cps



High Reference: 1.00 degF 1.00 cps

Gain: 1.00  
Offset: 0.00  
Delta Spacing 2

### Segmented Cement Bond Log Calibration Report

Serial Number: 101225  
Tool Model: Probe  
  
Calibration Casing Diameter: 7.000 in  
Calibration Depth: 770.712 ft

Master Calibration, performed Mon Dec 02 16:23:49 2013:

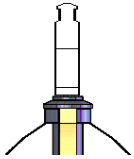
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.011	0.613	1.000	62.165	87.359	2.165
CAL	-0.028	1.116				
5'	-0.018	0.563	1.000	62.165	105.374	2.854
SUM						
S1	-0.000	0.639	0.000	100.000	156.482	-6.023
S2	-0.012	0.618	0.000	100.000	158.920	-1.866
S3	-0.012	0.598	0.000	100.000	164.093	1.927
S4	-0.015	0.576	0.000	100.000	169.221	2.613
S5	-0.012	0.610	0.000	100.000	155.530	2.001
S6	-0.014	0.659	0.000	100.000	138.621	2.112
S7	-0.005	0.670	0.000	100.000	138.178	0.742
S8	-0.010	0.621	0.000	100.000	158.538	-3.575

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	-0.028	1.116	1.000	0.000

Air Zero Calibration, performed Mon Dec 02 13:51:13 2013:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.000		0.000		0.000	
5'	0.000		0.000		0.000	
SUM						
S1	0.000		0.000		0.000	
S2	0.000		0.000		0.000	
S3	0.000		0.000		0.000	
S4	0.000		0.000		0.000	
S5	0.000		0.000		0.000	
S6	0.000		0.000		0.000	
S7	0.000		0.000		0.000	
S8	0.000		0.000		0.000	

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			Titan Cable_head	1.00	1.44	10.00

