



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

Company				Noble Energy			
Well				Loeffler K01-65HN			
Field				Wattenberg			
County				Weld			
State				Colorado			
Location:				API # : 05-123-37739			
SEC 1 TWP 4N RGE 66W				Other Services			
BHL: 2554' FNL & 535' FEL				TEMP			
Permanent Datum		Ground Level		Elevation		4666'	
Log Measured From		24' Kelly Bushing		K.B. 4682'		D.F. 4681'	
Drilling Measured From		Kelly Bushing		G.L. 4666'			
Date				December 6, 2013			
Run Number				1			
Depth Driller				11544'			
Depth Logger				7254'			
Bottom Logged Interval				7241'			
Top Log Interval				Surface			
Open Hole Size				8.125			
Type Fluid				Fresh Water			
Density / Viscosity				8.33			
Max. Recorded Temp.				210 Deg F			
Estimated Cement Top				436'			
Time Well Ready				19:30			
Time Logger on Bottom				21:16			
Equipment Number				13033			
Location				Brighton			
Recorded By				C. Rall			
Witnessed By				Natalie Aaron			
Borehole Record				Tubing Record			
Run Number		Bit		From		To	
One							
Two							
Three							
Four							
Casing Record		Size		Wgt/Ft		Top	
Surface String		9 5/8		36#		Surface	
Prot. String							
Production String		7		26#		Surface	
Liner		4 1/2		11 6#		7331'	
Short Joint						5981'	

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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 Logged with 2050 PSI To 200'  
Repeat Pass Logged with 0 PSI

Estimated Top of Cement @ 436'


Short Joint @ 5981' To 5995'

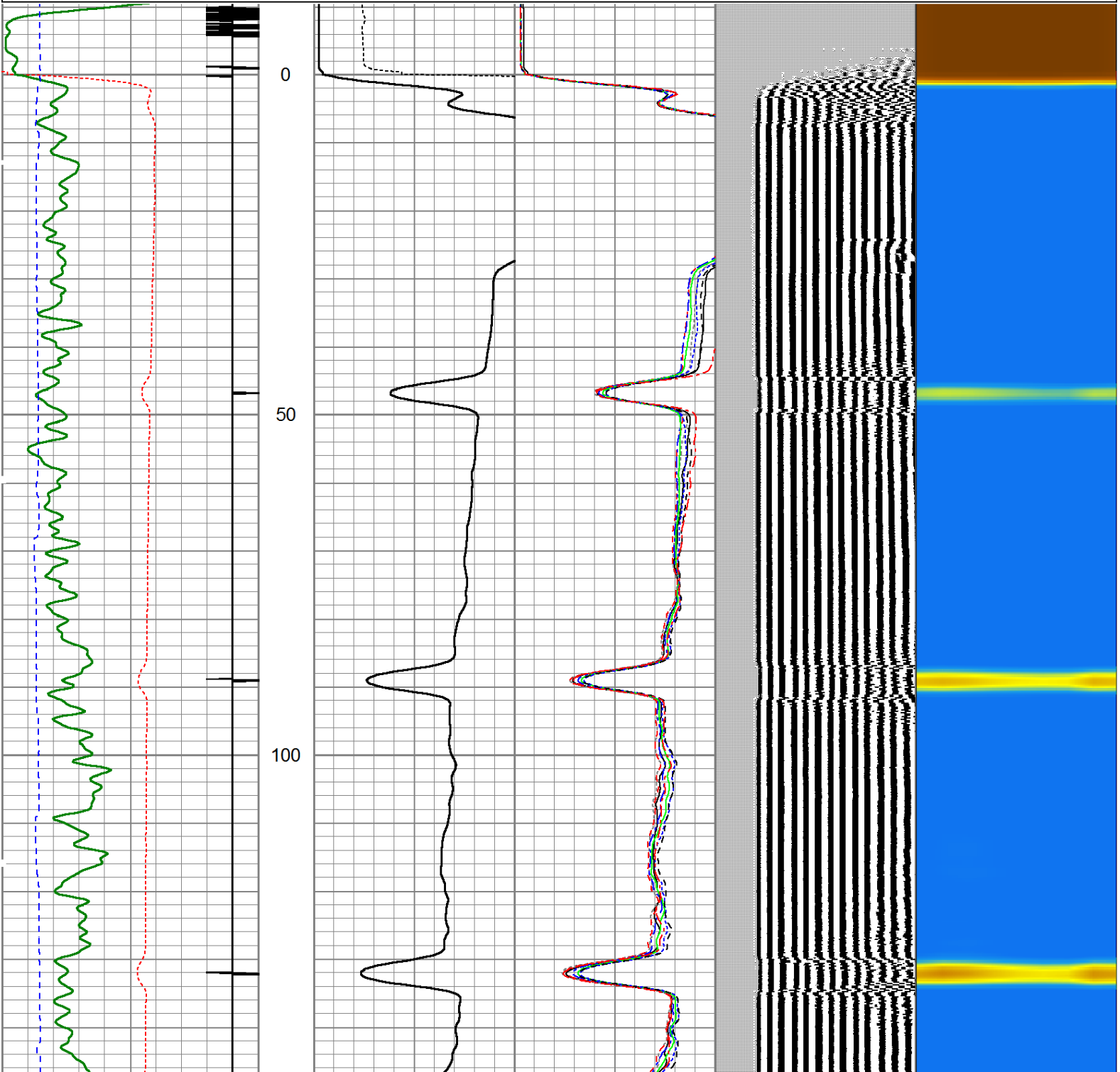
Thank you for using Allied Wireline.  
(303)659-4609

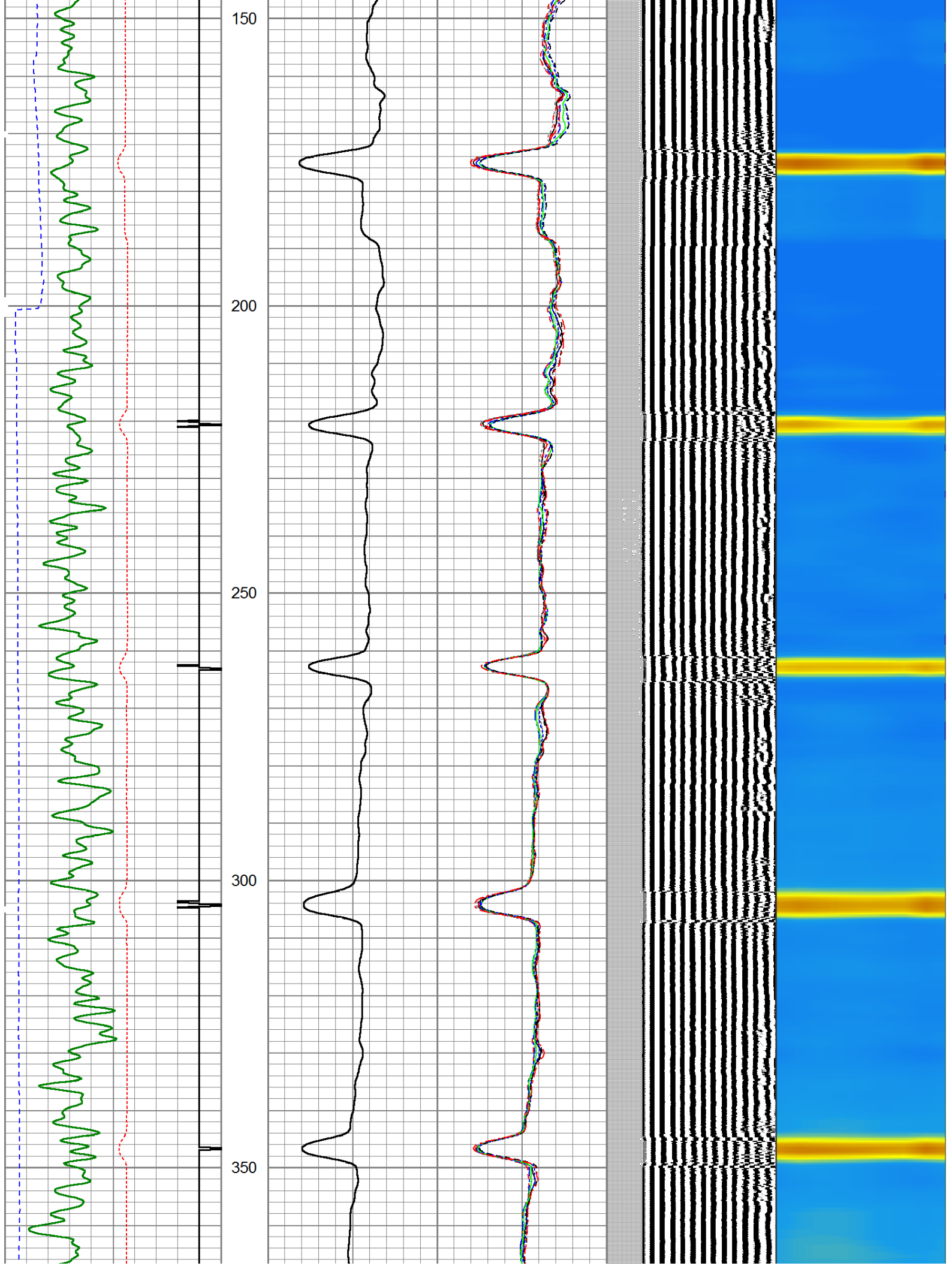


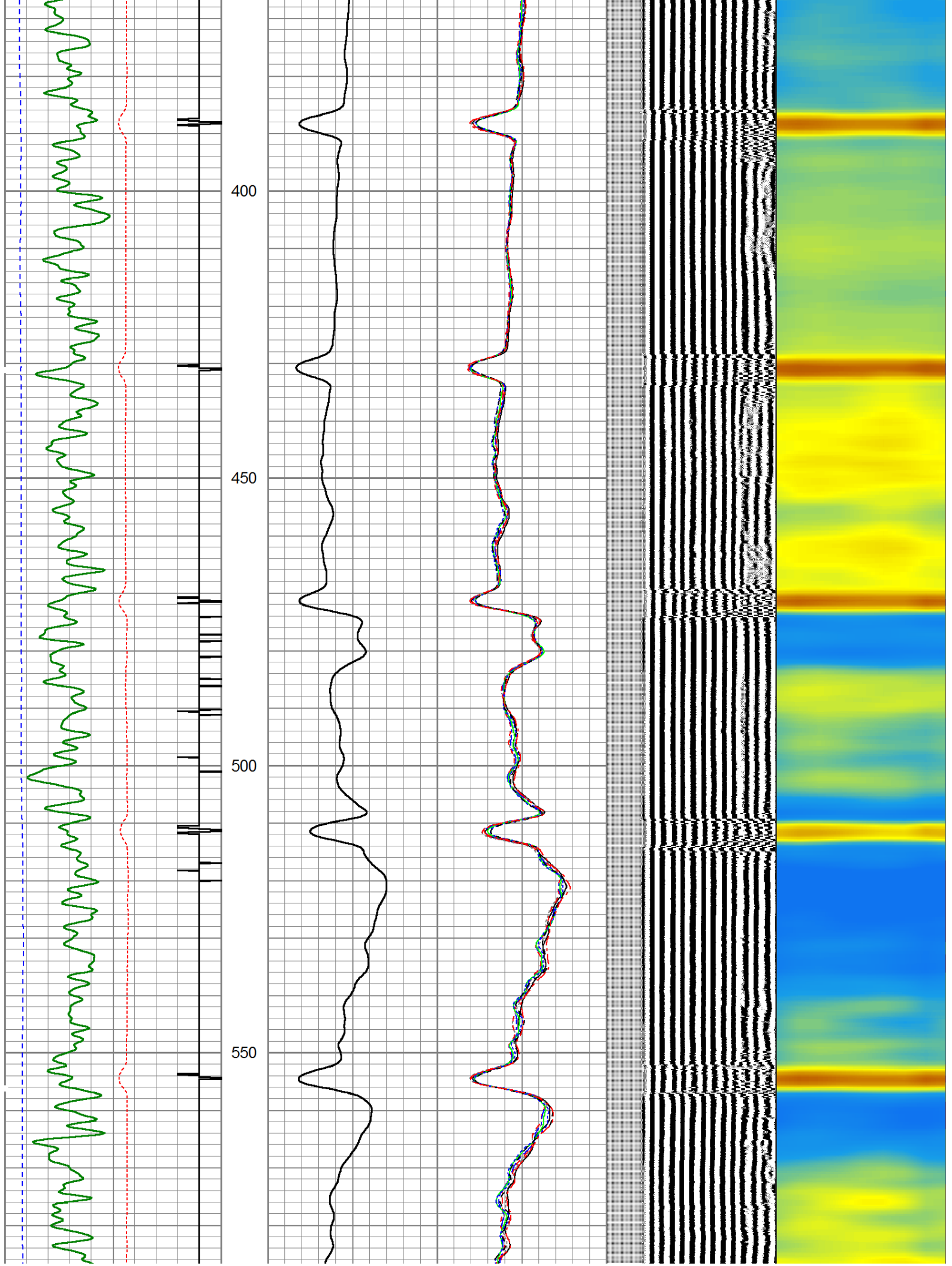
Main Pass ( 2050 PSI )

Database File: noble energy loeffler k01-65hn\_rcbl.db  
Dataset Pathname: pass7  
Presentation Format: scbl03  
Dataset Creation: Fri Dec 06 22:29:19 2013 by Log 0  
Charted by: Depth in Feet scaled 1:240

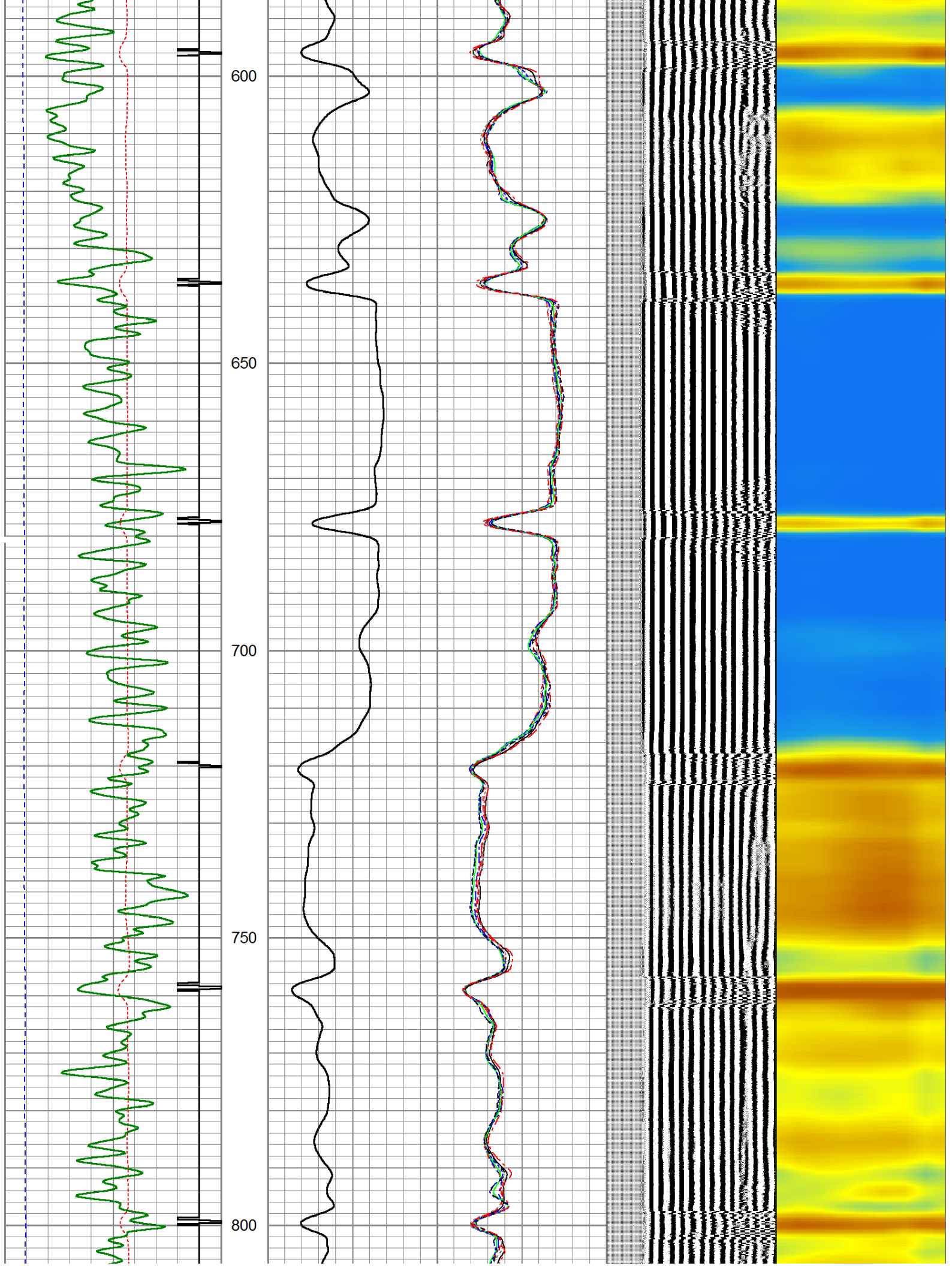
400	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	AMPS1	150	Variable Density		1	Cement Map	8
9	Casing Collar	-1	Amplified Amplitude		-5	AMPS2	150	200	1200	0	100		
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	AMPS3	150					
0	Line Tension (lb)	2000			-5	AMPS4	150						
					-5	AMPS5	150						
					-5	AMPS6	150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

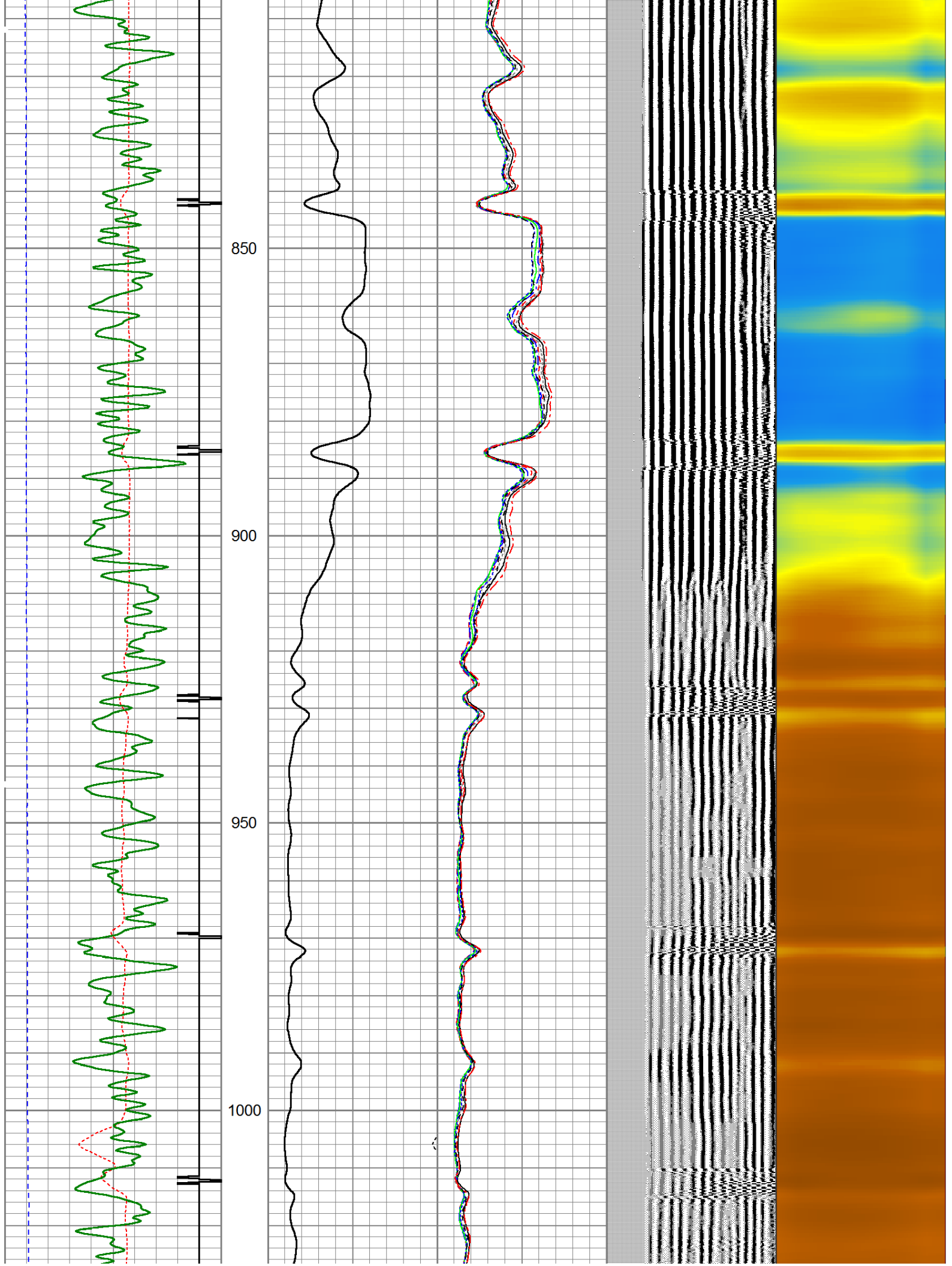


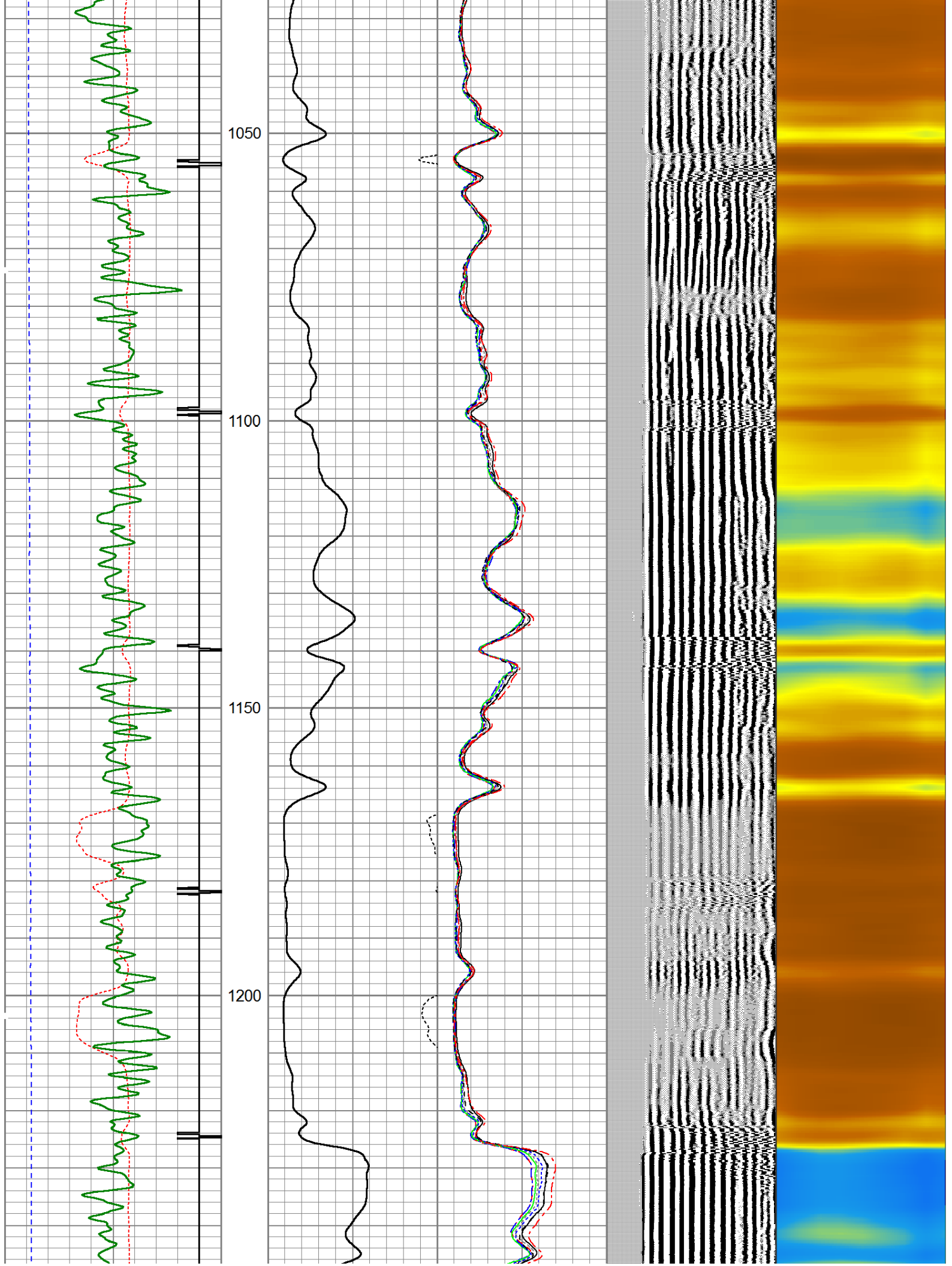




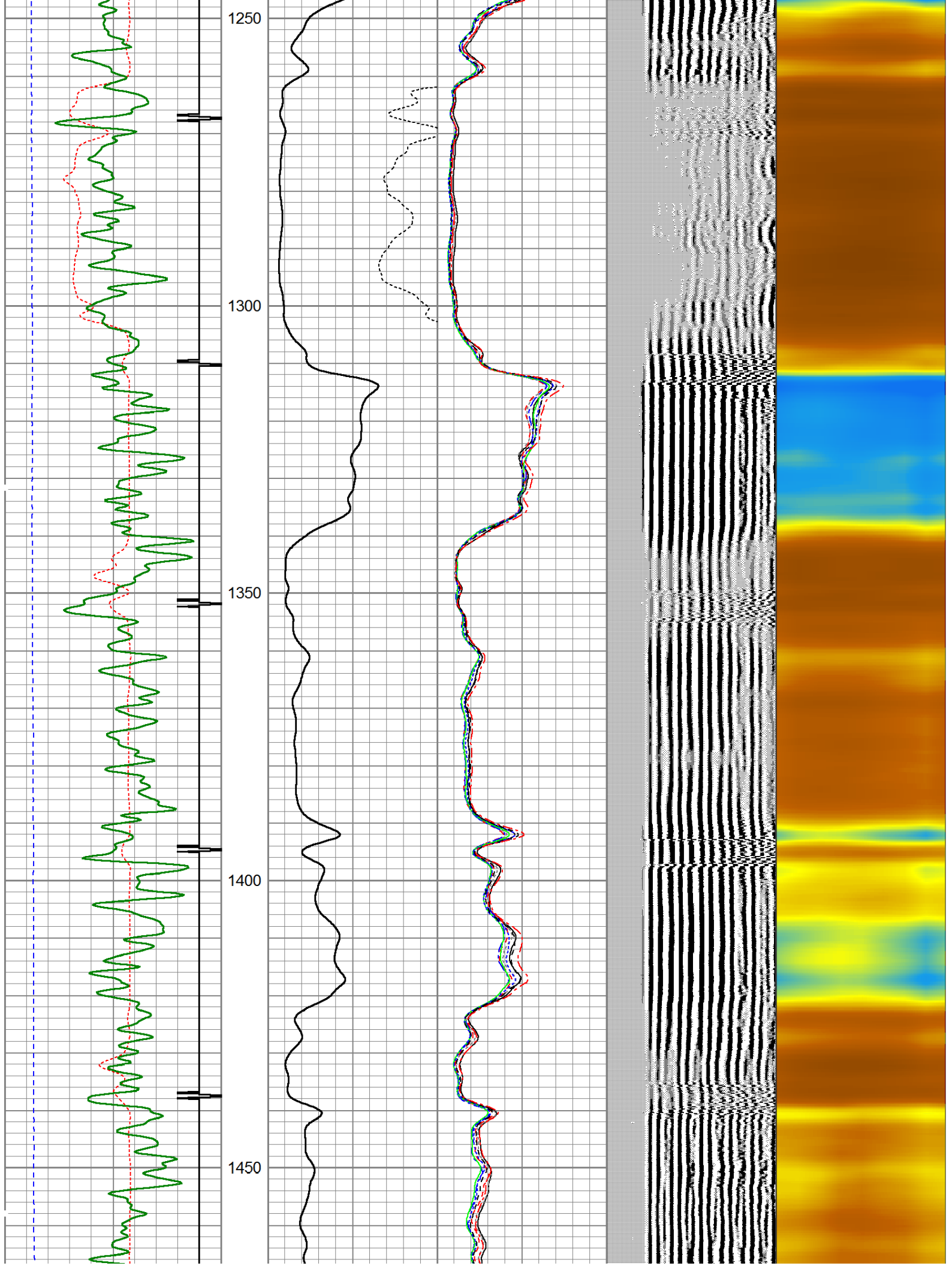




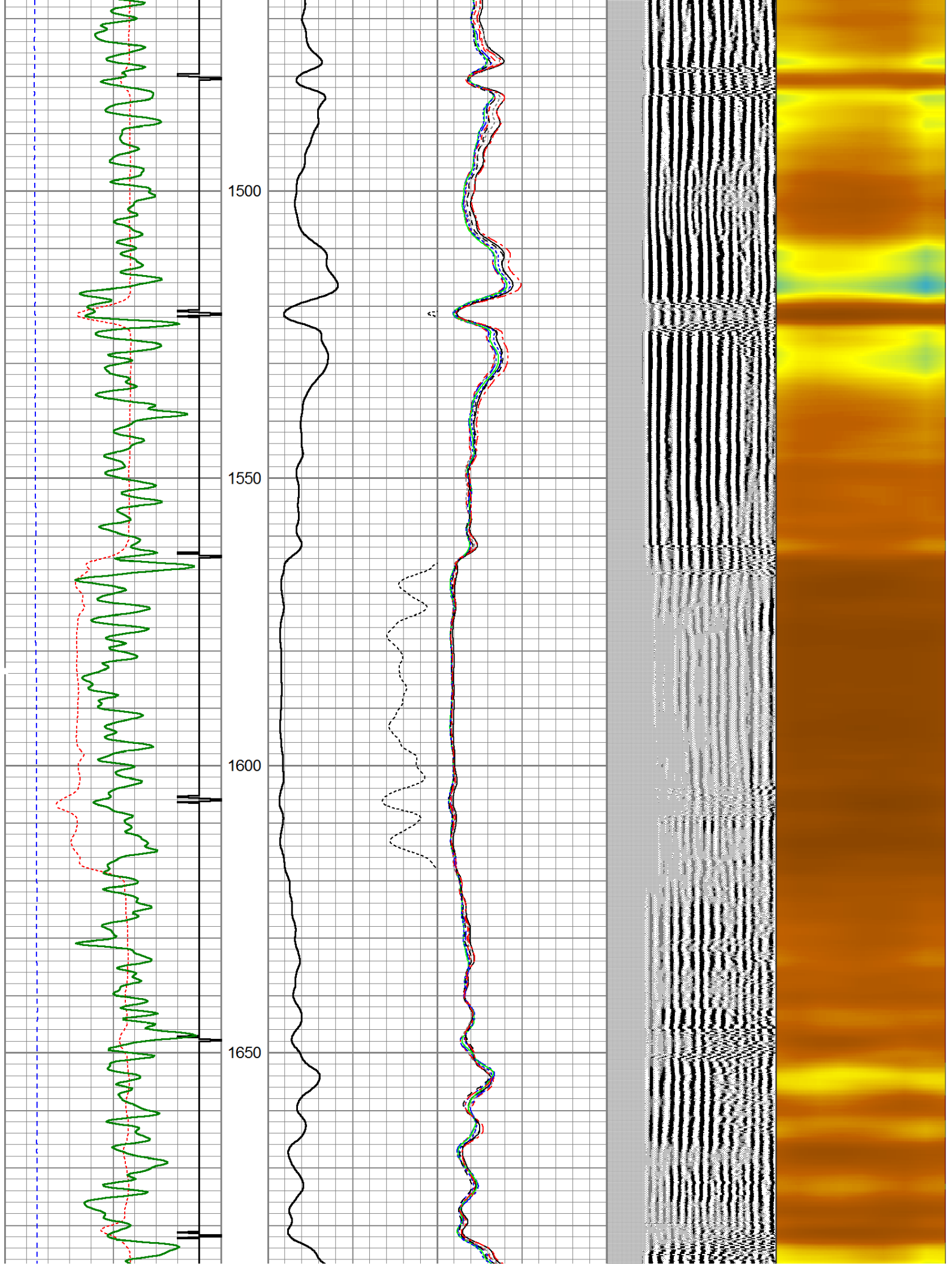


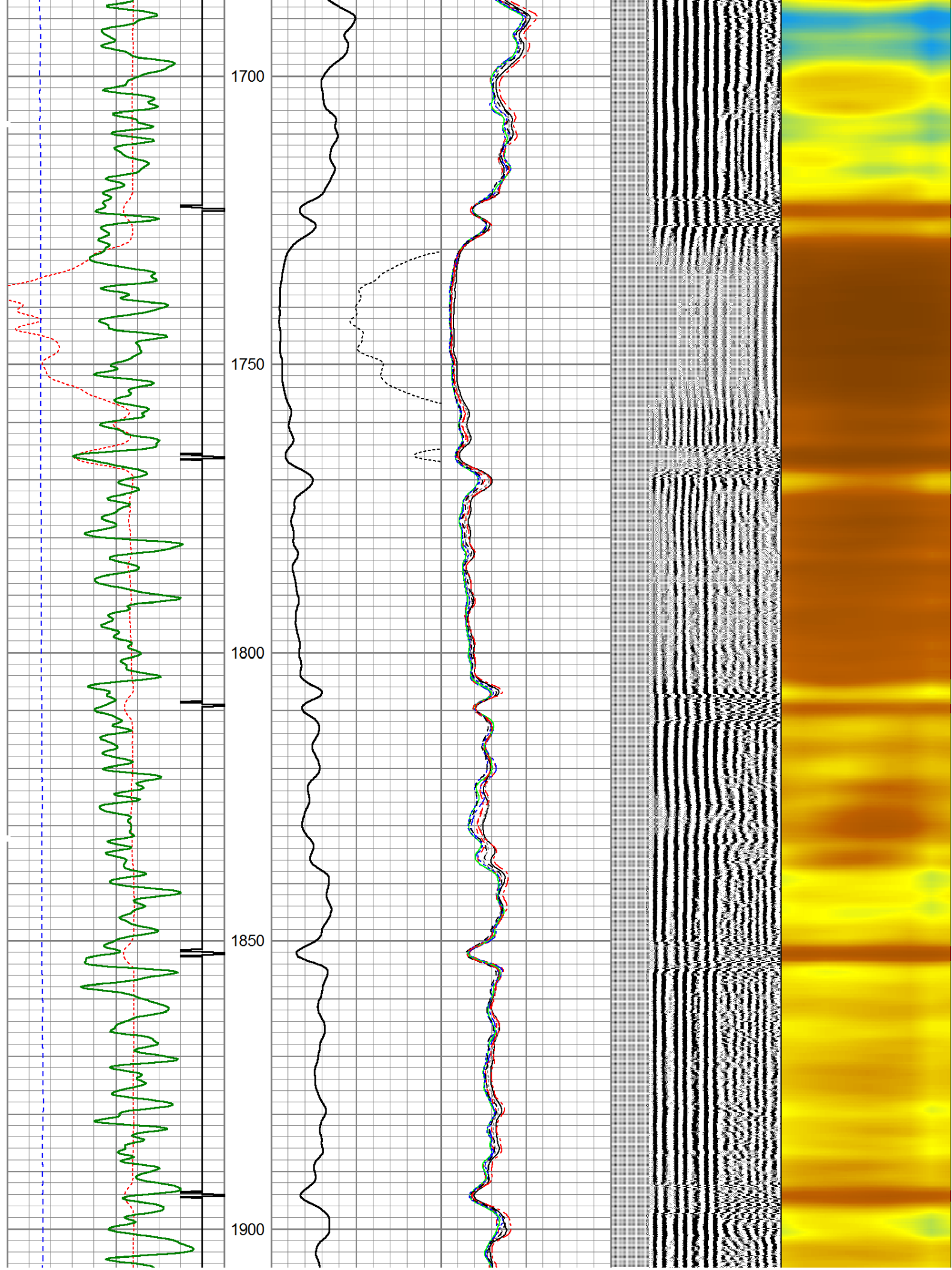




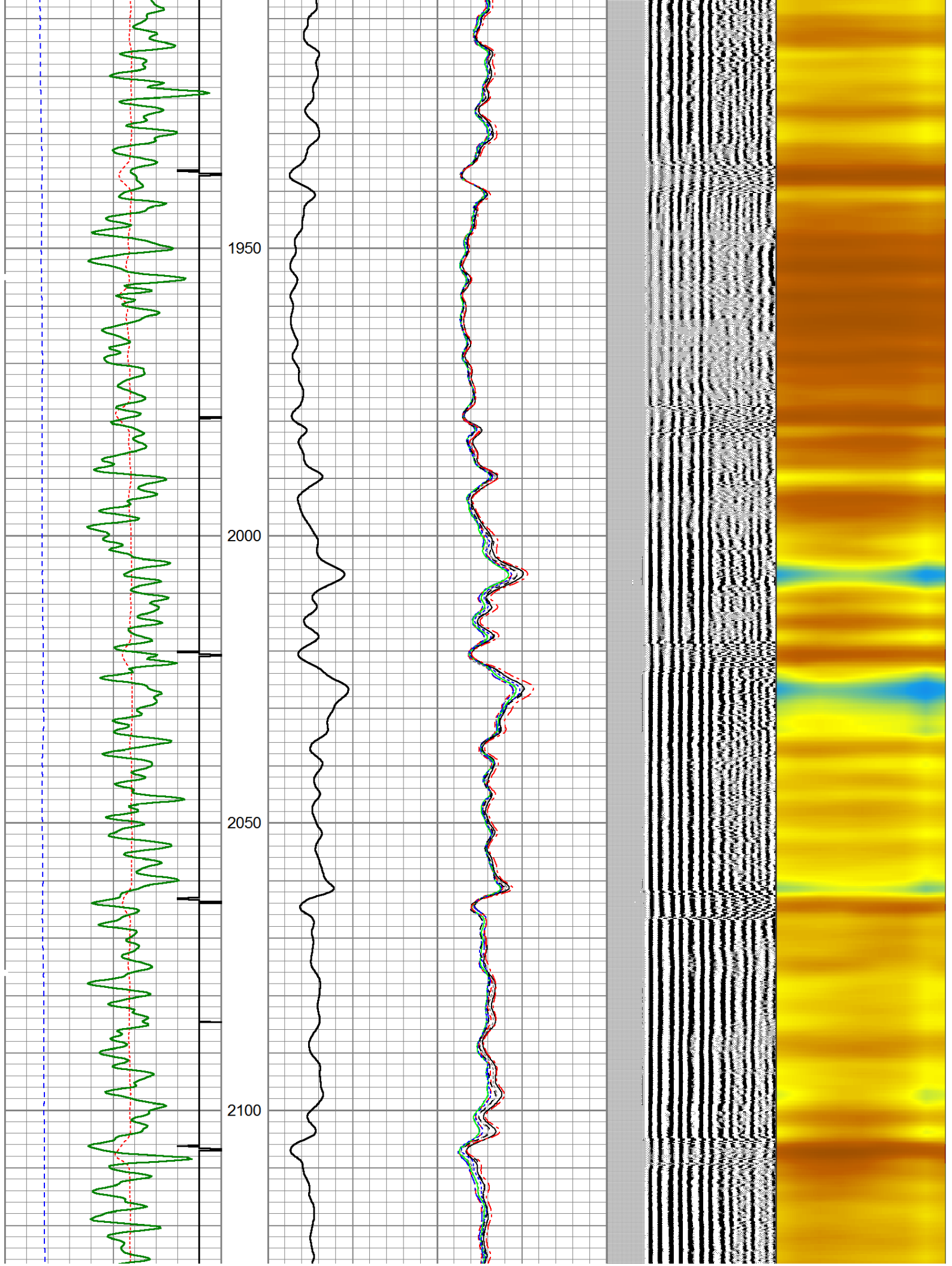


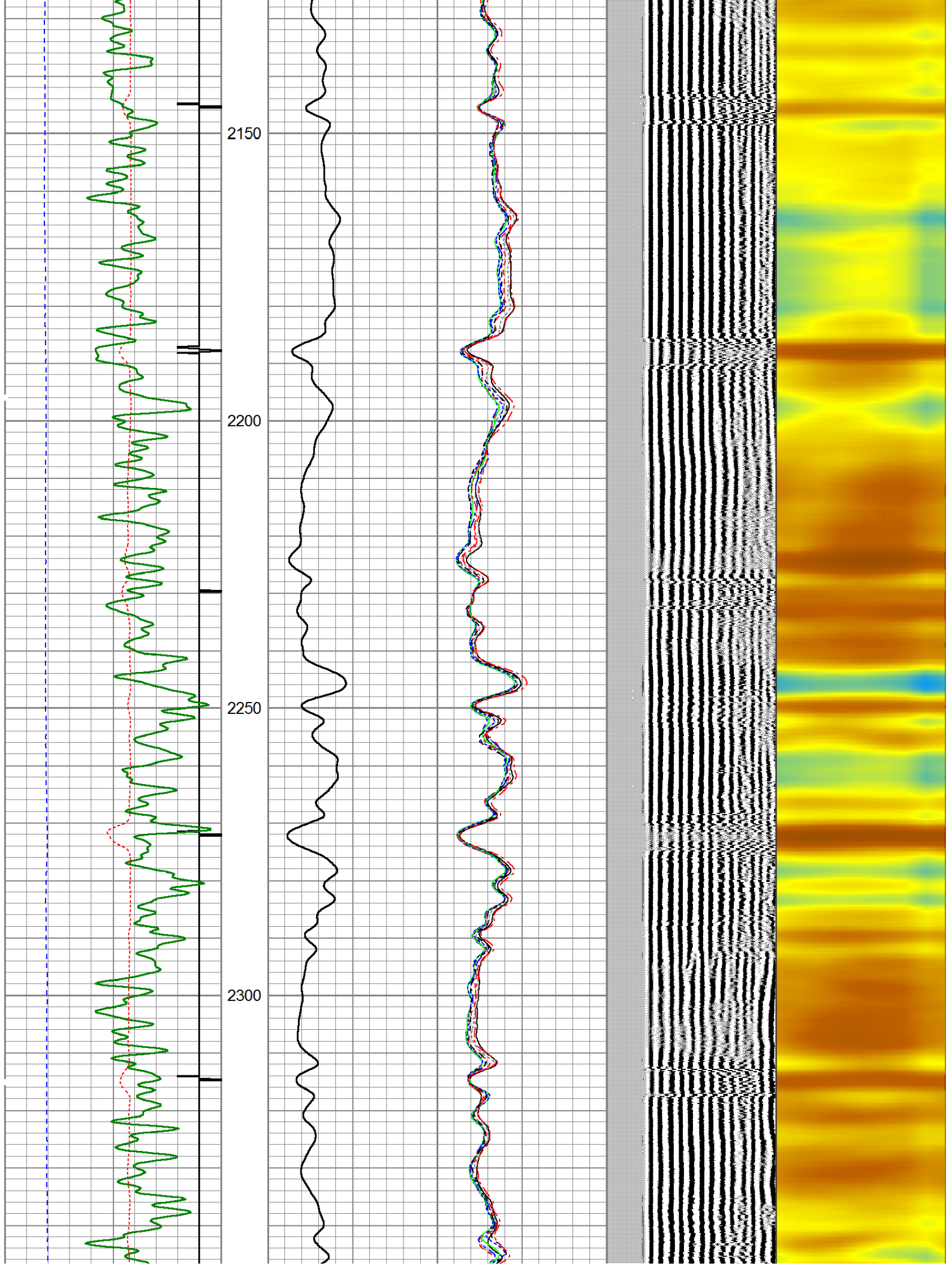




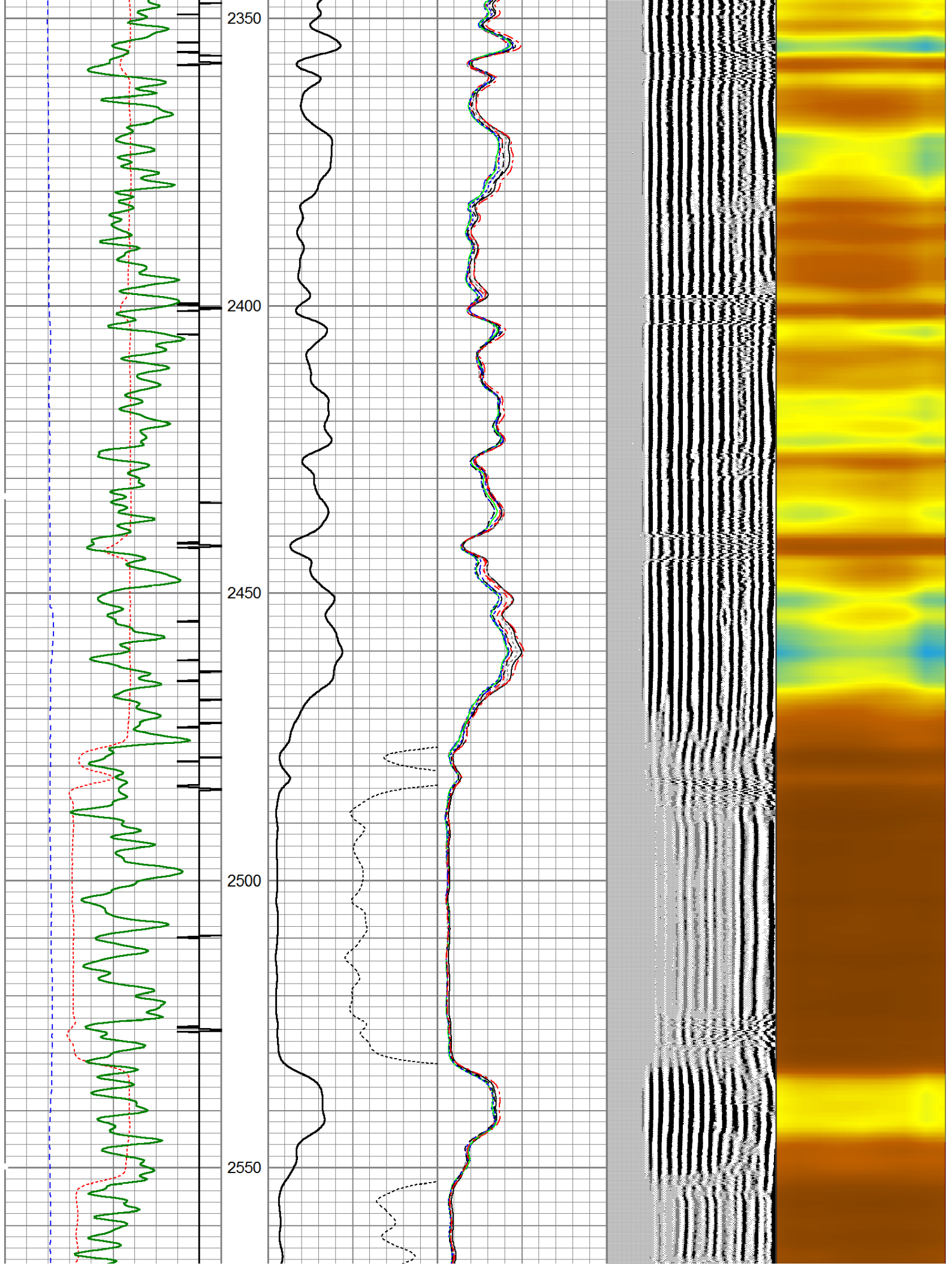


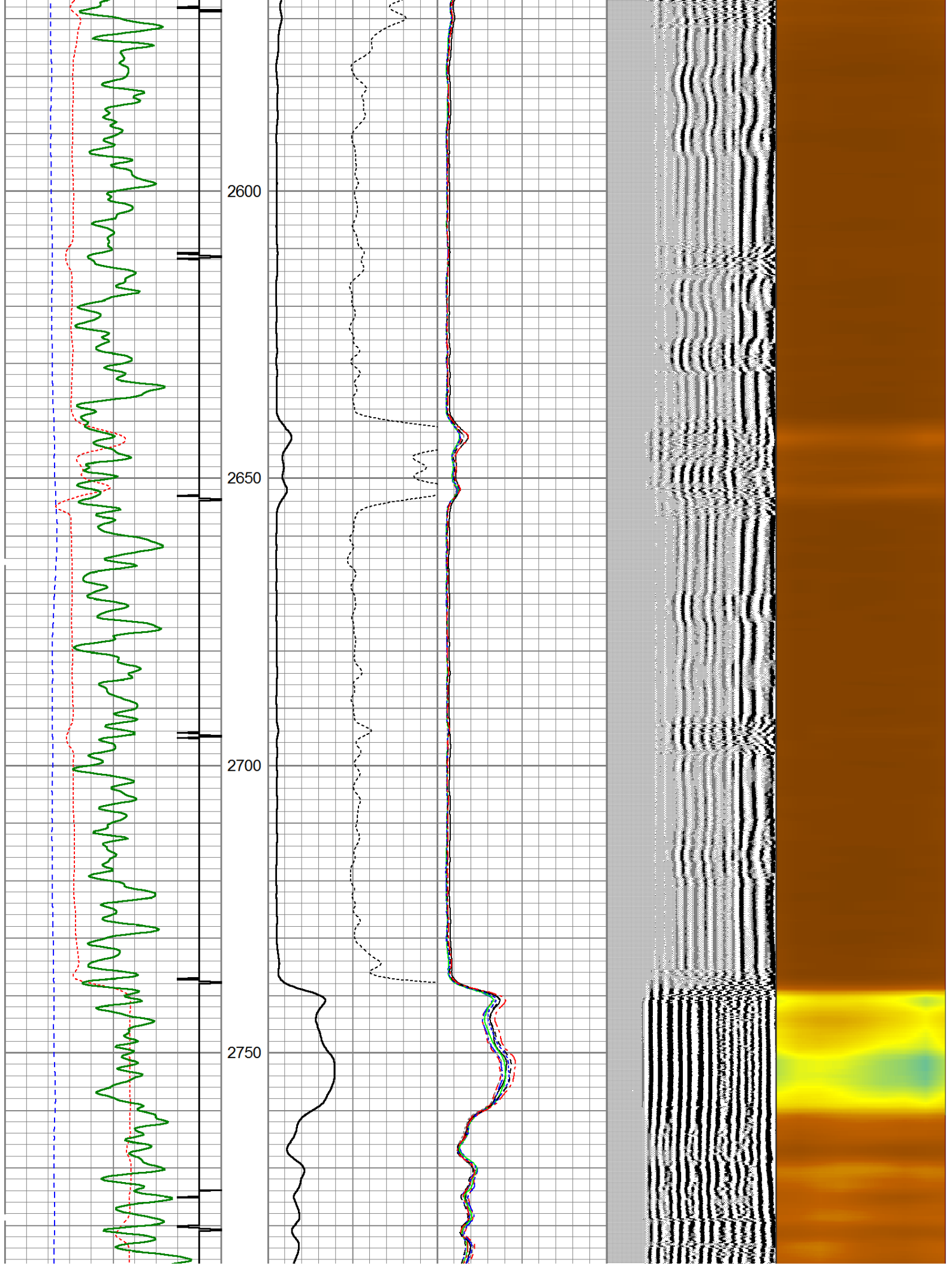




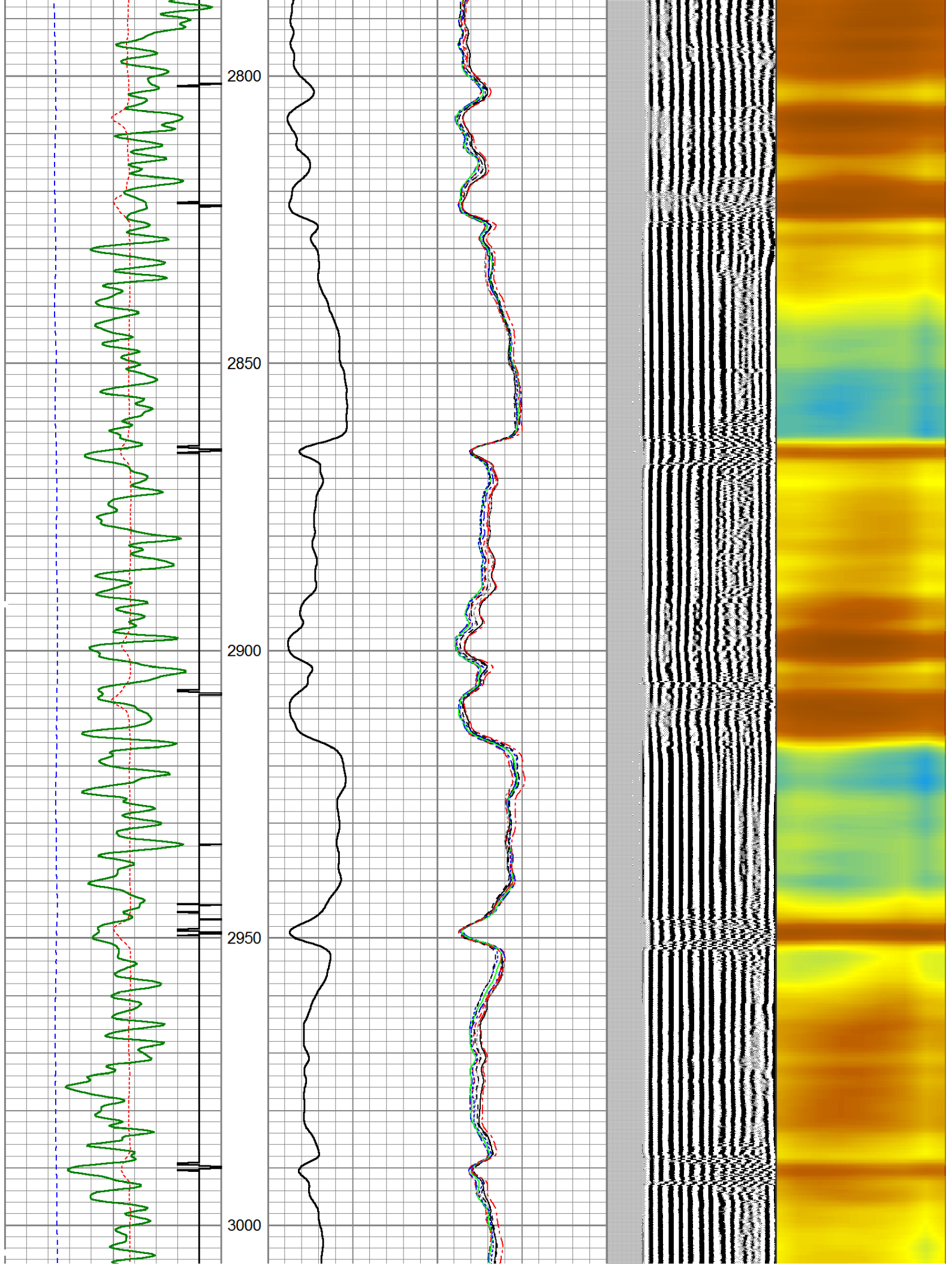


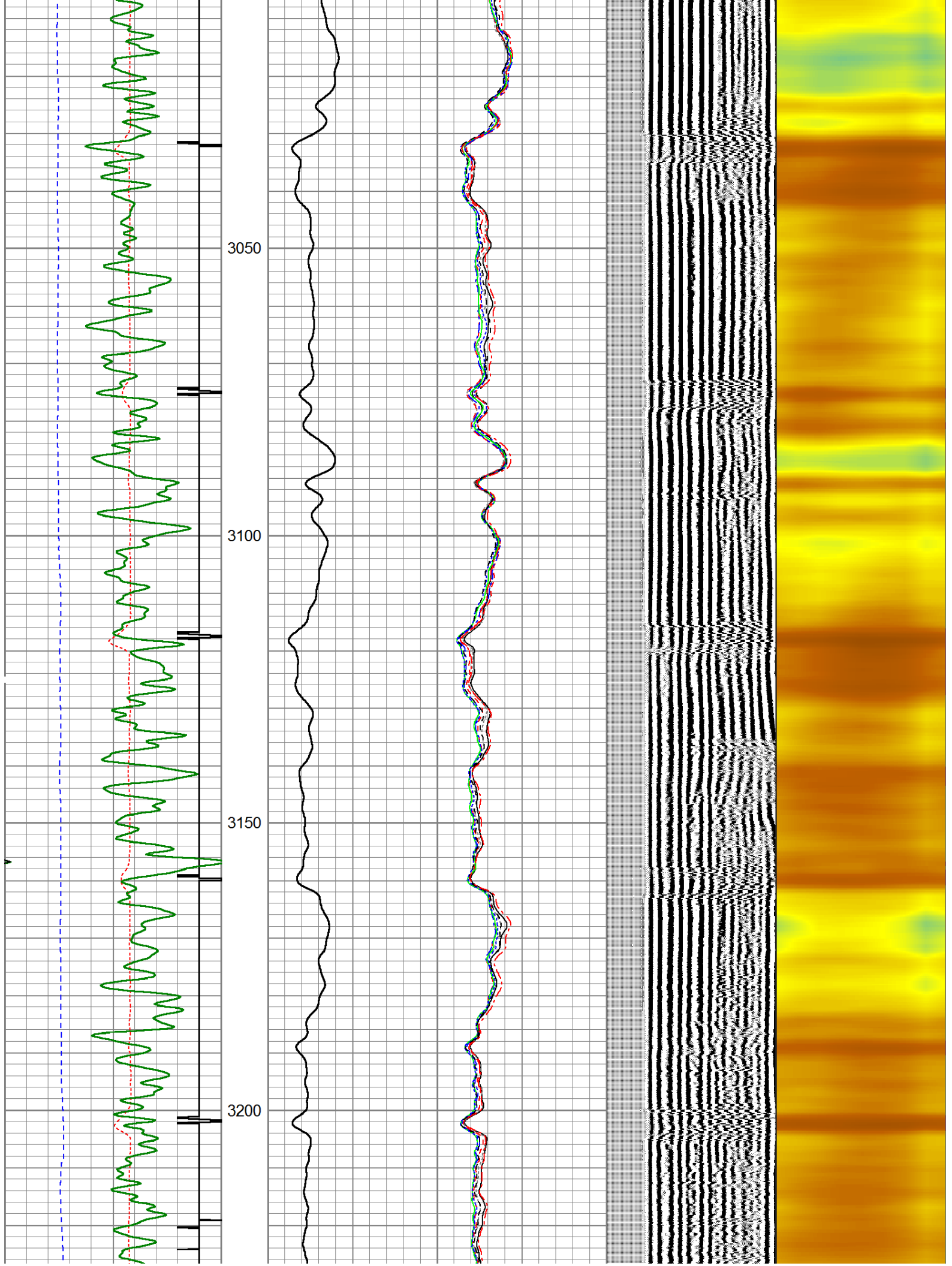




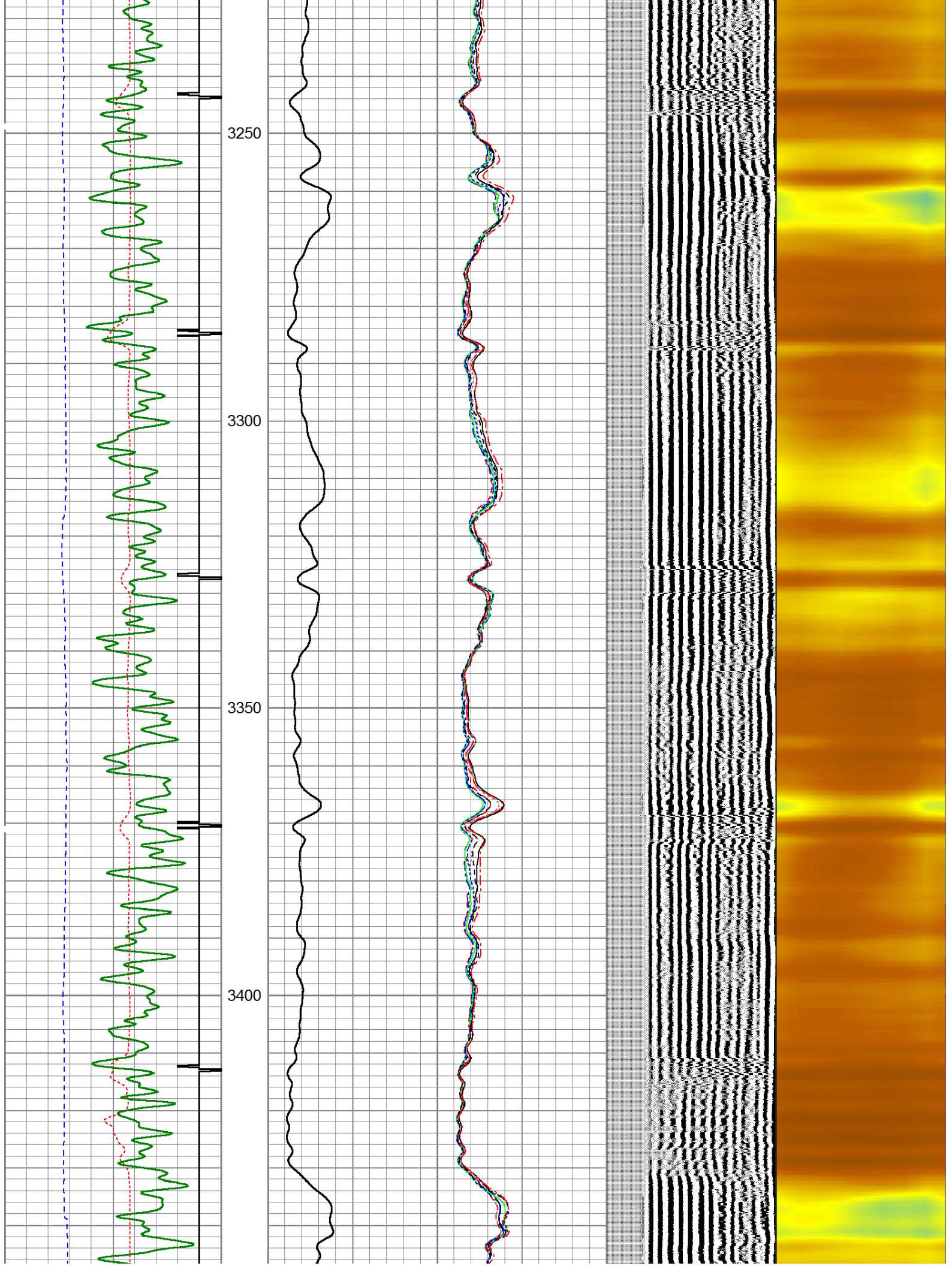


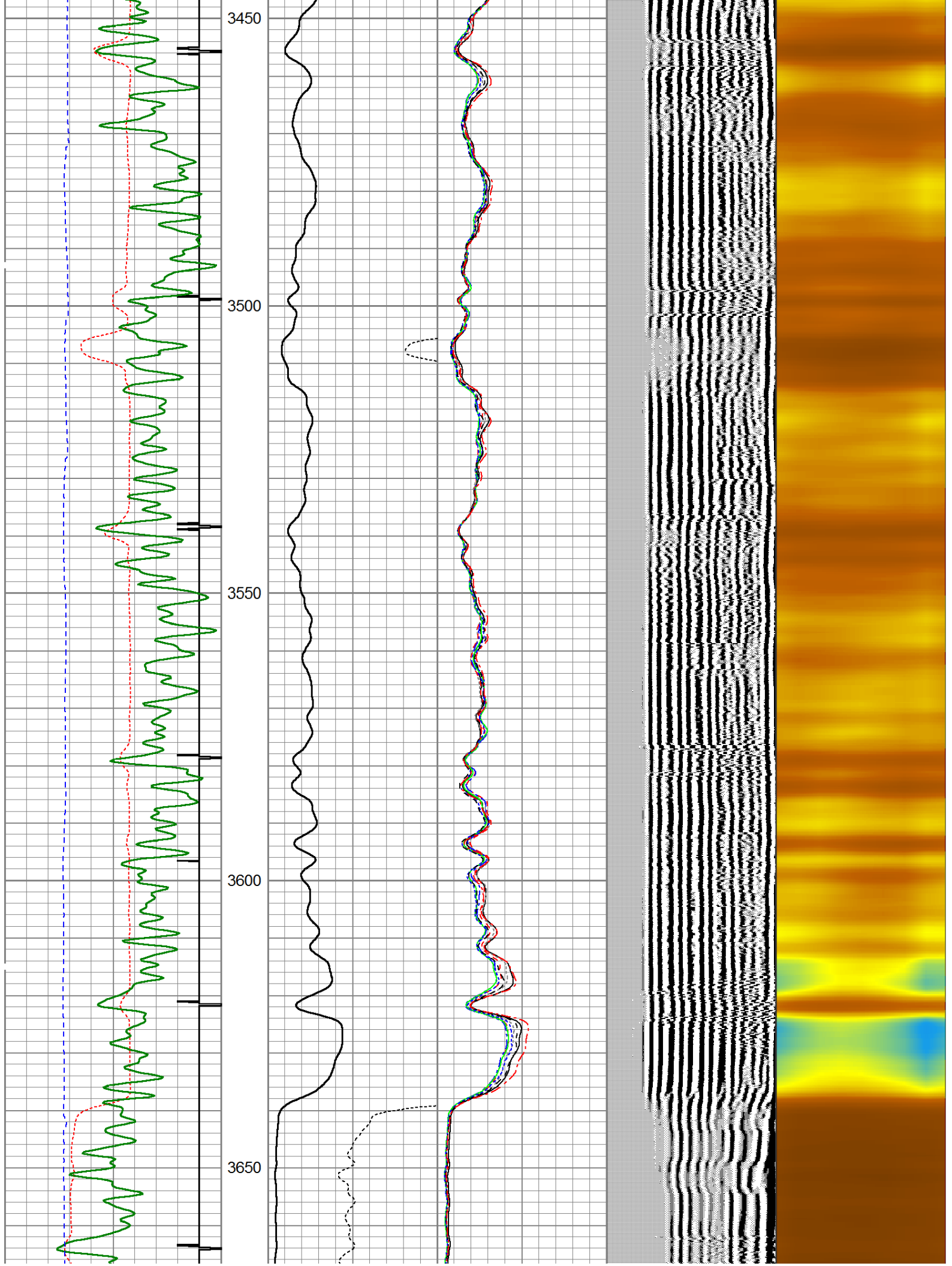


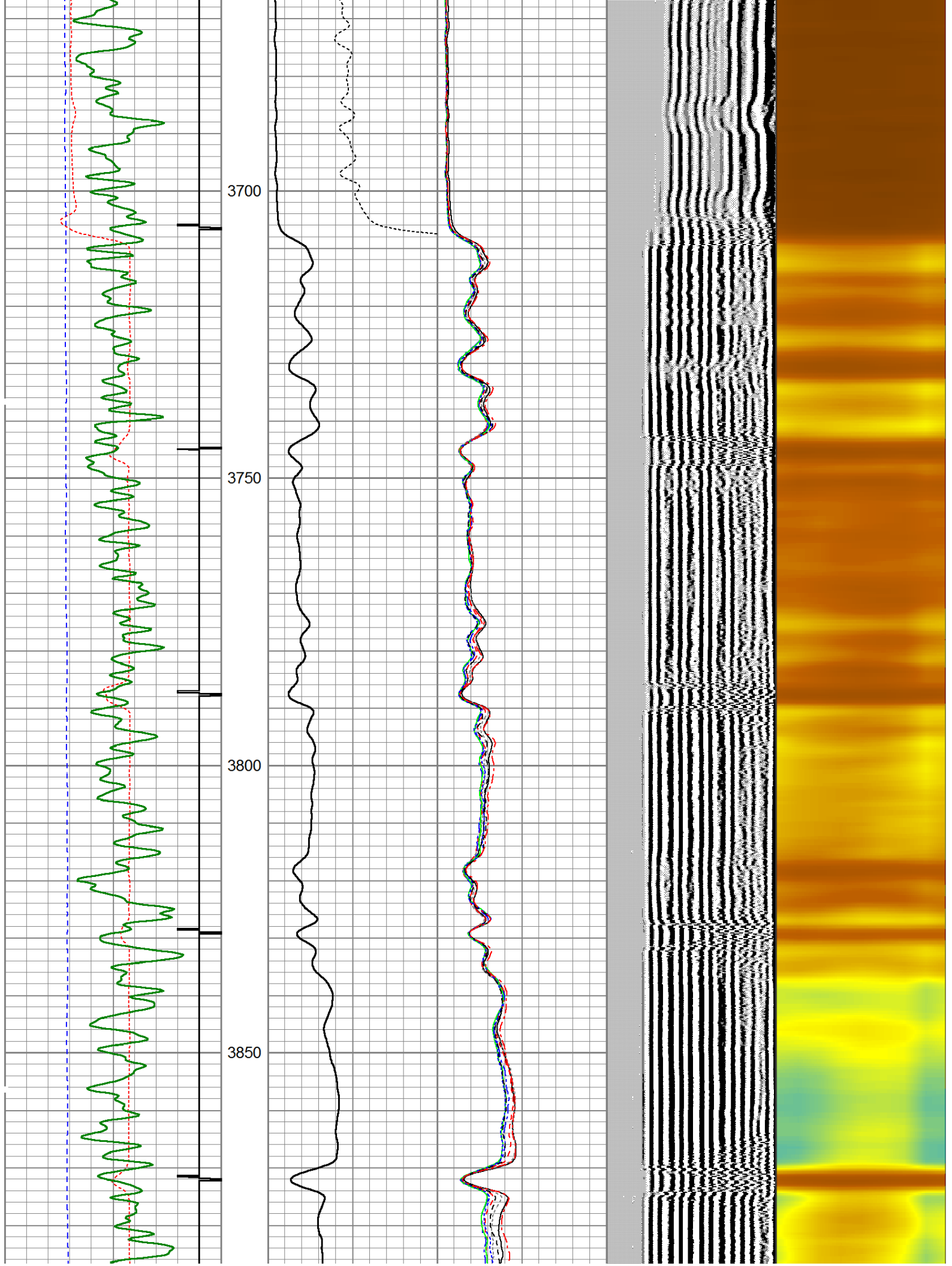




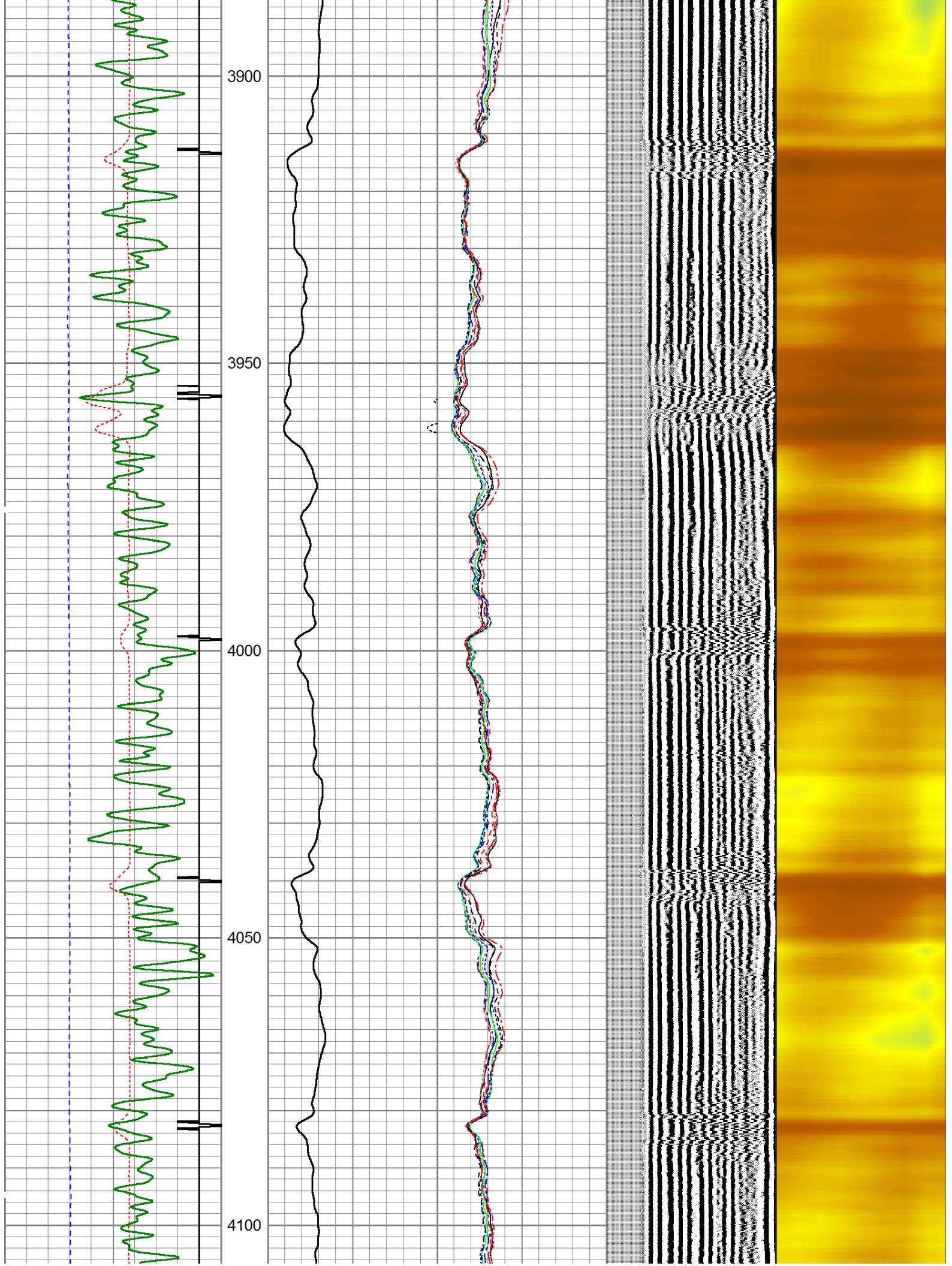




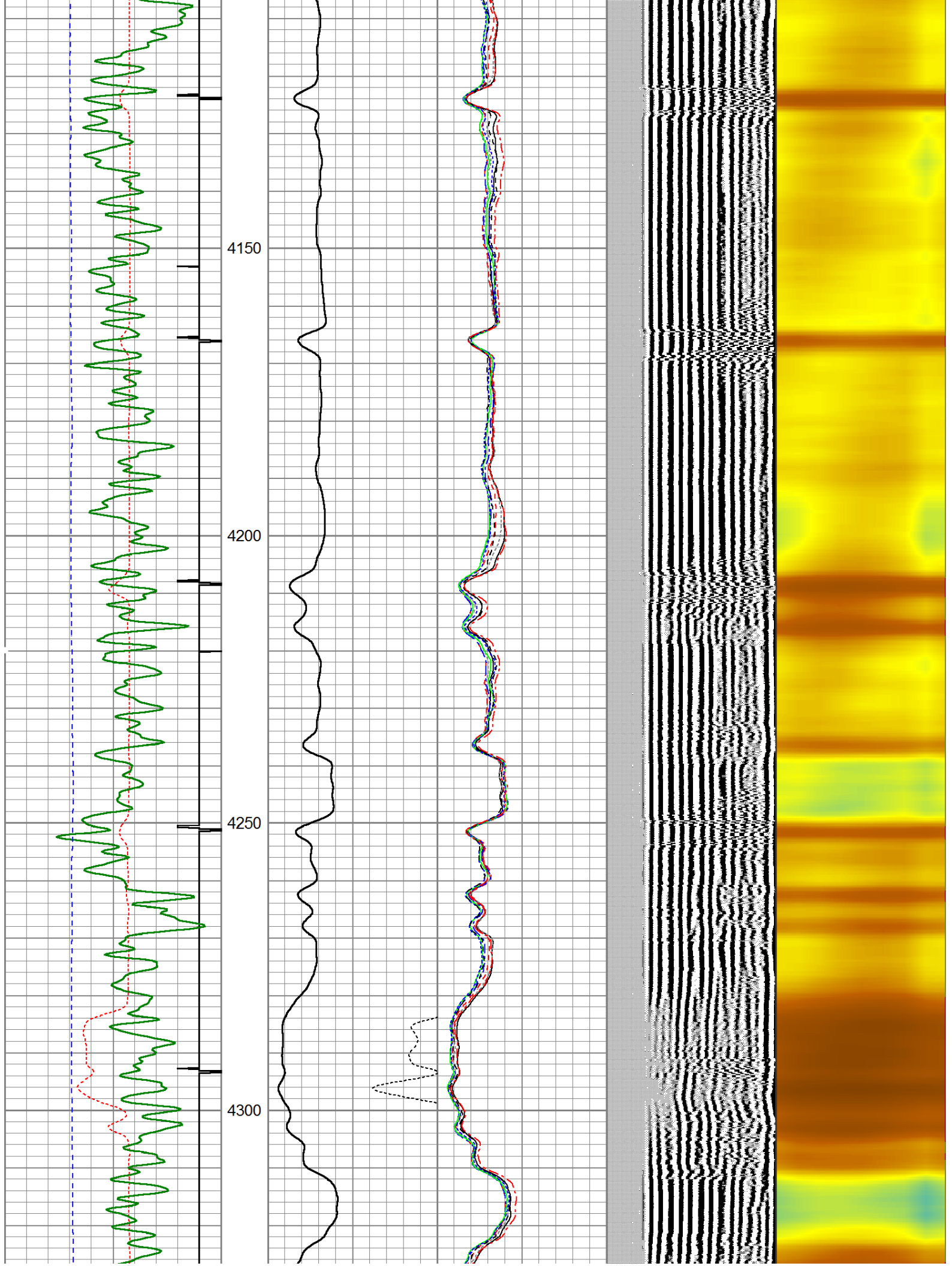


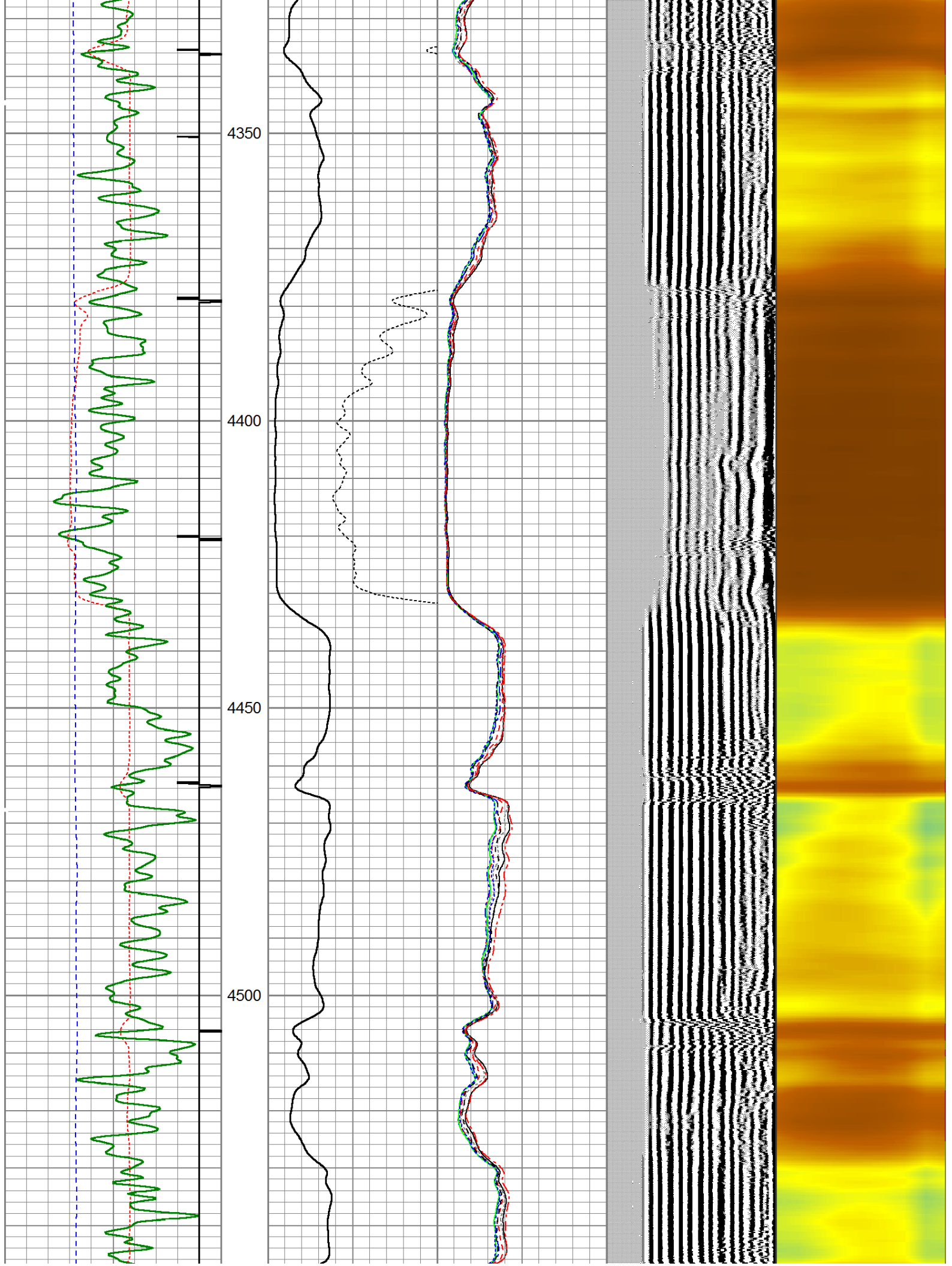


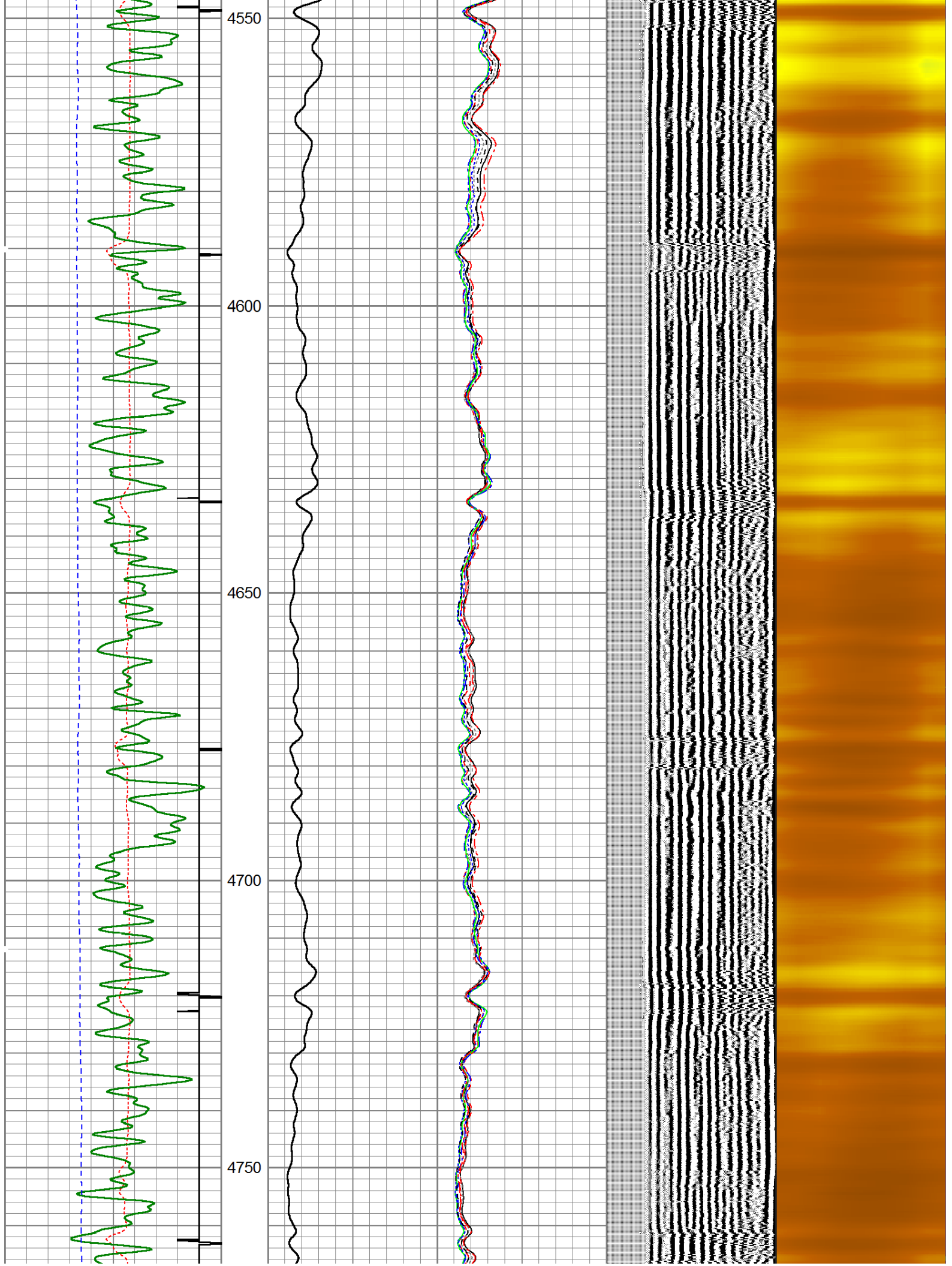




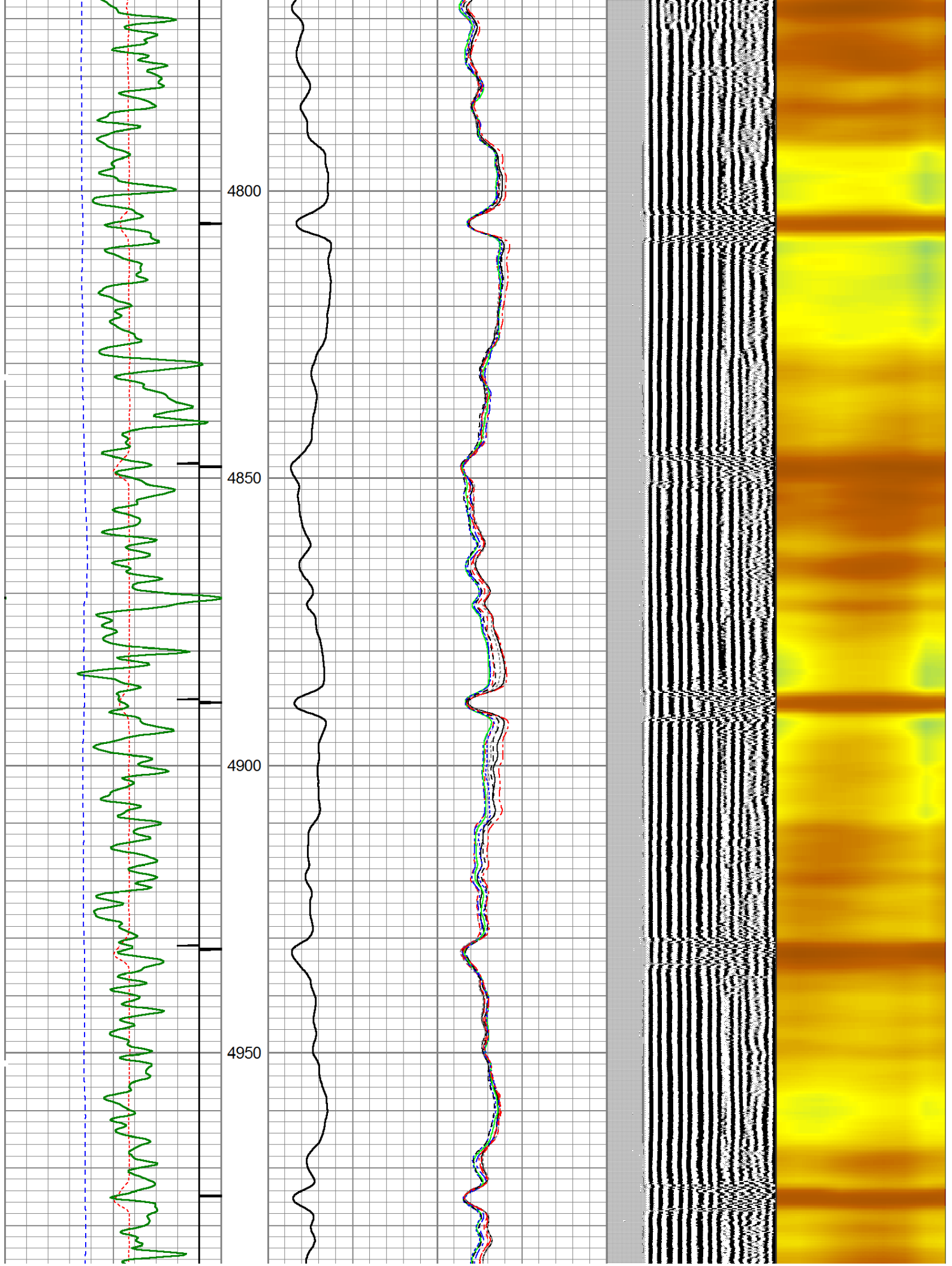


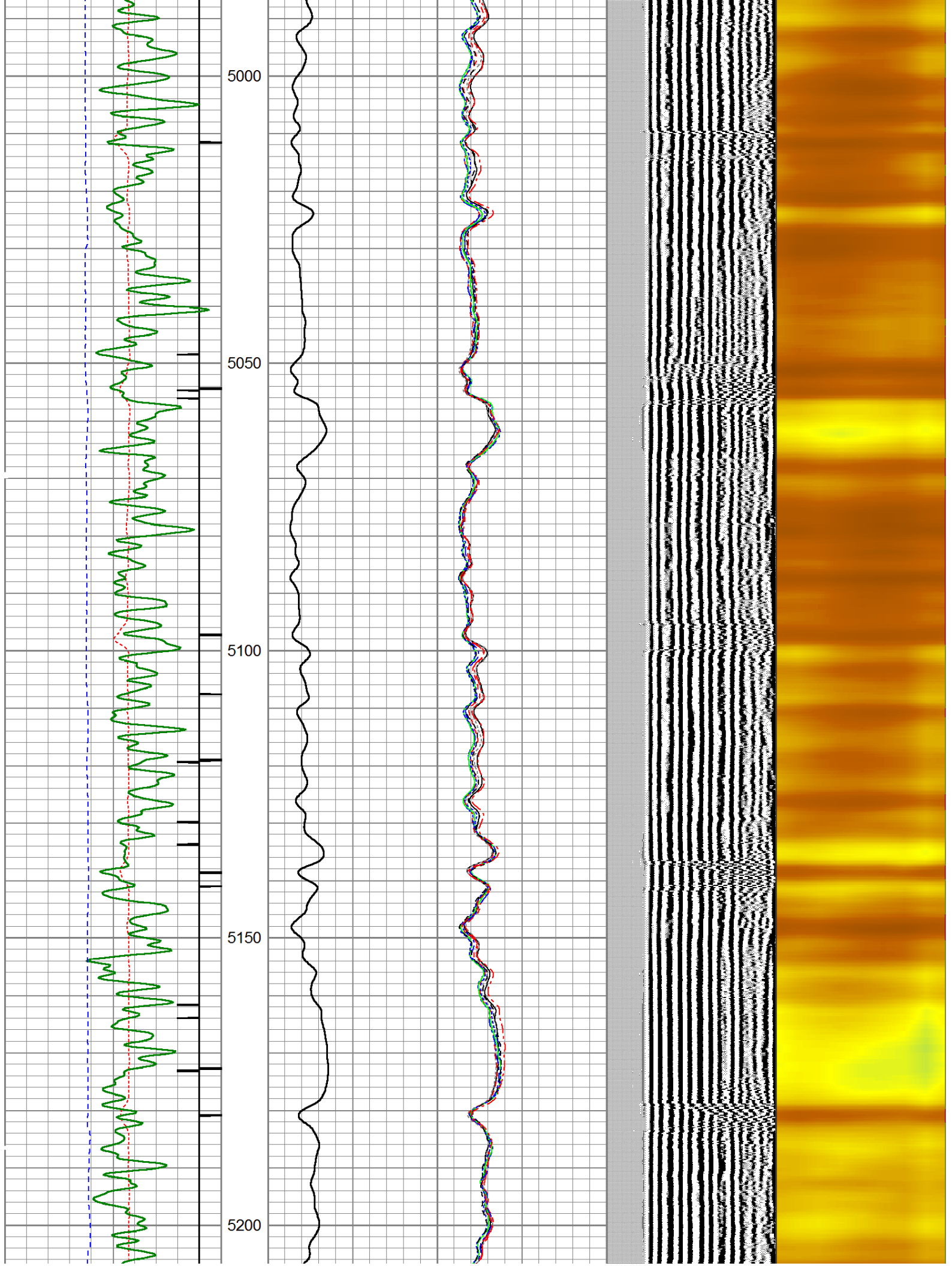


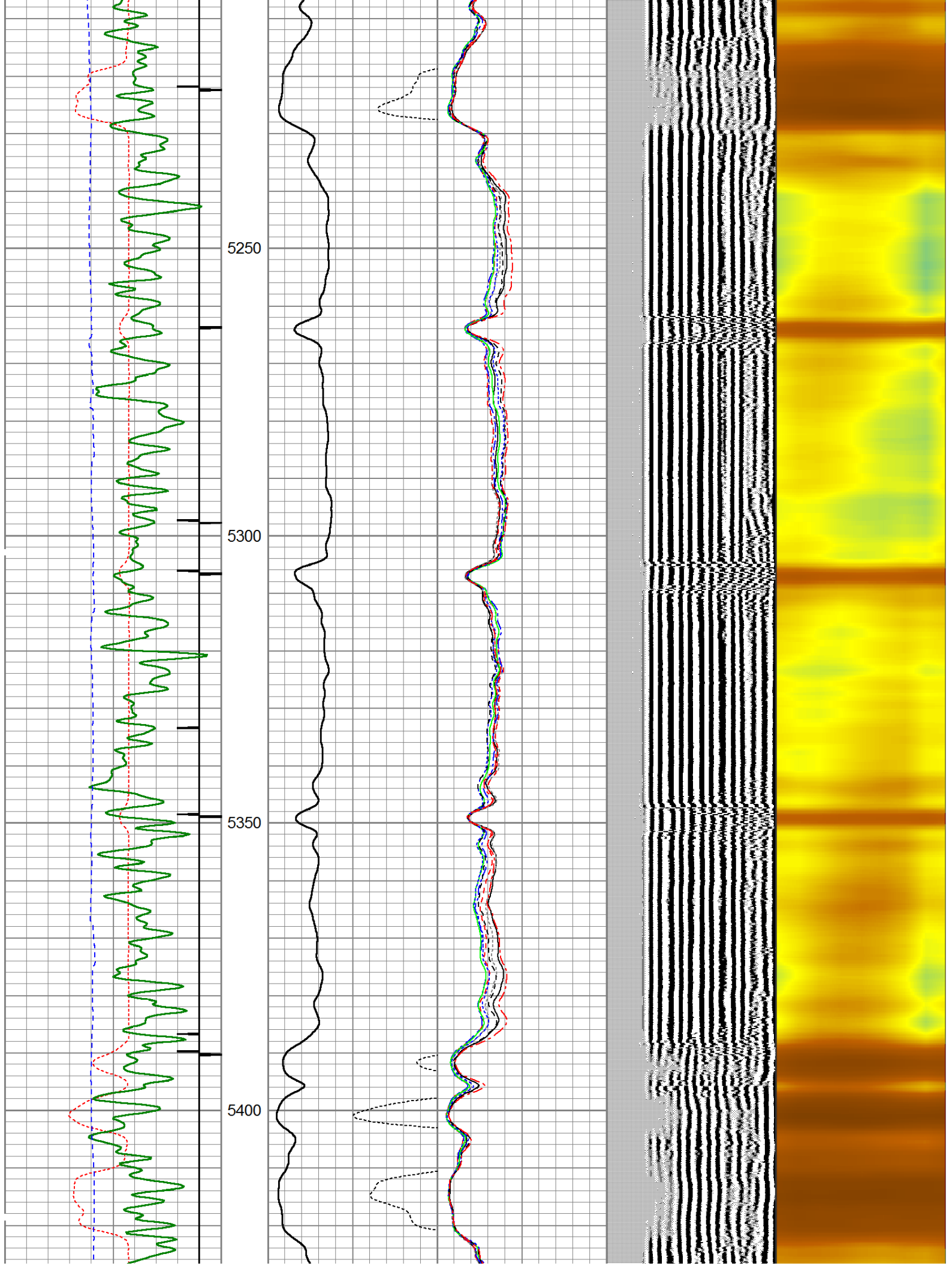




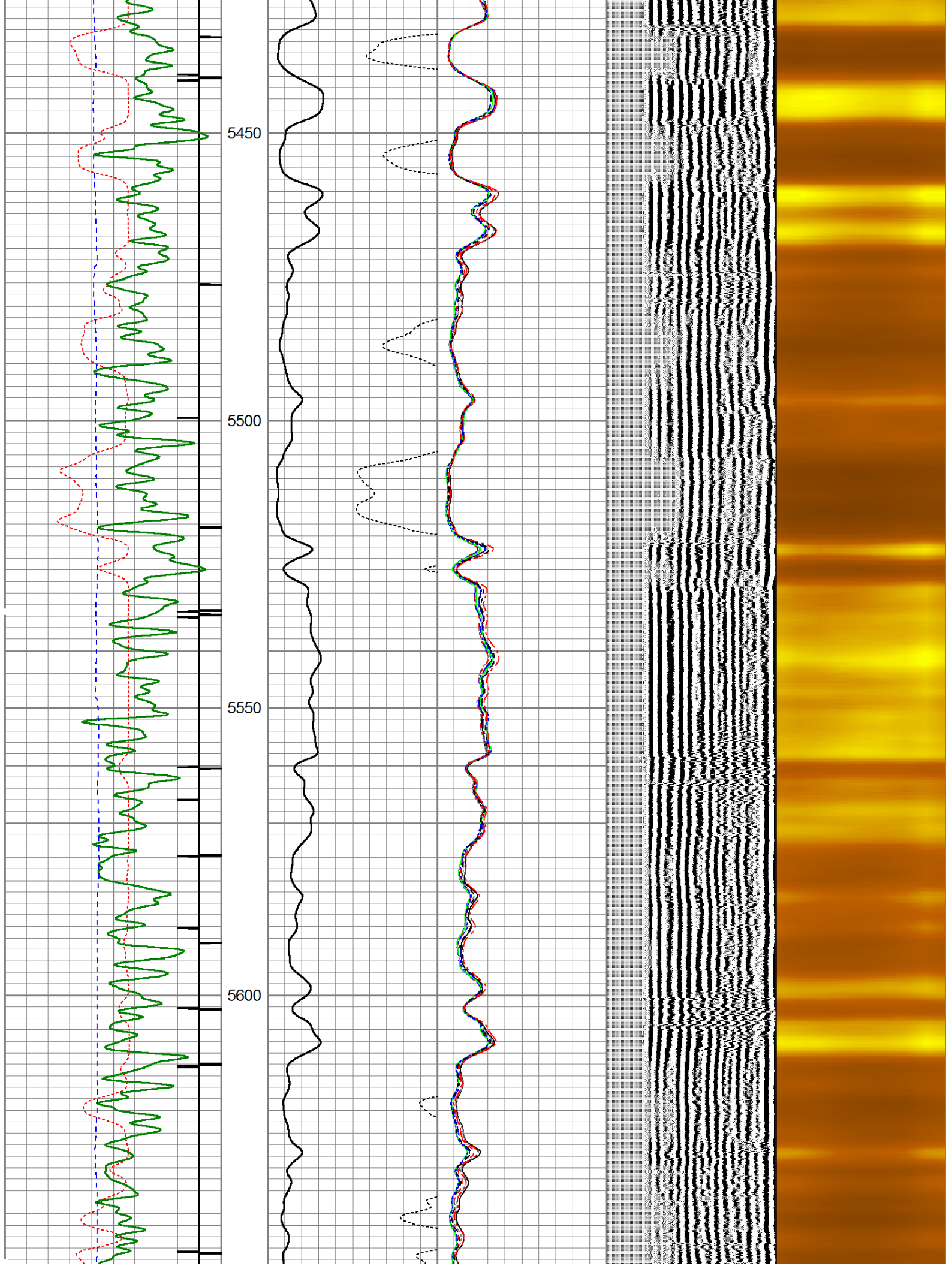


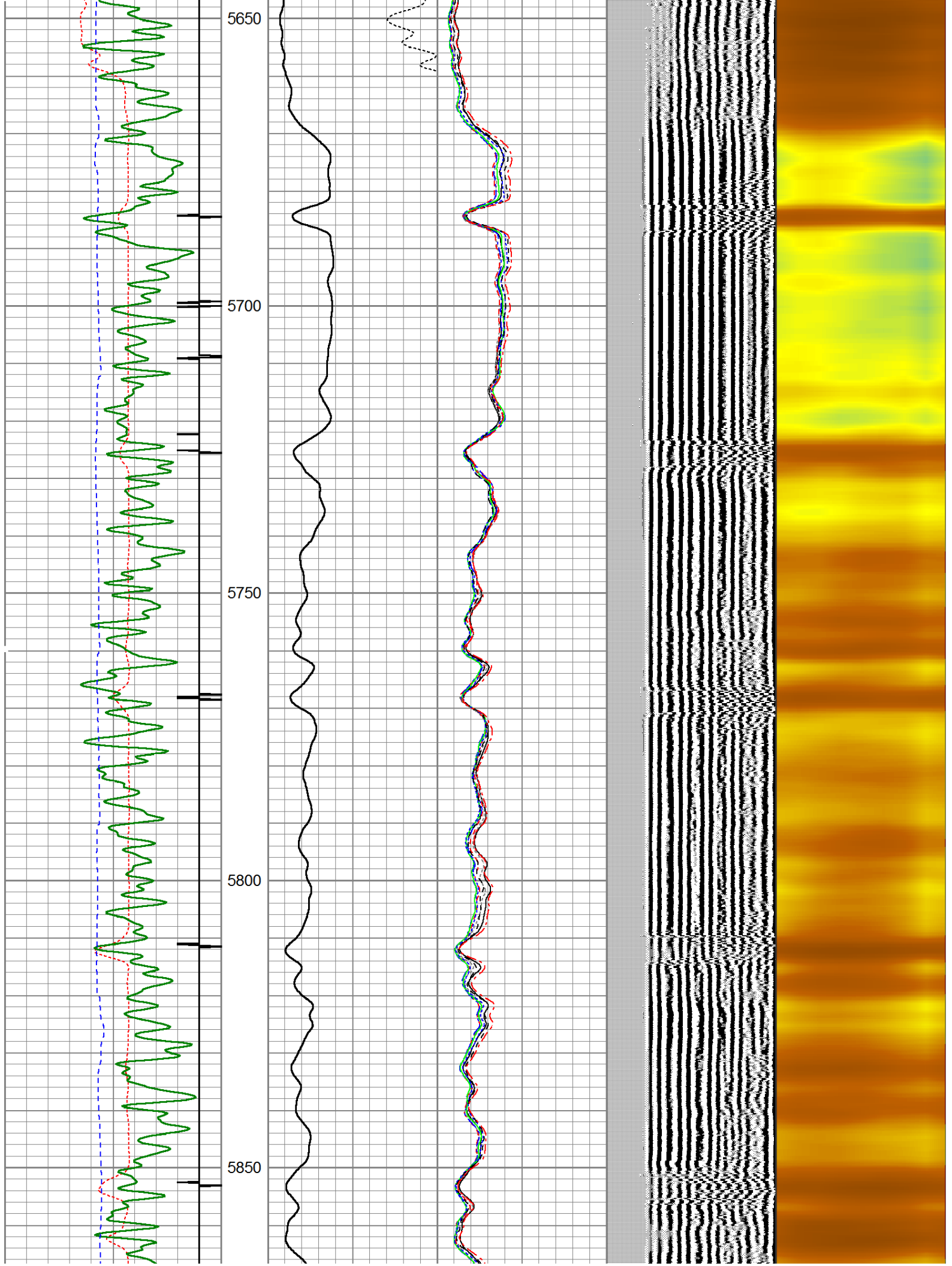




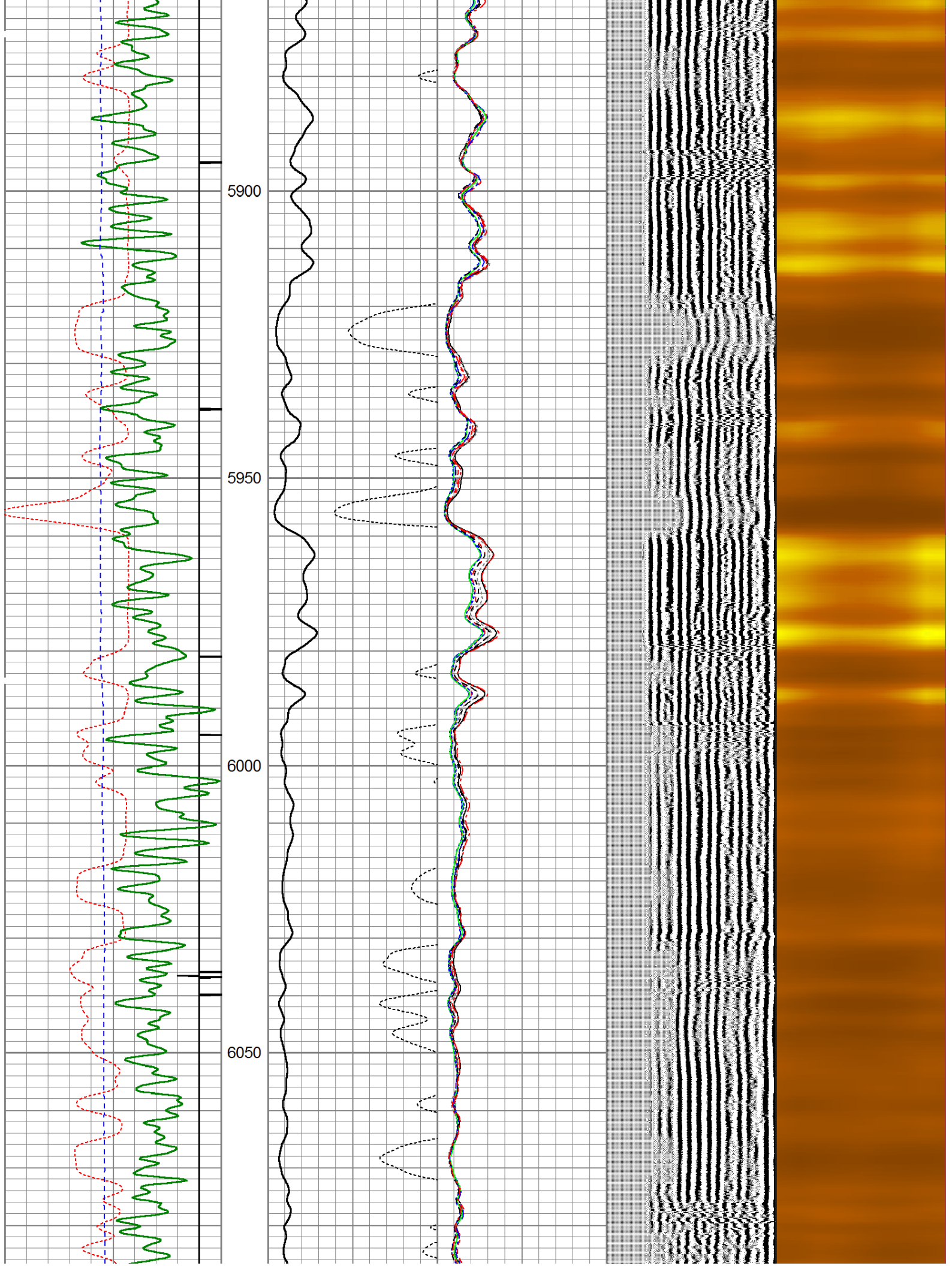




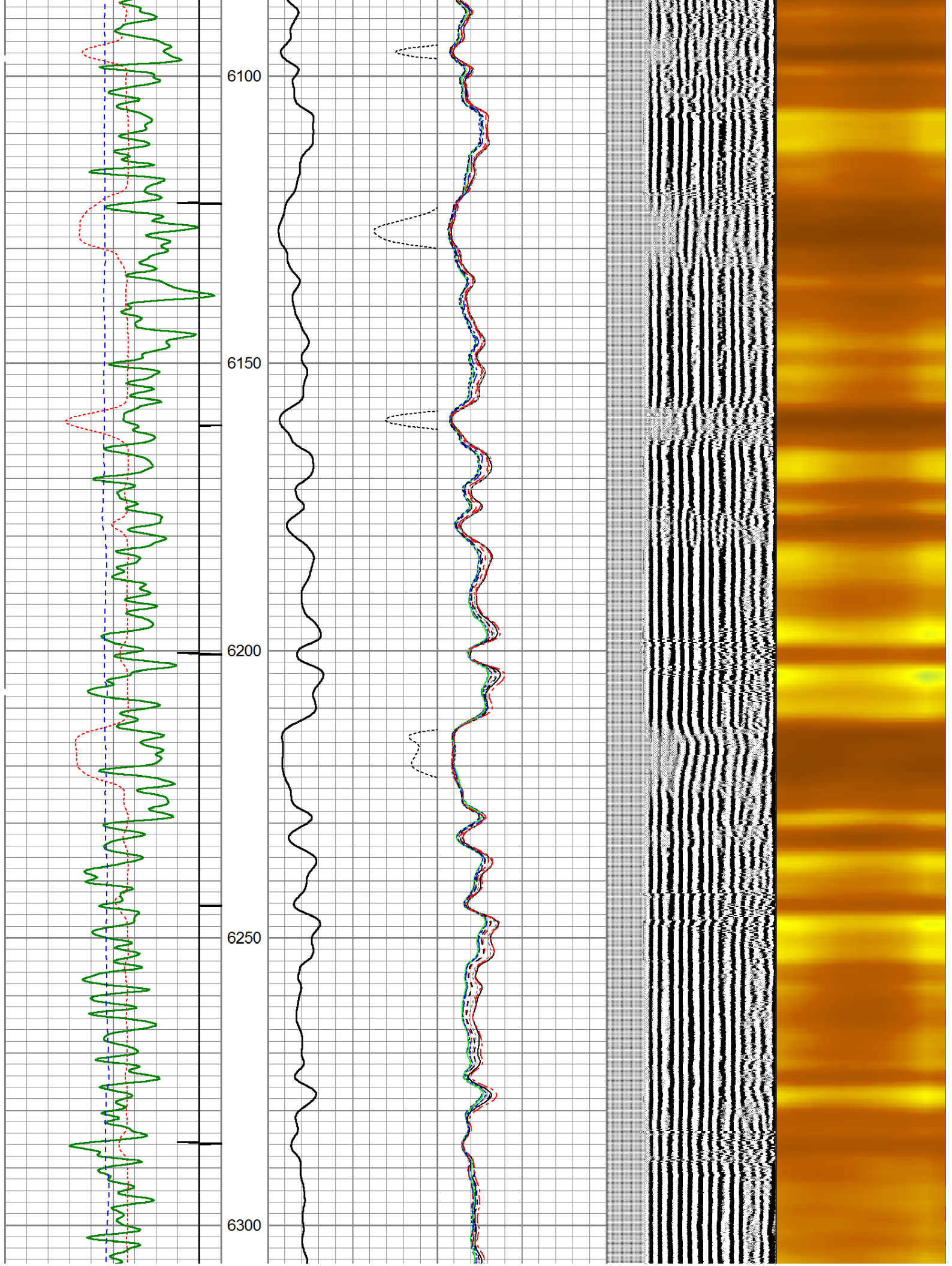


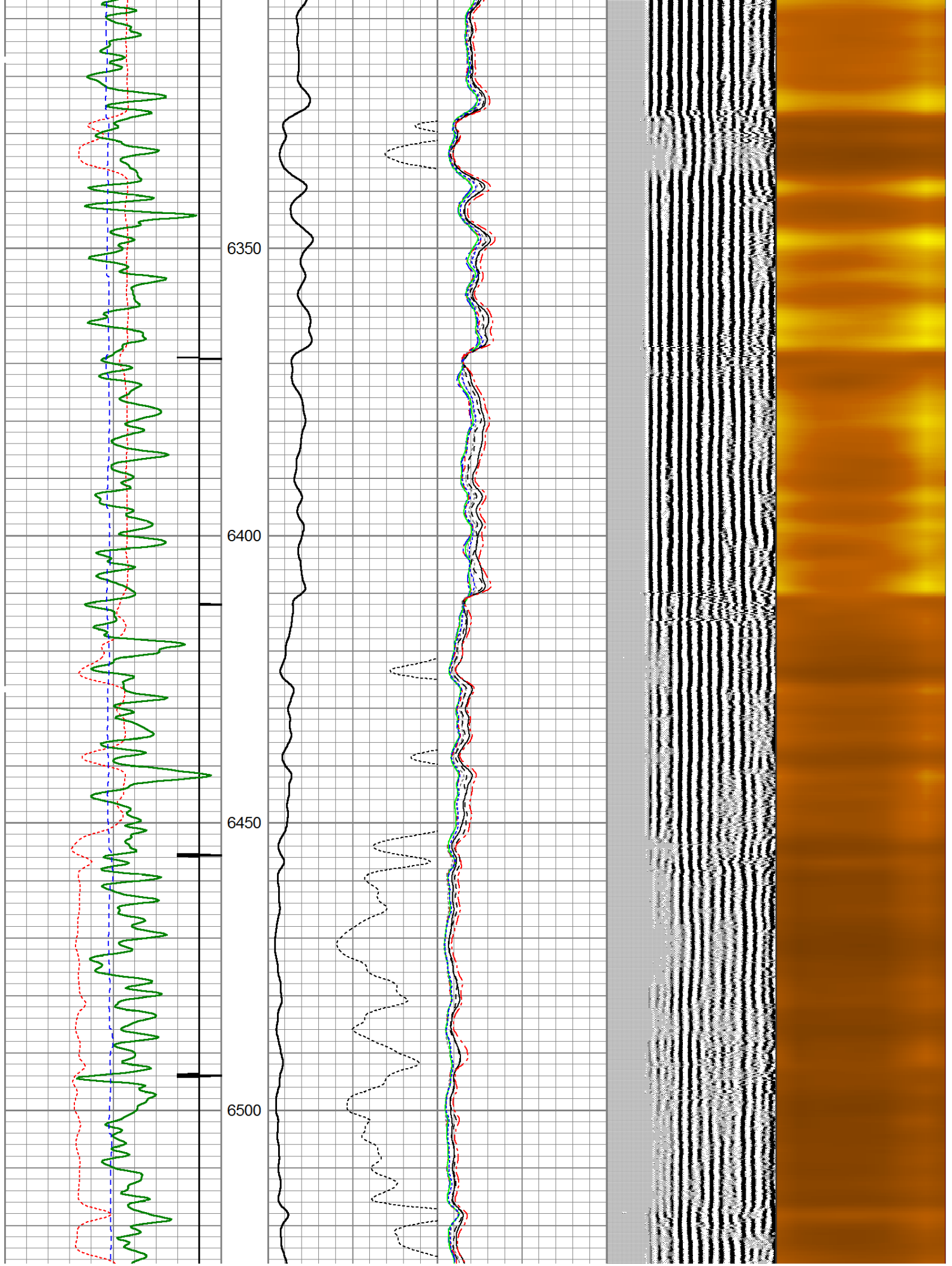




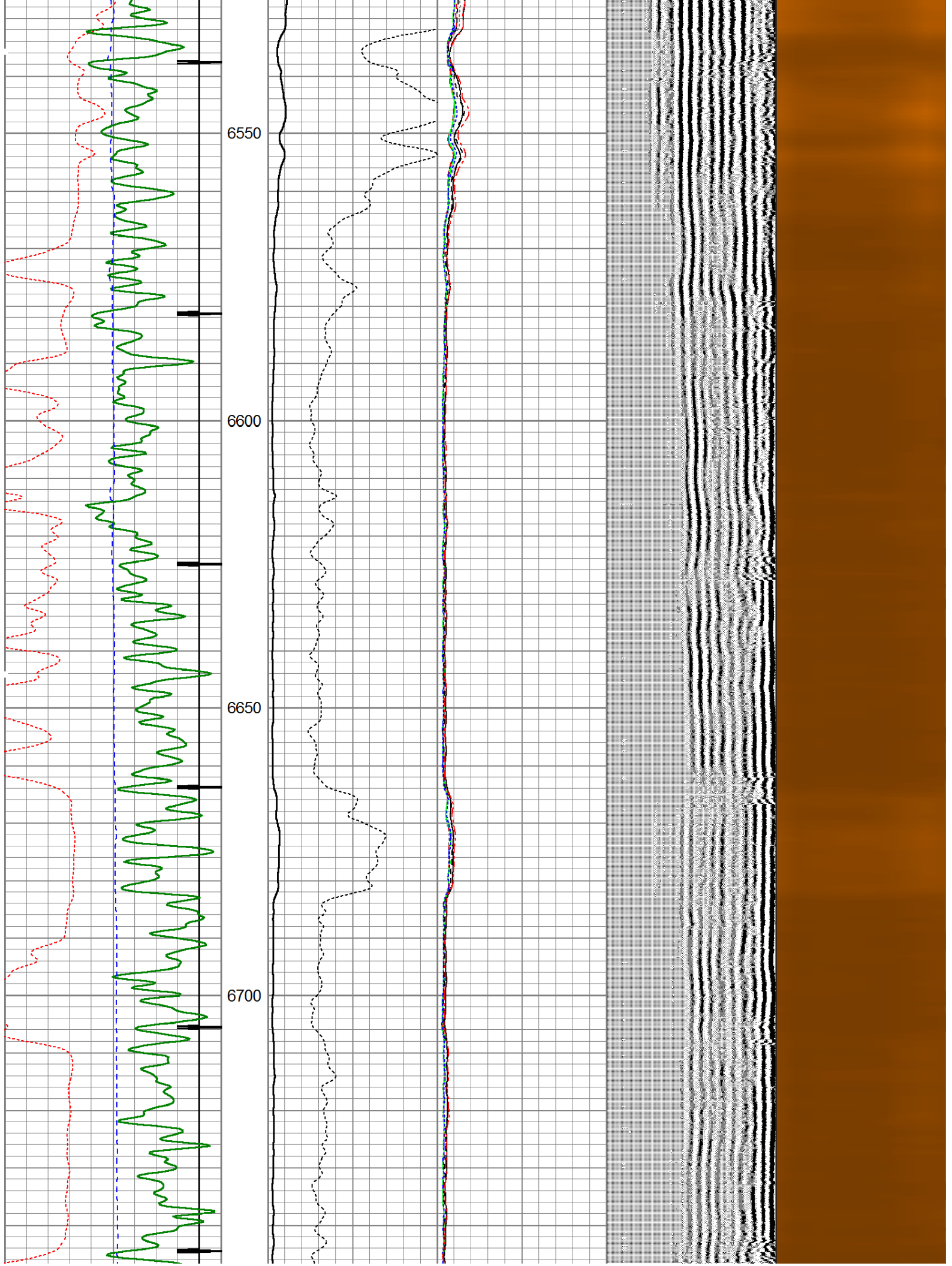




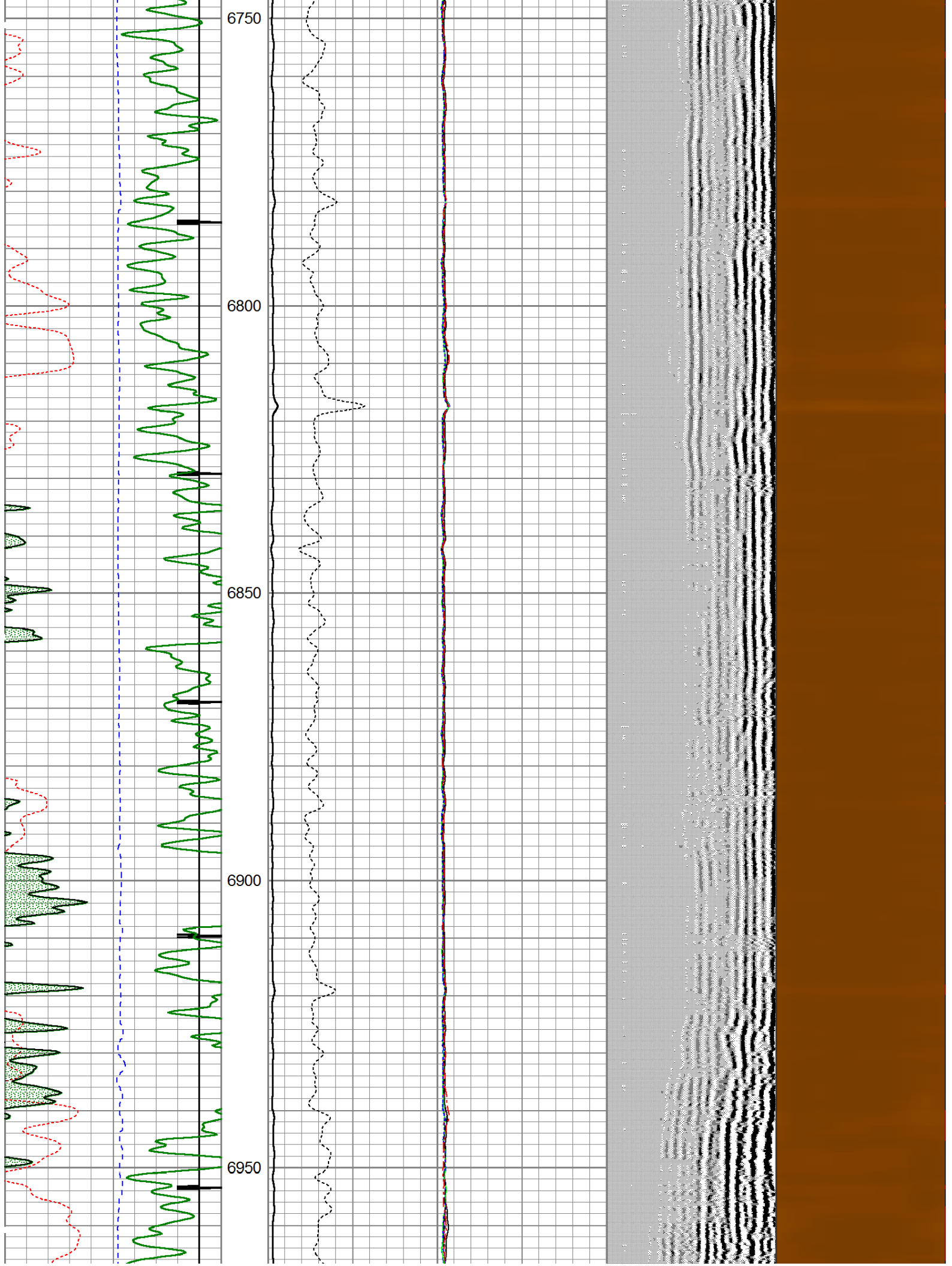


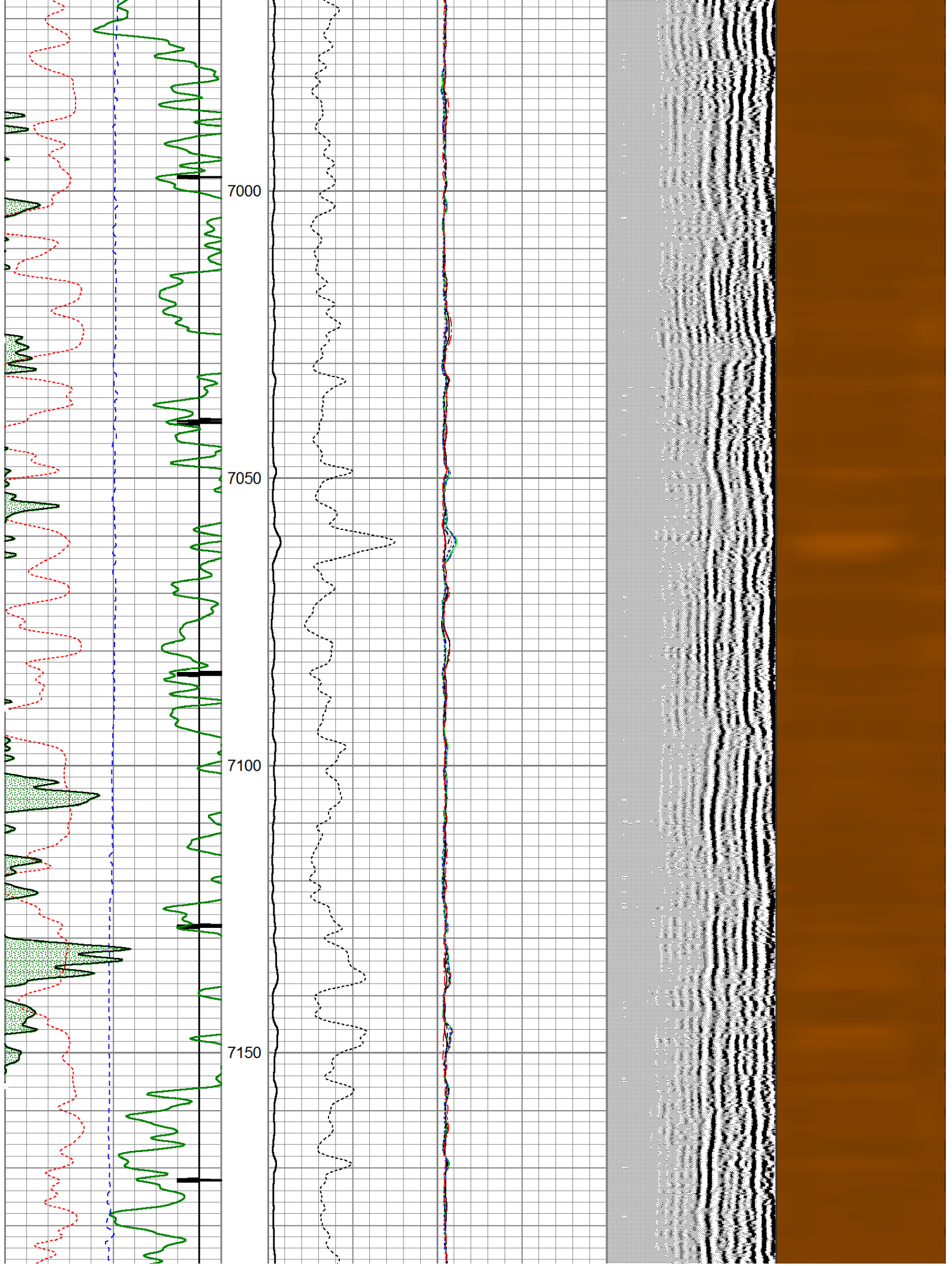




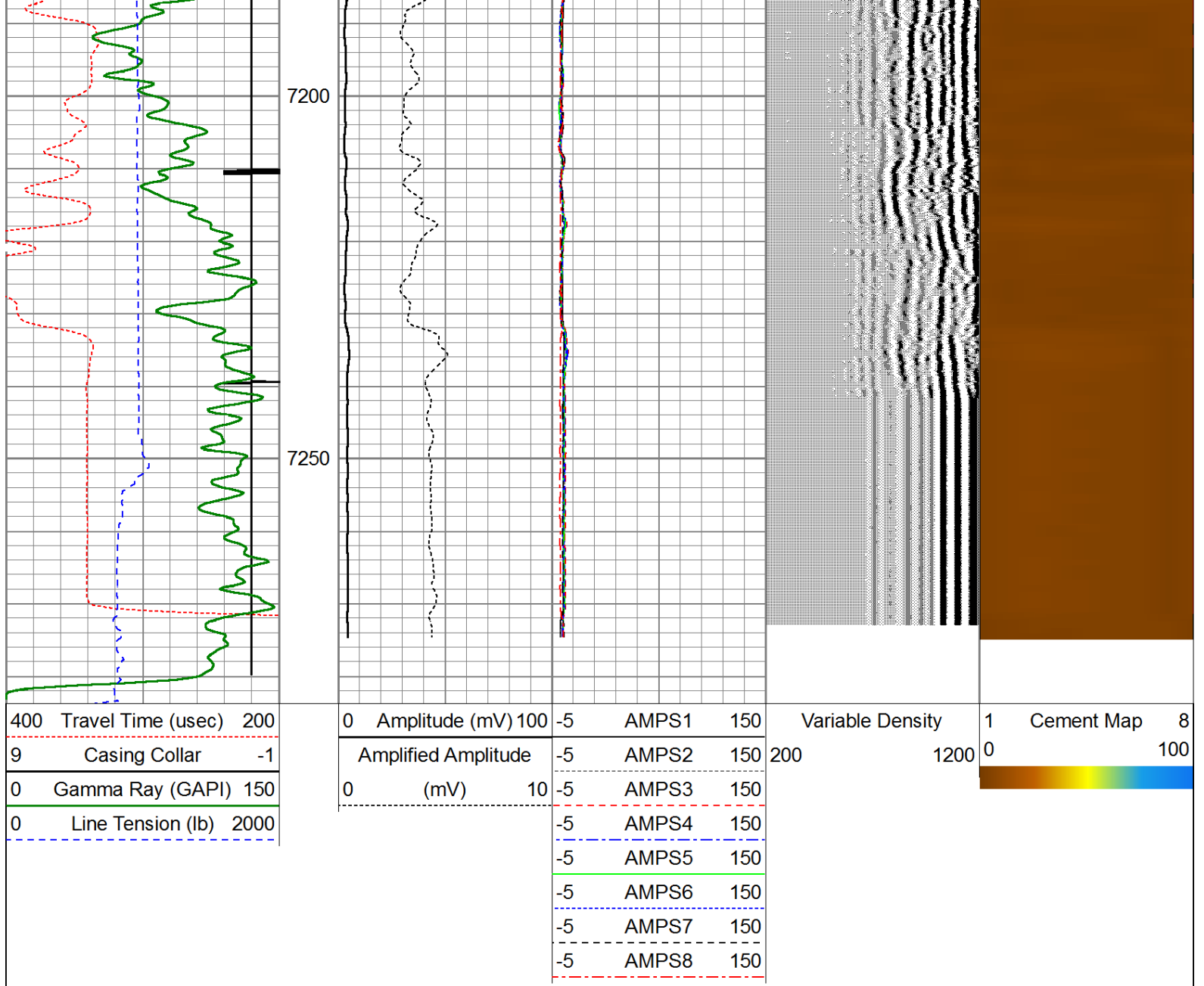






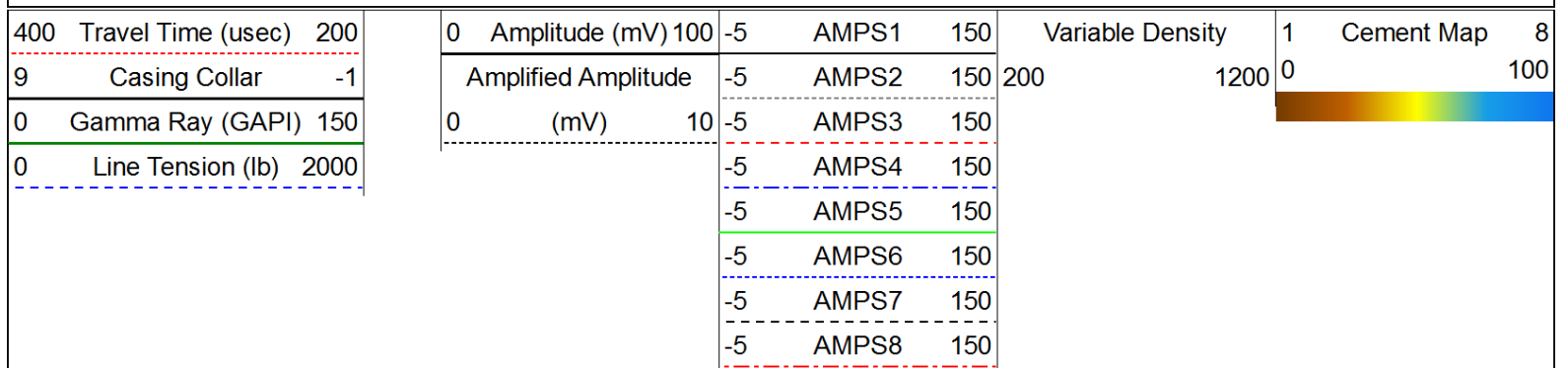




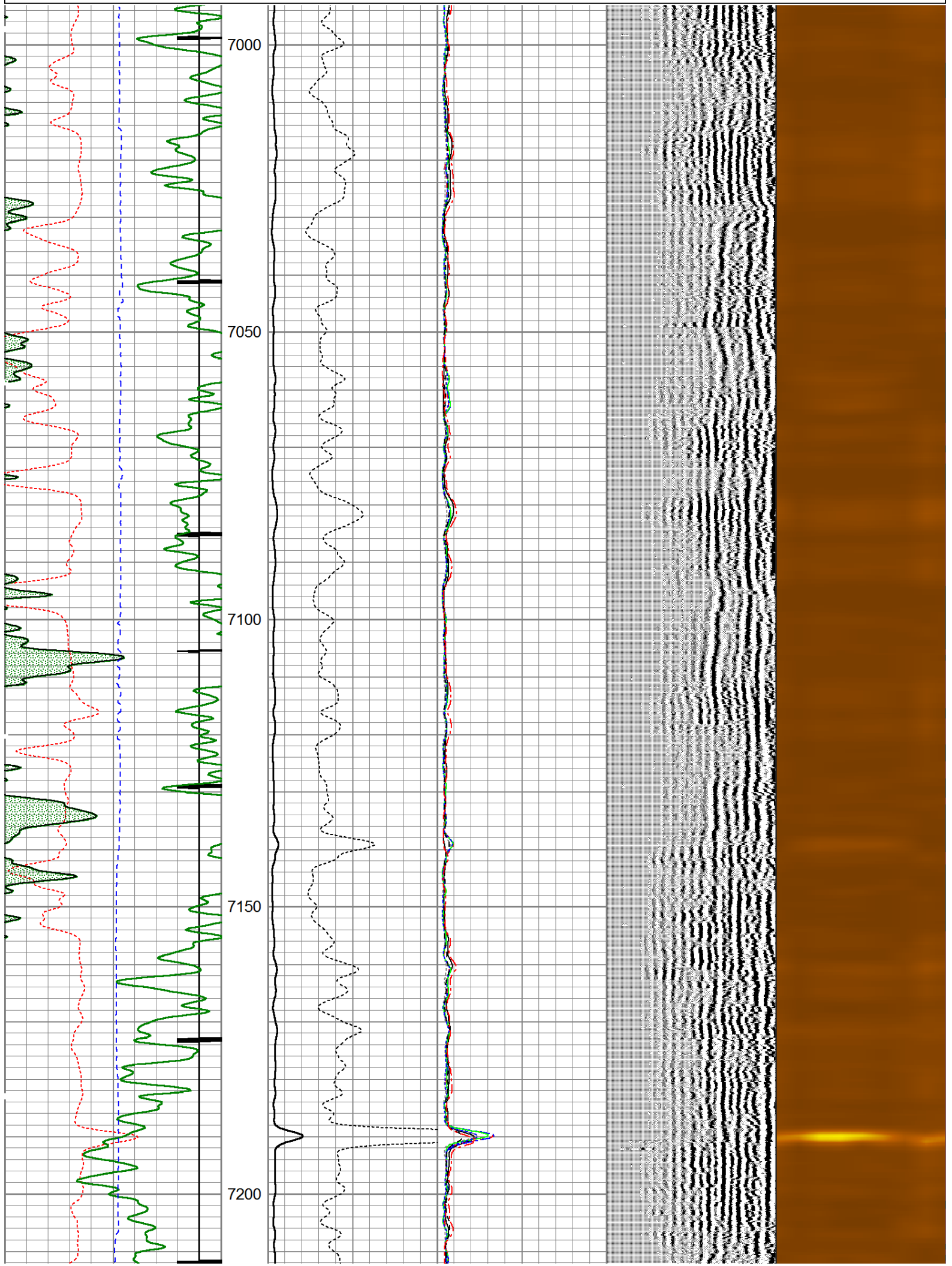


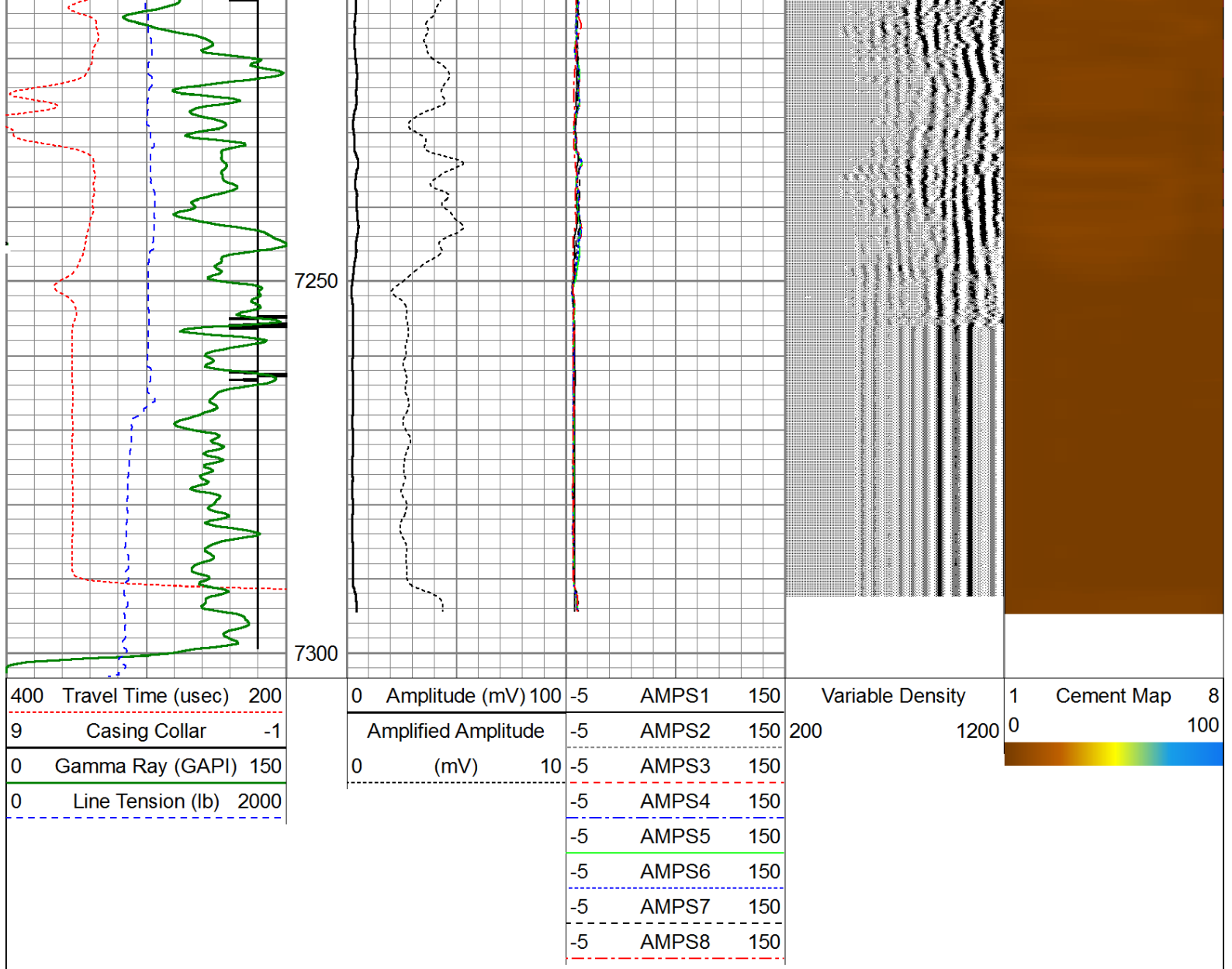
## Repeat Pass ( 0 PSI )

Database File: noble energy loeffler k01-65hn\_rcbl.db  
 Dataset Pathname: pass2  
 Presentation Format: scbl03  
 Dataset Creation: Fri Dec 06 21:14:58 2013 by Log 0  
 Charted by: Depth in Feet scaled 1:240









Calibration Report		
Database File:	noble energy loeffler k01-65hn_rcbl.db	
Dataset Pathname:	pass7	
Dataset Creation:	Fri Dec 06 22:29:19 2013 by Log 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:	312.747	ft	

Master Calibration, performed Fri Dec 06 17:28:42 2013:


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.026	0.626	1.000	62.165	93.901	4.403
CAL	-0.030	0.881				
5'	-0.019	0.600	1.000	62.165	98.948	2.842
SUM						
S1	-0.010	0.694	0.000	100.000	142.057	1.356
S2	-0.017	0.756	0.000	100.000	129.342	2.236
S3	-0.023	0.749	0.000	100.000	129.446	2.999
S4	-0.021	0.699	0.000	100.000	138.845	2.983
S5	-0.022	0.627	0.000	100.000	154.078	3.337
S6	-0.021	0.570	0.000	100.000	168.994	3.606
S7	-0.022	0.542	0.000	100.000	177.400	3.917
S8	-0.021	0.540	0.000	100.000	178.192	3.726

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	-0.030	0.881	1.000	0.000

Air Zero Calibration, performed Thu Dec 05 13:36:03 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



