



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

Company		Noble Energy	
Well		Crow Creek State AC36-72-1HN	
Field		Wallsenburg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-37424	
SEC 36 TWP 7N RGE 63W		535' FNL & 330' FEL	
Permanent Datum		Ground Level	
Log Measured From		Kelly Bushing 24'	
Drilling Measured From		Kelly Bushing	
Elevation		4851'	
Other Services		None	
Date		14-Dec-2013	
Run Number		One	
Depth Driller		11199	
Depth Logger		6952	
Bottom Logged Interval		6952	
Top Log Interval		Surface	
Open Hole Size		8 3/4"	
Type Fluid		Water	
Density / Viscosity		-	
Max. Recorded Temp.		230 degF	
Estimated Cement Top		605	
Time Well Ready		7:00	
Time Logger on Bottom		11:00	
Equipment Number		13034	
Location		Brighton, CO	
Recorded By		Jacob Staley	
Witnessed By		Bill Mansfield	
Run Number		Borehole Record	
Bit		From	
To		Size	
Weight		From	
To		Tubing Record	
Casing Record		Size	
Surface String		9 5/8"	
Prot. String		Wgt/Ft	
Production String		36#	
Liner		Top	
Short Joint		Surface	
		26#	
		Surface	
		11 6#	
		7111	
		5674	
		Bottom	
		597	
		7060	
		11199	
		5688	

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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

Well Logged using 24' KB

Main Pass and Repeat Pass logged with zero Pressure on surface

Short Joint 5674'-5688'

Thank You for using Allied Wireline

(303)659-4609



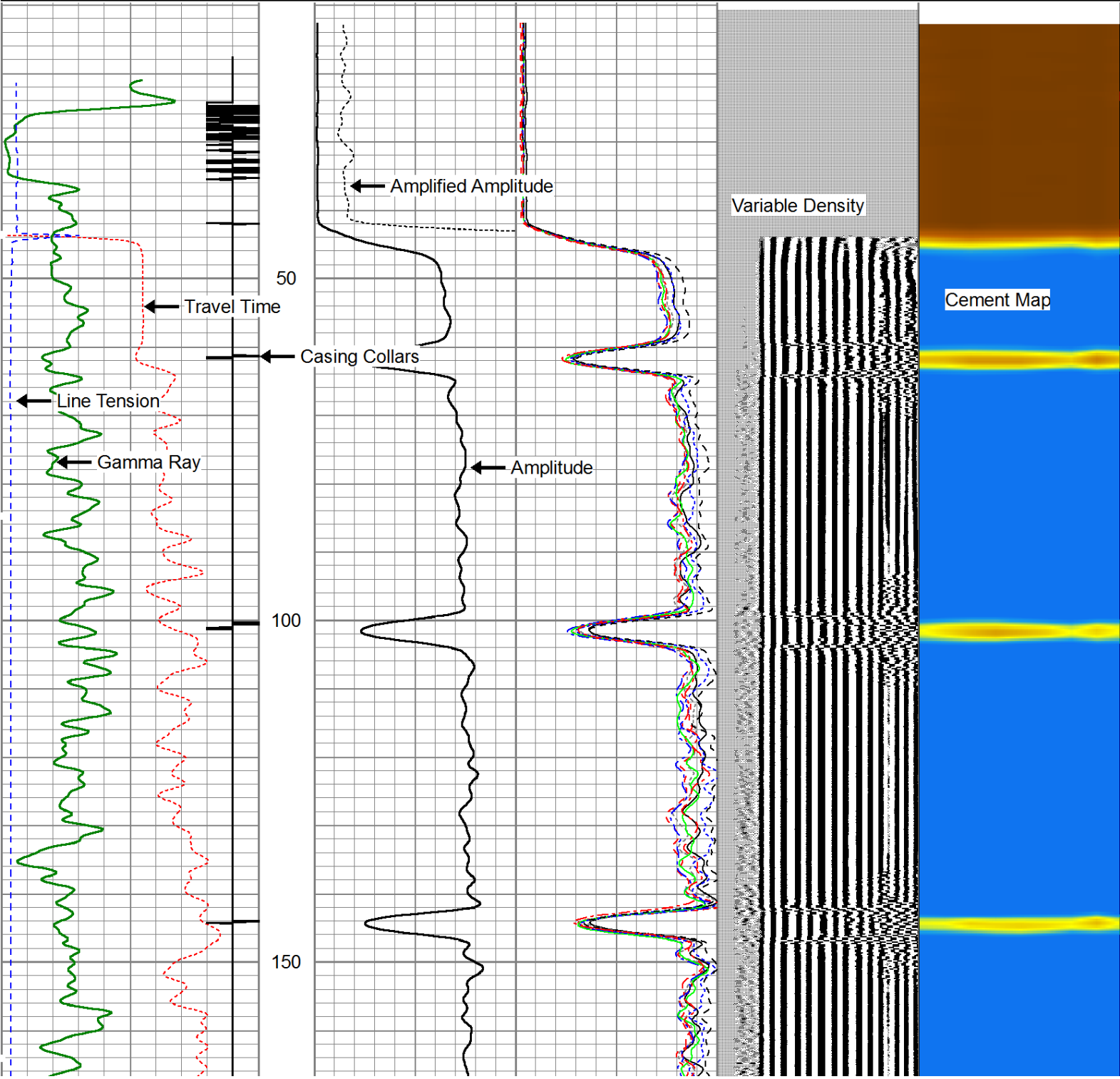
Main Pass(0 PSI)

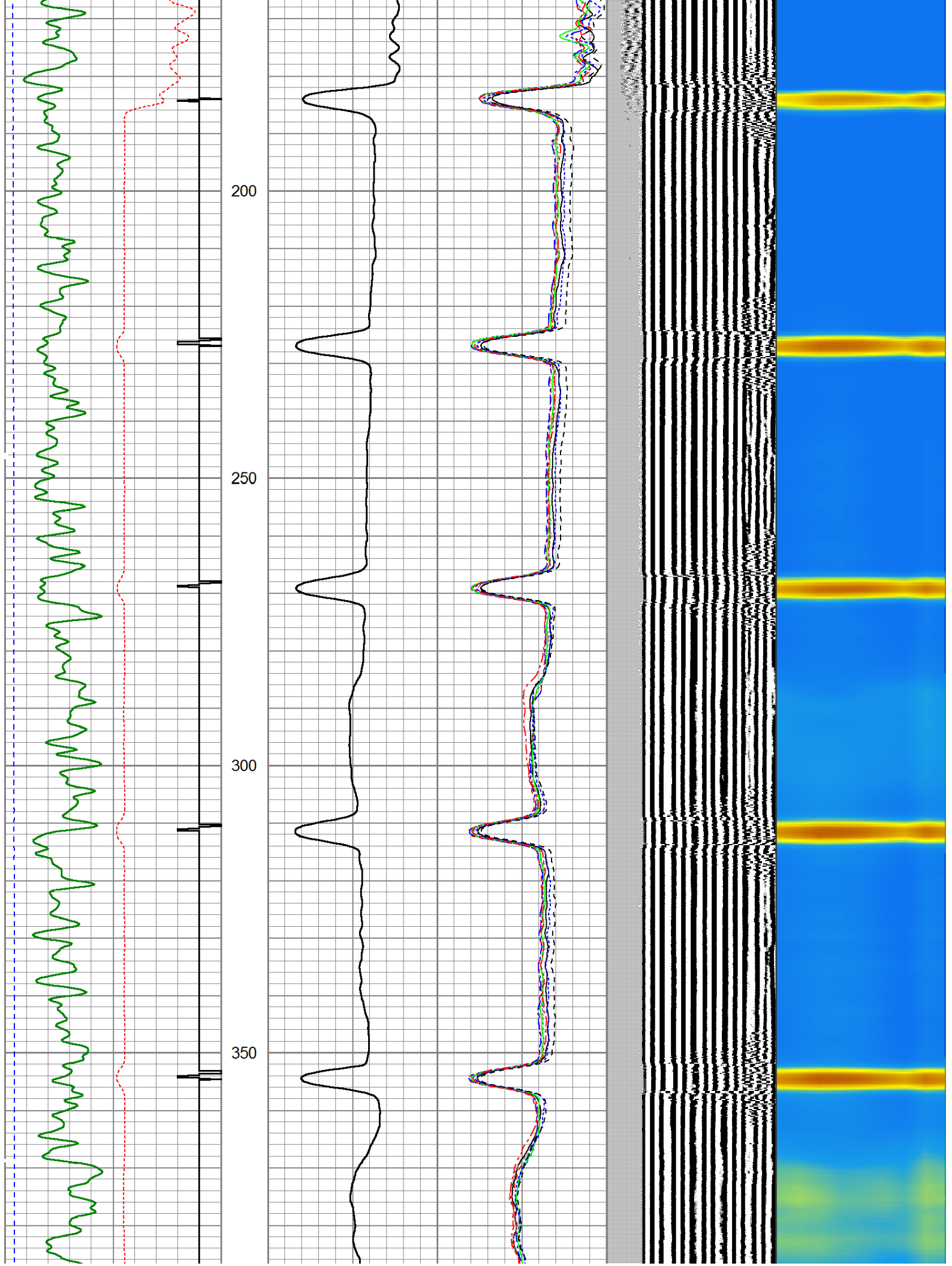
Database File: noble crow creek state ad36-72-1hn\_rcbl.db  
Dataset Pathname: pass4.3  
Presentation Format: scbl03  
Dataset Creation: Sat Dec 14 13:42:30 2013 by Calc 7.0 B1  
Charted by: Depth in Feet scaled 1:240

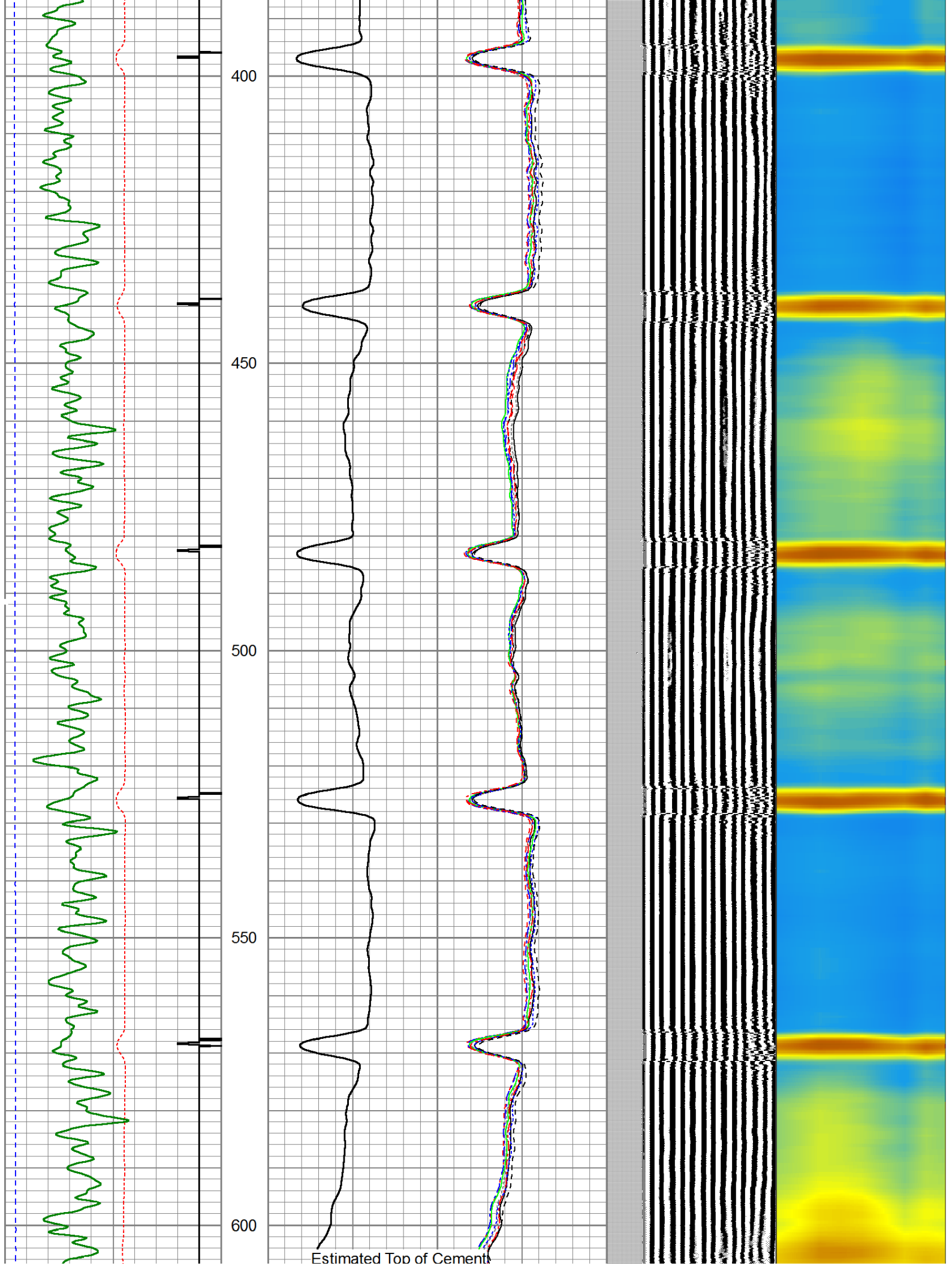
400	Travel Time (usec)	200
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	5000

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

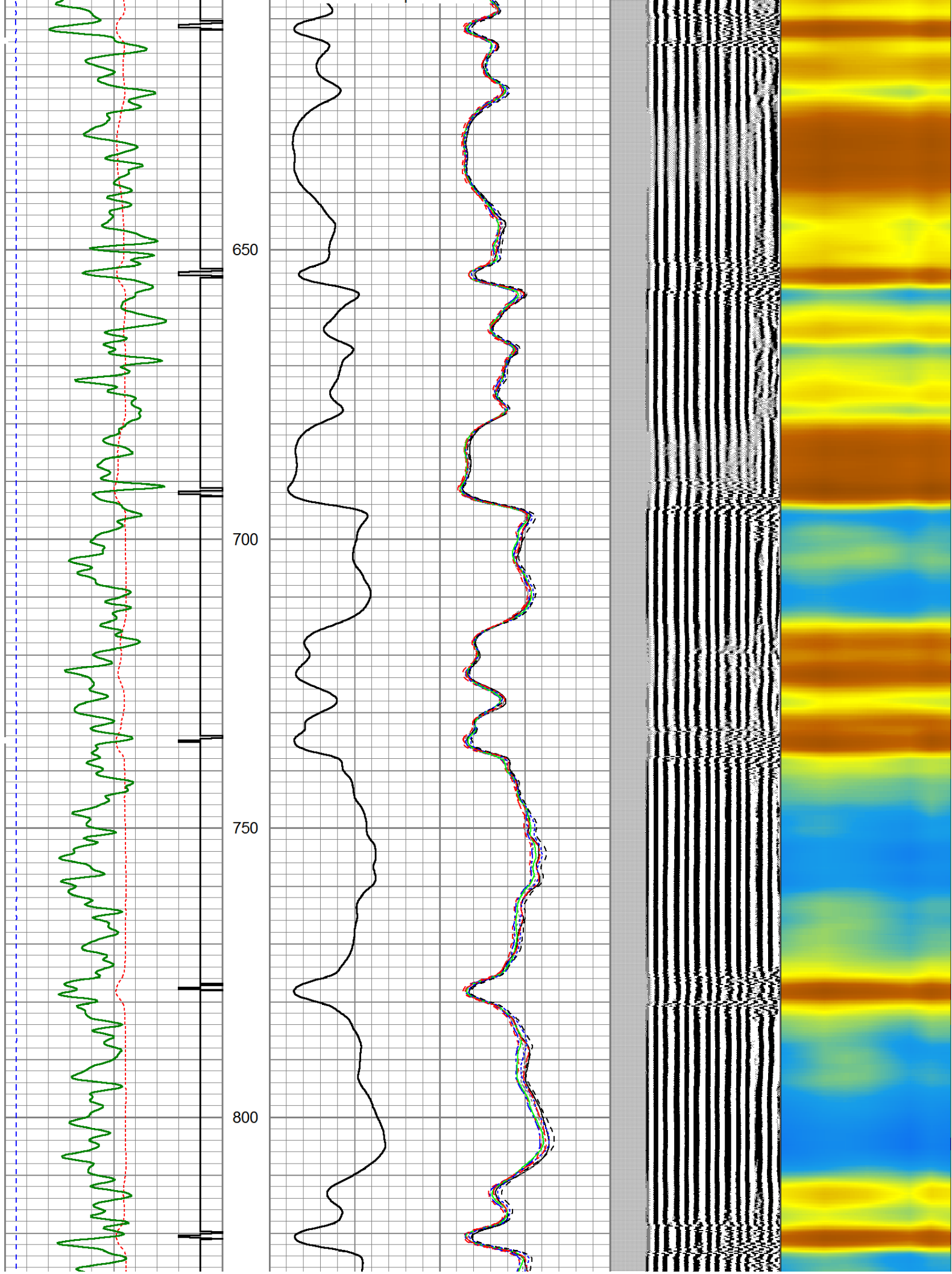
Variable Density	1	Cement Map	8
200	1200	0	100

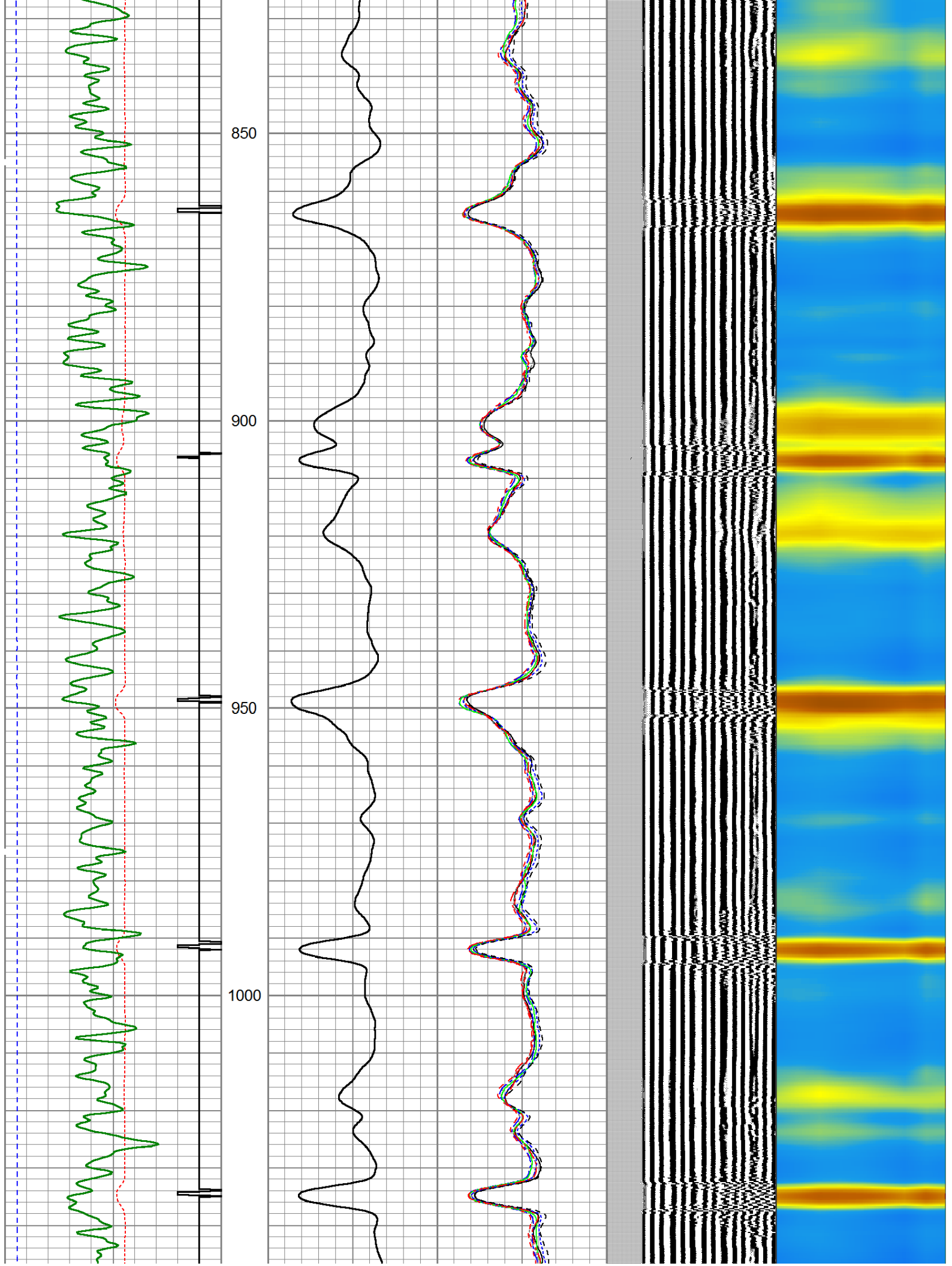


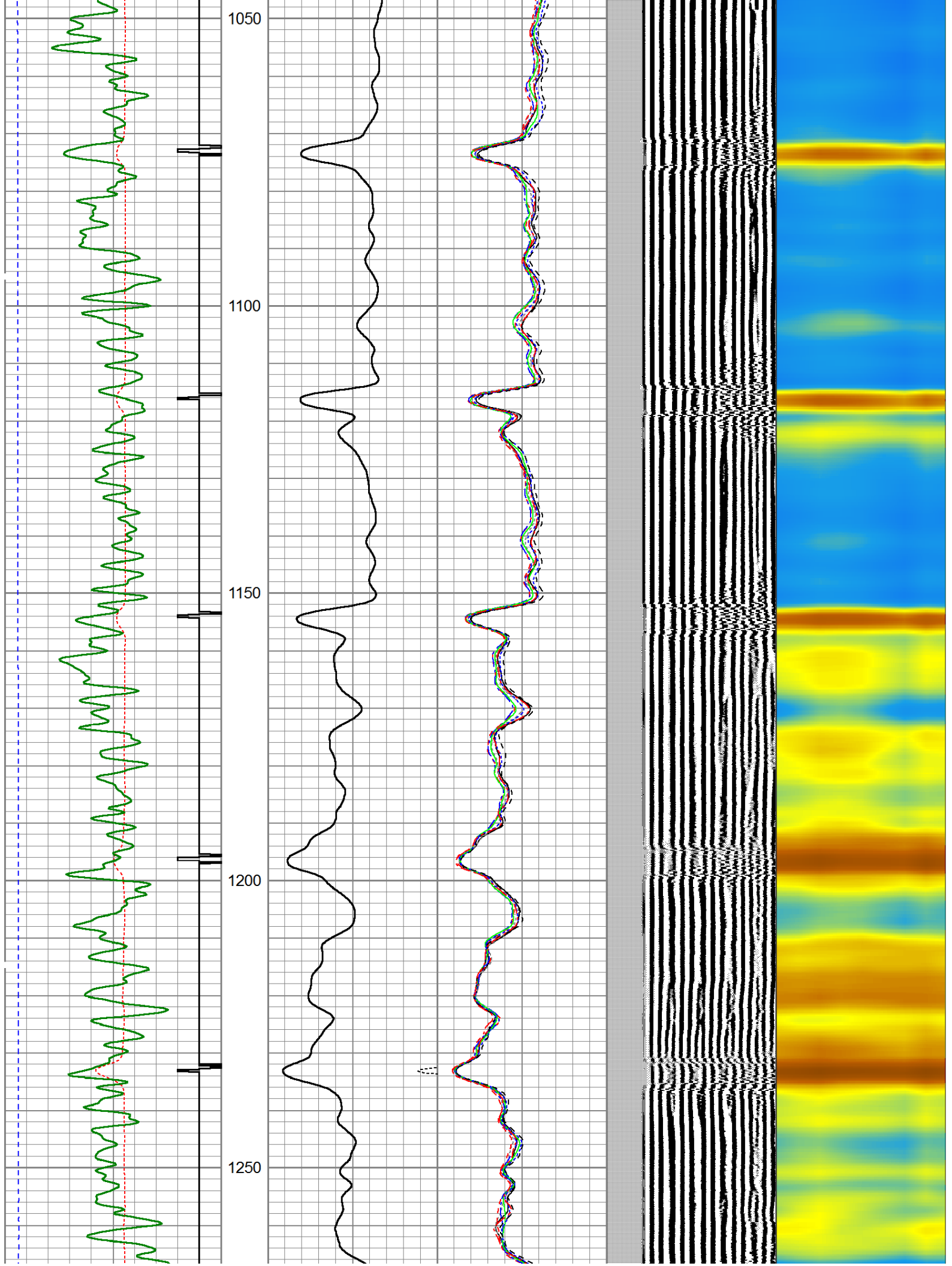




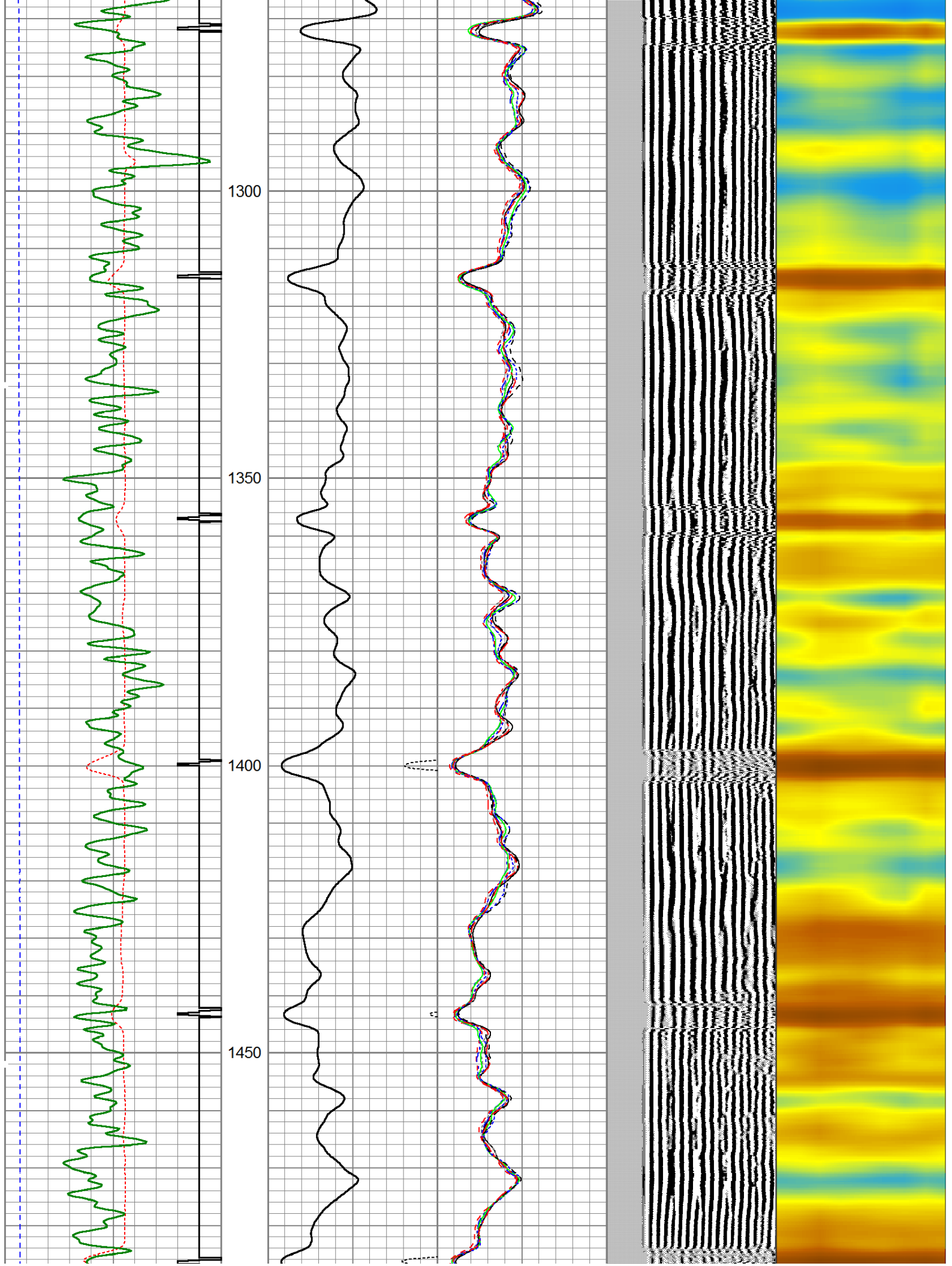




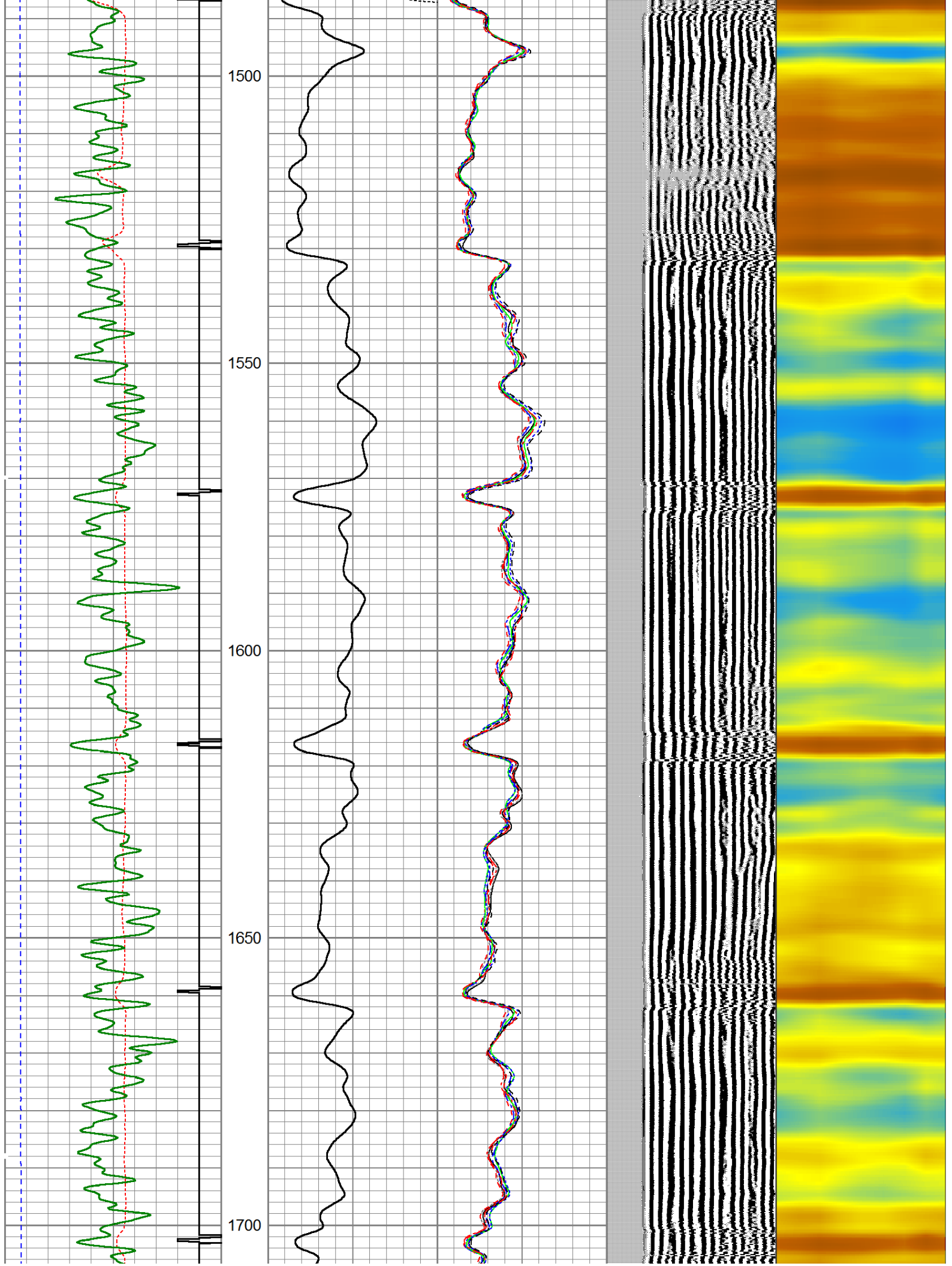


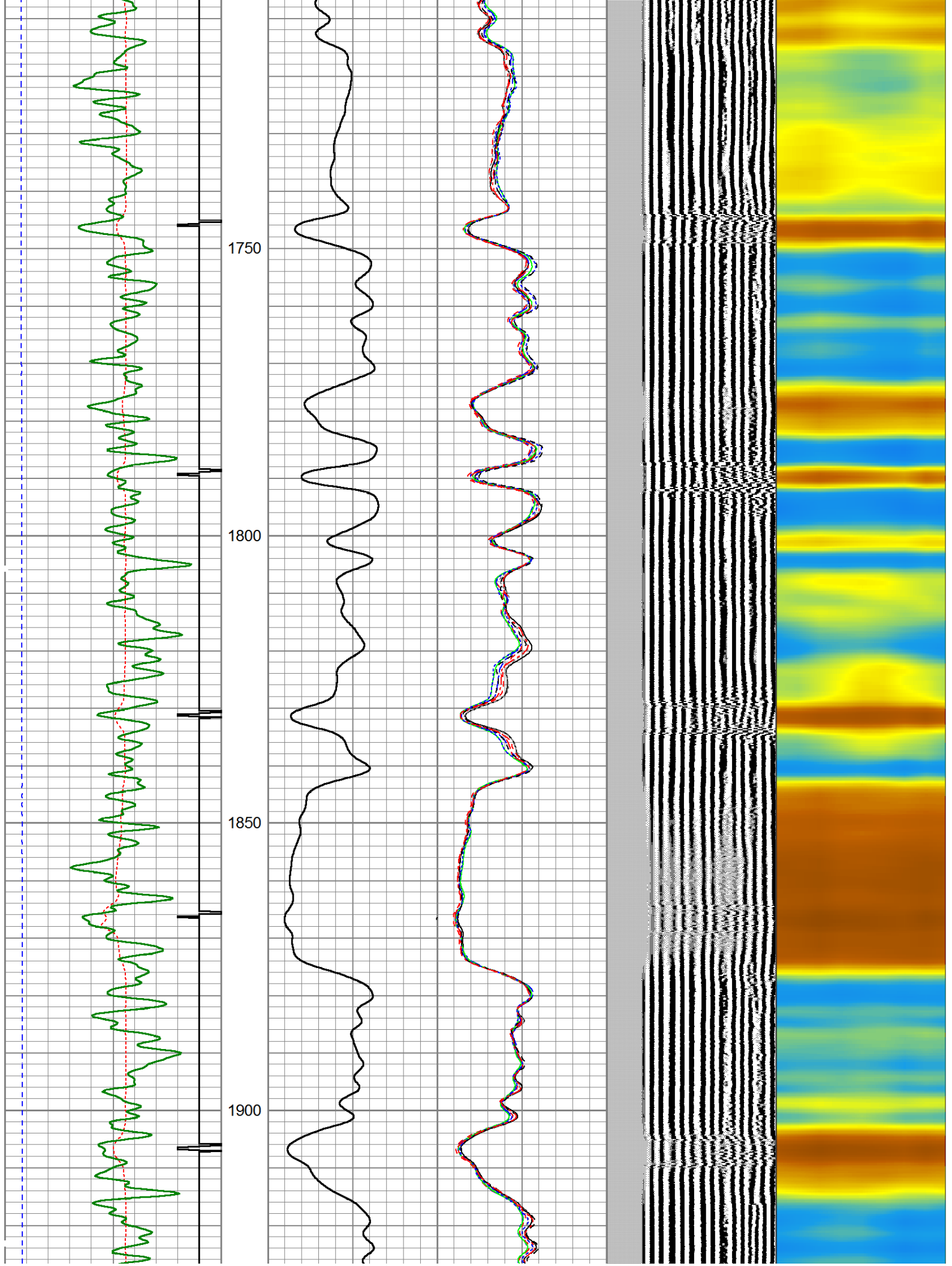


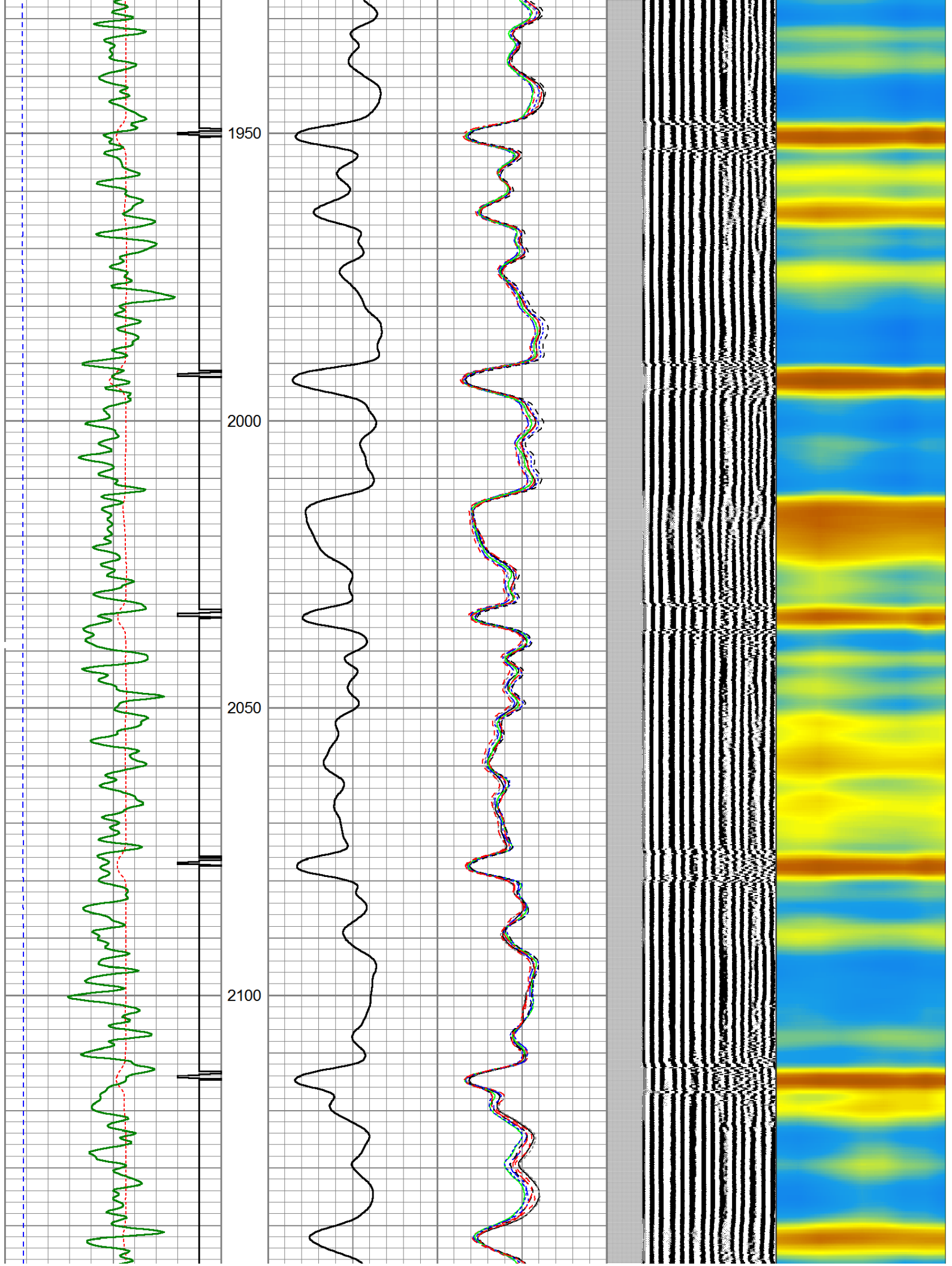




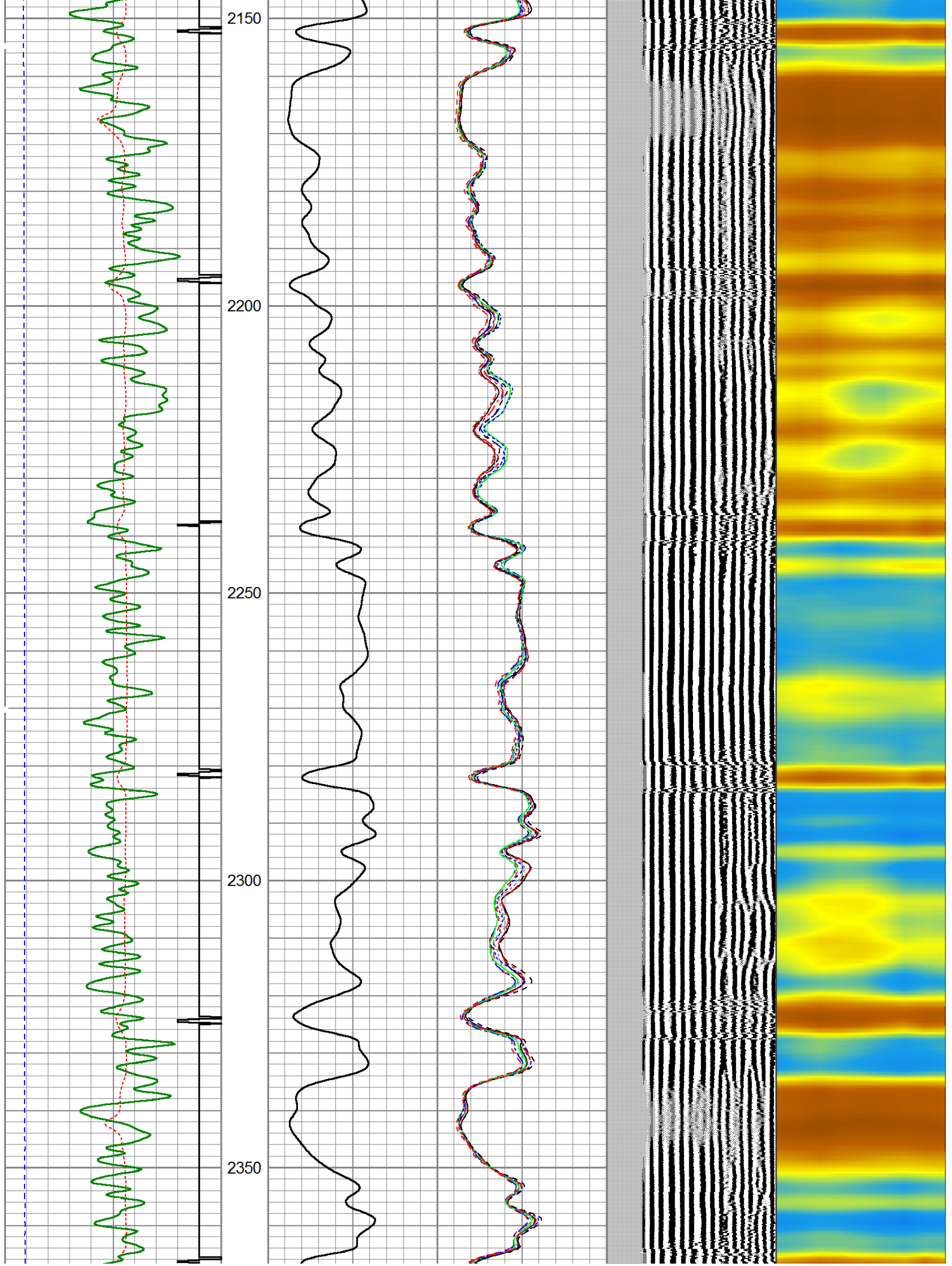




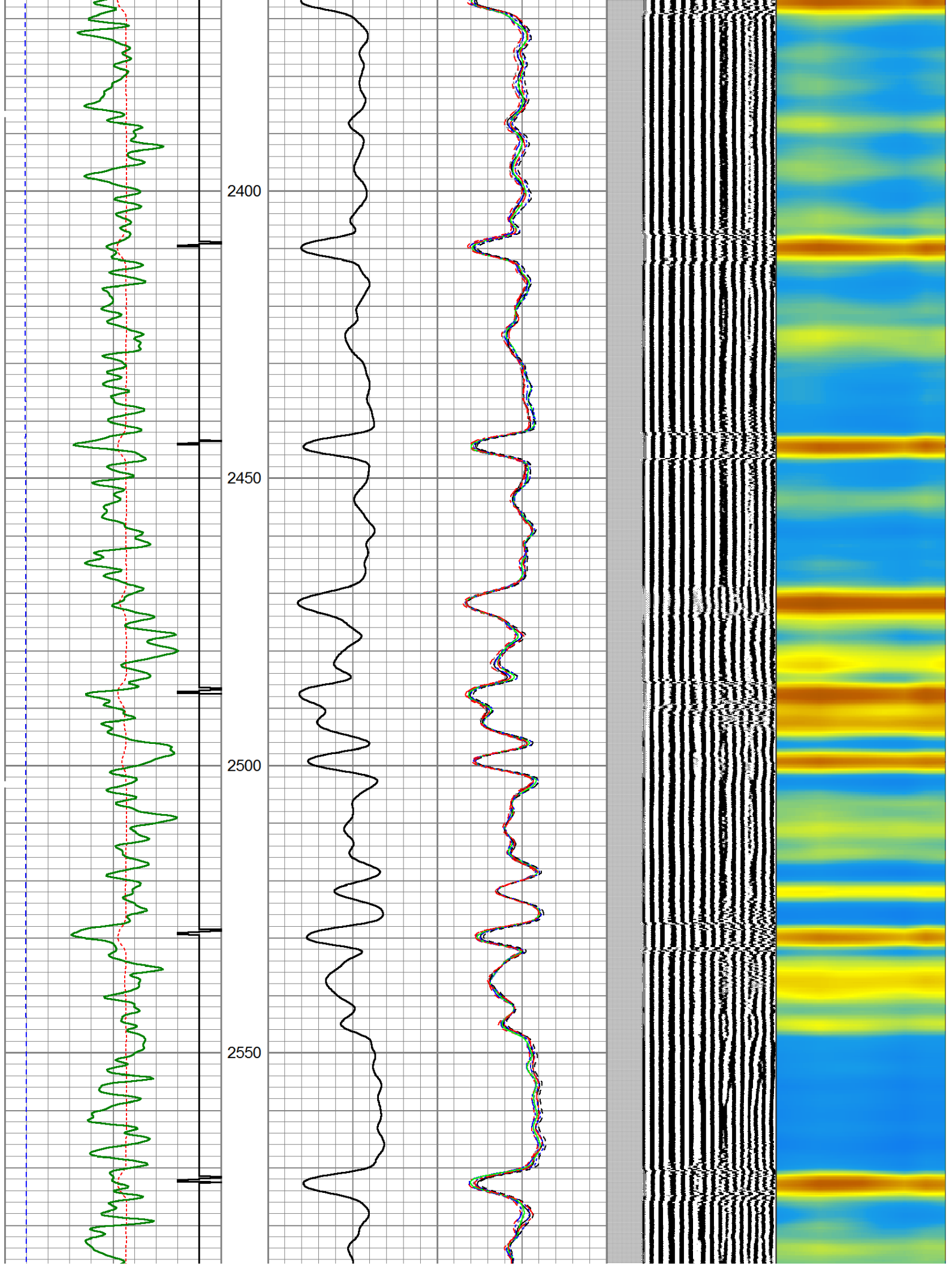


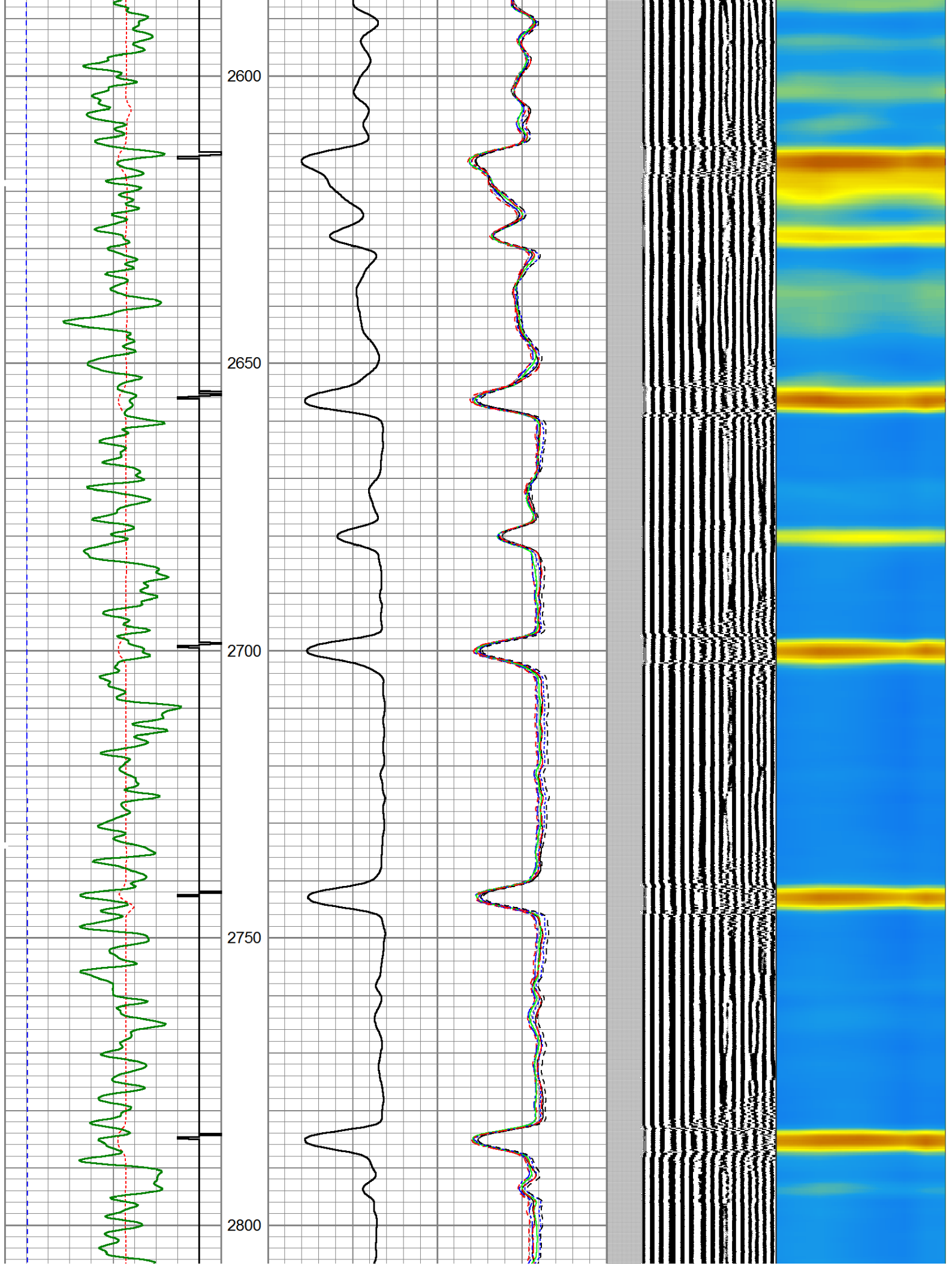


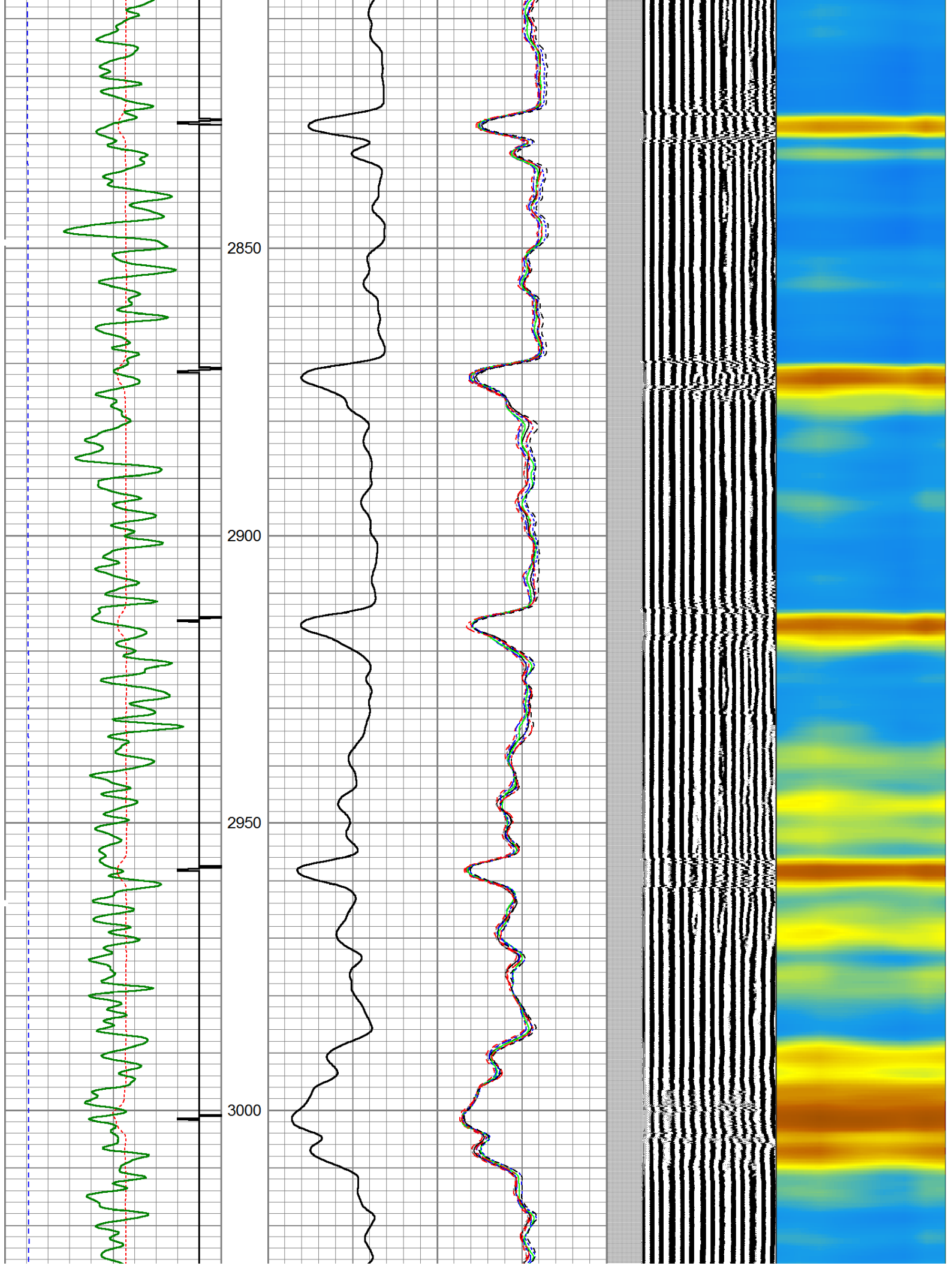




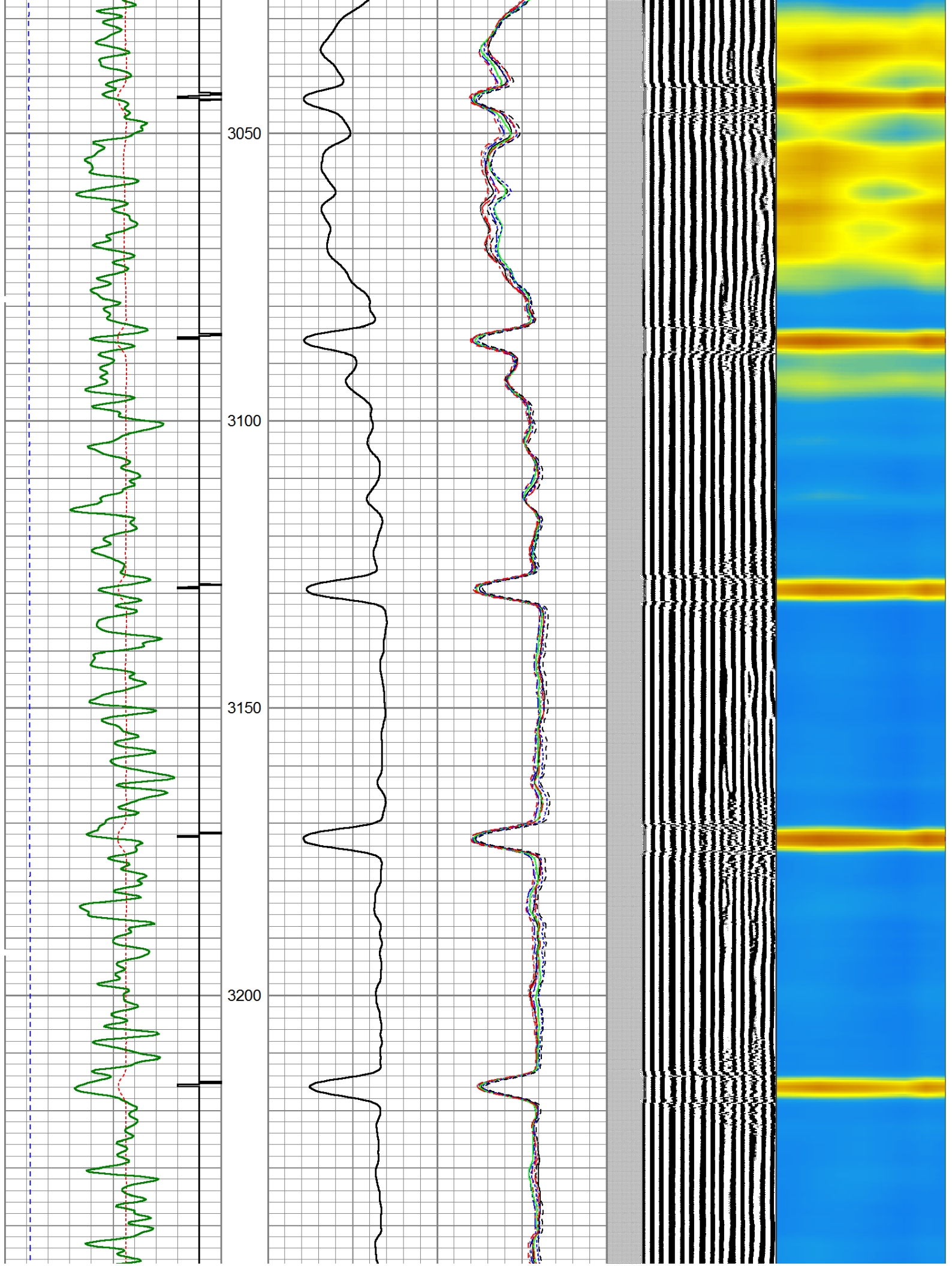




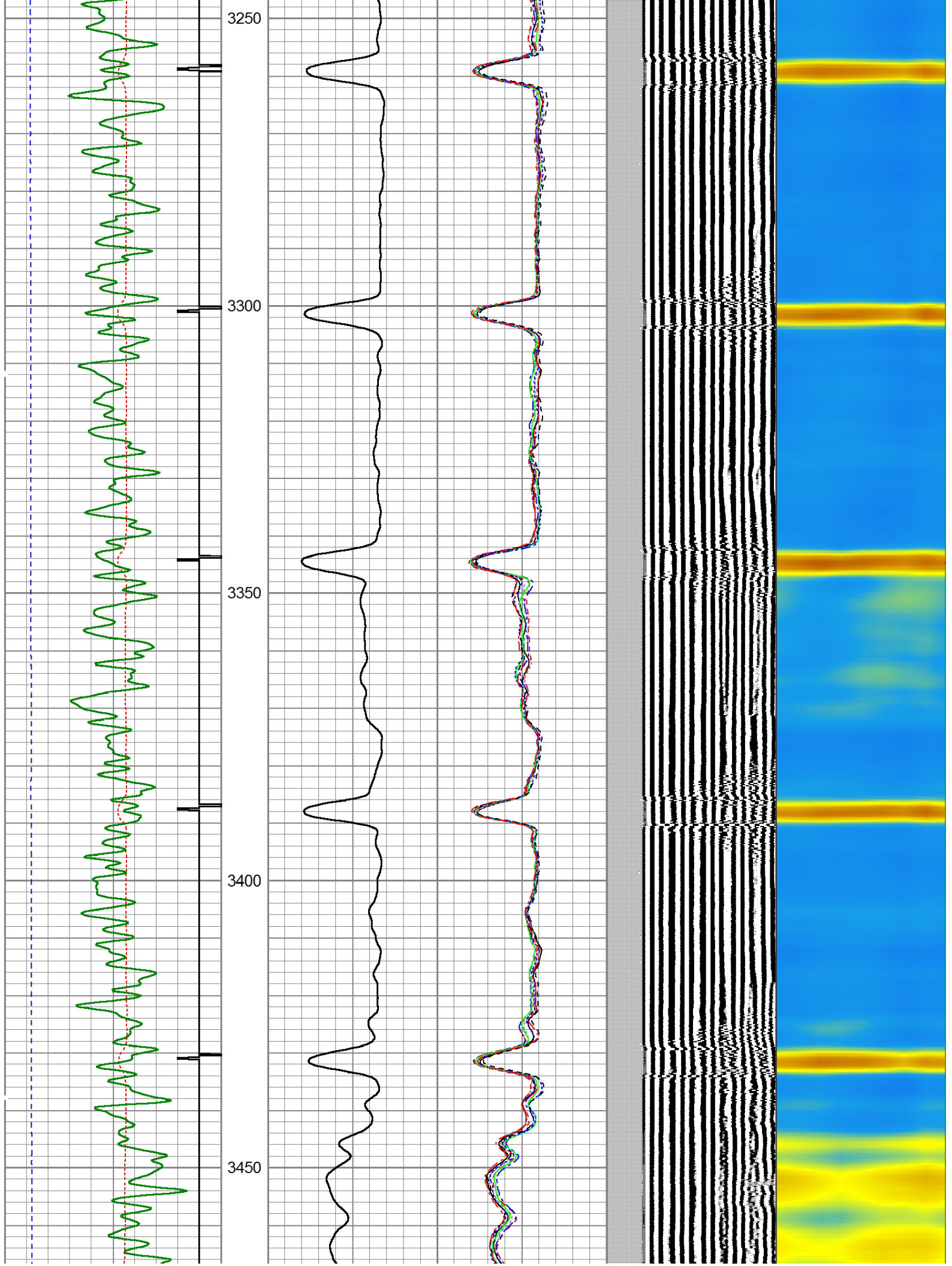


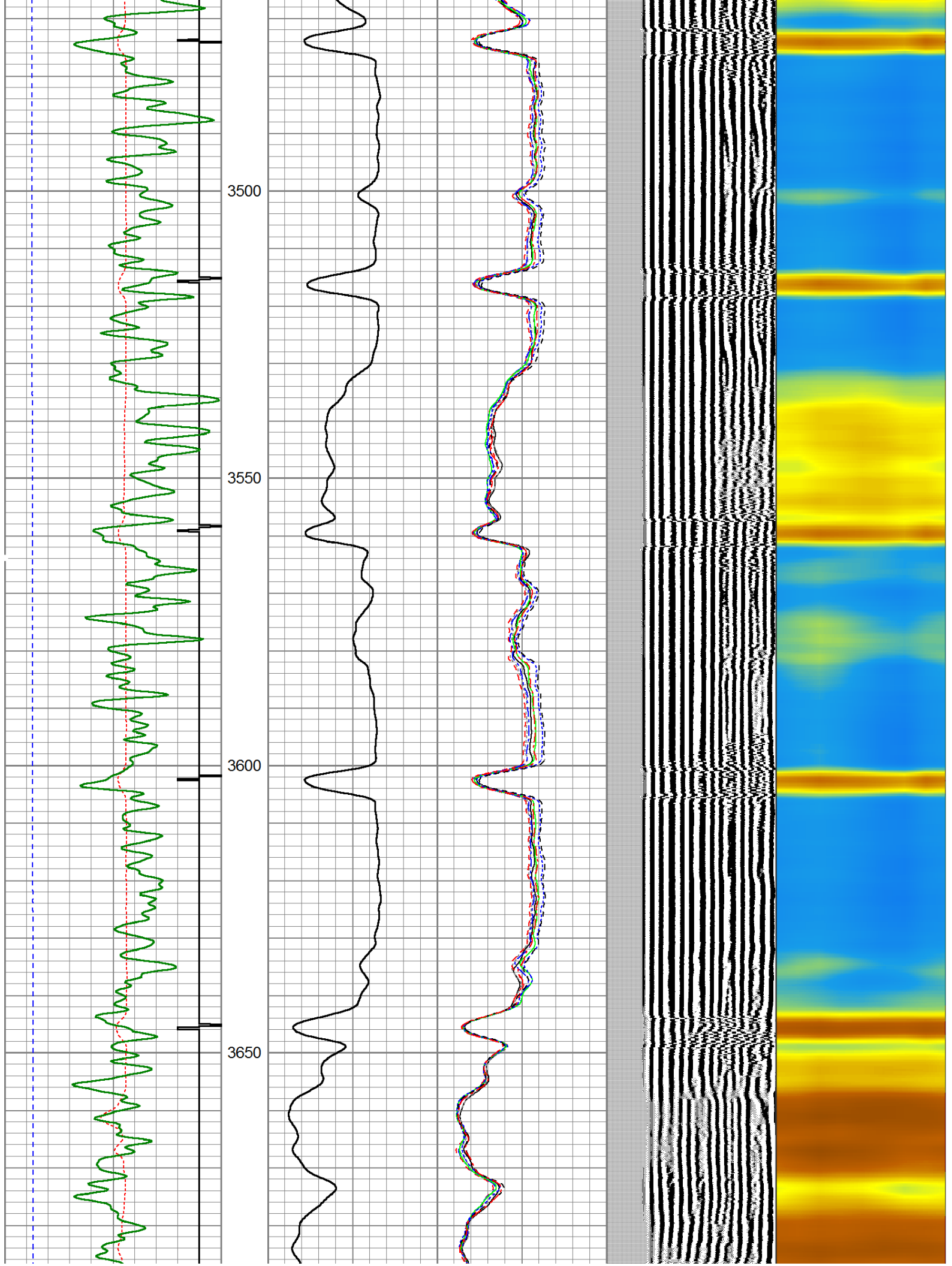


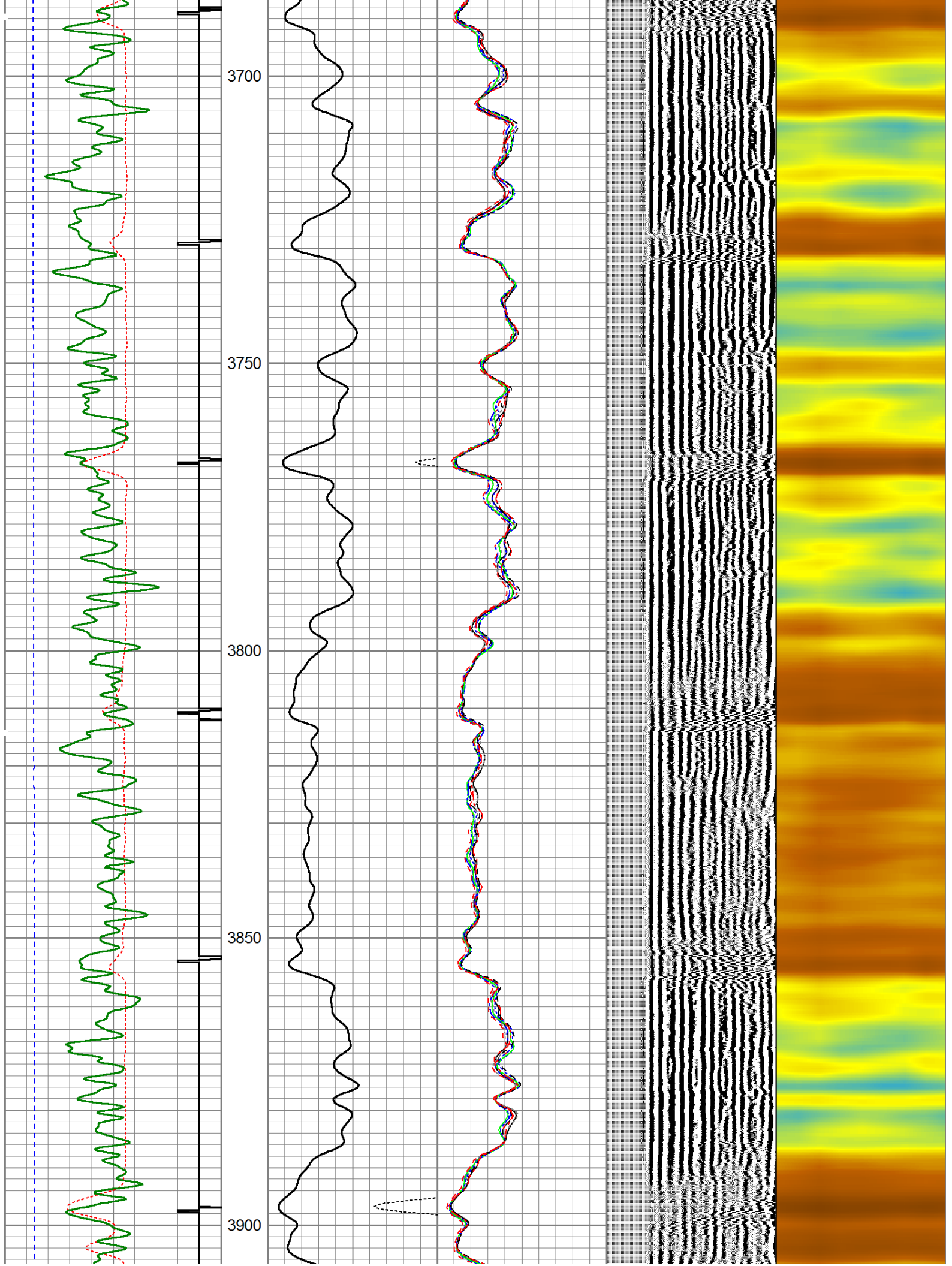




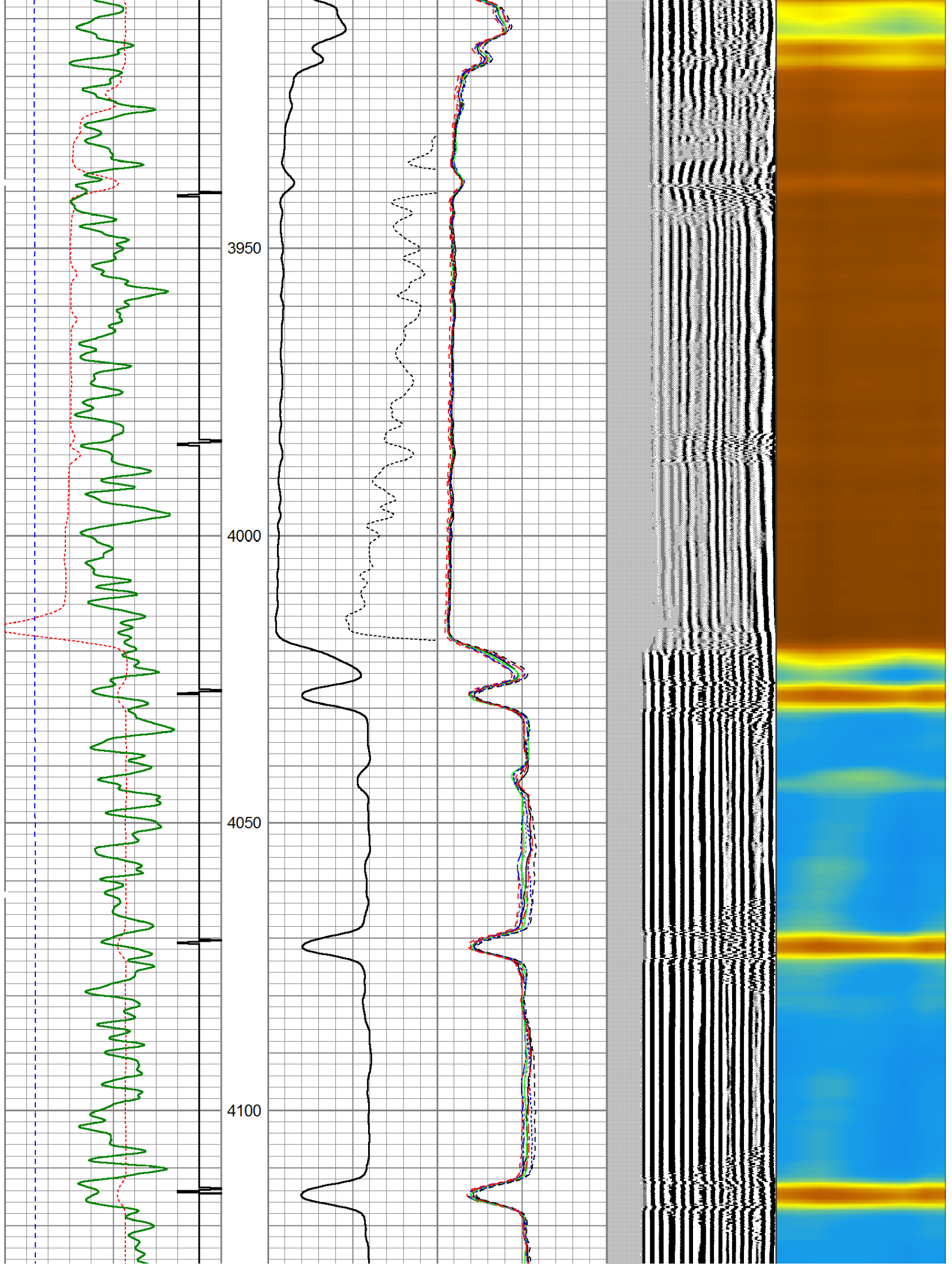




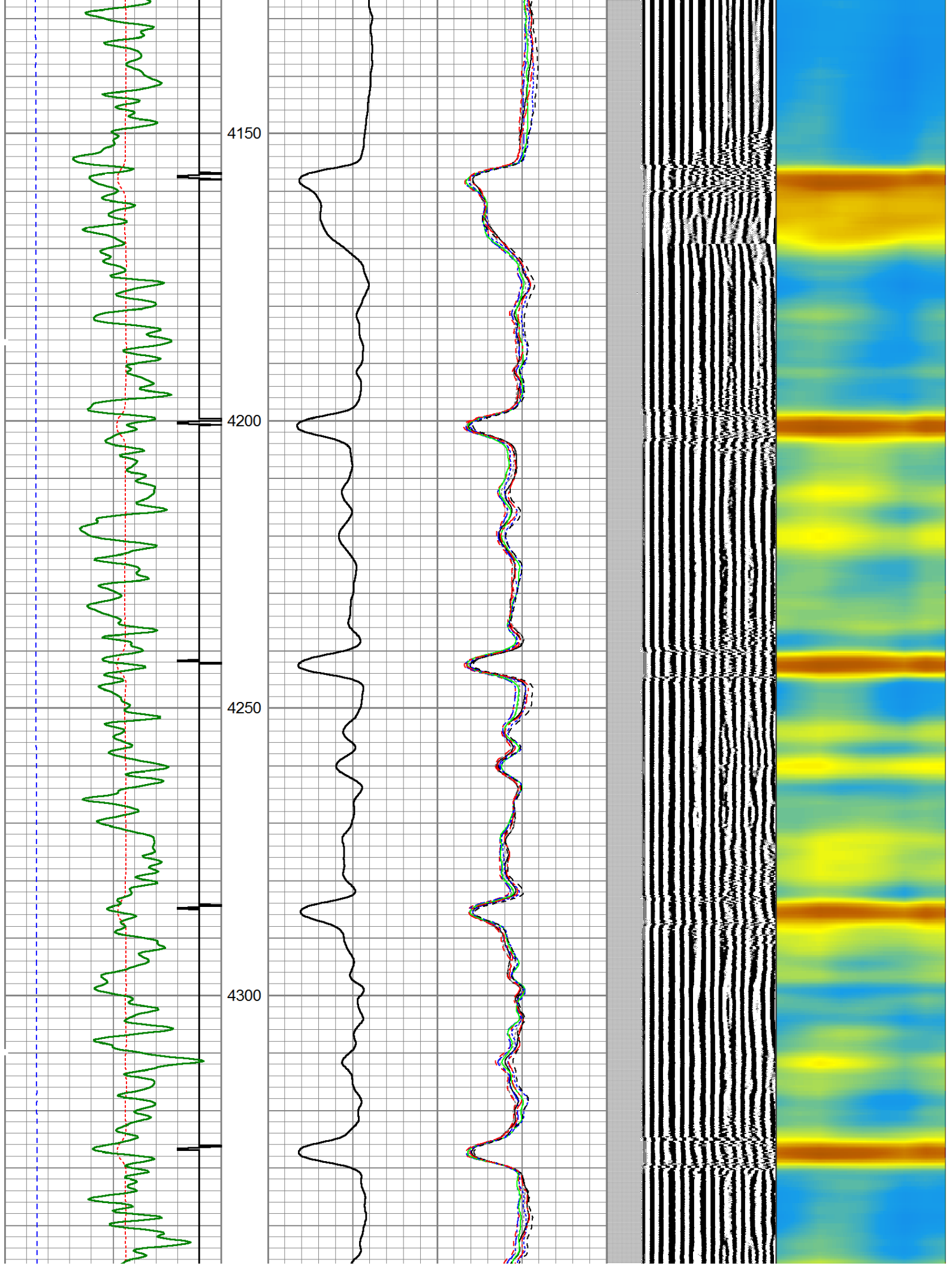


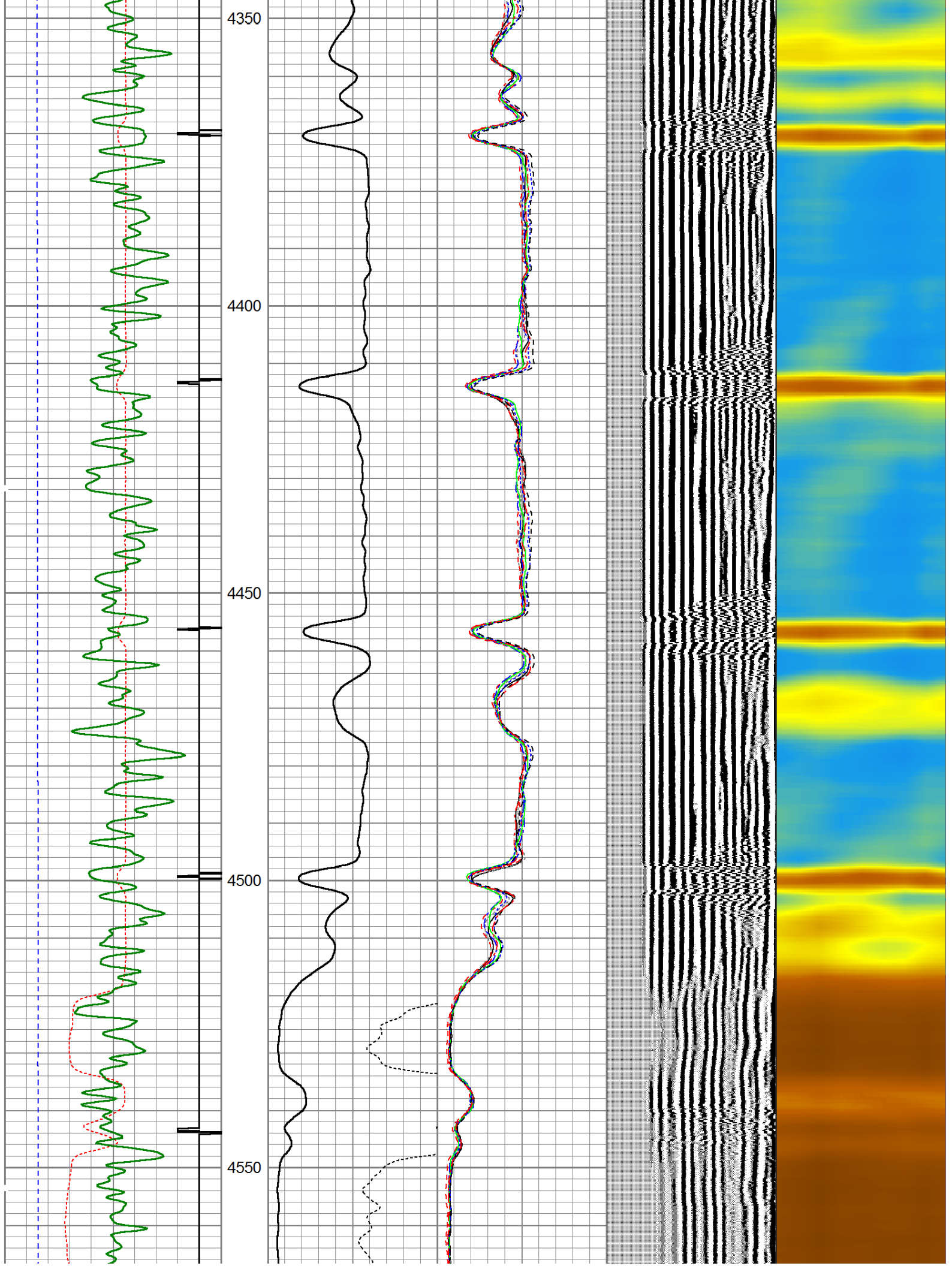


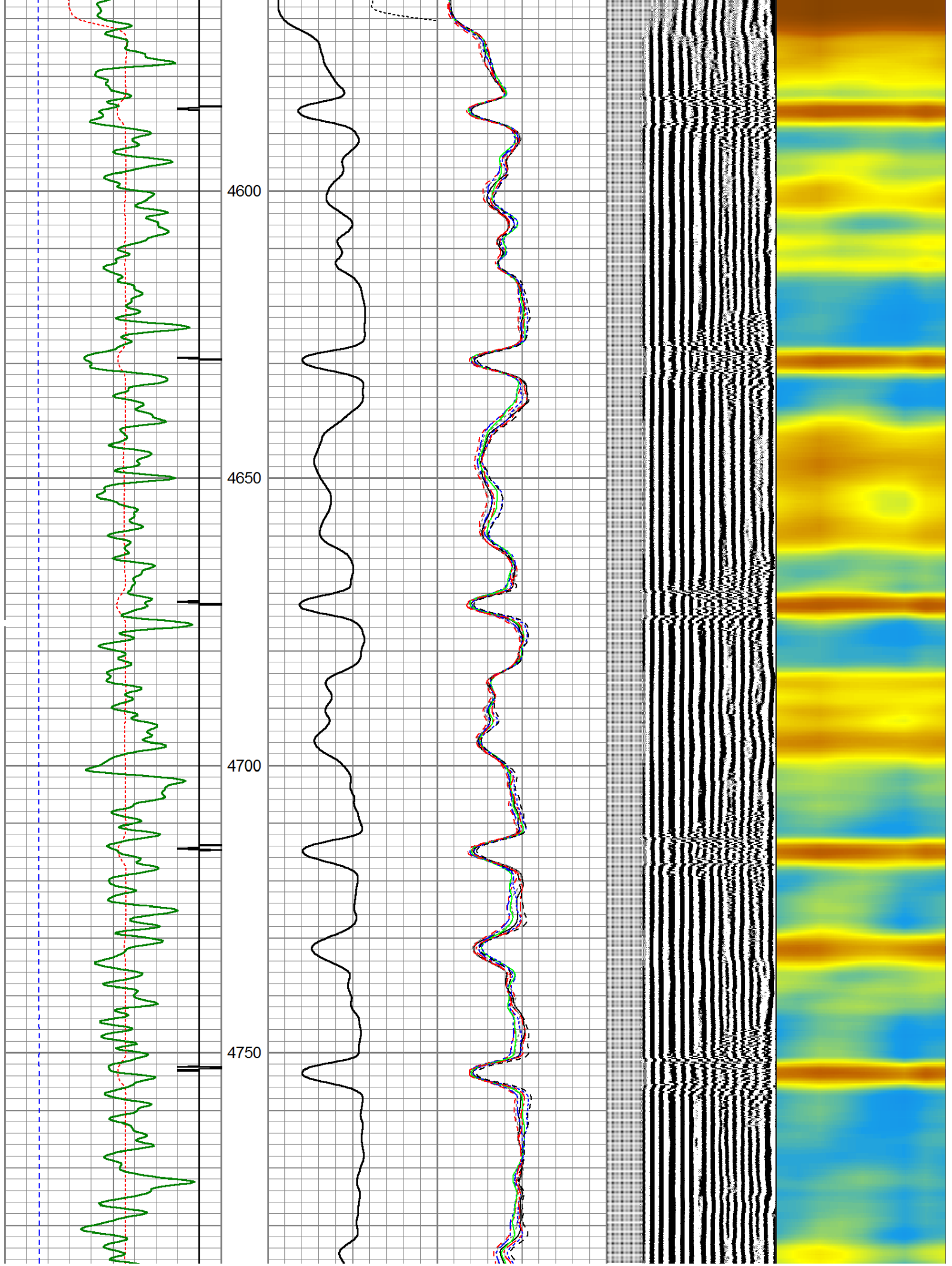




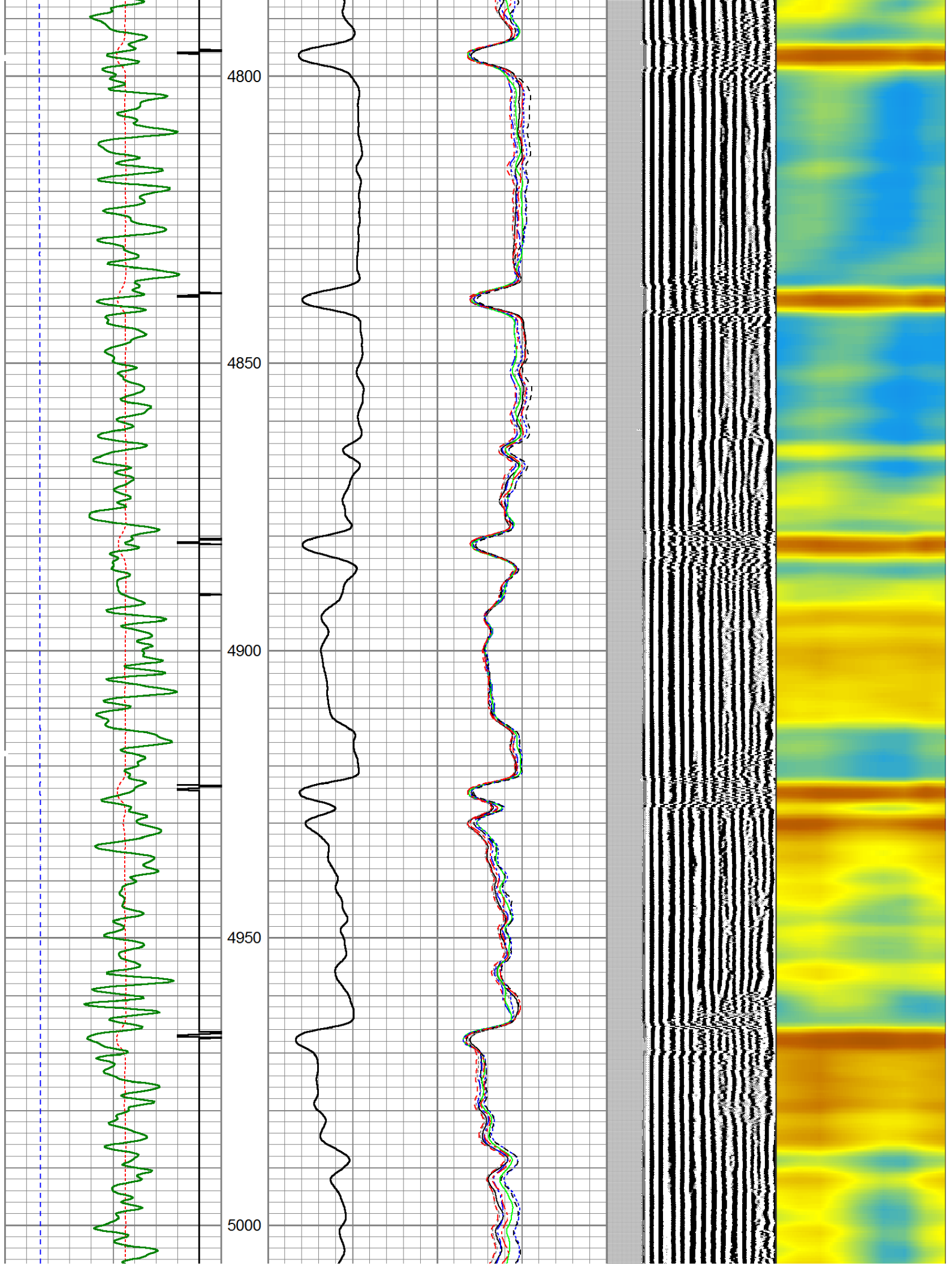


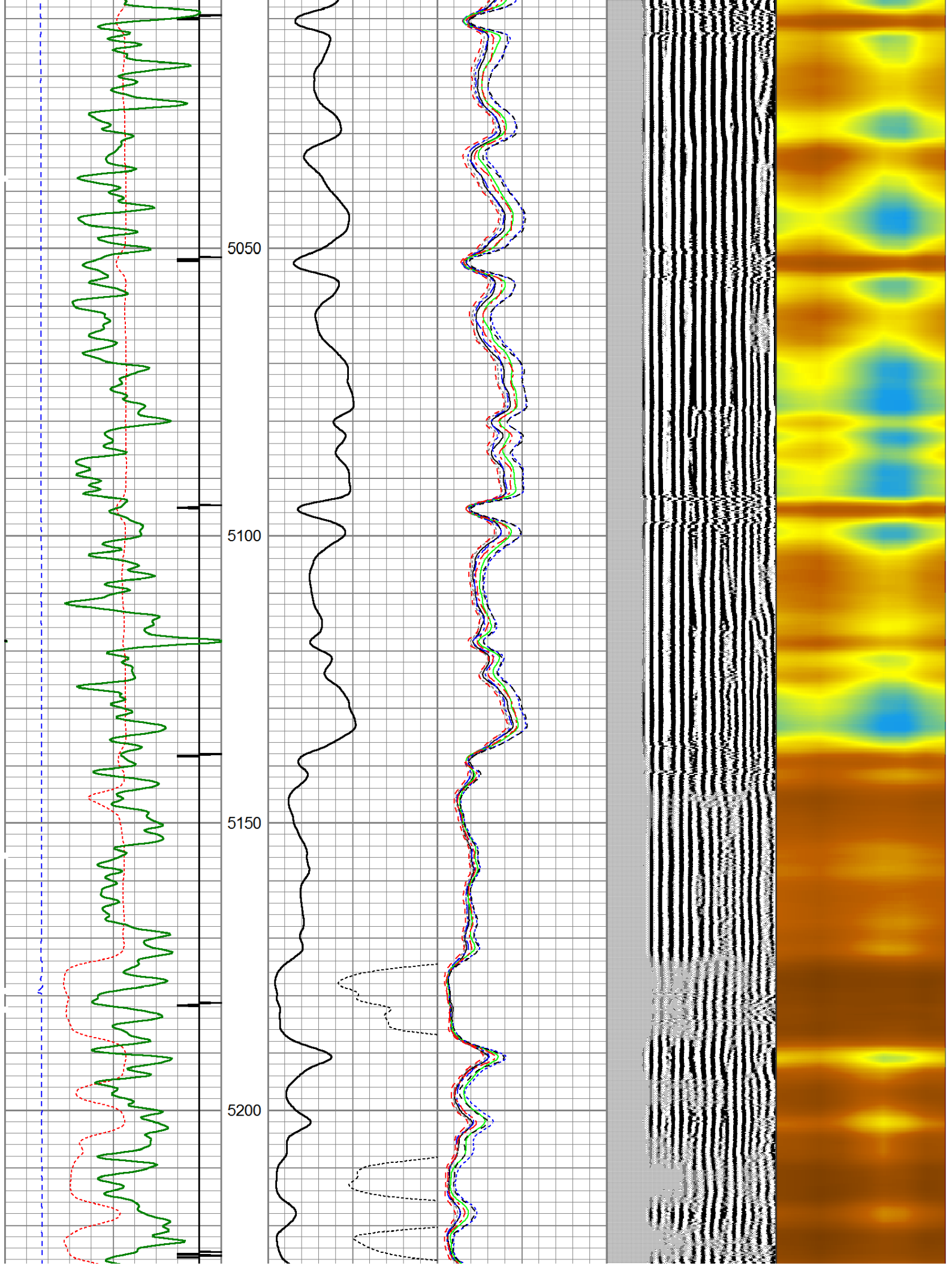




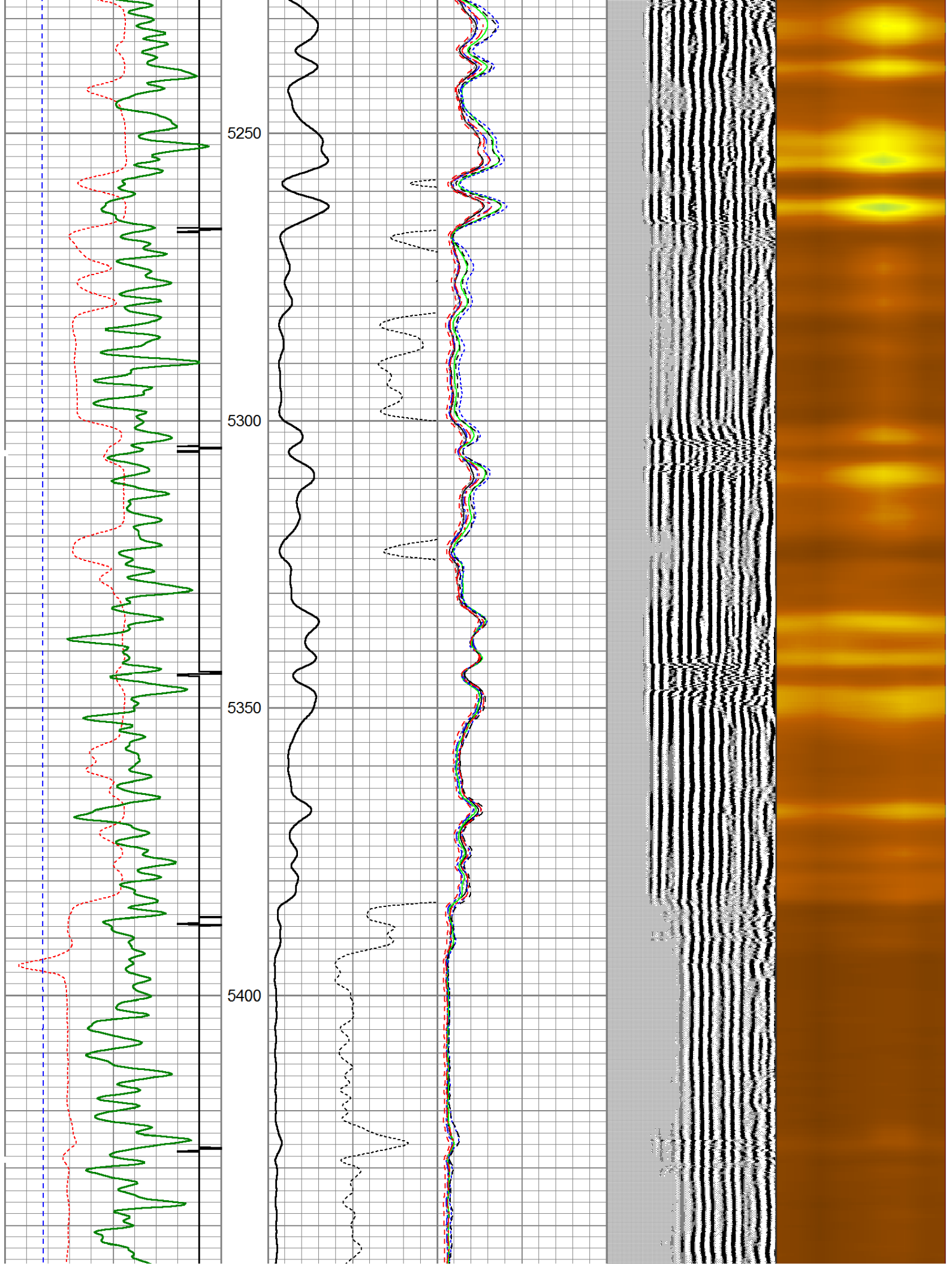




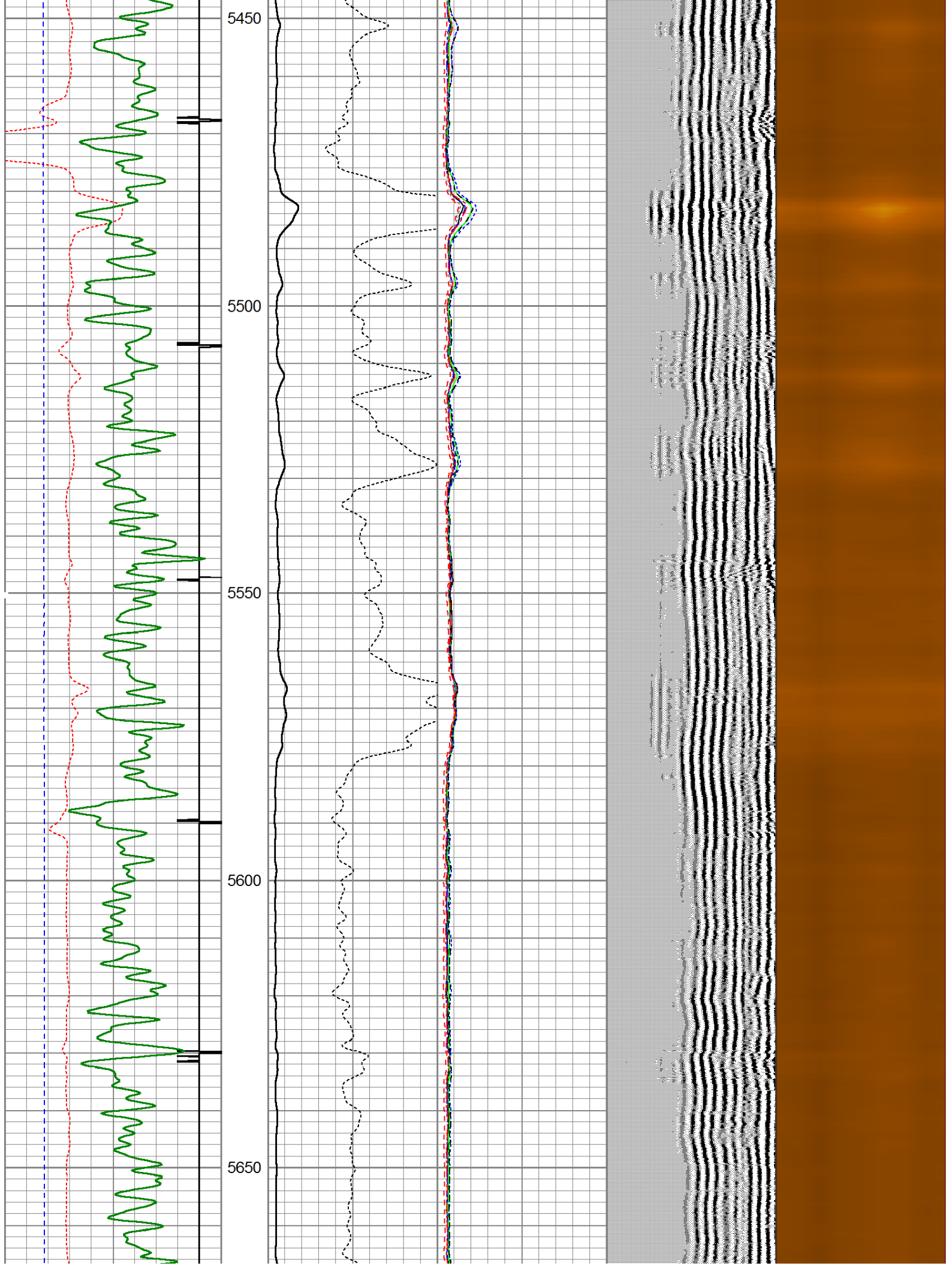


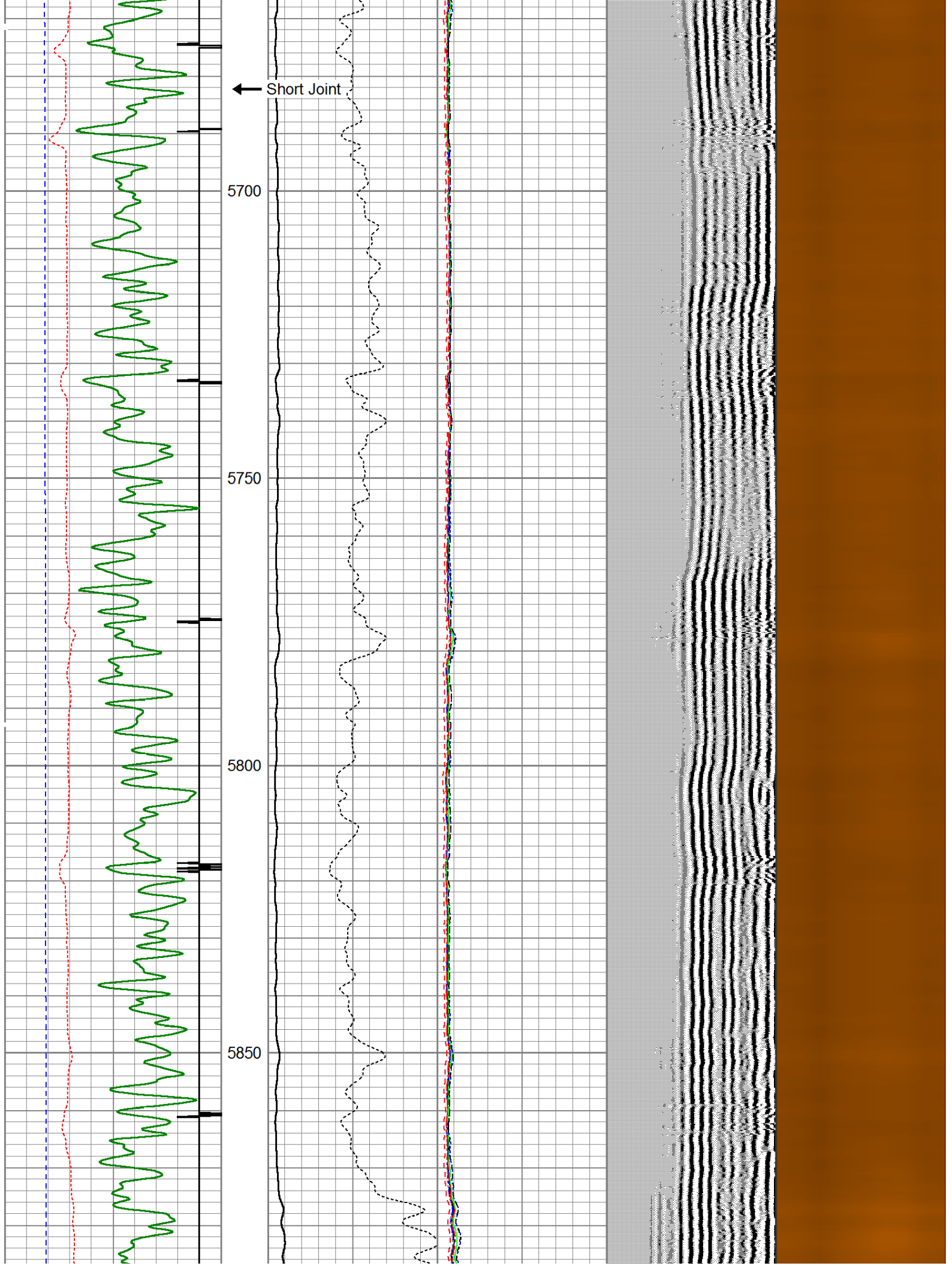




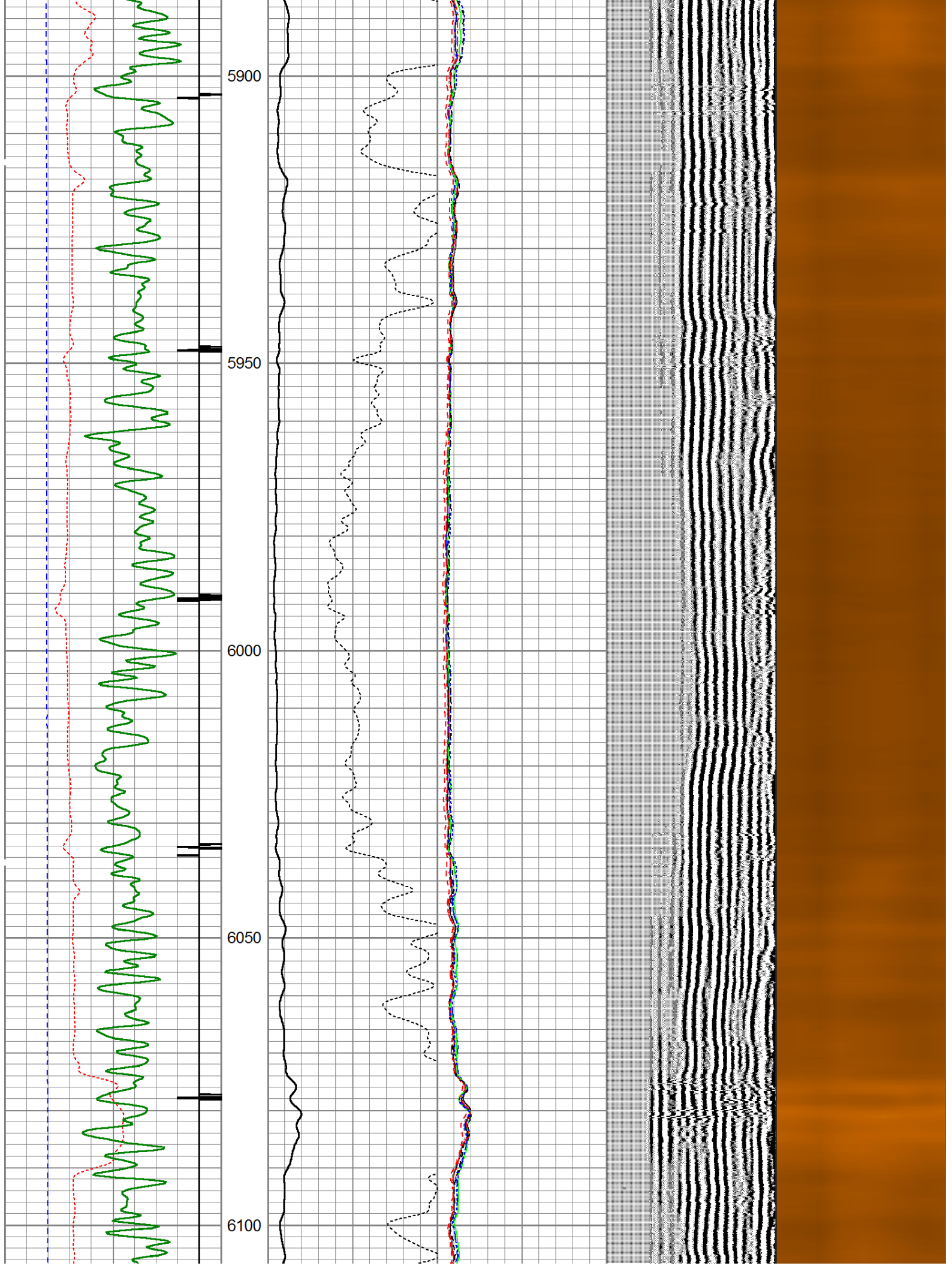




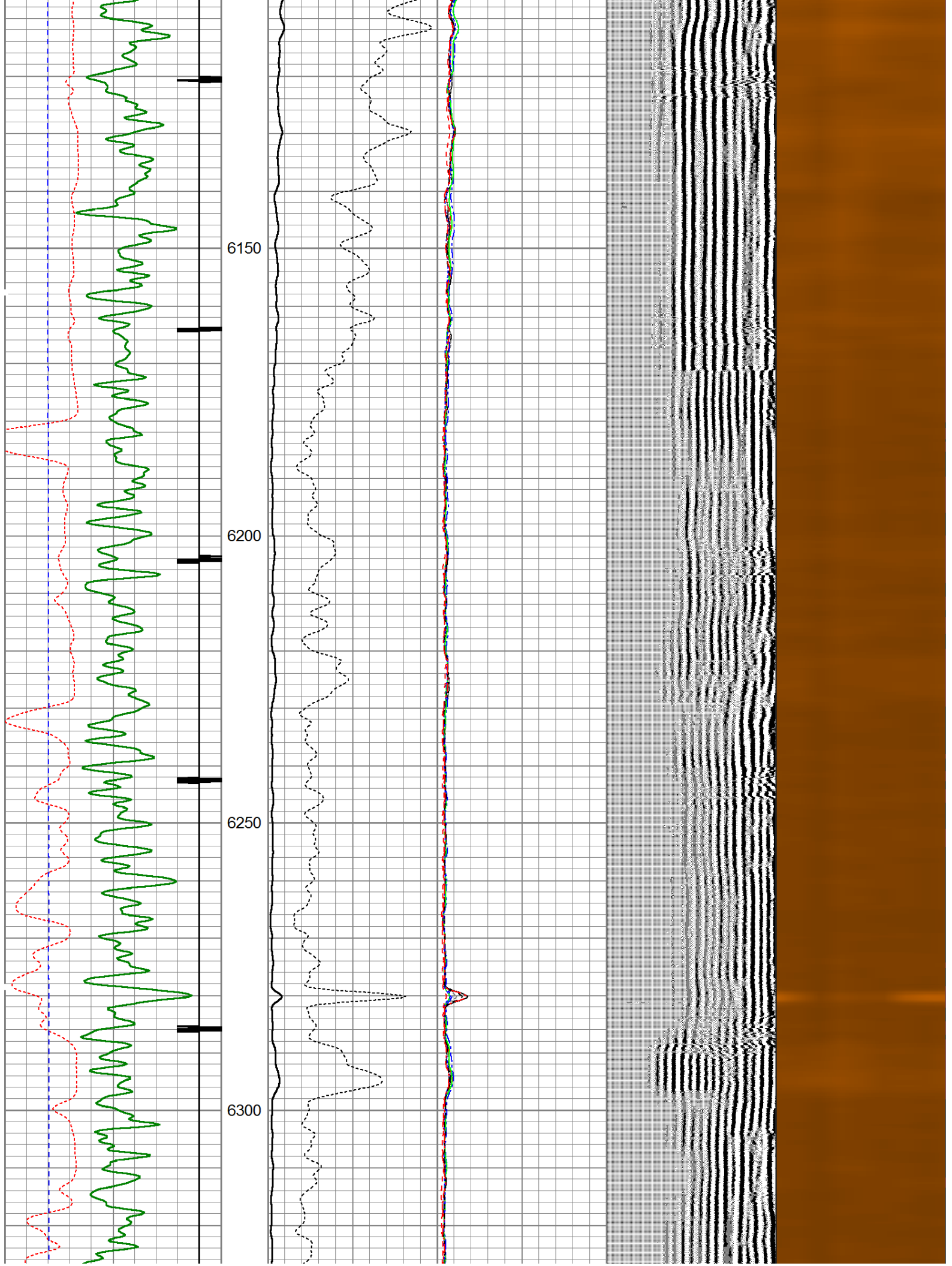


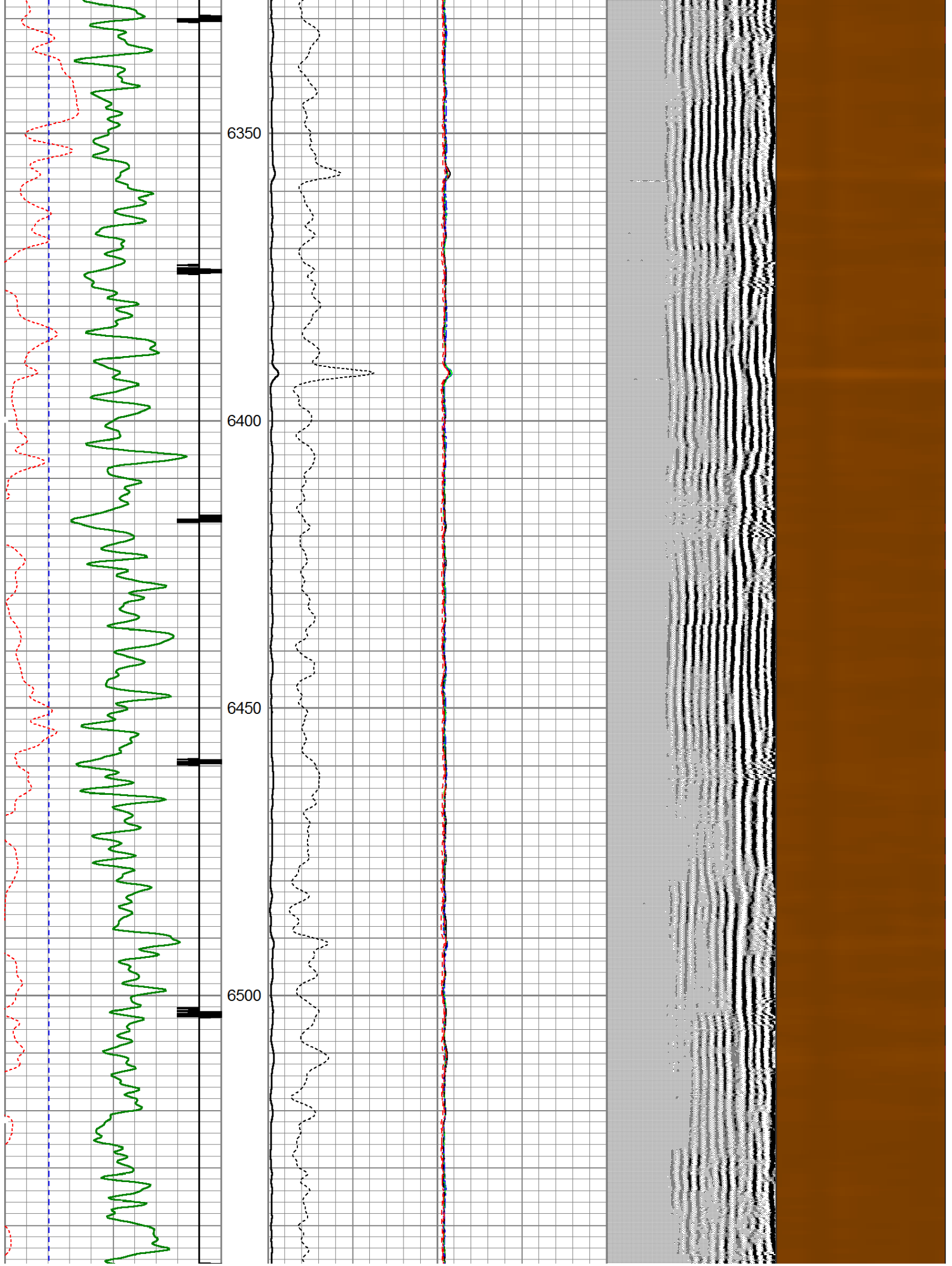




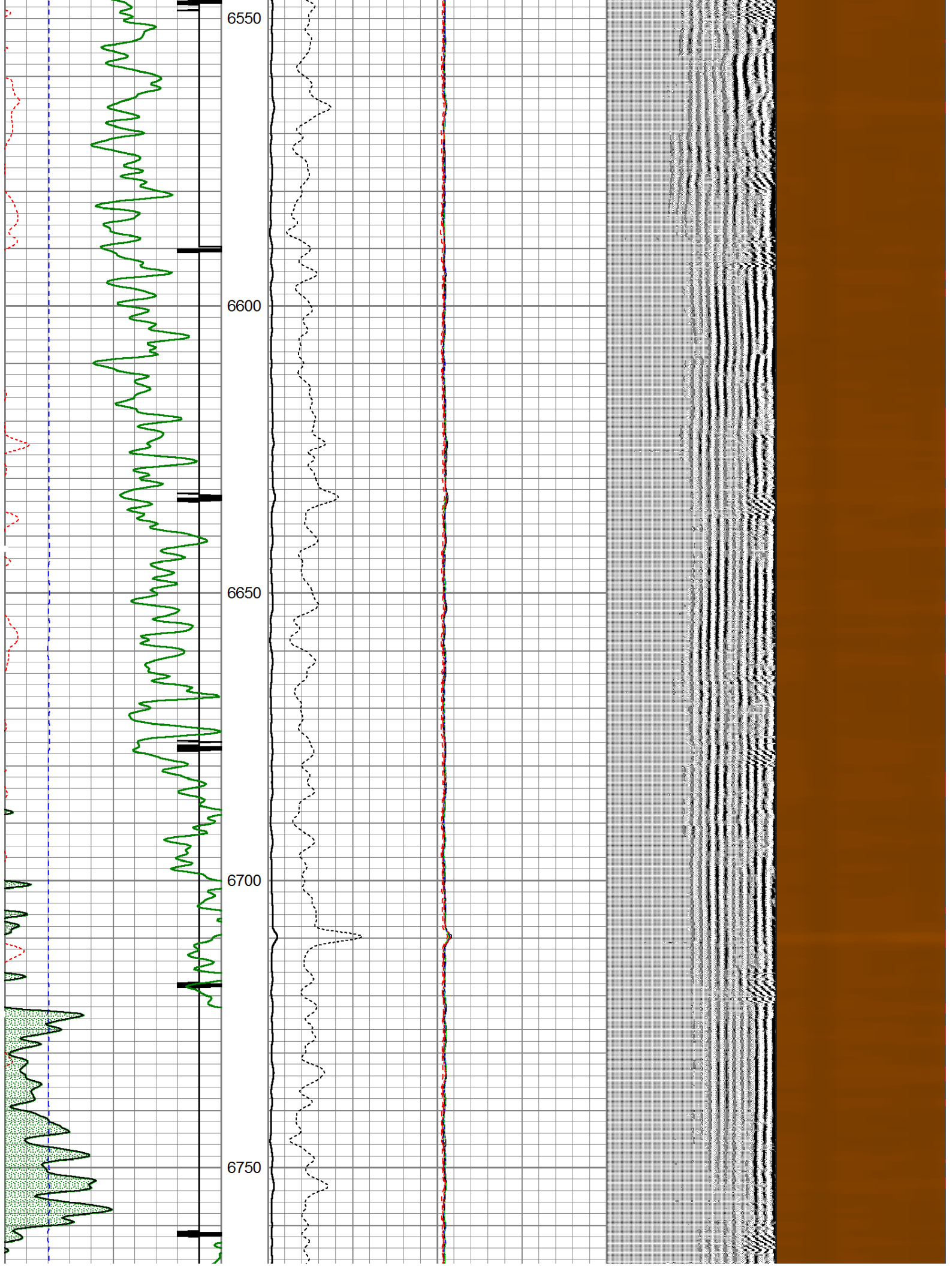




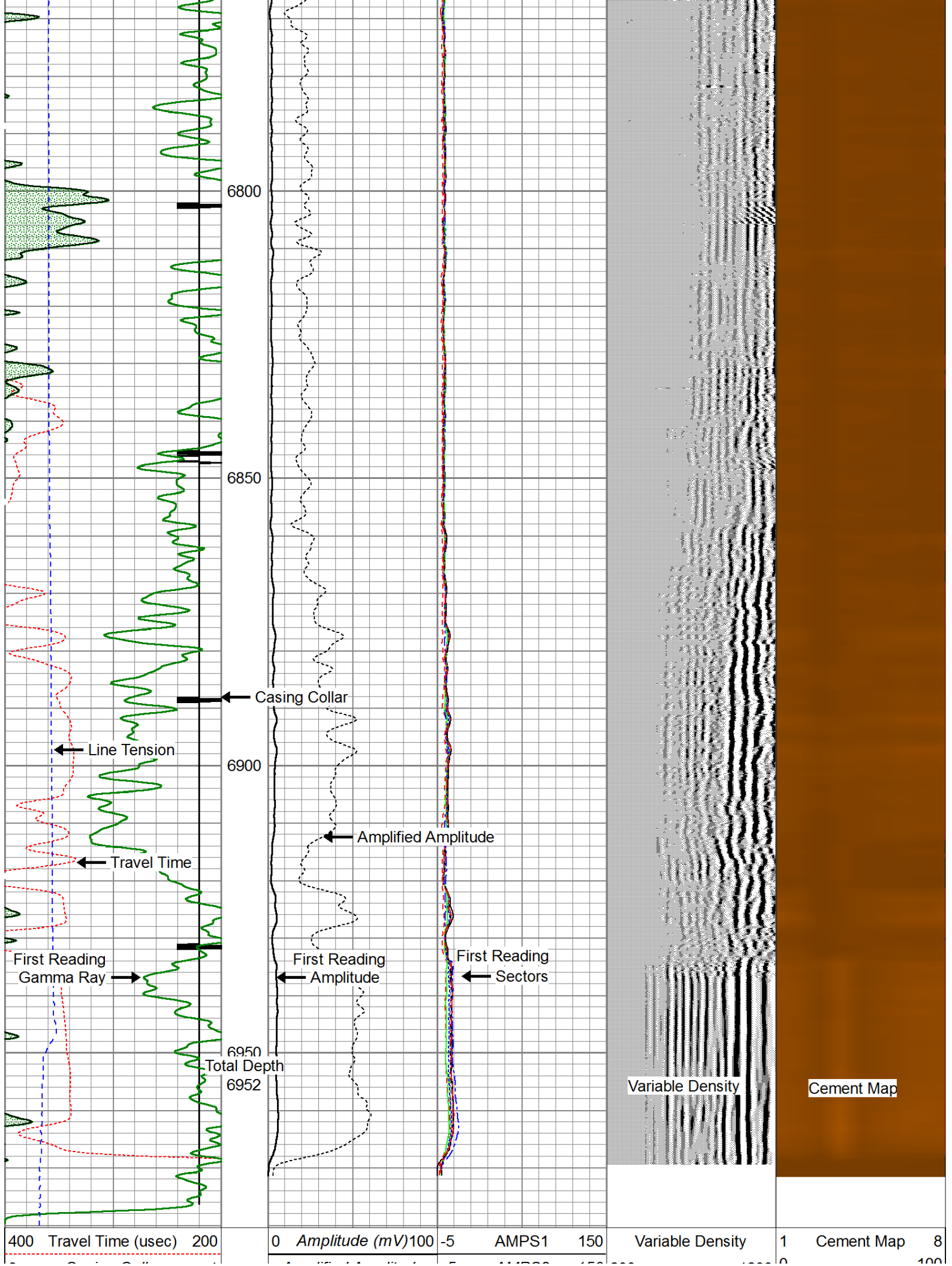












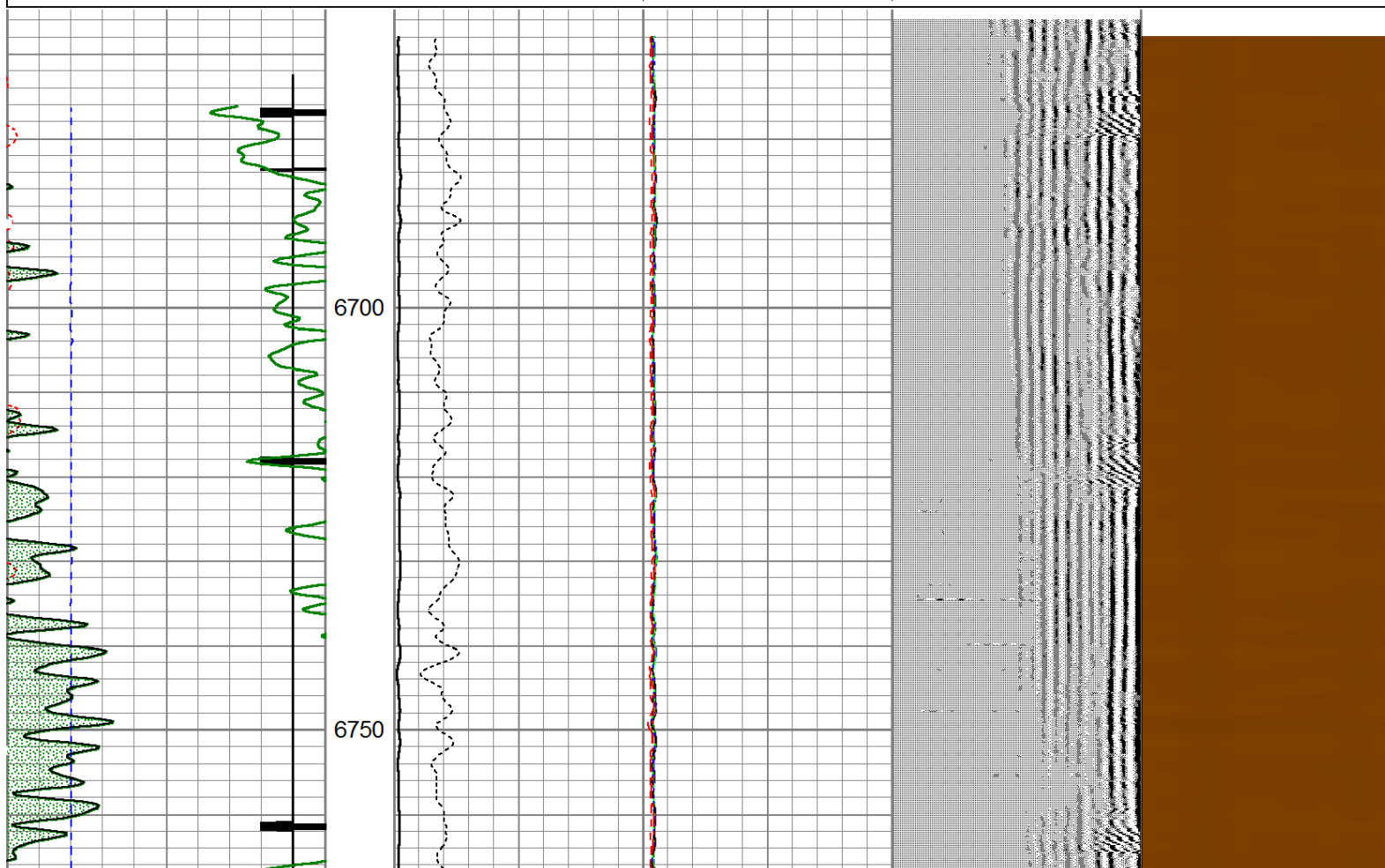
9	Casing Collar	-1	0	Amplified Amplitude	-5	AMPS2	150	200	1200	0	100
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	AMPS3	150			
0	Line Tension (lb)	5000				-5	AMPS4	150			
						-5	AMPS5	150			
						-5	AMPS6	150			
						-5	AMPS7	150			
						-5	AMPS8	150			



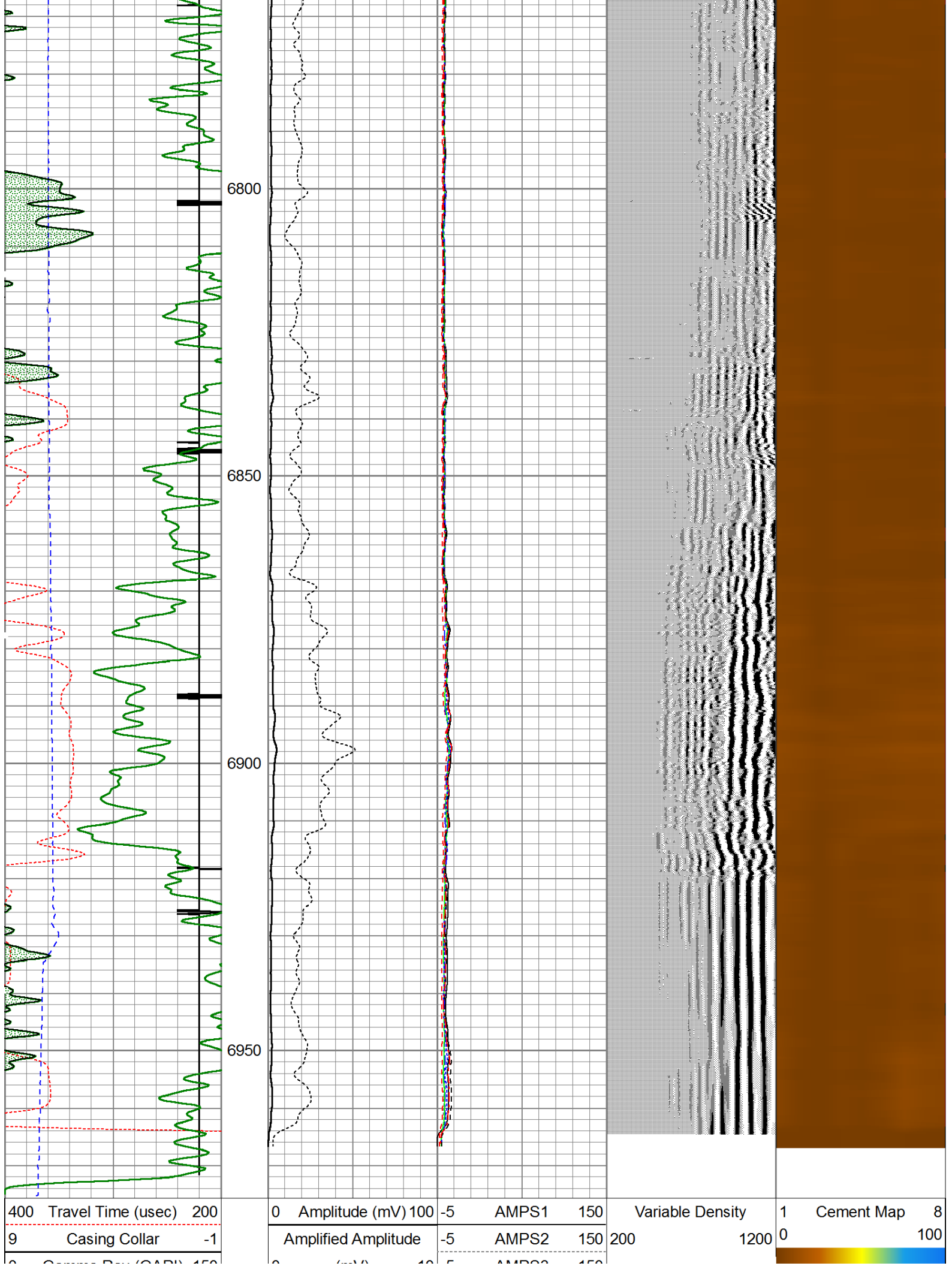
# Repeat Pass(0 PSI)

Database File: noble crow creek state ad36-72-1hn\_rcbl.db  
Dataset Pathname: pass2  
Presentation Format: scbl03  
Dataset Creation: Sat Dec 14 11:30:10 2013 by Log 7.0 B1  
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)	5000				-5	AMPS4	150				
						-5	AMPS5	150				
						-5	AMPS6	150				
						-5	AMPS7	150				
						-5	AMPS8	150				









0	Gamma Ray (GAPI)	150	0	(mv)	10	-5	AMPS3	150
0	Line Tension (lb)	5000				-5	AMPS4	150
						-5	AMPS5	150
						-5	AMPS6	150
						-5	AMPS7	150
						-5	AMPS8	150

Calibration Report		
Database File:	noble crow creek state ad36-72-1hn_rcbl.db	
Dataset Pathname:	pass4.3	
Dataset Creation:	Sat Dec 14 13:42:30 2013 by Calc 7.0 B1	

Gamma Ray Calibration Report		
Serial Number:	110108-Dig	
Tool Model:	Probe275	
Performed:	Tue Nov 05 09:42:00 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.8500	GAPI/cps

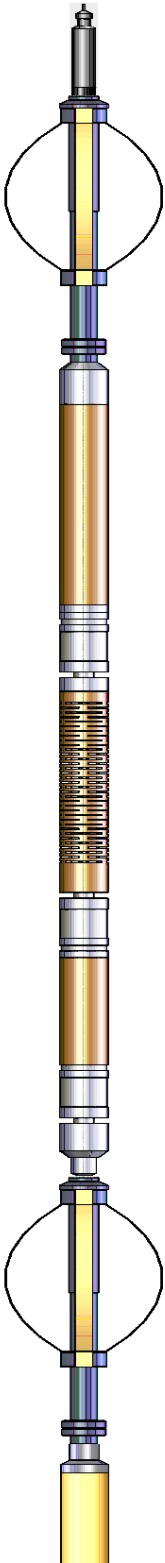
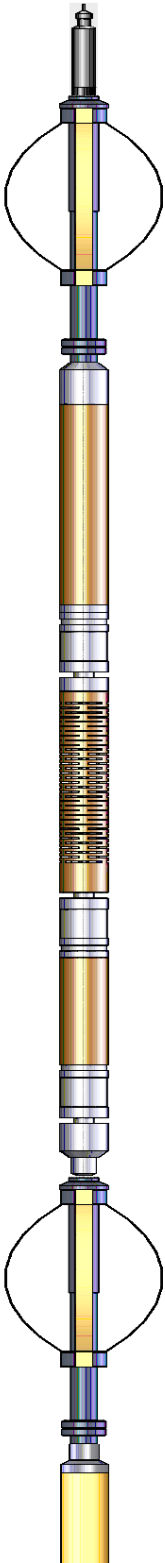
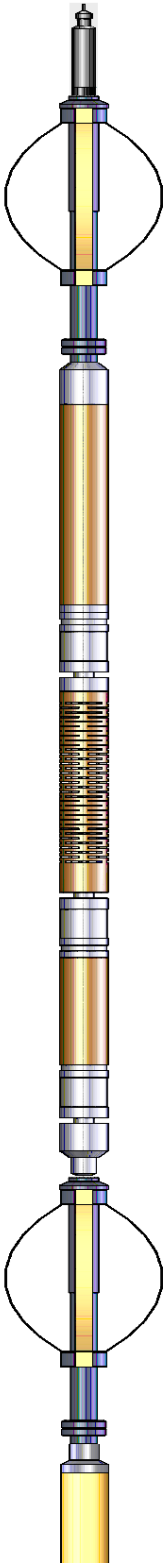
Segmented Cement Bond Log Calibration Report		
Serial Number:	101224	
Tool Model:	Probe	
Calibration Casing Diameter:	7.000	in
Calibration Depth:	1222.292	ft

Master Calibration, performed Sat Dec 14 09:04:00 2013:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.602	1.000	62.165	102.295	0.322
CAL	0.003	1.097				
5'	0.007	0.551	1.000	62.165	112.414	0.258
SUM						
S1	0.028	0.616	0.000	100.000	170.181	-4.824
S2	0.006	0.620	0.000	100.000	162.701	-0.951
S3	0.018	0.652	0.000	100.000	157.766	-2.914
S4	0.005	0.664	0.000	100.000	151.580	-0.722
S5	0.006	0.652	0.000	100.000	154.636	-0.887
S6	0.005	0.618	0.000	100.000	163.080	-0.814
S7	0.005	0.578	0.000	100.000	174.513	-0.810
S8	0.009	0.559	0.000	100.000	182.024	-1.704

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	0.003	1.097	1.000	0.000

Air Zero Calibration, performed Sat Dec 14 08:03:41 2013:						
	Raw (v)		Calibrated (v)		Results	

		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
			Probe275 2.75" Centralizer	2.88	2.75	20.00
WVF3FT	11.84		RBT-Probe (101224) Probe Radii Bond Tool with Digital Telemetry	8.75	2.75	90.00
WVFCAL	11.84					
WVFS1	11.84					
WVFS2	11.84					
WVFS3	11.84					
WVFS4	11.84					
WVFS5	11.84					
WVFS6	11.84					
WVFS7	11.84					
WVFS8	11.84					
WVF5FT	10.84					
			Probe275 2.75" Centralizer	2.88	2.75	20.00
CCL	3.88					

