



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

Company	Noble Energy		
Well	SLW Ranch State B13_69HN		
Field	Wattenberg		
County	Weld	State	Colorado
Location:	API # : 05-123-36496		Other Services
	75' FSL, 535' FEL		None
Permanent Datum	SEC 12 TWP 5N RGE 64W	Ground Level	Elevation
Log Measured From		30' KB	K.B. 4625' D.F. 4624' G.L. 4595'
Drilling Measured From			
Date	6/4/13		
Run Number	One		
Depth Driller	10.833'		
Depth Logger	6975'		
Bottom Logged Interval	6971'		
Top Log Interval	0'		
Open Hole Size	8.750"		
Type Fluid	Fresh Water		
Density / Viscosity	8.33#		
Max. Recorded Temp.	223°F		
Estimated Cement Top	1063'		
Time Well Ready	9:45		
Time Logger on Bottom	10:28		
Equipment Number	12033		
Location	Brighton		
Recorded By	B.Kalkwarf	M.Schneider	
Witnessed By	B.Mansfield		
Borehole Record			
Run Number	Bit	From	To
One	26"	30'	130'
Two	13.750"	130'	644'
Three	8.750"	644'	7035'
Four	6.125"	7035'	10,833'
Tubing Record			
Casing Record	Size	Wgt/Ft	Top
Surface String	16"	42.09#	130'
Prot. String	9.625"	36#	634'
Production String	7"	26#	7025'
Liner	4.5"	11.6#	6962'
		Marker Joint	5583' - 5598'

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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 30' KB.

Main Pass and Repeat Pass logged with zero pressure on surface

Estimated top of cement 1063'.

Marker Joint (5583' - 5598')

Unable to fall below liner top.

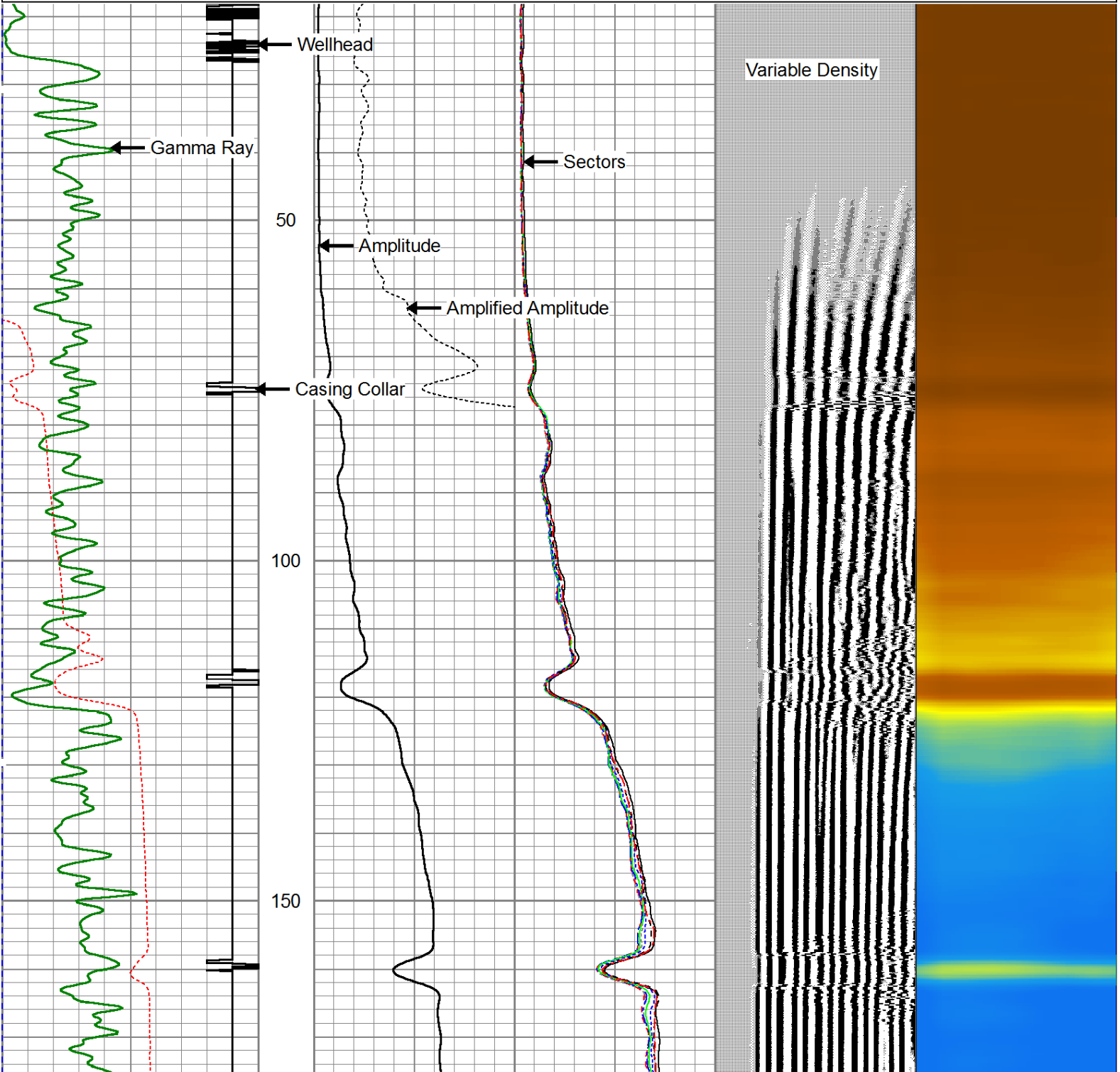
Thank you for using Allied Wireline

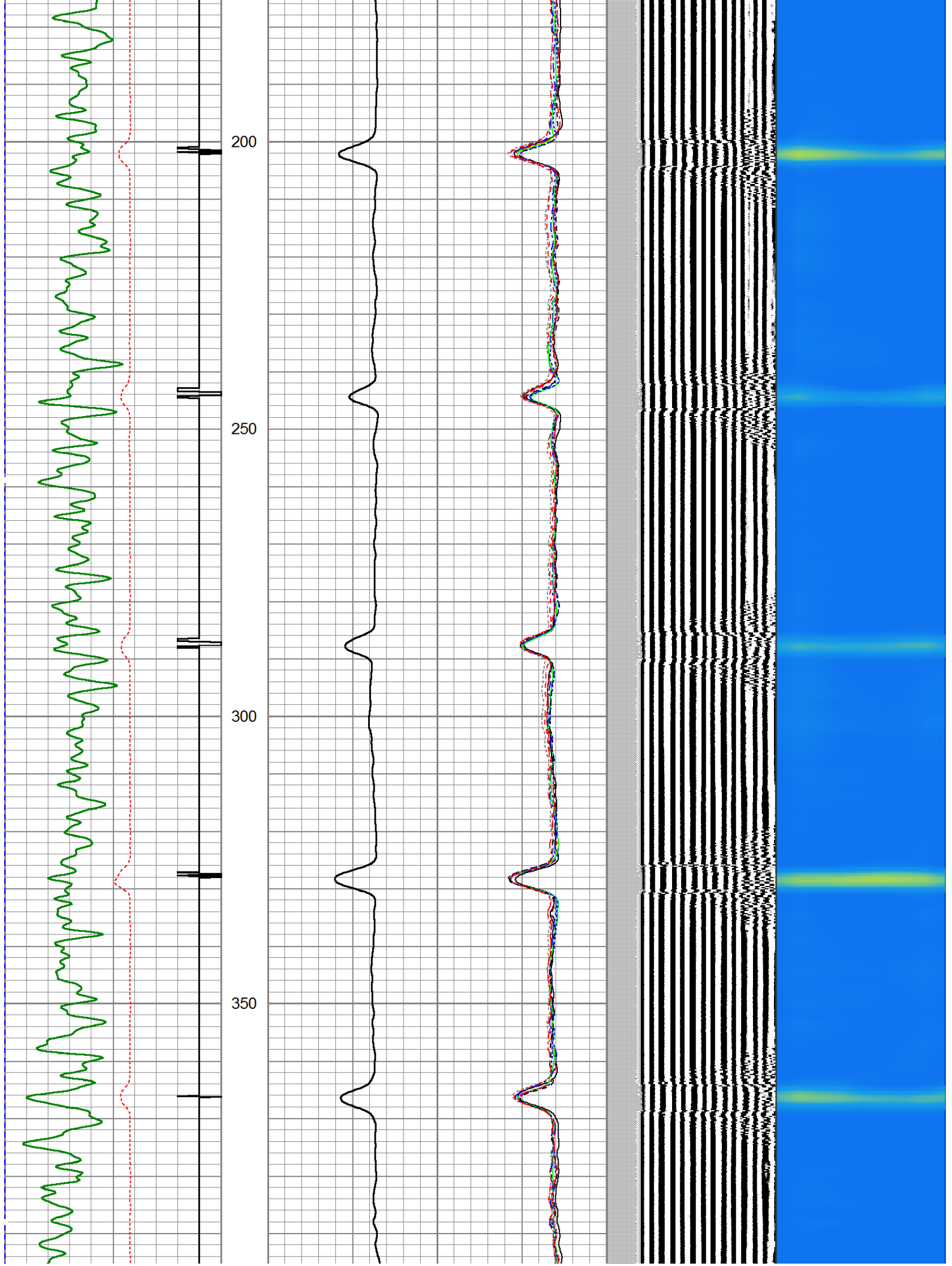


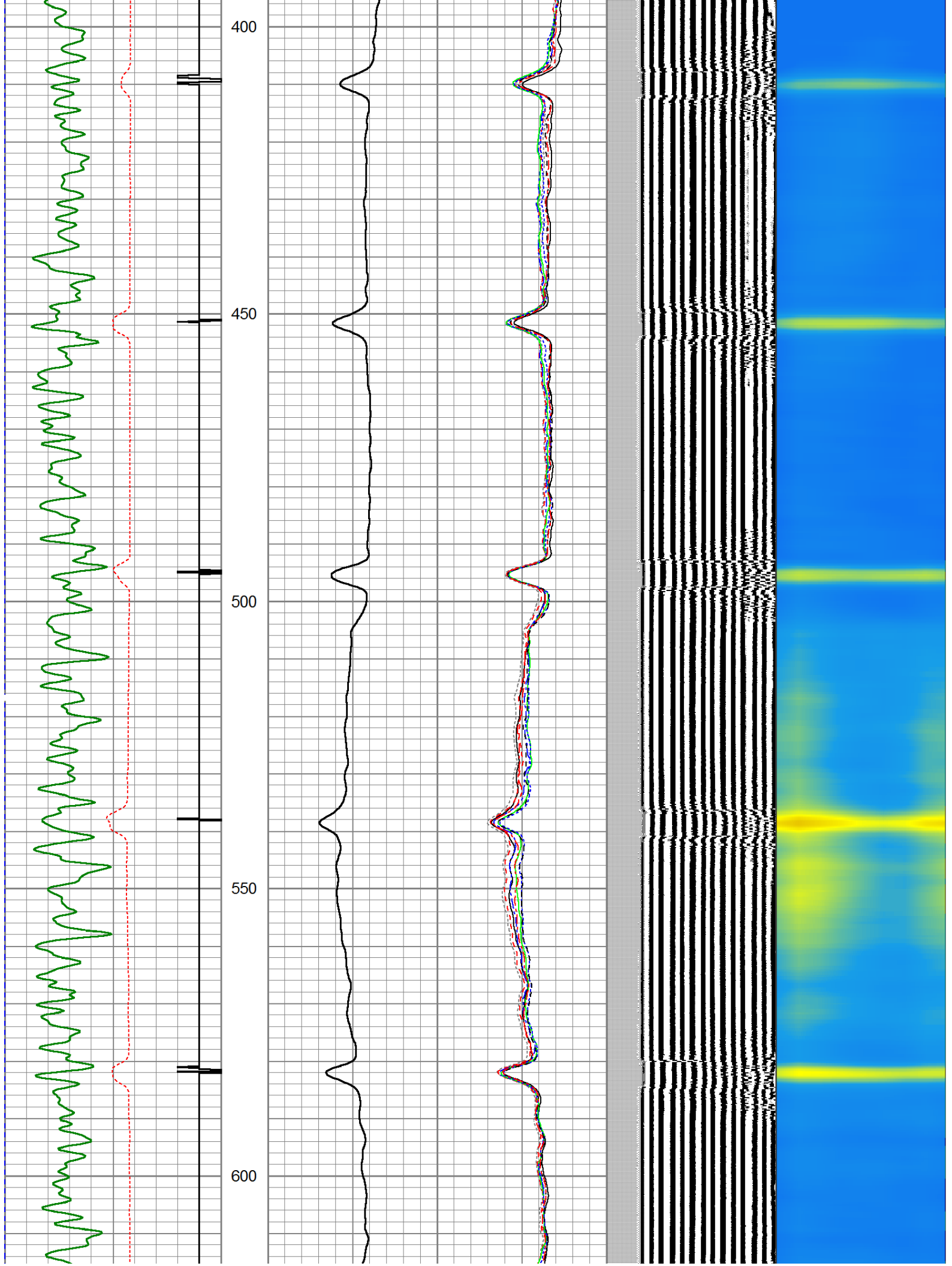
Main Pass (0 PSI)

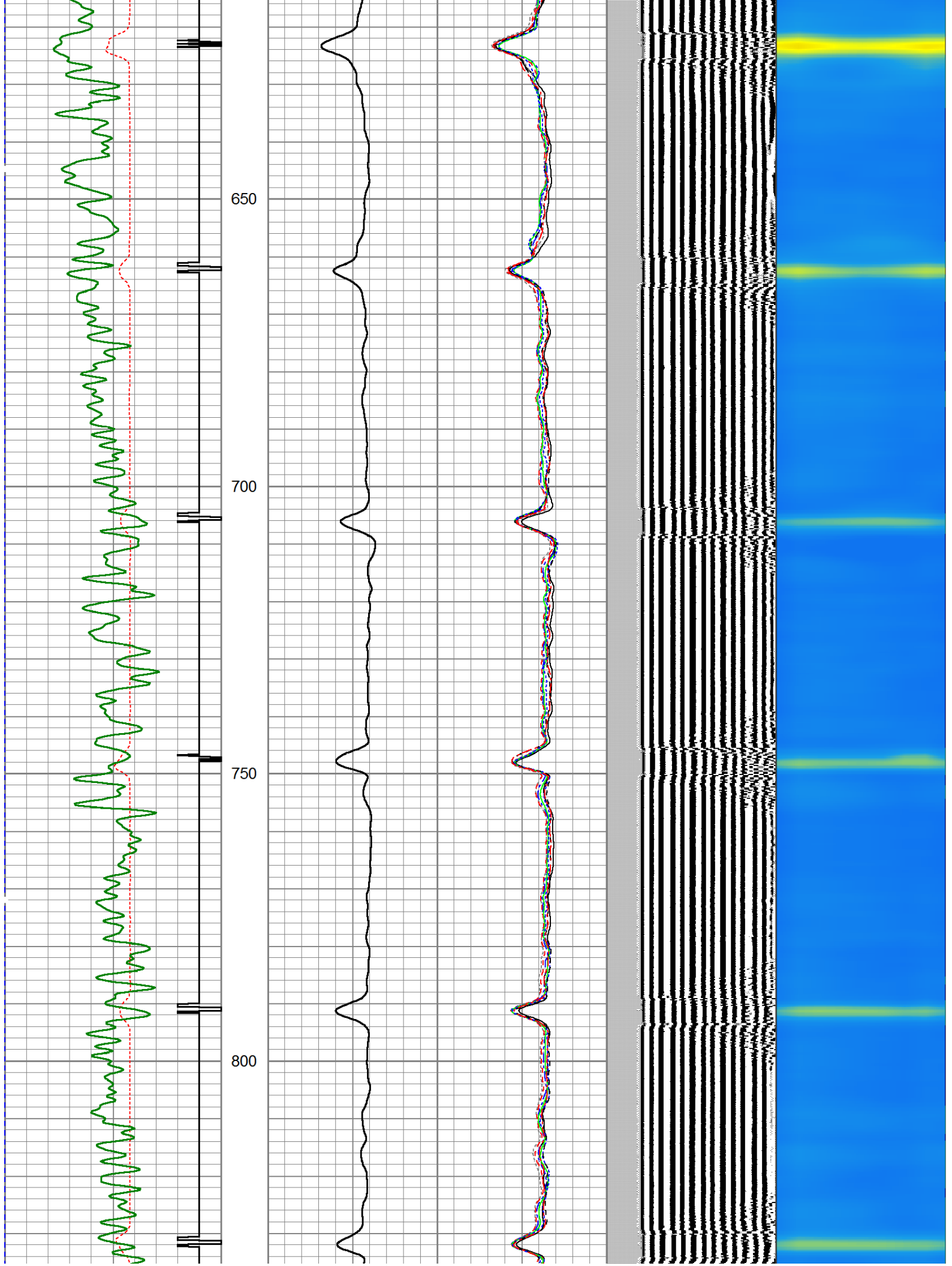
Database File: slw_ranch_state_b12_69hn.db
Dataset Pathname: pass6
Presentation Format: scbl03
Dataset Creation: Tue Jun 04 10:24:30 2013 by Log 0
Charted by: Depth in Feet scaled 1:240

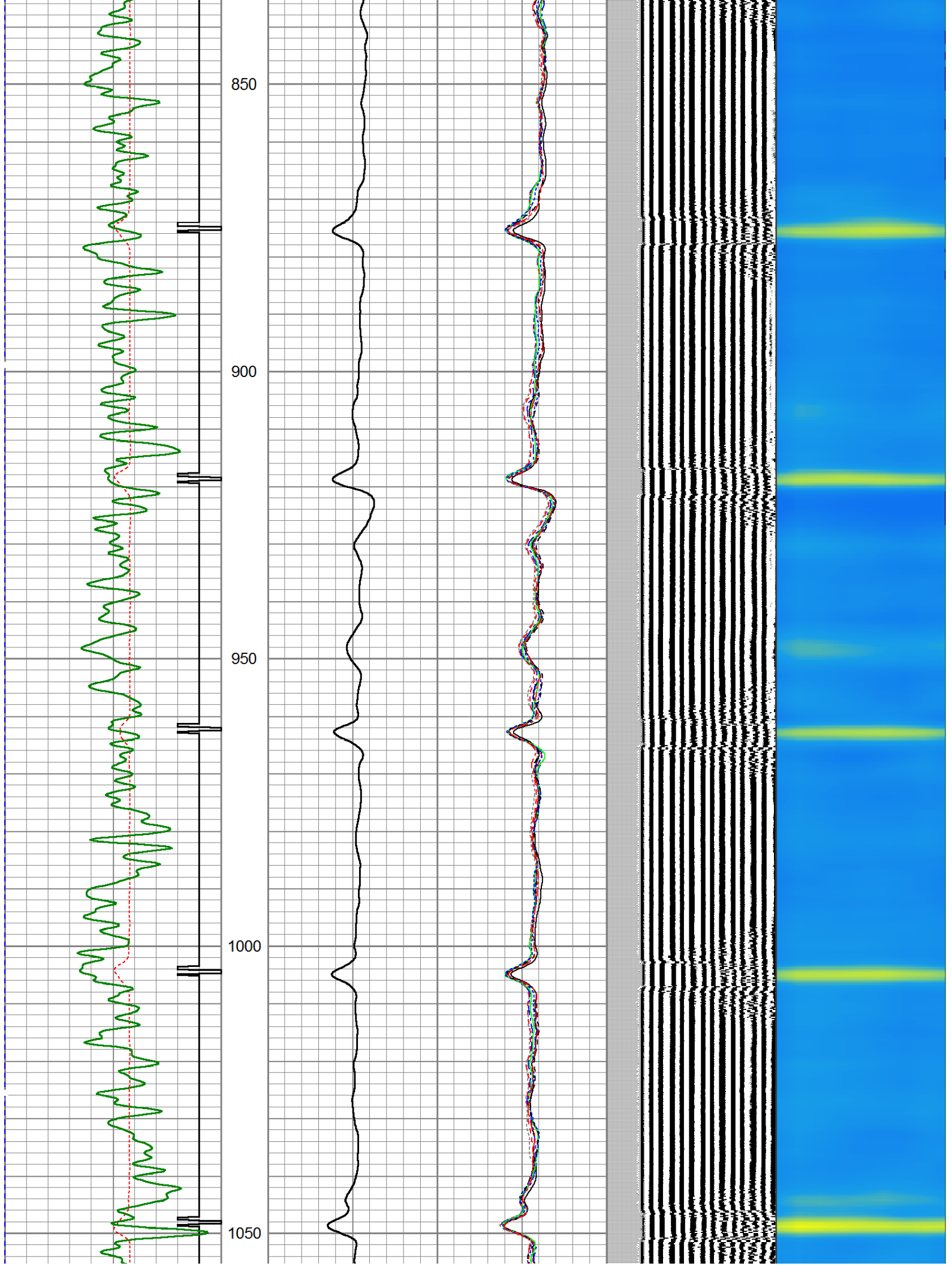
400	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	AMPS1	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1		Amplified Amplitude		-5	AMPS2	150	200	1200	0	100
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	AMPS3	150				
0	Line Tension (lb)	2000				-5	AMPS4	150				
						-5	AMPS5	150				
						-5	AMPS6	150		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

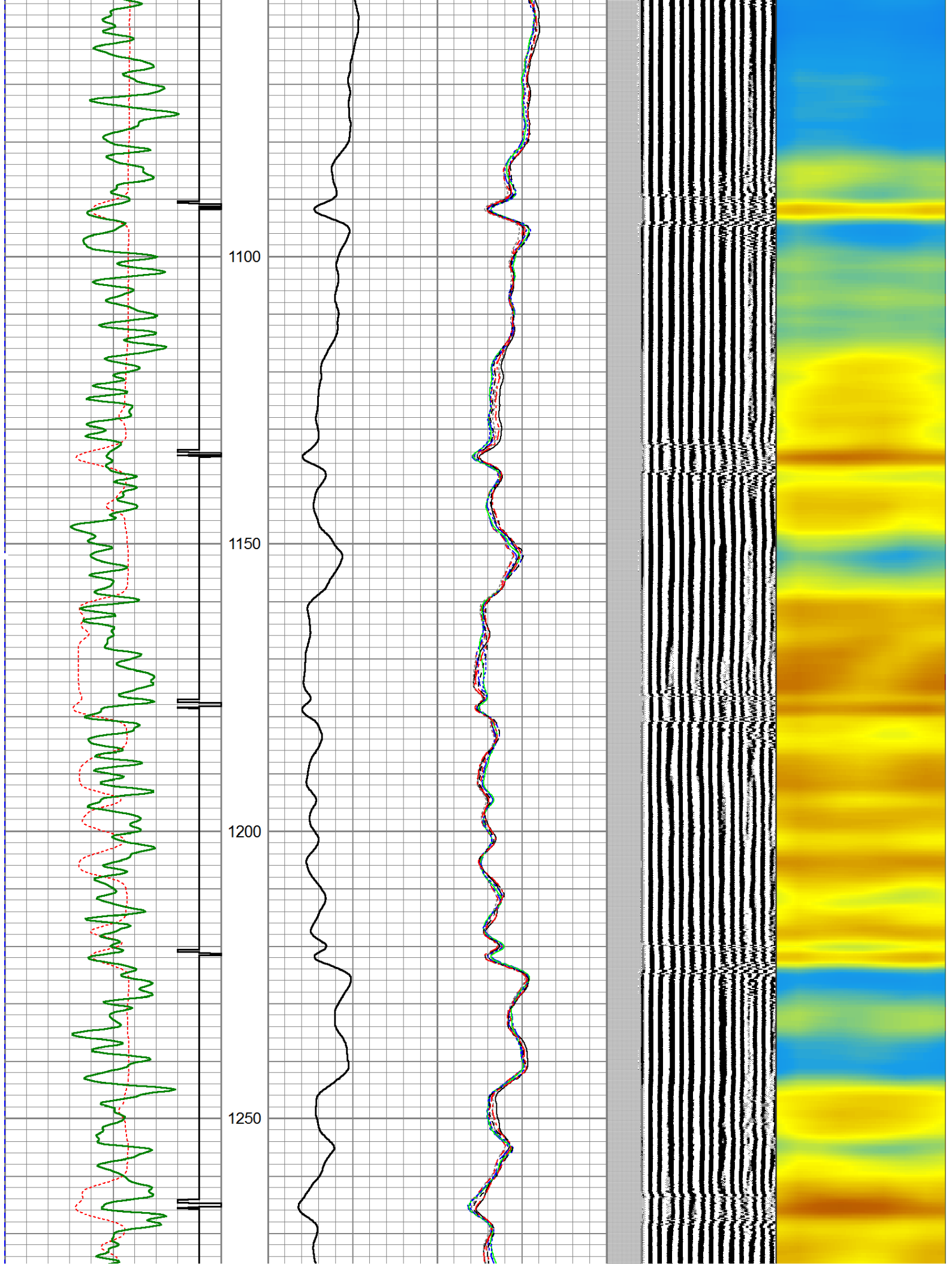


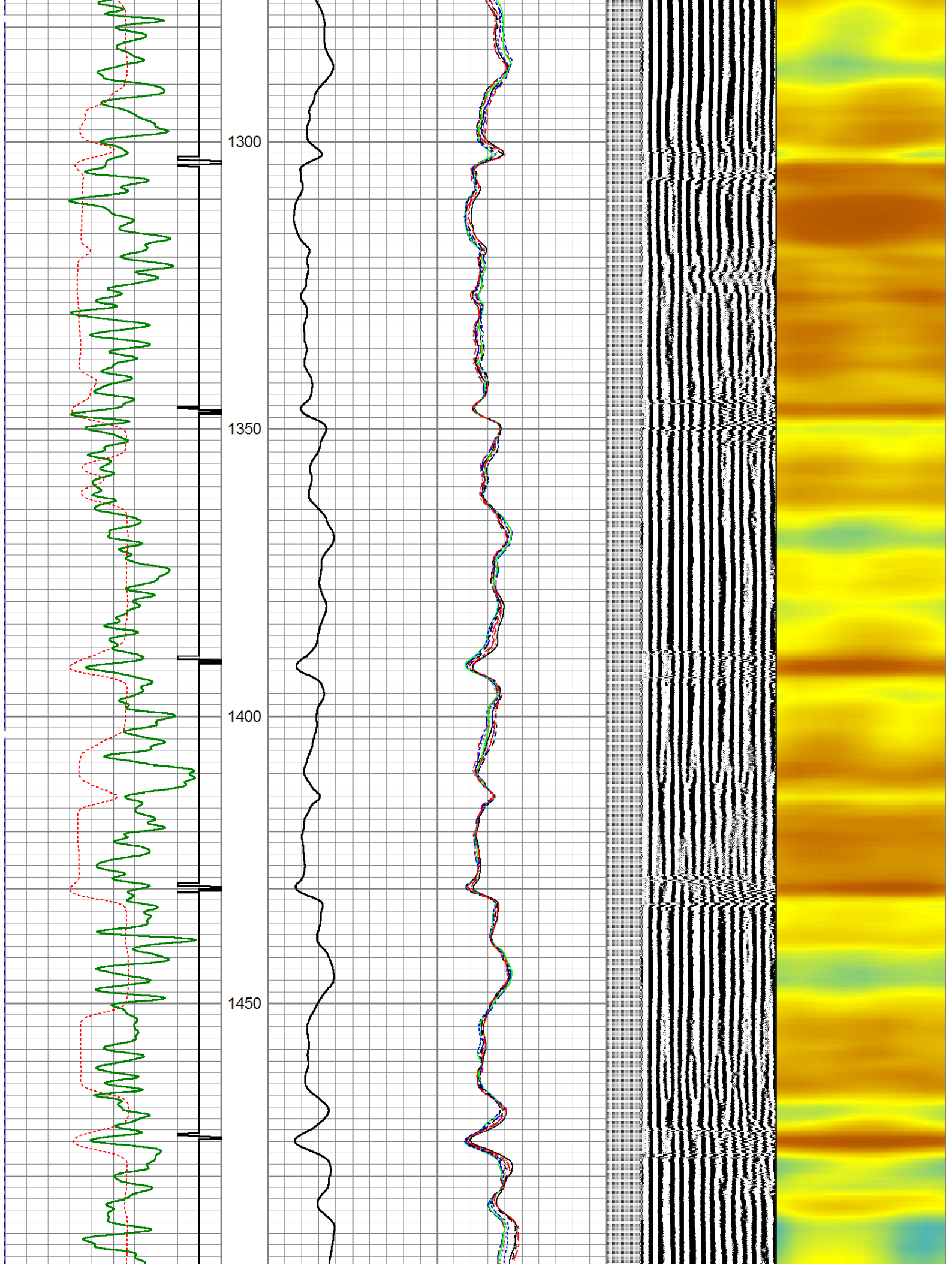


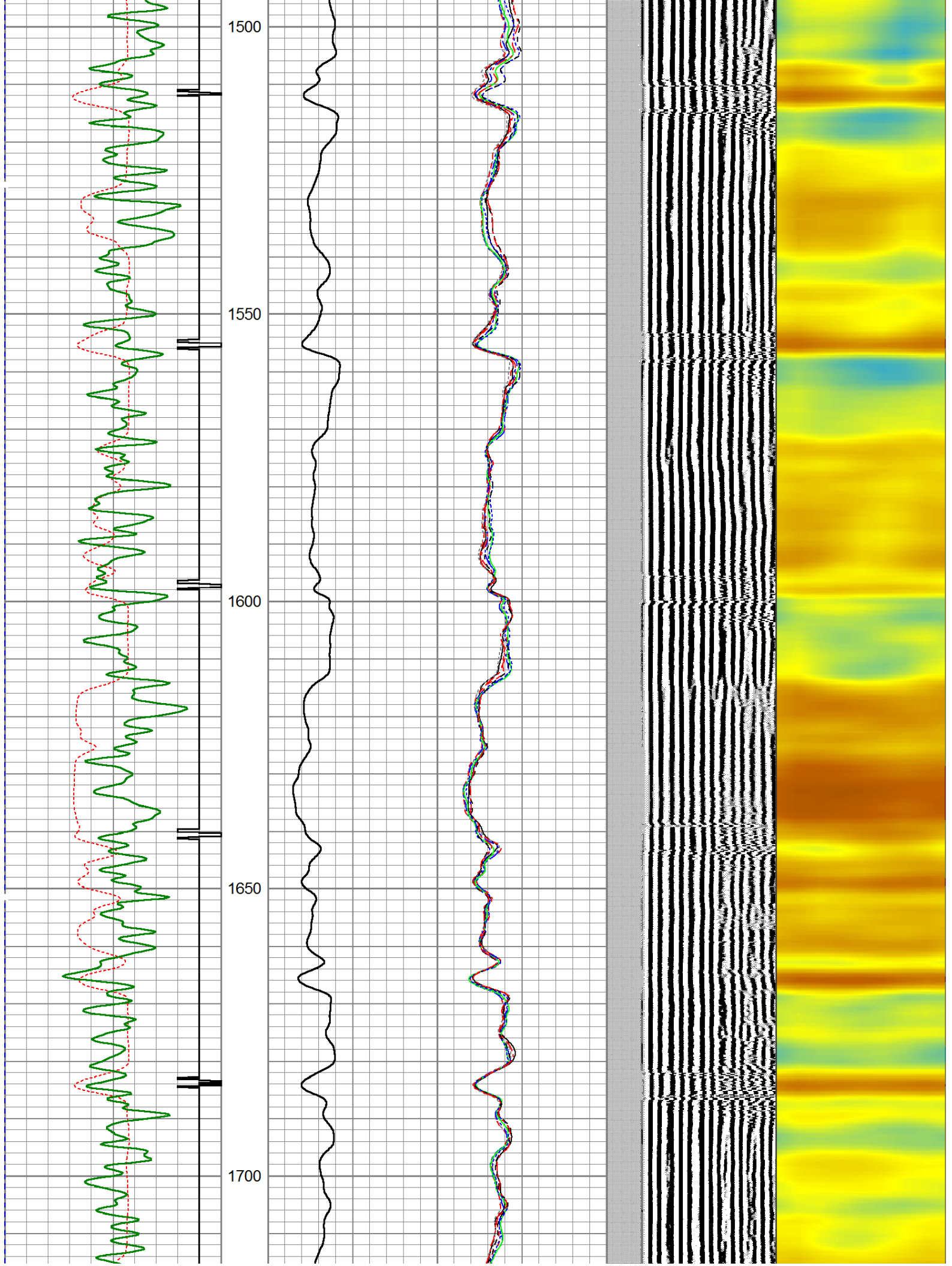


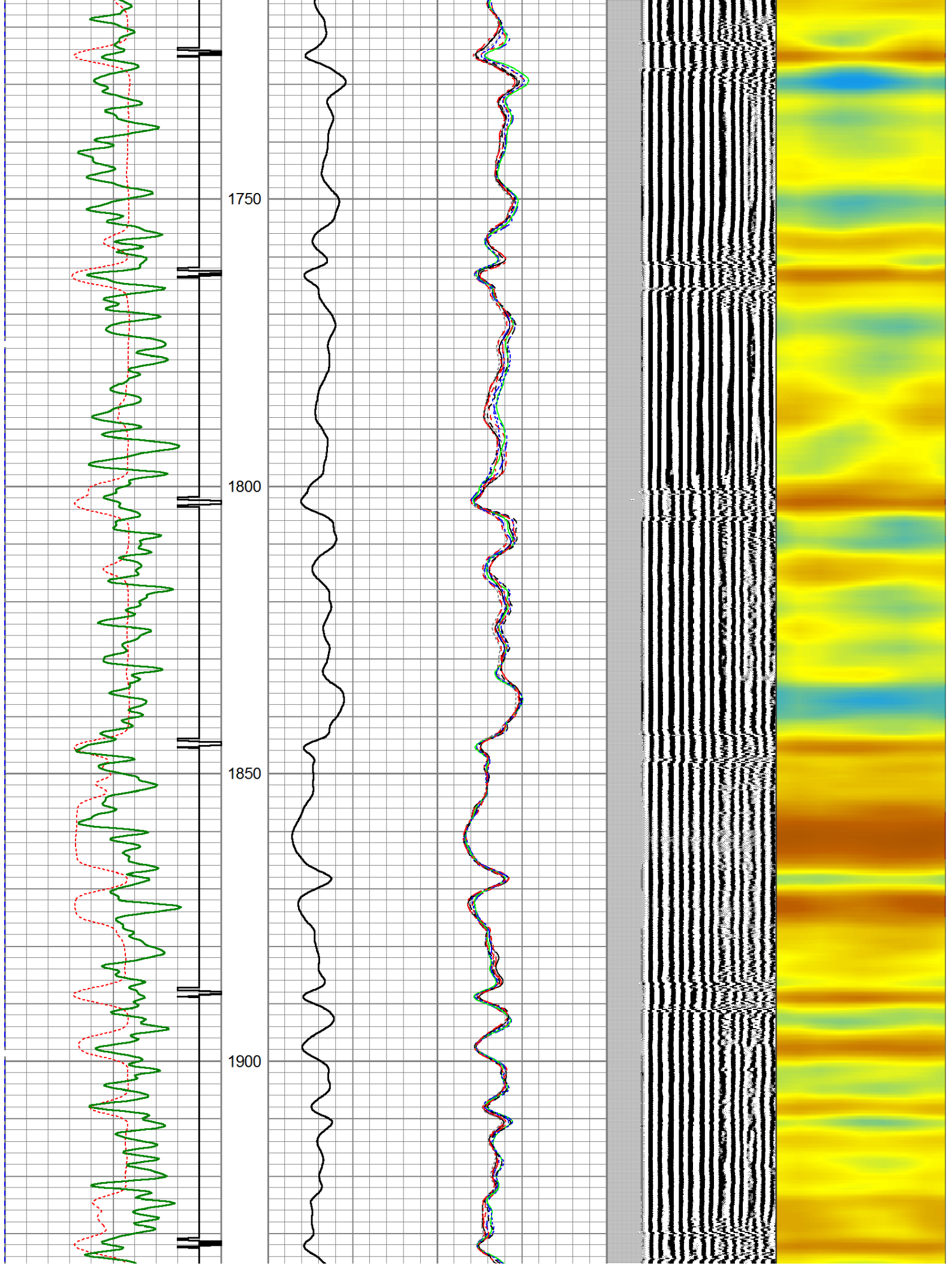


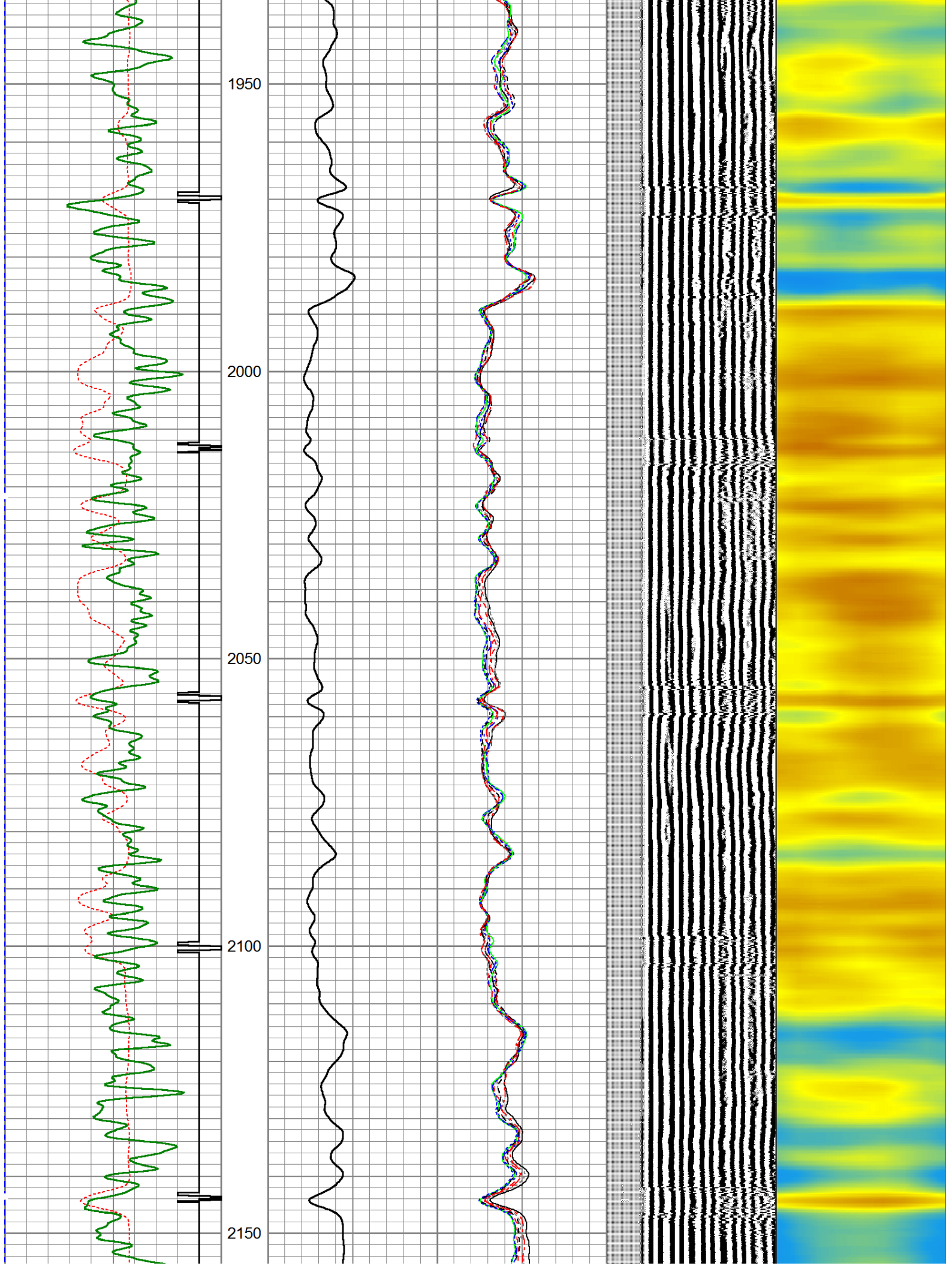


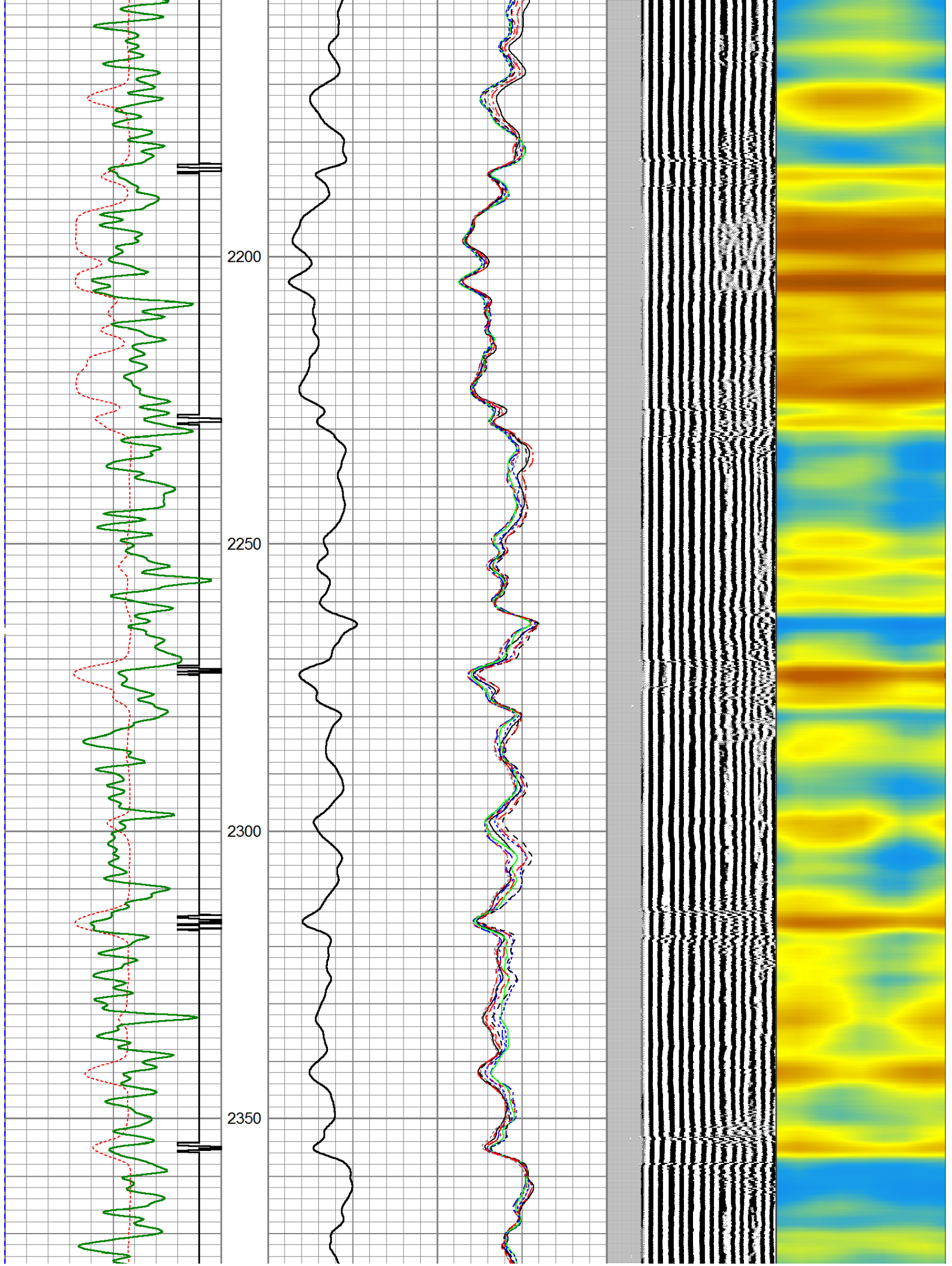


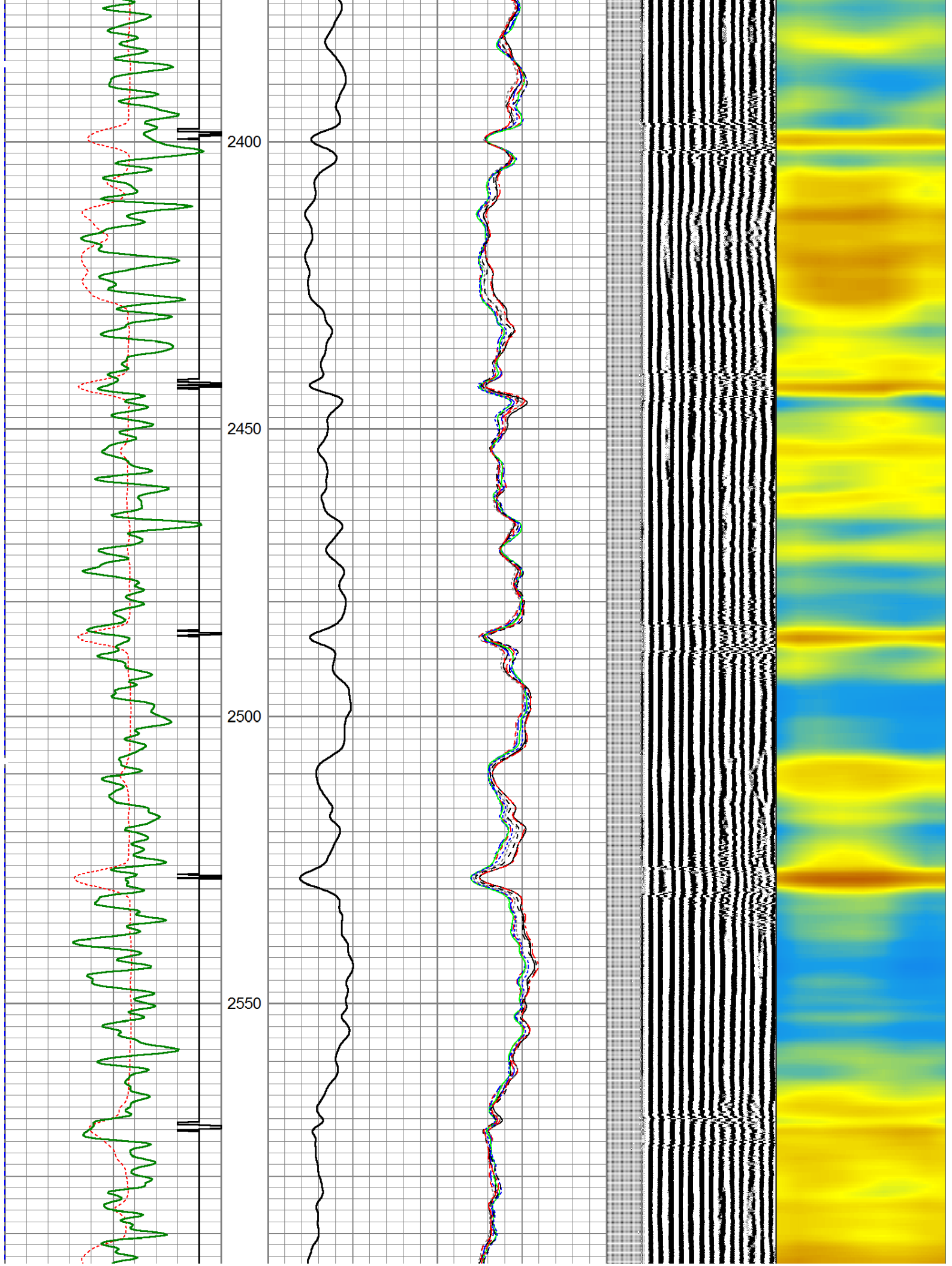


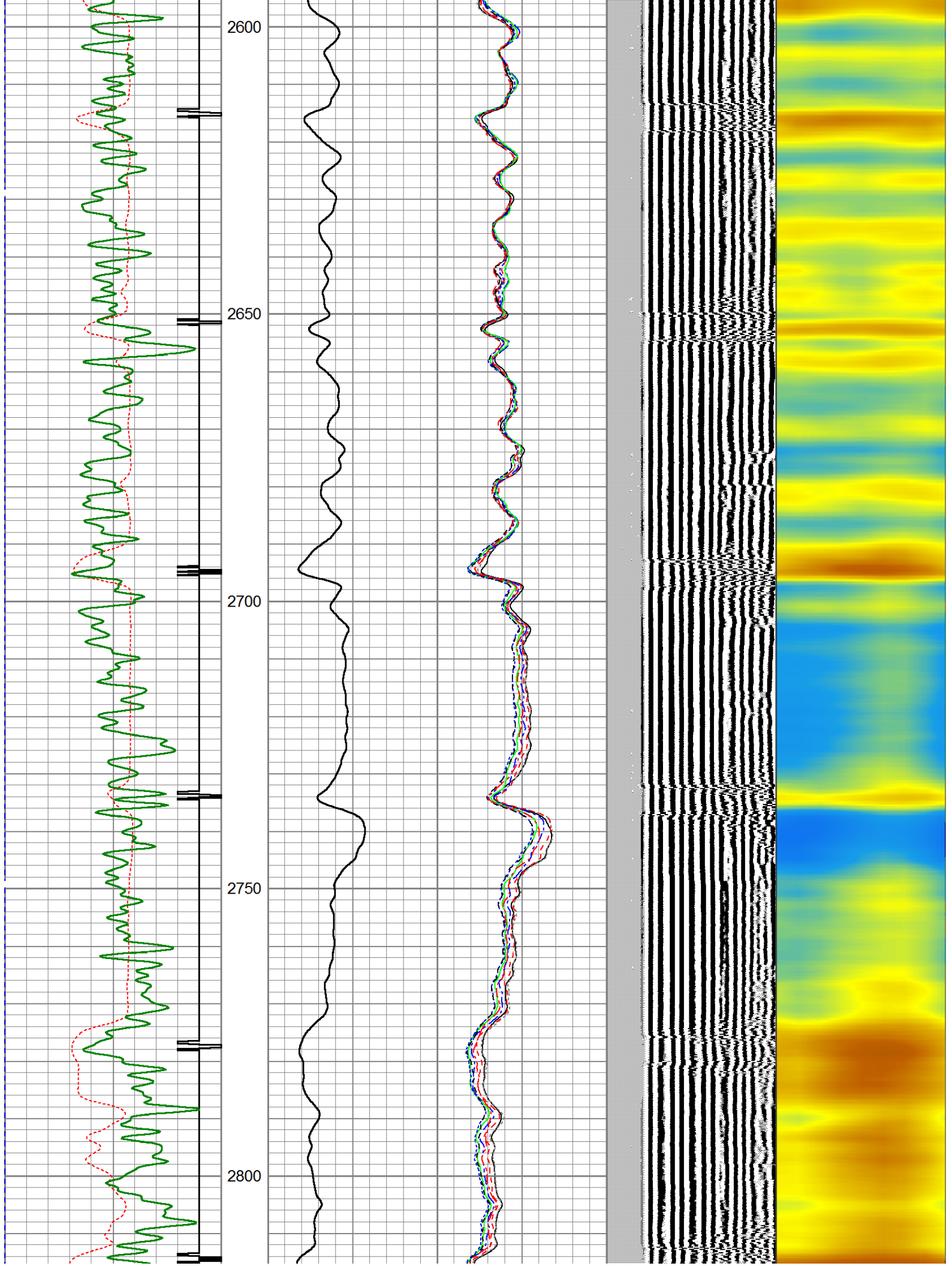


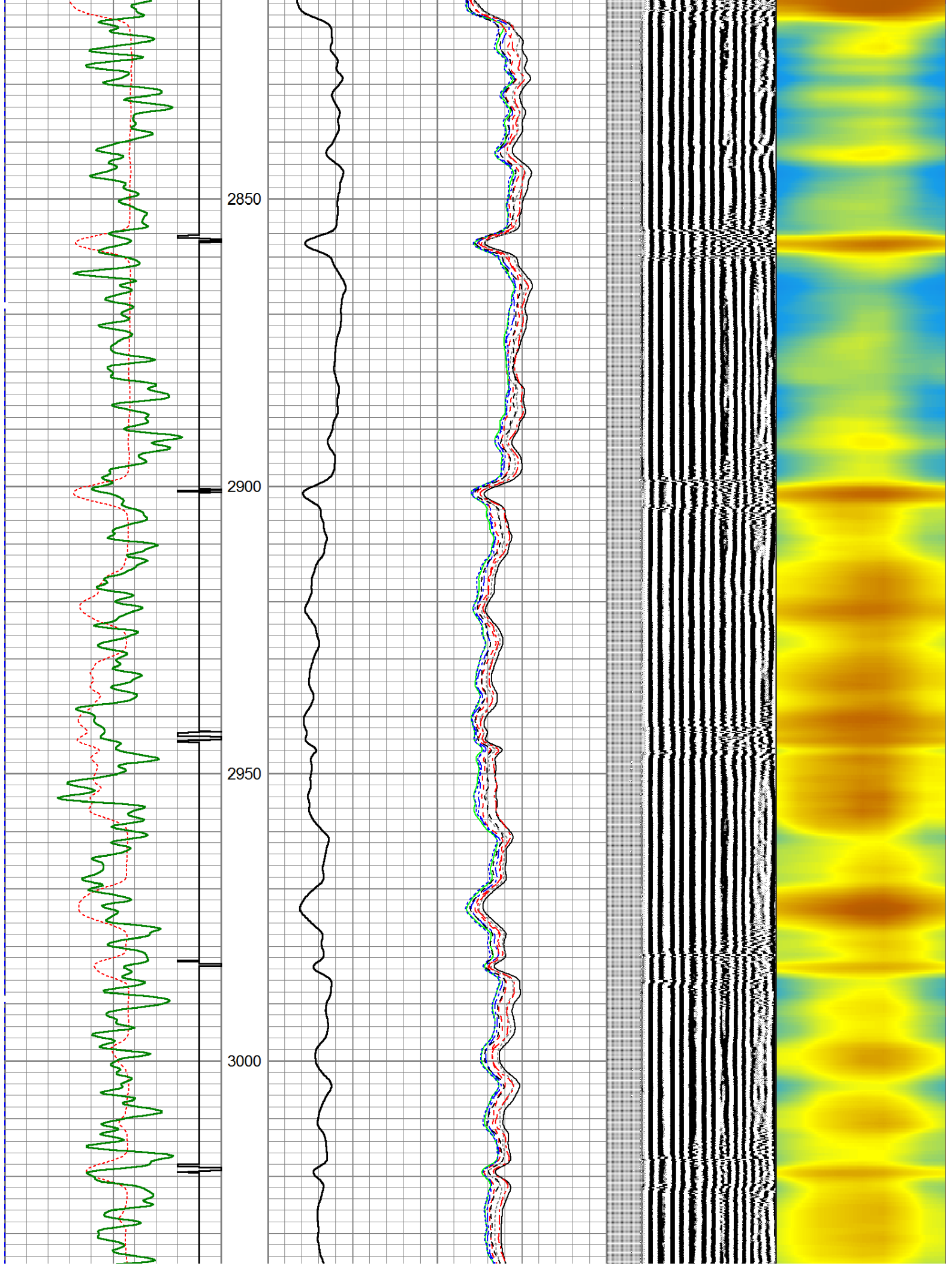


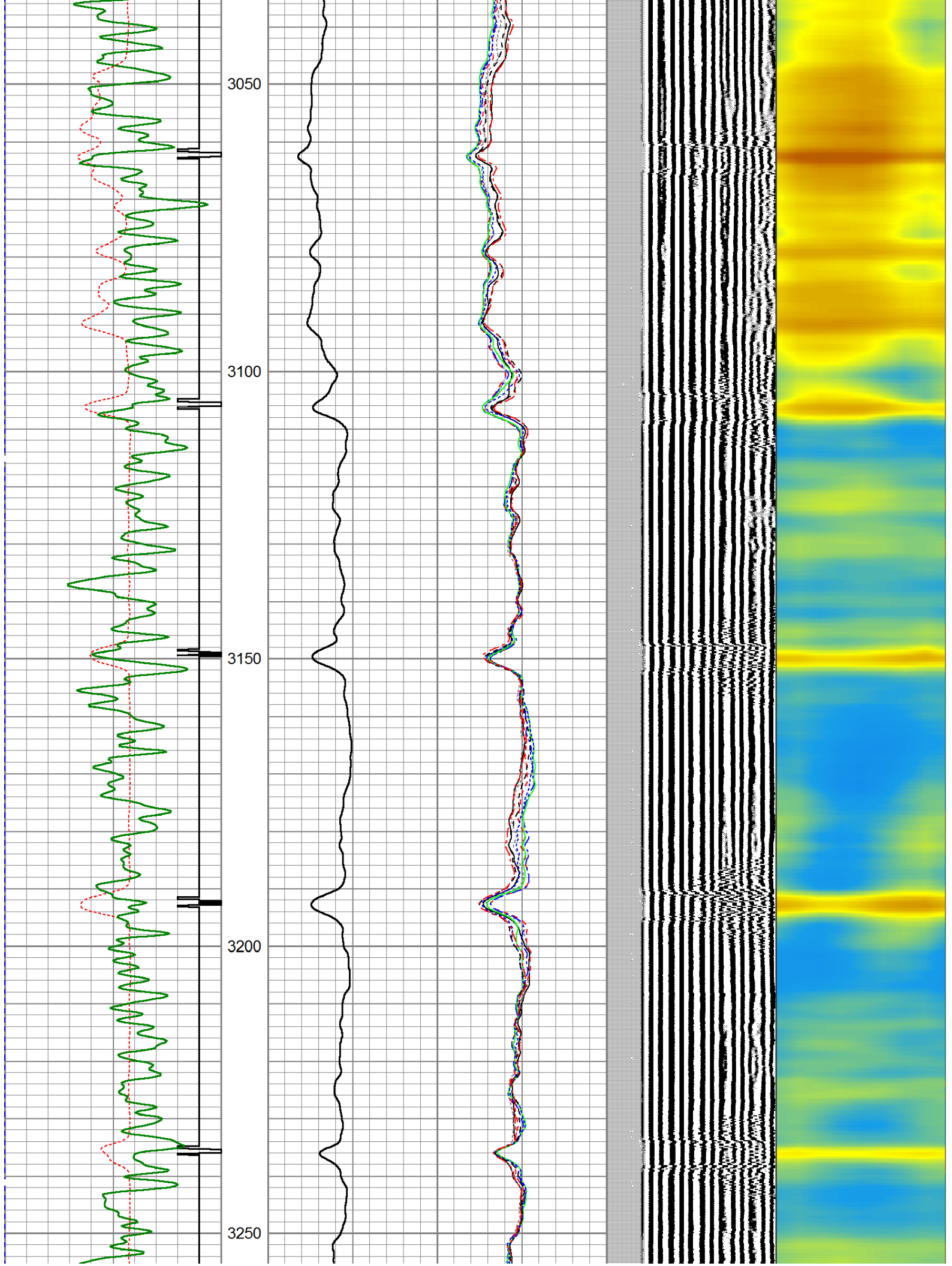


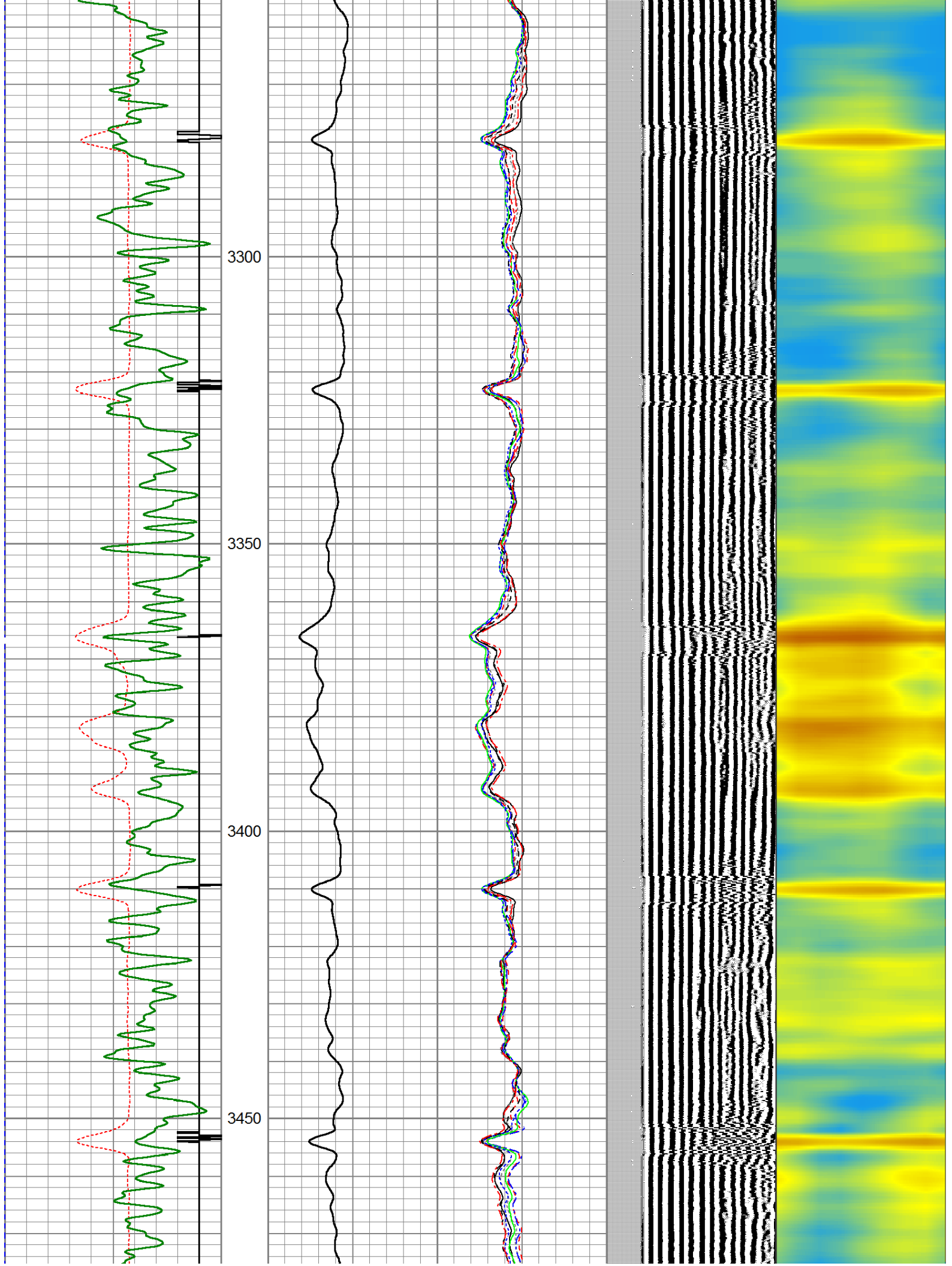


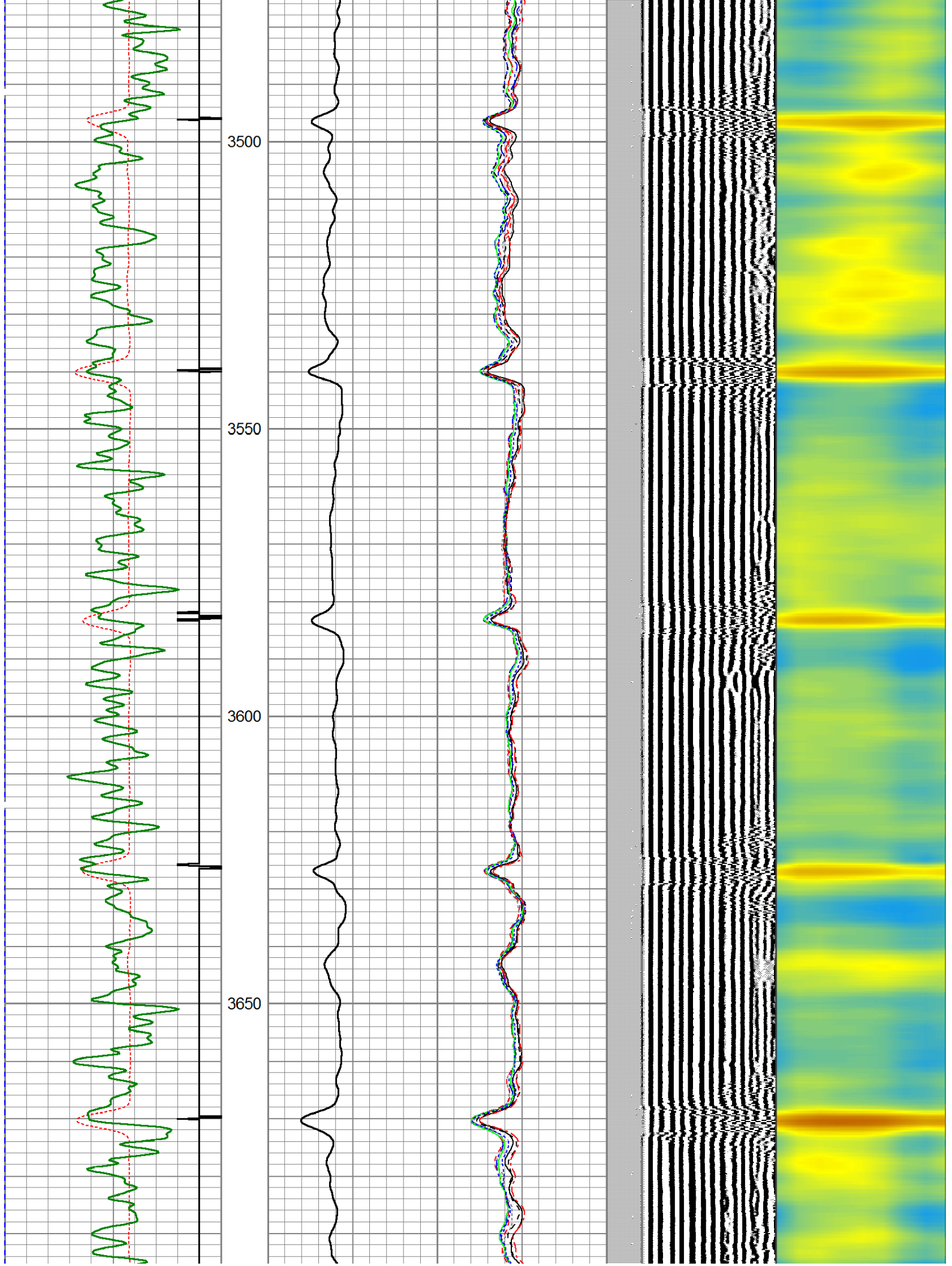


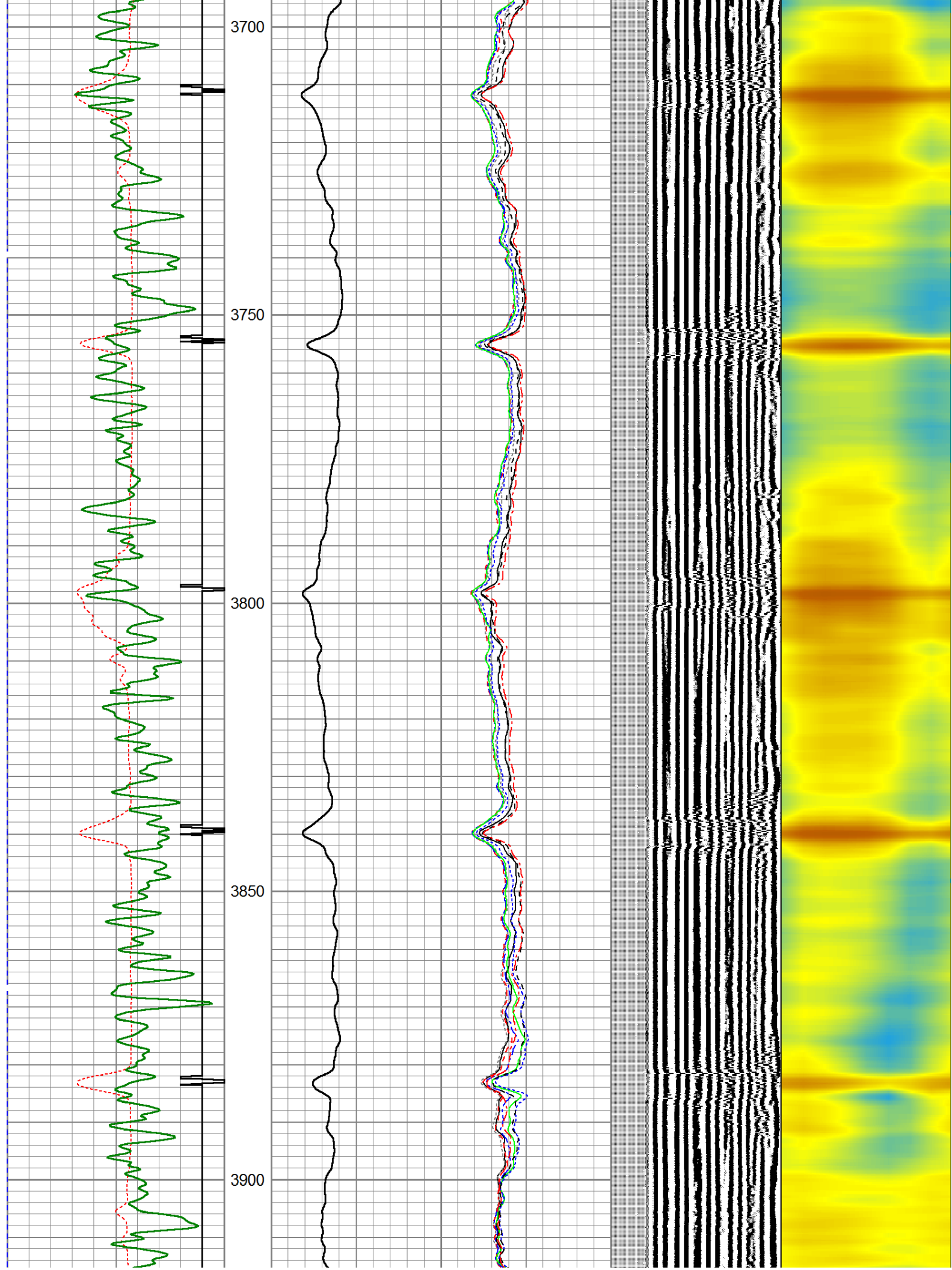


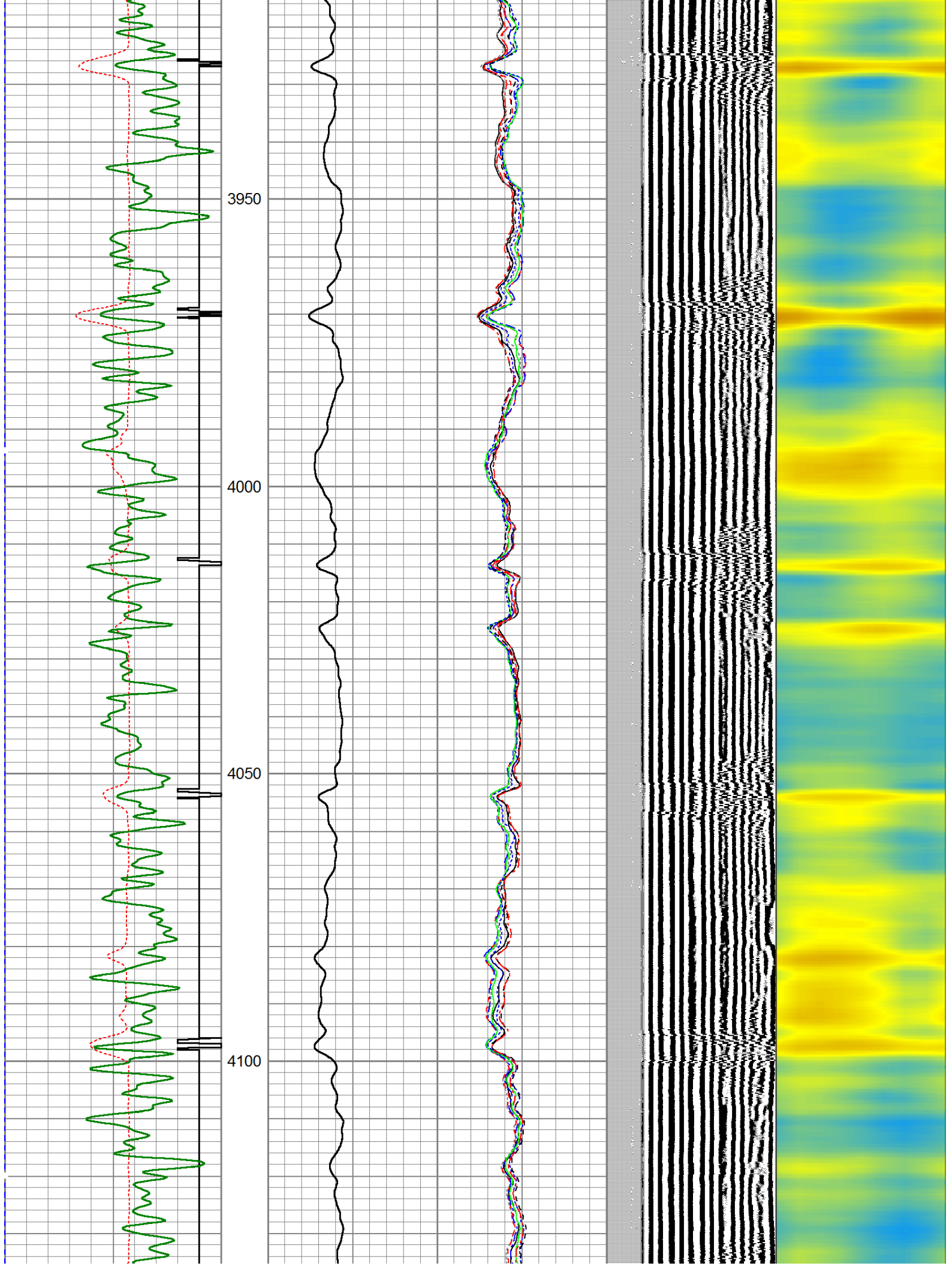


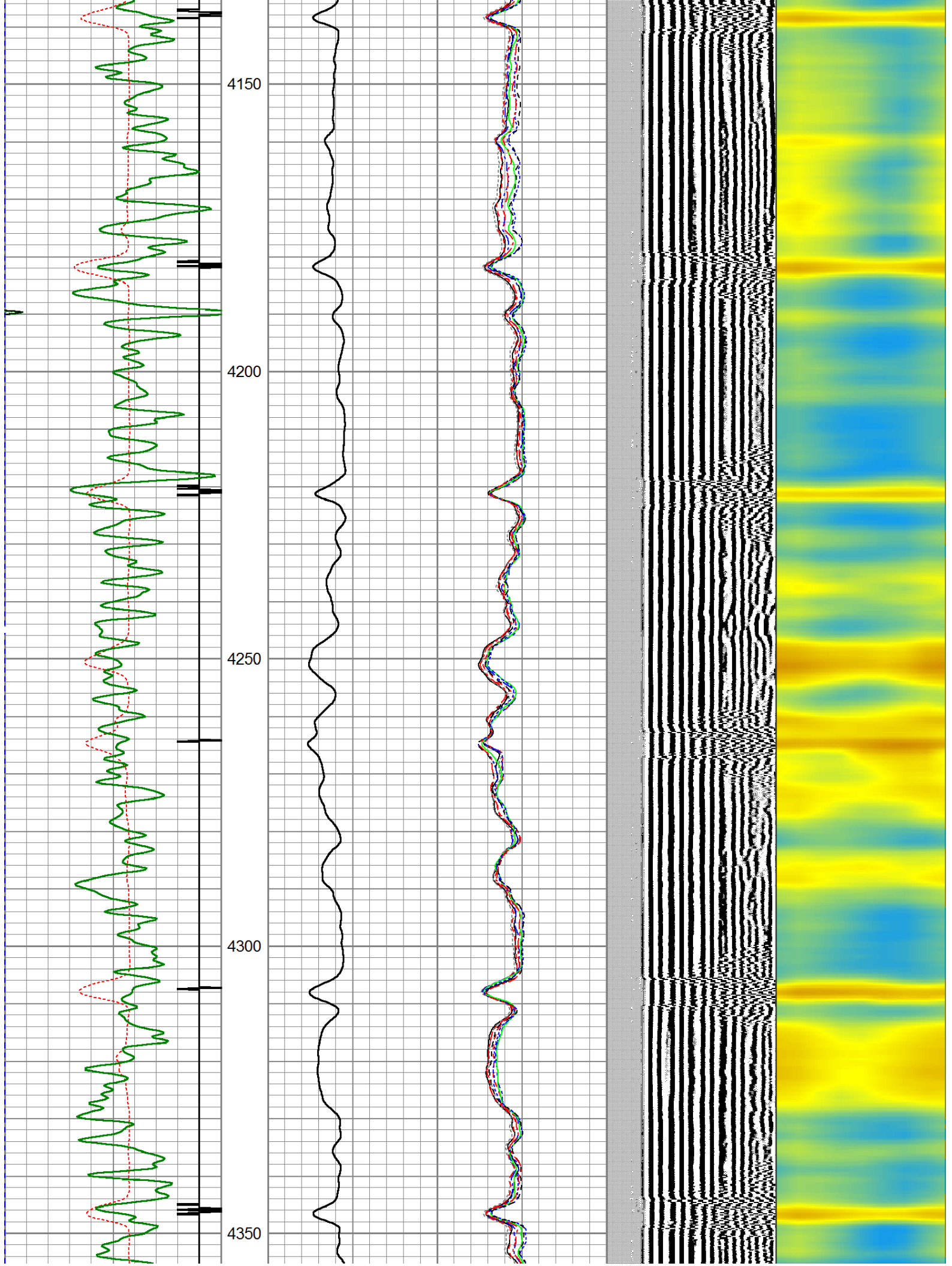


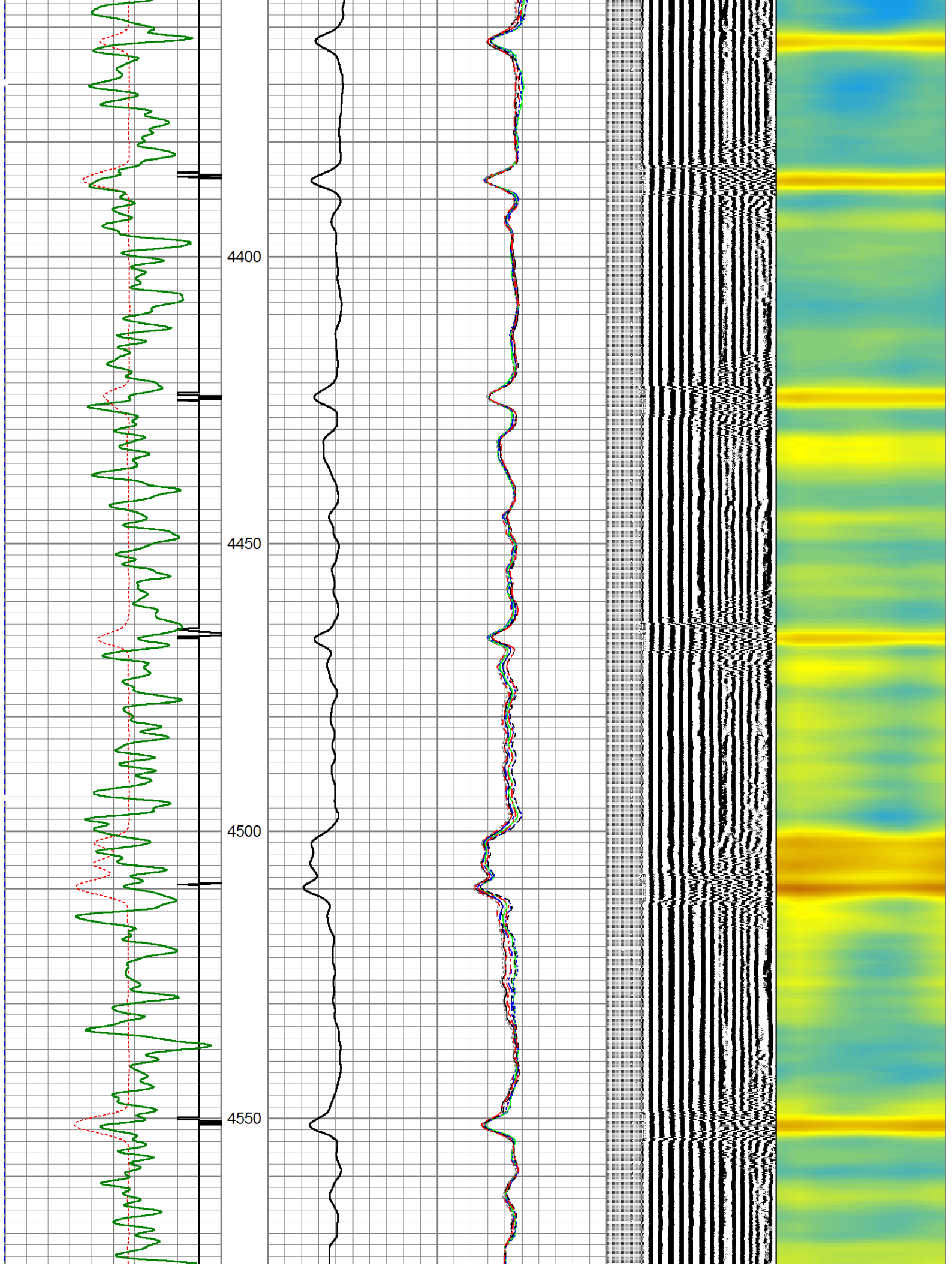


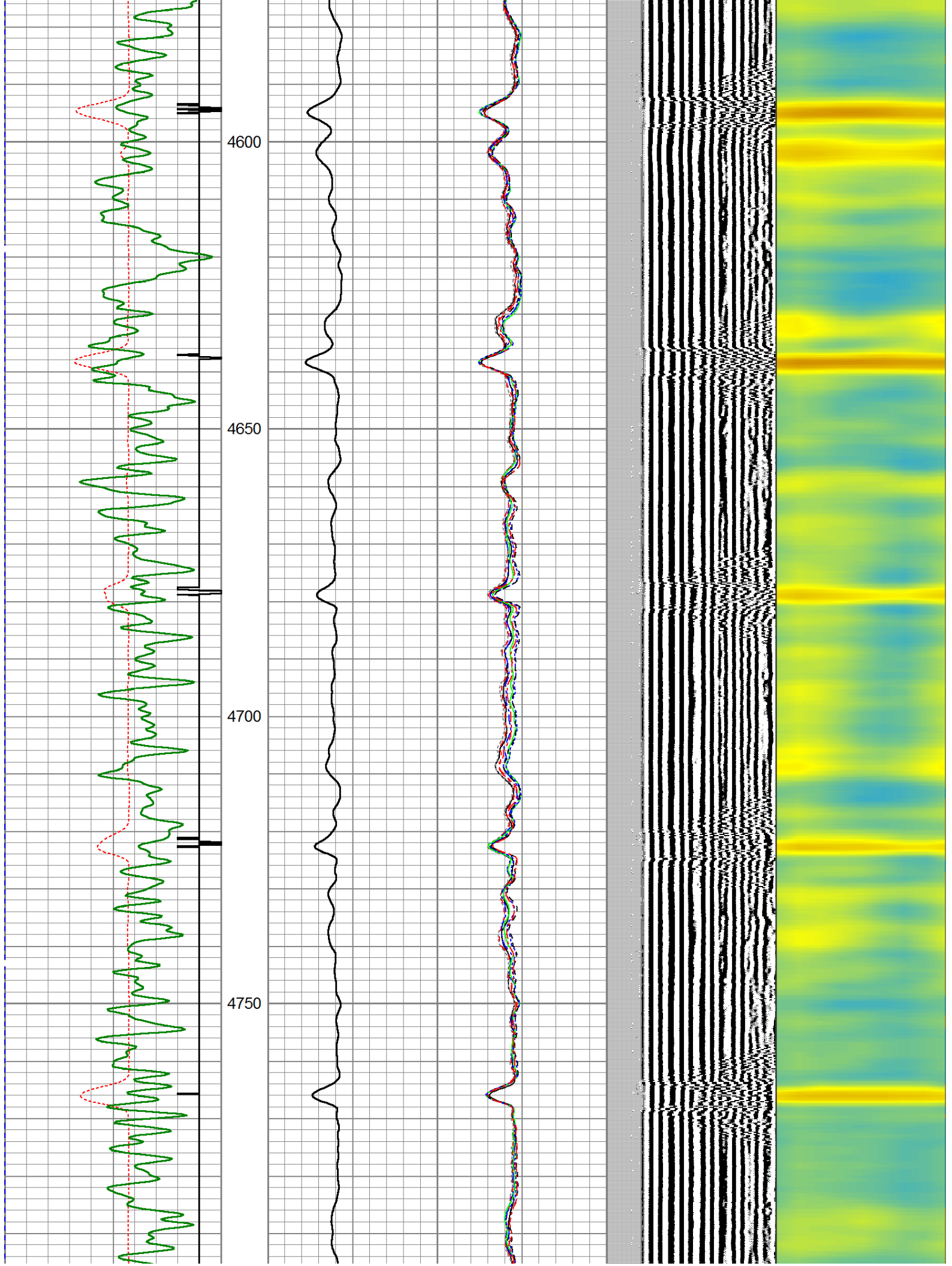


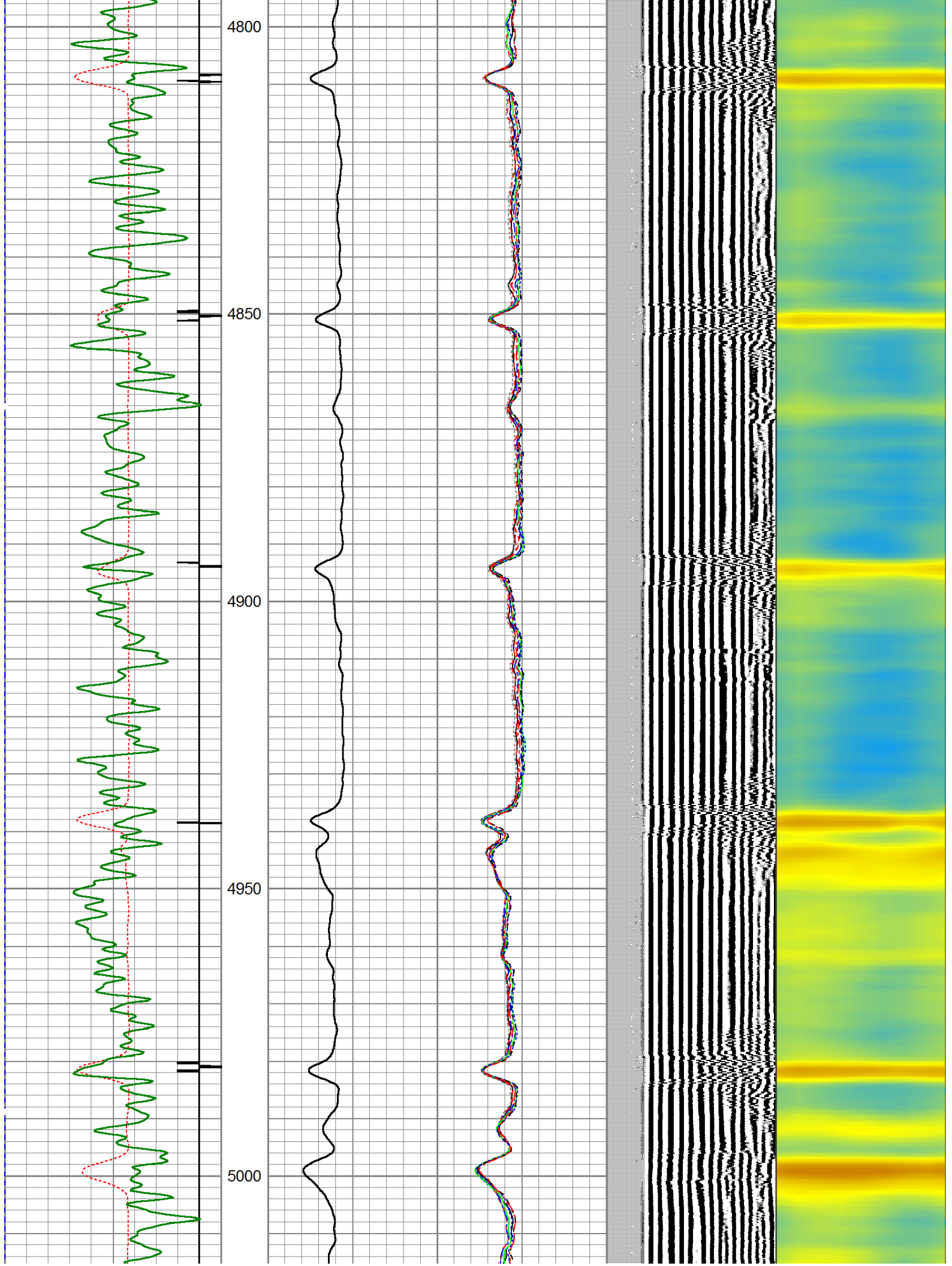


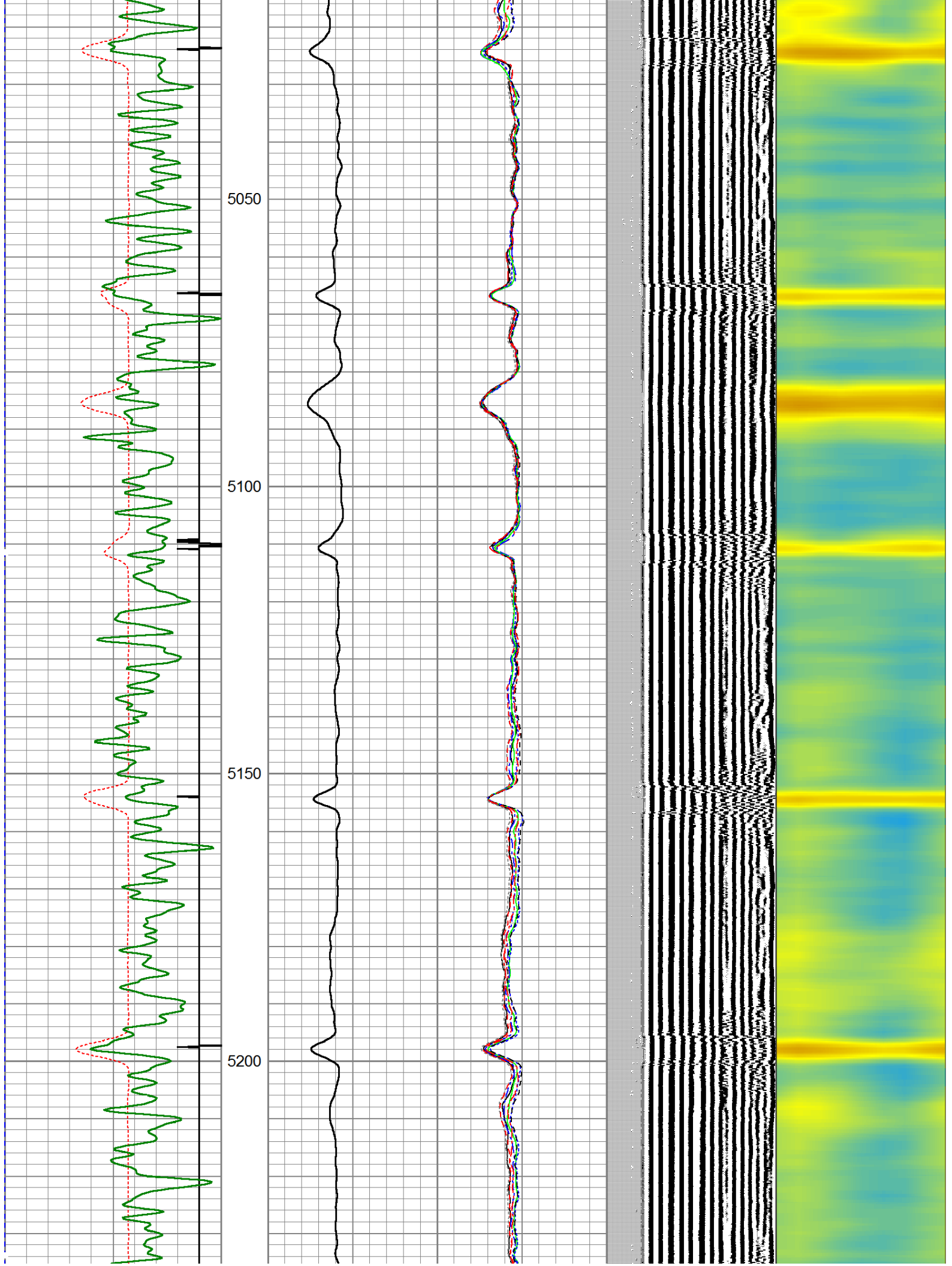


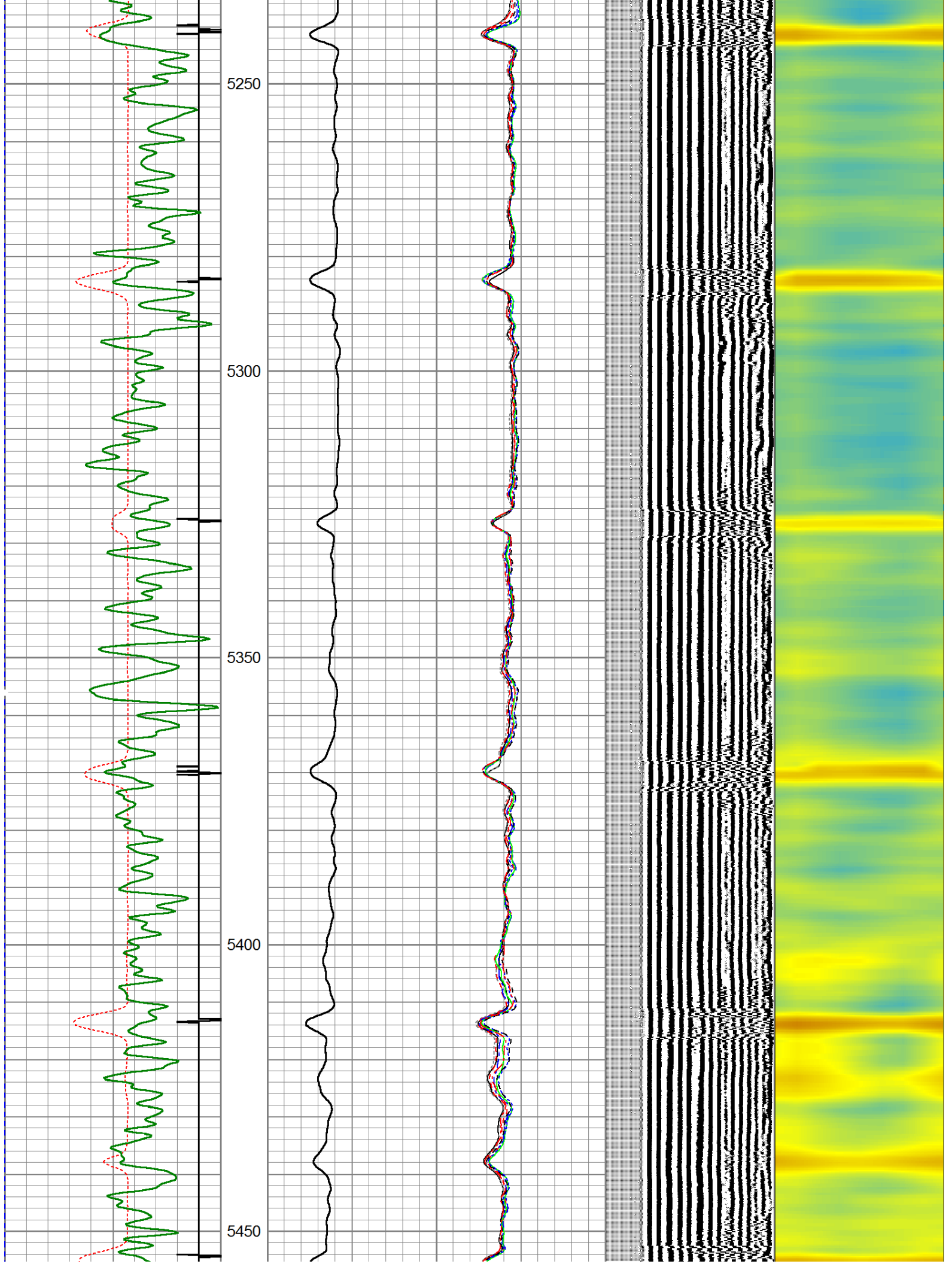


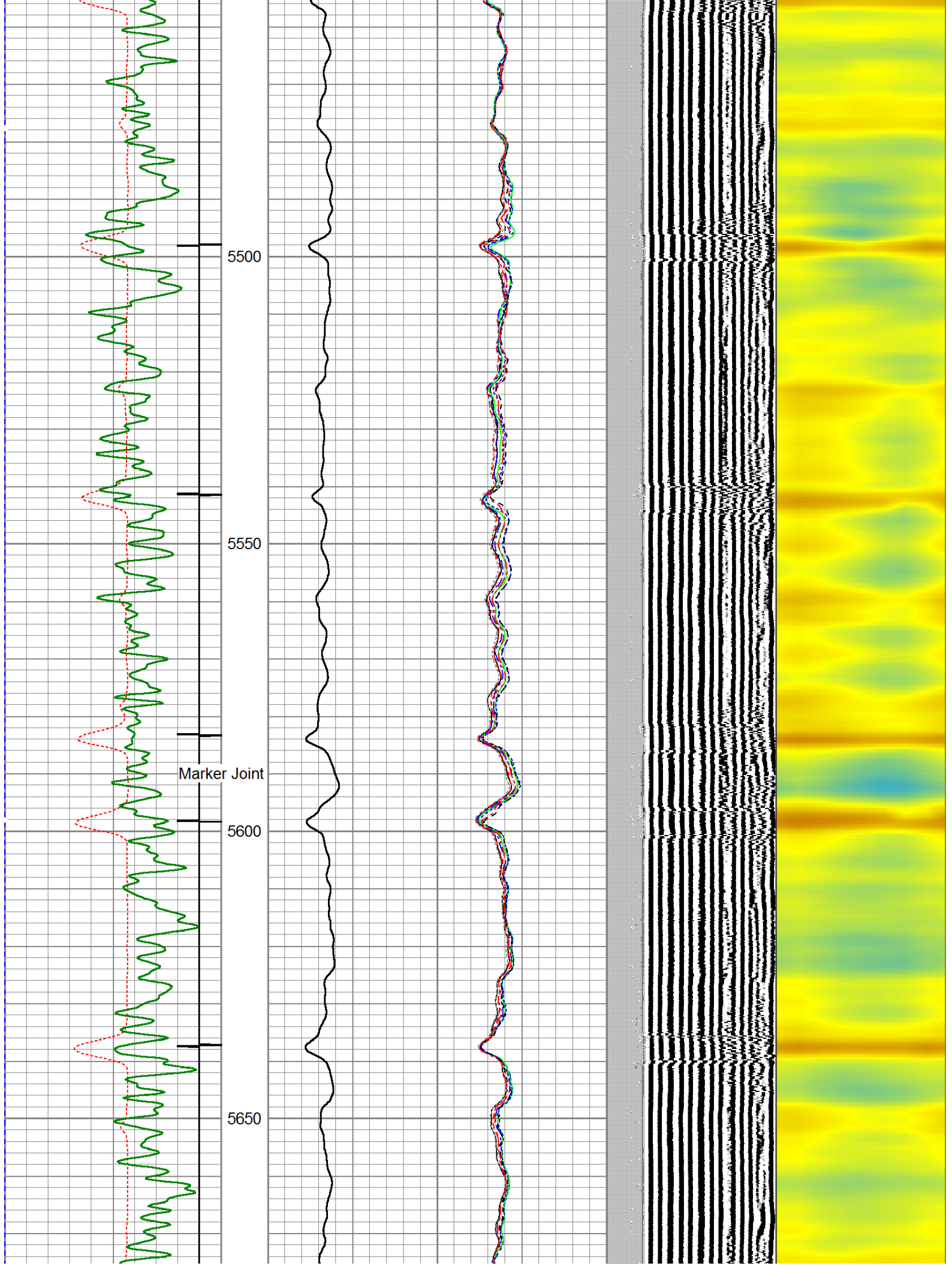


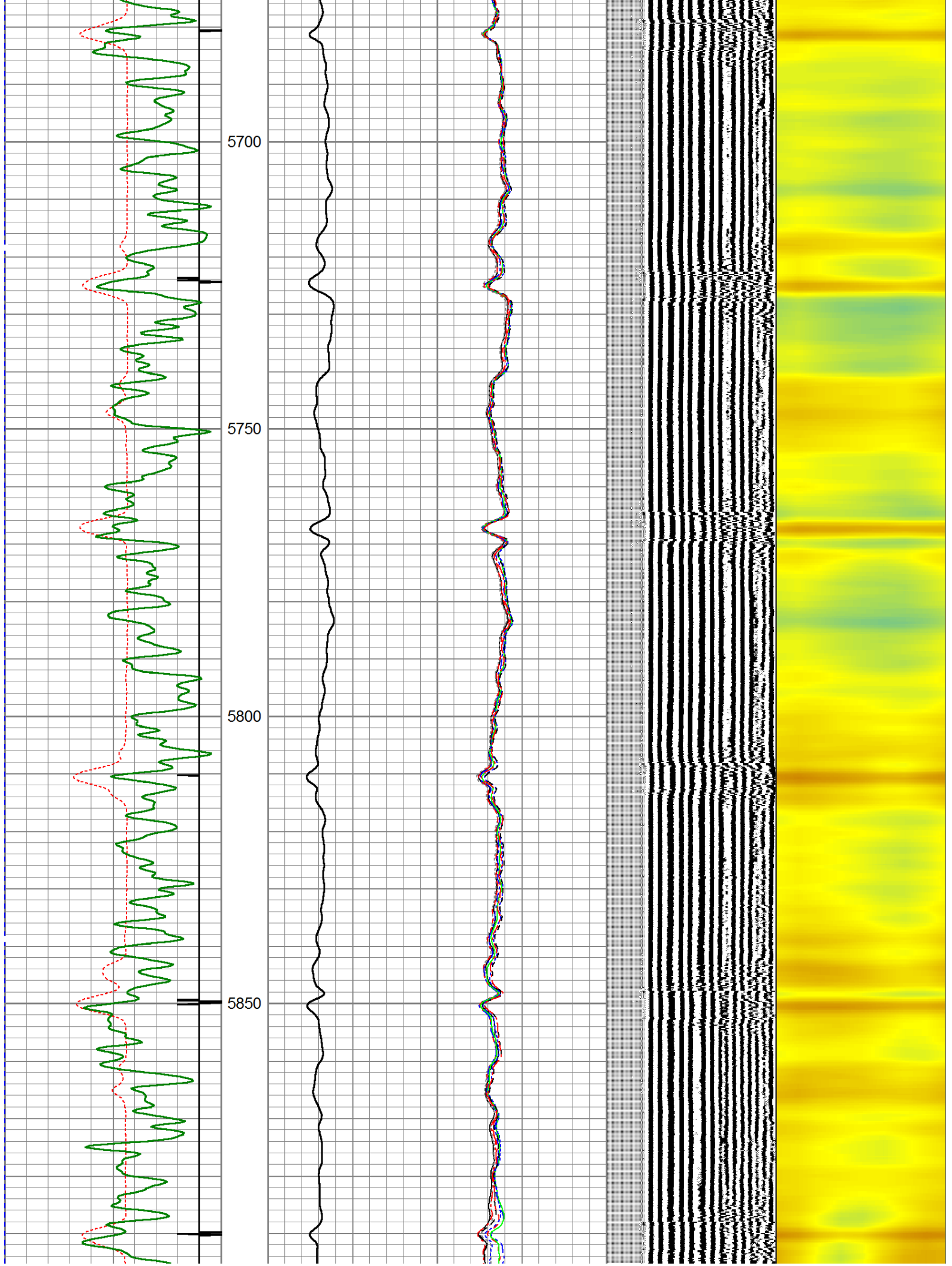


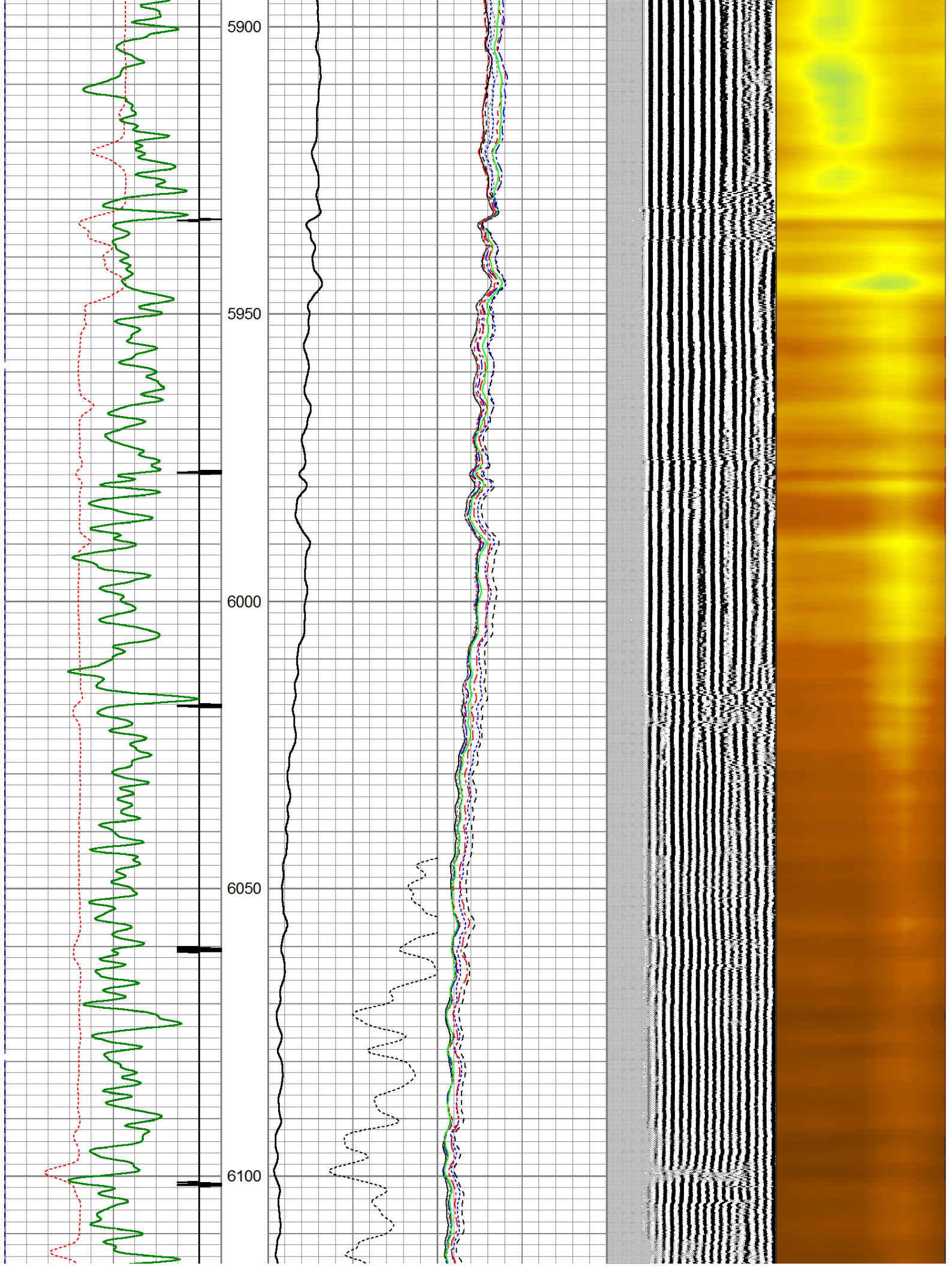


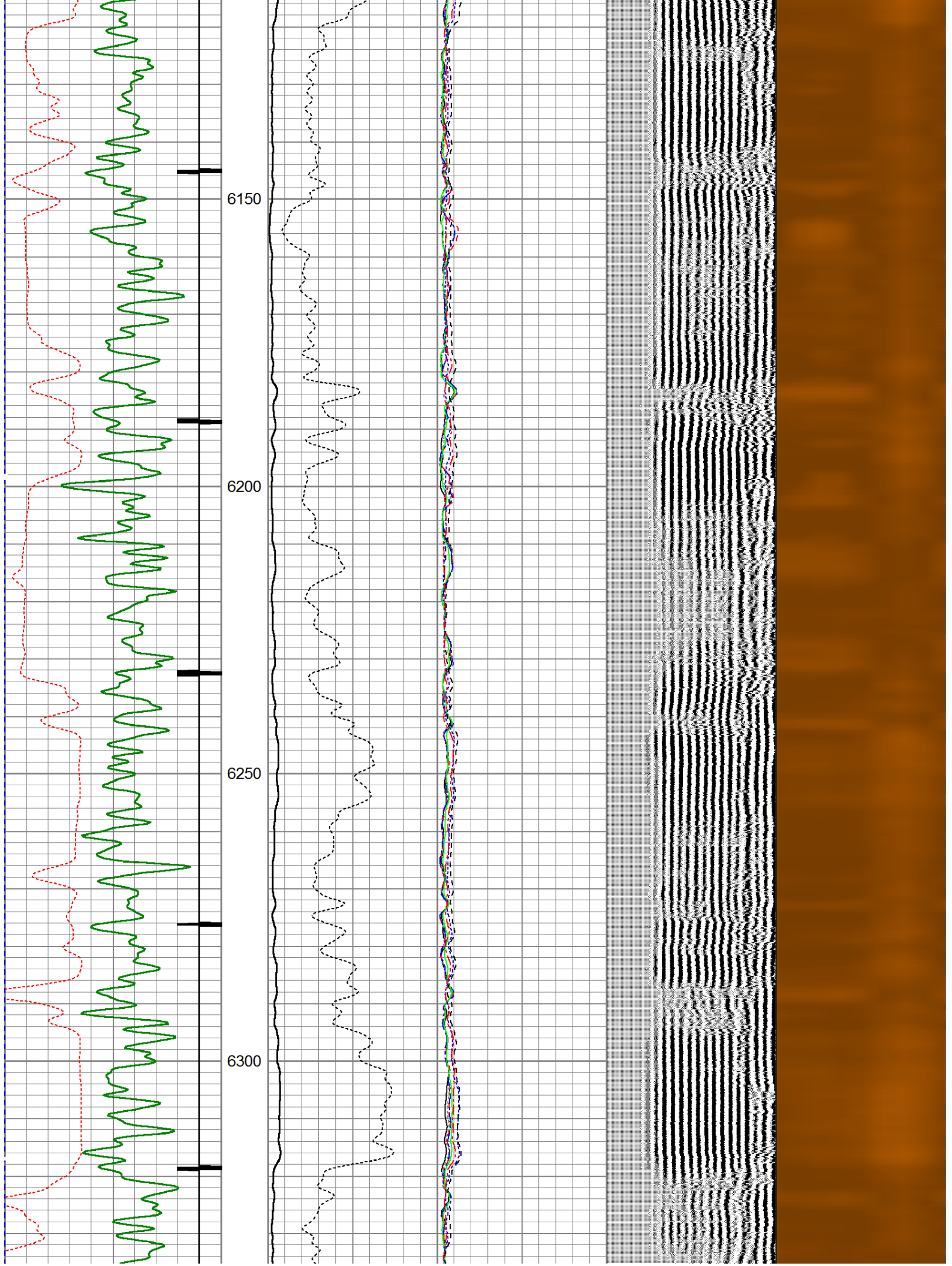


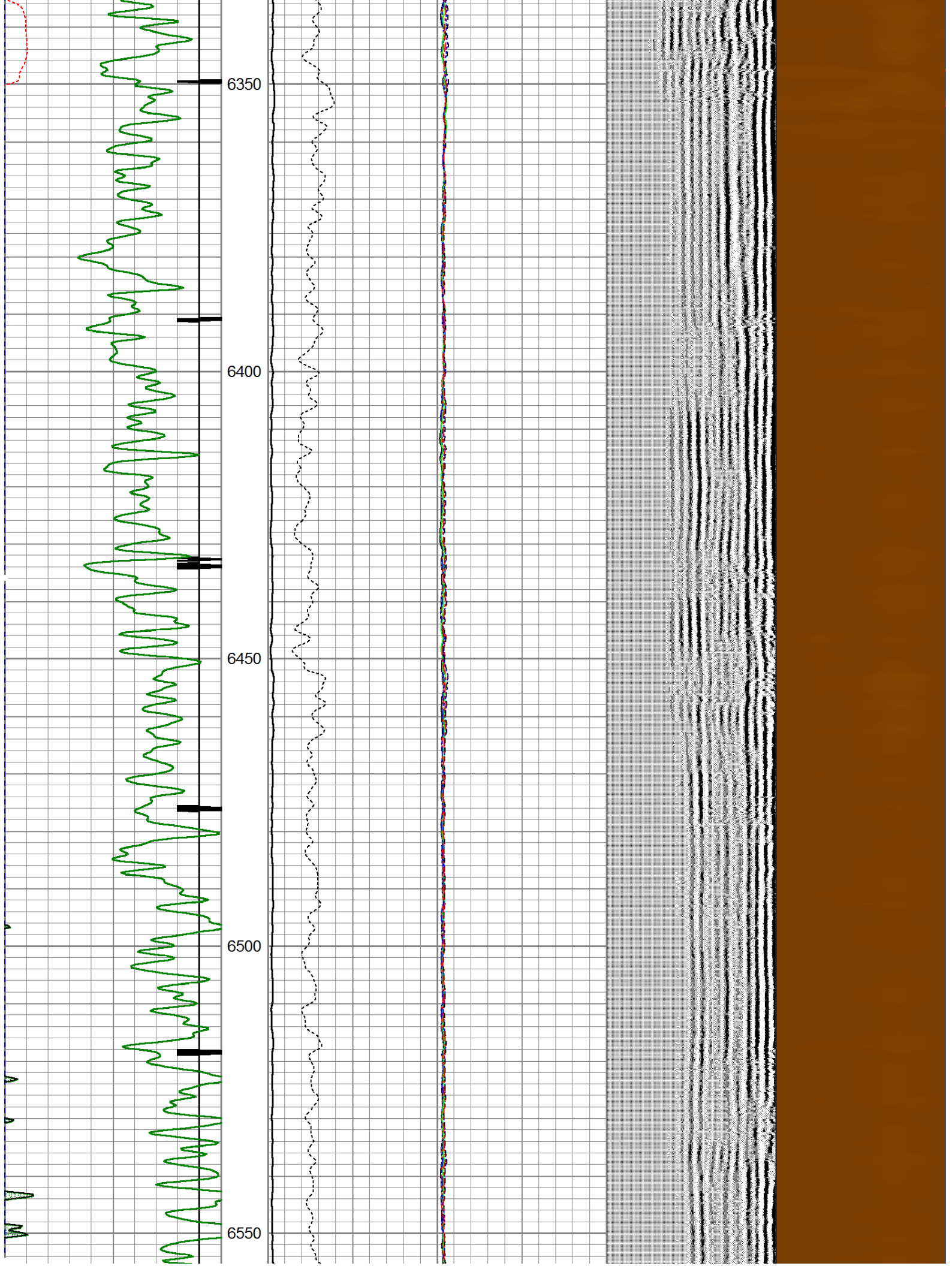


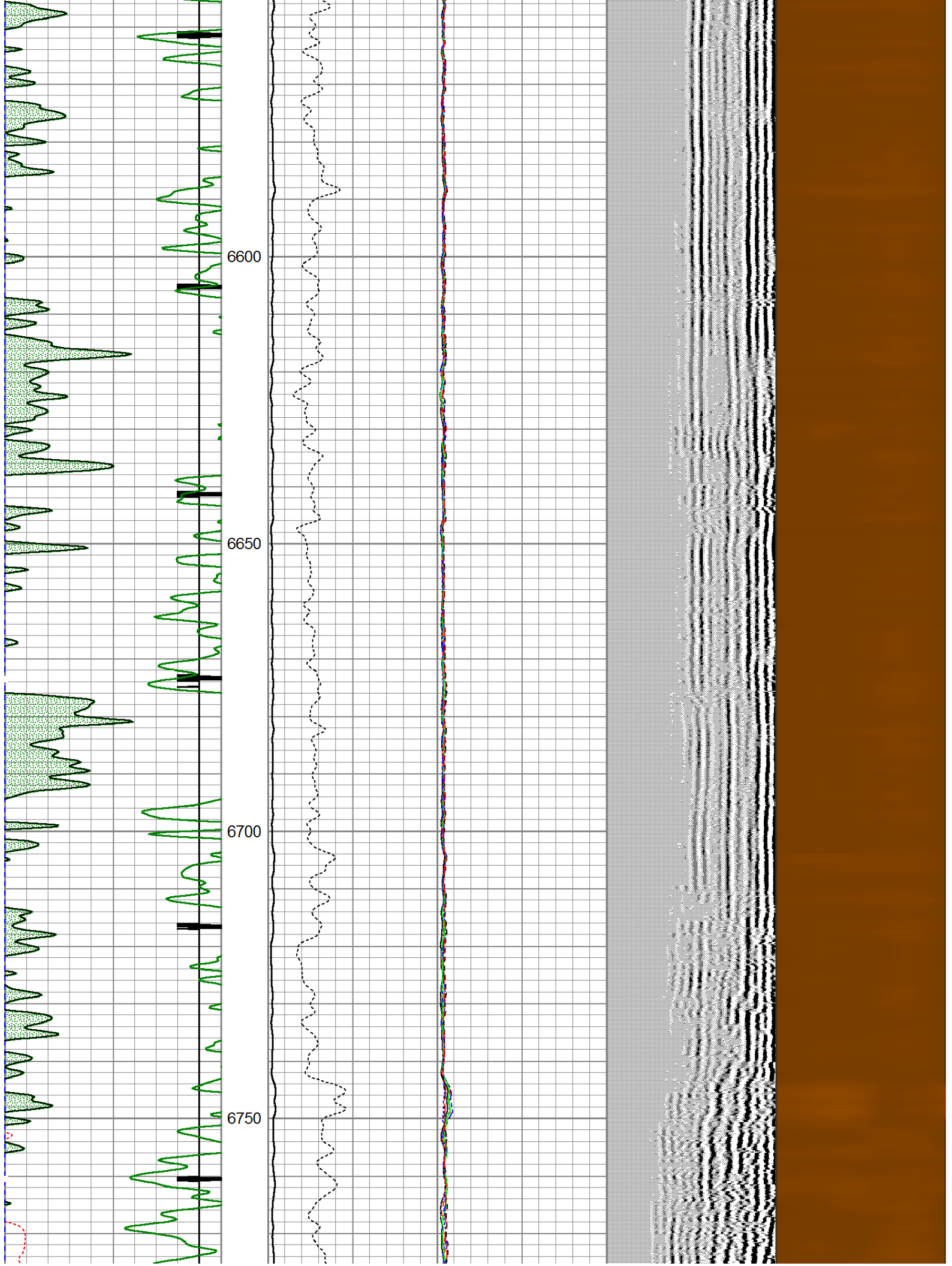


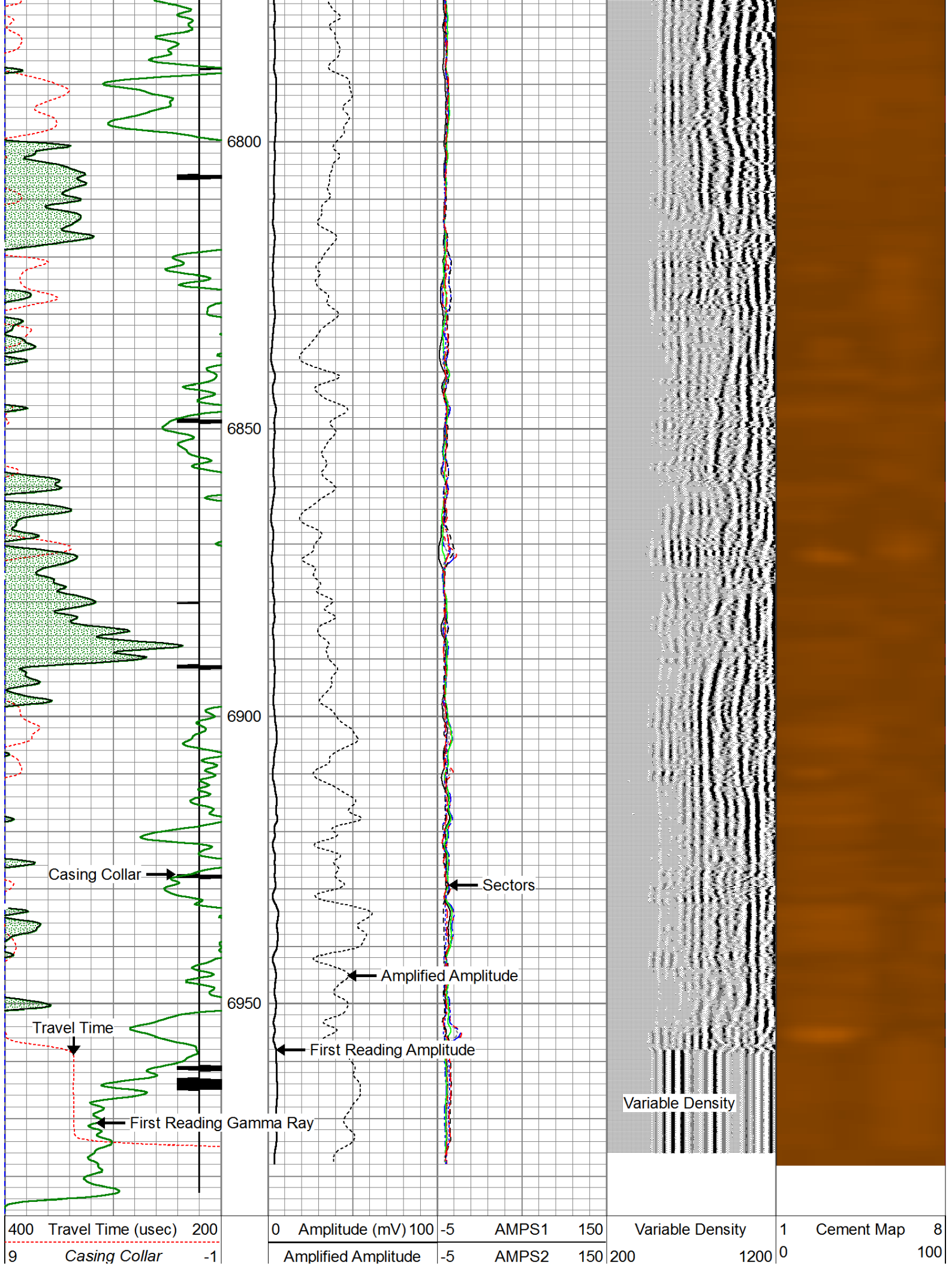












0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	2000

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



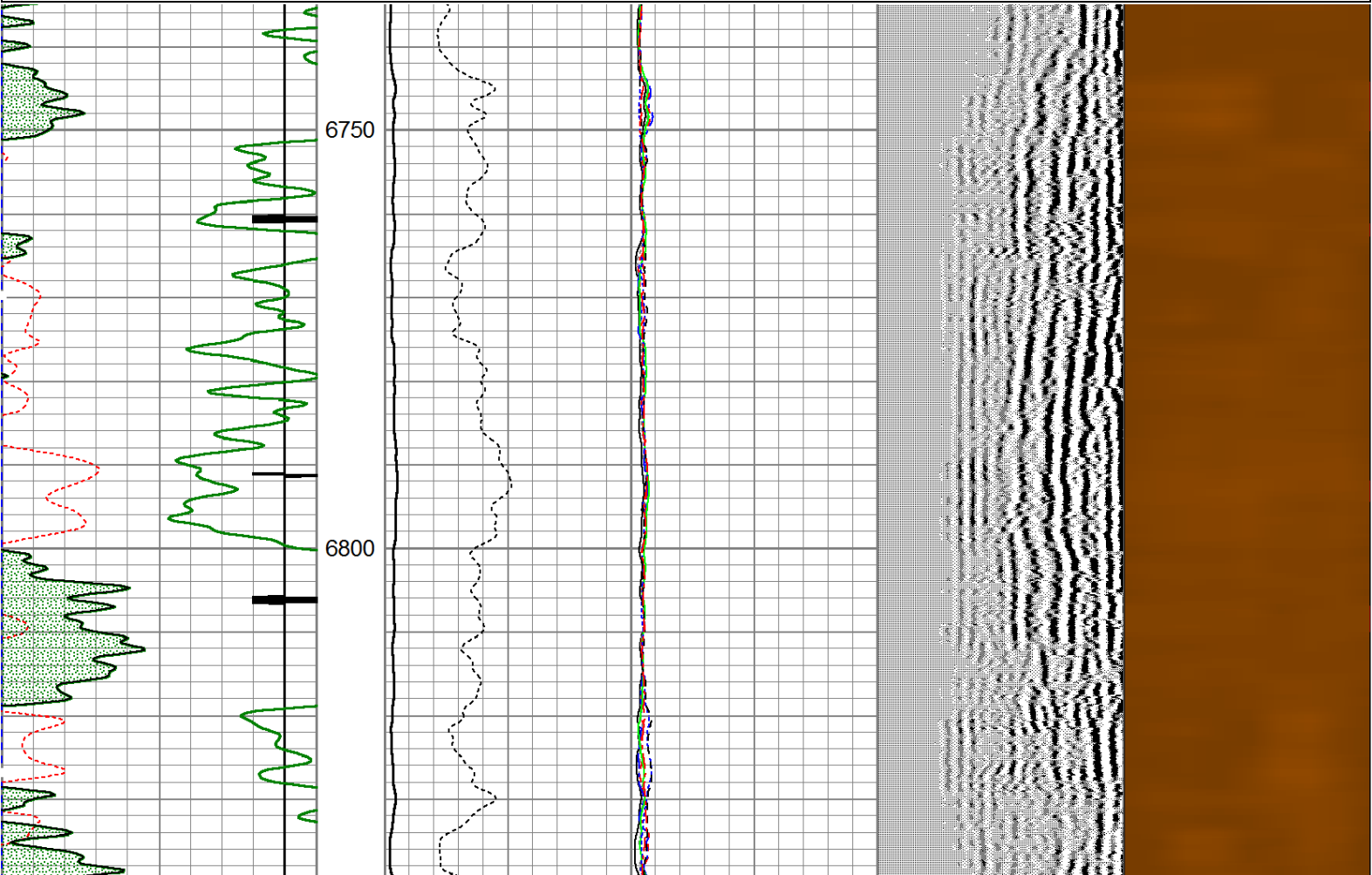
Repeat Pass (0 PSI)

Database File: slw_ranch_state_b12_69hn.db
 Dataset Pathname: pass4
 Presentation Format: scbl03
 Dataset Creation: Tue Jun 04 10:18:13 2013 by Log 0
 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)	2000

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



Serial Number: 110108-Dig
Tool Model: Probe275
Performed: Mon Apr 29 16:12:13 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: 399.042 ft

Master Calibration, performed Tue Jun 04 09:54:26 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.021	0.655	2.000	62.165	88.960	3.891
CAL	-0.036	0.723				
5'	-0.020	0.669	2.000	62.165	87.304	3.777
SUM						
S1	-0.160	0.705	0.000	100.000	144.255	3.254
S2	-0.014	0.614	0.000	100.000	159.359	2.206
S3	-0.022	0.543	0.000	100.000	176.826	3.937
S4	-0.020	0.558	0.000	100.000	172.907	3.457
S5	-0.020	0.613	0.000	100.000	157.933	3.229
S6	-0.021	0.686	0.000	100.000	141.483	2.962
S7	-0.022	0.730	0.000	100.000	132.924	2.930
S8	-0.022	0.738	0.000	100.000	131.465	2.918

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	-0.036	0.723	1.000	0.000

Air Zero Calibration, performed Tue Jun 04 07:12:58 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	

