



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

Company		Noble Energy	
Well		Wells Ranch USX AA 23-65-1HN	
Field		Wallsenburg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-37023	
SEC 20 TWP 6N RGE 63W		None	
Permanent Datum		Ground Level Elevation 4810'	
Log Measured From		Kelly Bushing 30' APD	
Drilling Measured From		Kelly Bushing	
Elevation		K.B. 4840'	
		D.F. 4841'	
		G.L. 4810'	
Date		9-August-2013	
Run Number		One	
Depth Driller		11,090'	
Depth Logger		6934'	
Bottom Logged Interval		6921'	
Top Log Interval		Surface	
Open Hole Size		8 3/4"	
Type Fluid		Water	
Density / Viscosity		-	
Max. Recorded Temp.		-	
Estimated Cement Top		1206'	
Time Well Ready		10:00	
Time Logger on Bottom		10:50	
Equipment Number		13034	
Location		Brighton, CO	
Recorded By		C. Rall	
Witnessed By		Bill Mansfield	
L. Hobbs			
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		5796'	

<<< Fold Here >>>

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 30' KB

Main Pass and Repeat Pass logged with zero Pressure on surface


Short Joint 5796' to 5811'

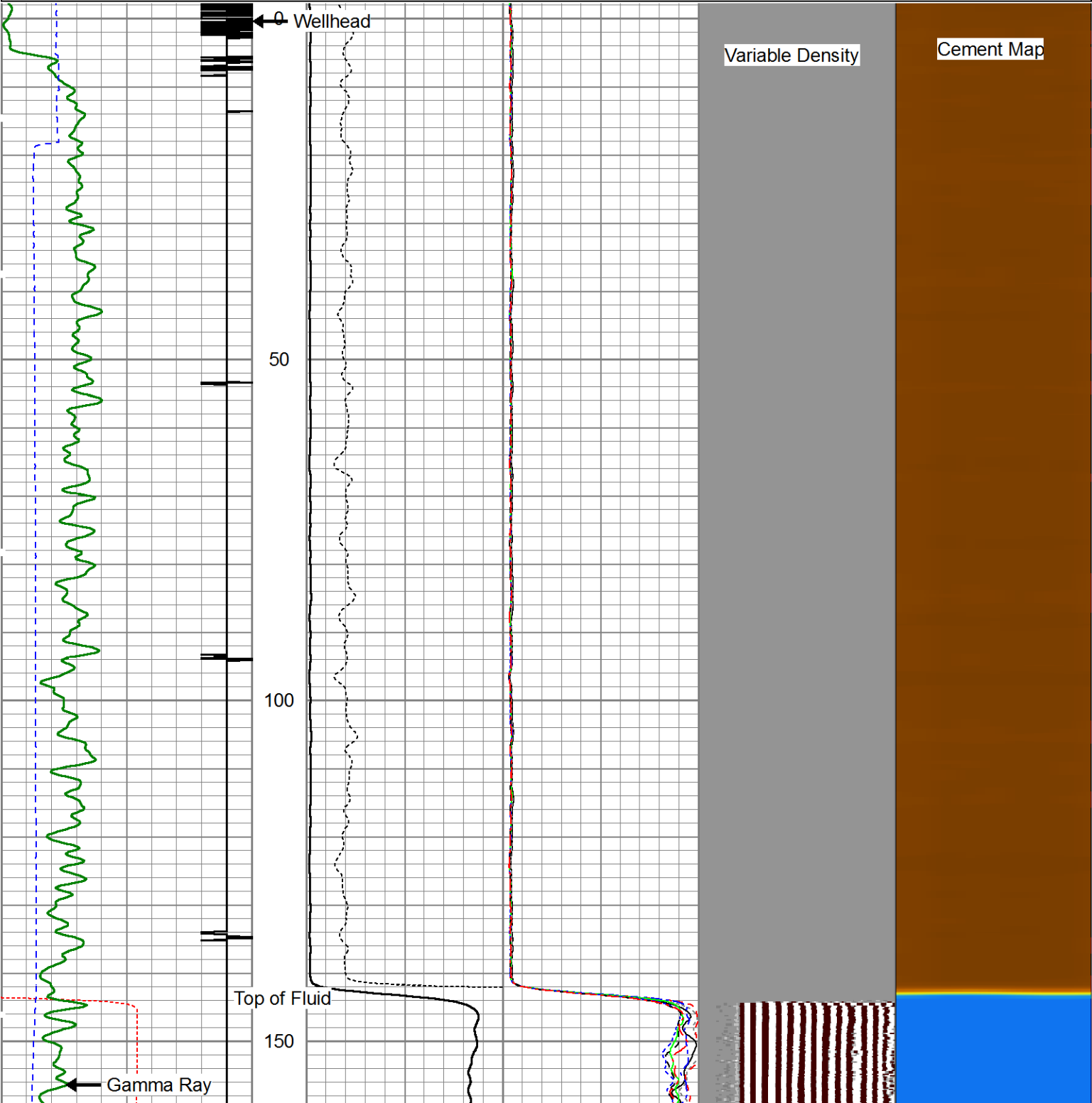
Thank You for using Allied Wireline

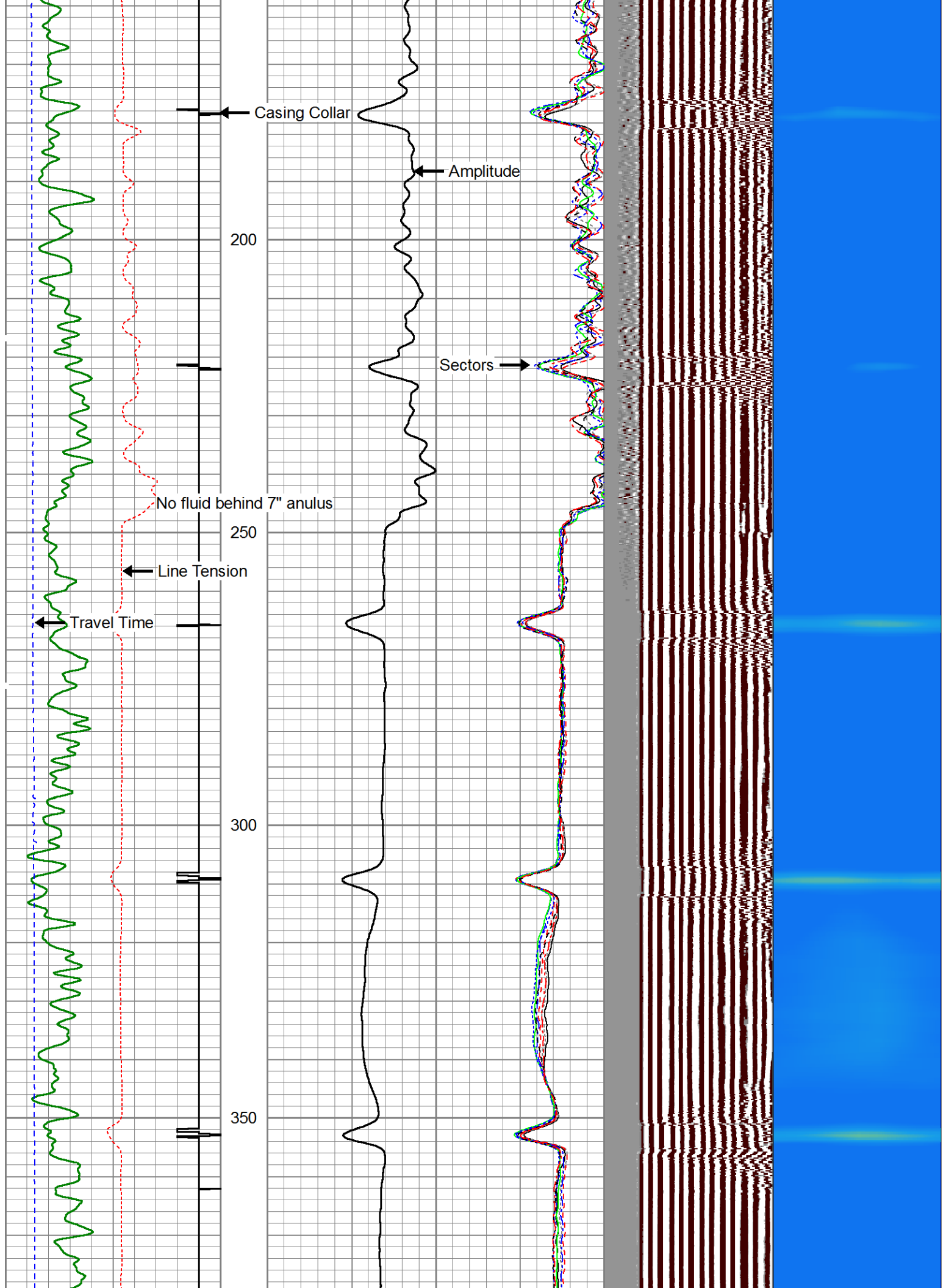
(303)659-4609

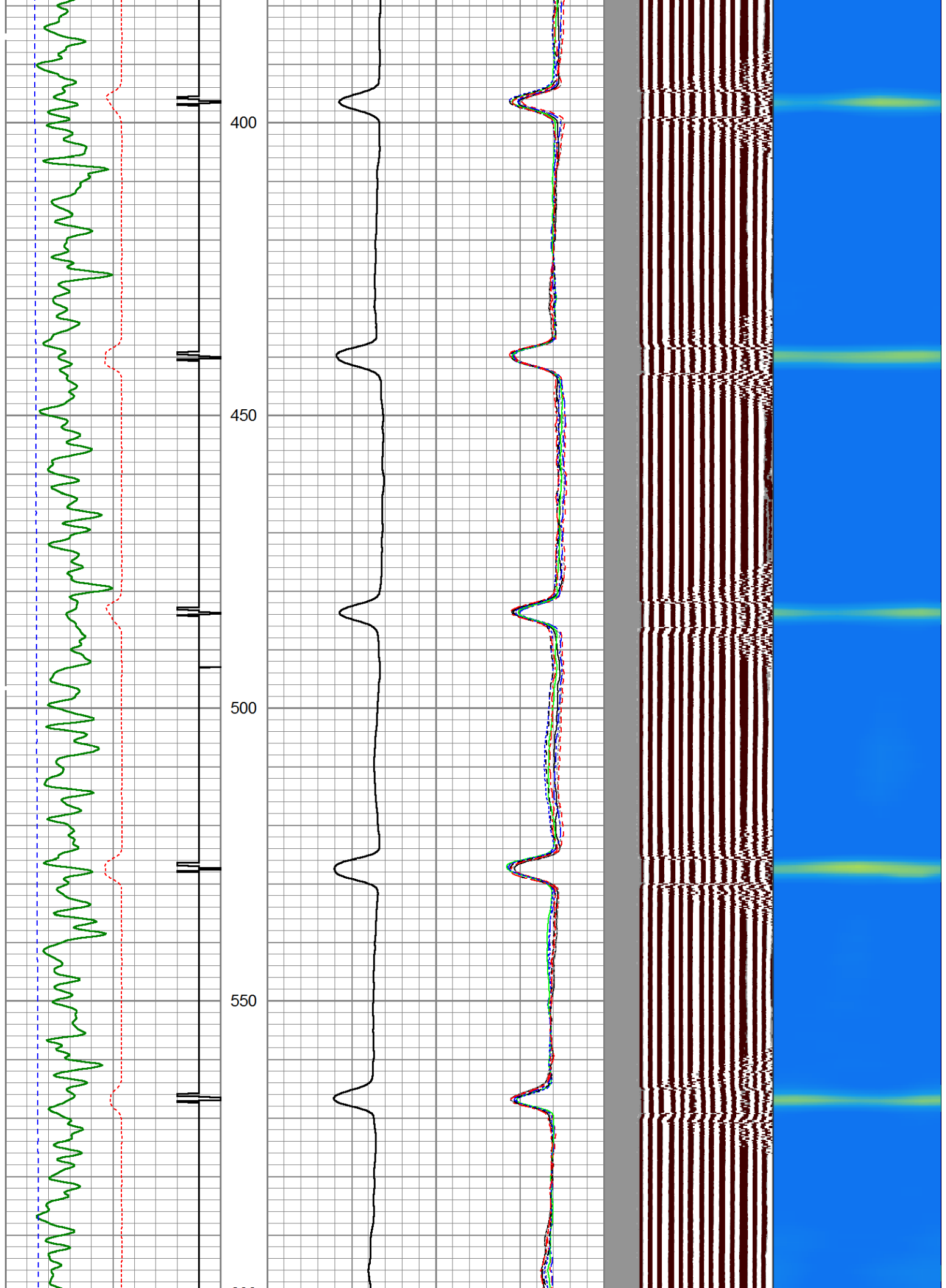


Main Pass ( 0 PSI )

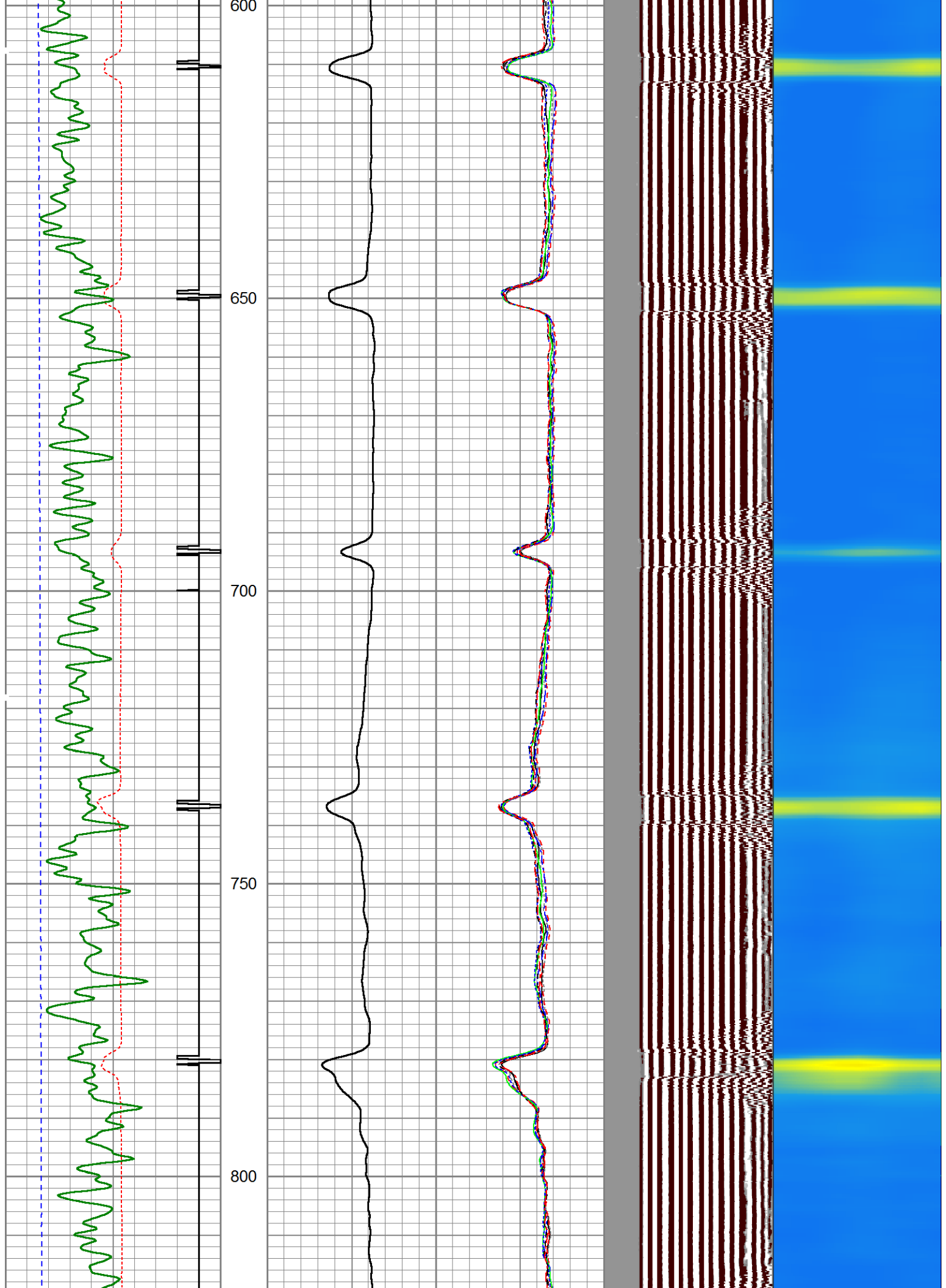
Database File: c:\warrior\data\cased hole\noble\noble_energy_wells_ranch_usx_aa_23_65_1hn.db													
Dataset Pathname: run2/pass3													
Presentation Format: scbl03													
Dataset Creation: Fri Aug 09 11:11:39 2013 by Log 7.0 B1													
Charted by: Depth in Feet scaled 1:240													
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) 2000						-5 AMPS4 150							
						-5 AMPS5 150							
						-5 AMPS6 150							
						-5 AMPS7 150							
						-5 AMPS8 150							

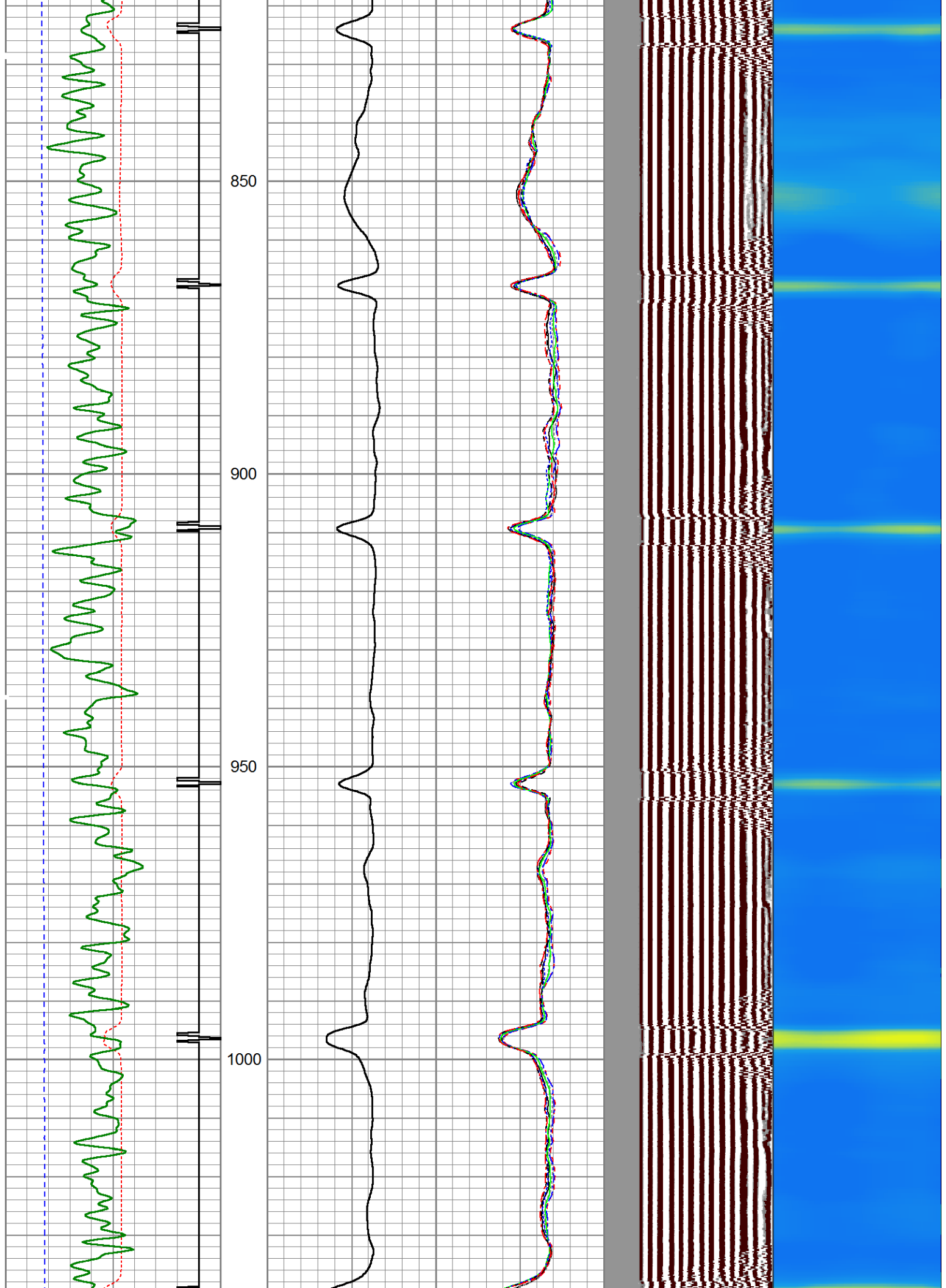


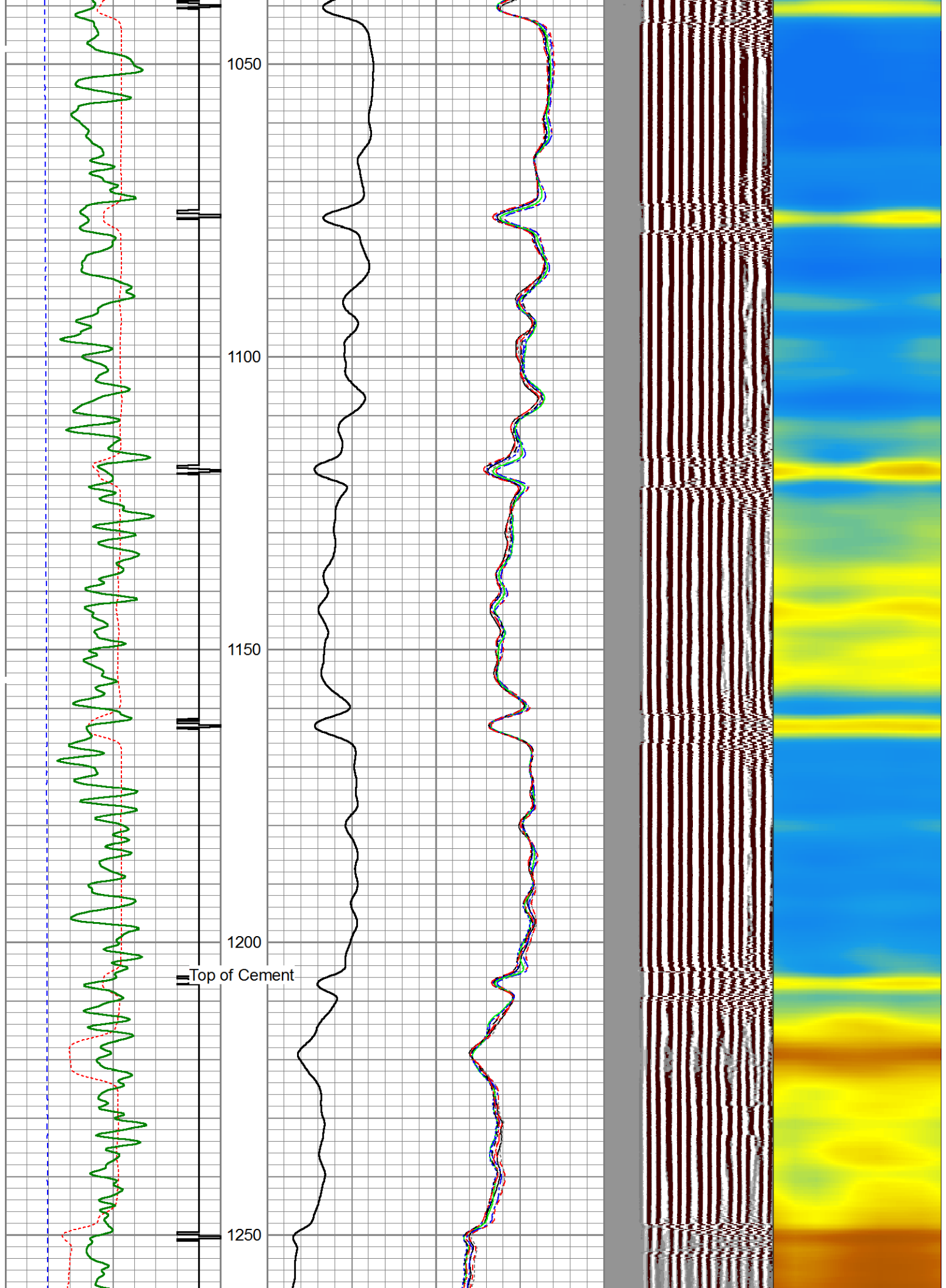


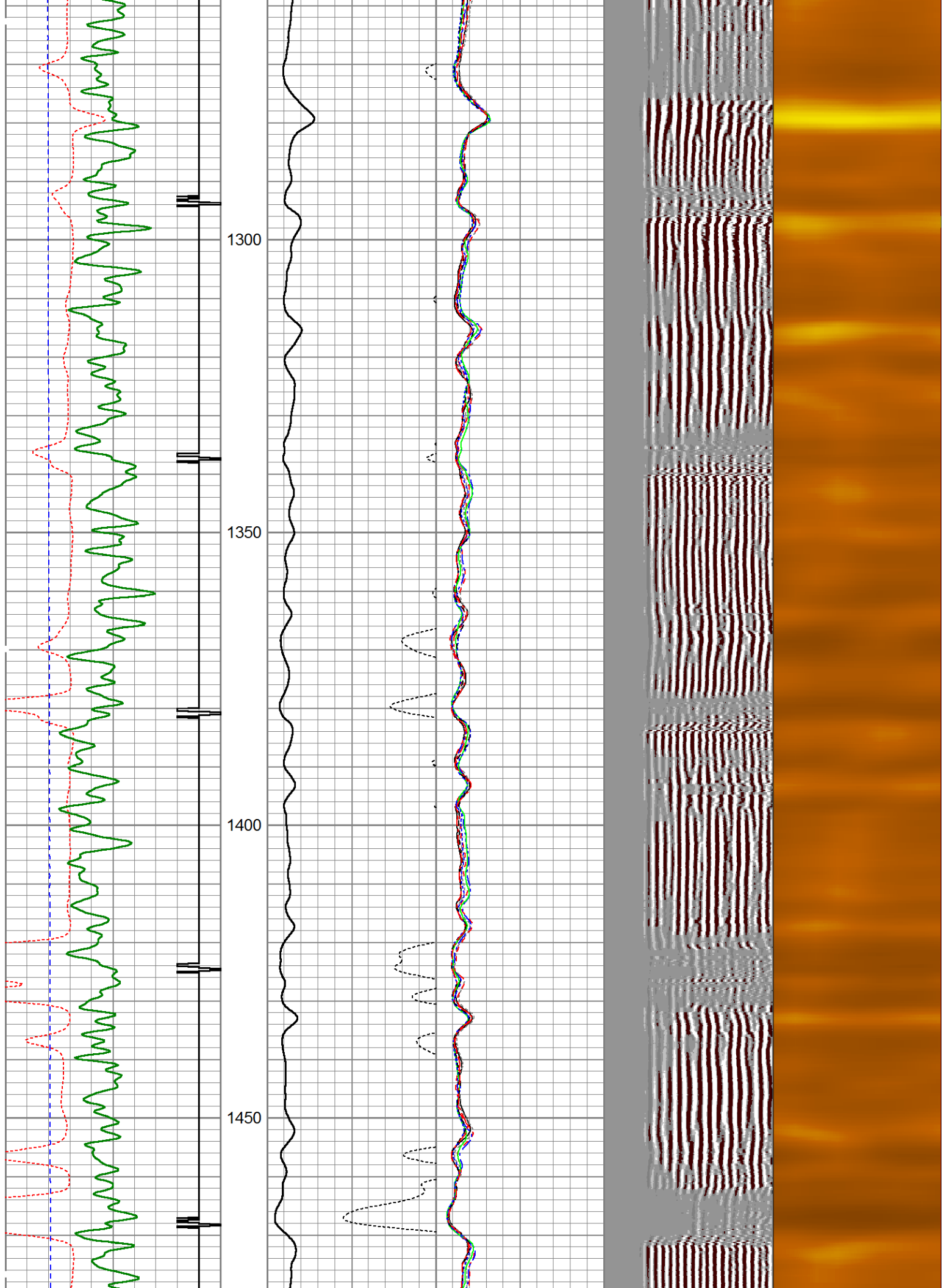


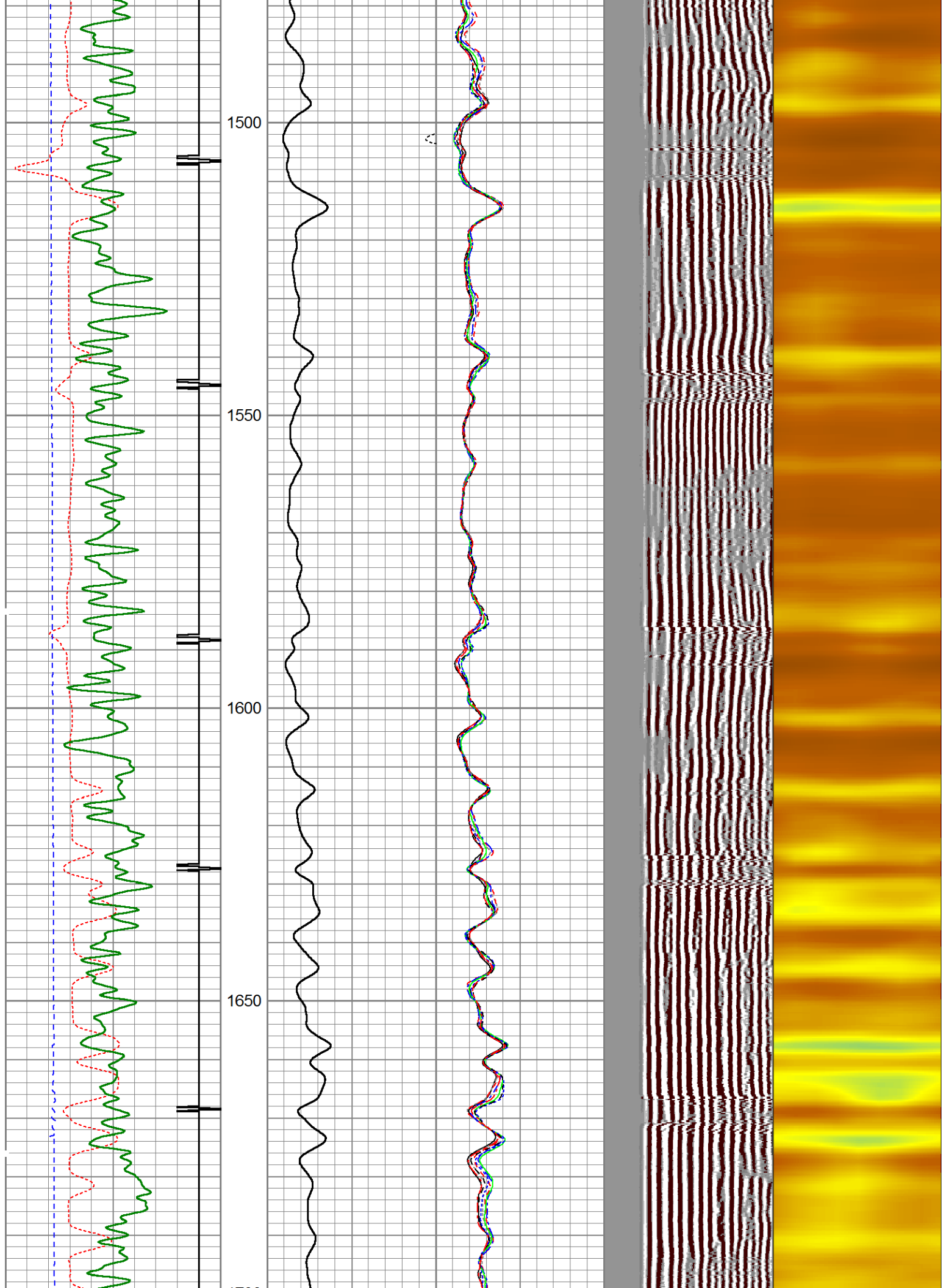




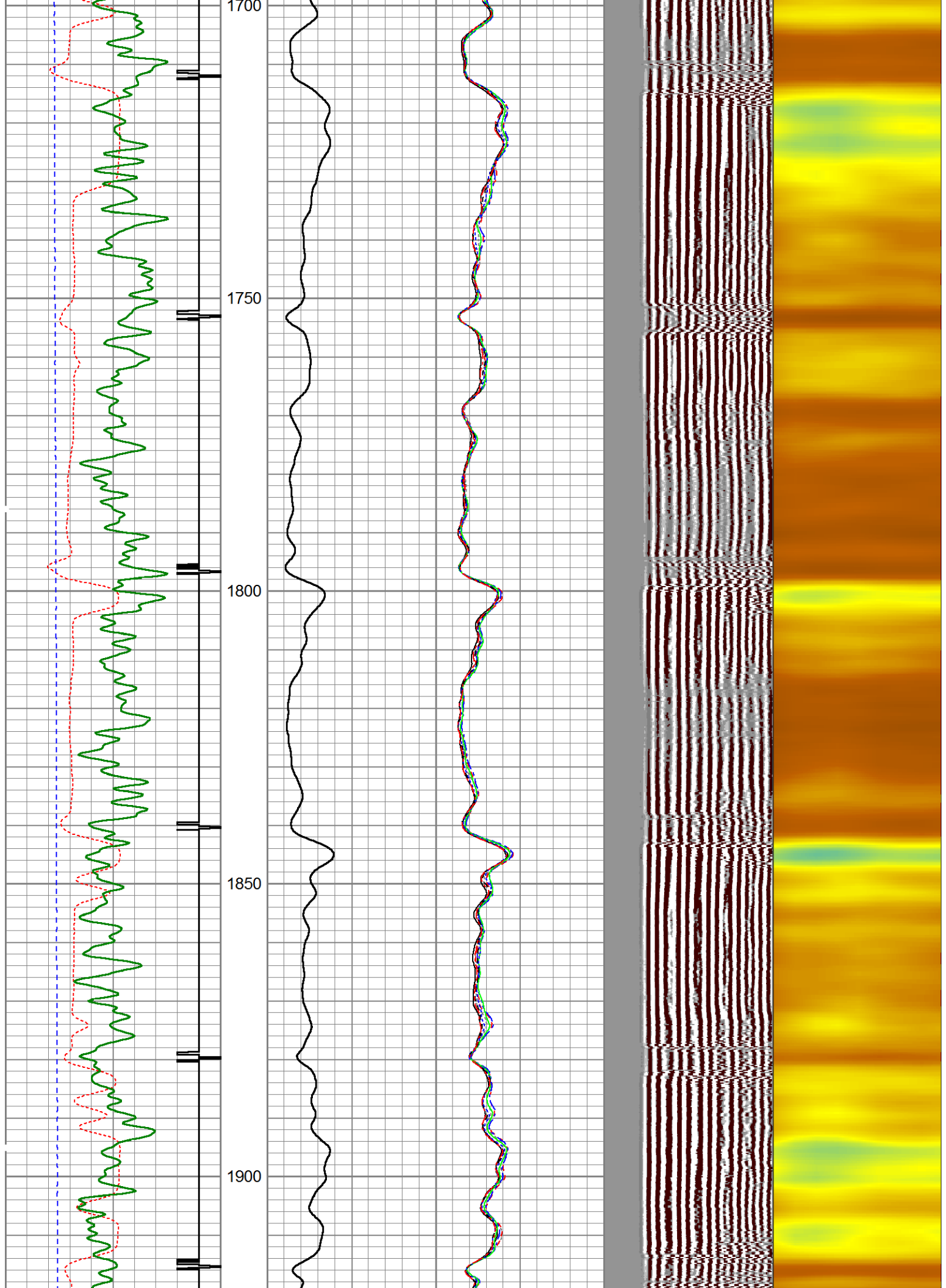


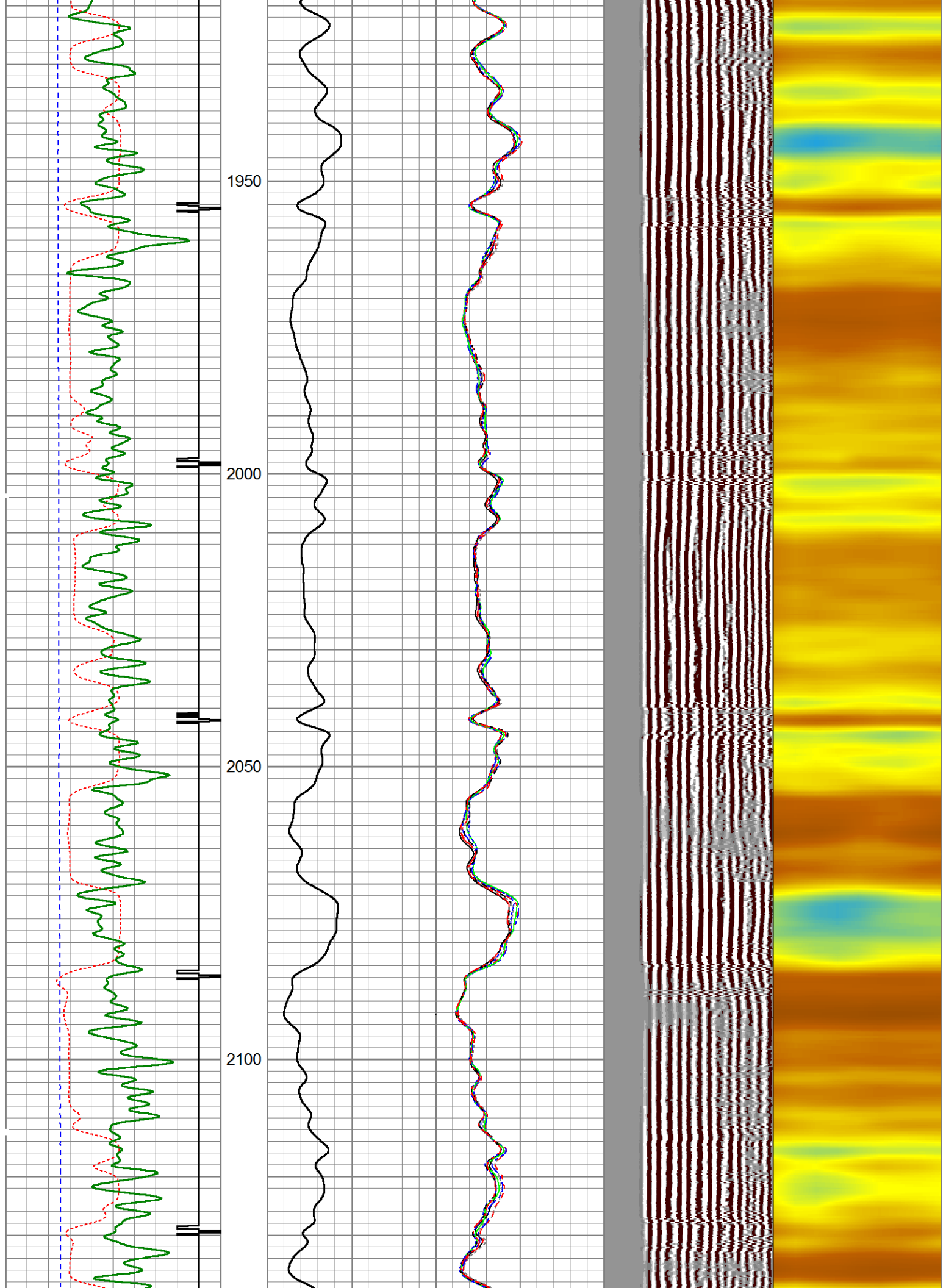




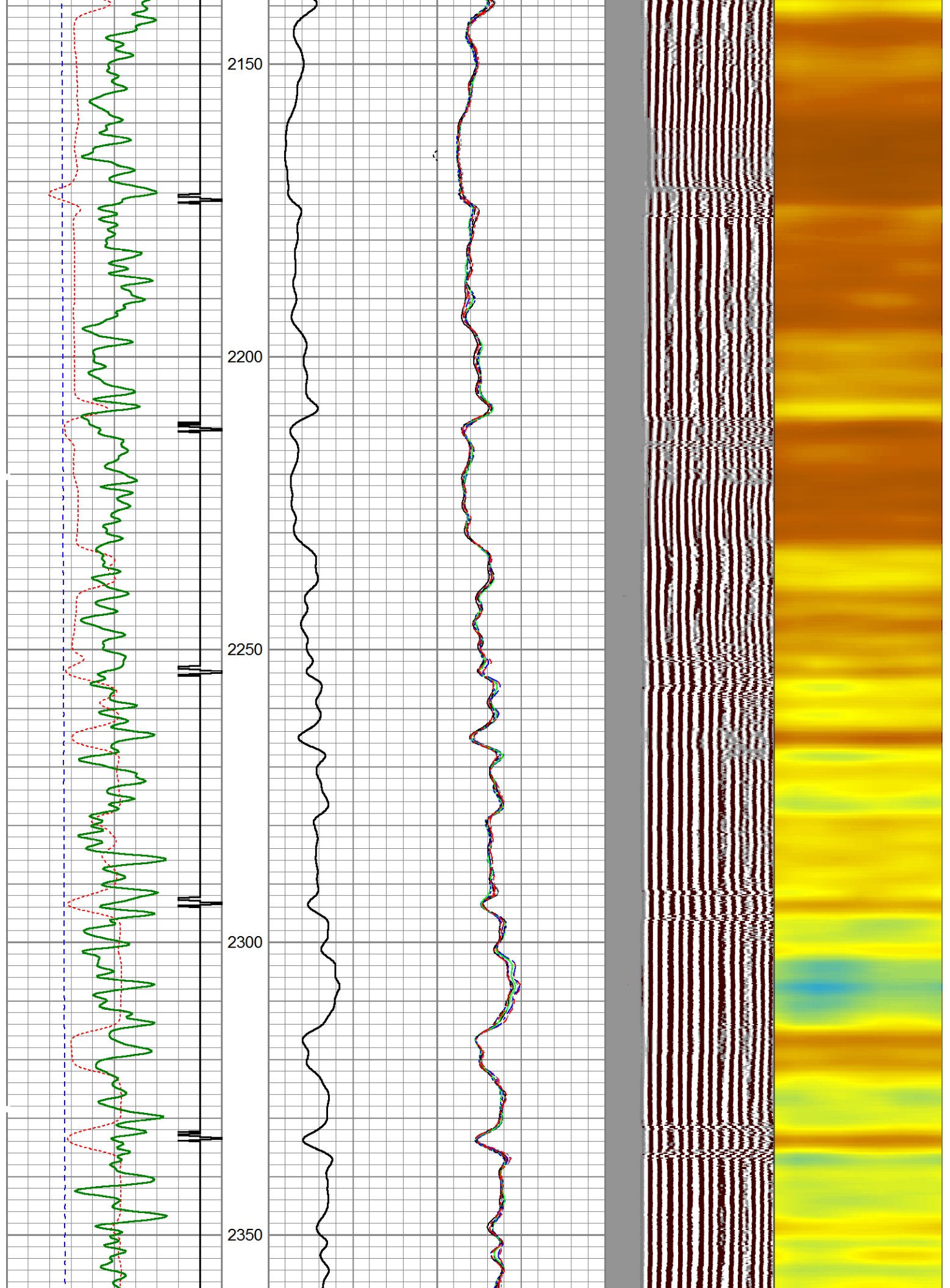


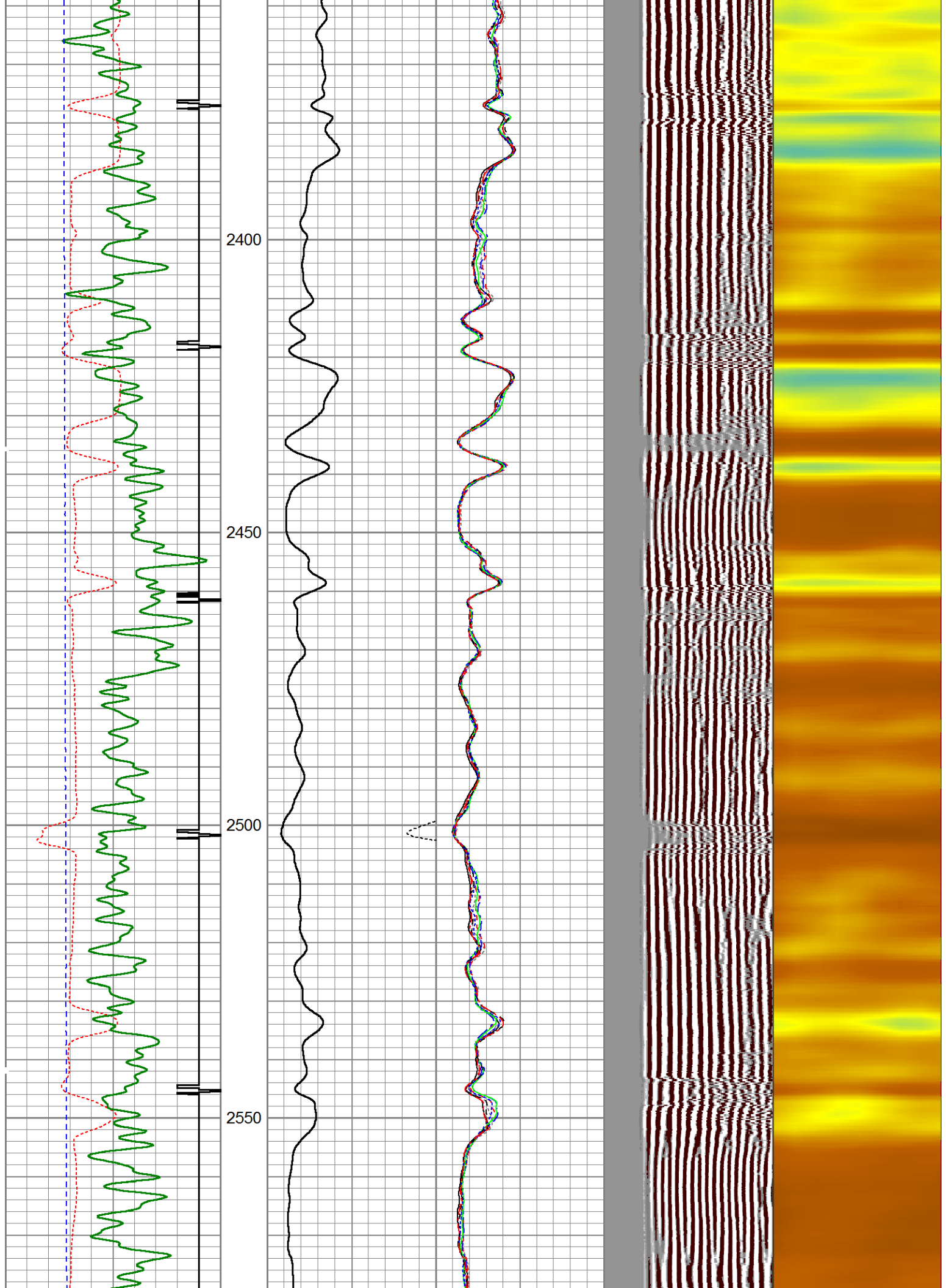


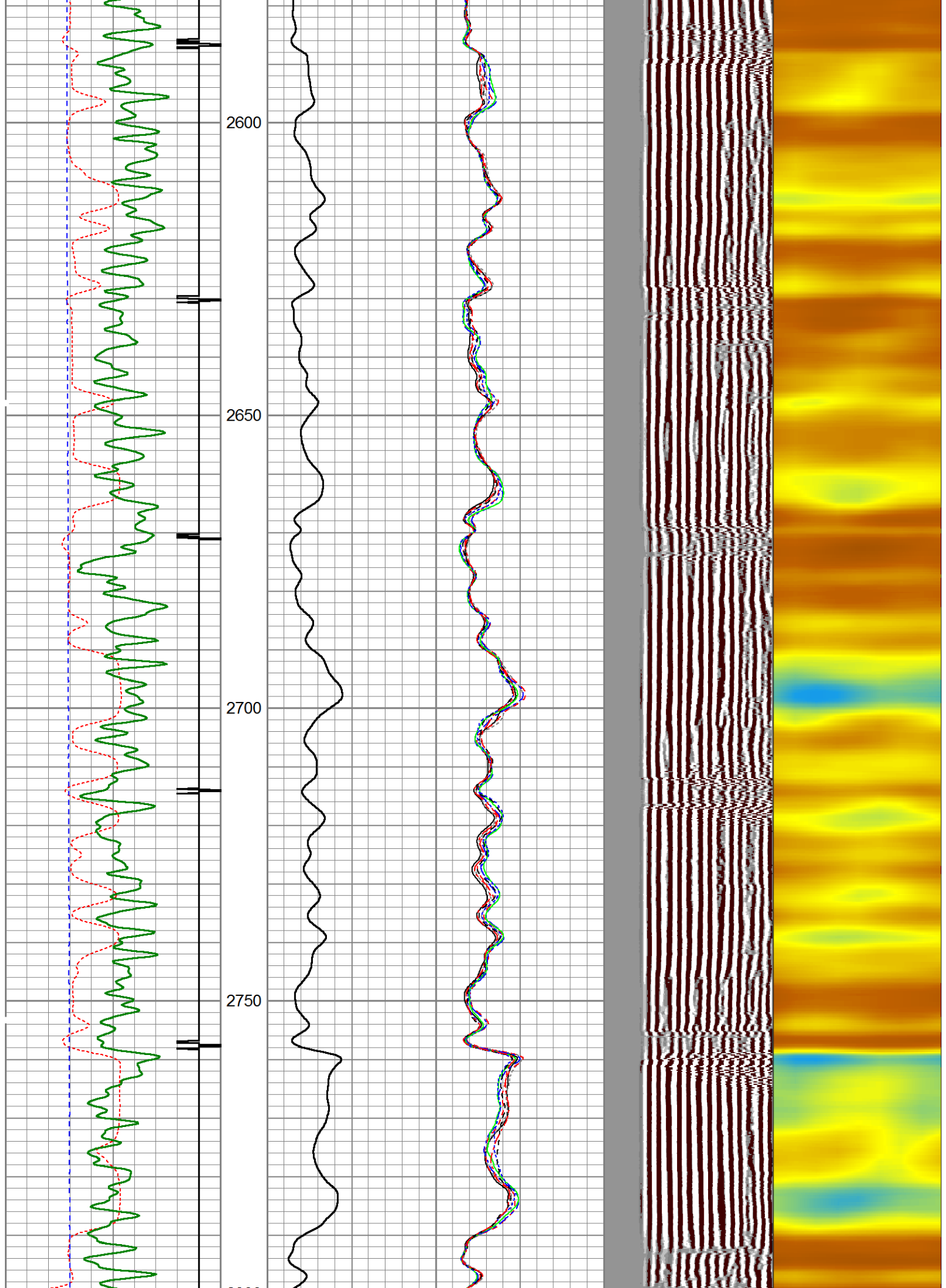


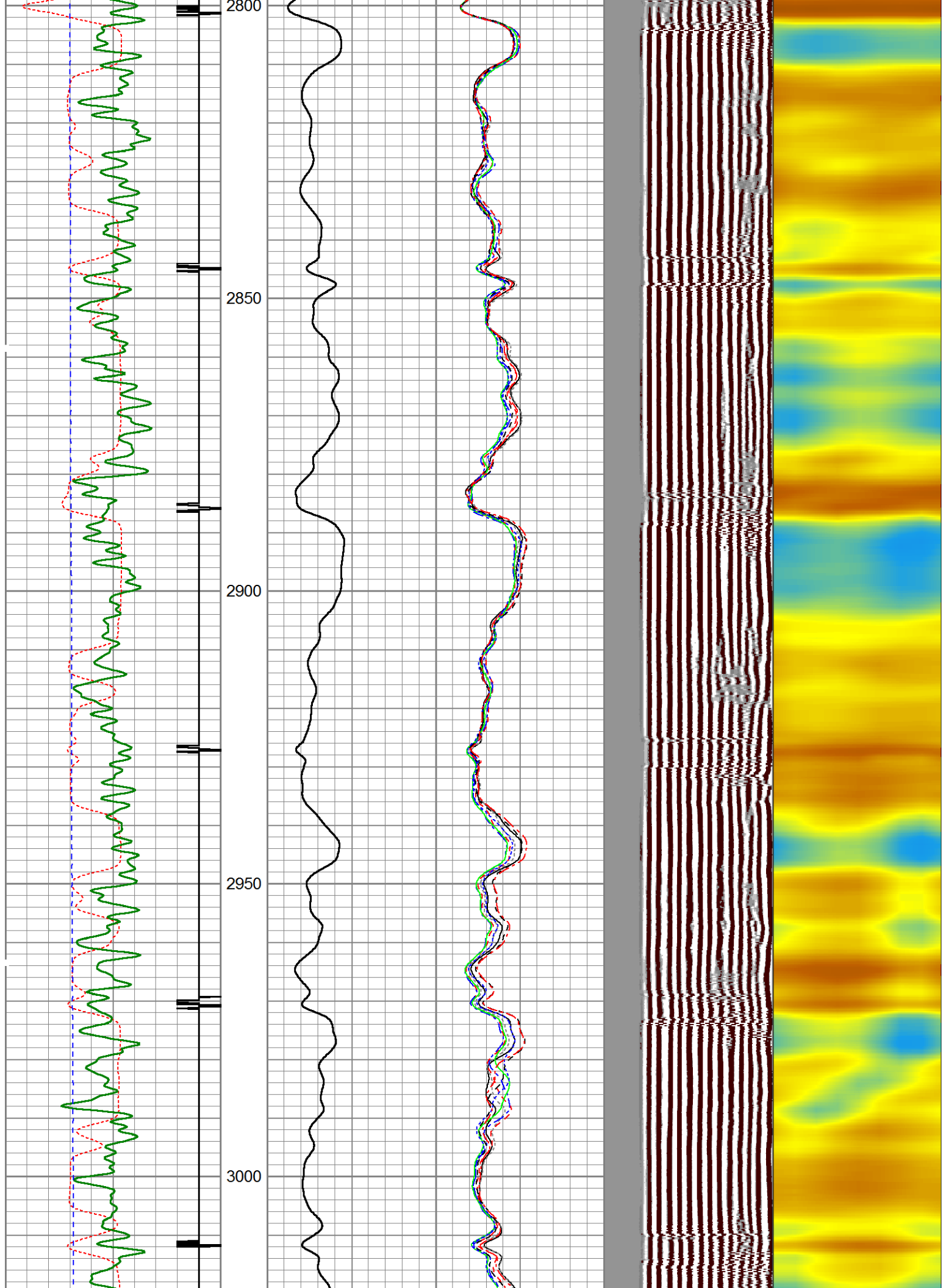




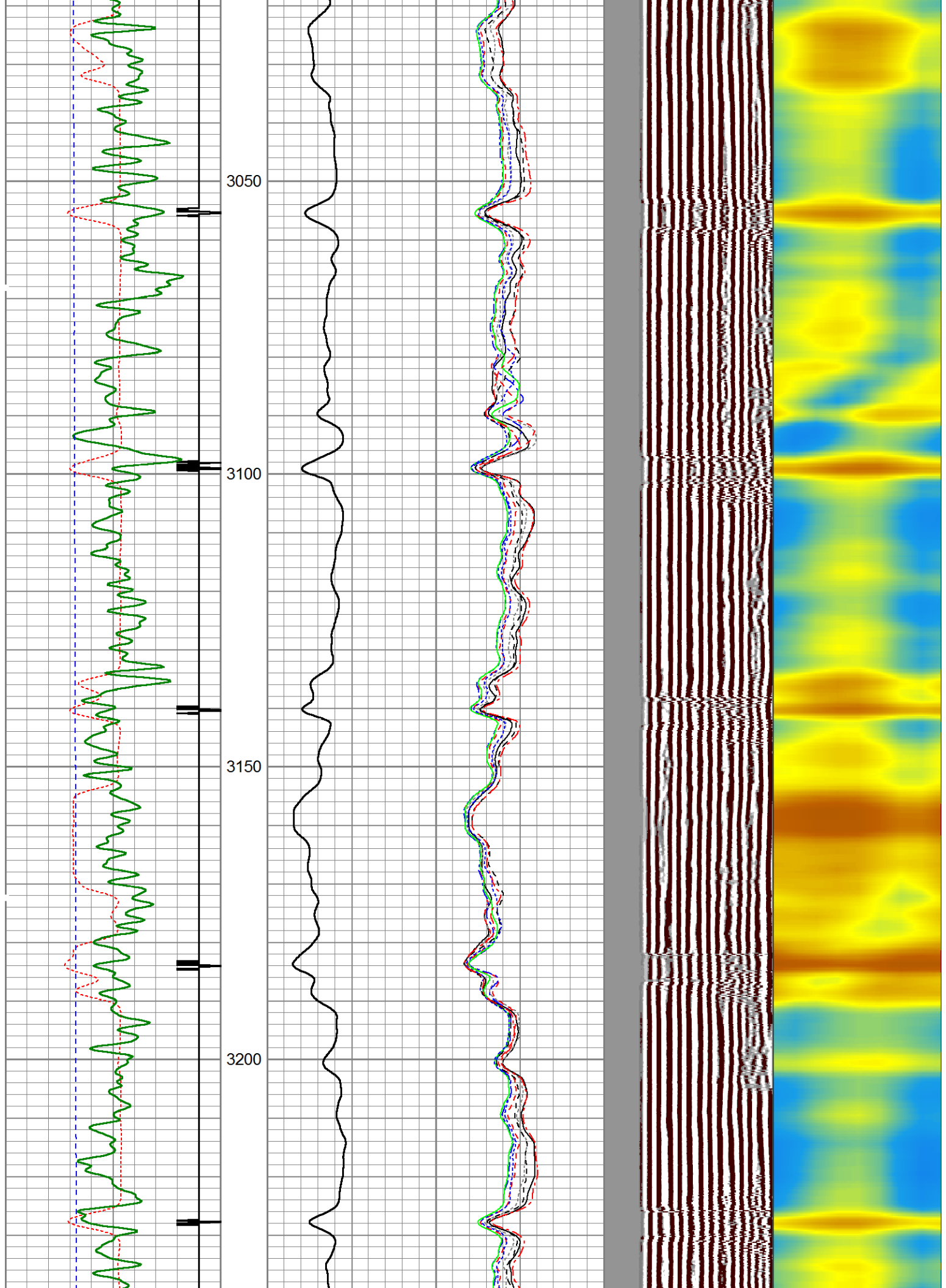


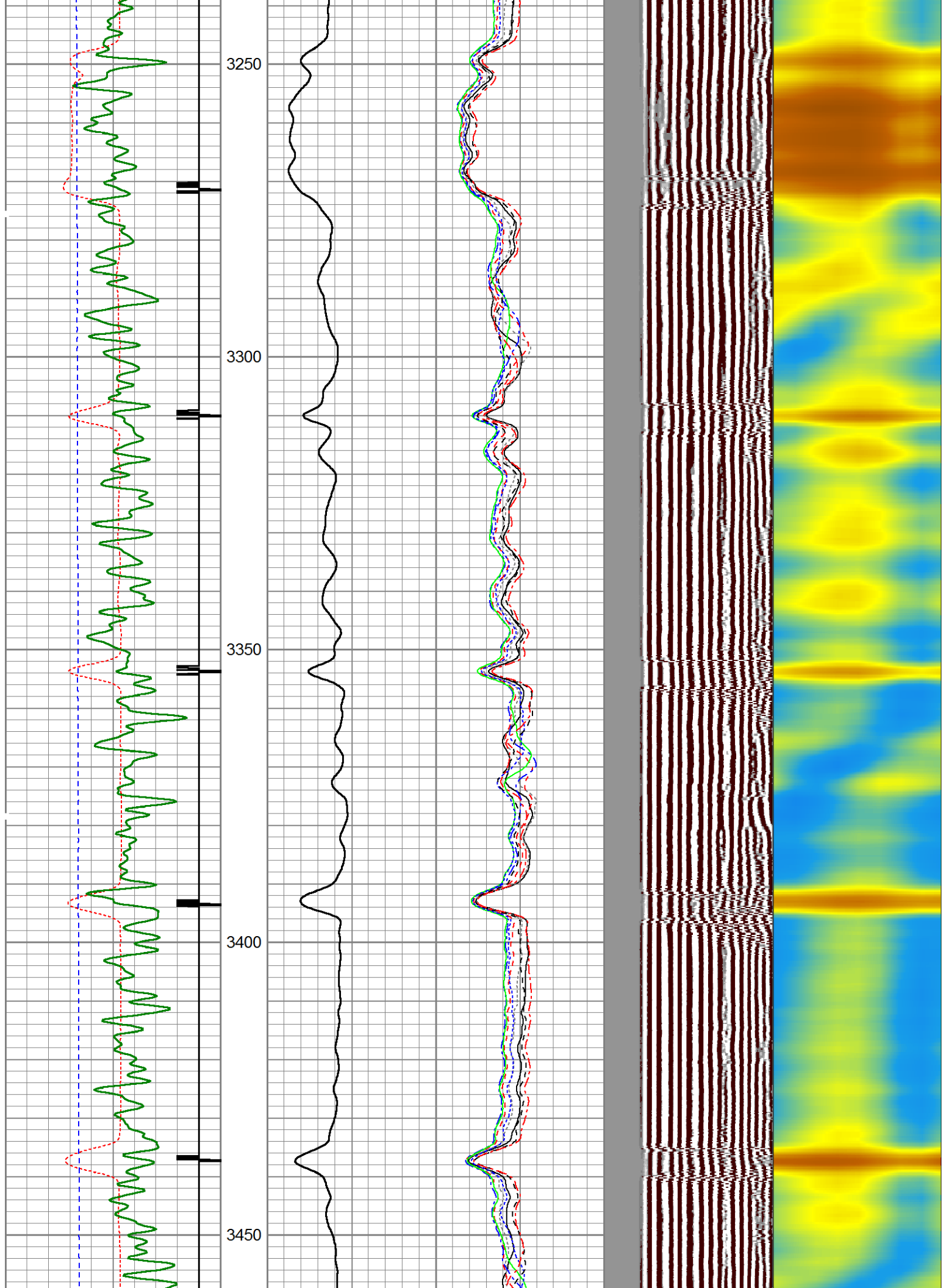


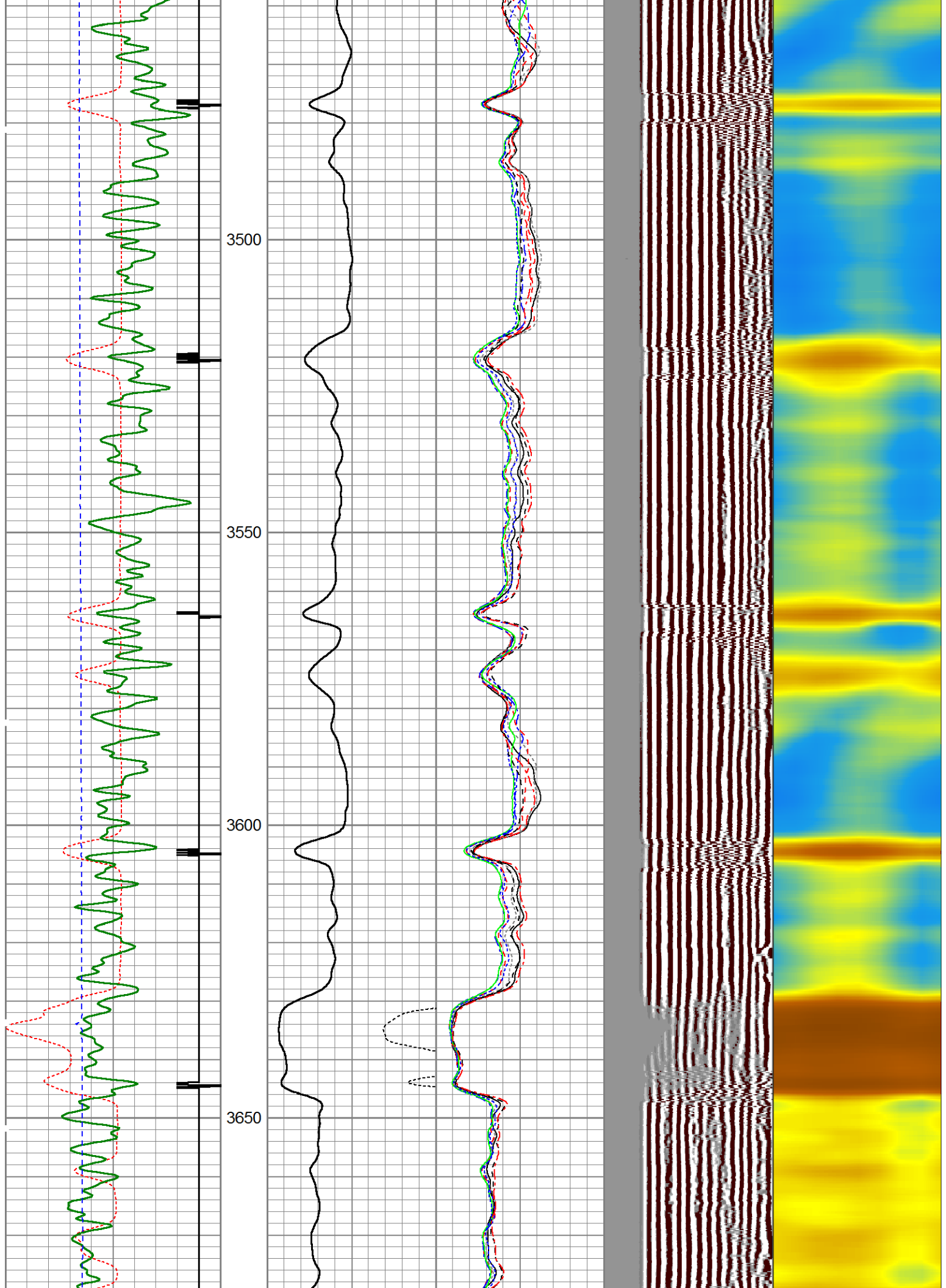




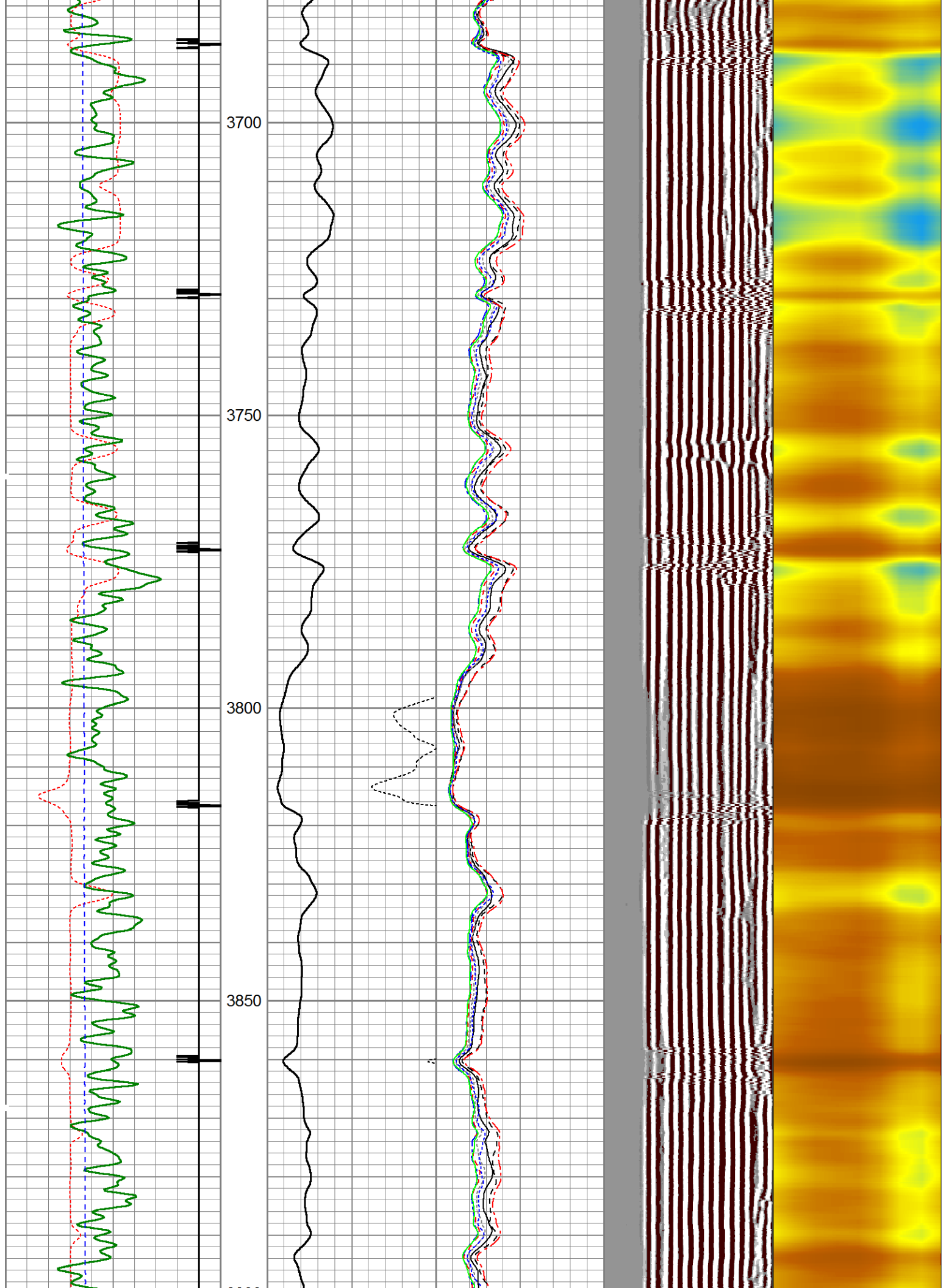


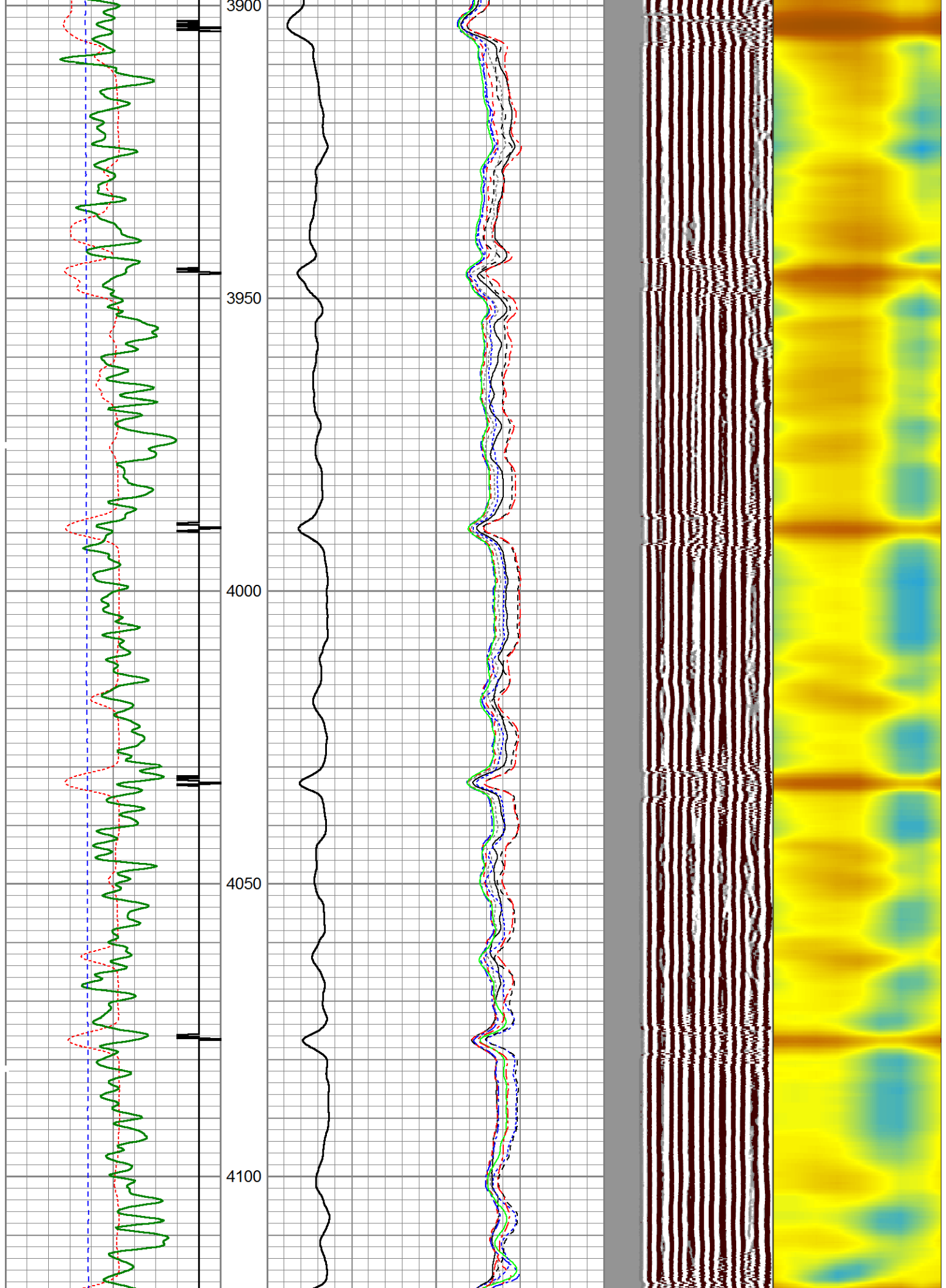


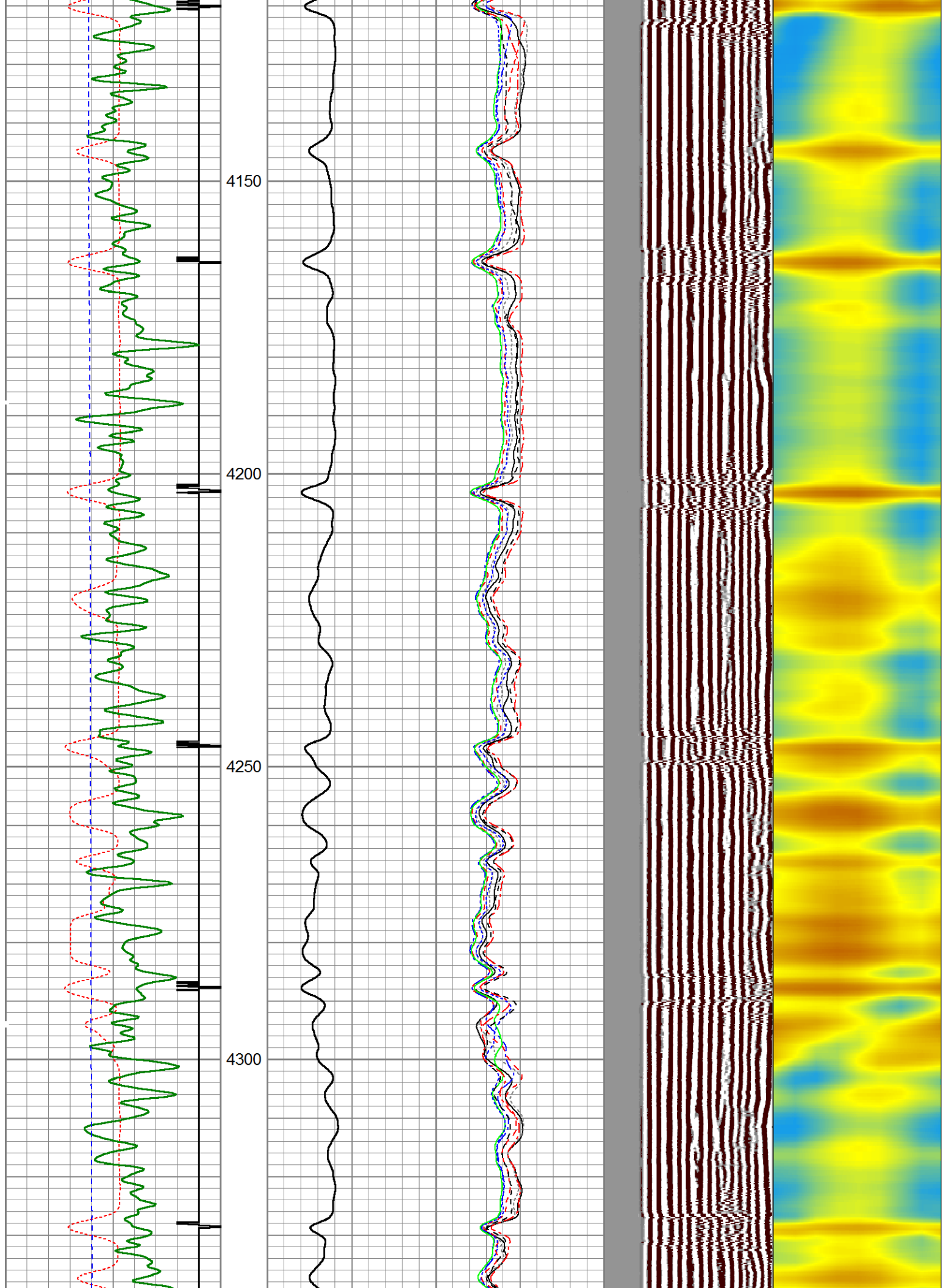


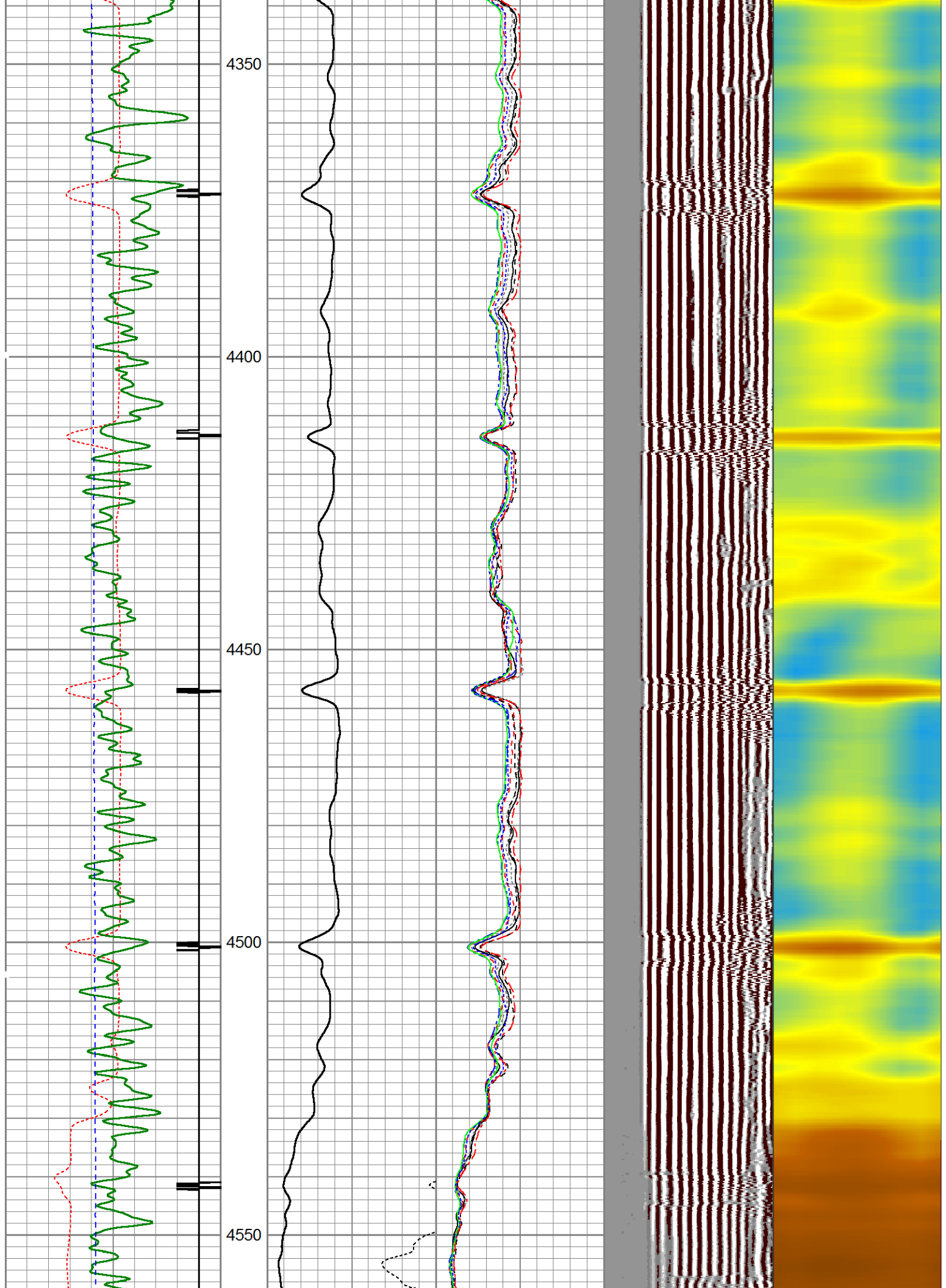




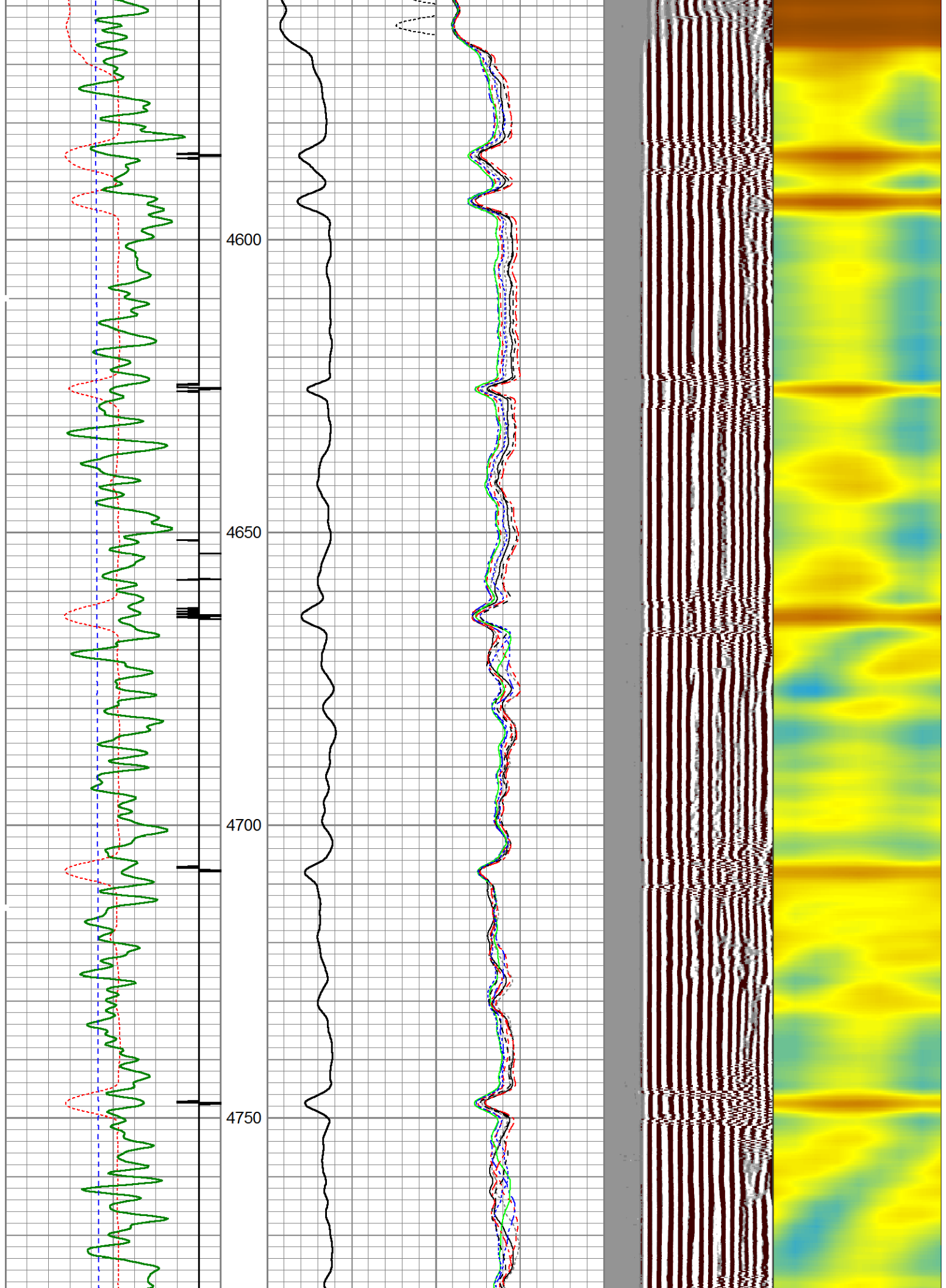


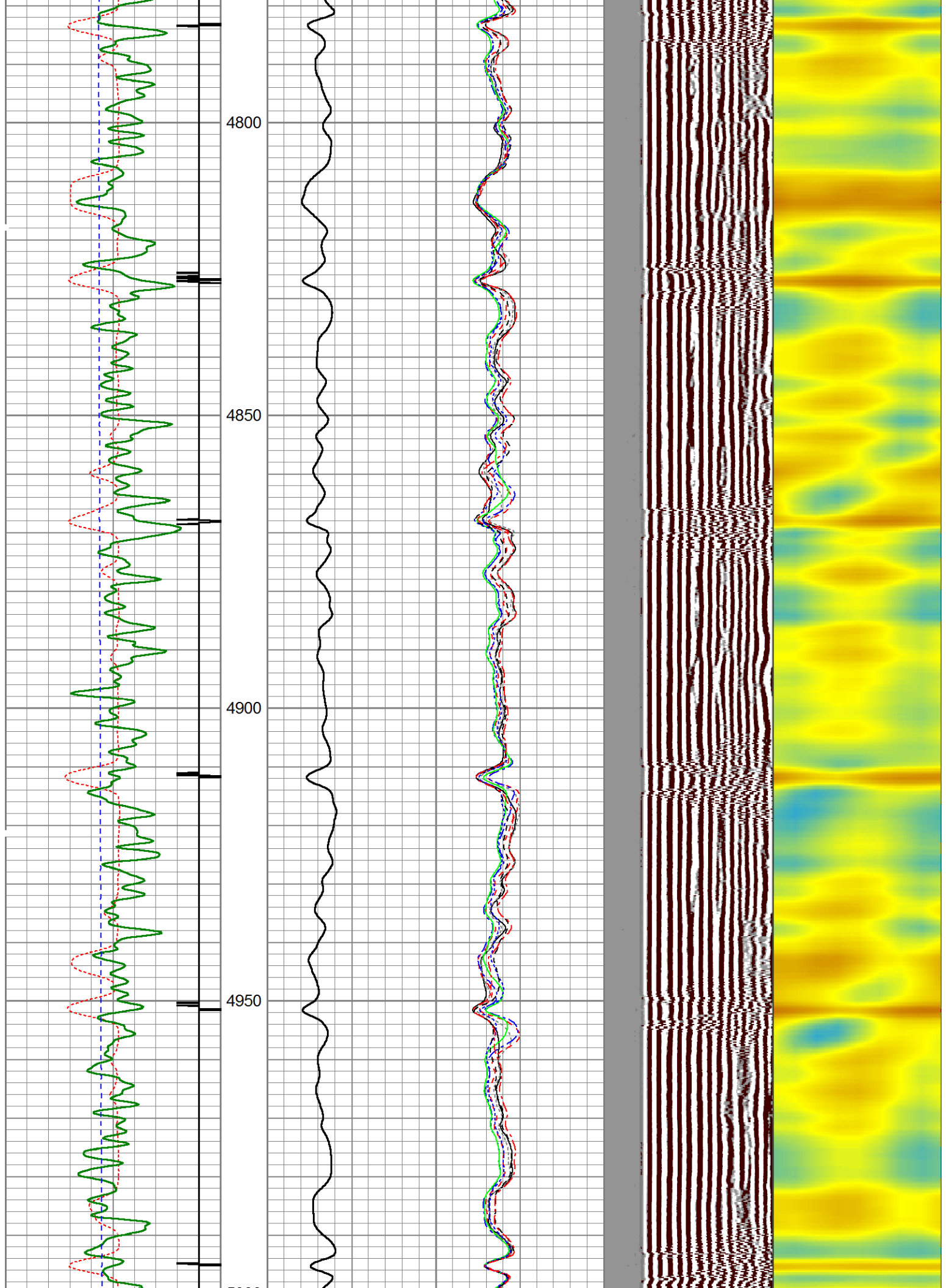


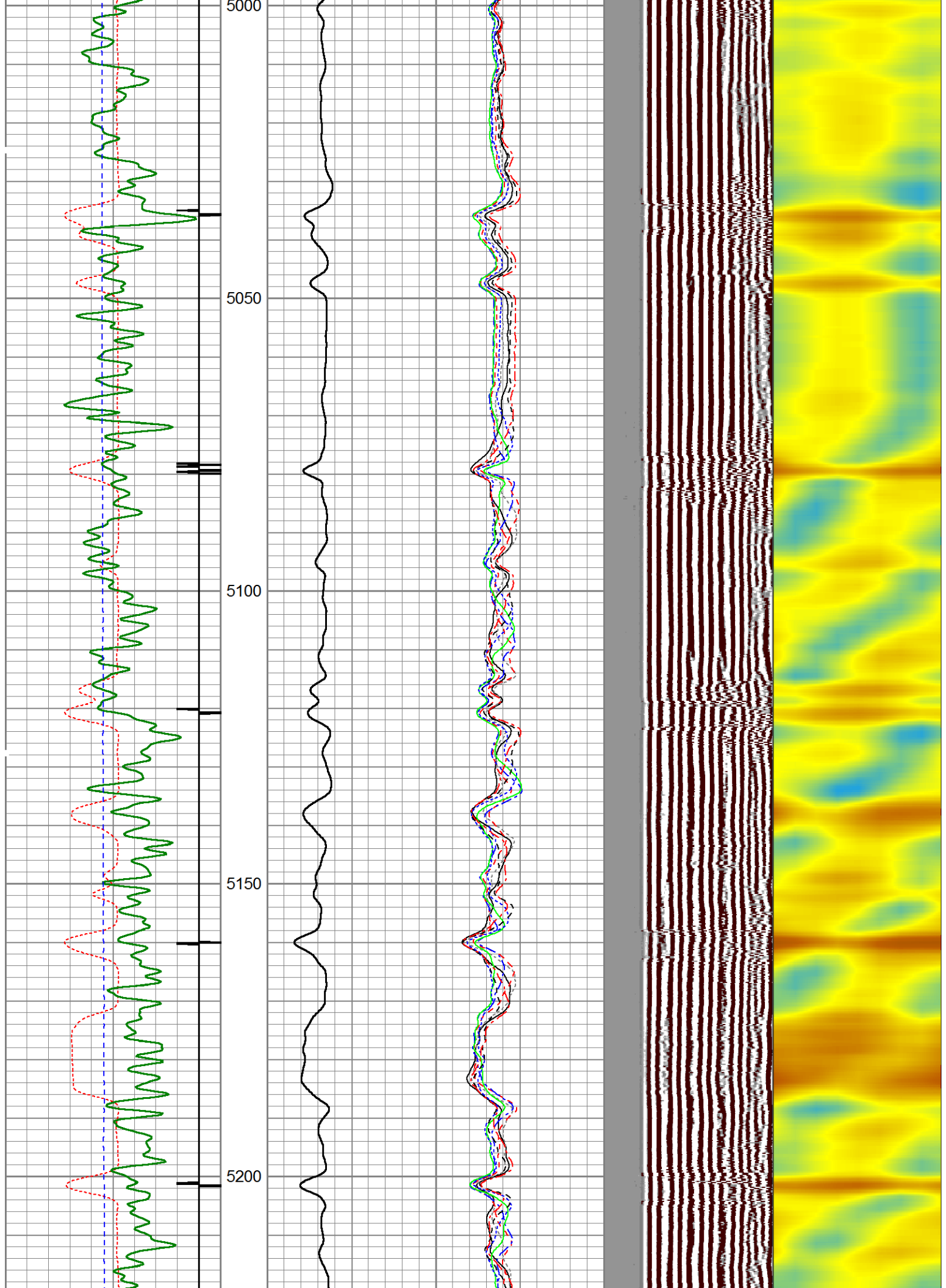




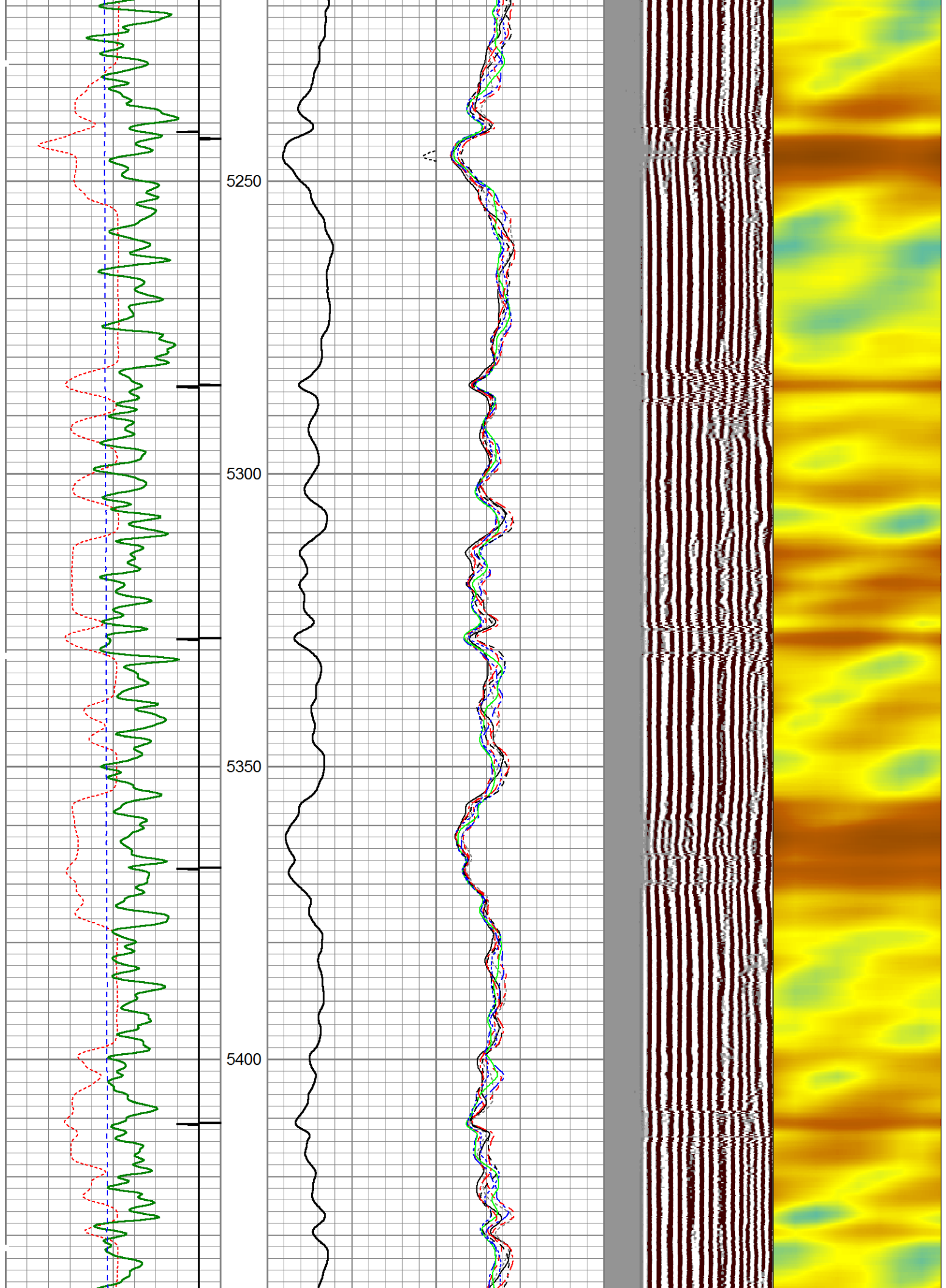


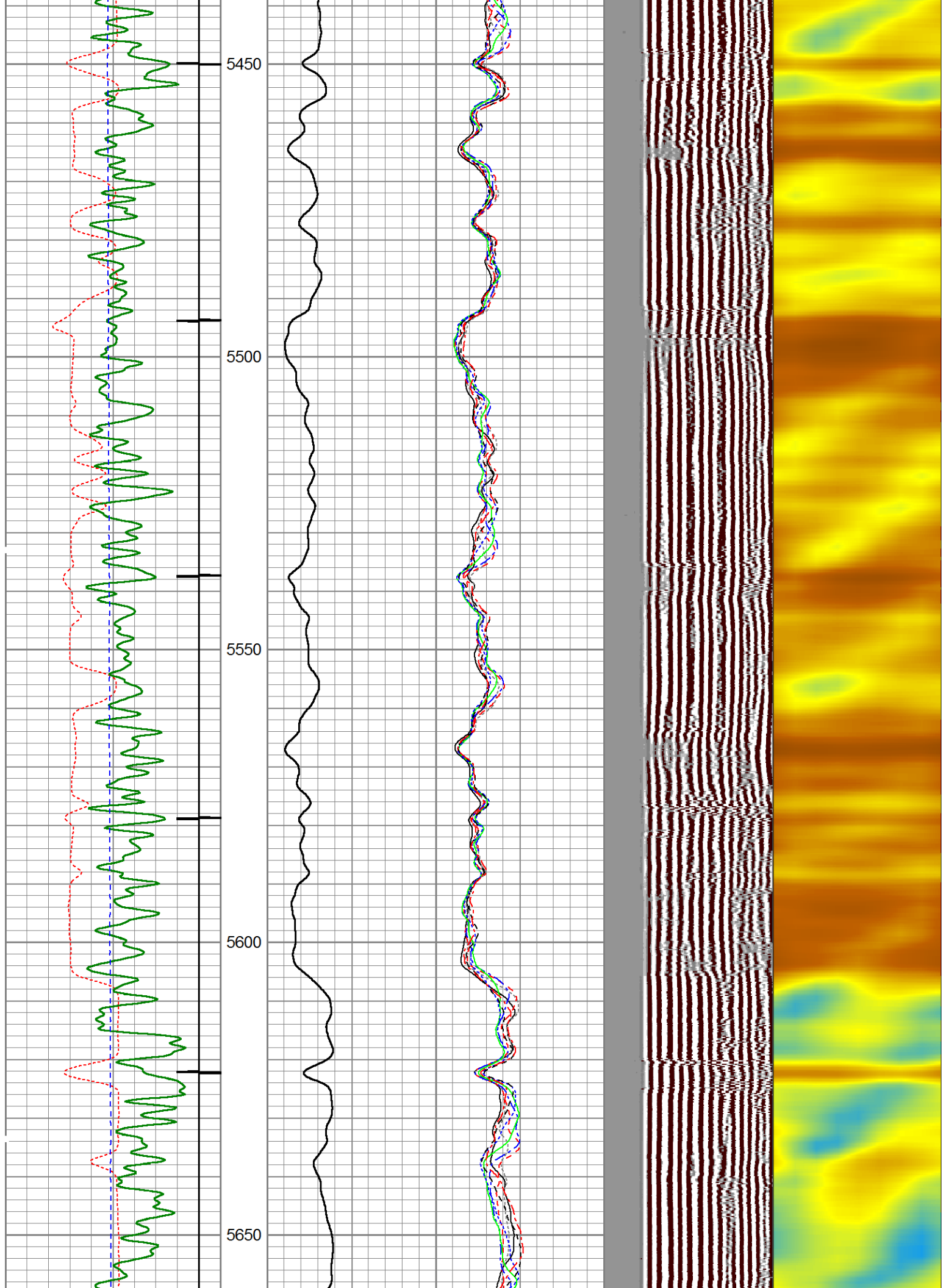


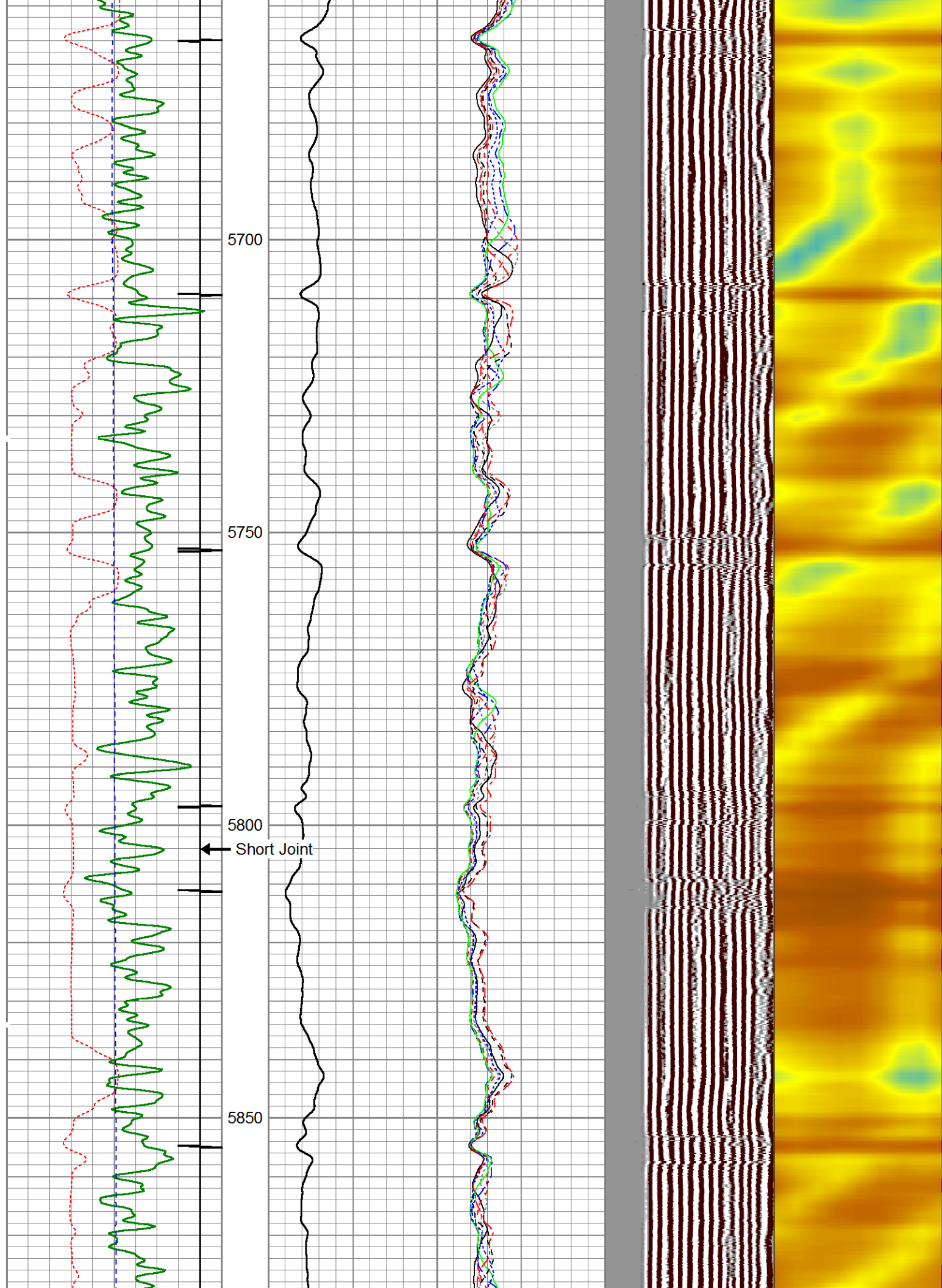


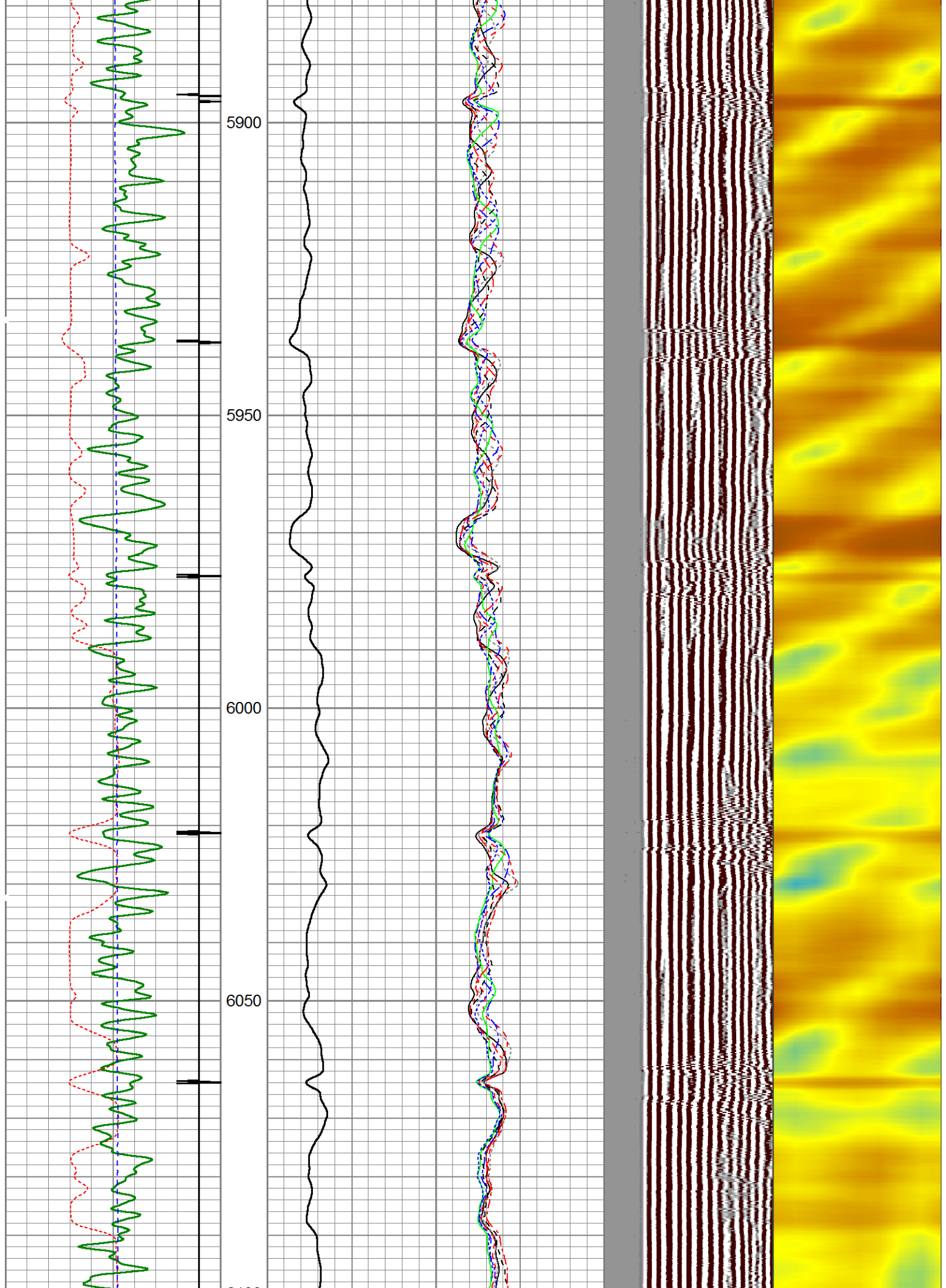




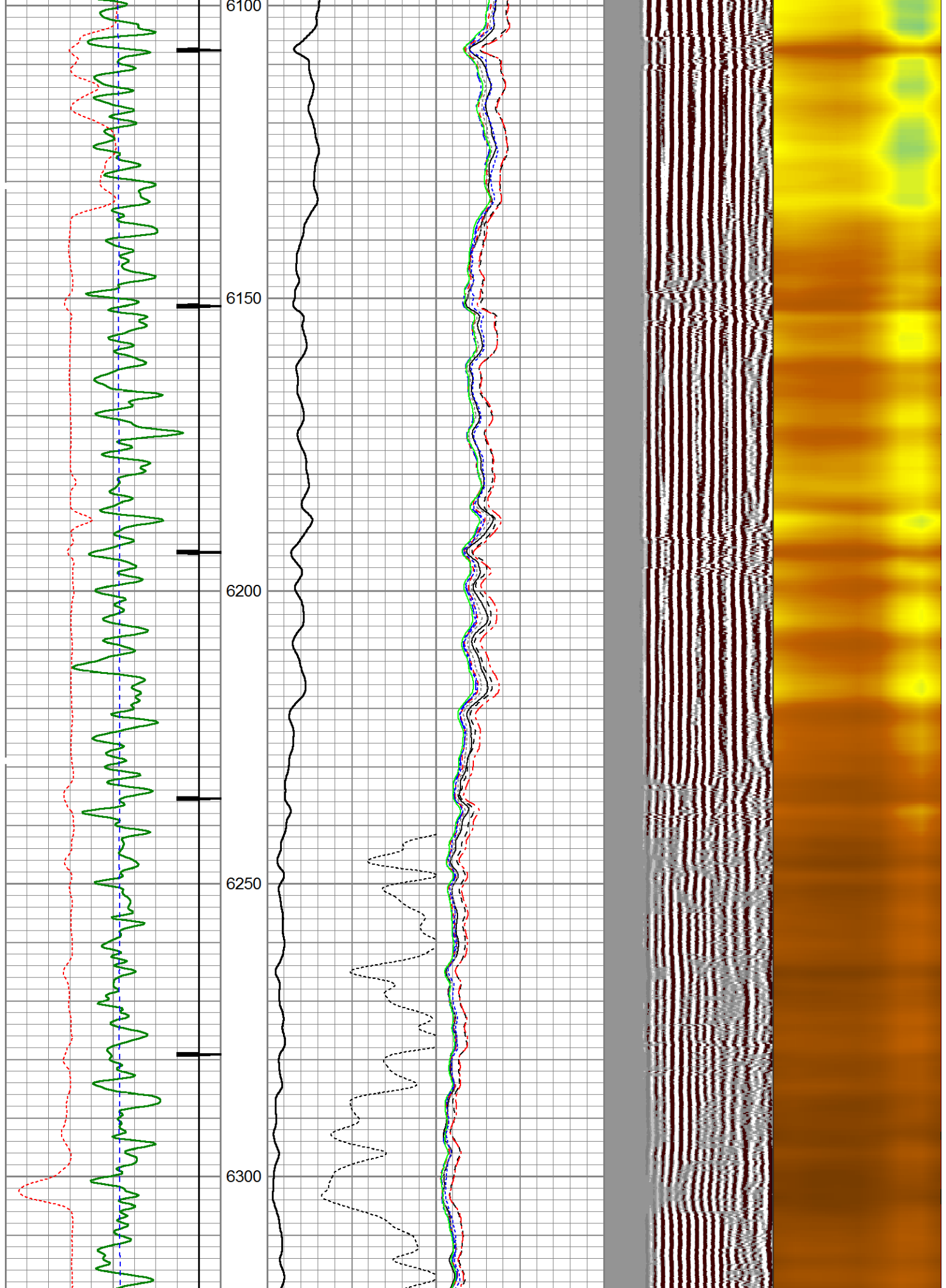


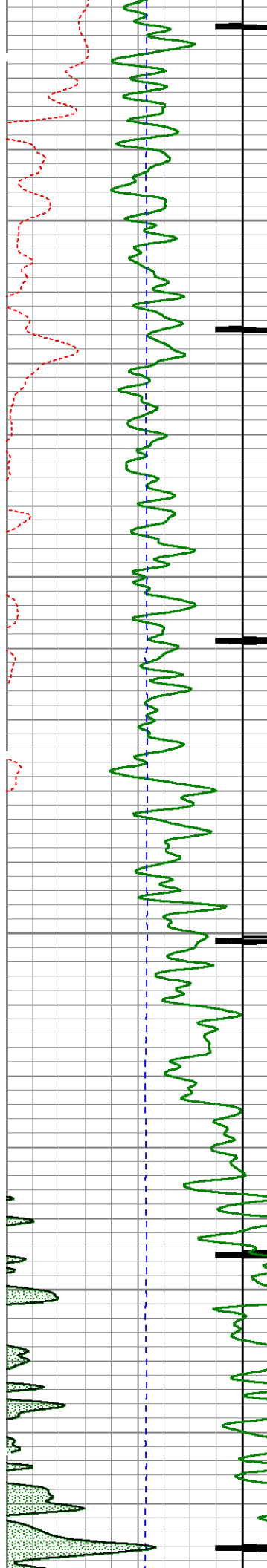




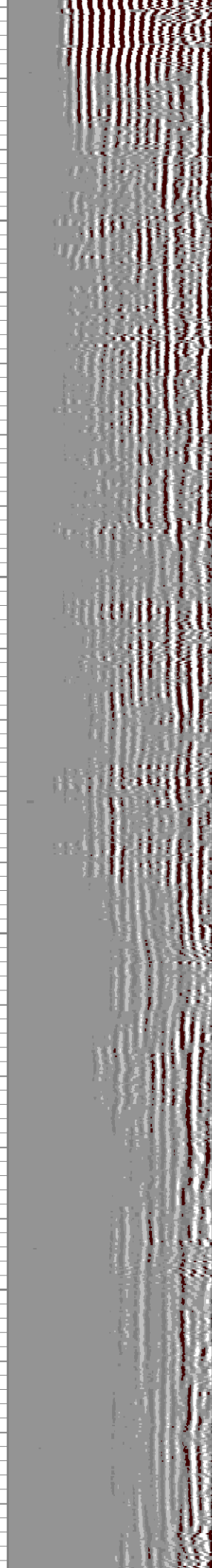
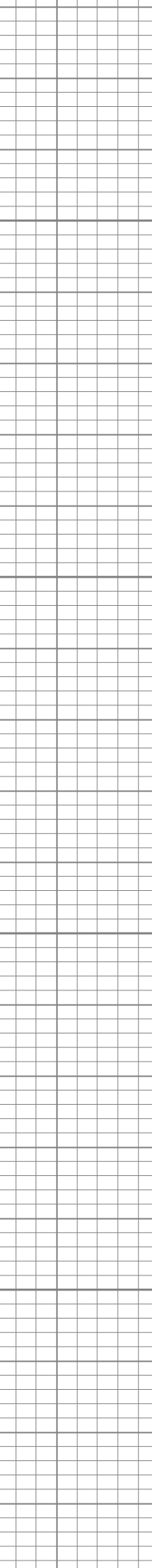
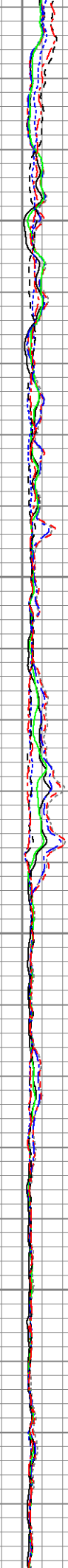
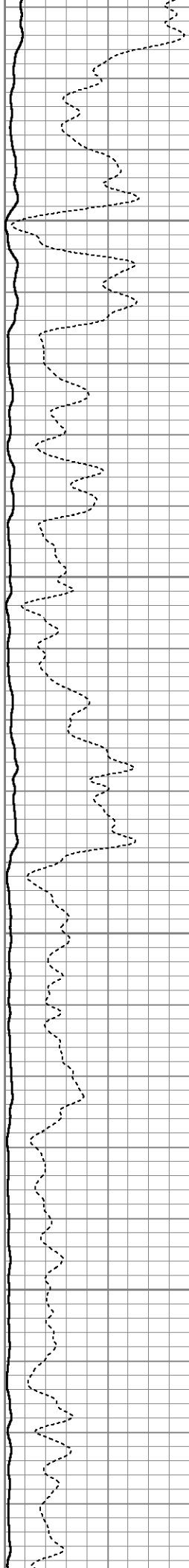


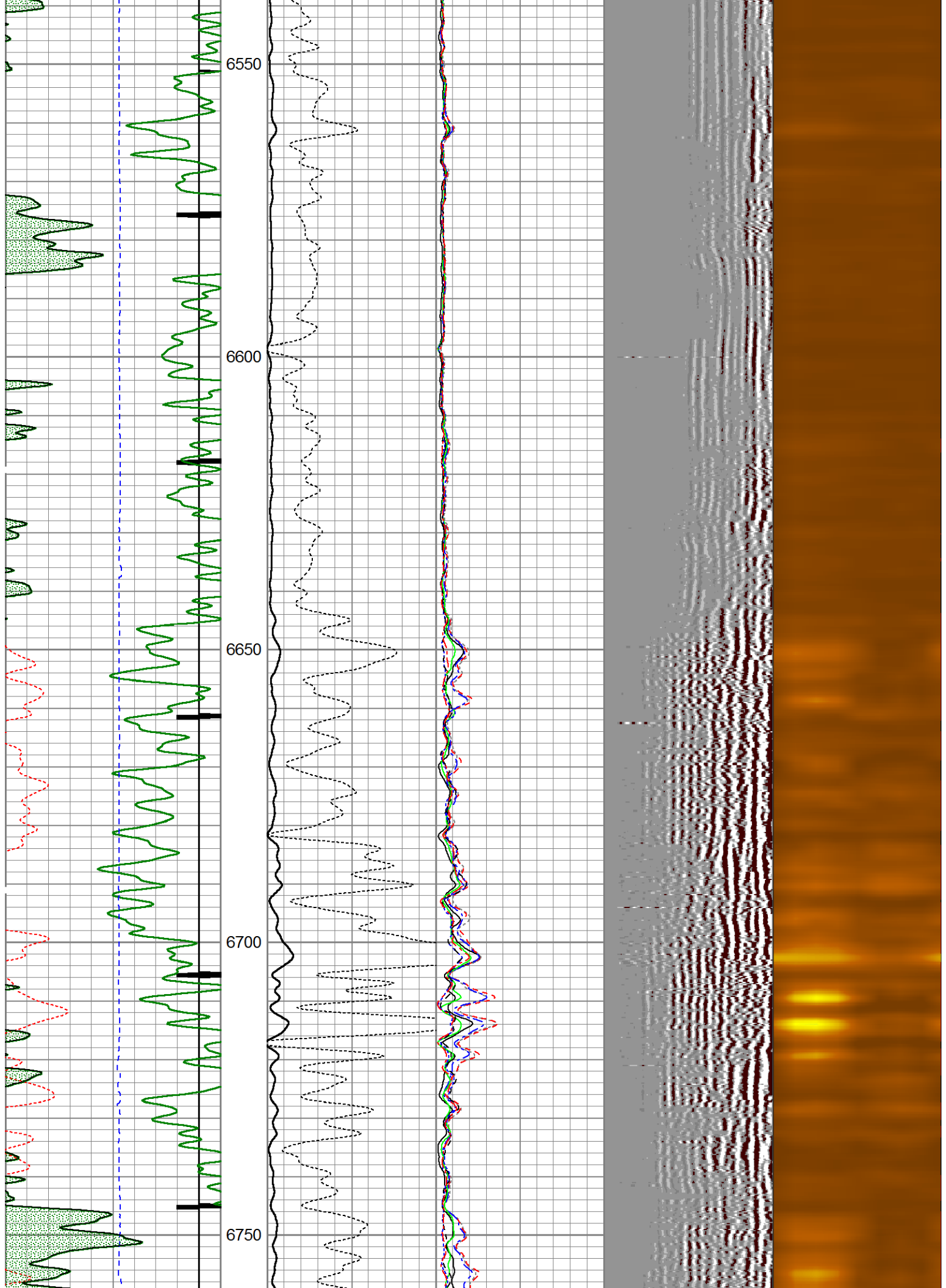




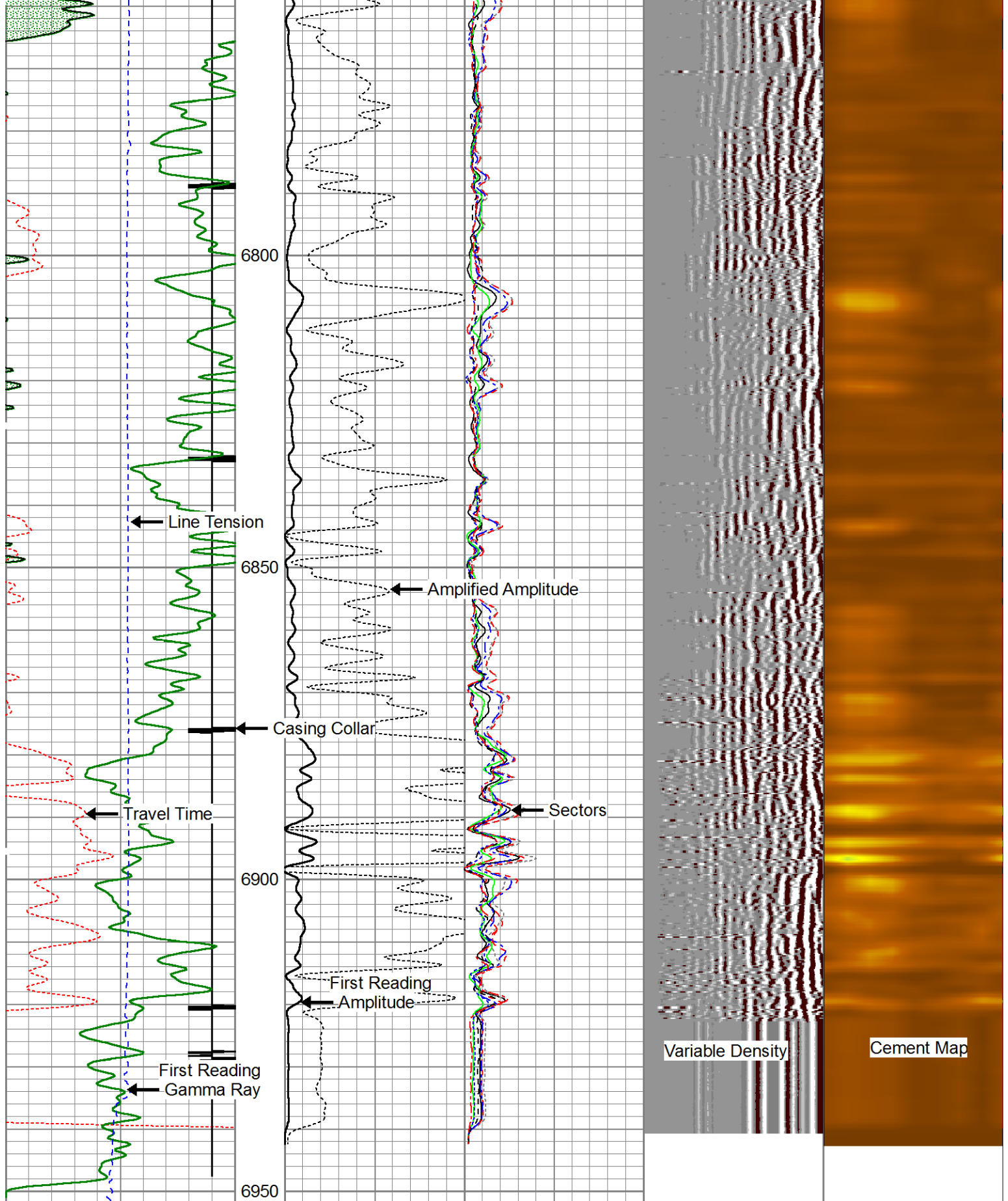


6350  
6400  
6450  
6500









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 )

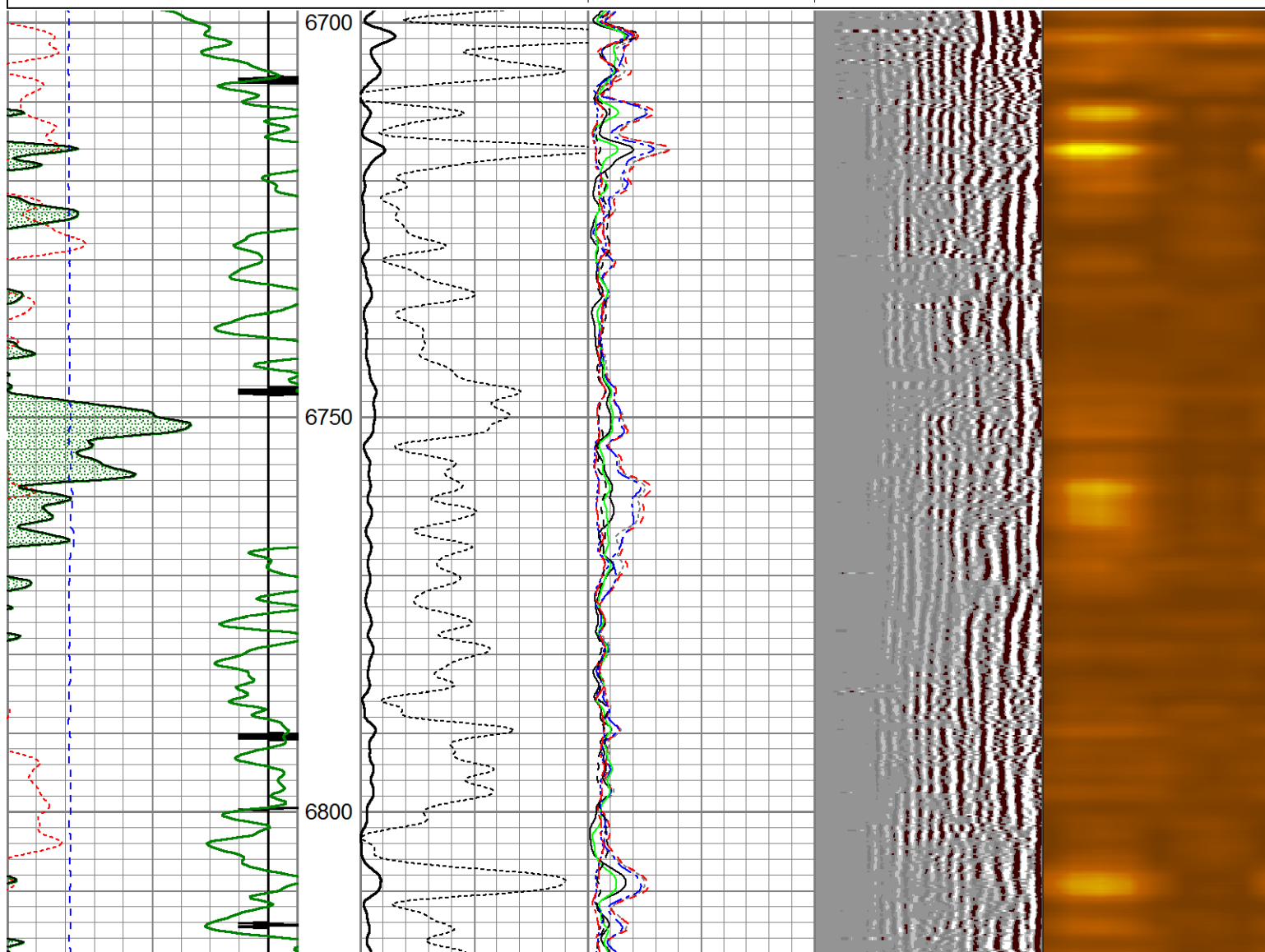
Database File: c:\warrior\data\cased hole\noble\noble\_energy\_wells\_ranch\_usx\_aa\_23\_65\_1hn.db  
Dataset Pathname: run2/pass1  
Presentation Format: scl03  
Dataset Creation: Fri Aug 09 11:05:28 2013 by Log 7.0 B1  
Charted by: Depth in Feet scaled 1:240

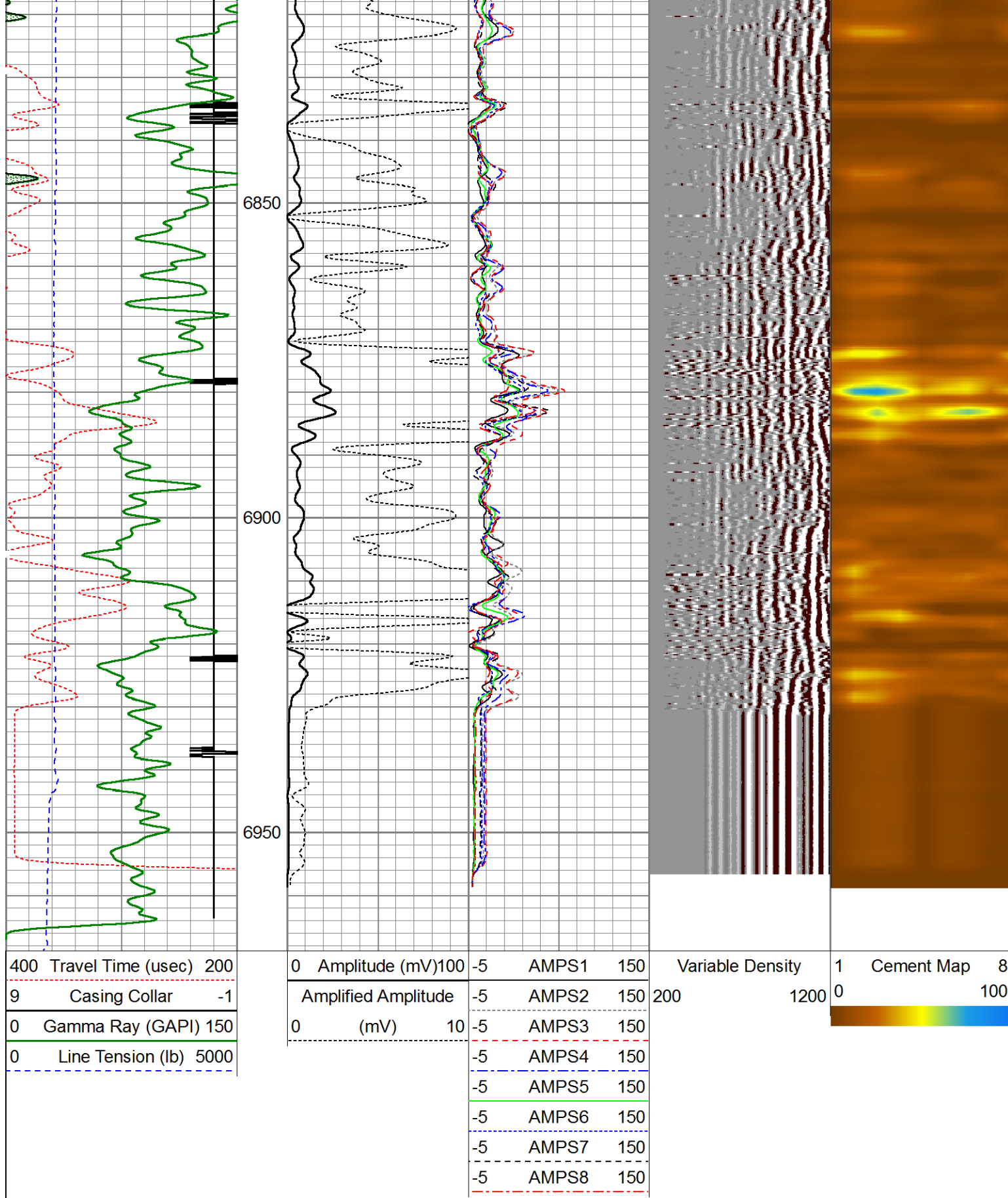
400 Travel Time (usec) 200  
9 Casing Collar -1  
0 Gamma Ray (GAPI) 150  
0 Line Tension (lb) 5000

0 Amplitude (mV)100  
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 200 1200  
1 Cement Map 8  
0 100





### Calibration Report

Database File: C:\Warrior\Data\Cased Hole\Noble\noble\_energy\_wells\_ranch\_USX\_AA\_23\_65\_1HN.db  
 Dataset Pathname: run2/pass3  
 Dataset Creation: Fri Aug 09 11:11:39 2013 by Log 7.0 B1

Temperature Calibration Report

Serial Number: 101234  
Tool Model: 1.375TEMP  
Performed: Sun Jun 13 14:33:21 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	

#### Gamma Ray Calibration Report

Serial Number: 101135-Dig  
Tool Model: Probe275  
Performed: Tue Jan 15 10:21:57 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.8000 GAPI/cps

#### Segmented Cement Bond Log Calibration Report

Serial Number: 101254  
Tool Model: Probe

Calibration Casing Diameter: 7.000 in  
Calibration Depth: 629.625 ft

Master Calibration, performed Fri Aug 09 11:28:11 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	0.580	1.000	62.165	106.901	0.187
CAL	0.008	0.824				
5'	0.008	0.573	1.000	62.165	108.121	0.183
SUM						
S1	0.008	0.584	0.000	100.000	173.467	-1.304
S2	0.008	0.544	0.000	100.000	186.576	-1.419
S3	0.008	0.501	0.000	100.000	202.797	-1.550
S4	0.008	0.495	0.000	100.000	205.200	-1.571
S5	0.008	0.554	0.000	100.000	183.176	-1.400
S6	0.008	0.626	0.000	100.000	161.696	-1.249
S7	0.008	0.655	0.000	100.000	154.470	-1.169
S8	0.008	0.627	0.000	100.000	161.479	-1.254

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

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.008	0.824	1.000	0.000

Air Zero Calibration, performed Fri Aug 09 09:28:04 2013:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset

	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	13.09		RBT-Probe (101254) Probe Radii Bond Tool with Digital Telemetry	8.75	2.75	90.00
WVFCAL	13.09					
WVFS1	13.09					
WVFS2	13.09					
WVFS3	13.09					
WVFS4	13.09					
WVFS5	13.09					
WVFS6	13.09					
WVFS7	13.09					
WVFS8	13.09					
WVF5FT	12.09					
			Probe275 2.75" Centralizer	2.88	2.75	20.00
CCL	5.13					
GR	3.79		GR-Probe275 (101135-Dig) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00



