



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

Company	Noble Energy	Company	Noble Energy
Well	NCLP PC AA04-65-1HN	Well	NCLP PC AA04-65-1HN
Field	Wattenberg	Field	Wattenberg
County	Weld	County	Weld
State	Colorado	State	Colorado
Location:	API # : 05-123-37168		Other Services
	2340' FSL & 535' FEL		None
Permanent Datum	SEC 4	TWP 6N	RGE 63W
Log Measured From	Ground Level	Elevation	4711'
Drilling Measured From	Kelly Bushing 24' APD		
	Kelly Bushing		
Date	09-JAN-2014		
Run Number	One		
Depth Driller	16150'		
Depth Logger	6952'		
Bottom Logged Interval	6940'		
Top Log Interval	Surface		
Open Hole Size	8 3/4"		
Type Fluid	Water		
Density / Viscosity	8.4		
Max. Recorded Temp.	NA		
Estimated Cement Top	NA		
Time Well Ready	17:00		
Time Logger on Bottom	17:30		
Equipment Number	13034		
Location	Brighton, CO		
Recorded By	Jarod Lee		
Witnessed By	Bill Mansfield		
Borehole Record		Tubing Record	
Run Number	Bit	From	To
		Size	Weight
			From
			To
Casing Record	Size	Wgt/Ft	Top
Surface String	9 5/8"	36#	Surface
Prot. String			Bottom
Production String	7"	26#	Surface
Liner	4.5"	11.6#	6948'
Short Joint			5658'

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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

Log Correlated to 24' Drilling Rig KB

Main Pass and Repeat Pass logged with zero Pressure on surface

Short Joint @ 5658' - 5673'


Thank You for using Allied Wireline

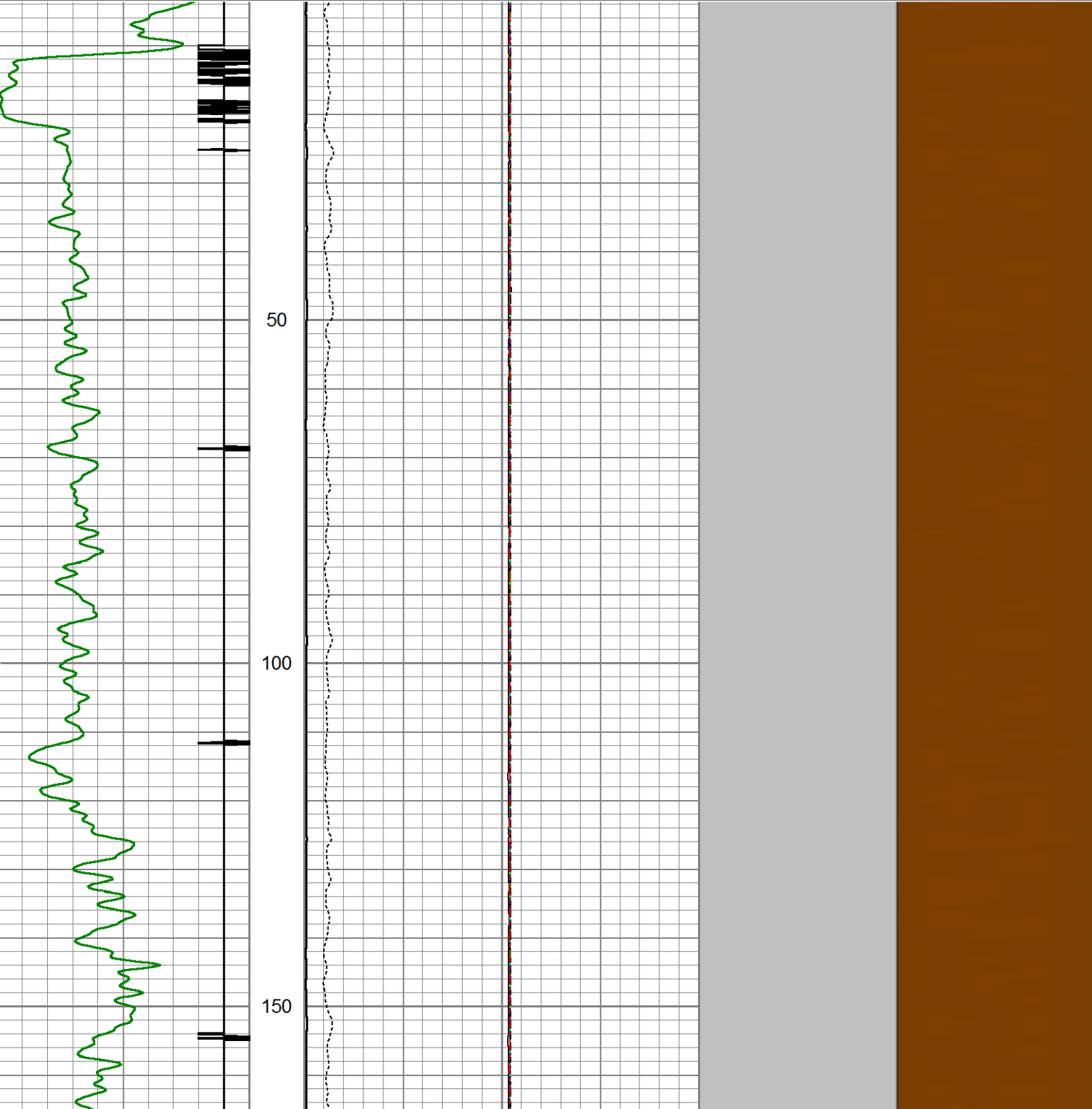
(303)659-4609

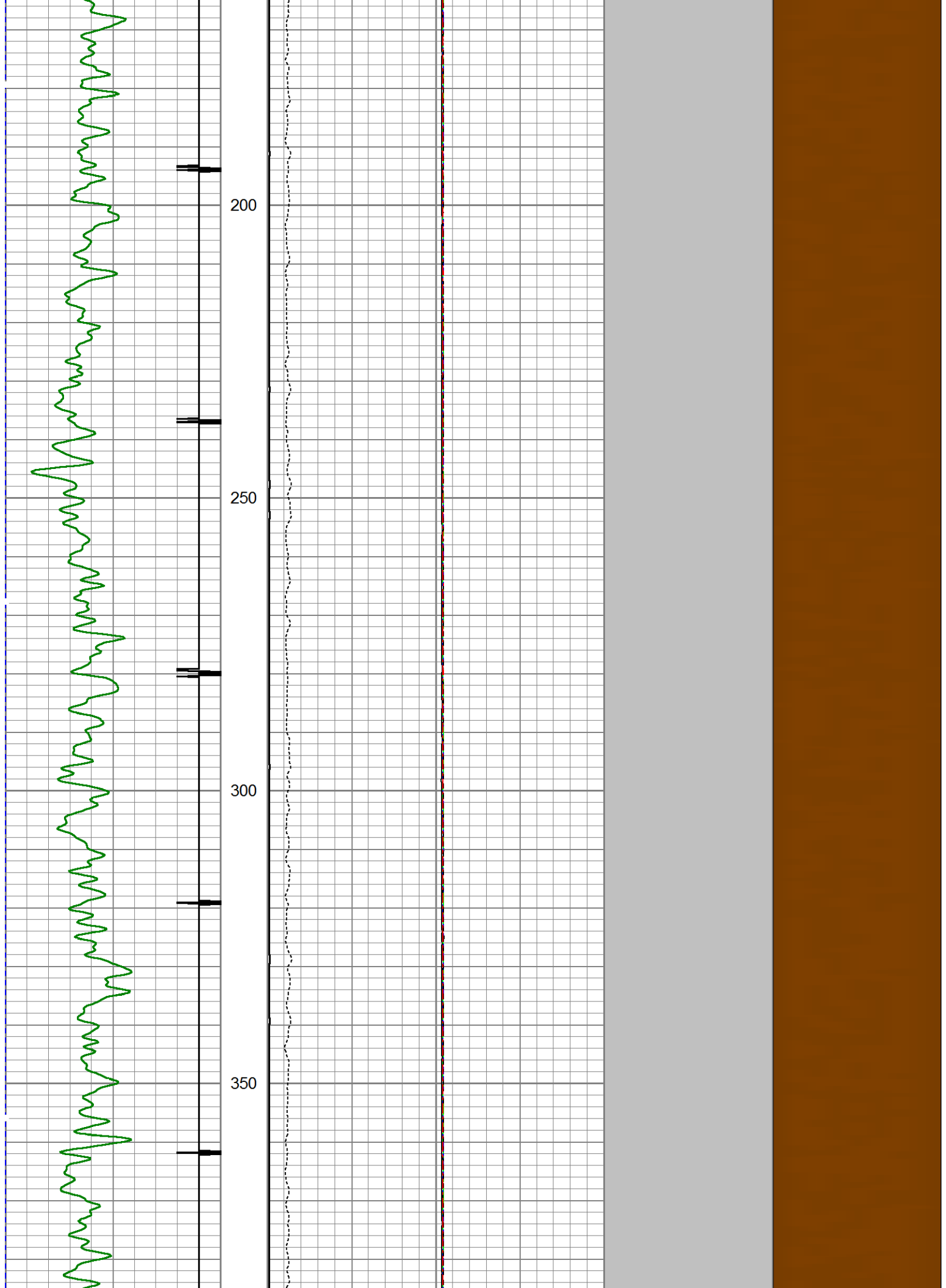


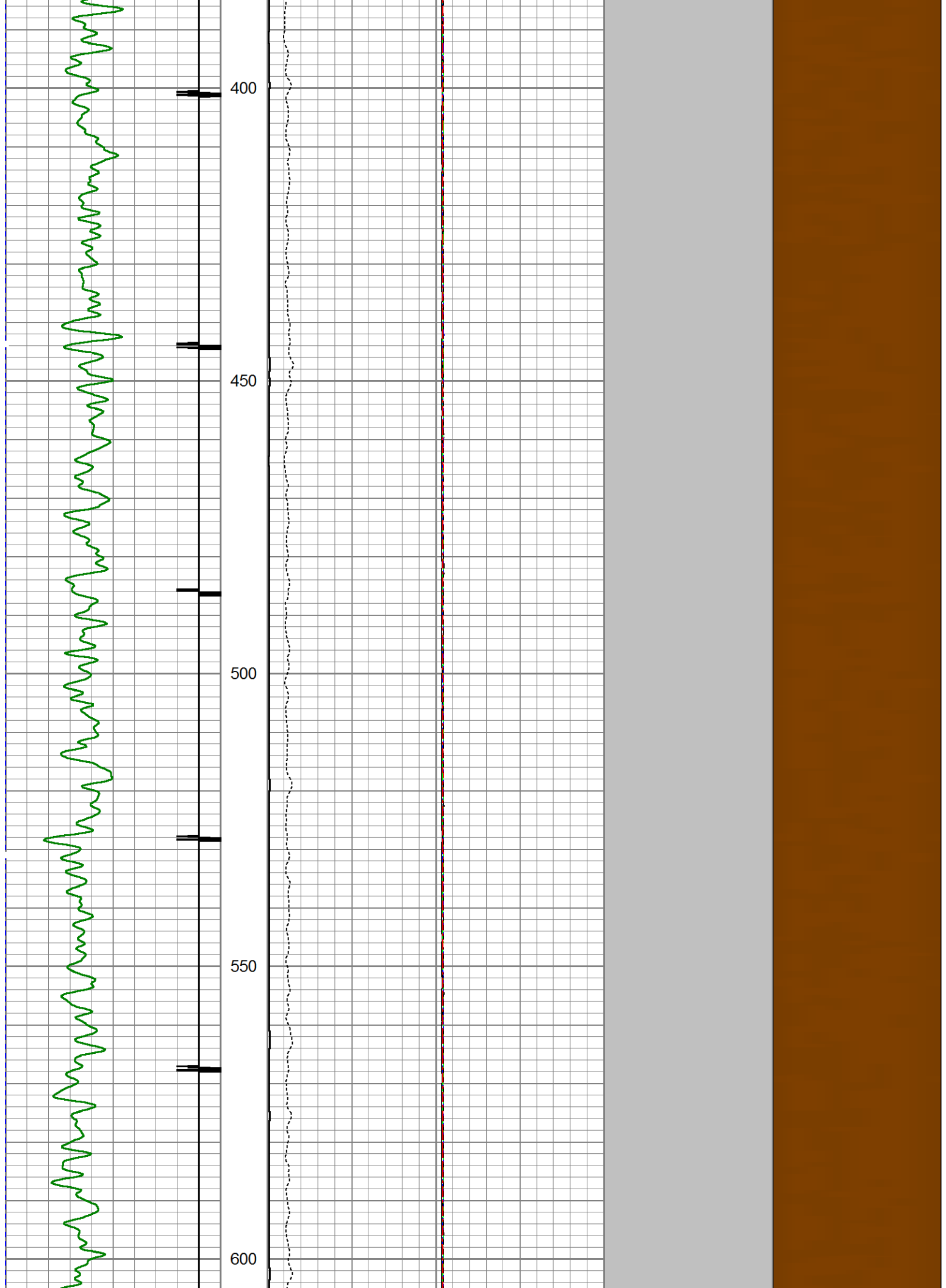
Main Pass (0 PSI)

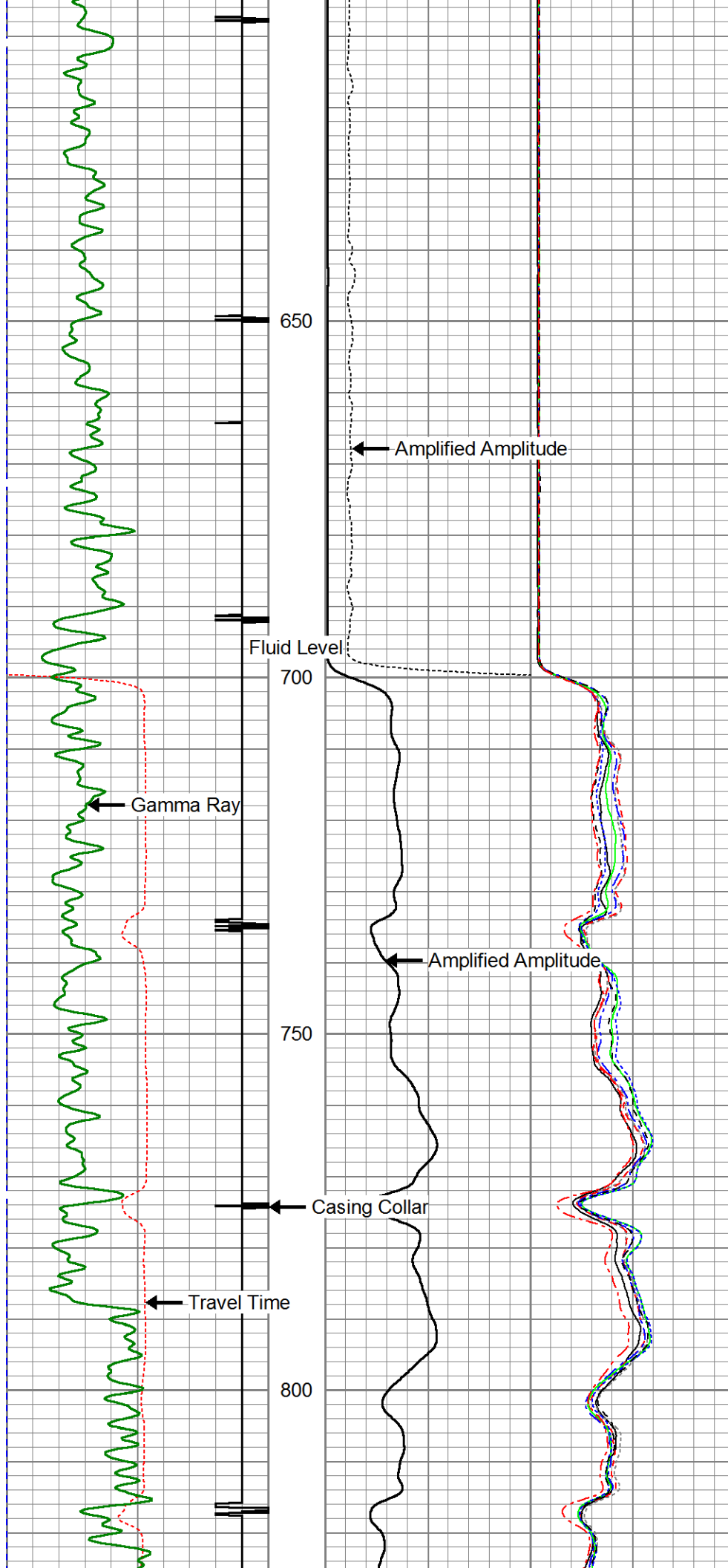
Database File: k:\noble\noble nclp pc aa04-65-1hn.db
Dataset Pathname: pass6.1
Presentation Format: scbl03
Dataset Creation: Fri Jan 10 13:29:48 2014 by Calc 7.0 B1
Charted by: Depth in Feet scaled 1:240

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



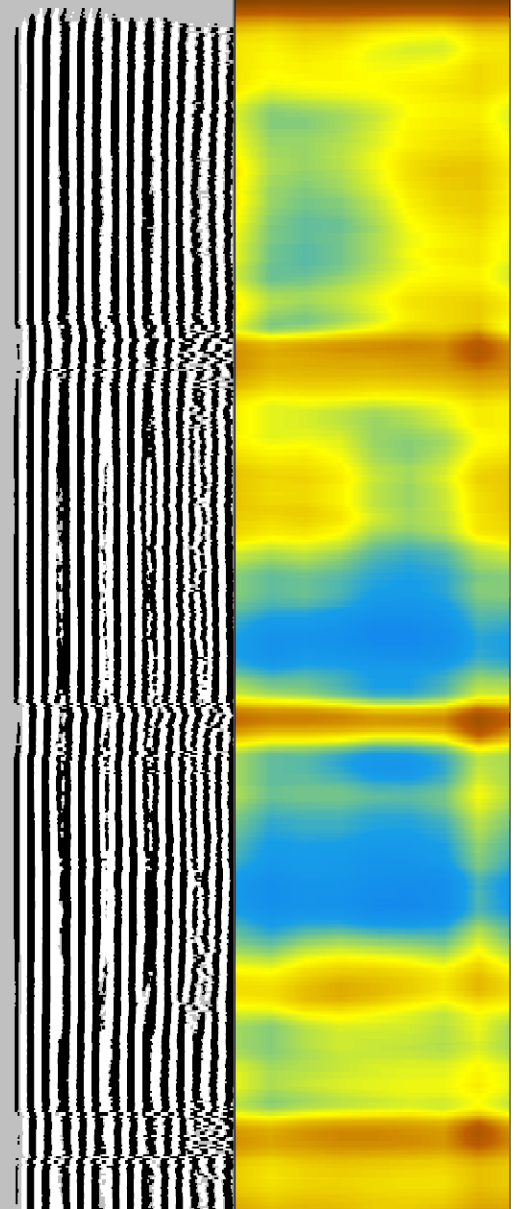


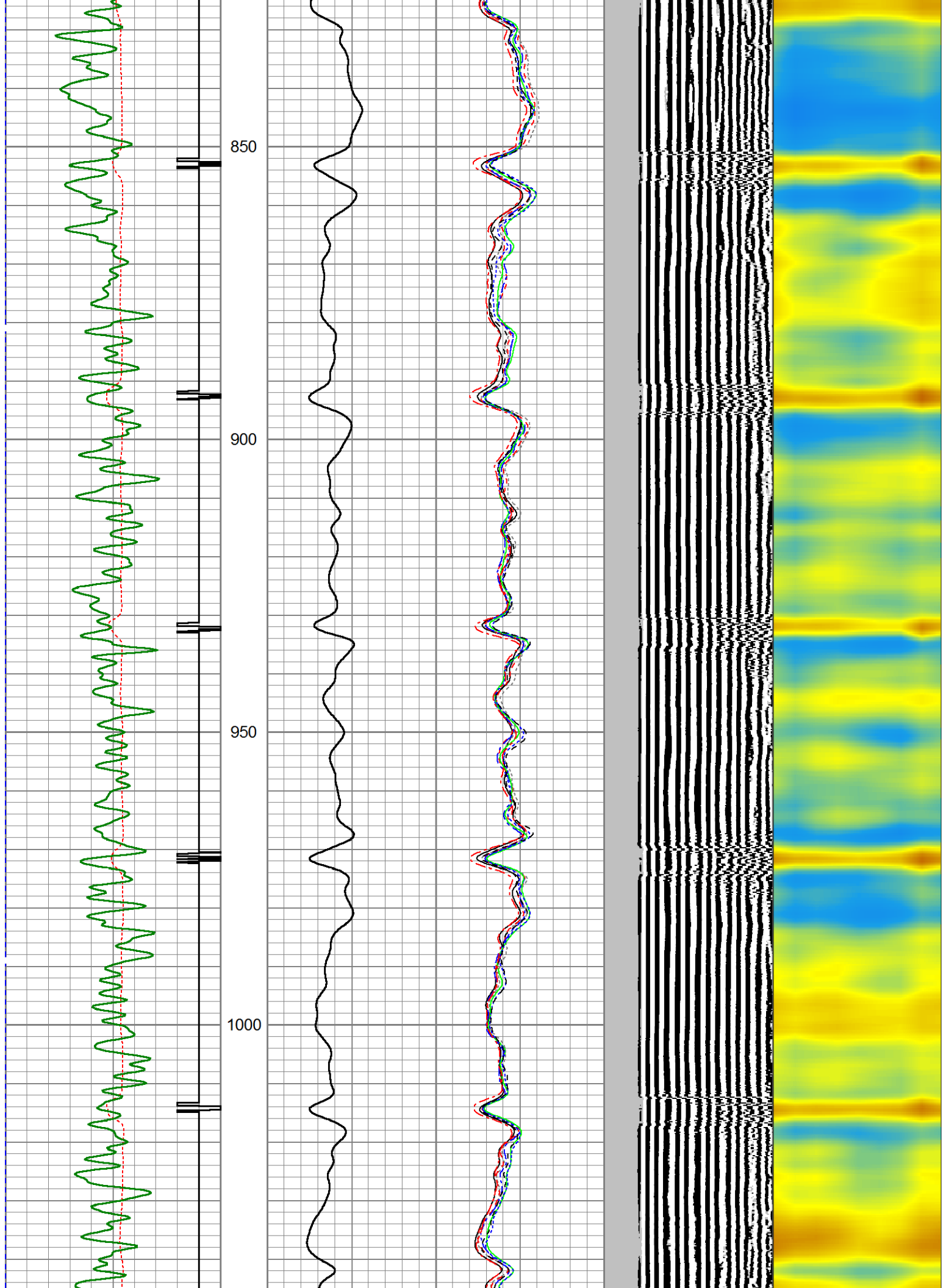


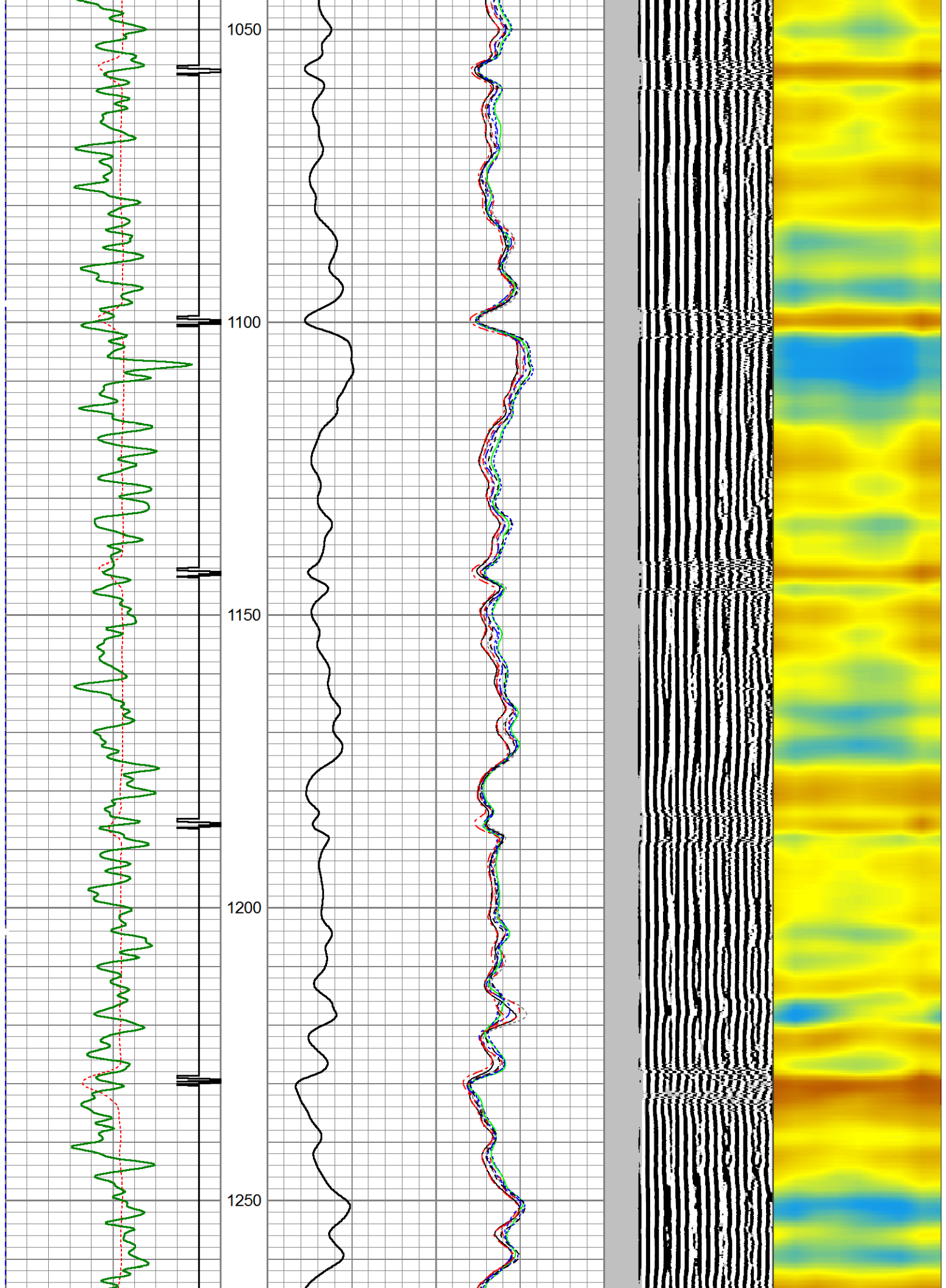


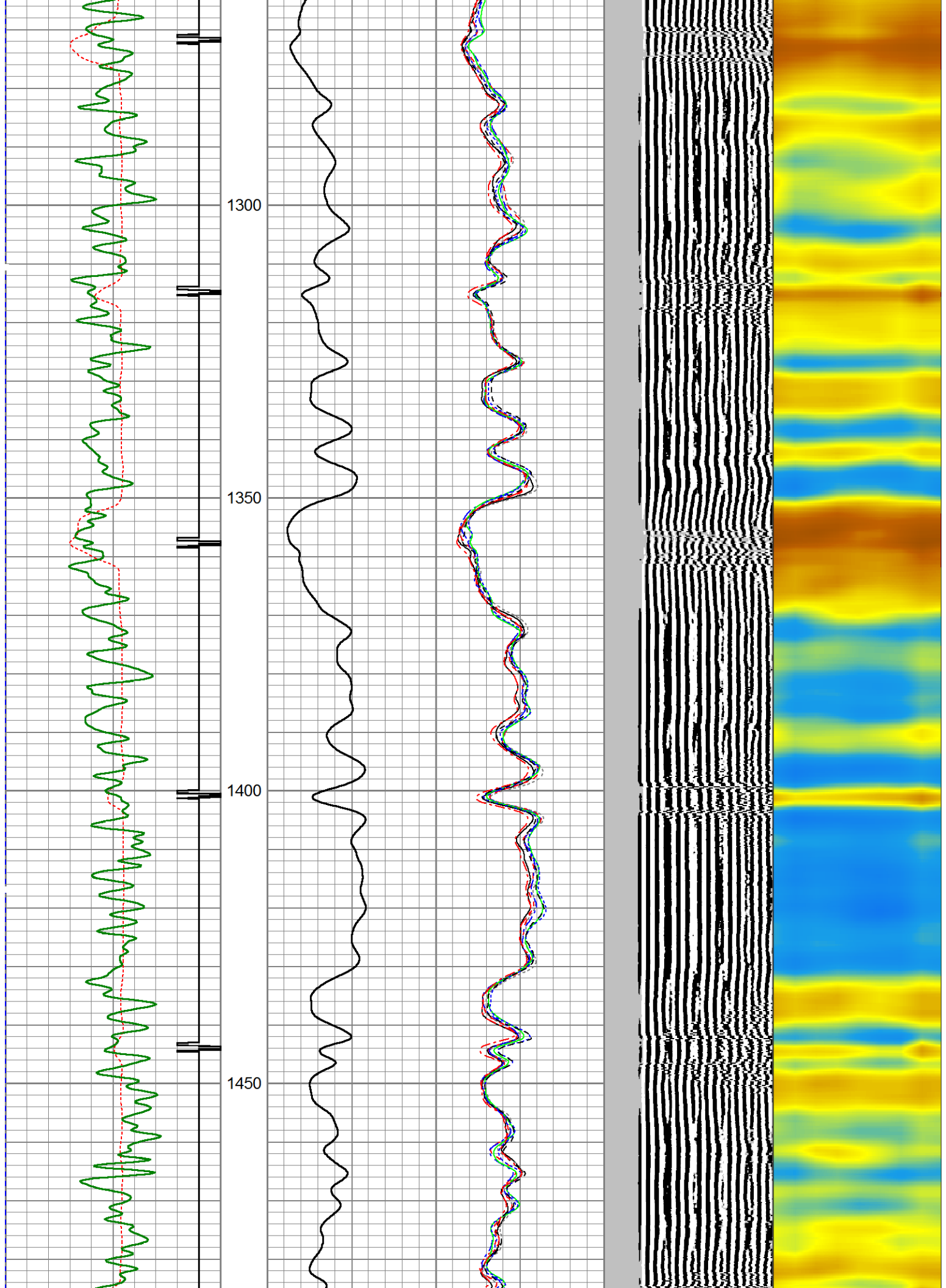
Variable Density

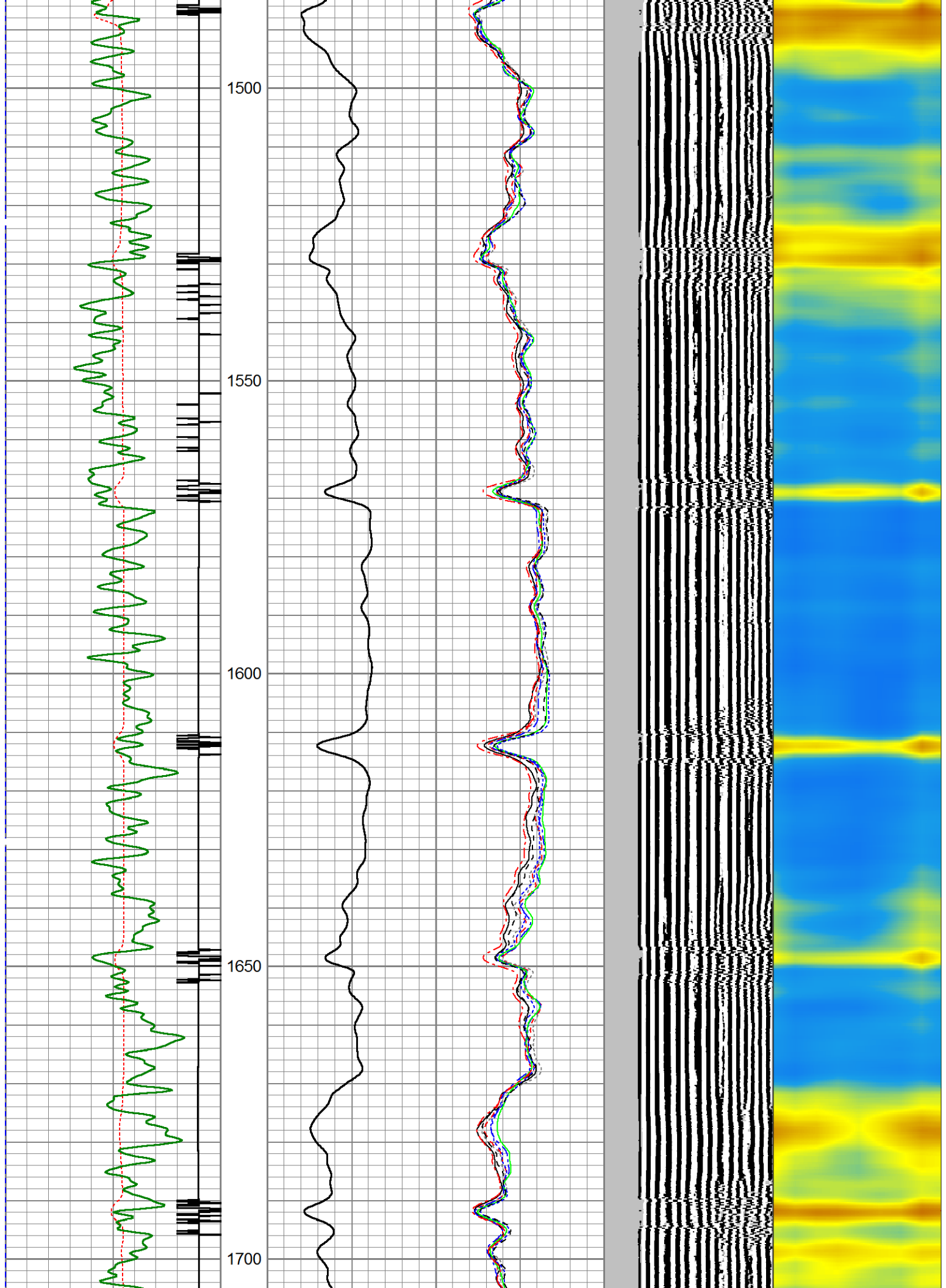
Cement Map

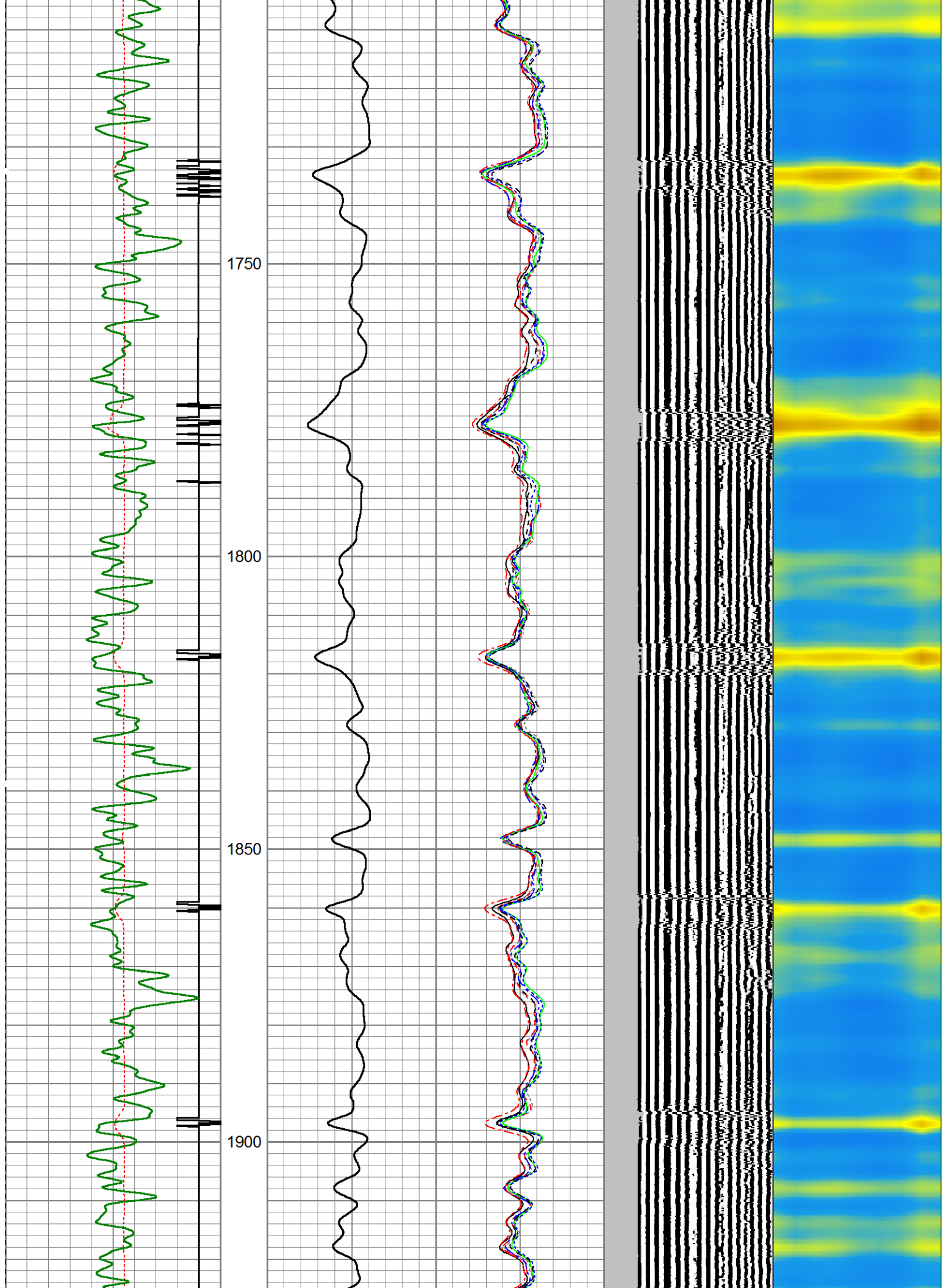


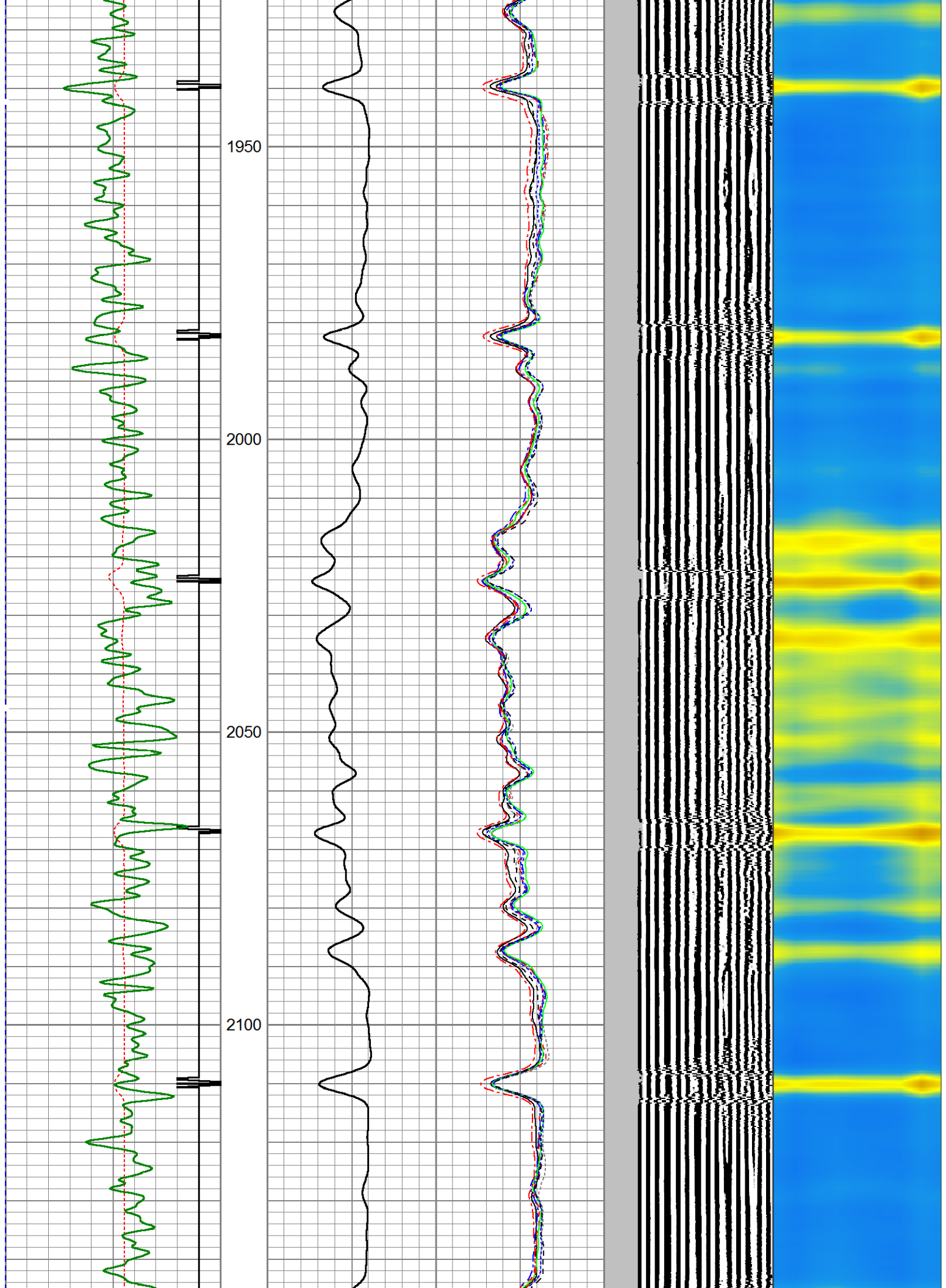


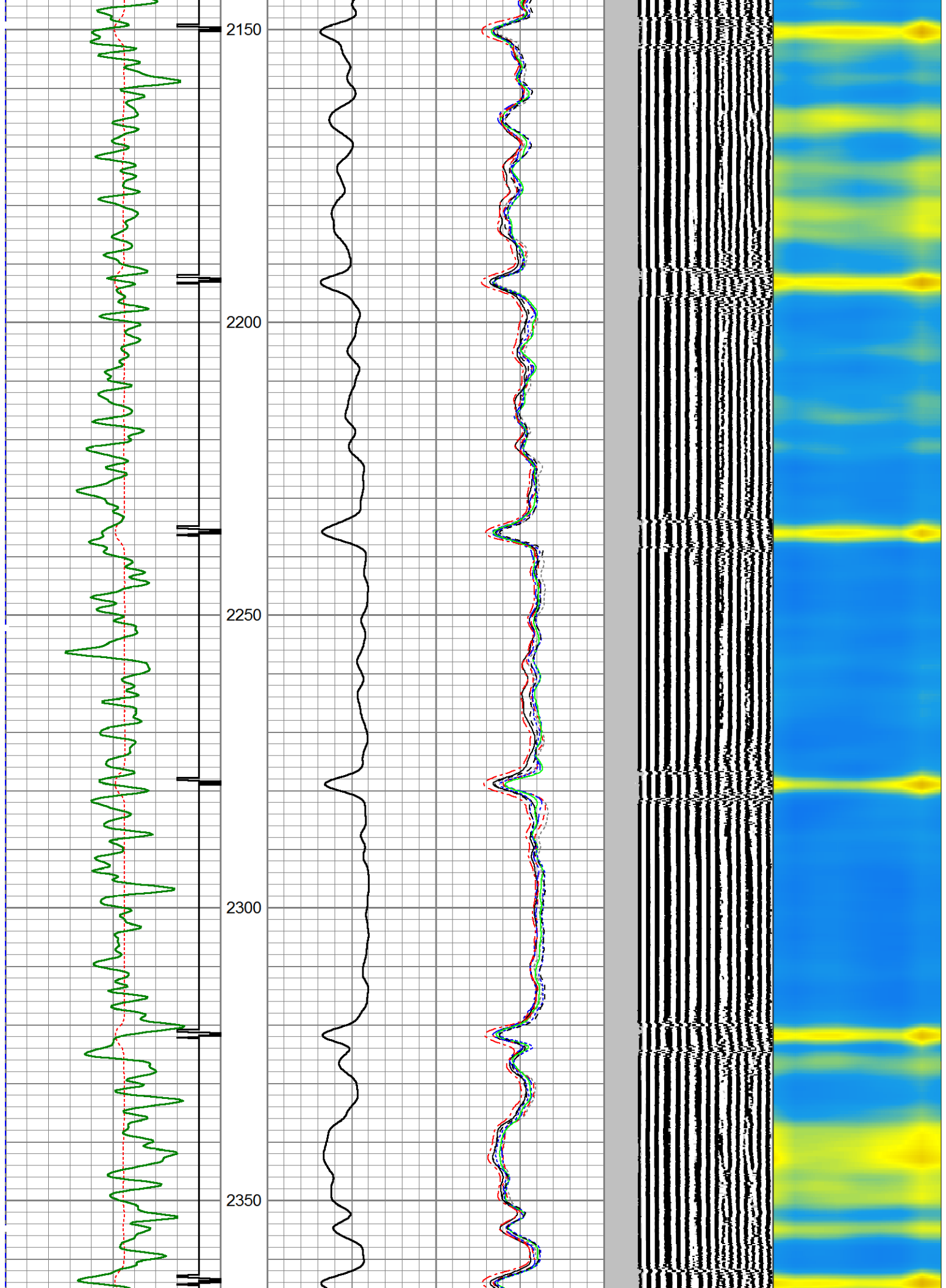


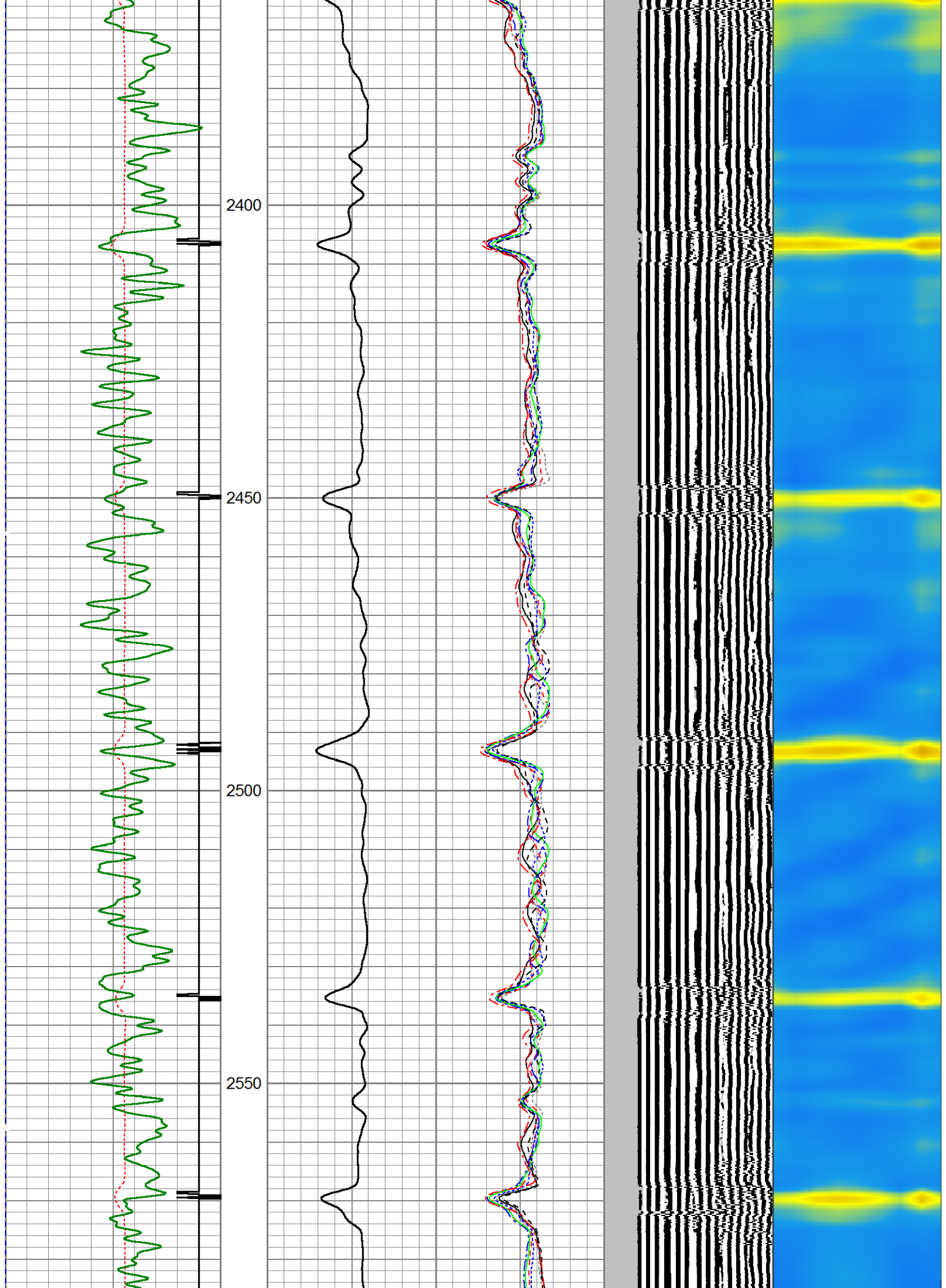


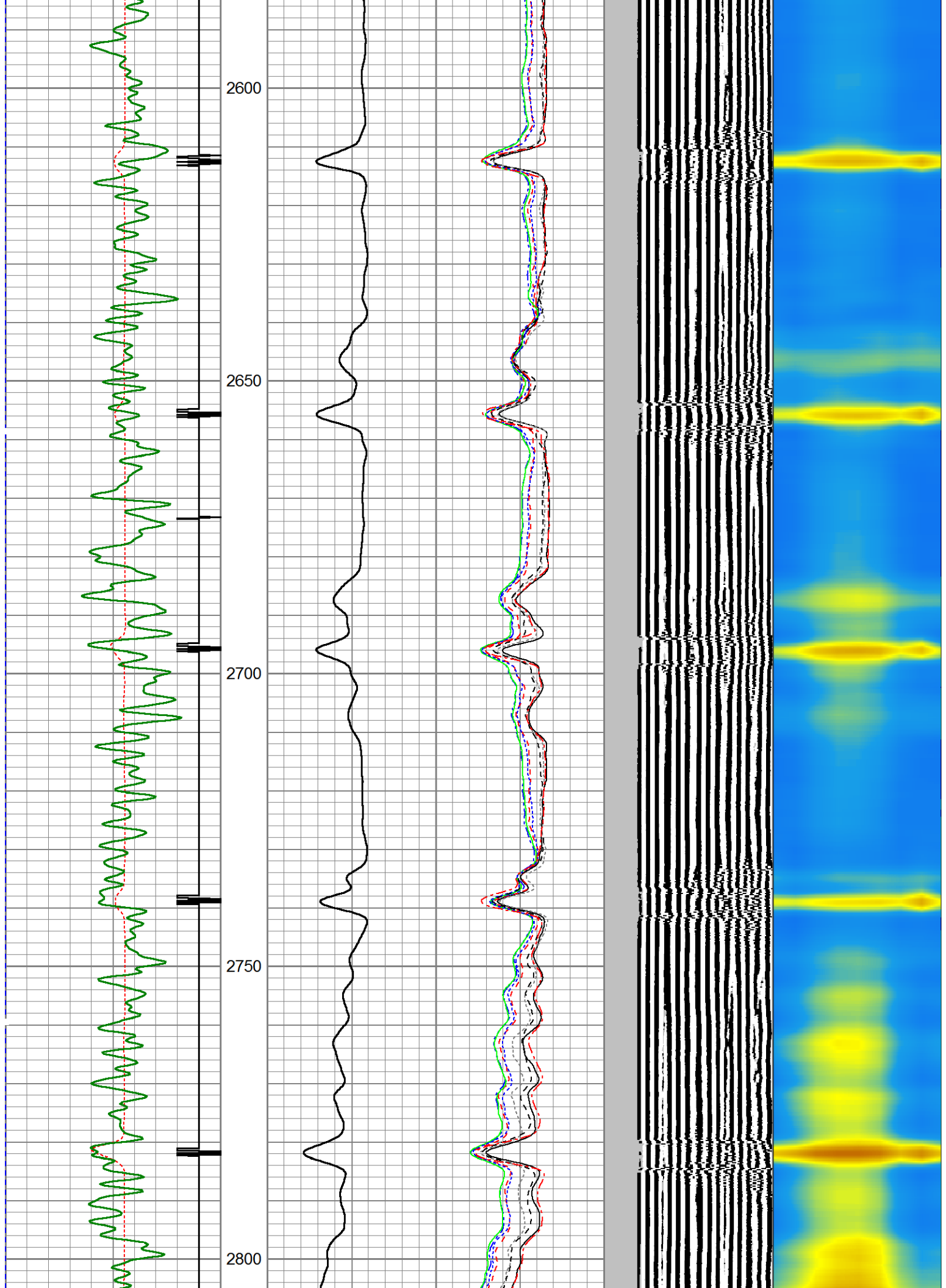


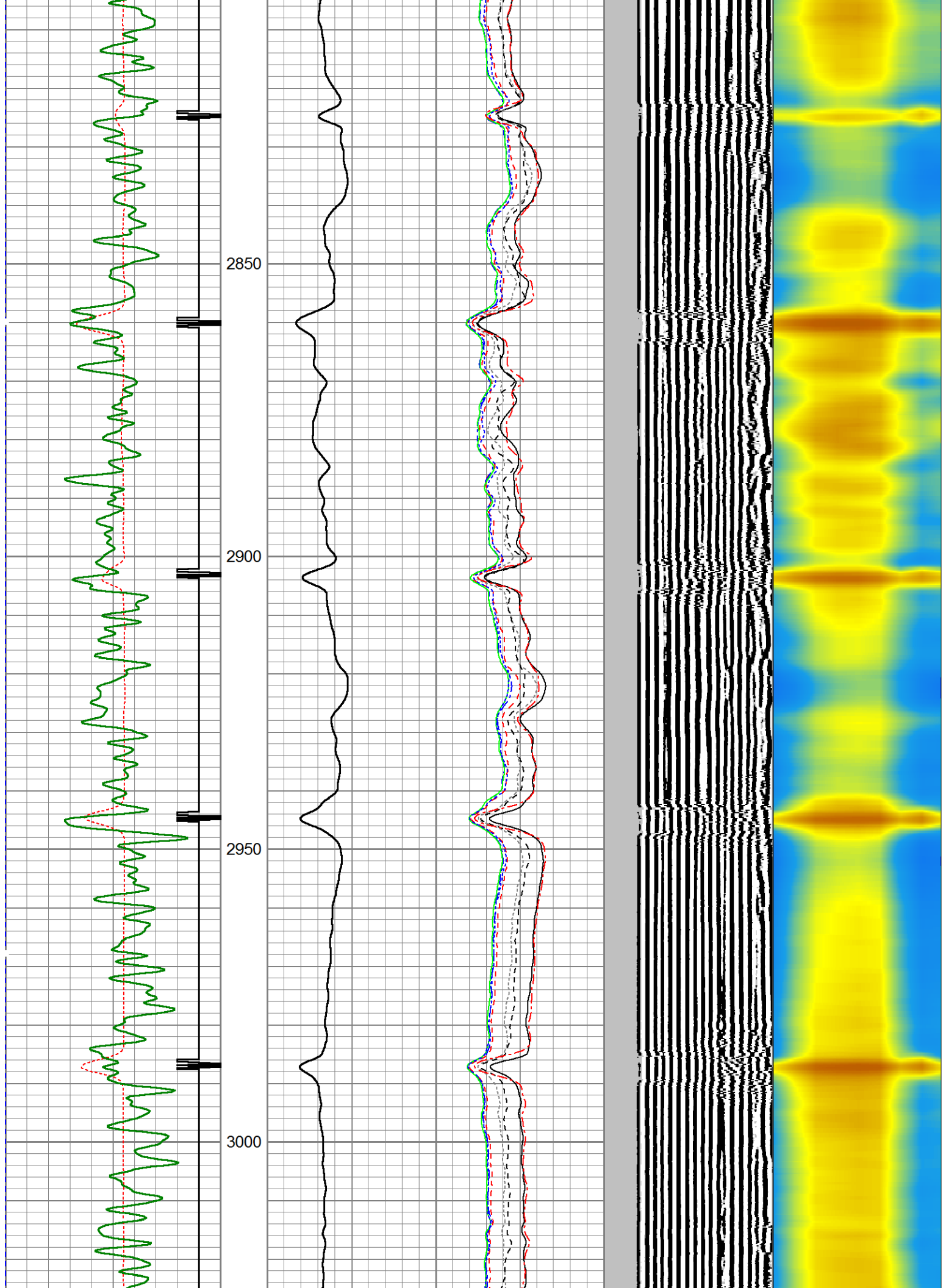


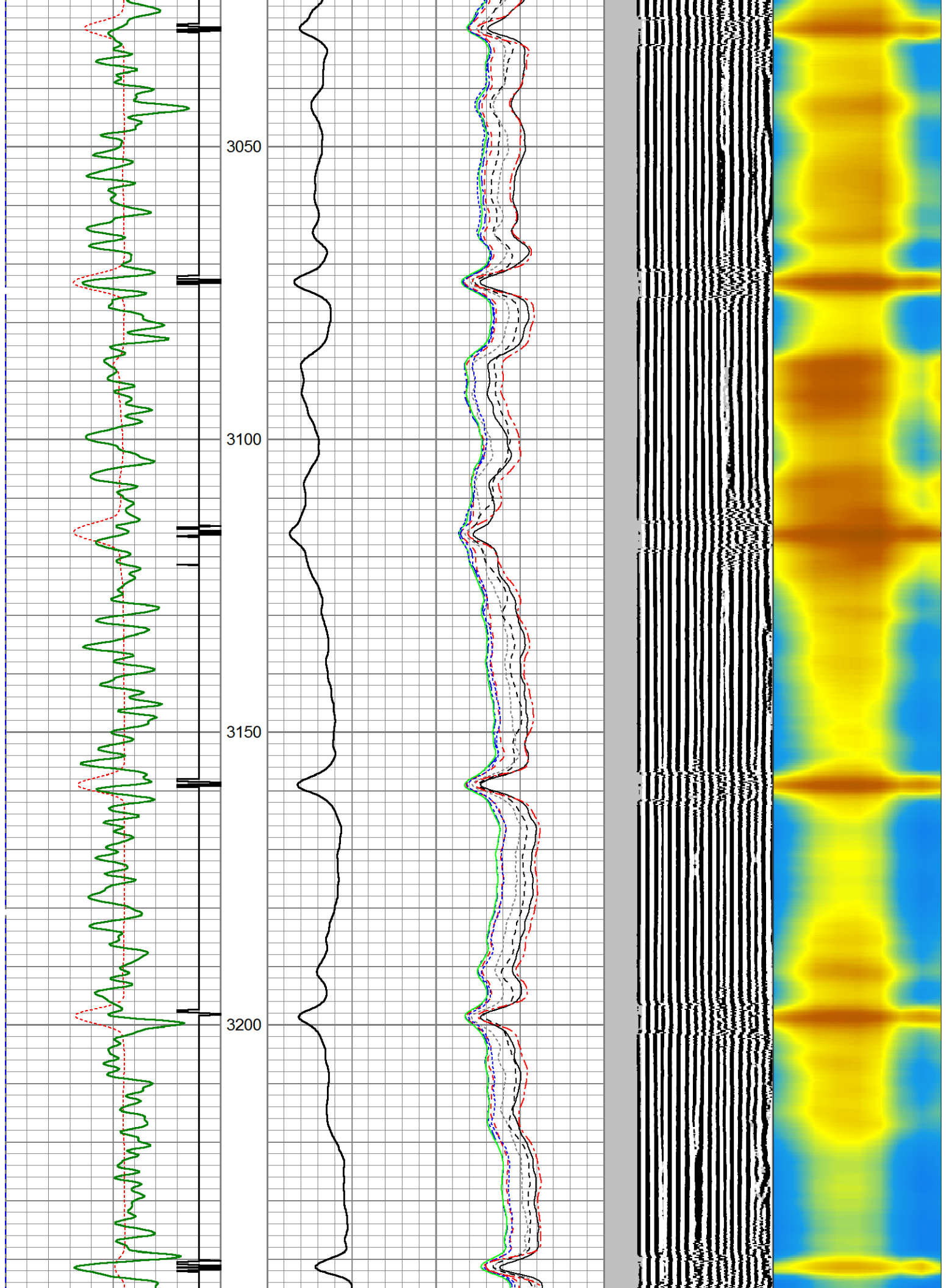


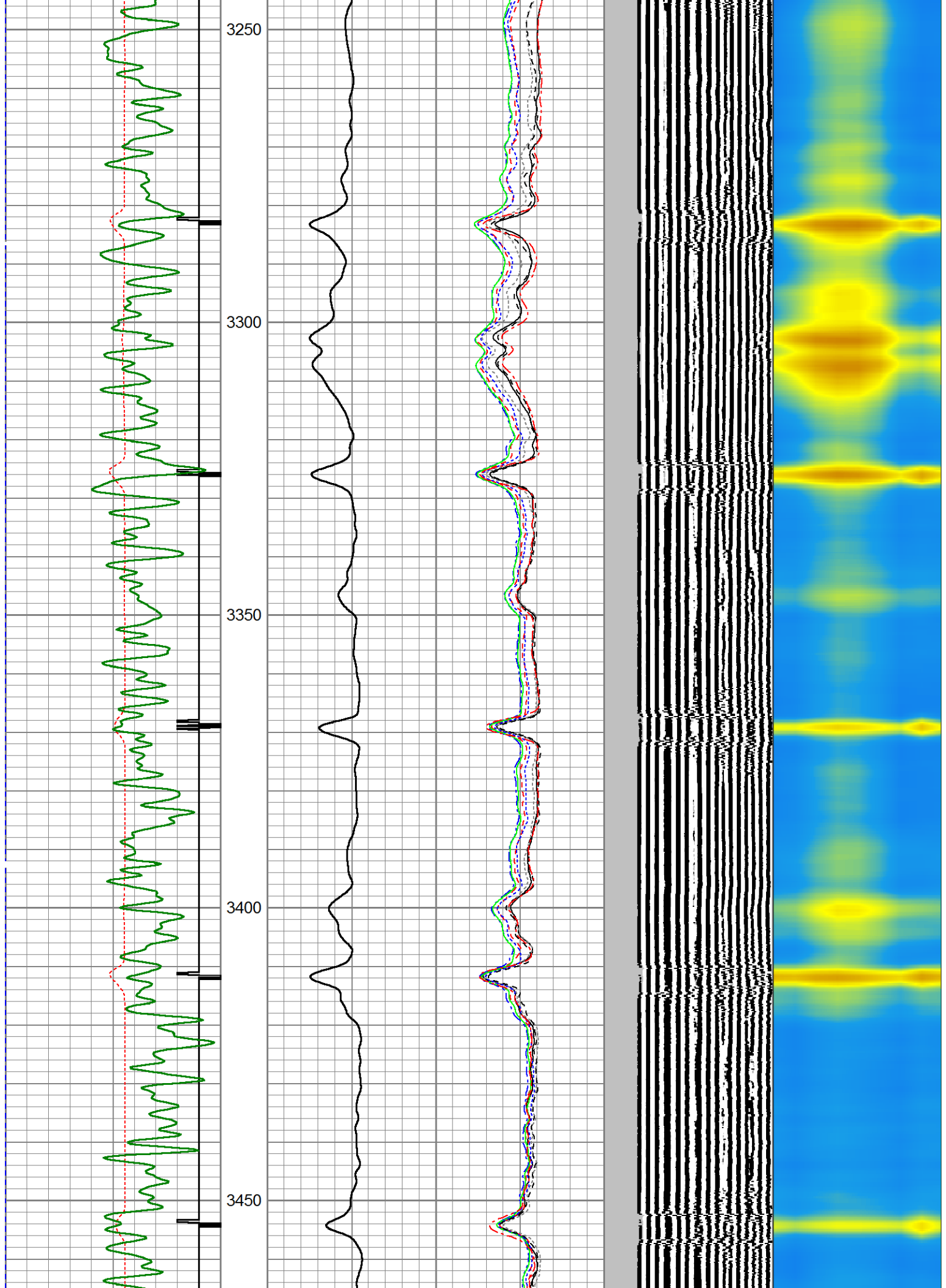


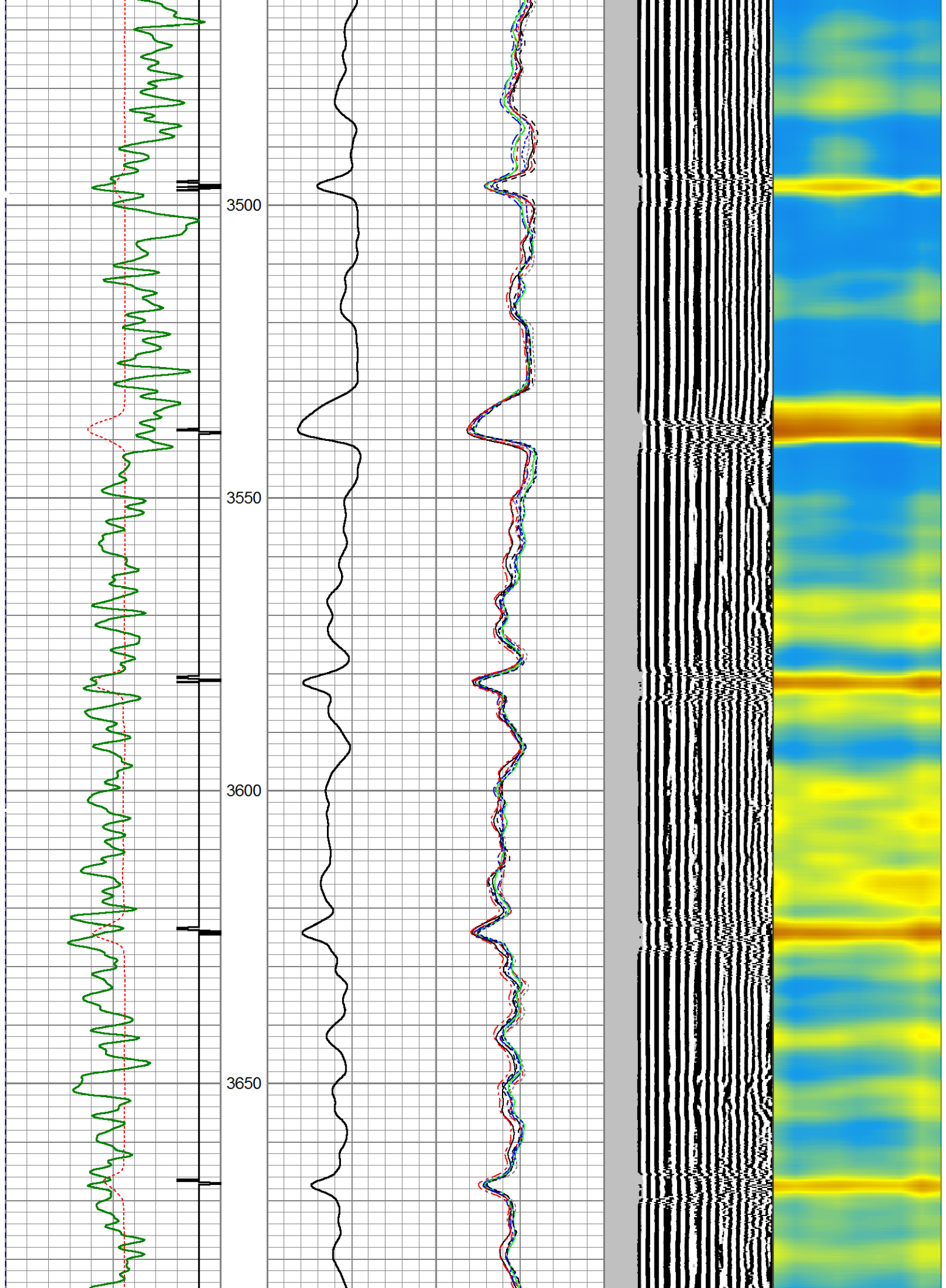


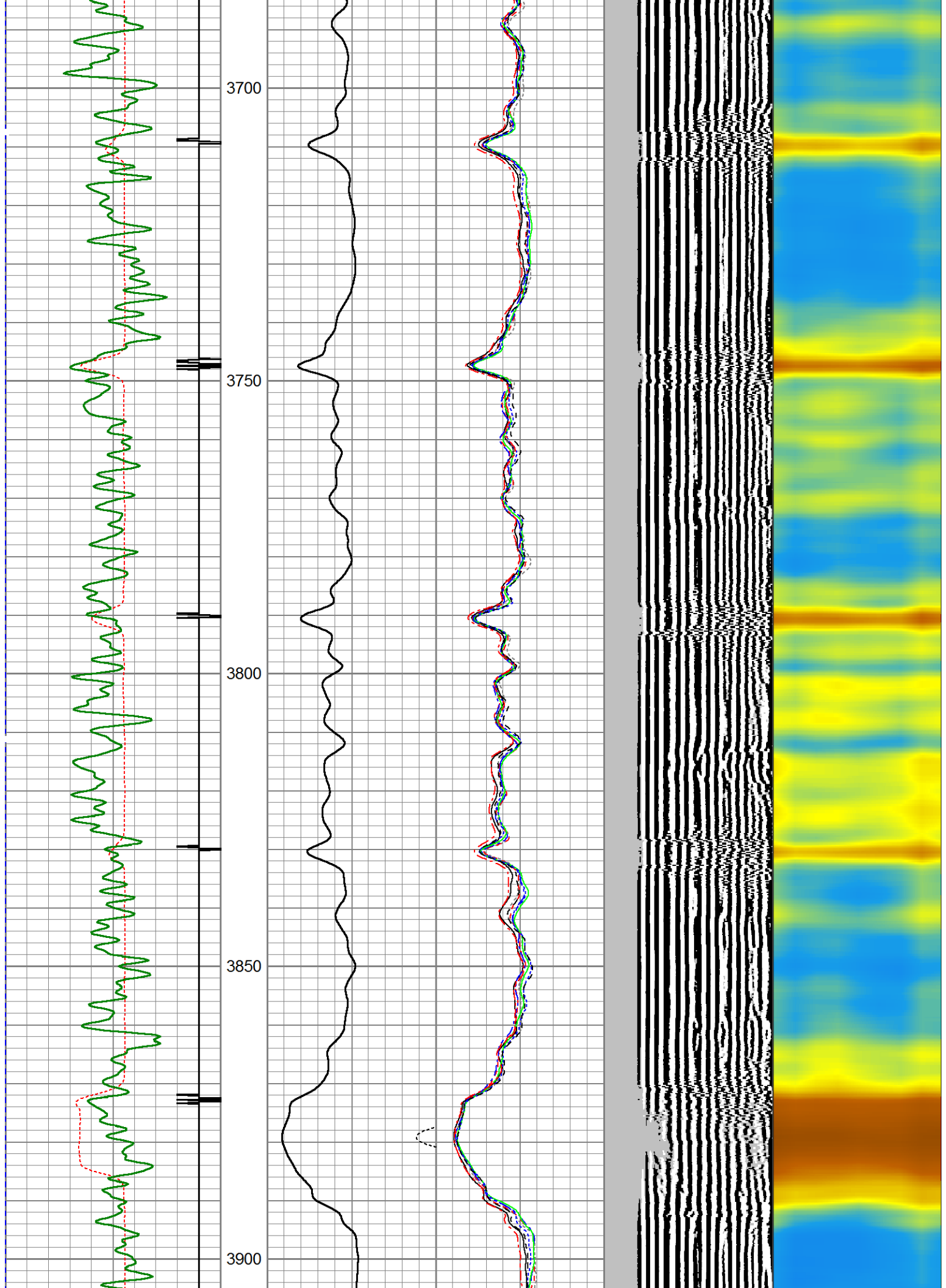


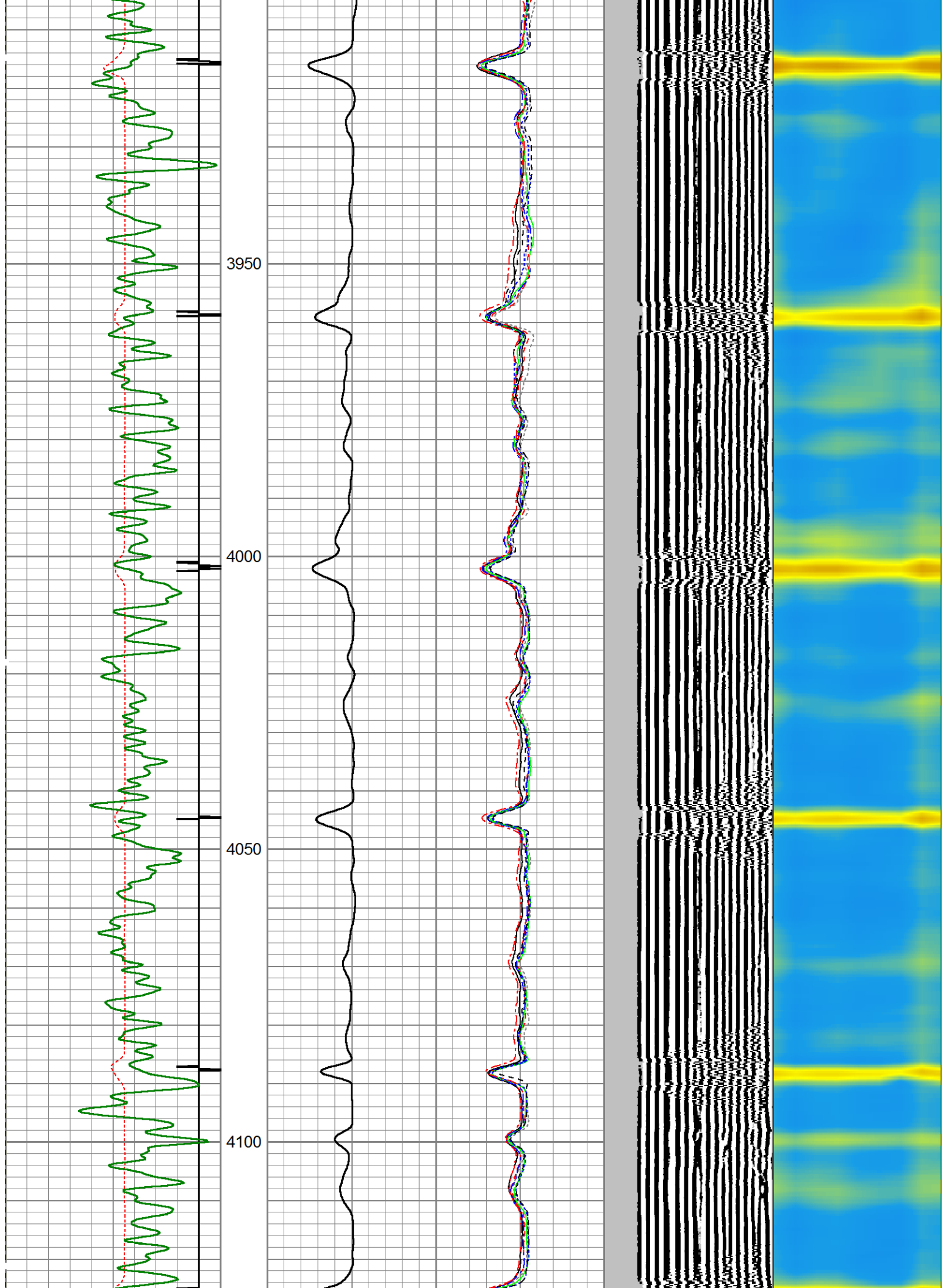


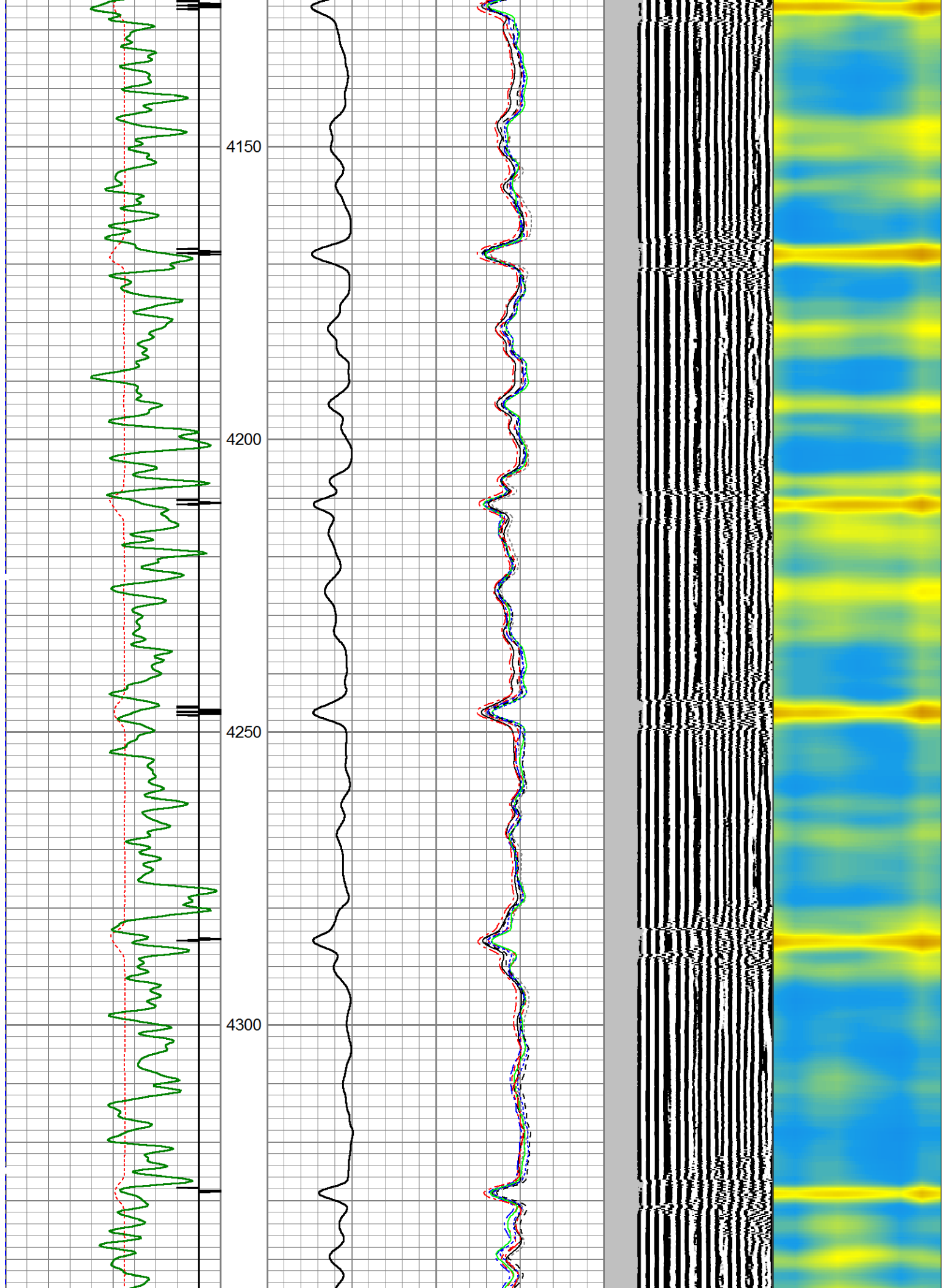


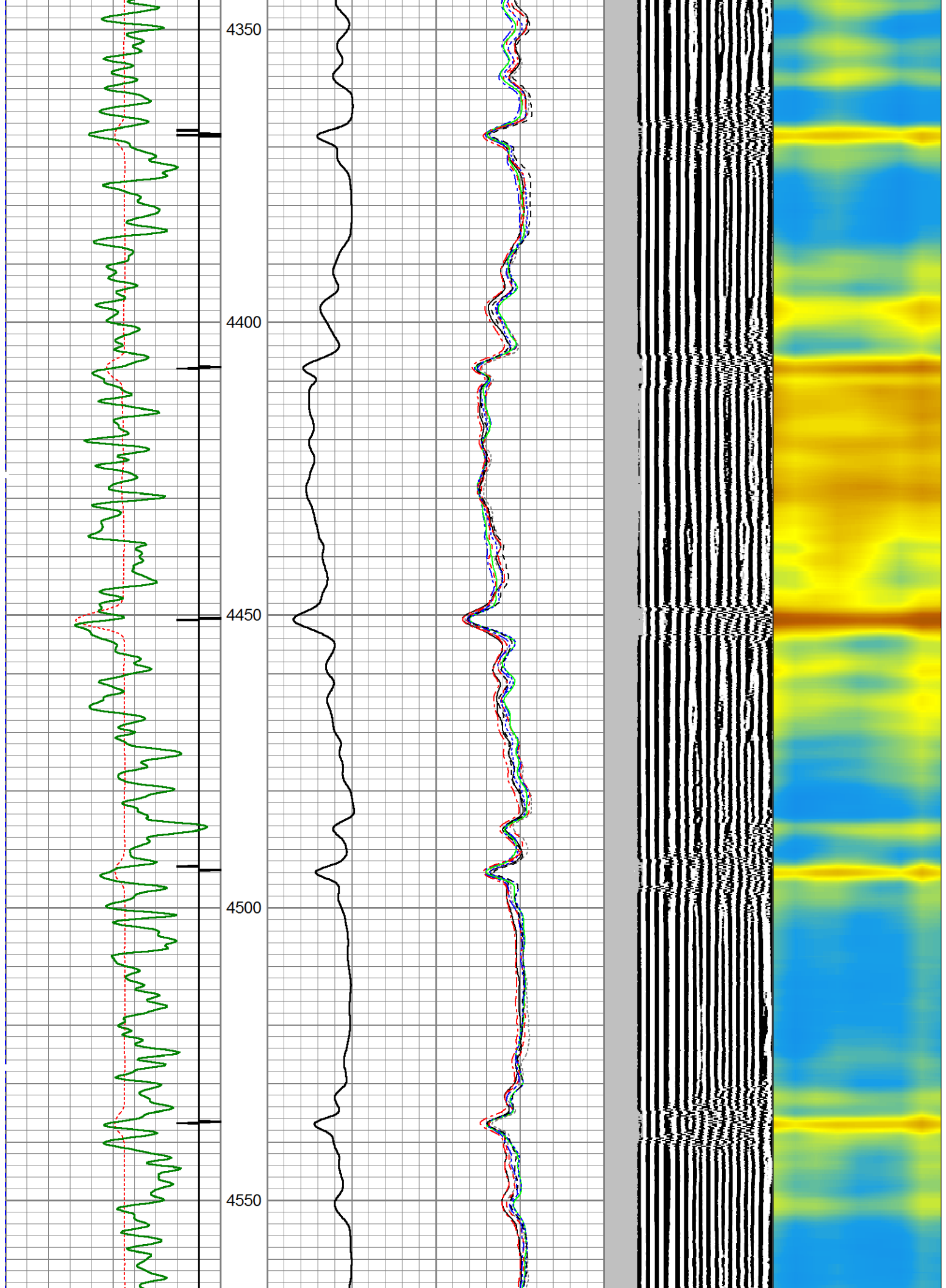


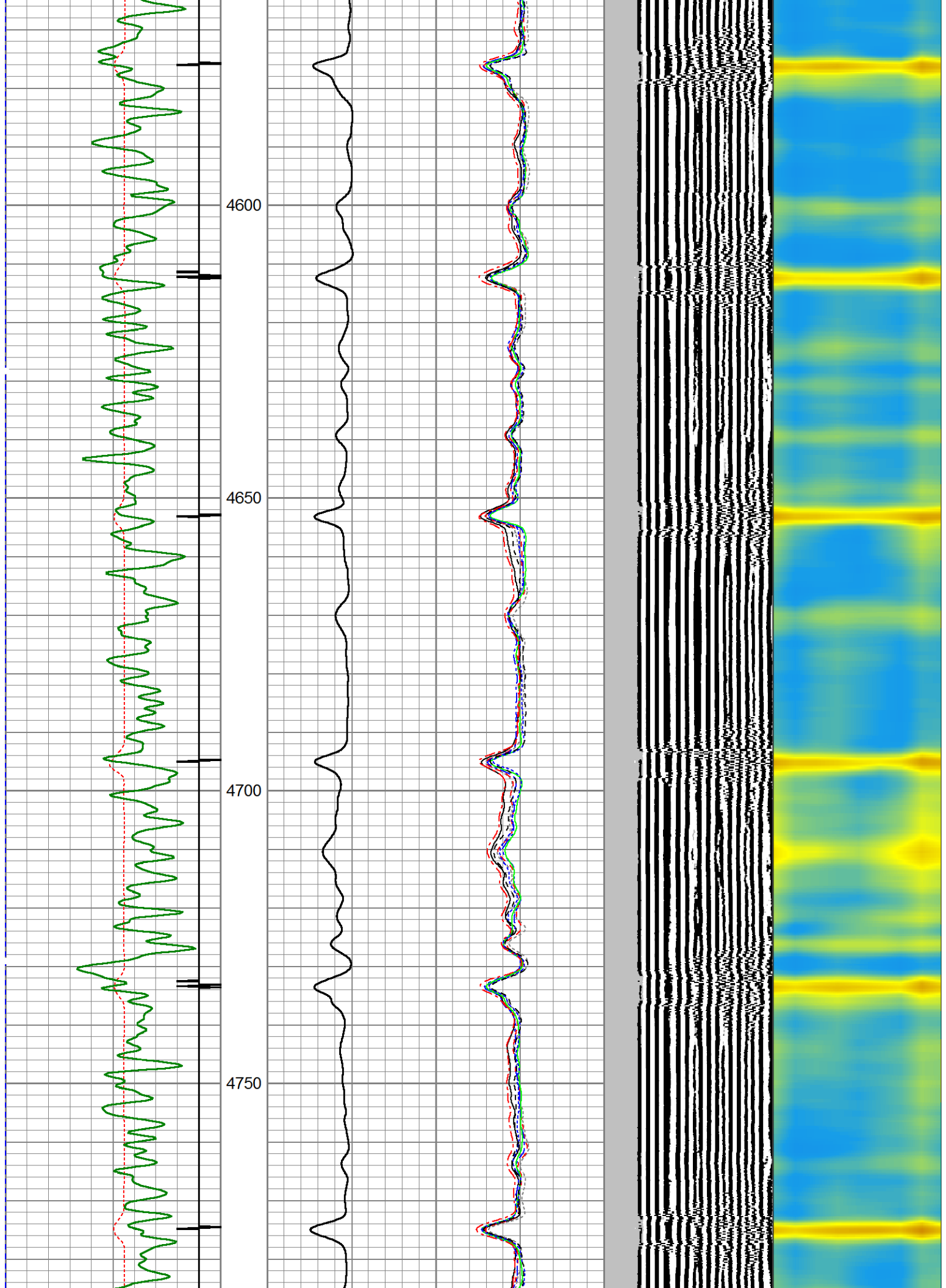


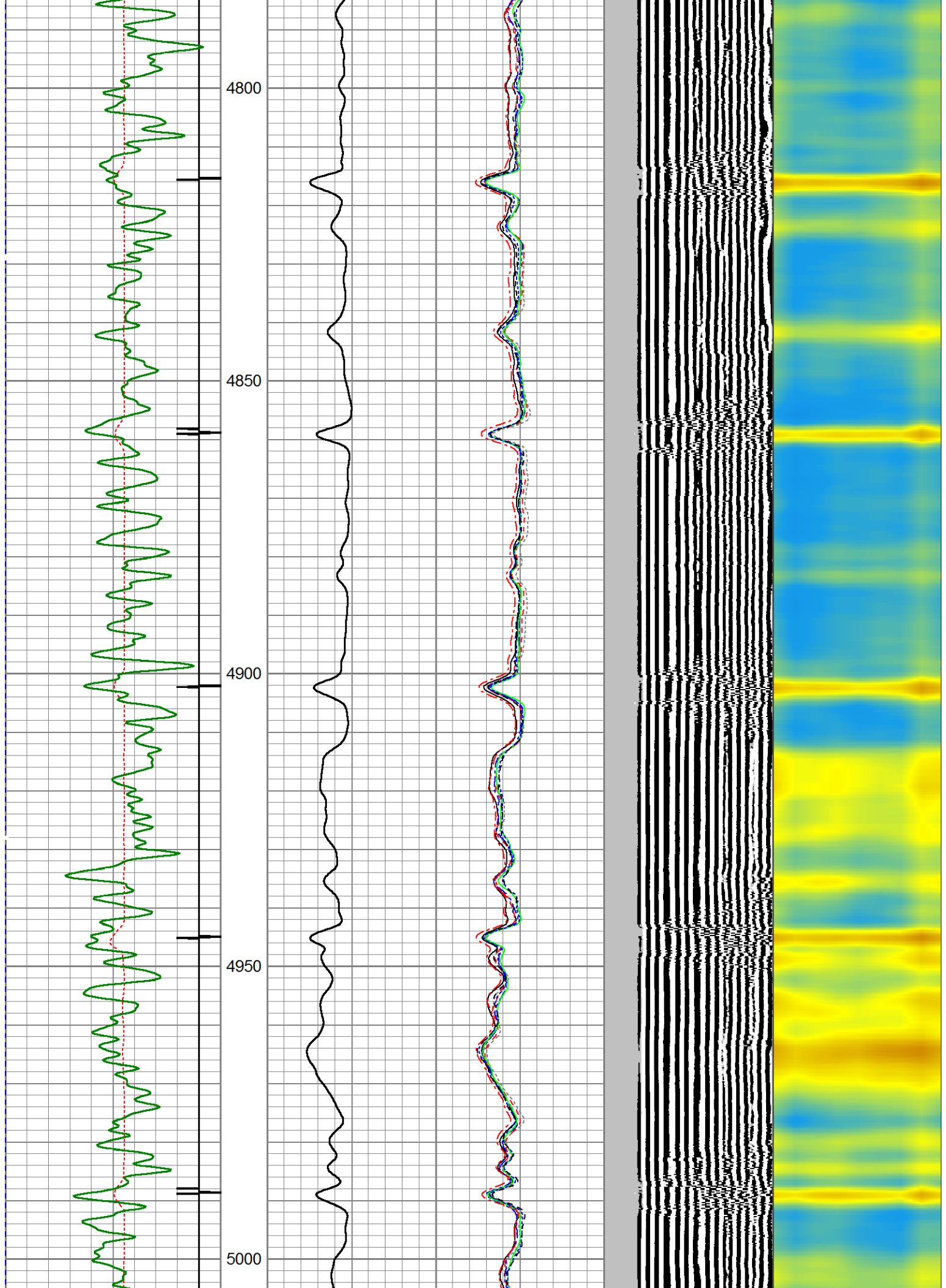


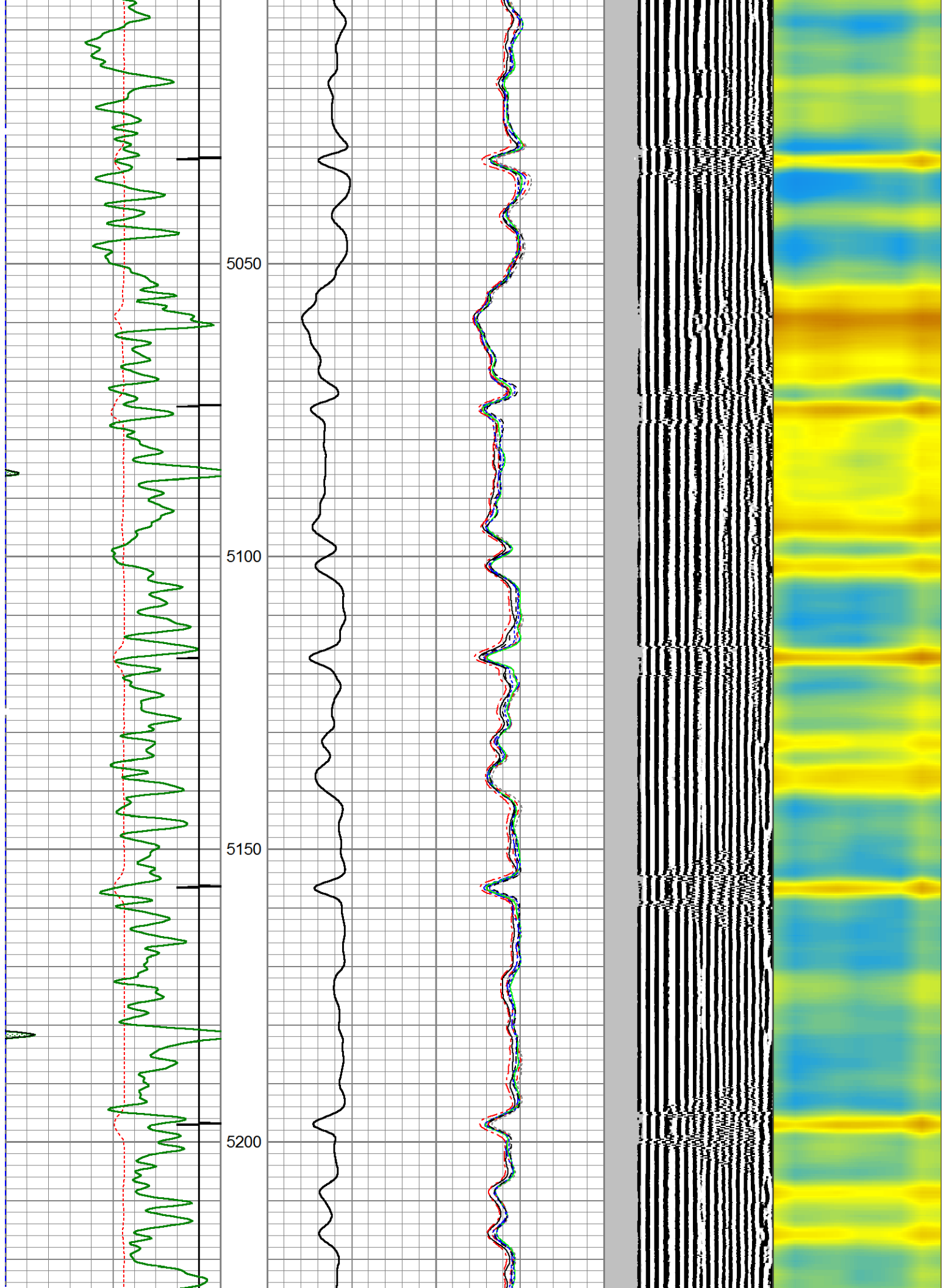


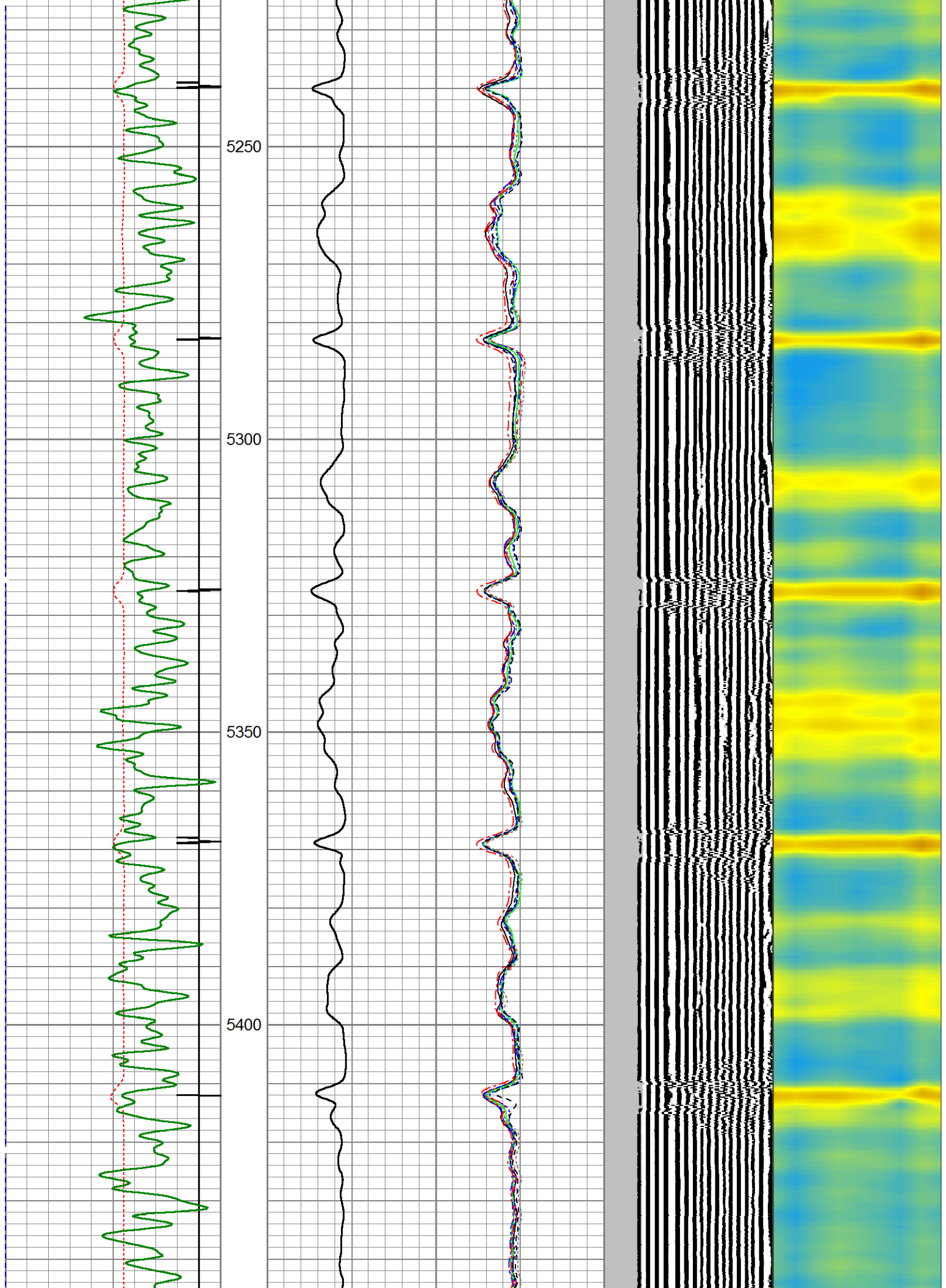


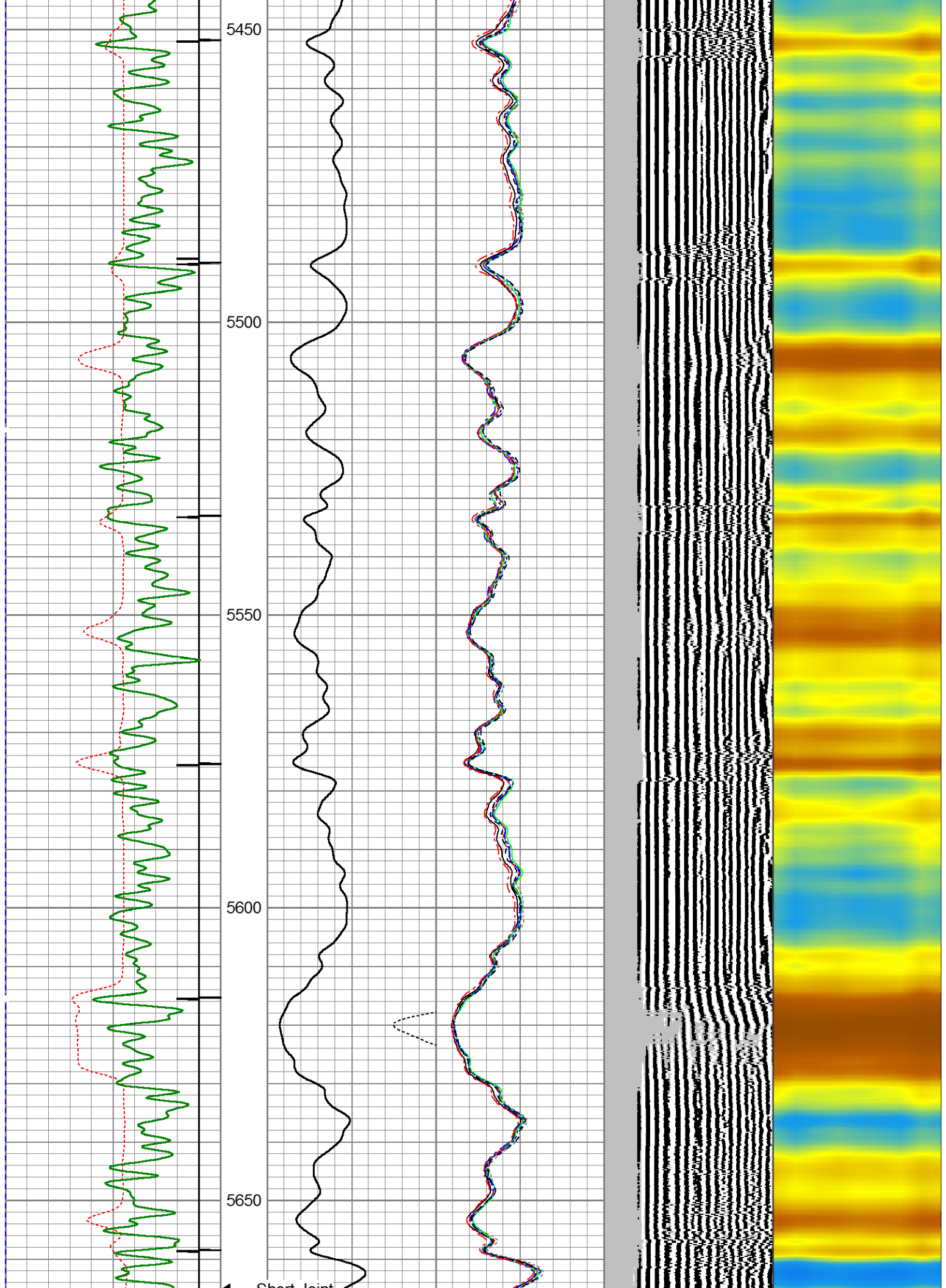


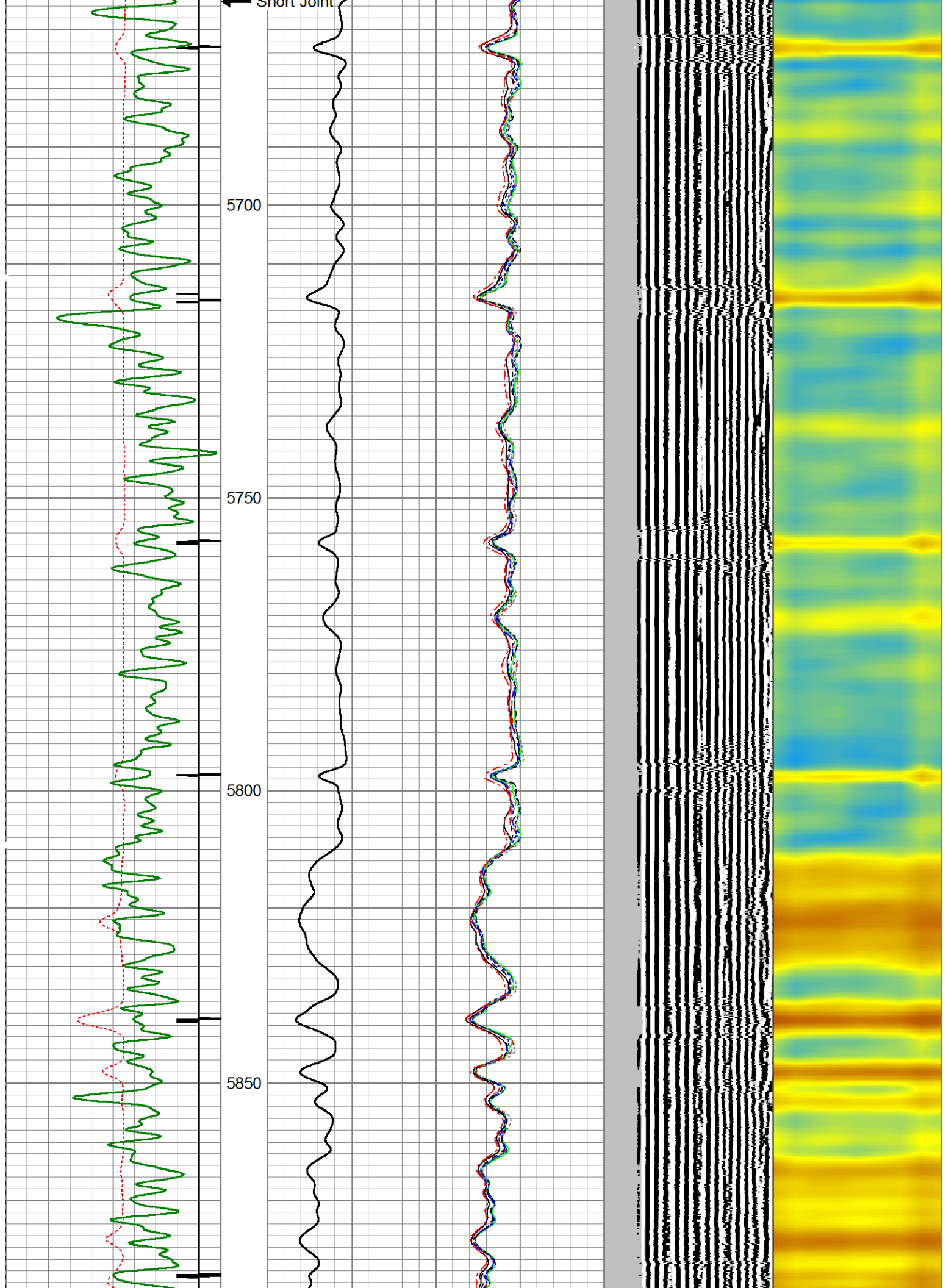


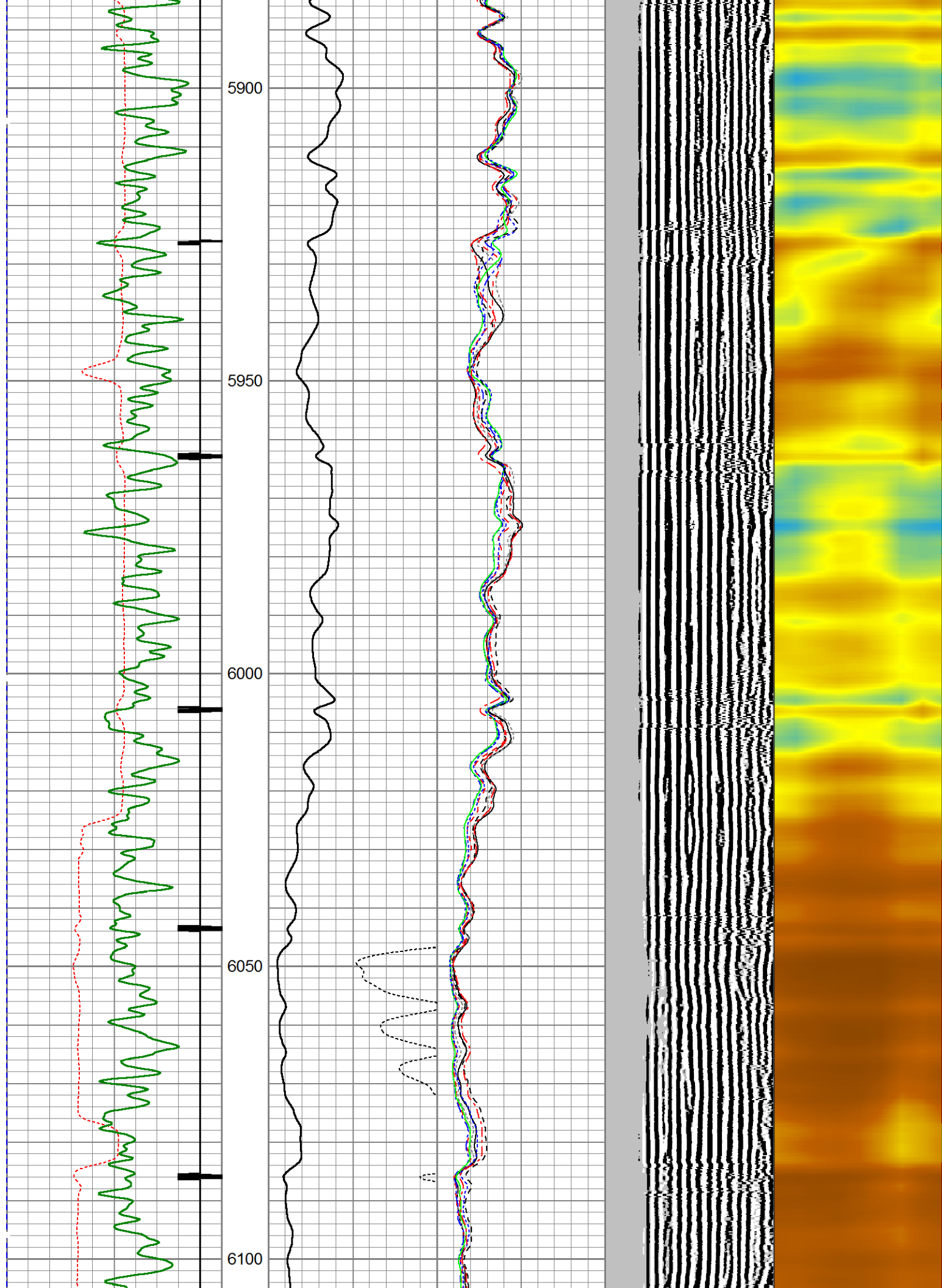


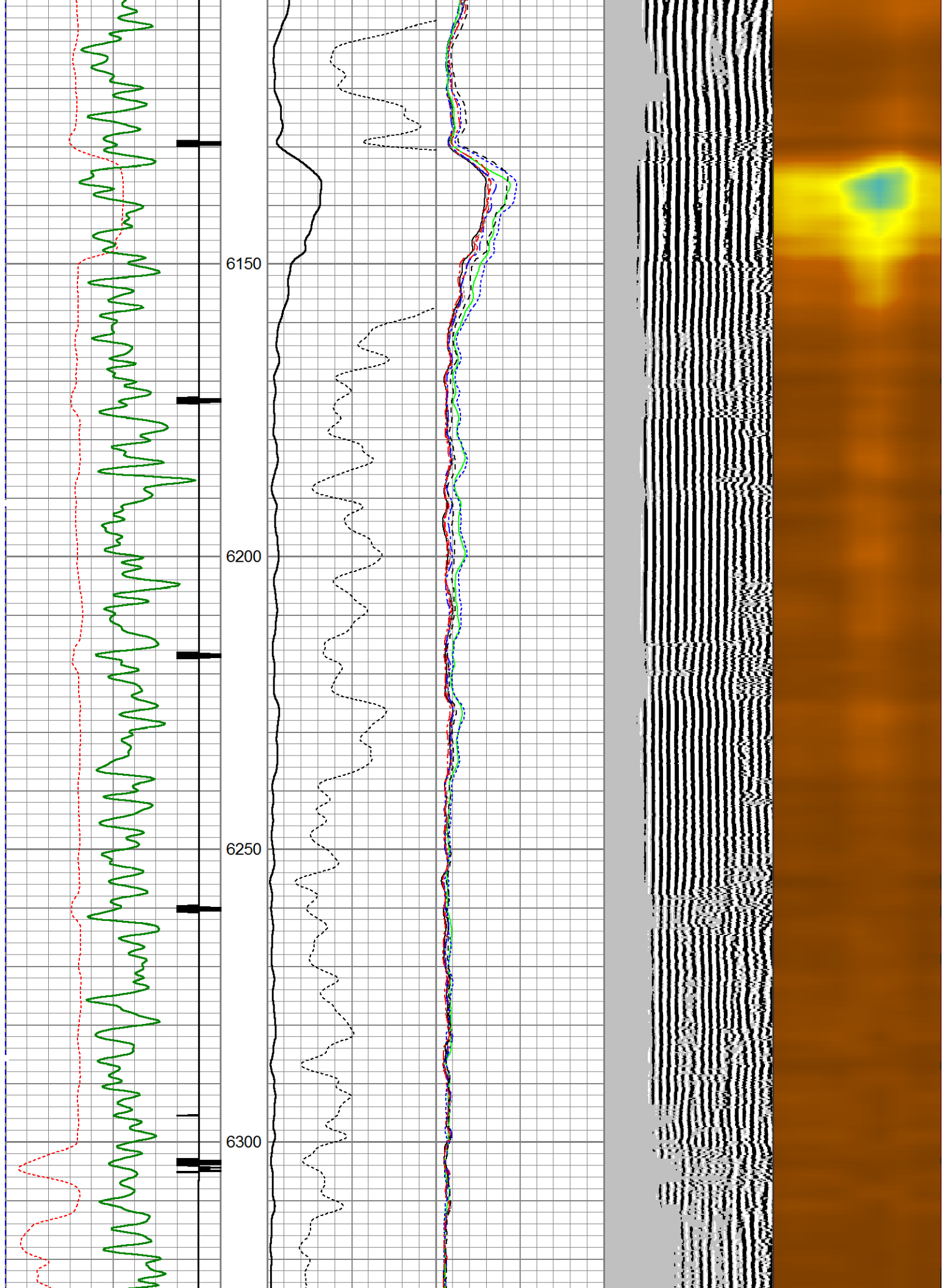


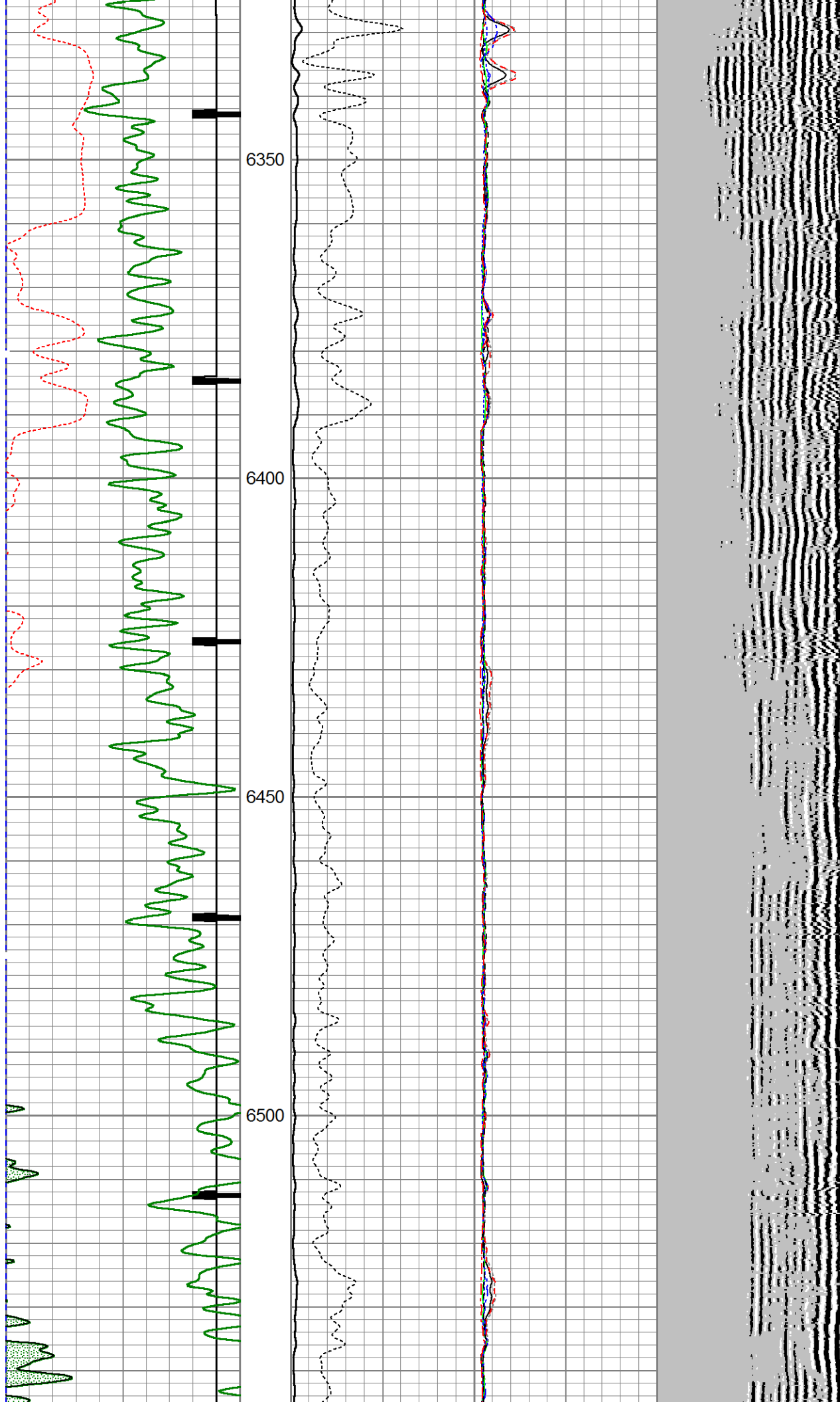


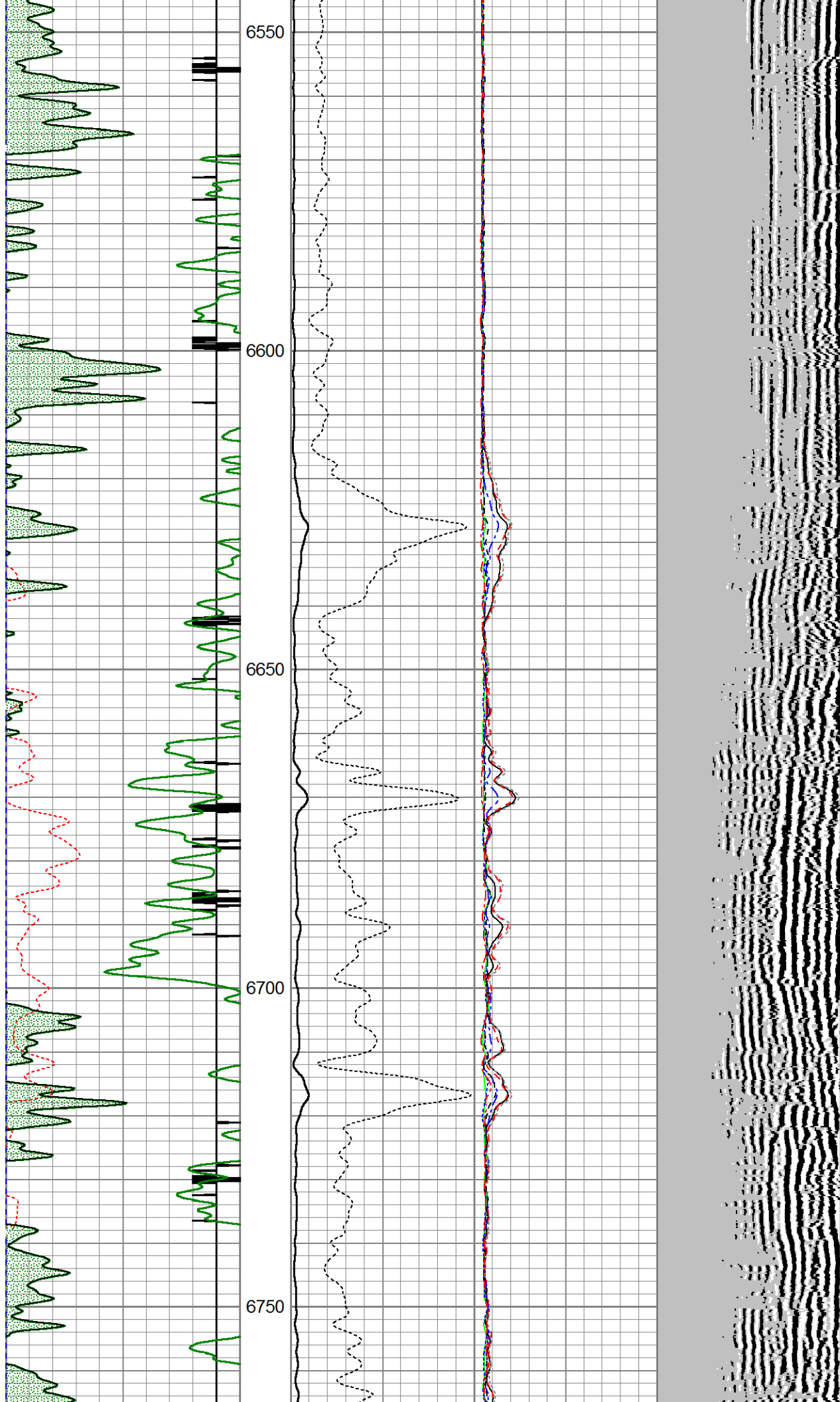


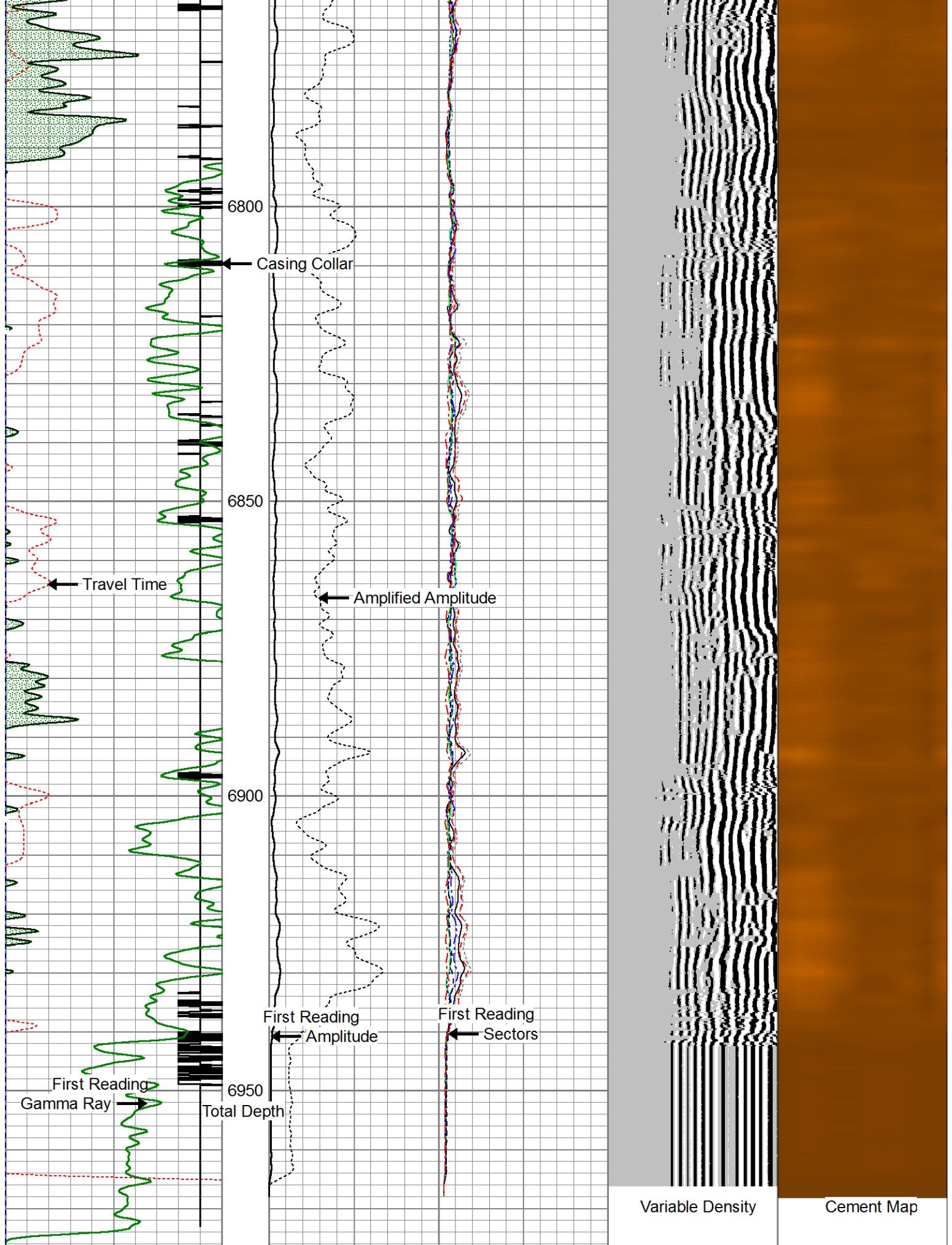




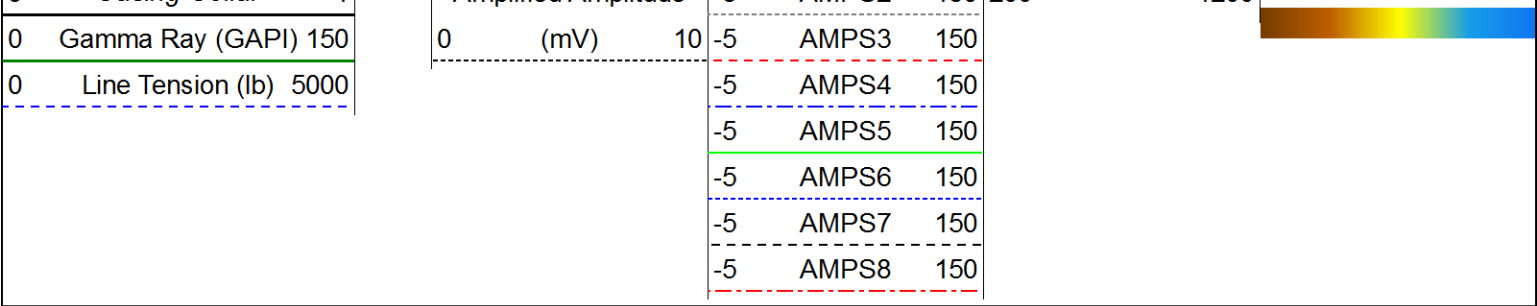




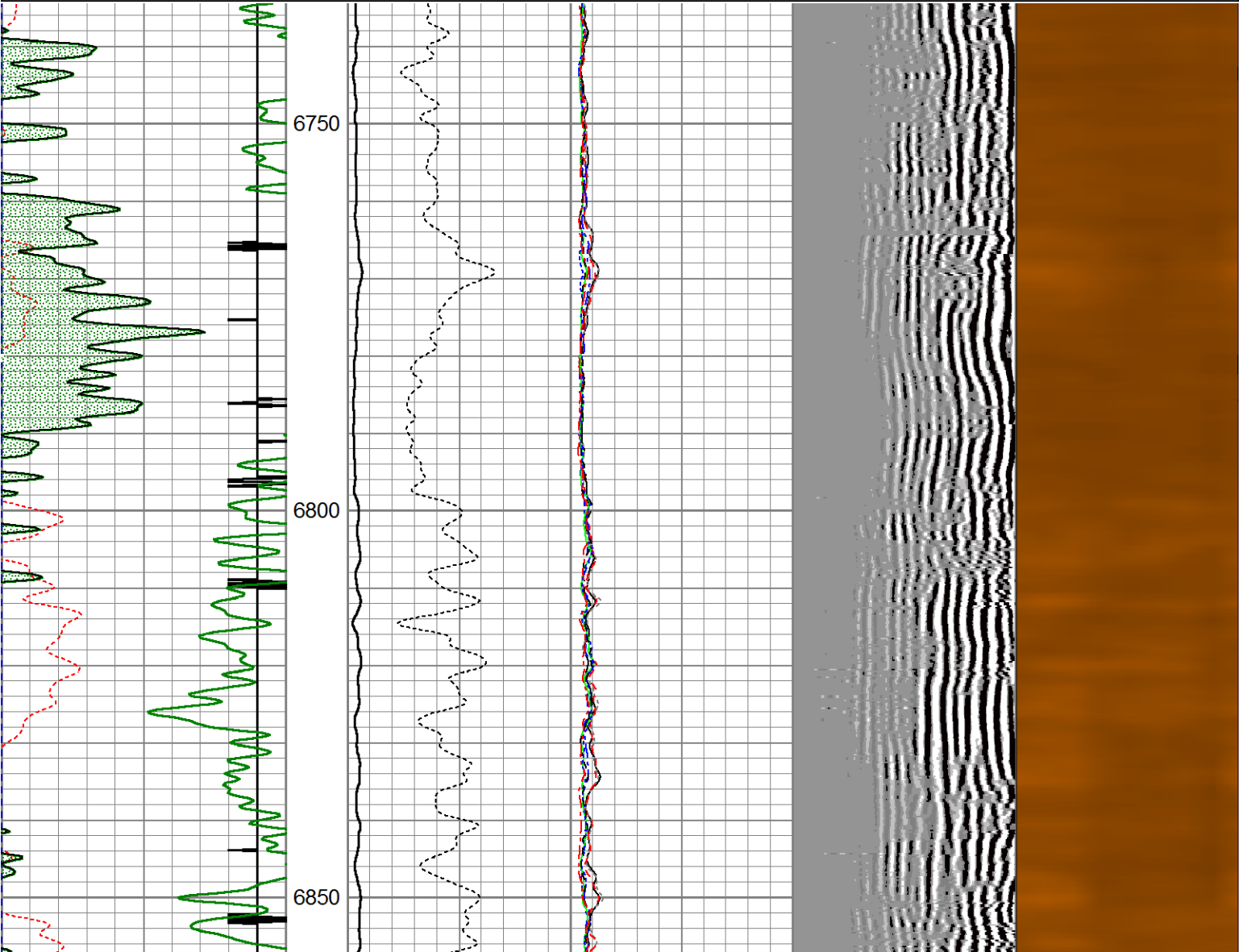
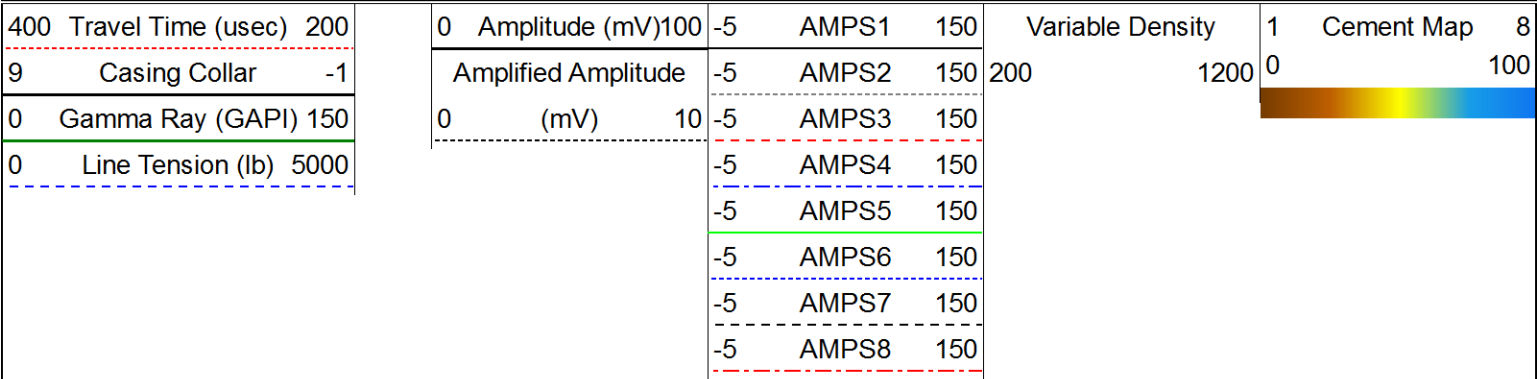


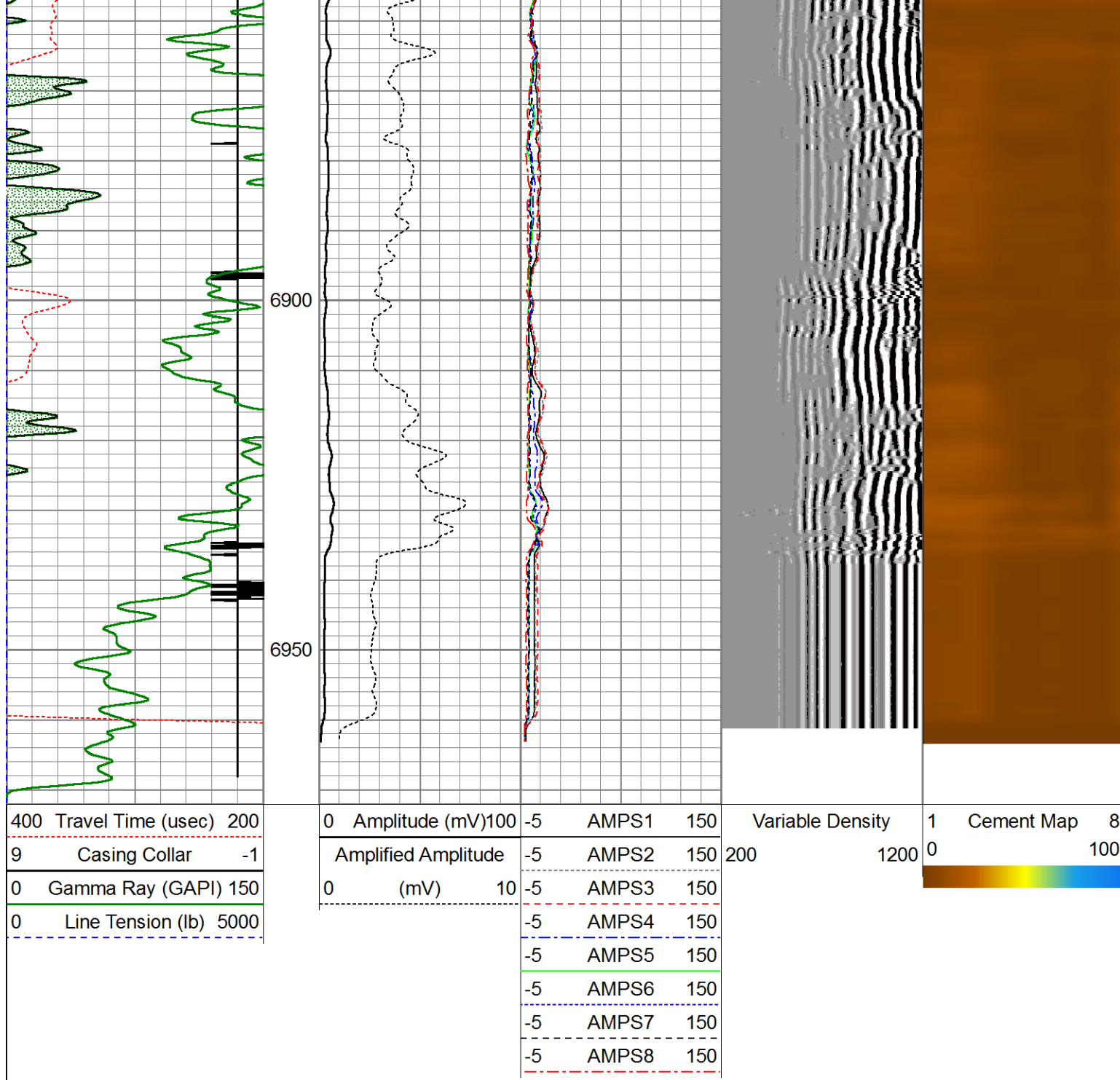


400	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	AMPS1	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1		Amplified Amplitude	-5	AMPS2	150	200	1200	0		100



Database File: k:\noble\noble nclp pc aa04-65-1hn.db
Dataset Pathname: pass5
Presentation Format: scbl03
Dataset Creation: Thu Jan 09 16:27:32 2014 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240





Calibration Report

Database File: K:\Noble\noble nclp pc aa04-65-1hn.db
 Dataset Pathname: pass6
 Dataset Creation: Thu Jan 09 16:31:27 2014 by Log 7.0 B1

Gamma Ray Calibration Report

Serial Number:	101135-Dig	
Tool Model:	Probe275	
Performed:	Wed Jan 08 13:15:34 2014	
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: 101130
 Tool Model: Probe
 Calibration Casing Diameter: 7.000 in
 Calibration Depth: 305.525 ft

Master Calibration, performed Thu Jan 09 16:41:52 2014:

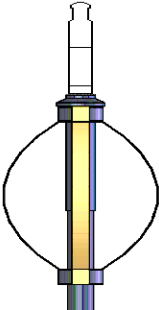
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	0.638	1.000	62.165	97.085	0.240
CAL	0.008	1.050				
5'	0.008	0.742	1.000	62.165	83.273	0.342
SUM						
S1	0.008	0.596	0.000	100.000	158.040	-1.345
S2	0.008	0.591	0.000	100.000	164.363	-1.328
S3	0.008	0.610	0.000	100.000	167.079	-1.338
S4	0.008	0.650	0.000	100.000	163.783	-1.230
S5	0.008	0.692	0.000	100.000	152.236	-1.160
S6	0.008	0.720	0.000	100.000	148.433	-1.106
S7	0.008	0.697	0.000	100.000	145.140	-1.164
S8	0.008	0.644	0.000	100.000	149.275	-1.244

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	0.008	1.050	1.000	0.000

Air Zero Calibration, performed Thu Jan 09 13:51:12 2014:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.010		0.000		-0.002	
5'	0.012		0.000		-0.004	
SUM						
S1	0.004		0.000		0.004	
S2	0.010		0.000		-0.002	
S3	0.010		0.000		-0.002	
S4	0.010		0.000		-0.002	
S5	0.010		0.000		-0.002	
S6	0.011		0.000		-0.003	
S7	0.011		0.000		-0.003	
S8	0.011		0.000		-0.003	

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

