



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

Company	Noble Energy	Company	Noble Energy
Well	ROHN State LD09-69HN	Well	ROHN State LD09-69HN
Field	Wattenberg	Field	Wattenberg
County	Weld	County	Weld
State	Colorado	State	Colorado
Location:		API # : 05-123-37472	
SEC 4 TWP 9 N RGE 58 W		Other Services	
Permanent Datum	Ground Level	Elevation	4705'
Log Measured From	Kelly Bushing	30' APD	
Drilling Measured From	Kelly Bushing		
Date		11th October, 2013	
Run Number	One		
Depth Driller	9700'		
Depth Logger	6040'		
Bottom Logged Interval	6027'		
Top Log Interval	Surface		
Open Hole Size	8 3/4"		
Type Fluid	Fresh Water		
Density / Viscosity	8.34		
Max. Recorded Temp.	207 °F		
Estimated Cement Top	2314'		
Time Well Ready	1645		
Time Logger on Bottom	1715		
Equipment Number	12029		
Location	Brighton, CO		
Recorded By	R.Grisson		
Witnessed By	Bill Mansfield		
Borehole Record		Tubing Record	
Run Number	Bit	From	To
1	26"	Surface	124'
2	13.75"	124'	1249'
3	8.75"	1249'	6178'
4	6.125"	6178'	9710'
Casing Record	Size	Wgt/Ft	Top
Surface String	9 5/8"	36#	Surface
Prot. String			
Production String	7"	26#	Surface
Liner	4.5"	11 6#	6007.4'
Short Joint			9700'

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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 30' KB

Intermdiate Drilled by H & P 330, Liner Drilled by H & P 273. 330 KB is 30', 273 KB is 24'

Your Crew for Today. T.Canfarelli, M. Bingaman


Main Pass and Repeat Pass logged with zero pressure on surface

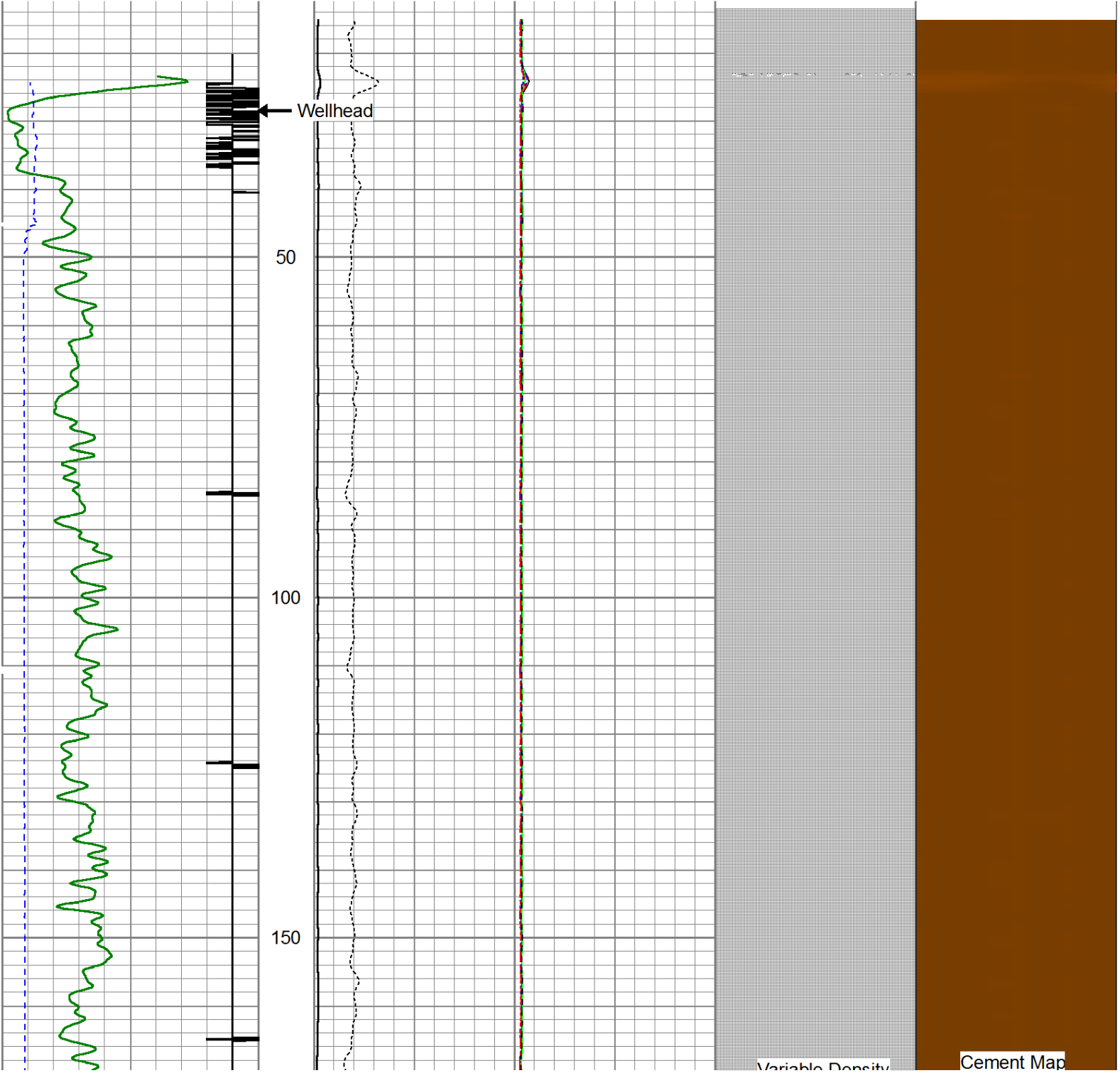
Thank You for using Allied Wireline
(303) 659-4609

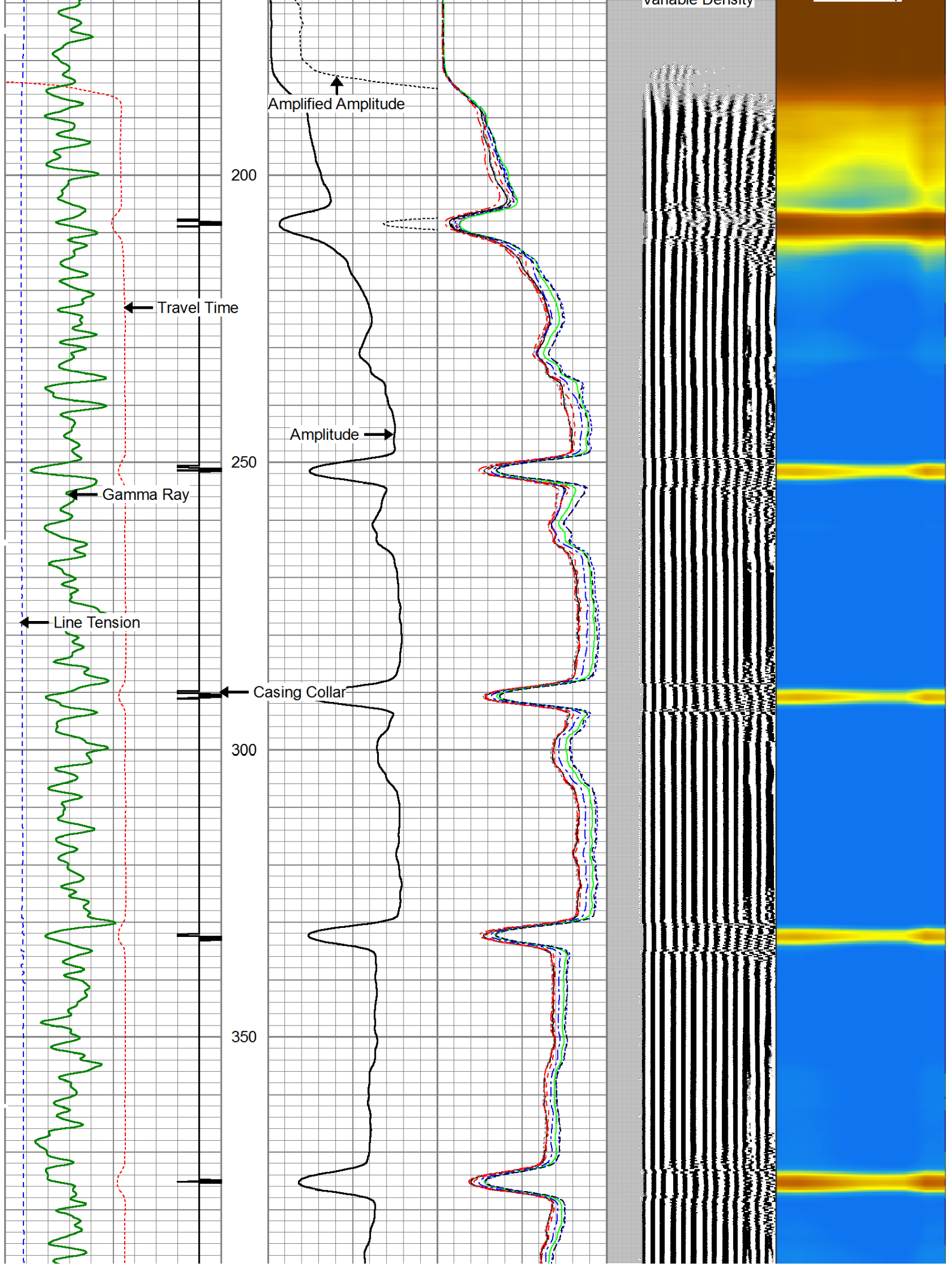


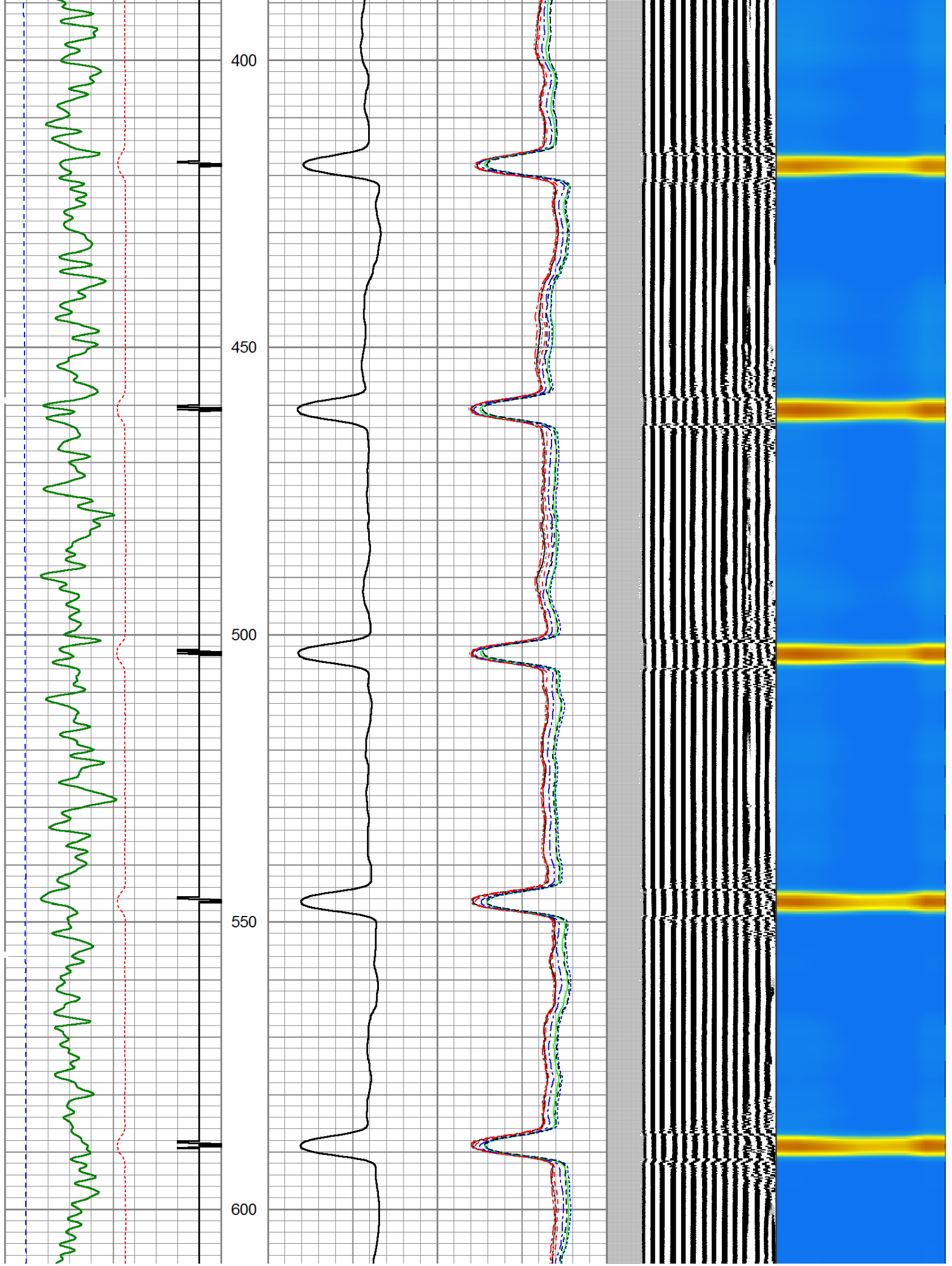
Main Pass (0 PSI)

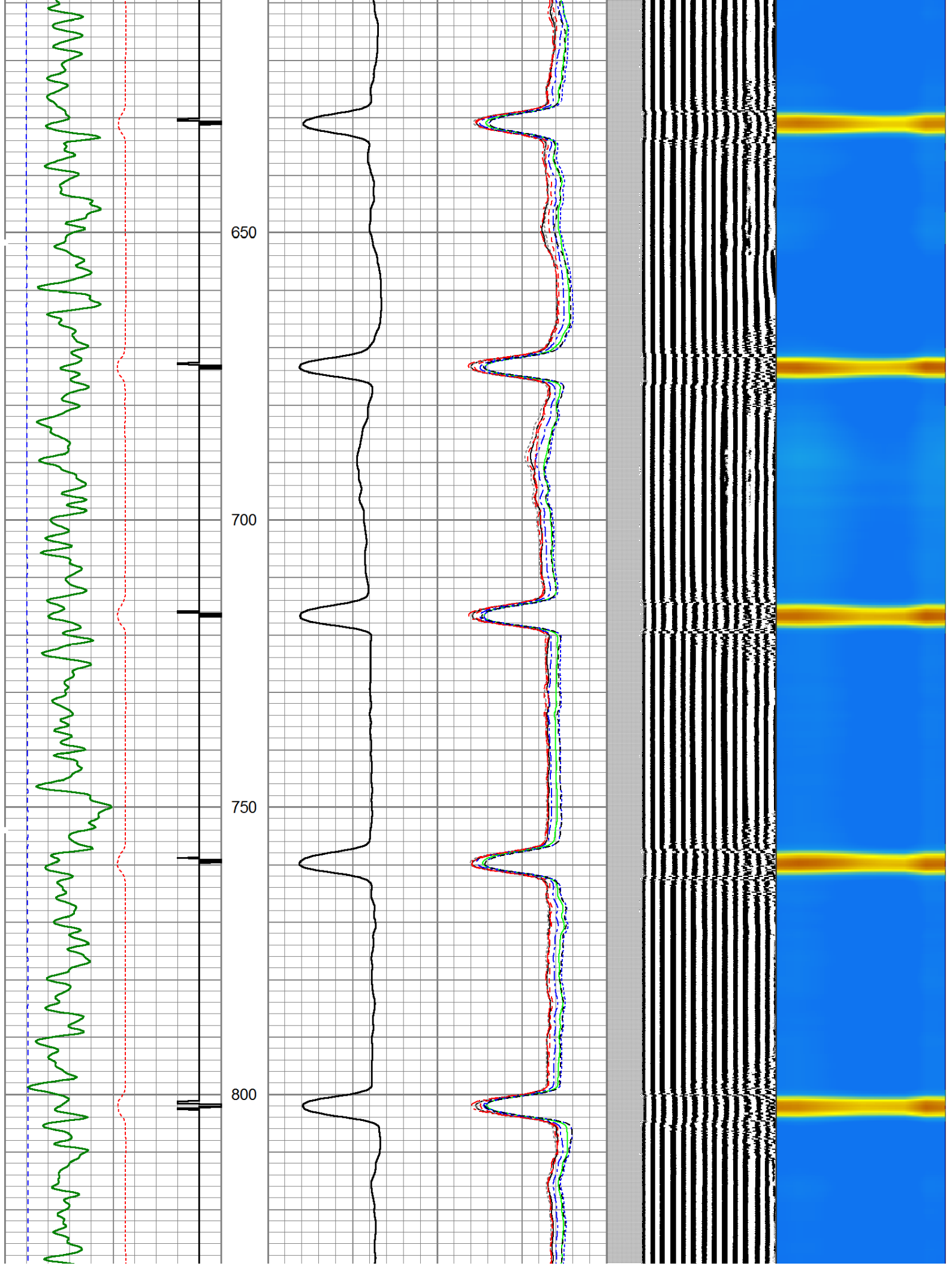
Database File: noble energy rohn state ld09-69hn_cbl.db
Dataset Pathname: pass4
Presentation Format: scbl03
Dataset Creation: Fri Oct 11 17:19:04 2013 by Log SCH 120126
Charted by: Depth in Feet scaled 1:240

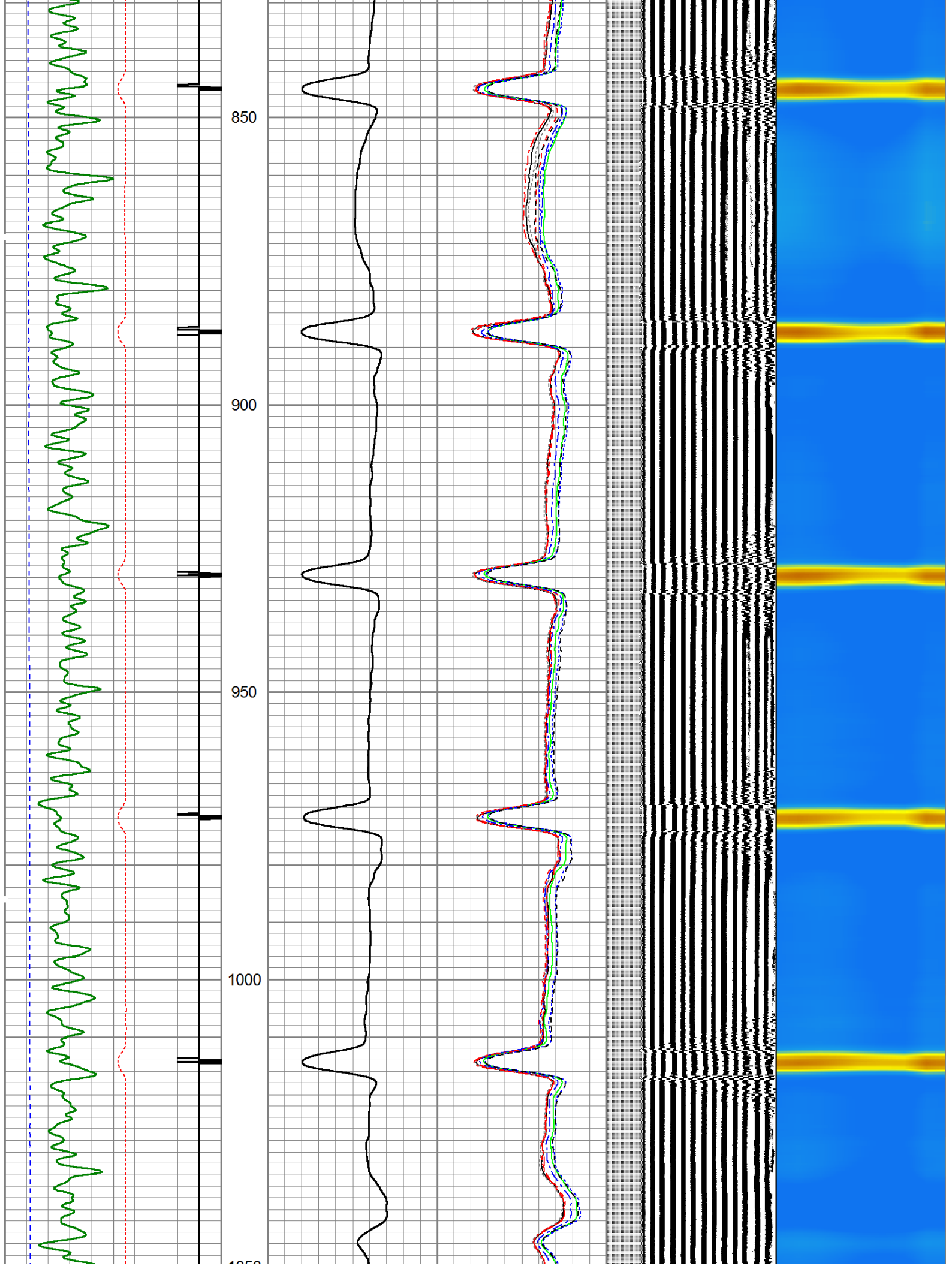
400	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	AMPS1	150	Variable Density		1	Cement Map	8
9	Casing Collar	-1	Amplified Amplitude			-5	AMPS2	150	200	1200	0		100
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	AMPS3	150					
0	Line Tension (lb)	2500				-5	AMPS4	150					
						-5	AMPS5	150					
						-5	AMPS6	150					
						-5	AMPS7	150					
						-5	AMPS8	150					

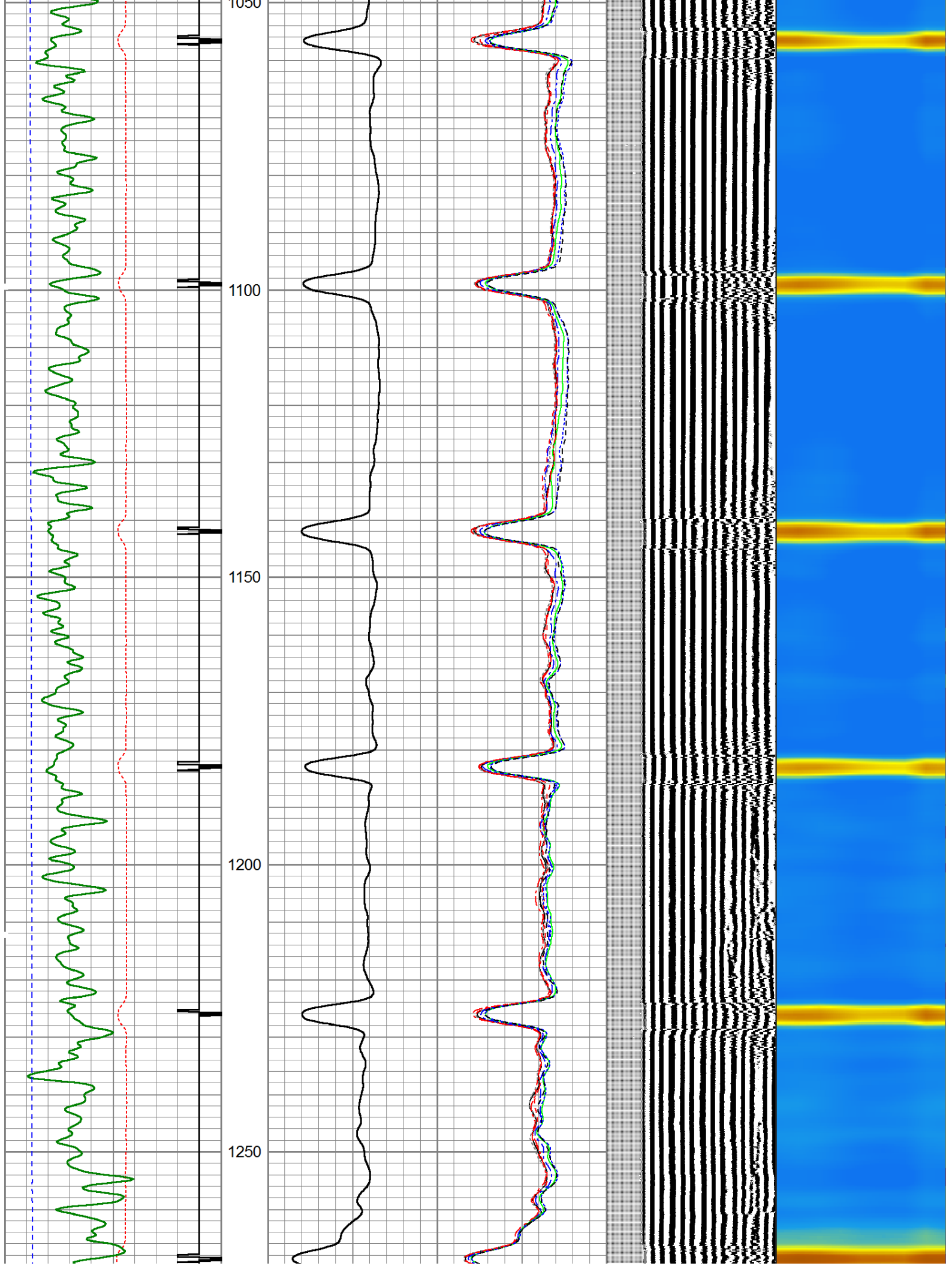


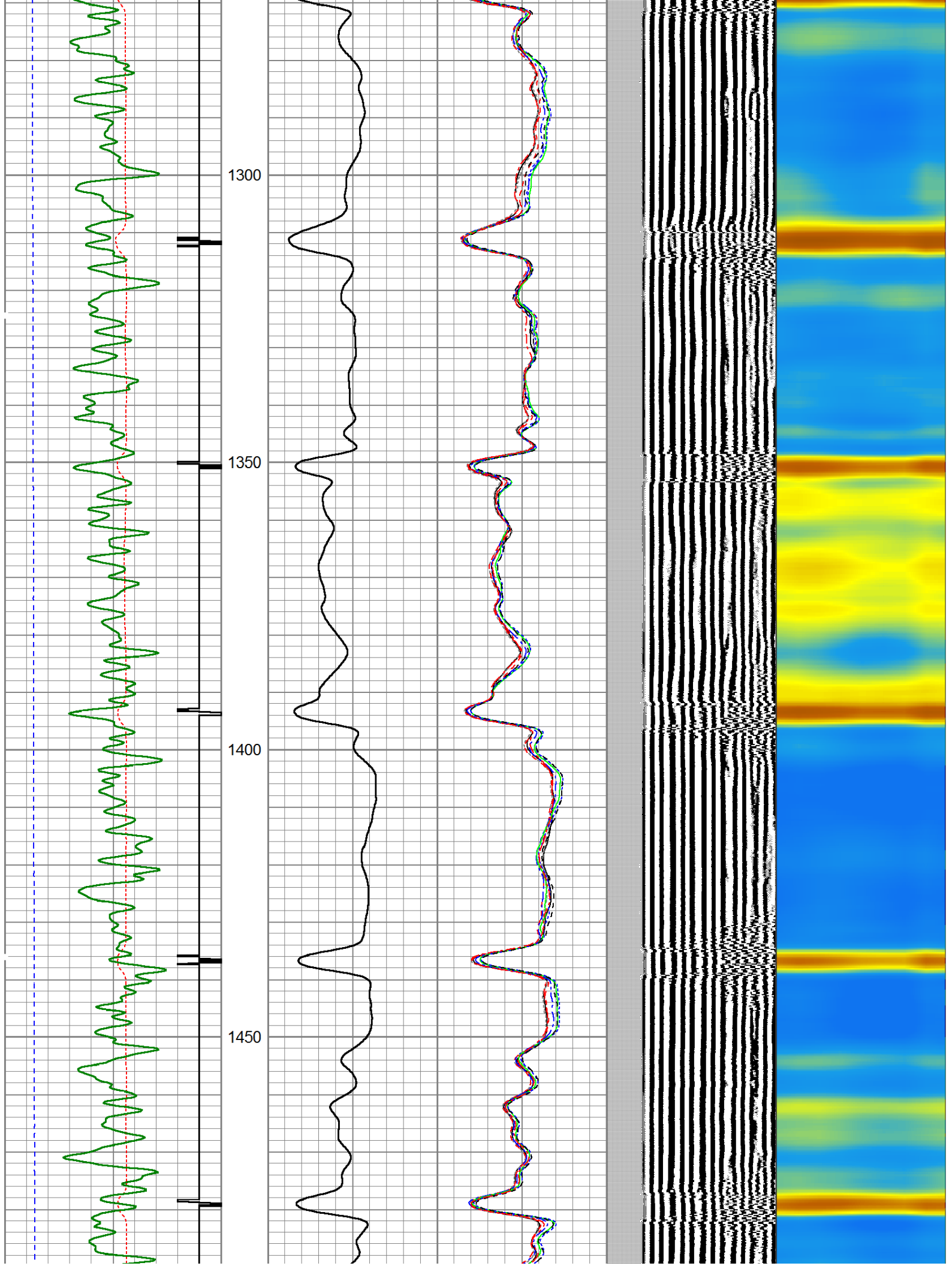


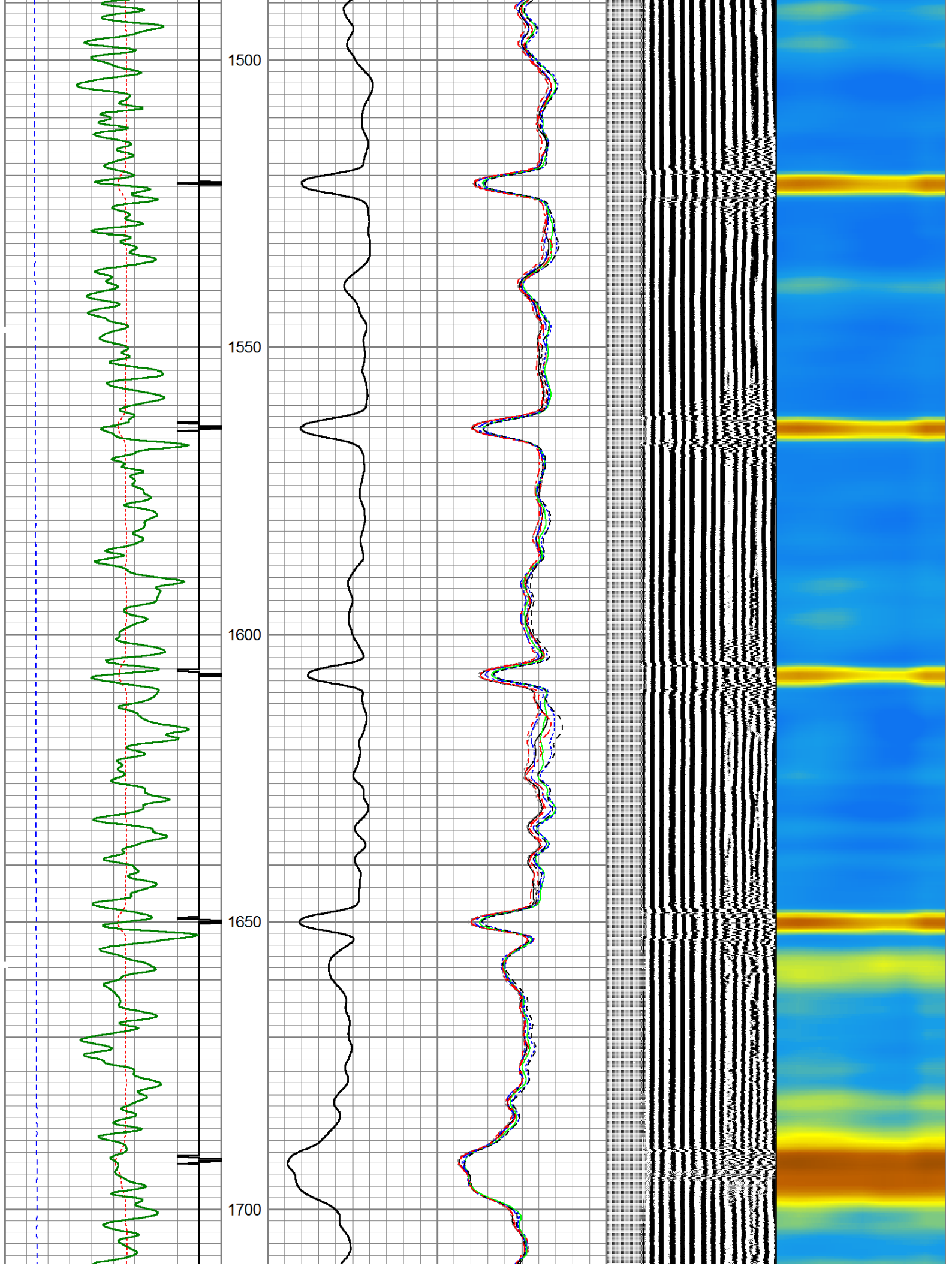


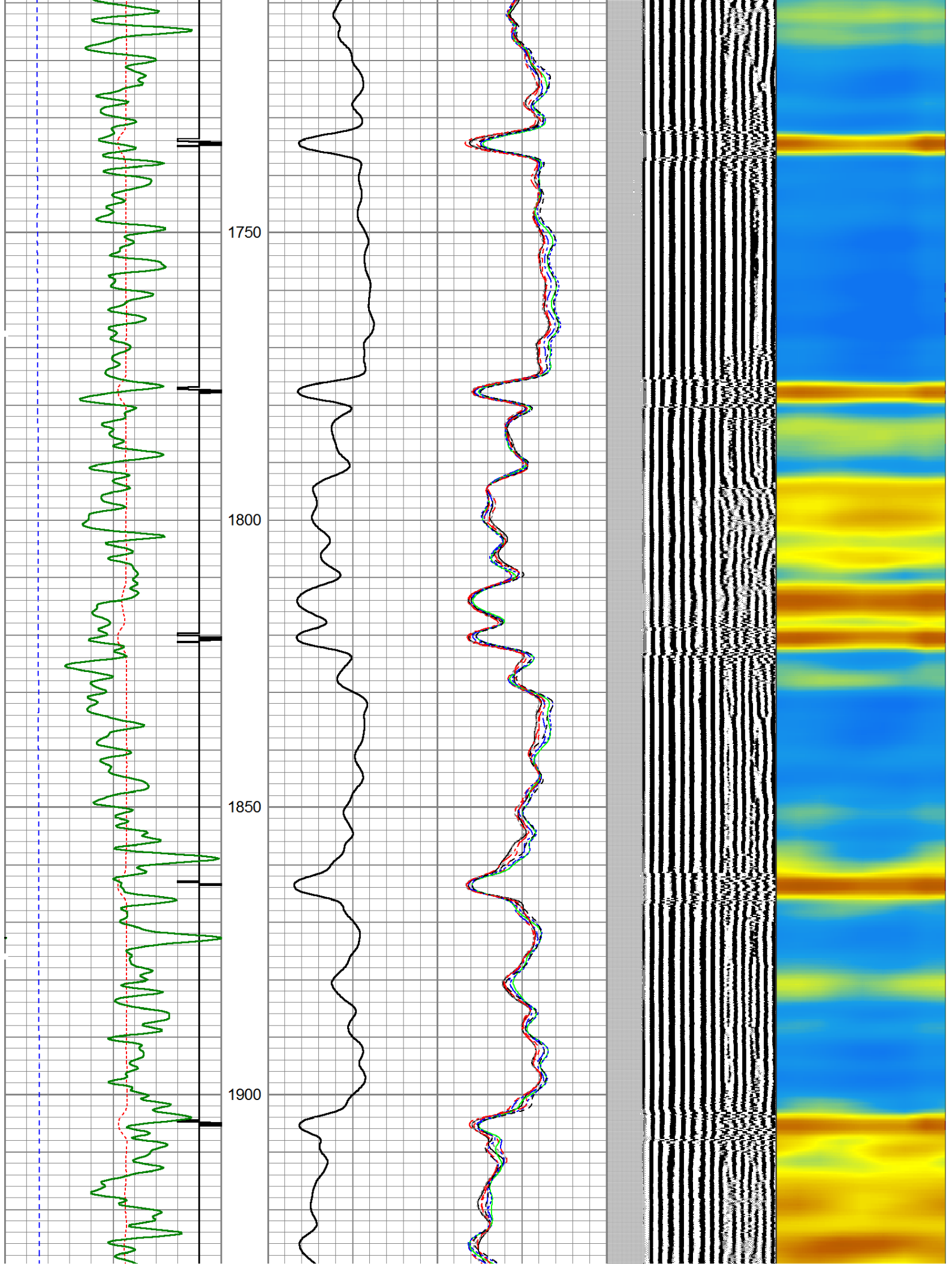


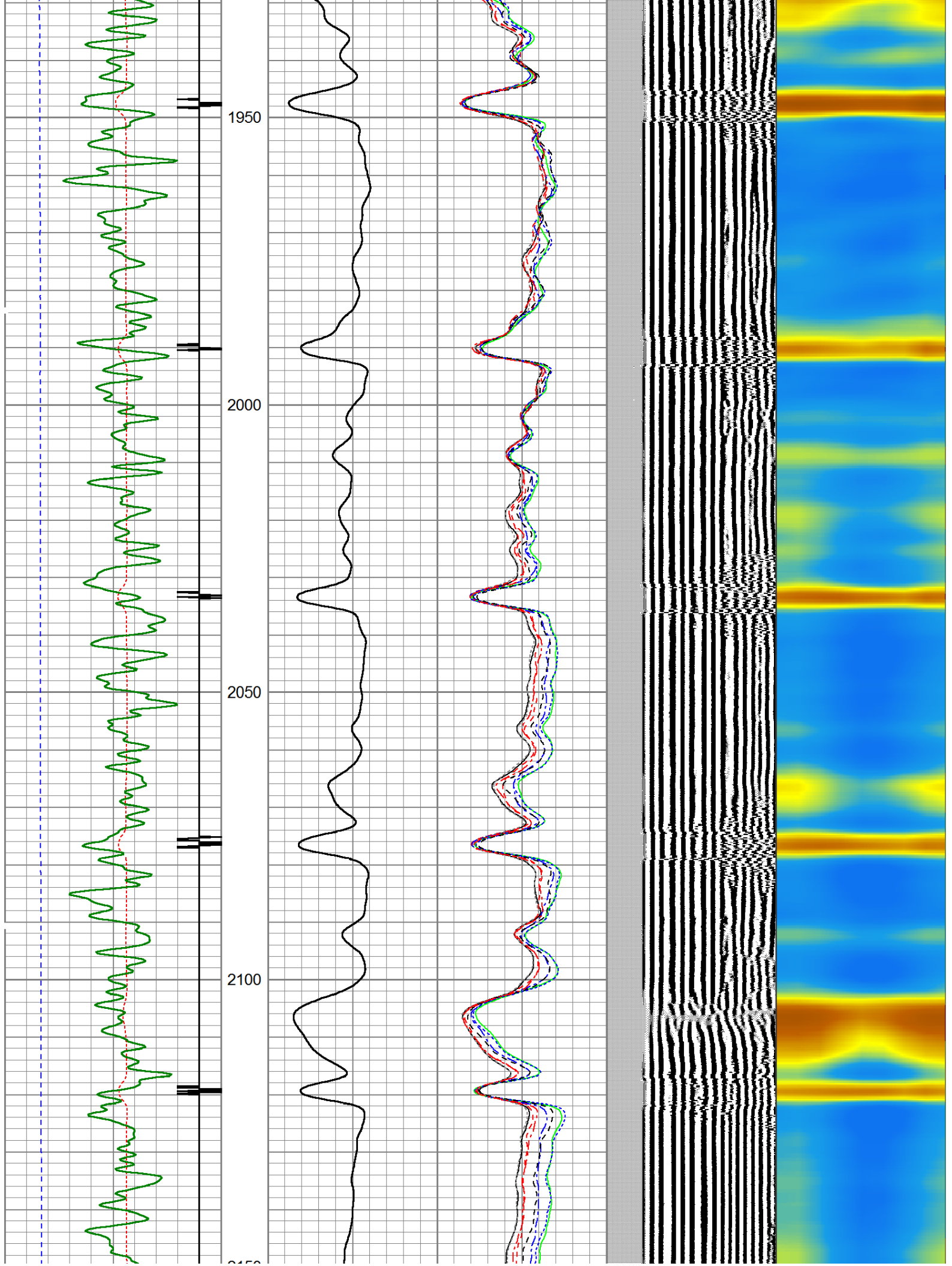


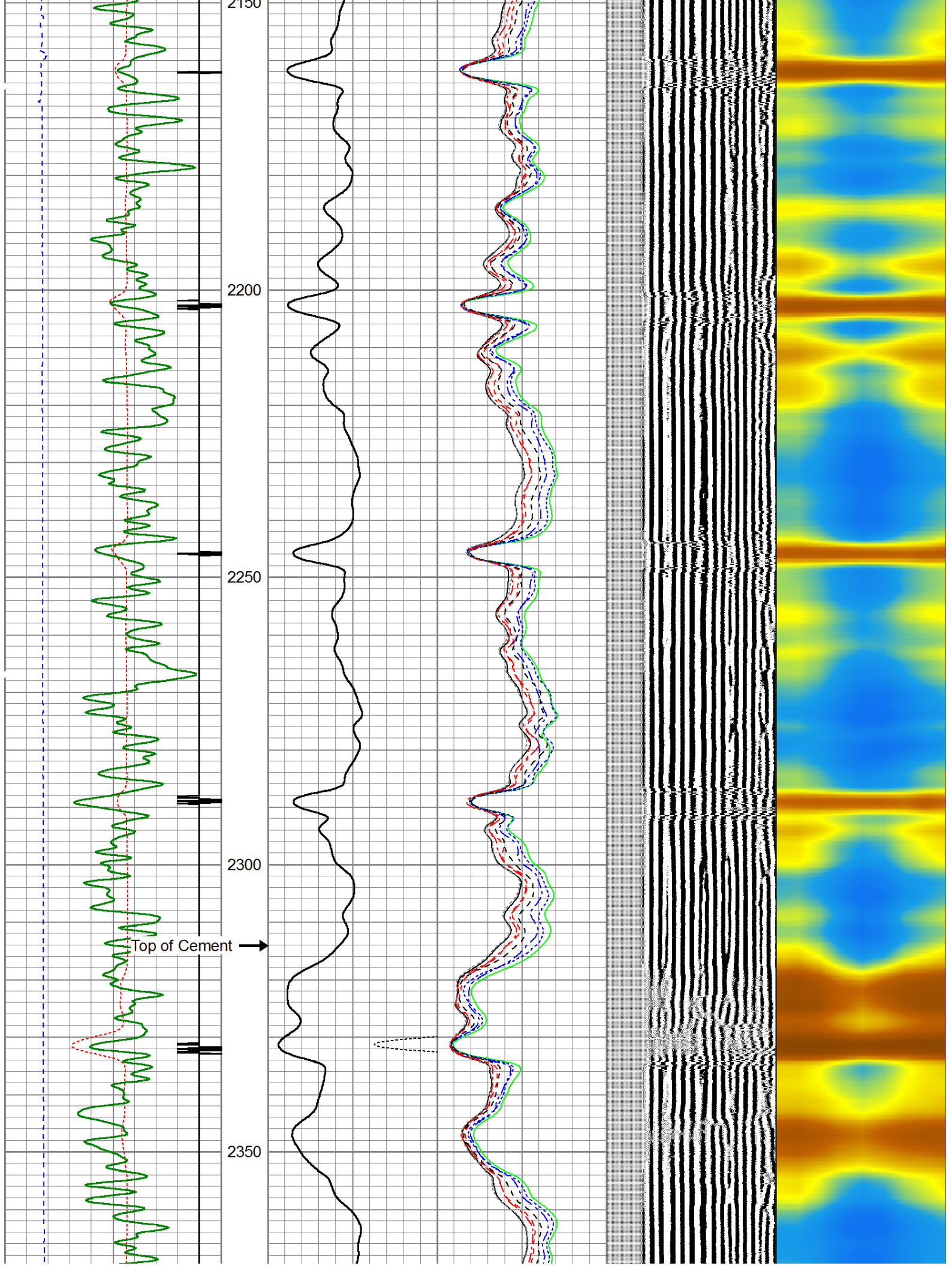


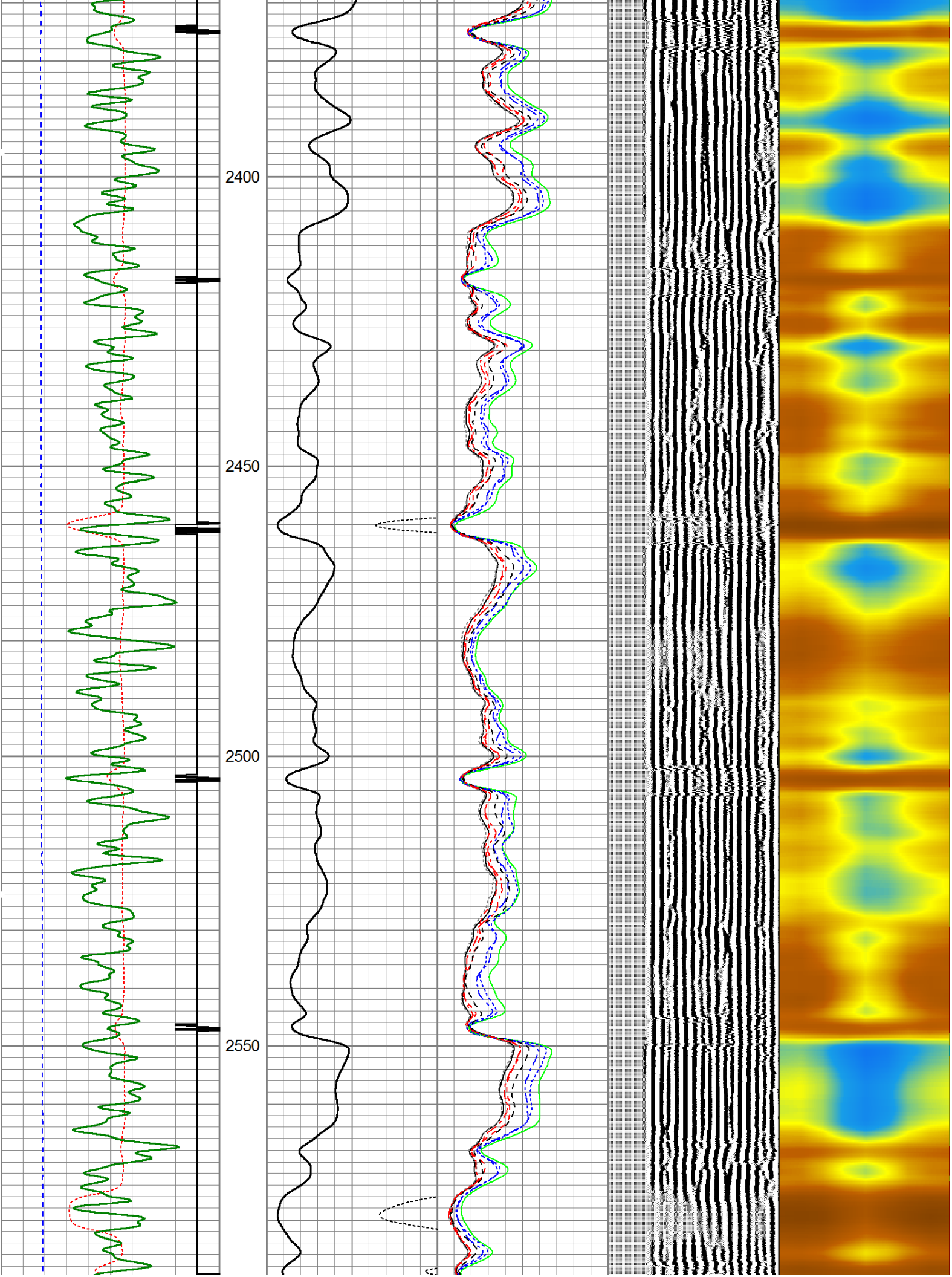


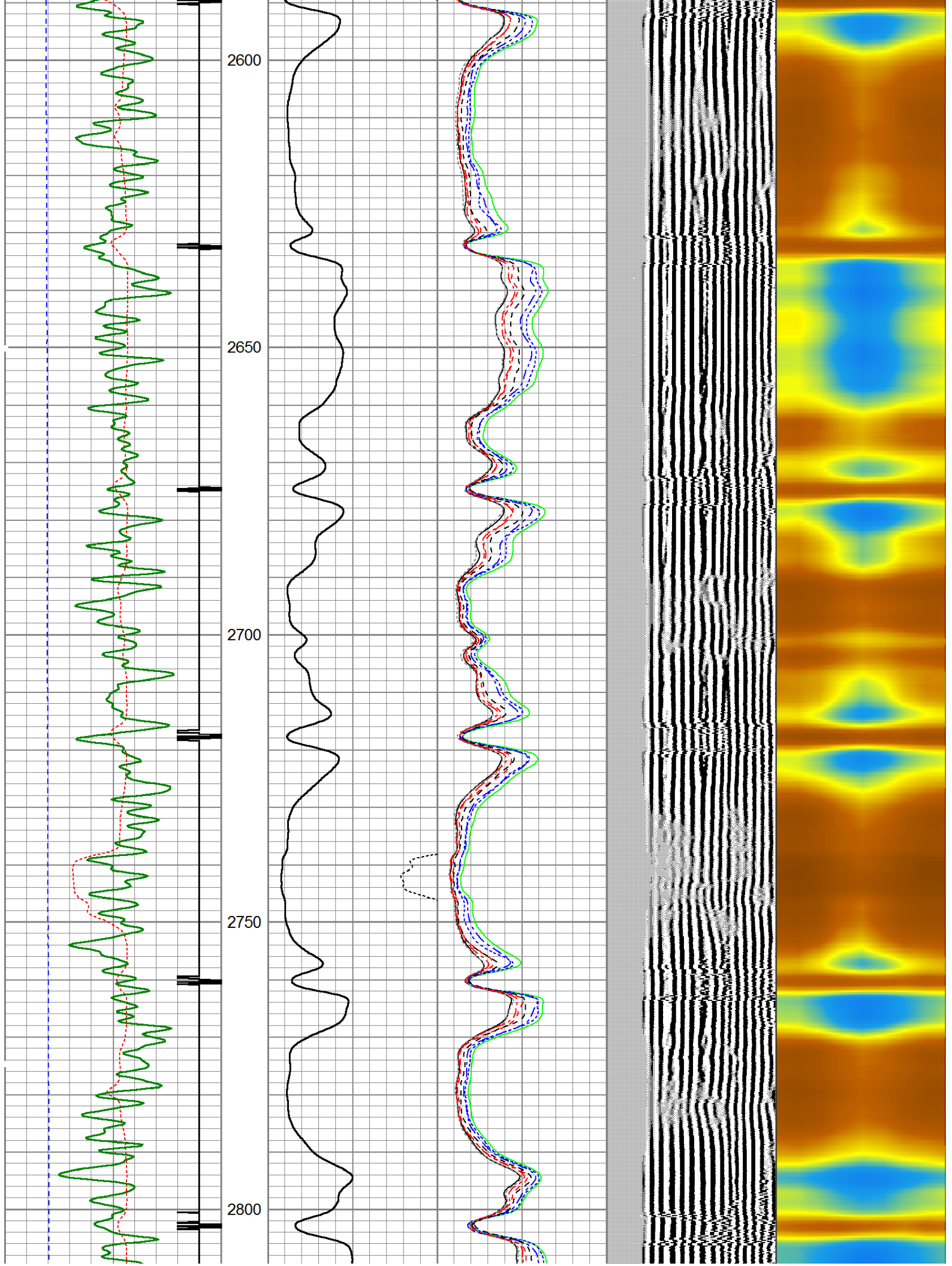


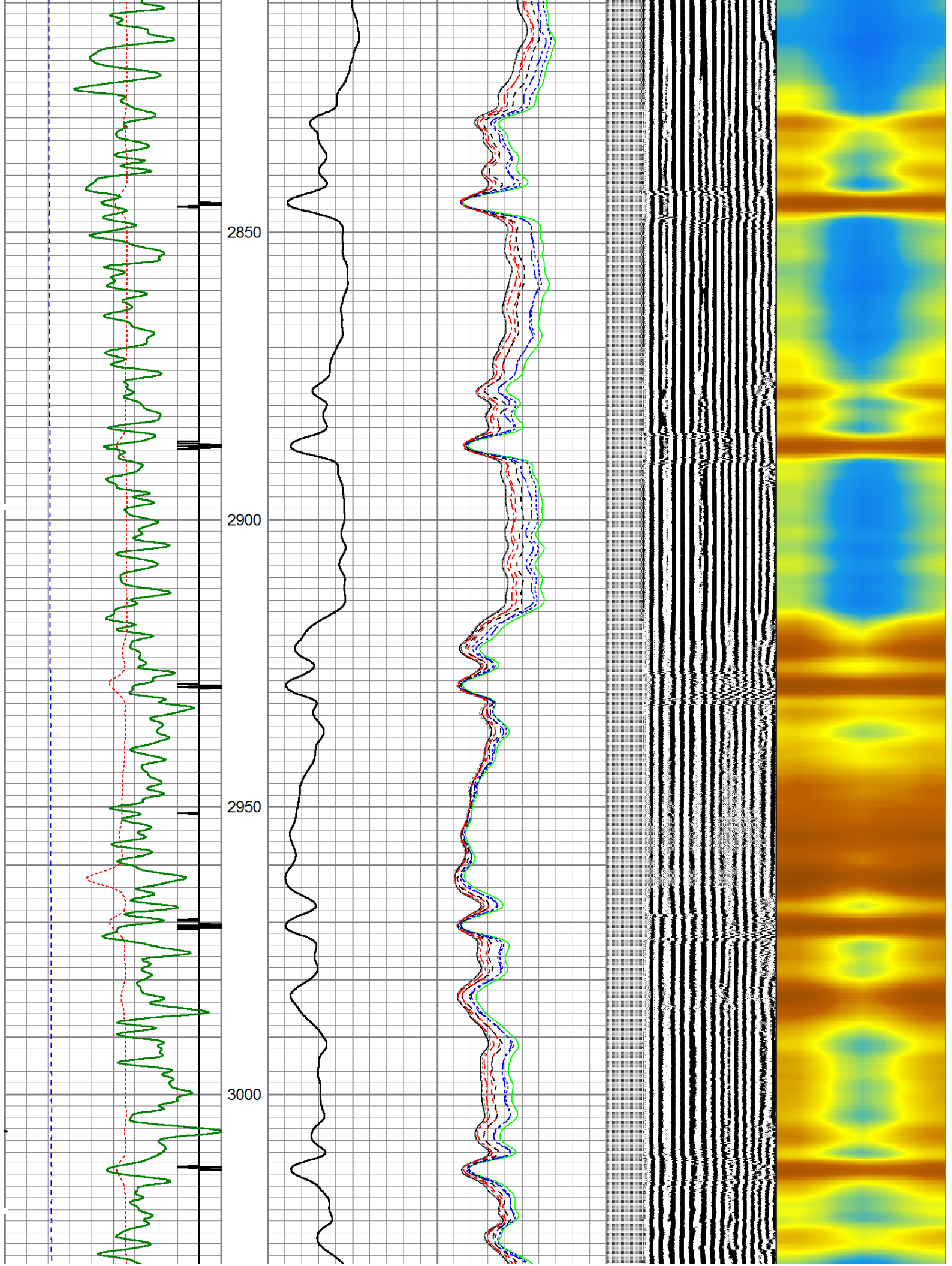


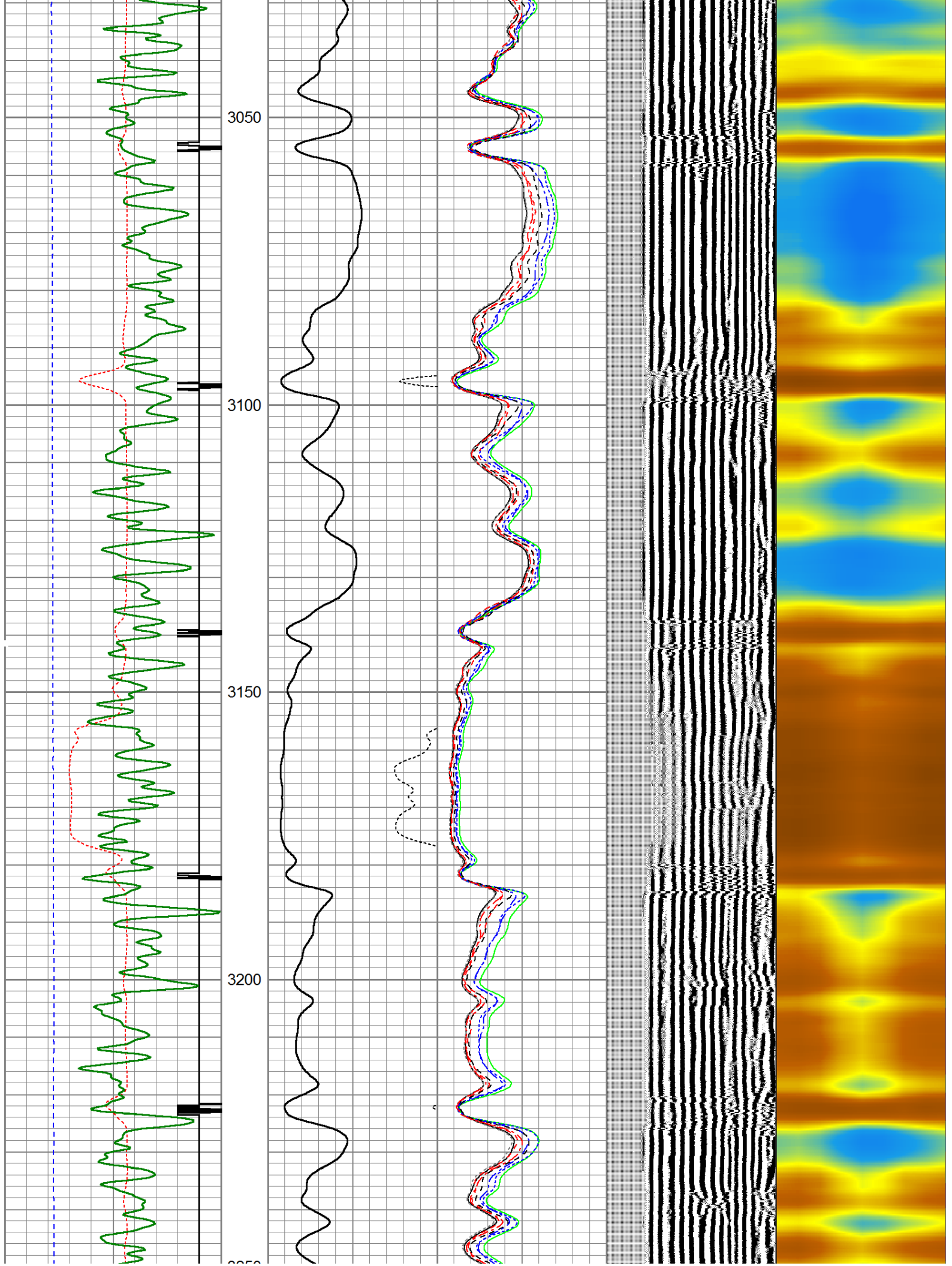


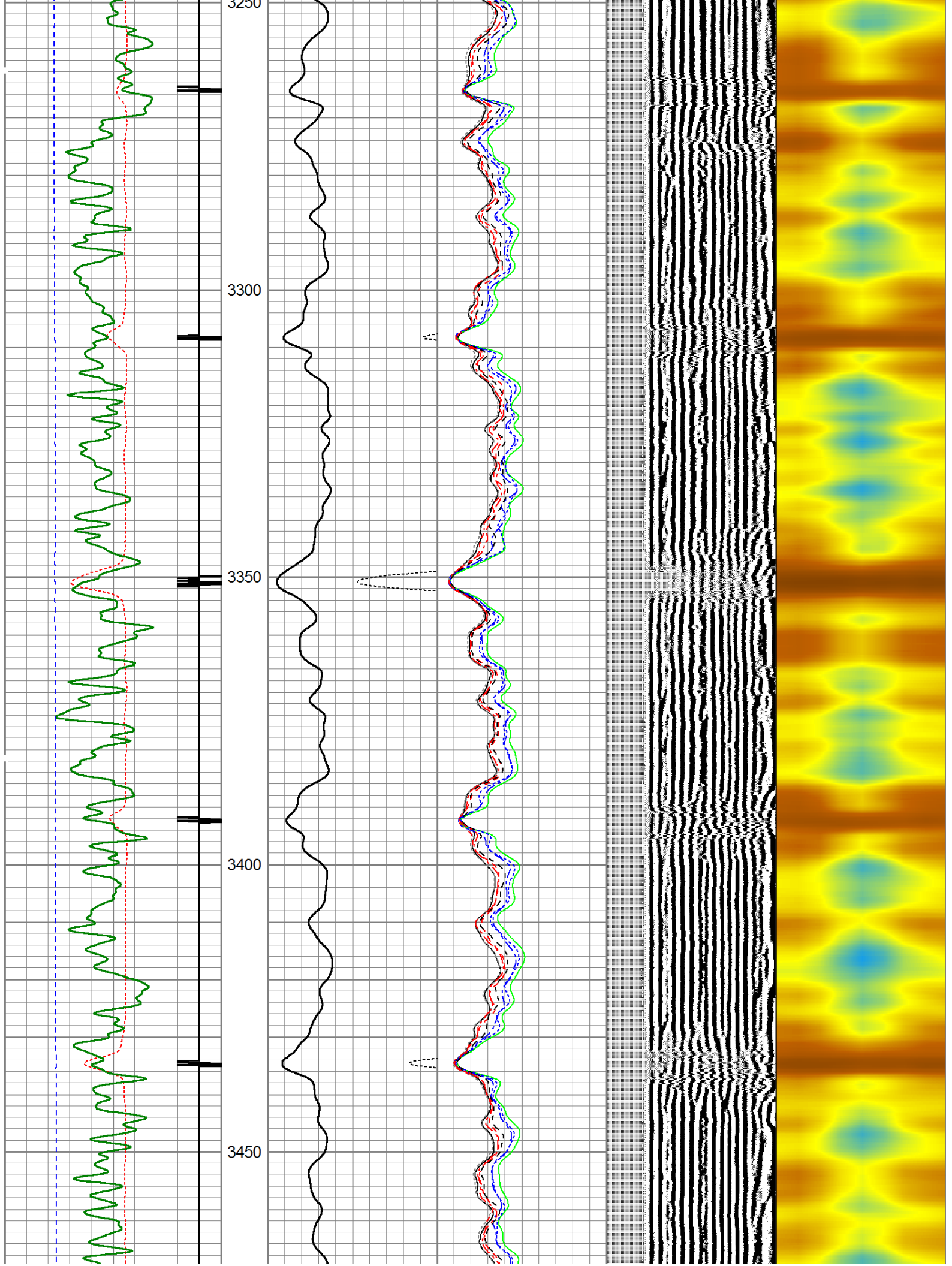


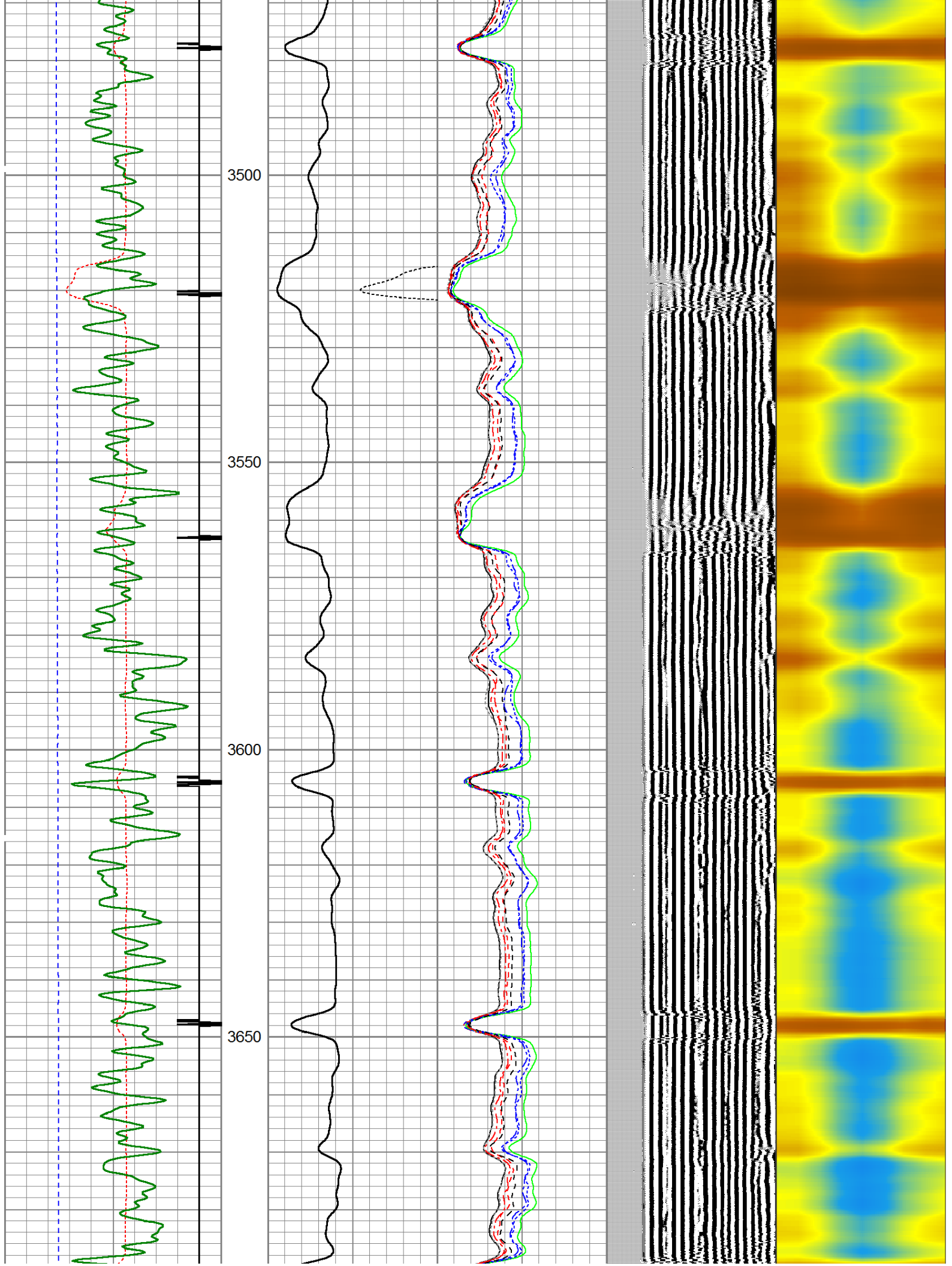


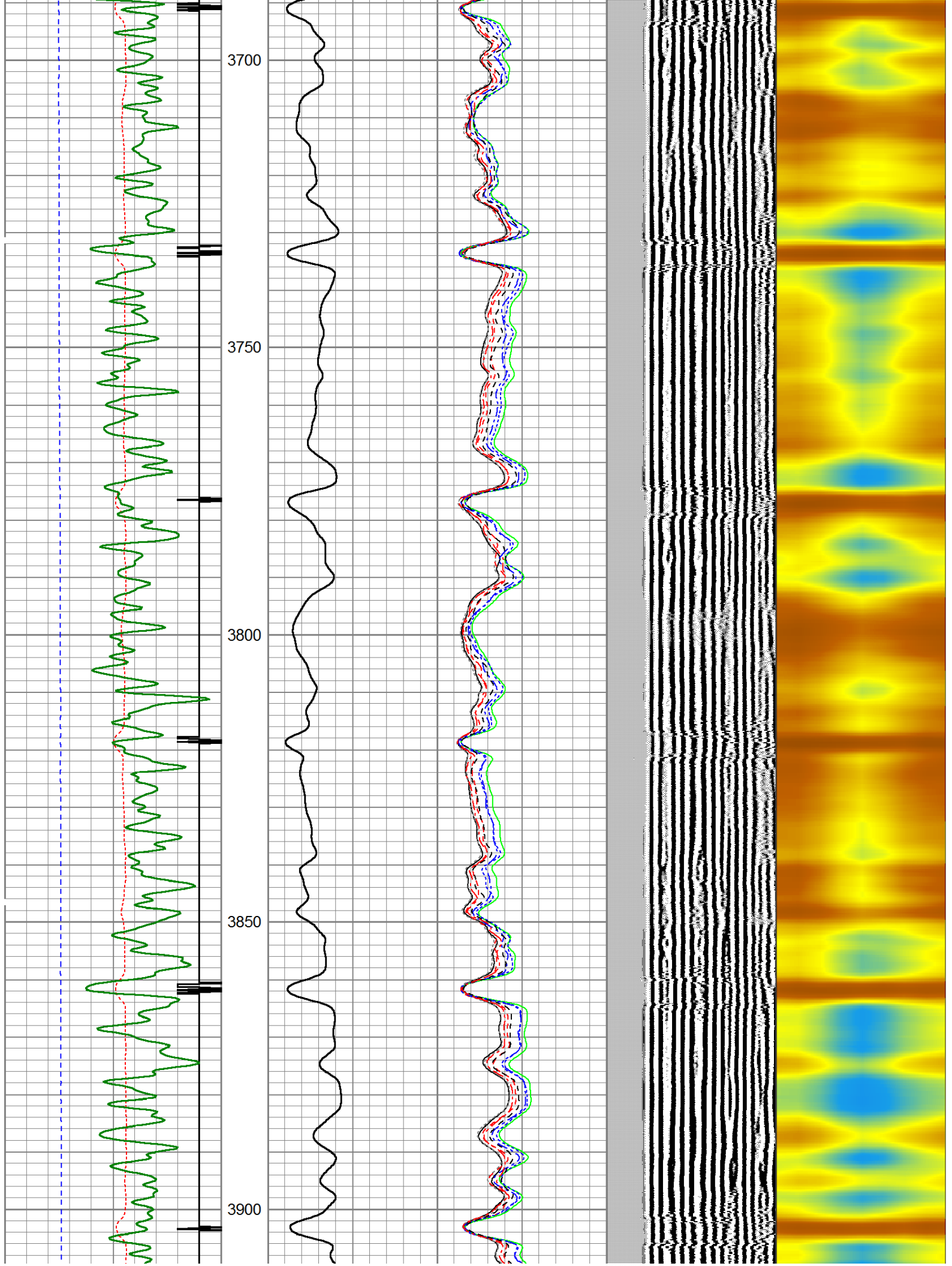


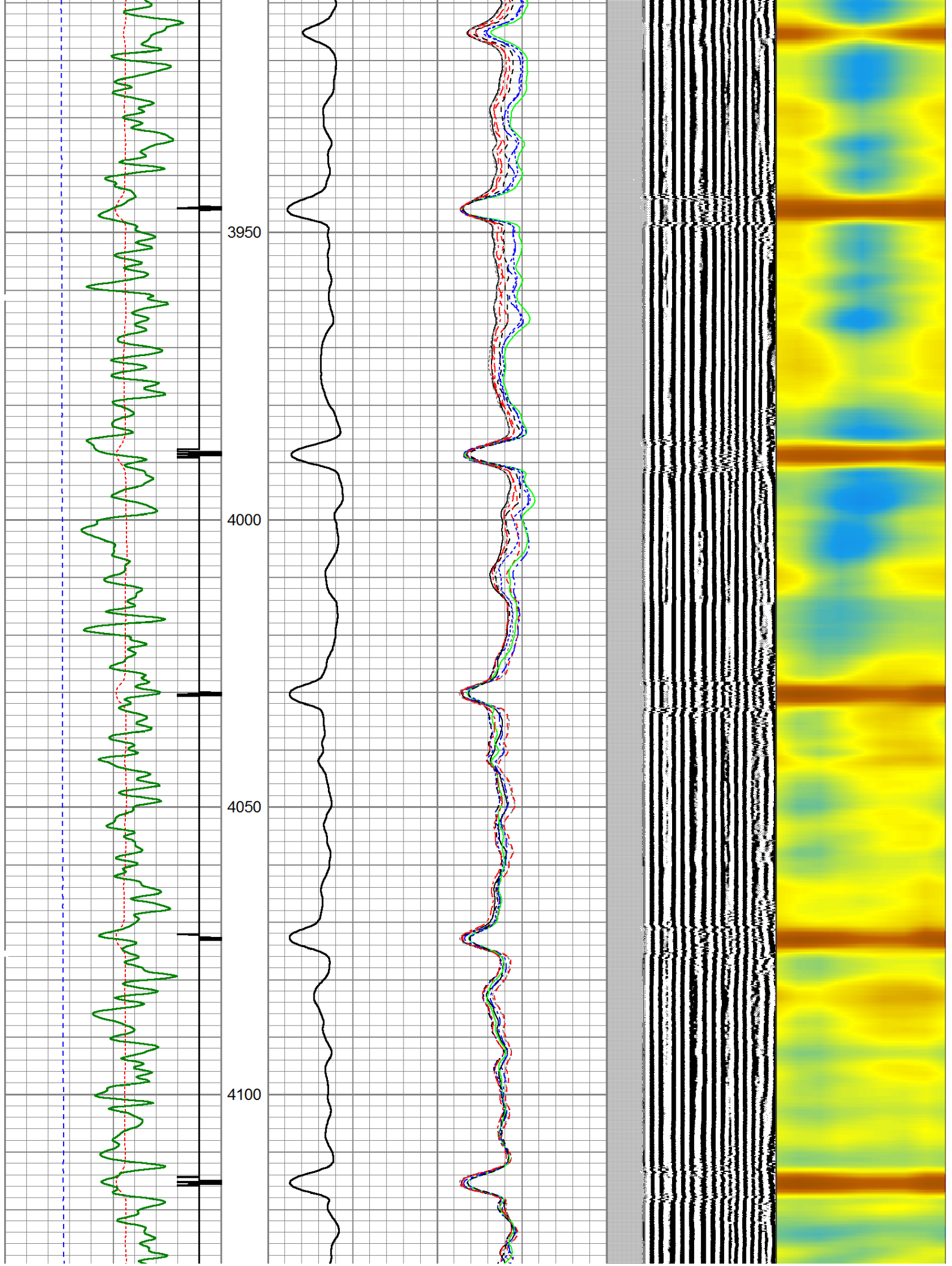


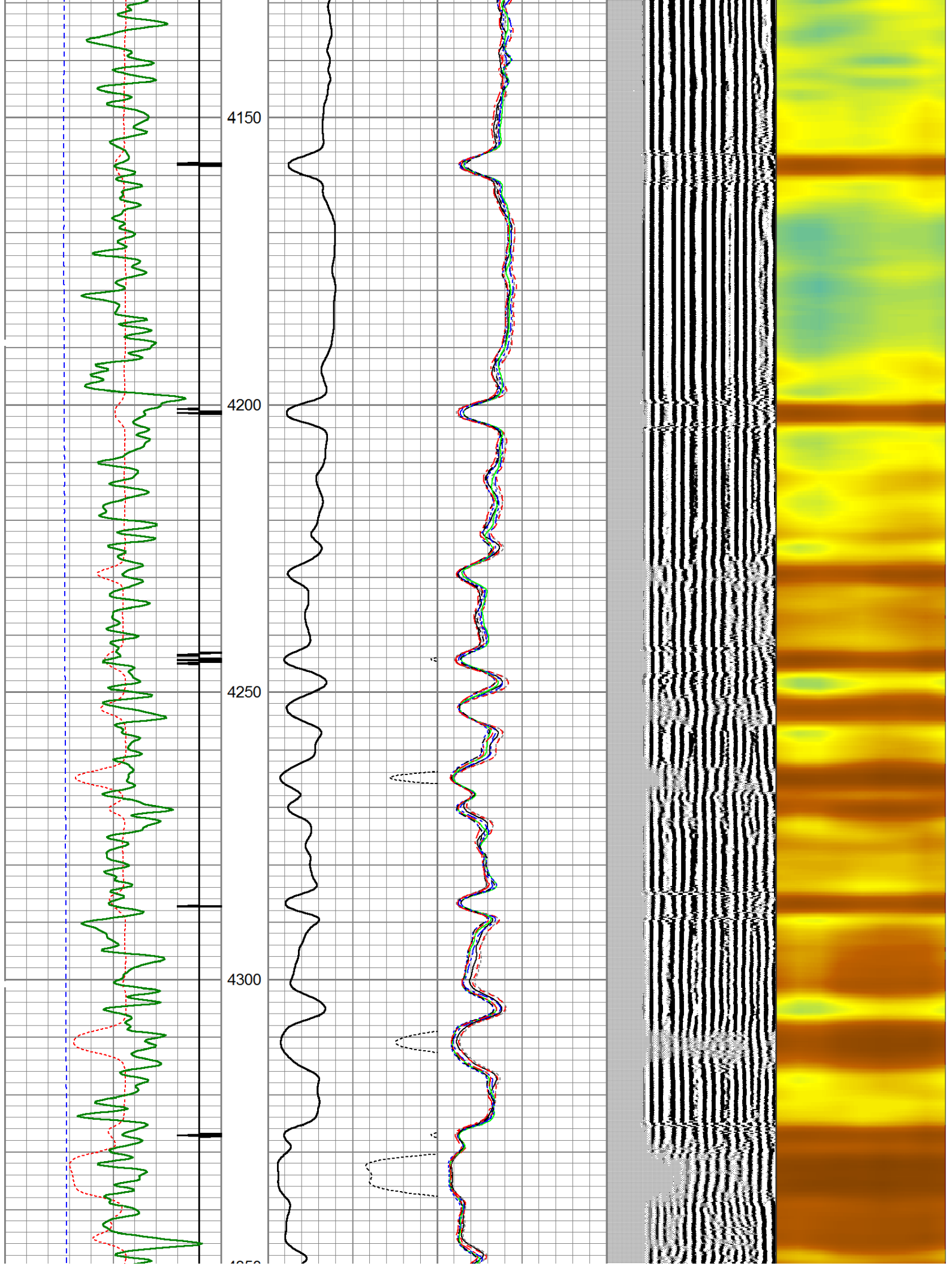


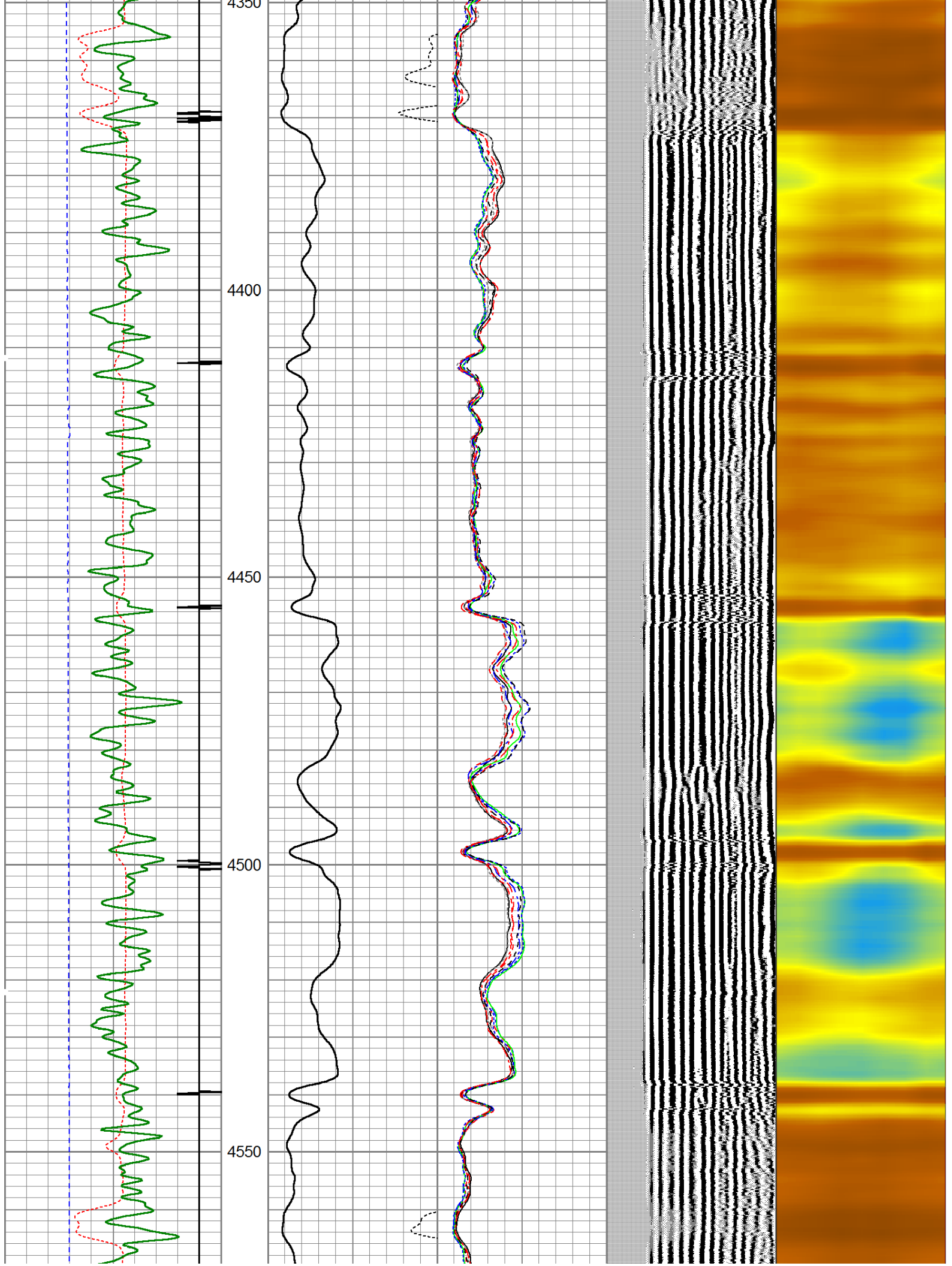


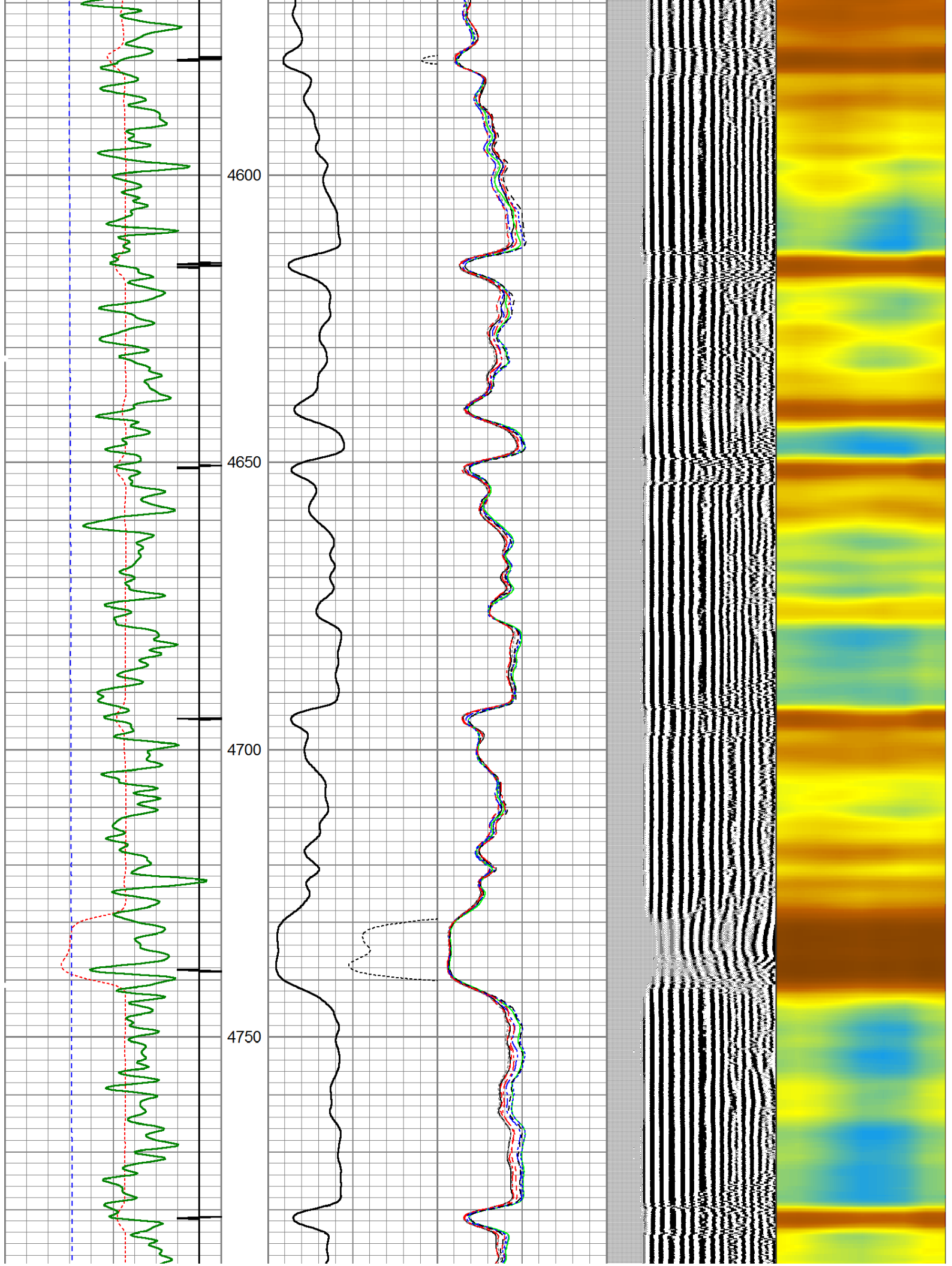


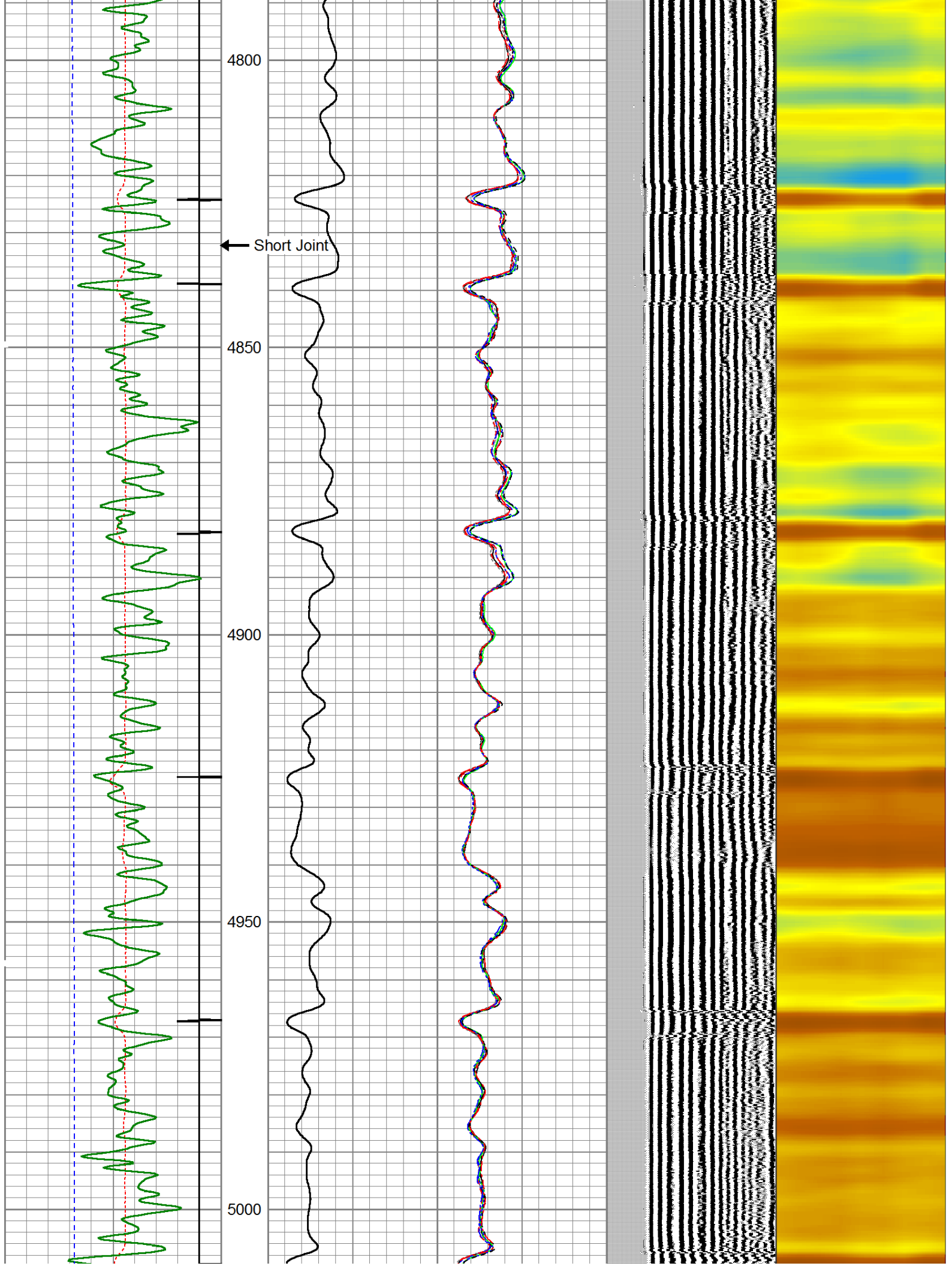


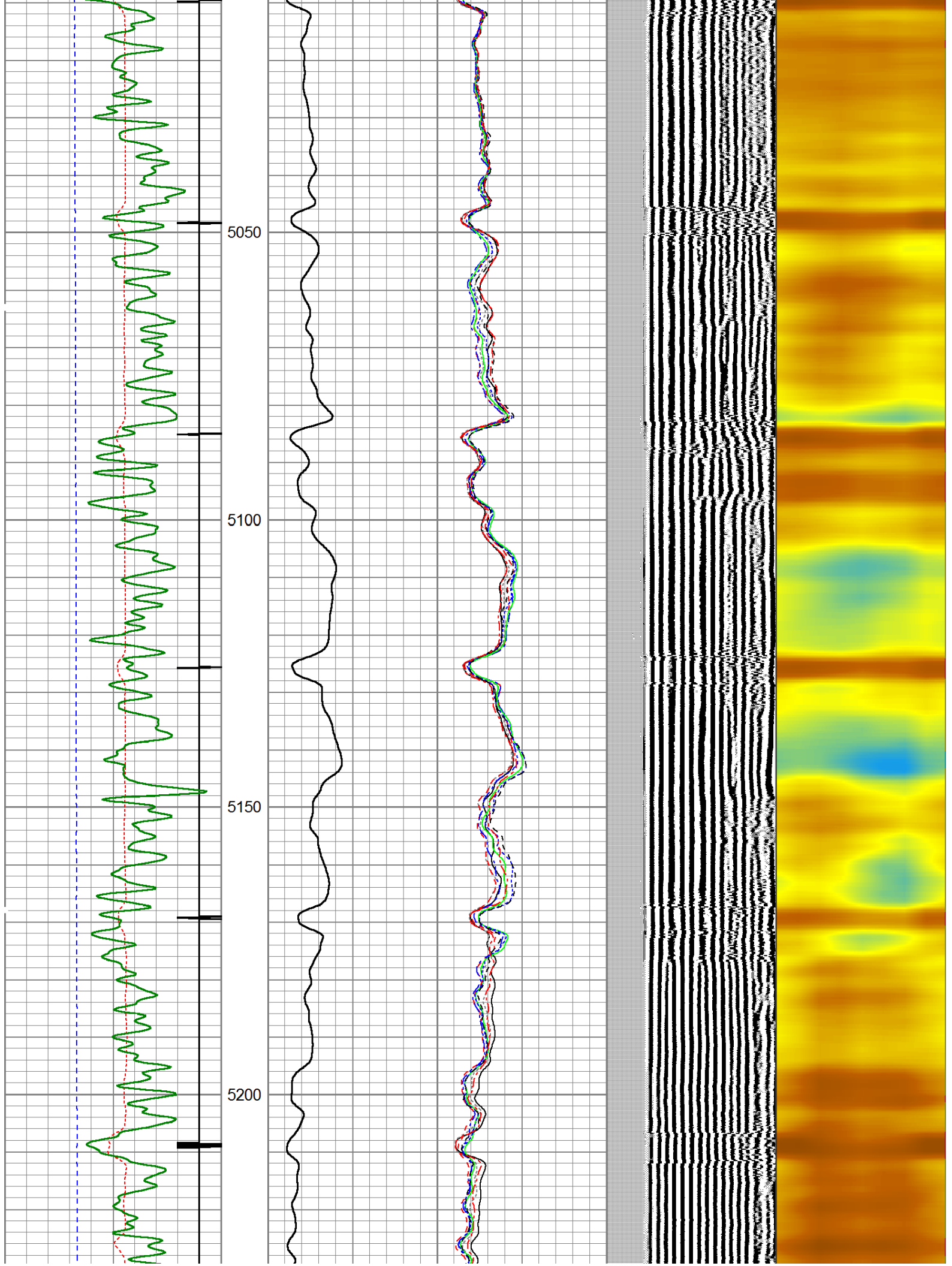


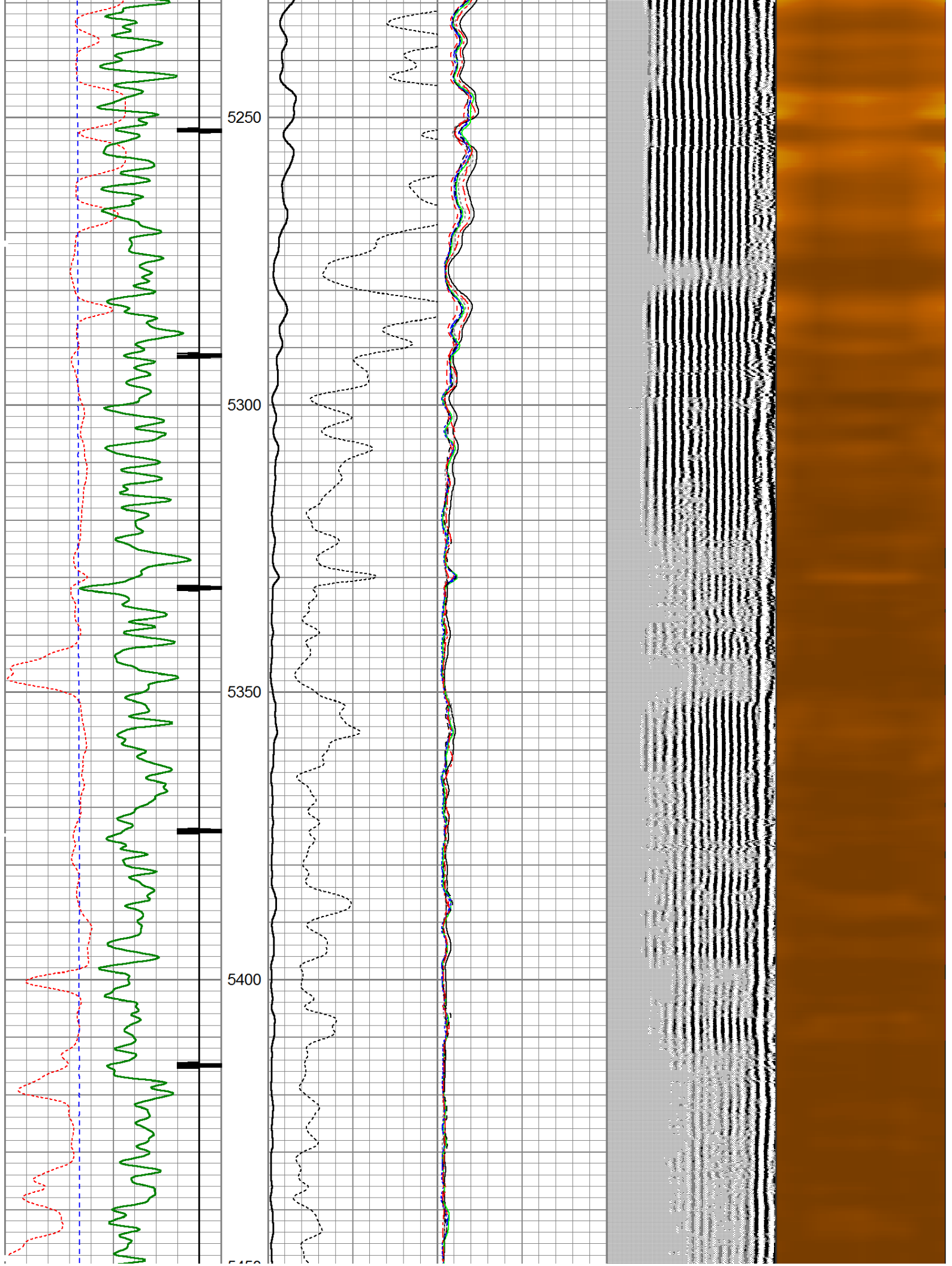


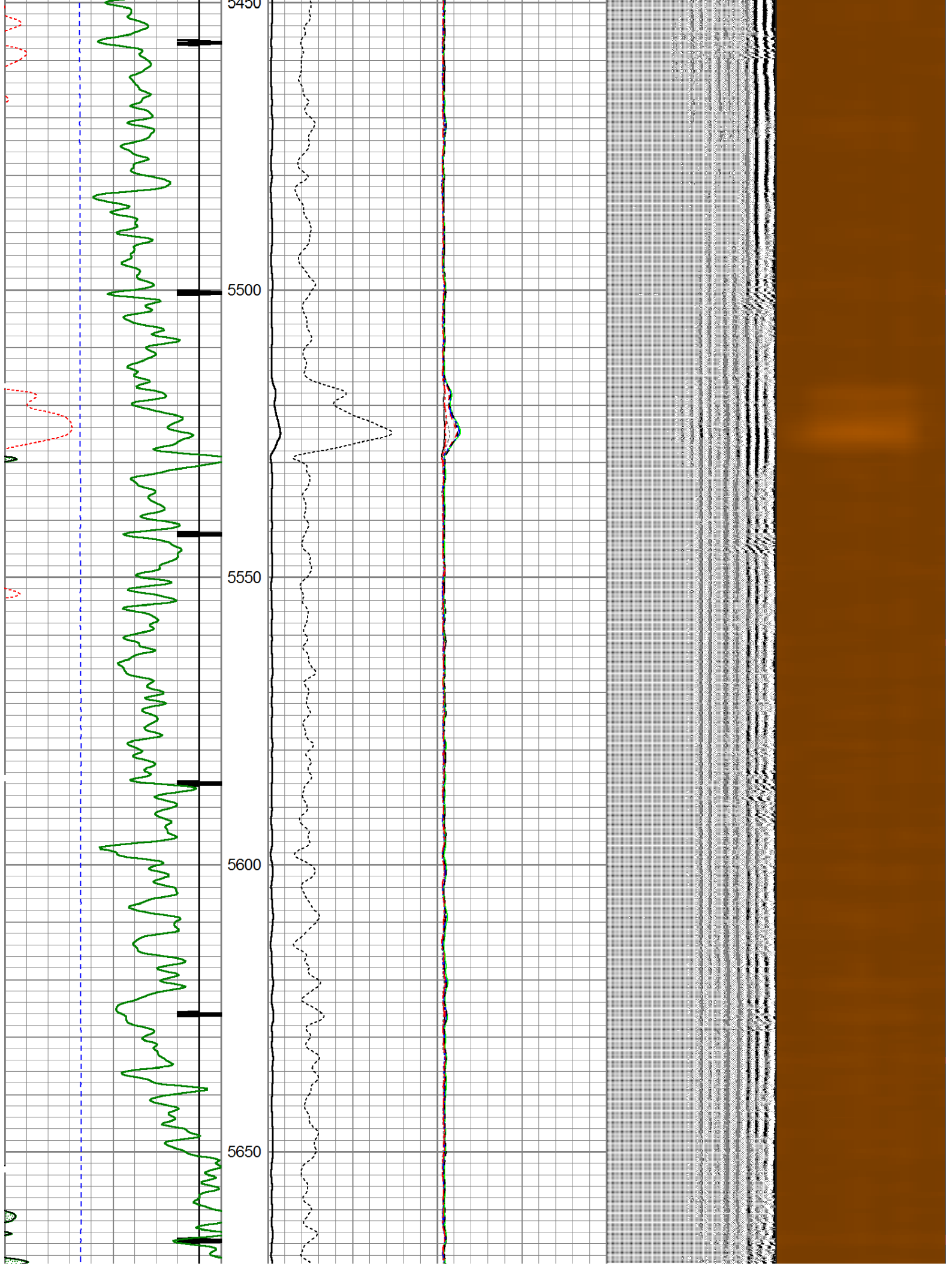


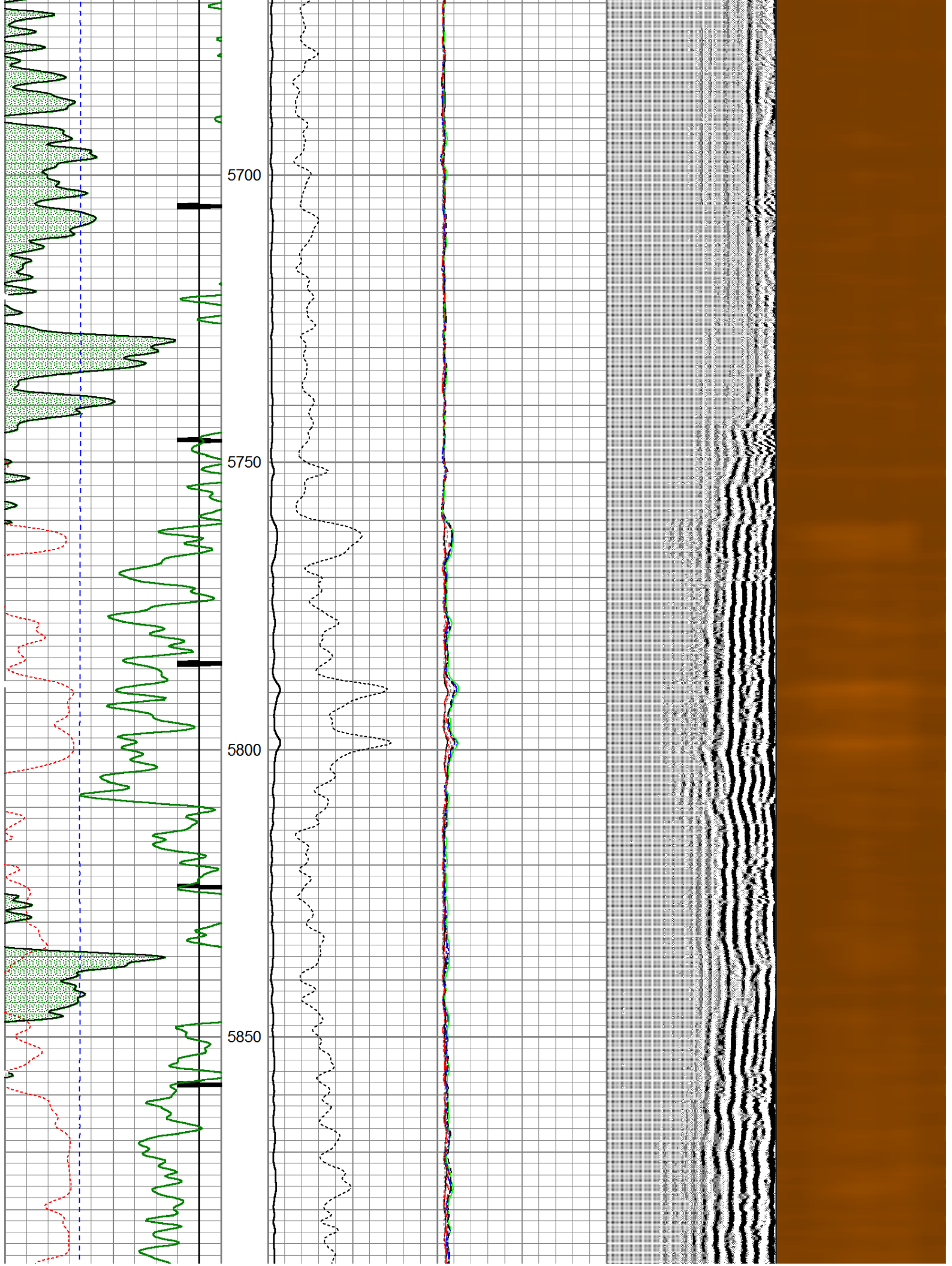


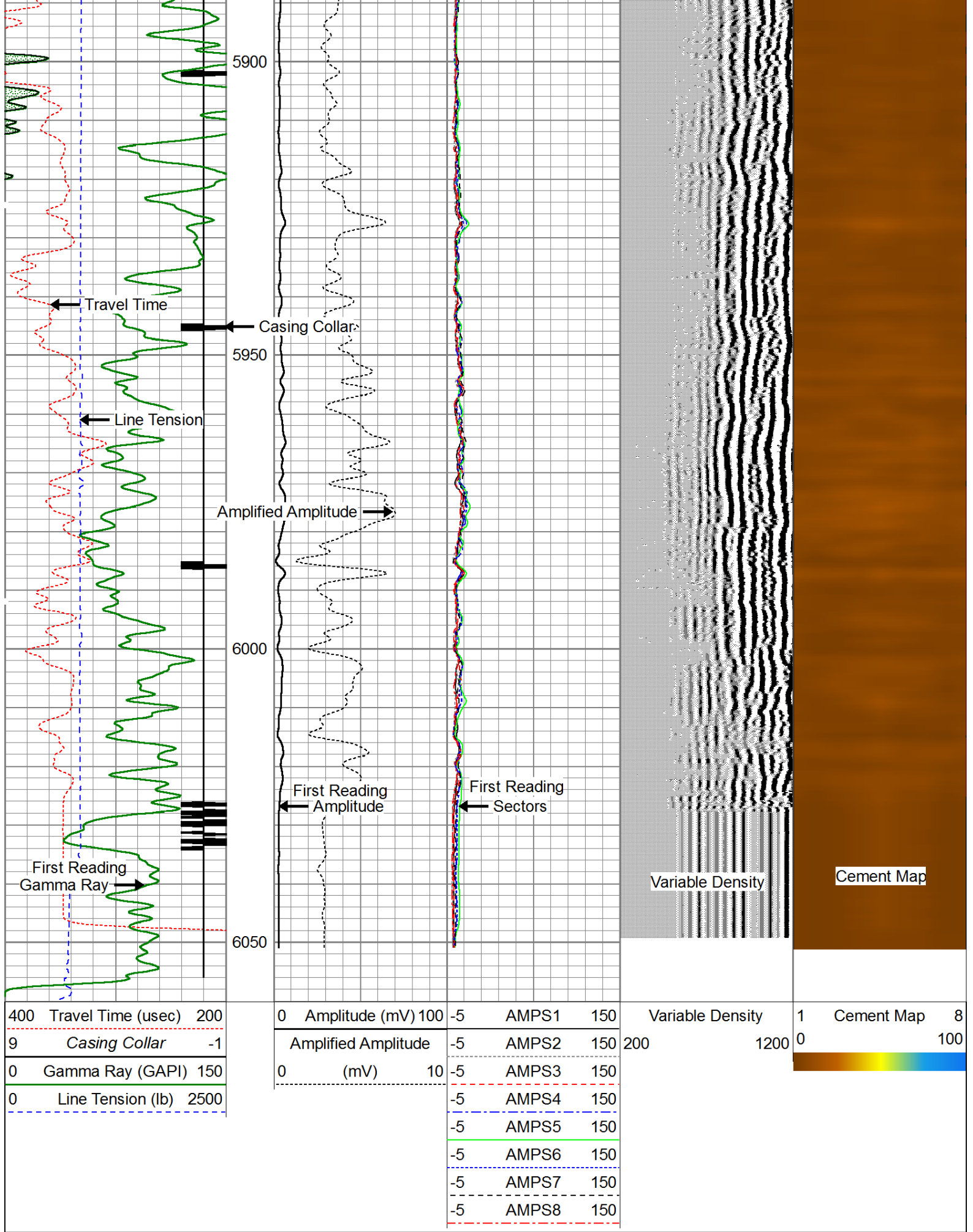










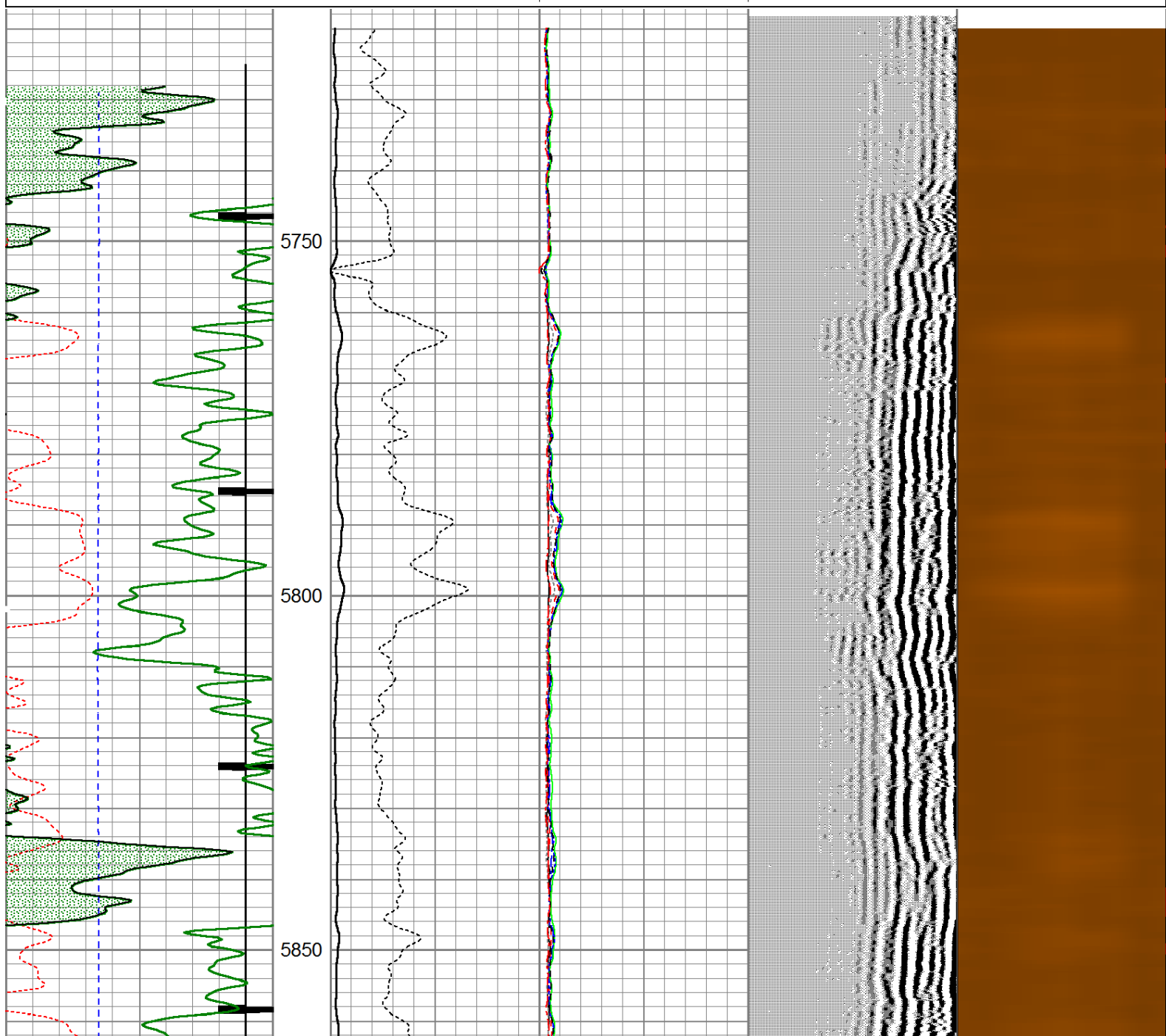


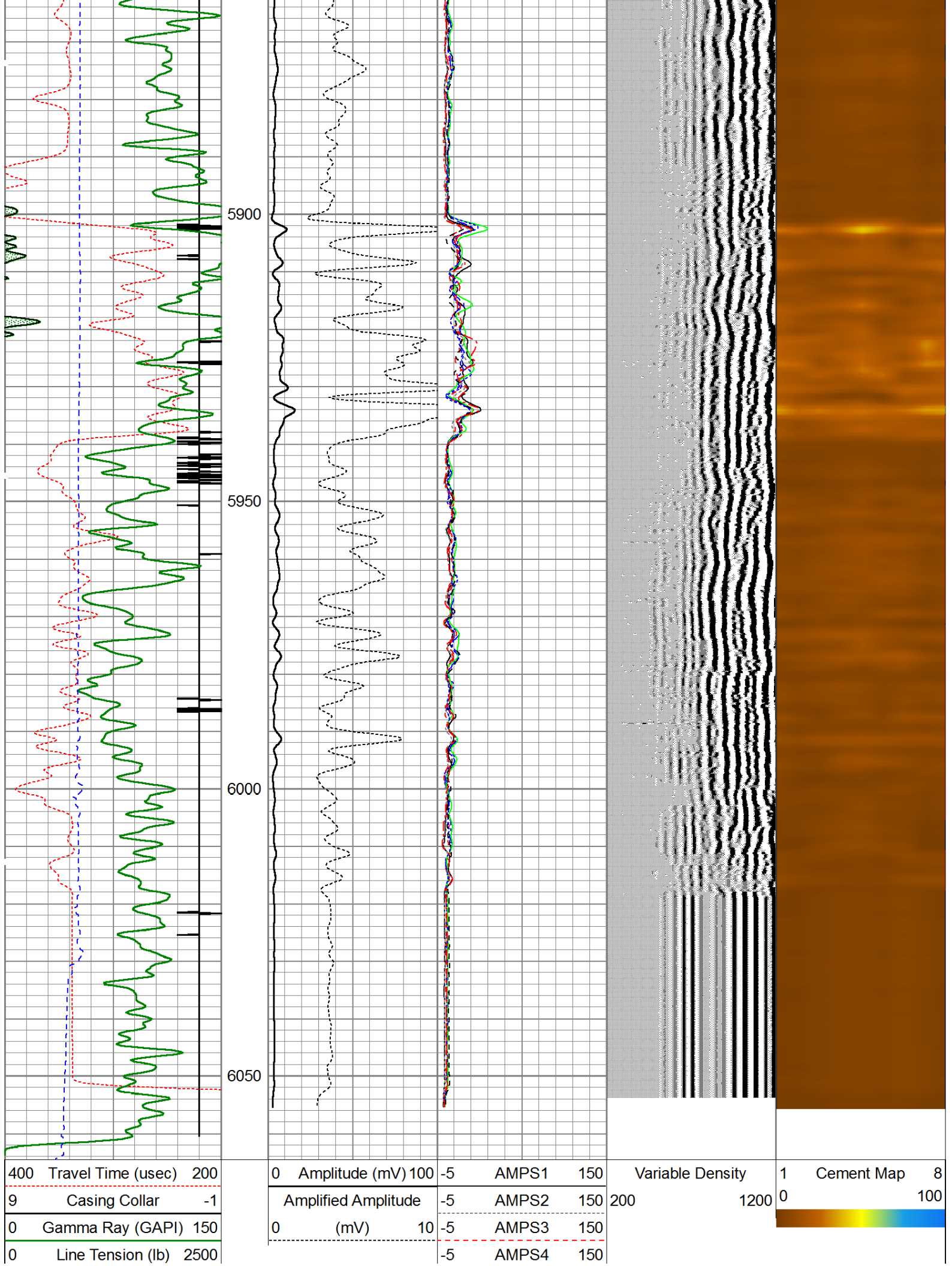
Database File: noble energy rohn state ld09-69hn_cbl.db
 Dataset Pathname: pass3
 Presentation Format: scbl03
 Dataset Creation: Fri Oct 11 17:11:03 2013 by Log SCH 120126
 Charted by: Depth in Feet scaled 1:240

400	Travel Time (usec)	200
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	2500

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
			-5	AMPS9	150

Variable Density	1	Cement Map	8
200	1200	0	100





-5	AMPS5	150
-5	AMPS6	150
-5	AMPS7	150
-5	AMPS8	150

Calibration Report

Database File: noble energy rohn state ld09-69hn_cbl.db
Dataset Pathname: pass4
Dataset Creation: Fri Oct 11 17:19:04 2013 by Log SCH 120126

Gamma Ray Calibration Report

Serial Number: 110108-Dig
Tool Model: Probe275
Performed: Wed Jul 10 19:14:22 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 Sep 29 11:21:21 2013

	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	1	

Segmented Cement Bond Log Calibration Report

Serial Number: 111107
Tool Model: Probe

Calibration Casing Diameter: 7.000 in
Calibration Depth: 1772.855 ft

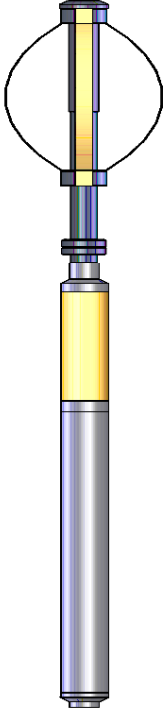
Master Calibration, performed Fri Oct 11 17:10:48 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.014	0.609	1.000	62.165	98.215	2.939
CAL	-0.019	0.988				
5'	-0.012	0.521	1.000	62.165	114.626	2.389
SUM						
S1	-0.007	0.654	0.000	100.000	151.292	1.056
S2	-0.005	0.725	0.000	100.000	136.956	0.694
S3	-0.011	0.724	0.000	100.000	136.073	1.432
S4	-0.014	0.667	0.000	100.000	146.755	2.051
S5	-0.017	0.588	0.000	100.000	165.375	2.764
S6	-0.012	0.528	0.000	100.000	185.335	2.201
S7	-0.015	0.505	0.000	100.000	192.305	2.887
S8	-0.010	0.534	0.000	100.000	183.850	1.757

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:						
CAL	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
	0.000	0.000	-0.019	0.988	1.000	0.000

Air Zero Calibration, performed Wed Oct 09 08:37:09 2013:			
	Raw (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)
CHD	20.28		Titan Cable_head	1.00	1.44	10.00
CENT	19.28		Probe275 2.75" Centralizer	2.88	2.75	20.00
WVF3FT	11.84		RBT-Probe (111107) 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					

CENT	7.66		2.88	2.75	20.00
GR	4.78				
TEMP	4.00				
CCL	3.88				
GR	2.54				
<p>Dataset: noble energy rohn state ld09-69hn_cbl.db: field/well/run1/pass4</p> <p>Total Length: 20.28 ft</p> <p>Total Weight: 197.00 lb</p> <p>O.D. 2.75 in</p>					