



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

Company		Noble Energy	
Well		Schafer K16-64-1HN	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-37807	
SEC 16 TWP 4N RGE 66W		None	
Permanent Datum		Ground Level	
Log Measured From		16' Kelly Bushing	
Drilling Measured From		Kelly Bushing	
Elevation		4744'	
Other Services		None	
Date		January 28, 2014	
Run Number		1	
Depth Driller		11642'	
Depth Logger		7211'	
Bottom Logged Interval		5998'	
Top Log Interval		Surface	
Open Hole Size		8.75	
Type Fluid		Fresh Water	
Density / Viscosity		8.33	
Max. Recorded Temp.		210	
Estimated Cement Top		-	
Time Well Ready		13:01	
Time Logger on Bottom		14:14	
Equipment Number		13033	
Location		Brighton	
Recorded By		Cody Rall	
Witnessed By		B. Mansfield	
Borehole Record		Tubing Record	
Run Number		Bit	
One		From	
Two		To	
Three		Size	
Four		Weight	
Casing Record		From	
Surface String		To	
Prot. String		Size	
Production String		Weight	
Liner		From	
Short Joint		To	

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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 16' KB.

Main Pass logged w/2000 PSI  
Repeat Pass logged w/0 PSI

Short Joint @ 5998' to 6011'

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



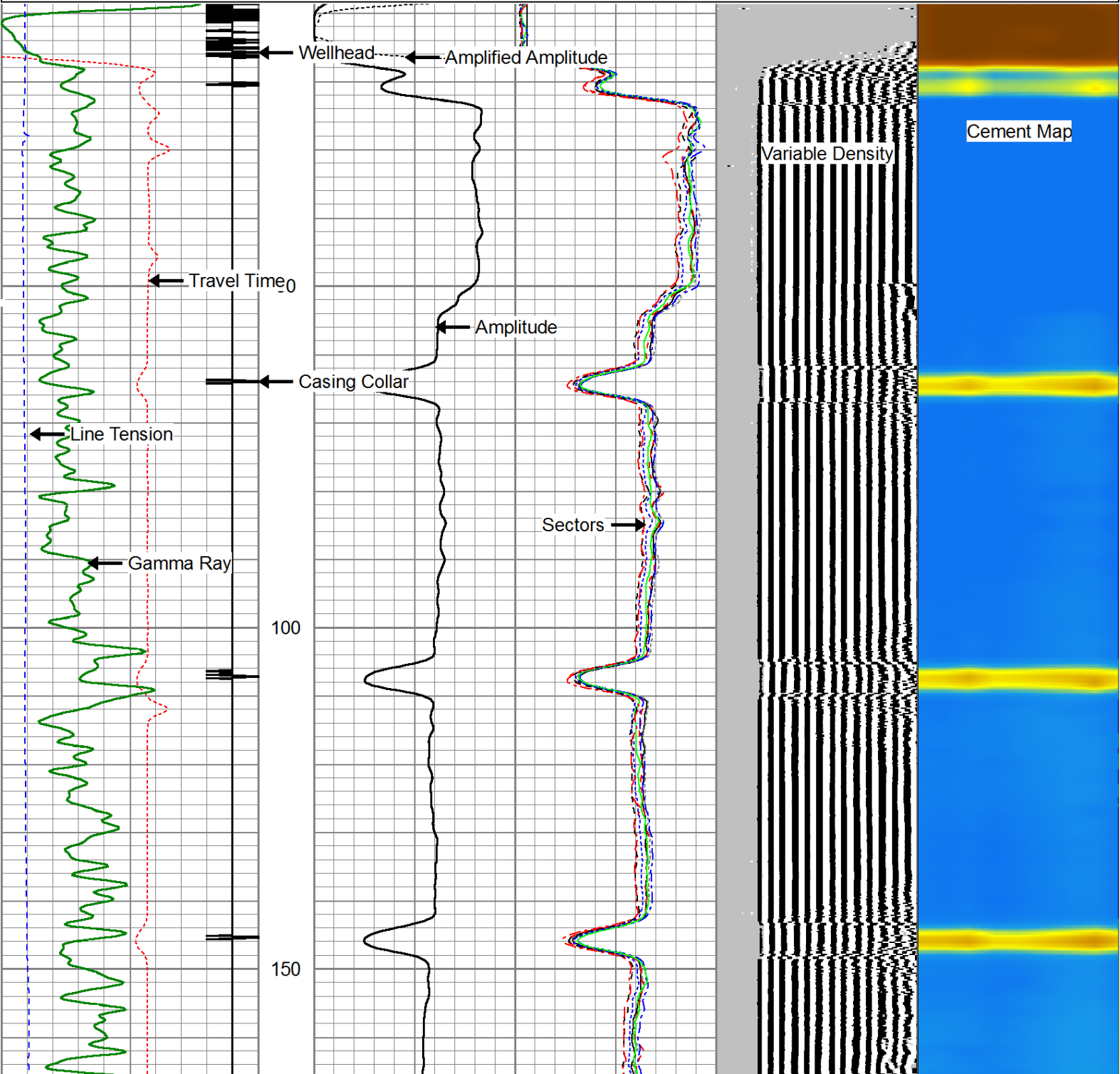
Main Pass ( 2000 PSI )

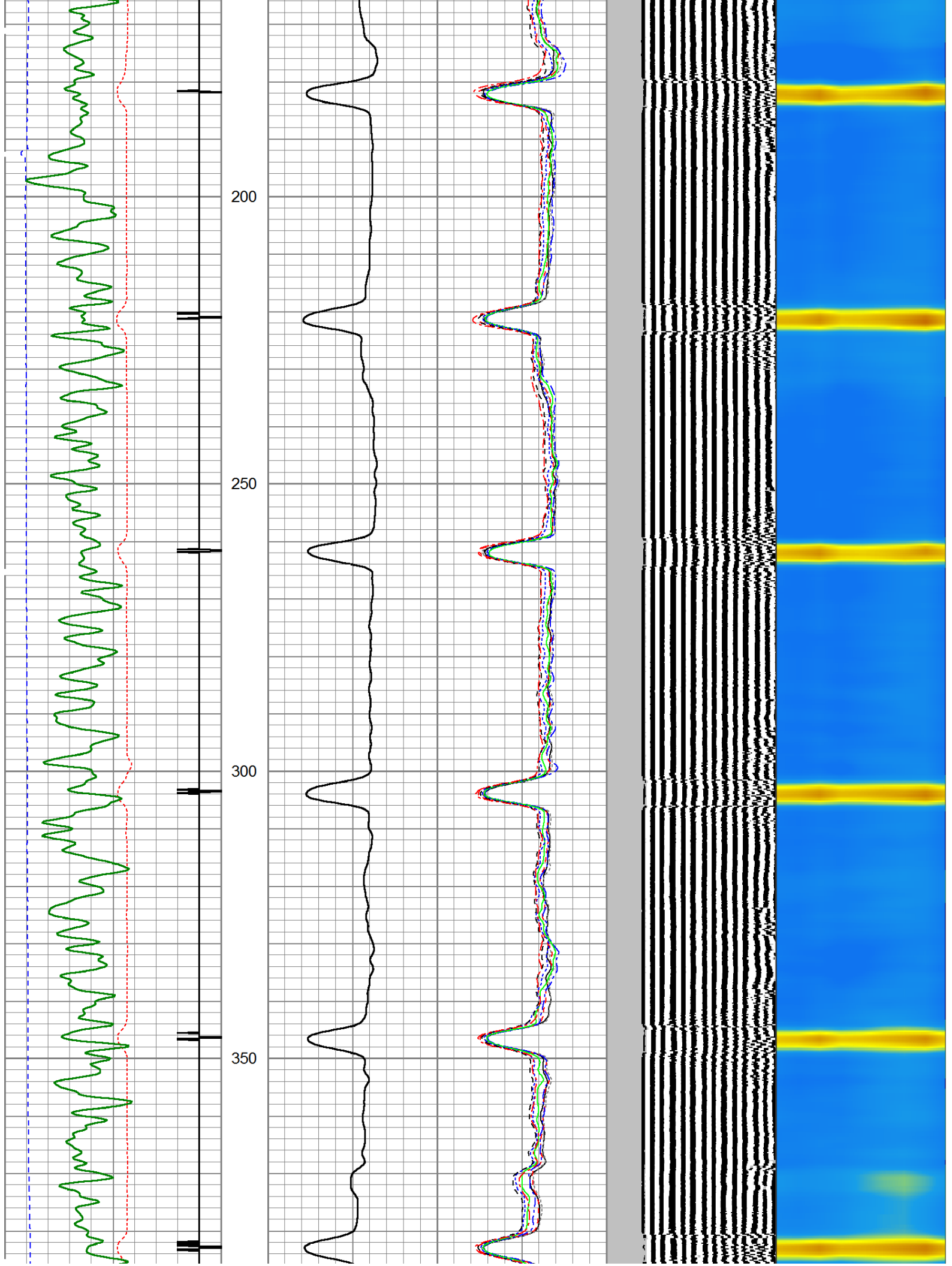
Database File: noble energy schaffer k16-64-1hn\_rcbl.db  
Dataset Pathname: merge1.1  
Presentation Format: scbl03  
Dataset Creation: Thu Jan 30 13:21:21 2014 by Calc 0  
Charted by: Depth in Feet scaled 1:240

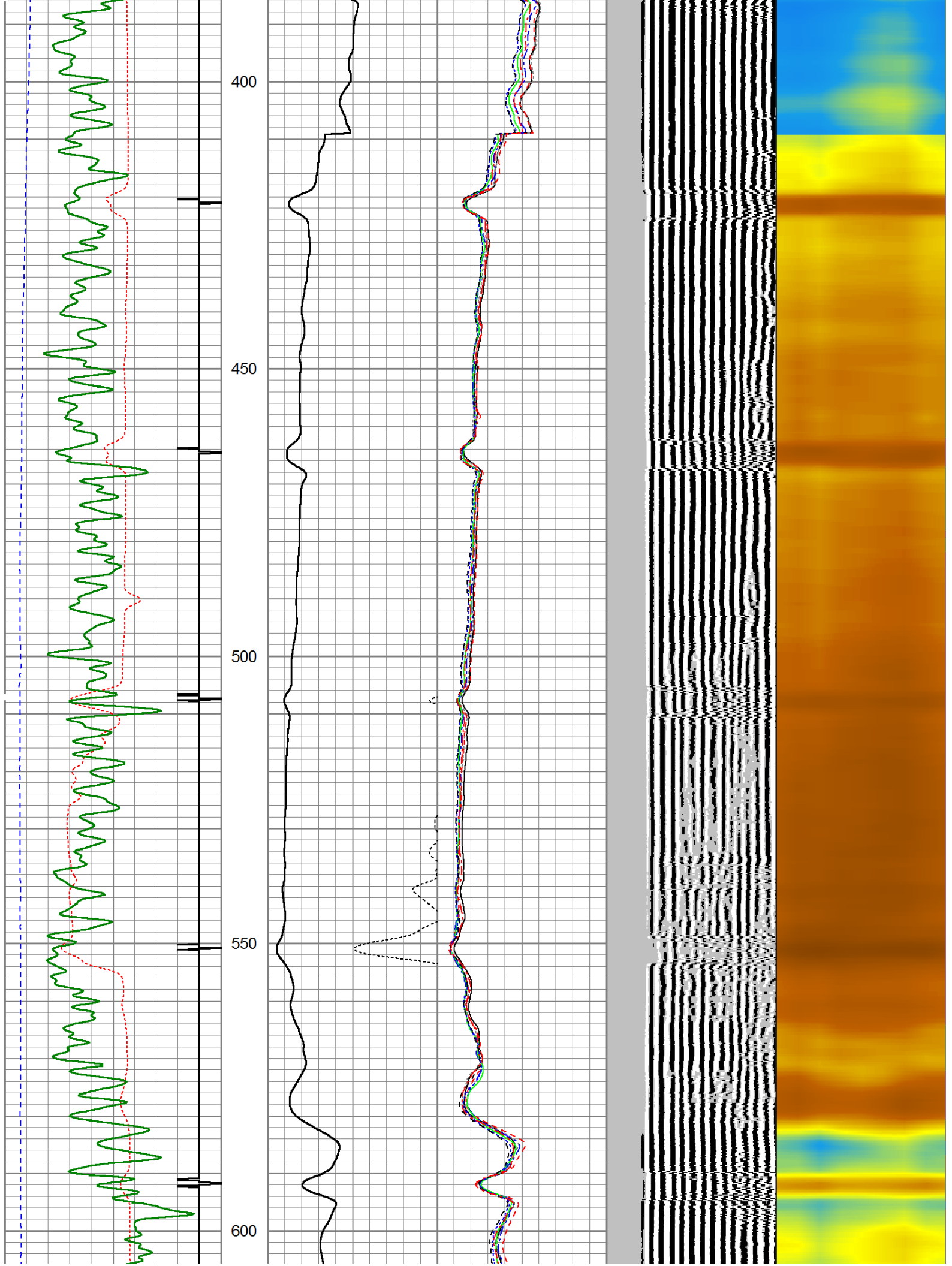
400	Travel Time (usec)	200
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	2000

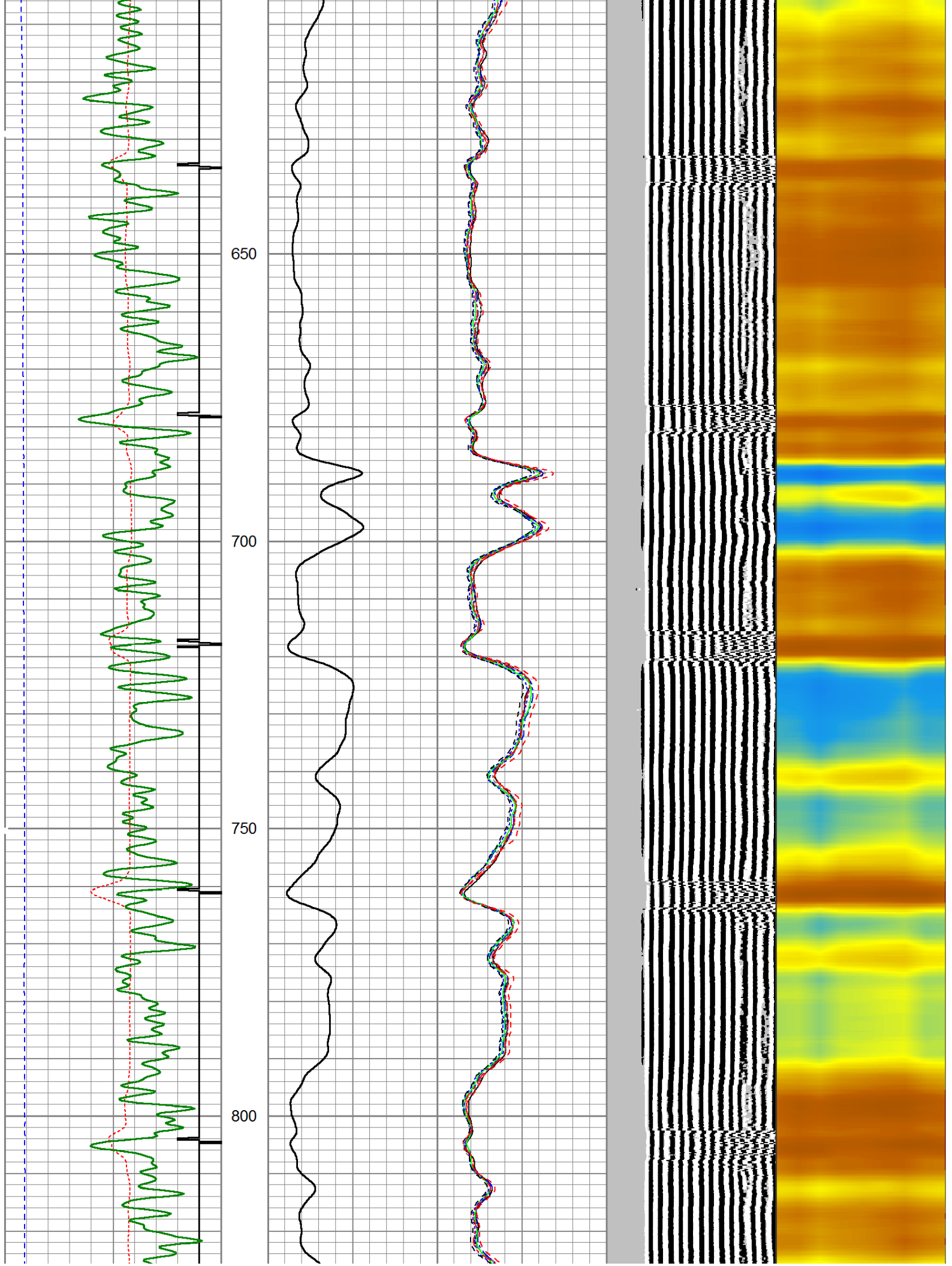
0	Amplitude (mV)	100	-5	AMPS1	150
	Amplified Amplitude		-5	AMPS2	150
0	(mV)	10	-5	AMPS3	150
			-5	AMPS4	150
			-5	AMPS5	150
			-5	AMPS6	150
			-5	AMPS7	150
			-5	AMPS8	150

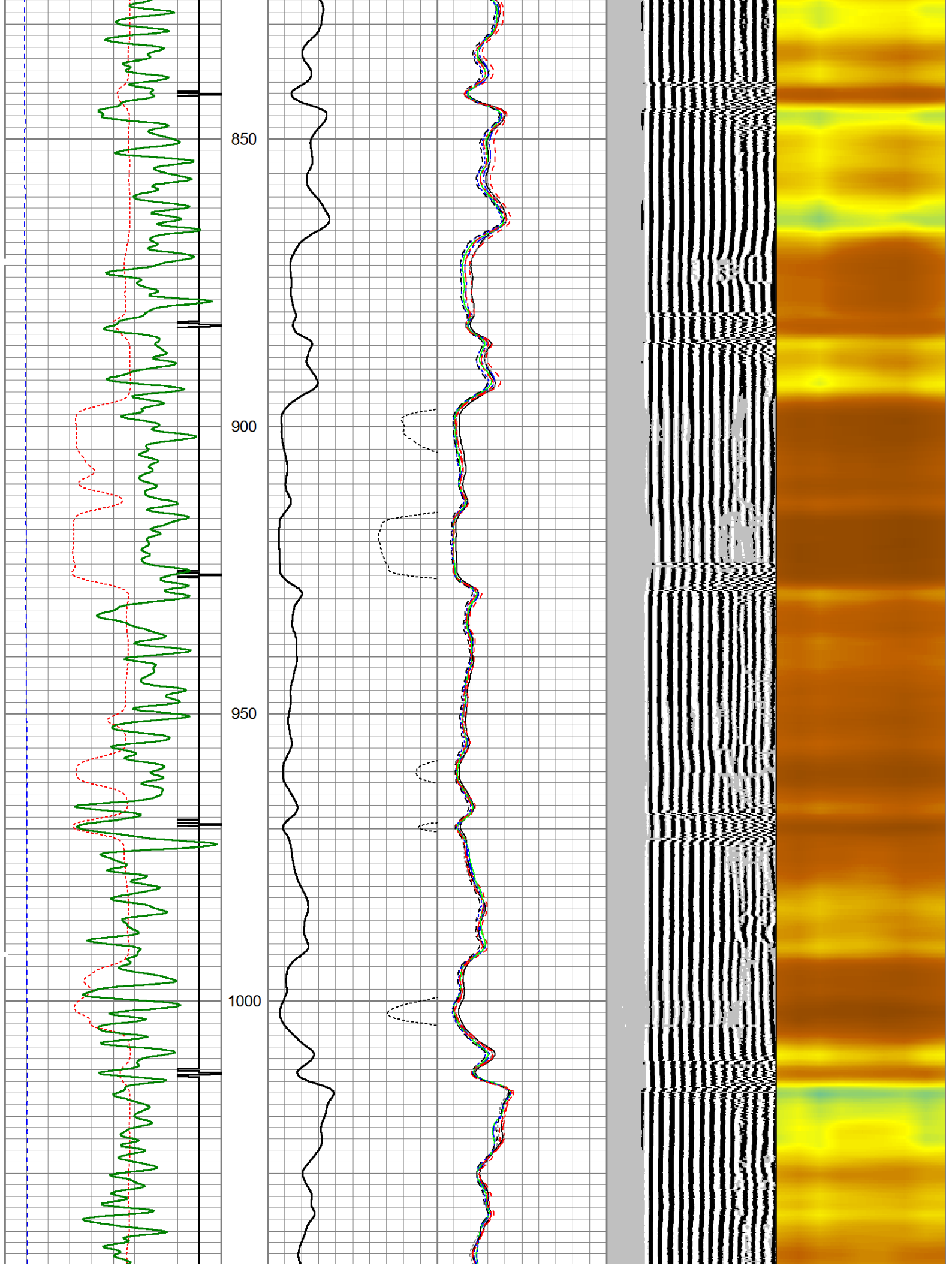
Variable Density	1	Cement Map	8
200	1200	0	100

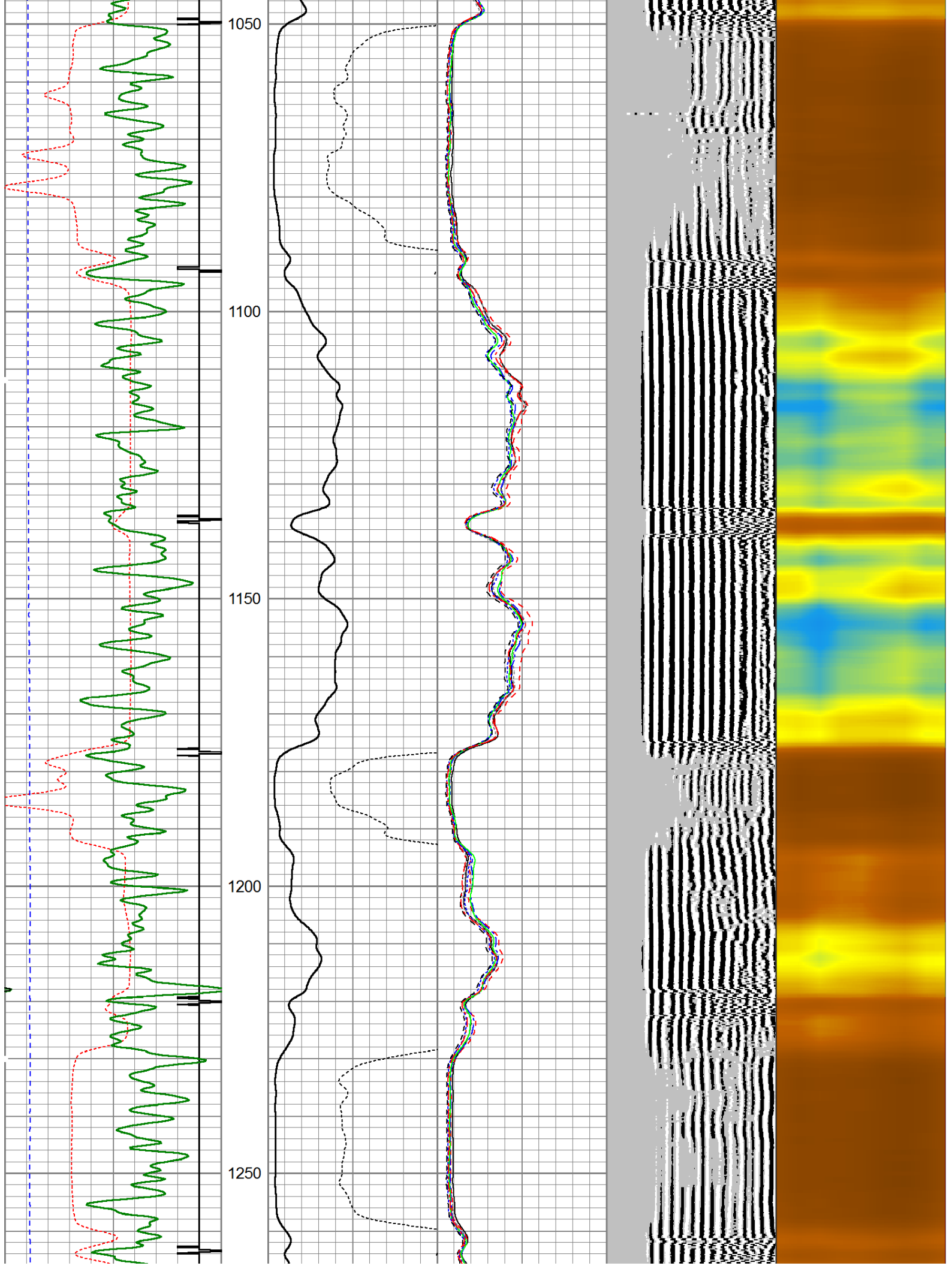


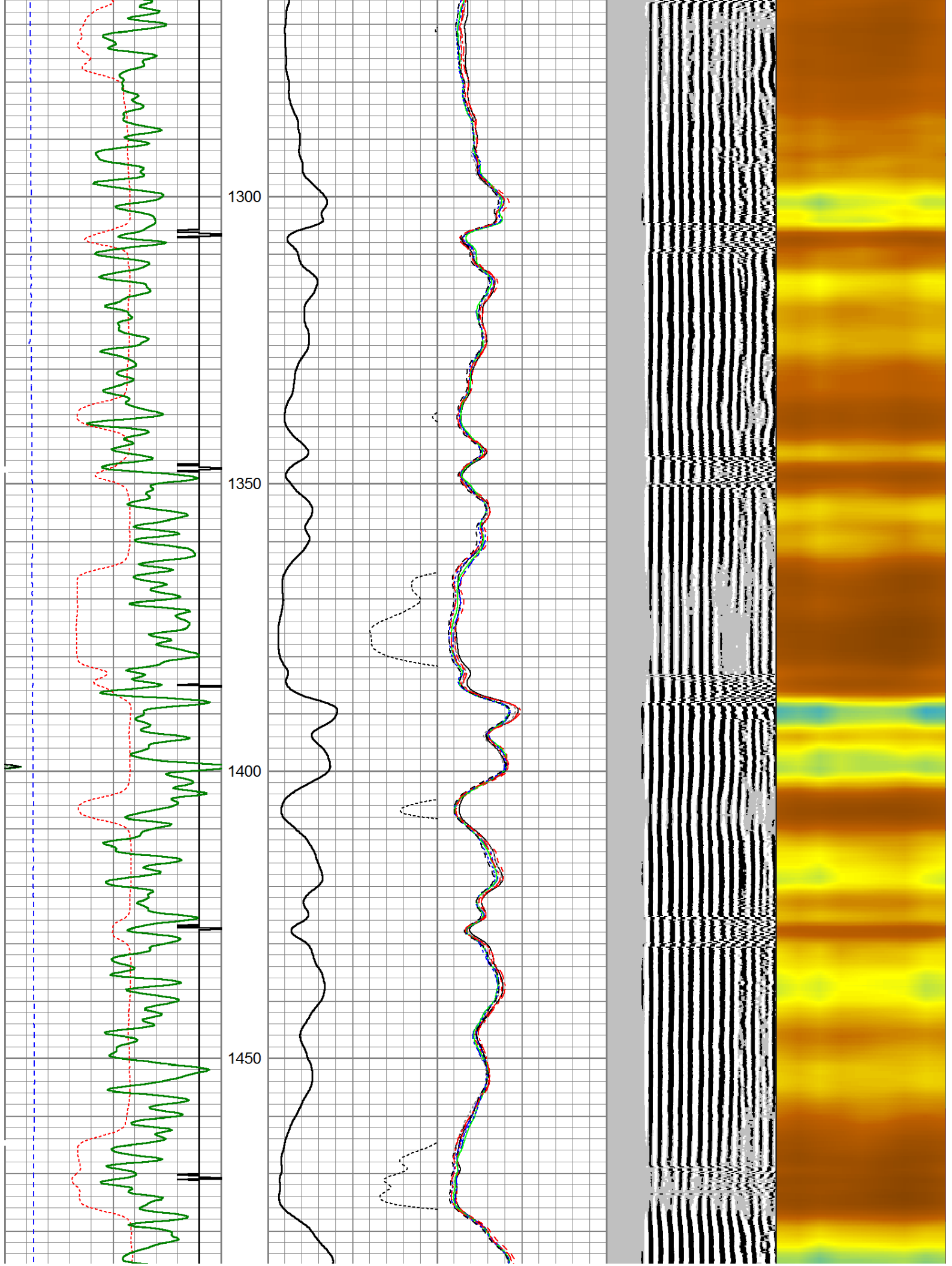


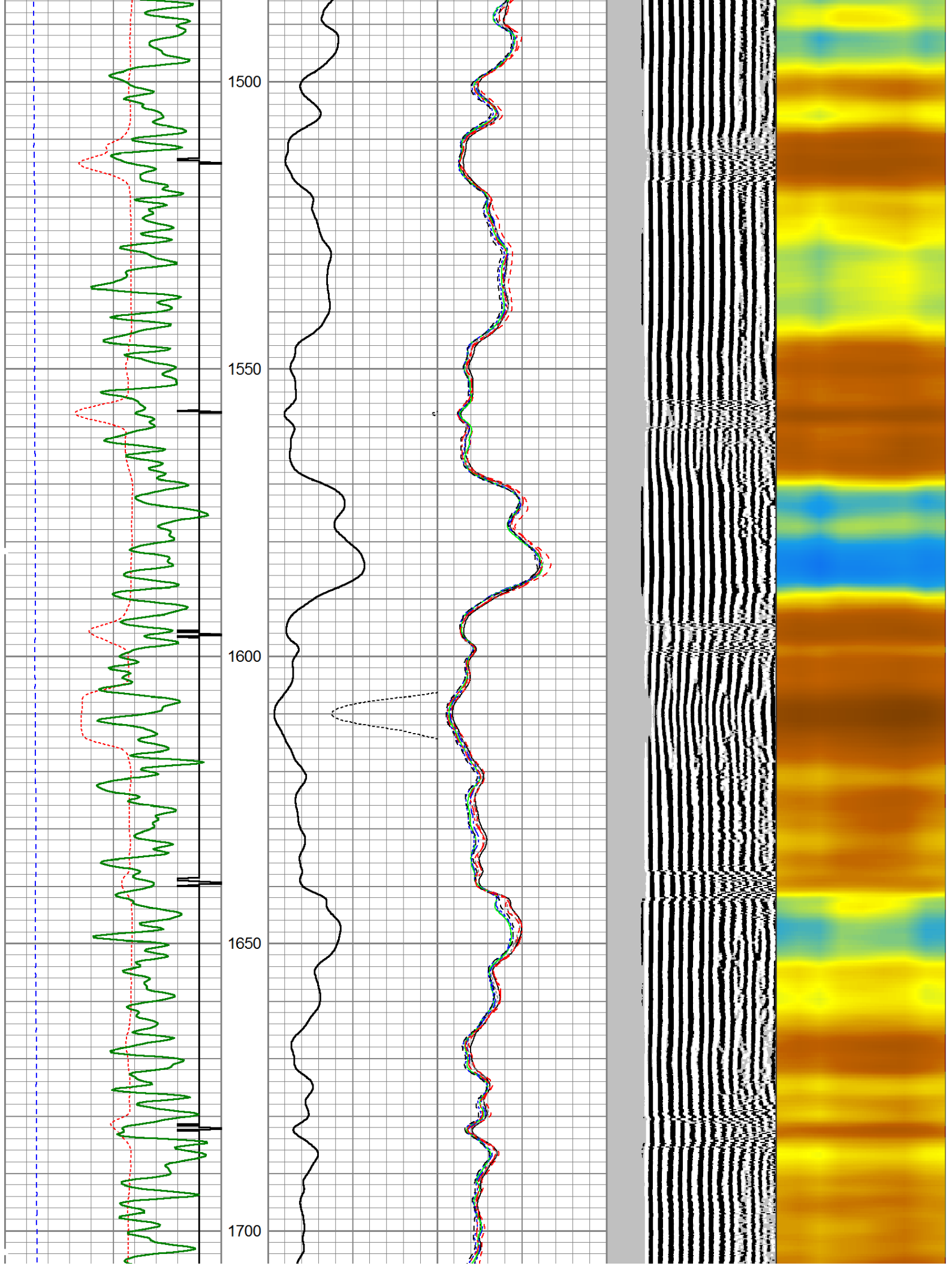


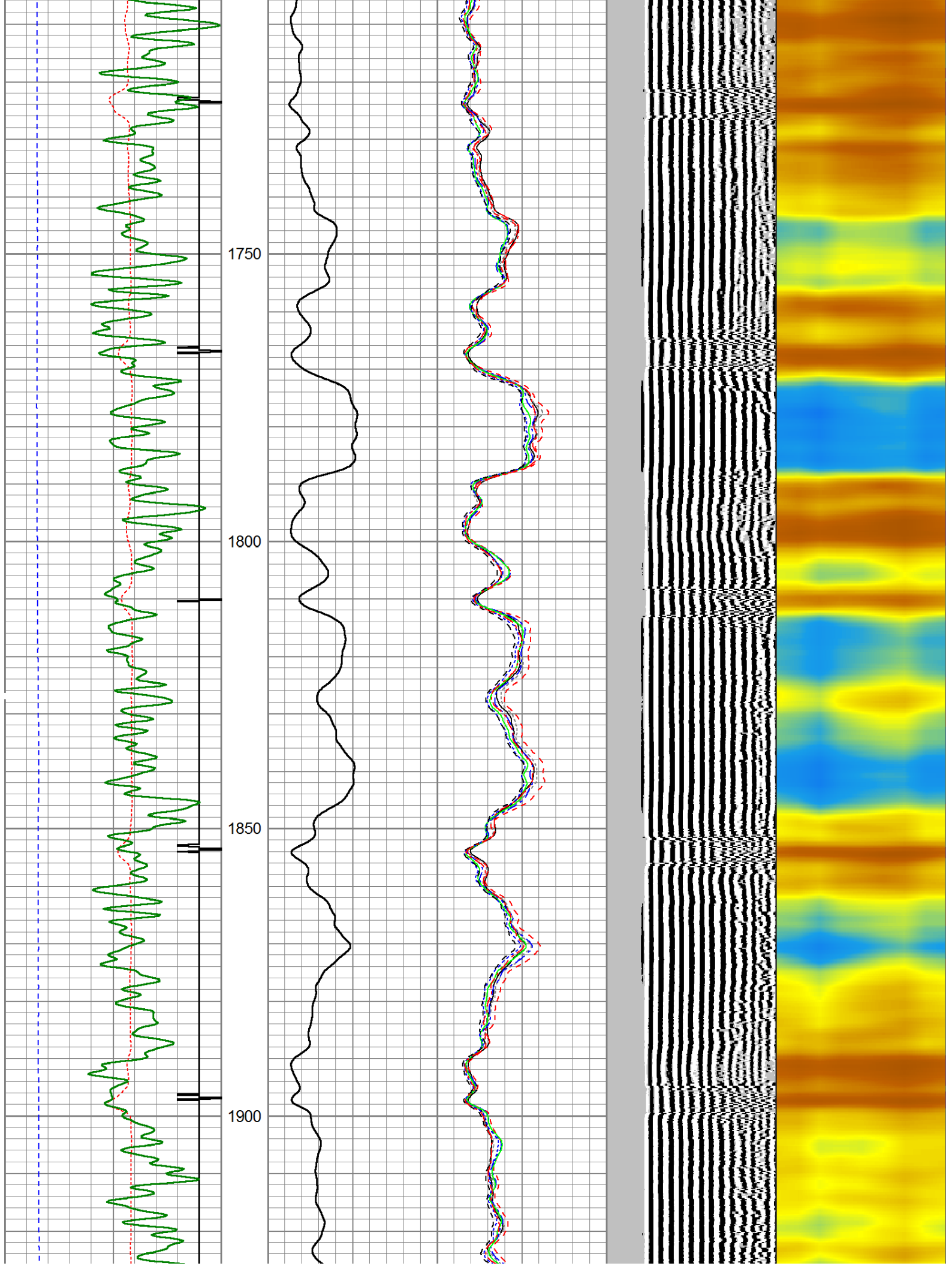


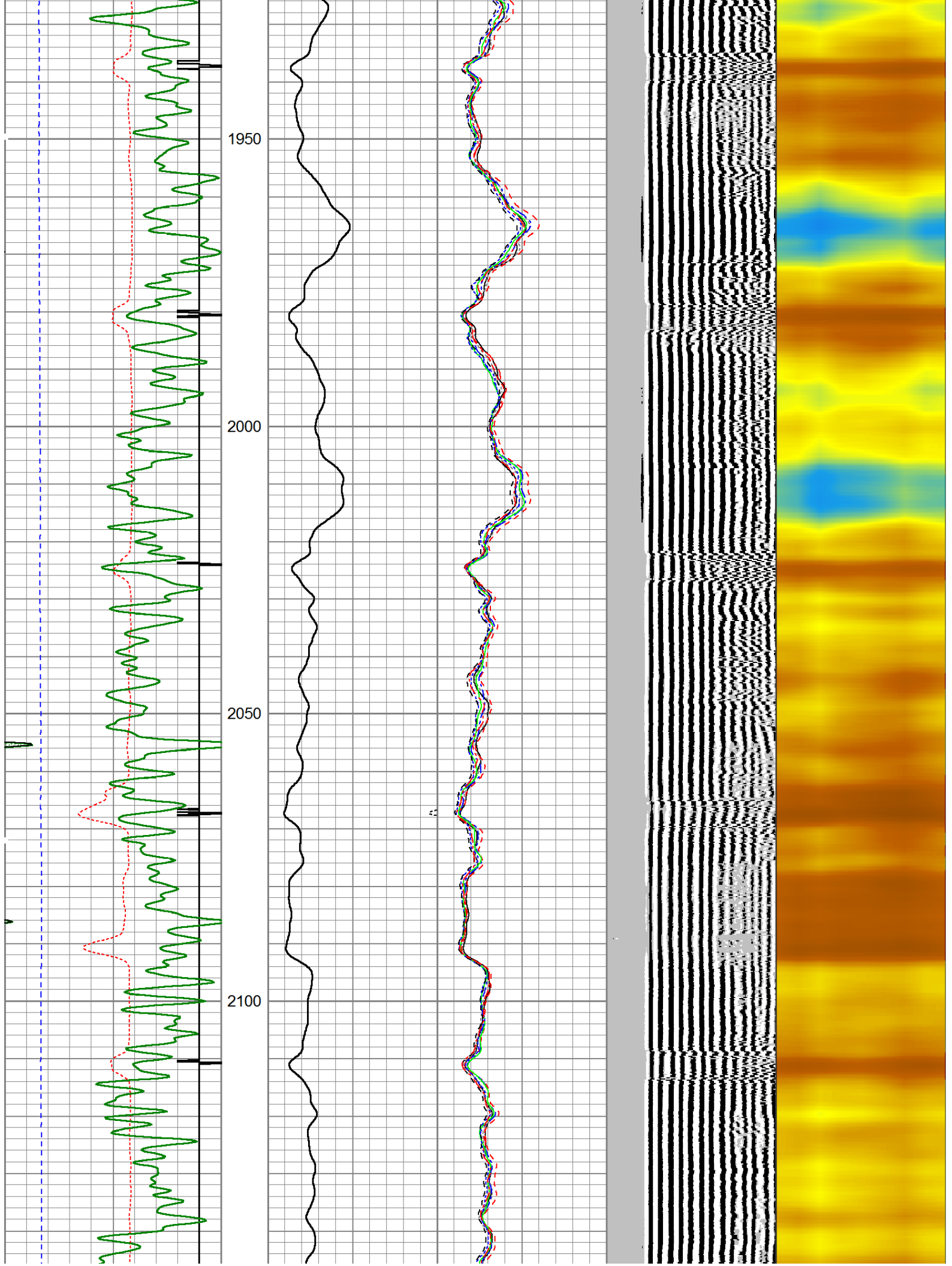


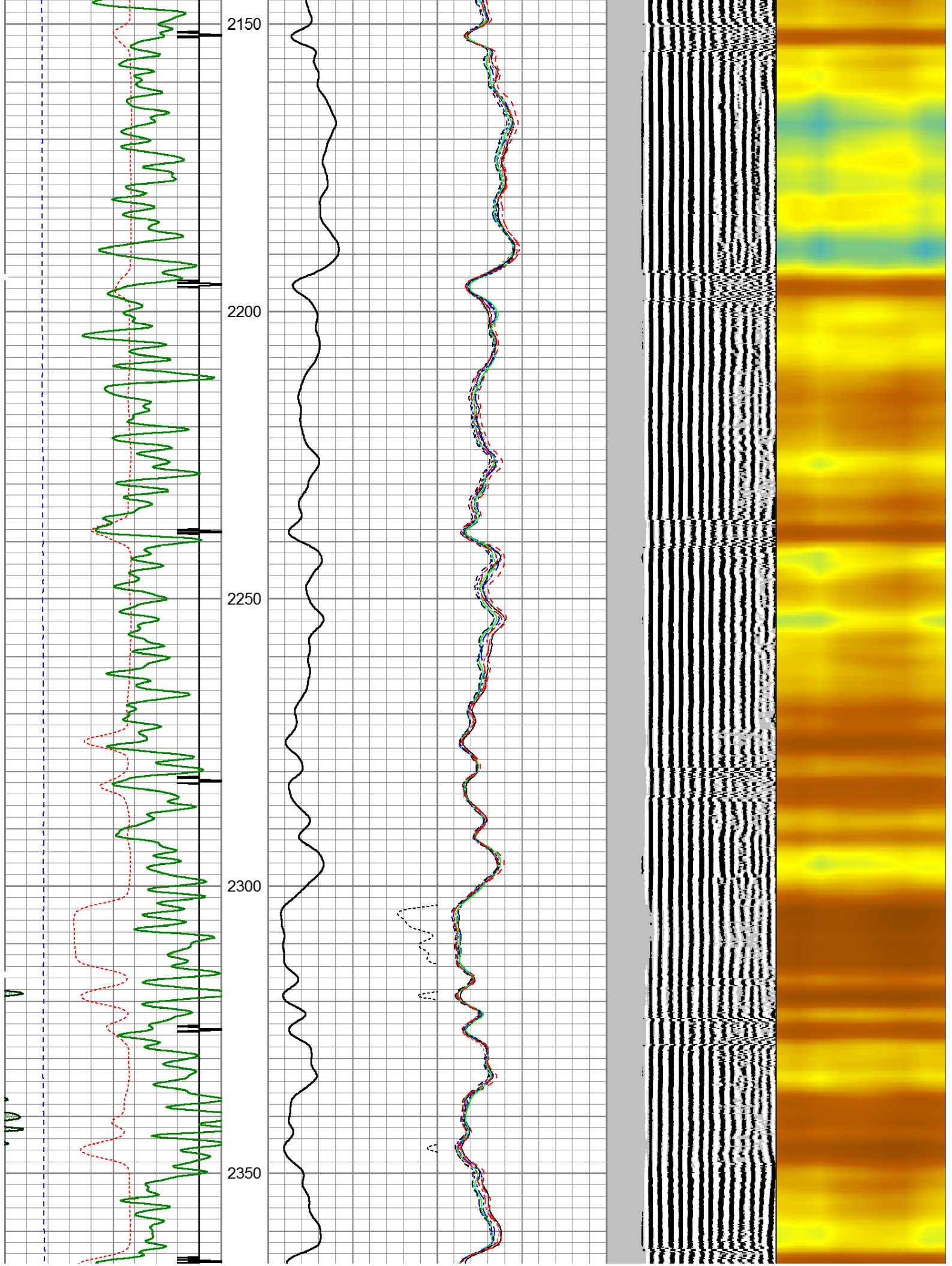


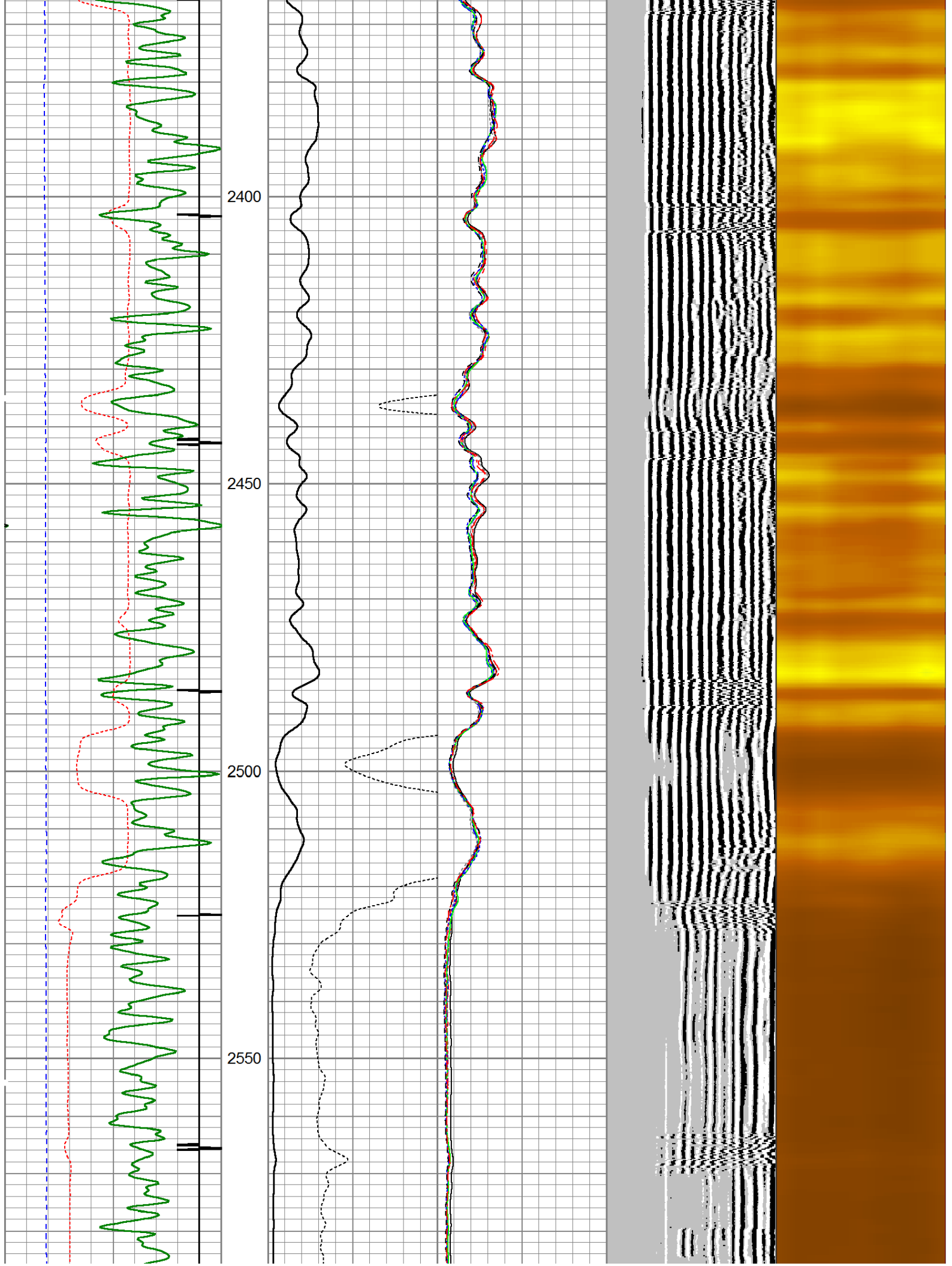


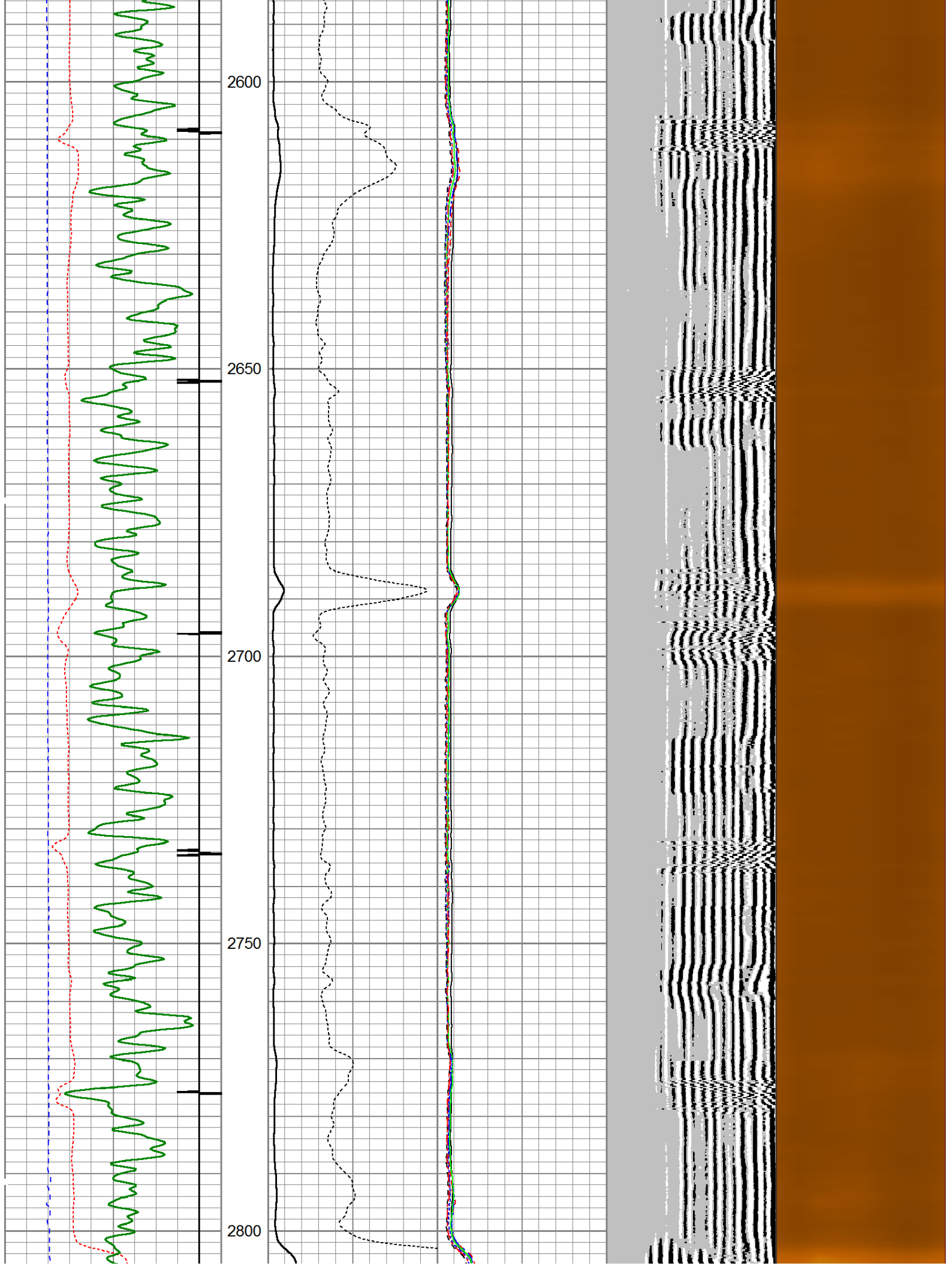


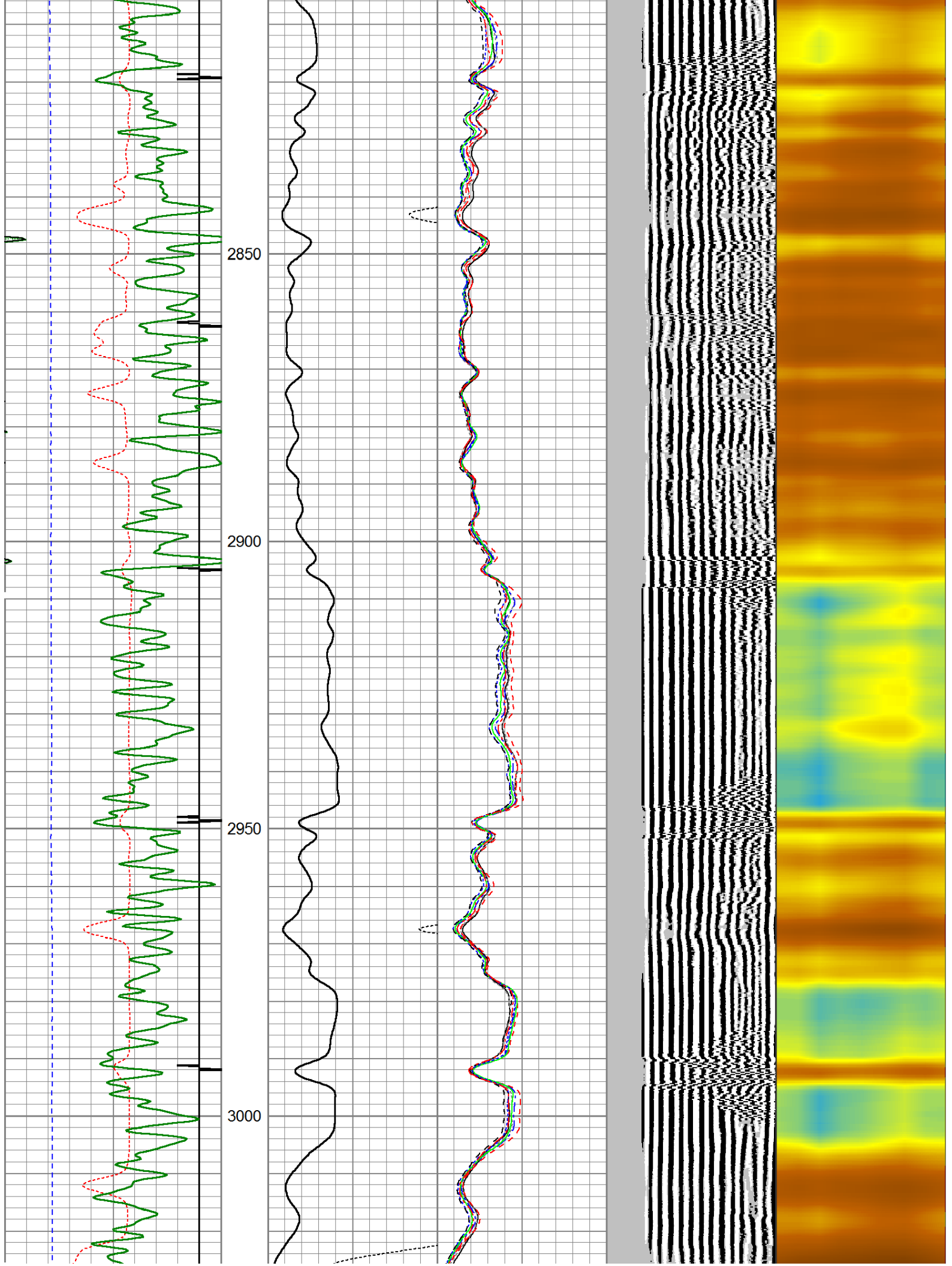


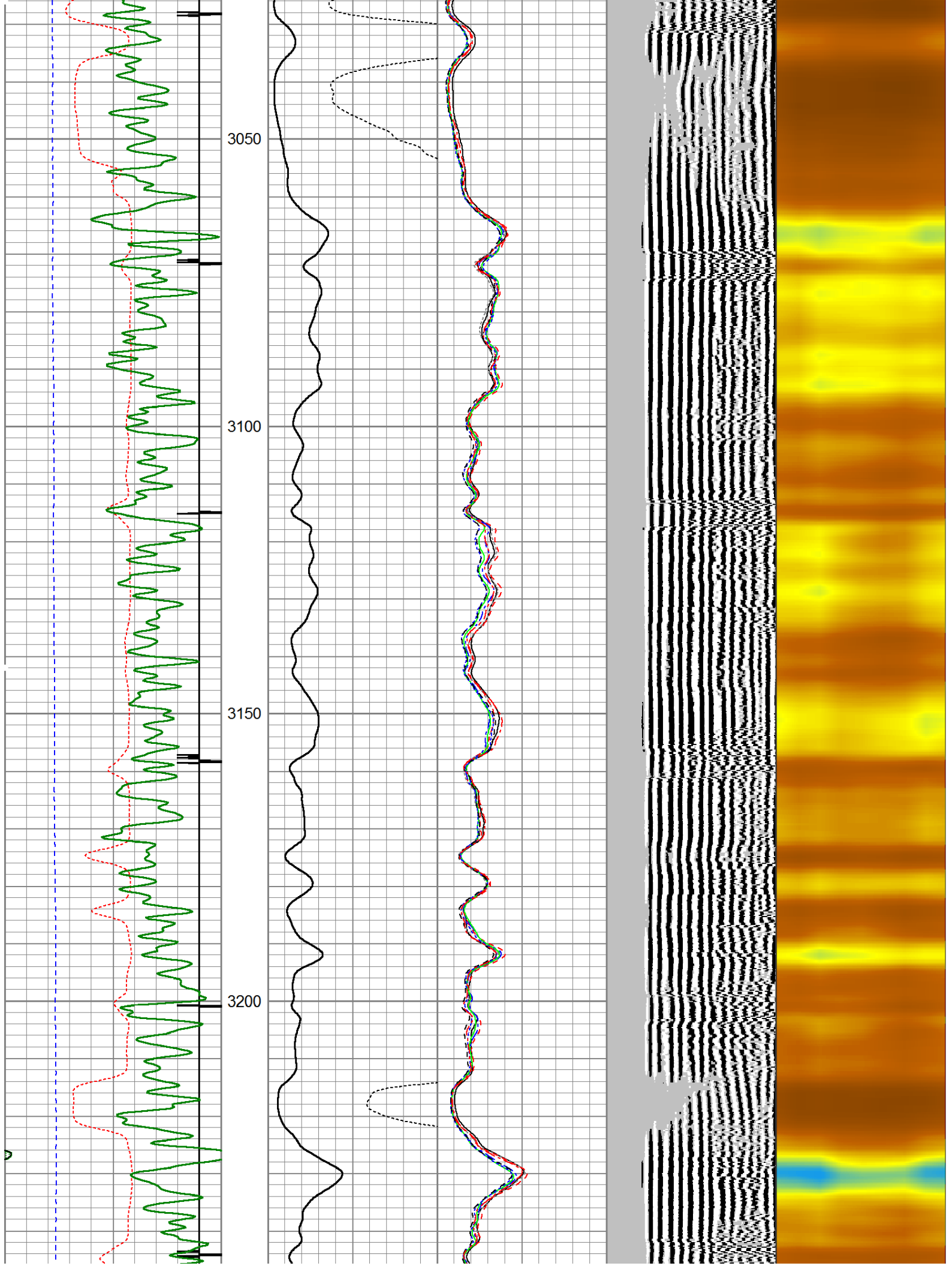


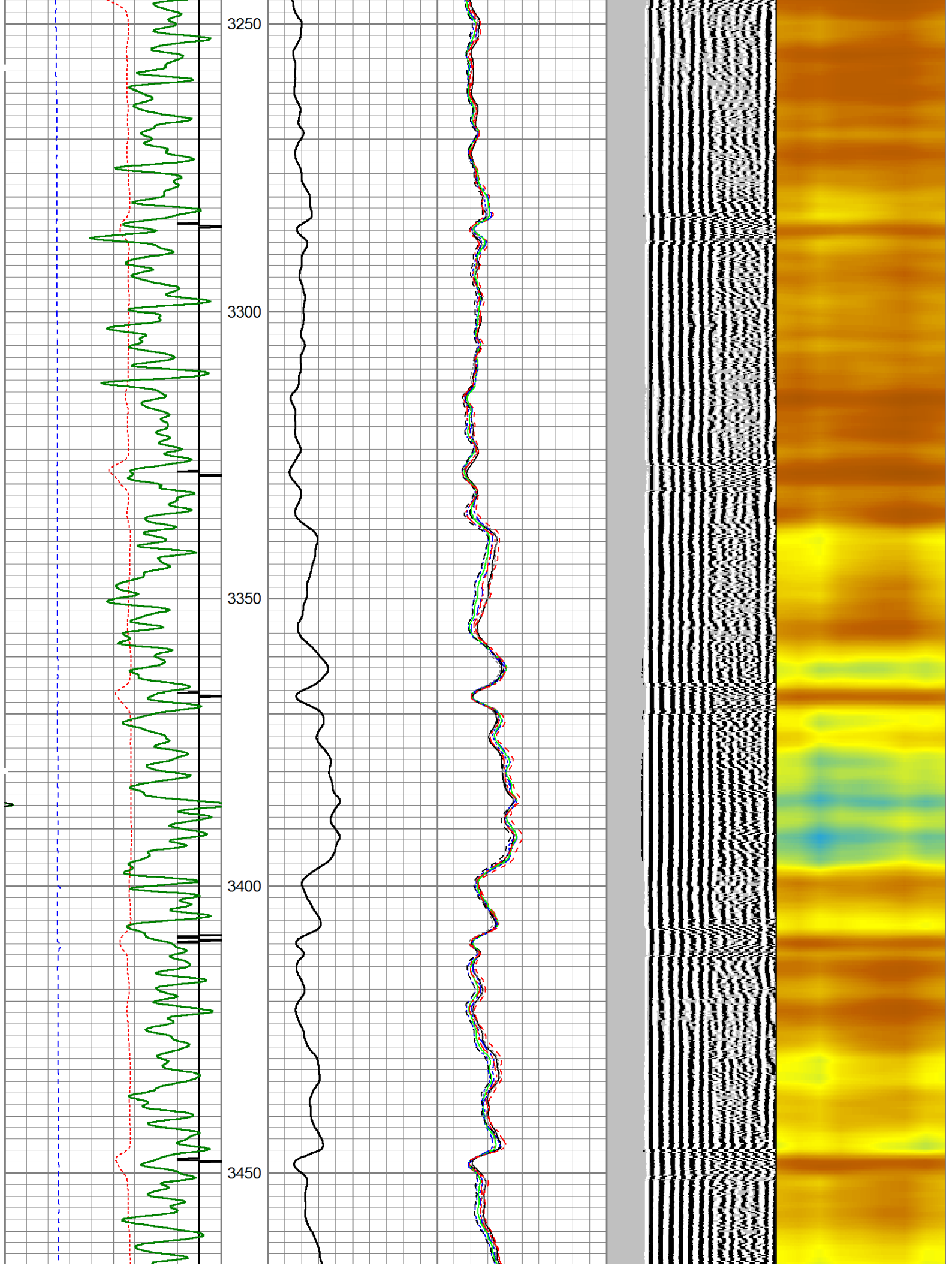


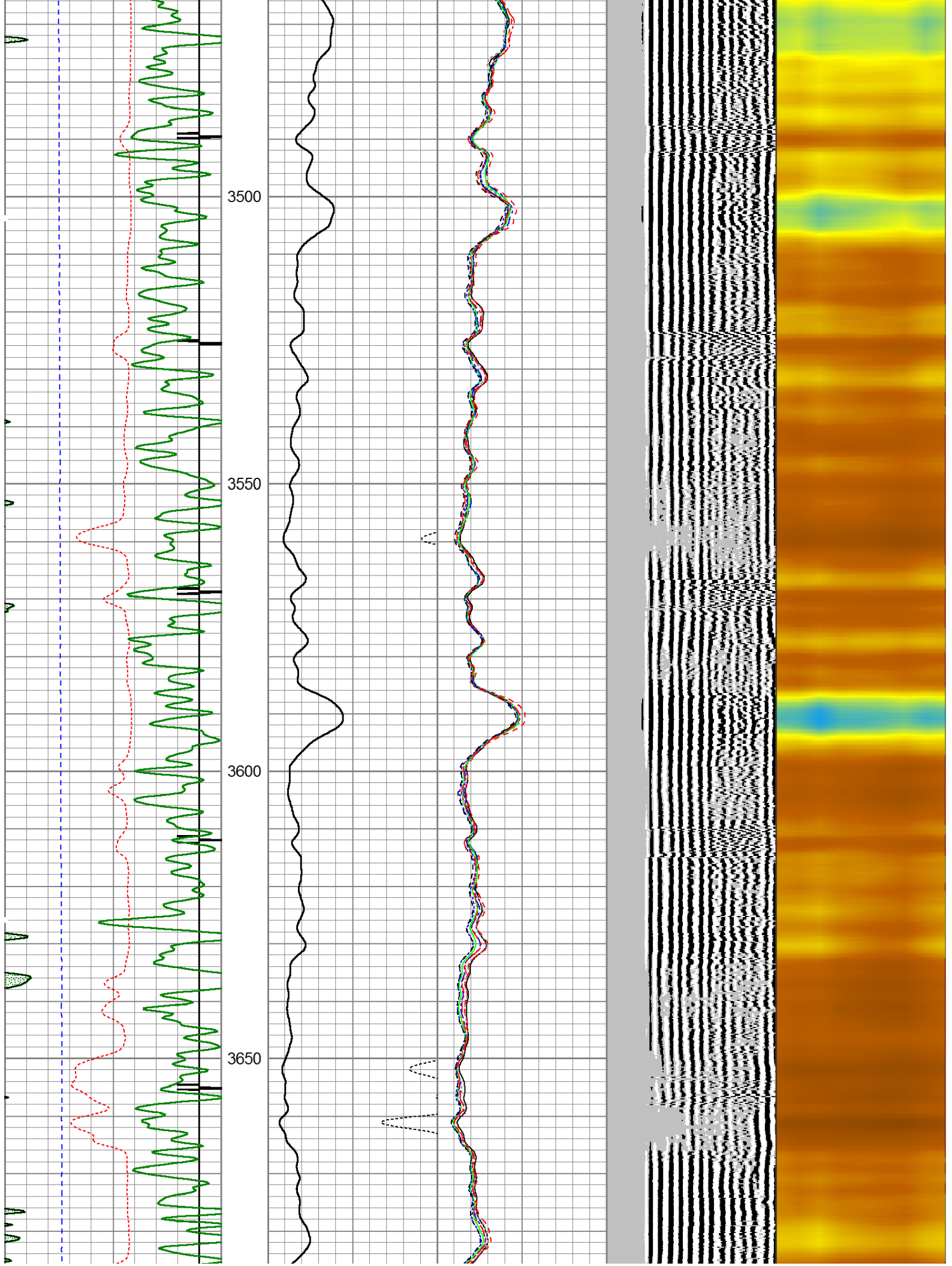


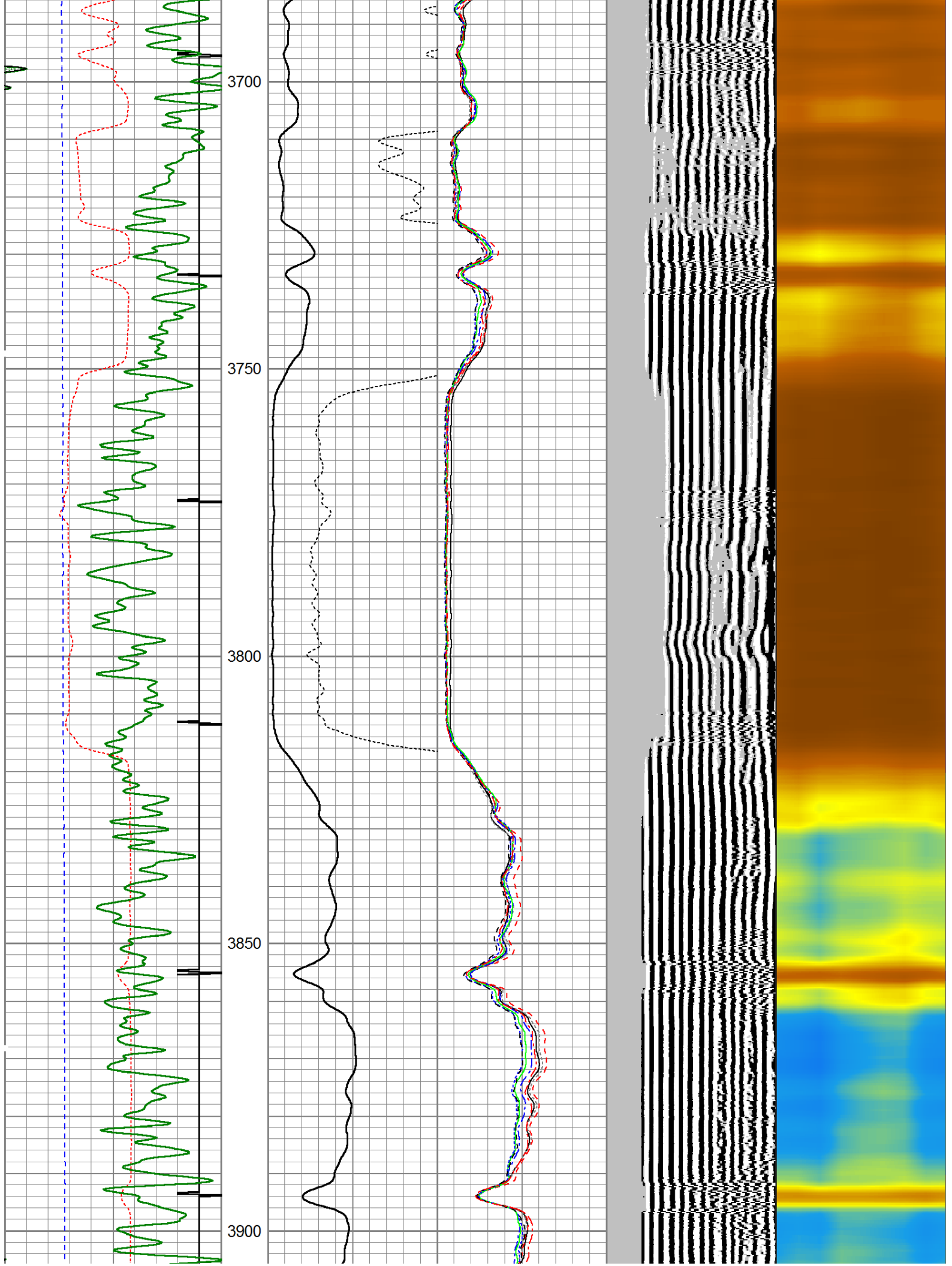


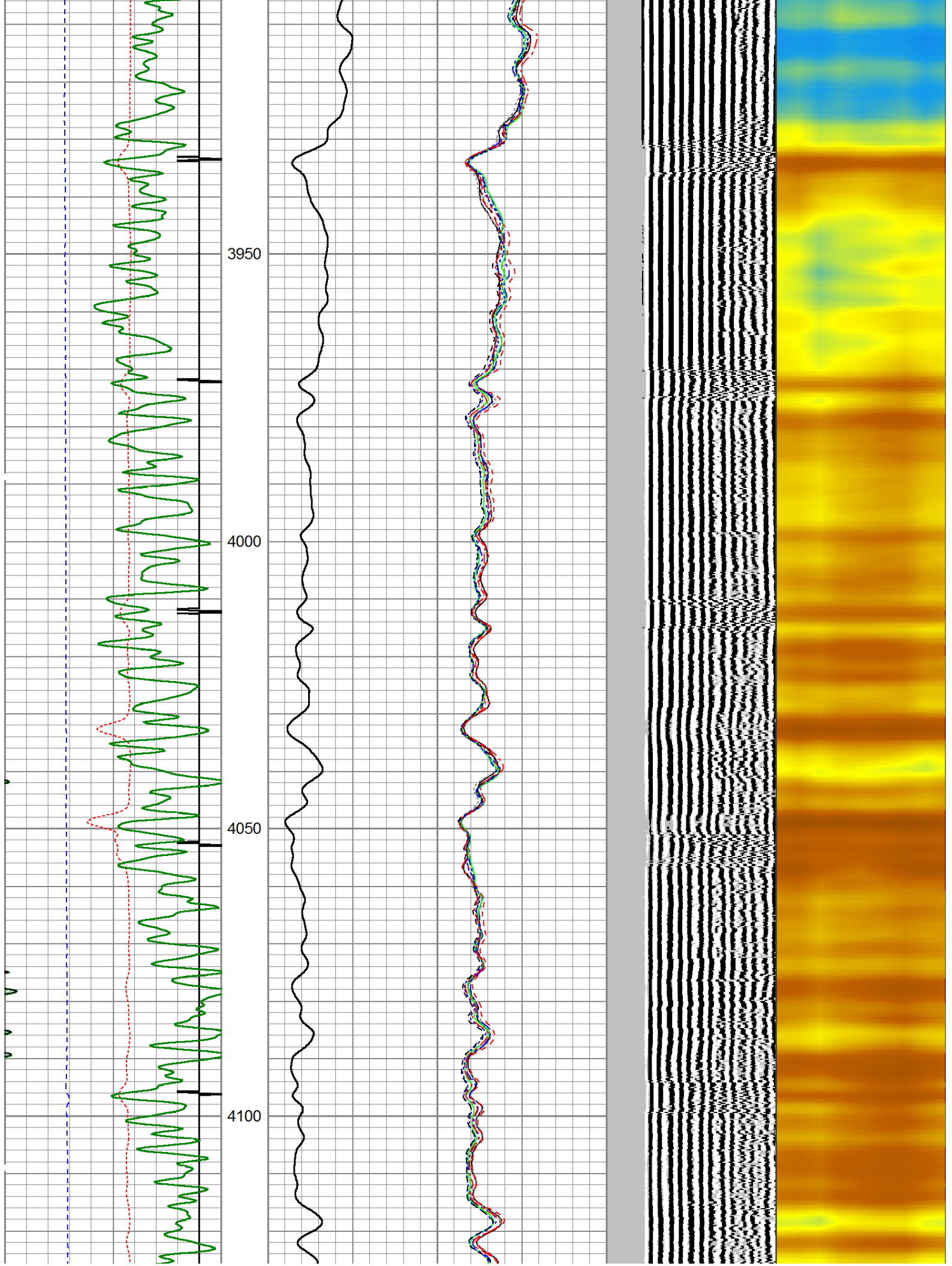


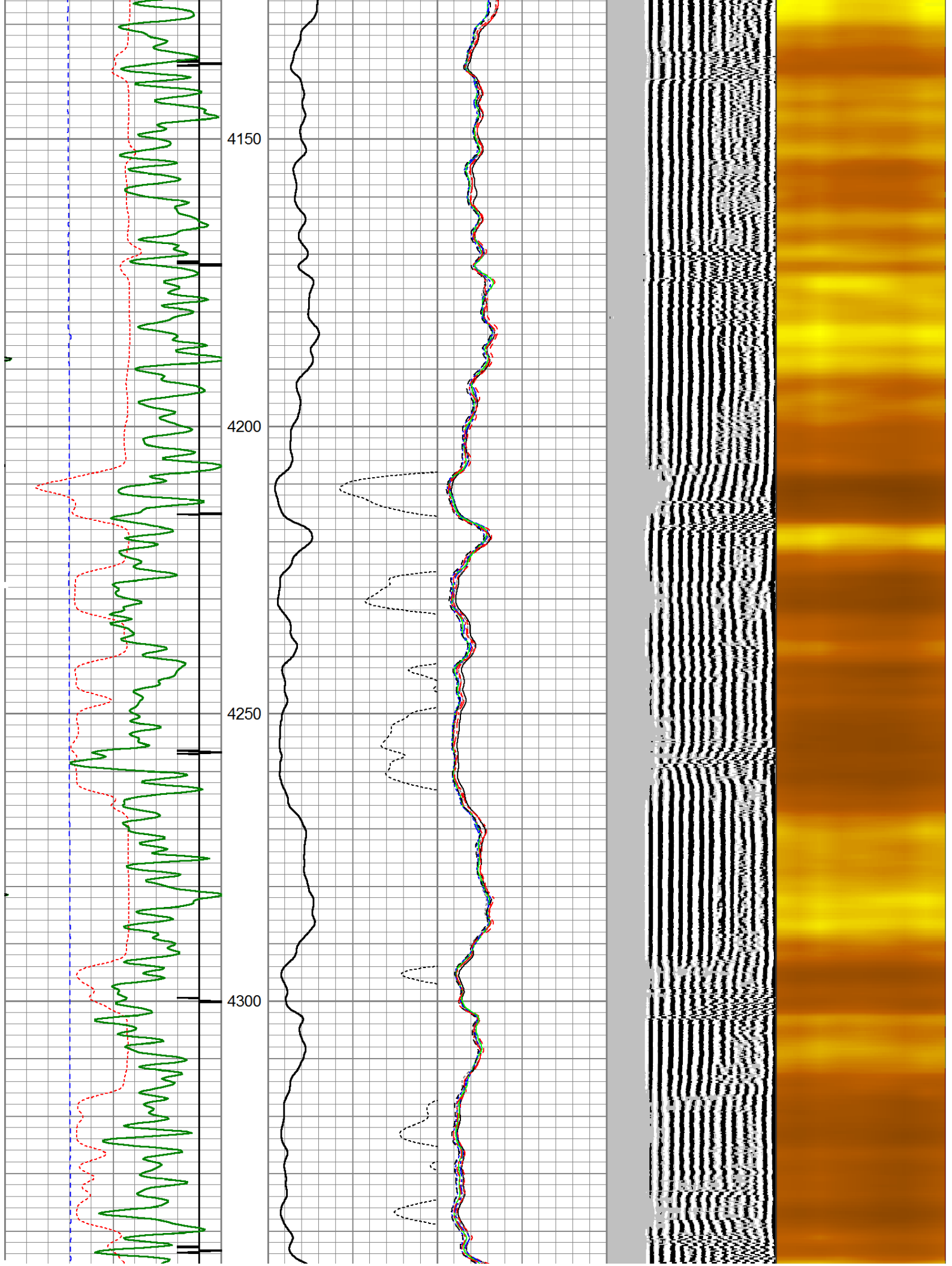


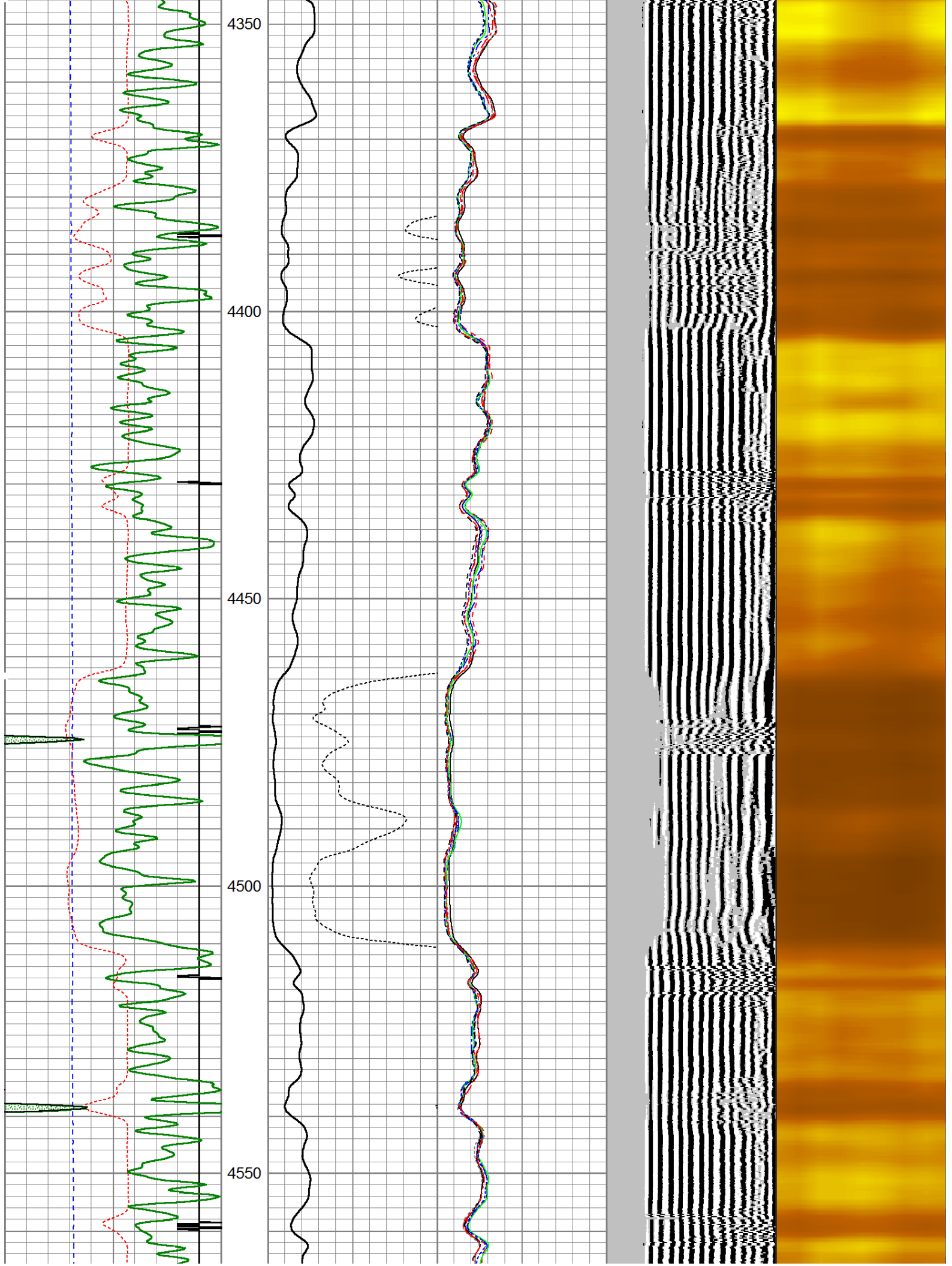


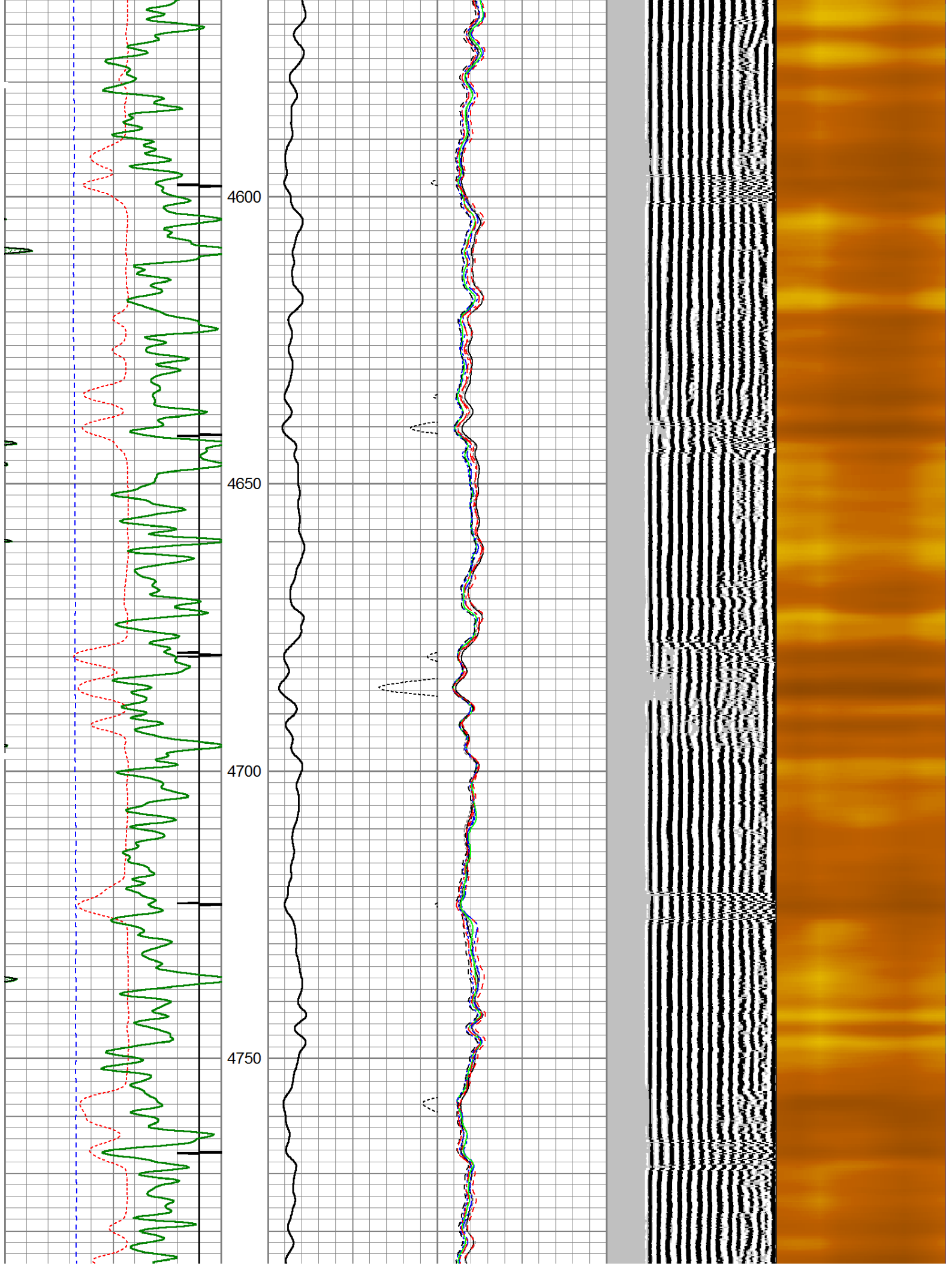


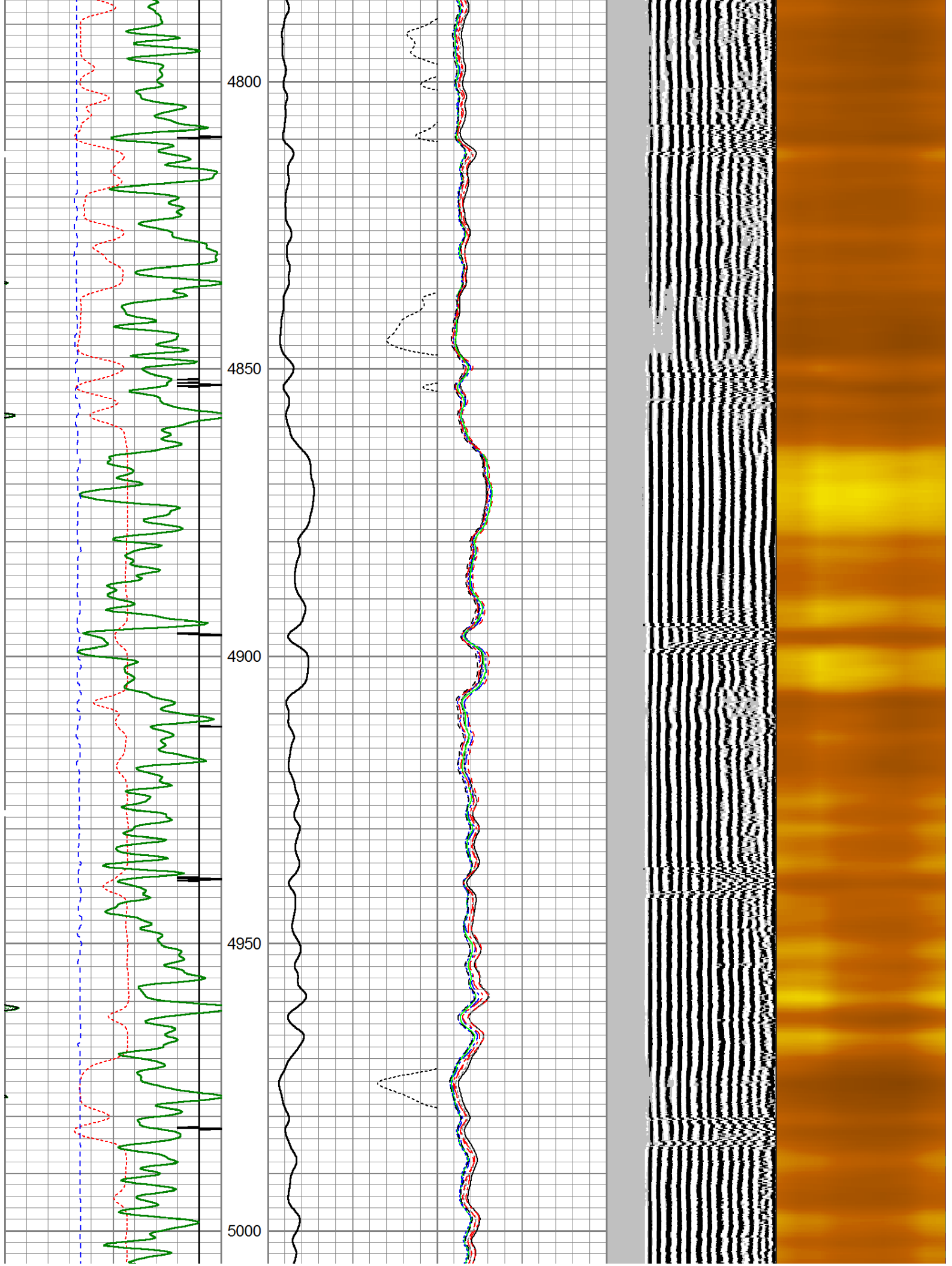


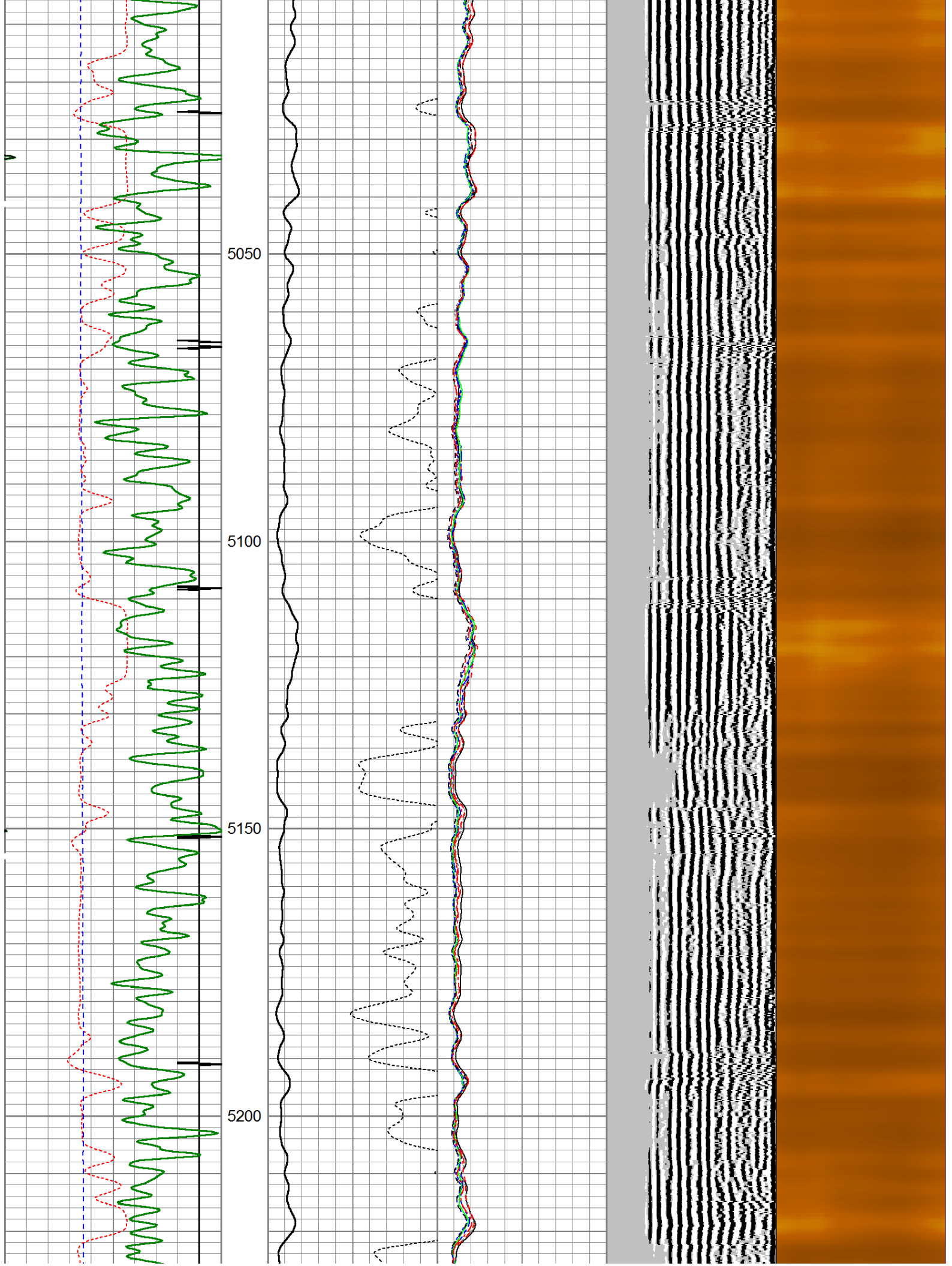


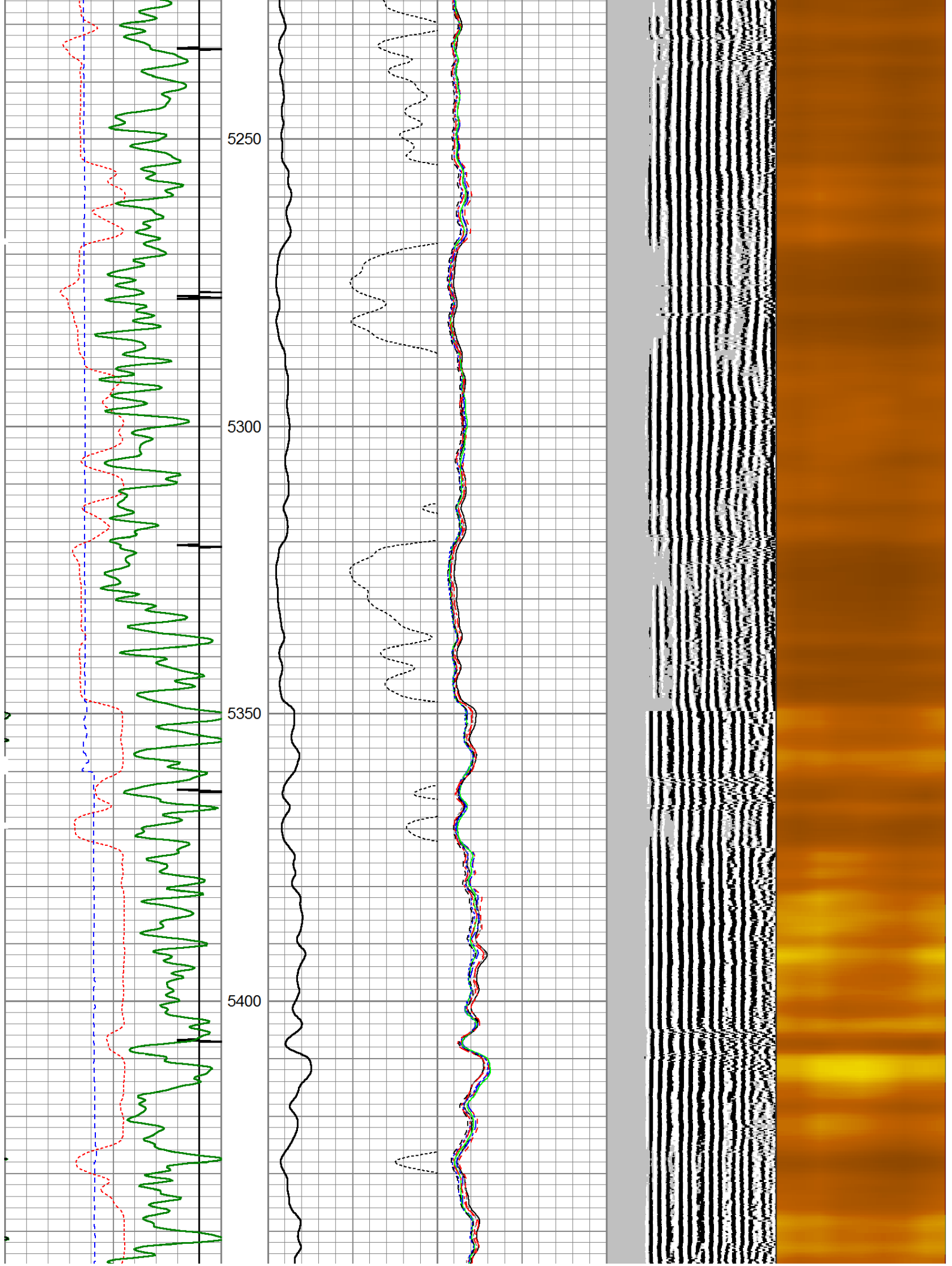


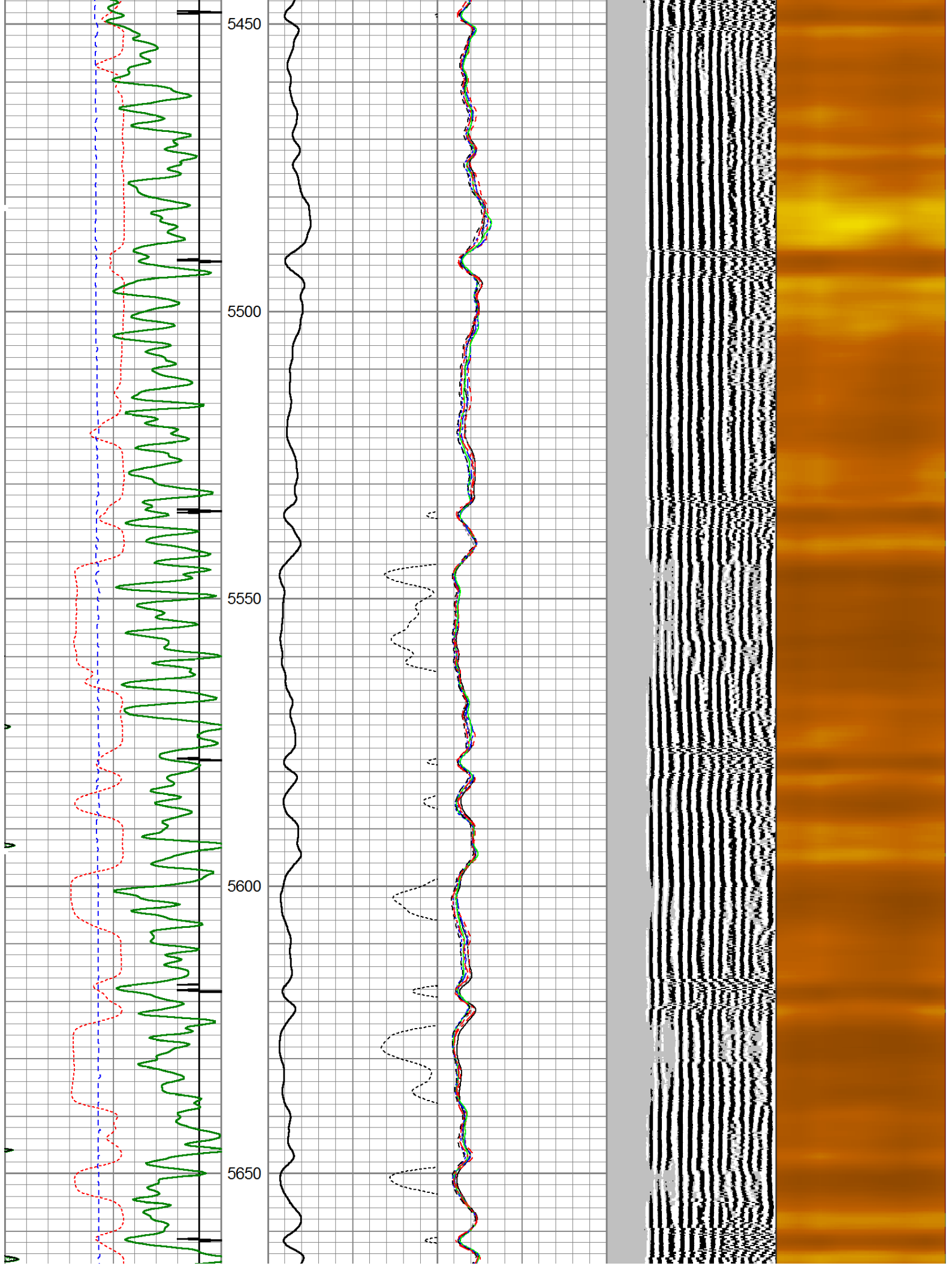


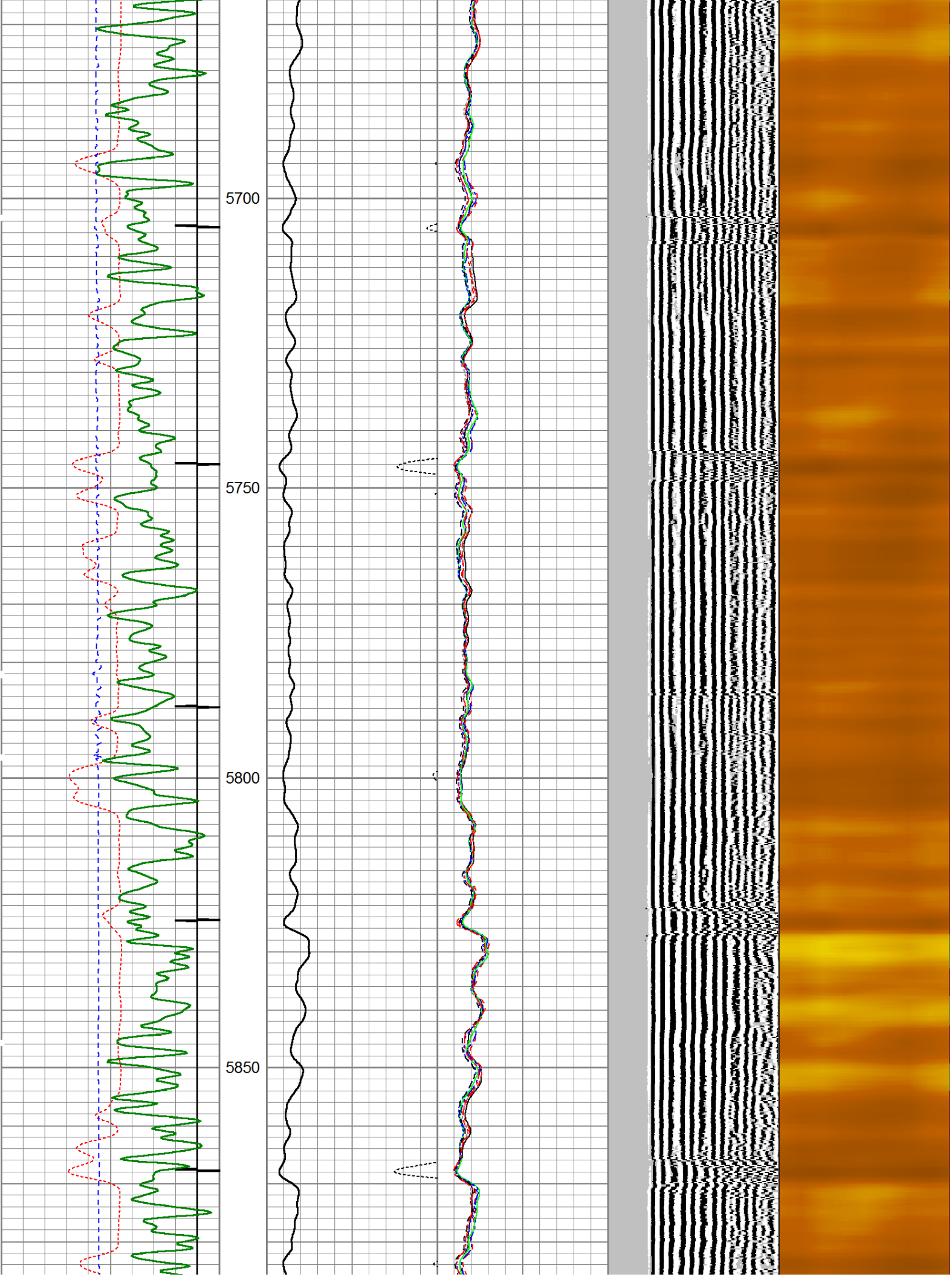


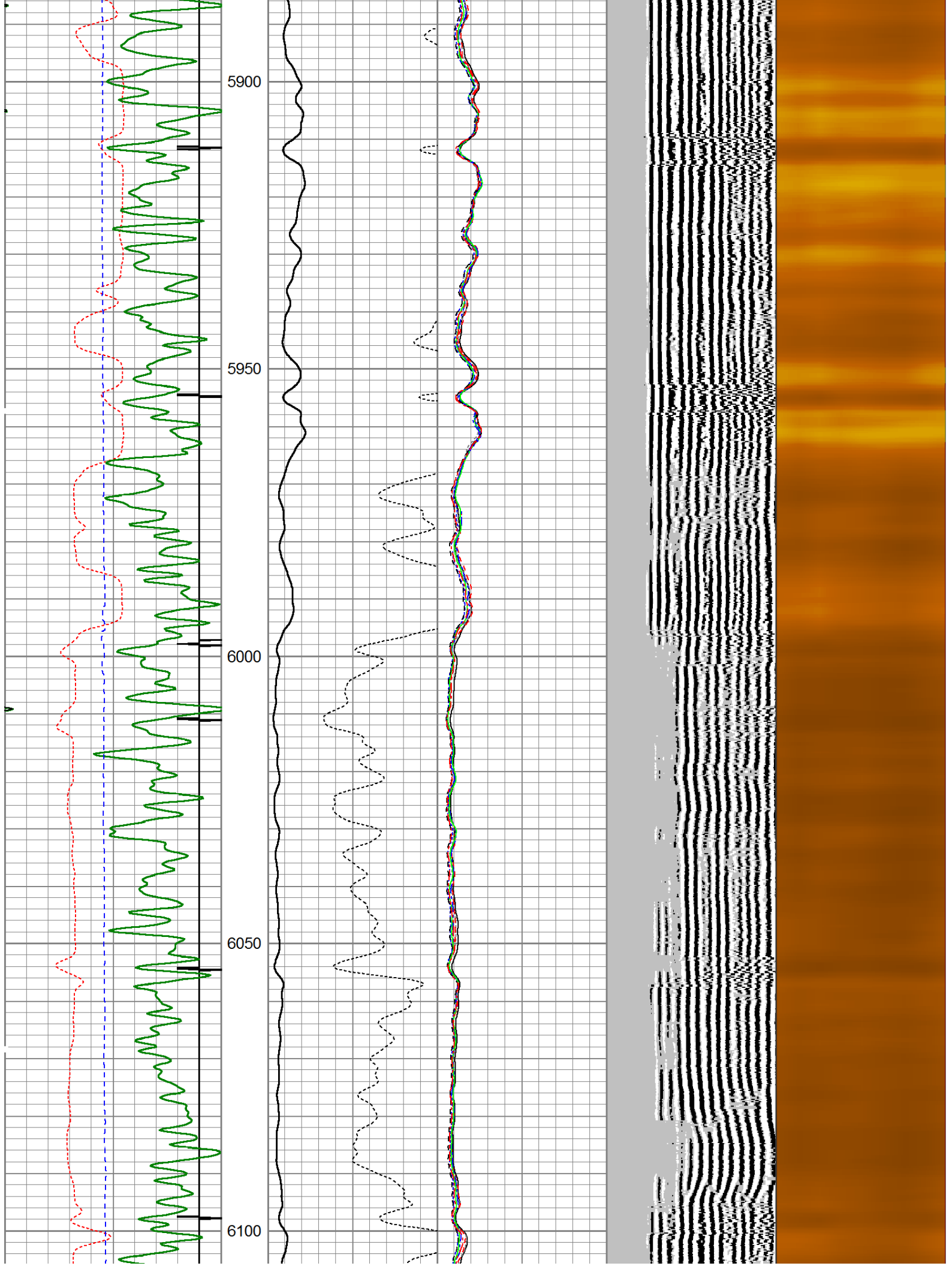


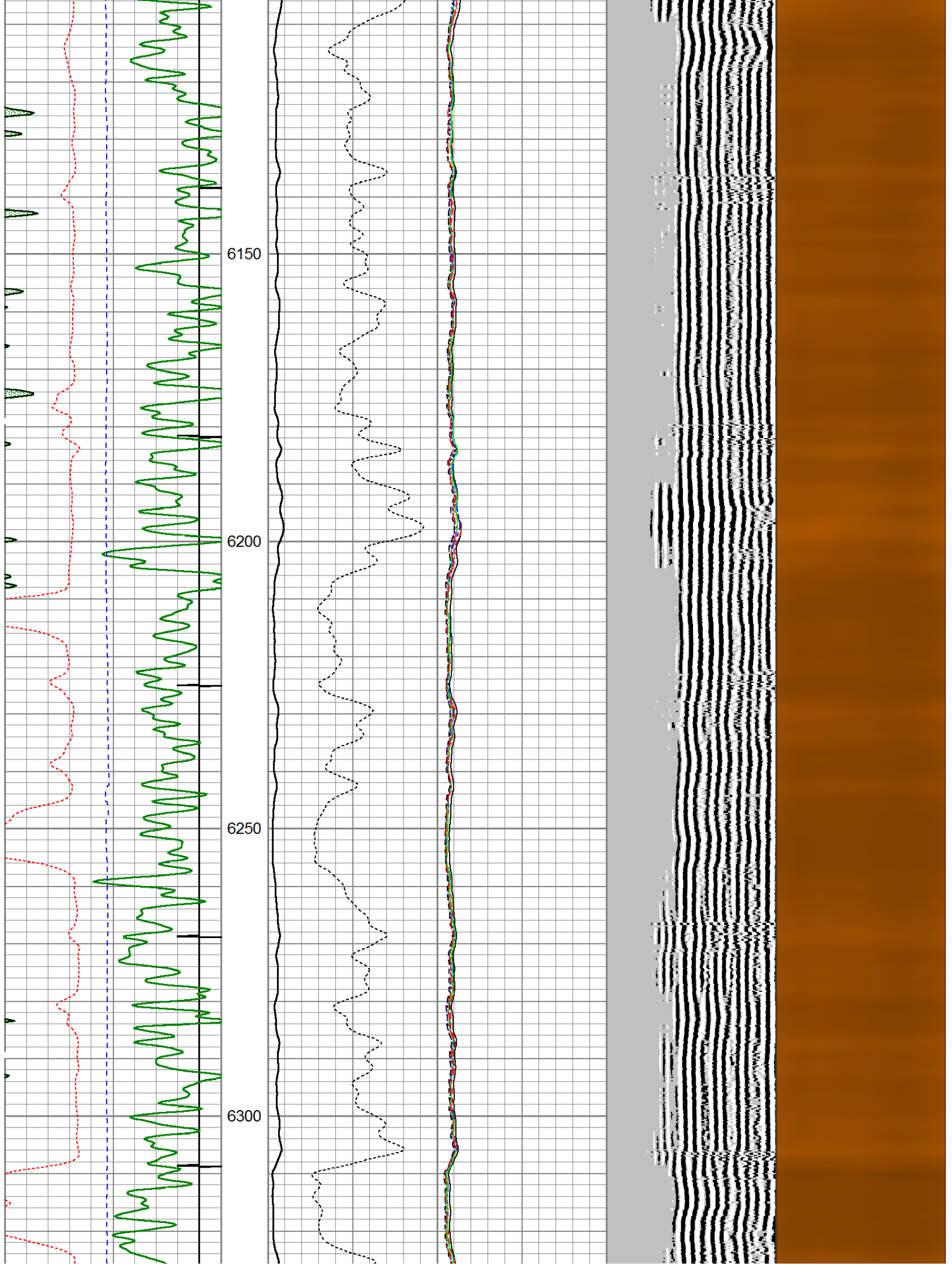


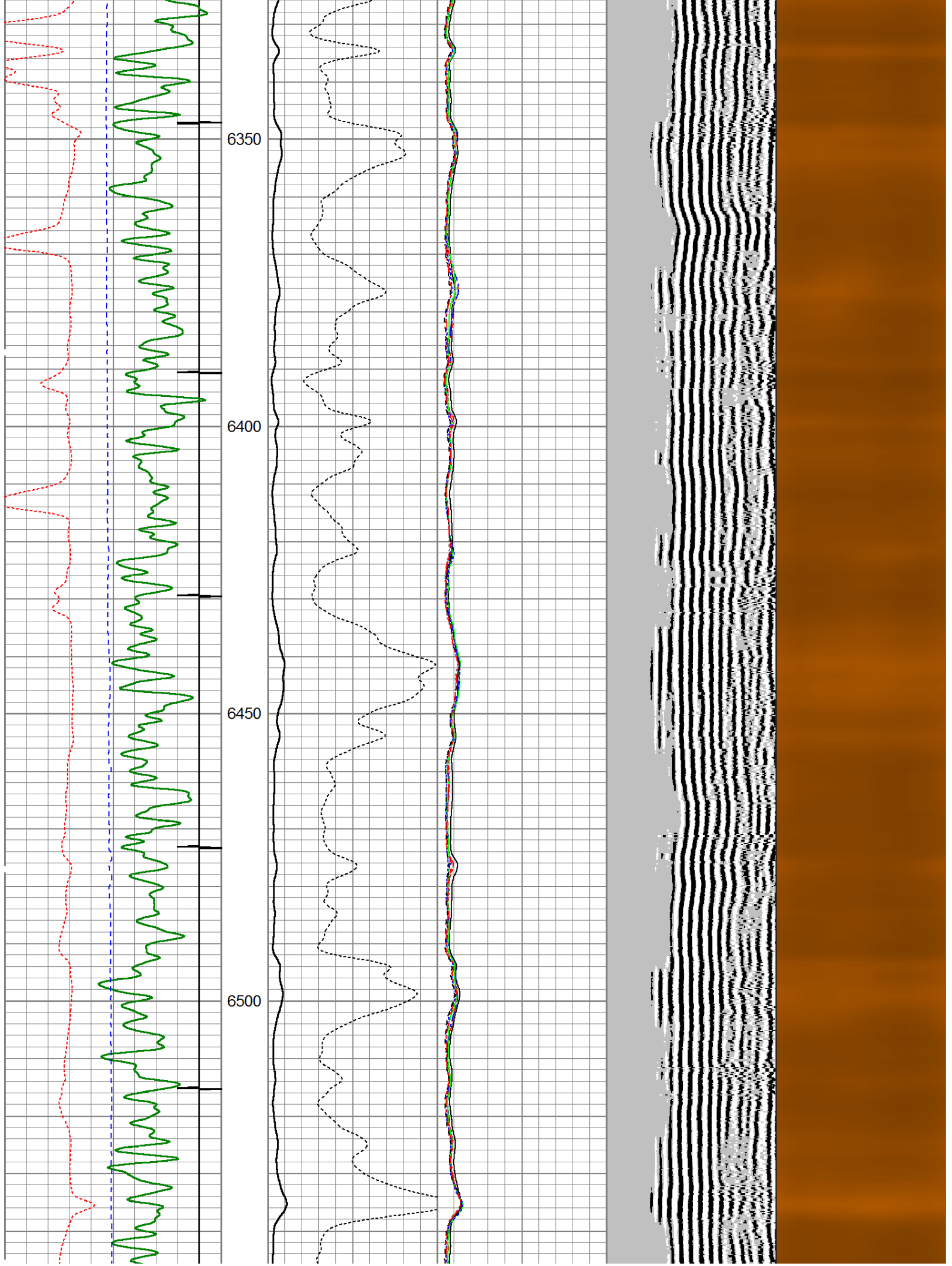


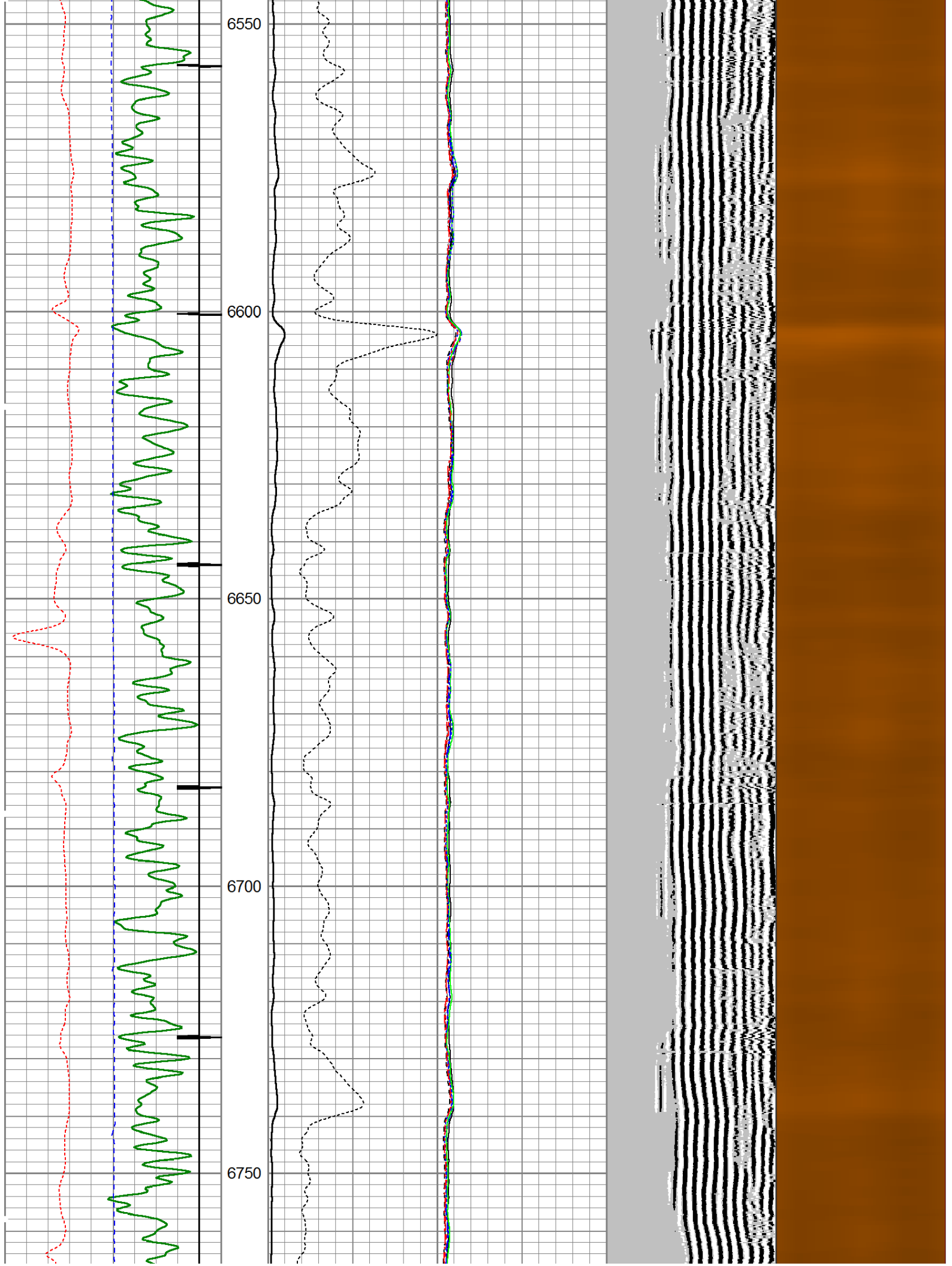


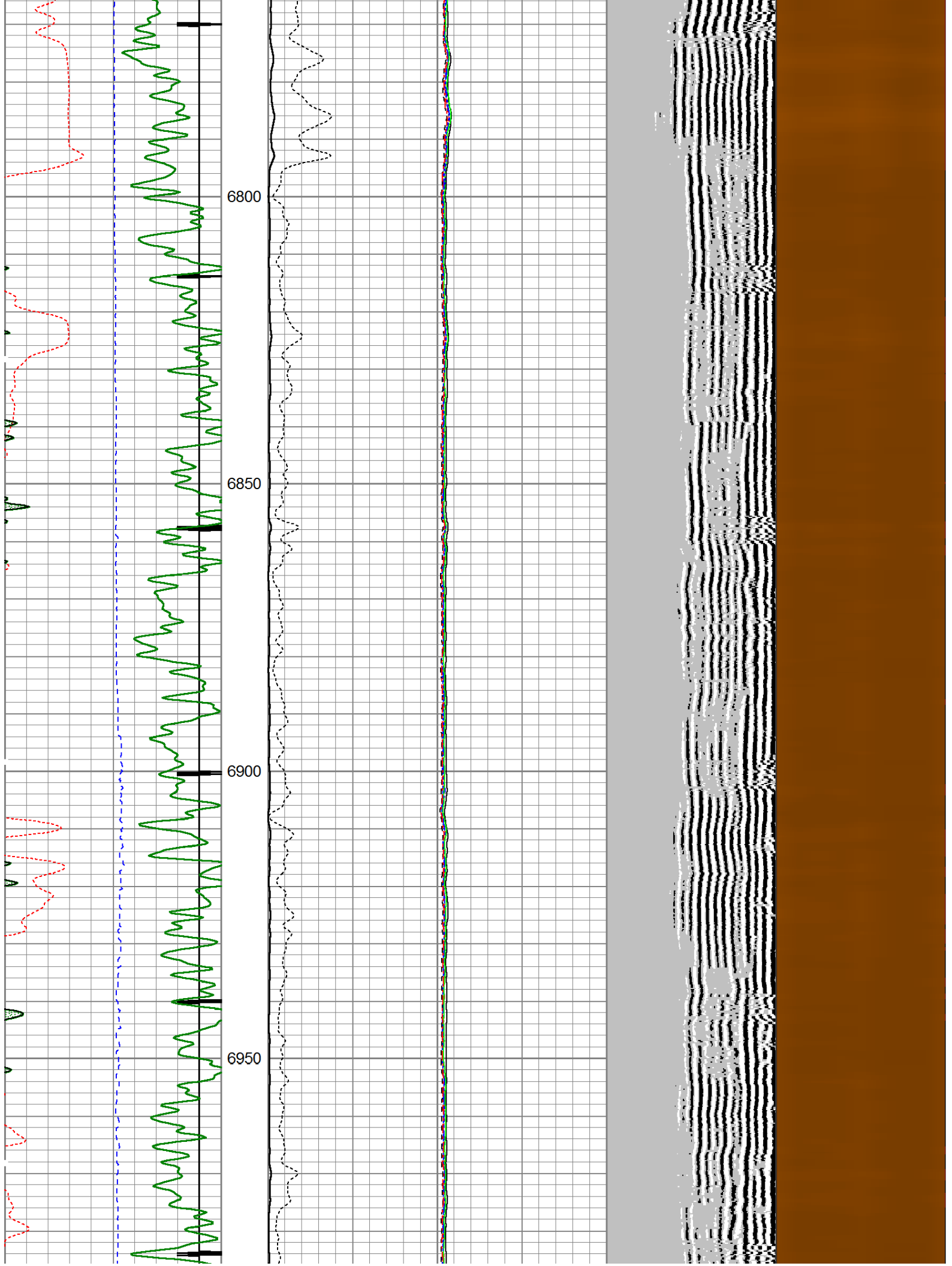


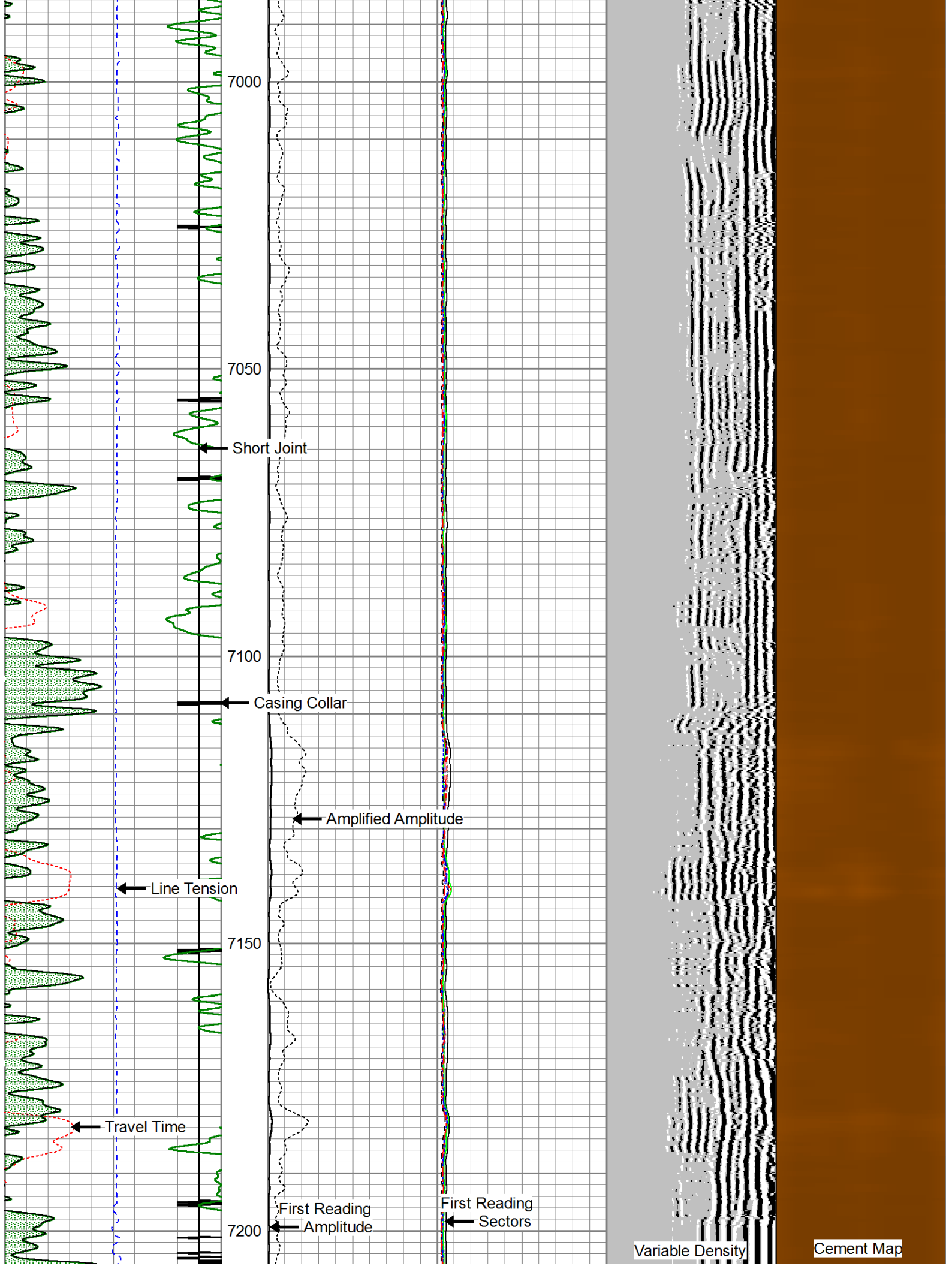


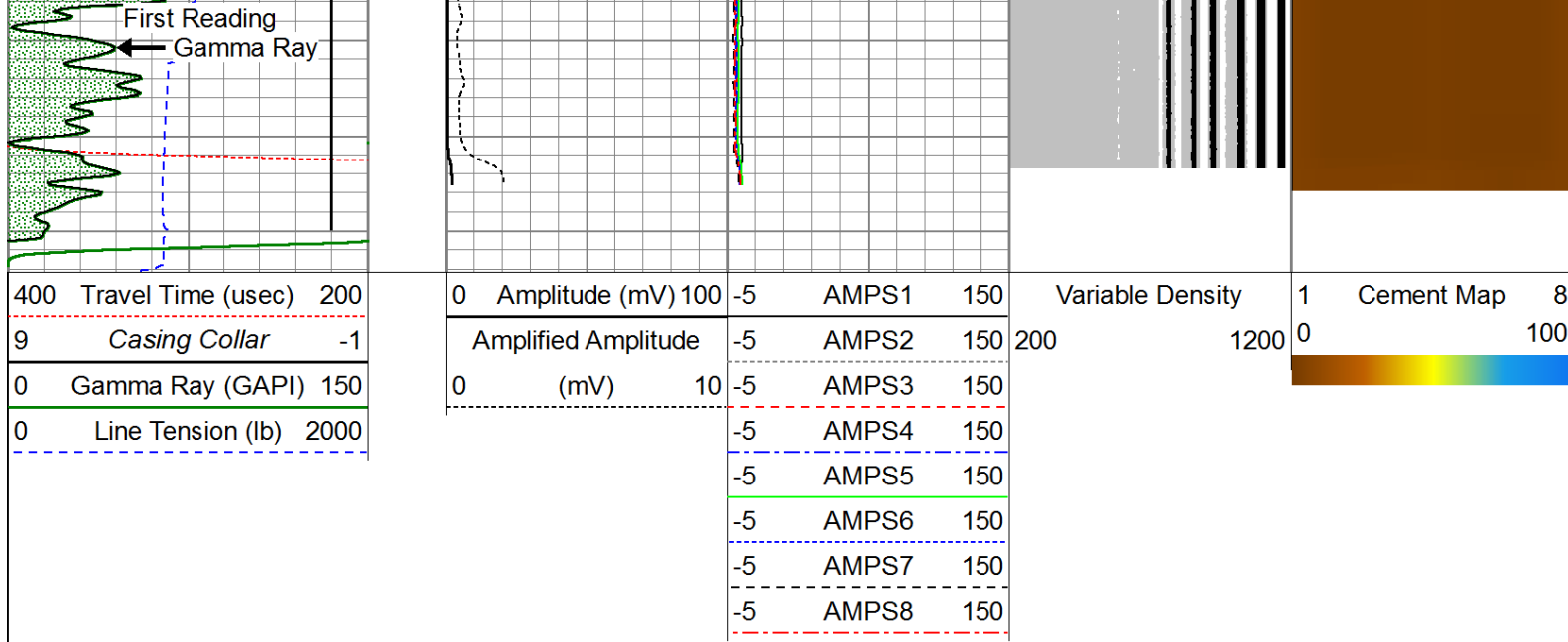






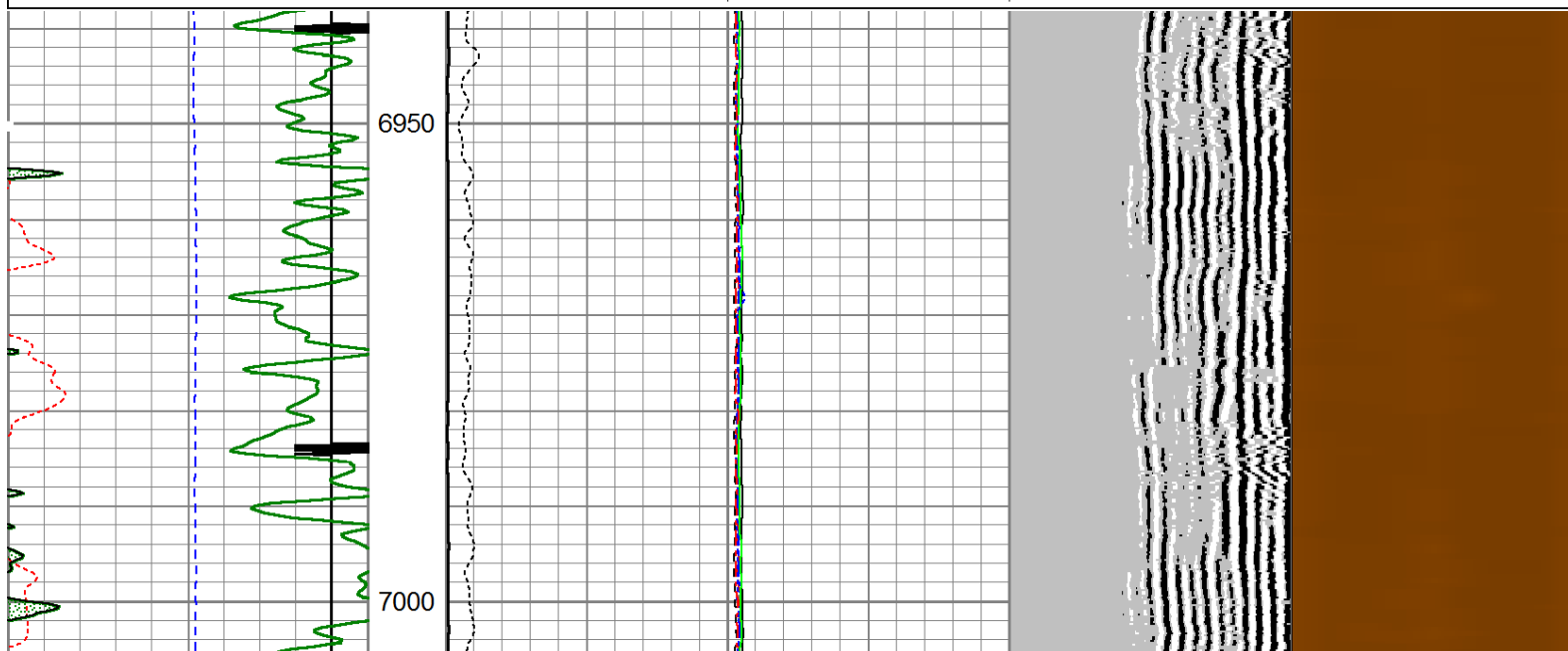
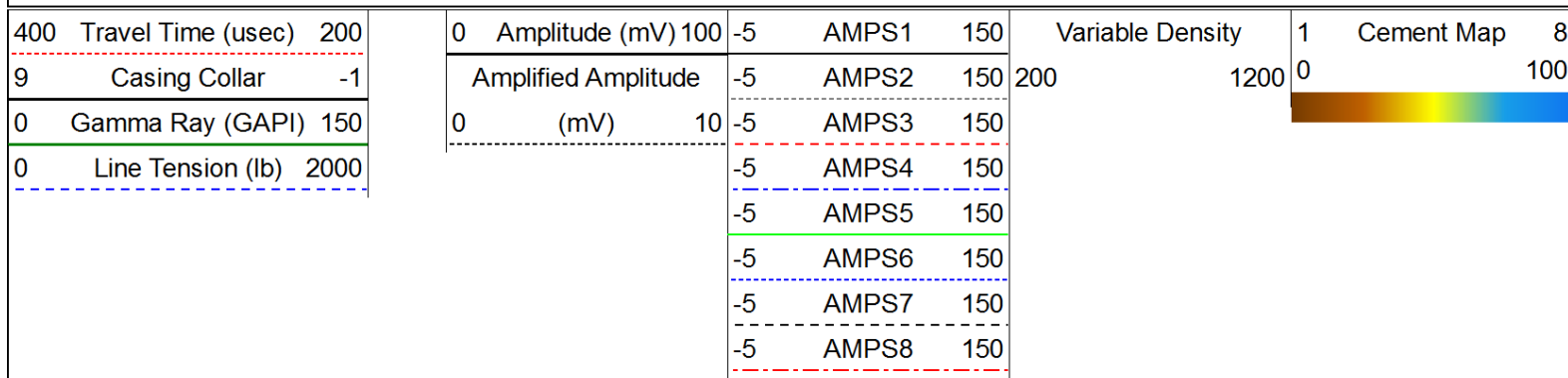


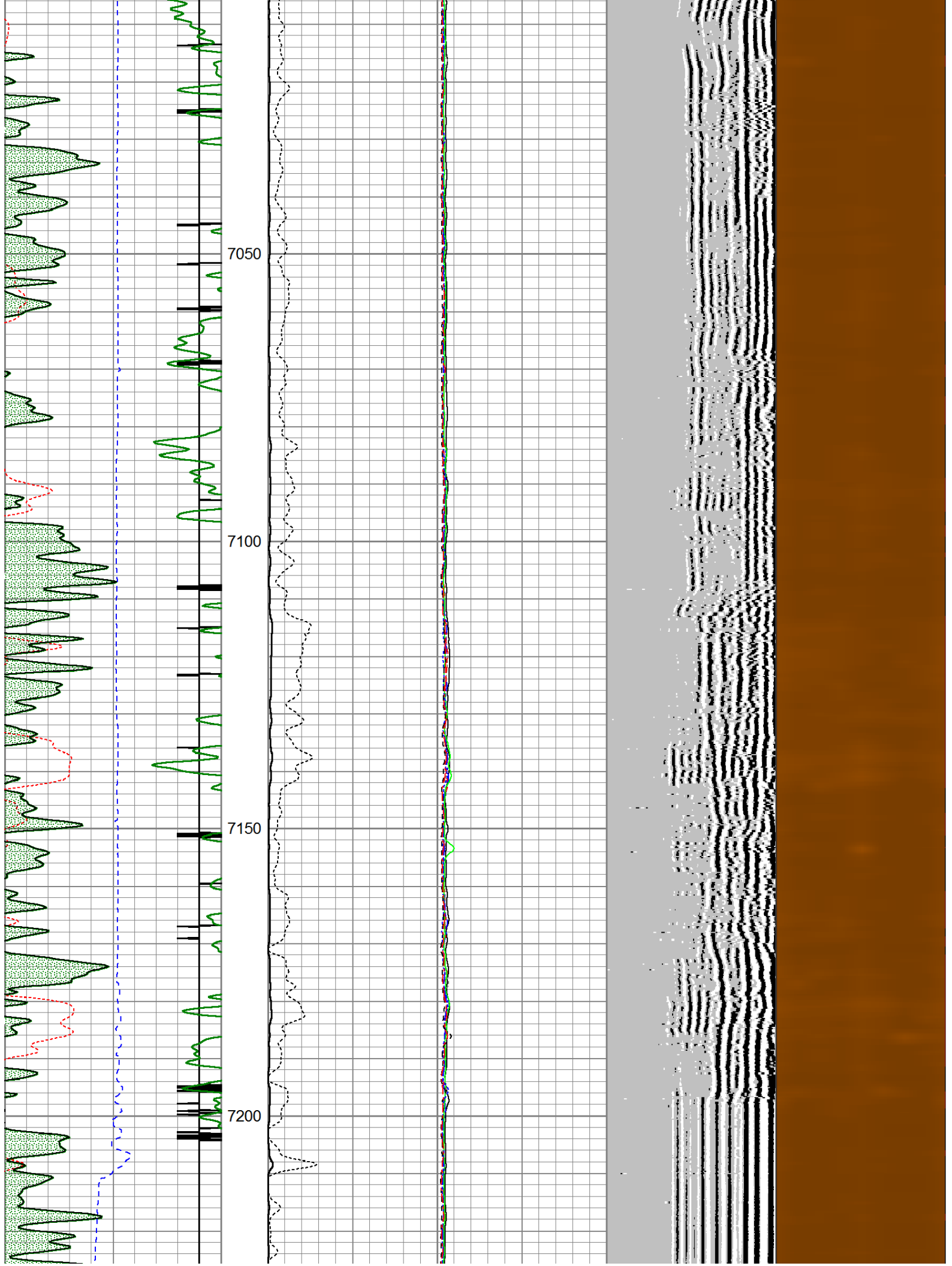


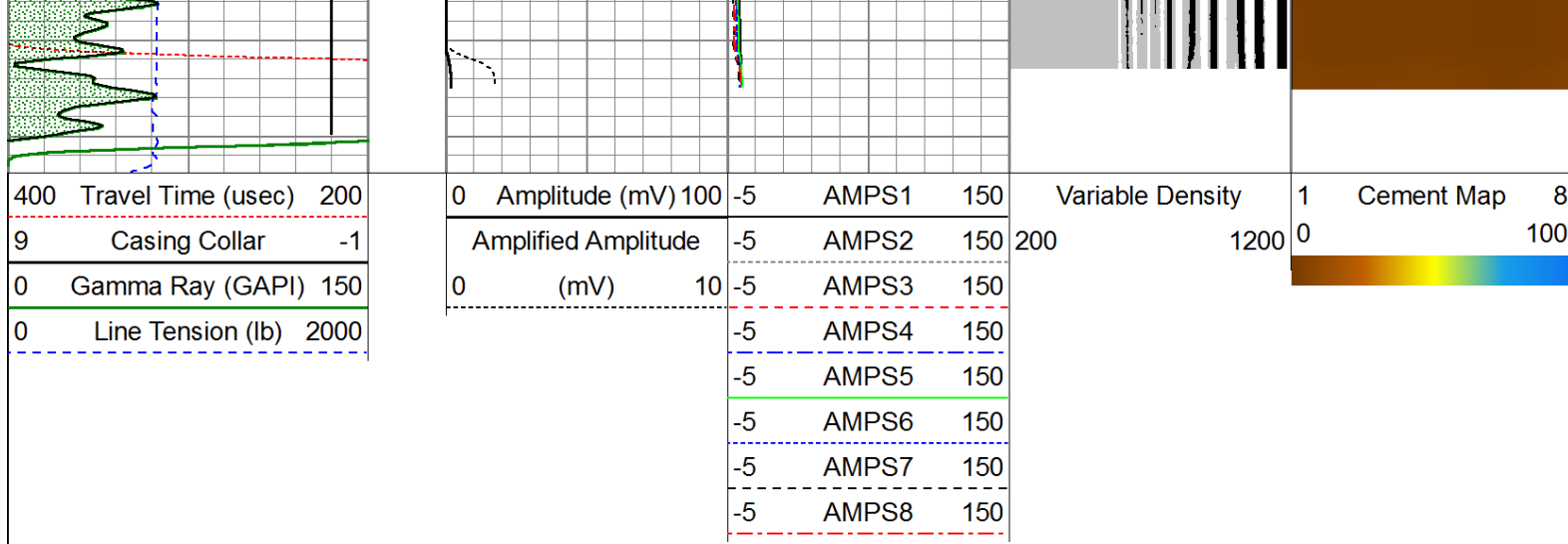


# Repeat Pass ( 0 PSI )

Database File: noble energy schaffer k16-64-1hn\_rcbl.db  
 Dataset Pathname: pass6  
 Presentation Format: scbl03  
 Dataset Creation: Tue Jan 28 14:18:50 2014 by Log 0  
 Charted by: Depth in Feet scaled 1:240







**Calibration Report**

Database File: noble energy schaffer k16-64-1hn\_rcbl.db  
 Dataset Pathname: merge1  
 Dataset Creation: Thu Jan 30 12:36:48 2014

**Gamma Ray Calibration Report**

Serial Number: 111111  
 Tool Model: Probe275  
 Performed: Sun Jun 13 13:33:21 1993

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 GAPI/cps

**Temperature Calibration Report**

Serial Number: 111111  
 Tool Model: Probe275  
 Performed: Sun Jun 13 13:33:21 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	

**Segmented Cement Bond Log Calibration Report**

Serial Number: 111107  
 Tool Model: Probe

Calibration Casing Diameter: 7.000 in  
 Calibration Depth: 950.640 ft

Master Calibration, performed Tue Jan 28 14:20:36 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.021	0.725	1.000	62.165	86.908	2.059

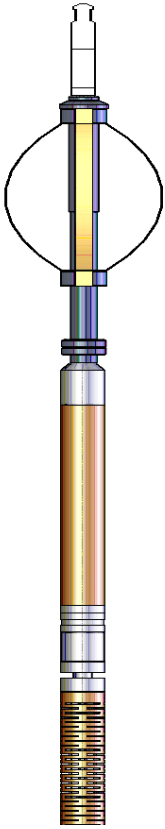
CAL	-0.026	0.920	1.000	62.165	149.854	1.867
5'	-0.006	0.402				
SUM						
S1	-0.043	0.653	0.000	100.000	130.671	3.215
S2	-0.018	0.772	0.000	100.000	126.574	2.272
S3	-0.021	0.704	0.000	100.000	137.937	2.829
S4	-0.023	0.730	0.000	100.000	132.857	3.002
S5	-0.023	0.677	0.000	100.000	142.766	3.314
S6	-0.015	0.637	0.000	100.000	153.427	2.252
S7	-0.010	0.618	0.000	100.000	159.298	1.629
S8	-0.015	0.616	0.000	100.000	158.639	2.347

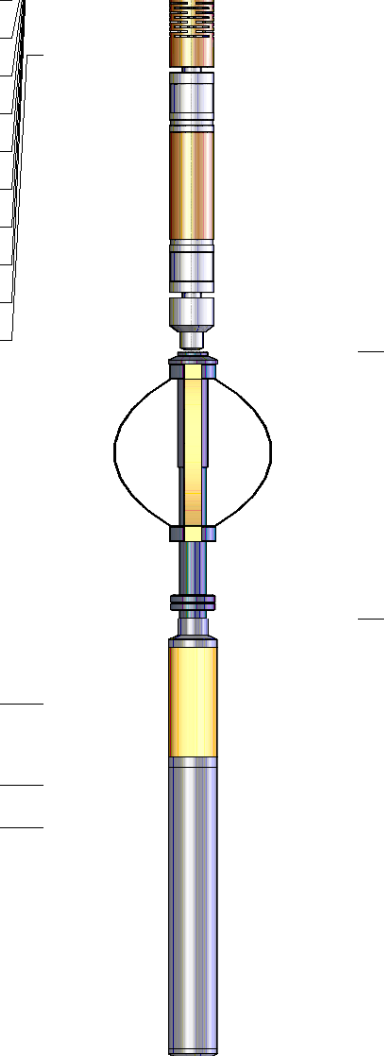
Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.026	0.920	1.000	0.000

Air Zero Calibration, performed Fri Jan 24 08:41:46 2014:

	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)
WVF3FT WVF3CAL	11.84 11.84		Titan Cable_head	1.00	1.44	10.00
			Probe275 2.75" Centralizer	2.88	2.75	20.00
			RBT-Probe (111107) Probe Radii Bond Tool with Digital Telemetry	8.75	2.75	90.00

WVFCAL	11.84		2.88	2.75	20.00
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				
CCL	3.88				
TEMP	3.00				
GR	2.54		4.78	2.75	57.00
Dataset: noble energy schaffer k16-64-1hn_rcbl.db: field/well/run1/merge1 Total Length: 20.28 ft Total Weight: 197.00 lb O.D. 2.75 in					