



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

Company		Noble Energy													
Well		ROHN State LD04-62-1HN													
Field		Wattenberg													
County		Weld													
State		Colorado													
Location:		API # : 05-123-37460													
SEC 4 TWP 9 N RGE 58 W		Other Services													
Permanent Datum		Ground Level		Elevation											
Log Measured From		Kelly Bushing 30' APD		K.B. 4735'											
Drilling Measured From		Kelly Bushing		D.F. 4734'											
				G.L. 4705'											
Date		11th October, 2013													
Run Number		One													
Depth Driller		9531'													
Depth Logger		5978'													
Bottom Logged Interval		5965'													
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		1250'													
Time Well Ready		1230													
Time Logger on Bottom		1300													
Equipment Number		12029													
Location		Brighton, CO													
Recorded By		R.Grisson													
Witnessed By		Bill Mansfield													
Borehole Record		Tubing Record													
Run Number		Bit		From		To		Size		Weight		From		To	
1		26"		Surface		124'									
2		13.75"		124'		1252'									
3		8.75"		1252'		6067'									
4		6.125"		6067'		9541'									
Casing Record		Size		Wgt/Ft		Top		Bottom							
Surface String		9 5/8"		36#		Surface		1242.2'							
Prot. String		7"		26#		Surface		6057.6'							
Production String		4.5"		11 6#		Surface		9531'							
Liner		4.5"		11 6#		Surface		5984.6'							
Short Joint		4.5"		11 6#		Surface		4678'							

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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

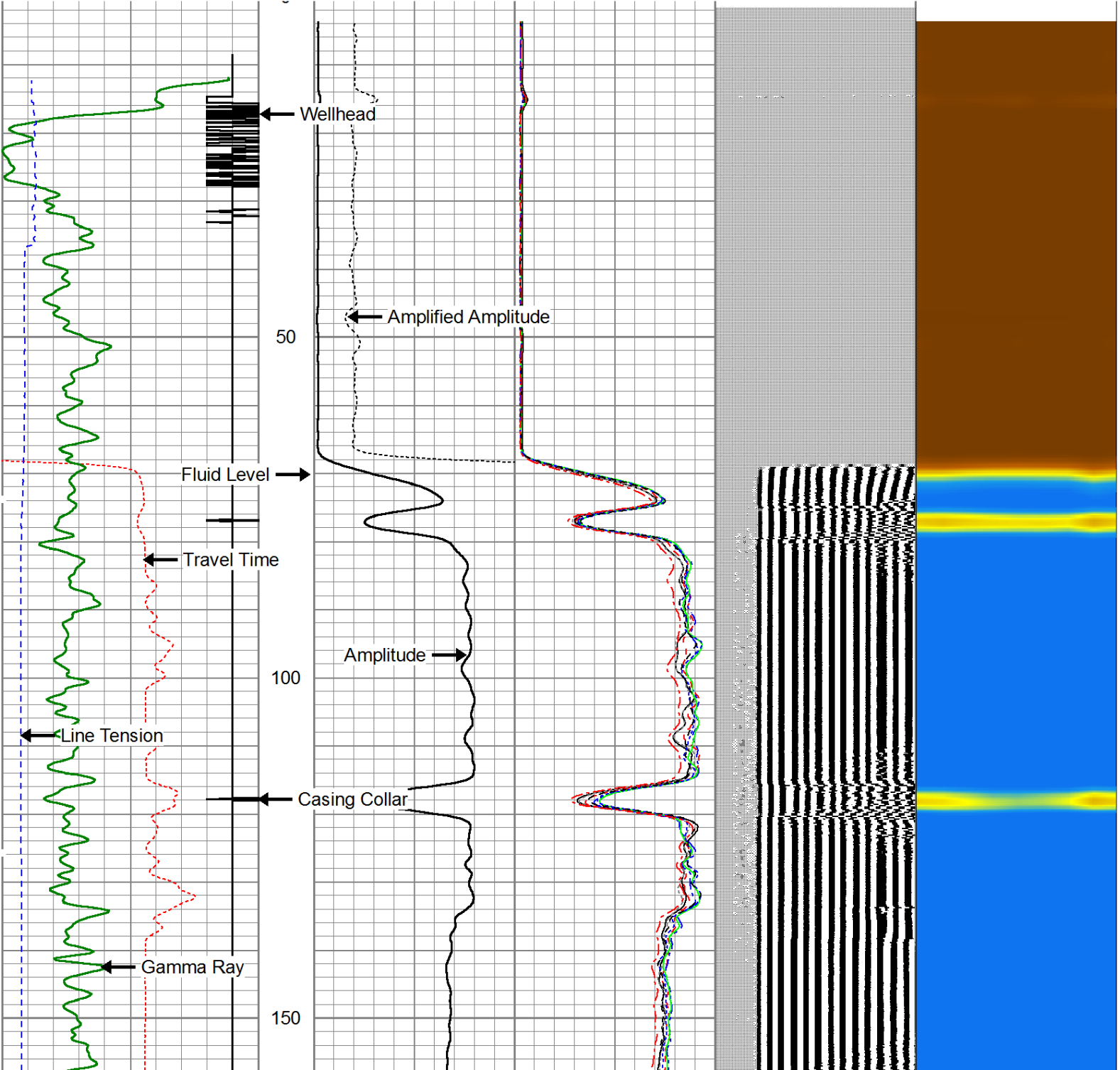
Thank You for using Allied Wireline  
(303) 659-4609

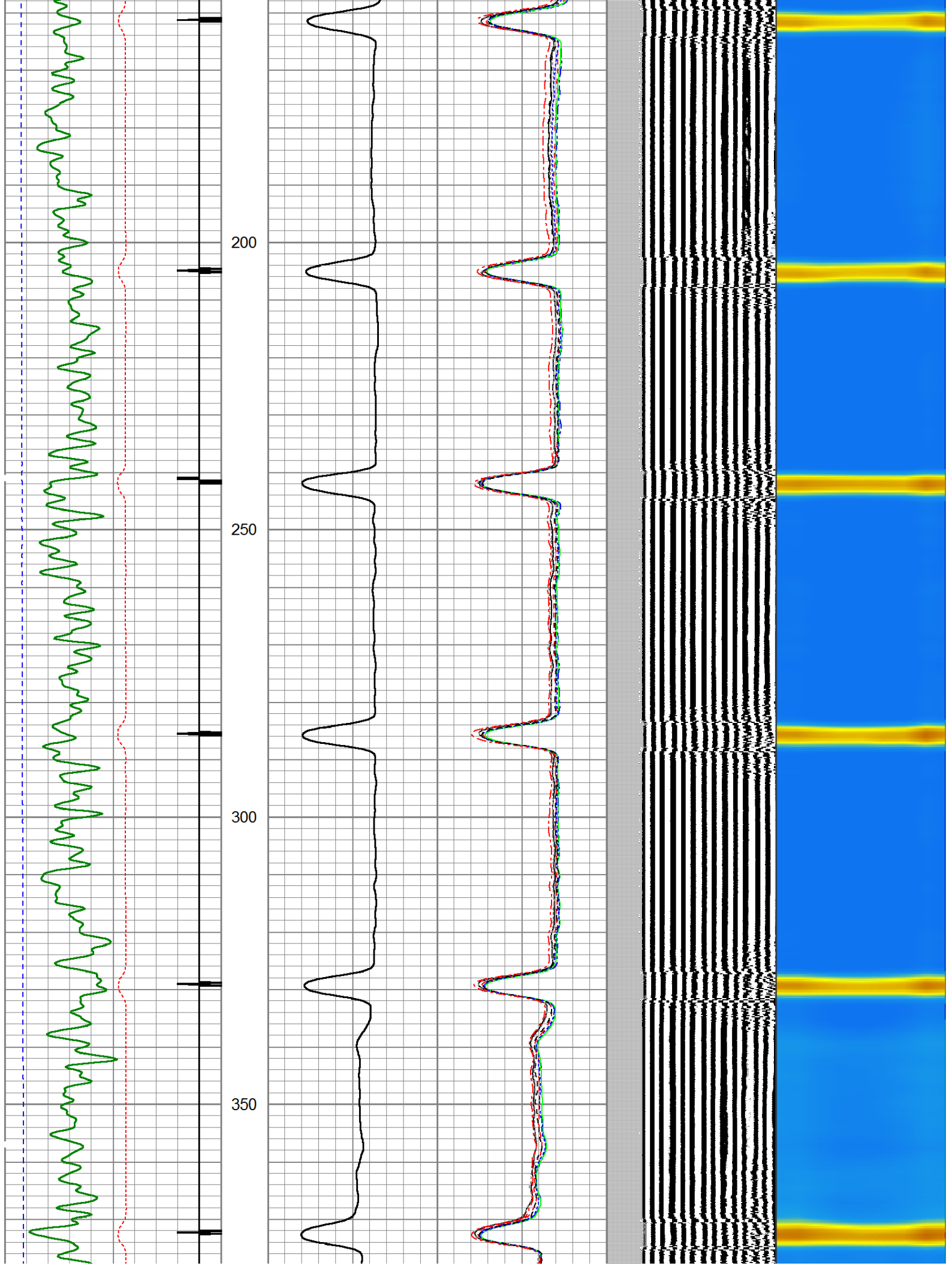


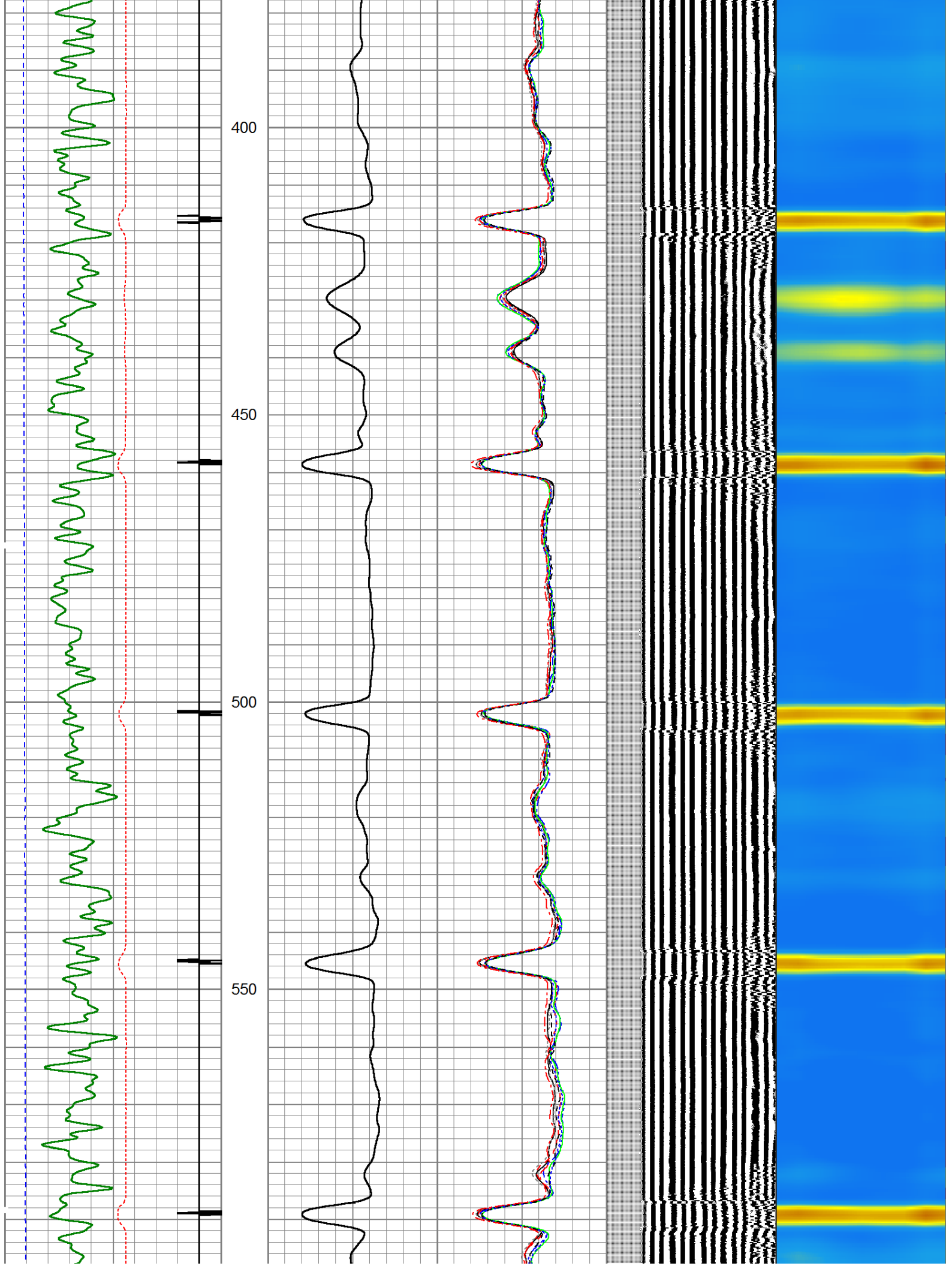
Main Pass (0 PSI)

Database File: noble energy rohn state ld04-62-1hn\_cbl.db  
Dataset Pathname: pass3  
Presentation Format: scbl03  
Dataset Creation: Fri Oct 11 14:51:38 2013 by Log SCH 120126  
Charted by: Depth in Feet scaled 1:240

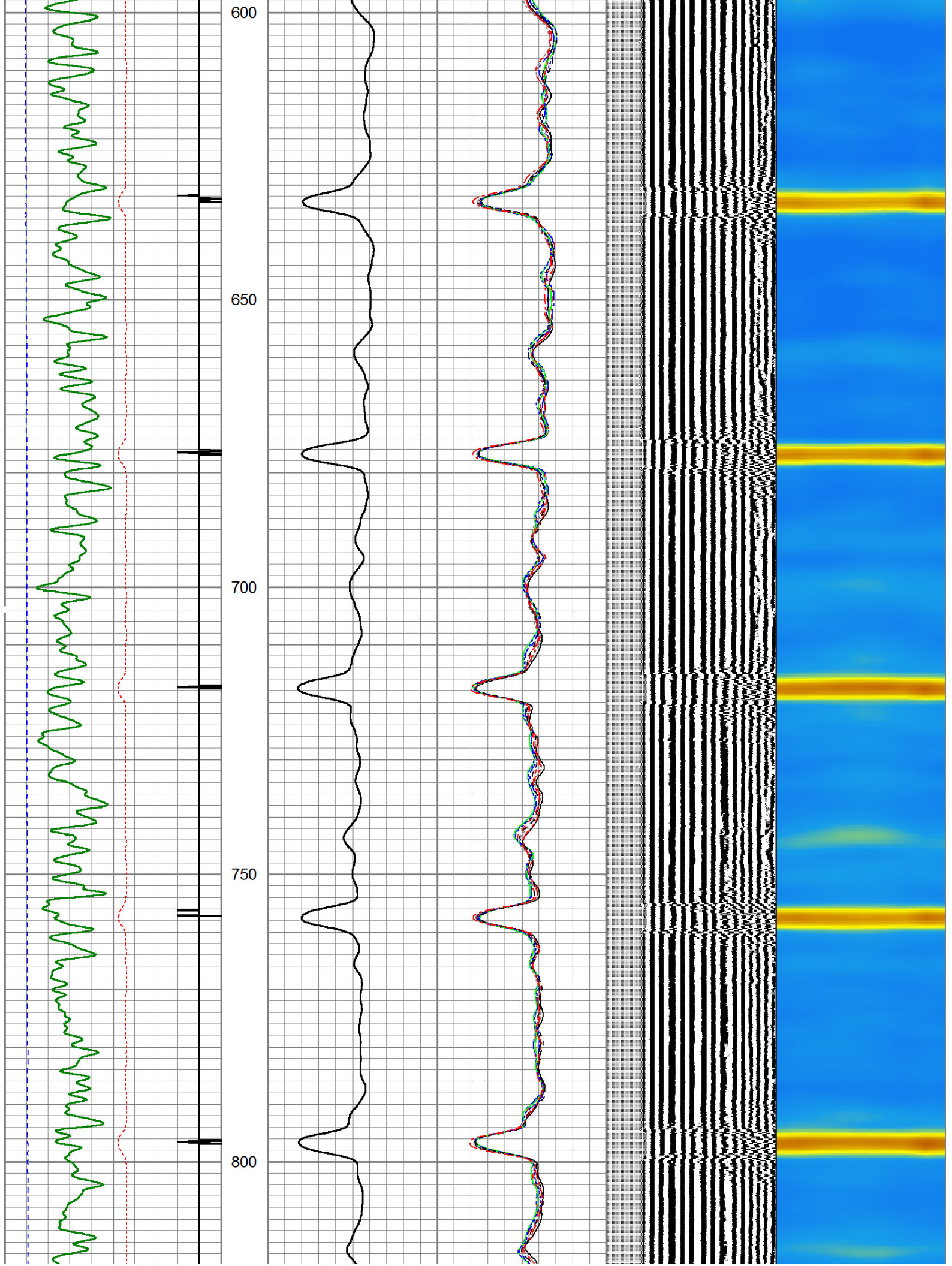
400	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	AMPS1	150	Variable Density		1	Cement Map	8
9	Casing Collar	-1	Amplified Amplitude			-5	AMPS2	150	200	1200	0		100
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	AMPS3	150					
0	Line Tension (lb)	2500				-5	AMPS4	150					
						-5	AMPS5	150					
						-5	AMPS6	150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

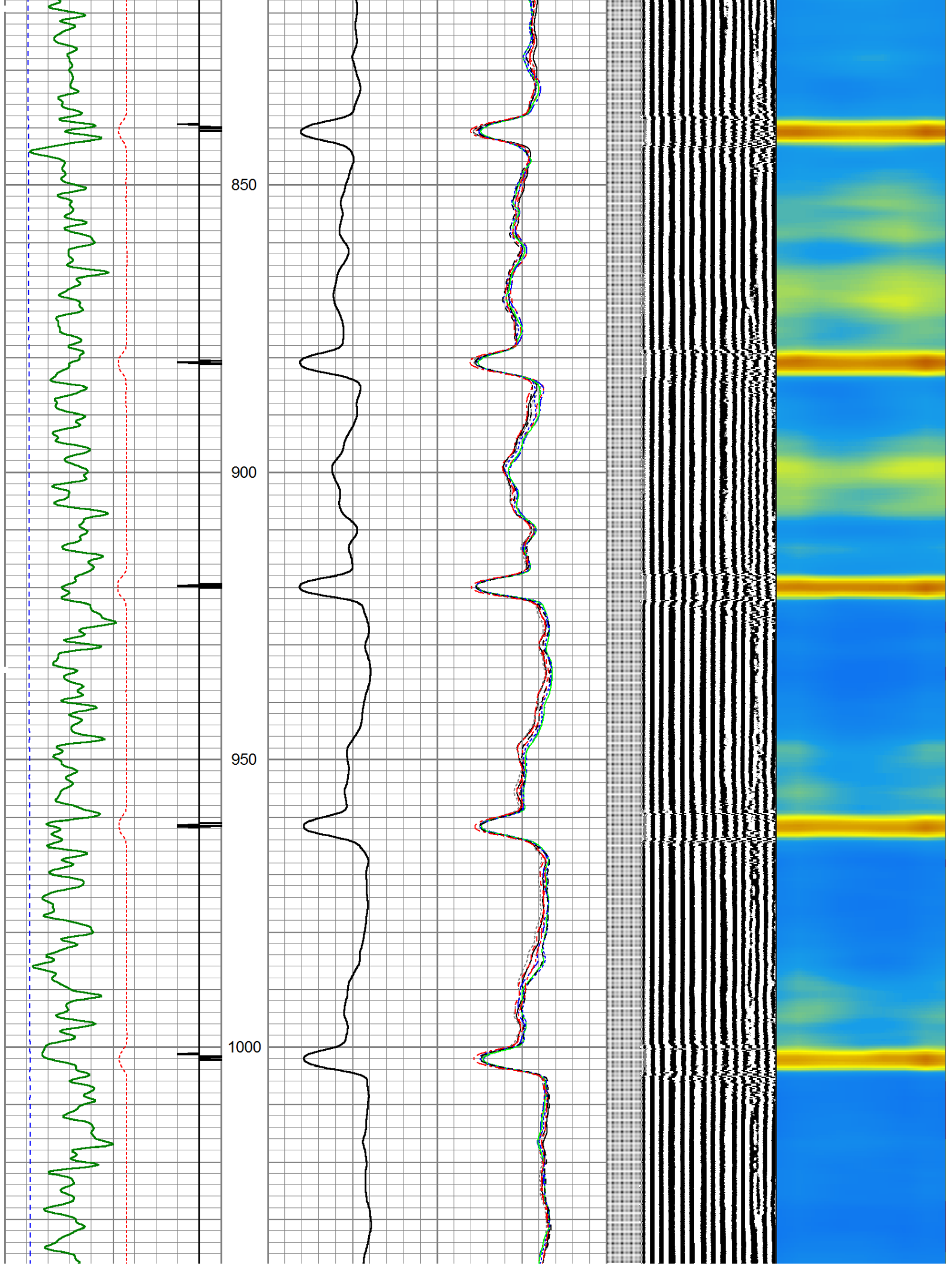


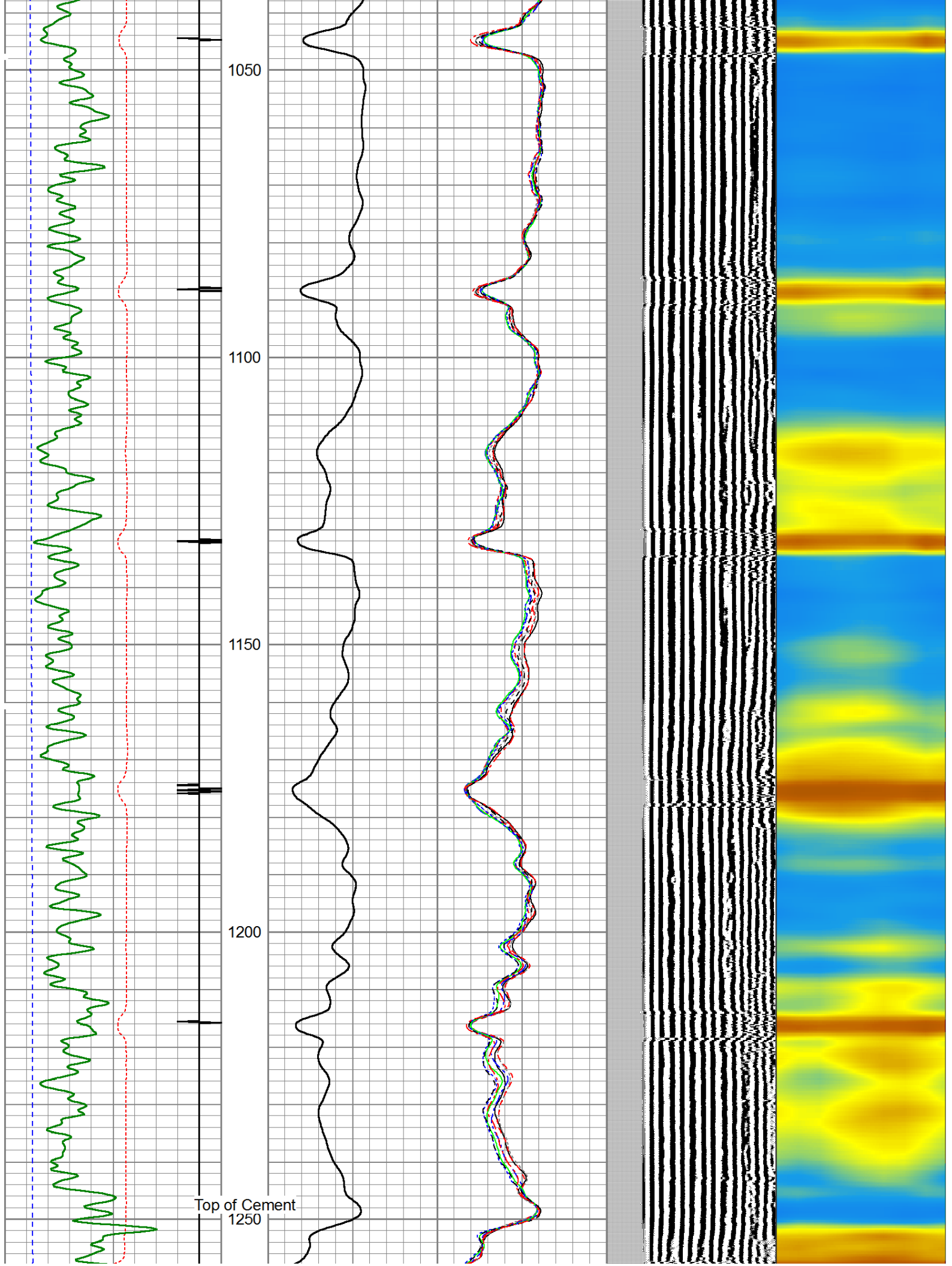




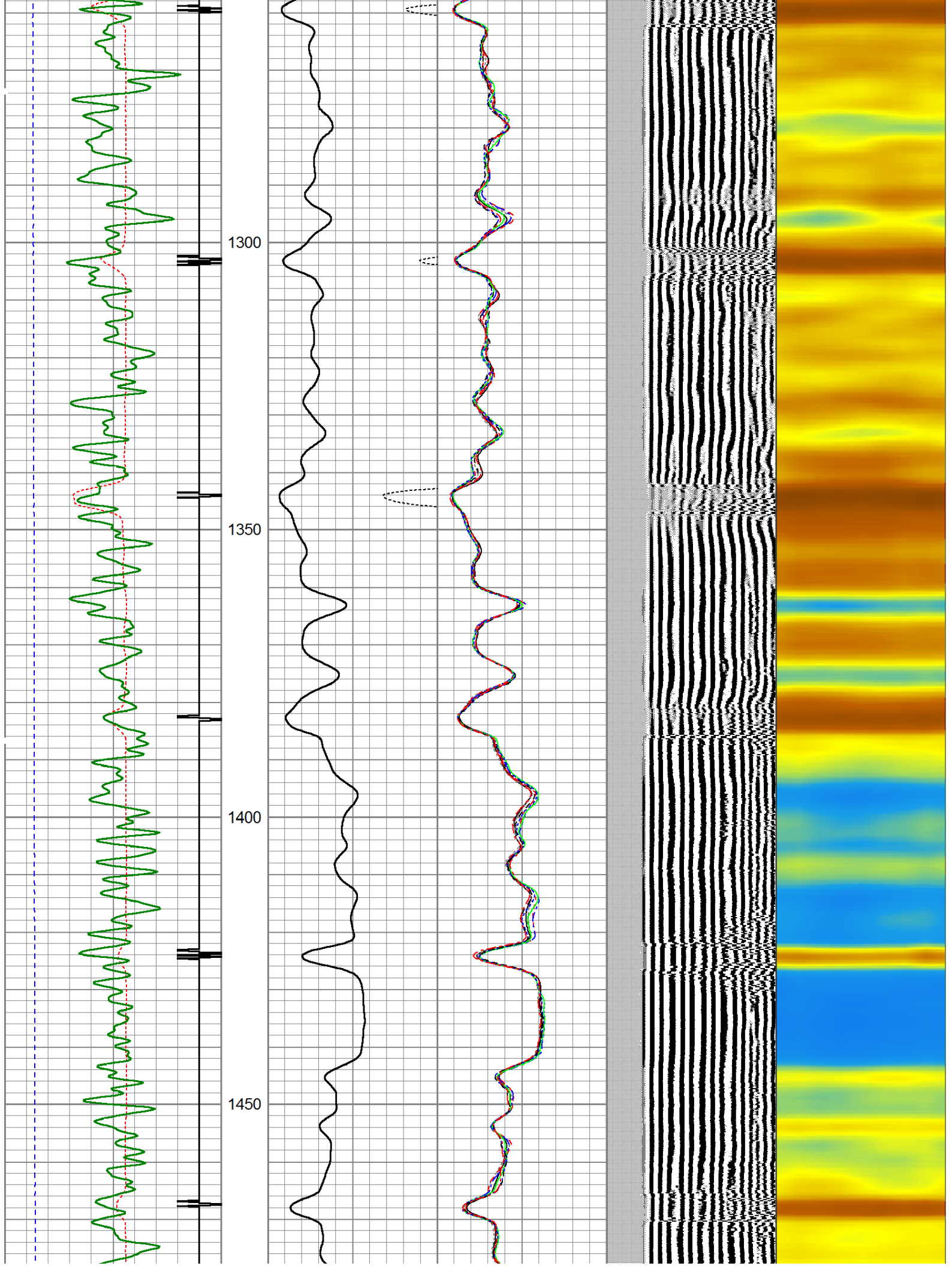




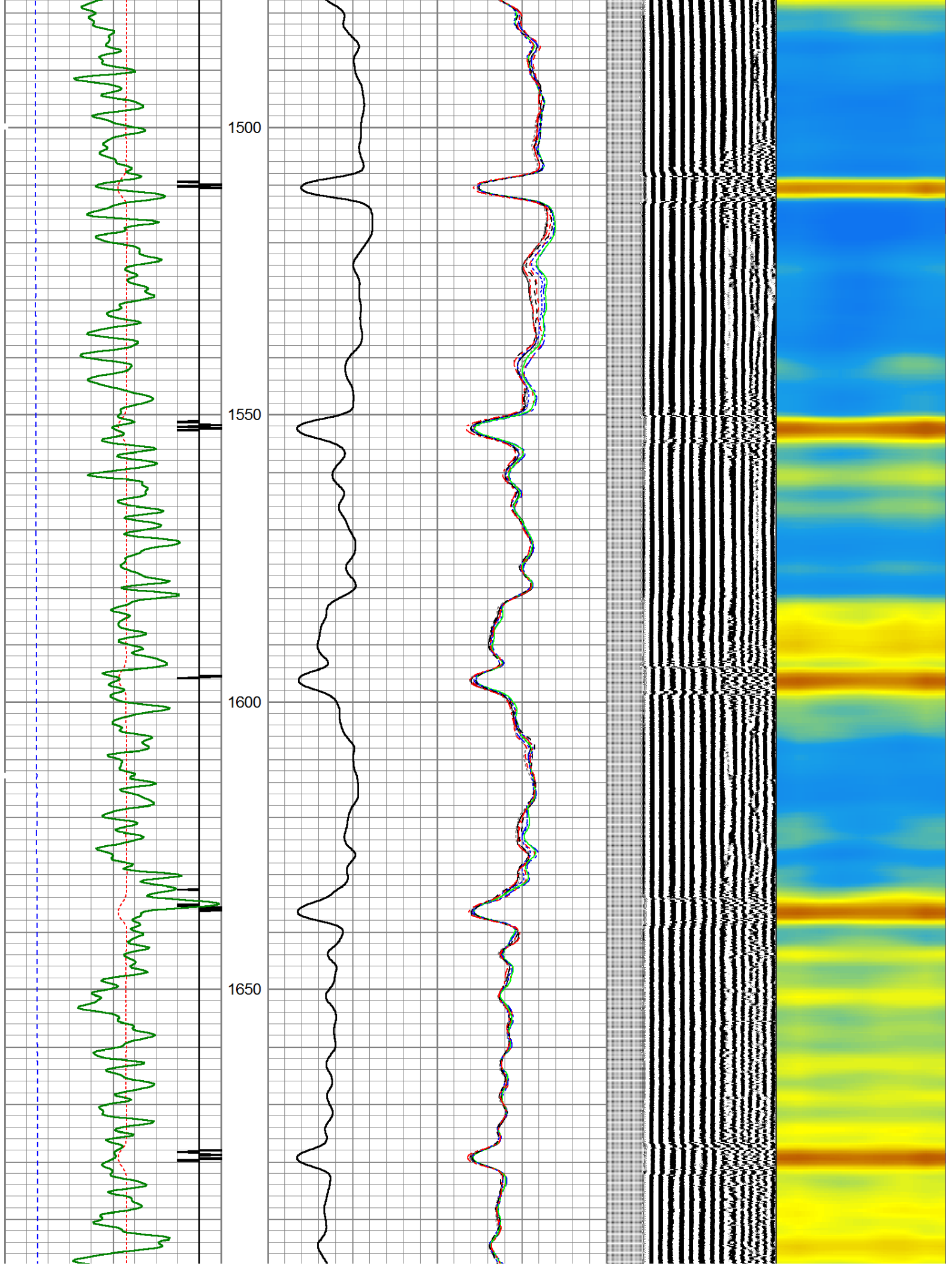


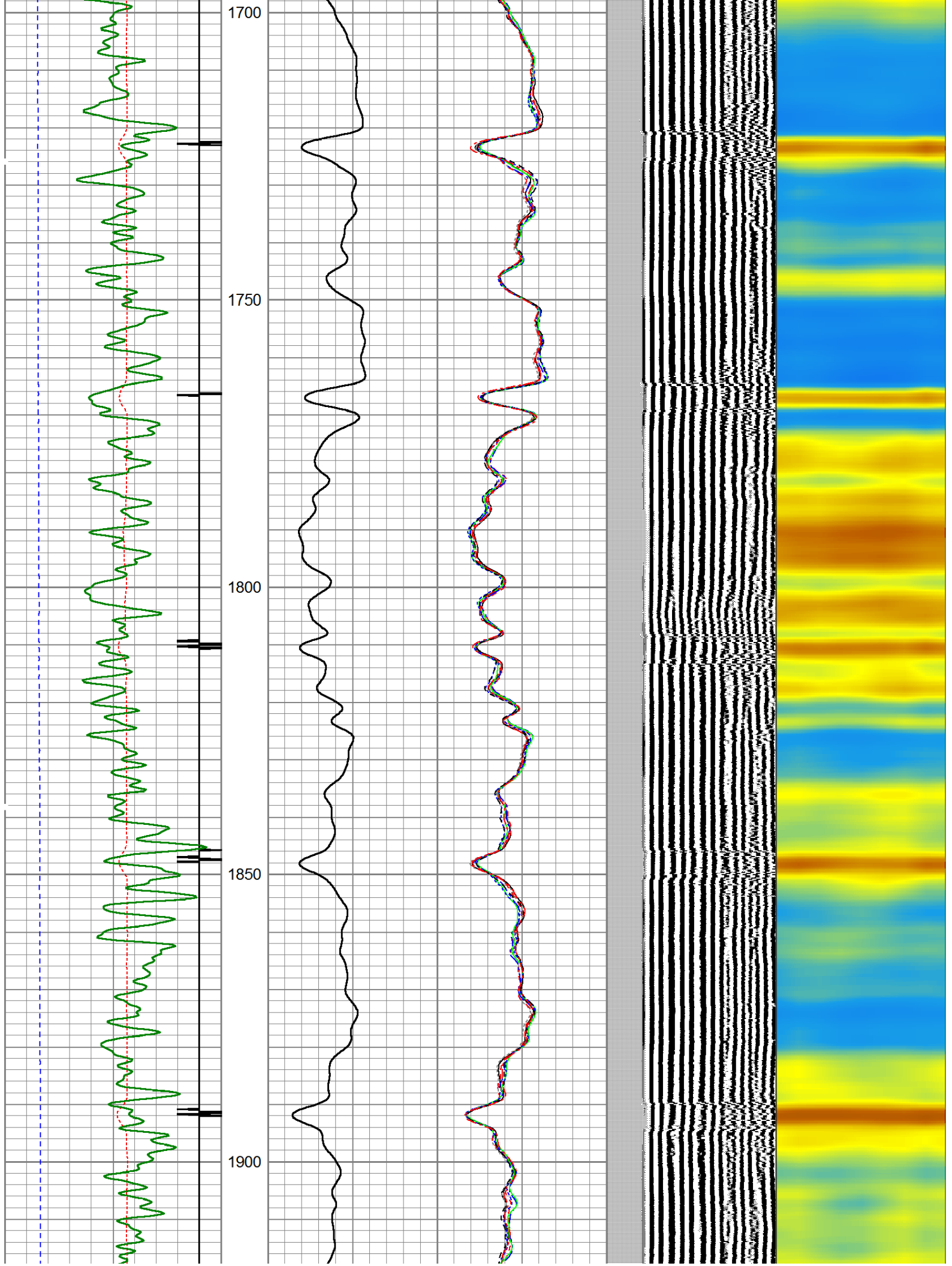


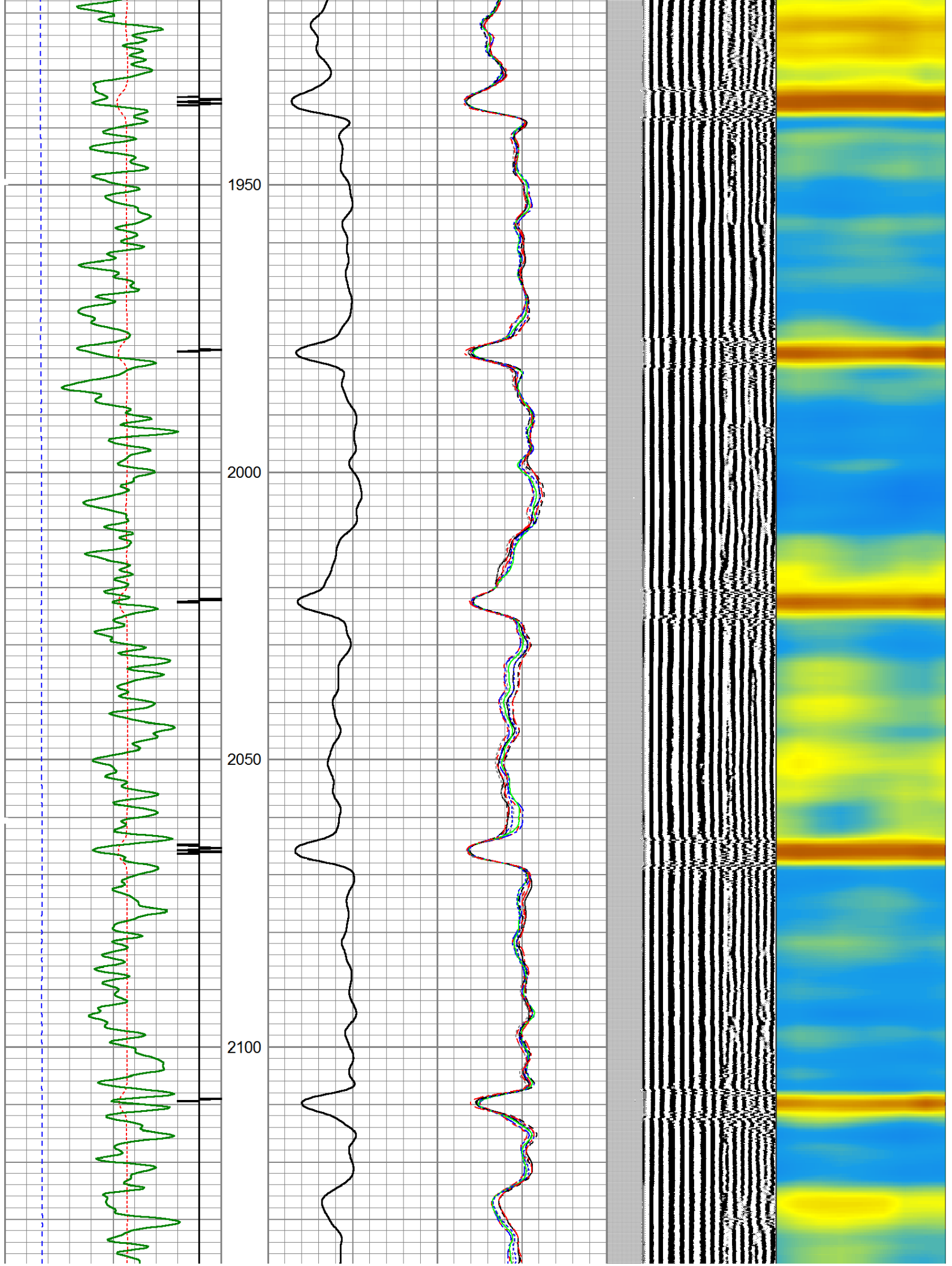




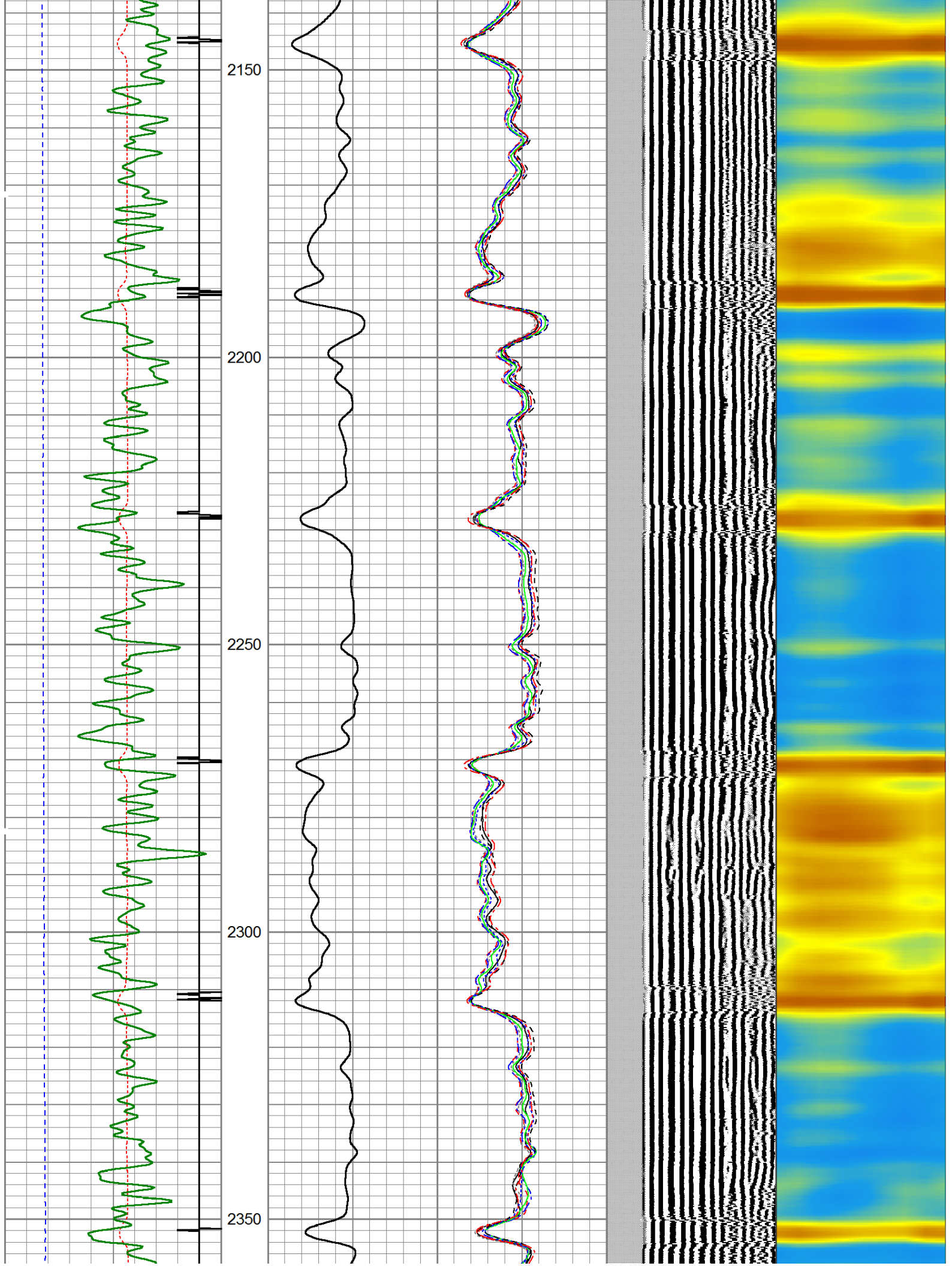




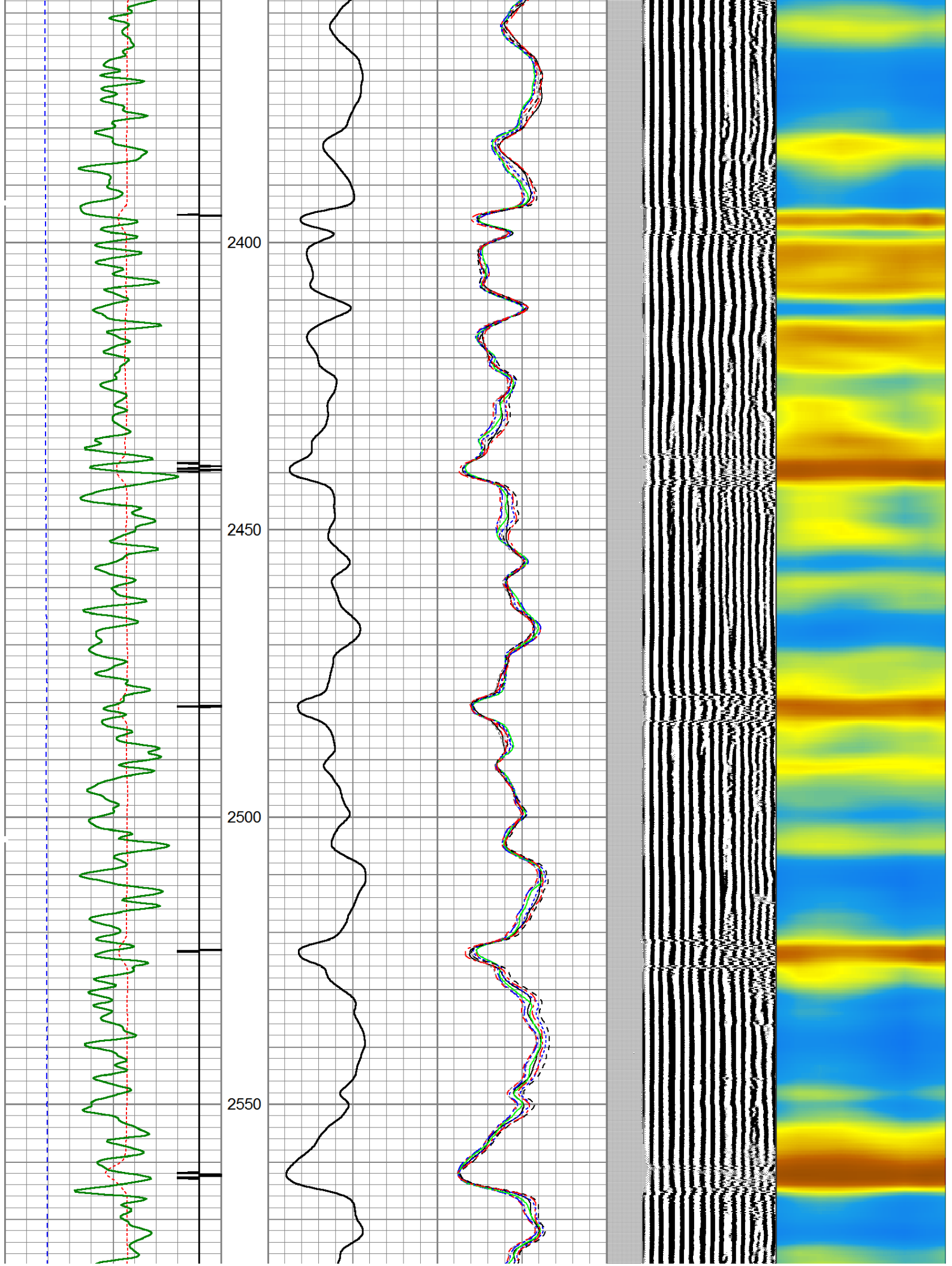


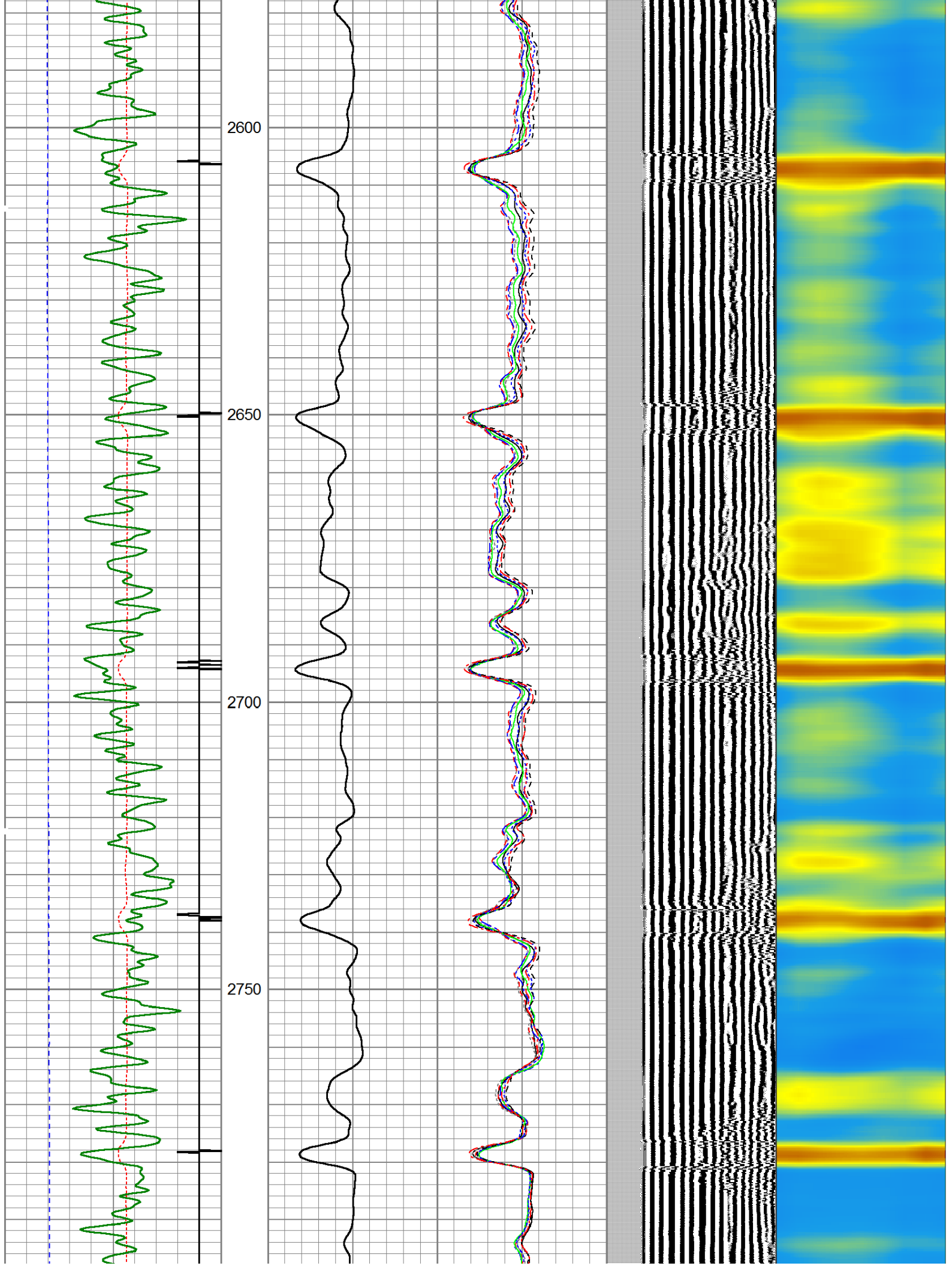


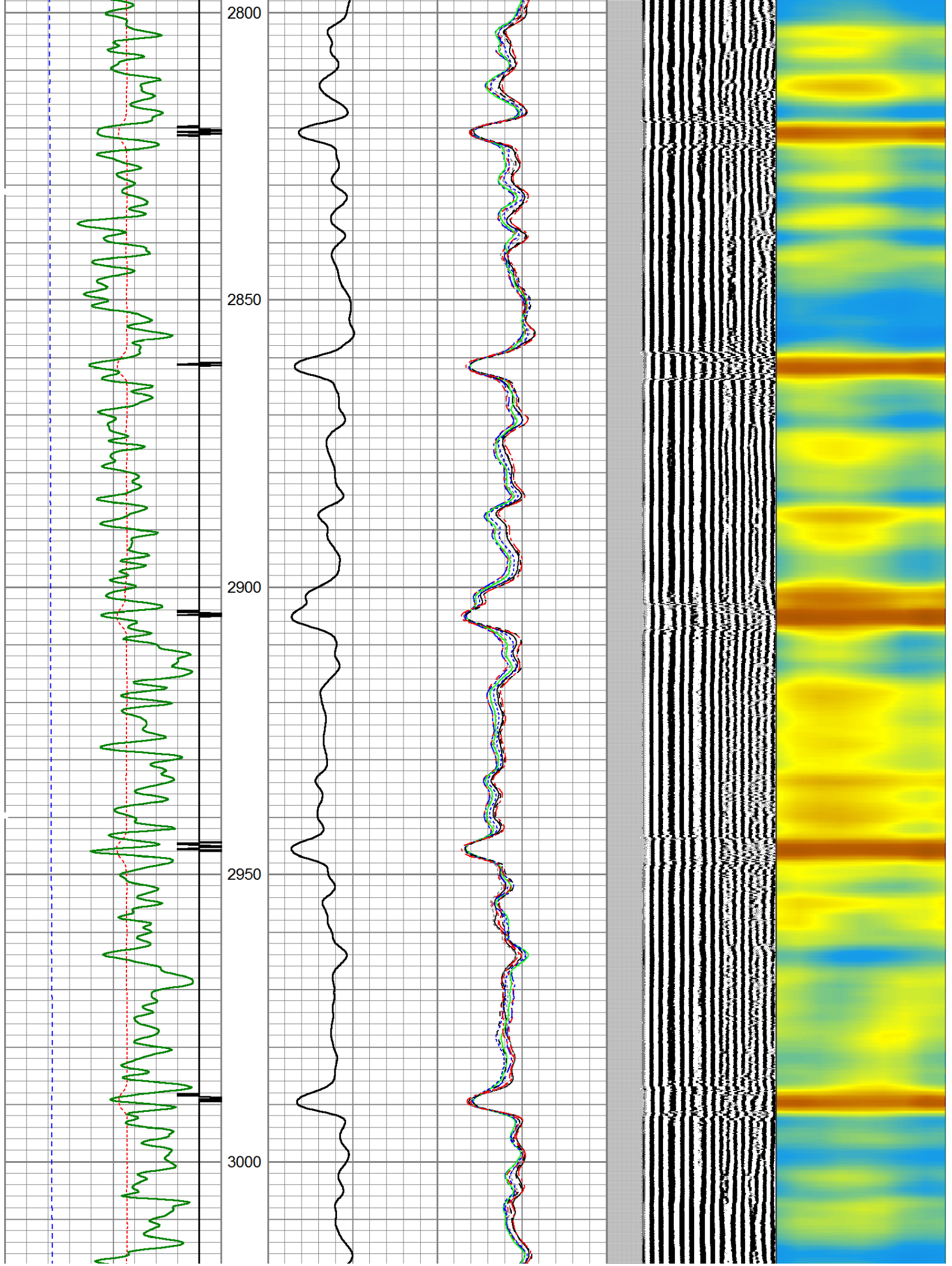




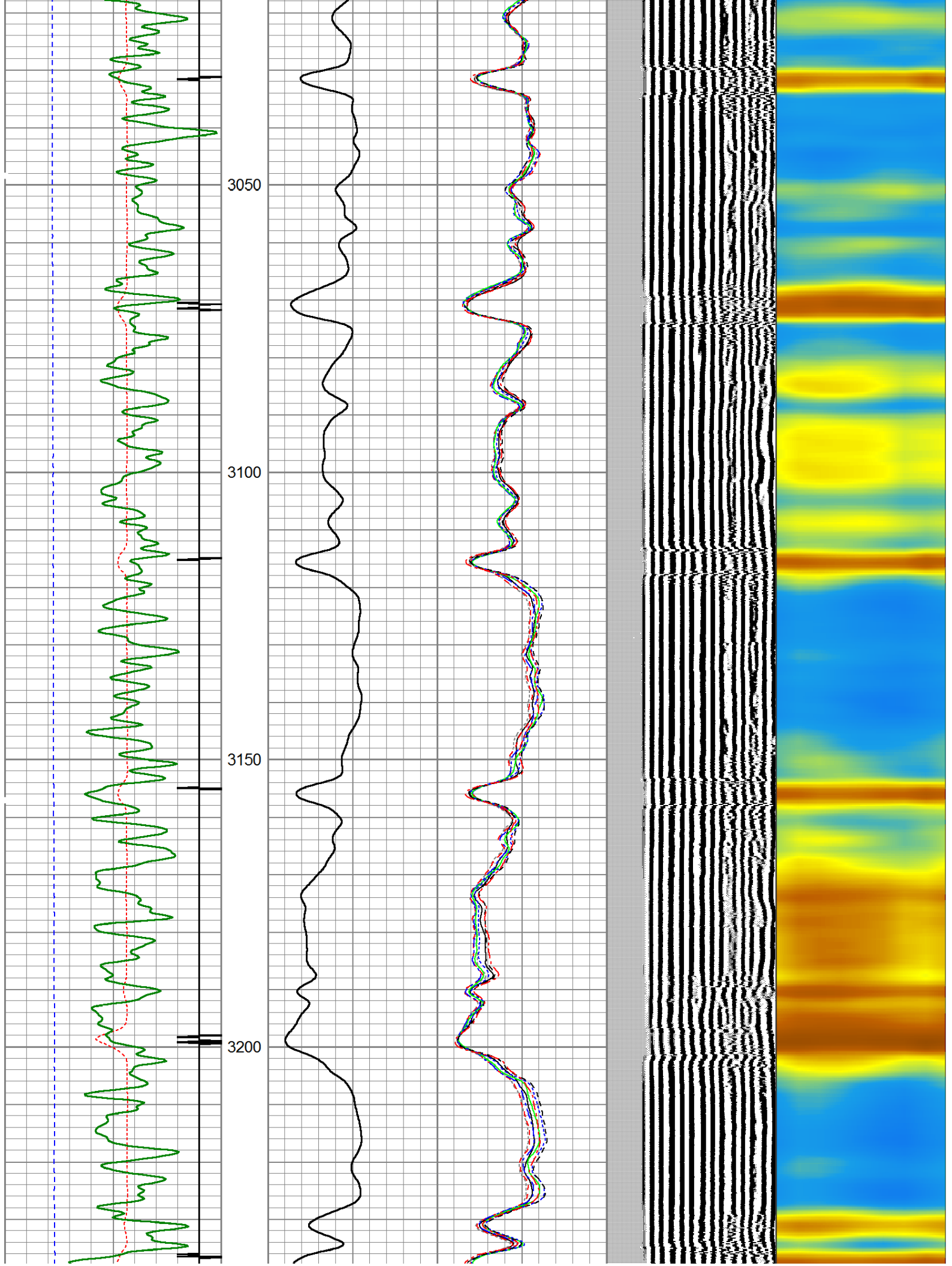




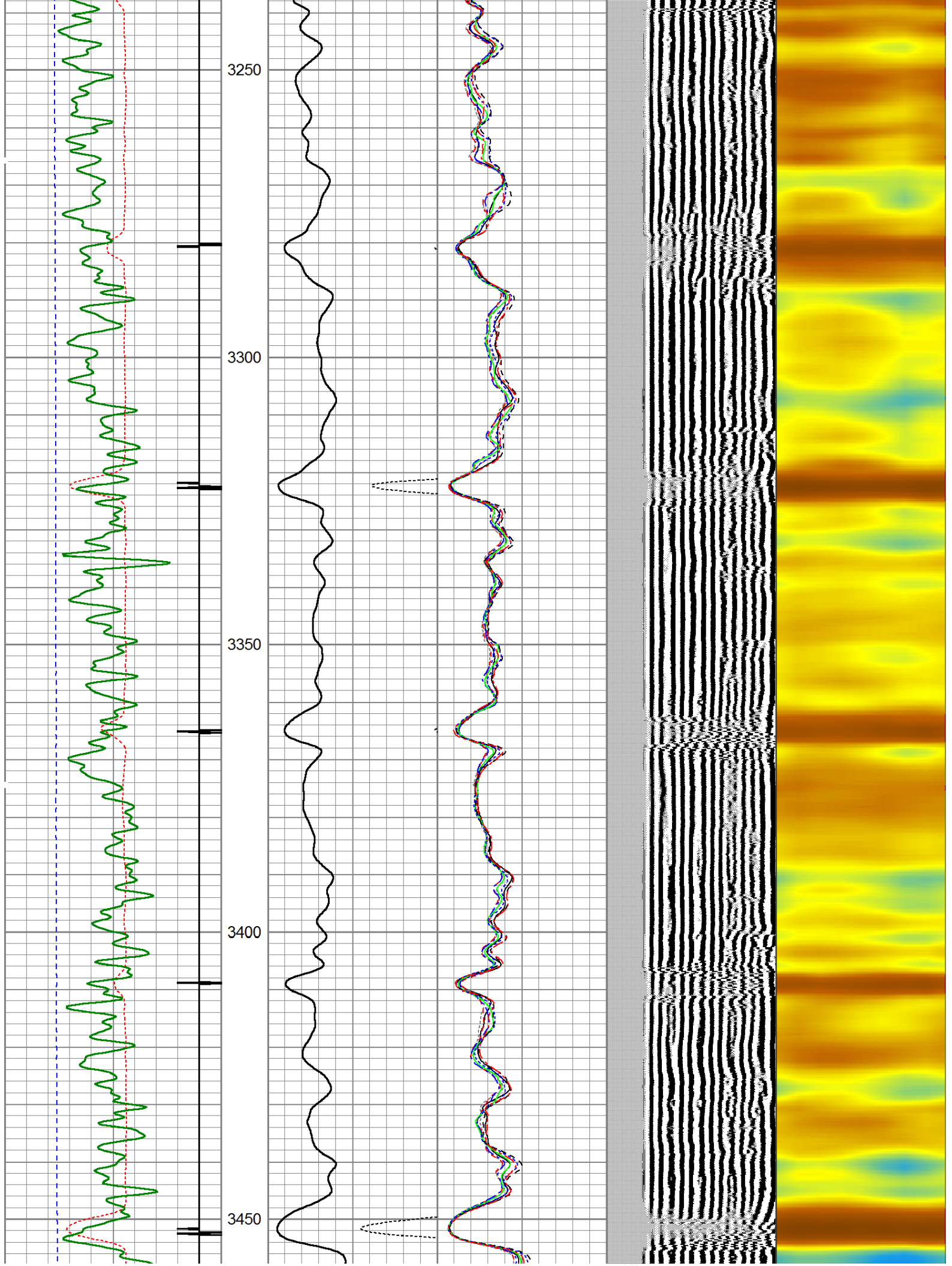


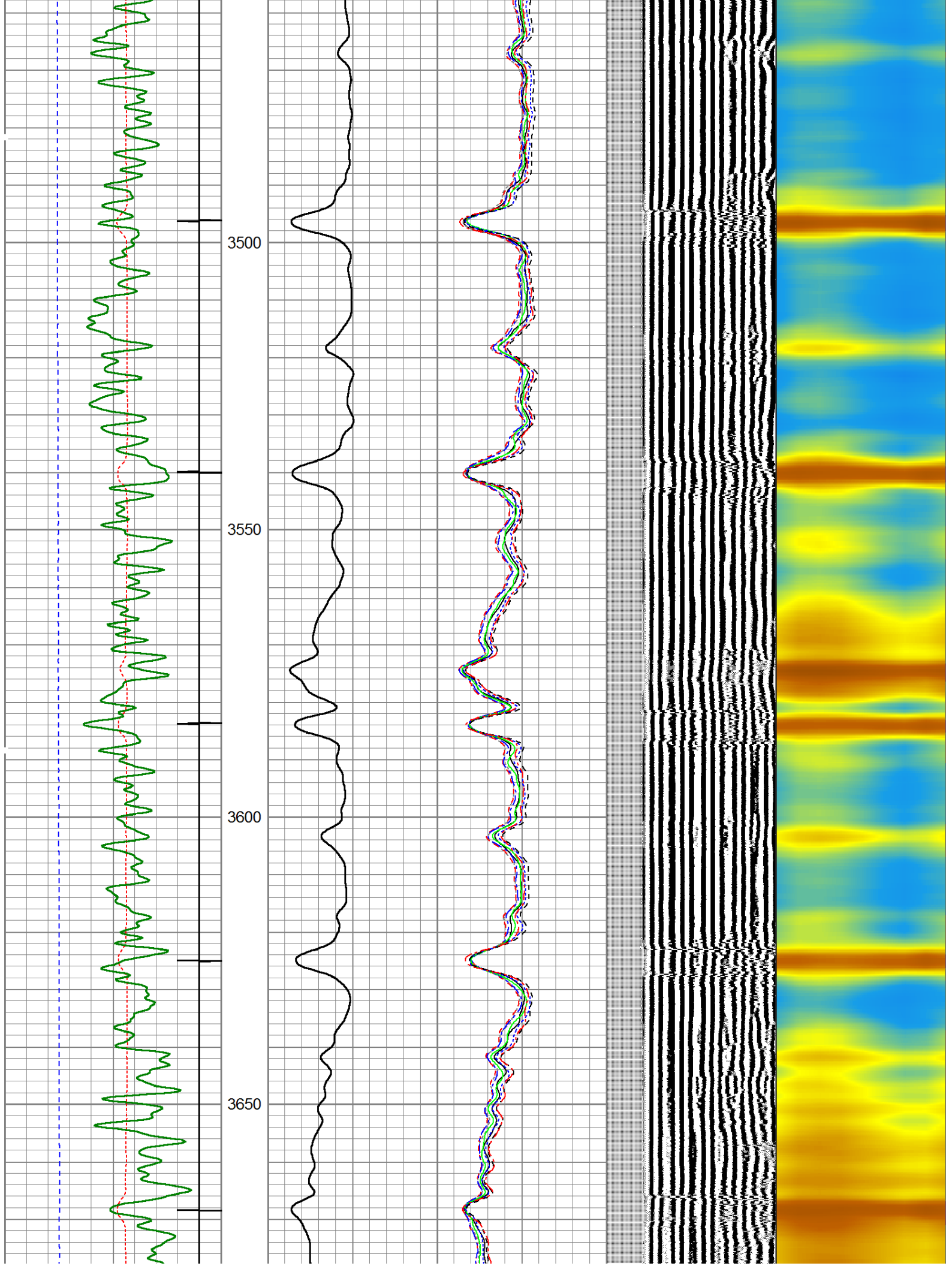


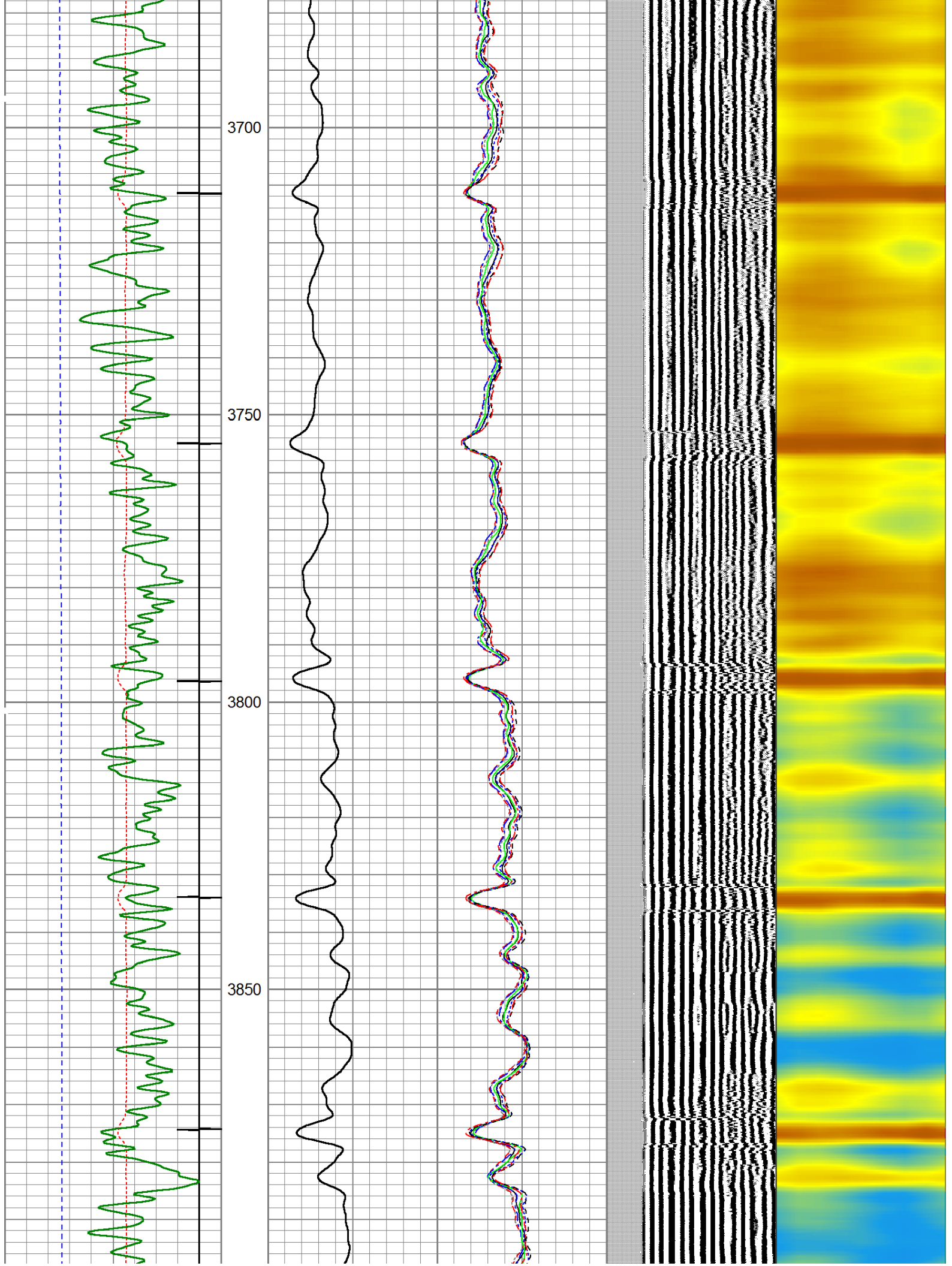




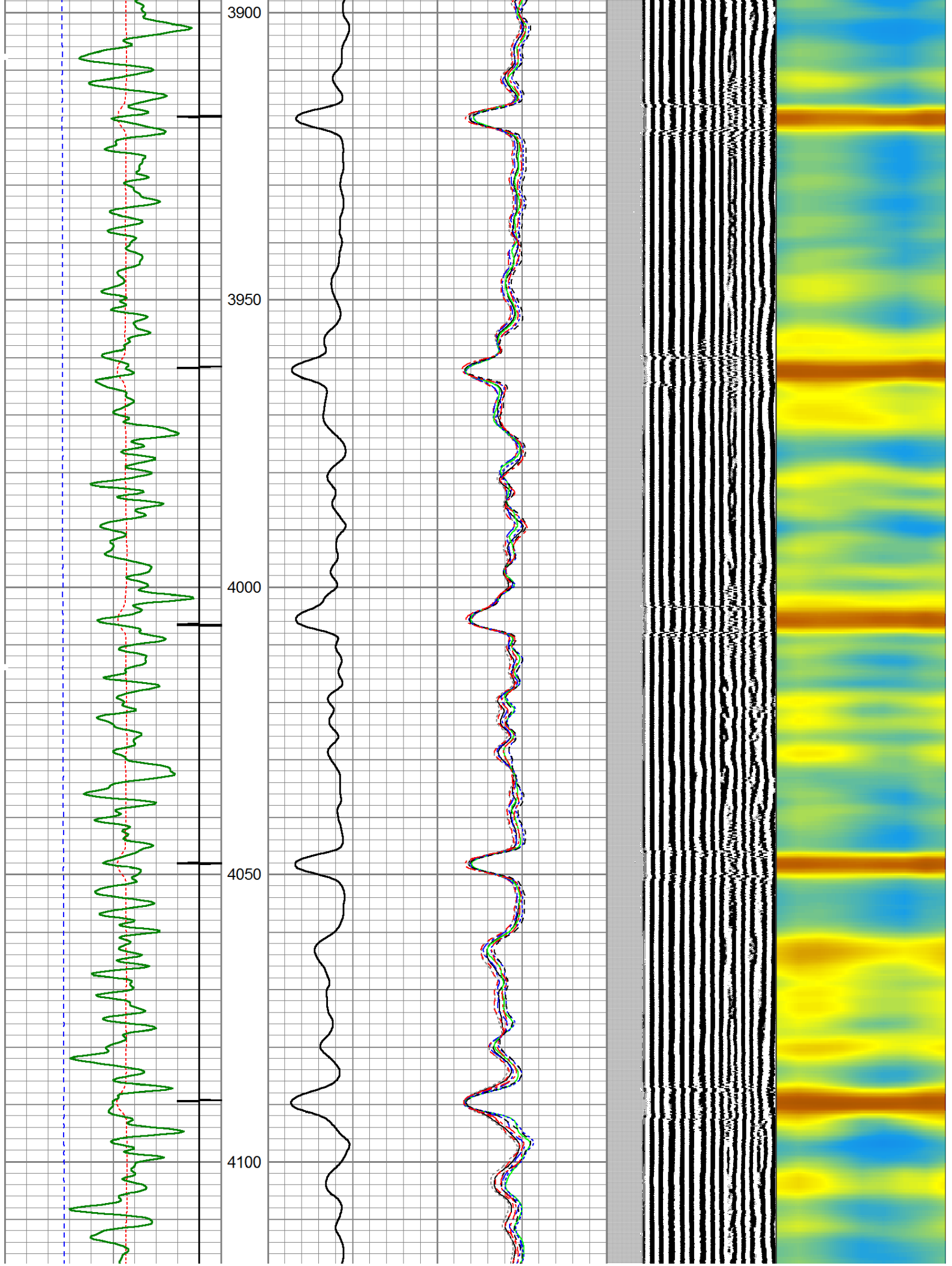




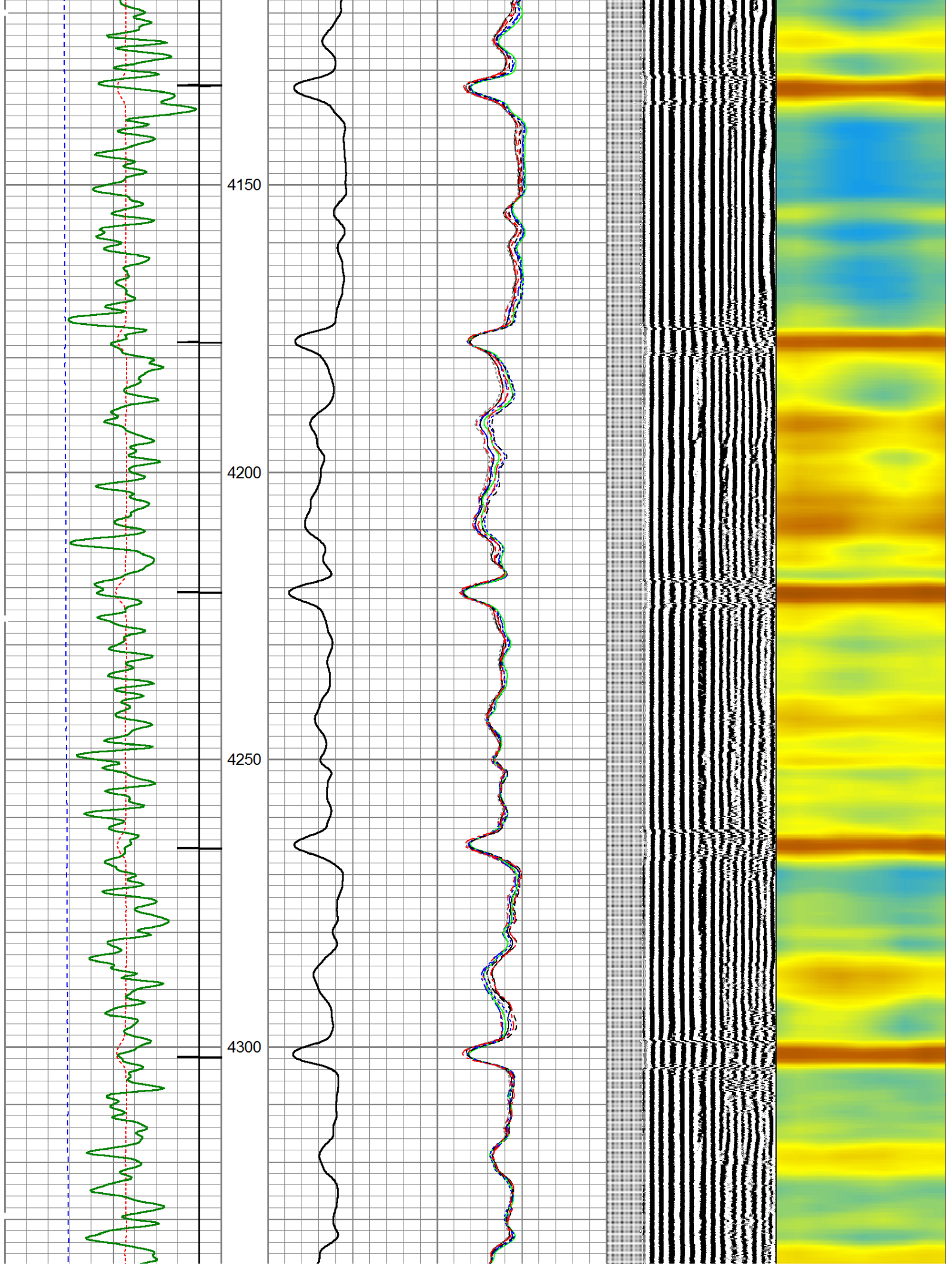


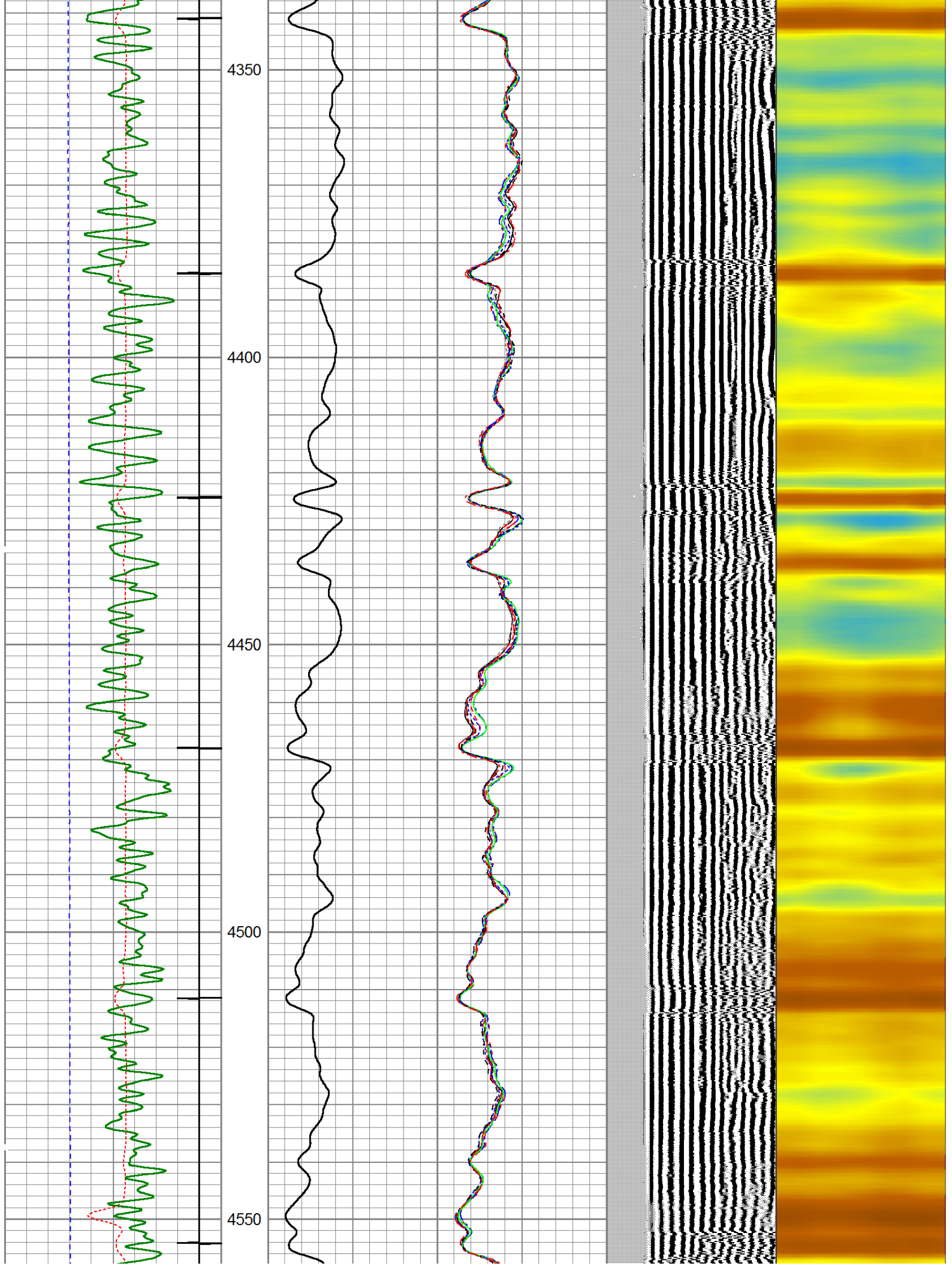


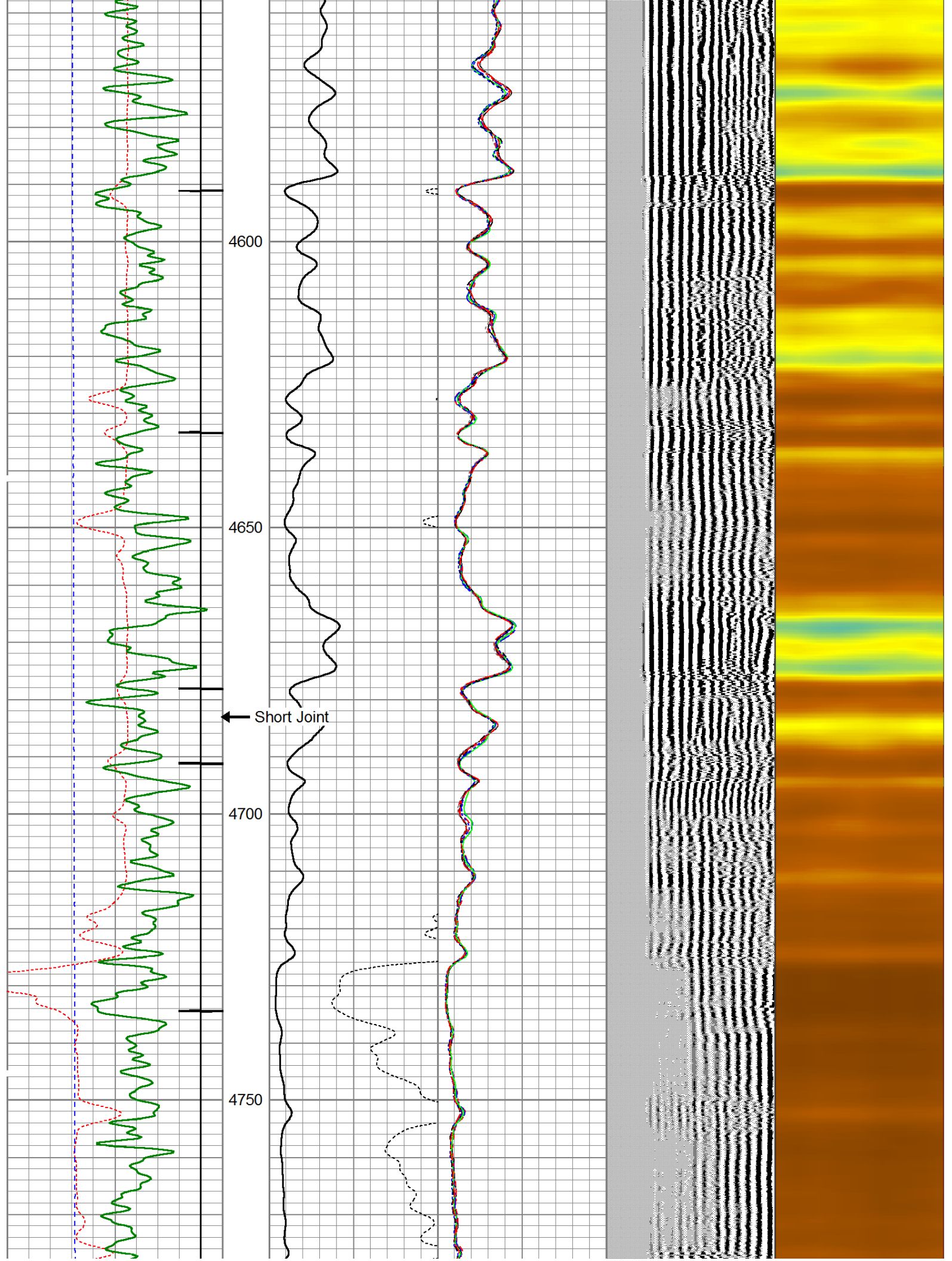




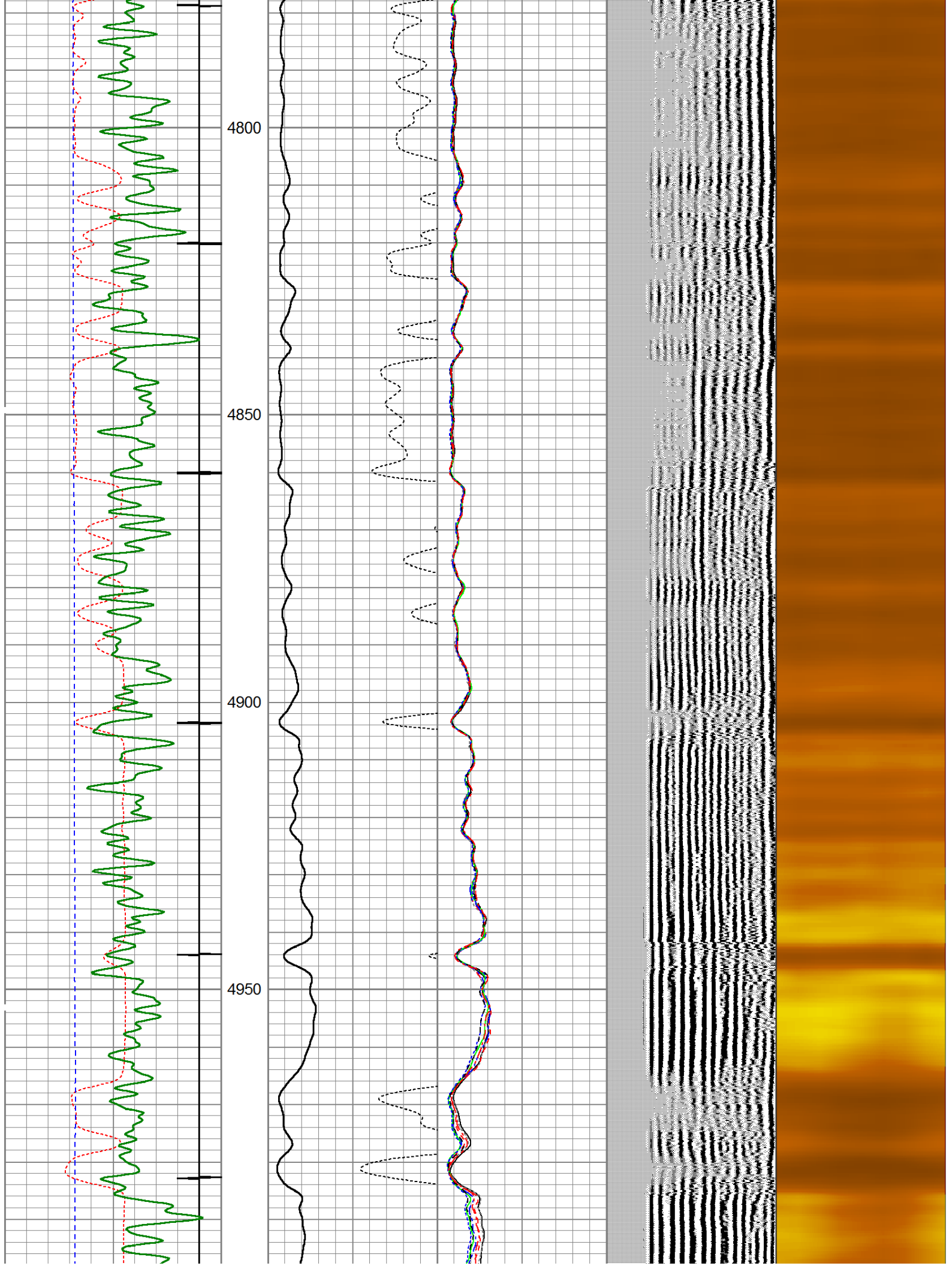




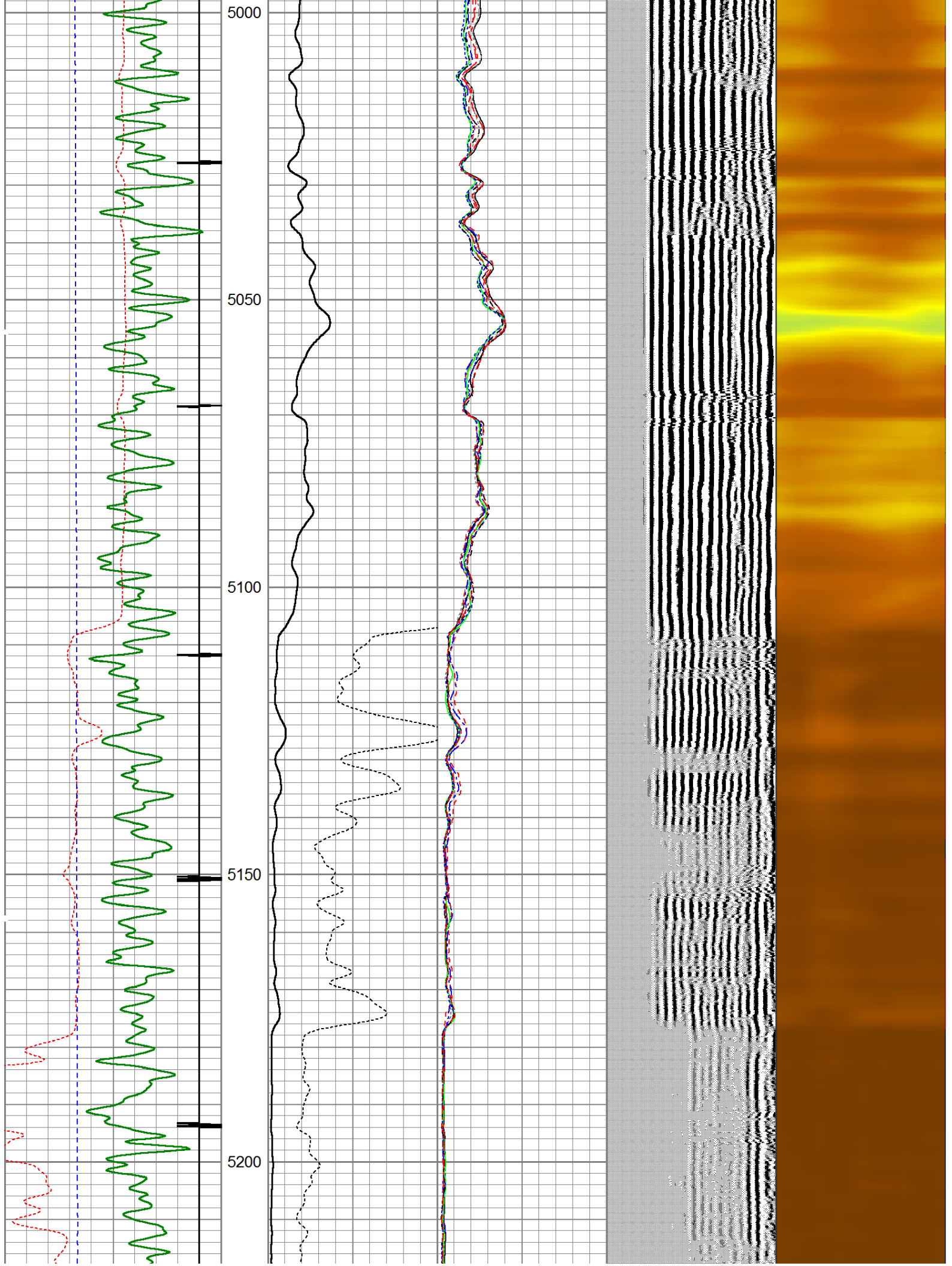


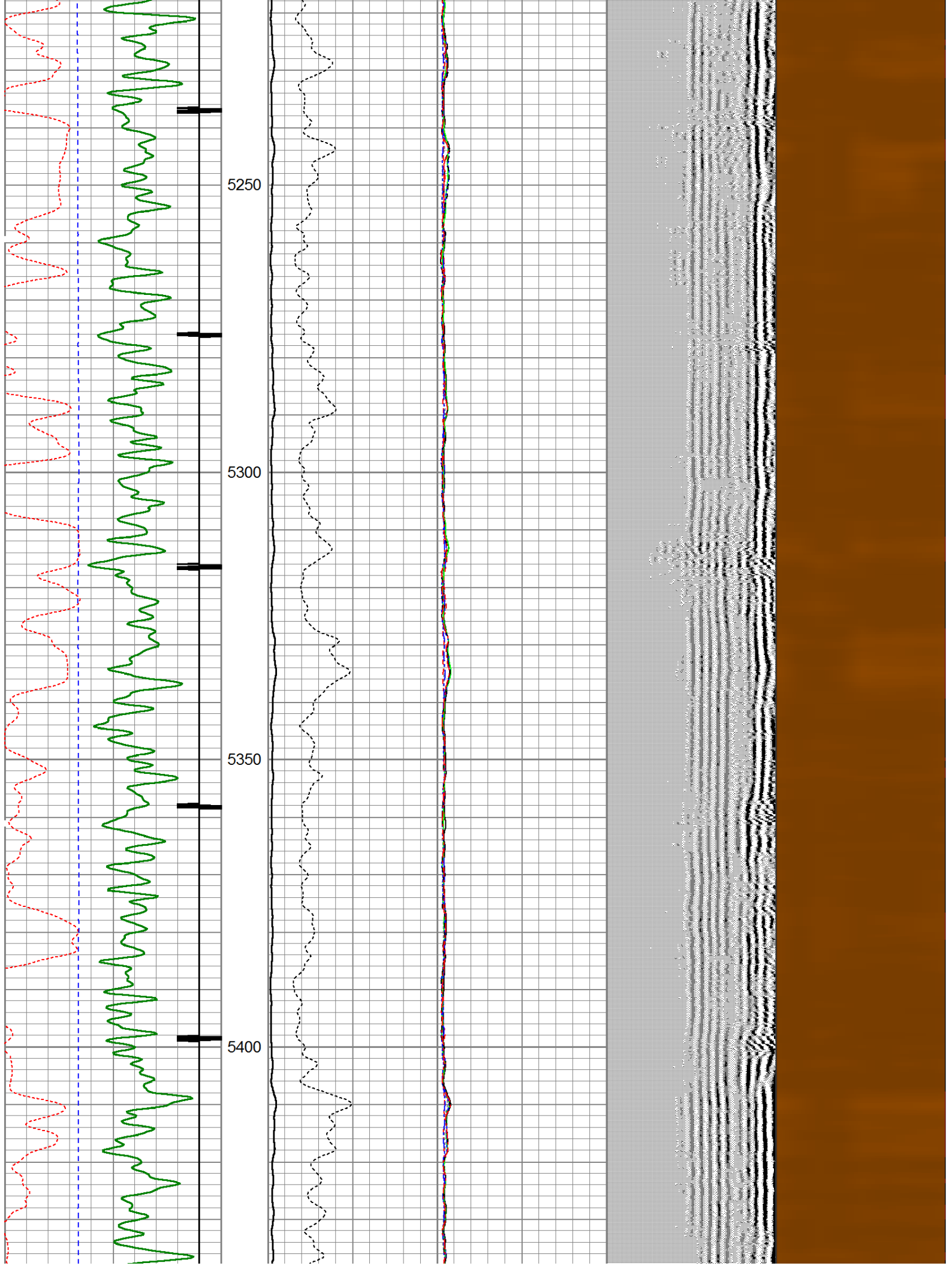




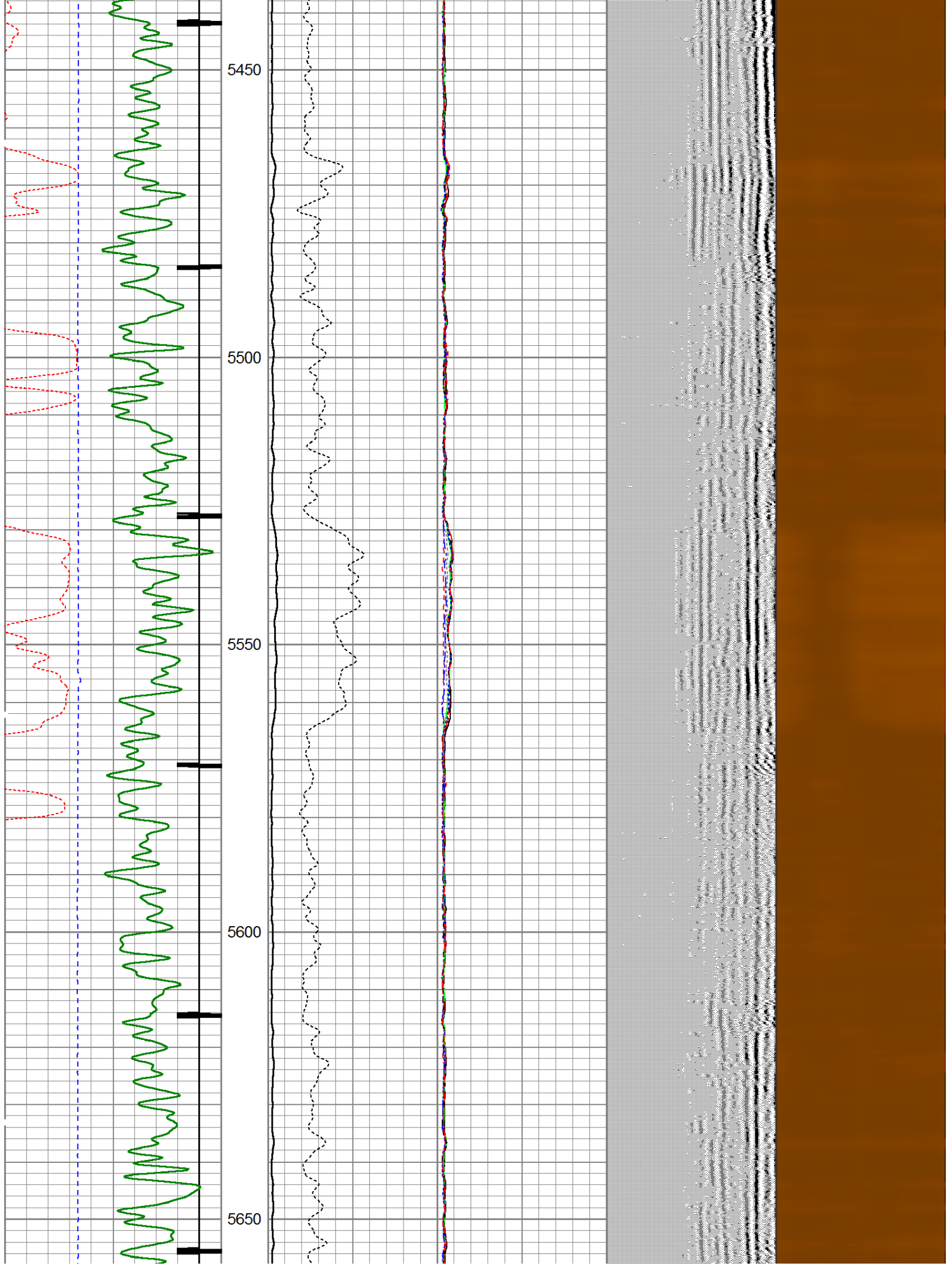




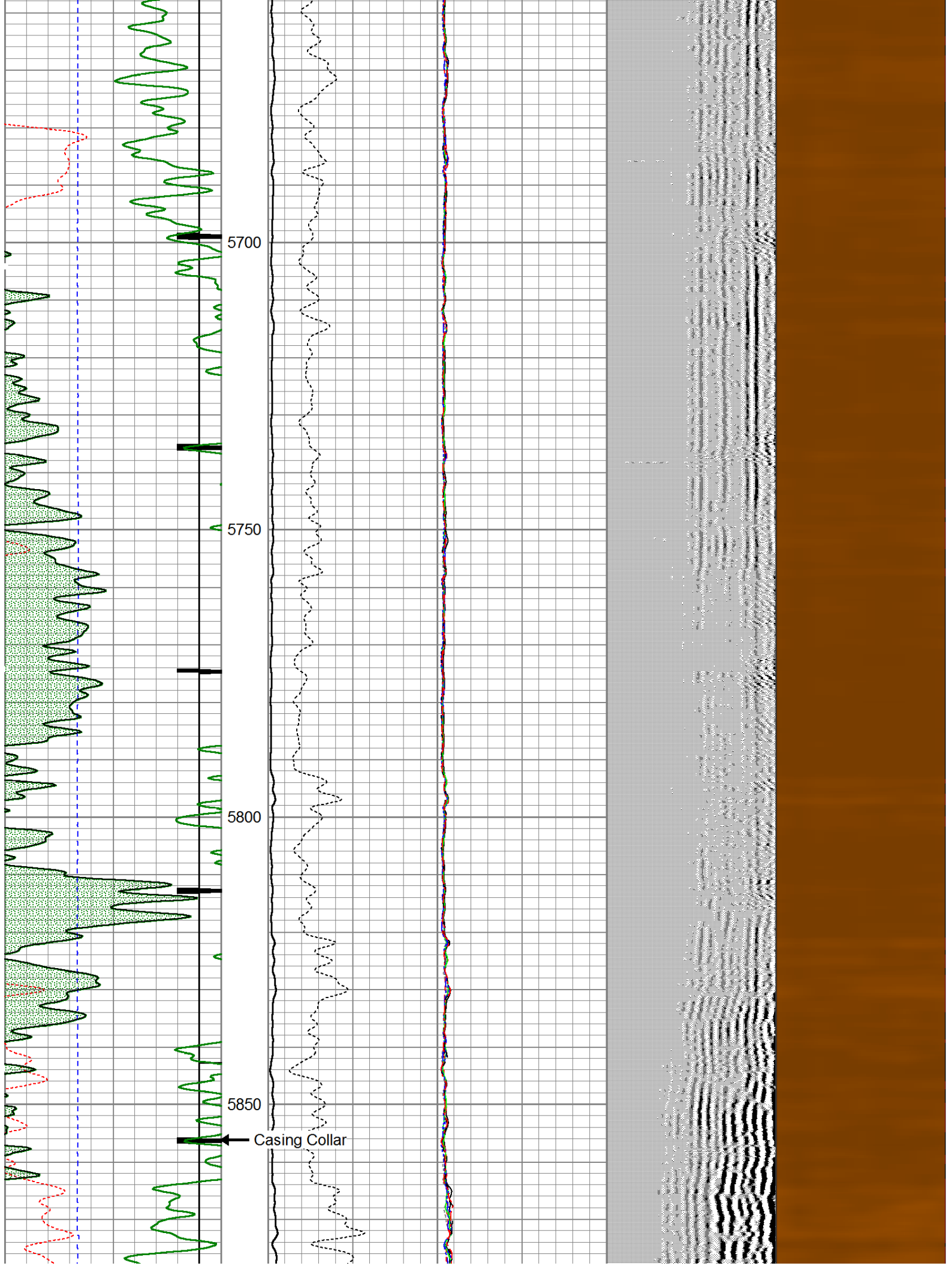


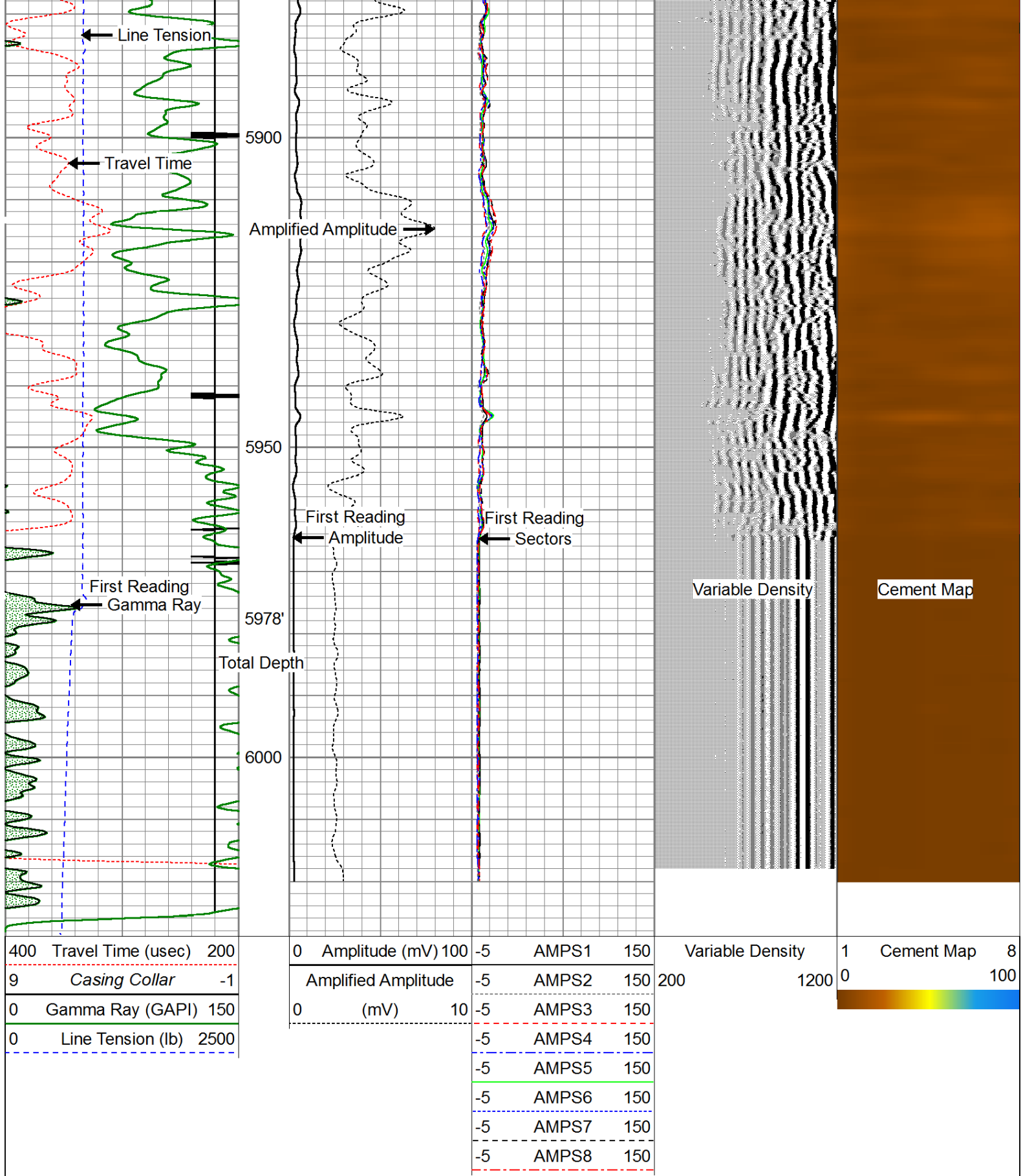









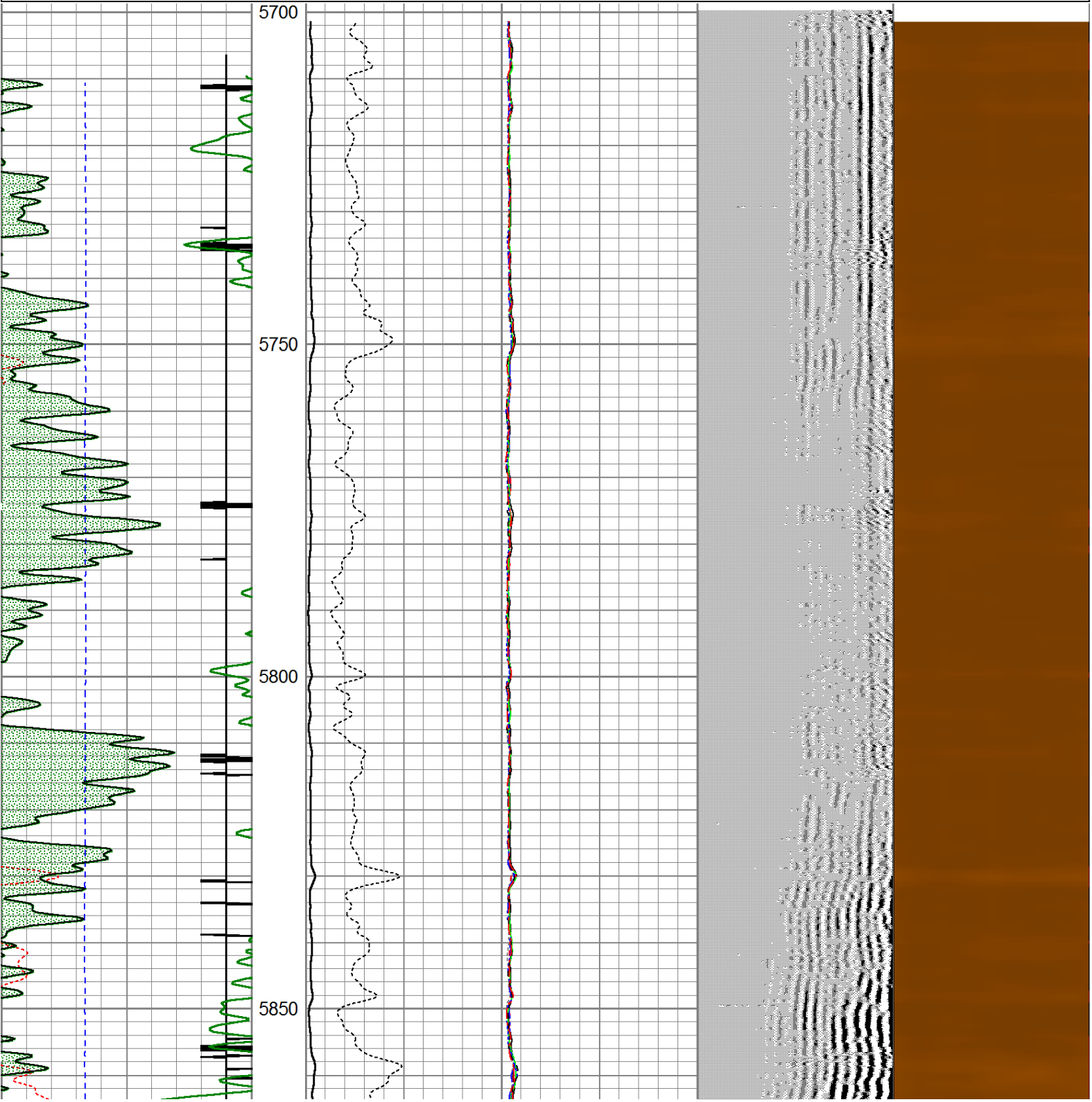




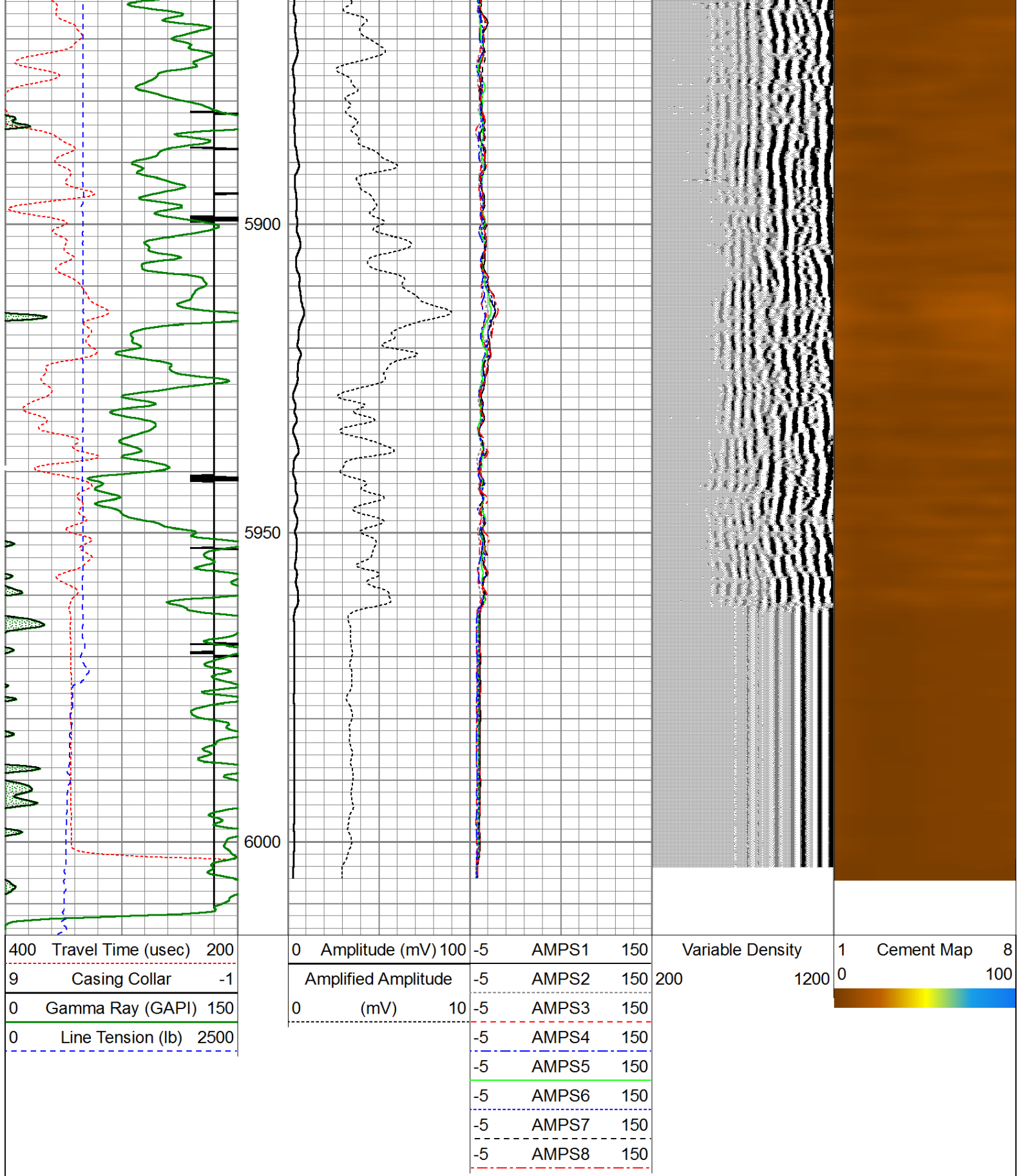
# Repeat Pass (0 PSI)



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						
Line Tension (lb)		2500					-5	AMPS4						150
							-5	AMPS5						150
							-5	AMPS6						150
							-5	AMPS7						150
							-5	AMPS8						150







# Calibration Report

Database File: noble energy rohn state ld04-62-1hn\_cbl.db  
Dataset Pathname: pass3  
Dataset Creation: Fri Oct 11 14:51:38 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: 793.192 ft

Master Calibration, performed Fri Oct 11 14:40:53 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.010	0.621	1.000	62.165	96.862	2.983
CAL	-0.017	1.145				
5'	-0.010	0.500	1.000	62.165	119.926	2.183
SUM						
S1	0.002	0.656	0.000	100.000	153.064	1.359
S2	-0.004	0.712	0.000	100.000	139.569	0.610
S3	-0.009	0.709	0.000	100.000	139.249	1.224
S4	-0.008	0.676	0.000	100.000	146.200	1.210
S5	-0.010	0.624	0.000	100.000	157.596	1.601
S6	-0.010	0.577	0.000	100.000	170.454	1.621
S7	-0.011	0.546	0.000	100.000	179.720	1.933
S8	-0.011	0.541	0.000	100.000	181.067	1.976

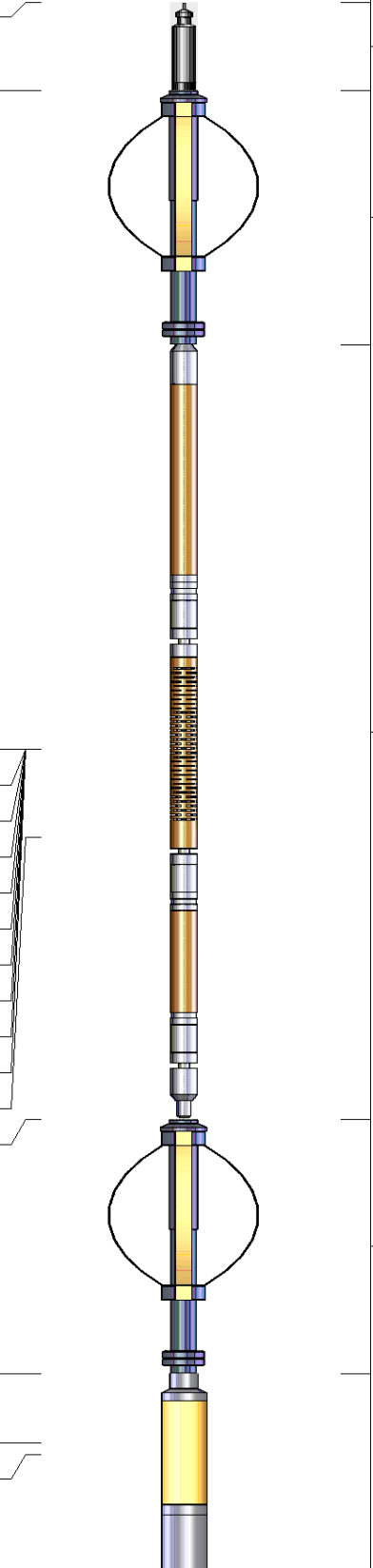
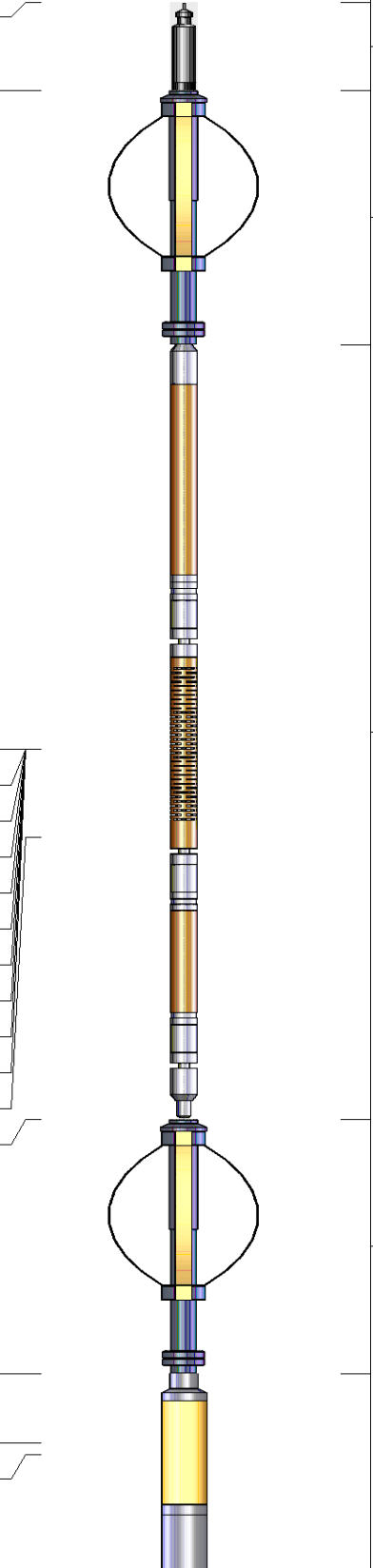
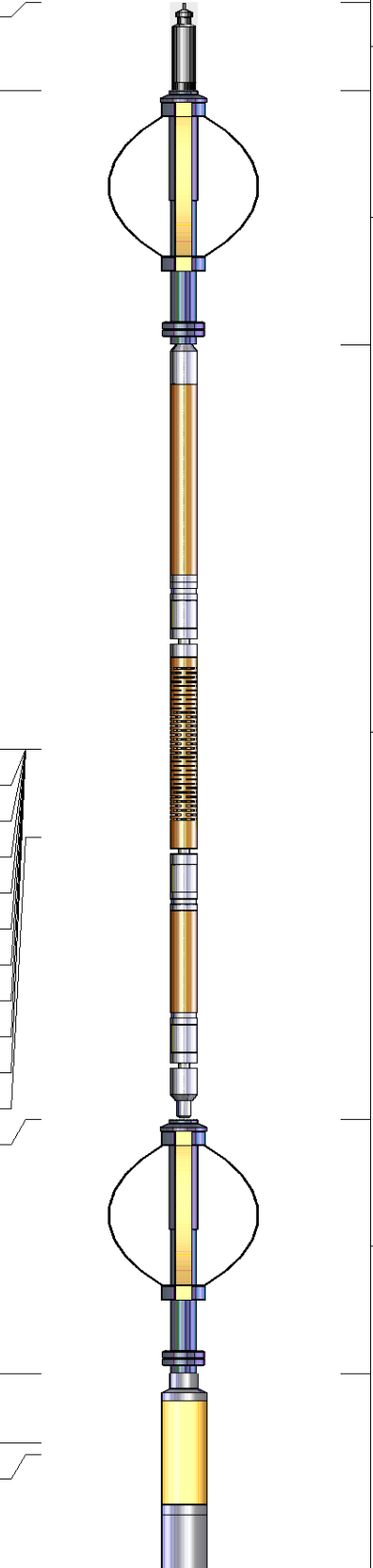
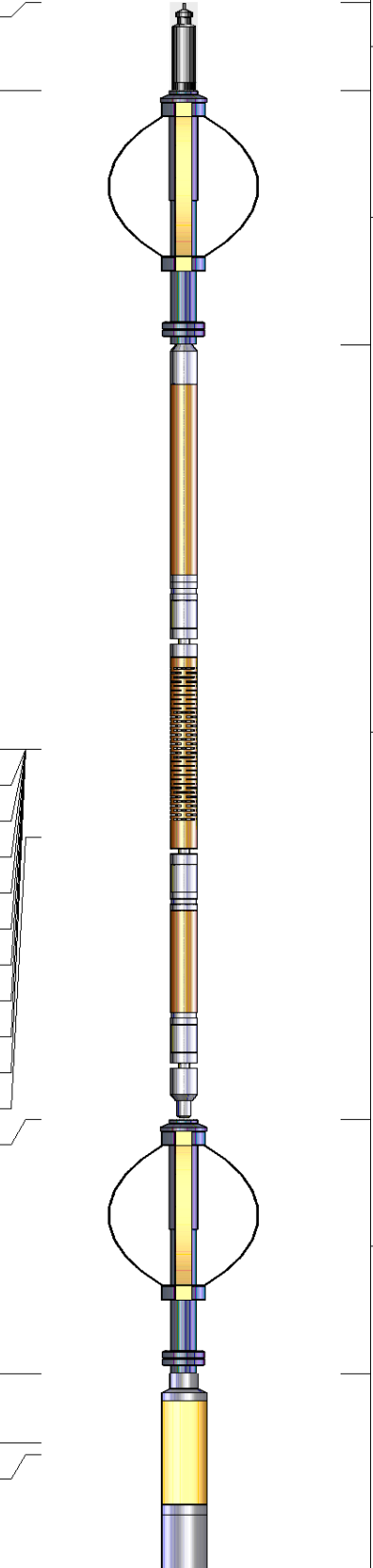
Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.017	1.145	1.000	0.000

Air Zero Calibration, performed Wed Oct 09 08:37:09 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

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		Probe275 2.75" Centralizer	2.88	2.75	20.00
GR	4.78					
TEMP	4.00					
CCL	3.88					
GR	2.54					



