



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

Company	Noble Energy	Company	Noble Energy
Well	Shable LB-32-68HN	Well	Shable LB-32-68HN
Field	Wattenberg	Field	Wattenberg
County	Weld	County	Weld
State	Colorado	State	Colorado
Location:		API # : 05-123-36800	Other Services
SEC 33 TWP 9N RGE 60W		660' FNL & 660' FWL	Temp
Permanent Datum	Ground Level	Elevation	4940'
Log Measured From	Kelly Bushing	16' APD	
Drilling Measured From	Kelly Bushing		
Date	May 10, 2013		
Run Number	One		
Depth Driller	10687'		
Depth Logger	6683'		
Bottom Logged Interval	6679'		
Top Log Interval	Surface		
Open Hole Size	8 3/4"		
Type Fluid	Water		
Density / Viscosity	-		
Max. Recorded Temp.	218.6 Deg		
Estimated Cement Top	1606'		
Time Well Ready	7.45		
Time Logger on Bottom	8:30		
Equipment Number	12029		
Location	Brighton, CO		
Recorded By	R.Grisson		
Witnessed By	Bill Mansfield		
Borehole Record		Tubing Record	
Run Number	Bit	From	To
1	9 5/8"	16'	628.8'
2	7"	16'	6719'
3	4.5"	6622'	10672'
Casing Record	Size	Wgt/Ft	Top
Surface String	9 5/8"	36#	16'
Prot. String			
Production String	7"	26#	6719'
Liner	4.5"	11 6#	6622.5'
Short Joint	5334'-5347'		10672'

<<< 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 16' KB

Main Pass and Repeat Pass logged with zero pressure on surface

Your Crew for today: Grissom, Lueck, Hughes, Medina

Thank You for using Allied Wireline

(303) 659-4609



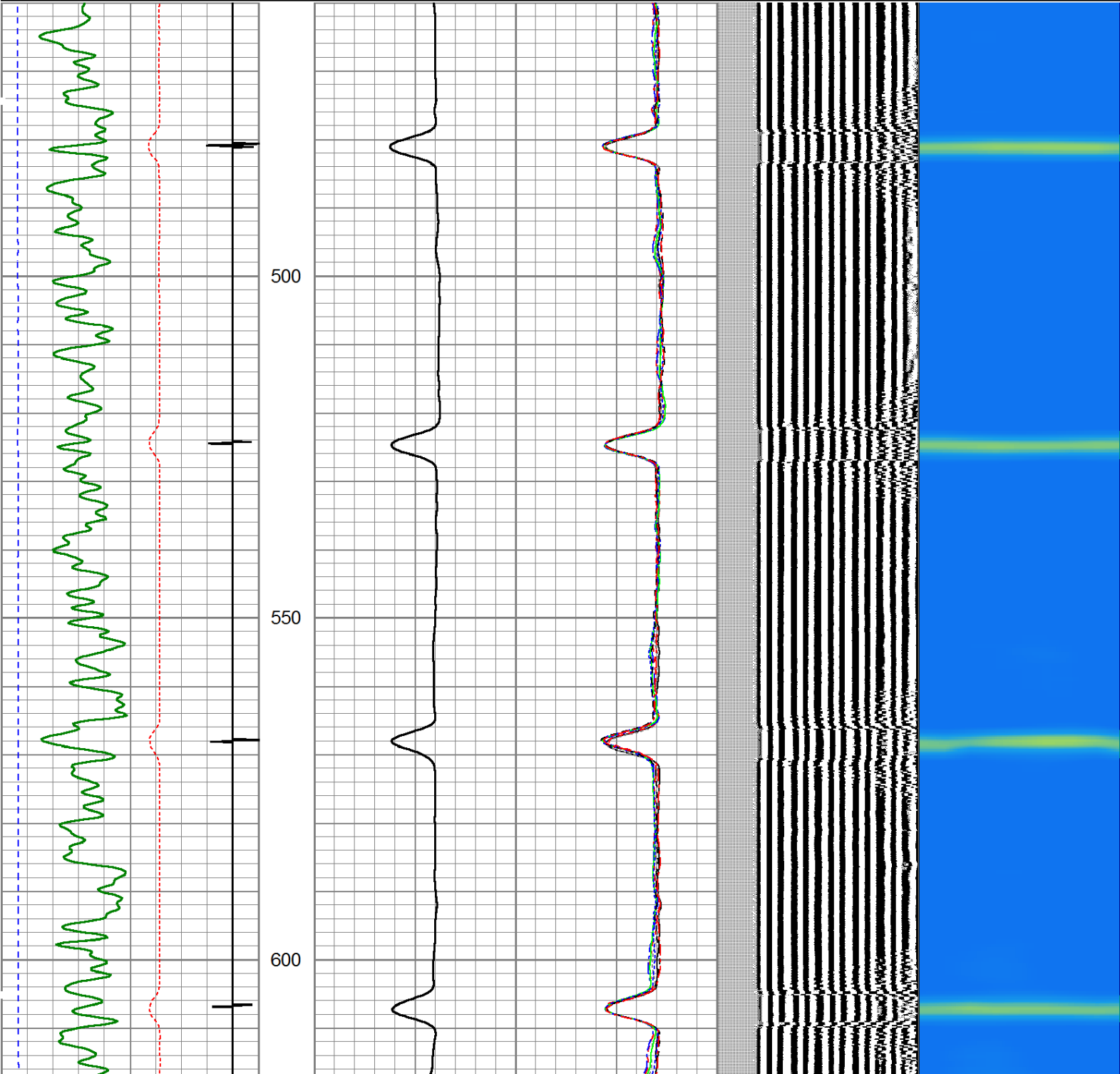
Free Pipe Pass (0 PSI)

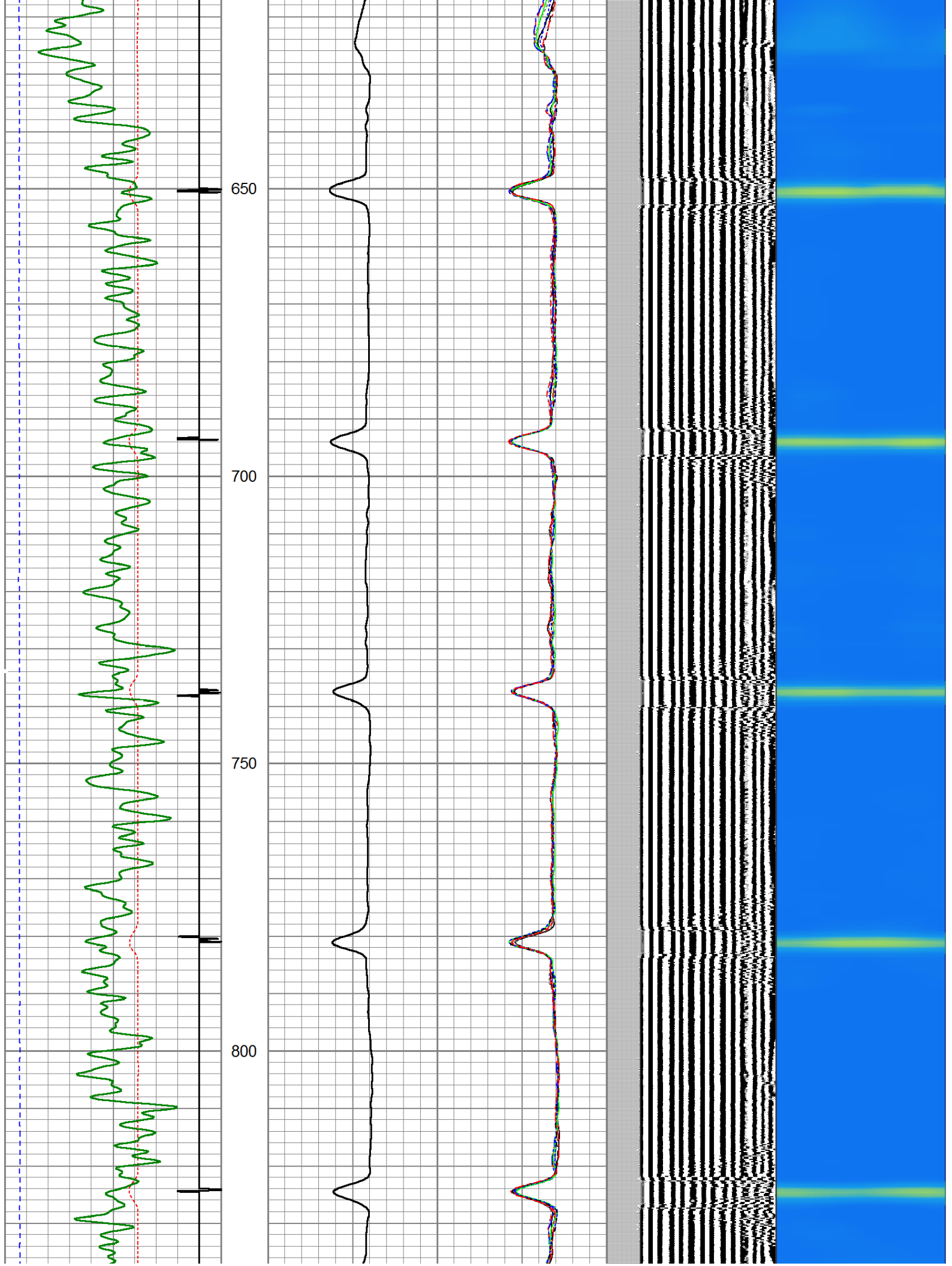
Database File: noble_shable_lb32-68hn_rcbl.db
Dataset Pathname: pass10
Presentation Format: scbl03
Dataset Creation: Mon May 13 11:13:12 2013
Charted by: Depth in Feet scaled 1:240

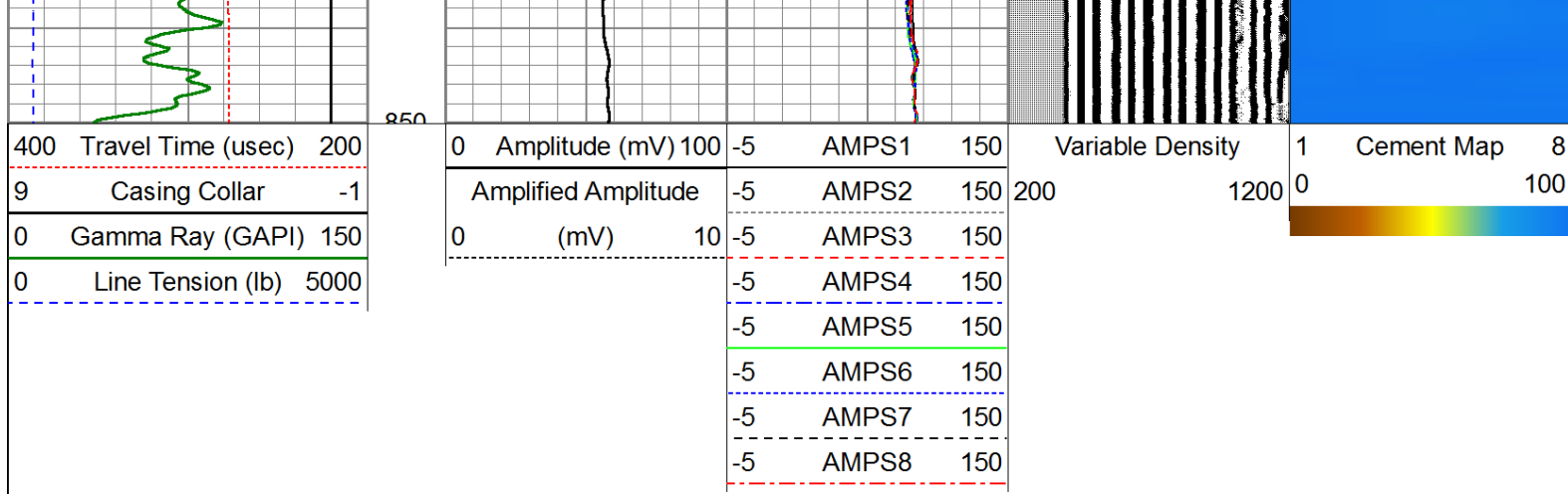
400	Travel Time (usec)	200
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	5000

0	Amplitude (mV)	100	-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

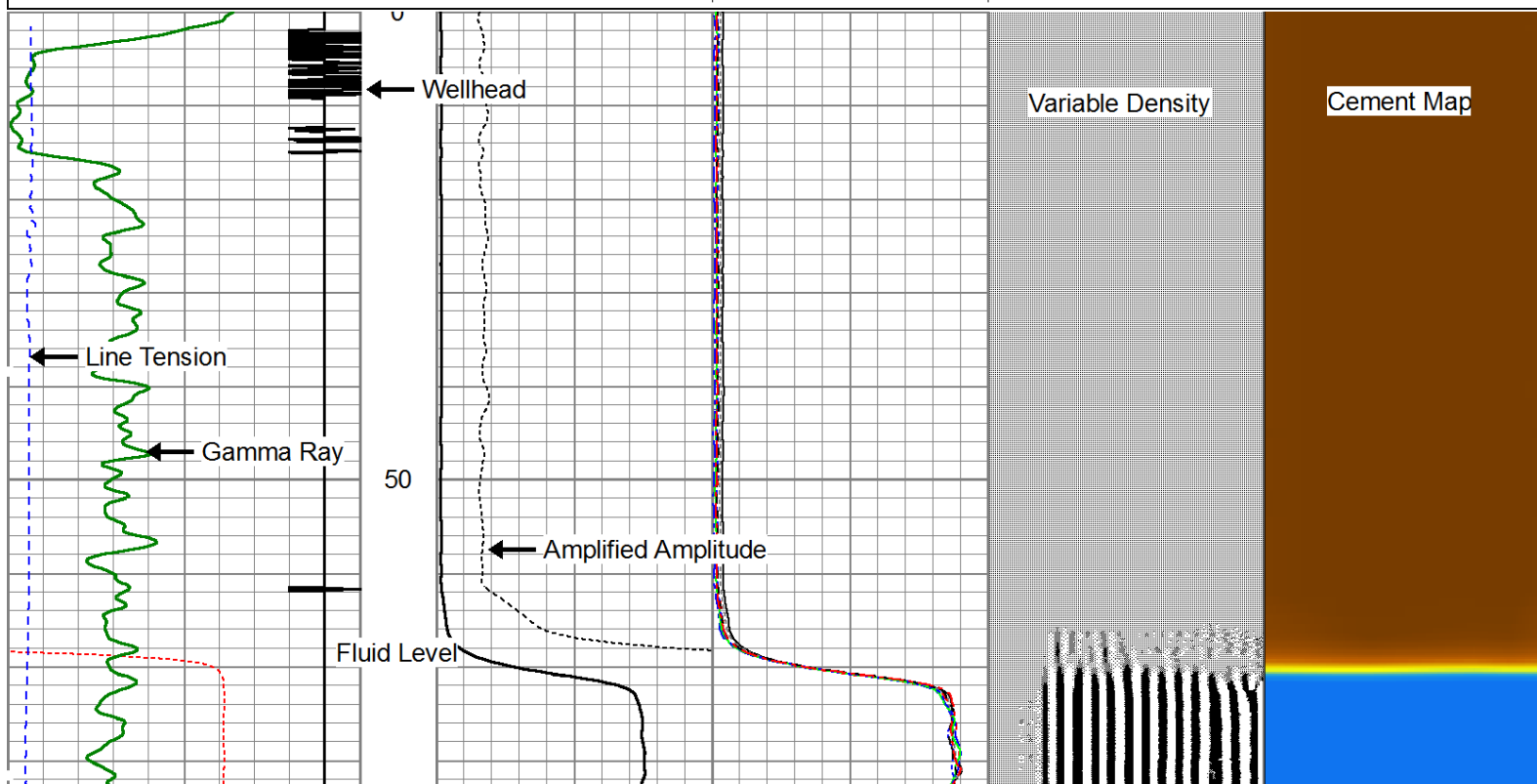
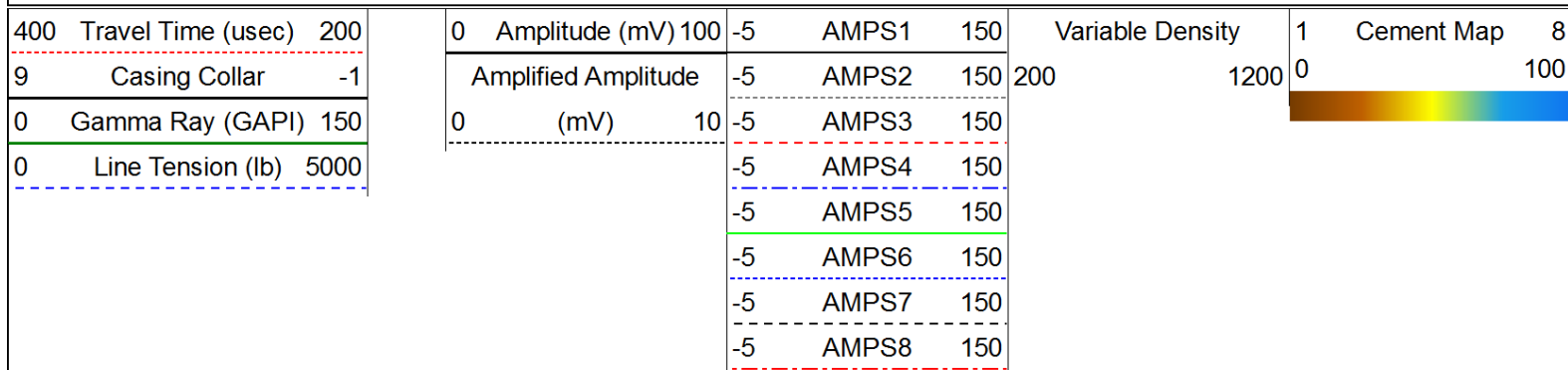


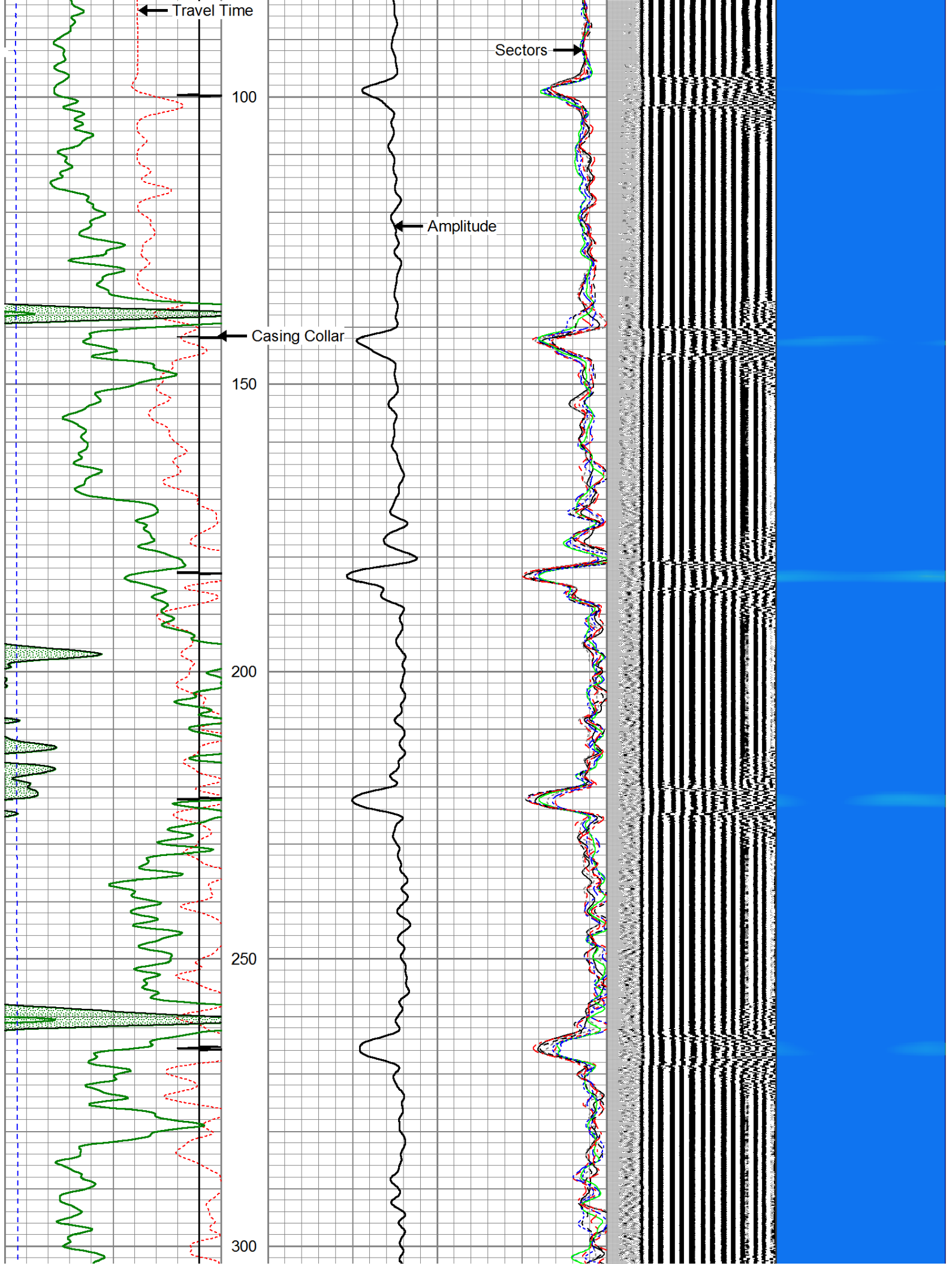


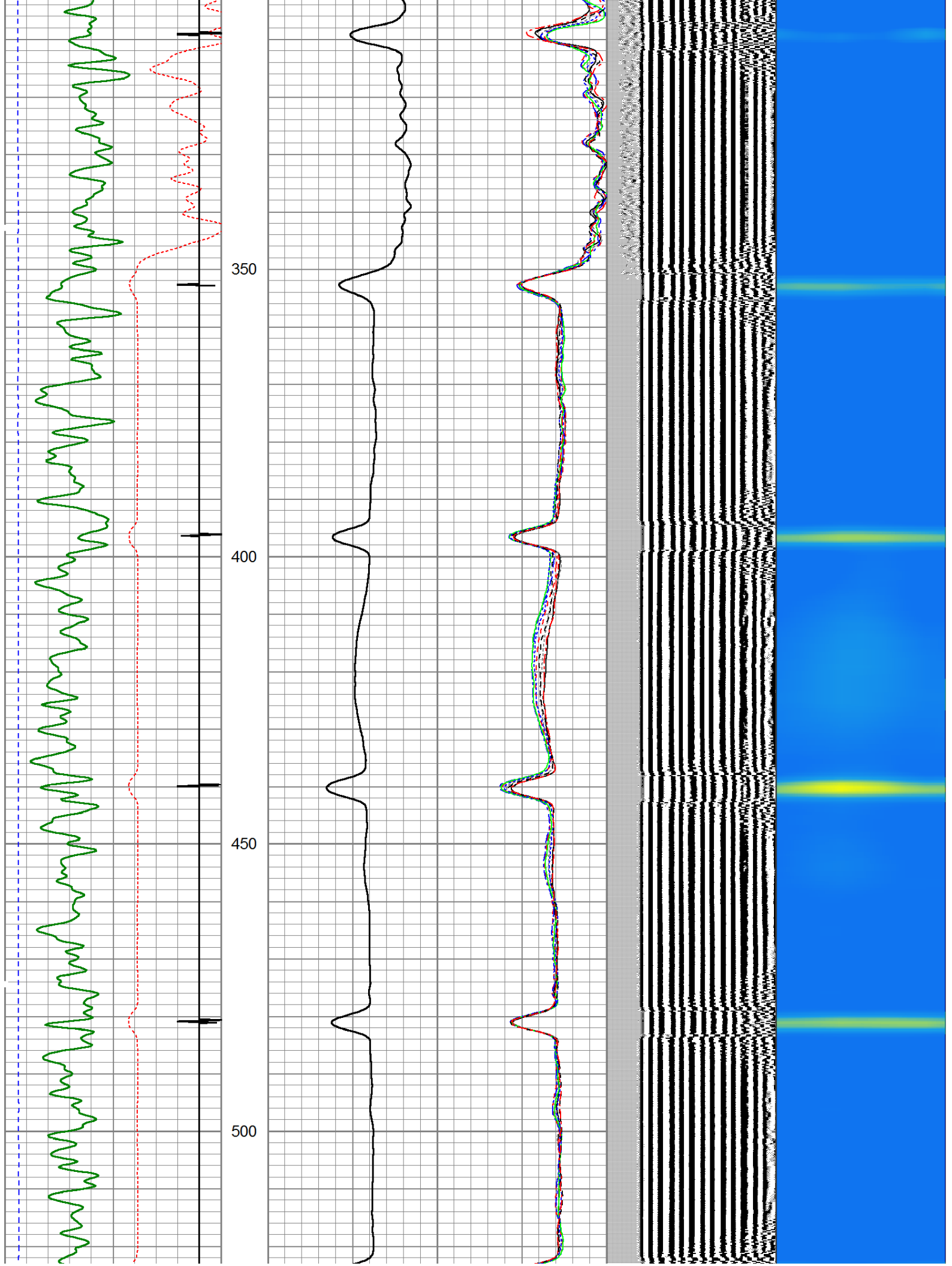


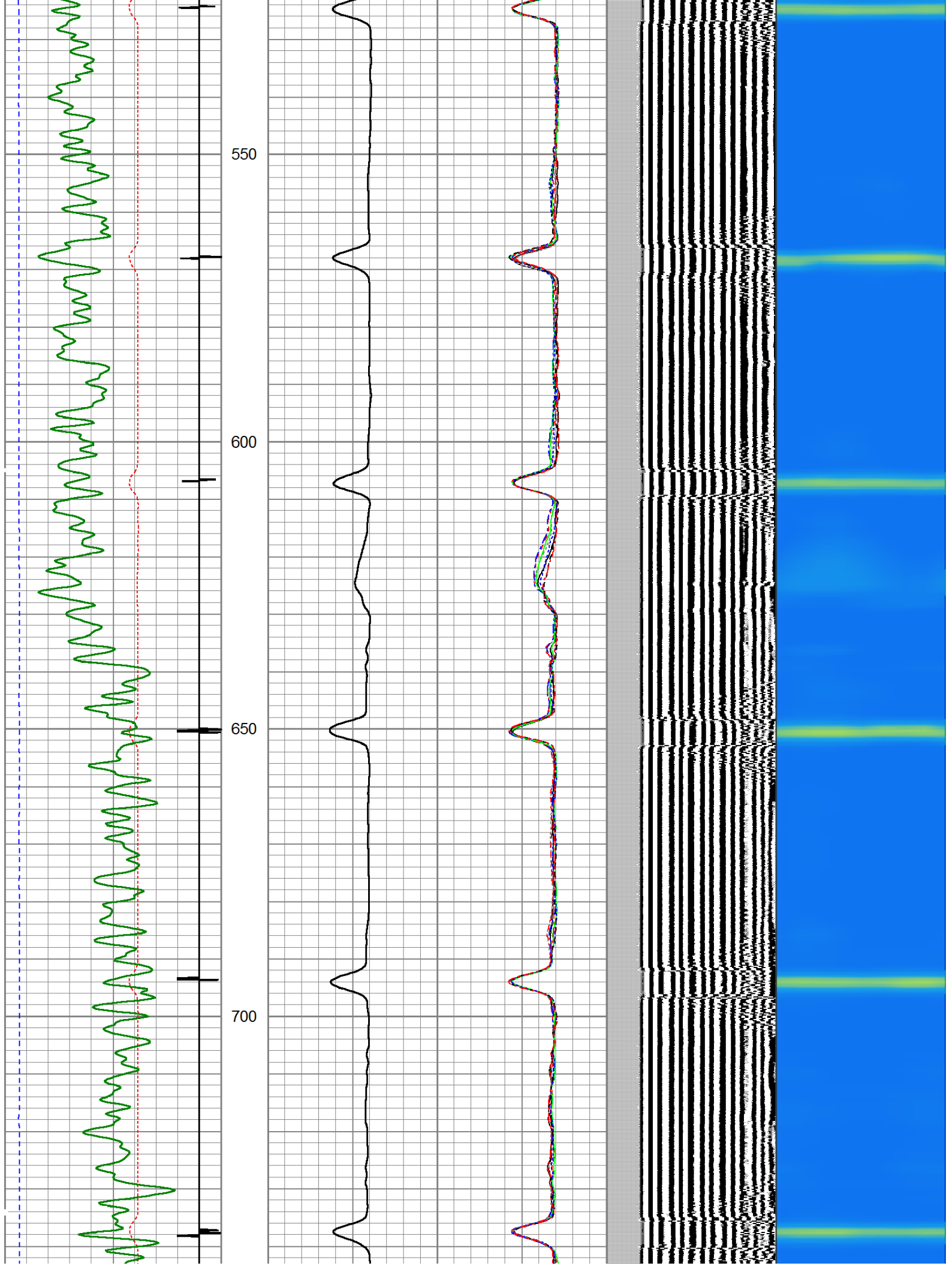
Main Pass (0 PSI)

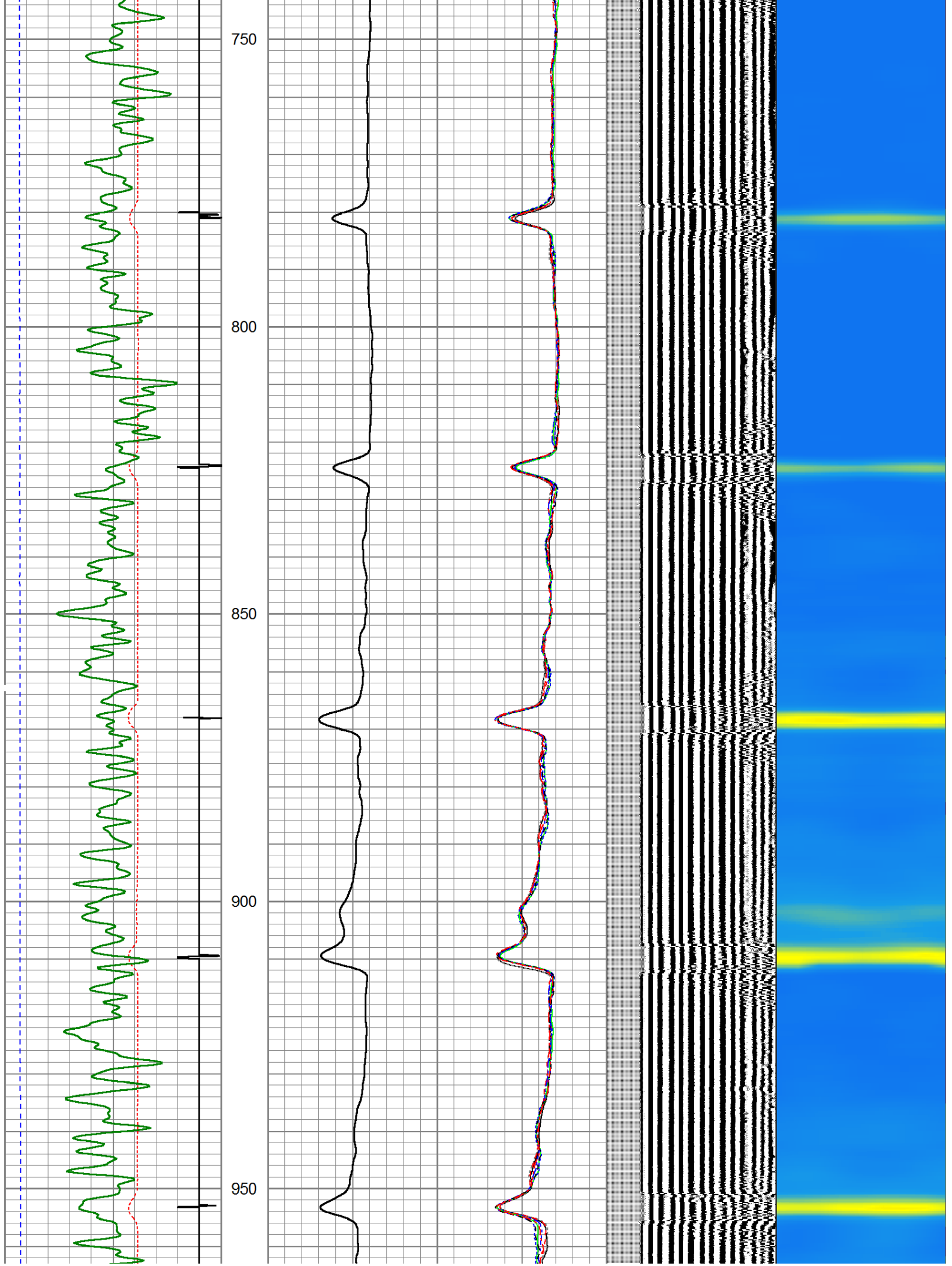
Database File: noble_shable_lb32-68hn_rcbl.db
 Dataset Pathname: pass9
 Presentation Format: scbl03
 Dataset Creation: Mon May 13 10:59:38 2013
 Charted by: Depth in Feet scaled 1:240

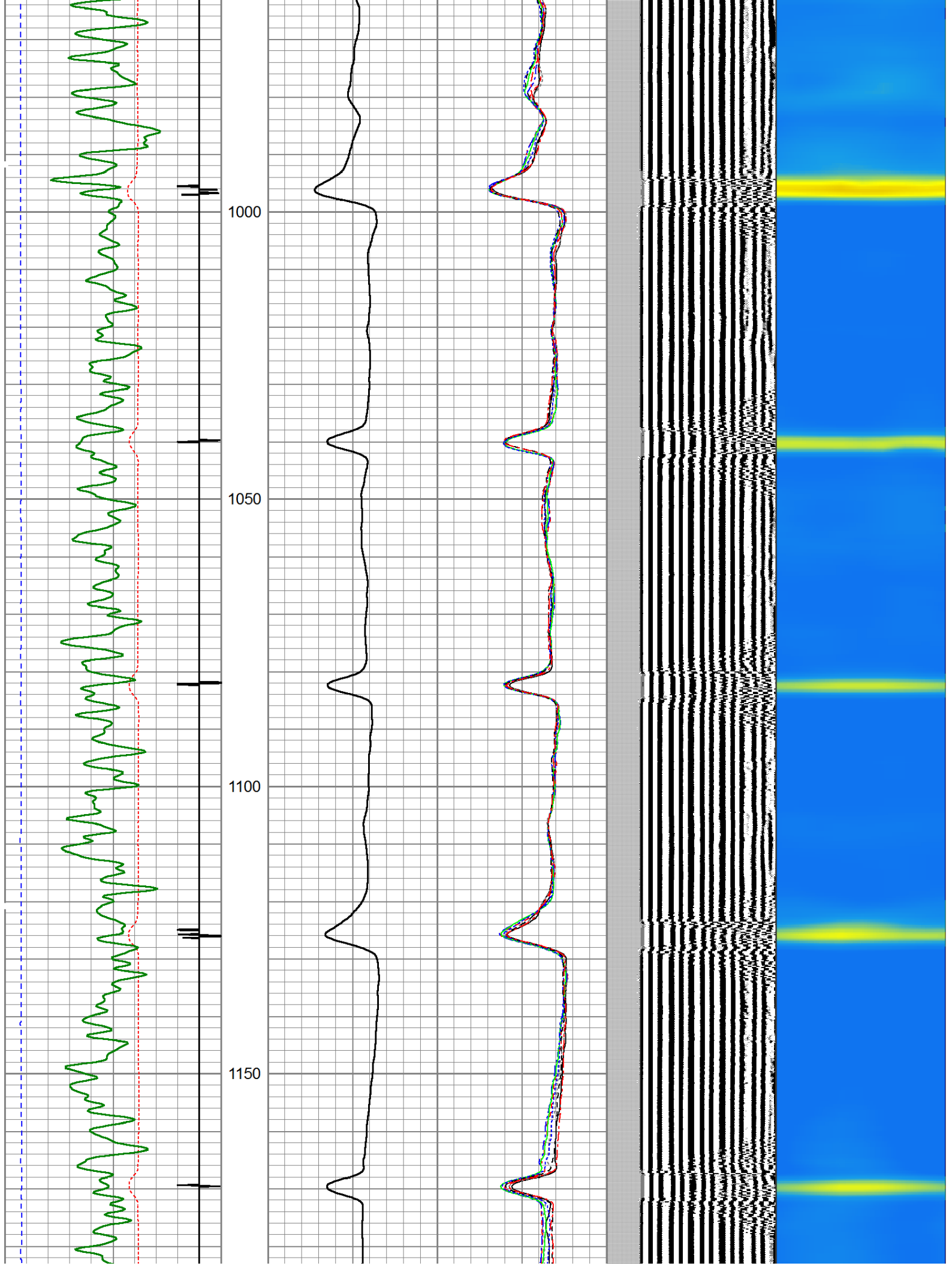


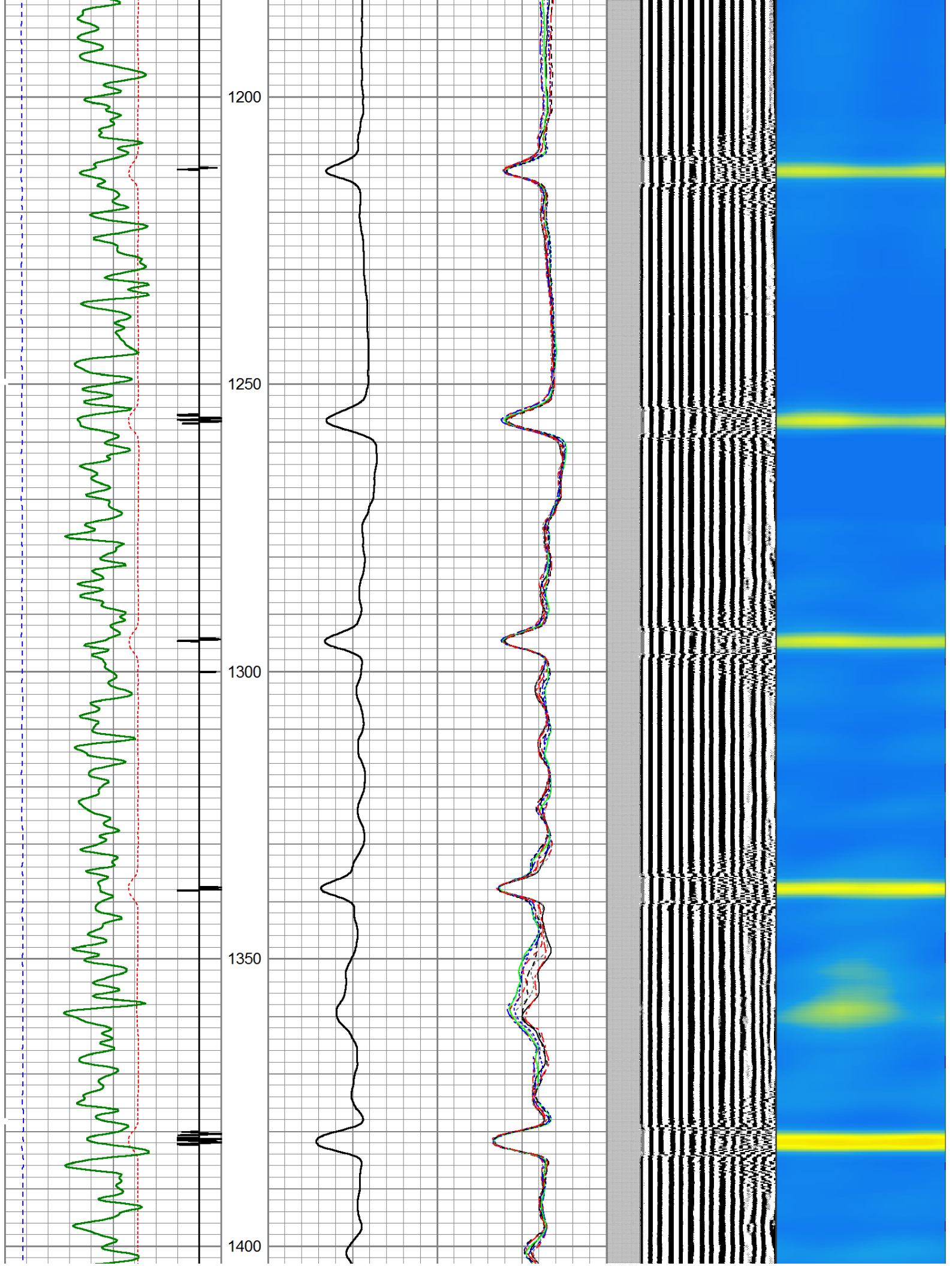


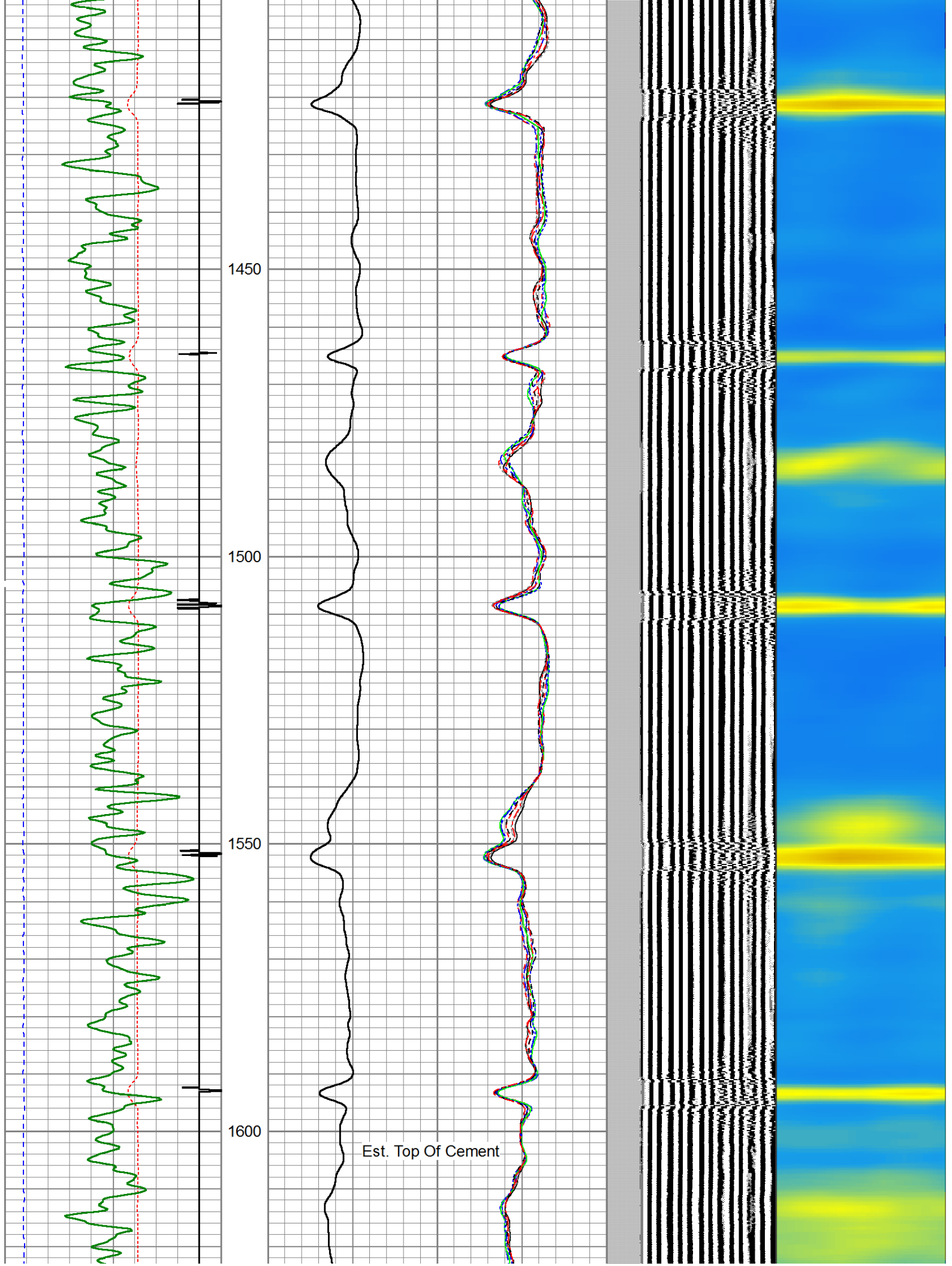


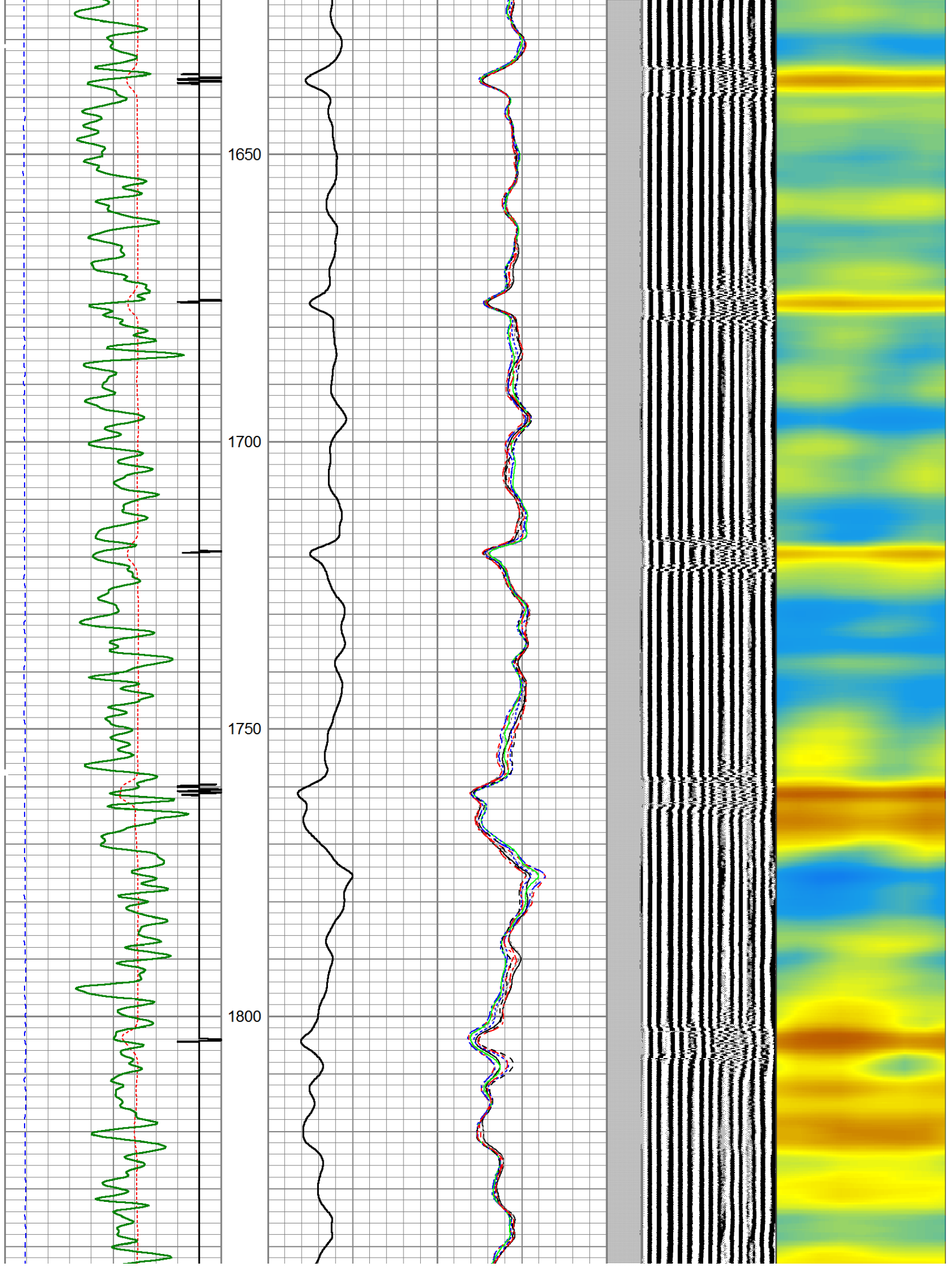


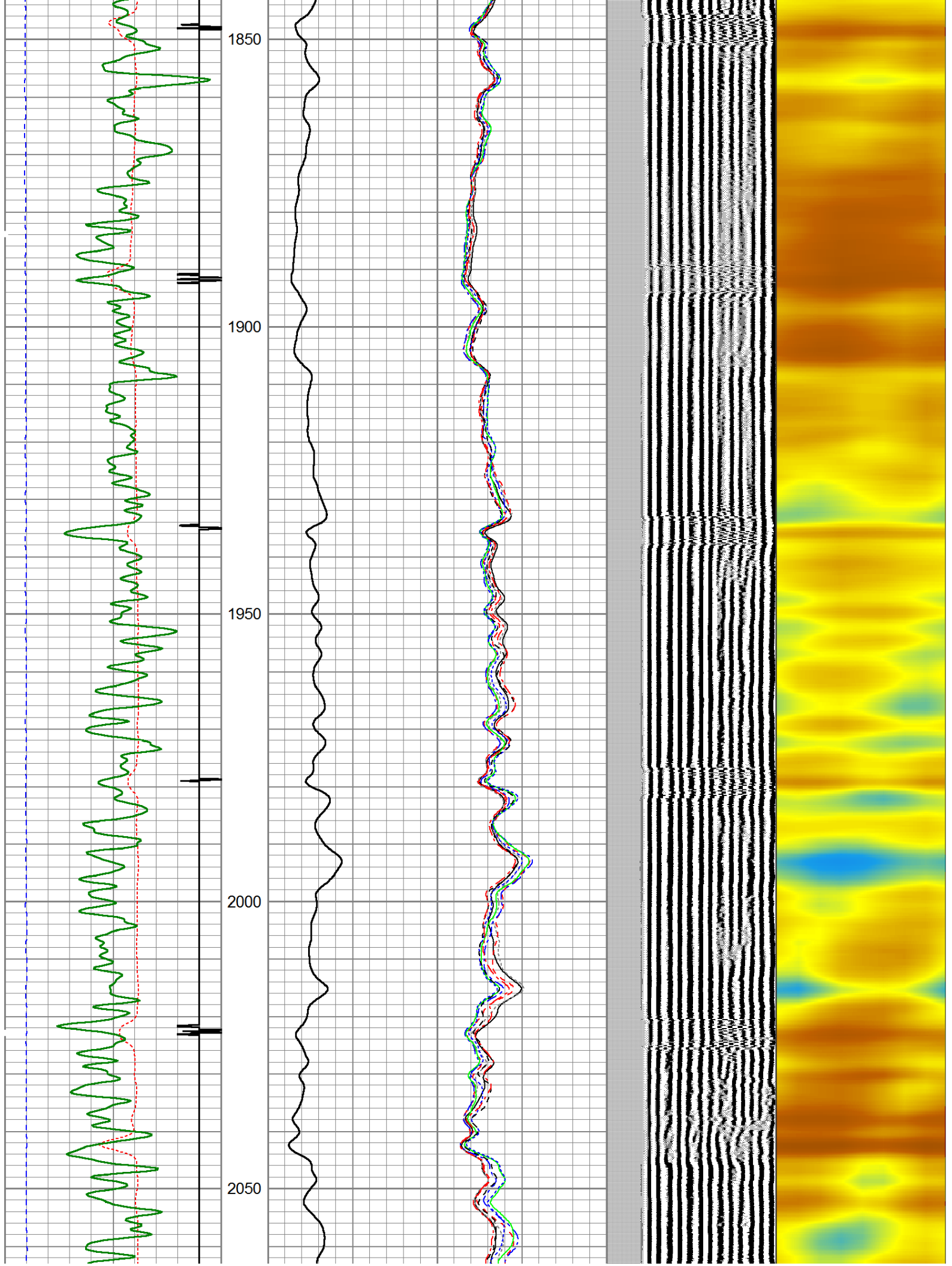


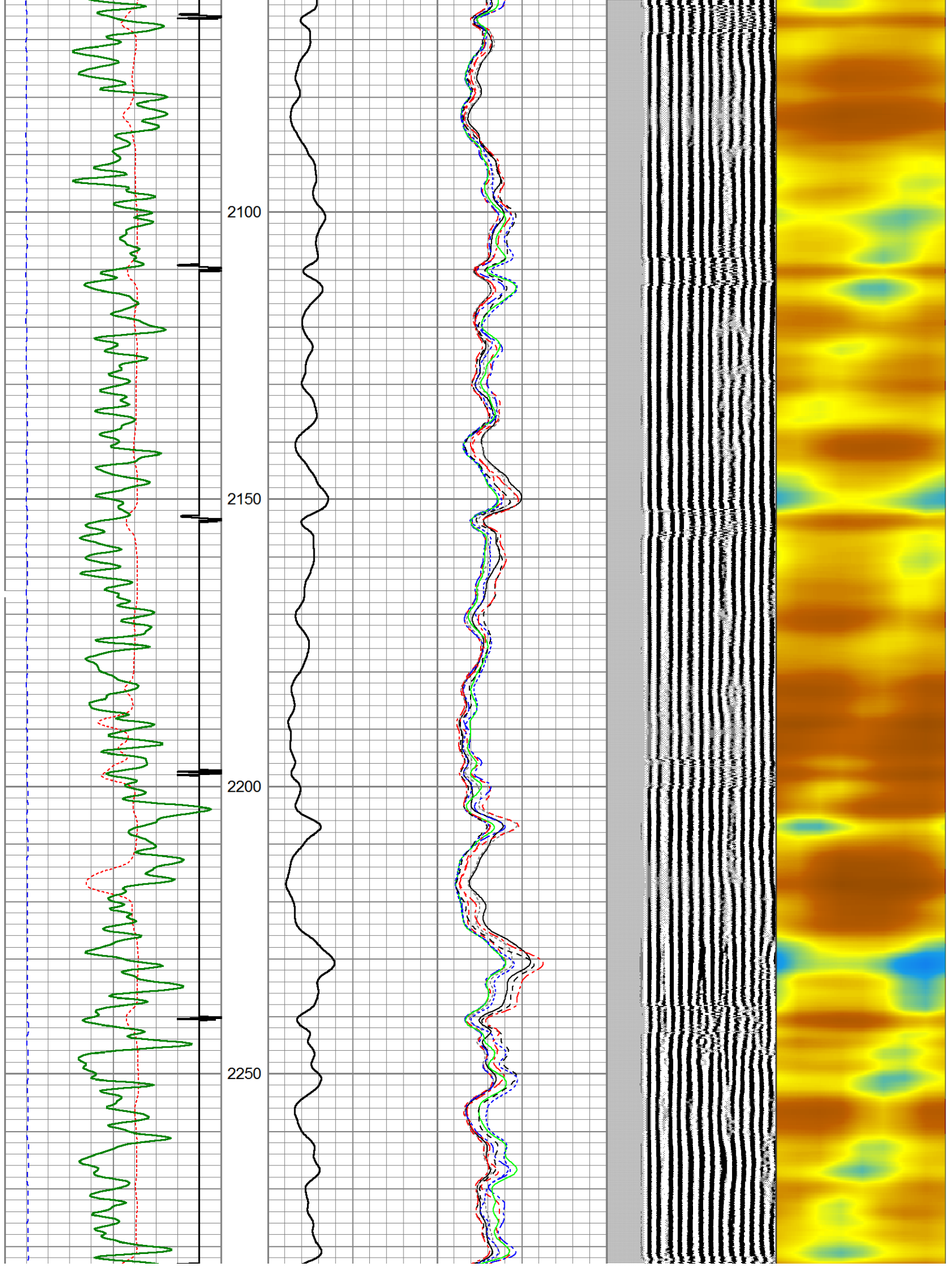


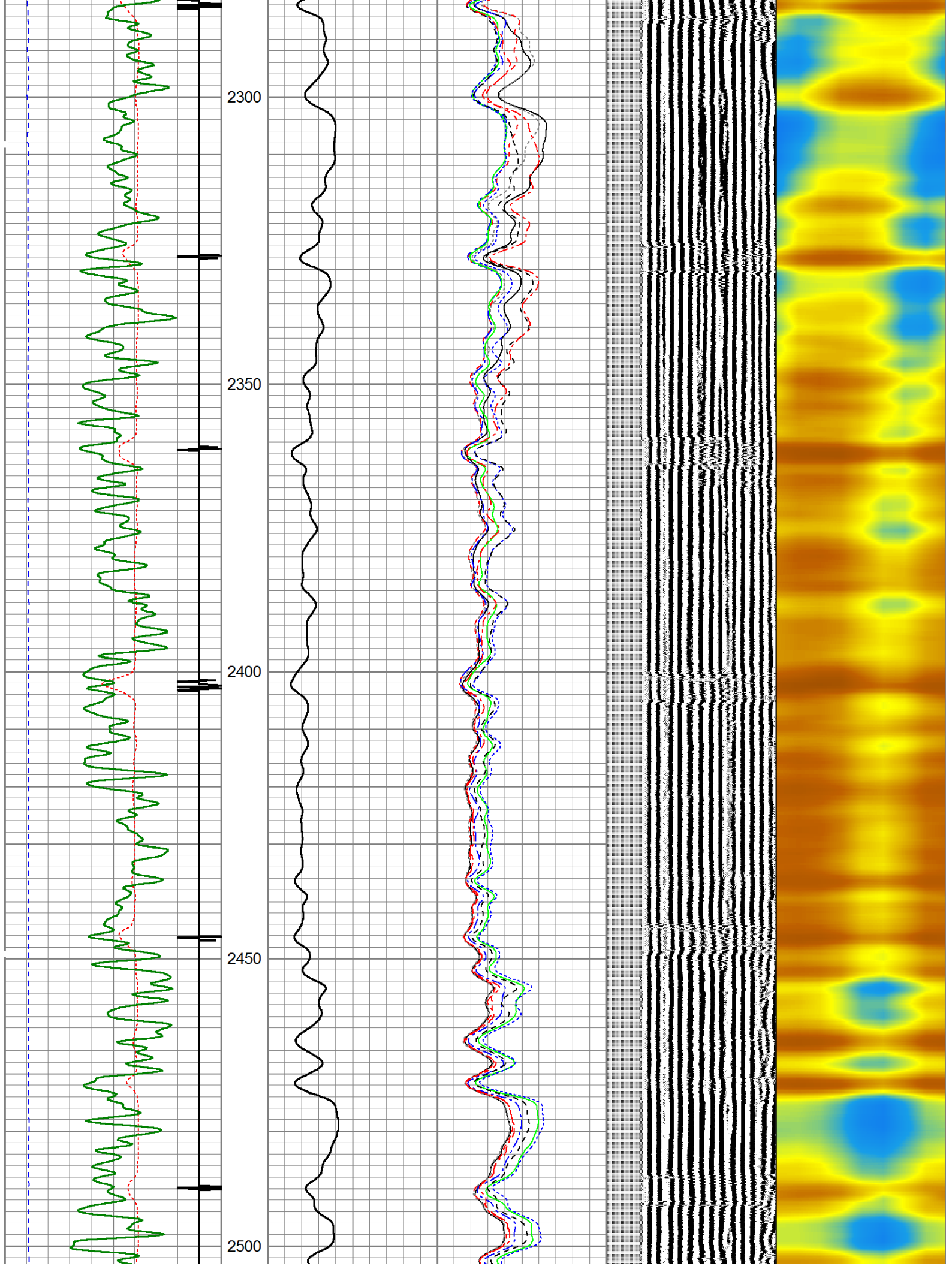


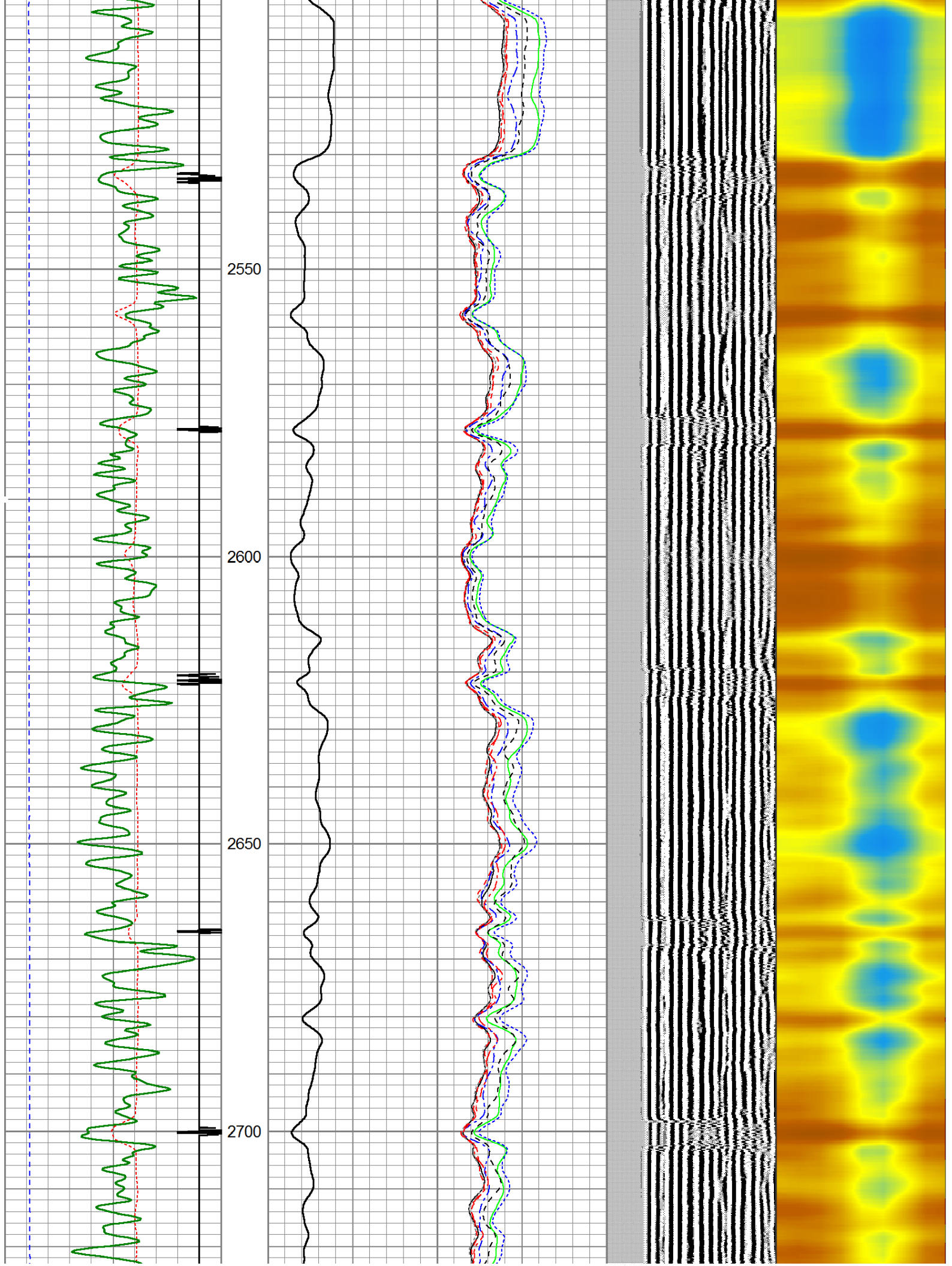


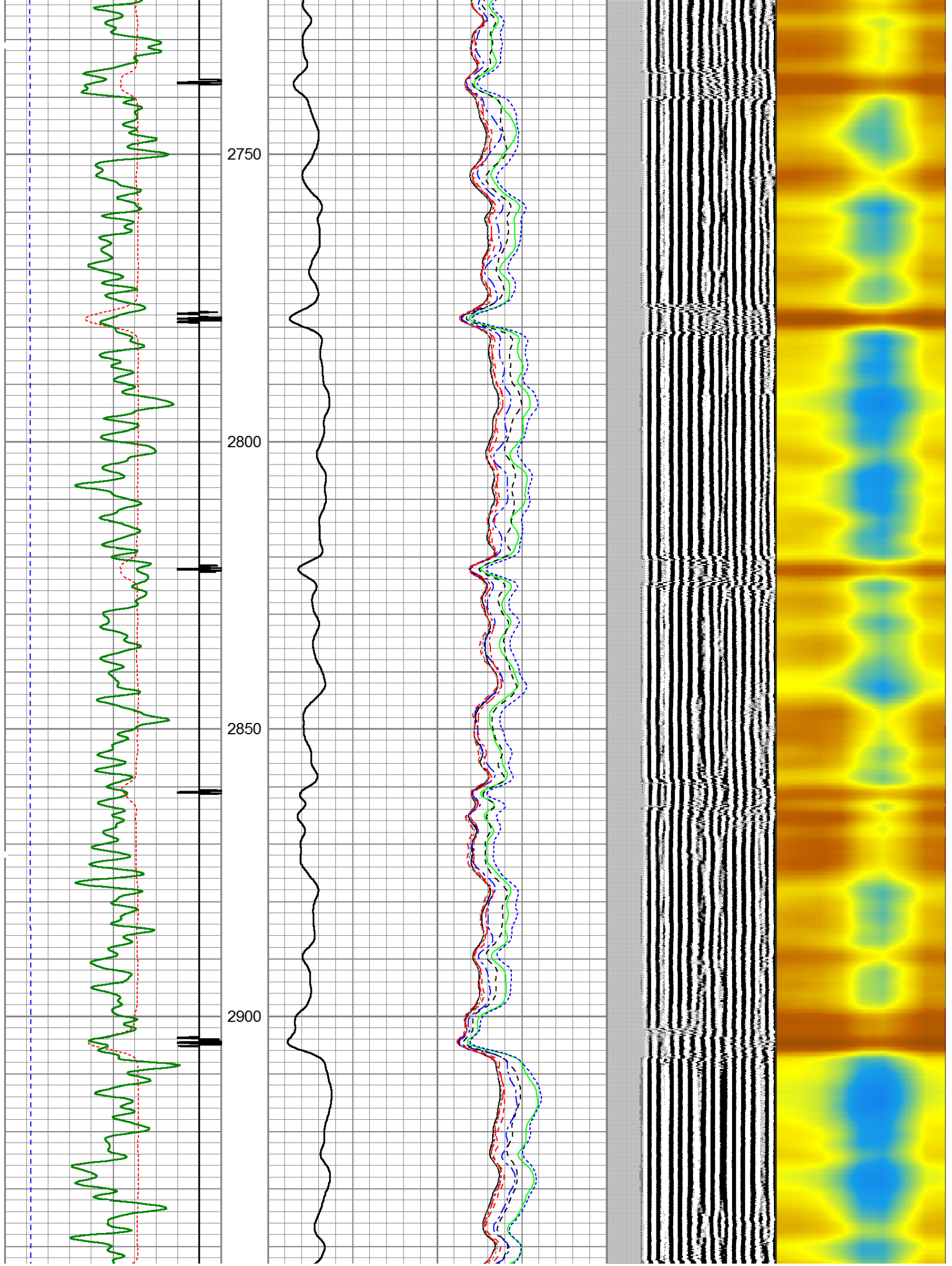


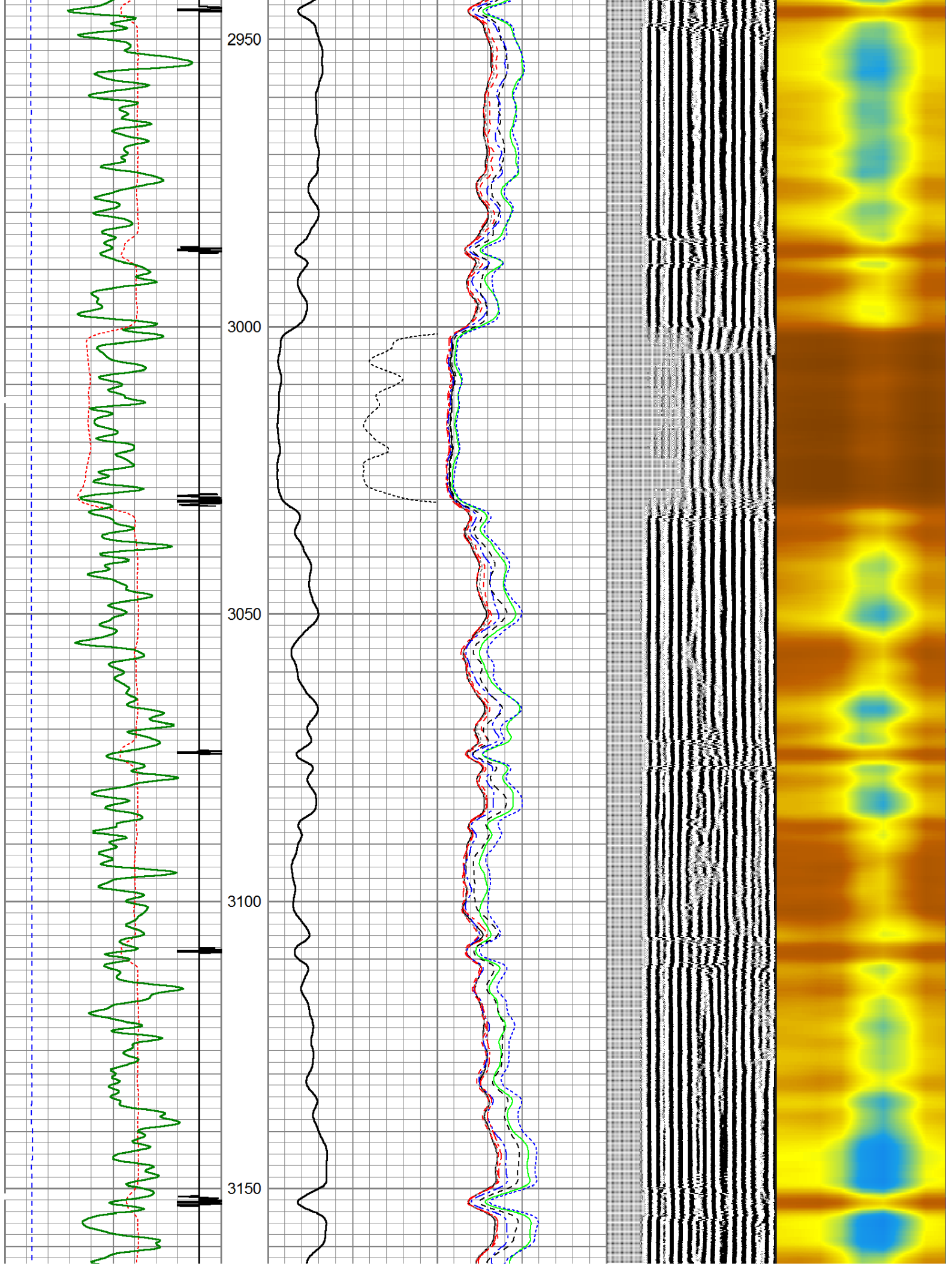


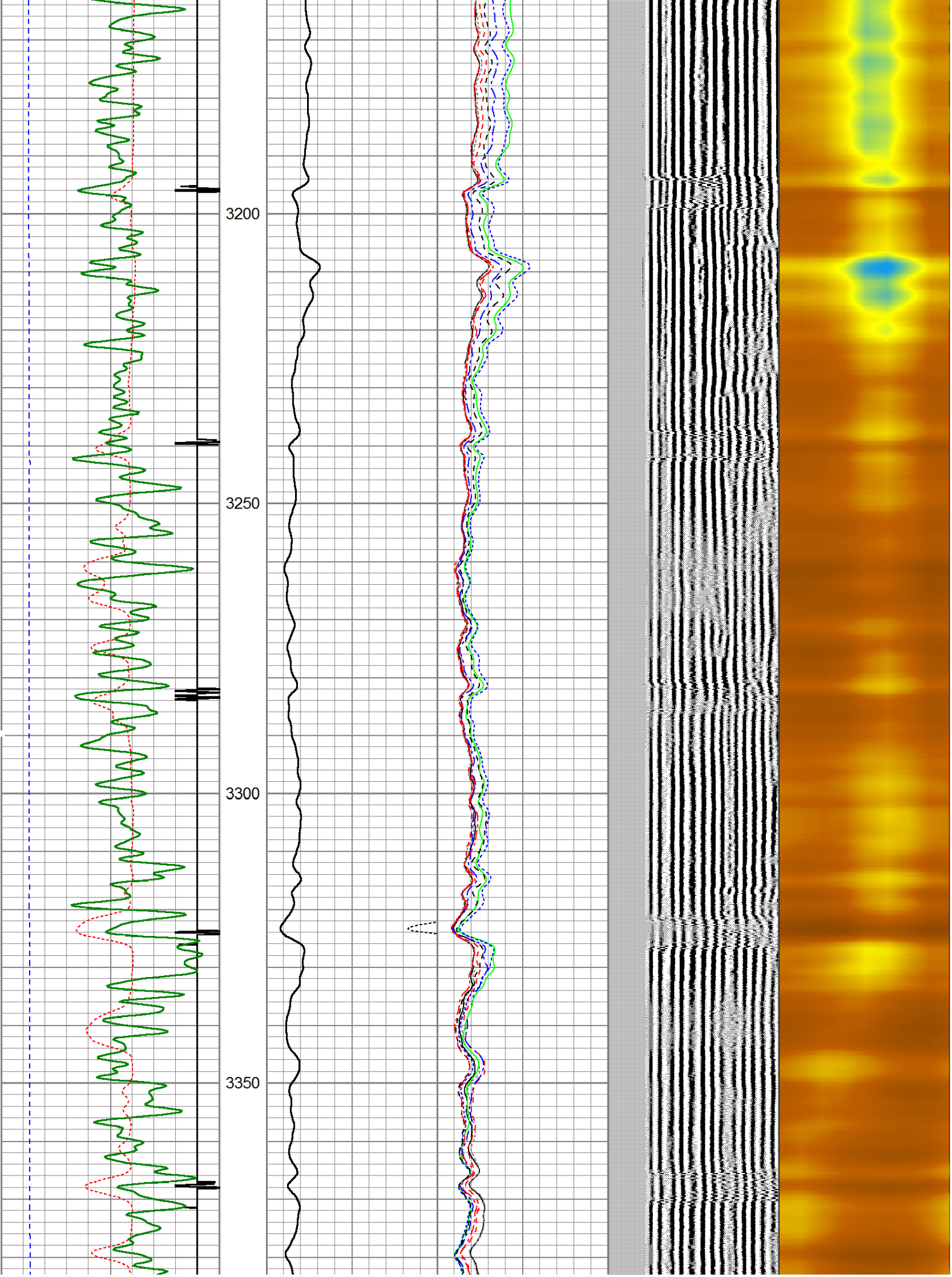


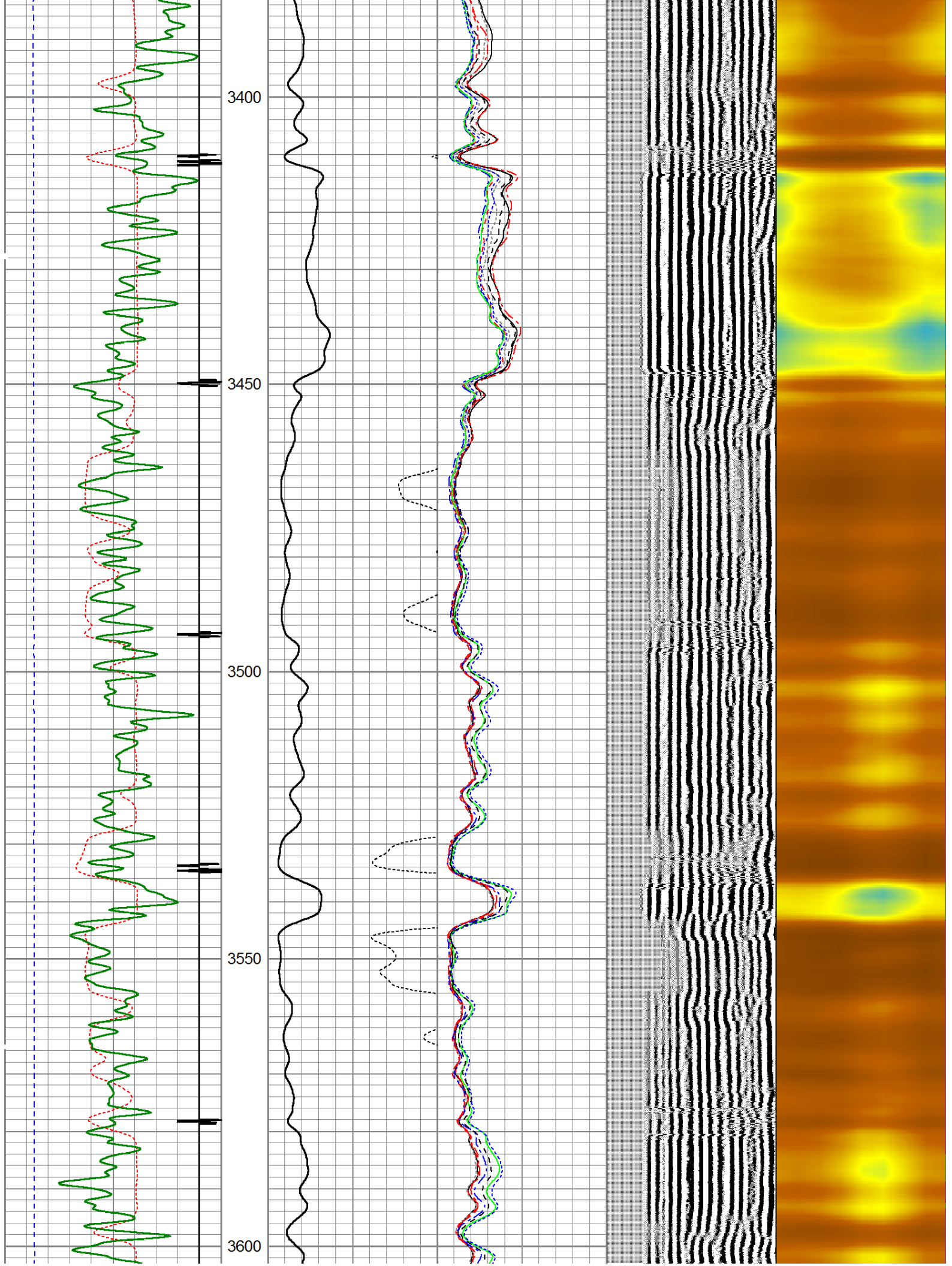


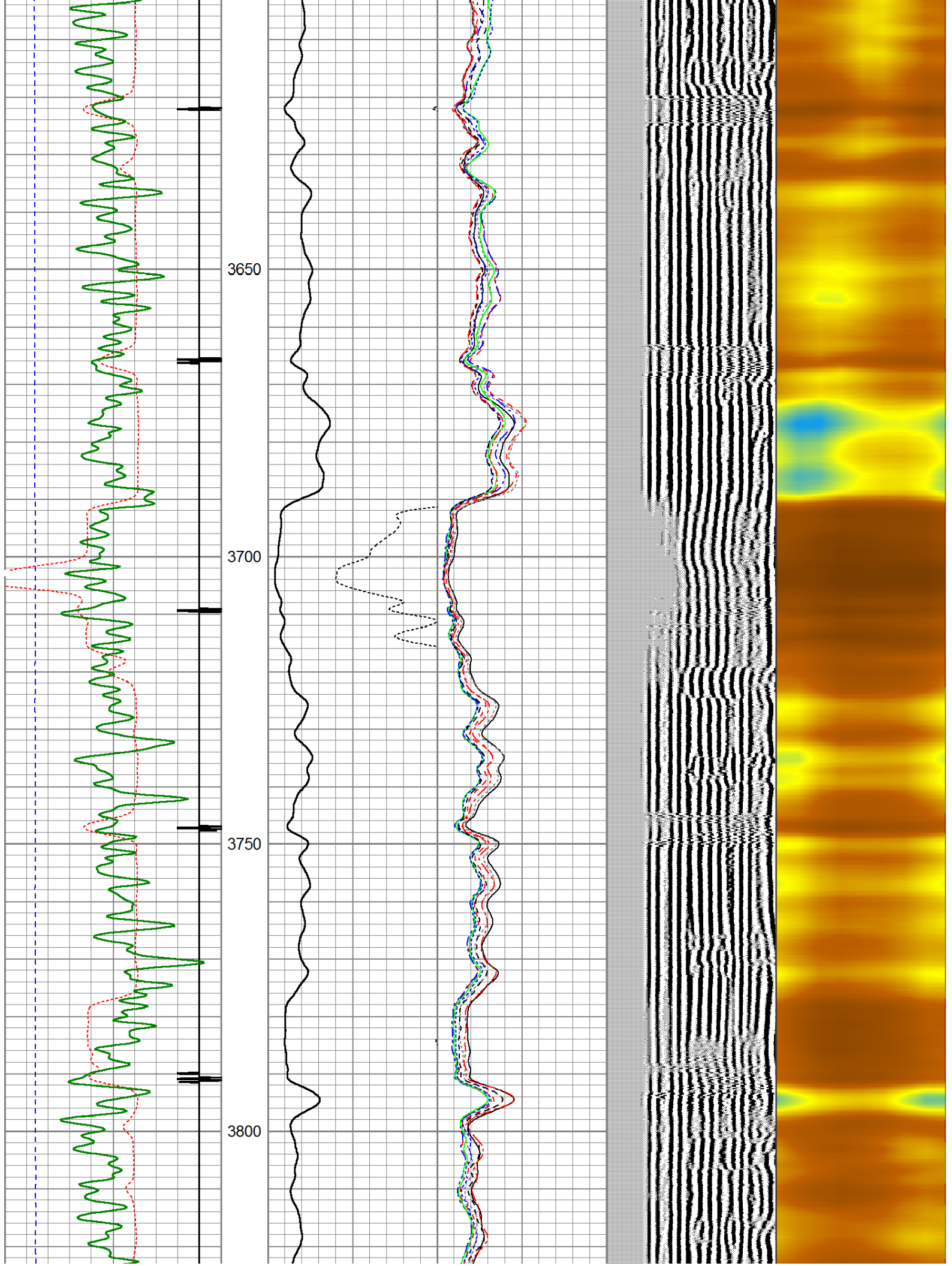


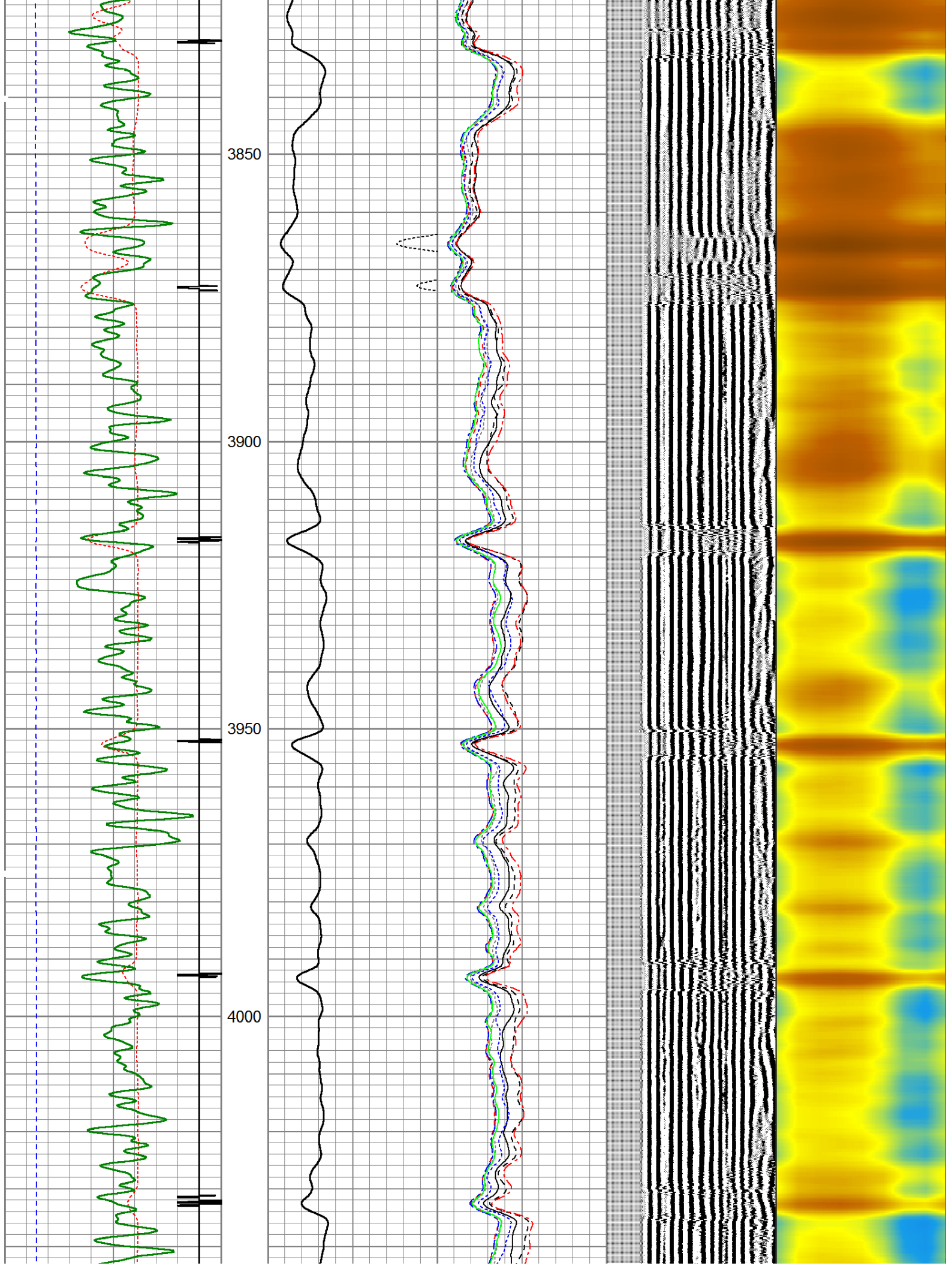


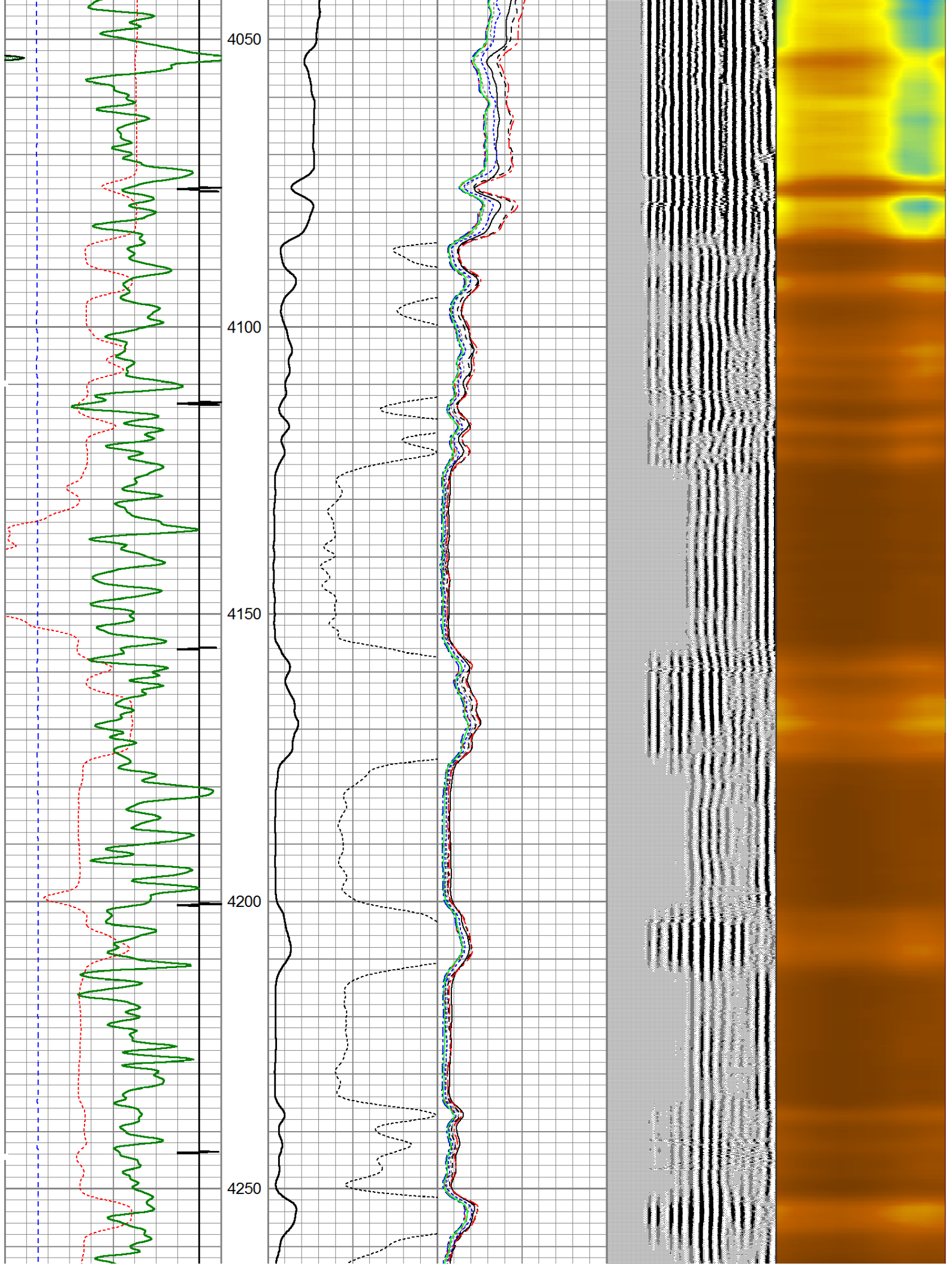


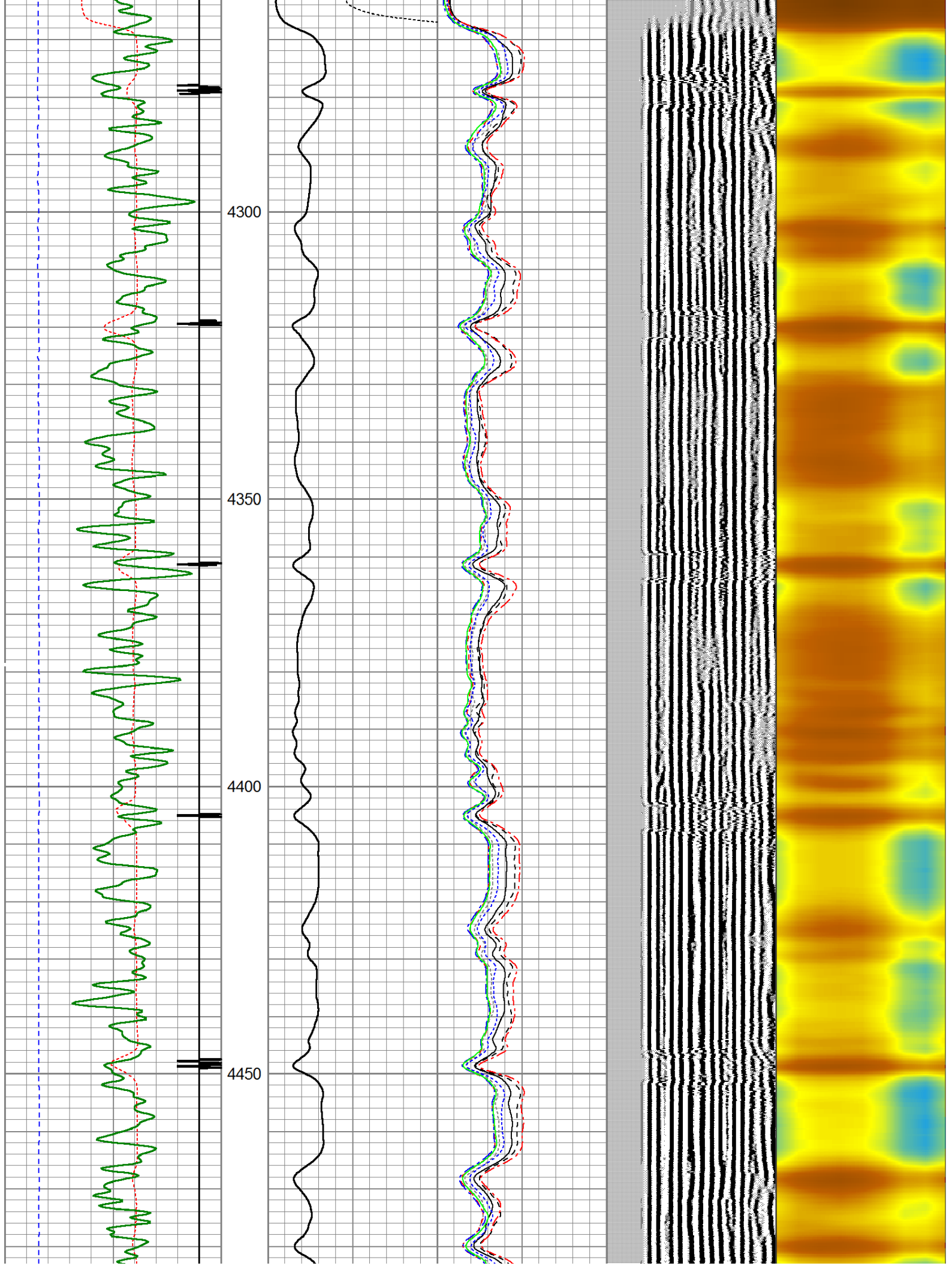


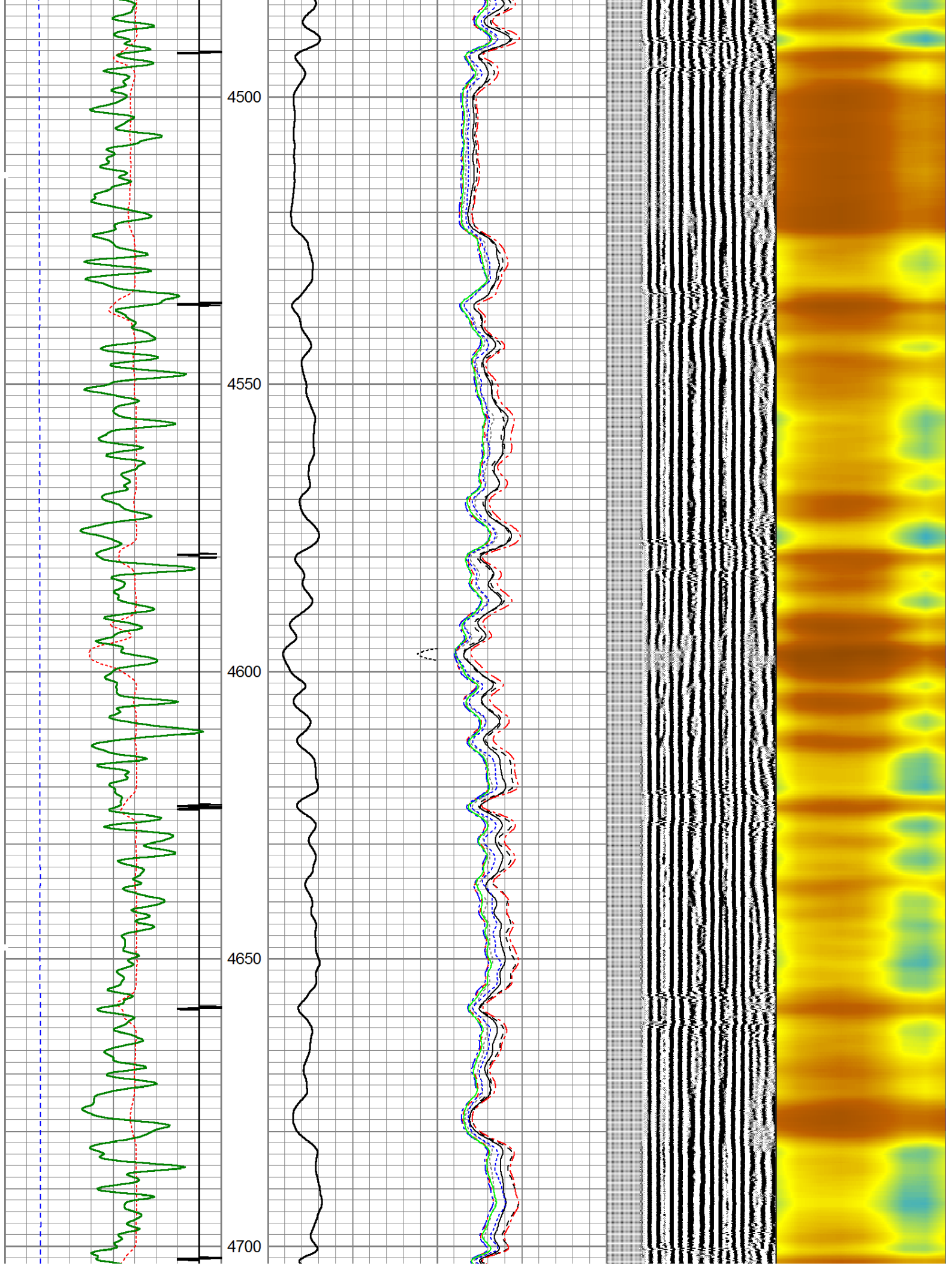


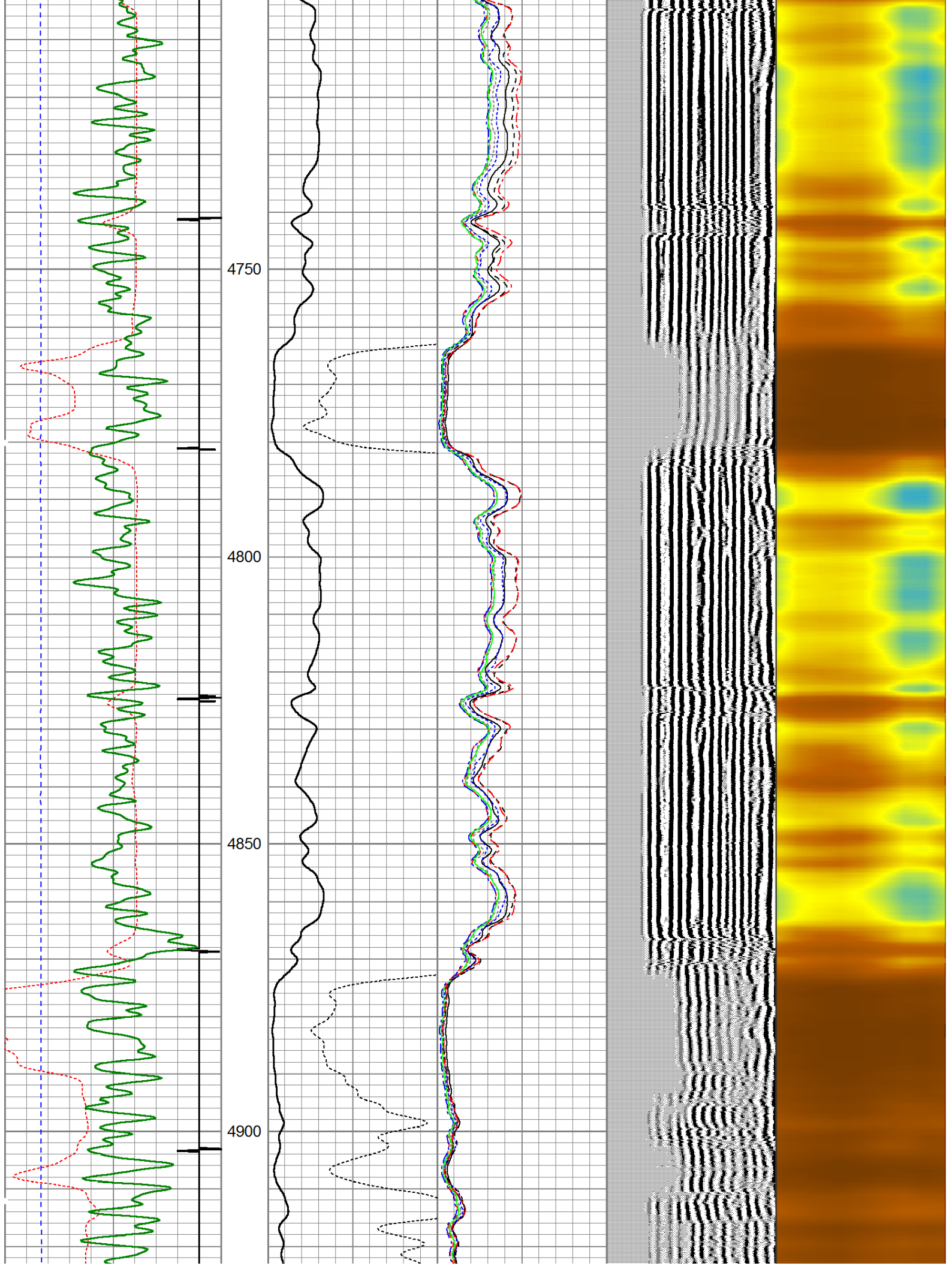


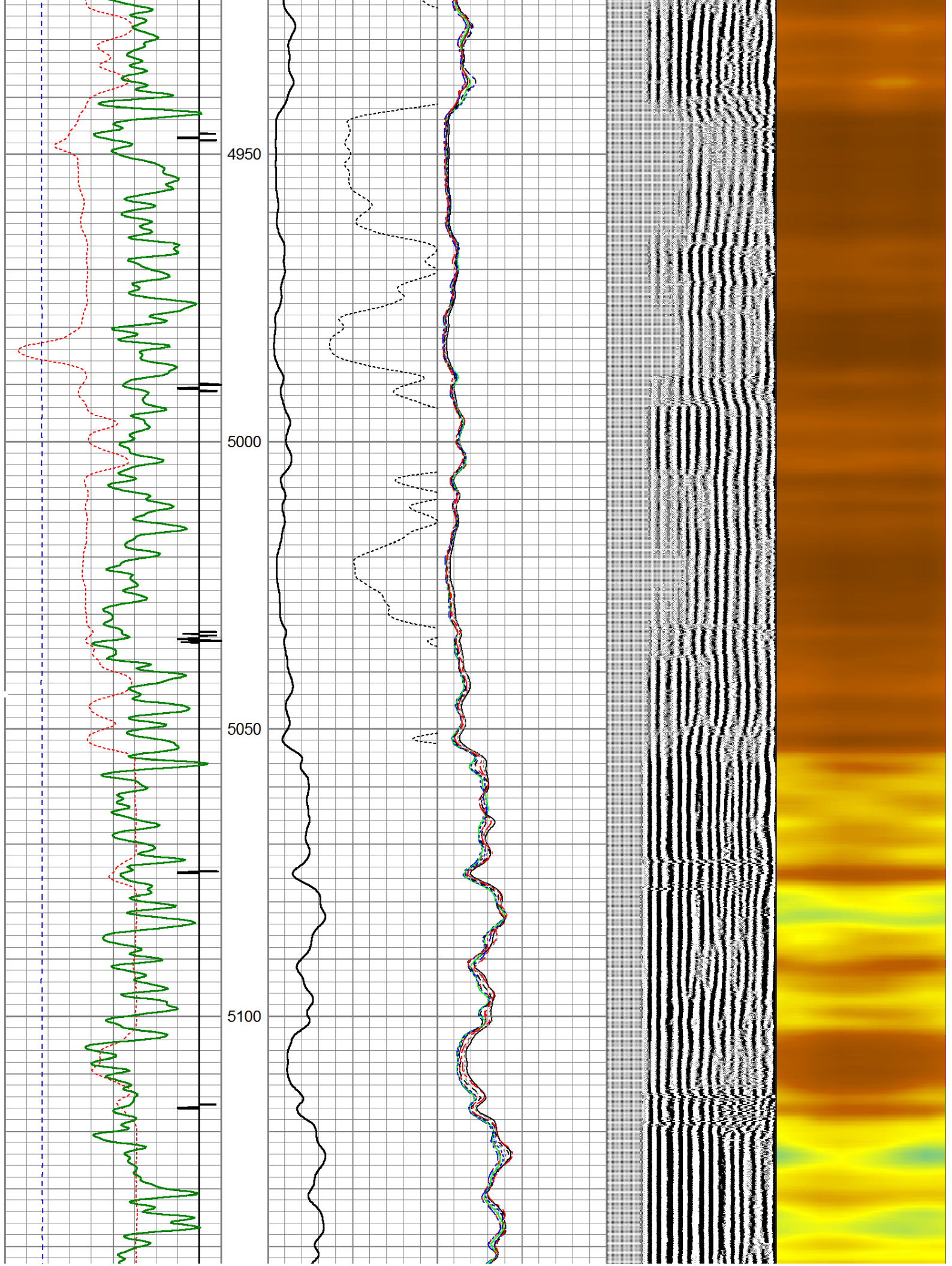


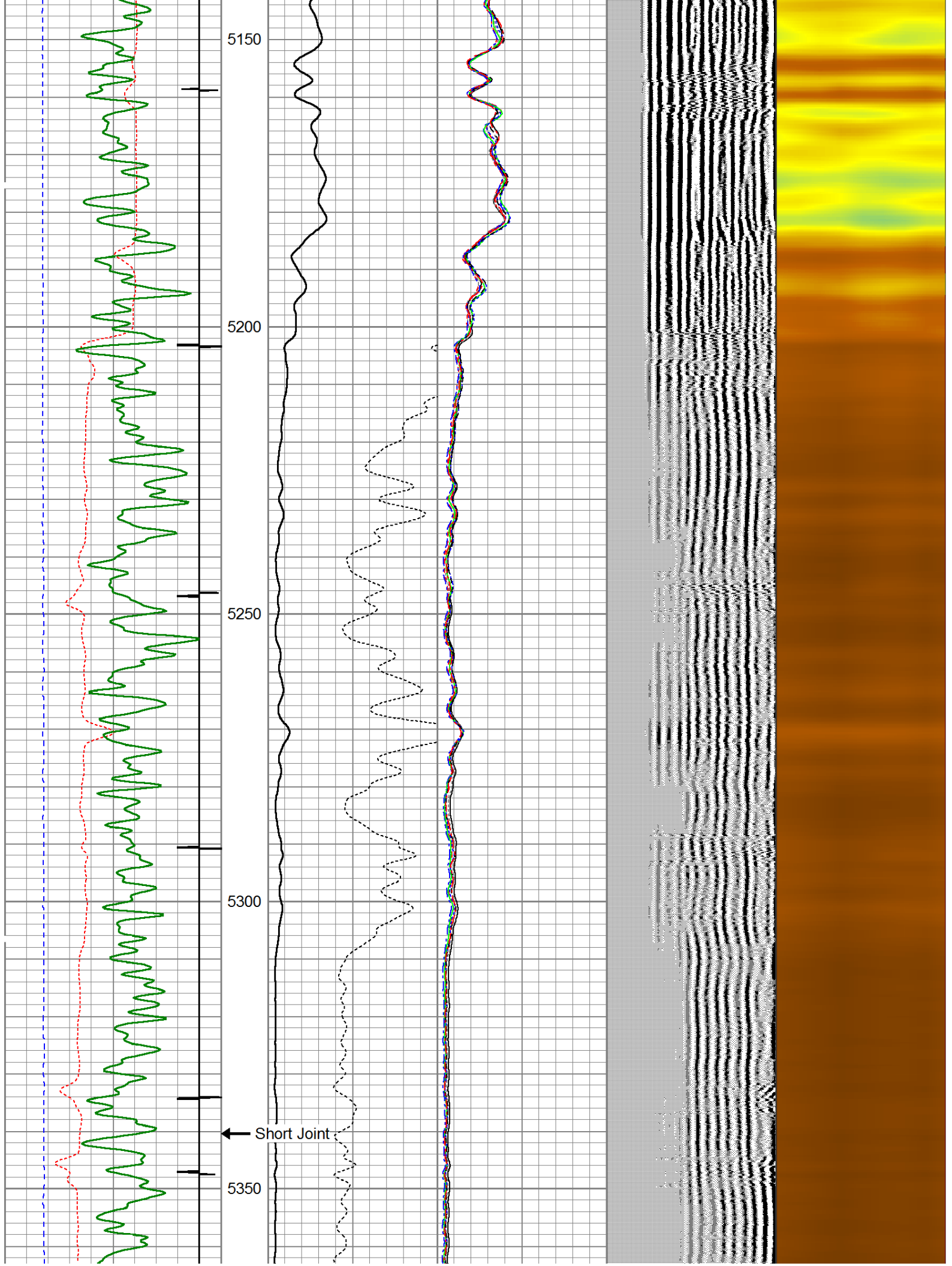


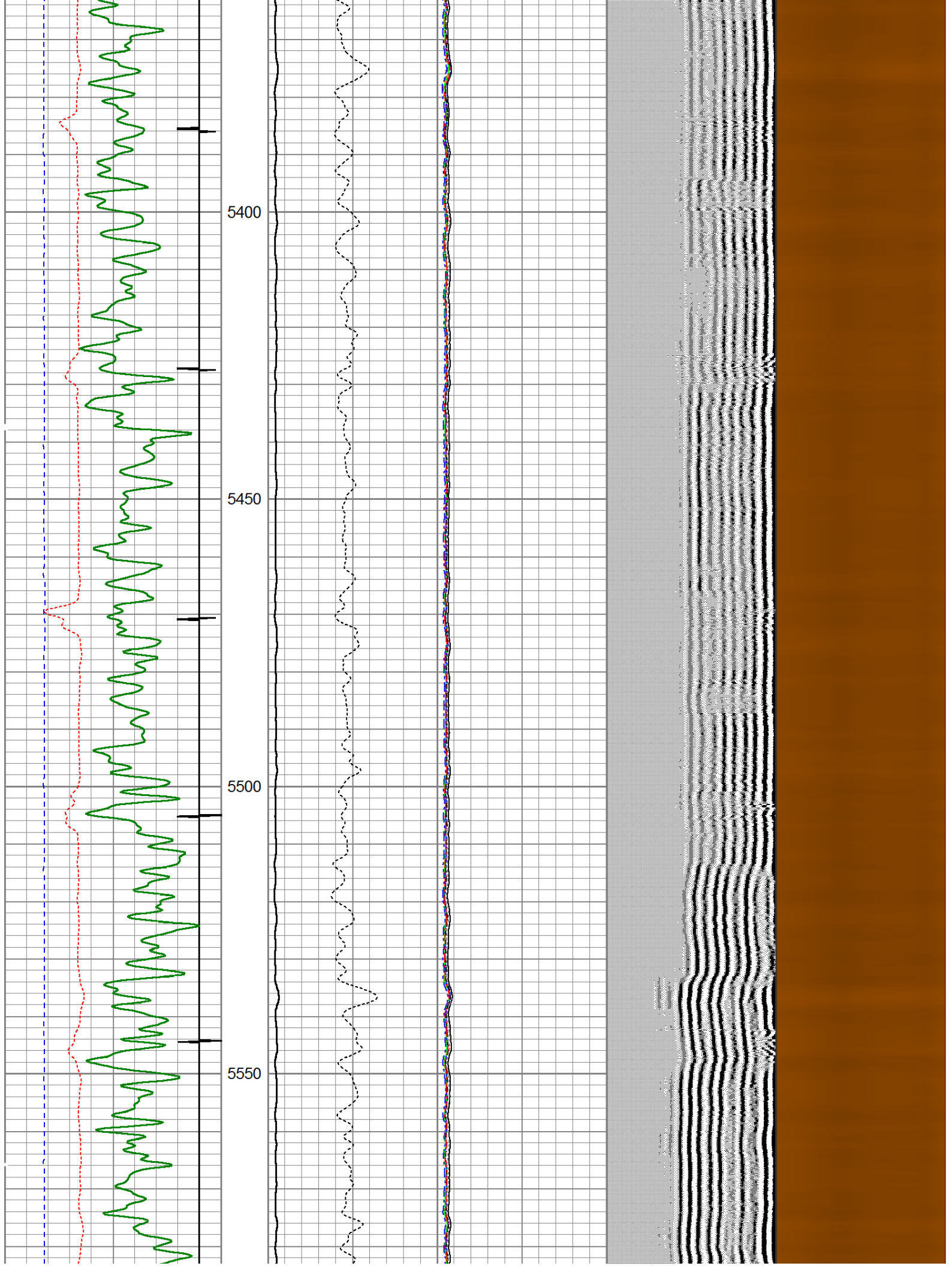


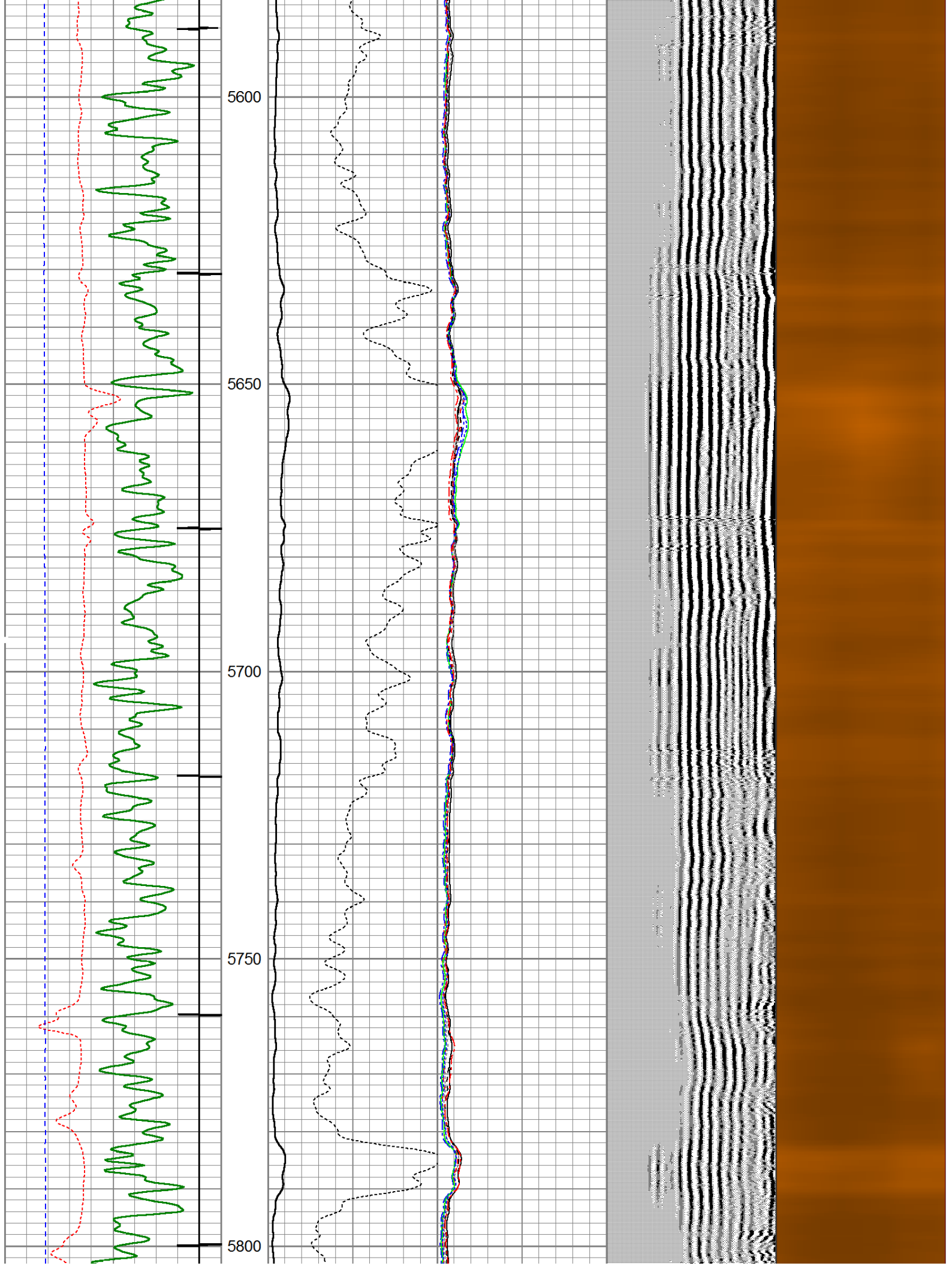


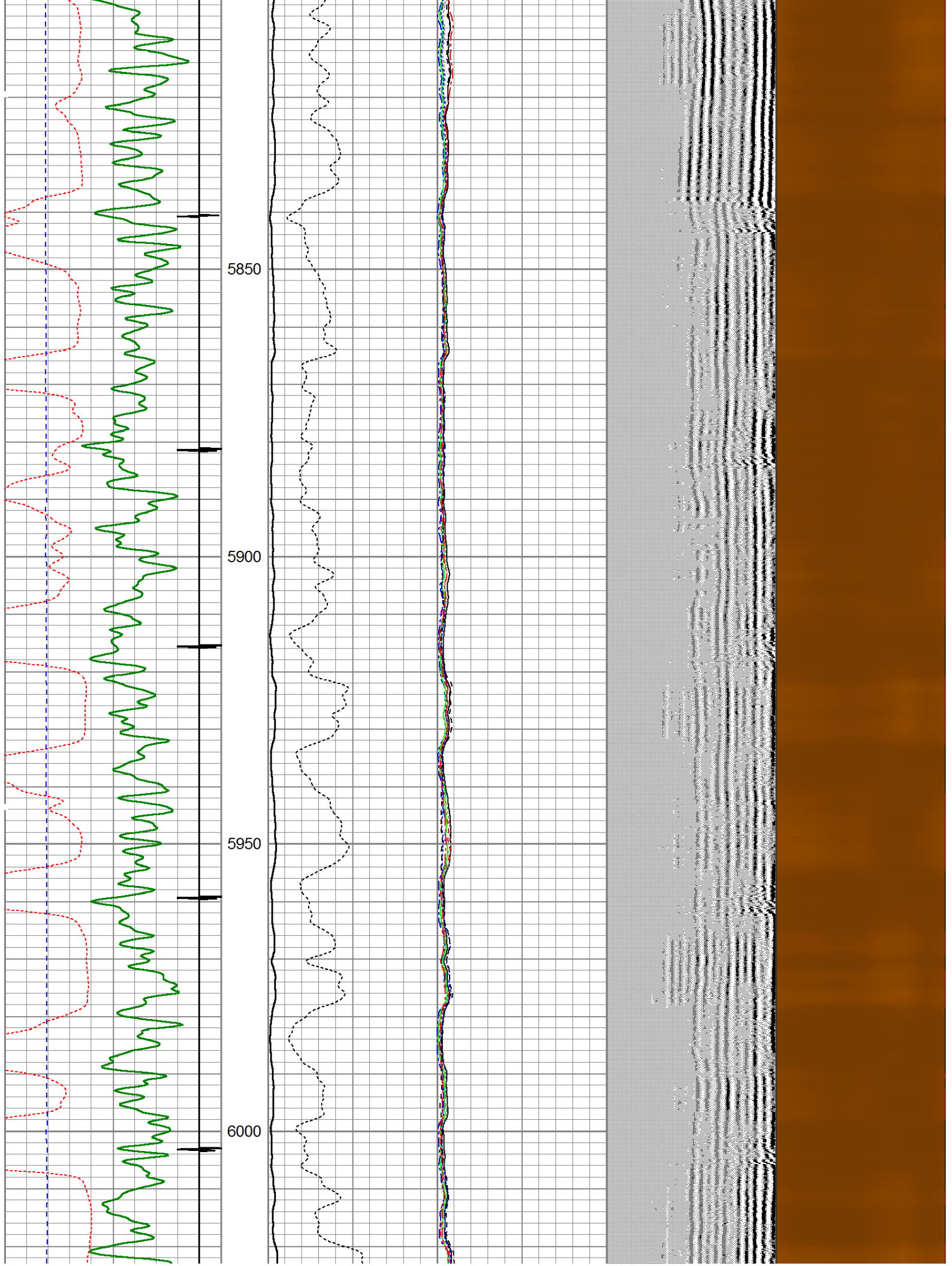


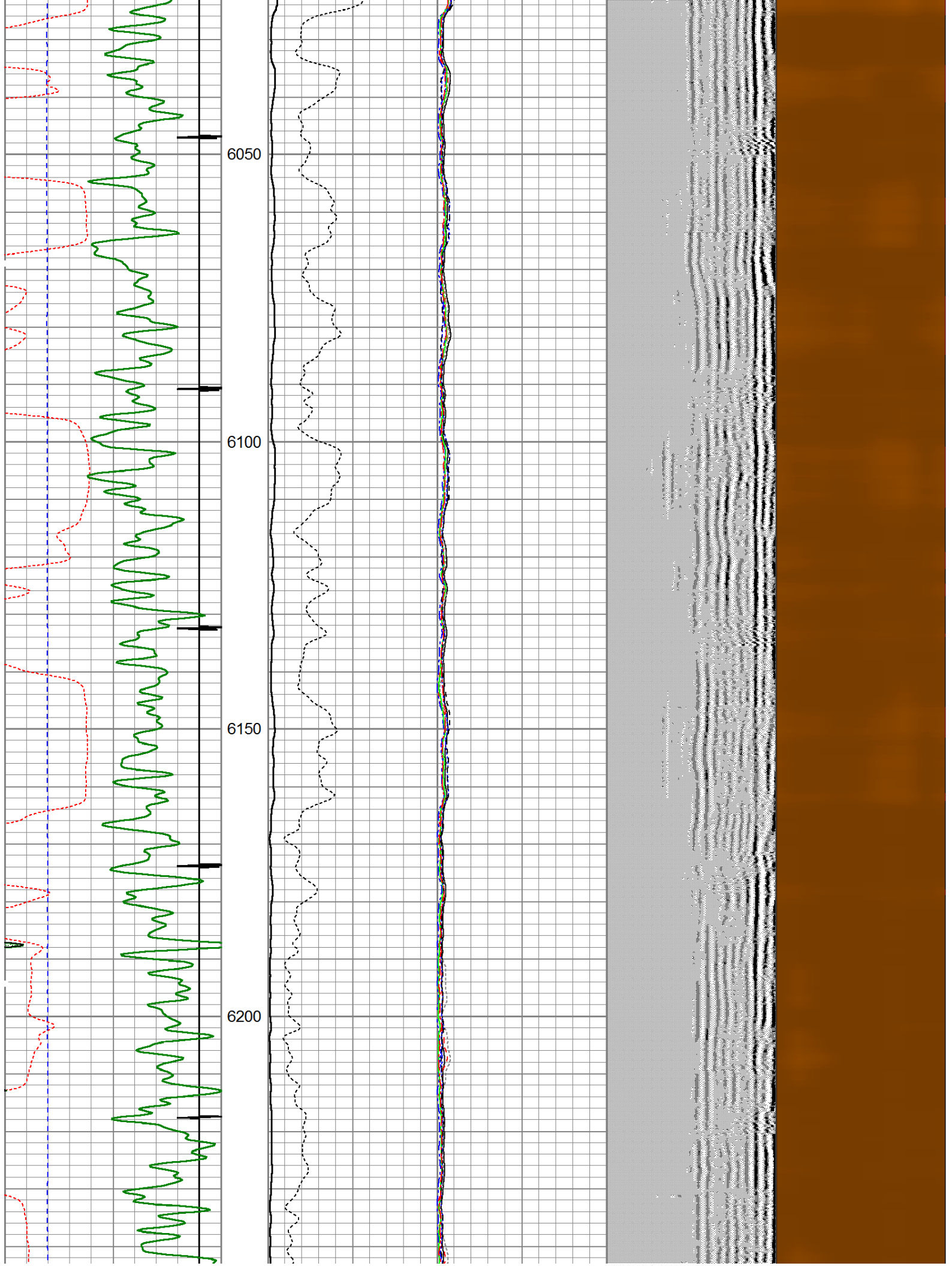


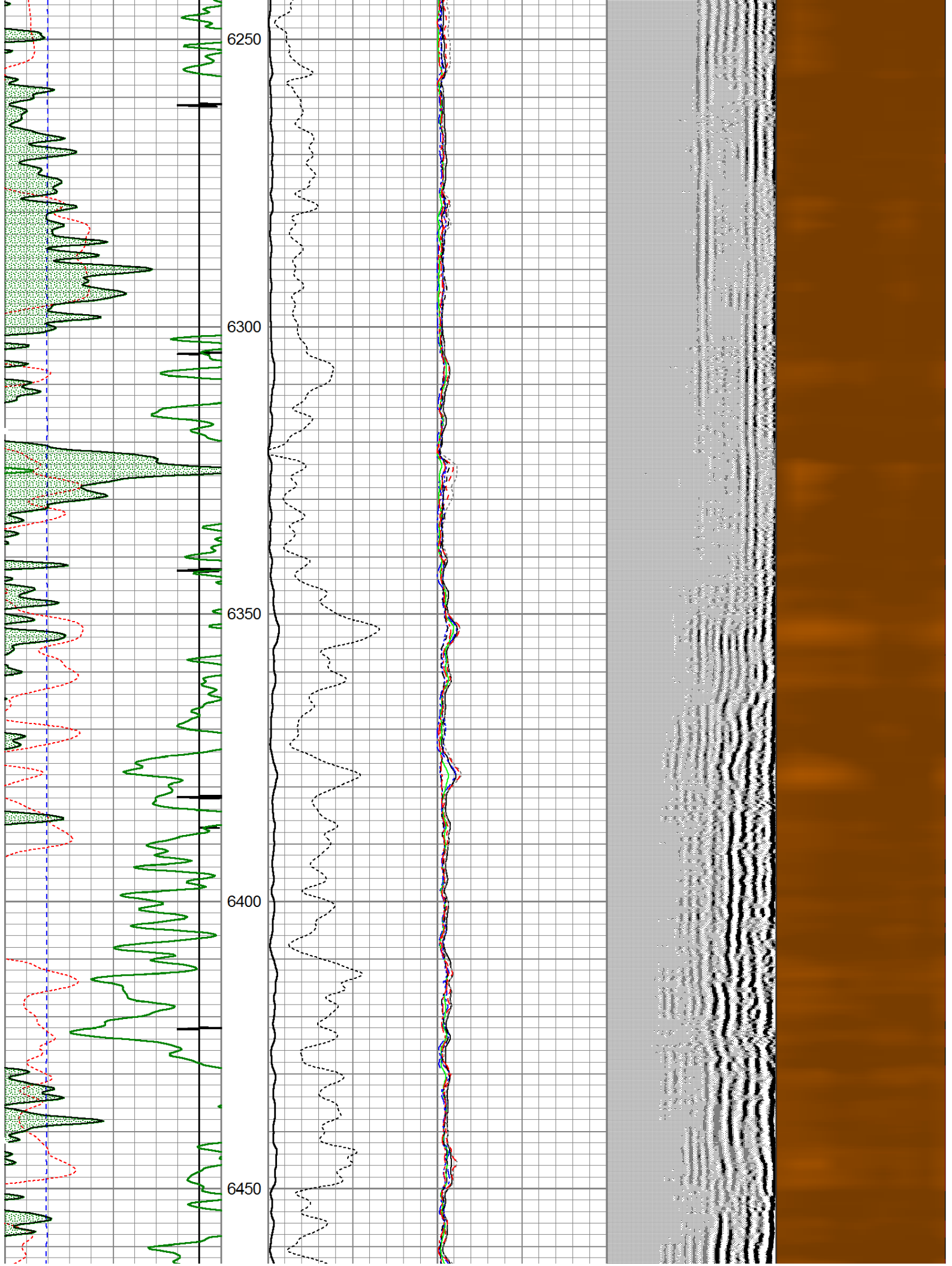


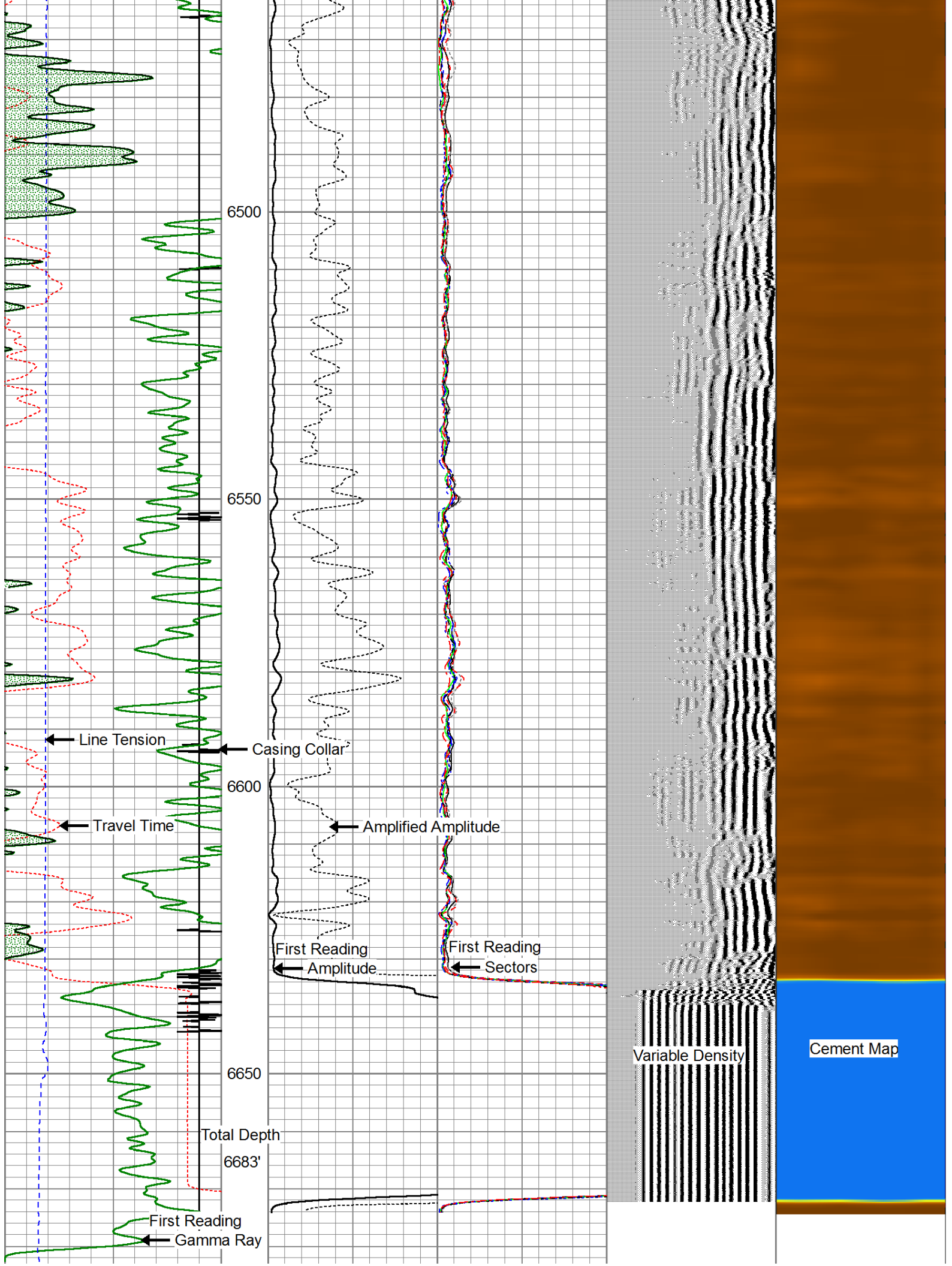


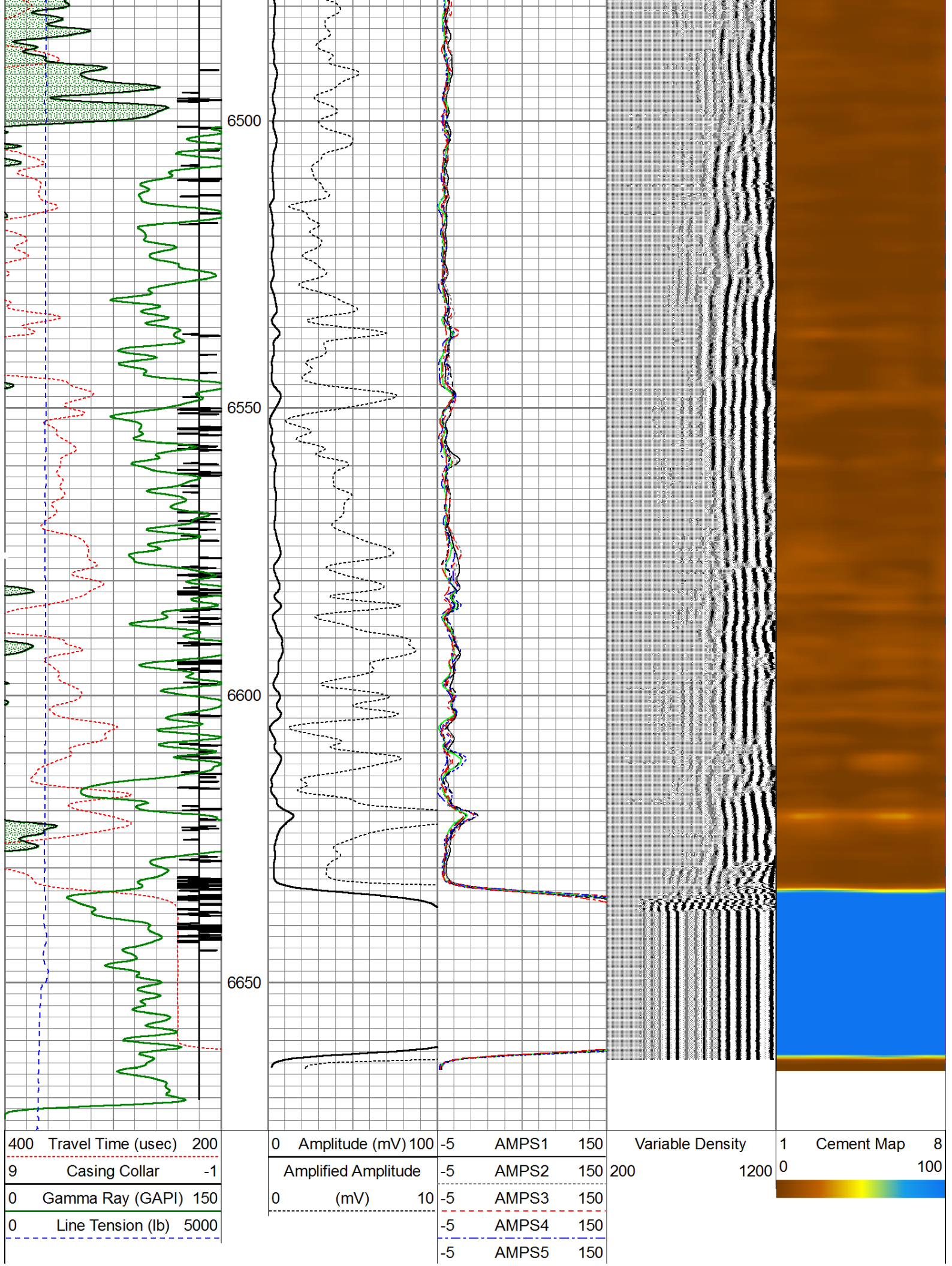












-5	AMPS6	150
-5	AMPS7	150
-5	AMPS8	150

Calibration Report

Database File: noble_shable_lb32-68hn_rcbl.db
Dataset Pathname: pass8
Dataset Creation: Mon May 13 10:43:37 2013 by Calc SCH 120126

Temperature Calibration Report

Serial Number: 101234
Tool Model: 1.375TEMP
Performed: Tue Mar 12 09:01:56 2013

	Reference	Reading
Low Reference:	0.00 degF	0.00 cps
High Reference:	1.00 degF	1.00 cps
Gain:	0.10	
Offset:	-20.00	
Delta Spacing	2	

Gamma Ray Calibration Report

Serial Number: 110108-Dig
Tool Model: Probe275
Performed: Fri May 10 07:56:42 2013

Calibrator Value: 138.0 GAPI

Background Reading: 37.7 cps
Calibrator Reading: 241.8 cps

Sensitivity: 0.8500 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: 101203
Tool Model: Probe

Calibration Casing Diameter: 7.000 in
Calibration Depth: 821.370 ft

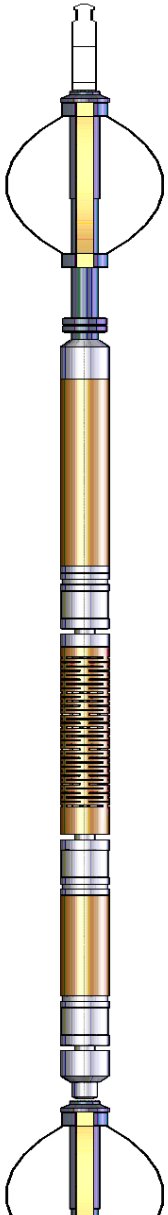
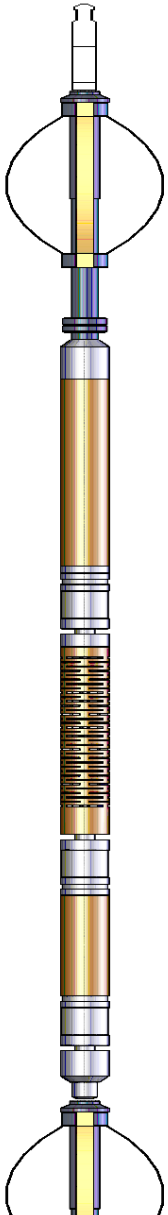
Master Calibration, performed Fri May 10 08:26:59 2013:

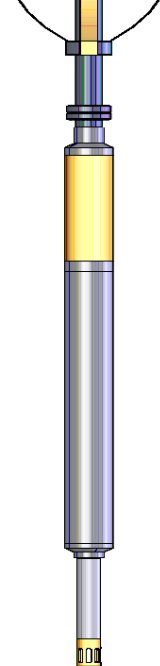
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.006	0.471	1.000	62.165	117.200	2.173
CAL	0.021	0.531				
5'	0.002	0.478	1.000	62.165	128.584	0.725
SUM						
S1	0.004	0.503	0.000	100.000	200.637	-0.852
S2	-0.001	0.436	0.000	100.000	228.865	0.218
S3	0.004	0.397	0.000	100.000	254.149	-0.949
S4	0.011	0.414	0.000	100.000	248.017	-2.722
S5	0.007	0.449	0.000	100.000	226.198	-1.618
S6	0.005	0.498	0.000	100.000	202.948	-1.053
S7	0.005	0.523	0.000	100.000	193.012	-1.001
S8	0.009	0.522	0.000	100.000	194.765	-1.659

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.021	0.531	1.000	0.000

Air Zero Calibration, performed Fri May 10 07:30:20 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)
			Titan Cable_head	1.00	1.44	10.00
			Probe275 2.75" Centralizer	2.88	2.75	20.00
			RBT-Probe (101203) Probe Radii Bond Tool with Digital Telemetry	8.75	2.75	90.00
			Probe275	2.88	2.75	20.00
WVF3FT	13.27					
WVFCAL	13.27					
WVFS1	13.27					
WVFS2	13.27					
WVFS3	13.27					
WVFS4	13.27					
WVFS5	13.27					
WVFS6	13.27					
WVFS7	13.27					
WVFS8	13.27					
WVF5FT	12.27					

			PROBE275 2.75" Centralizer	2.66	2.75	20.00
CCL	5.25					
GR	3.79		GR-Probe275 (110108-Dig) Probe 2 3/4" Digital Gamma Ray/CCL	4.96	2.75	57.00
TEMP	0.08		Temp-1.375TEMP (101234) Temperature Tool	1.25	1.38	30.00

Dataset:

noble_shable_lb32-68hn_rcbl.db: field/well/run1/pass8

Total Length:

21.71 ft

Total Weight:

227.00 lb

O.D.

2.75 in