



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

Company	Noble Energy		Location:	API # : 05-123-37170		Other Services	
Well	Wells Ranch USX AA 23-68-1HN		SEC 24	TWP 6N	RGE 63W	None	
Field	Wattenberg						
County	Weld		State Colorado				
County	Weld		State Colorado				
State	Colorado						
Permanent Datum	950' FNL 535' FWL		Ground Level	Elevation	4793'		
Log Measured From	Kelly Bushing 24' Above P.D.		Elevation		K.B. 4817'		
Drilling Measured From	Kelly Bushing		Elevation		D.F. 4816'		
			Elevation		G.L. 4793'		
Date	12-July-2013						
Run Number	One						
Depth Driller	11,055'						
Depth Logger	6928'						
Bottom Logged Interval	6925'						
Top Log Interval	Surface						
Open Hole Size	N/A						
Type Fluid	Fresh Water						
Density / Viscosity	8.33						
Max. Recorded Temp.	224 Deg F						
Estimated Cement Top	158'						
Time Well Ready	10:30						
Time Logger on Bottom	11:30						
Equipment Number	12029						
Location	Brighton						
Recorded By	J.Morrison		G. Lueck				
Witnessed By	B. Mansfield						
Borehole Record			Tubing Record				
Run Number	Bit	From	To	Size	Weight	From	To
1	13.75	124'	674'				
2	8.75	674'	6980'				
3	6.125	6980'	11,055				
Casing Record	Size	Wgt/Ft		Top	Bottom		
Surface String	9 5/8"	36#		24'	664'		
Prot. String							
Production String	7"	26#		24'	6970'		
Liner	4.5"	11 6#		6863'	11,040'		
		Short Joint		5734'	5749'		

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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

Main and Repeat Passes Logged at (0) PSI

Well Logged Using 24' K.B.

Short Joint At 5734' - 5749'


Your Crew Today Was J. Morrison, G. Lueck, and R. Anderson

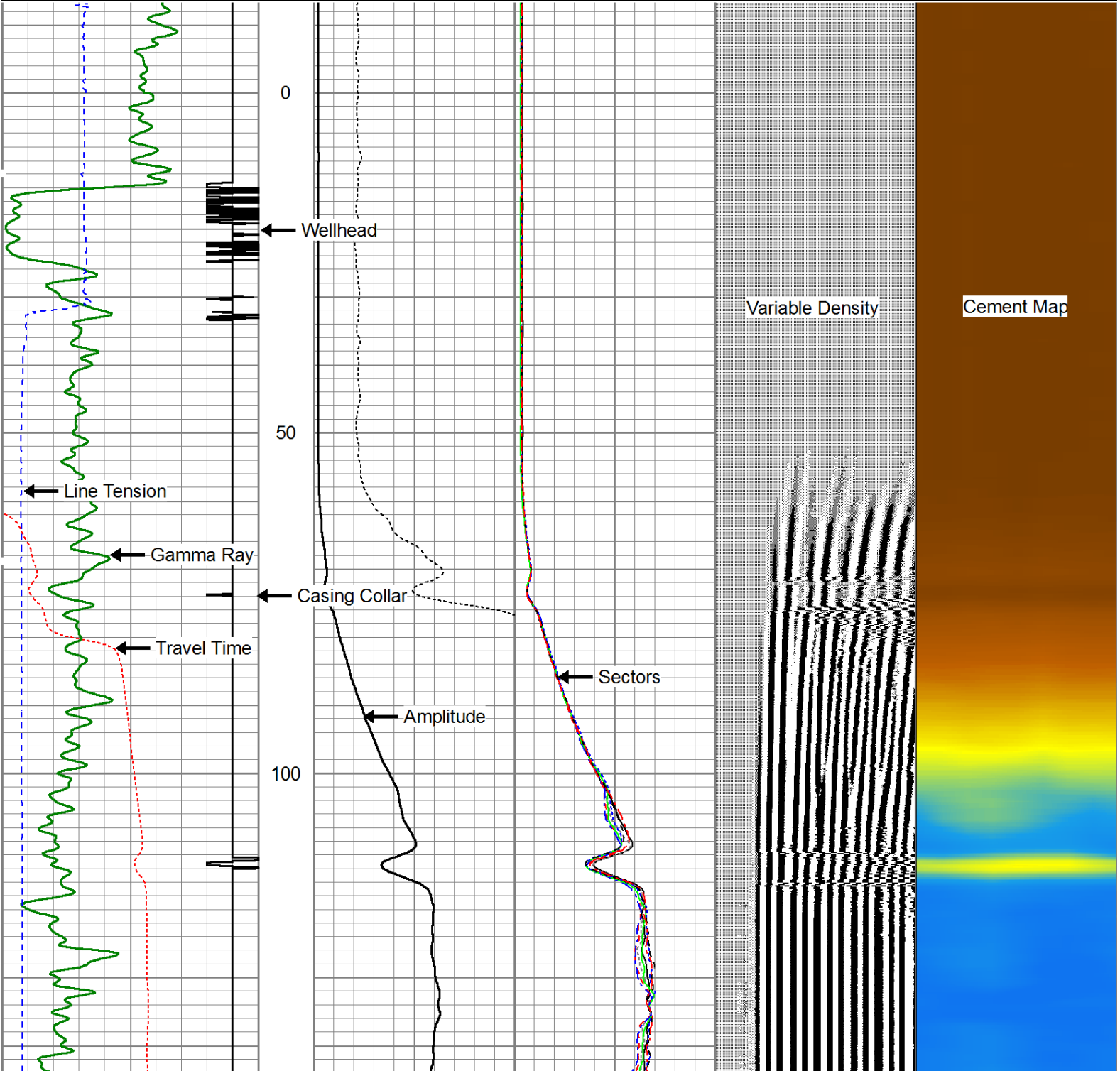
Thank You For Choosing Allied Wireline
(303) 659-4609

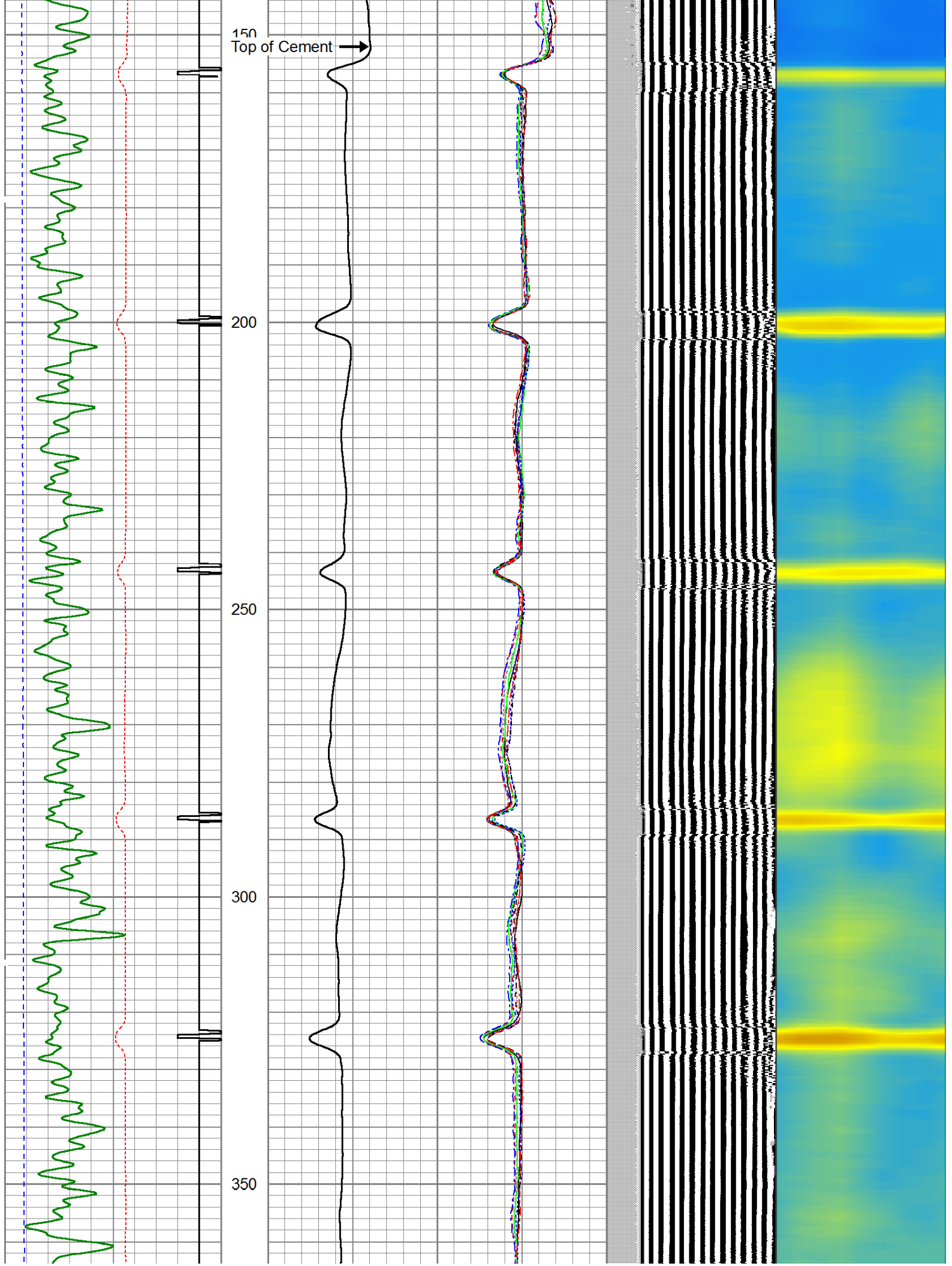


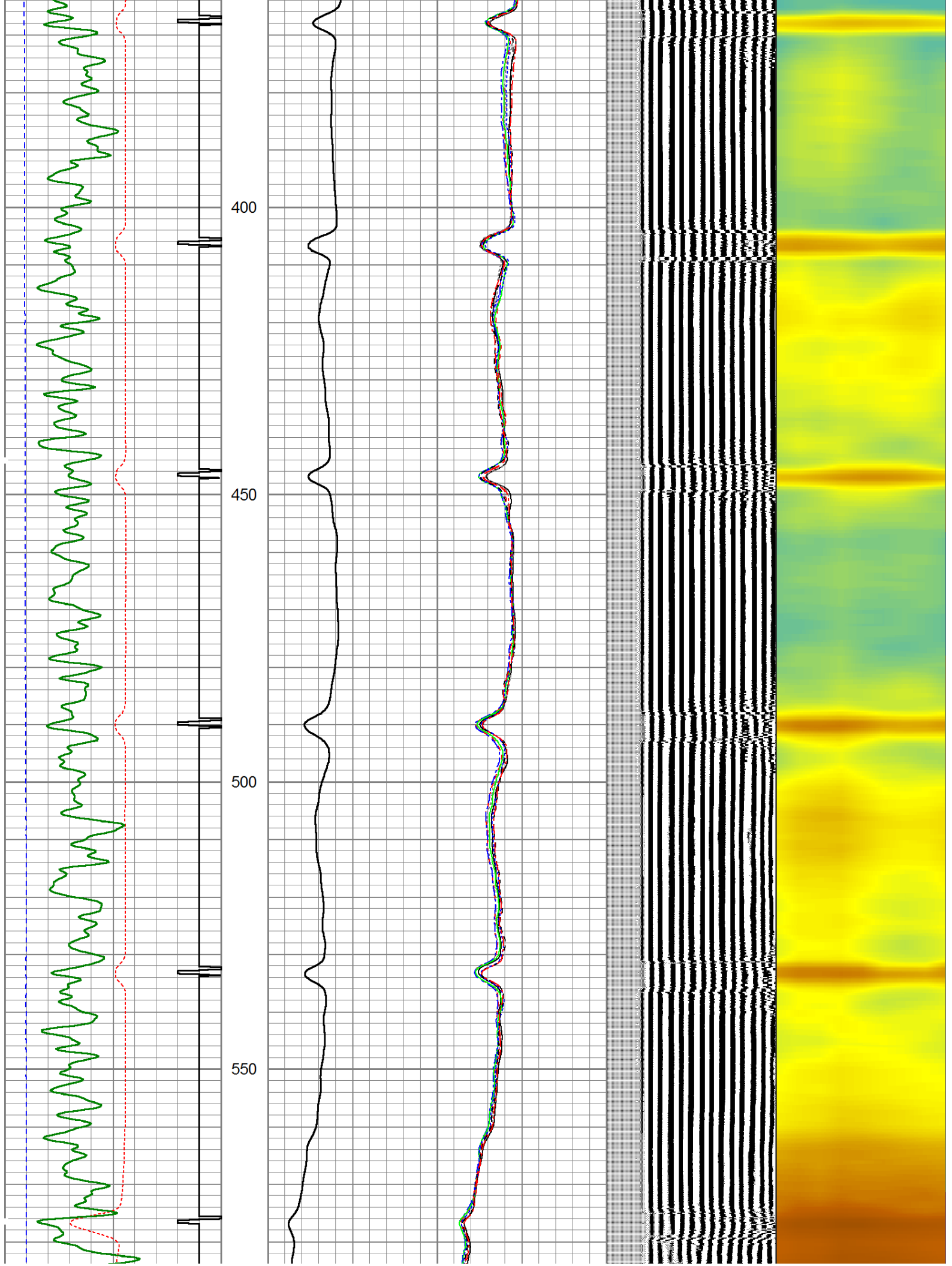
Main Pass (0) PSI

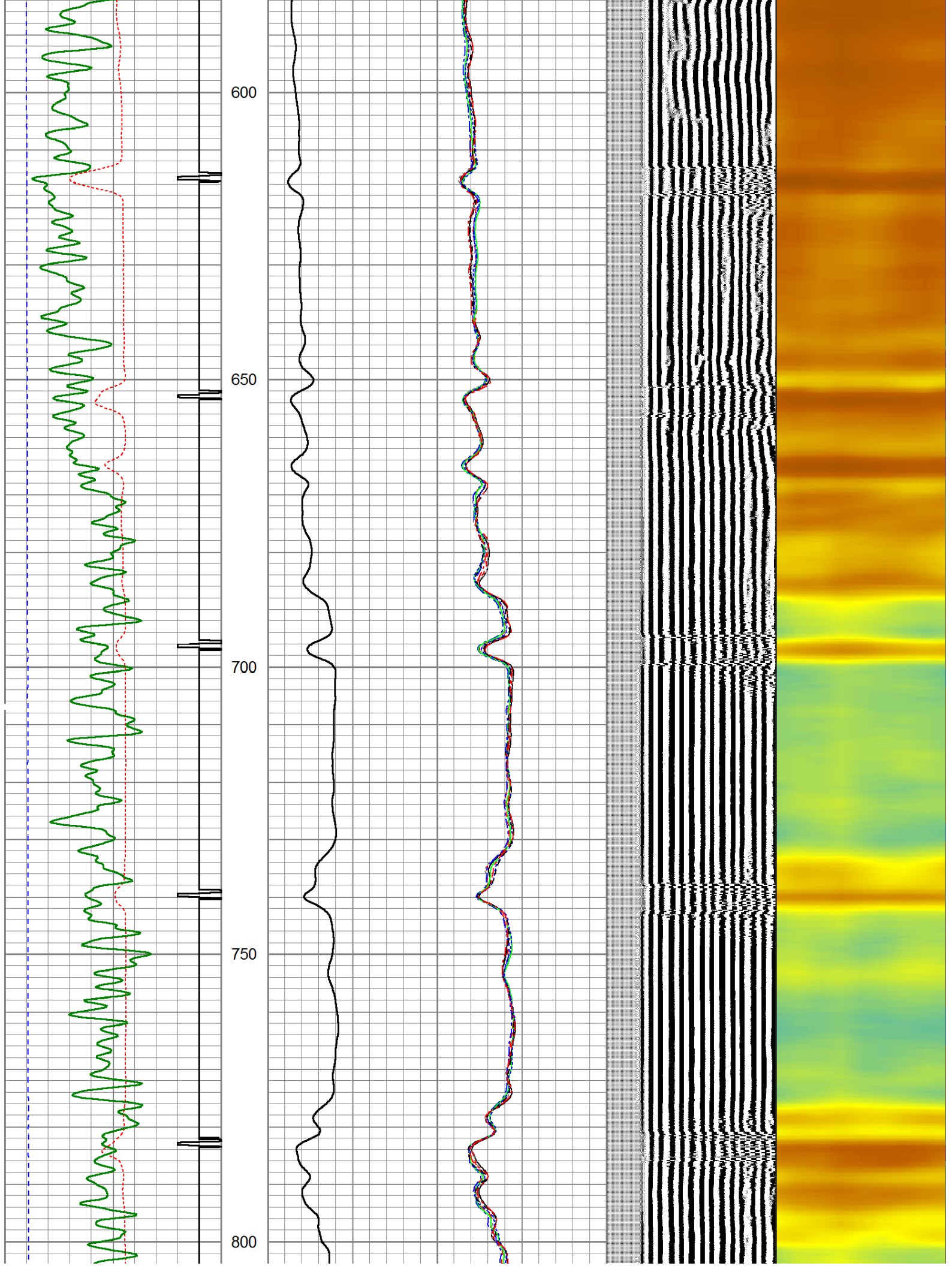
Database File: noble_wr_usx_aa_23-68-1hn.db
Dataset Pathname: pass7
Presentation Format: scbl03
Dataset Creation: Fri Jul 12 12:49:54 2013 by Calc SCH 120126
Charted by: Depth in Feet scaled 1:240

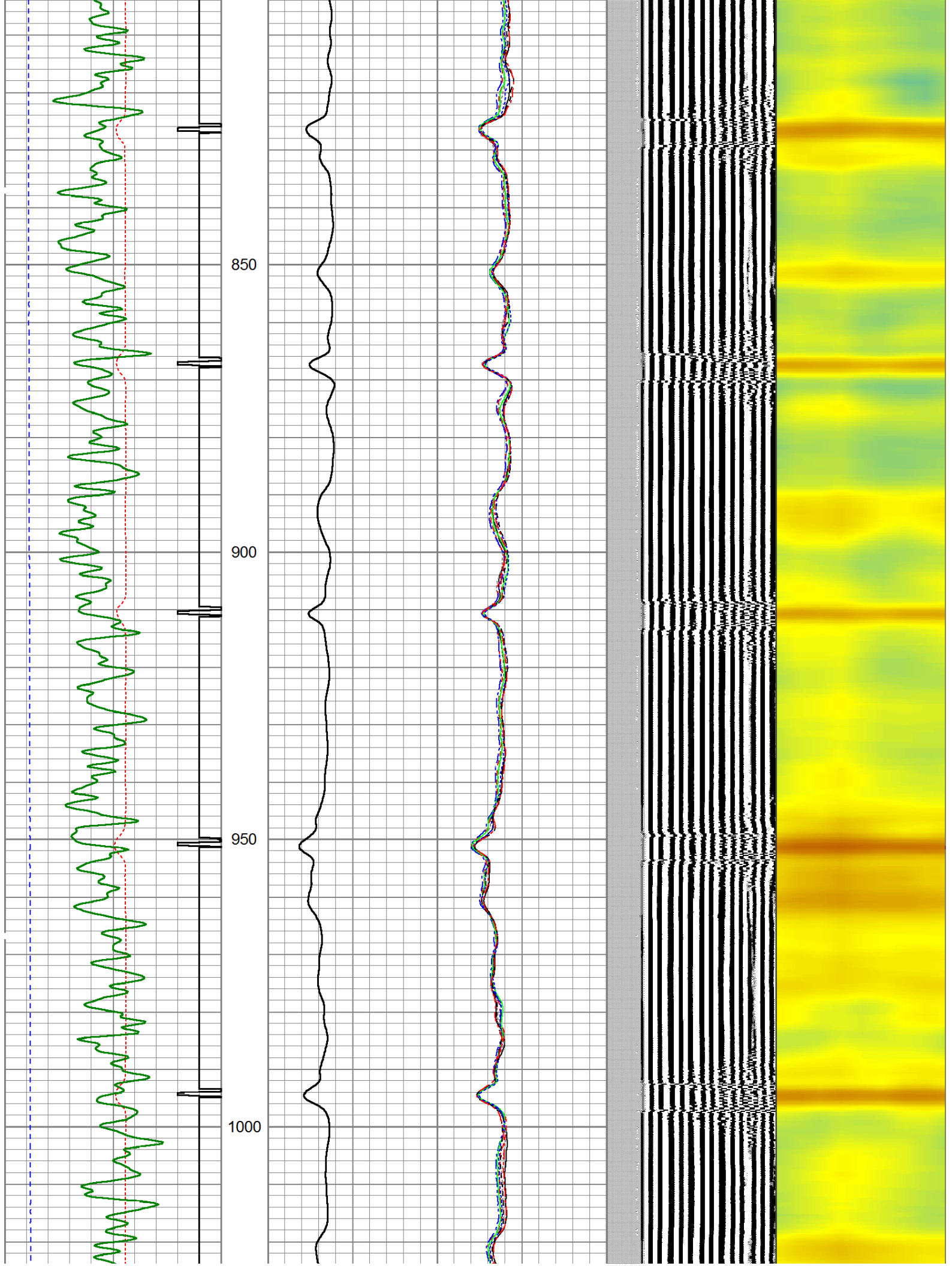
400	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	AMPS1	150	Variable Density		1	Cement Map	8		
9	Casing Collar	-1	Amplified Amplitude			-5	AMPS2	150	200	1200	0		100		
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	AMPS3	150							
0	Line Tension (lb)	2500				-5	AMPS4	150							
						-5	AMPS5	150							
					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

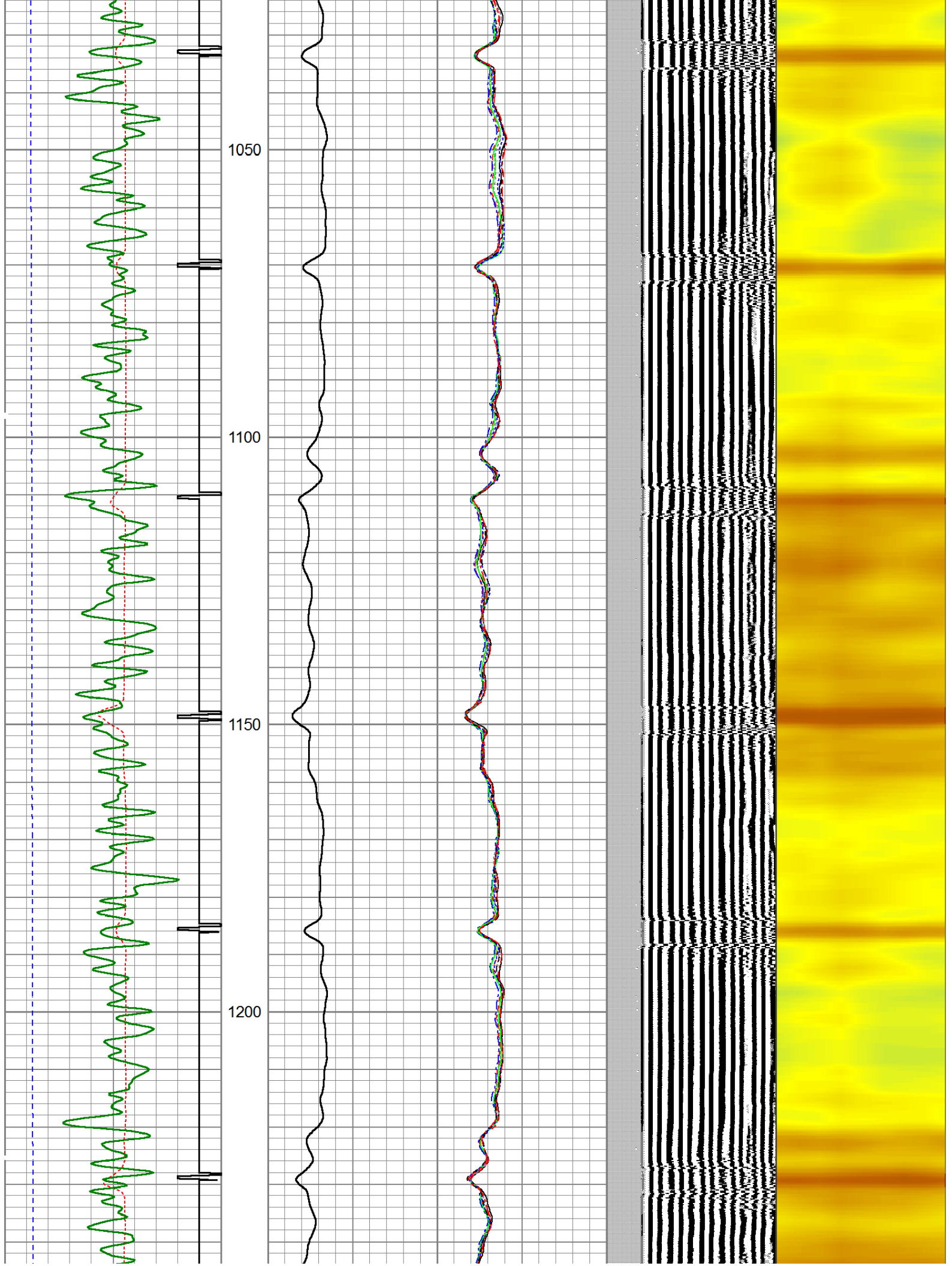


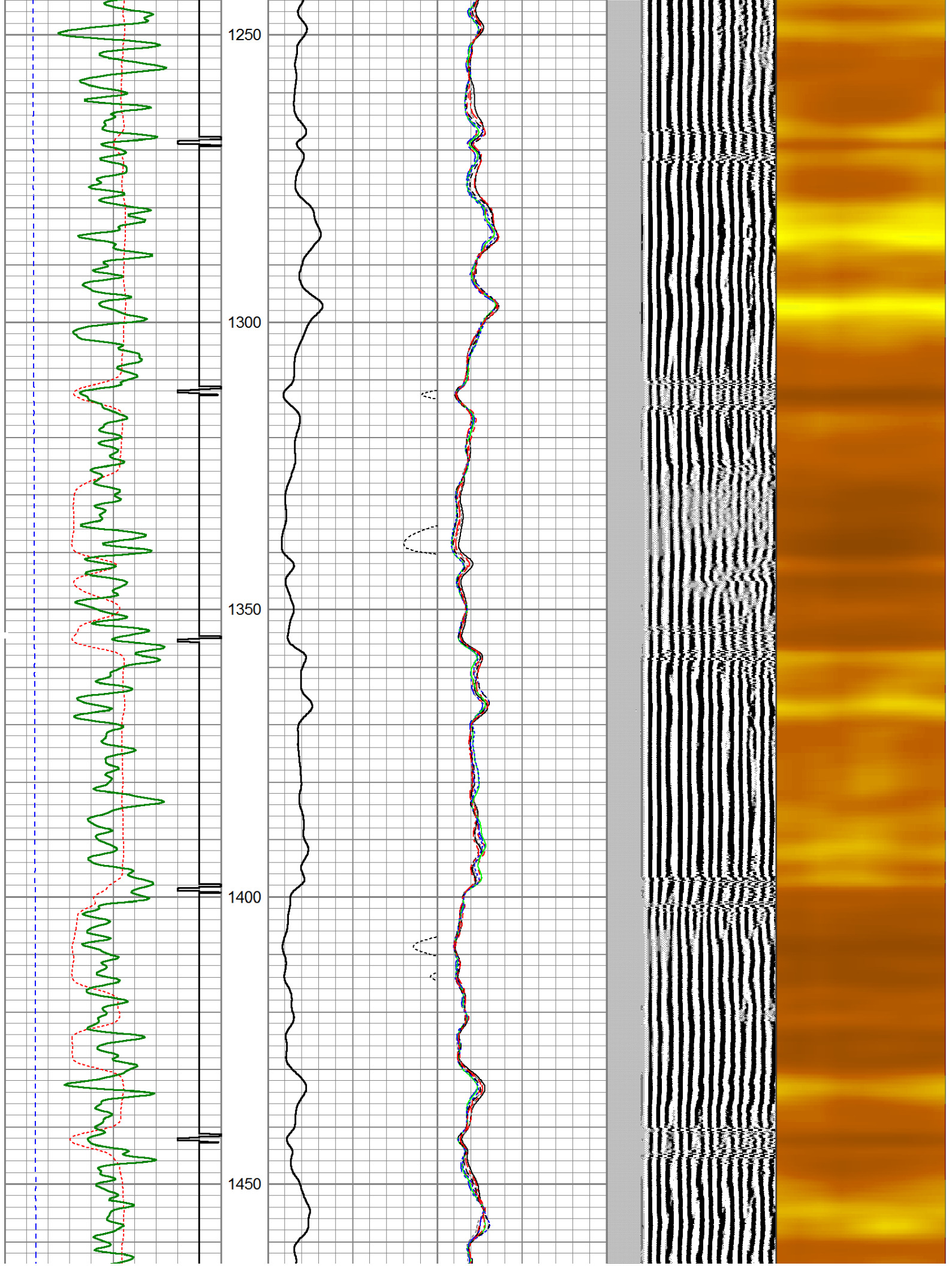


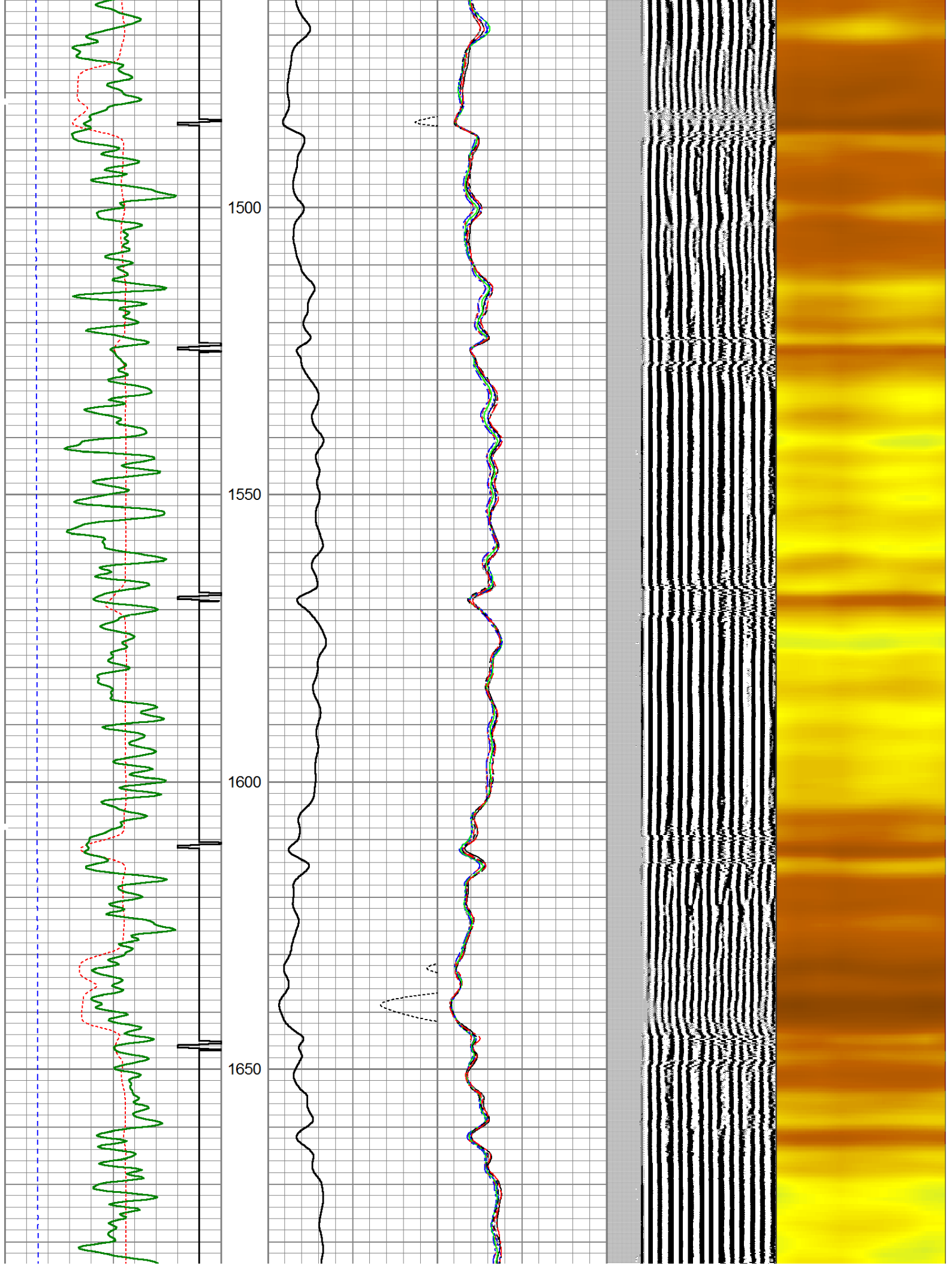


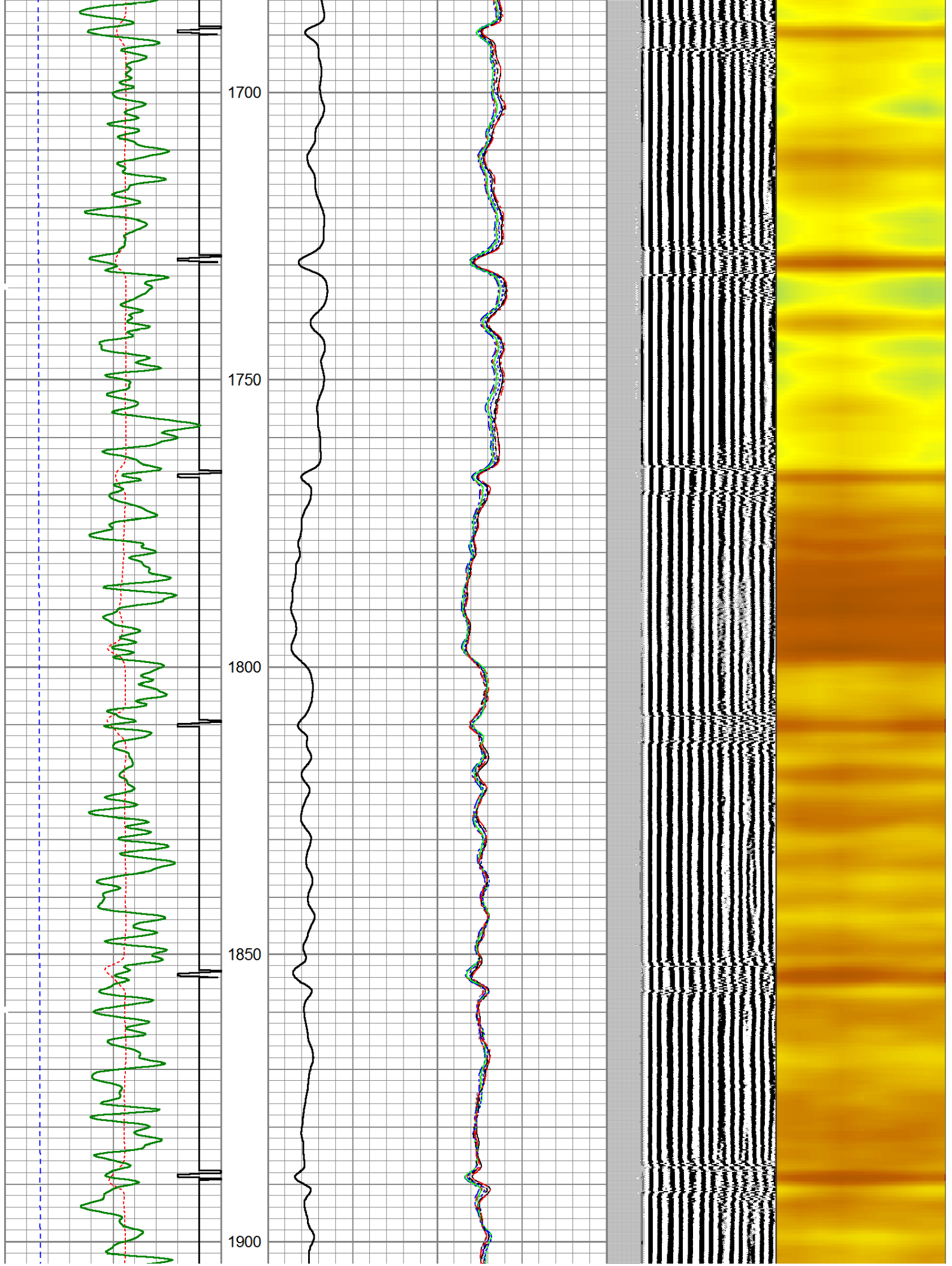


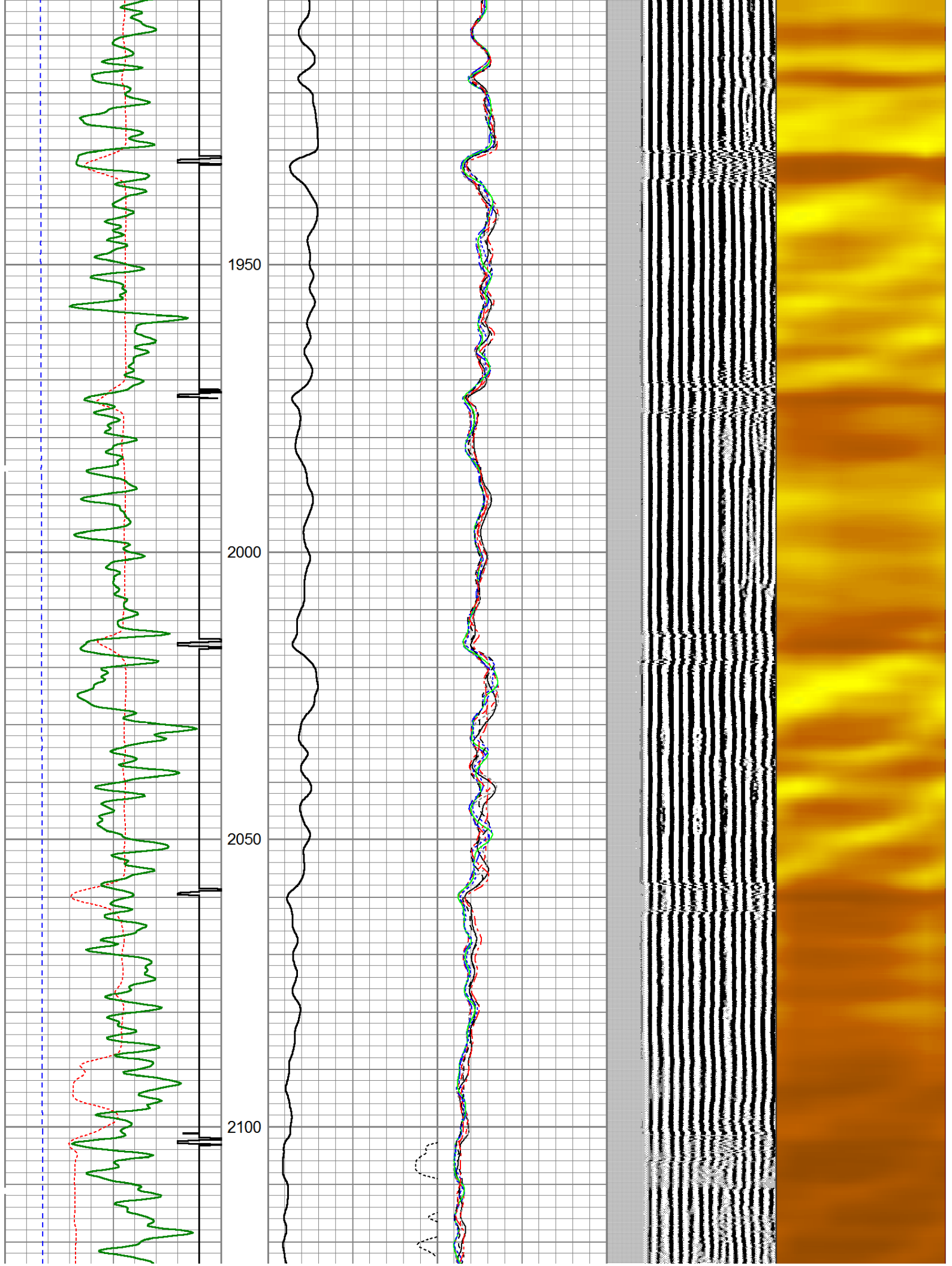


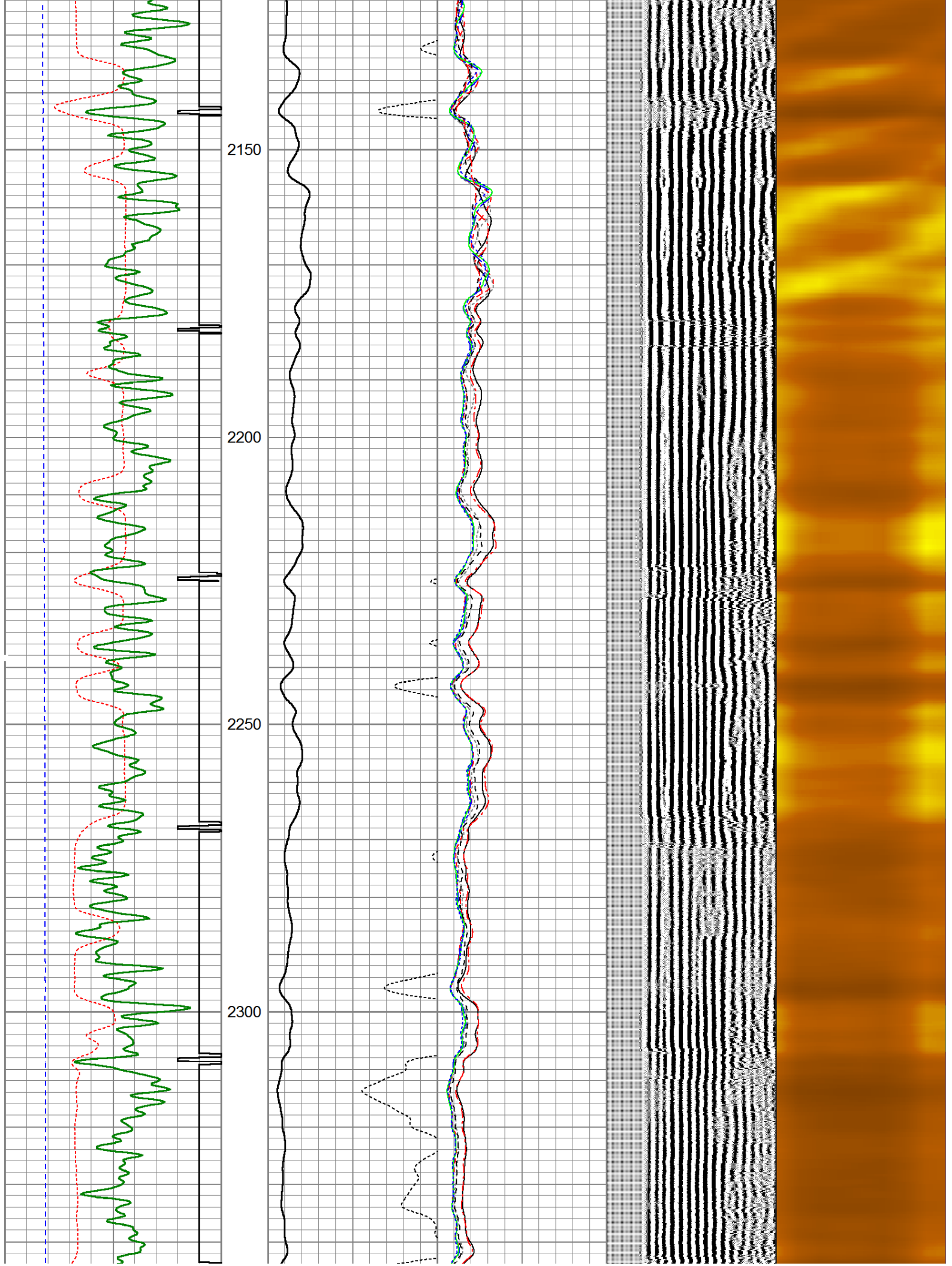


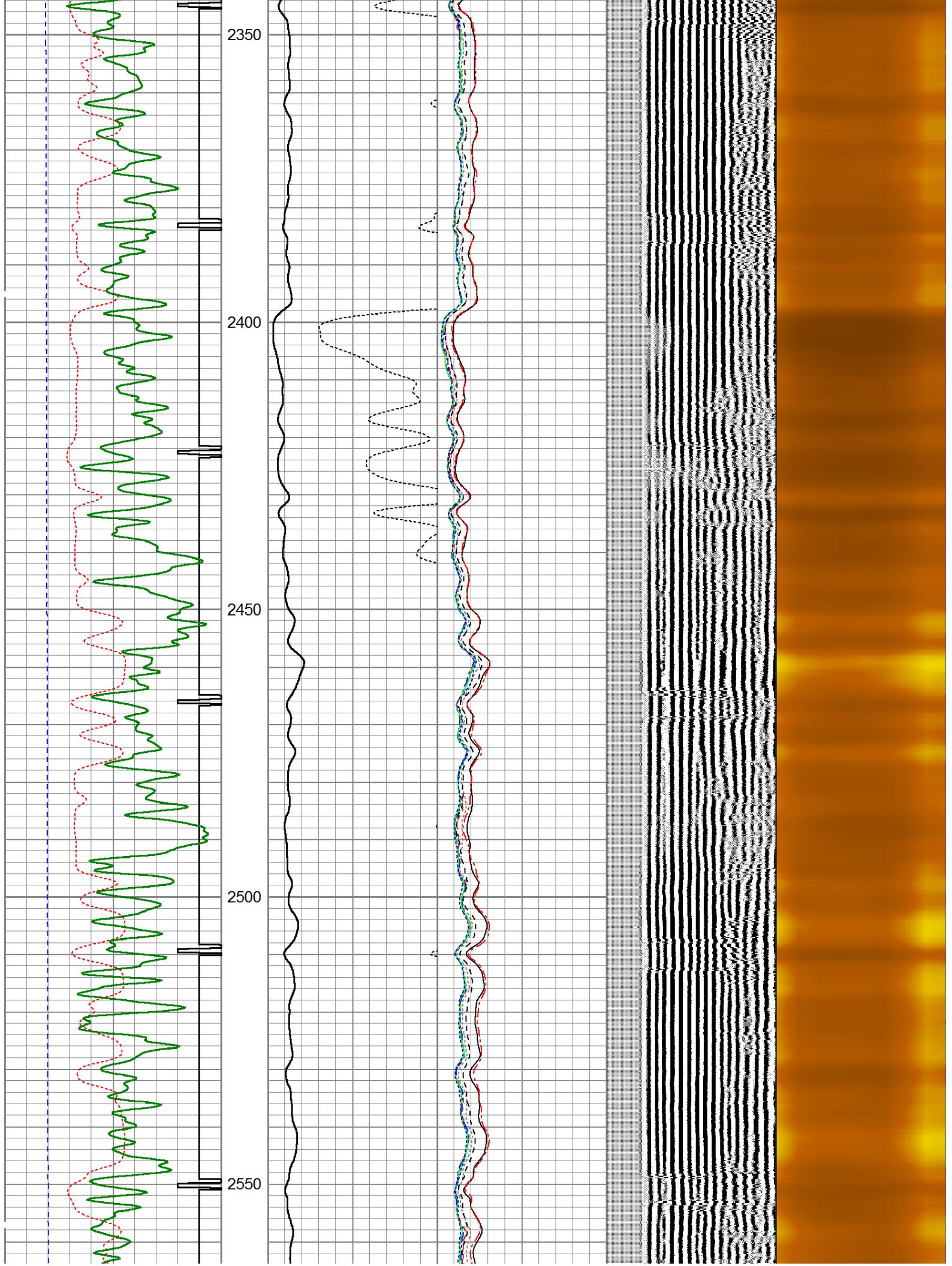


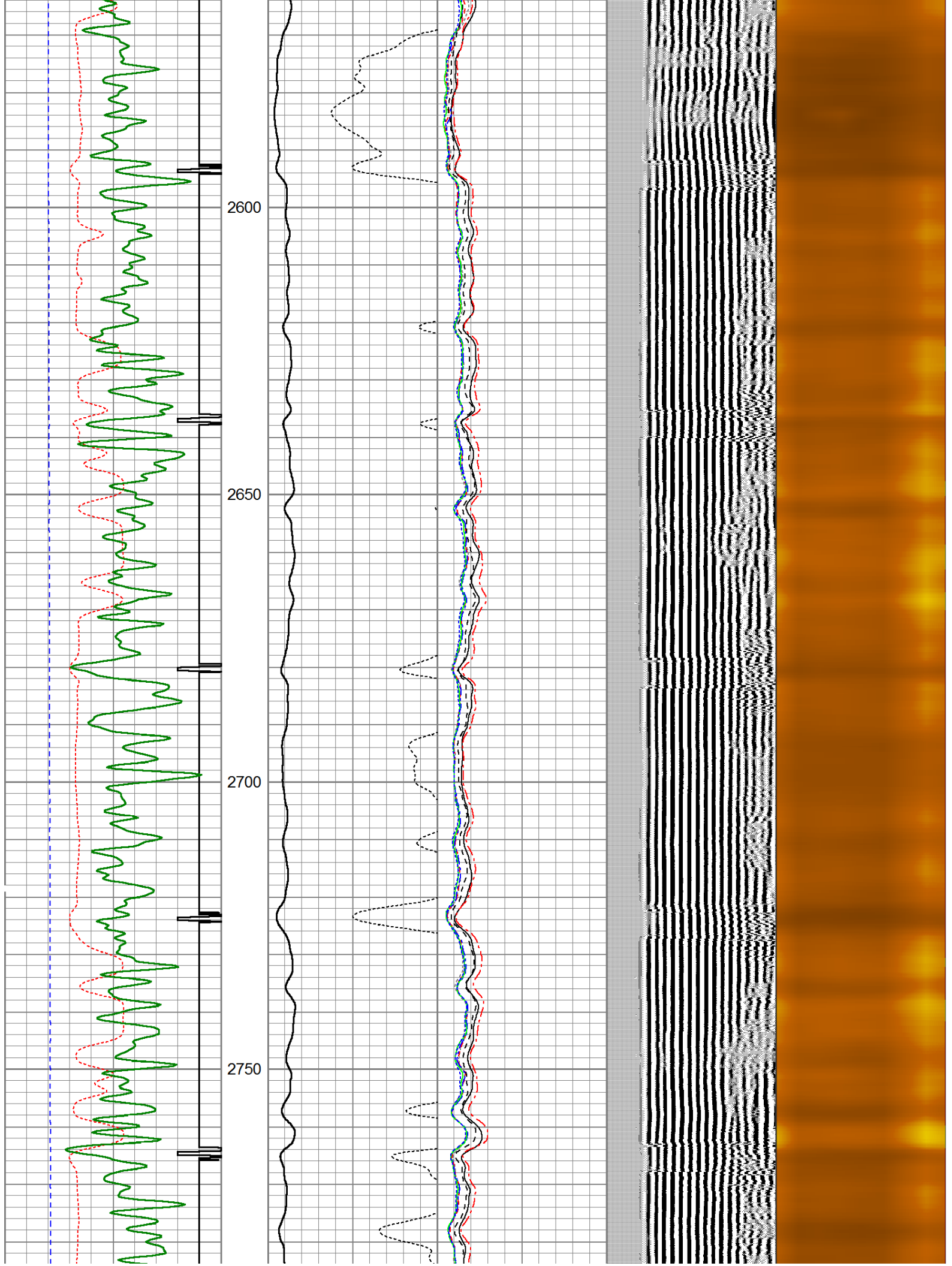


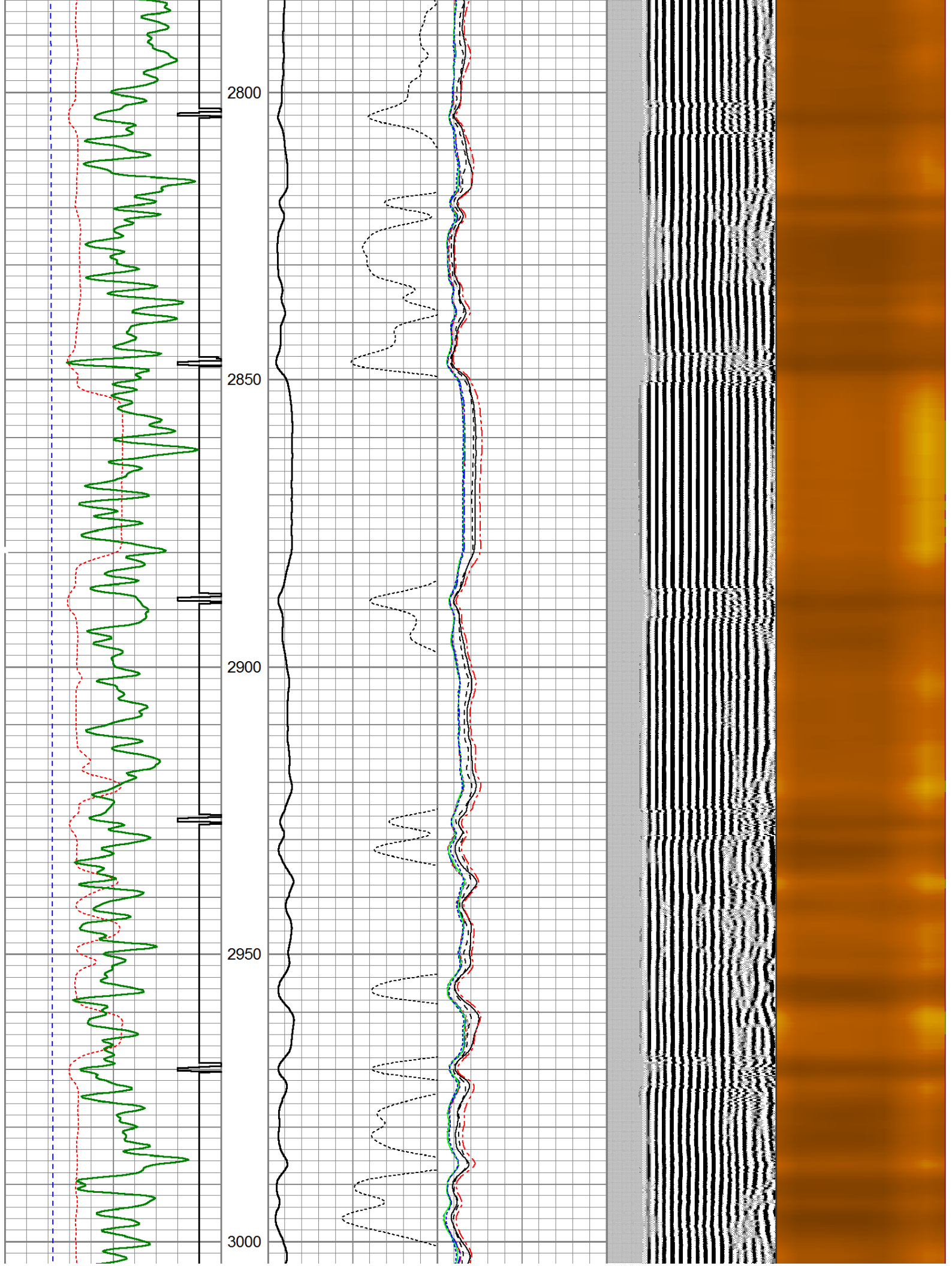


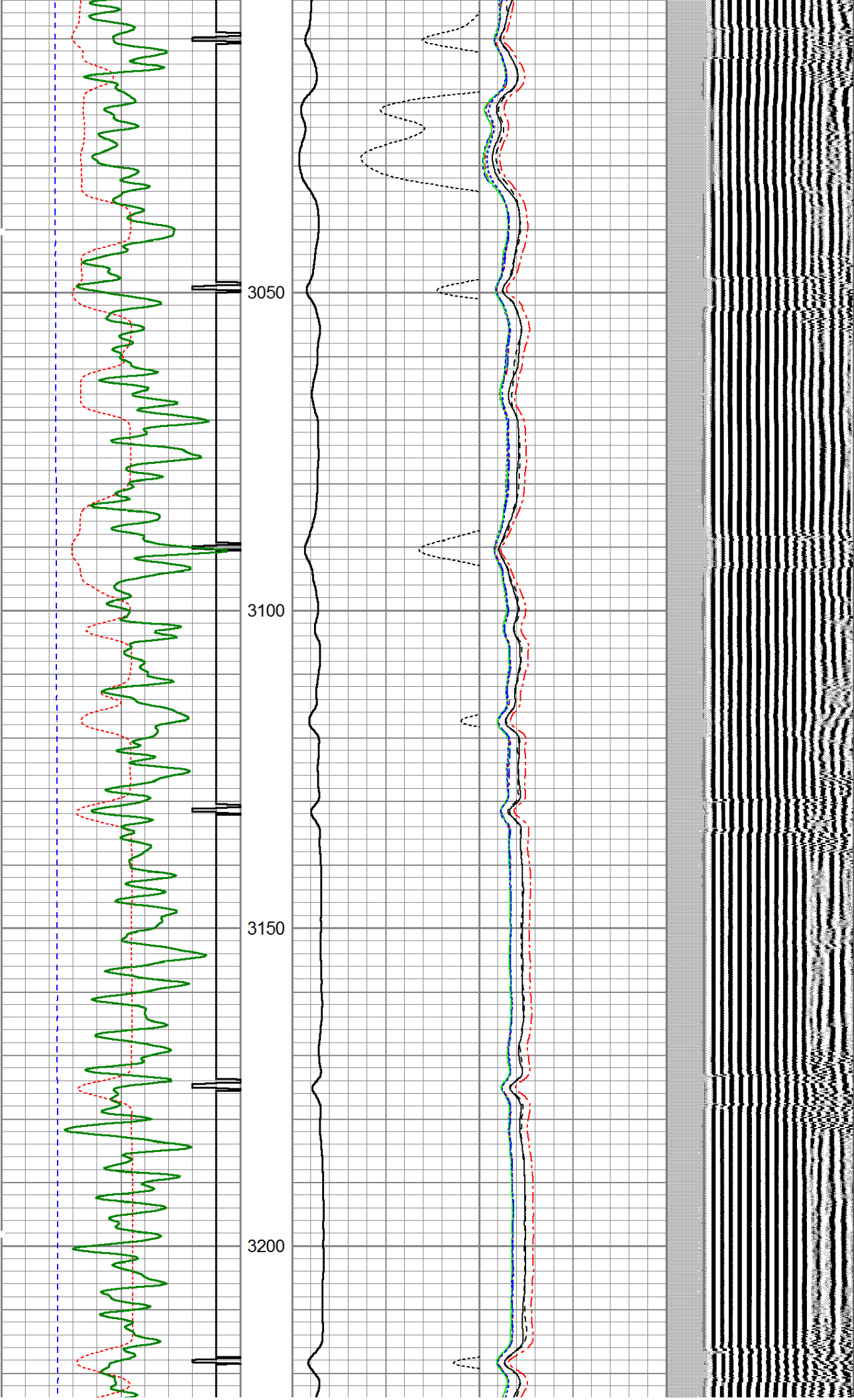


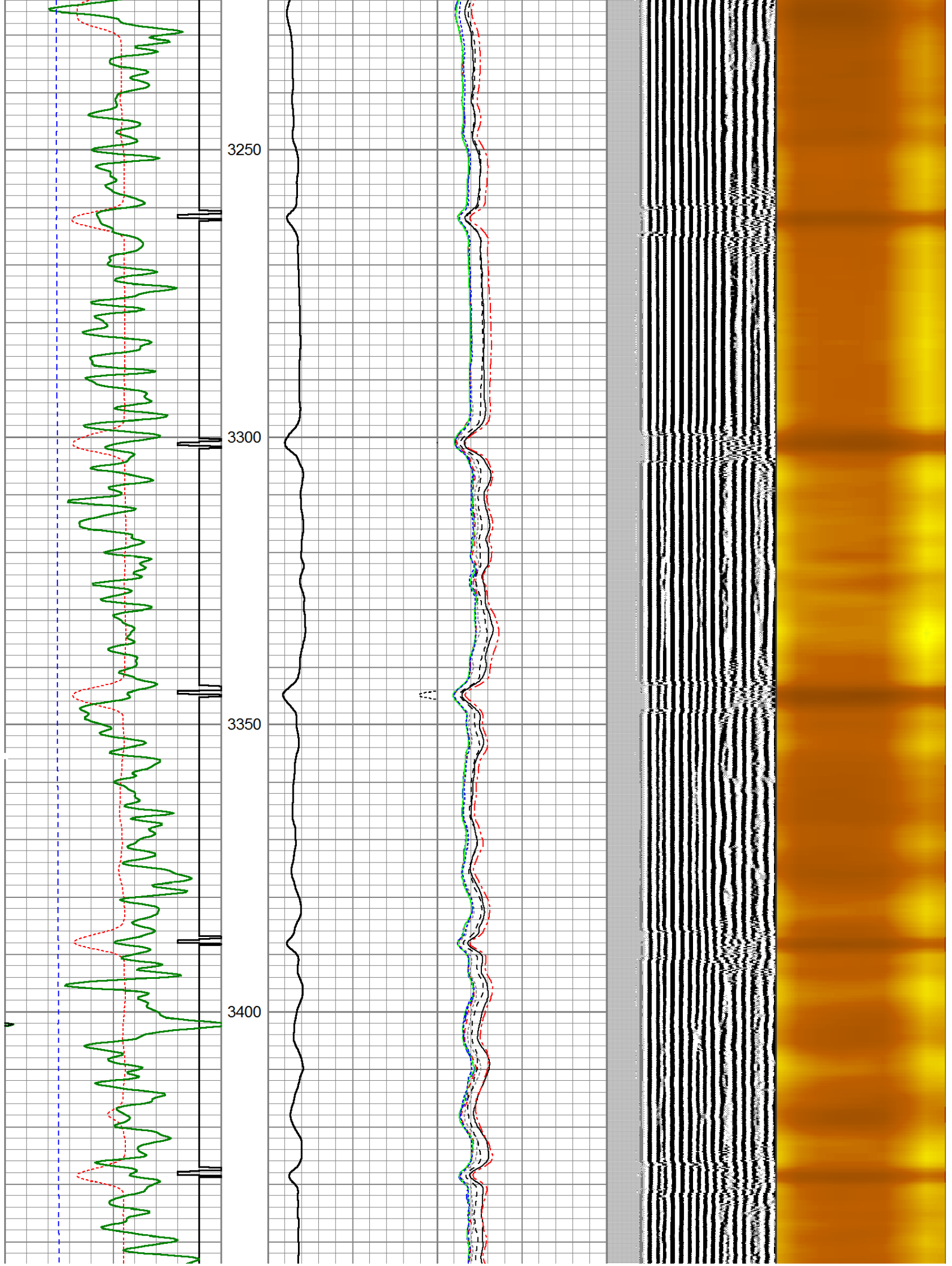


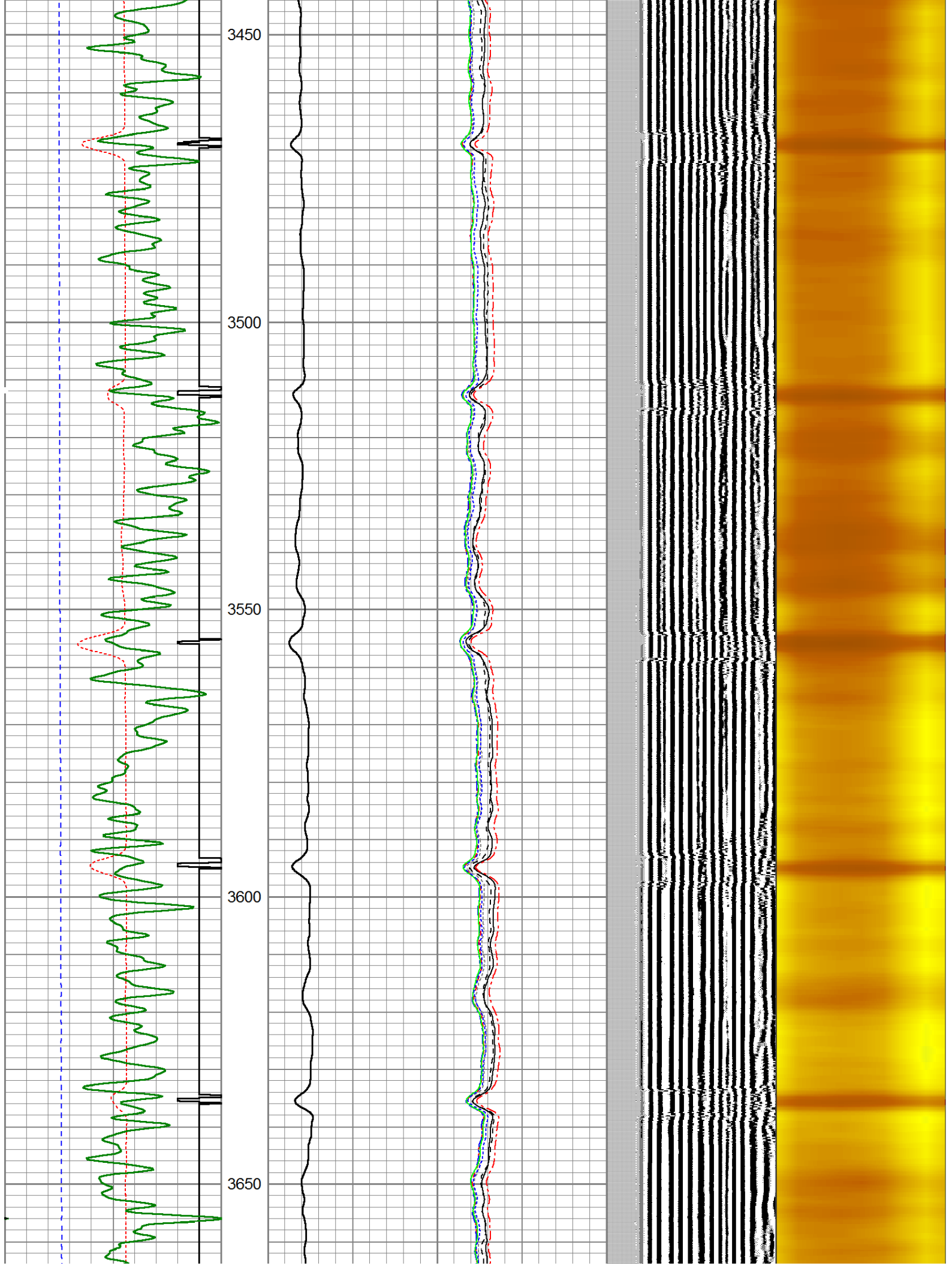


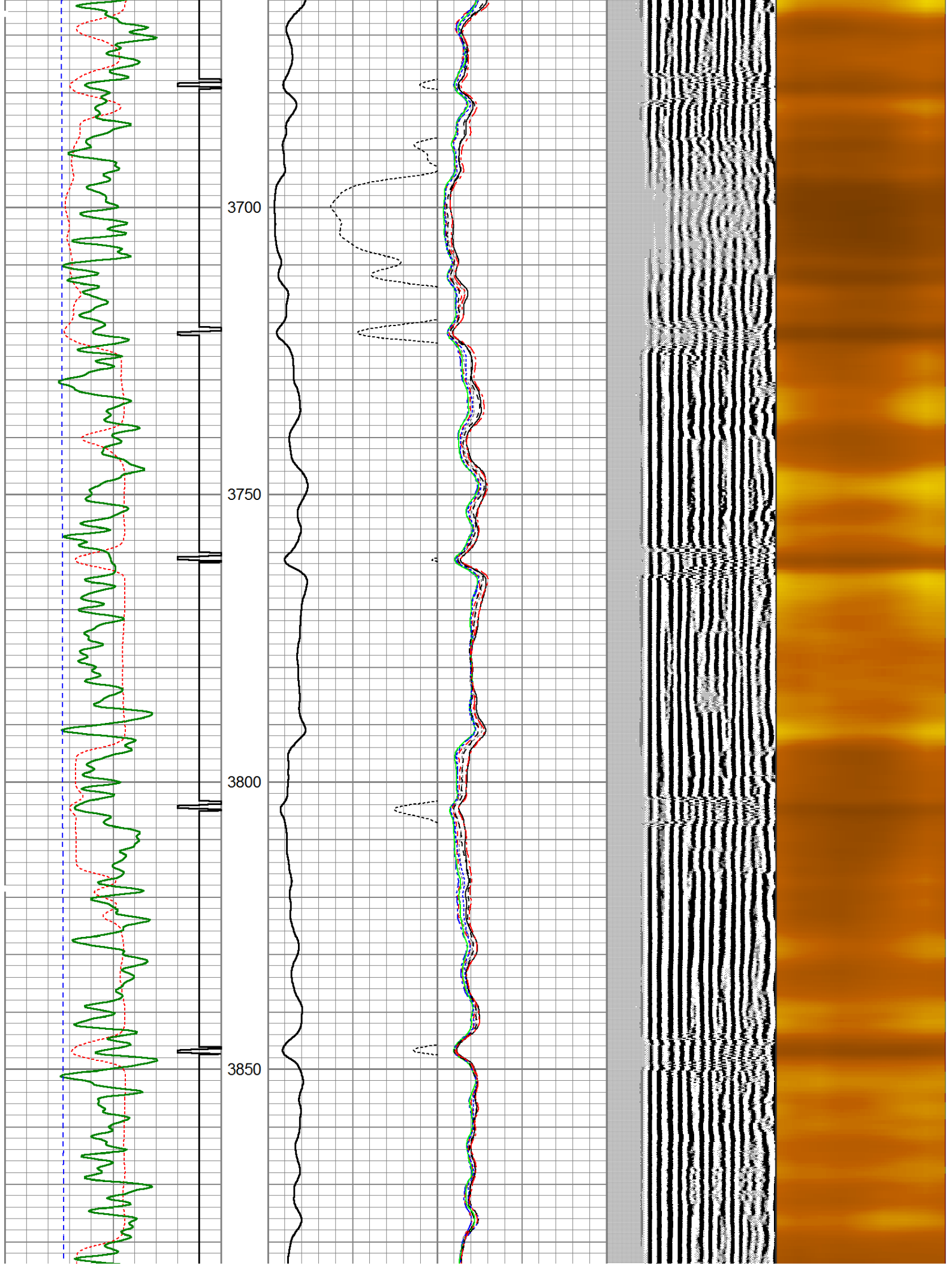


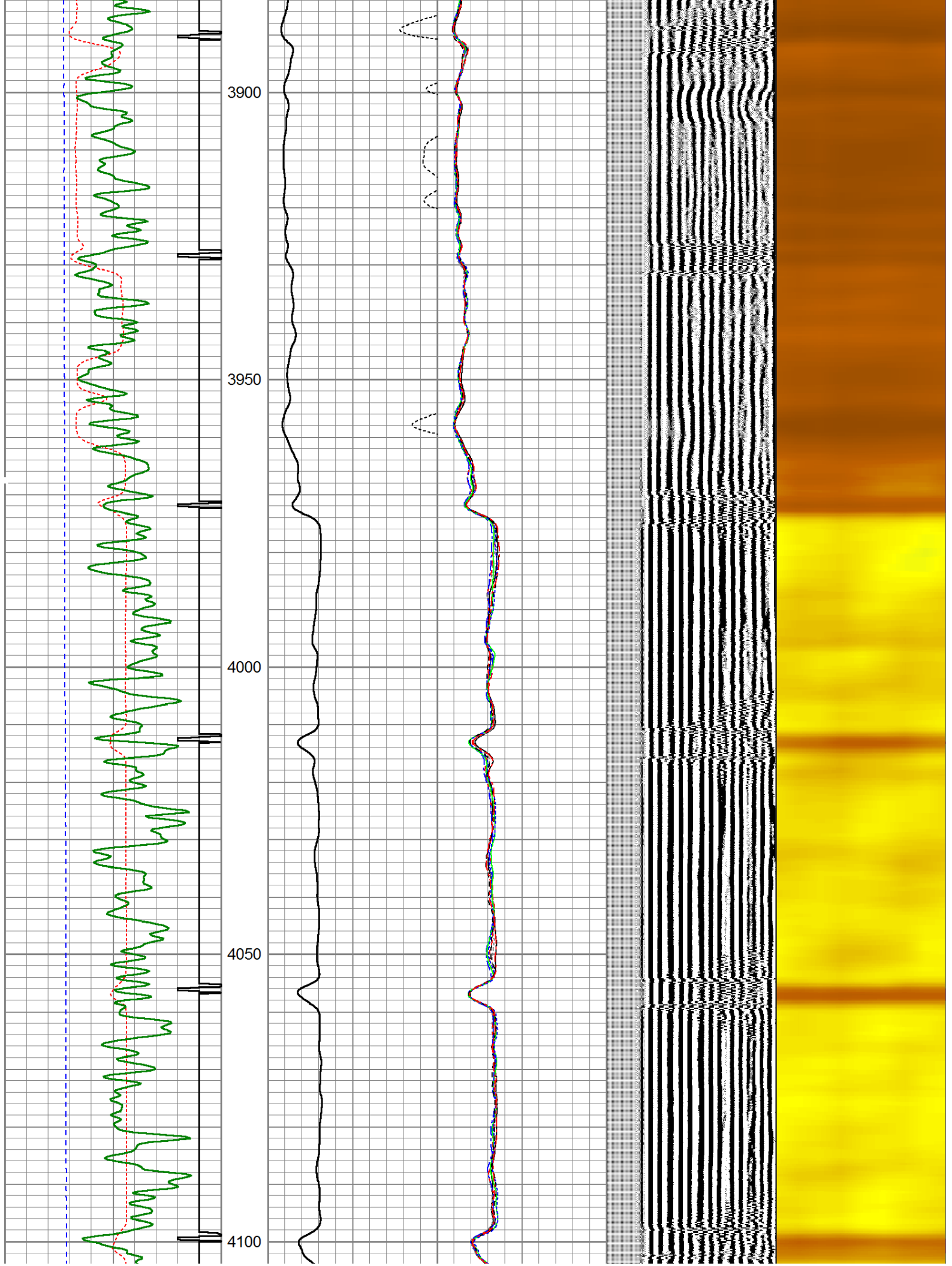


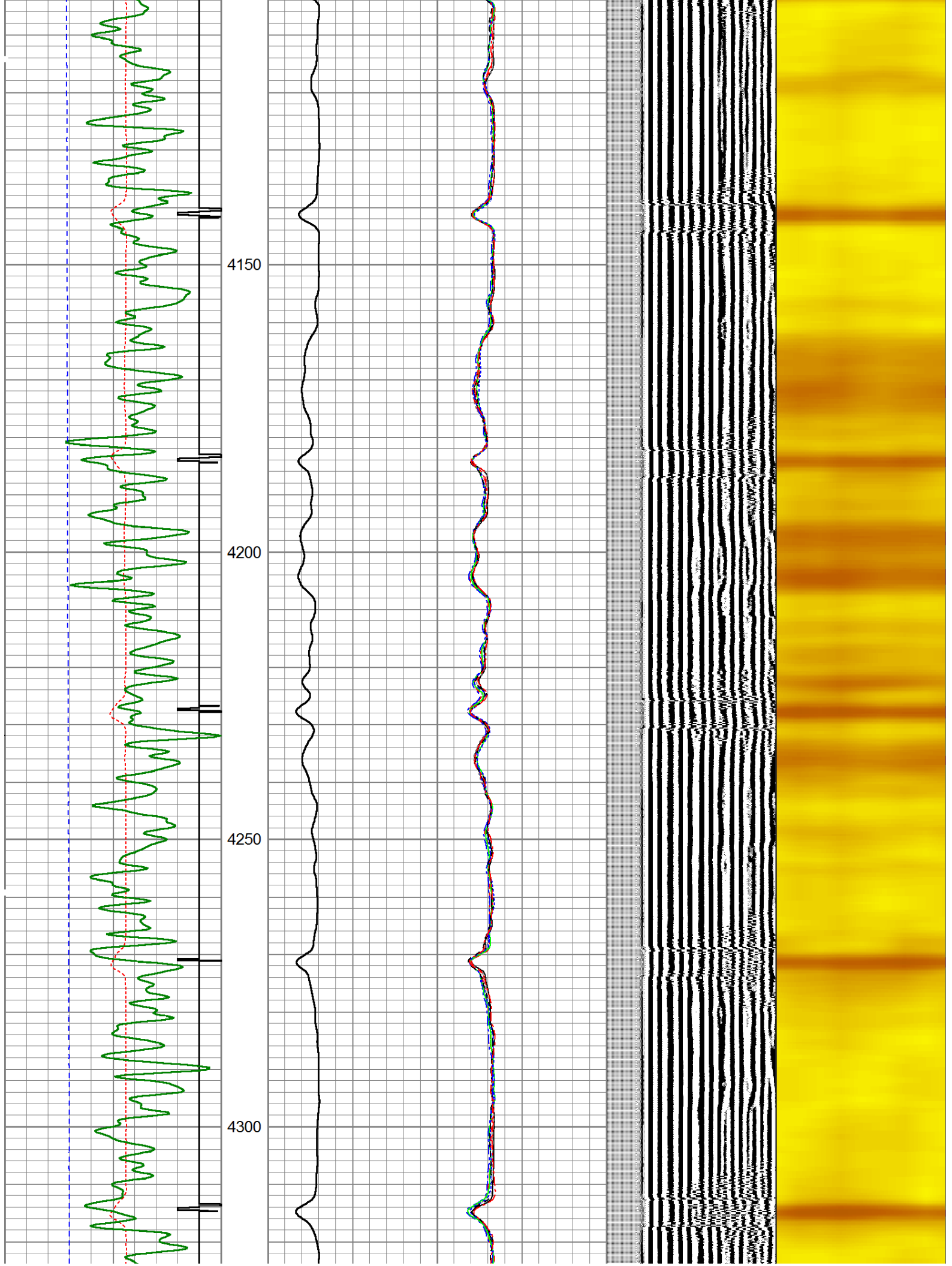


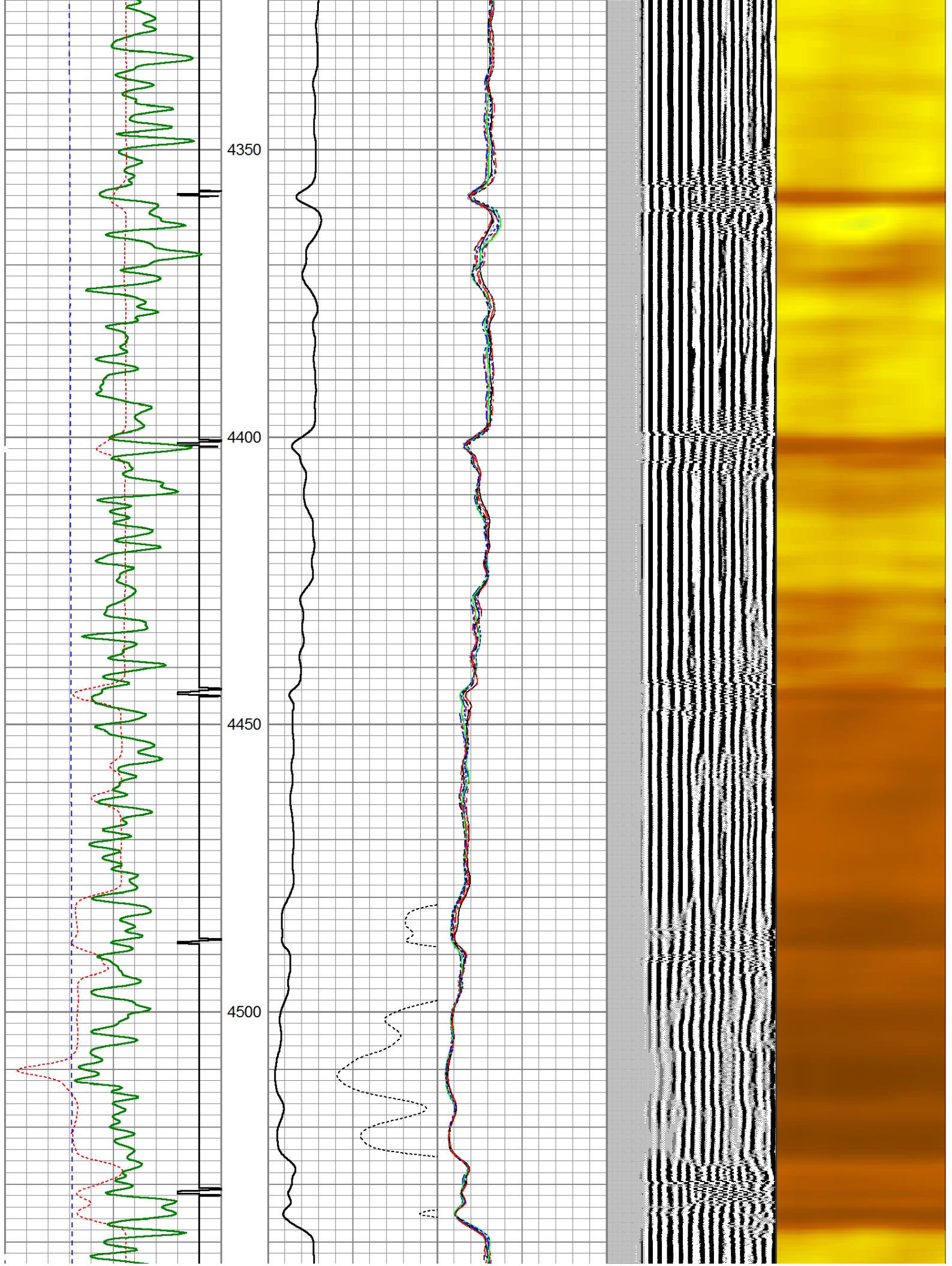


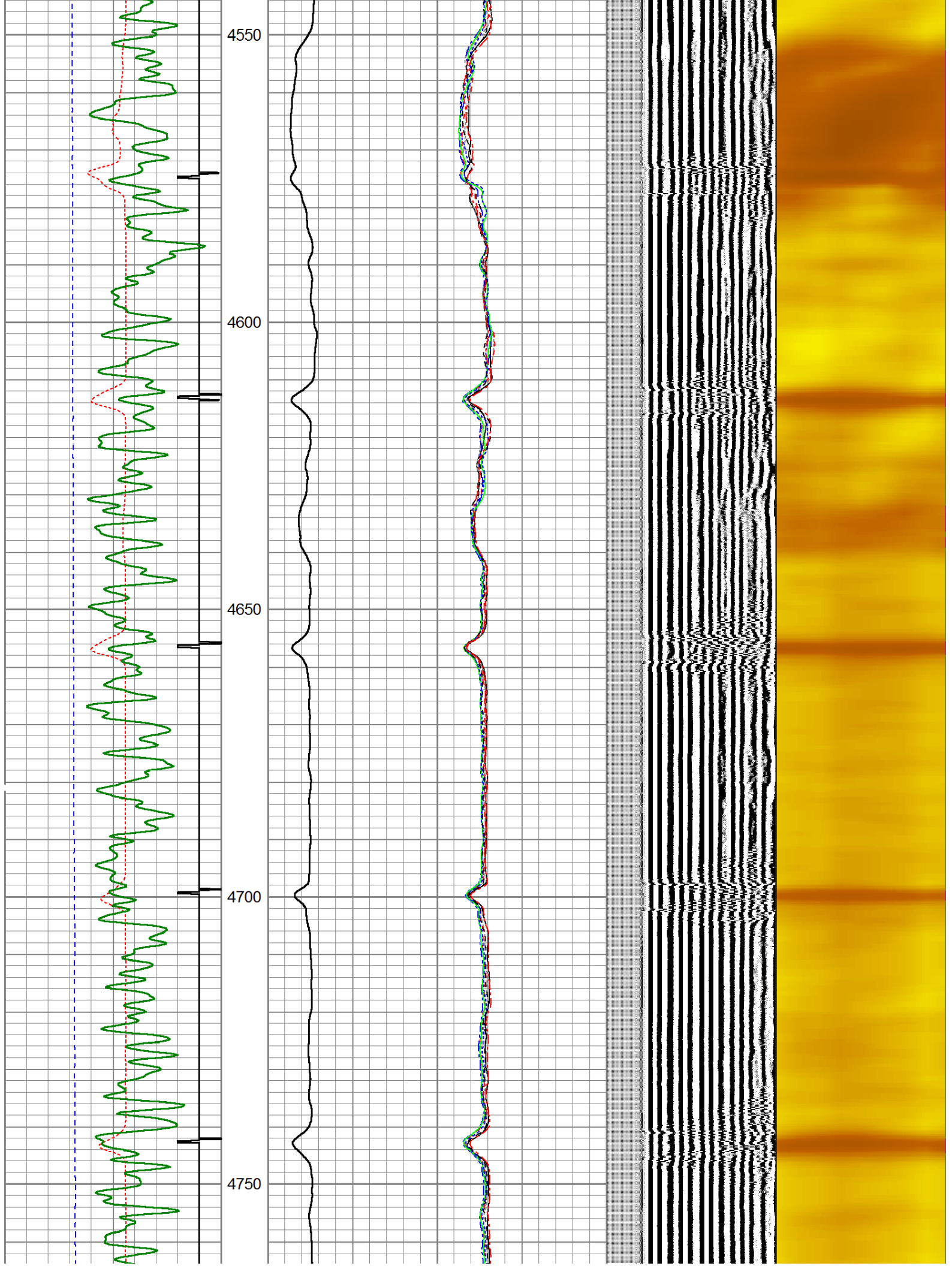


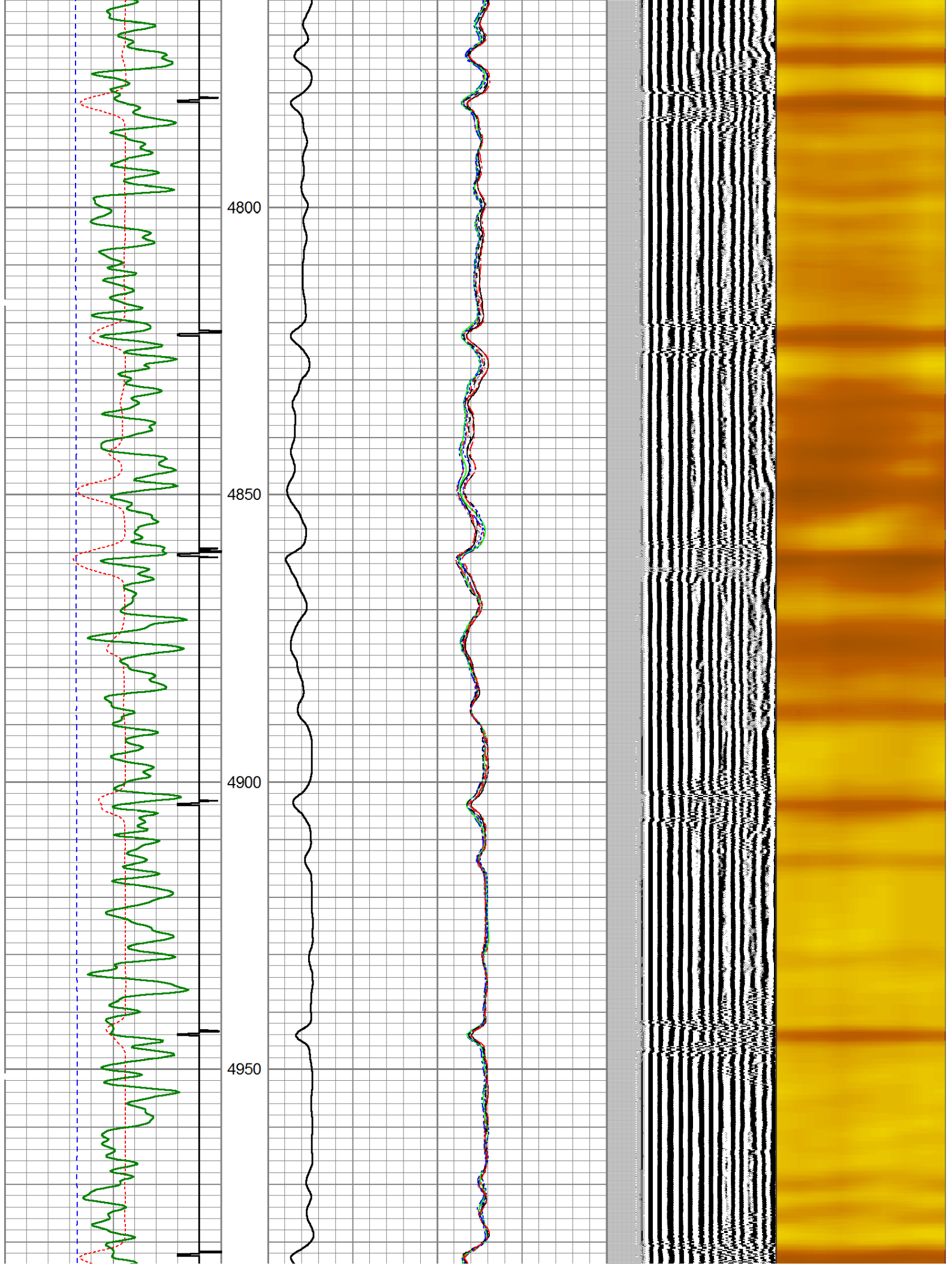


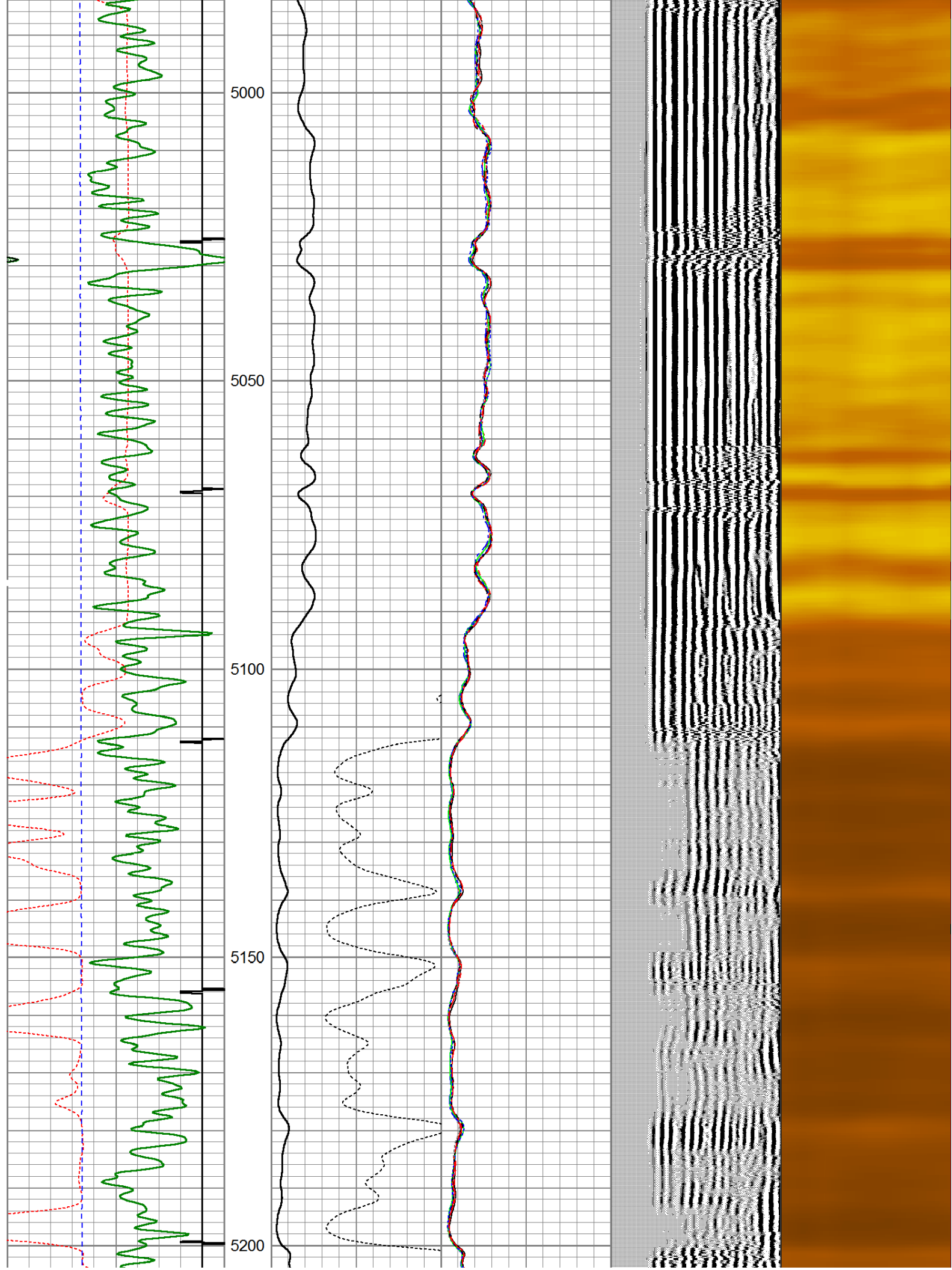


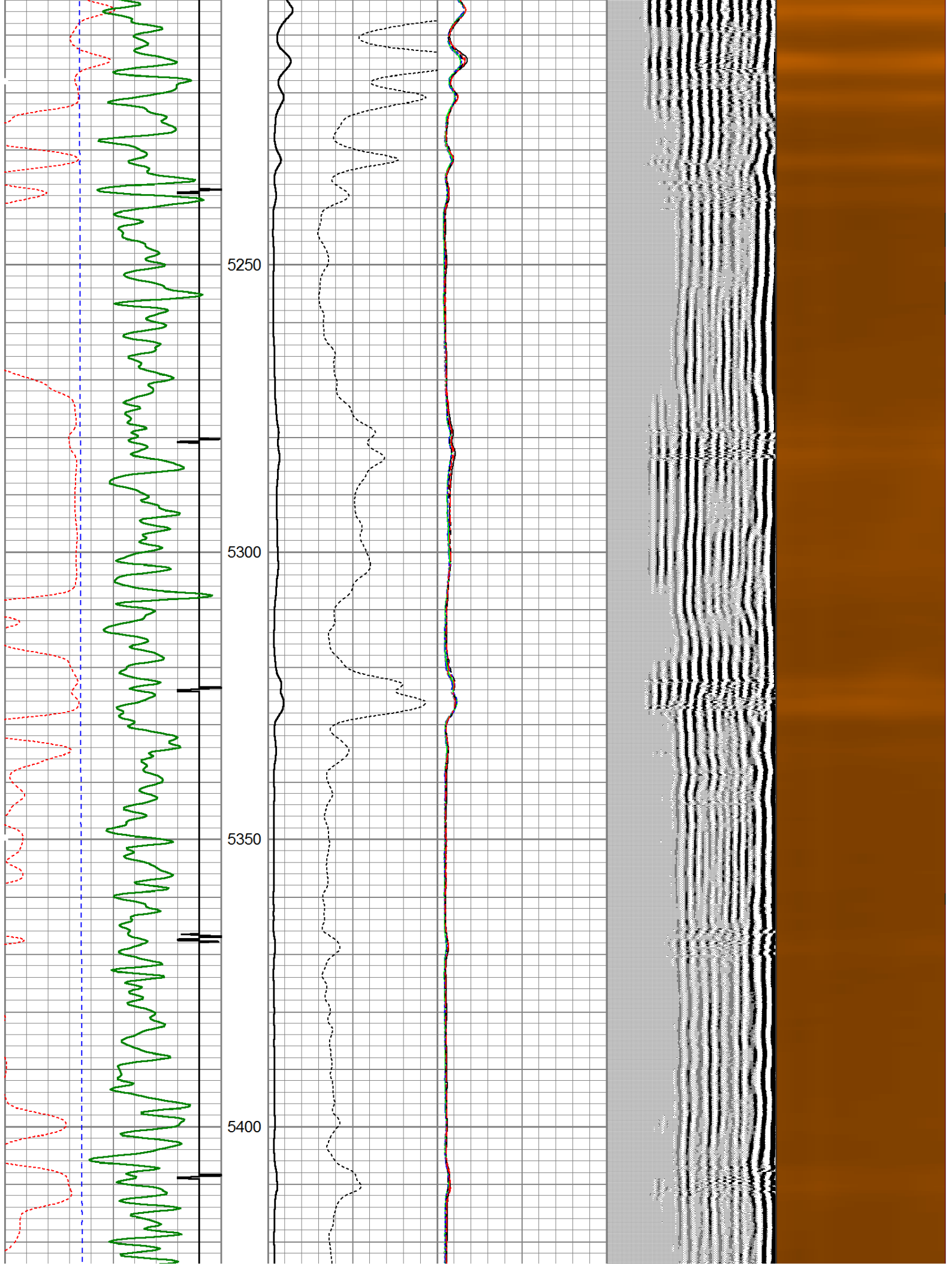


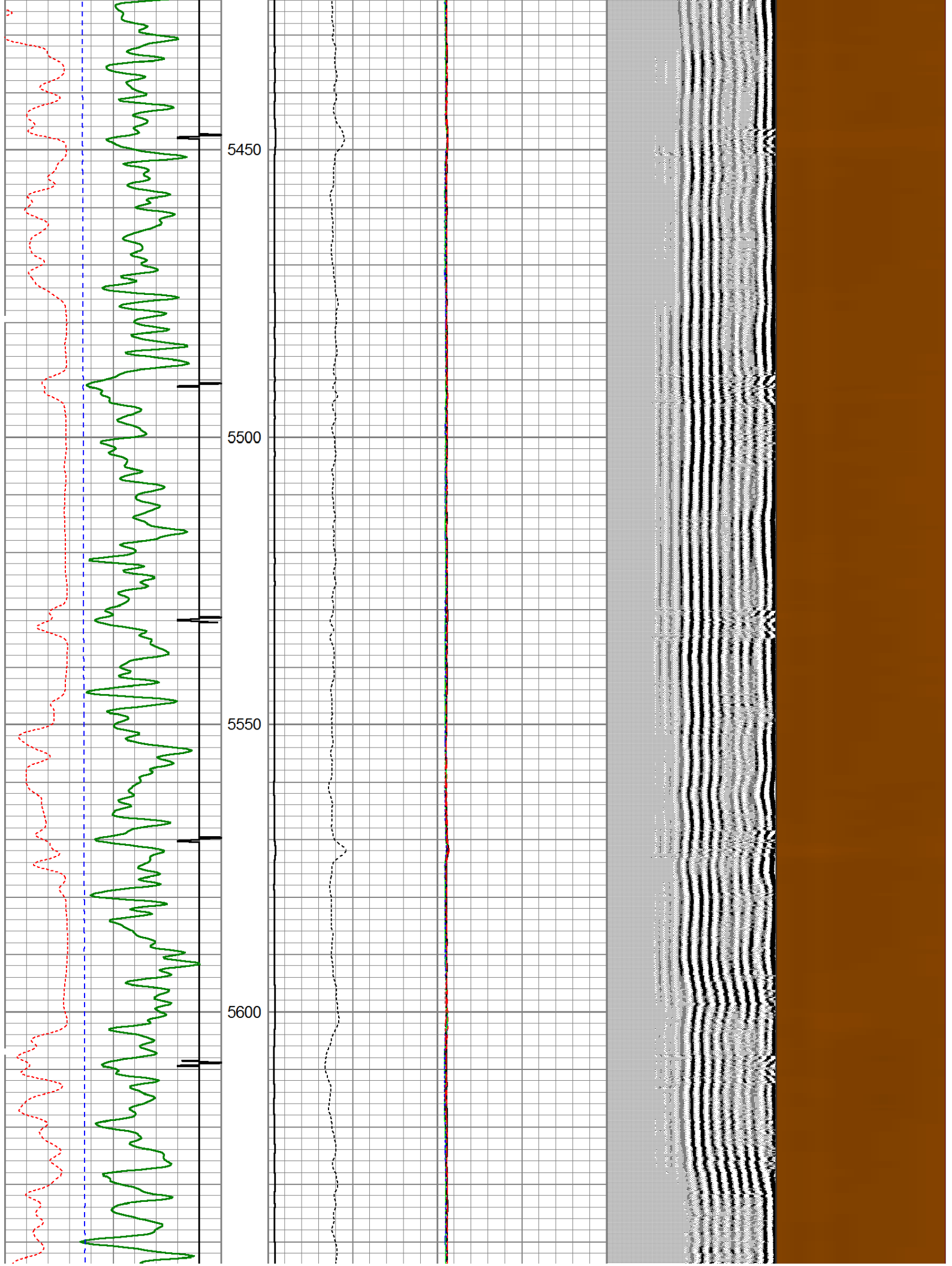


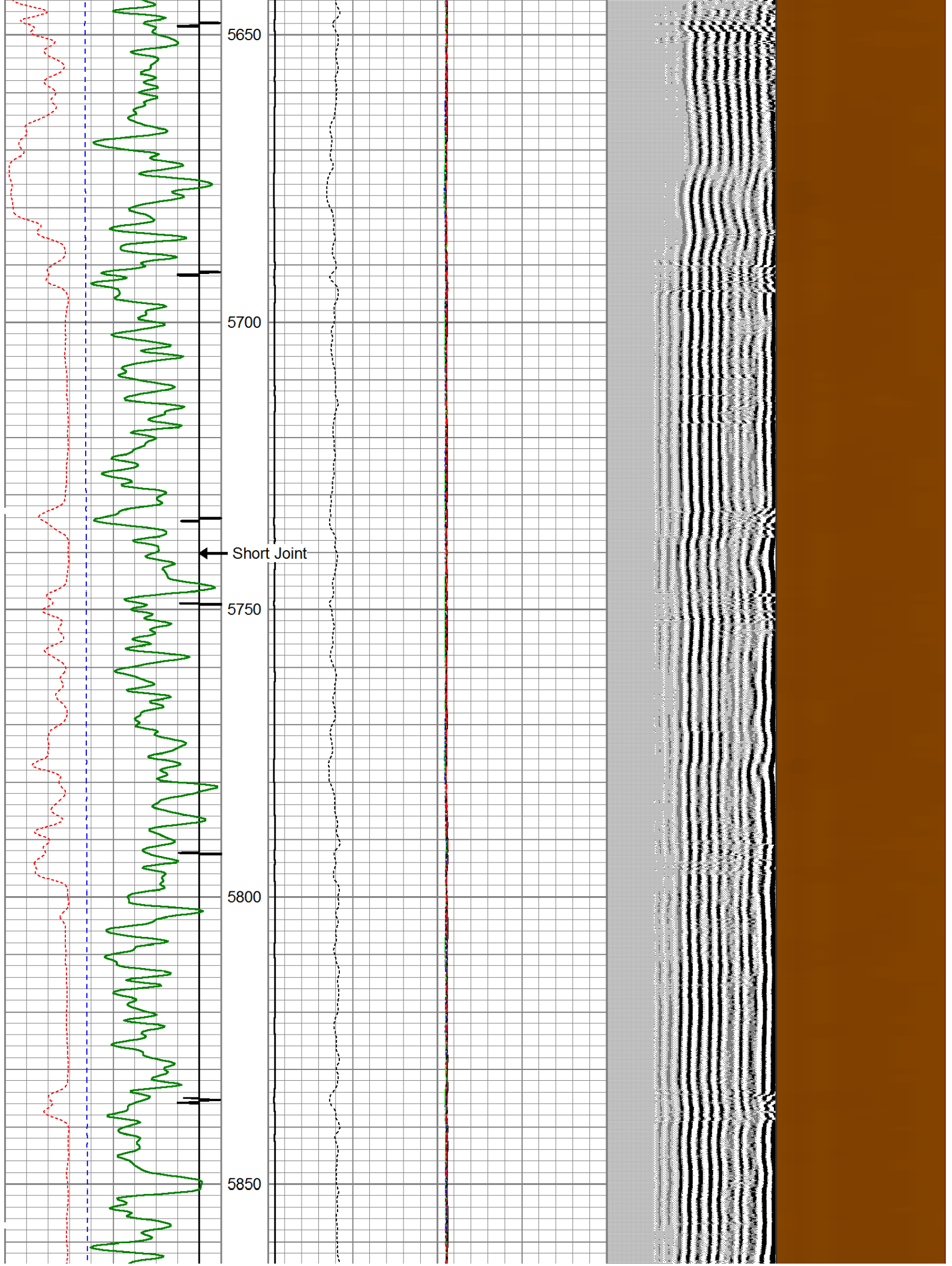


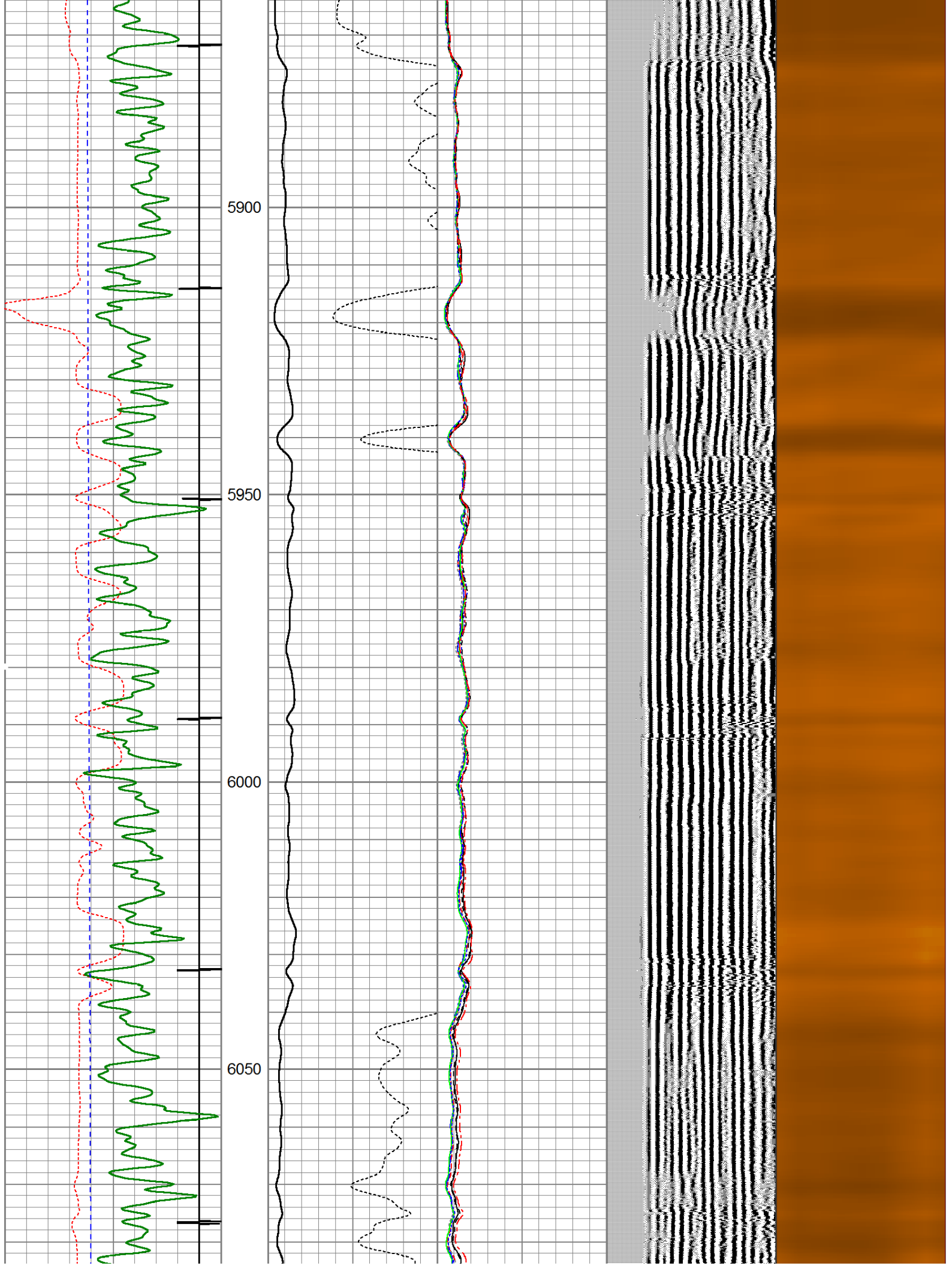


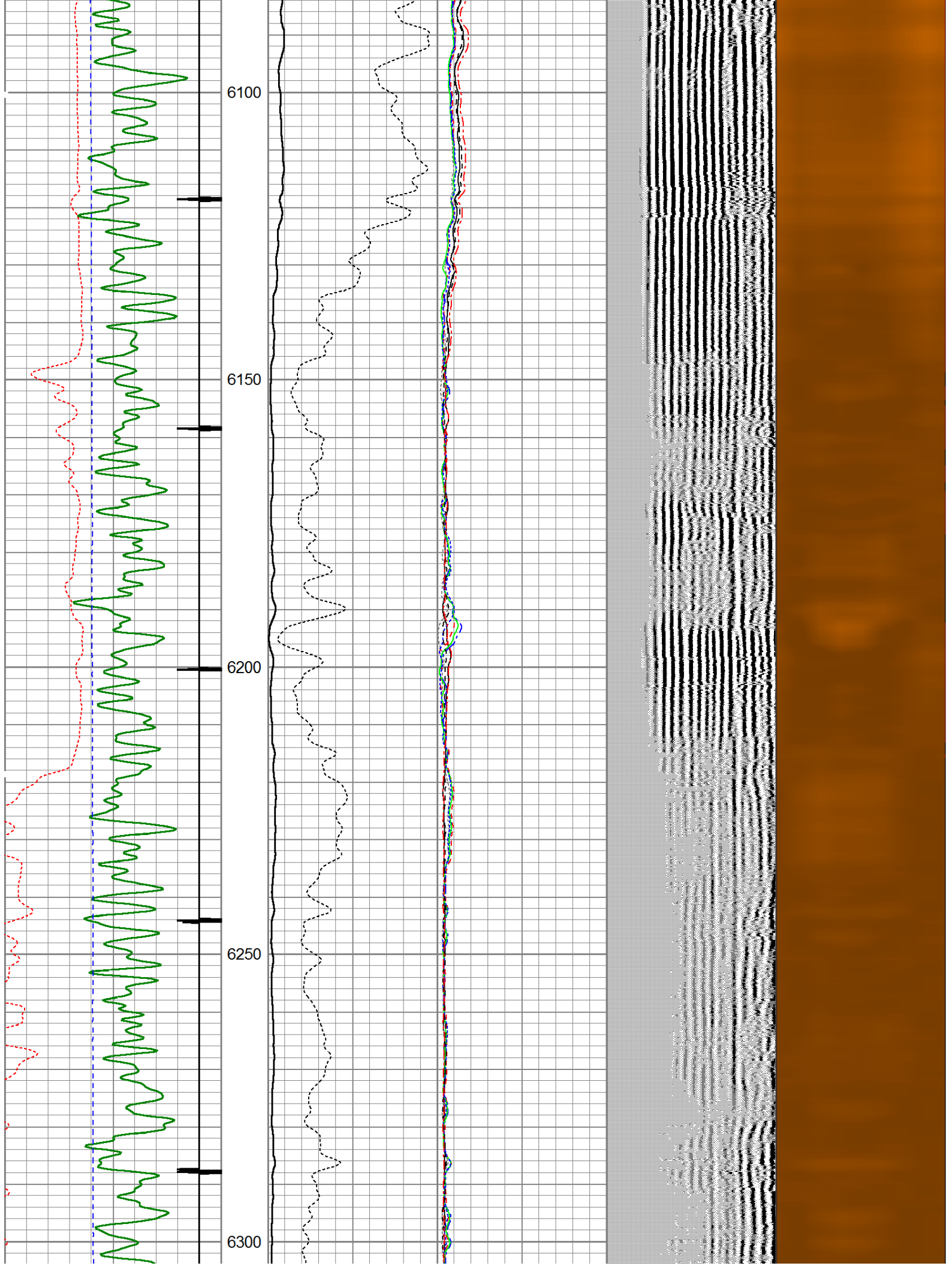


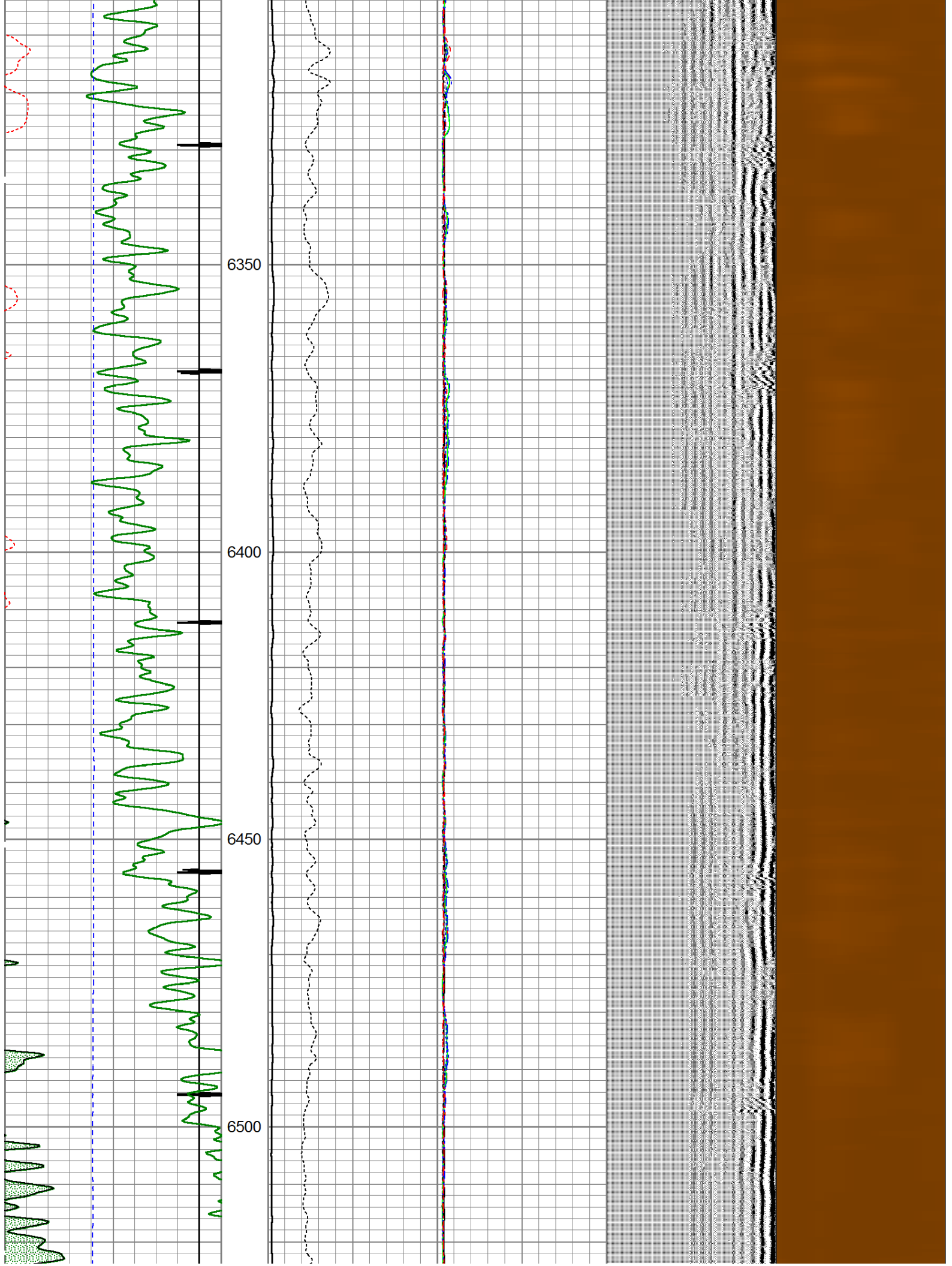


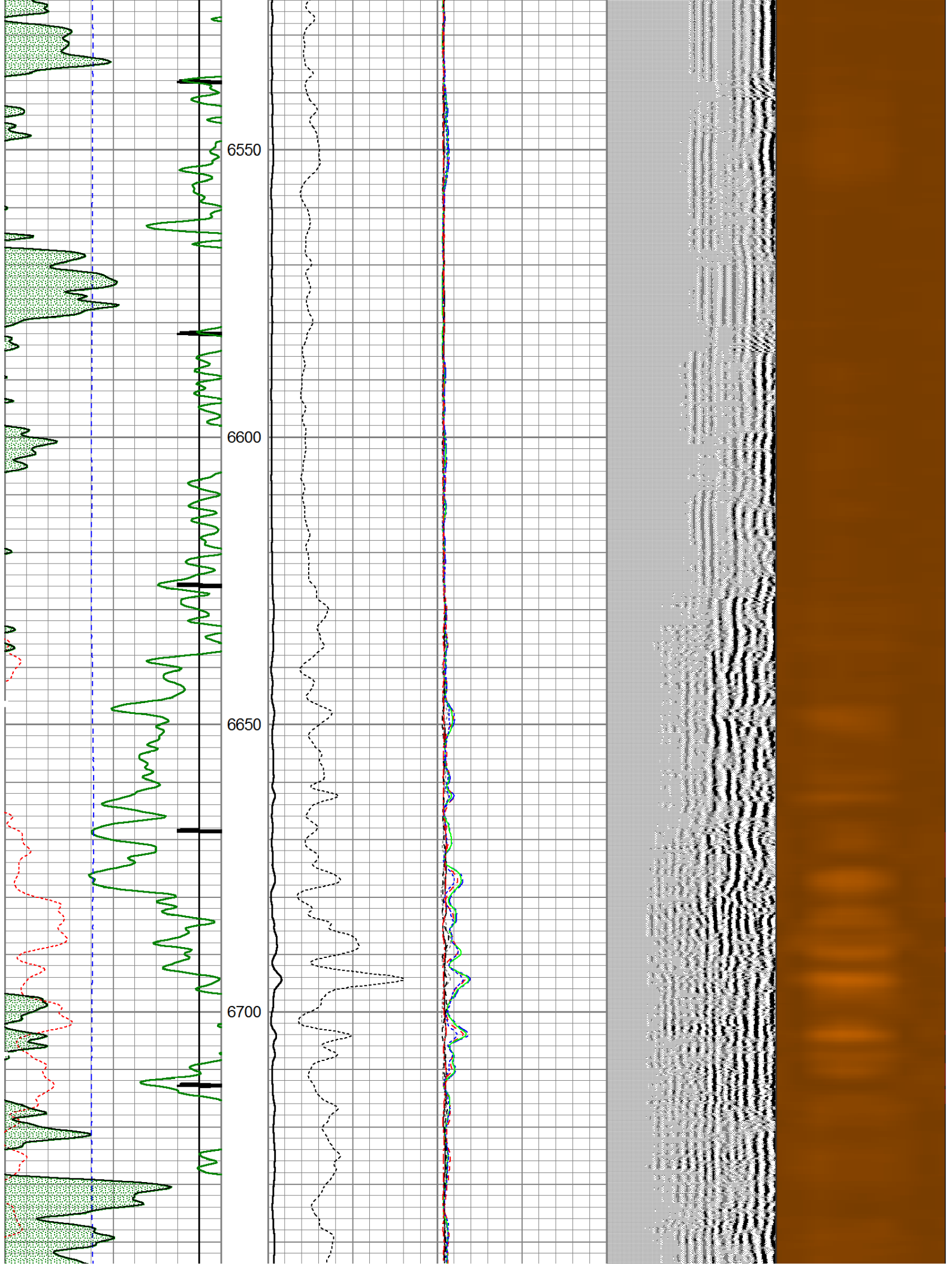


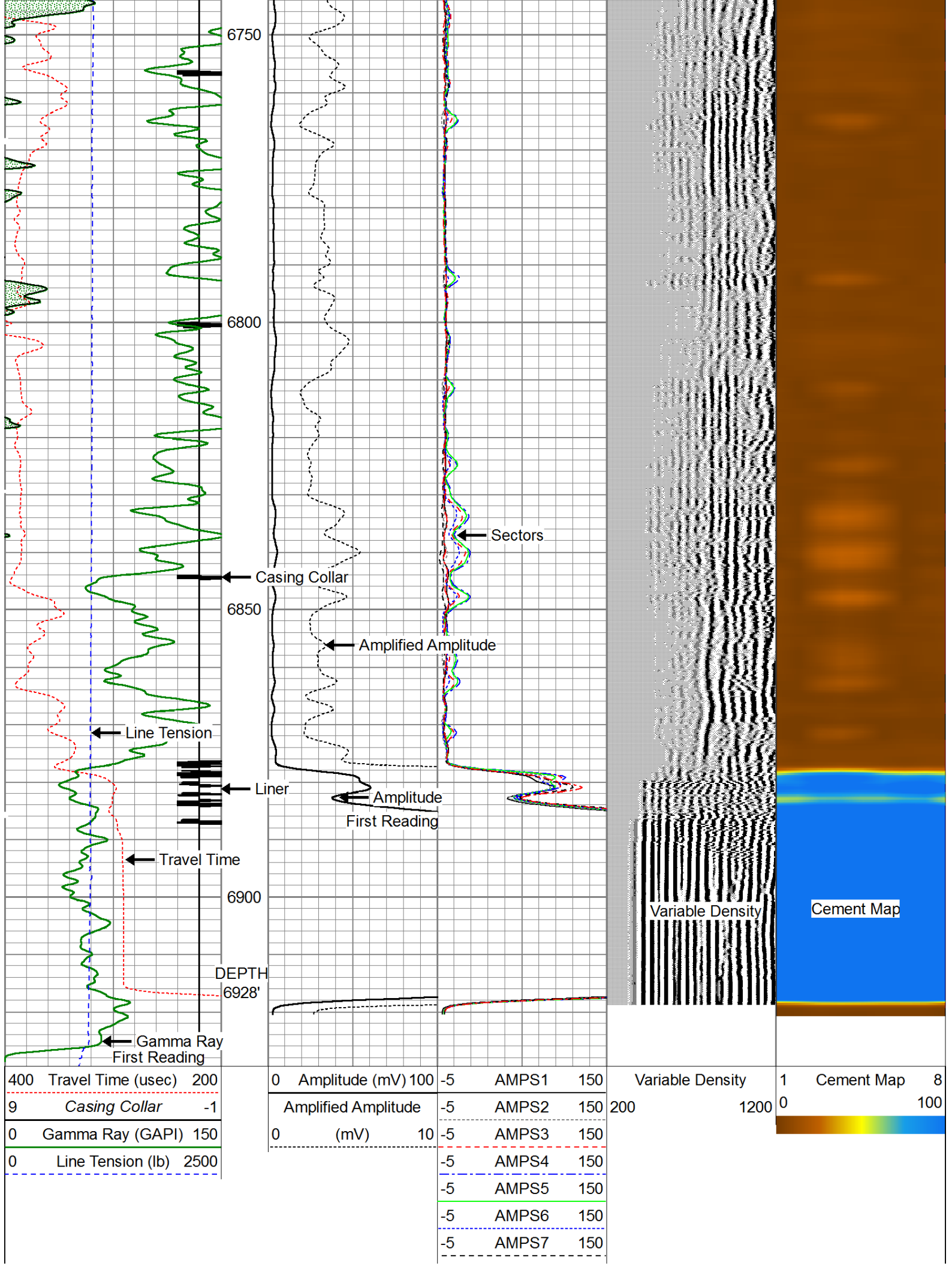












400	Travel Time (usec)	200
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	2500

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

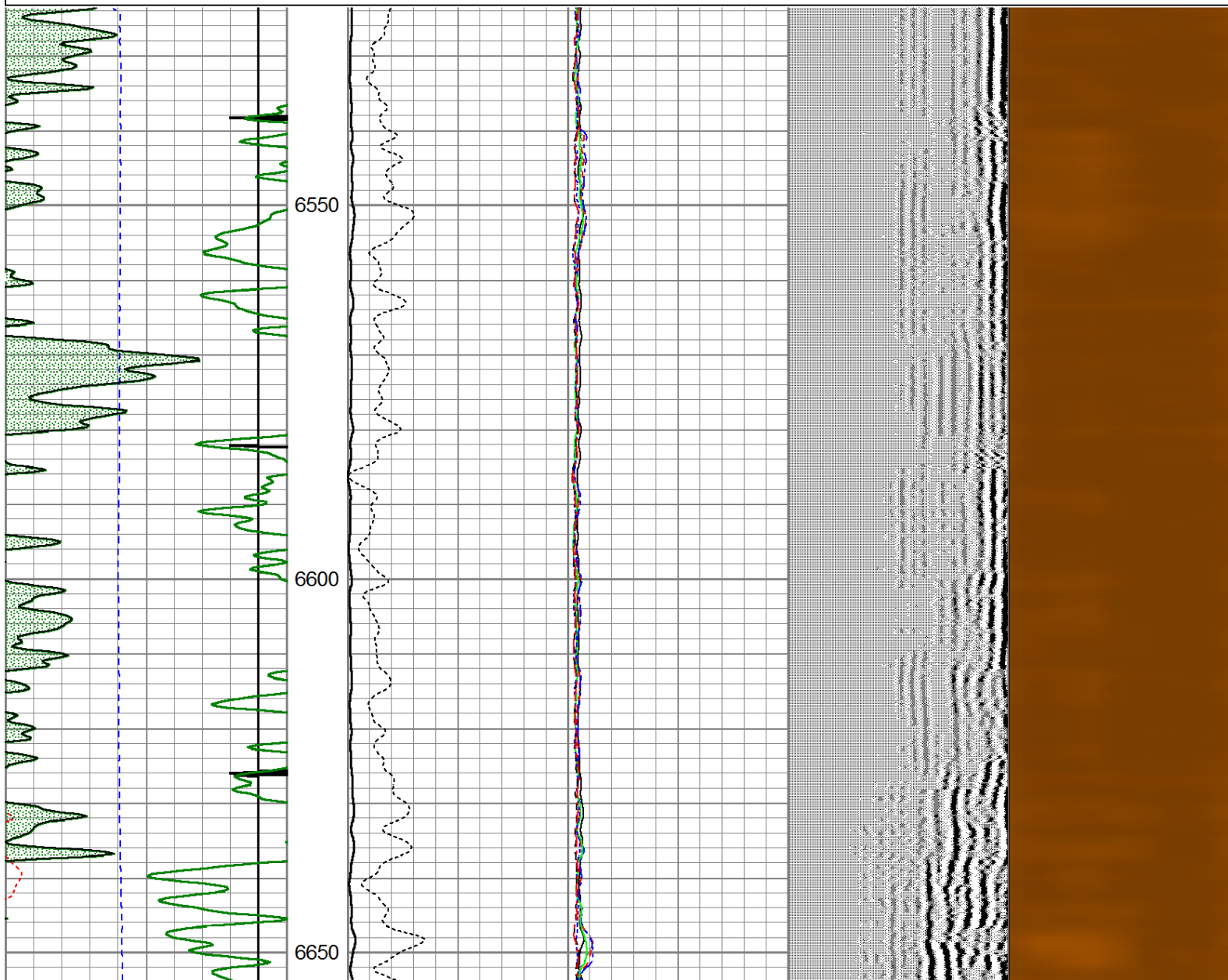
Variable Density	1	Cement Map	8
200	0		100

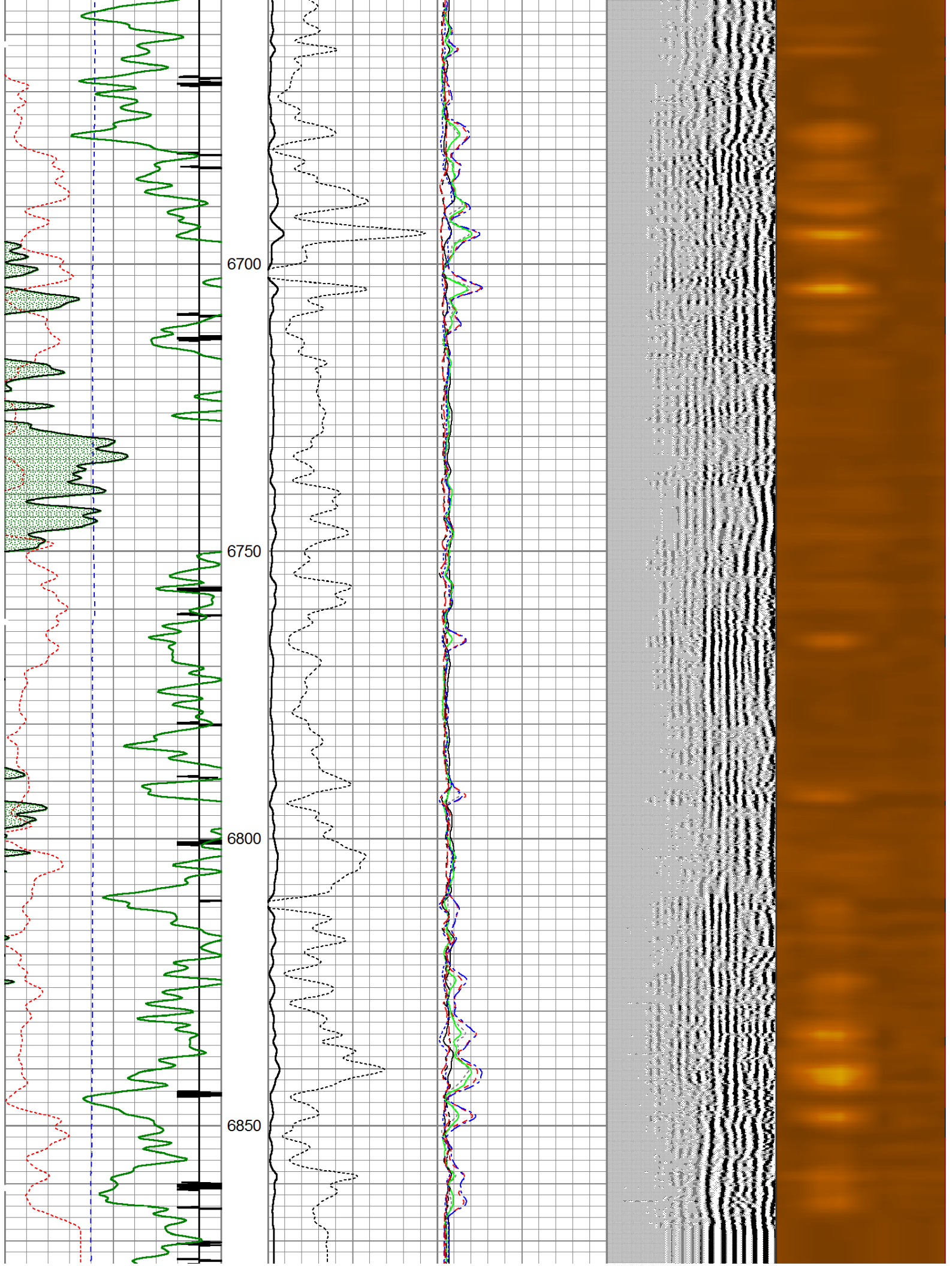


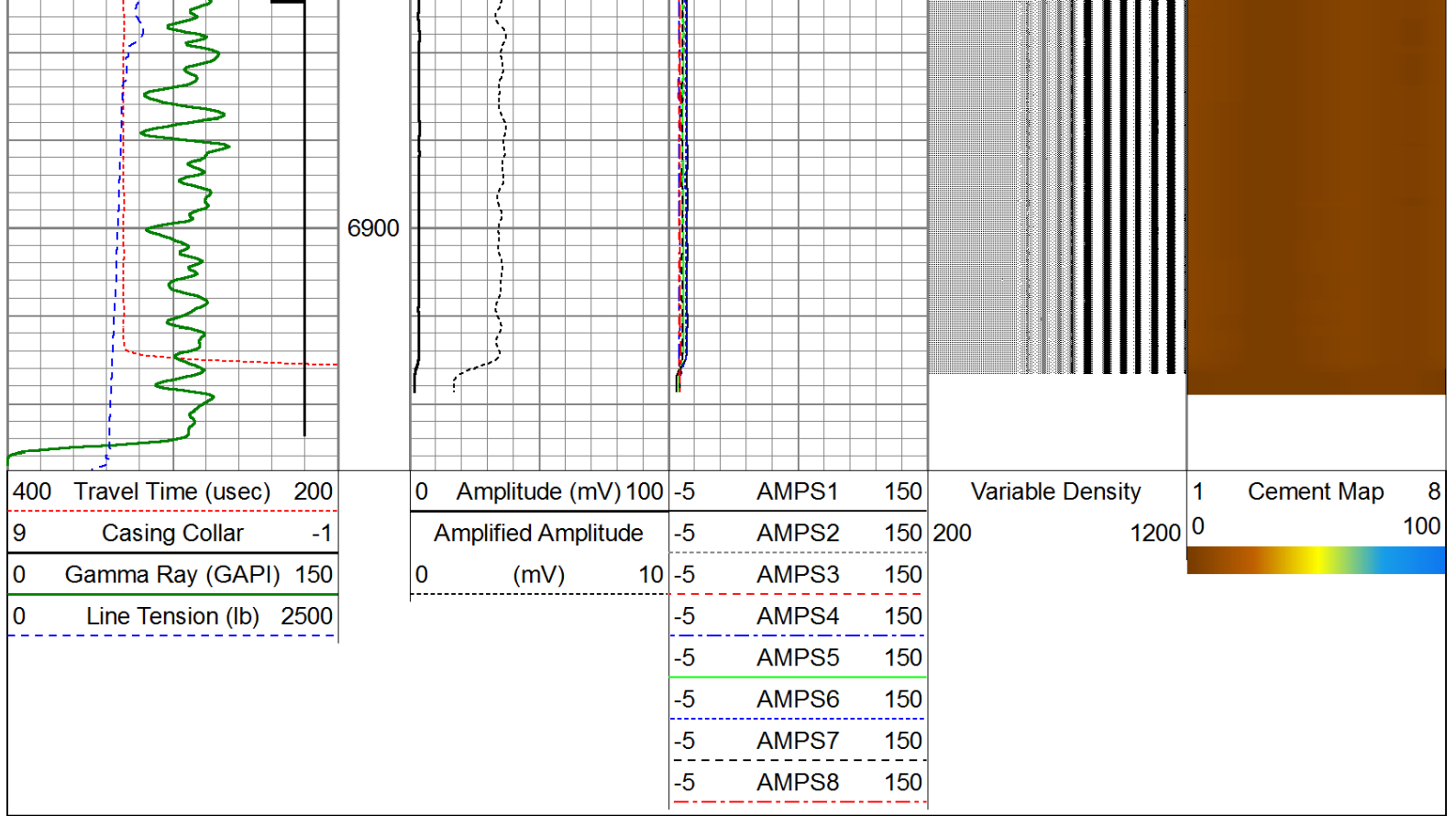
Repeat Pass (0) PSI

Database File: noble_wr_usx_aa_23-68-1hn.db
Dataset Pathname: pass4
Presentation Format: scbl03
Dataset Creation: Fri Jul 12 11:27:41 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 2001200	1	Cement Map	8
9	Casing Collar	-1		Amplified Amplitude		-5	AMPS2	150		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				







Calibration Report		
Database File:	noble_wr_usx_aa_23-68-1hn.db	
Dataset Pathname:	pass7	
Dataset Creation:	Fri Jul 12 12:49:54 2013 by Calc 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

Segmented Cement Bond Log Calibration Report		
Serial Number:	101224	
Tool Model:	Probe	
Calibration Casing Diameter:	7.000	in
Calibration Depth:	239.338	ft

Master Calibration, performed Fri Jul 12 11:47:55 2013:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.008	0.501	0.700	62.165	82.450	2.707
CAL	-0.010	0.967				
5'	-0.006	0.543	0.700	62.165	111.951	1.423
SUM						
S1	0.002	0.572	0.000	100.000	123.482	-0.300

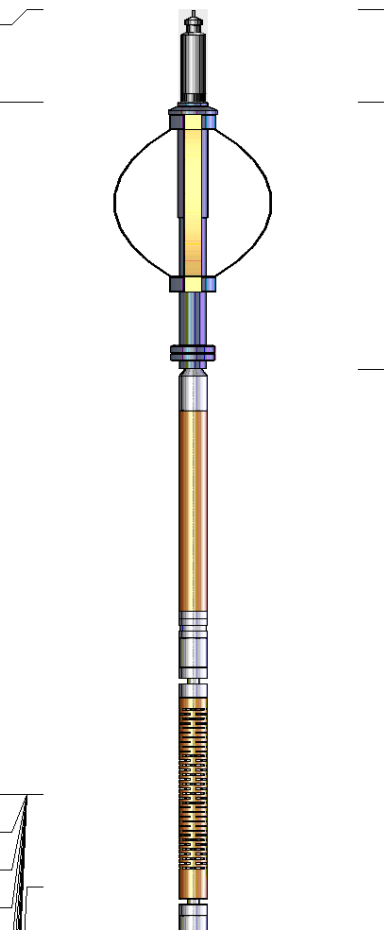

S2	-0.007	0.550	0.000	100.000	126.309	1.311
S3	-0.008	0.532	0.000	100.000	129.097	2.406
S4	-0.009	0.503	0.000	100.000	134.957	1.785
S5	-0.007	0.475	0.000	100.000	142.097	1.510
S6	-0.010	0.459	0.000	100.000	140.881	2.087
S7	-0.010	0.480	0.000	100.000	132.941	2.012
S8	-0.012	0.526	0.000	100.000	122.753	2.156

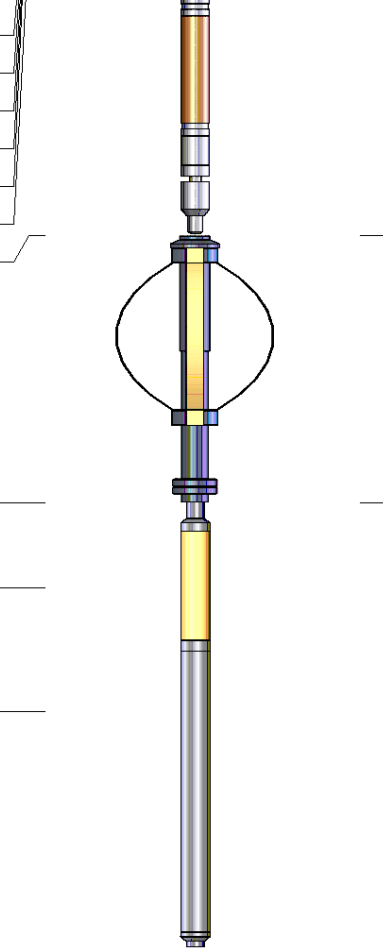
Internal Reference Calibration, performed Wed Jul 10 20:06:34 2013:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.010	0.967	1.000	0.000

Air Zero Calibration, performed Fri Jul 12 08:31:11 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
WVFS3	11.84		RBT-Probe (101224) 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		Probe275 2.75" Centralizer	2.88	2.75	20.00
WVFS4	11.84					
WVFS5	11.84					
WVFS6	11.84					
WVFS7	11.84					
WVFS8	11.84					
WVF5FT	10.84					
CENT	7.66					
GR	4.78	GR-Probe275 (110108-Dig) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00	
CCL	3.88					
GR	2.54					
Dataset: noble_wr_usx_aa_23-68-1hn.db: field/well/run1/pass7 Total Length: 20.28 ft Total Weight: 197.00 lb O.D. 2.75 in						