



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

Company	Noble Energy	Company	Noble Energy
Well	Keota PC LB26-62HN	Well	Keota PC LB26-62HN
Field	Wattenberg	Field	Wattenberg
County	Weld	County	Weld
State	Colorado	State	Colorado
Location:		API # : 05-123-36549	Other Services
660' FSL & 660' FEL		Temperature	
SEC 27 TWP 9 N RGE 60 W		Elevation	
Permanent Datum	Ground Level	Elevation	4949'
Log Measured From	Kelly Bushing	24' APD	
Drilling Measured From	Kelly Bushing		
Date	12-March-2013		
Run Number	One		
Depth Driller	10590'		
Depth Logger	6604'		
Bottom Logged Interval	6656'		
Top Log Interval	Surface		
Open Hole Size	8 3/4"		
Type Fluid	Water		
Density / Viscosity	-		
Max. Recorded Temp.	226 degF		
Estimated Cement Top	660'		
Time Well Ready	0730		
Time Logger on Bottom	1041		
Equipment Number	Truck # 12029		
Location	Brighton, CO		
Recorded By	R.Grisson		
Witnessed By	Omar Fabela		
Borehole Record		Tubing Record	
Run Number	Bit	From	To
1	24"	24'	124'
2	13.75"	124'	728'
3	8.75"	728'	6744'
4	6.125"	6744'	10740'
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#	6579'

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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 24' KB

Main Pass and Repeat Pass logged with zero pressure on surface.

Company Representative requested a logging speed of 130FPM

Thank You for using Allied Wireline

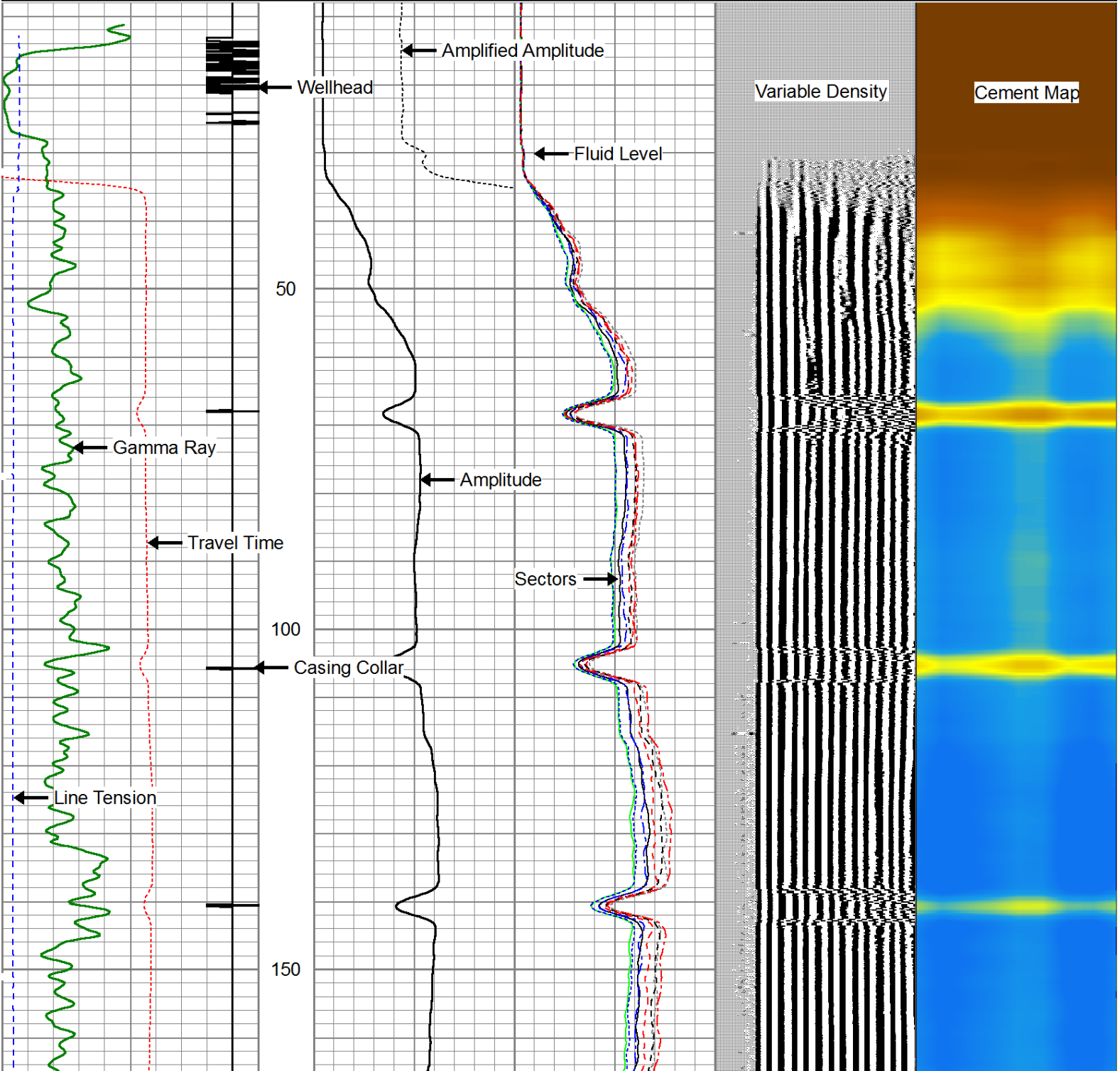
(303) 659-4609

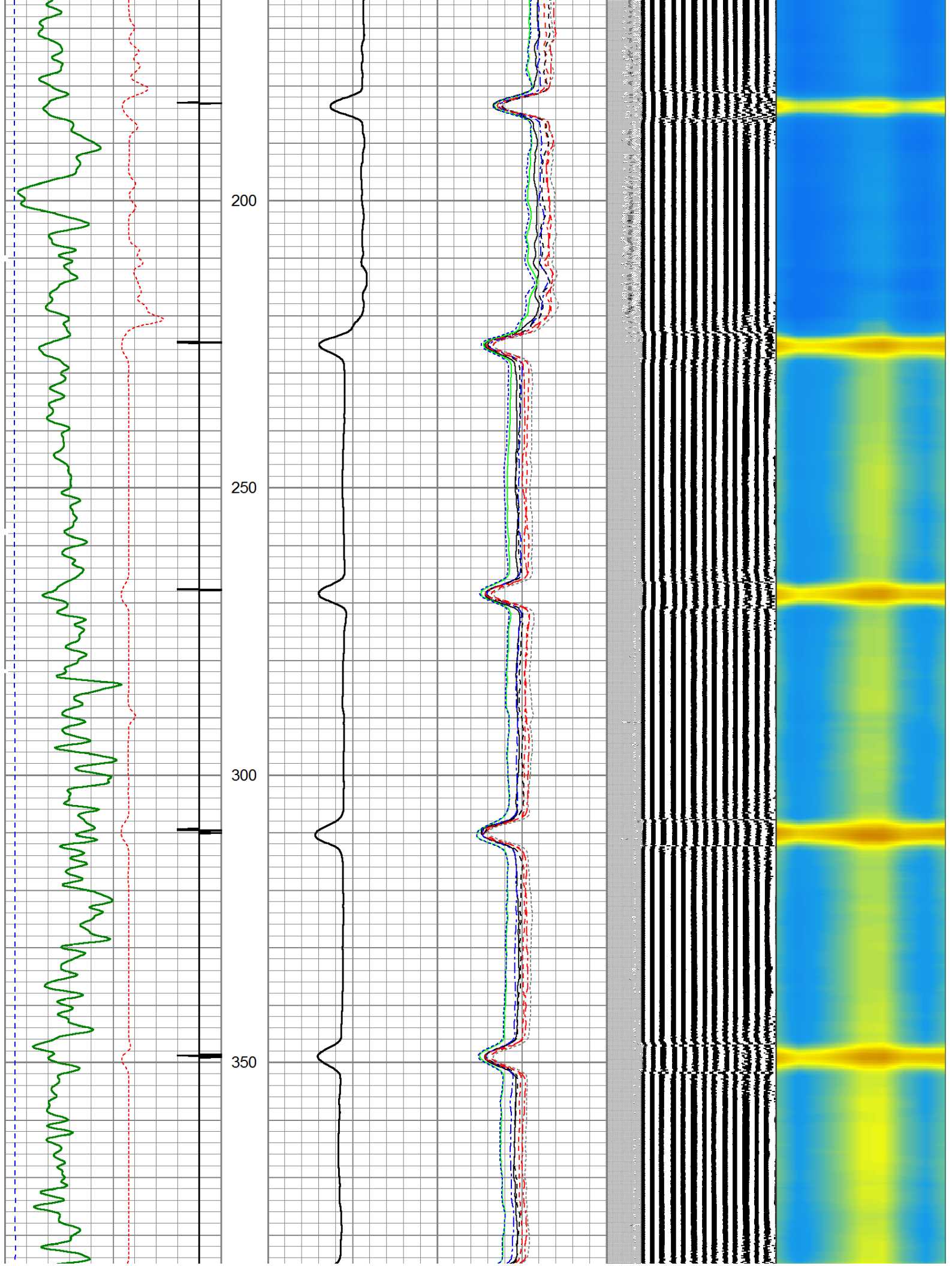


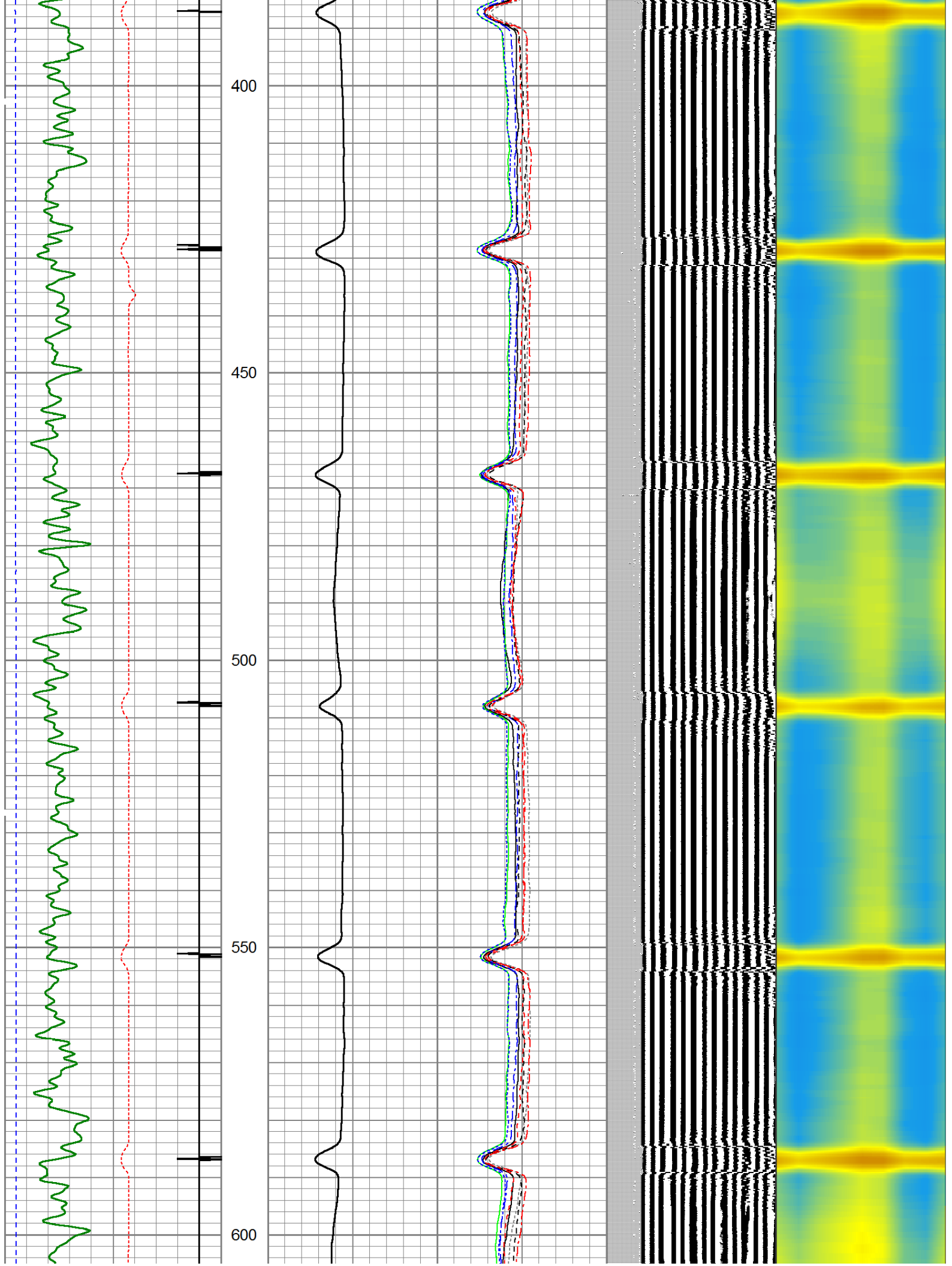
Main Pass (0 Pressure)

Database File: noble\_keota\_pc\_lb26\_62hn\_rcbl.db  
Dataset Pathname: merge4  
Presentation Format: scbl03  
Dataset Creation: Tue Mar 12 11:59:29 2013  
Charted by: Depth in Feet scaled 1:240

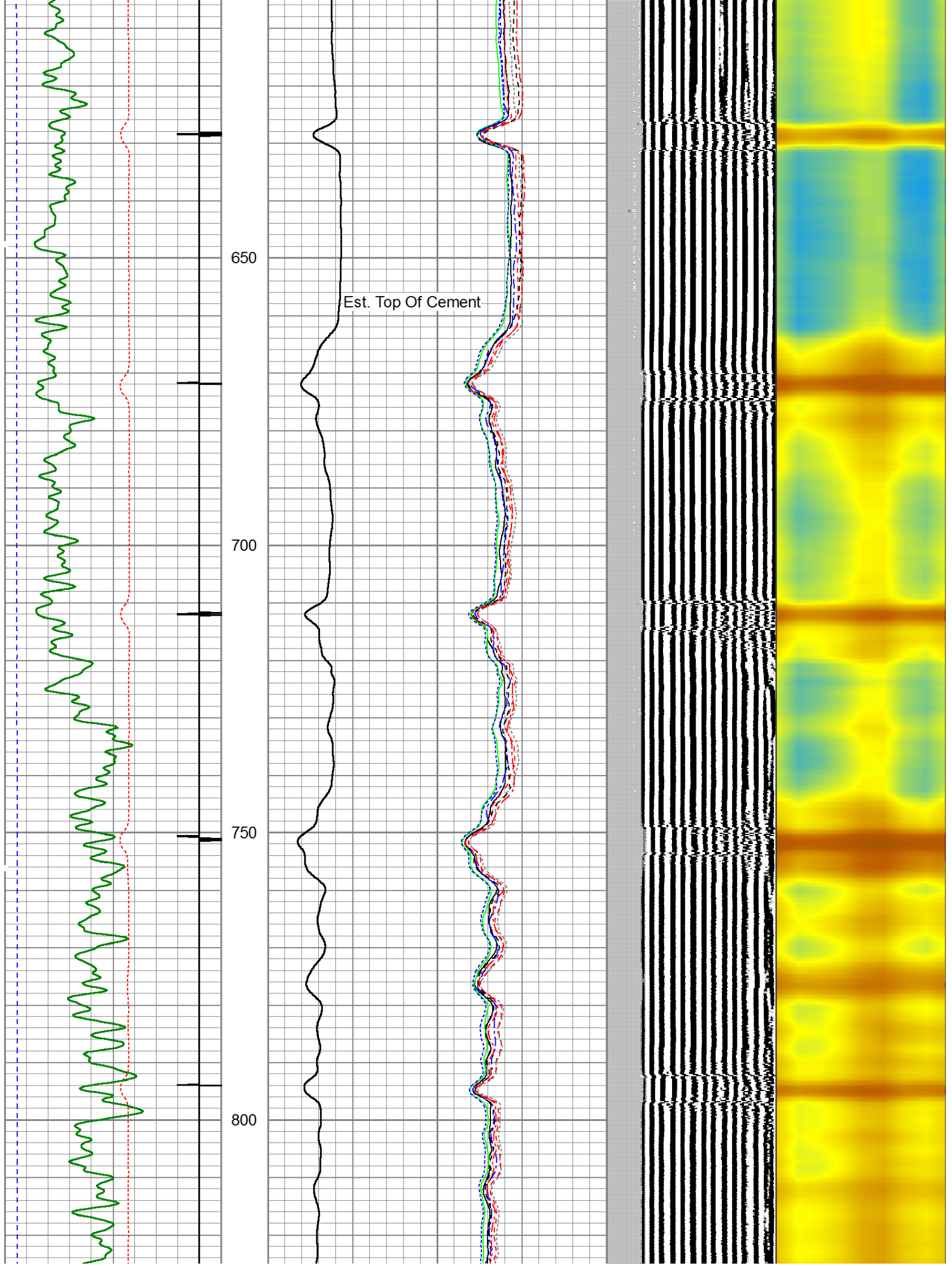
400	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	AMPS1	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1		Amplified Amplitude		-5	AMPS2	150	200	1200	0	100
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	AMPS3	150				
0	Line Tension (lb)	5000				-5	AMPS4	150				
						-5	AMPS5	150				
						-5	AMPS6	150				
						-5	AMPS7	150				
						-5	AMPS8	150				

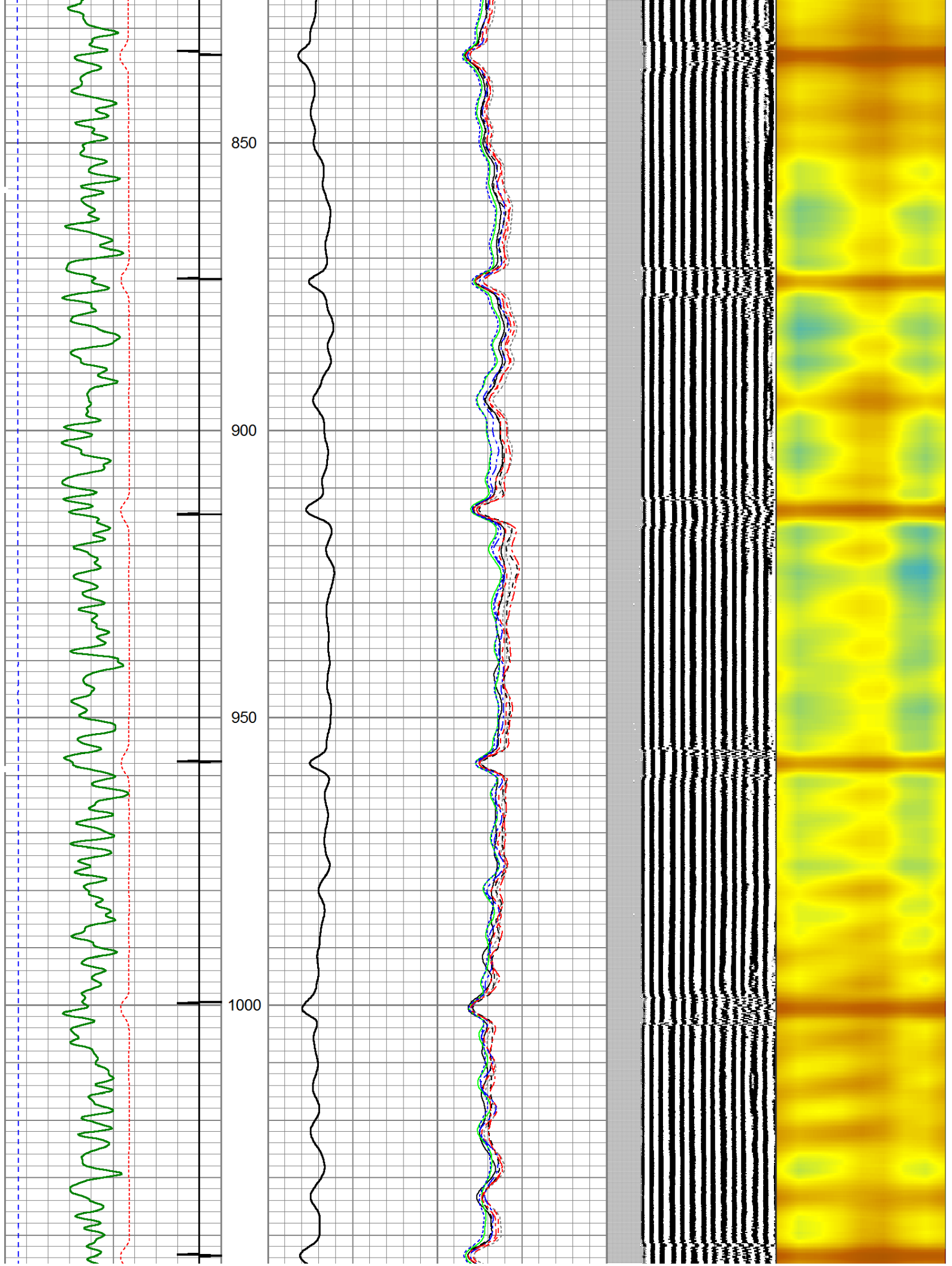


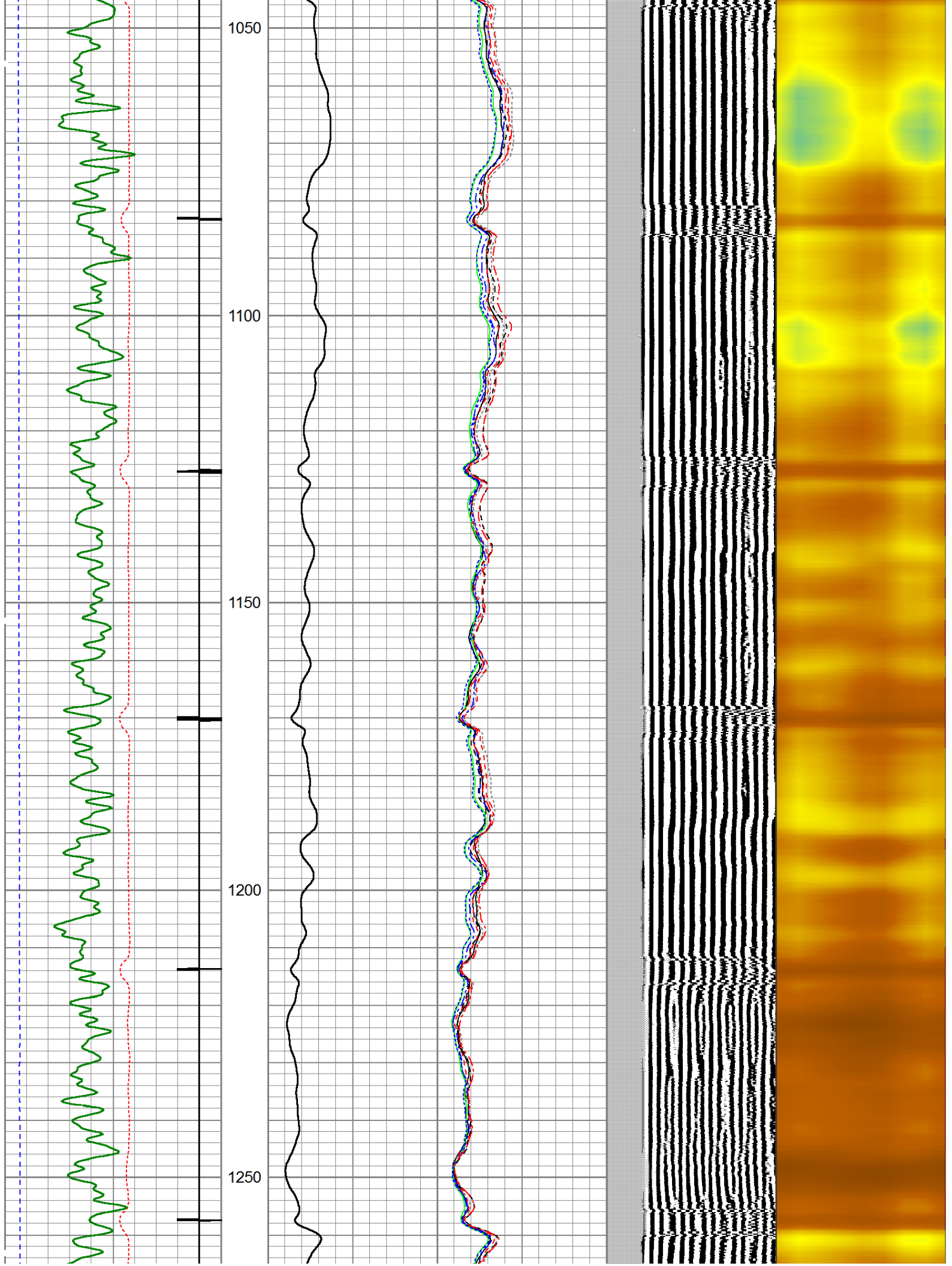




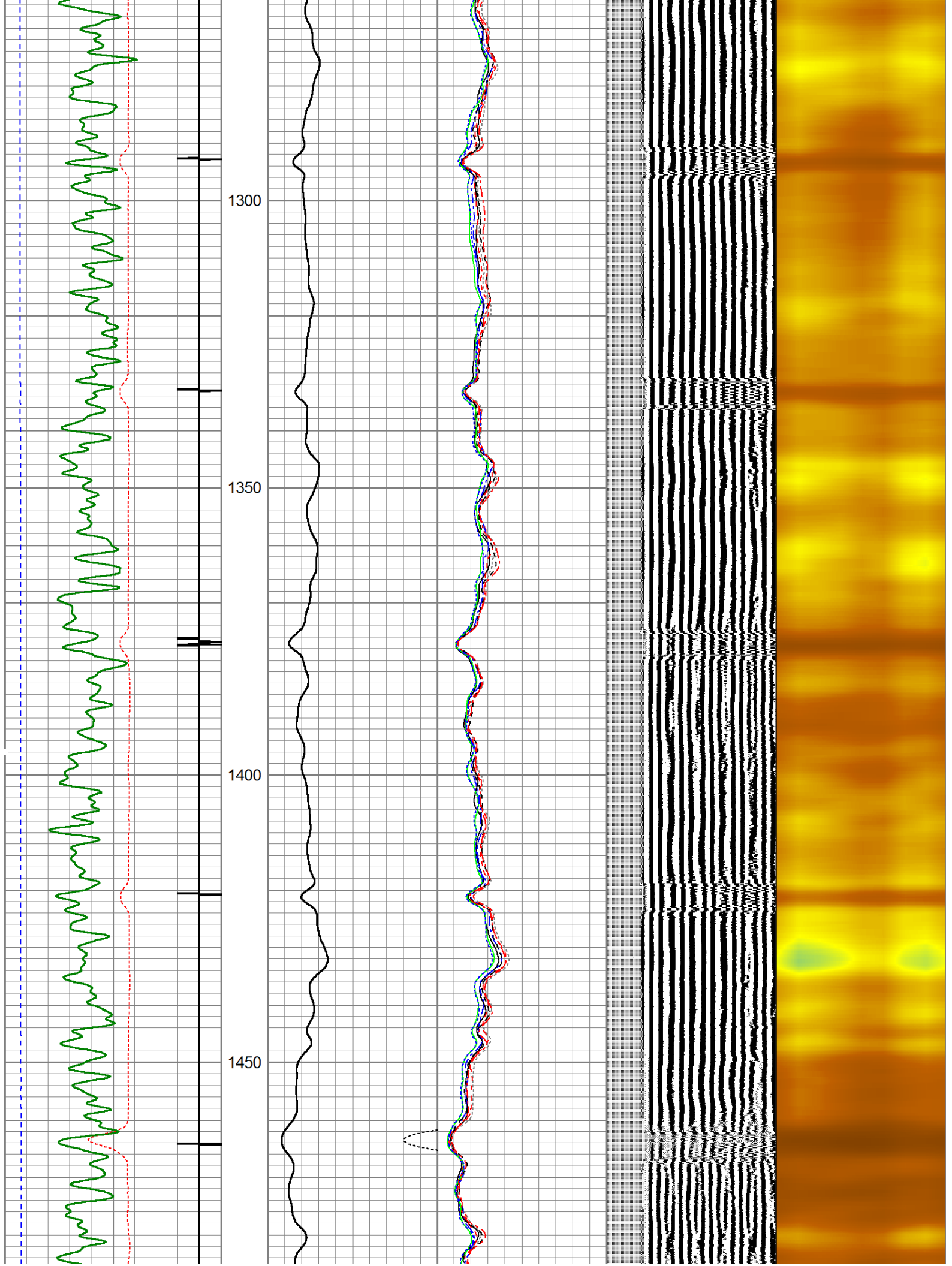




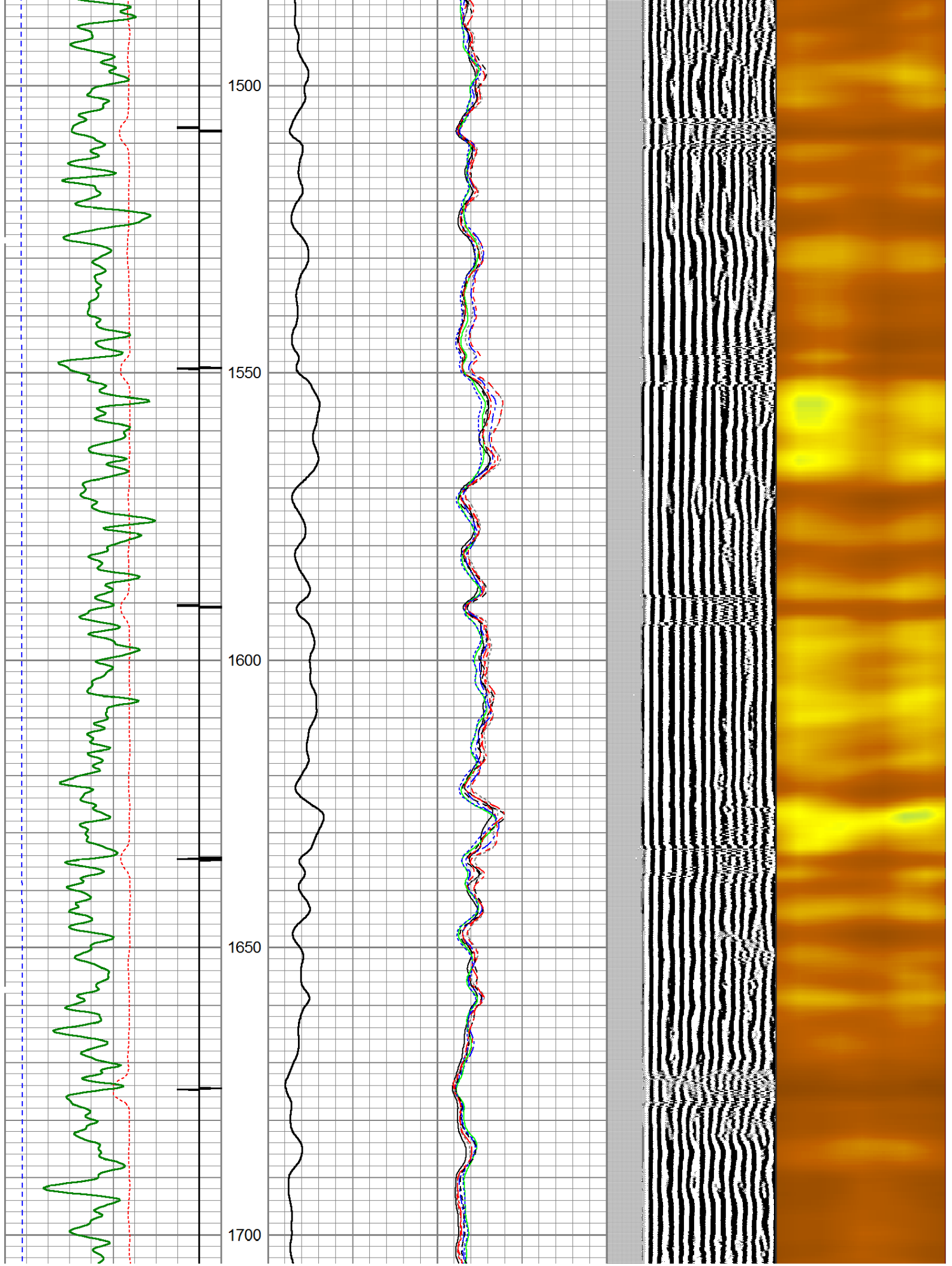


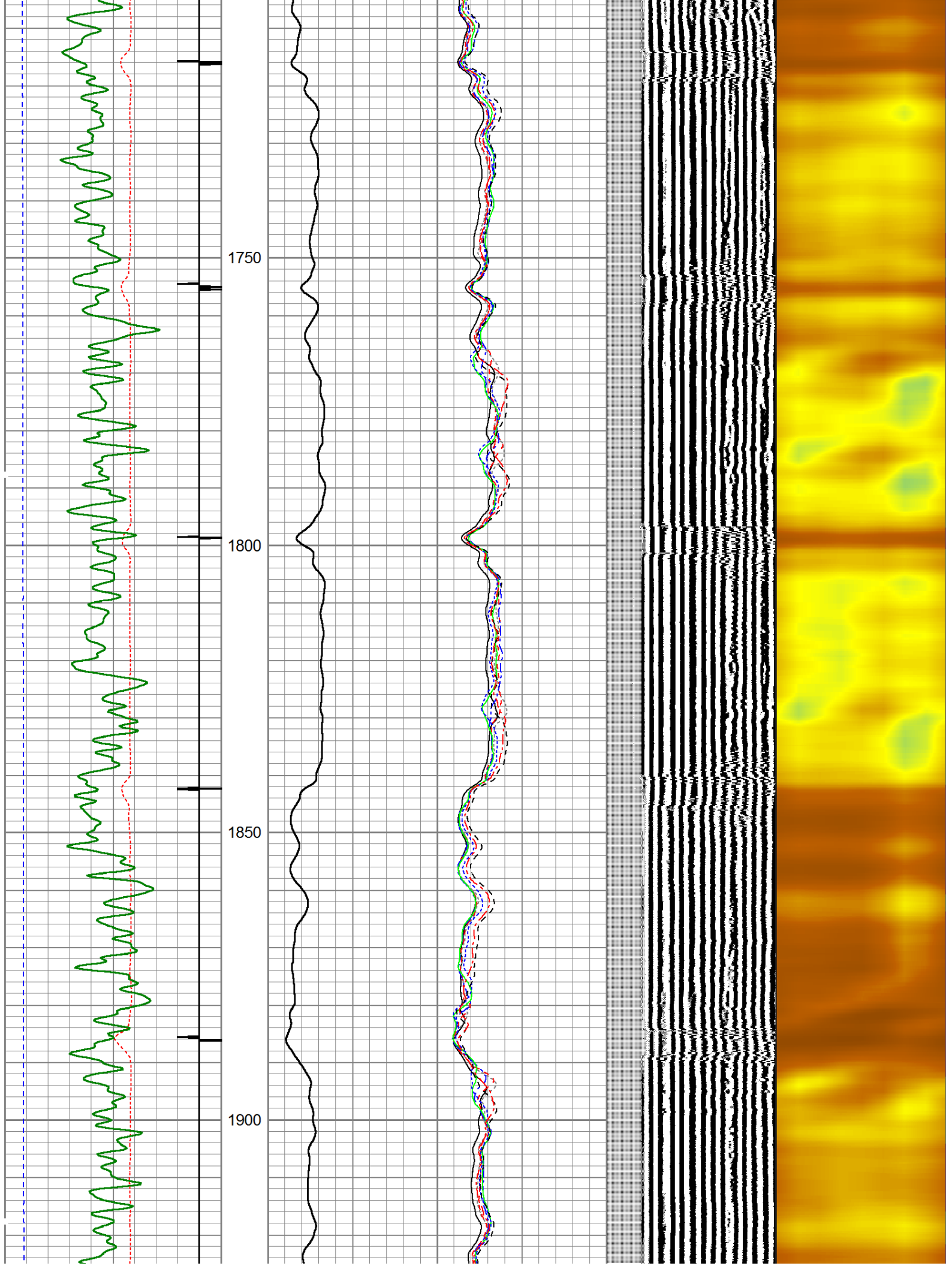


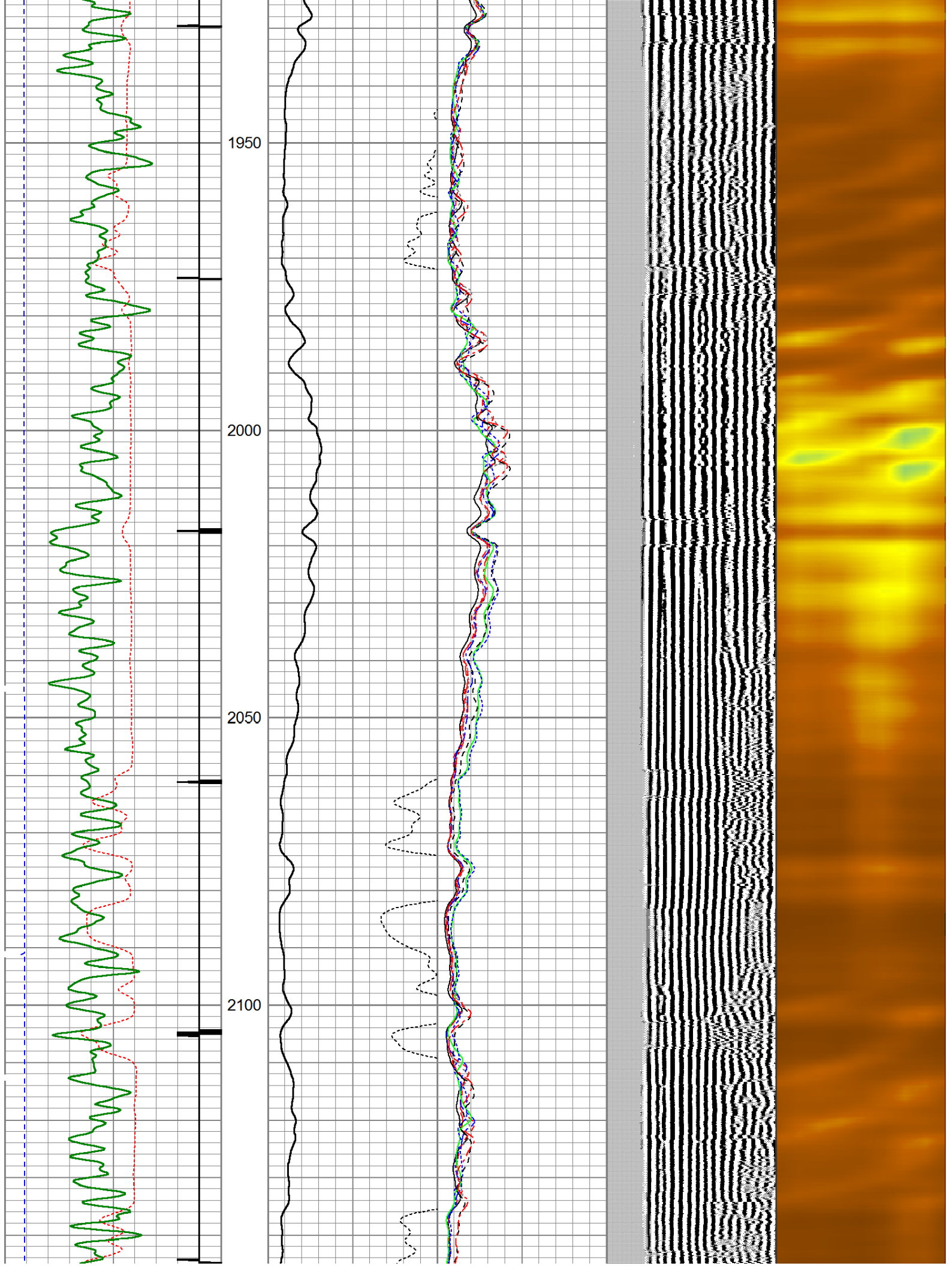




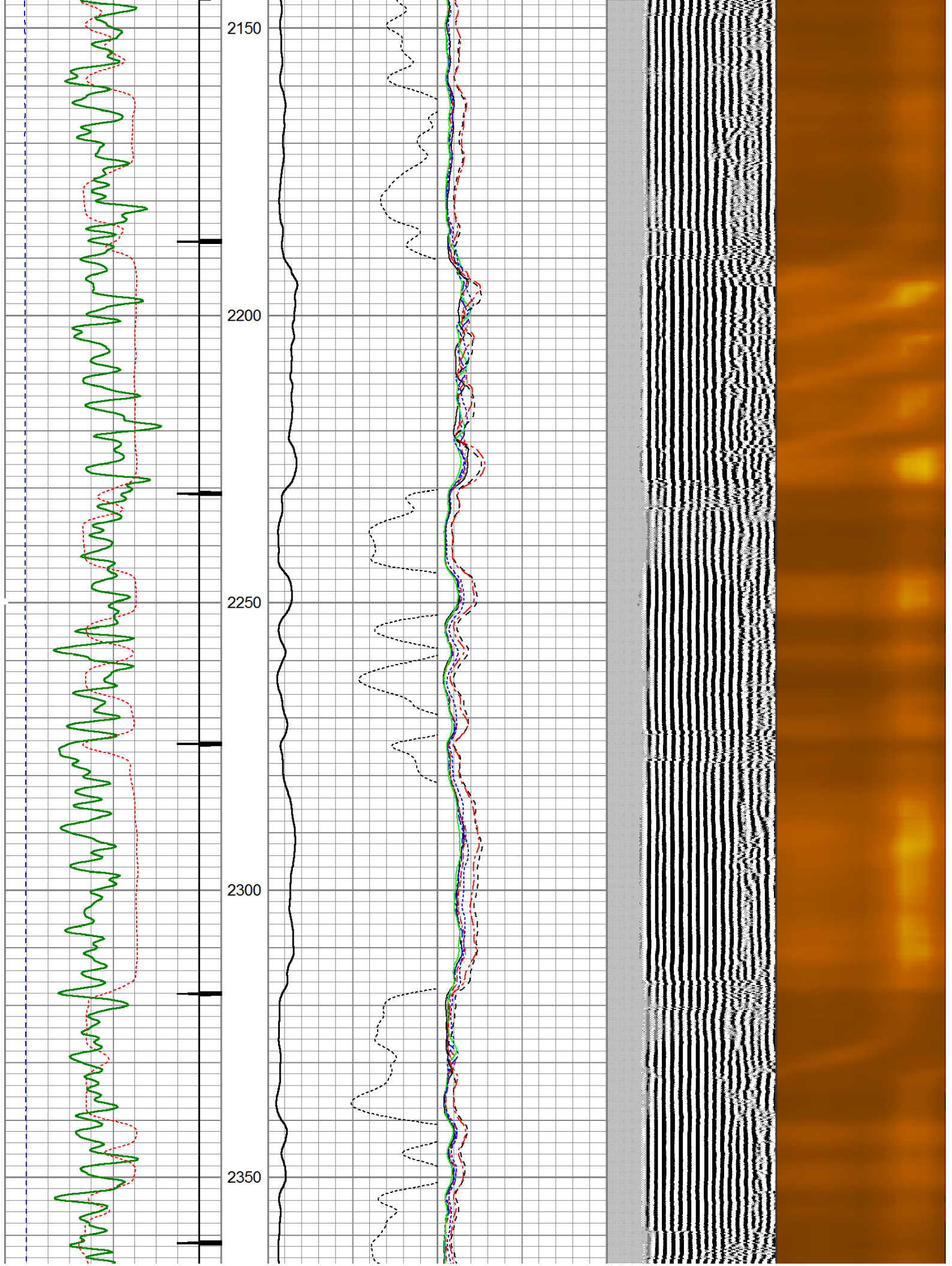




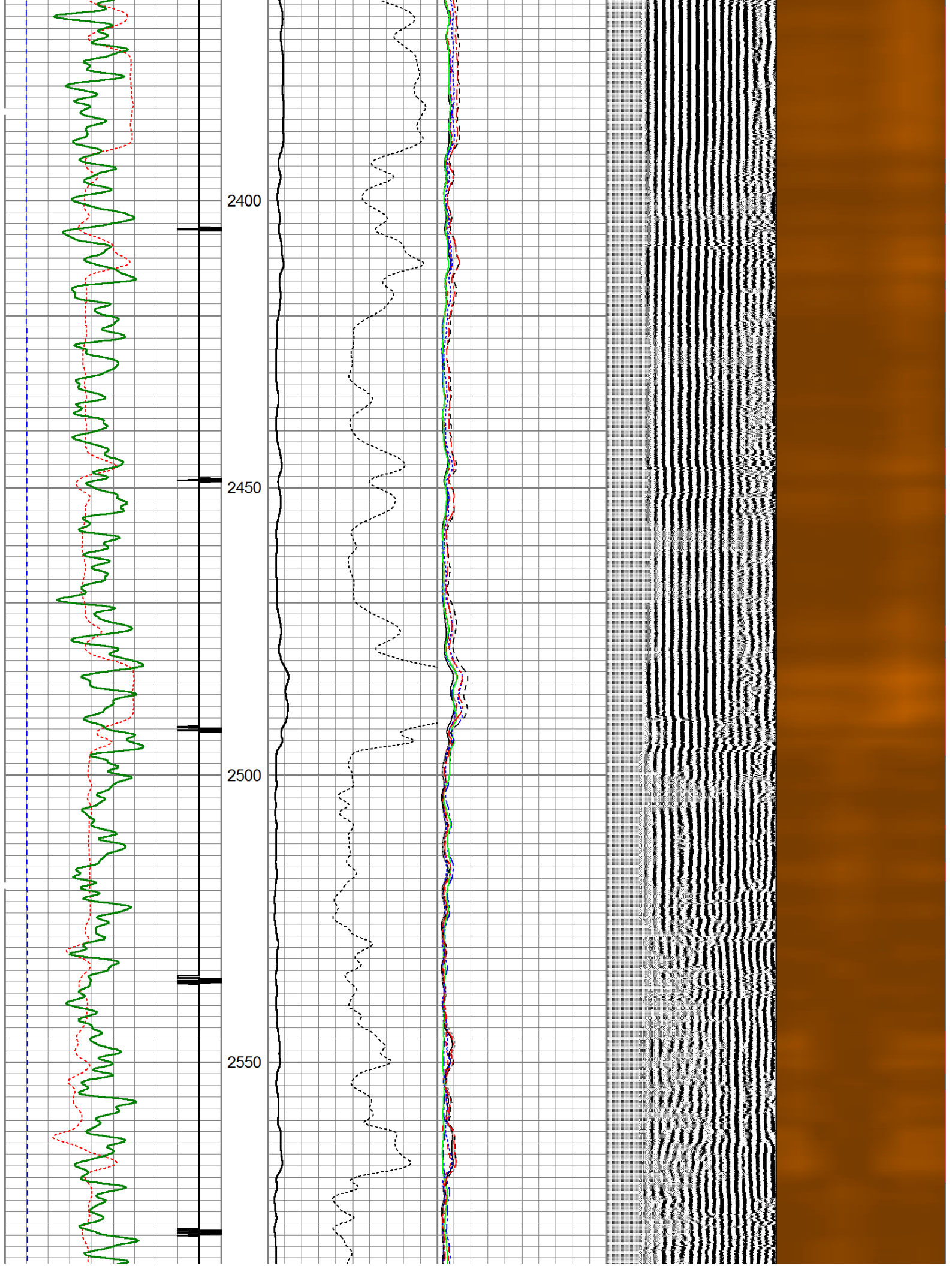


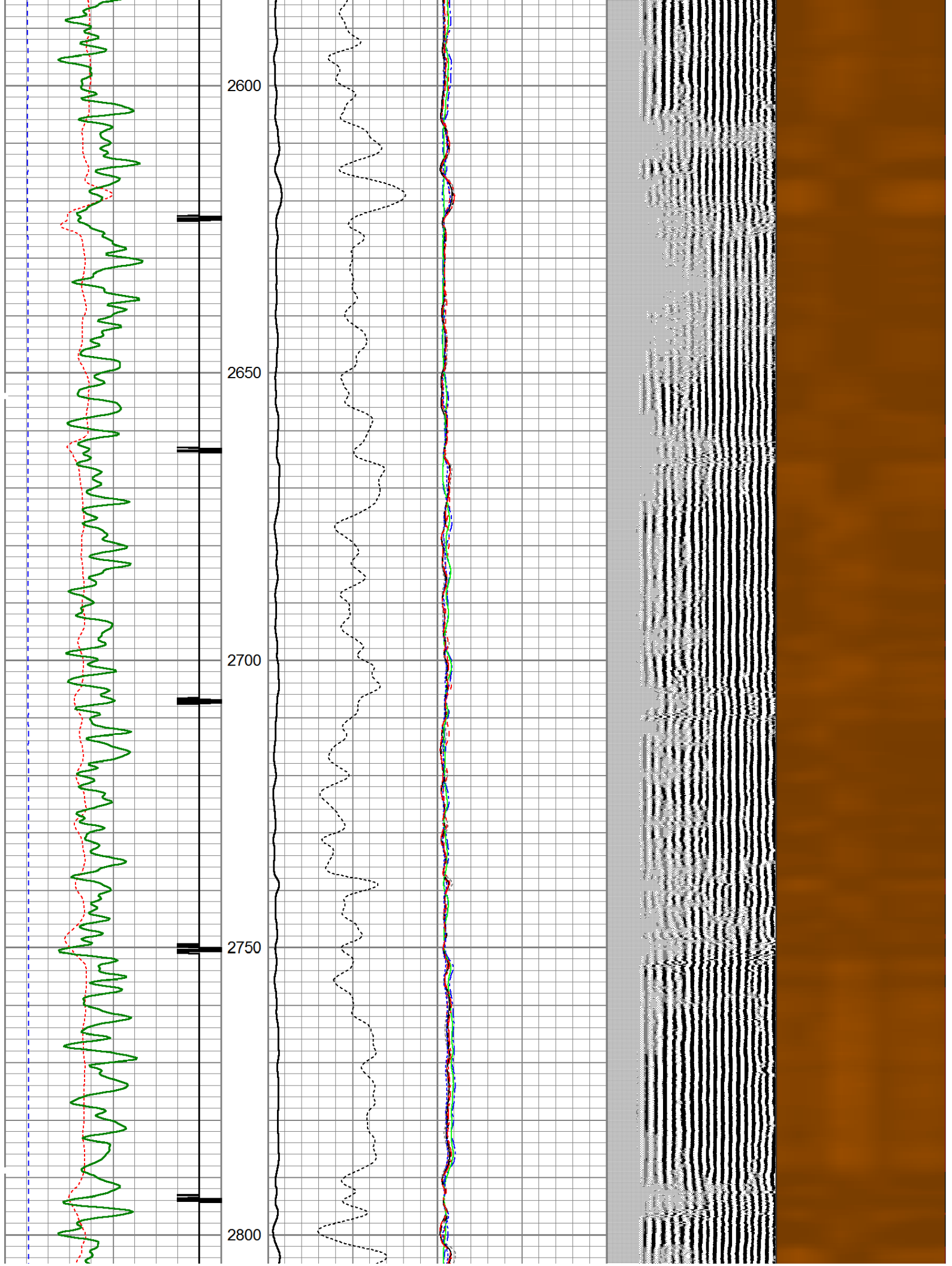




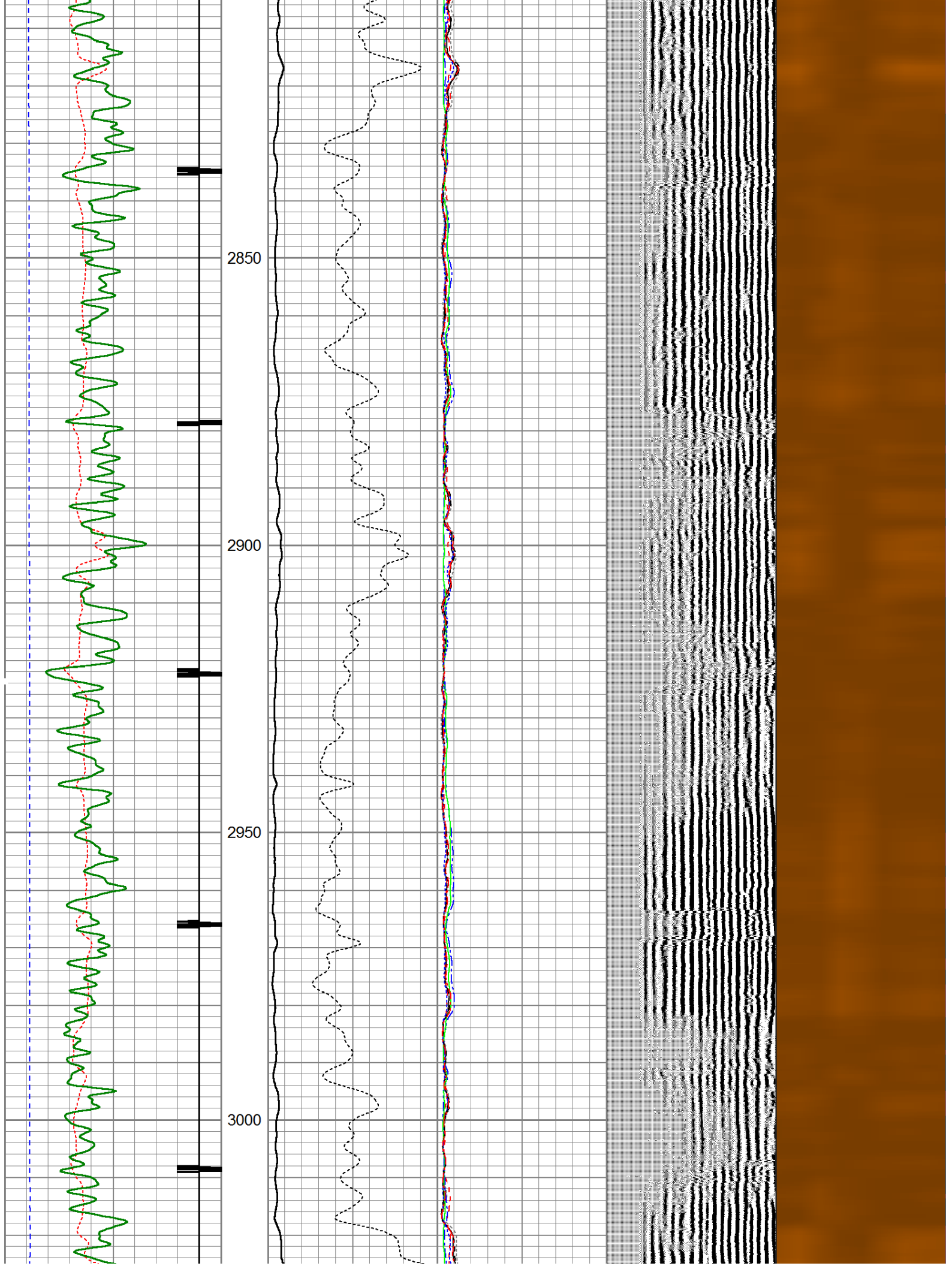


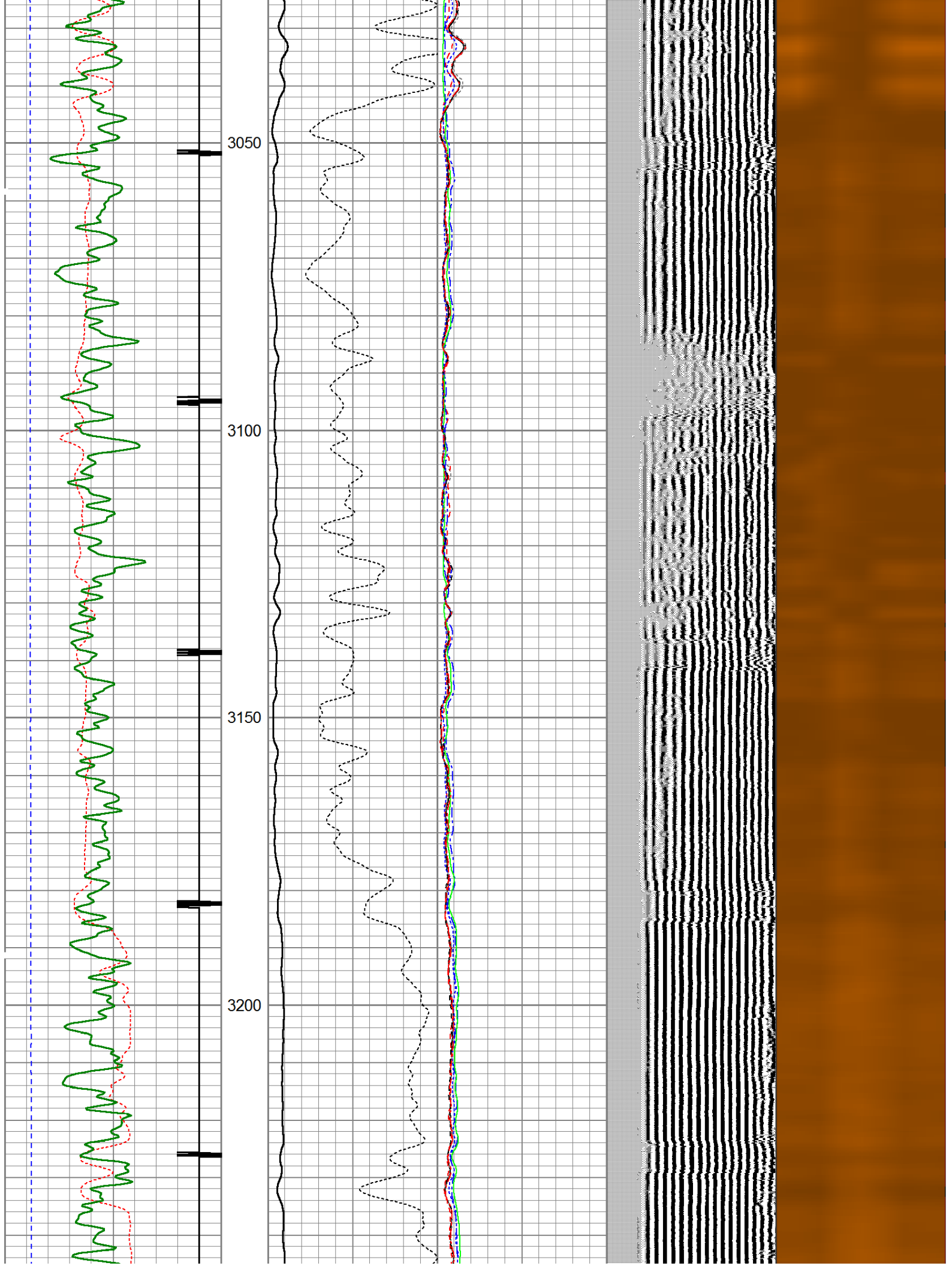




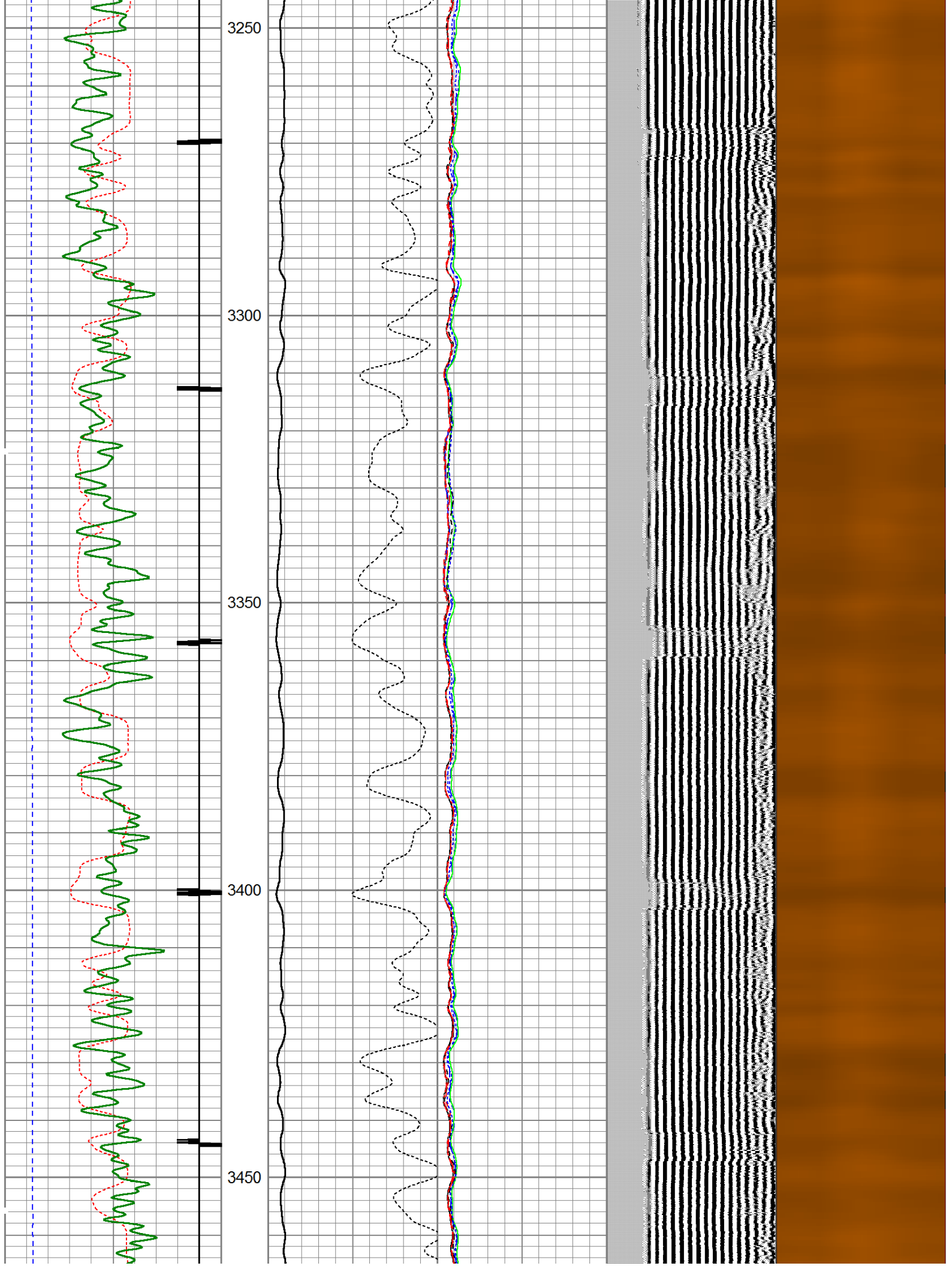


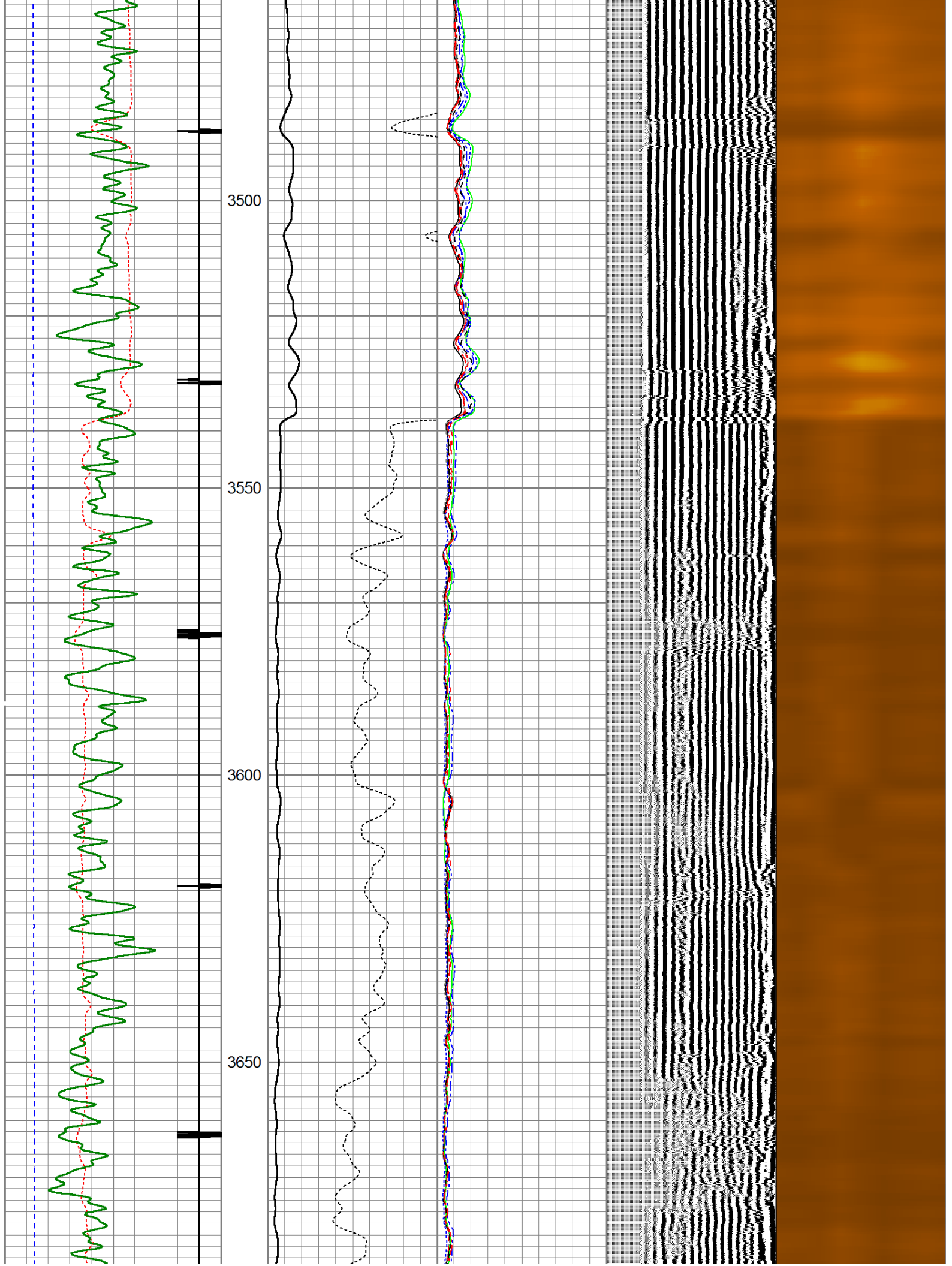


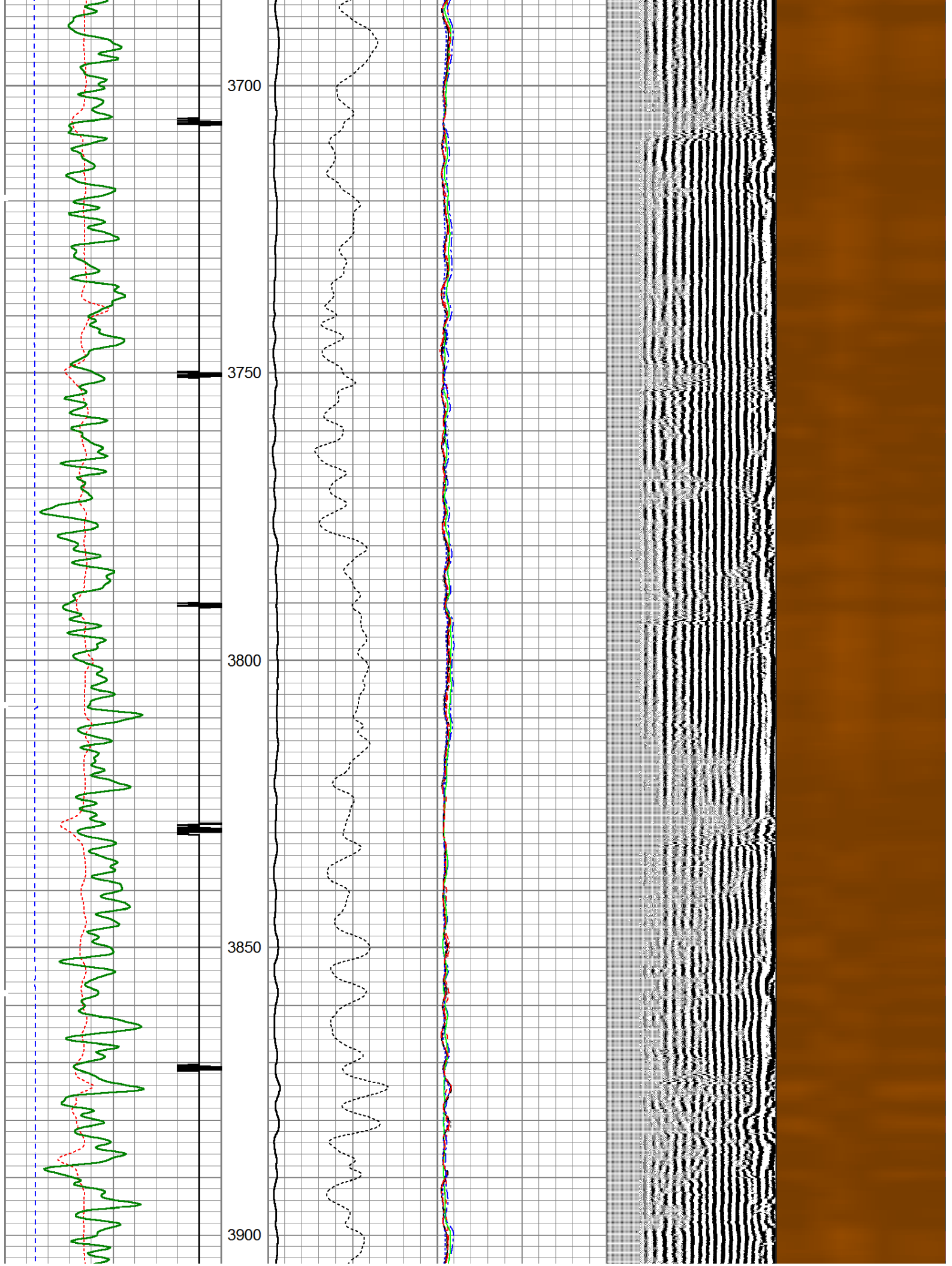




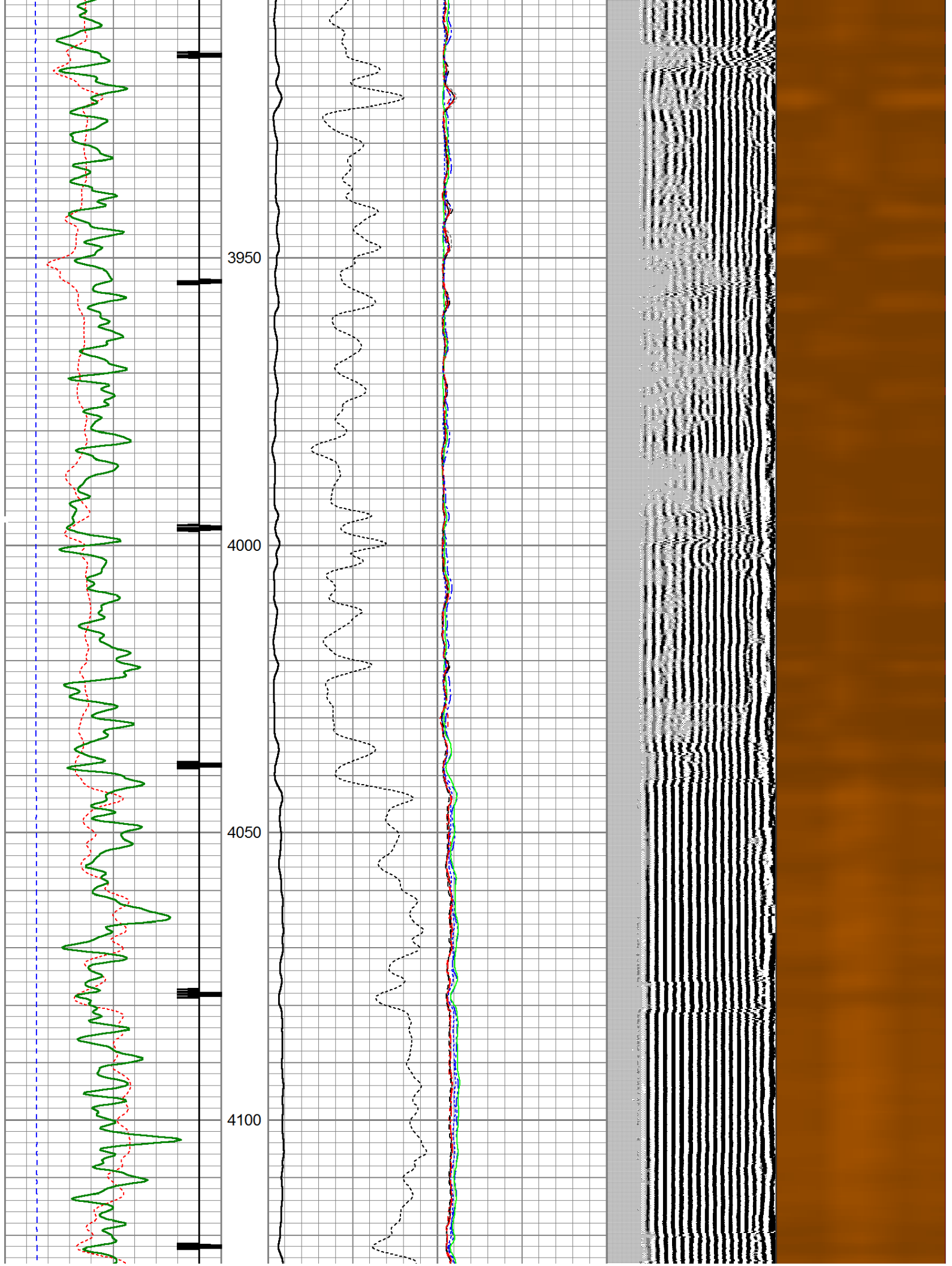




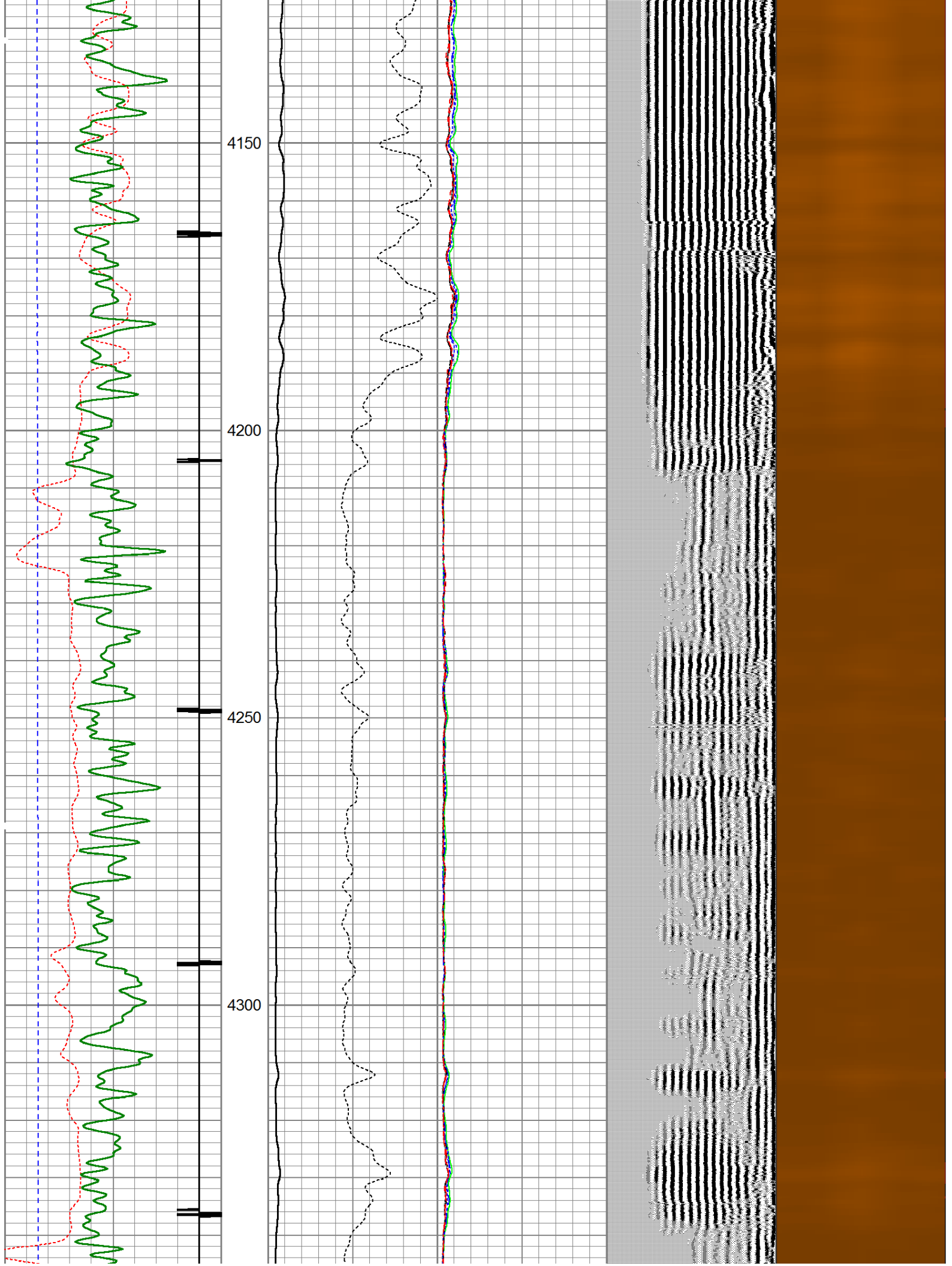


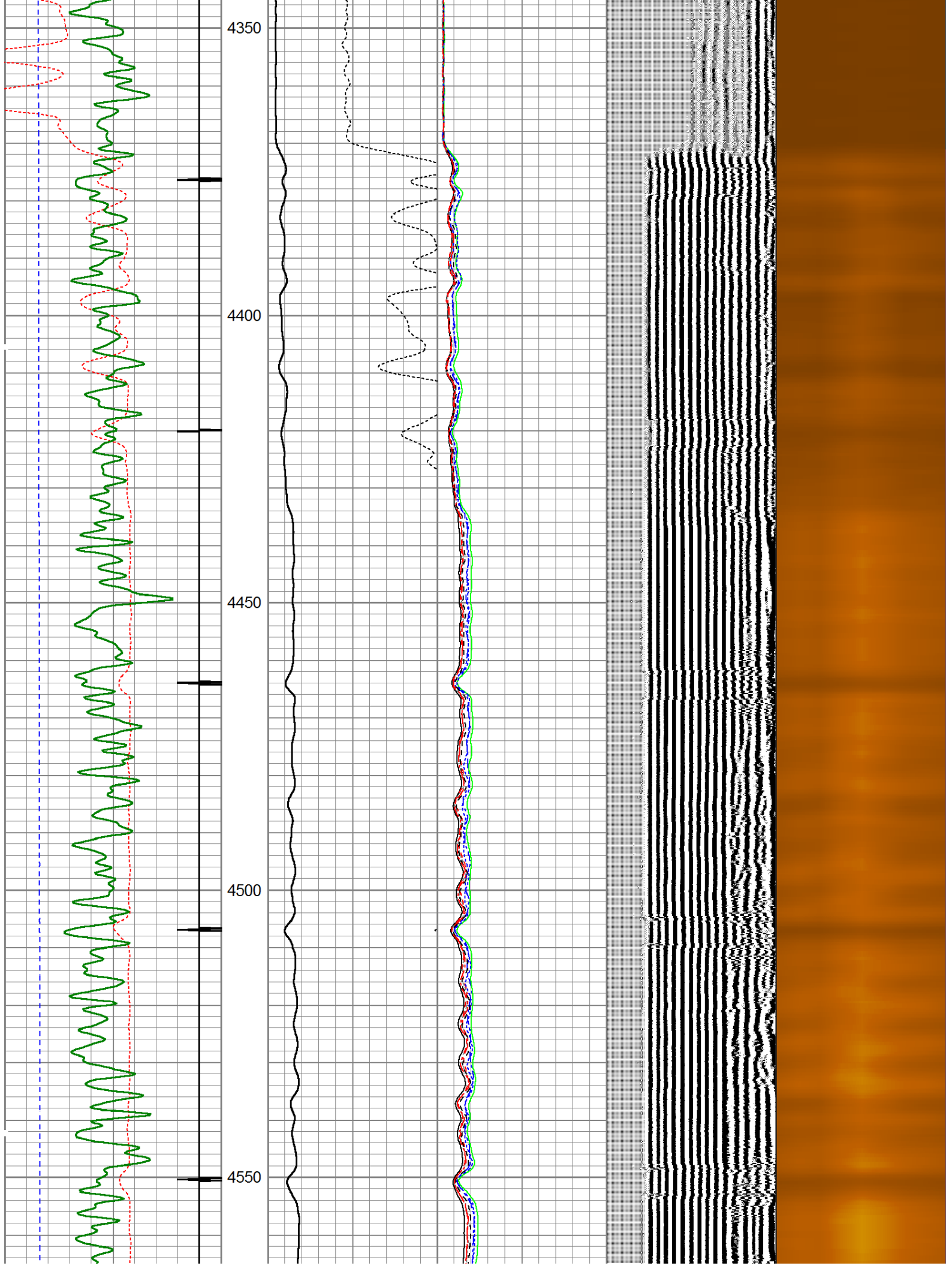


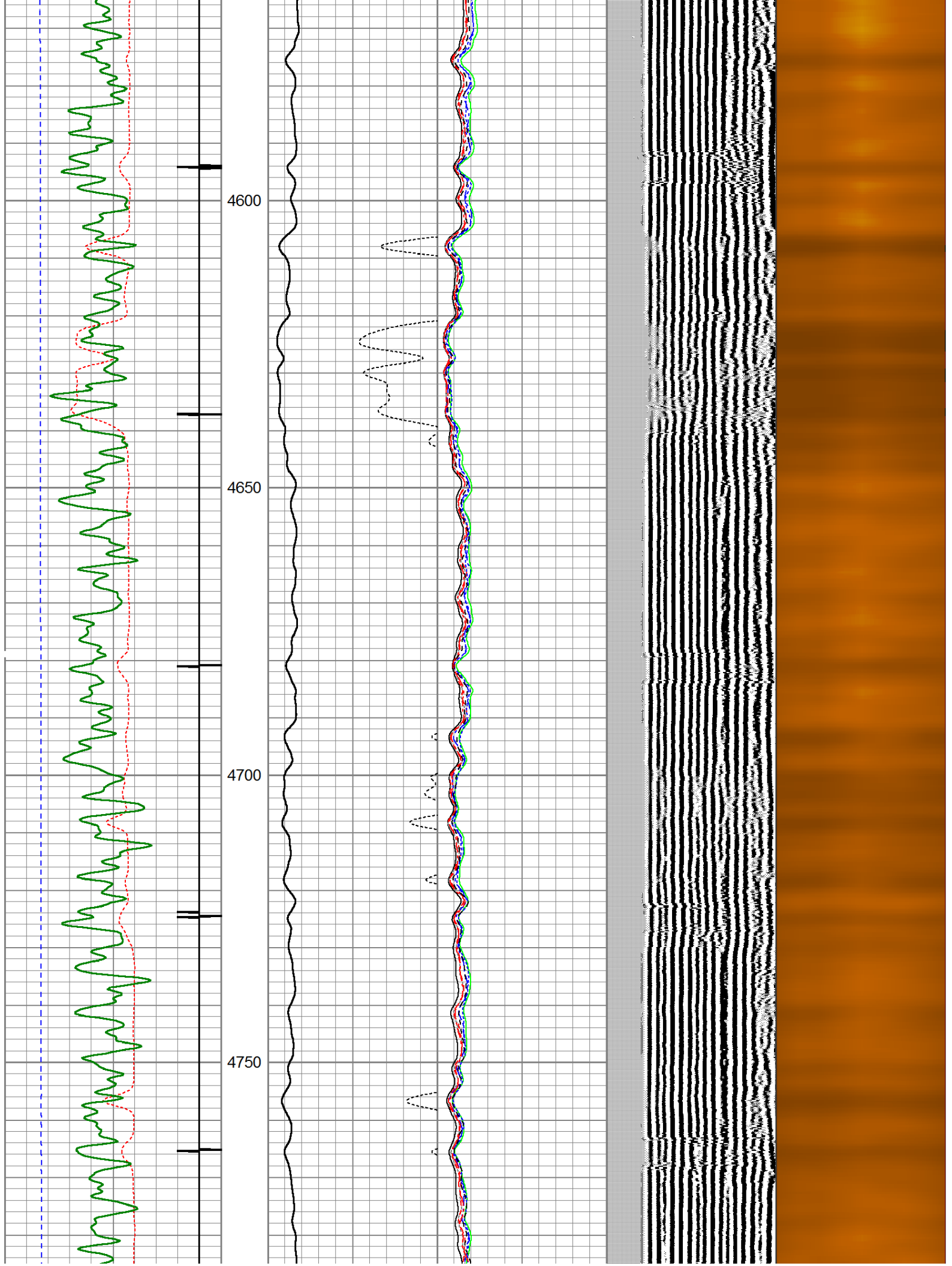




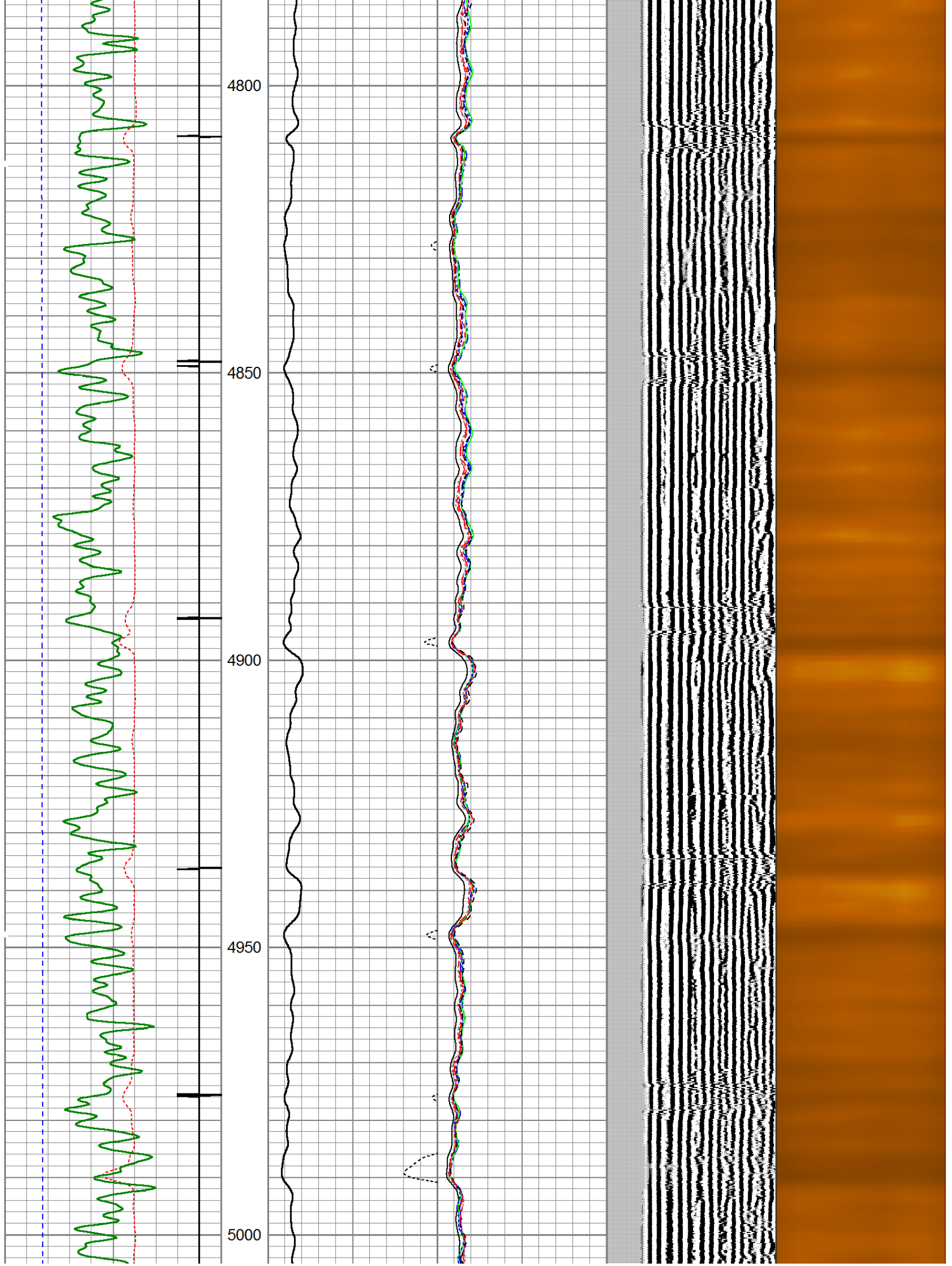


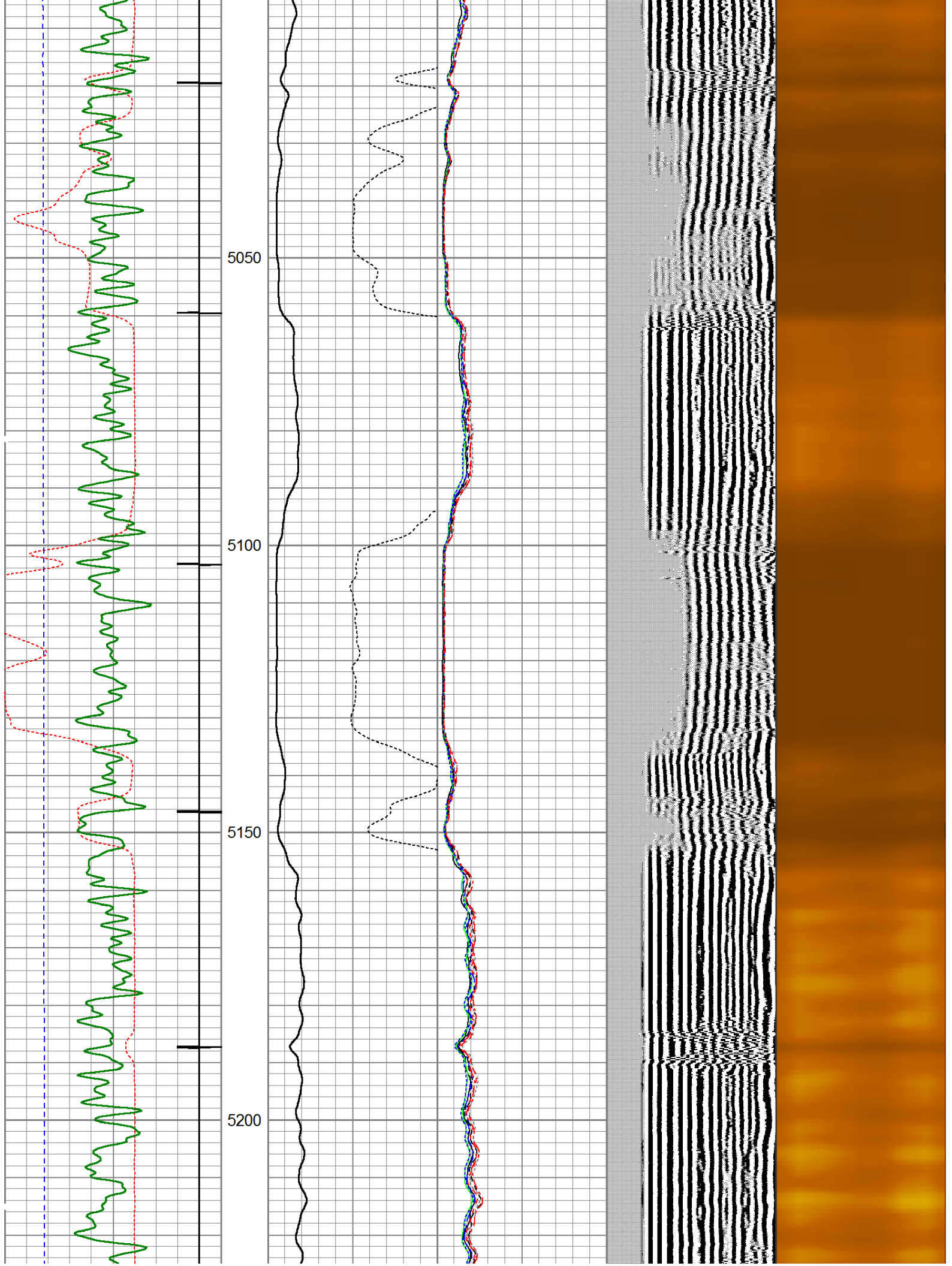


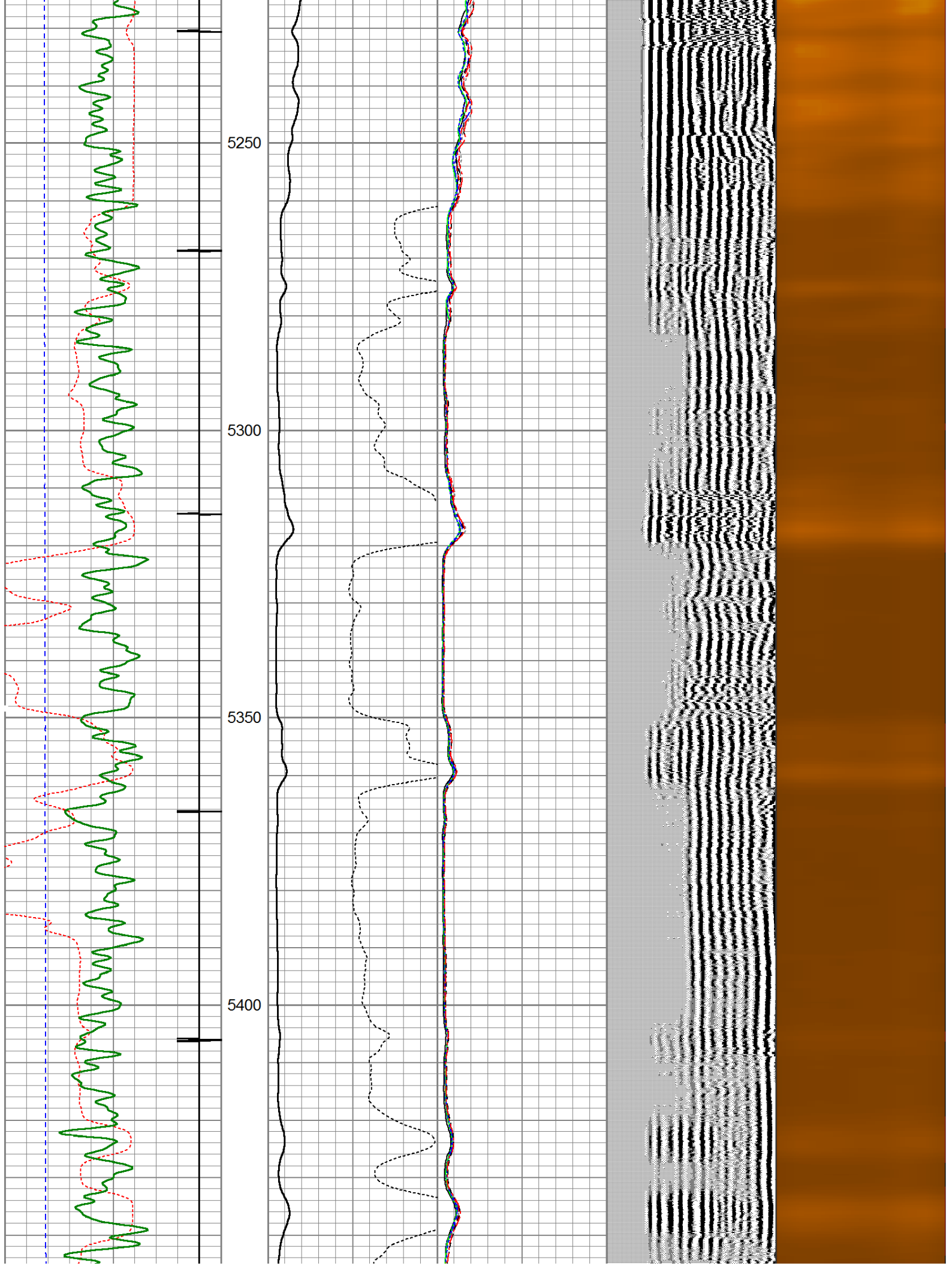




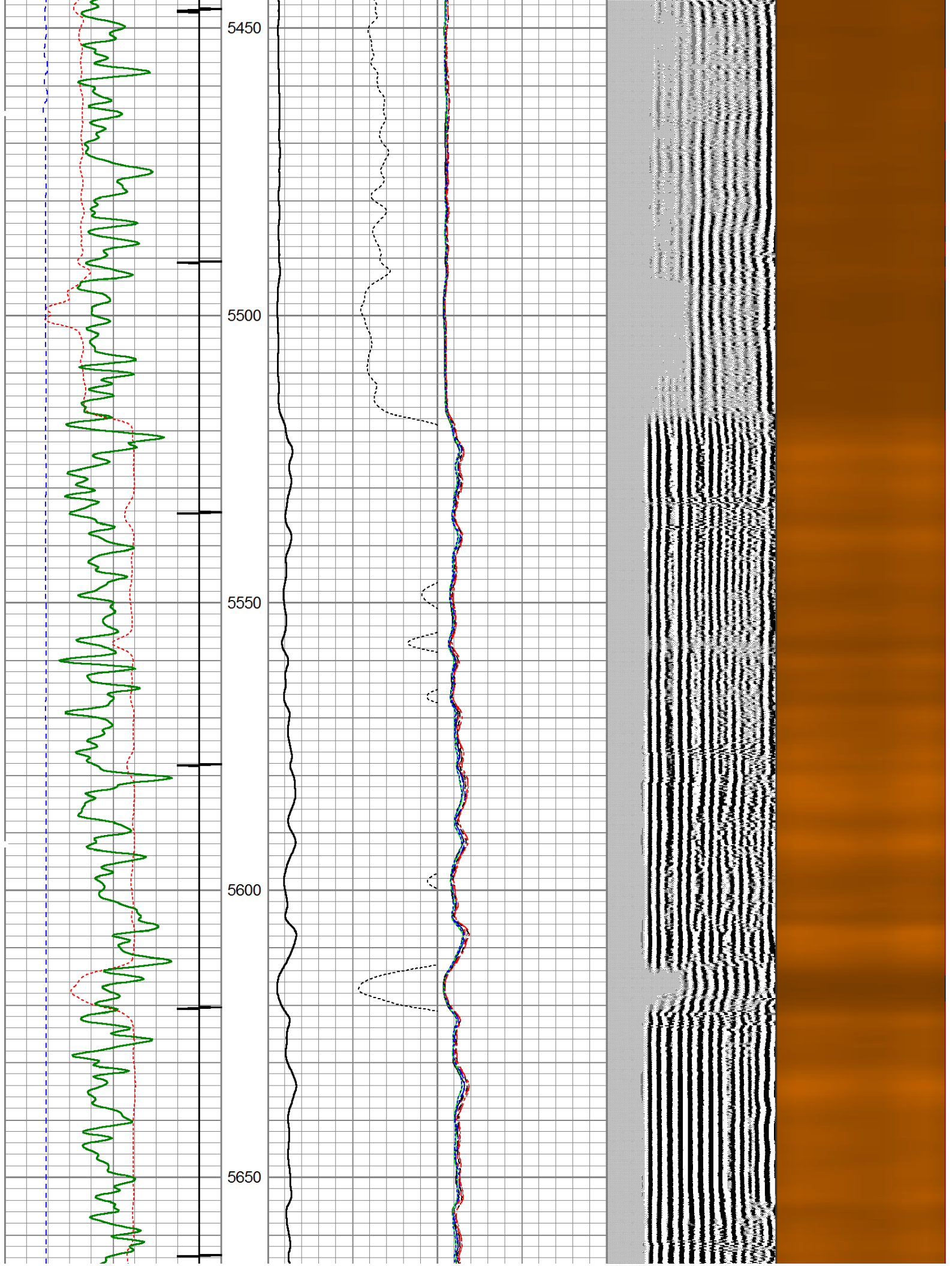


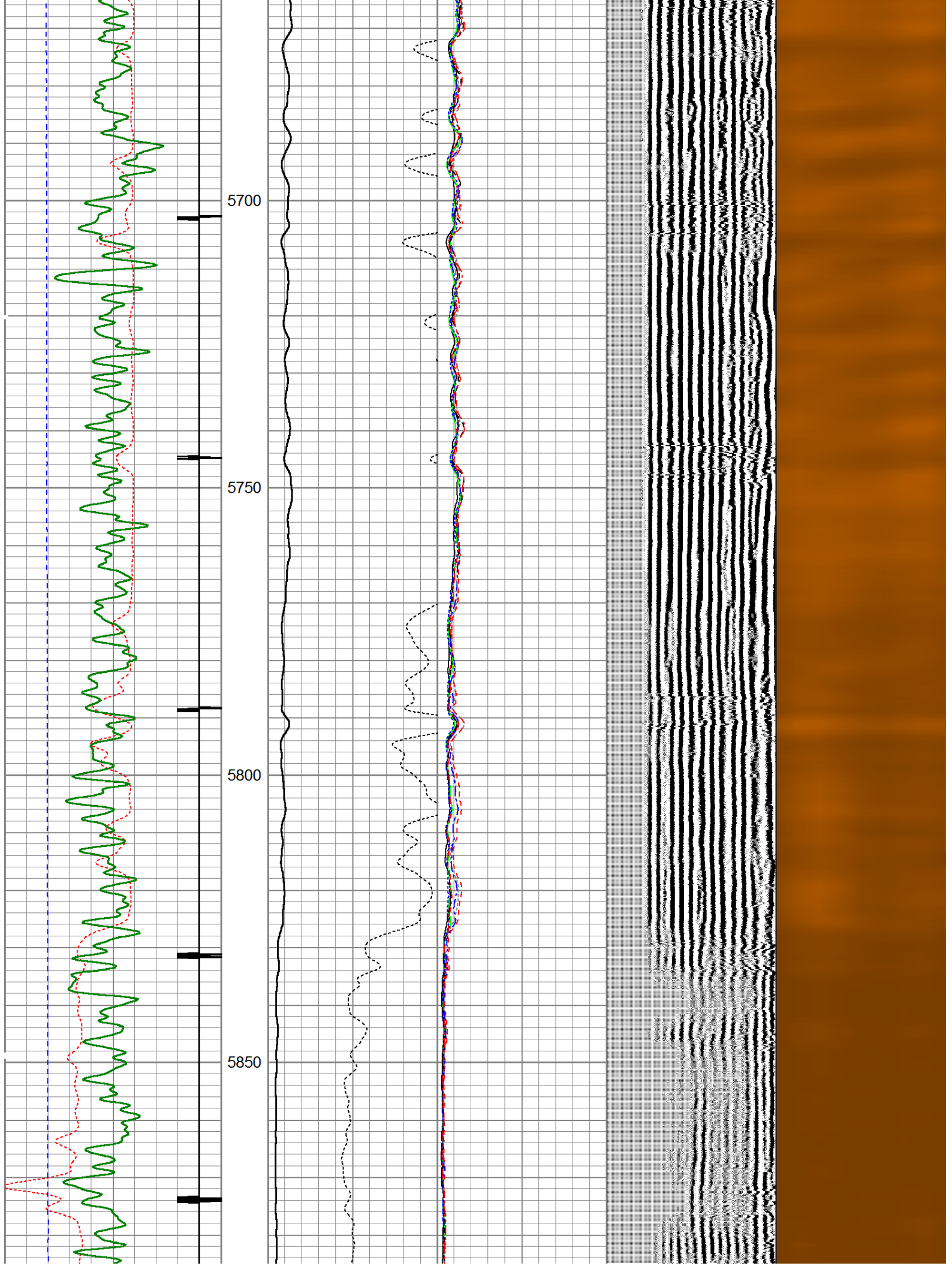




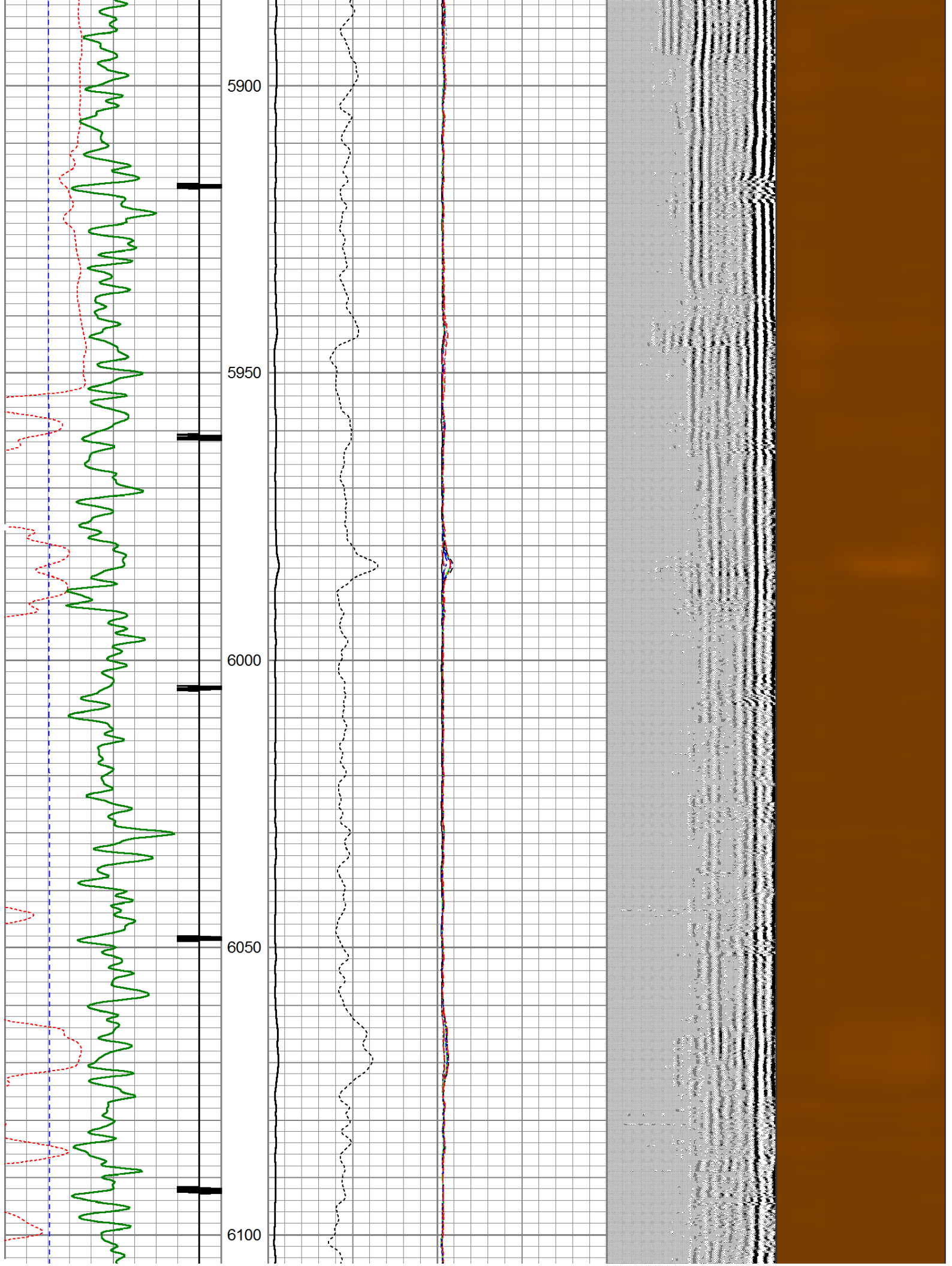




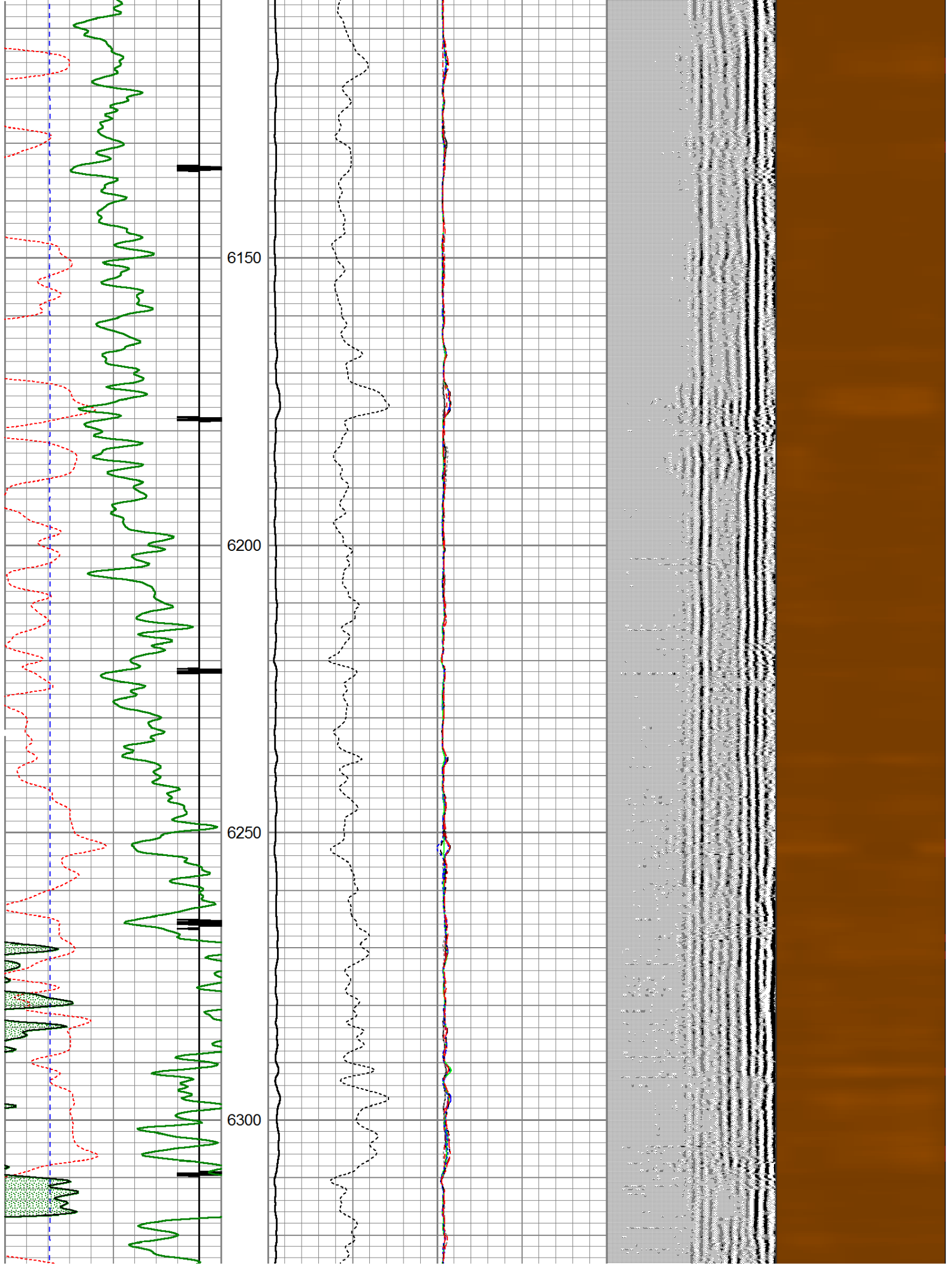


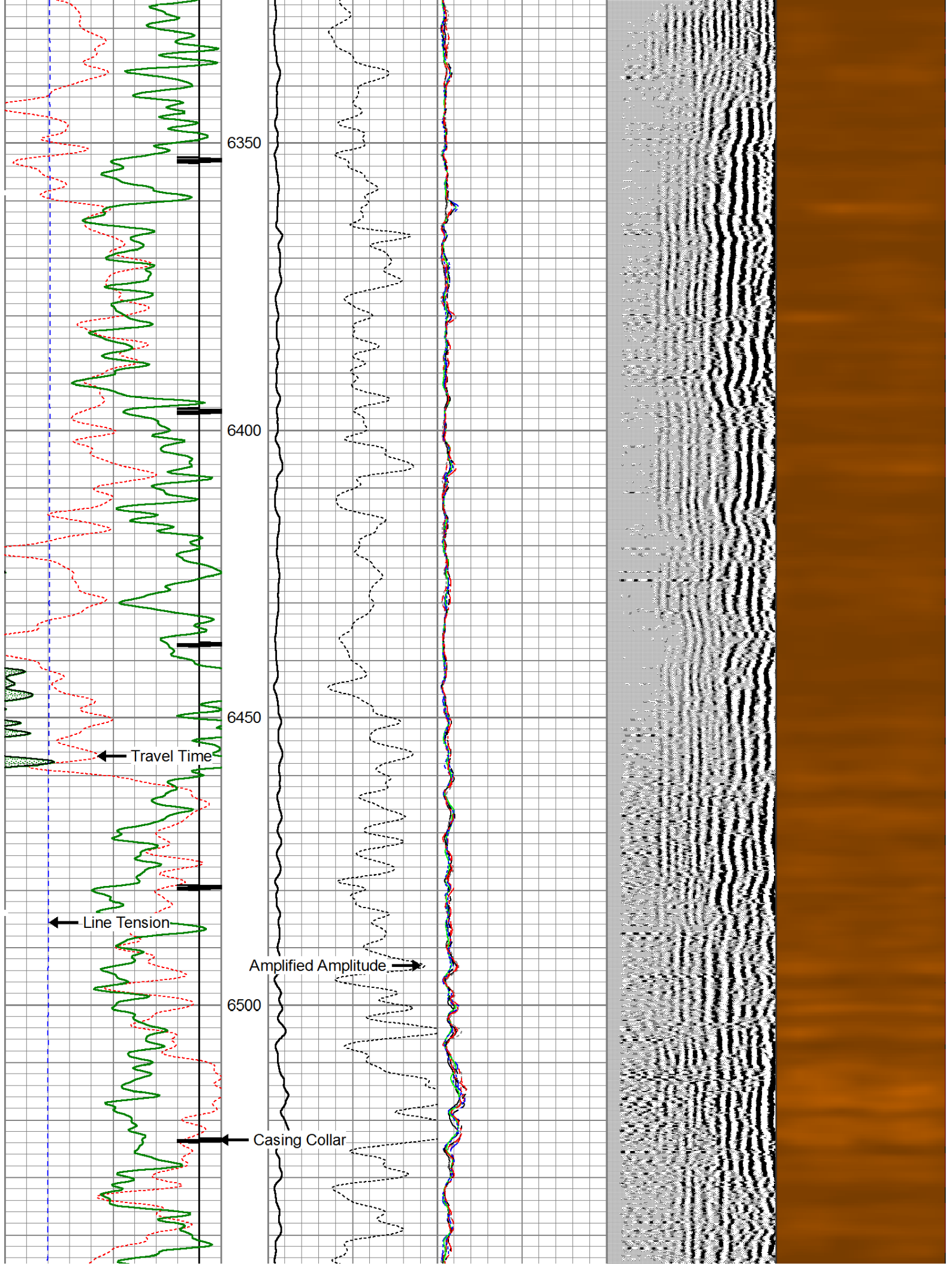




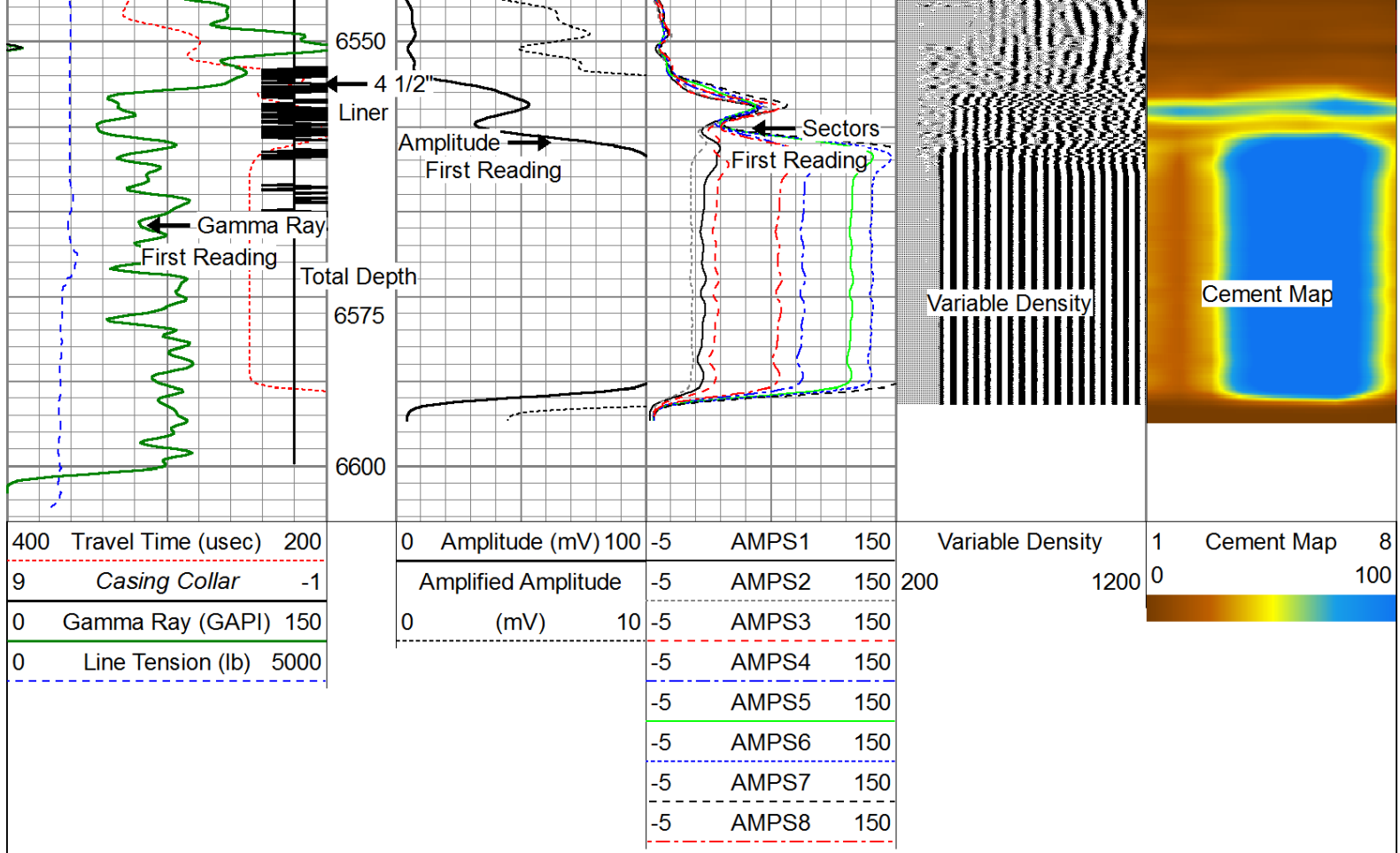






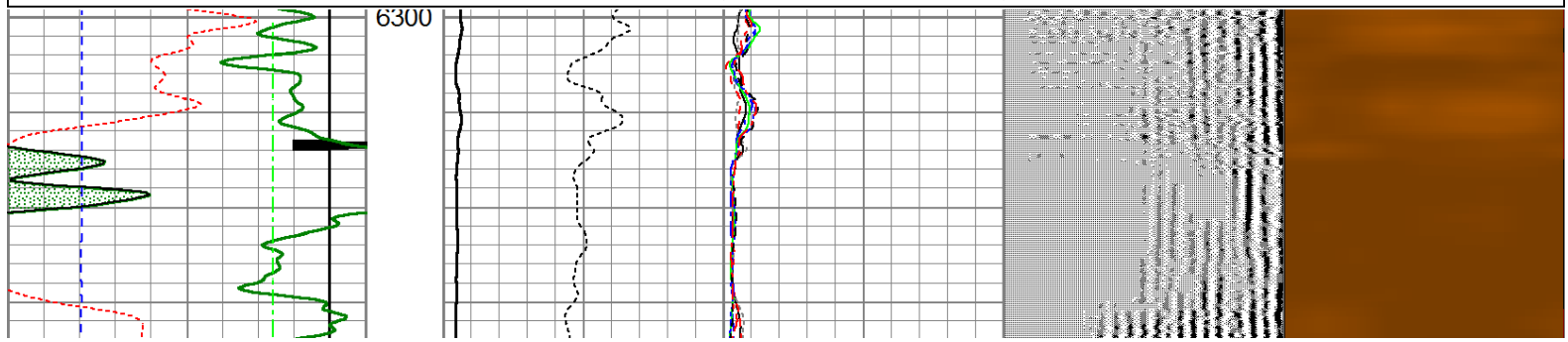
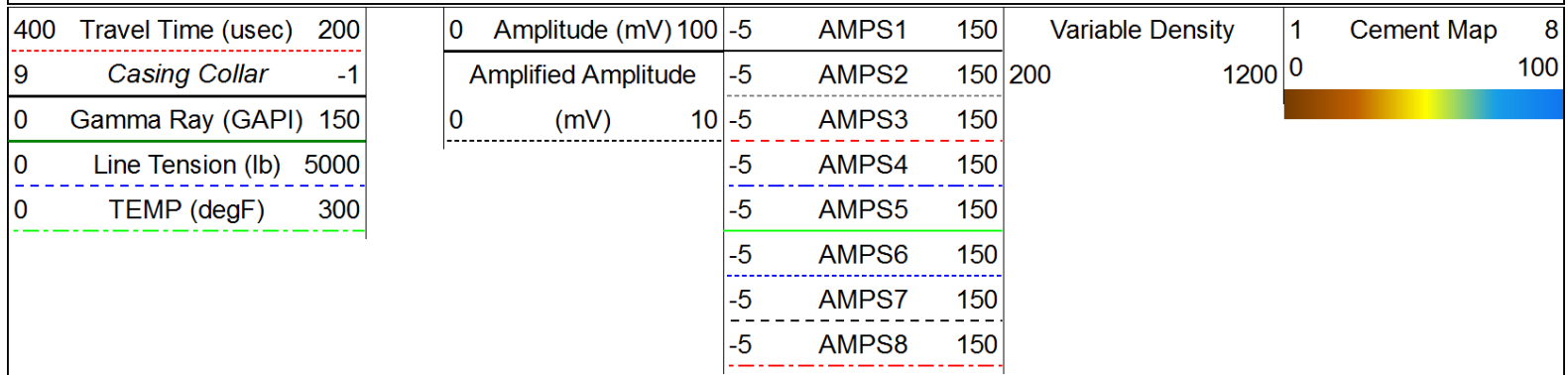




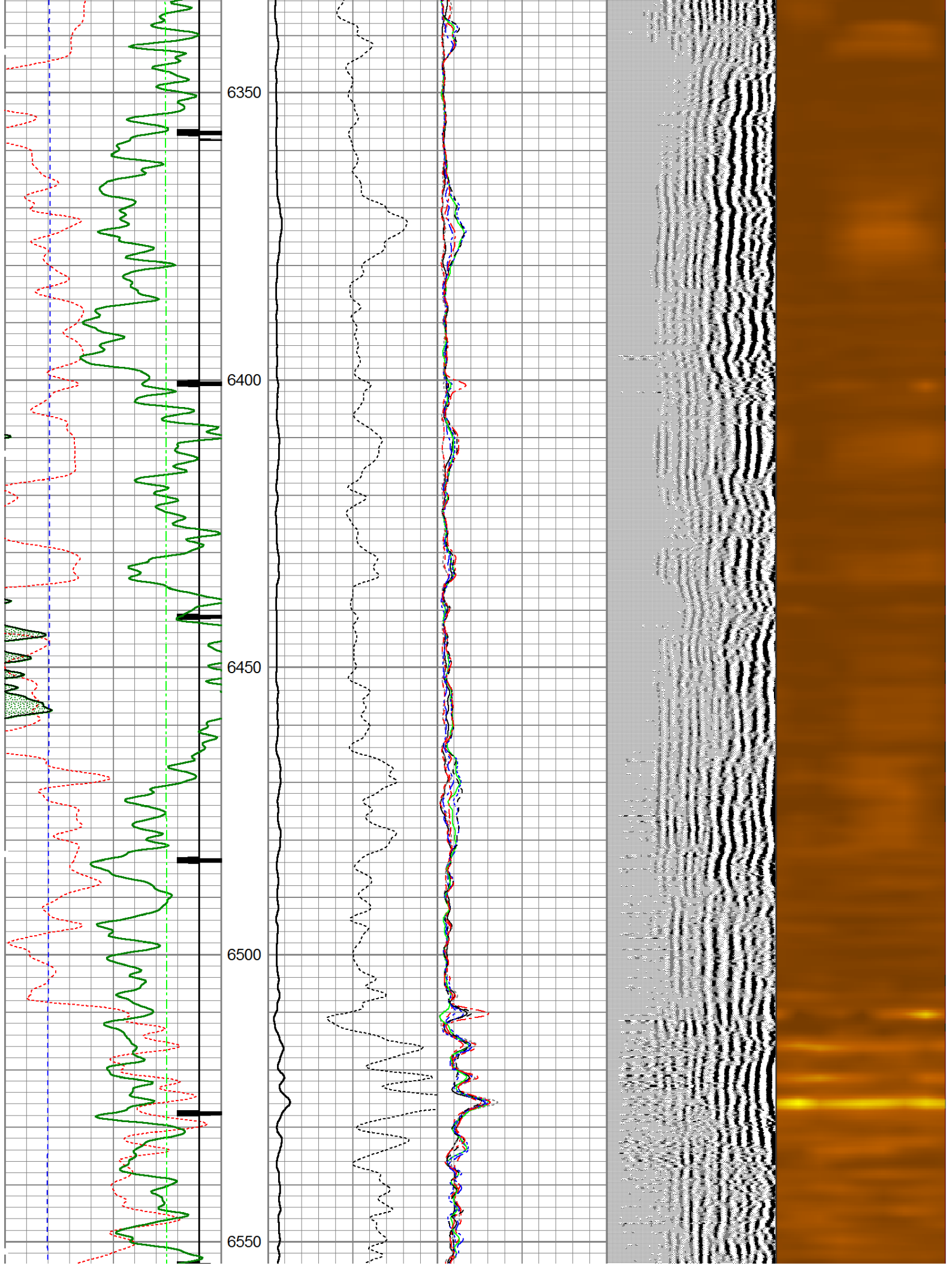


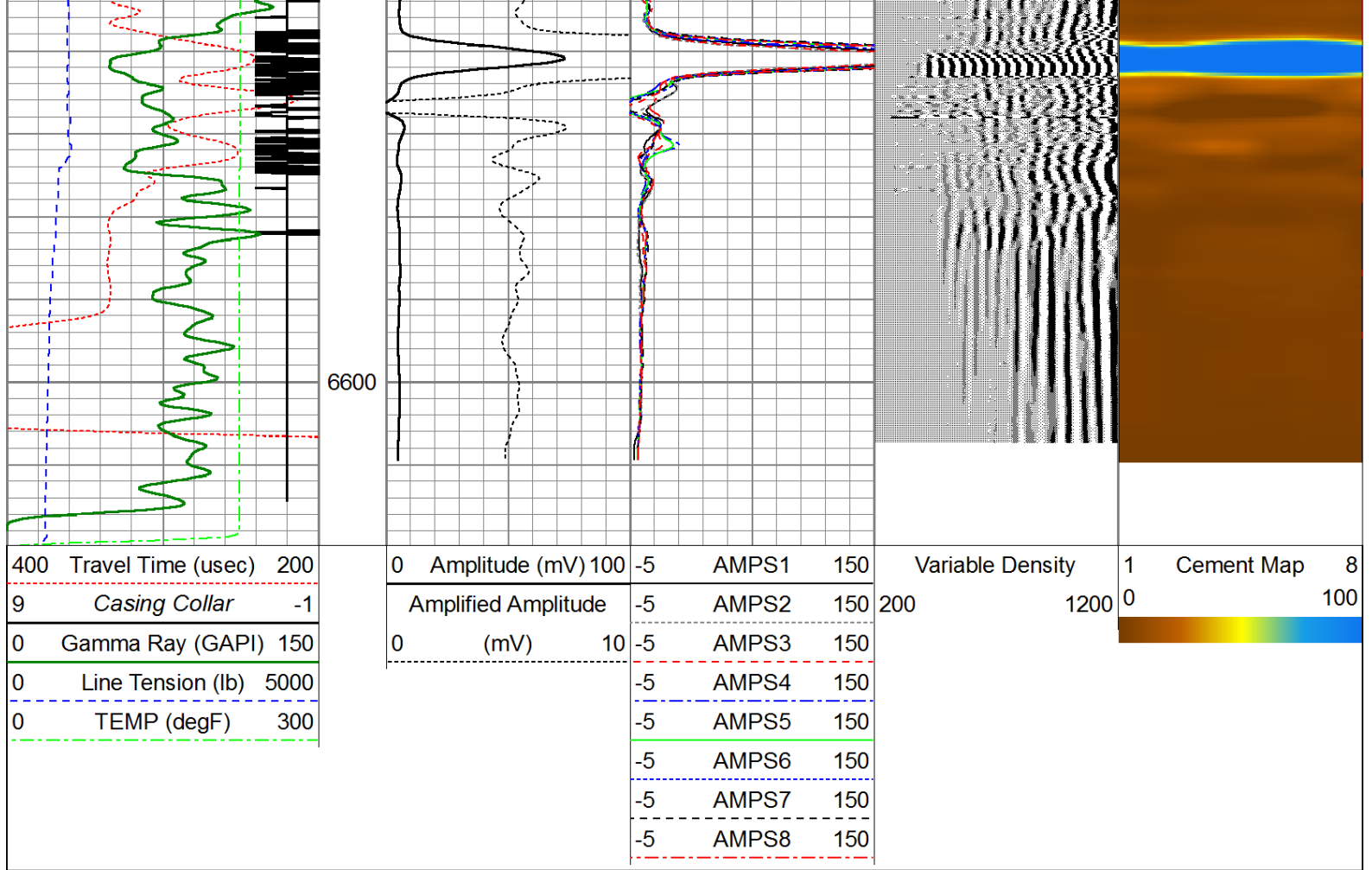
# Repeat Pass ( 0 Pressure )

Database File: noble\_keota\_pc\_lb26\_62hn\_rcbl.db  
Dataset Pathname: pass4.1  
Presentation Format: scbl03  
Dataset Creation: Tue Mar 12 10:41:45 2013 by Calc SCH 120126  
Charted by: Depth in Feet scaled 1:240









Calibration Report					
Database File:	noble_keota_pc_lb26_62hn_rcbl.db				
Dataset Pathname:	merge4				
Dataset Creation:	Tue Mar 12 11:59:29 2013				
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:	0.11				
Offset:	-20.00				
Delta Spacing	2				
Gamma Ray Calibration Report					
Serial Number:	101230-Dig				
Tool Model:	Probe275				
Performed:	Fri Jun 11 16:02:47 2004				
Calibrator Value:	138.0		GAPI		
Background Reading:	37.7		cps		
Calibrator Reading:	241.8		cps		
Sensitivity:	0.6763		GAPI/cps		
Segmented Cement Bond Log Calibration Report					

Serial Number: 120424  
Tool Model: Probe

Calibration Casing Diameter: 5.500 in  
Calibration Depth: 943.984 ft

Master Calibration, performed Tue Mar 12 10:12:08 2013:

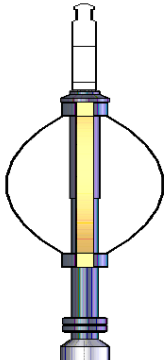
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.013	0.711	1.200	71.921	38.933	4.505
CAL	-0.021	1.504				
5'	-0.008	0.637	1.200	71.921	101.664	2.080
SUM						
S1	-0.109	0.729	0.000	100.000	55.300	-2.009
S2	0.001	0.702	0.000	100.000	65.541	-0.103
S3	-0.002	0.719	0.000	100.000	61.831	0.239
S4	-0.000	0.730	0.000	100.000	57.892	0.020
S5	-0.001	0.732	0.000	100.000	52.426	0.110
S6	-0.001	0.713	0.000	100.000	52.943	0.164
S7	-0.003	0.685	0.000	100.000	63.418	0.405
S8	-0.003	0.665	0.000	100.000	65.727	0.468

Internal Reference Calibration, performed Mon Oct 10 09:42:03 2005:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.021	1.504	1.000	0.000

Air Zero Calibration, performed Sat Mar 02 07:59:55 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



