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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


Log Correlated to Short Joint at 7449'-7459'

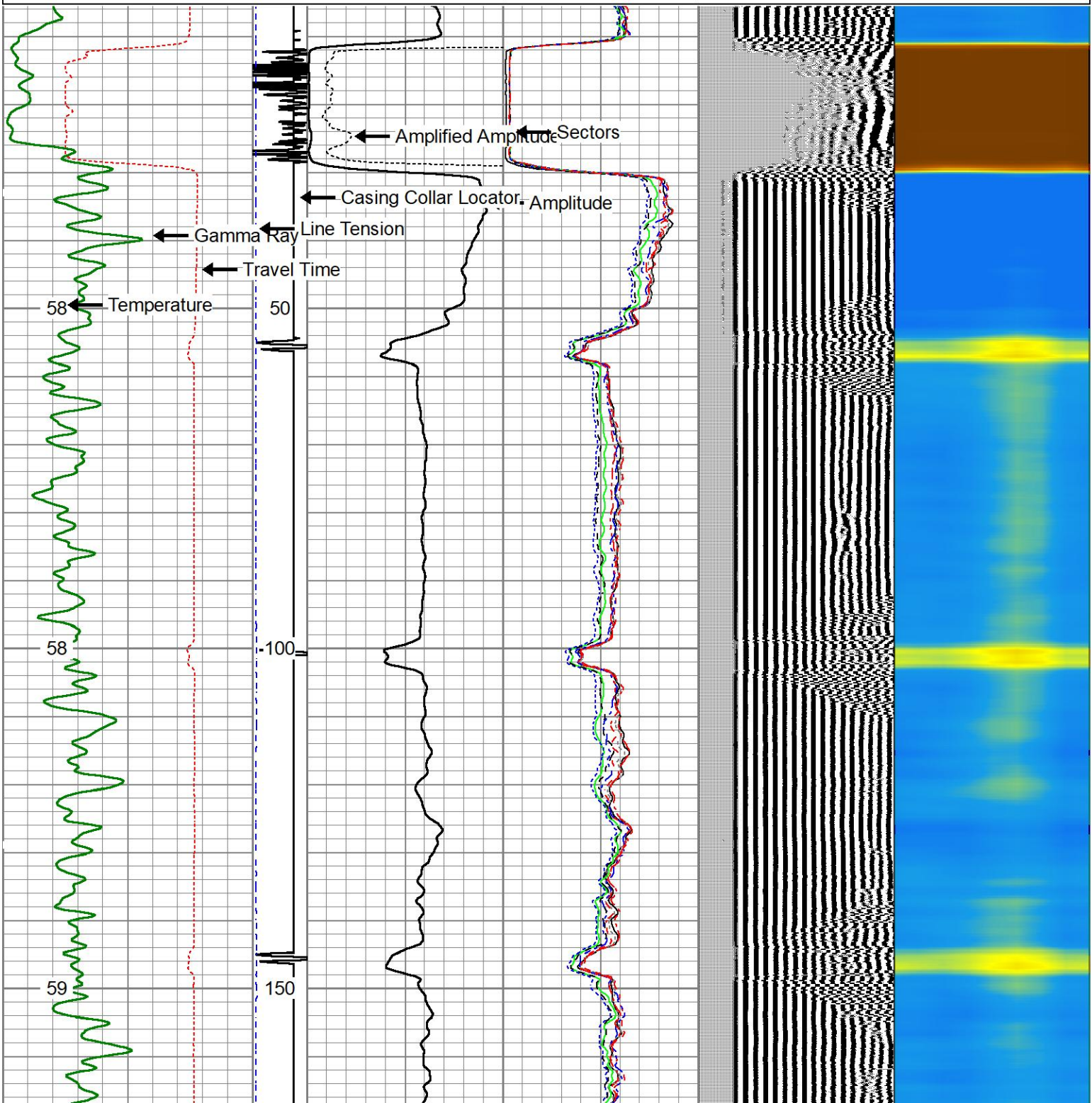
Thank You for using KLX Energy Services



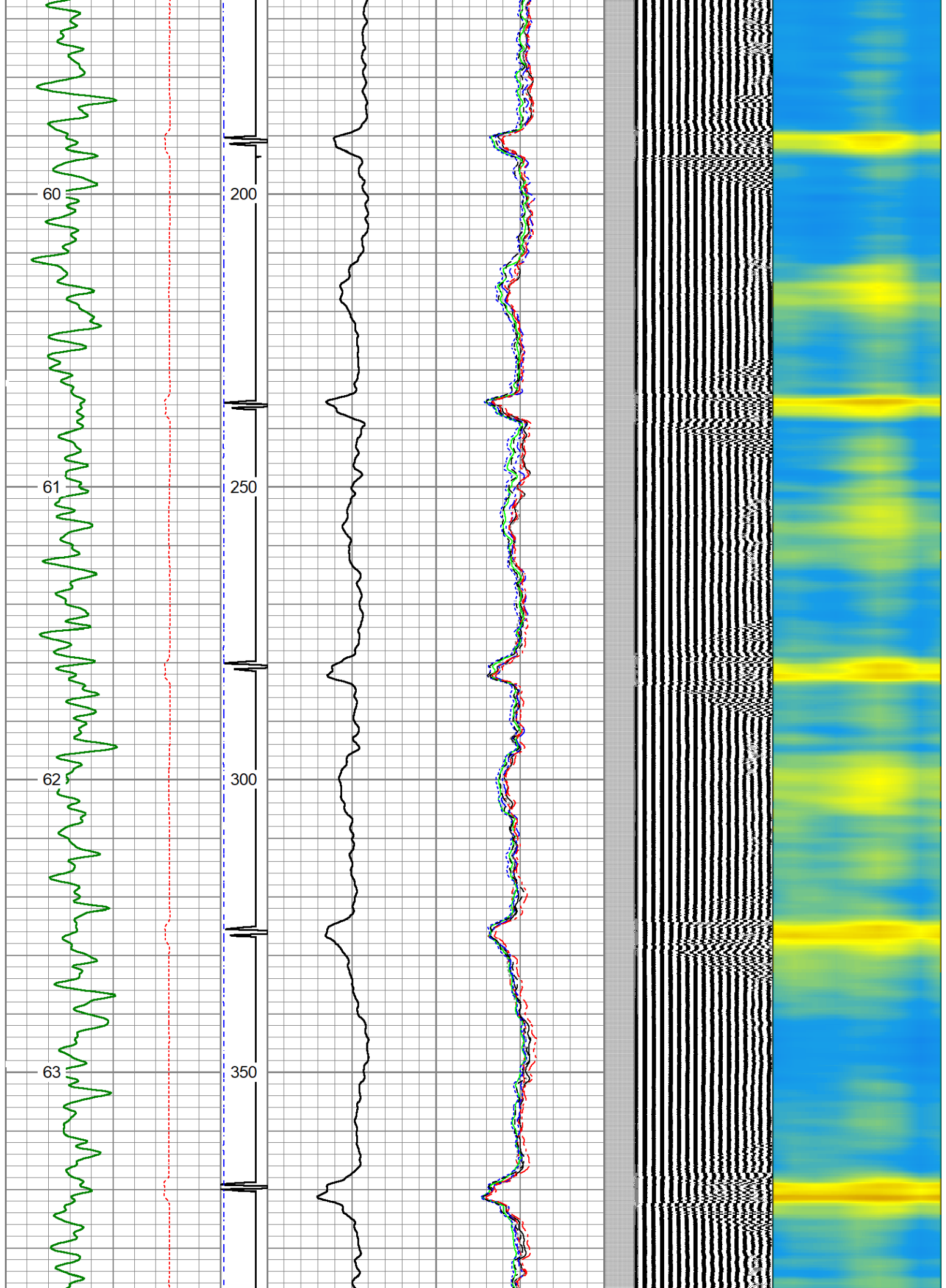
1600 PSI 5"=100'

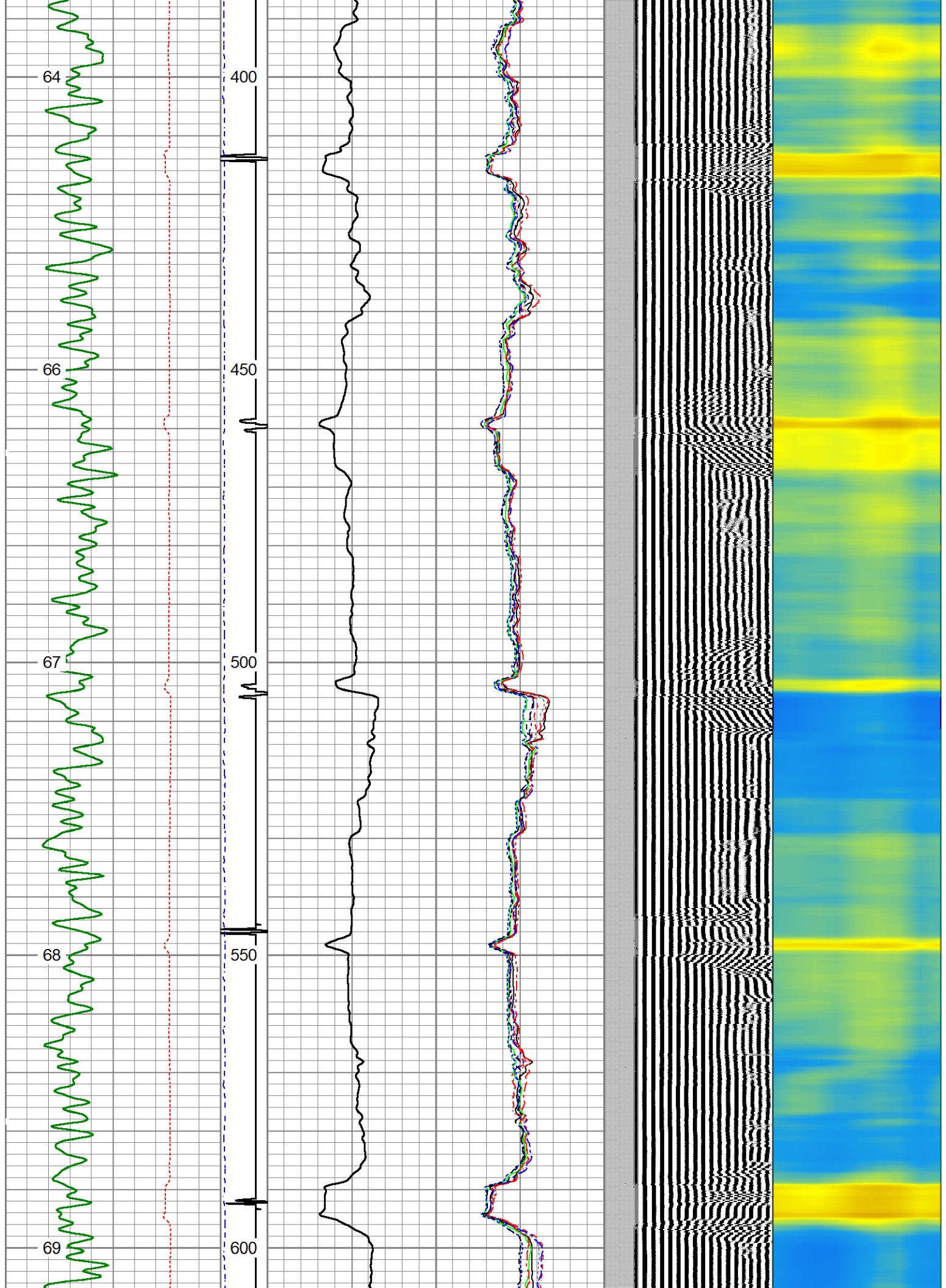
Database File	gw_schneider019hnx_bondlog.db
Dataset Pathname	pass9
Presentation Format	scbl03
Dataset Creation	Sun Dec 01 17:15:39 2019
Charted by	Depth in Feet scaled 1:240

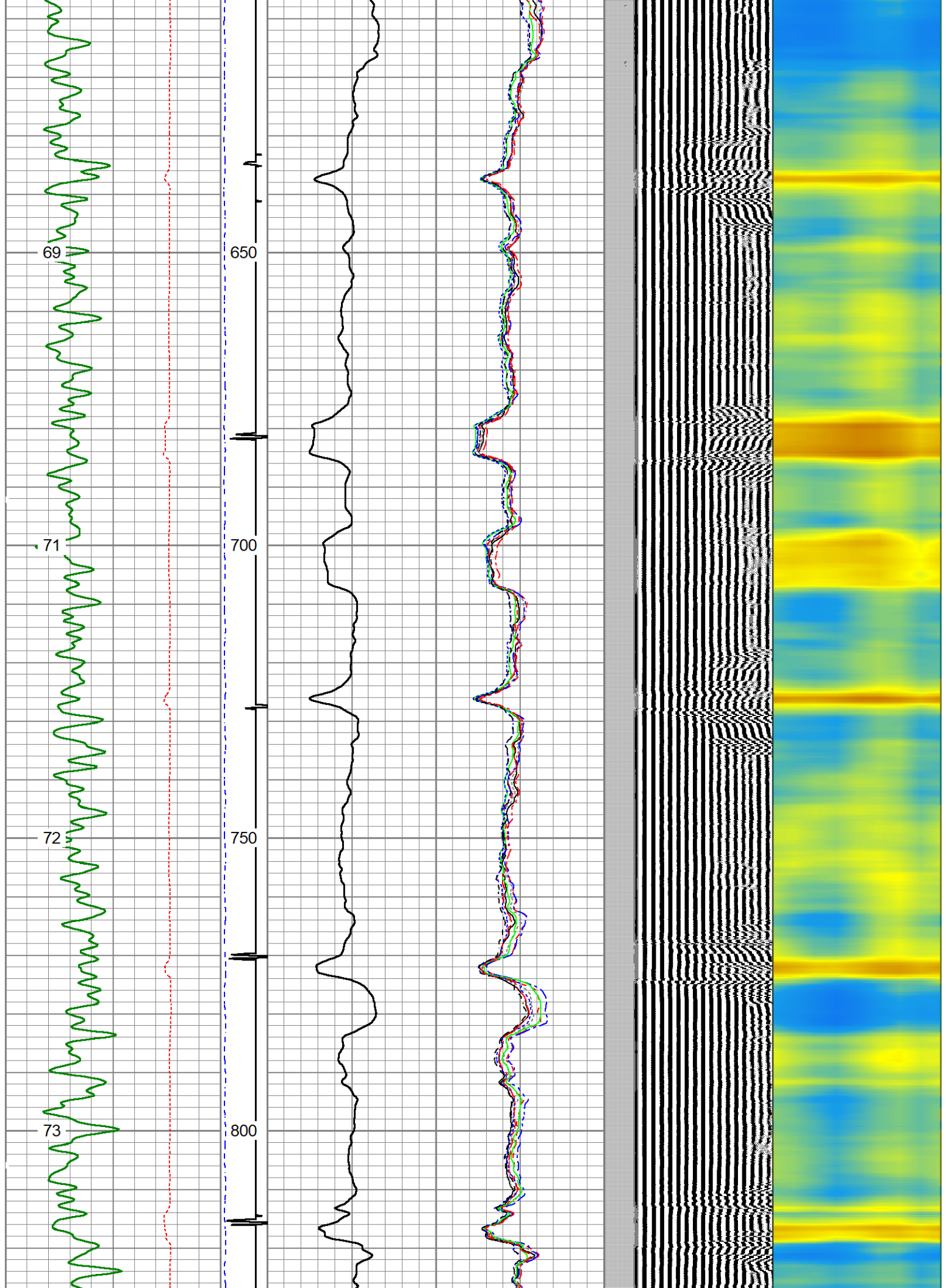
420 Travel Time (usec) 220		CCL	0	Amplitude (mV)100	-5	Sector 1	150	Variable Density		1	Cement Map	8
0 Gamma Ray (GAPI) 150		3 -1	Amplified Amplitude		-5	Sector 2	150	200 (usec) 1200				
Temp		LTEN	0	(mV) 10	-5	Sector 3	150					
(degF)		(lb)			-5	Sector 4	150					
		(3000			-5	Sector 5	150					
					-5	Sector 6	150					
					-5	Sector 7	150					
					-5	Sector 8	150					



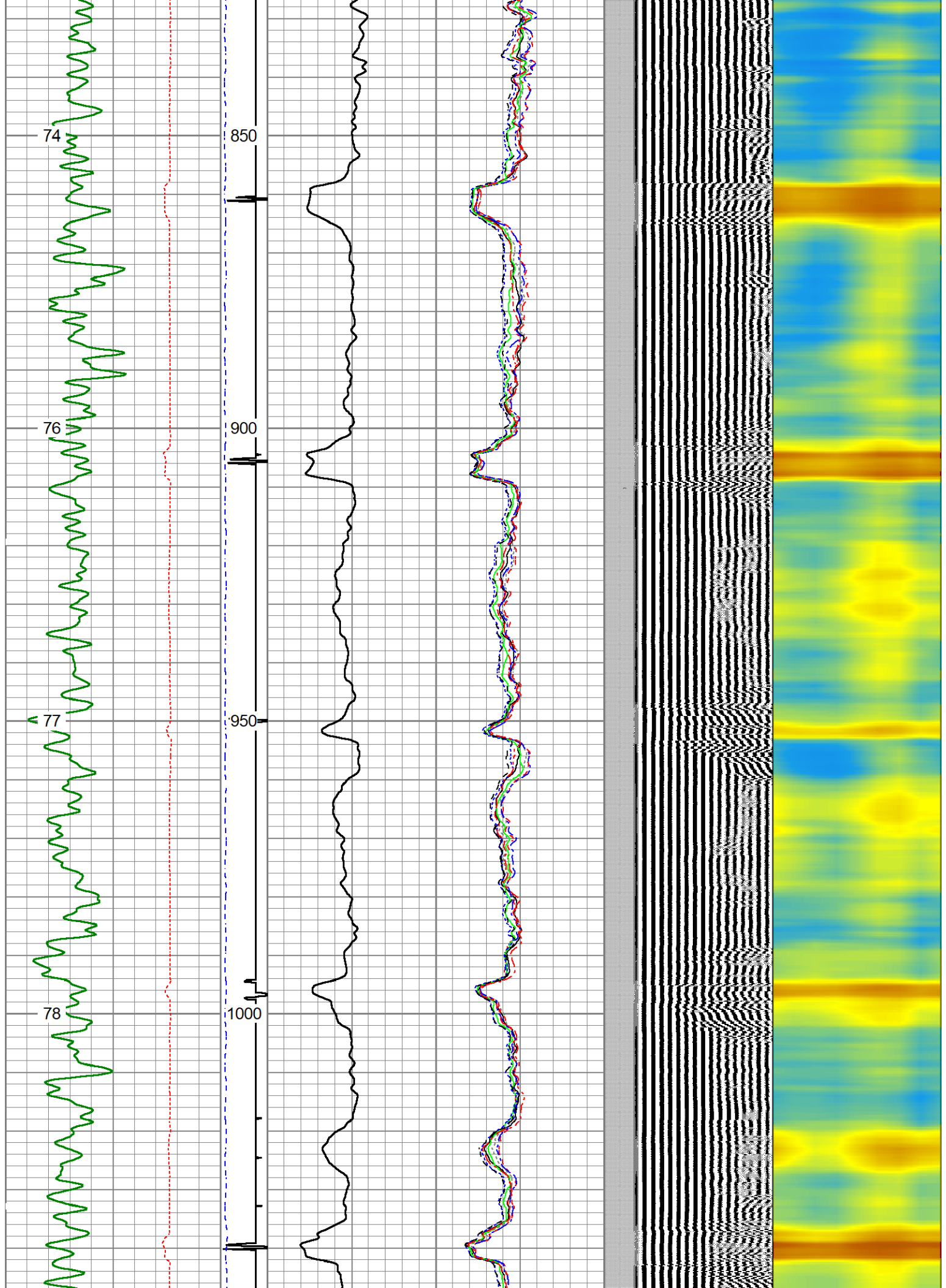


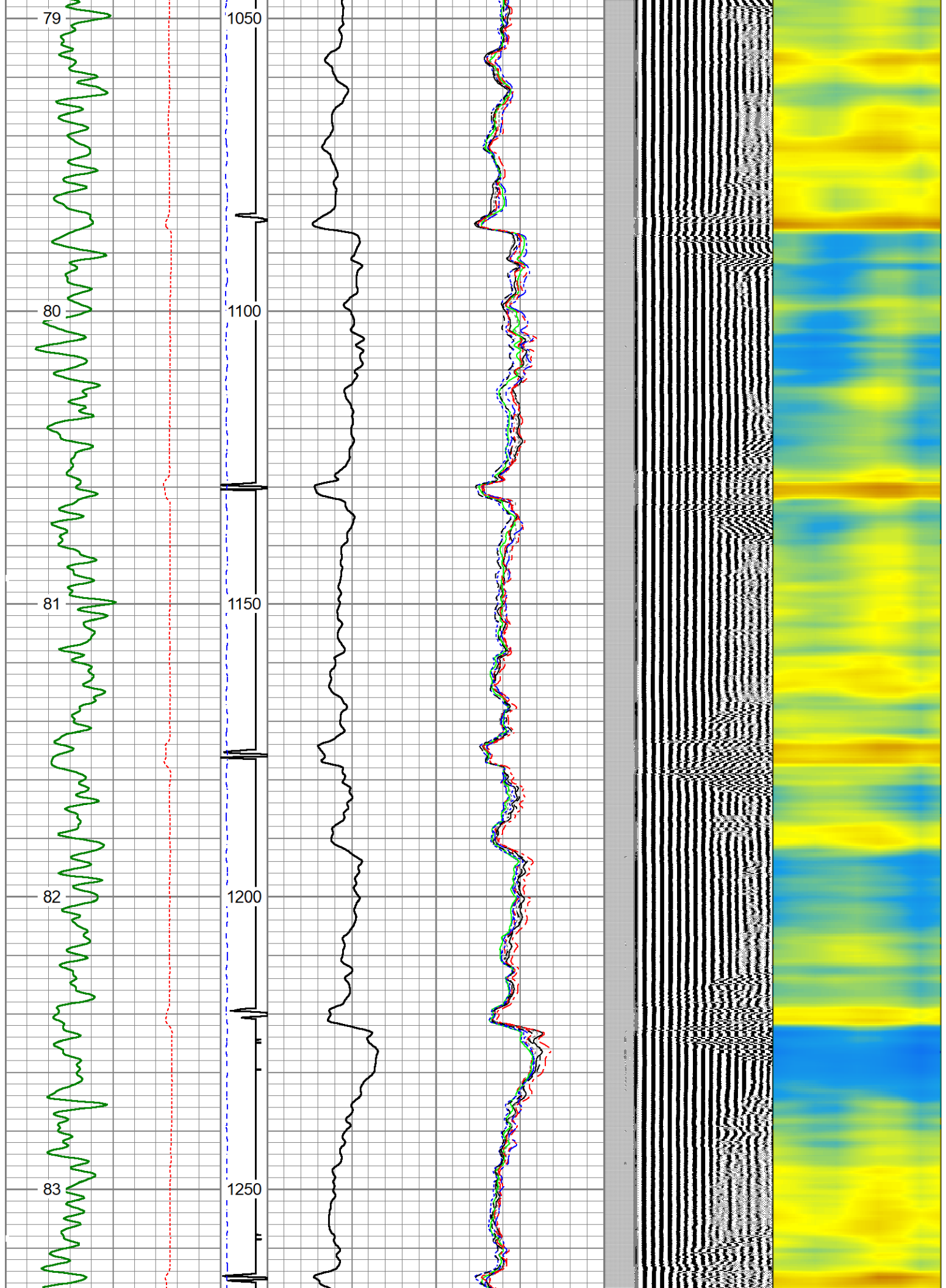


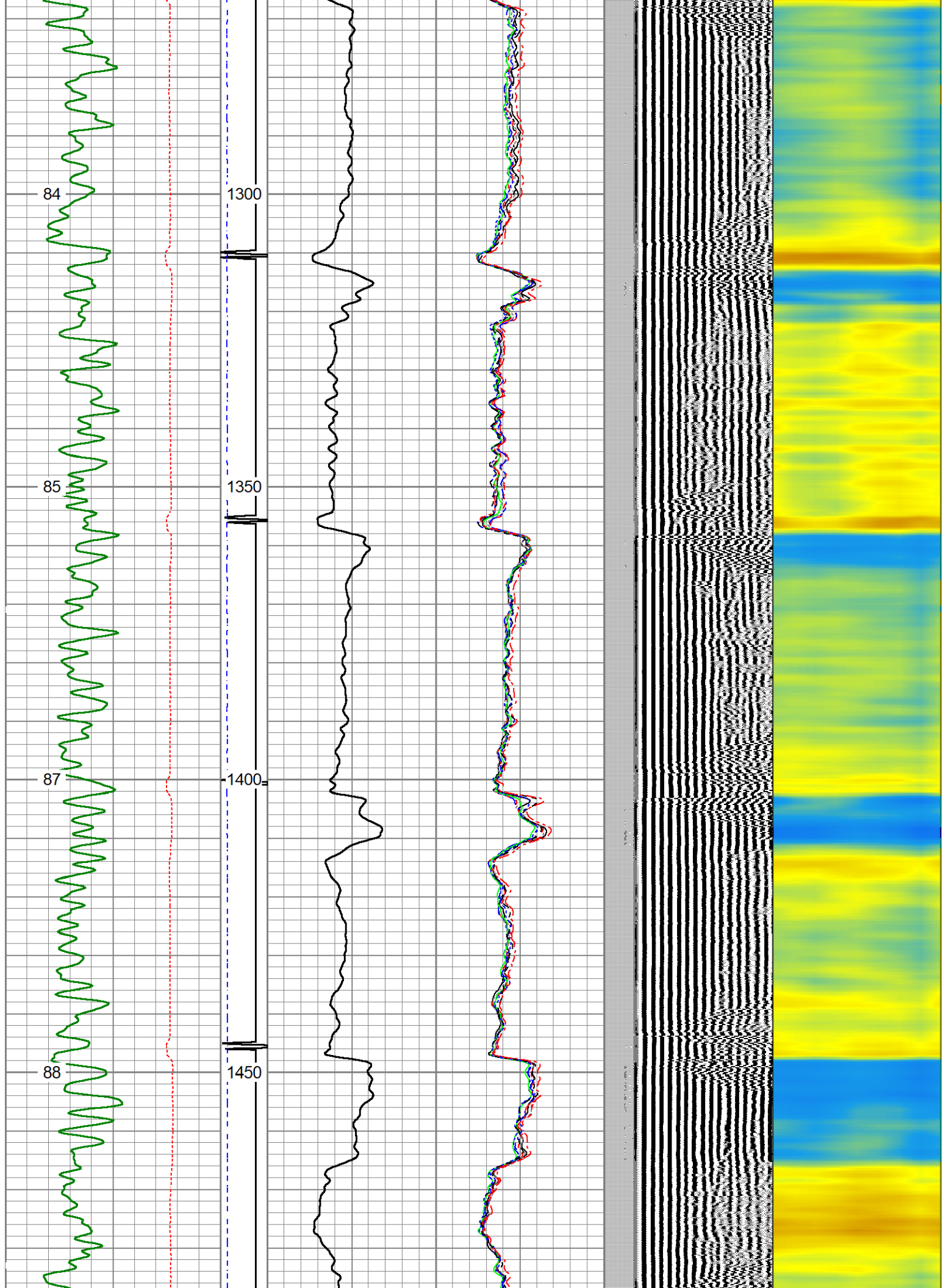




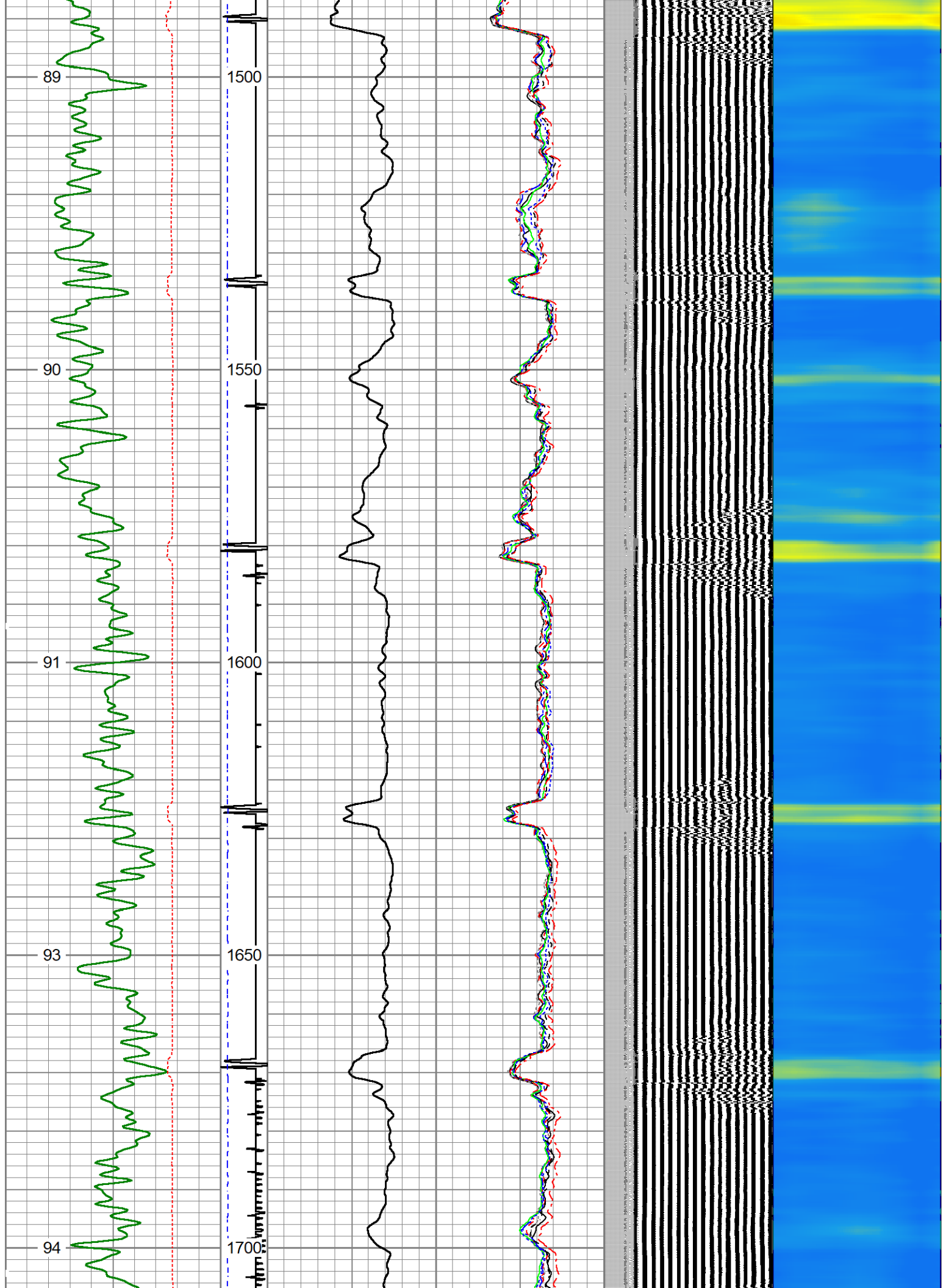


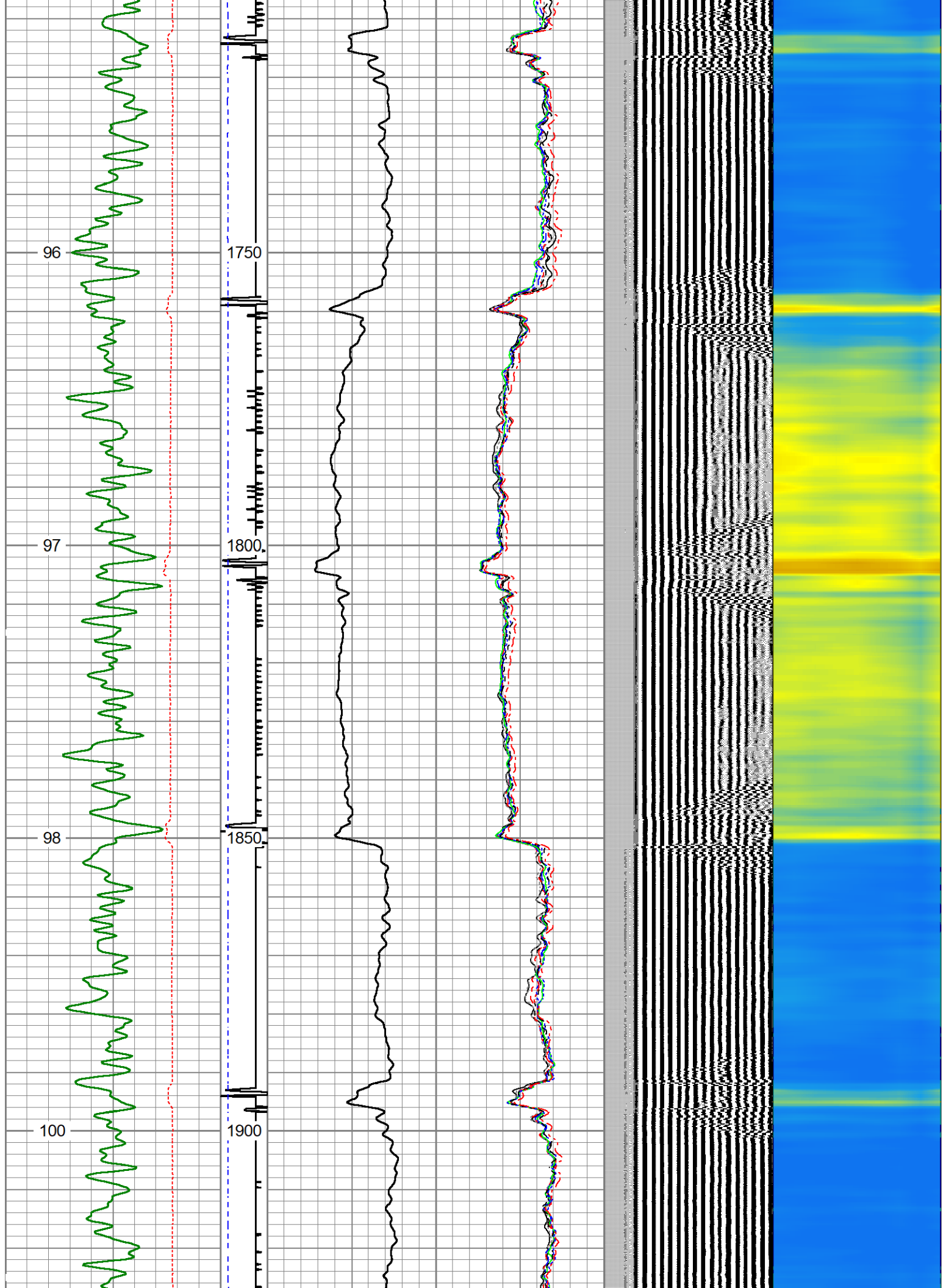




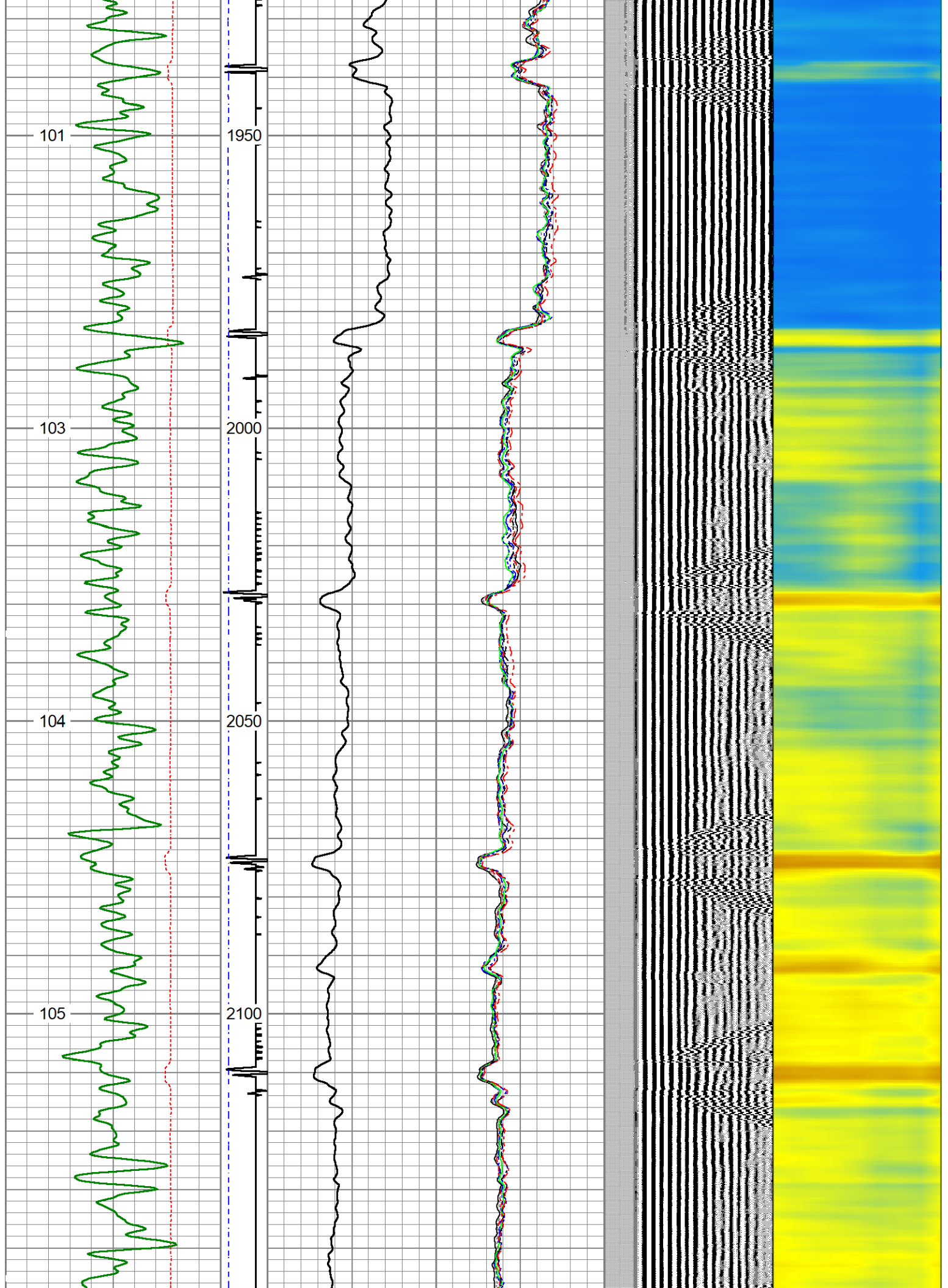


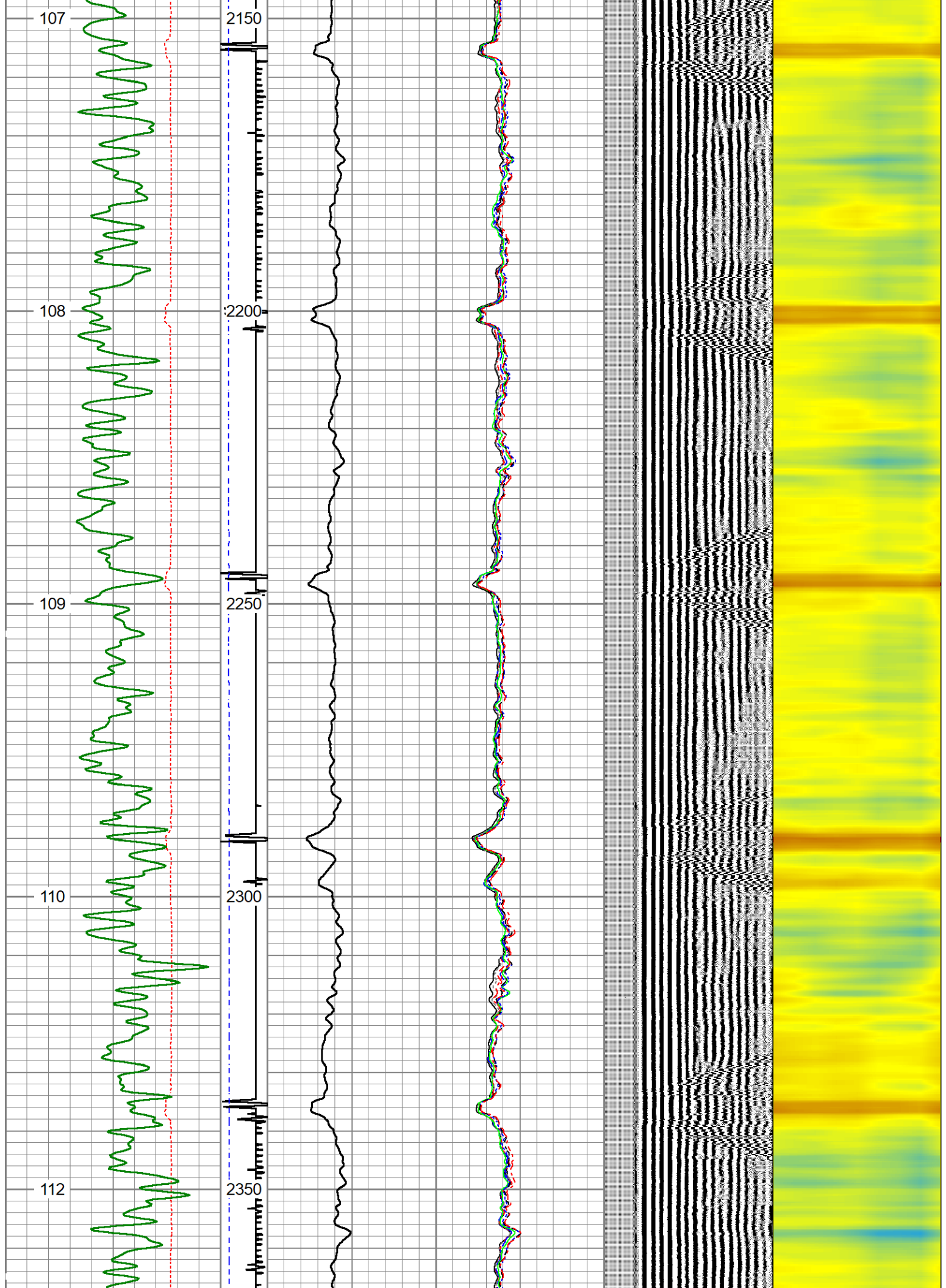




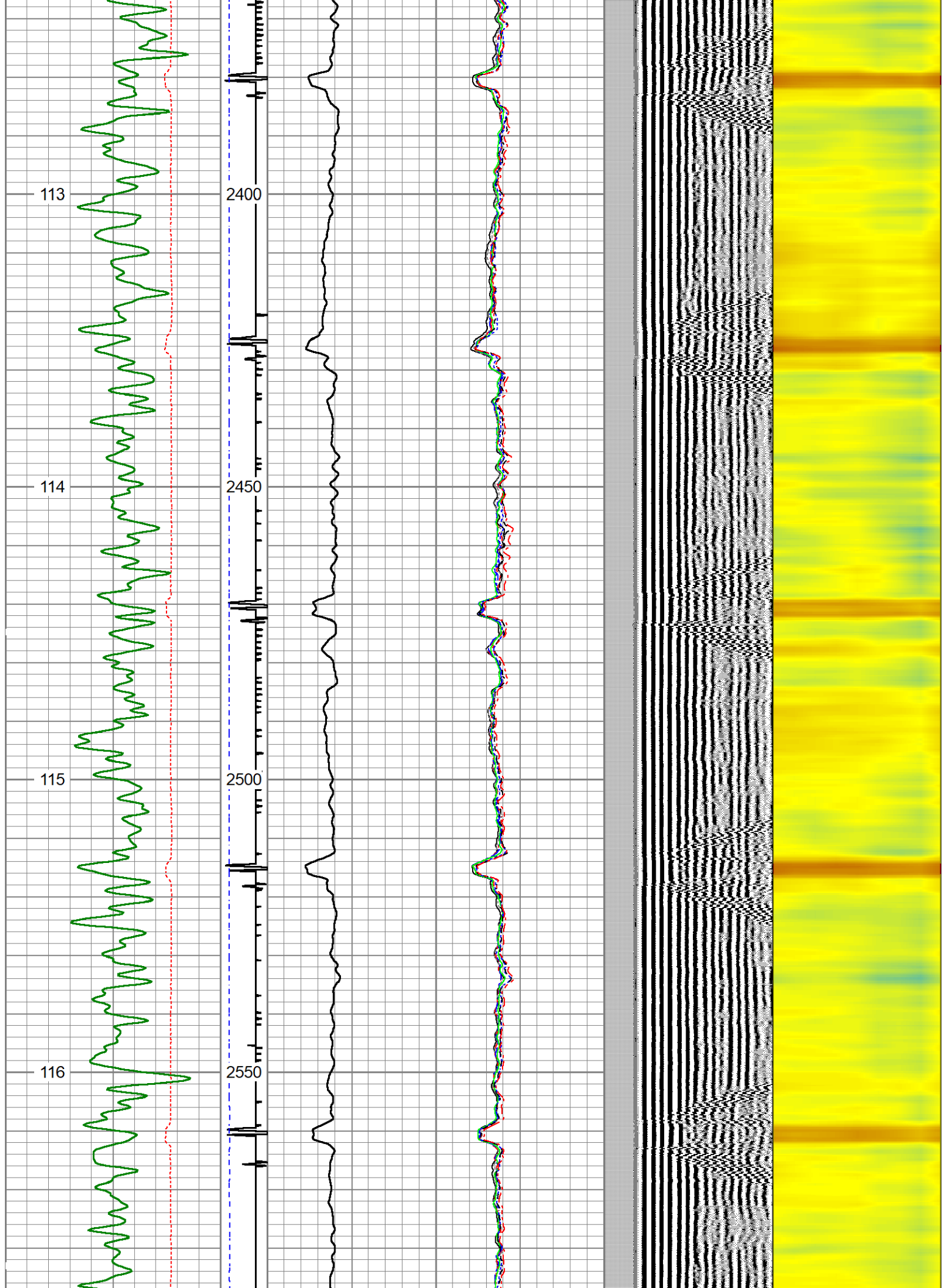


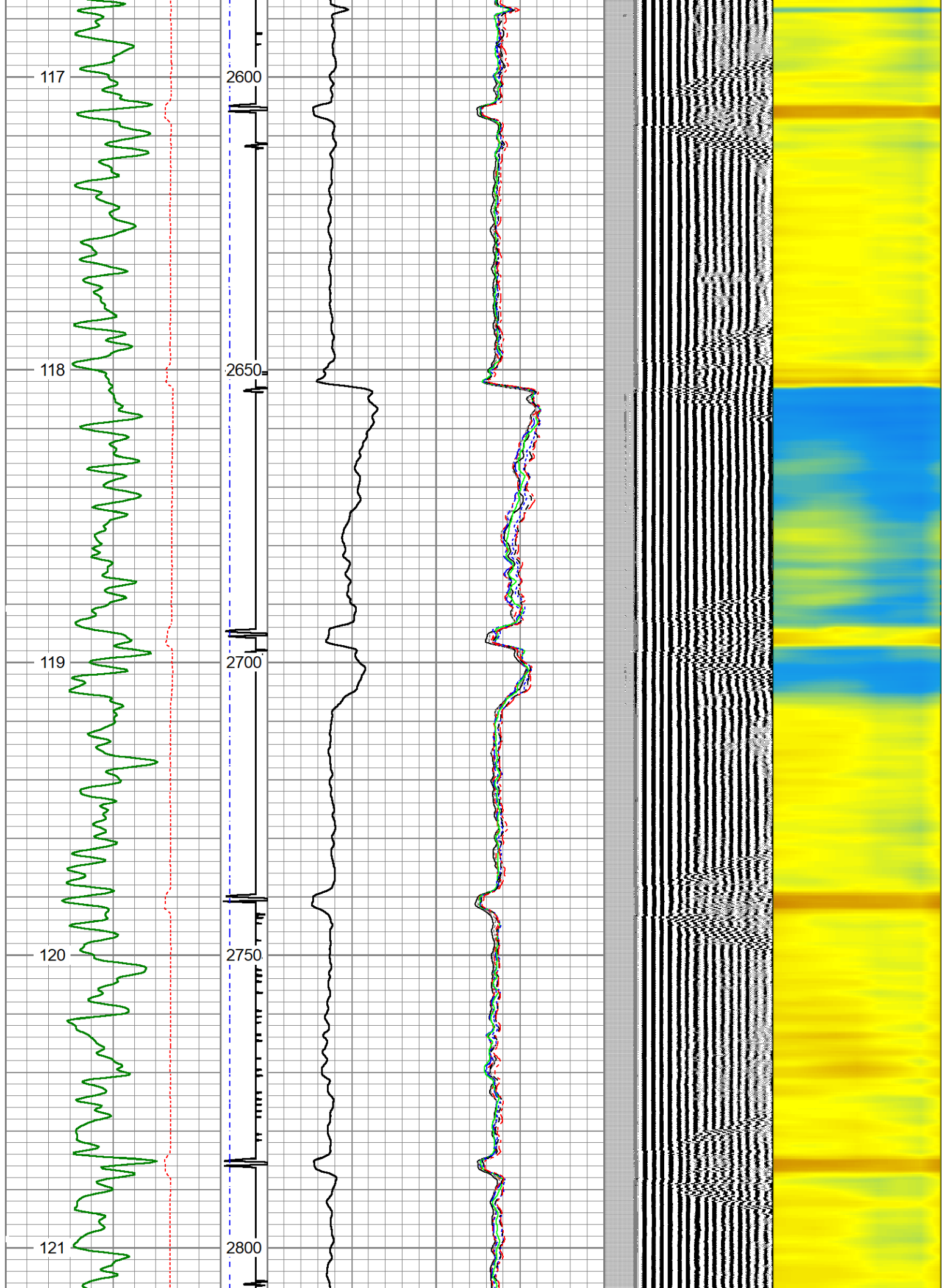




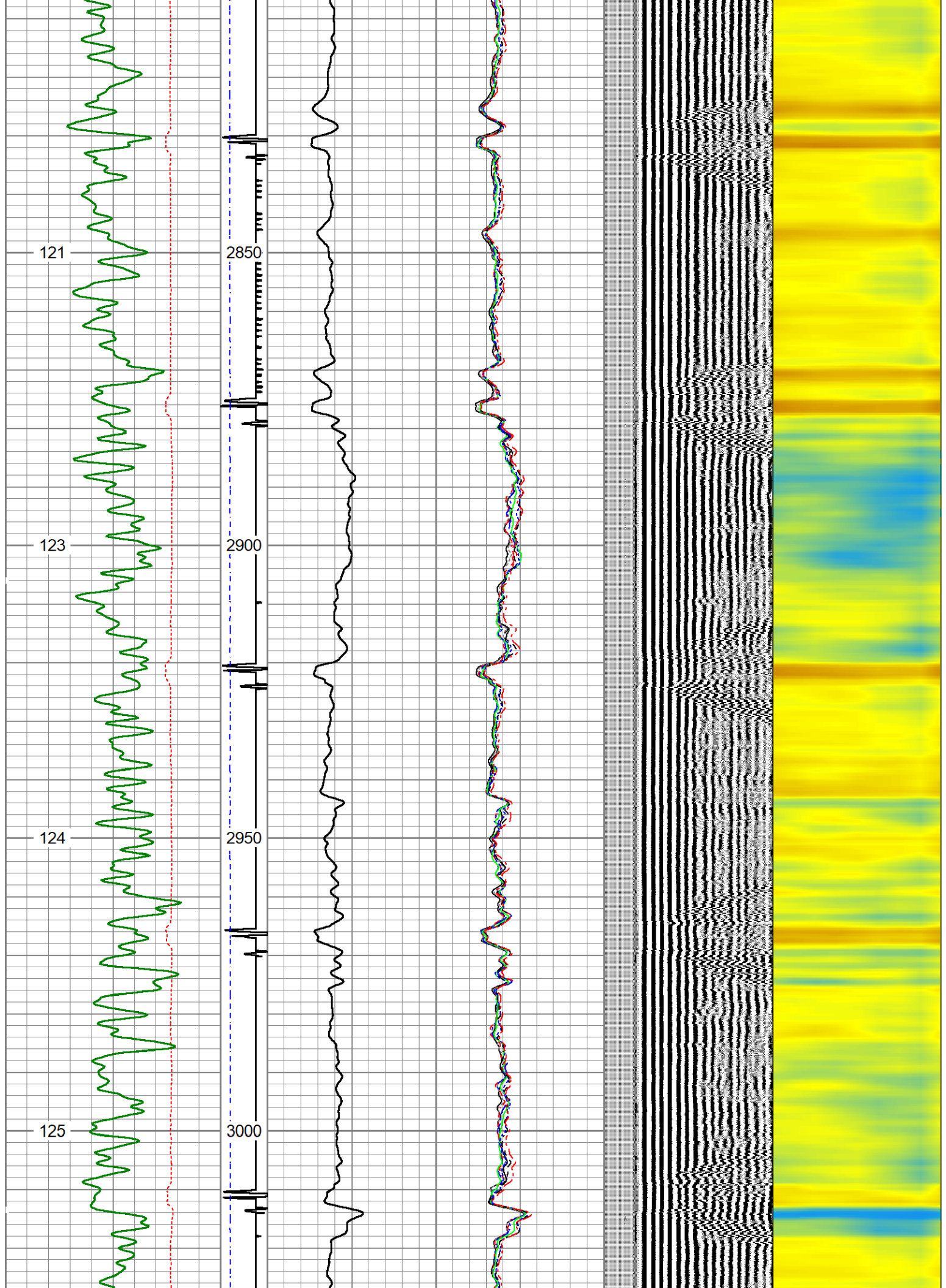


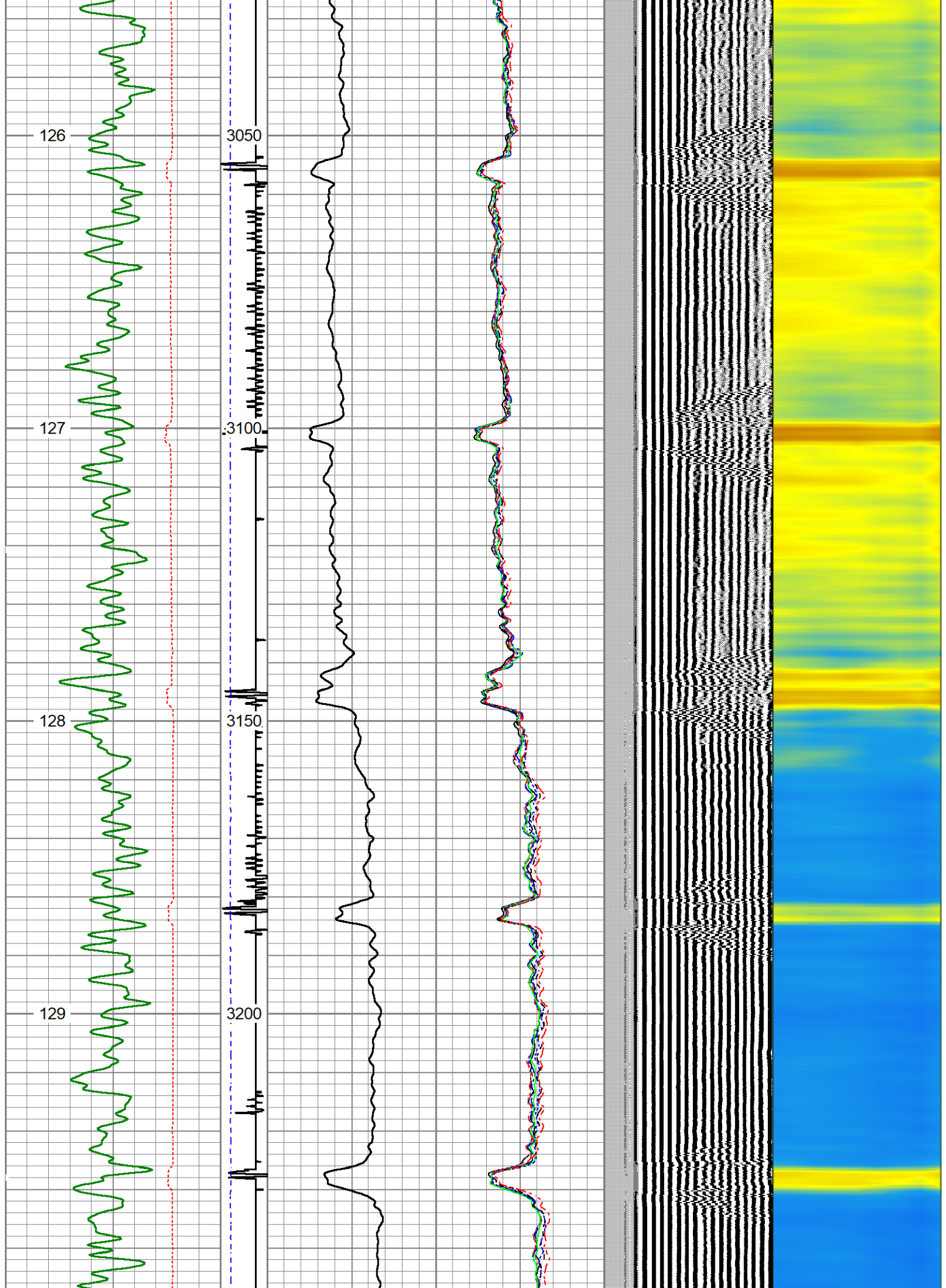


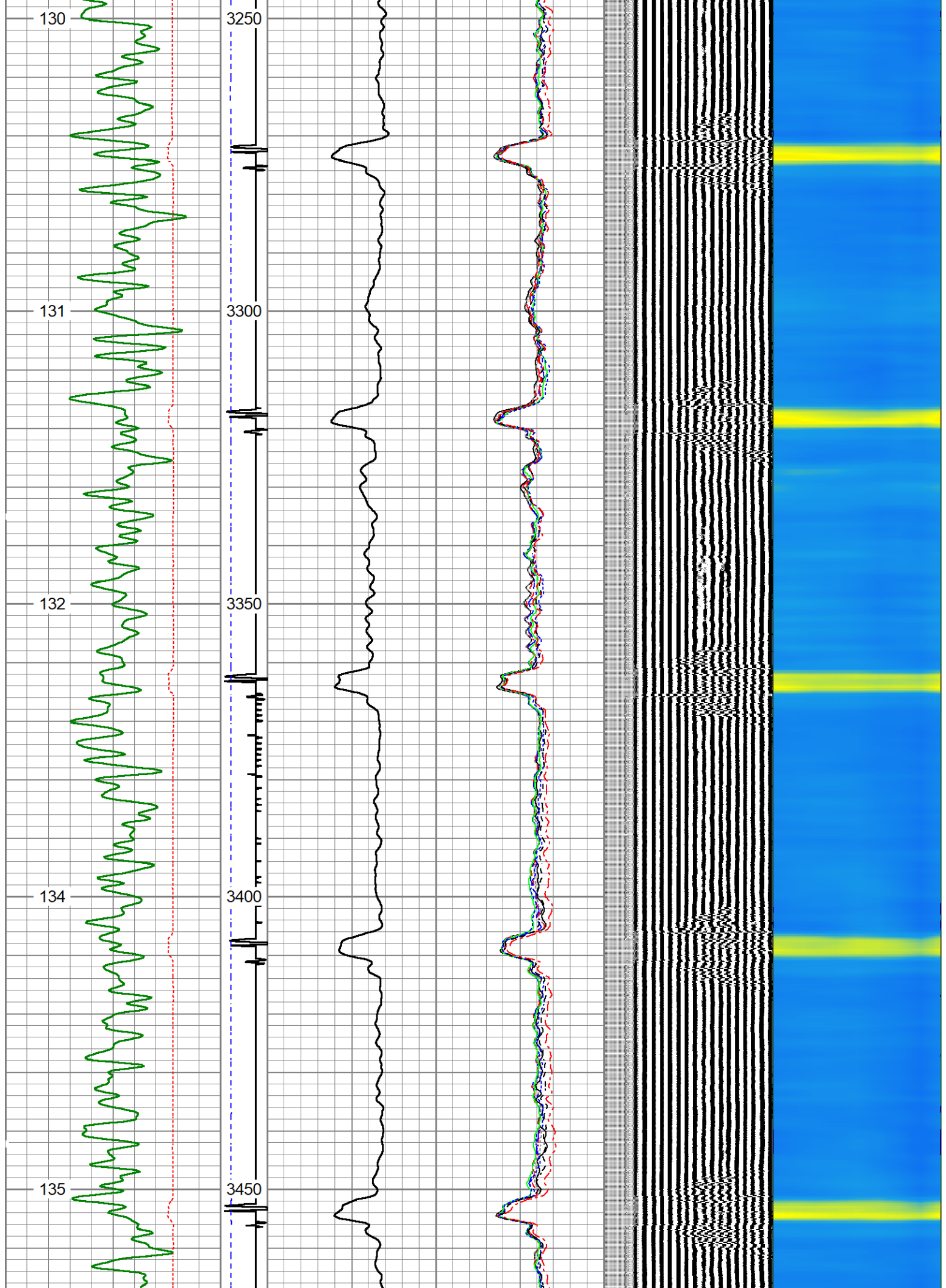




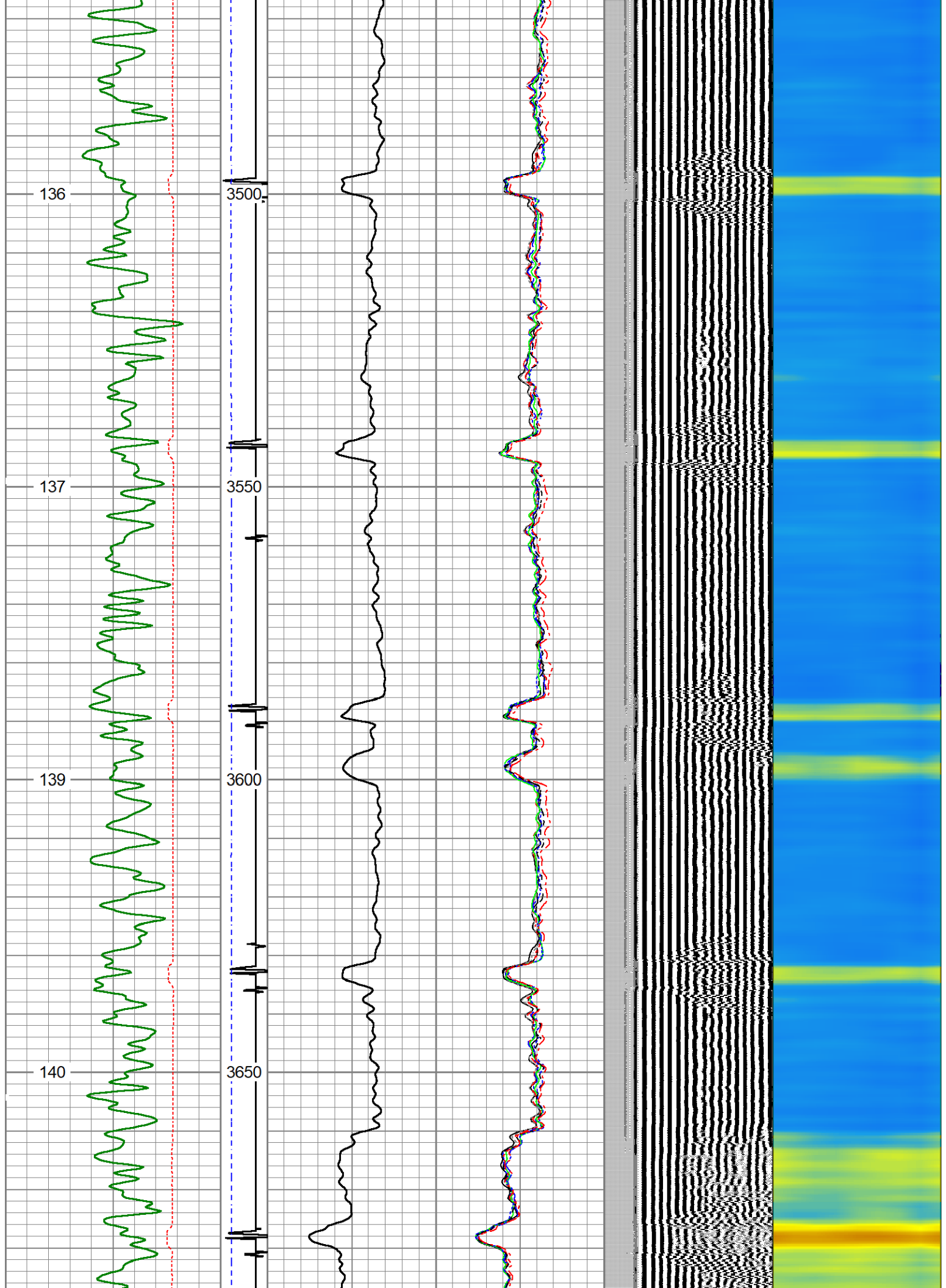


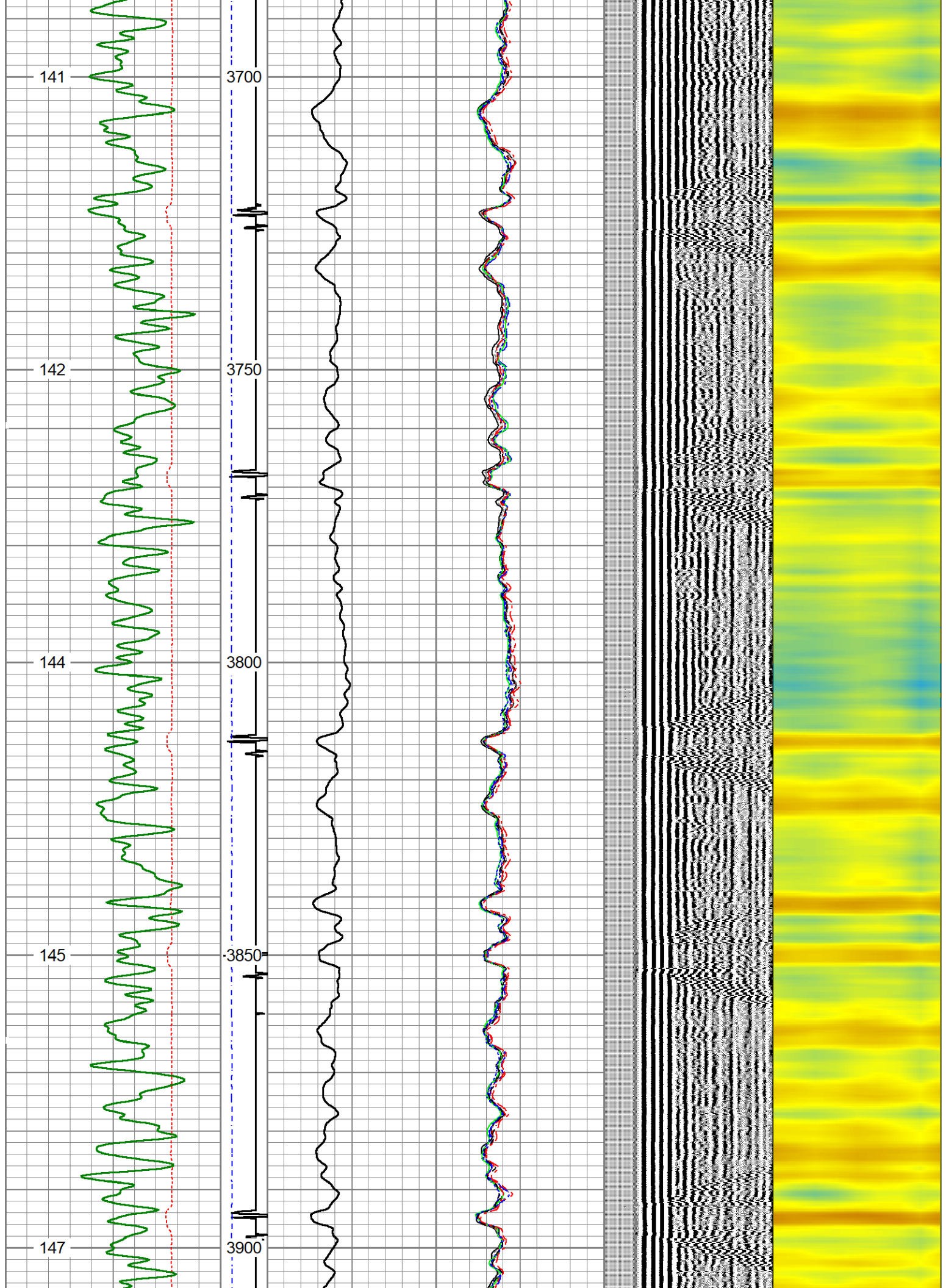


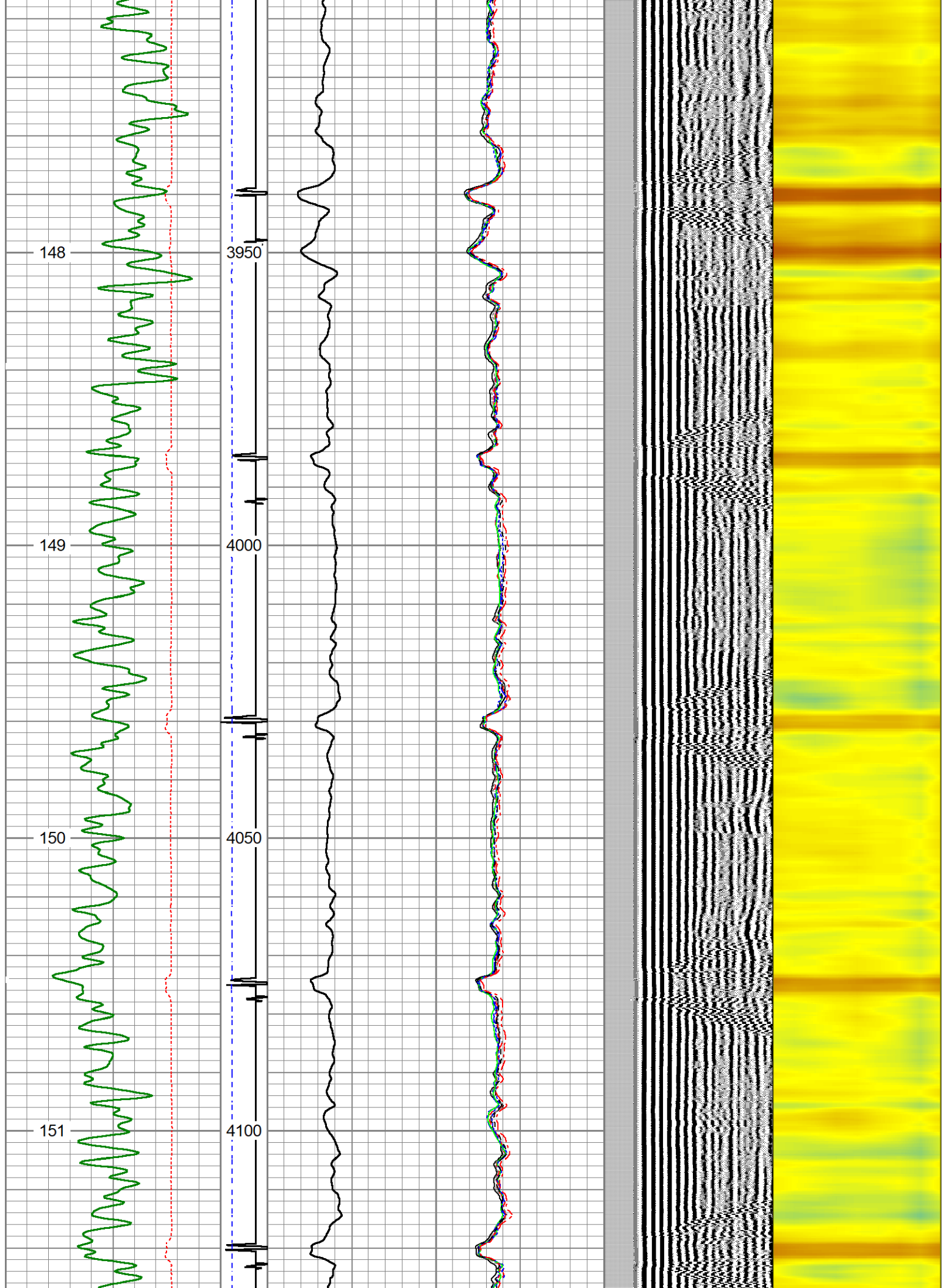




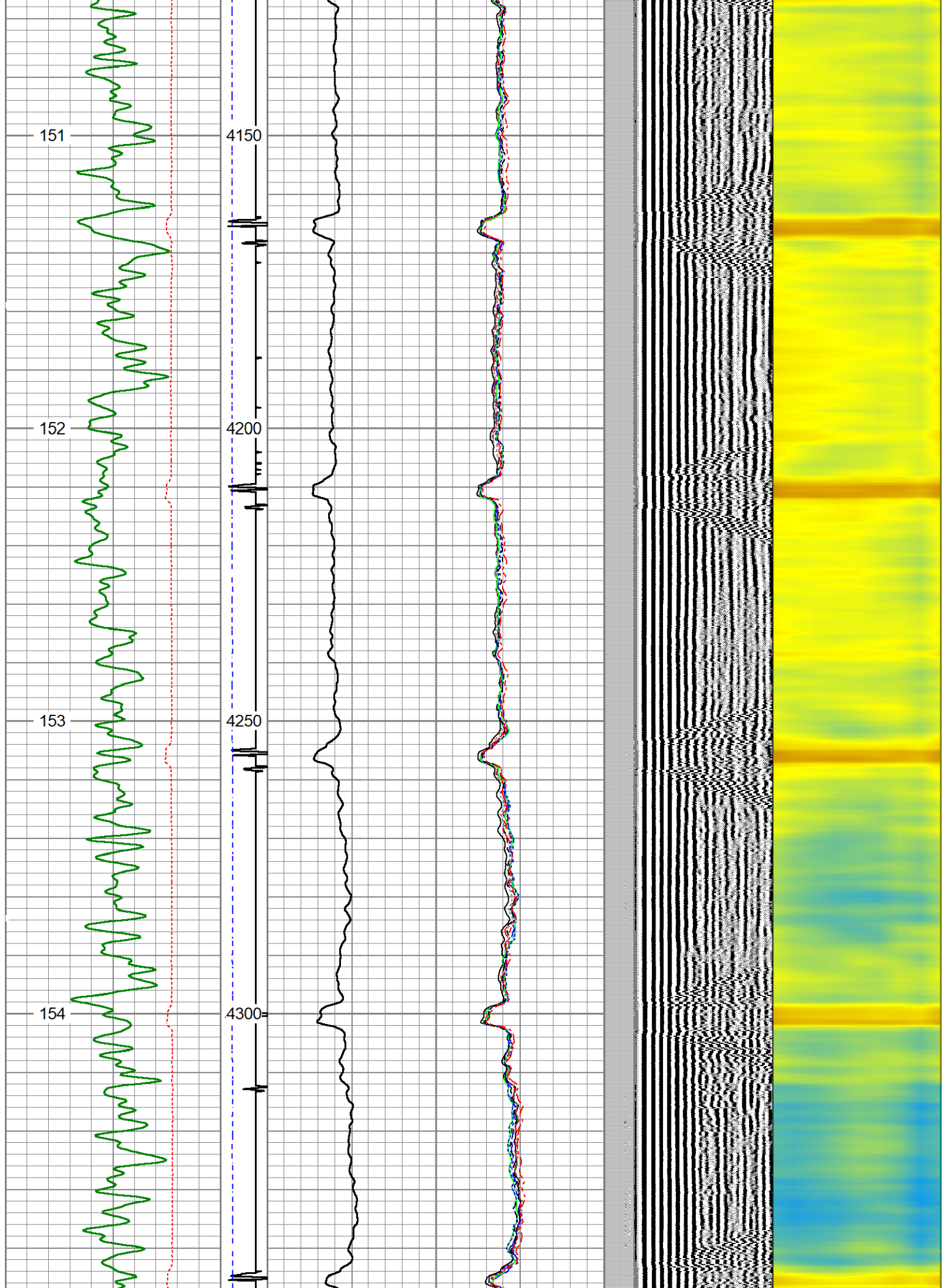


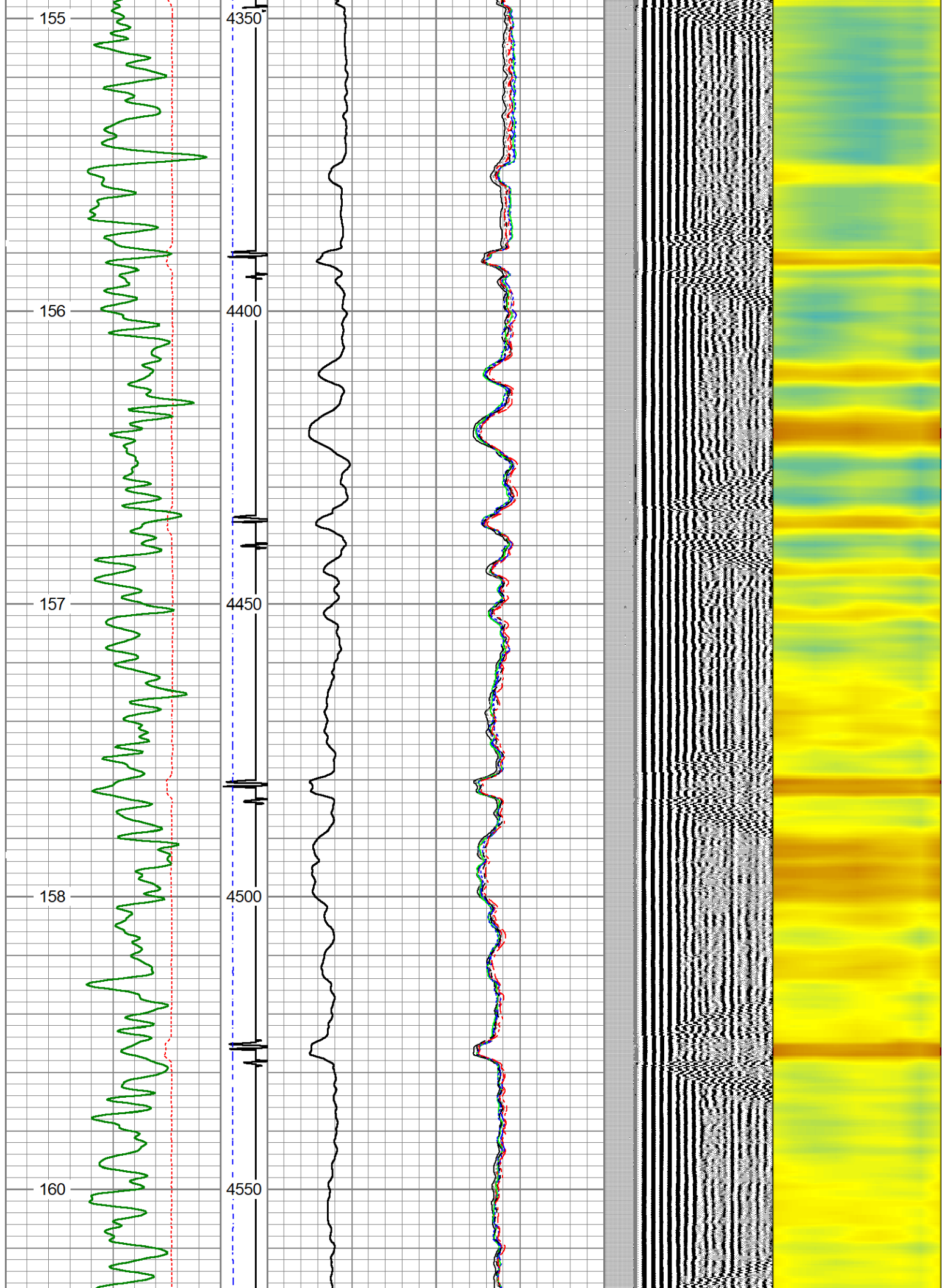




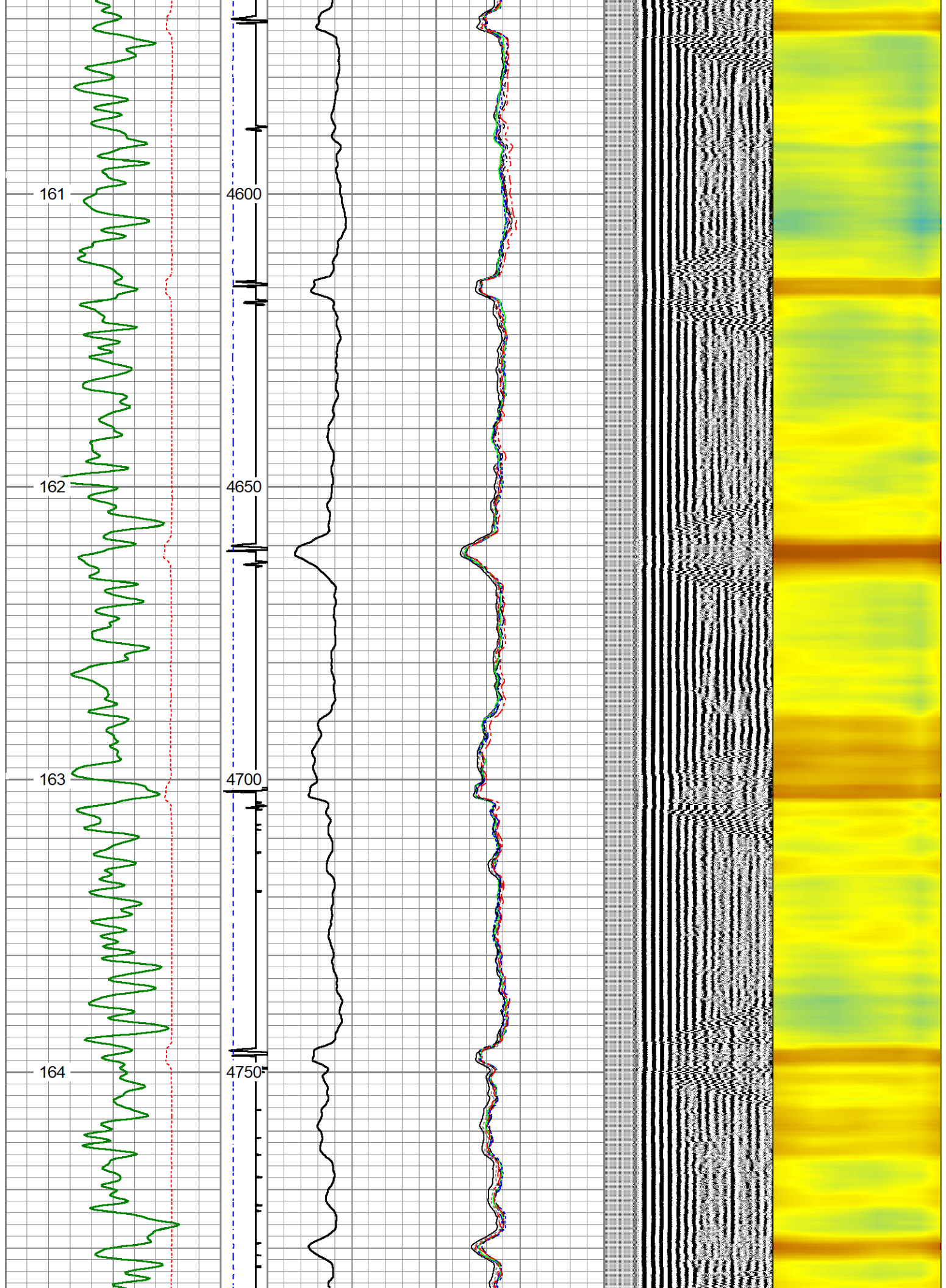




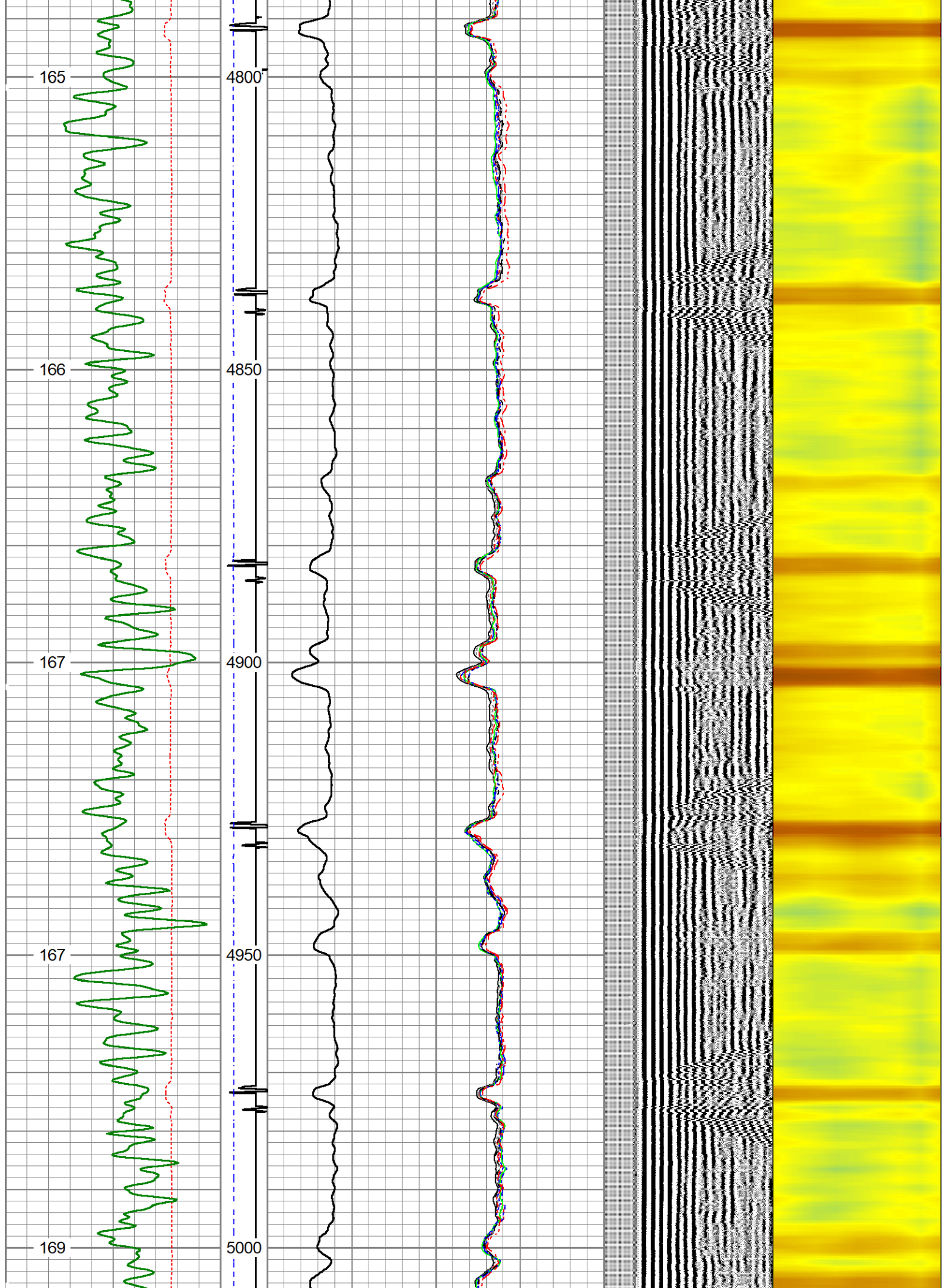


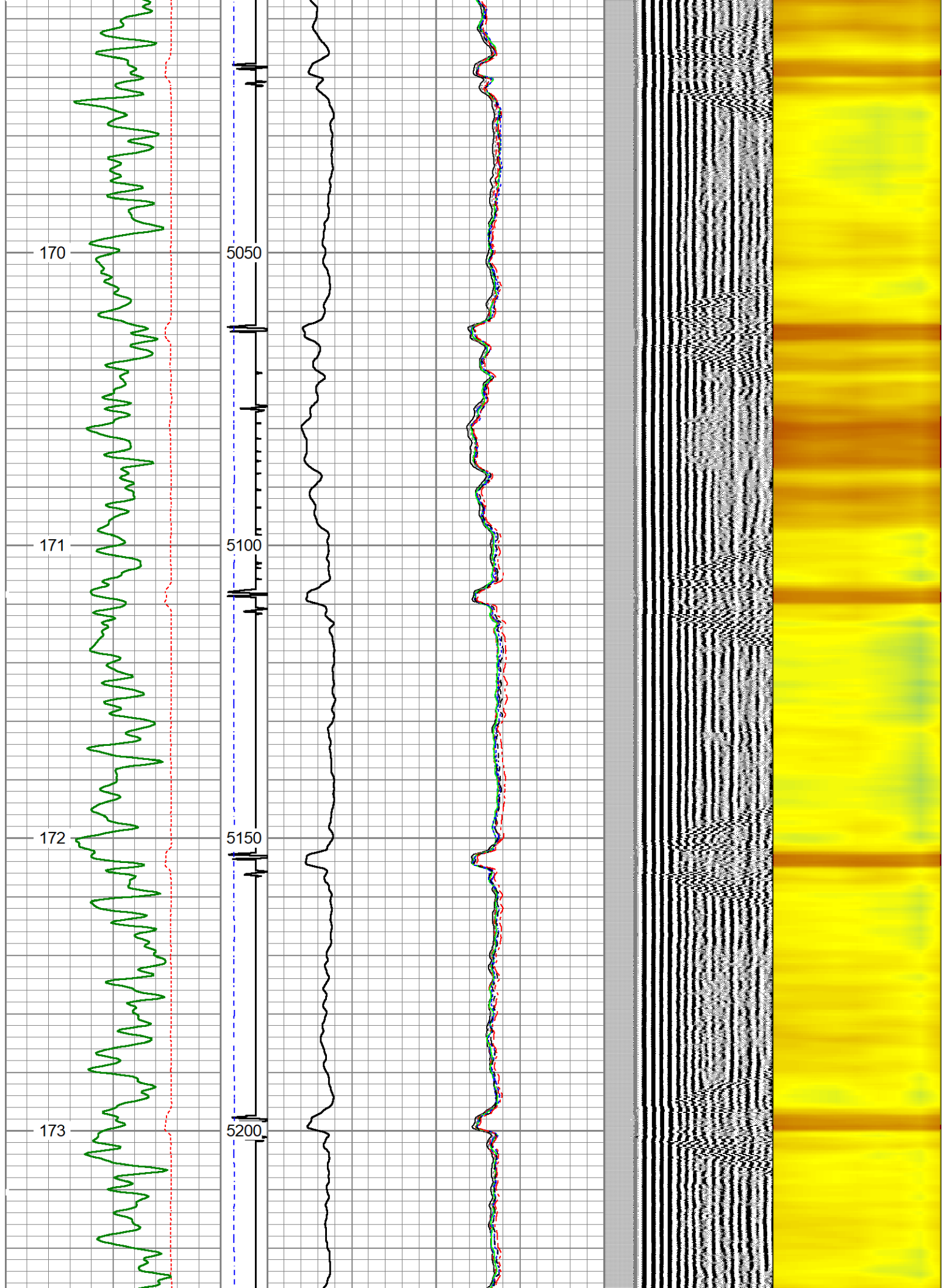




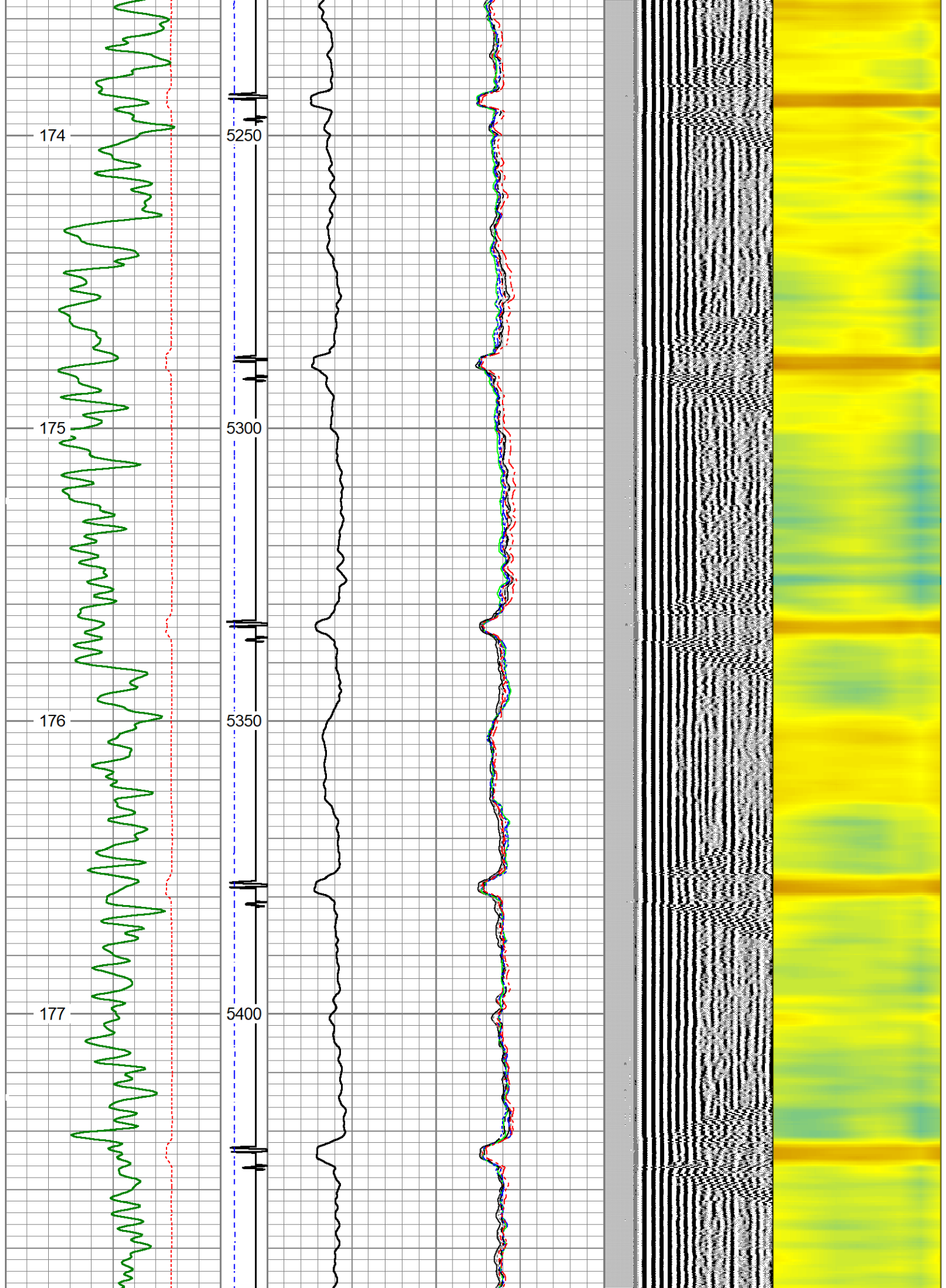




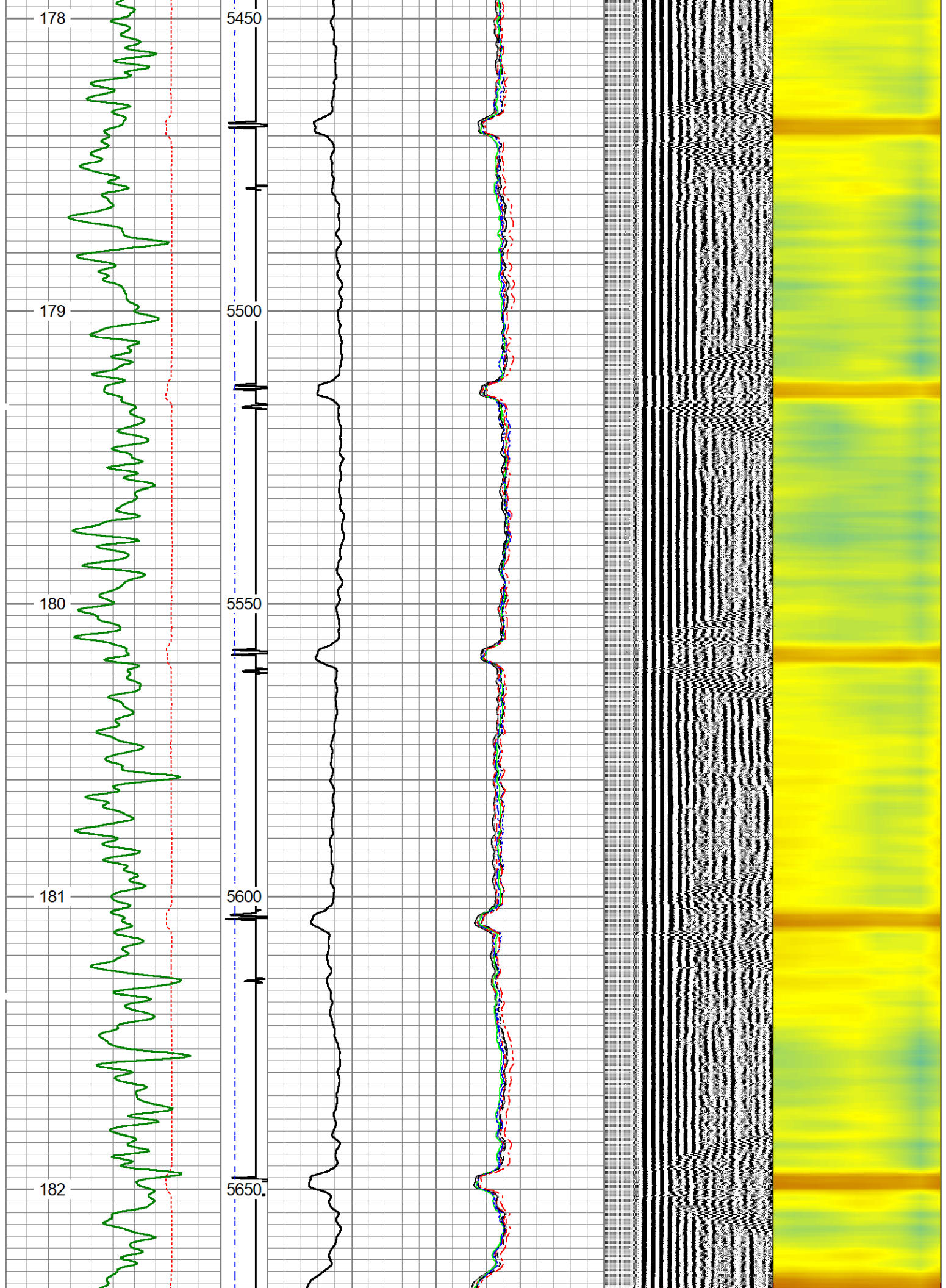


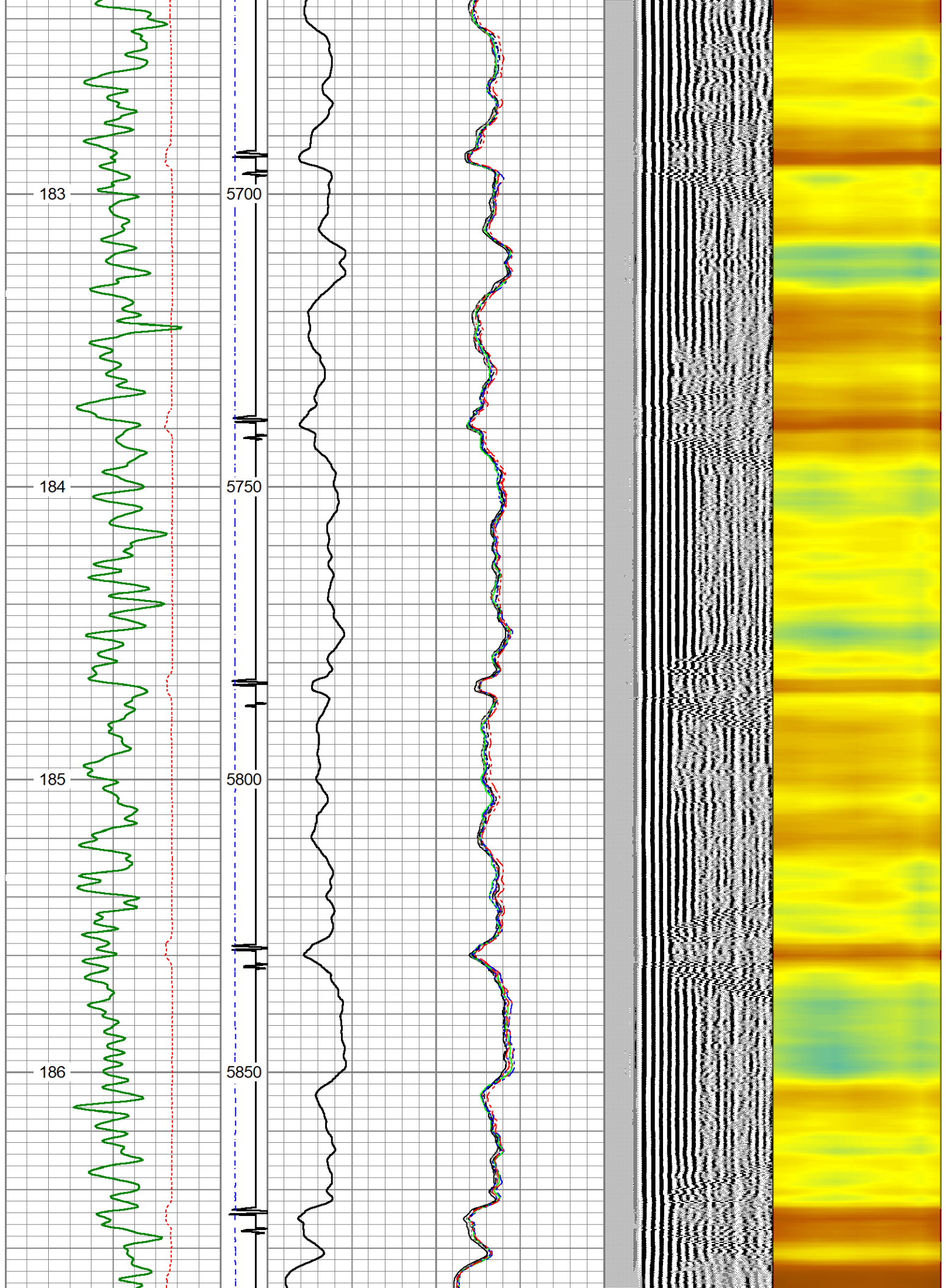




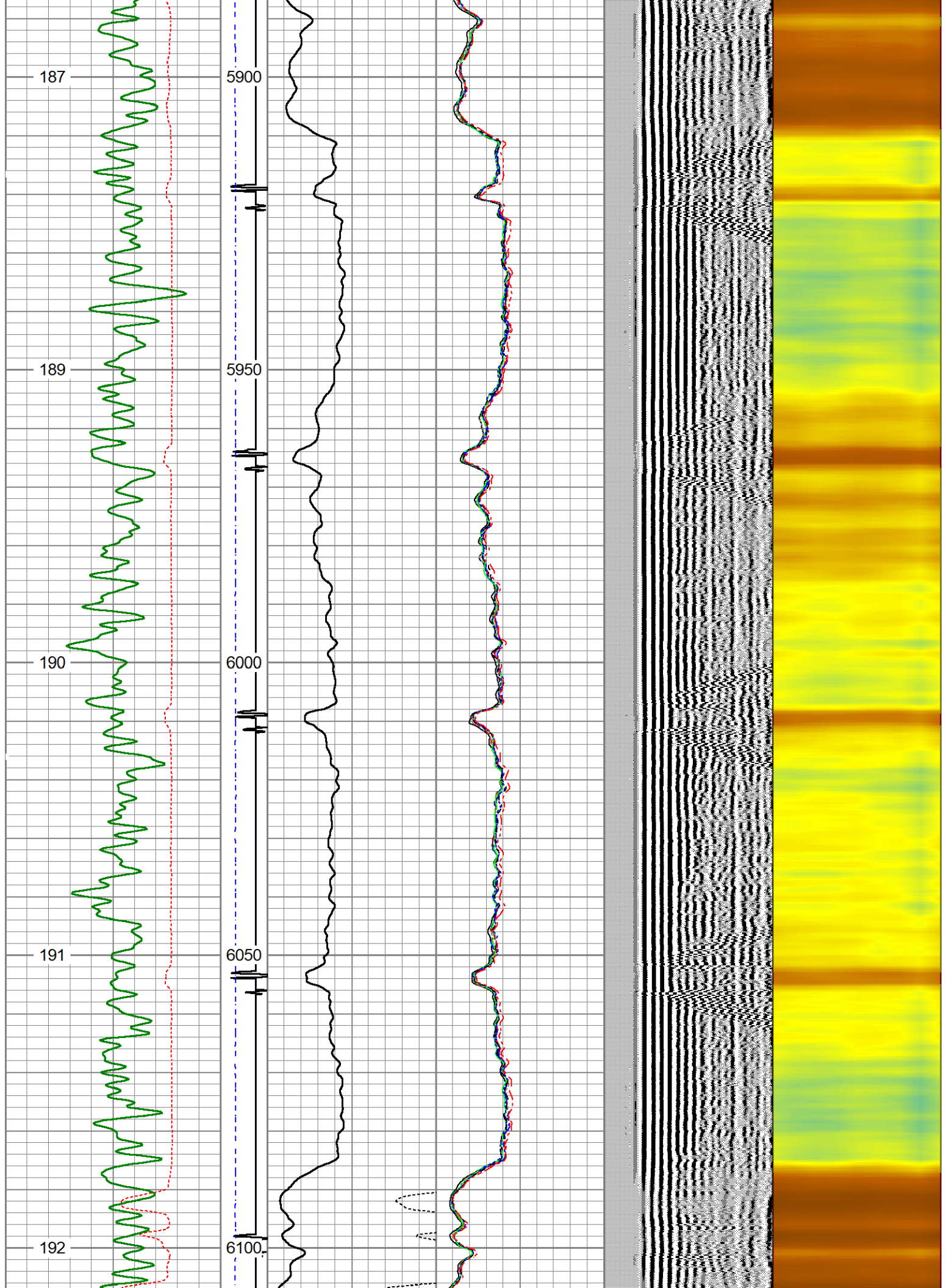




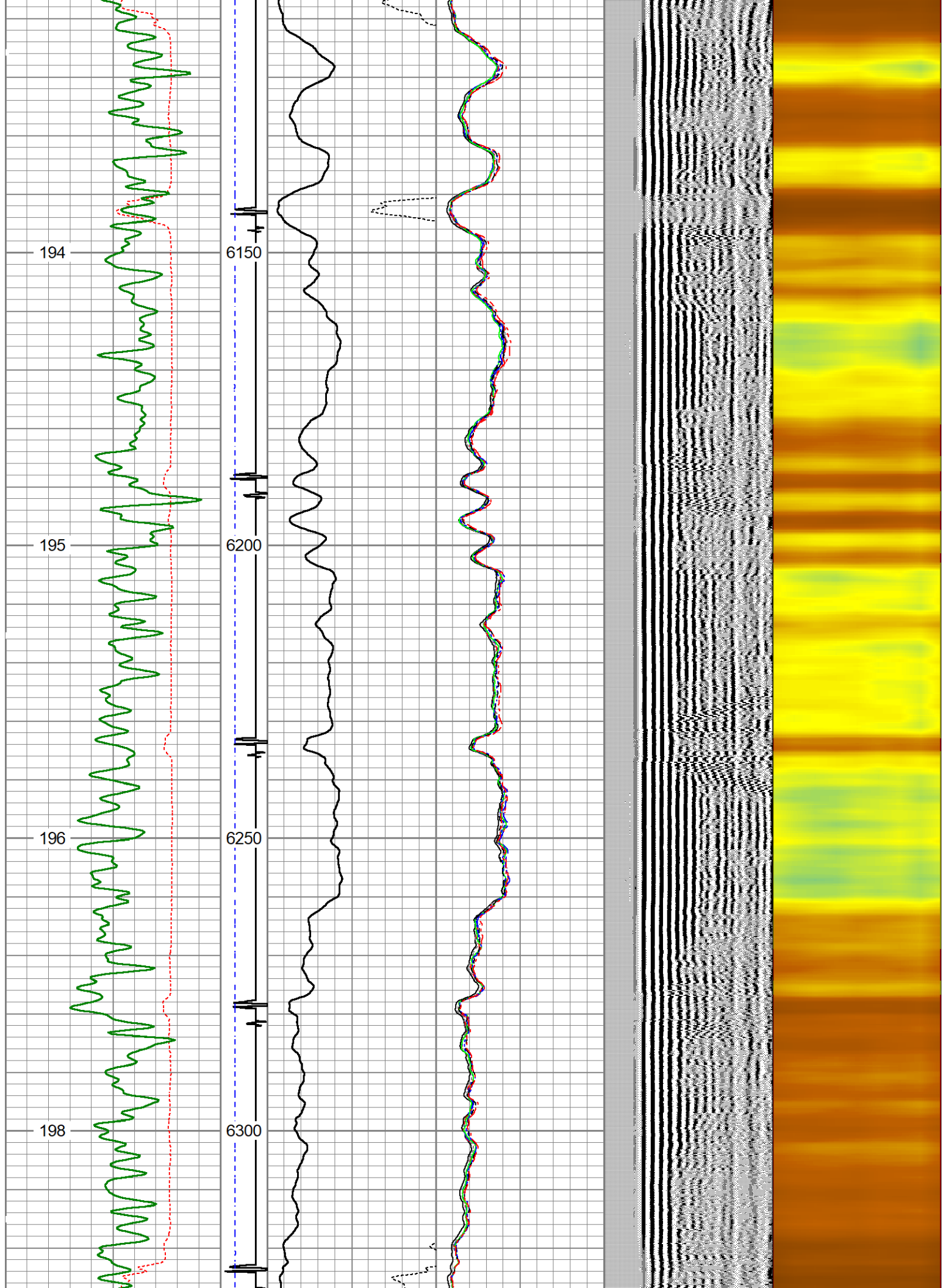


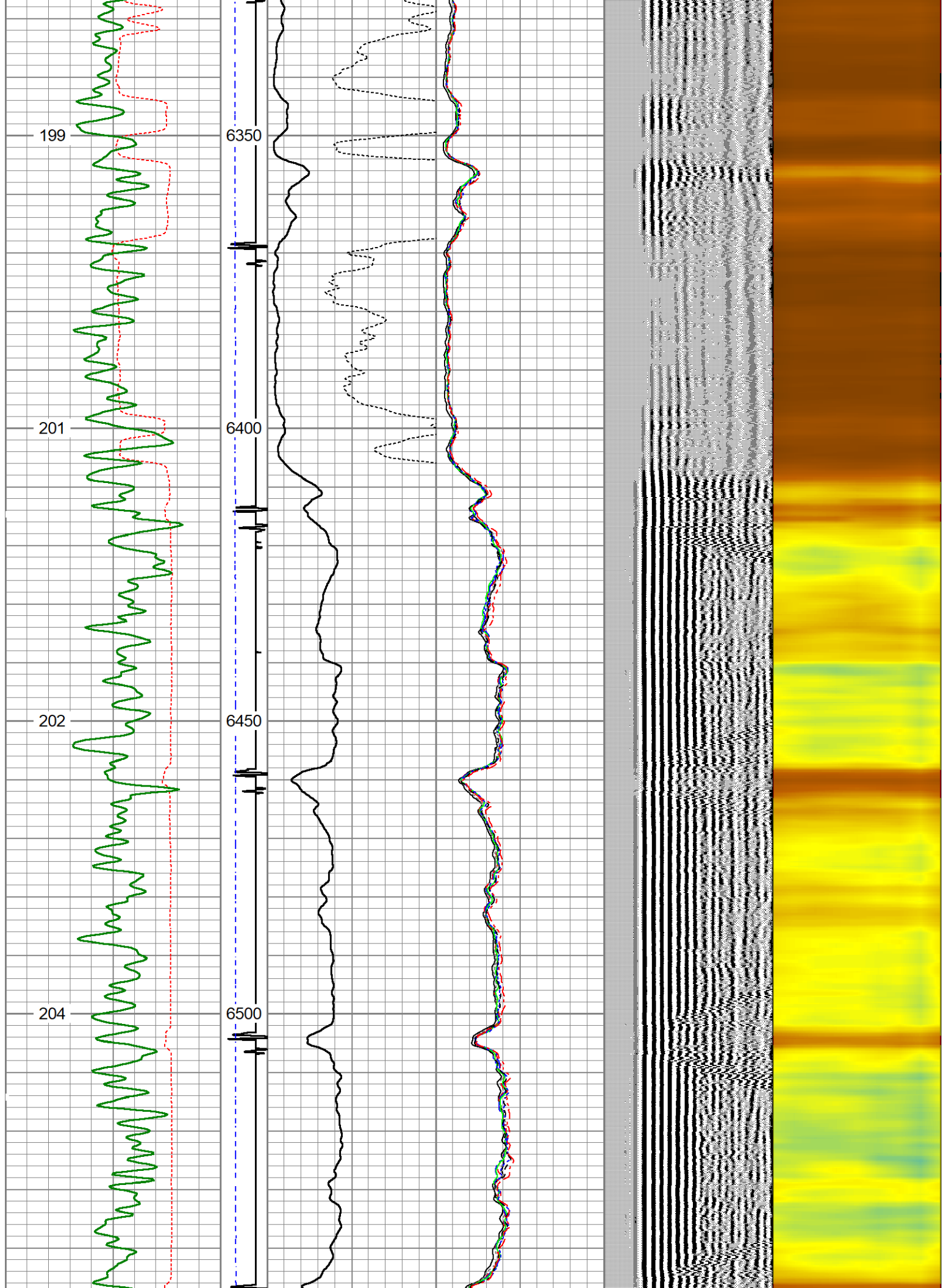




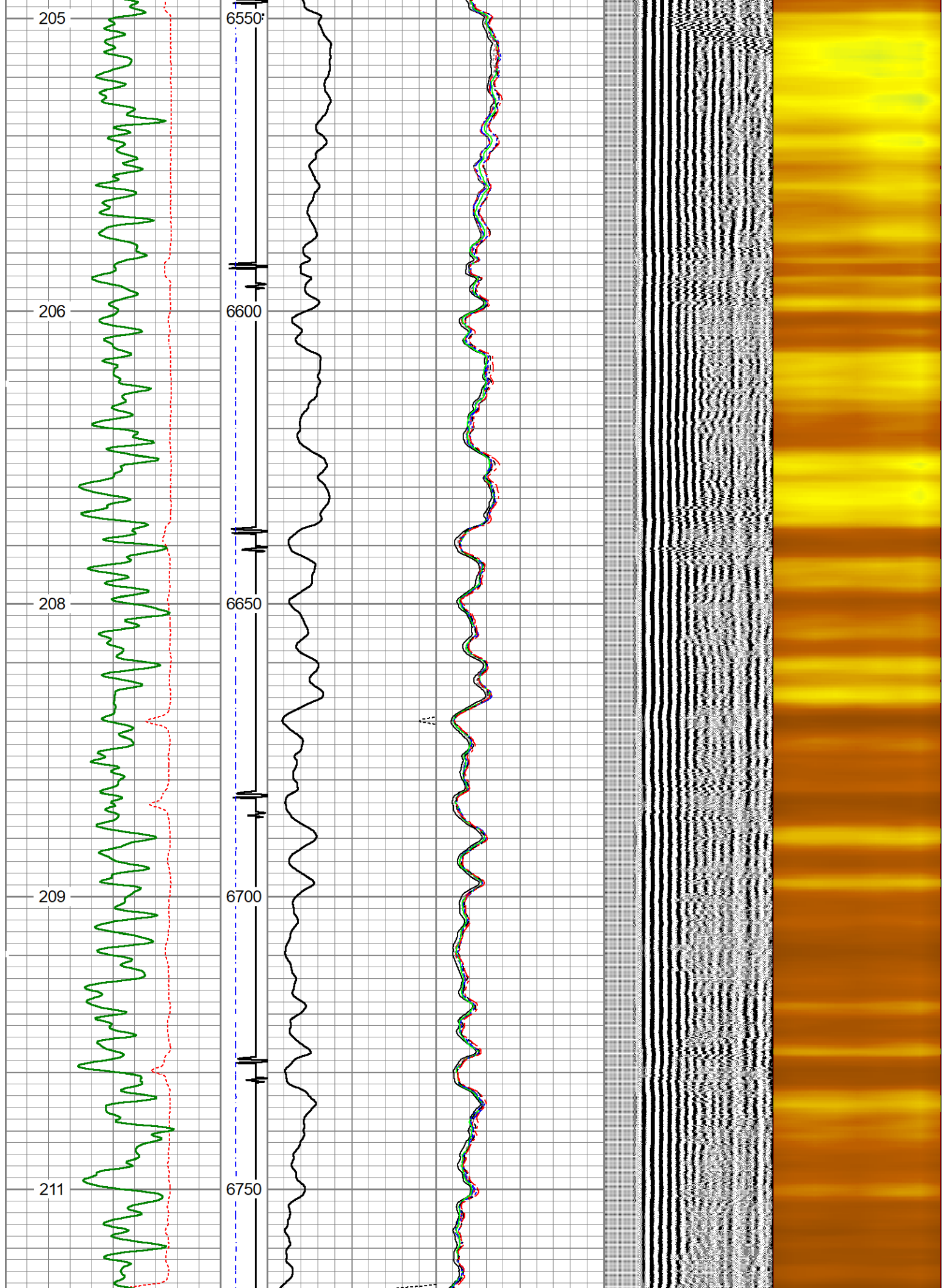




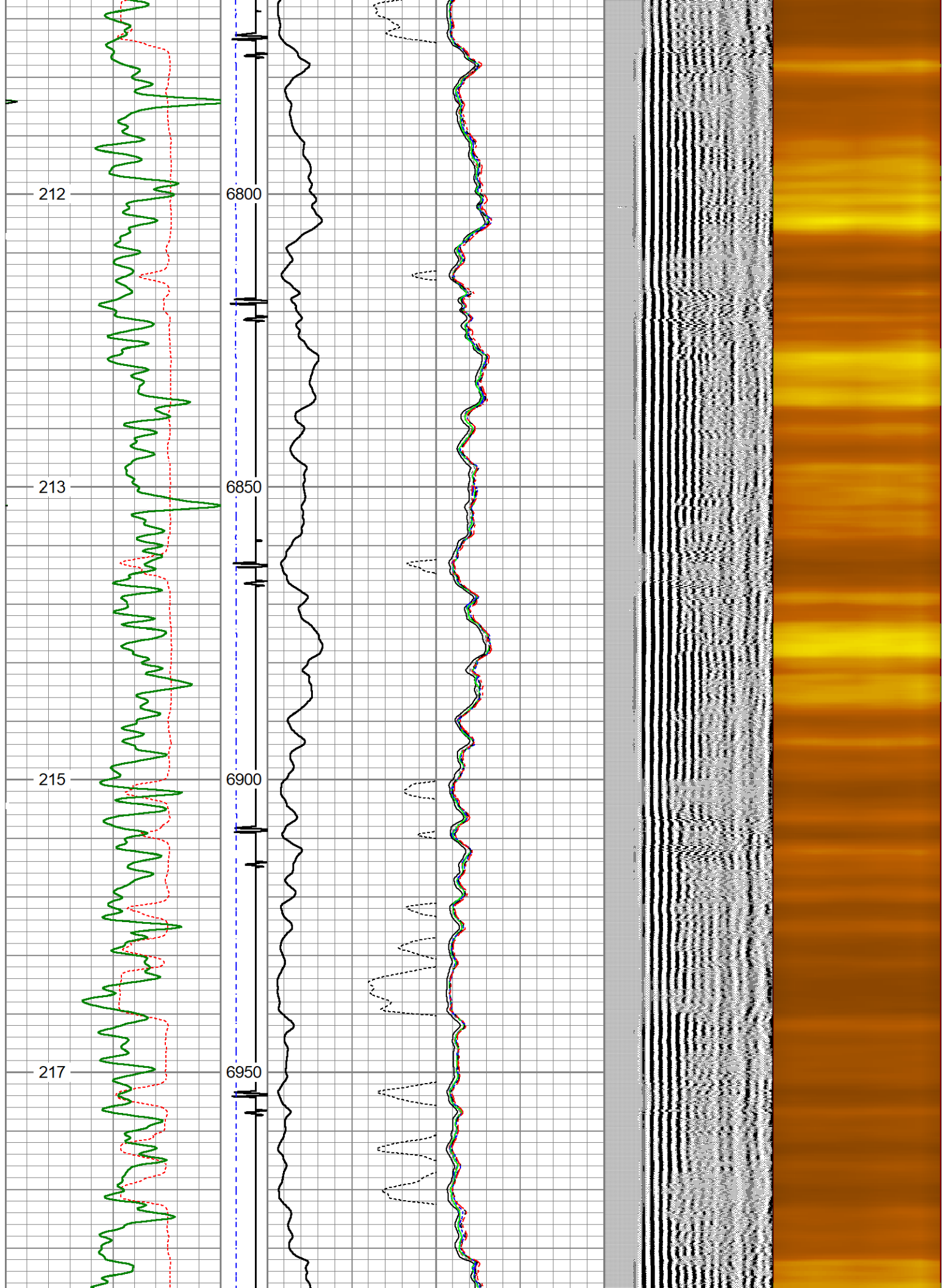


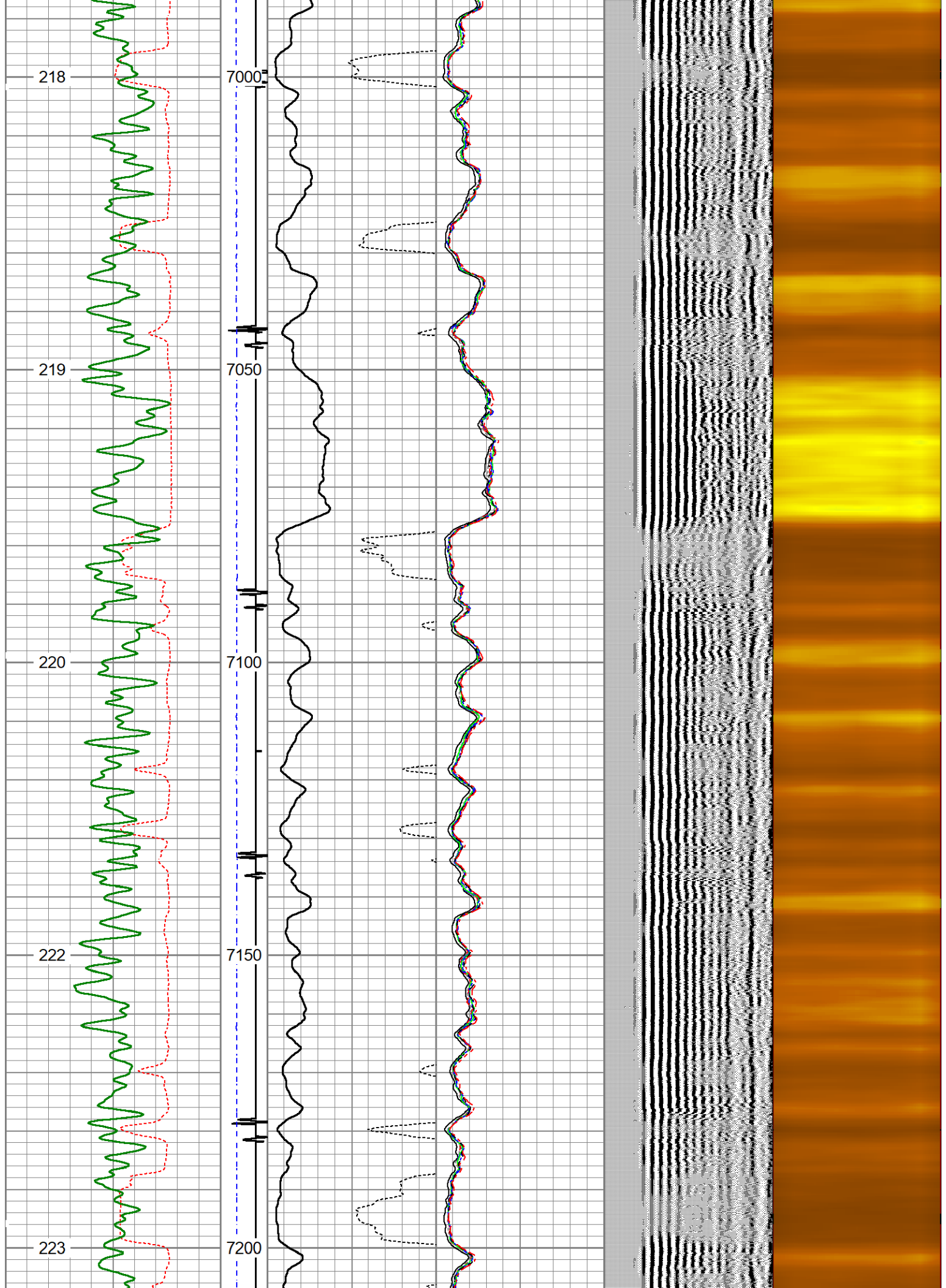




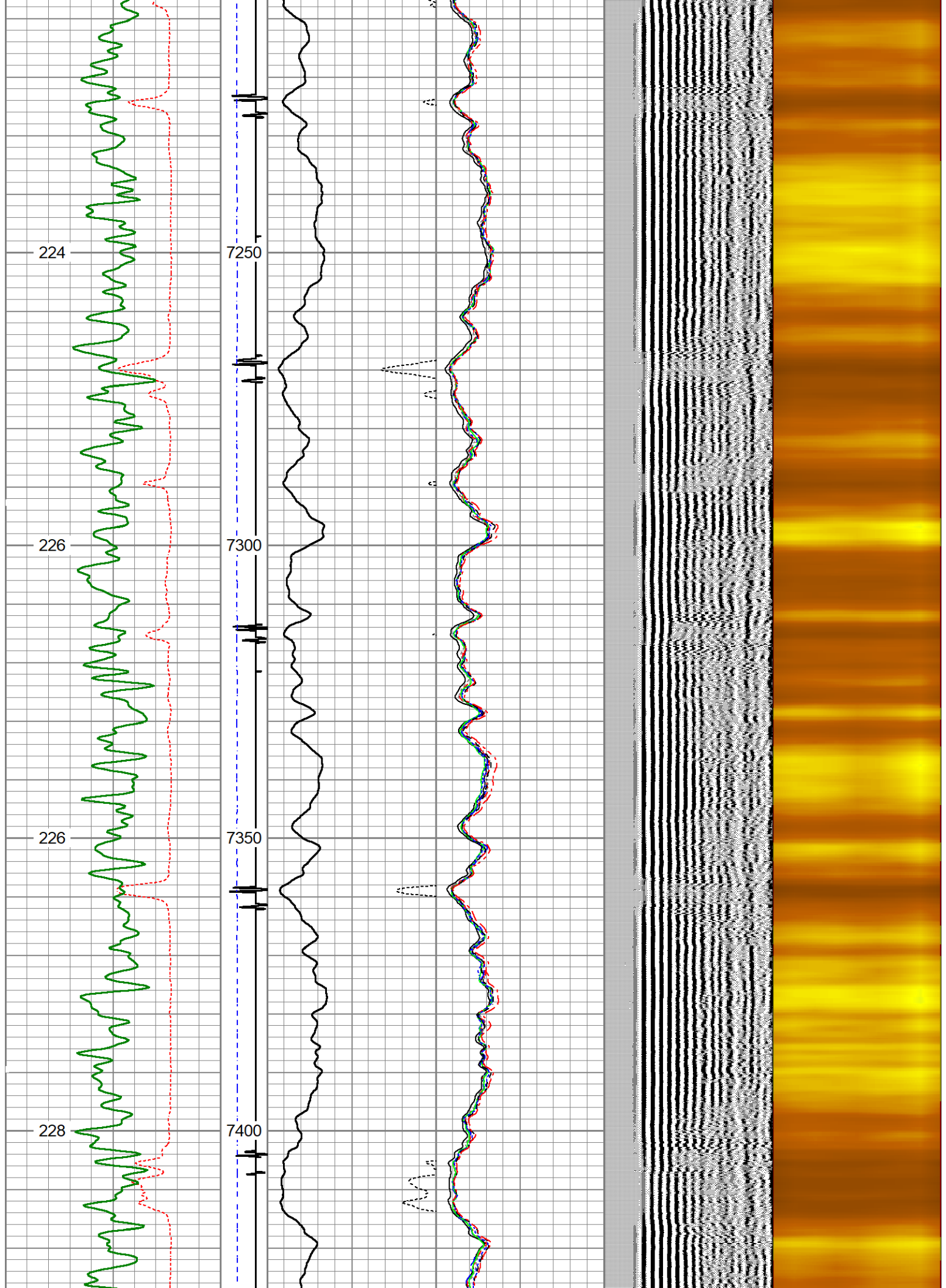




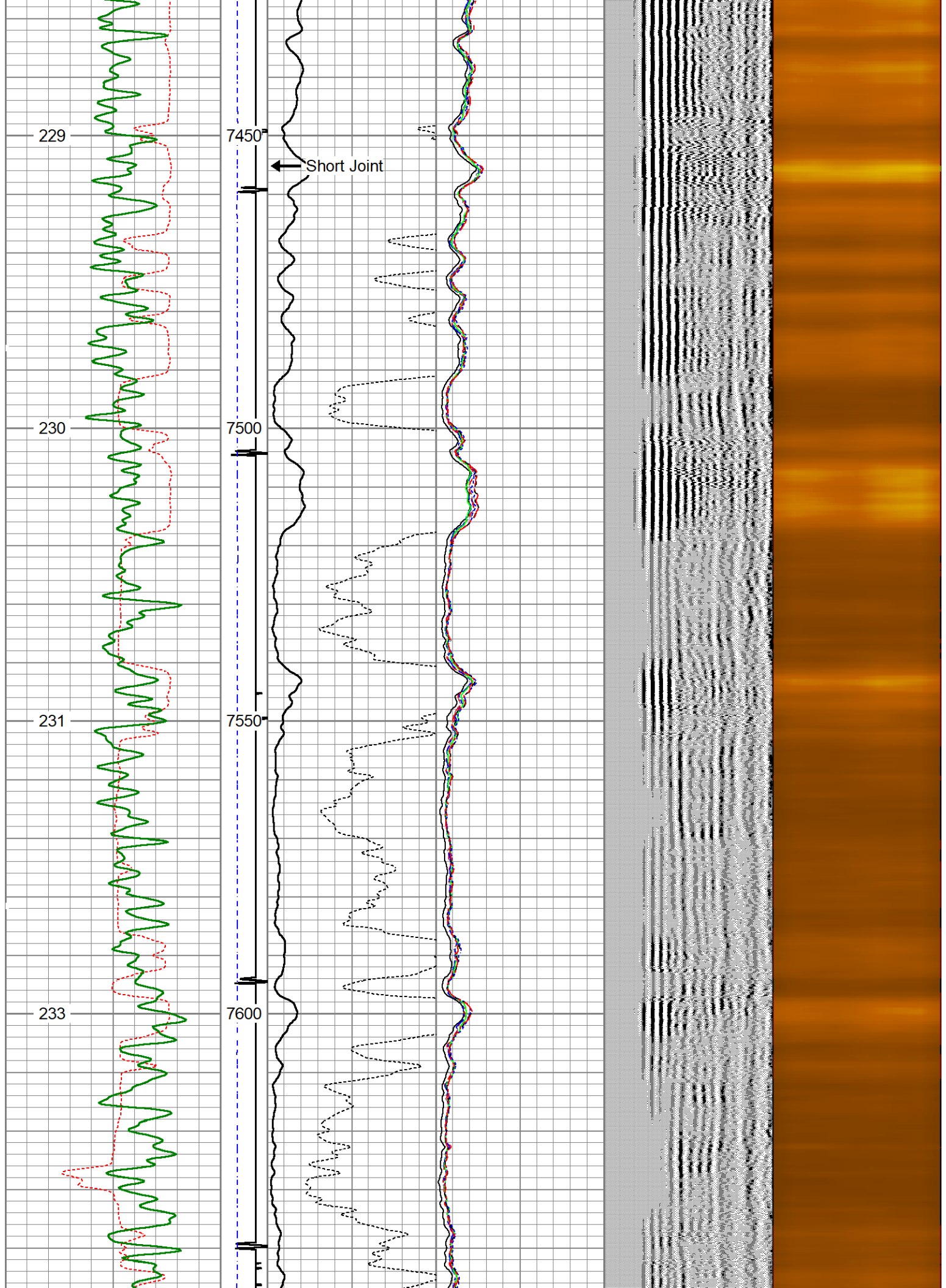


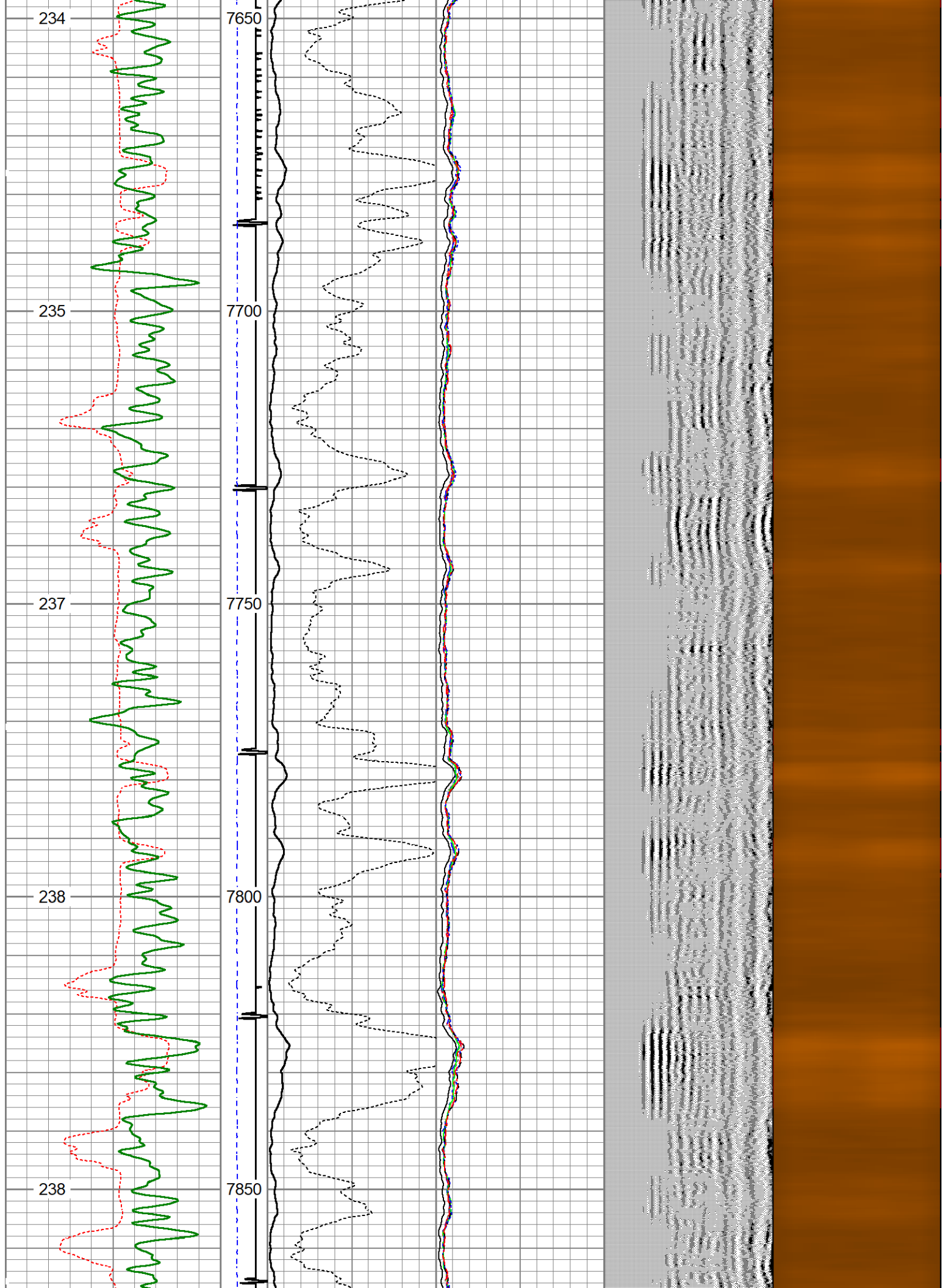




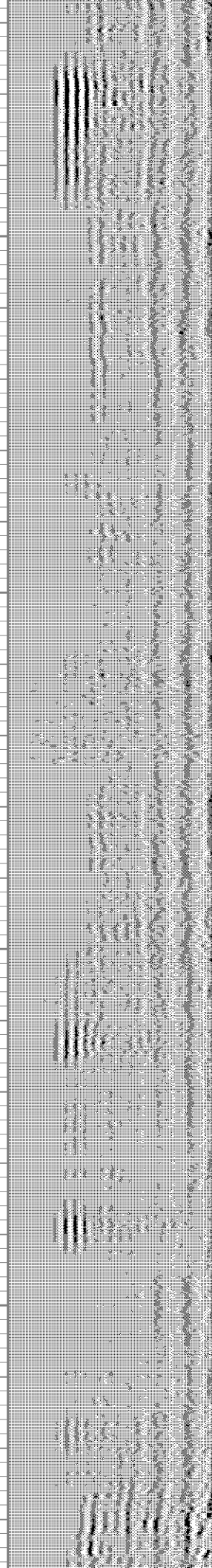
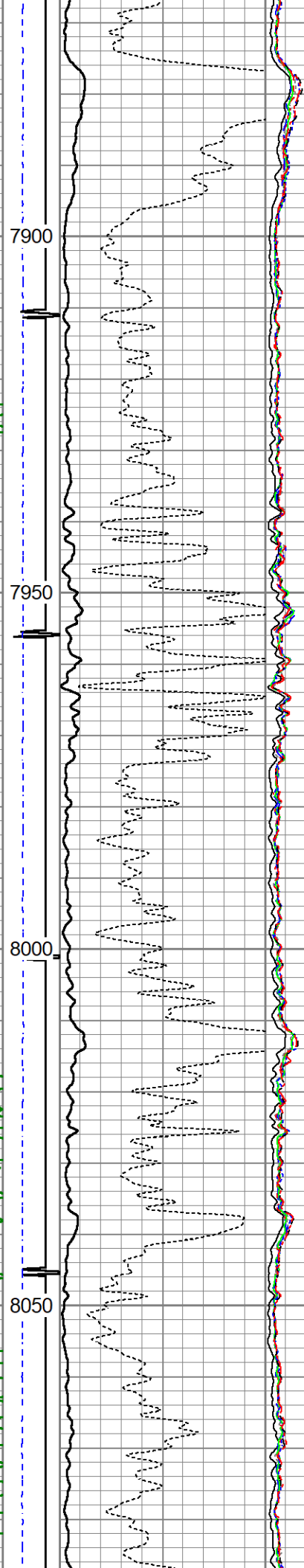
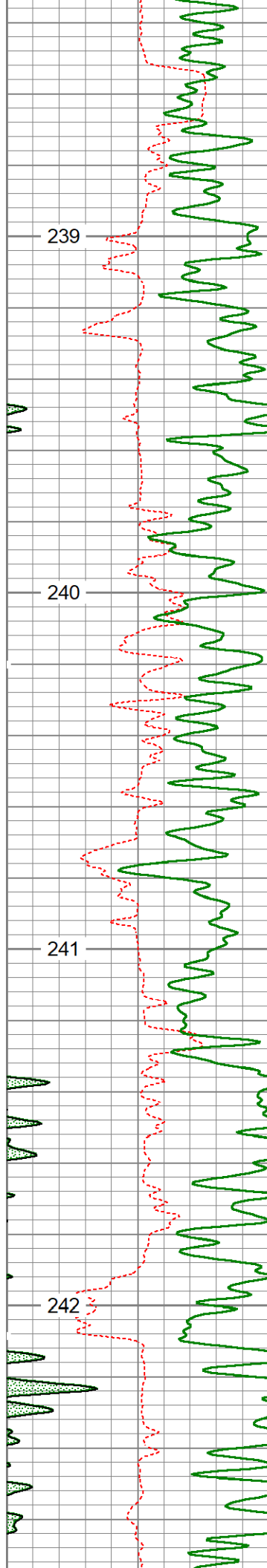




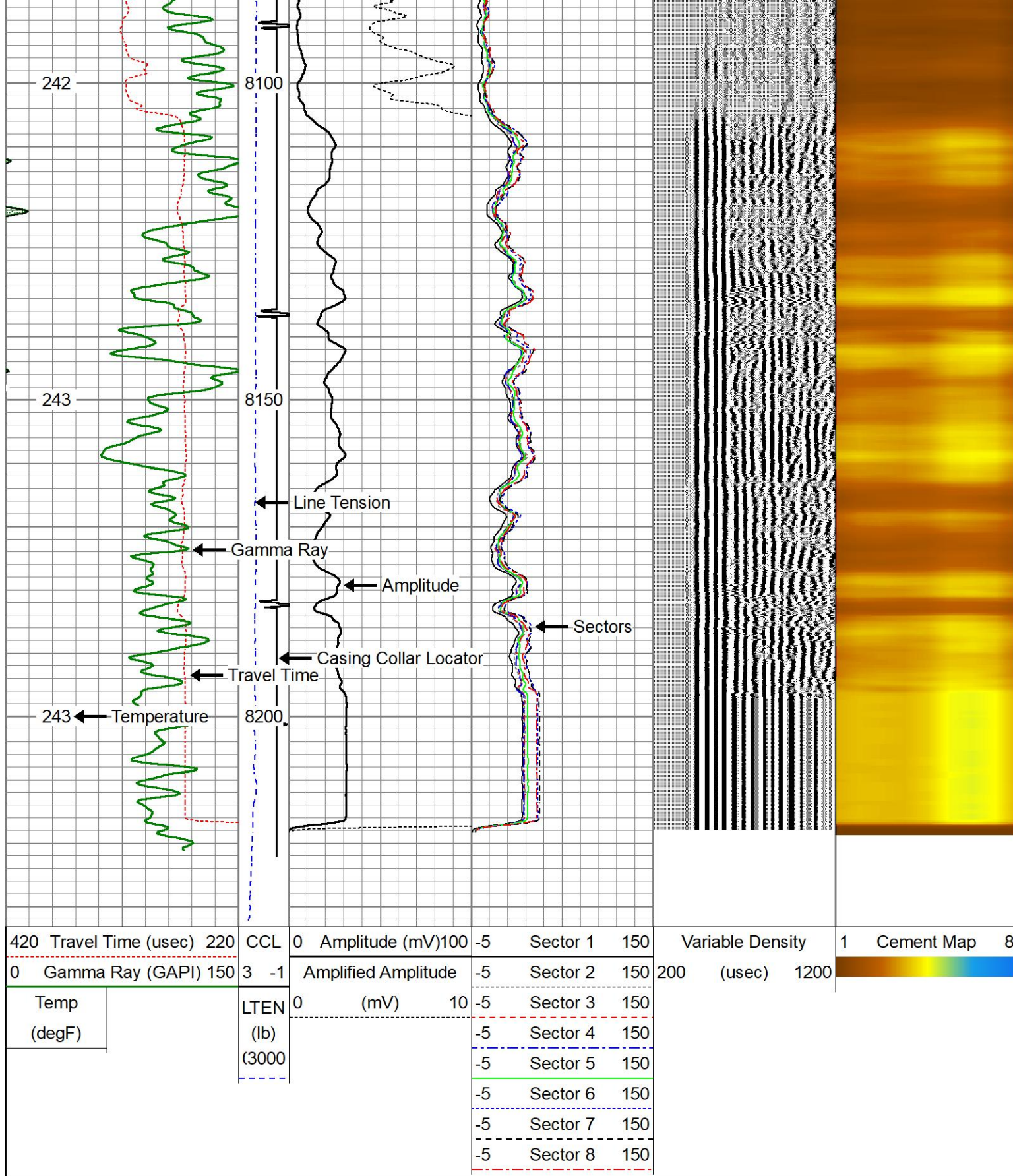











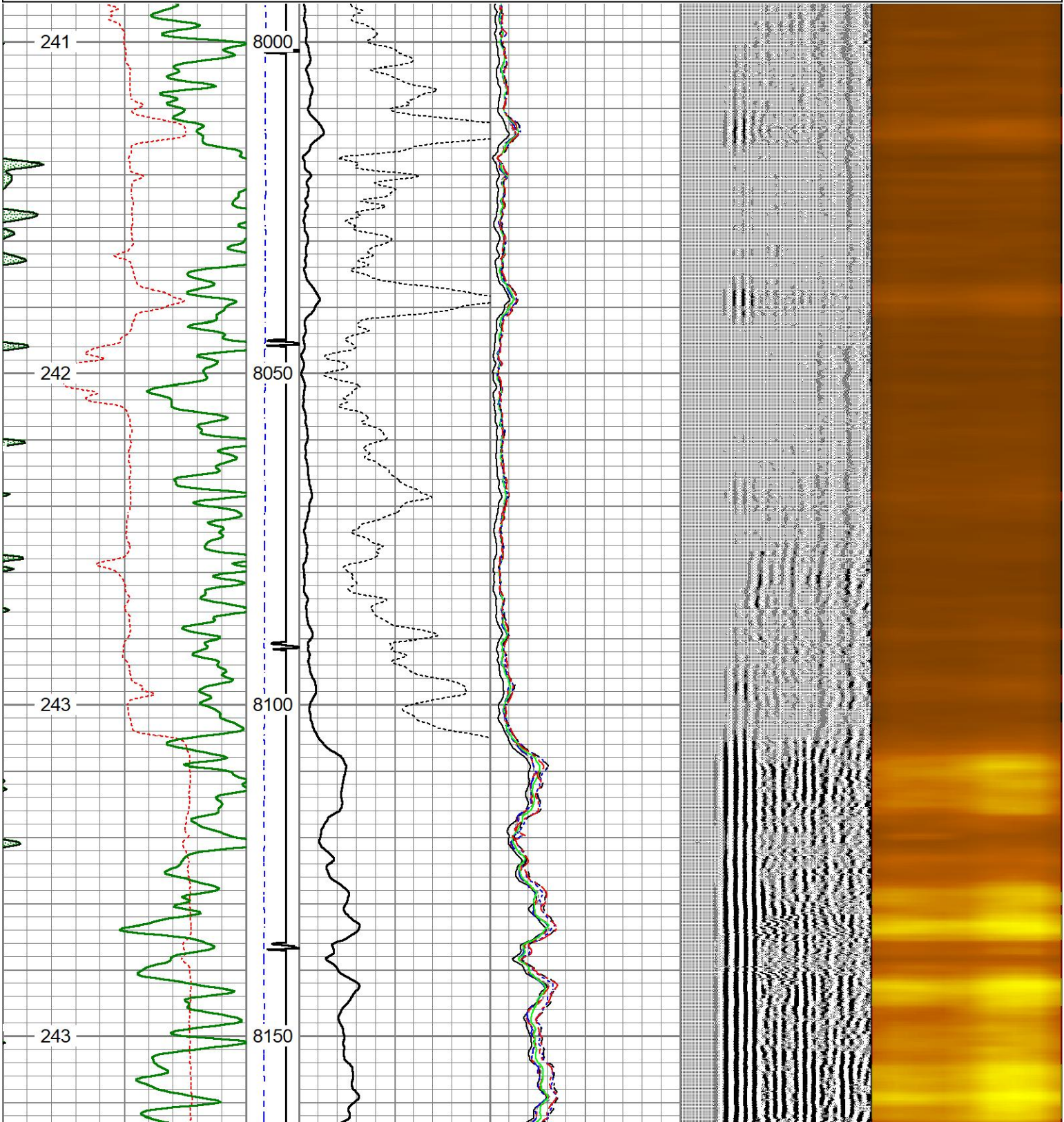


REPEAT PASS

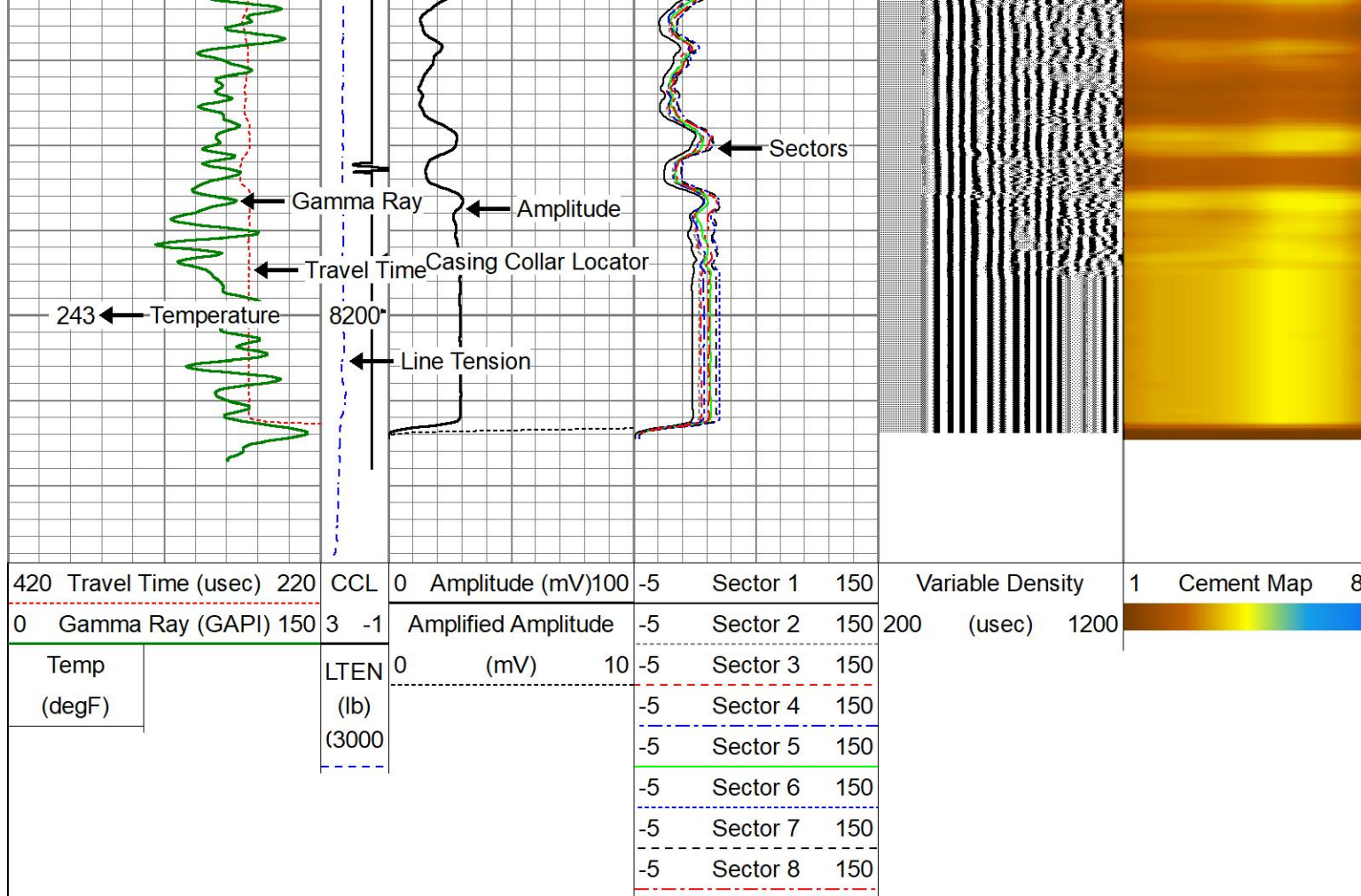
1600 PSI 5"=100'



420 Travel Time (usec) 220		CCL	0	Amplitude (mV)100	-5	Sector 1	150	Variable Density		1	Cement Map	8
0 Gamma Ray (GAPI) 150		3 -1	Amplified Amplitude		-5	Sector 2	150	200 (usec) 1200				
Temp		LTEN (lb) (3000	0	(mV) 10	-5	Sector 3	150					
(degF)					-5	Sector 4	150					
					-5	Sector 5	150					
					-5	Sector 6	150					
					-5	Sector 7	150					
					-5	Sector 8	150					







## Log Variables

Database C:\ProgramData\Warrior\Data\gw\_schneider019hnx\_bondlog.db  
Dataset field/well/run1/pass9/\_vars\_

### Top - Bottom

BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	in	degF	in	in	lb/ft	mV	mV
	8.5	243	5.5	0	17	71	1
MINATTN	PERFS	PPT	SRFTEMP	TDEPTH			
db/ft		usec	degF	ft			
0.8	No	0	0	0			

### Variable Description

BHTEMP\_Src : BHTEMP Input Source Selector  
BOREID : Borehole I.D.  
BOTTEMP : Bottom Hole Temperature  
CASEOD : Casing O.D.  
CASETHCK : Casing Thickness  
CASEWGHT : Casing Weight  
MAXAMPL : Maximum Amplitude

MINAMPL : Minimum Amplitude  
MINATTN : Minimum Attenuation  
PERFS : Perforation Flag  
PPT : Predicted Pipe Time  
SRFTEMP : Surface Temperature  
TDEPTH : Total Depth

### Calibration Report

Database File gw\_schneider019hnx\_bondlog.db  
Dataset Pathname pass9  
Dataset Creation Sun Dec 01 17:15:39 2019

### Gamma Ray Calibration Report

Serial Number:

FW1304-44



Tool Model: Probe275  
 Performed: Wed Nov 27 12:25:12 2019  
 Calibrator Value: 1036.2 GAPI  
 Background Reading: 64.0 cps  
 Calibrator Reading: 1252.4 cps  
 Sensitivity: 0.8719 GAPI/cps

### Segmented Cement Bond Log Calibration Report

Serial Number: FW1306-47  
 Tool Model: Probe 2.75 Radii W/Temp  
 Calibration Casing Diameter: 5.500 in  
 Calibration Depth: 1938.317 ft

Master Calibration, performed Sun Dec 01 16:43:54 2019:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.009	0.519	1.000	71.921	138.972	-0.228
CAL	0.009	0.714				
5'	0.009	0.448	1.000	71.921	161.510	-0.416
SUM						
S1	0.021	0.493	0.000	100.000	211.789	-4.411
S2	0.009	0.509	0.000	100.000	200.103	-1.854
S3	0.009	0.522	0.000	100.000	194.946	-1.797
S4	0.009	0.540	0.000	100.000	188.188	-1.705
S5	0.009	0.574	0.000	100.000	176.887	-1.587
S6	0.009	0.596	0.000	100.000	170.443	-1.529
S7	0.009	0.565	0.000	100.000	180.107	-1.695
S8	0.009	0.508	0.000	100.000	200.274	-1.768

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.009	0.714	1.000	0.000

Air Zero Calibration, performed Sun Dec 01 16:00:54 2019:

	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	Length (ft)	O.D. (in)	Weight (lb)
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HeadVolt	21.13		CHD-Titan Titan 1 7/16" GO Cablehead	1.00	1.44	5.00
Temp	18.28					
WVFS8	16.05		RBT-Probe 2.75 Radii W/Temp (FW1306-47) Probe 2.75" Radial with Integral Temperature Sub	9.21	2.75	90.00
WVFS7	16.05					
WVFS6	16.05					
WVFS5	16.05					
WVFS4	16.05					
WVFS3	16.05					
WVFS2	16.05					
WVFS1	16.05					
WVFCAL	16.05					
WVF3FT	16.05					
WVF5FT	15.05					
HEADVOLT	11.80					
CCL	10.92					
GR	9.58		GR-Probe275 (FW1304-44) Probe 2 3/4" Logging Gamma Ray 6 Pin	4.80	2.75	57.00
			WeightBar-7ft313inlineS 3 1/8" Steel 7" In Line Weight Bar	7.00	3.13	149.00

Dataset:
gw\_schneider019hnx\_bondlog.db: field/well/run1/pass9

Total length:
22.01 ft

Total weight:
301.00 lb

O.D.:
3.13 in



Company

Great Western Oil & Gas

Well

Schneider HD 11-019HNX

Field

Wattenberg

County

Weld

State

Colorado

Country