



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

Company Antero Resources  
Well Avalanche Unit 3H  
Field North Canton  
County Tyler  
State West Virginia

Company Antero Resources  
Well Avalanche Unit 3H  
Field North Canton  
County Tyler State West Virginia

Location: API #: 47-095-02604

Other Services

Permanent Datum SEC N/A TWP N/A RGE N/A  
Log Measured From Kelly Bushing (25')  
Drilling Measured From Kelly Bushing

Elevation  
K.B.  
D.F.  
G.L.

Date	14-Mar-2020	
Run Number	One	
Depth Driller	18,066 ft.	
Depth Logger	6,860 ft.	
Bottom Logged Interval	6,860 ft. Surface	
Top Log Interval	Surface	
Open Hole Size	N/A	
Type Fluid	Water	
Density / Viscosity	N/A	
Max. Recorded Temp.	149 Deg. F.	
Estimated Cement Top	5,928 ft.	
Time Well Ready	07:00	
Time Logger on Bottom	16:21	
Equipment Number	132	
Location	Marietta, Ohio	
Recorded By	Tom Weese	
Witnessed By	Dan Fisher	
Borehole Record		
Run Number	Bit	From To
Tubing Record		
	Size	Weight From To
Casing Record	Size	Mgt/Ft Top Bottom
Surface String	13 3/8 in.	54.5 lbs. Surface 431 ft.
Prot. String	9 5/8 in.	36 lbs. Surface 2,648 ft.
Production String	5 1/2 in.	20 lbs. Surface 18,066 ft.
Liner		

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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**

**Primary Log on Well**

**Marker Joint @ 5,612-5,622 ft.  
Correction to Pipe Tally Depth Shifted (-22)**

**Main Pass 1,500 PSI  
Repeat Pass 0 PSI**

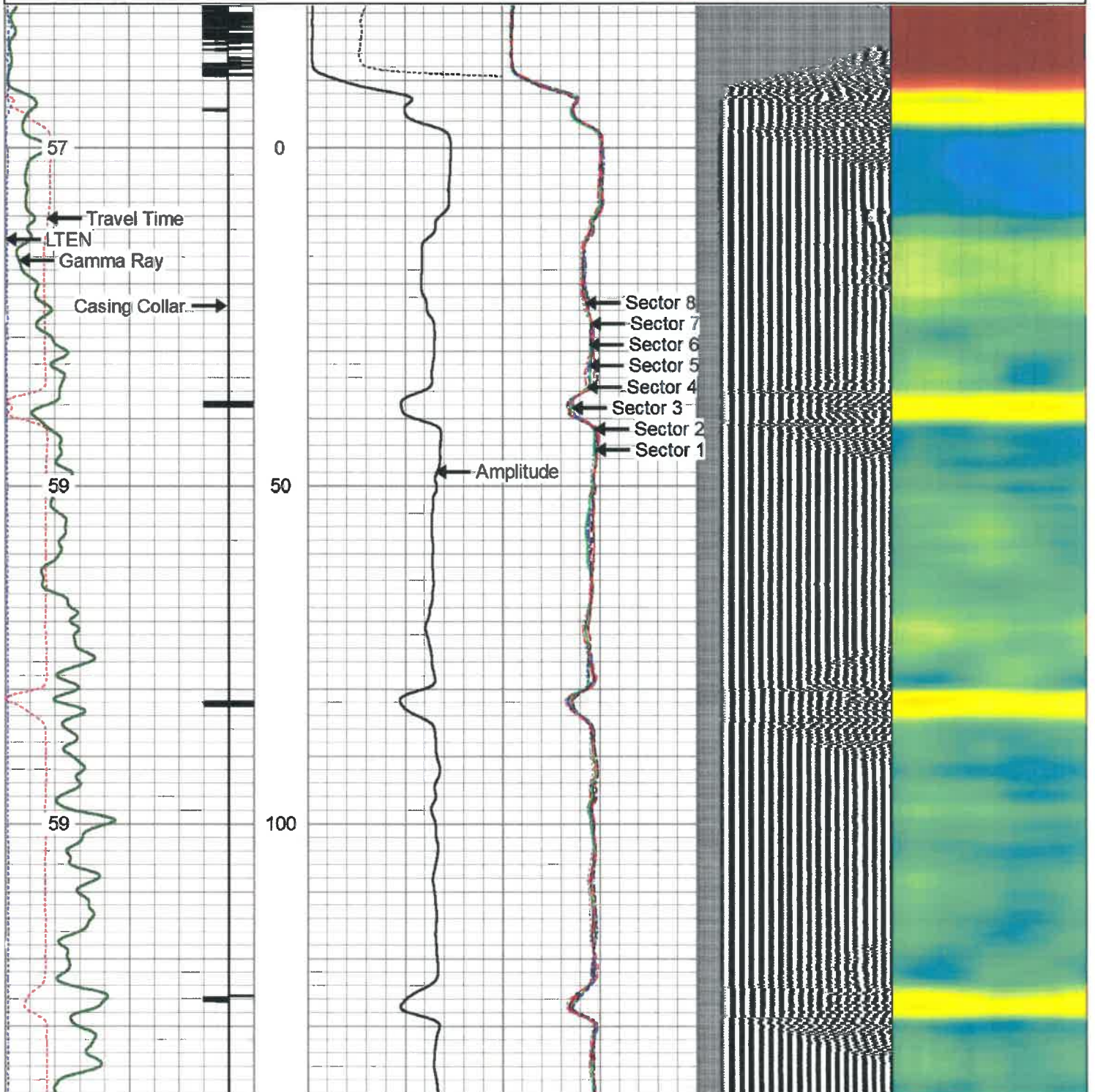
**Thank You For Choosing Nine Energy Service Wireline. Marietta, Ohio**



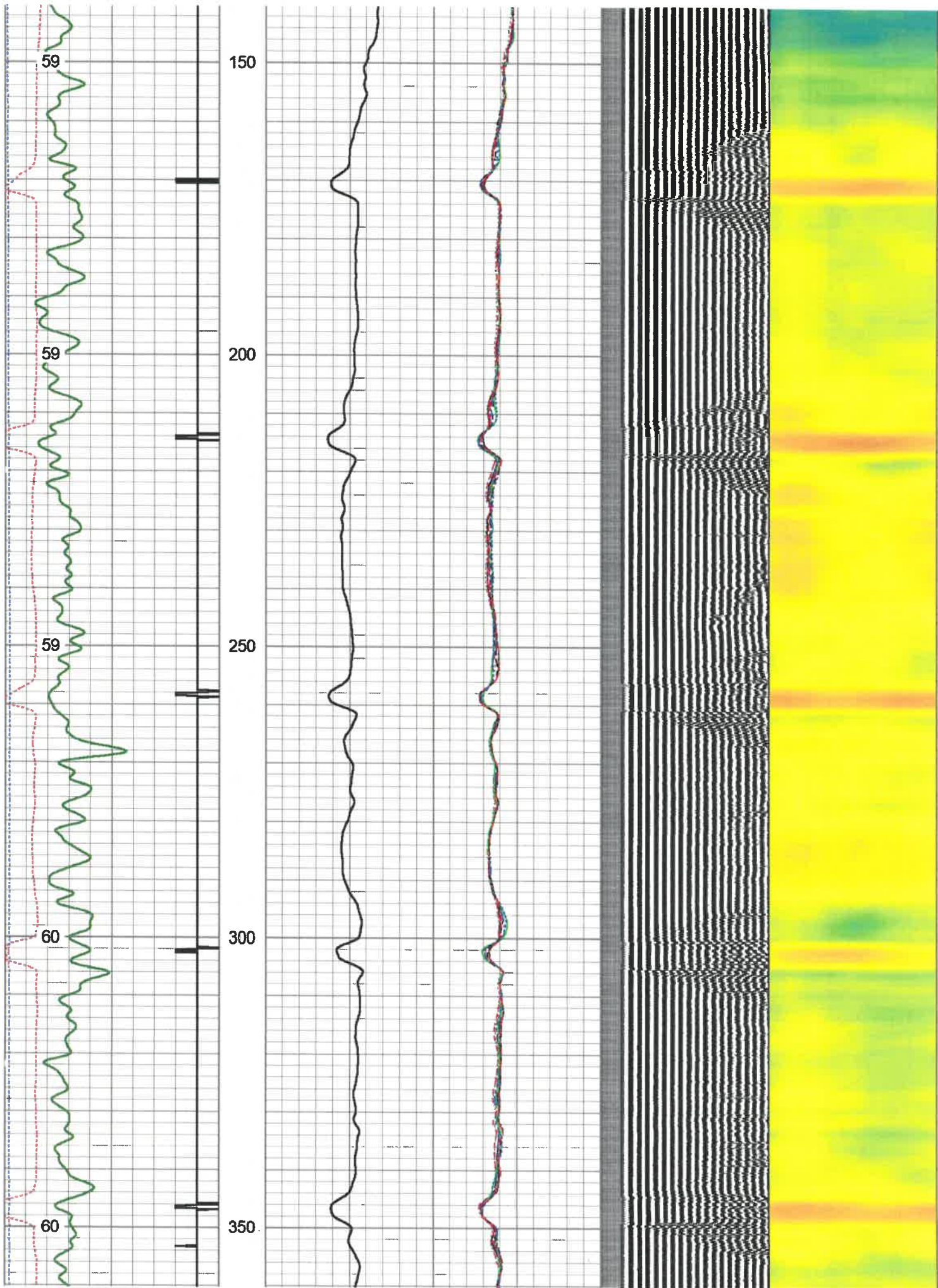
**Main Pass 1,500 PSI**

Database File c:\users\thomas.weese\desktop\bond logs\antero\colorado east\antero\_colorado\_east\_avalanche\_3h\_rcbl  
 Dataset Pathname Marcellus/Avalanche\_3H/RCBL\_1/pass4  
 Presentation Format scbl03  
 Dataset Creation Sat Mar 14 16:08:52 2020  
 Charted by Depth in Feet scaled 1:240

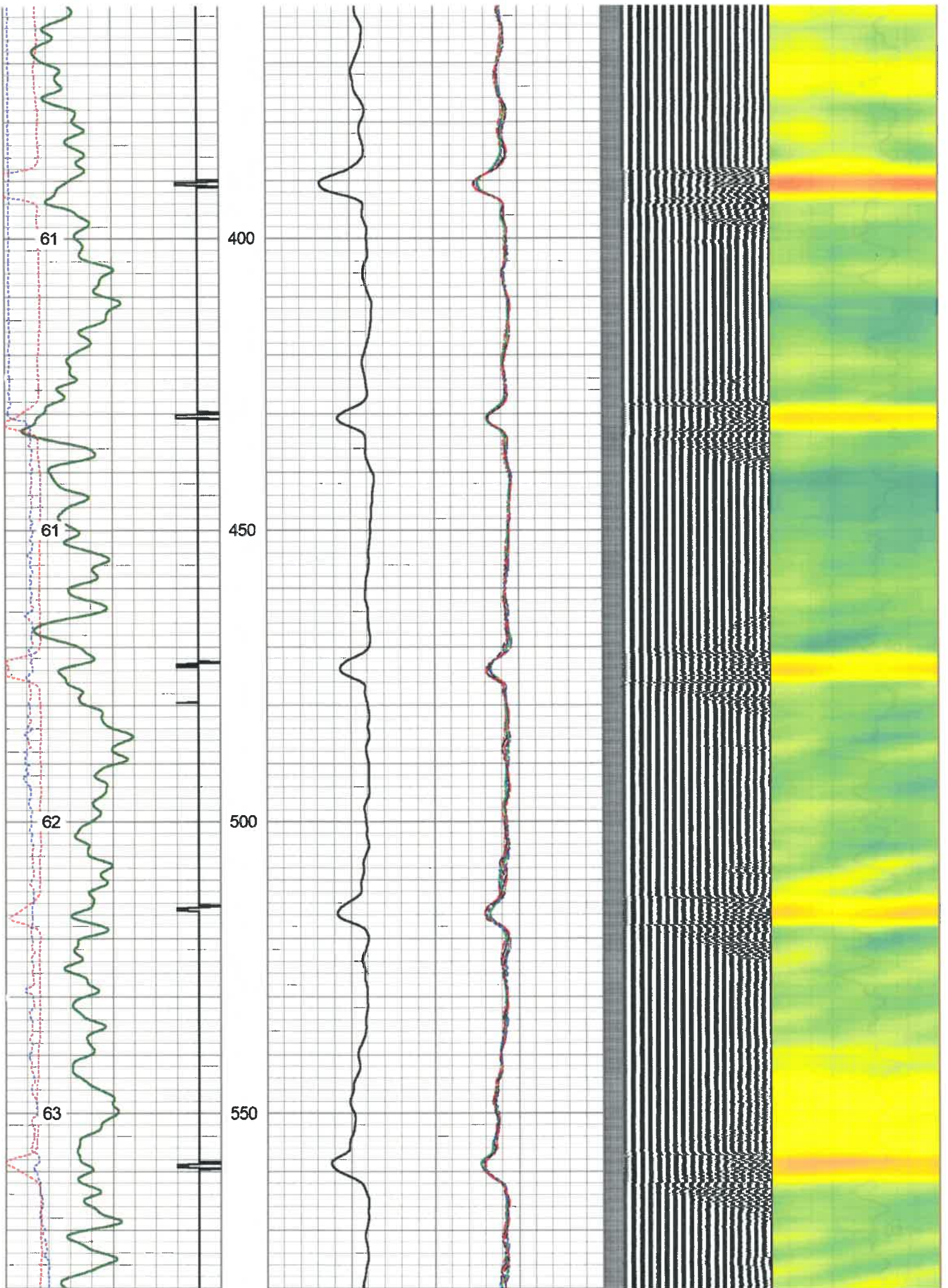
271	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	Sector 1	150	Variable Density	1	Cement Map	8
Casing Collar			Amplified Amplitude			-5	Sector 2	150	200	(usec)	1200	
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	Sector 3	150				
0	LTEN (lb)	2500				-5	Sector 4	150				
	Temp					-5	Sector 5	150				
	(degF)					-5	Sector 6	150				
						-5	Sector 7	150				
						-5	Sector 8	150				



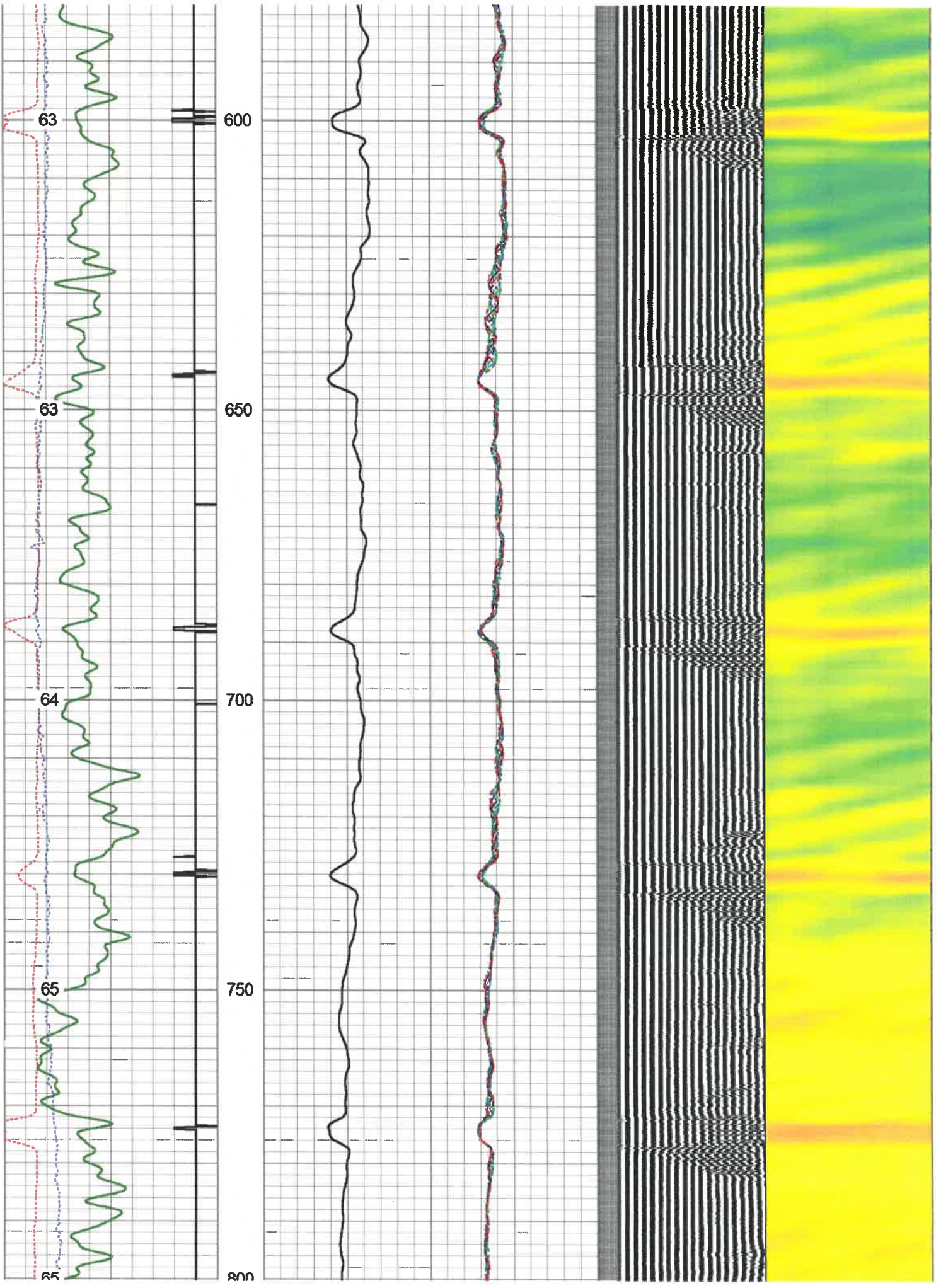




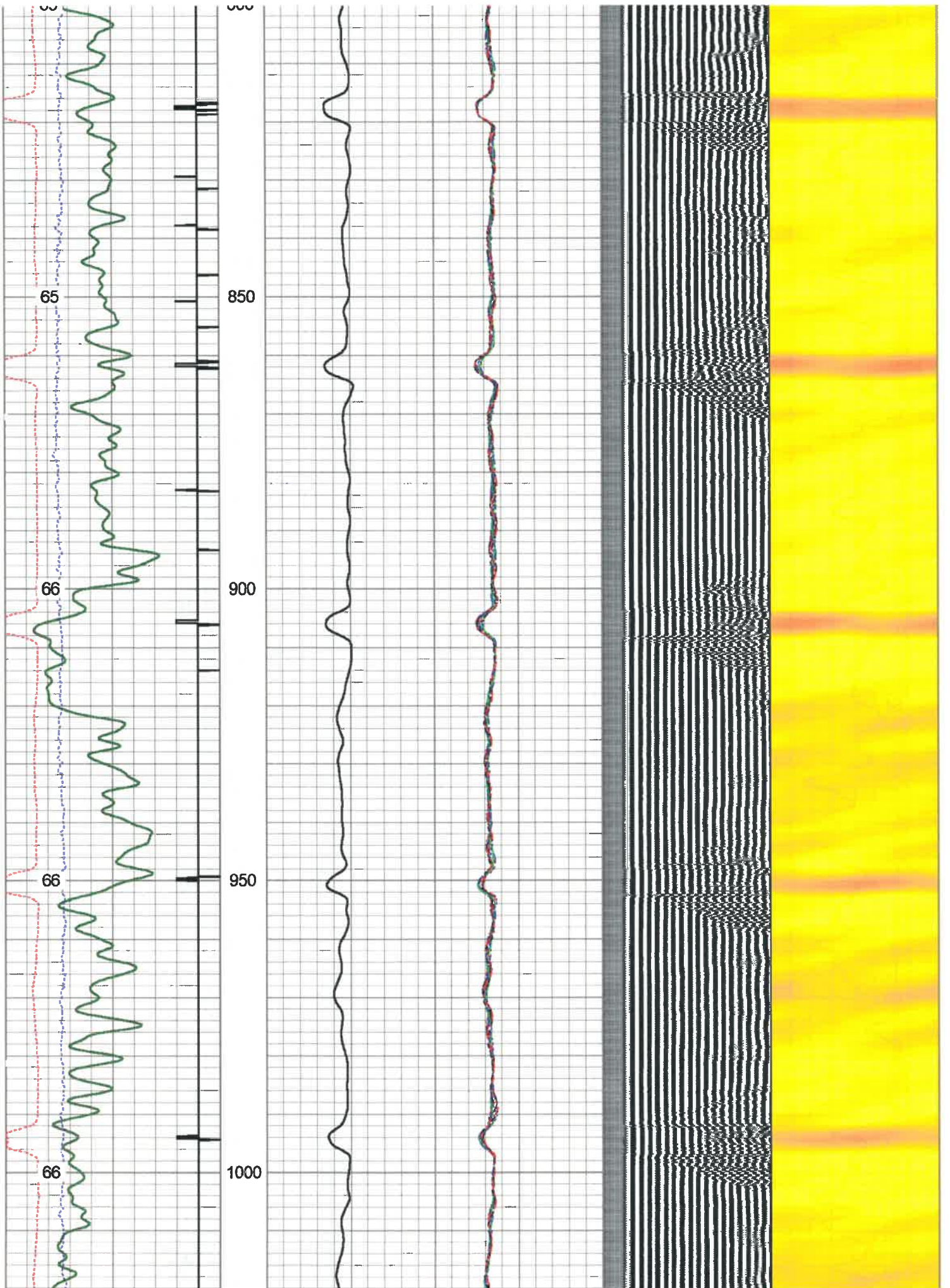




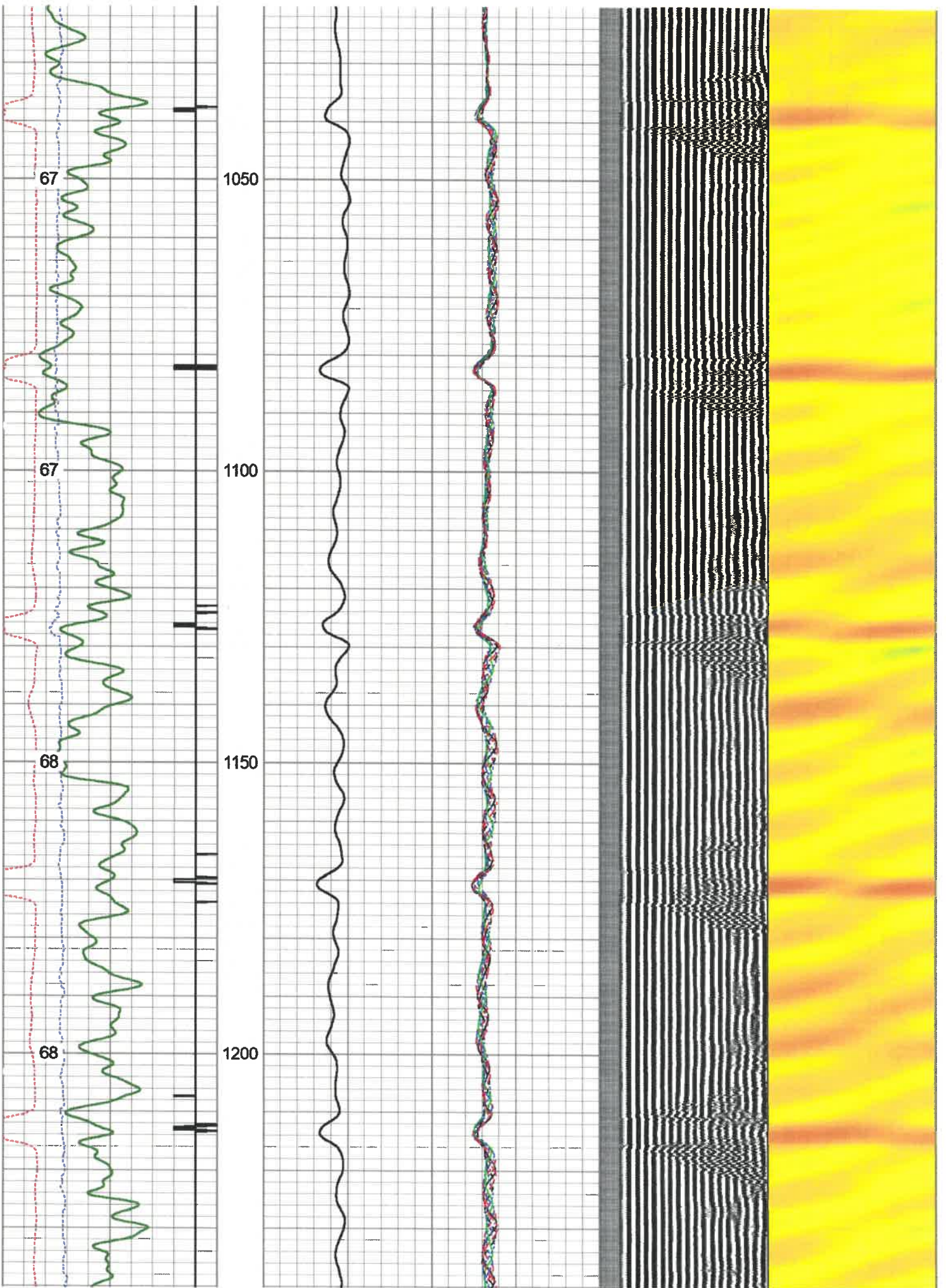




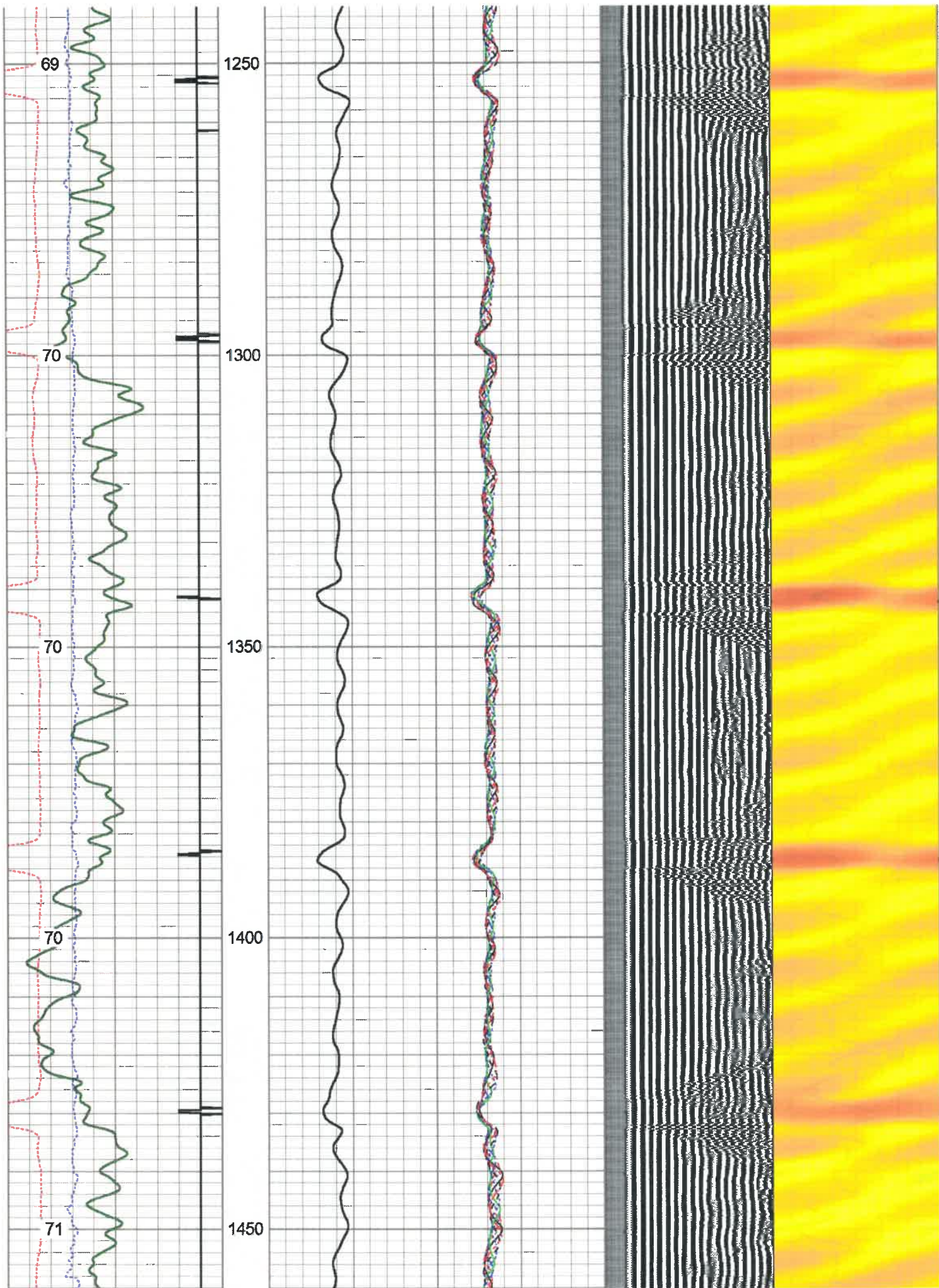




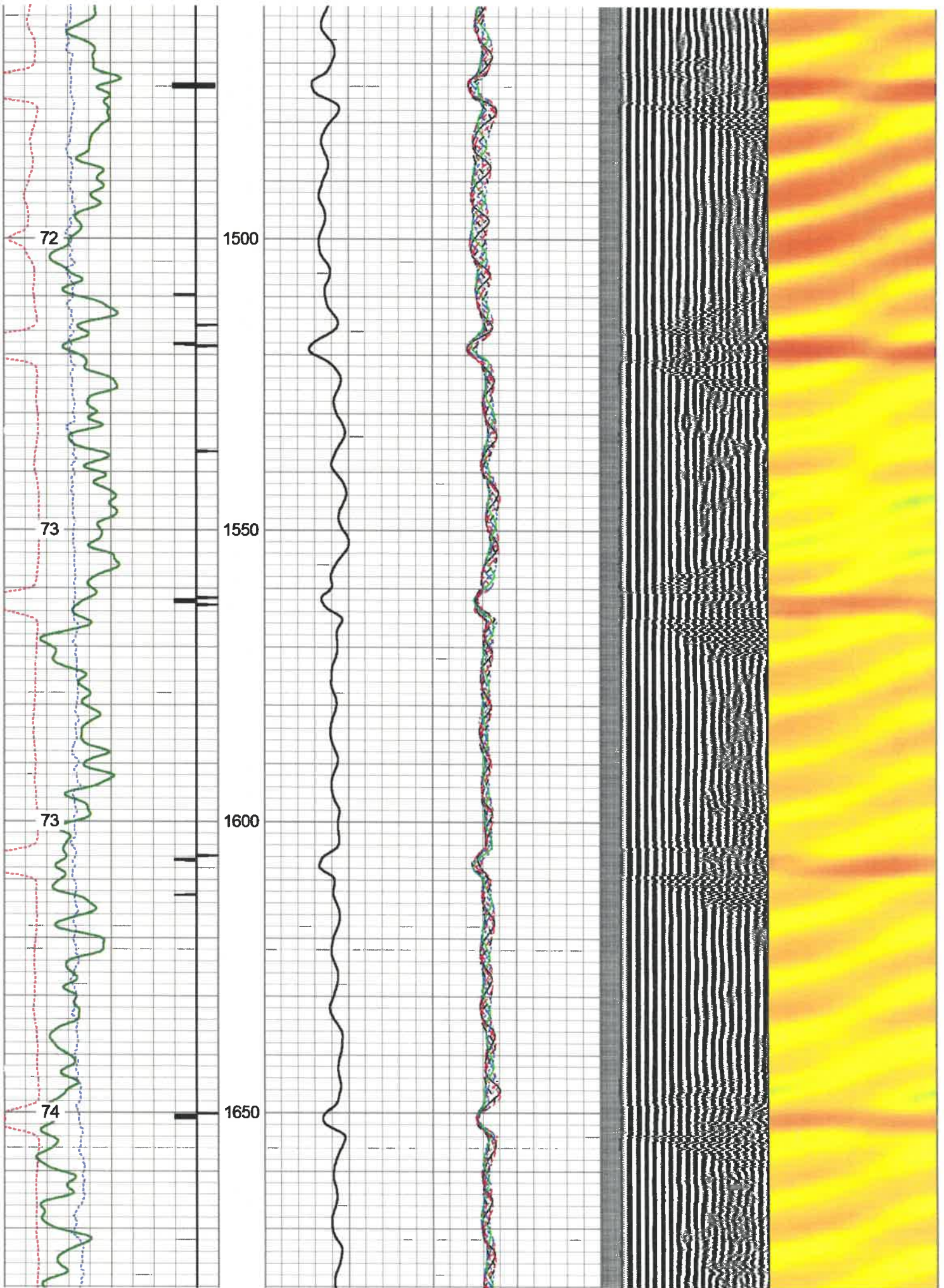




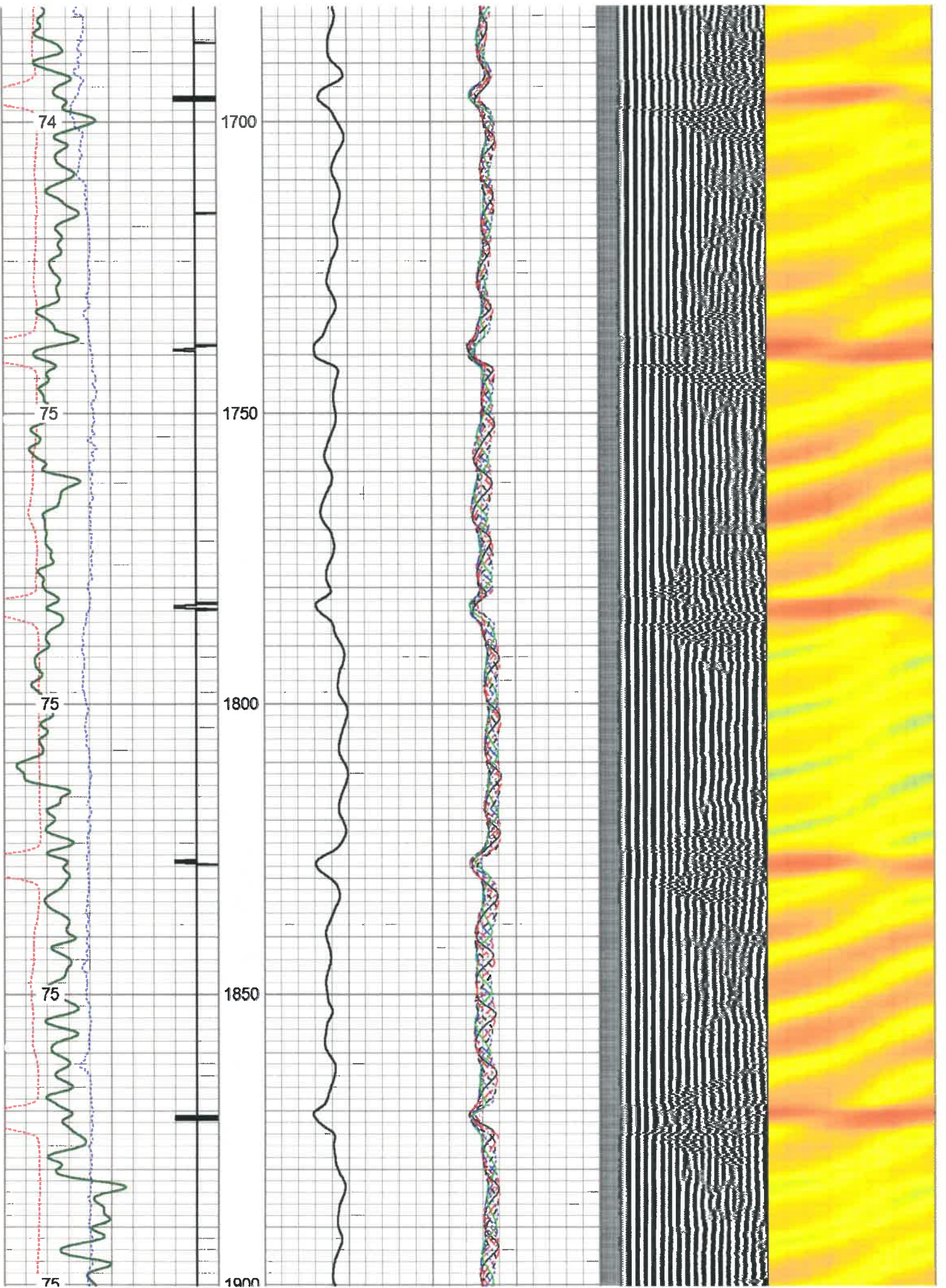




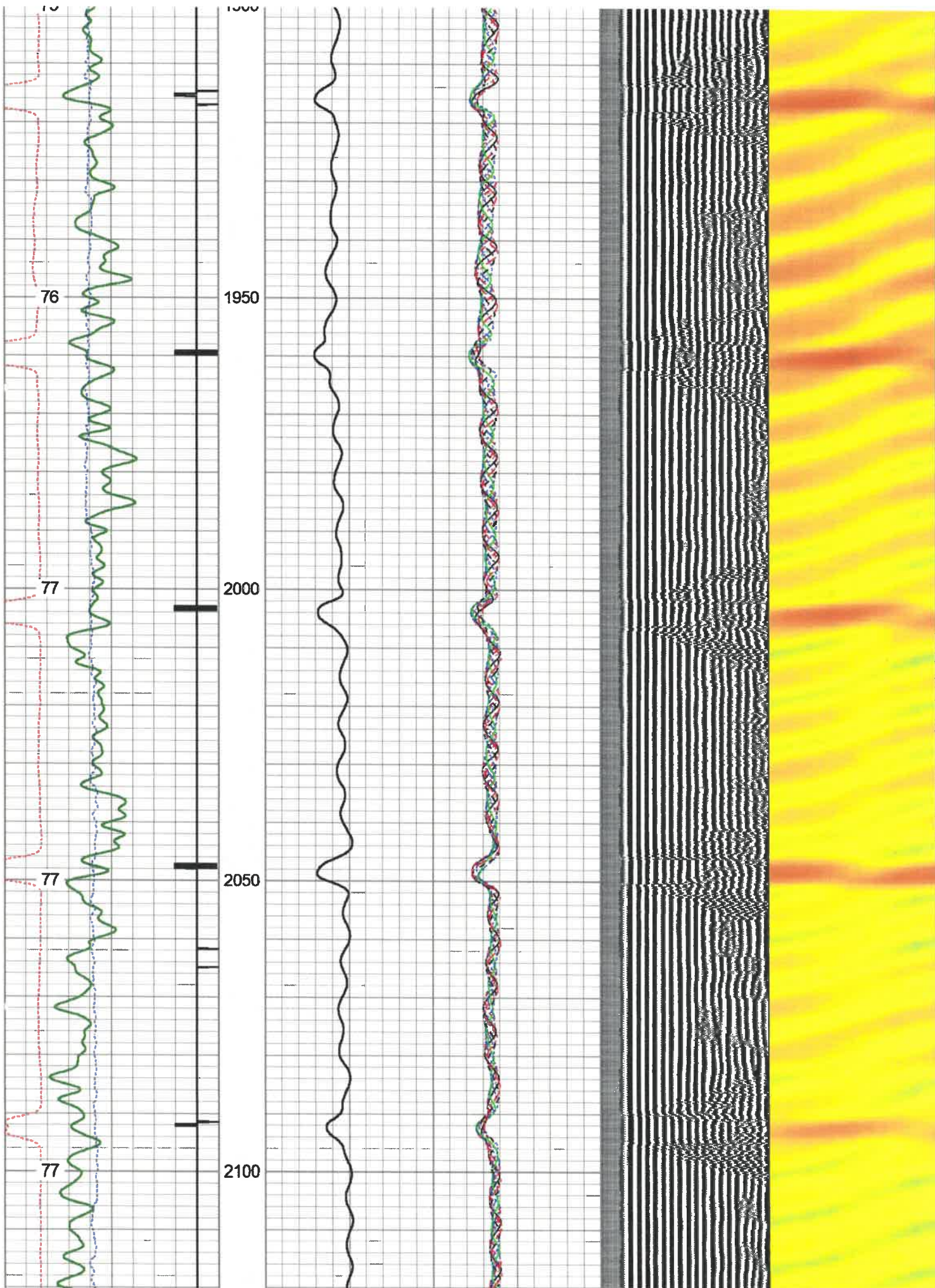




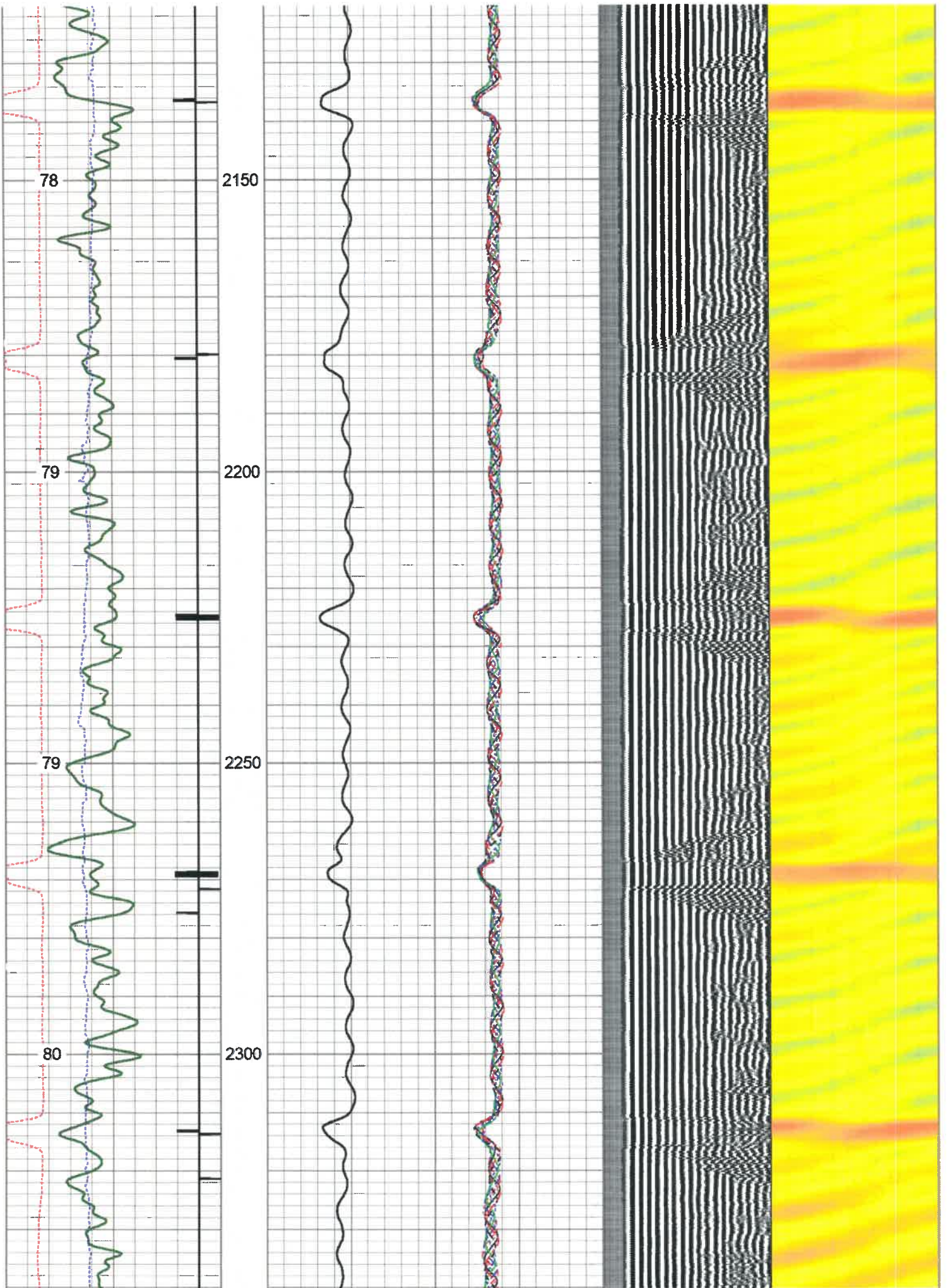




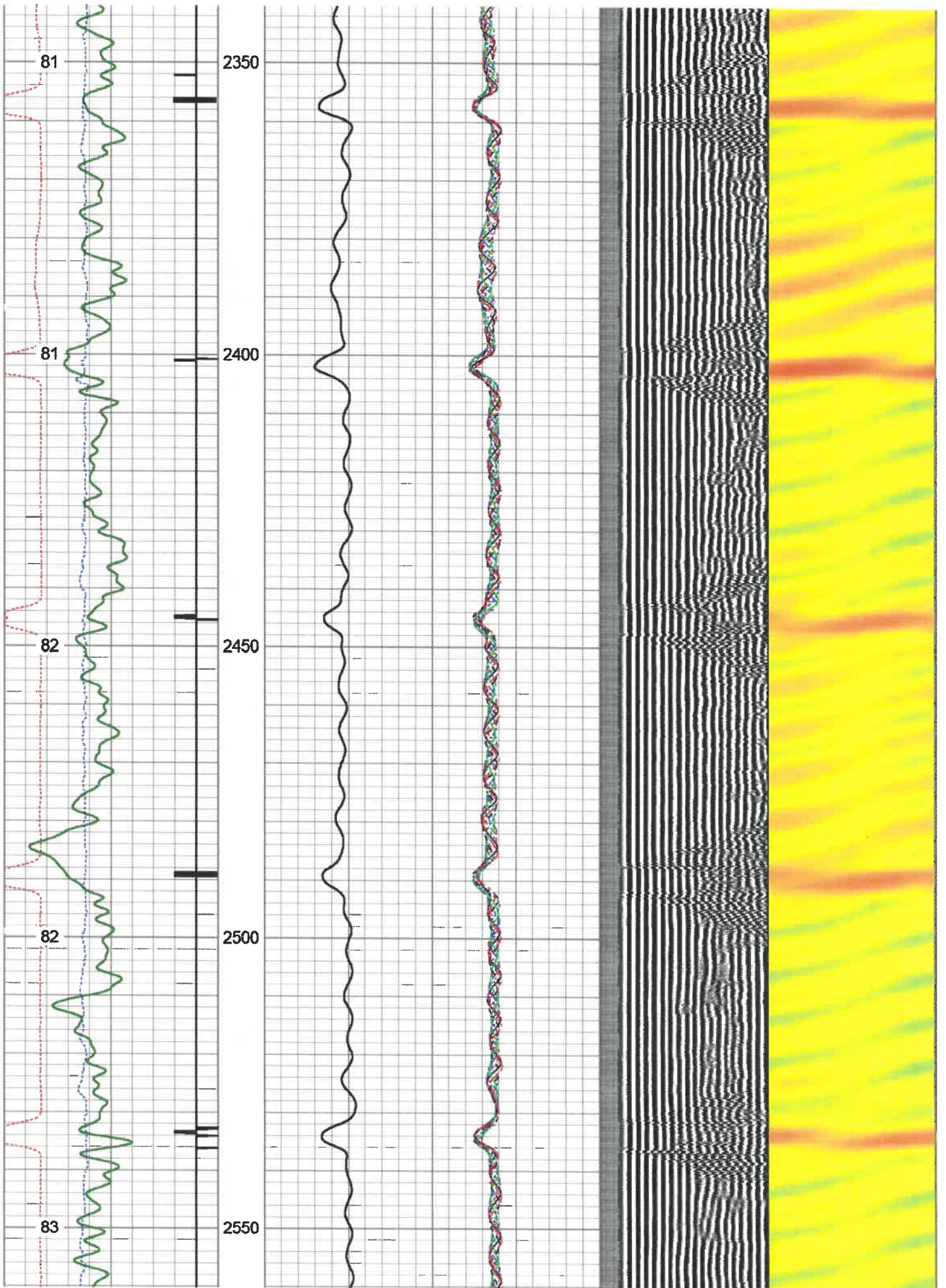




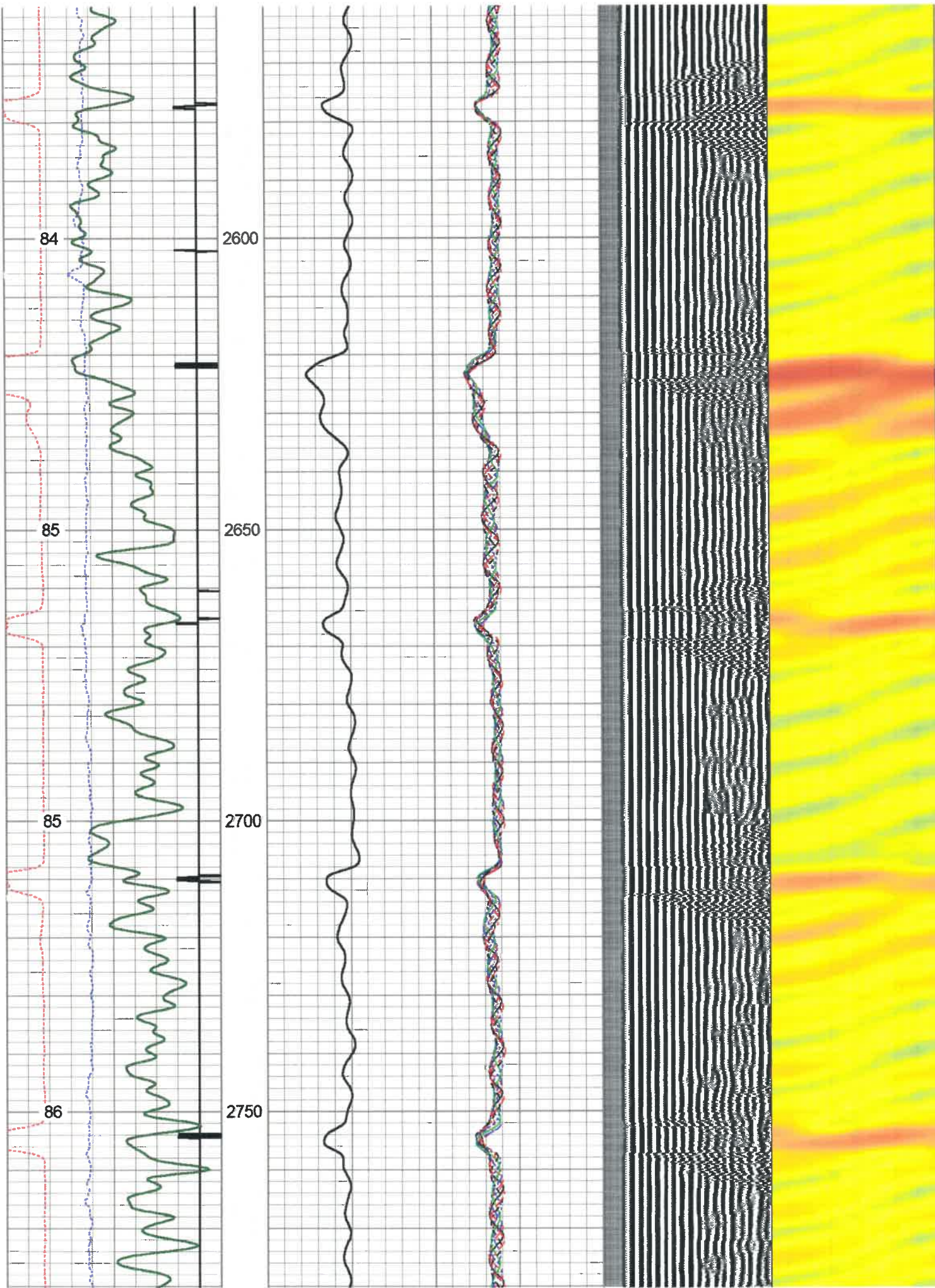




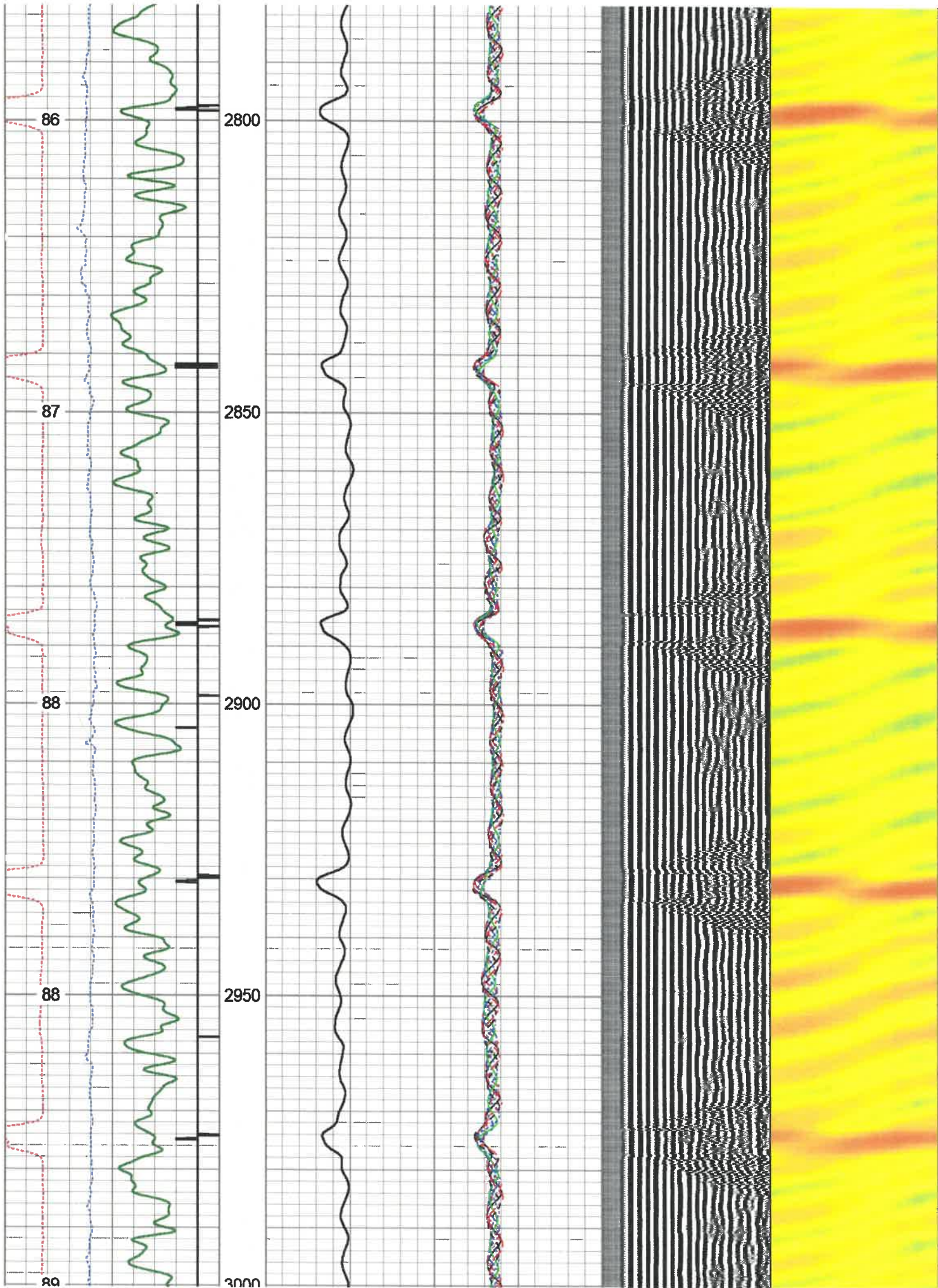




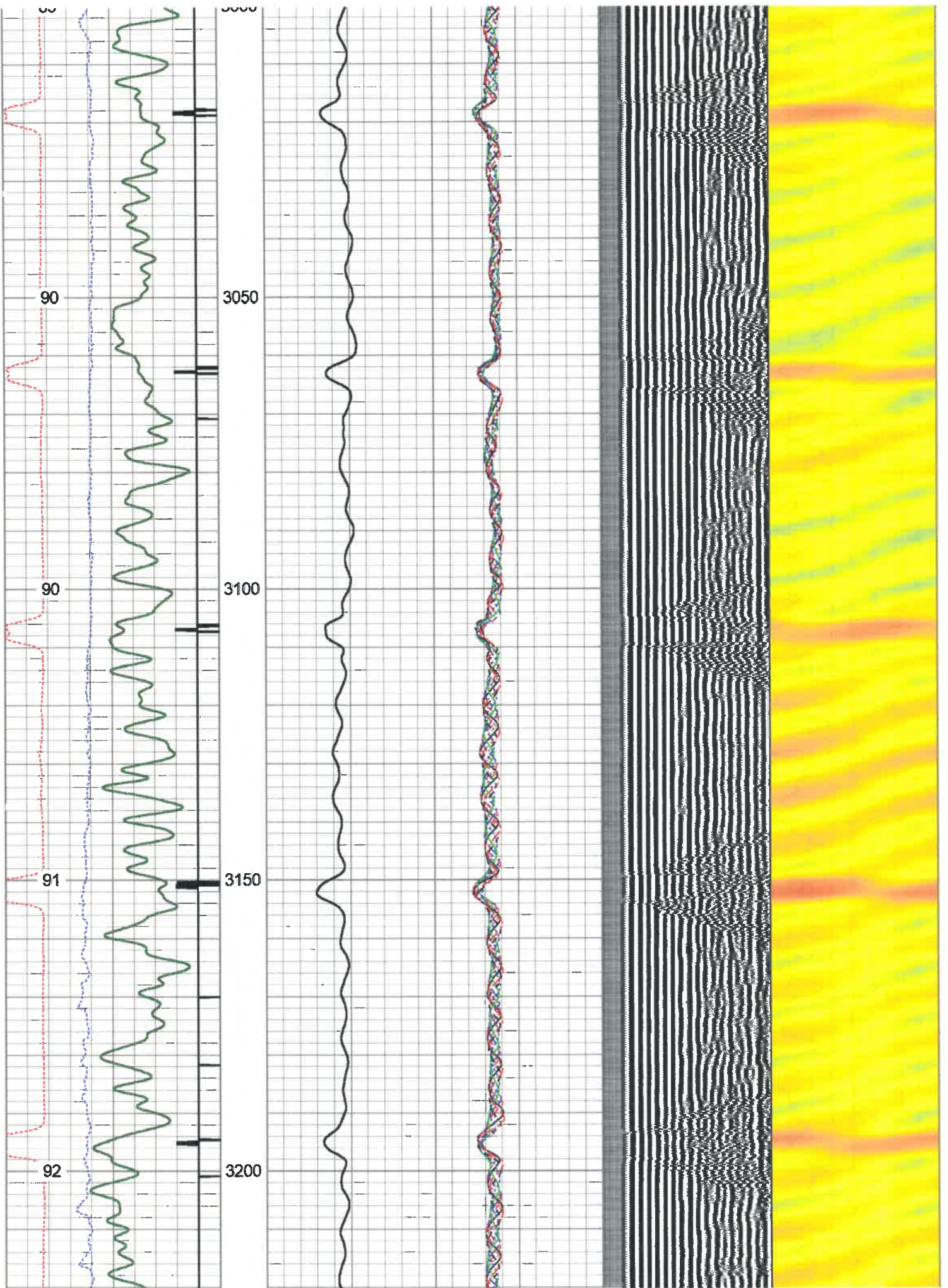




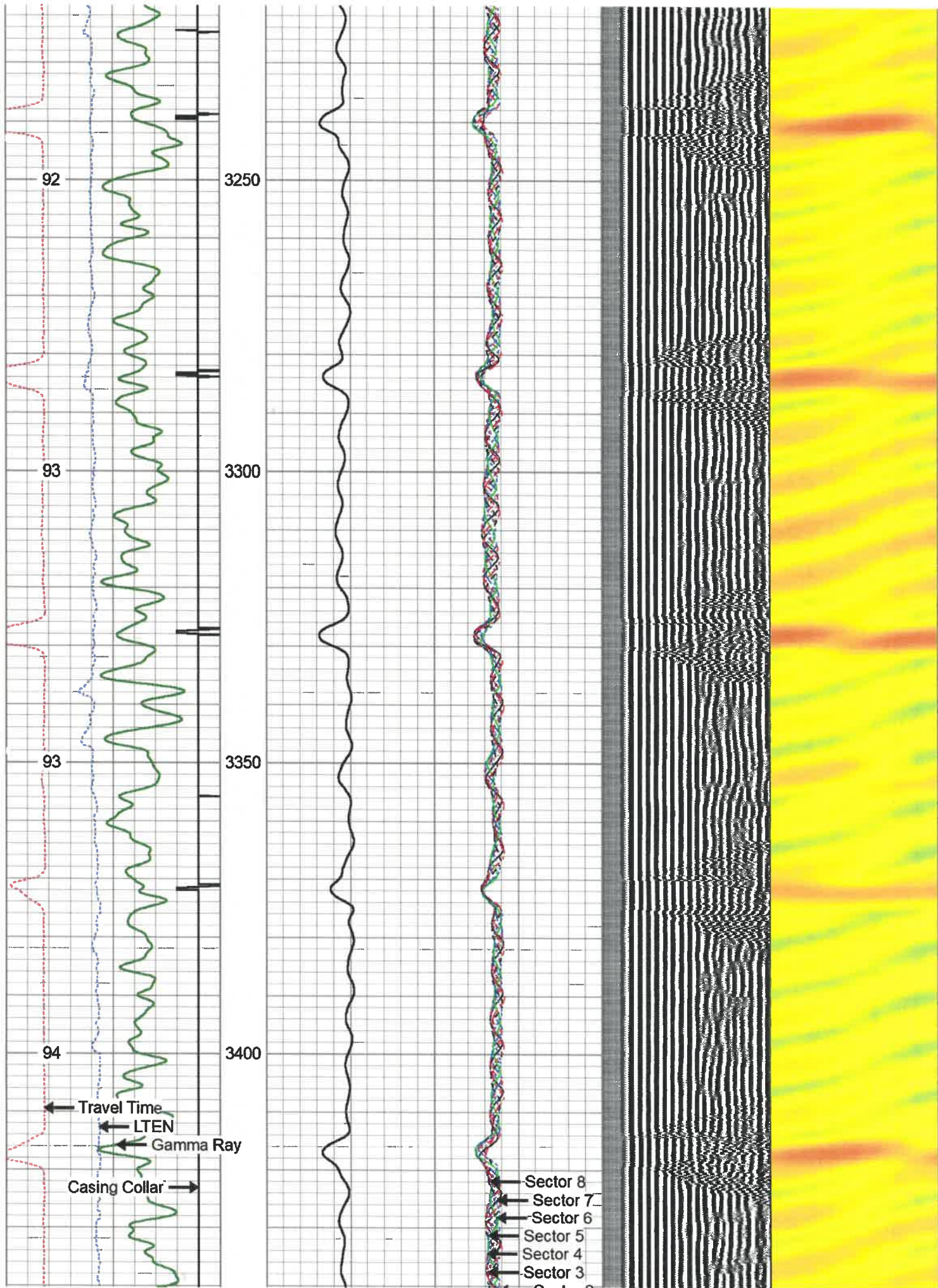




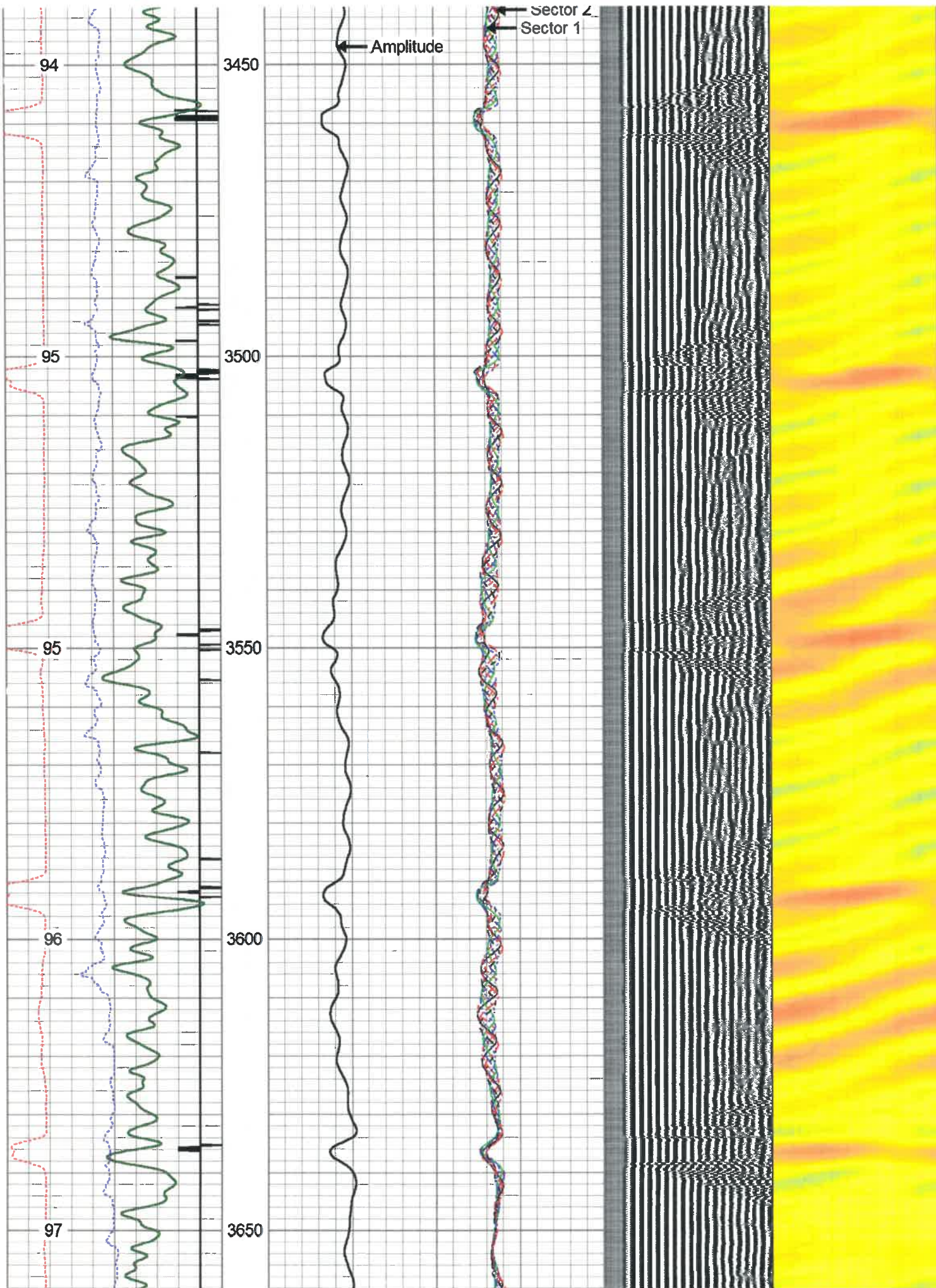




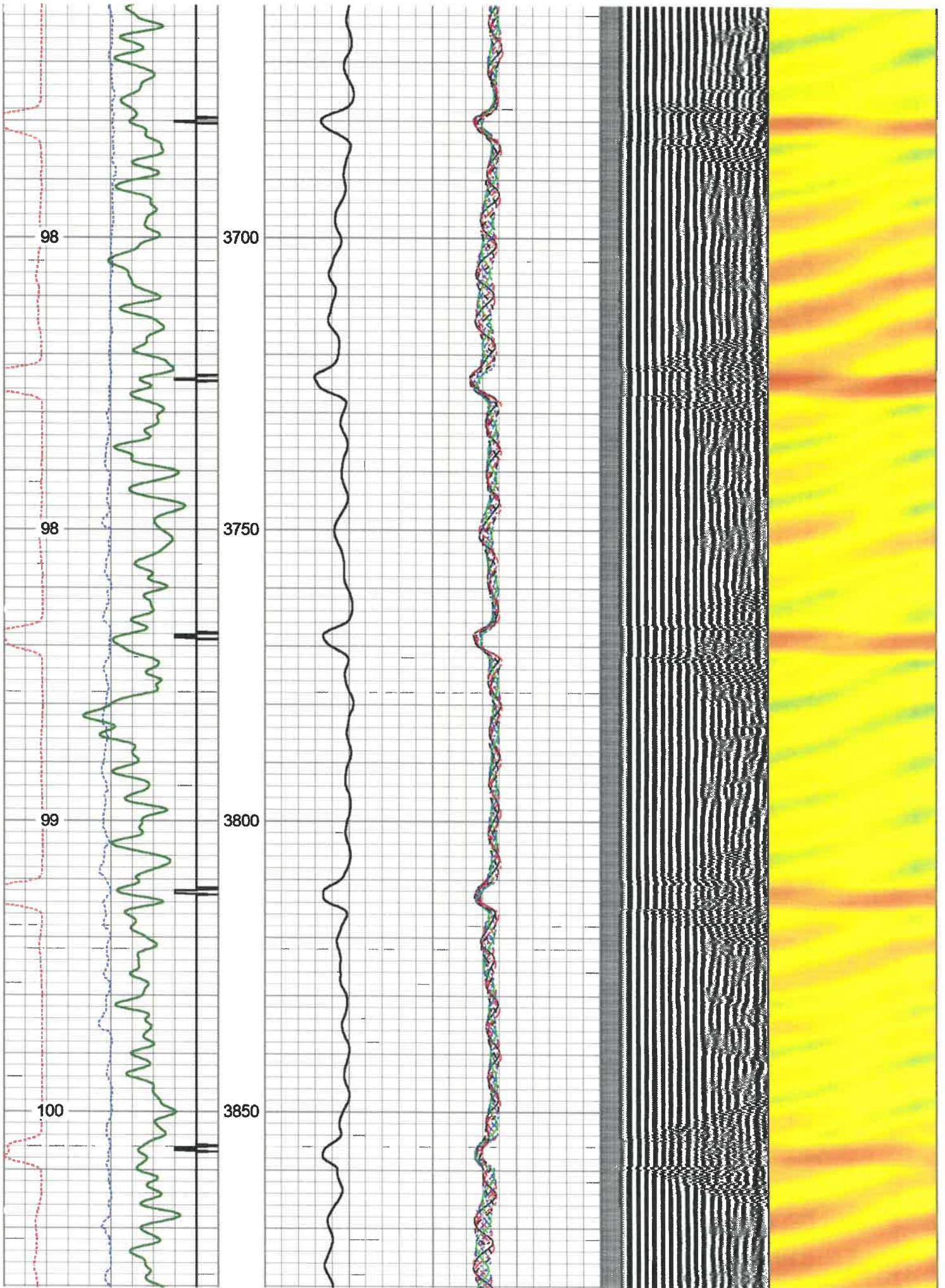




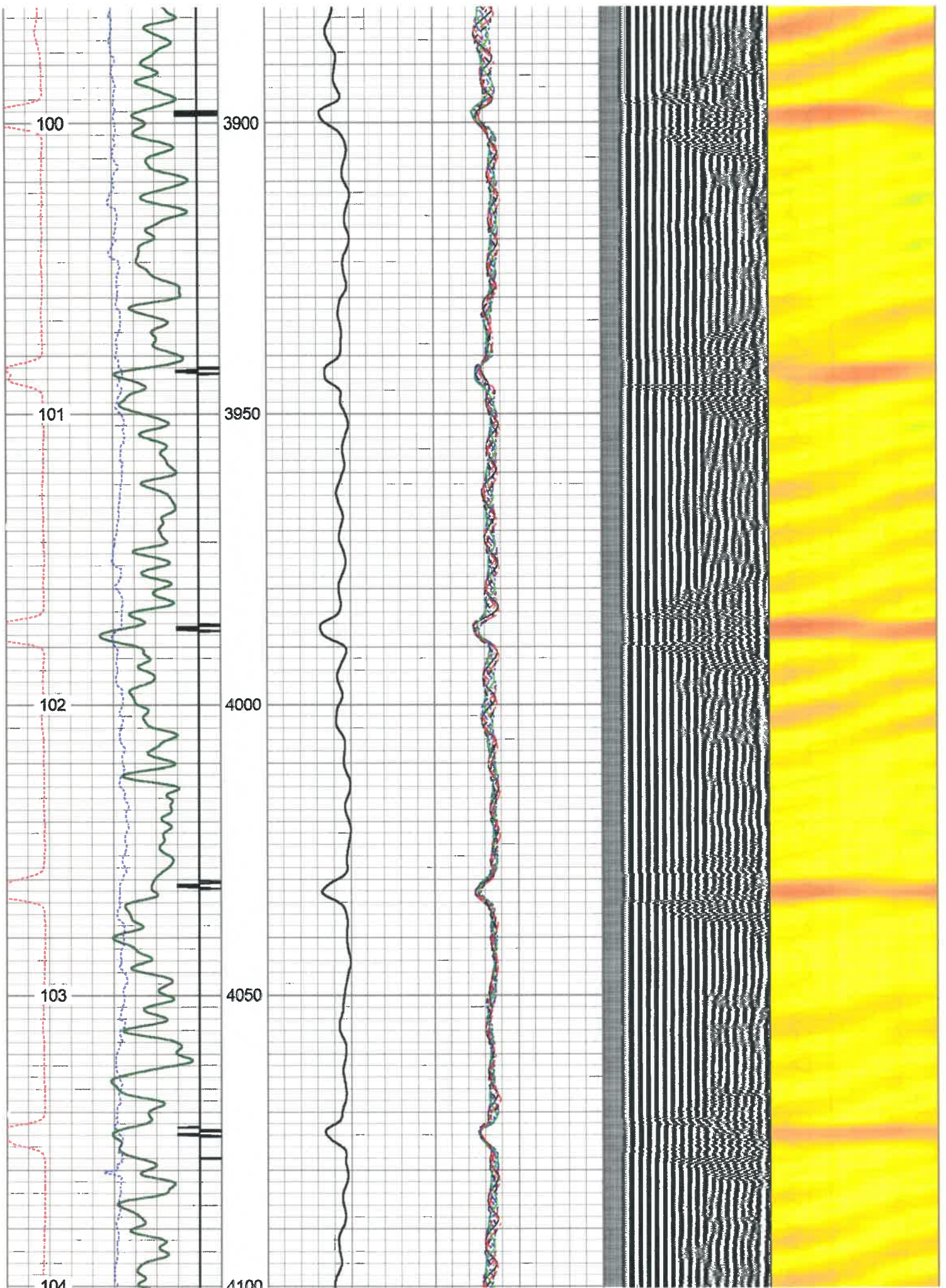




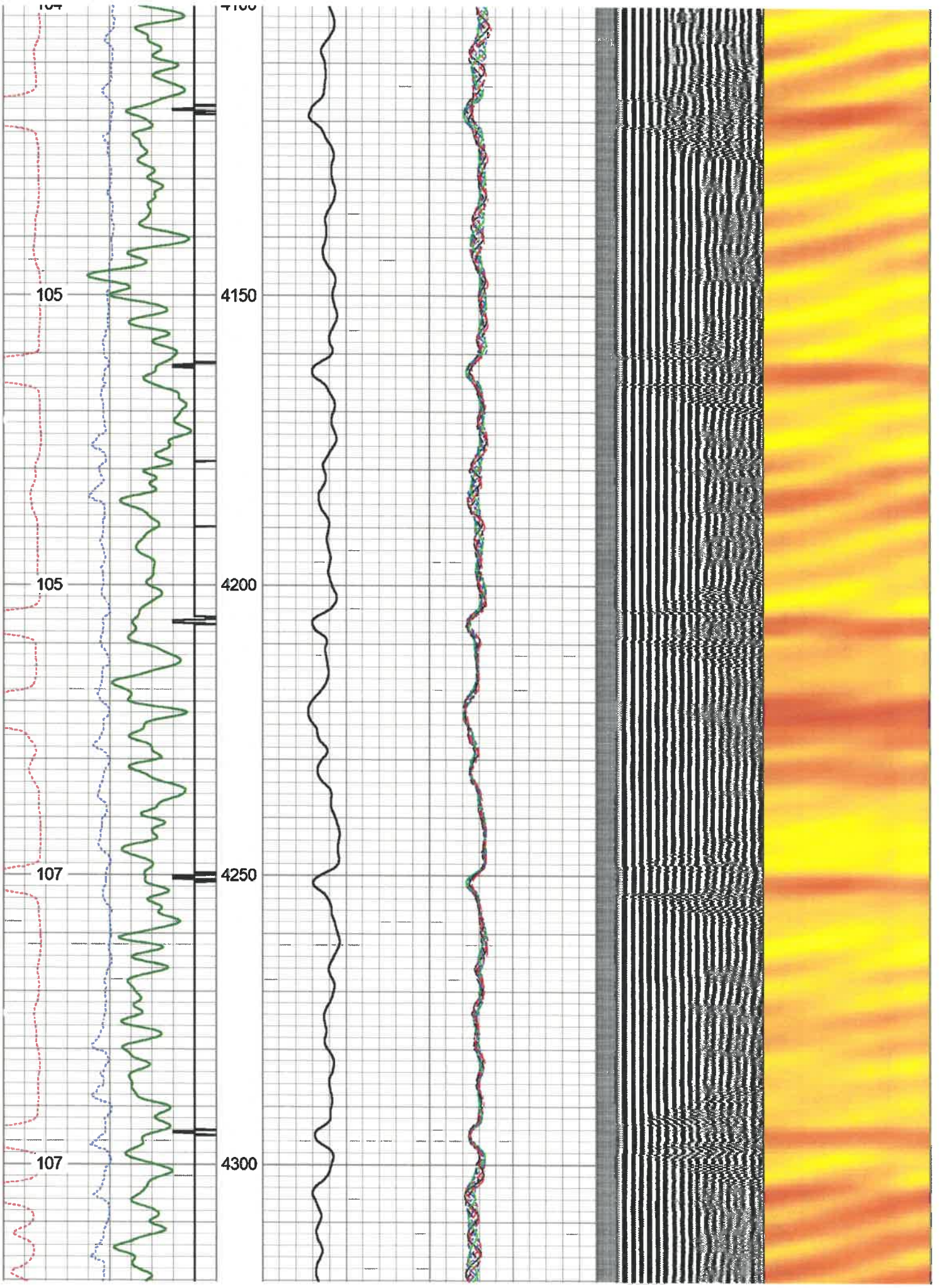




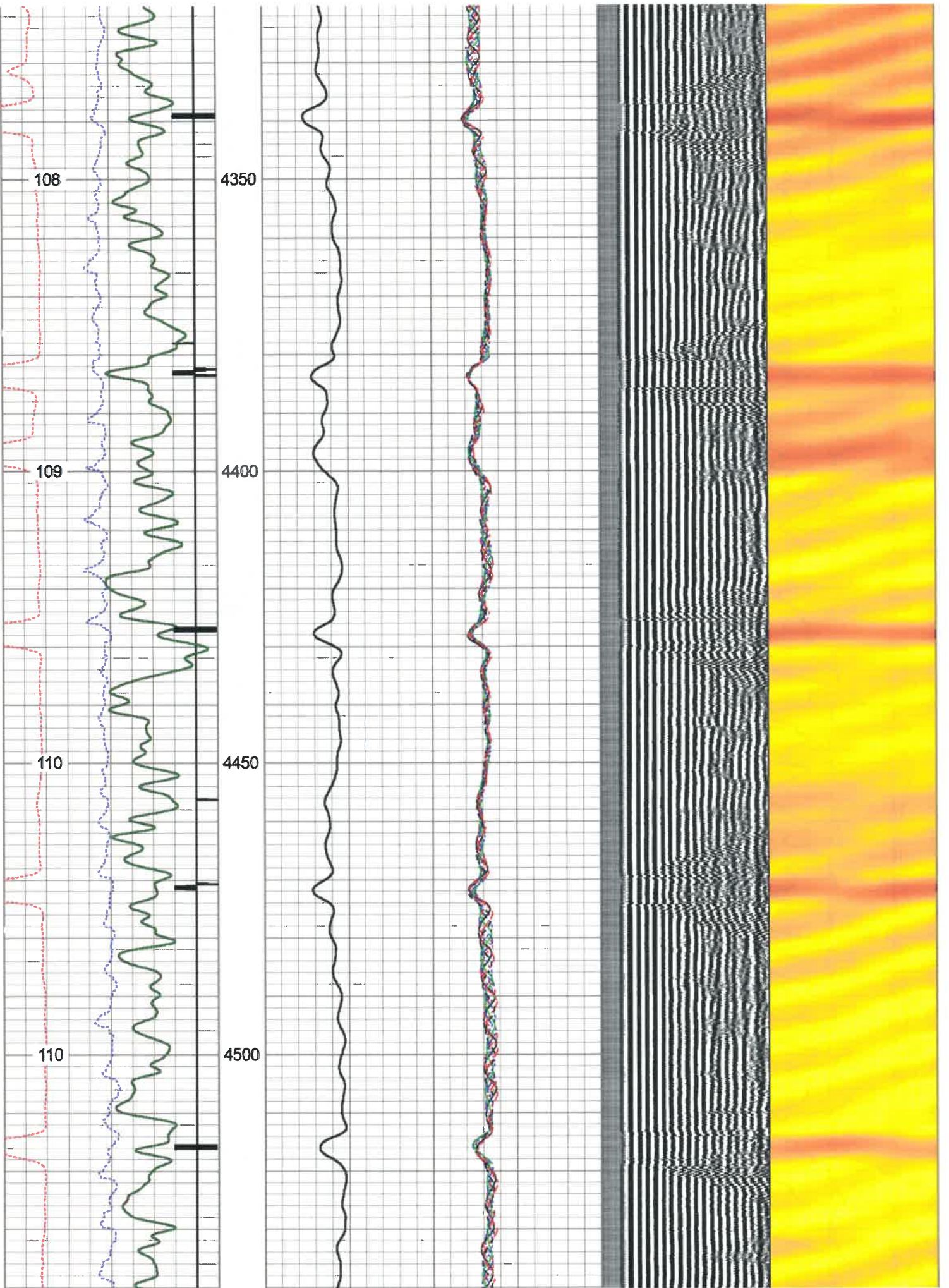




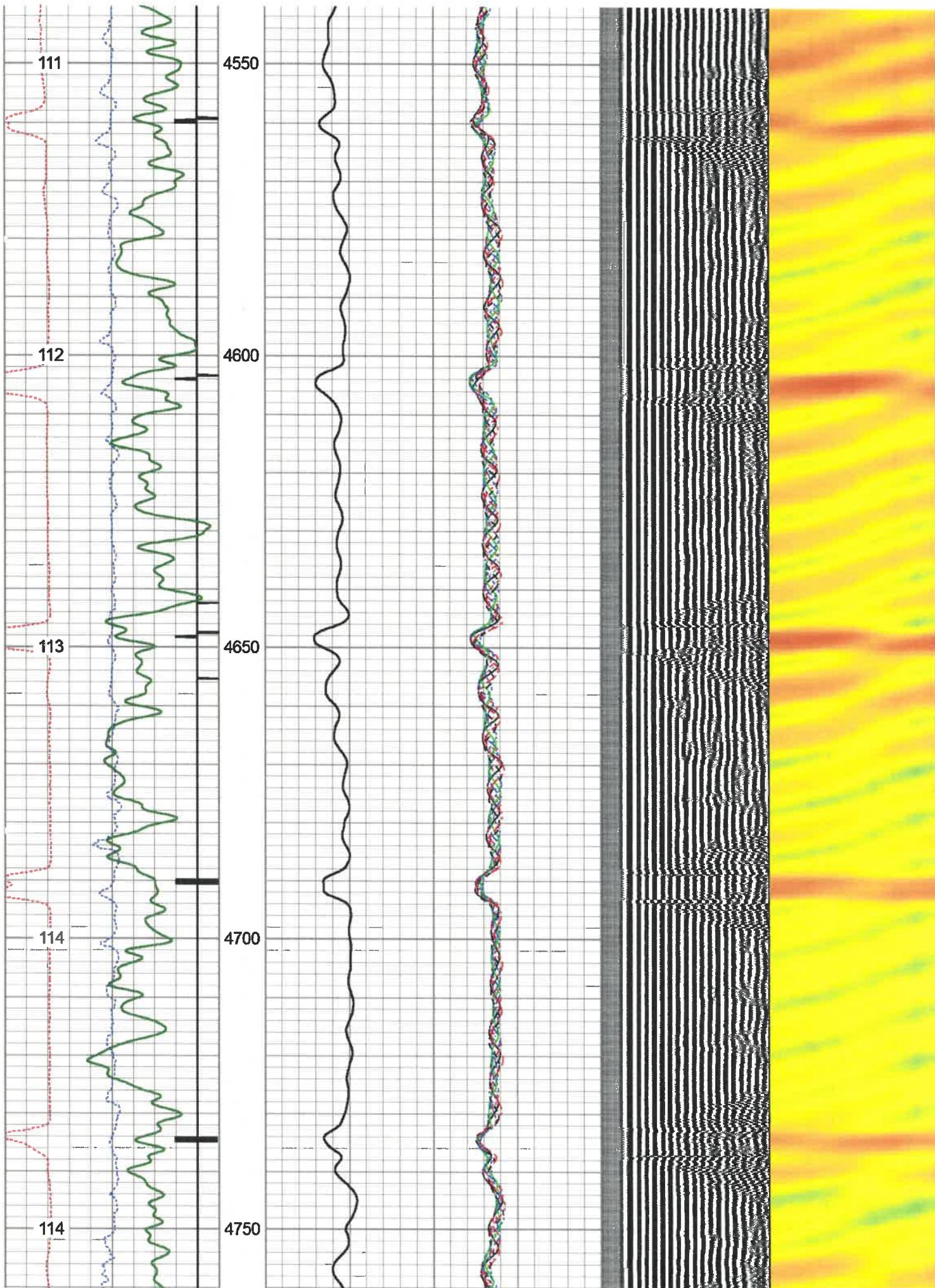




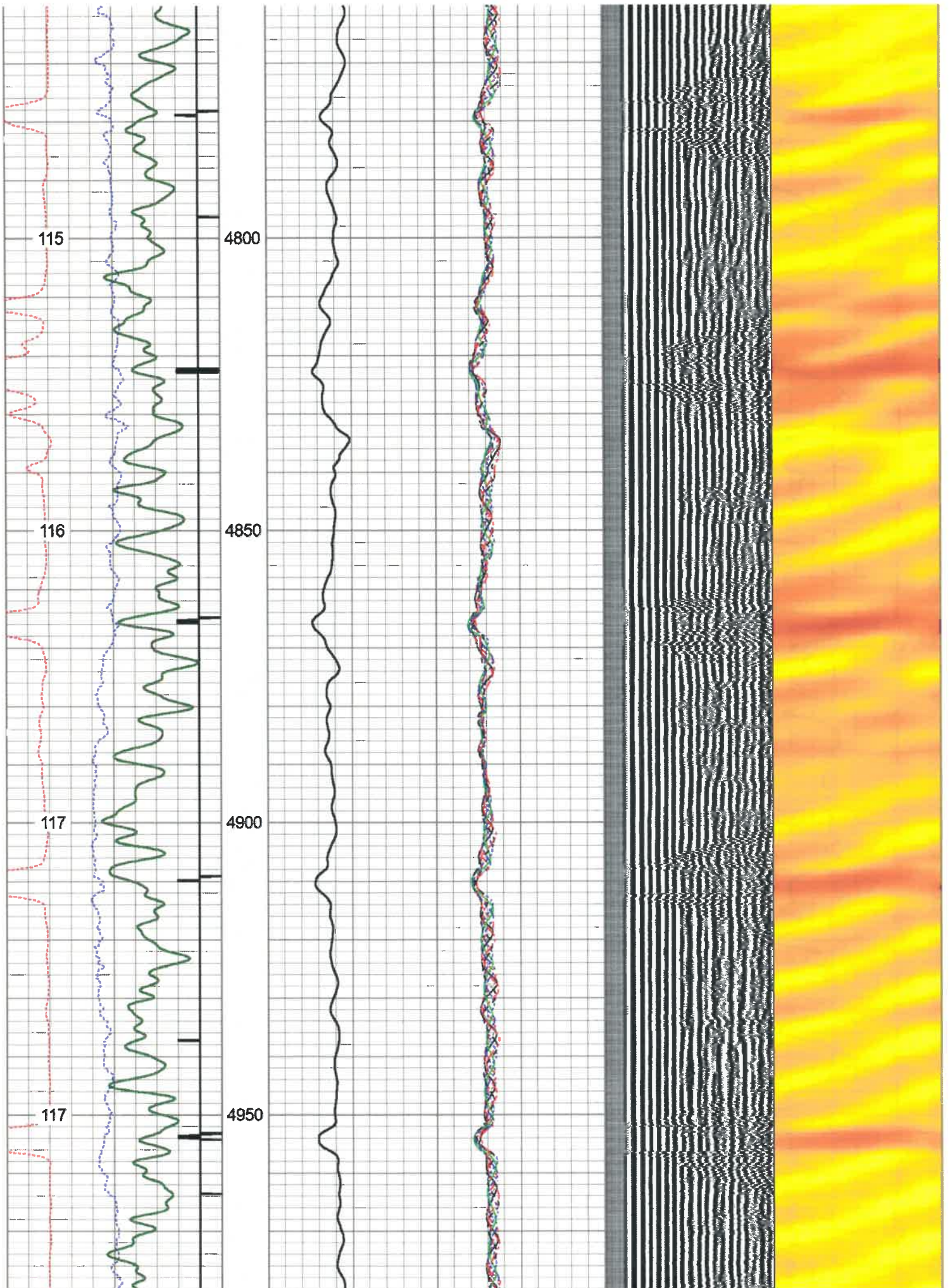




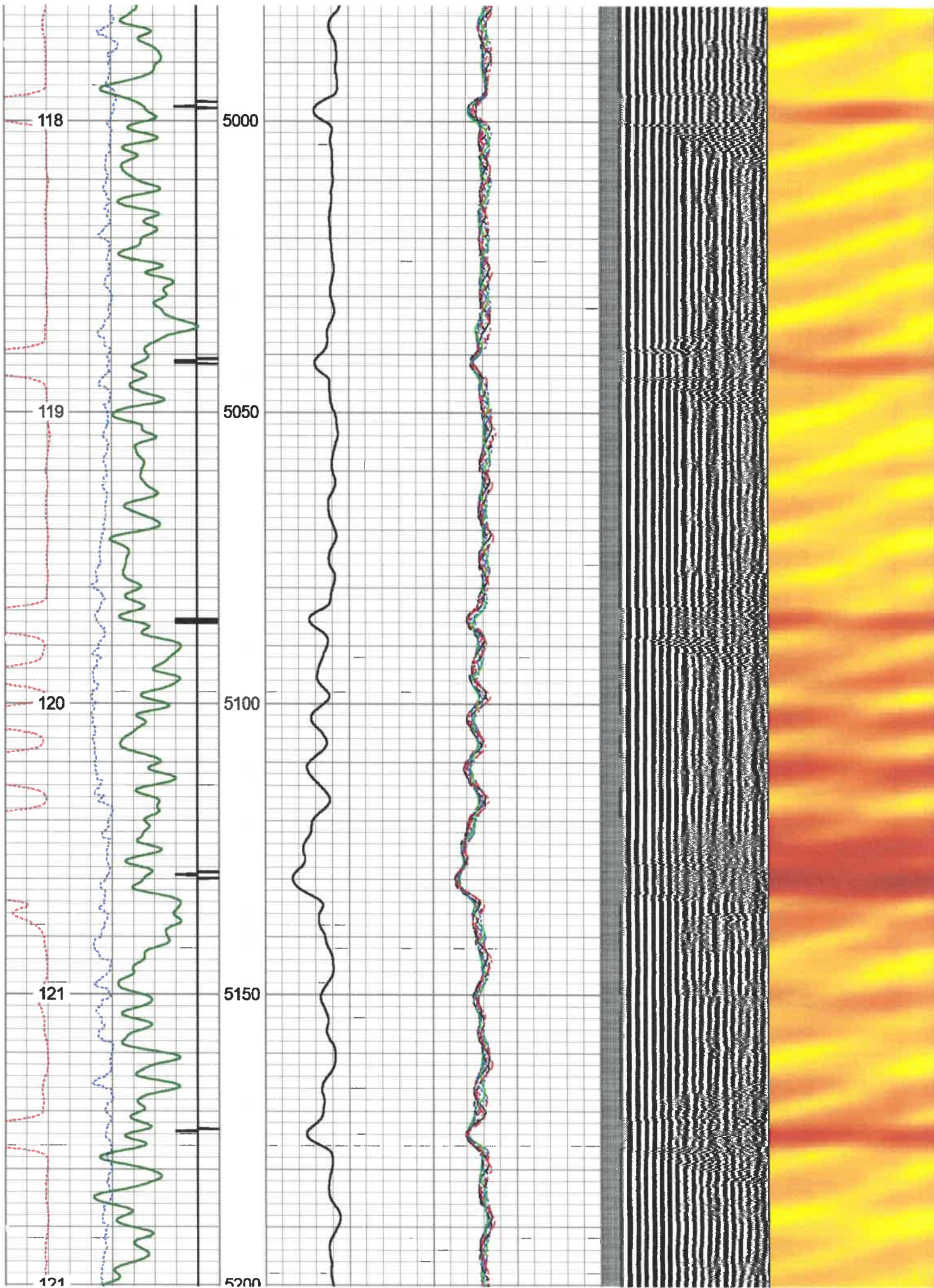




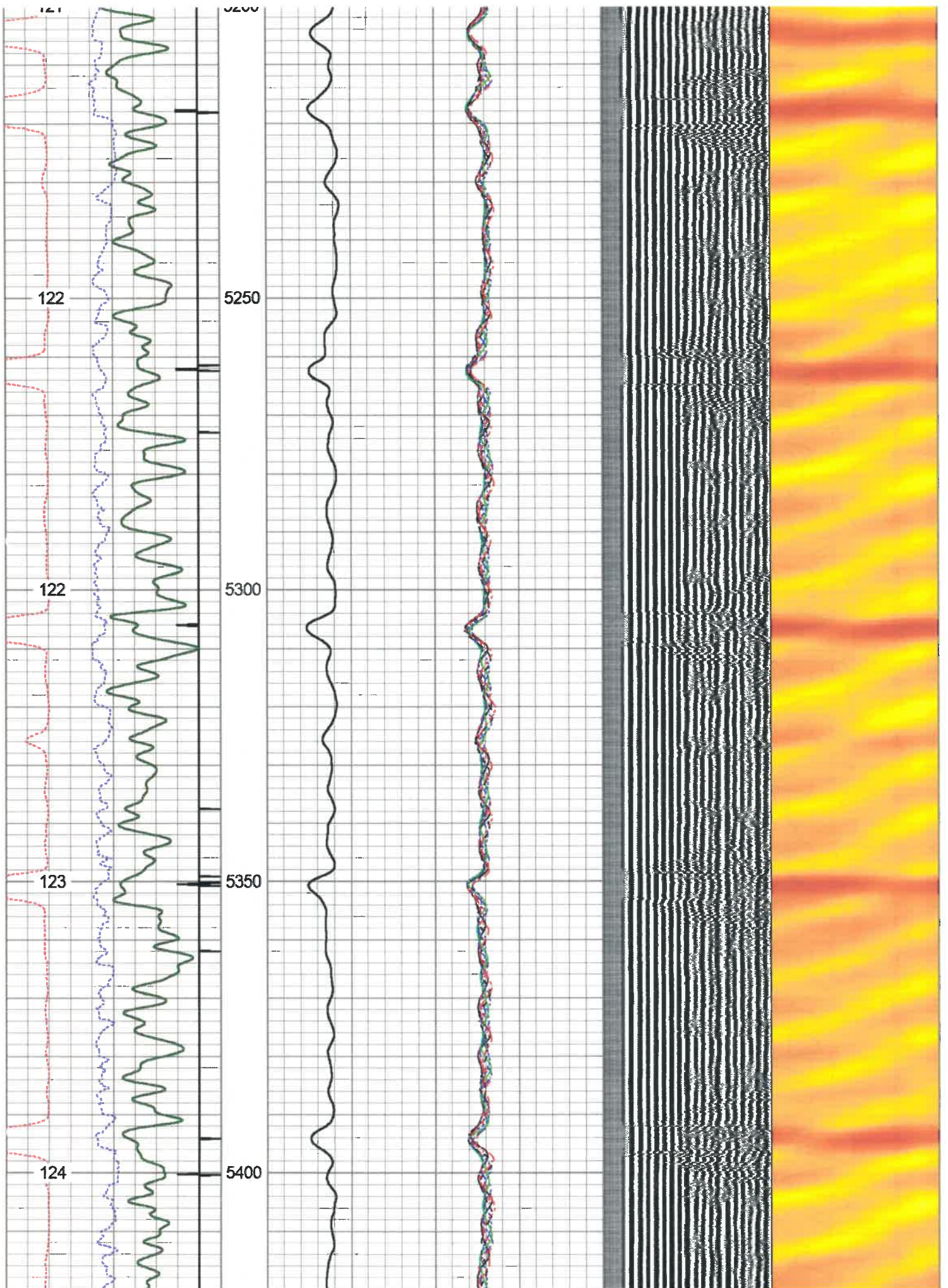




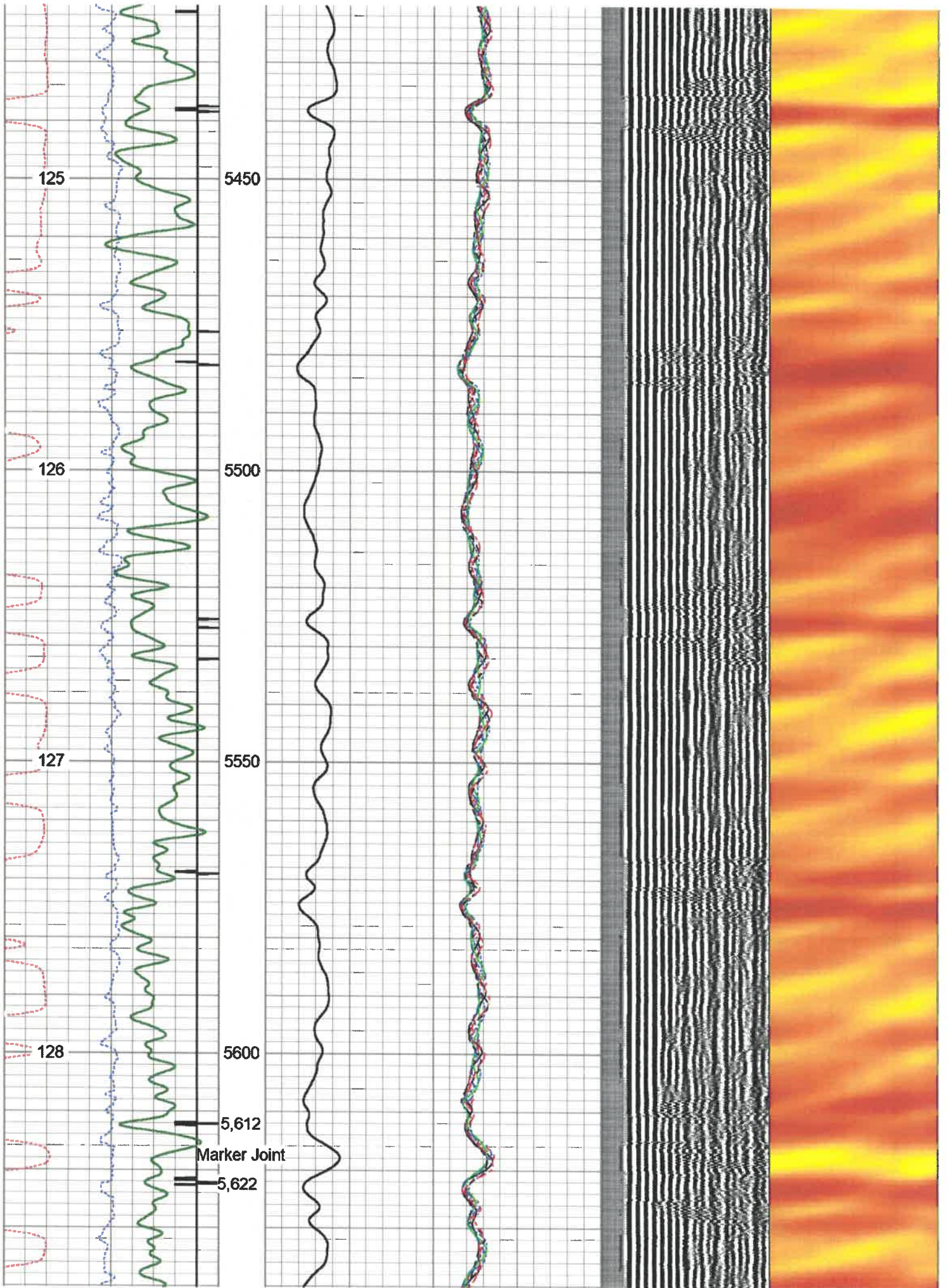




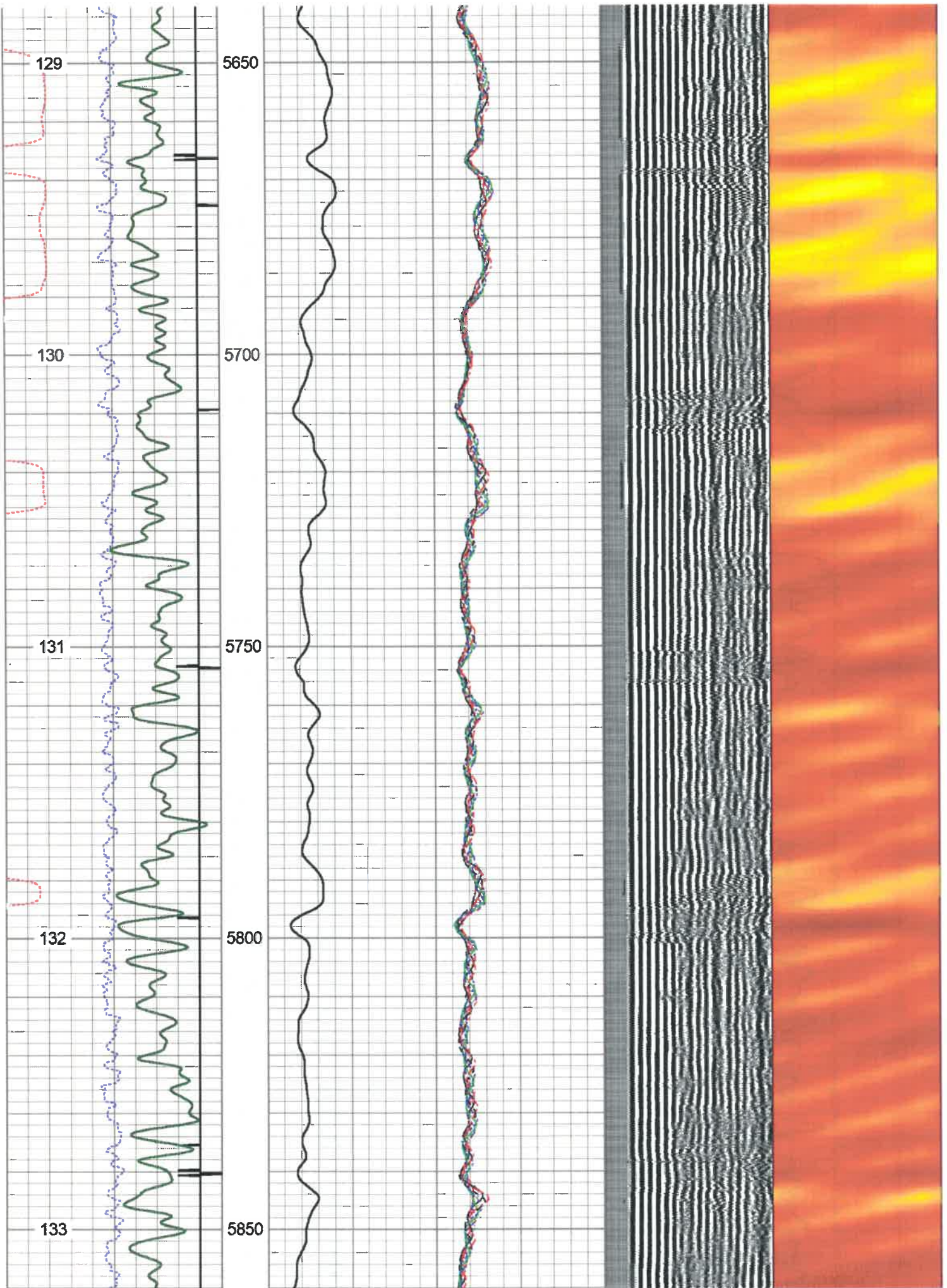




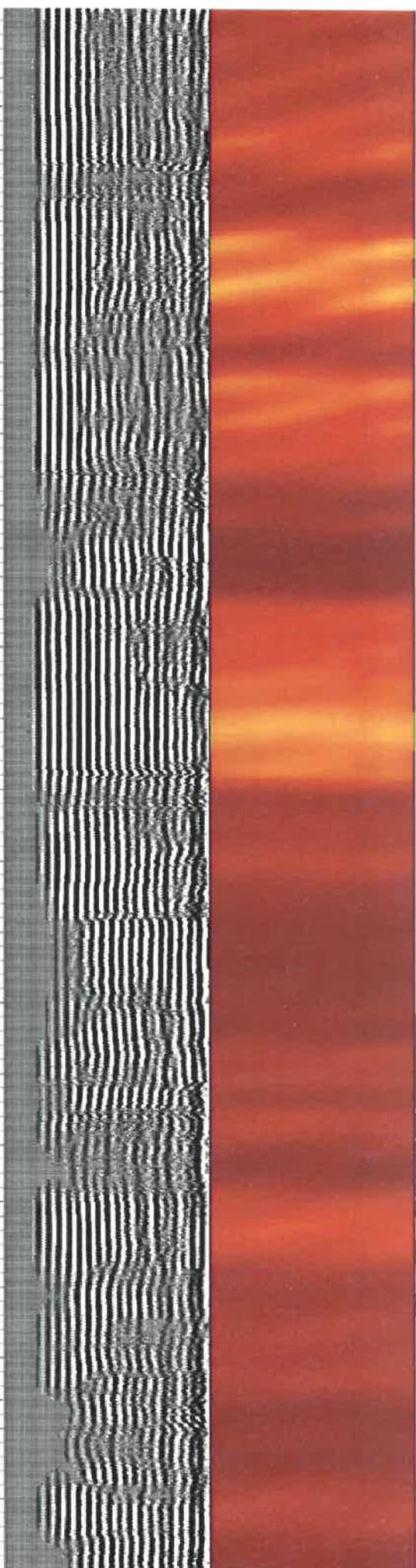
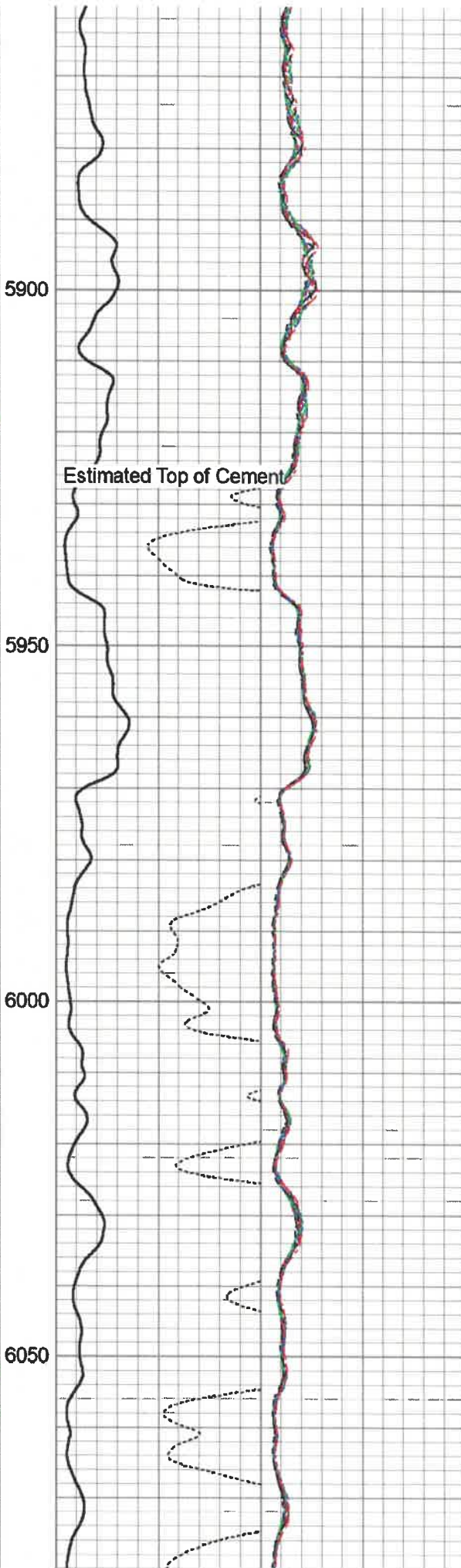
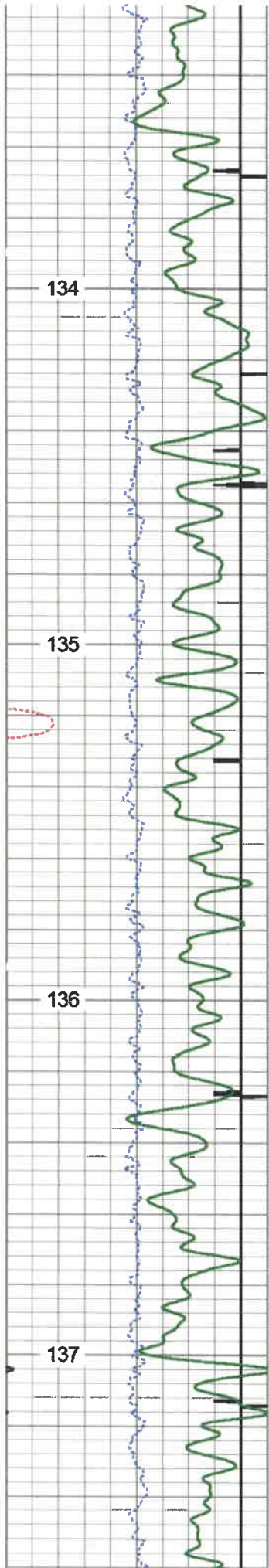




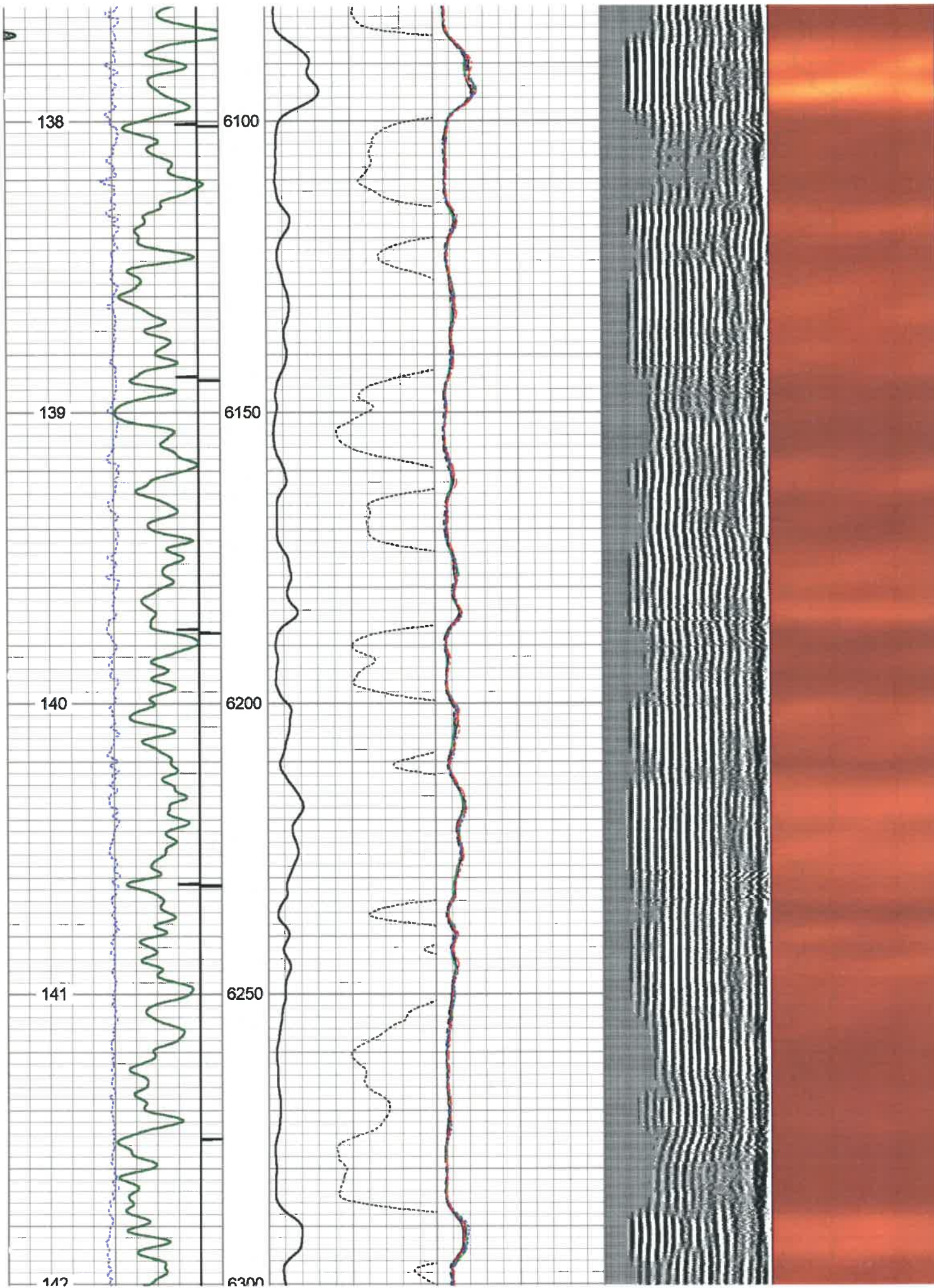




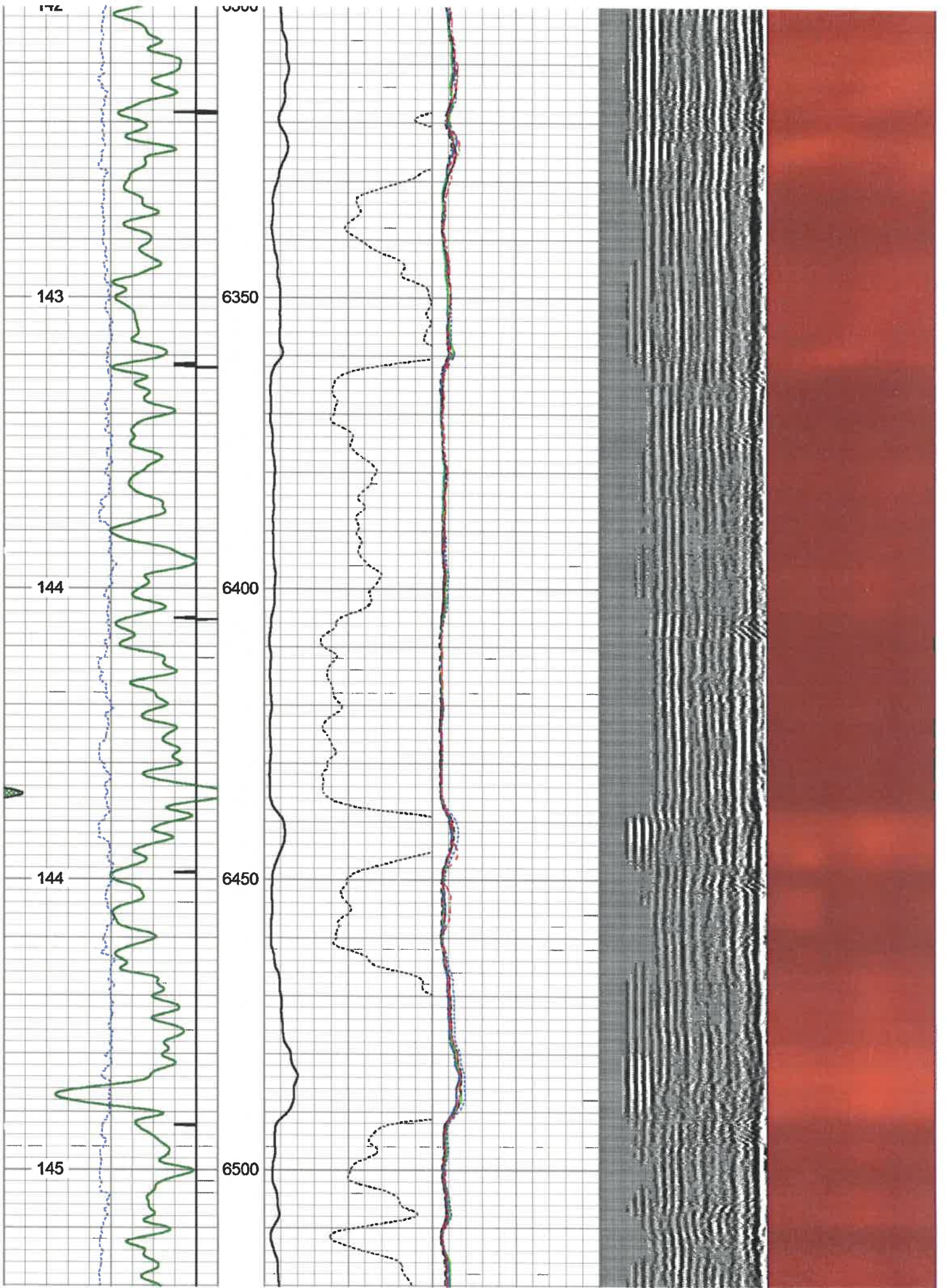




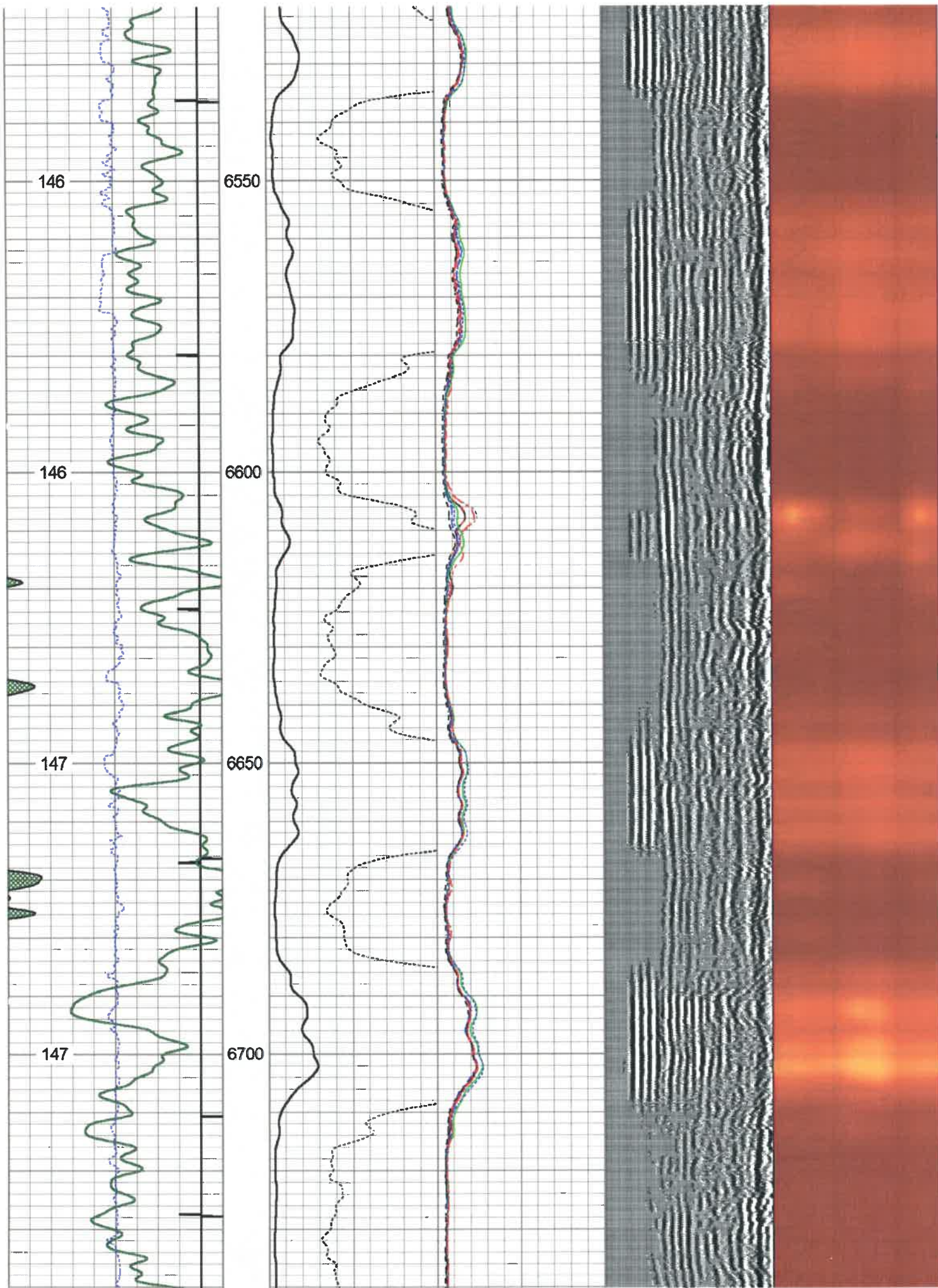




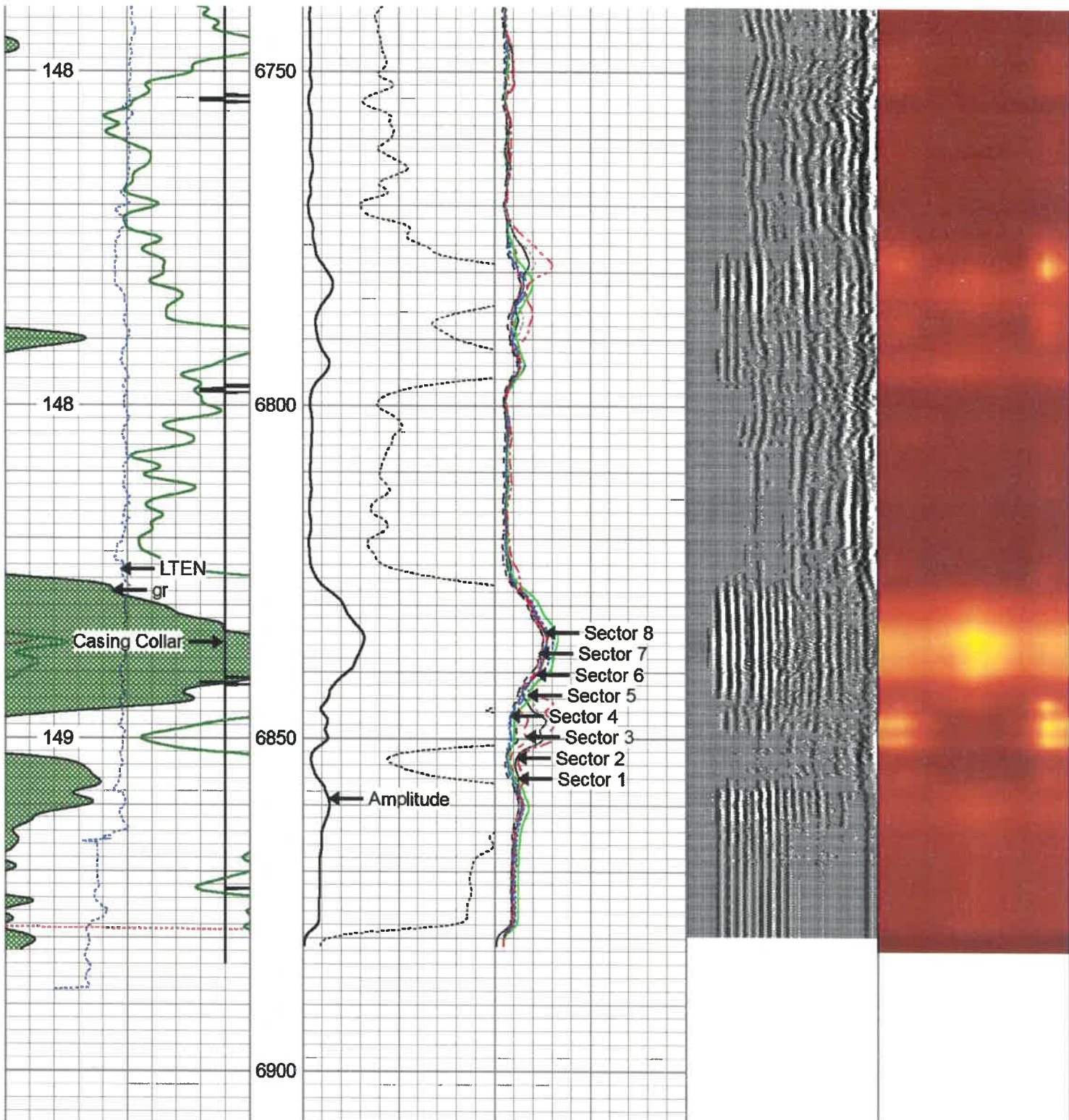












271	Travel Time (usec)	200
Casing Collar		
0	Gamma Ray (GAPI)	150
0	LTEN (lb)	2500

Temp  
(degF)


0	Amplitude (mV)	100	-5	Sector 1	150
Amplified Amplitude					
0	(mV)	10	-5	Sector 2	150
-----					
-5 Sector 3 150					
-----					
-5 Sector 4 150					
-----					
-5 Sector 5 150					
-----					
-5 Sector 6 150					
-----					
-5 Sector 7 150					
-----					
-5 Sector 8 150					

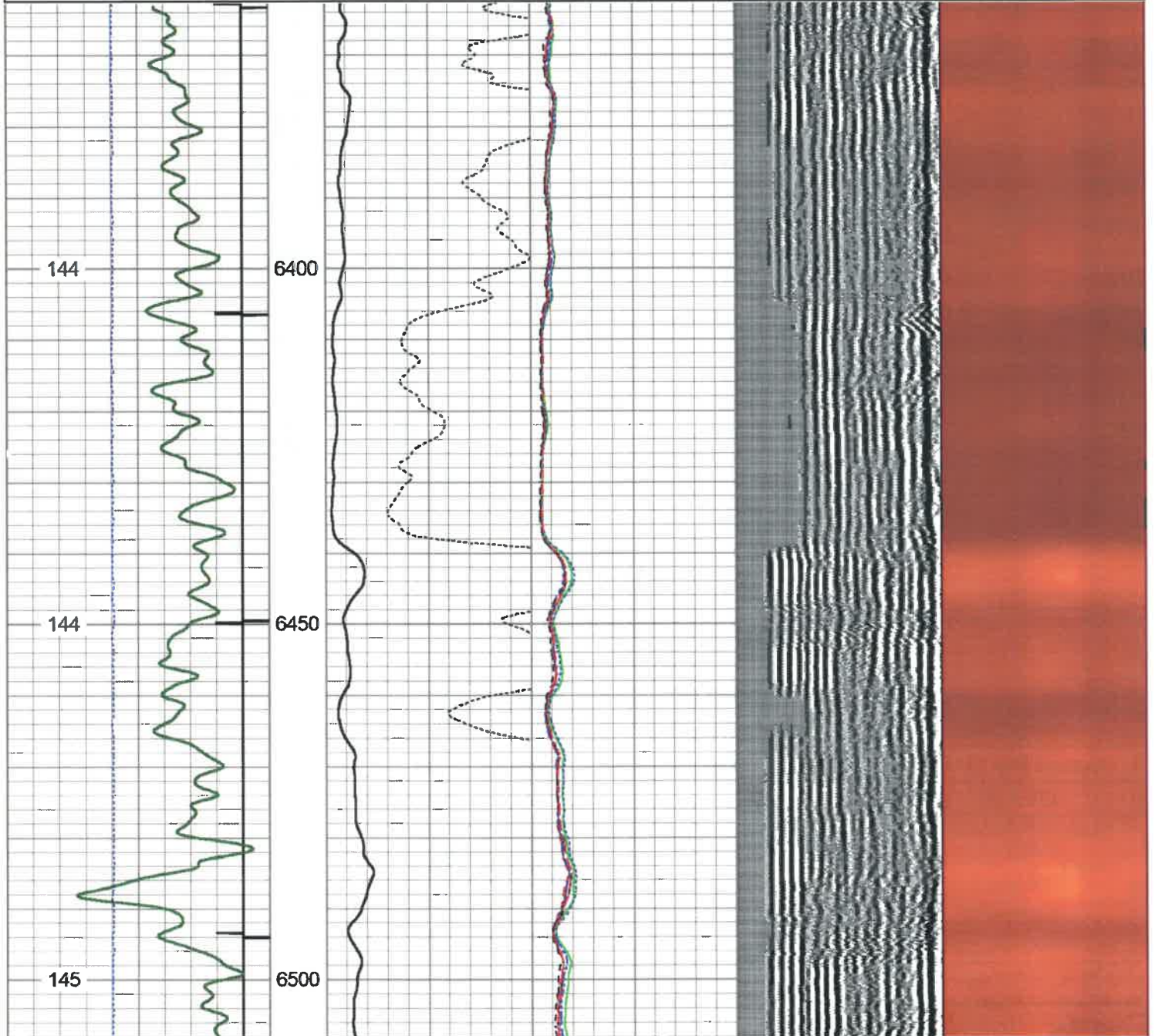
Variable Density	1	Cement Map	8
200	(usec)	1200	



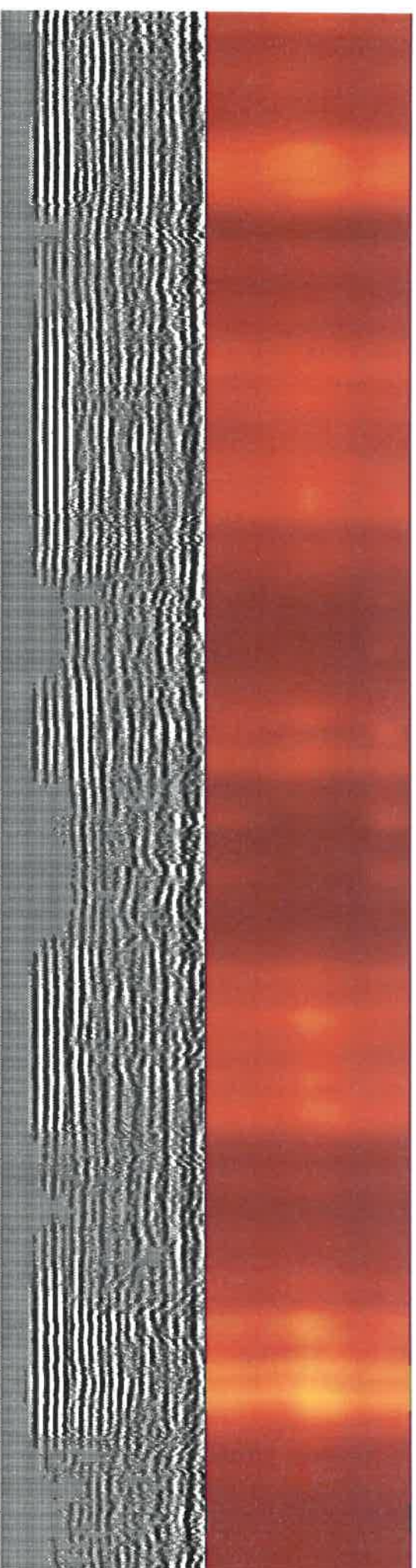
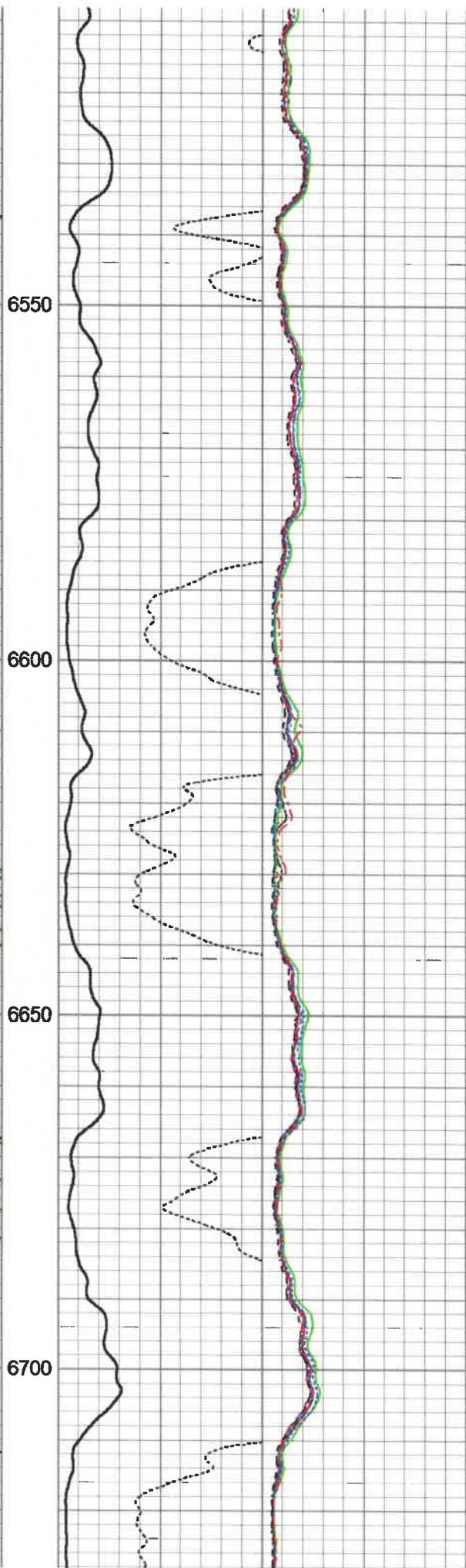
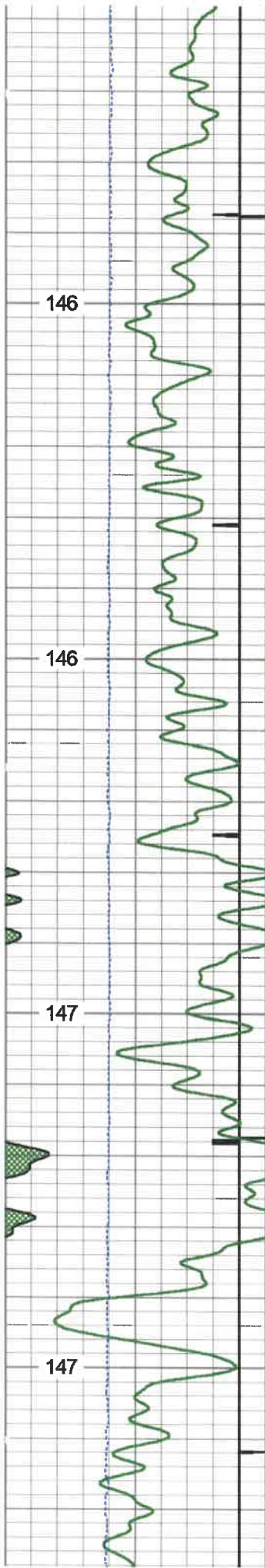


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 Dataset Pathname Marcellus/Avalanche\_3H/RCBL\_1/pass2  
 Presentation Format scbl03  
 Dataset Creation Sat Mar 14 16:00:45 2020  
 Charted by Depth in Feet scaled 1:240

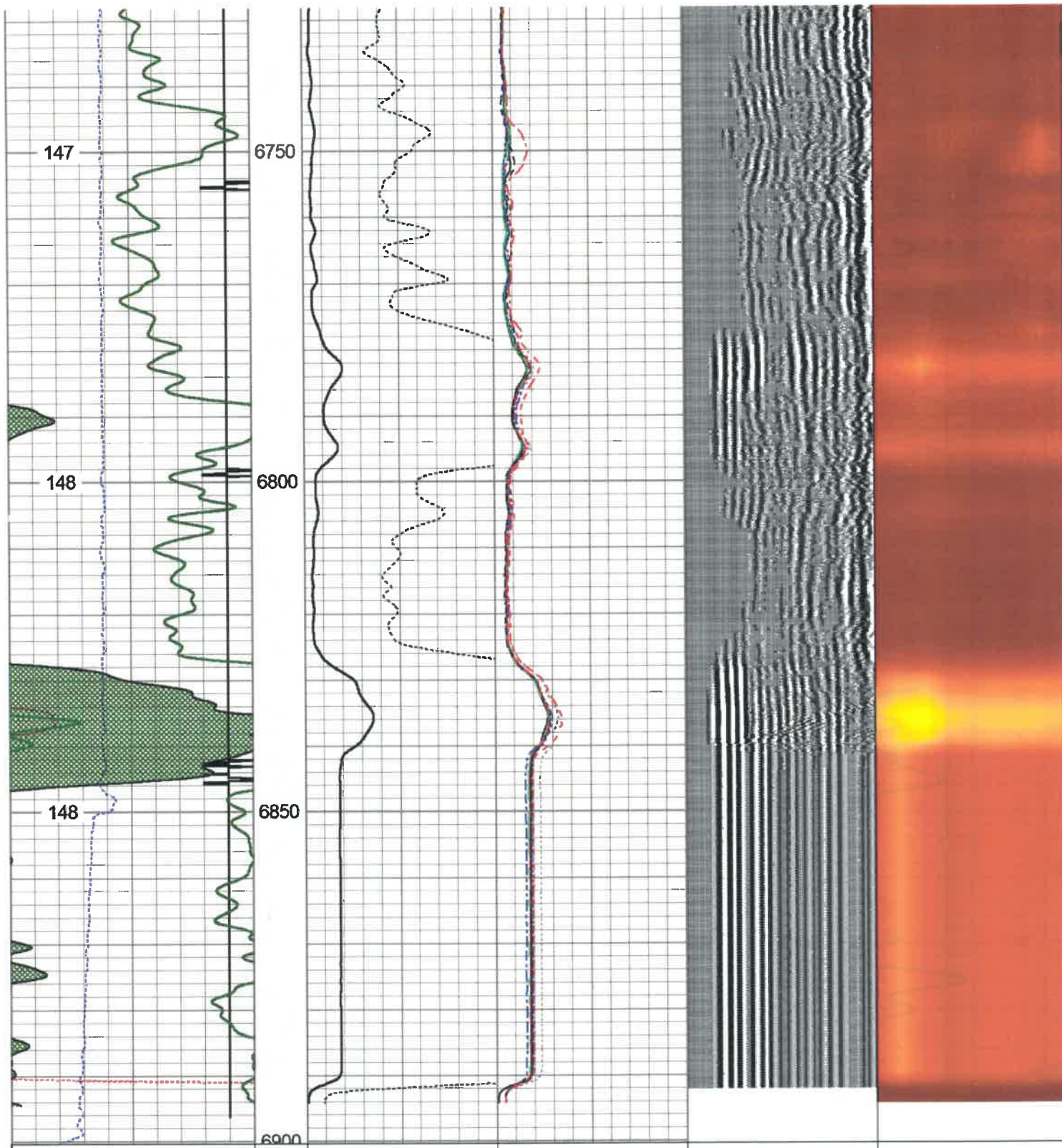
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0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	Sector 3	150				
0	LTEN (lb)	2500			-5	Sector 4	150					
Temp (degF)				-5	Sector 5	150						
				-5	Sector 6	150						
				-5	Sector 7	150						
				-5	Sector 8	150						











271	Travel Time (uSec)	200
Casing Collar		
0	Gamma Ray (GAPI)	150
0	LTEN (lb)	2500
Temp (degF)		

0	Amplitude (mV)	100	-5	Sector 1	150
Amplified Amplitude					
0	(mV)	10	-5	Sector 2	150
-----					
			-5	Sector 3	150
-----					
			-5	Sector 4	150
-----					
			-5	Sector 5	150
-----					
			-5	Sector 6	150
-----					
			-5	Sector 7	150
-----					
			-5	Sector 8	150

Variable Density	1	Cement Map	8
200	(uSec)	1200	

