



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

Company Antero Resources Well Journeyman Ryland 3H Field Utica County Wetzel State WV	Company Antero Resources		Well Journeyman Ryland 3H		Field Utica		County Wetzel		State WV	
	Location:				API #: 4710303458		Other Services			
					N 39.549741					
					W 80.750520					
	SEC		TWP		RGE		Elevation			
Permanent Datum		Ground Level		Elevation		K.B.				
Log Measured From		Kelly Bushing 30' A.P.D.				D.F.				
Drilling Measured From		Kelly Bushing				G.L.				
Date	07-May-2022									
Run Number	One									
Depth Driller										
Depth Logger	7,700'									
Bottom Logged Interval	7,720'									
Top Log Interval	Surface									
Open Hole Size										
Type Fluid	Water									
Density / Viscosity										
Max. Recorded Temp.	145 Deg.F.									
Estimated Cement Top	5,772'									
Time Well Ready	14:50									
Time Logger on Bottom	15:20									
Equipment Number	104 (P2)(G1)									
Location	Charleroi, PA									
Recorded By	Matt McNally									
Witnessed By	Keith									
Borehole Record					Tubing Record					
Run Number	Bit	From	To	Size	Weight	From	To			
Casing Record		Size	Wgt/Ft	Top	Bottom					
Conductor String										
Surface String										
Intermediate String										
Intermediate String										
Production		5 1/2"	20#	Surface						

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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

Log Correlated to Marker Joint at 6,661-6,671'
Depth Correction +21'

100 % Free Pipe= 71.9 mv
100 % Cement =2.2mv


Thank You For Choosing Nine Energy Service. Charleroi, PA

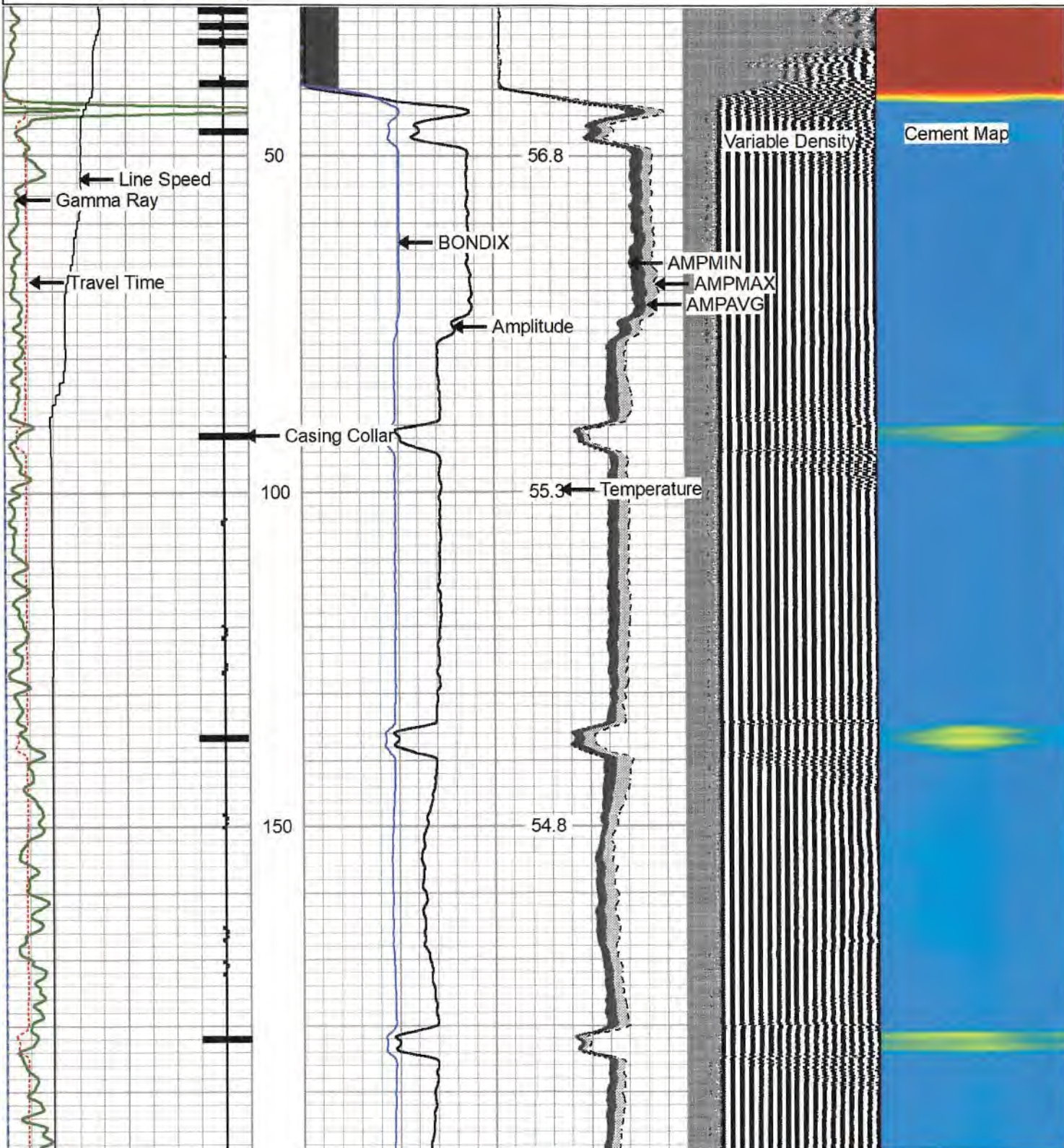


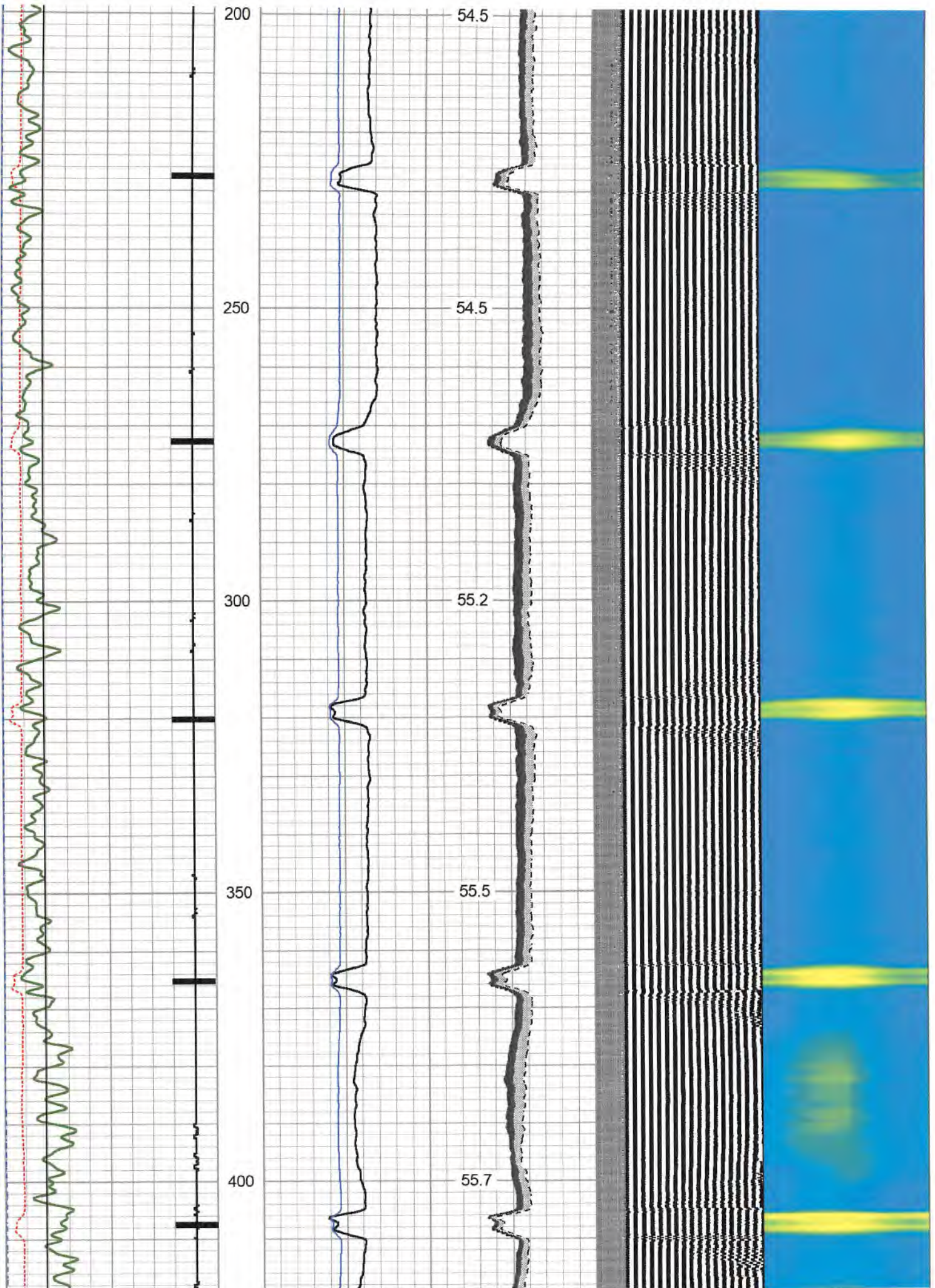
Main Pass 1,500 PSI

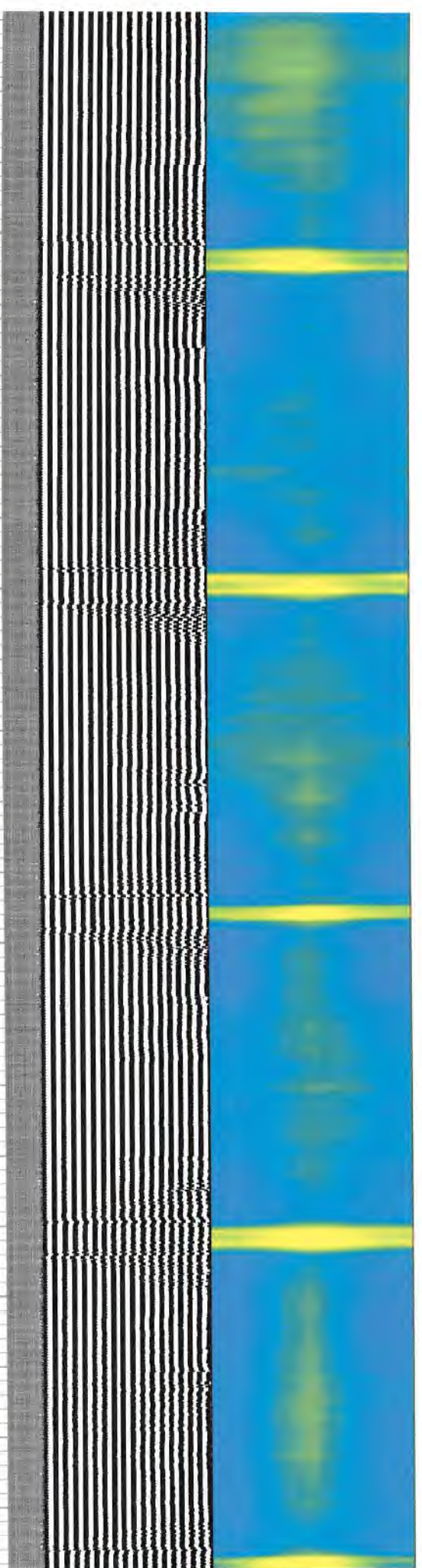
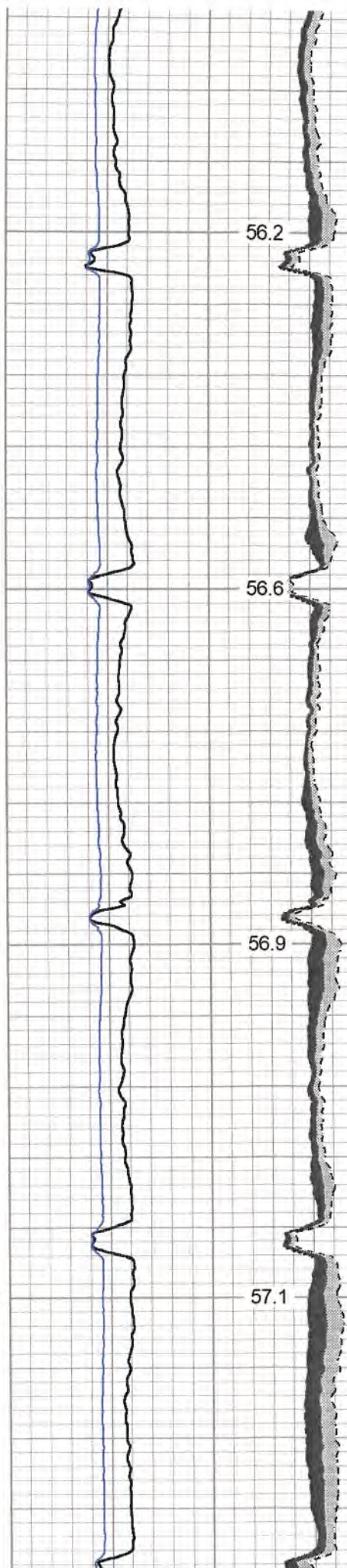
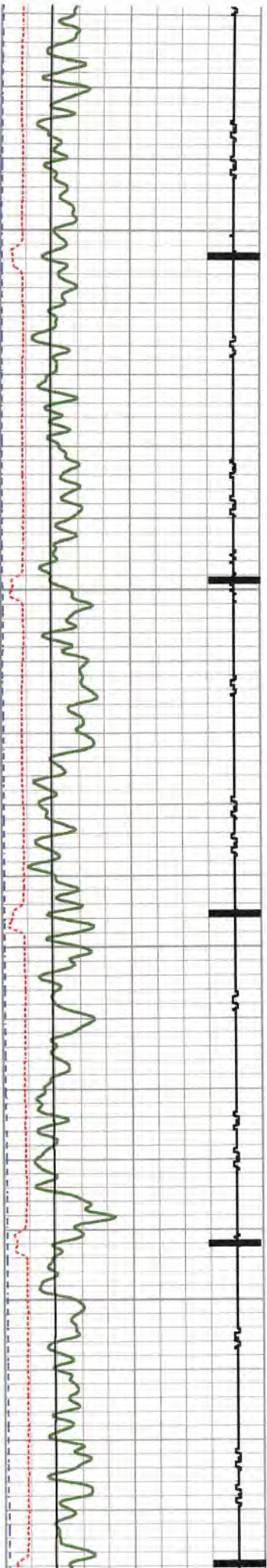
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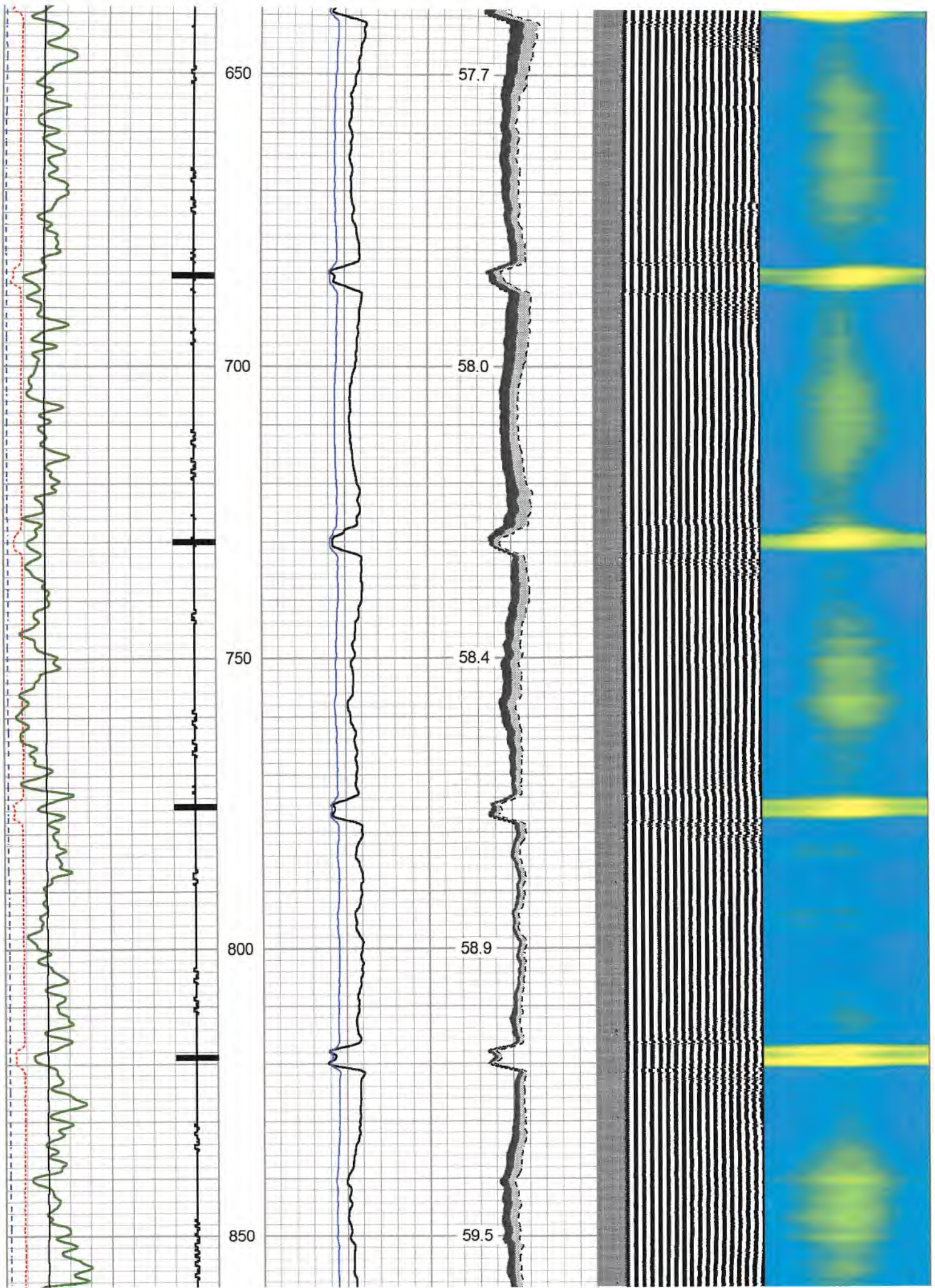
Database File c:\users\warrior\desktop\antero journeyman rcbls 7-may-22\antero ryland 3h rcbl 7-may-2022\antero_ryan
 Dataset Pathname ryland_3h/run1/pass 10.2
 Presentation Format rcbl-bond index 1020
 Dataset Creation Sat May 07 16:58:50 2022
 Charted by Depth in Feet scaled 1:240

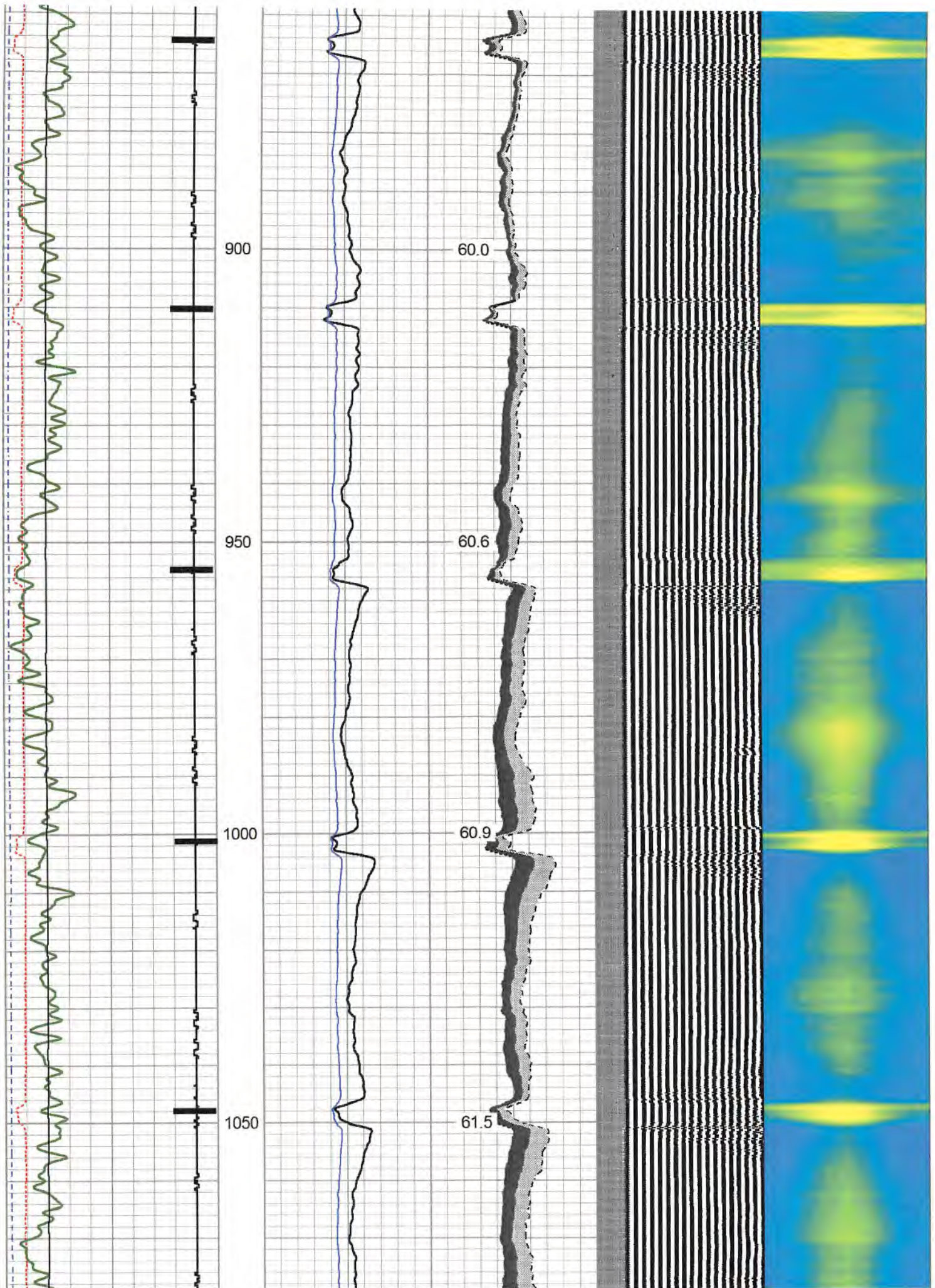
270	Travel Time (usec)	160	0	Amplitude (mV)	100	-5	AMP	MIN	150	Variable Density	1	Cement Map	8
Casing Collar			1	BONDIX	0	-5	AMP	MAX	150	200 (usec)	1200		
0	Gamma Ray (GAPI)	150				-5	AMP	AVG	150				
Line Speed													
-200	(ft/min)	200				TEMP							
Line Tension (lb)			3000										
						TEMP							
						(degF)							

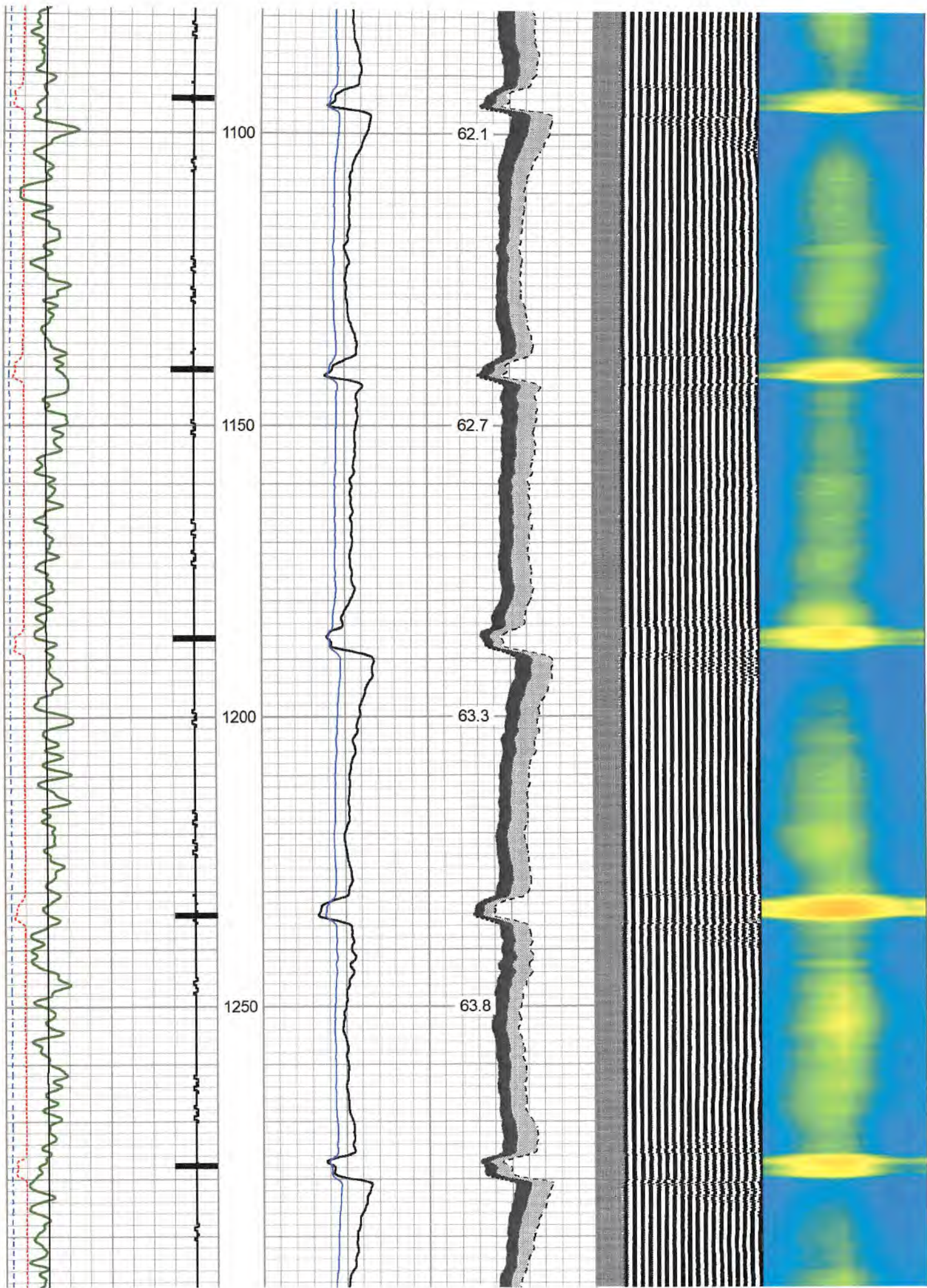


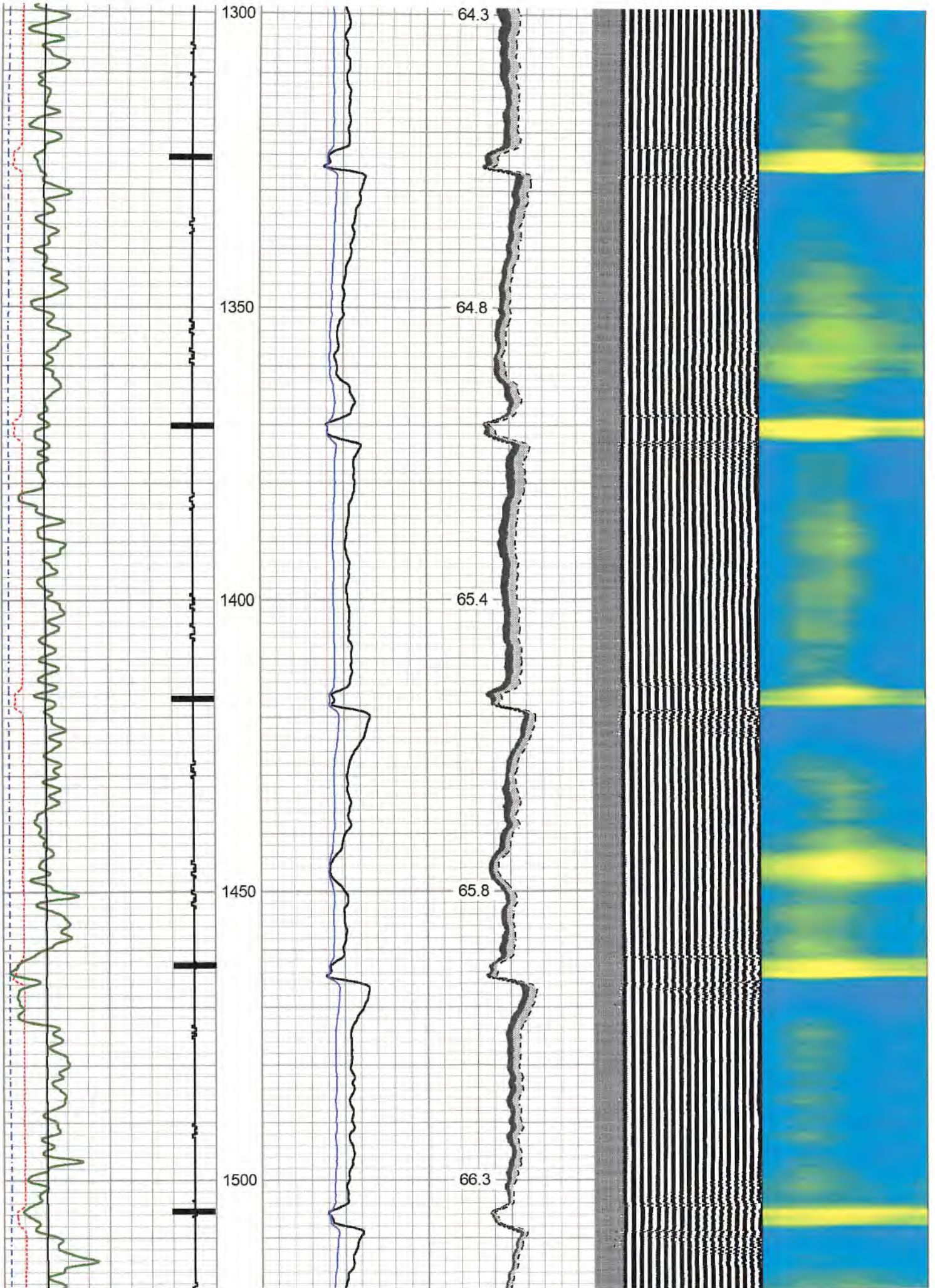


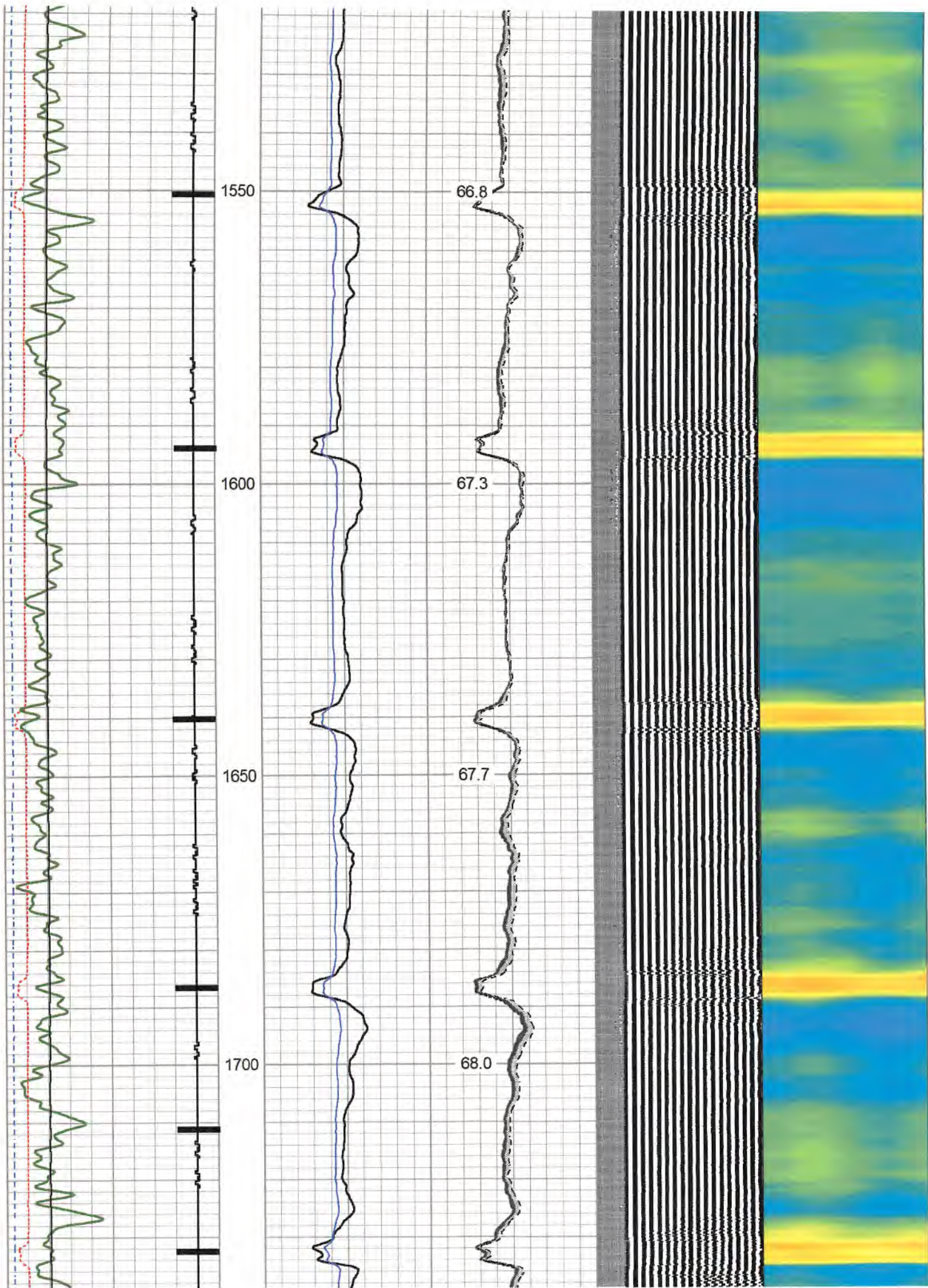


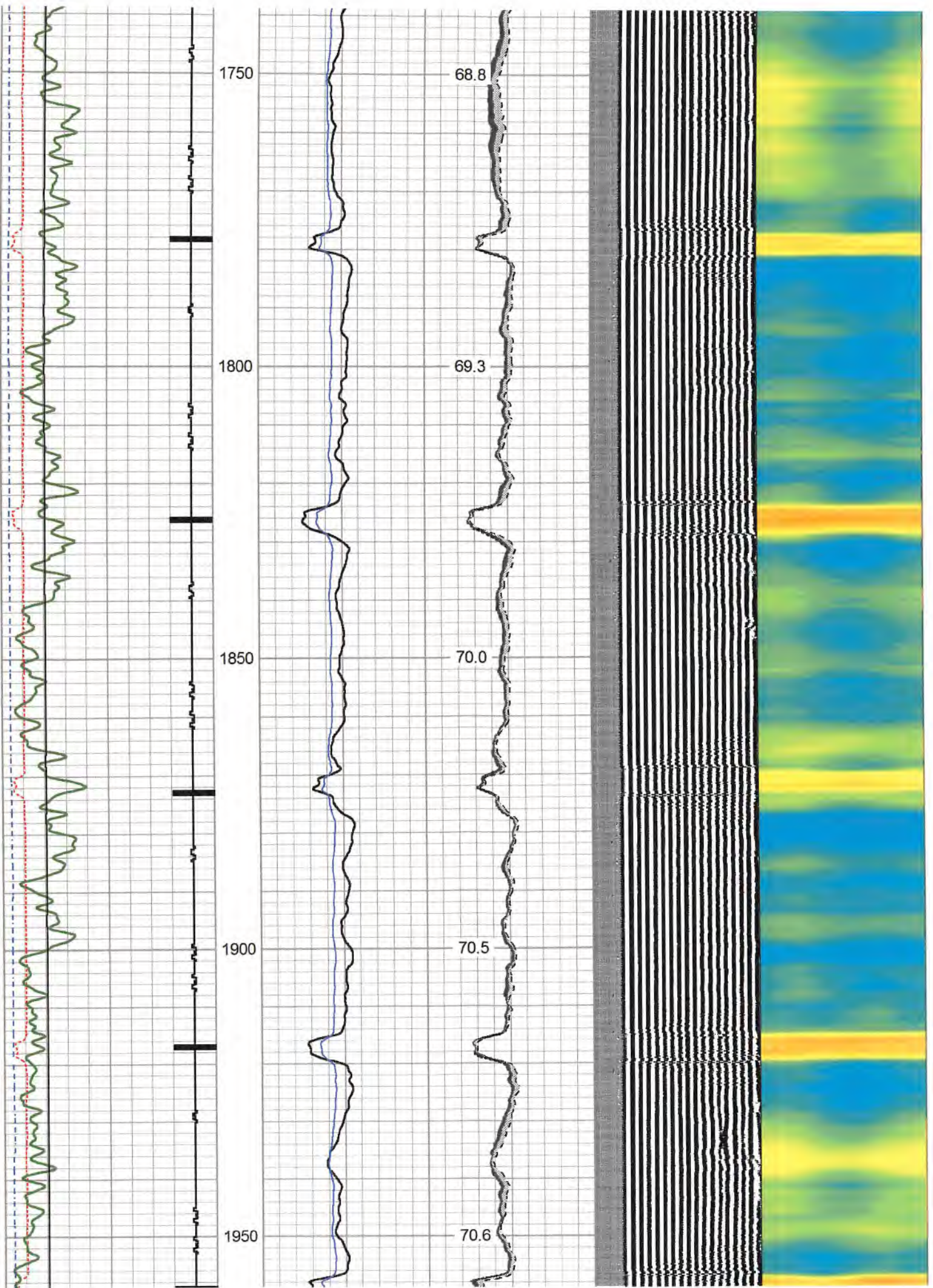


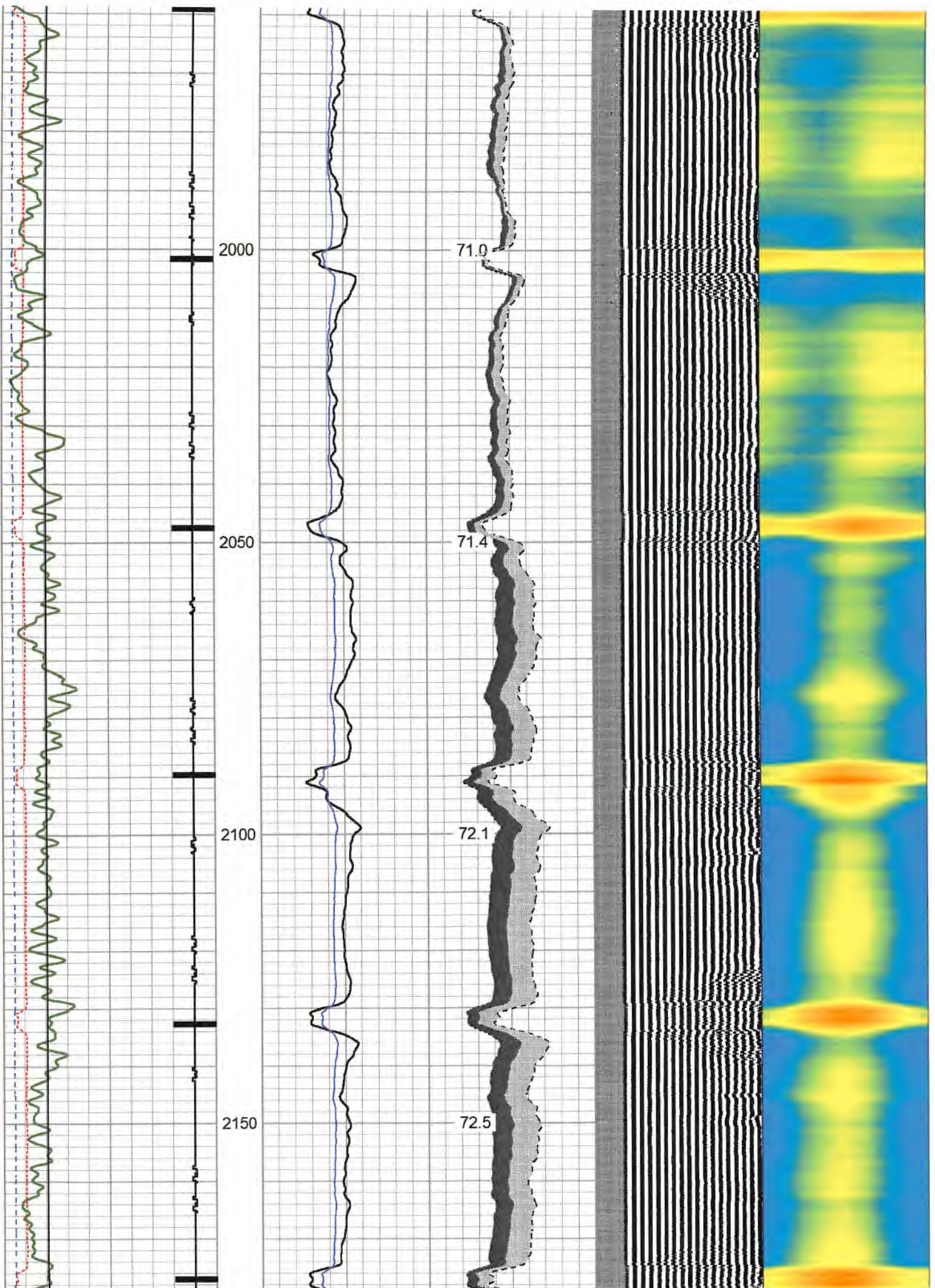


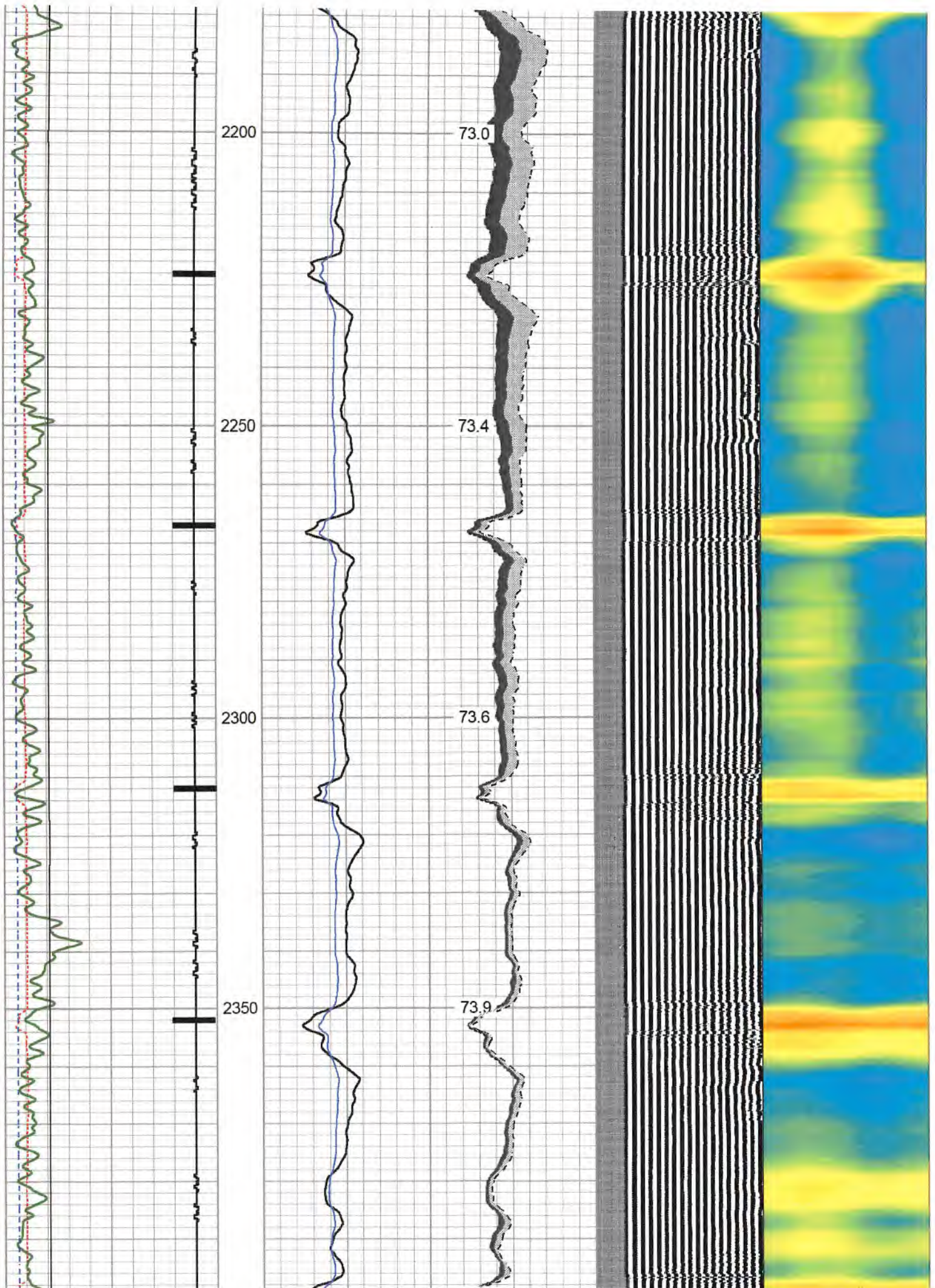


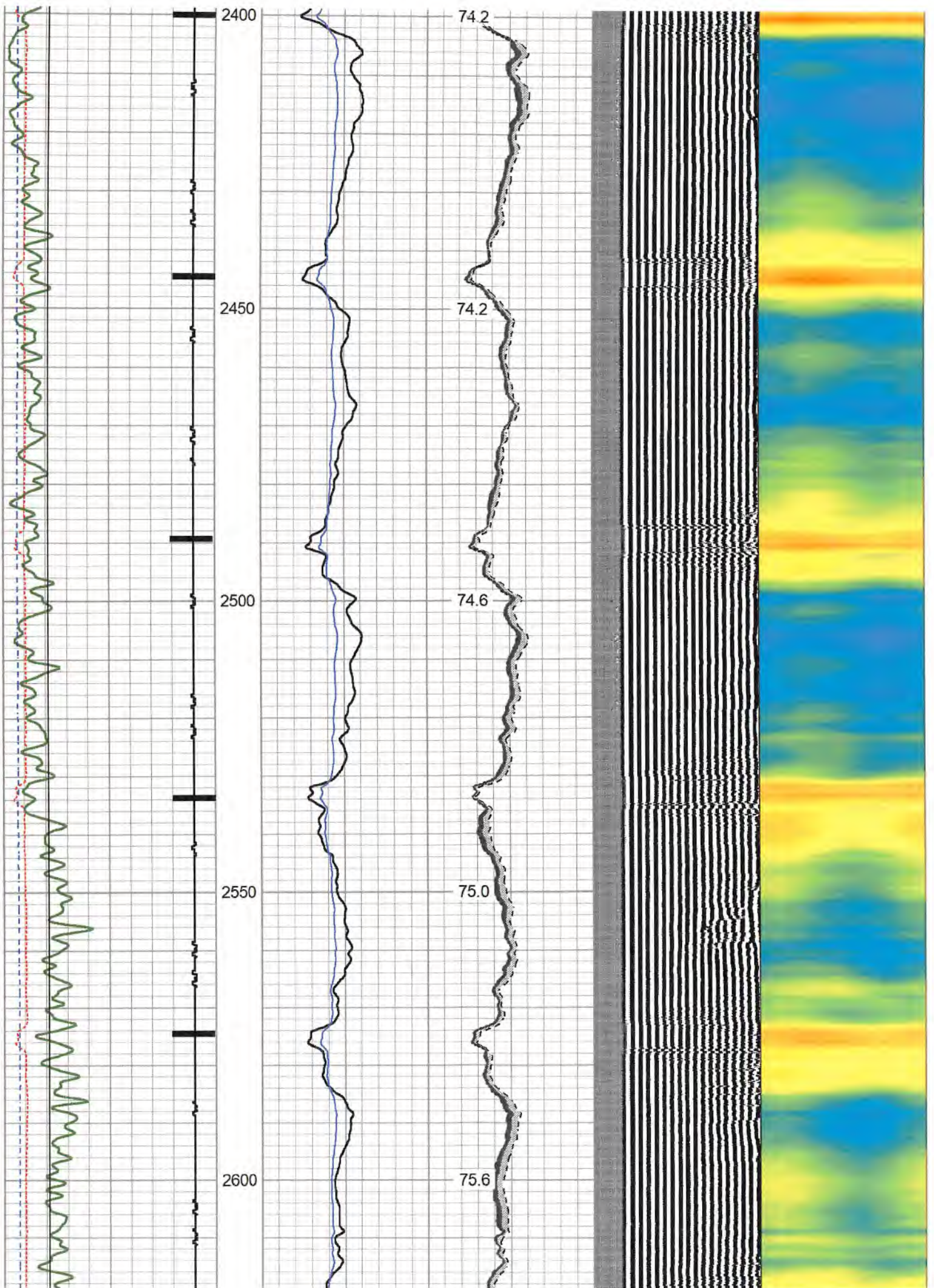


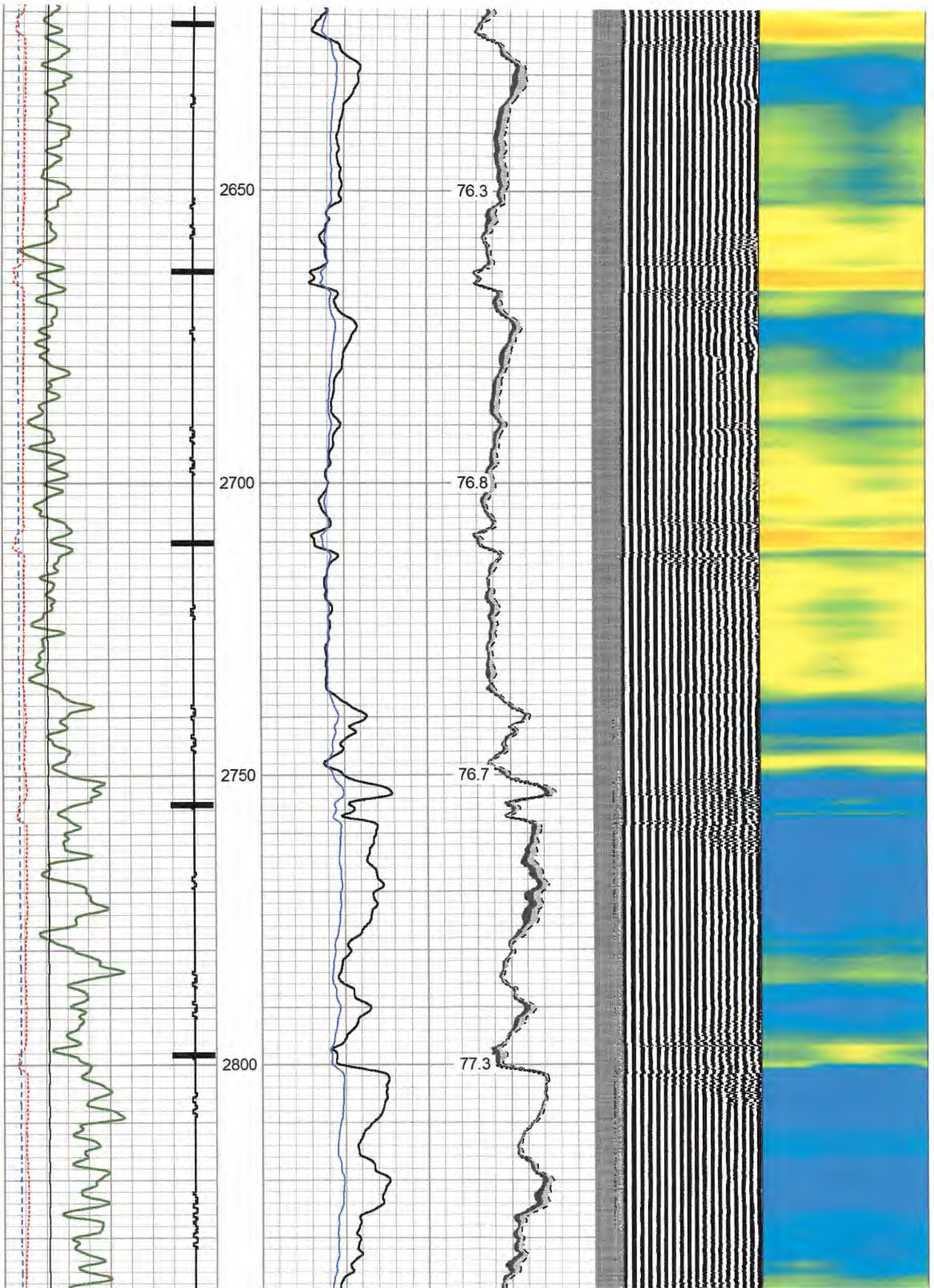


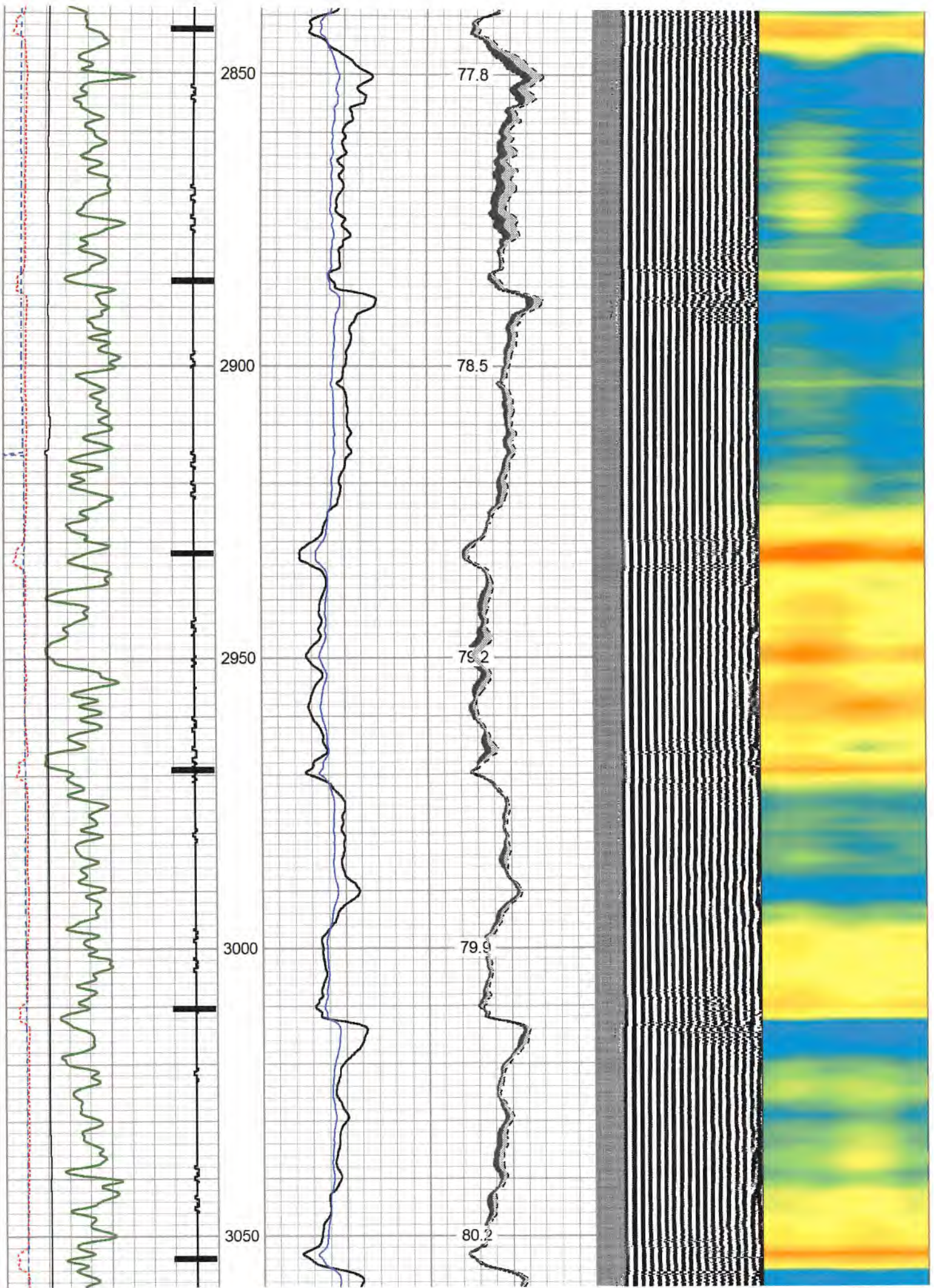


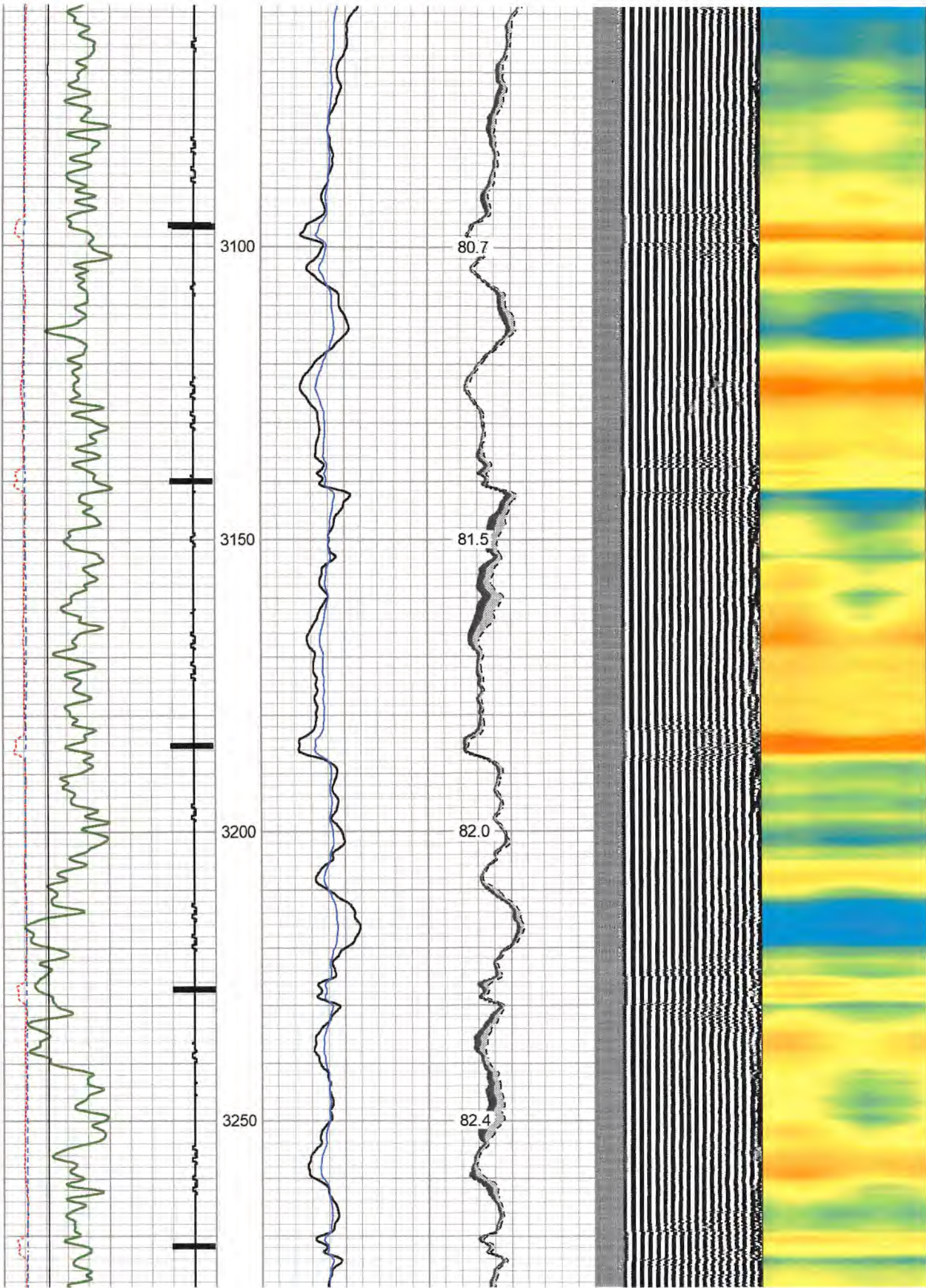


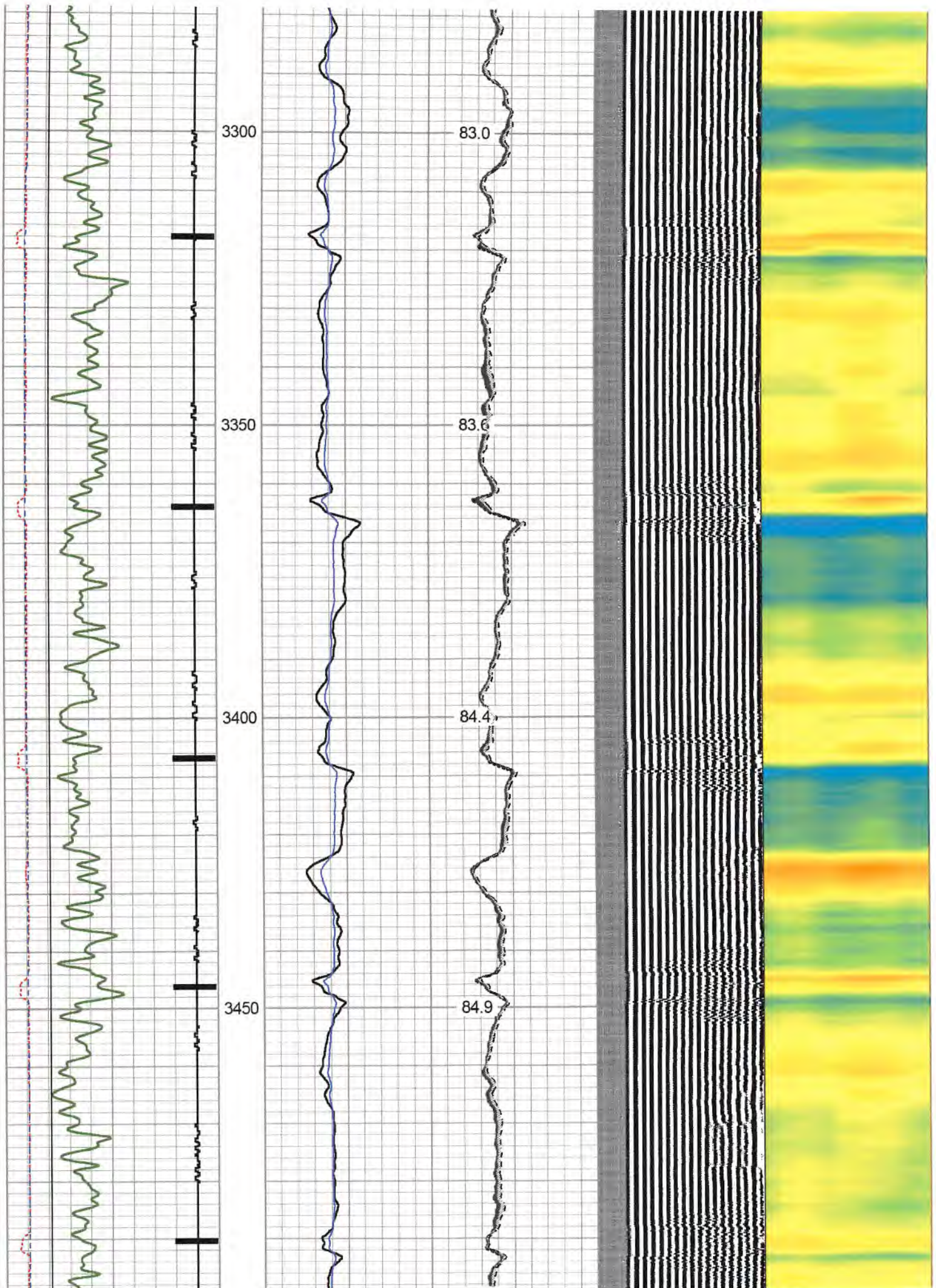


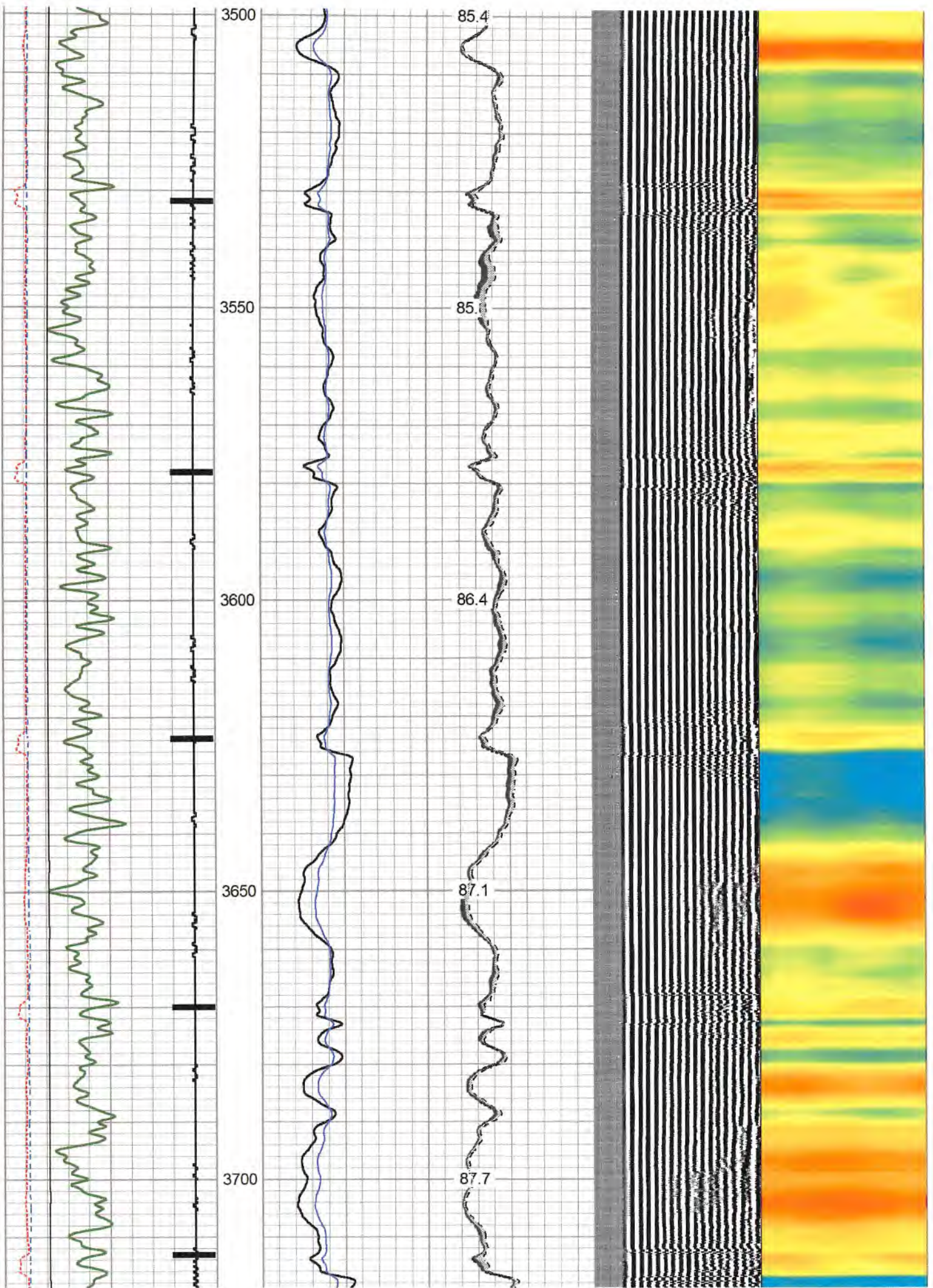


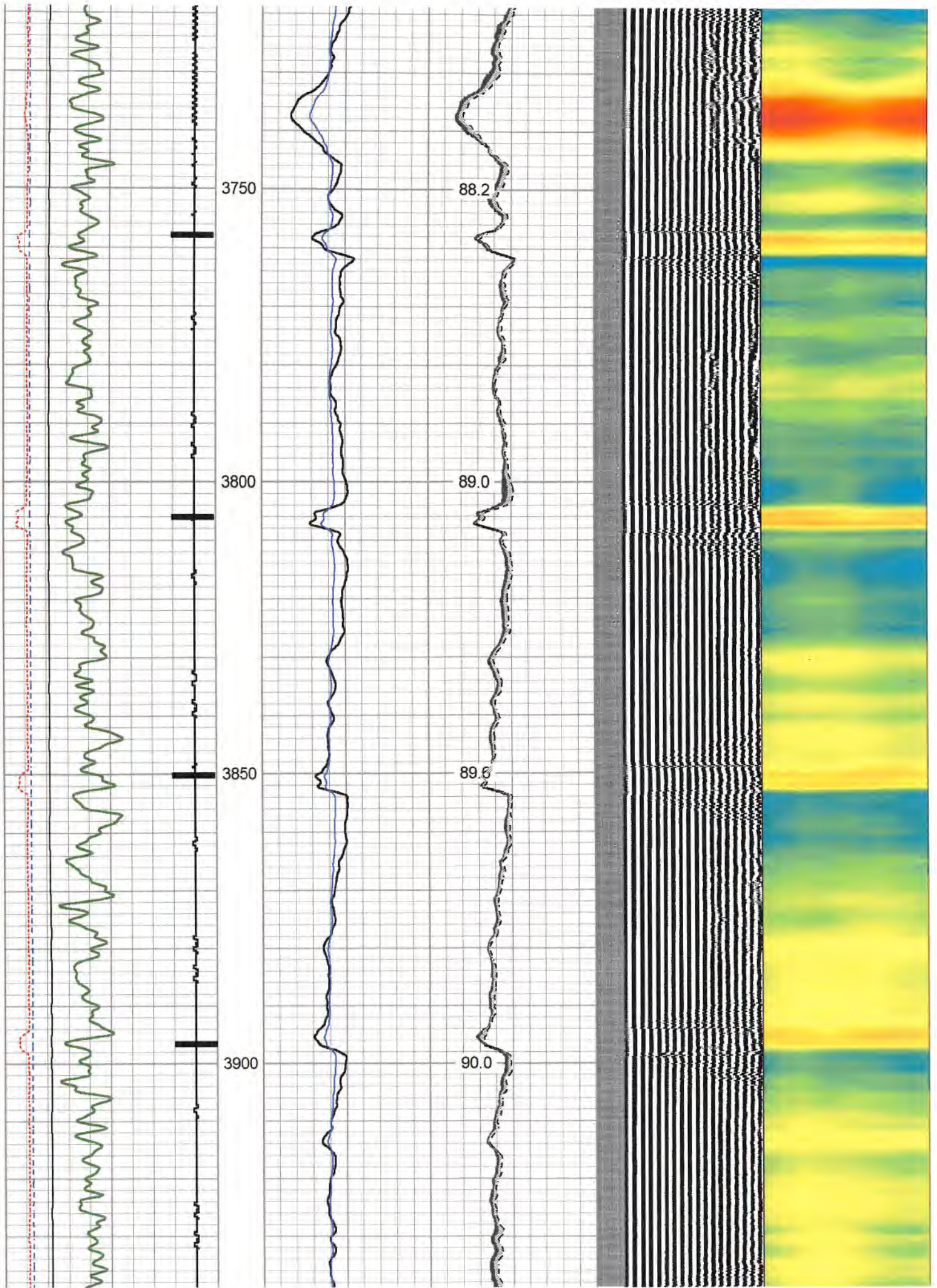


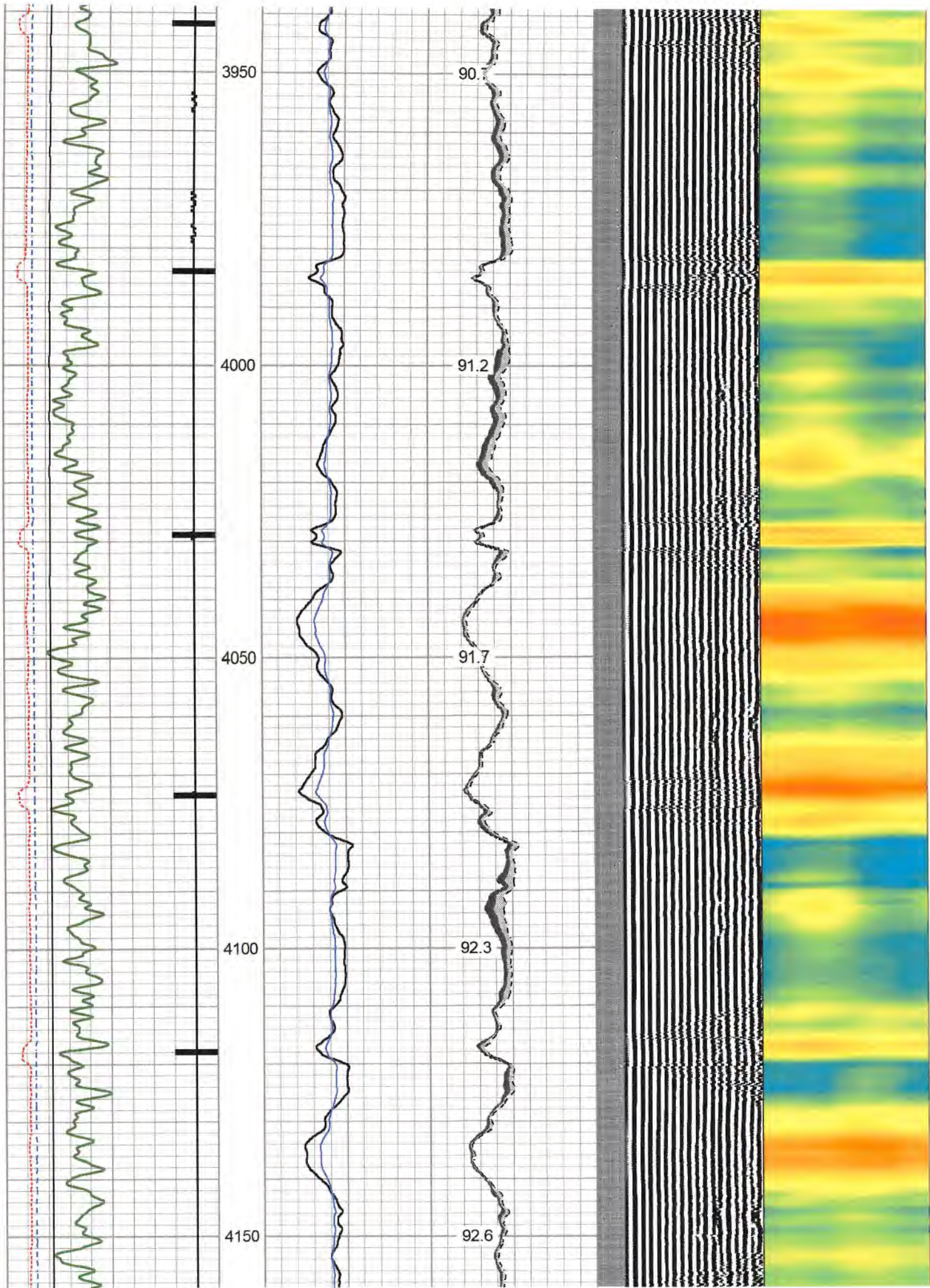


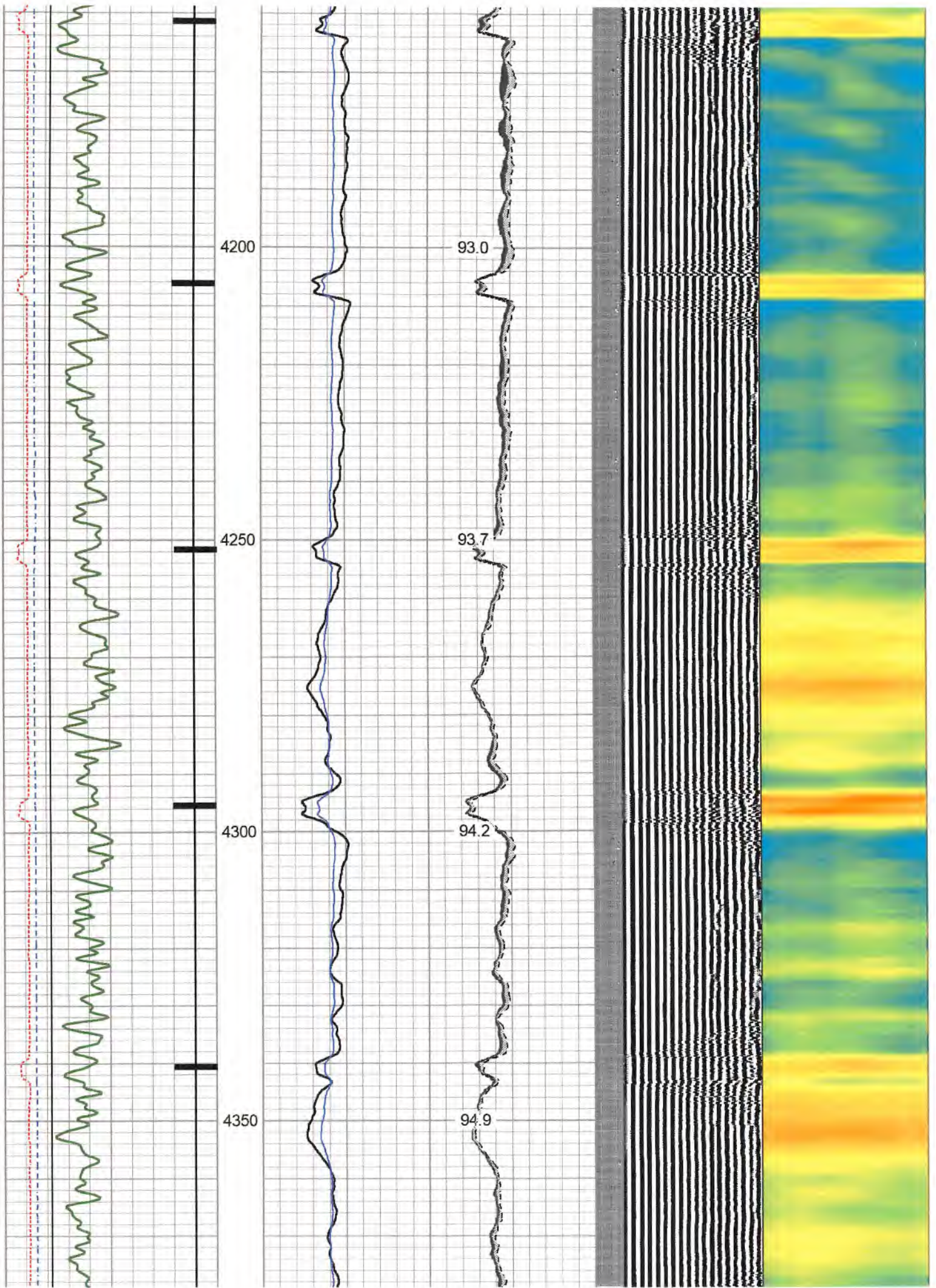


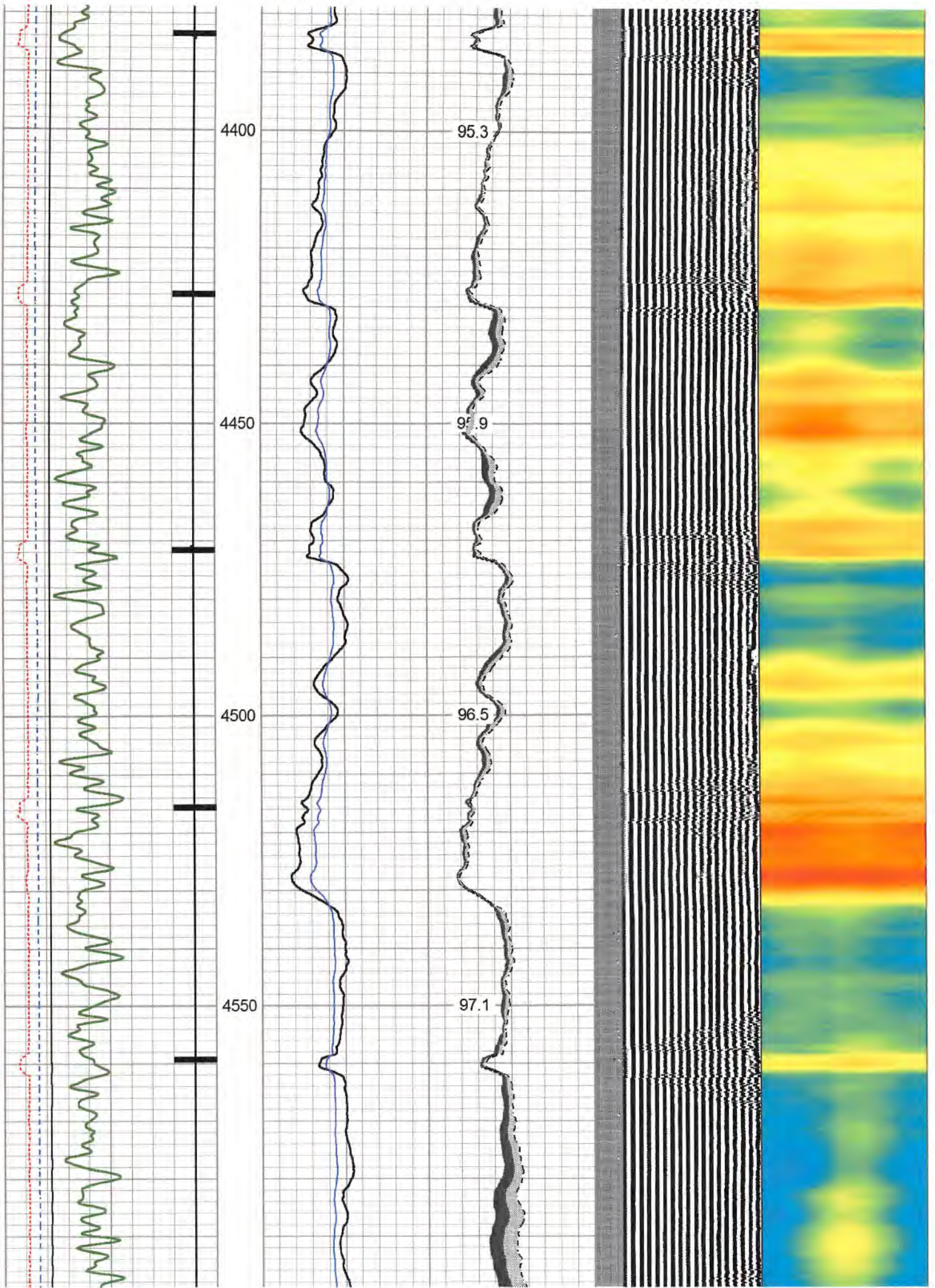


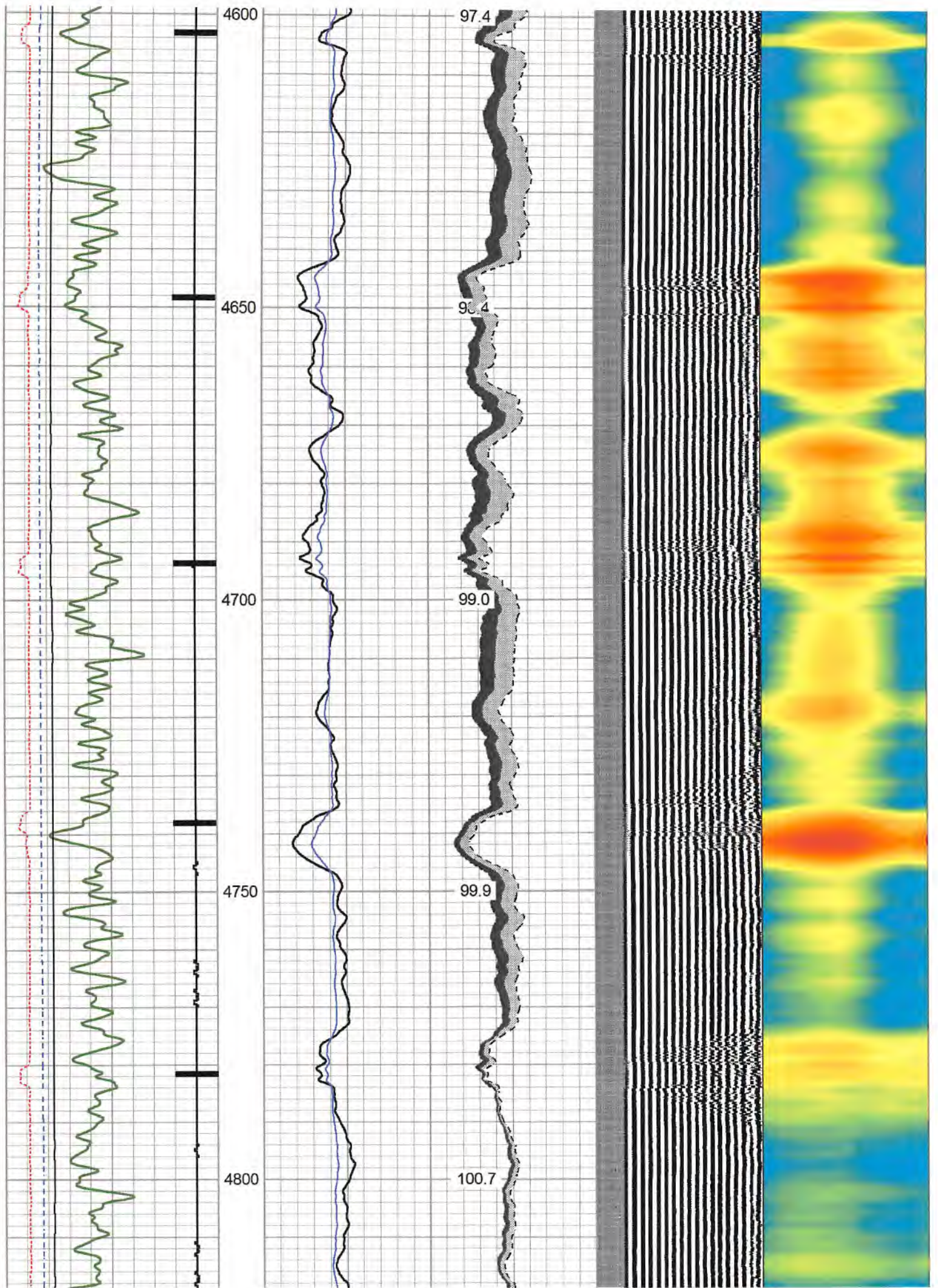


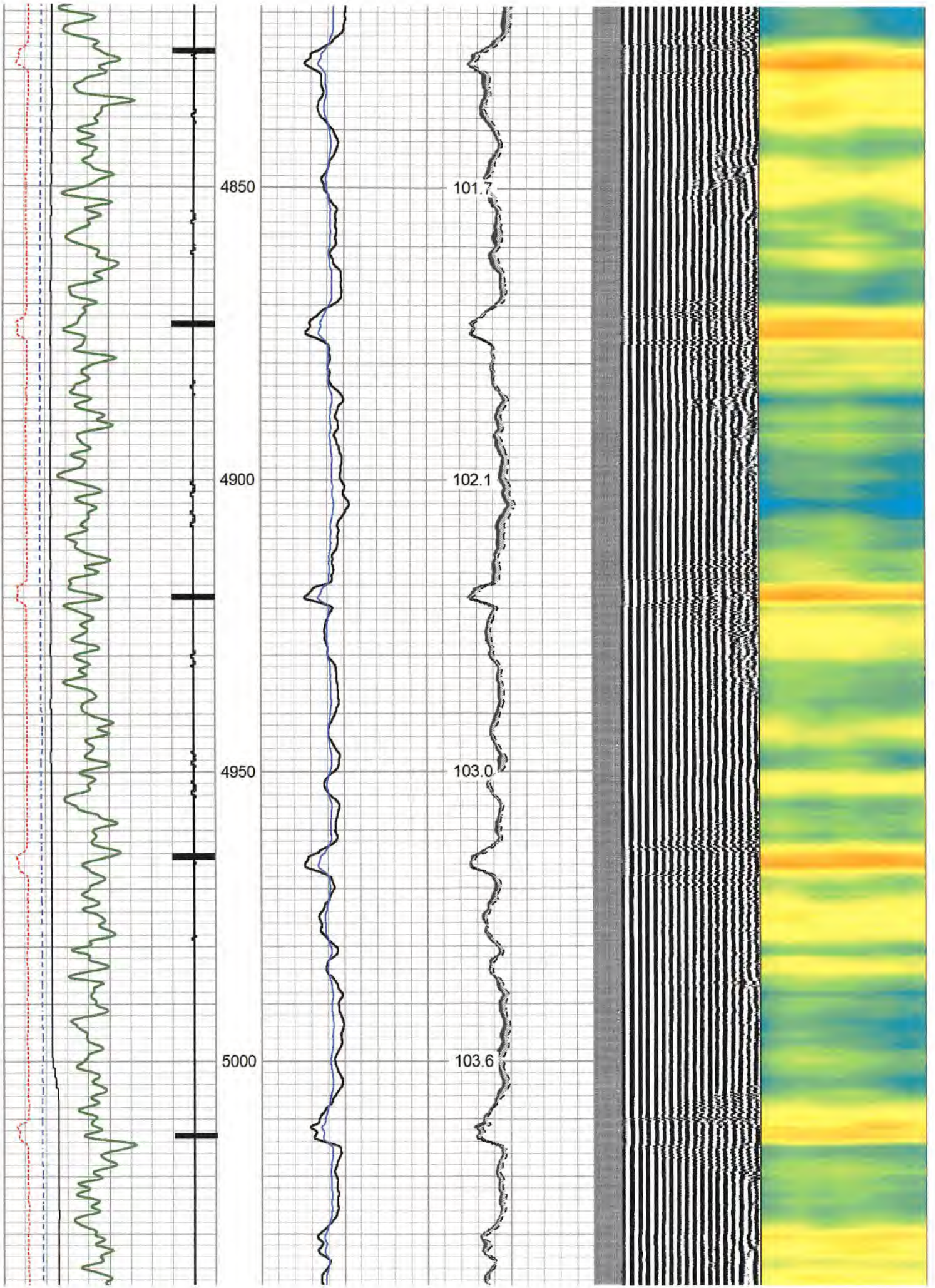


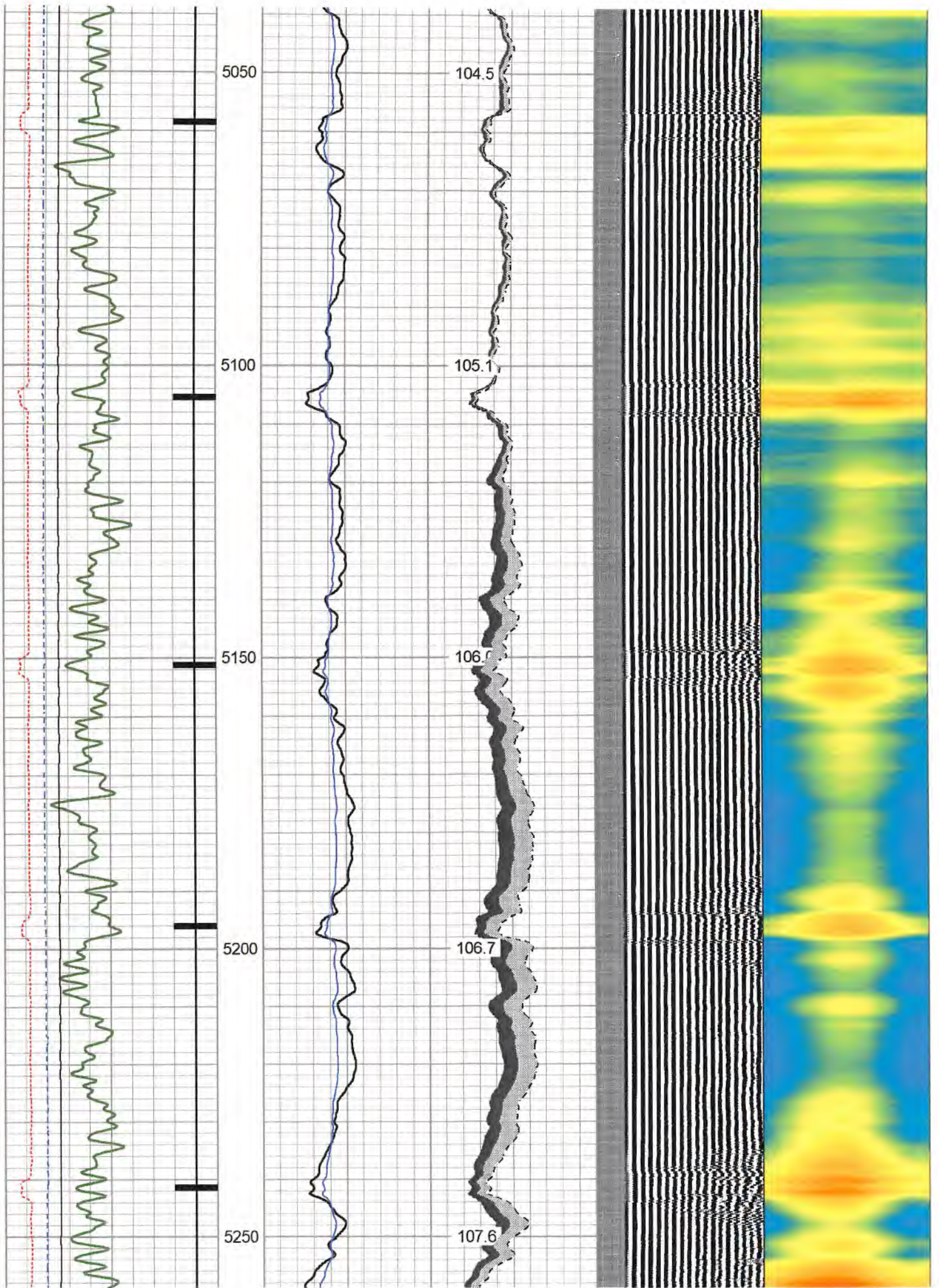


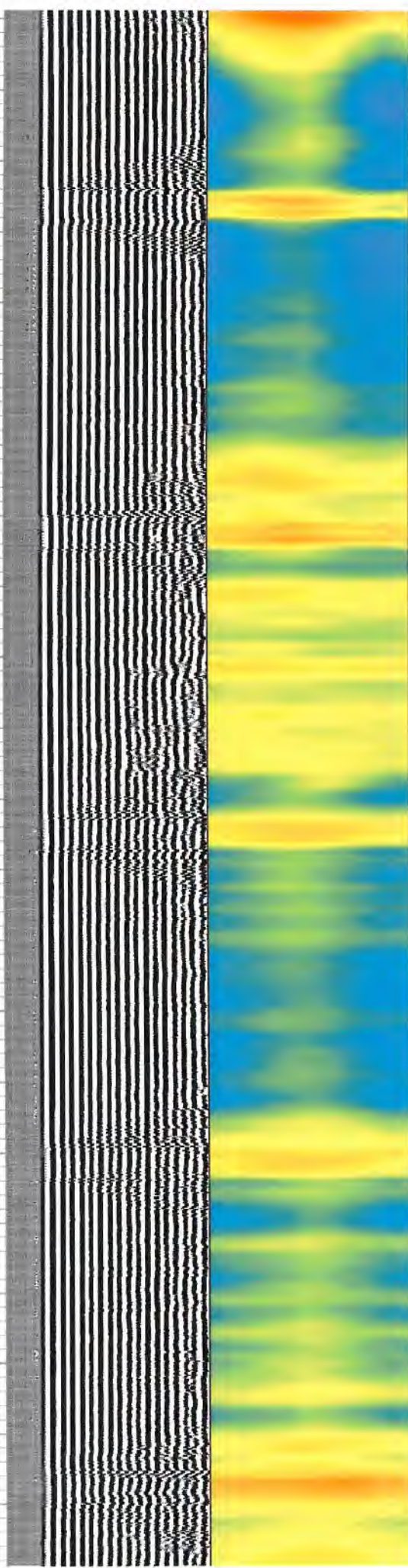
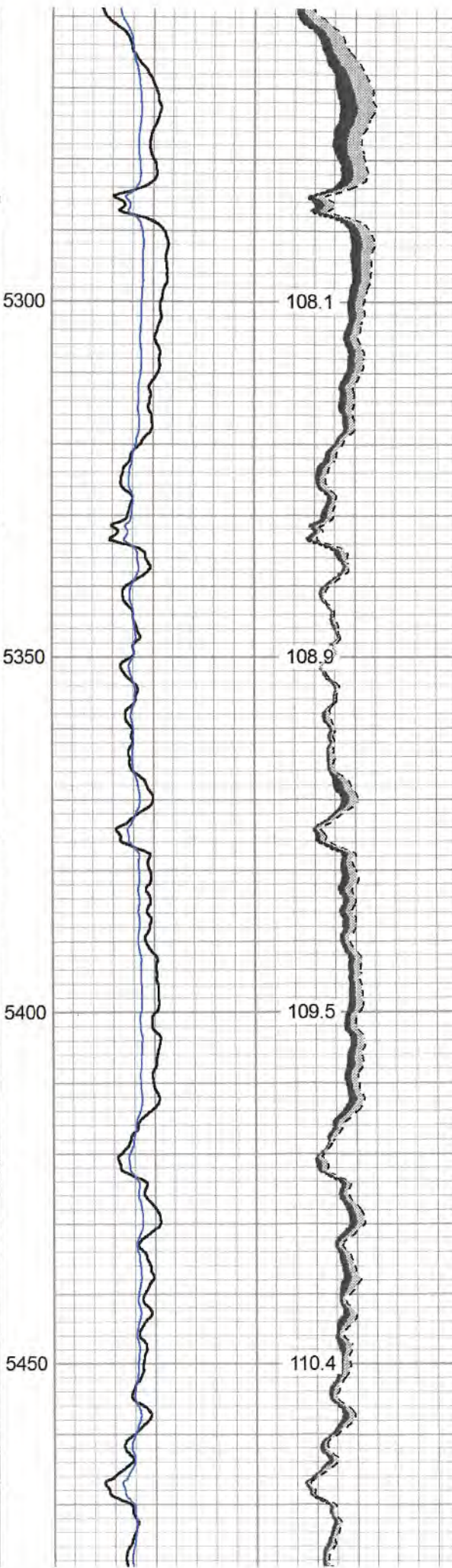
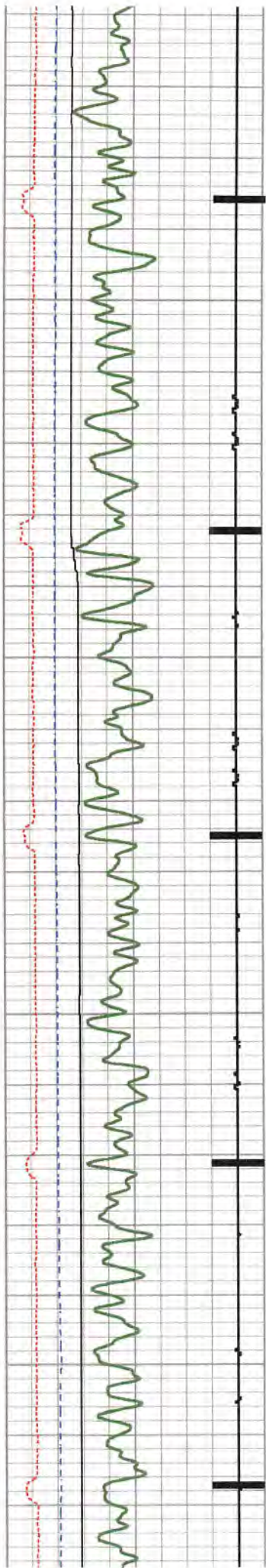


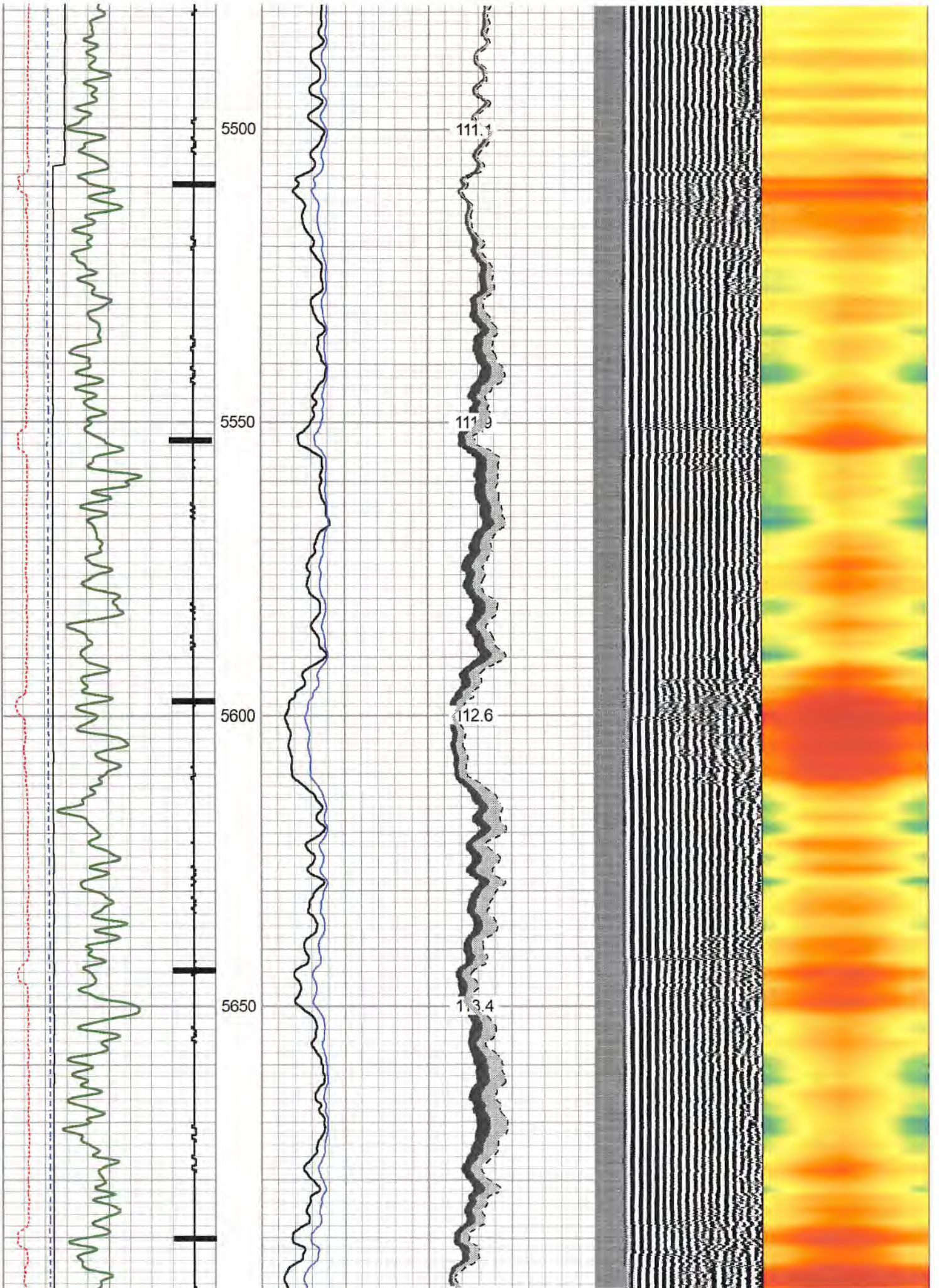


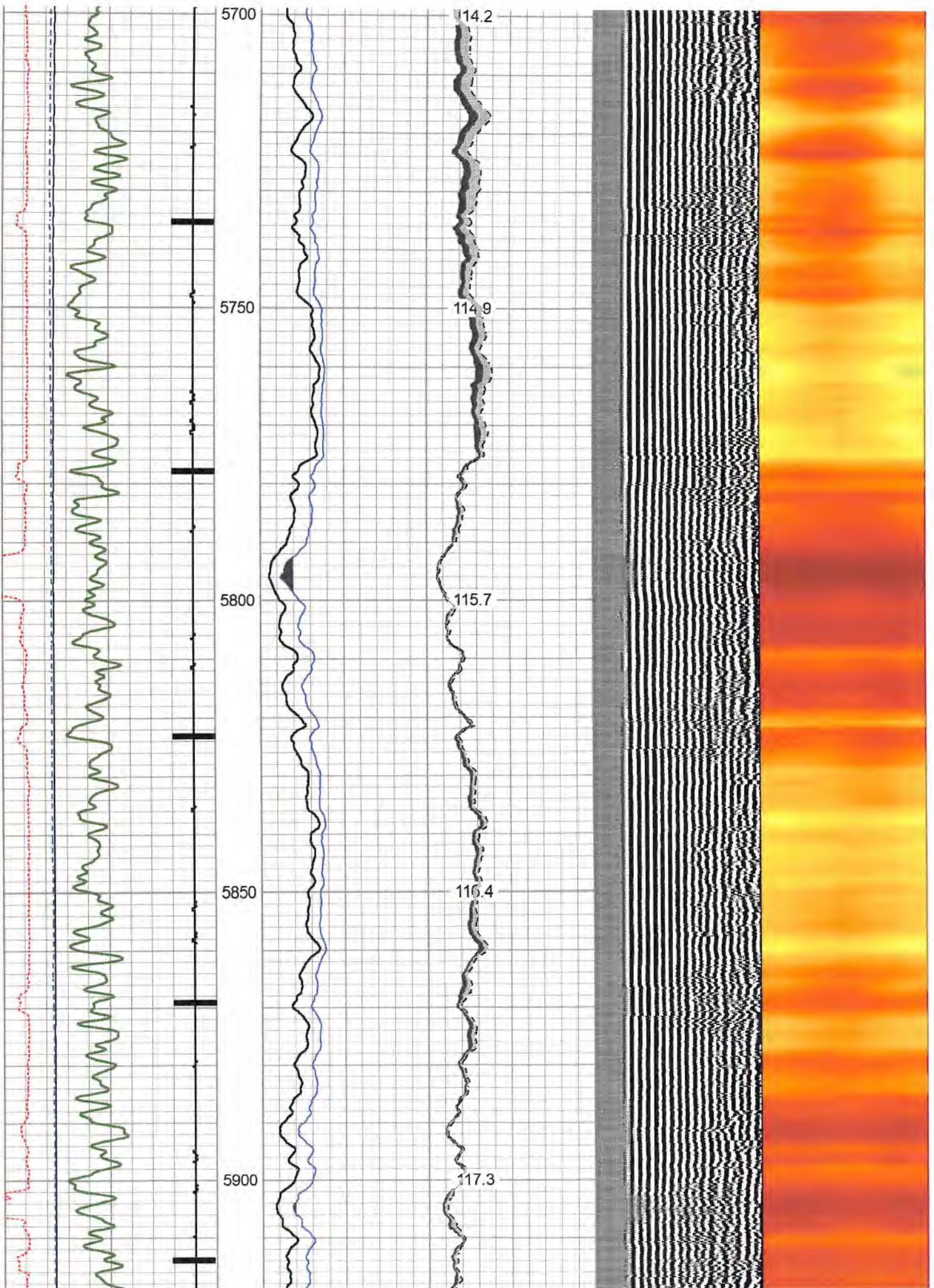


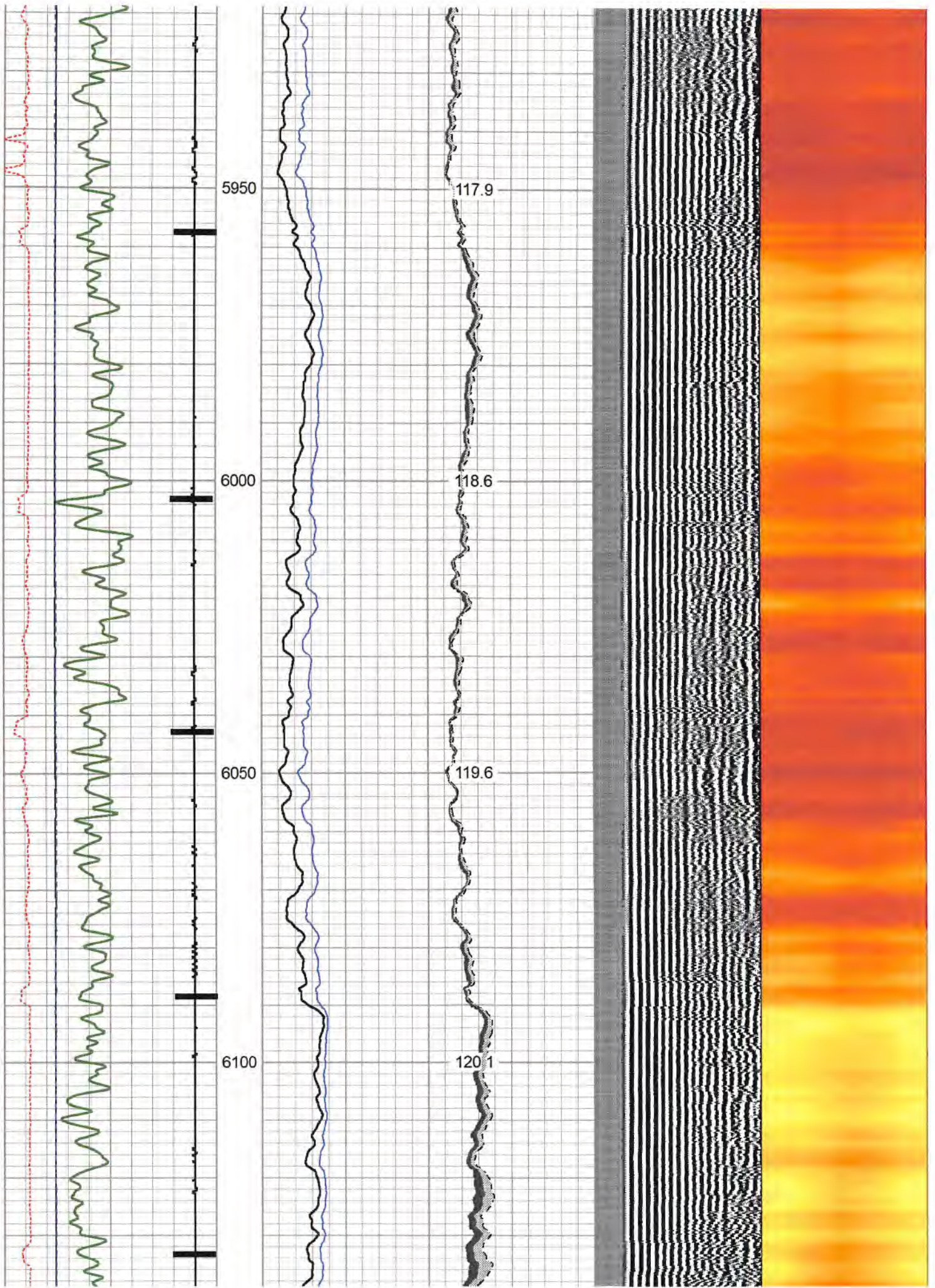


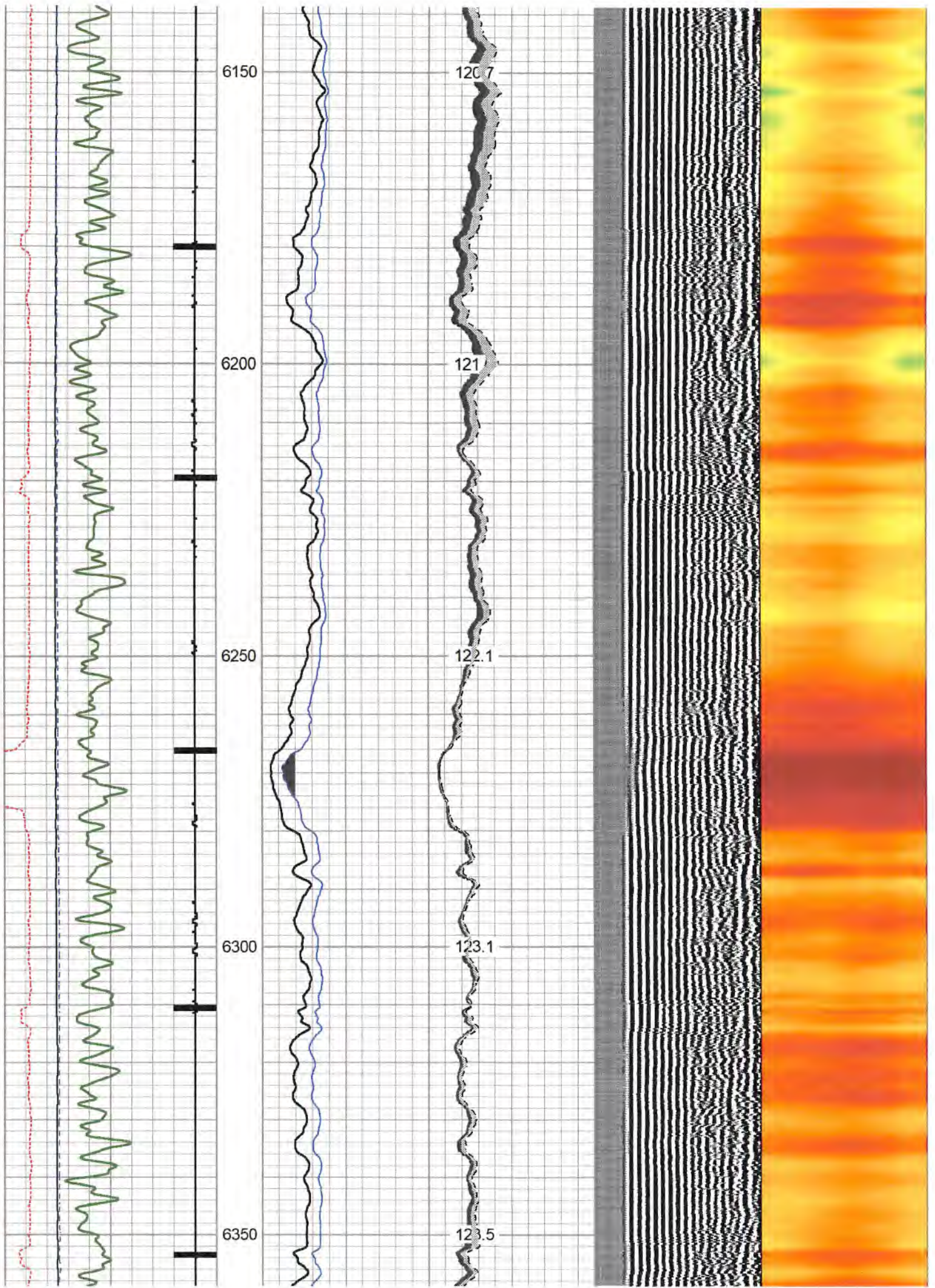


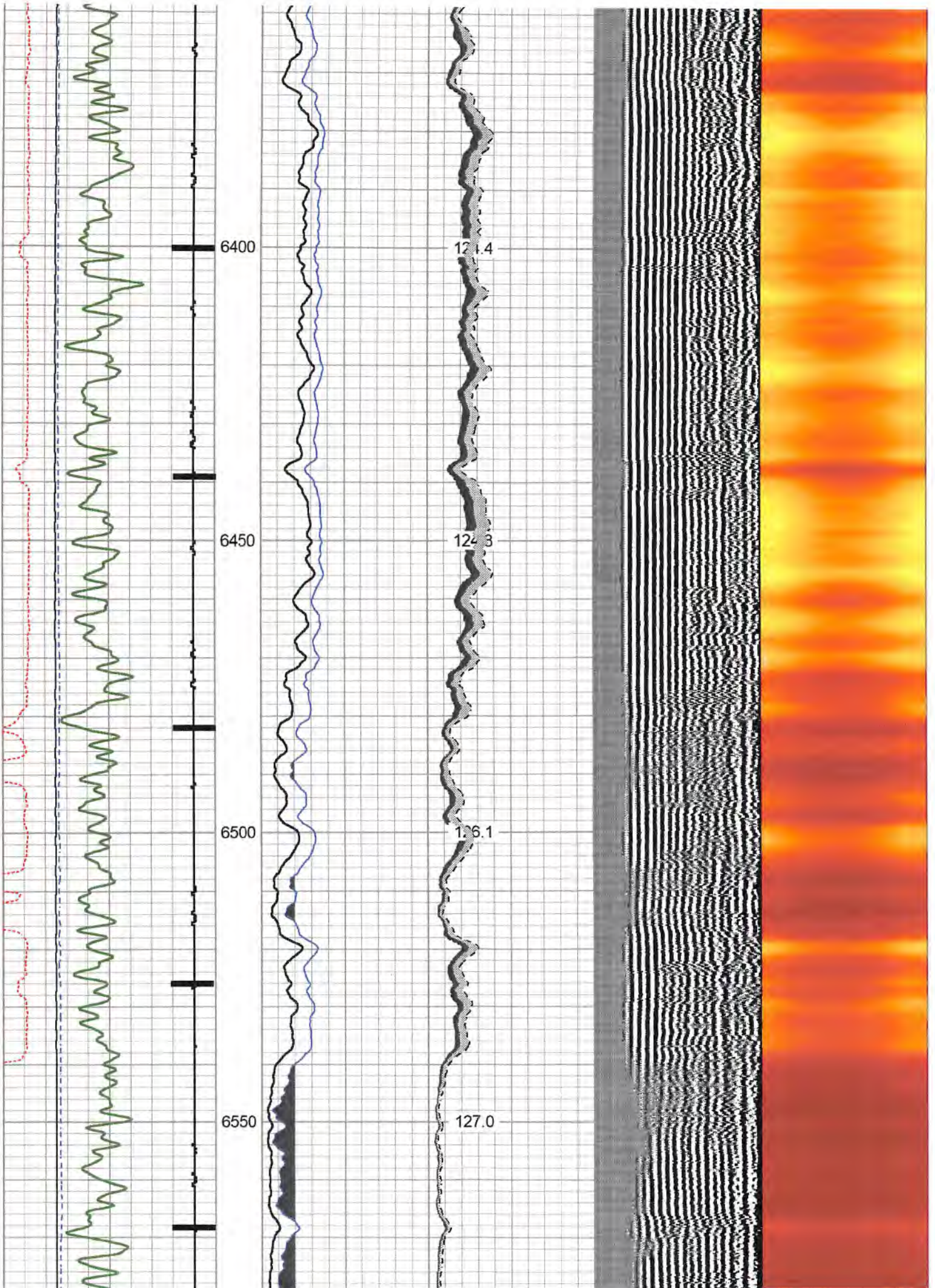


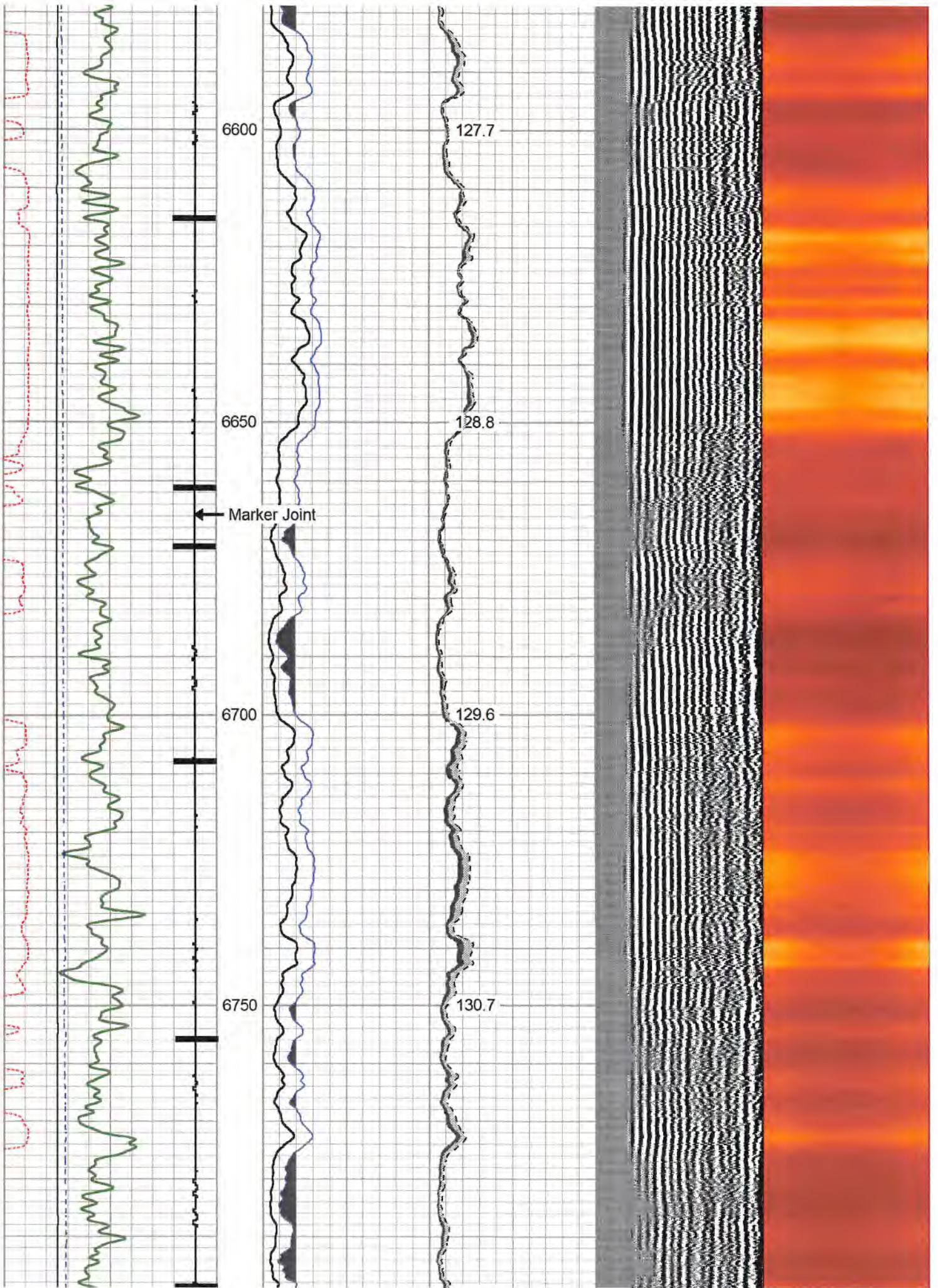


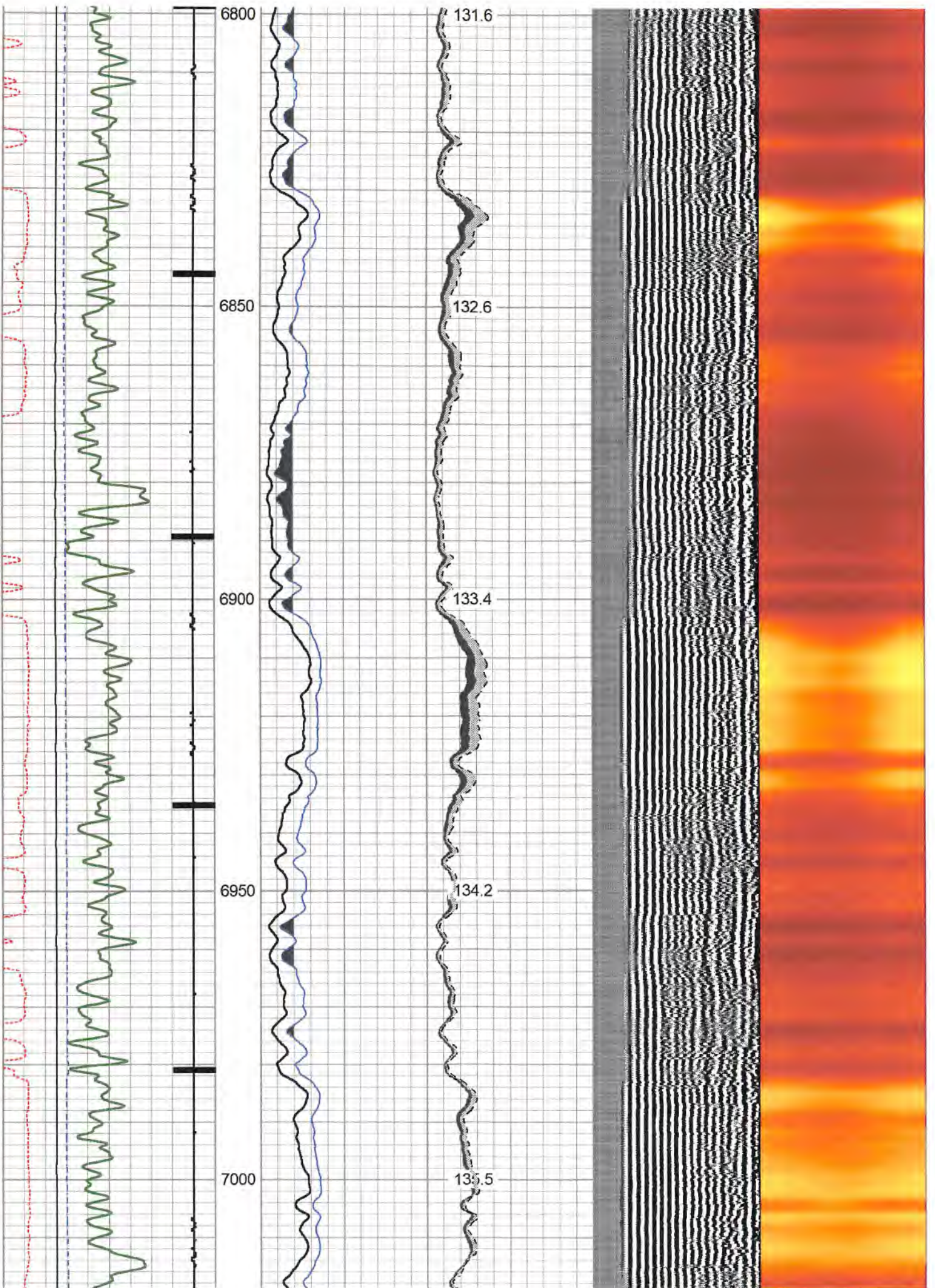


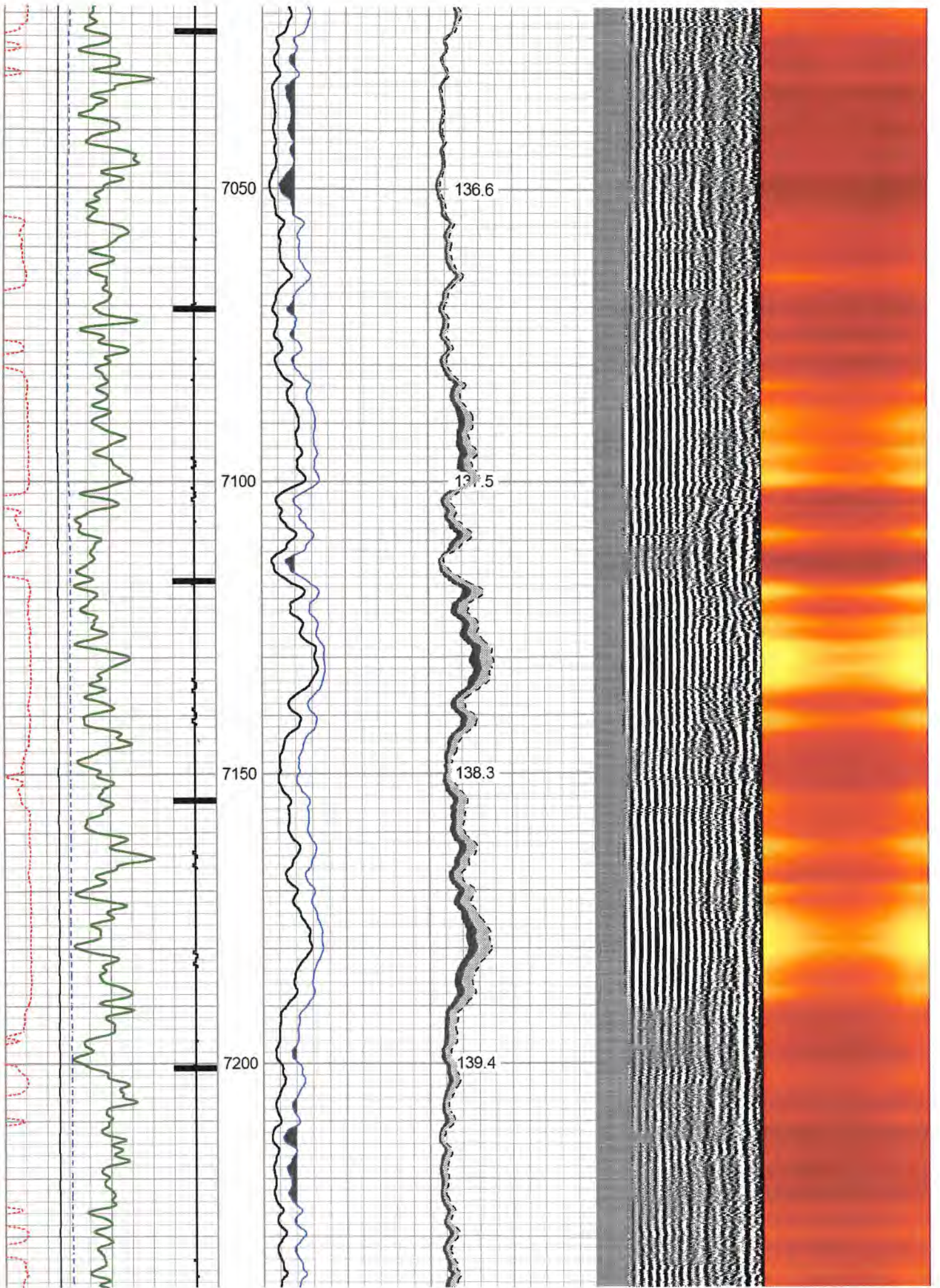


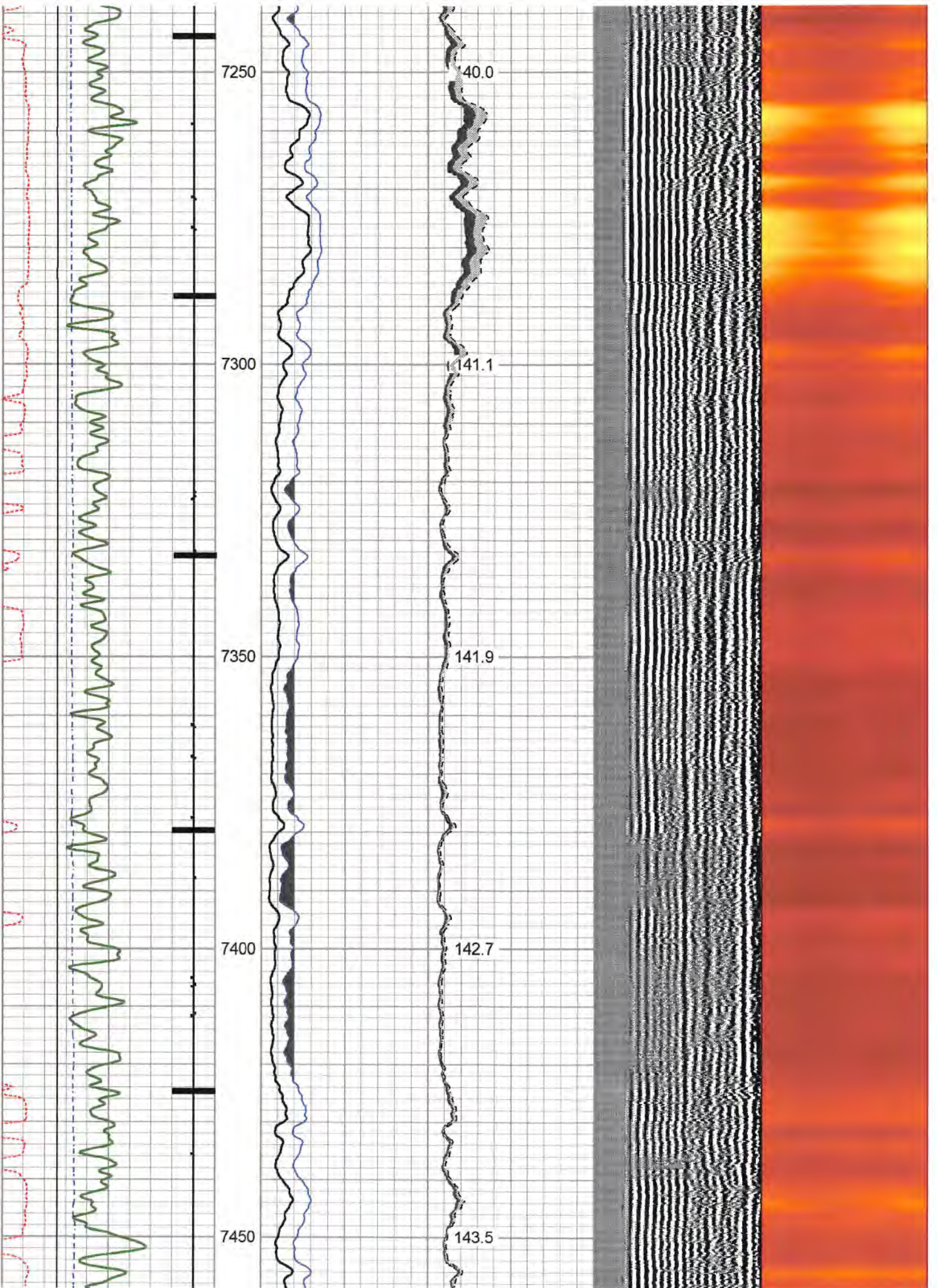


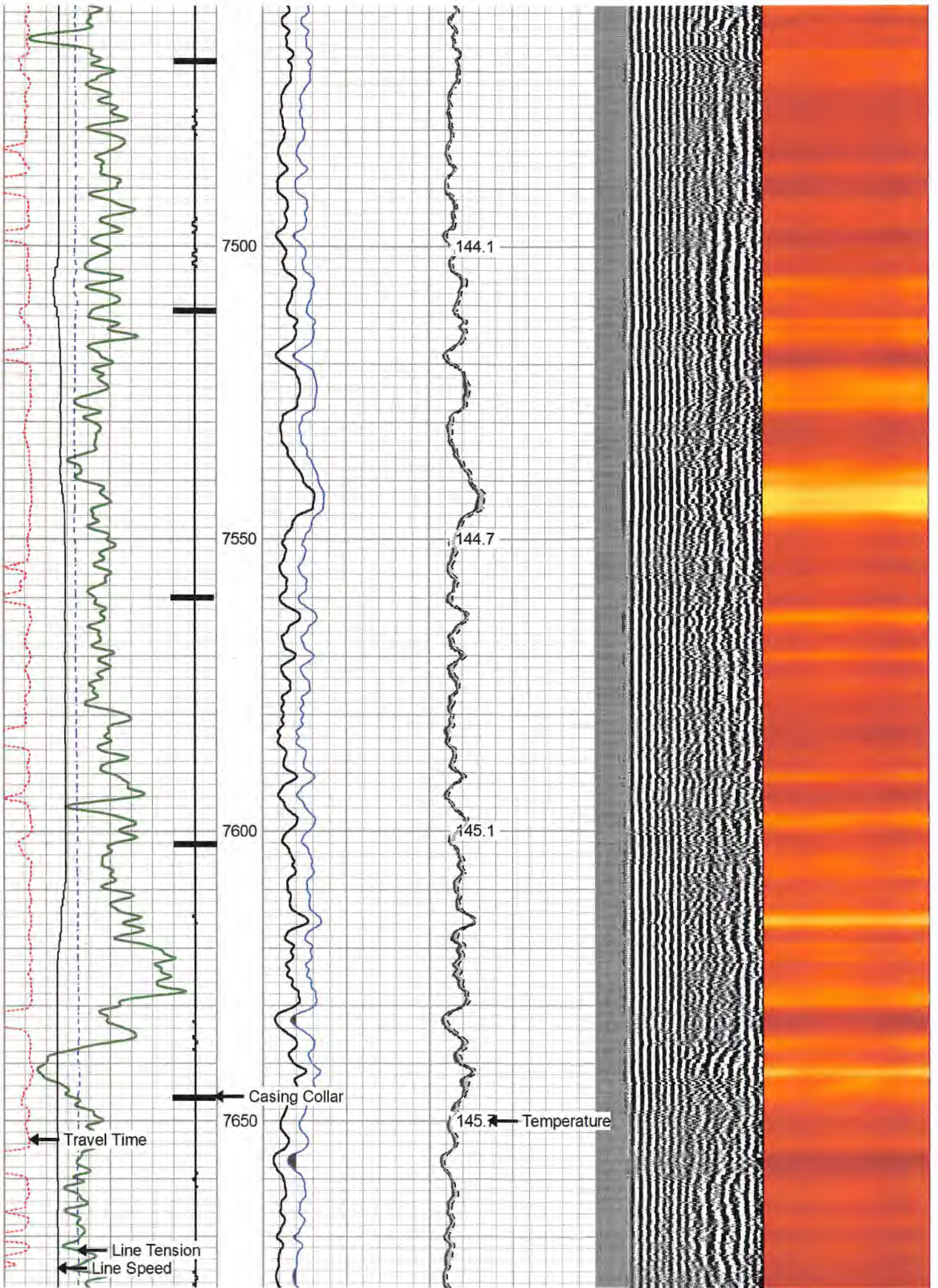


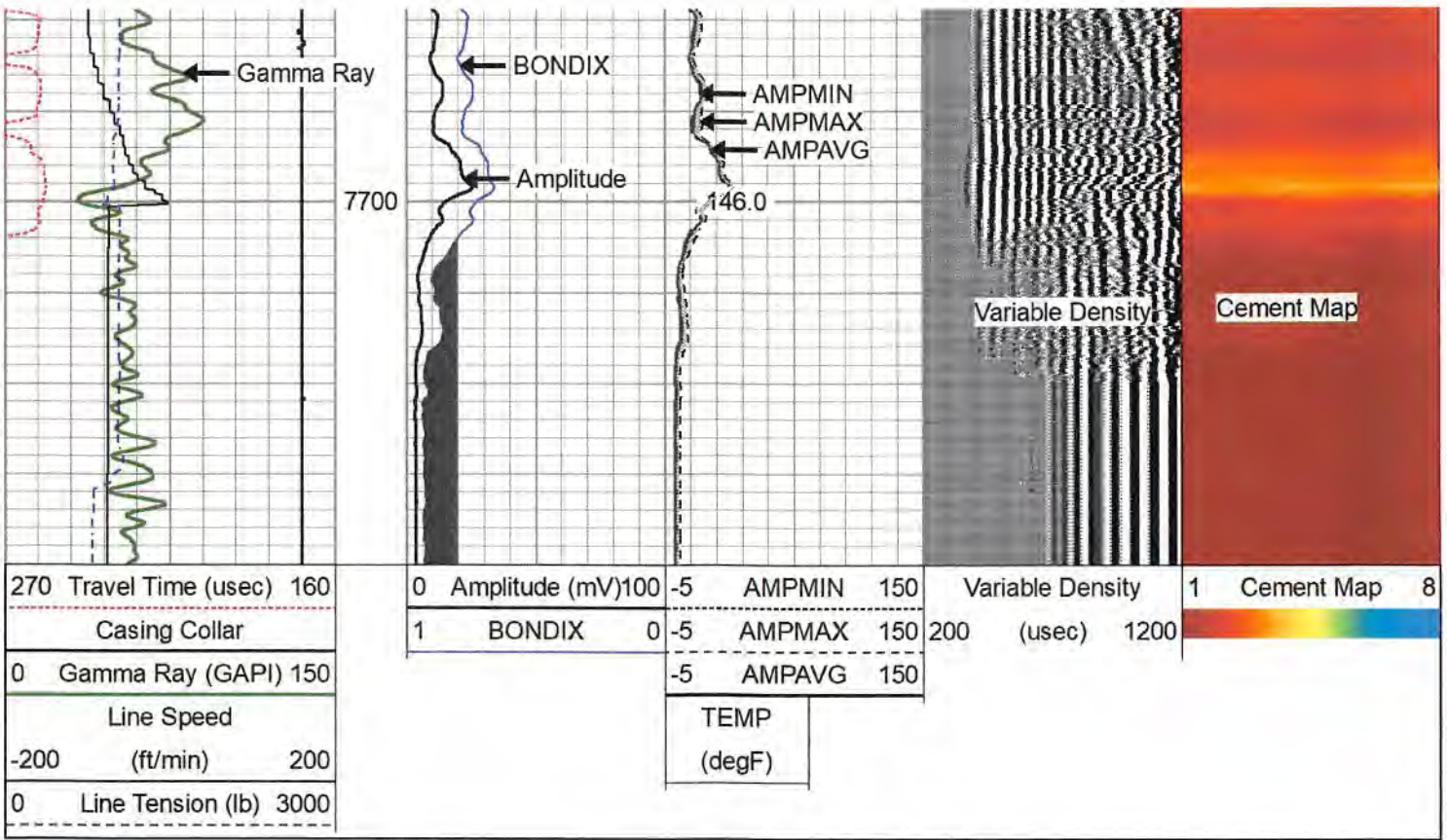













Repeat Pass 0 PSI

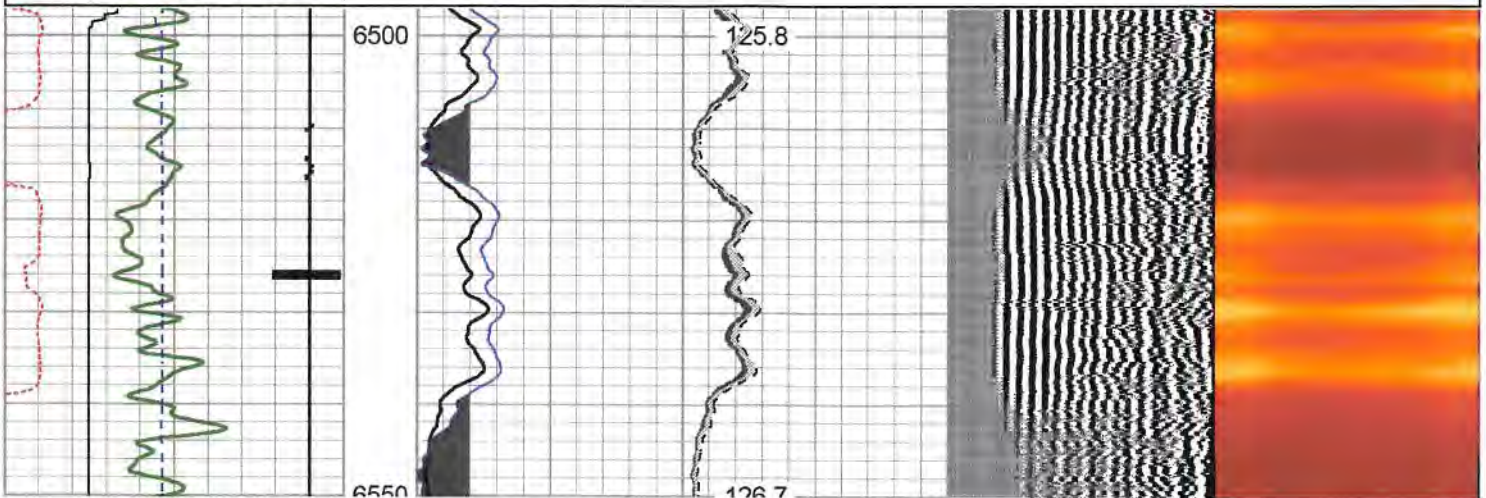
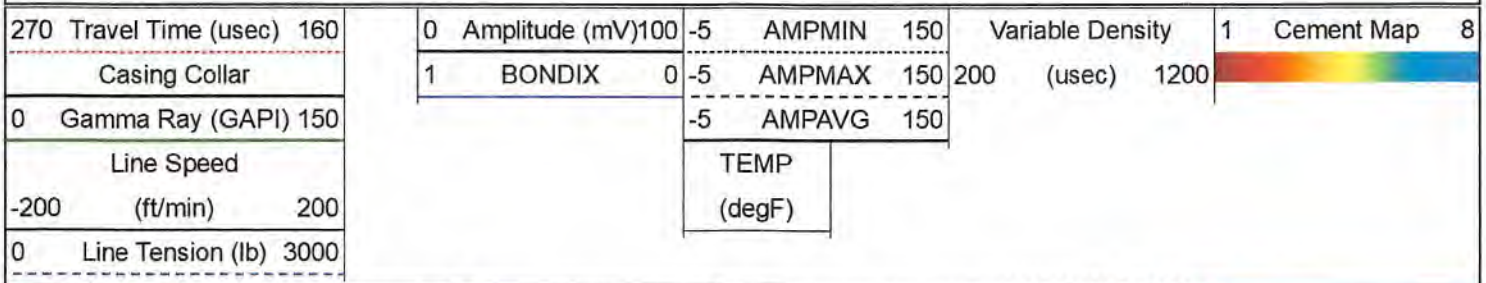
Database File c:\users\warrior\desktop\antero journeyman rcbls 7-may-22\antero ryland 3h rcbl 7-may-2022\antero_ryan

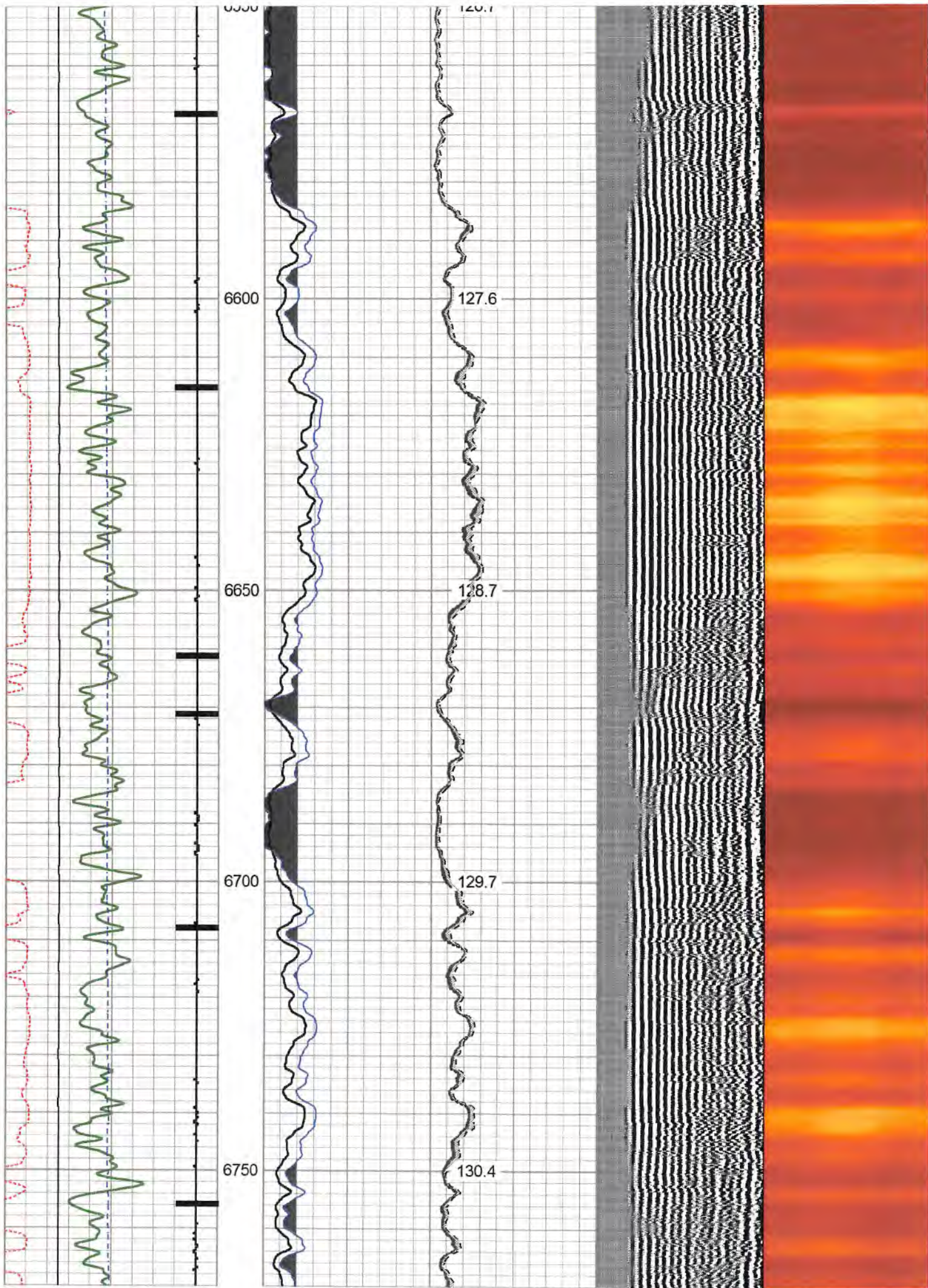
Dataset Pathname ryland_3h/run1/pass3

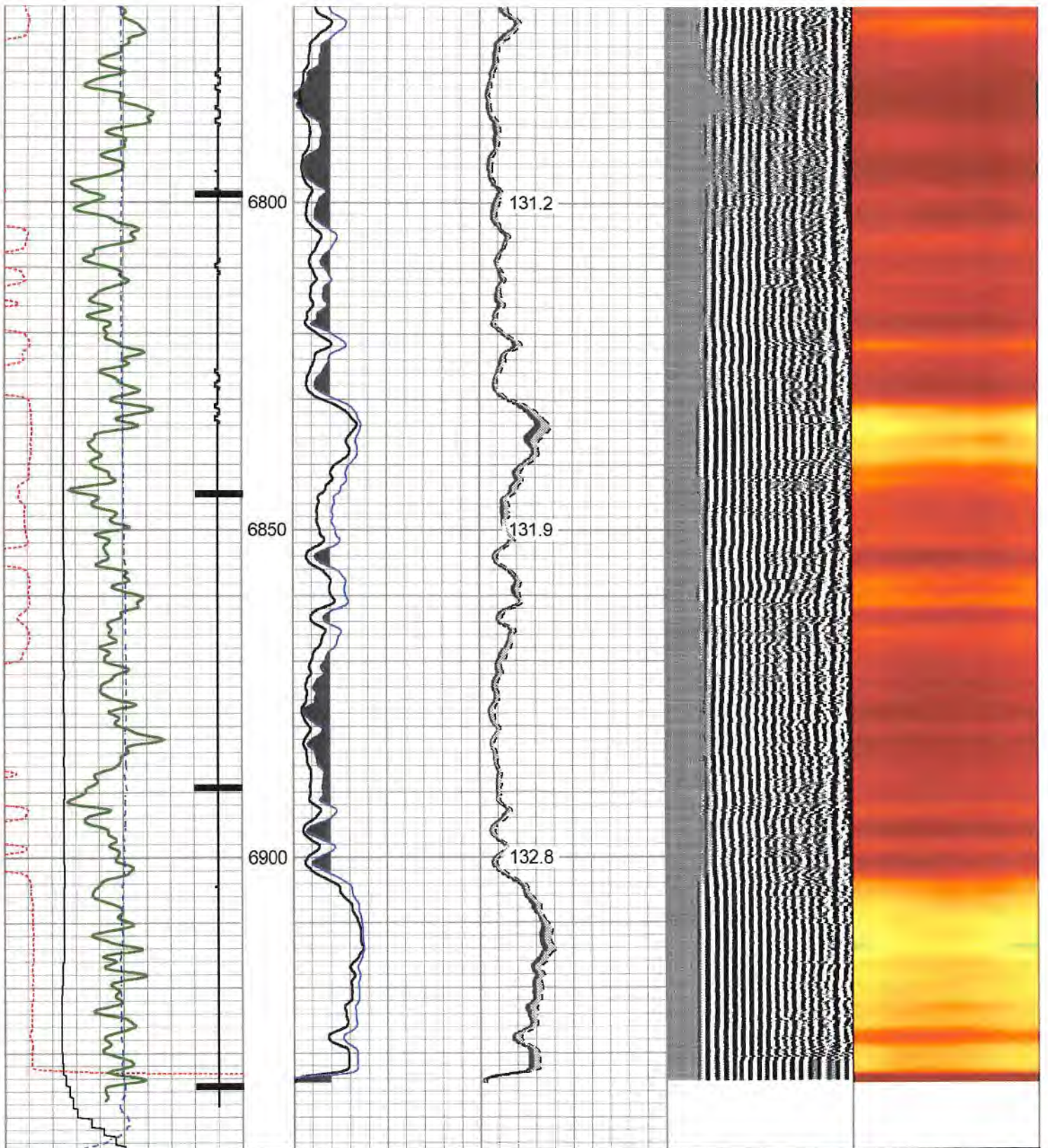
Presentation Format rcbl-bond index 1020

Dataset Creation Sat May 07 15:17:52 2022

Charted by Depth in Feet scaled 1:240







270	Travel Time (uSec)	160	0	Amplitude (mV)	100	-5	AMPMIN	150	Variable Density	1	Cement Map	8
Casing Collar												
1	BONDIX	0	-5	AMPMAX	150	200	(uSec)	1200				
0	Gamma Ray (GAPI)	150	-5	AMPAVG	150							
Line Speed												
-200	(ft/min)	200										
0	Line Tension (lb)	3000										
			TEMP									
			(degF)									

Top - Bottom

BHTEMP_Src TEMP	BOREID in 7.875	BOTTEMP degF 145	CASEOD in 5.5	CASETHCK in 0.361	CASEWGHT lb/ft 20	MAXAMPL mV 71.9	MINAMPL mV 2.2
MINATTN db/ft 10.8	PERFS No	PPT usec 261	SRFTEMP degF 50	TDEPTH ft 7600			

Variable Description

BHTEMP_Src : BHTEMP Input Source Selector	MINAMPL : Minimum Amplitude
BOREID : Borehole I.D.	MINATTN : Minimum Attenuation
BOTTEMP : Bottom Hole Temperature	PERFS : Perforation Flag
CASEOD : Casing O.D.	PPT : Predicted Pipe Time
CASETHCK : Casing Thickness	SRFTEMP : Surface Temperature
CASEWGHT : Casing Weight	TDEPTH : Total Depth
MAXAMPL : Maximum Amplitude	

Calibration Report

Database File c:\users\warrior\desktop\antero journeyman rcbls 7-may-22\antero ryland 3h rcbl 7-may-2022\antero_ryland
Dataset Pathname ryland_3h/run1/pass10.2
Dataset Creation Sat May 07 16:58:50 2022

Gamma Ray Calibration Report

Serial Number: FW1211-86
Tool Model: Probe
Performed: Fri Apr 22 08:17:13 2022

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.5000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1312-32
Tool Model: Probe275T

Calibration Casing Diameter: 5.500 in
Calibration Depth: 241.008 ft

Master Calibration, performed (Derived):


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.013	0.846	2.200	71.921	83.691	1.079
CAL	1.113	1.195				
5'	0.009	0.746	2.200	71.921	94.589	1.339
SUM						
S1	0.002	0.751	0.000	100.000	133.583	-0.322
S2	-0.001	0.771	0.000	100.000	129.632	0.089
S3	0.002	0.850	0.000	100.000	118.020	-0.270
S4	0.004	0.942	0.000	100.000	106.607	-0.412
S5	0.004	1.024	0.000	100.000	98.063	-0.420
S6	0.001	0.988	0.000	100.000	101.357	-0.126
S7	0.004	0.888	0.000	100.000	113.130	-0.475
S8	-0.004	0.795	0.000	100.000	125.123	0.550

Internal Reference Calibration, performed (Not Performed):


	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	1.113	1.195	1.000	0.000

Air Zero Calibration, performed (Not Performed):

	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)	
			CHD-Titan Standard 1 7/16" Cable Head	1.02	1.44	1.00	
			CENT-Overbody Antelope (SP-919-0233)	1.67	4.88	5.00	
Temp	14.12			RBT-Probe275T (FW1312-32) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00
WVFS8	11.89						
WVFS7	11.89						
WVFS6	11.89						
WVFS5	11.89						
WVFS4	11.89						
WVFS3	11.89						
WVFS2	11.89						
WVFS1	11.89						
WVF3FT	11.89						
WVF5FT	10.89						
HeadVolt	7.64						
WVFCAL	7.64						



CCL	6.73					
GR	5.40		GR-Probe (FW1211-86) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00
			CENT-Overbody Antelope (SP-919-0233)	1.67	4.88	5.00
			CENT-Titn275Adj Titan 2 3/4" Adjustable Centralizer	2.86	2.75	35.00

Dataset:	antero_ryland_3h_rcbl_07_may-2022.db: field/ryland_3h/run1/pass10.2	
Total length:	18.05 ft	
Total weight:	193.00 lb	
O.D.:	4.88 in	

	Company	Antero Resources
	Well	Journeyman Ryland 3H
	Field	Utica
	County	Wetzel
	State	WV

