



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

Company Antero Resources
Well Journeyman Ryland 2H
Field Utica
County Wetzel 4710303457
State WV

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Well Journeyman Ryland 2H
Field Utica
County Wetzel
State WV

Location: API #: N 39.549741
W 80.750520
SEC TWP RGE
Permanent Datum Ground Level Elevation
Log Measured From Kelly Bushing 30' A.P.D.
Drilling Measured From Kelly Bushing

Other Services
K.B.
D.F.
G.L.

Date	07-May-2022						
Run Number	One						
Depth Driller							
Depth Logger	7.510'						
Bottom Logged Interval	7.530'						
Top Log Interval	Surface						
Open Hole Size	Water						
Type Fluid							
Density / Viscosity							
Max. Recorded Temp.	145 Deg. F.						
Estimated Cement Top	5.536'						
Time Well Ready	17:00						
Time Logger on Bottom	17:30						
Equipment Number	104 (P2)(G1)						
Location	Charleroi, PA						
Recorded By	Matt McNally						
Witnessed By	Keith						
Borehole Record							
Run Number	Bit	From	To	Size	Weight	From	To
Tubing Record							
Casing Record	Size	Wgt/Ft	Top	Bottom			
Conductor String							
Surface String							
Intermediate String							
Intermediate String							
Production String	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 4,680'-4,690"
Depth Correction +15'

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

Thank You For Choosing Nine Energy Service. Charleroi, PA

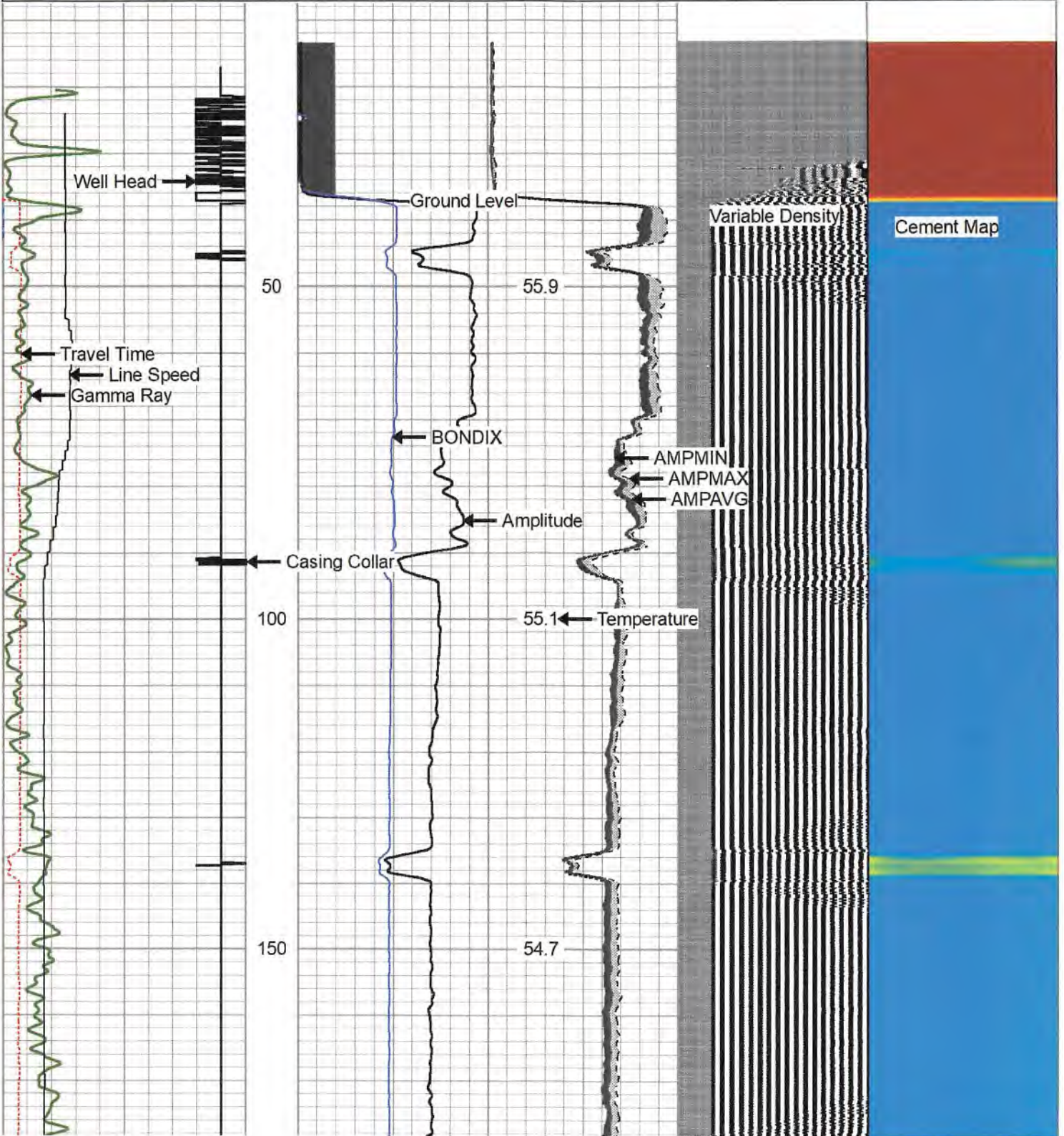


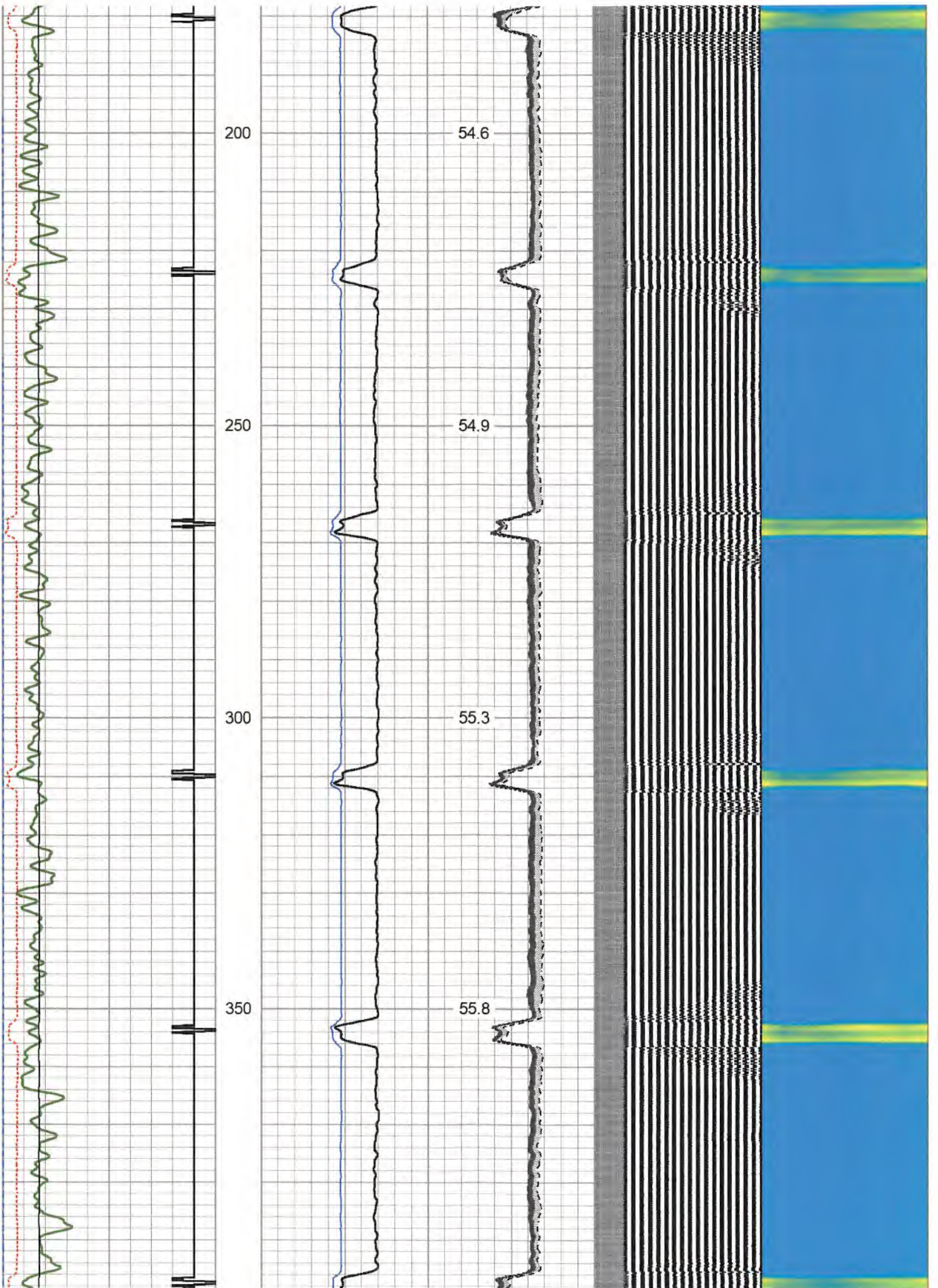
Main Pass 1,500 PSI

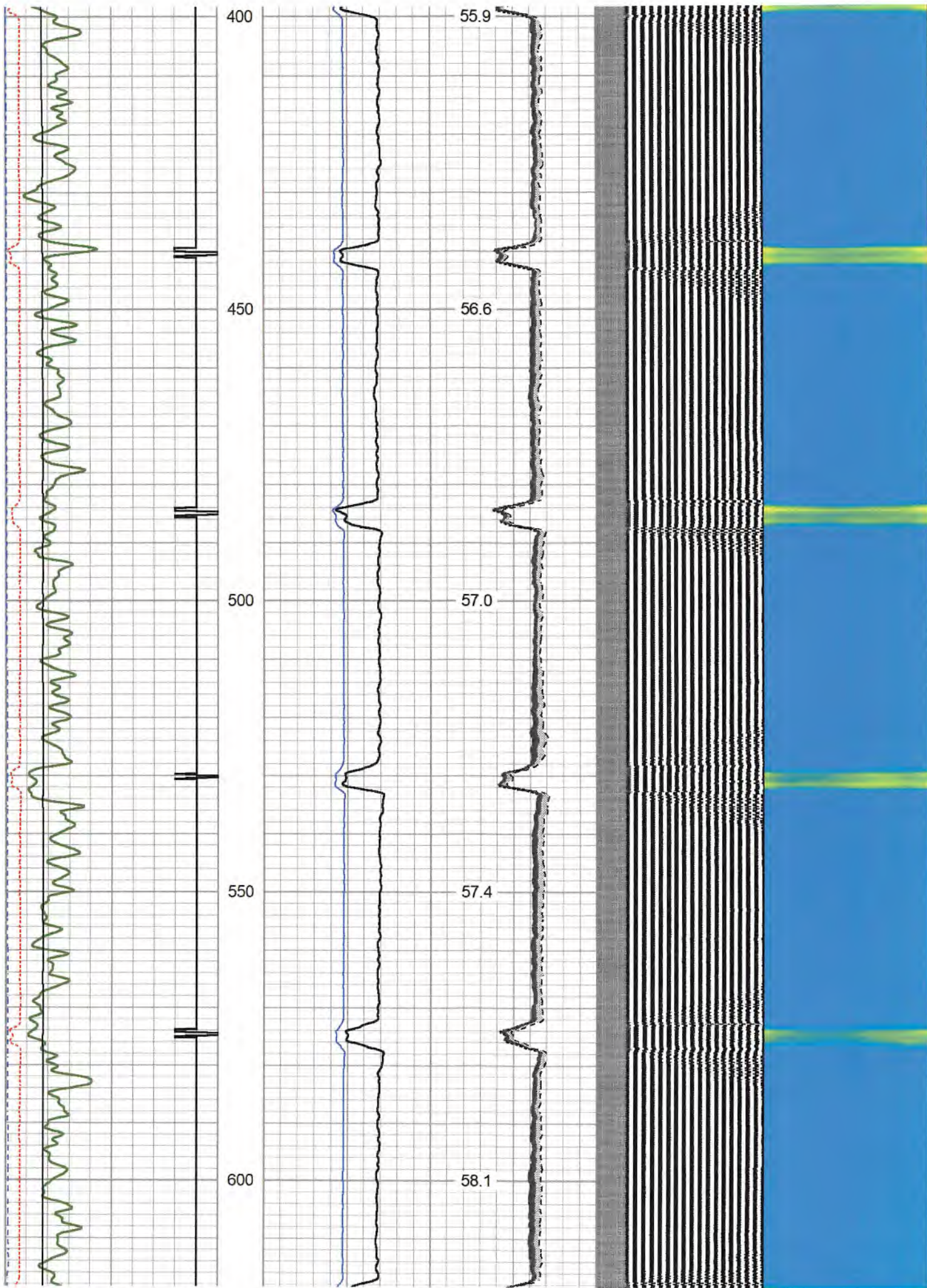
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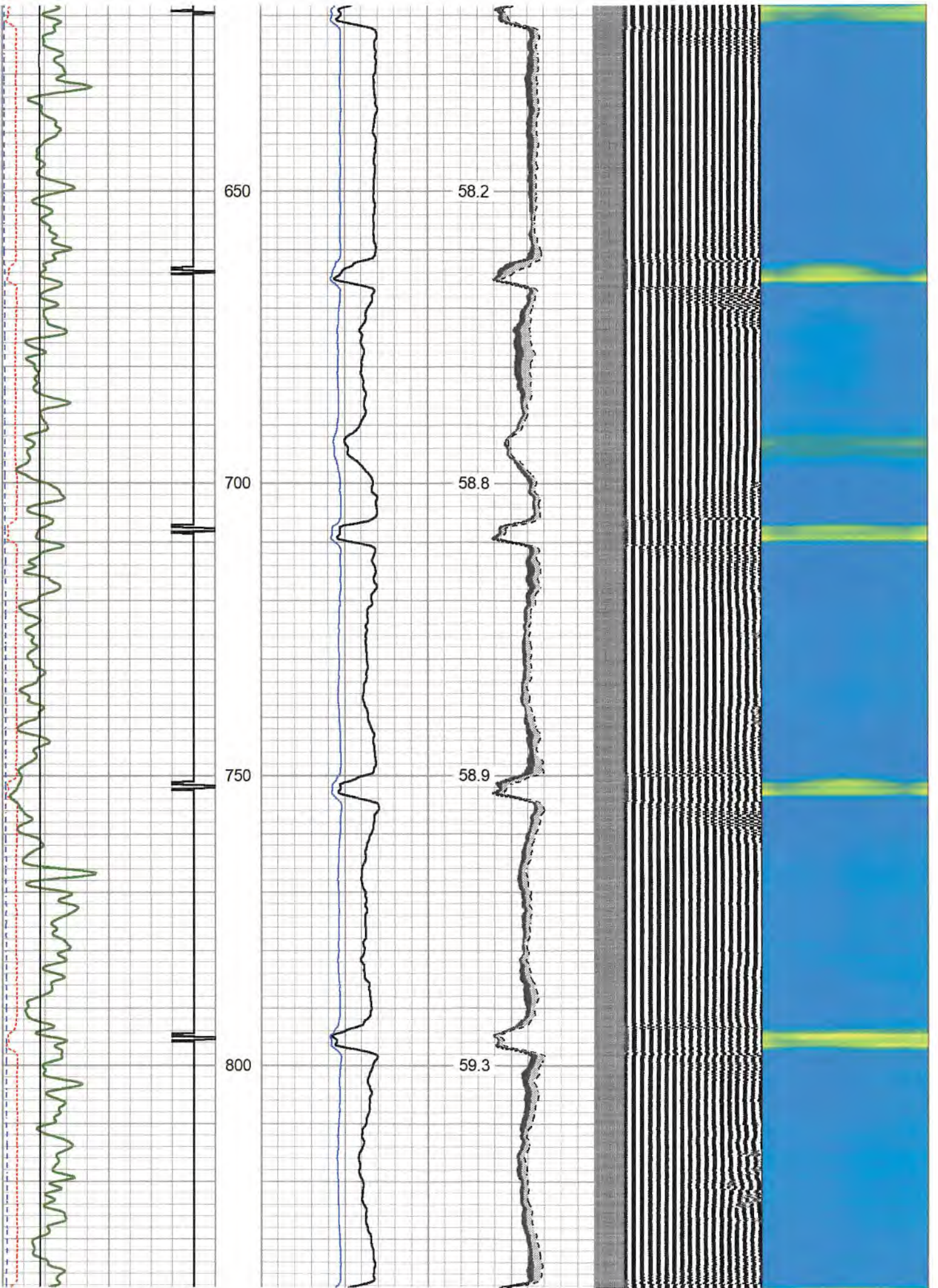
Database File c:\users\warrior\desktop\antero journeyman rcbls 7-may-22\antero ryland 2h rcbl 7-may-2022\antero_ryan
 Dataset Pathname ryland_2h/run1/merge1
 Presentation Format rcbl-bond index 1020
 Dataset Creation Sat May 07 18:42:49 2022
 Charted by Depth in Feet scaled 1:240

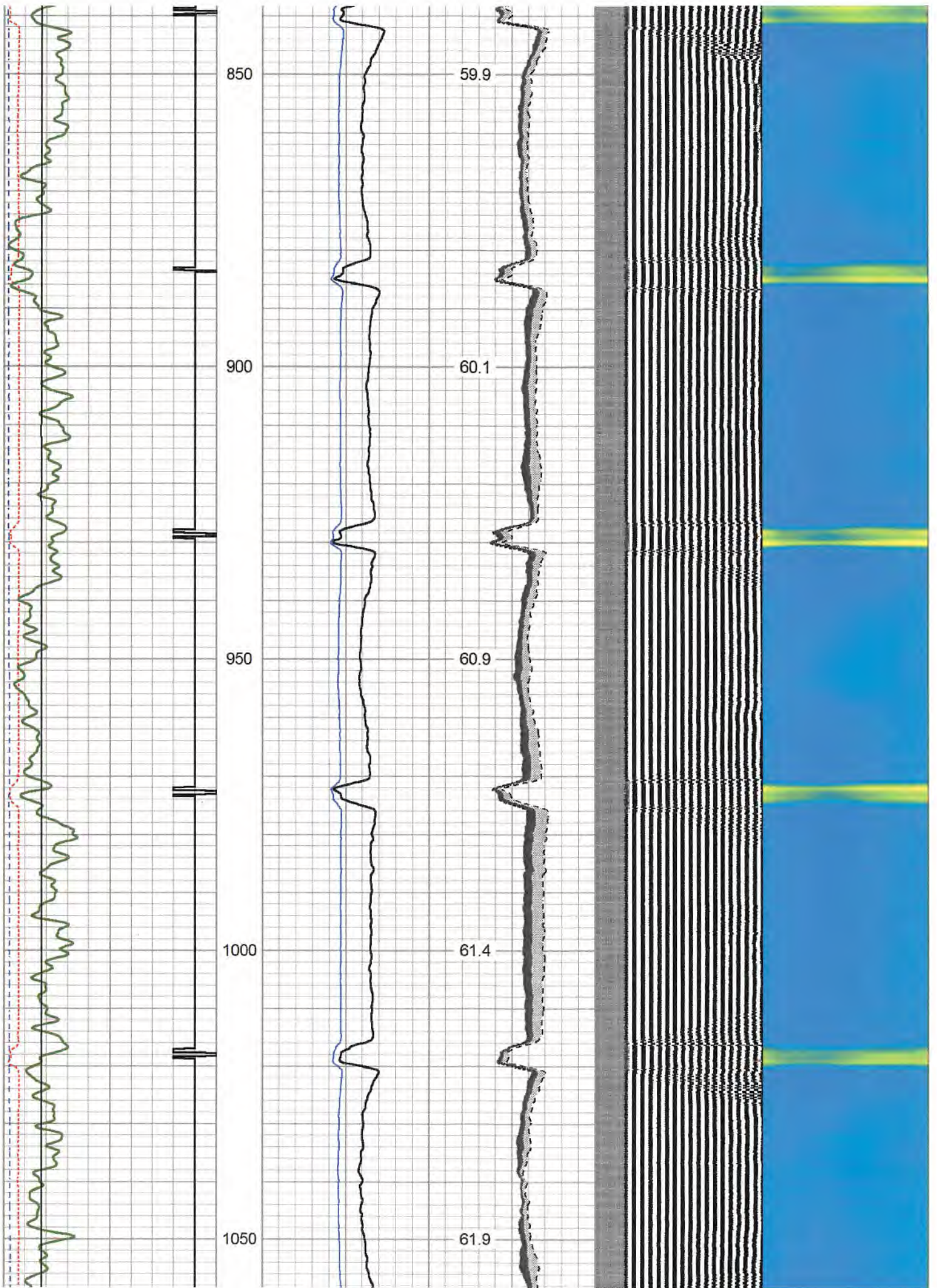
270	Travel Time (usec)	160	0	Amplitude (mV)	100	-5	AMPMIN	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1	1	BONDIX	0	-5	AMPMAX	150	200	(usec)	1200	
0	Gamma Ray (GAPI)	150				-5	AMPAVG	150				
	Line Speed						TEMP					
-200	(ft/min)	200					(degF)					
0	Line Tension (lb)	3000										

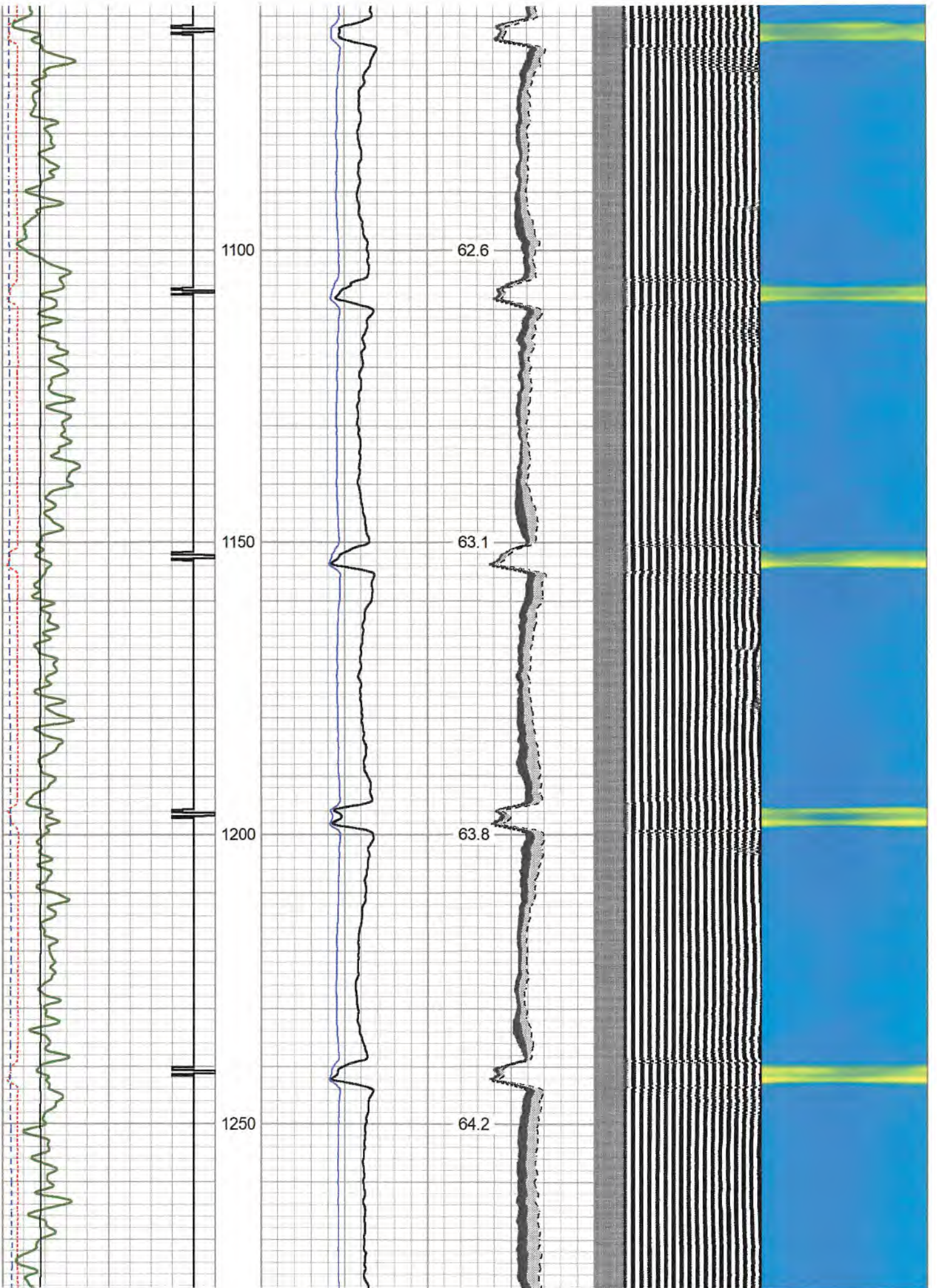


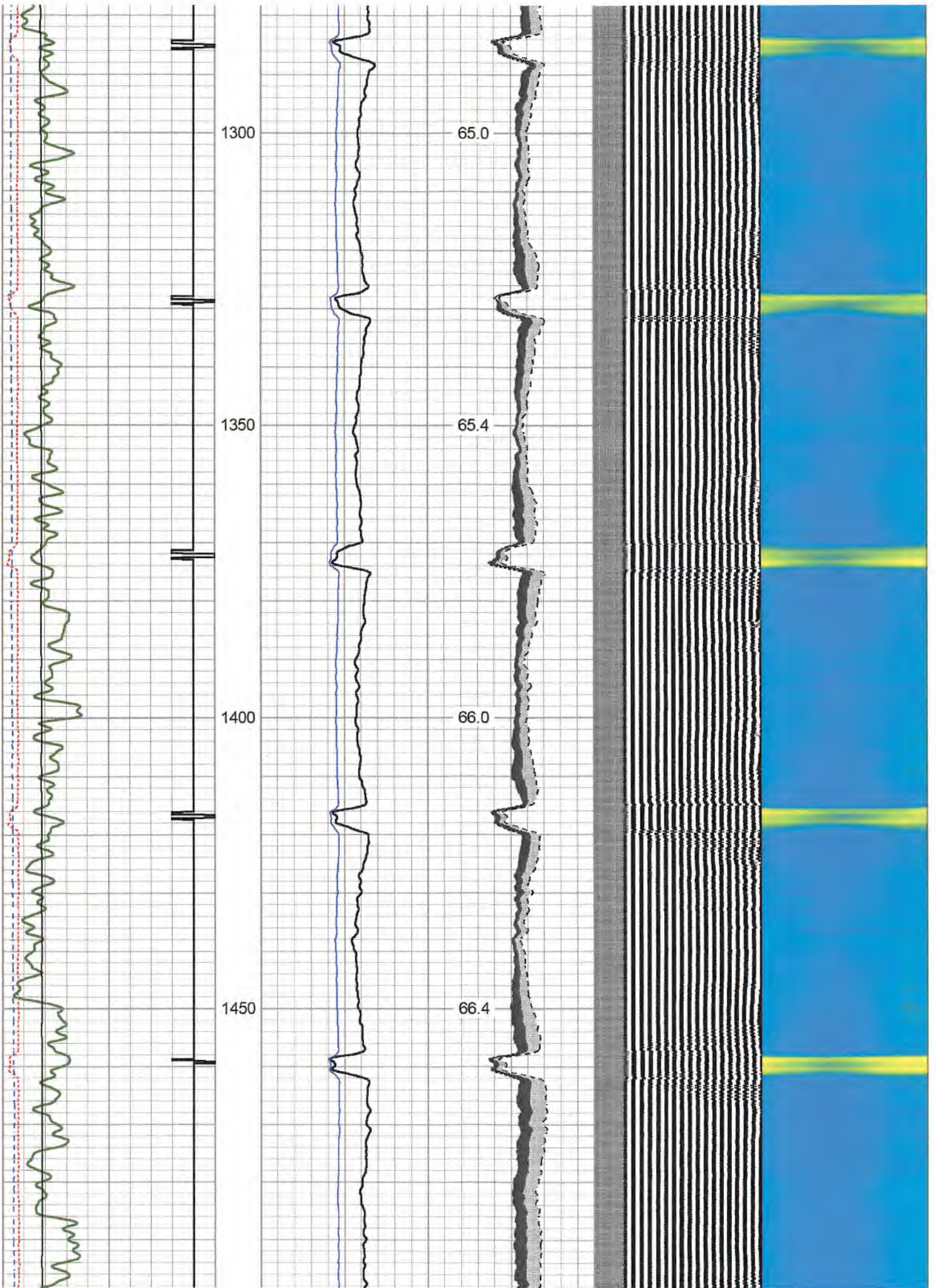


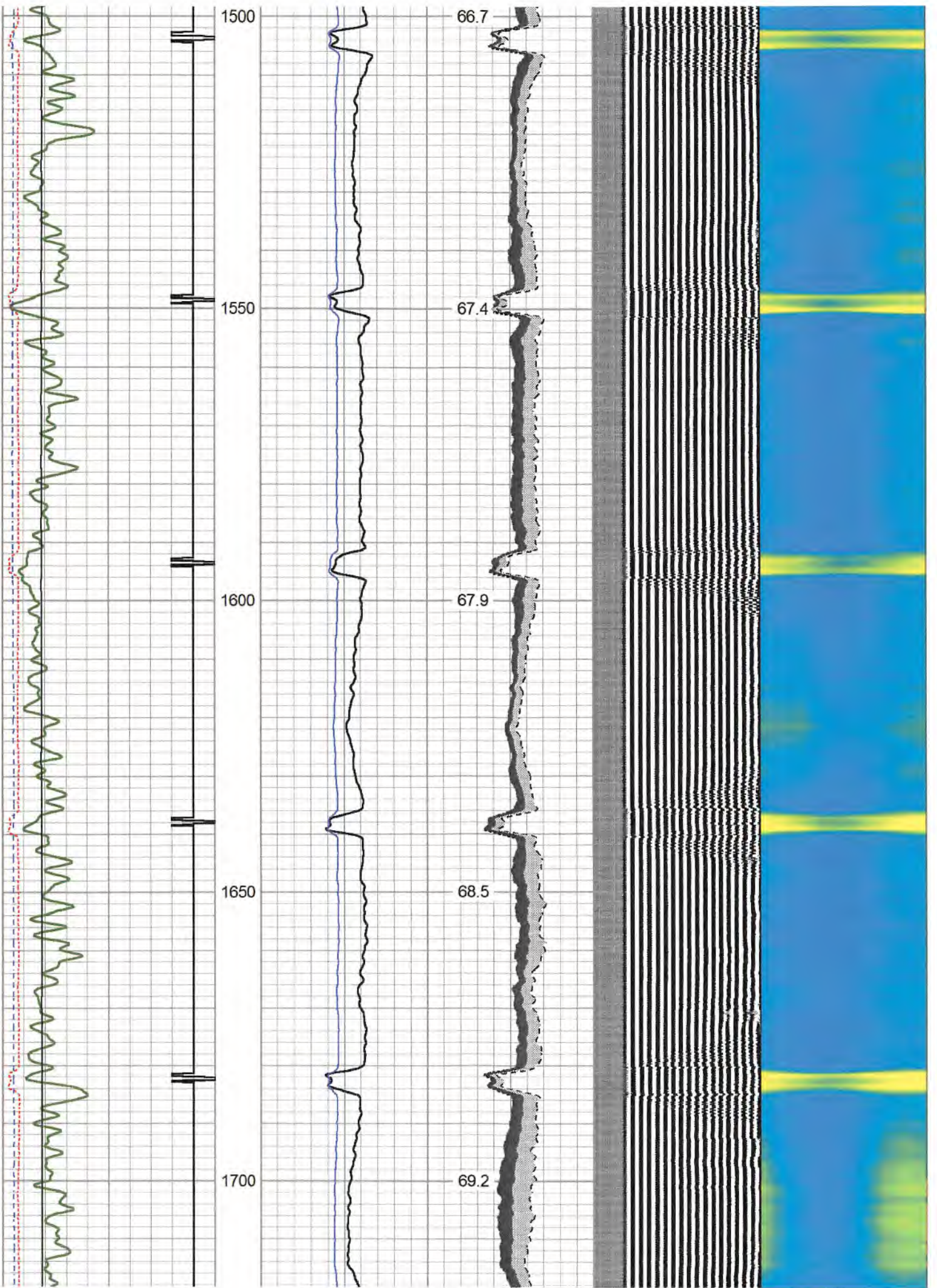


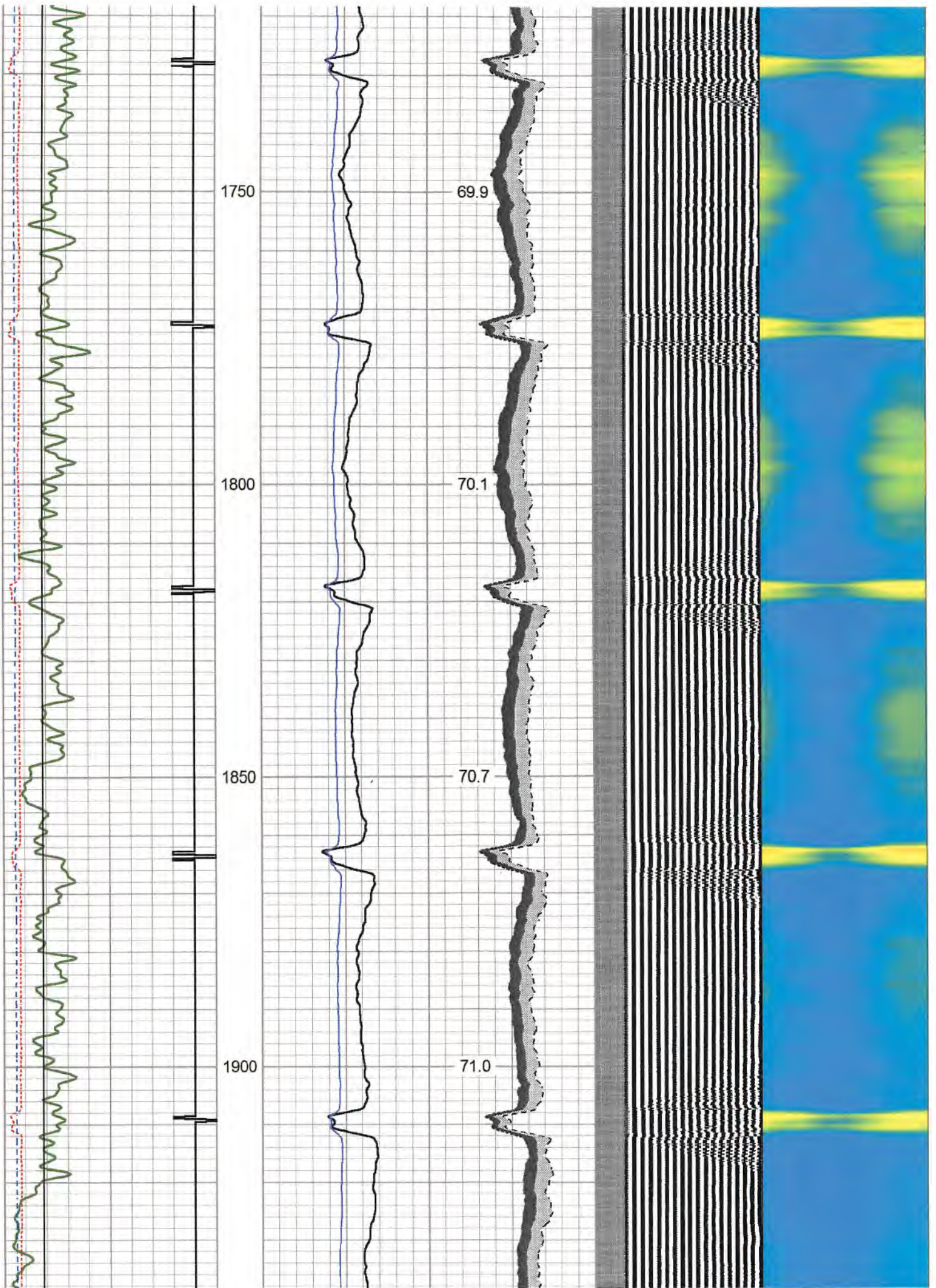


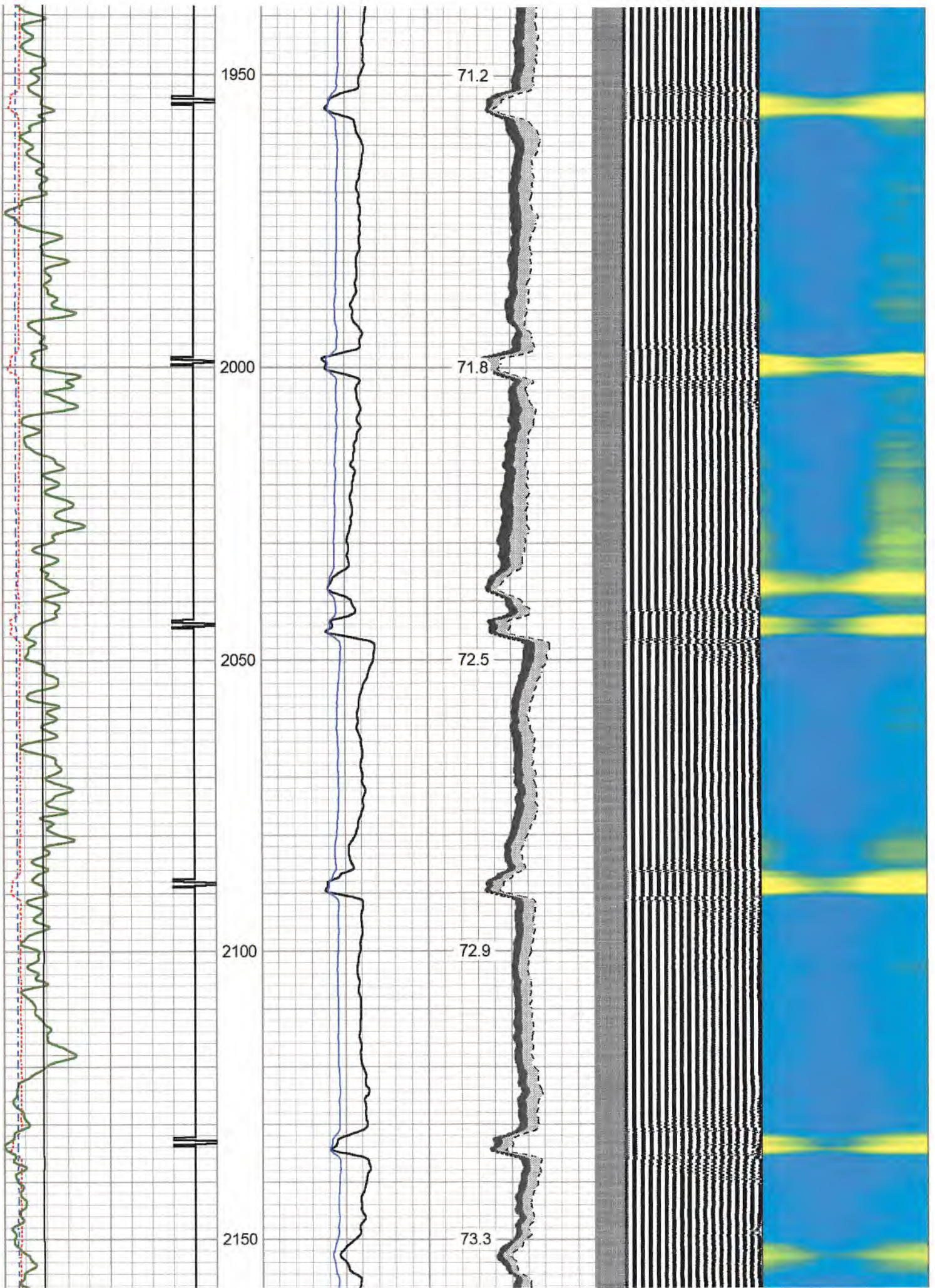


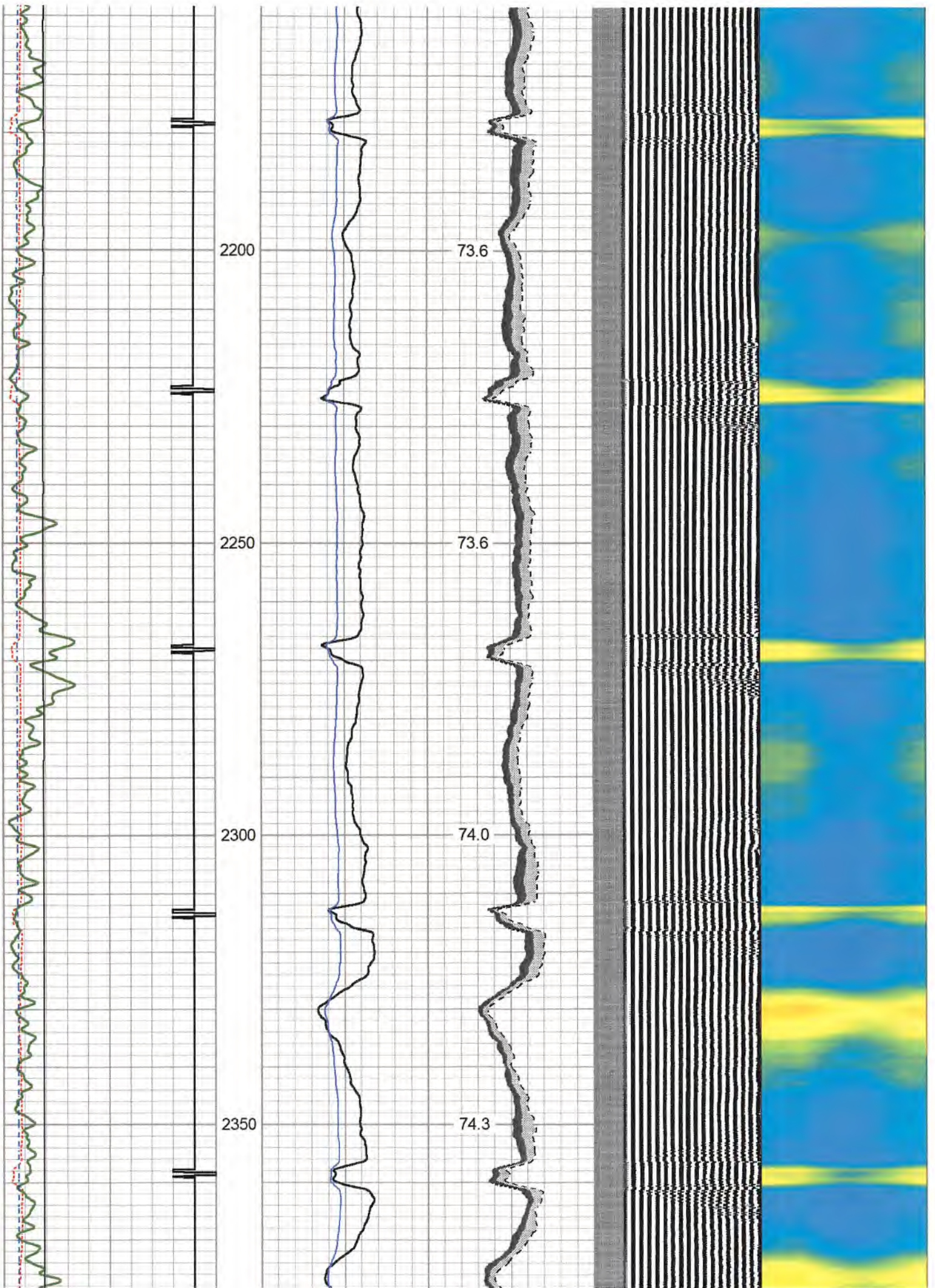


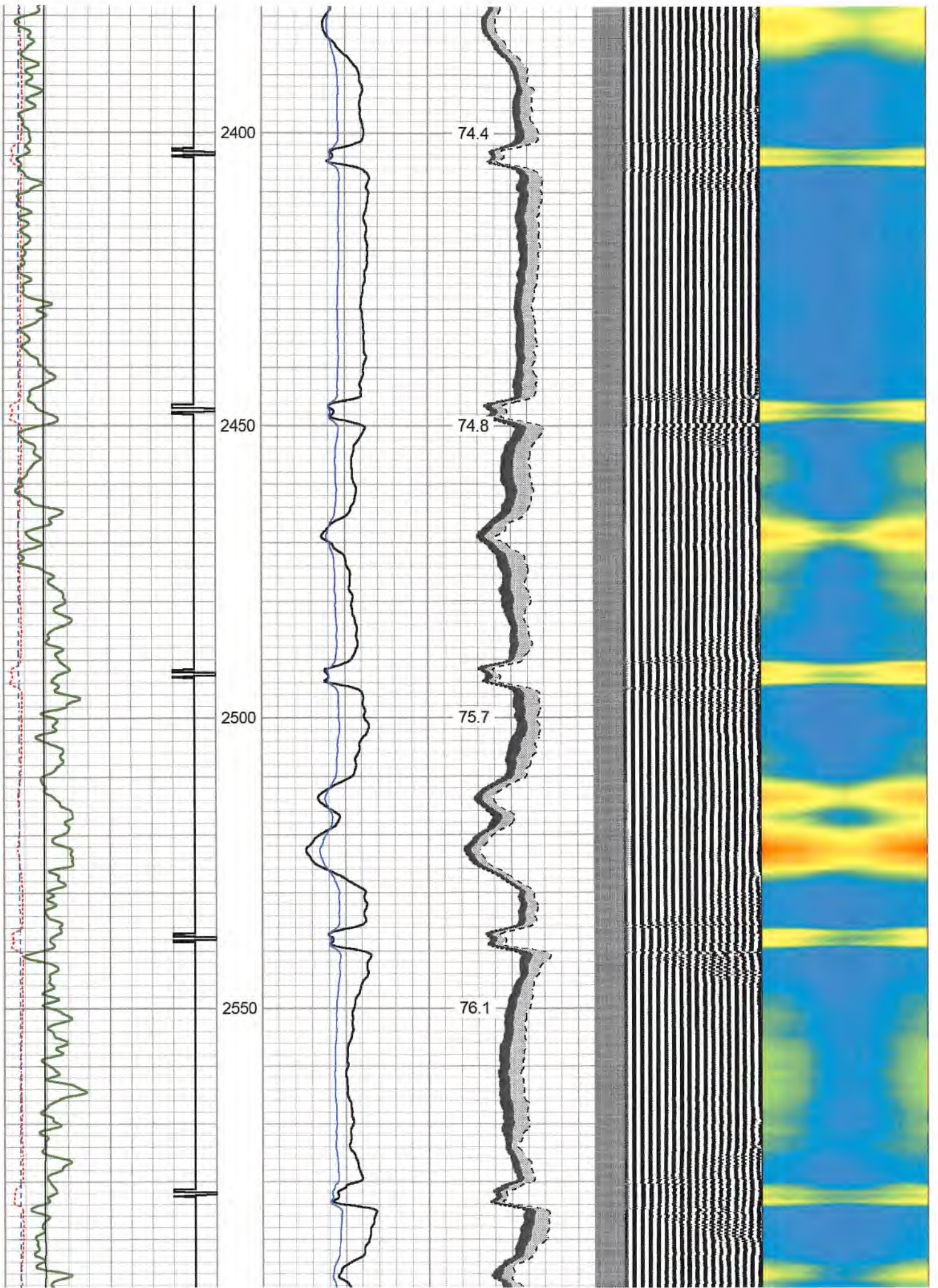


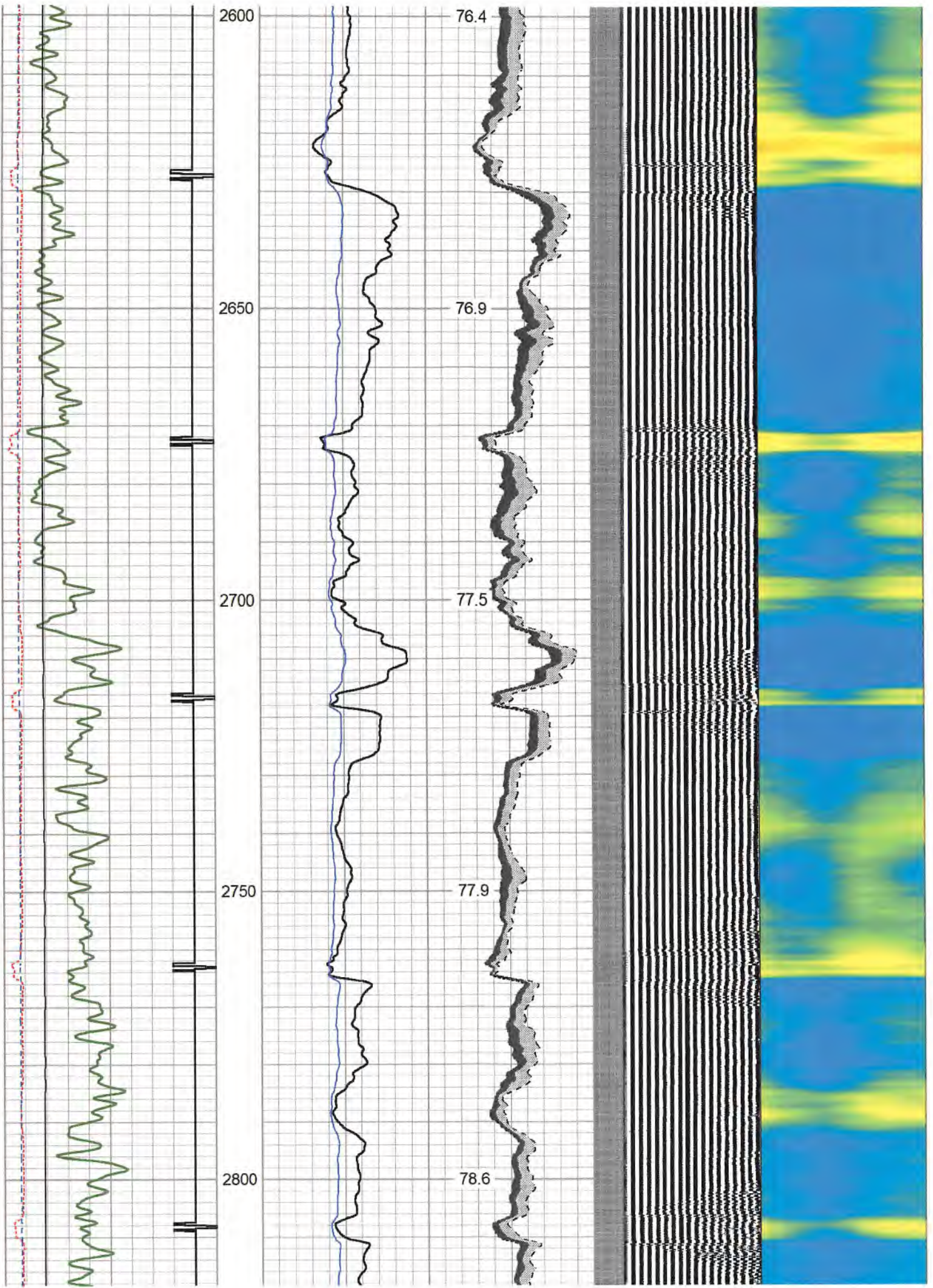


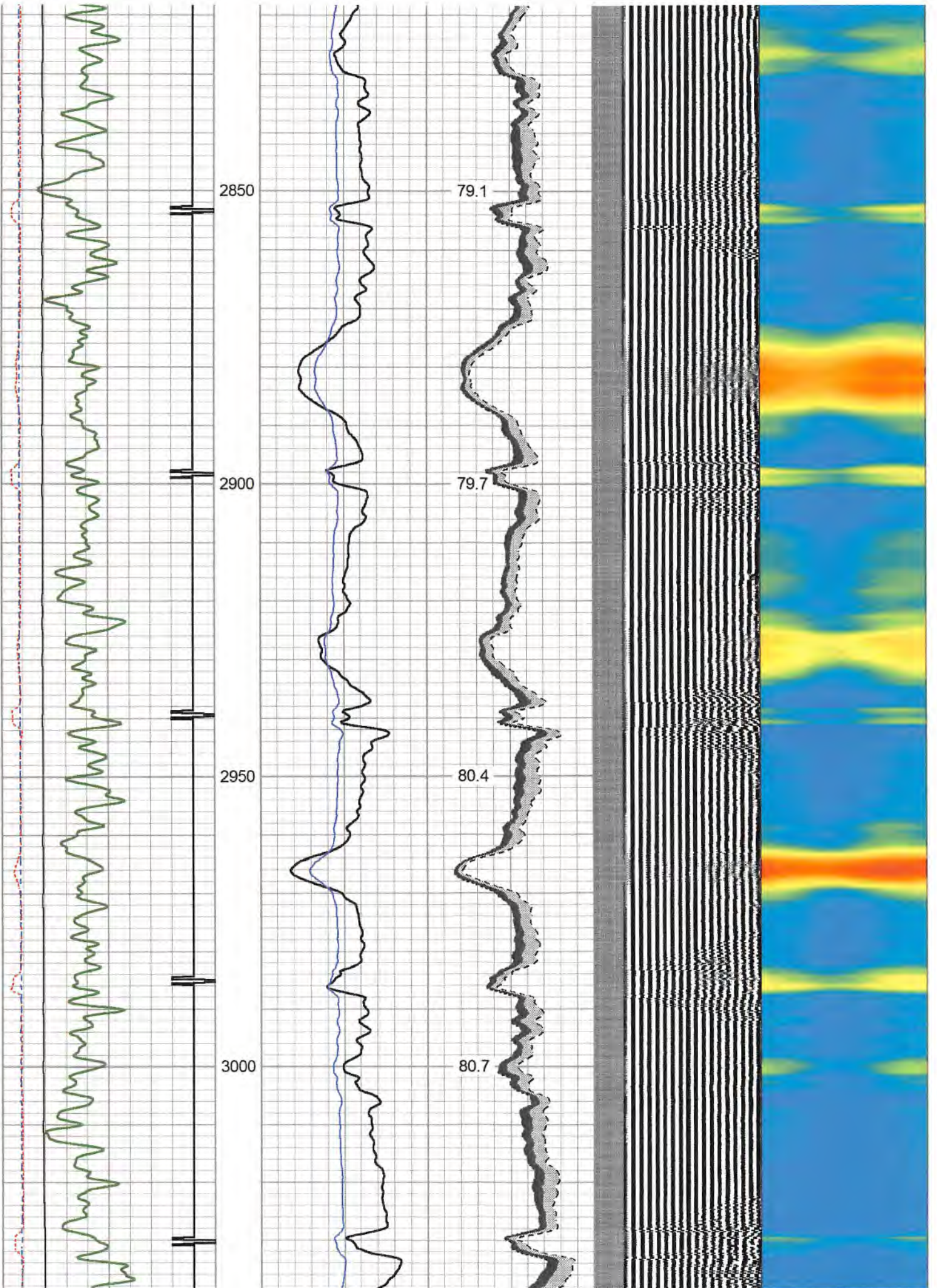


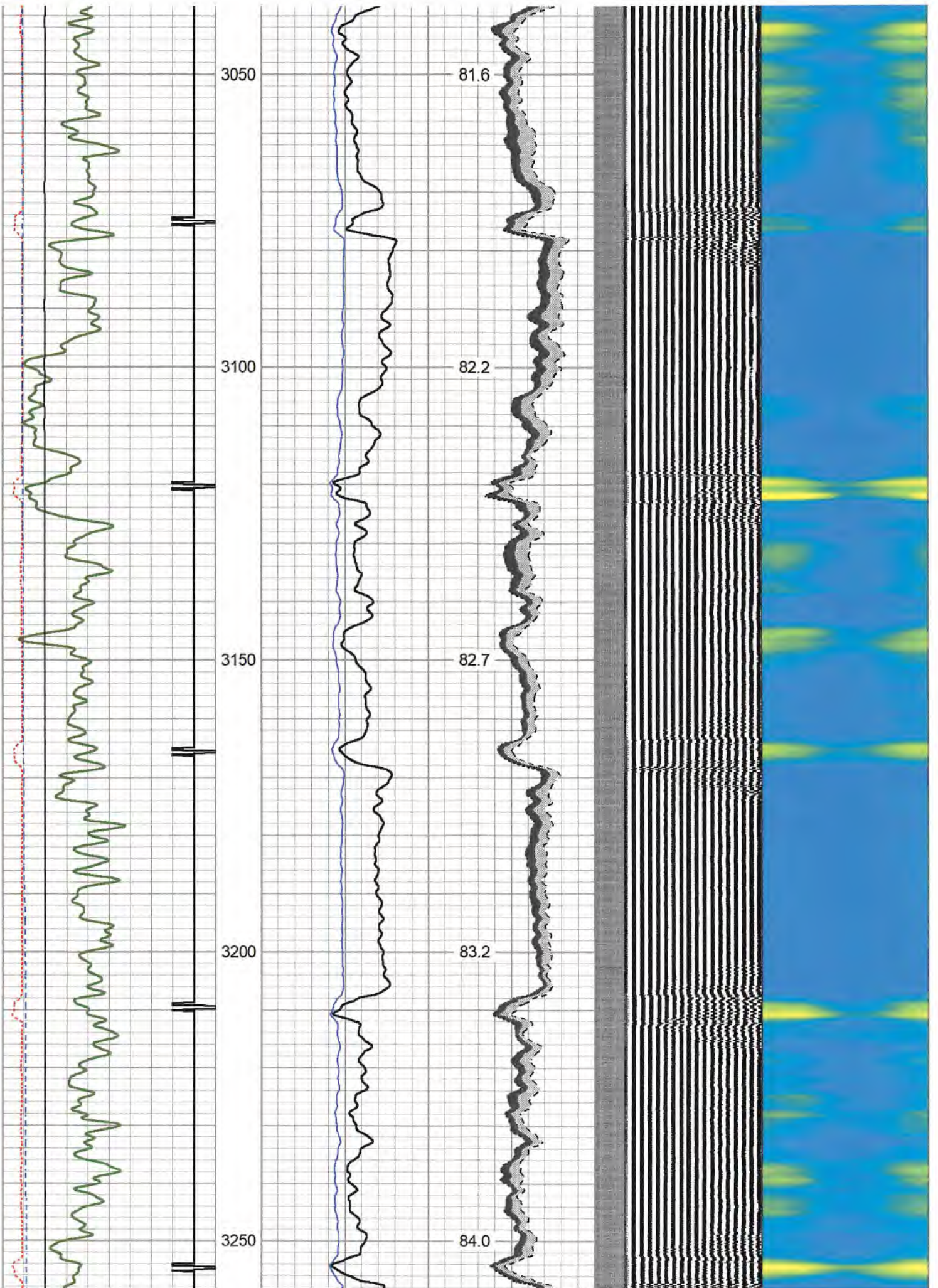


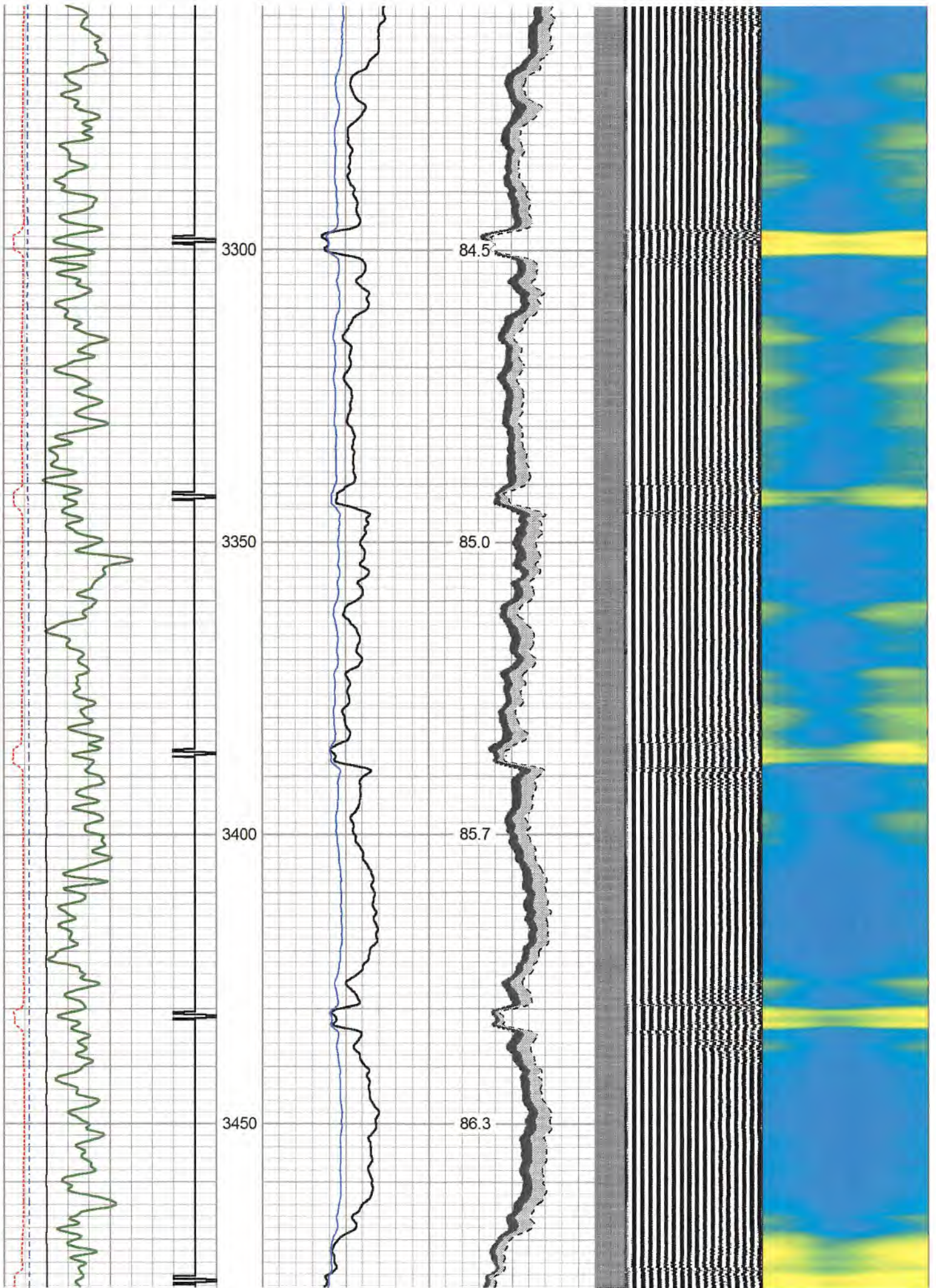


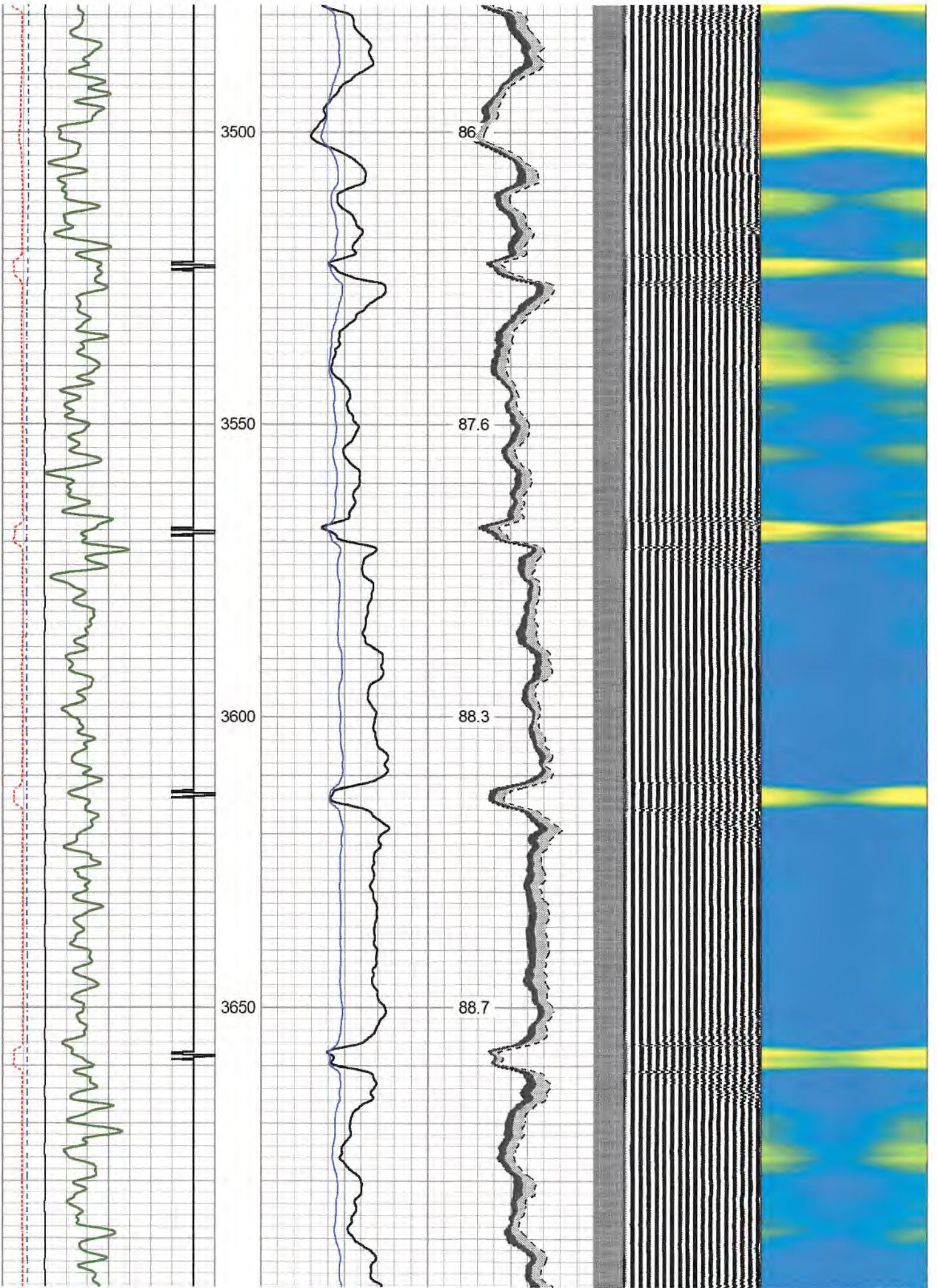


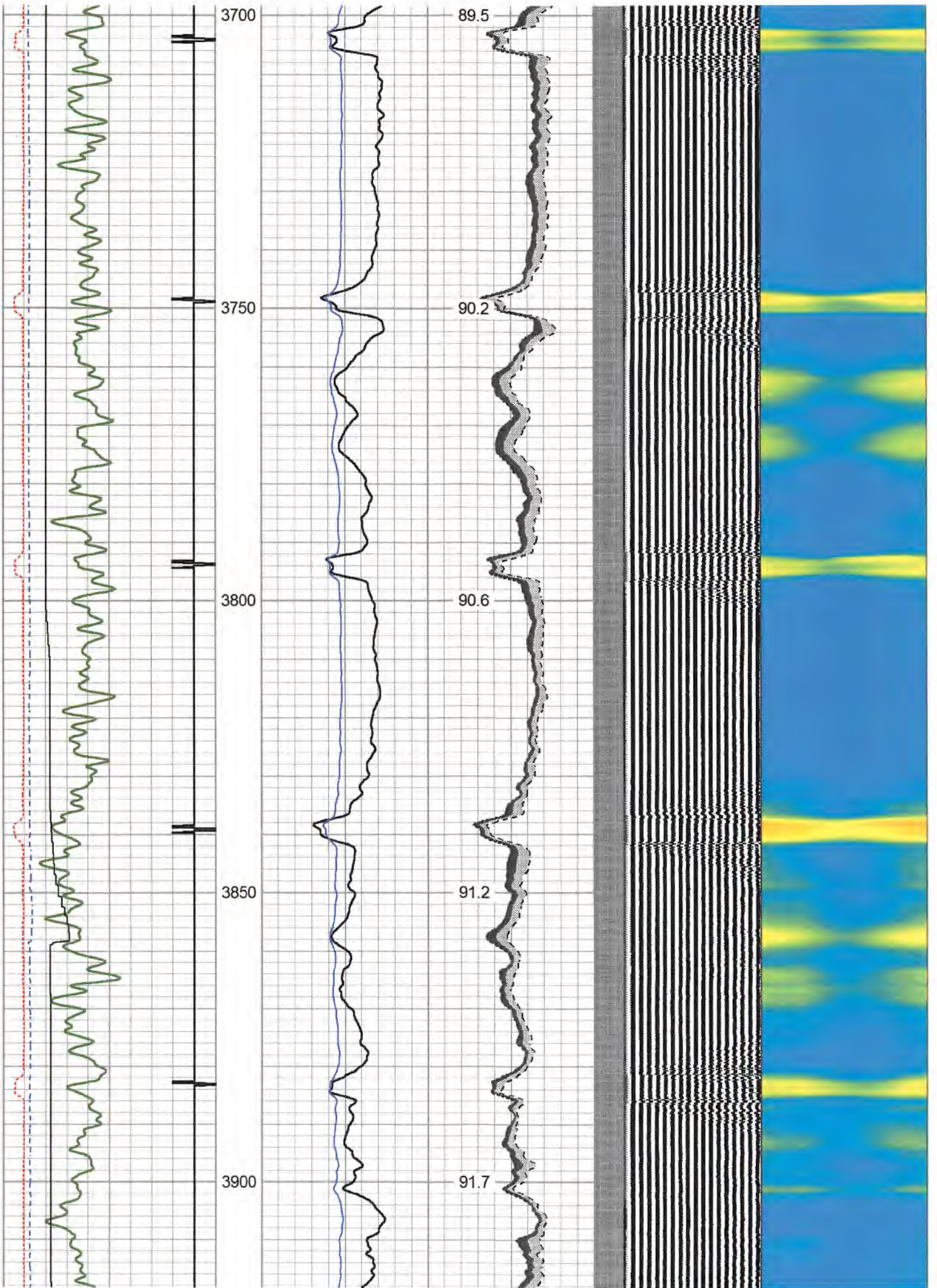


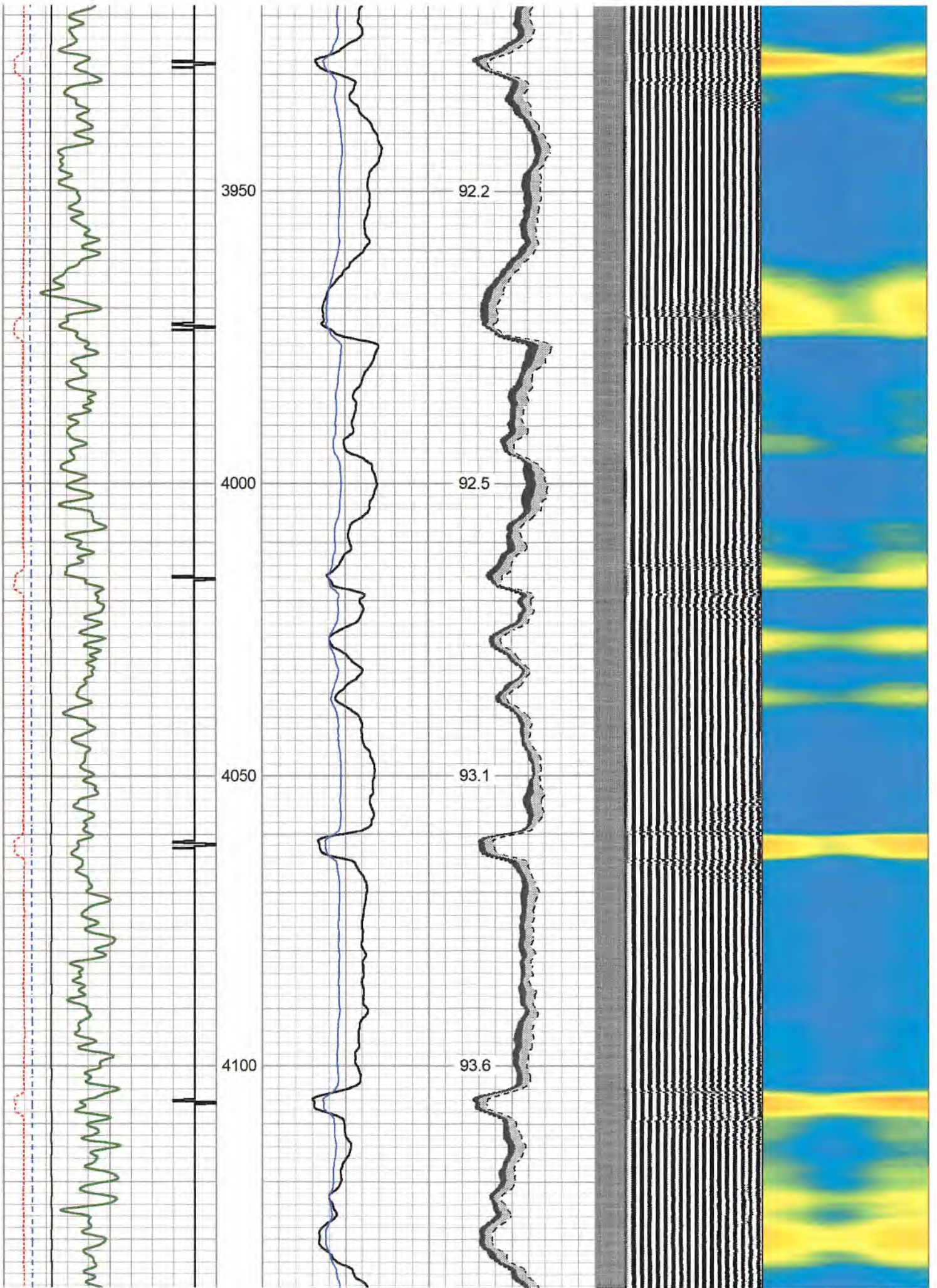


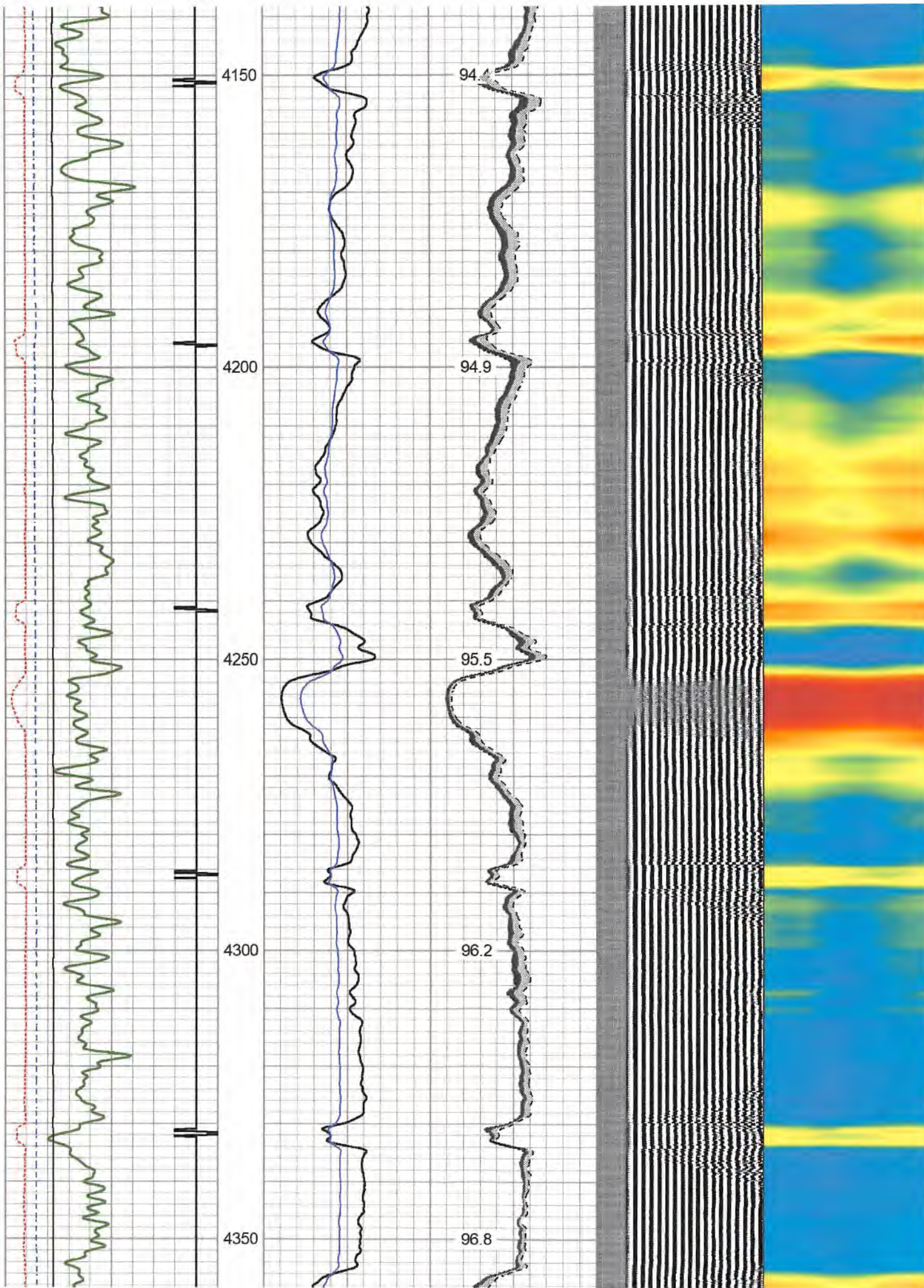


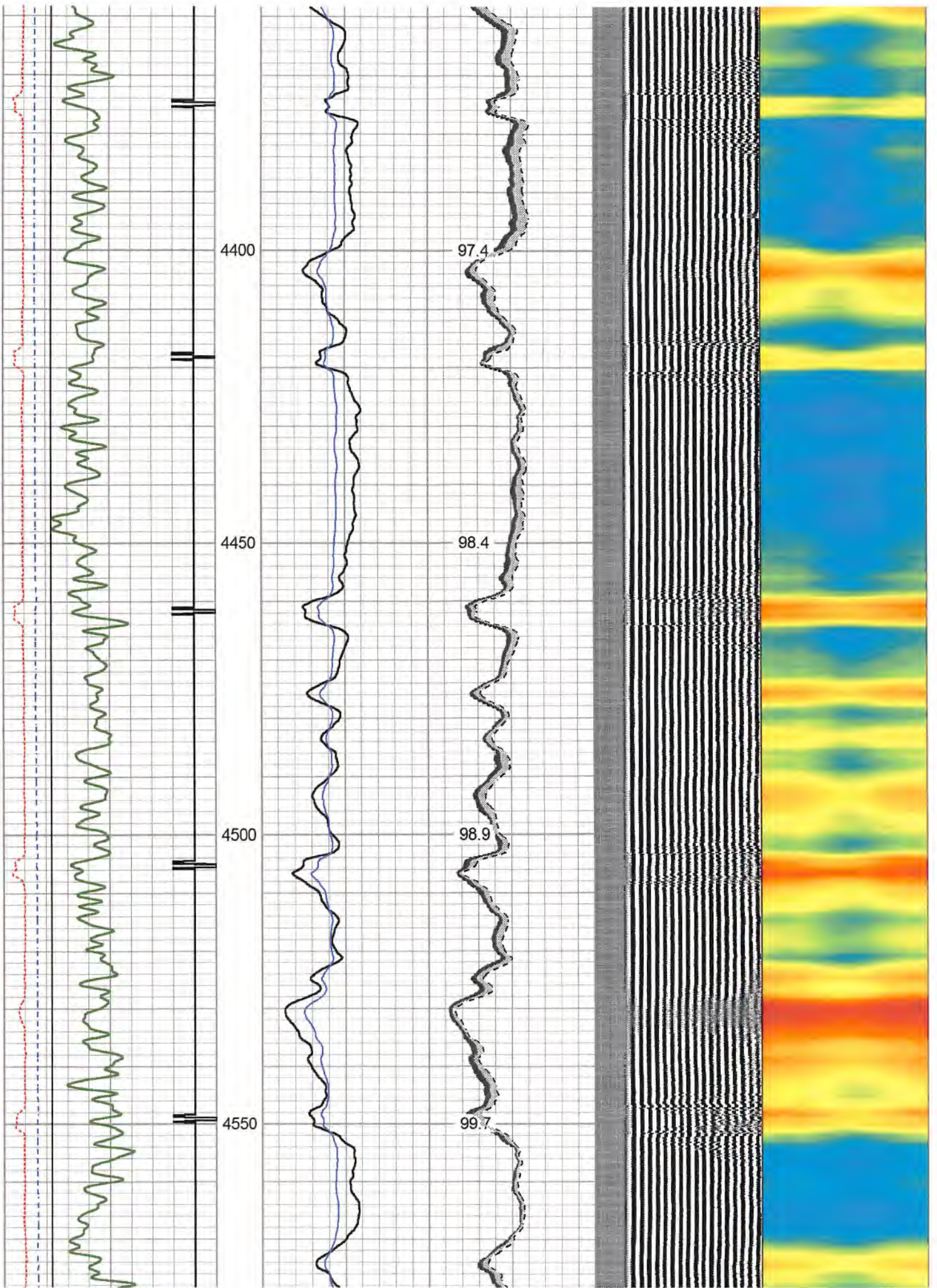


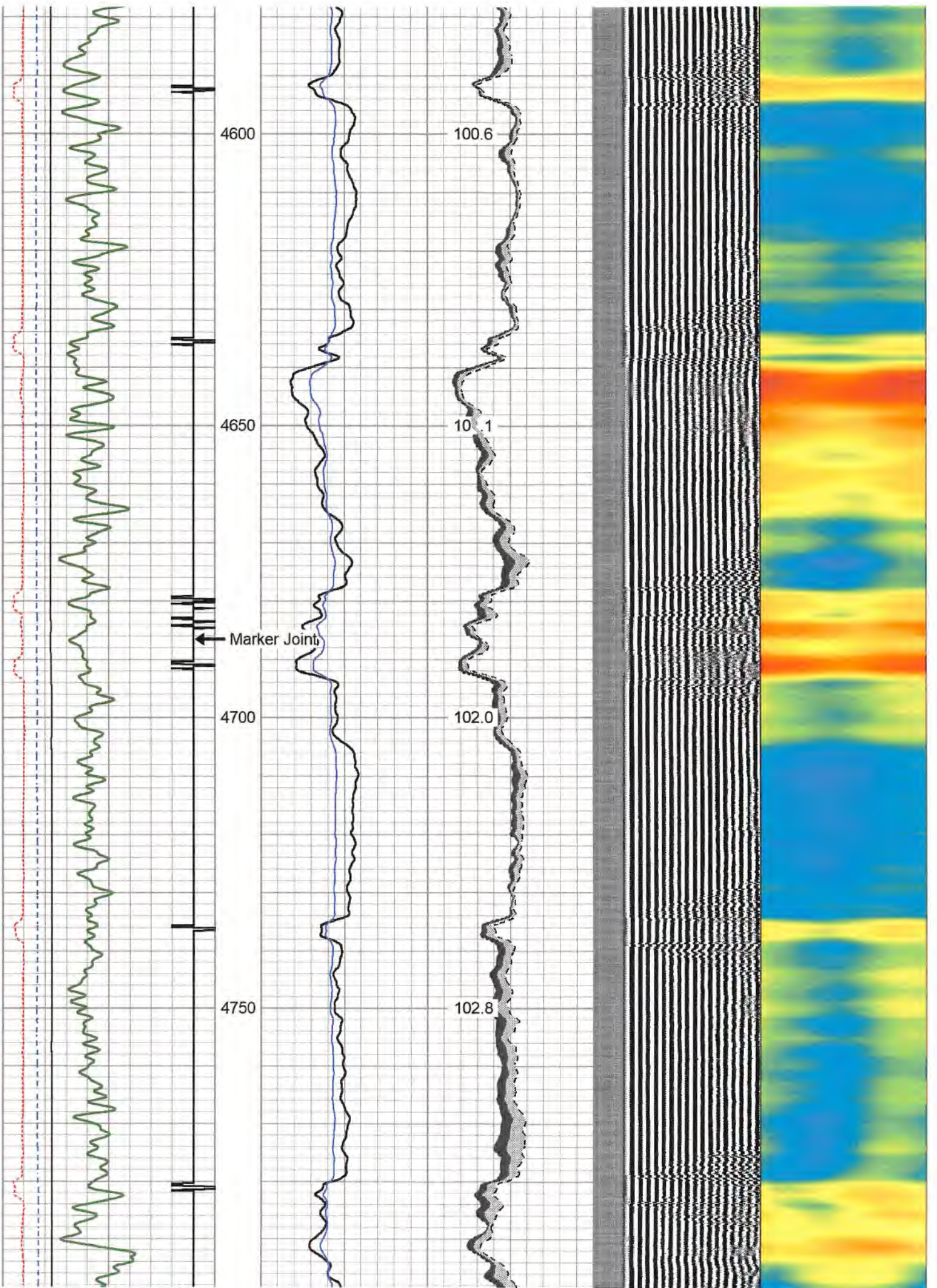


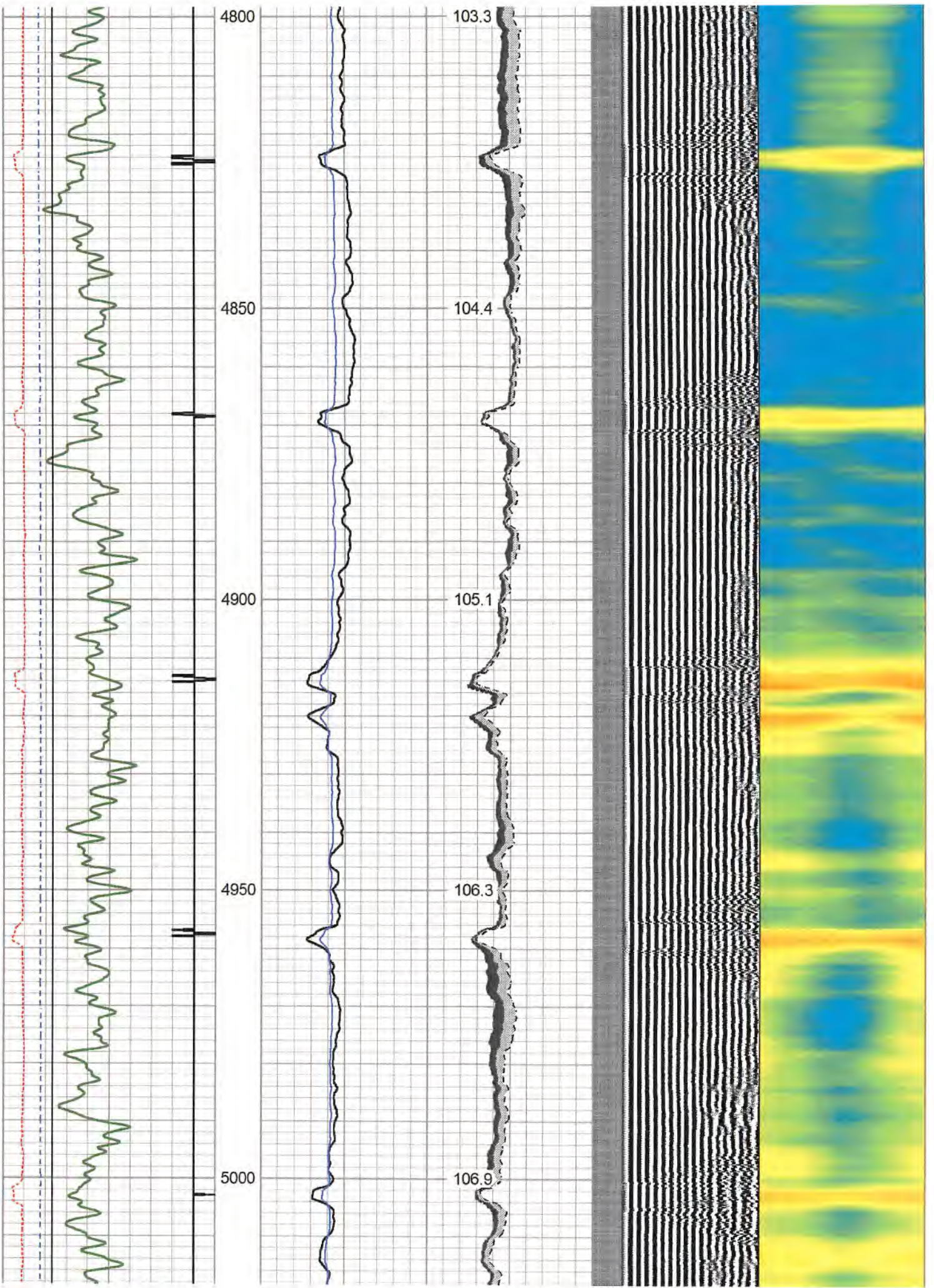


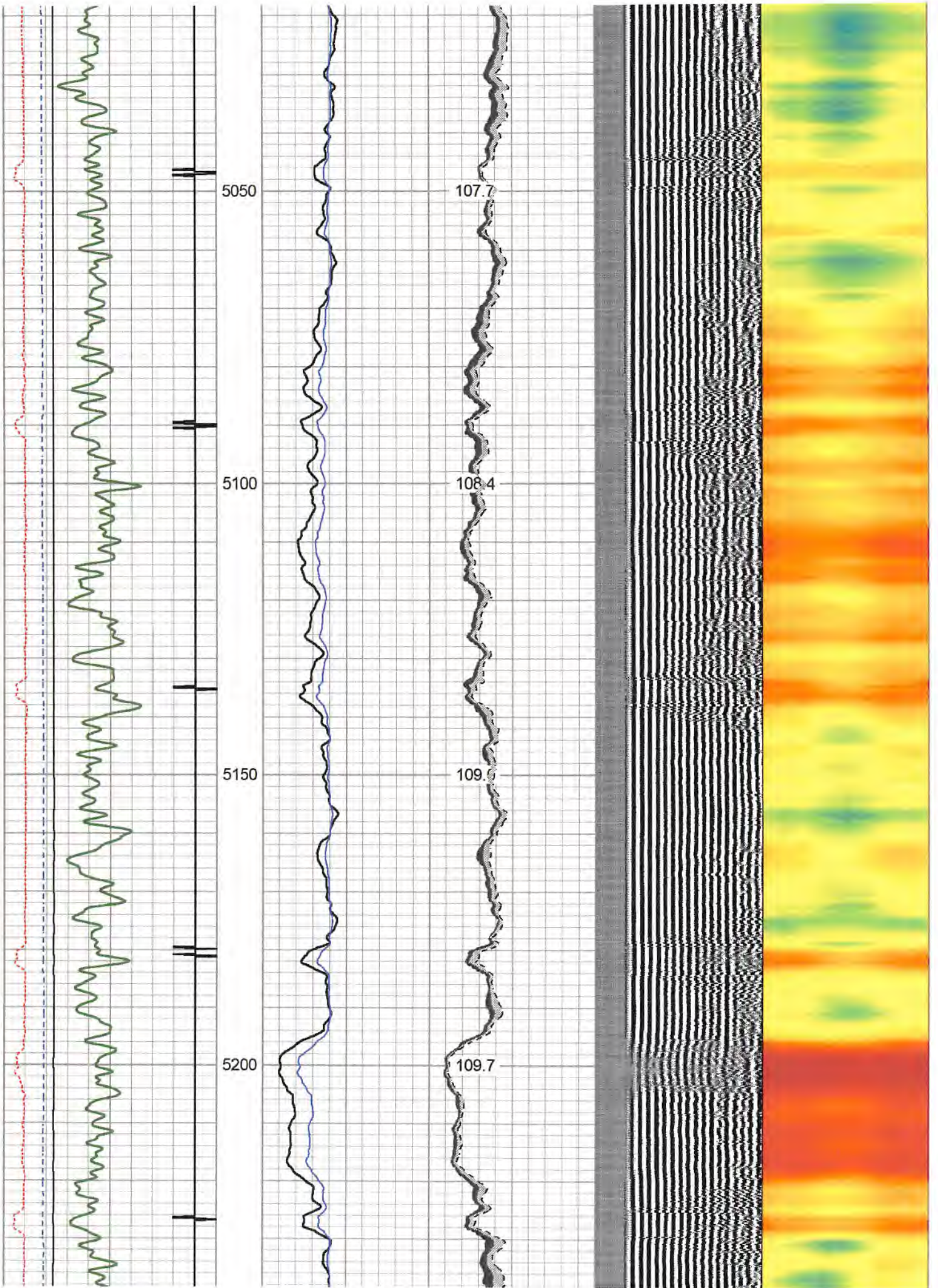


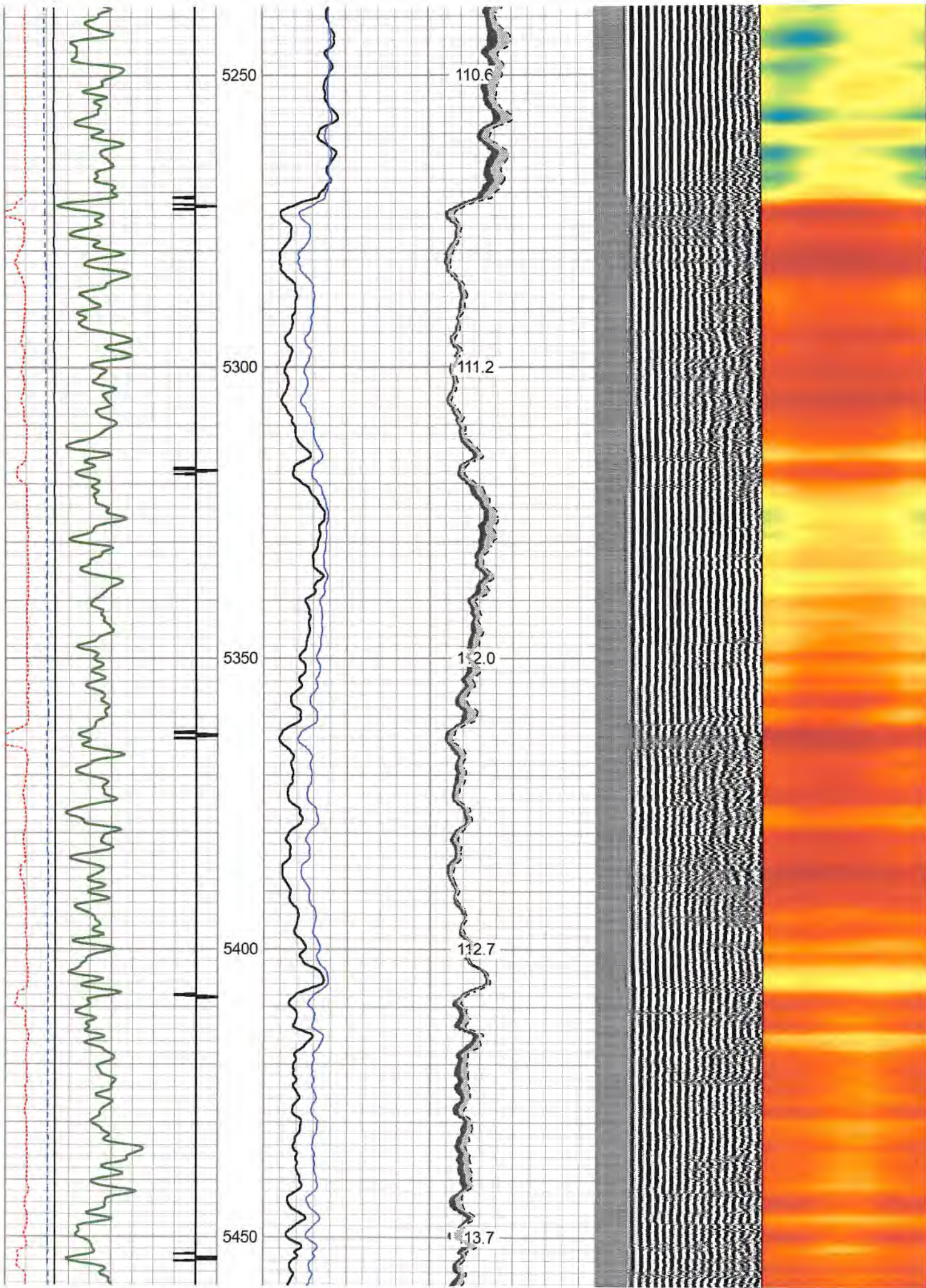


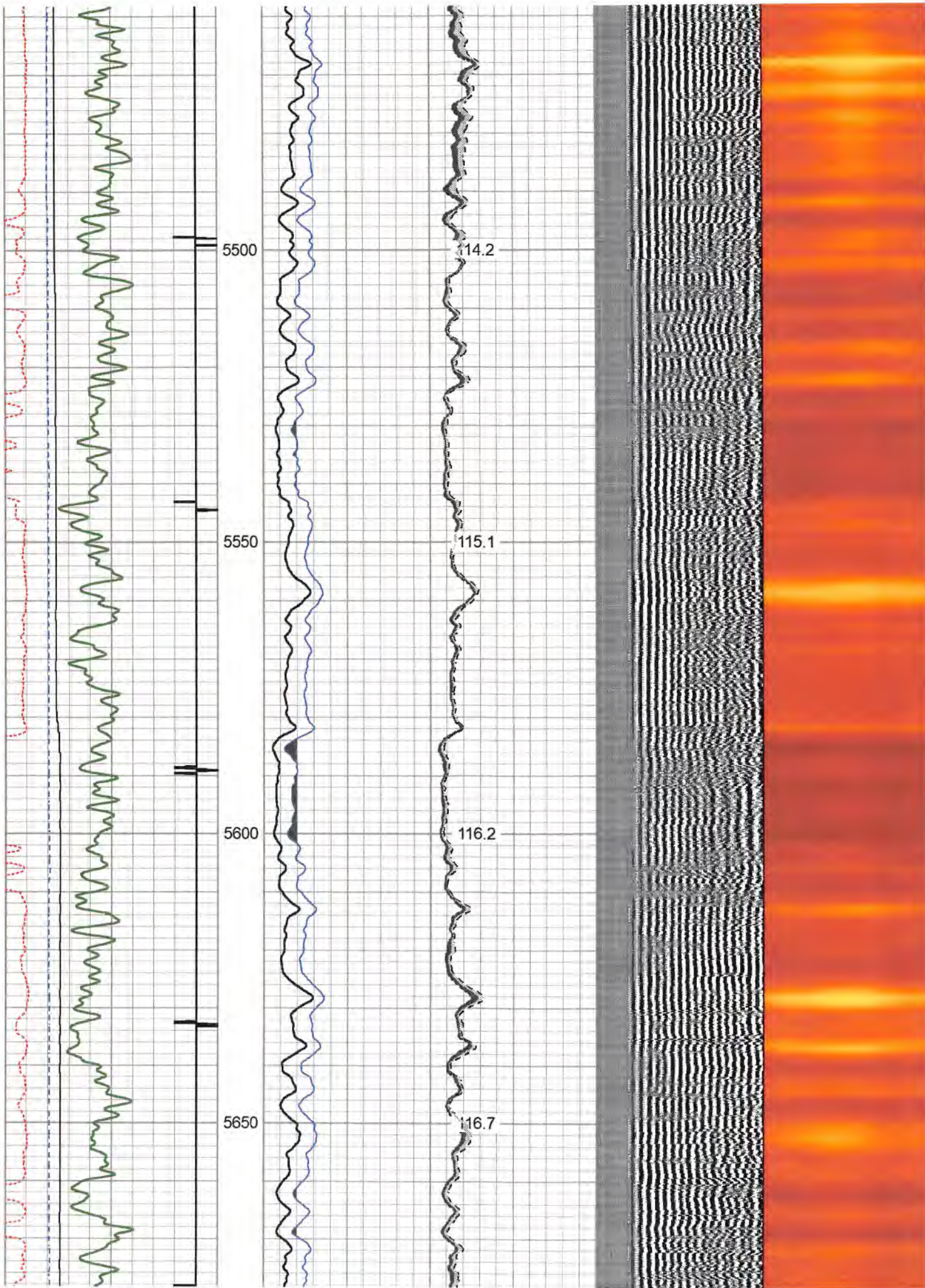


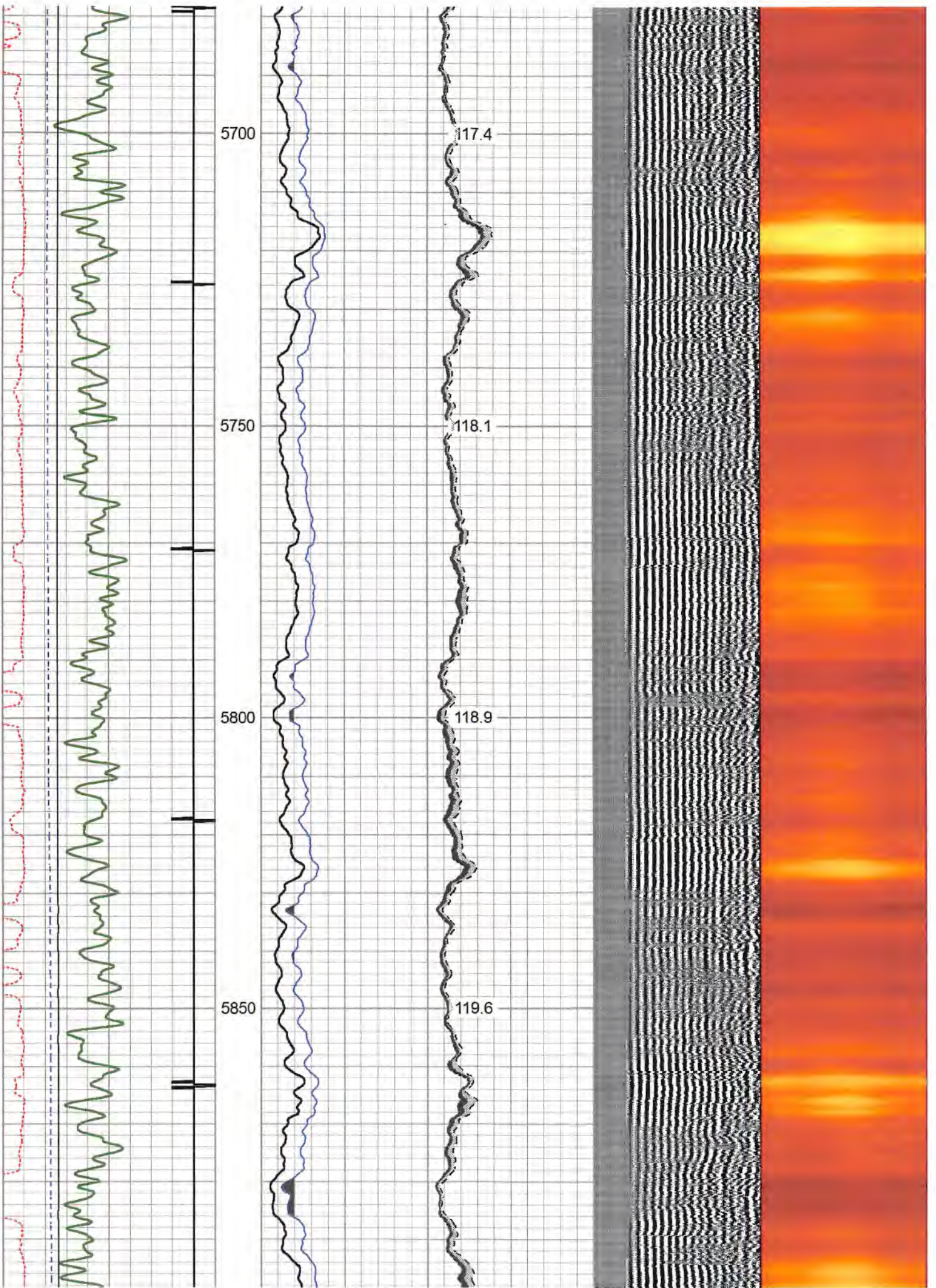


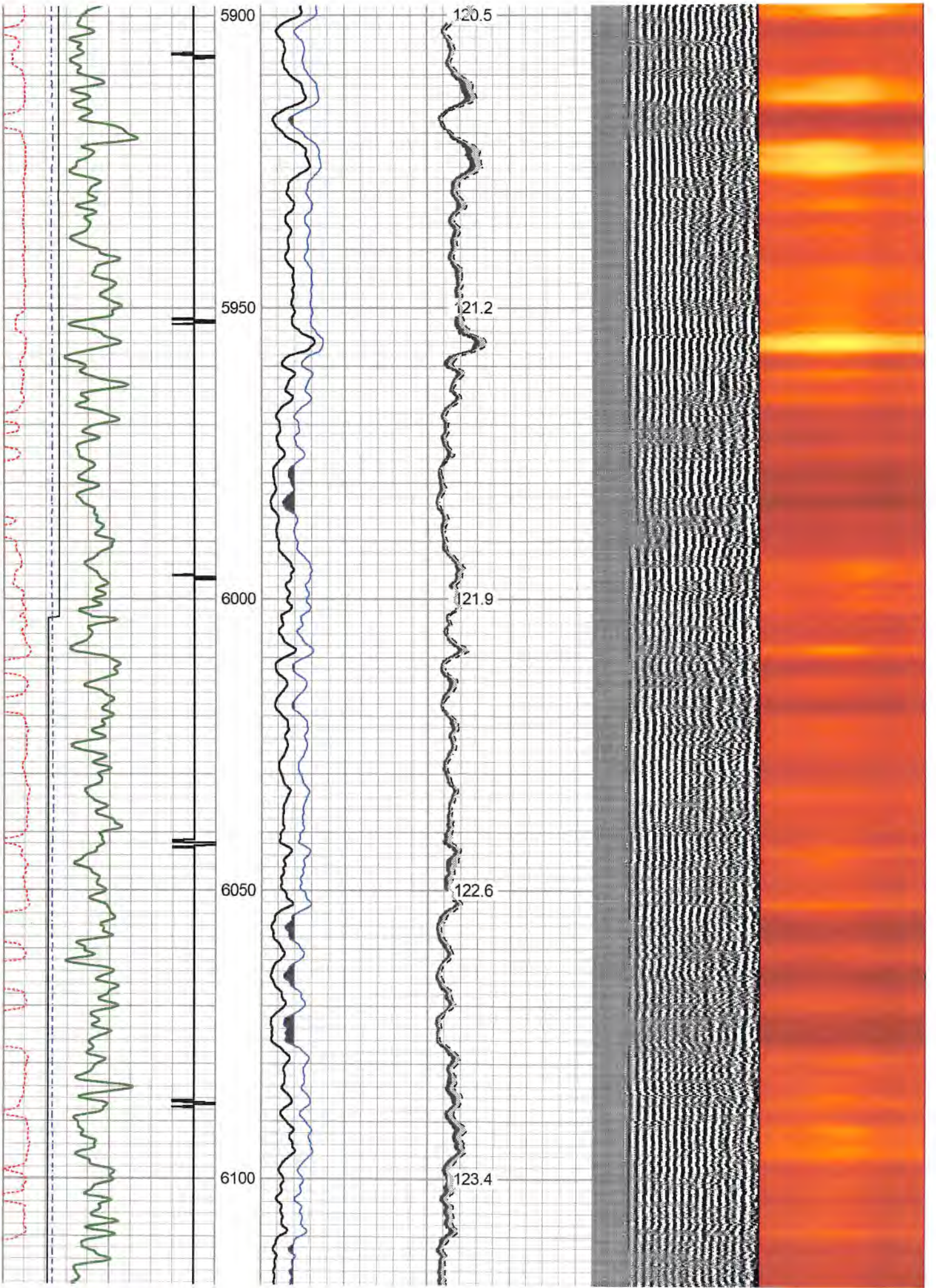


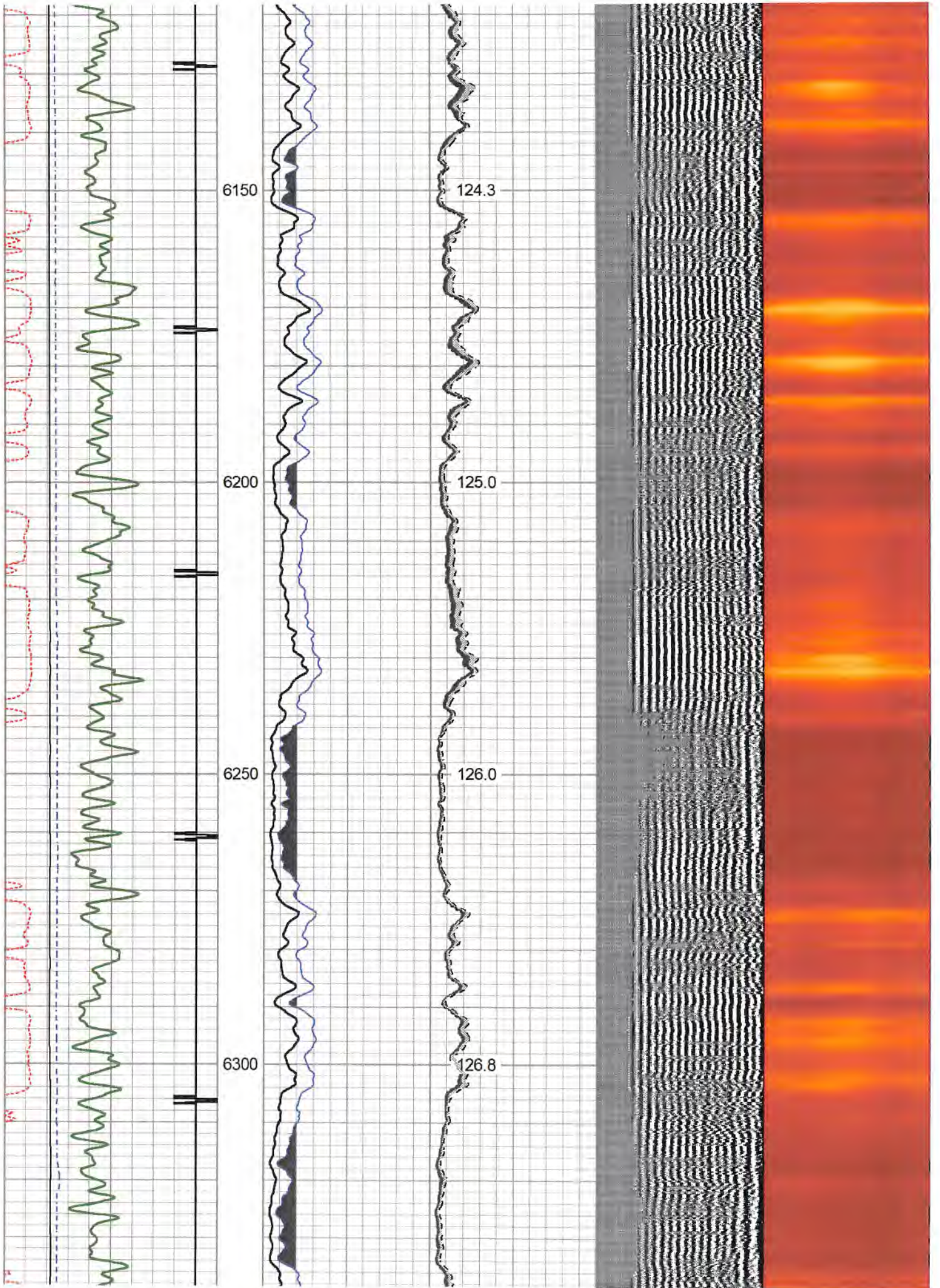


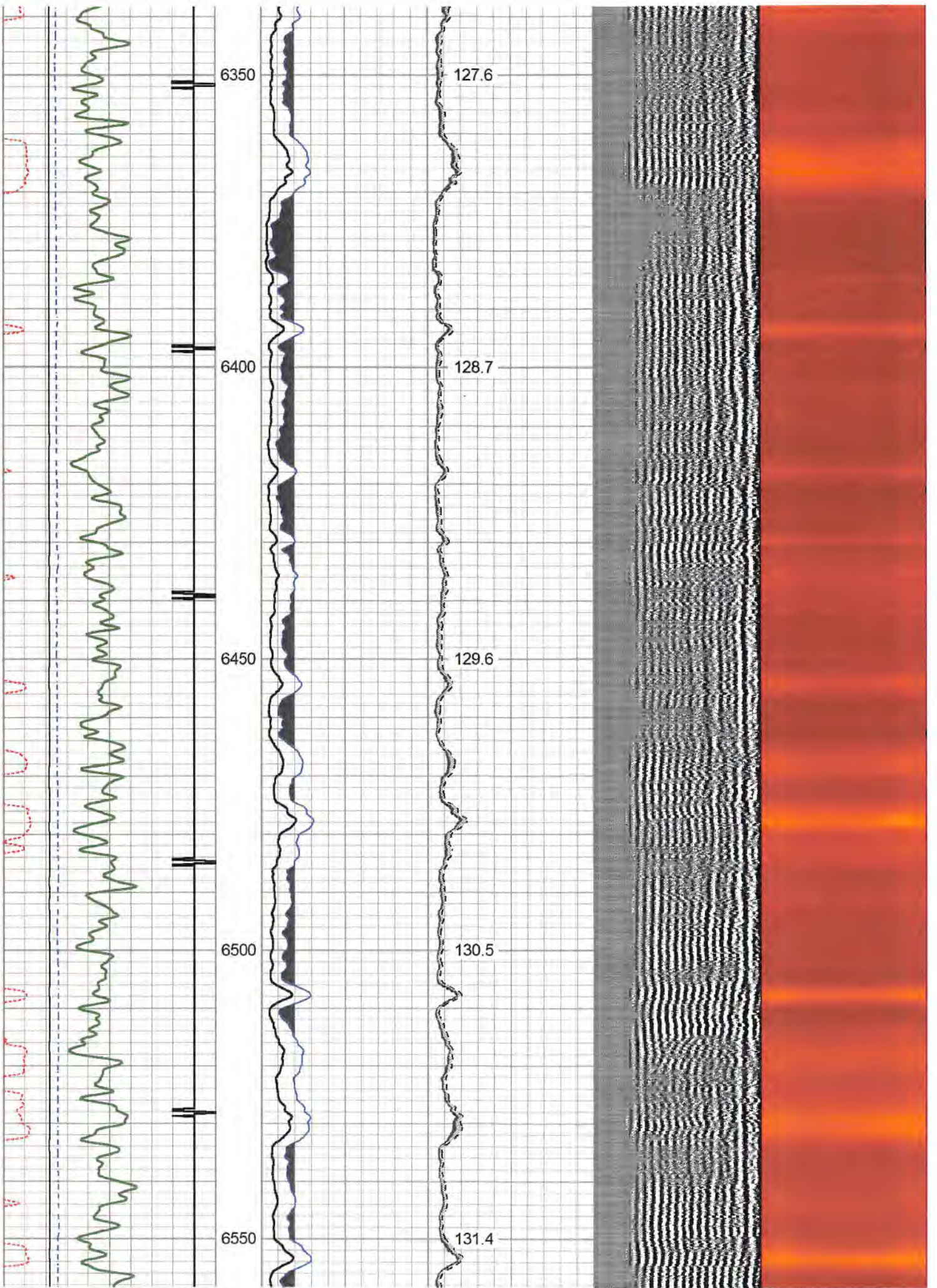


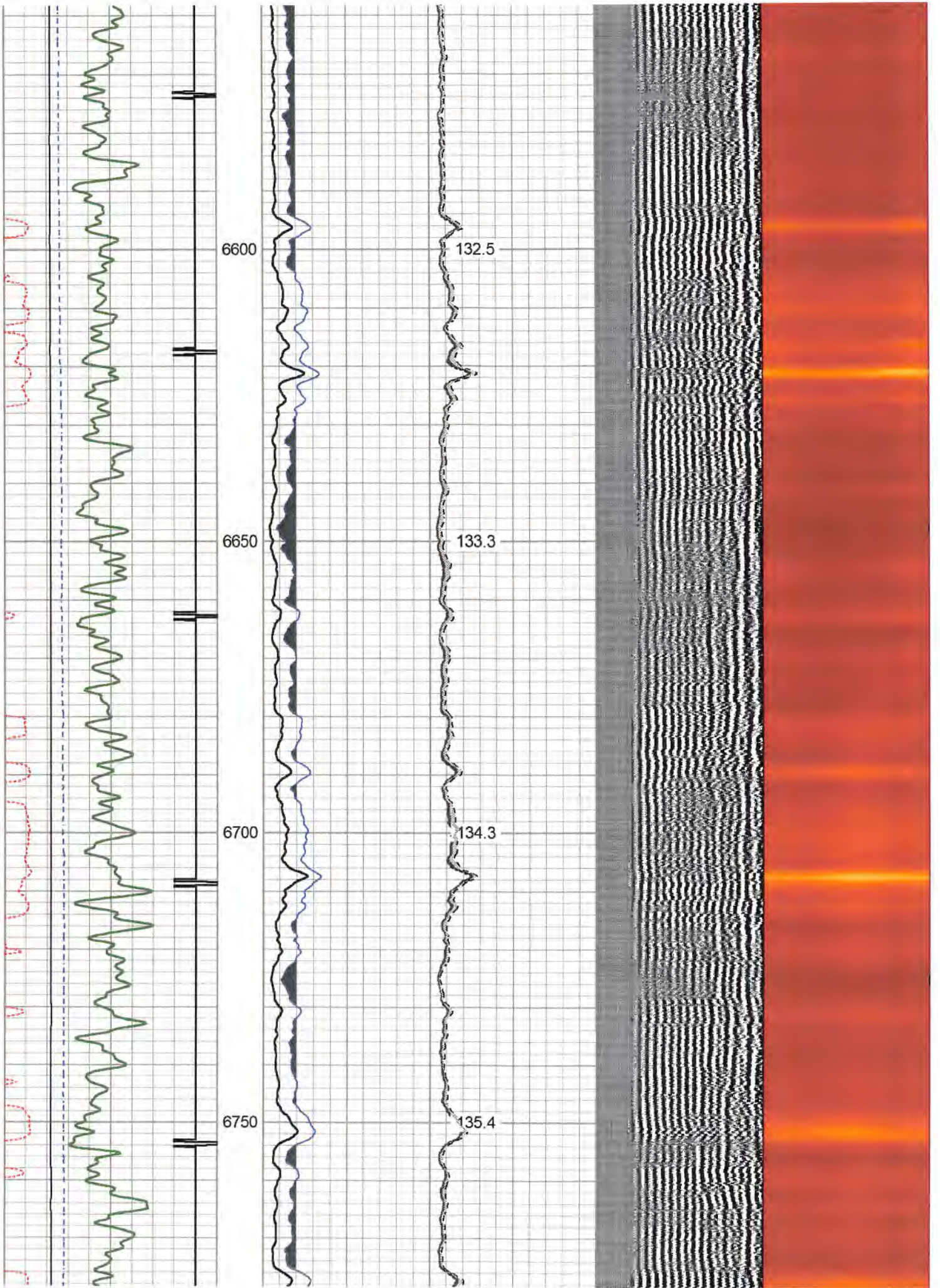


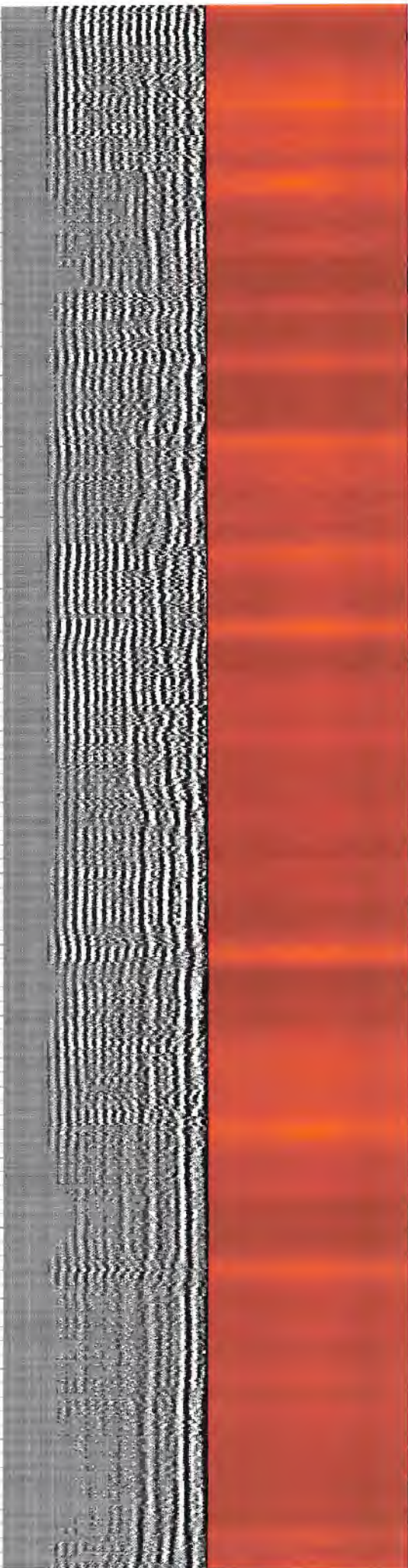
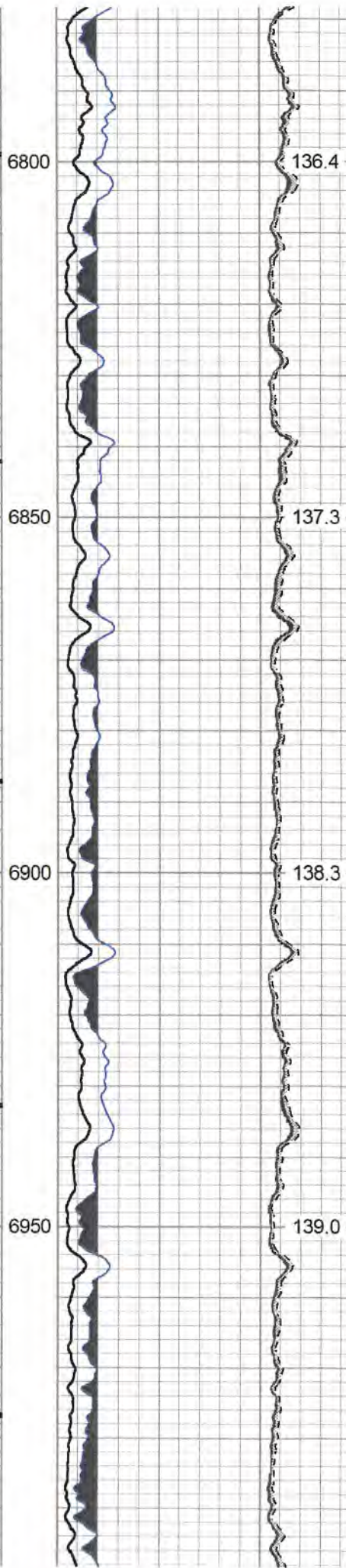
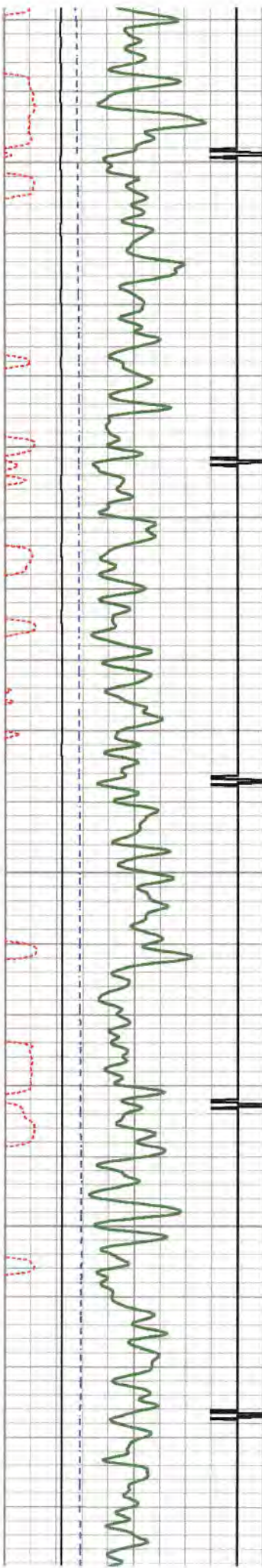


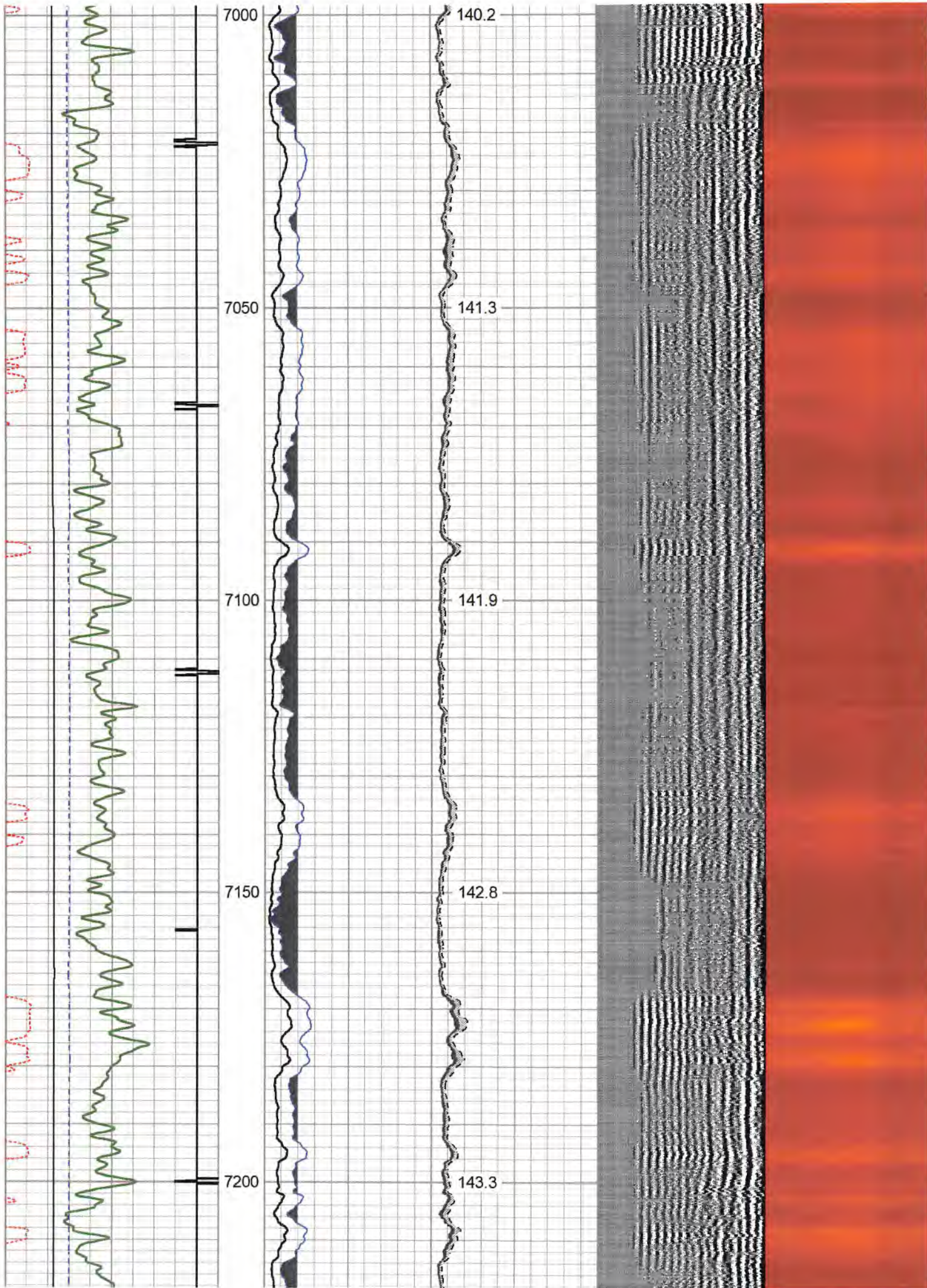


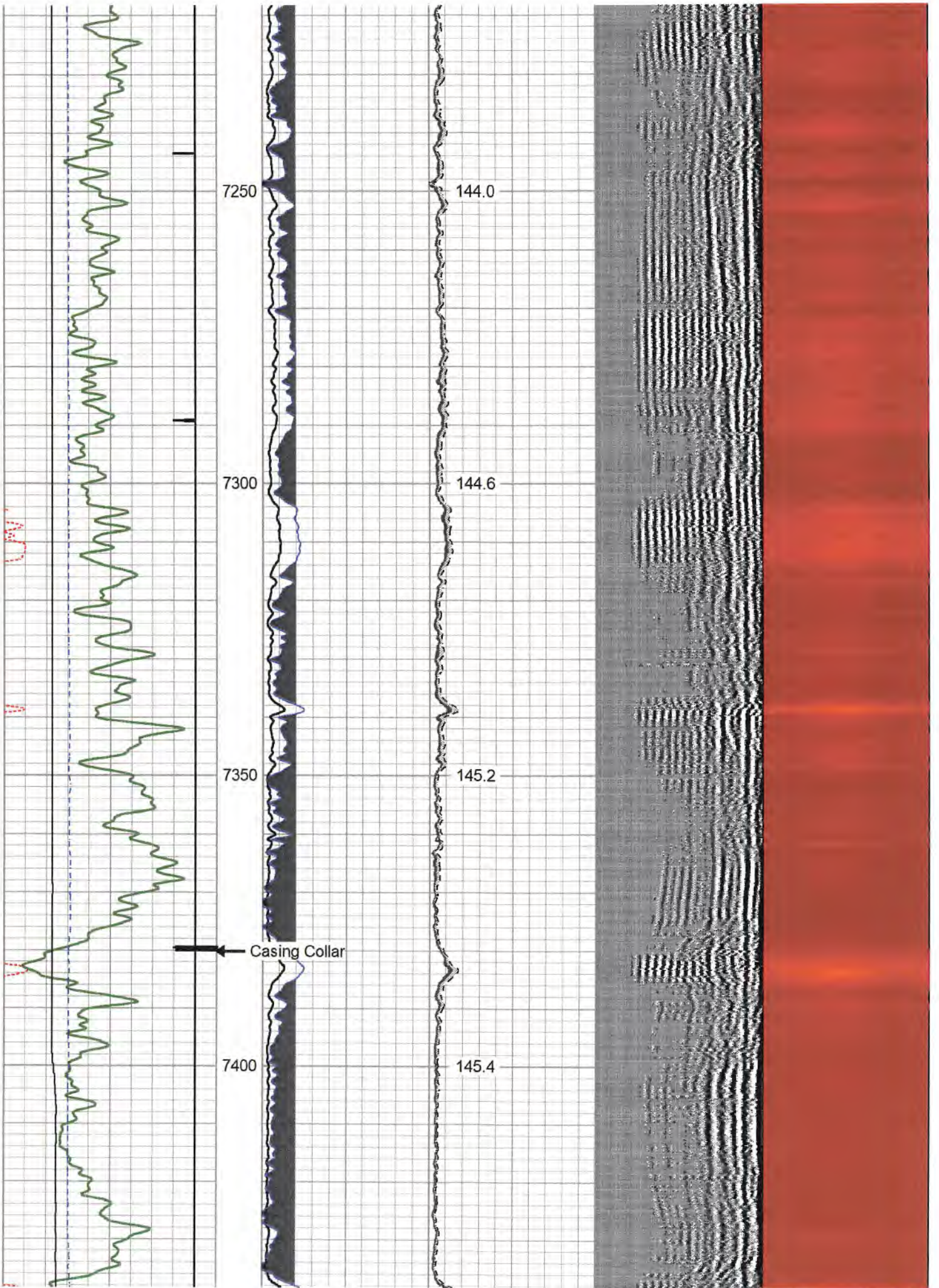


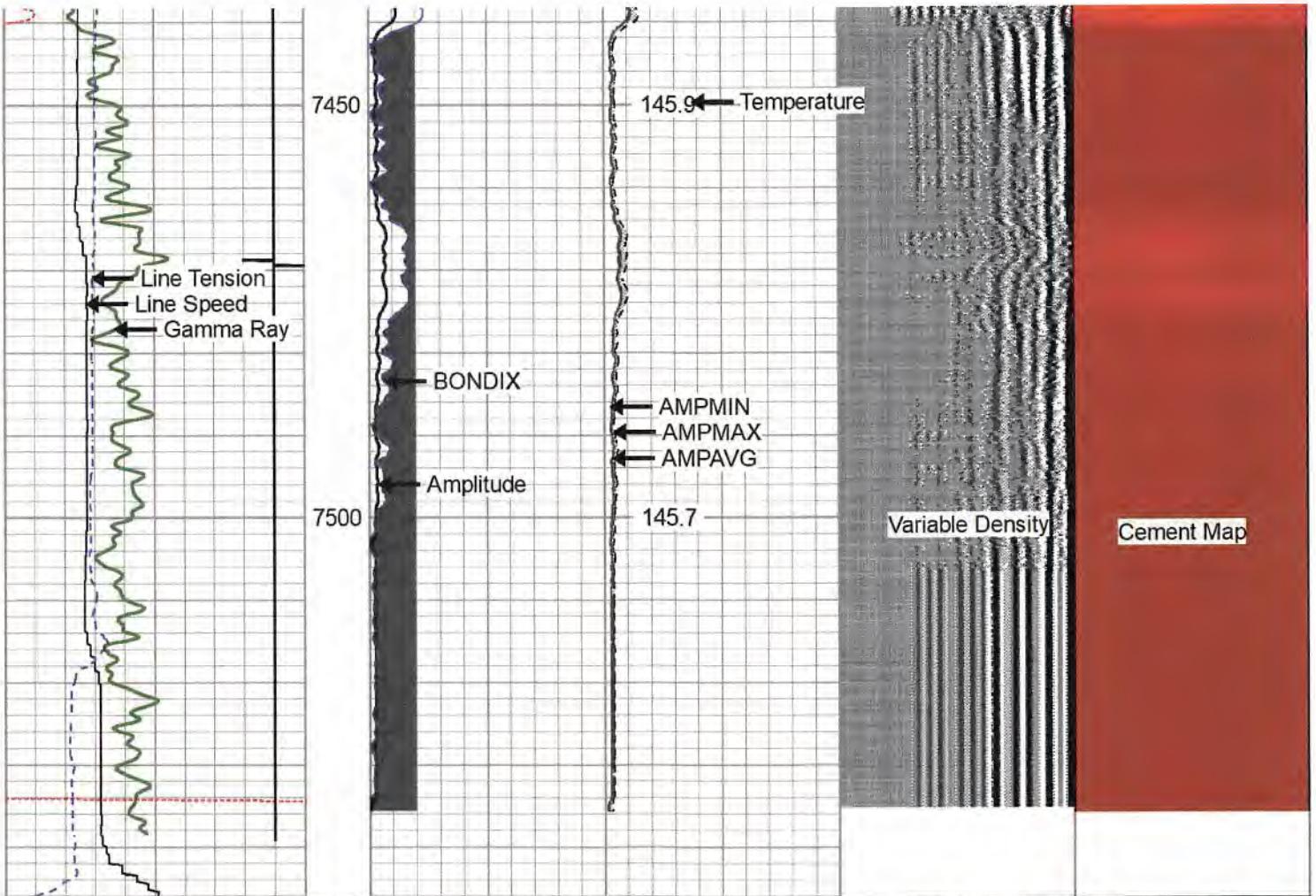













270	Travel Time (usec)	160	0	Amplitude (mV)	100	-5	AMPMIN	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1	1	BONDIX	0	-5	AMPMAX	150	200	(usec)	1200	
0	Gamma Ray (GAPI)	150				-5	AMPAVG	150				
	Line Speed						TEMP					
-200	(ft/min)	200					(degF)					
0	Line Tension (lb)	3000										

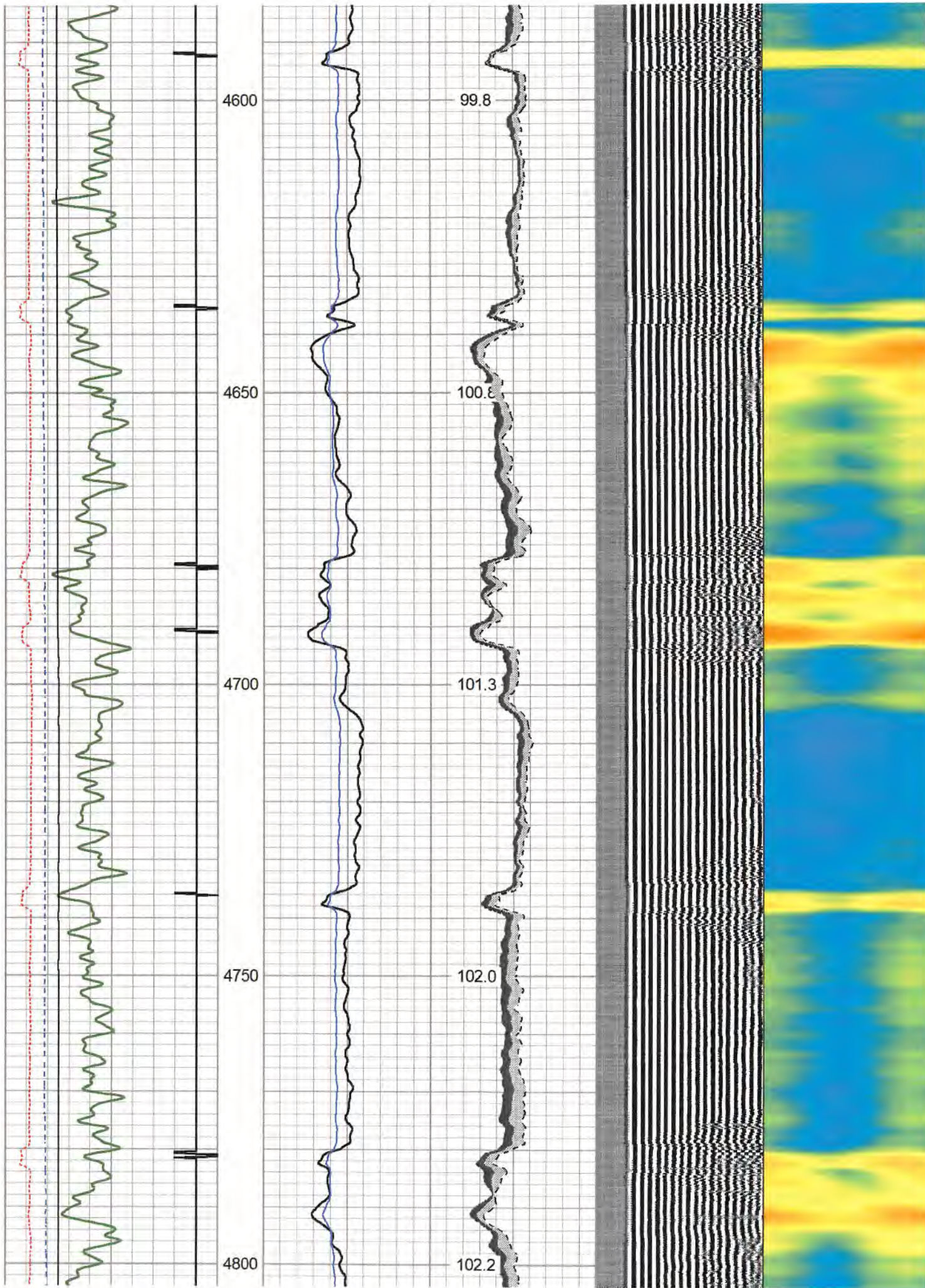


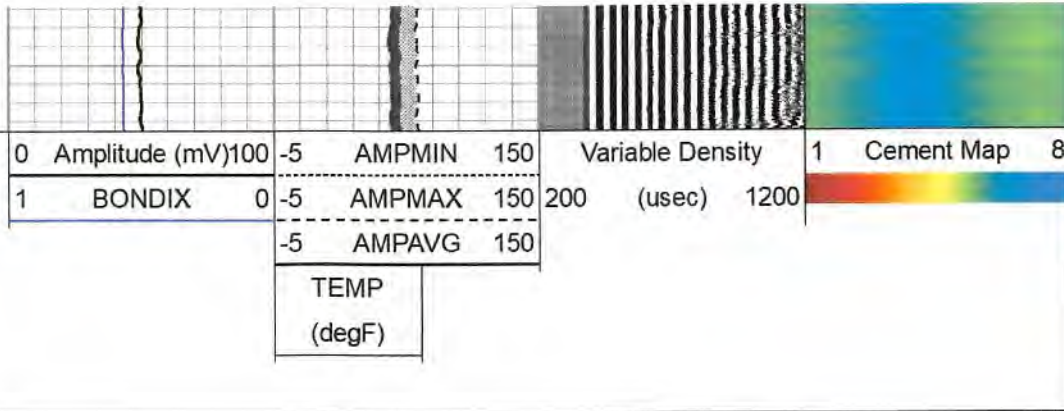
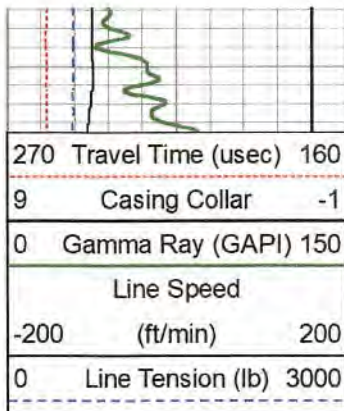
Repeat Pass 0 PSI

Database File: c:\users\warrior\desktop\antero journeyman rcbls 7-may-22\antero ryland 2h rcbl 7-may-2022\antero_ryan
 Dataset Pathname: ryland_2h/run1/pass2
 Presentation Format: rcbl-bond index 1020
 Dataset Creation: Sat May 07 17:11:40 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
9	Casing Collar	-1	1	BONDIX	0	-5	AMPMAX	150	200	(usec)	1200	
0	Gamma Ray (GAPI)	150				-5	AMPAVG	150				
	Line Speed						TEMP					
-200	(ft/min)	200					(degF)					
0	Line Tension (lb)	3000										







270	Travel Time (uSec)	160
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
Line Speed		
-200	(ft/min)	200
0	Line Tension (lb)	3000

0	Amplitude (mV)	100	-5	AMPMIN	150
1	BONDIX	0	-5	AMPMAX	150
			-5	AMPAVG	150
TEMP					
(degF)					

Variable Density	1	Cement Map	8
200 (uSec)	1200		

Log Variables Database:\users\warrior\desktop\antero journeyman rcbls 7-may-22\antero ryland 2h rcbl 7-may-22 Dataset field/ryland_2h/run1/pass5/_vars_

Top - Bottom							
BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	in	degF	in	in	lb/ft	mV	mV
	7.875	145	5.5	0.361	20	71.9	2.2
MINATTN	PERFS	PPT	SRFTEMP	TDEPTH			
db/ft		uSec	degF	ft			
10.8	No	261	50	7510			

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 c:\users\warrior\desktop\antero journeyman rcbls 7-may-22\antero ryland 2h rcbl 7-may-2022\antero_ryland
 Dataset Pathname ryland_2h/run1/pass5
 Dataset Creation Sat May 07 17:45:13 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 Sat May 07 16:53:54 2022:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.019	0.807	2.200	71.921	88.499	0.537
CAL	1.113	1.195				
5'	0.013	0.883	2.200	71.921	80.142	1.177
SUM						
S1	0.024	0.776	0.000	100.000	133.011	-3.210
S2	0.007	0.749	0.000	100.000	134.639	-0.883
S3	0.011	0.783	0.000	100.000	129.587	-1.451
S4	0.014	0.804	0.000	100.000	126.533	-1.767
S5	0.012	0.848	0.000	100.000	119.569	-1.381
S6	0.006	0.879	0.000	100.000	114.581	-0.729
S7	0.013	0.870	0.000	100.000	116.707	-1.563
S8	0.000	0.832	0.000	100.000	120.290	-0.037

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 Sat May 07 10:01:22 2022:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Gain	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	18.05		CHD-Titan Standard 1/16" Cable Head	1.02	1.44	1.00
RBT HeadVolt	17.03 16.97					
CENT	15.97		CENT-Overbody Antelope (SP-919-0233)	1.67	4.88	5.00
Temp	14.12		RBT-Probe275T (FW1312-32)	0.20	0.75	00.00

WVFS8	11.89		Probe 2.75" Radial with Integral Temperature Sub GR-Probe (FW1211-86) Probe 2 3/4" Logging Gamma Ray CENT-Overbody Antelope (SP-919-0233)	9.39	2.73	90.00	
WVFS7	11.89			GR WVFCAL HEADVOLT CCL CENT GR	4.78 1.67	2.75 4.88	57.00 5.00
WVFS6	11.89						
WVFS5	11.89						
WVFS4	11.89						
WVFS3	11.89						
WVFS2	11.89						
WVFS1	11.89						
WVF3FT	11.89						
WVF5FT	10.89						
GR	7.64	CENT-Titn275Adj Titan 2 3/4" Adjustable Centralizer	2.86	2.75	35.00		
WVFCAL	7.64						
HEADVOLT	7.64						
CCL	6.73						
CENT	6.05						
GR	5.40						
CENT	2.86						

Dataset: antero_ryland_2h_rcbl_07_may_2022.db: field/ryland_2h/run1/pass5
 Total length: 18.05 ft
 Total weight: 193.00 lb
 O.D.: 4.88 in

	Company	Antero Resources
	Well	Journeyman Ryland 2H
	Field	Utica
	County	Wetzel
	State	WV