



Nine

Segmented Radial Cement Bond W/Gamma Ray , CCL Log

Company		Antero		Country USA			
Well		Embry 2H					
Field		Rabbit Ears					
County		Tyler					
State		WV					
Location:		API # : 47-095-02828-0000		Other Services			
SEC N/A TWP N/A RGE N/A		Ground Level = R.K.B. 25.5'		NONE			
Permanent Datum		Ground Level		Elevation			
Log Measured From		R.K.B.		K.B.			
Drilling Measured From		R.K.B.		D.F.			
				G.L.			
Date	25-April-2023						
Run Number	One						
Depth Driller	23,309'						
Depth Logger	7443						
Bottom Logged Interval	7443						
Top Log Interval	Surface						
Open Hole Size	8.75"						
Type Fluid	FW						
Density / Viscosity	8.6#						
Max. Recorded Temp.	144						
Estimated Cement Top	5640						
Time Well Ready	22:00						
Time Logger on Bottom	10:40						
Equipment Number	116						
Location	Charlertoi						
Recorded By	K.Linger						
Witnessed By	Mr Matt Johnson						
Borehole Record			Tubing Record				
Run Number	Bit	From	To	Size	Weight	From	To
One	24"	Surface	128'				
Two	17.5"	128'	439'				
Three	12.725"	439'	3,634'				
Four	8.75"	3,634'	23,309'				
Casing Record	Size	Wgt/Ft		Top		Bottom	
Surface String	13.375"	54.5#		Surface		439'	
Prot. String	12.725"	36#		Surface		3,634'	
Production String	8.725"	23#		Surface		23,309'	
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

Zero @ Ground Level = 25.5' R.K.B.
 Correlated to the pipe tally as per request
 Marker Joint @ 5,956' - 5966'
 Depth Shift - Down hole 1 Ft to Match Casing Tally
 Thank You for using Nine Energy

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OCT 18 2023

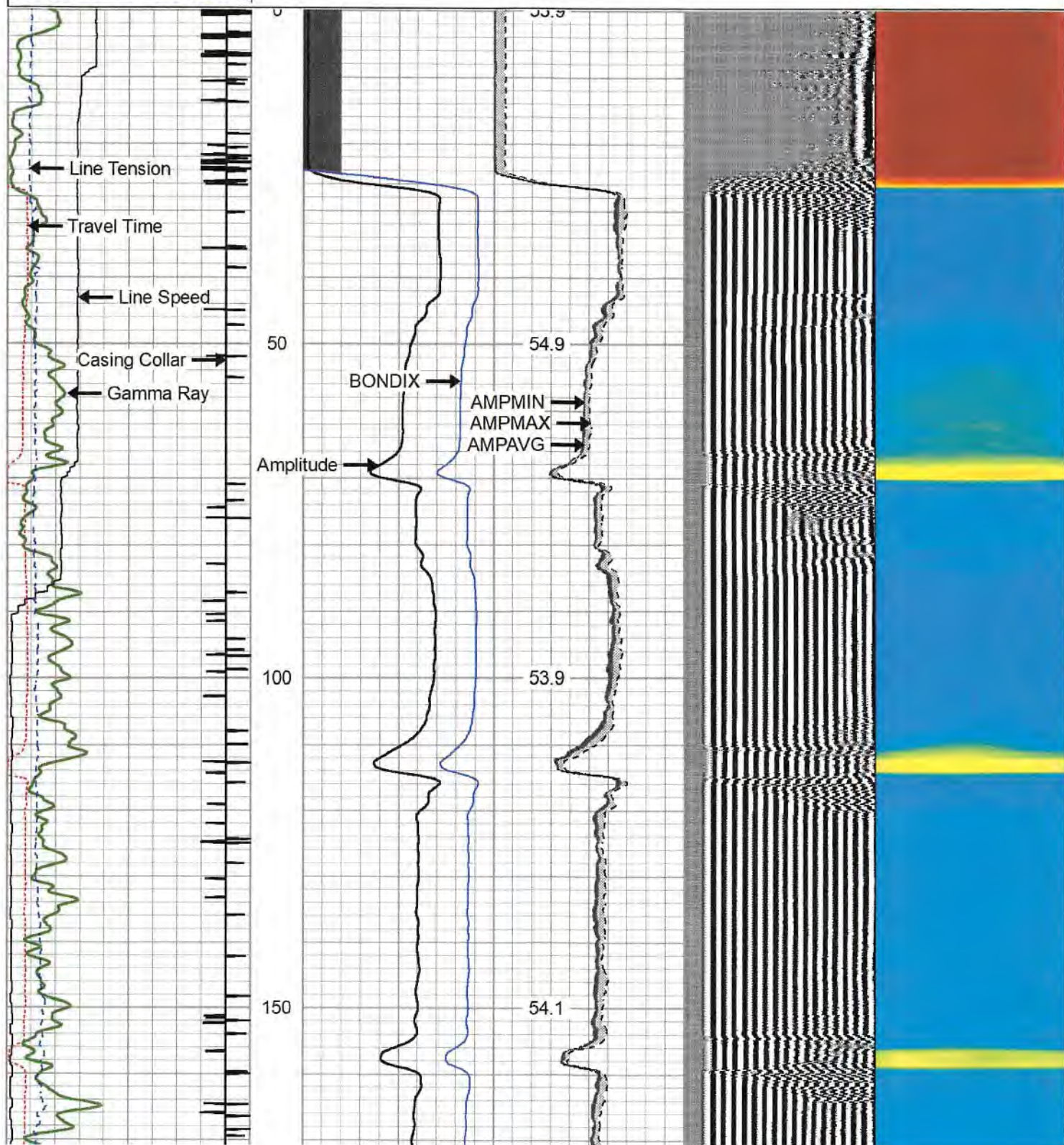
WV Department of
Environmental Protection

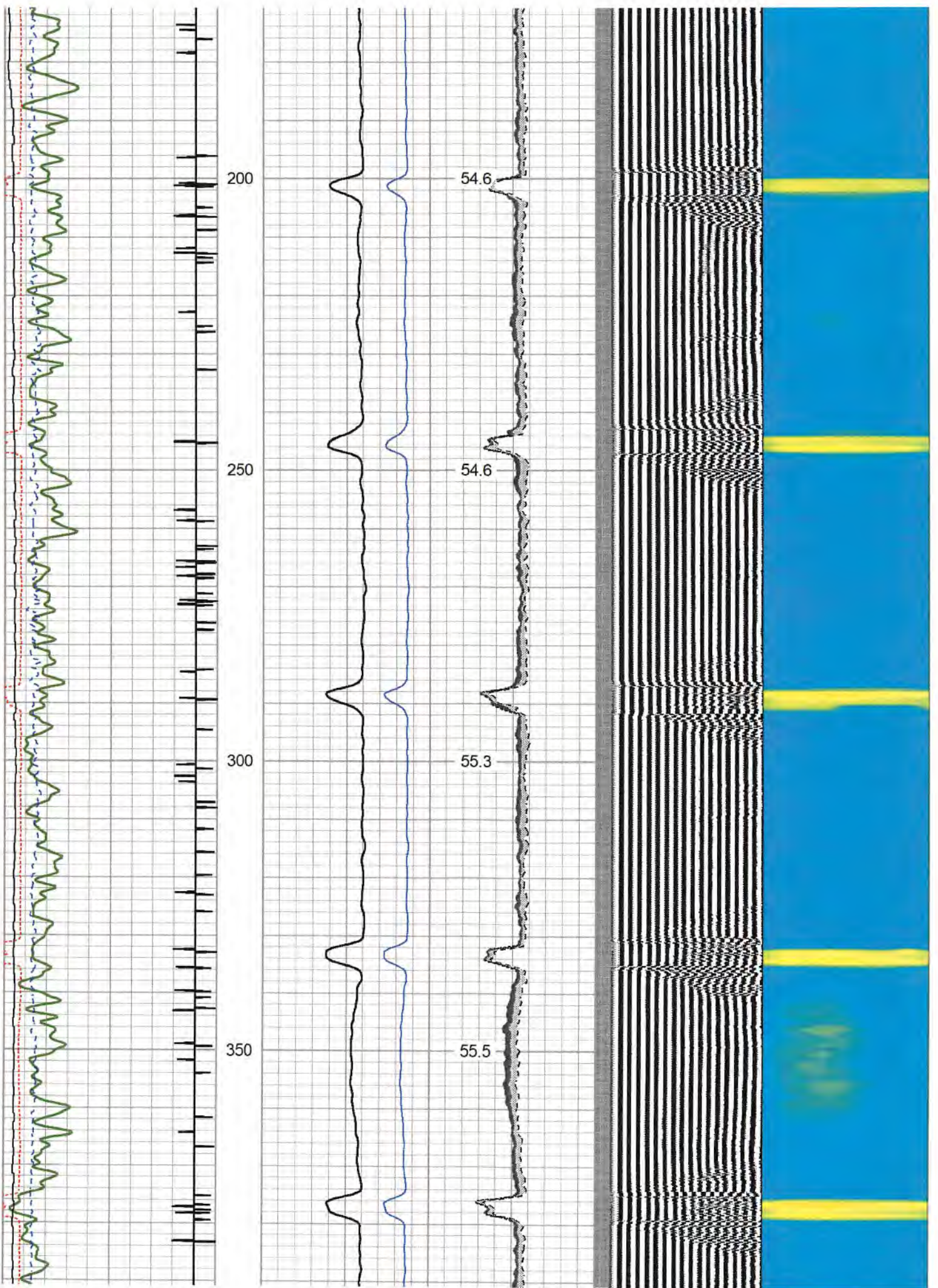


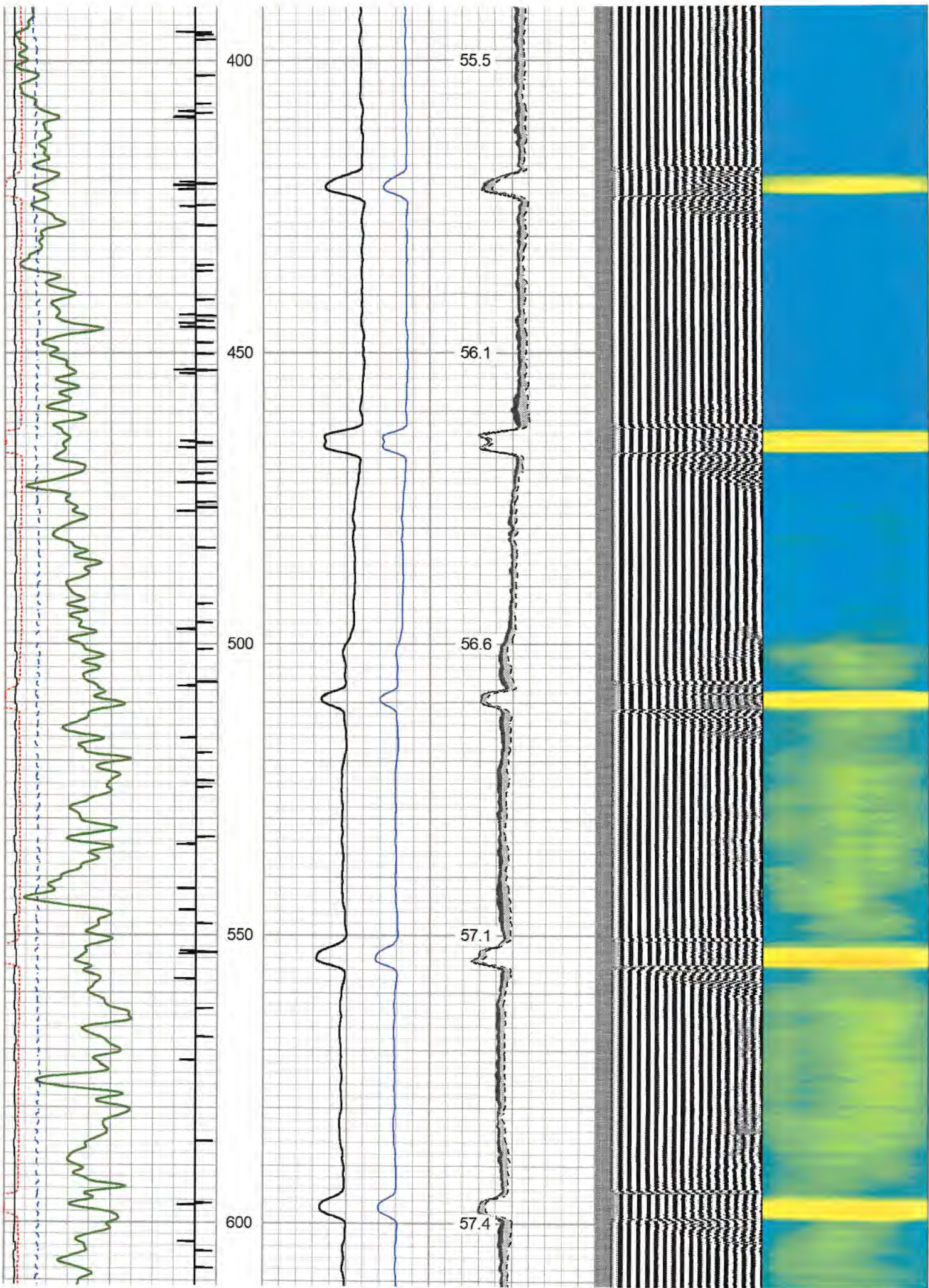
MAIN PASS 1500 PSI

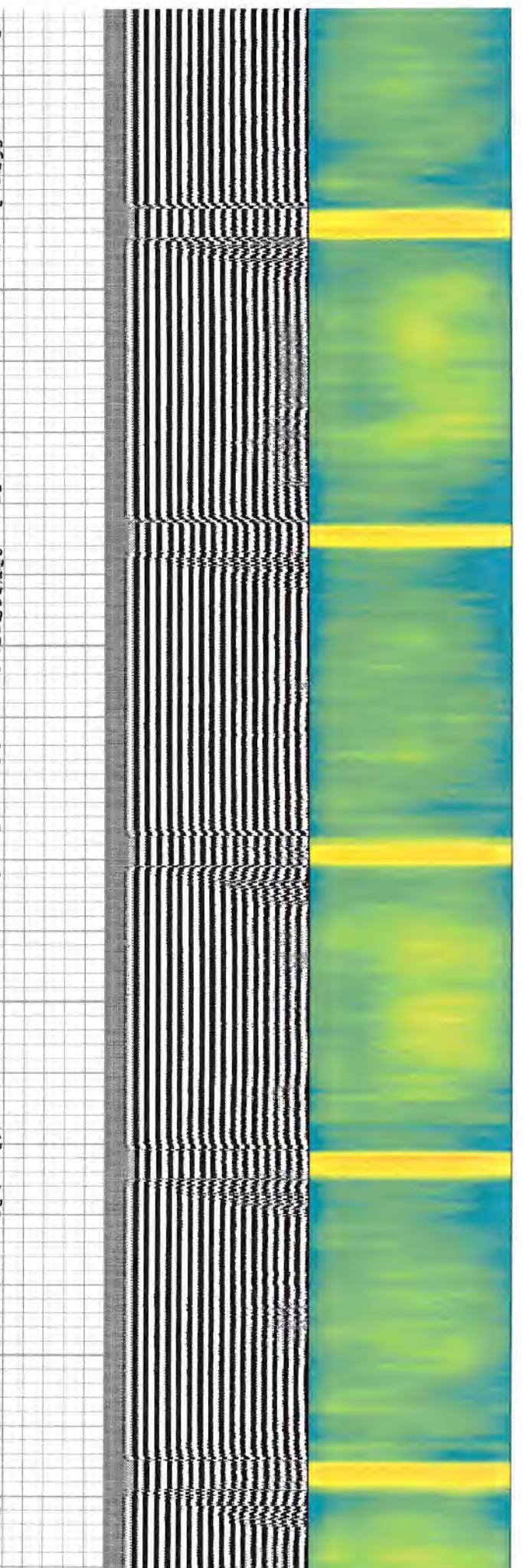
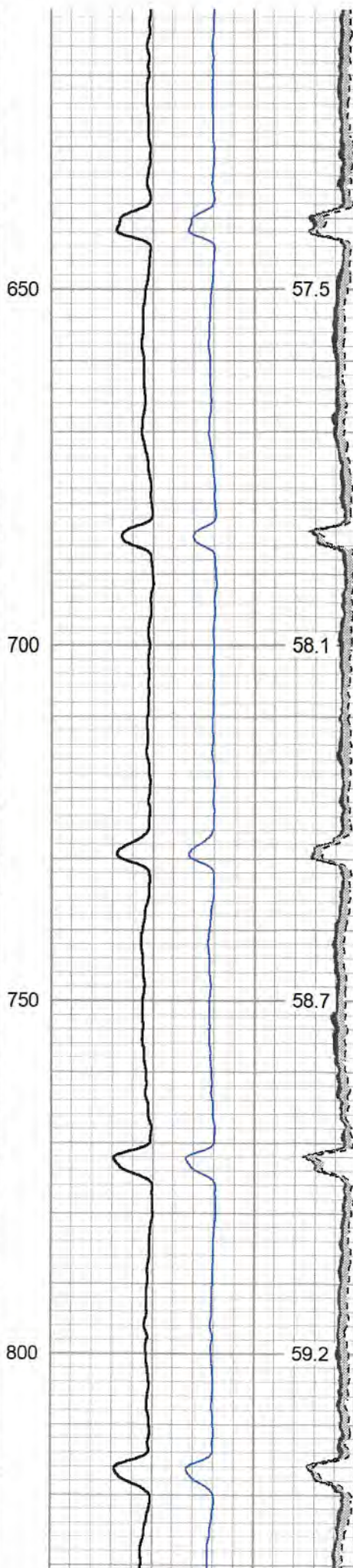
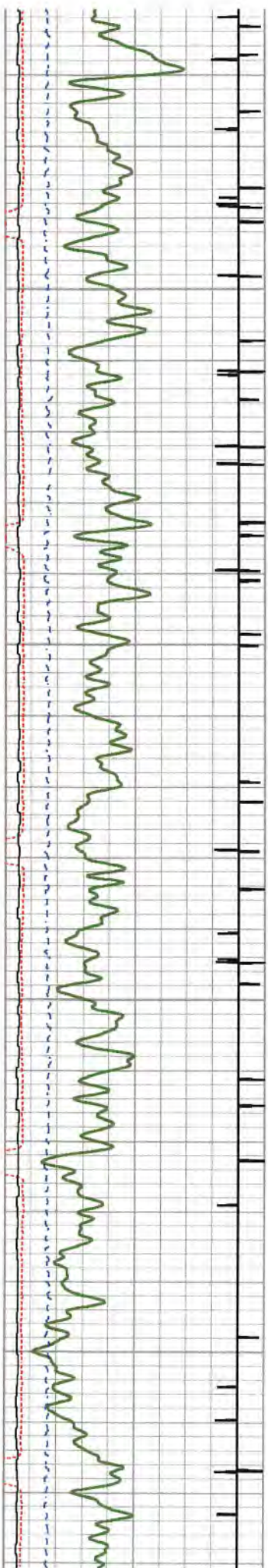
Database File antero_embry_2h_5_5_rcbl.db
 Dataset Pathname pass6.2
 Presentation Format rcbl-bond index for antero 1020
 Dataset Creation Tue Apr 25 12:34:56 2023
 Charted by Depth in Feet scaled 1:240

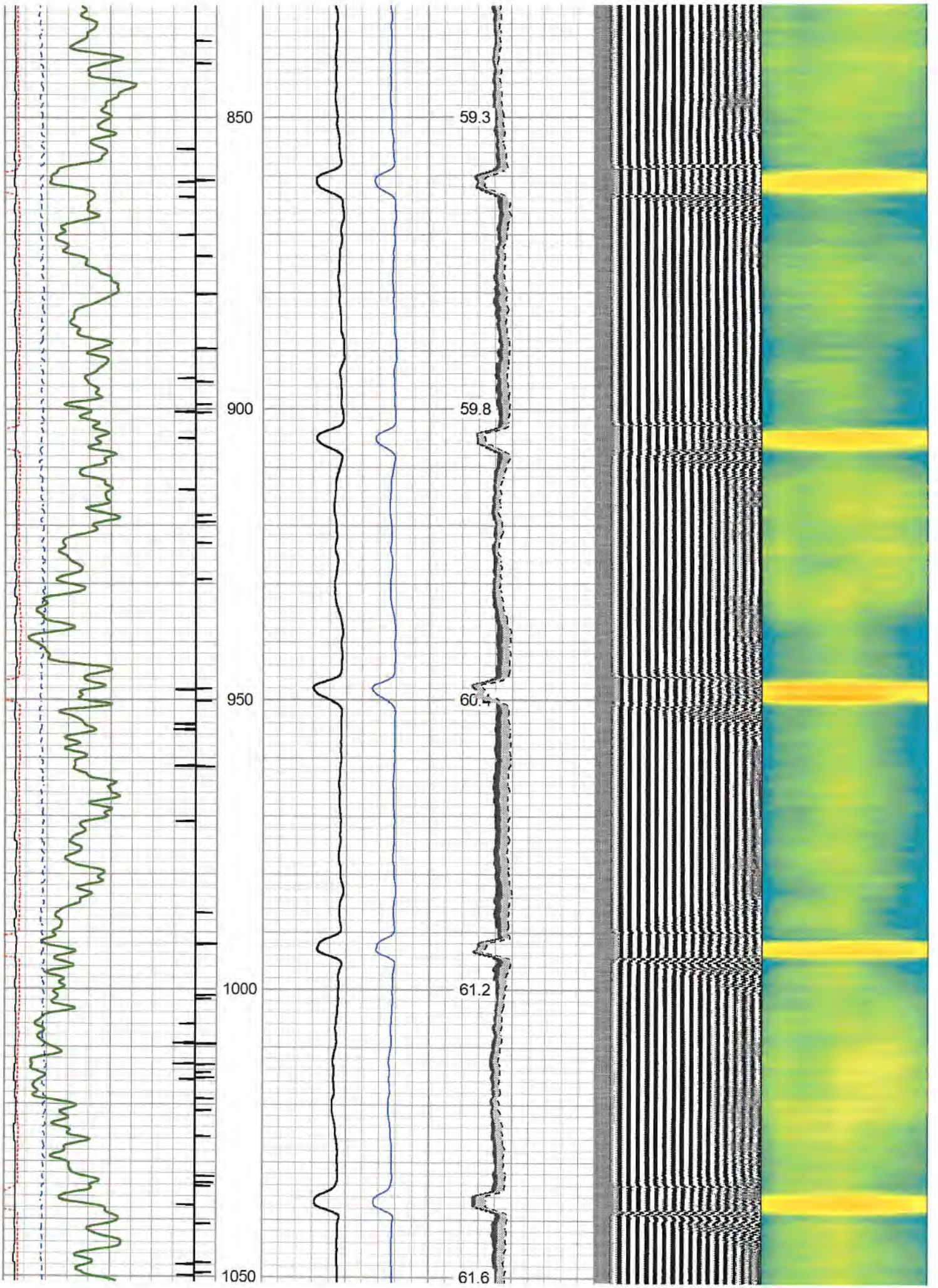
275	Travel Time (usec)	175	0	Amplitude (mV)	100	0	AMPMIN	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1	1	BONDIX	0	0	AMPMAX	150	300 (usec)	1200		
0	Gamma Ray (GAPI)	150	0	AMPAVG	150							
Line Speed			TEMP									
-100	(ft/min)	100	(degF)									
0	Line Tension (lb)	2000										

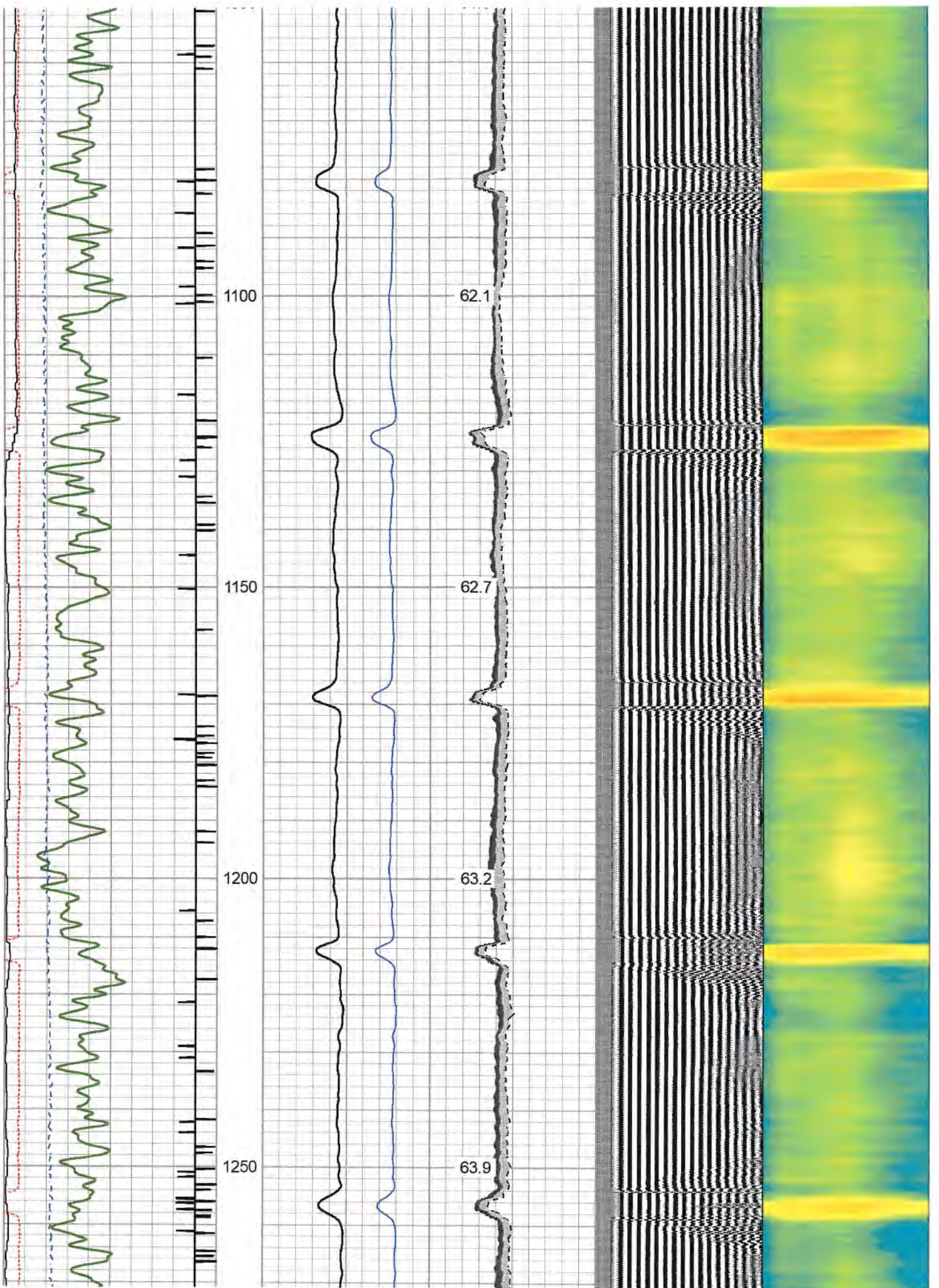


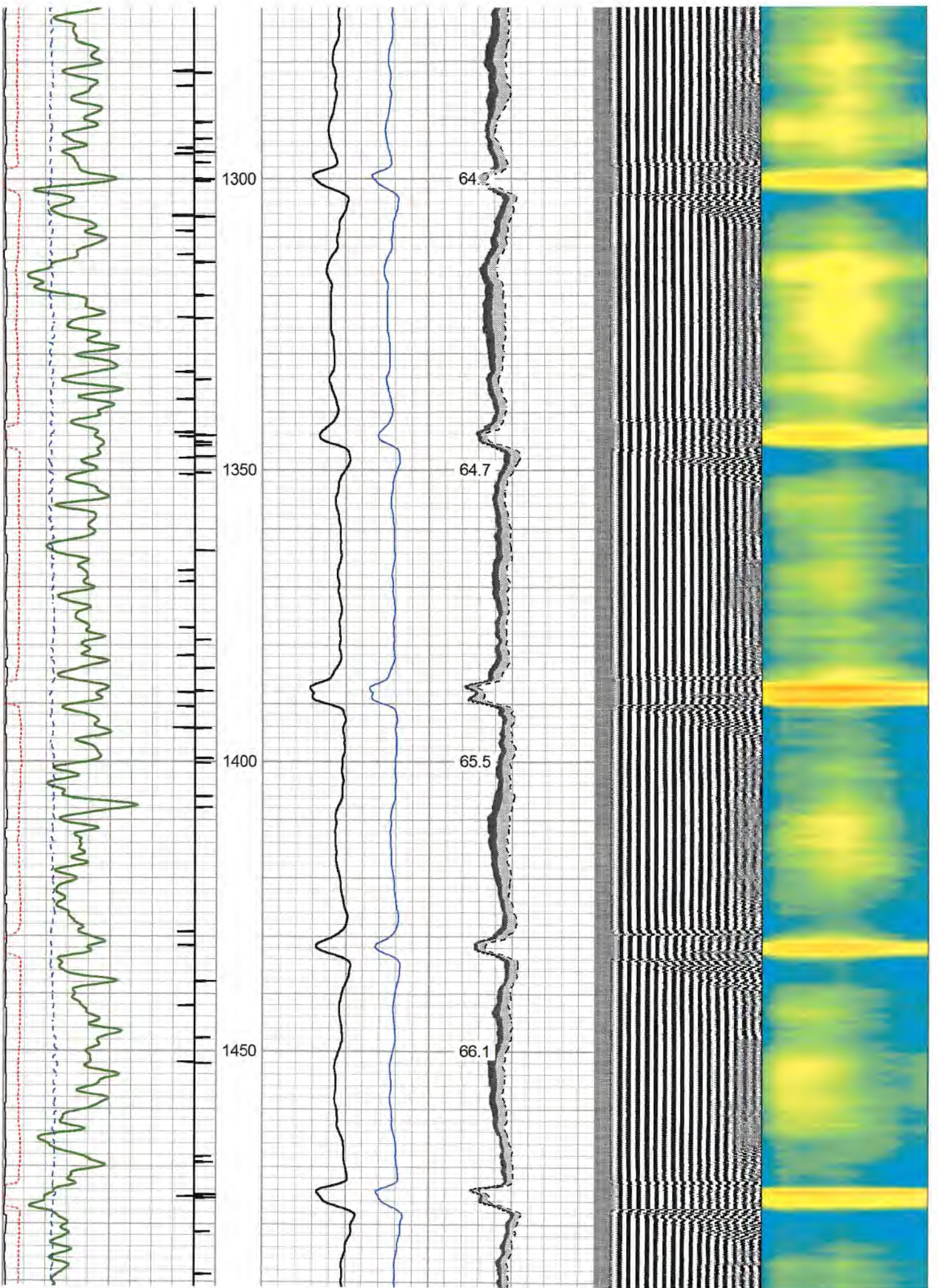


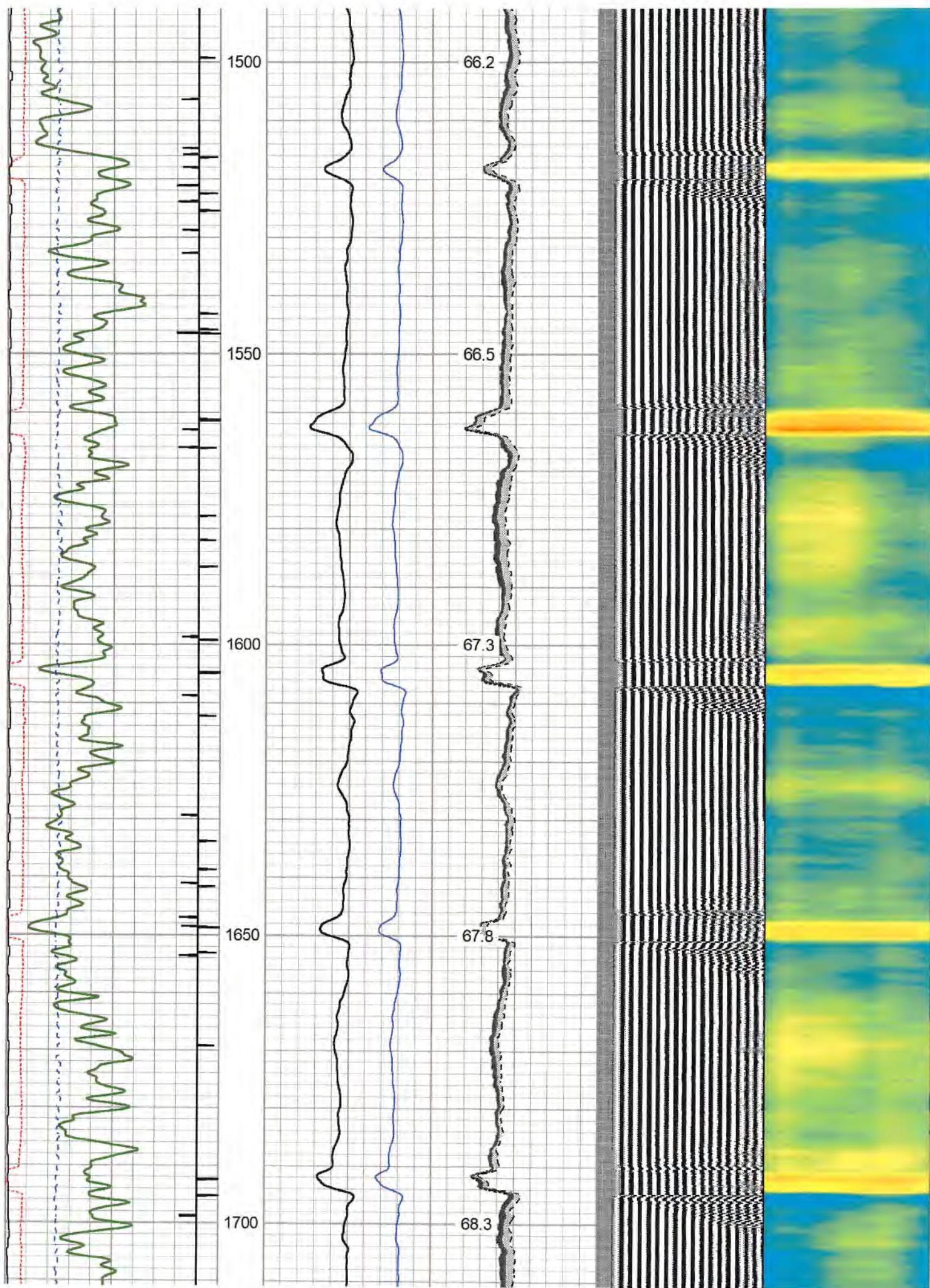


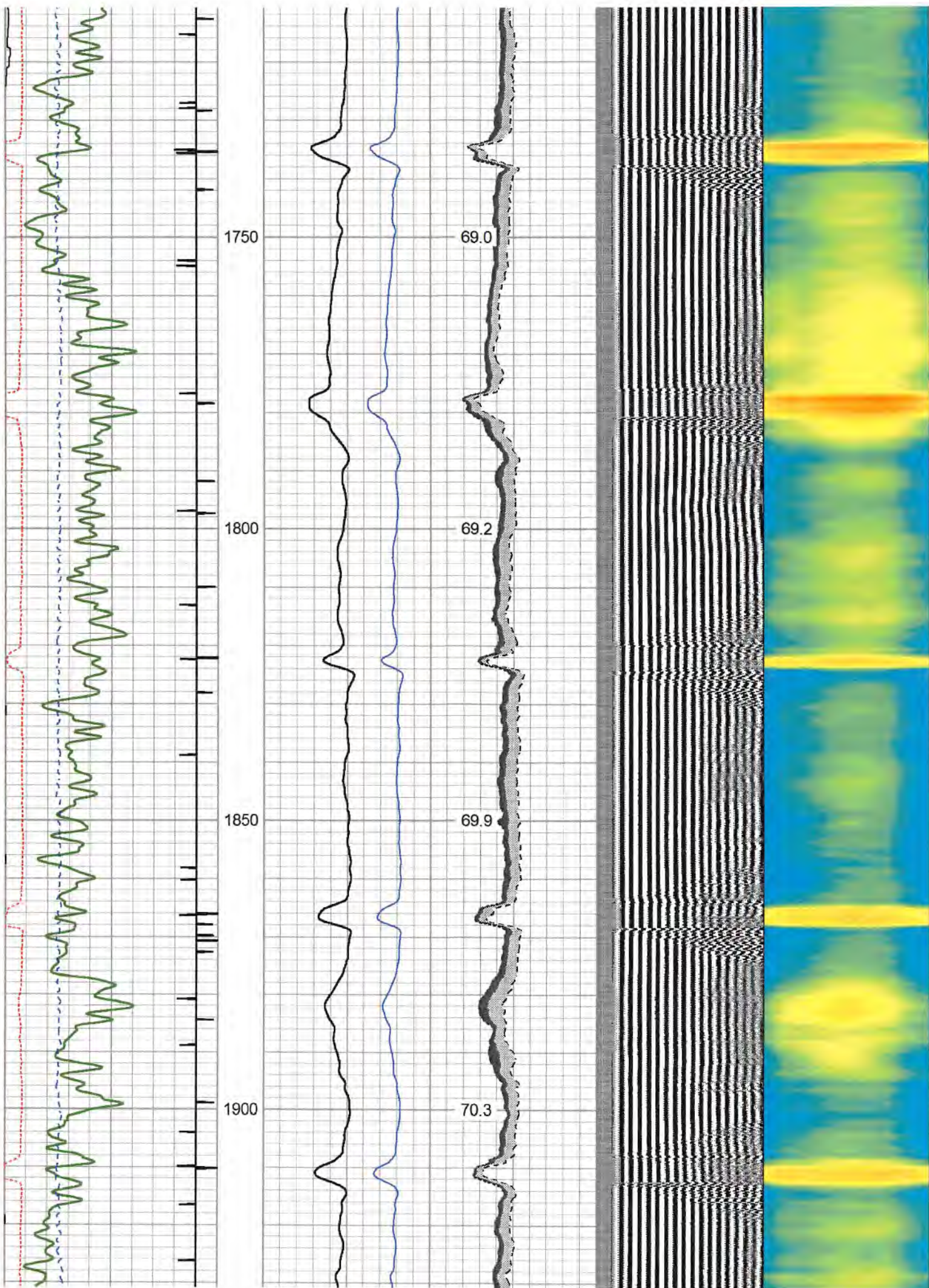


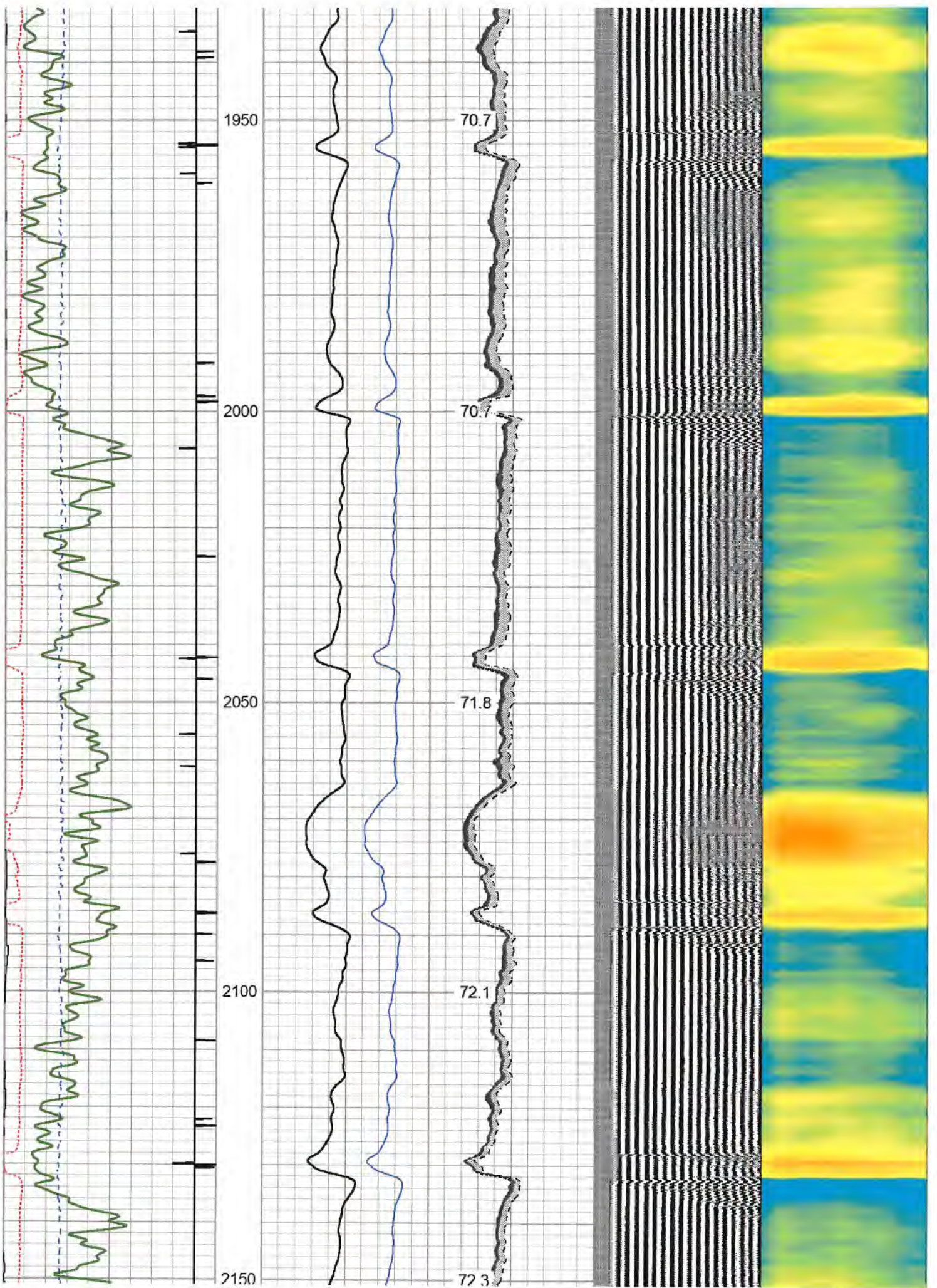


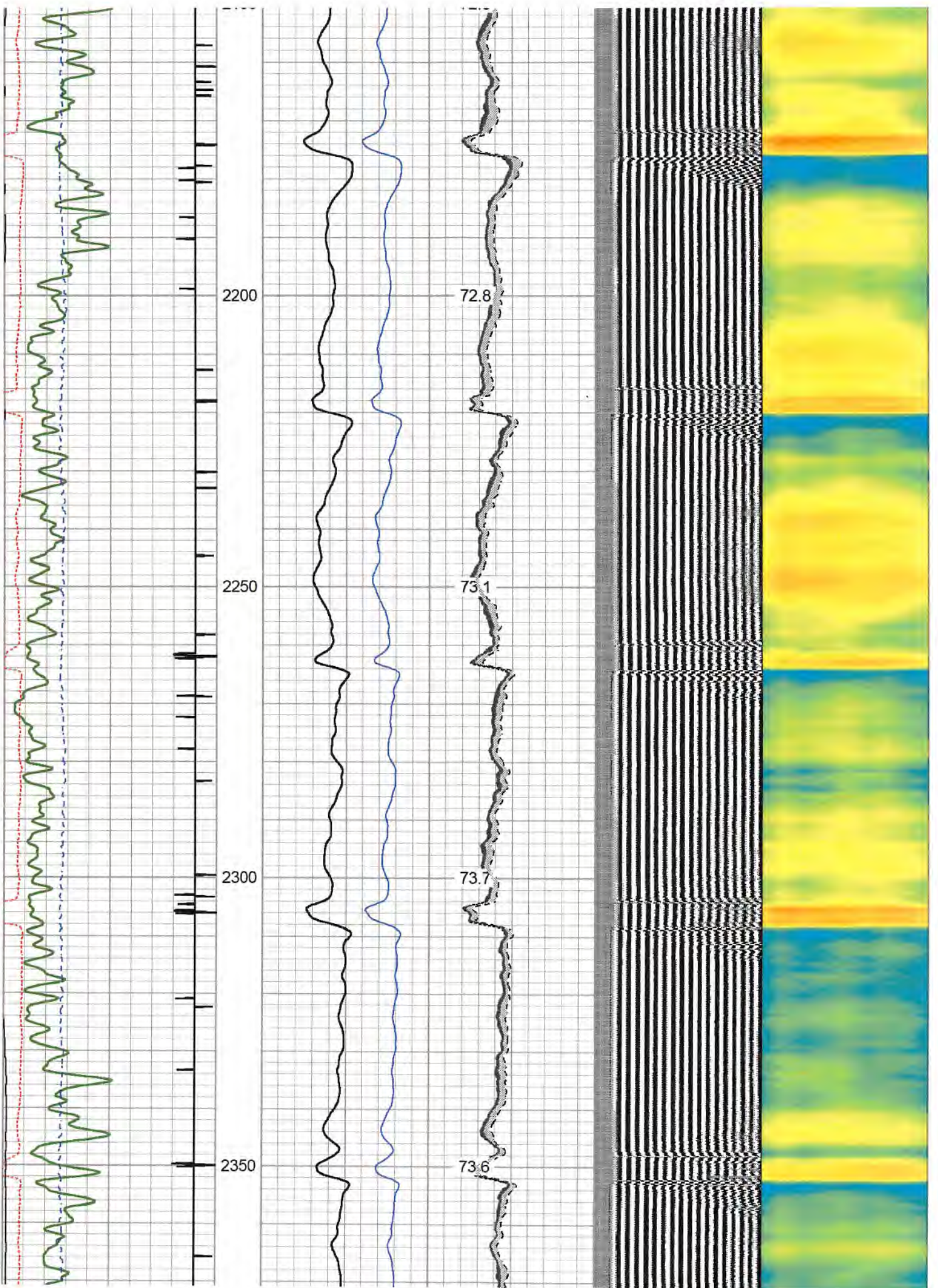


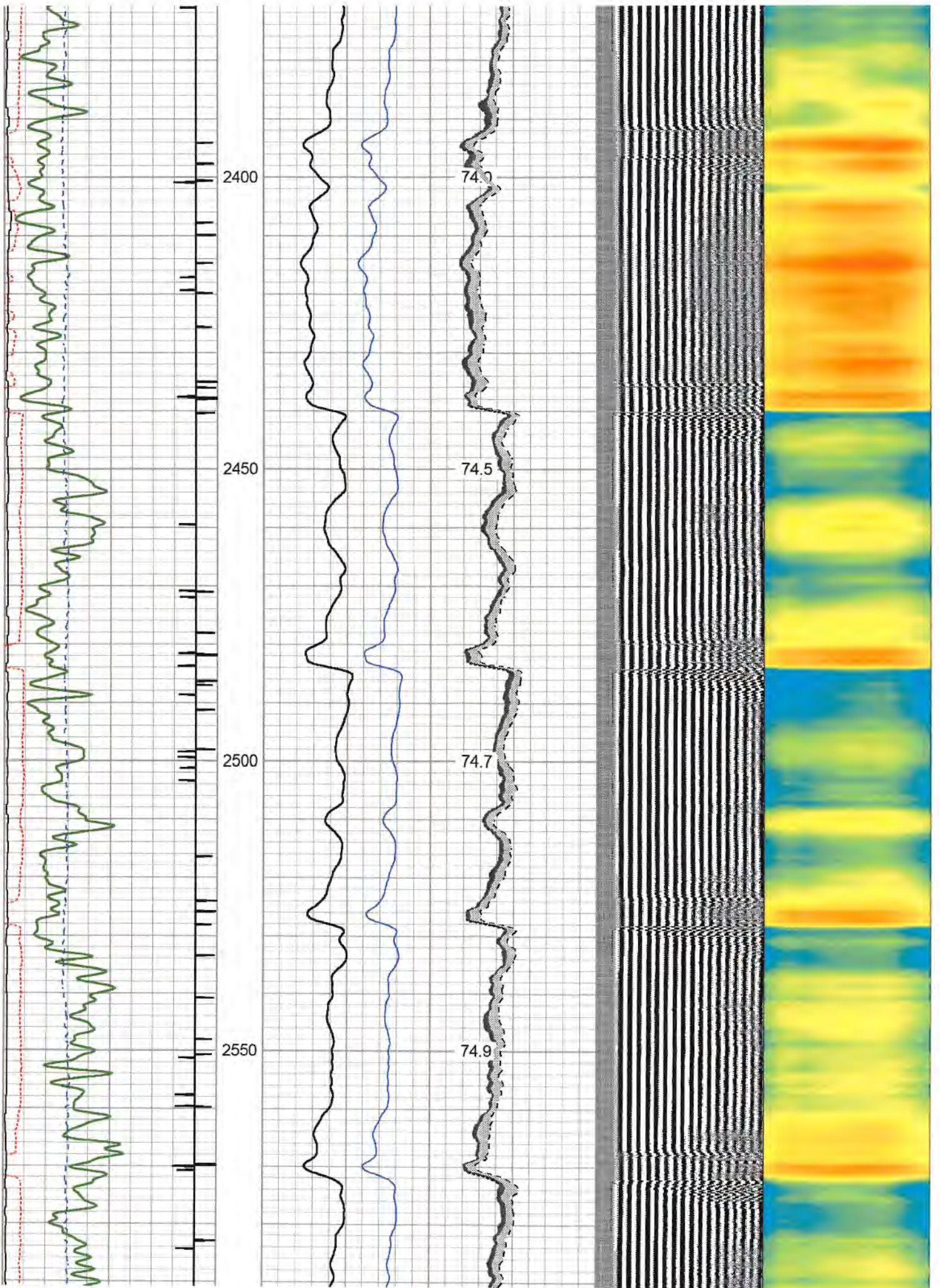


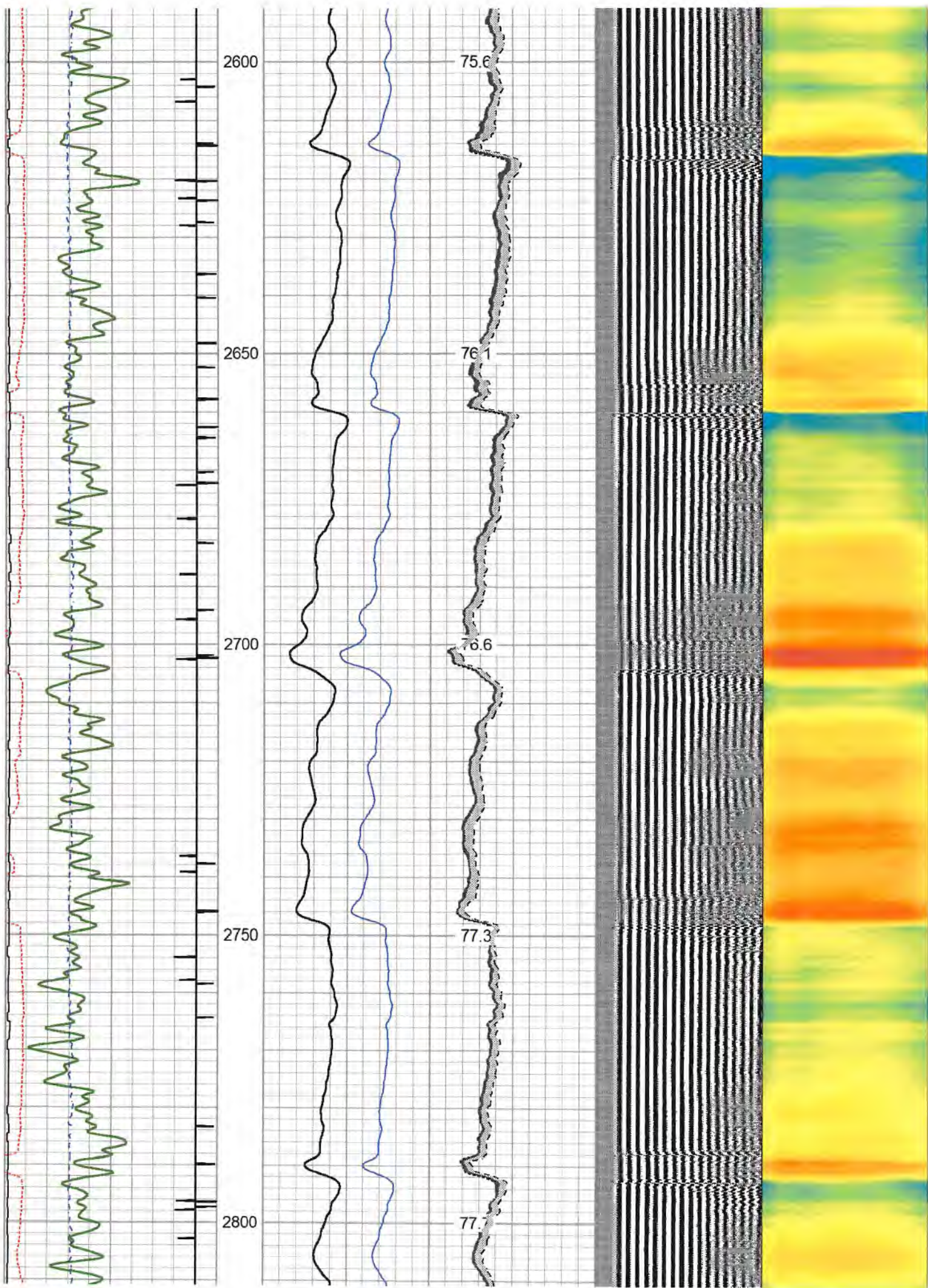


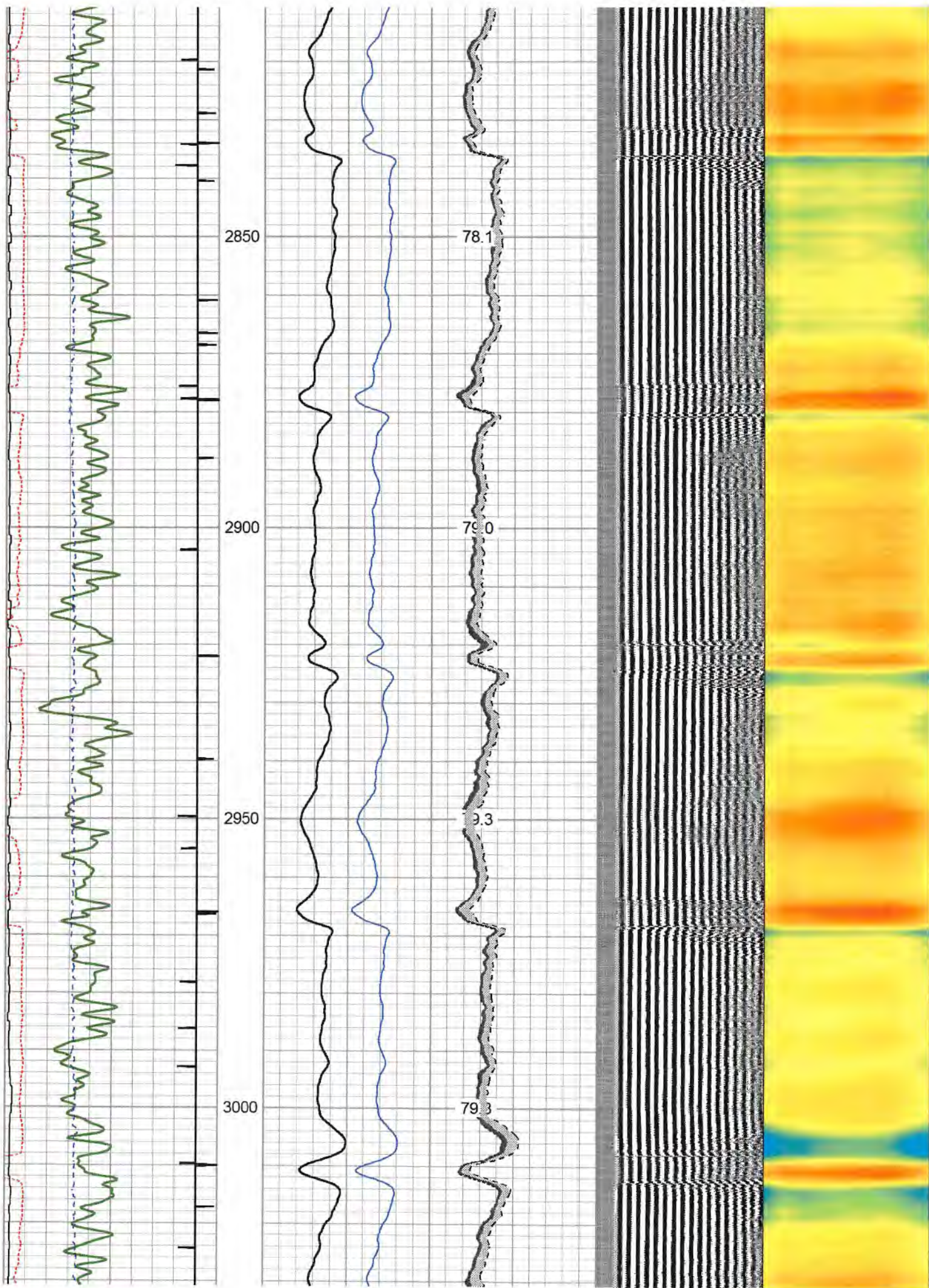


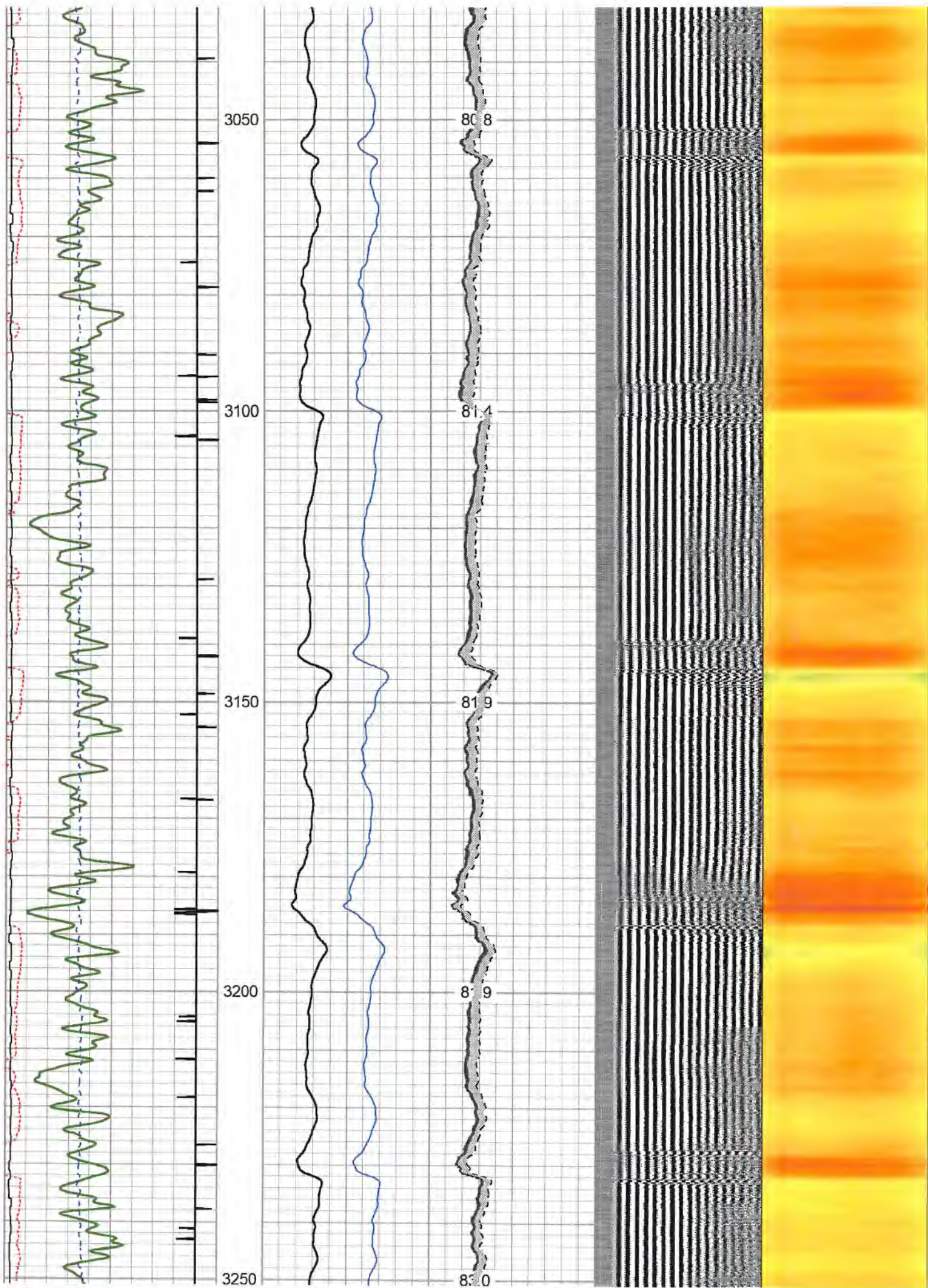


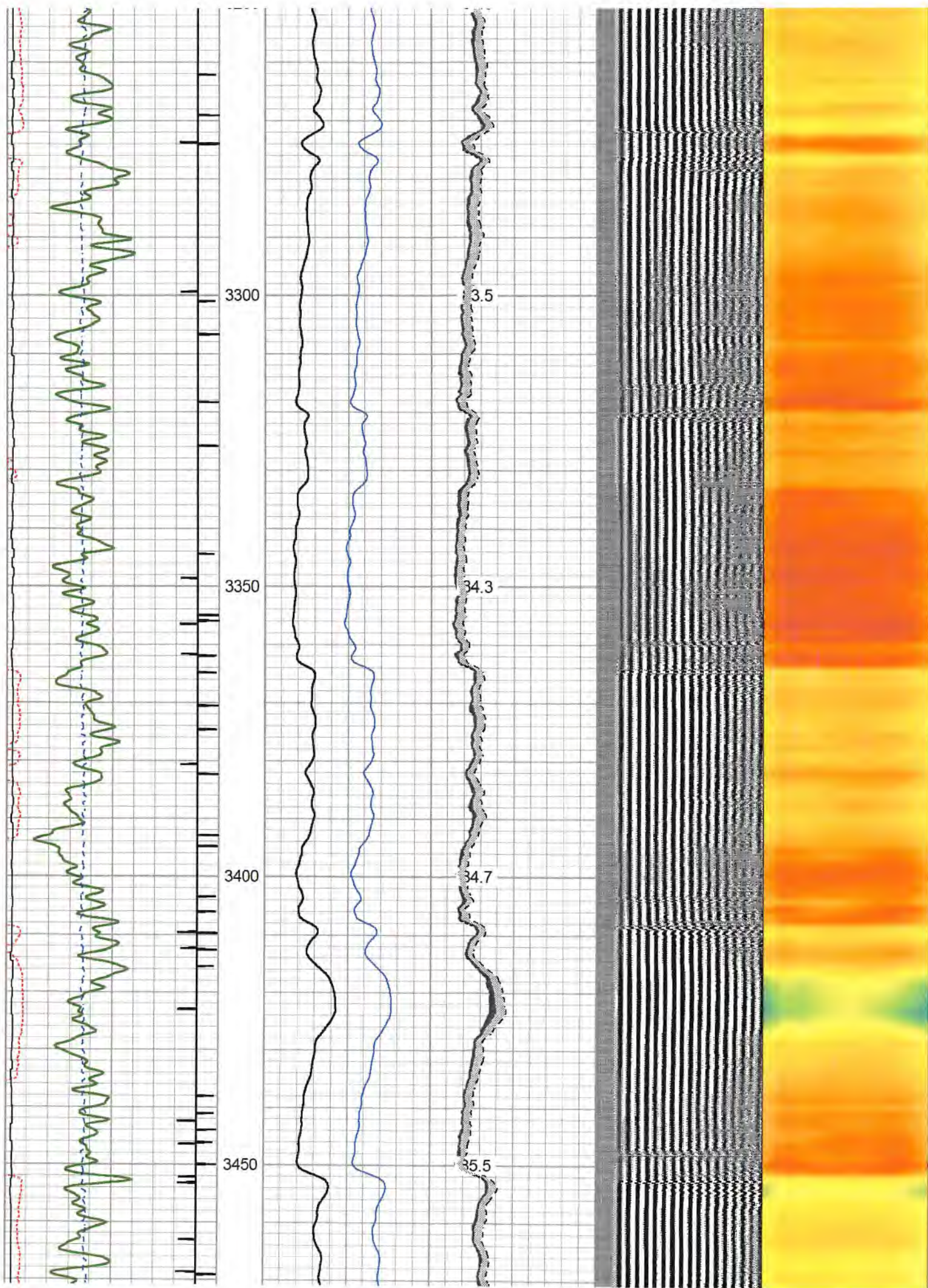


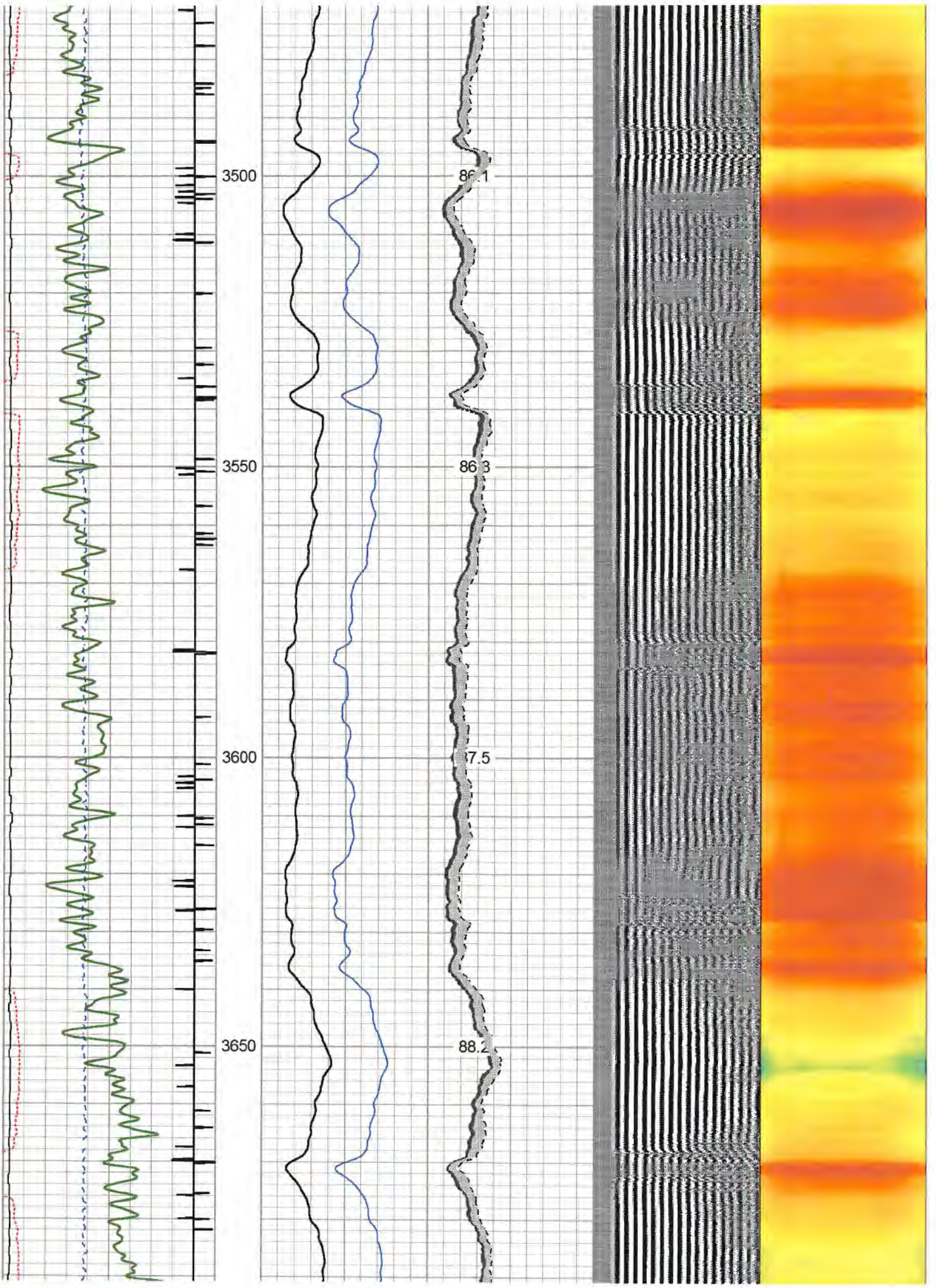


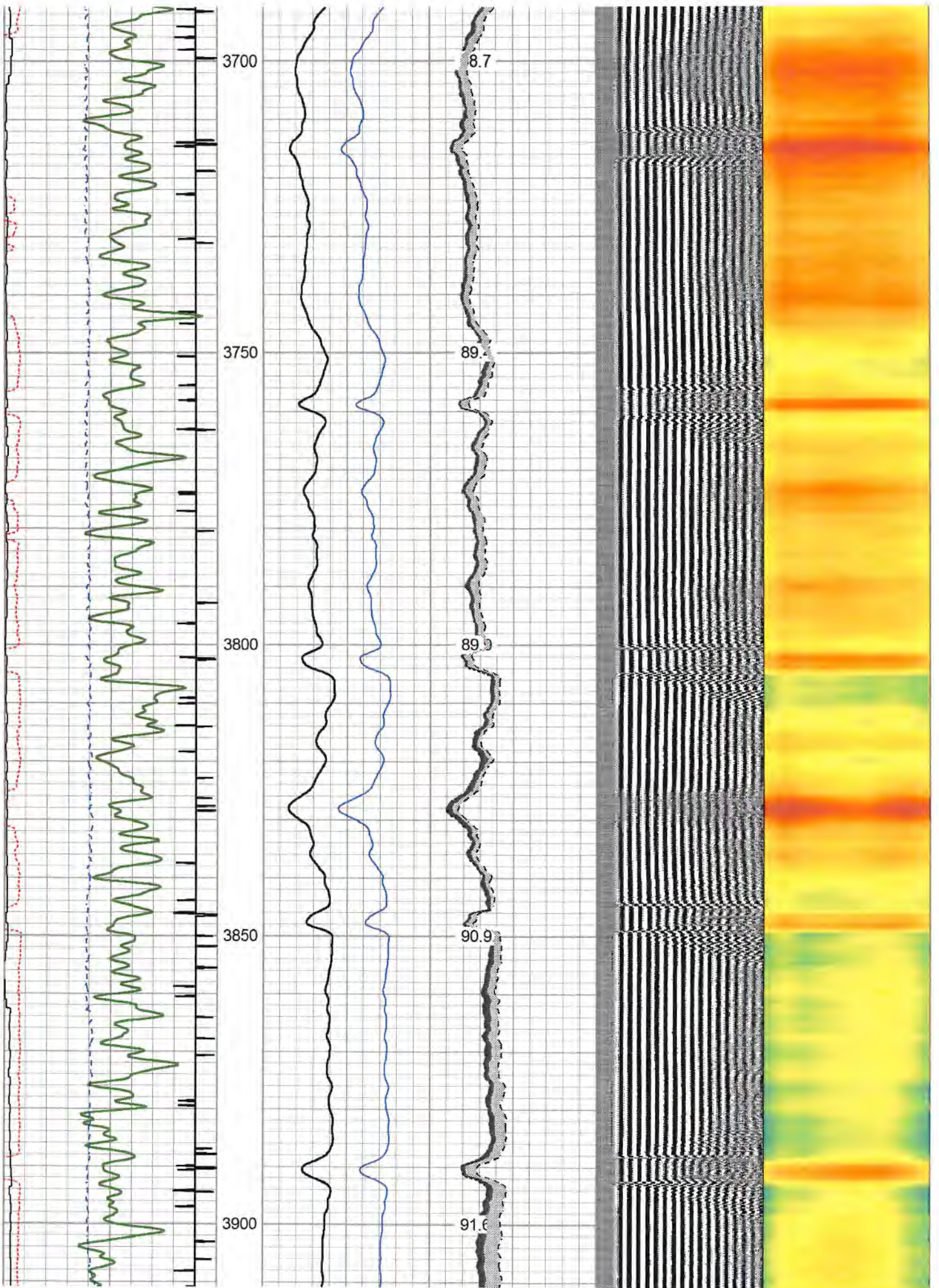


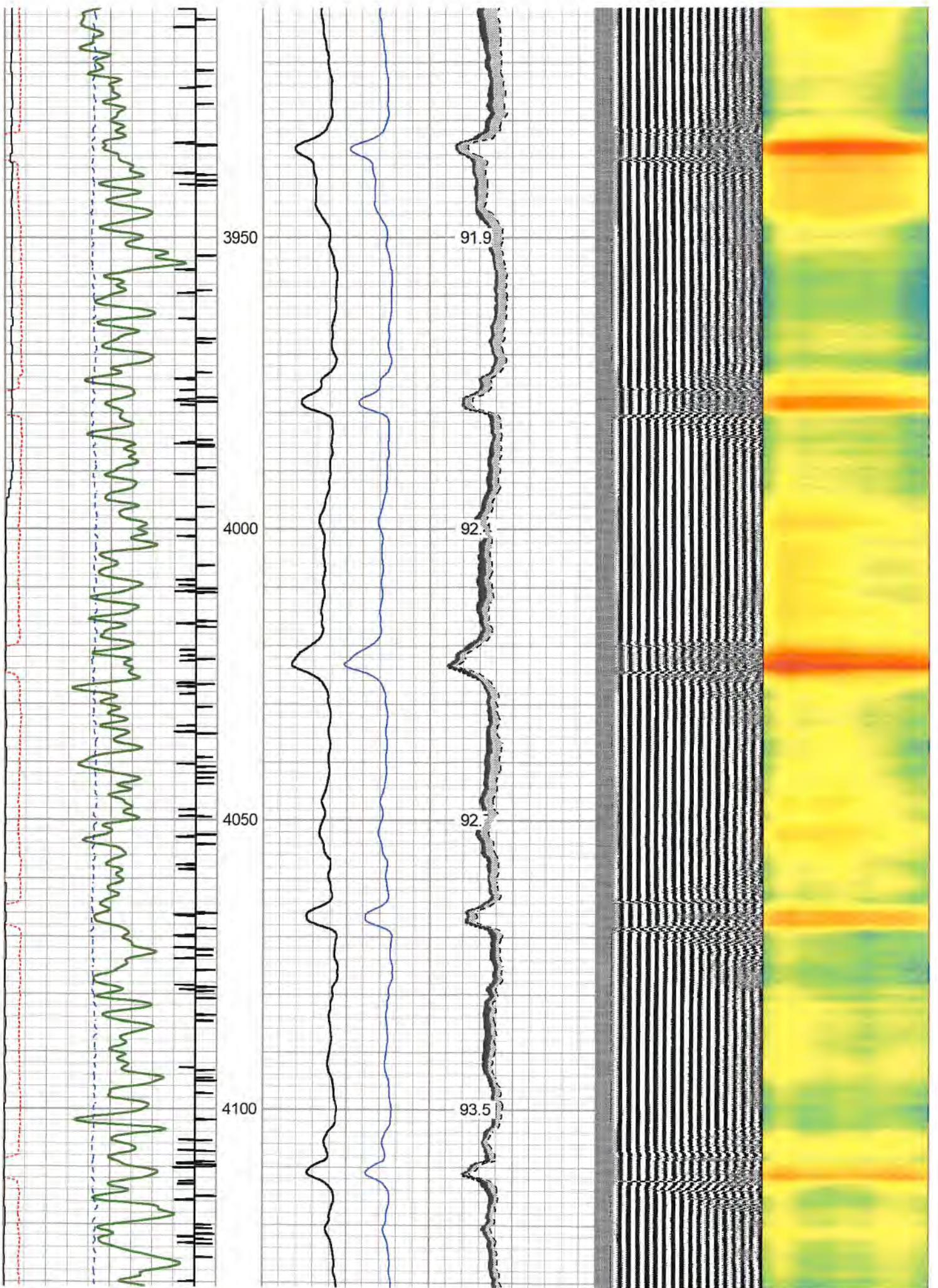


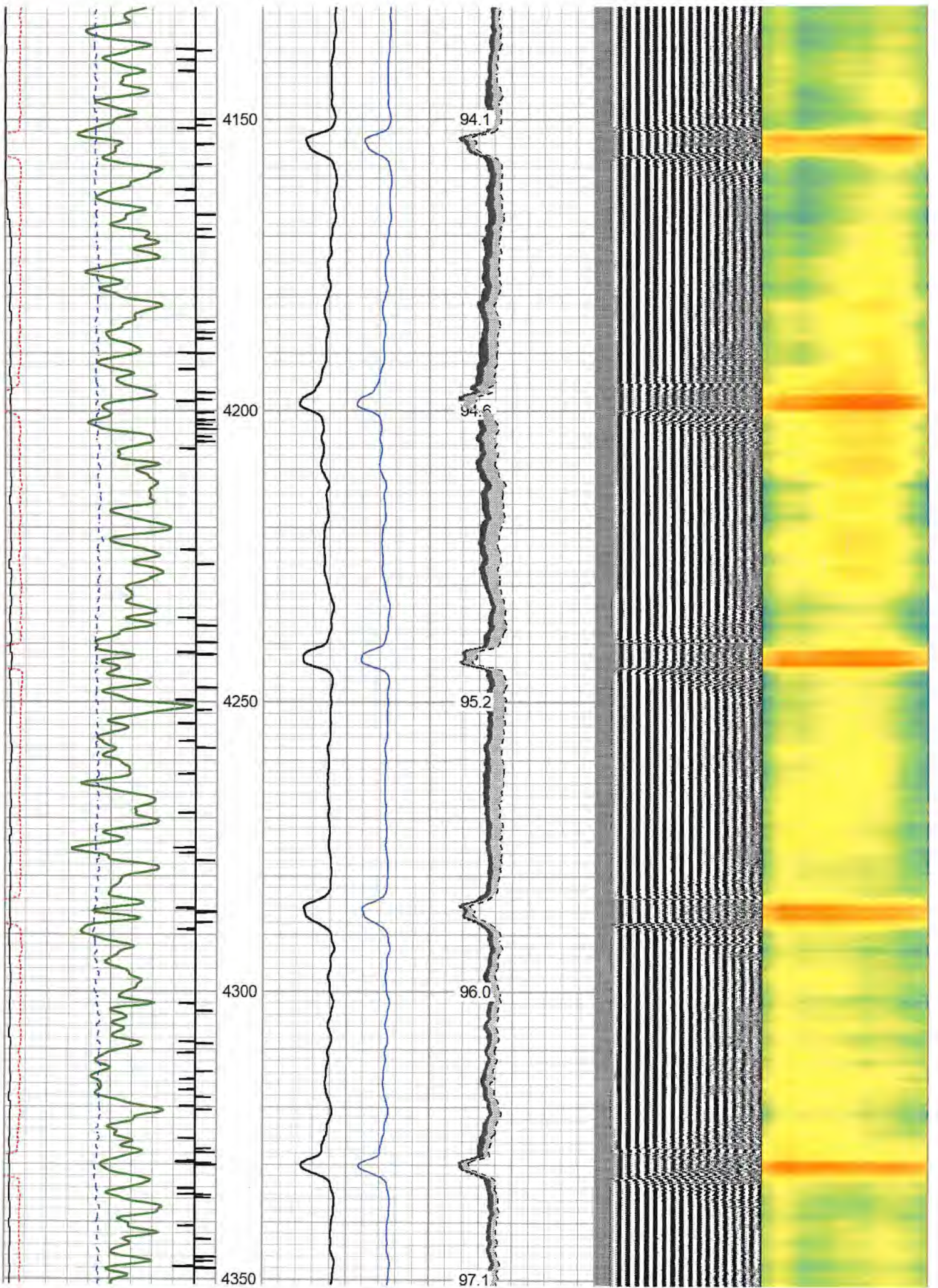


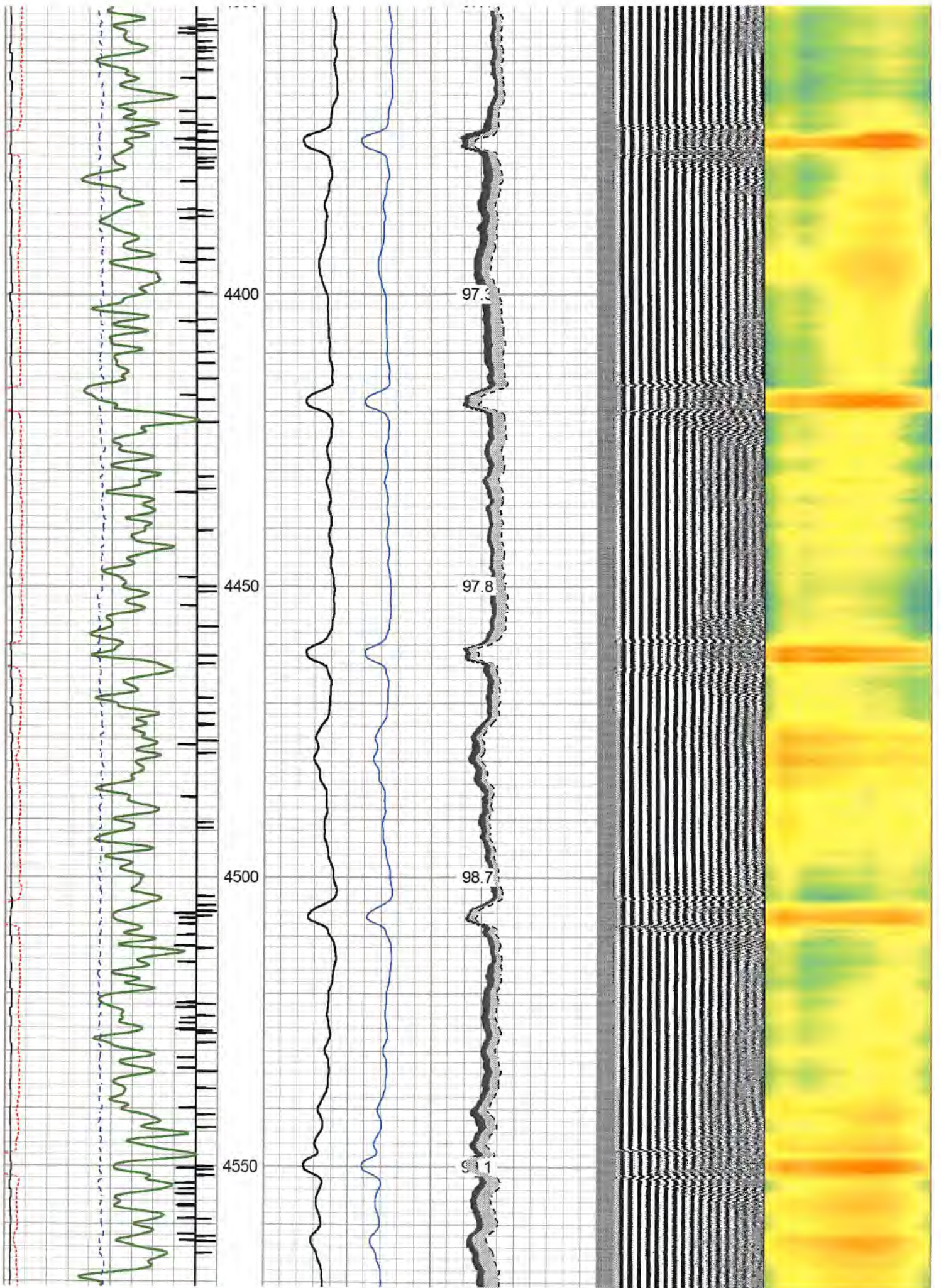


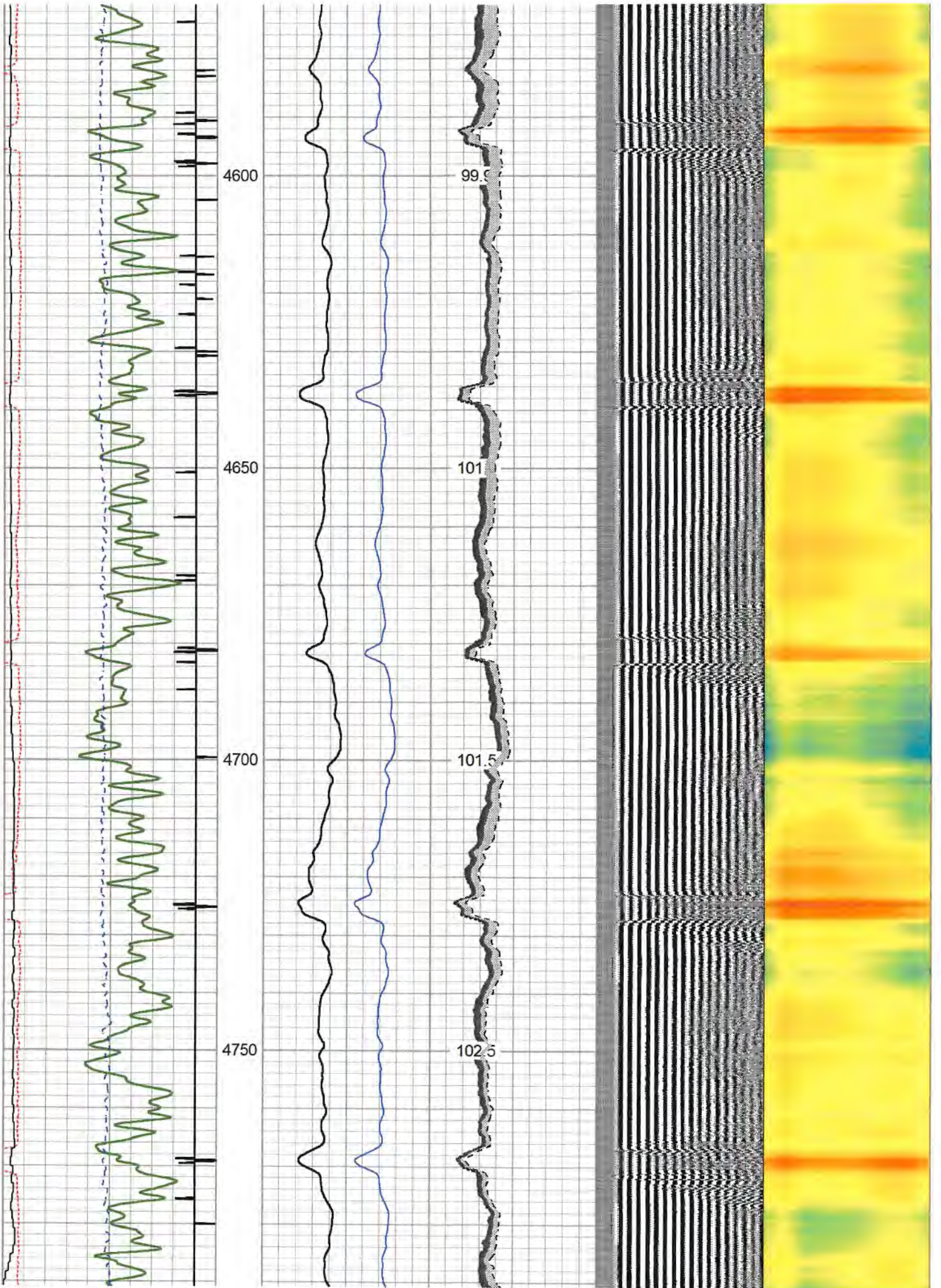


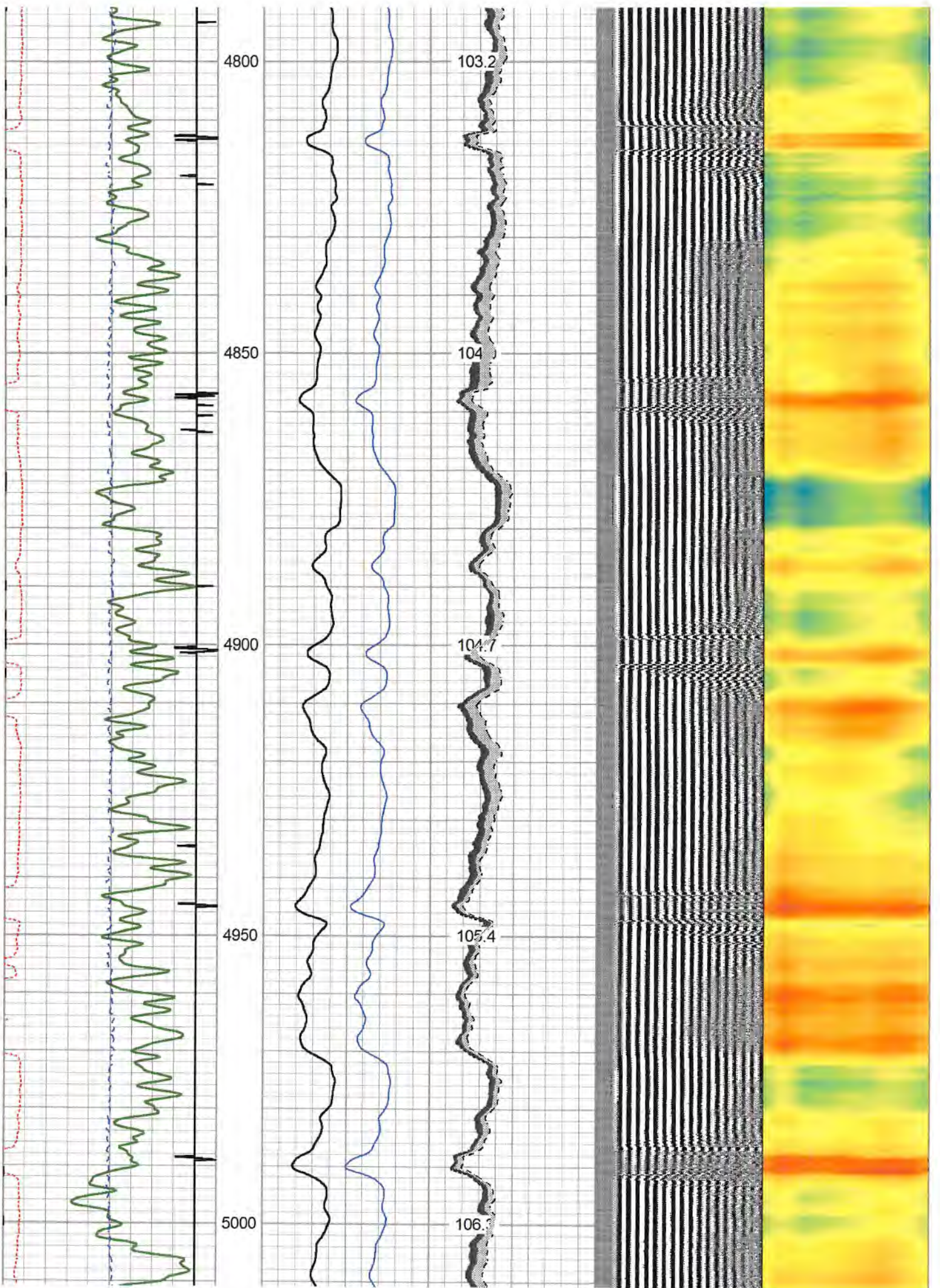


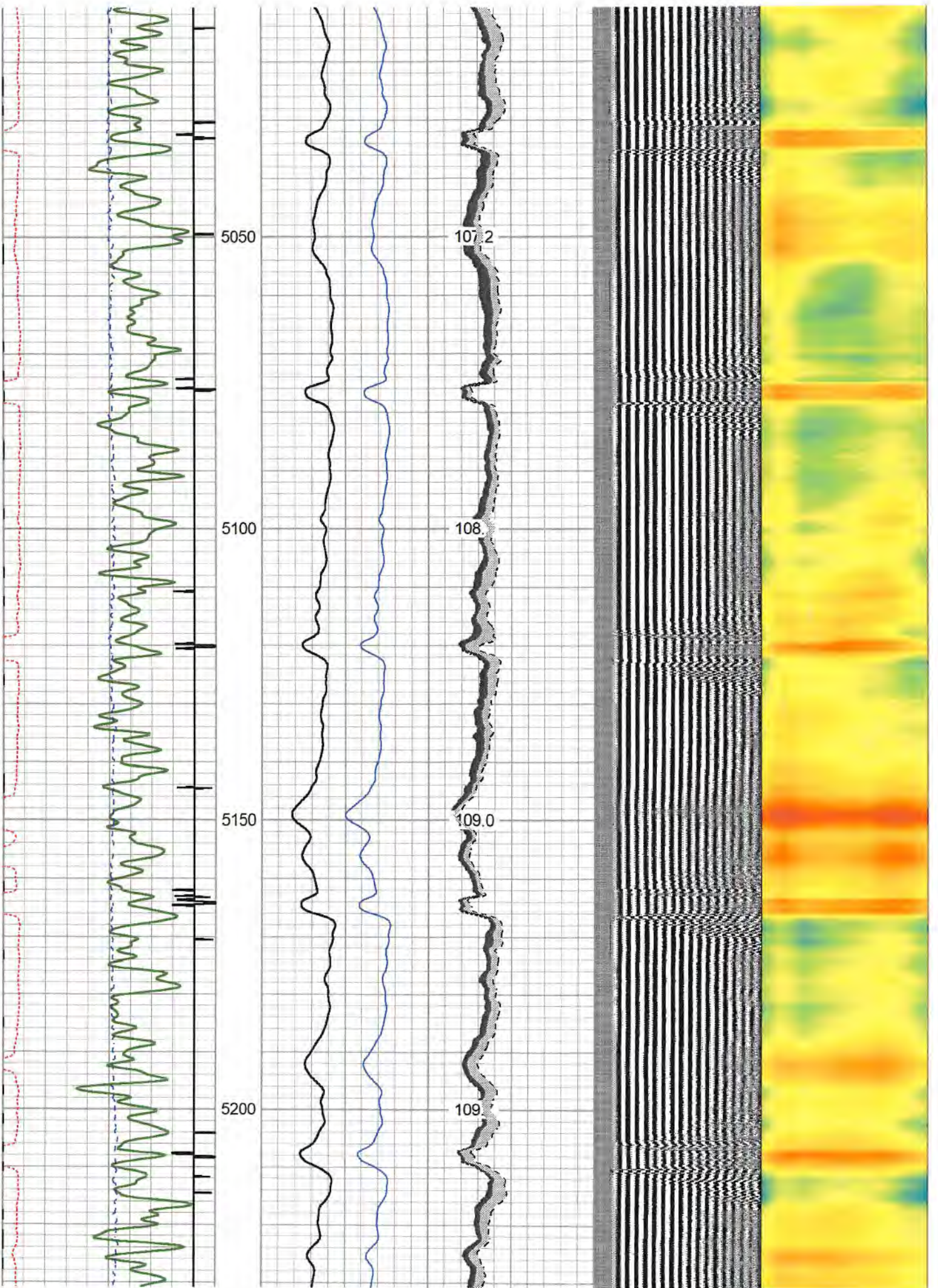


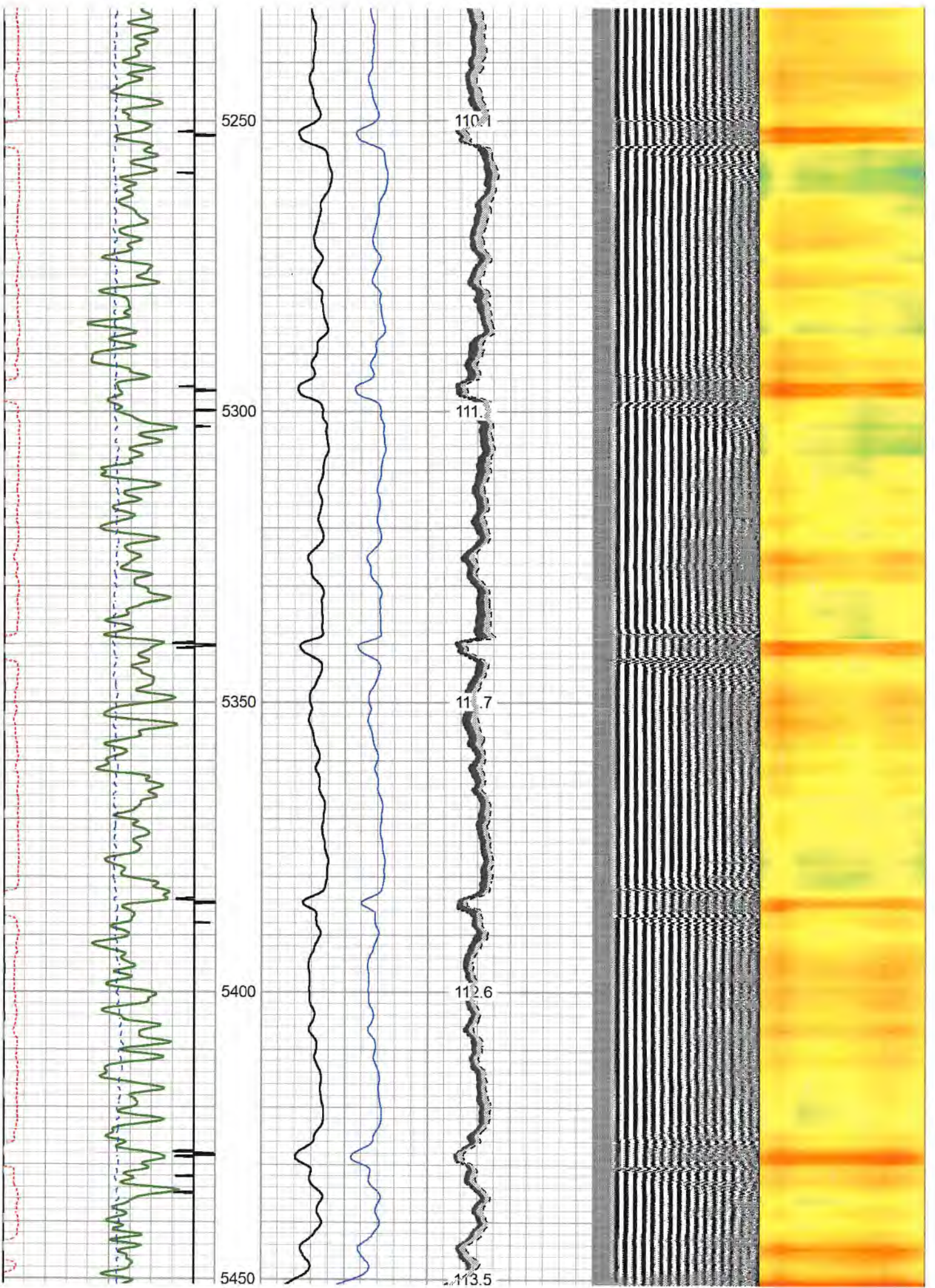


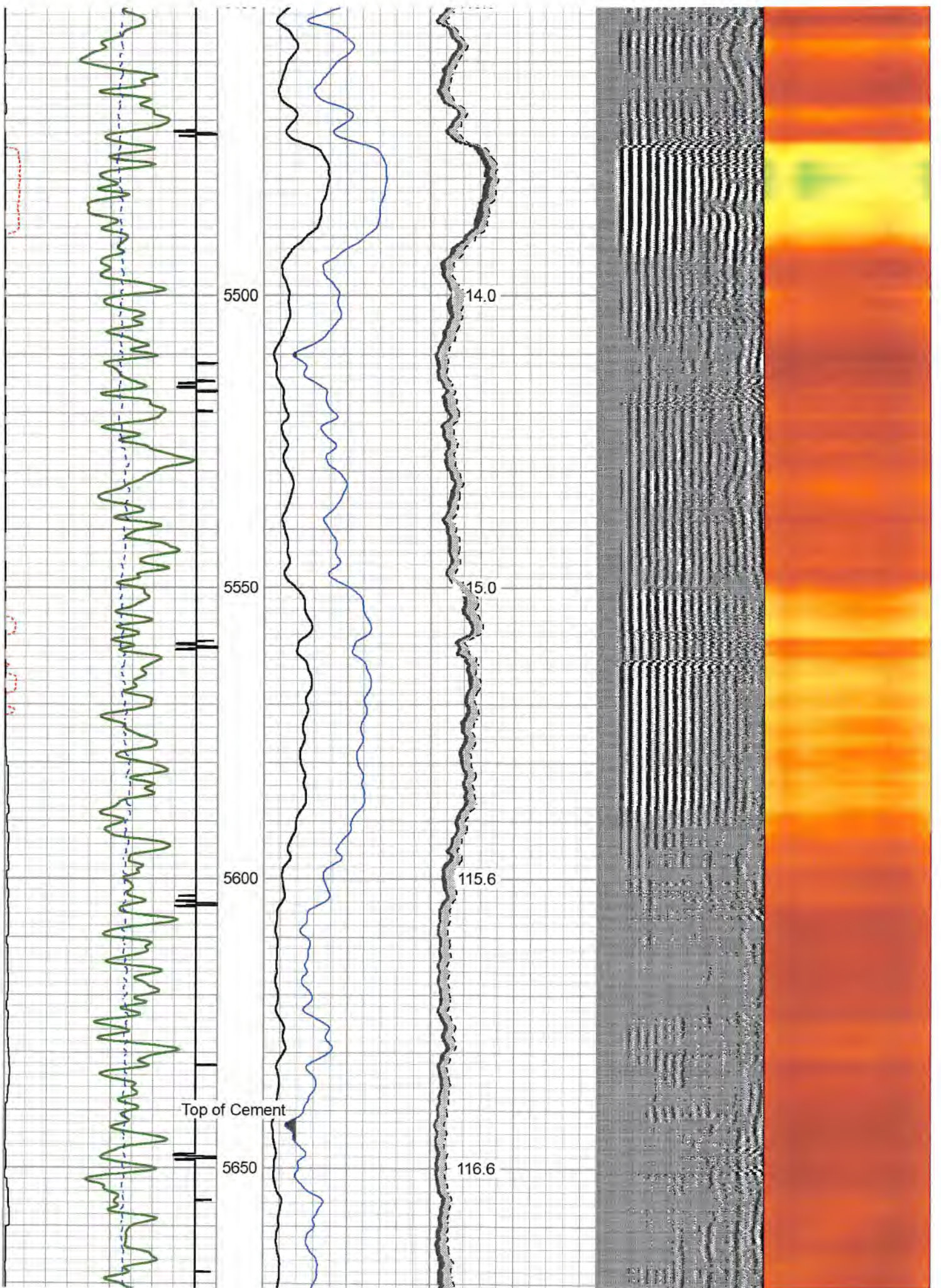


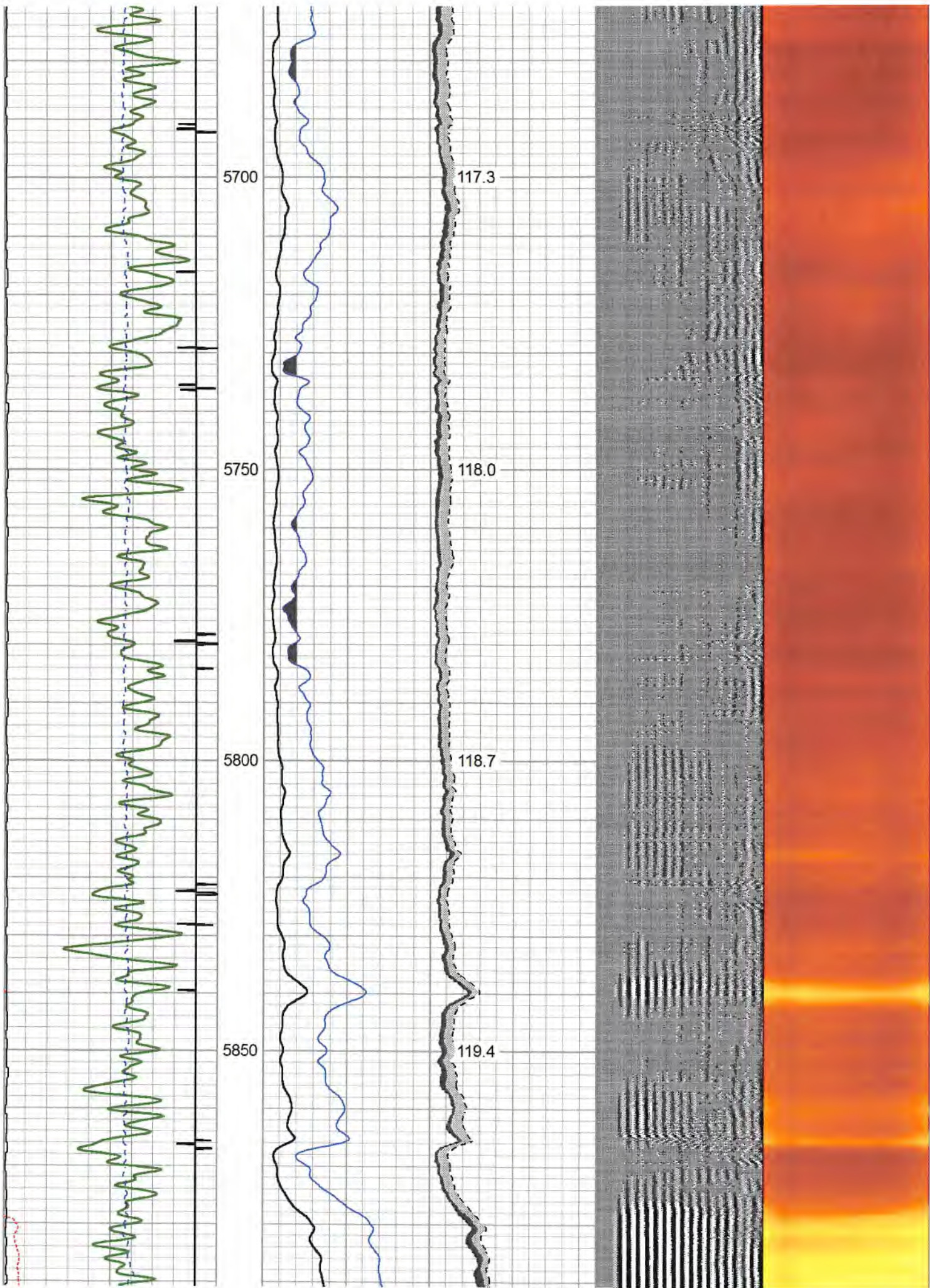


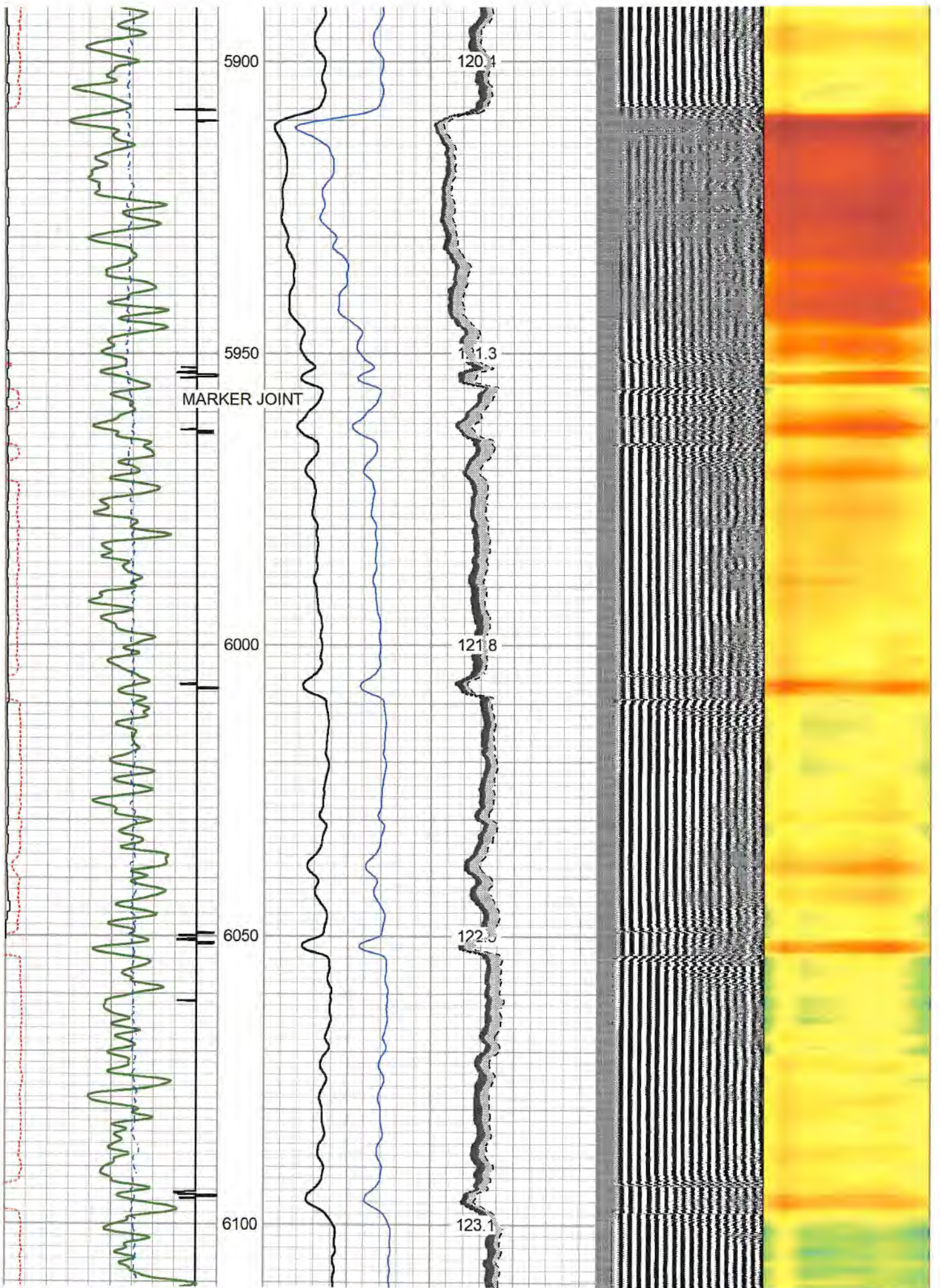


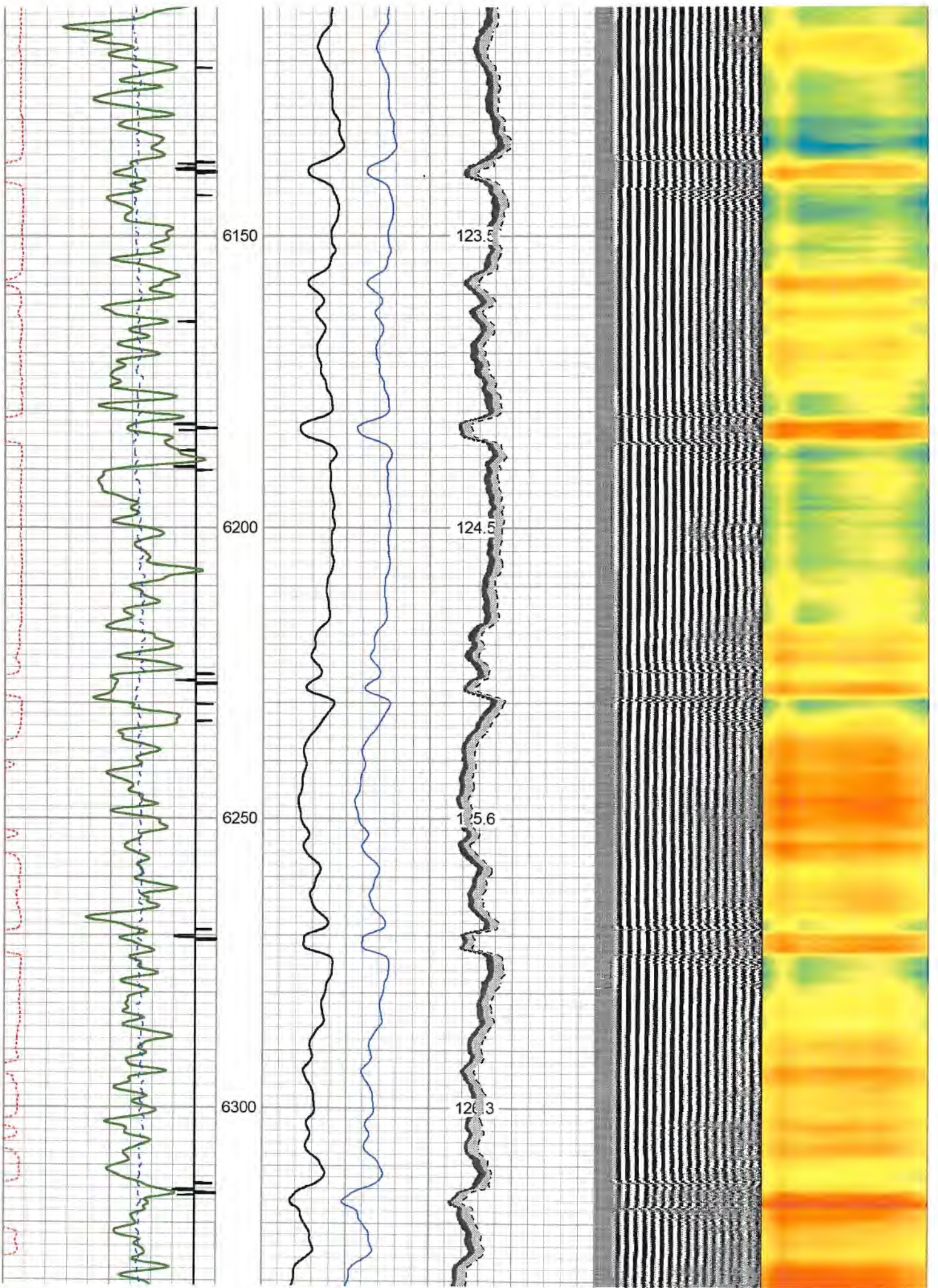


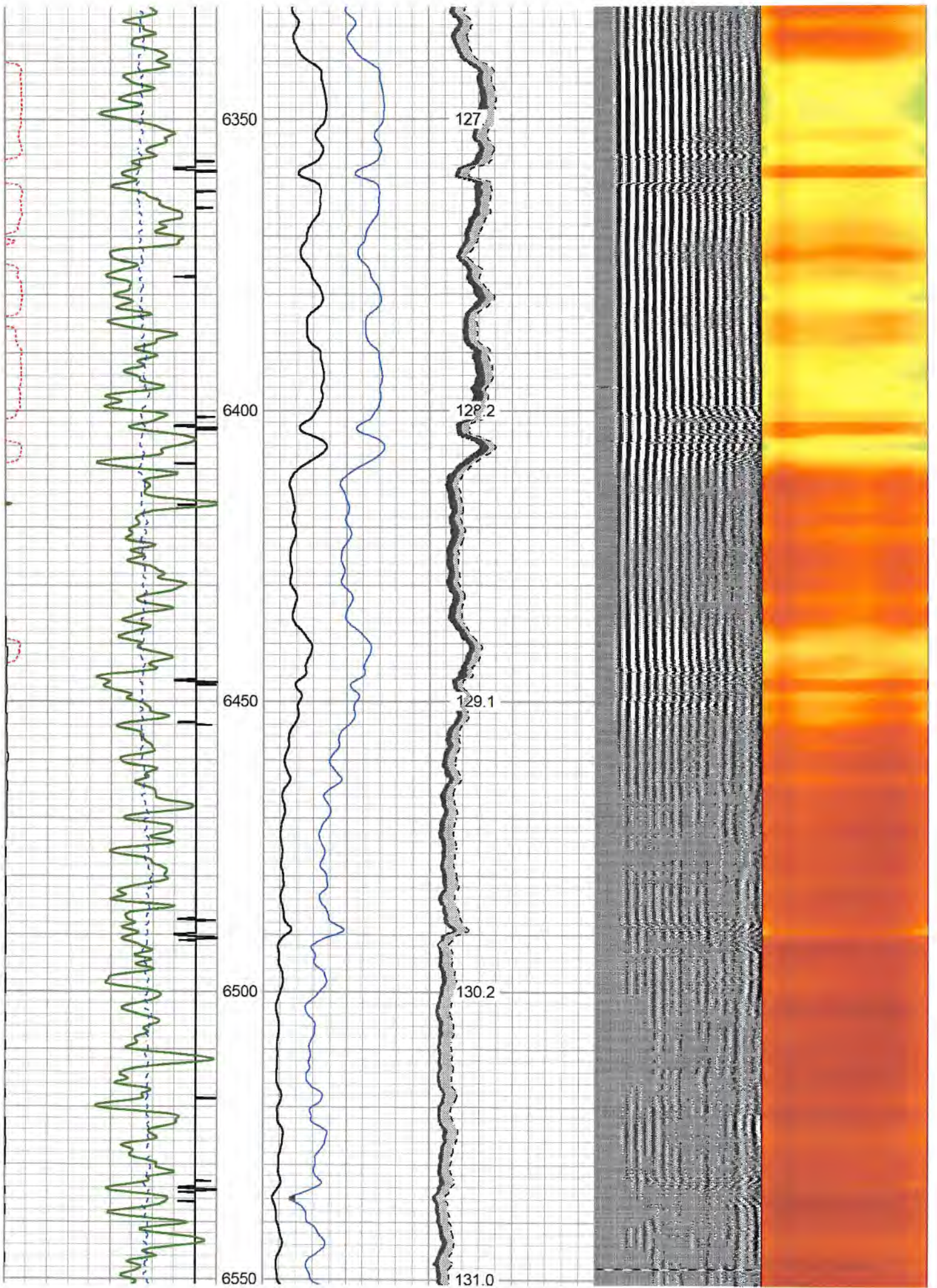


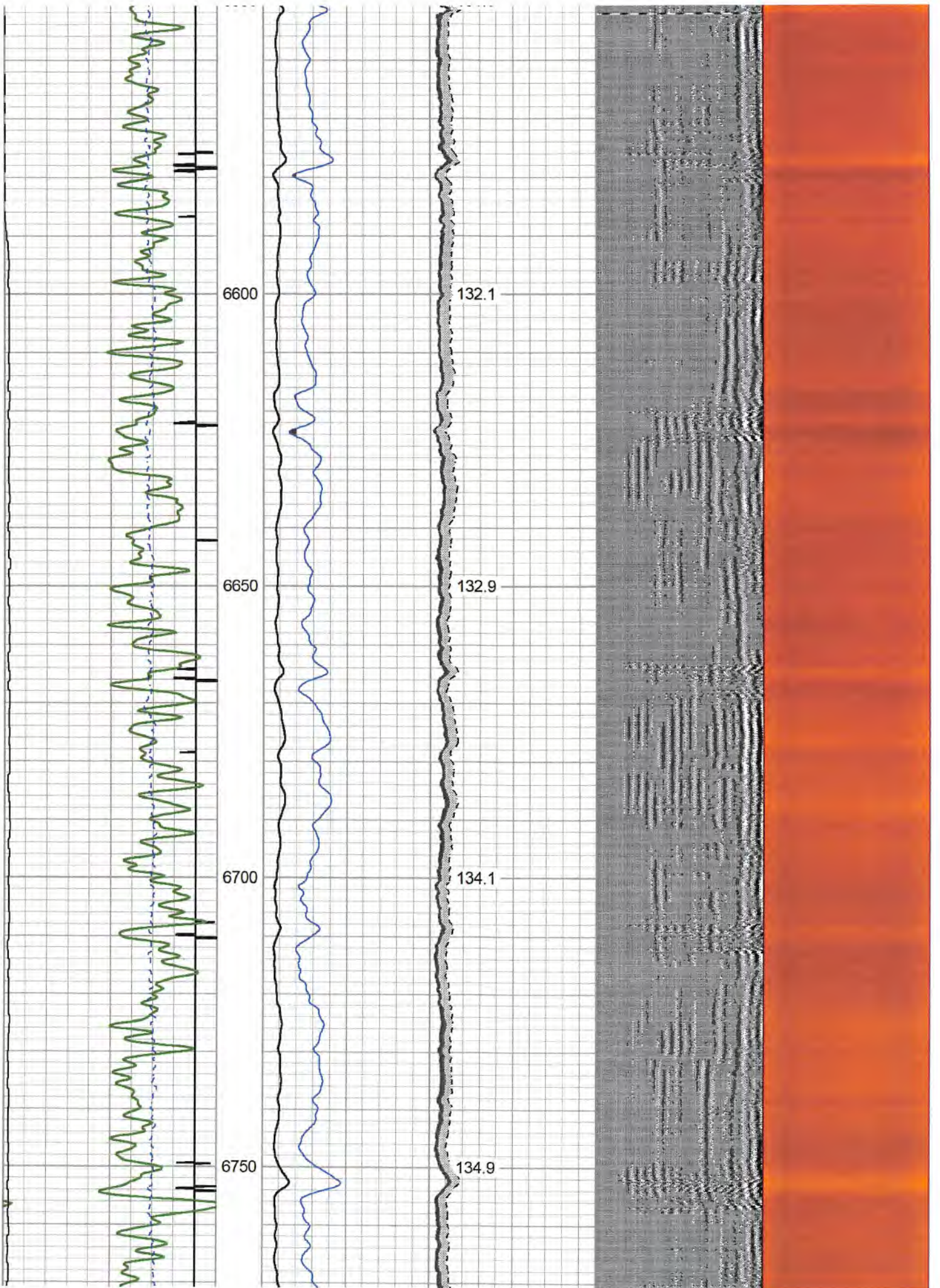


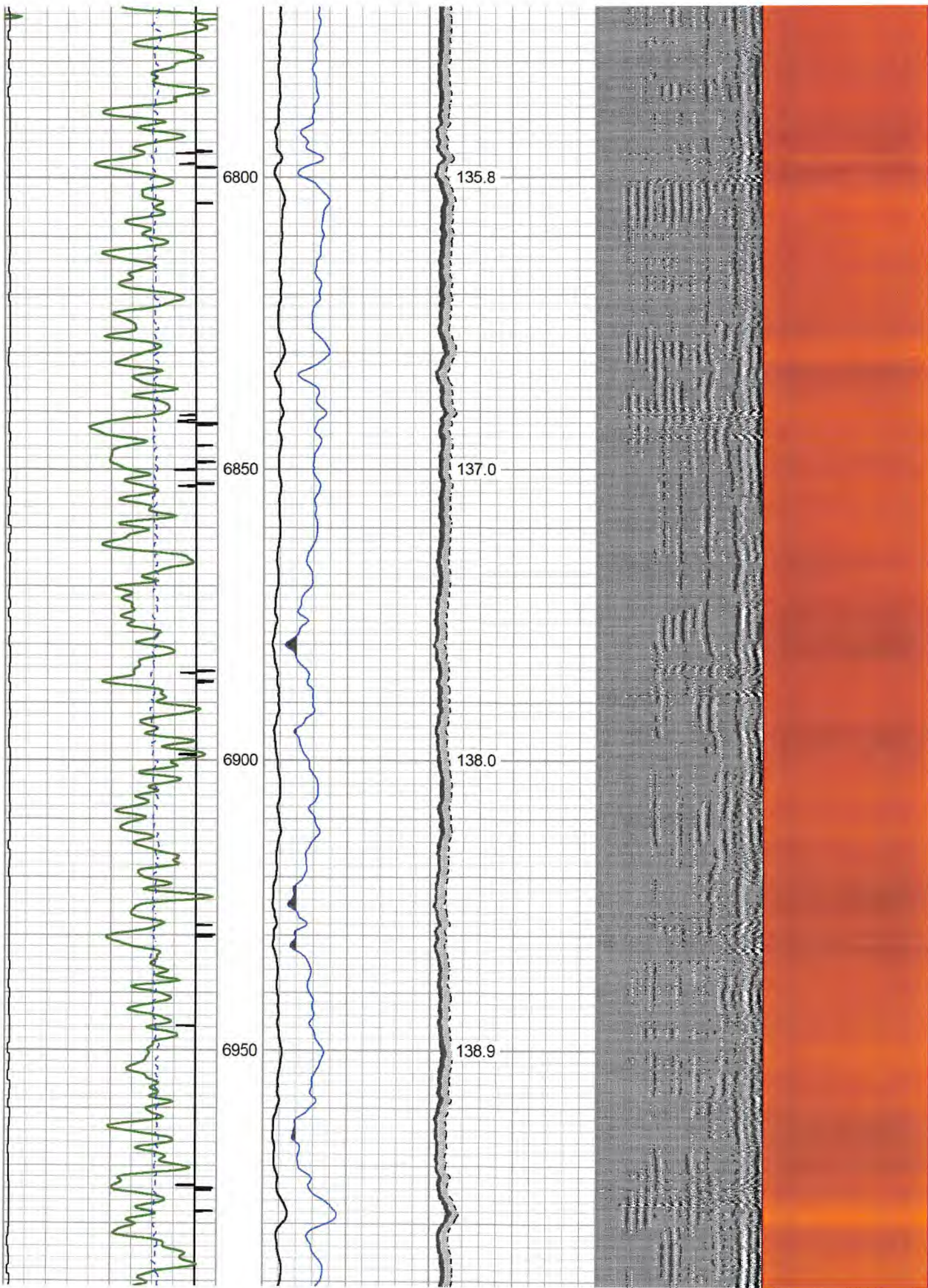


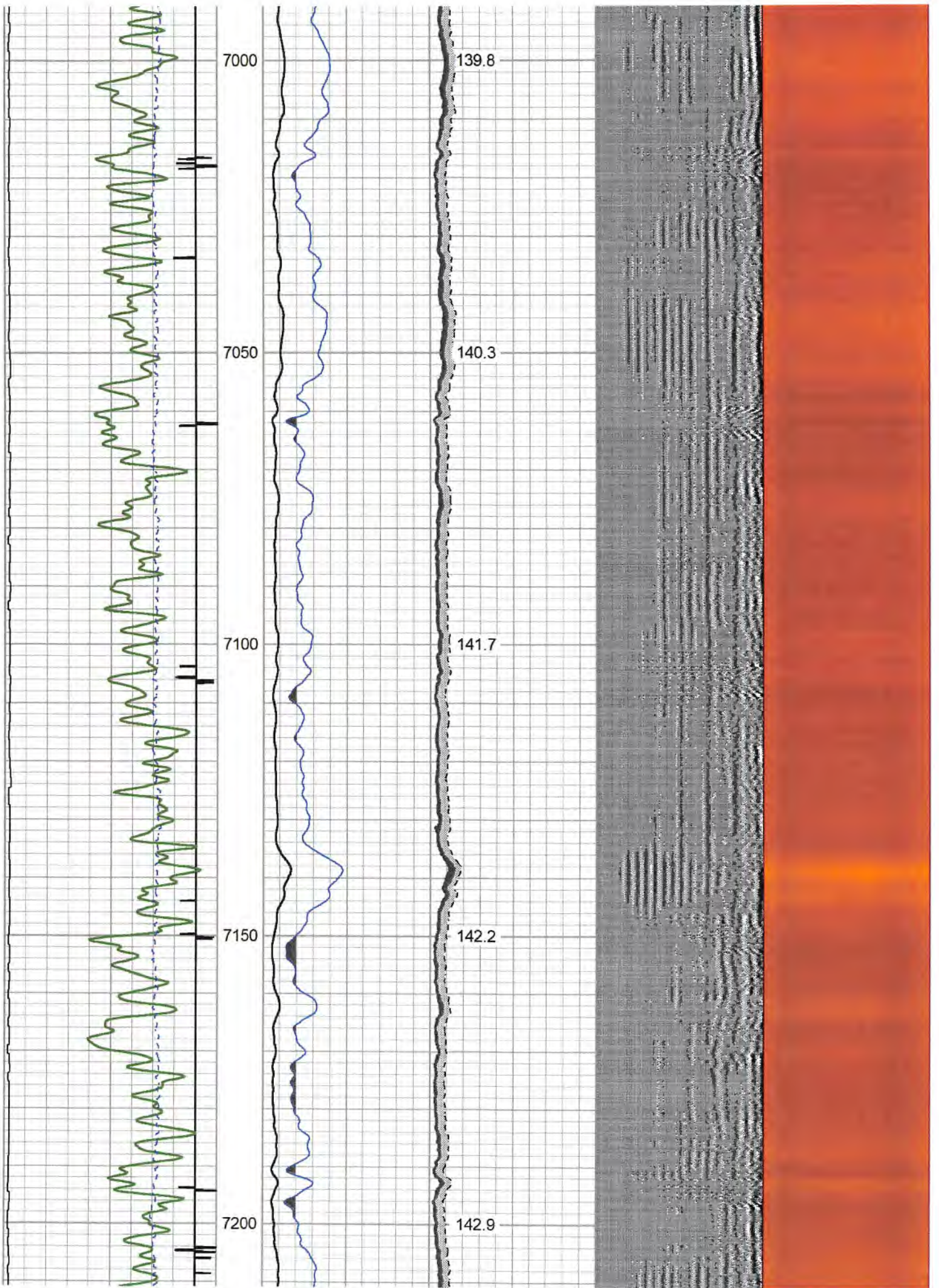


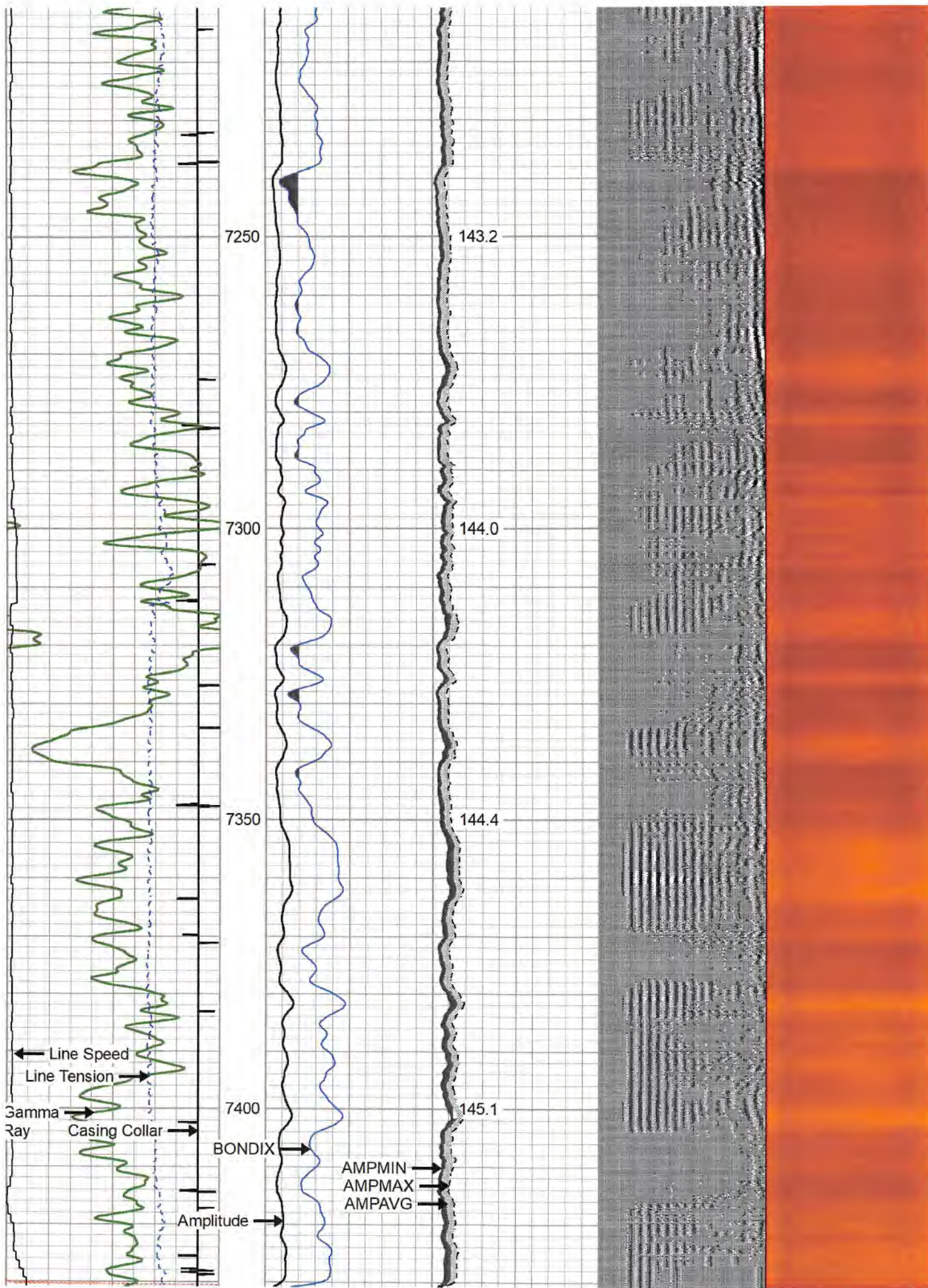


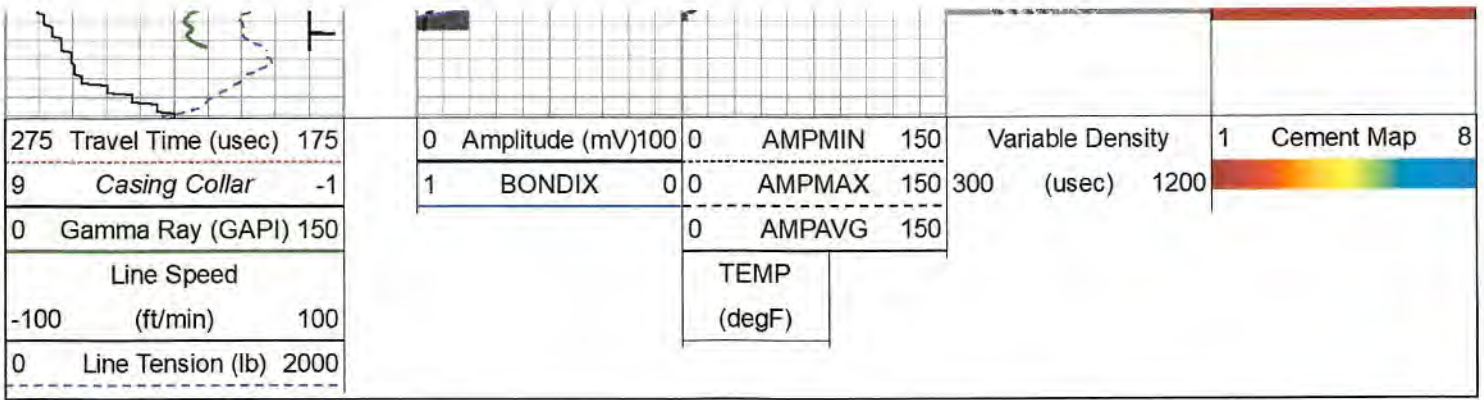






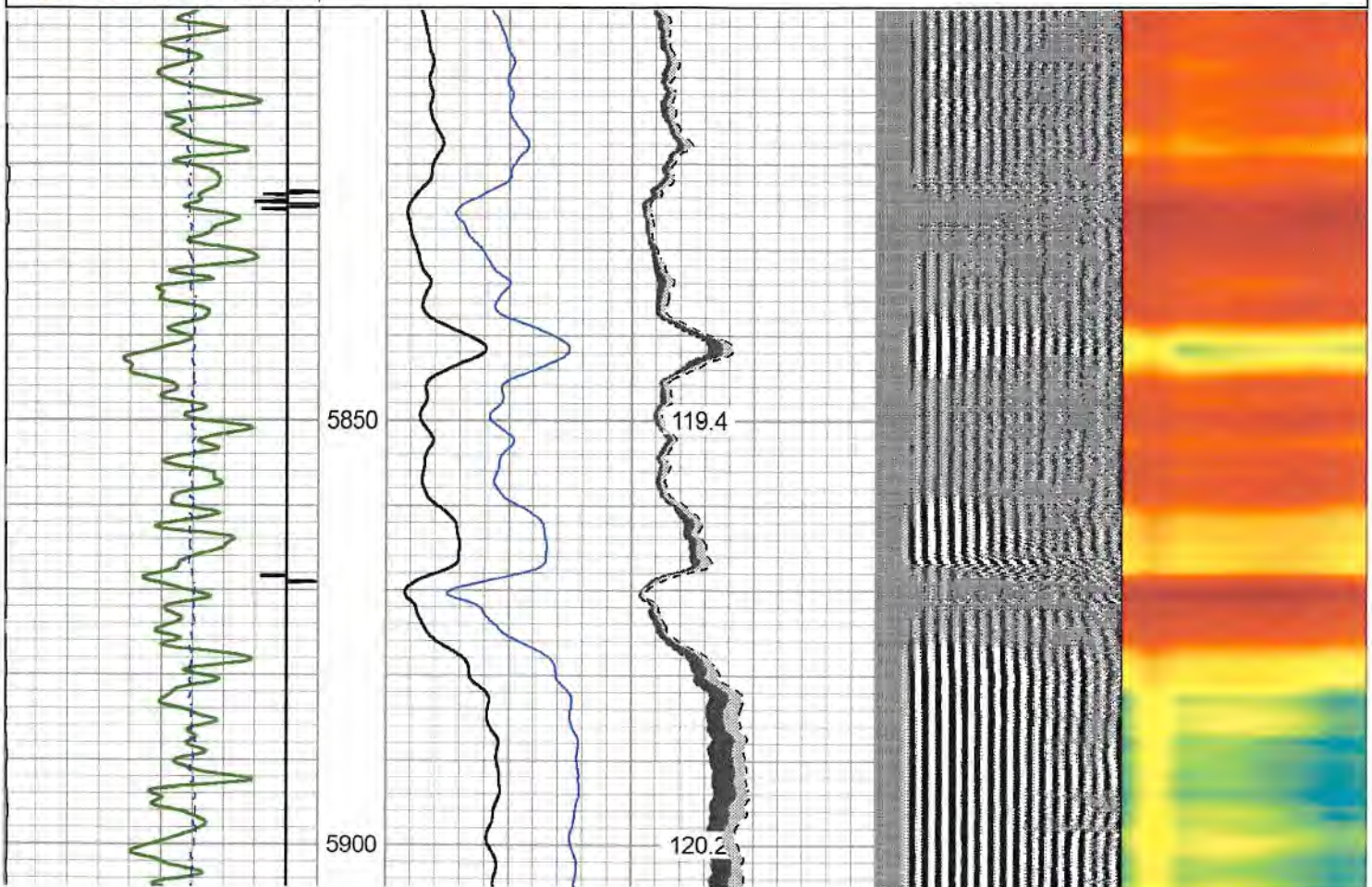
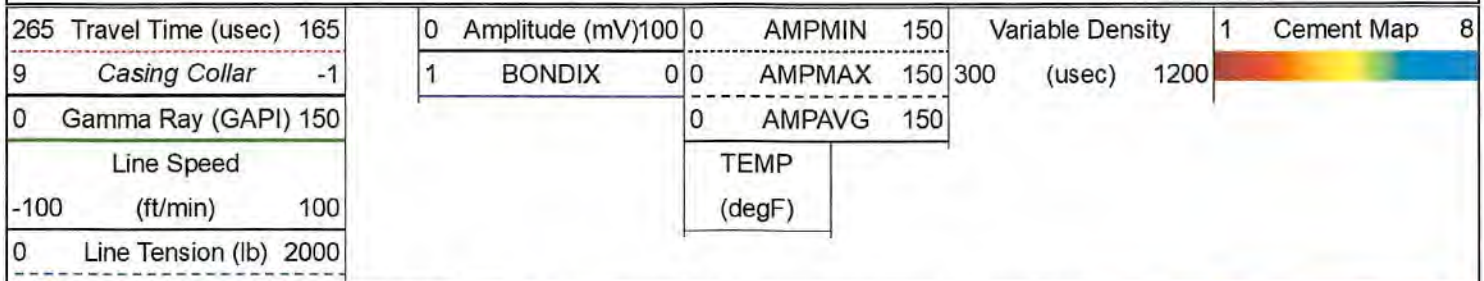


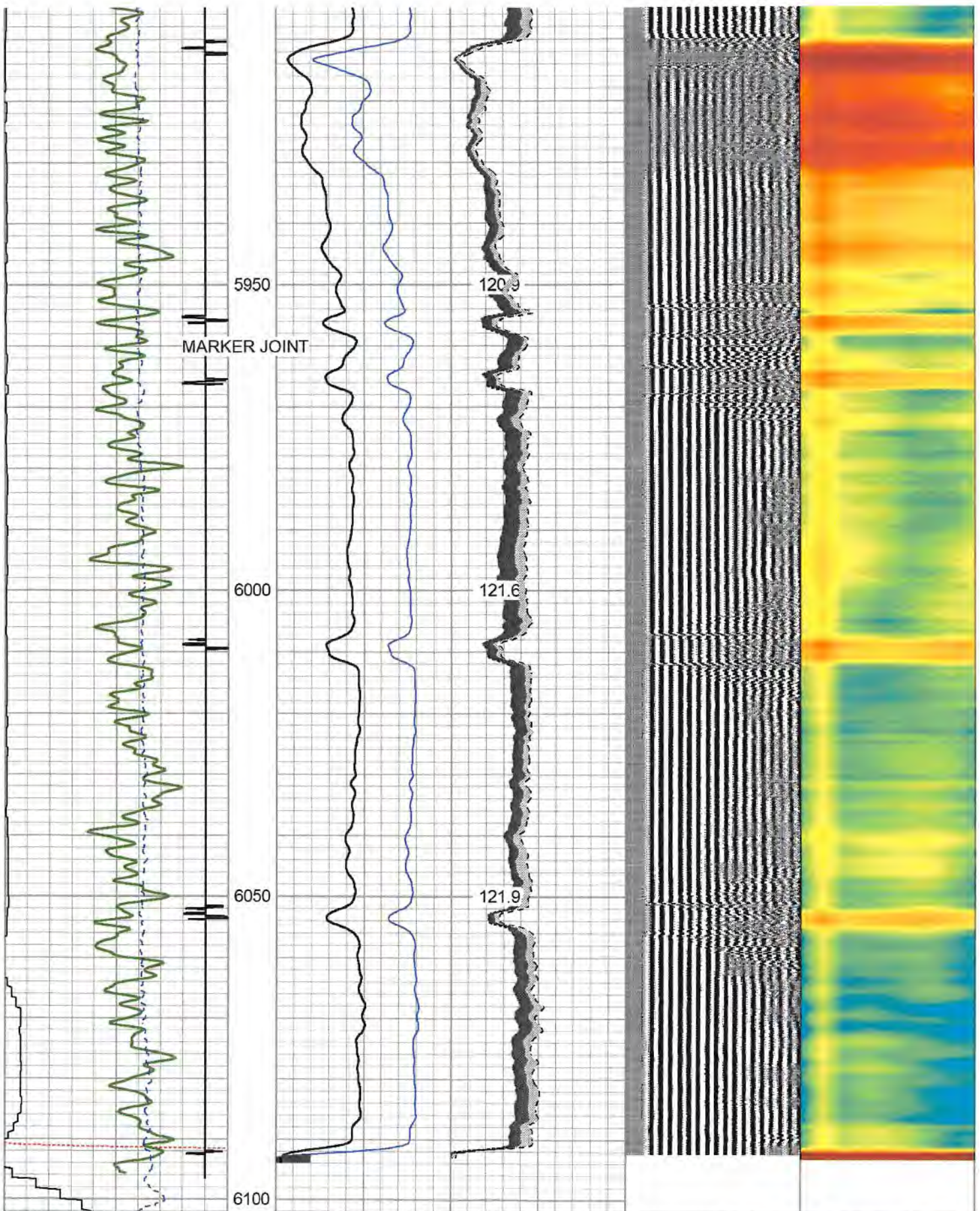





REPEAT PASS 0 PSI

Database File: antero_embry_2h_5_5_rcbl.db
 Dataset Pathname: pass4
 Presentation Format: rcbl-bond index for antero 1020
 Dataset Creation: Tue Apr 25 10:25:48 2023
 Charted by: Depth in Feet scaled 1:240





265	Travel Time (usec)	165
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
Line Speed		
-100	(ft/min)	100

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

Variable Density	1	Cement Map	8
300 (usec)	1200		



Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)	
			CABLE_HEADS-TITAN_1_7/16	1.04	1.44	4.00	
			Centralizer-2.75_Overbody	1.67	3.12	5.00	
Temp	14.10						
			RBT-Probe275T (FW1312-32) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00	
WVFS8	11.86						
WVFS7	11.86						
WVFS6	11.86						
WVFS5	11.86						
WVFS4	11.86						
WVFS3	11.86						
WVFS2	11.86						
WVFS1	11.86		Centralizer-2.75_Overbody	1.67	3.12	5.00	
WVF3FT	11.86						
WVF5FT	10.86						
HeadVolt	7.61						
WVFCAL	7.61						
CCL	6.71						
GR	5.38		GR-Probe (FW1211-86) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00	
			Centralizer-Probe_2.75 Bowspring Centralizer	2.83	2.75	24.00	

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Dataset: antero_embry_2h_5_5_rcbl.db. field/well/run/pass0.z
 Total length: 18.05 ft
 Total weight: 185.00 lb
 O.D.: 3.12 in

Calibration Report

Database File antero_embry_2h_5_5_rcbl.db
 Dataset Pathname pass6.2
 Dataset Creation Tue Apr 25 12:34:56 2023

Gamma Ray Calibration Report

Serial Number: FW1211-86
 Tool Model: Probe
 Performed: Sun Apr 23 07:51:22 2023

 Calibrator Value: 1.0 GAPI
 Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

 Sensitivity: 0.8000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1312-32
 Tool Model: Probe275T

 Calibration Casing Diameter: 5.500 in
 Calibration Depth: 336.000 ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.004	0.399	2.200	71.921	172.808	2.912
CAL	0.700	0.696				
5'	-0.073	0.374	2.200	71.921	155.844	13.573
SUM						
S1	0.000	0.457	0.000	100.000	218.957	-0.002
S2	-0.013	0.346	0.000	100.000	278.458	3.605
S3	-0.012	0.385	0.000	100.000	251.887	3.144
S4	-0.017	0.390	0.000	100.000	245.363	4.190
S5	-0.019	0.401	0.000	100.000	237.921	4.543
S6	-0.016	0.413	0.000	100.000	232.677	3.810
S7	-0.014	0.431	0.000	100.000	224.566	3.232
S8	-0.011	0.428	0.000	100.000	227.608	2.488

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.700	0.696	1.000	0.000

Air Zero Calibration, performed Tue Apr 25 04:27:20 2023:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
0'	0.000		0.000		0.000	

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

Log Variables

Database: C:\ProgramData\Warrior\Data\antero_embry_2h_5_5_rcbl.db
 Dataset: field/well/run1/pass6.2/_vars_

Top - Bottom

BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	in	degF	in	in	lb/ft	mV	mV
	8.725	100	5.5	0.415	23	71.9	3.4
MINATTN	PERFS	PPT	SRFTEMP	TDEPTH			
db/ft		usec	degF	ft			
0.8	No	261	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



Company	Antero
Well	Embry 2H
Field	Rabbit Ears
County	Tyler
State	WV
Country	USA

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