



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

Company ANTERO
Well Margery Grapevine 2H
Field RABBIT EARS
County TYLER
State WEST VIRGINIA Country USA

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Location: API #: 47-095-02708-0000

SEC	TWP	RGE	Elevation 25'	Other Services
Permanent Datum	GL		K.B. N/A	
Log Measured From	KB		DF. N/A	
Drilling Measured From	KB		G.L. N/A	

Date	09-Jan-2021			
Run Number	ONE			
Depth Driller	18,461'			
Depth Logger	6,845'			
Bottom Logged Interval	6,876'			
Top Log Interval	SURFACE			
Open Hole Size	8.50"			
Type Fluid	FRESH WATER			
Density / Viscosity	8.4#			
Max. Recorded Temp.	150 Deg. F.			
Estimated Cement Top	4,712'			
Time Well Ready	9.42			
Time Logger on Bottom	10:15			
Equipment Number	TK-104 / P1.G2			
Location	CHARLEROI, PA			
Recorded By	Matt McNally			
Witnessed By	Ryan Rivera			
	Borehole Record		Tubing Record	
Run Number	Bit	From	To	Size
				Weight
				From
				To
Casing Record	Size	Wgt/FT		Top
Surface String				Bottom
Prot. String				
Production String	5 1/2"	20#		SURFACE
Liner				18,461'

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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 MARKER JOINT @ 5,605' -5,617'
Depth Correction -18.5'

100%FREE PIPE=71.9mv
100%BOND=2.2mv

Thank You for Choosing Nine Energy Service.Charleroi, PA



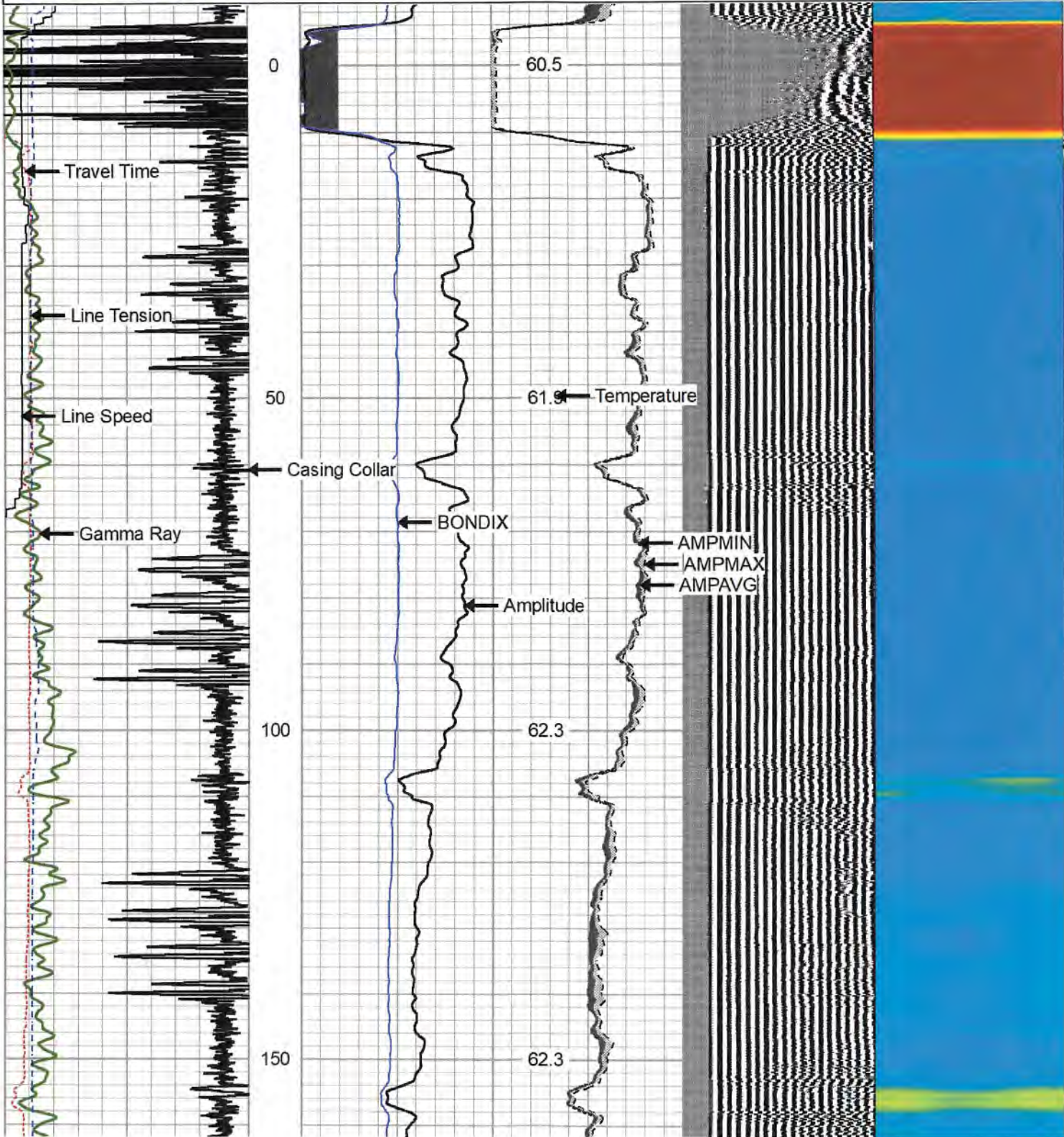
Main Pass 1,500 PSI

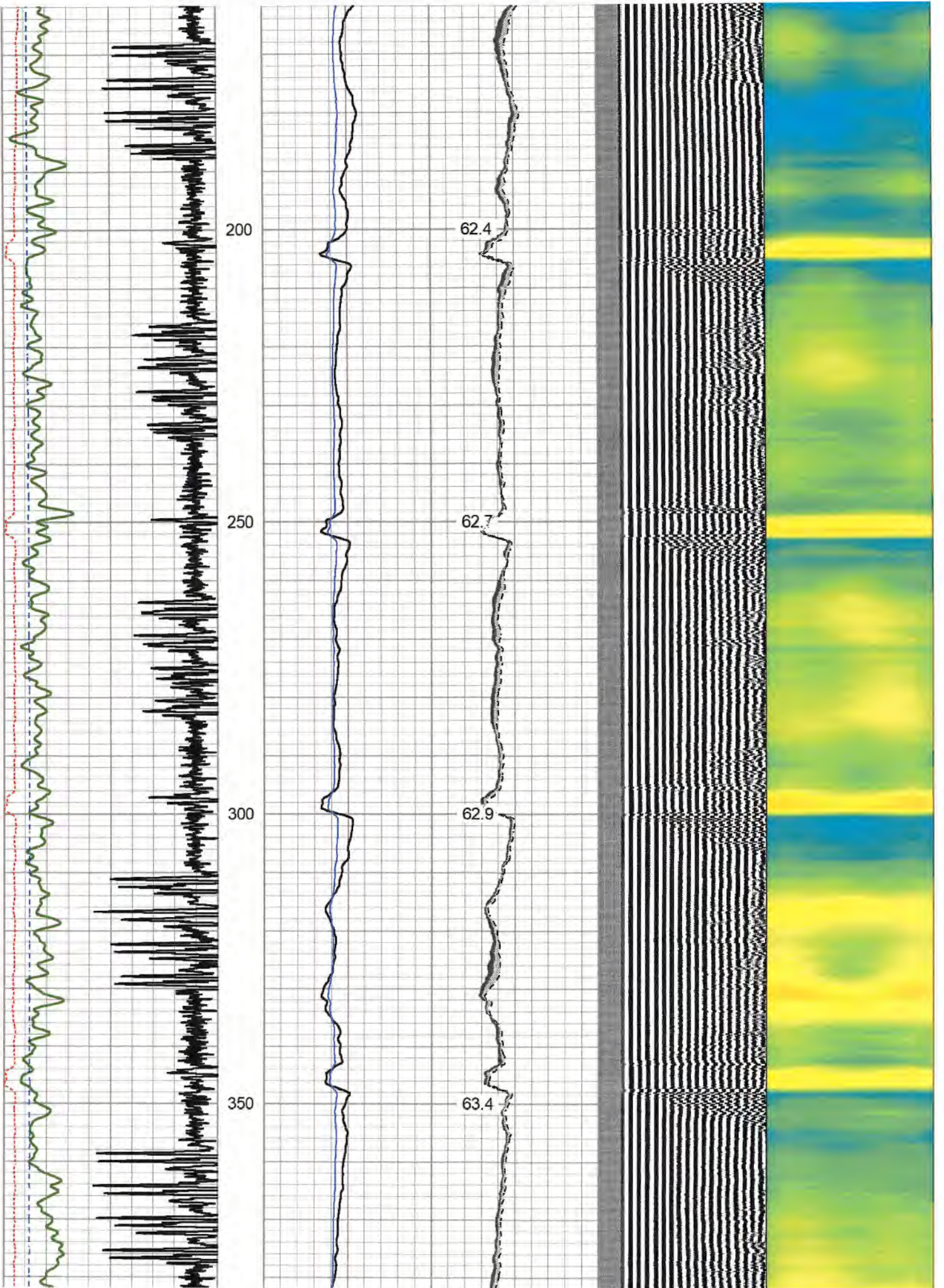
Database File antero_margery_grapevine_2h_rcbl_09_jan_2021.db
 Dataset Pathname rabbit_ears/grapevine_2h/run1/pass4
 Presentation Format rcbl-bond index for antero 1020
 Dataset Creation Sat Jan 09 10:12:49 2021
 Charted by Depth in Feet scaled 1:240

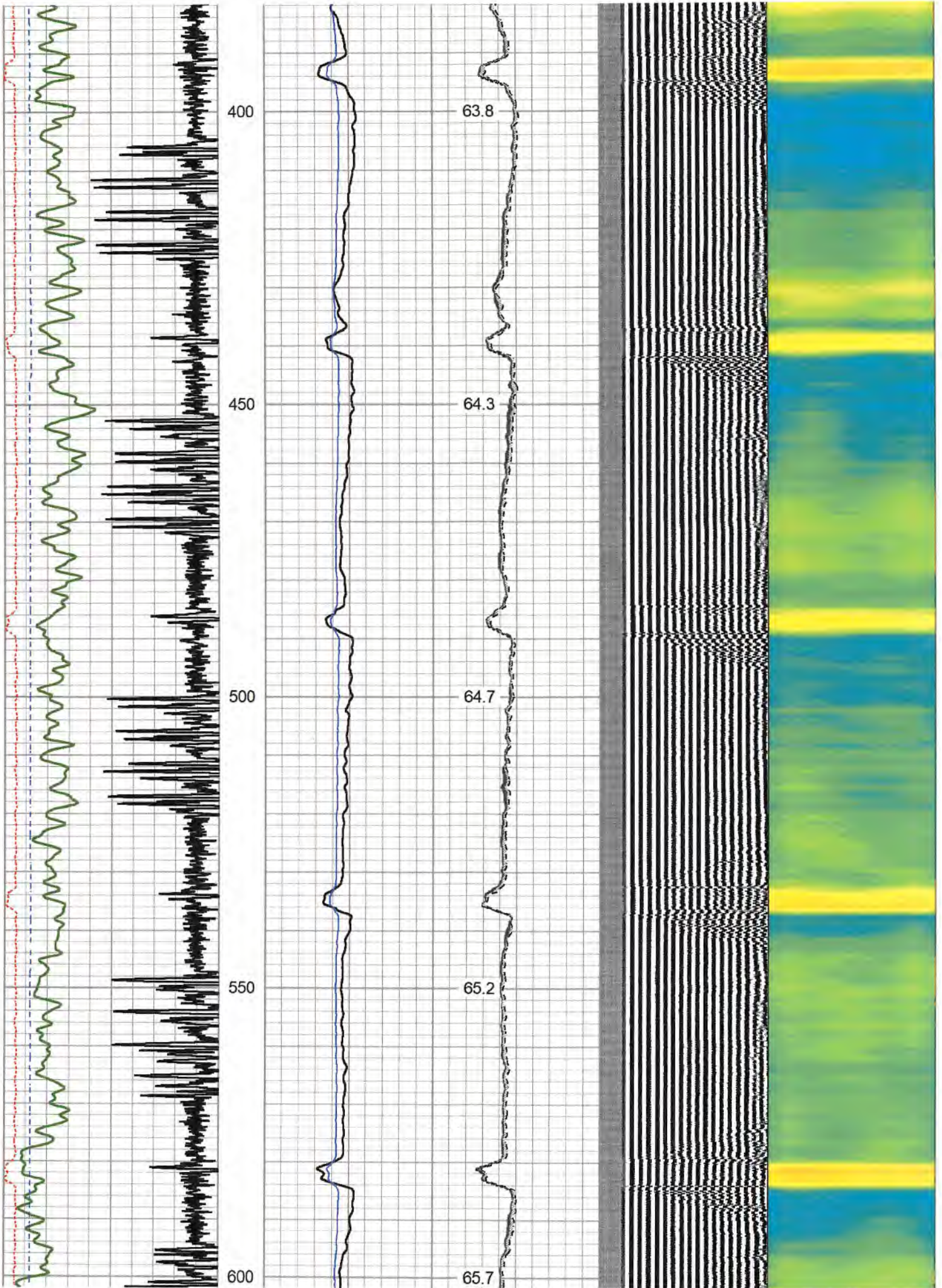
270	Travel Time (usec)	160
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
Line Speed		
-100	(ft/min)	100
0	Line Tension (lb)	2000

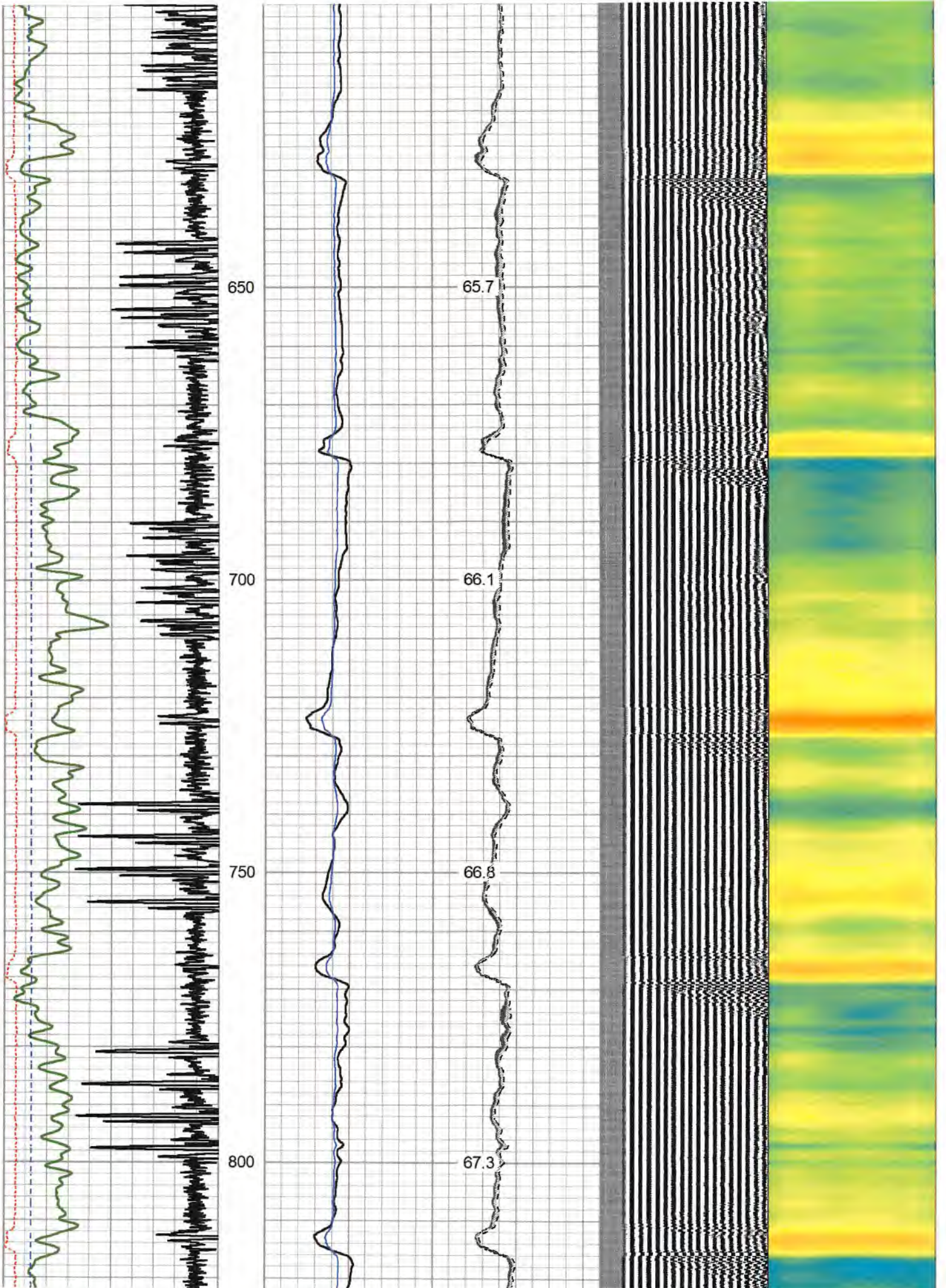
0	Amplitude (mV)	100
1	BONDIX	0
0	AMPMIN	150
0	AMPMAX	150
0	AMPAVG	150
TEMP		
(degF)		

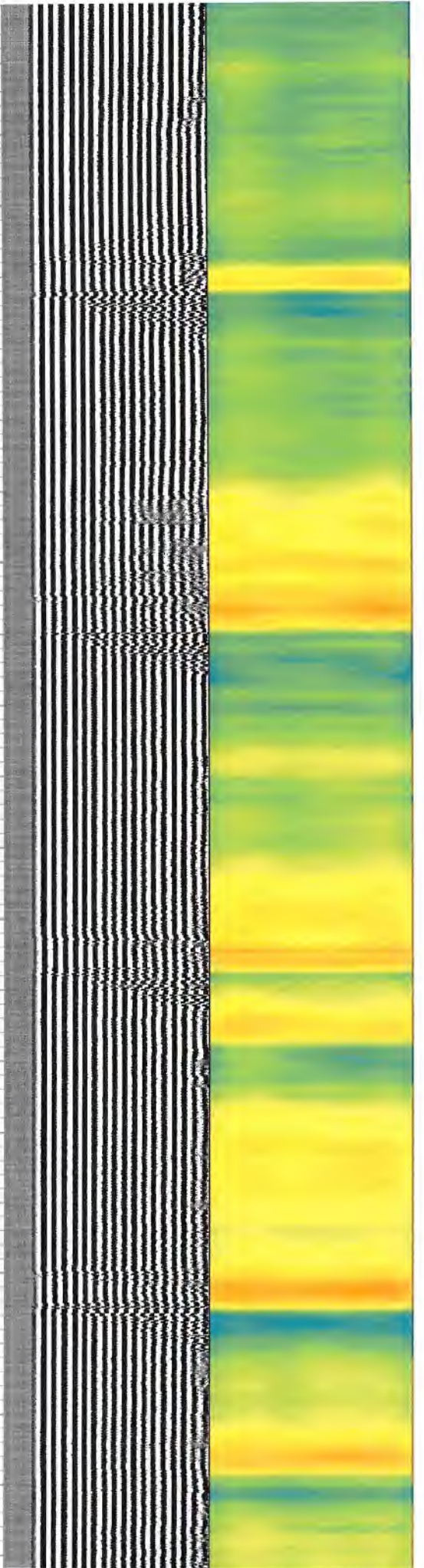
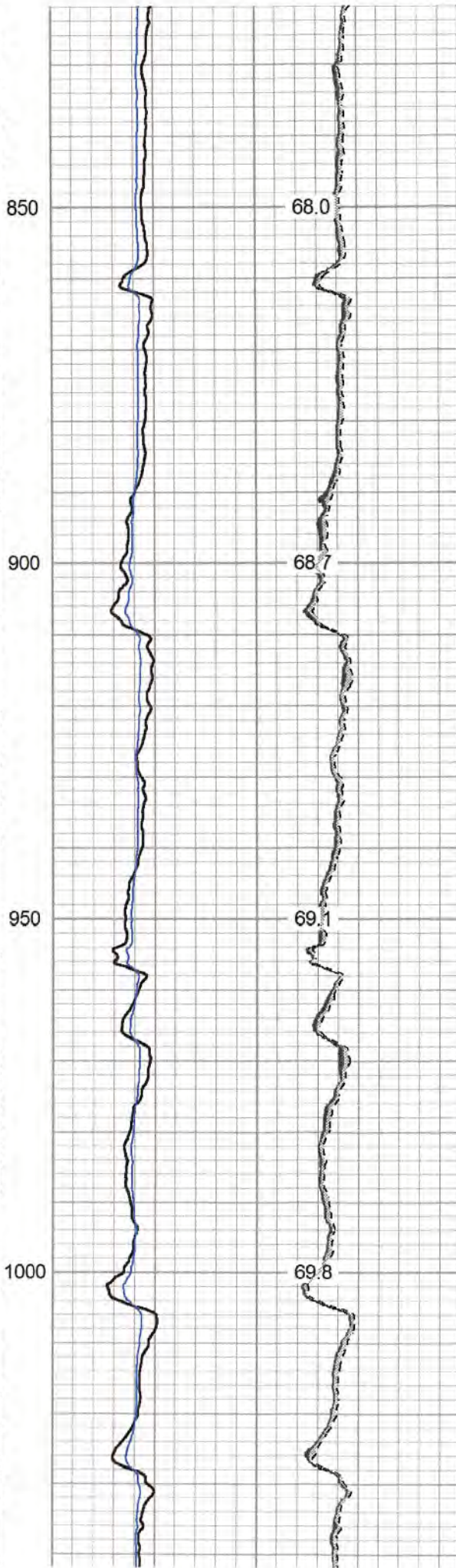
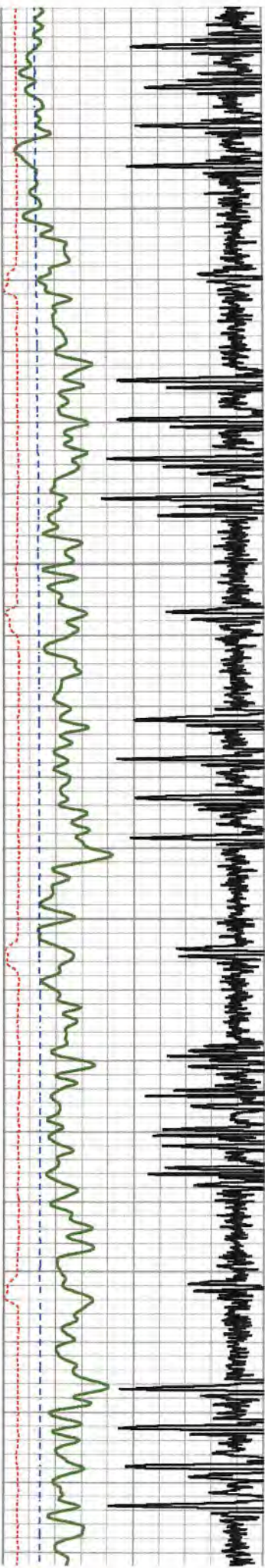
Variable Density	1	Cement Map	8
200	(usec)	1200	

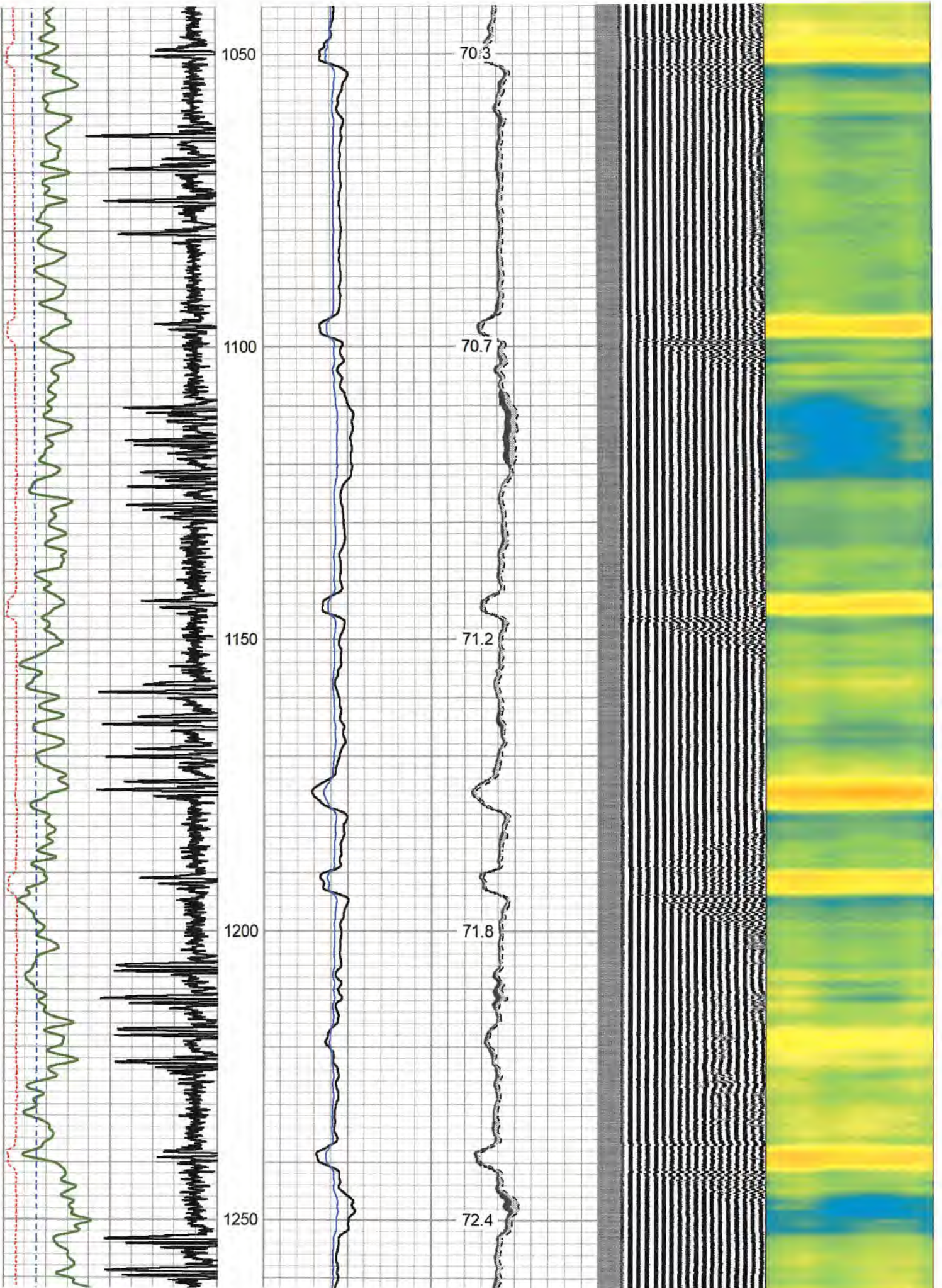


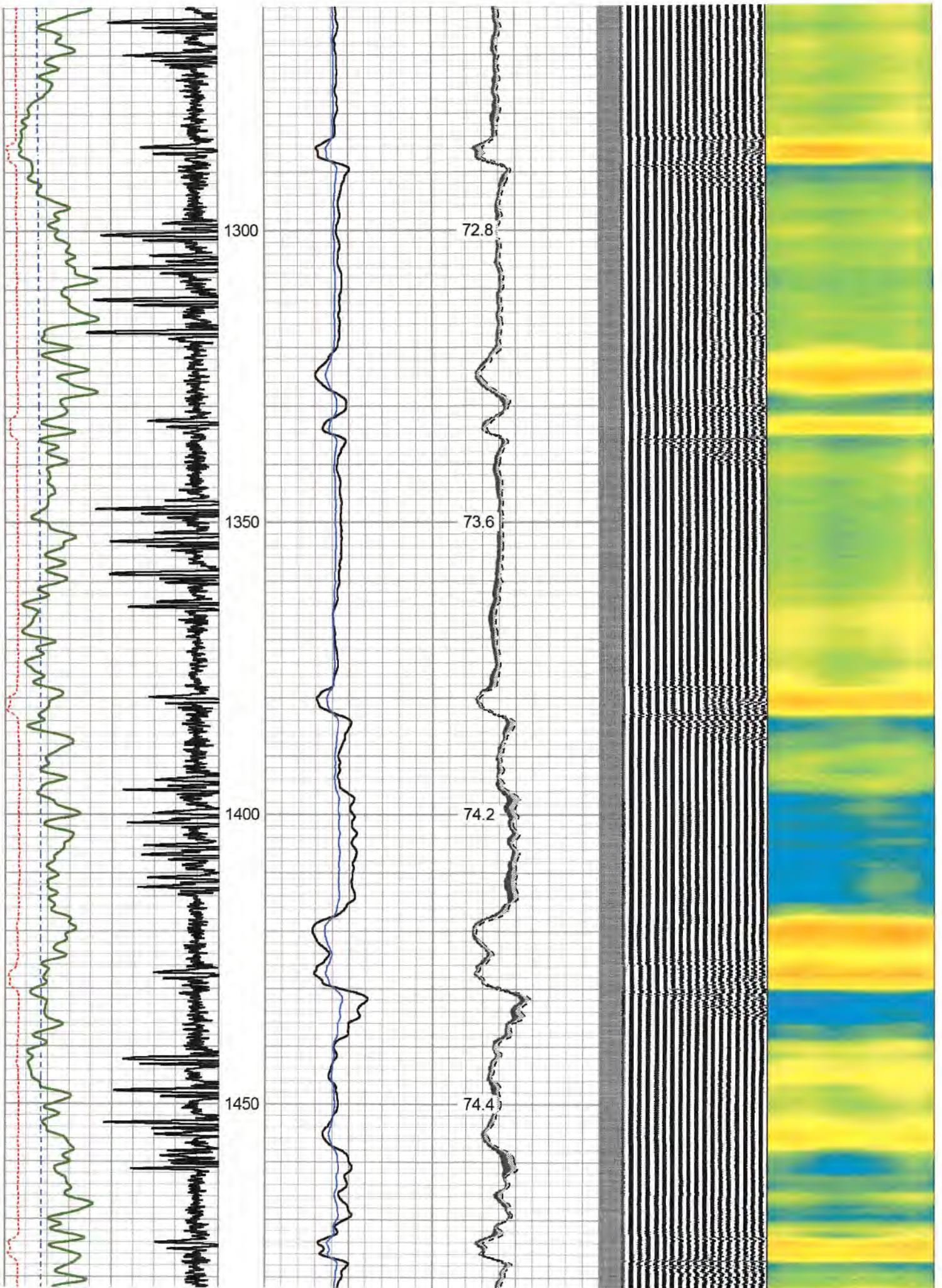


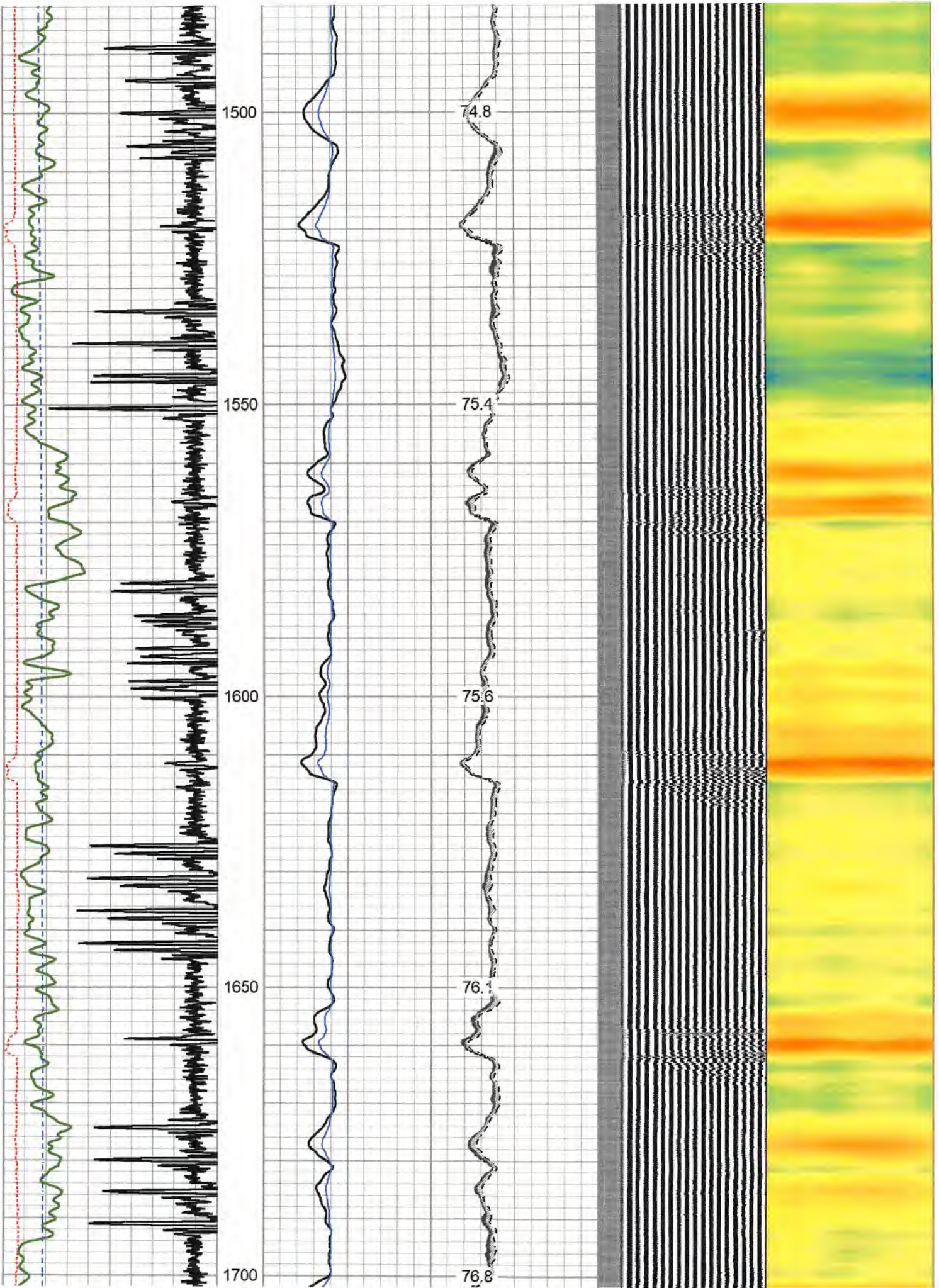


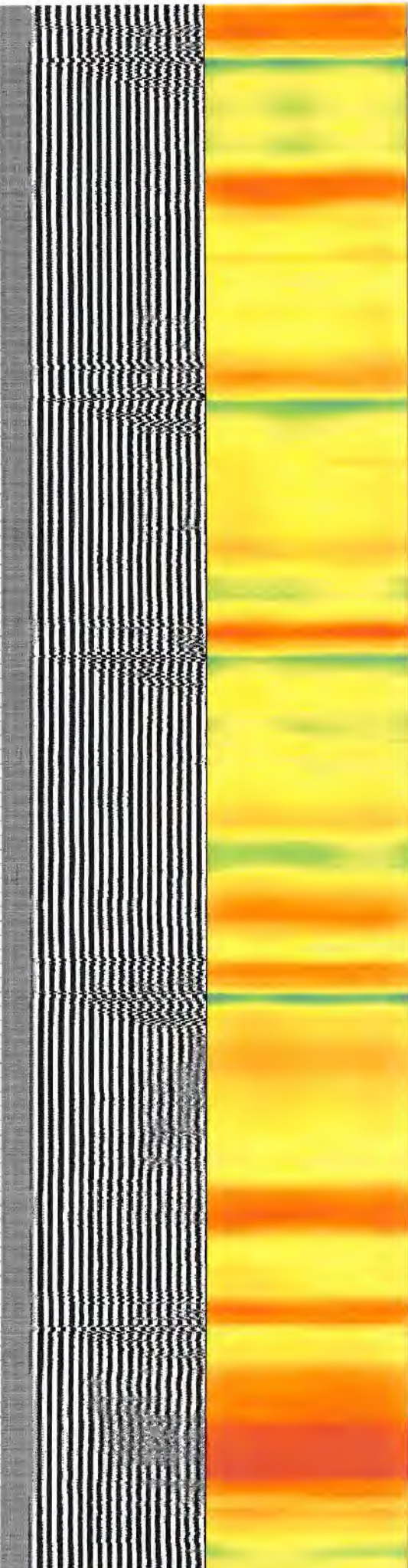
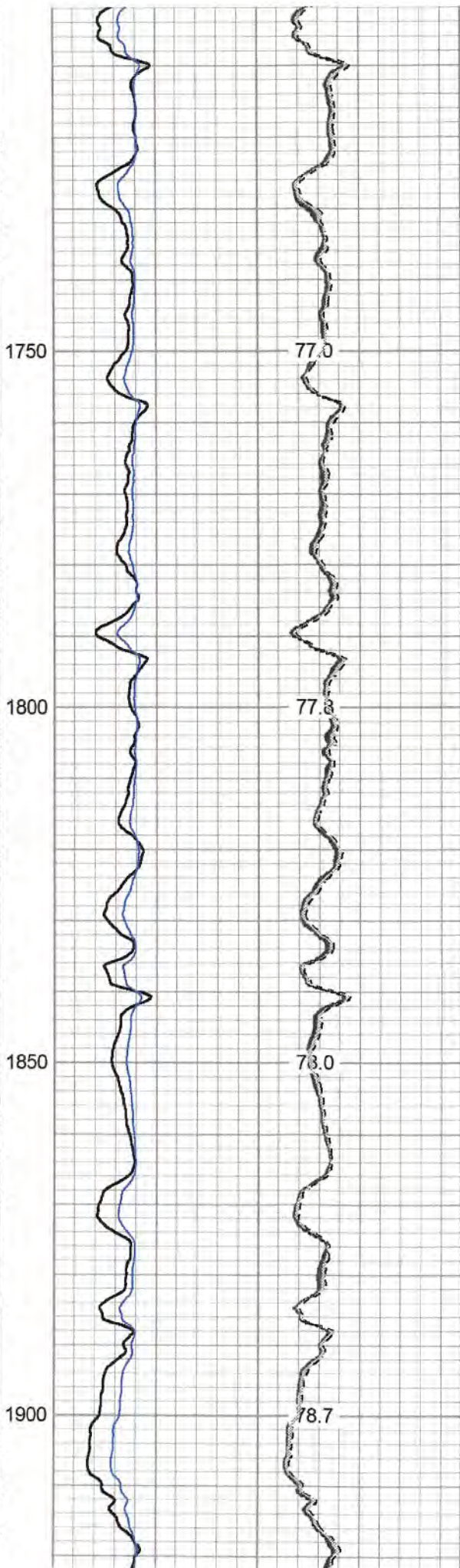
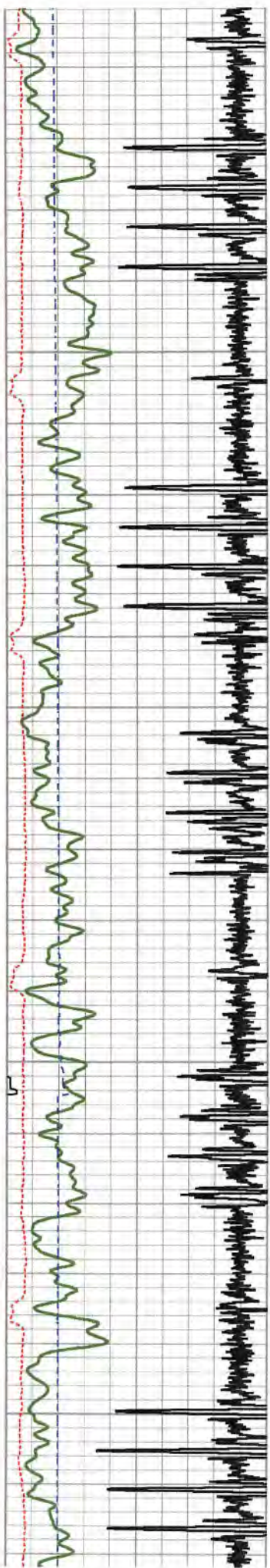


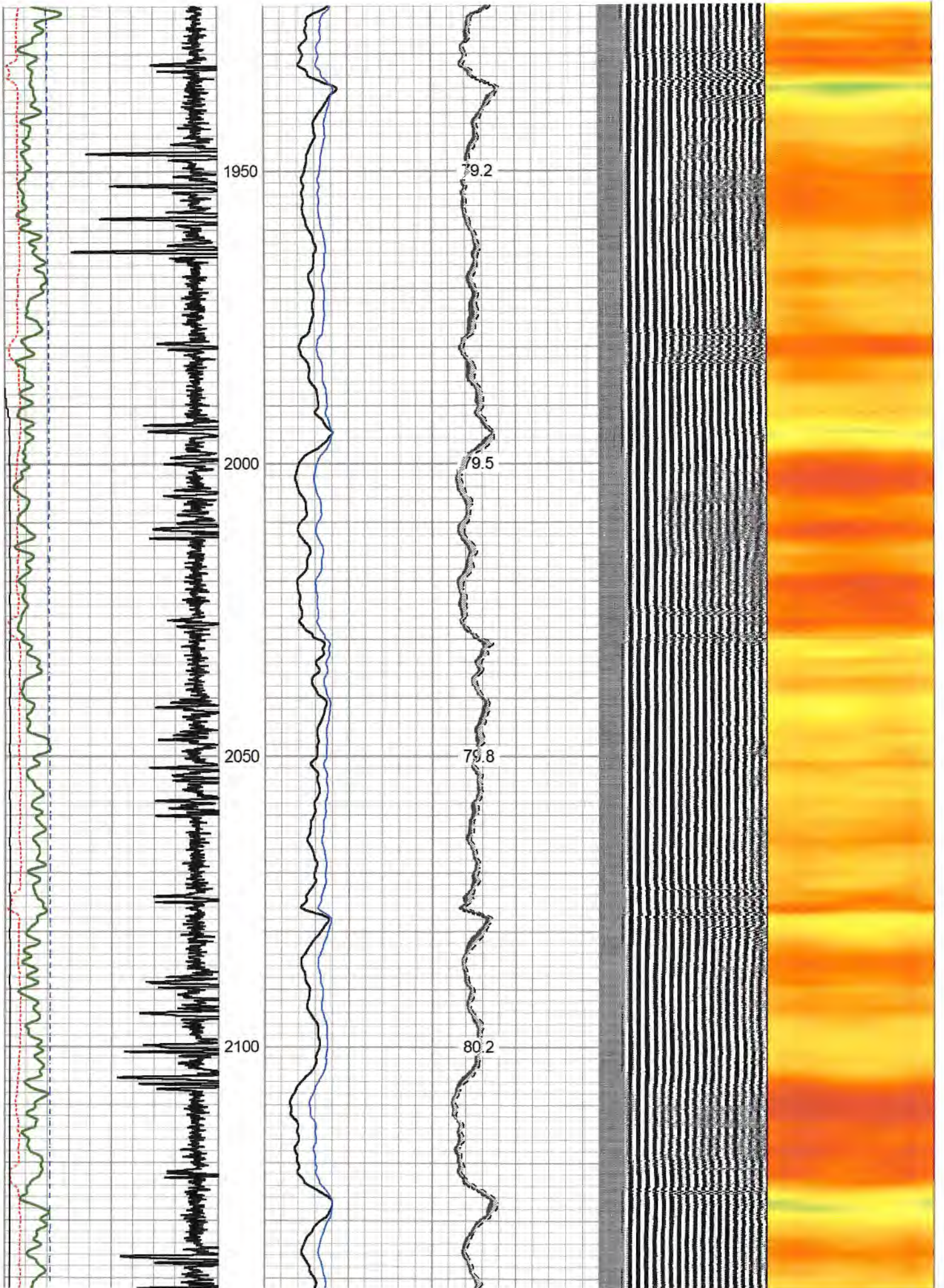


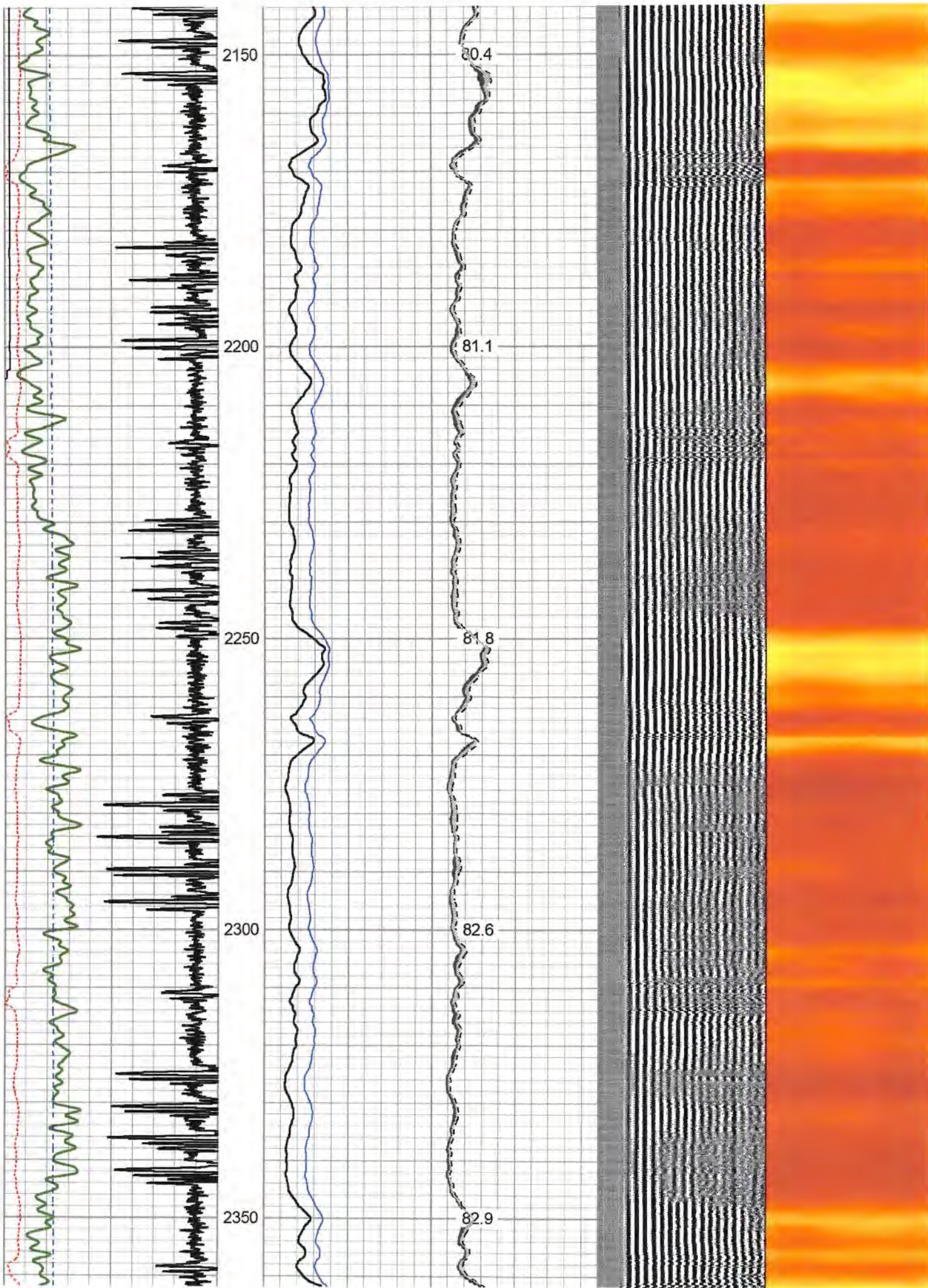


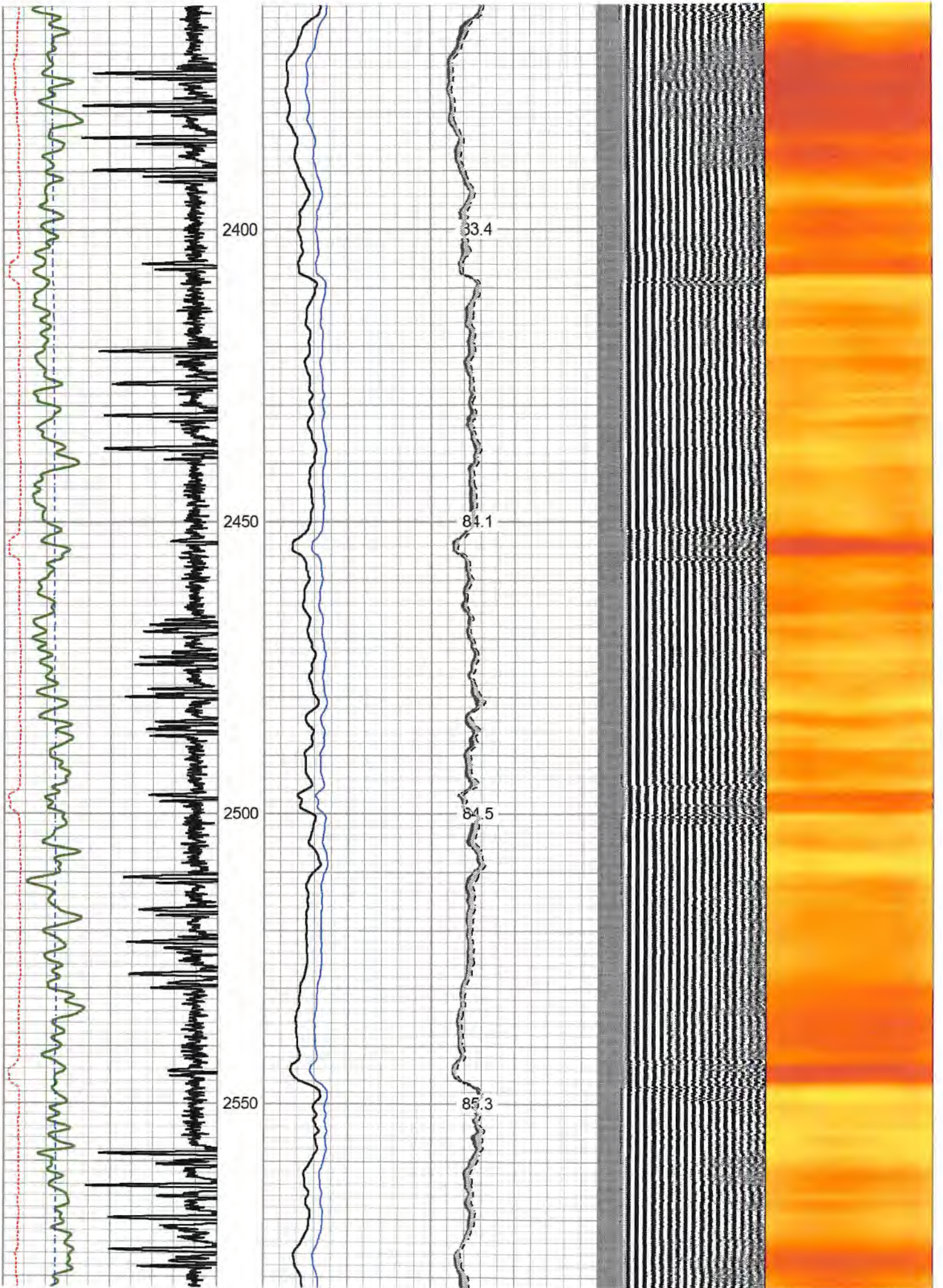


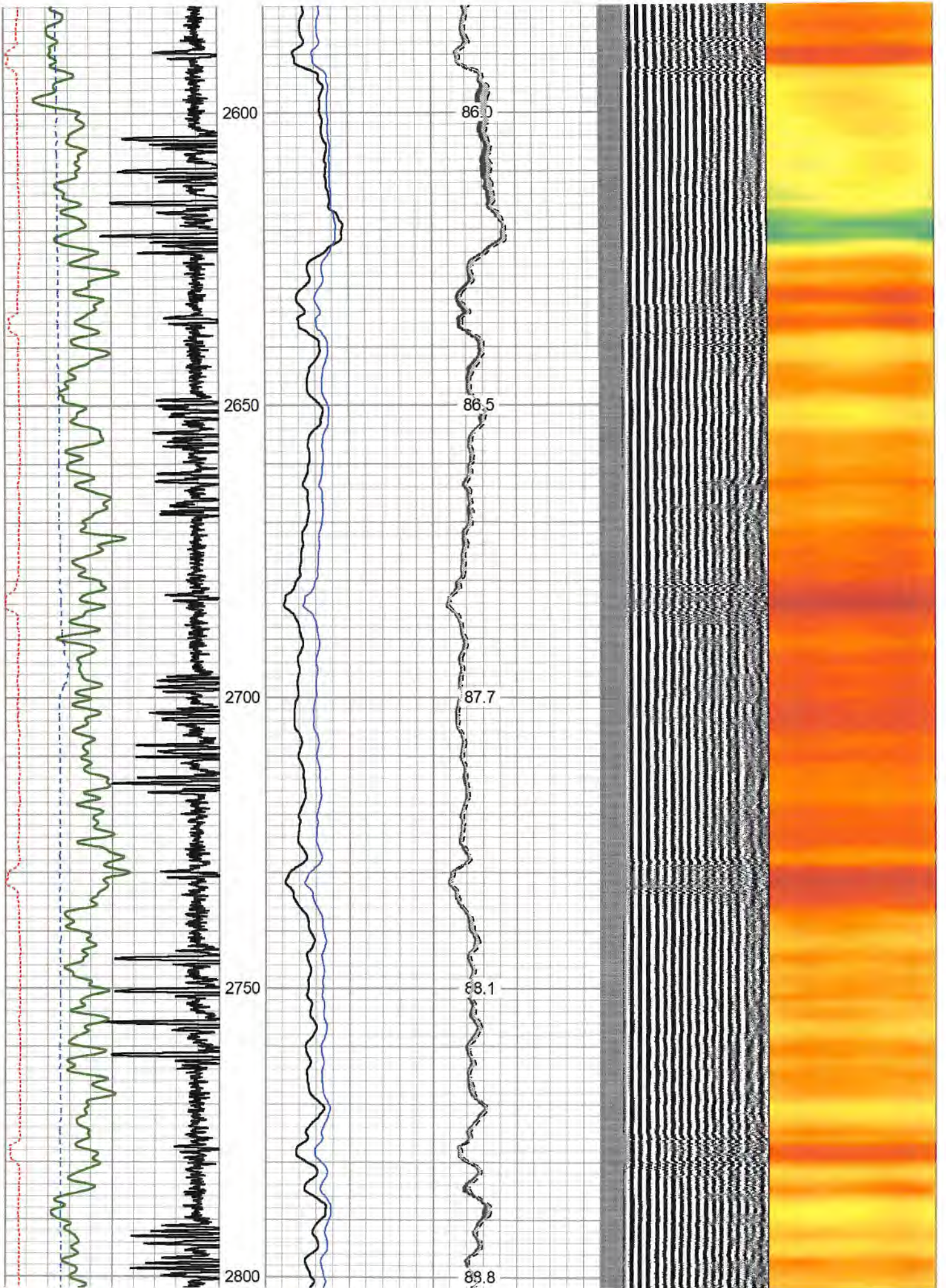


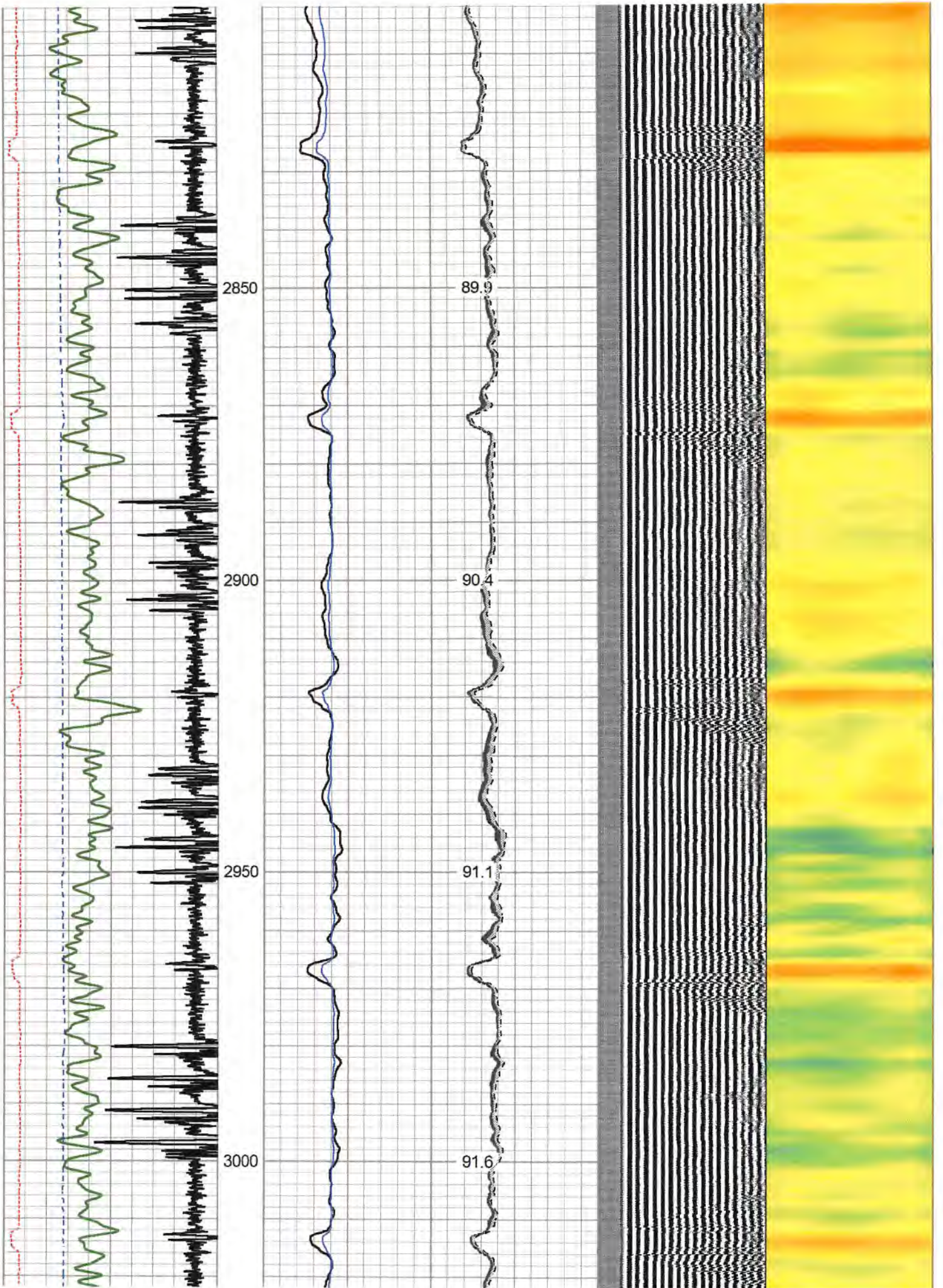


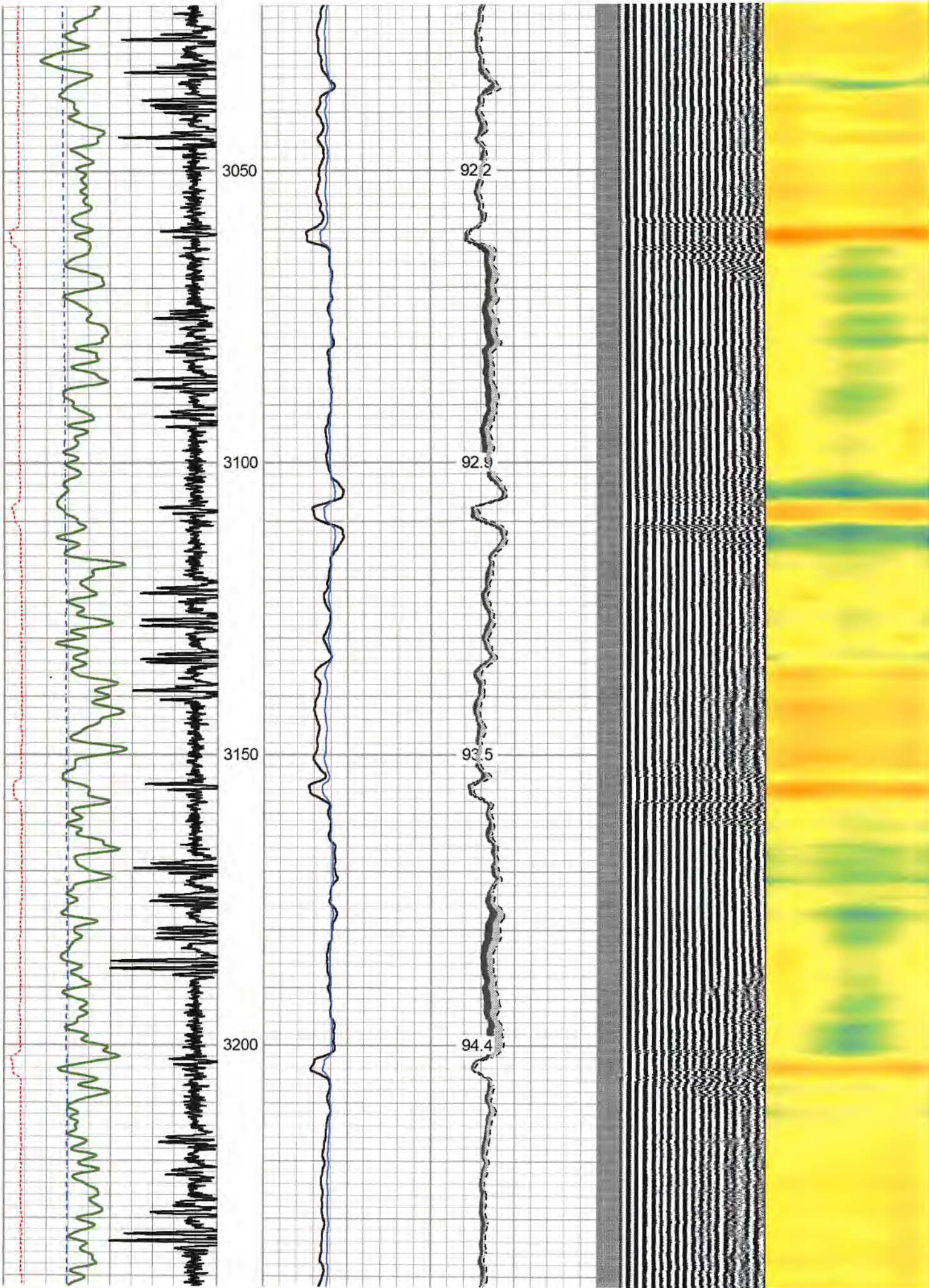


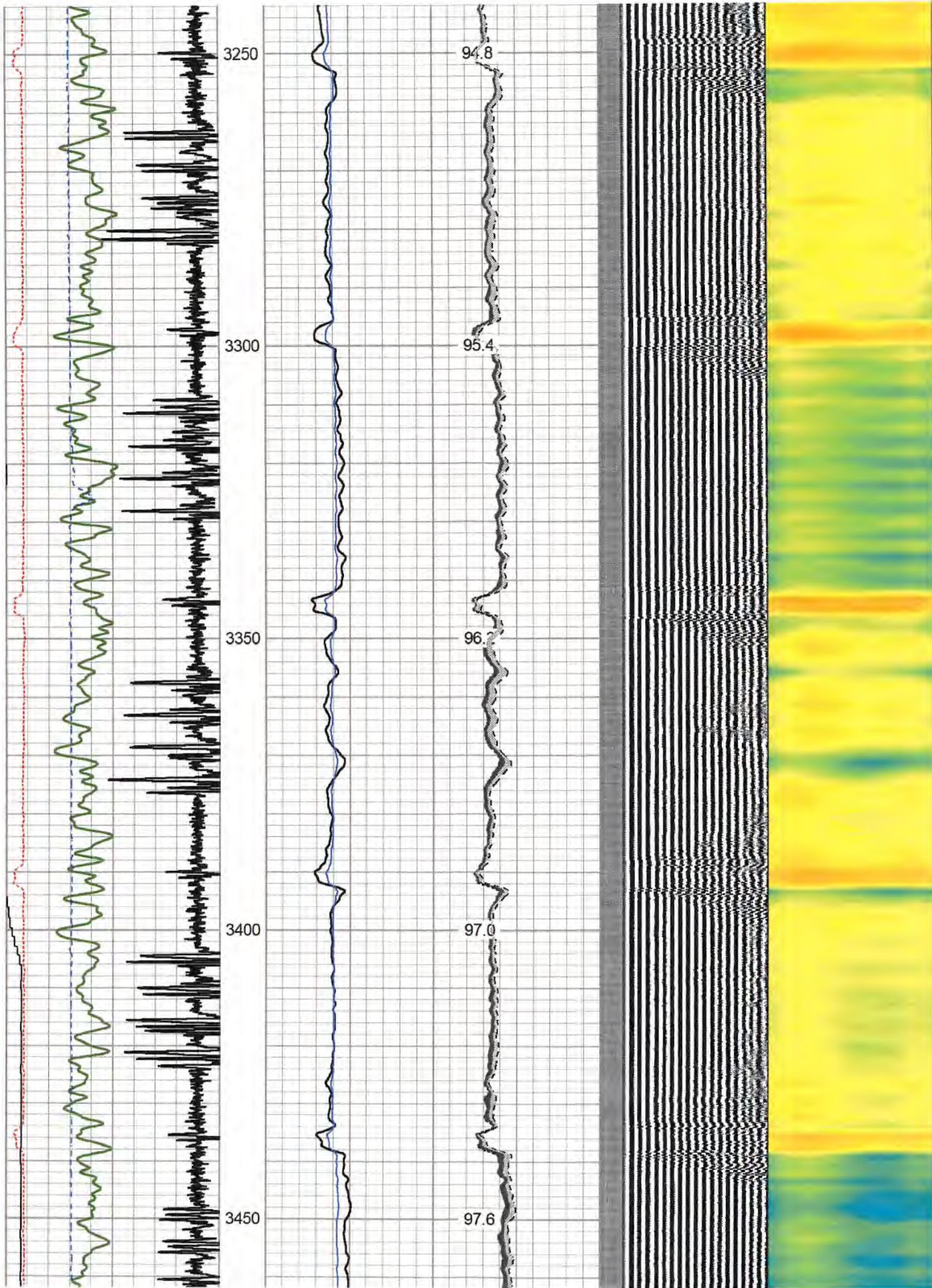


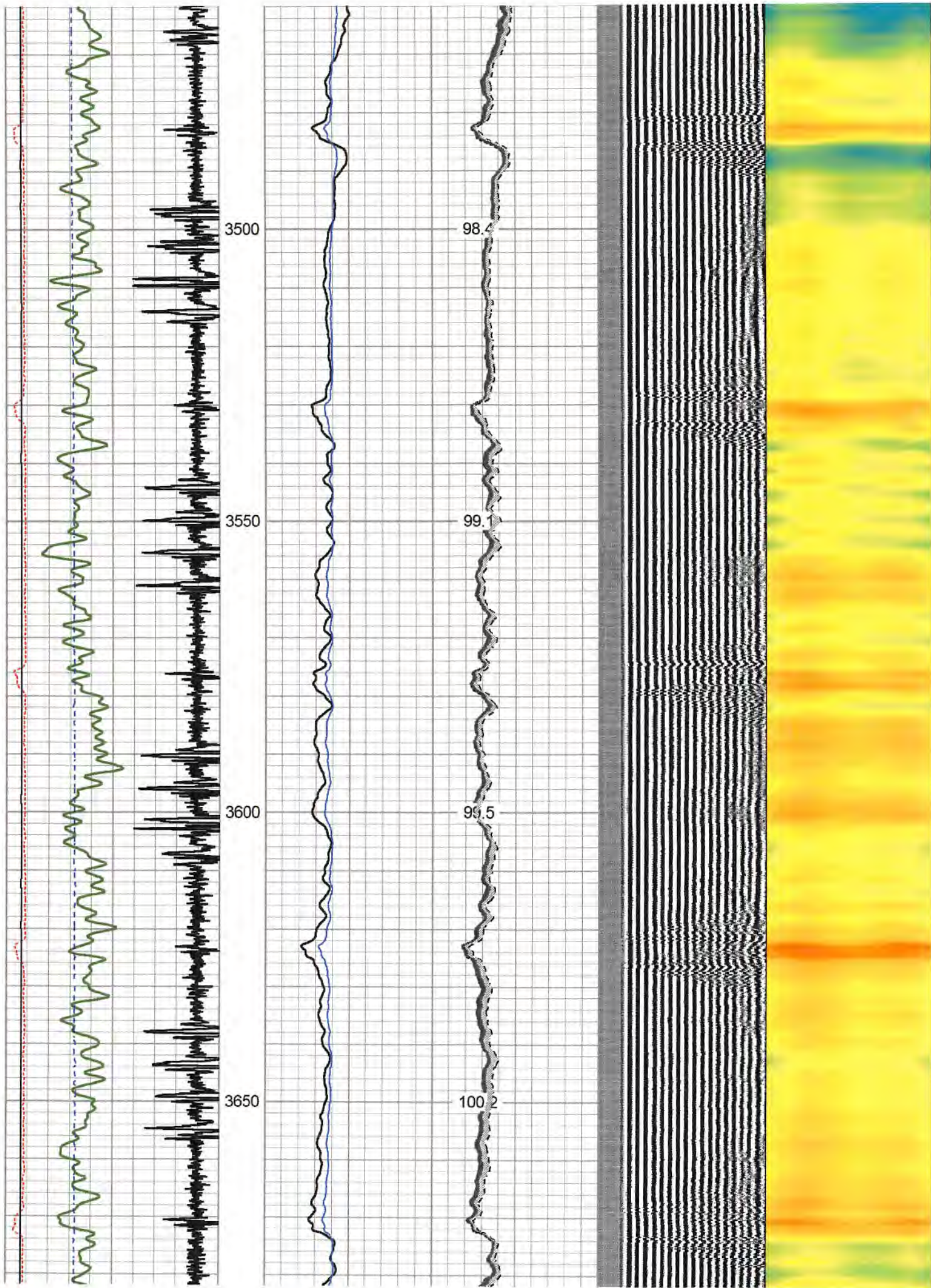


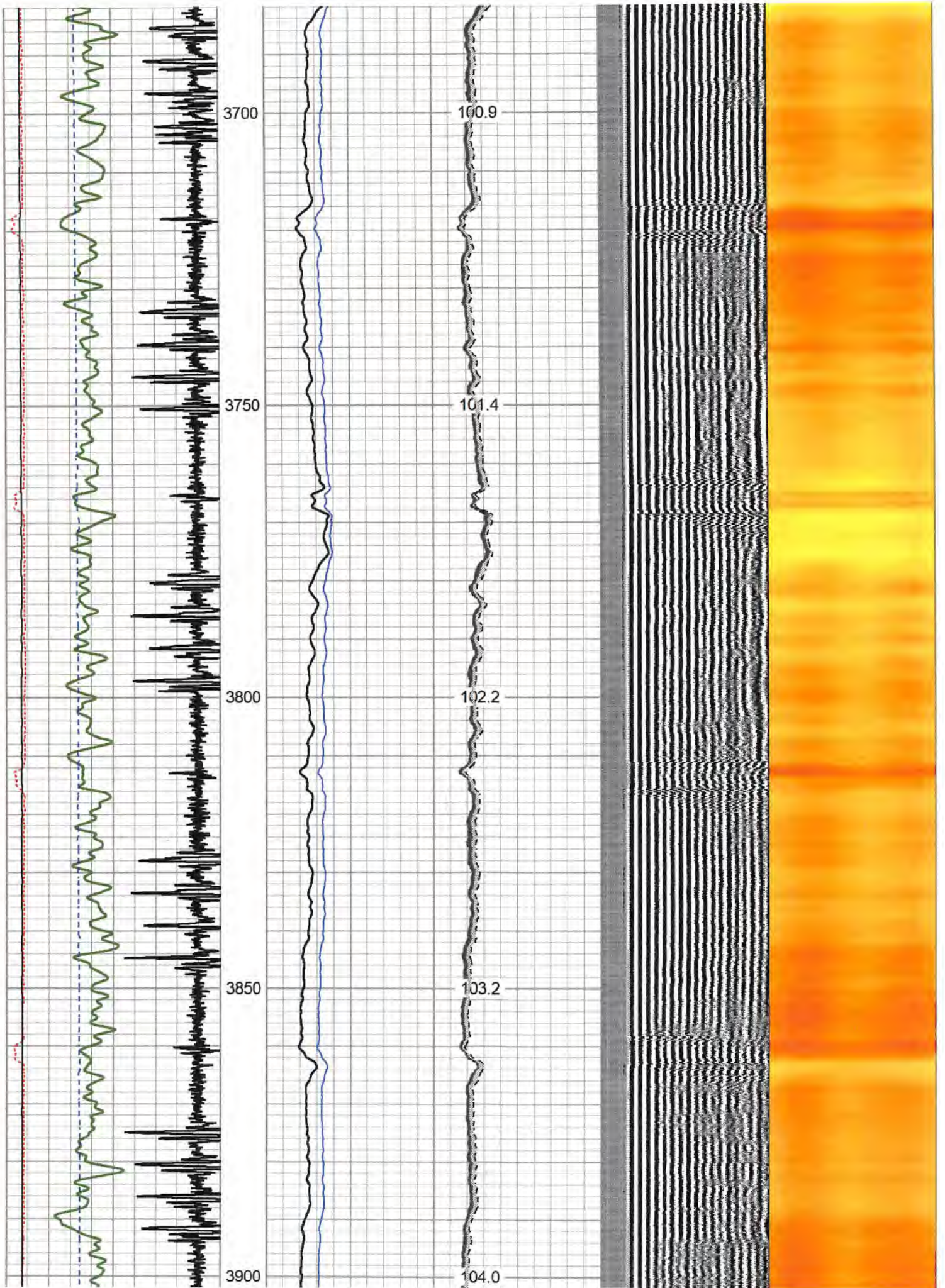


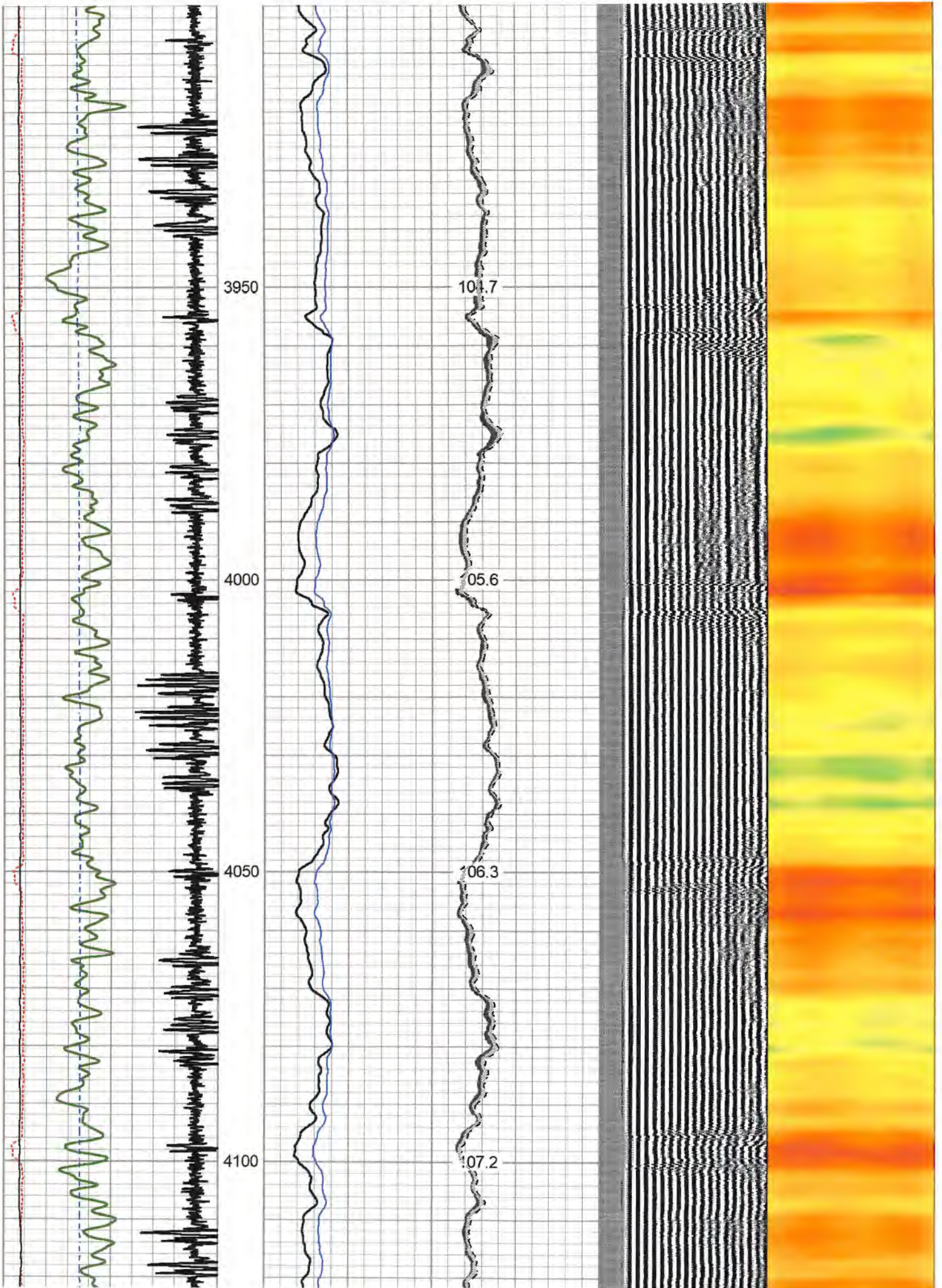


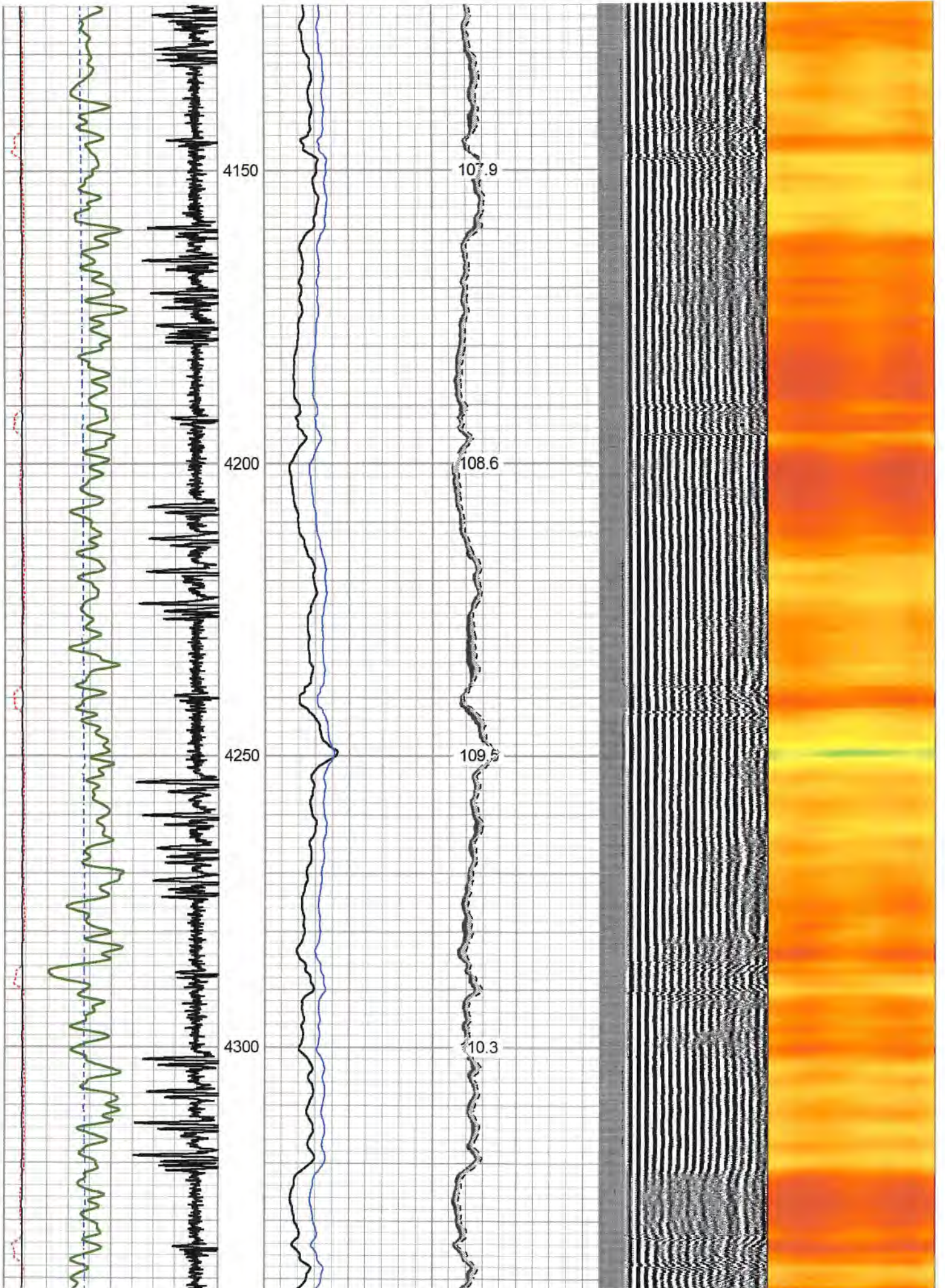


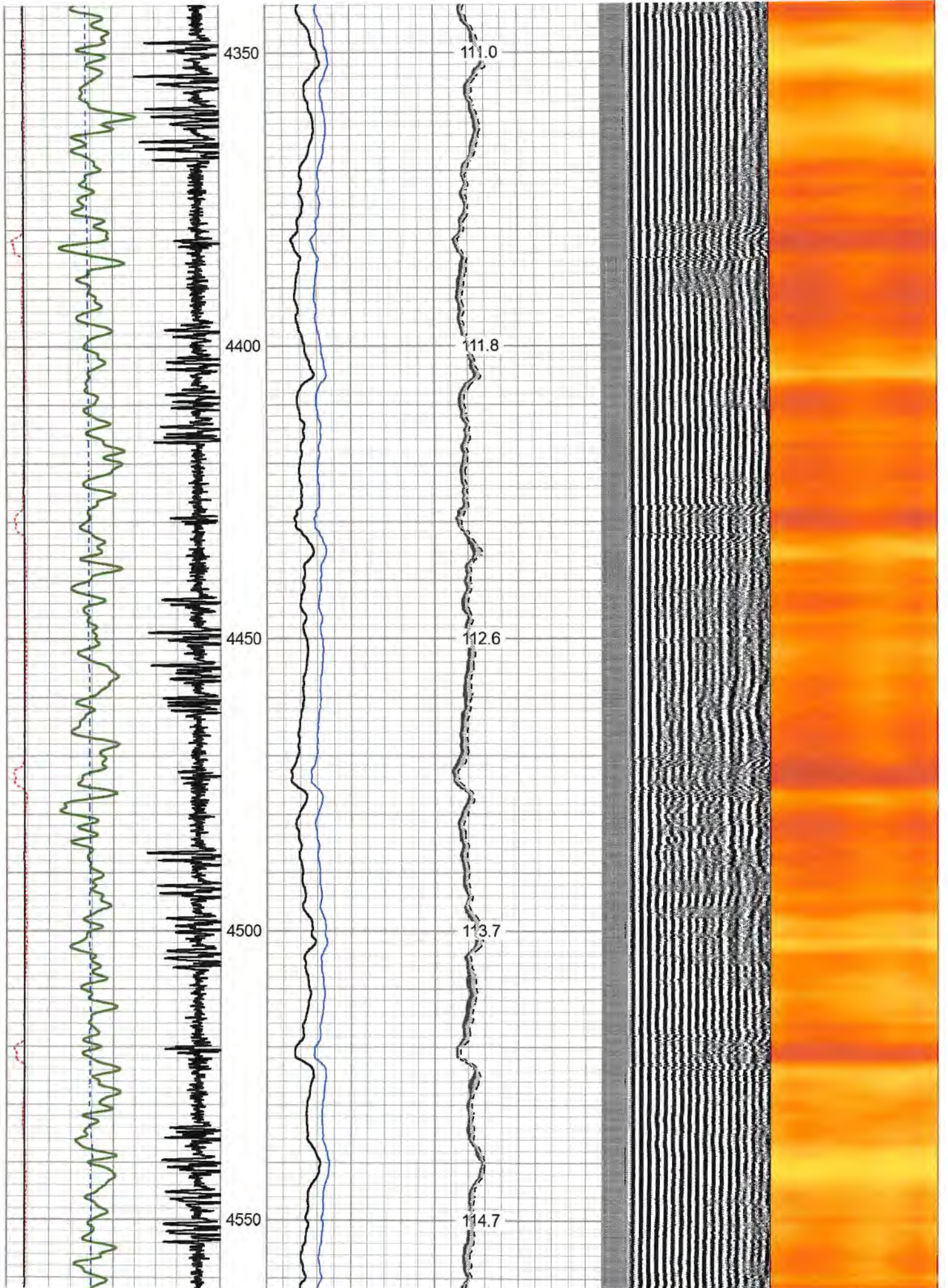


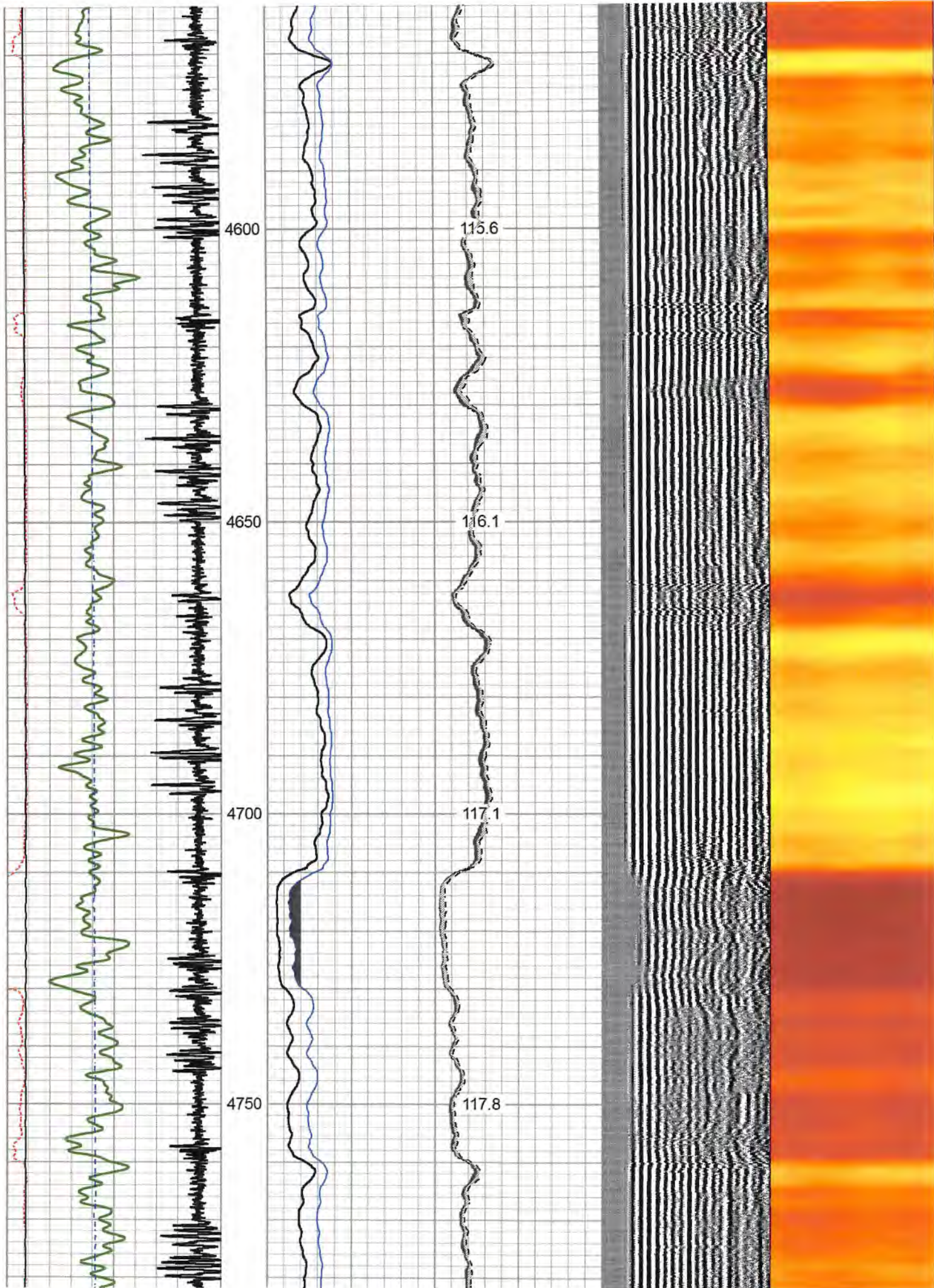


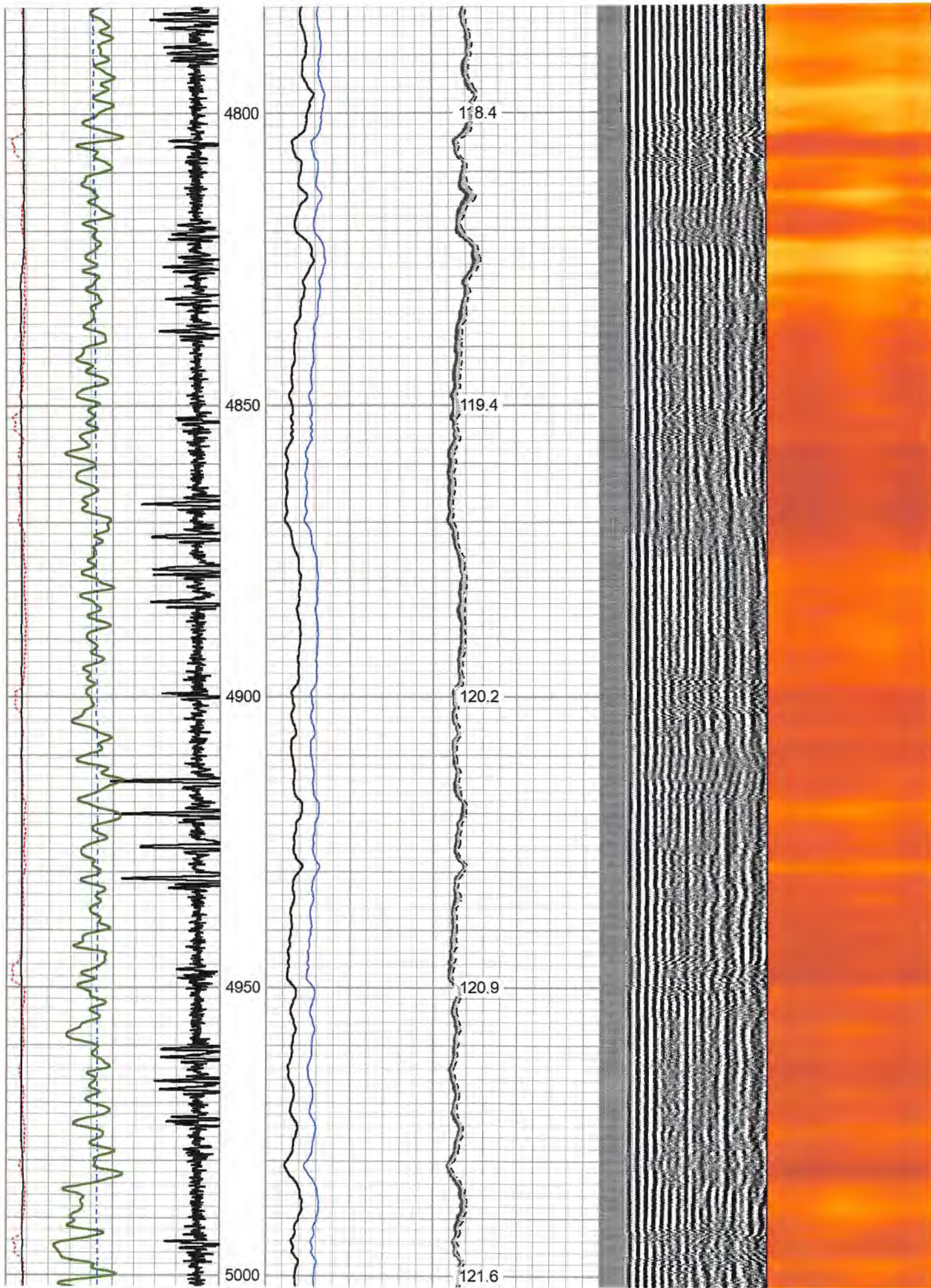


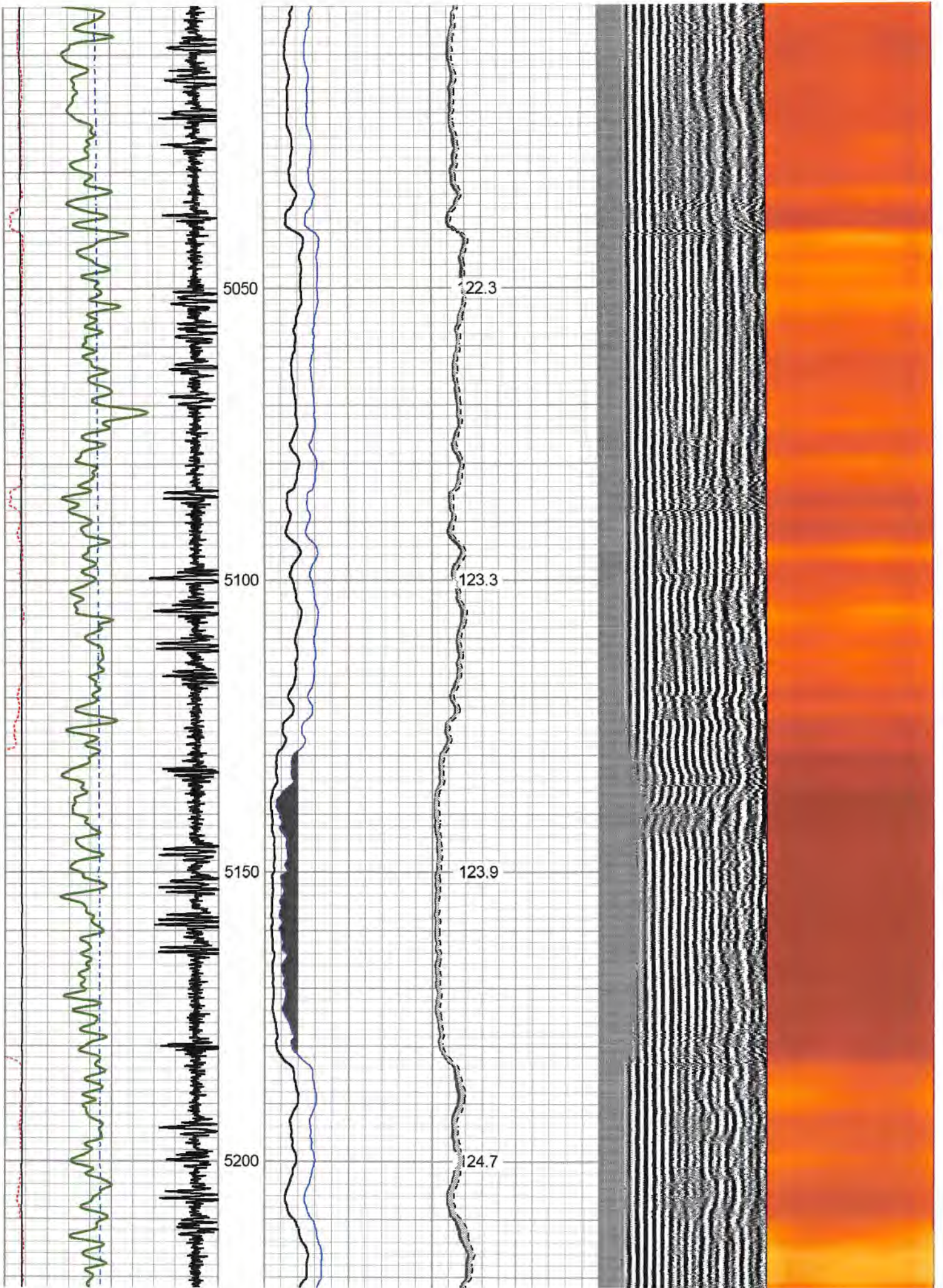


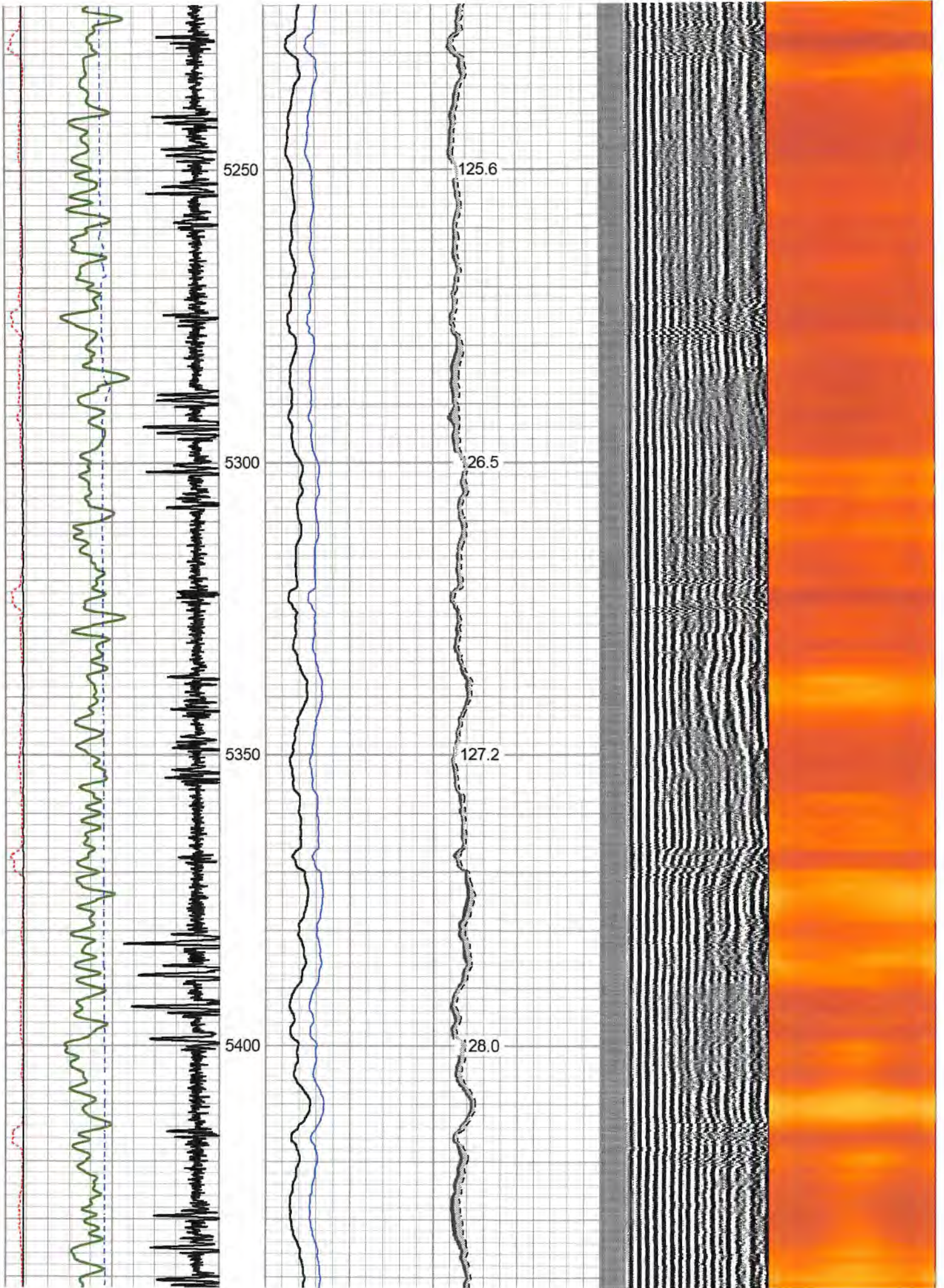


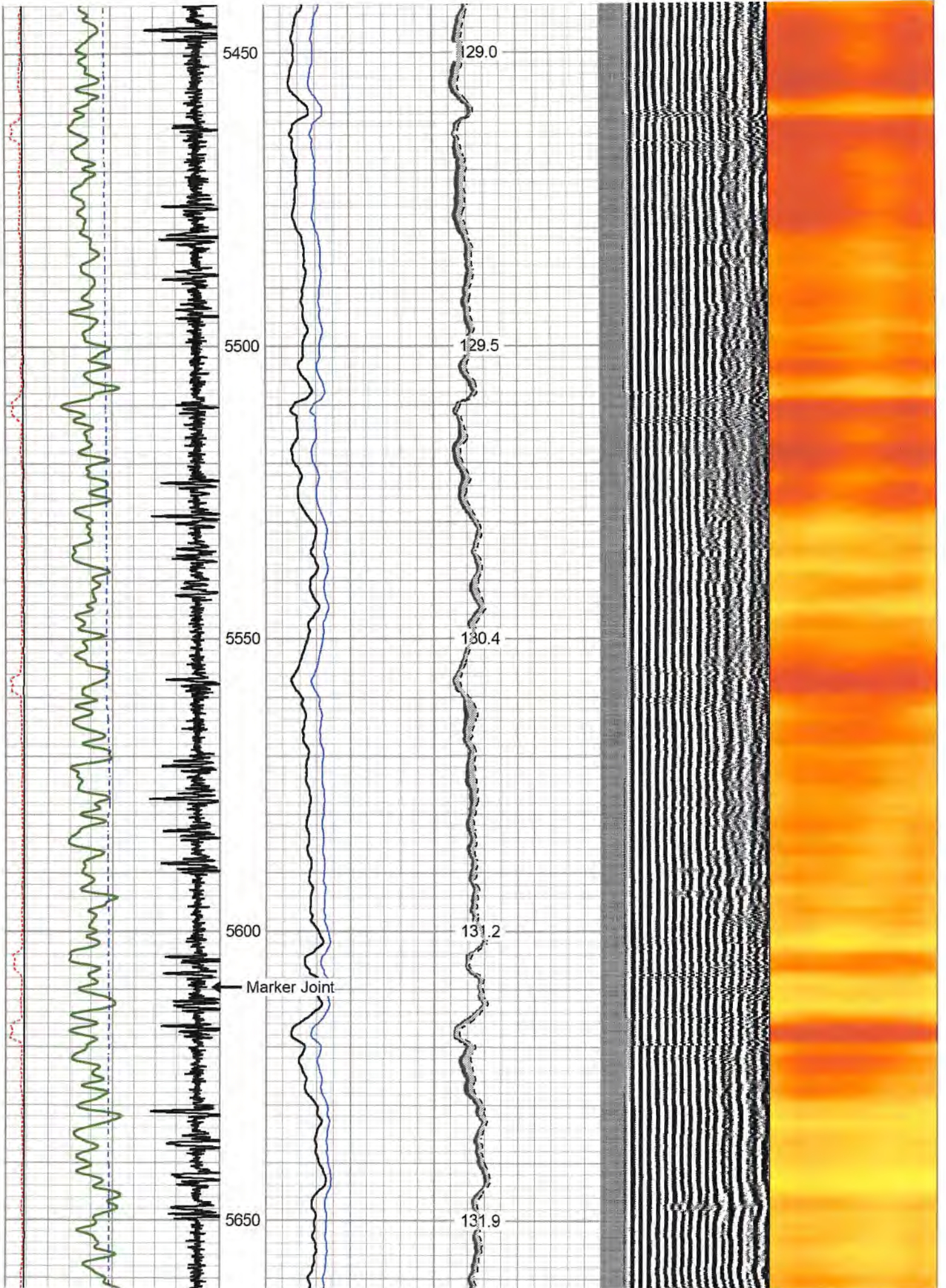


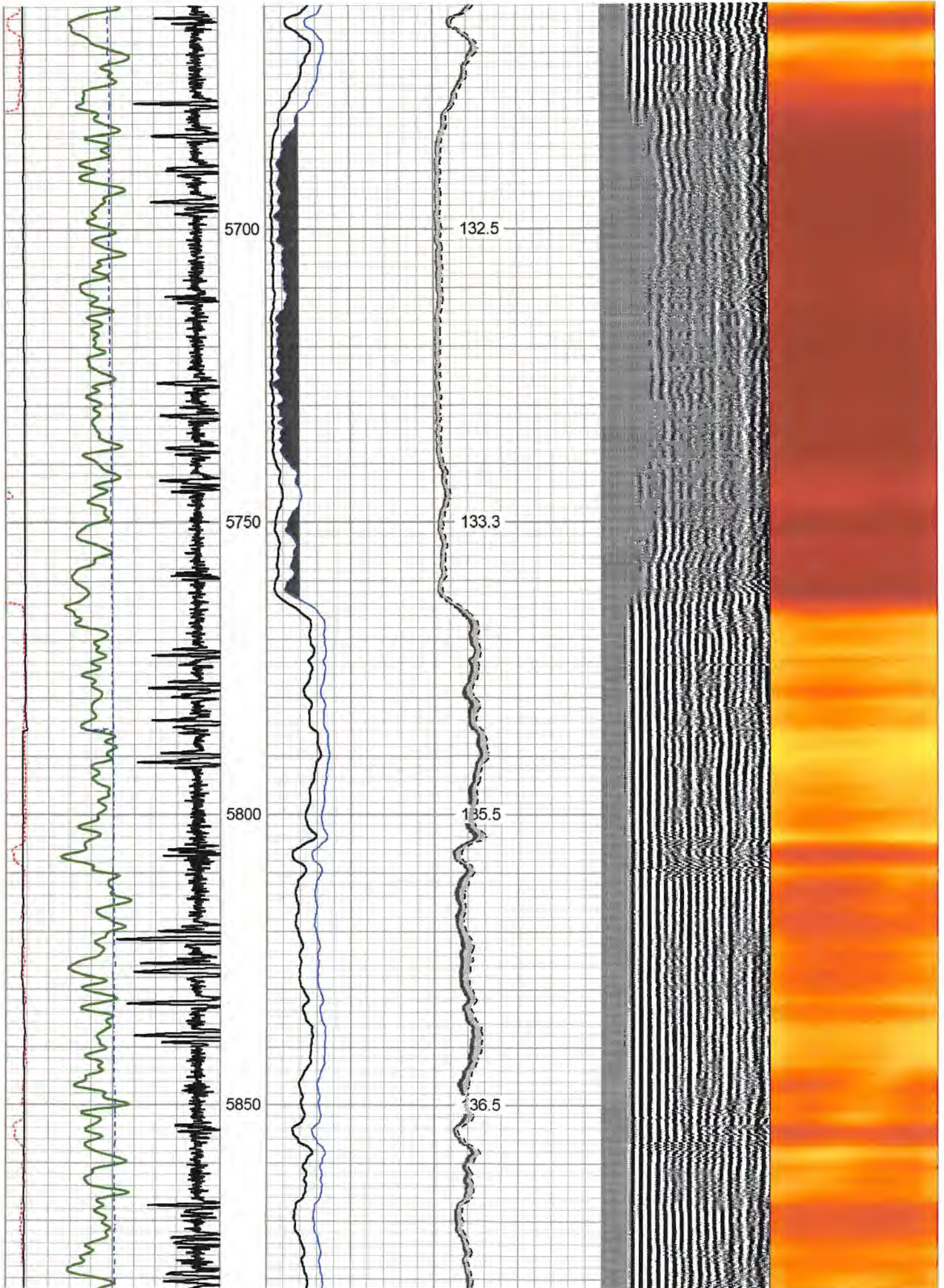


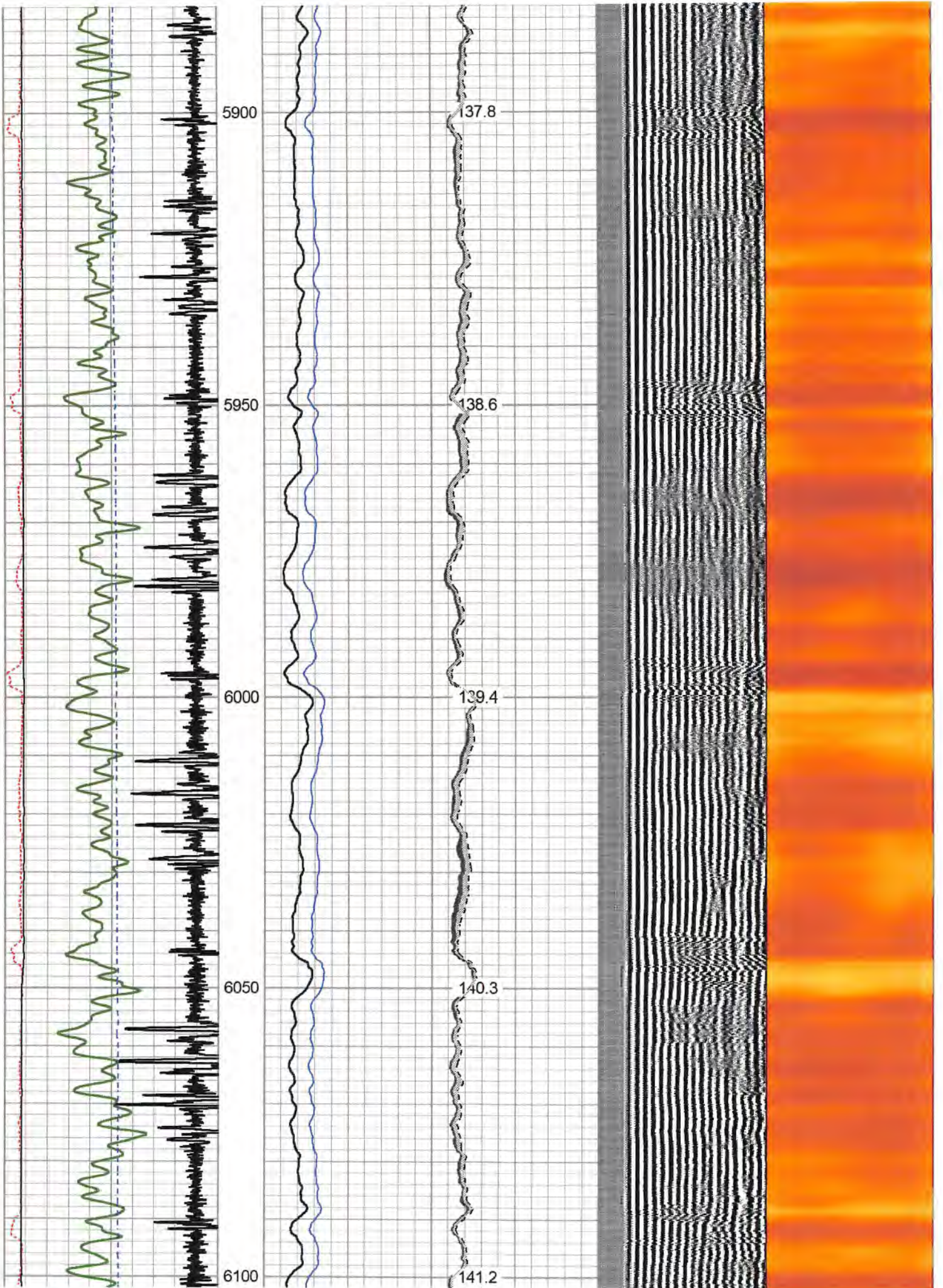


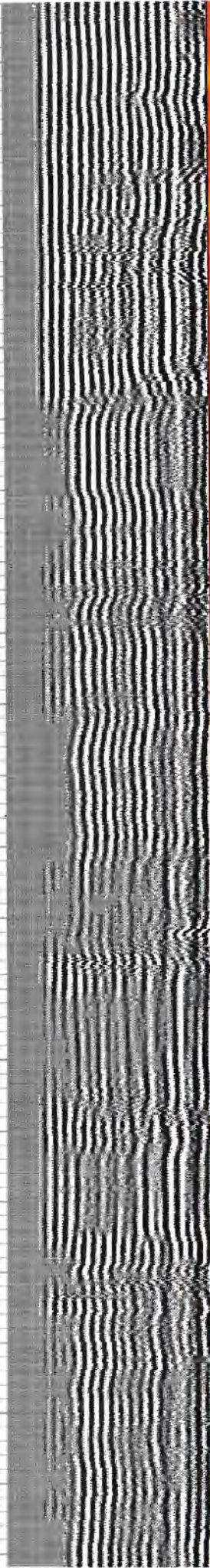
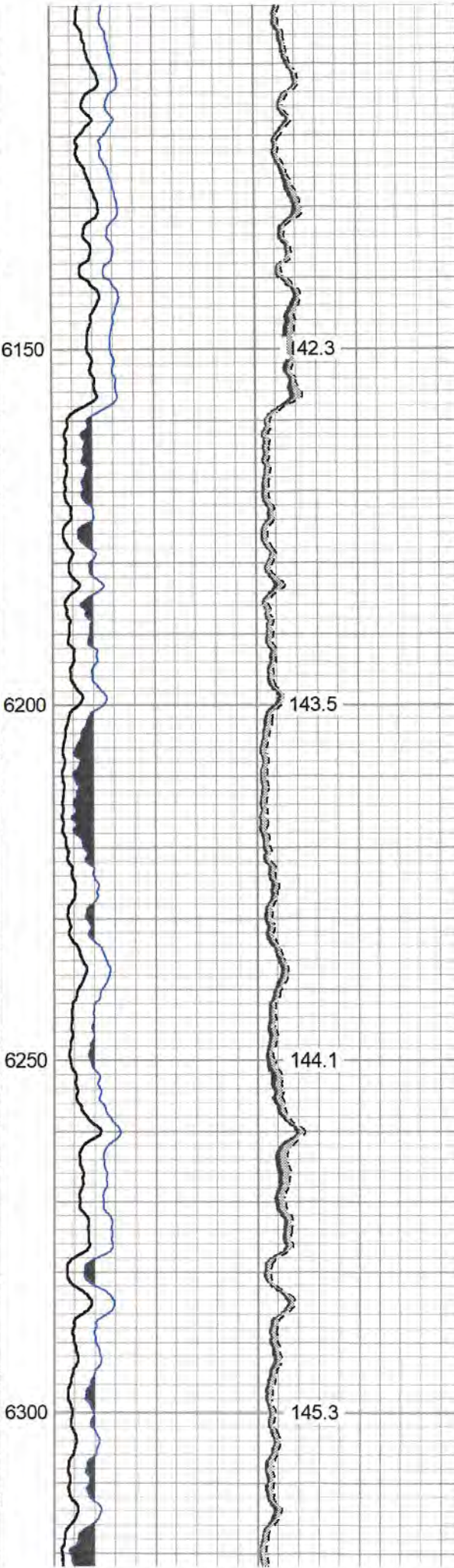
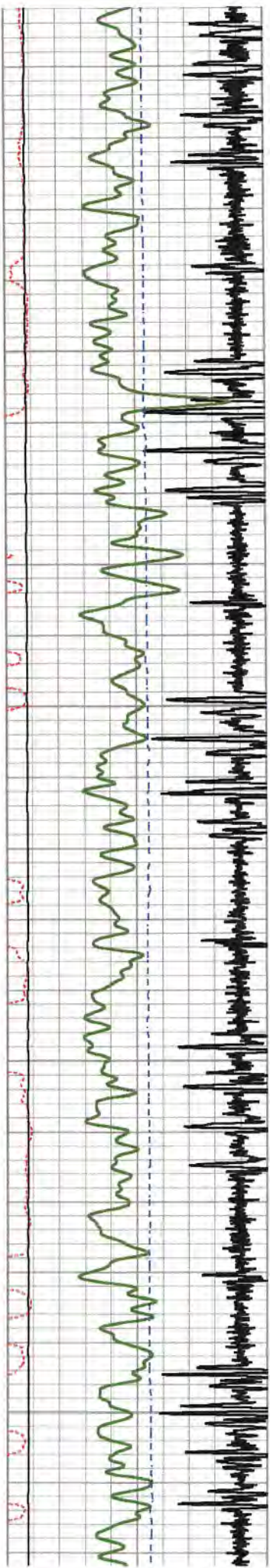




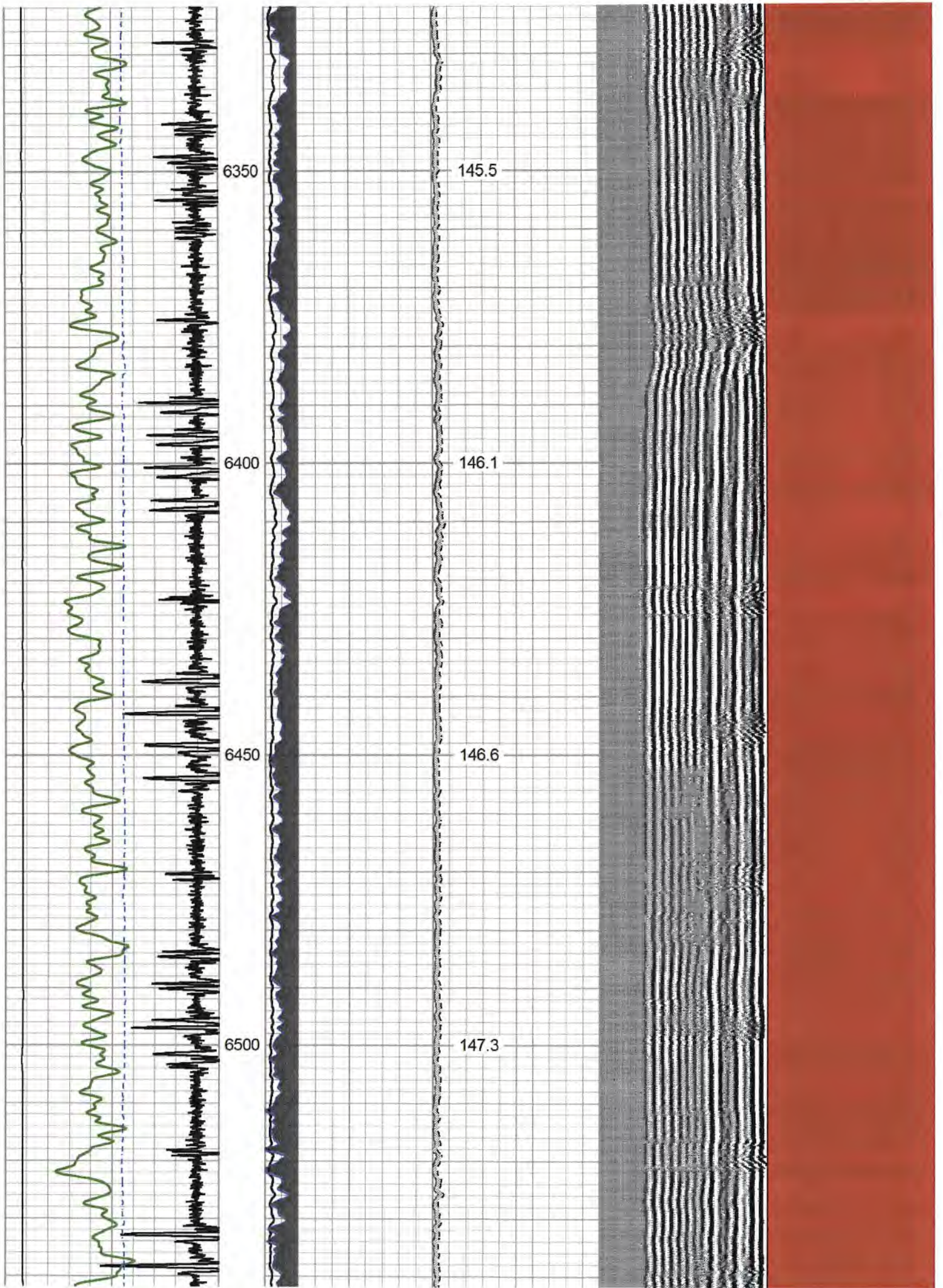


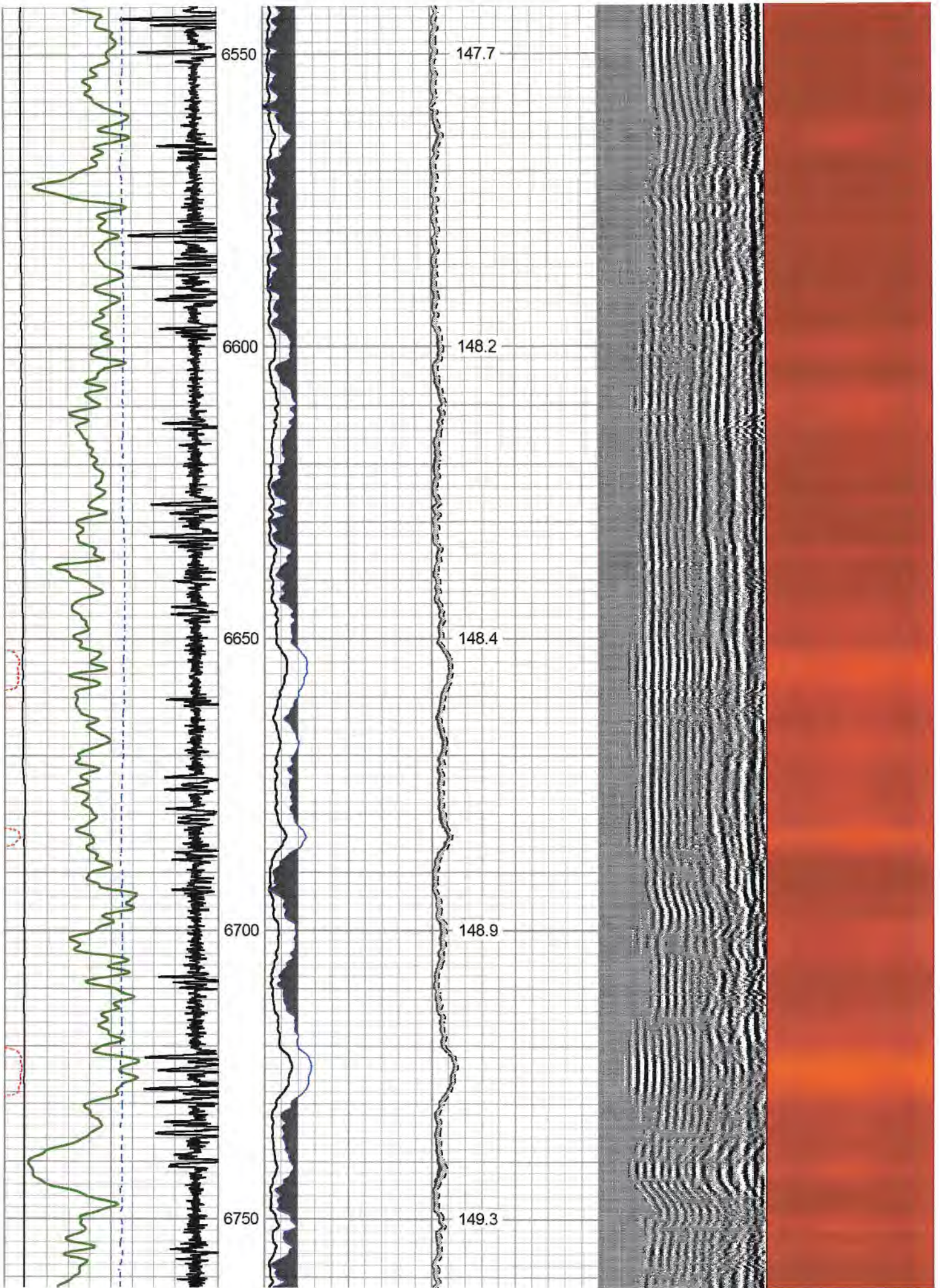


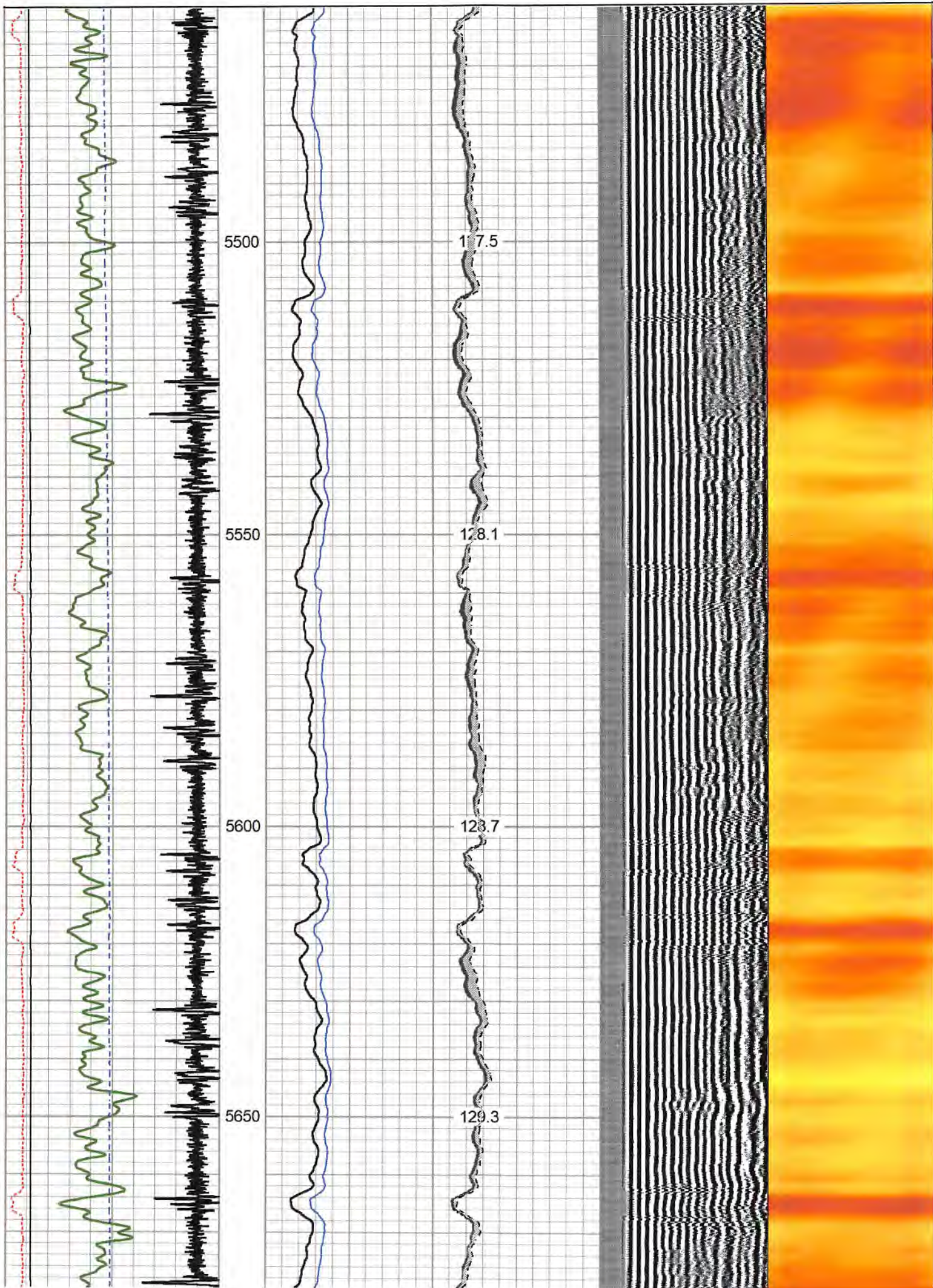


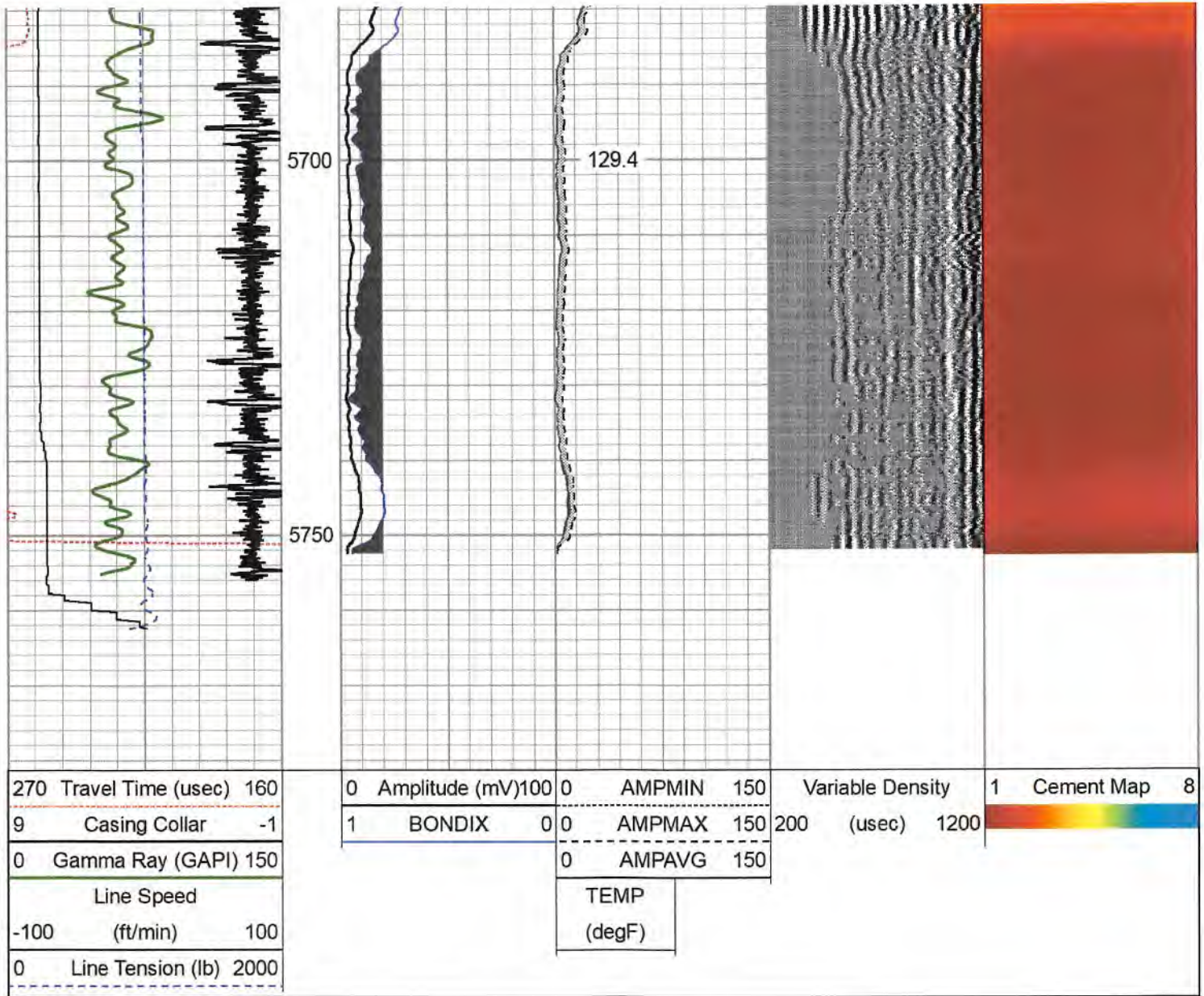


42.3
143.5
144.1
145.3









Log Variables

Database C:\ProgramData\Warrior\Data\antero_margery_grapevine_2h_rcbl_09_jan_2021.db
 Dataset rabbit_ears/grapevine_2h/run1/pass4/_vars_

Top - Bottom

BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
	in	degF	in	in	lb/ft	mV	mV
TEMP	7.875	149	5.5	0.361	20	71.9	2.2
MINATTN	PERFS	PPT	SRFTEMP	TDEPTH			
db/ft		uSec	degF	ft			
10.8	No	261	30	6845			

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 antero_margery_grapevine_2h_rcbl_09_jan_2021.db
 Dataset Pathname rabbit_ears/grapevine_2h/run1/pass4
 Dataset Creation Sat Jan 09 10:12:49 2021

Gamma Ray Calibration Report

Serial Number: FW1211-86
 Tool Model: Probe
 Performed: Mon Nov 30 11:58:15 2020

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: 115.425 ft

Master Calibration, performed Fri Jan 08 10:39:23 2021:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.015	0.996	2.200	71.921	68.939	3.242
CAL	0.081	0.845				
5'	-0.015	0.891	2.200	71.921	76.918	3.359
SUM						
S1	-0.015	1.036	0.000	100.000	95.159	1.415
S2	-0.014	1.056	0.000	100.000	93.488	1.266
S3	-0.011	1.052	0.000	100.000	94.049	1.050
S4	-0.012	1.015	0.000	100.000	97.391	1.164
S5	-0.013	0.991	0.000	100.000	99.647	1.249
S6	-0.013	0.962	0.000	100.000	102.594	1.297
S7	-0.015	0.941	0.000	100.000	104.564	1.570
S8	-0.013	0.971	0.000	100.000	101.663	1.335

Internal Reference Calibration, performed Thu Sep 27 16:01:58 2018:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.081	0.845	1.000	0.000

Air Zero Calibration, performed Fri Jan 08 09:44:33 2021:

	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	

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)
HeadVolt	16.99		CHD-Titan Titan 1 7/16" GO Cablehead	1.00	1.44	5.00
Temp	14.14		CENT-Overbody Antelope (SP-919-0233)	1.67	4.88	5.00
WVFS8	11.91		RBT-Probe275T (FW1312-32) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00
WVFS7	11.91					
WVFS6	11.91					
WVFS5	11.91					
WVFS4	11.91					
WVFS3	11.91					
WVFS2	11.91					
WVFS1	11.91					
WVF3FT	11.91					
WVF5FT	10.91					
WVFCAL HEADVOLT	7.66					
CCL	6.75					
GR	5.42		CENT-Overbody Antelope (SP-919-0233)	1.67	4.88	5.00
		GR-Probe (FW1211-86) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00	
		CENT-Probe275 2.75" Centralizer	2.88	2.75	20.00	

Dataset:	antero_margery_grapevine_2h_rcbl_09_jan_2021.db: rabbit_ears/grapevine_2h/run1/pass4
Total length:	18.05 ft
Total weight:	182.00 lb
O.D.:	4.88 in



Company	ANTERO	
Well	Margery Grapevine 2H	
Field	RABBIT EARS	
County	TYLER	
State	WEST VIRGINIA	Country USA