



# RADIAL CEMENT BOND LOG

Company ANTERO	Country USA	Company ANTERO	
Well Prosper 2H		Well Prosper 2H	
Field RABBIT EARS		Field RABBIT EARS	
County TYLER		County TYLER	
State WEST VIRGINIA		State WEST VIRGINIA	
		Country USA	
Location:		API #: 47-095-02700-0000	
		Other Services	
		GR	
		CCL	
		TEMP	
		Elevation	
SEC	TWP	RGE	Elevation 25'
Permanent Datum		GL	
Log Measured From		KB	
Drilling Measured From		KB	

Date	7-NOV-2020
Run Number	ONE
Depth Driller	16,936'
Depth Logger	7,060'
Bottom Logged Interval	7,084'
Top Log Interval	SURFACE
Open Hole Size	8.50"
Type Fluid	FRESH WATER
Density / Viscosity	8.4#
Max. Recorded Temp.	144 Deg. F.
Estimated Cement Top	
Time Well Ready	22:36
Time Logger on Bottom	23:25
Equipment Number	TK-127 / P2,G1
Location	CHARLEROI, PA
Recorded By	Matt McNally
Witnessed By	JERRAKO EVANS

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record		Size	Wgt/Ft	Top	Bottom		
Surface String		17 1/2"	N/A	105'	391'		
Prot. String							
Production String		5 1/2"	23#	SURFACE	16,915'		
Liner							

All interpretations are 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 Kelly Bushing**  
**MARKER JOINT @ 5,840'-5,850'**  
**Casing Talley Marker Joint @ 5,927' - 5,938'**  
 ( 87' Difference )  
**100%FREE PIPE=71.9mv**  
**100%BOND=3.4mv**

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# Main Pass 1,500 PSI

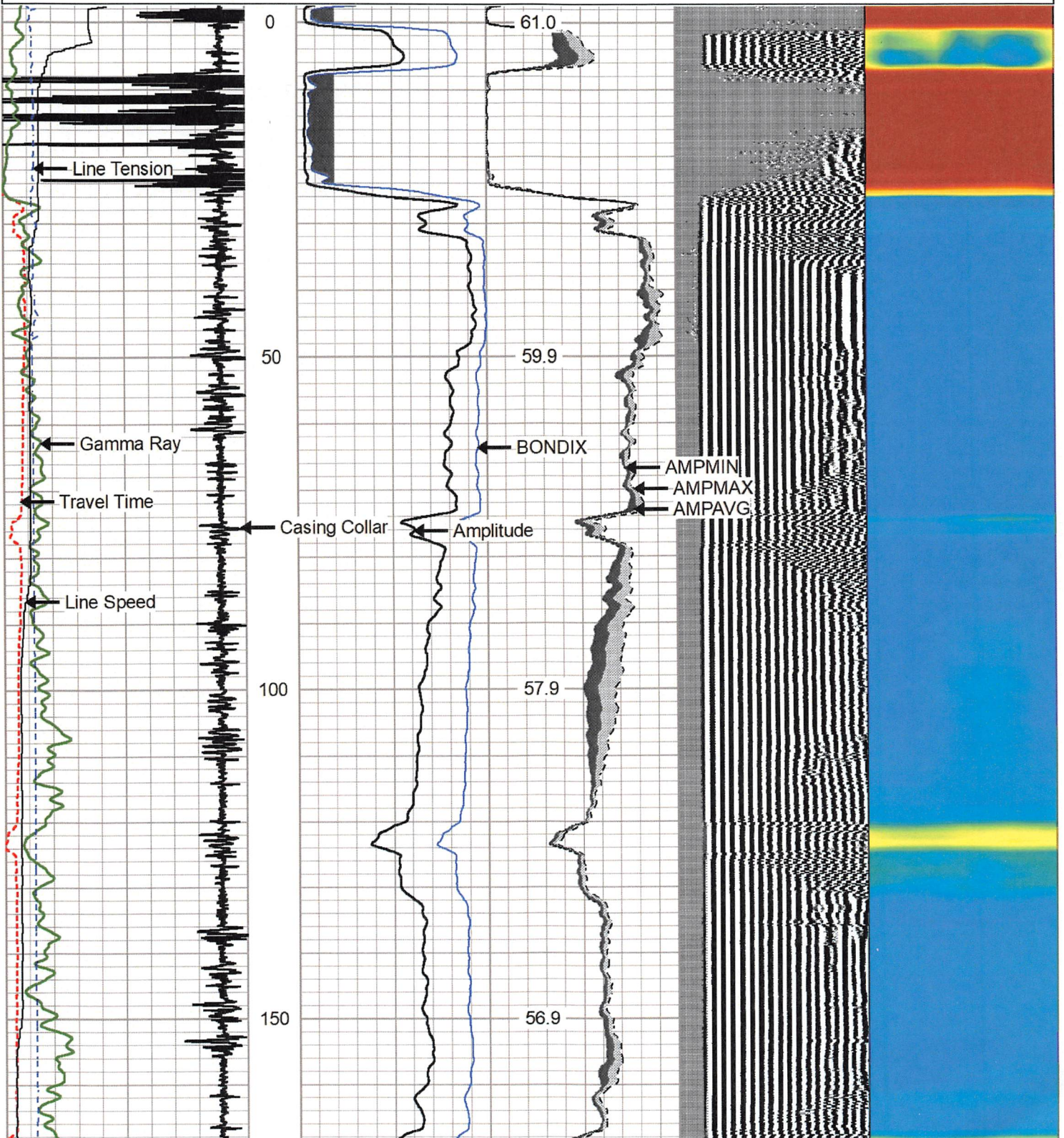


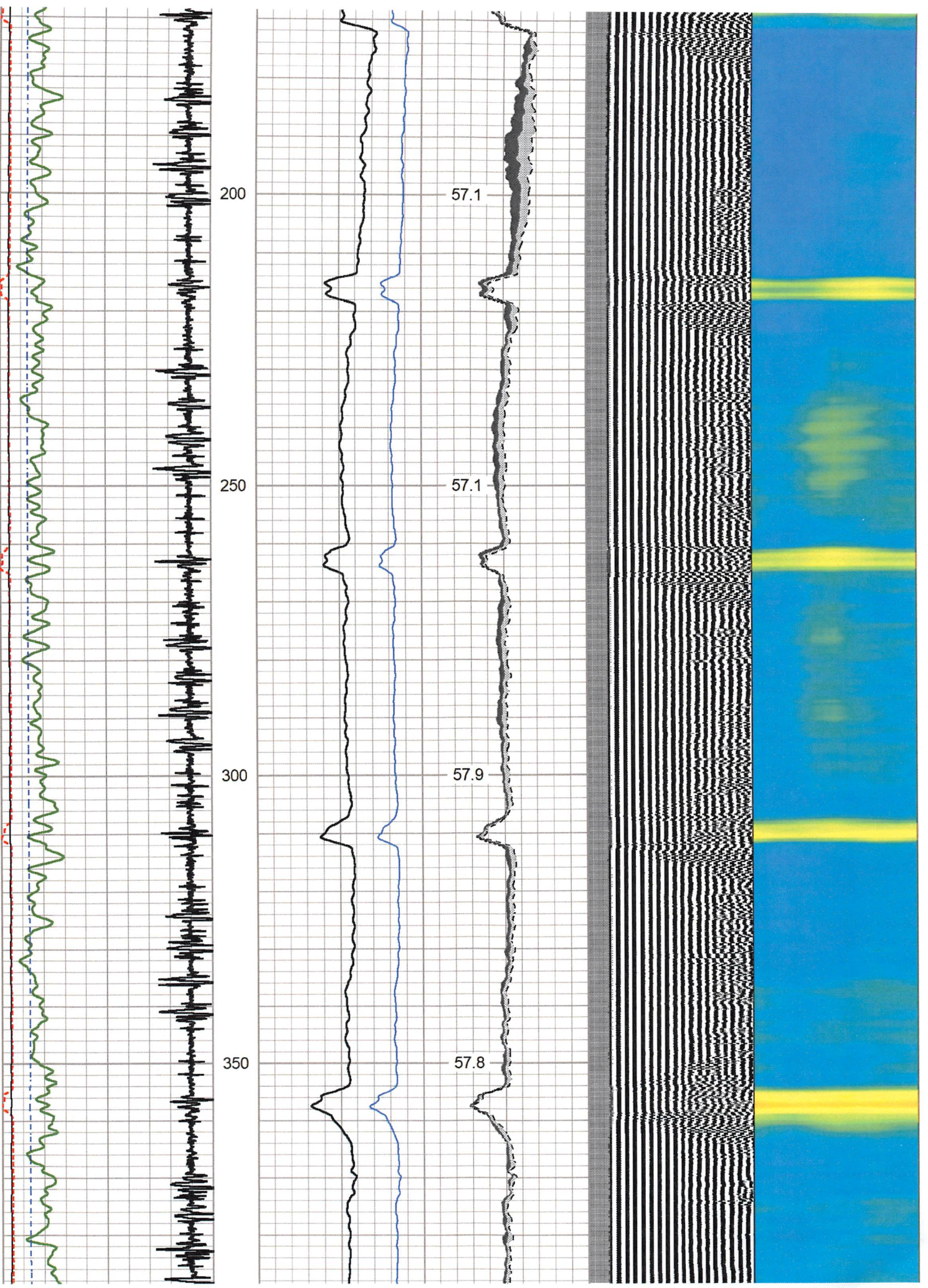
Database File antero\_prosper\_2h\_nov\_7\_2020\_cbl.db  
 Dataset Pathname Rabbit\_Ears/Prosper\_2h/rcbl/pass6  
 Presentation Format rcbl-bond index for antero 1020  
 Dataset Creation Sat Nov 07 23:31:56 2020  
 Charted by Depth in Feet scaled 1:240

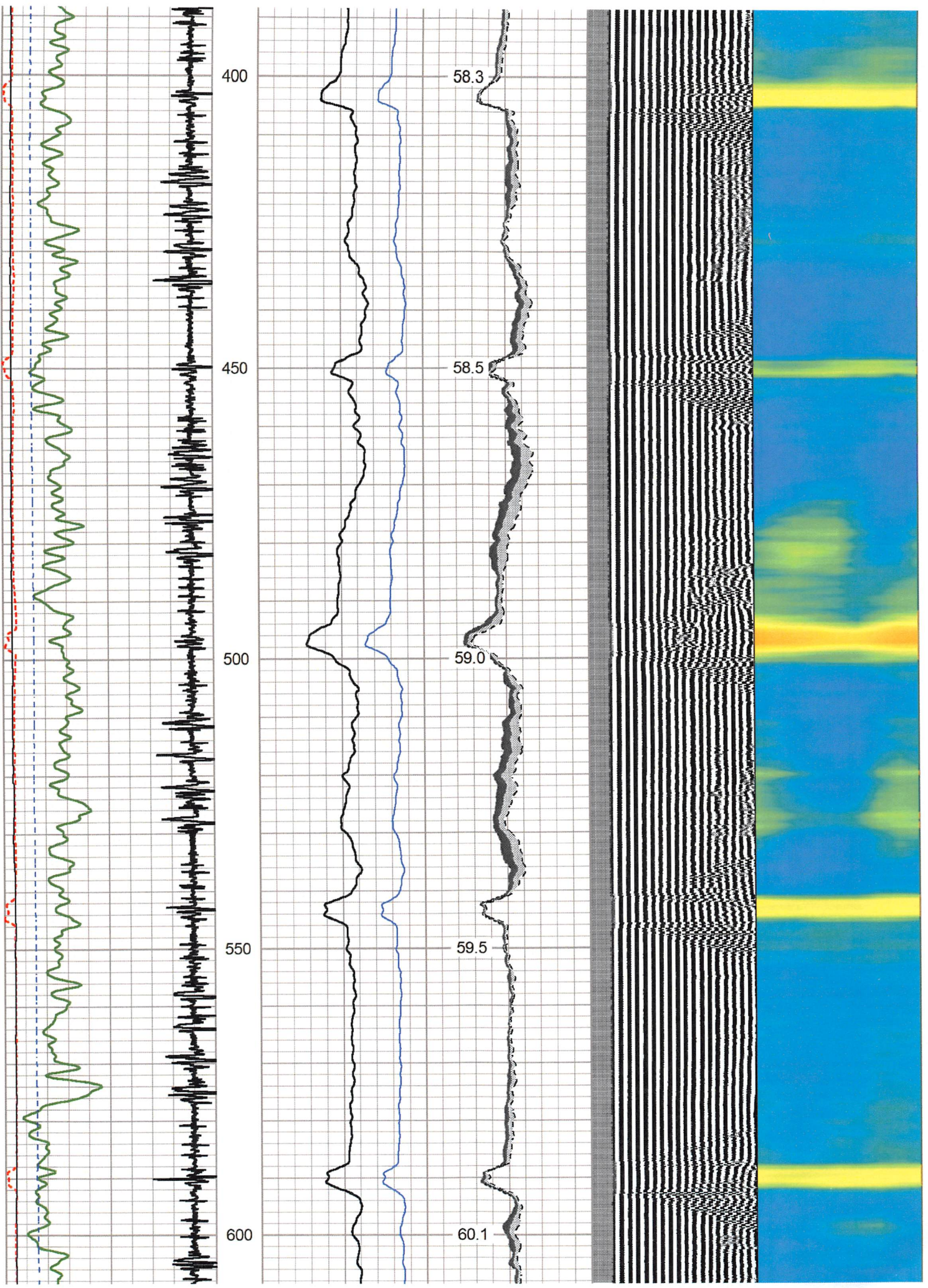
265	Travel Time (usec)	165
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
Line Speed		
-100	(ft/min)	100
0	Line Tension (lb)	2000

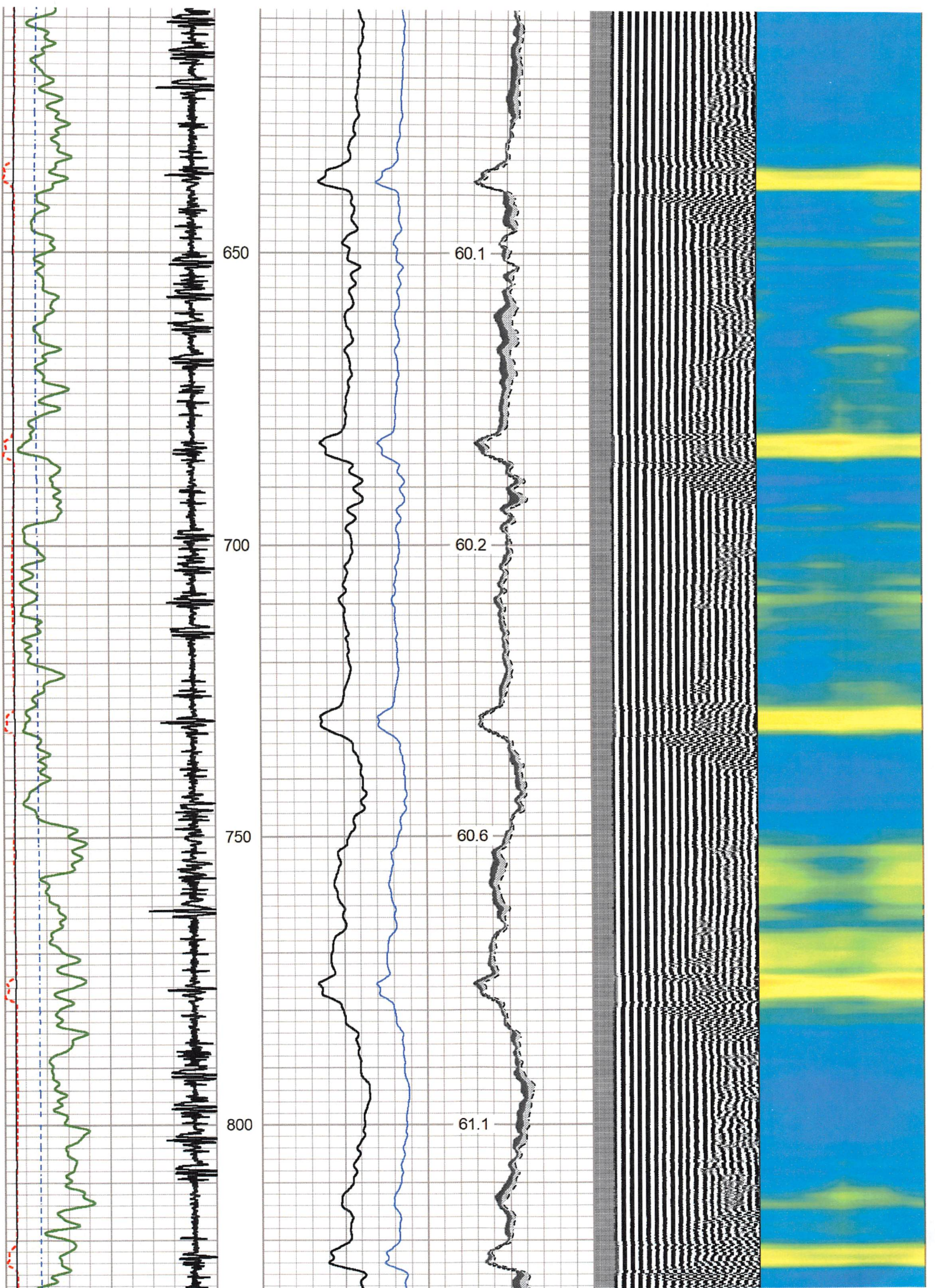
0	Amplitude (mV)	100	0	AMPMIN	150
1	BONDIX	0	0	AMPMAX	150
			0	AMPAVG	150
TEMP			(degF)		

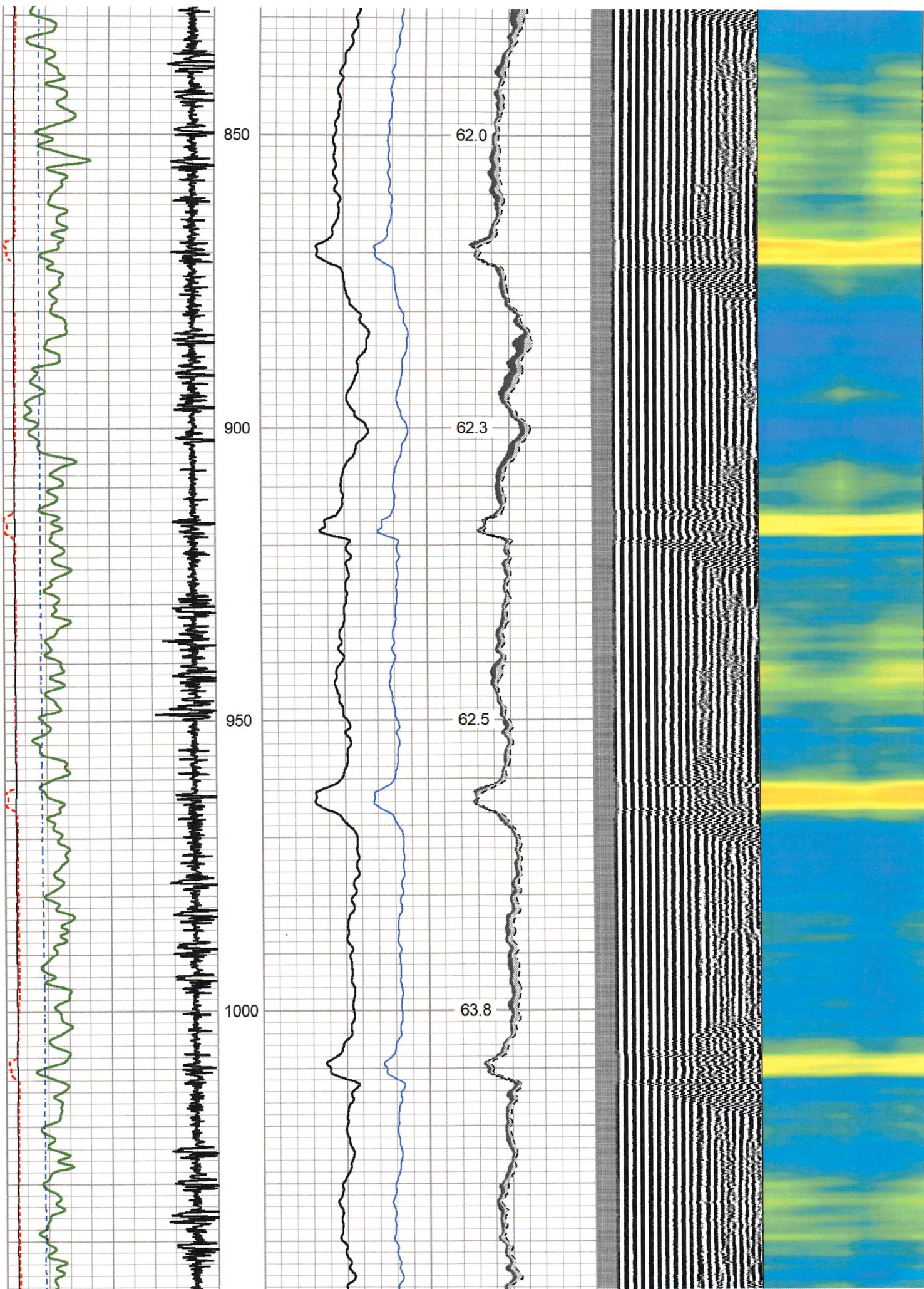
Variable Density	1	Cement Map	8
200	(usec)	1200	

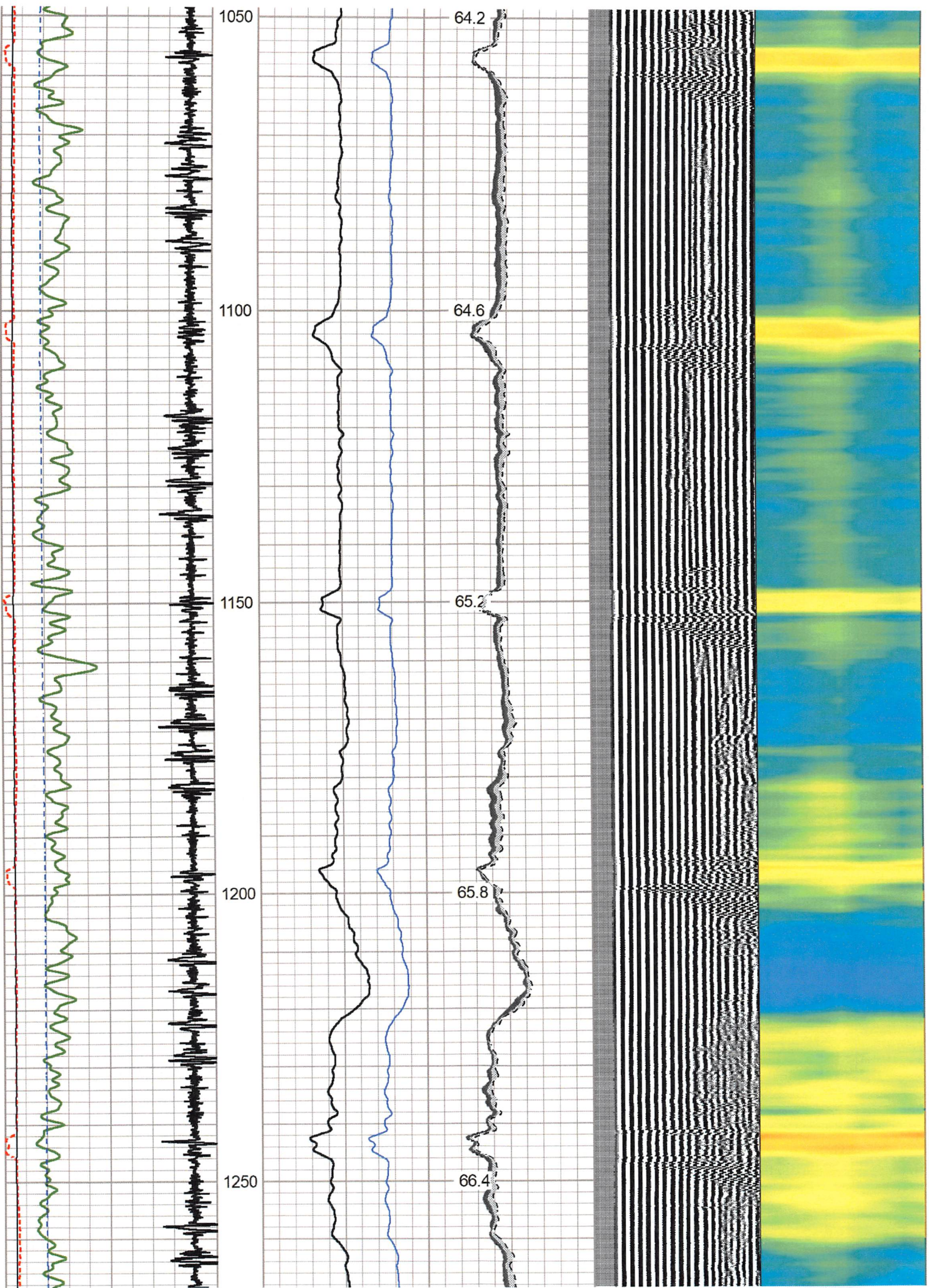


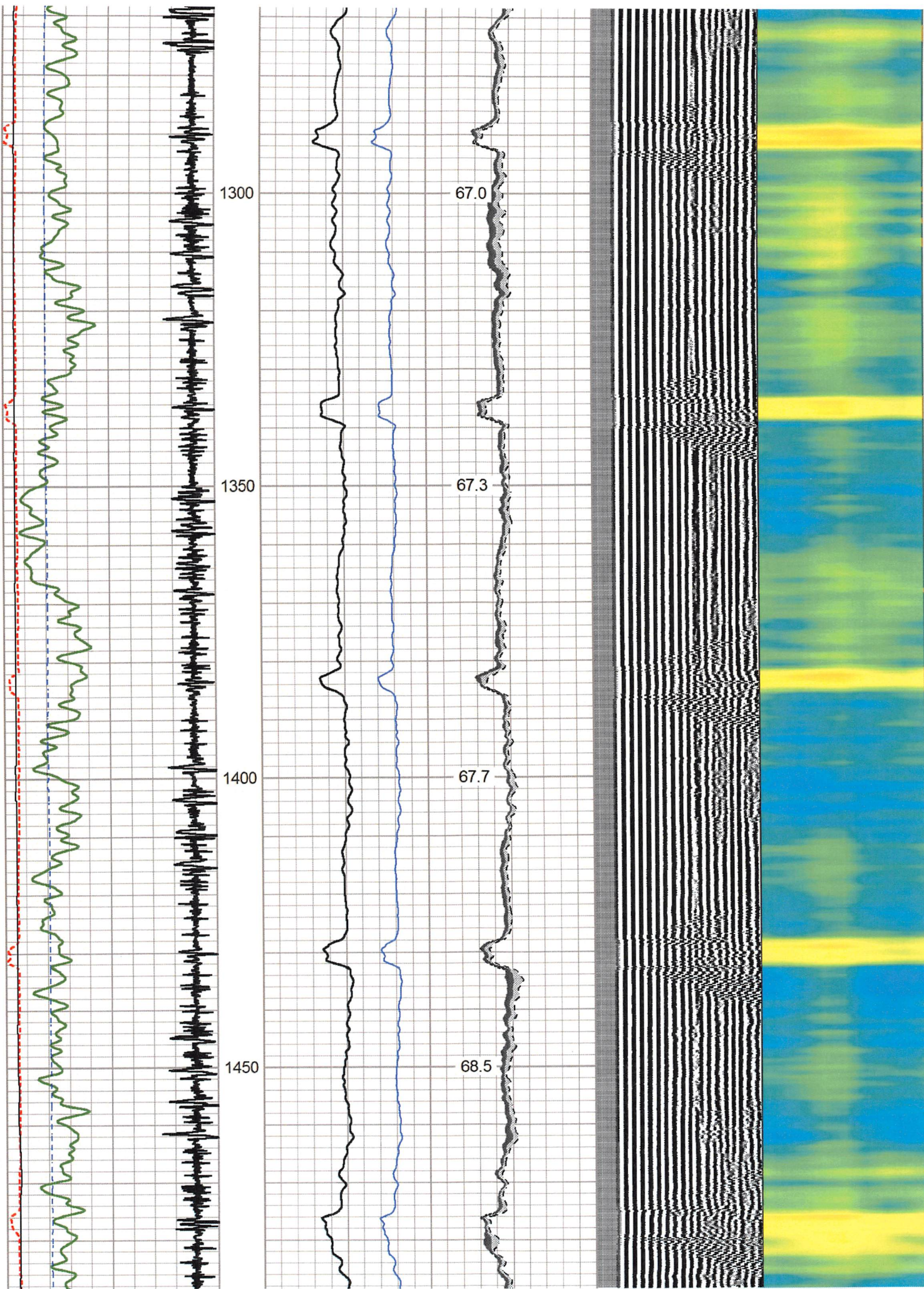




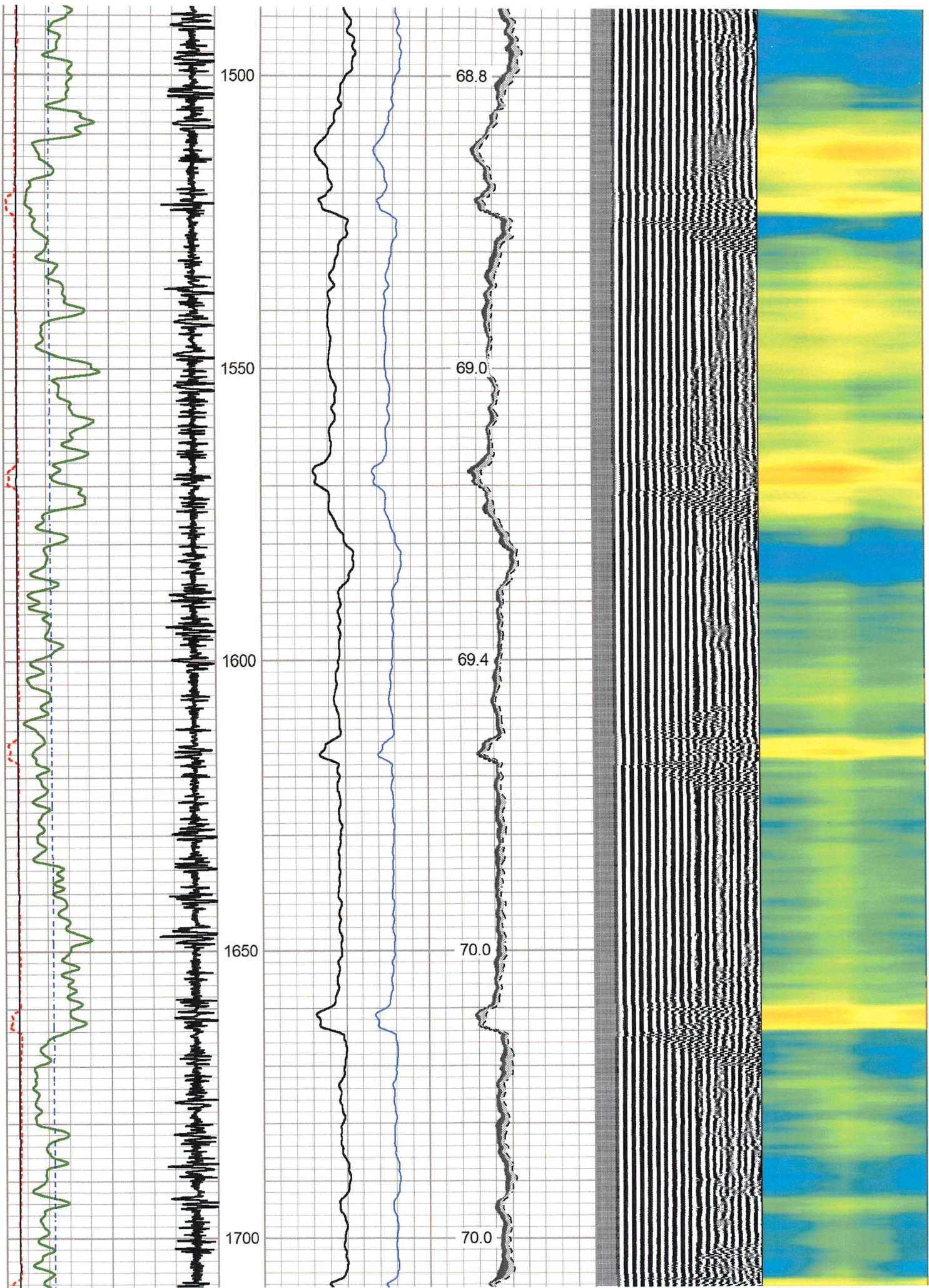


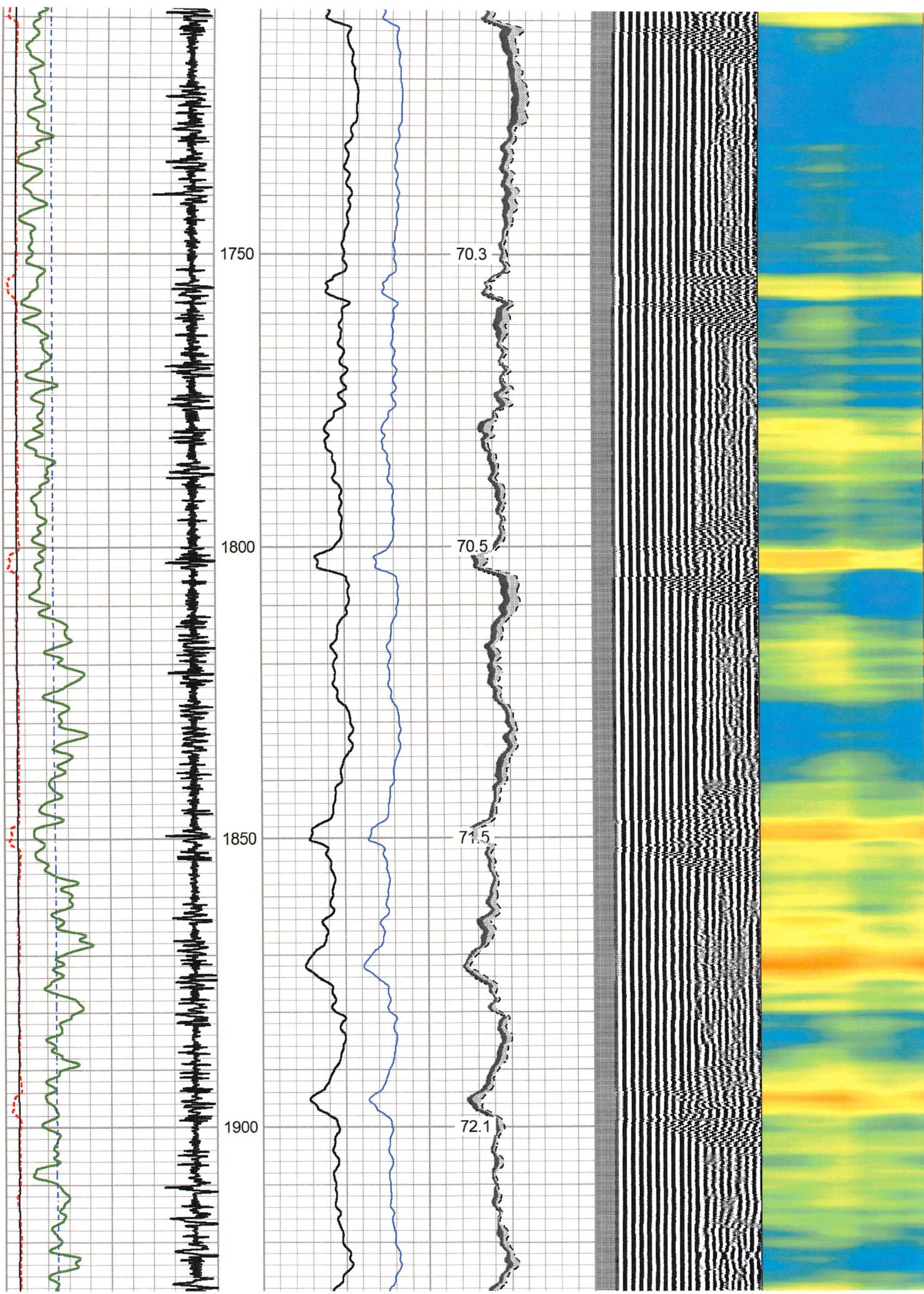


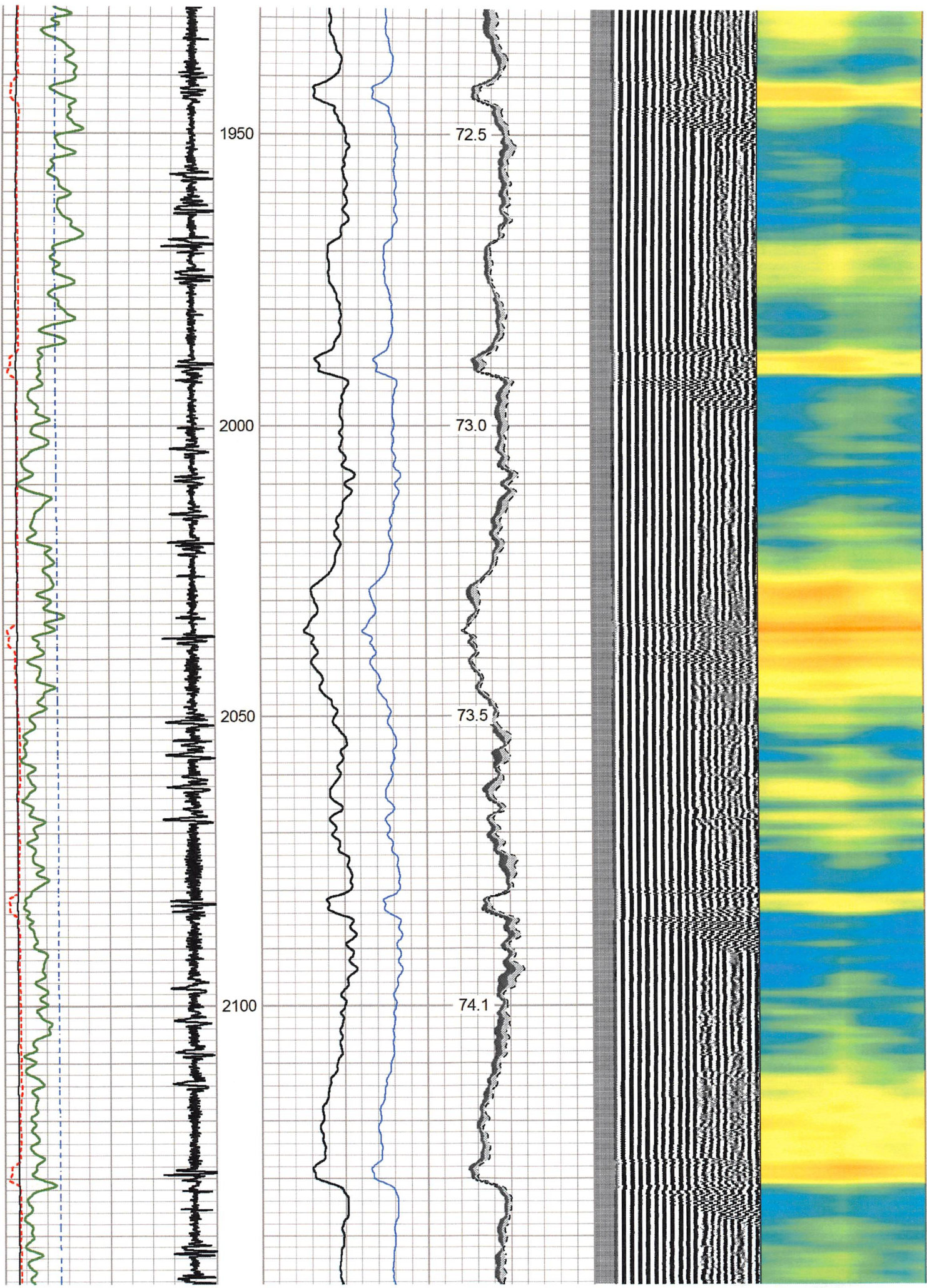


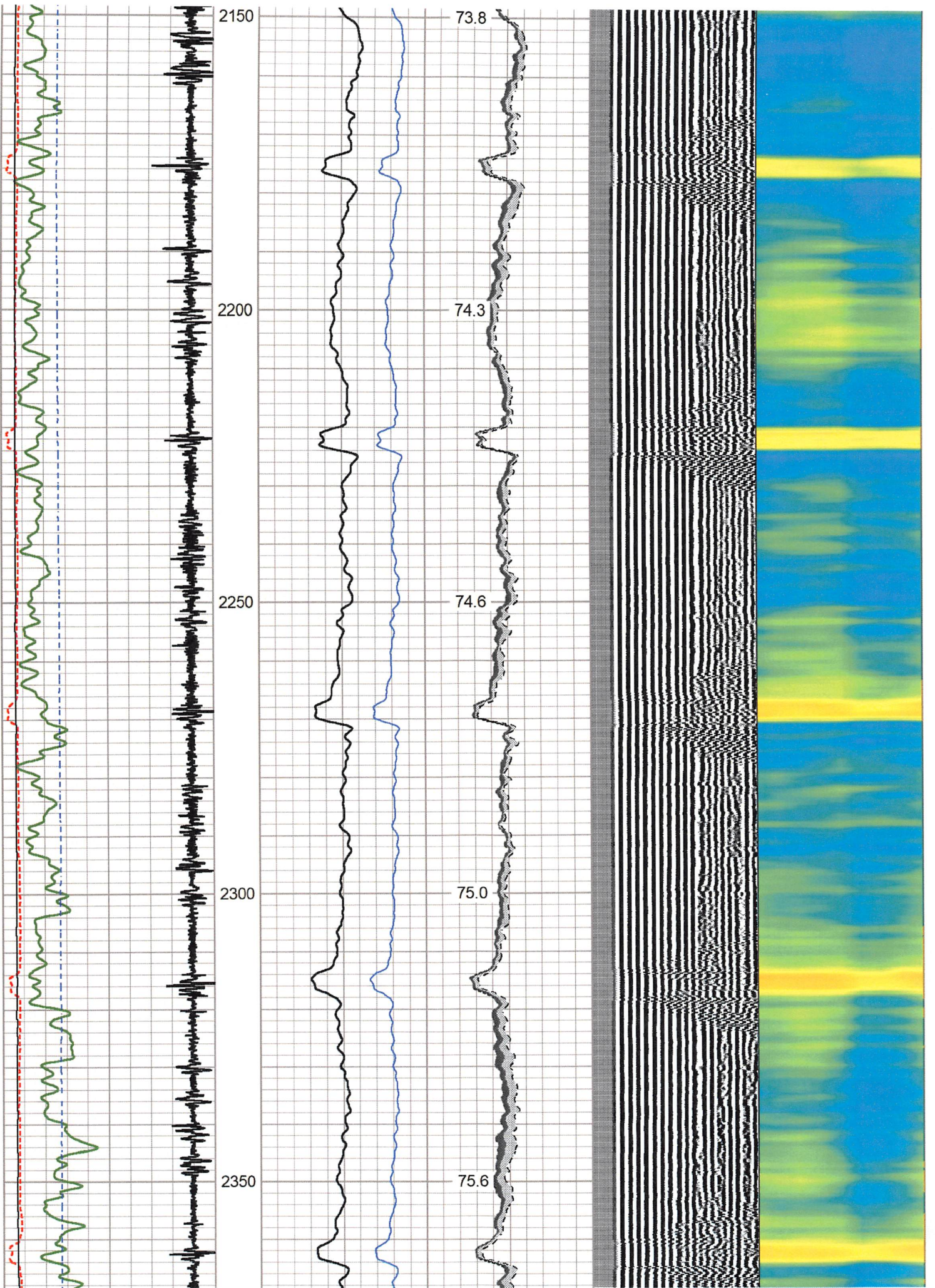


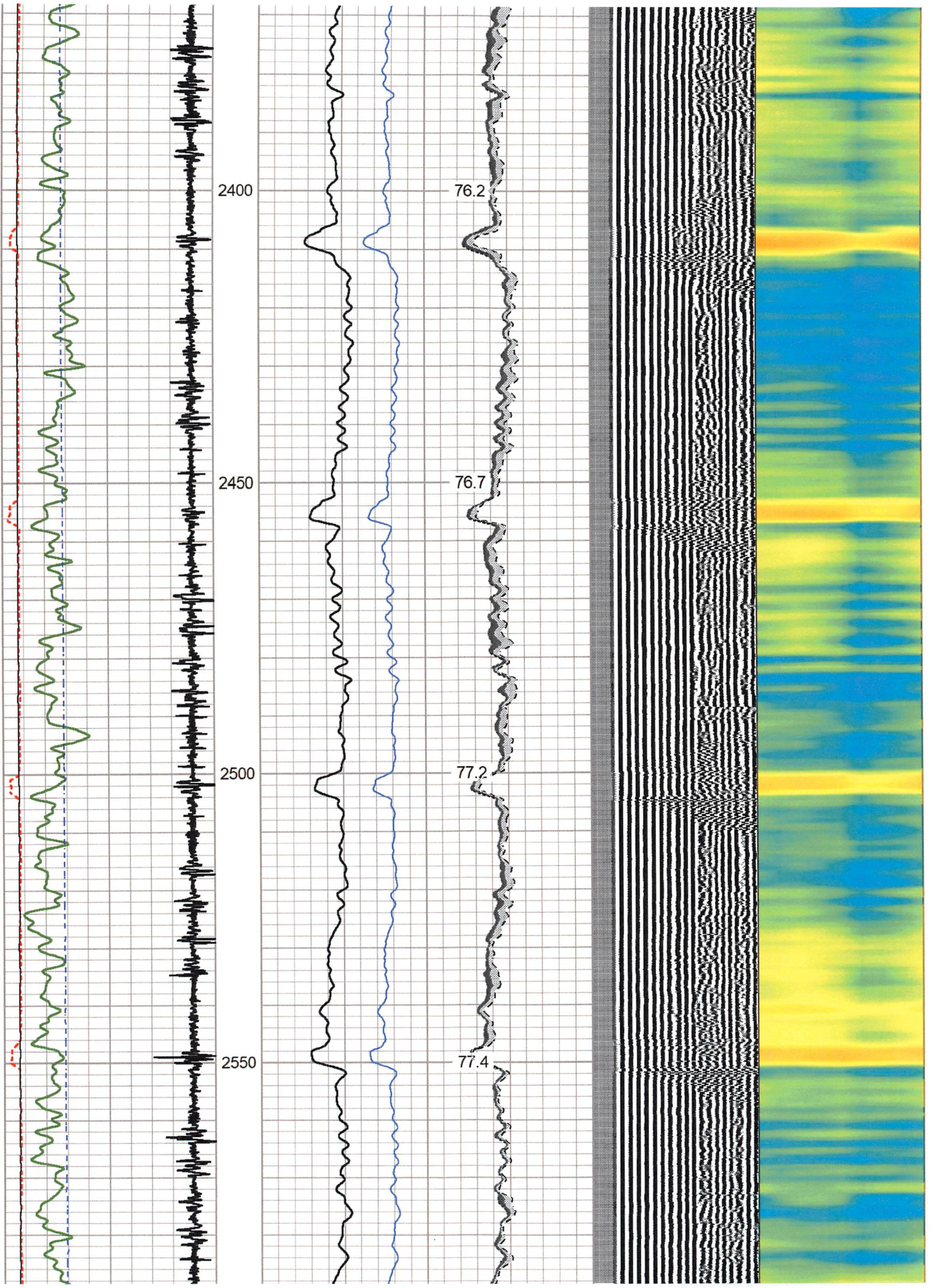


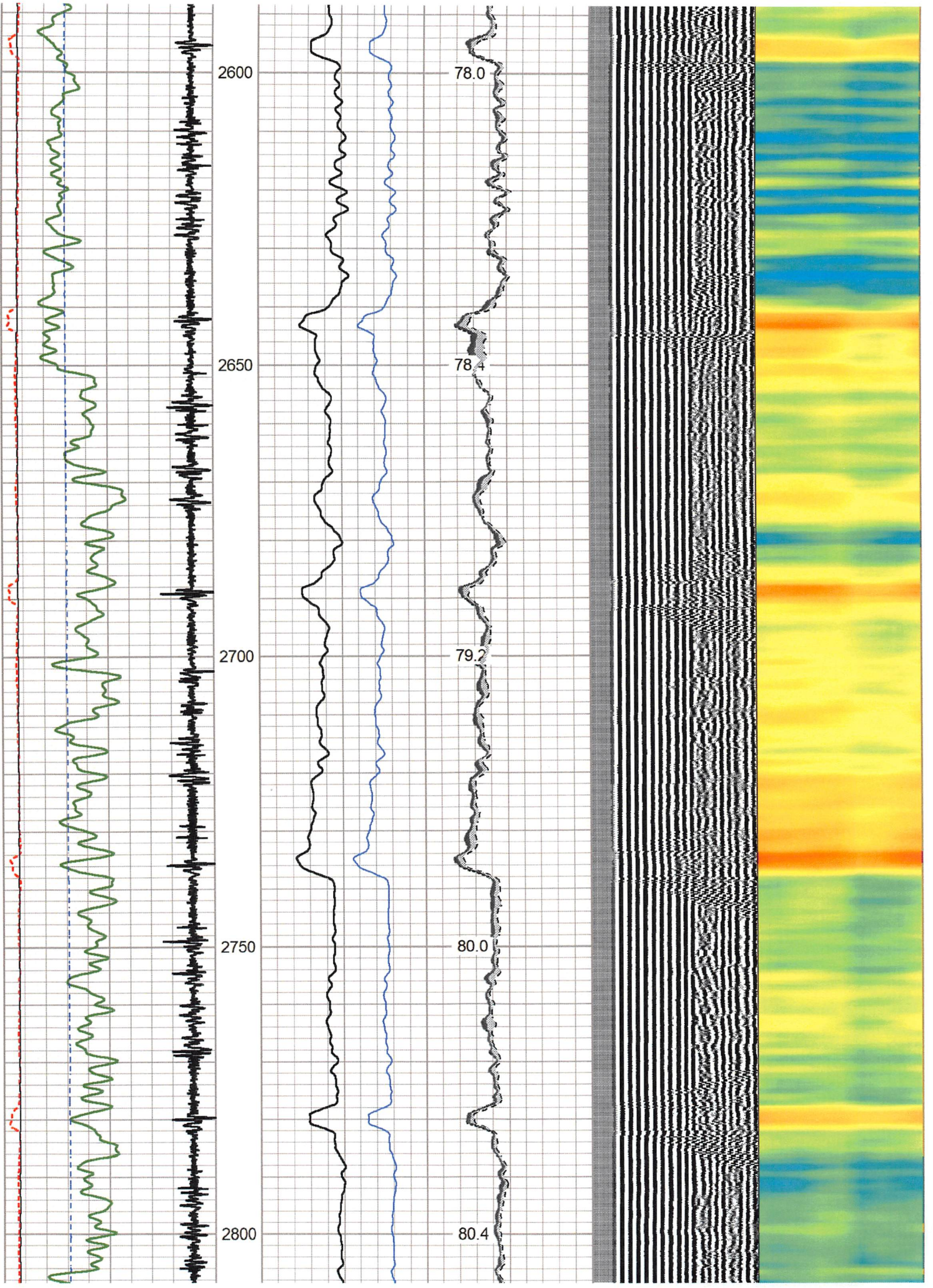


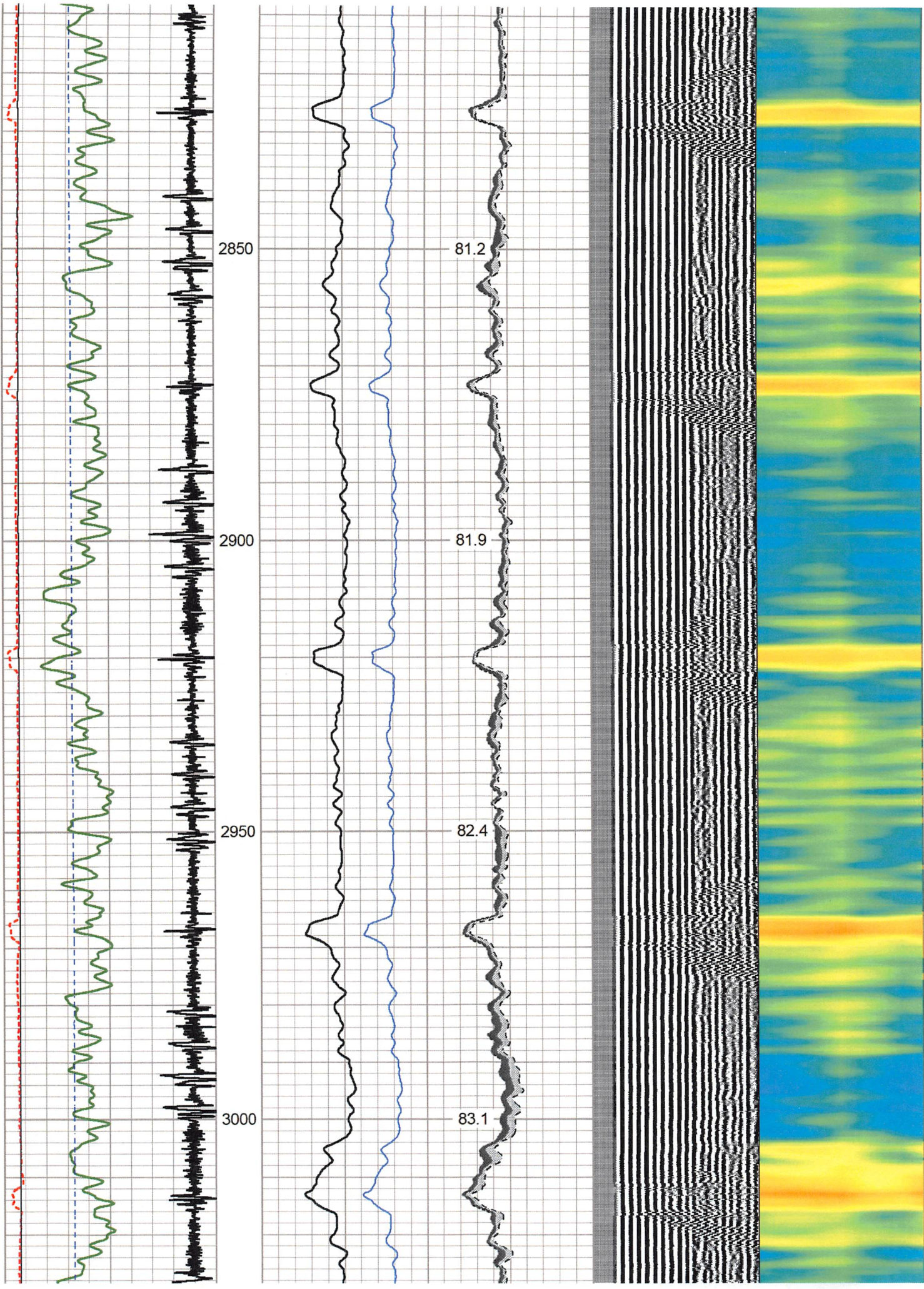


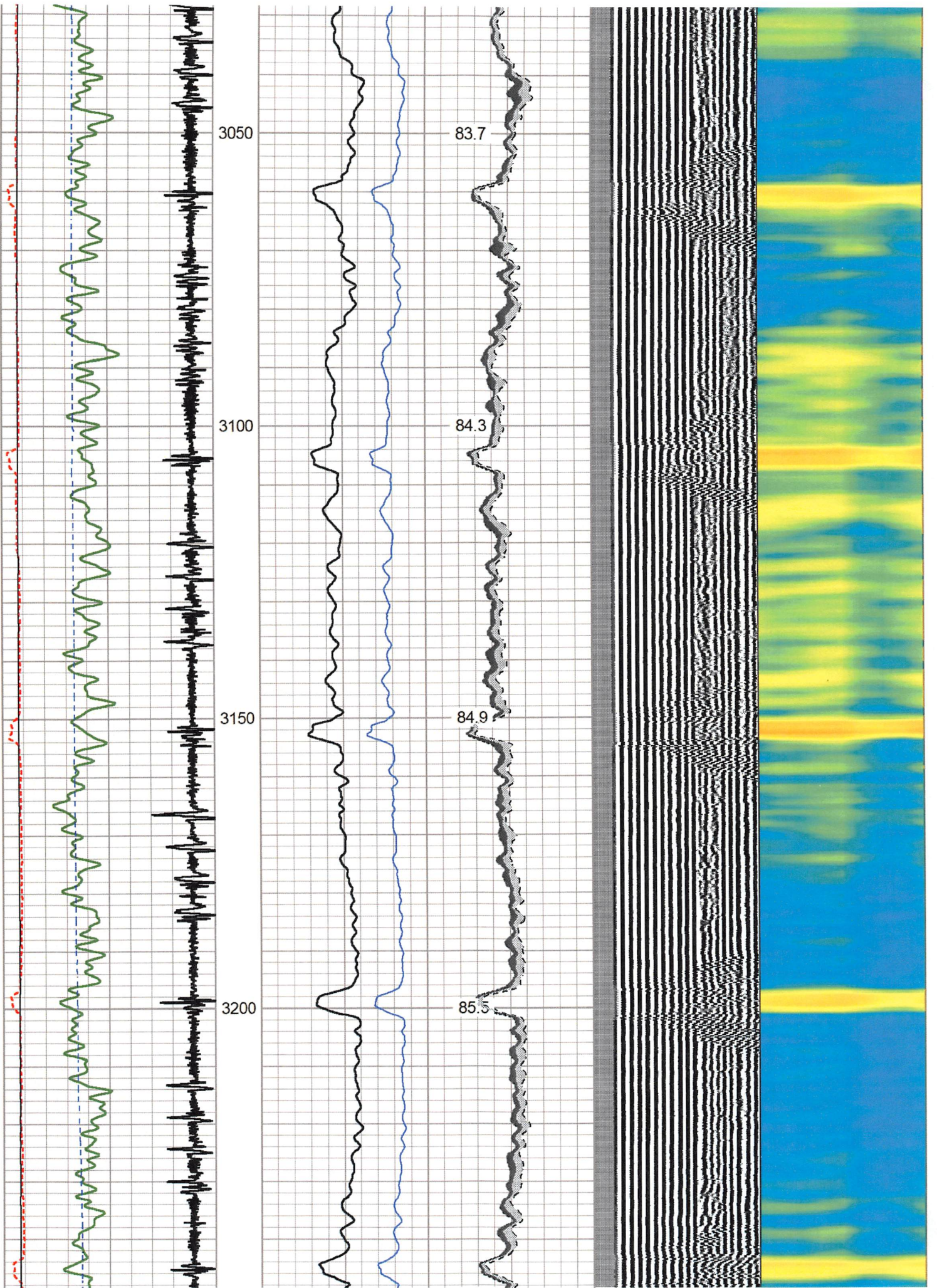




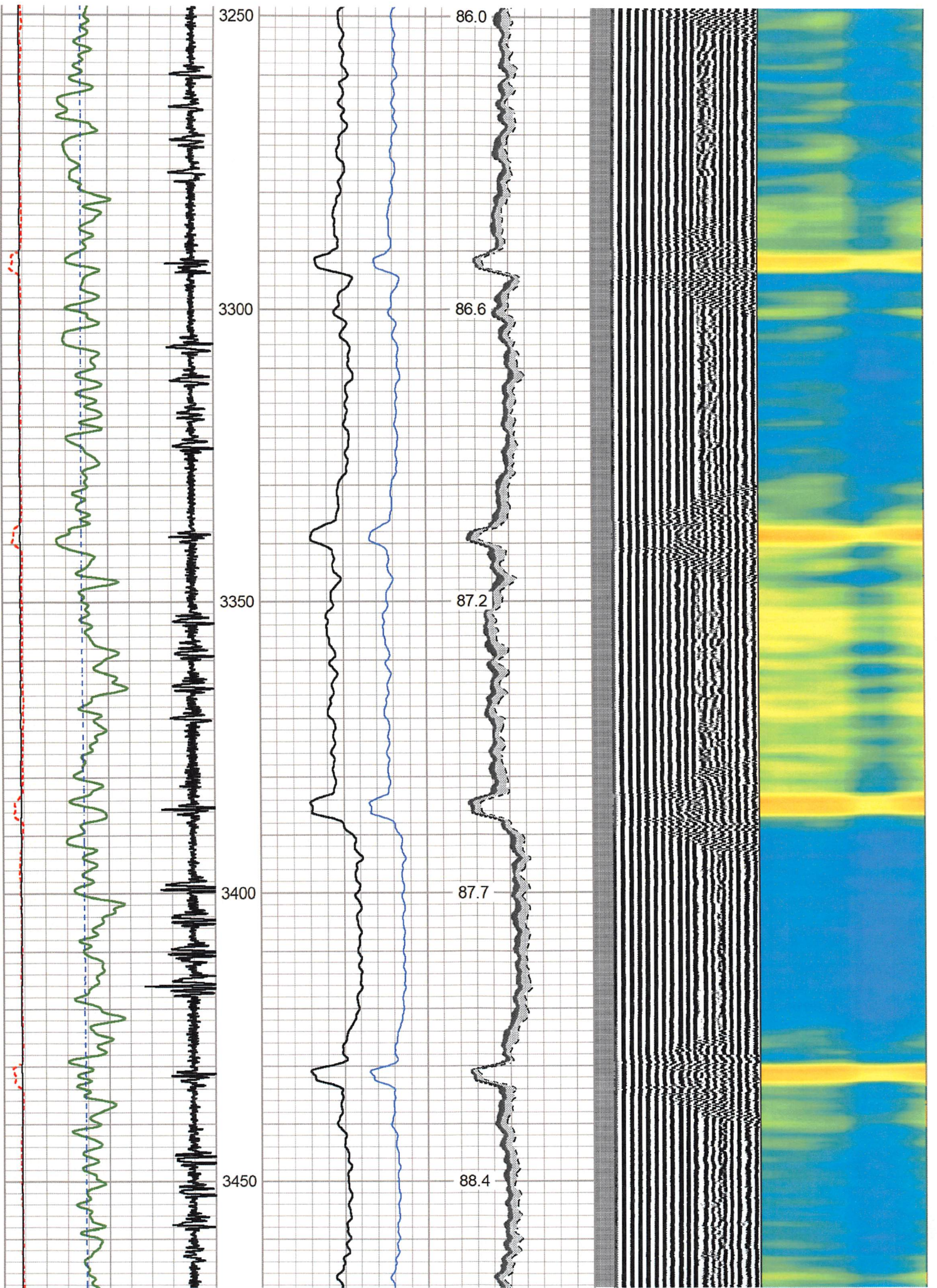


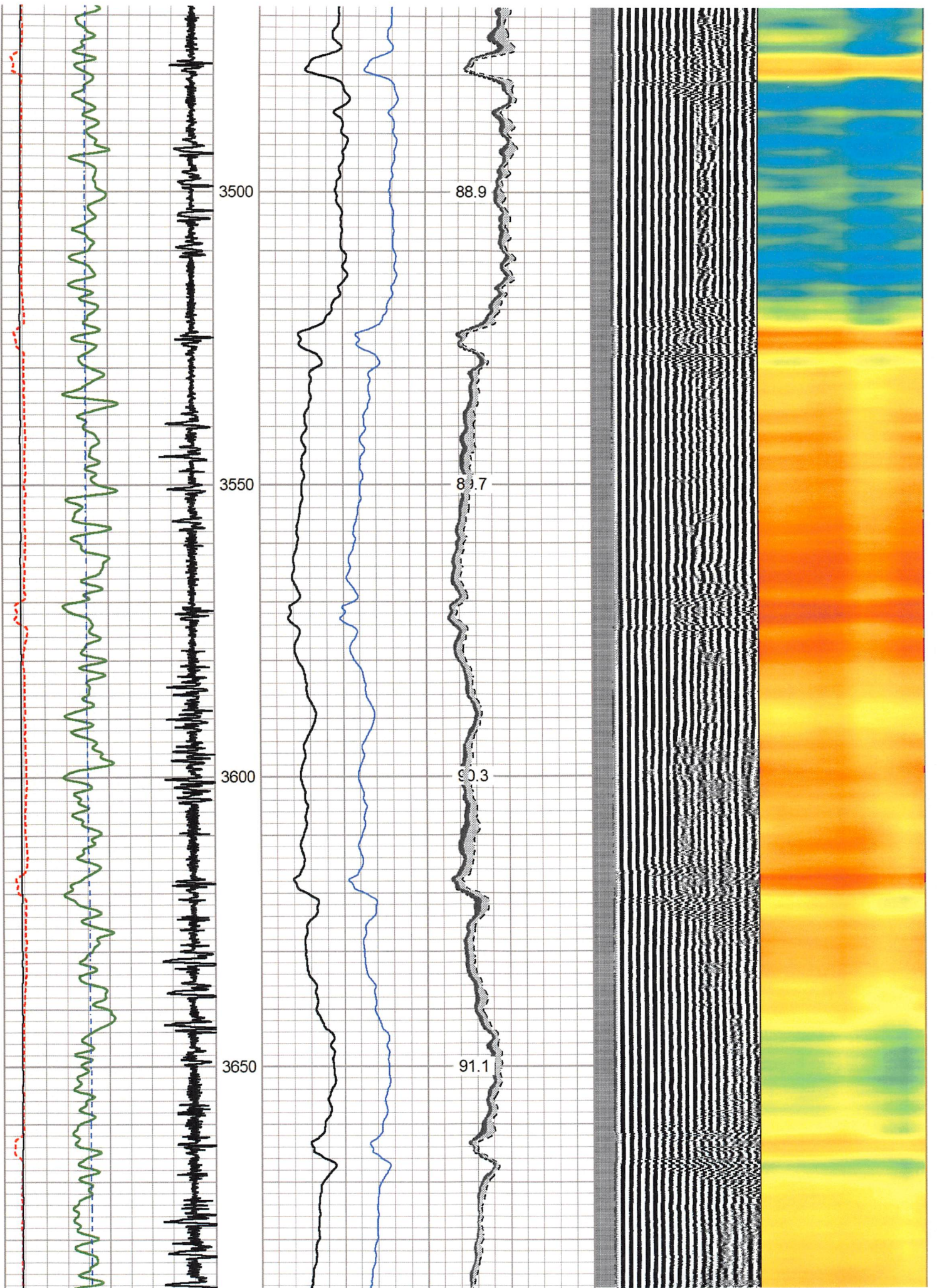


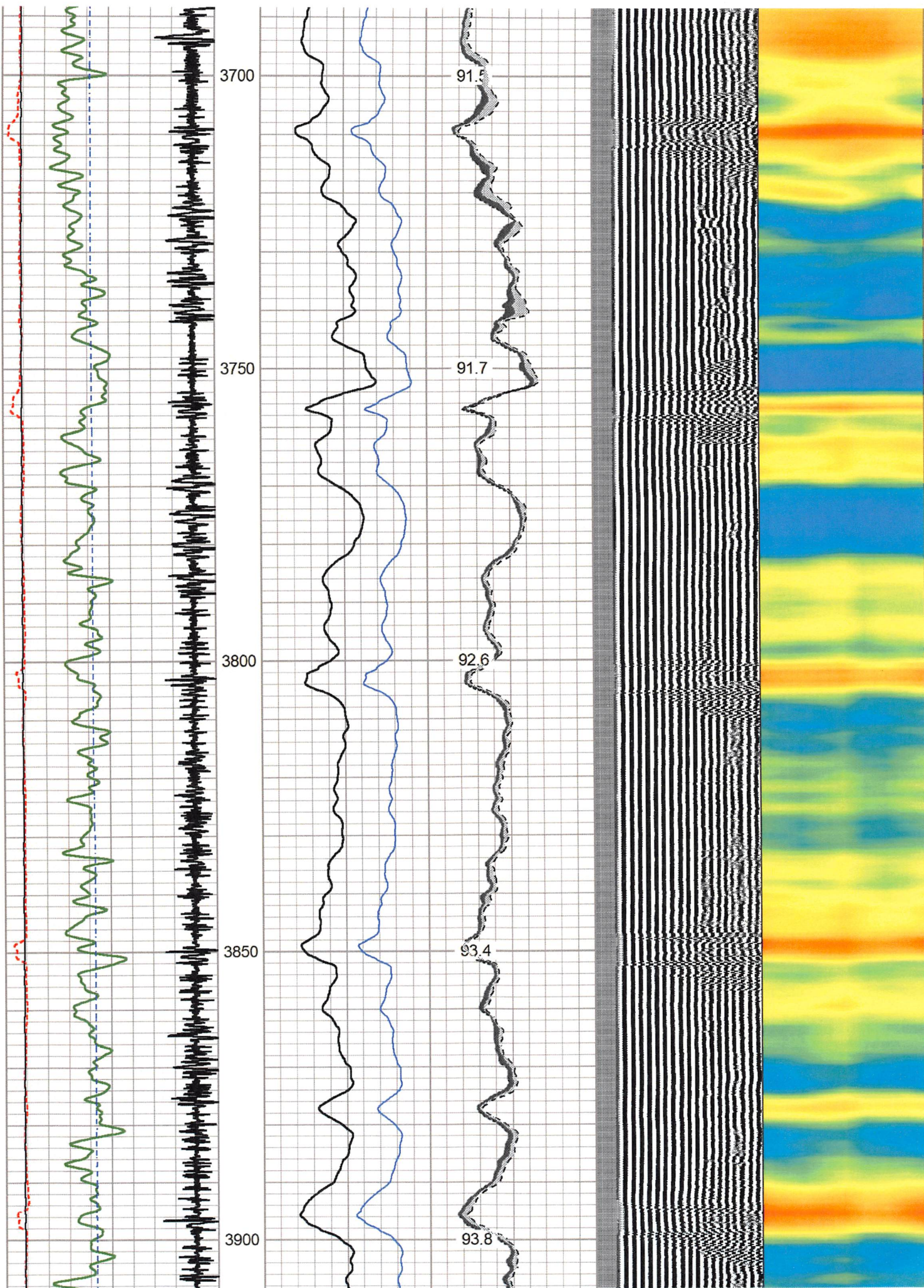


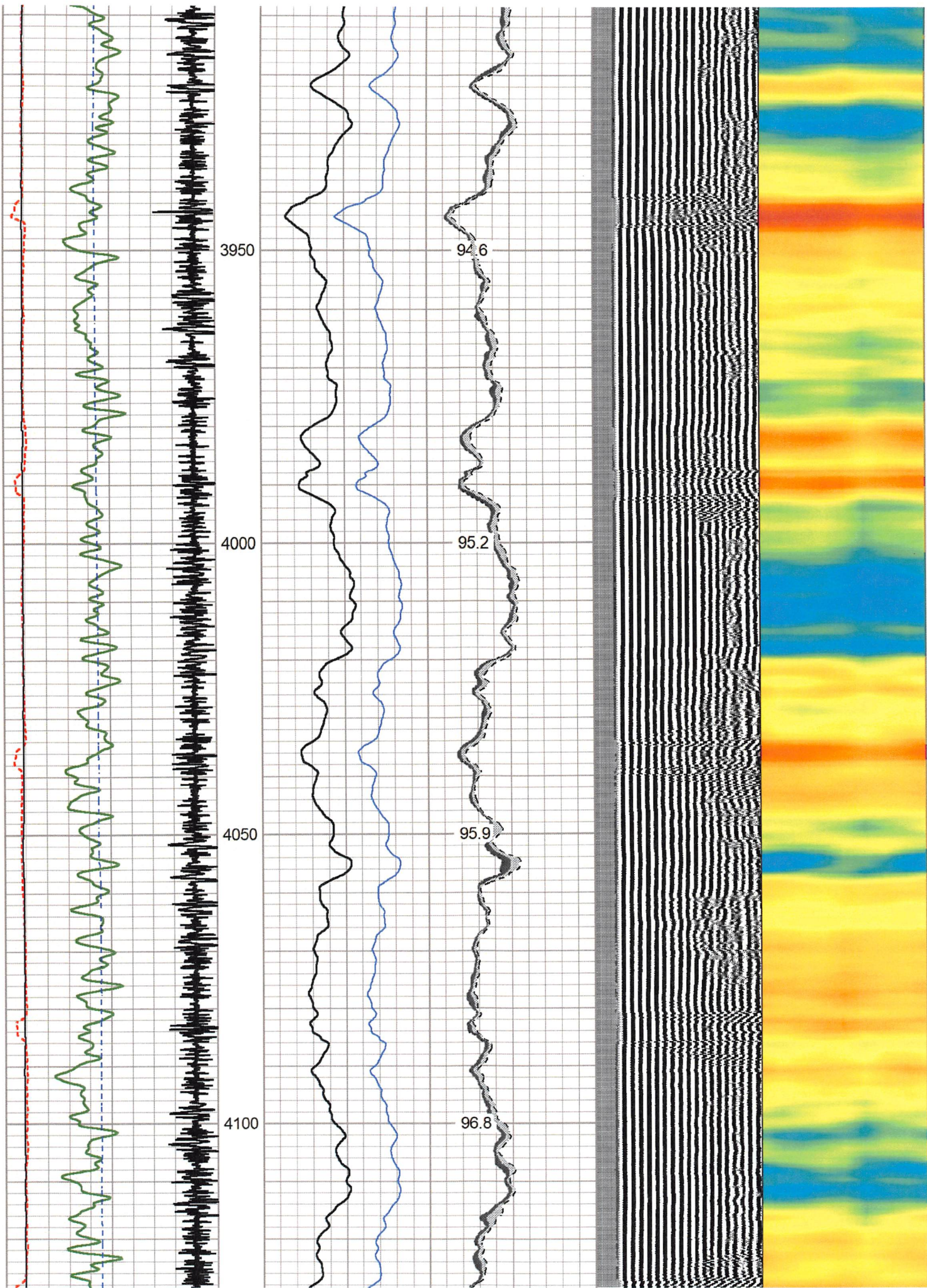


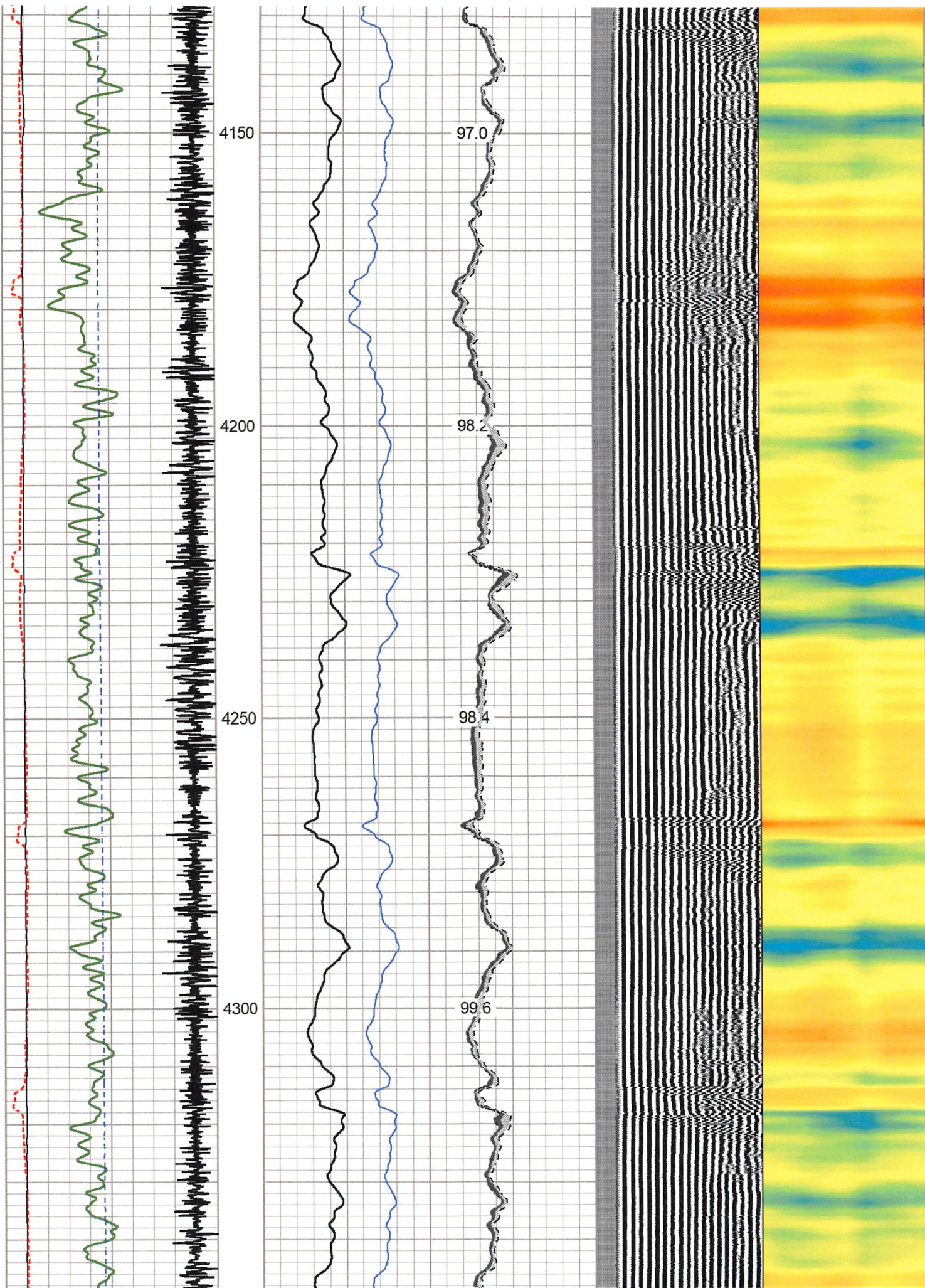


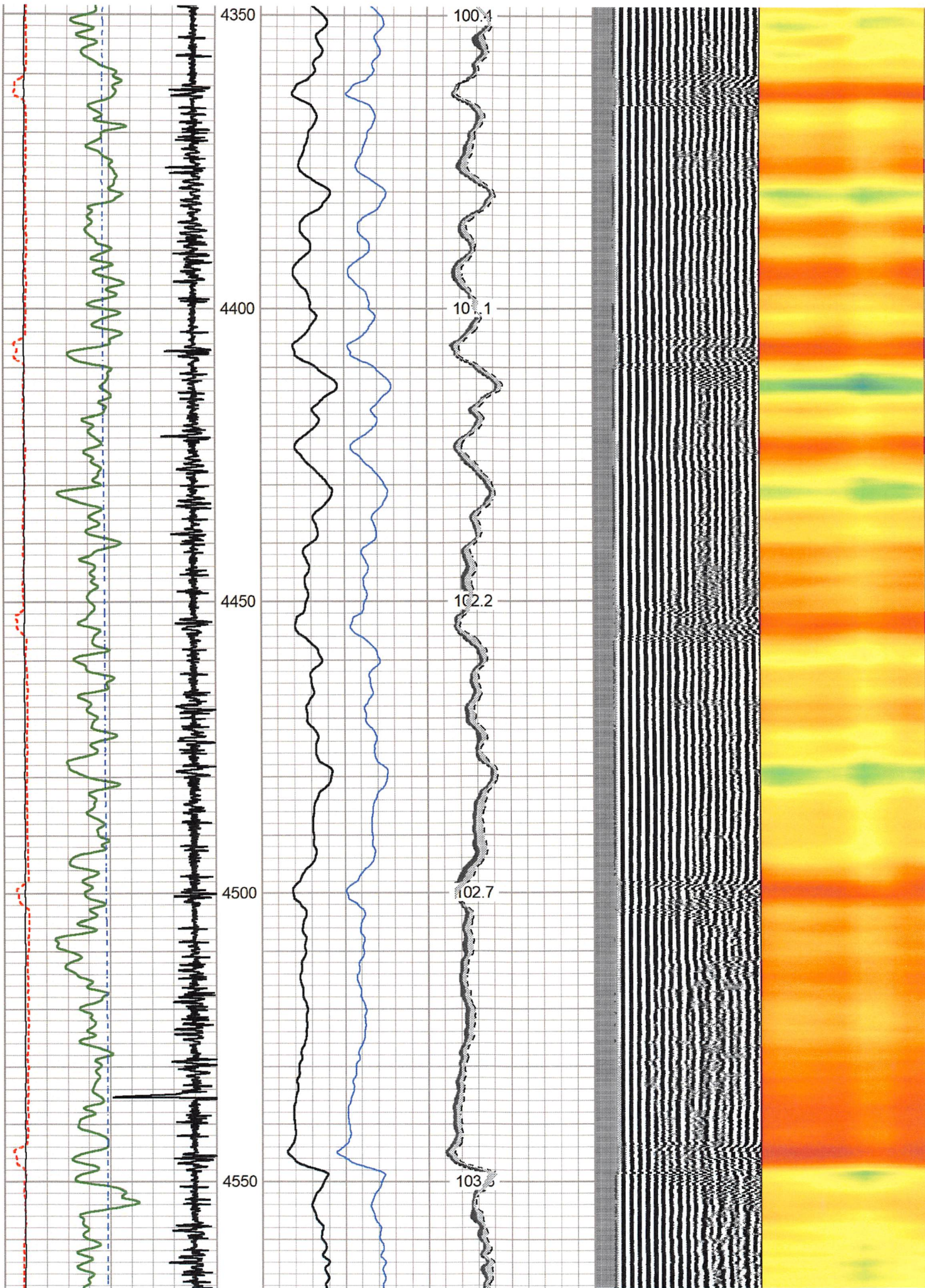


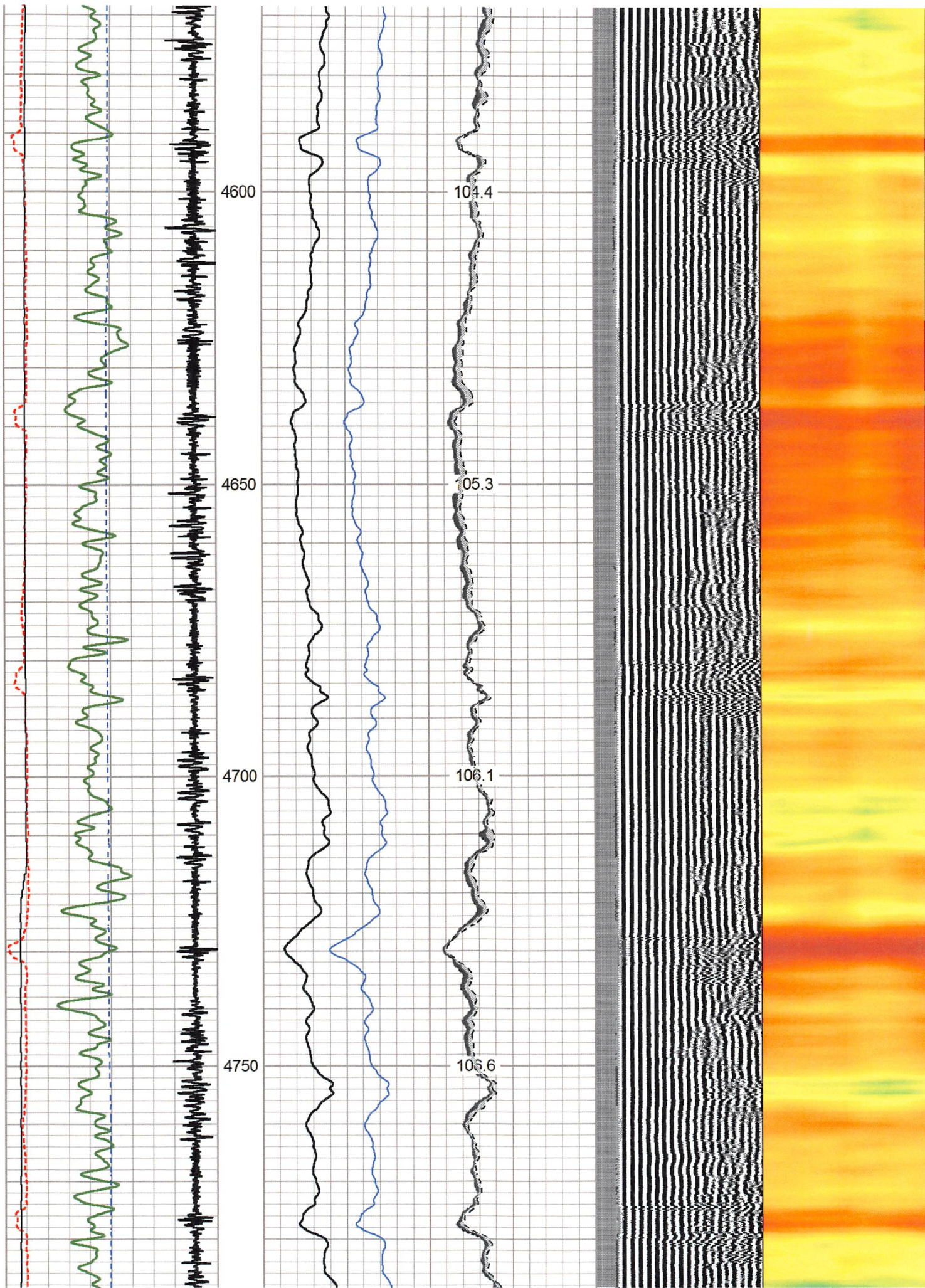


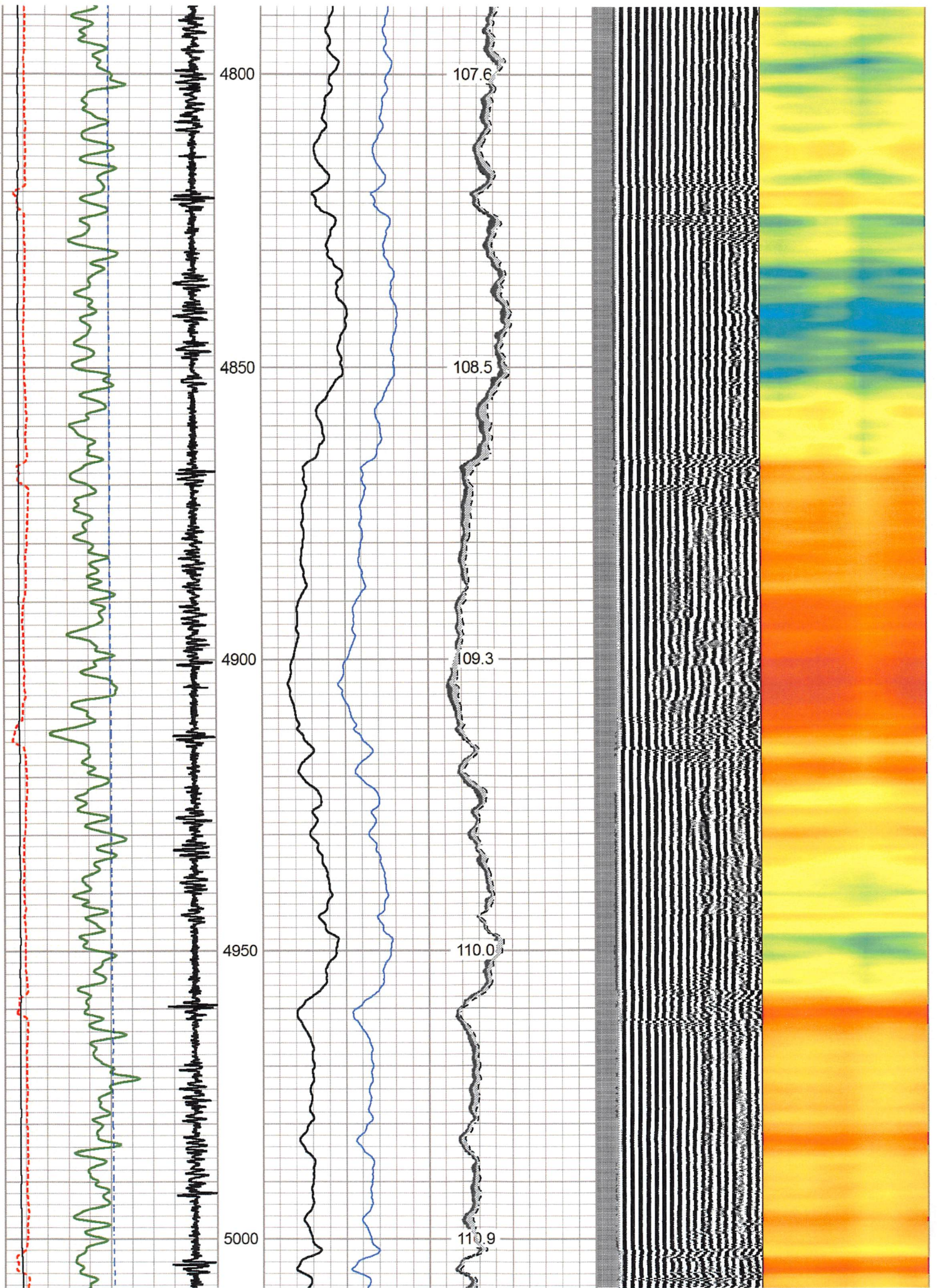




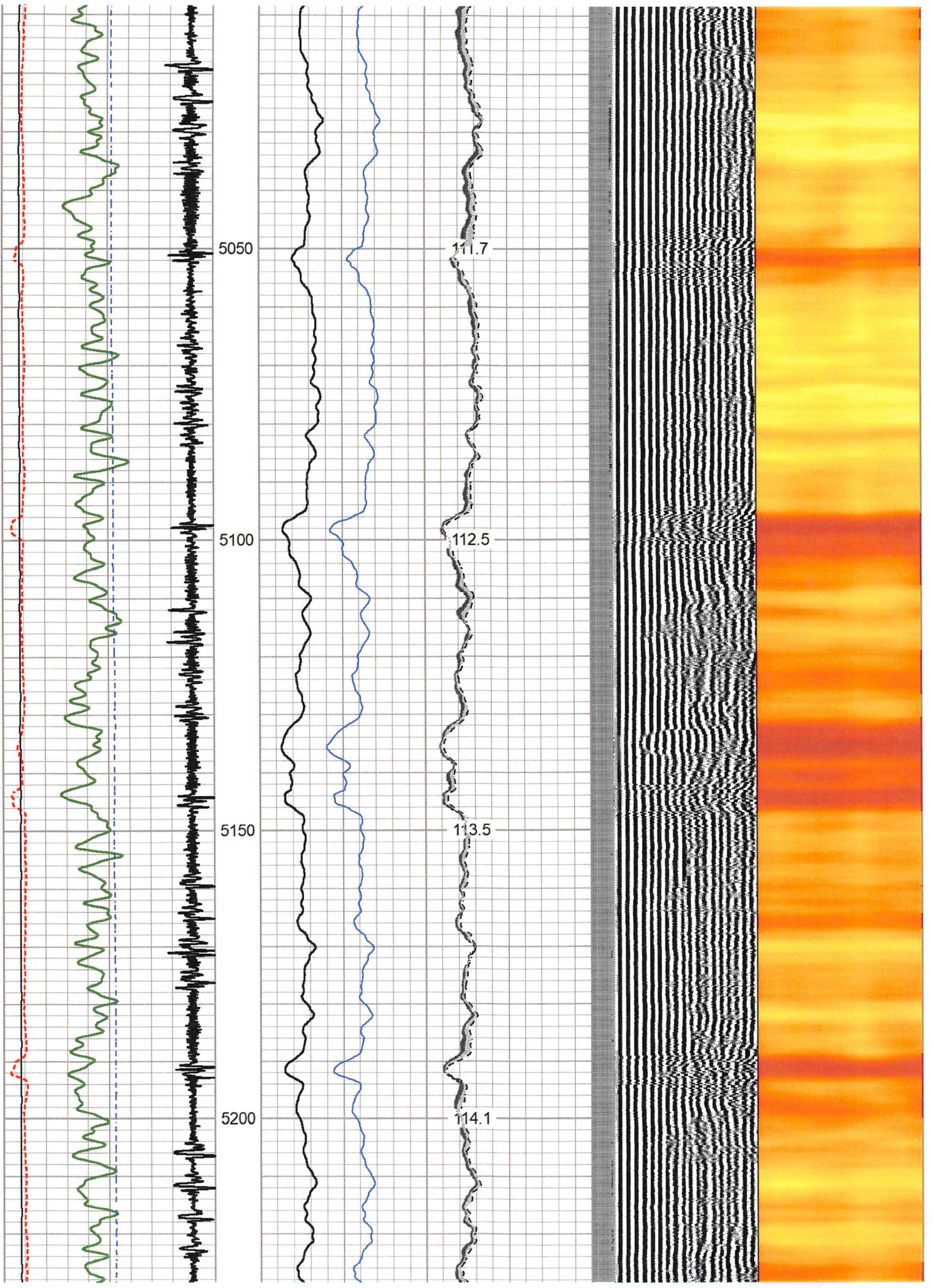


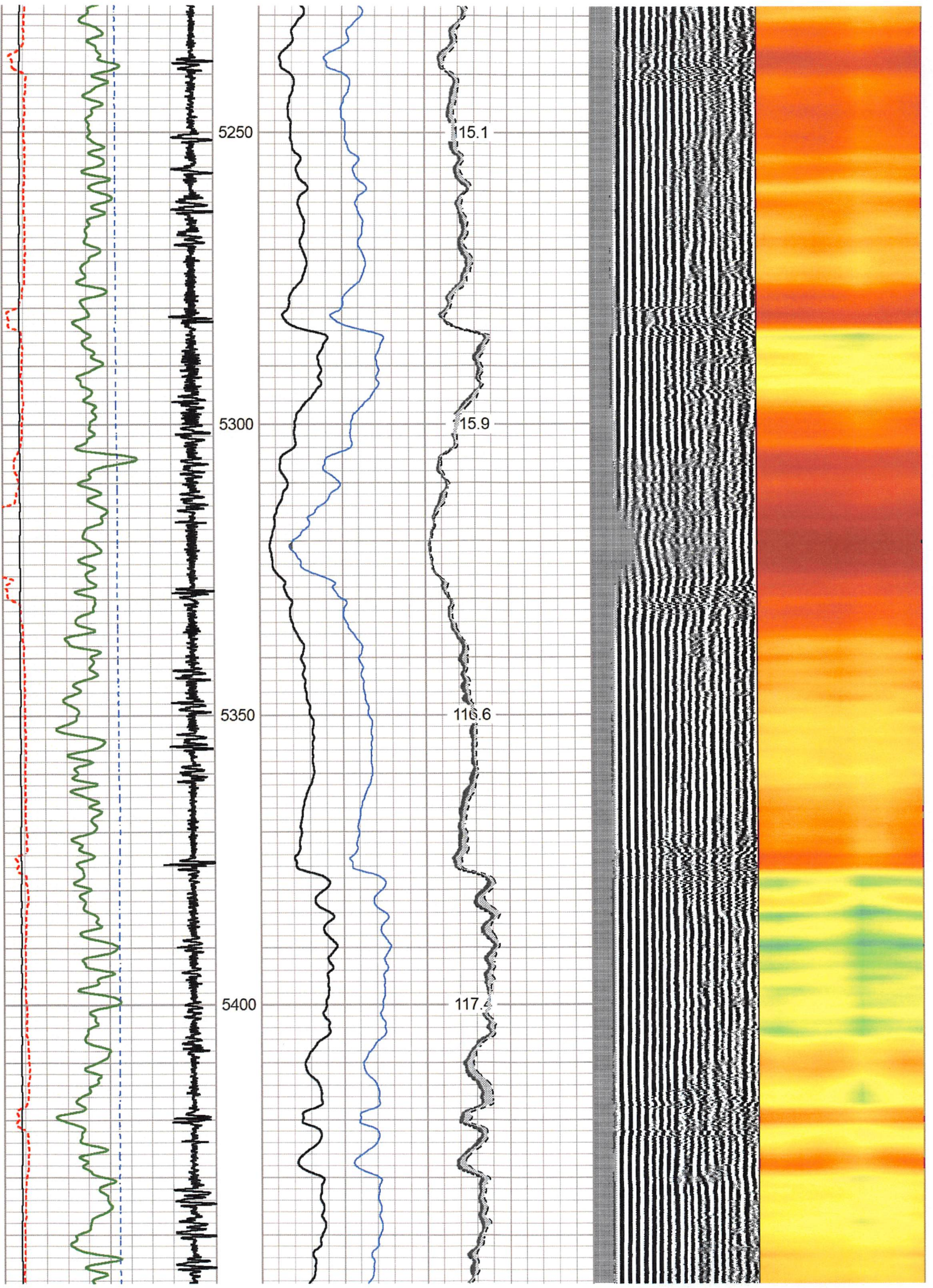


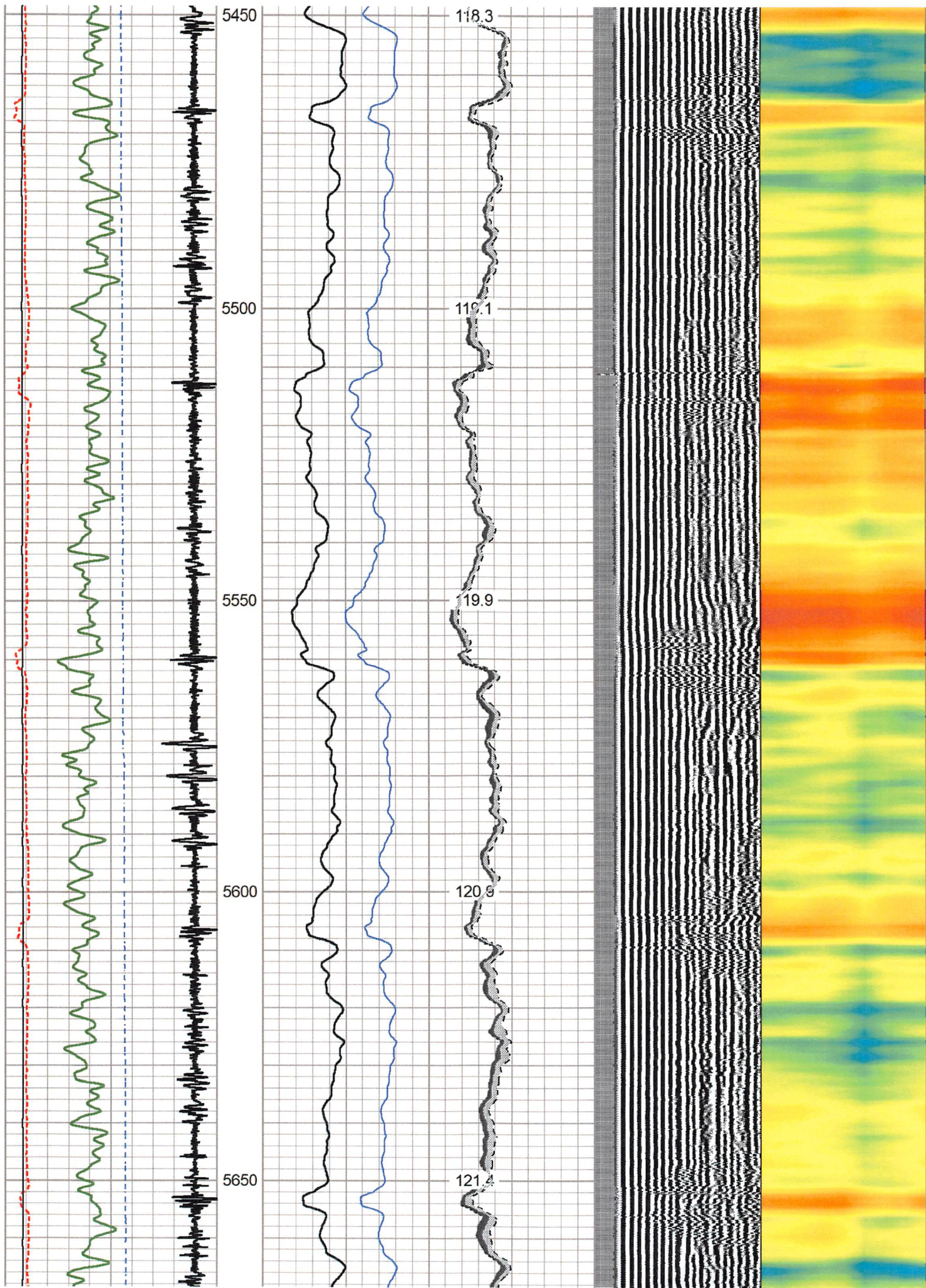


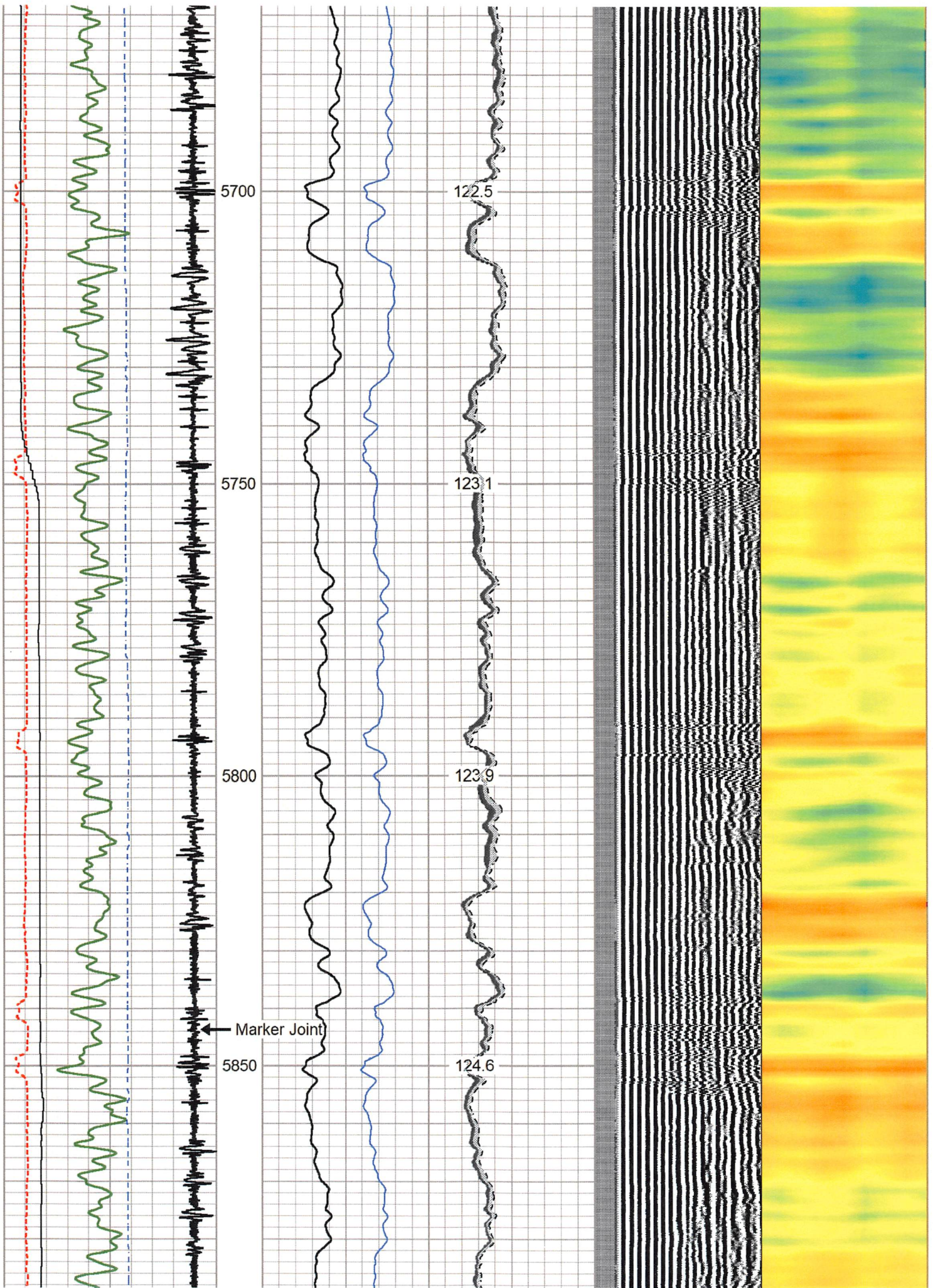


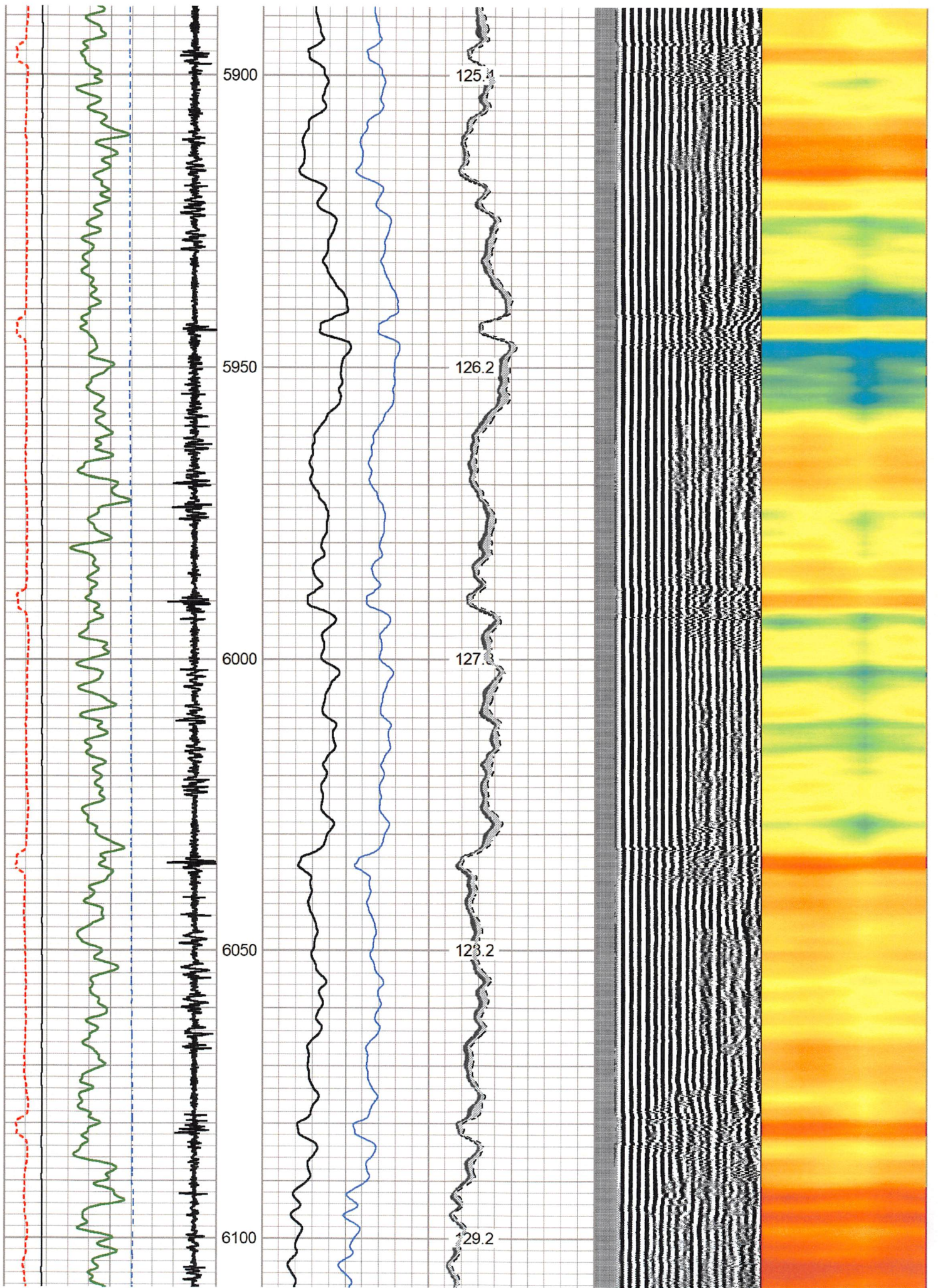


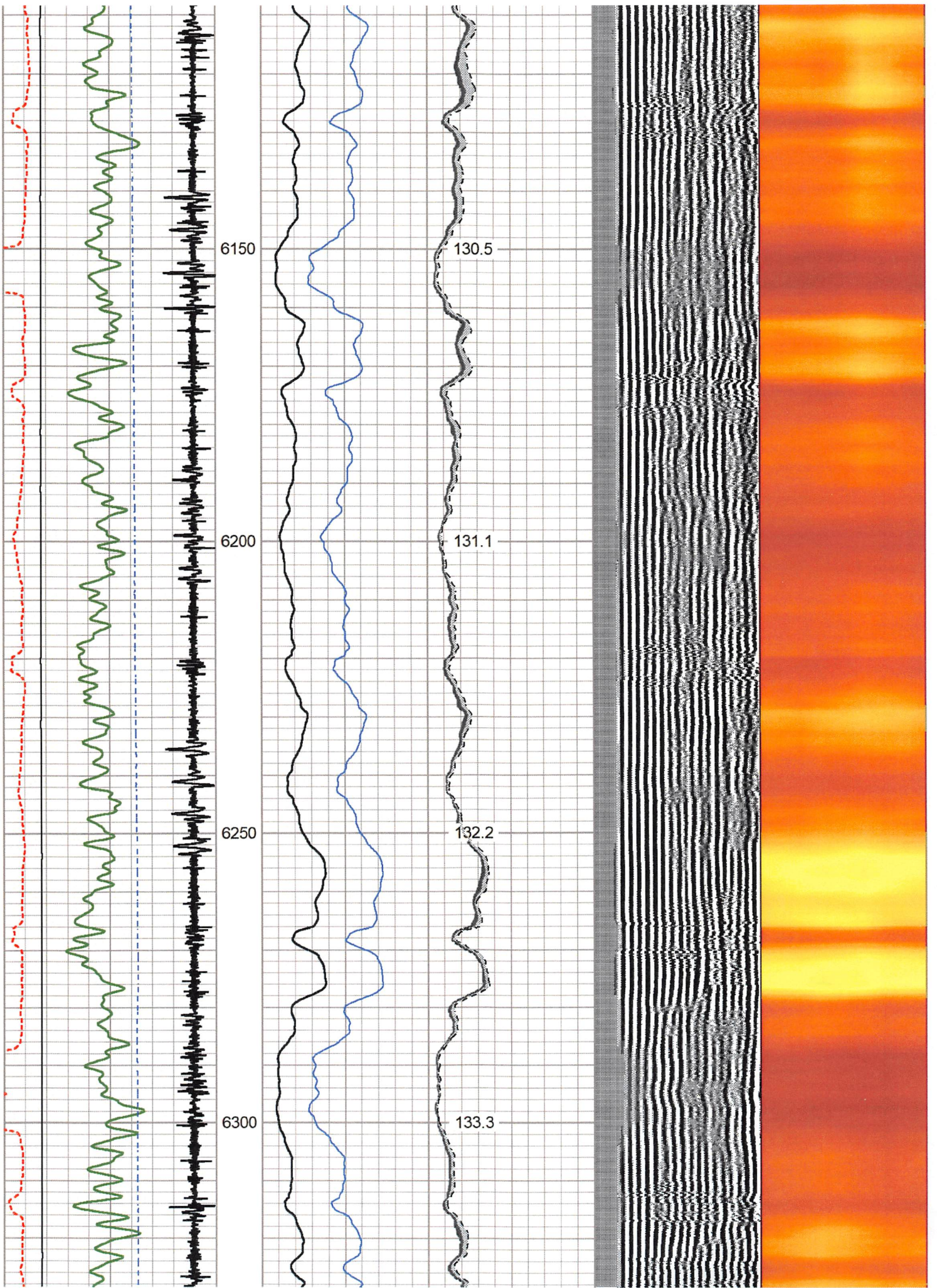


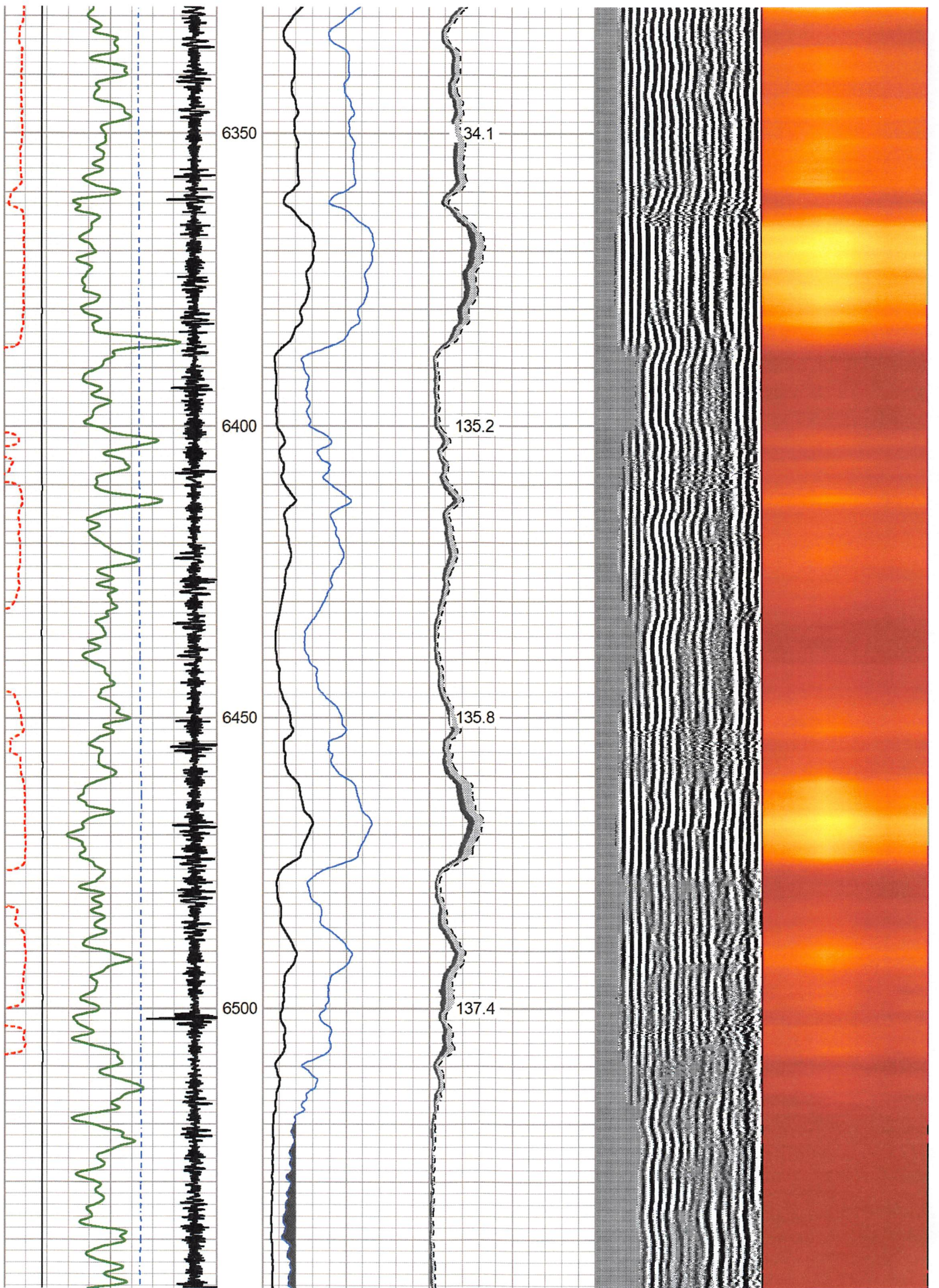


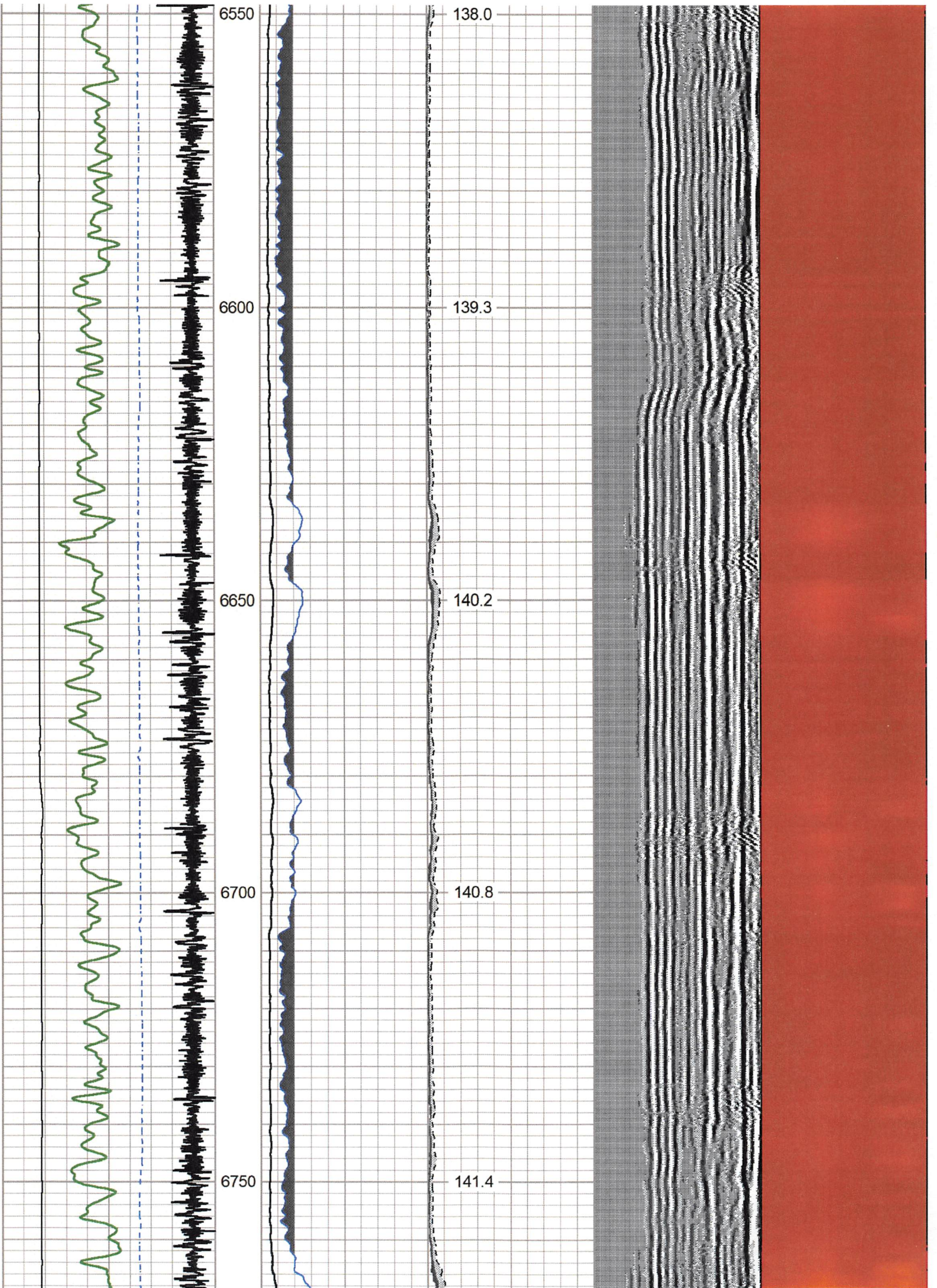




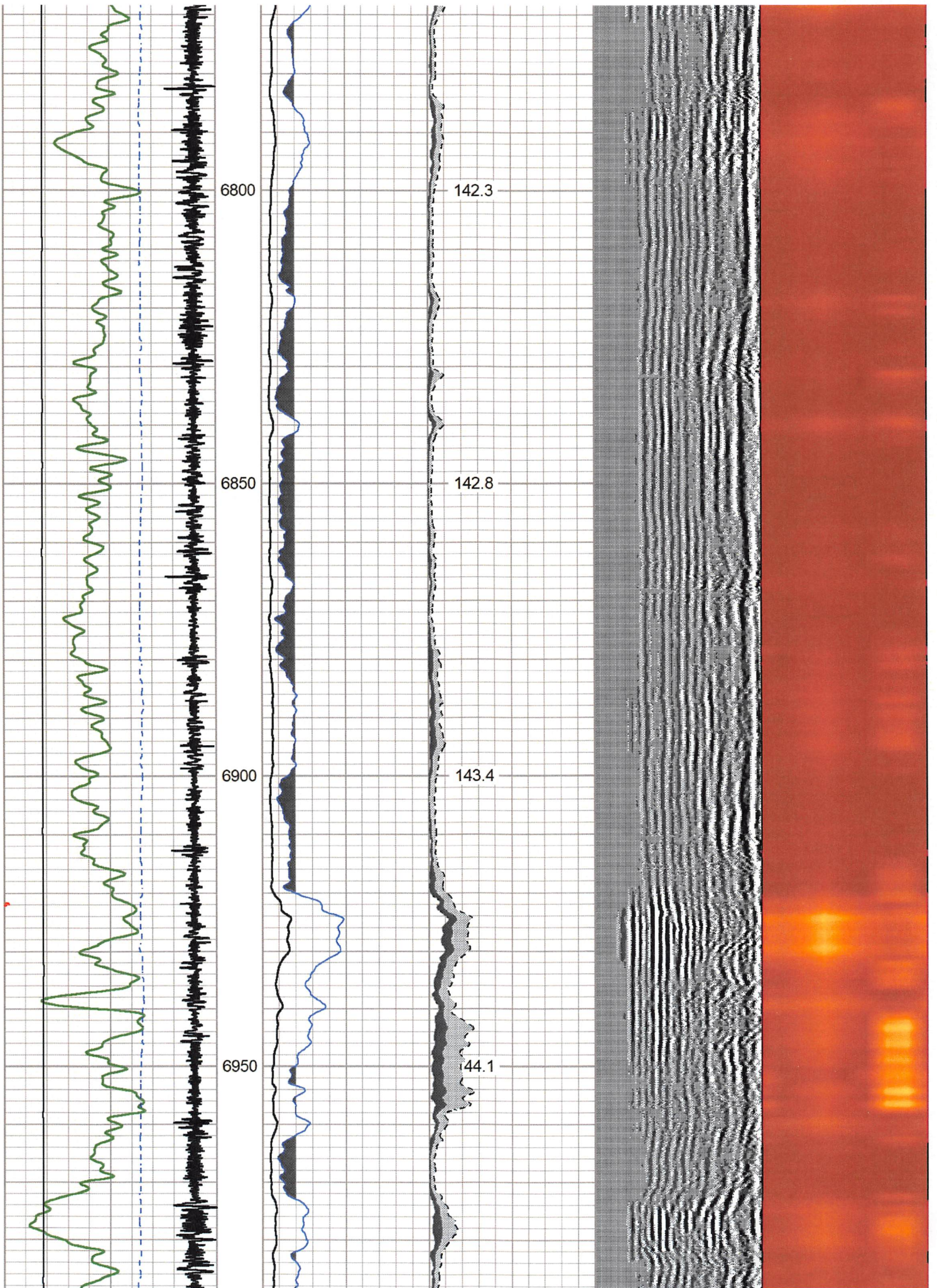


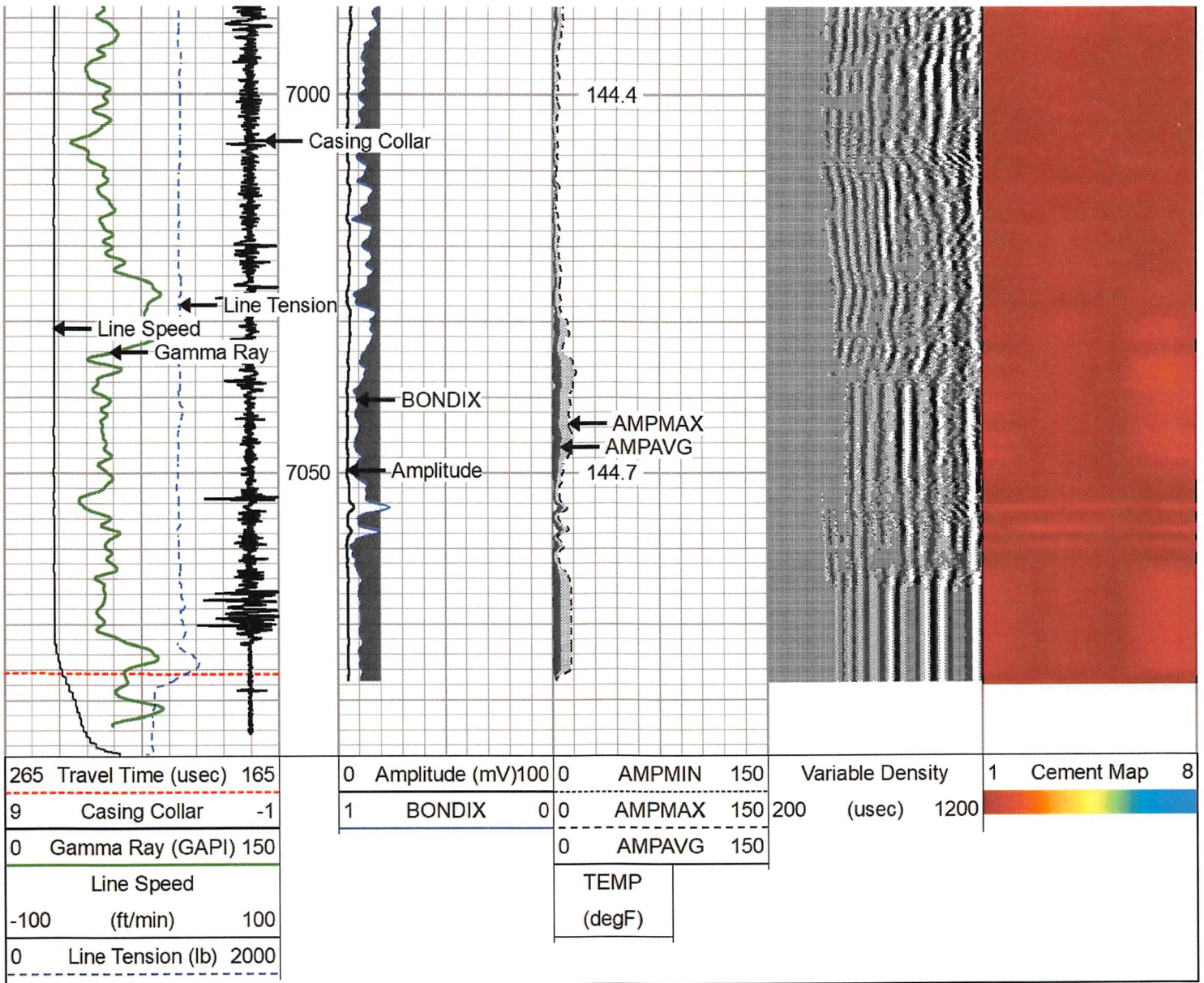








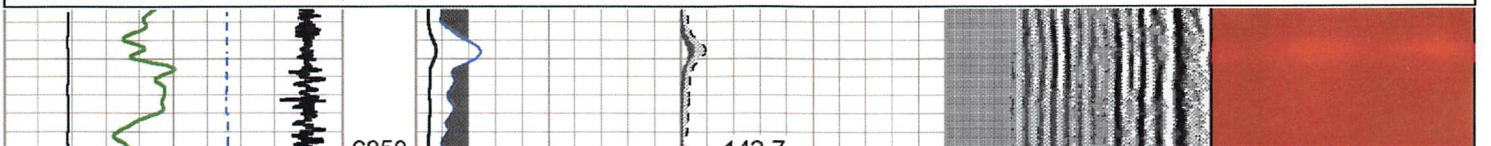


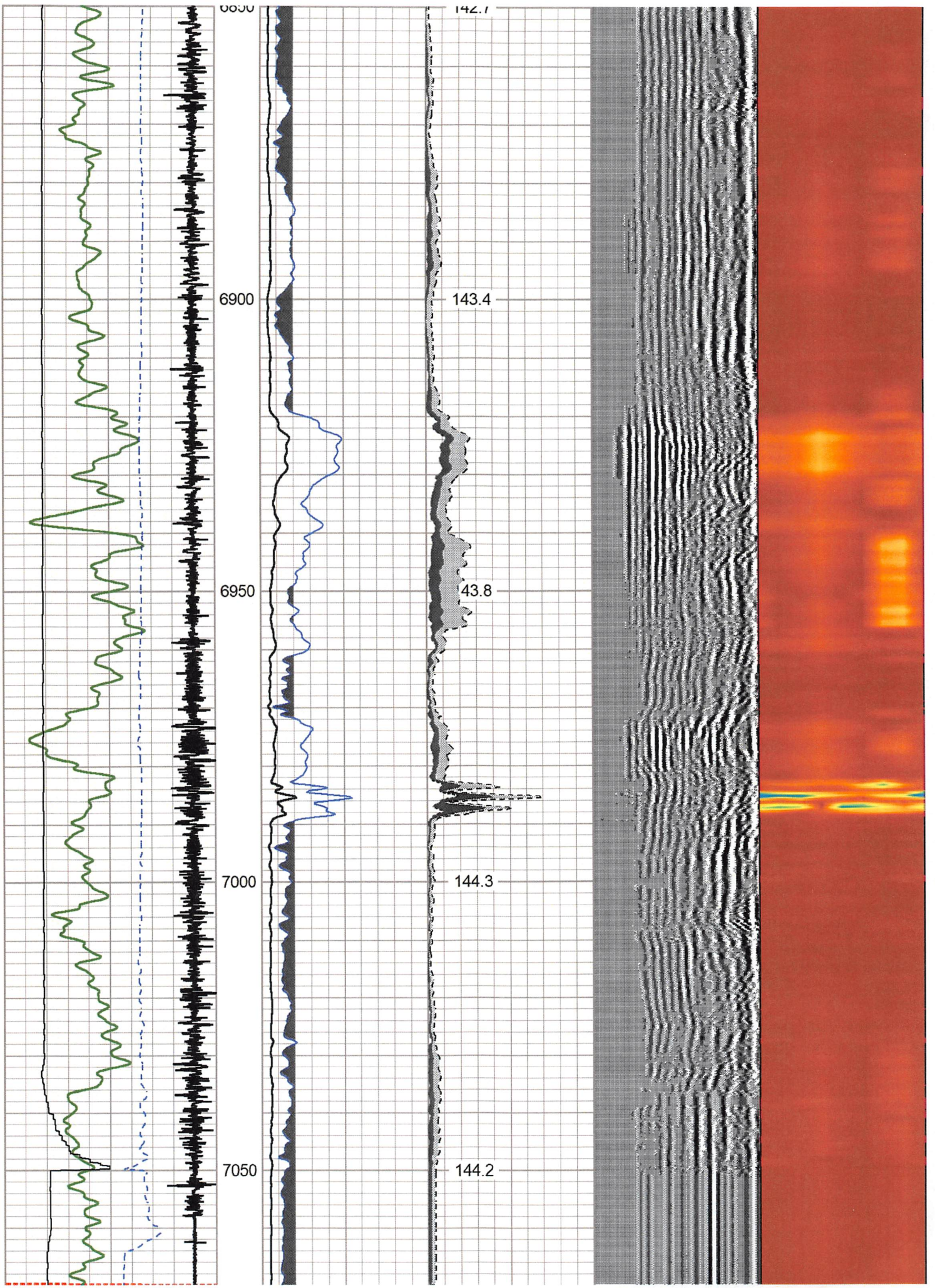


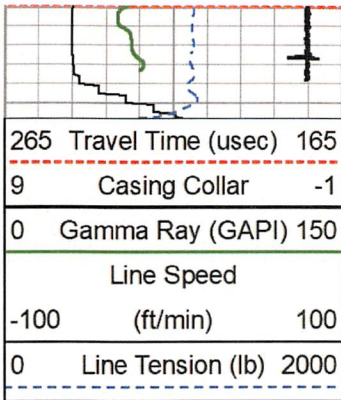
# Repeat Pass 1,500 PSI

Database File antero\_prosper\_2h\_nov\_7\_2020\_cbl.db  
 Dataset Pathname Rabbit\_Ears/Prosper\_2h/rcbl/pass4  
 Presentation Format rcbl-bond index for antero 1020  
 Dataset Creation Sat Nov 07 23:18:18 2020  
 Charted by Depth in Feet scaled 1:240

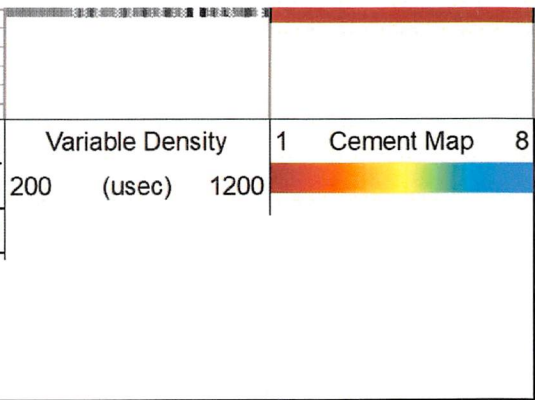
265	Travel Time (usec)	165	0	Amplitude (mV)	100	0	AMPMIN	150	Variable Density 200 (usec) 1200	1	Cement Map	8
9	Casing Collar	-1	1	BONDIX	0	0	AMPMAX	150				
0	Gamma Ray (GAPI)	150	0	AMPAVG	150	0	AMPAVG	150				
Line Speed			TEMP			TEMP						
-100	(ft/min)	100	(degF)									
0	Line Tension (lb)	2000										







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



## Log Variables

Database: C:\ProgramData\Warrrior\Data\antero\_prosper\_2h\_nov\_7\_2020\_cbl.db  
 Dataset: Rabbit\_Ears/Prosper\_2h/rcbl/pass7/\_vars\_

**Top - Bottom**

BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	in	degF	in	in	lb/ft	mV	mV
	8.5	144	5.5	0	23	71.9	3.4
MINATTN	PERFS	PPT	SRFTEMP	TDEPTH			
db/ft		usec	degF	ft			
0.8	No	260	0	7060			

**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: antero\_prosper\_2h\_nov\_7\_2020\_cbl.db  
 Dataset Pathname: Rabbit\_Ears/Prosper\_2h/rcbl/pass6  
 Dataset Creation: Sat Nov 07 23:31:56 2020

**Gamma Ray Calibration Report**

Serial Number:	FW1211-86	
Tool Model:	Probe	
Performed:	Sun Sep 13 14:03:29 2020	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.5000	GAPI/cps

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**Segmented Cement Bond Log Calibration Report**

Serial Number:	FW1312-32	
Tool Model:	Probe275T	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	151.433	ft


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.021	0.992	3.400	71.921	67.672	4.817
CAL	-0.021	1.415				
5'	-0.021	0.944	3.400	71.921	71.007	4.880
SUM						
S1	-0.021	0.966	0.000	100.000	101.349	2.113
S2	-0.021	0.955	0.000	100.000	102.520	2.143
S3	-0.021	0.946	0.000	100.000	103.378	2.168
S4	-0.021	0.969	0.000	100.000	101.043	2.103
S5	-0.021	1.010	0.000	100.000	96.958	2.030
S6	-0.021	1.031	0.000	100.000	95.071	1.983
S7	-0.021	1.067	0.000	100.000	91.911	1.939
S8	-0.021	1.043	0.000	100.000	93.987	1.963

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	-0.021	1.415	1.000	0.000

Air Zero Calibration, performed Sat Nov 07 10:29:21 2020:

	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)
HeadVolt	16.86		CHD-Titan Titan 1 7/16" GO Cablehead	1.00	1.44	5.00
			CENT-Titn275Adj Titan 2 3/4" Adjustable Centralizer	2.75	2.75	35.00
Temp	14.02					

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FLD 03-0023  
NOV 07 2020

Temp	17.02					
WVFS8	11.78		RBT-Probe275T (FW1312-32) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00
WVFS7	11.78					
WVFS6	11.78					
WVFS5	11.78					
WVFS4	11.78					
WVFS3	11.78					
WVFS2	11.78					
WVFS1	11.78					
WVF3FT	11.78					
WVF5FT	10.78					
WVFCAL	7.53					
HEADVOLT	7.53					
			CENT-Titn275Adj Titan 2 3/4" Adjustable Centralizer	2.75	2.75	35.00
CCL	3.88					
GR	2.54		GR-Probe (FW1211-86) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00

Dataset: antero\_prosper\_2h\_nov\_7\_2020\_cbl.db: Rabbit\_Ears/Prosper\_2h/rcbl/pass6  
 Total length: 20.67 ft  
 Total weight: 222.00 lb  
 O.D.: 2.75 in

	Company	ANTERO	
	Well	Prosper 2H	
	Field	RABBIT EARS	
	County	TYLER	
	State	WEST VIRGINIA	Country