



RADIAL CEMENT BOND LOG

Company ANTERO
 Well SEAGRAVE 2H
 Field RABBIT EARS
 County TYLER State WEST VIRGINIA
 Location: API # : ~~47 005 02500 0000~~
4709502698
 Other Services GR CCL TEMP
 Elevation
 SEC TWP RGE
 Permanent Datum GL Elevation 25'
 Log Measured From KB
 Drilling Measured From KB
 K.B. N/A
 D.F. N/A
 G.L. N/A

Date	8-NOV-2020
Run Number	ONE
Depth Driller	23,154'
Depth Logger	7150'
Bottom Logged Interval	7140'
Top Log Interval	SURFACE
Open Hole Size	8.50"
Type Fluid	FRESH WATER
Density / Viscosity	8.4#
Max. Recorded Temp.	144°F
Estimated Cement Top	
Time Well Ready	11:25
Time Logger on Bottom	12:25
Equipment Number	TK-127 / P2,G1
Location	CHARLEROI, PA
Recorded By	D.JOSEPHIK
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	23,154'		
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

RECEIVED
 Office of Oil and Gas
 FEB 06 2023
 WV Department of
 Environmental Protection
LOG CORRELATED TO MARKER JOINT @ 6,033'-6,044'
100%FREE PIPE=71.9mv
100%BOND=3.4mv

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CHD-Titan Titan 1 7/16" GO Cablehead	1.00	1.44	5.00

HeadVolt	16.86		CENT-Titn275Adj Titan 2 3/4" Adjustable Centralizer	2.75	2.75	35.00
Temp	14.02		RBT-Probe275T (FW1312-32) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00
WVFS8	11.78					
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
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_seagrave_2h_nov_8_2020_cbl.db: Rabbit/seagrve_2H/rcbl/pass9
 Total length: 20.67 ft
 Total weight: 222.00 lb
 O.D.: 2.75 in

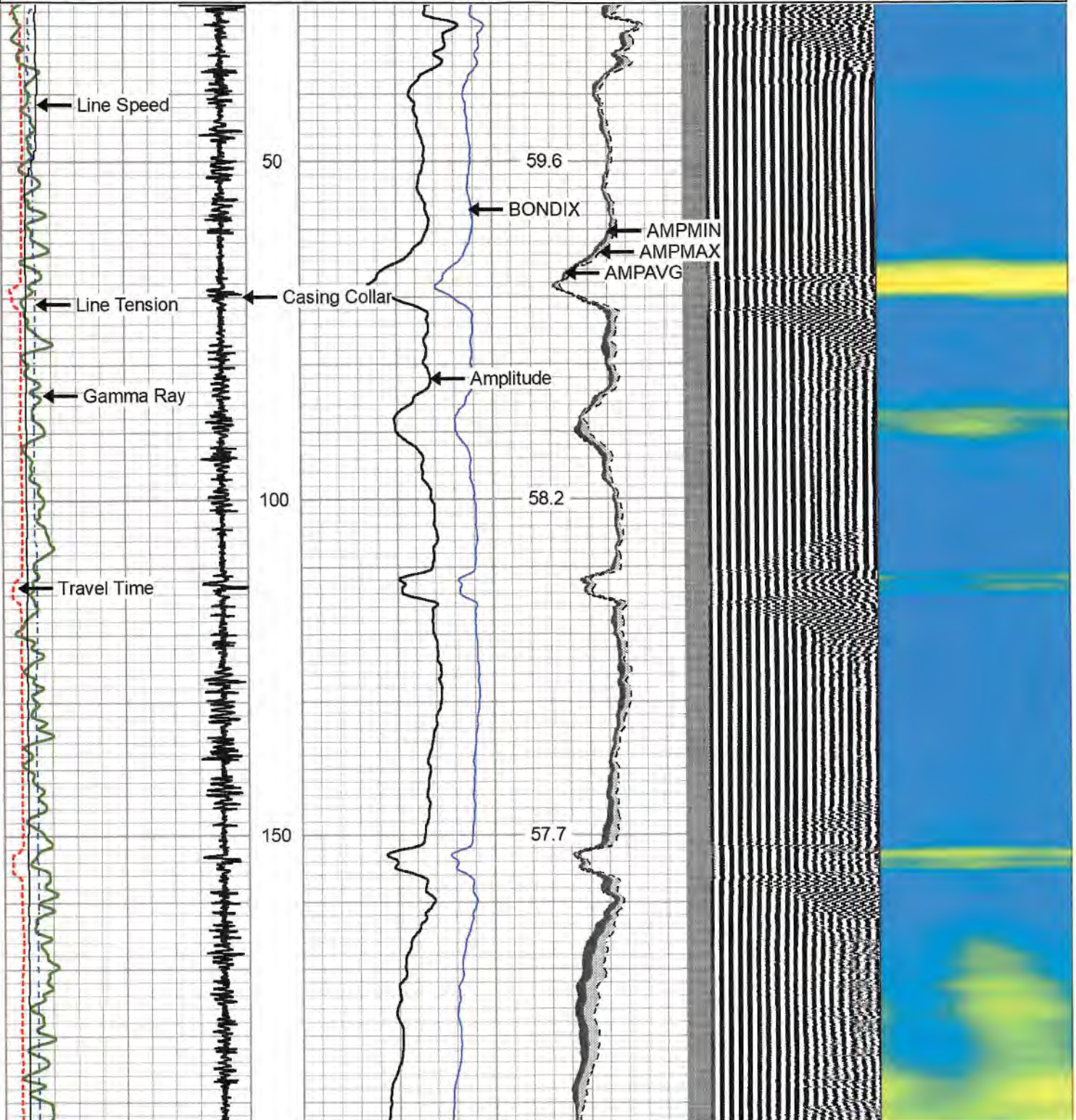


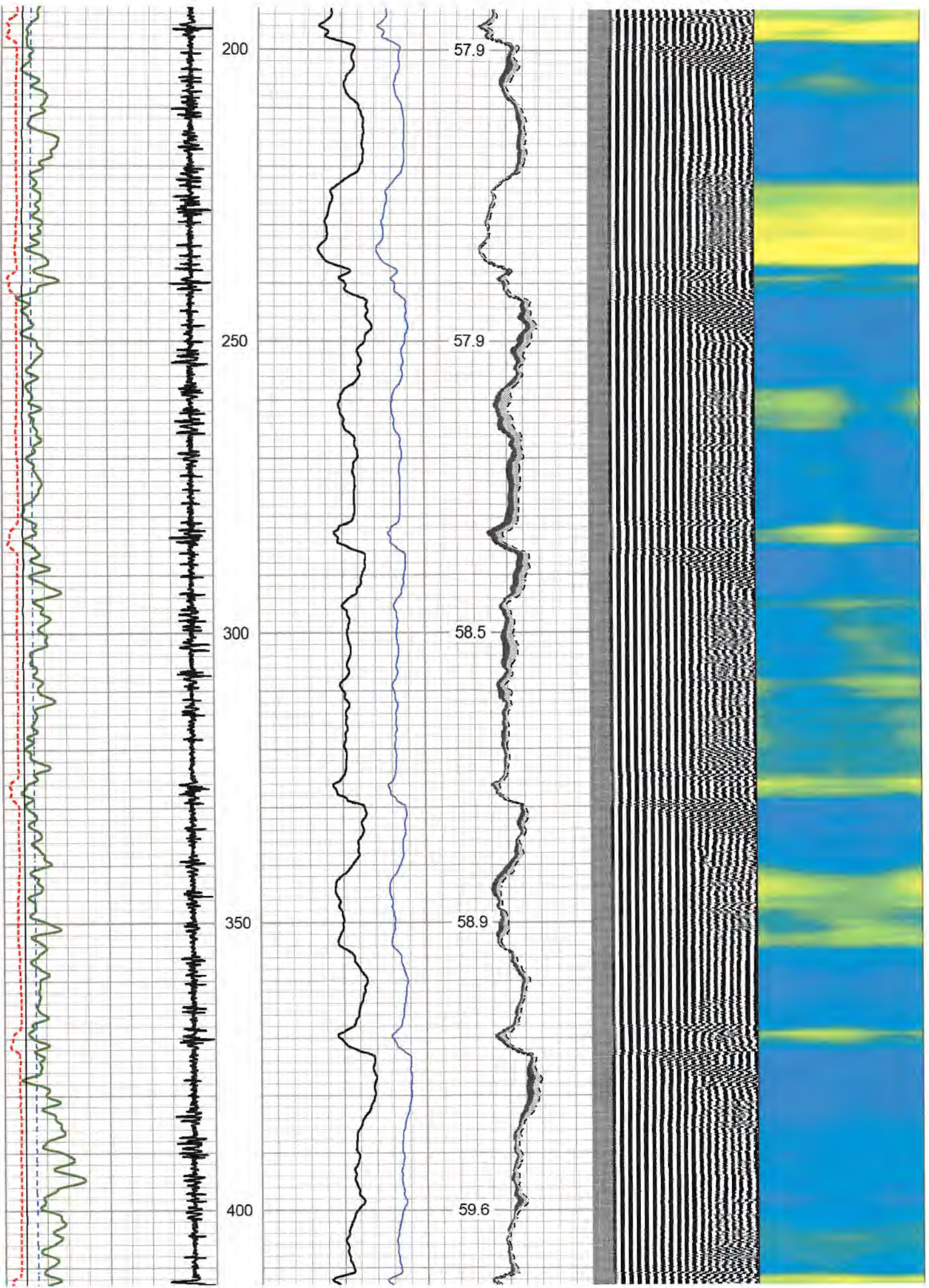
MAIN LOG

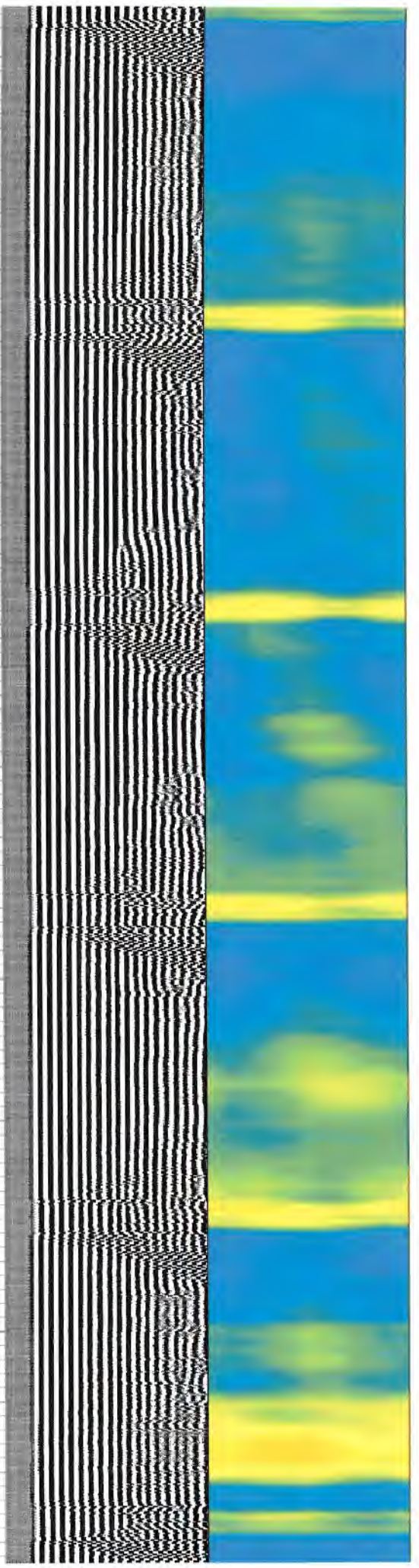
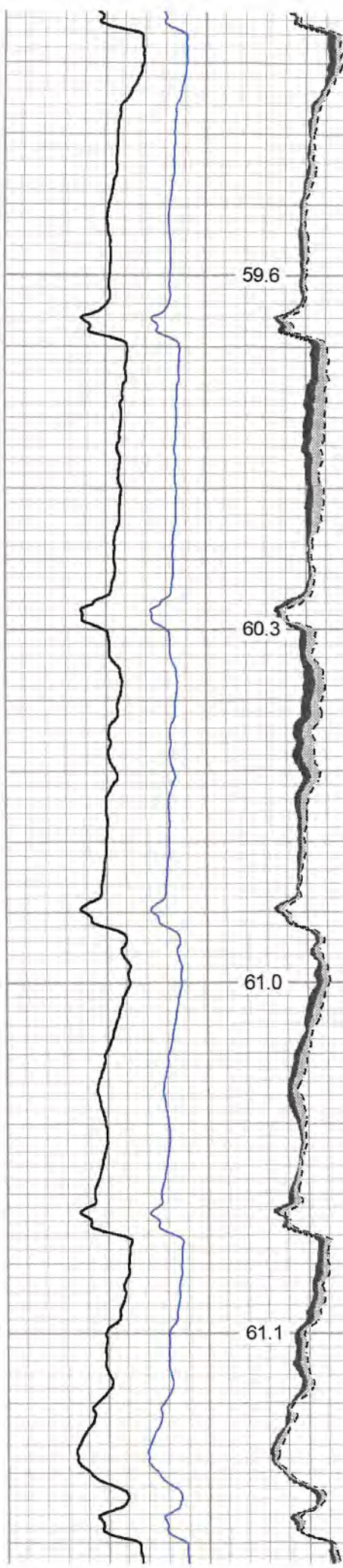
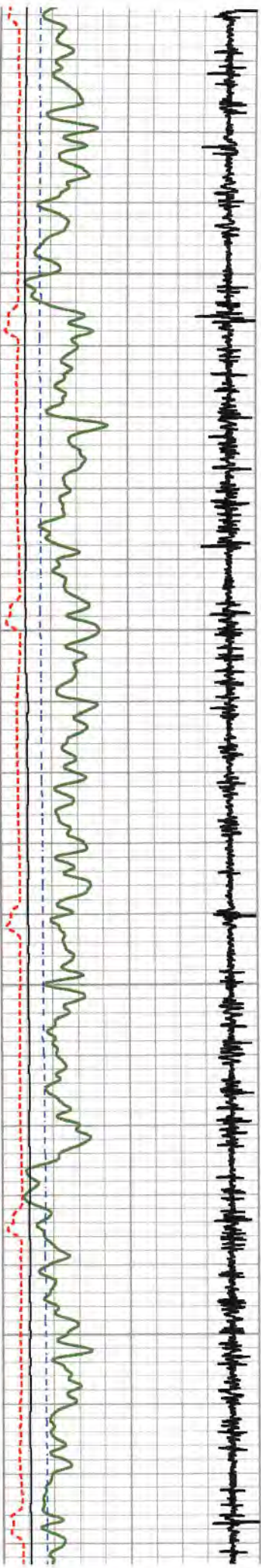
1500 psi

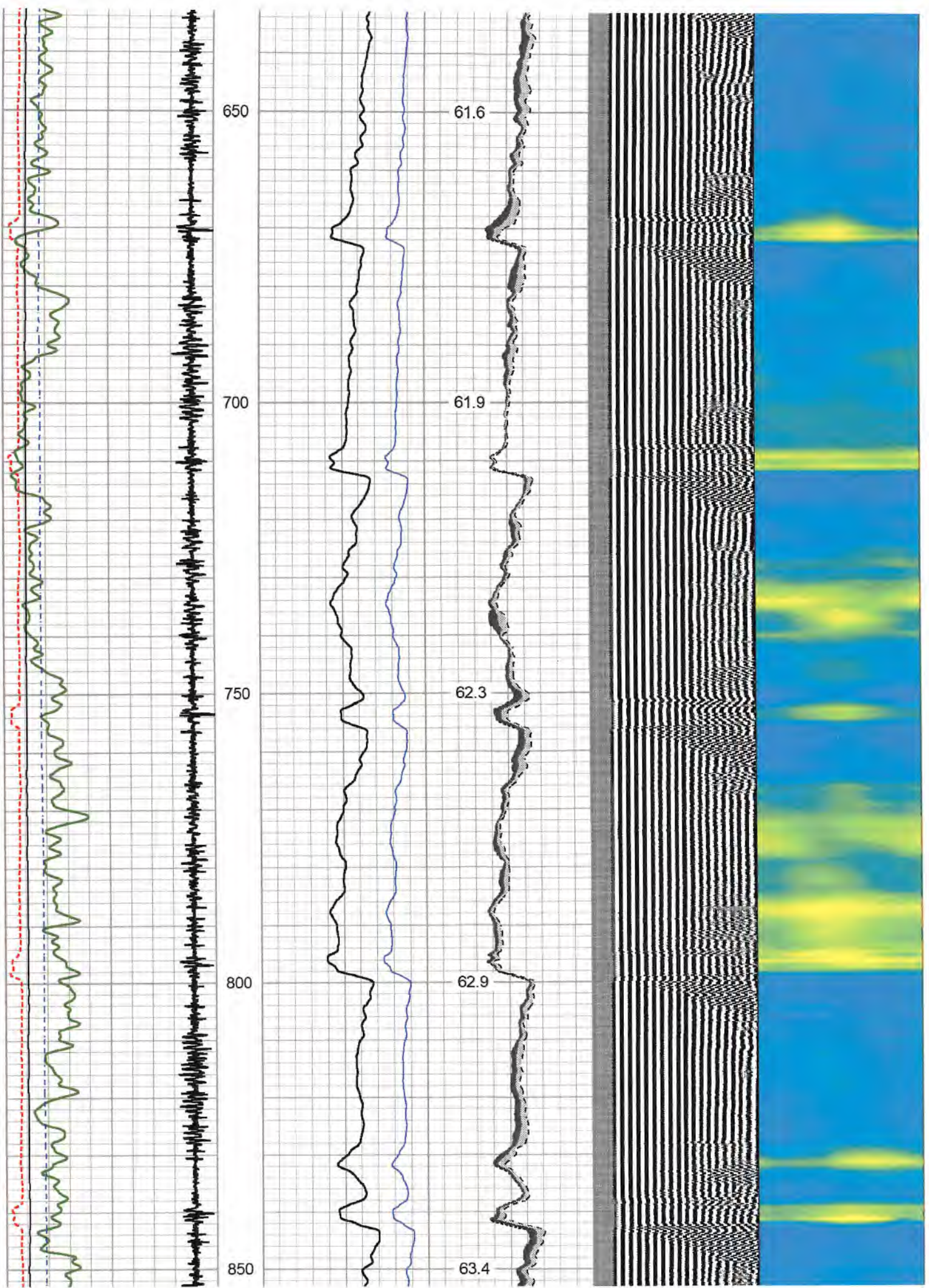
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 Dataset Pathname Rabbit/seagrve_2H/rcbl/pass9
 Presentation Format rcbl-bond index for antero 1020
 Dataset Creation Sun Nov 08 12:38:50 2020
 Charted by Depth in Feet scaled 1:240

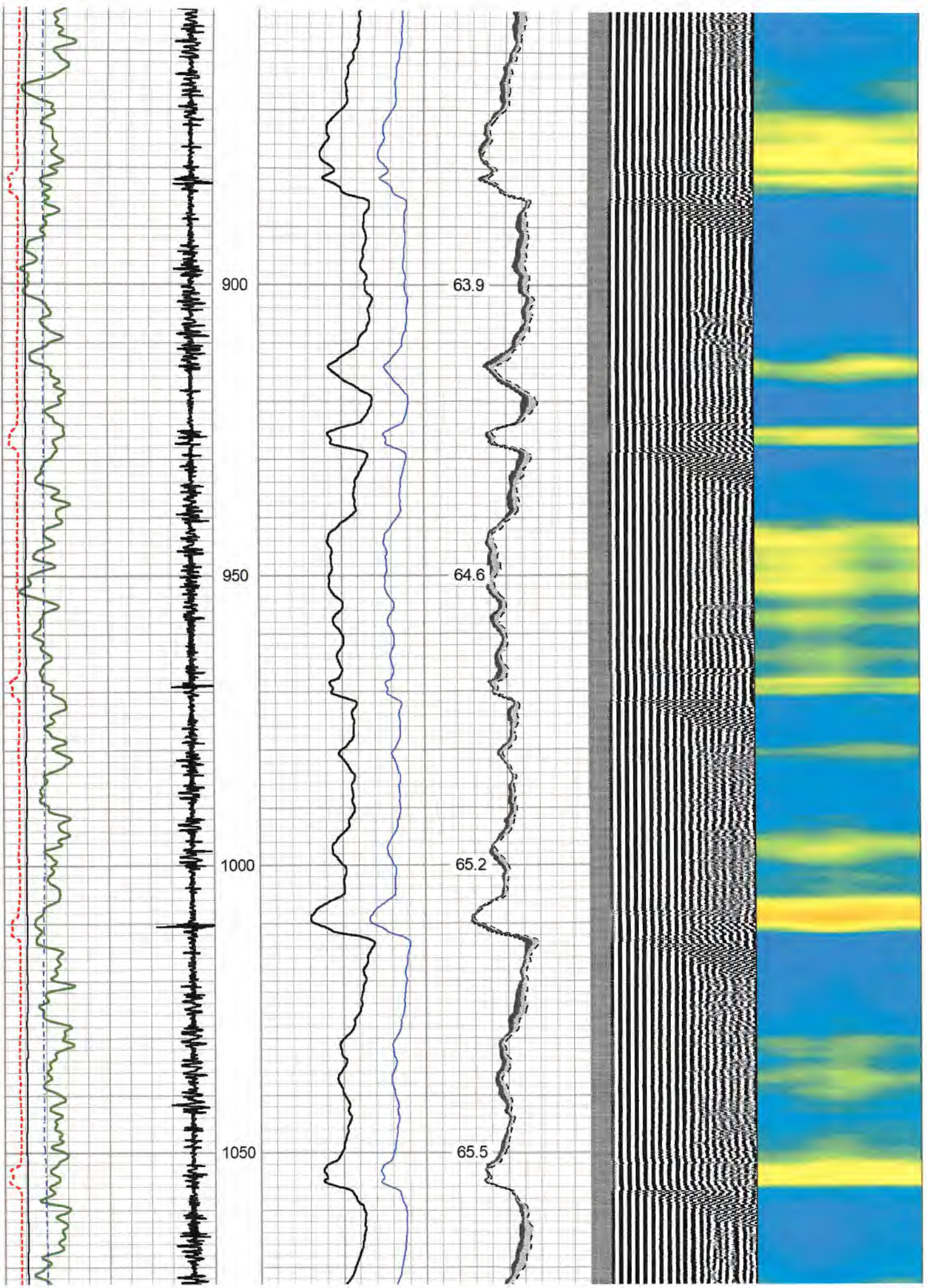
265	Travel Time (usec)	165	0	Amplitude (mV)	100	-5	AMPMIN	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1	1	BONDIX	0	-5	AMPMAX	150	200 (usec)	1200		
0	Gamma Ray (GAPI)	150				-5	AMPAVG	150				
	Line Speed						TEMP					
-100	(ft/min)	100					(degF)					
0	Line Tension (lb)	2000										

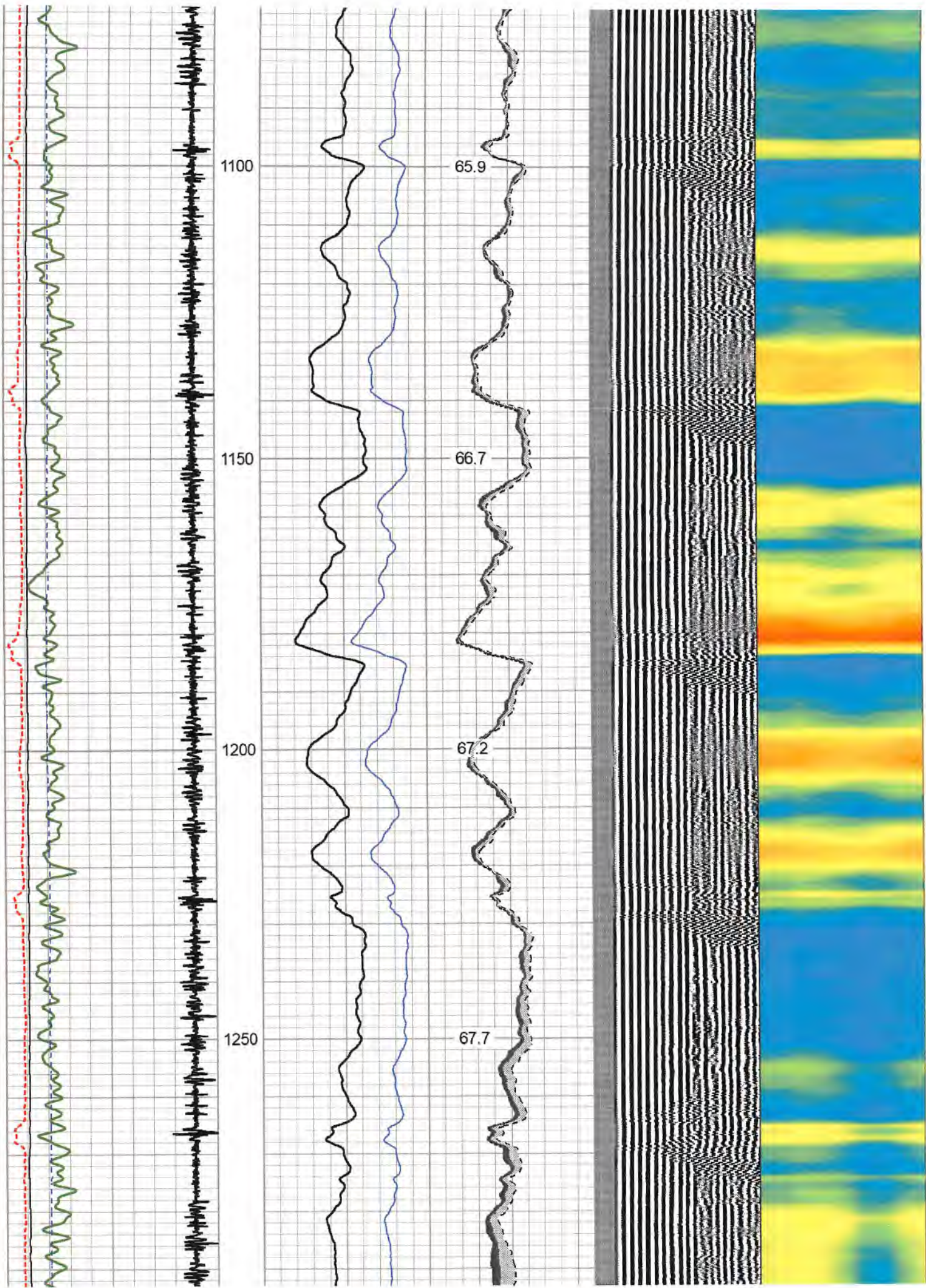


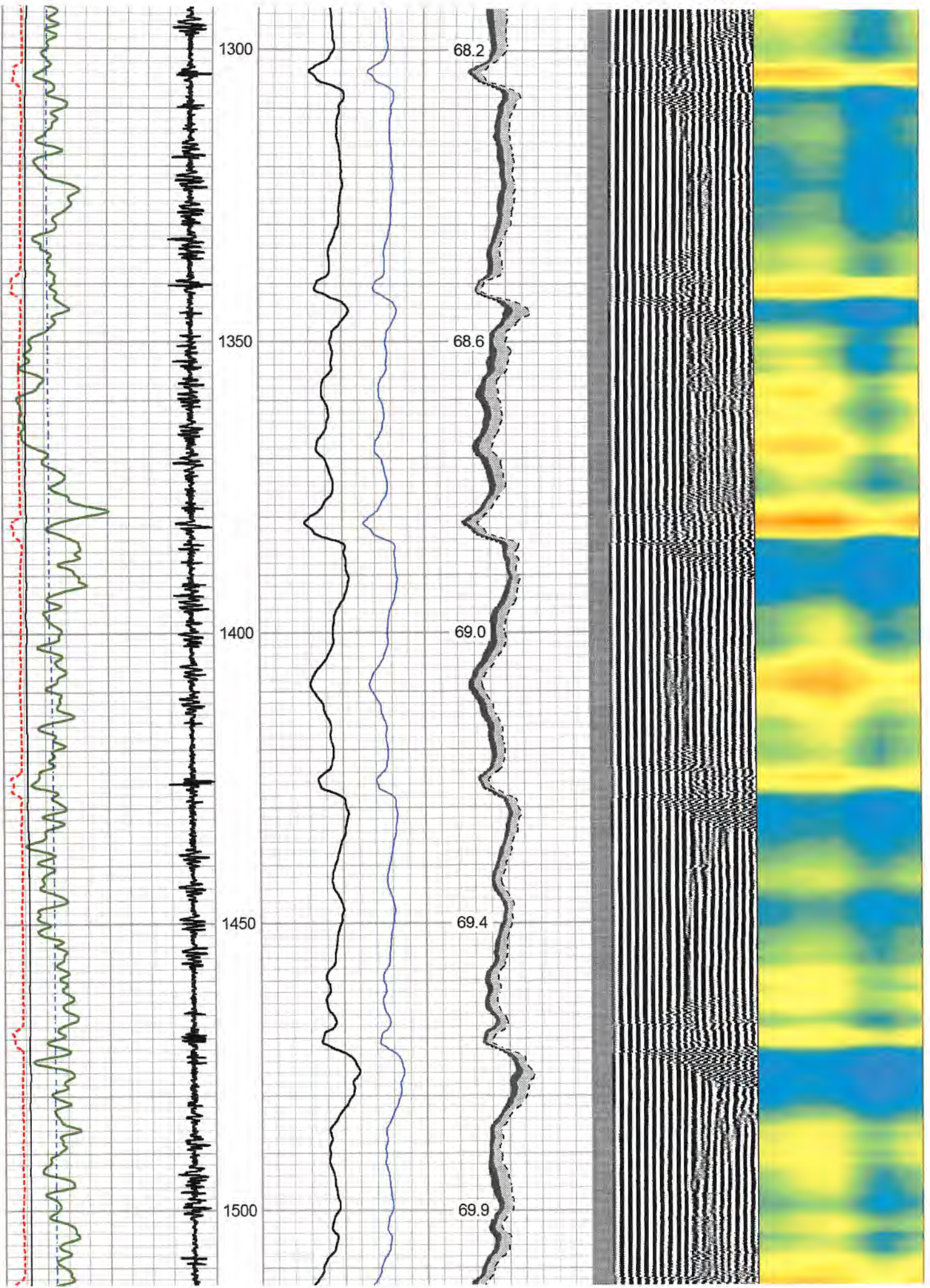


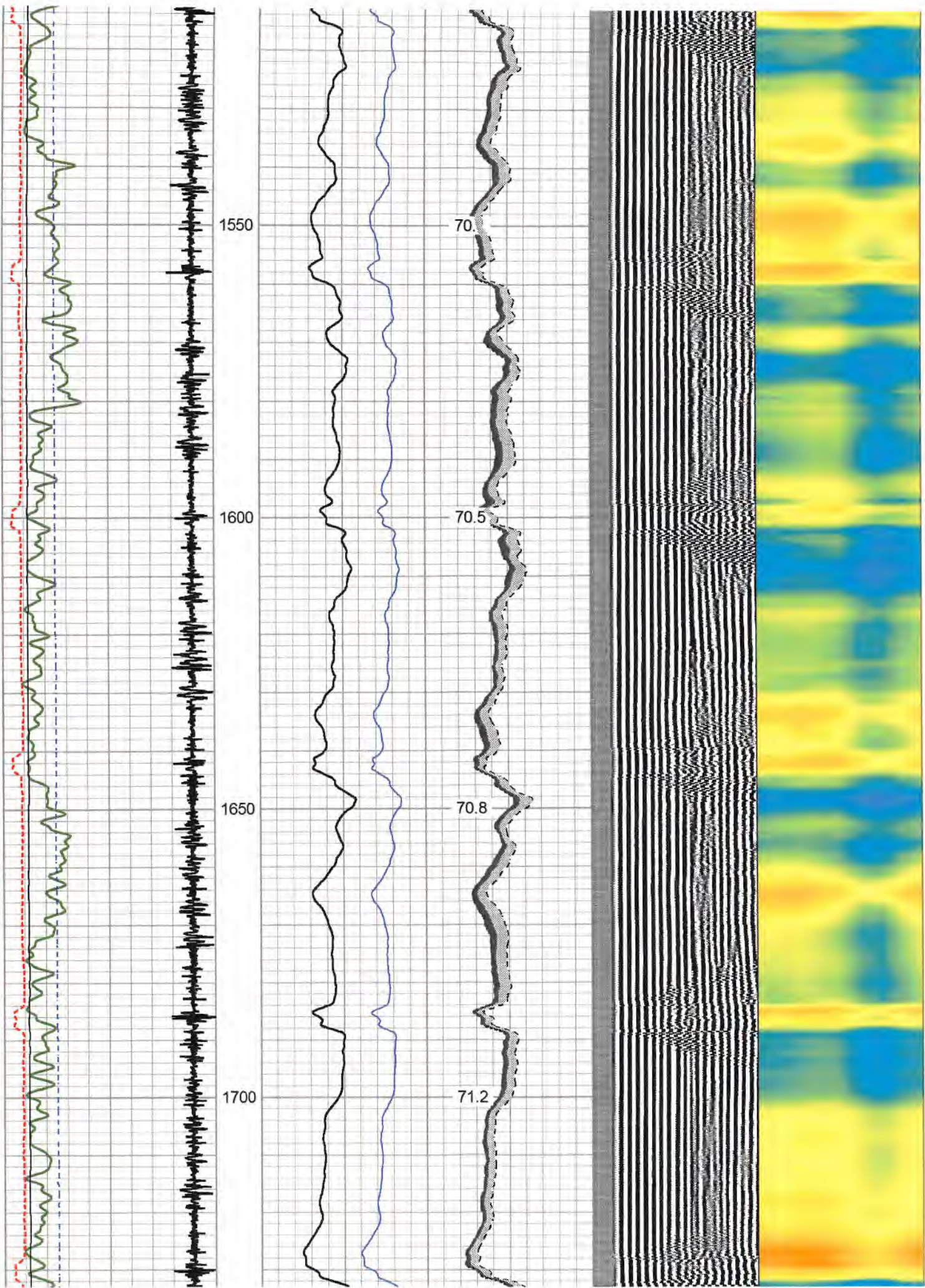


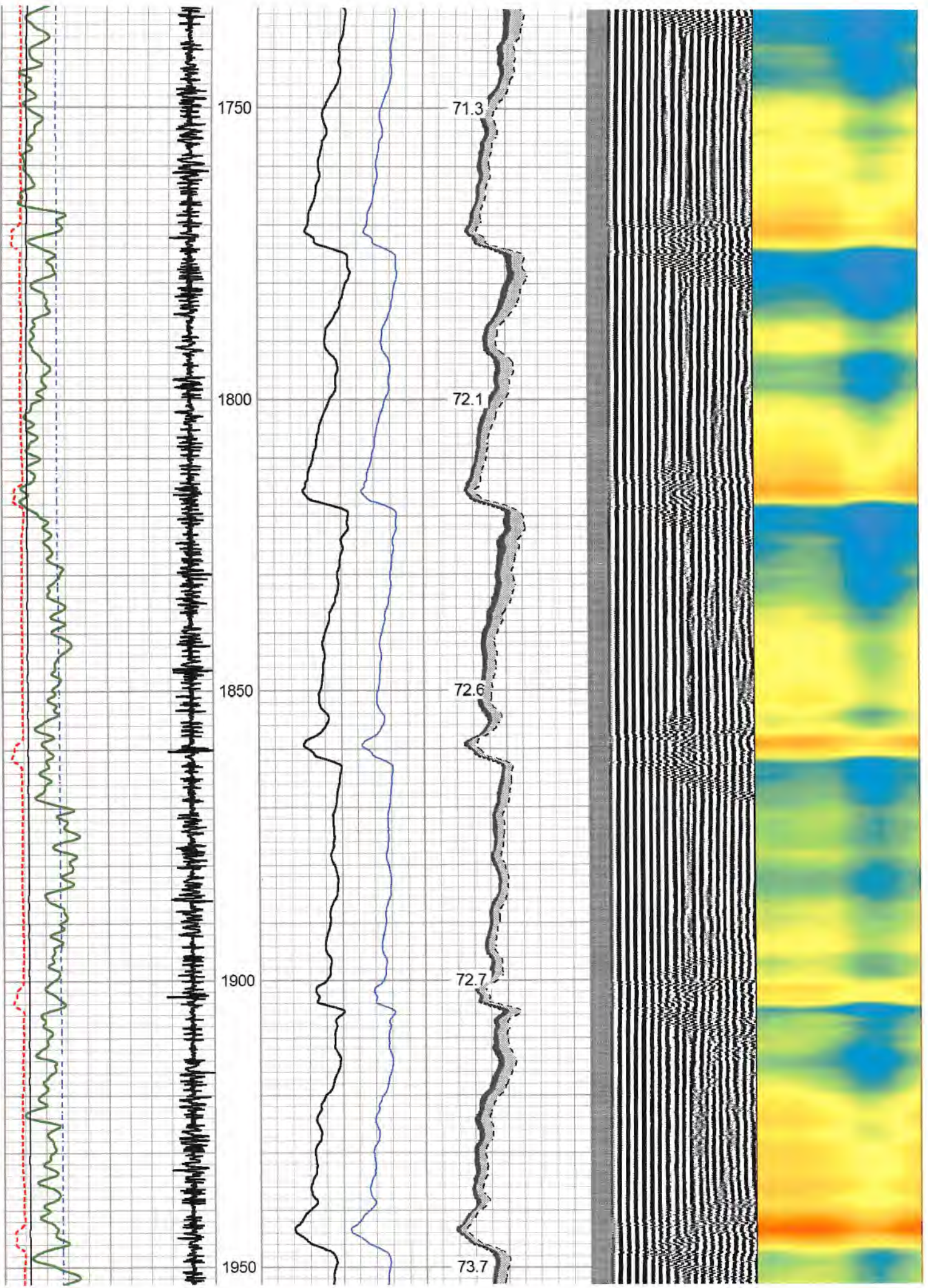


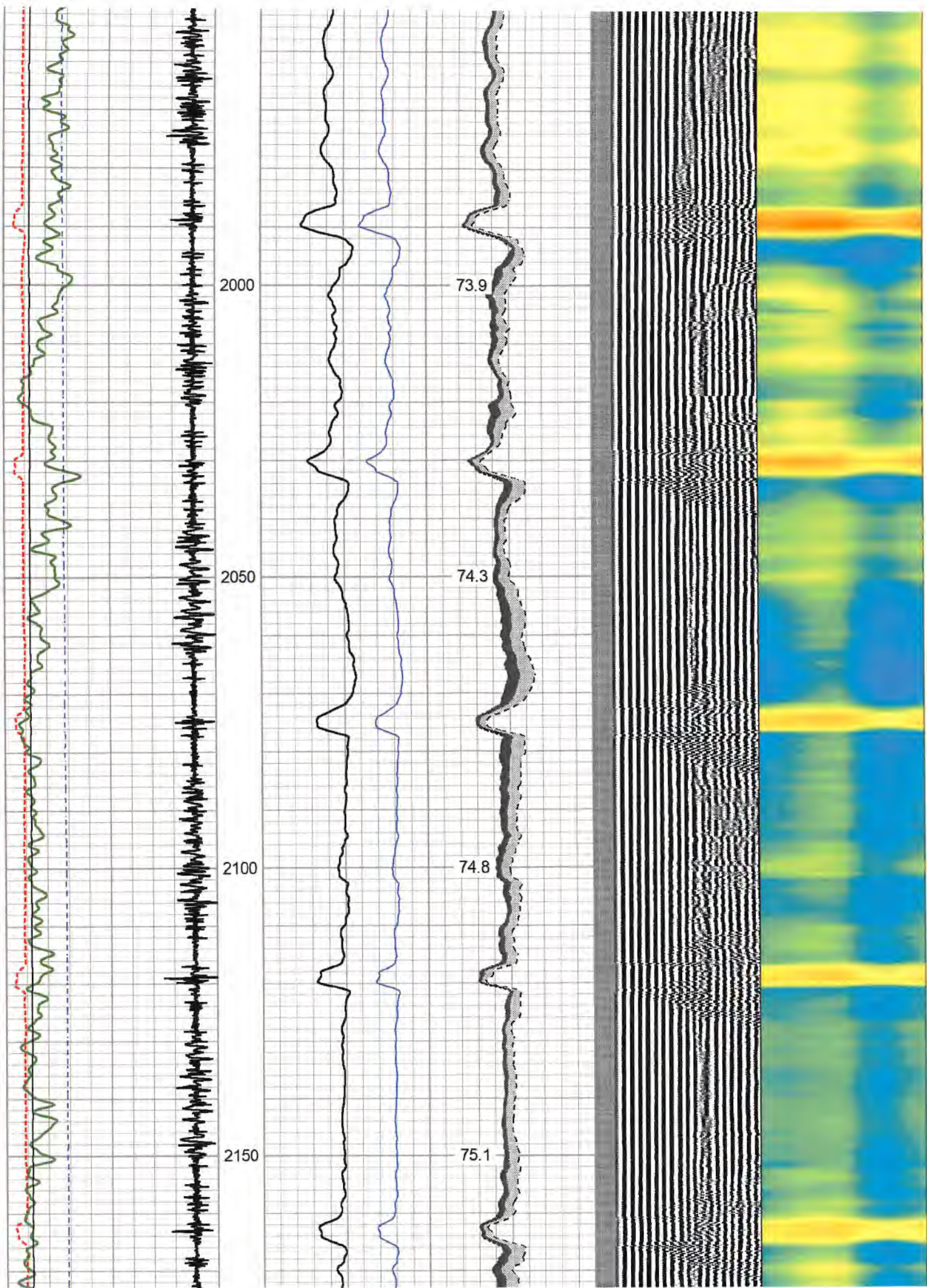


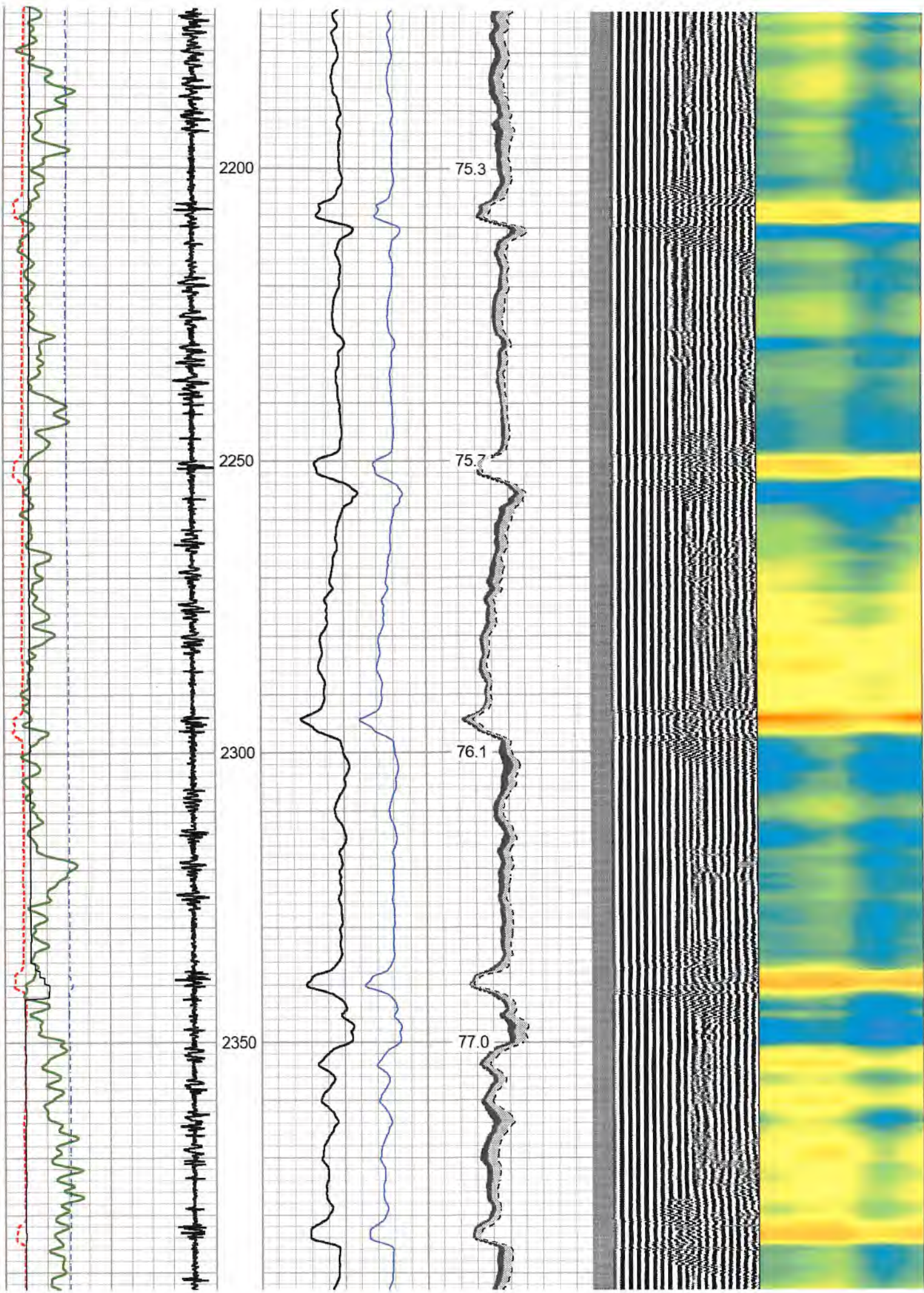


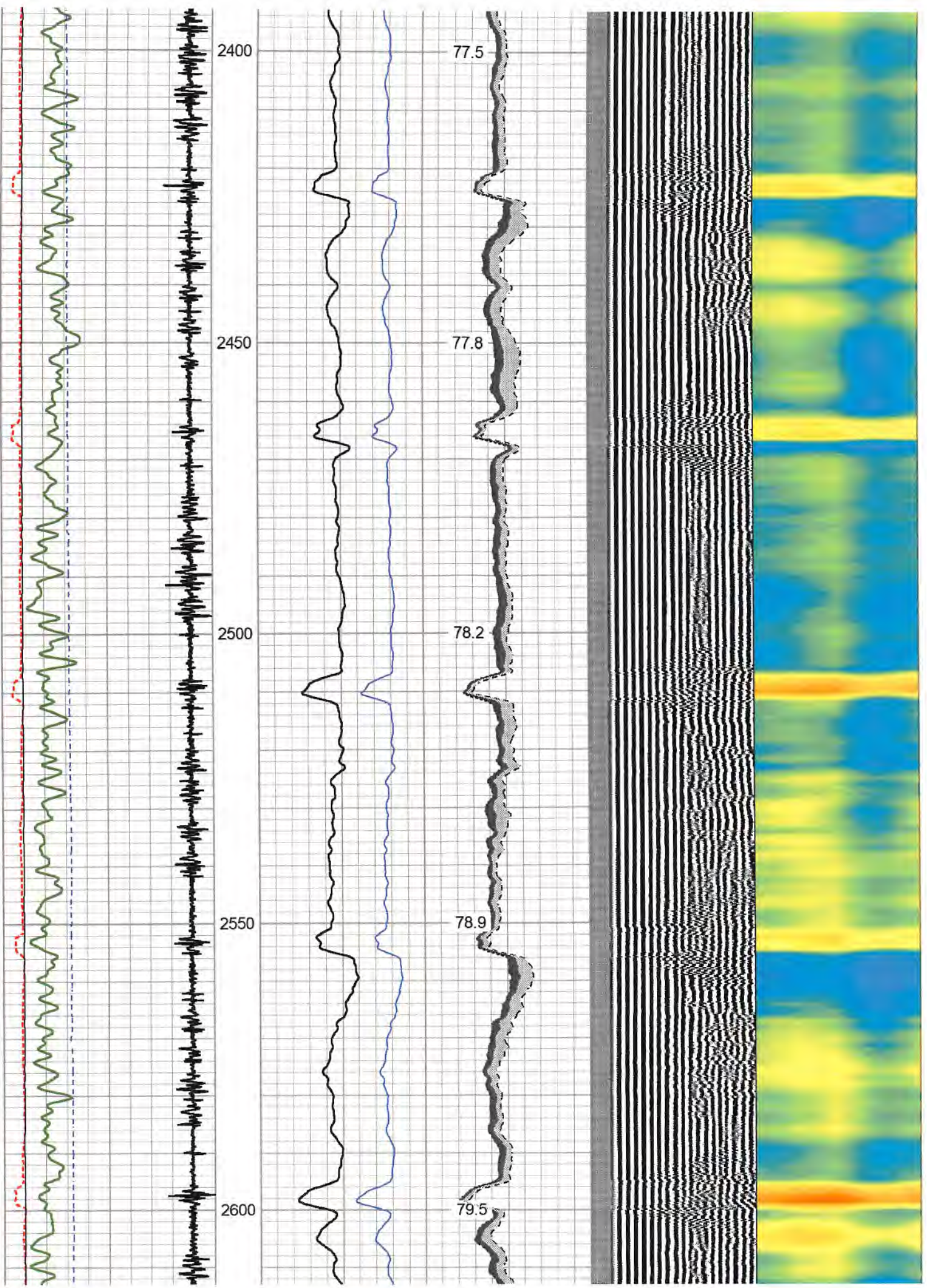


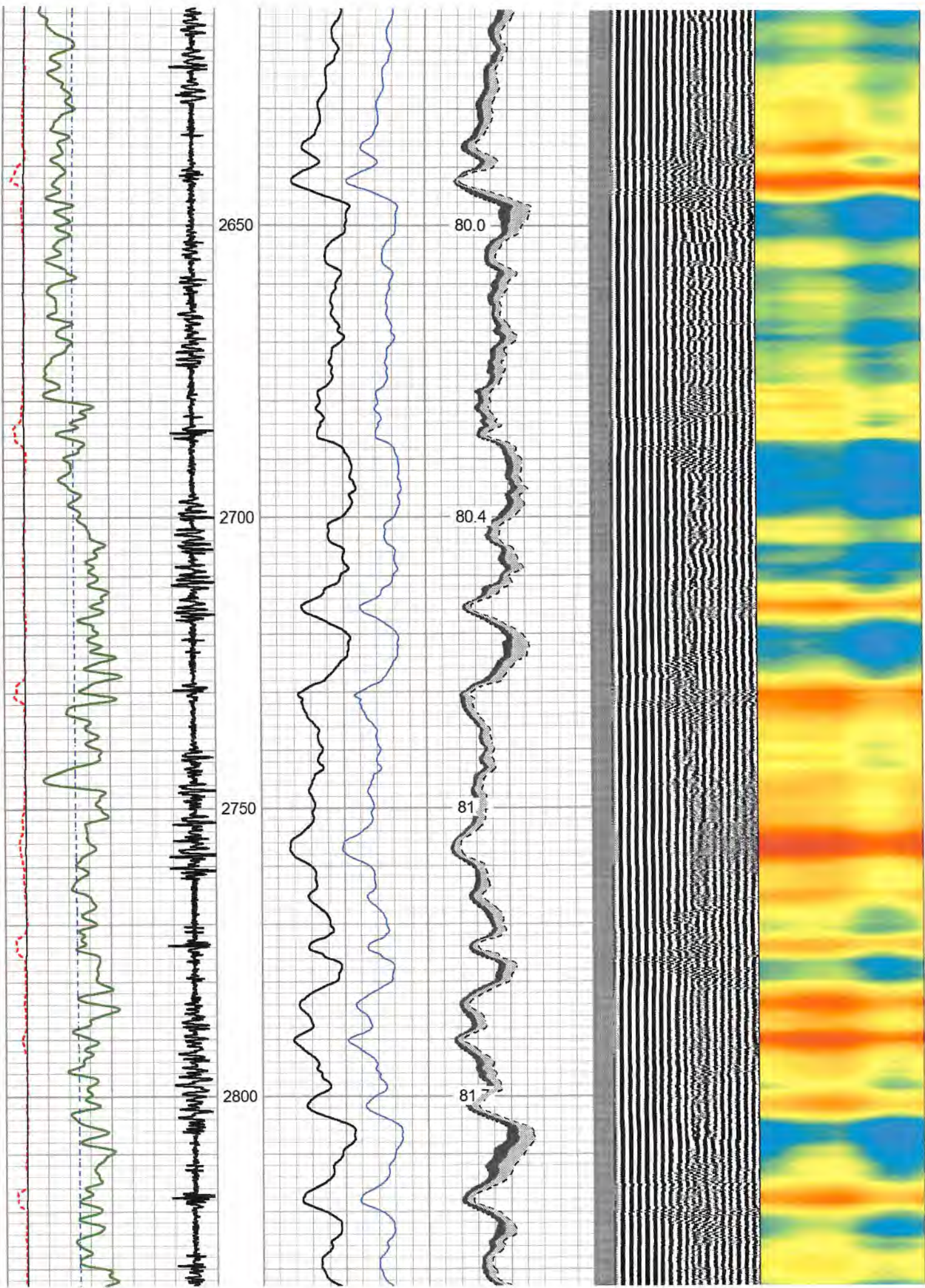


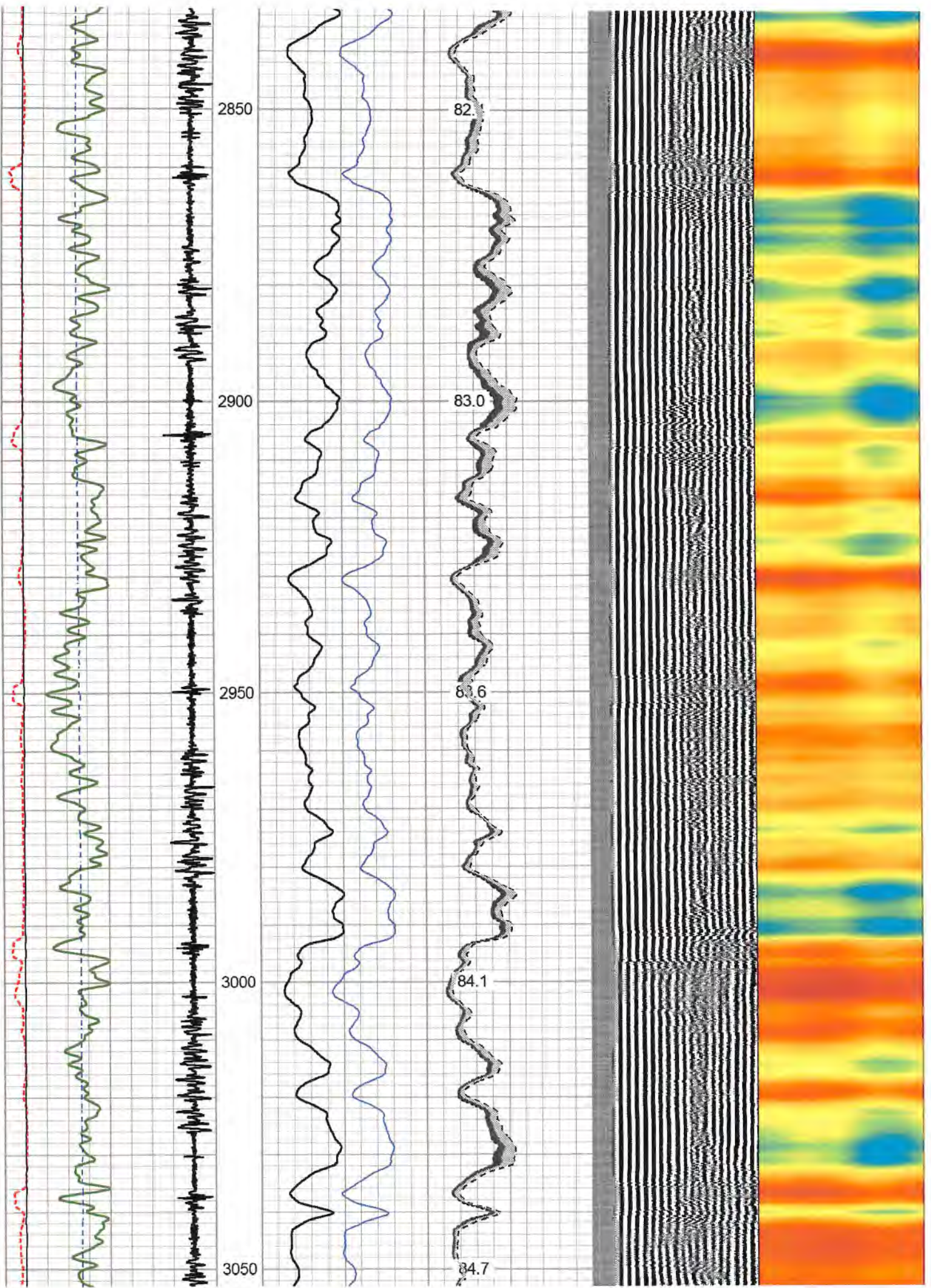


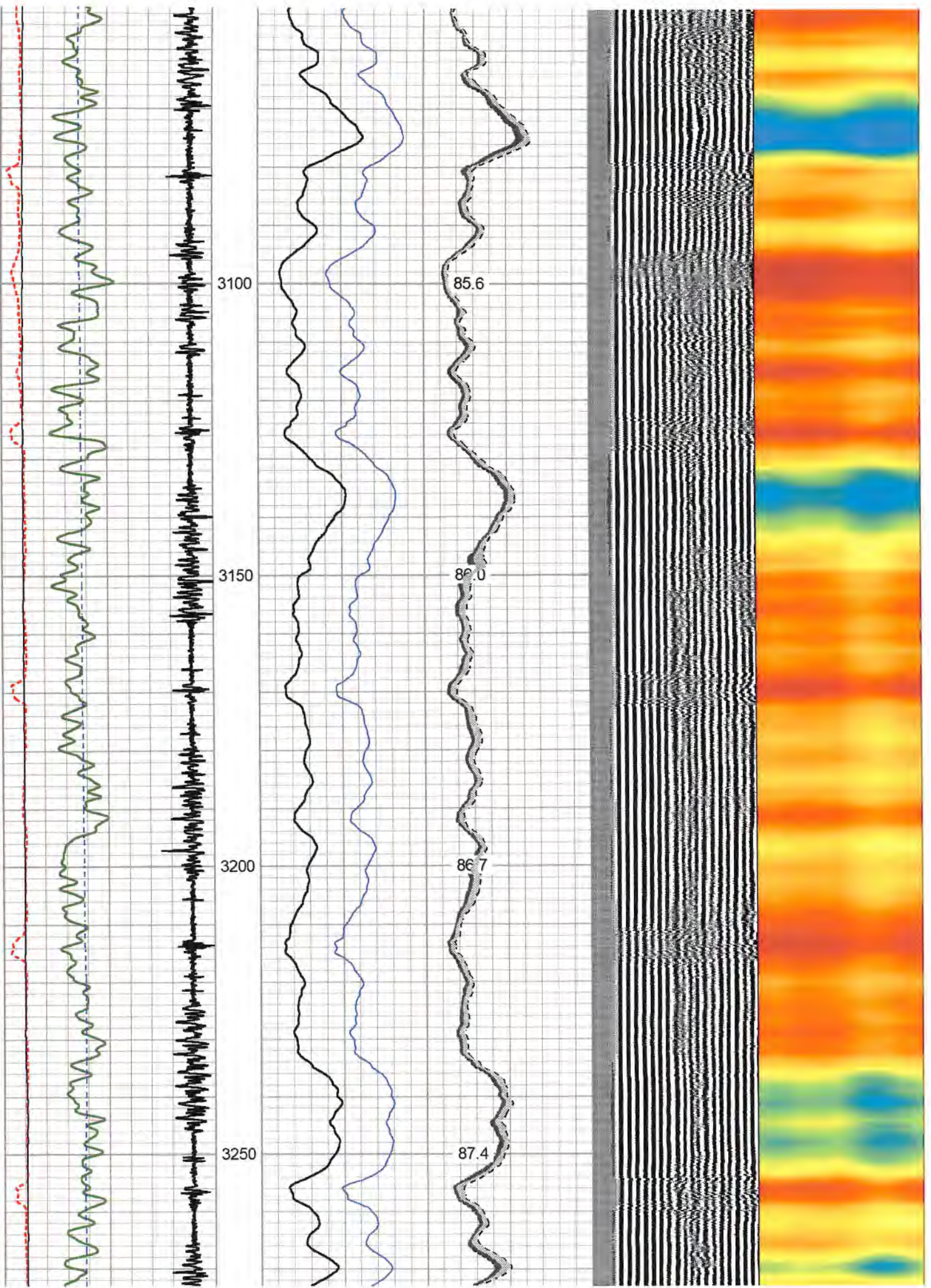


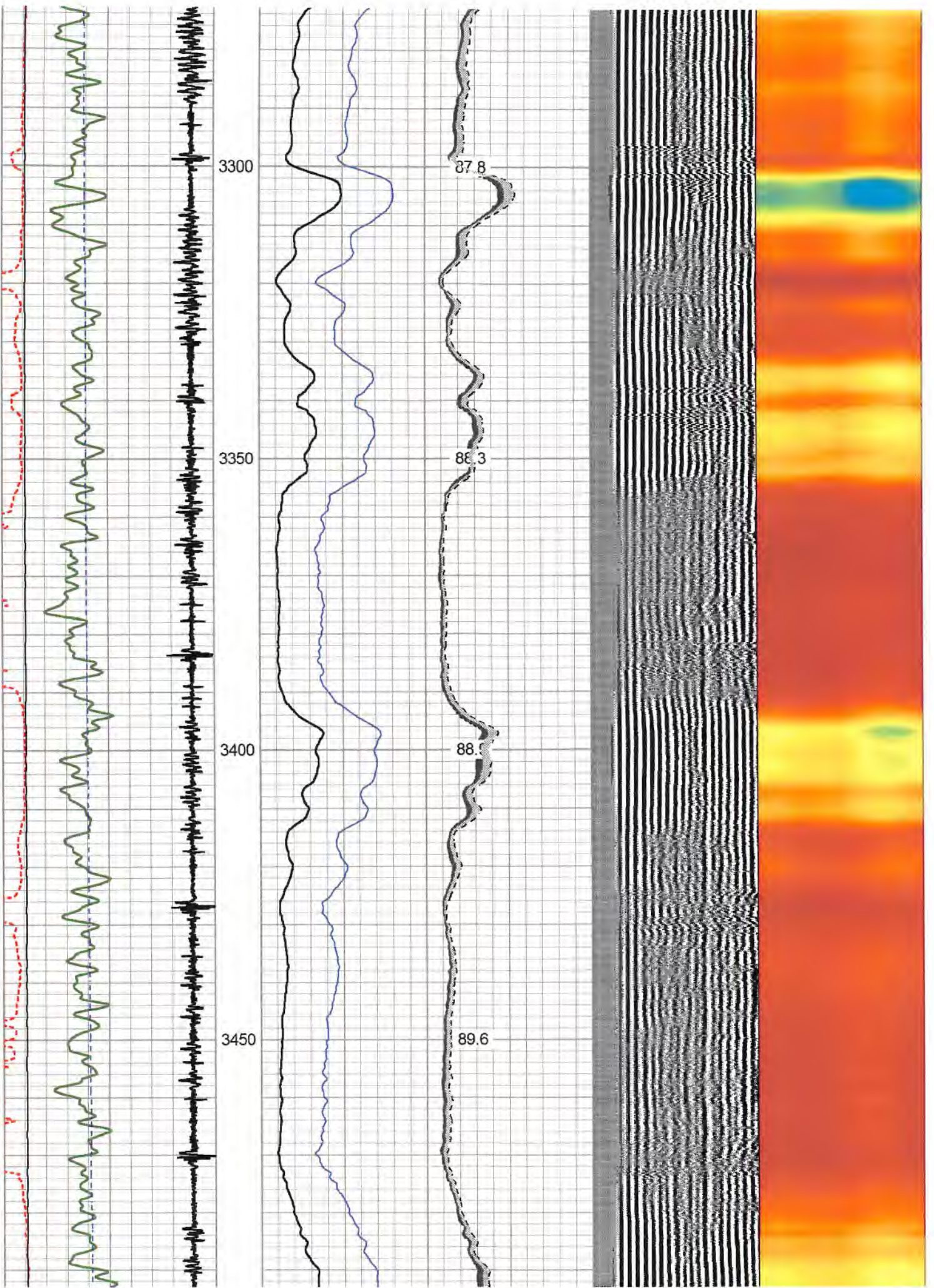


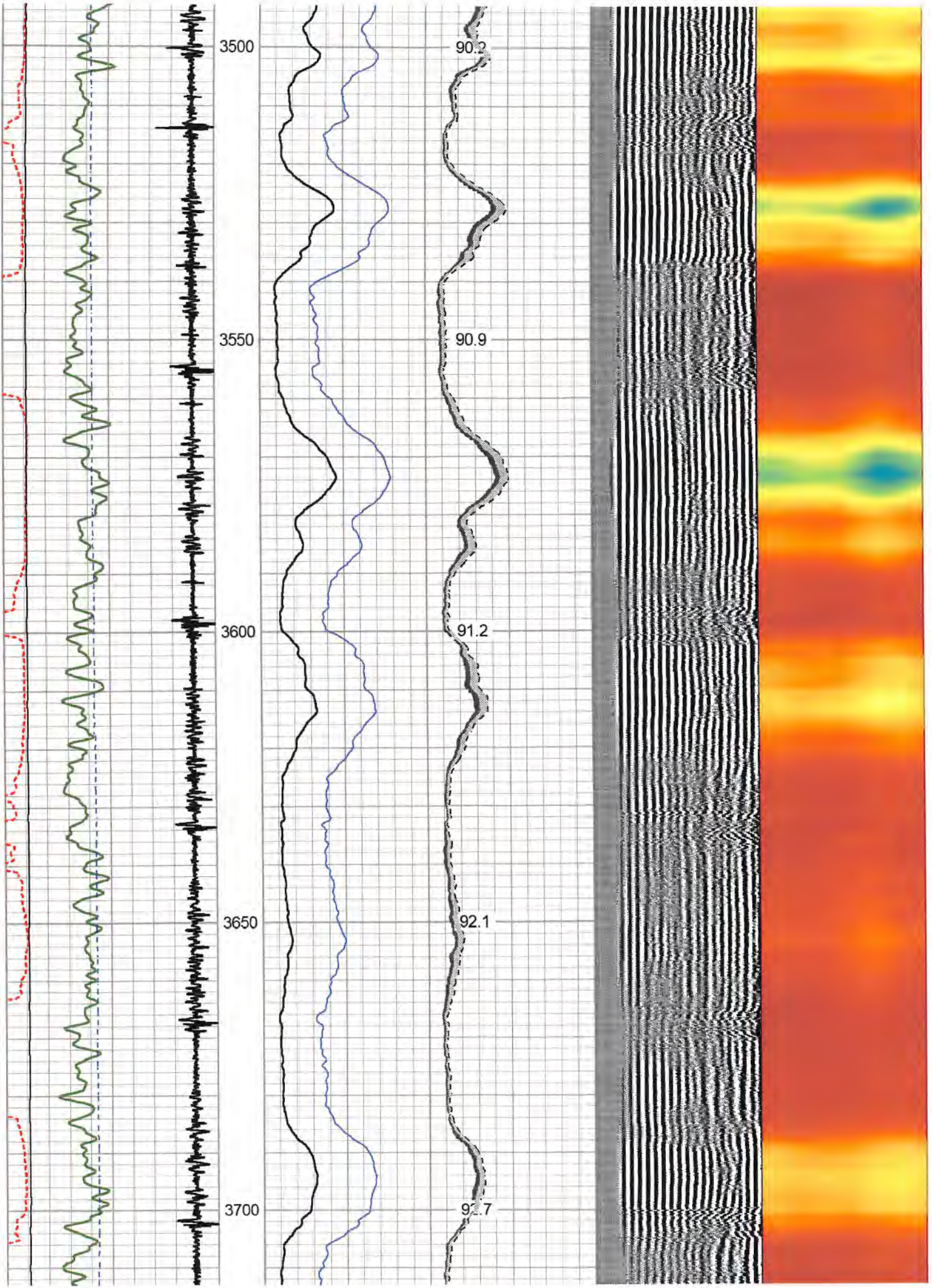


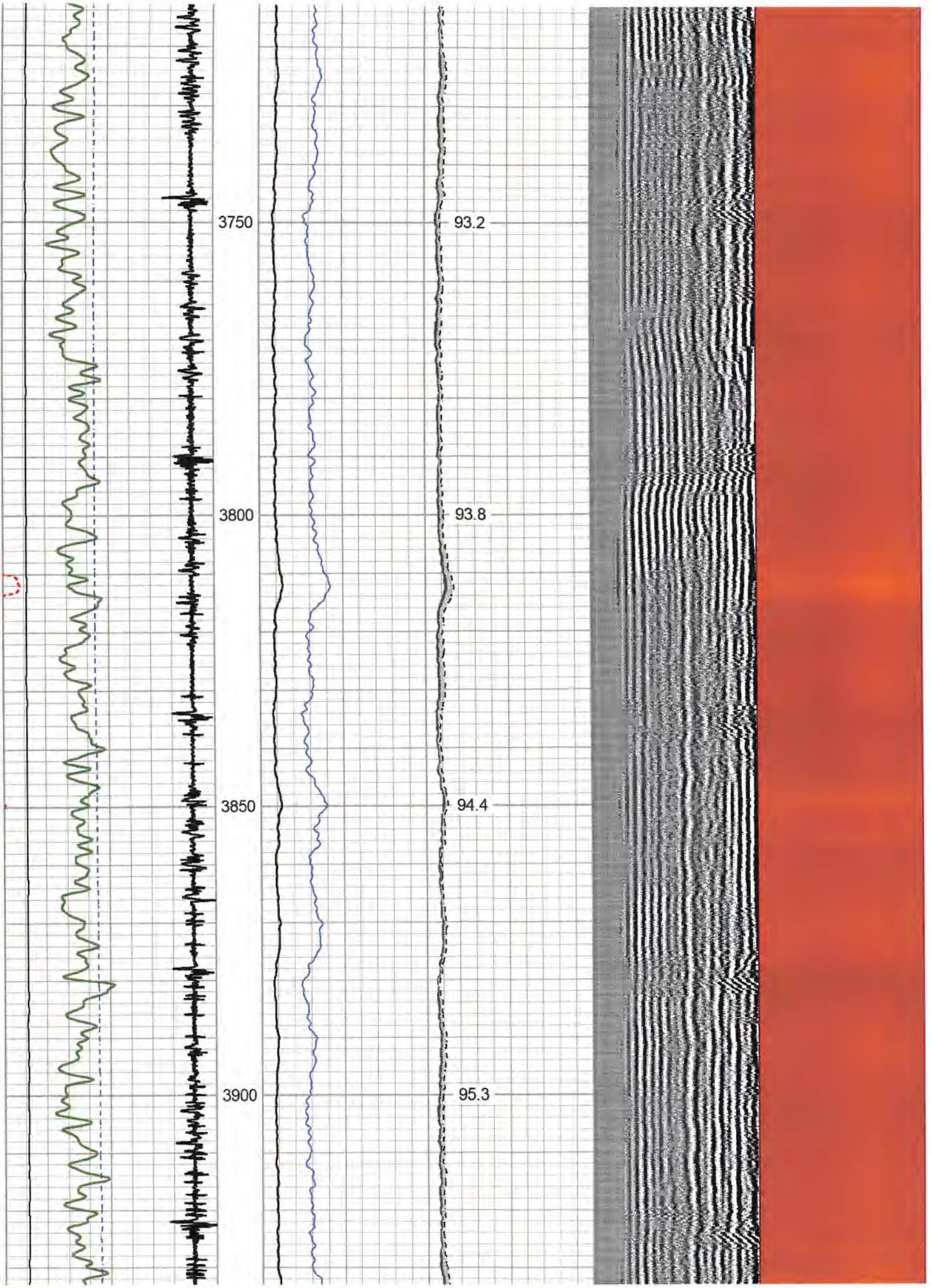


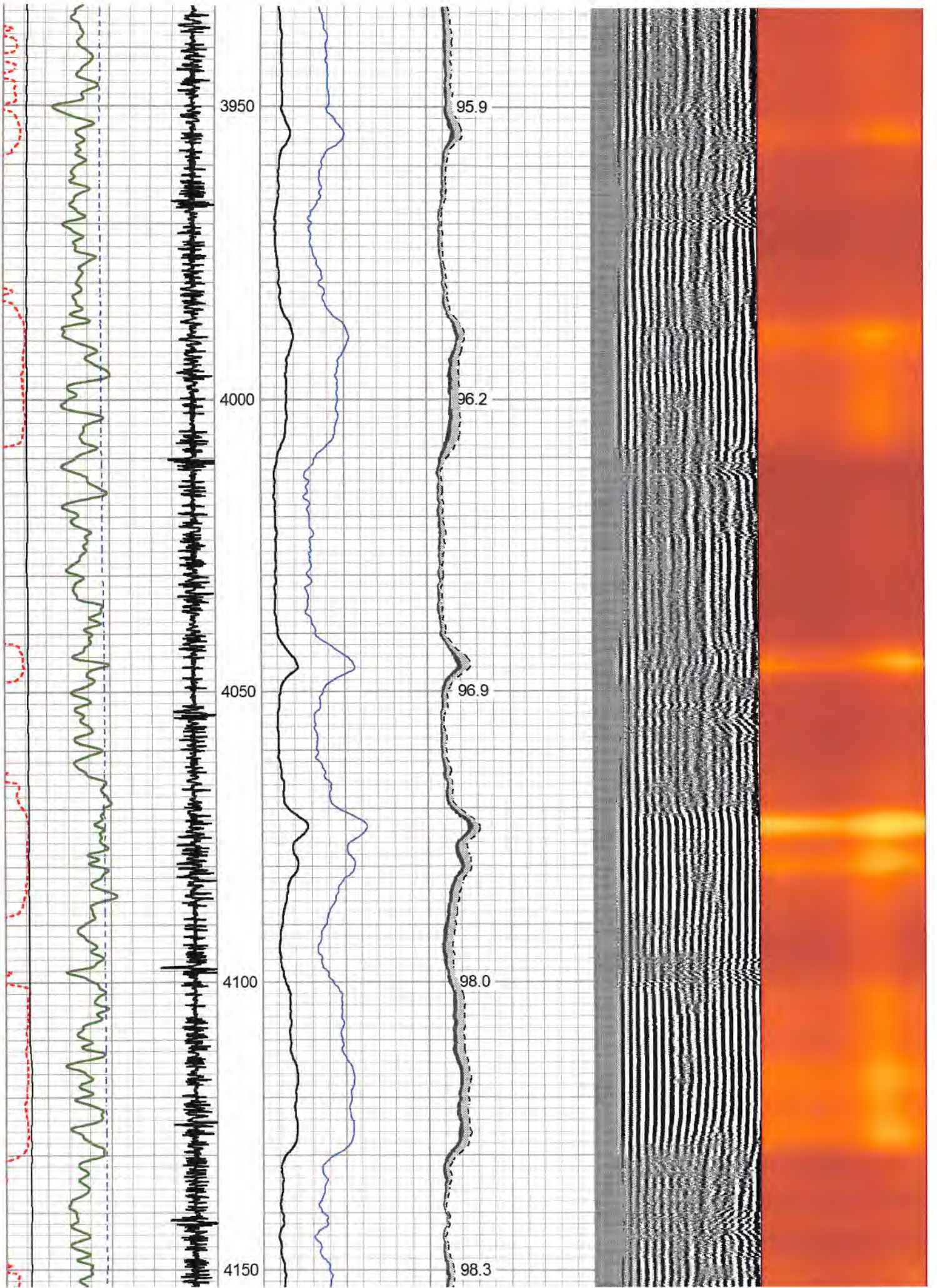


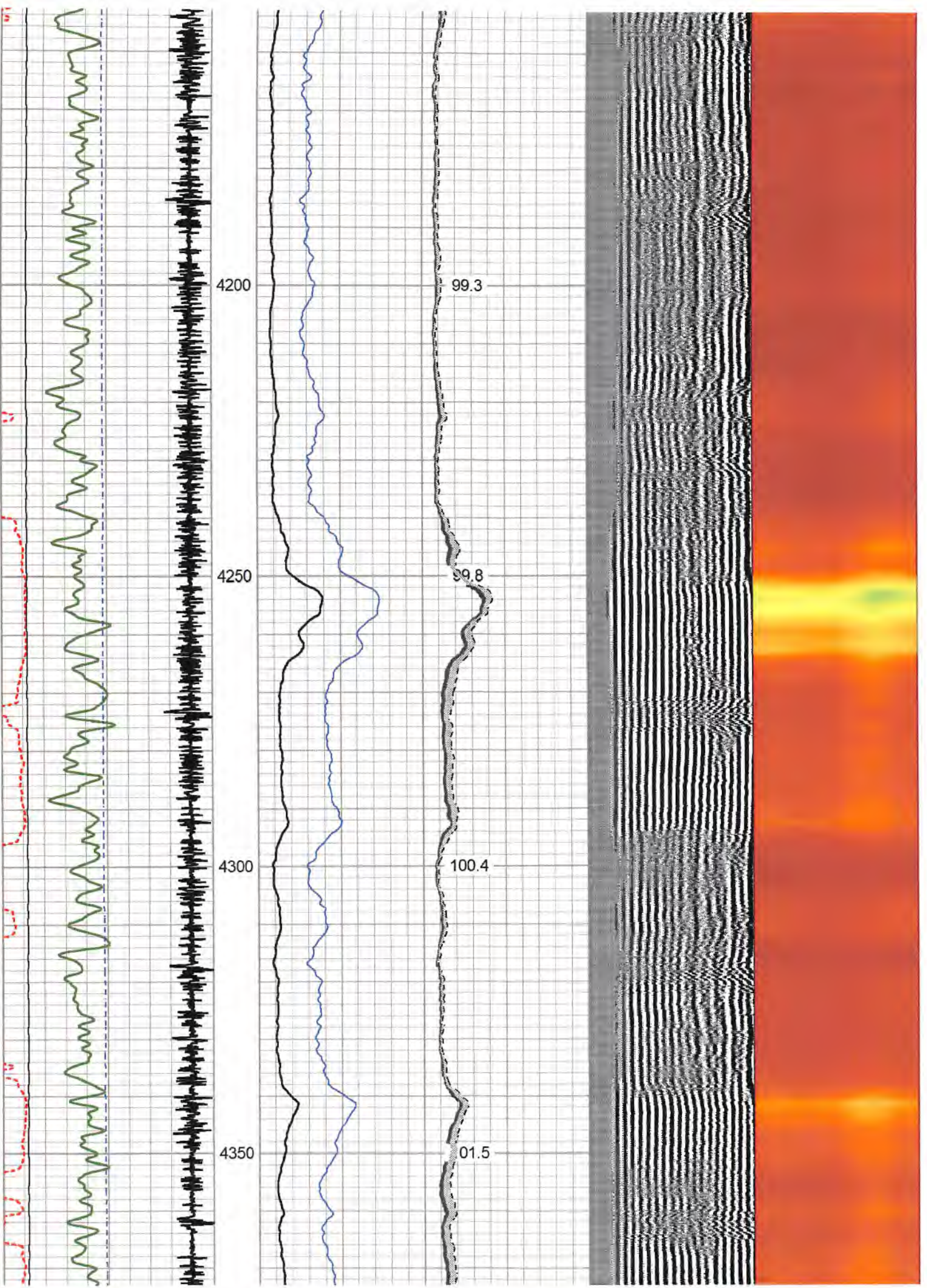


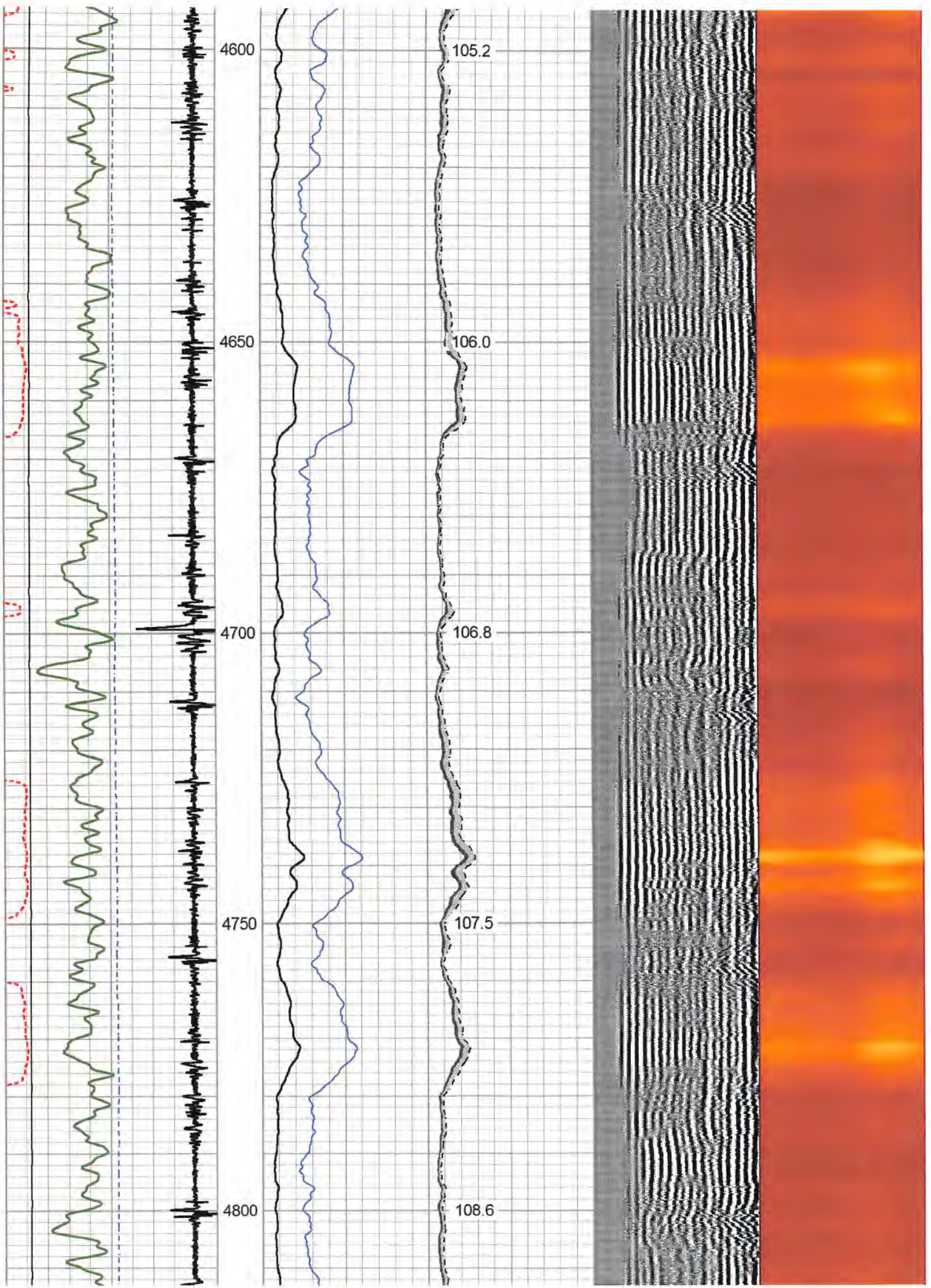


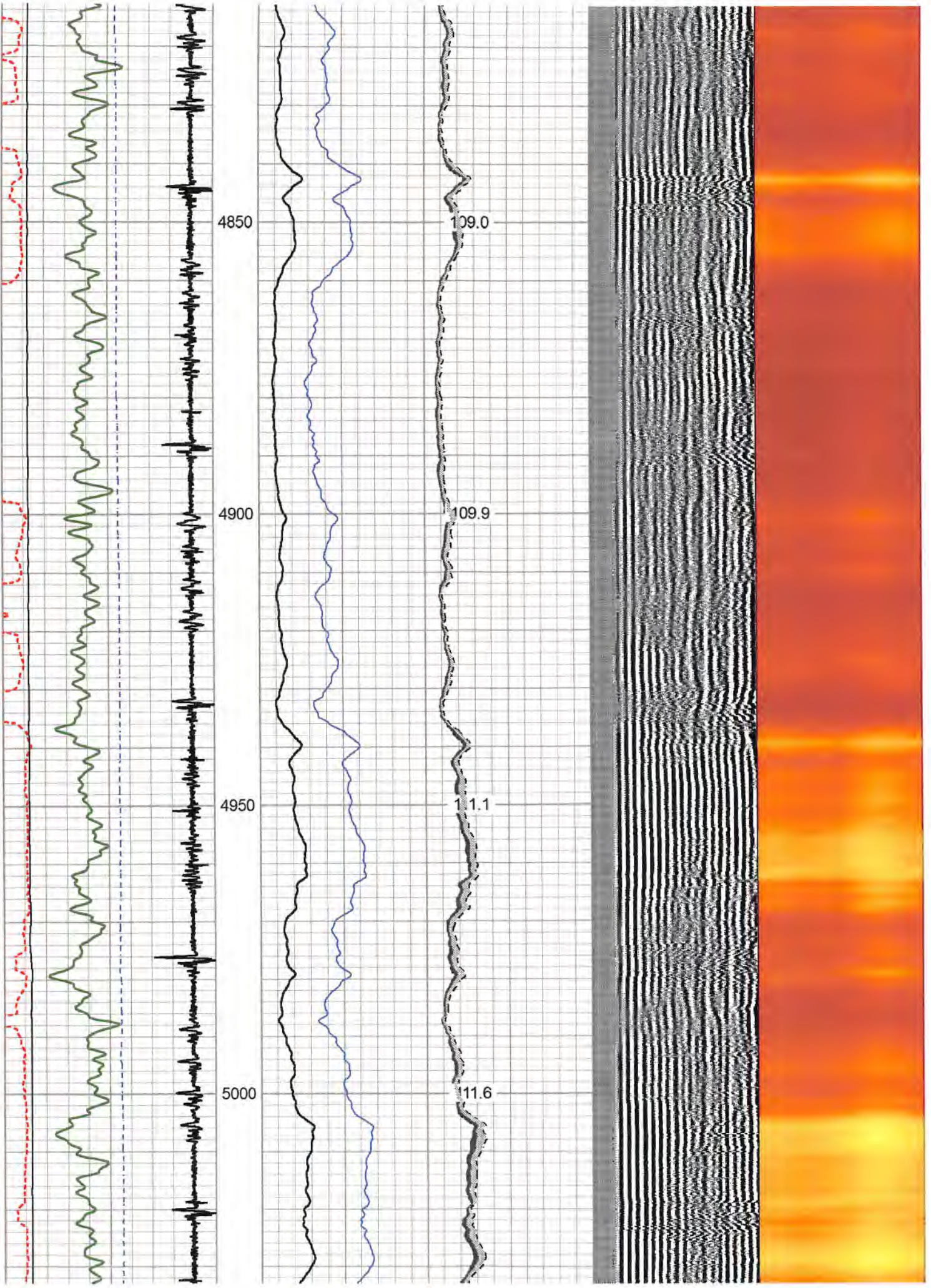


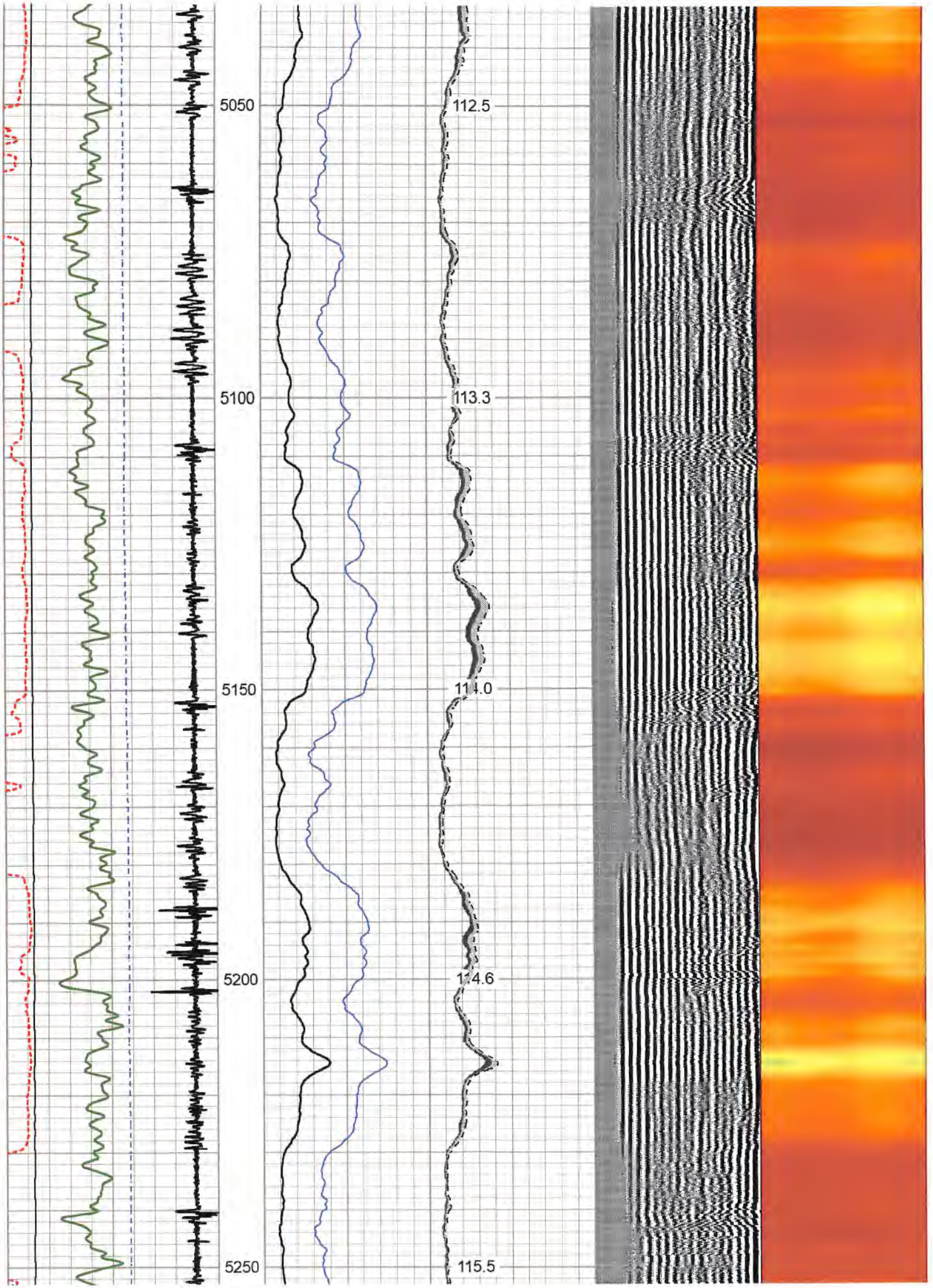


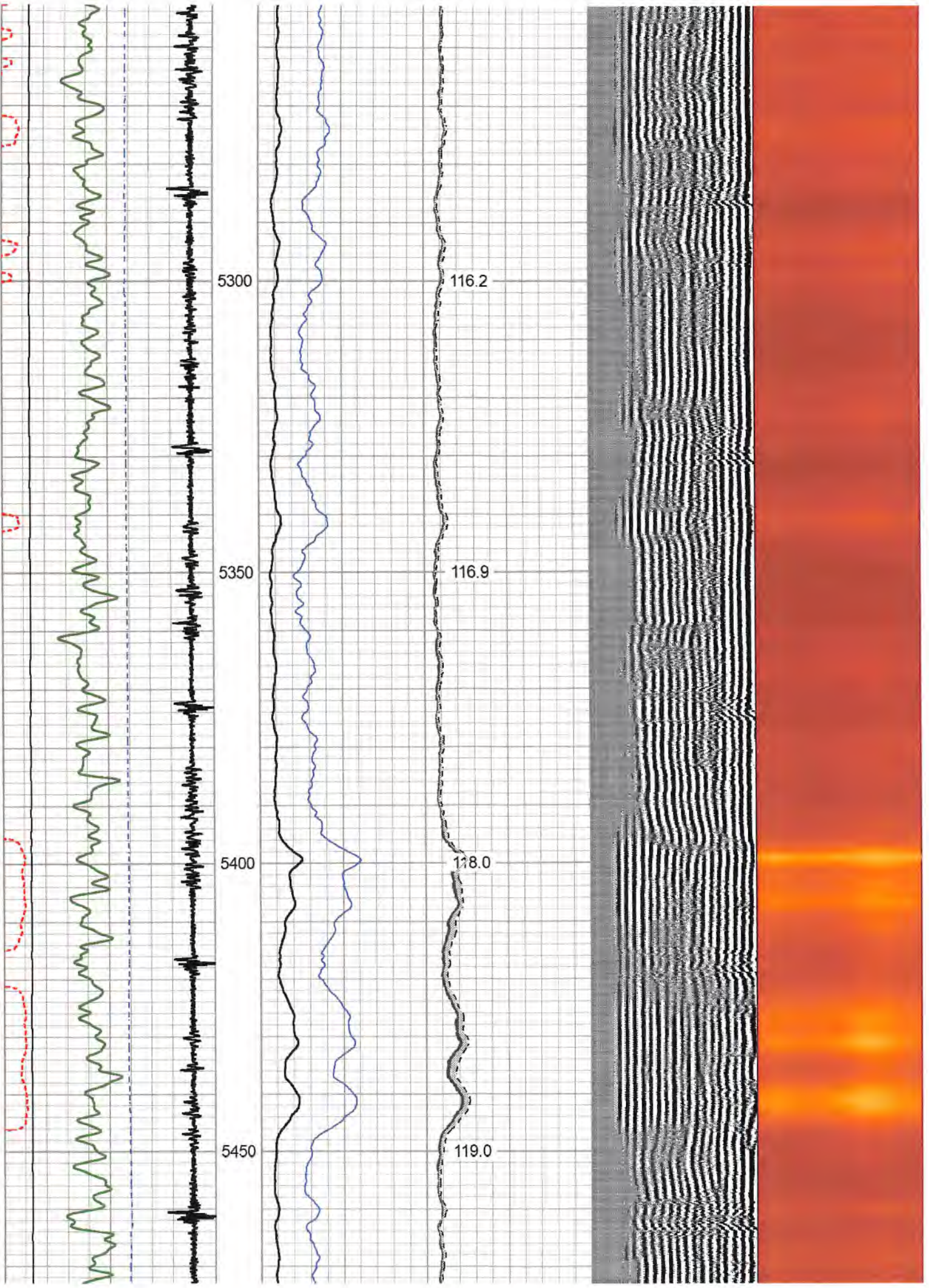


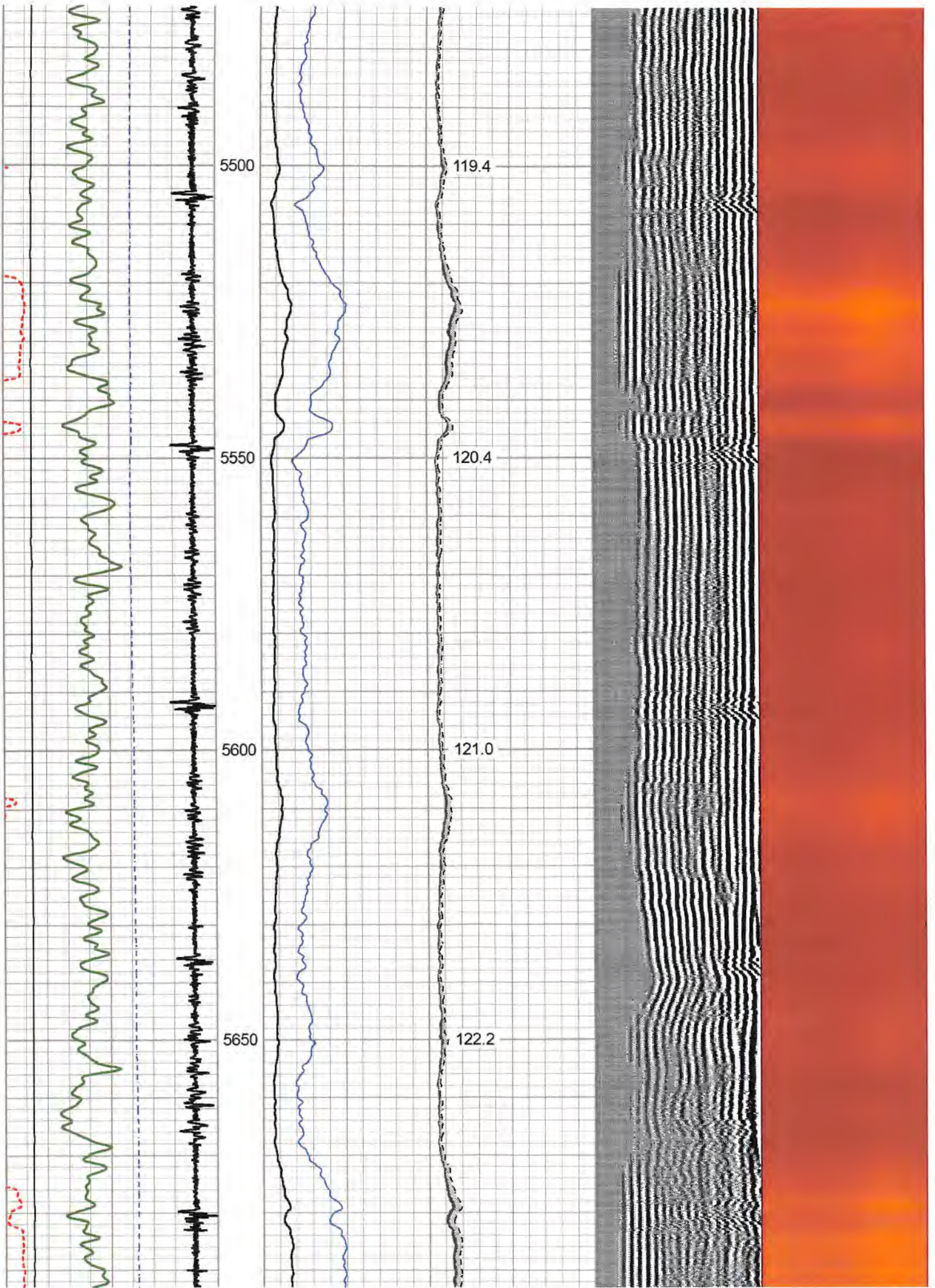


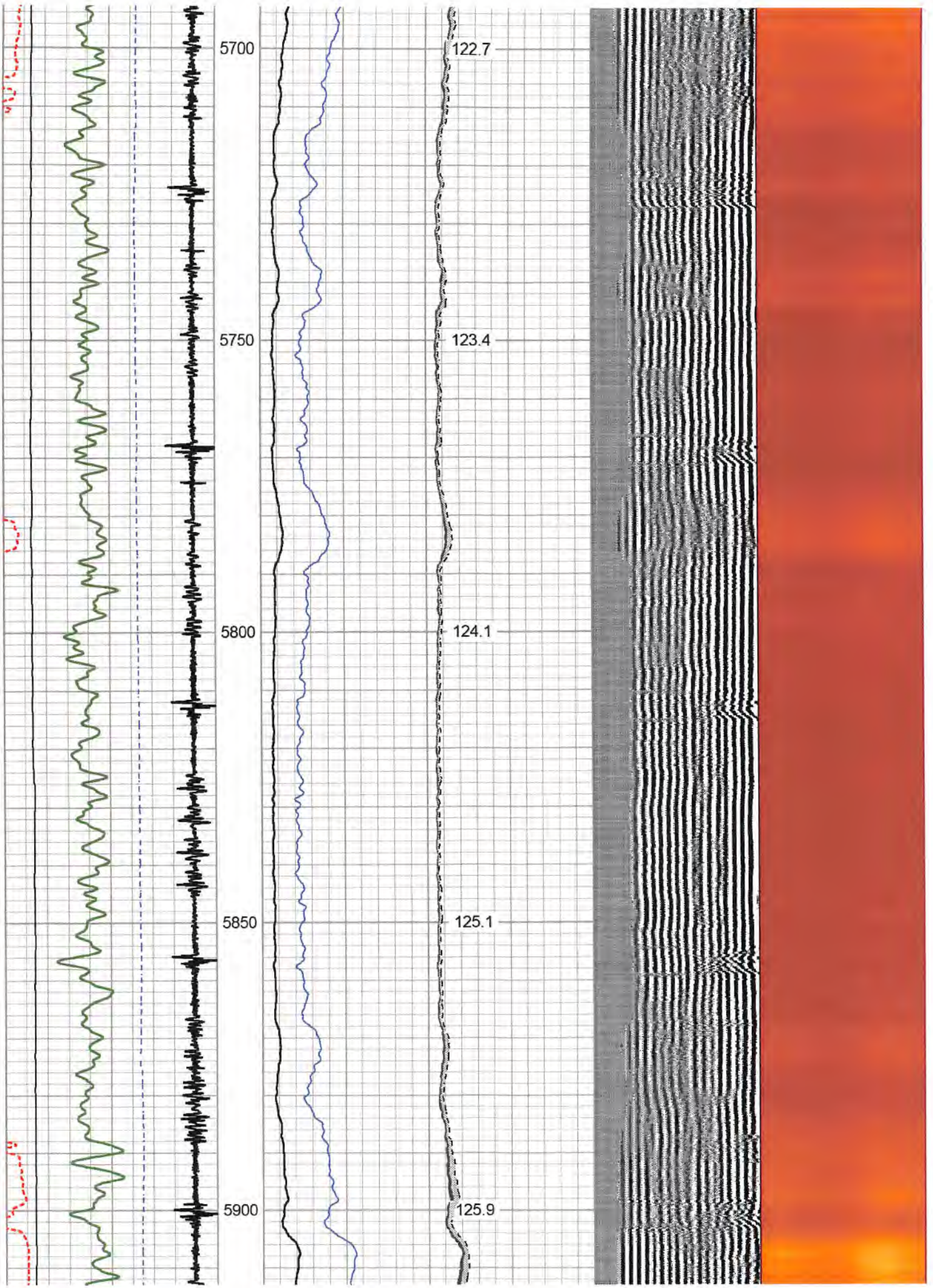


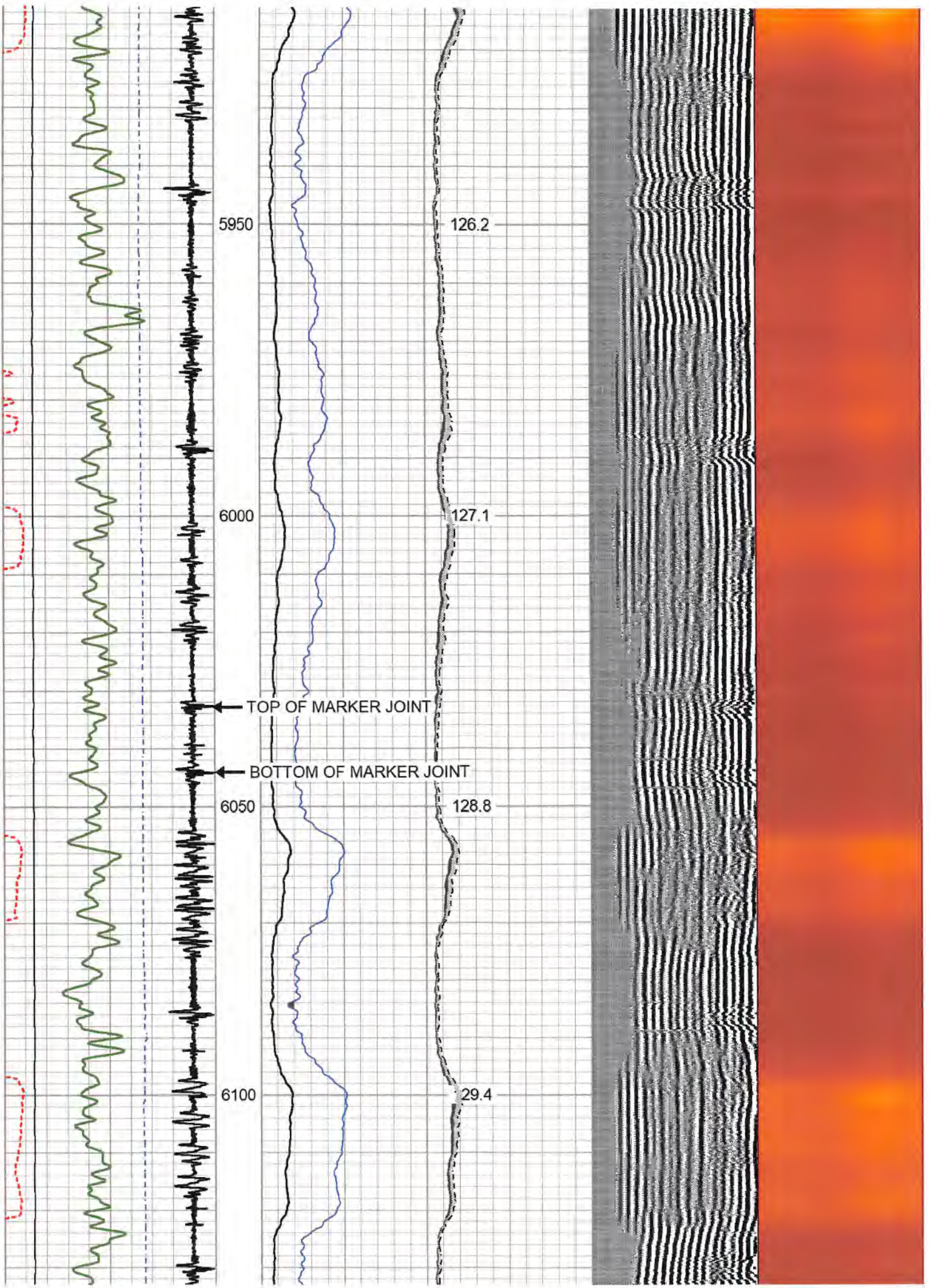


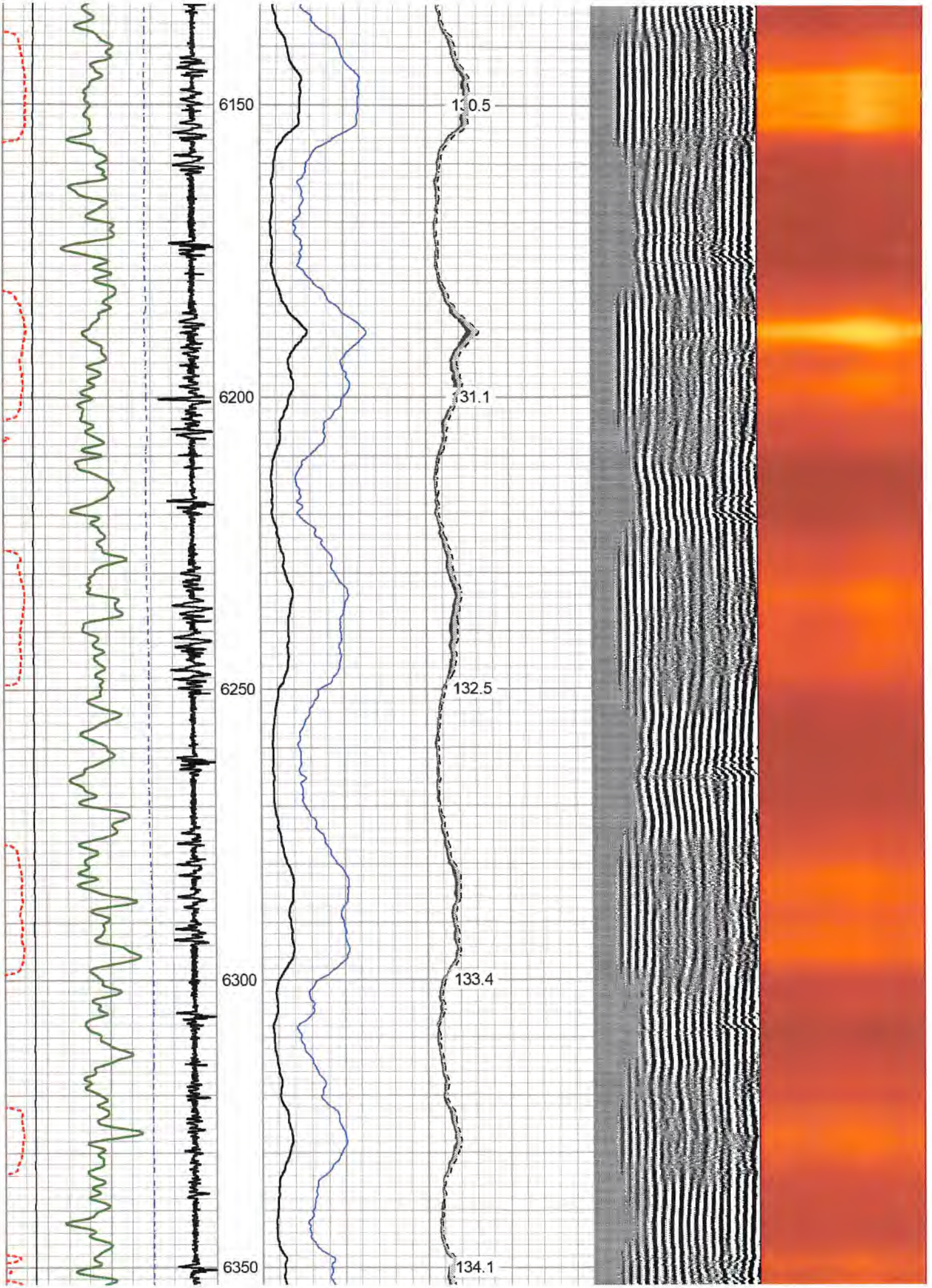


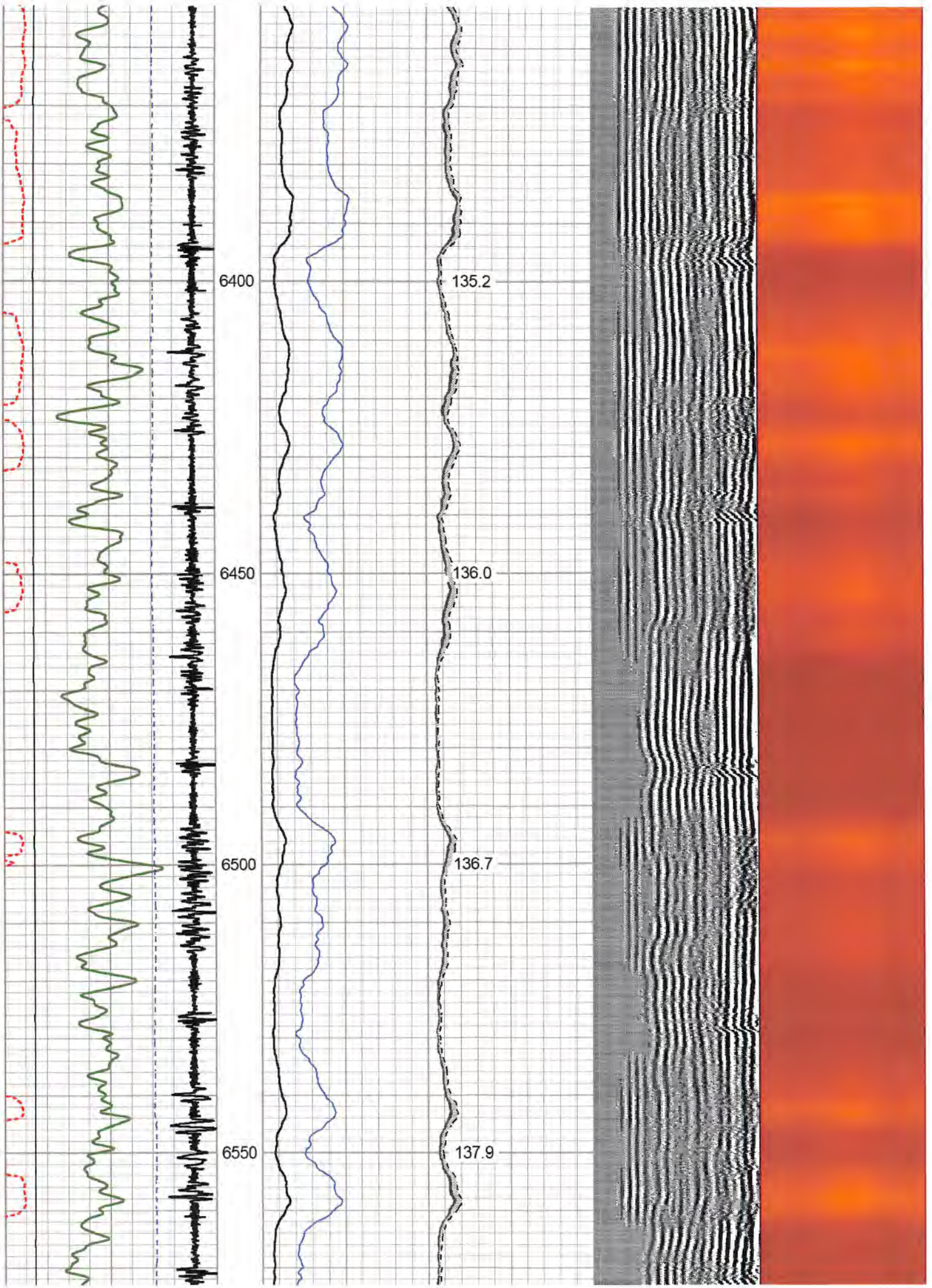


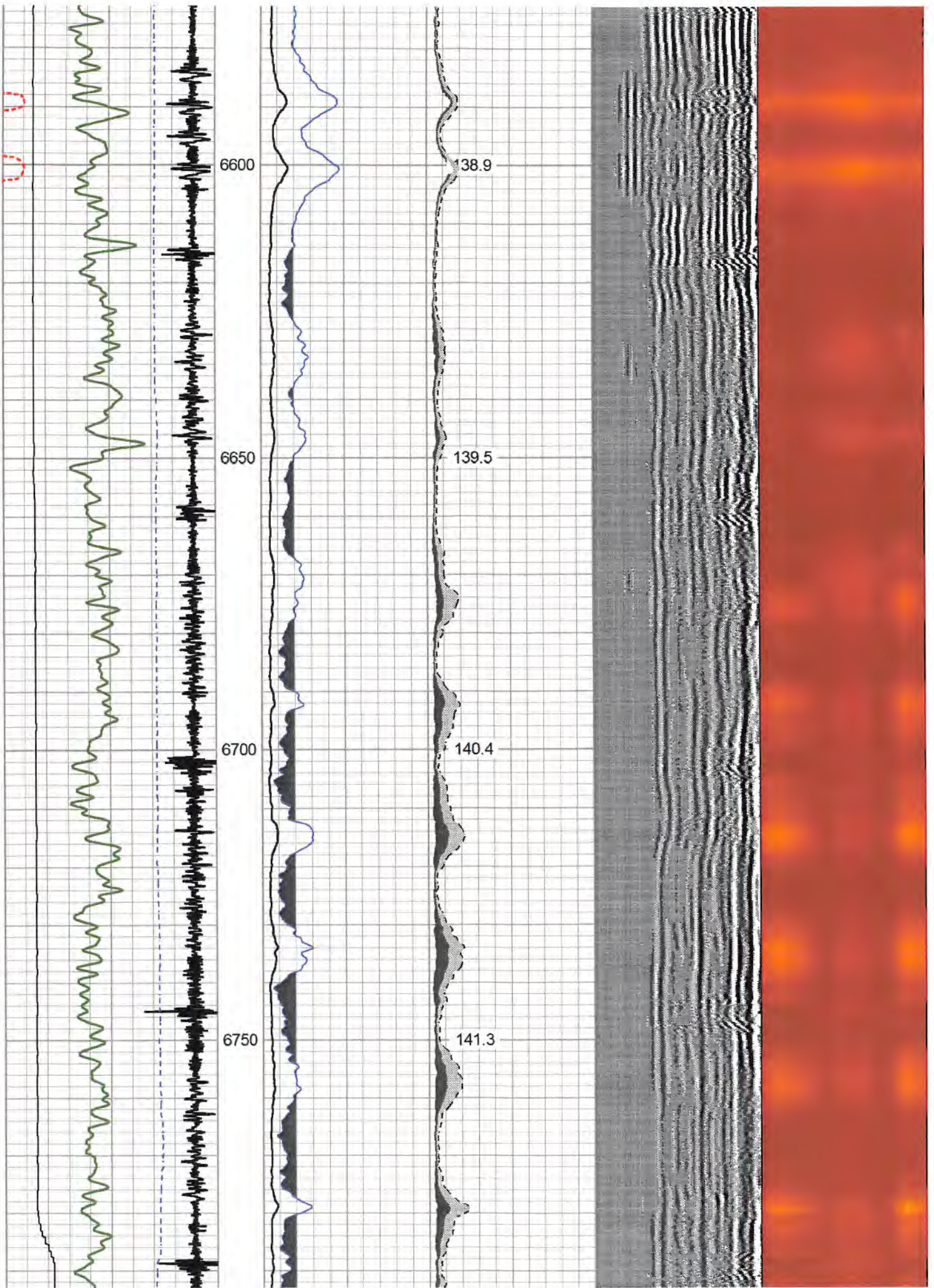


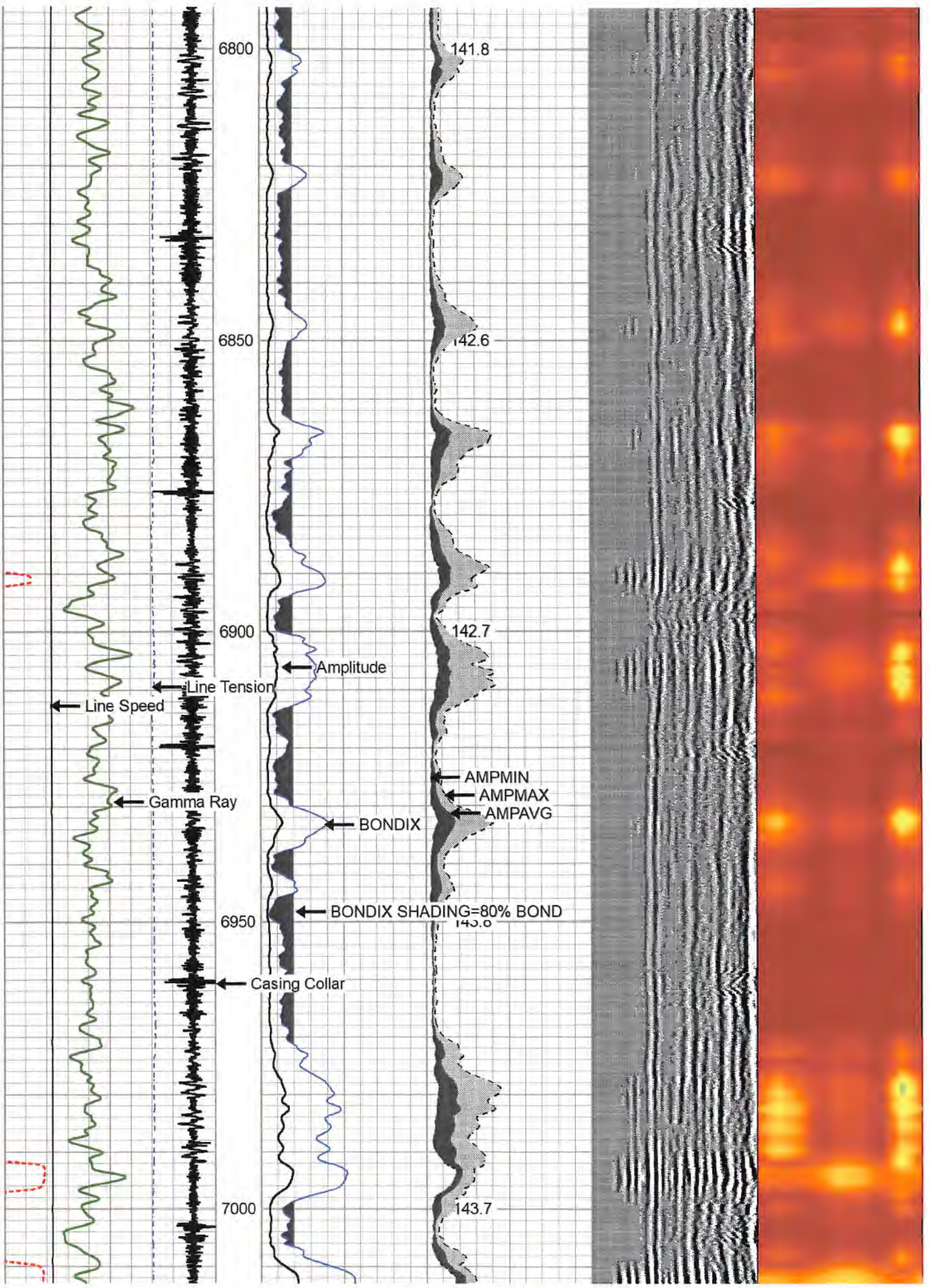


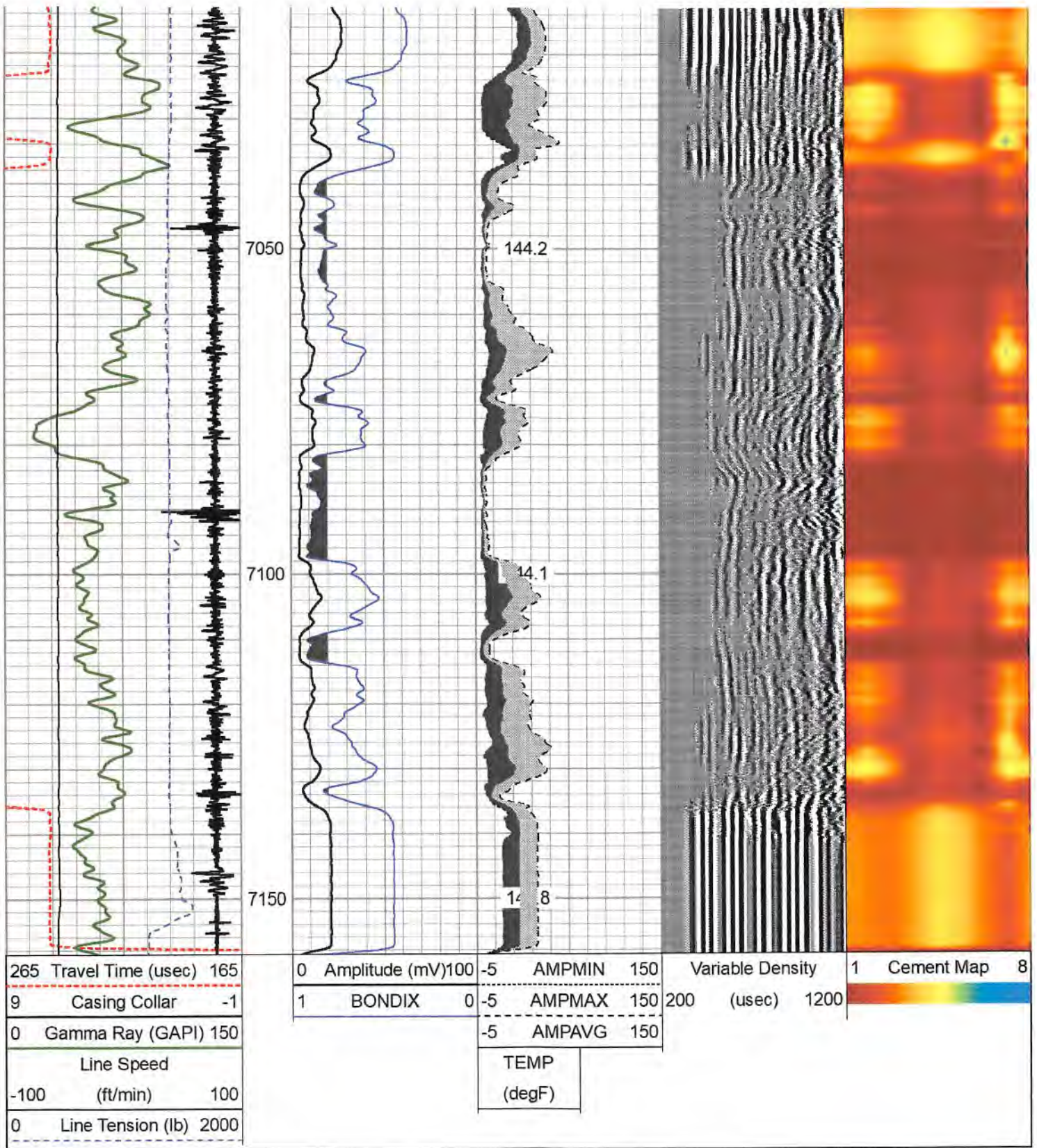










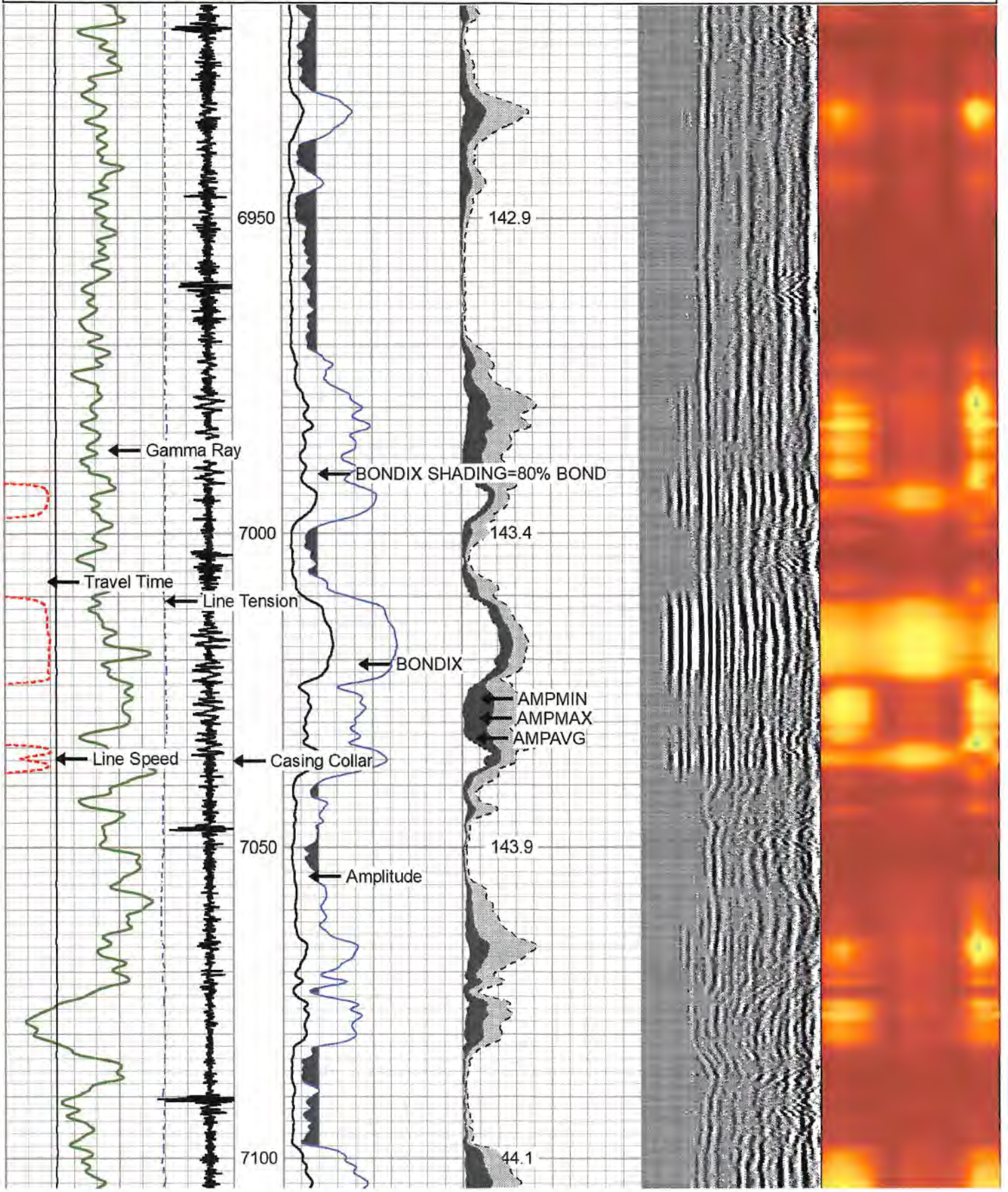


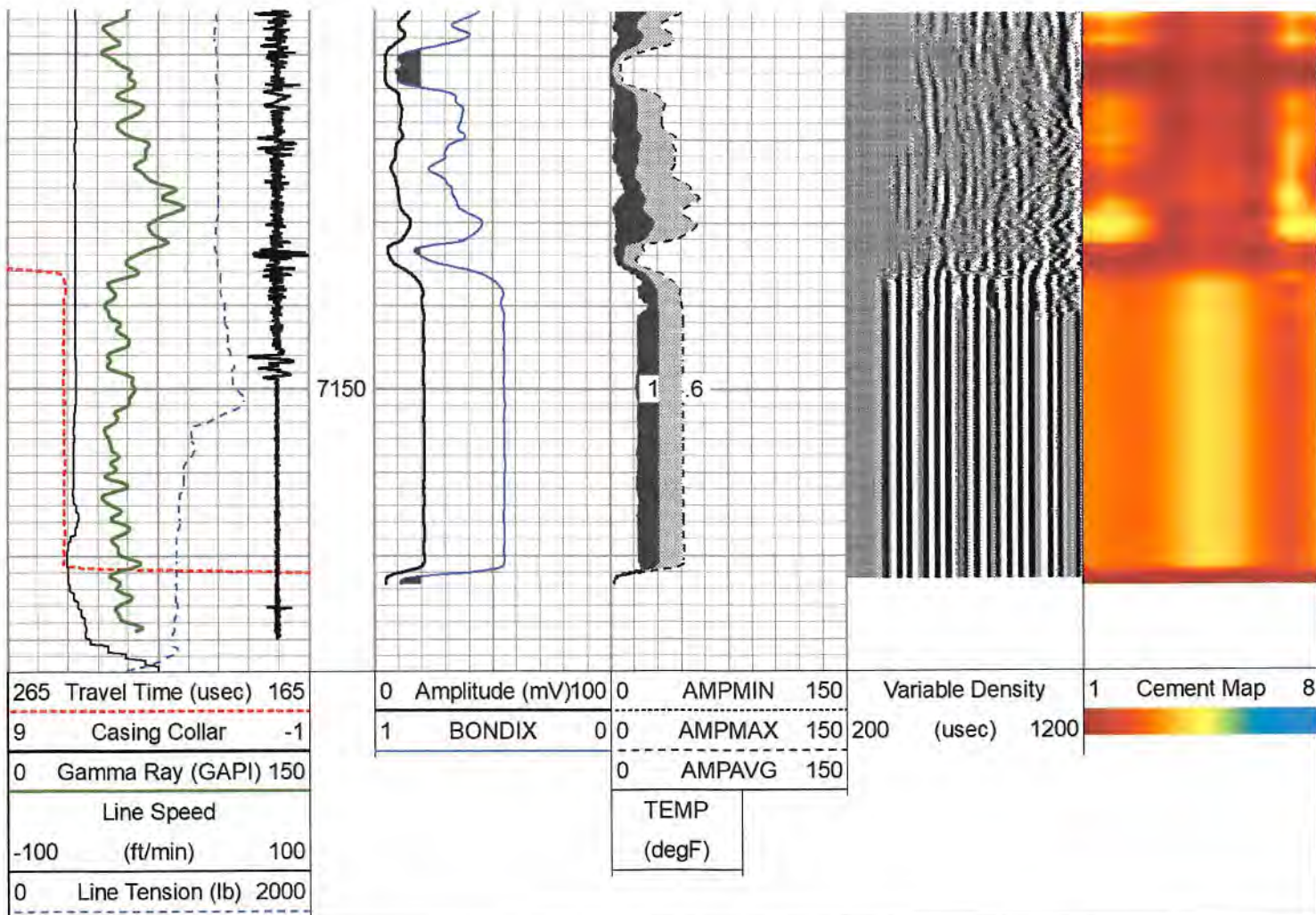
REPEAT LOG

1500 psi

Database File	antero_seagrave_2h_nov_8_2020_cbl.db
Dataset Pathname	Rabbit/seagrve_2H/rcbl/pass7
Presentation Format	rcbl-bond index for antero 1020
Dataset Creation	Sun Nov 08 12:23:15 2020
Charted by	Depth in Feet scaled 1:240

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





Log Variables

Database: C:\ProgramData\Warrior\Data\antero_seagrave_2h_nov_8_2020_cbl.db
 Dataset: Rabbit/seagrave_2H/rcbl/pass9/_vars_

Top - Bottom							
BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	8.5	100	5.5	0	23	71.9	3.4
MINATTN	PERFS	PPT	SRFTEMP	TDEPTH			
0.8	No	260	0	0			

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FEB 06 2023

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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_seagrave_2h_nov_8_2020_cbl.db
Dataset Pathname	Rabbit/seagrave_2H/rcbl/pass9
Dataset Creation	Sun Nov 08 12:38:50 2020

Gamma Ray Calibration Report

Serial Number: FW1211-86
 Tool Model: Probe
 Performed: Sun Nov 08 08:44:32 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: 3092.725 ft

Master Calibration, performed Sun Nov 08 11:50:23 2020:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.021	0.948	3.400	71.921	70.744	4.887
CAL	-0.021	1.495				
5'	-0.021	0.617	3.400	71.921	107.359	5.646
SUM						
S1	-0.021	0.889	0.000	100.000	109.864	2.293
S2	-0.021	0.901	0.000	100.000	108.414	2.279
S3	-0.021	0.938	0.000	100.000	104.331	2.180
S4	-0.021	0.970	0.000	100.000	100.887	2.103
S5	-0.021	1.028	0.000	100.000	95.328	2.000
S6	-0.021	1.011	0.000	100.000	96.955	2.025
S7	-0.021	0.969	0.000	100.000	100.976	2.104
S8	-0.021	0.937	0.000	100.000	104.386	2.185

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

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 Environmental Protection

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.021	1.495	1.000	0.000

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

	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



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

RECEIVED
Office of Oil and Gas
FEB 06 2023
WV Department of
Environmental Protection