



Radial
Cement
Bond Log

Company Antero Resources
Well ECKLEBERRY 2H
Field Wetzel
County Wetzel
State WV

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Field Wetzel
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Location: API #: 47-103-03493

SEC	TWP	RGE	Elevation	30'	Other Services
Furbee Pad			GR		CCL
Permanent Datum	G/L		Elevation		
Log Measured From	K.B.				K.B. N/A
Drilling Measured From	K.B.				DF. N/A
					G.L. N/A

Date	26/Nov/2022	
Run Number	ONE	
Depth Driller	25,334'	
Depth Logger	8157'	
Bottom Logged Interval	8151'	
Top Log Interval	Surface	
Open Hole Size	8.75"	
Type Fluid	Brine	
Density / Viscosity	9.8#	
Max. Recorded Temp.	N/A	
Estimated Cement Top	3734'	
Time Well Ready	17:00	
Time Logger on Bottom	17:35	
Equipment Number	116	
Location	Charleroi, Pa	
Recorded By	B. Lane / D. Josephik	
Witnessed By	Mr. Mike Szabo	

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record			
Surface String	Size	Wgt/Ft	Top
28"	n/a	n/a	Surface
17.5"	n/a	n/a	Surface
12.25"	n/a	n/a	Surface
8.75"	n/a	n/a	Surface
5.5"	23#		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

Log Correlated to Marker Joint (7094'-7104') Per Well Schematic

Free Pipe = 71.9mv
Bonded Pipe = 3.4mv
ETOC = 3734'

RECEIVED
Office of Oil and Gas
MAY 10 2023
WV Department of
Environmental Protection

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GCT_FMWR	21.59		CableHead-Titan	1.00	1.68	2.00
mSec_Count	21.59		Titan Mark II Cablehead			
RBT_Status	21.59					
Error_Ct	21.59					

			CENT-Probe169 1 11/16" Centralizer	3.17	1.69	10.00
RBT_HV	17.42					
WVFS8	12.93		RBT8-RADII-275C (RBT275C_Base) Probe 2.75" RADII 8 Sector Bond Tool	8.75	2.75	
WVFS7	12.93					
WVFS6	12.93					
WVFS5	12.93					
WVFS4	12.93					
WVFS3	12.93					
WVFS2	12.93					
WVFS1	12.93					
WVF3FT	12.93					
WVF5FT	11.93					
RBT_ACCZ	8.68					
RBT_ACCY	8.68					
RBT_ACCX	8.68					
WVFSYNC	8.68		CENT-Probe169 1 11/16" Centralizer	3.17	1.69	10.00
WVFCAL	8.68					
GCT_HV	5.51					
CCL\$2	4.29					
CCL\$1	4.29					
GR	2.72		GCacc-GC275-0BP0 (GC275-0BP0_base) Probe 2.75" Gamma Ray - CCL (6 magnet)	5.18	2.75	55.00
GCT_IntTemp	2.00					
			Plug-FA108-0000 1.38" Bull Plug	0.33	1.38	1.00

Dataset: antero_furbee_eckleberry2h_rcbl_26_nov_2022.db: field/ECKLEBERRY2H/MAIN/PASS1
 Total length: 21.59 ft
 Total weight: 78.00 lb
 O.D.: 2.75 in

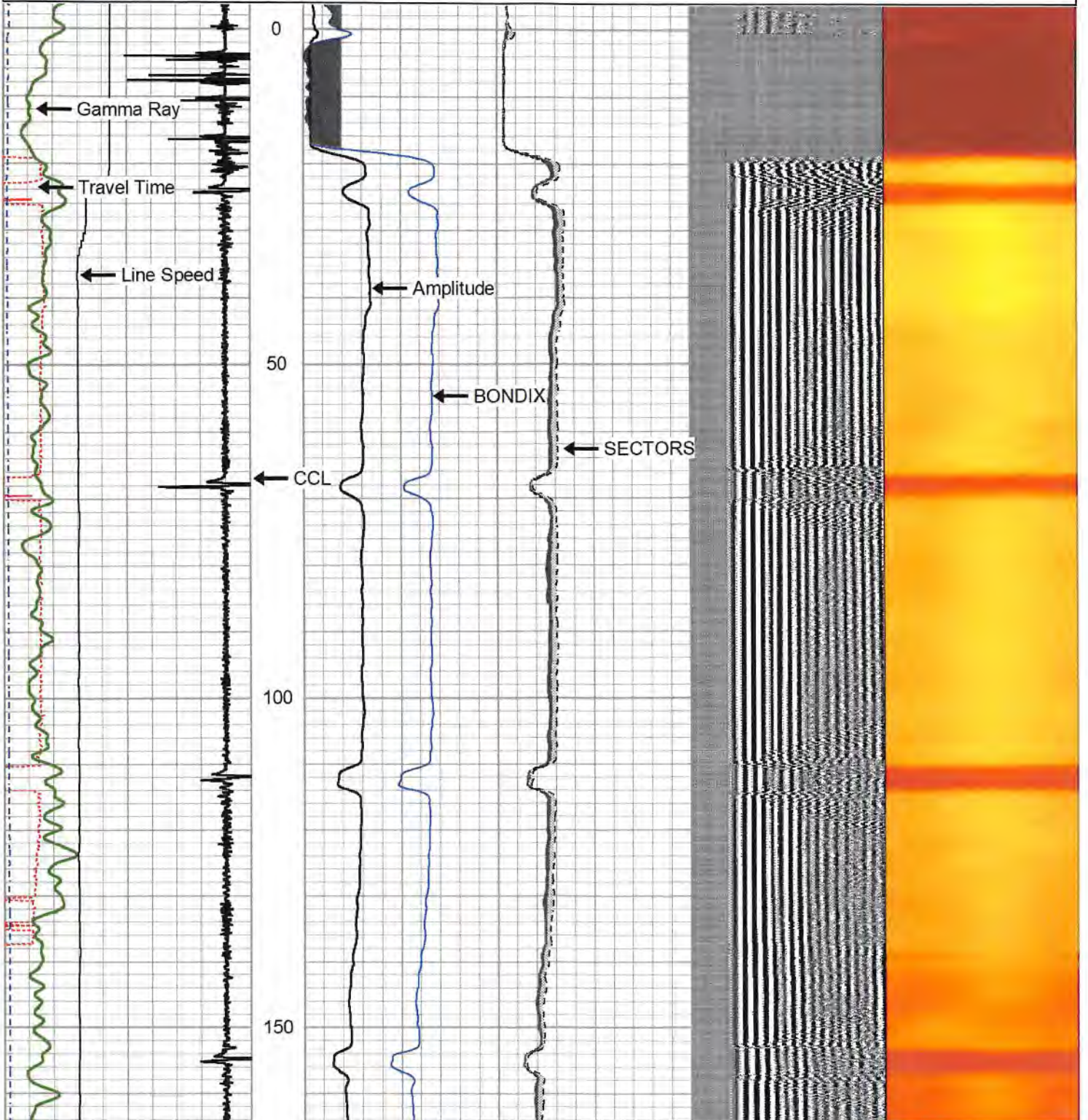


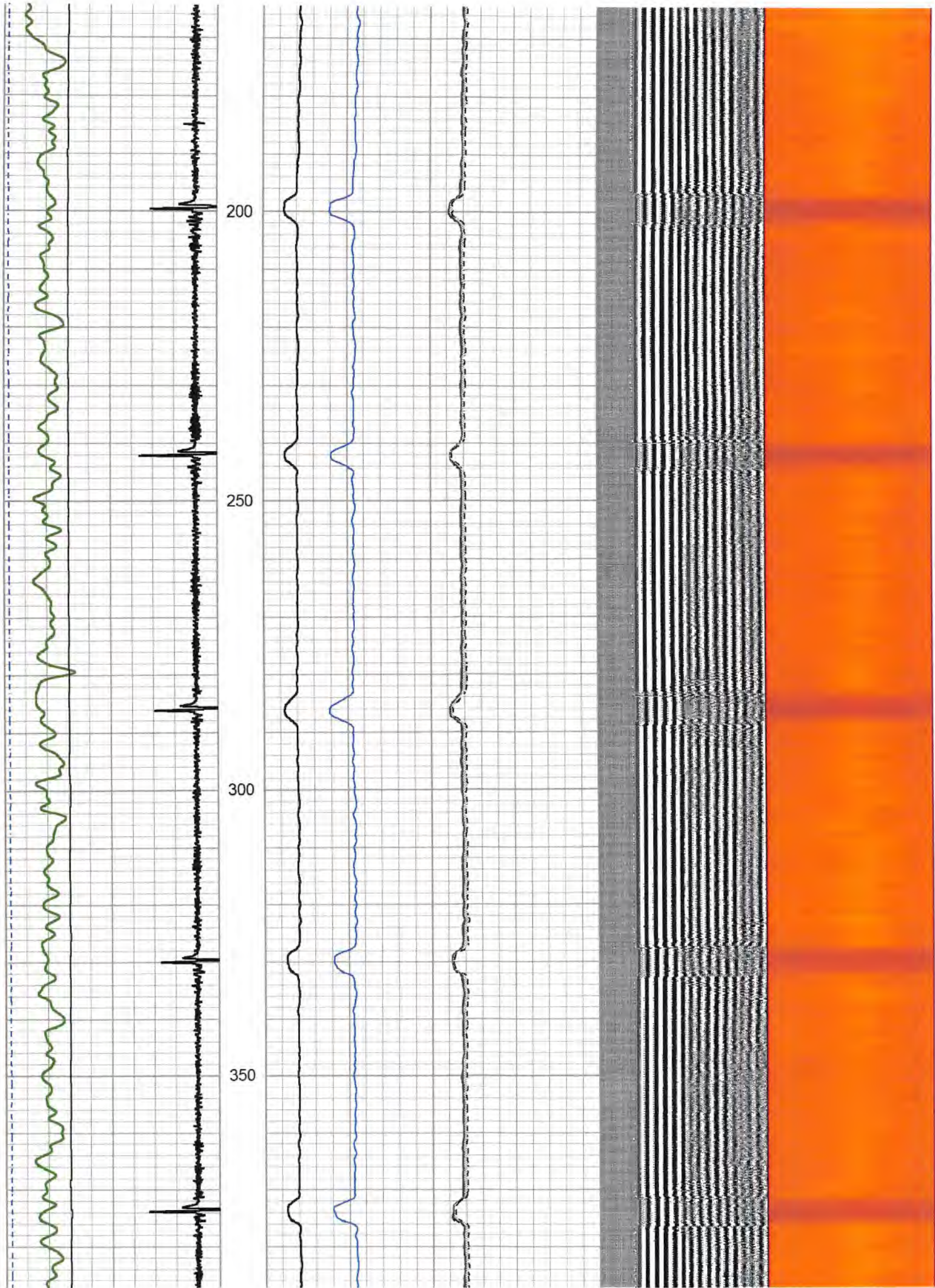
MAIN LOG

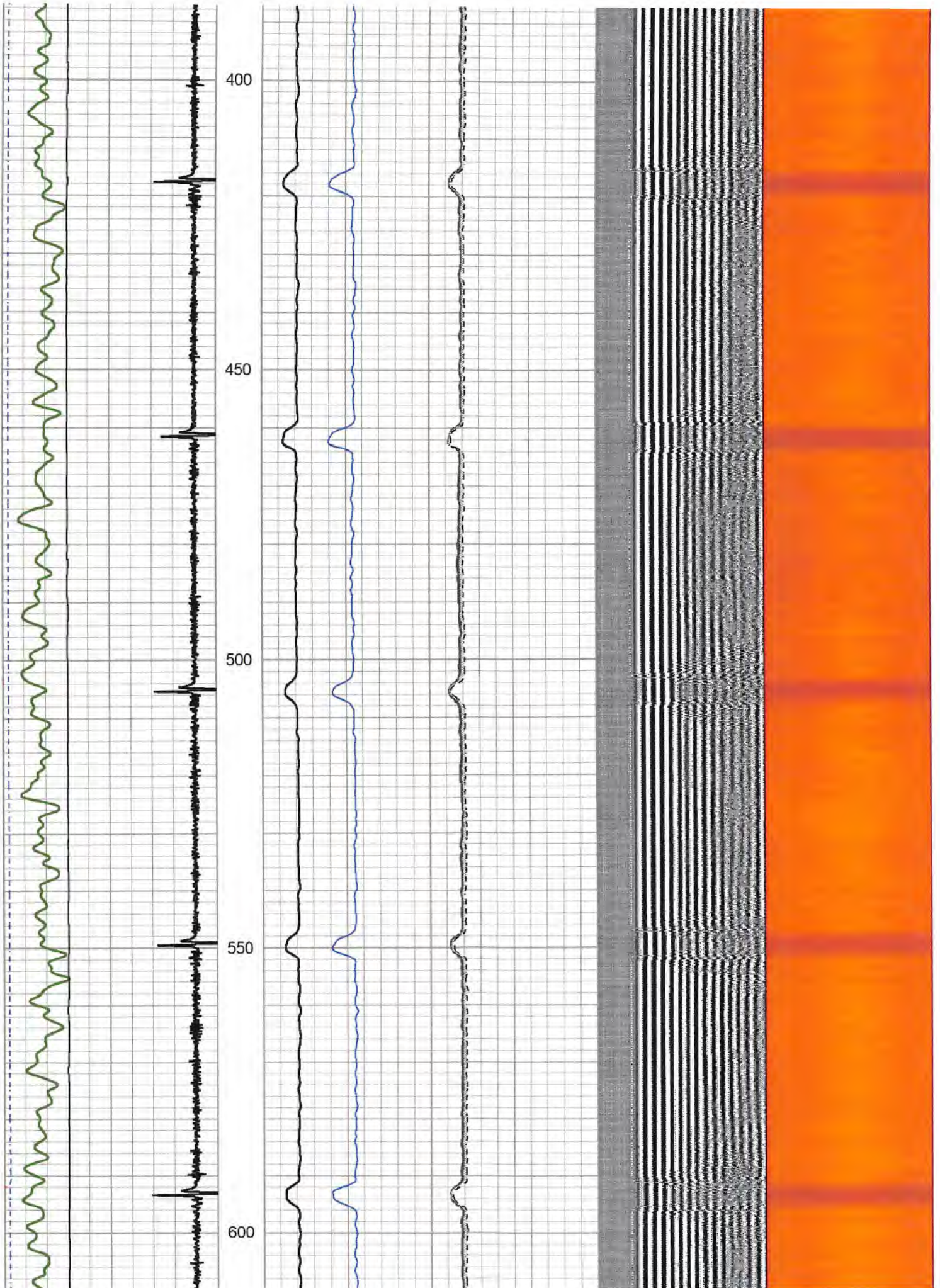
1500 PSI APPLIED

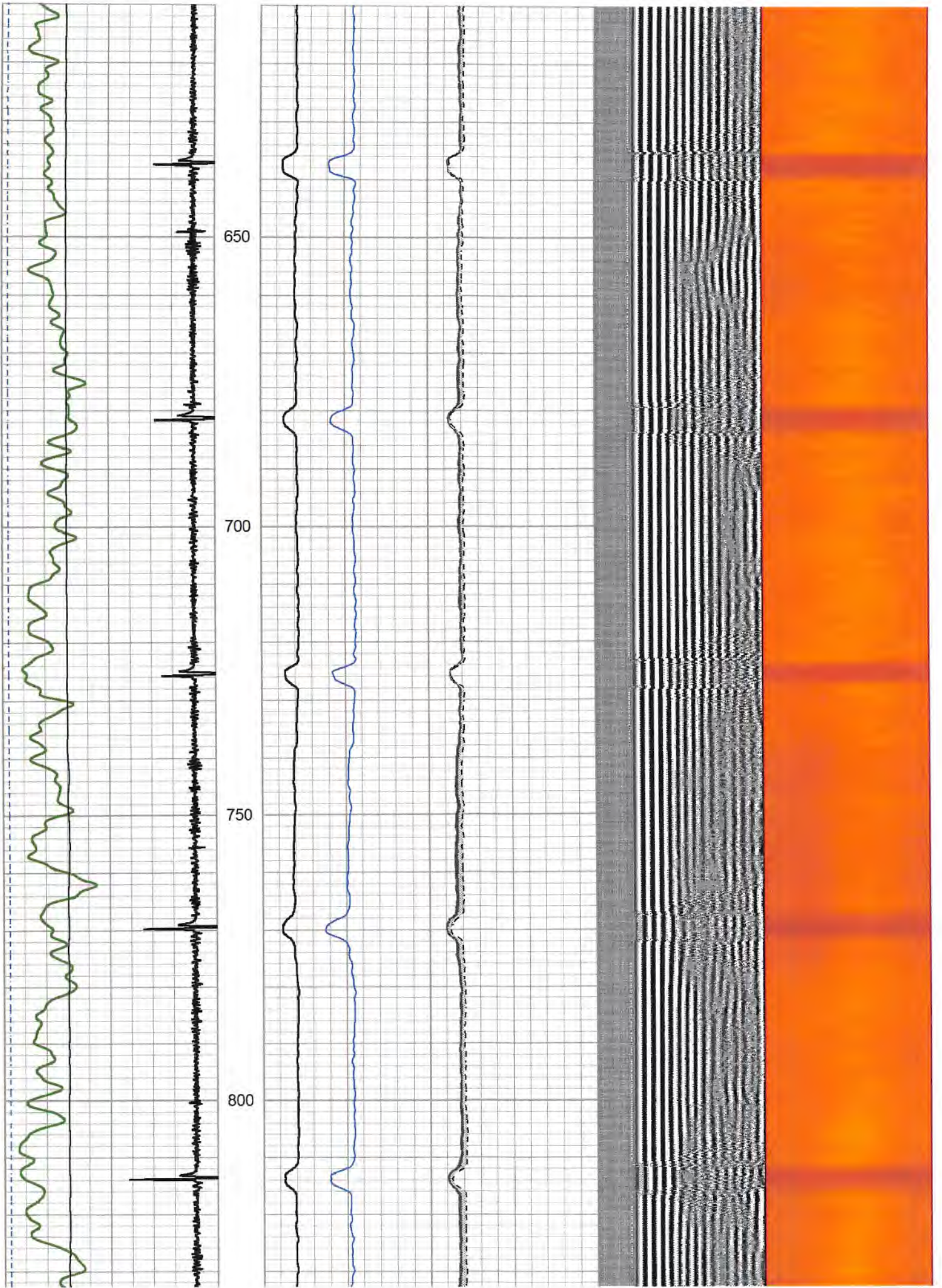
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 Dataset Pathname ECKLEBERRY2H/MAIN/PASS1
 Presentation Format prb_rbt8
 Dataset Creation Sat Nov 26 18:42:32 2022
 Charted by Depth in Feet scaled 1:240

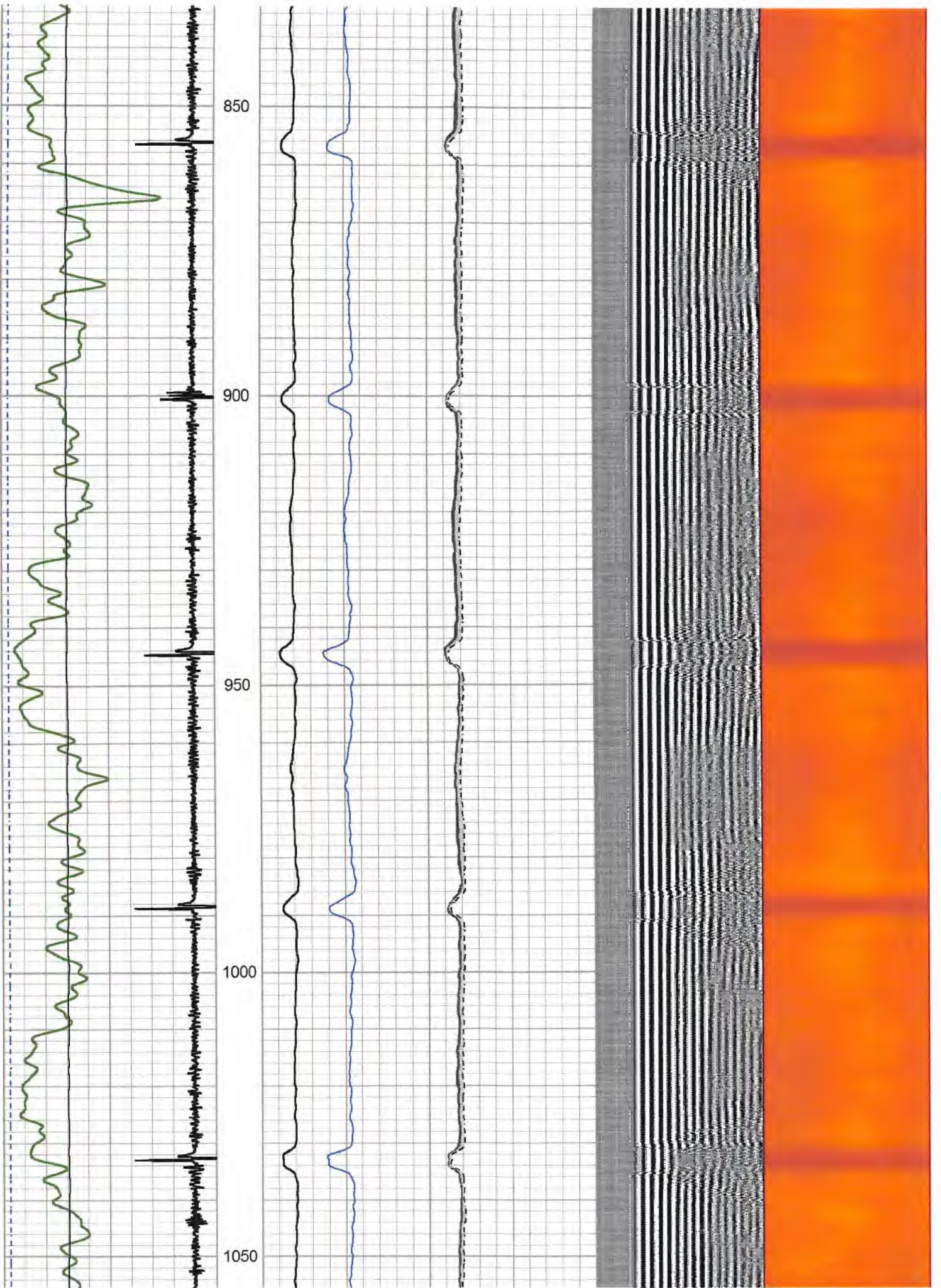
275	Travel Time (usec)	175	0	Amplitude (mV)	100	-5	AMPMIN	150	Variable Density	1	Cement Map	8
9	CCLS1	-1	1	BONDIX	0	-5	AMPMAX	150	200 (usec)	1200		
0	Gamma Ray (GAPI)	150				-5	AMPAVG	150				
Line Speed												
-200	(ft/min)	200										
0	Line Tension (lb)	5000										

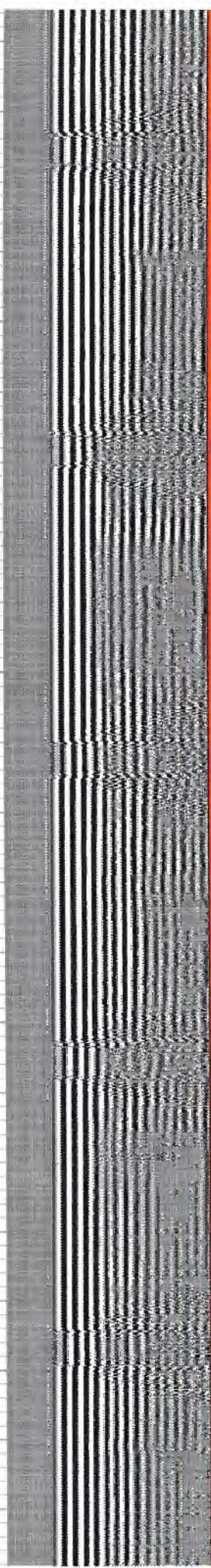
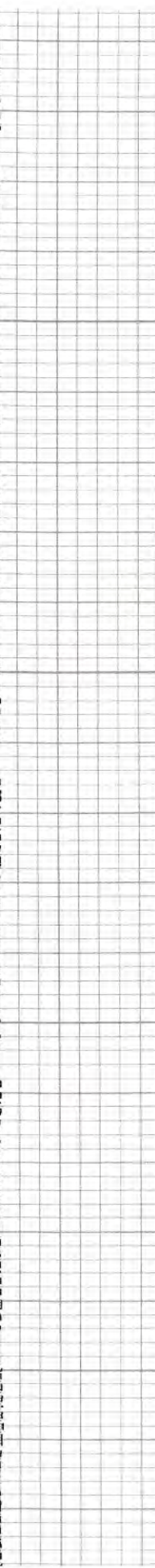
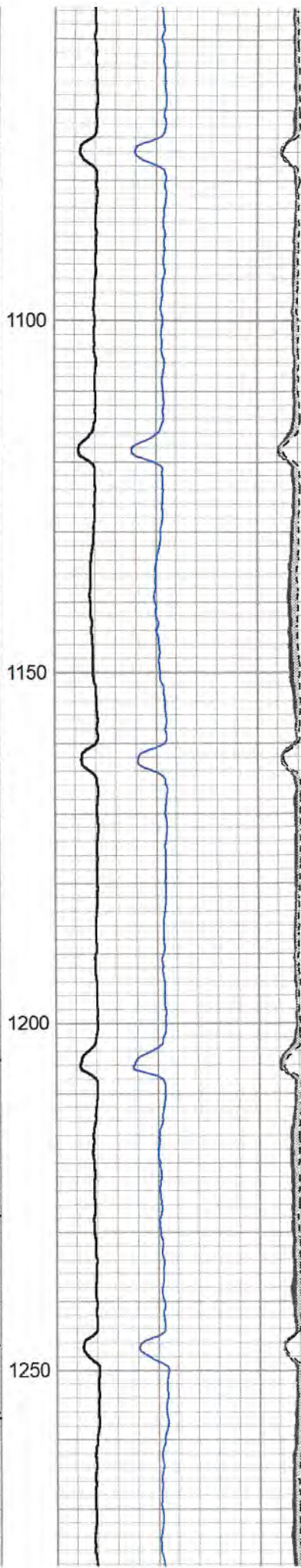
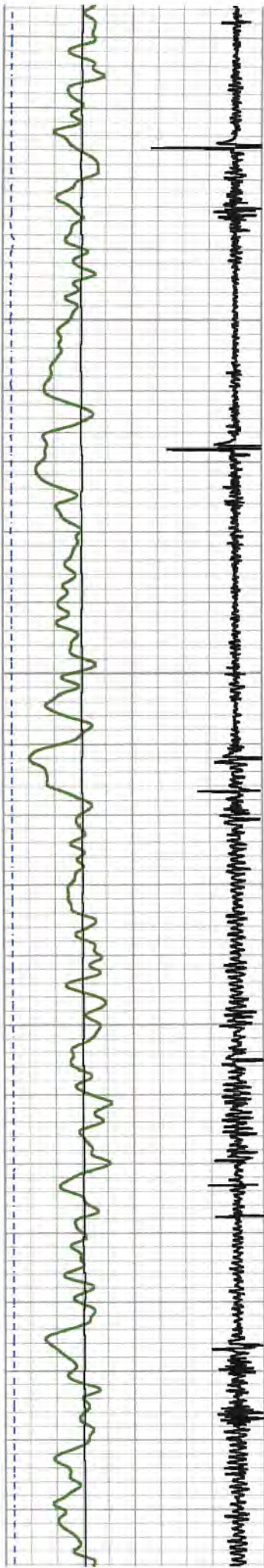


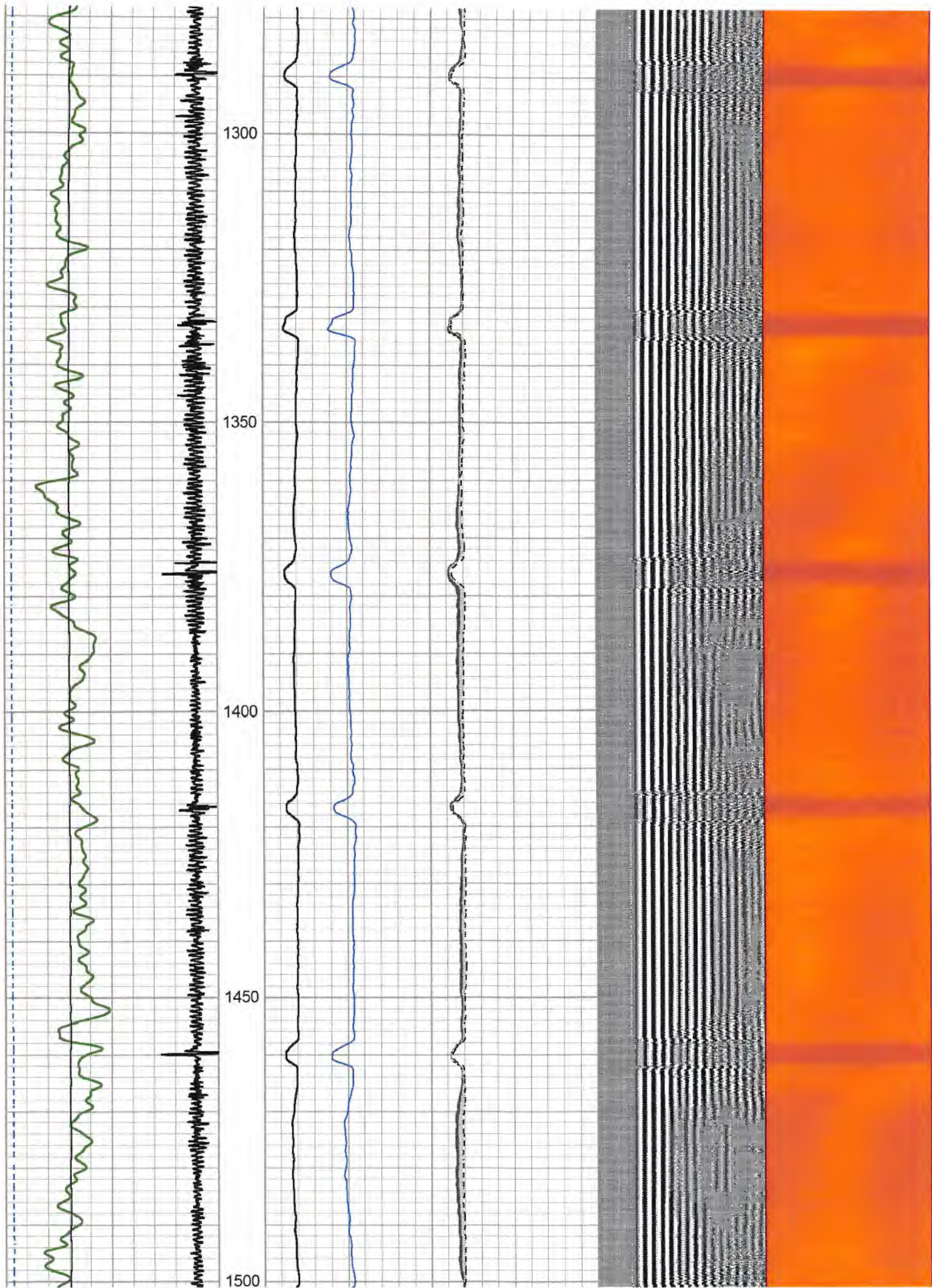


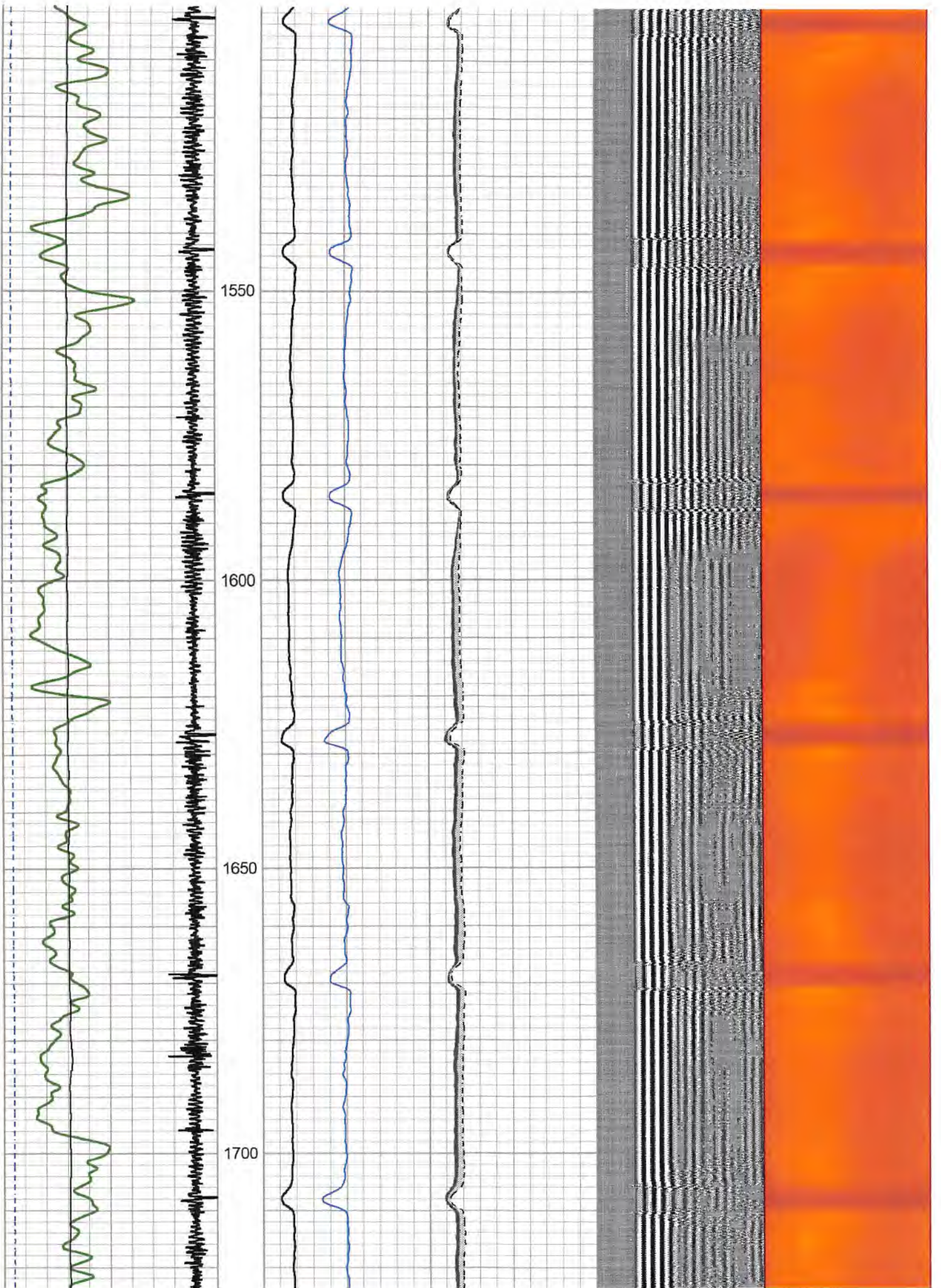


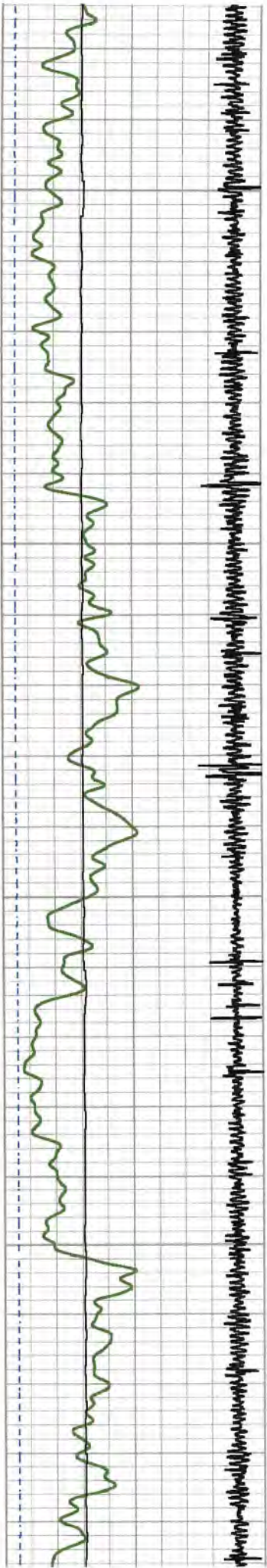










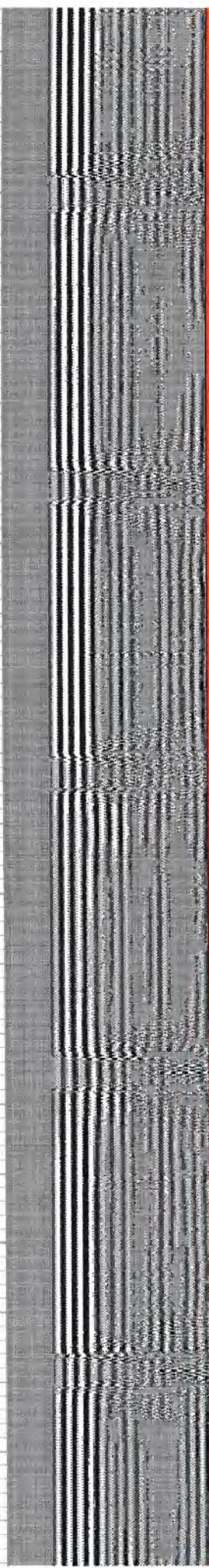
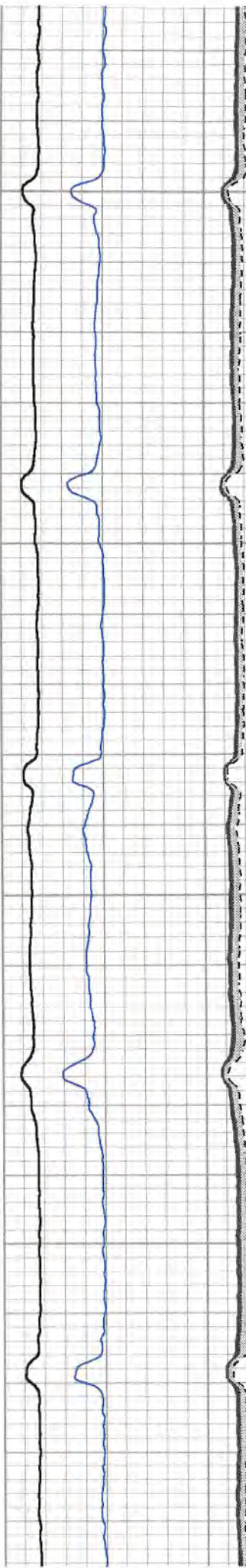


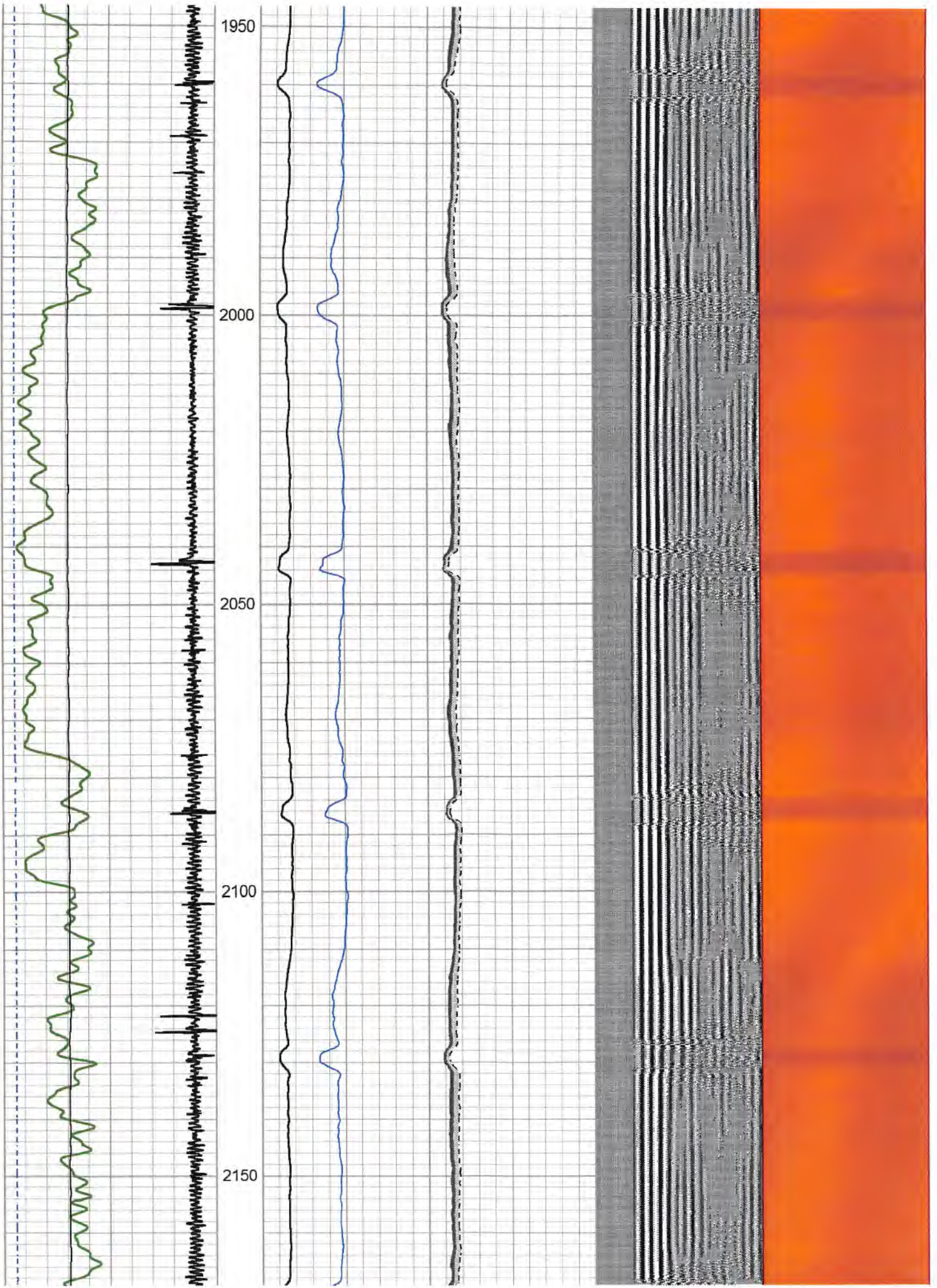
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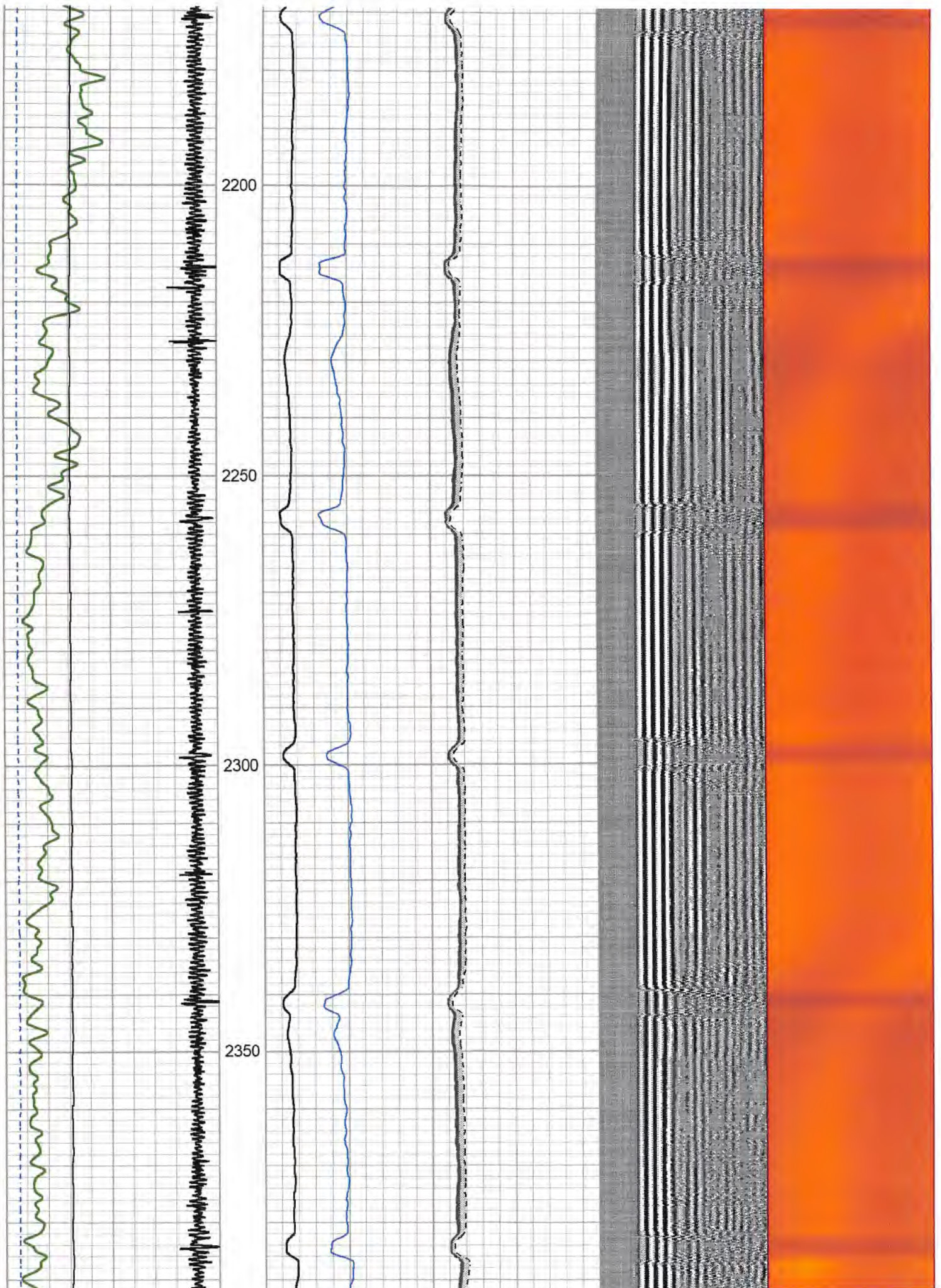
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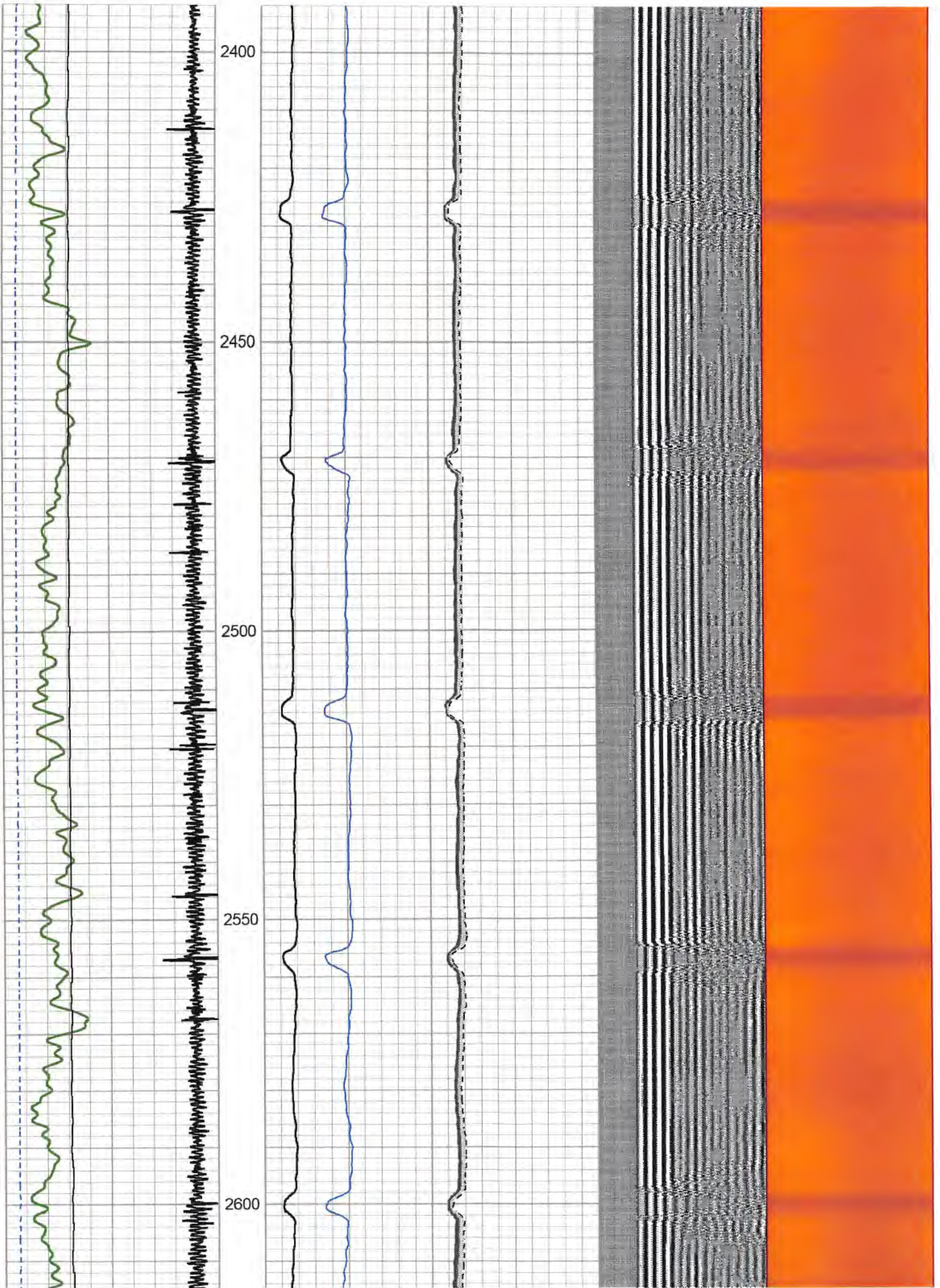
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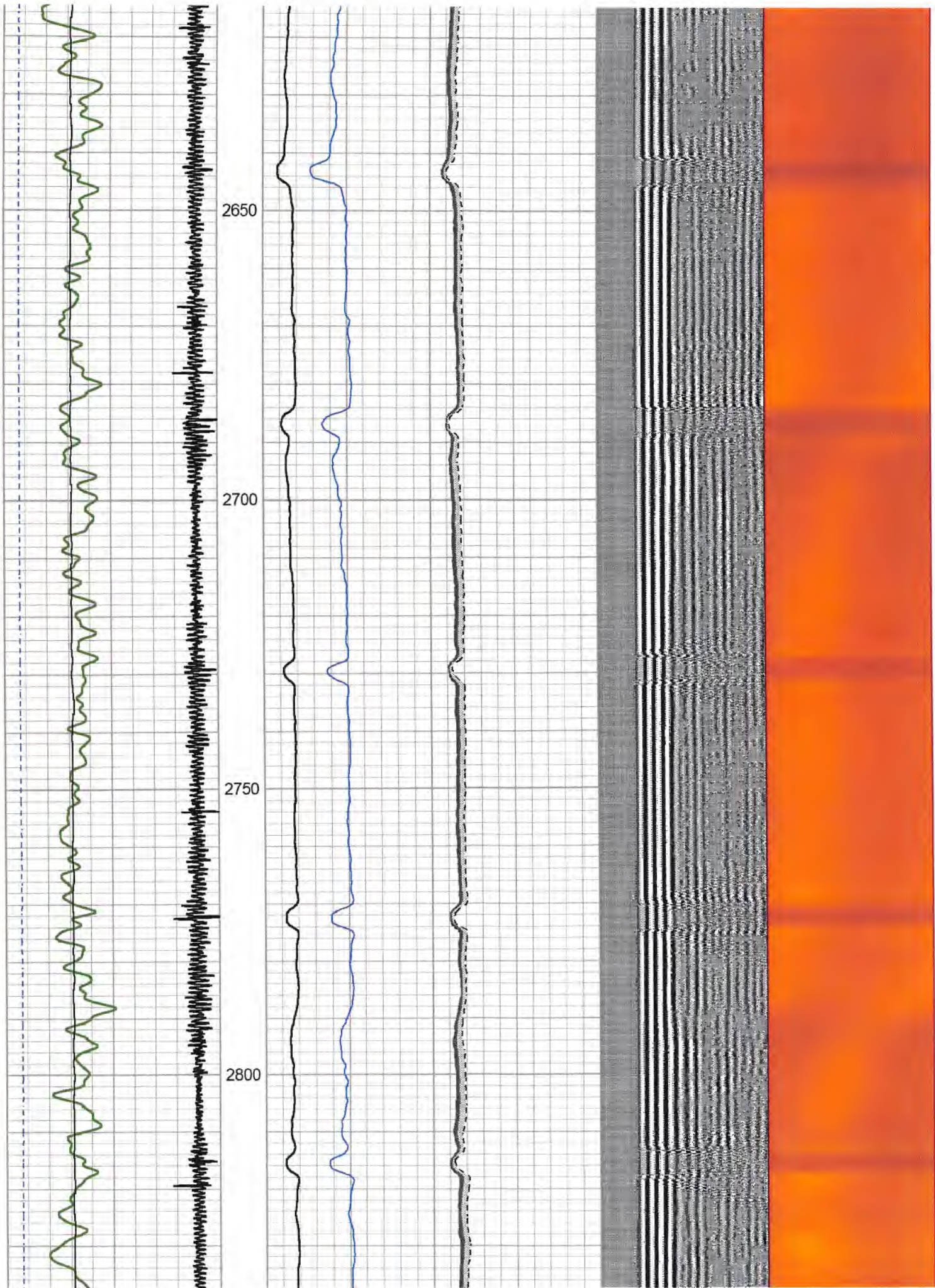
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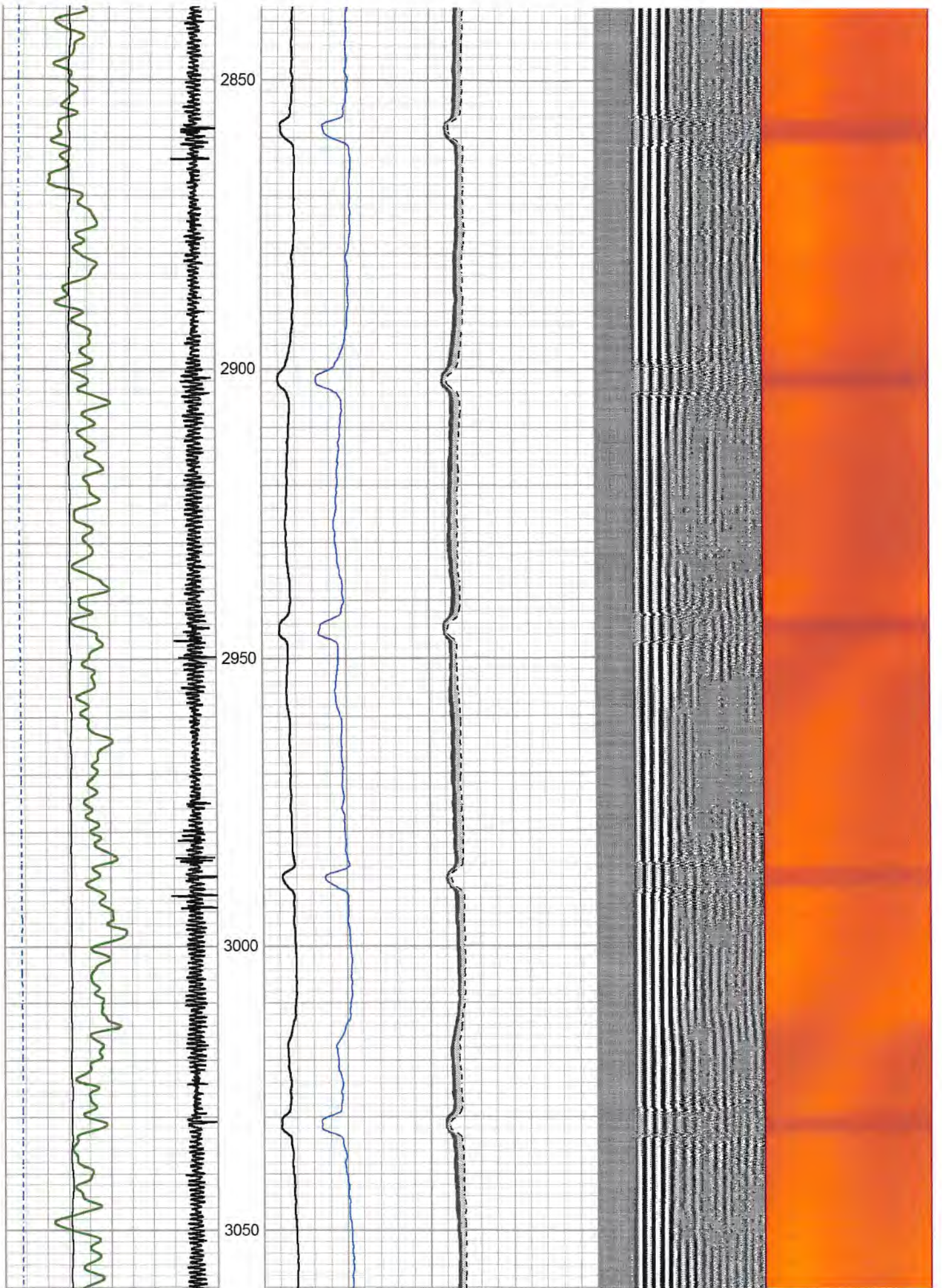


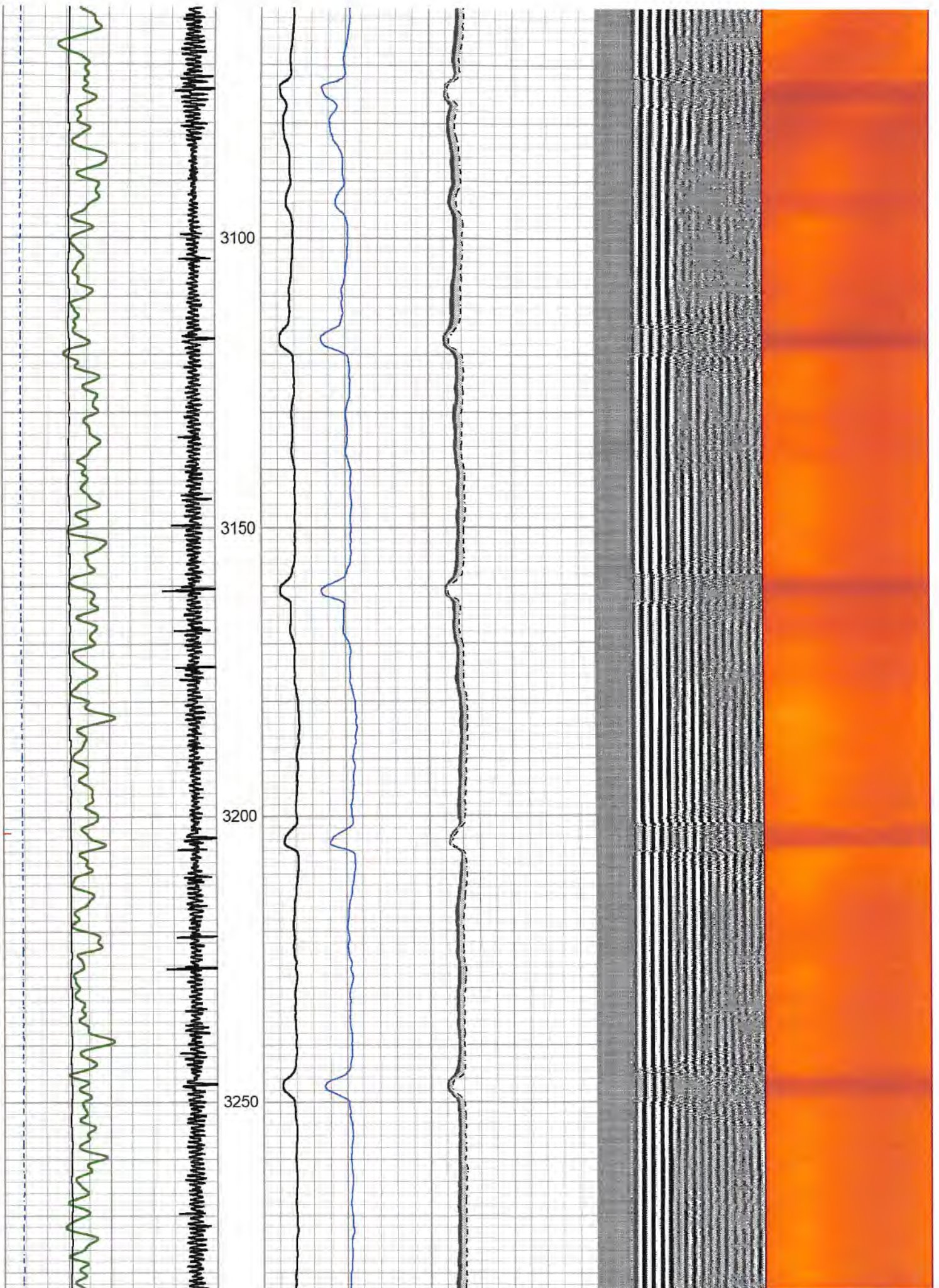


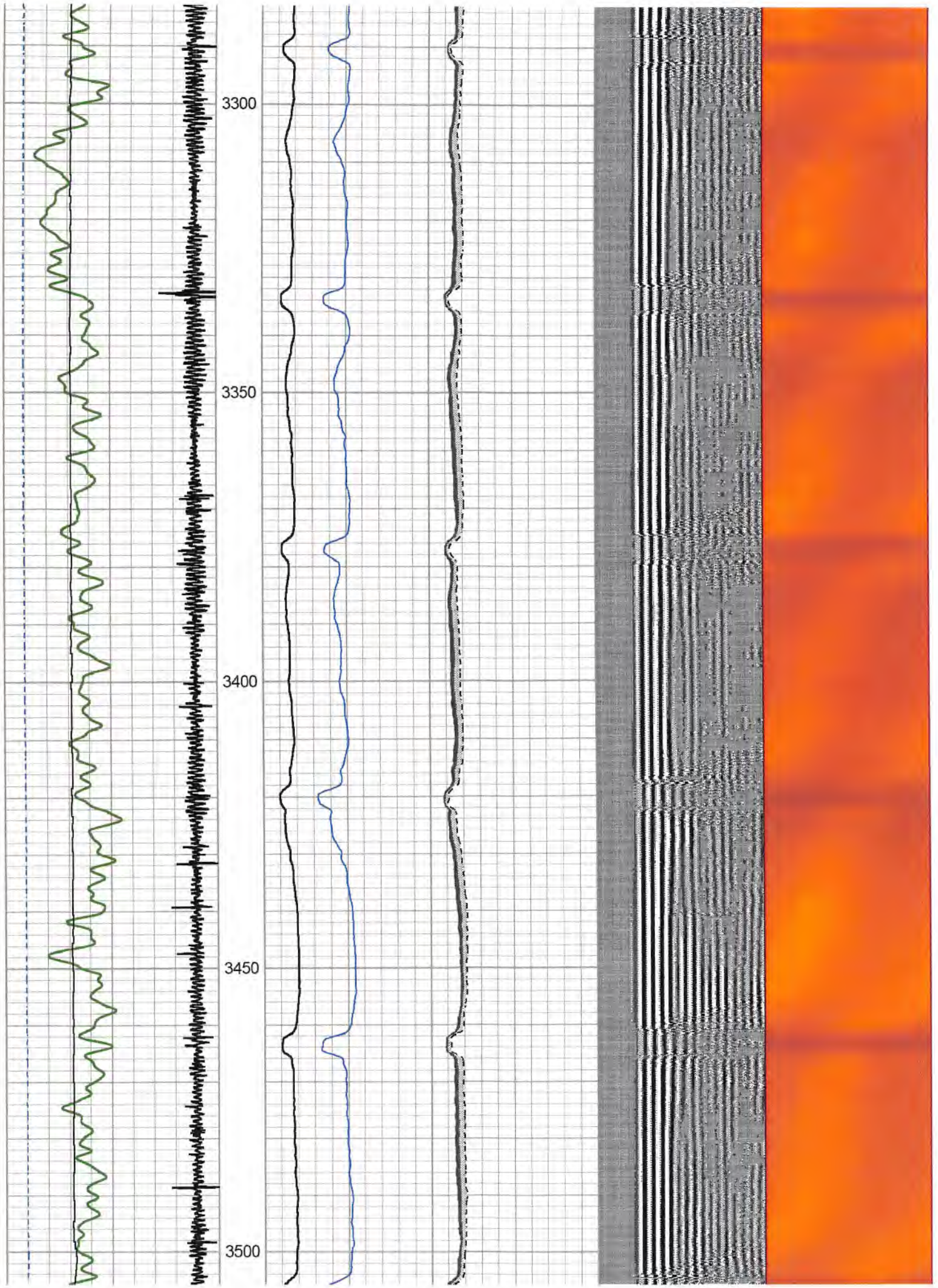


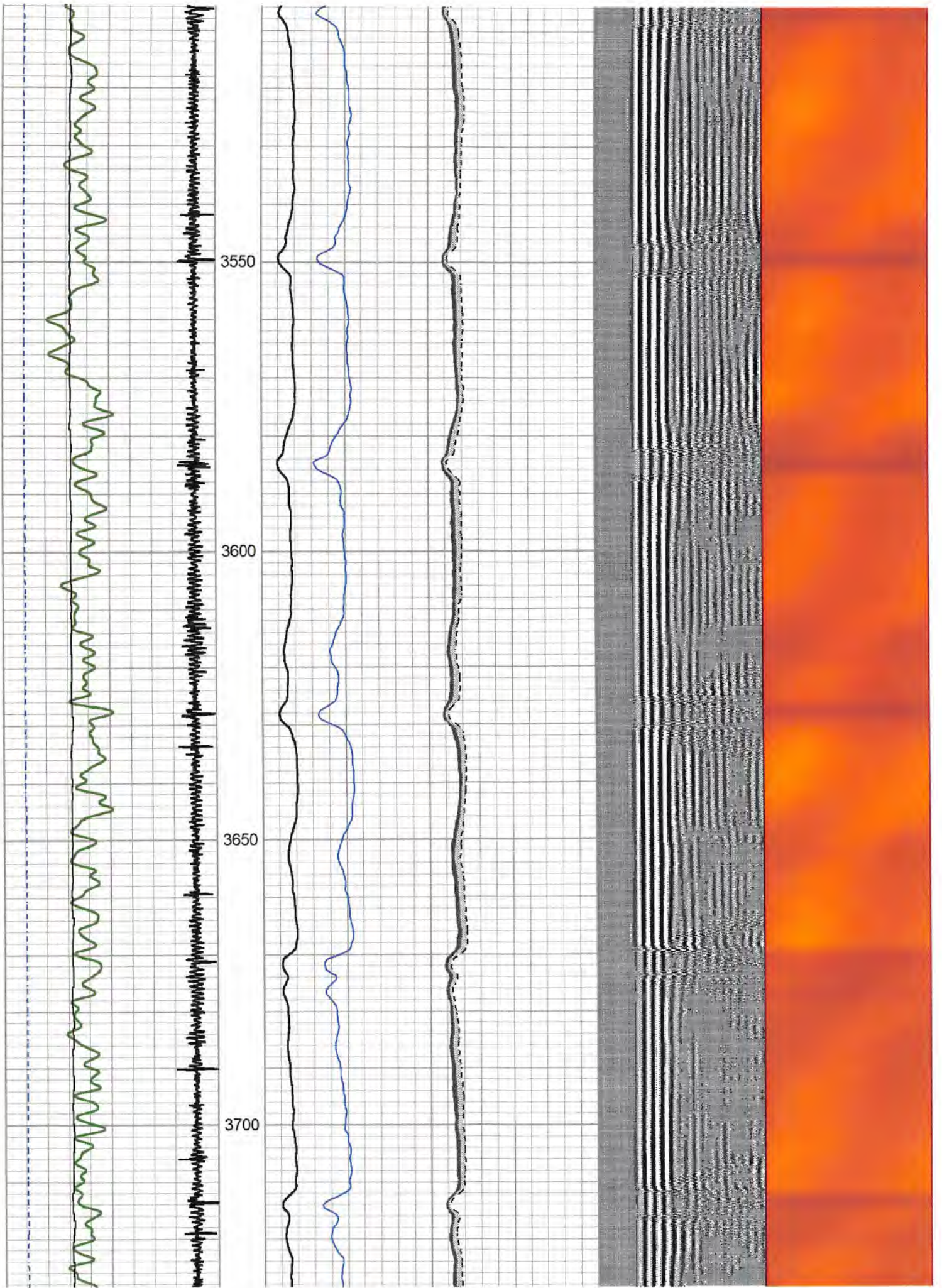


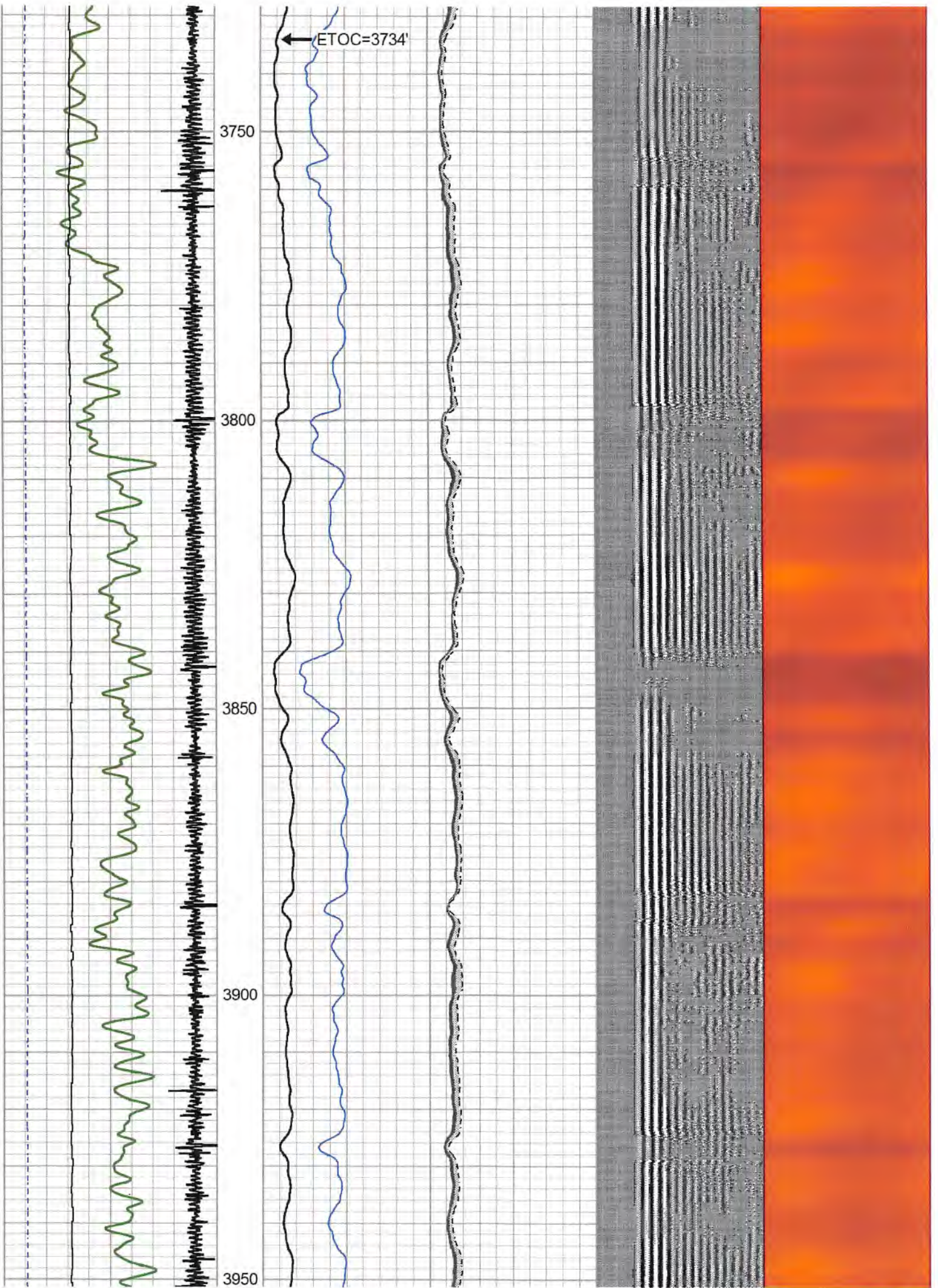


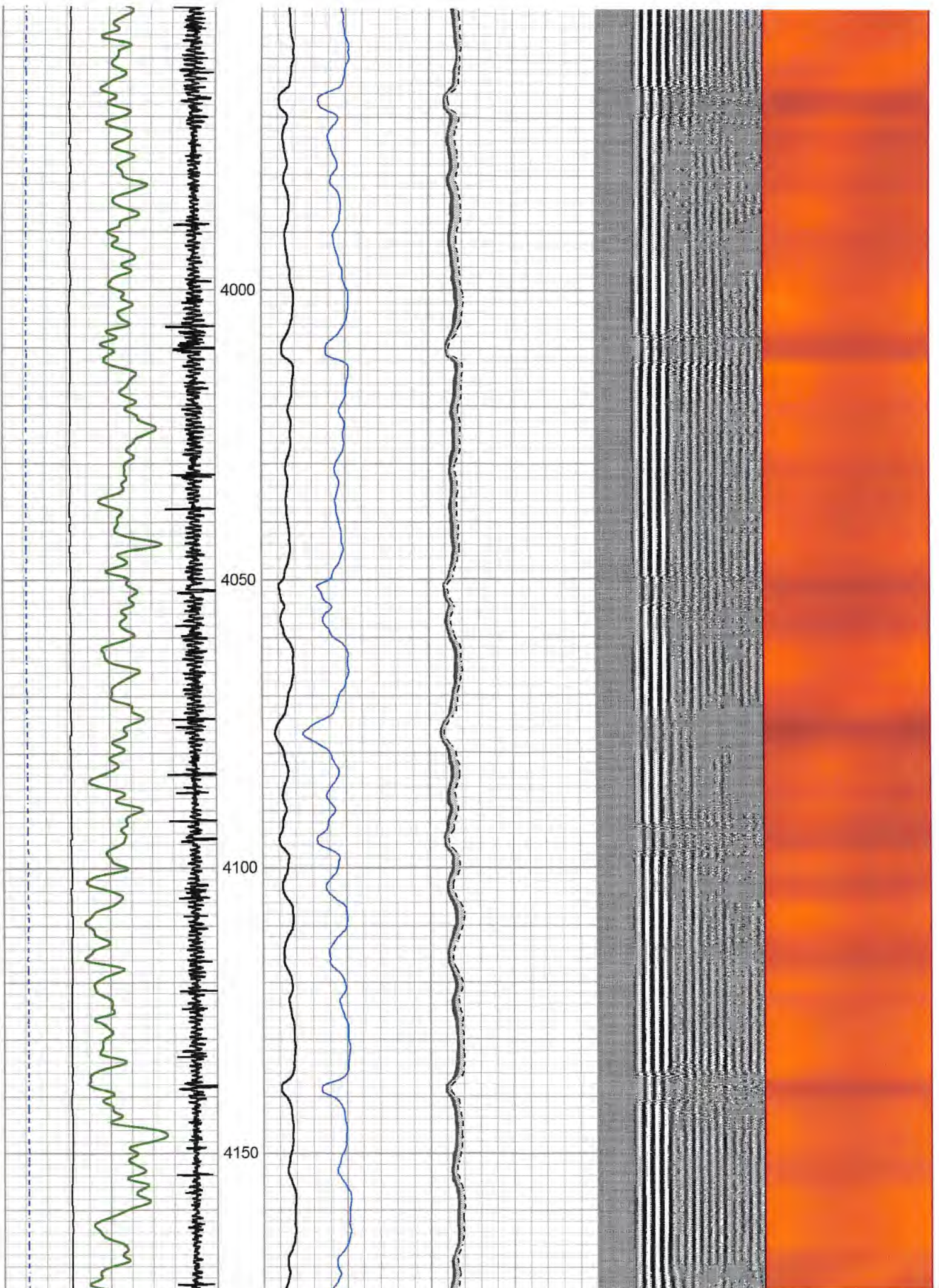


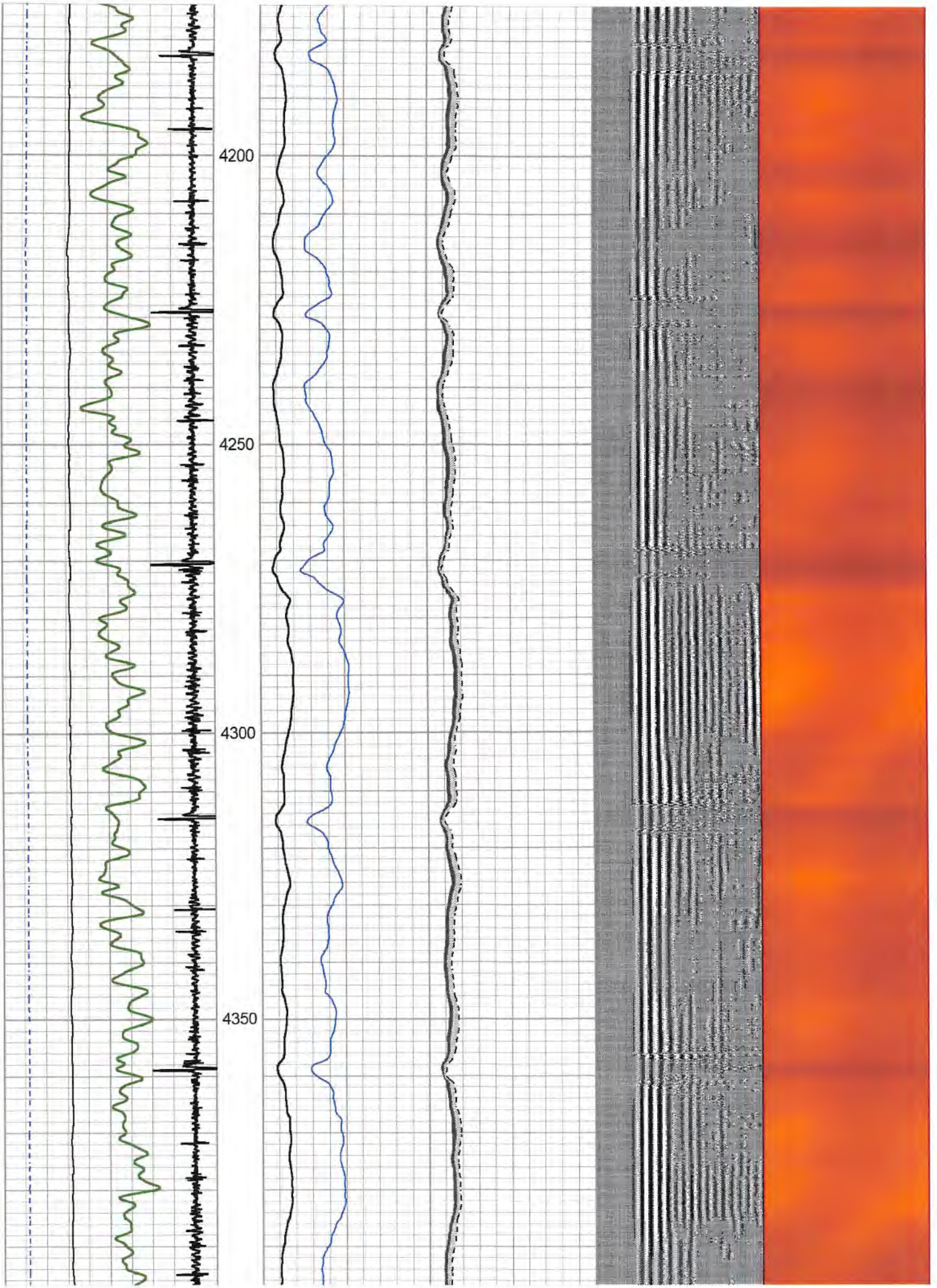


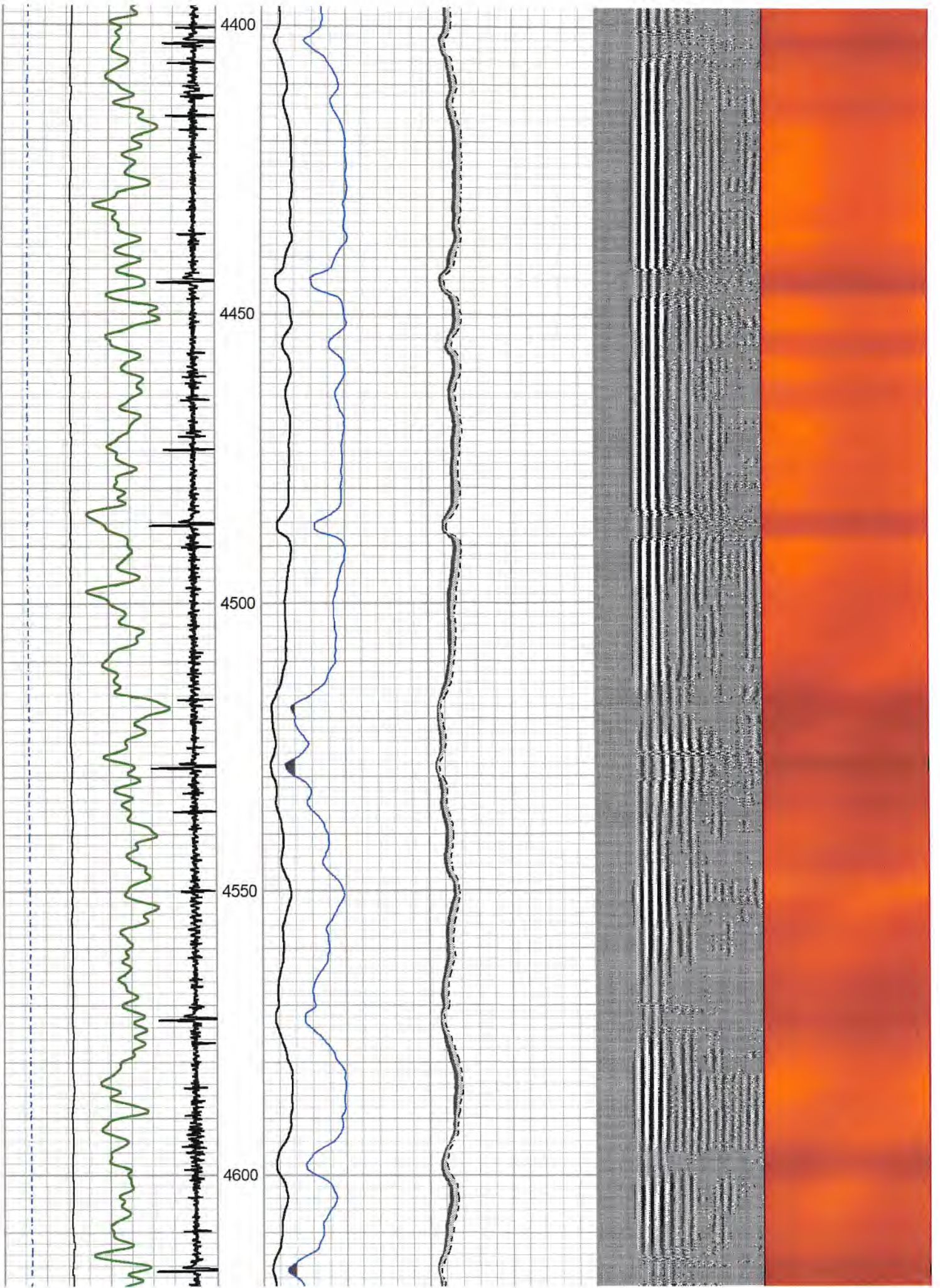


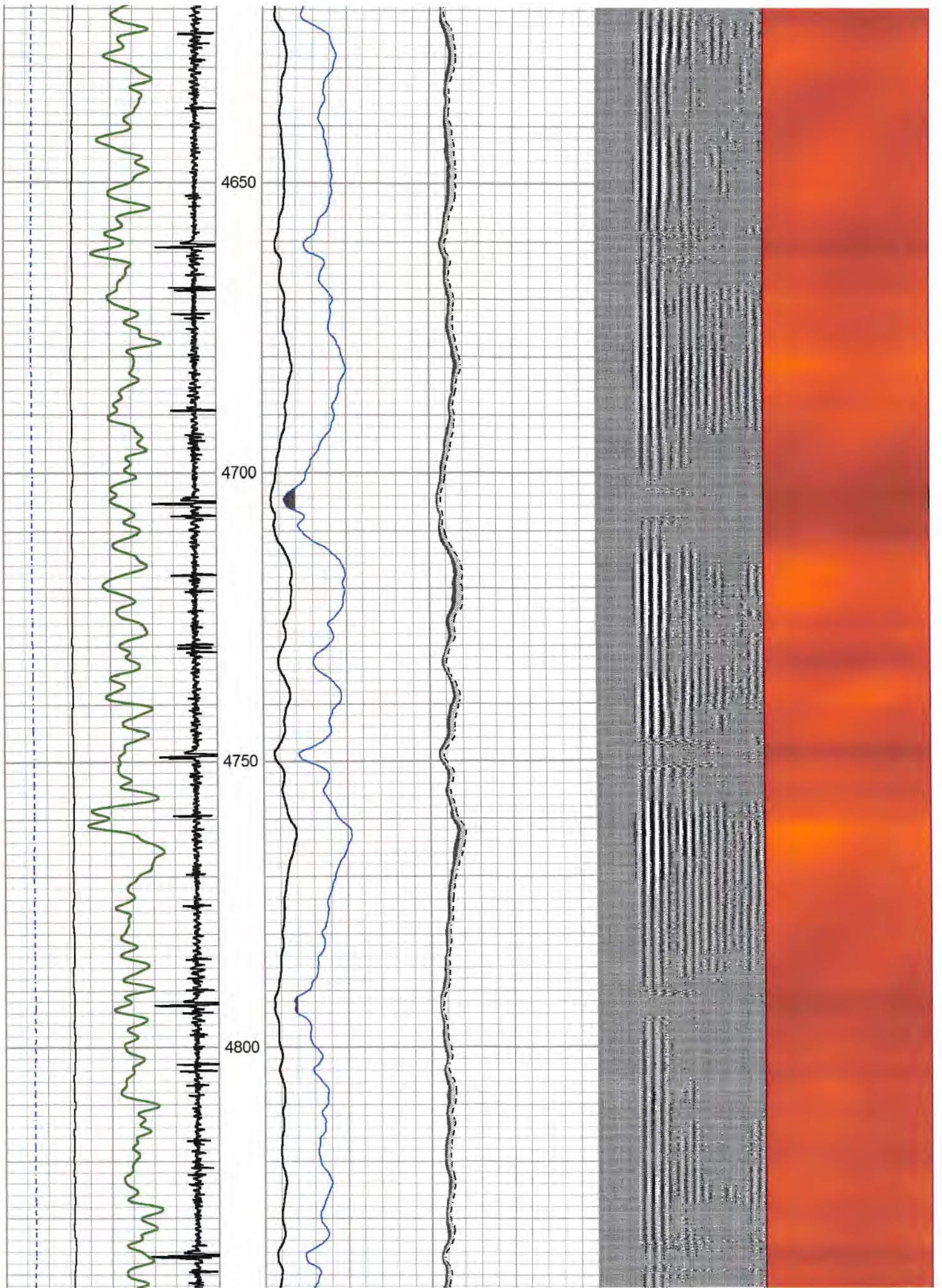


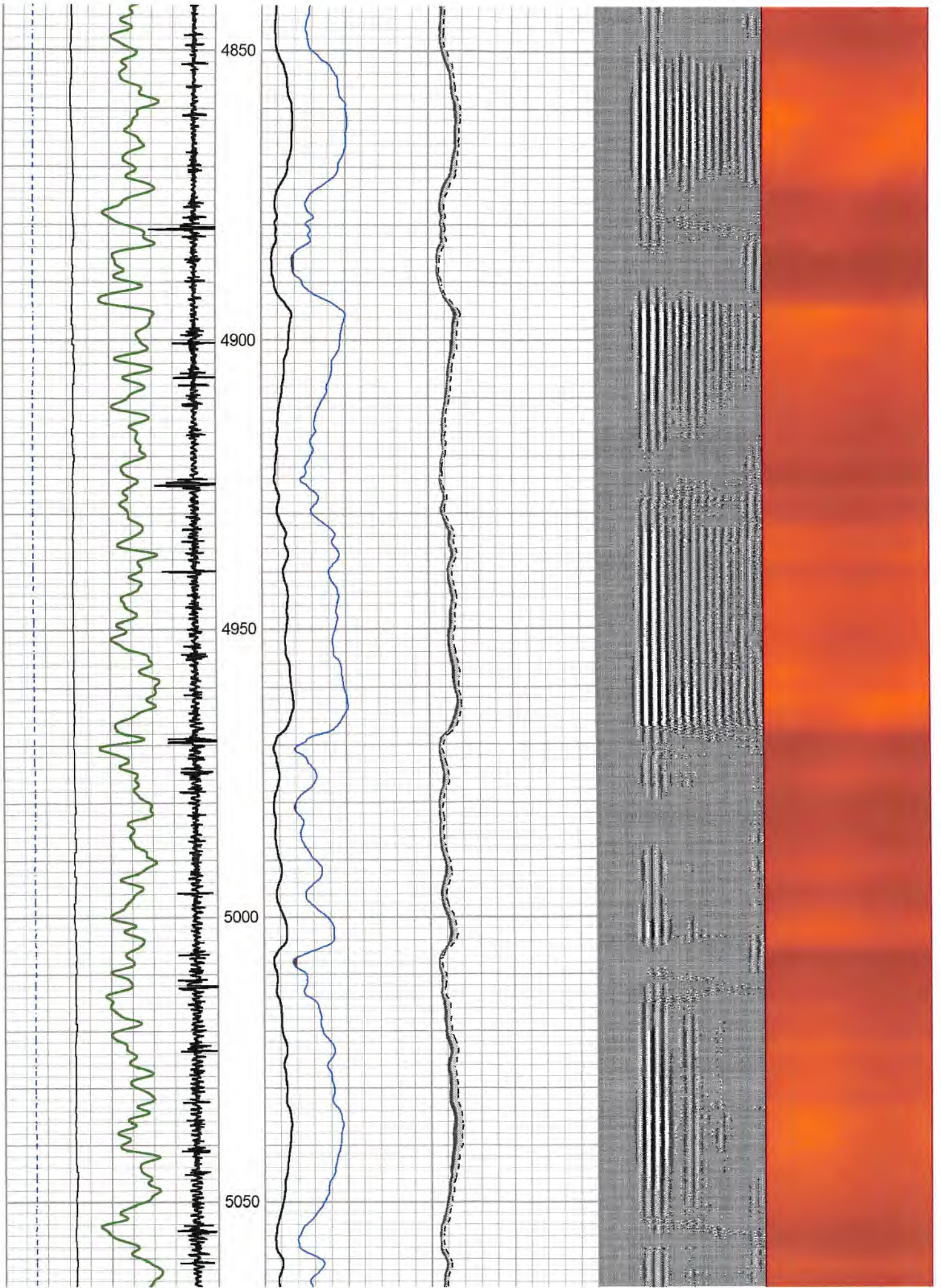


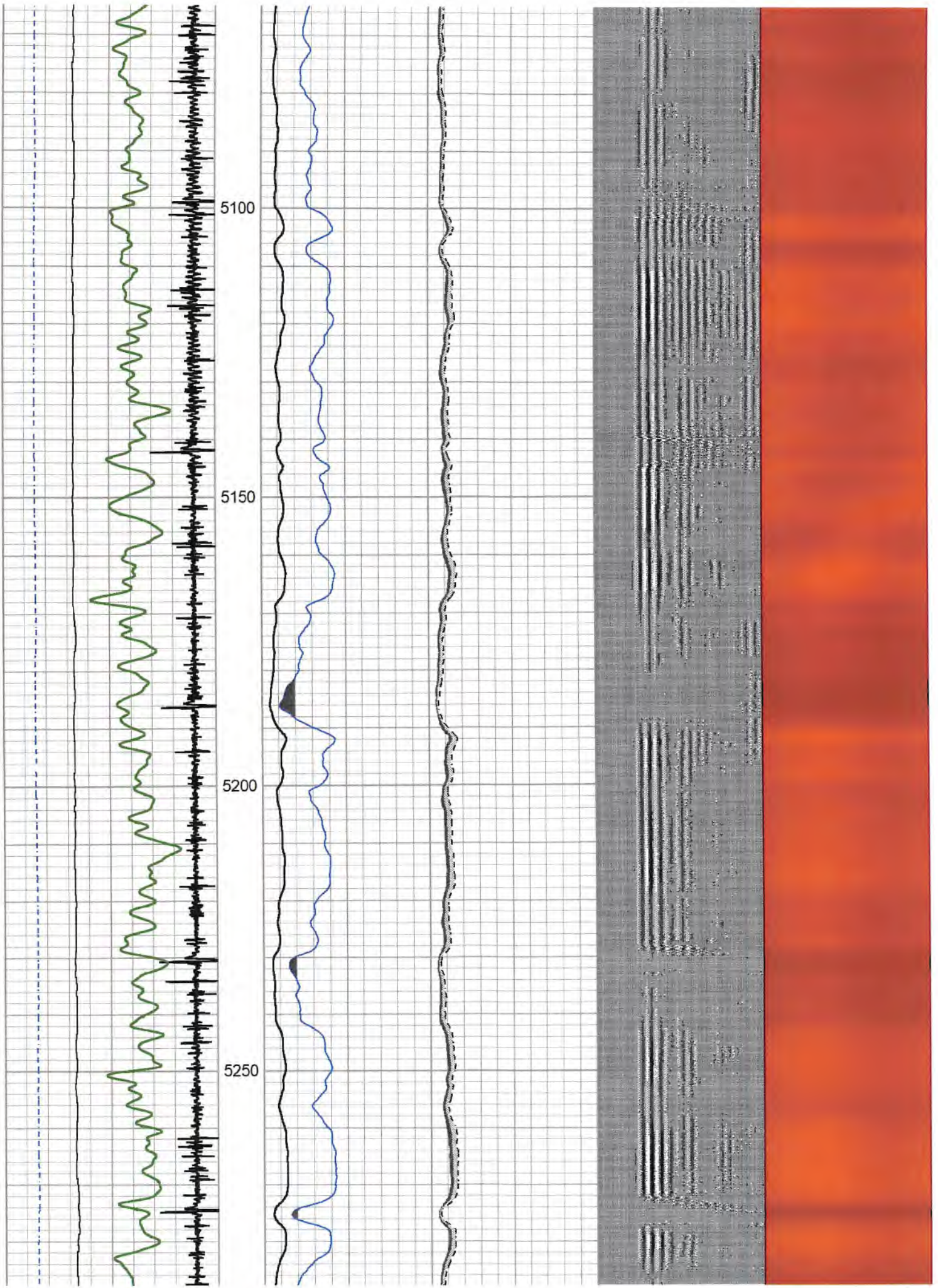


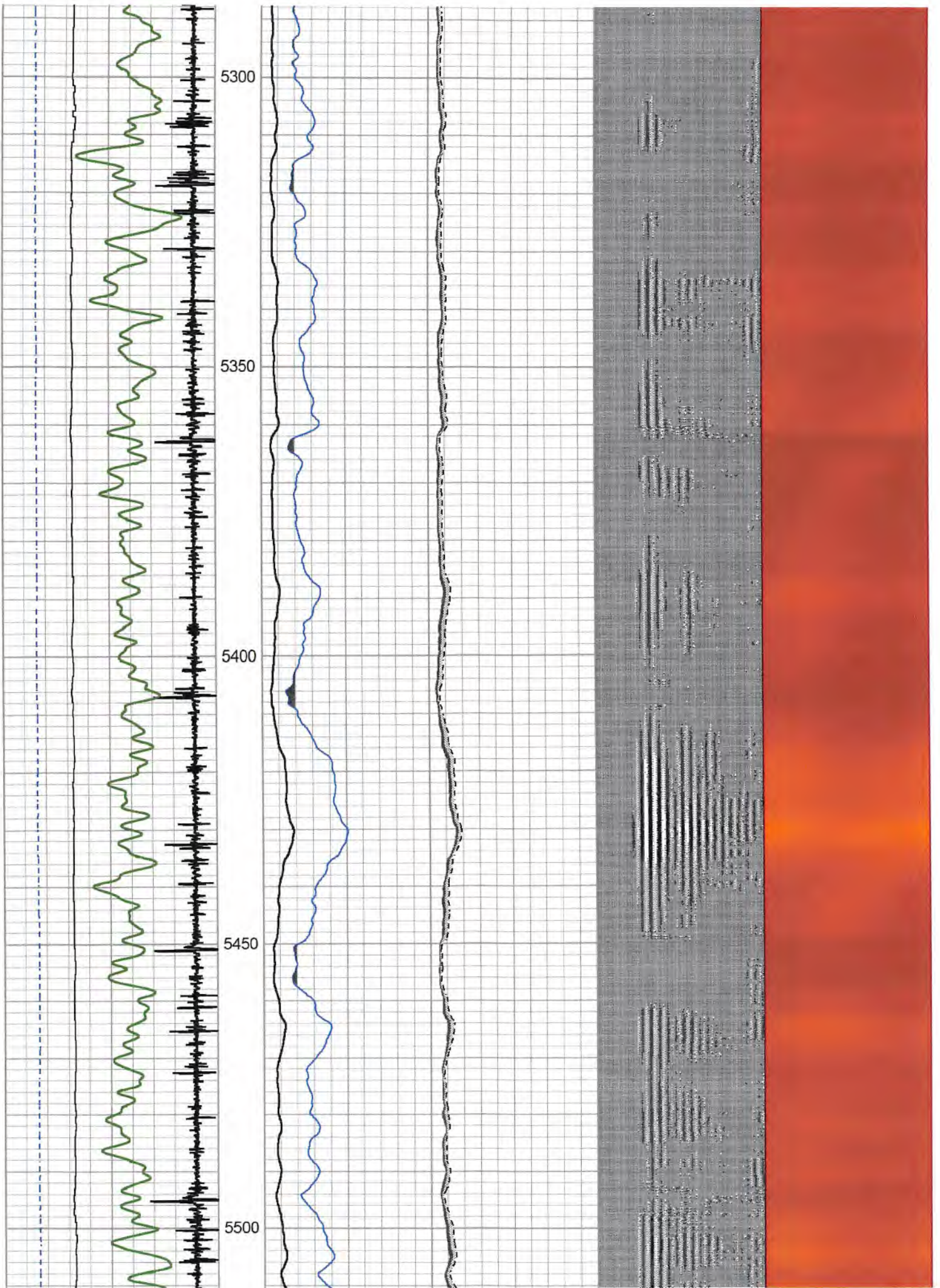


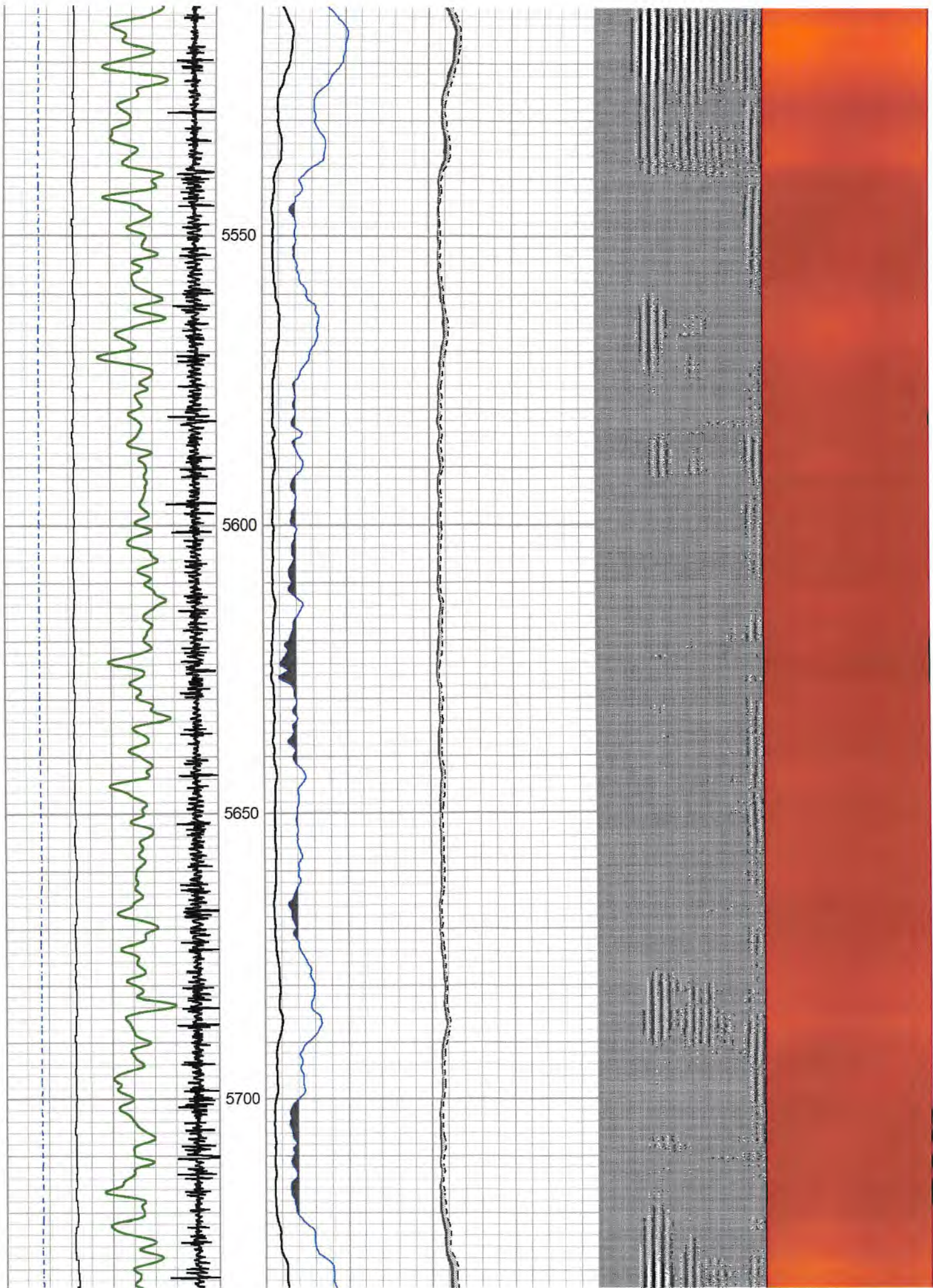


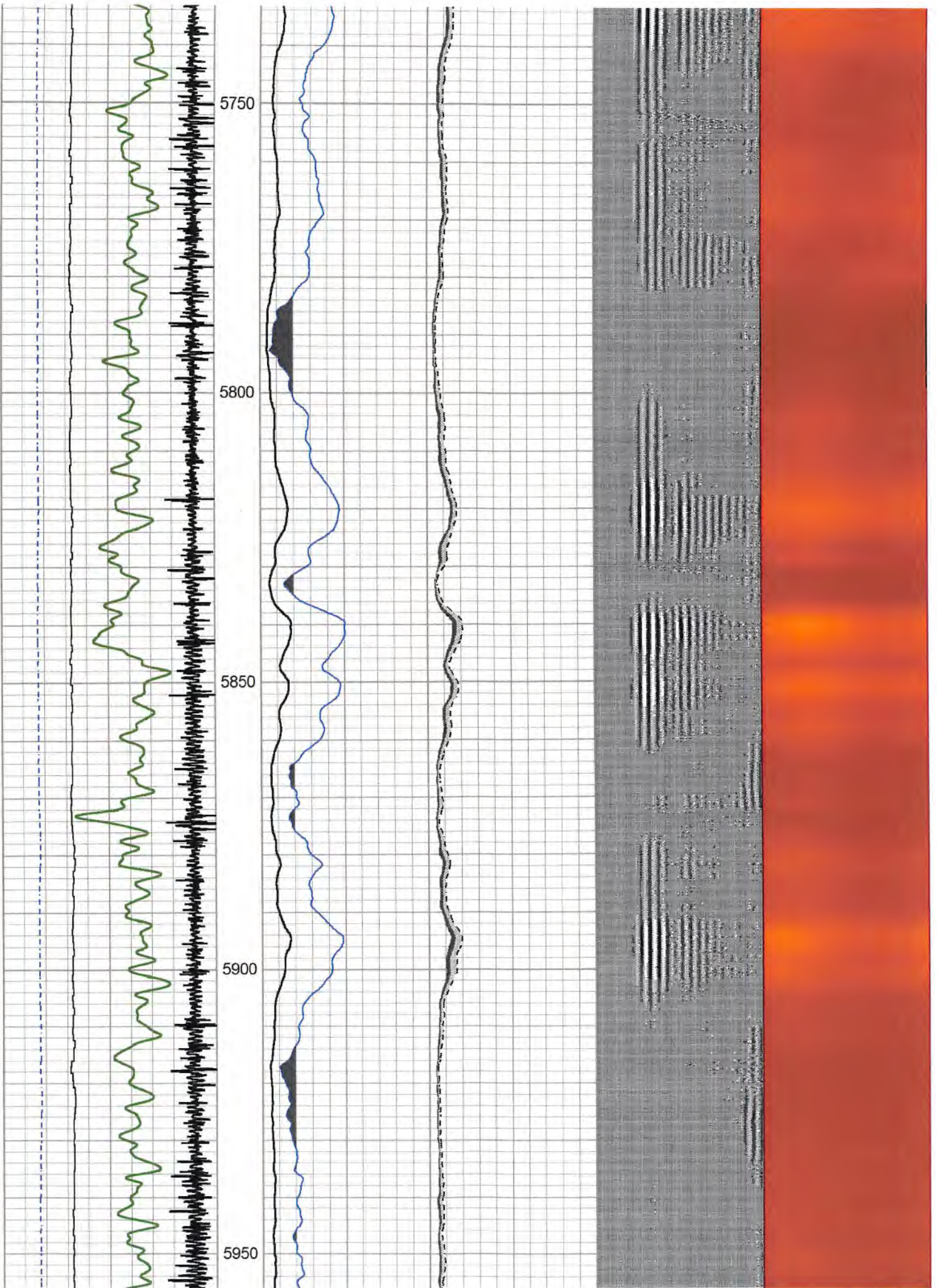


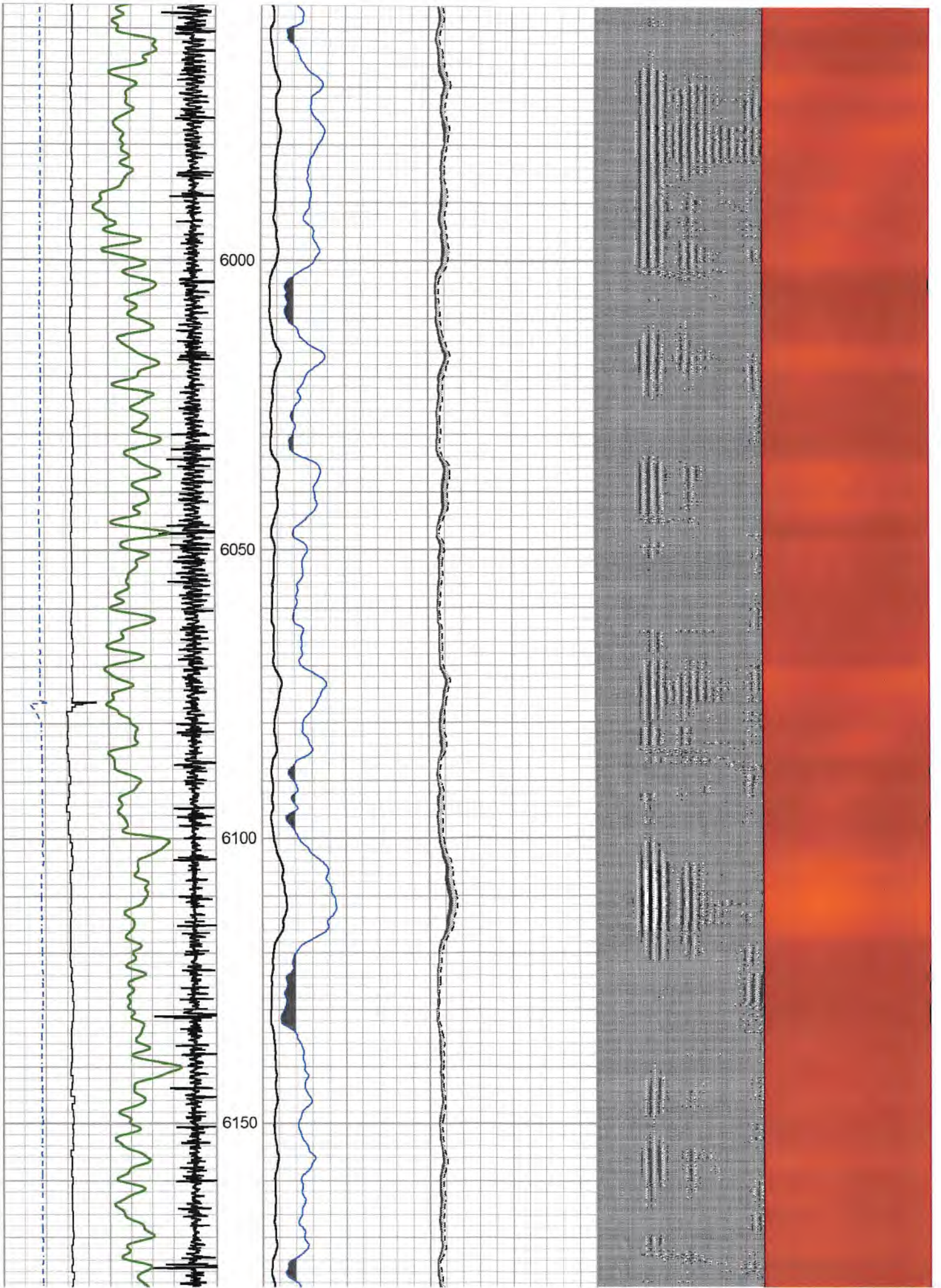


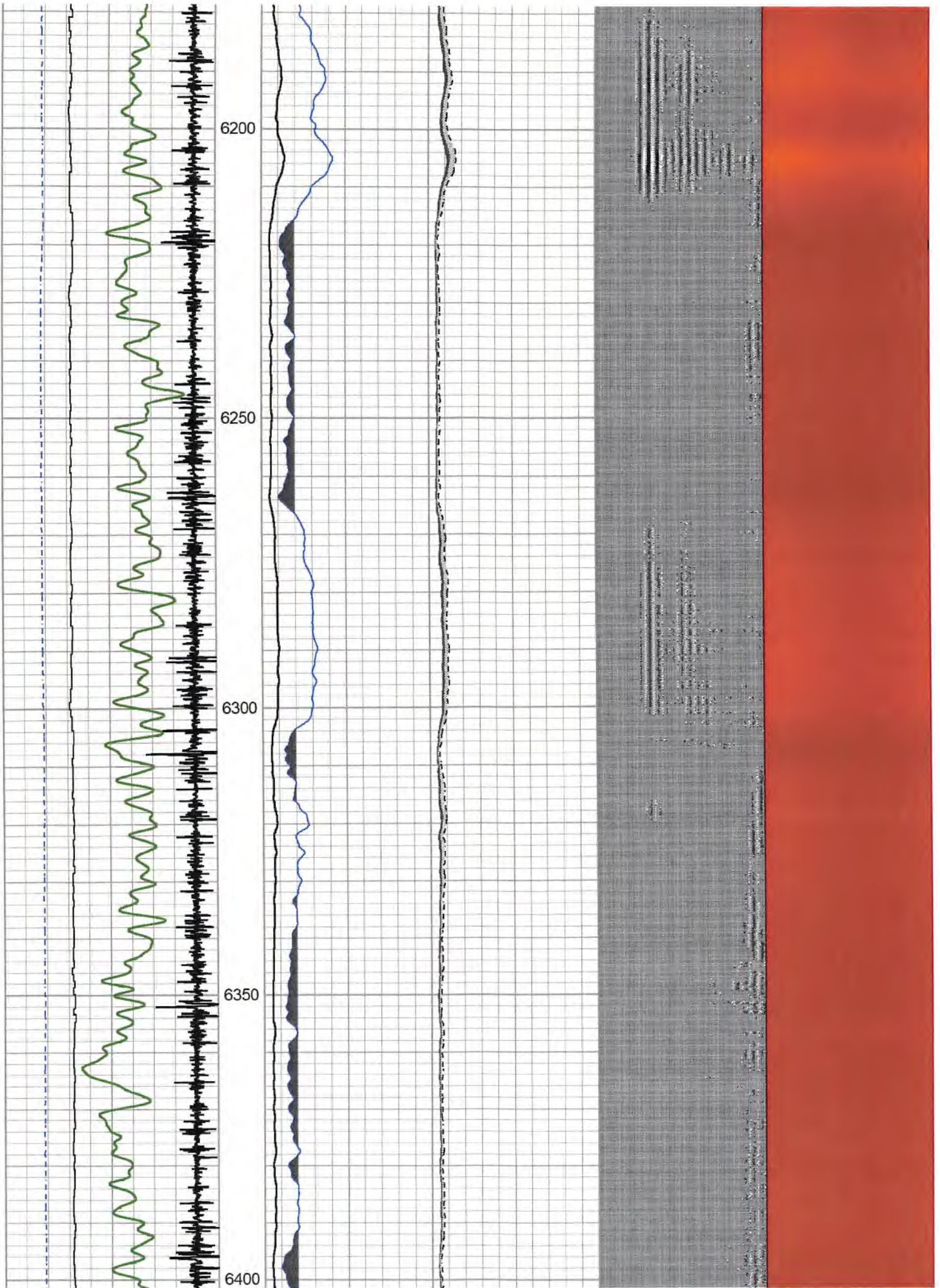


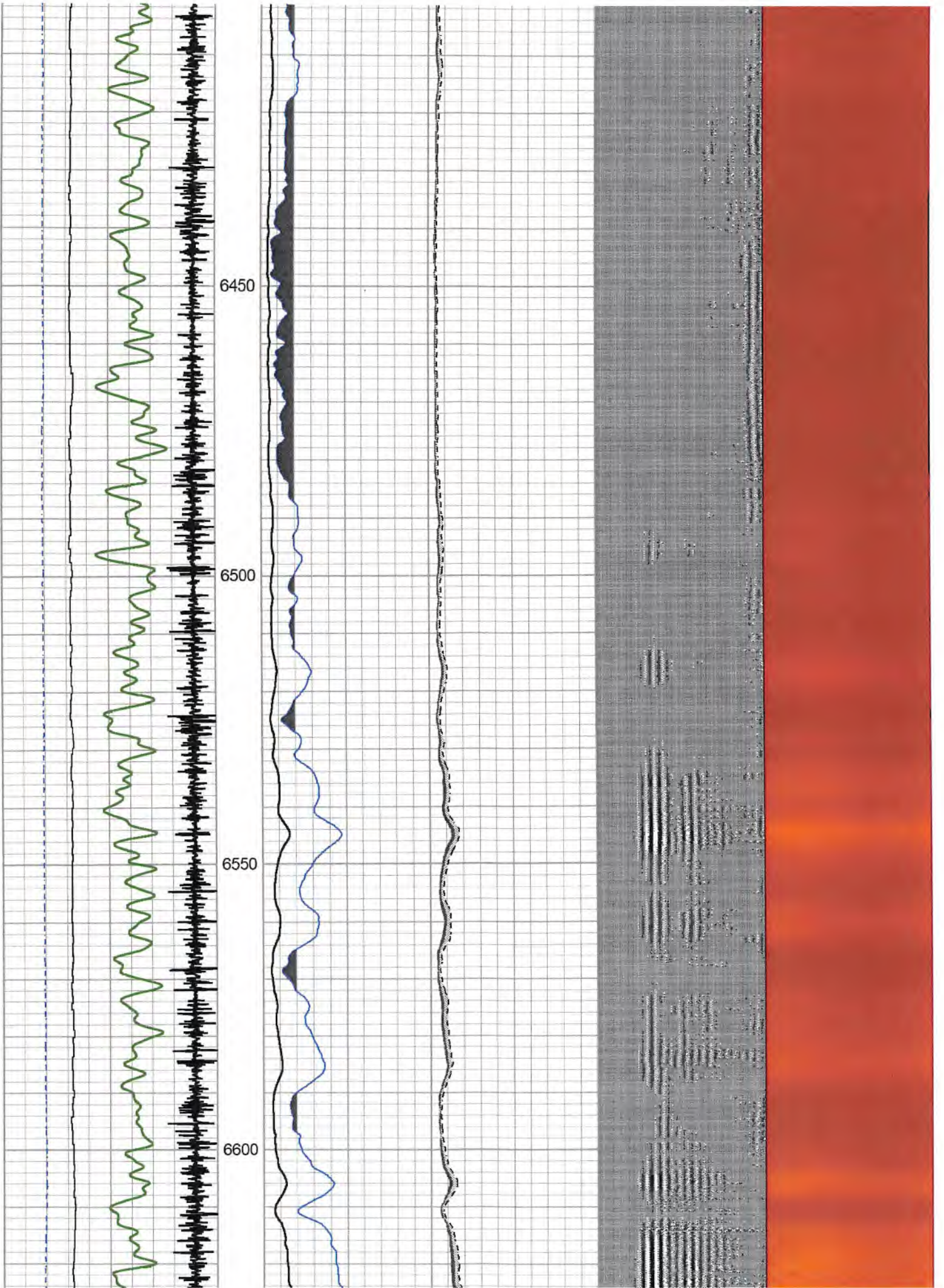


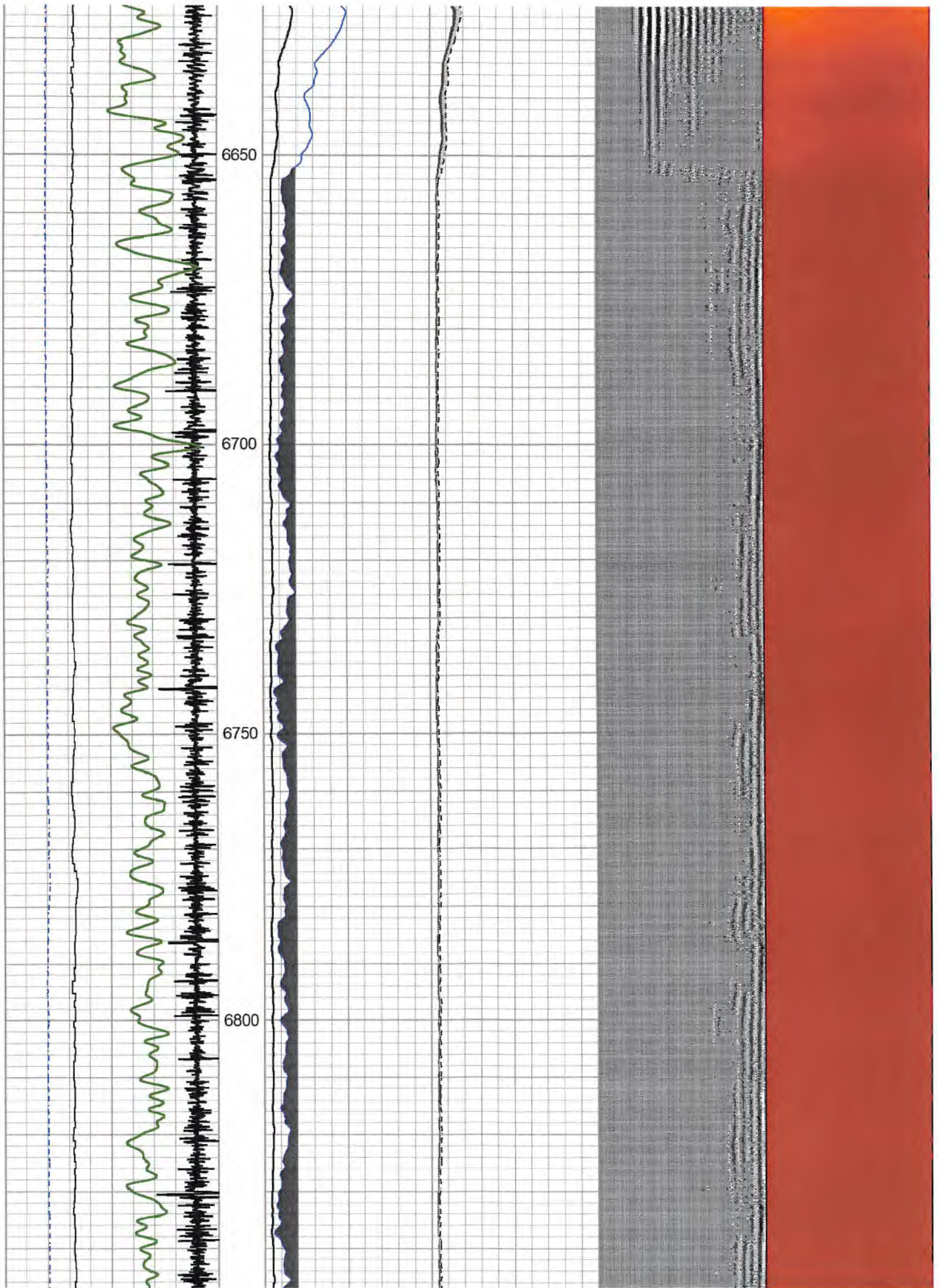


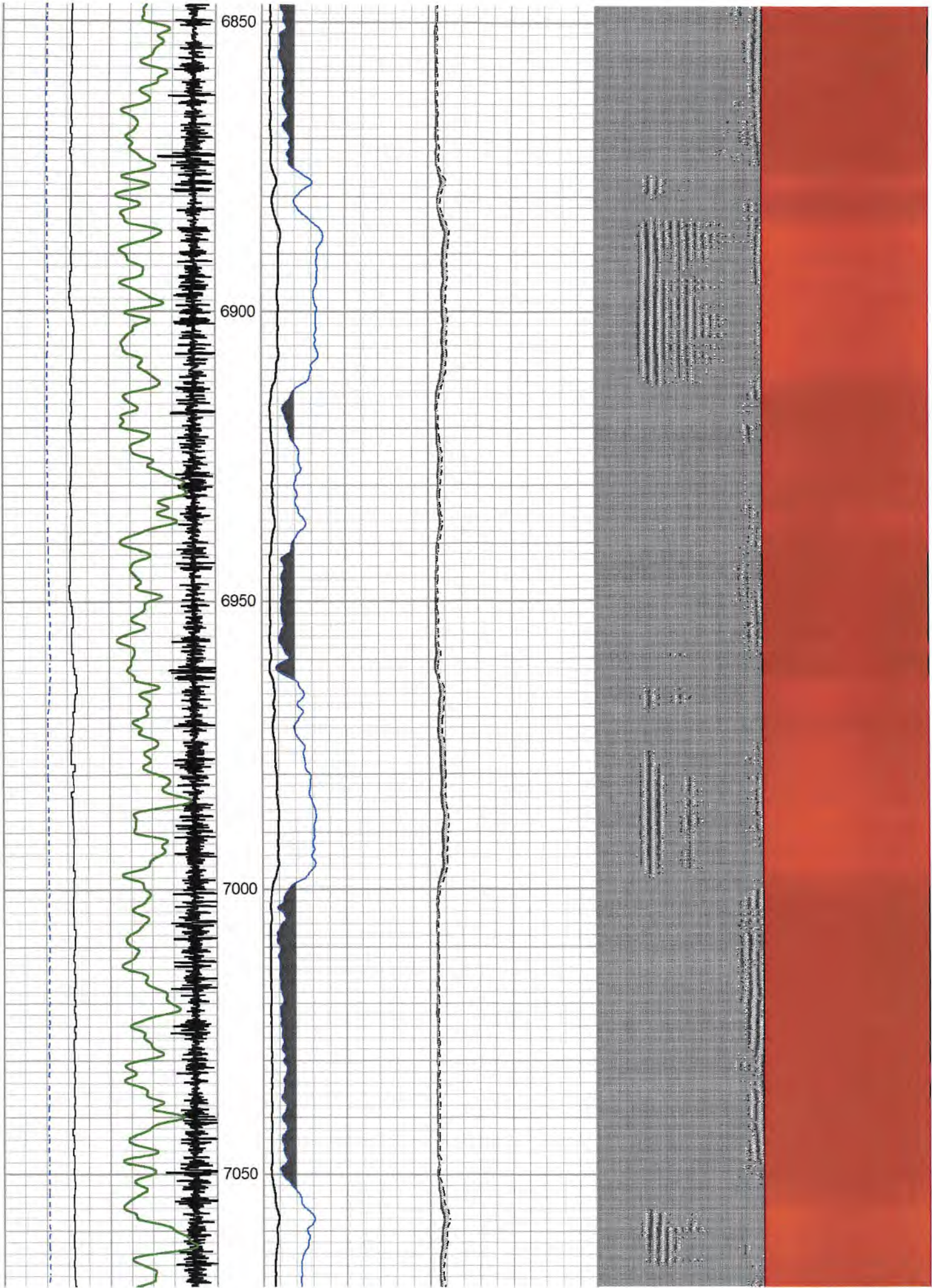


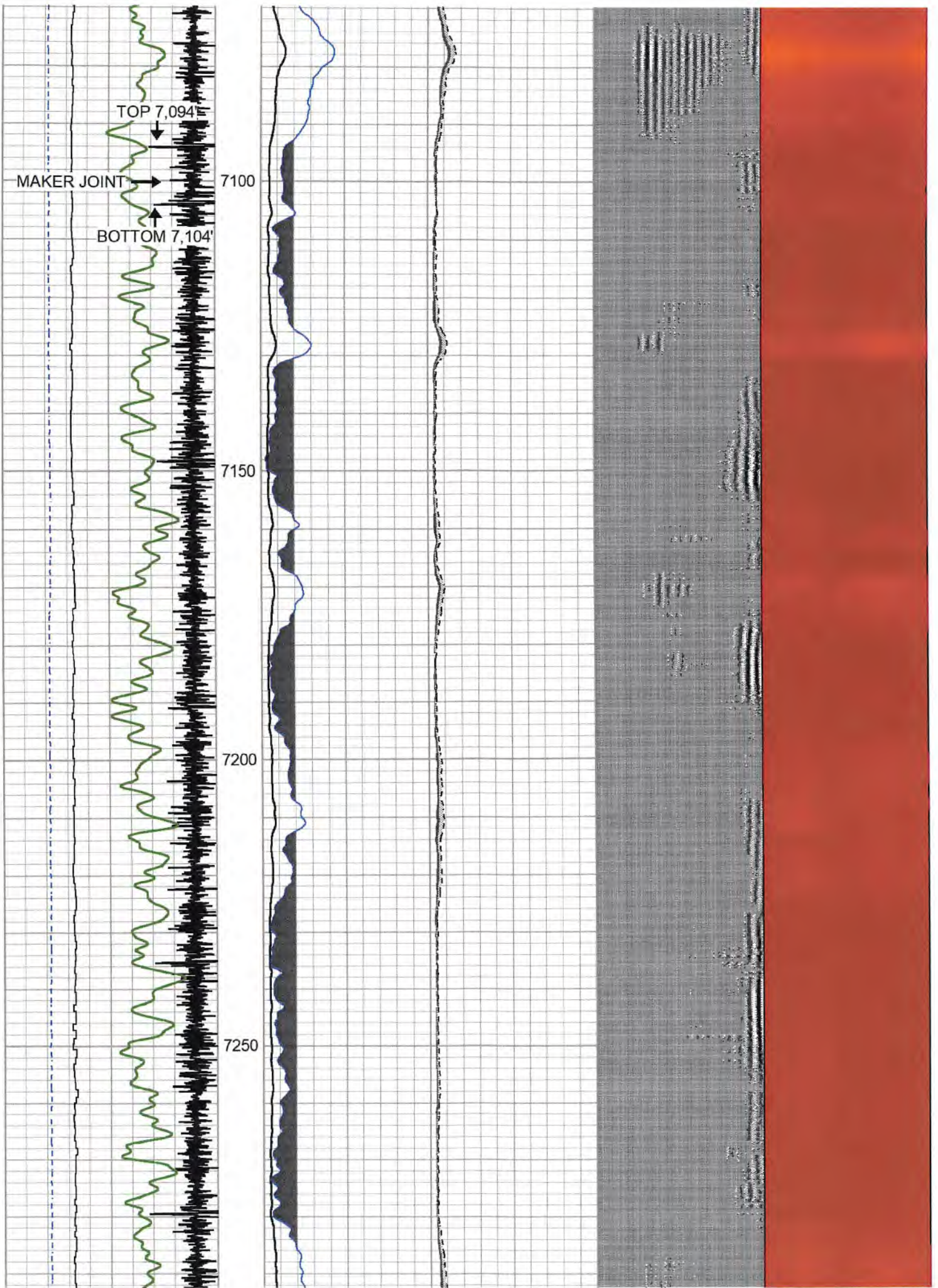


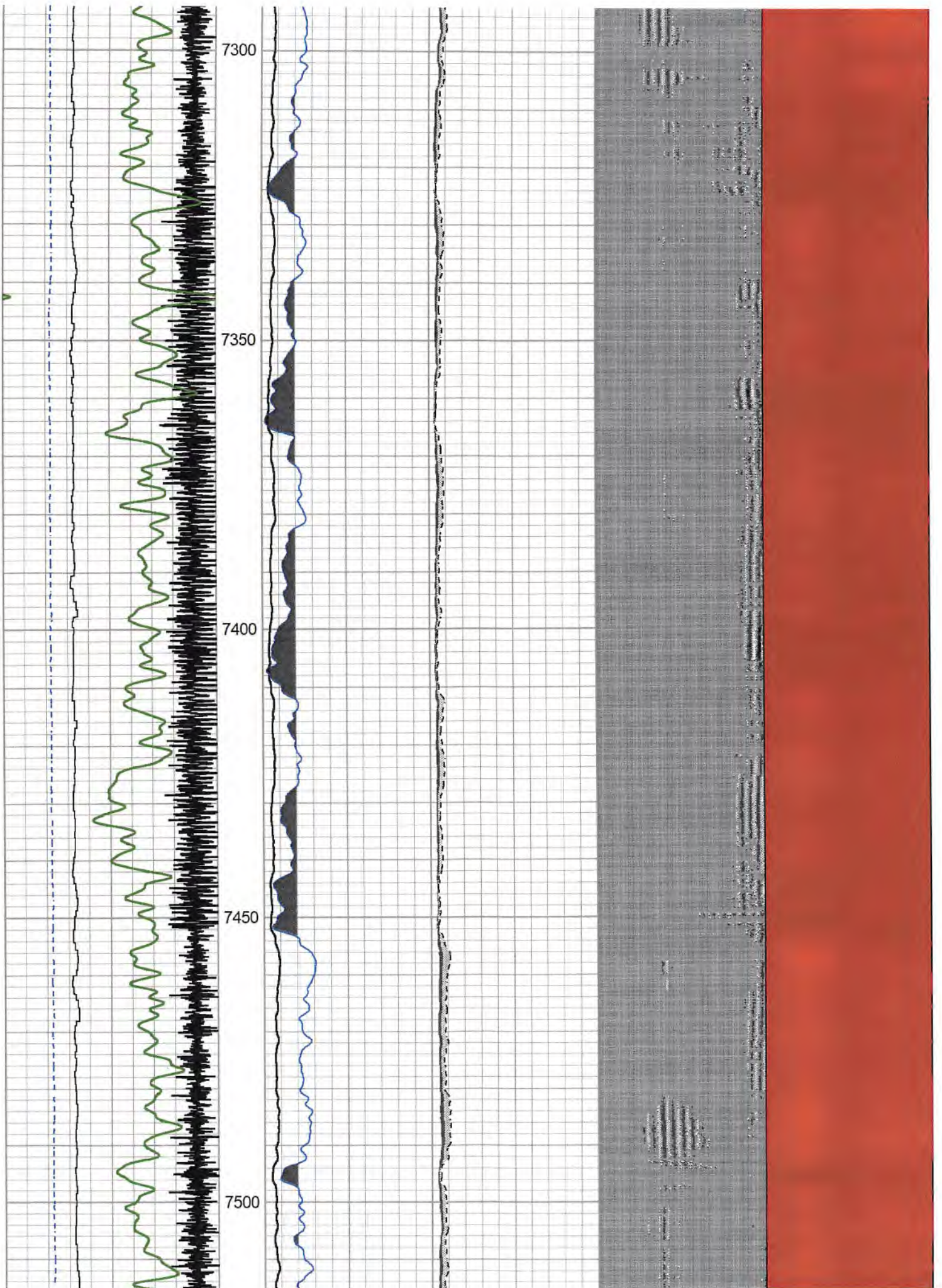


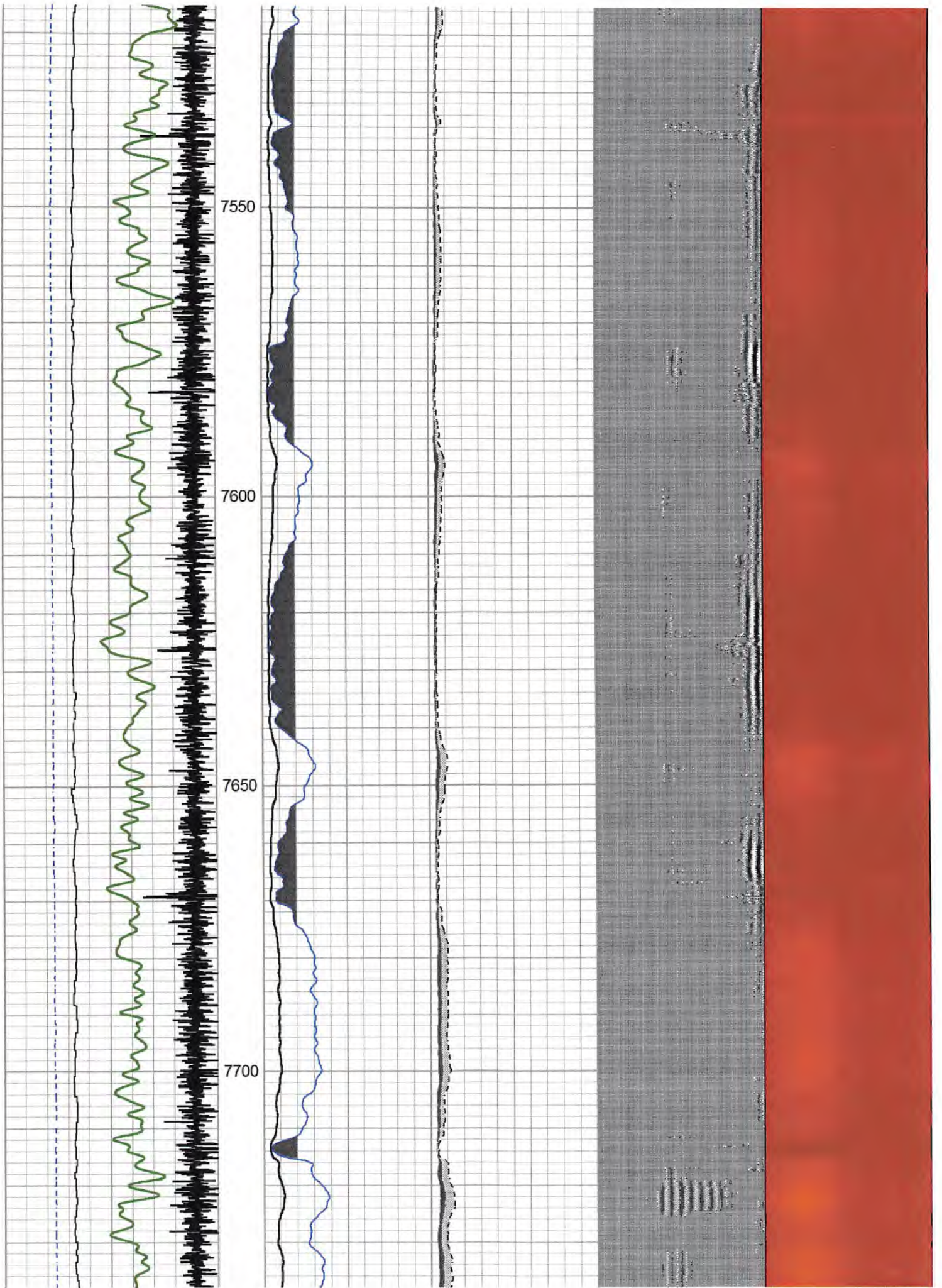


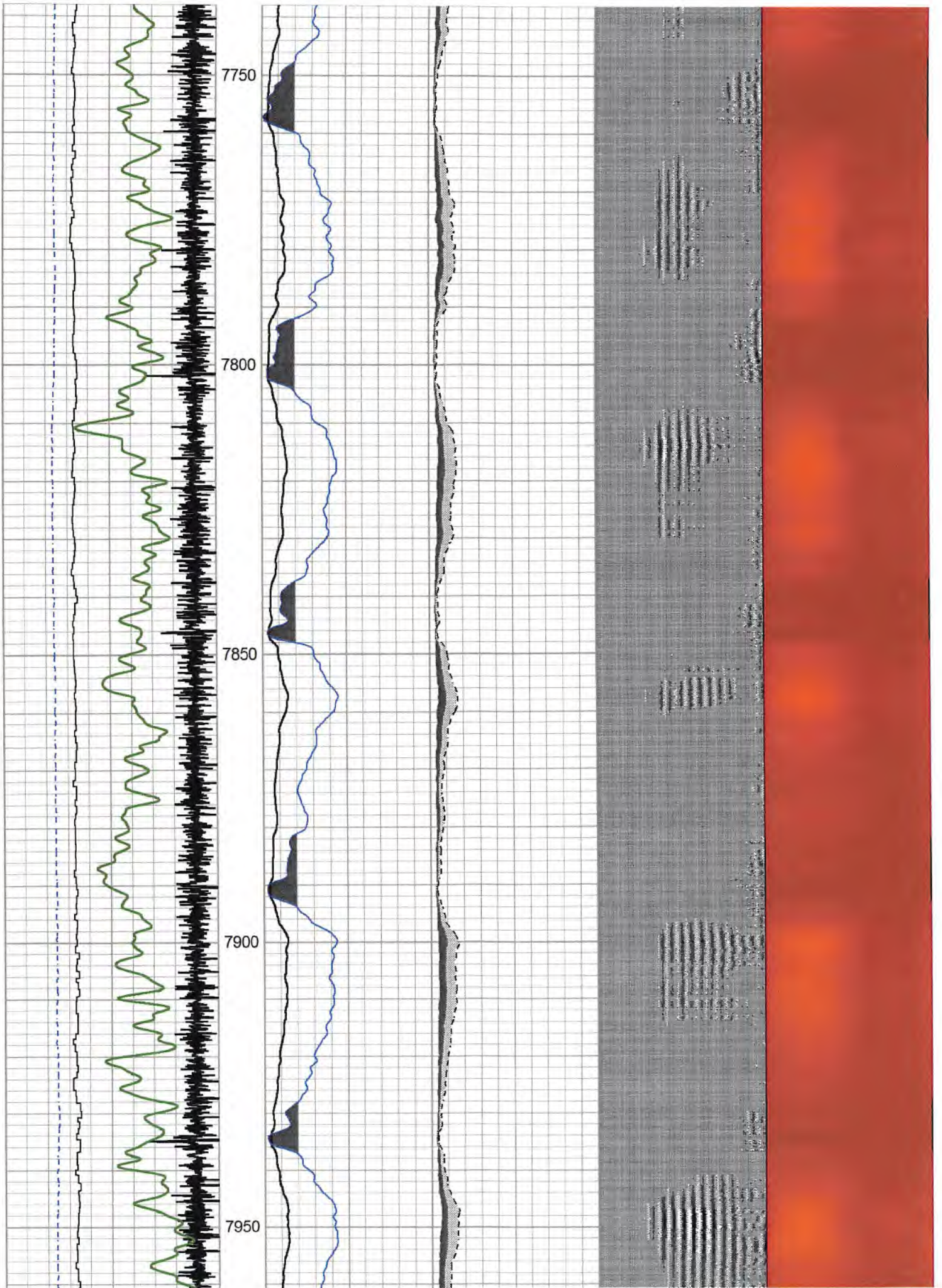


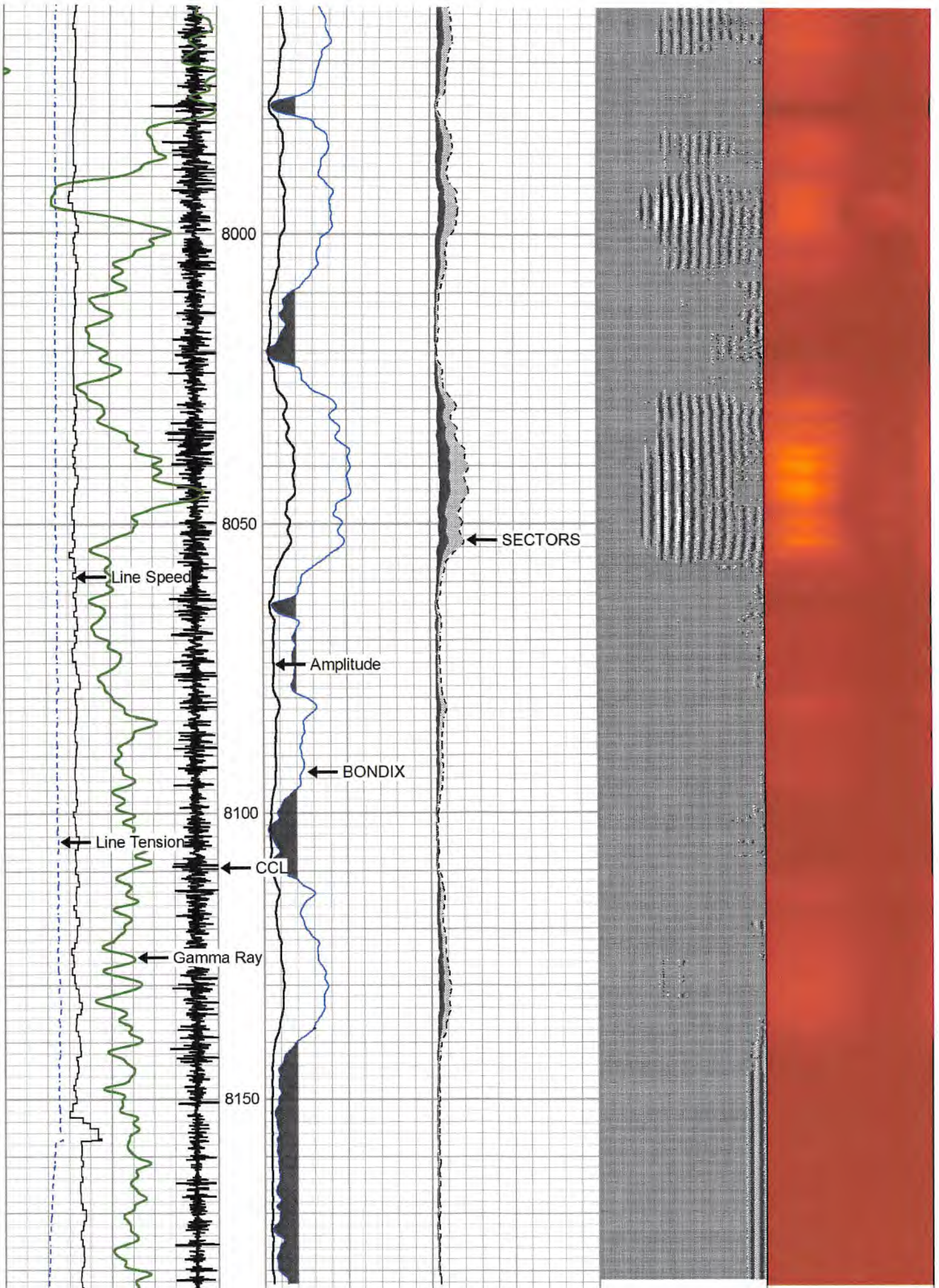










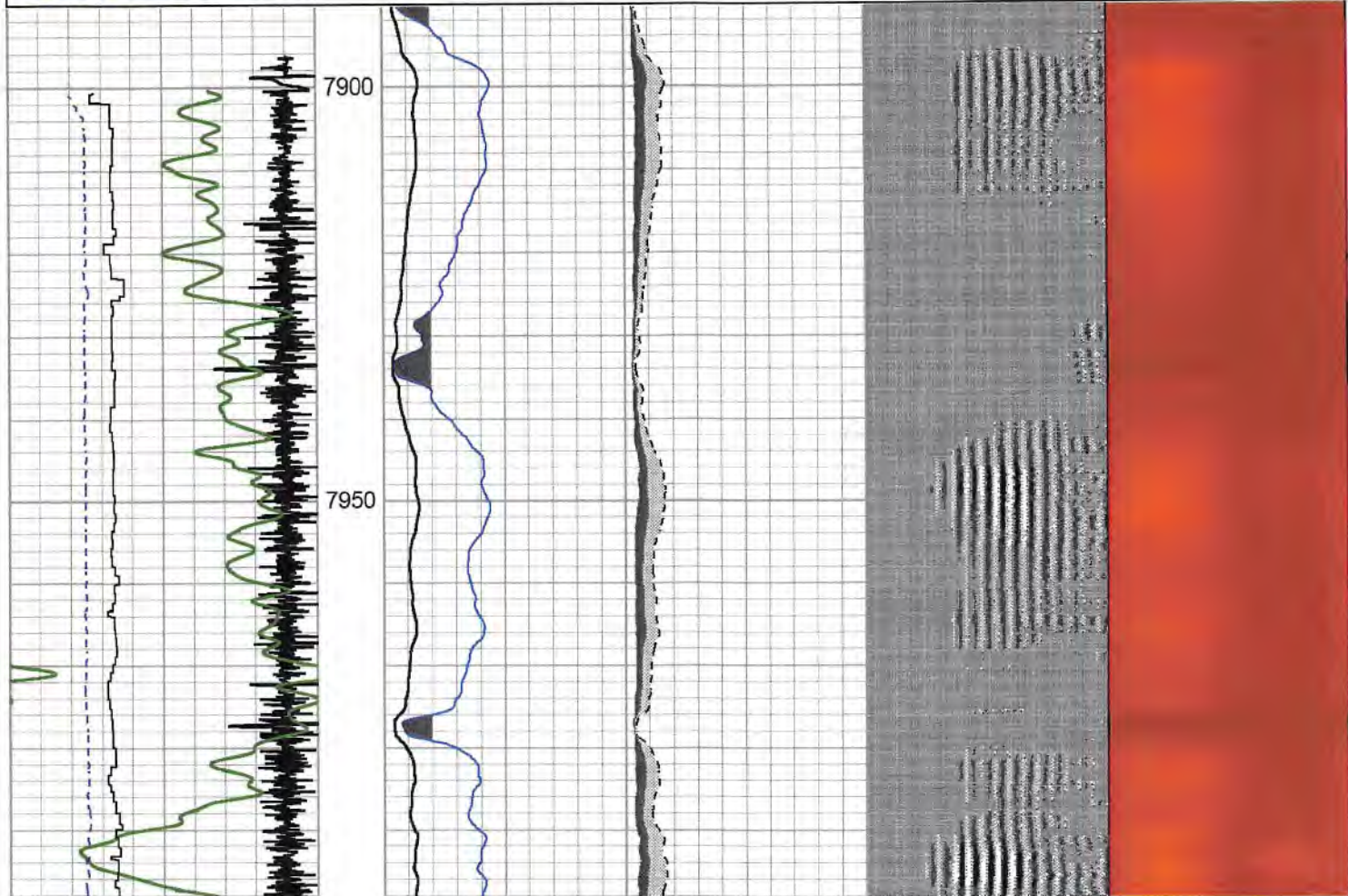


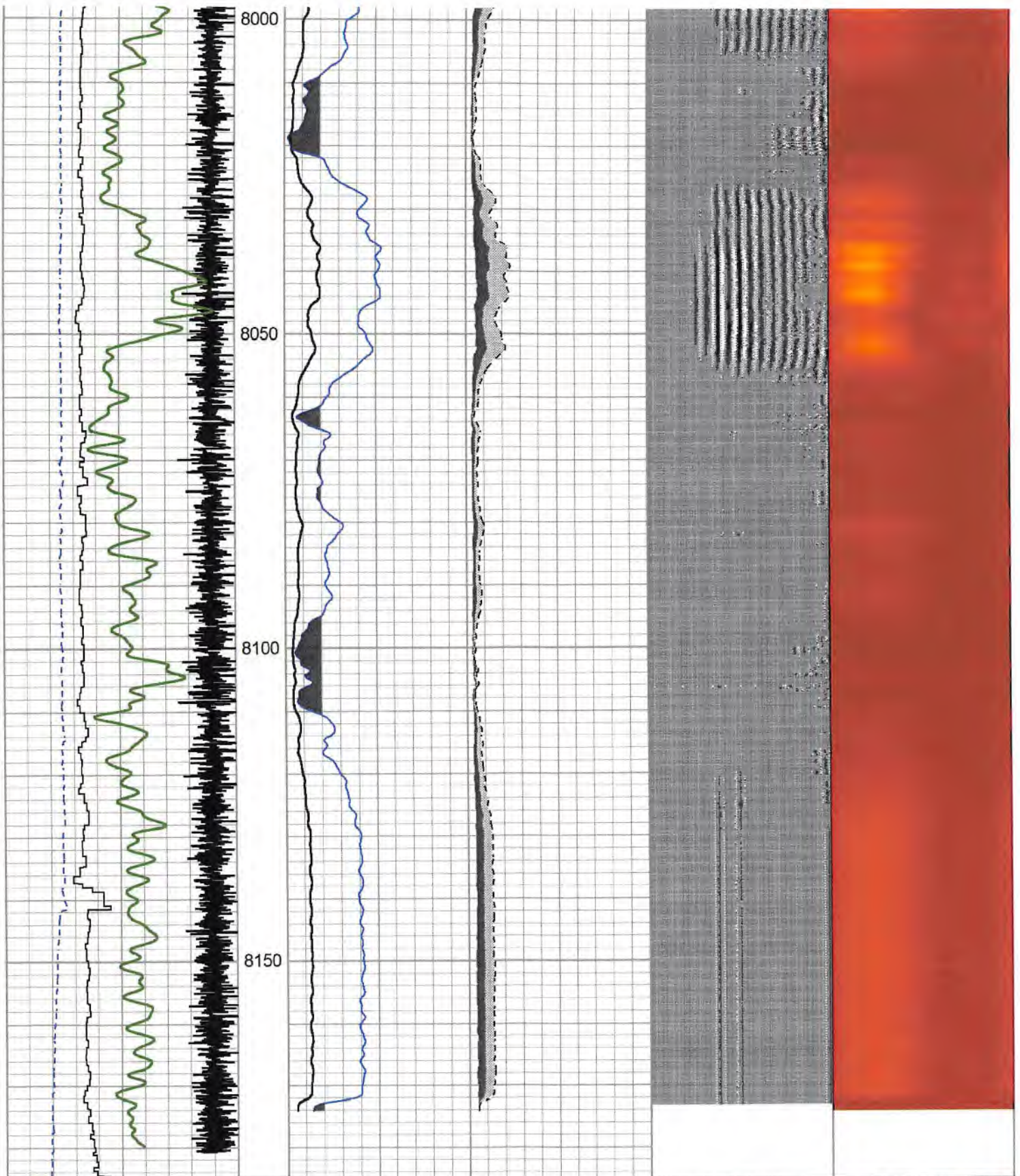
275	Travel Time (usec)	175	0	Amplitude (mV)	100	-5	AMPMIN	150	Variable Density	1	Cement Map	8
9	CCL\$1	-1	1	BONDIX	0	-5	AMPMAX	150	200	(usec)	1200	
0	Gamma Ray (GAPI)	150				-5	AMPAVG	150				
Line Speed												
-200	(ft/min)	200										
0	Line Tension (lb)	5000										

	REPEAT LOG
	1500 PSI APPLIED

Database File	d:\antero_furbee_eckleberry2h_rcbl_26_nov_2022.db
Dataset Pathname	ECKLEBERRY2H/REPEAT/PASS6
Presentation Format	prb_rbt8
Dataset Creation	Sat Nov 26 18:35:33 2022
Charted by	Depth in Feet scaled 1:240

275	Travel Time (usec)	175	0	Amplitude (mV)	100	-5	AMPMIN	150	Variable Density	1	Cement Map	8
9	CCL\$1	-1	1	BONDIX	0	-5	AMPMAX	150	200	(usec)	1200	
0	Gamma Ray (GAPI)	150				-5	AMPAVG	150				
Line Speed												
-200	(ft/min)	200										
0	Line Tension (lb)	5000										





275	Travel Time (usec)	175	0	Amplitude (mV)	100	-5	AMPMIN	150	Variable Density	1	Cement Map	8
9	CCL\$1	-1	1	BONDIX	0	-5	AMPMAX	150	200	(usec)	1200	
0	Gamma Ray (GAPI)	150				-5	AMPAVG	150				
Line Speed												
-200	(ft/min)	200										
0	Line Tension (lb)	5000										

Log Variables

Databased:\antero_furbee_eckleberry2h_rcbl_26_nov_2022.db
 Dataset field/ECKLEBERRY2H/MAIN/PASS1/_vars_

Top - Bottom

BOREID in 7.875	BOTTEMP degF 100	CASEOD in 5.5	CASETHCK in 0	CASEWGHT lb/ft 23	MAXAMPL mV 71.9	MINAMPL mV 3.4	MINATTN db/ft 0.8
PERFS No	PPT usec 273	SRFTEMP degF 0	TDEPTH ft 0				

Variable Description

BOREID : Borehole I.D.	CASEWGHT : Casing Weight	PERFS : Perforation Flag
BOTTEMP : Bottom Hole Temperature	MAXAMPL : Maximum Amplitude	PPT : Predicted Pipe Time
CASEOD : Casing O.D.	MINAMPL : Minimum Amplitude	SRFTEMP : Surface Temperature
CASETHCK : Casing Thickness	MINATTN : Minimum Attenuation	TDEPTH : Total Depth

Calibration Report

Database File d:\antero_furbee_eckleberry2h_rcbl_26_nov_2022.db
 Dataset Pathname ECKLEBERRY2H/MAIN/PASS1
 Dataset Creation Sat Nov 26 18:42:32 2022

Gamma Ray Calibration Report

Serial Number: GC275-0BP0_base
 Tool Model: GC275-0BP0
 Performed: (Not Performed)

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: RBT275C_Base
 Tool Model: RADII-275C

Calibration Casing Diameter: 5.500 in
 Calibration Depth: 53.075 ft

Master Calibration, performed Sat Nov 26 10:33:20 2022:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.009	0.314	3.400	71.921	211.964	5.382
CAL	-0.009	1.814				
5'	-0.009	0.325	3.400	71.921	205.057	5.302
SUM						
S1	-0.010	0.338	0.000	100.000	287.620	2.746
S2	-0.009	0.341	0.000	100.000	285.038	2.665
S3	-0.009	0.334	0.000	100.000	291.520	2.765
S4	-0.010	0.336	0.000	100.000	289.174	2.824
S5	-0.009	0.326	0.000	100.000	298.205	2.807
S6	-0.009	0.318	0.000	100.000	305.466	2.867
S7	-0.010	0.317	0.000	100.000	305.911	2.980
S8	-0.009	0.323	0.000	100.000	300.988	2.836

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.009	1.814	1.000	0.000

Air Zero Calibration, performed Sat Nov 26 10:32:00 2022:

	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

Inclinometer Calibration Report

Performed:	Mon Jan 24 10:23:58 2022				
	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	-918.00	908.00	-1.00	1.00	gee
Y Accelerometer	-941.00	887.00	-1.00	1.00	gee
Z Accelerometer	1.35	894.18	0.00	1.00	gee



Company Antero Resources
 Well ECKLEBERRY 2H
 Field Wetzel
 County Wetzel
 State WV