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Office of Oil and Gas

OCT 27 2023

WV Department of
Environmental Protection



Radial Cement Bond
Gamma Ray CCL
Temperature Log

Company	Antero Resources Corporation	Company	Antero Resources Corporation
Well	Shotter Unit 2H	Well	Shotter Unit 2H
Field	White Oak	Field	White Oak
County	Doddridge	County	Doddridge
State	WV	State	WV
API # :	47-017-06946-00-00	Other Services	None
AFE # :	A12502-C	Elevation	1100'
Location (LAT,LON):	39.177511, -80.833681	Permanent Datum	KB = 30' above GL
Township:	N/A	Log Measured From	KB
Drilling Measured From	KB	Drilling Measured From	KB

Date	09 JUNE 2023		
Run Number	One		
Depth Driller (ft)	16978		
Depth Logger (ft)	6785		
Bottom Logged Interval (ft)	6772		
Top Log Interval	Surface		
Open Hole Size (in)	8.5		
Type Fluid	Water		
Density / Viscosity (lb/gal)	8.4		
Max. Recorded Temp. (°F)	145.7		
Estimated Cement Top (ft)	2121		
Time Well Ready	12:00 PM		
Time Logger on Bottom	10:23 PM		
Equipment Number	8018		
Location	Smithton, PA		
Recorded By	T. Trump		
Witnessed By	R. Reed		
Casing Record	Size (in)	Weight (lb/ft)	Top (ft)
Conductor String	20	91.59	Surface
Surface String	13.375	54.5	Surface
Intermediate String	9.625	36	Surface
Production String	5.5	23	Surface
			Bottom (ft)
			130
			424
			2853
			16938

Inclination Information (Approximated Values from Directional Survey)			
KOP	30°	60°	90°
1880' / 5960'	6290'	6620'	7120'

THANK YOU FOR USING GR ENERGY SERVICES

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

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 Bottom Log Marker Joint
Log Adjusted -6

Marker Joint Located @ 5588' - 5598'
Marker Joint Located Above/Below Casing Tally Value

Maximum Temperature Recorded was 145.7°F
Maximum Tension was 1049 lbs

Estimated Top of Cement @ 2121'

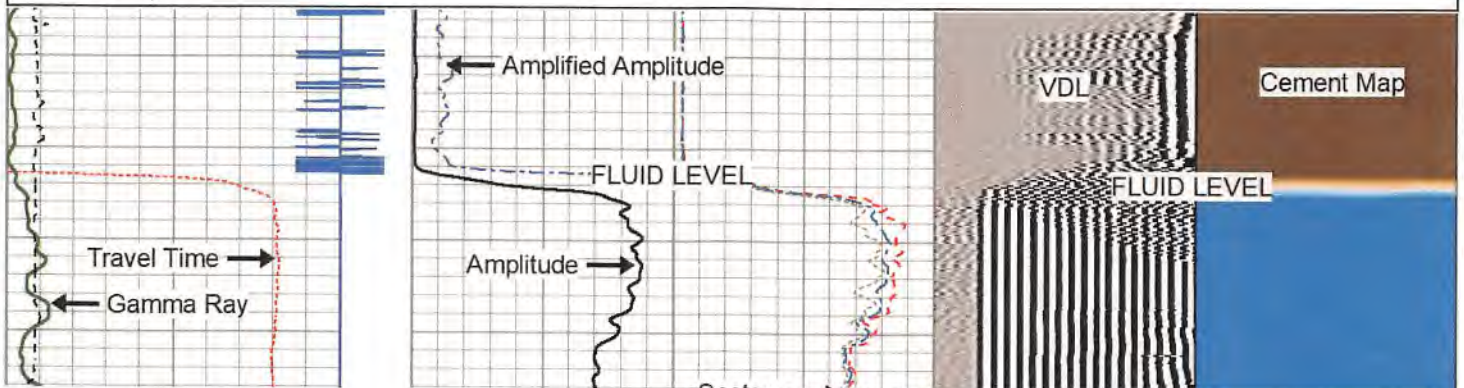


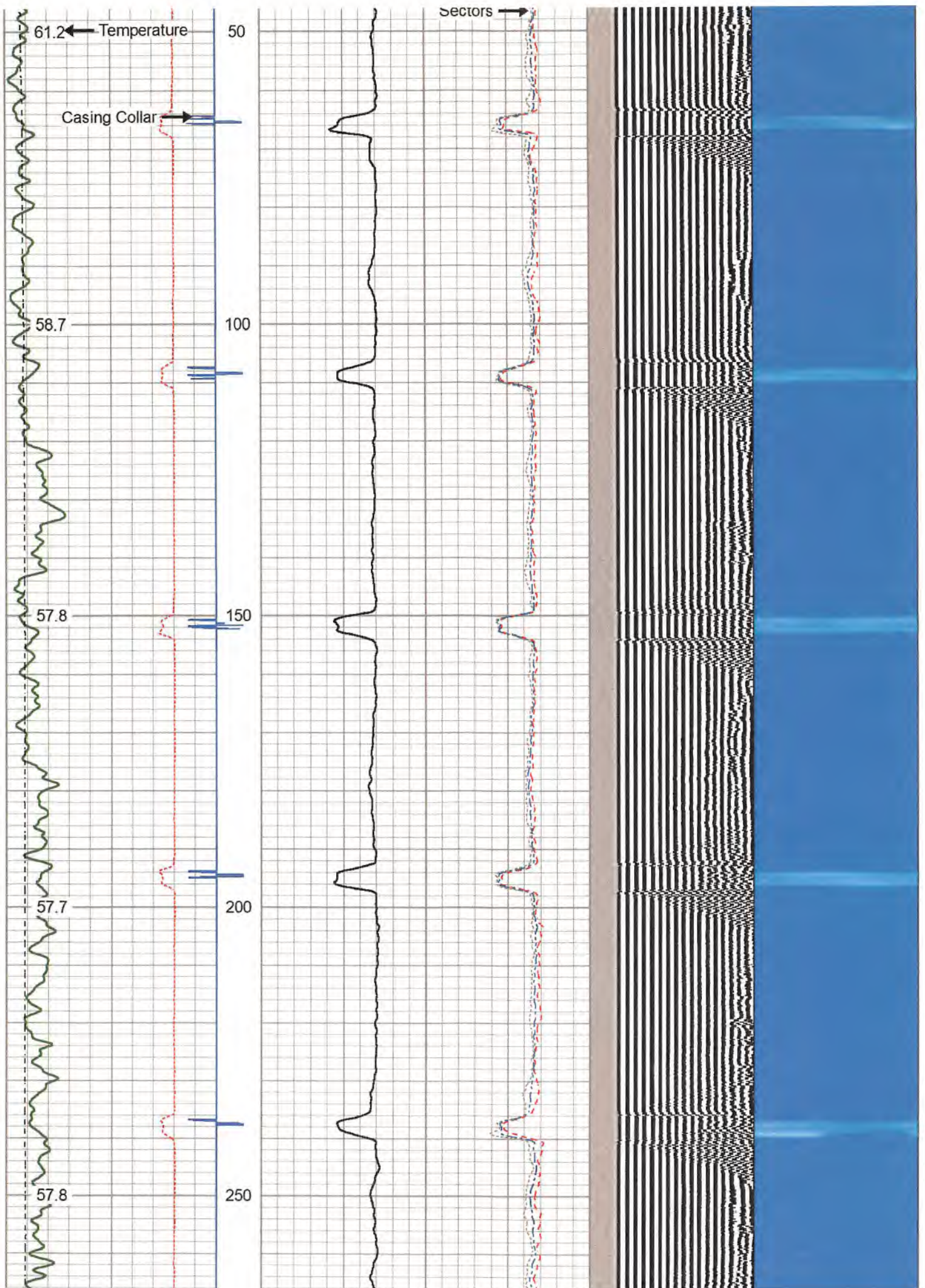
Main Pass

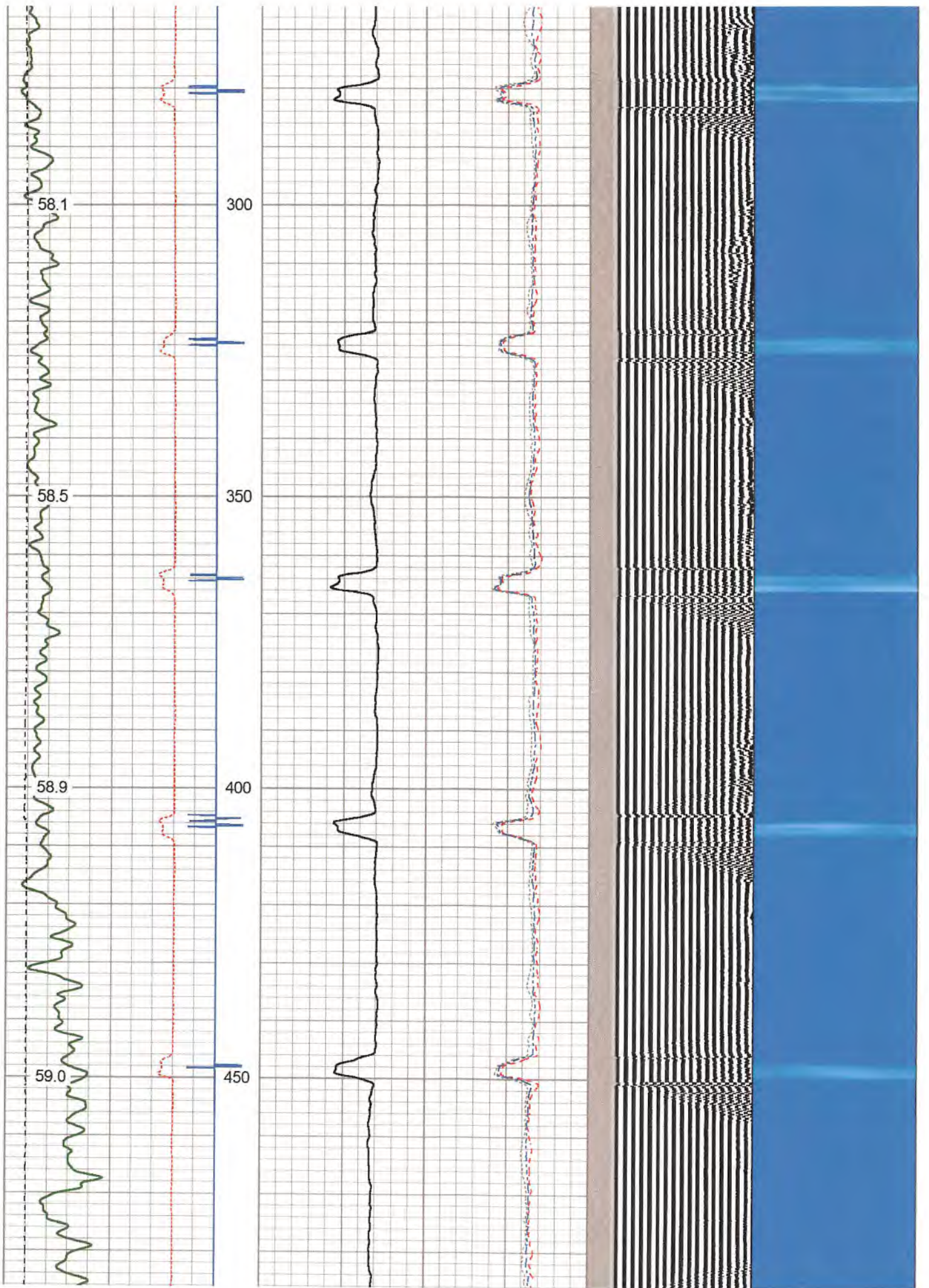
(1500 PSI)

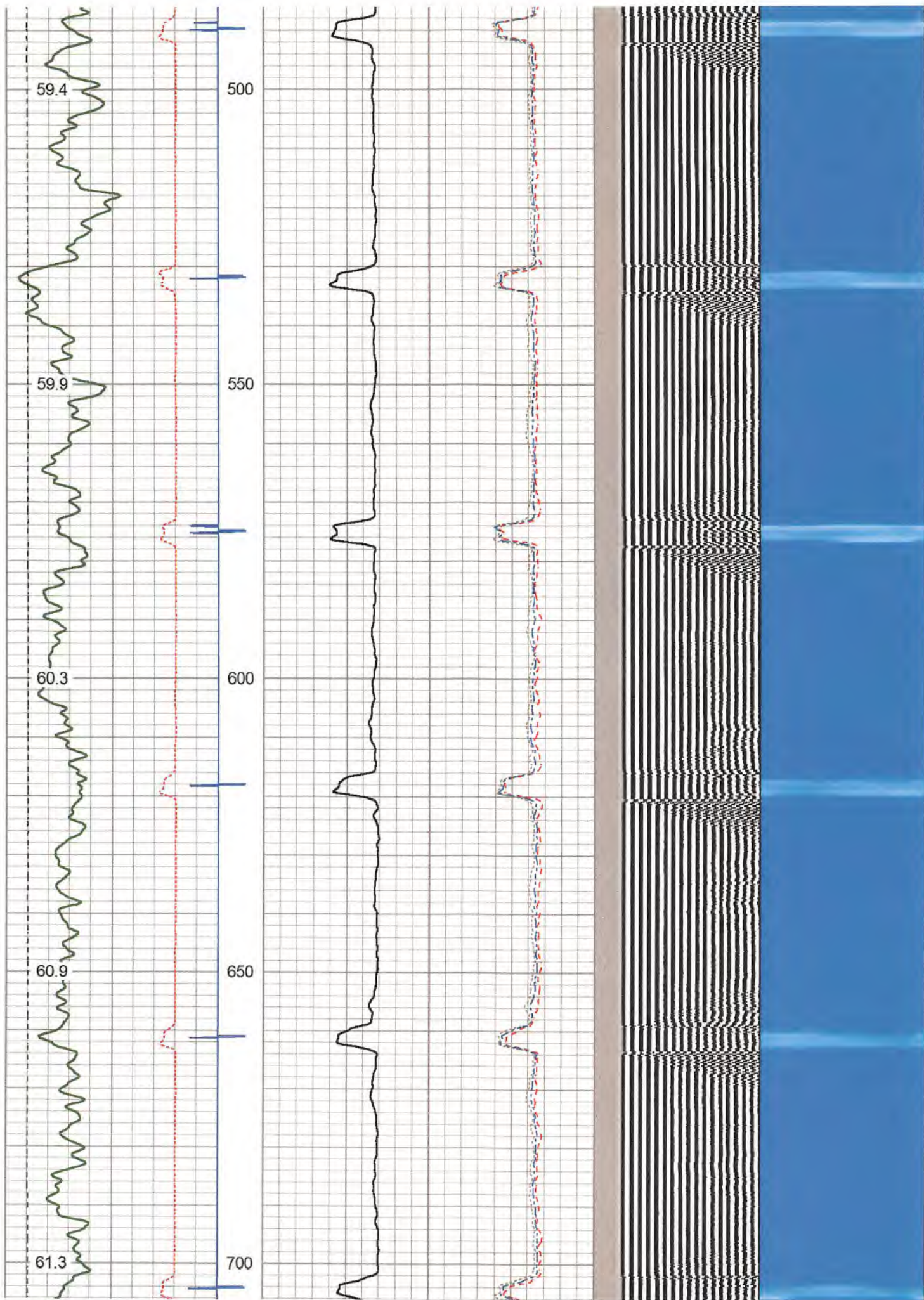
Database File c:\users\logbox\desktop\antero\antero_shotter_2h.db
Dataset Pathname rcb/pass4
Presentation Format rcb_std_bw_tt
Dataset Creation Fri Jun 09 22:40:15 2023
Charted by Depth in Feet scaled 1:240

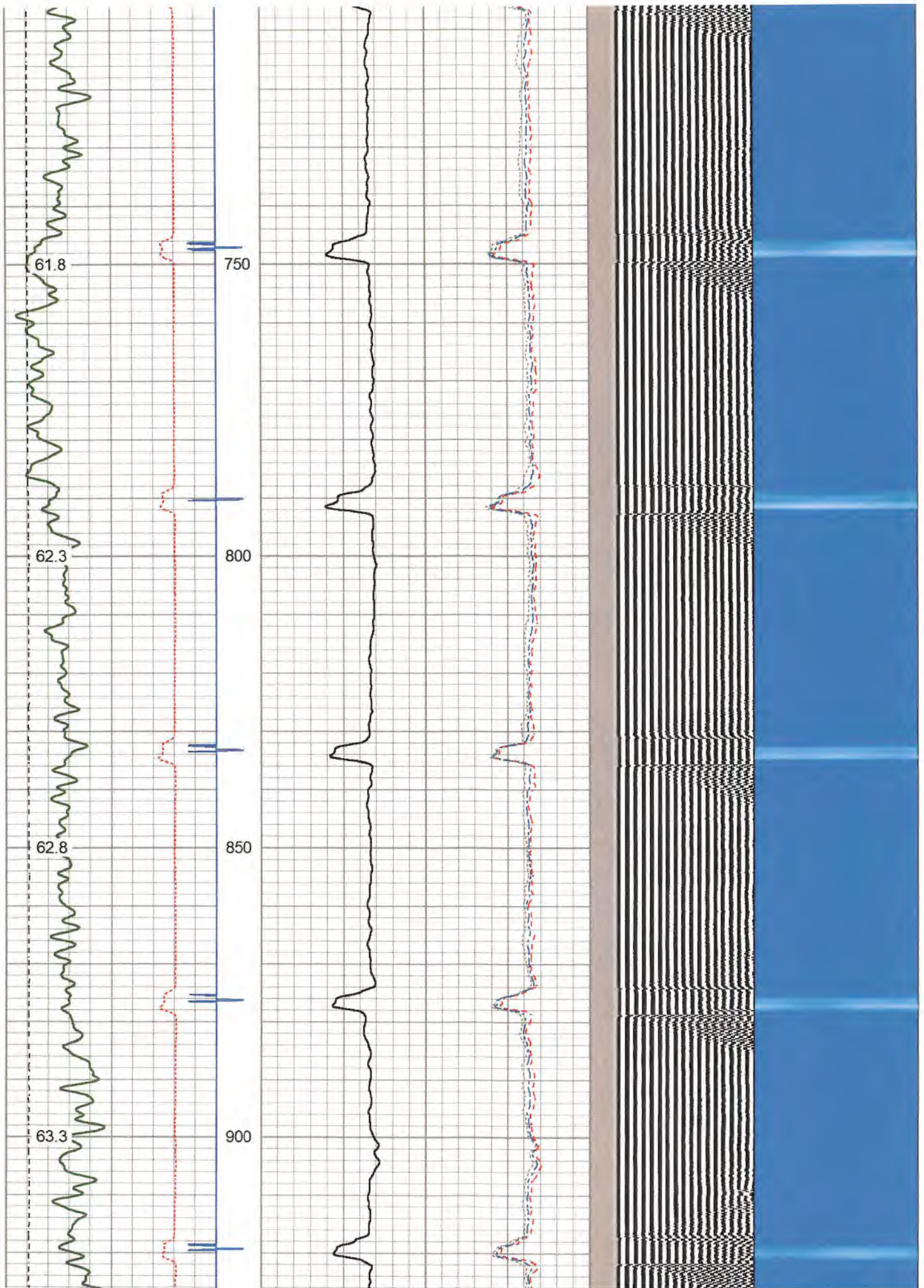
340	TT (usec)	240	Amplitude	-5	AMPMin	150	200	VDL (usec)	1200	Cement Map
0	GR (GAPI)	150	(mV)	100	-5	AMPMax	150			
0	LTEN (lb)	3000	Amplified Amplitude	-5	AMPAvg	150				
TEMP		CCL	(mV)	10						
(degF)										

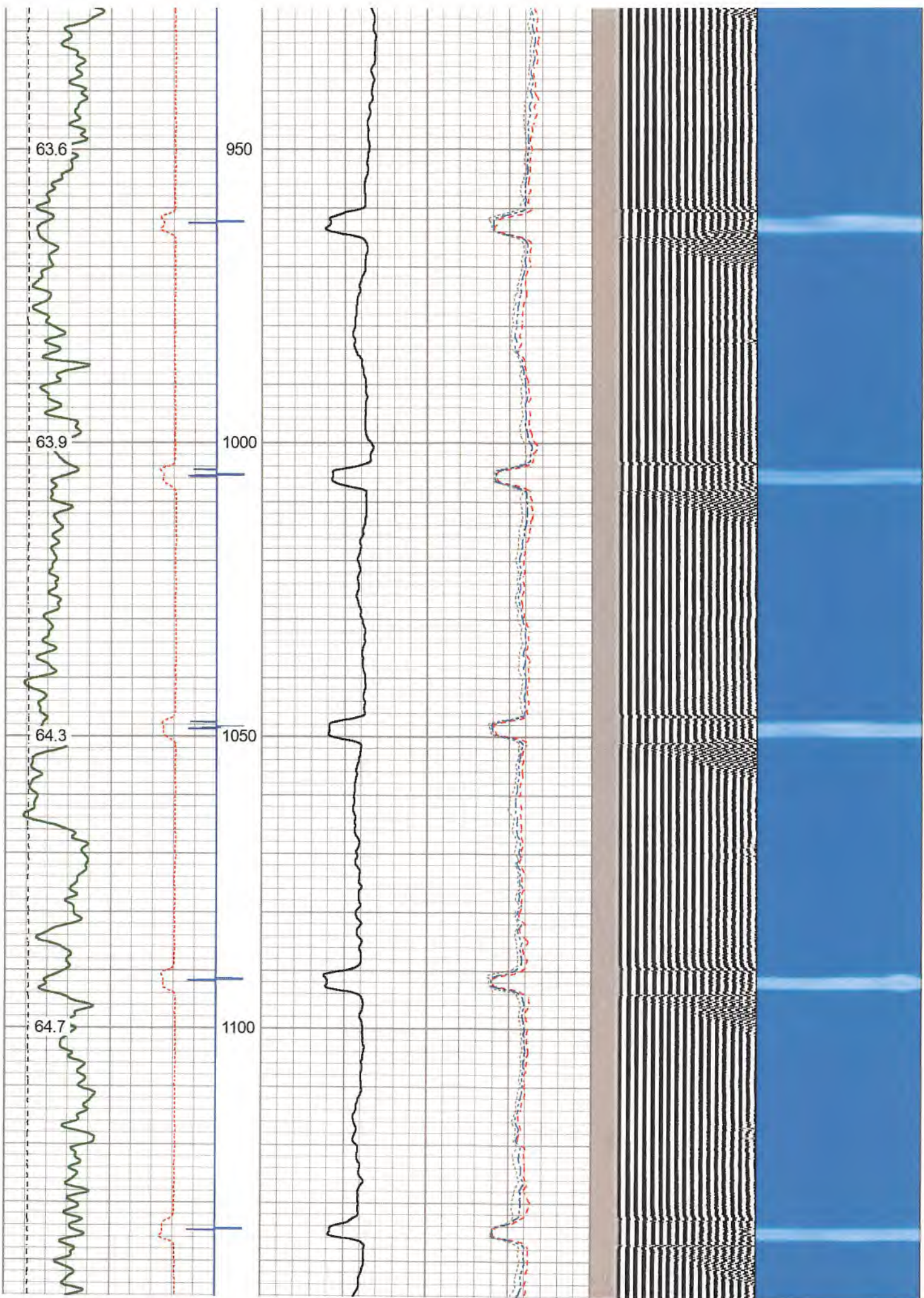


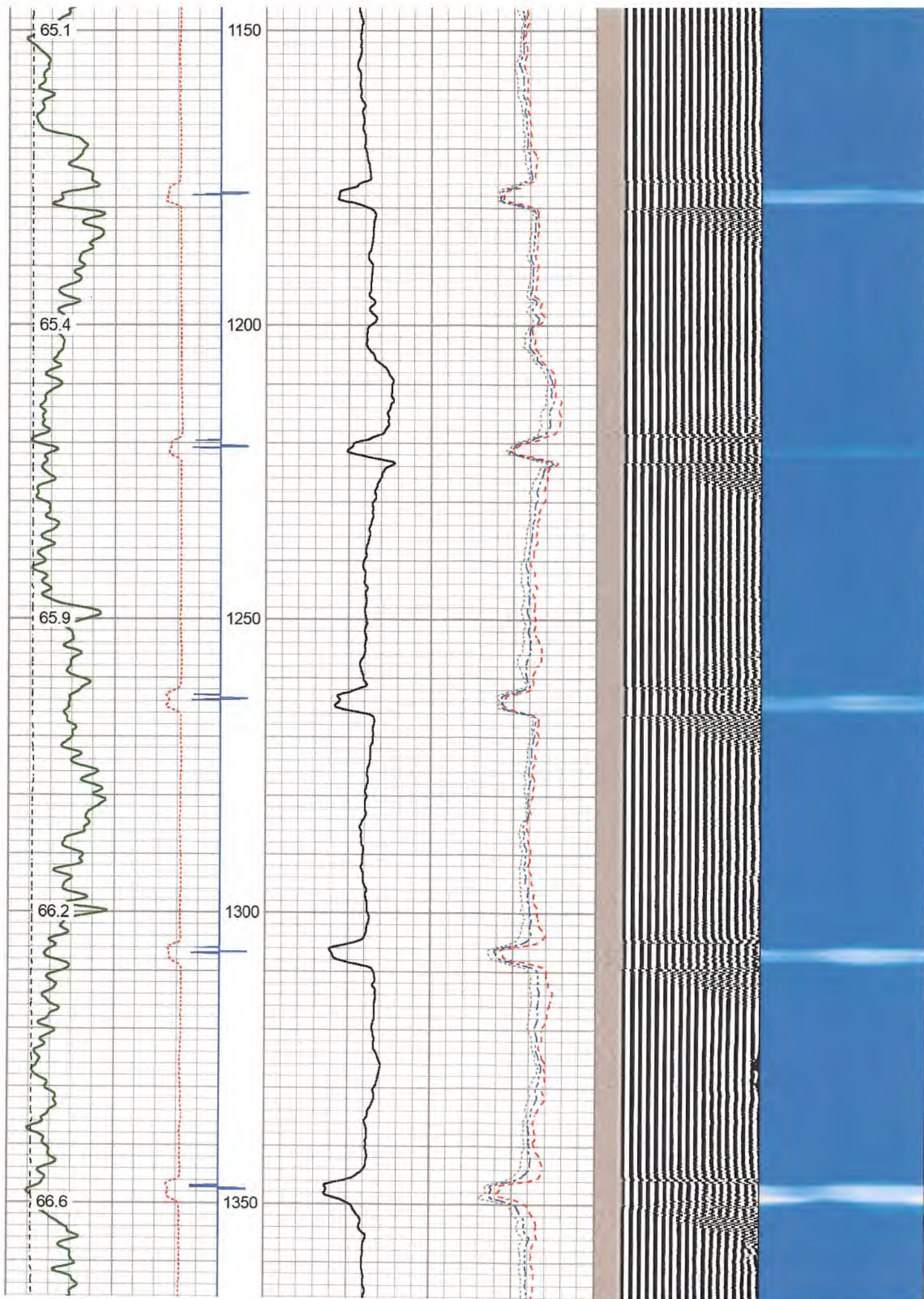


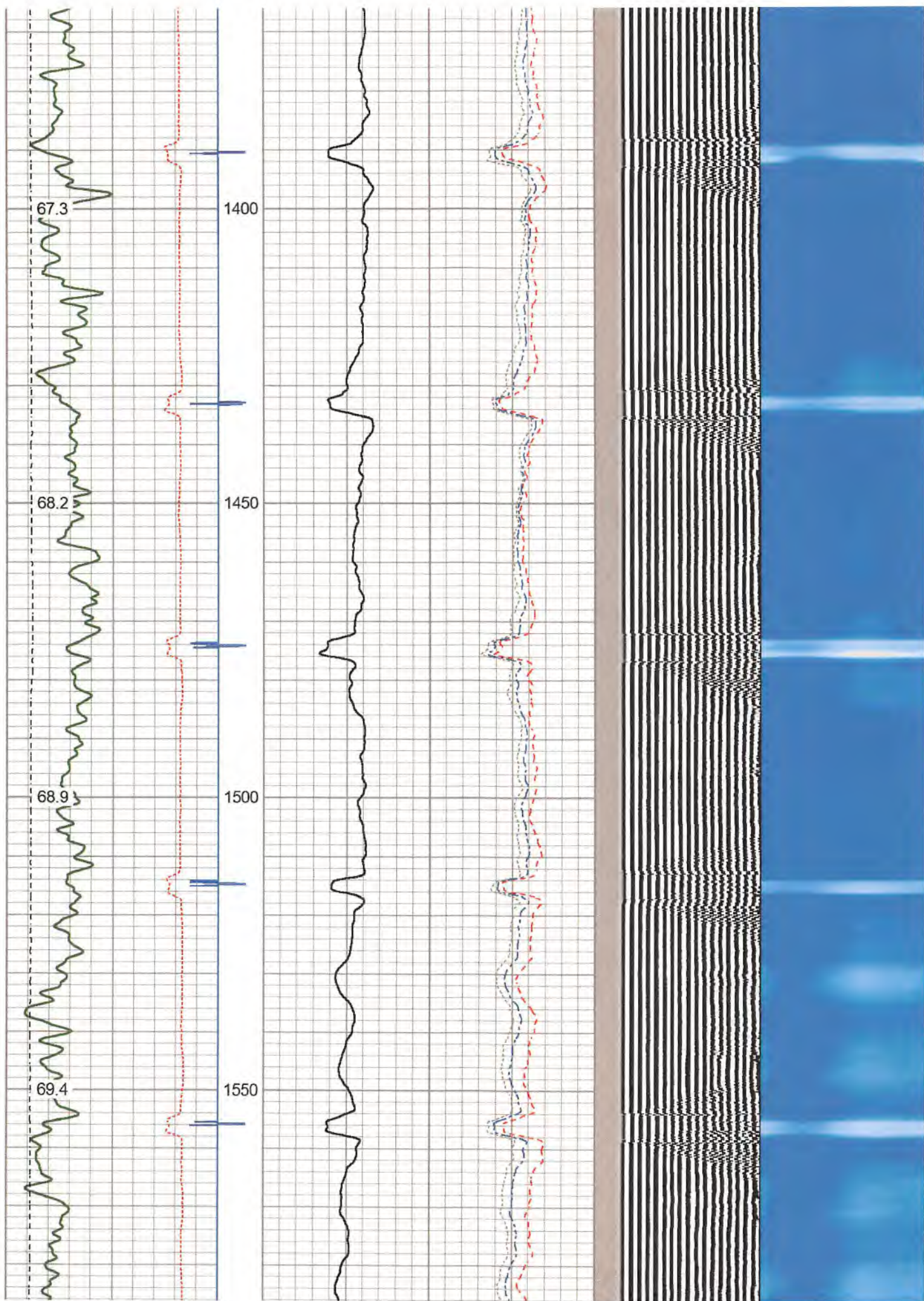


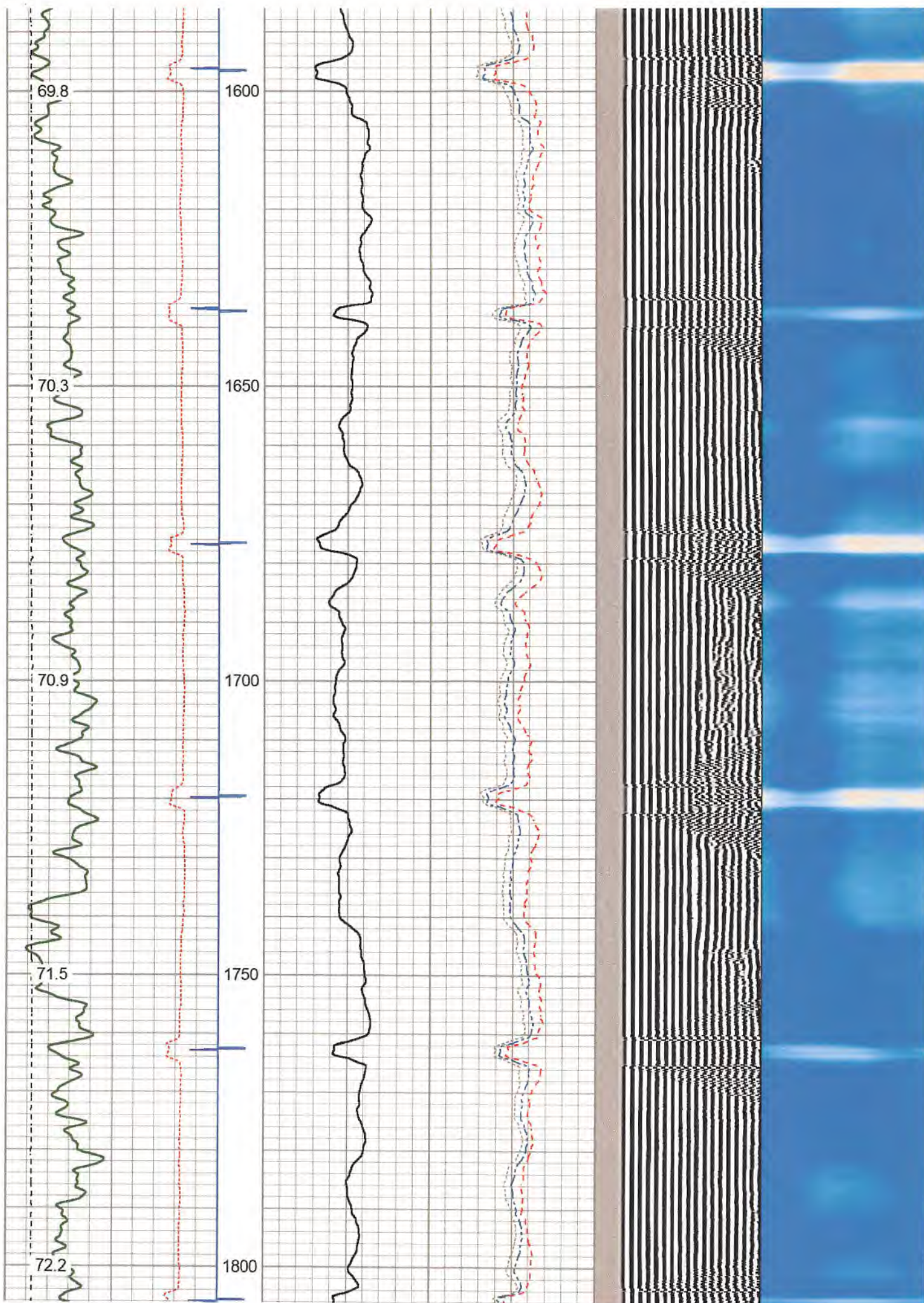


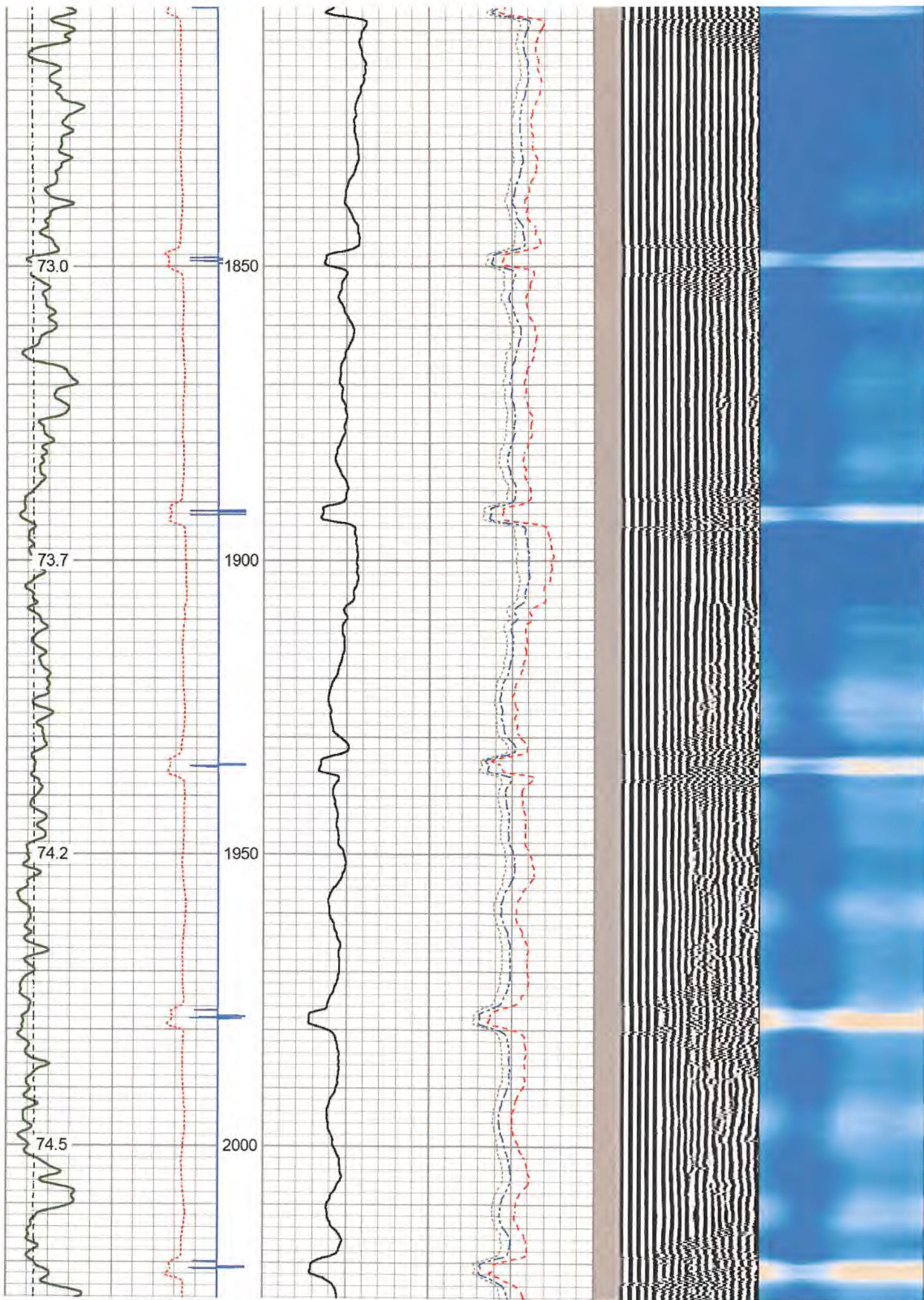


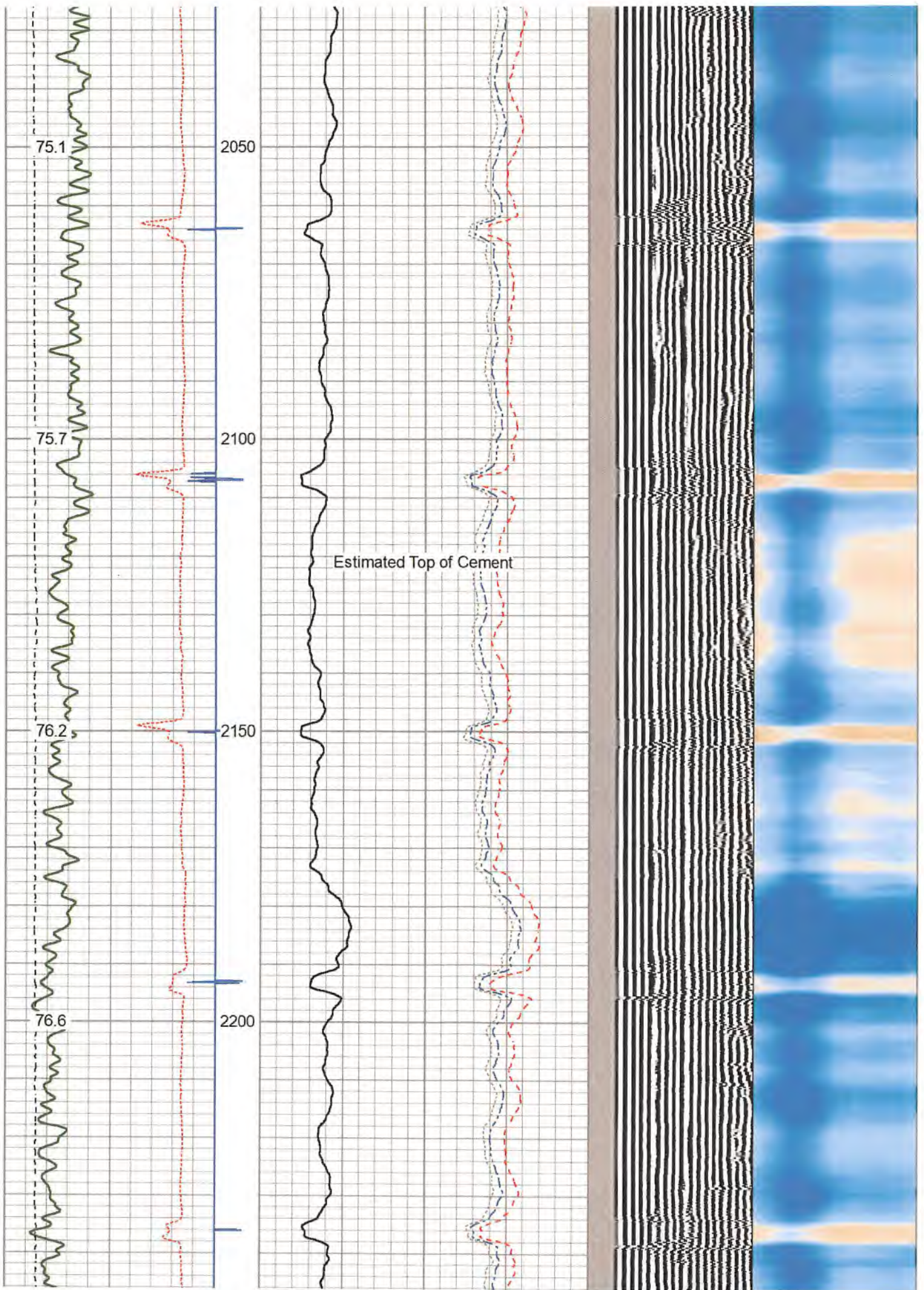


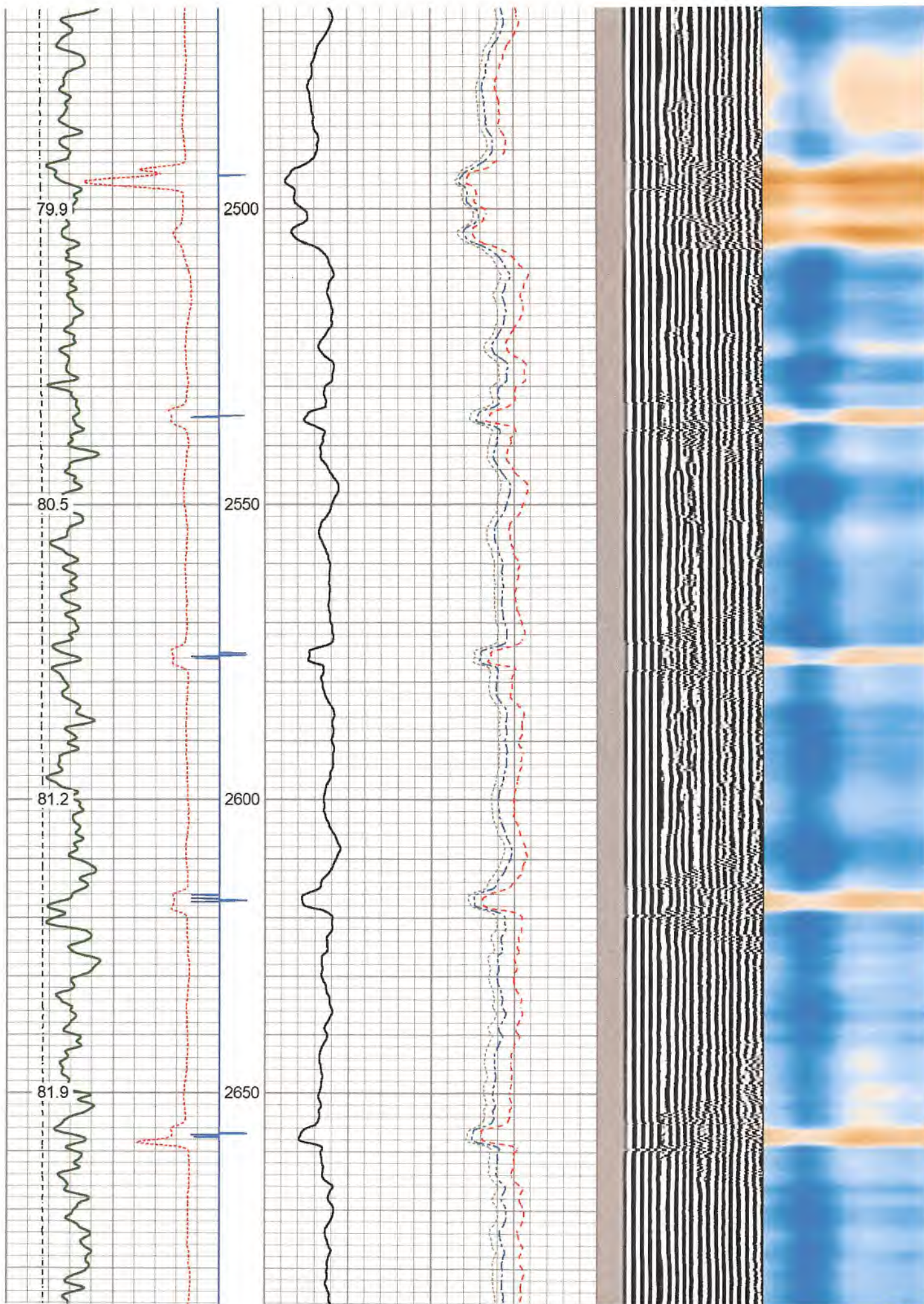


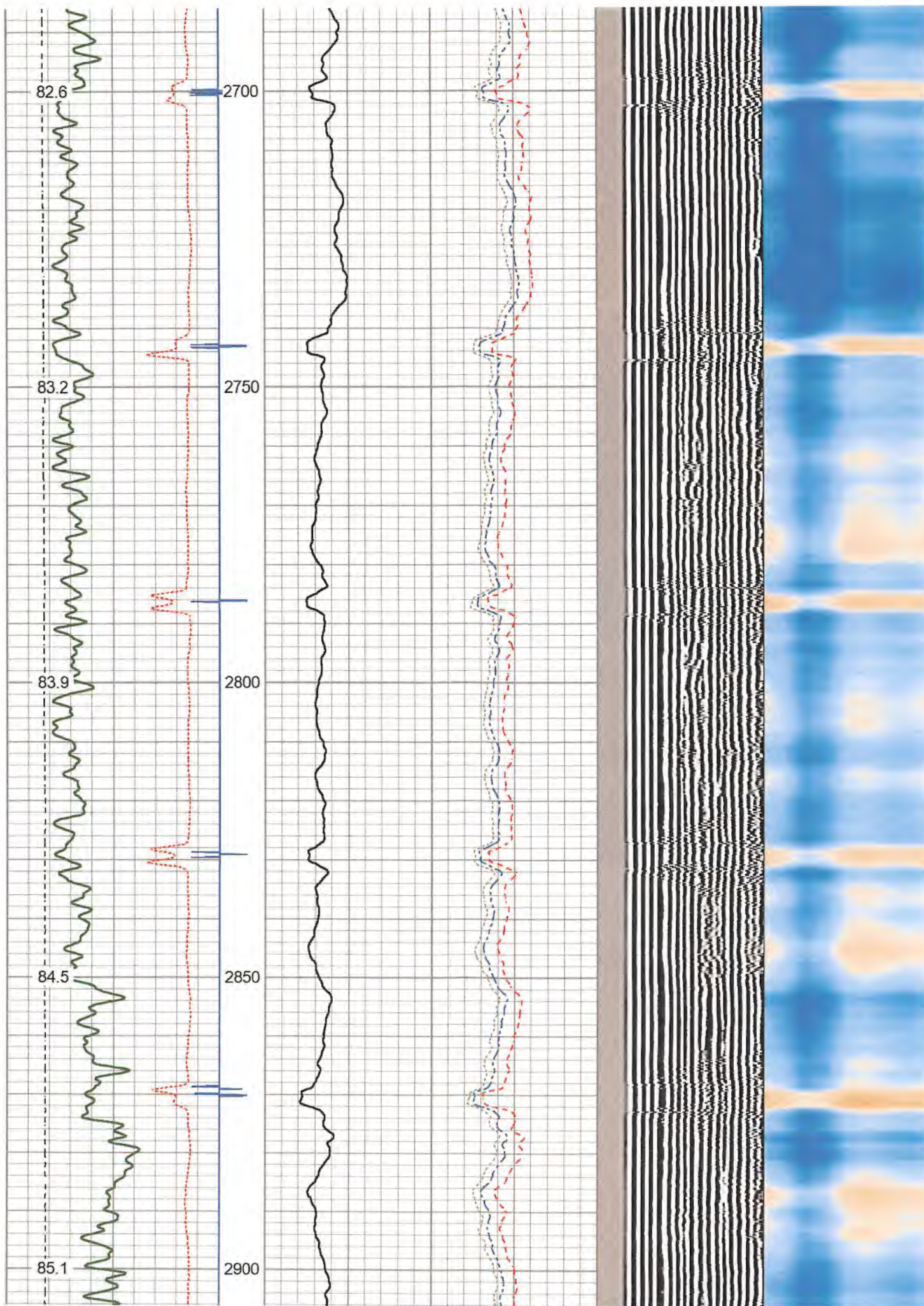


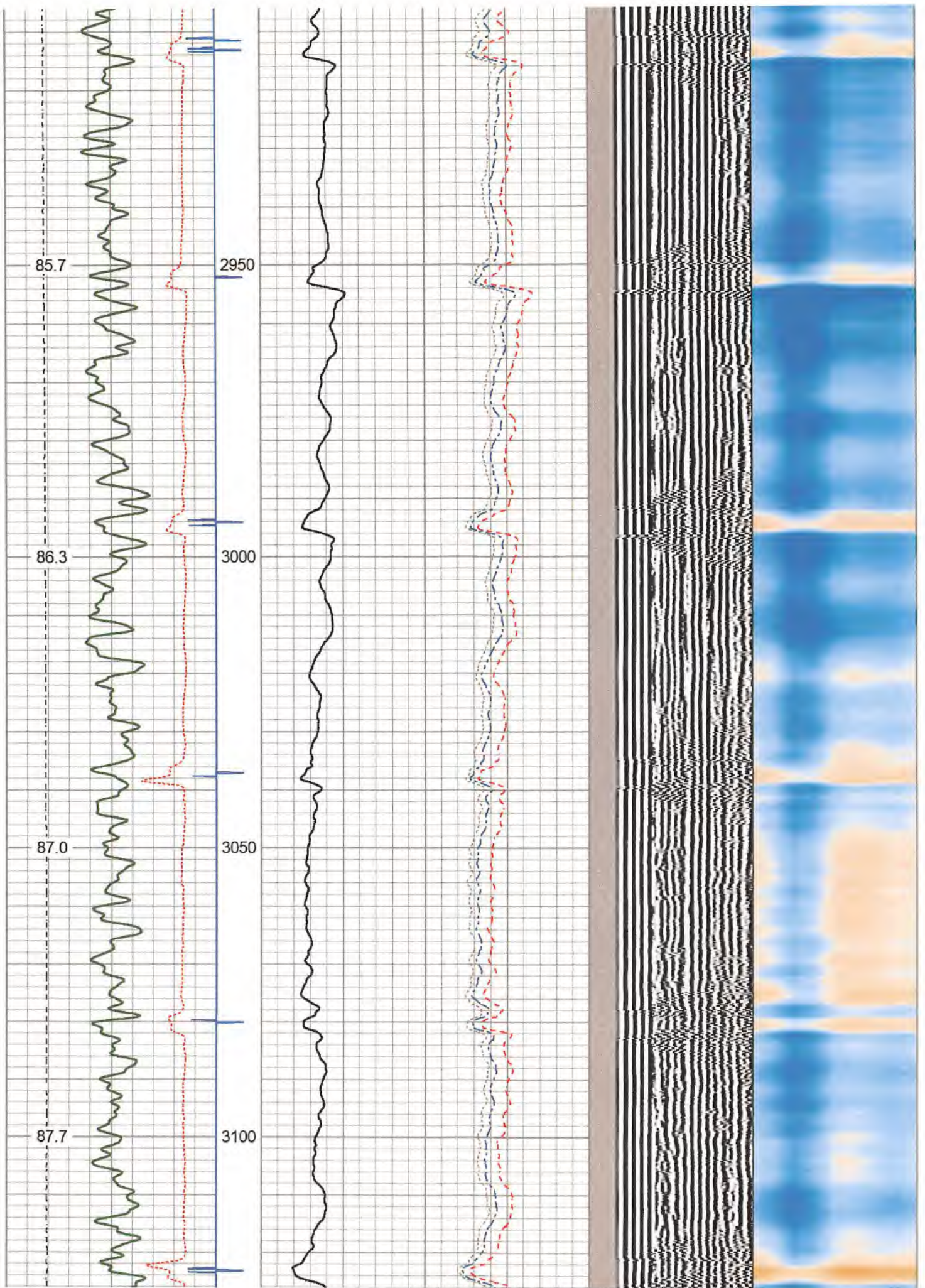


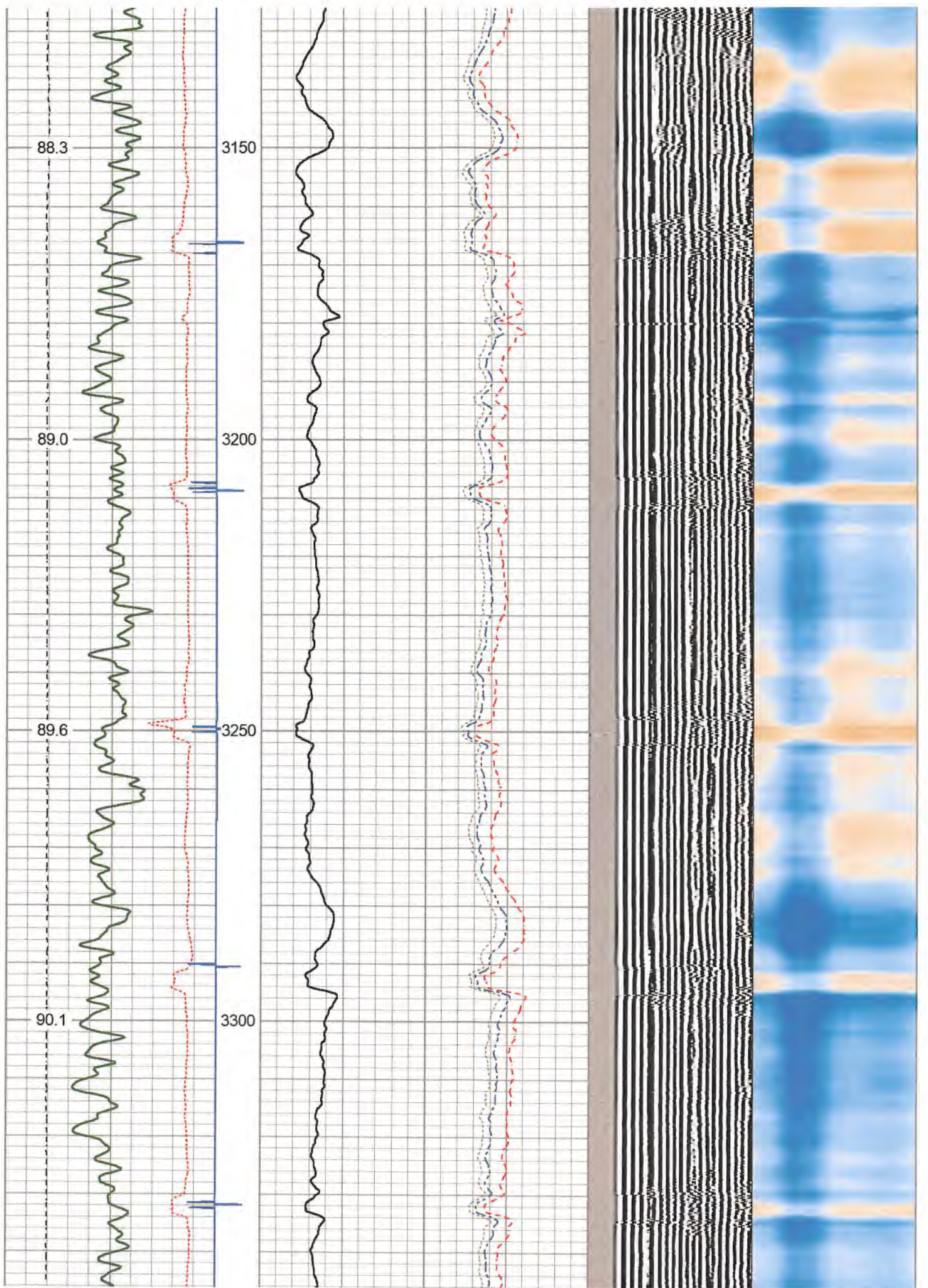


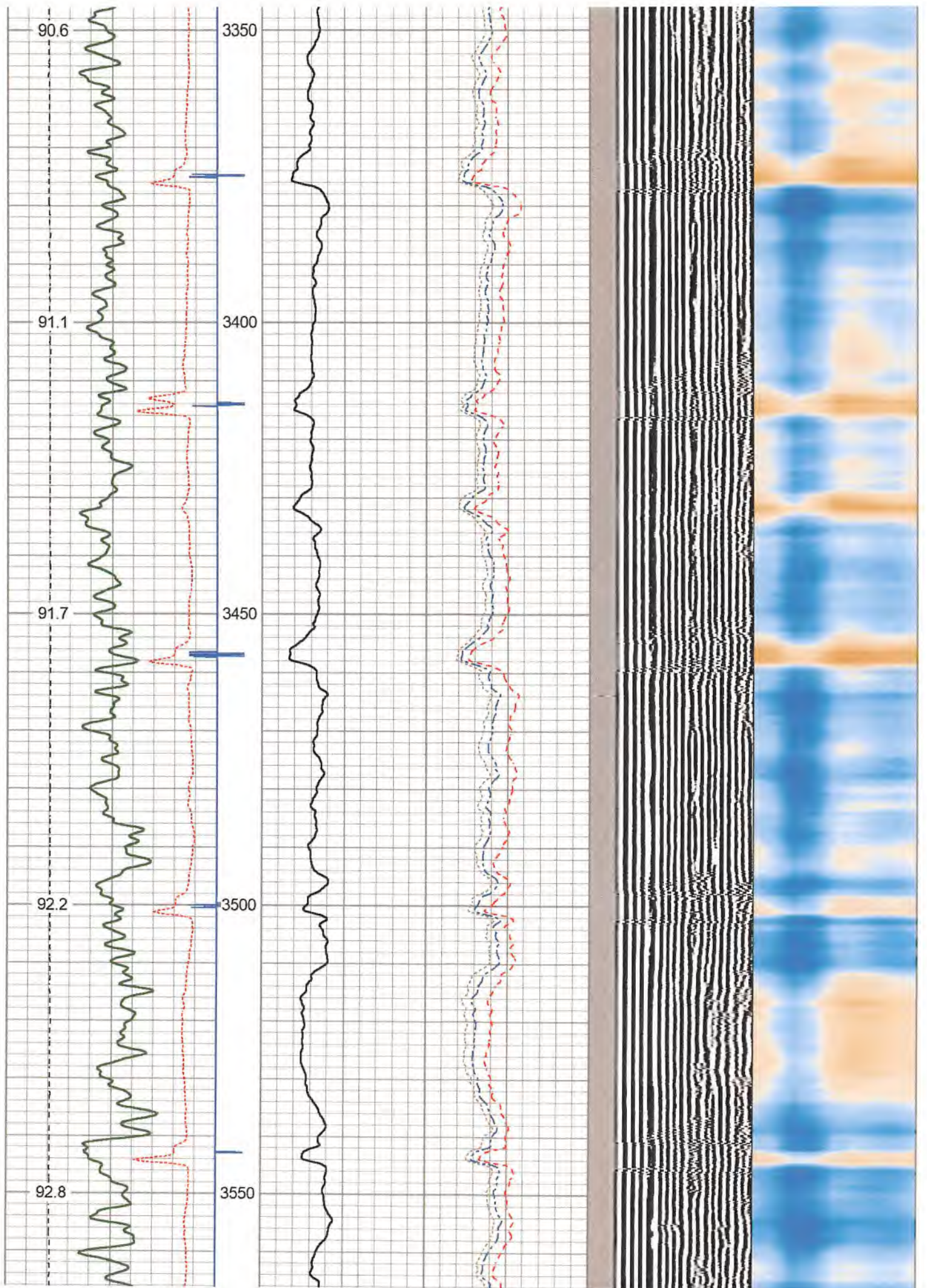


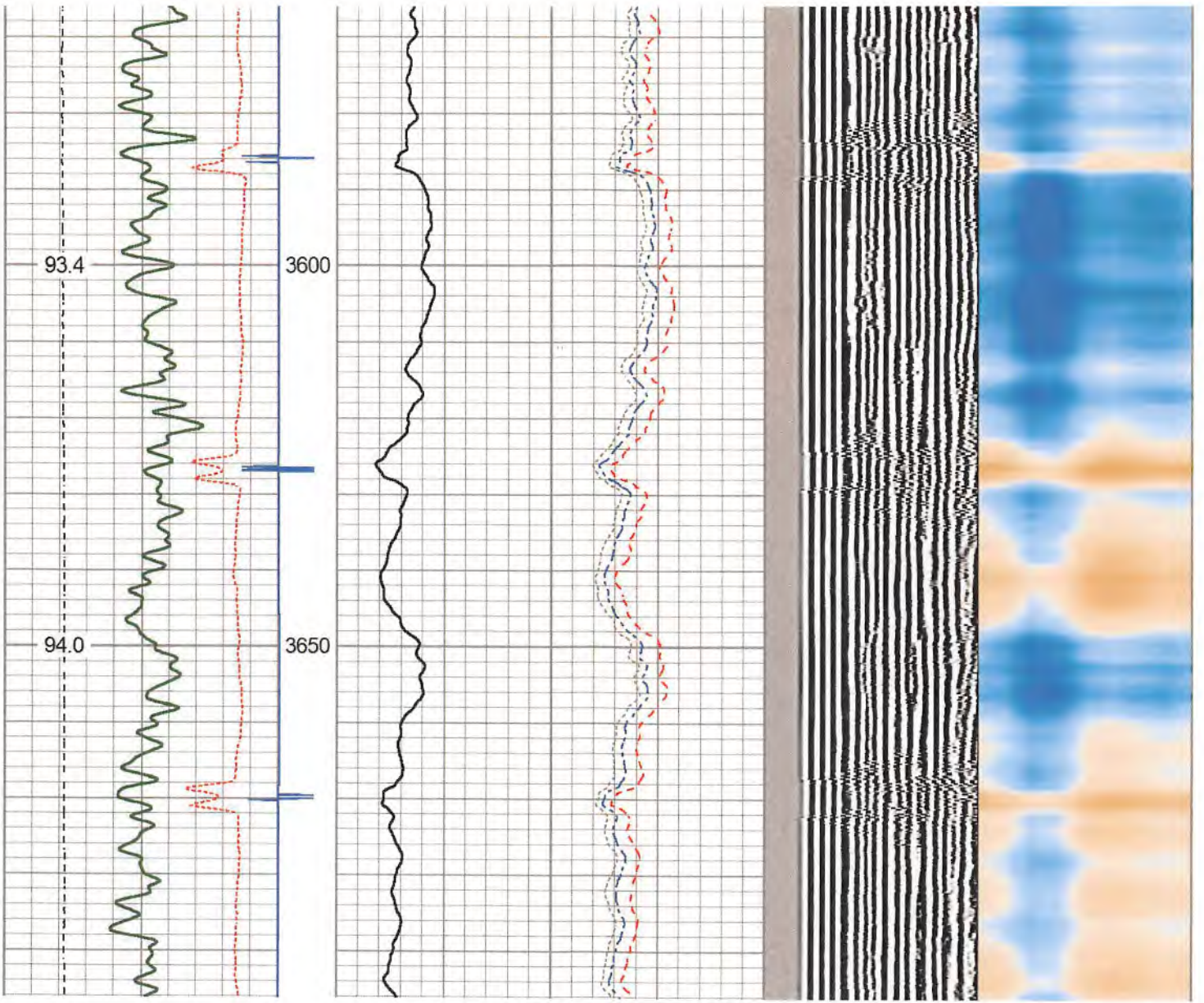


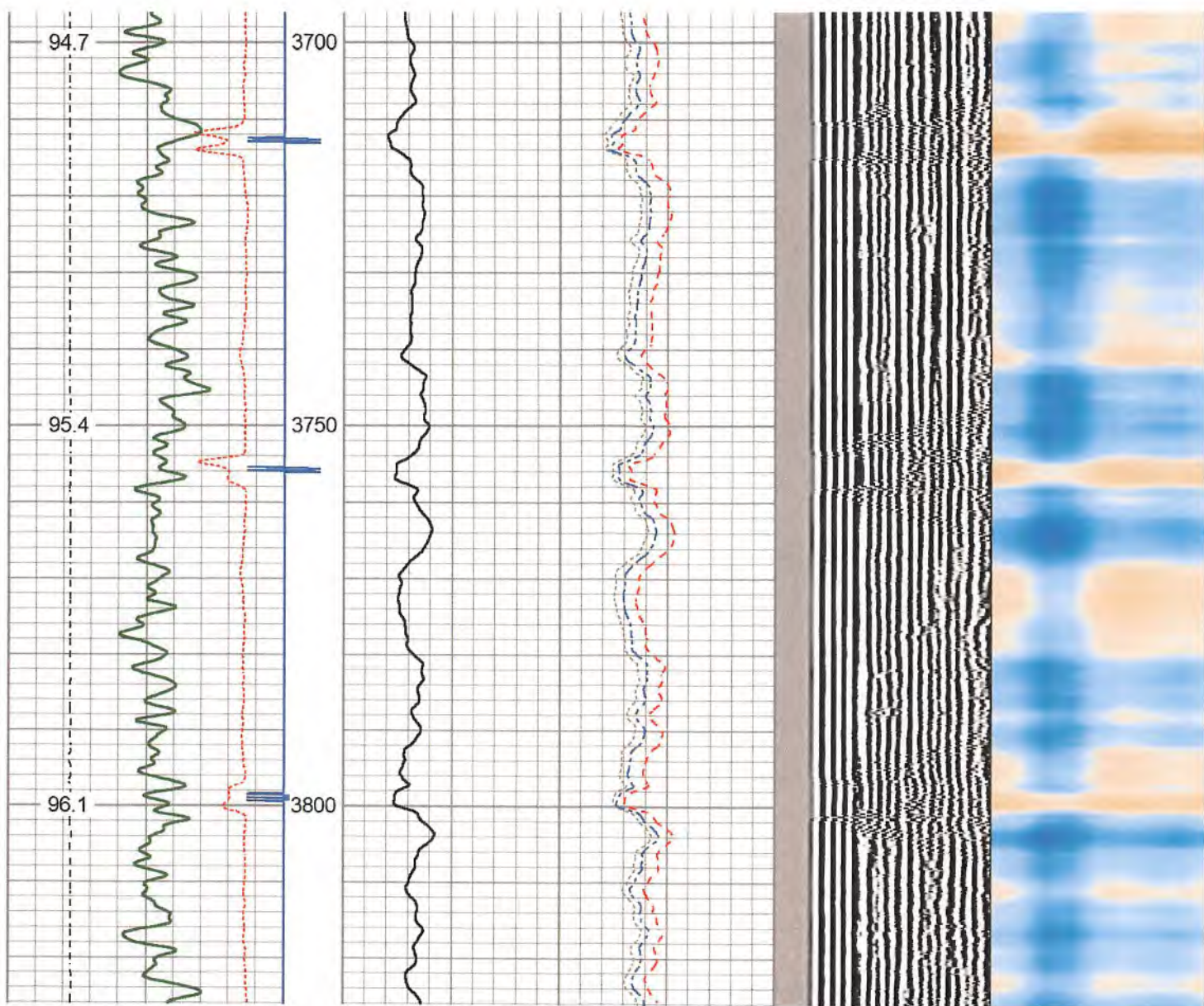


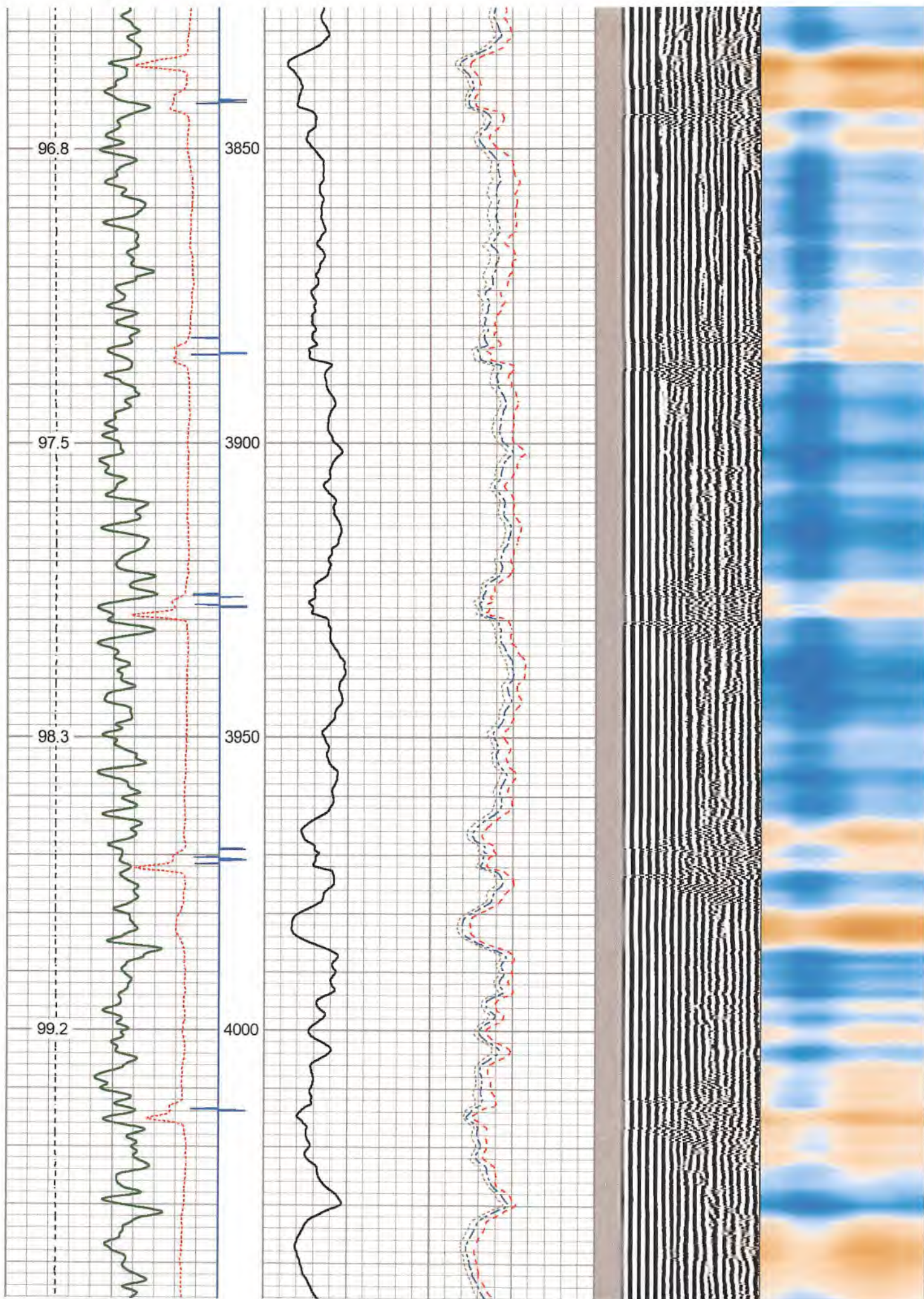


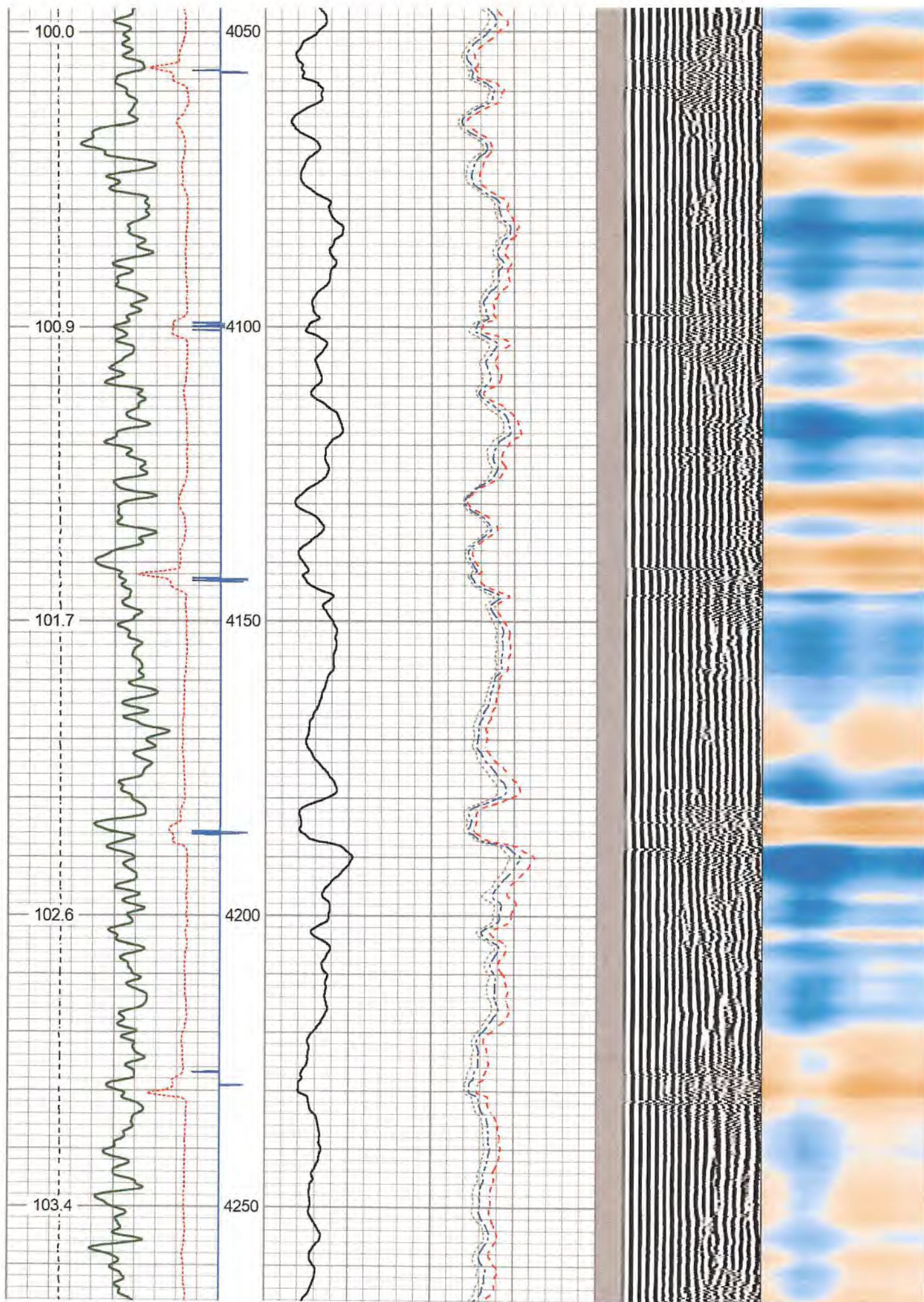


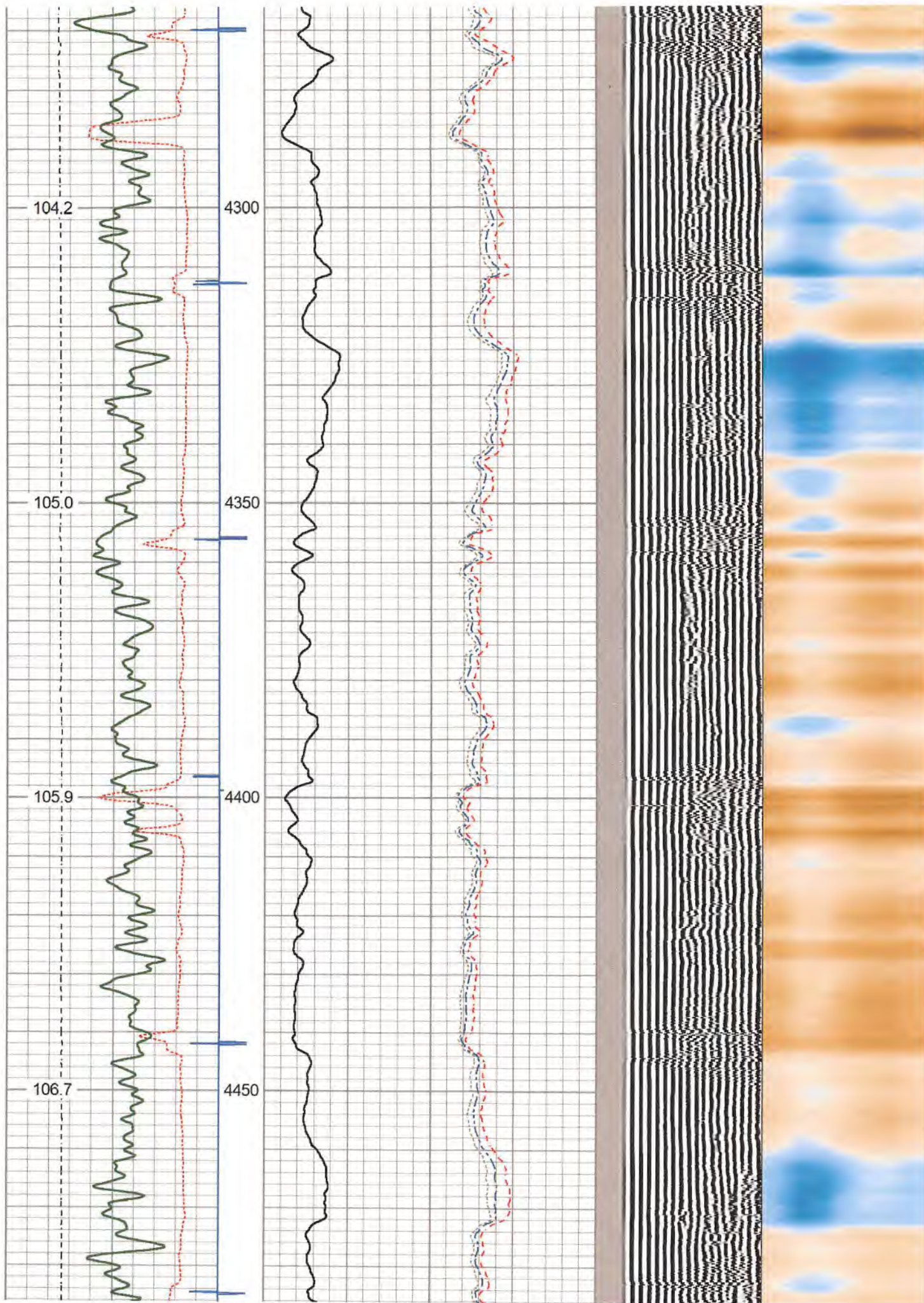


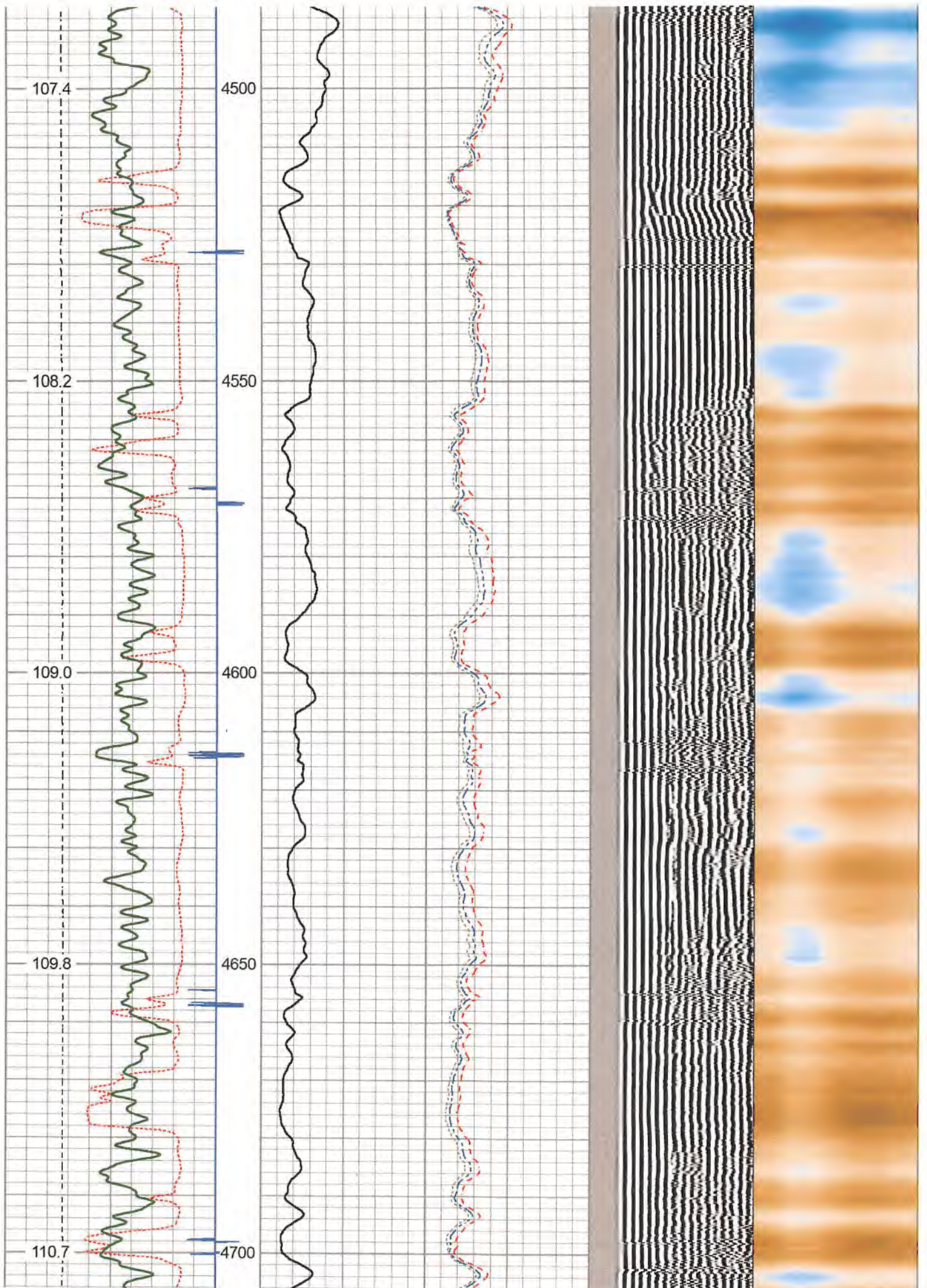


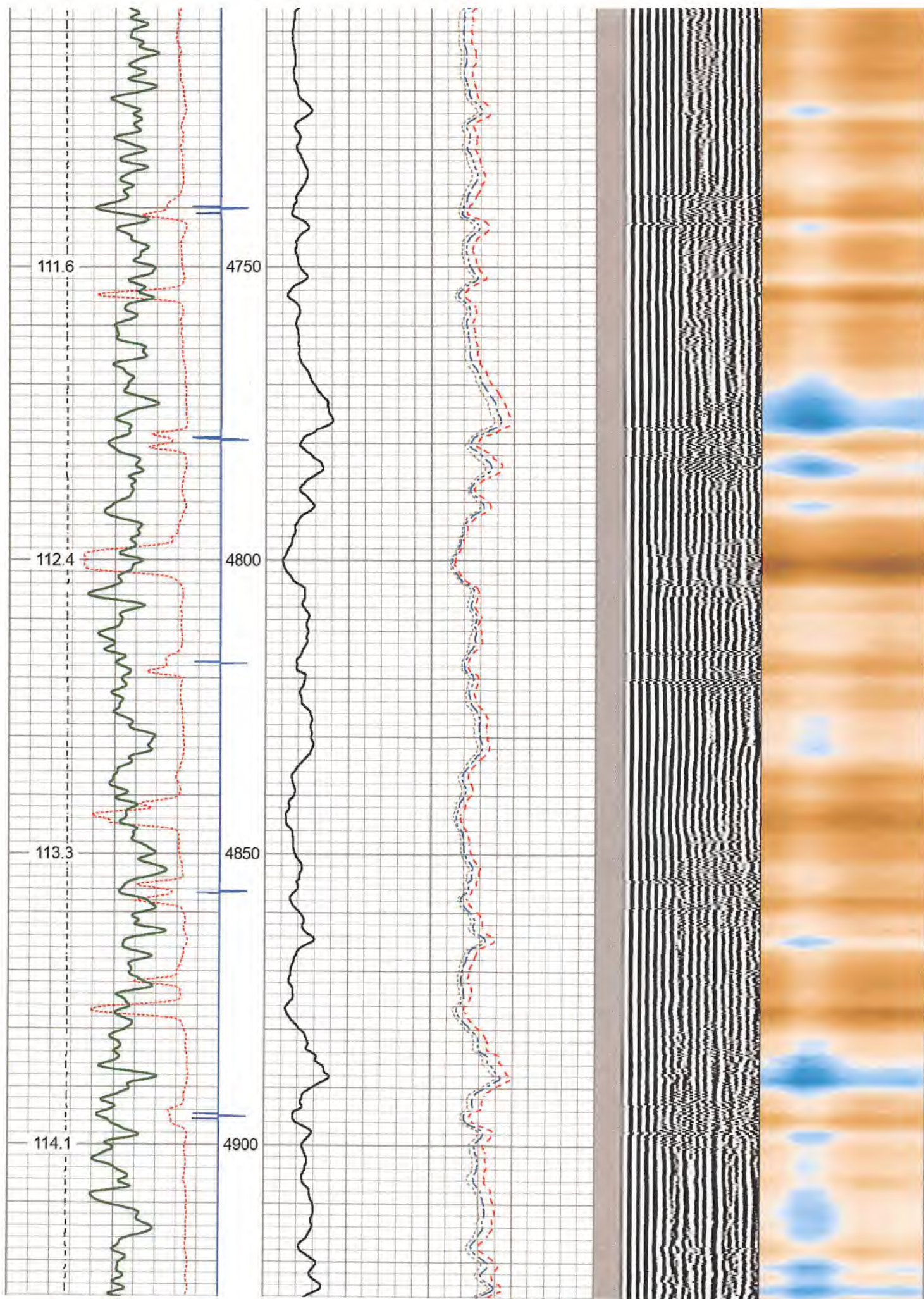


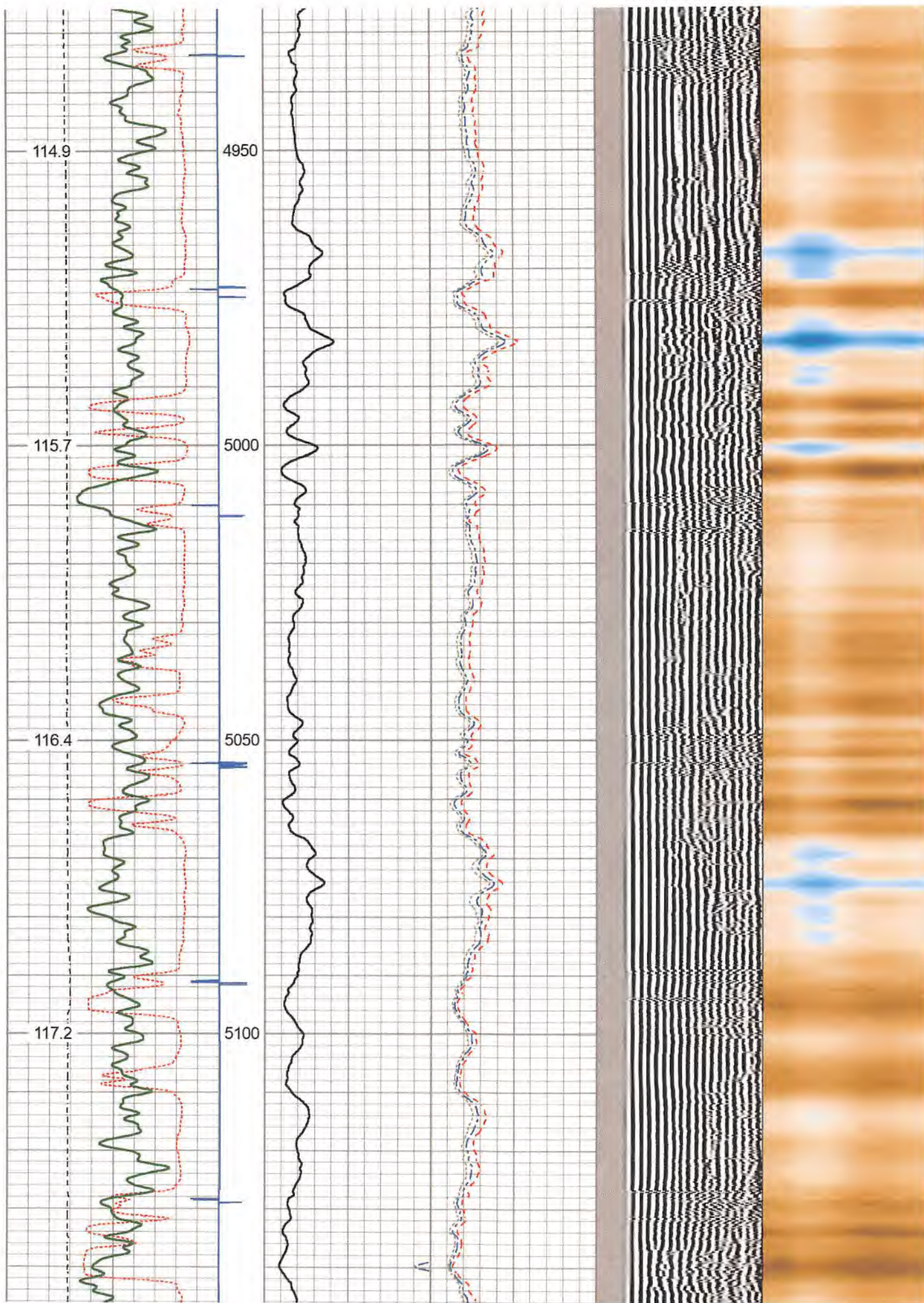


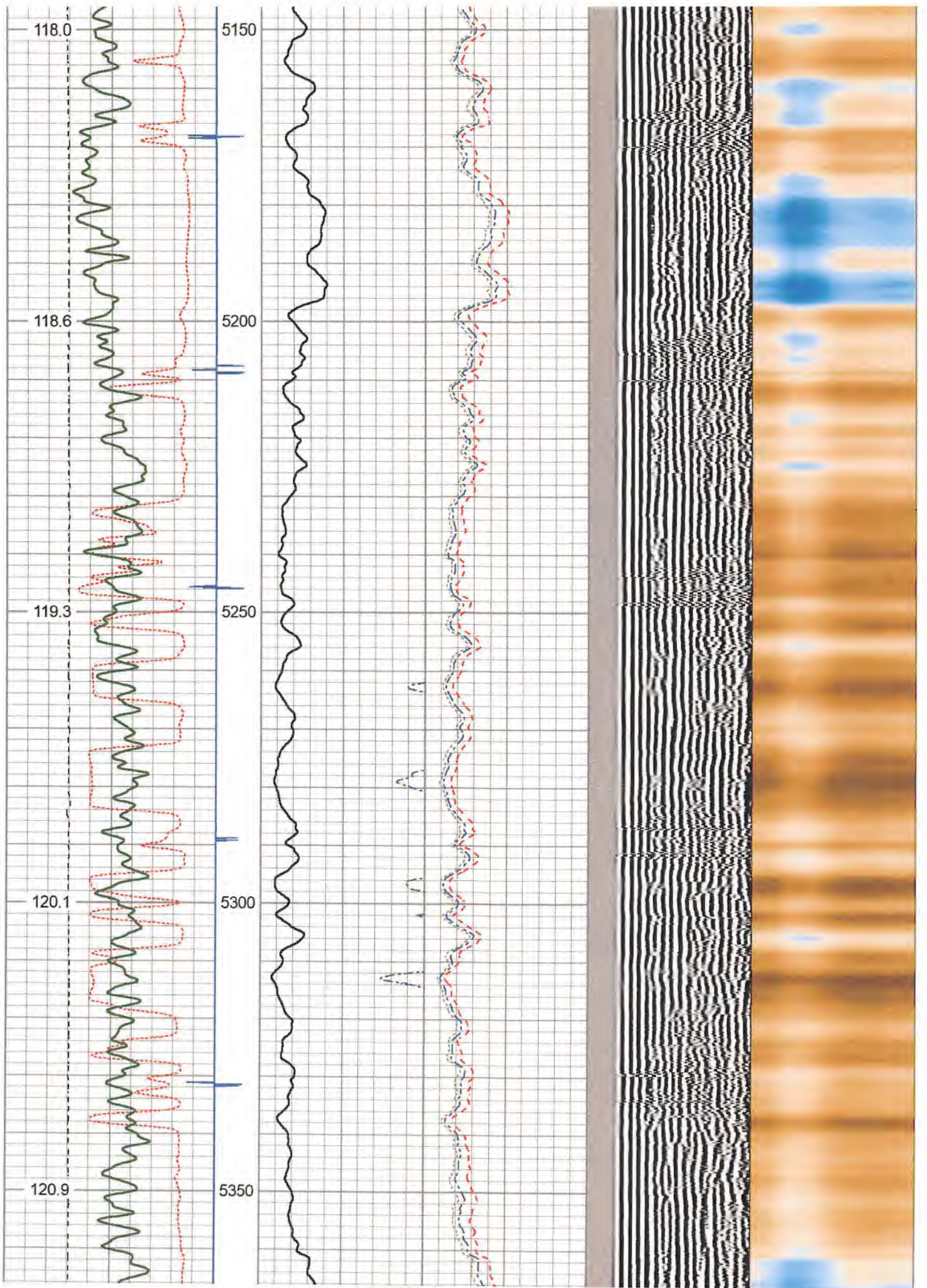


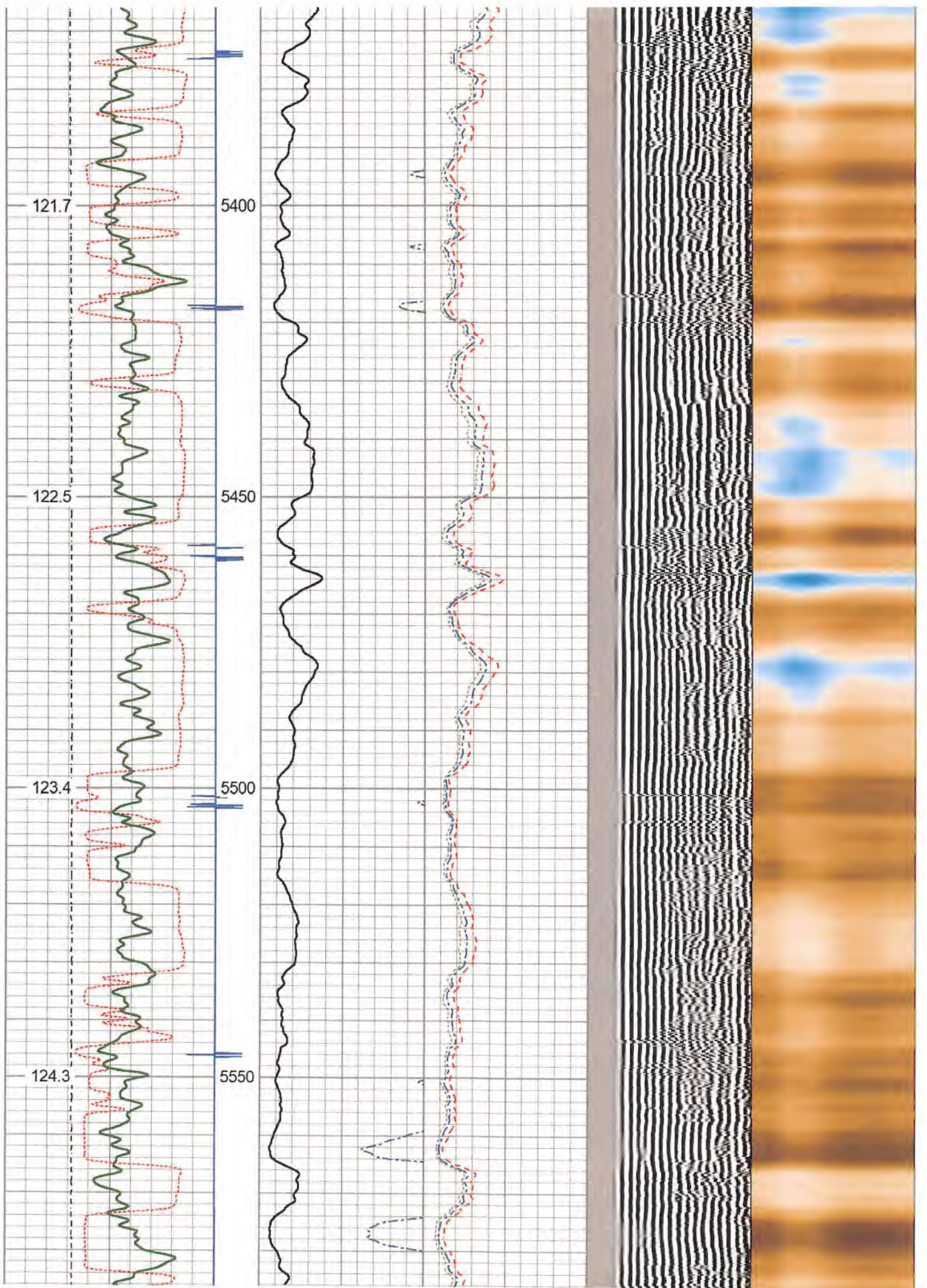


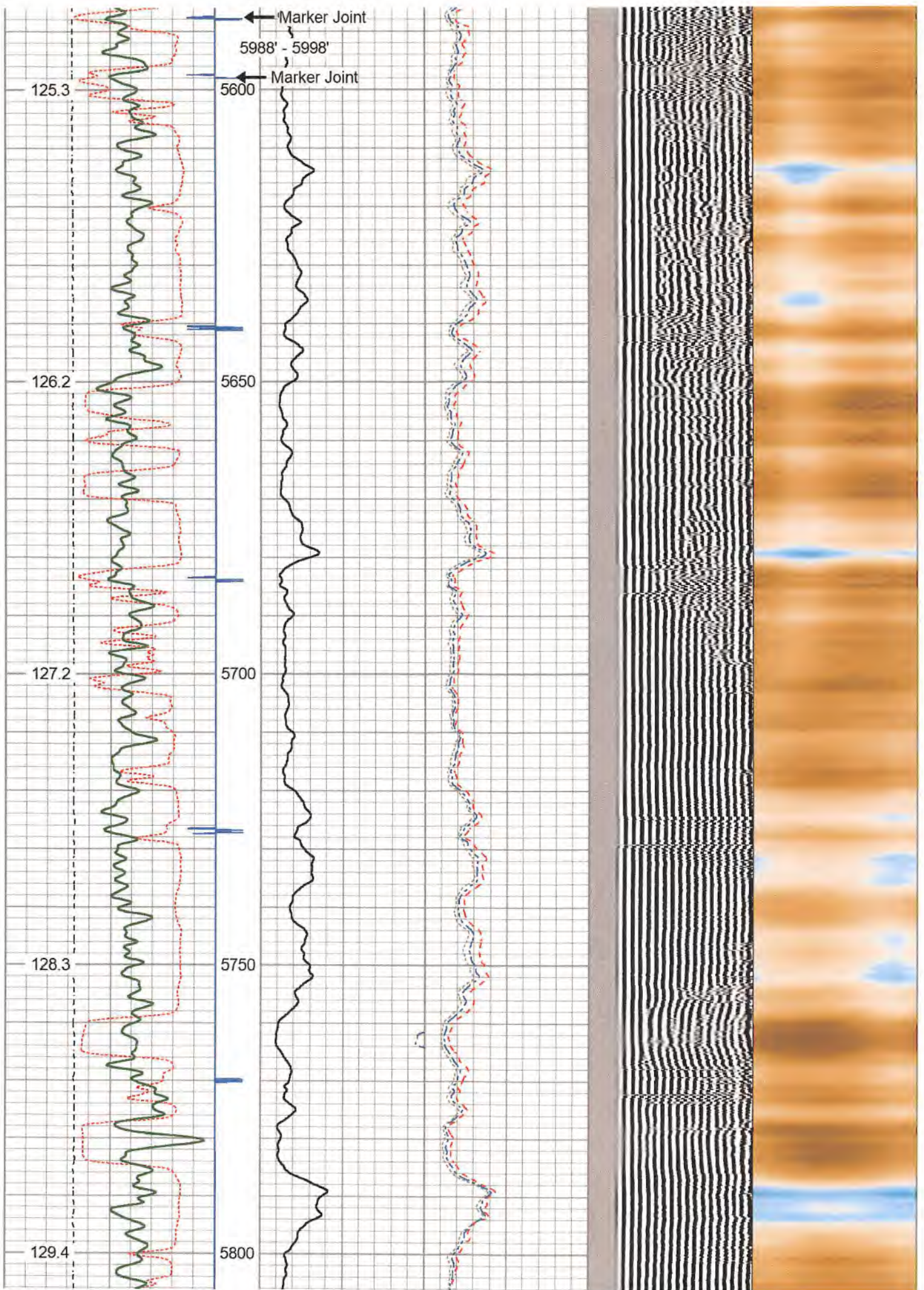


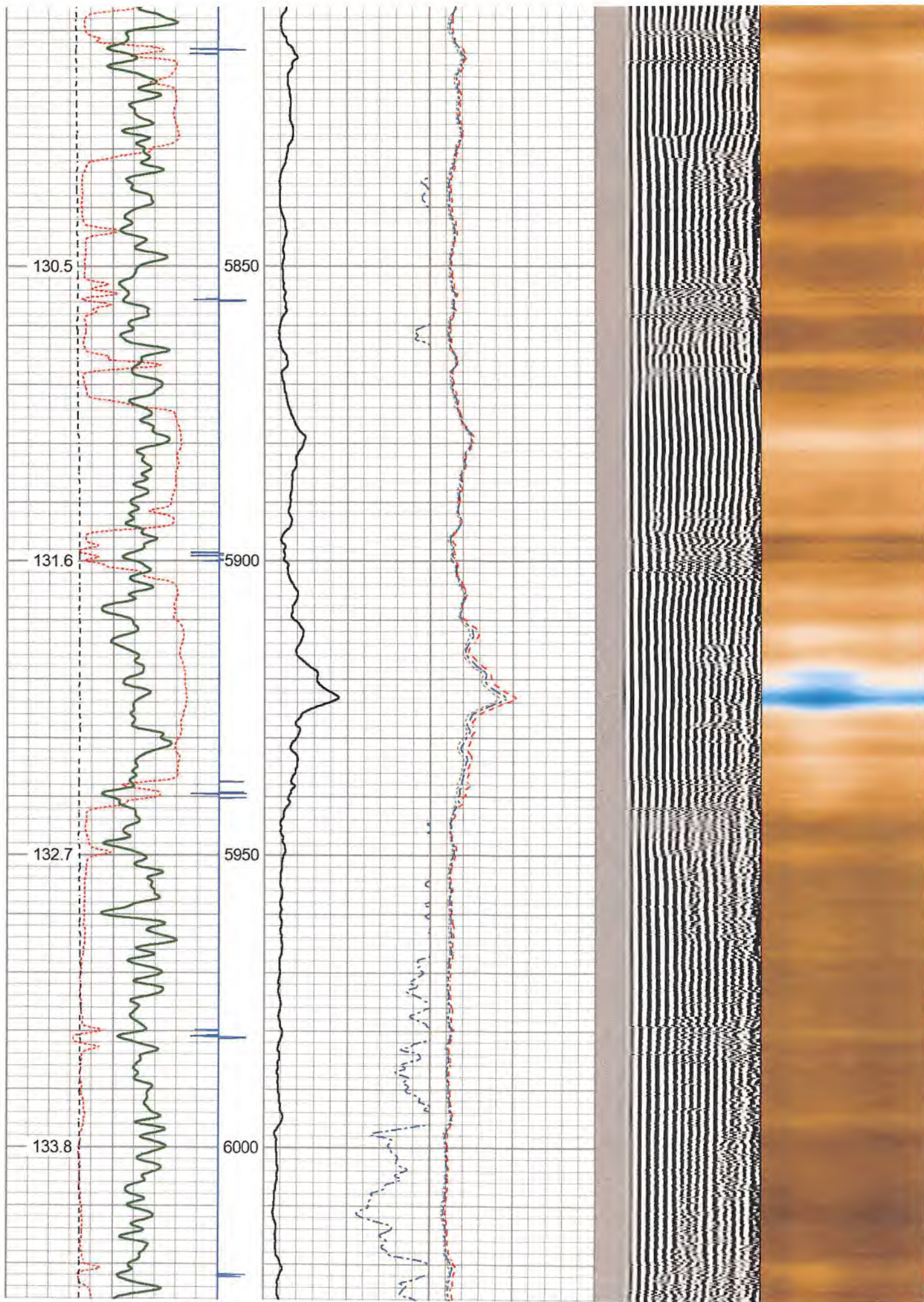


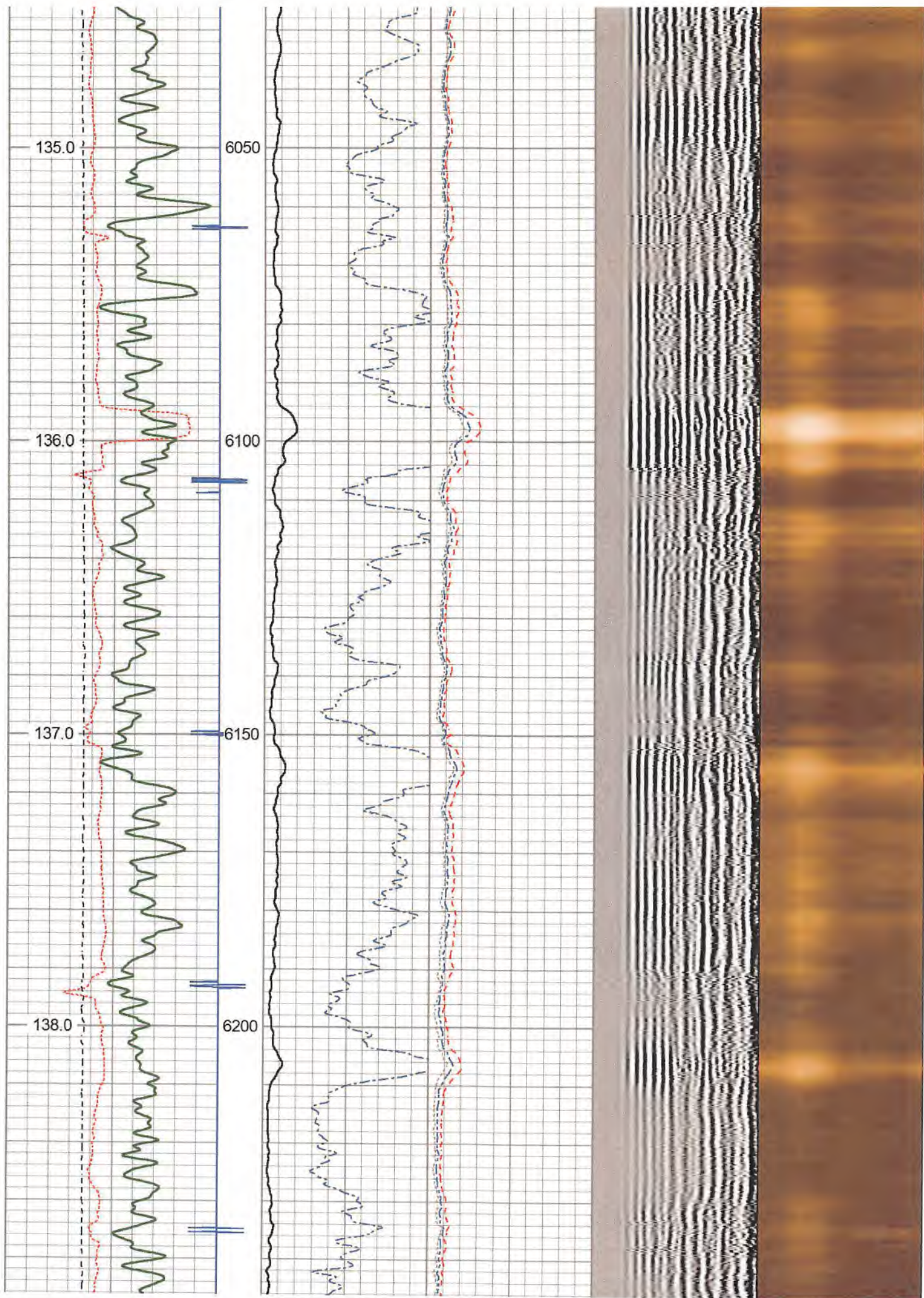


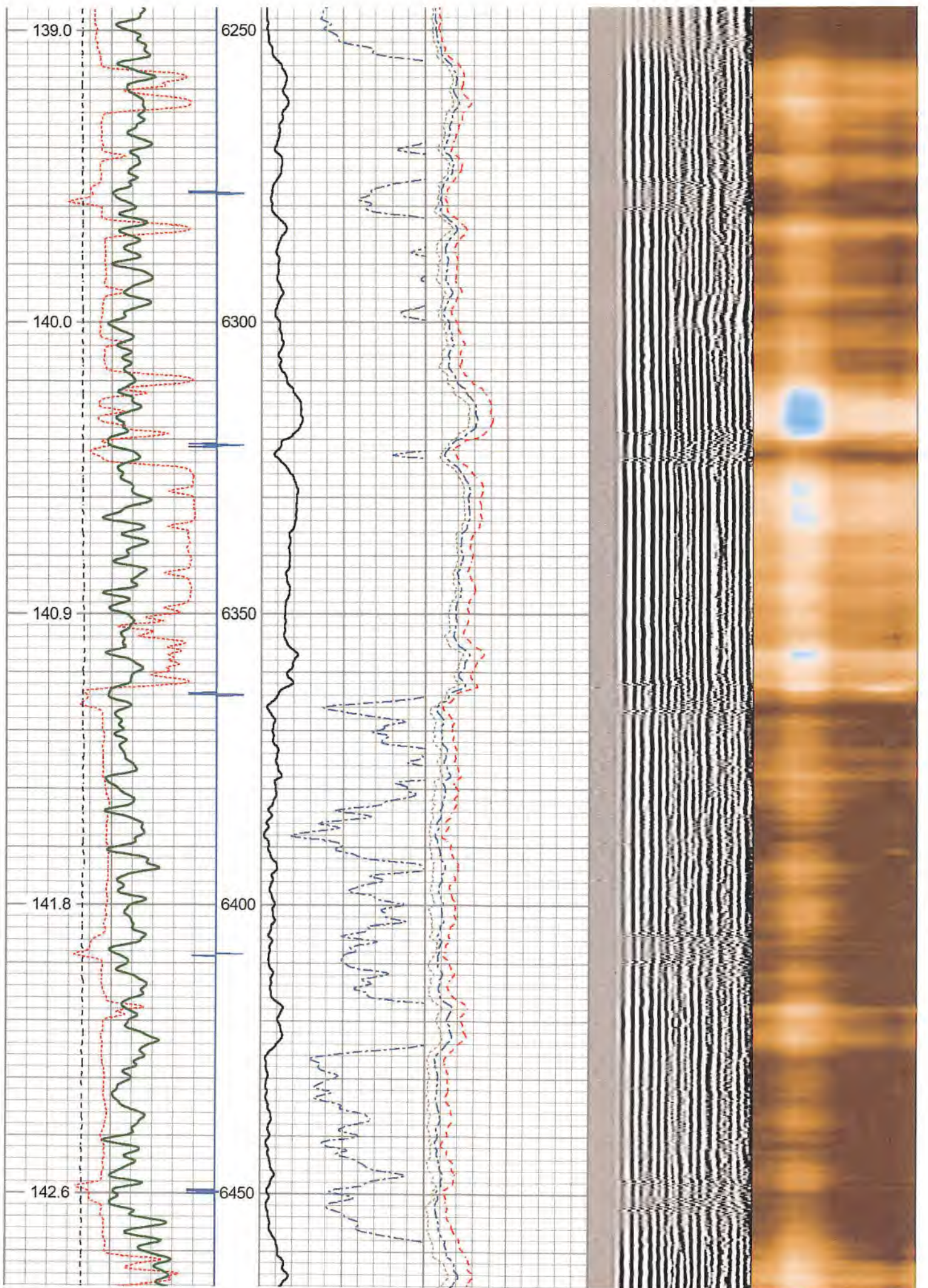


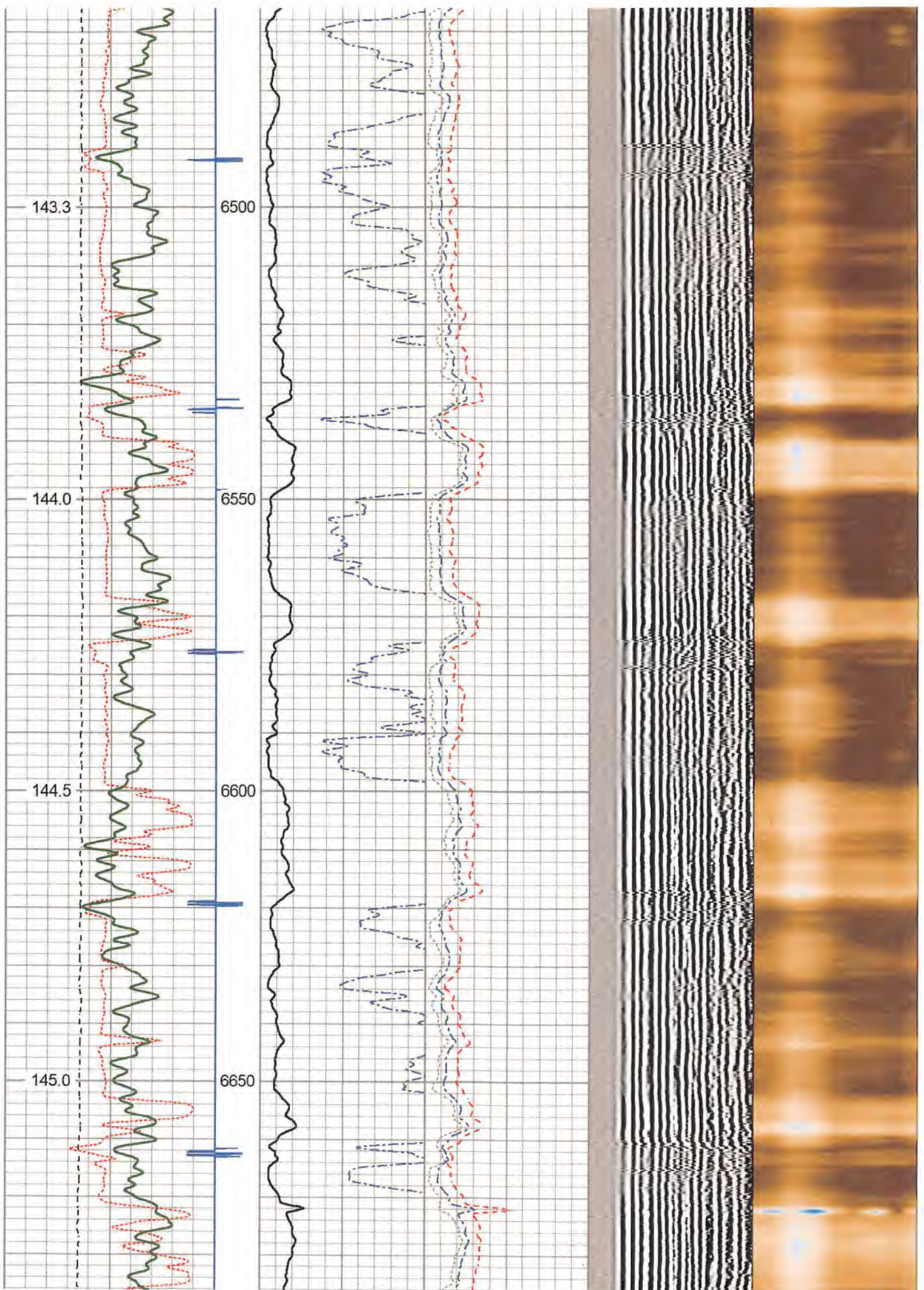


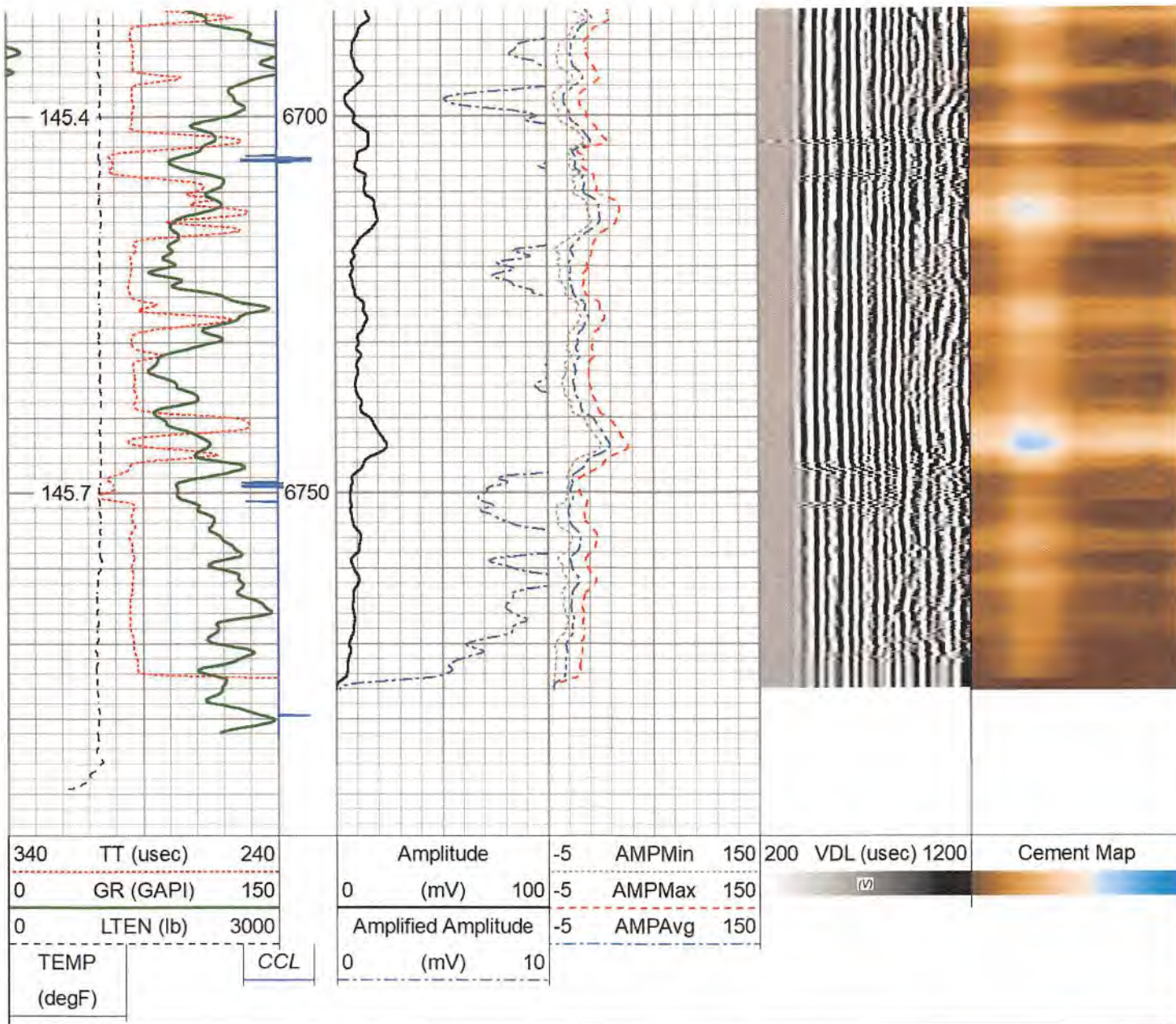










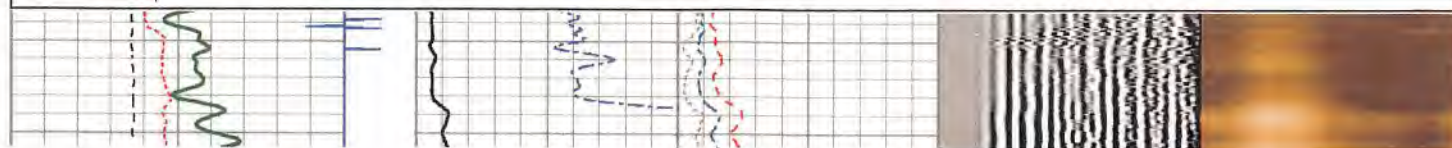
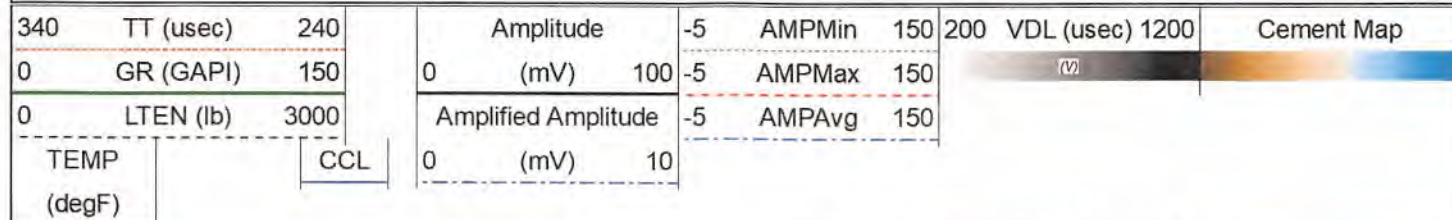


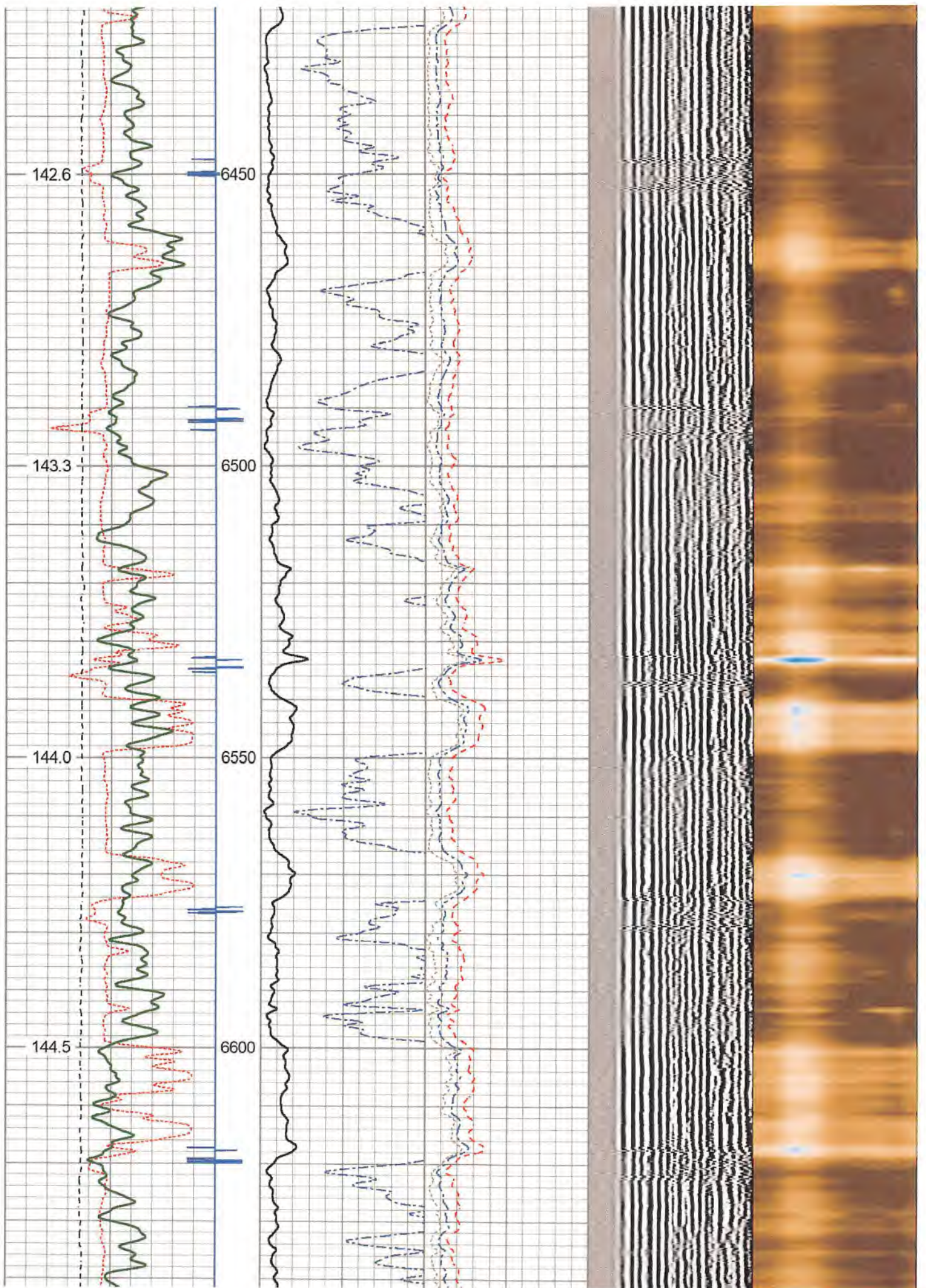
GR Energy Services

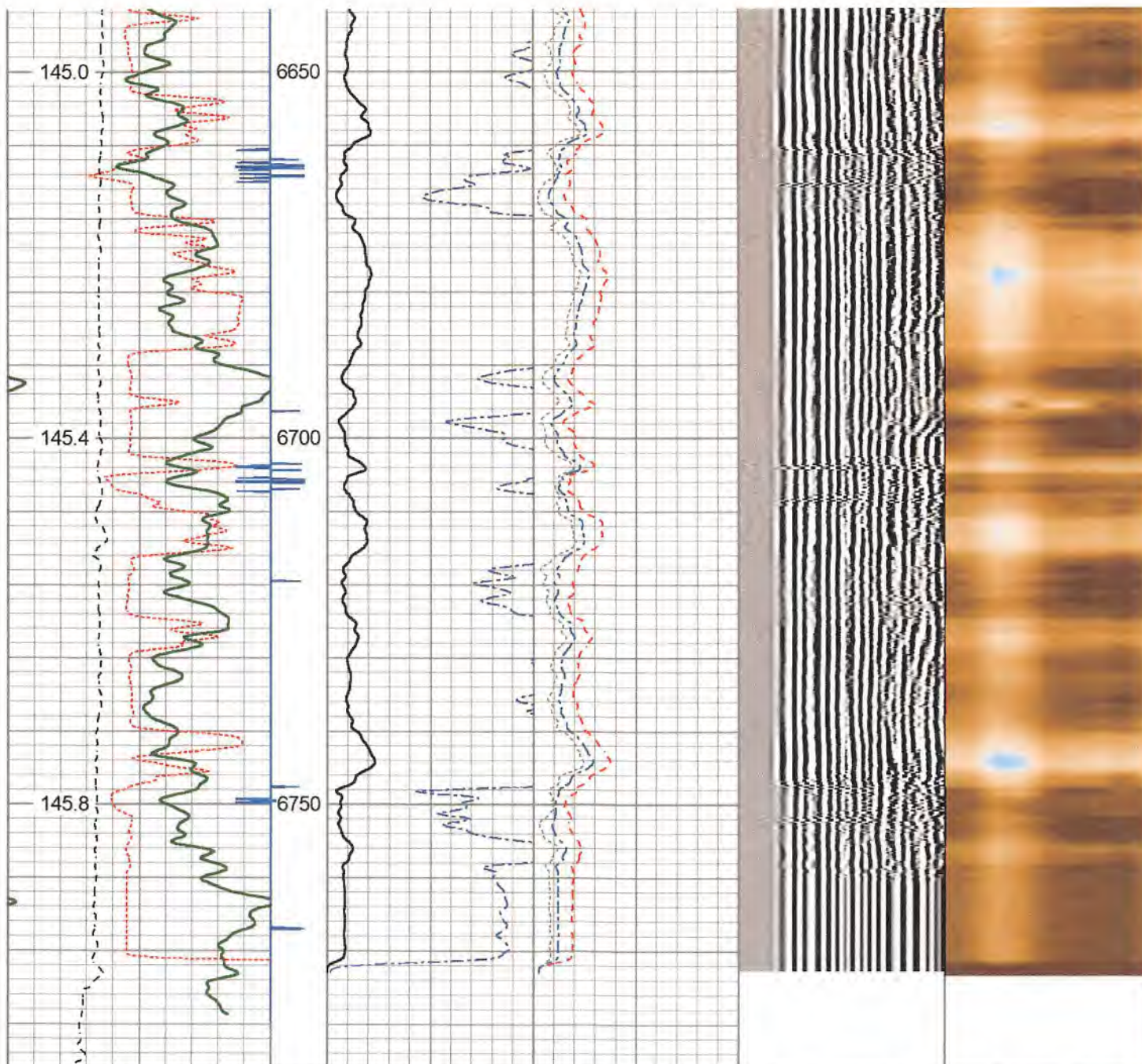
Repeat Pass

(1500 PSI)

Database File c:\users\logbox\desktop\antero\antero_shotter_2h.db
 Dataset Pathname rcb/pass2
 Presentation Format rcb_std_bw_tt
 Dataset Creation Fri Jun 09 22:33:26 2023
 Charted by Depth in Feet scaled 1:240







340	TT (usec)	240
0	GR (GAPI)	150
0	LTEN (lb)	3000

Amplitude	-5	AMPMin	150
(mV)	100	AMPMax	150
Amplified Amplitude	-5	AMPAvg	150
(mV)	10		

200	VDL (usec)	1200	Cement Map
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TEMP	CCL
(degF)	

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Log Variables Database:\users\logbox\desktop\antero\antero_shotter_2h.db
Dataset field/well/rcbl/pass4/_vars_

Top - Bottom

BOREID in 8.5	BOTTEMP degF 145.7	CASEOD in 5.5	CASETHCK in 0.42	CASEWGHT lb/ft 23	MAXAMPL mV 72	MINAMPL mV 1	MINATTN db/ft 0.8
PERFS No	PPT usec 368	SRFTEMP degF 75	TDEPTH ft 6785				

Variable Description

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 c:\users\logbox\desktop\antero\antero_shotter_2h.db
 Dataset Pathname rcbl/pass4
 Dataset Creation Fri Jun 09 22:40:15 2023

Gamma Ray Calibration Report

Serial Number: GCT275-0000_base
 Tool Model: GCT275-0000
 Performed: Wed May 29 12:12:35 2019

Calibrator Value: 1094.2 GAPI

Background Reading: 55.7 cps
 Calibrator Reading: 1704.2 cps

Sensitivity: 0.6638 GAPI/cps

Segmented Cement Bond Log Calibration Report

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Serial Number: RBT275C_Base
 Tool Model: RADII-275C

Calibration Casing Diameter: 5.500 in
 Calibration Depth: 106.308 ft

Master Calibration, performed Fri Jun 9 13:58:16 2023:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	0.656	1.000	71.921	109.366	0.156
CAL	0.007	0.896				
5'	0.006	0.602	1.000	71.921	119.005	0.253
SUM						
S1	0.005	0.650	0.000	100.000	155.187	-0.816
S2	0.008	0.640	0.000	100.000	158.318	-1.343
S3	0.008	0.628	0.000	100.000	161.266	-1.230
S4	0.006	0.620	0.000	100.000	162.908	-0.992
S5	0.008	0.622	0.000	100.000	162.808	-1.238
S6	0.009	0.637	0.000	100.000	159.164	-1.354
S7	0.007	0.650	0.000	100.000	155.526	-1.088
S8	0.006	0.660	0.000	100.000	153.001	-0.945

Internal Reference Calibration, performed Mon Apr 17 11:08:13 2023:


	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.007	0.896	1.000	0.000

Air Zero Calibration, performed Fri Jun 9 09:32:12 2023:

	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:	(Not Performed)				
	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	0.00	1.00	0.00	1.00	gee
Y Accelerometer	0.00	1.00	0.00	1.00	gee
Z Accelerometer	0.00	1.00	0.00	1.00	gee

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Cable_Head-1_7/16 Titan 1 7/16" Cable Head	1.02	1.44	3.31

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RBT_HV	19.19		CENT-BC275-0000 Probe 2.75" Bowspring Centralizer	2.83	2.75	24.00
WVFS2	14.69		RBT8-RADII-275C (RBT275C_Base) Probe 2.75" RADII 8 Sector Bond Tool	8.75	2.75	130.00
WVFS1	14.69					
WVFS8	14.69					
WVFS7	14.69					
WVFS6	14.69					
WVFS5	14.69					
WVFS4	14.69					
WVFS3	14.69					
WVF3FT	14.69					
WVF5FT	13.69					
RBT_ACCZ	10.44					
RBT_ACCY	10.44					
RBT_ACCX	10.44					
WVFSYNC	10.44					
WVFCAL	10.44					
			CENT-BC275-0000 Probe 2.75" Bowspring Centralizer	2.83	2.75	24.00

GCT_HV	7.60				
CCL\$2	6.64				
CCL\$1	6.64				
GCT_Temp	6.09				
GR	5.22		GC-GCT275-0000 (GCT275-0000_base) Probe Gamma Ray - CCL w/ Temp	4.77	2.75
		CENT-BC275-0000 Probe 2.75" Bowspring Centralizer	2.83	2.75	24.00

Dataset: antero_shotter_2h.db: field/well/rcbl/pass4
 Total length: 23.04 ft
 Total weight: 260.31 lb
 O.D.: 2.75 in



Company	Antero Resources Corporation
Well	Shotter Unit 2H
Field	White Oak
County	Doddridge
State	WV
Country	USA

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