



Radial Cement Bond
Gamma Ray CCL
Temperature Log

Company Antero Resources Corporation		Company Antero Resources Corporation	
Well Cavatica Unit 2H	Well Cavatica Unit 2H		
Field Marcellus	Field Marcellus		
County Wetzel	County Wetzel	State WV	
State WV	State WV		
API # : 47-103-03482-00-00	Permanent Datum	Ground Level	Elevation 1207'
AEE # : A11830	Log Measured From	KB = 26'	
Location (LAT, LON): 39.526050, -80.762009	Drilling Measured From	KB	
Township: N/A			
			Other Services
			None
			Elevation
			KB, 1233'
			D.F. 1233'
			G.L. 1207'
Date 12 AUG 2022			
Run Number One			
Depth Driller (ft) 25936			
Depth Logger (ft) 7288			
Bottom Logged Interval (ft) 7279			RECEIVED
Top Log Interval	Surface		Office of Oil and Gas
Open Hole Size (in) 8.5	Water		FEB 24 2023
Type Fluid	Water		
Density / Viscosity (lb/gal)	8.4		
Max. Recorded Temp. (°F)	150.8		WV Department of
Estimated Cement Top (ft)	5160		Environmental Protection
Time Well Ready	12:00 PM		
Time Logger on Bottom	11:20 PM		
Equipment Number	8060		
Location	Delmont, PA		
Recorded By	T. Trump		
Witnessed By	M. Johnson		
Casing Record	Size (in)	Weight (lb/ft)	Top (ft)
Conductor String	20	78.67	Surface
Surface String	13.375	54.5	Surface
Intermediate String	9.625	36	Surface
Production String	5.5	23	Surface
Inclination Information (Approximated Values from Directional Survey)			
KOP	30°	60°	90°
4010'	6610'	7020'	7470'
THANK YOU FOR USING GR ENERGY SERVICES			

07/21/2023

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 Bottom Log Marker Joint
Log Adjusted -7'
Marker Joint Located @ 6085' - 6096'

Maximum Temperature Recorded was 150.8°F
Maximum Tension was 820 lbs

Estimated Top of Cement @ 5160'

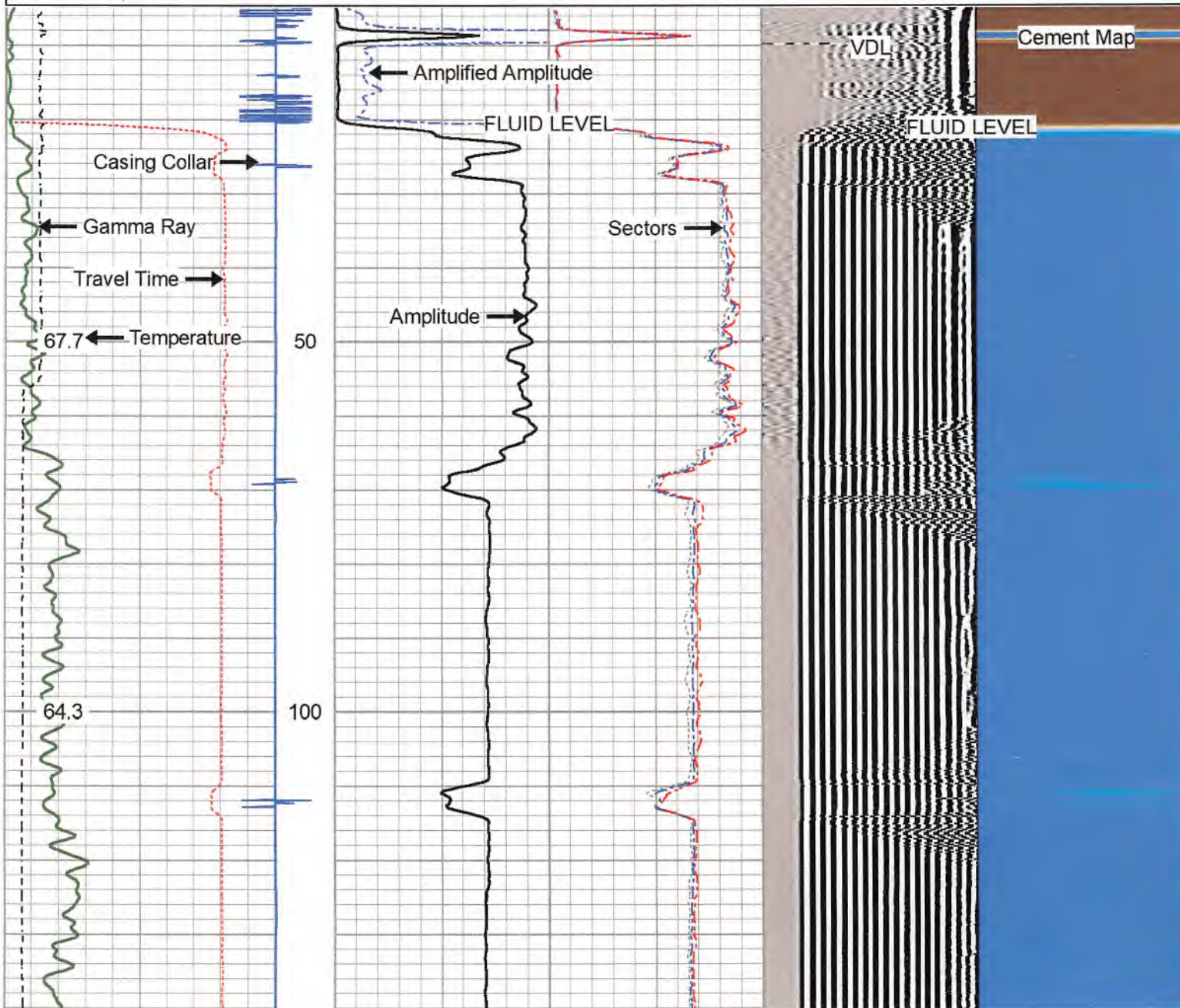
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Office of Oil and Gas
FEB 24 2023
WV Department of
Environmental Protection

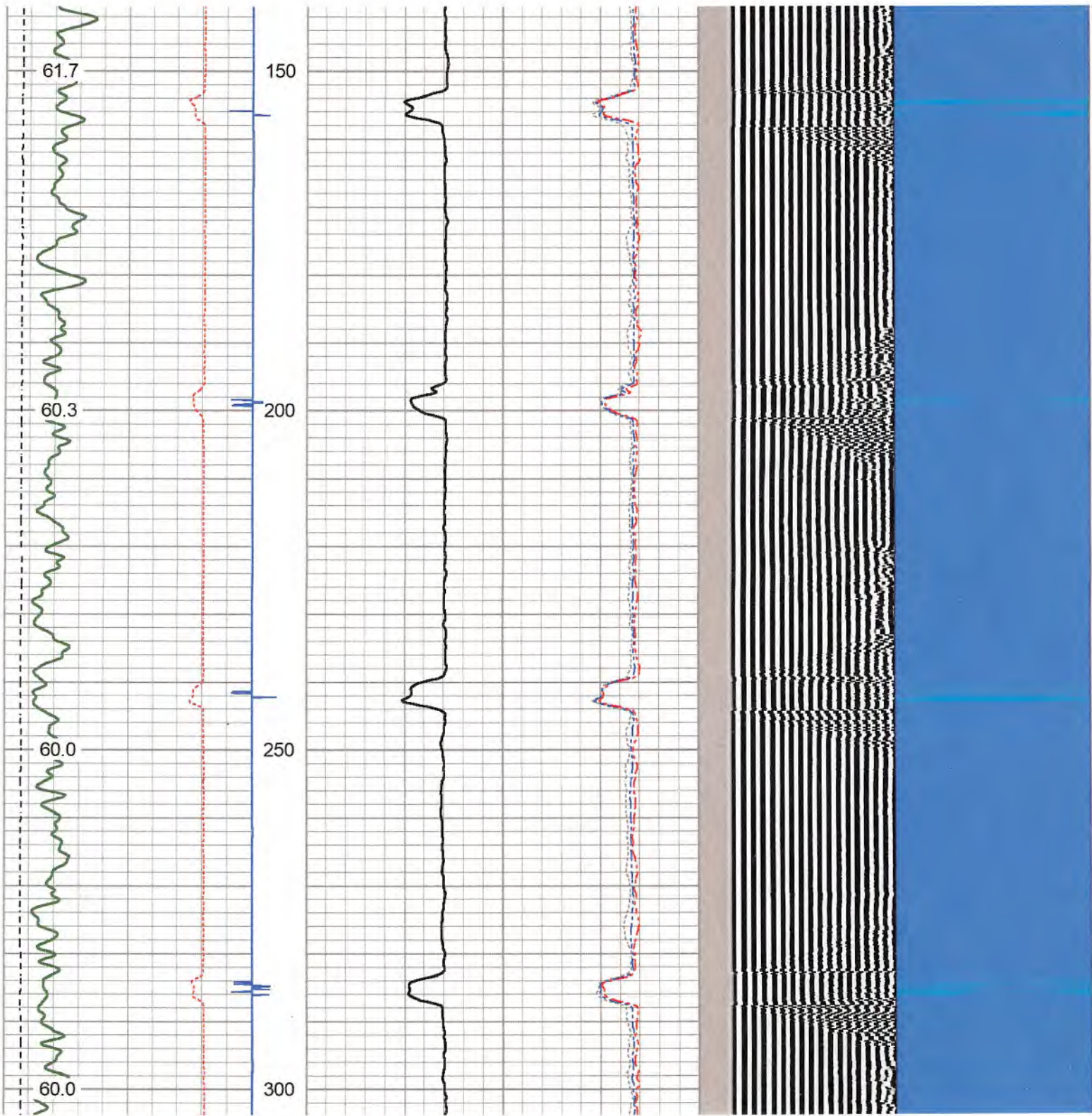


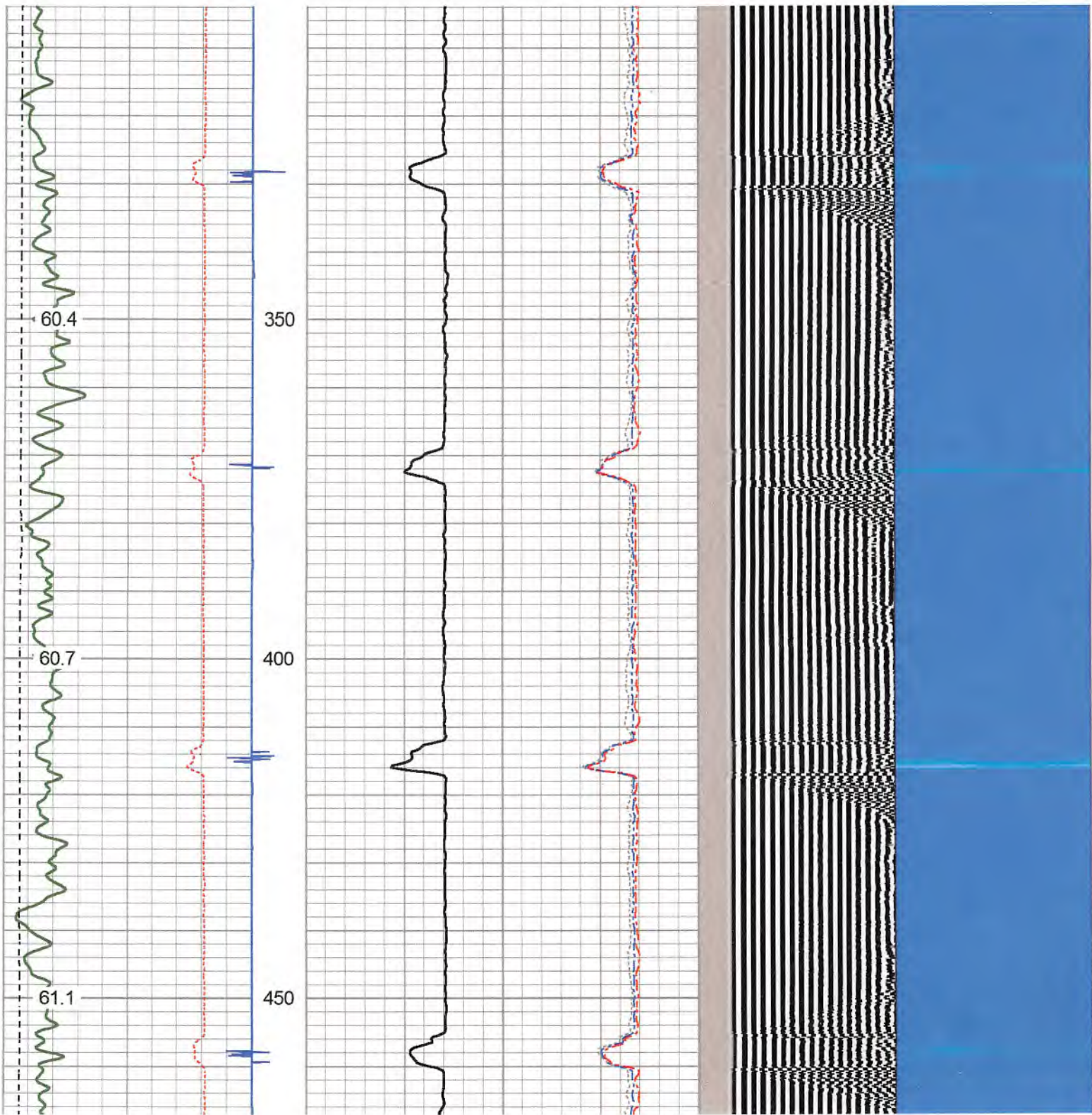
Main Pass (1500 PSI)

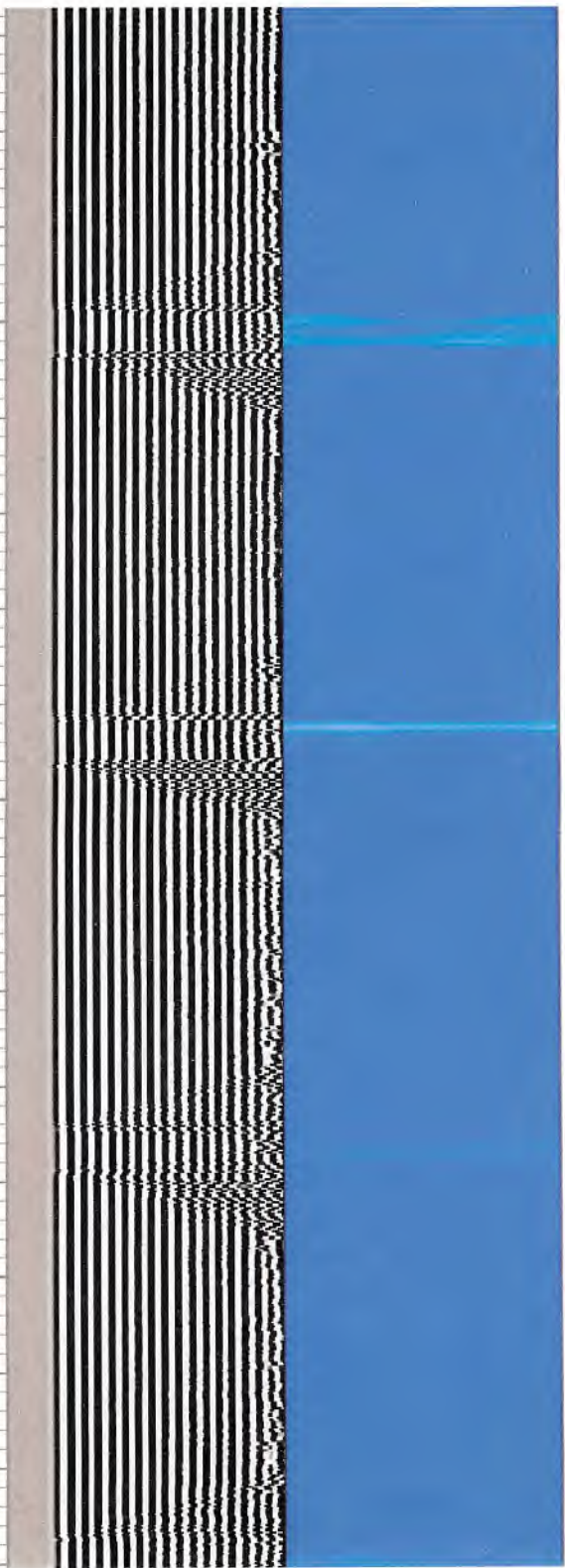
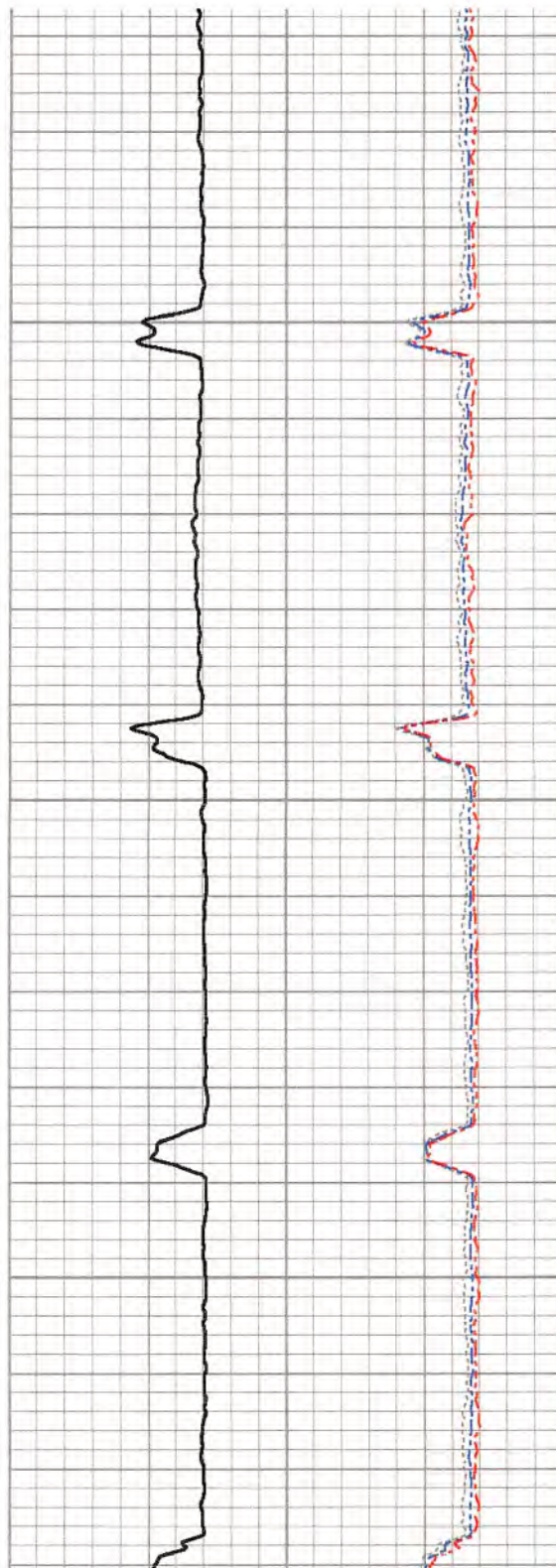
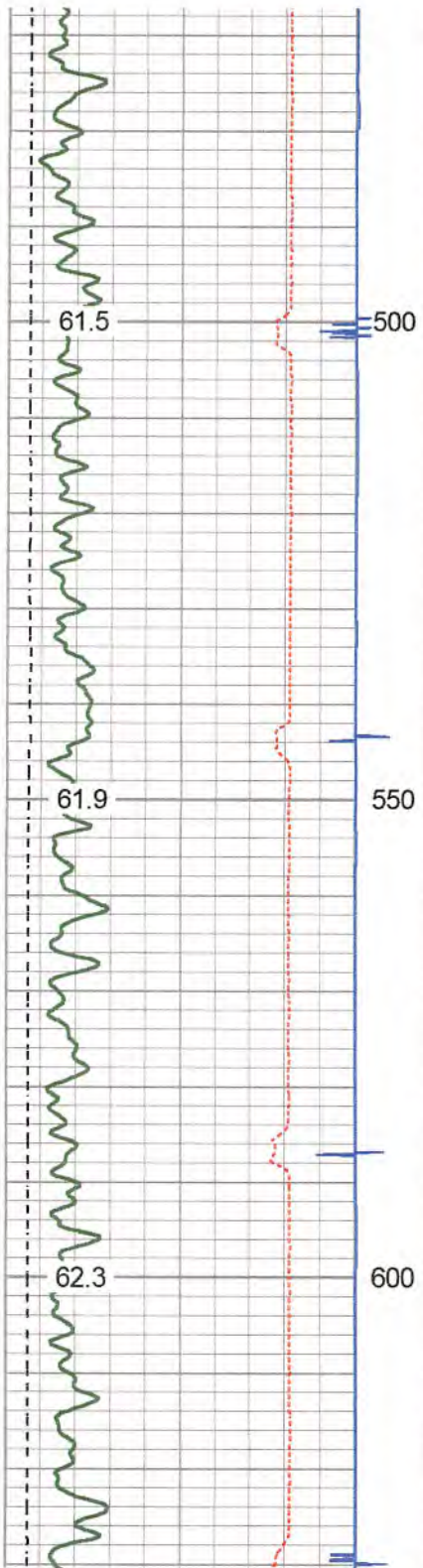
Database File	c:\users\logbox\desktop\antero red lady\antero_rlp_cavatica_2h.db
Dataset Pathname	rcbl/pass6
Presentation Format	tt_rcbl_std_bw
Dataset Creation	Fri Aug 12 23:43:07 2022
Charted by	Depth in Feet scaled 1:240

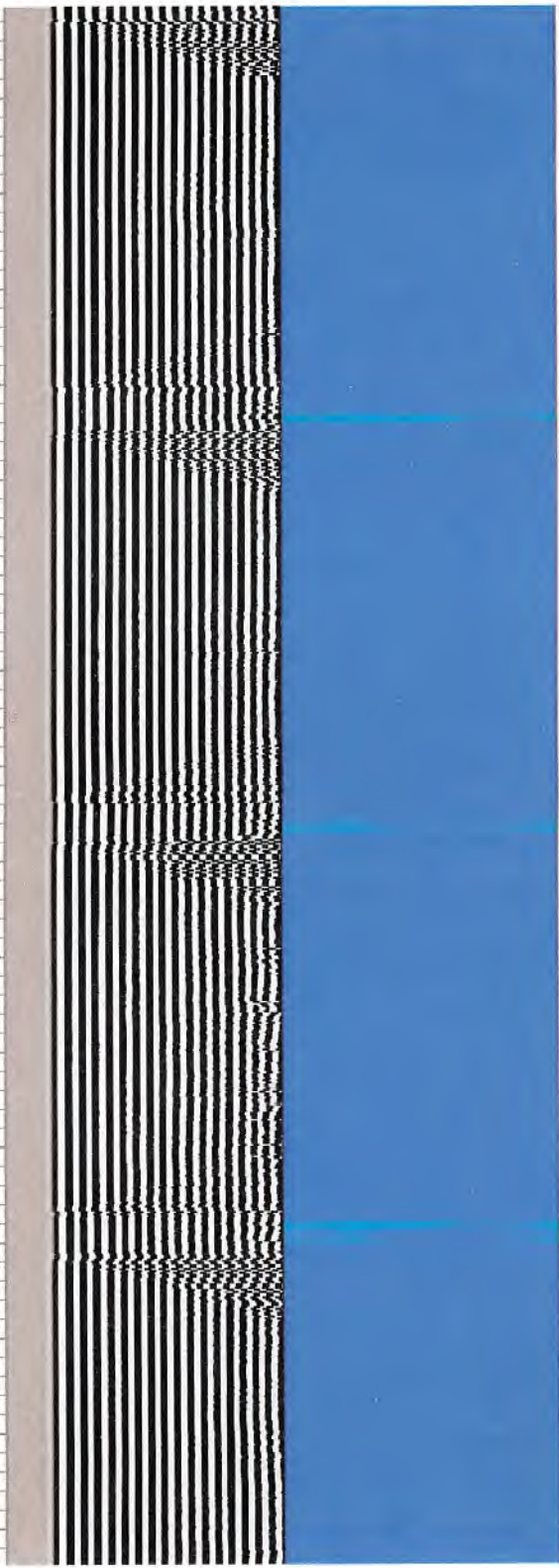
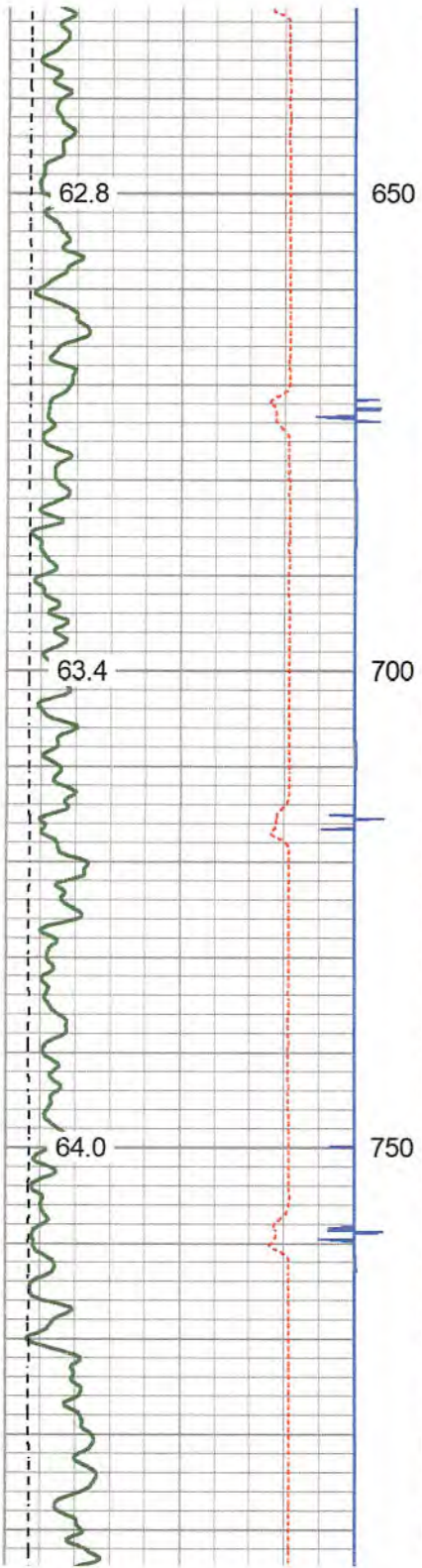
340	Travel Time (usec)	240	0	Amplitude (mV)	100	-5	AMPMin	150	200	VDL (usec)	1200	Cement Map
0	Gamma Ray (GAPI)	150		Amplified Amplitude		-5	AMPAvg	150				
0	Line Tension (lb)	3000	0	(mV)	10	-5	AMPMax	150				
TEMP (degF)		CCL										

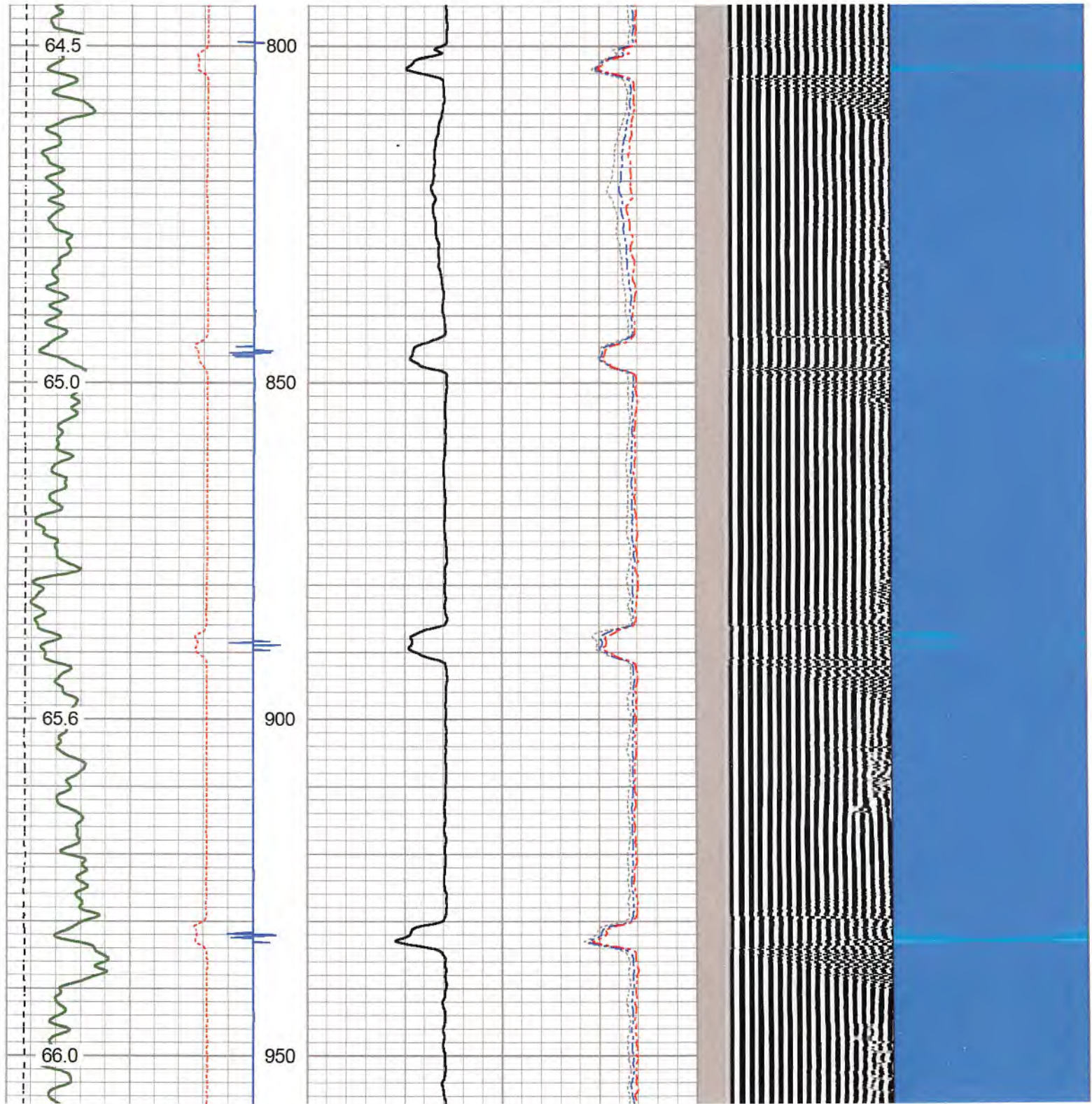


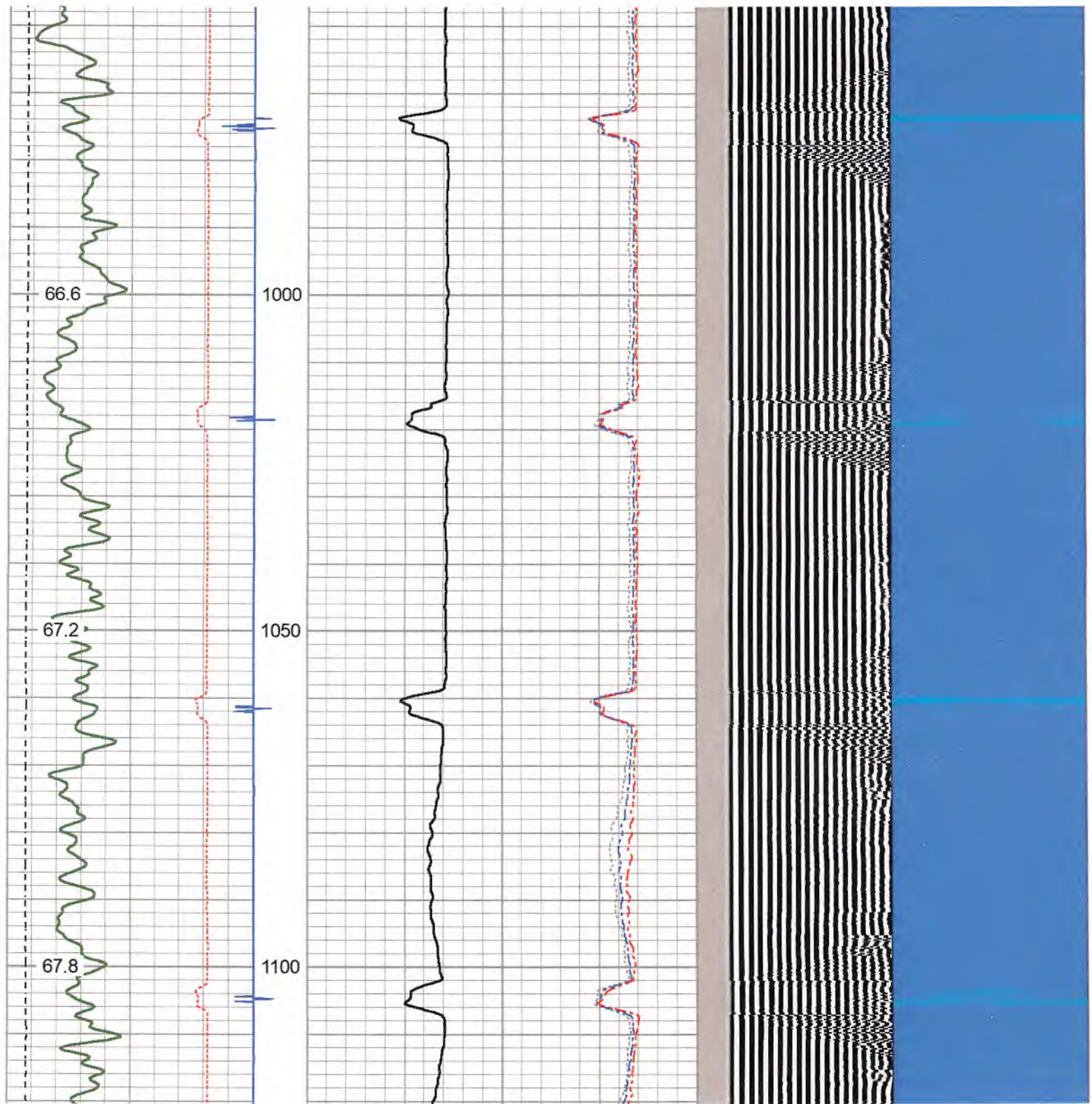


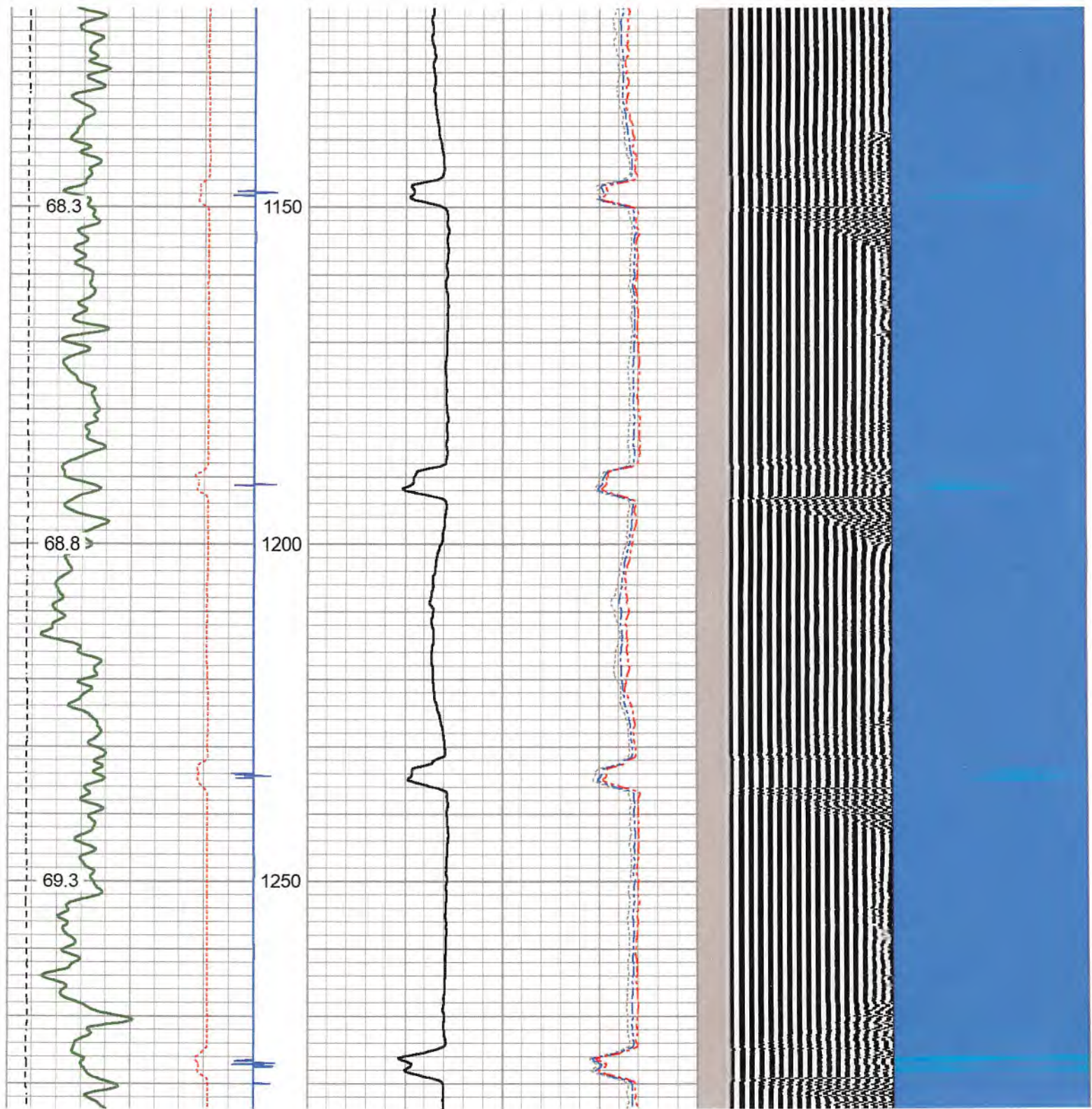


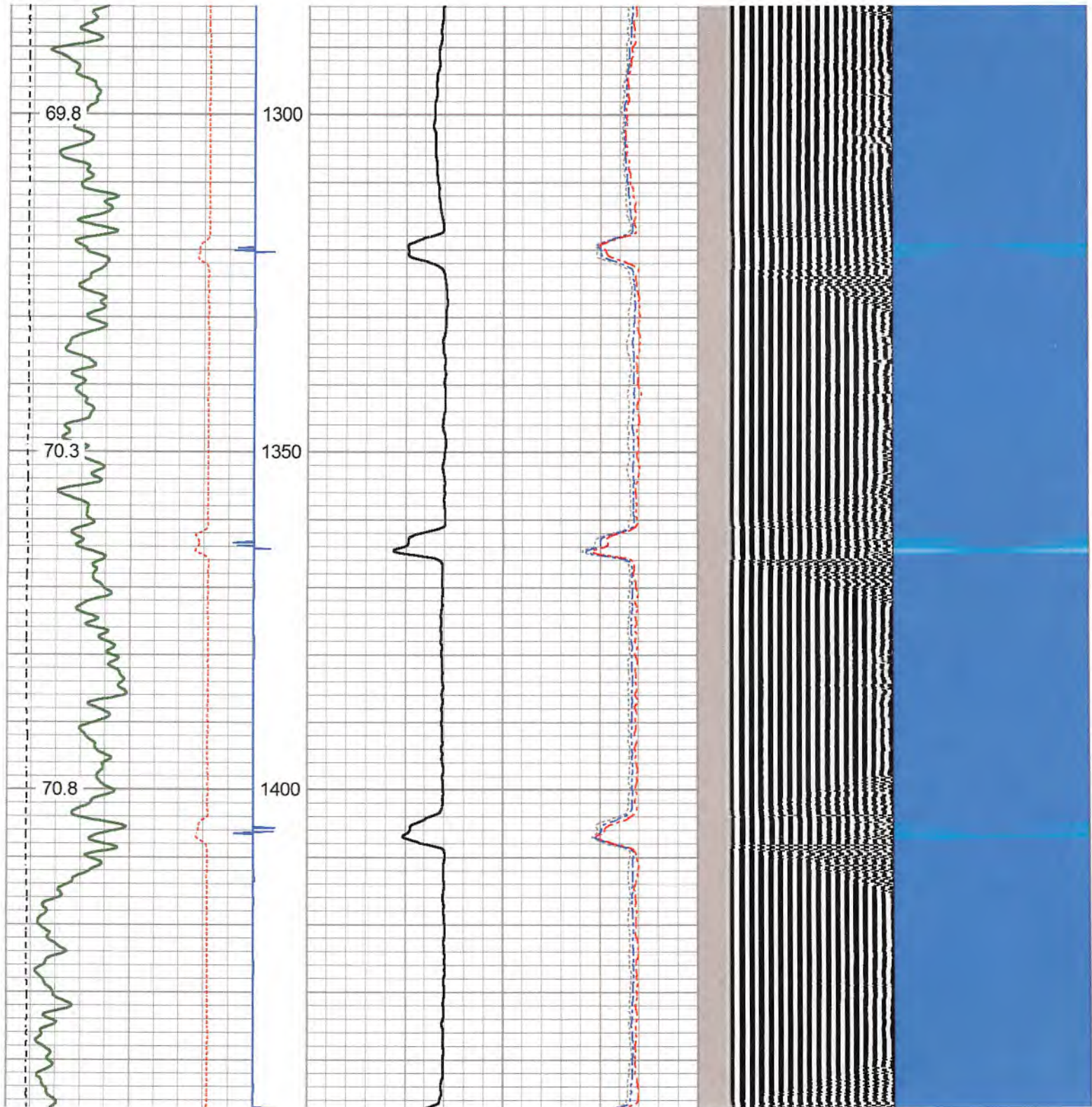


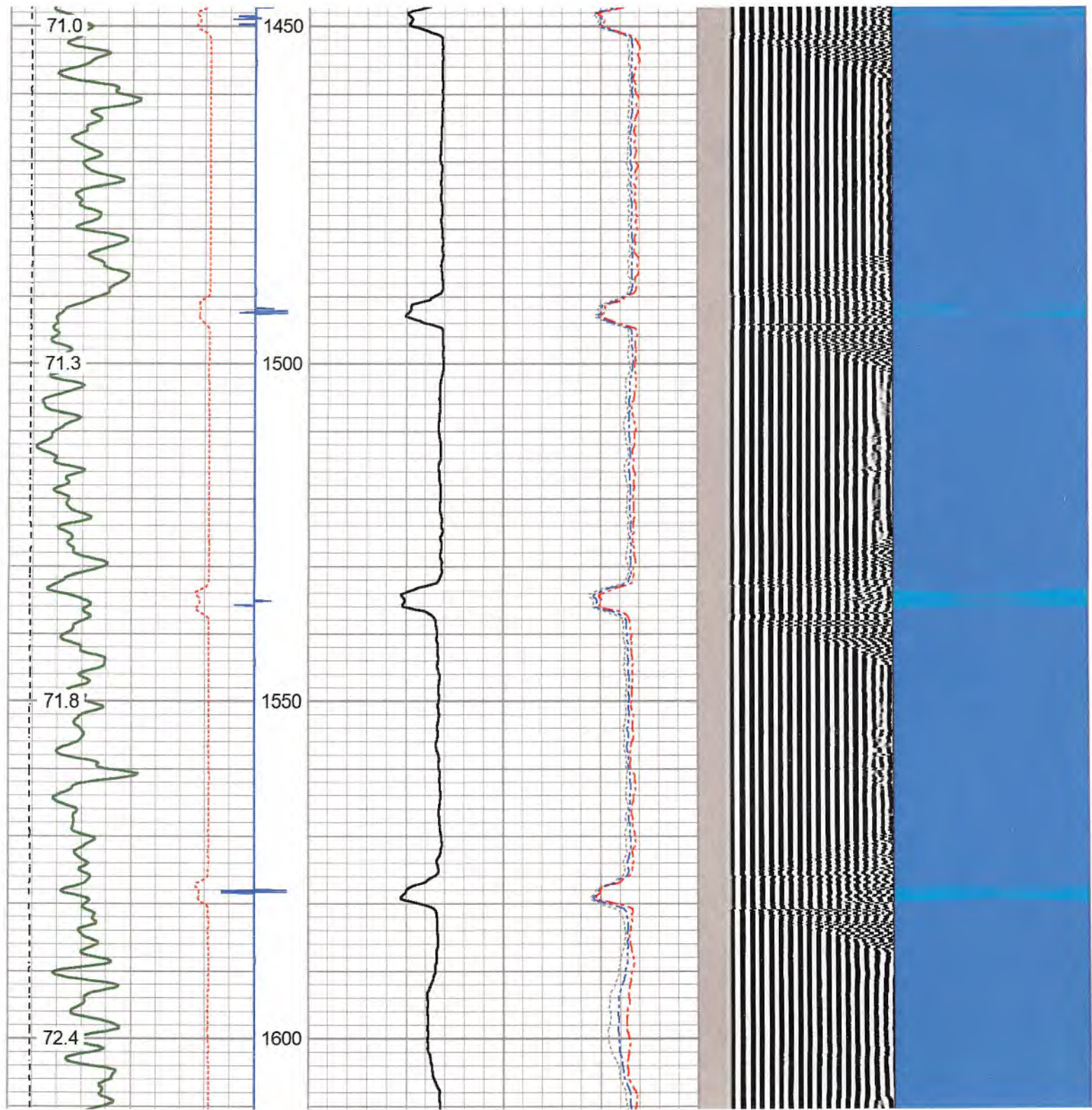


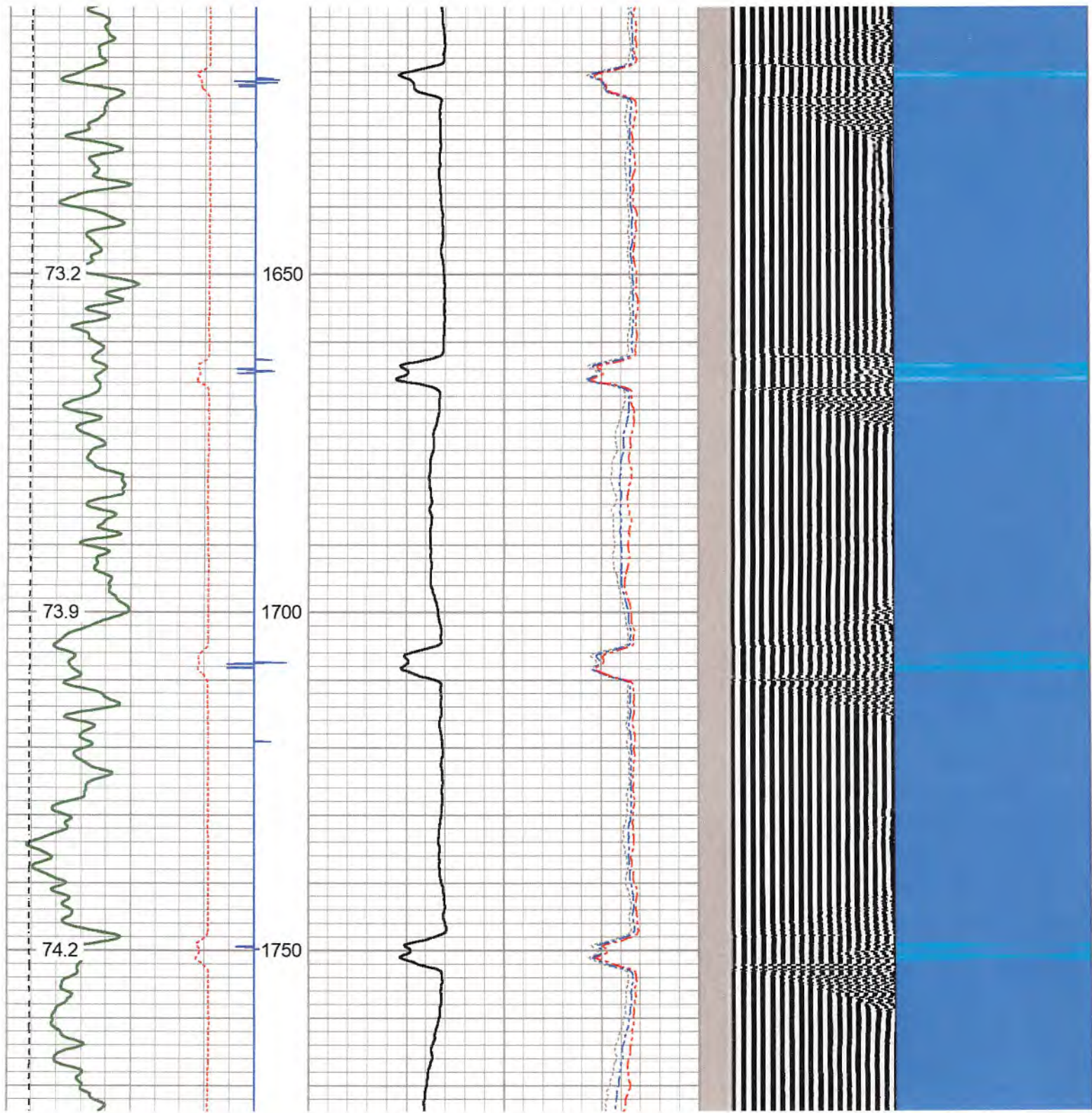


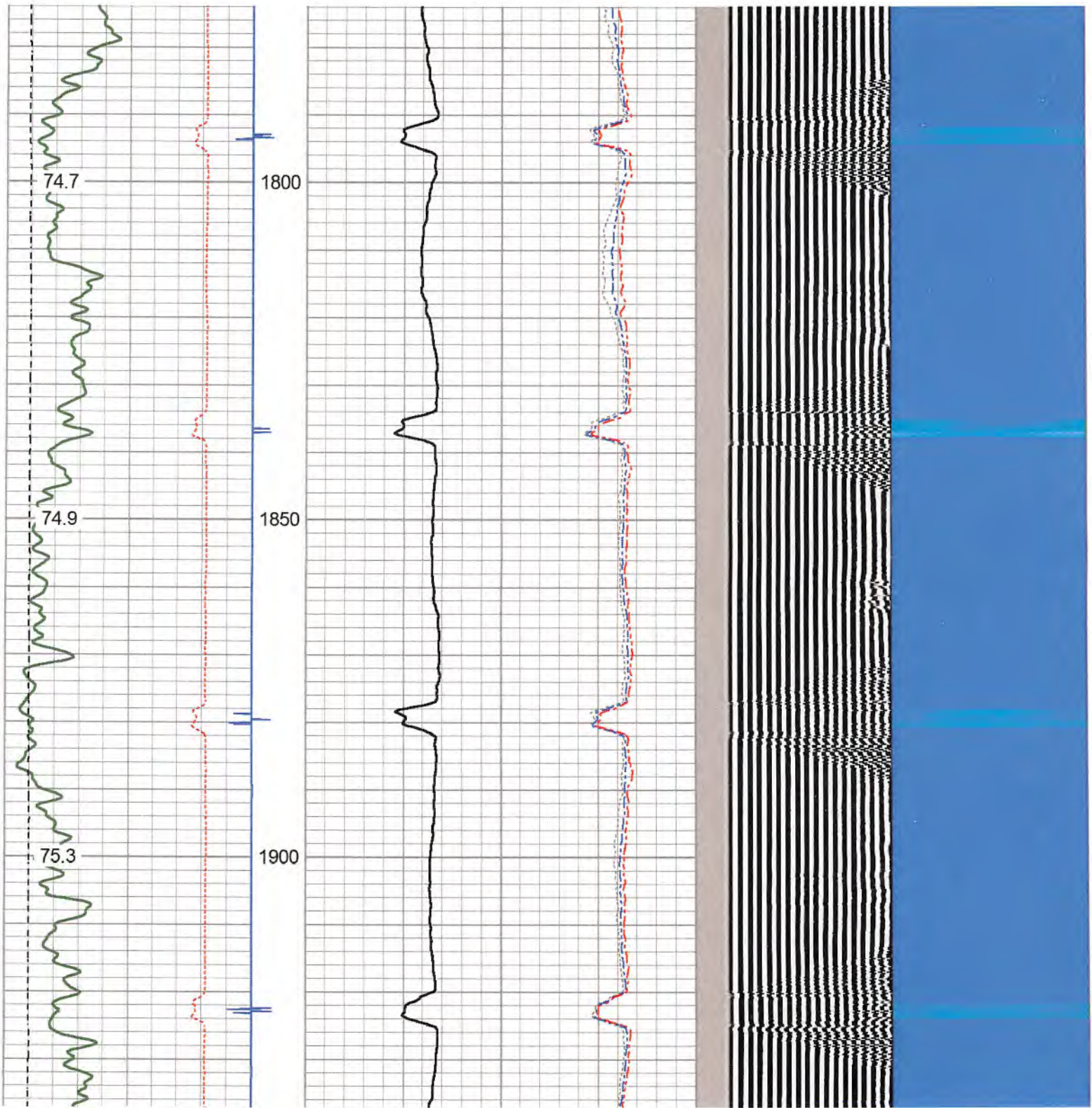


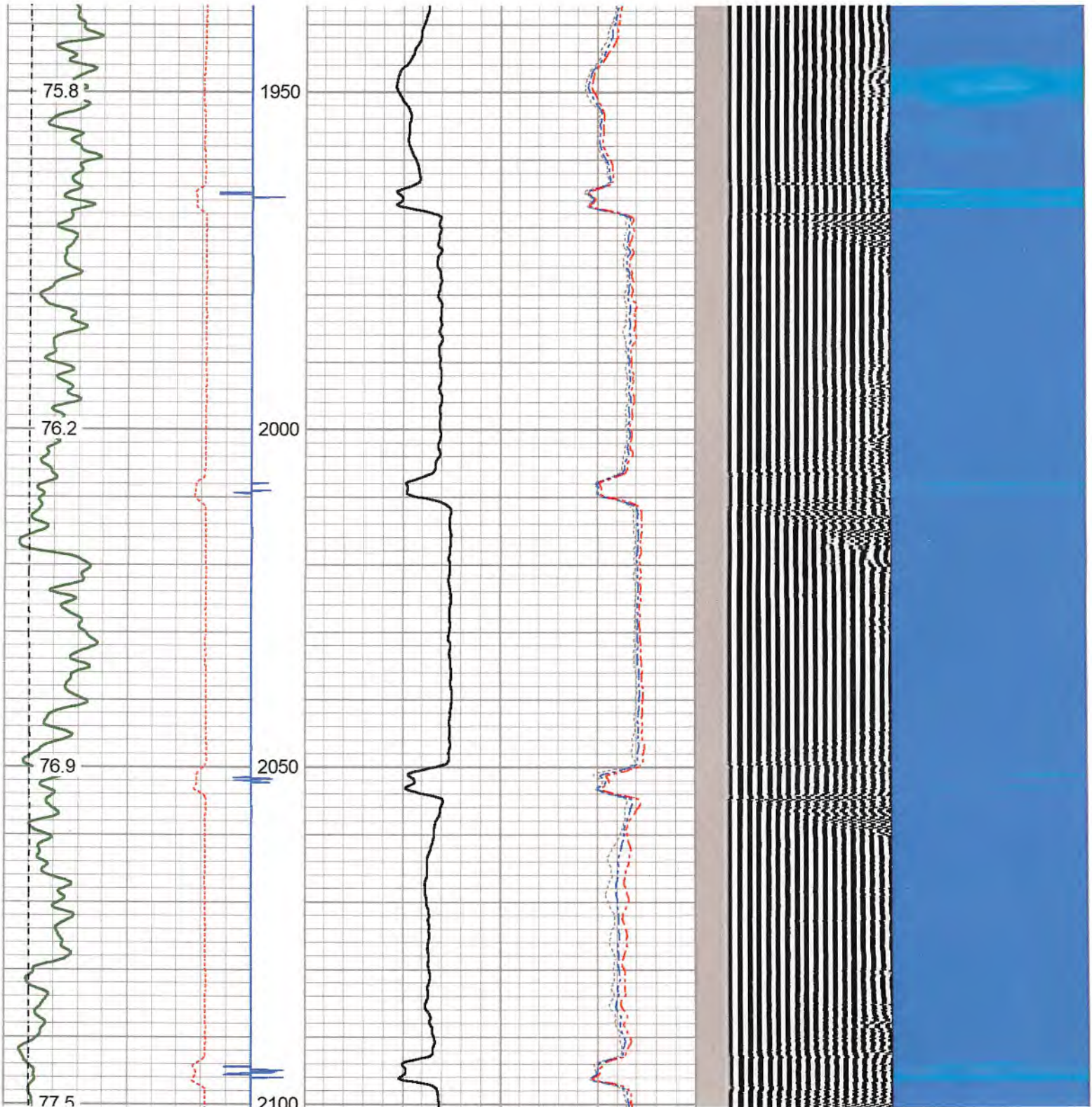


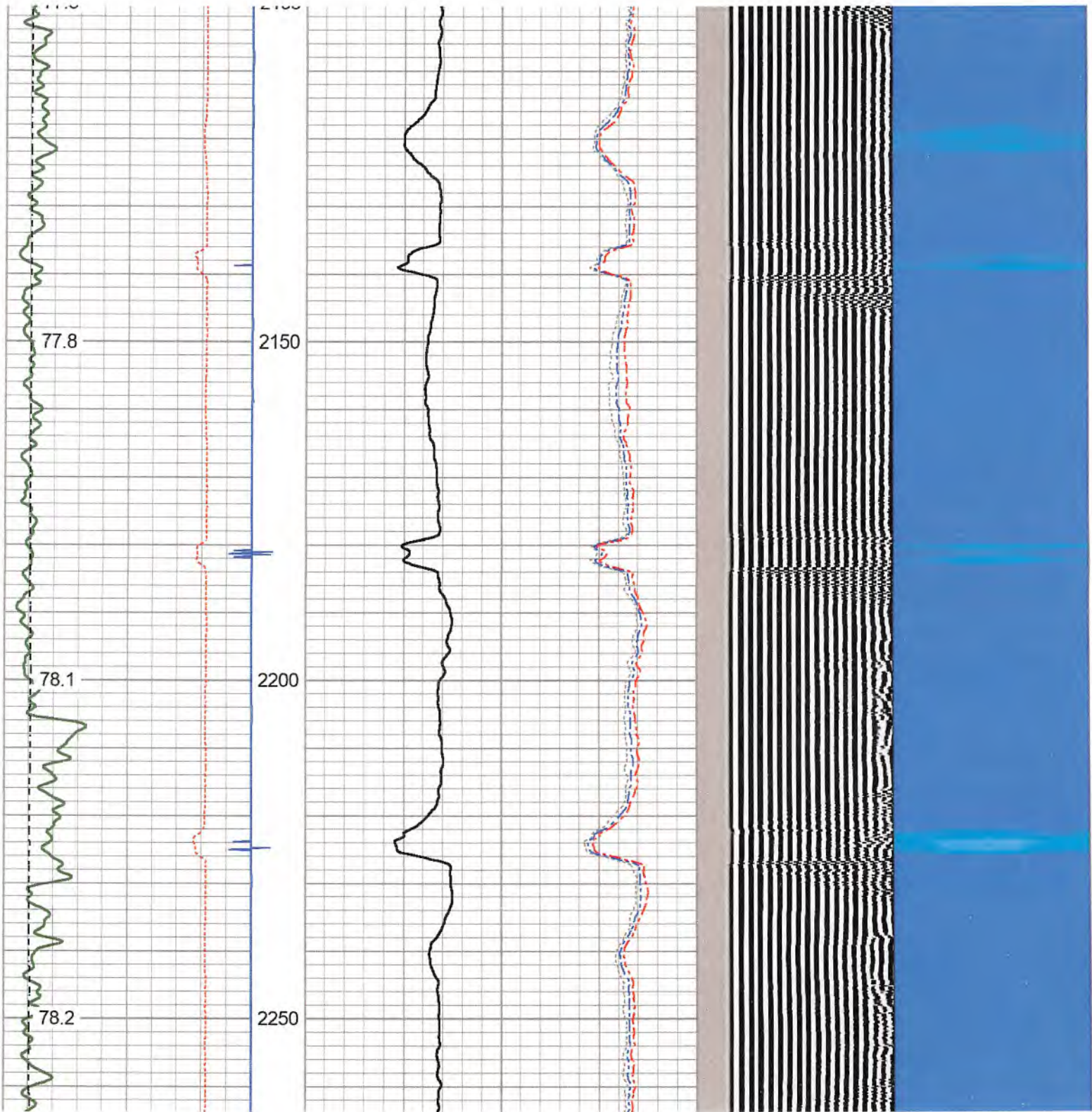


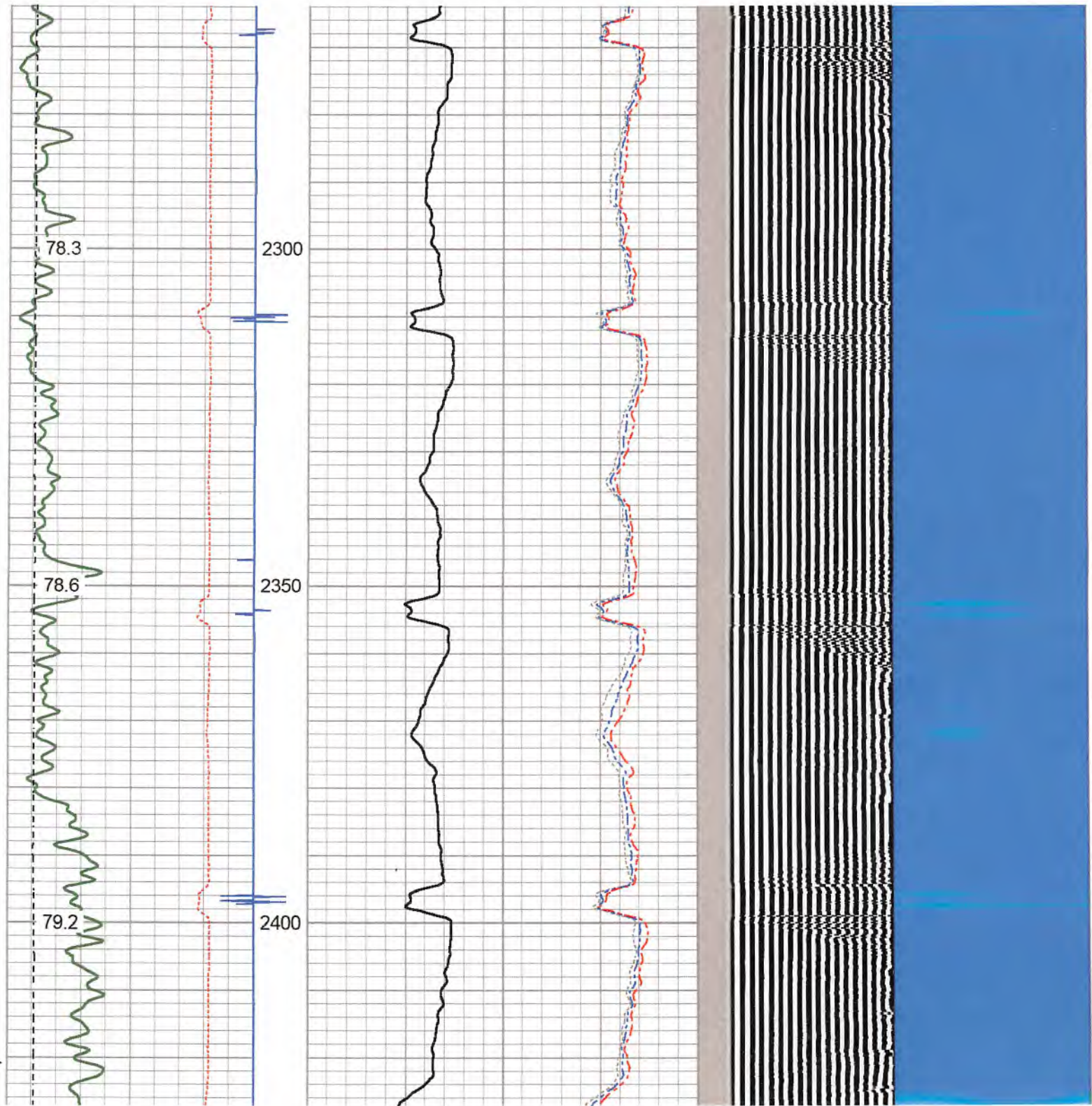


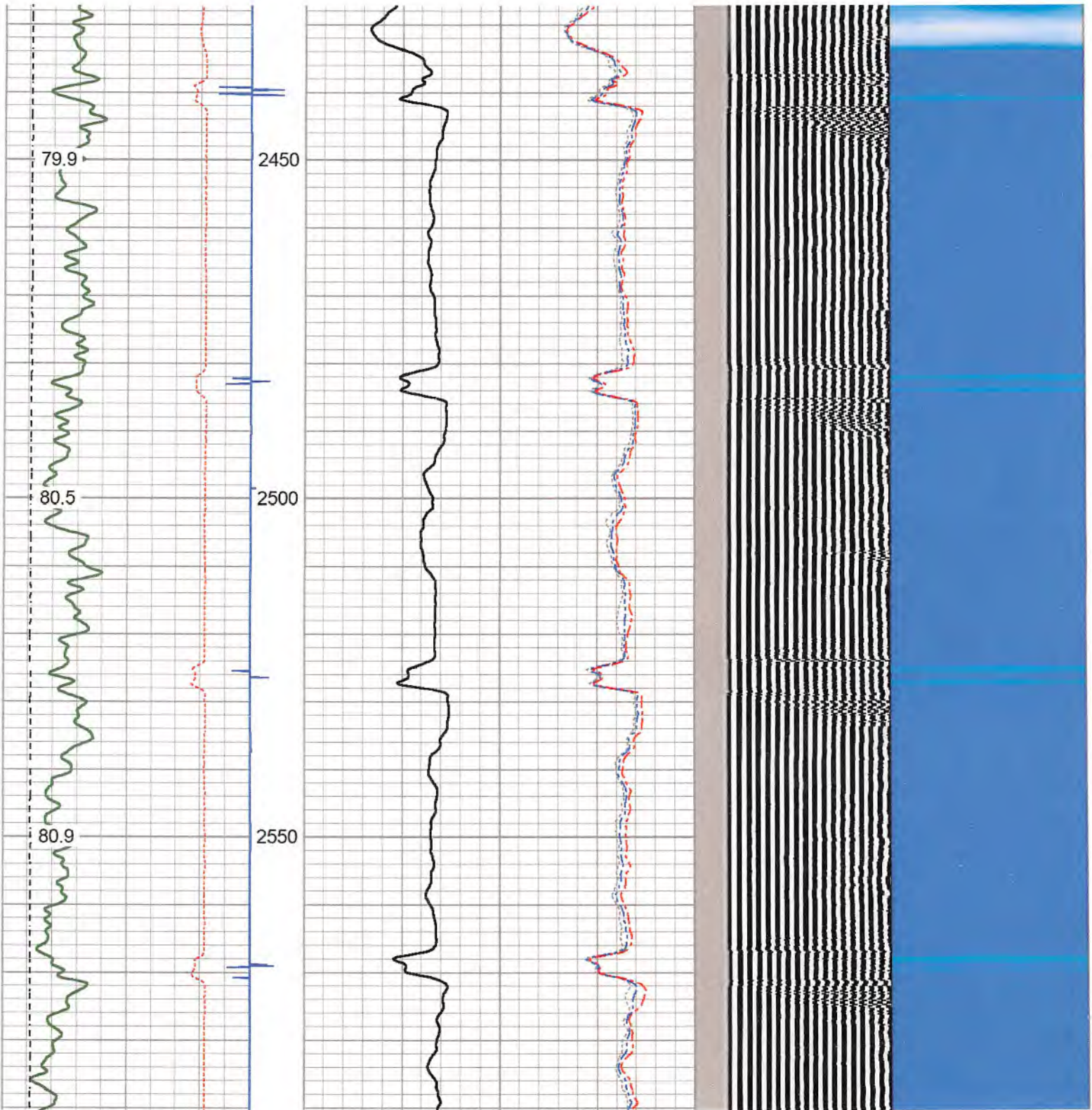


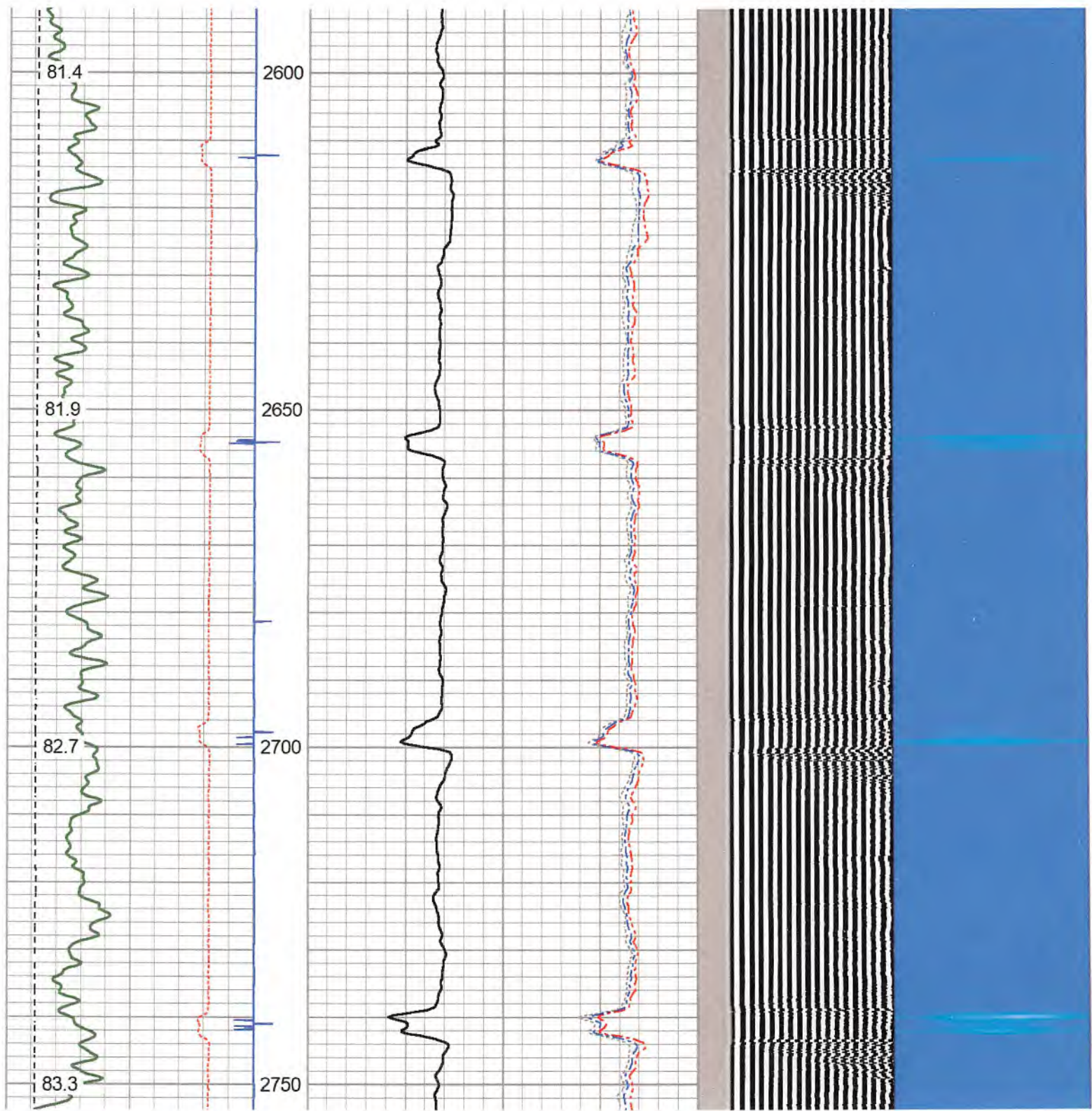


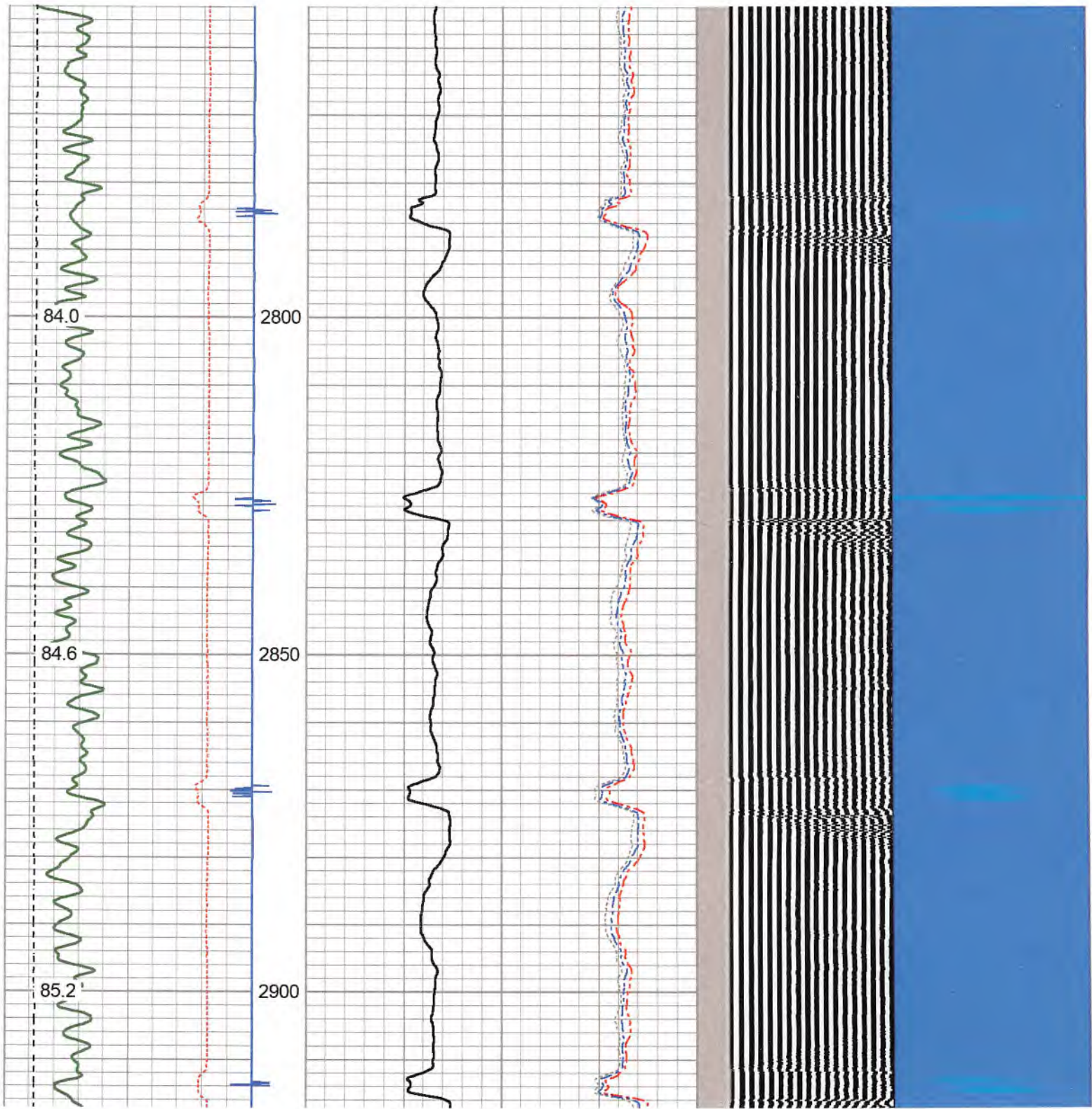


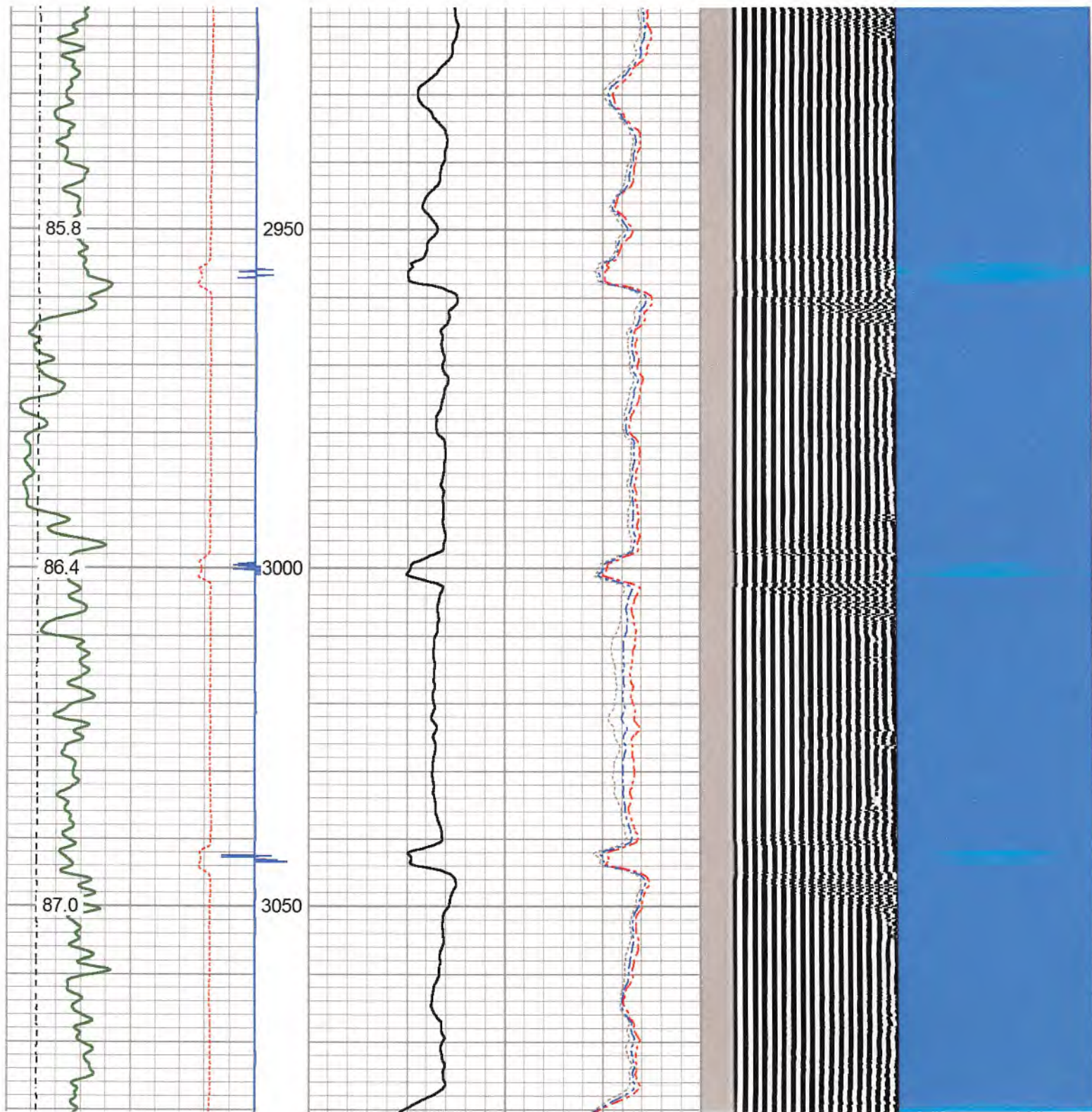


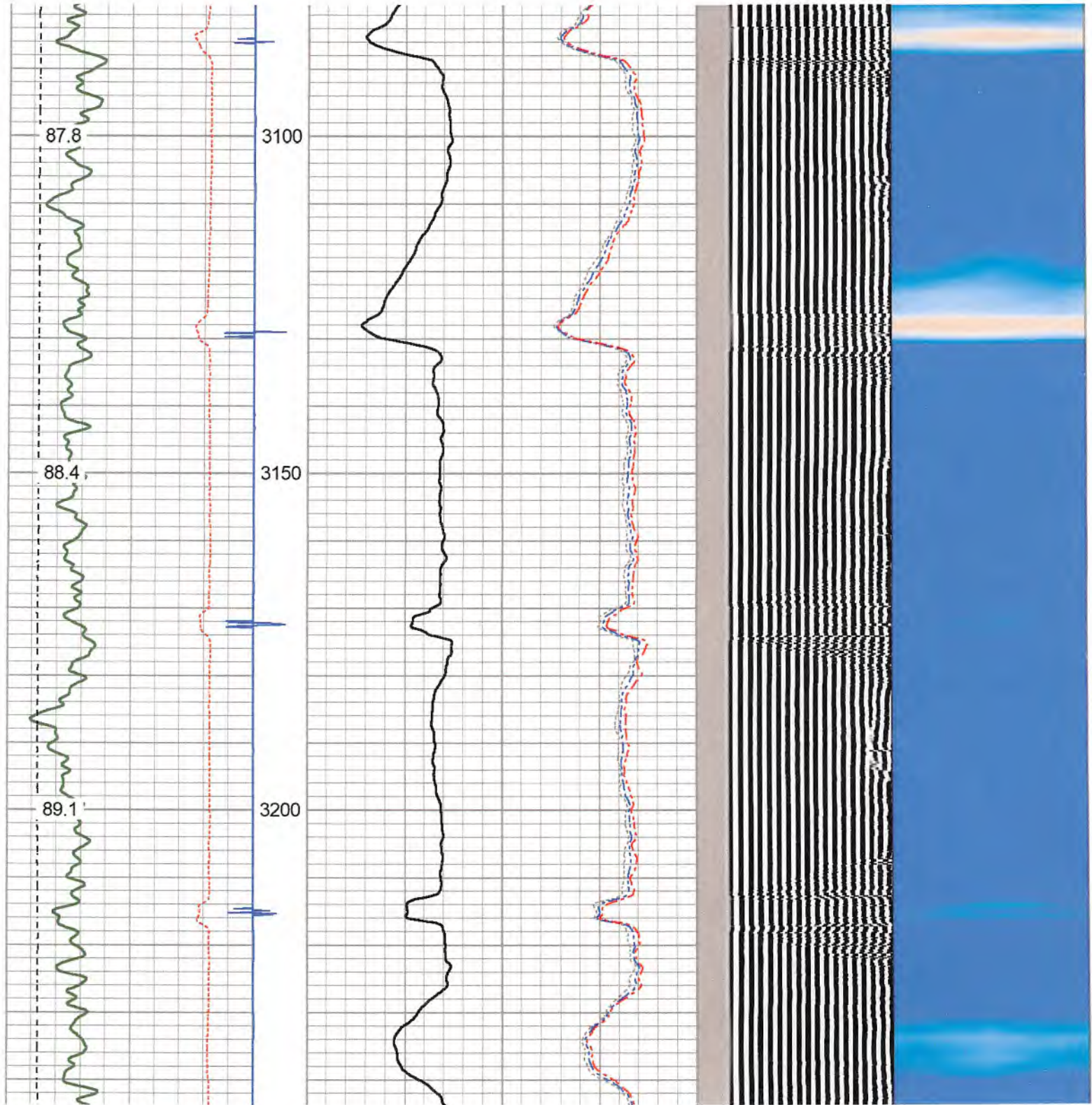


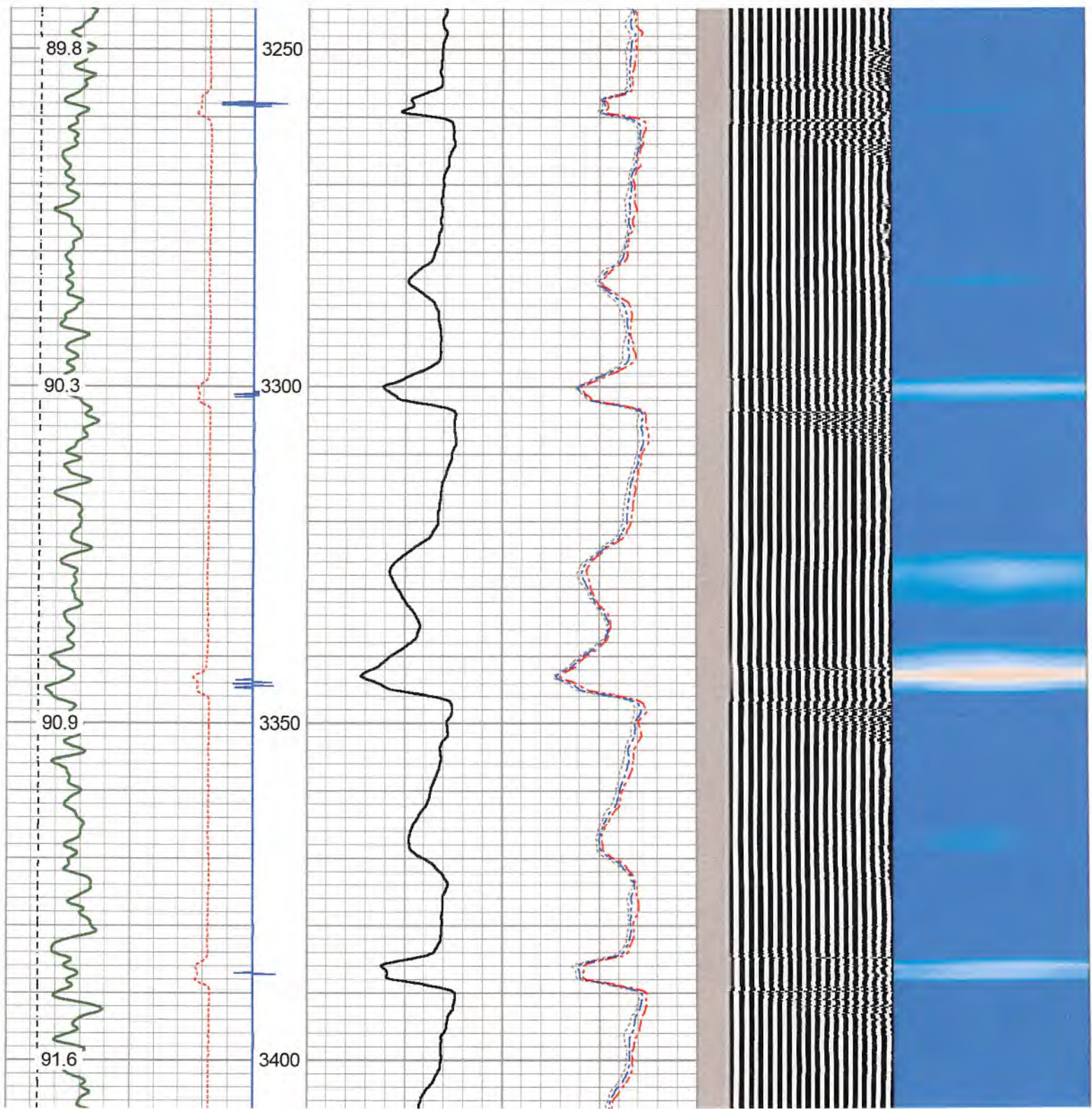


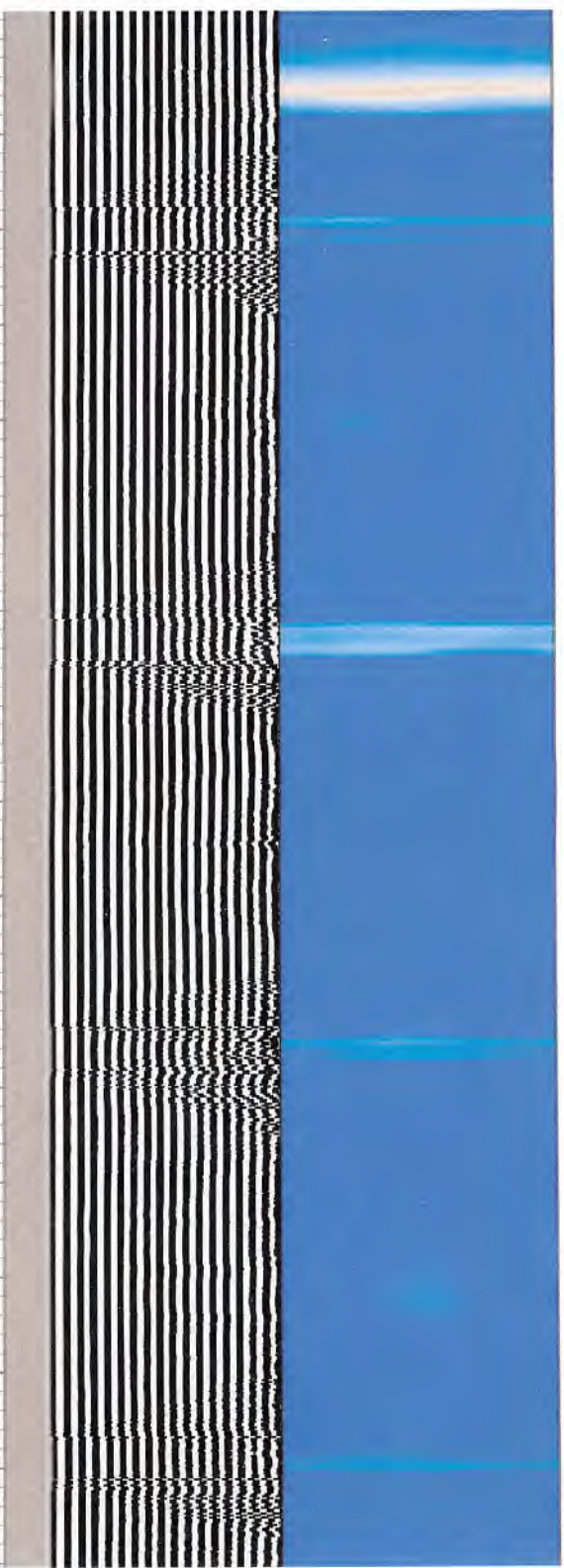
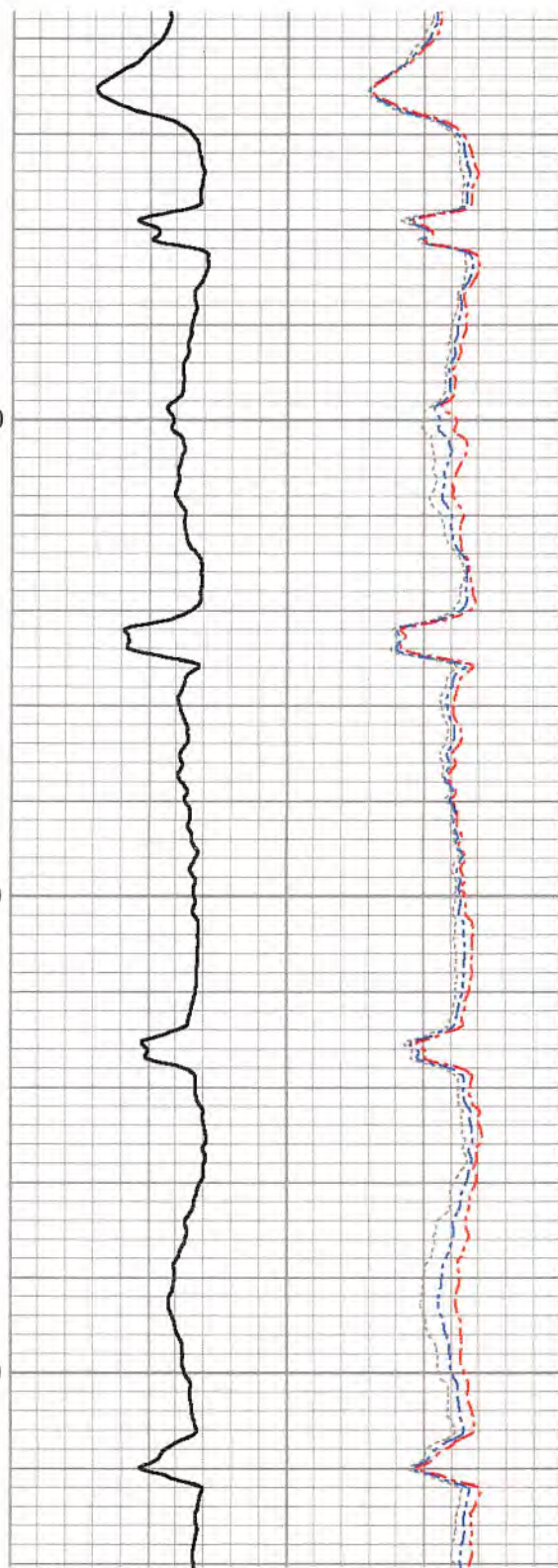
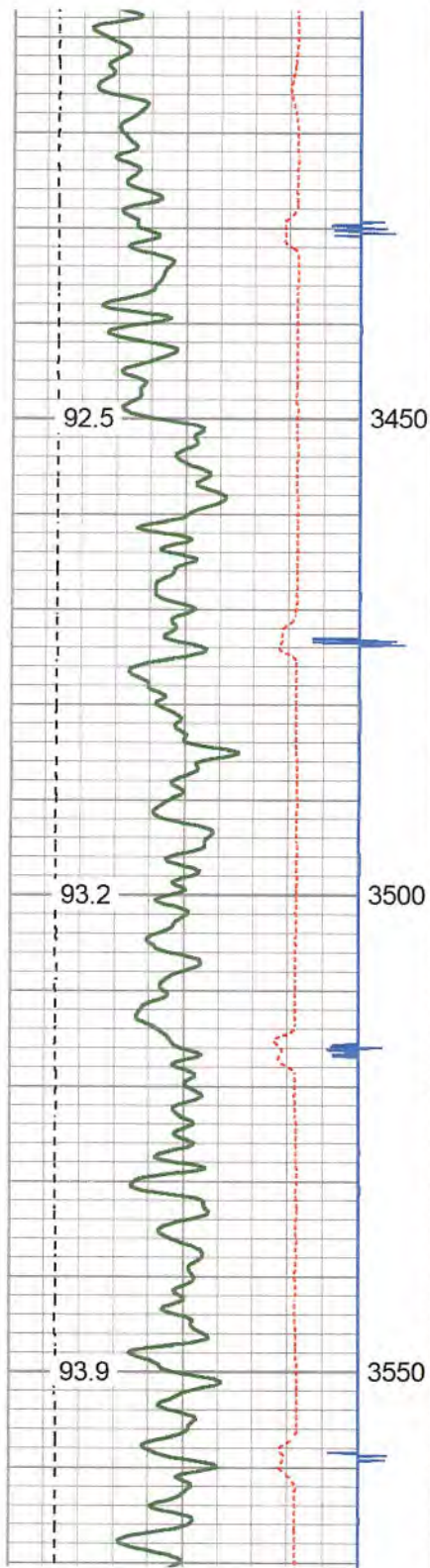


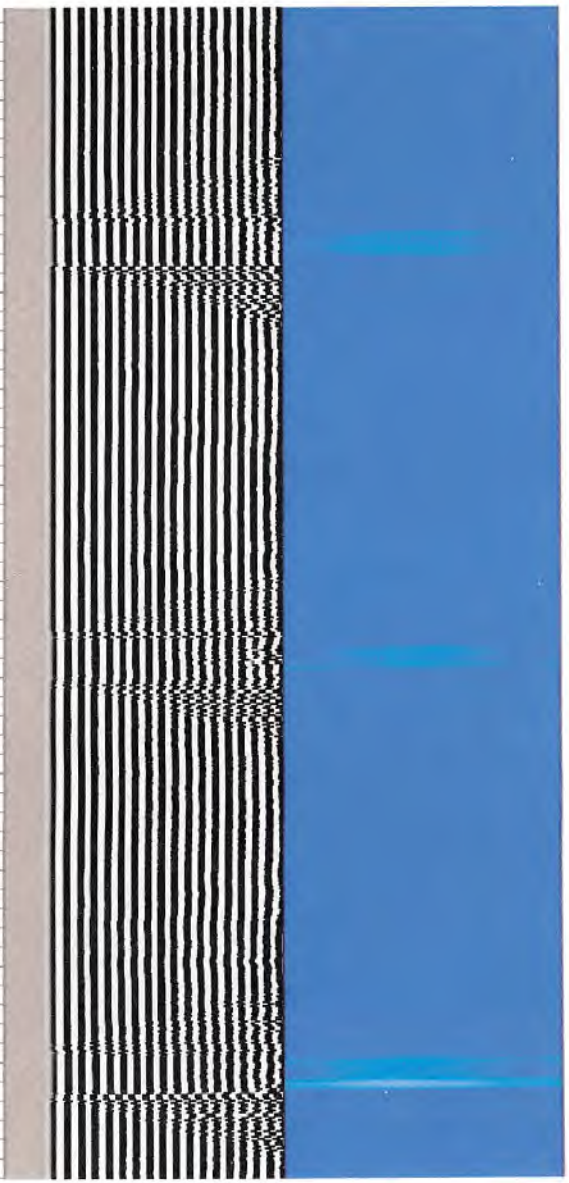
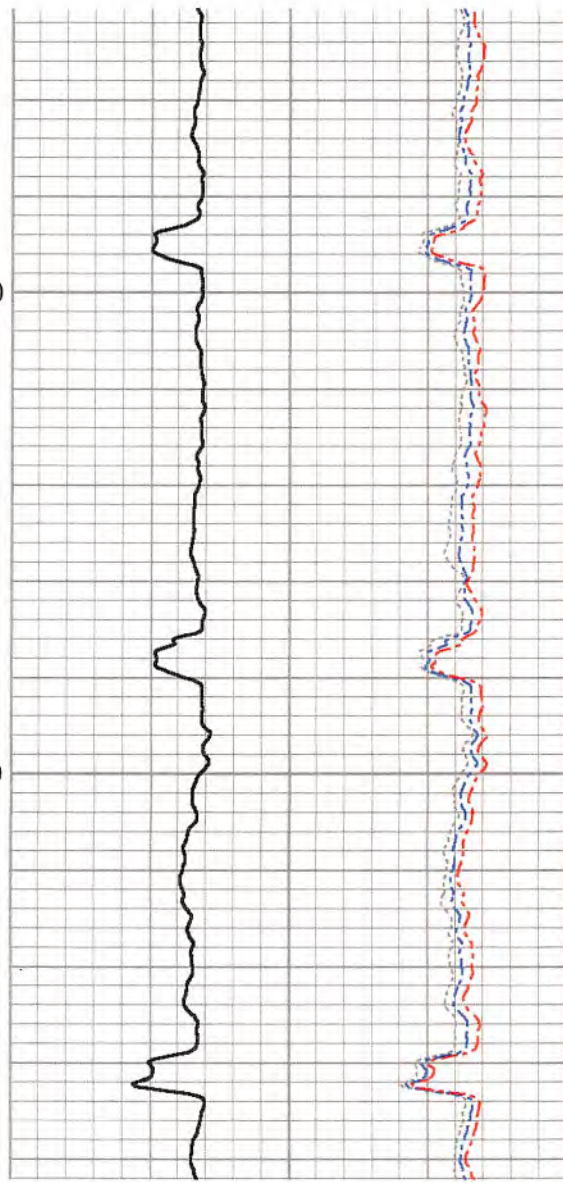
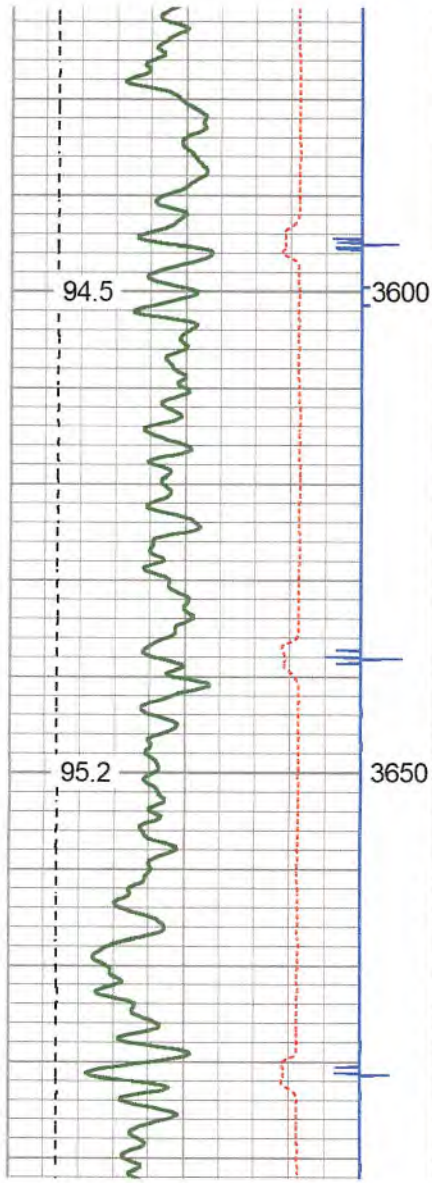


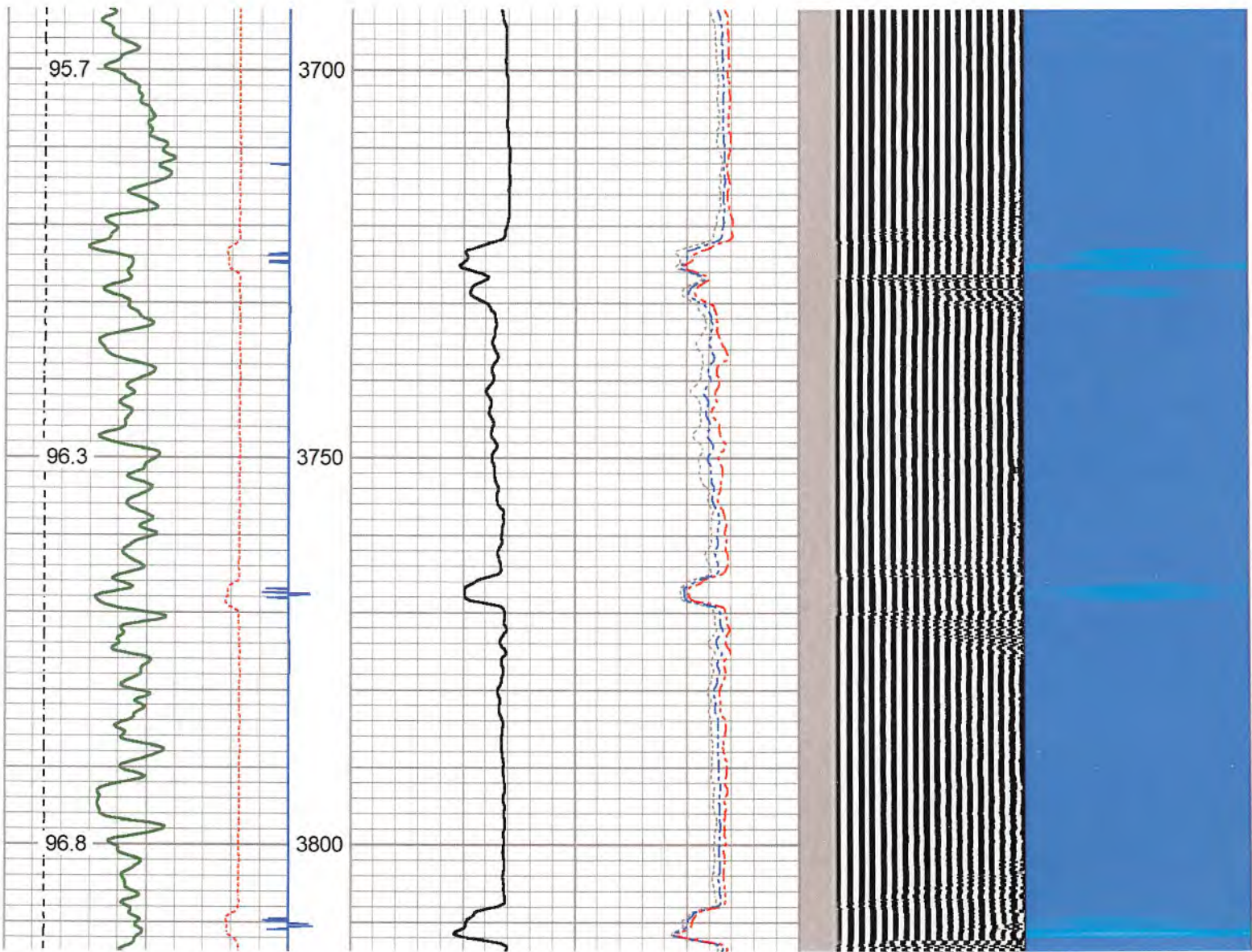


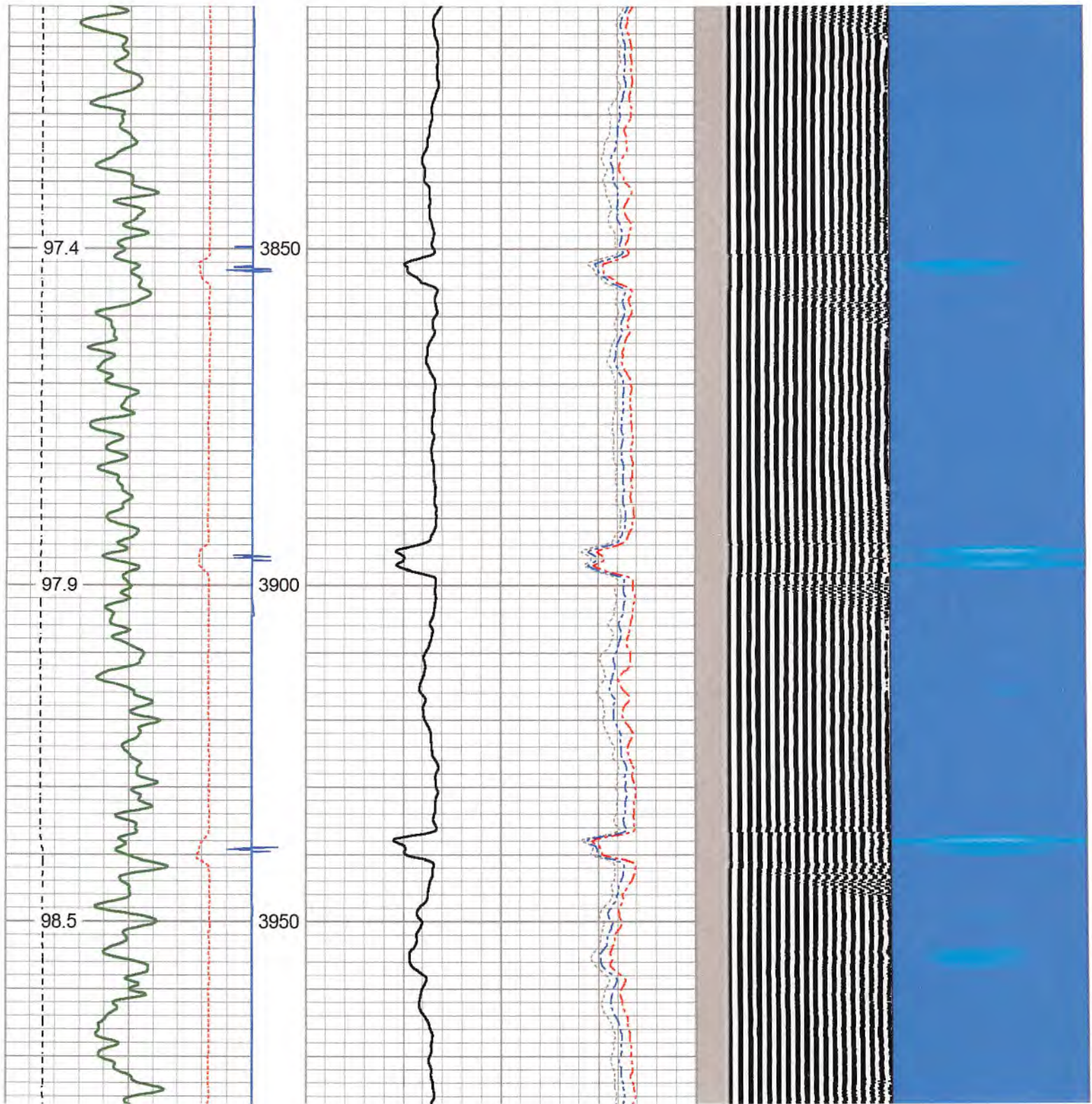


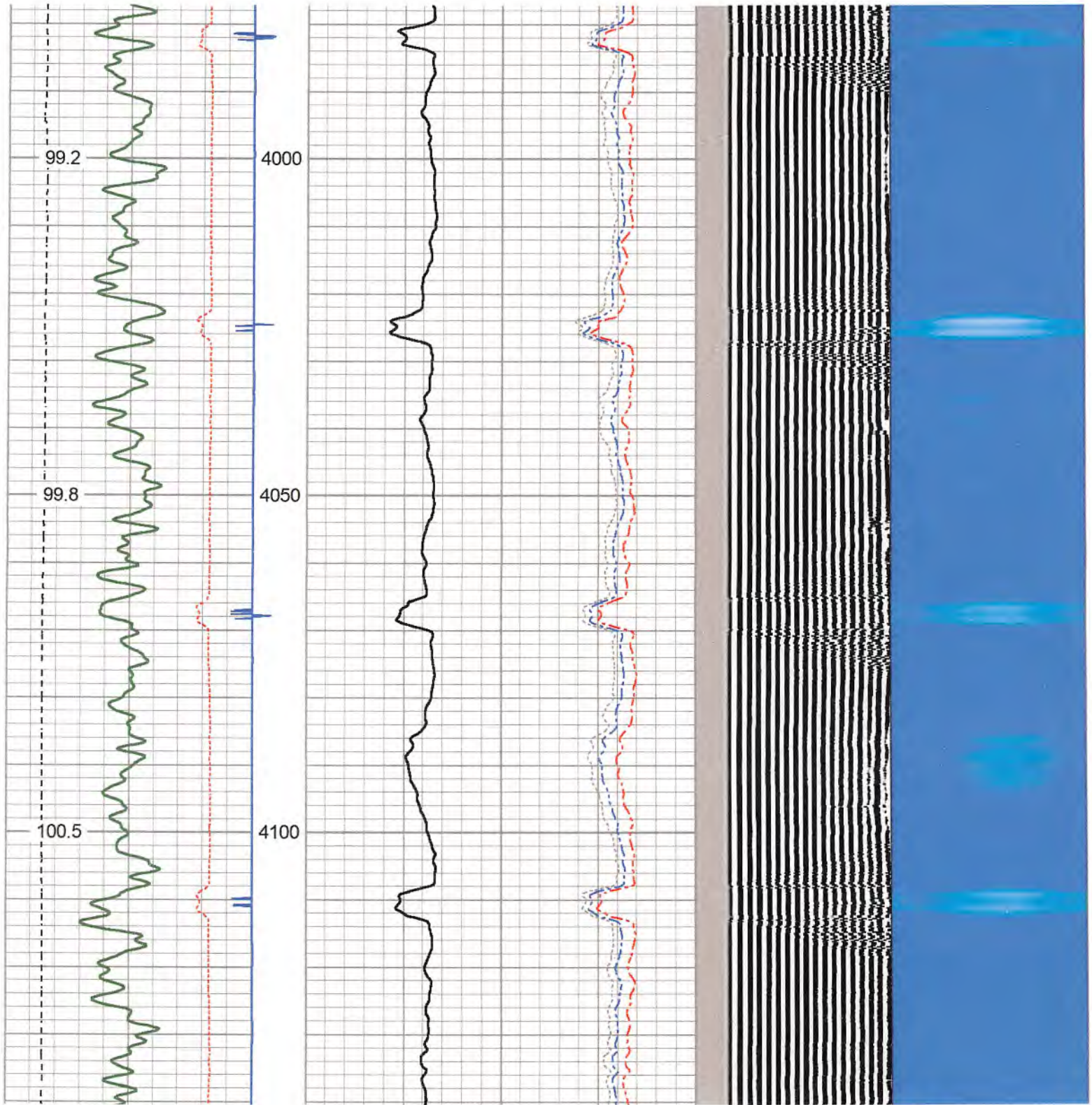


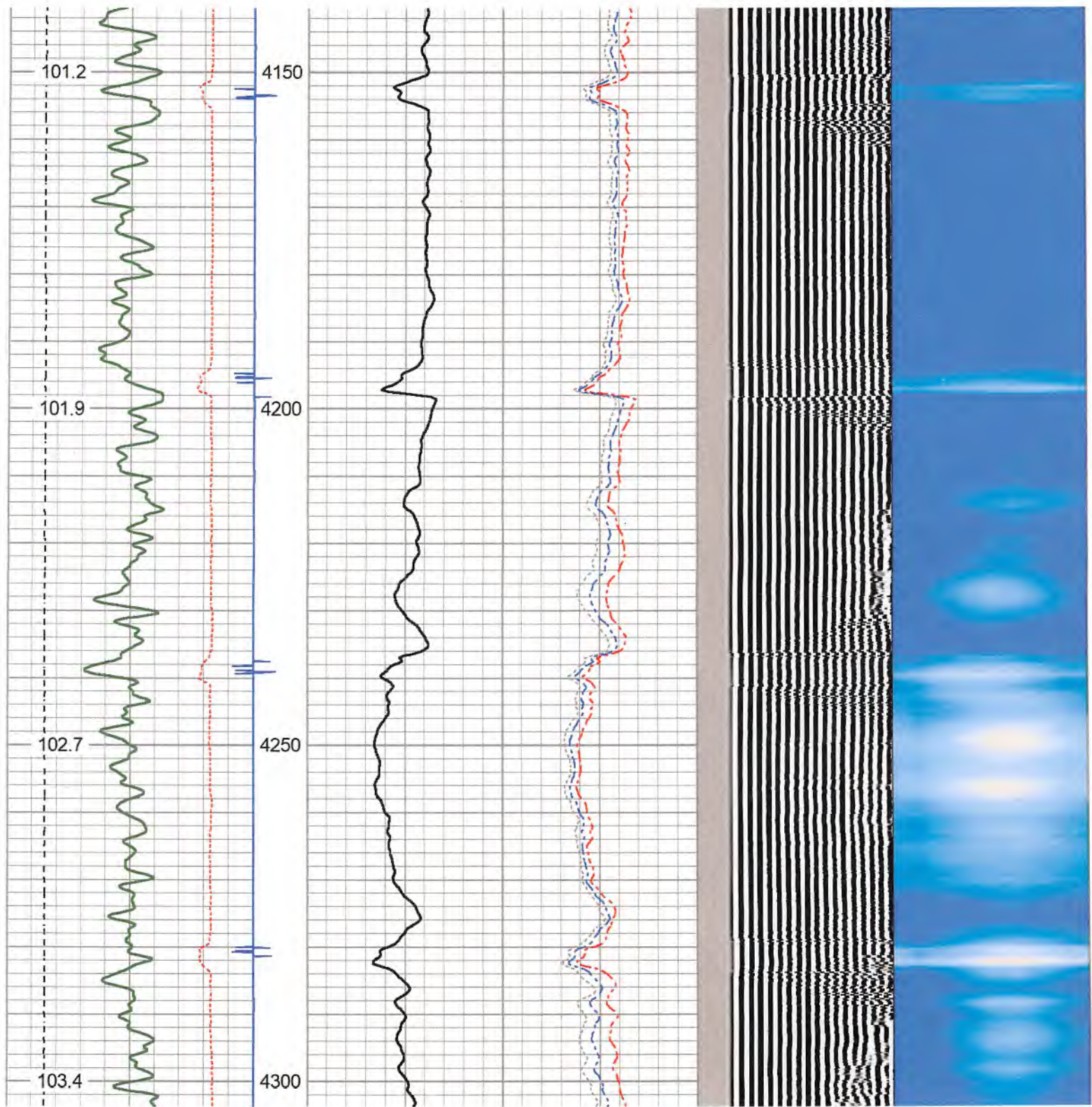


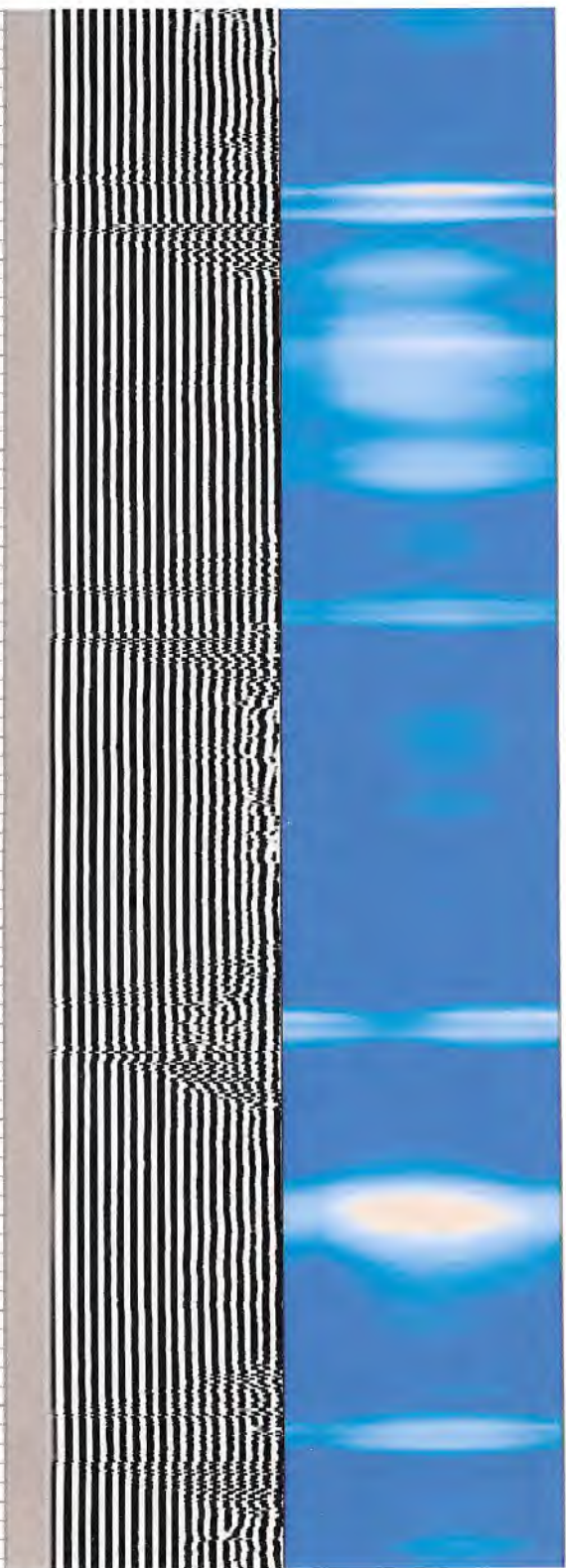
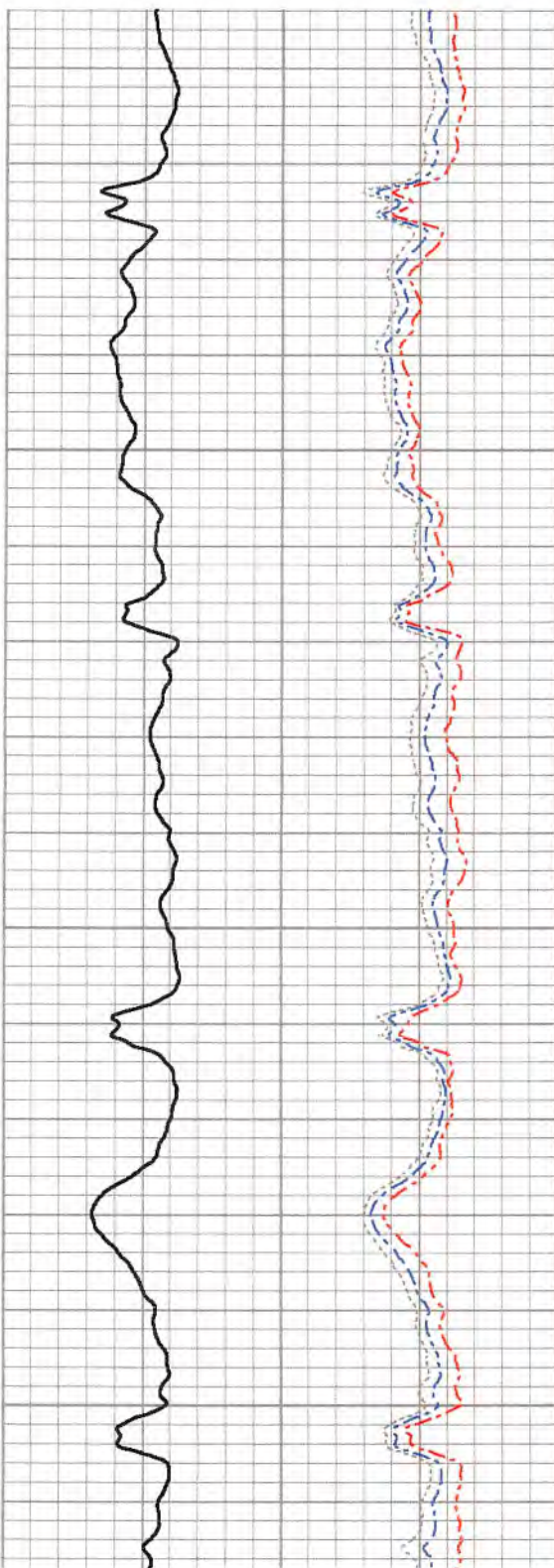
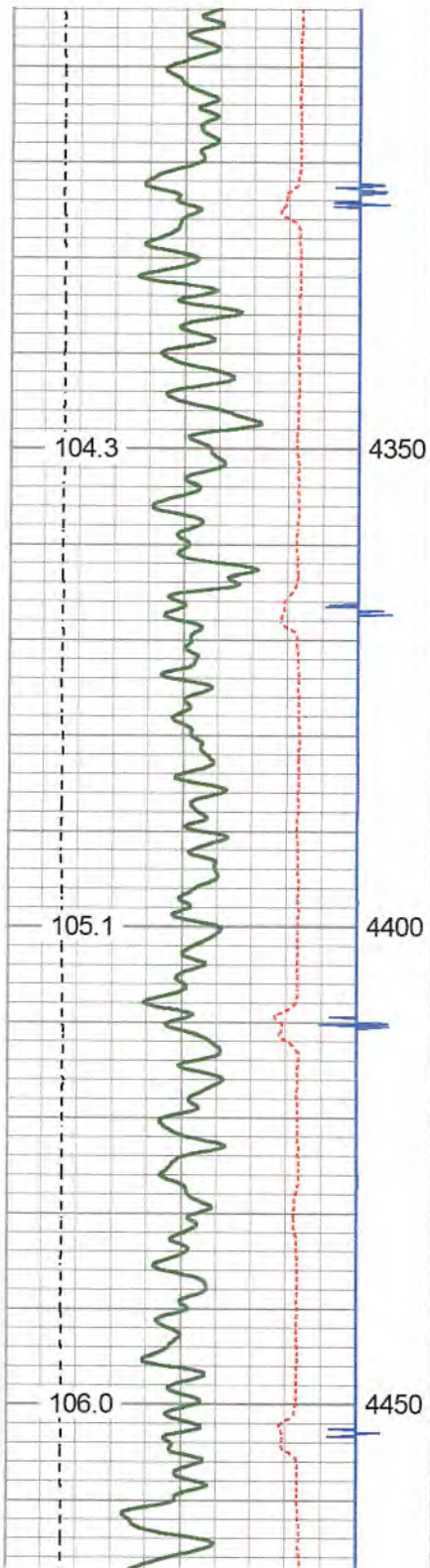


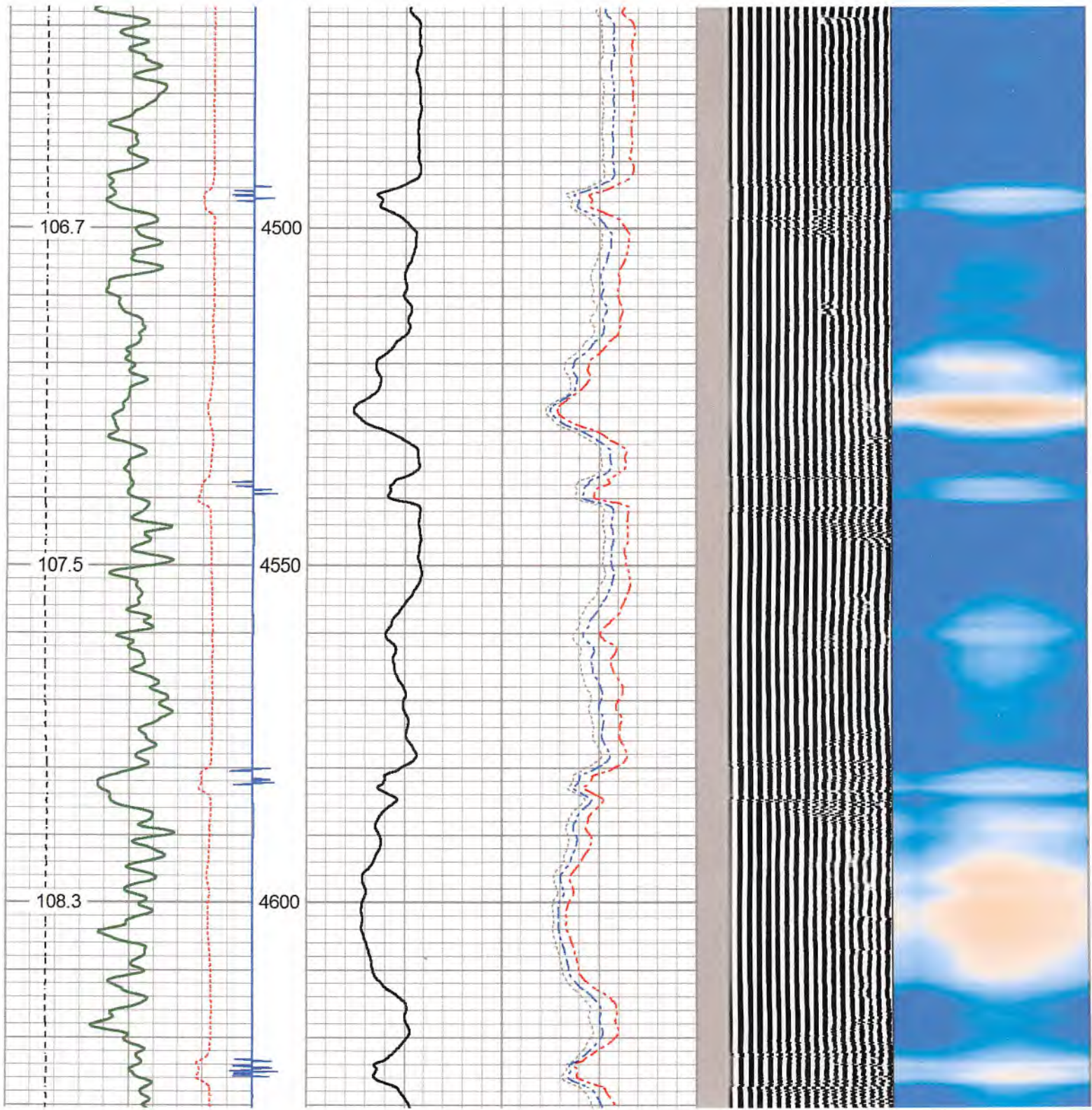


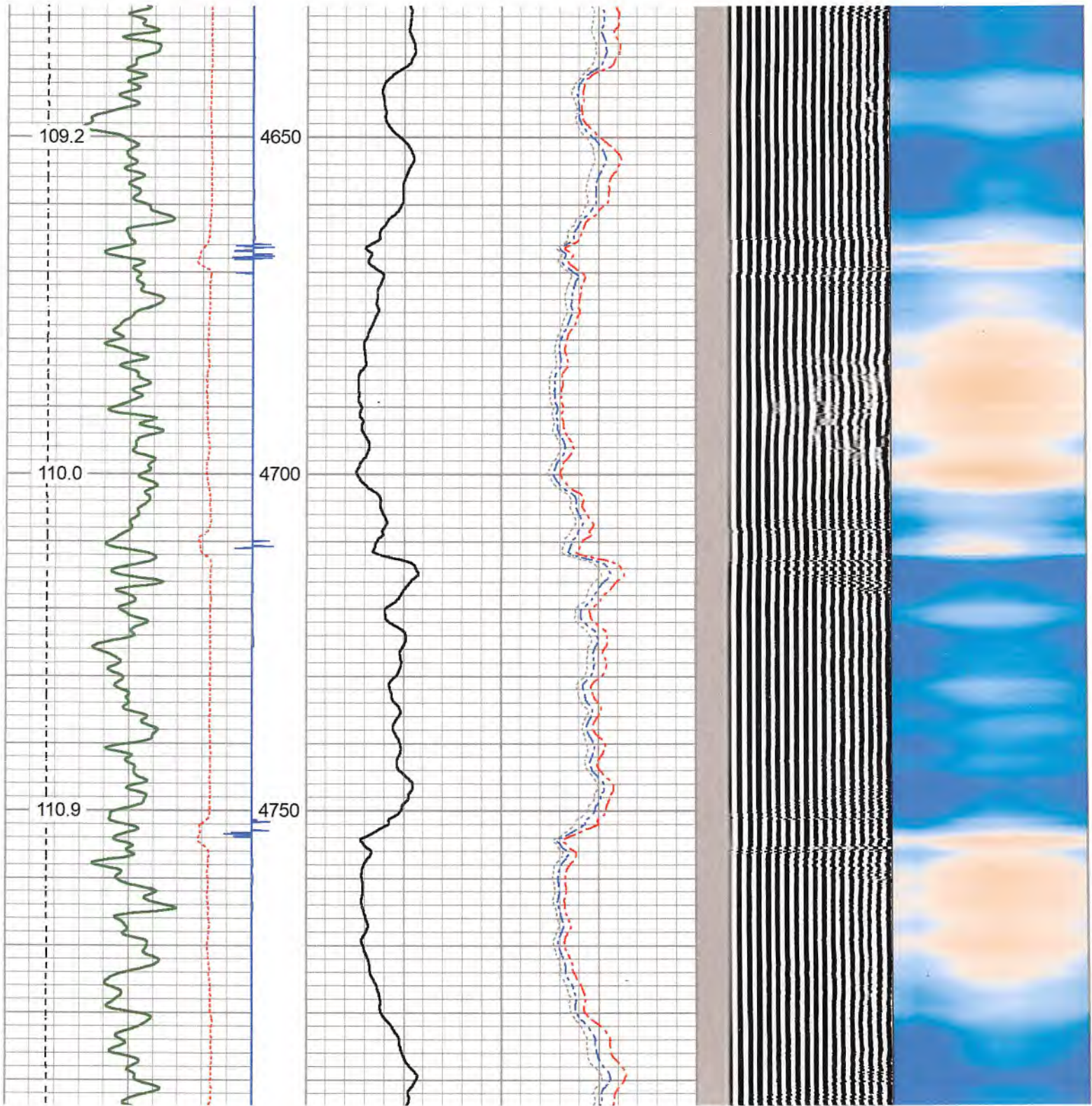


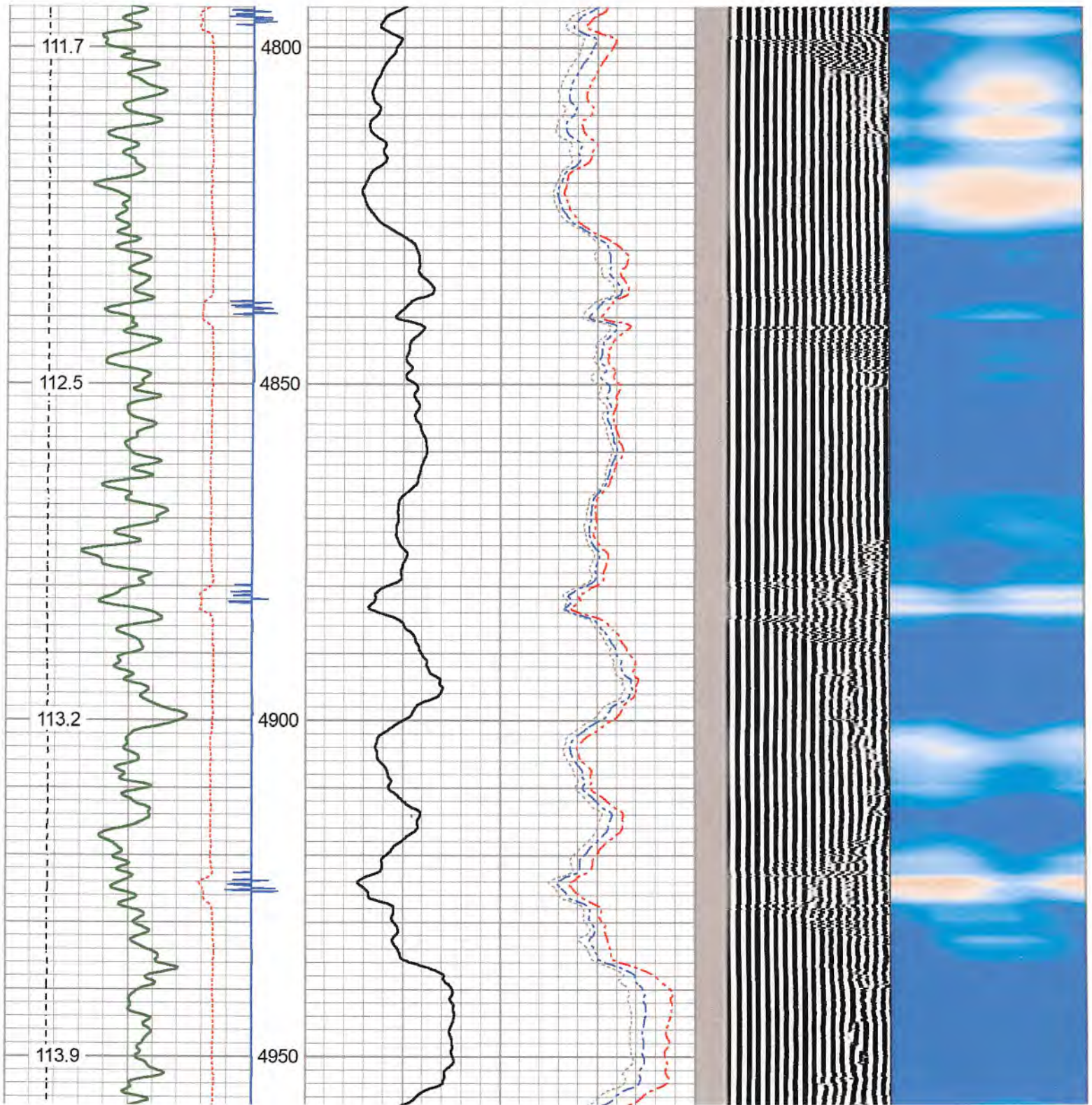


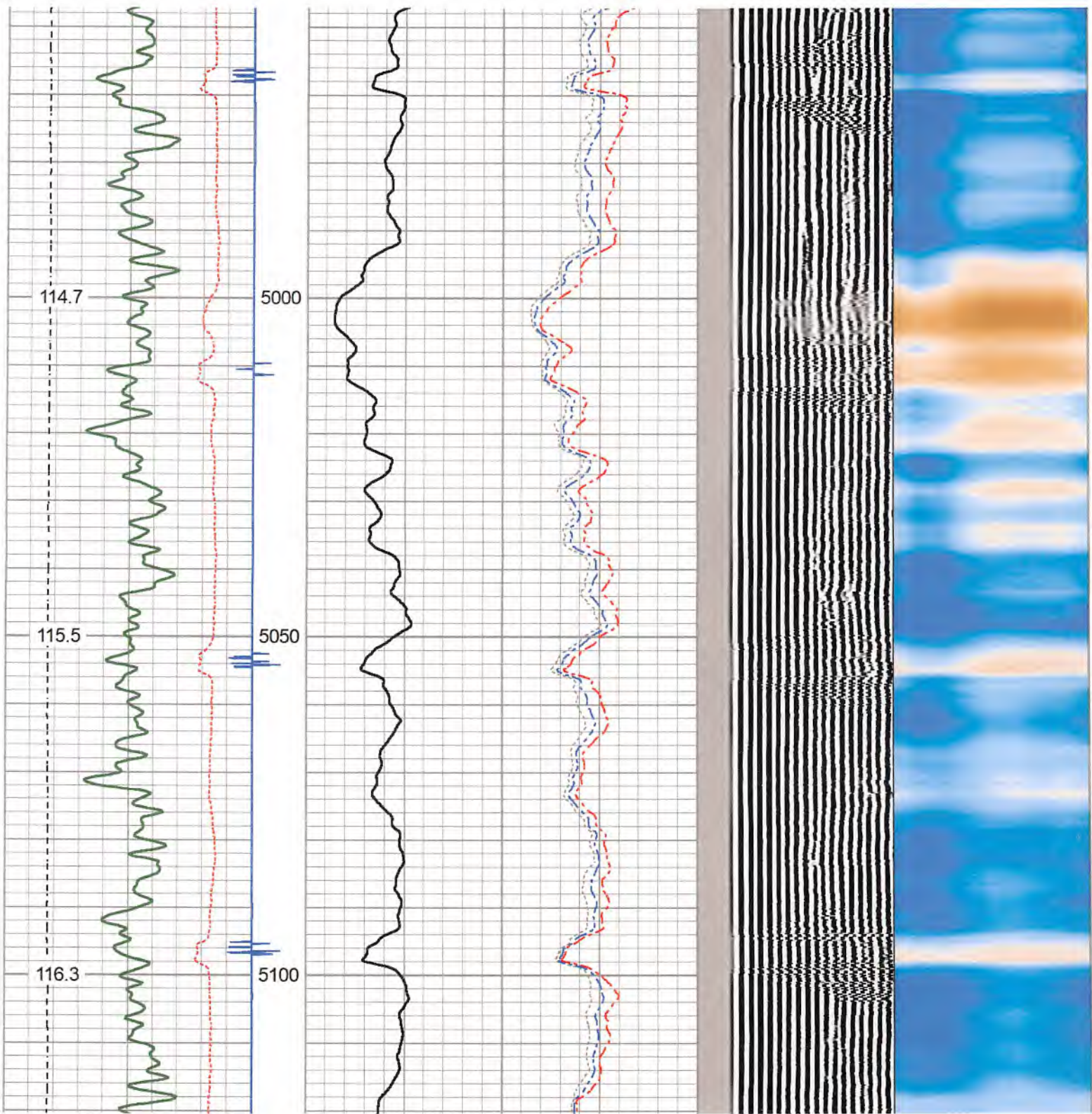


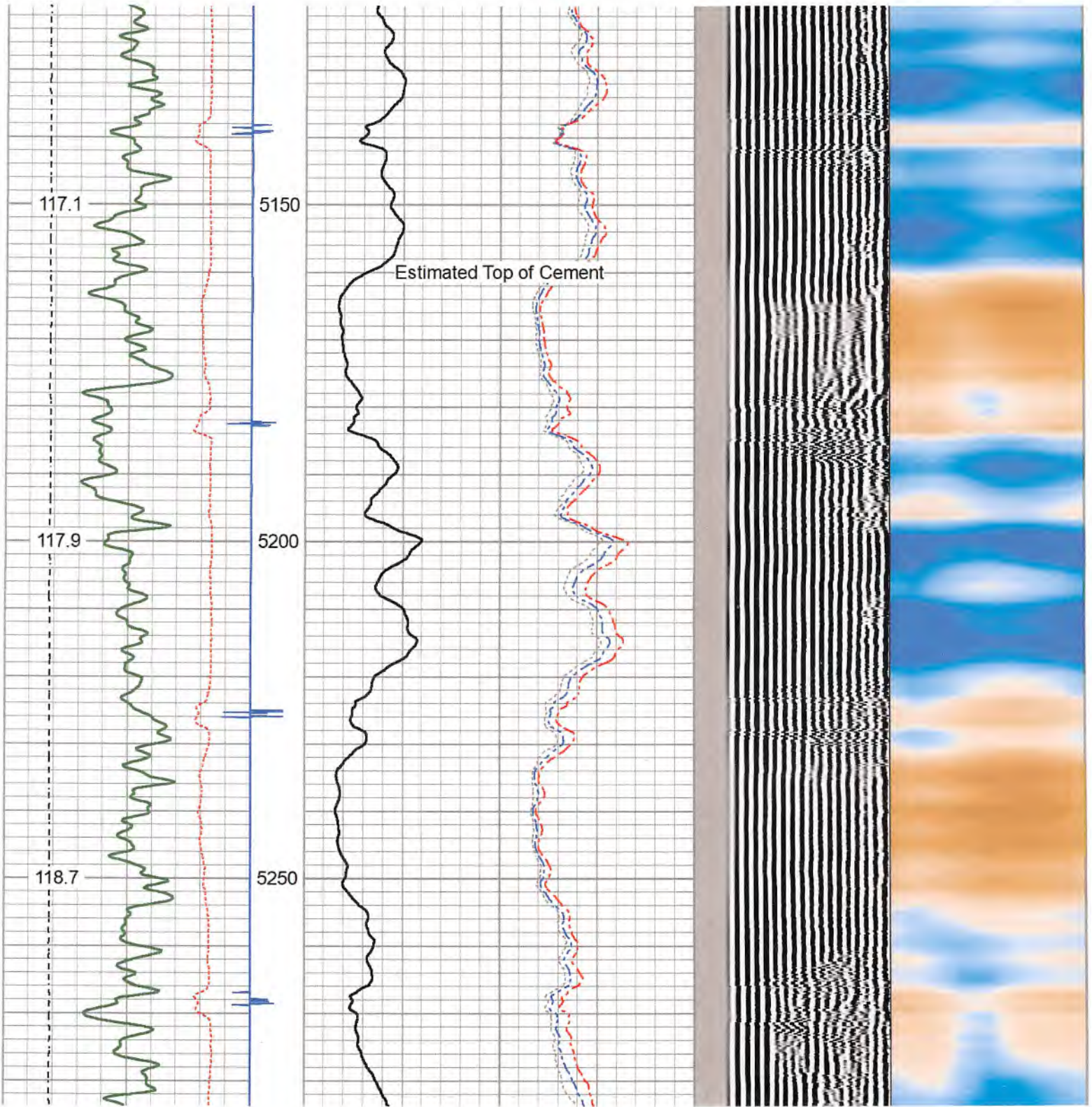


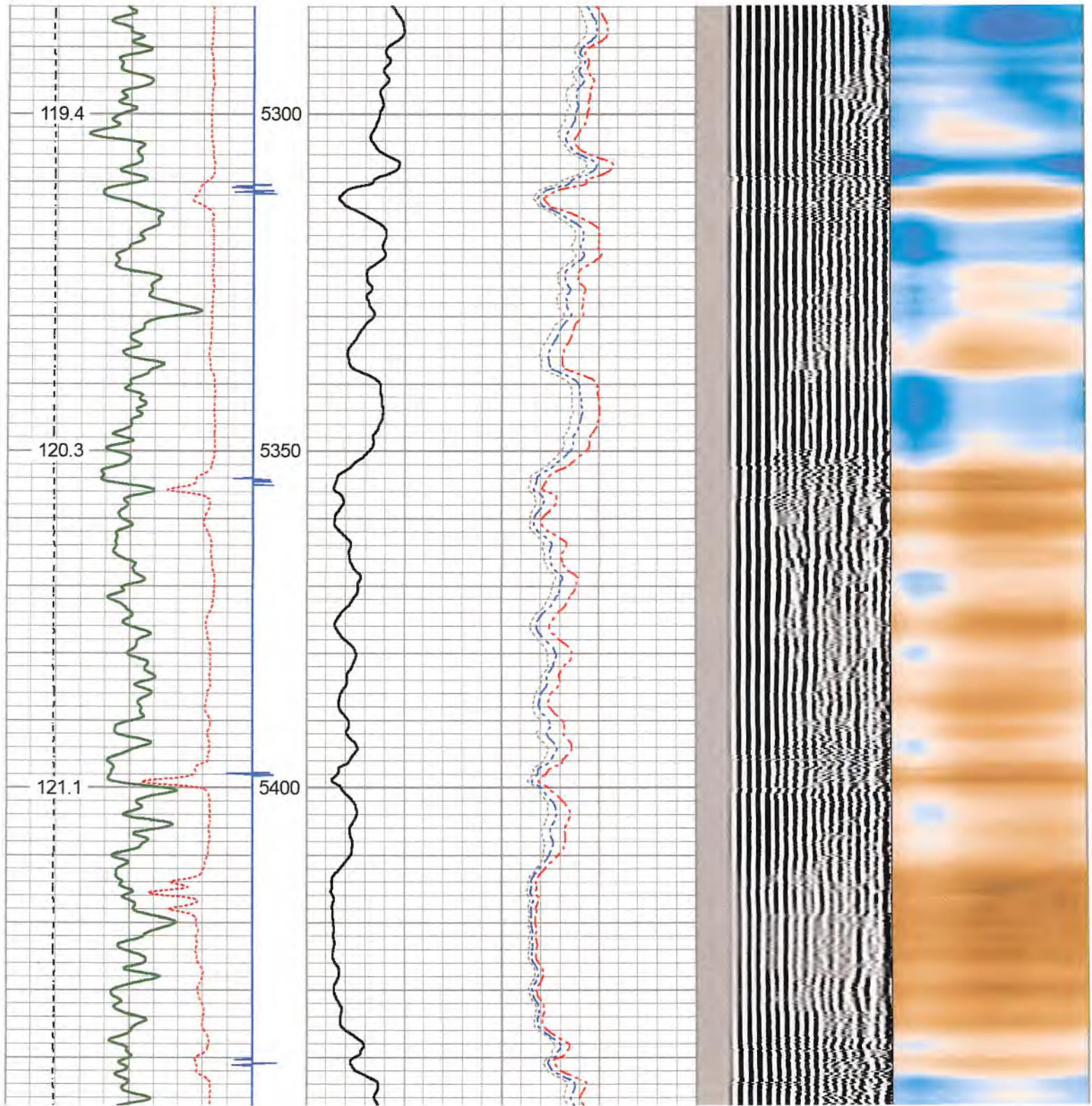


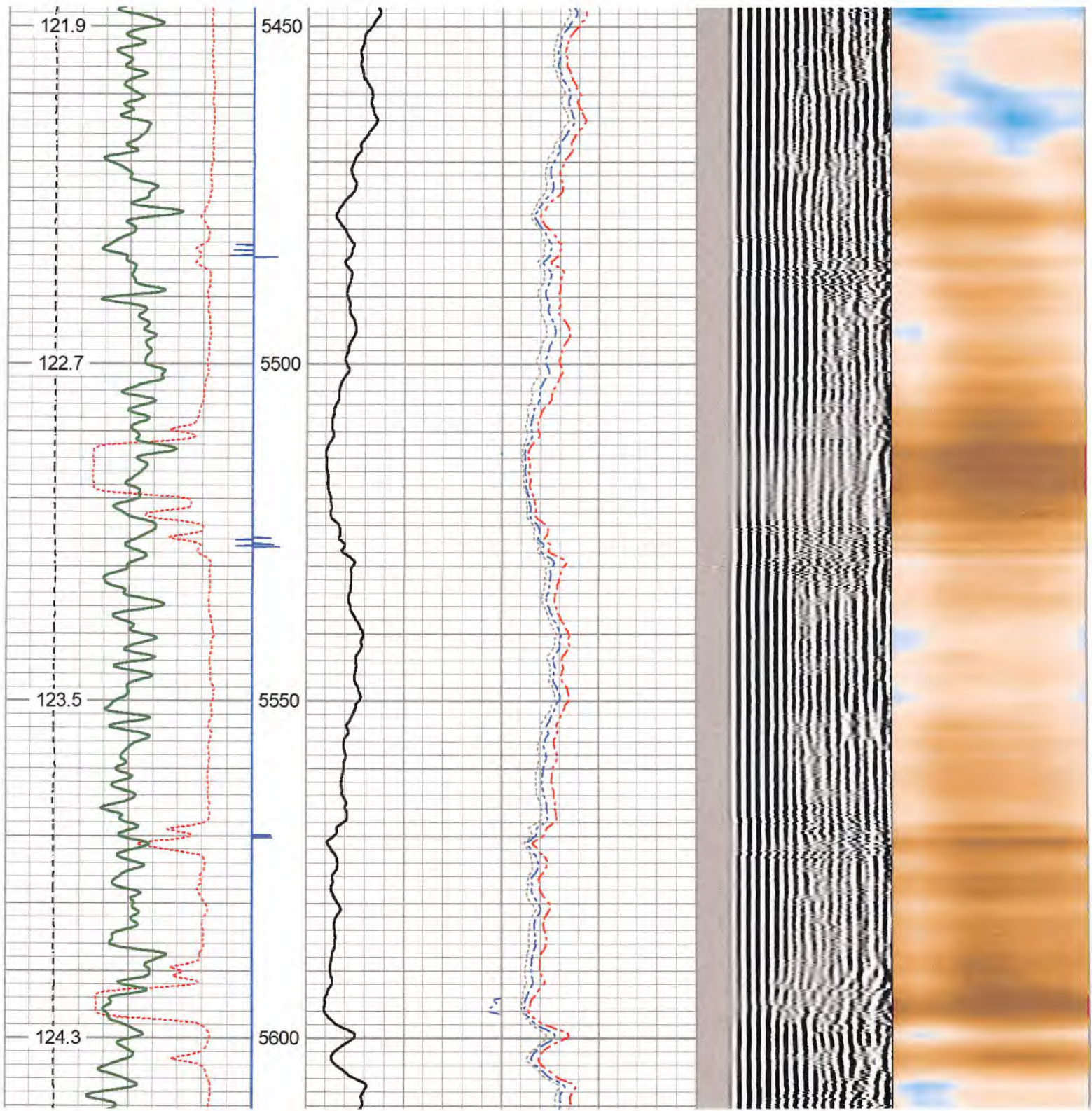


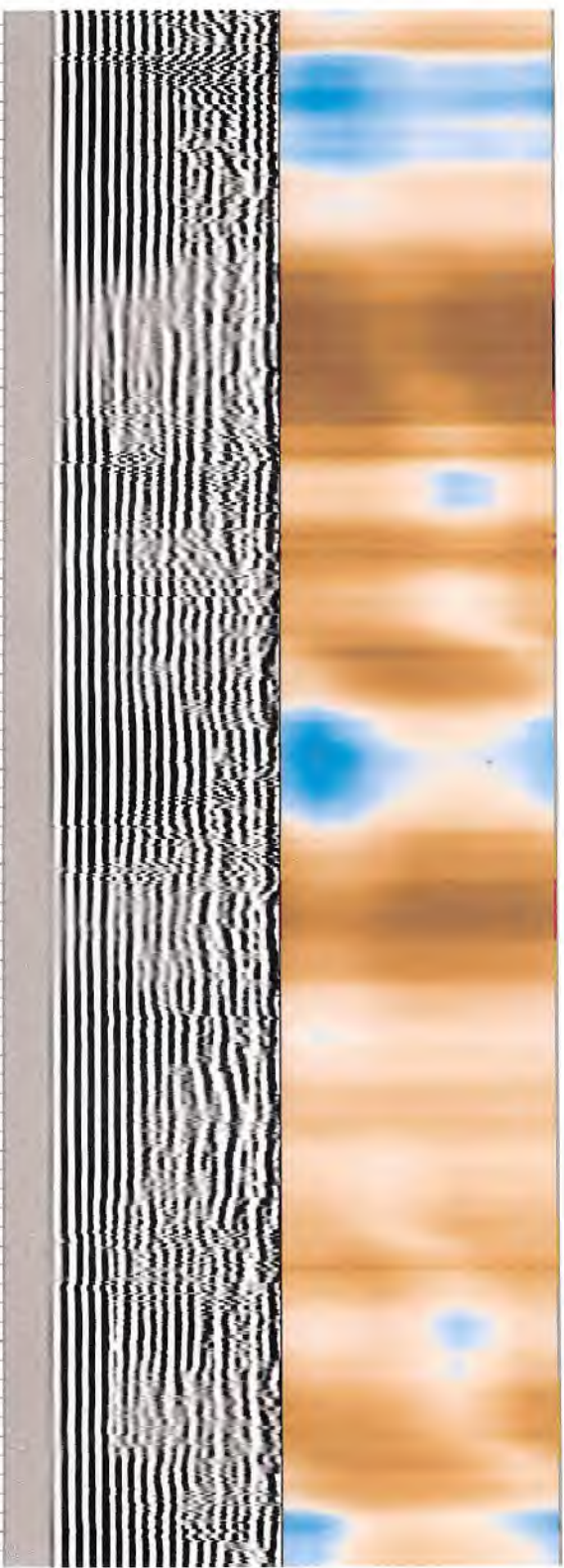
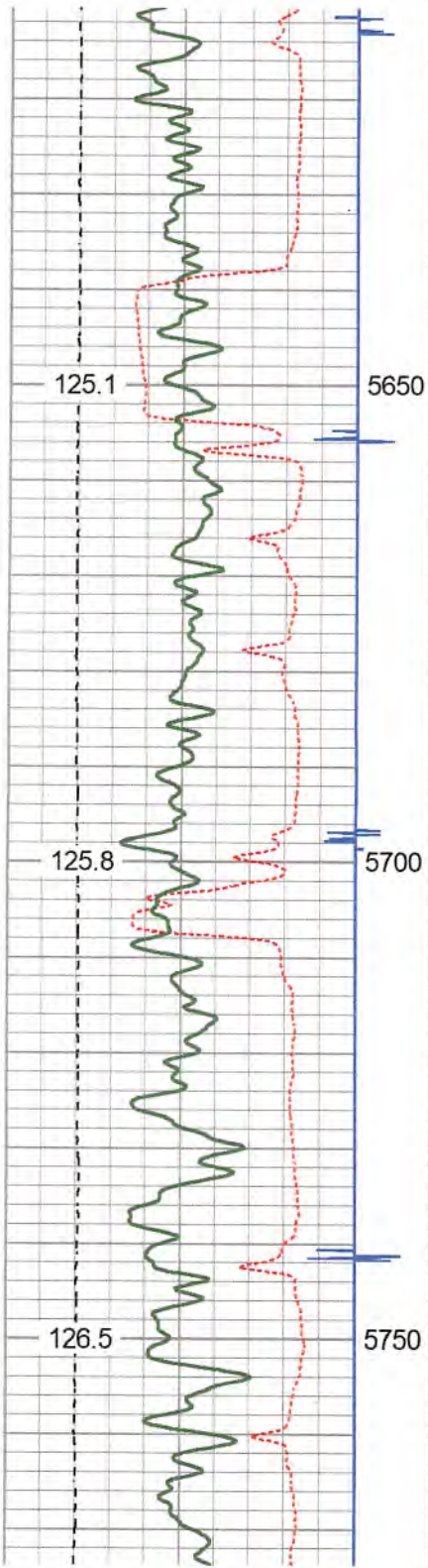


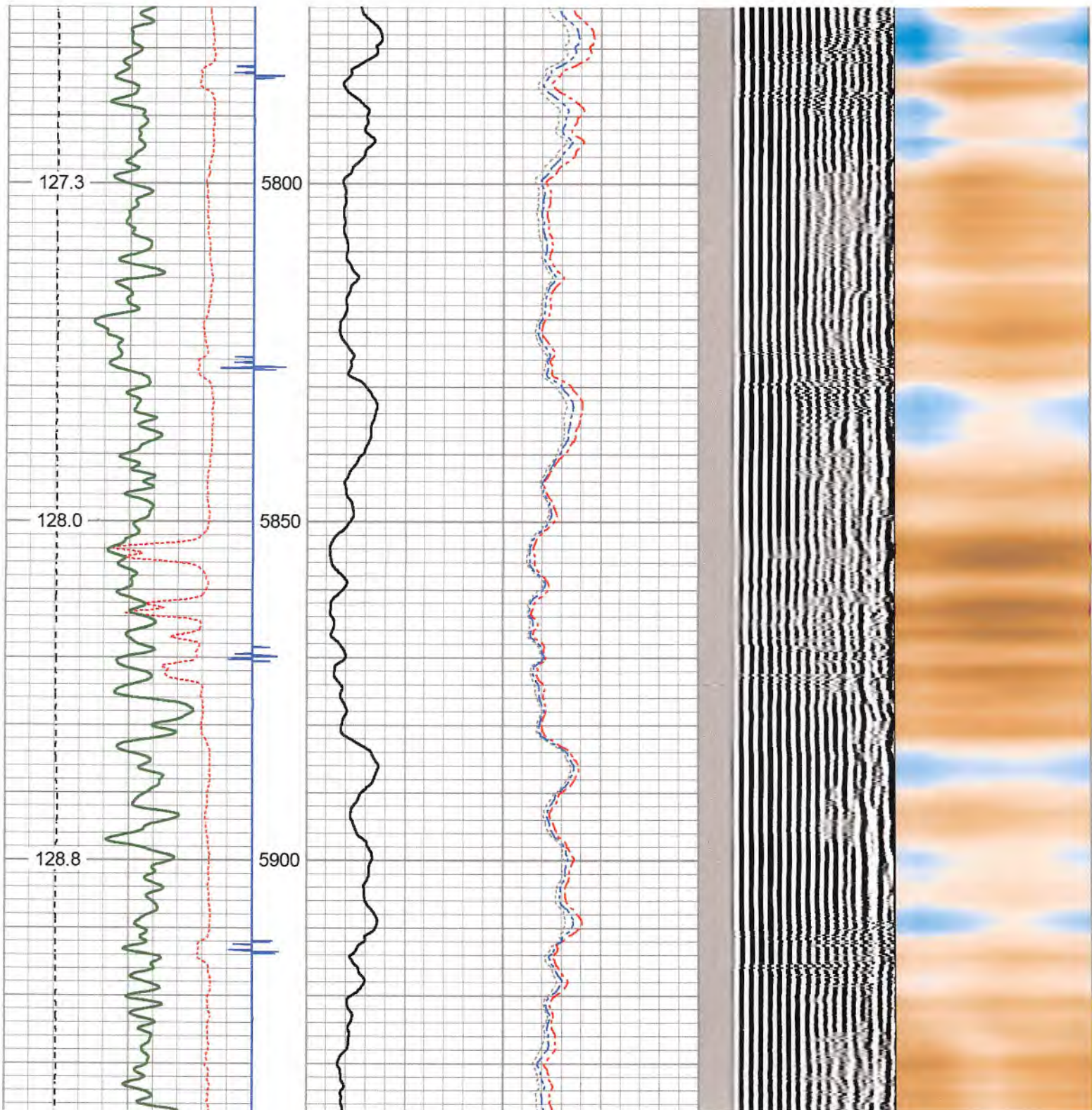


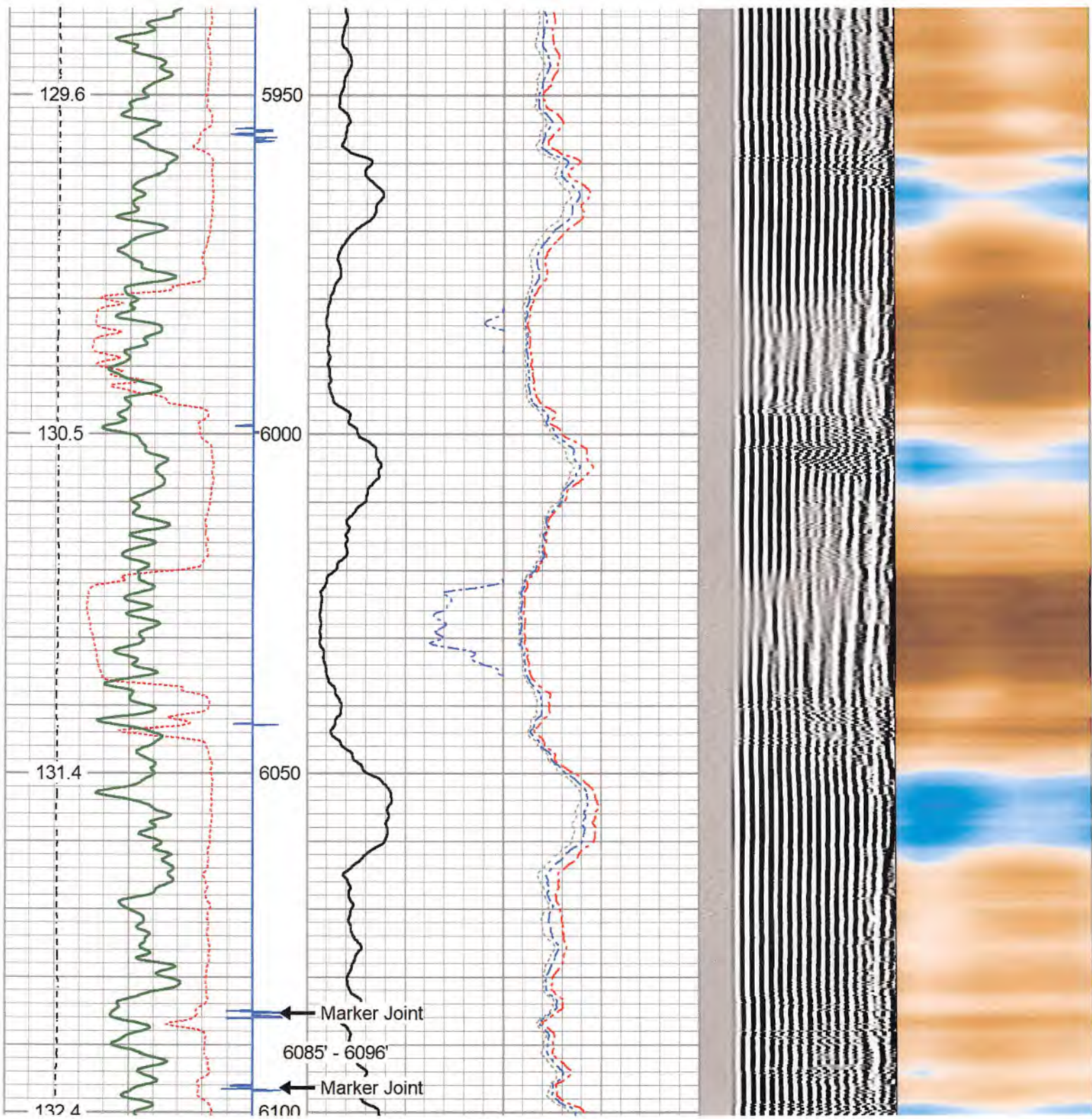


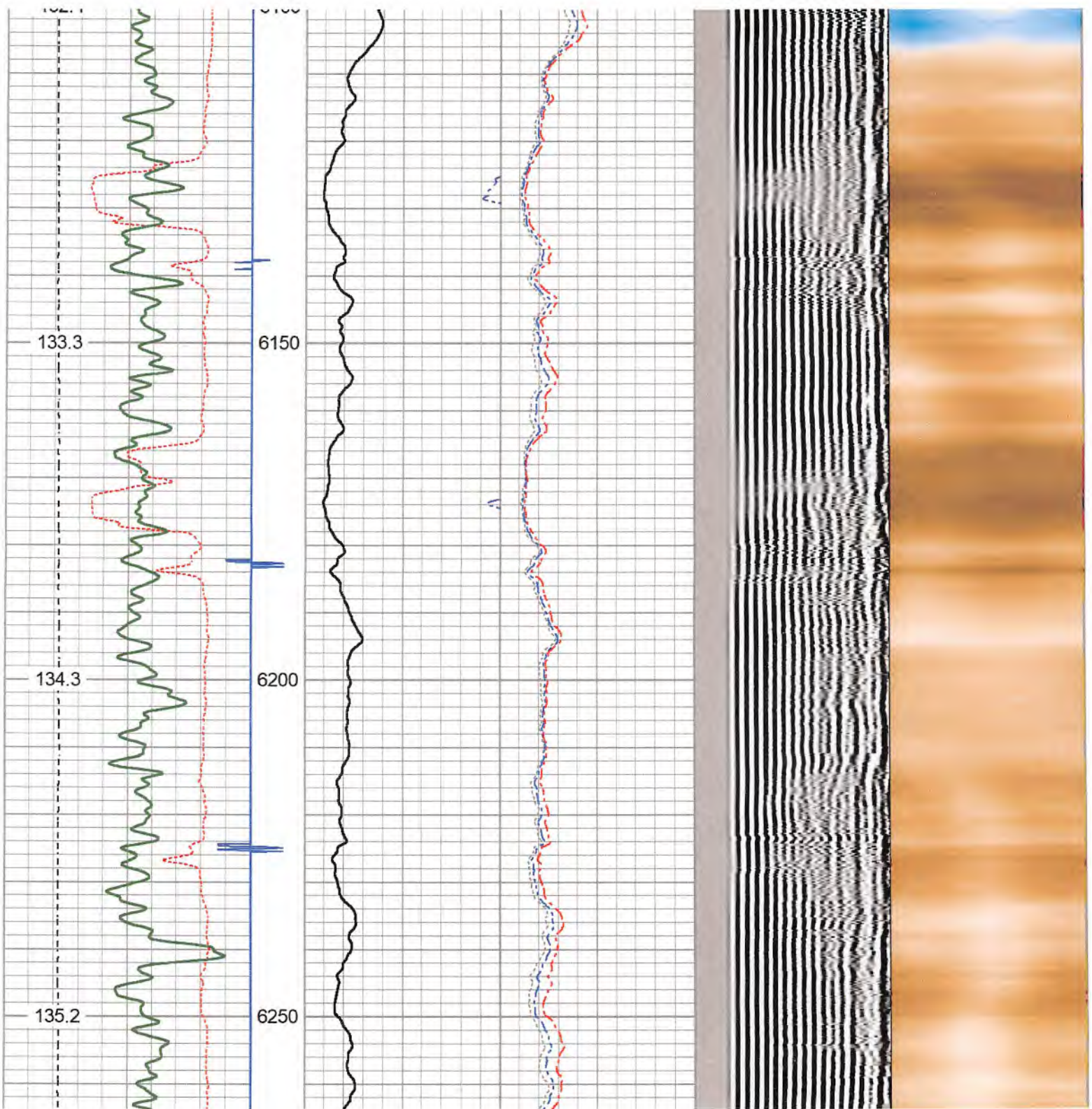


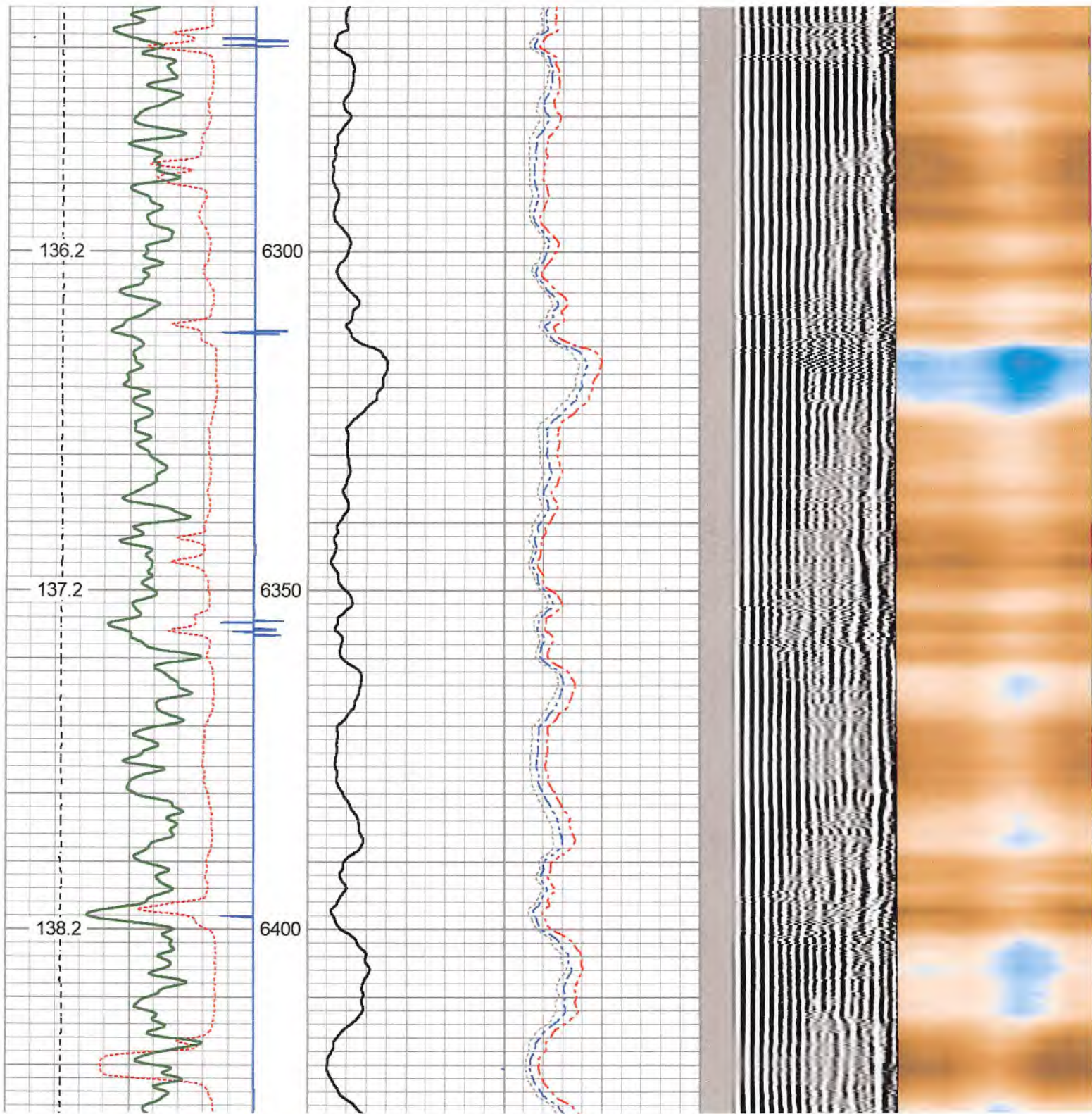


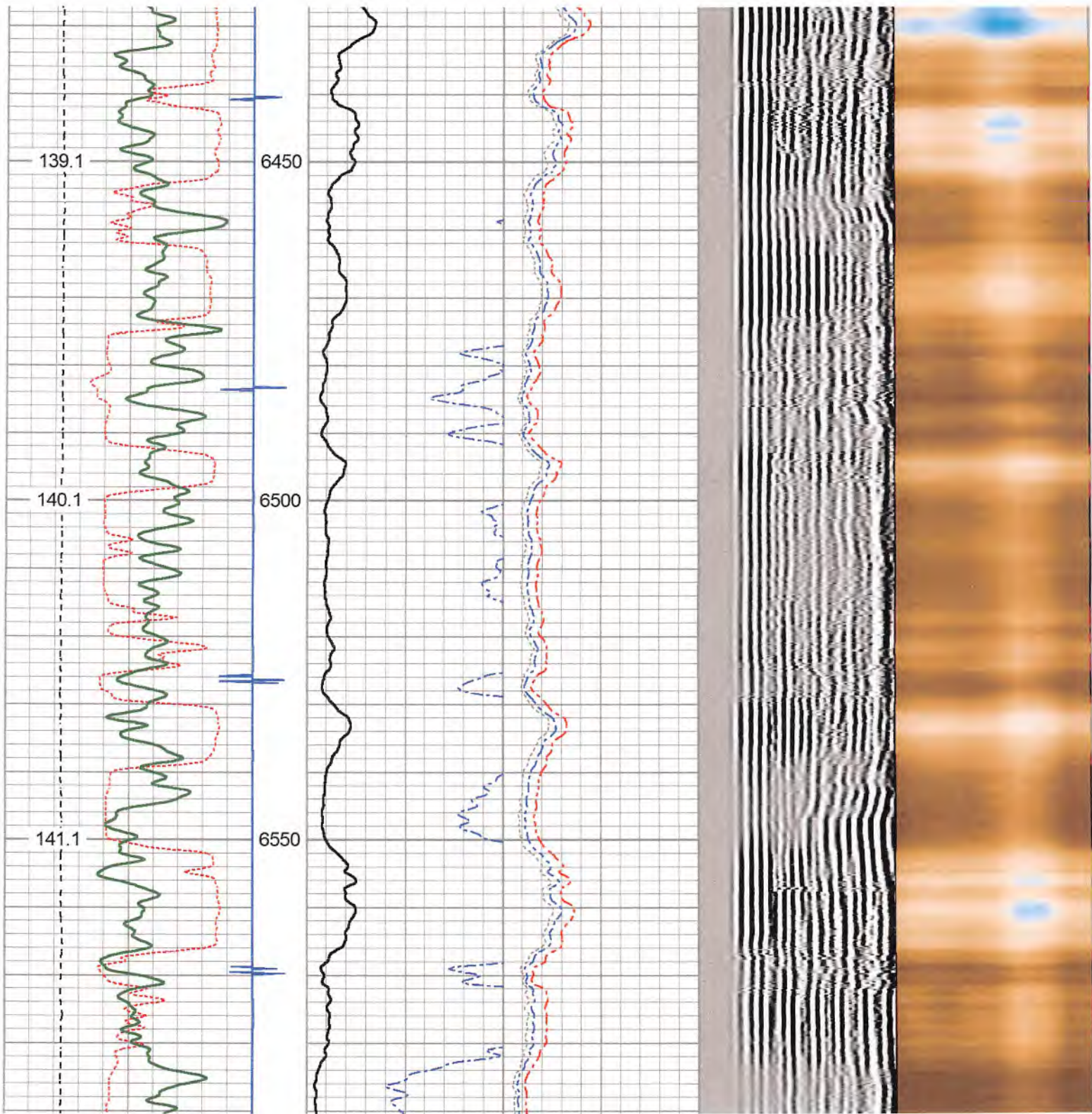


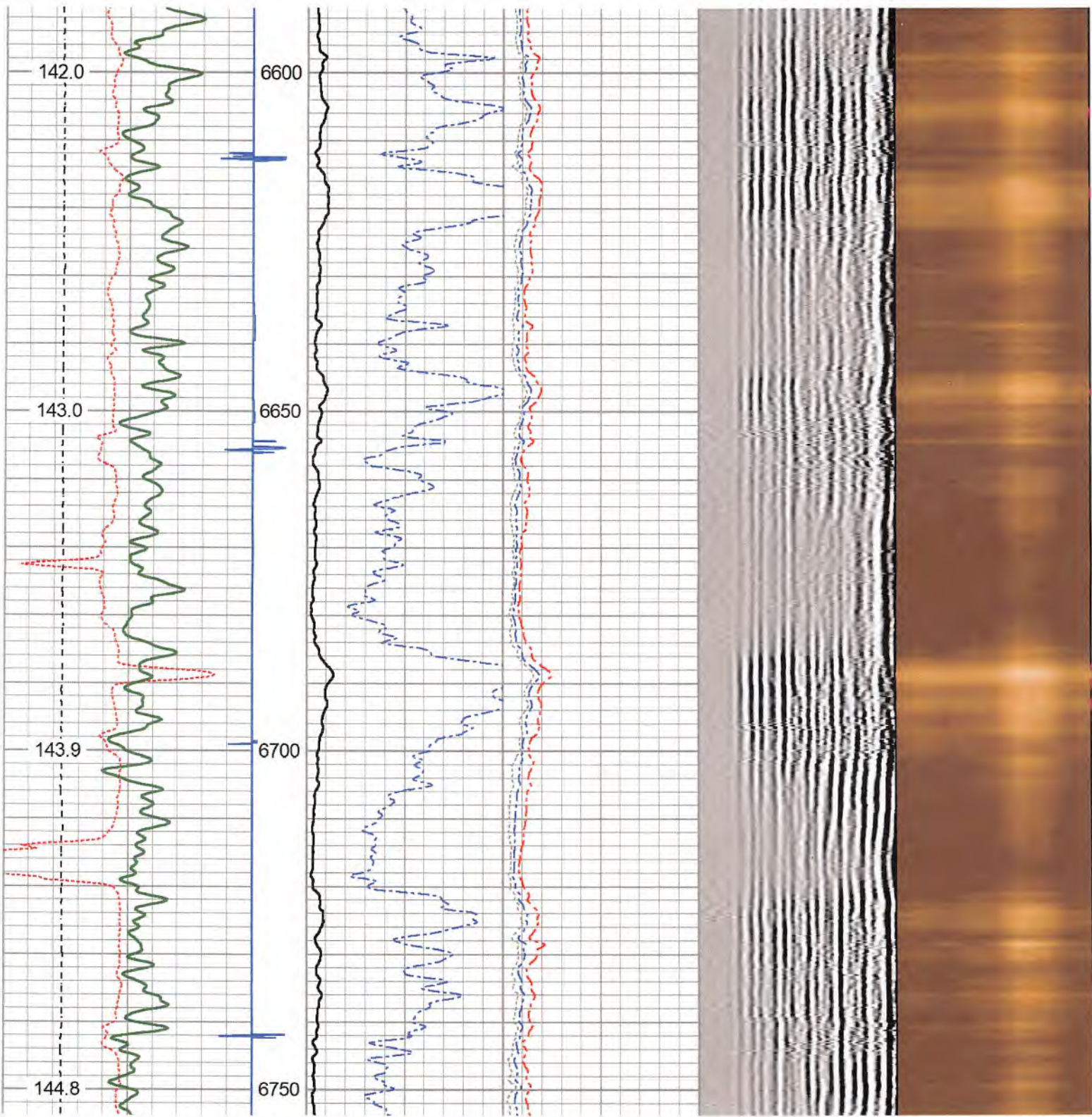


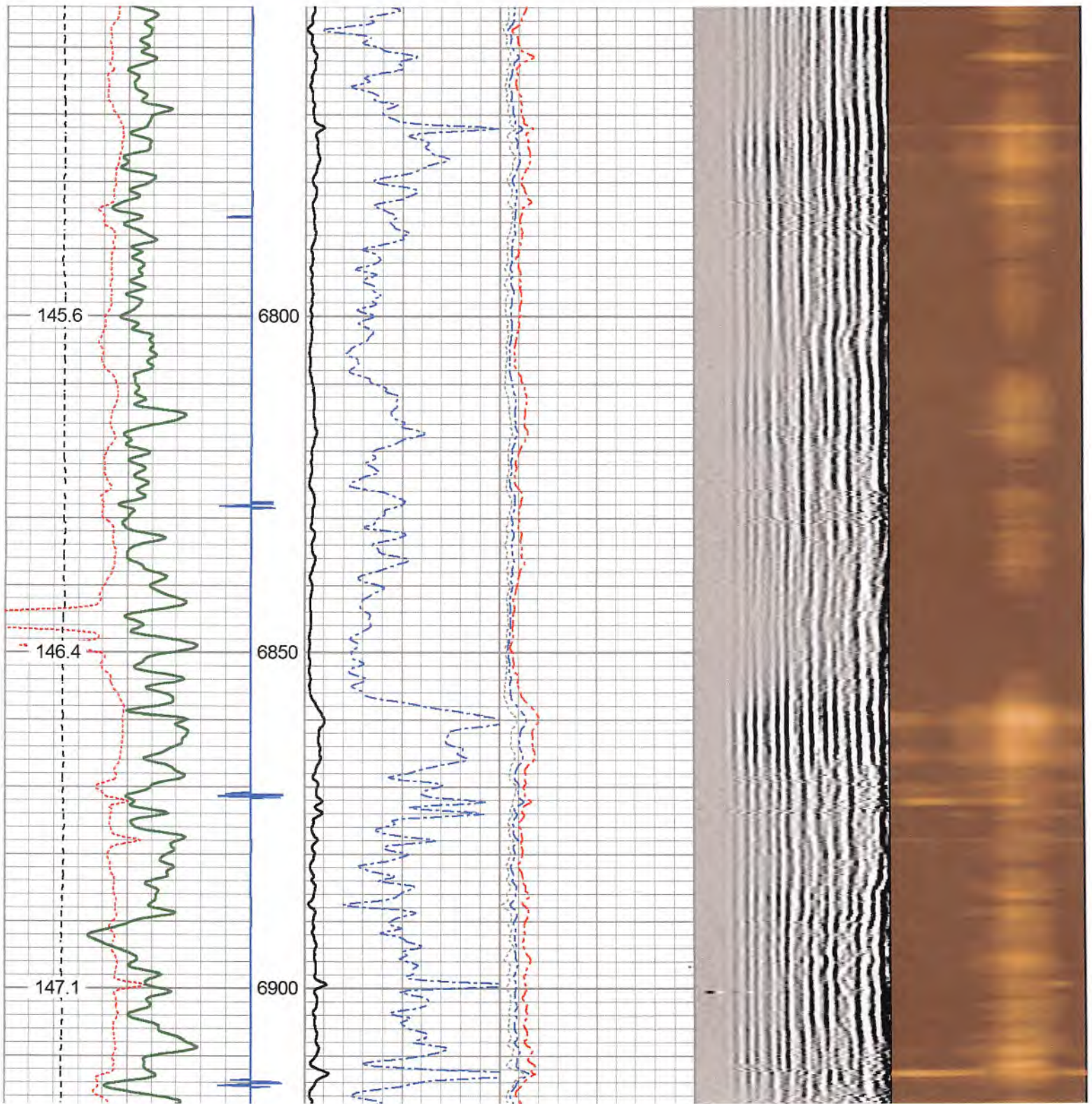


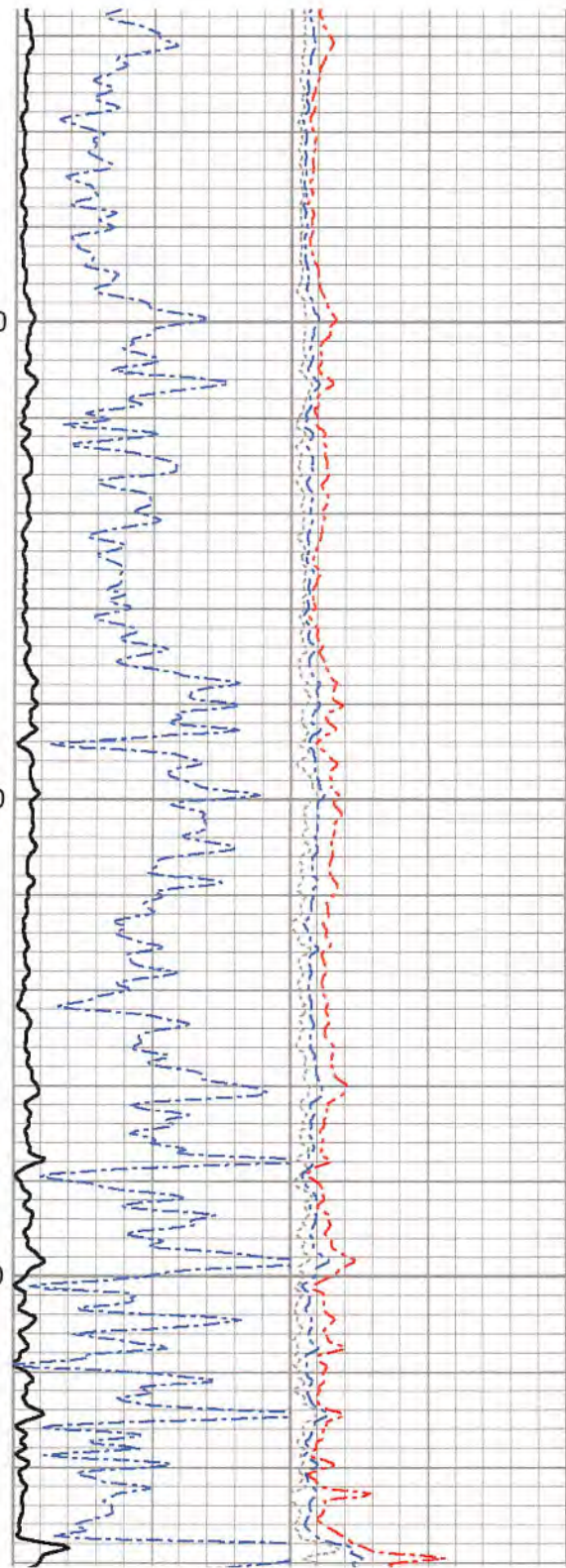
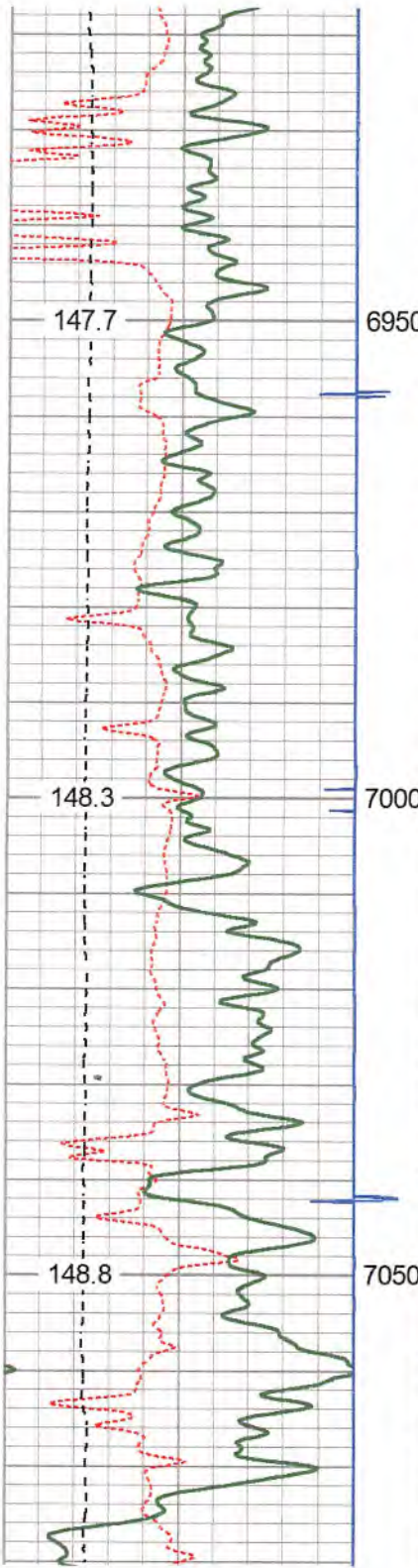


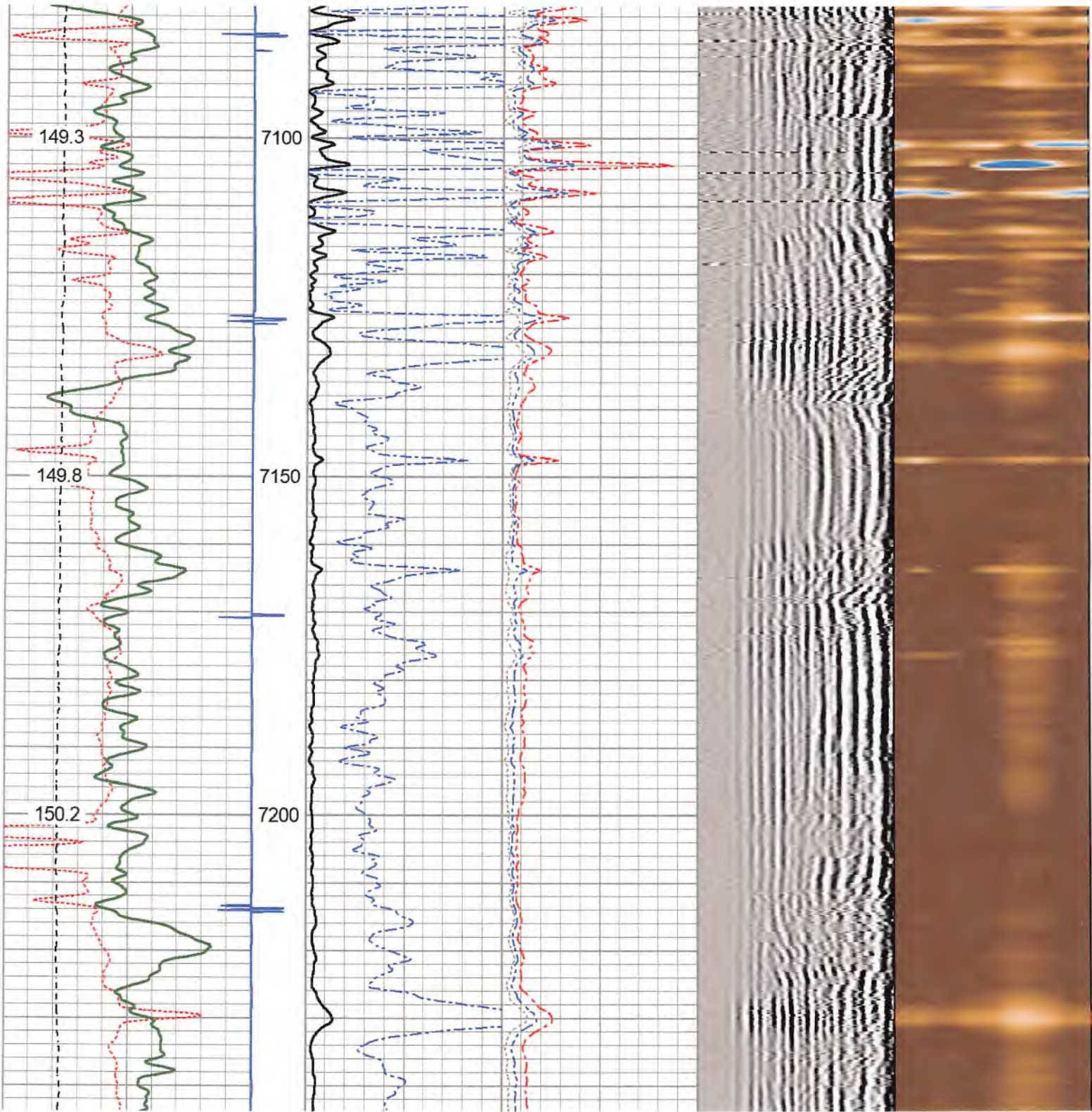


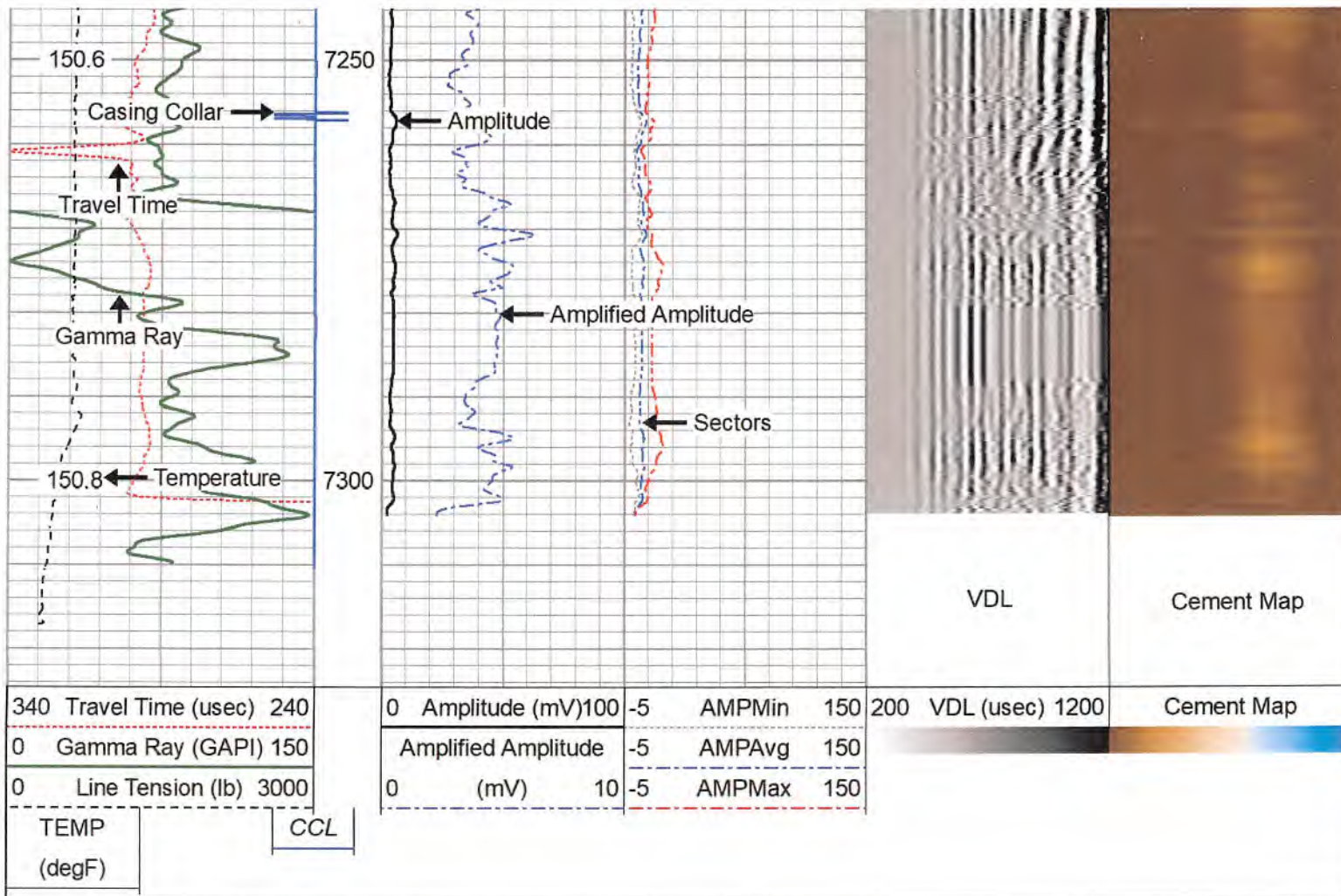






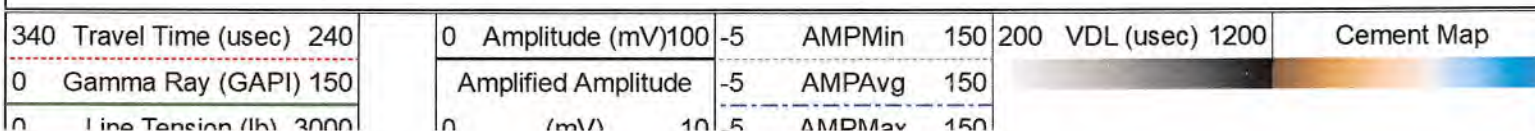


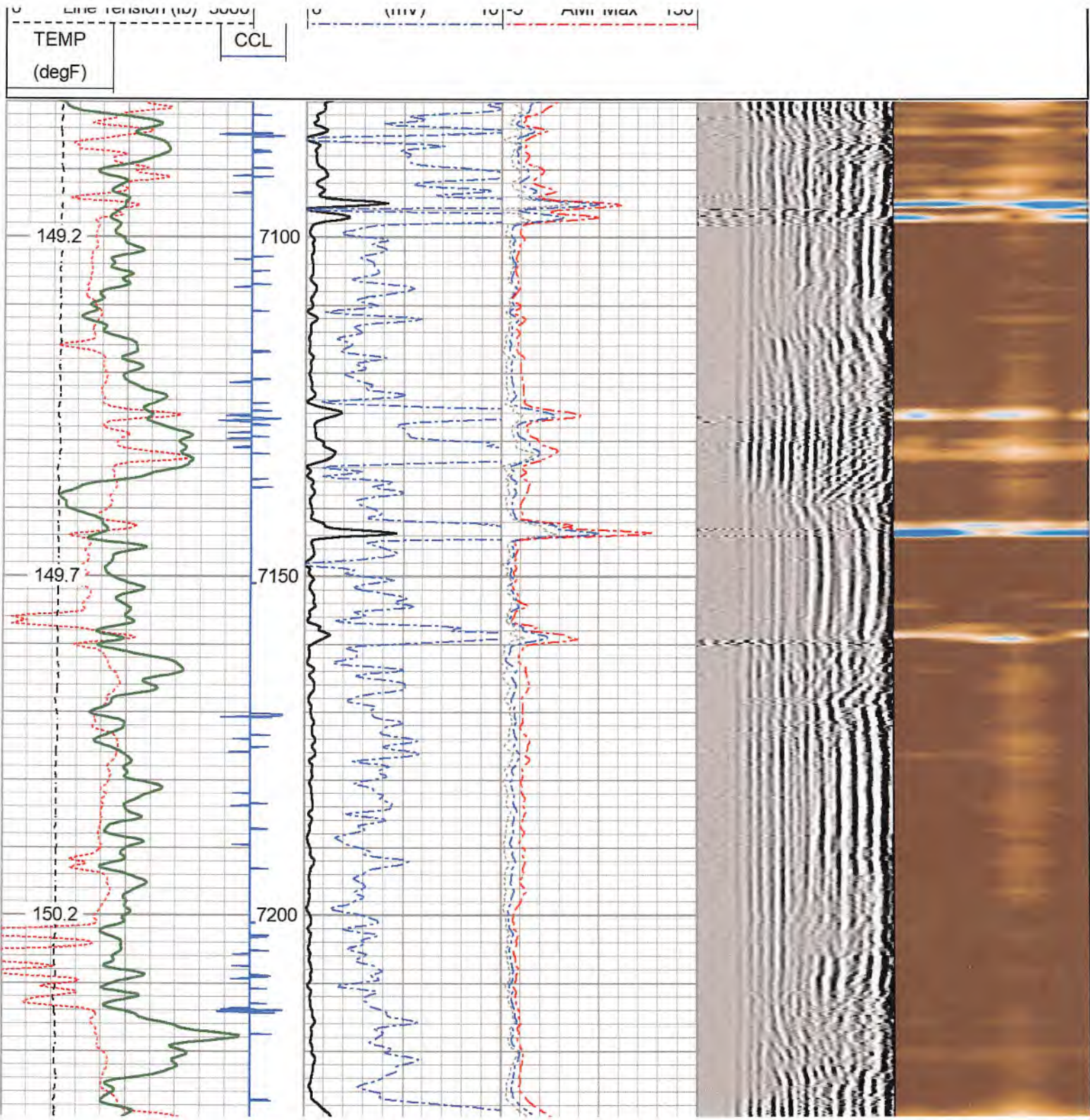


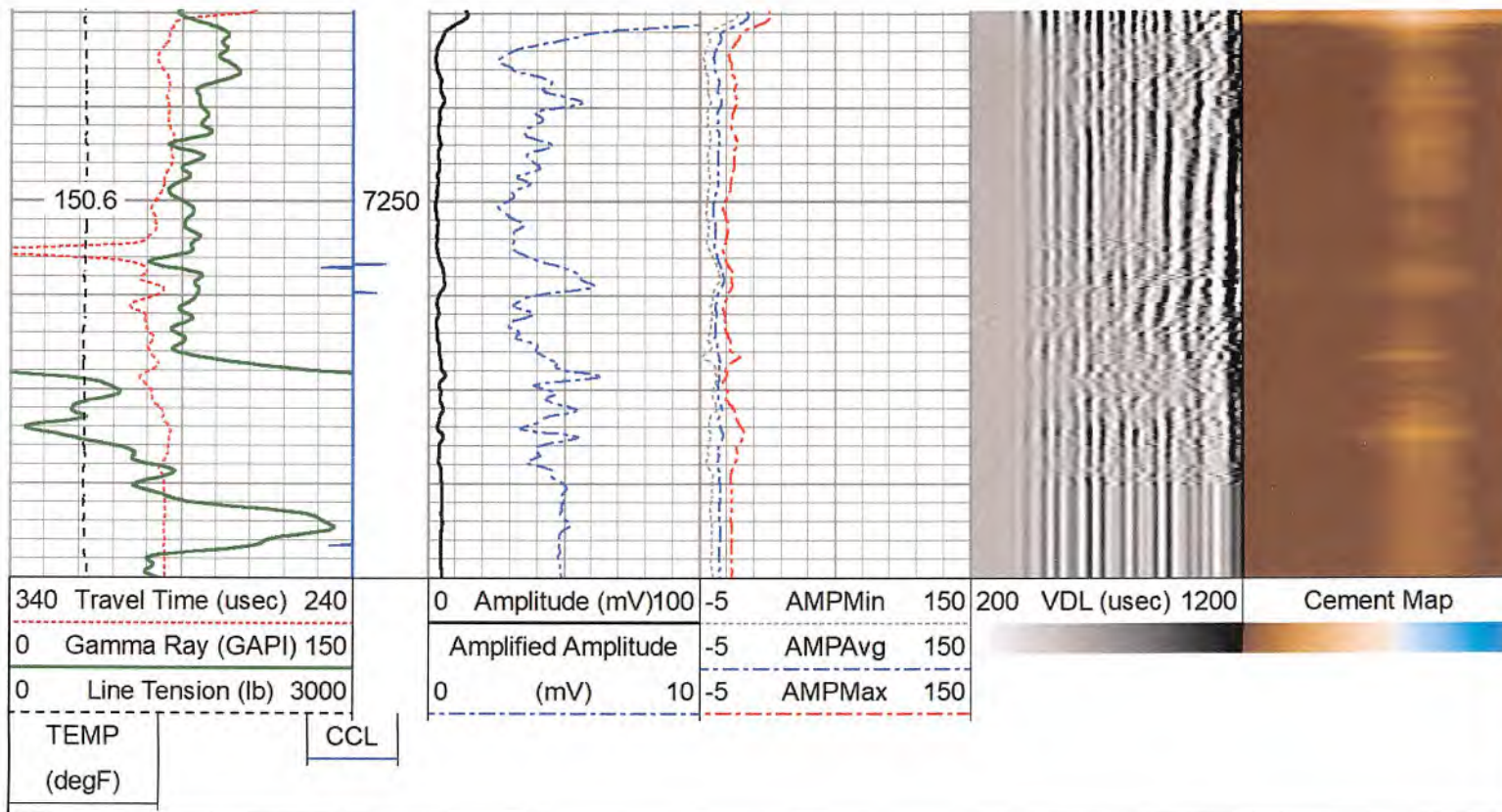


GR Energy Services Repeat Pass (1500 PSI)

Database File c:\users\logbox\desktop\antero red lady\antero_rlp_cavatica_2h.db
 Dataset Pathname rcbl/pass4
 Presentation Format tt_rcbl_std_bw
 Dataset Creation Fri Aug 12 23:20:48 2022
 Charted by Depth in Feet scaled 1:240







Log Variables

Database: c:\users\logbox\desktop\antero red lady\antero_rlp_cavatica_2h.db
 Dataset: field/well/rcbl/pass6/_vars_

Top - Bottom

BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL	MINATTN
in	degF	in	in	lb/ft	mV	mV	db/ft
8.5	150.8	5.5	0.42	23	72	1	0.8

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PERFS	PPT usec	SRFTEMP degF	TDEPTH ft
No	368	76	7288

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 c:\users\logbox\desktop\antero red lady\antero_rlp_cavatica_2h.db
Dataset Pathname rcb/pass6
Dataset Creation Fri Aug 12 23:43:07 2022

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

Serial Number: RBT275C_Base
Tool Model: RADII-275C

Calibration Casing Diameter: 5.500 in
Calibration Depth: 634.170 ft

Master Calibration, performed Fri Aug 12 23:00:52 2022:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.011	0.603	1.000	71.921	115.587	2.273

CAL	-0.012	0.854				
5'	-0.011	0.560	1.000	71.921	124.073	2.398
SUM						
S1	-0.015	0.576	0.000	100.000	169.218	2.487
S2	-0.010	0.579	0.000	100.000	169.673	1.717
S3	-0.010	0.592	0.000	100.000	165.995	1.714
S4	-0.010	0.582	0.000	100.000	169.005	1.700
S5	-0.010	0.580	0.000	100.000	169.382	1.776
S6	-0.010	0.589	0.000	100.000	166.942	1.726
S7	-0.010	0.594	0.000	100.000	165.502	1.715
S8	-0.011	0.611	0.000	100.000	160.716	1.777

Internal Reference Calibration, performed Fri Aug 12 14:34:50 2022:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.012	0.854	1.000	0.000

Air Zero Calibration, performed Fri Aug 12 14:32:56 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:	(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
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Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
ErrCt	22.02		CENT-BC275-0000 Probe 2.75" Bowspring Centralizer	2.83	2.75	24.00
RBT_HV	19.19		RBT8-RADII-275C (RBT275C_Base) Probe 2.75" RADII 8 Sector Bond Tool	8.75	2.75	
WVFS8	14.69					
WVFS7	14.69					
WVFS6	14.69					
WVFS5	14.69					
WVFS4	14.69					
WVFS3	14.69					
WVFS2	14.69					
WVFS1	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	55.00
			CENT-BC275-0000 Probe 2.75" Bowspring Centralizer	2.83	2.75	24.00
Dataset: antero_rlp_cavatica_2h.db: field/well/rcbl/pass6 Total length: 22.02 ft Total weight: 127.00 lb O.D.: 2.75 in						

	Company	Antero Resources Corporation	
	Well	Cavatica Unit 2H	
	Field	Marcellus	
	County	Wetzel	
	State	WV	Country

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FEB 9 4 2009

Environmental Protection