



Radial Cement Bond
Gamma Ray CCL
Temperature Log

Company		Antero Resources Corporation	
Well	Shays Unit 2H		
Field	White Oak		
County	Ritchie		
State	WV		
Company	Antero Resources Corporation	API # :	47-085-10422-00-00
Well	Shays Unit 2H	AFE # :	A11901-C
Field	White Oak	Location (LAT, LON):	39.171422, -80.857942
County	Ritchie	Township:	West Union
State	WV	Permanent Datum	Ground Level
		Log Measured From	KB = 30'
		Drilling Measured From	KB
Other Services	None		
Elevation	1019'		

Date	17 OCT 2022
Run Number	One
Depth Driller (ft)	20072
Depth Logger (ft)	5719
Bottom Logged Interval (ft)	5707
Top Log Interval	Surface
Open Hole Size (in)	6.75
Type Fluid	Water
Density / Viscosity (lb/gal)	8.4
Max. Recorded Temp. (°F)	130.5
Estimated Cement Top (ft)	4430
Time Well Ready	09:00 AM
Time Logger on Bottom	02:02 PM
Equipment Number	8018
Location	Delmont, PA
Recorded By	T. Trump
Witnessed By	R. Jones

Casing Record	Size (in)	Weight (lb/ft)	Top (ft)	Bottom (ft)
Conductor String	16	62.64	Surface	130
Surface String	10.75	40.5	Surface	350
Intermediate String	7.625	26.4	Surface	2644
Production String	5	18	Surface	20032

Inclination Information (Approximated Values from Directional Survey)		
KOP	30°	90°
3250'	6200'	6900'

THANK YOU FOR USING GR ENERGY SERVICES

RECEIVED
Office of Oil and Gas
APR 07 2023
WV Department of
Environmental Protection

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 -4'

Marker Joint Located @ 5372' - 5382'

Maximum Temperature Recorded was 130.5°F
Maximum Tension 1372 lbs

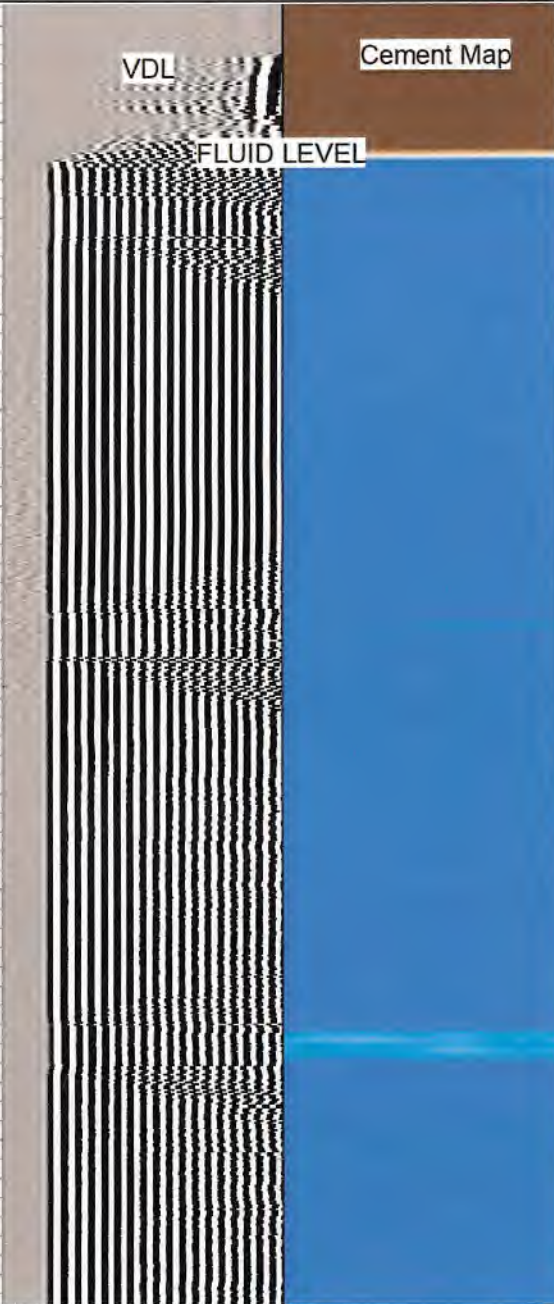
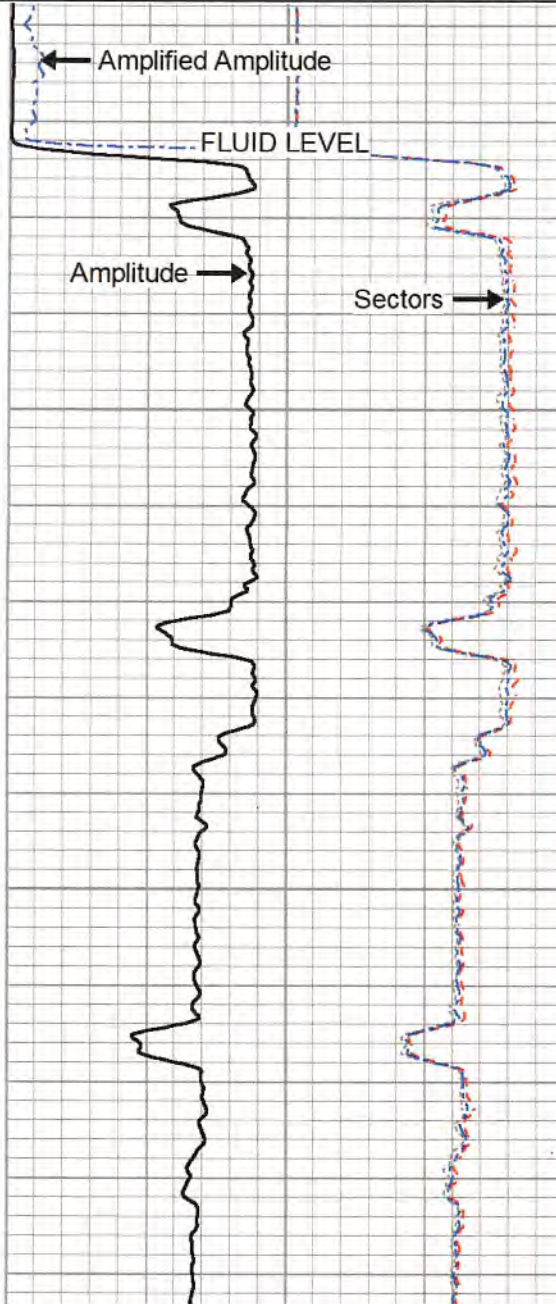
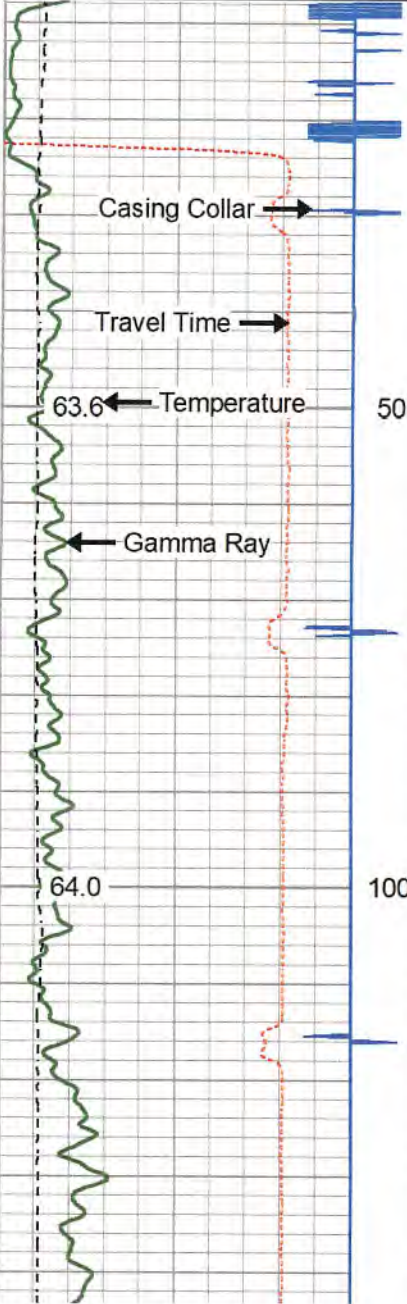
Estimated Top of Cement @ 4430'

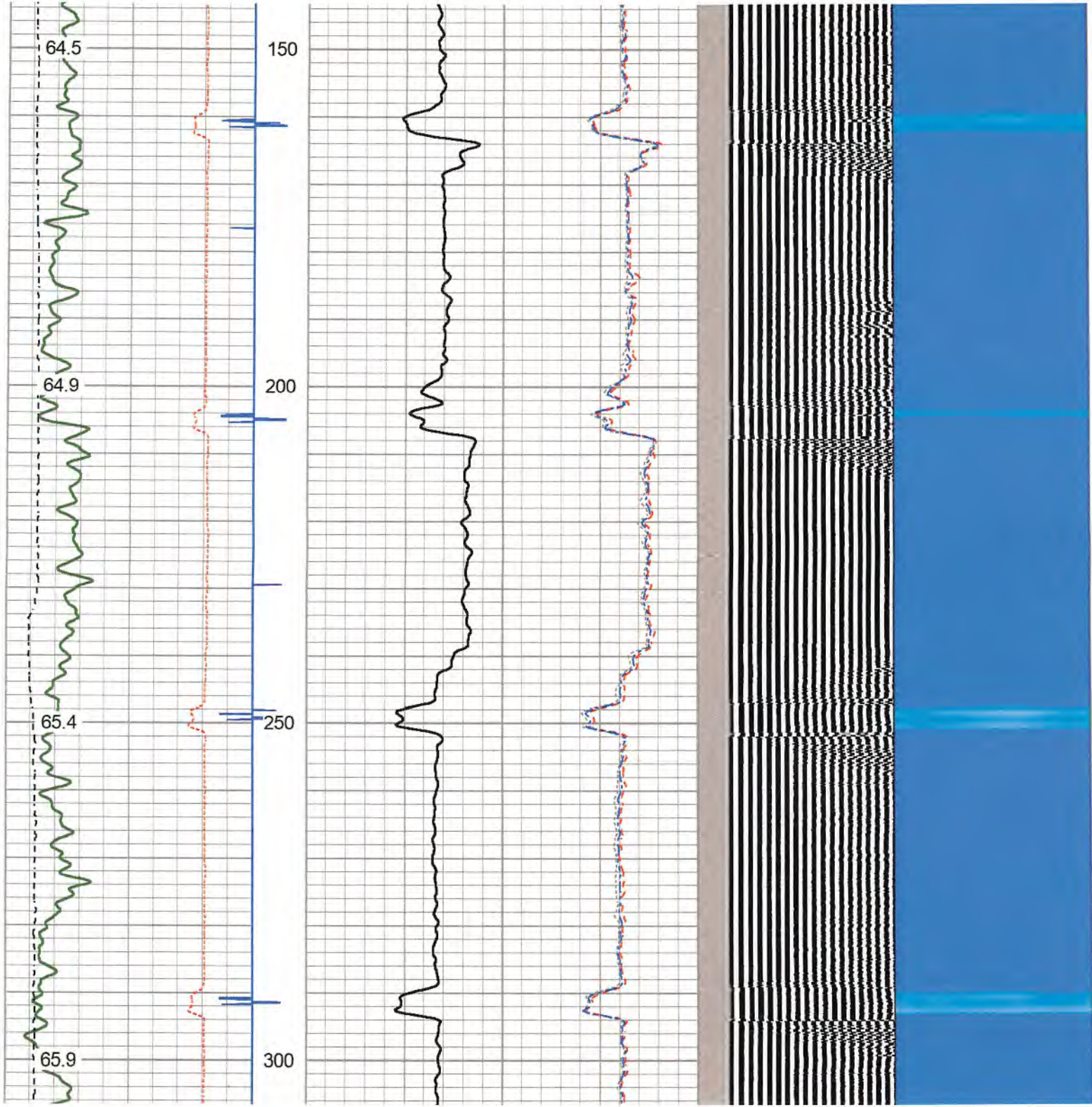


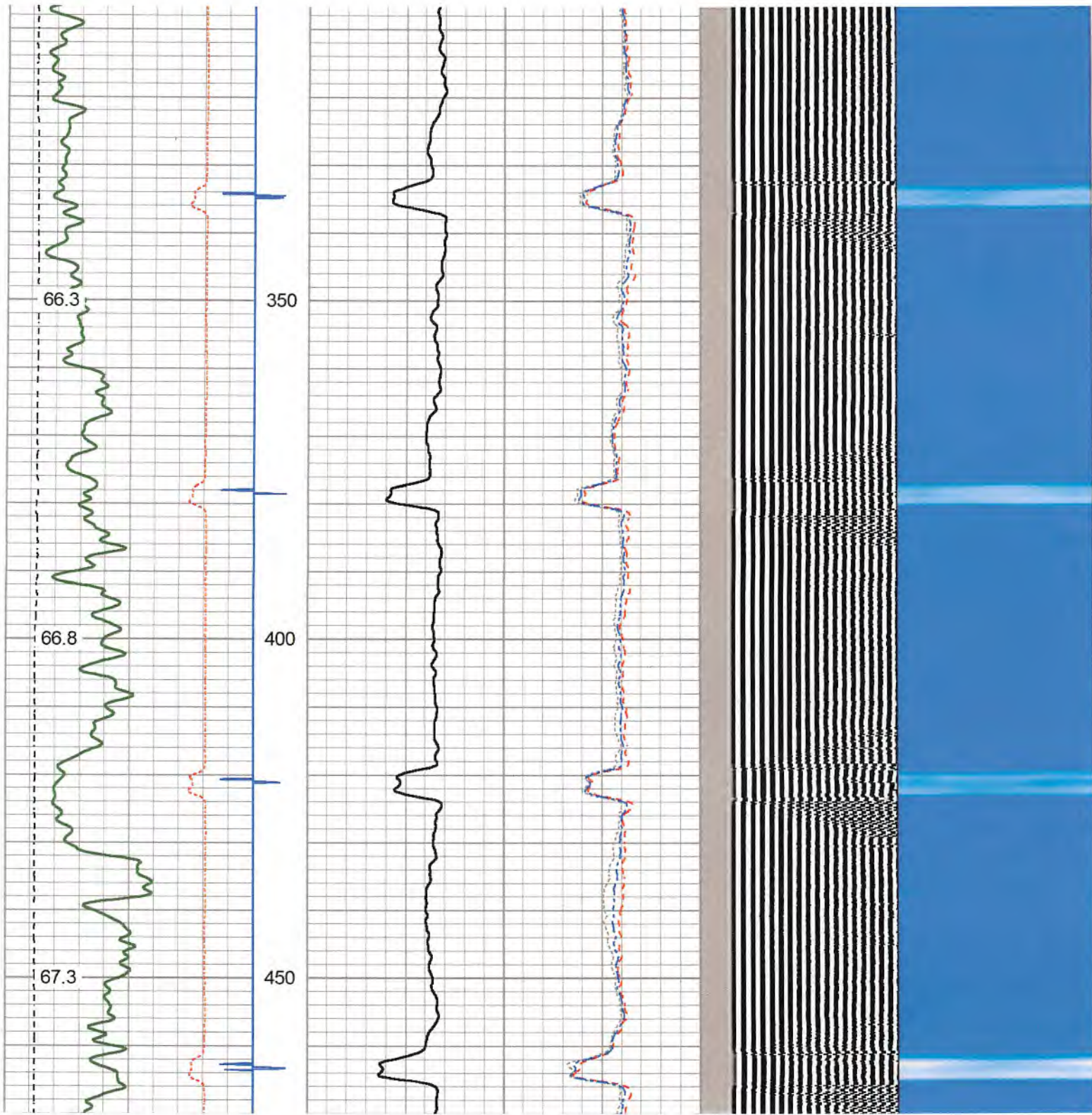
Main Pass (1500 PSI)

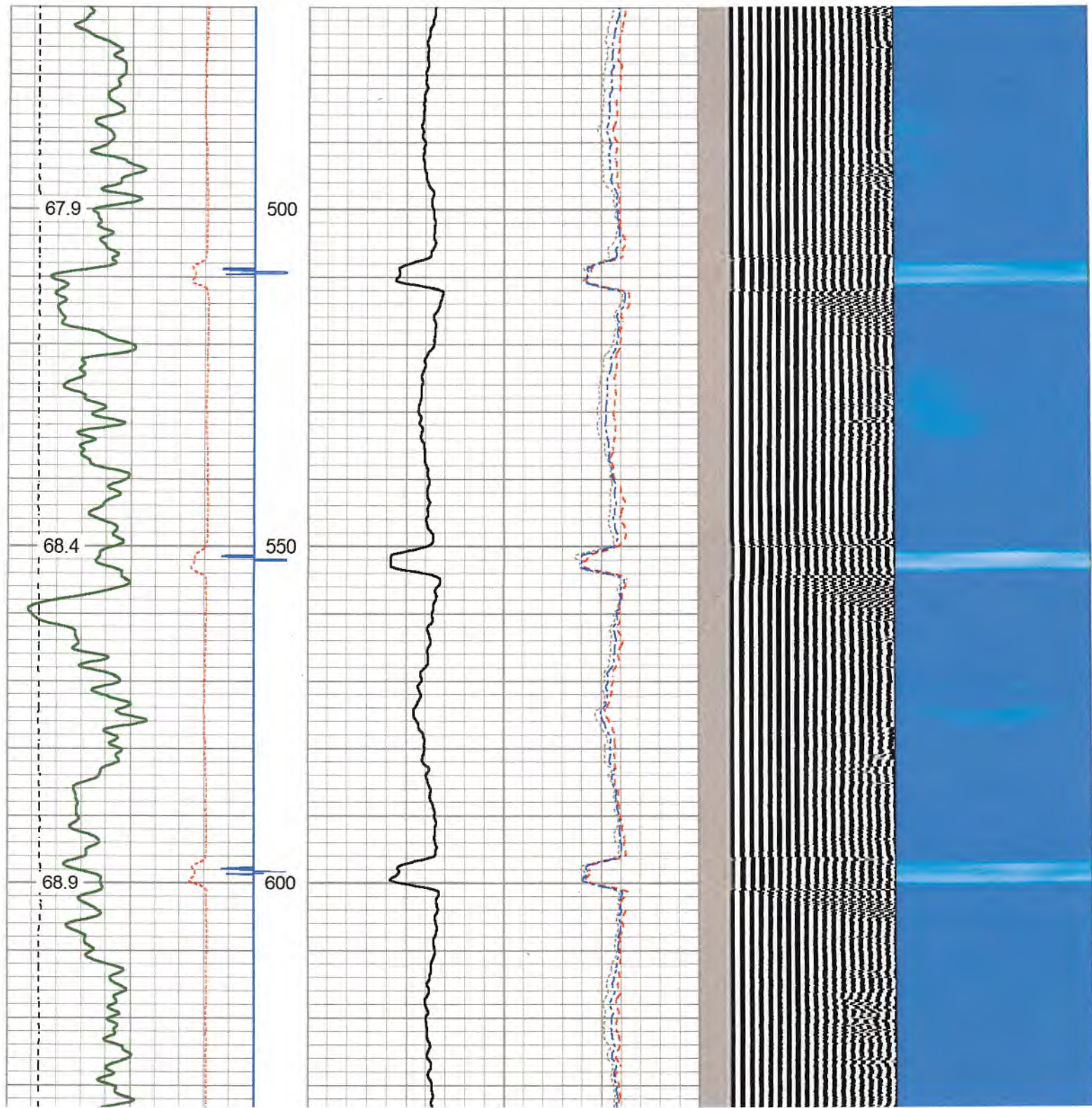
Database File	c:\users\logbox\desktop\cashew\antero_cashew_shays2h.db
Dataset Pathname	rcbl/pass6
Presentation Format	rcbl_std_bw_tt
Dataset Creation	Mon Oct 17 14:02:22 2022
Charted by	Depth in Feet scaled 1:240

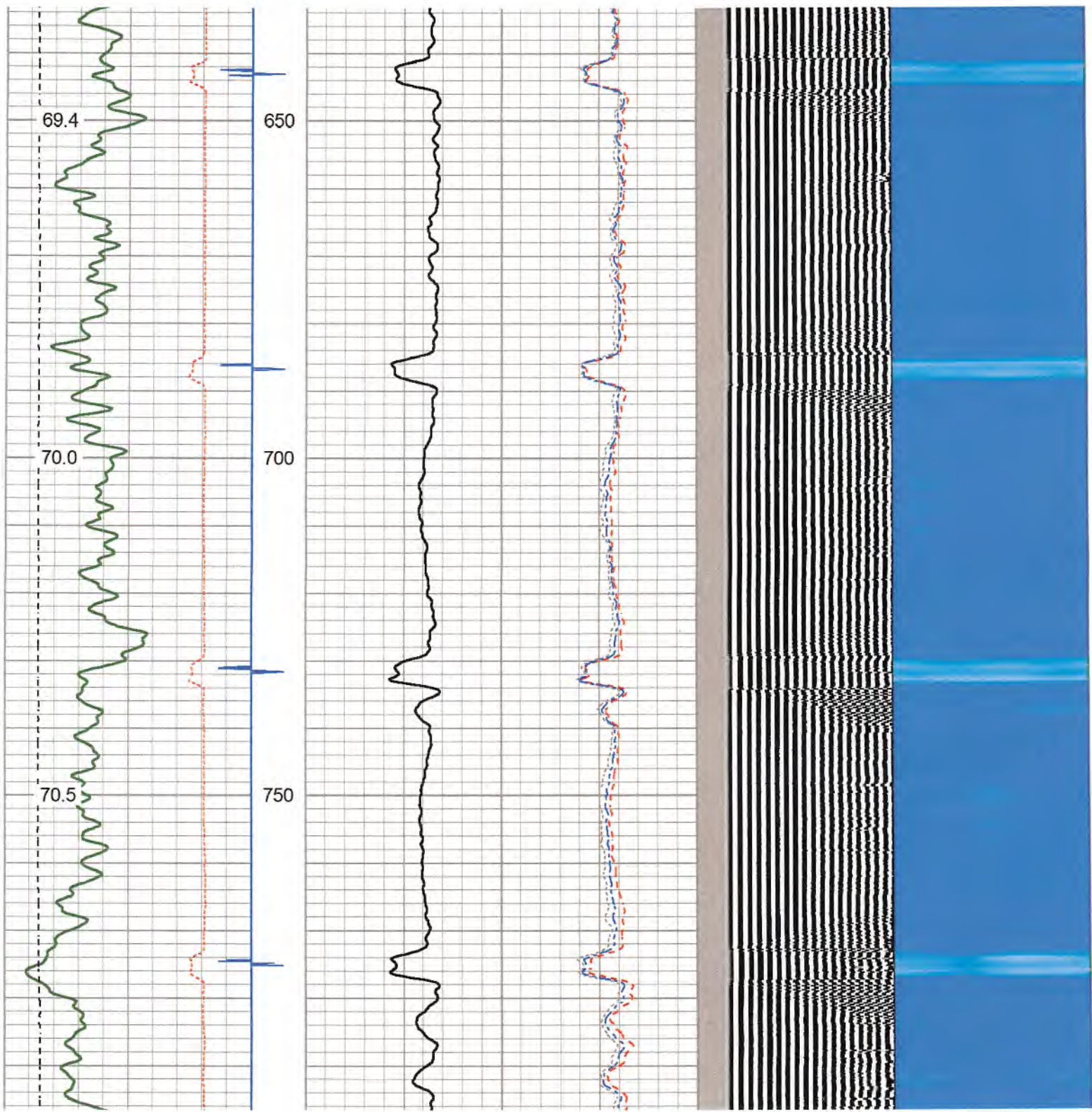
333	TT (usec)	233	0	Amplitude (mV)	100	-5	AMPMin	150	200	VDL (usec)	1200	Cement Map
0	GR (GAPI)	150	Amplified Amplitude		-5	AMPMax	150					
0	LTEN (lb)	3000	0	(mV)	10	-5	AMPAvg					150
TEMP (degF)		CCL										

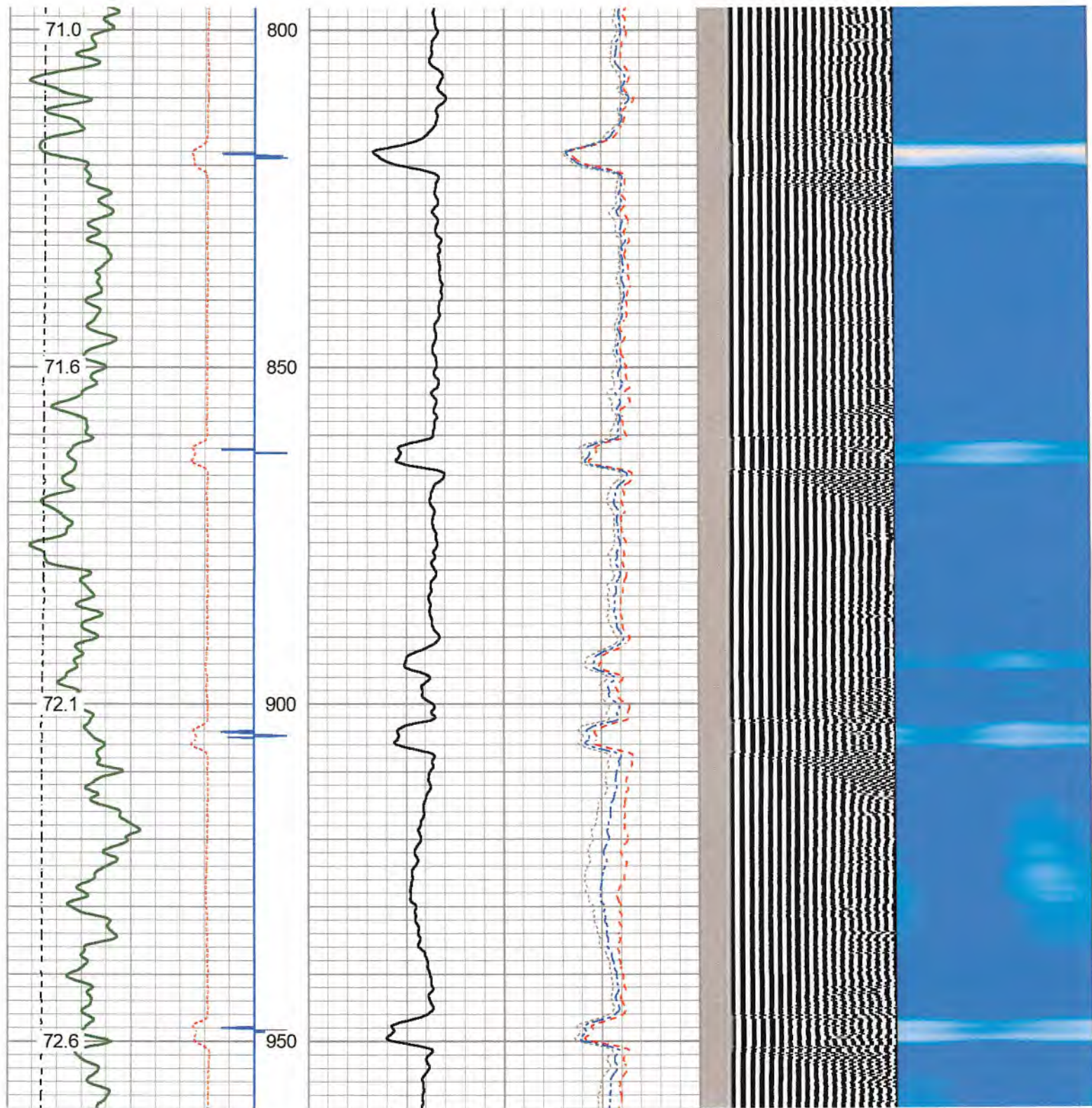


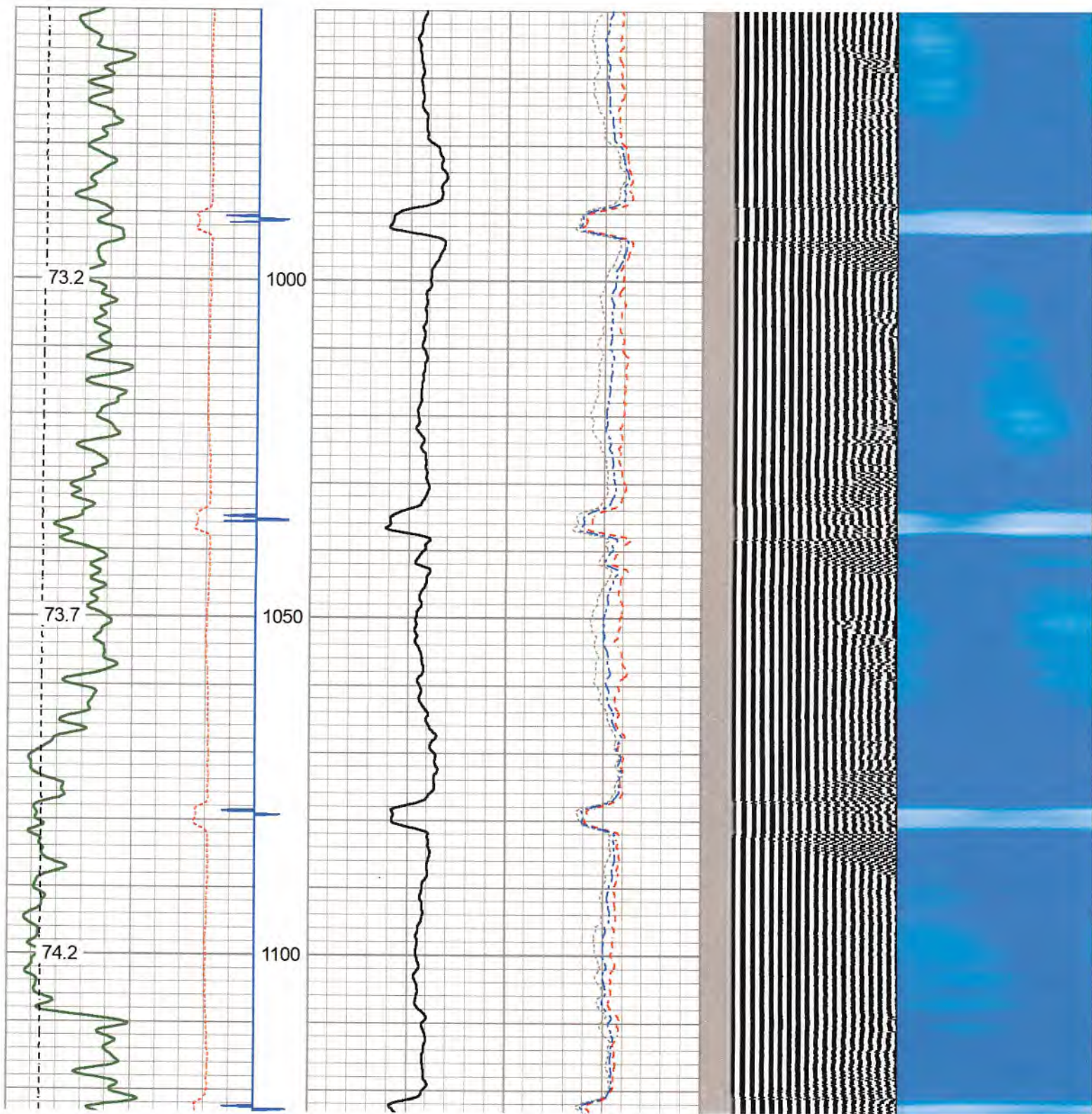


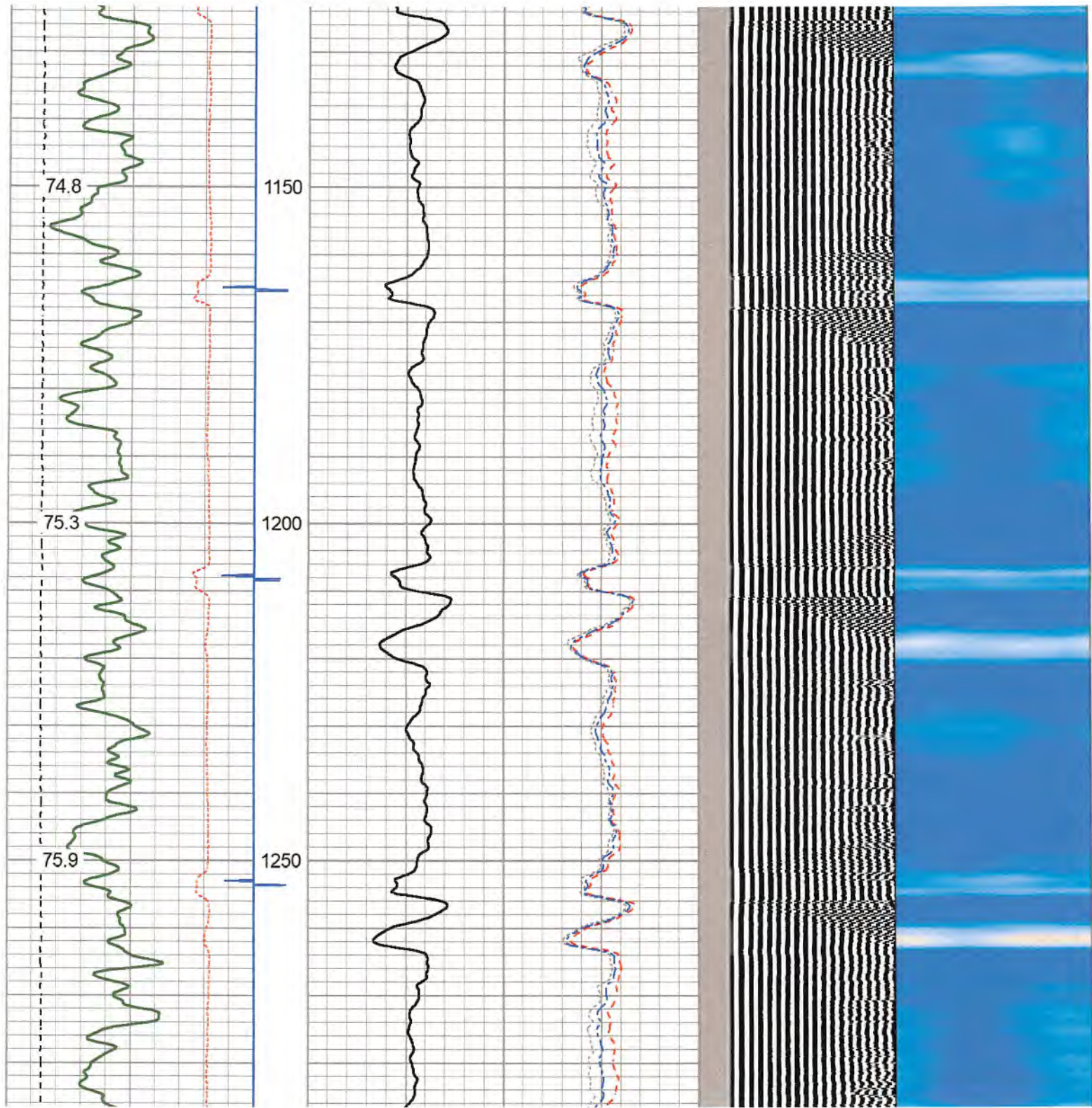


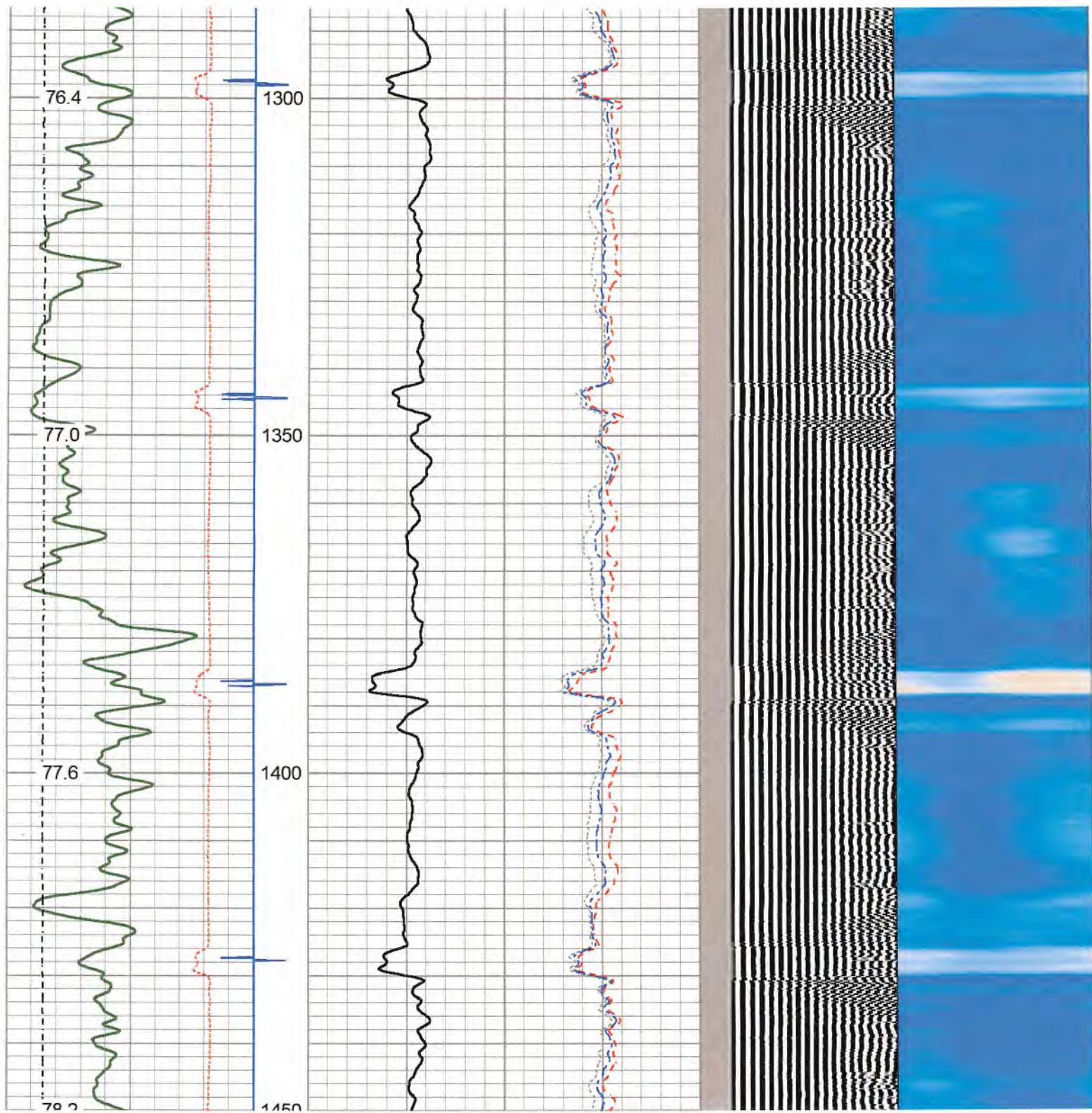


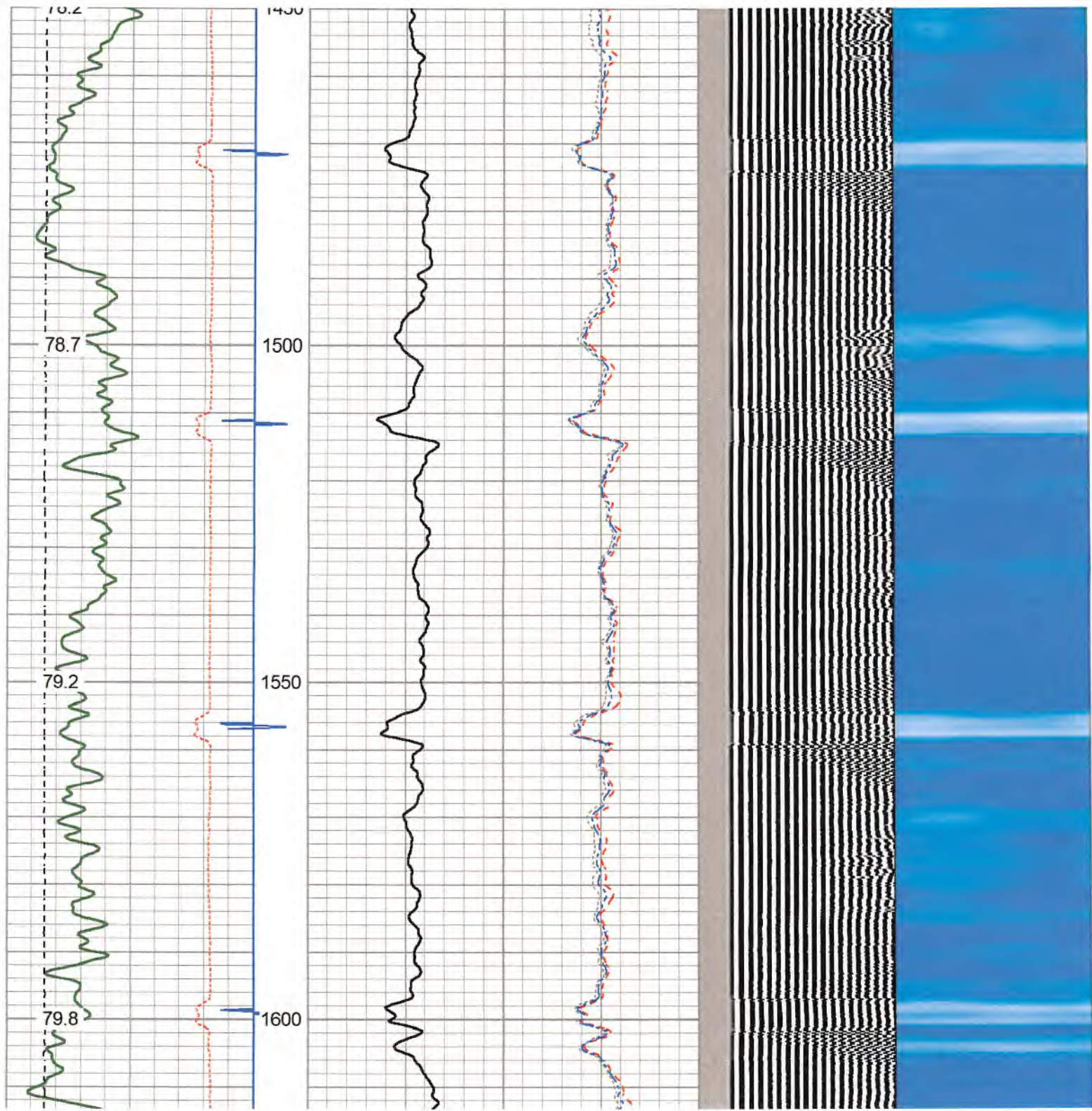


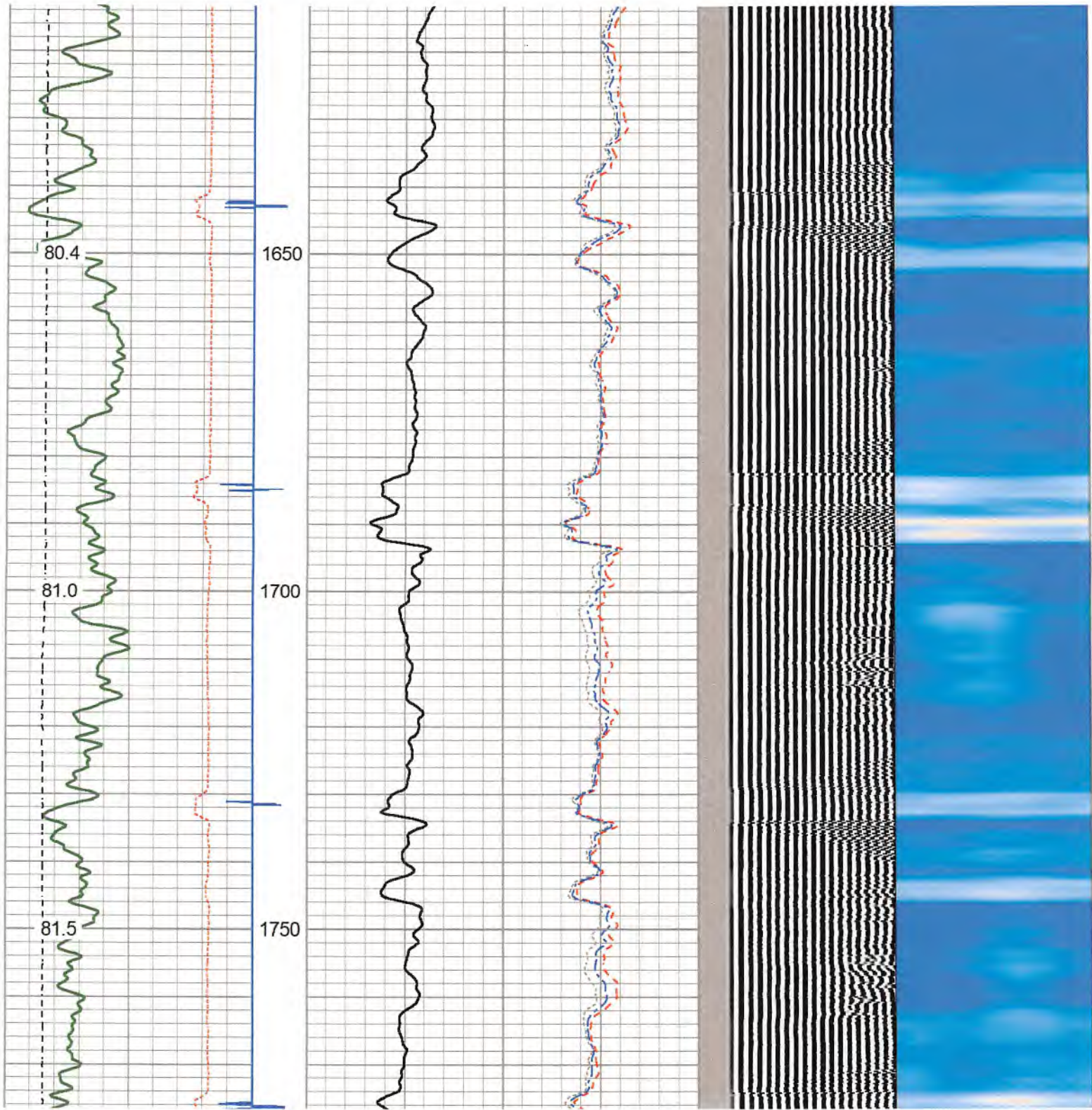


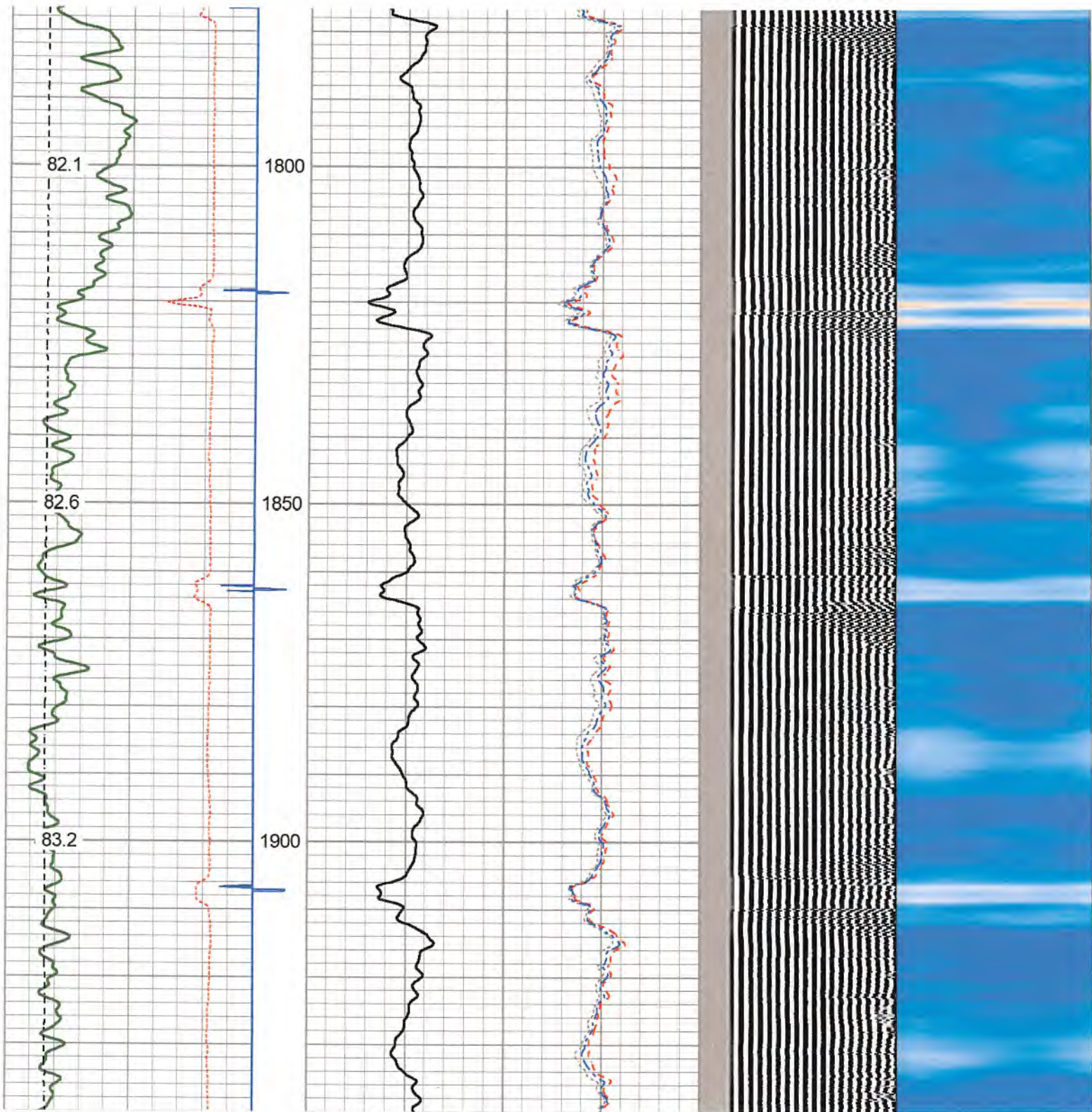


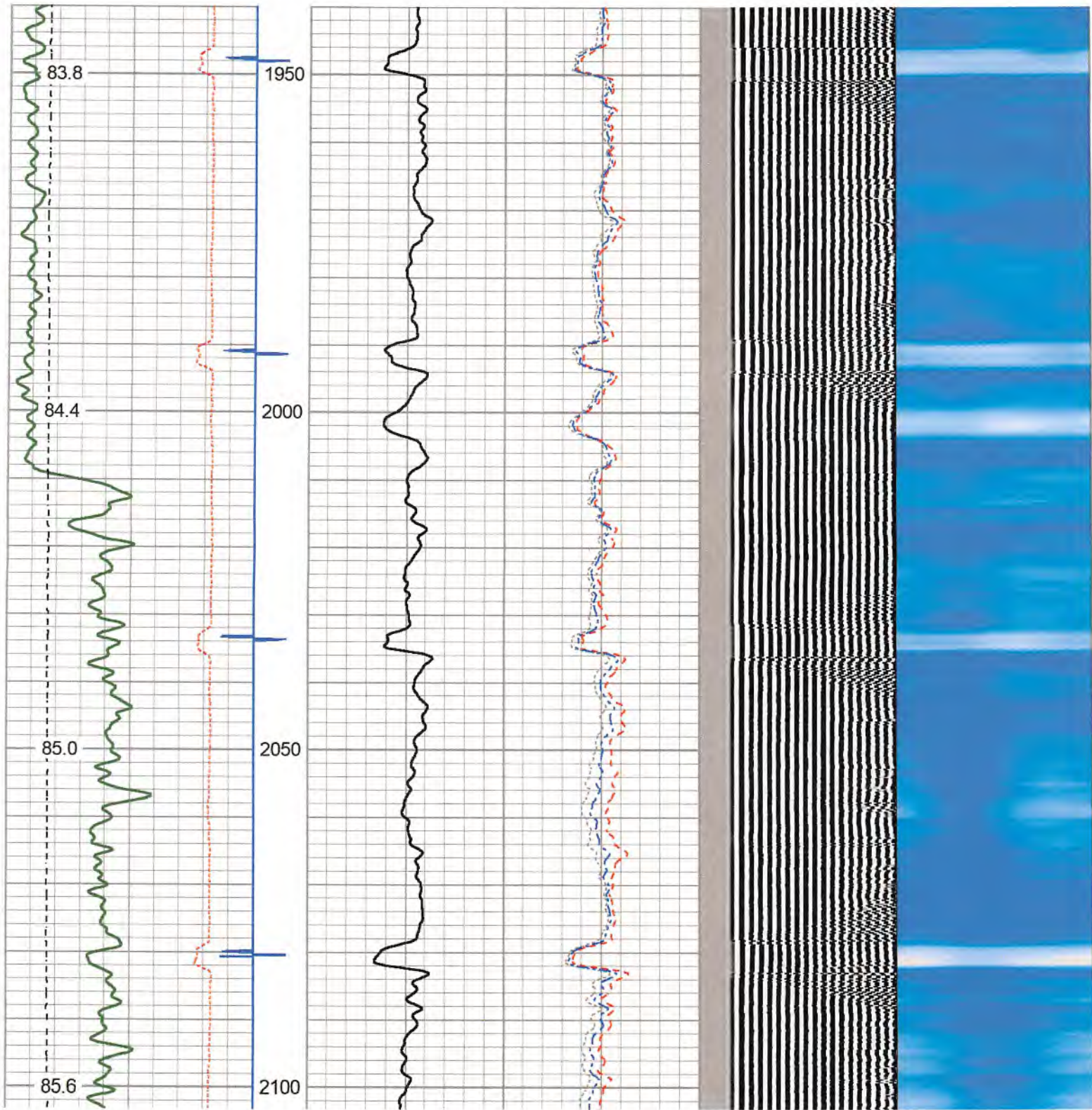


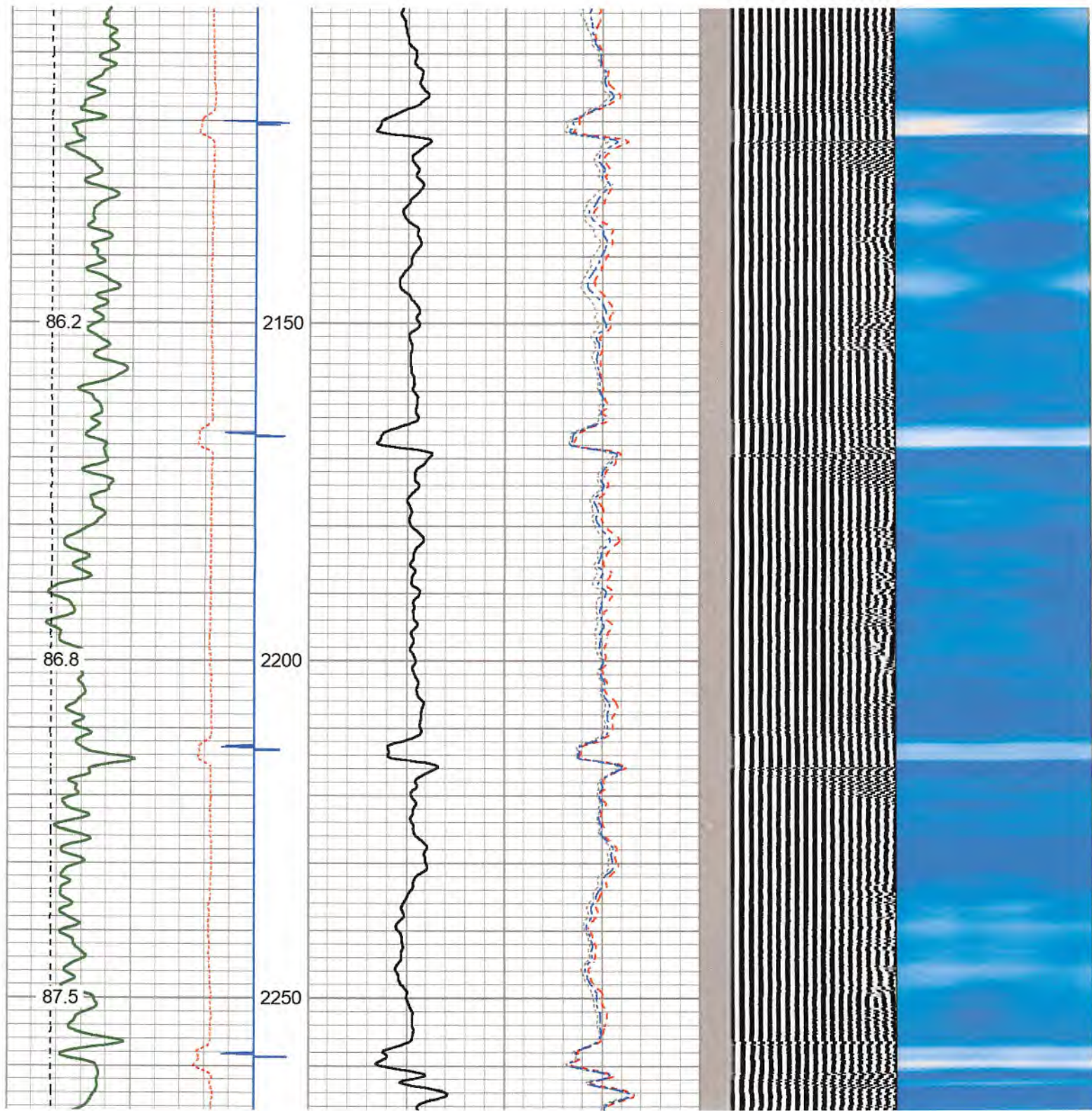


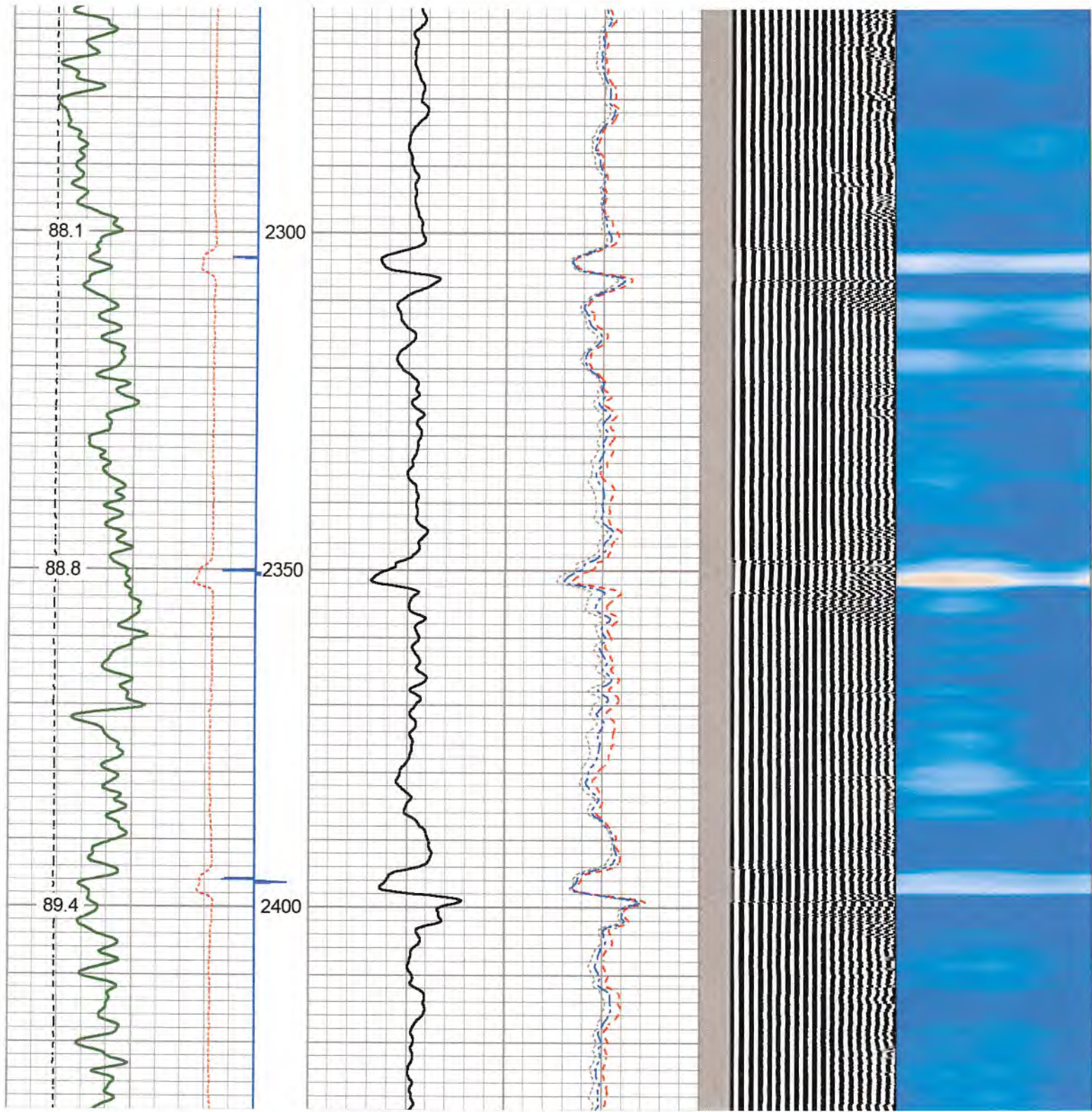


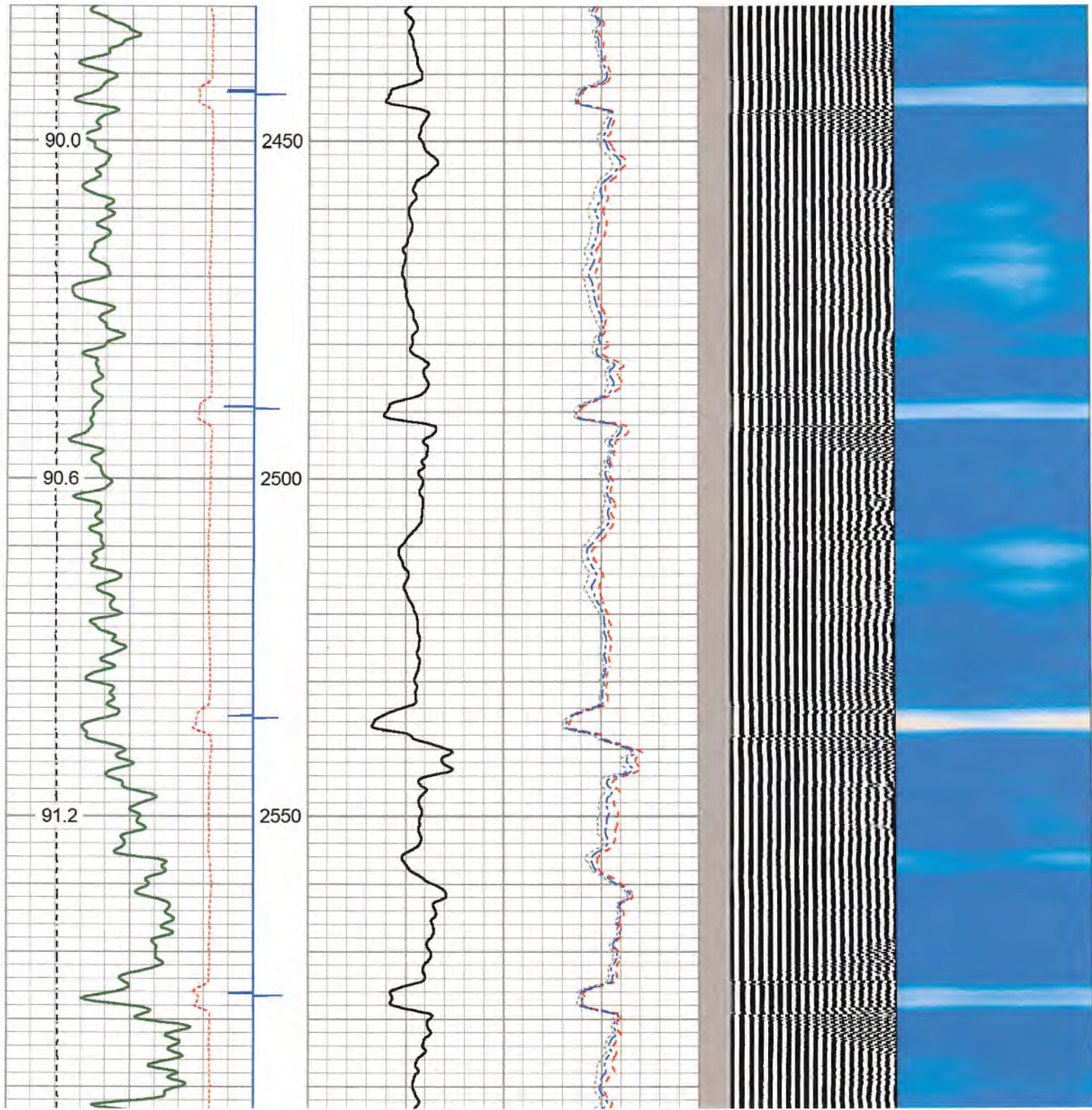


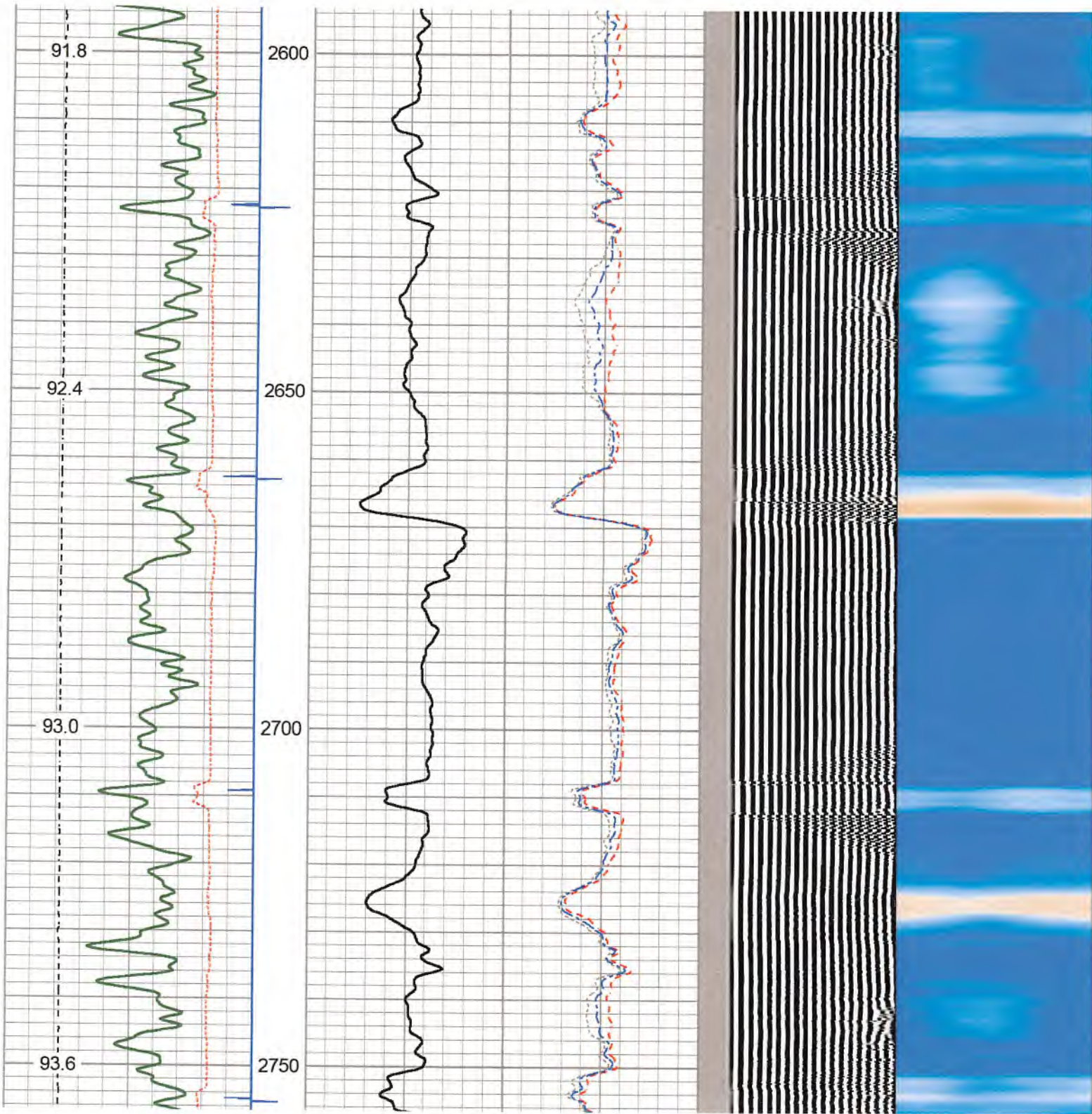


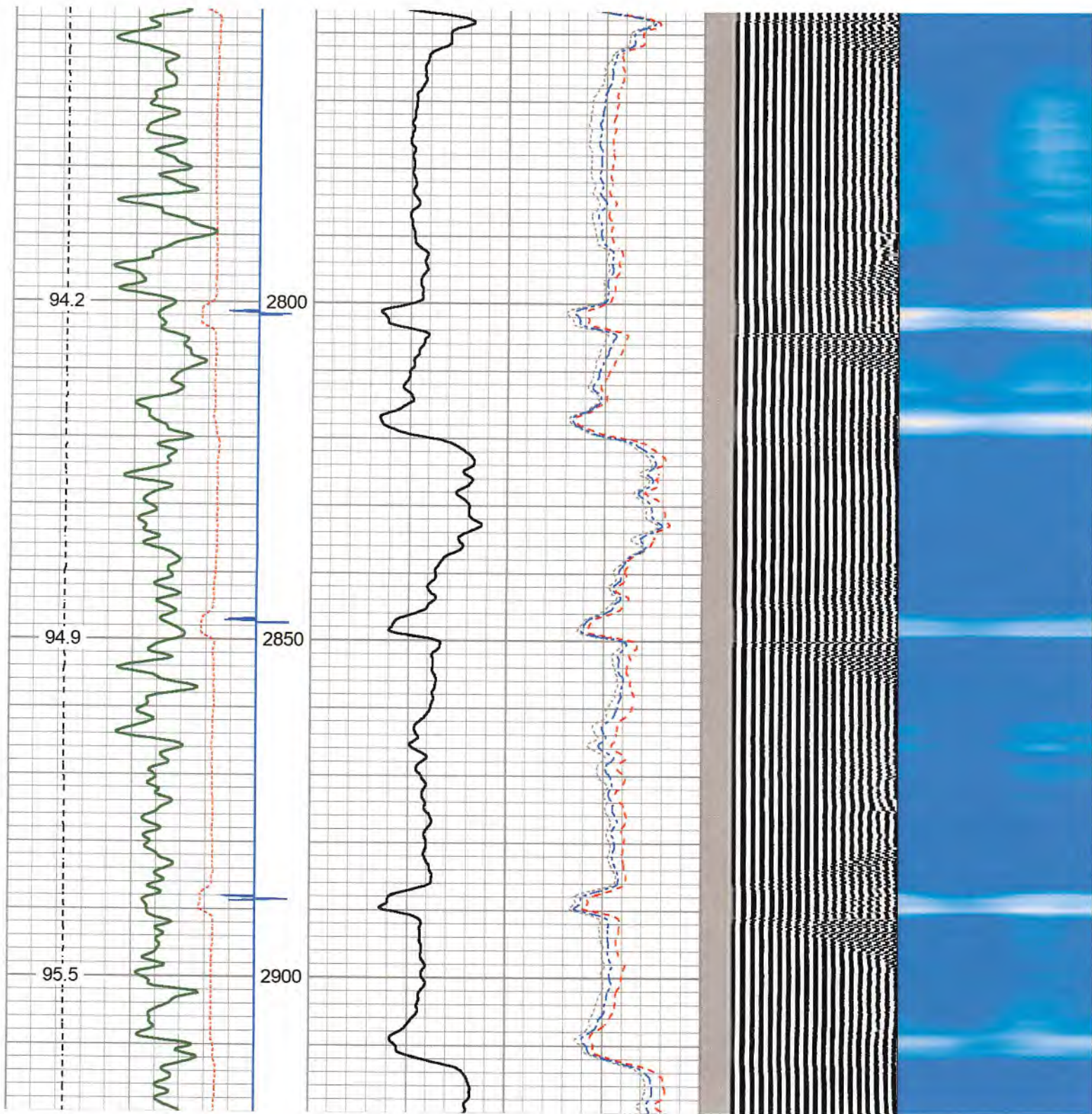


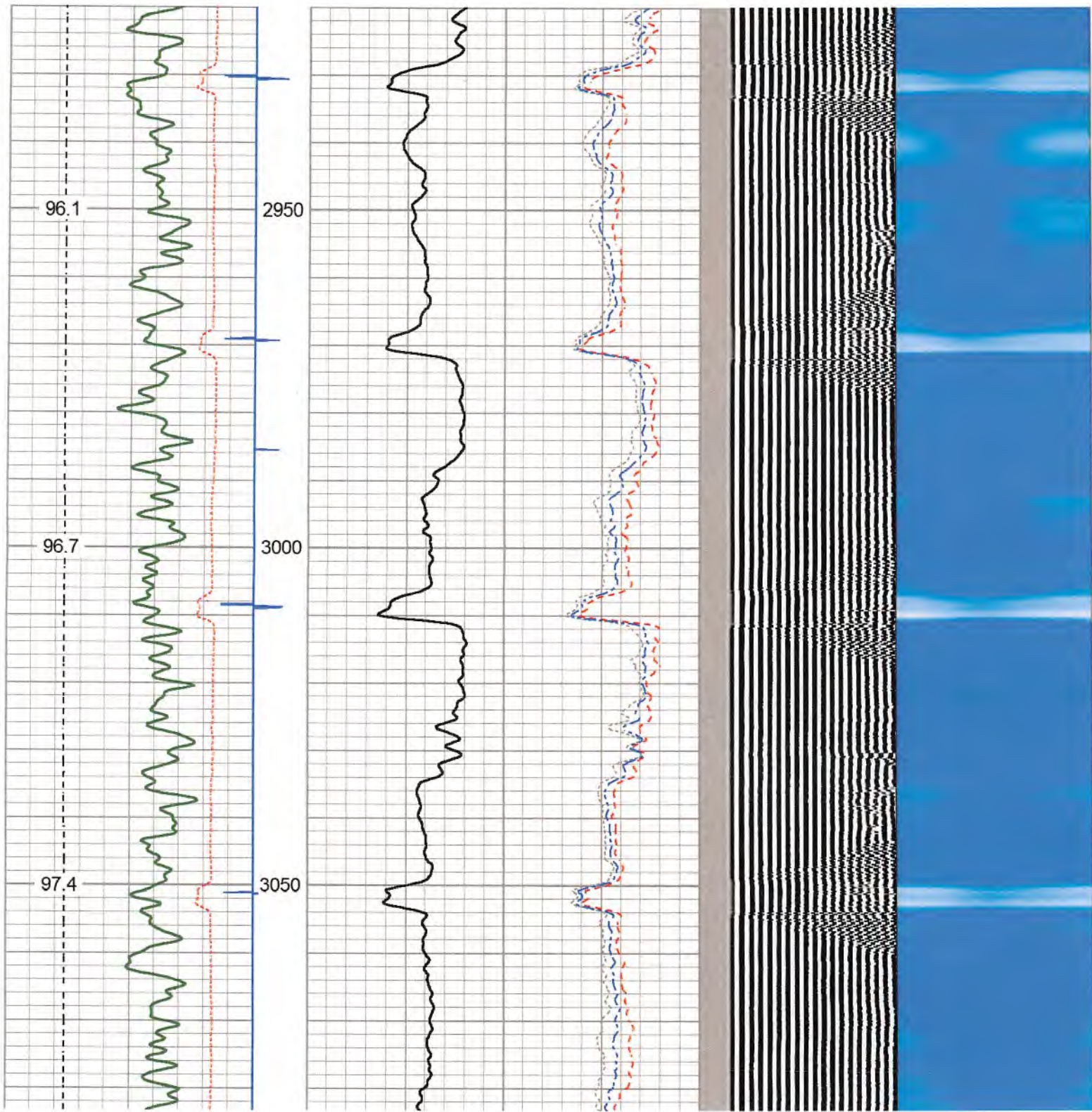


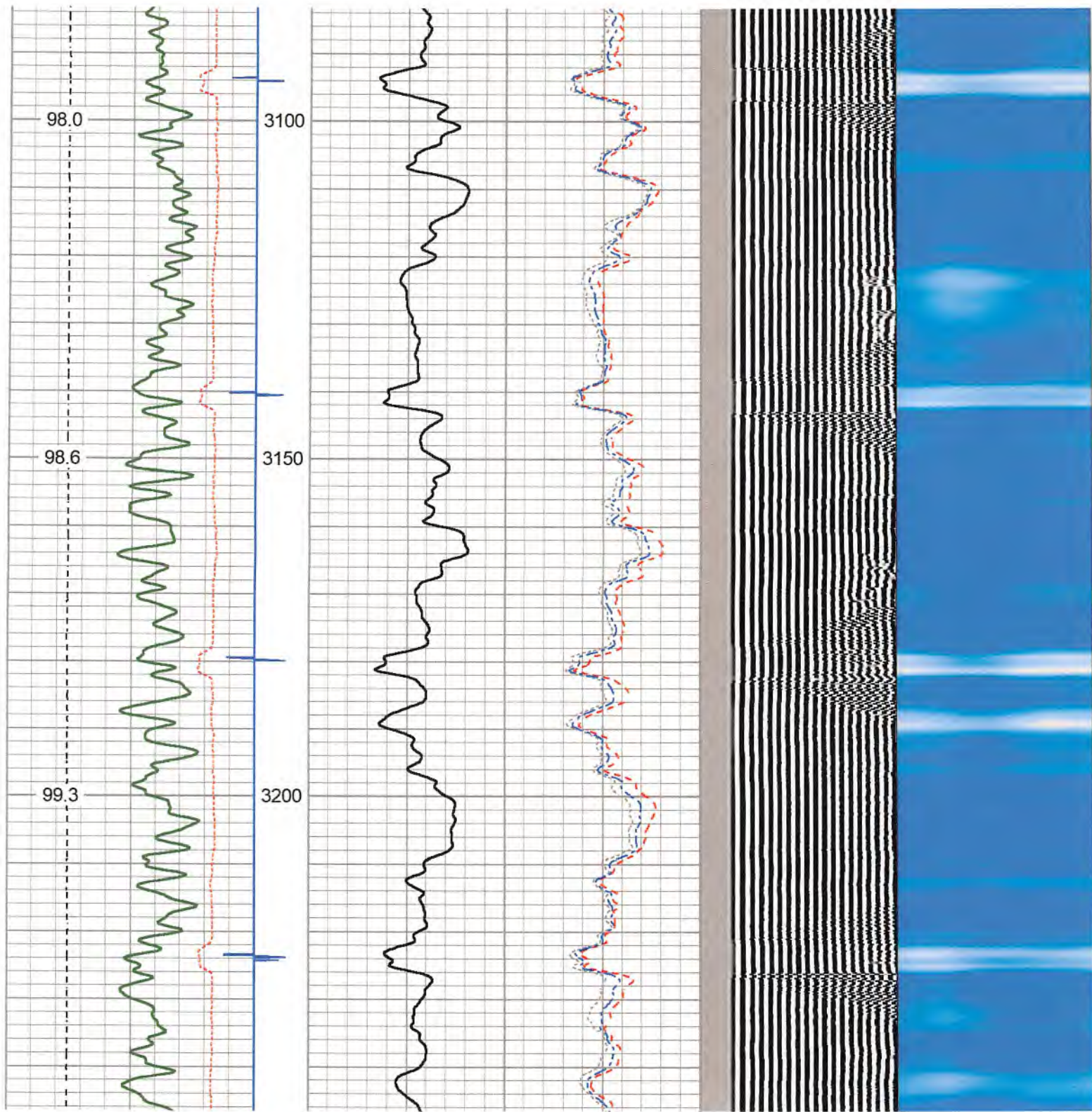


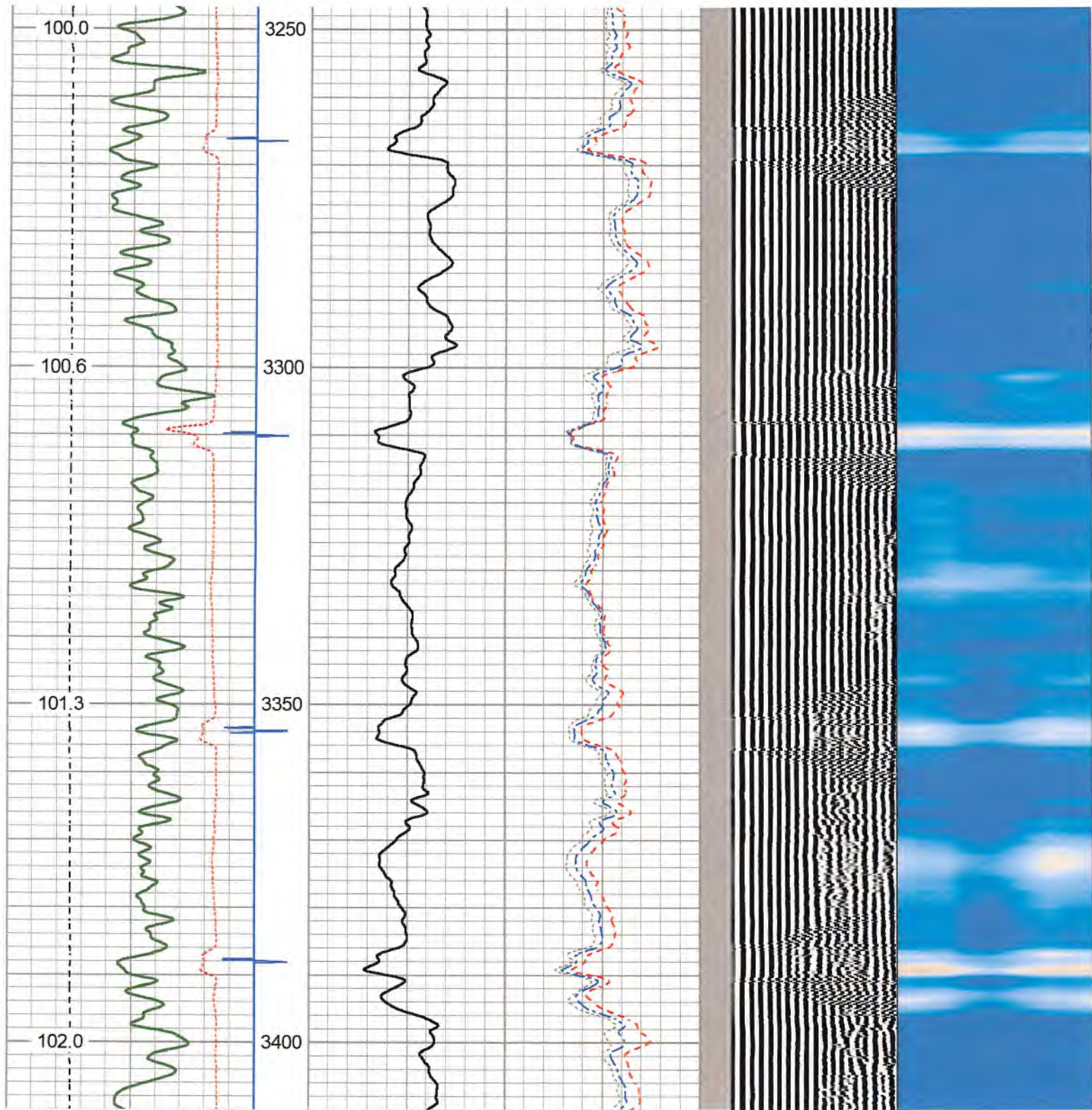


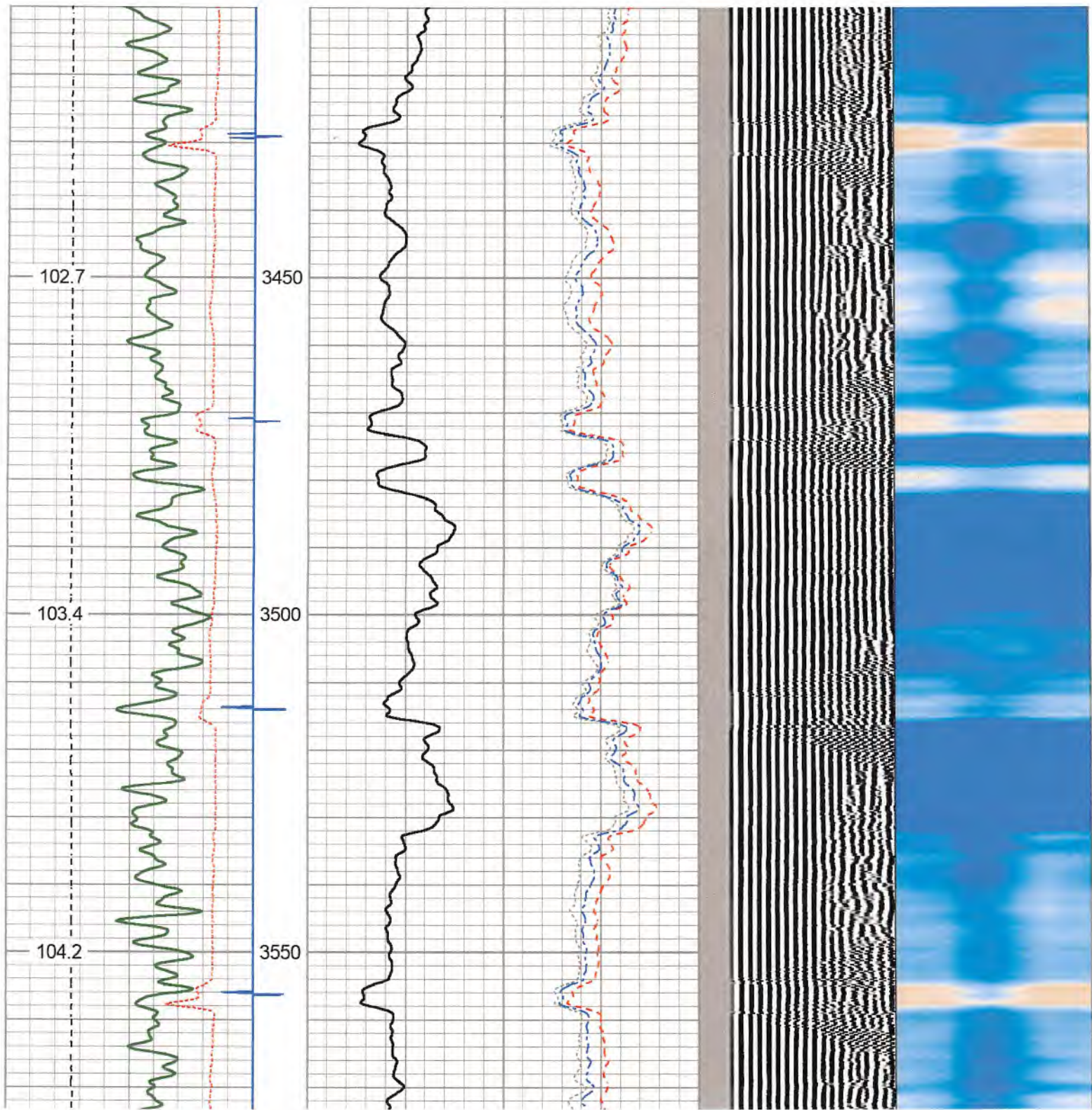


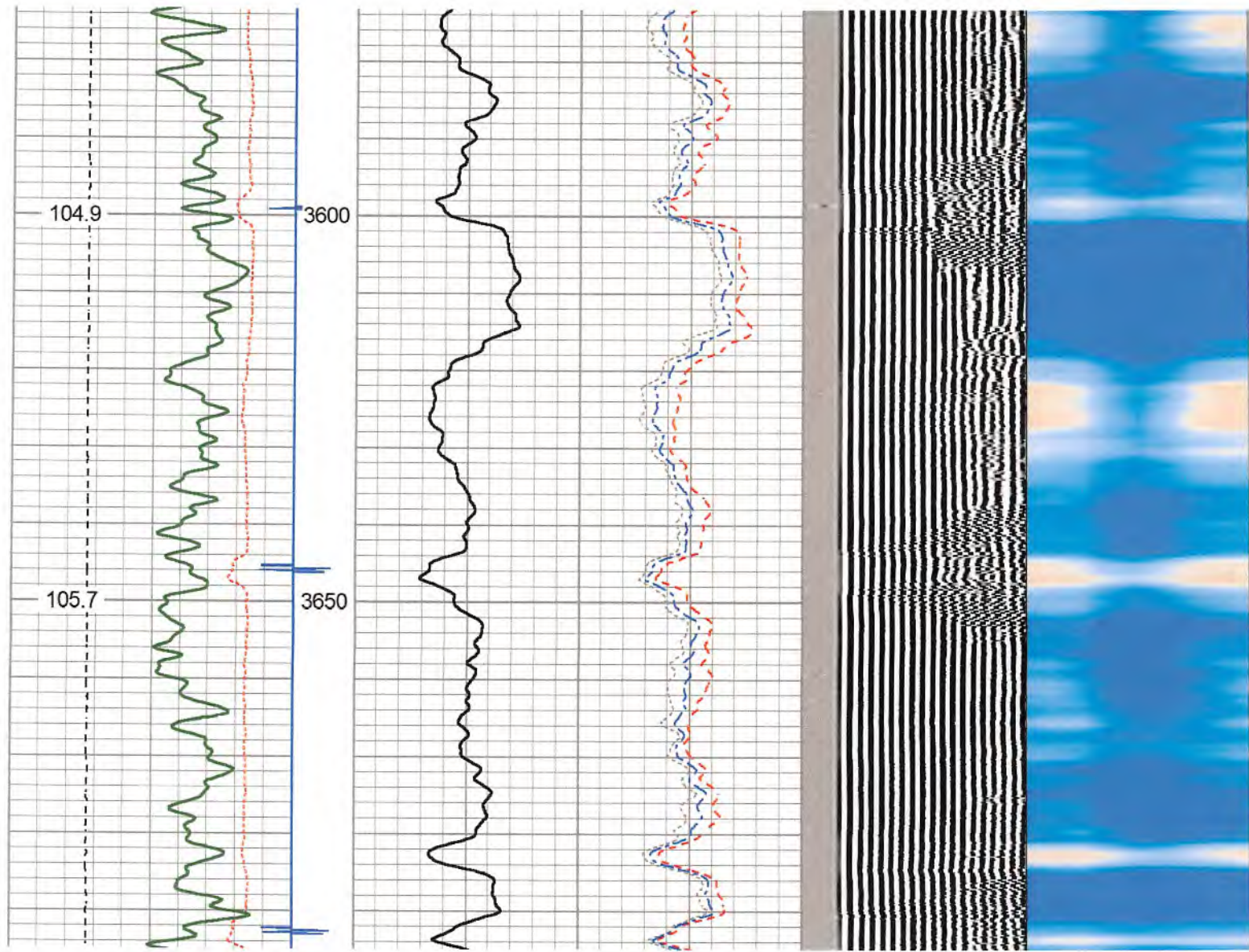


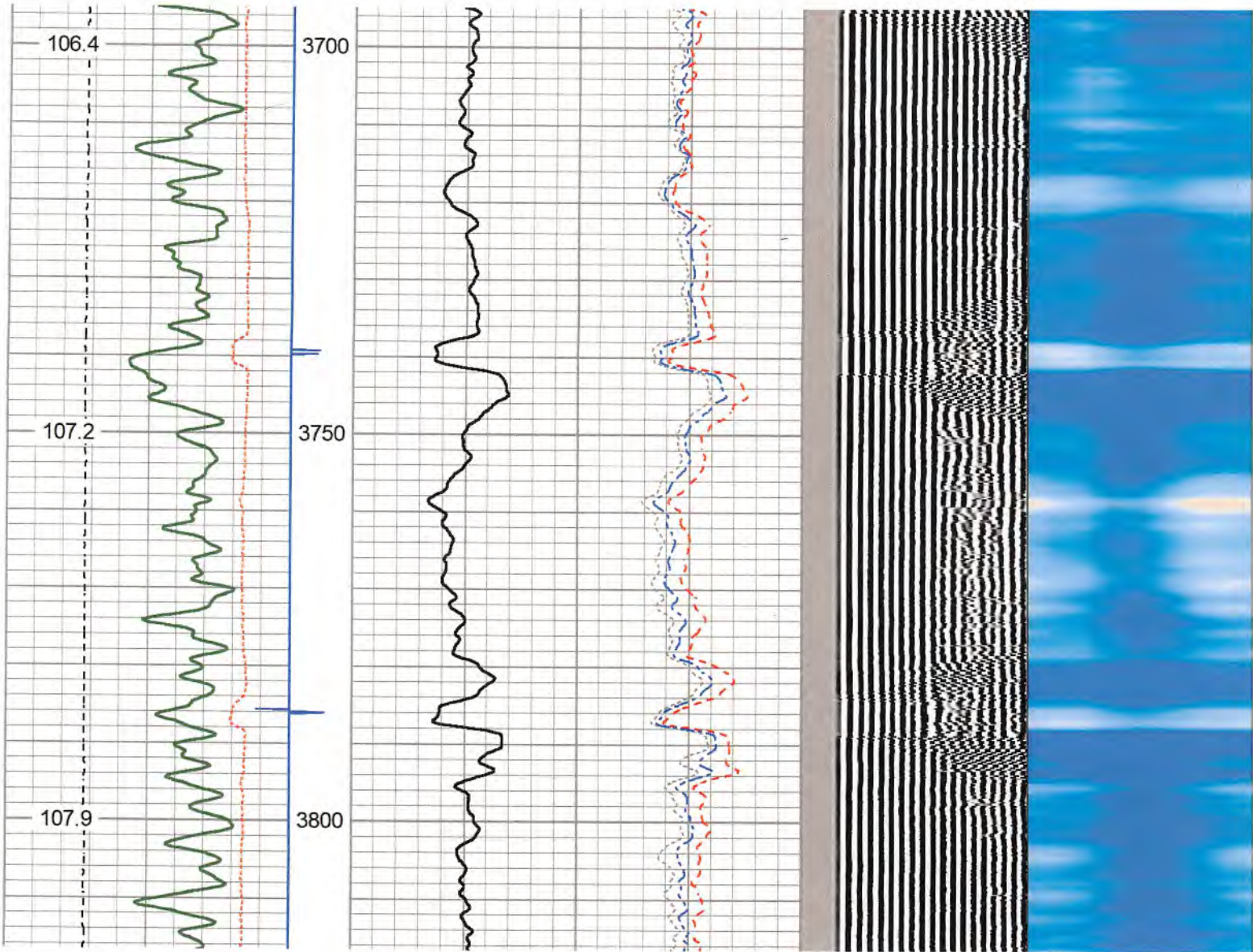


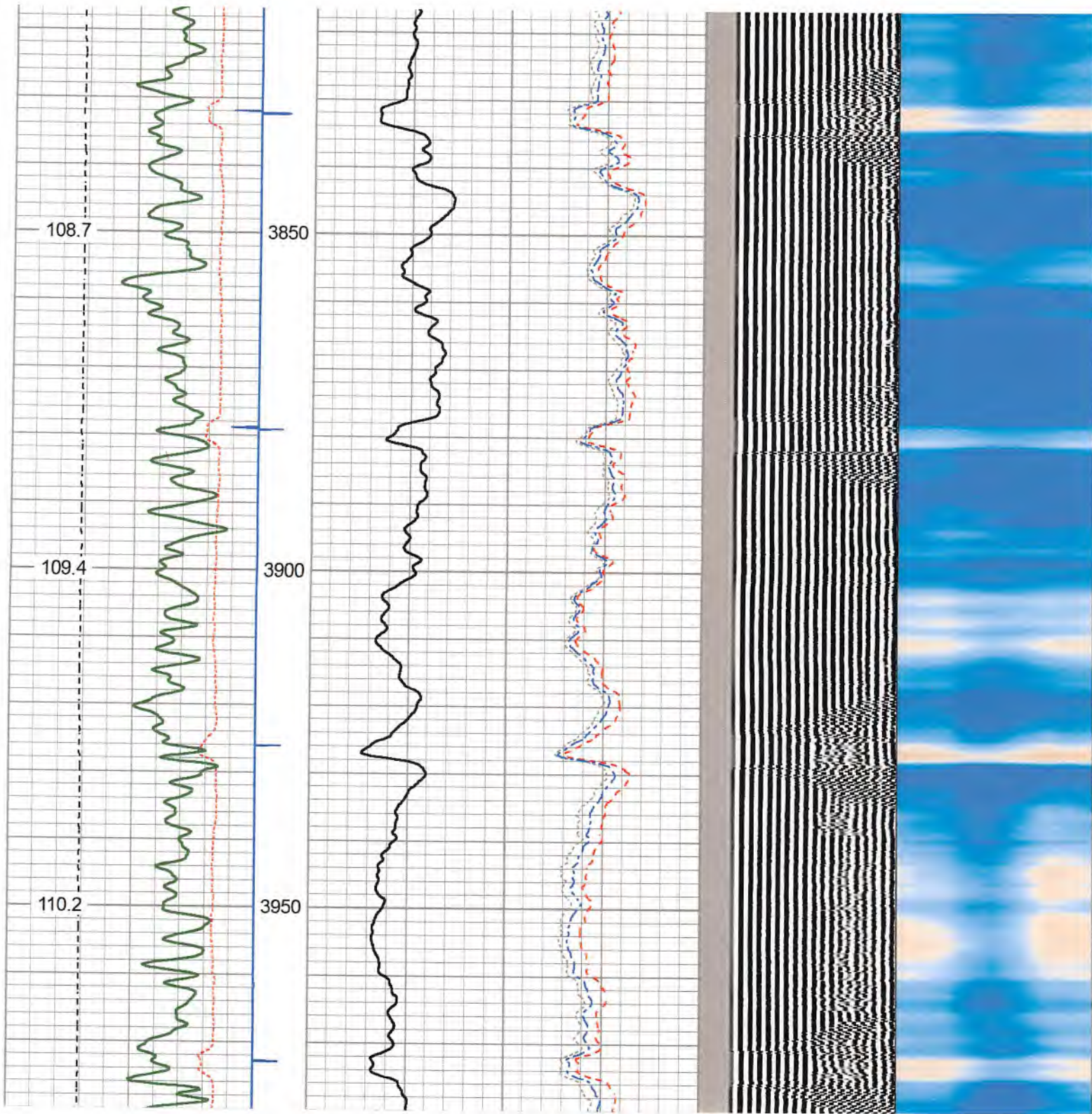


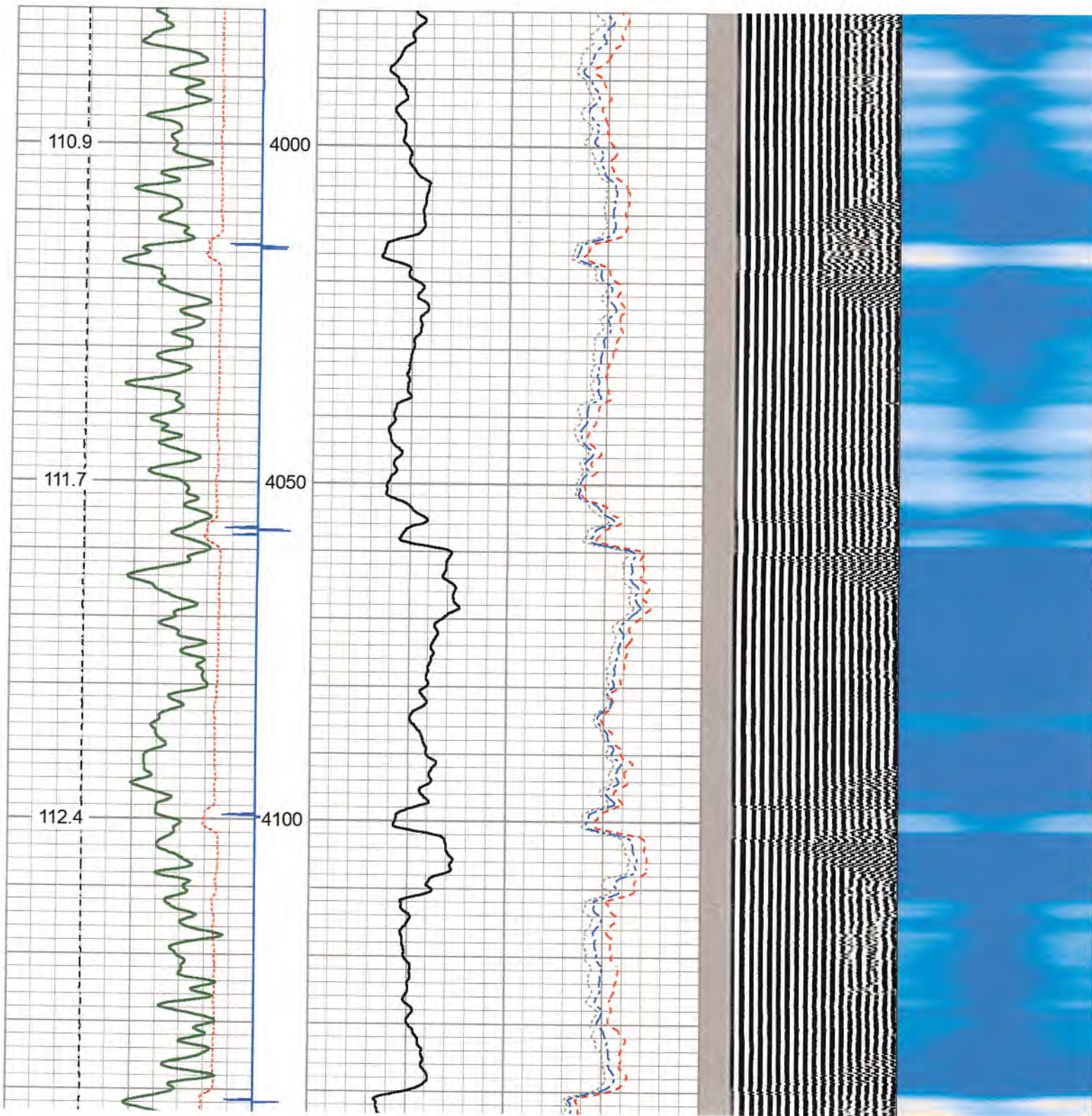


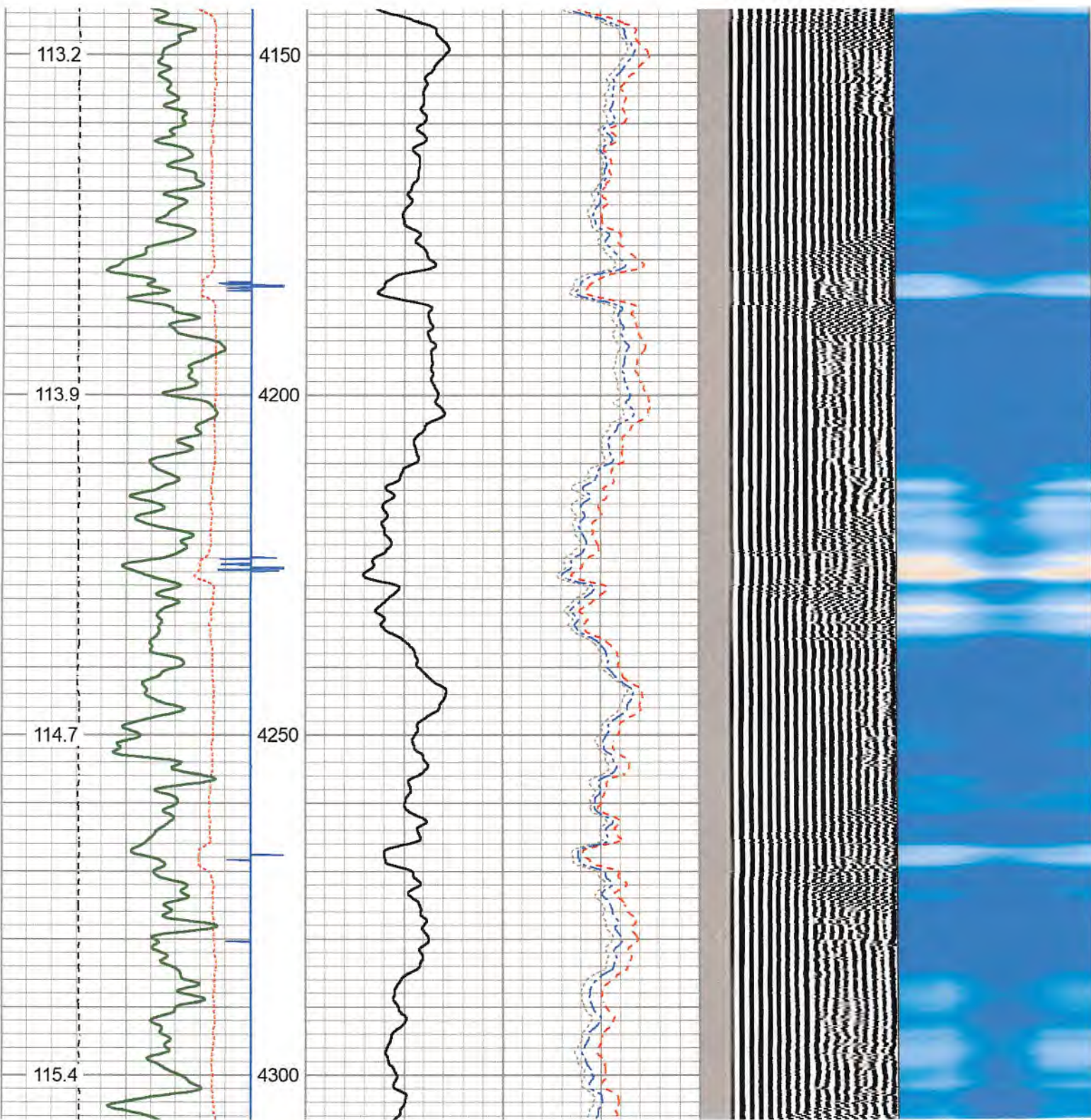


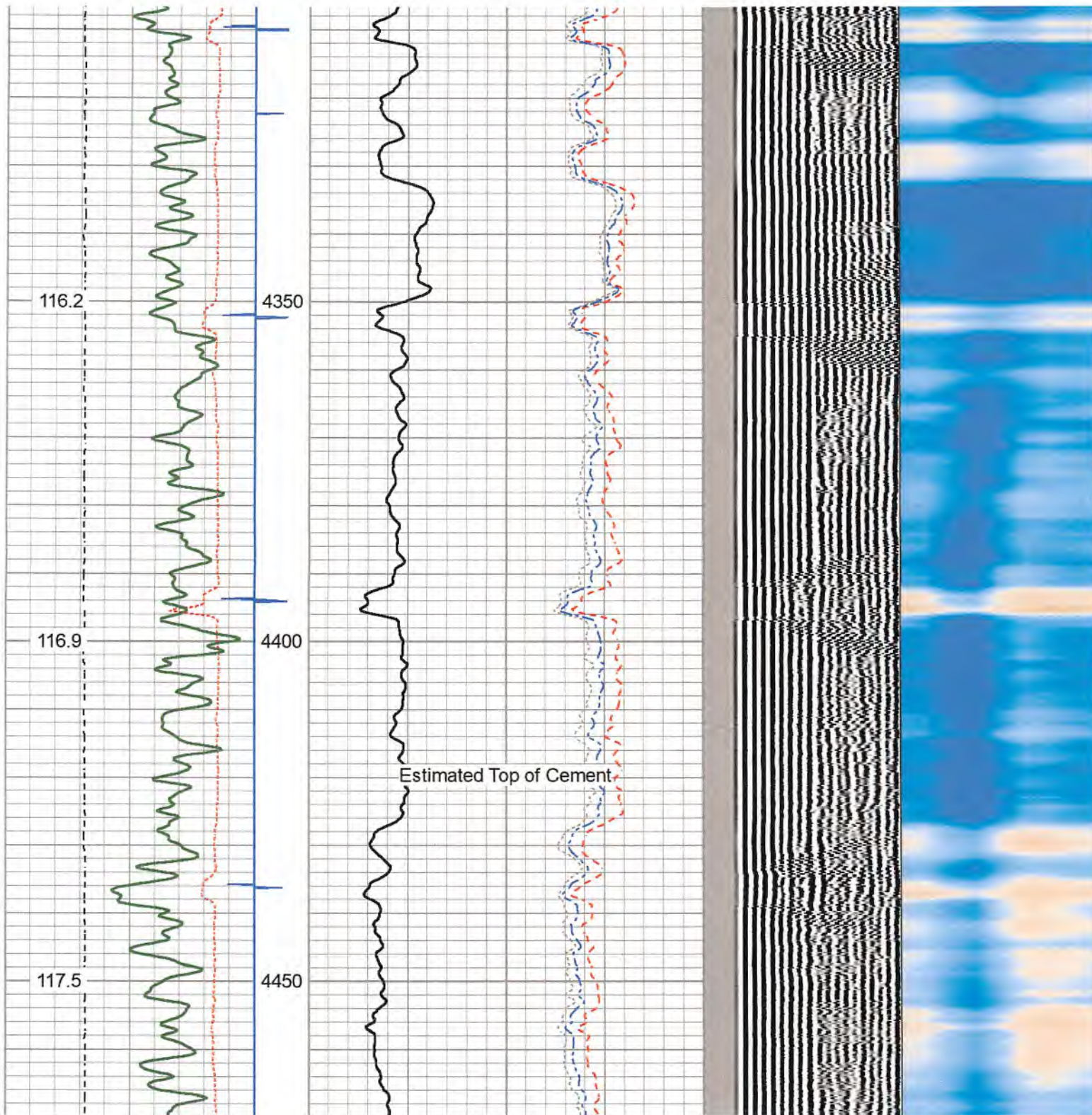


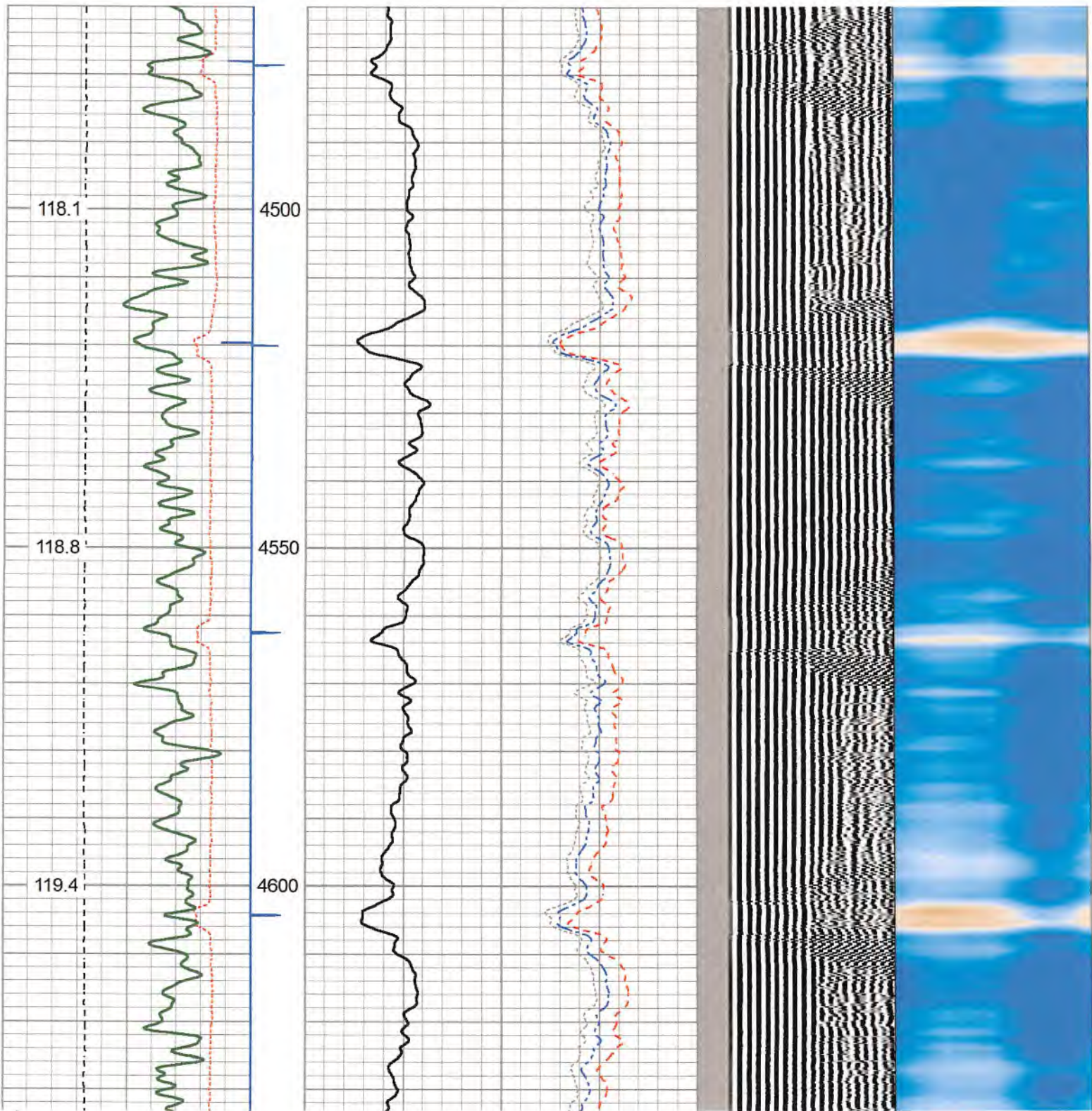


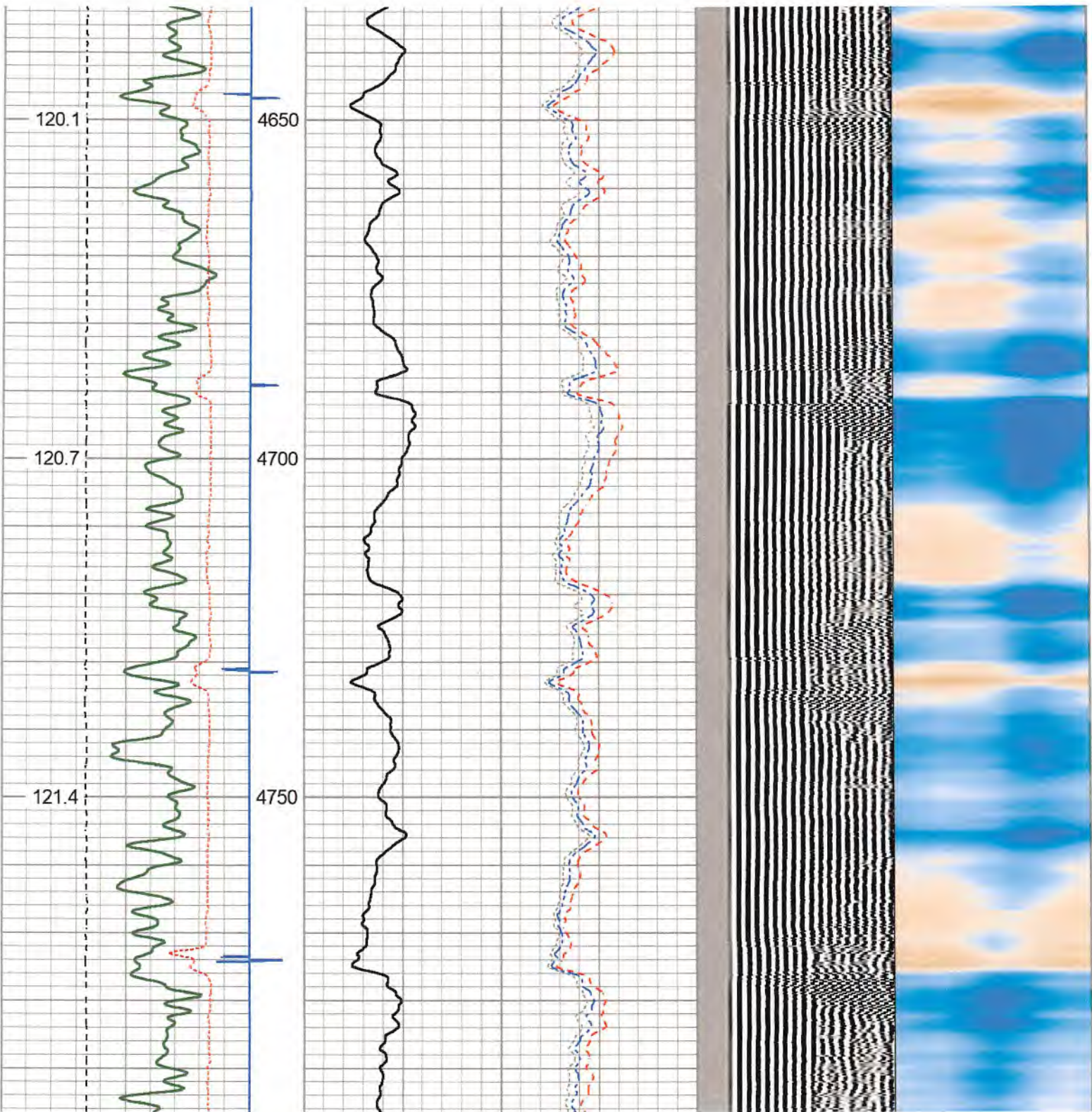


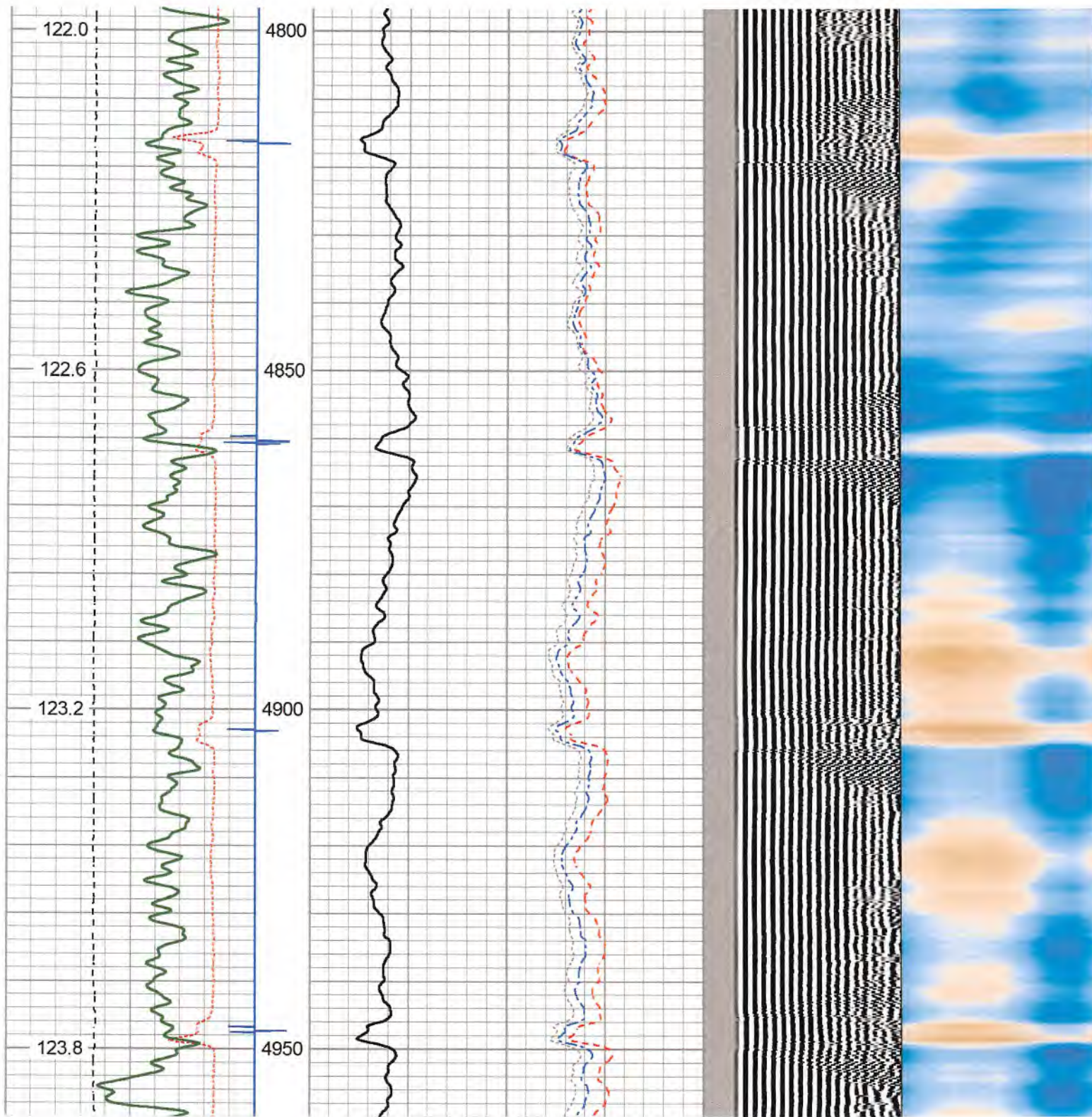


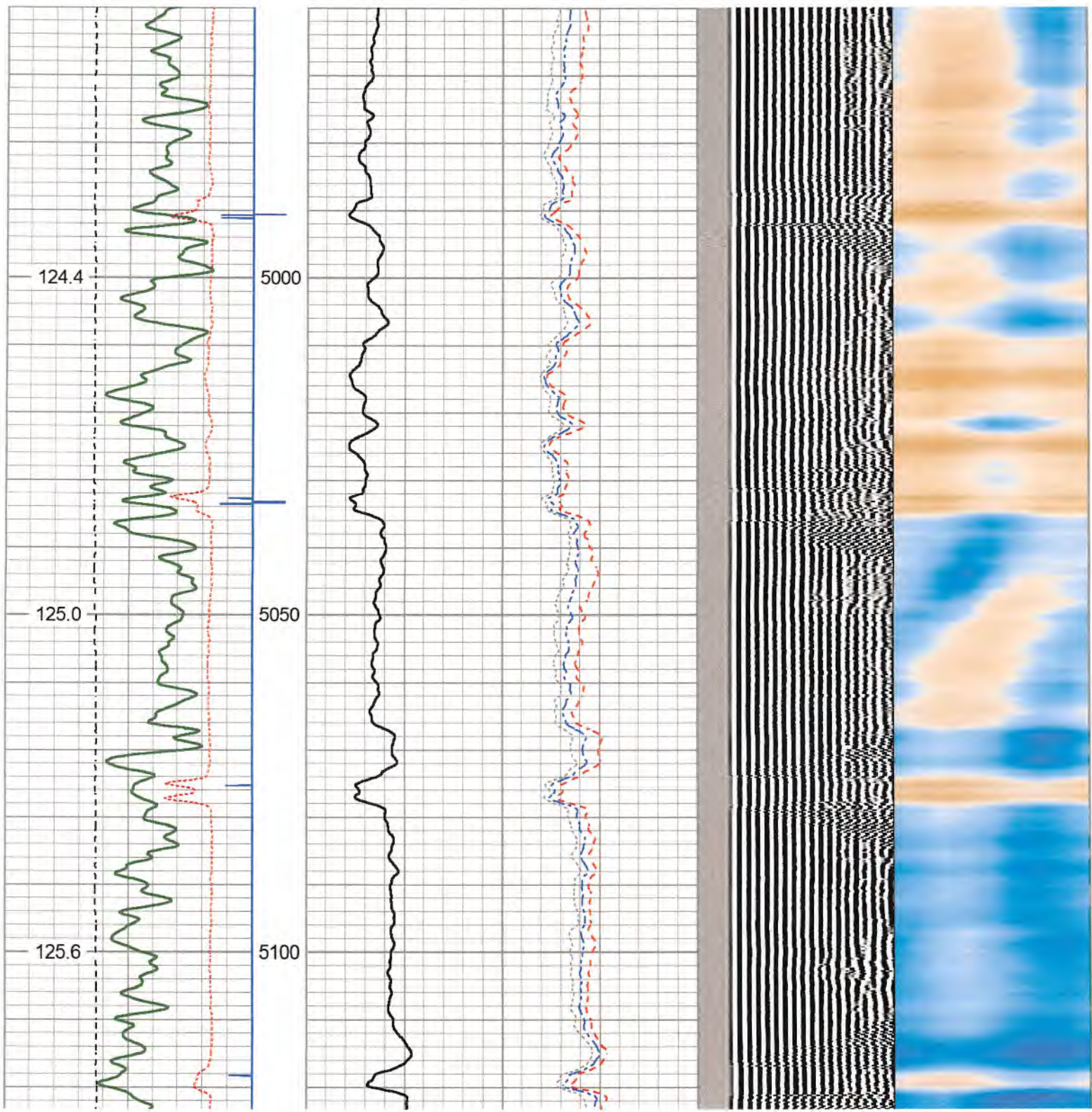


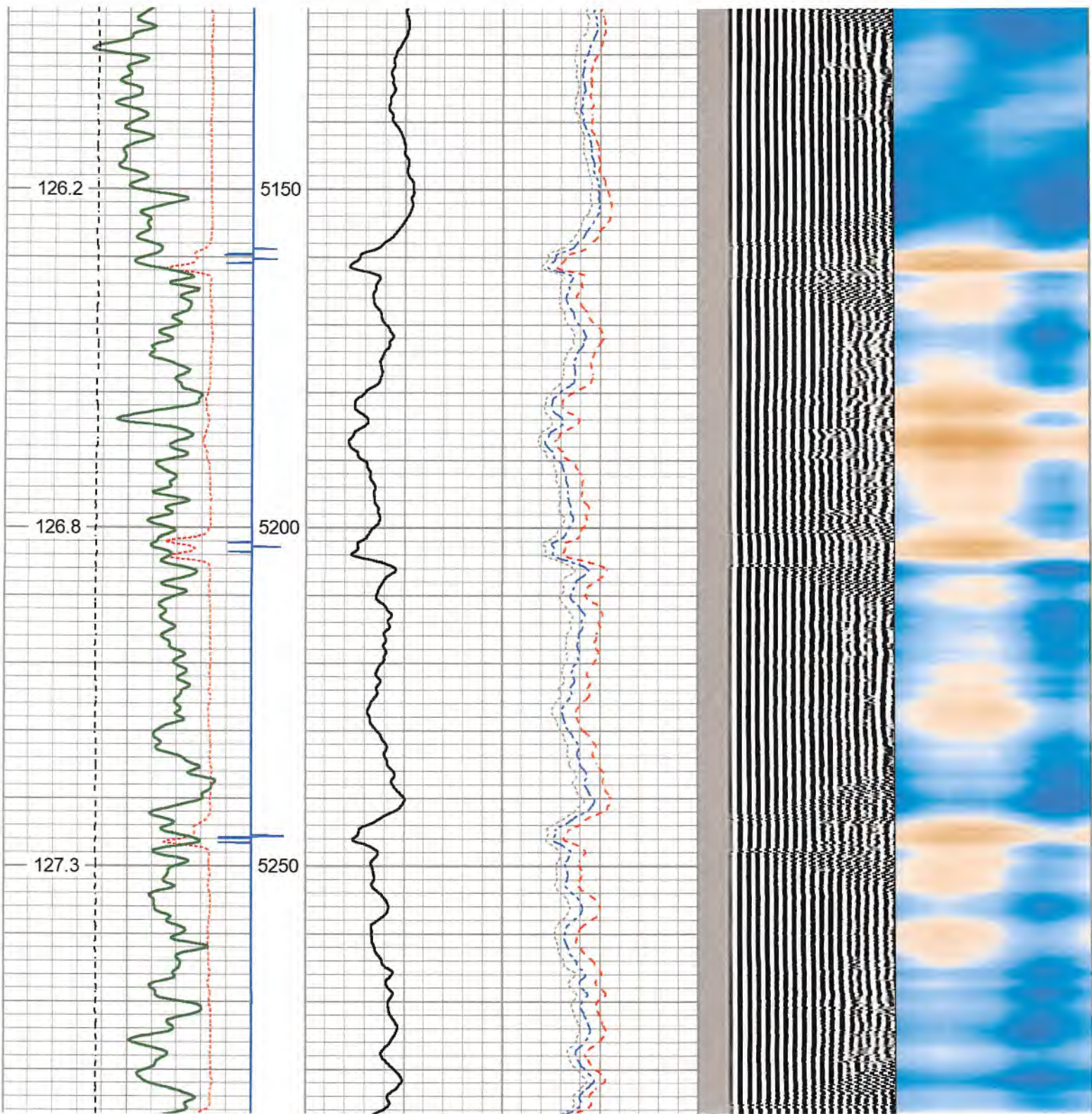


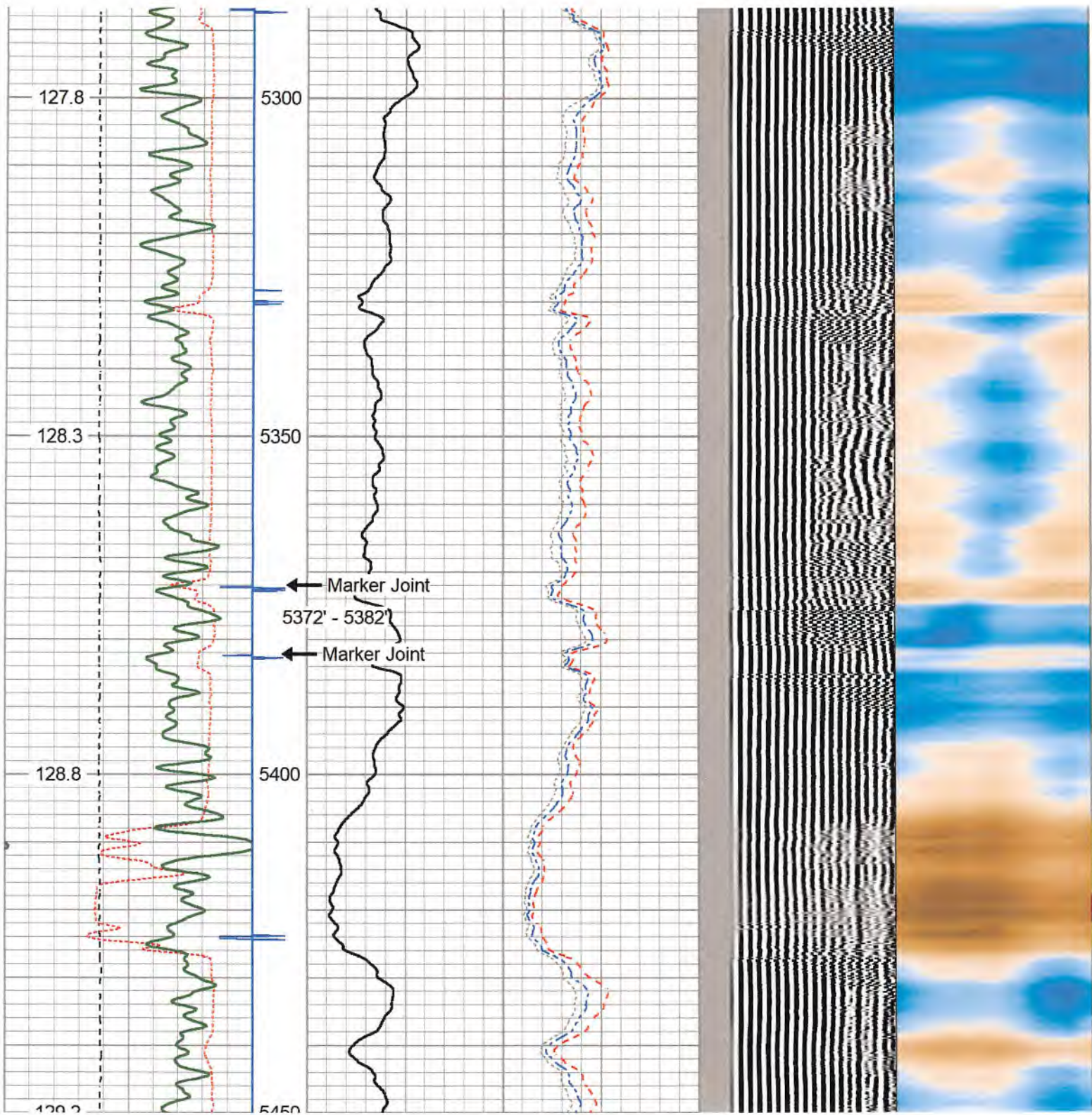


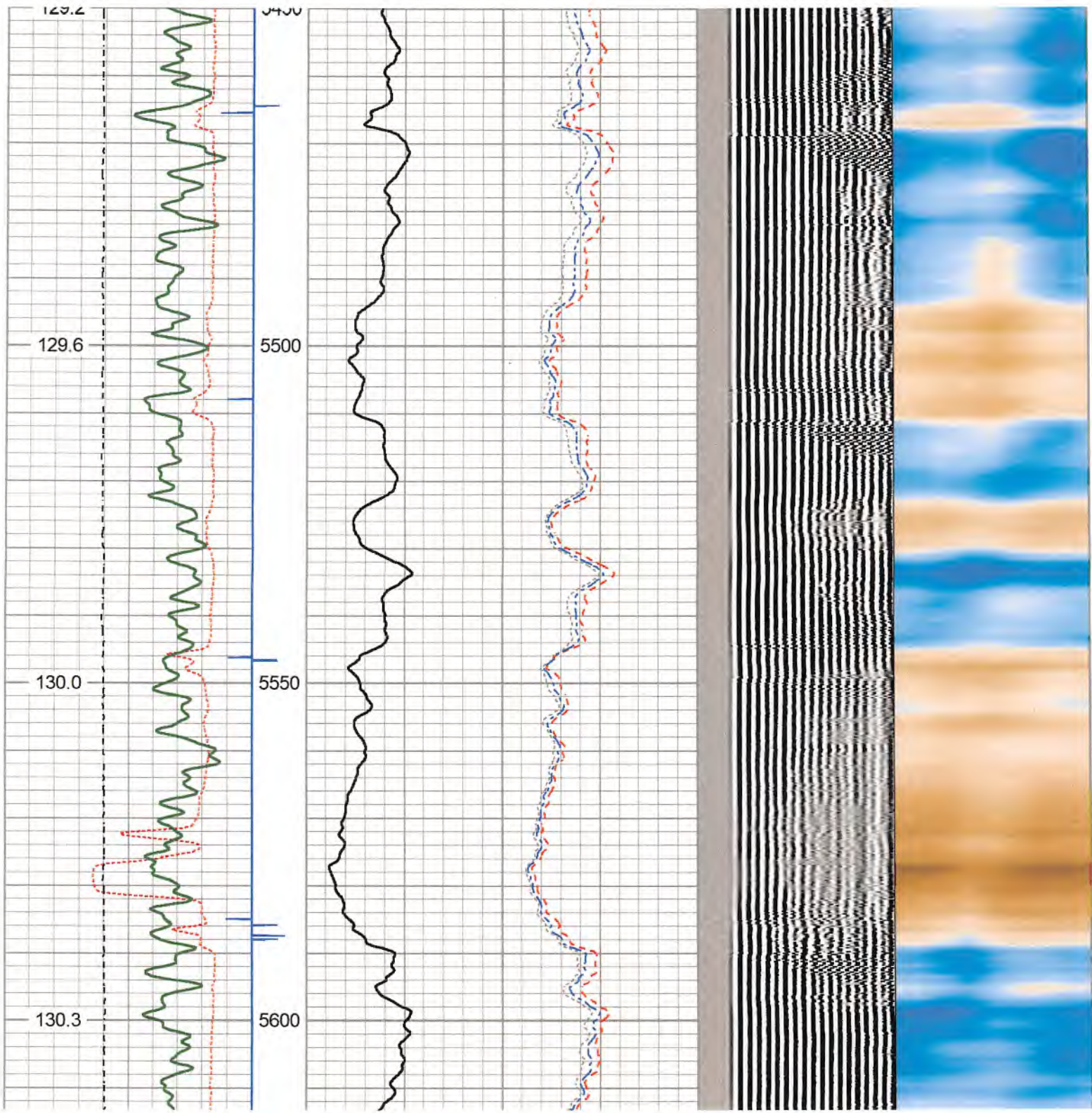


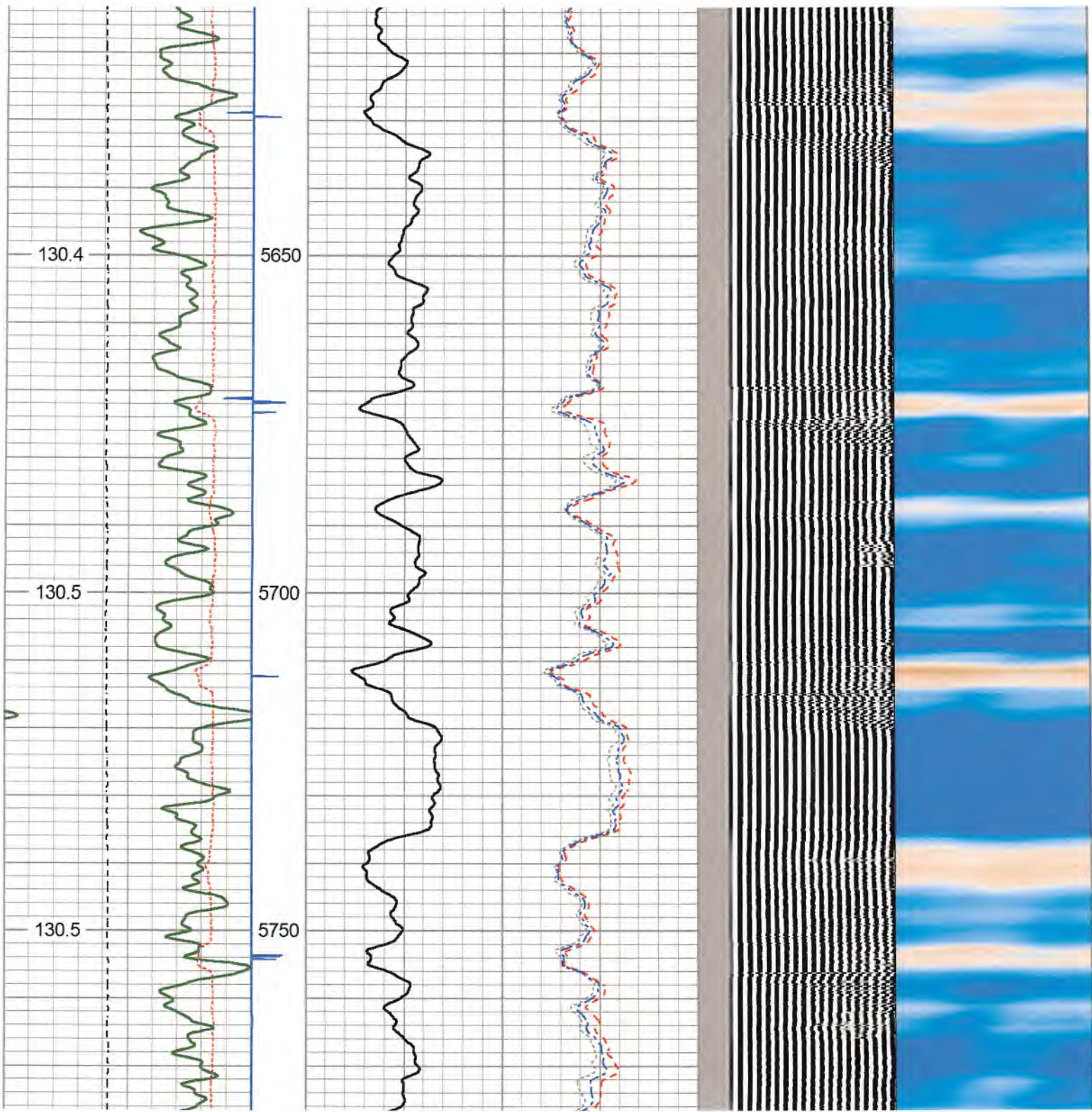


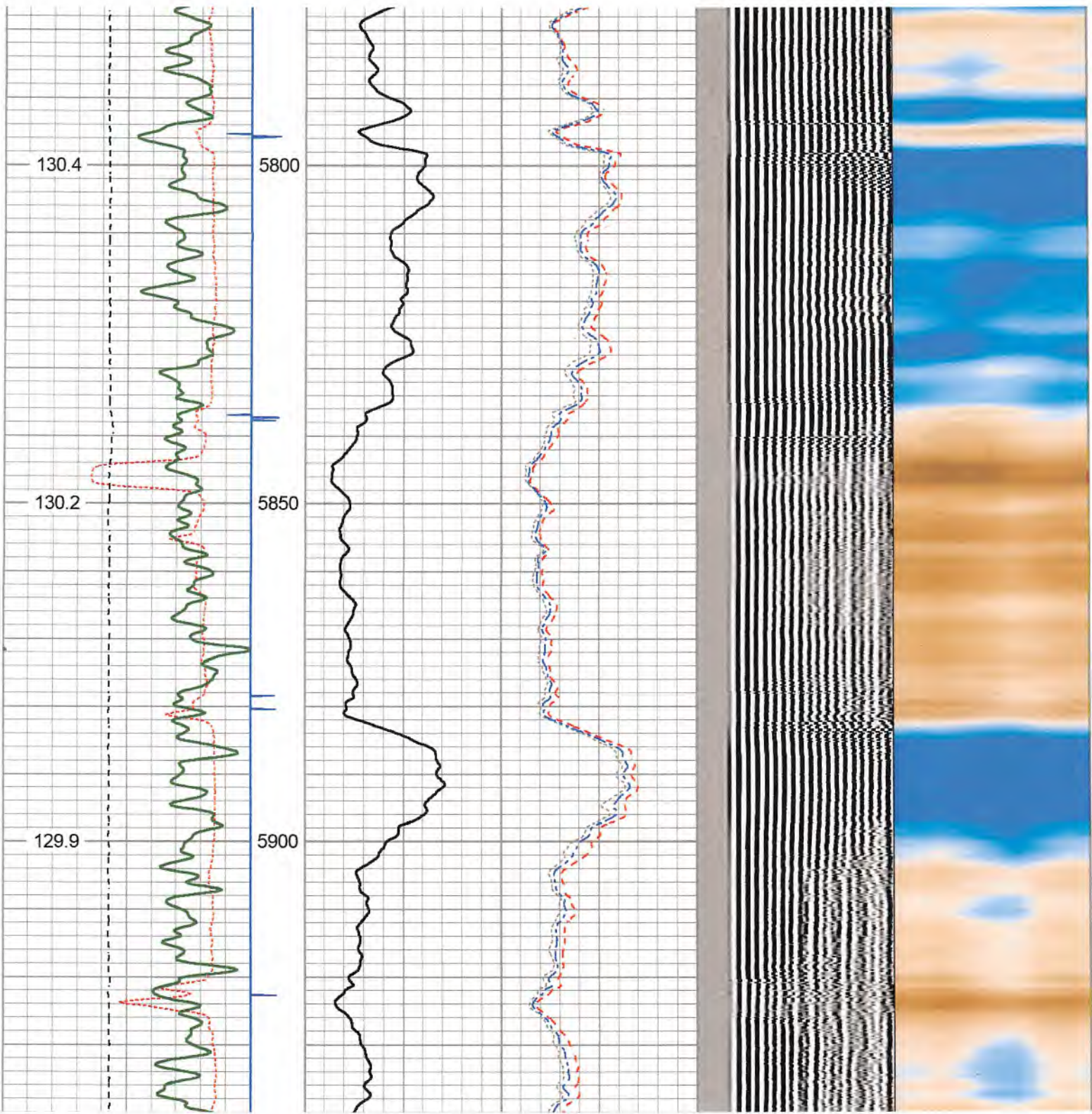


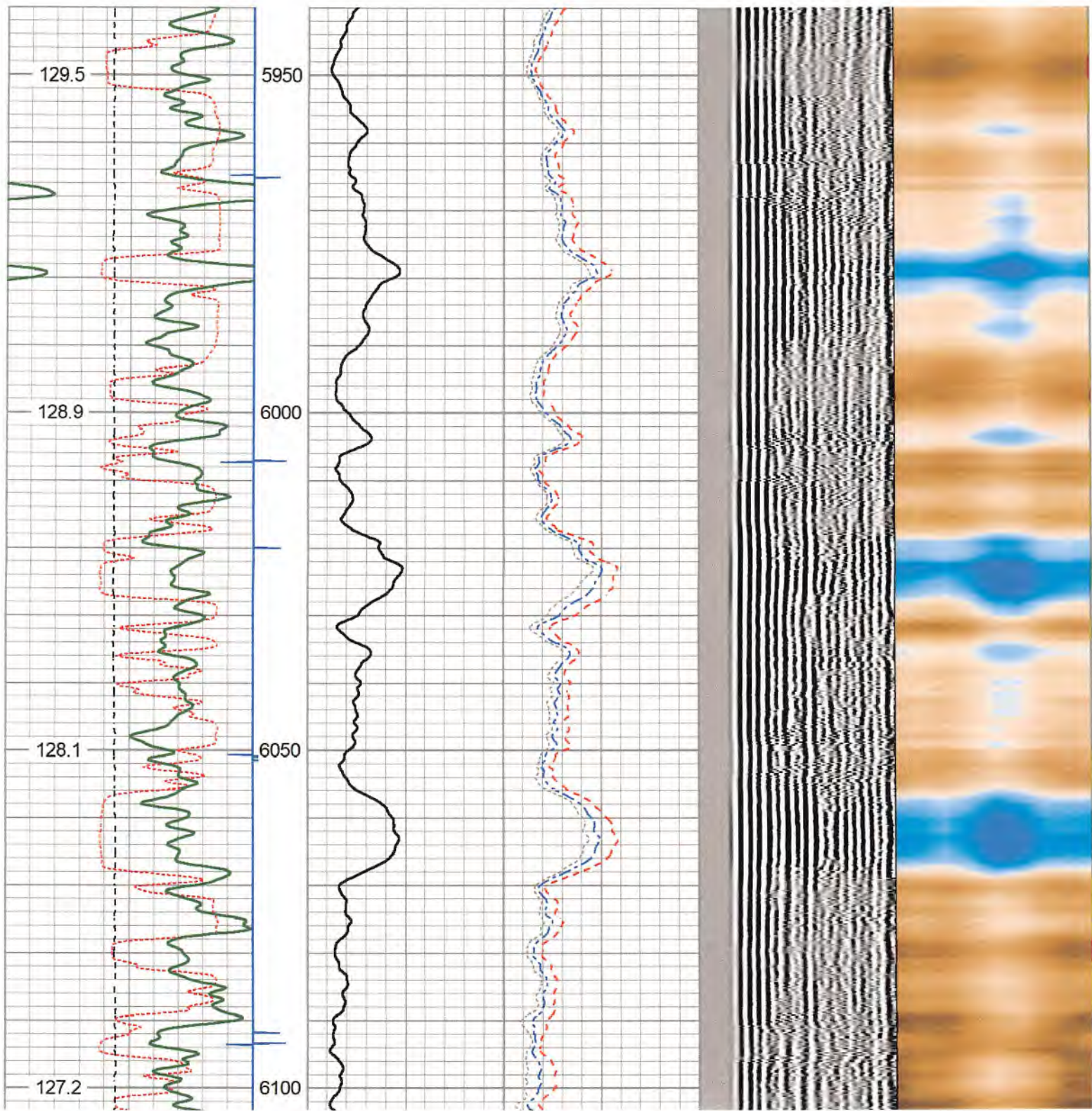


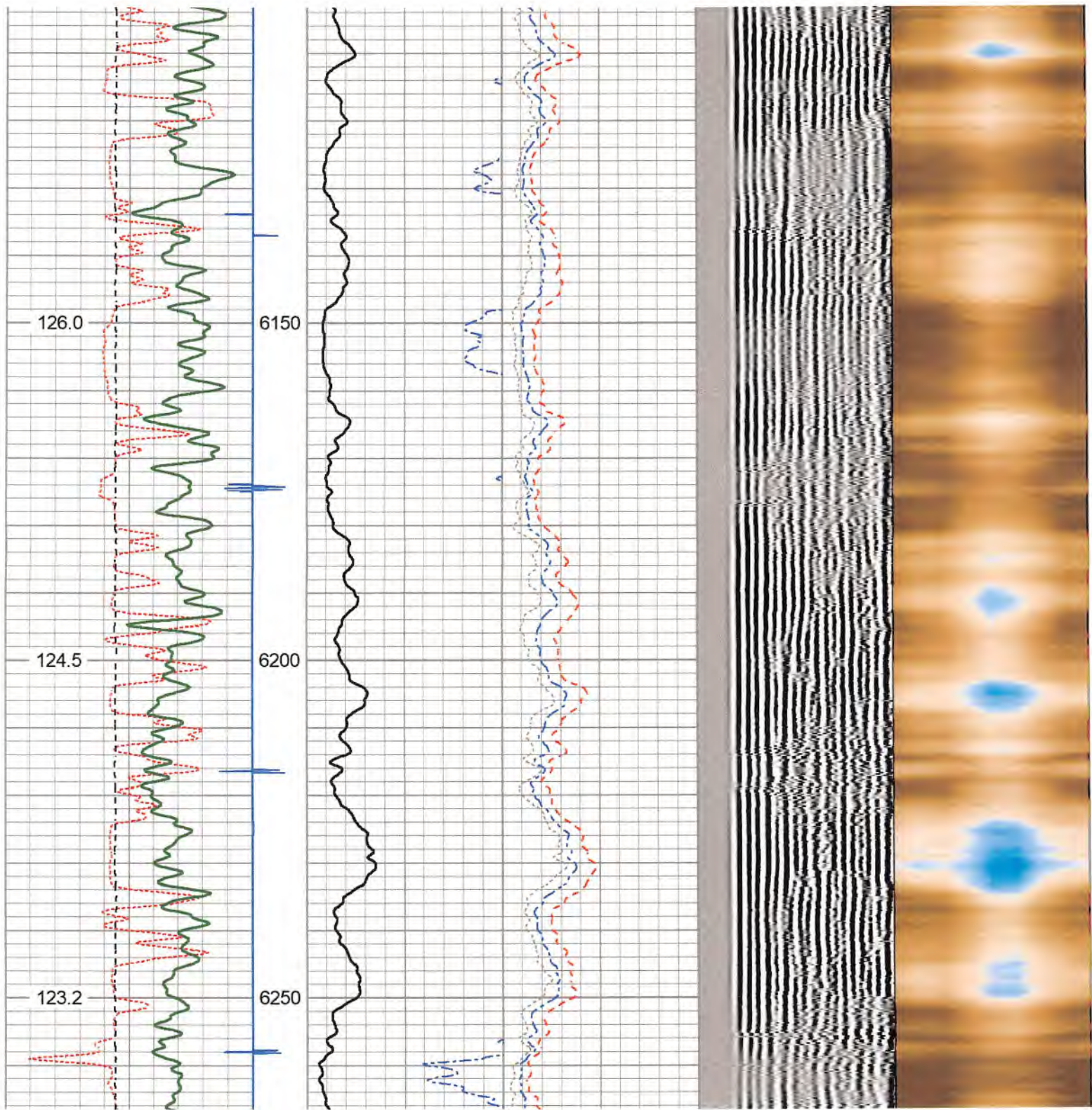


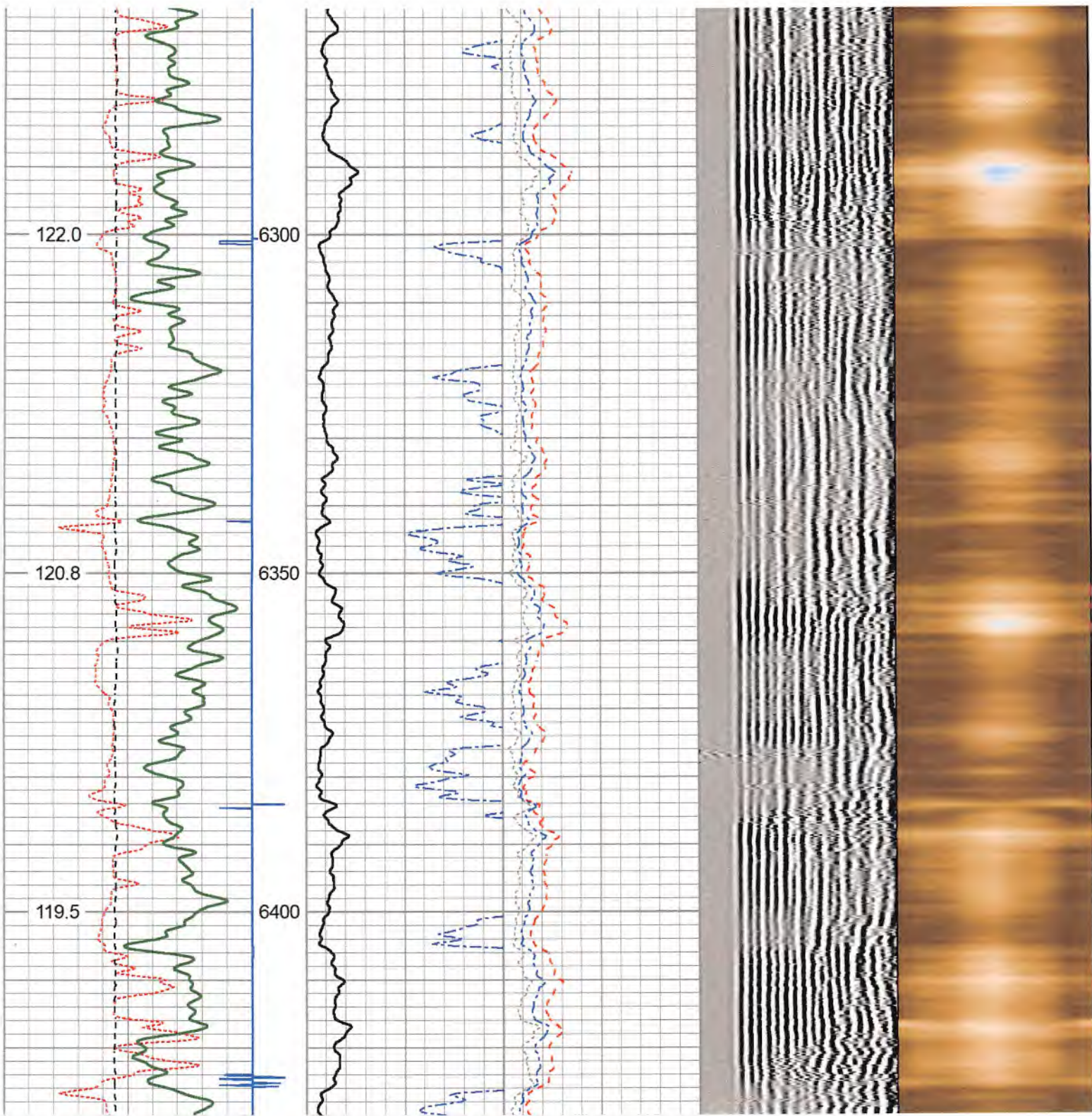


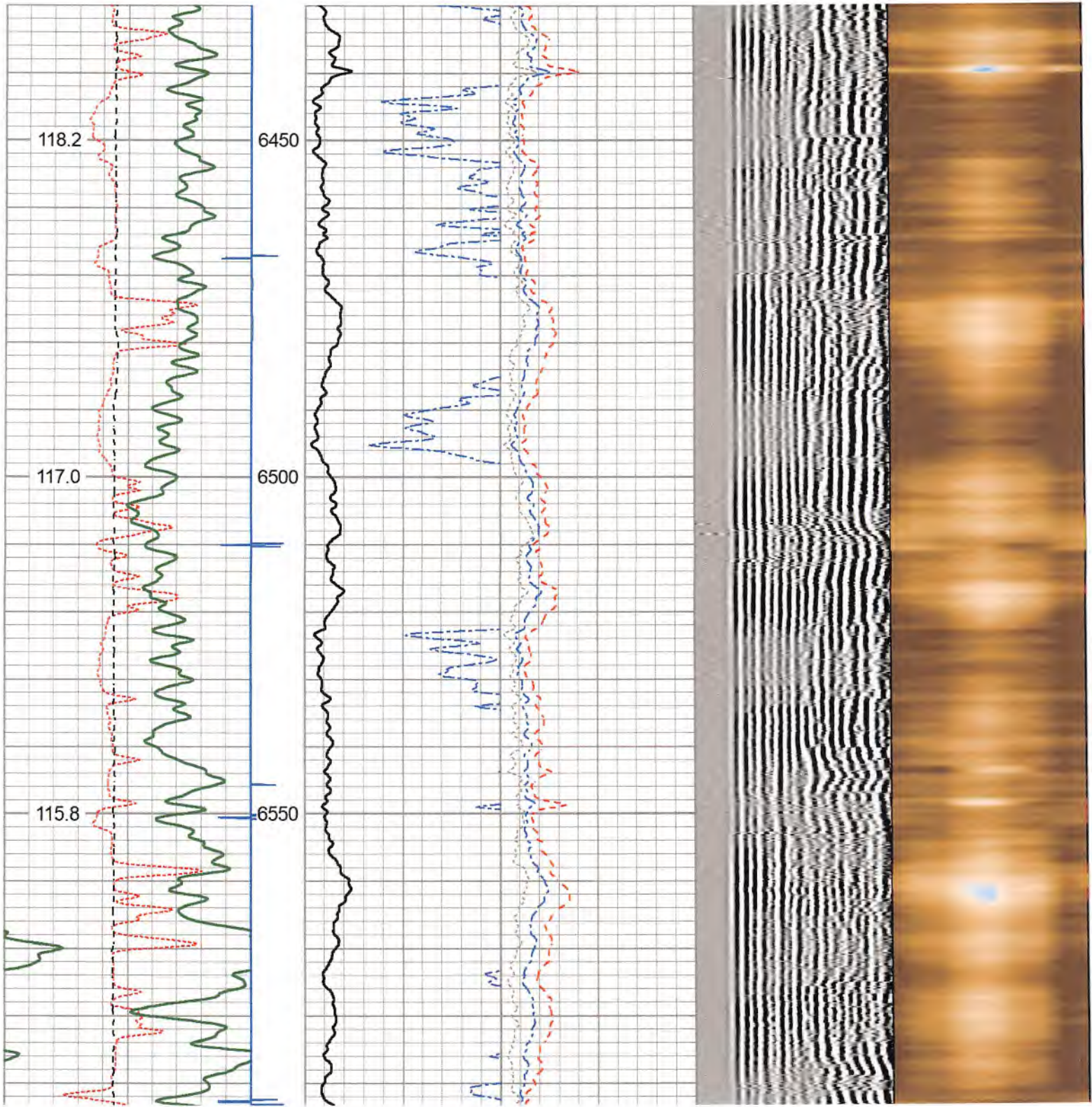


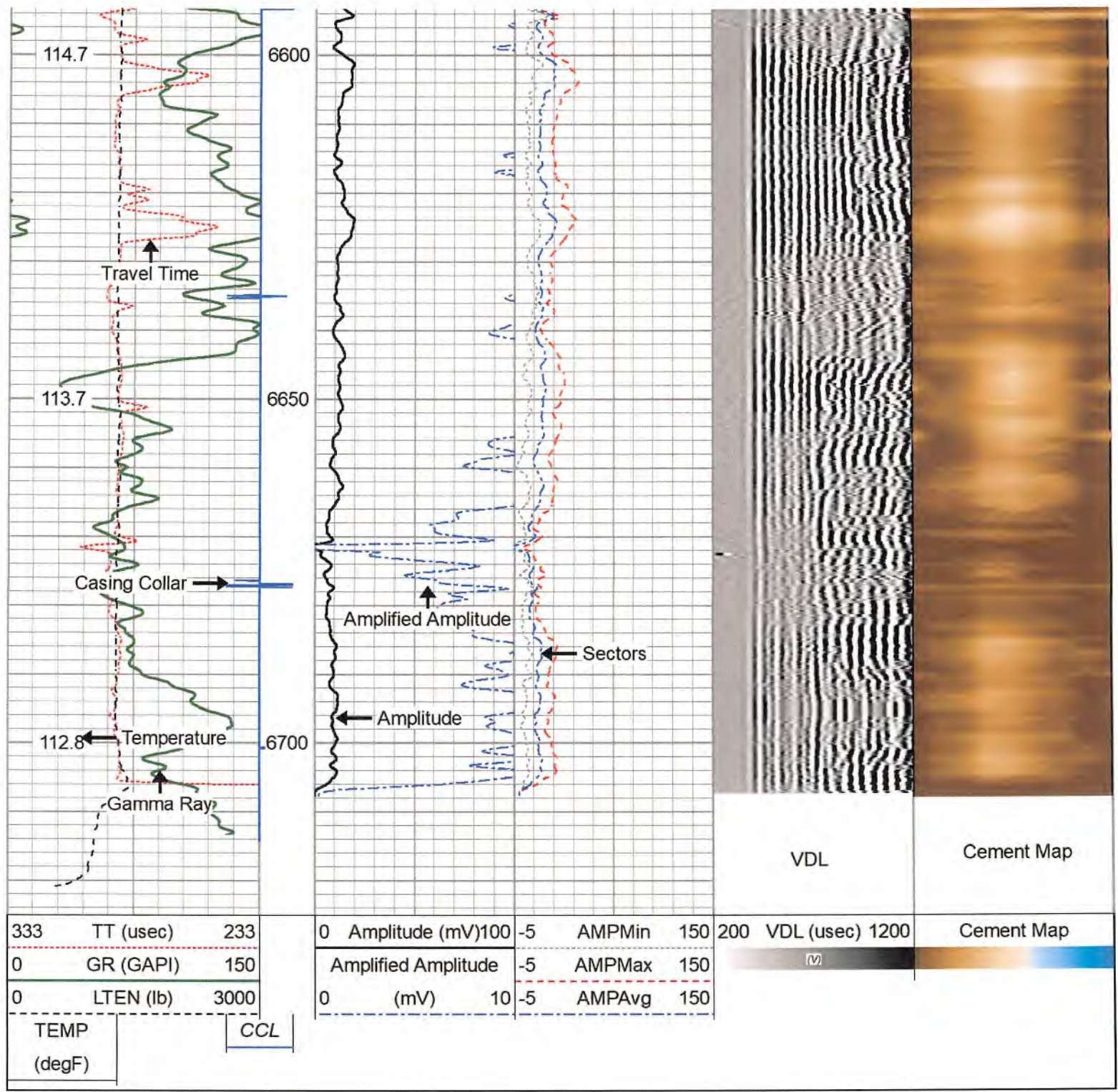








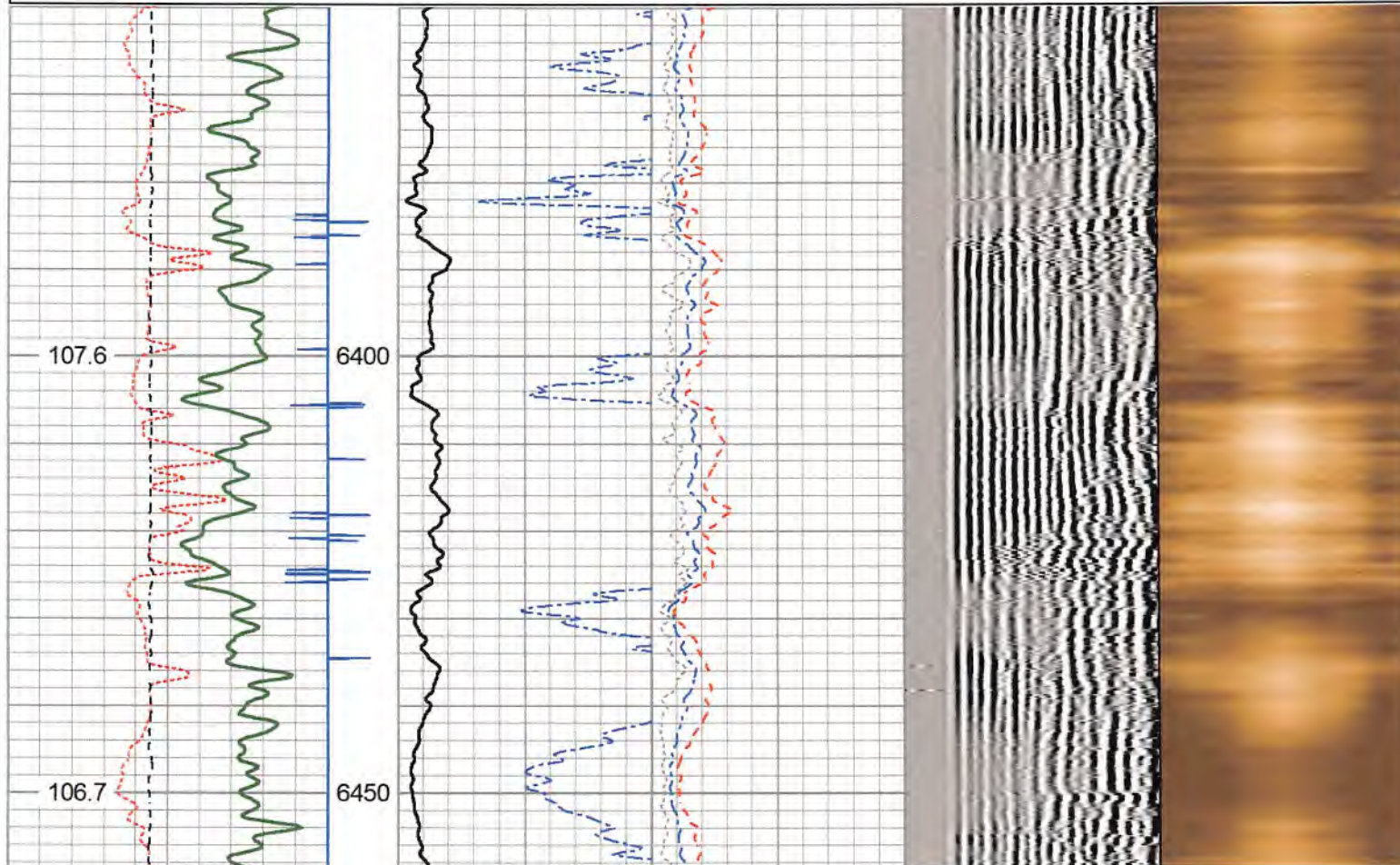


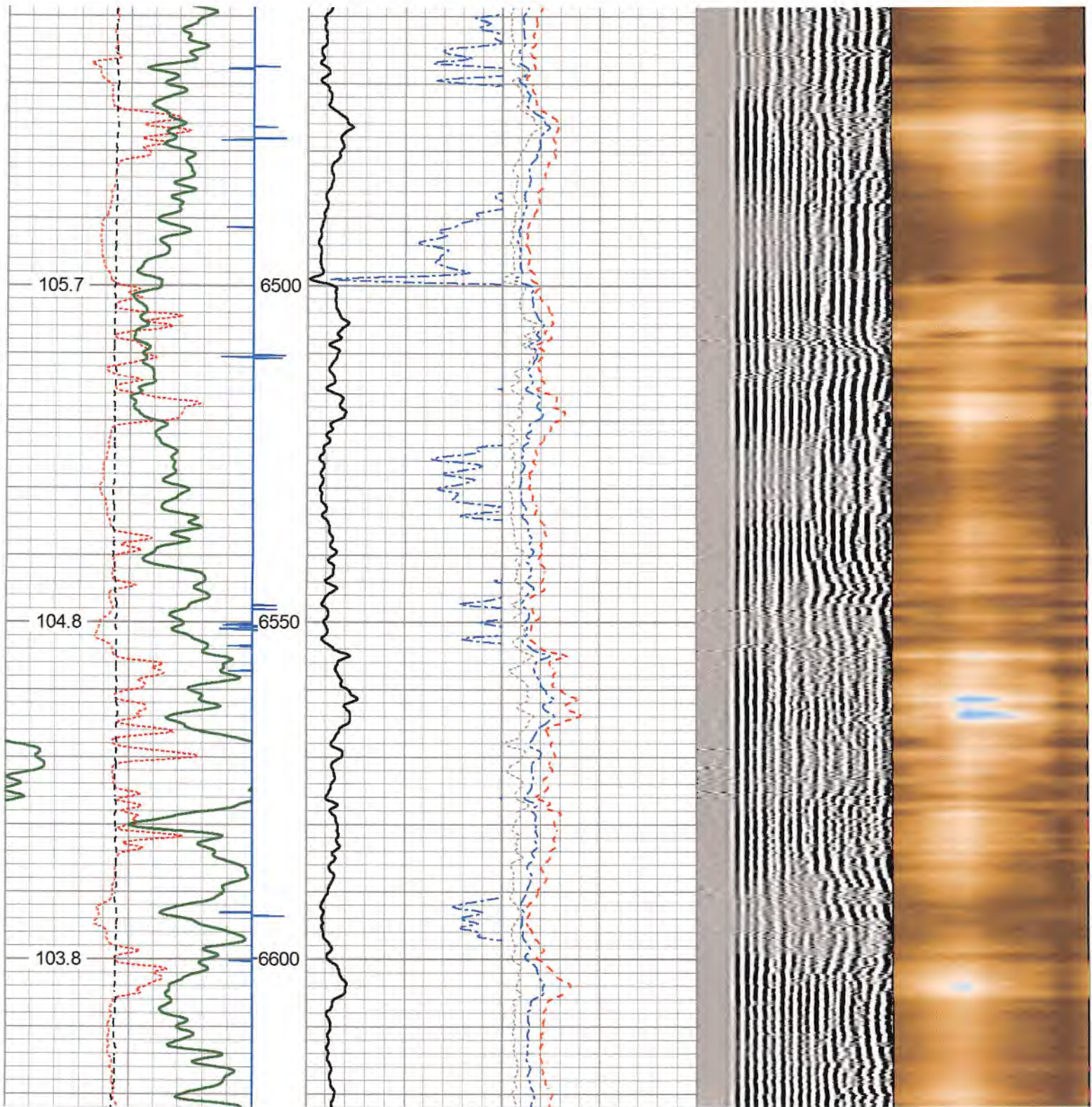


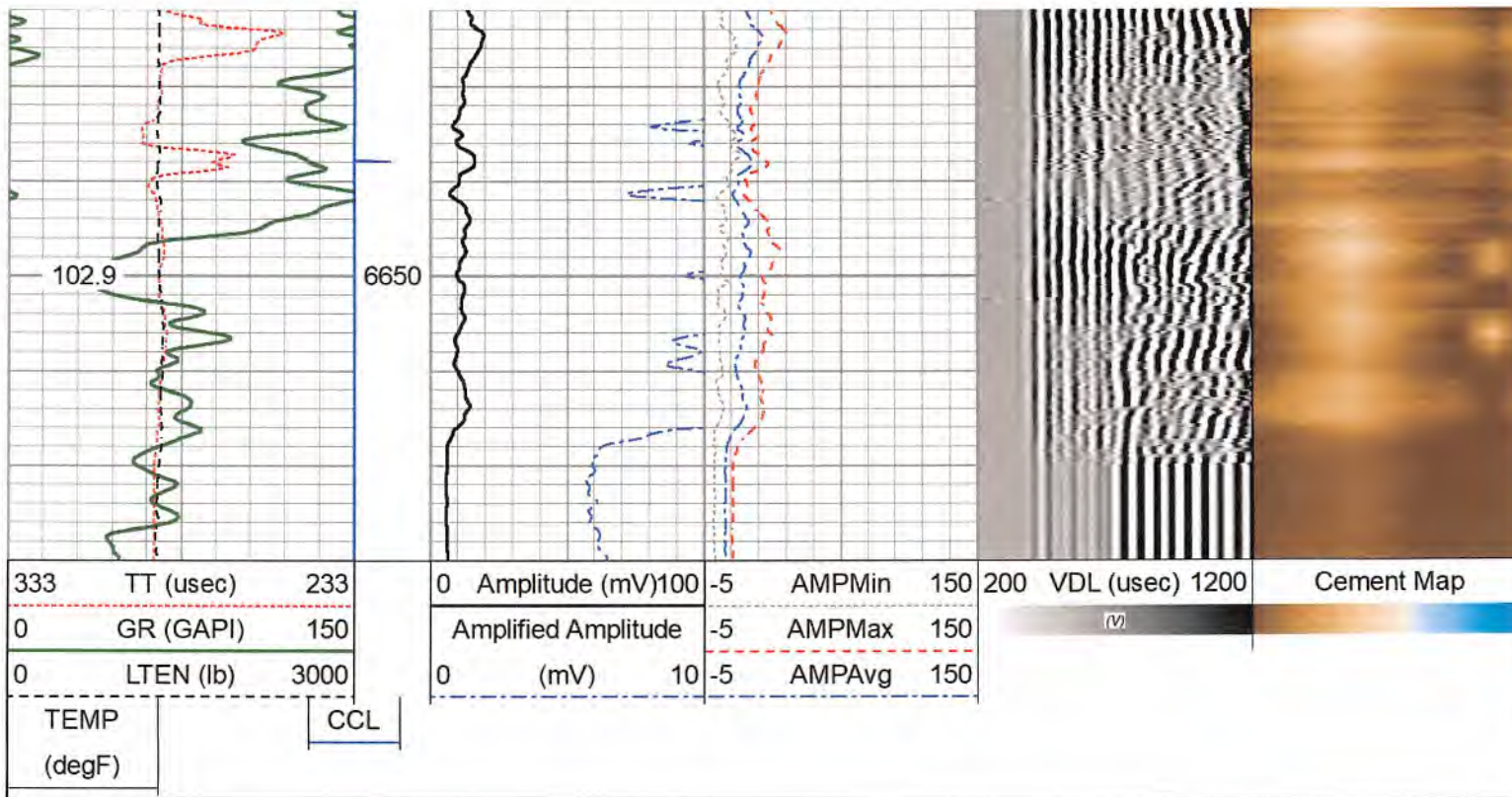
Repeat Pass (1500 PSI)

Database File c:\users\logbox\desktop\cashew\antero_cashew_shays2h.db
 Dataset Pathname rcbl/pass4
 Presentation Format rcbl_std_bw_tt
 Dataset Creation Mon Oct 17 13:55:34 2022
 Charted by Depth in Feet scaled 1:240

333	TT (usec)	233	0	Amplitude (mV)	100	-5	AMPMin	150	200	VDL (usec)	1200	Cement Map
0	GR (GAPI)	150		Amplified Amplitude		-5	AMPMax	150				
0	LTEN (lb)	3000	0	(mV)	10	-5	AMPAvg	150				
TEMP (degF)		CCL										







Log Variables

Database: \users\logbox\desktop\cashew\antero_cashew_shays2h.db
 Dataset: field/well/rcbl/pass6/_vars_

Top - Bottom

BOREID in 6.75	BOTTEMP degF 130.5	CASEOD in 5	CASETHCK in 0.362	CASEWGHT lb/ft 18	MAXAMPL mV 76	MINAMPL mV 1	MINATTN db/ft 0.8
PERFS No	PPT uSec 362	SRFTEMP degF 62	TDEPTH ft 6719				

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\cashew\antero_cashew_shays2h.db
 Dataset Pathname rcbl/pass6
 Dataset Creation Mon Oct 17 14:02:22 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: 5.000 in
 Calibration Depth: 245.100 ft

Master Calibration, performed Mon Oct 17 13:22:20 2022:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.006	0.590	1.000	75.192	127.026	0.191
CAL	0.005	0.828				
5'	0.005	0.472	1.000	75.192	158.694	0.225
SUM						
S1	0.009	0.579	0.000	100.000	175.666	-1.628
S2	0.007	0.557	0.000	100.000	181.544	-1.190
S3	0.006	0.563	0.000	100.000	179.594	-1.055
S4	0.004	0.565	0.000	100.000	178.479	-0.789
S5	0.006	0.588	0.000	100.000	171.708	-1.044
S6	0.007	0.605	0.000	100.000	167.214	-1.239
S7	0.005	0.607	0.000	100.000	166.126	-0.852
S8	0.004	0.595	0.000	100.000	169.414	-0.734

Internal Reference Calibration, performed Wed Aug 24 11:56:29 2022:

	Raw (v)	Calibrated (v)	Results
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	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.005	0.828	1.000	0.000

Air Zero Calibration, performed Mon Oct 17 10:08:06 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

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
			CENT-BC275-0000 Probe 2.75" Bowspring Centralizer	2.83	2.75	24.00

RBT_HV	19.19					
WVFS8	14.69		RBT8-RADII-275C (RBT275C_Base) Probe 2.75" RADII 8 Sector Bond Tool	8.75	2.75	
WVFS7	14.69					
WVFS6	14.69					
WVFS5	14.69					
WVFS4	14.69					
WVFS3	14.69					
WVFS2	14.69					
WVFS1	14.69					
WV3FT	14.69					
WV5FT	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_cashew_shays2h.db: field/well/rcbl/pass6
 Total length: 23.04 ft
 Total weight: 130.31 lb
 O.D.: 2.75 in



Company Antero Resources Corporation

Well Shays Unit 2H

Field White Oak

County Ritchie

State WV

FIELD COPY

Country USA