



Radial Cement Bond Log

Company CUB CREEK ENERGY
Well MARKHAM 10
Field WATTENBERG
County WELD State CO

Location: API #: 05-123-43242
SHL 2357' FSL & 1515' FEL
SEC 32 TWP 4N RGE 68W

Permanent Datum GROUND LEVEL Elevation
Log Measured From K.B. 17'
Drilling Measured From KELLY BUSHING
Other Services
NONE
Elevation
K.B. 5059'
D.F. 5058'
G.L. 5042'

Date 10/26/2016

Run Number ONE
Depth Driller 11.975'
Depth Logger 7520'
Bottom Logged Interval 7494'
Top Log Interval SURFACE
Open Hole Size 8-3/4"
Type Fluid WATER
Density / Viscosity N/A
Max. Recorded Temp. 247
Estimated Cement Top SEE LOG
Time Well Ready ROA
Time Logger on Bottom SEE LOG
Equipment Number W-62
Location WINDSOR, CO
Recorded By C. CALIENDO
Witnessed By R. PAPE

Borehole Record
Run Number Bit From To Size Weight From To

Casing Record
Surface String 9-5/8" 36# SURFACE
Prot. String
Production String 5-1/2" 17# SURFACE
Liner

Tubing Record
Size Wgt/Ft Top Bottom
9-5/8" 36# SURFACE
5-1/2" 17# SURFACE 11.966'

>>> Fold Here >>>

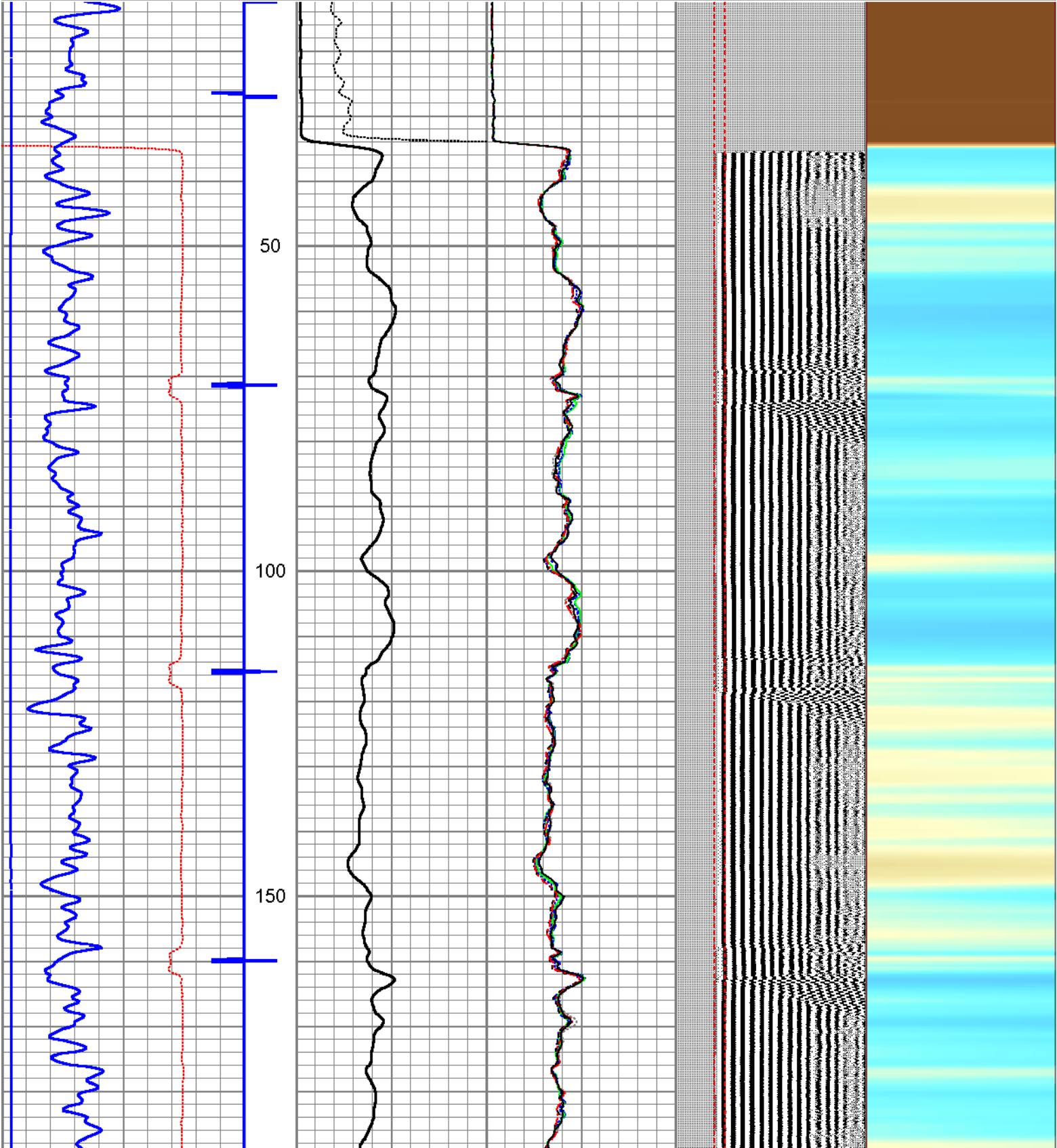
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

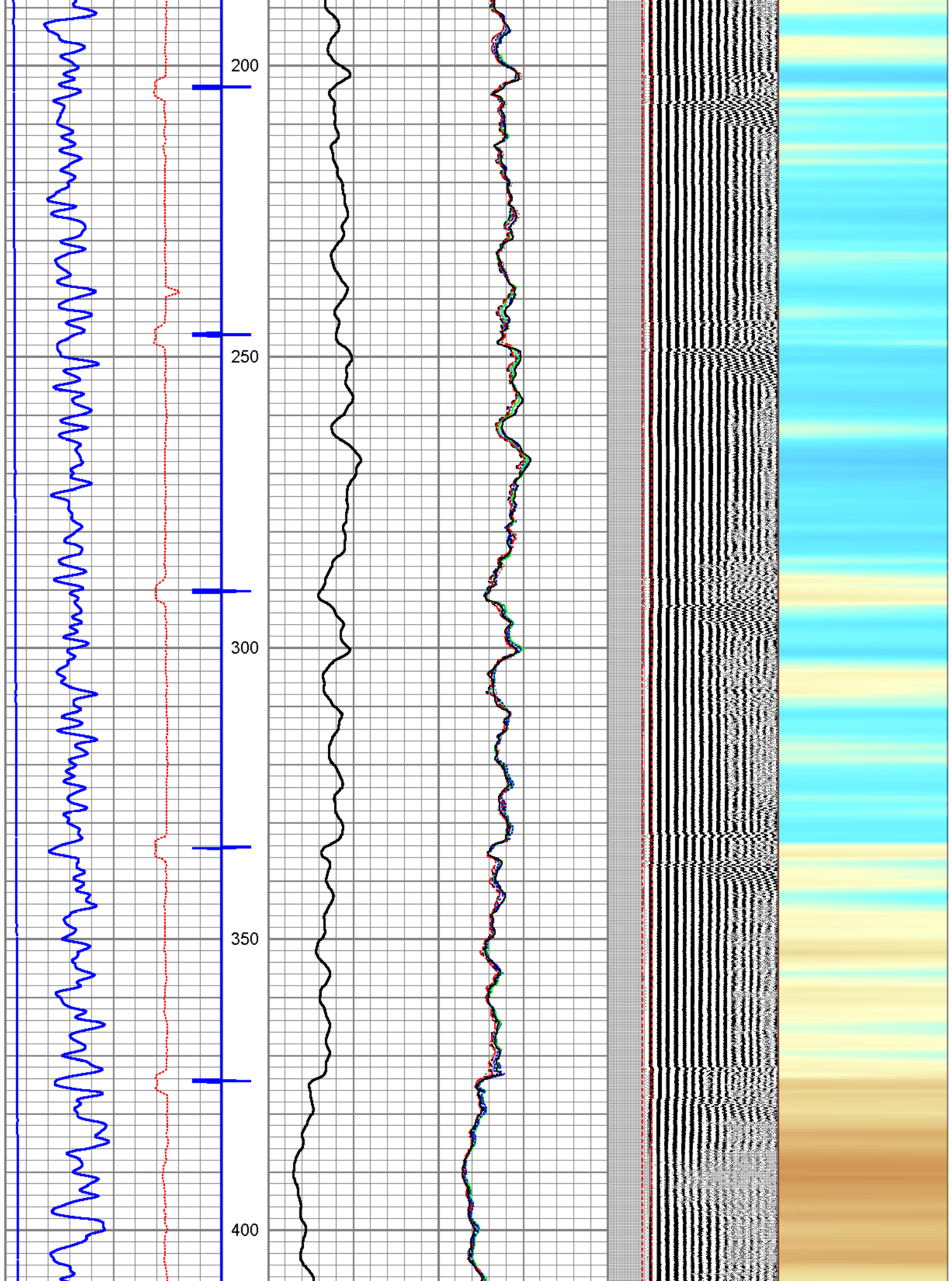
Comments

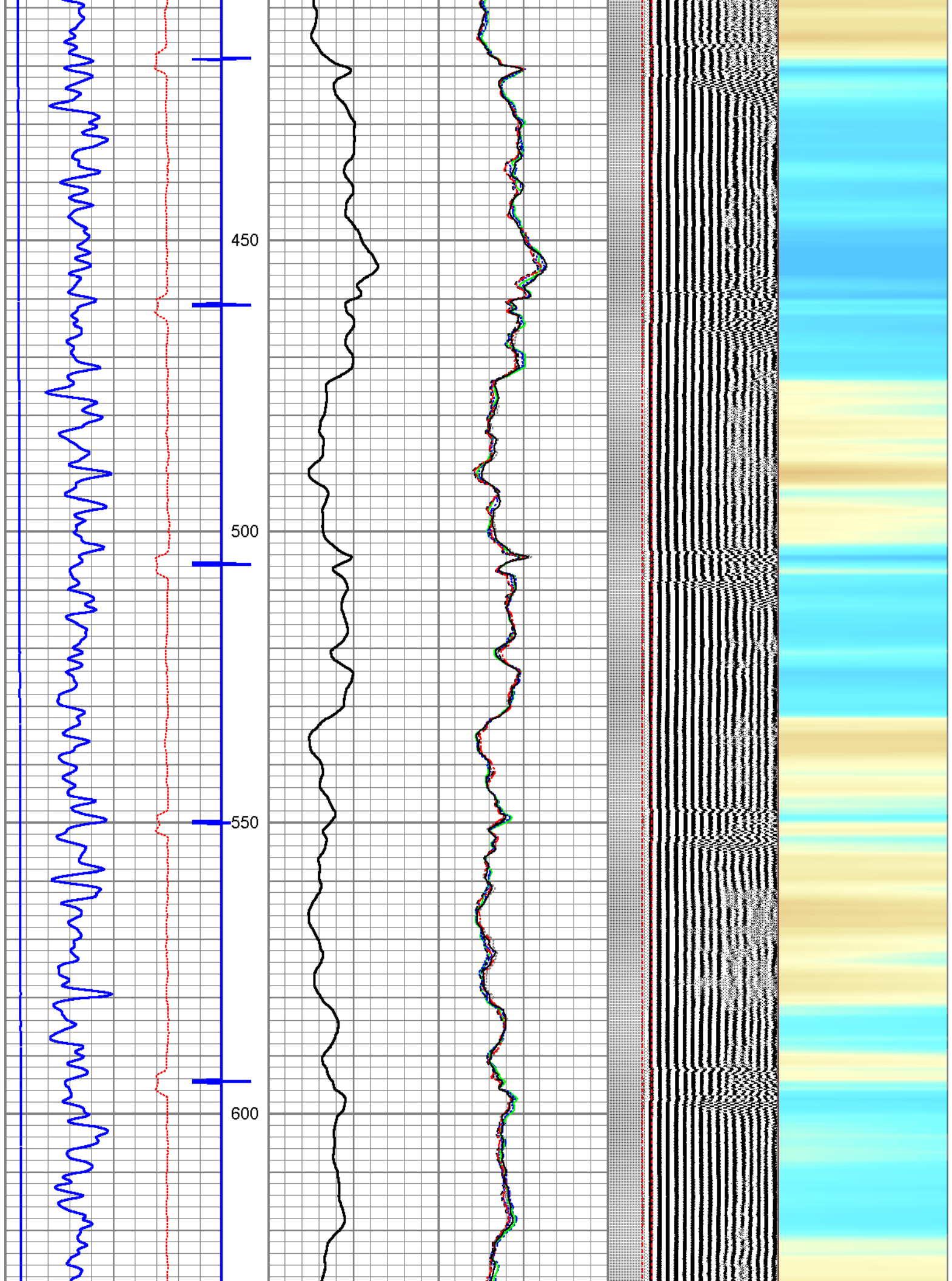
*****THANK YOU FOR CHOOSING CUTTERS WIRELINE*****
LOG WAS RAN WITH A 17' K.B.

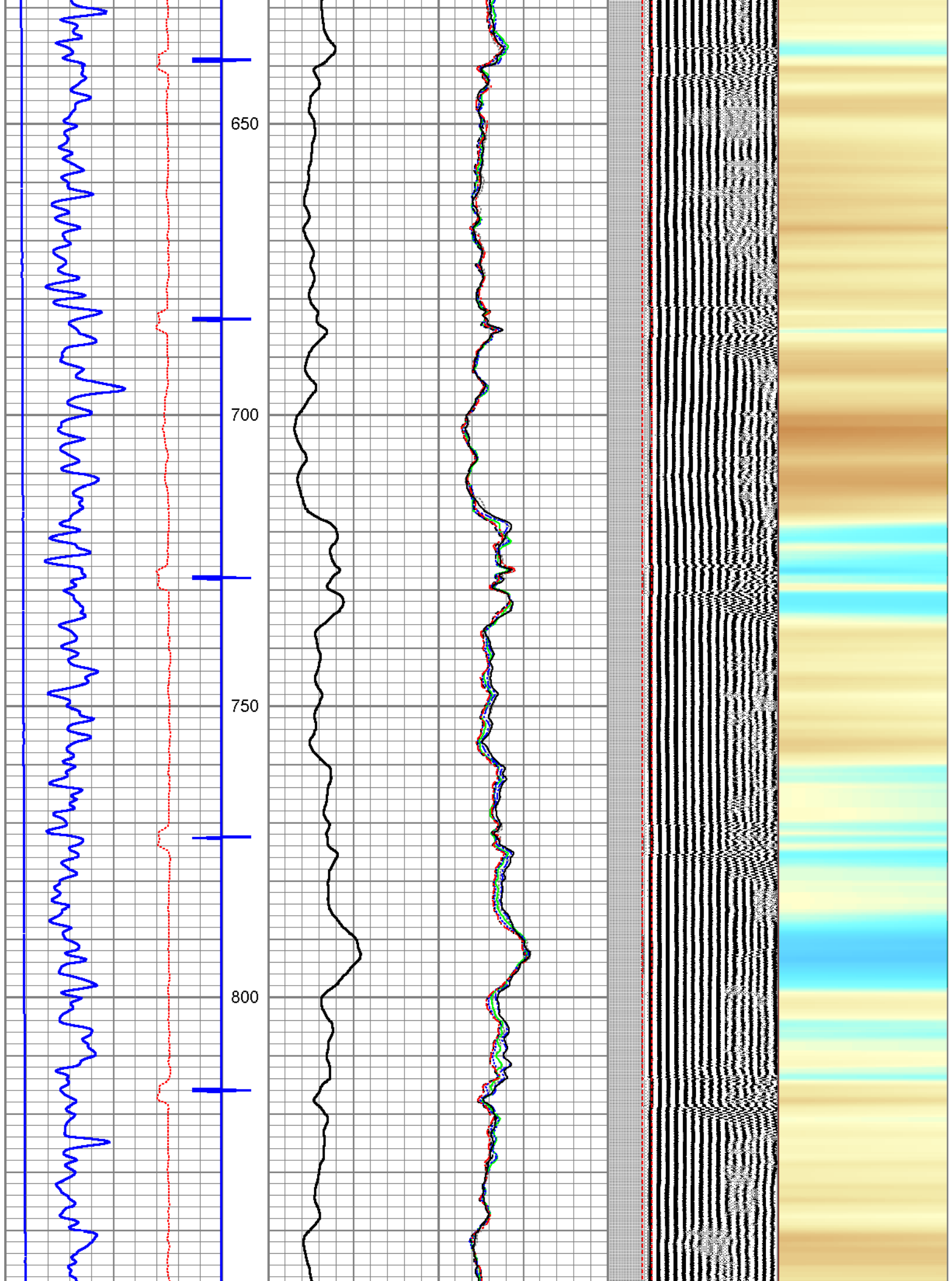
Database File: cub_creek_markham_10.db
Dataset Pathname: markham_1/run1/pass3
Presentation Format: rbl55
Dataset Creation: Wed Oct 26 13:01:39 2016 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

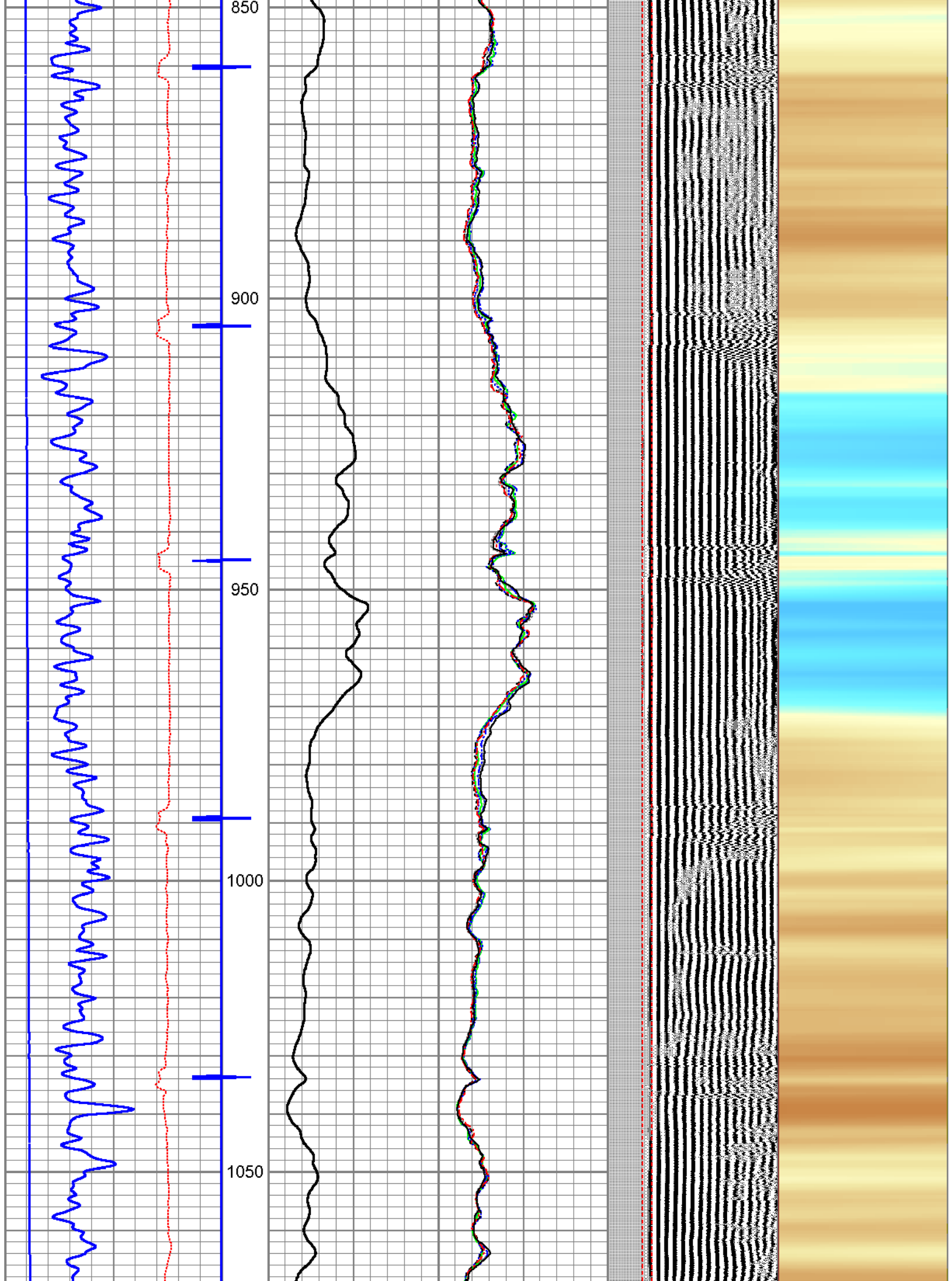
350	TT (usec)	250		Amplitude	-5	AMPS2	150	200	VDL	1200	Cement Map	
0	GR (GAPI)	200		(mV)	0	AMPS3	150				1	80
50	TEMP (degF)	300		Amplified Amplitude	-5	AMPS4	150		Free Pipe Gate			
			CCL	(mV)	0	AMPS5	150					
						AMPS6	150					
						AMPS7	150					
						AMPS8	150					
						AMPS1	150					

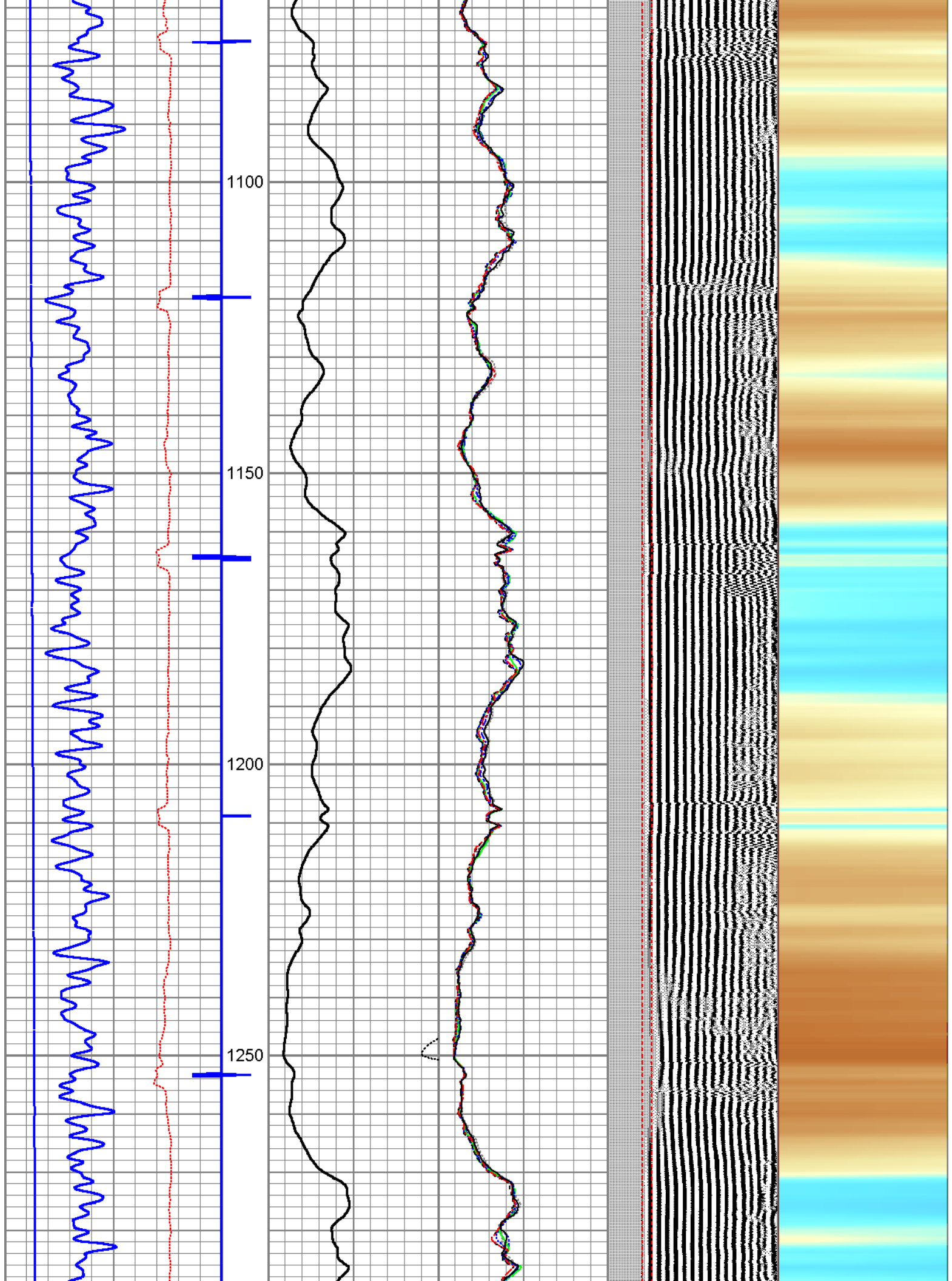


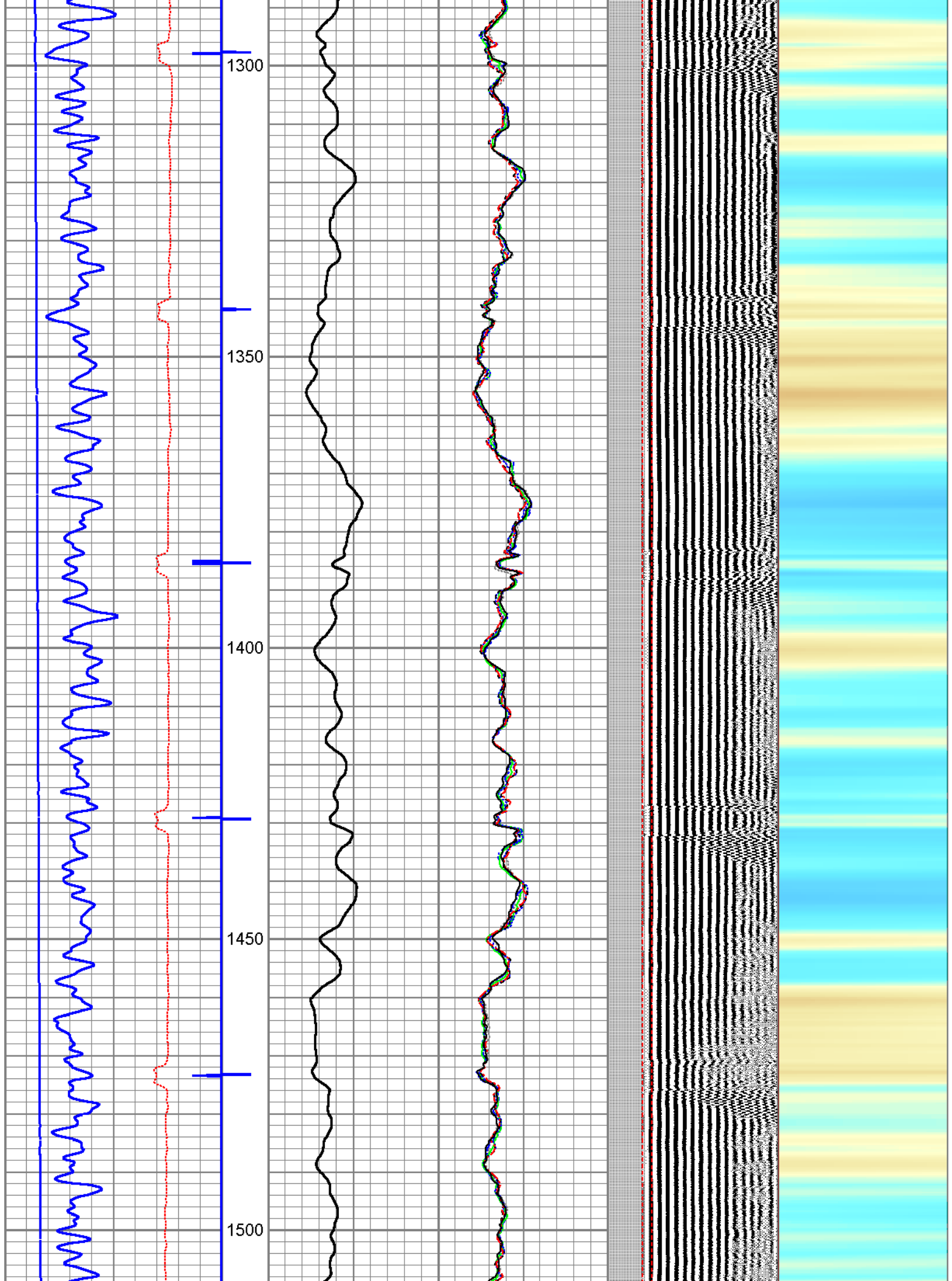


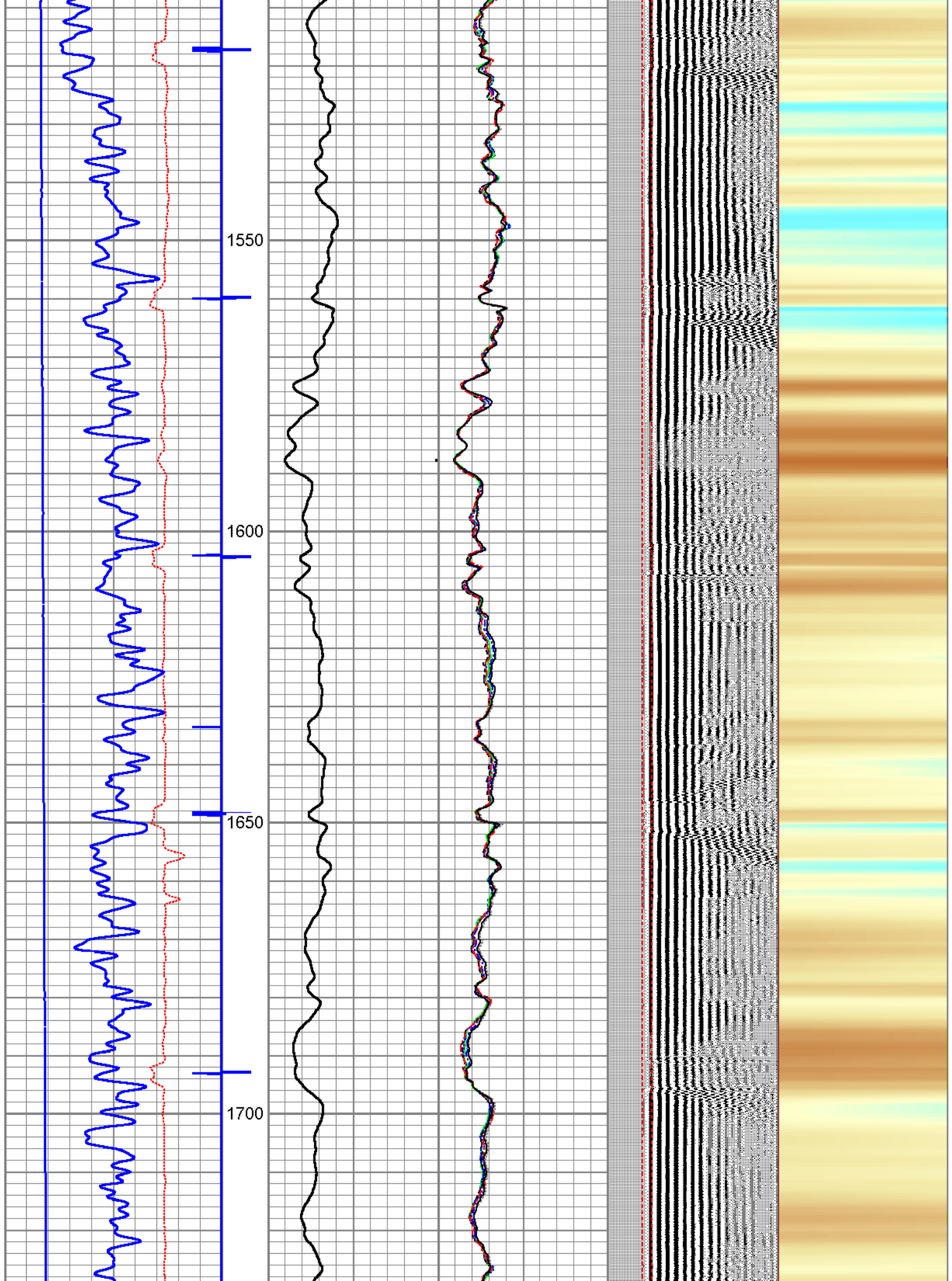


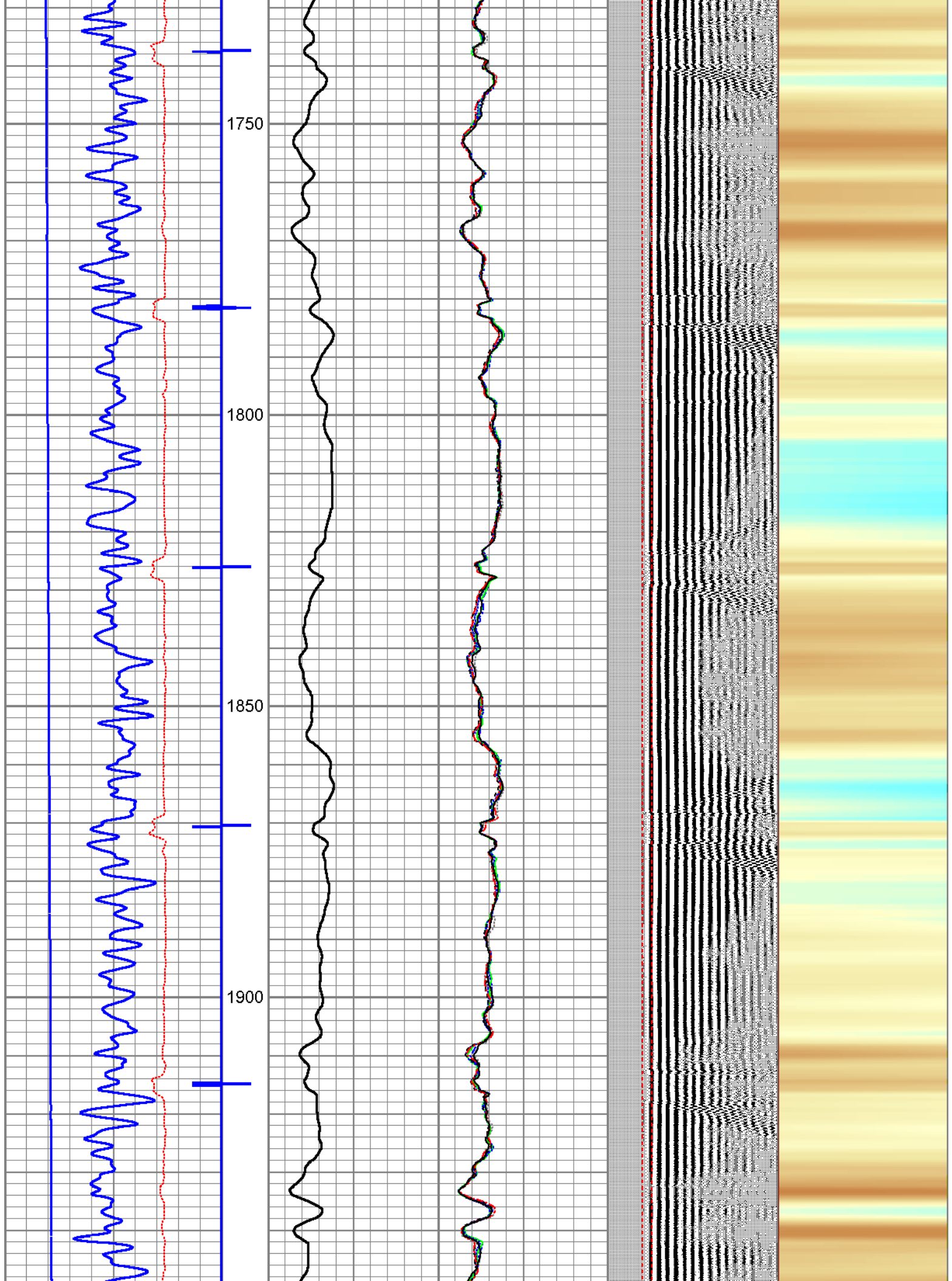


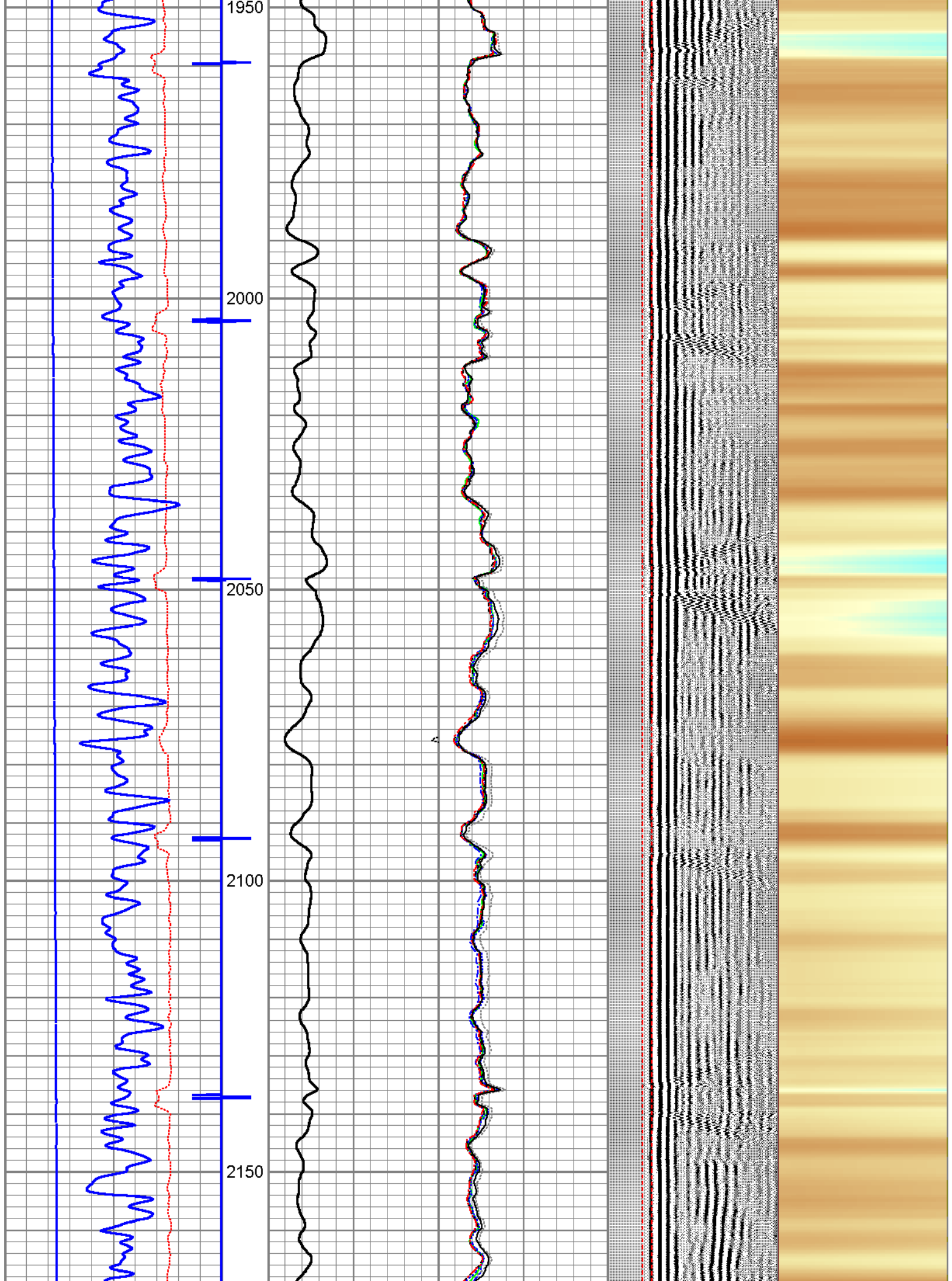


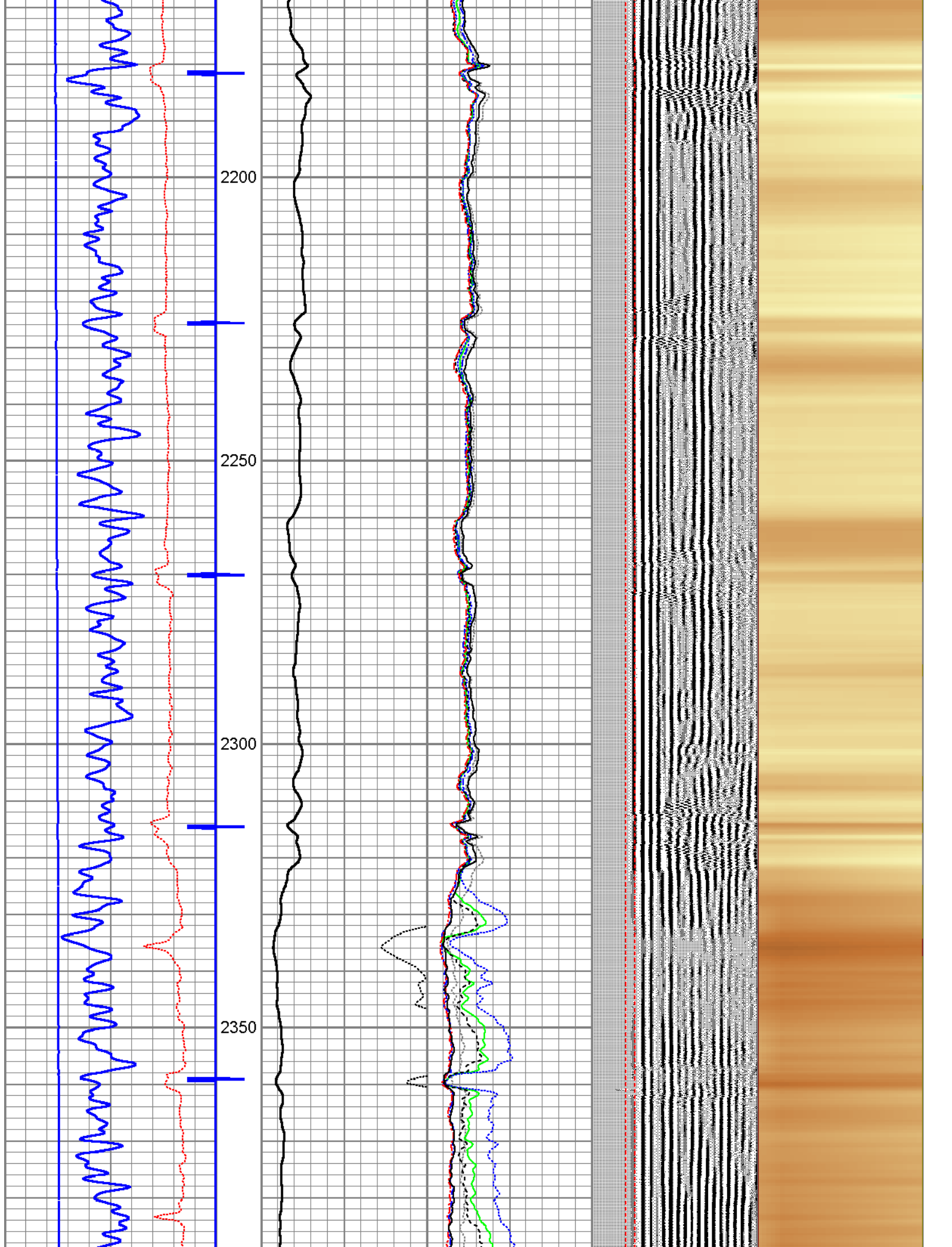


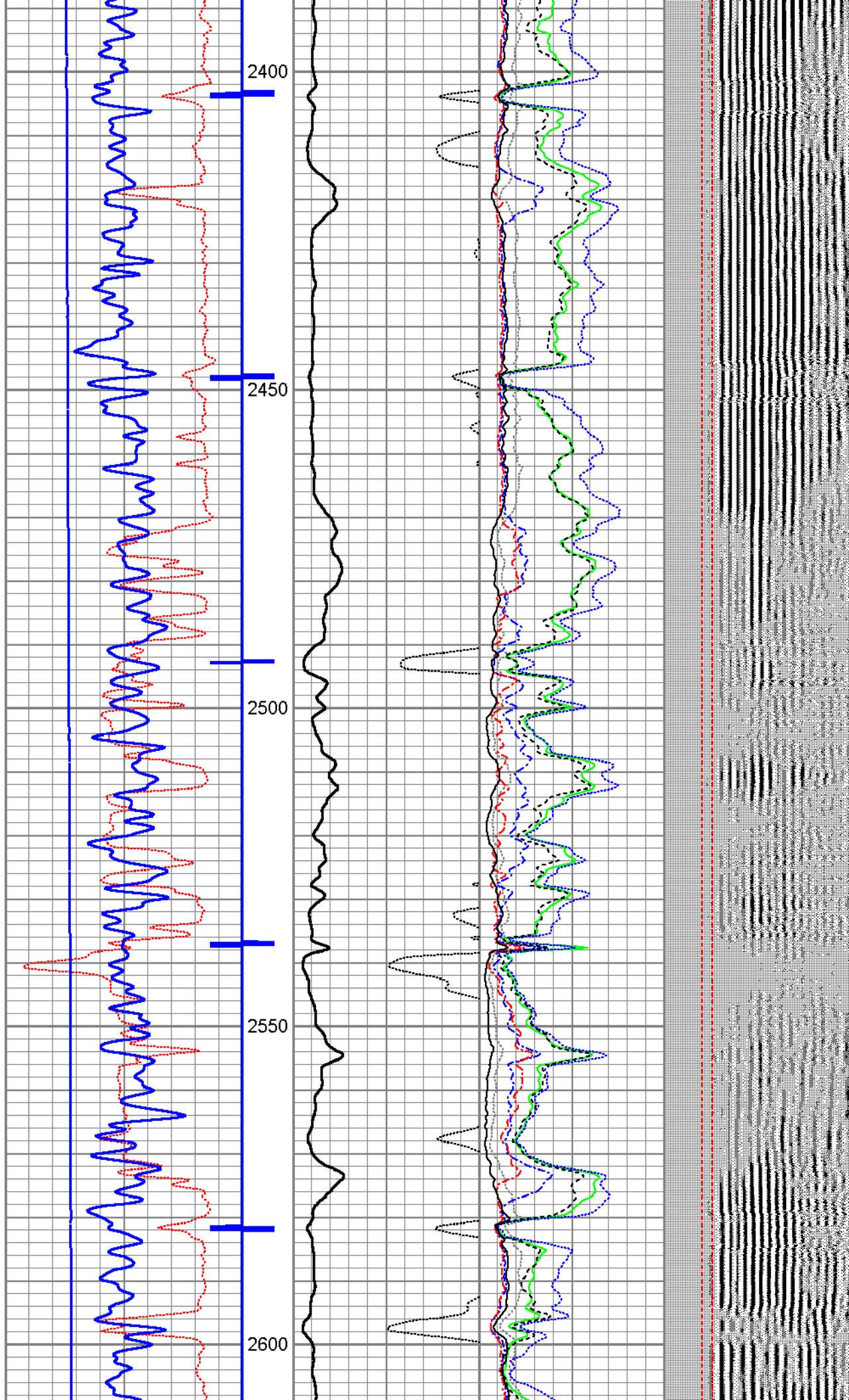


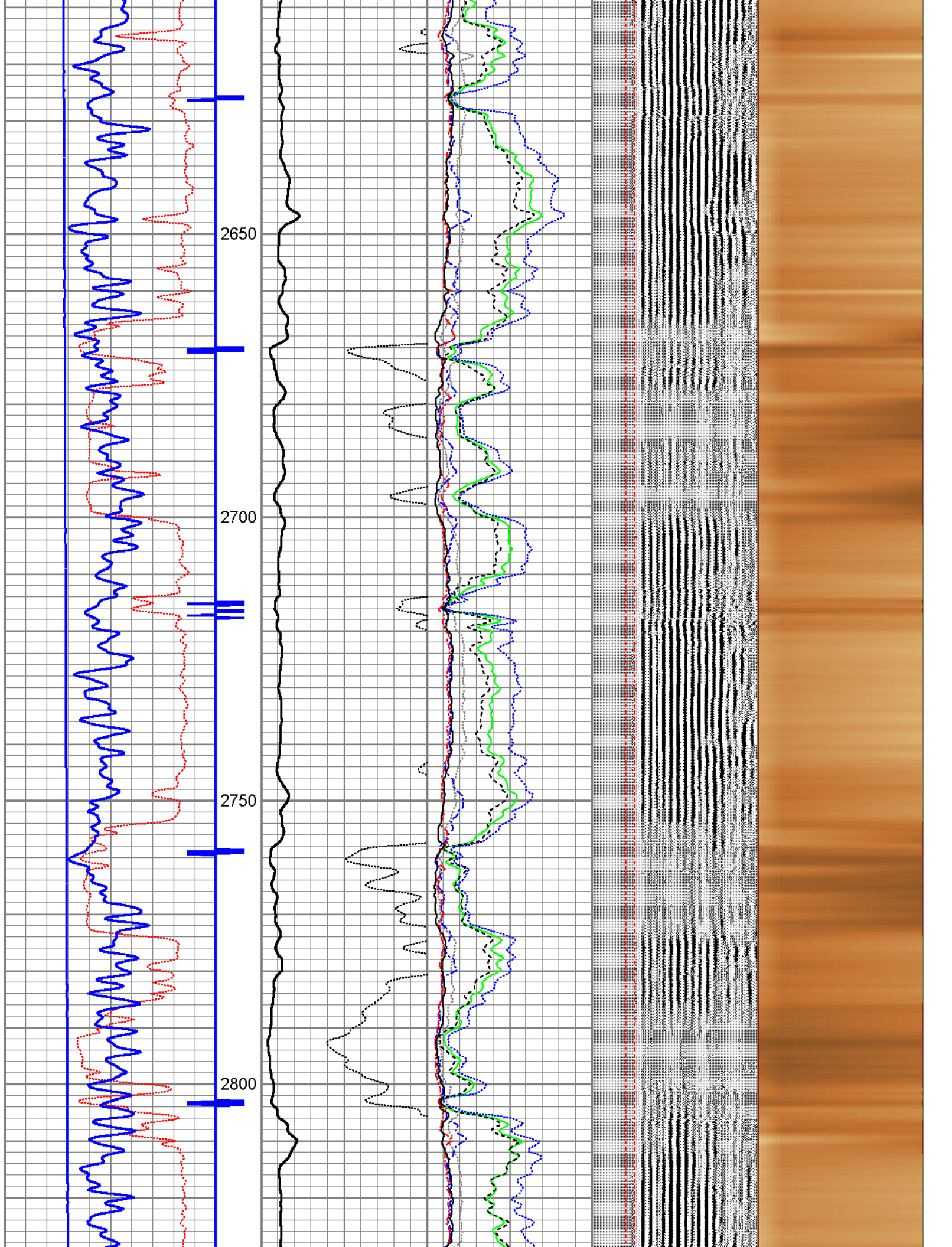


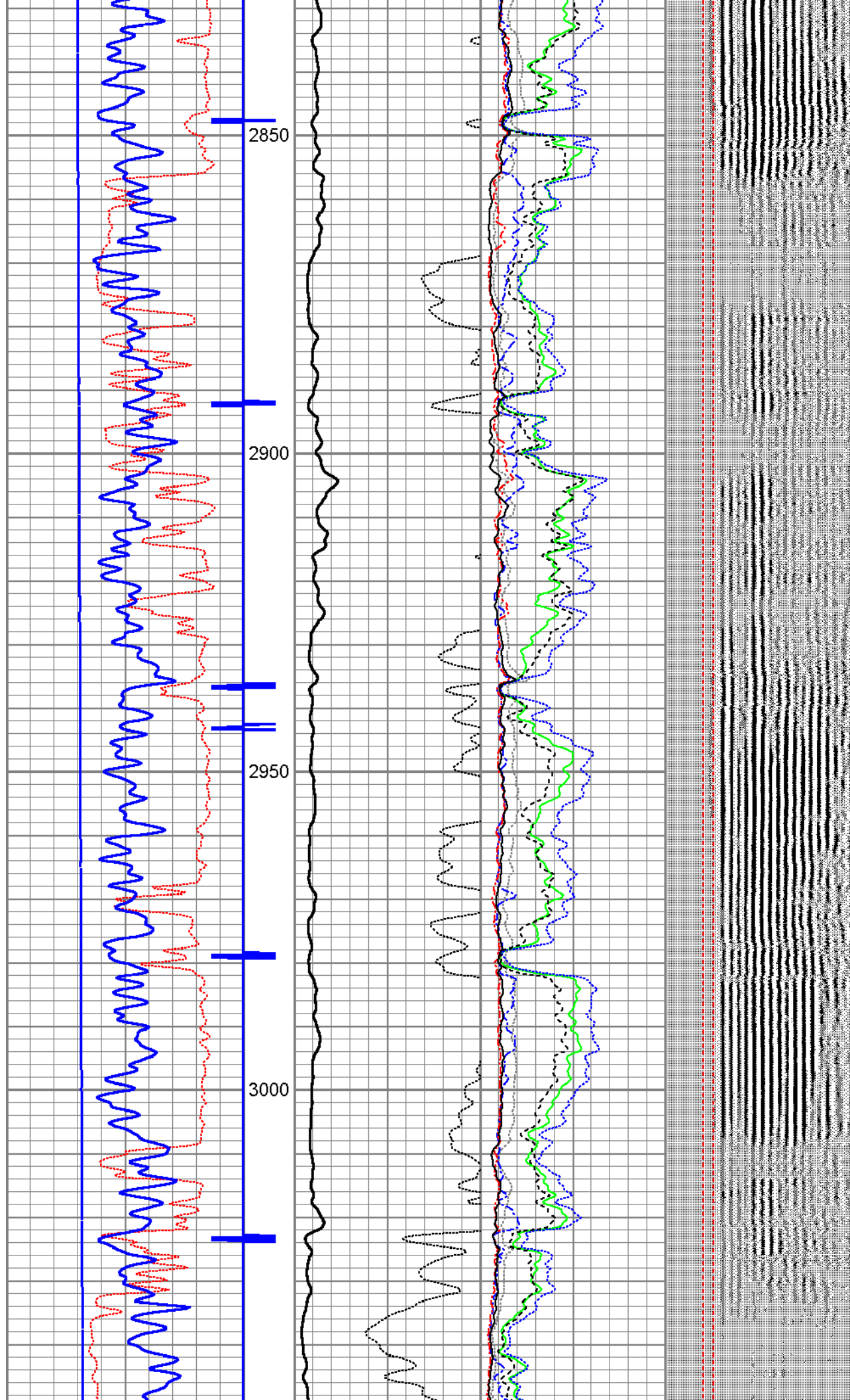


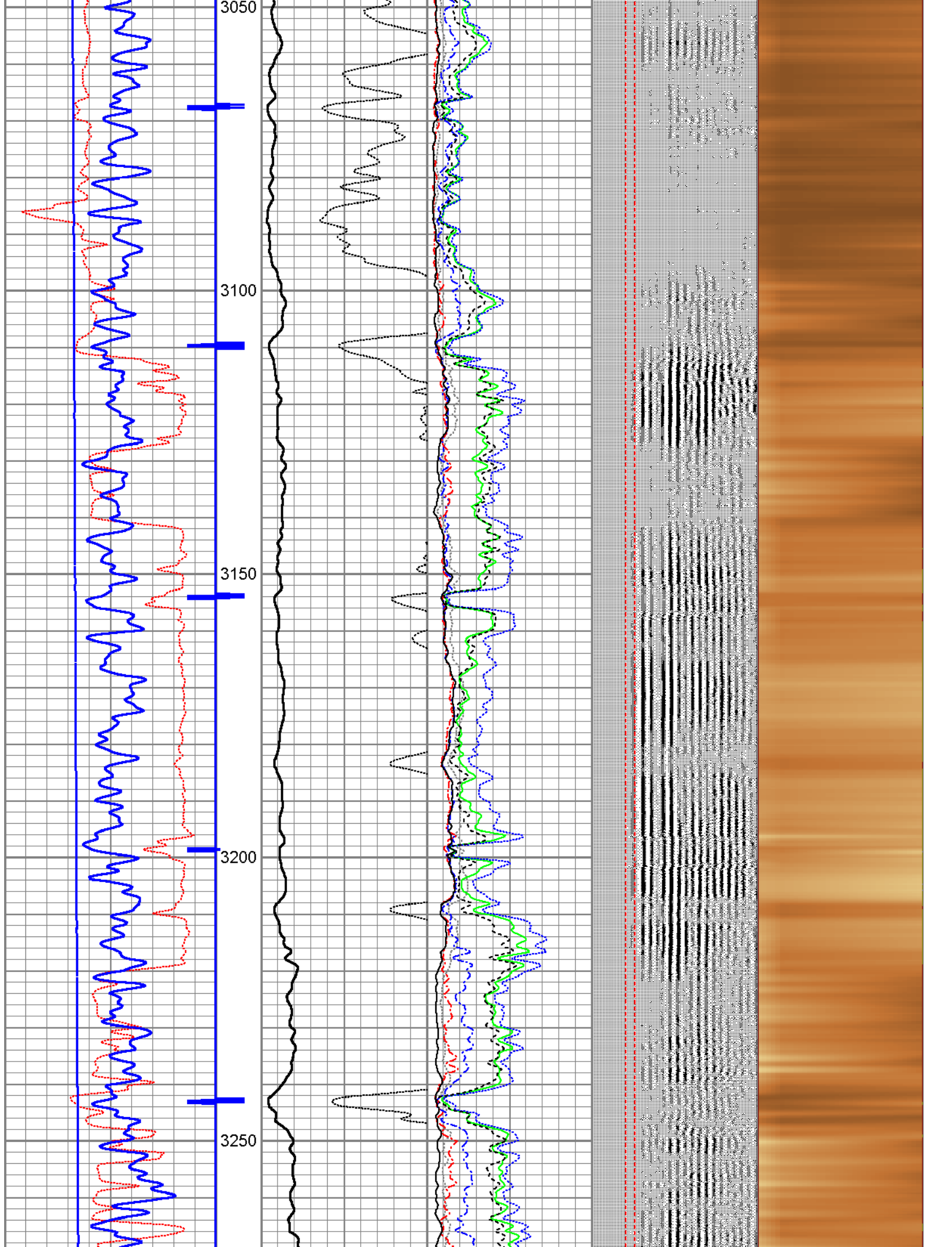


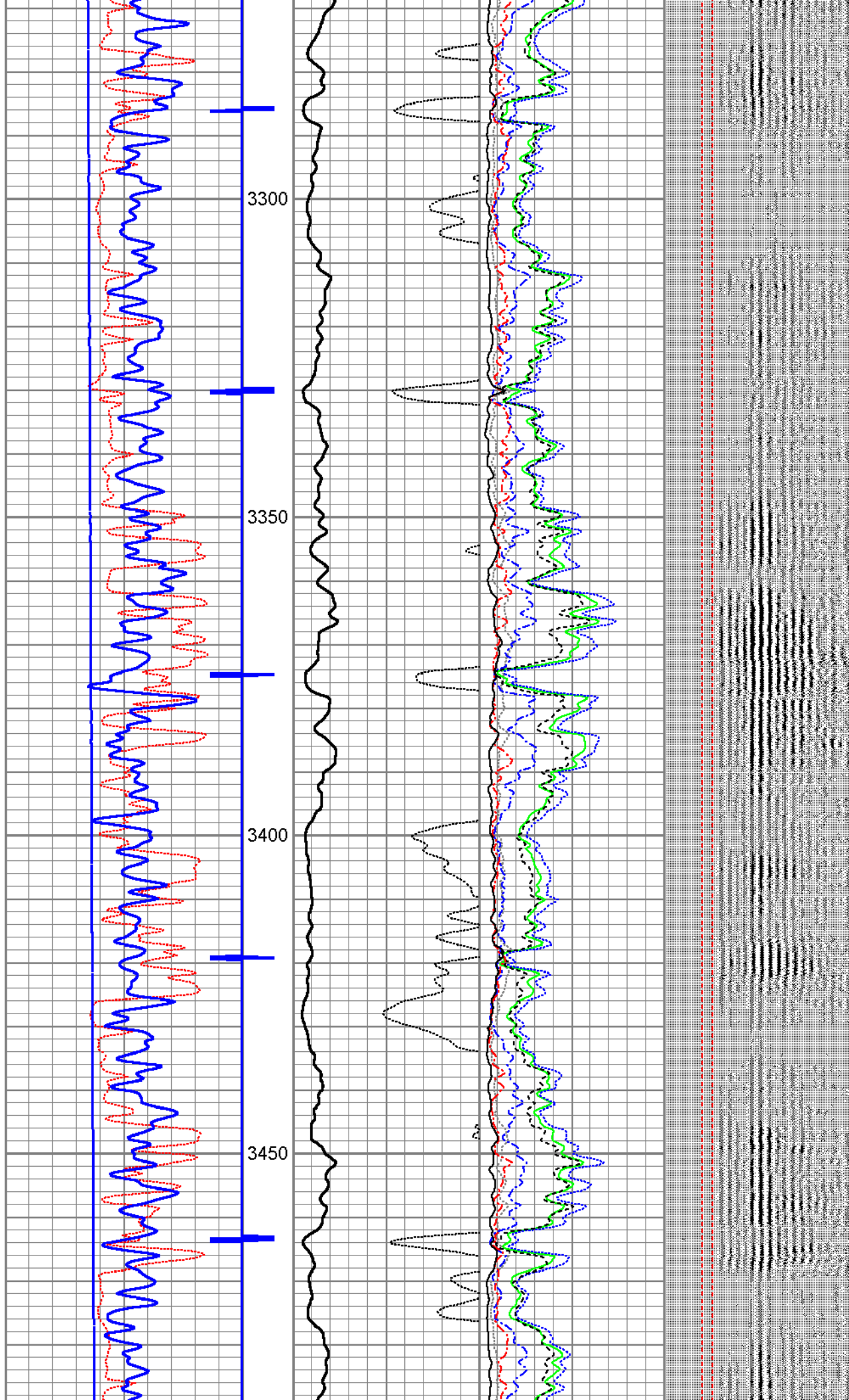


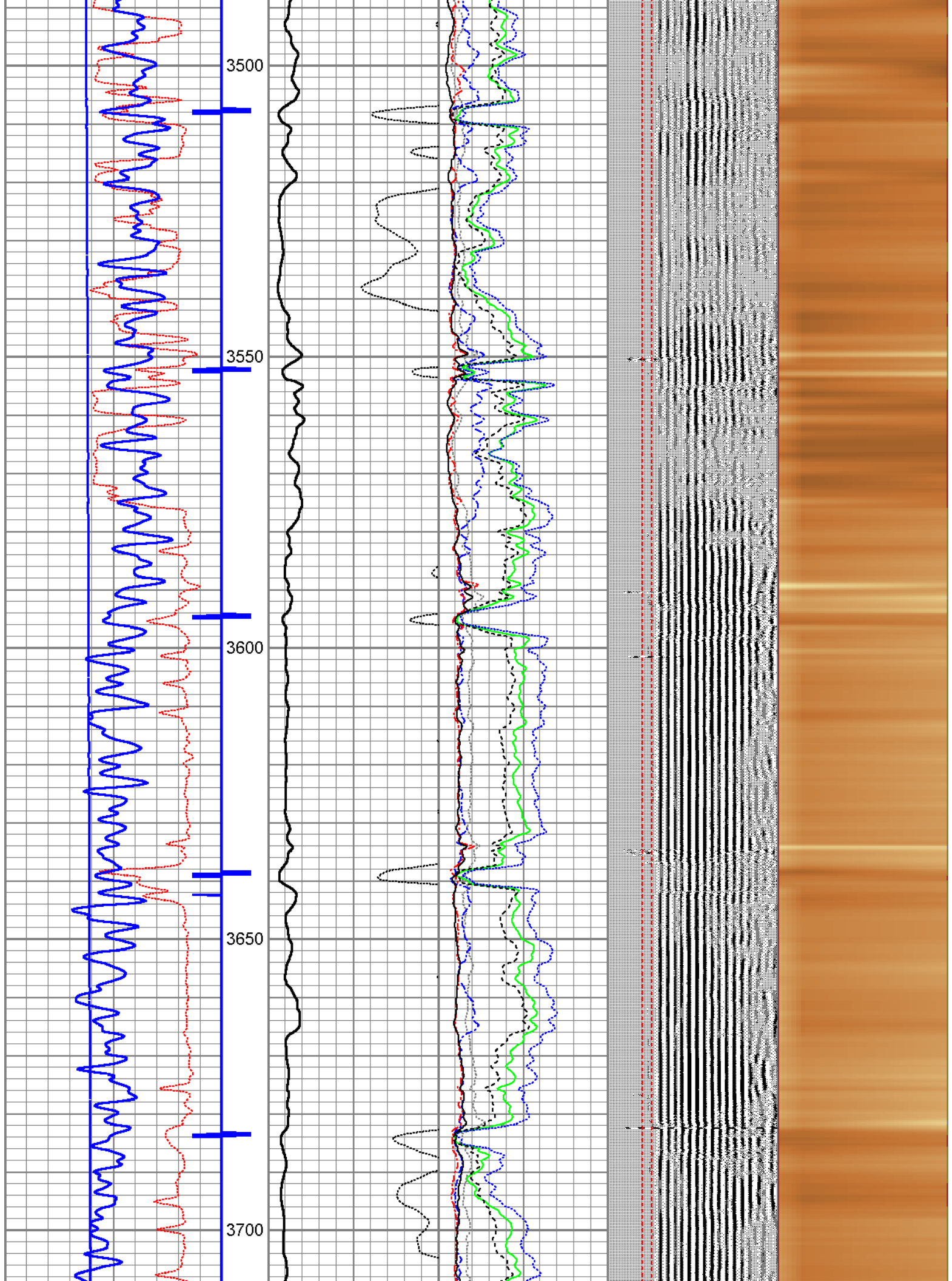


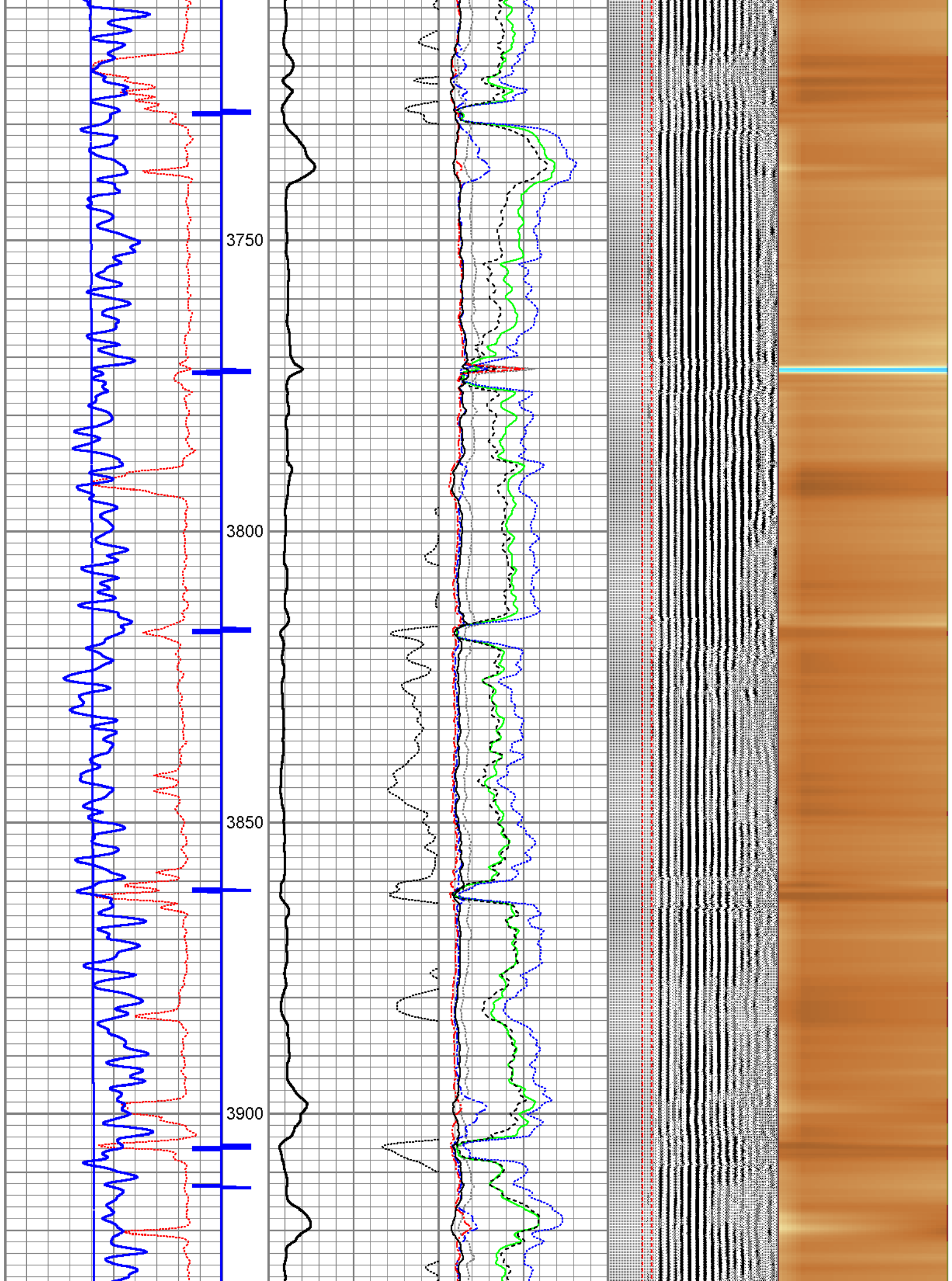


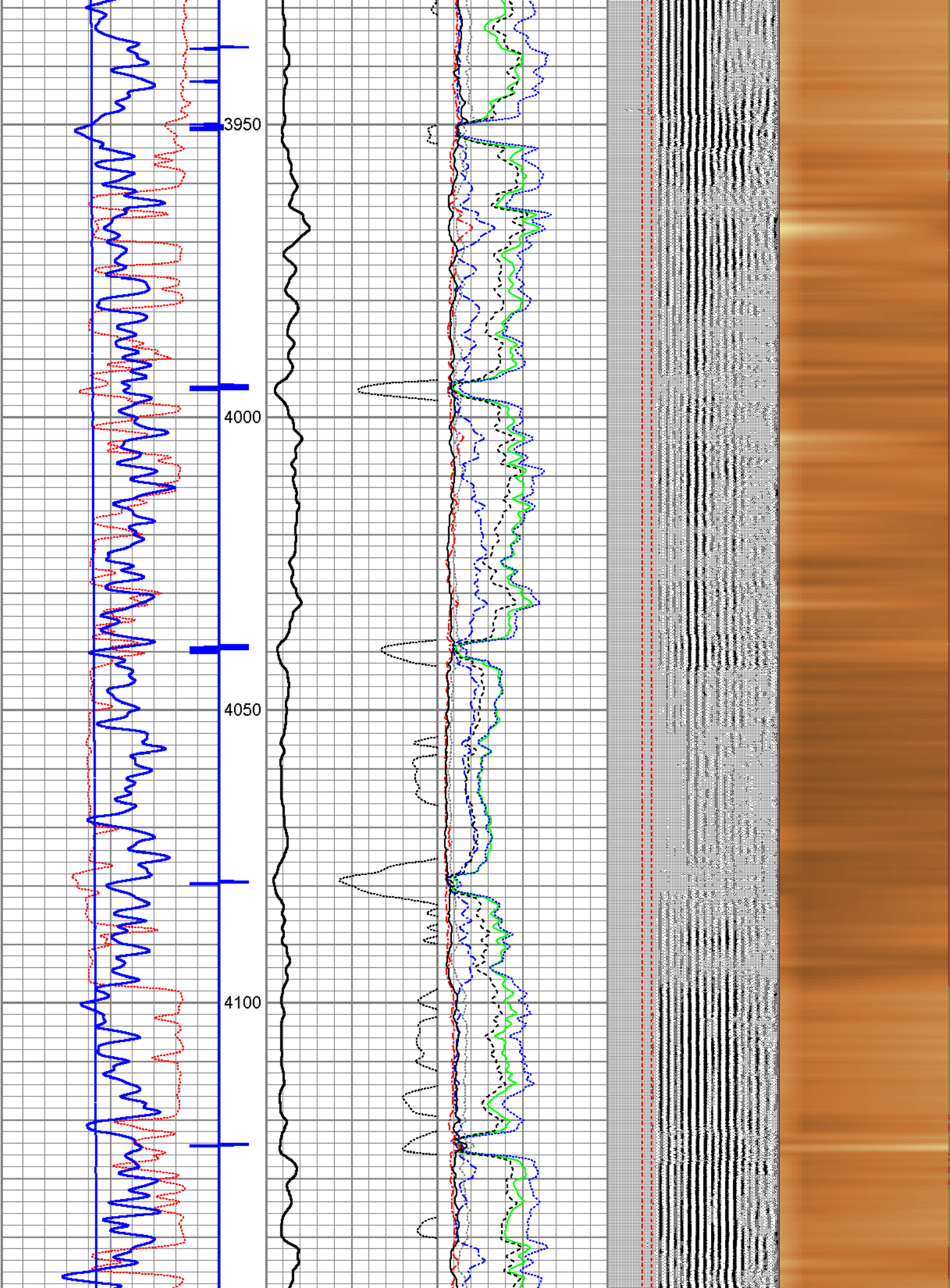


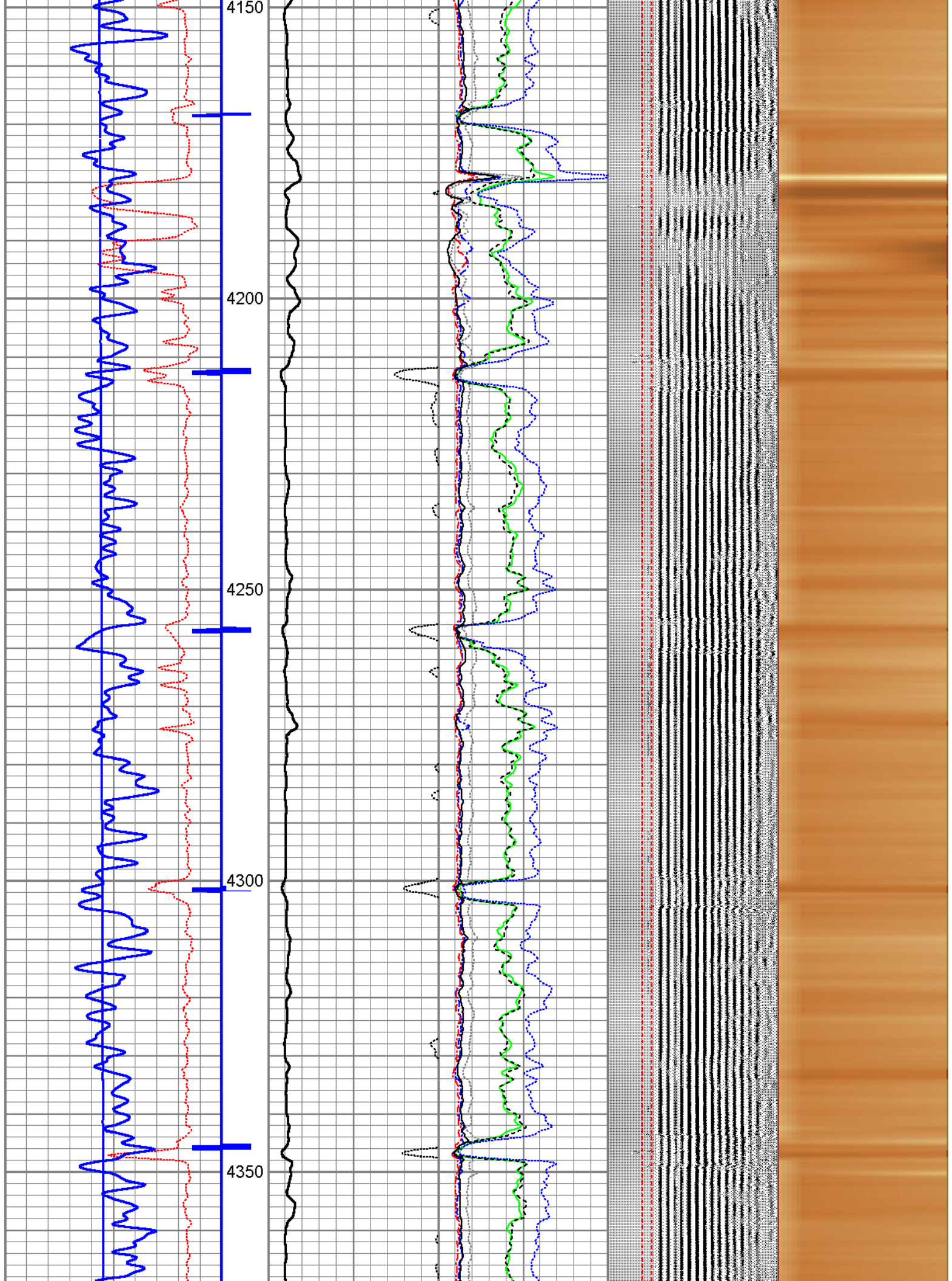


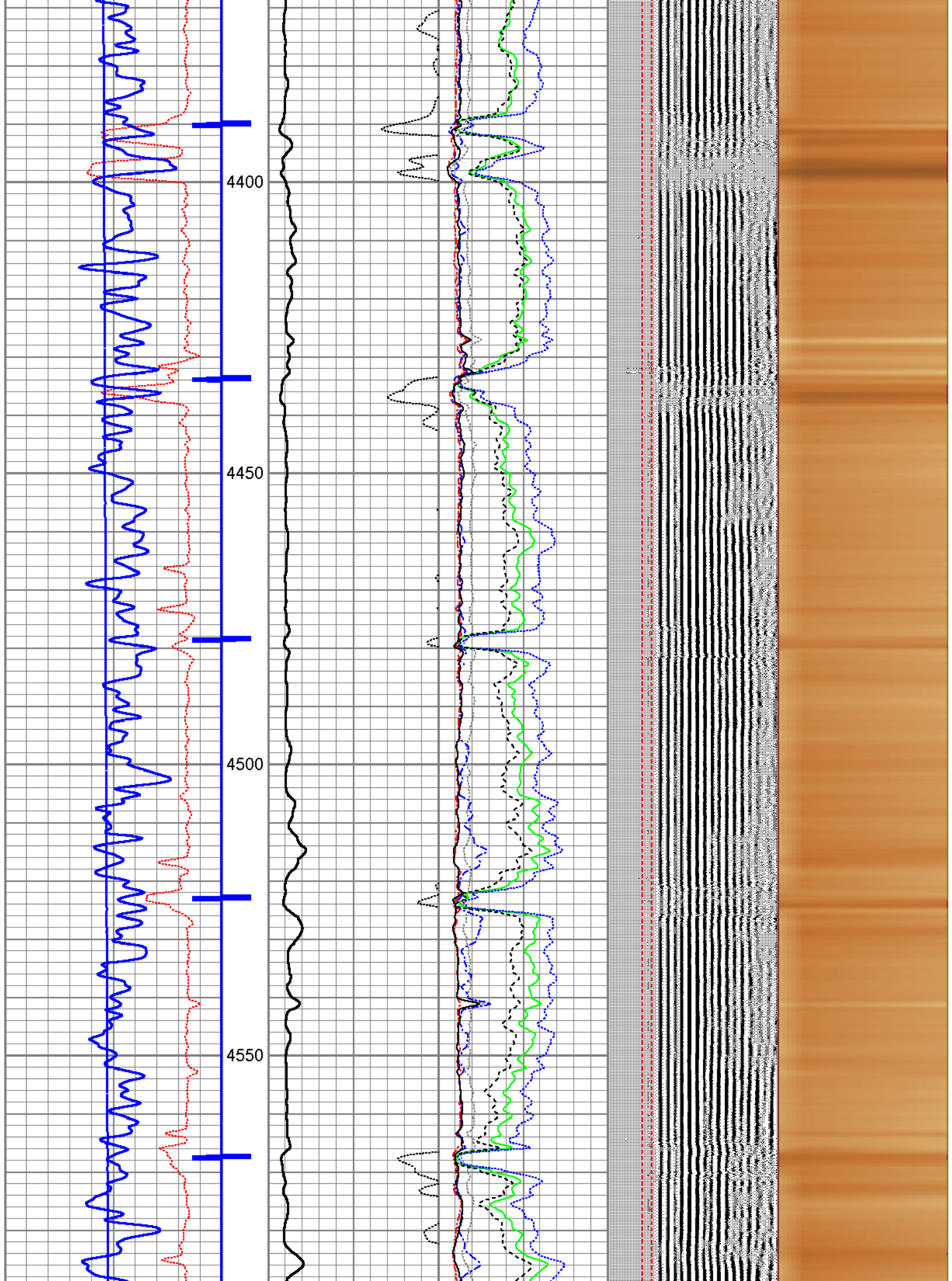


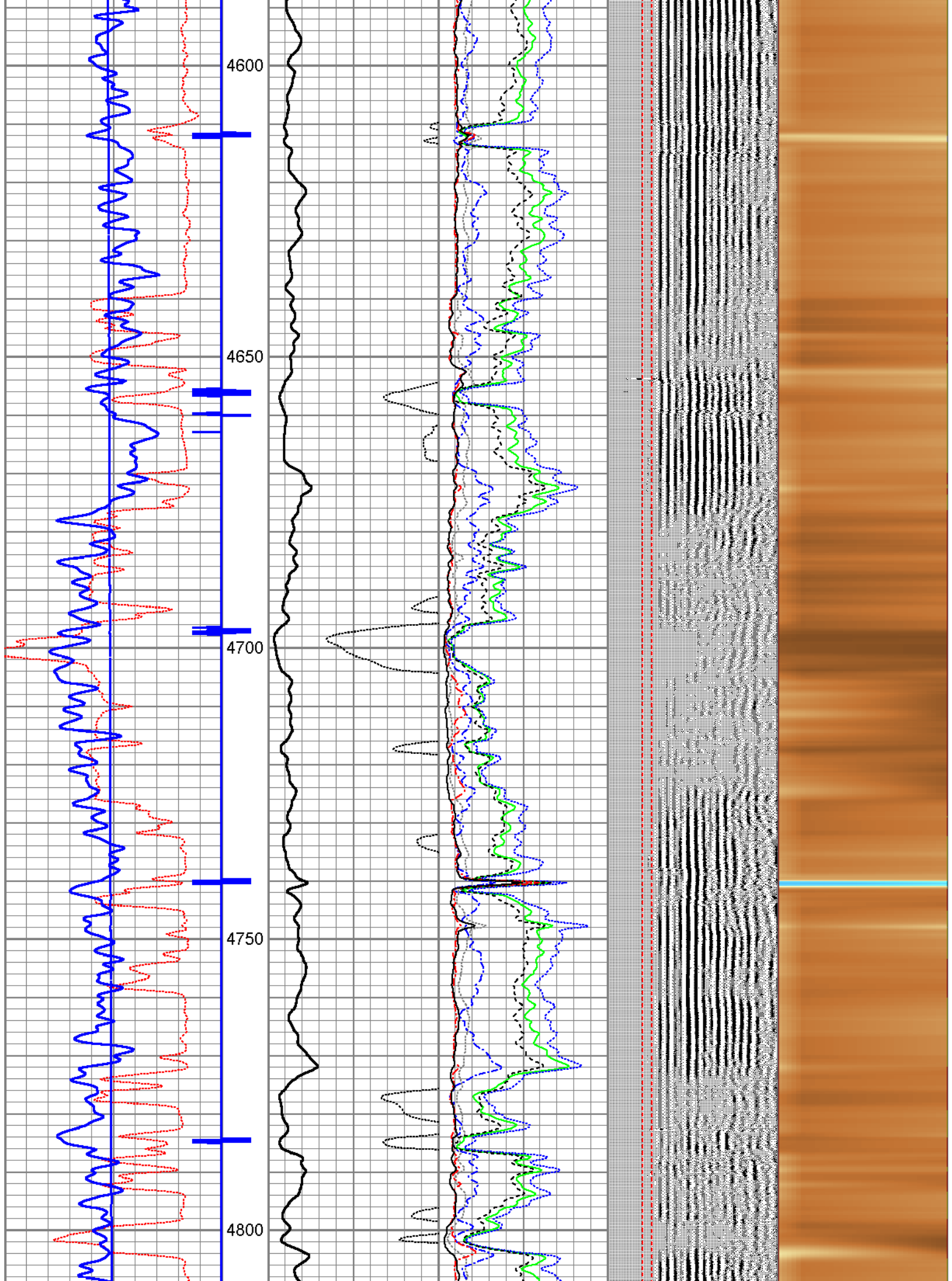


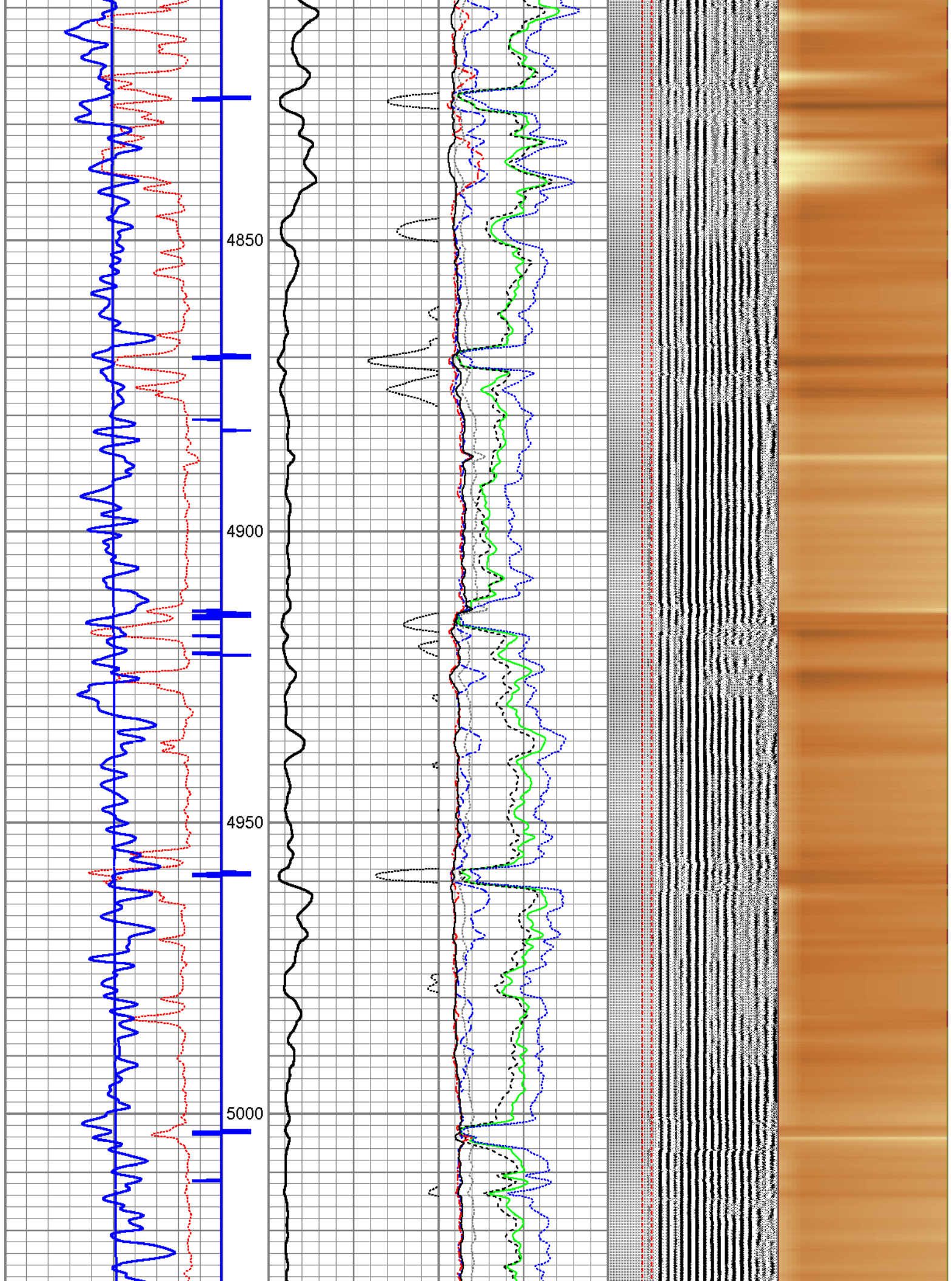


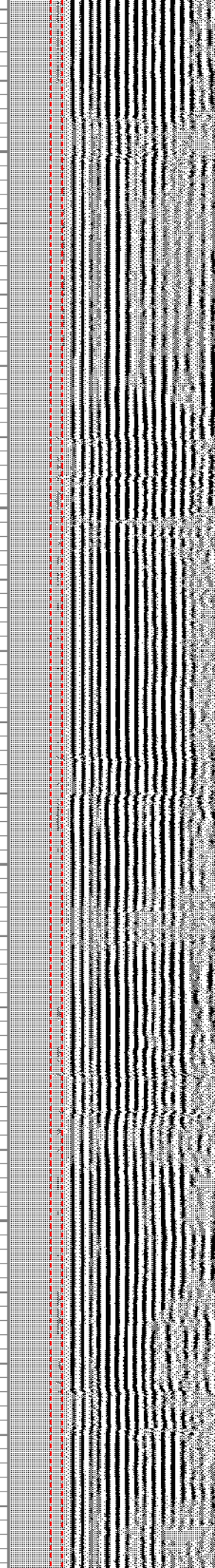
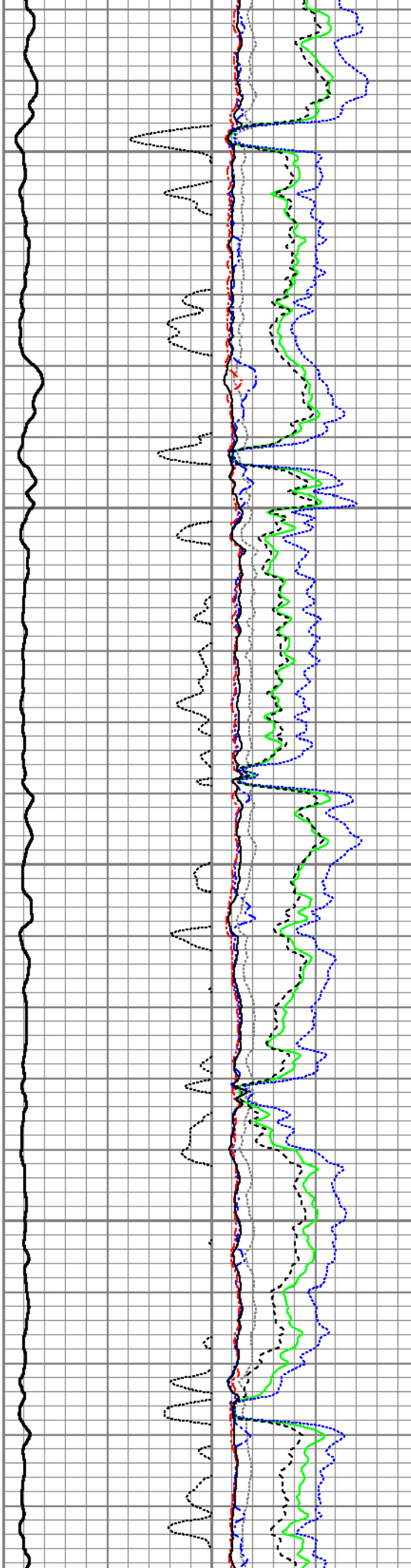
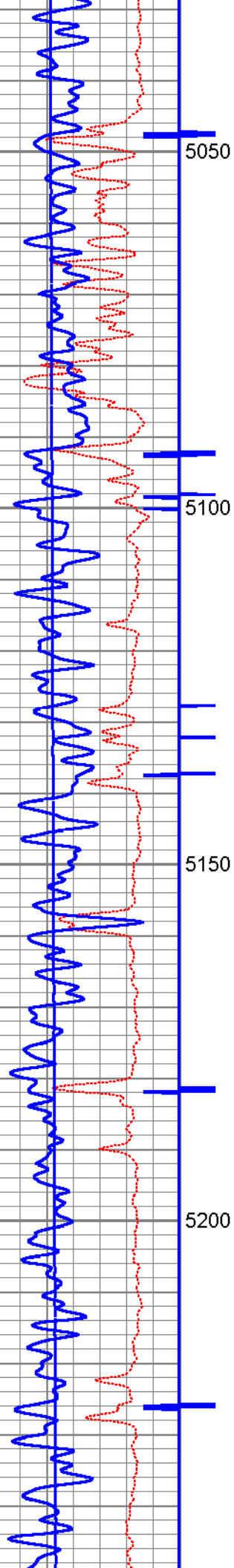


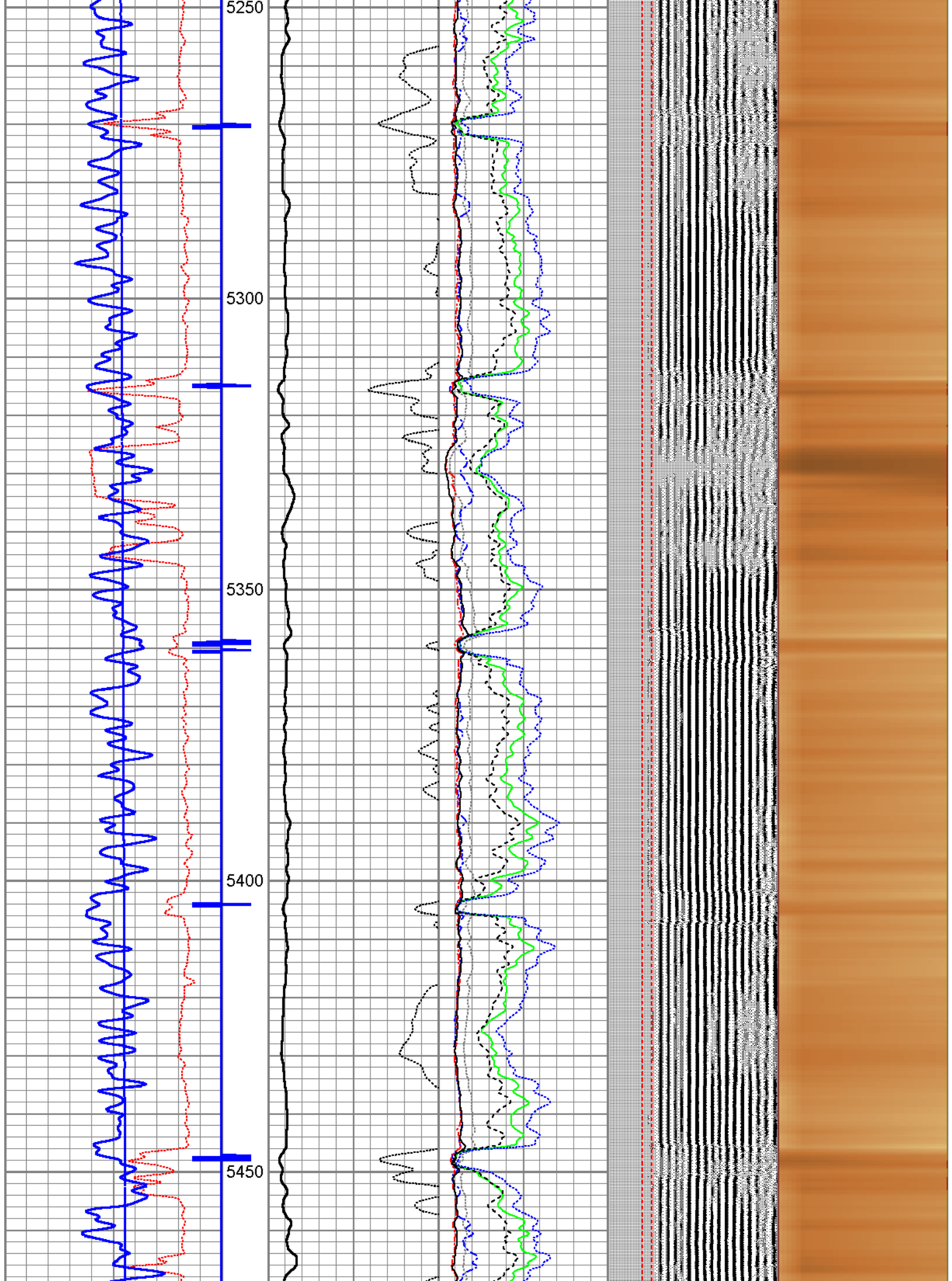


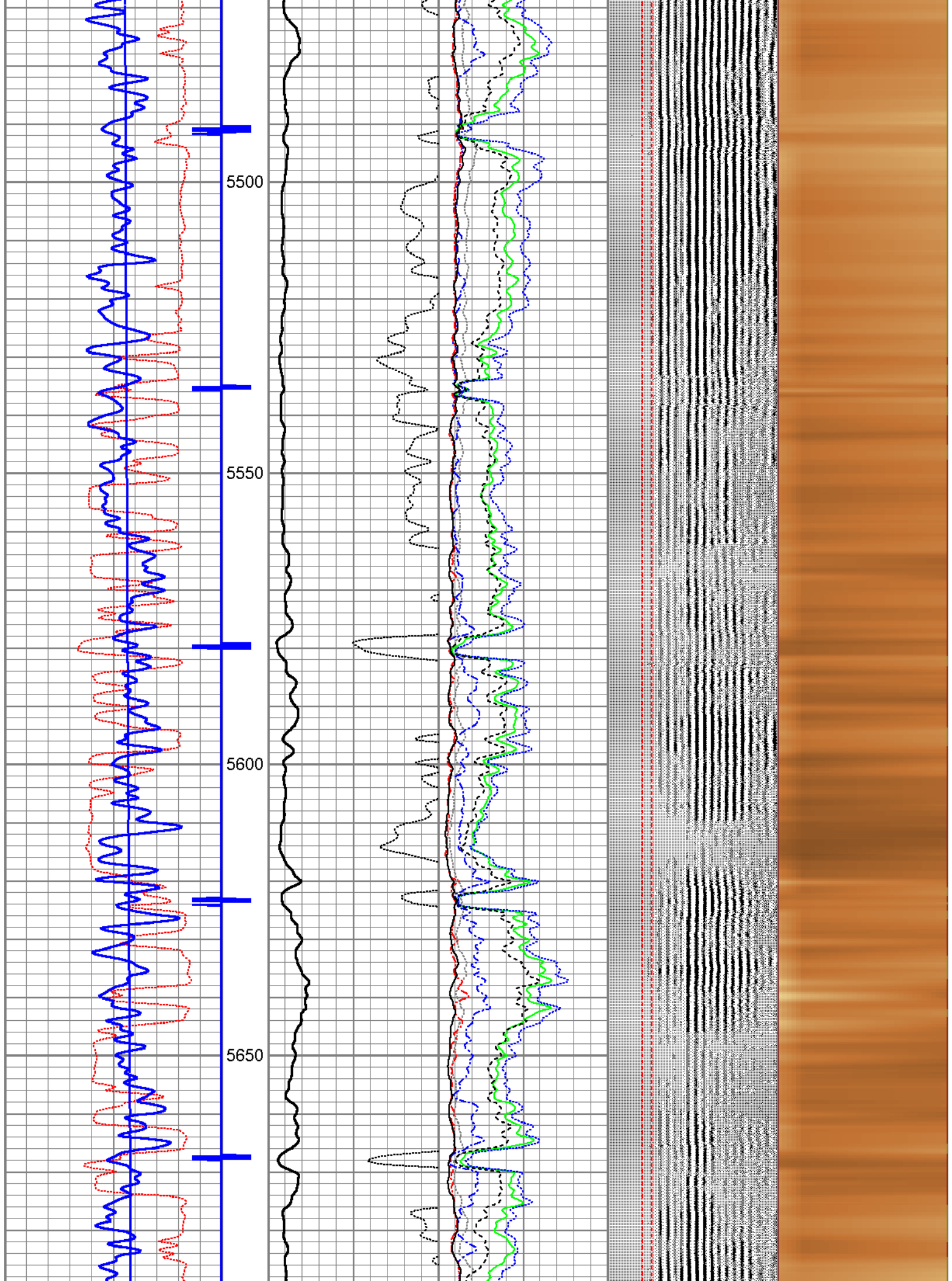


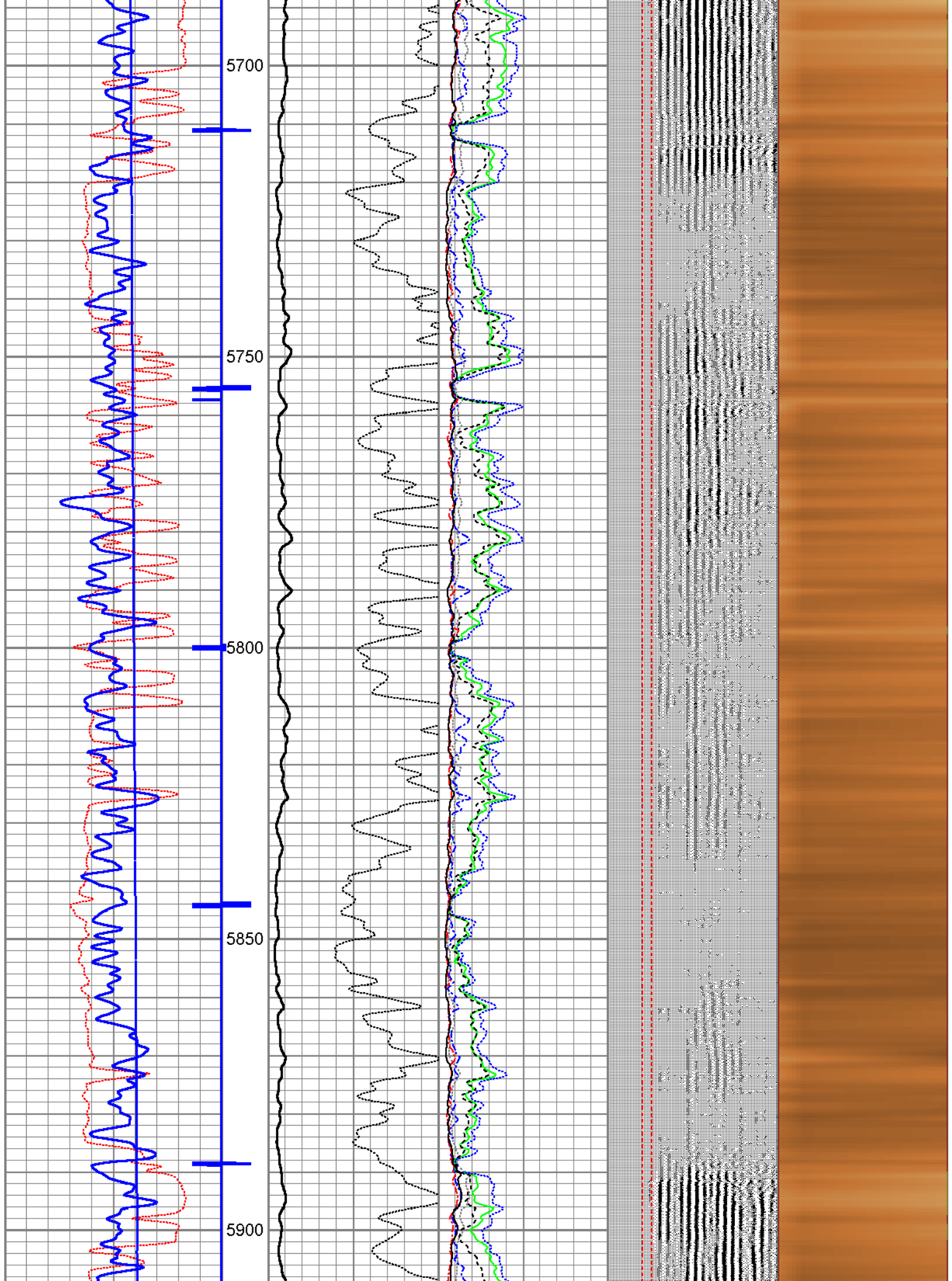


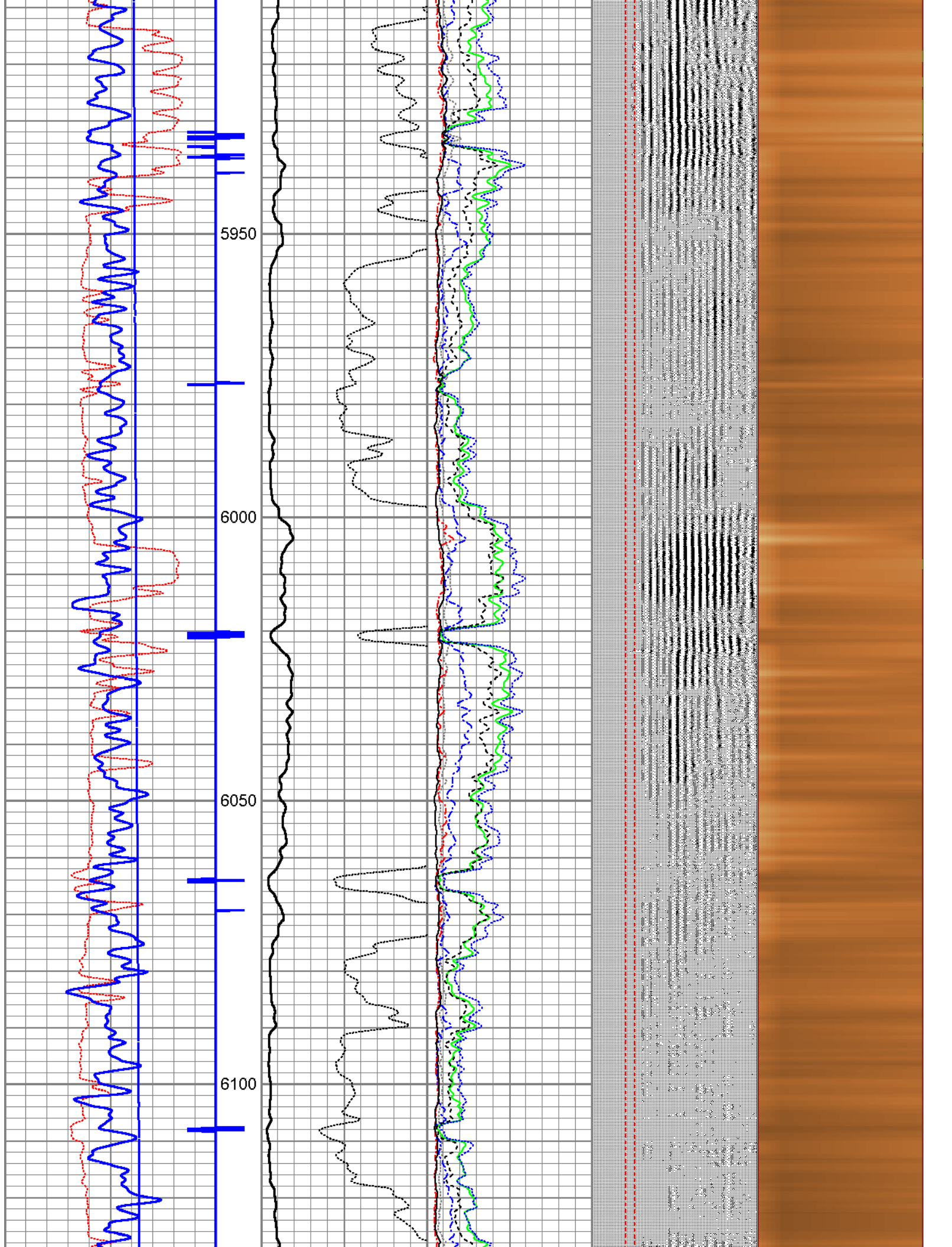


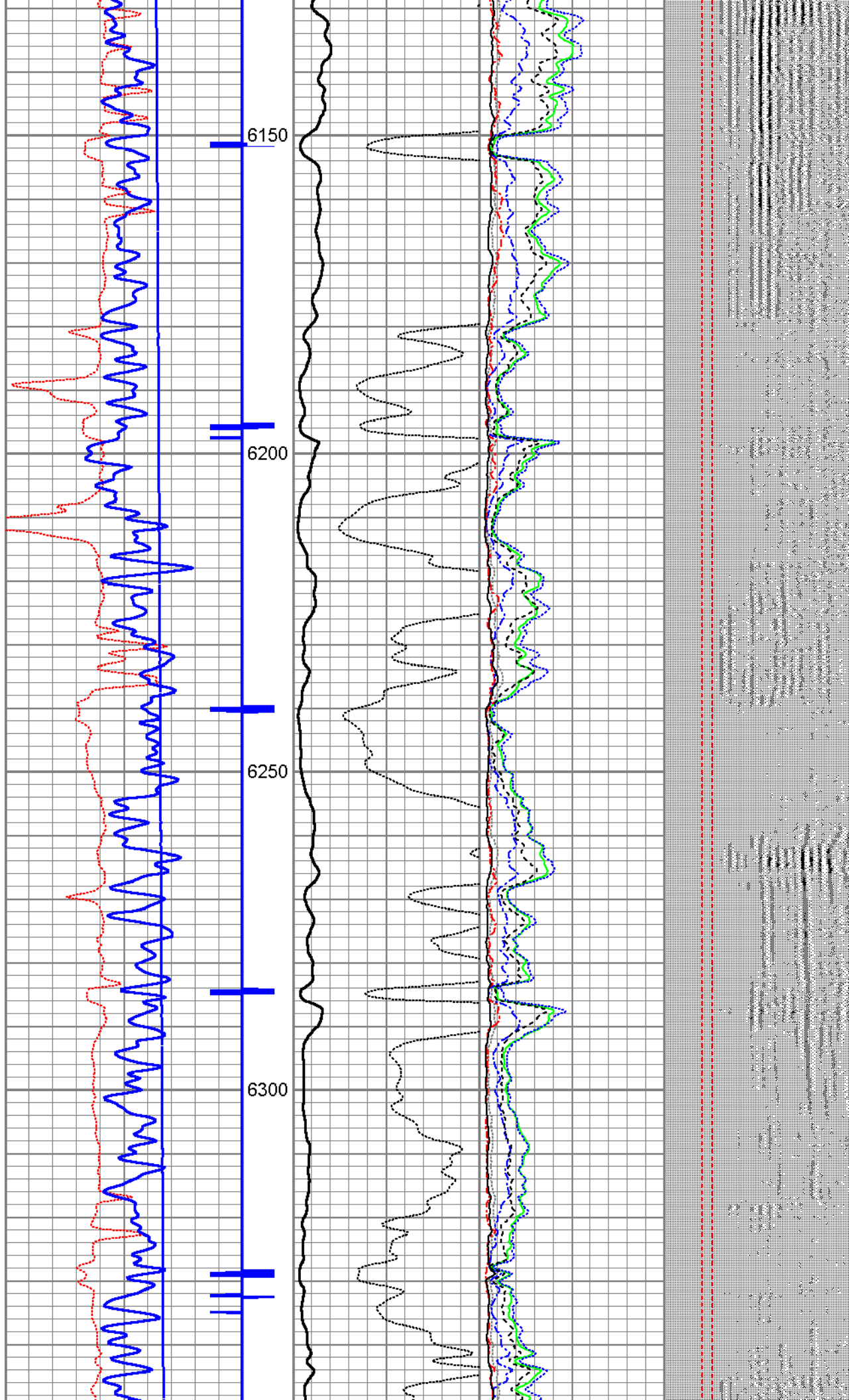


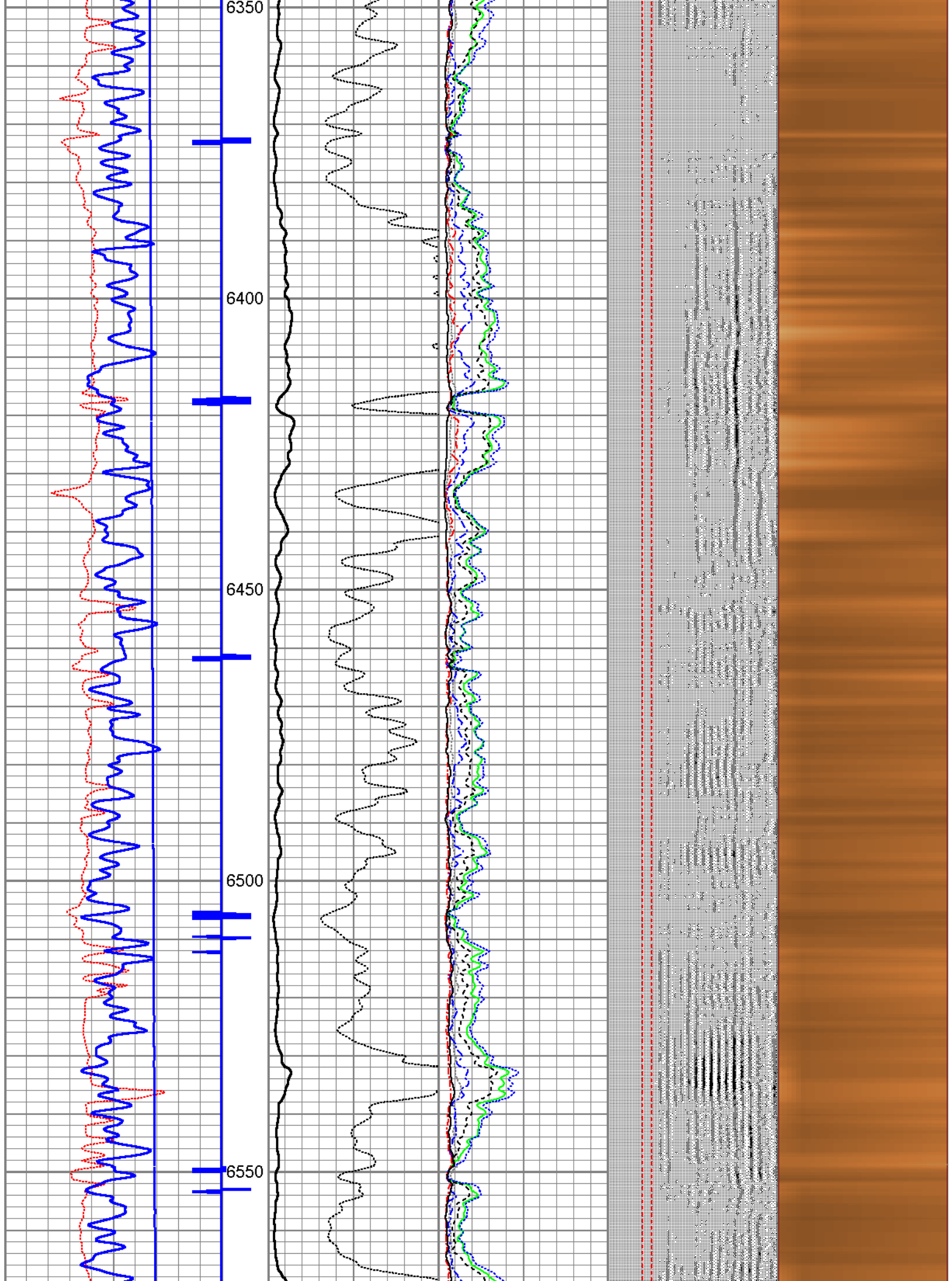


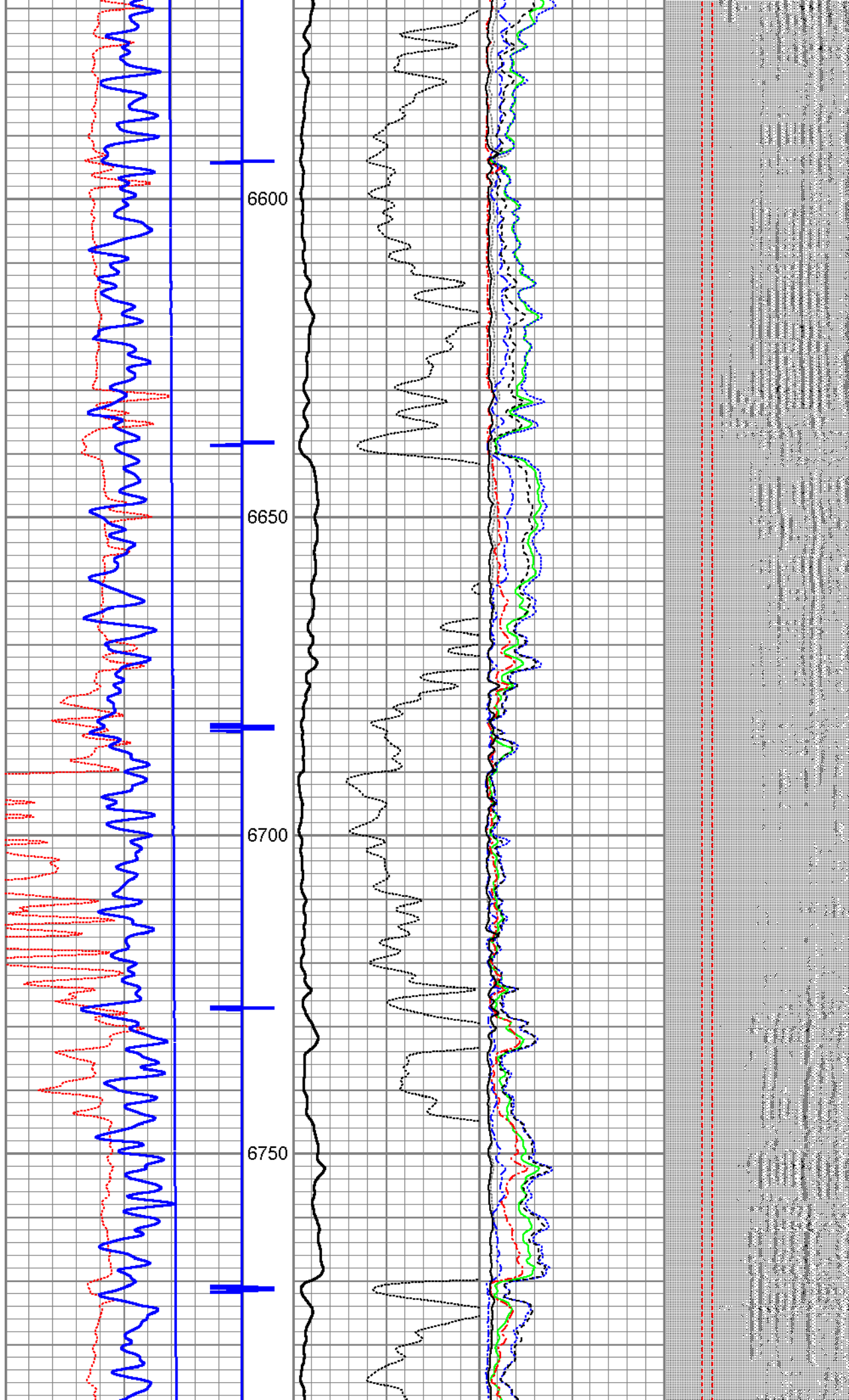


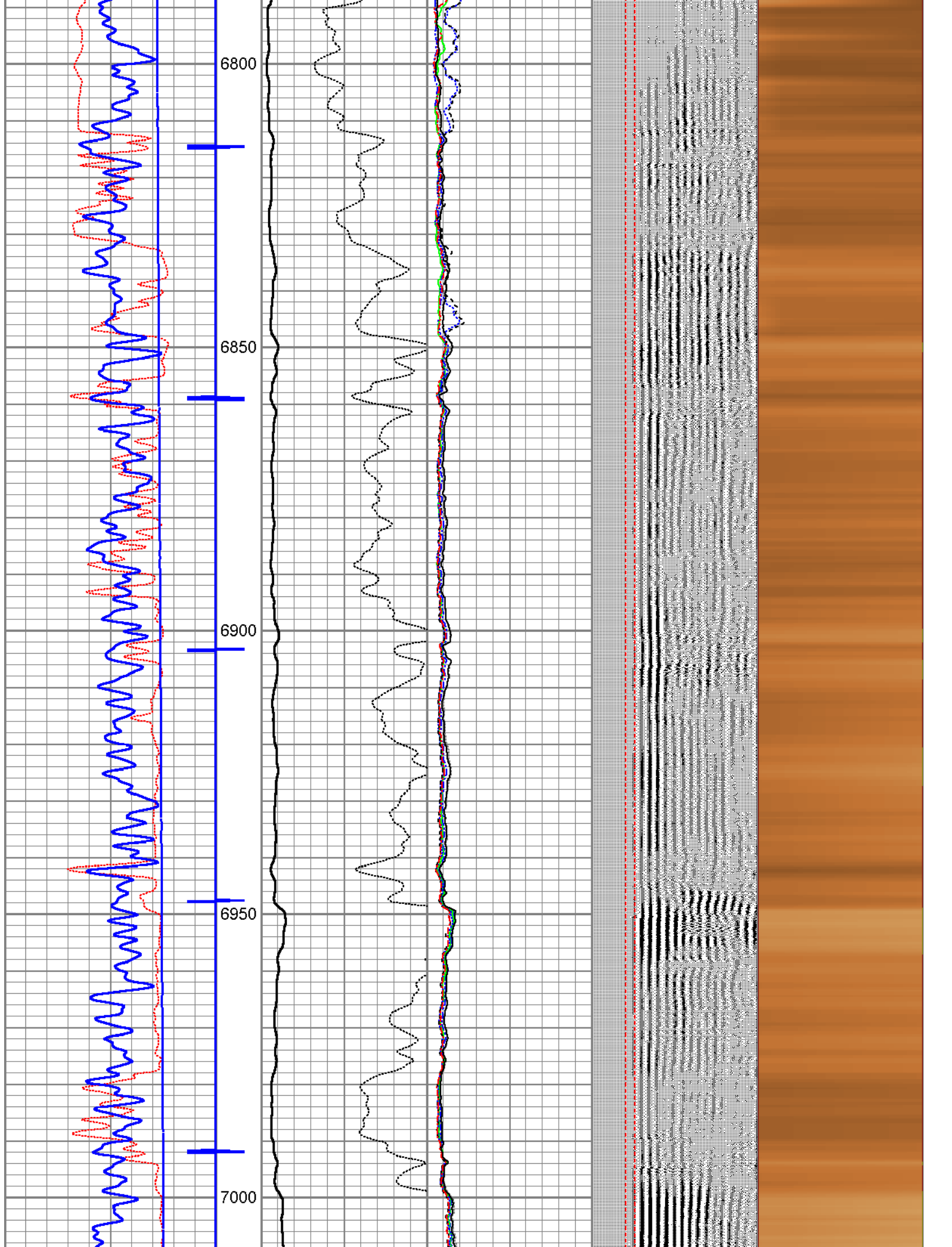


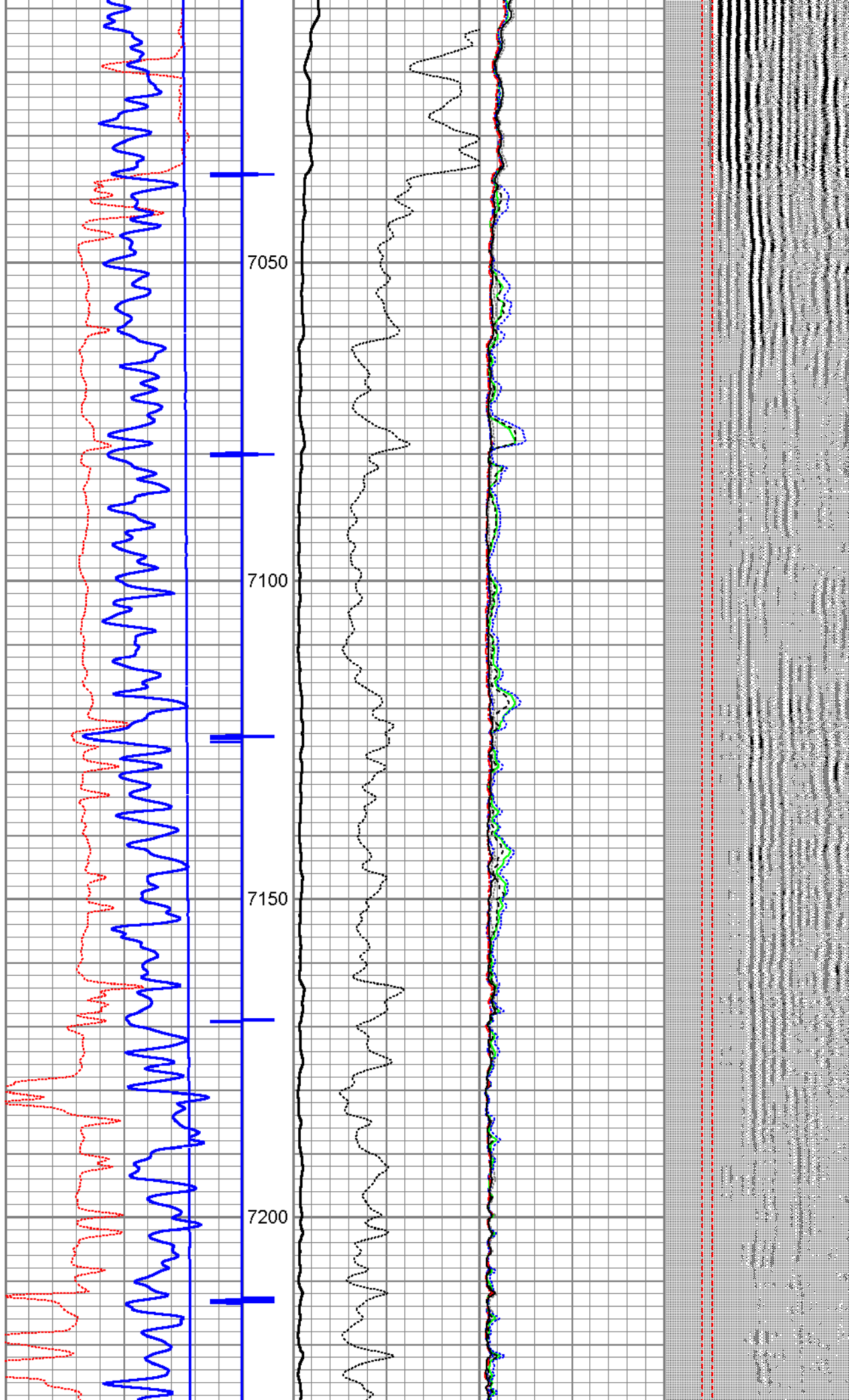


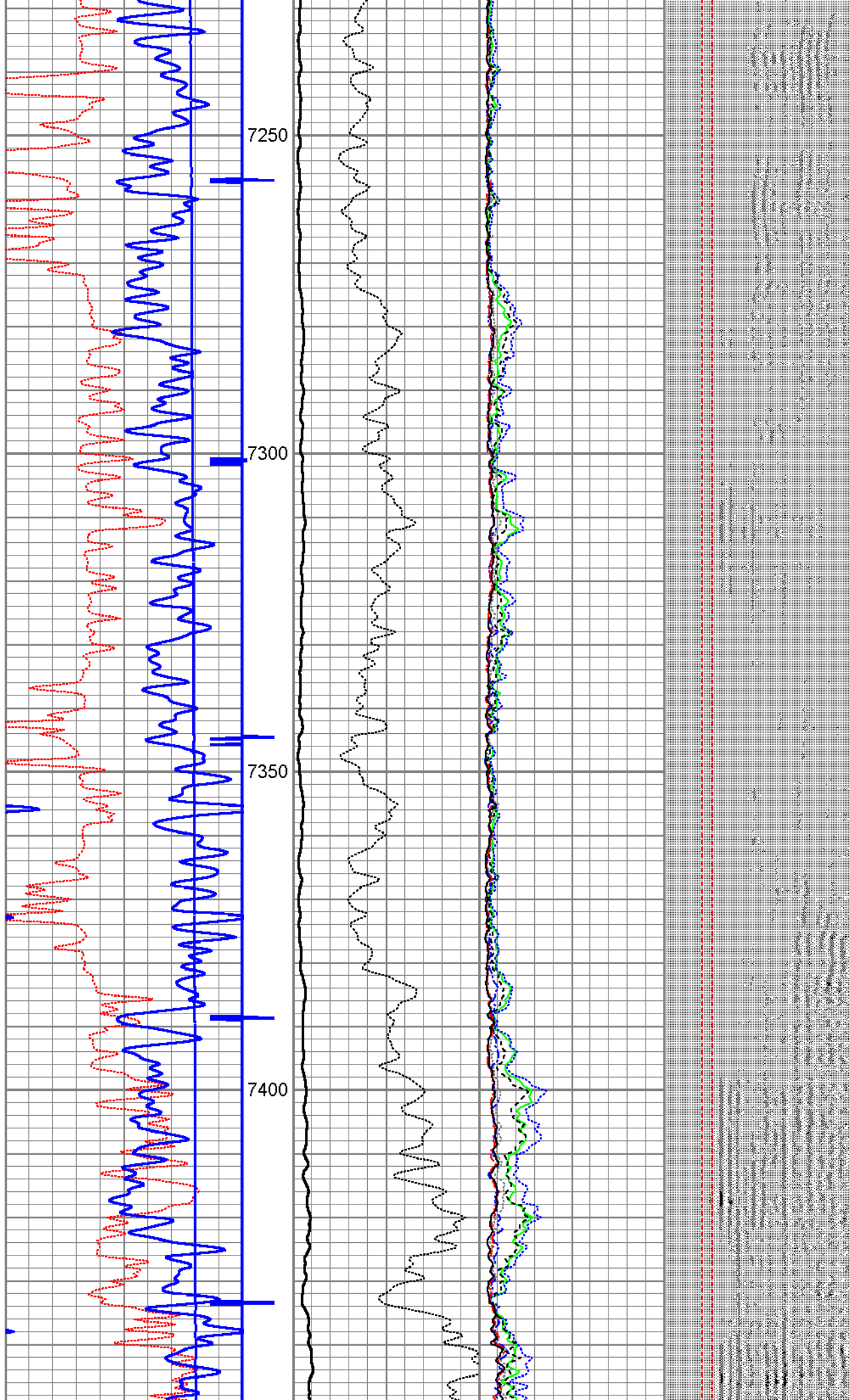


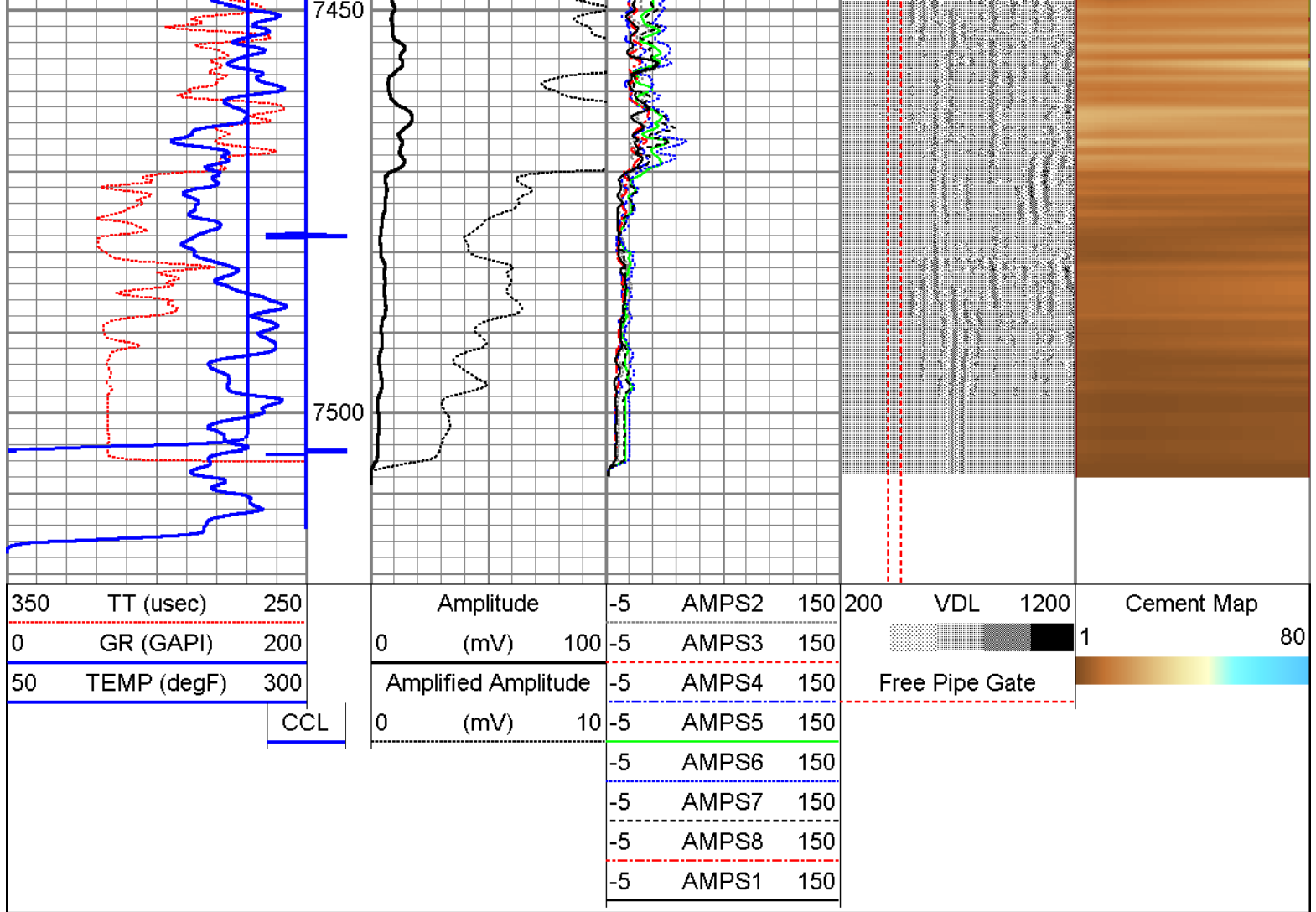




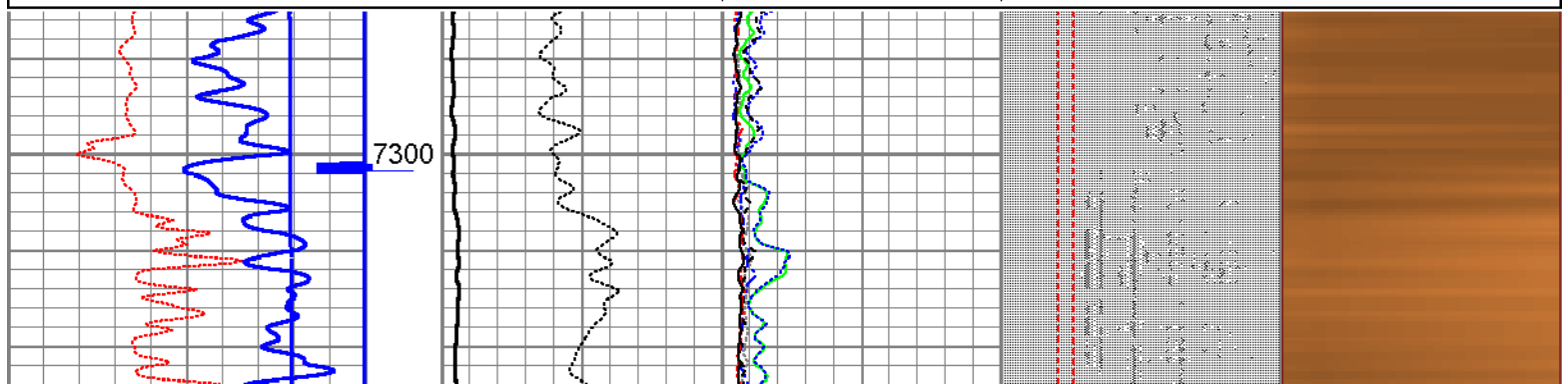
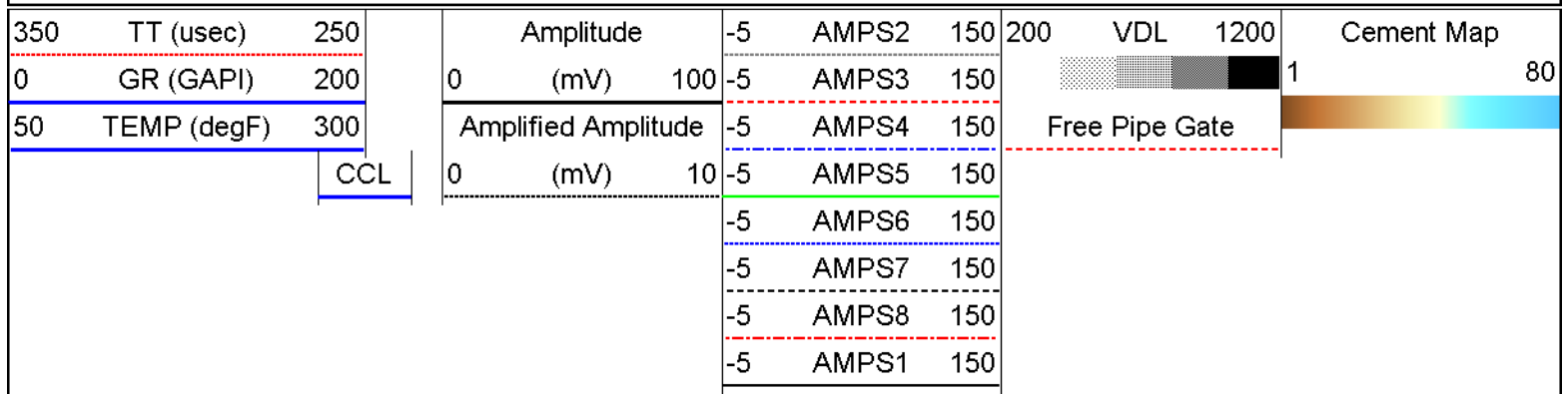


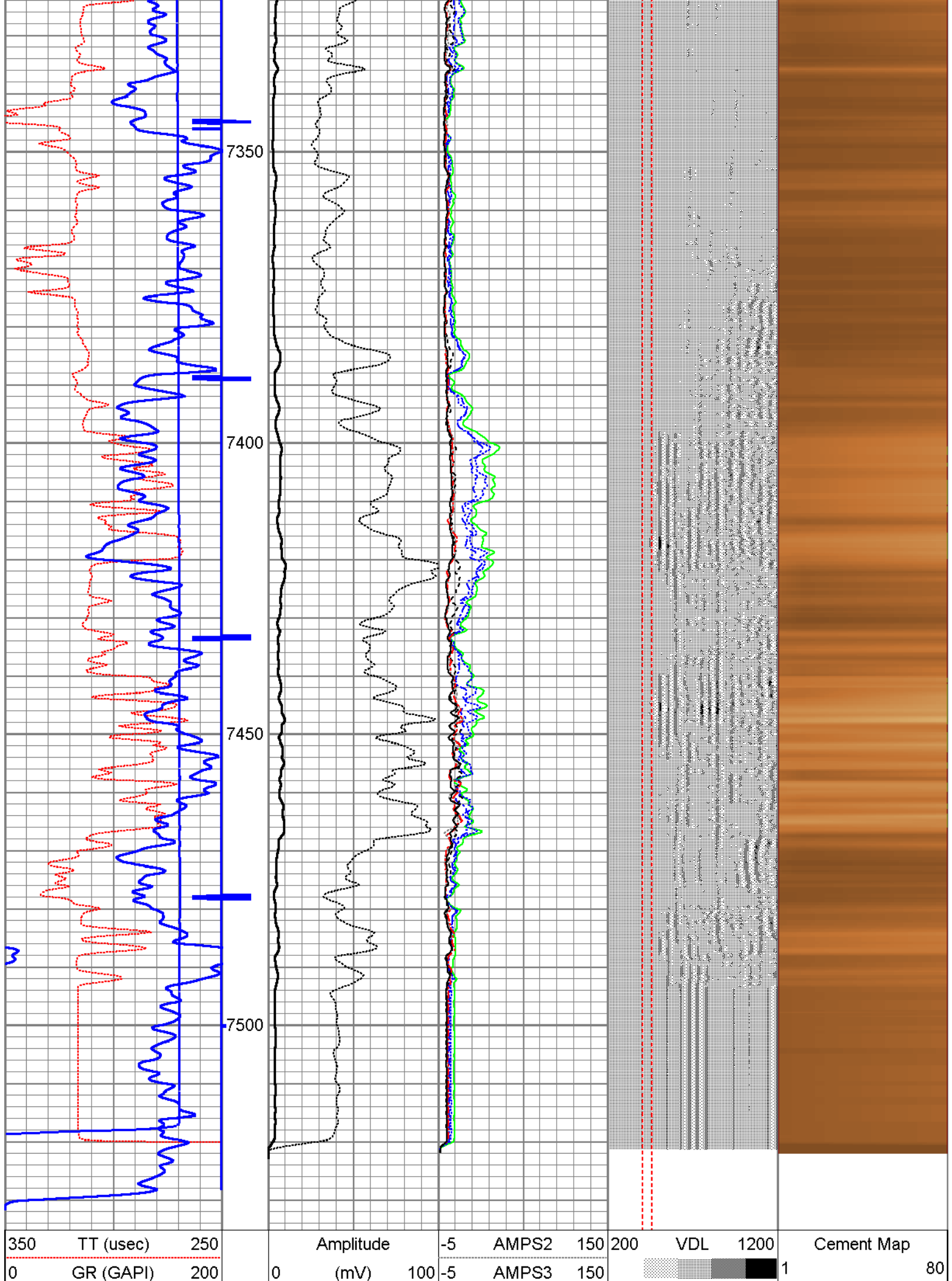







Database File: cub_creek_markham_10.db
 Dataset Pathname: markham_1/run1/pass2
 Presentation Format: rbl55
 Dataset Creation: Wed Oct 26 12:56:59 2016 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240





50	TEMP (degF)	300	Amplified Amplitude	-5	AMPS4	150	Free Pipe Gate	
	CCL	0	(mV)	10	-5	AMPS5	150	
					-5	AMPS6	150	
					-5	AMPS7	150	
					-5	AMPS8	150	
					-5	AMPS1	150	

Log Variables

Database: C:\Warrior\Data\cub_creek_markham_10.db

Dataset: field/markham_1/run1/pass3

Top - Bottom

XXXX	PPT usec	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	SRFTEMP degF
0	0	17	72	1	0.8	0
CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in		
5.5	0	8000	100	7.875		

Calibration Report

Database File: cub_creek_markham_10.db

Dataset Pathname: markham_1/run1/pass3

Dataset Creation: Wed Oct 26 13:01:39 2016 by Log 7.0 B1

Gamma Ray Calibration Report

Type / Serial: Probe275dig / PRO071130

SHOP CALIBRATION

Fri Aug 15 08:43:12 2014

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.8500			GAPI/cps

PRIMARY VERIFICATION

Wed Aug 21 12:04:20 2013

Background	31.9				cps
Calibrator	198.5				cps
Difference				166.7	GAPI

BEFORE SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

AFTER SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Segmented Cement Bond Log Calibration Report

Serial Number: FW1403-64
Tool Model: RBT-TEMP

Calibration Casing Diameter:	5.500	in
Calibration Depth:	55.817	ft

Master Calibration, performed Wed Oct 26 10:19:11 2016:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.023	0.743	2.000	71.921	97.093	-0.244
CAL	0.021	0.899				
5'	0.023	0.684	2.000	71.921	105.730	-0.438
SUM						
S1	0.021	0.797	0.000	100.000	128.914	-2.693
S2	0.019	0.826	0.000	100.000	124.014	-2.409
S3	0.023	0.795	0.000	100.000	129.411	-2.919
S4	0.022	0.729	0.000	100.000	141.336	-3.071
S5	0.022	0.704	0.000	100.000	146.713	-3.256
S6	0.020	0.702	0.000	100.000	146.668	-2.981
S7	0.021	0.748	0.000	100.000	137.519	-2.926
S8	0.026	0.777	0.000	100.000	133.084	-3.428

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.021	0.899	1.000	0.000

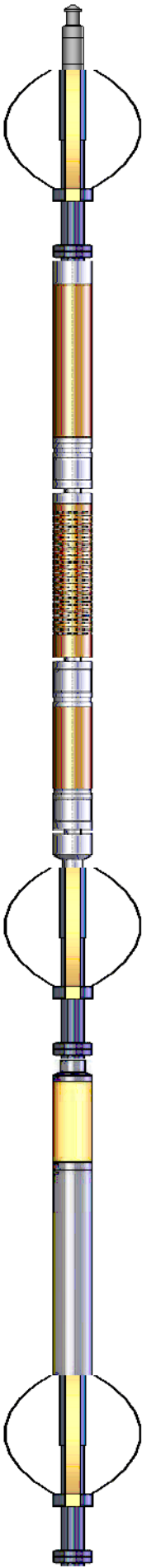
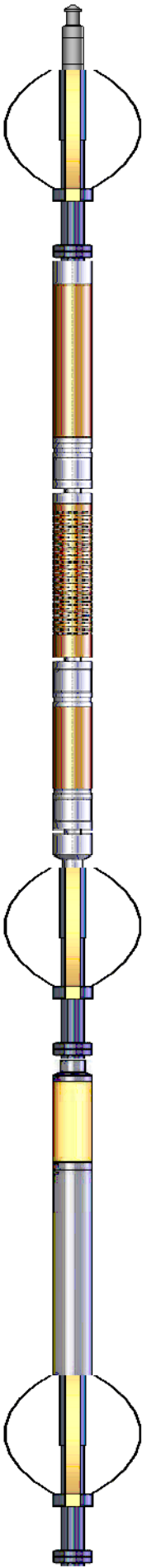
Air Zero Calibration, performed Wed Oct 26 12:32:20 2016:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.023		0.000		0.000	
5'	0.024		0.000		-0.001	
SUM						
S1	0.009		0.000		0.012	
S2	0.021		0.000		-0.002	
S3	0.020		0.000		0.002	
S4	0.020		0.000		0.001	
S5	0.020		0.000		0.002	
S6	0.020		0.000		-0.000	
S7	0.022		0.000		-0.001	
S8	0.021		0.000		0.005	

Temperature Calibration Report

Serial Number: FW1403-64
Tool Model: RBT-TEMP
Performed: Sun Jun 13 13:33:21 1993

	Reference	Reading
Low Reference:	0.00 degF	0.00 degF
High Reference:	1.00 degF	1.00 degF
Gain:	1.00	
Offset:	0.00	
Delta Spacing	5	

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
TEMP	16.86		1.4375CHD Titan Cable Head 1 7/16	1.00	1.44	10.00
			Probe Probe 2 3/4 Centralizer	2.88	2.75	20.00
			RBT-RBT-TEMP (FW1403-64) Probe 2.75" Radii Bond w/Temp Tool	9.17	2.75	90.00
WVFS3FT	14.72					
WVFCAL	14.72					
WVFS1	14.72					
WVFS2	14.72					
WVFS3	14.72					
WVFS4	14.72					
WVFS5	14.72					
WVFS6	14.72					
WVFS7	14.72					
WVFS8	14.72					
WVFS5FT	13.72					
CCL DCCL	6.75					
	6.75					
GR	5.42		GR-Probe275dig (PRO071130) Probe Digital Gamma CCL	4.78	2.75	57.00
			Probe Probe 2 3/4 Centralizer	2.88	2.75	20.00

O.D. 2.75 in



Company	CUB CREEK ENERGY
Well	MARKHAM 10
Field	WATTENBERG
County	WELD
State	CO