



Radial Cement Bond
Variable Density Log
W/Gamma Ray/CCL

Company Noble Energy

Well NCLP PC AA04-67-1HN

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-37176

1650' FNL

535' FEL

SEC 4 TWP 6N RGE 63W

Permanent Datum Ground Level Elevation 4710'

Log Measured From Kelly Bushing 16' APD

Drilling Measured From Kelly Bushing

Other Services

None

Elevation

K.B. 4726'

D.F. 4725'

G.L. 4710'

Date

08-JAN-2014

Run Number

One

Depth Driller

16,202'

Depth Logger

N/A

Bottom Logged Interval

6.675'

Top Log Interval

Surface

Open Hole Size

8 3/4"

Type Fluid

Water

Density / Viscosity

8.4

Max. Recorded Temp.

NA

Estimated Cement Top

NA

Time Well Ready

6:00

Time Logger on Bottom

14:00

Equipment Number

13034

Location

Brighton, CO

Recorded By

Jarod Lee

Witnessed By

Bill Mansfield

Run Number

Bit

From

To

Size

Weight

From

To

Size

Weight

From

To

Size

Weight

From

To

Comments

Well Correlated to 16' Drilling Rig KB

Main Pass and Repeat Pass logged with zero Pressure on surface

Short Joint 5698'-5712'

Thank You for using Allied Wireline

(303)659-4609

Main Pass

Logged at 0 PSI

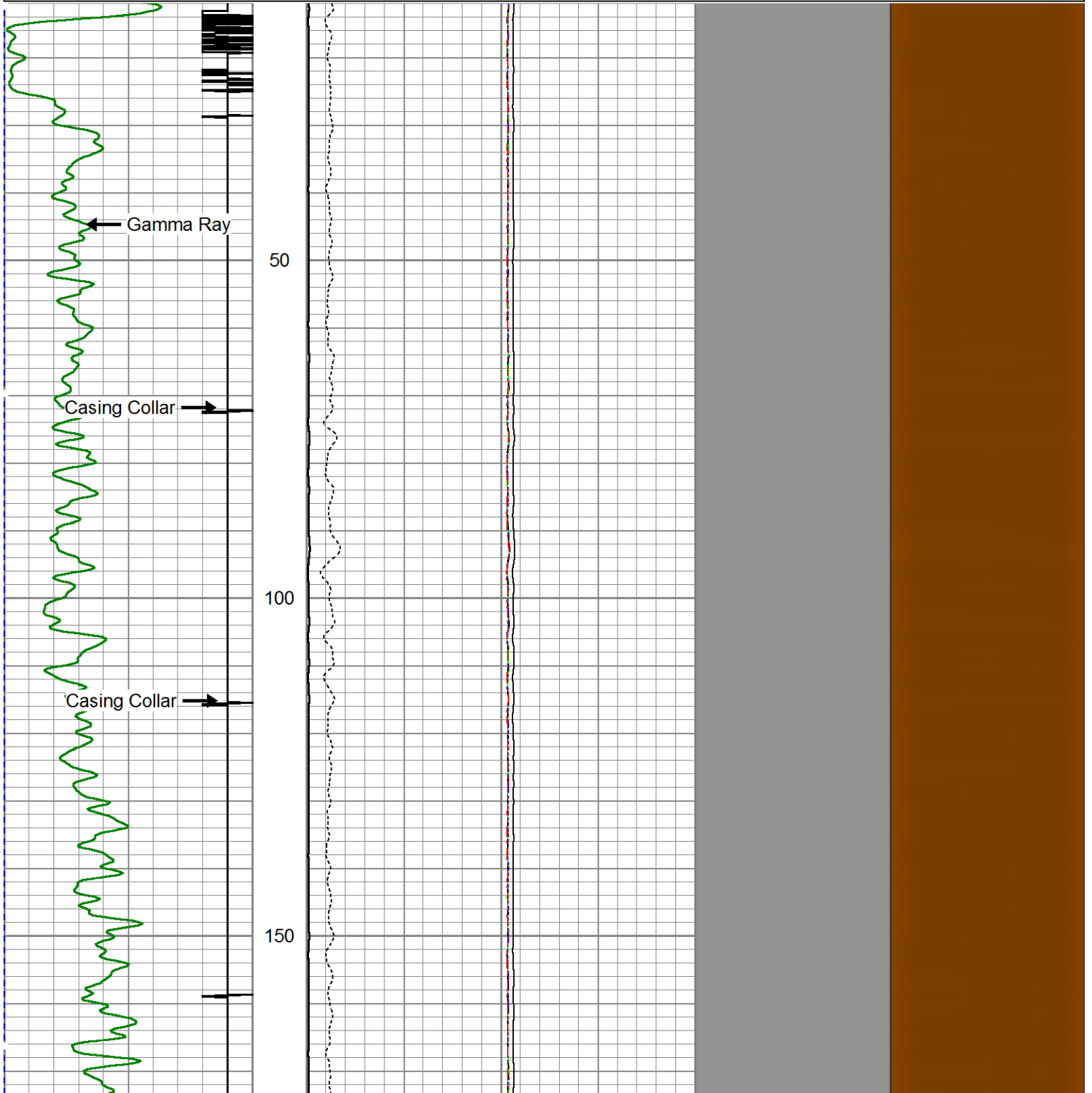


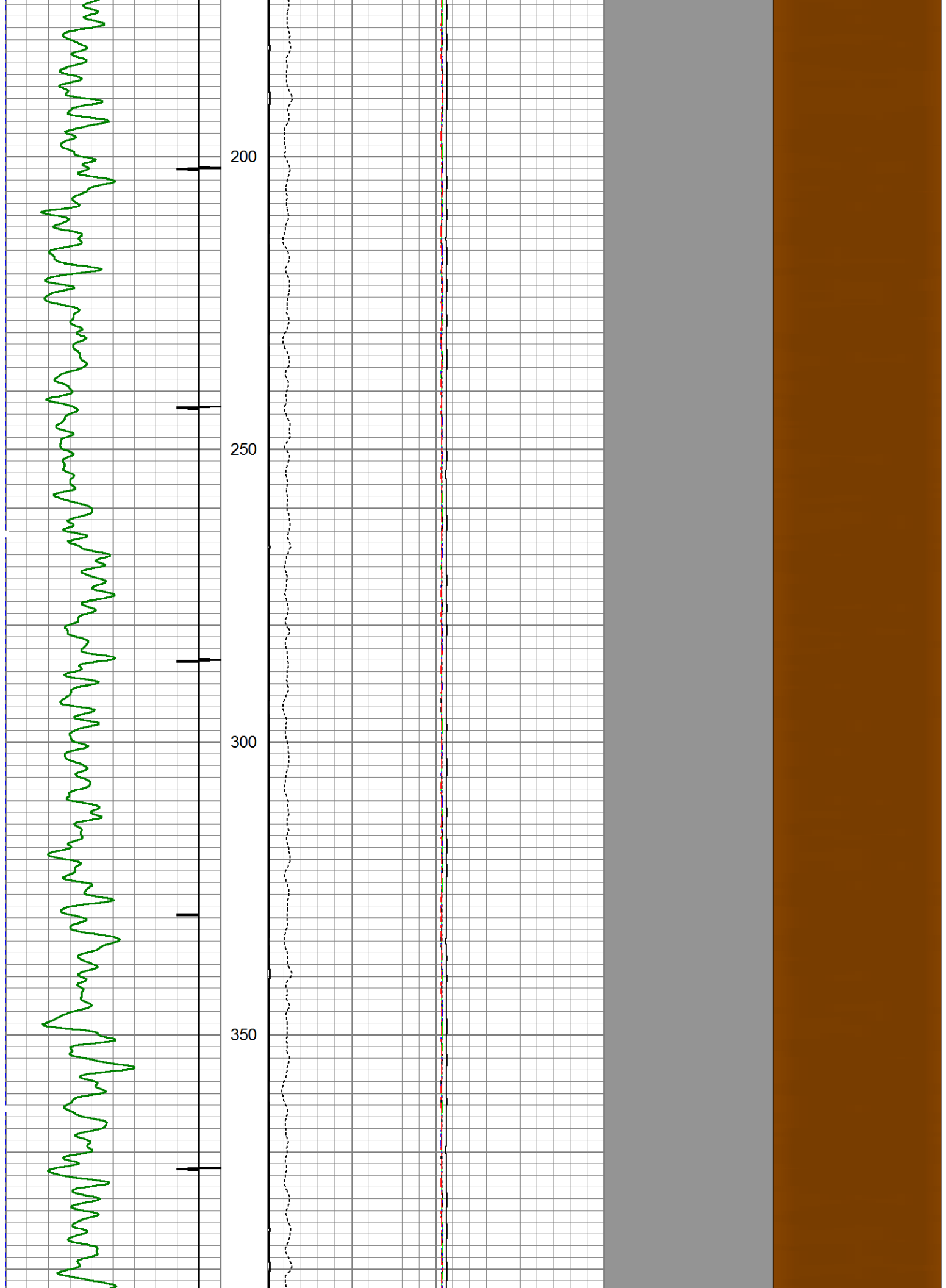
Database File: k:\noble\ncip pc aa04-67-1hn_rcbl\noble nclp pc aa04-67-ihn.db
Dataset Pathname: pass5.2
Presentation Format: scbl03
Dataset Creation: Thu Jan 09 07:27:33 2014 by Calc 7.0 B1
Charted by: Depth in Feet scaled 1:240

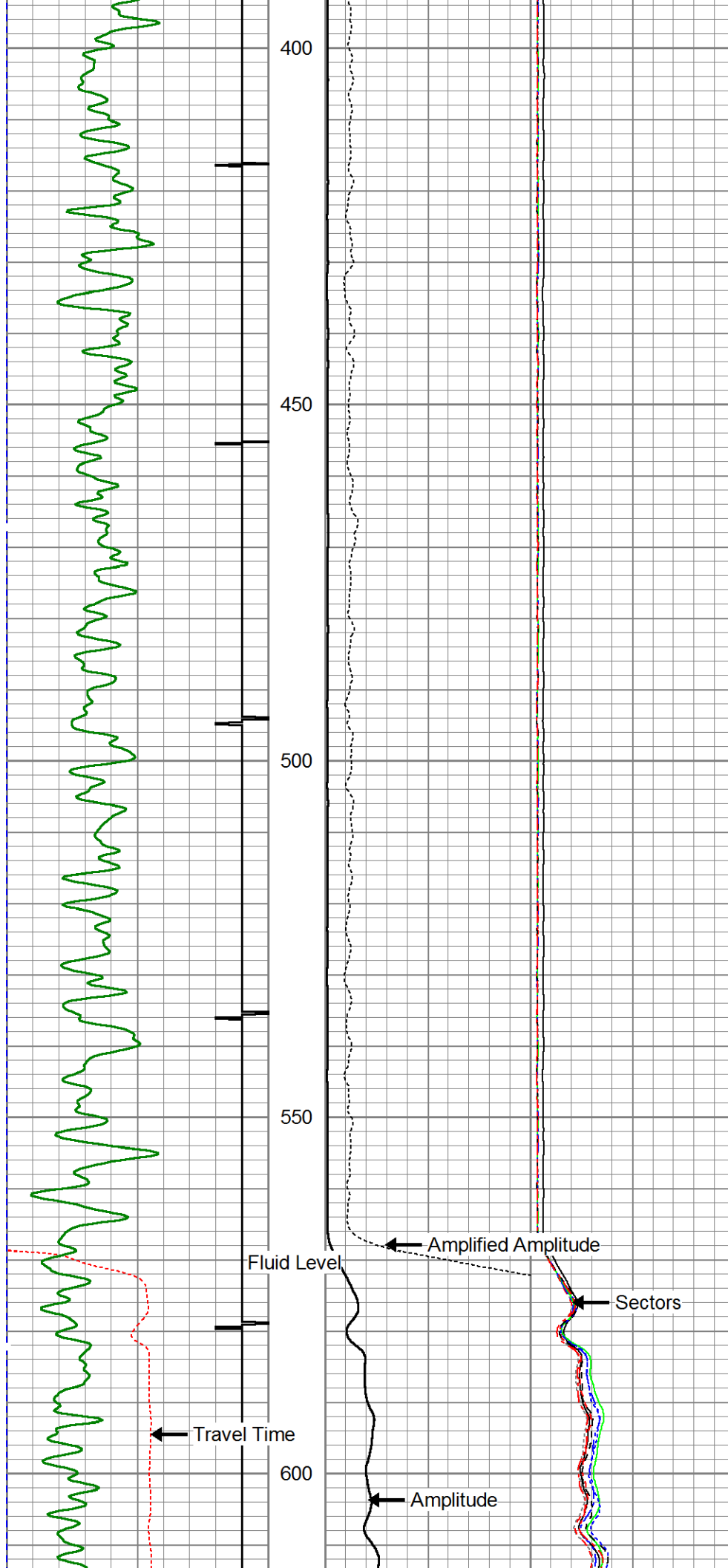
400 Travel Time (usec) 200
9 Casing Collar -1
0 Gamma Ray (GAPI) 150
0 Line Tension (lb) 5000

0	Amplitude (mV)	100	-5	AMPS1	150
Amplified Amplitude		-5	AMPS2	150	
0	(mV)	10	-5	AMPS3	150
		-5	AMPS4	150	
		-5	AMPS5	150	
		-5	AMPS6	150	
		-5	AMPS7	150	
		-5	AMPS8	150	

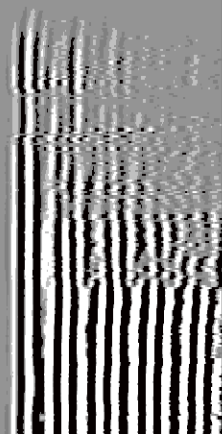
Variable Density 200 1200
1 Cement Map 8
0 100

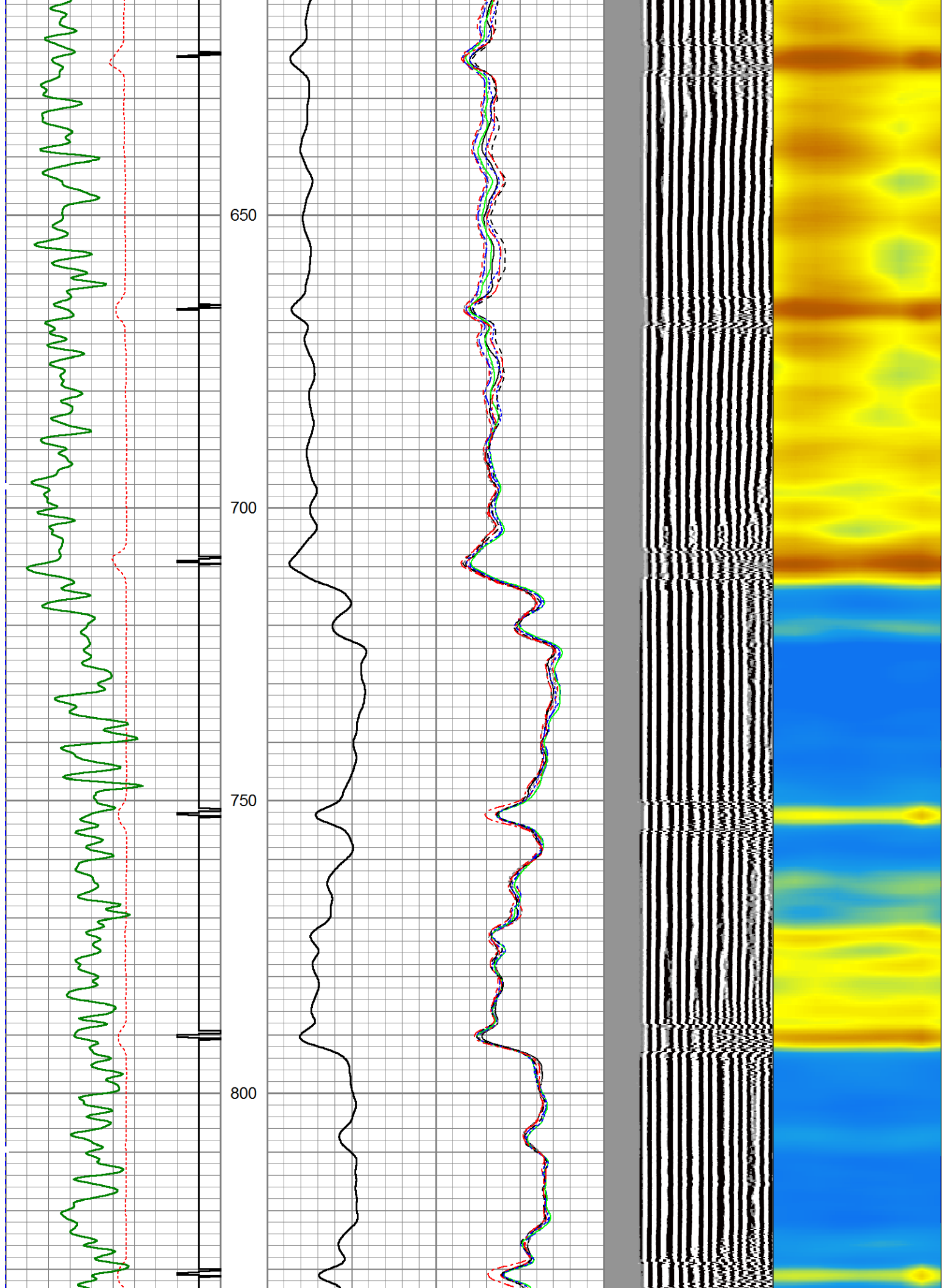


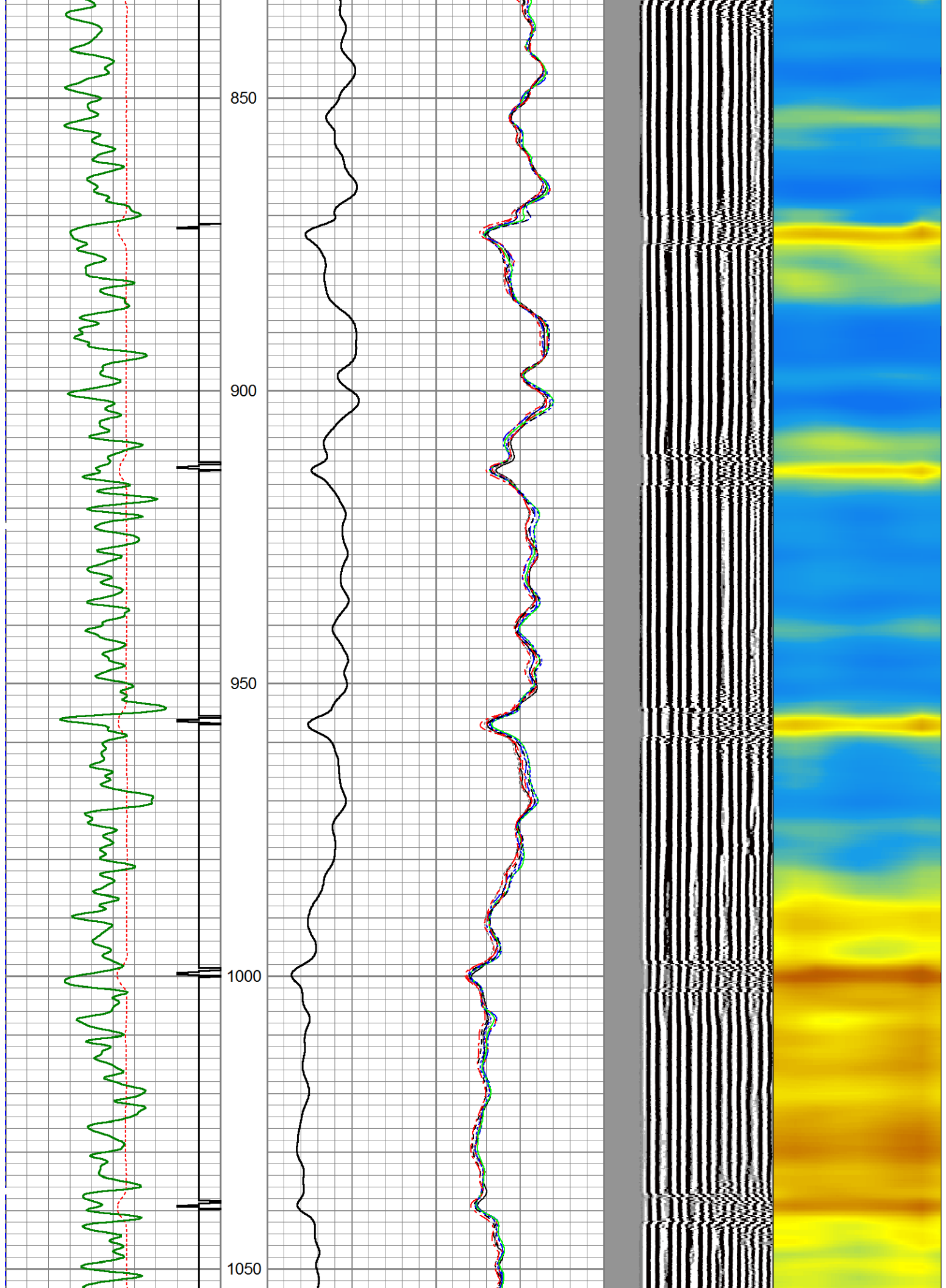


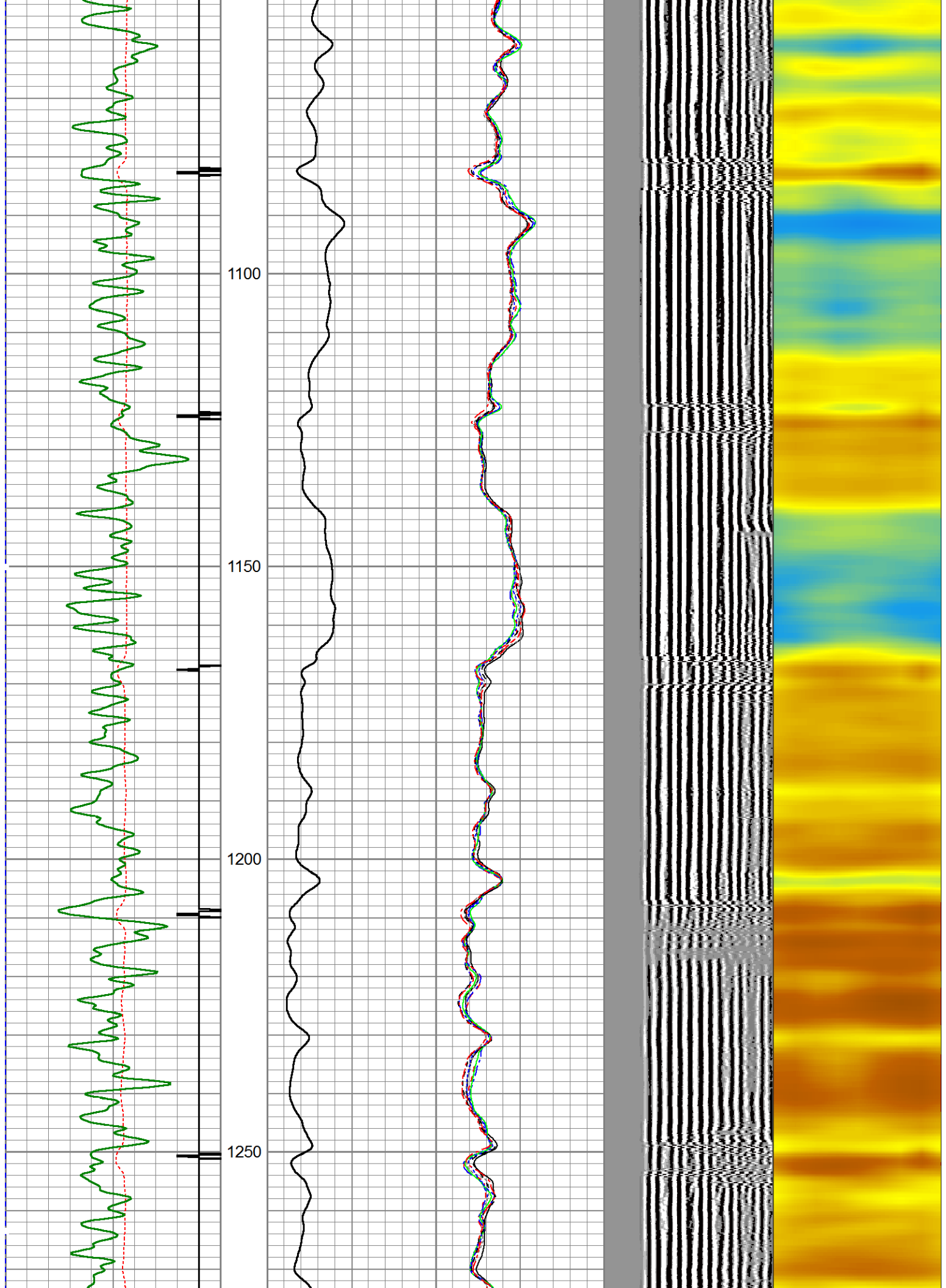


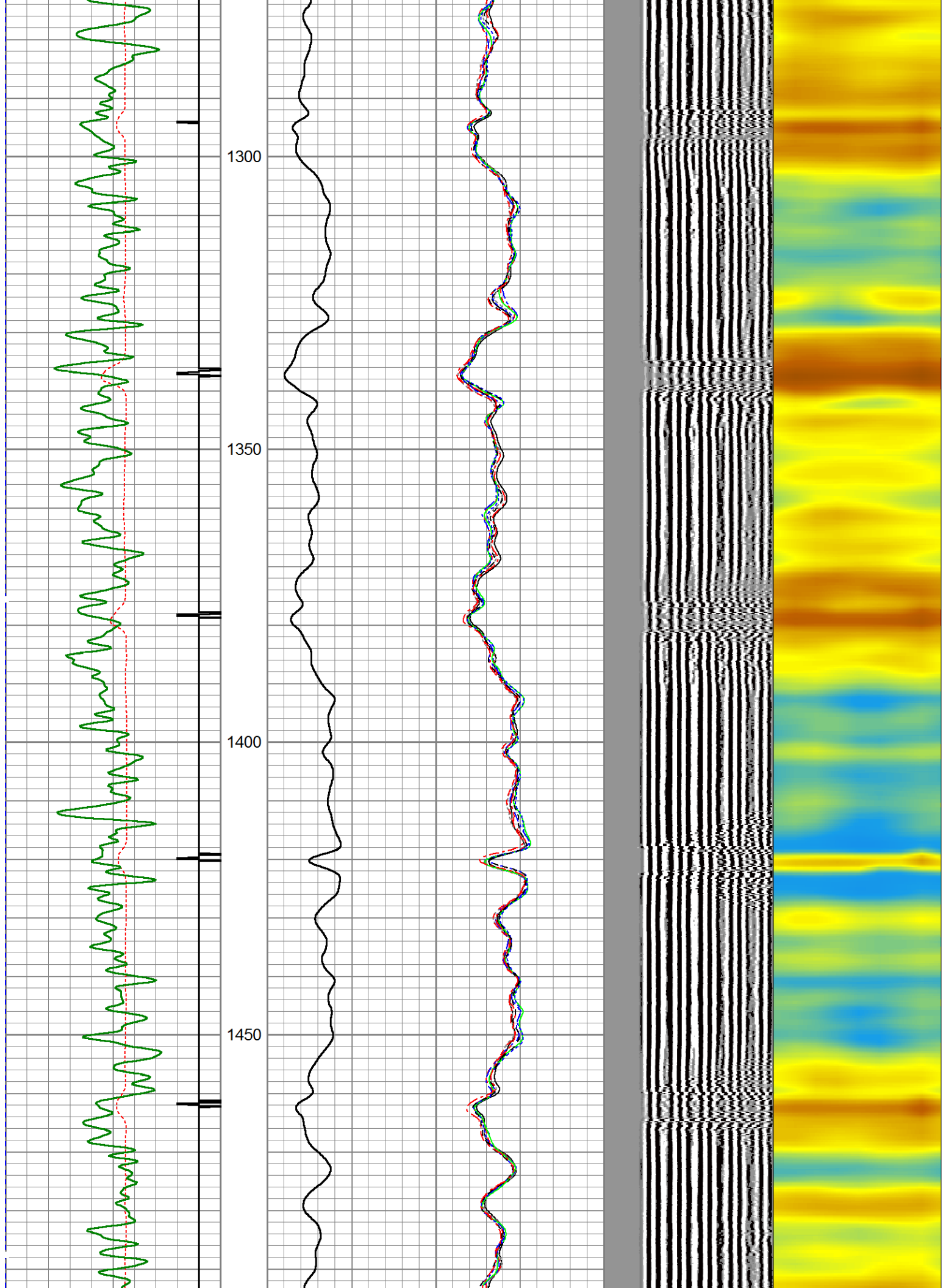
VDL

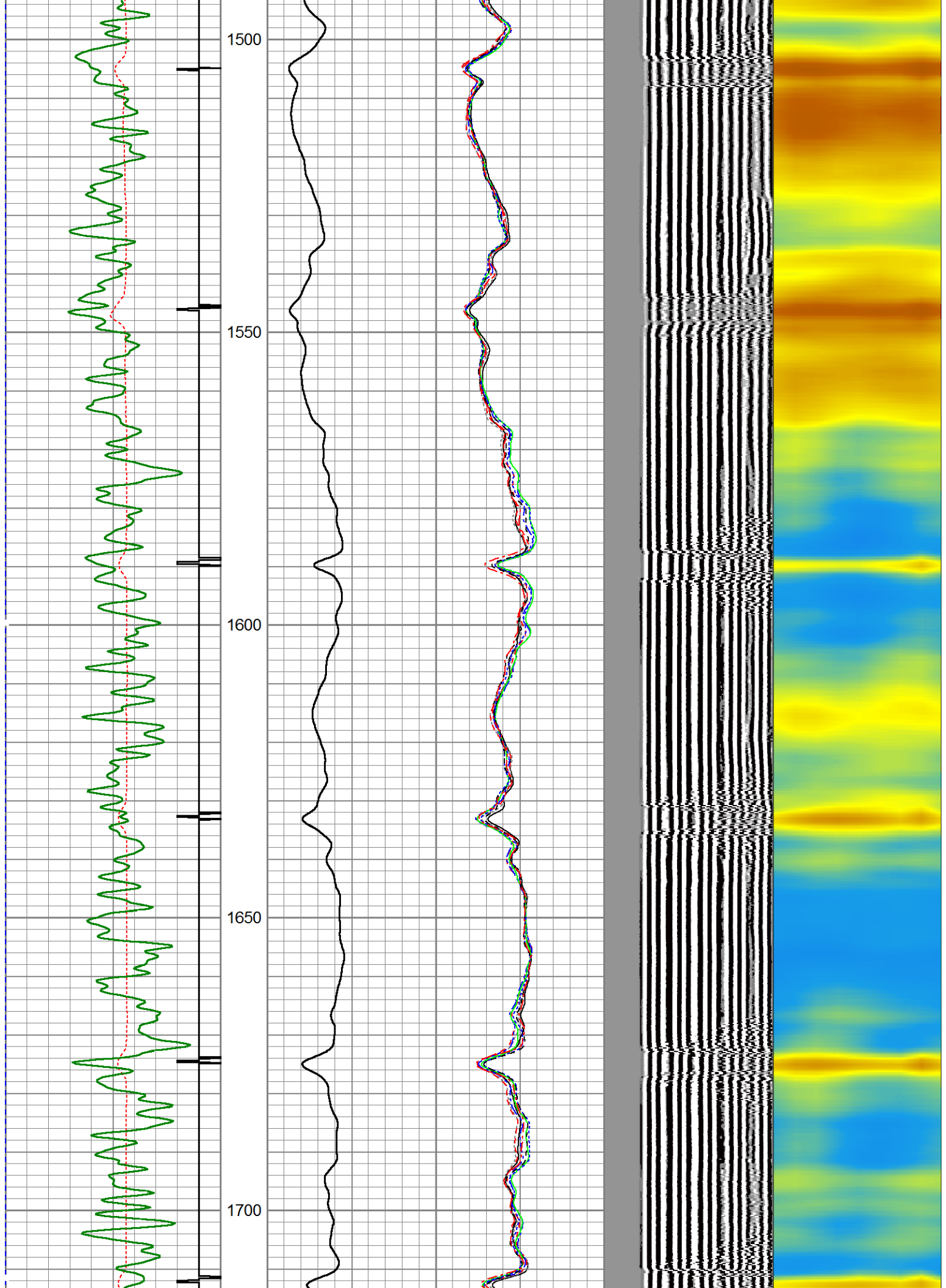


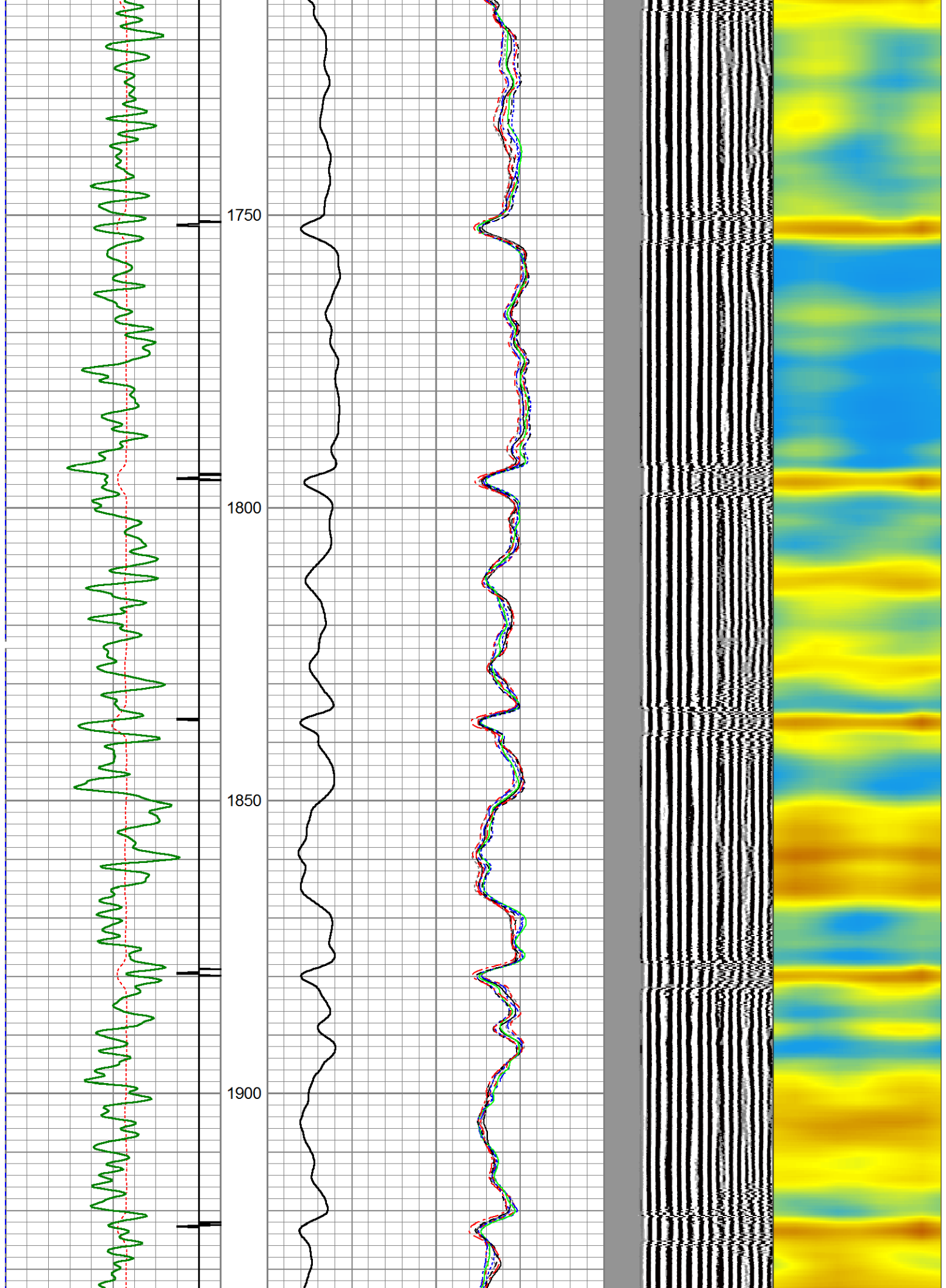


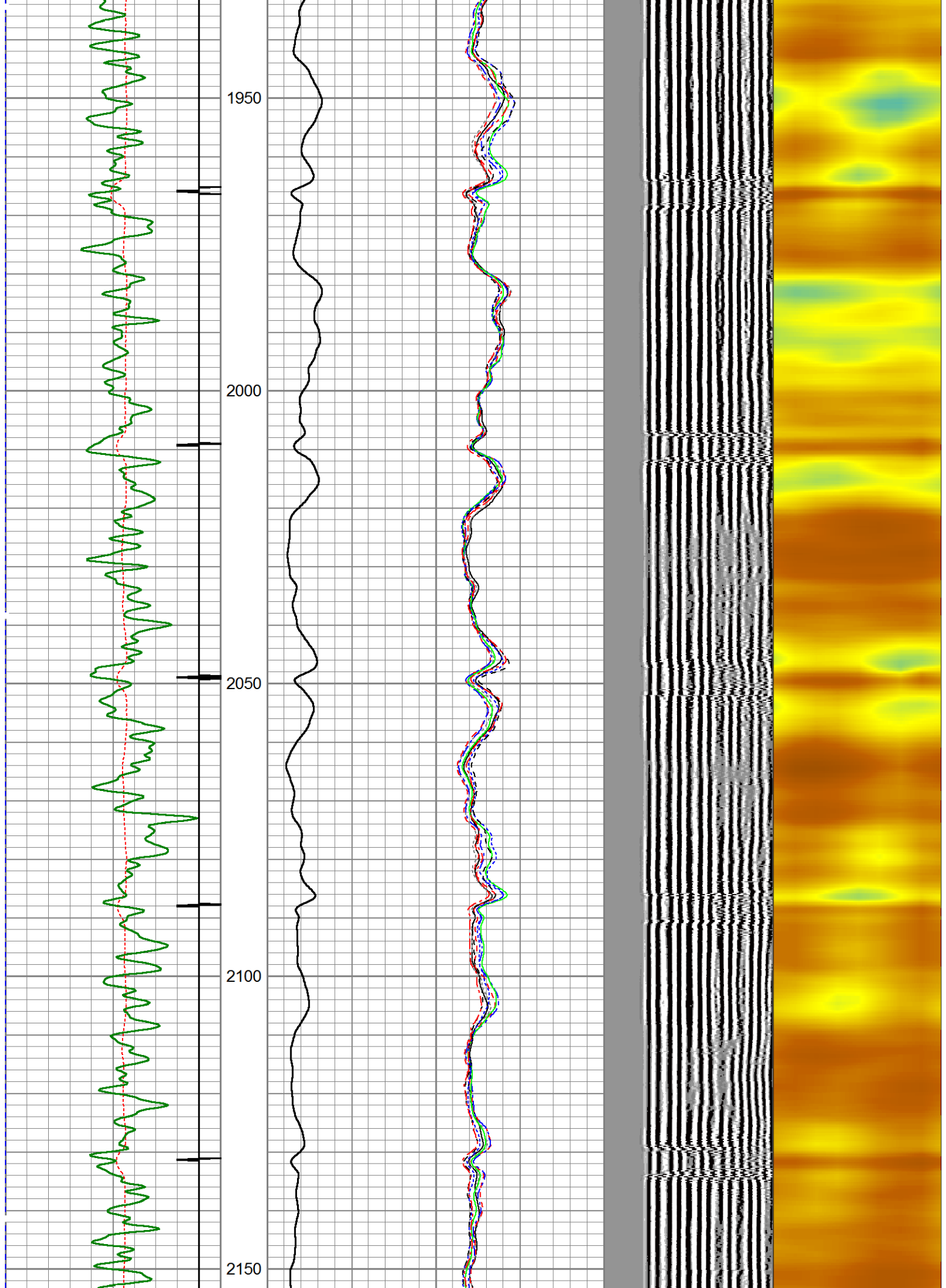


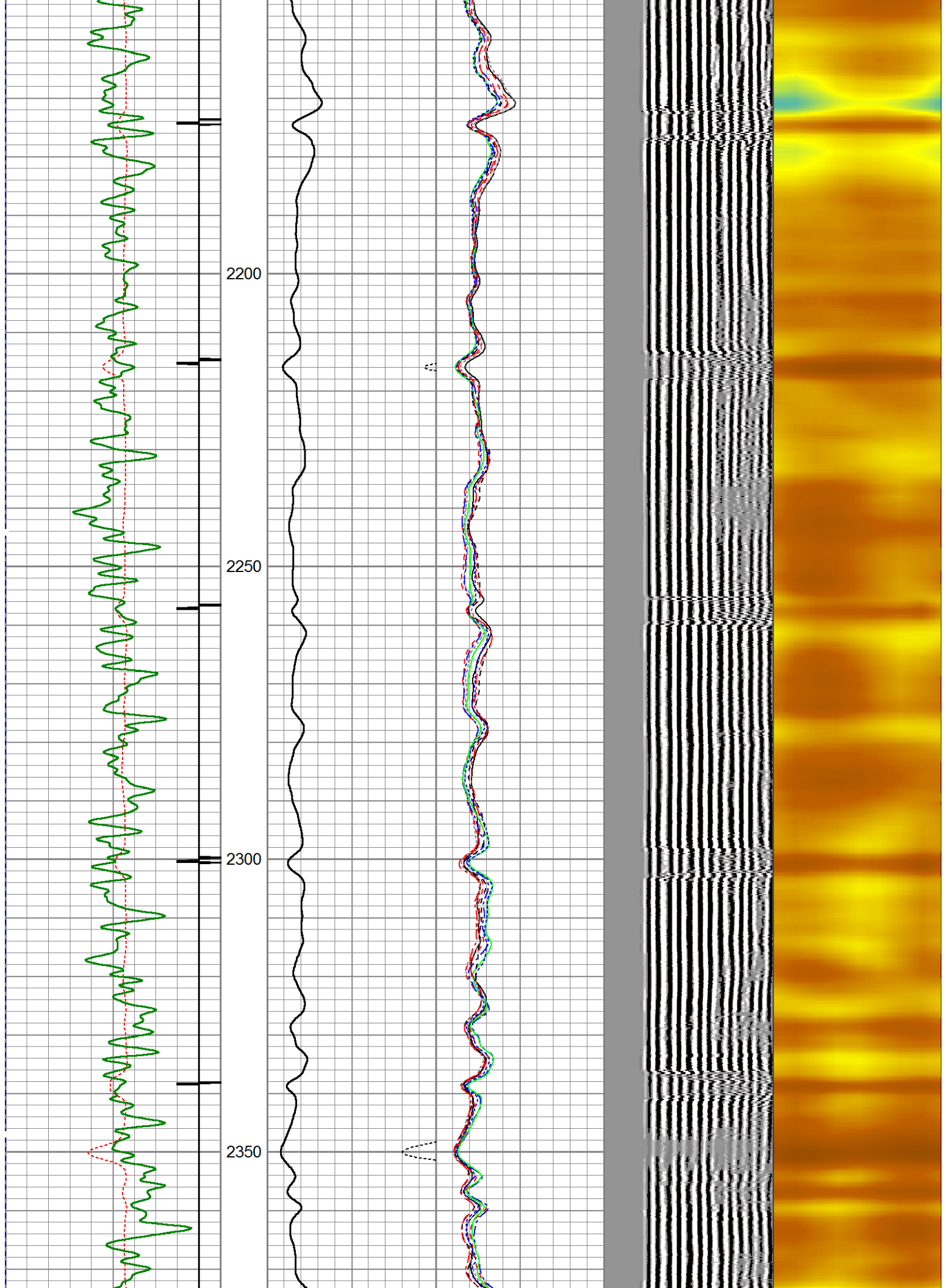


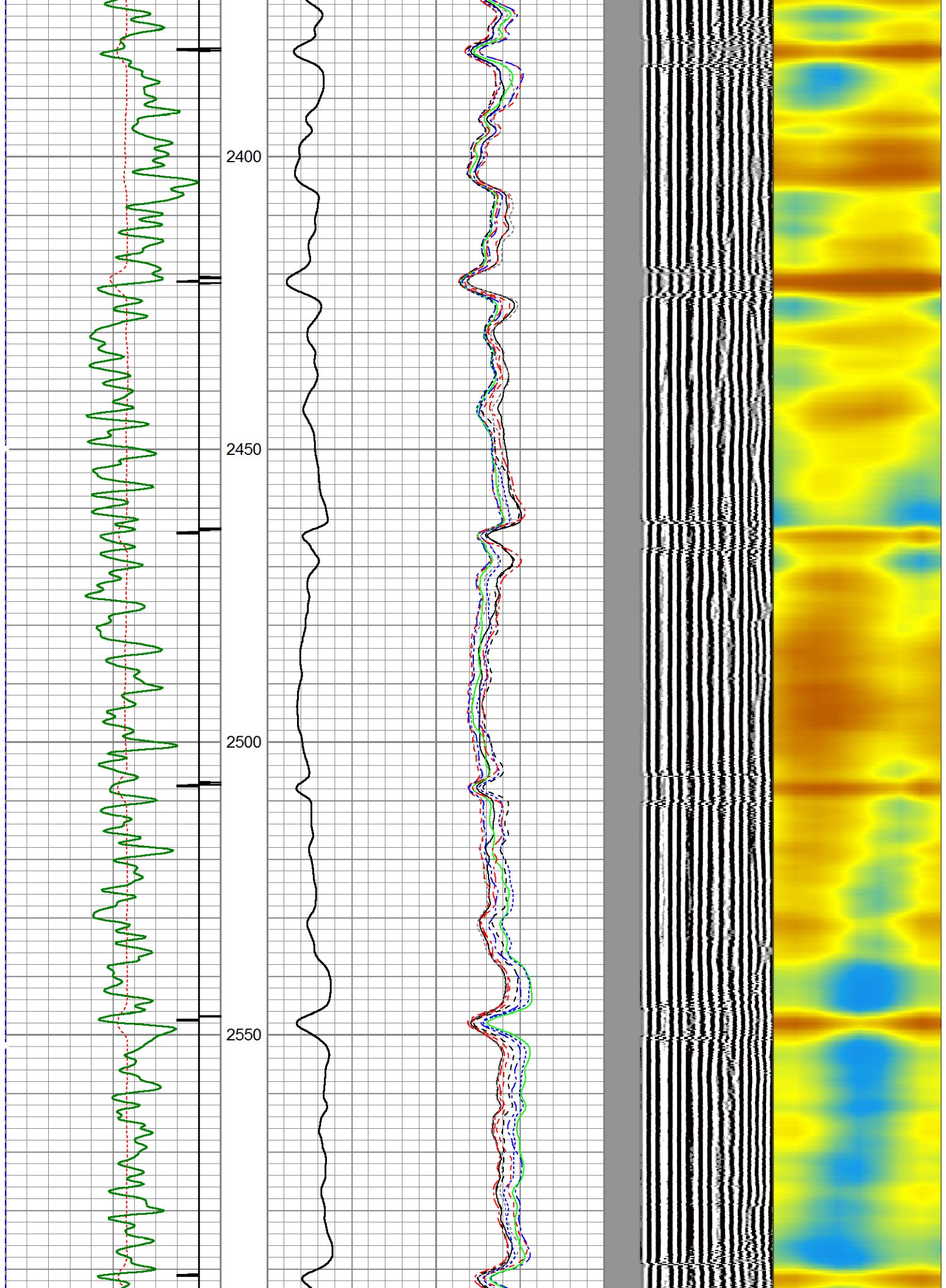


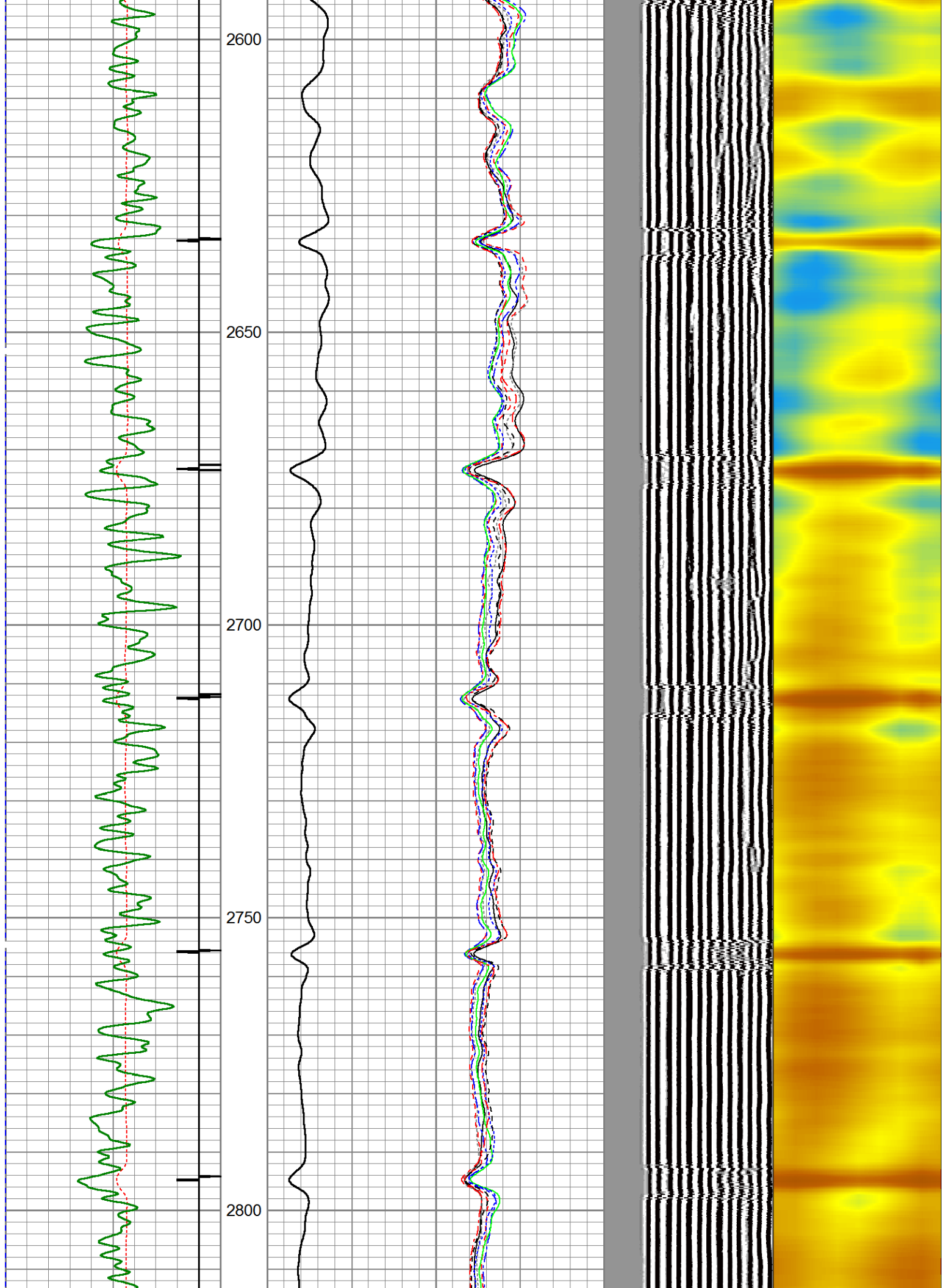


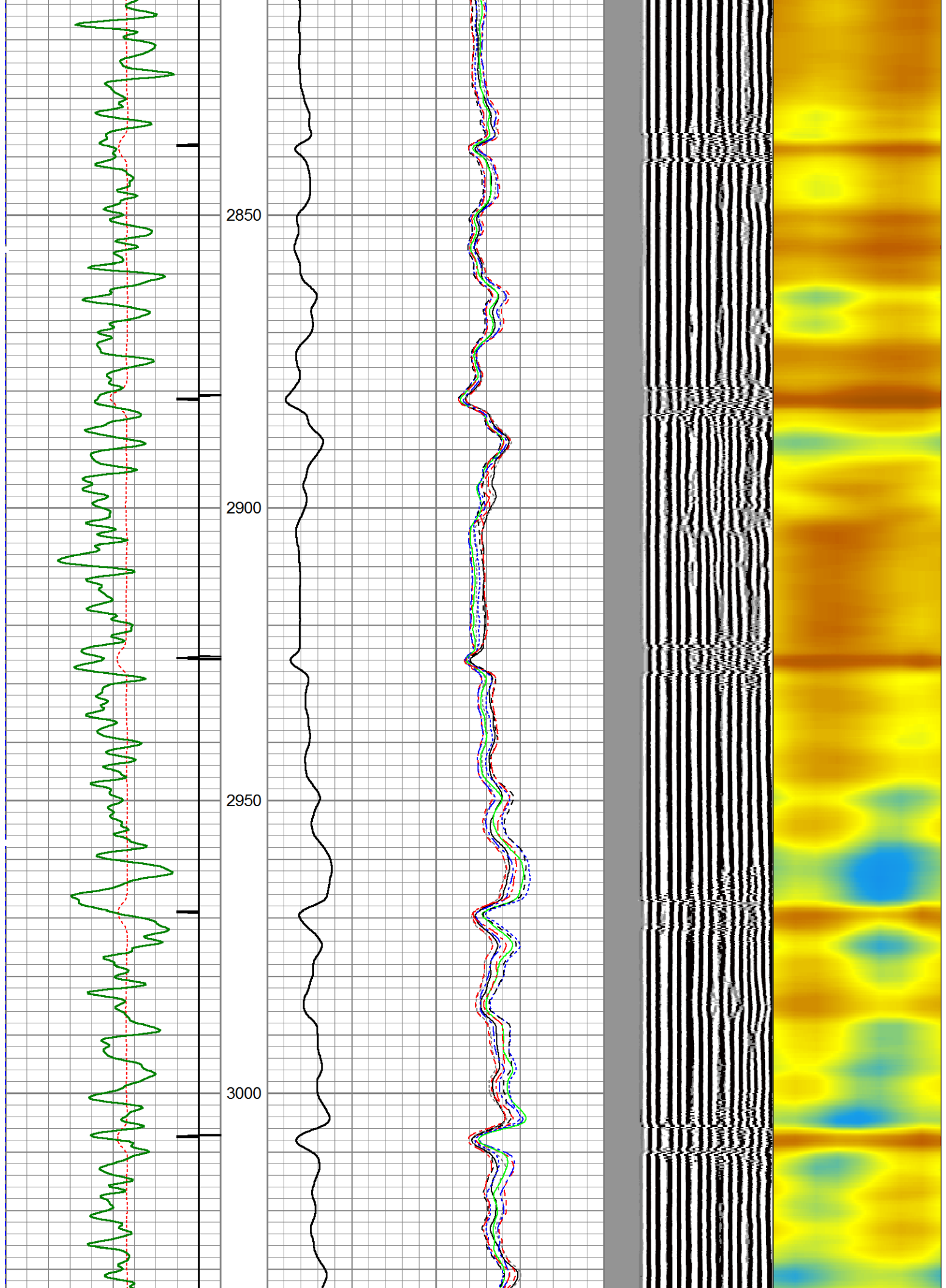


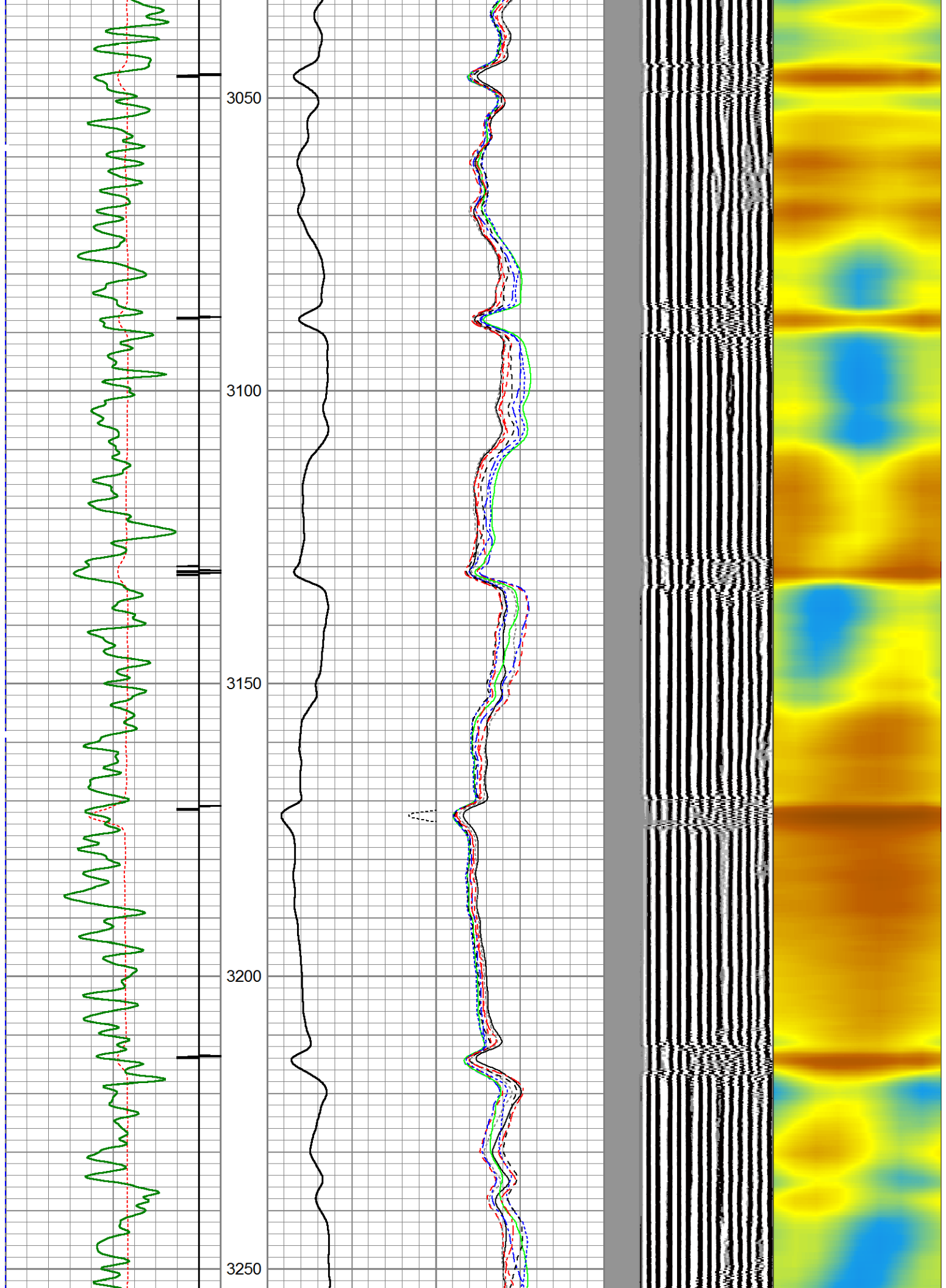


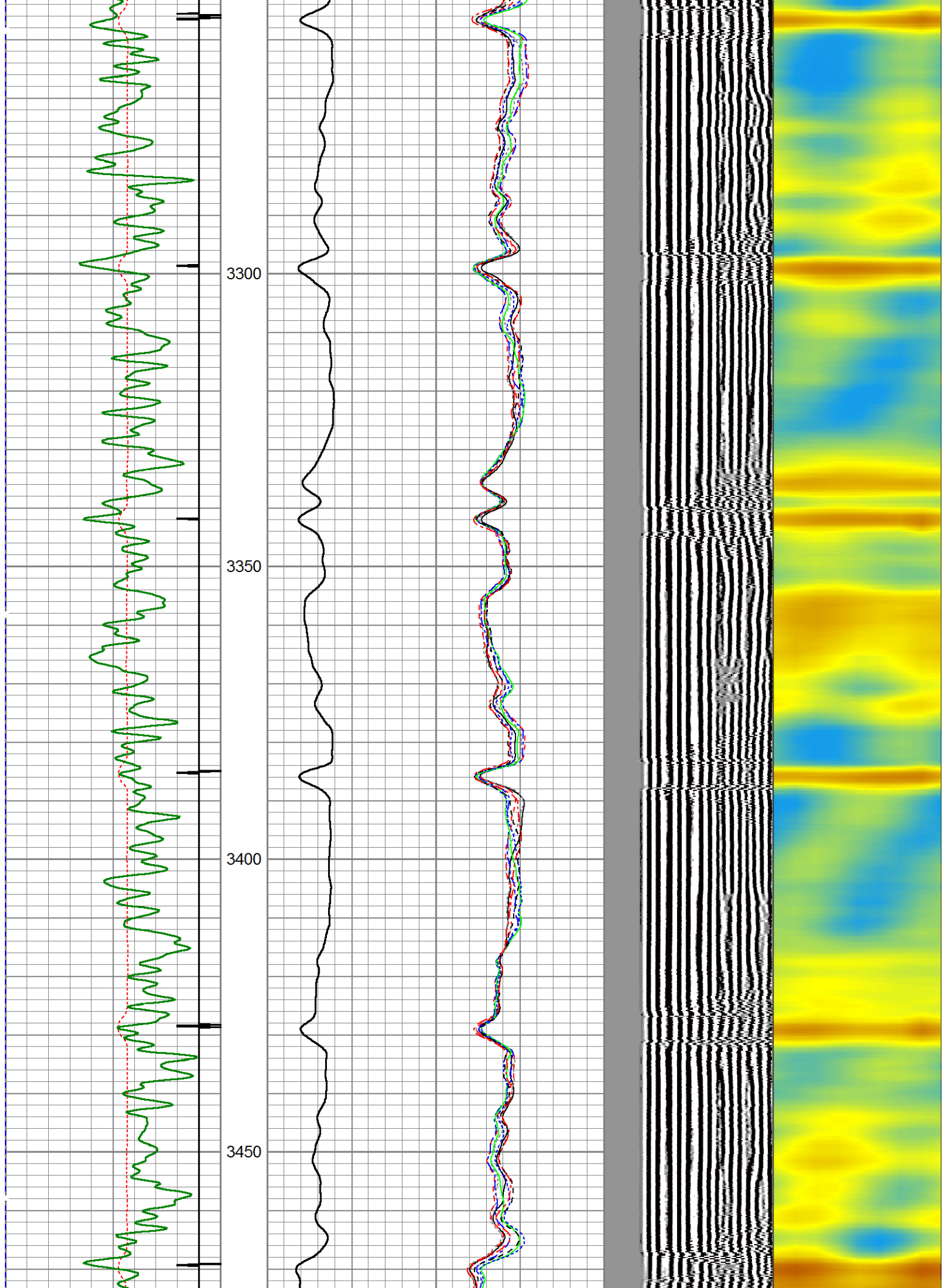


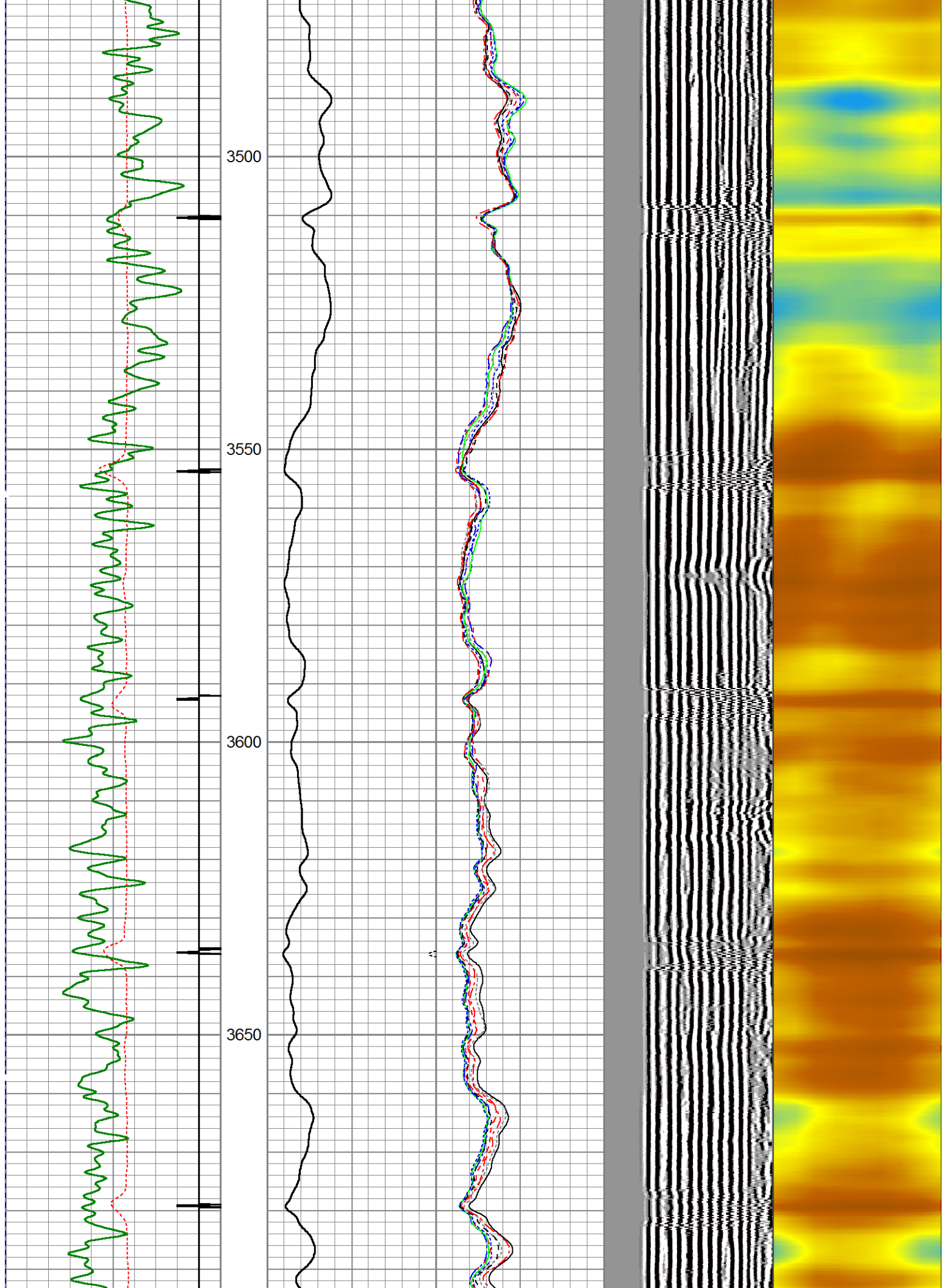


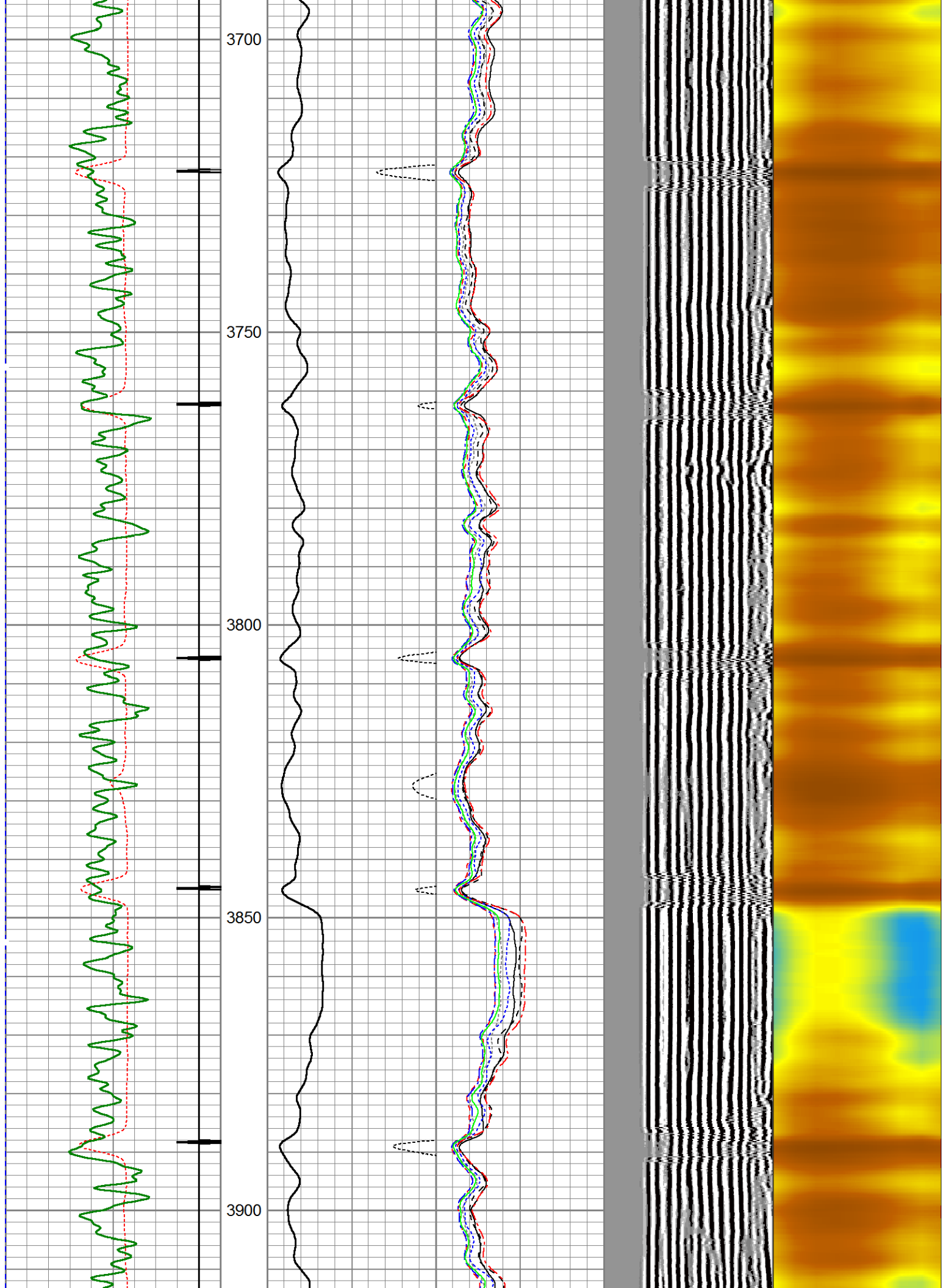


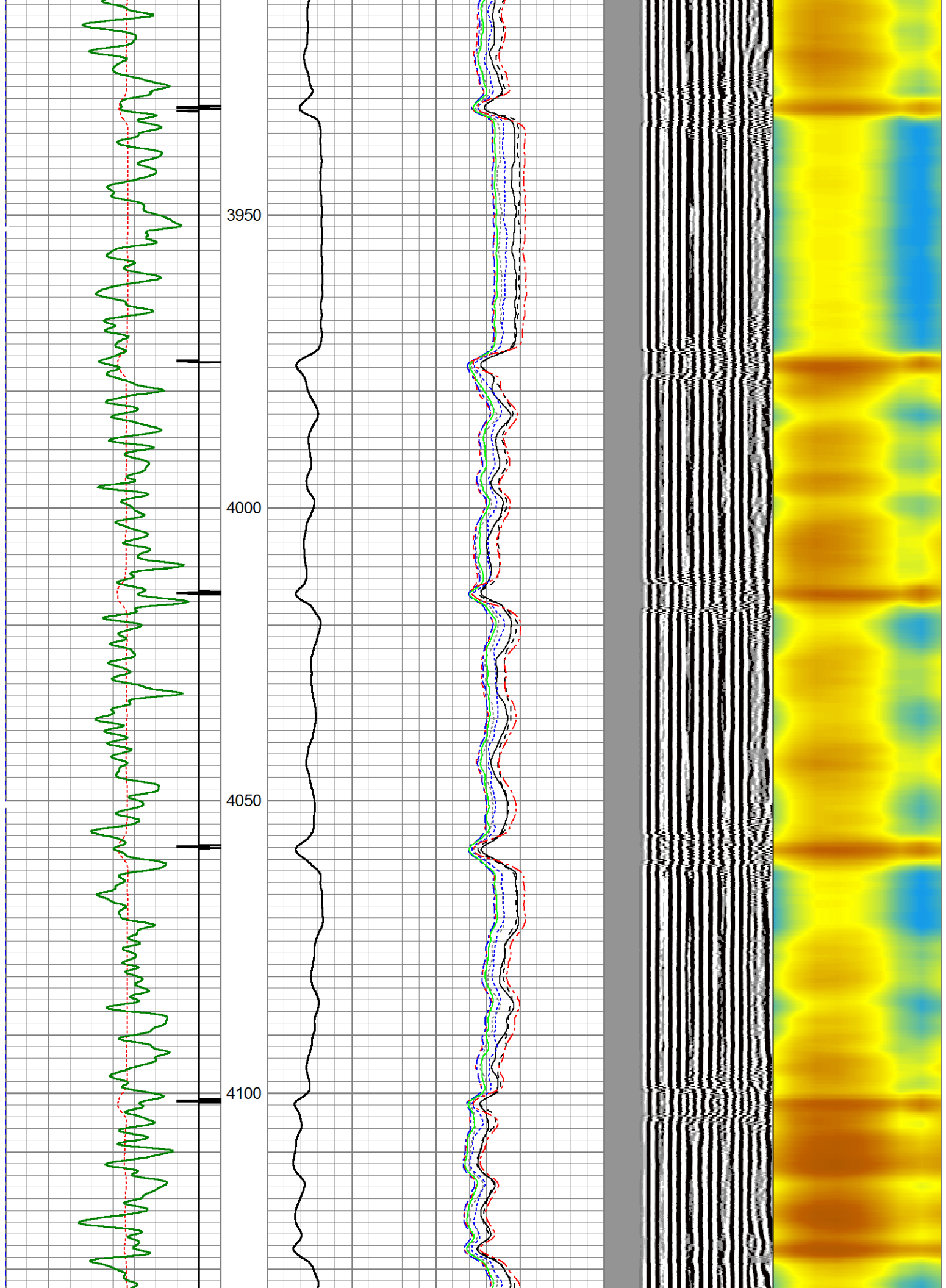


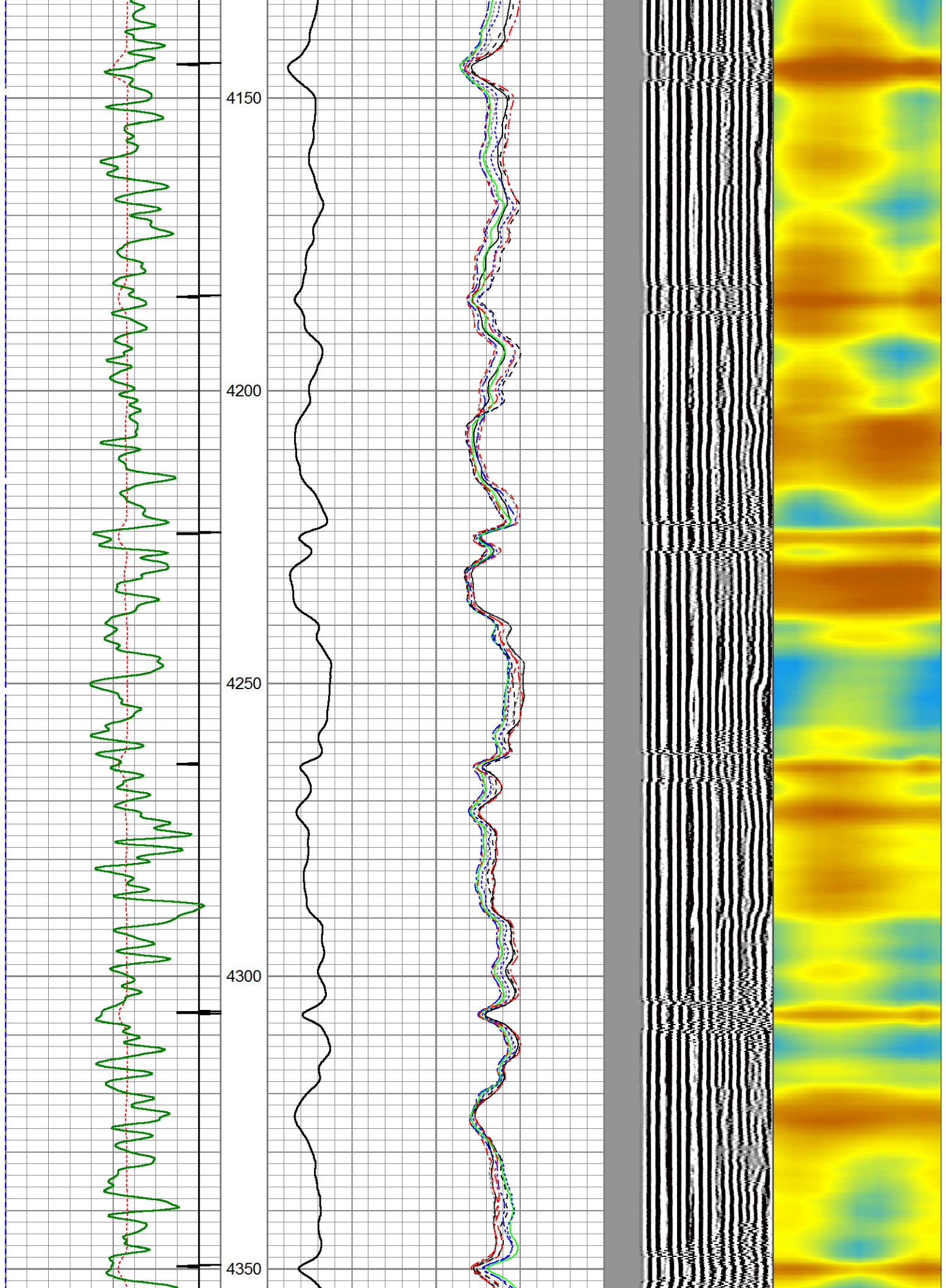


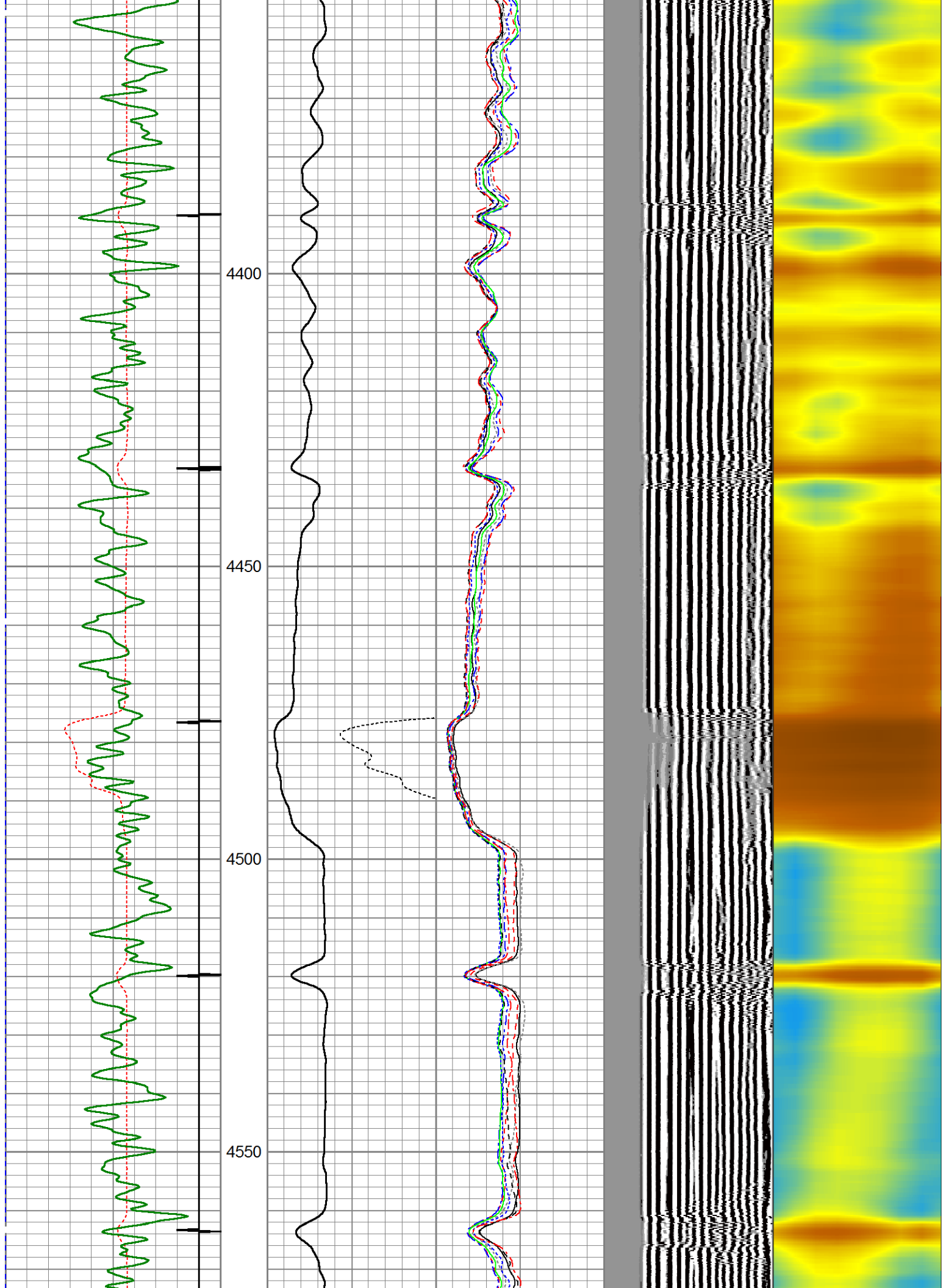


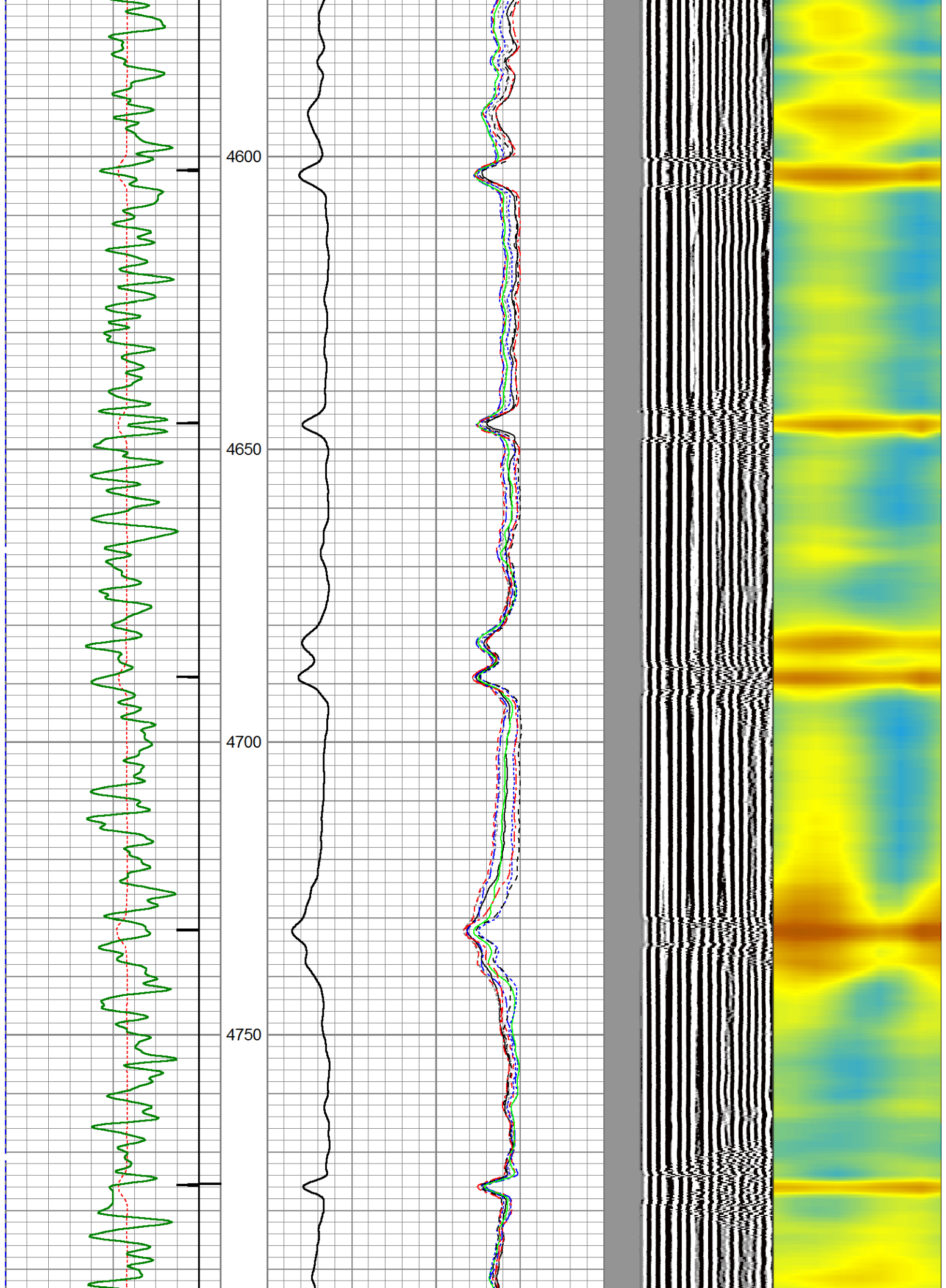


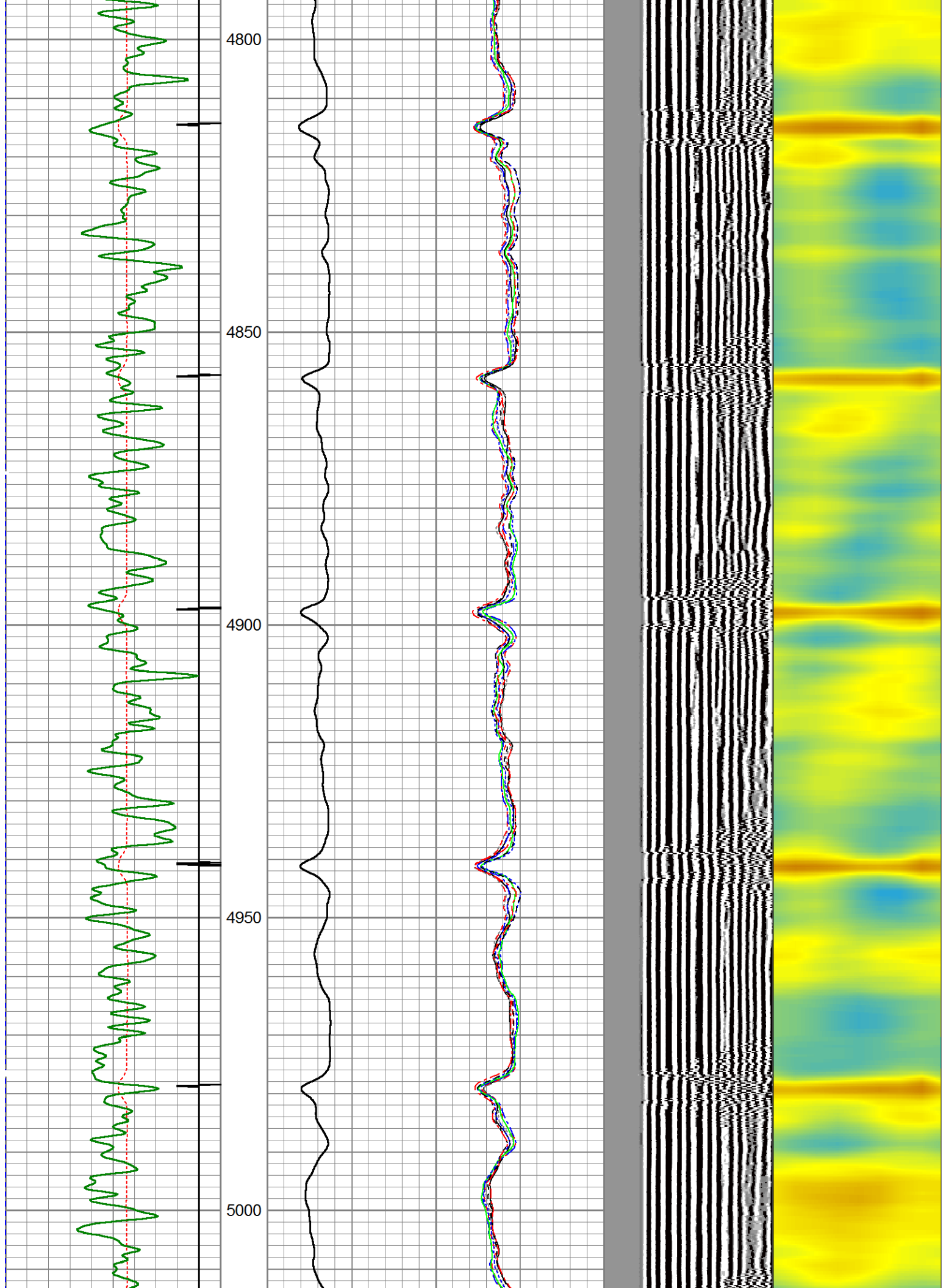


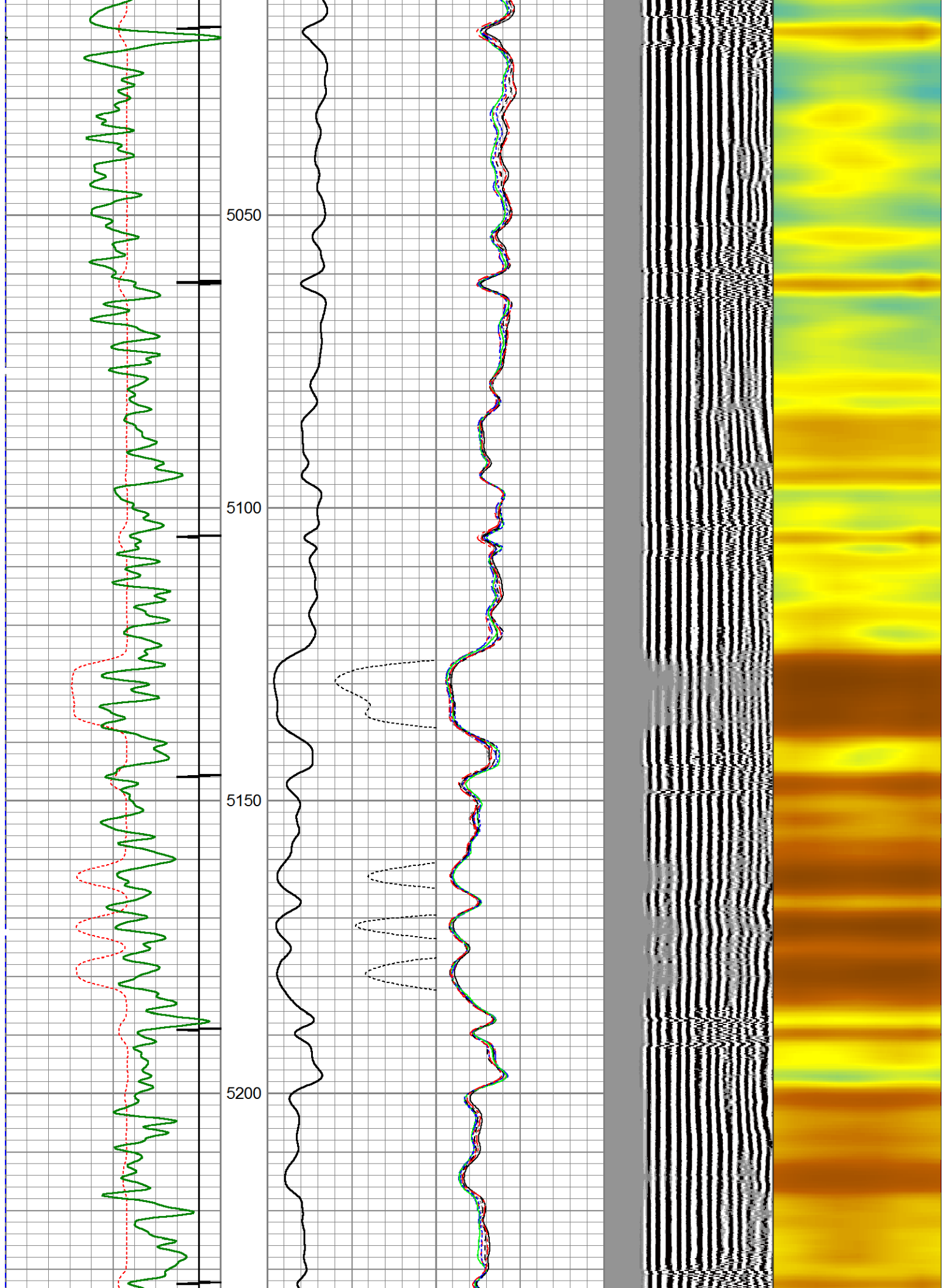


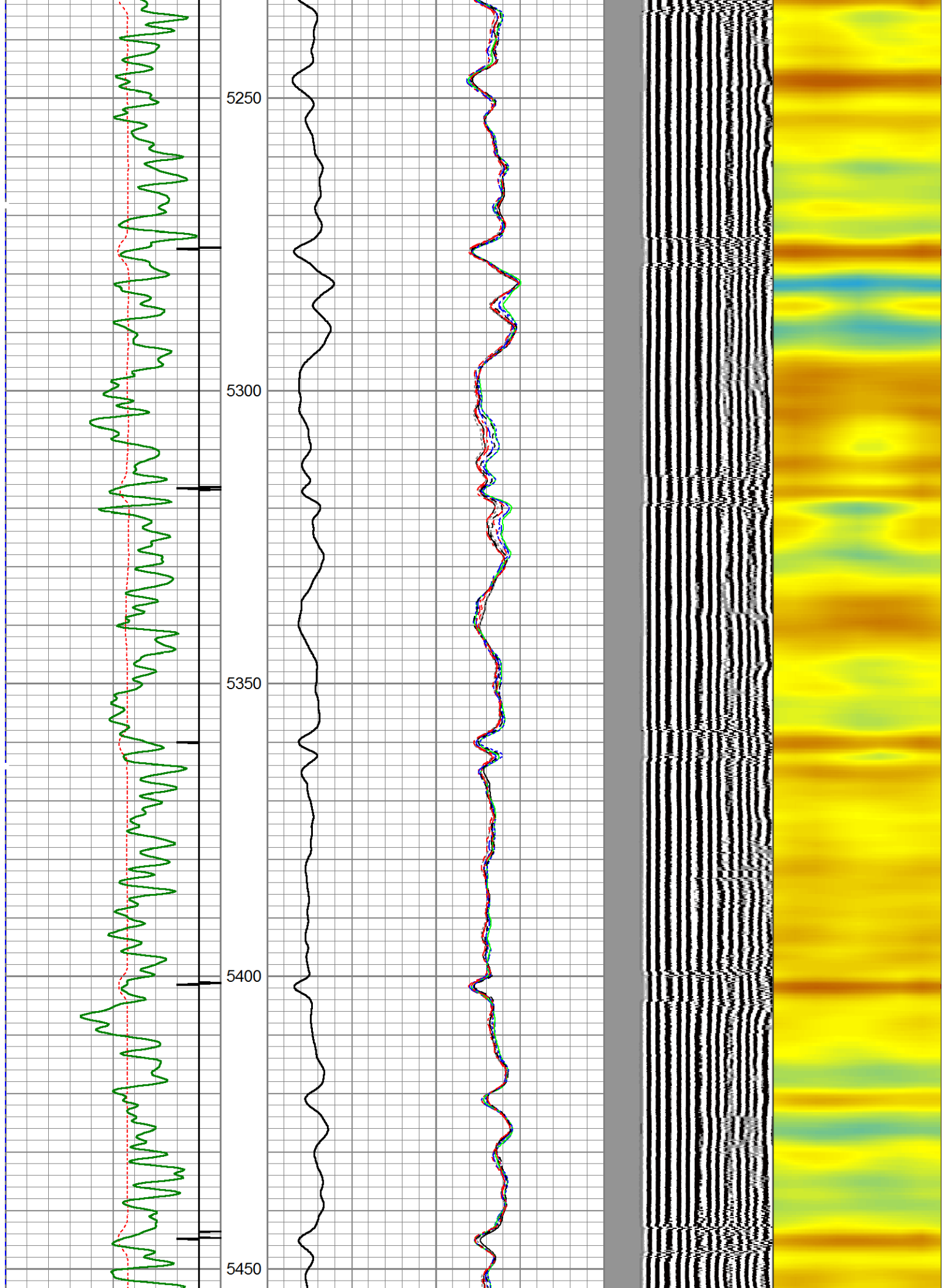


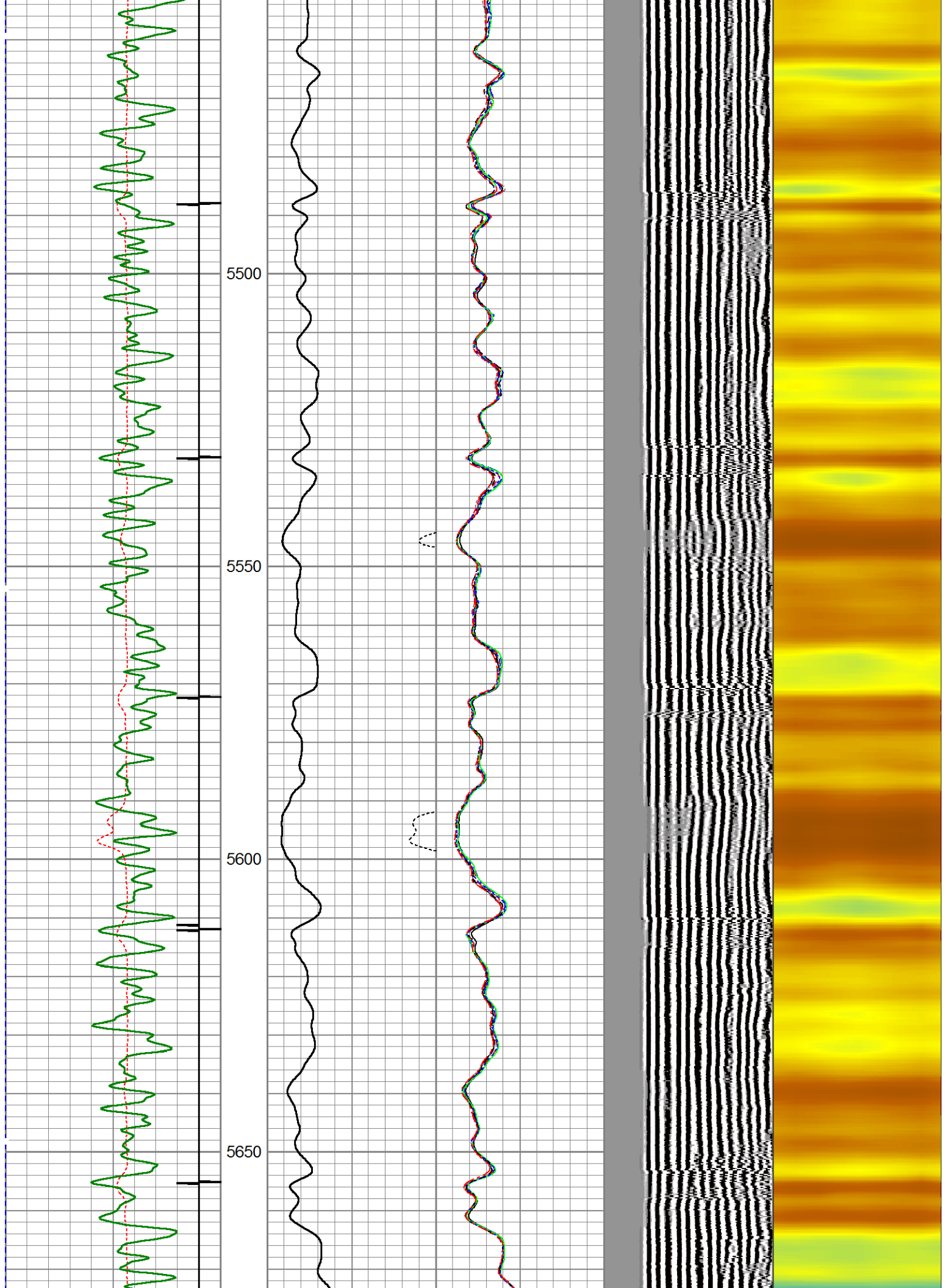


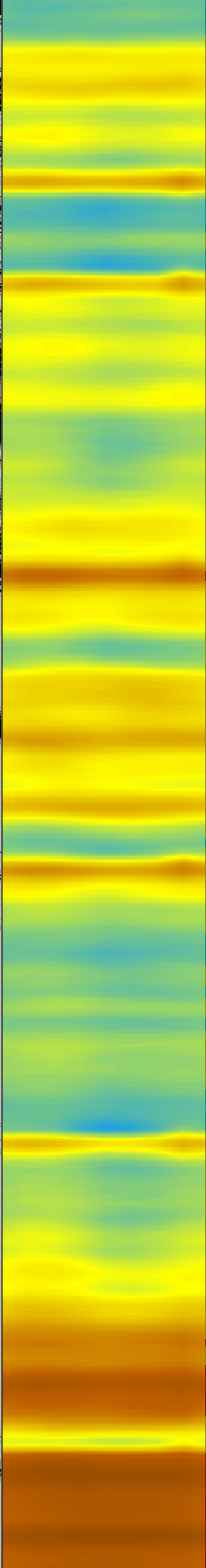
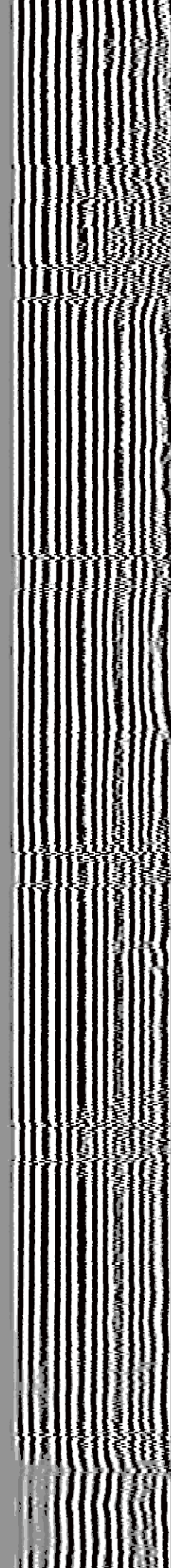
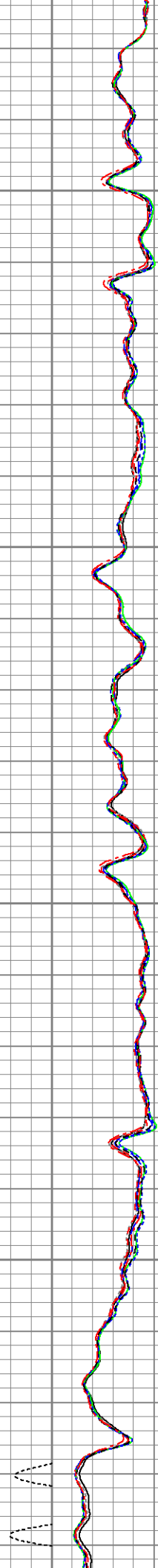
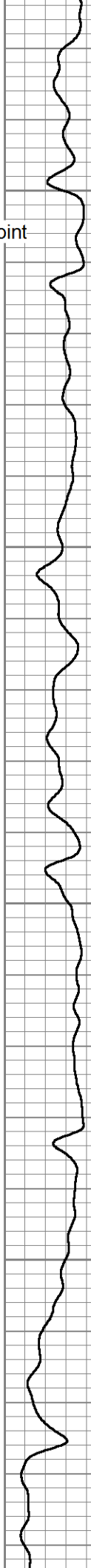
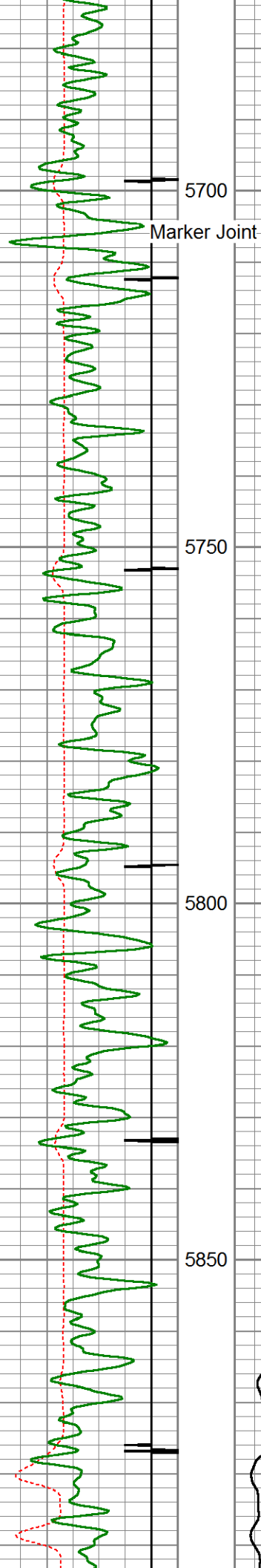


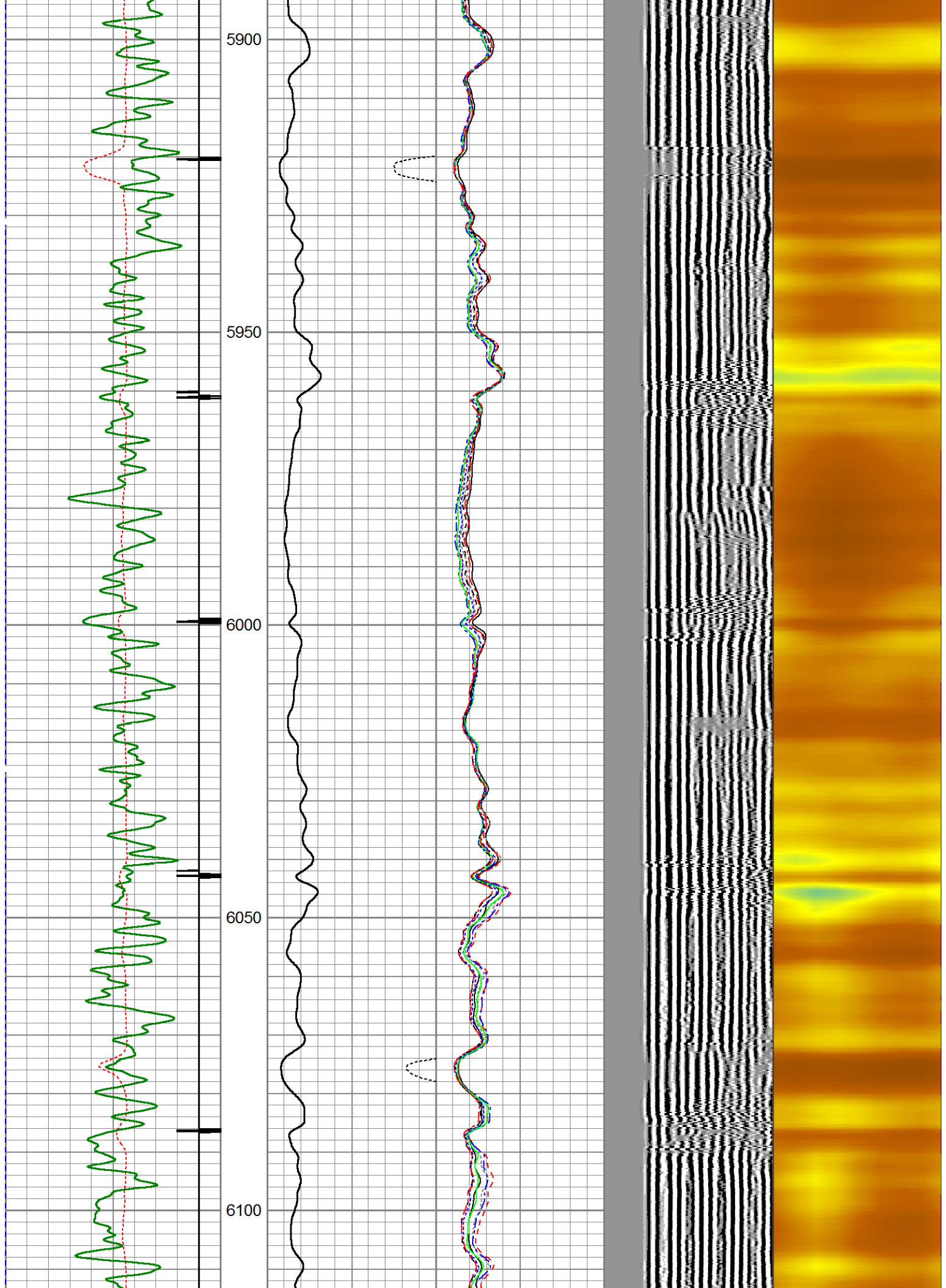


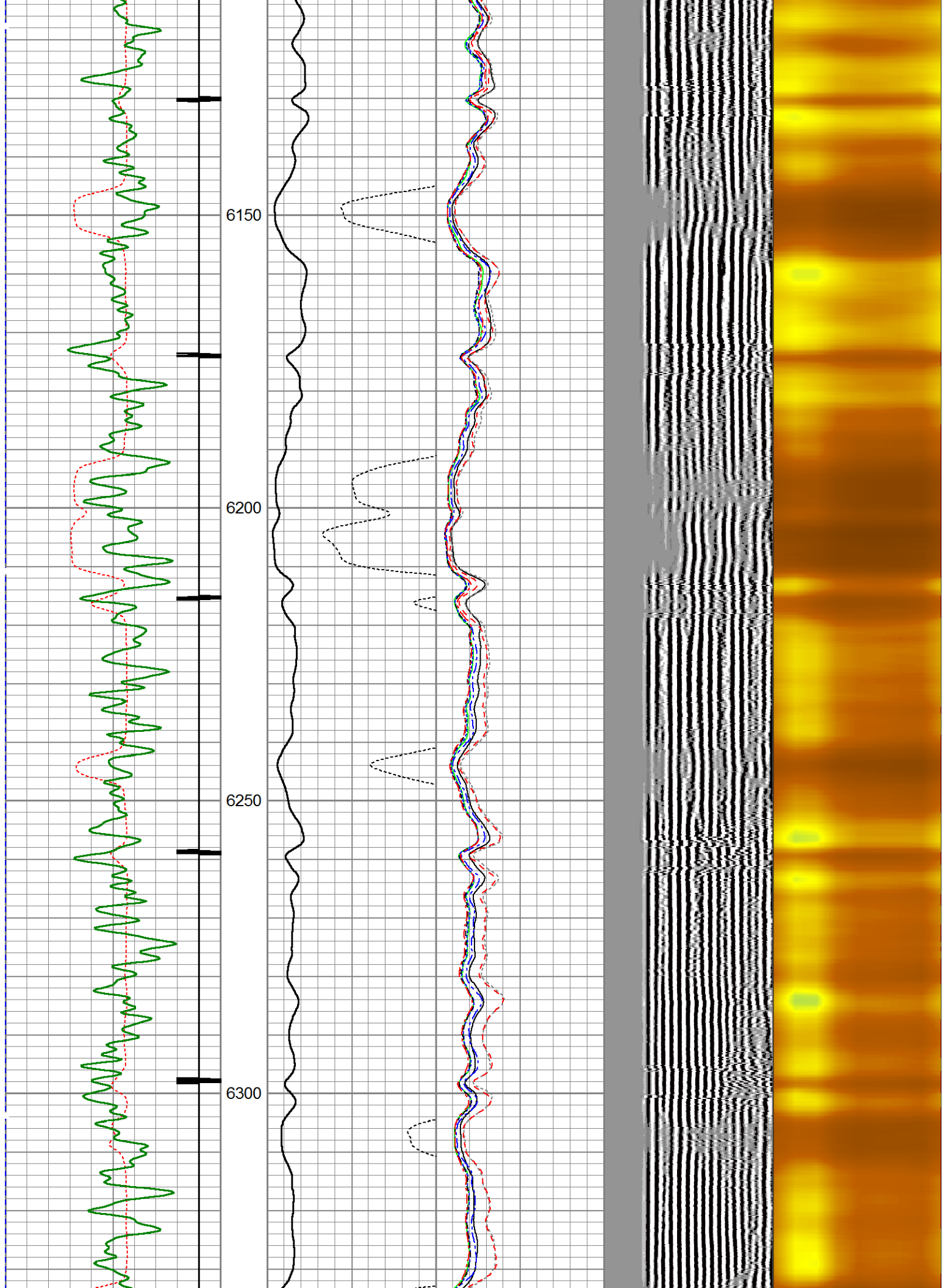


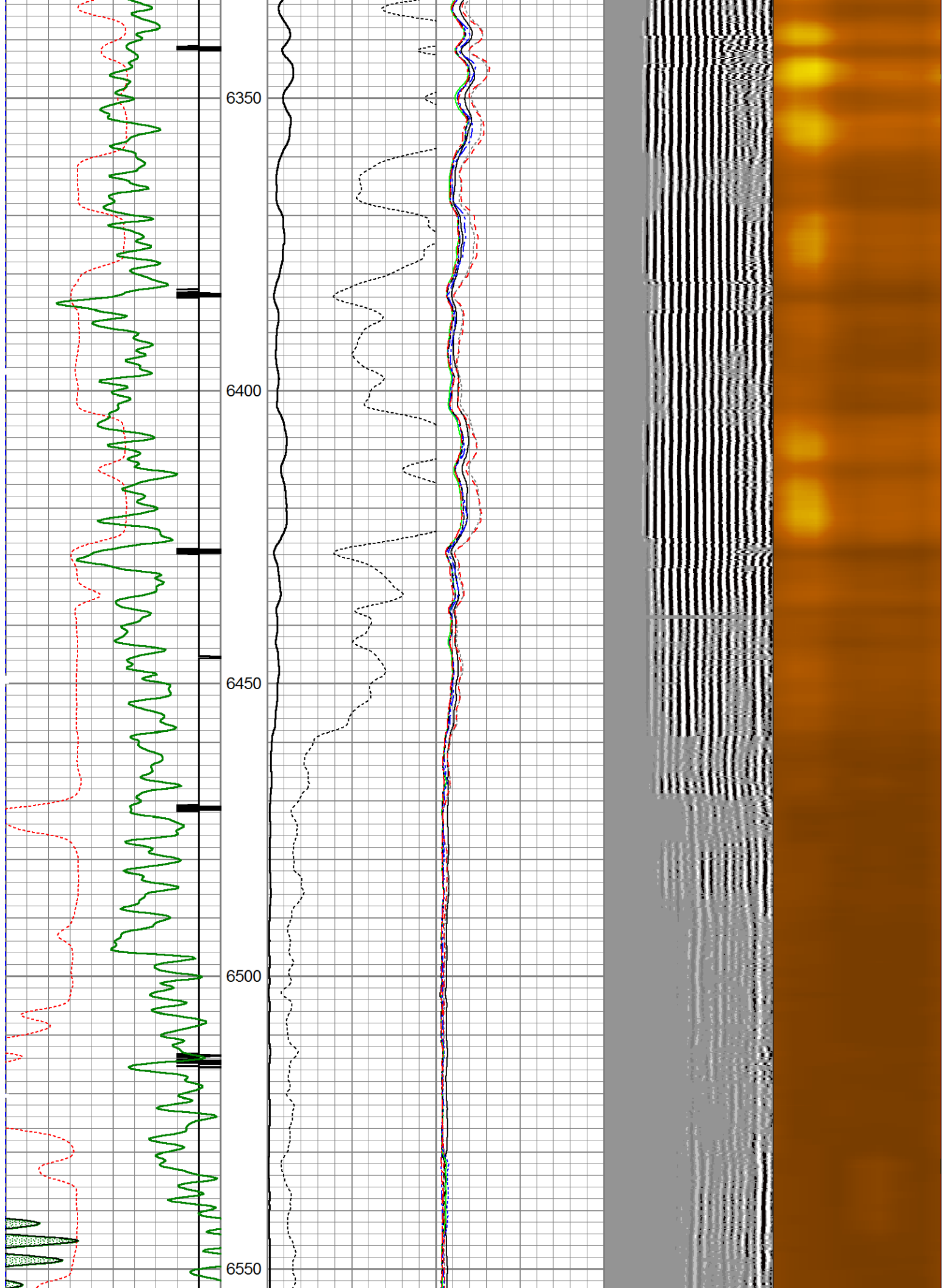


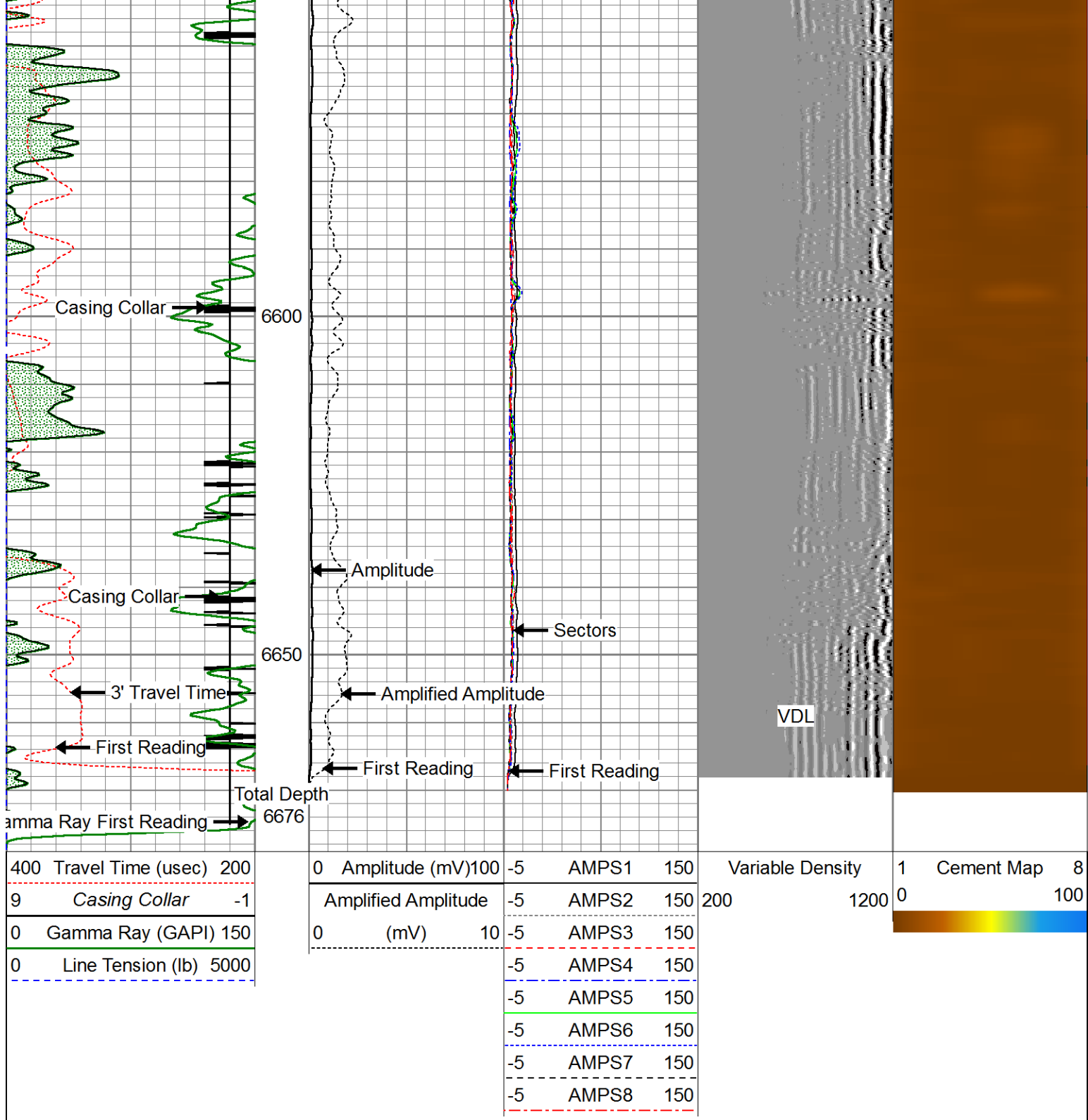















Repeat Pass

Logged at 0 PSI

Database File: k:\noble\ncip pc aa04-67-1hn_rcbl\noble ncip pc aa04-67-ihn.db

Dataset Pathname: pass4

Presentation Format: scbl03

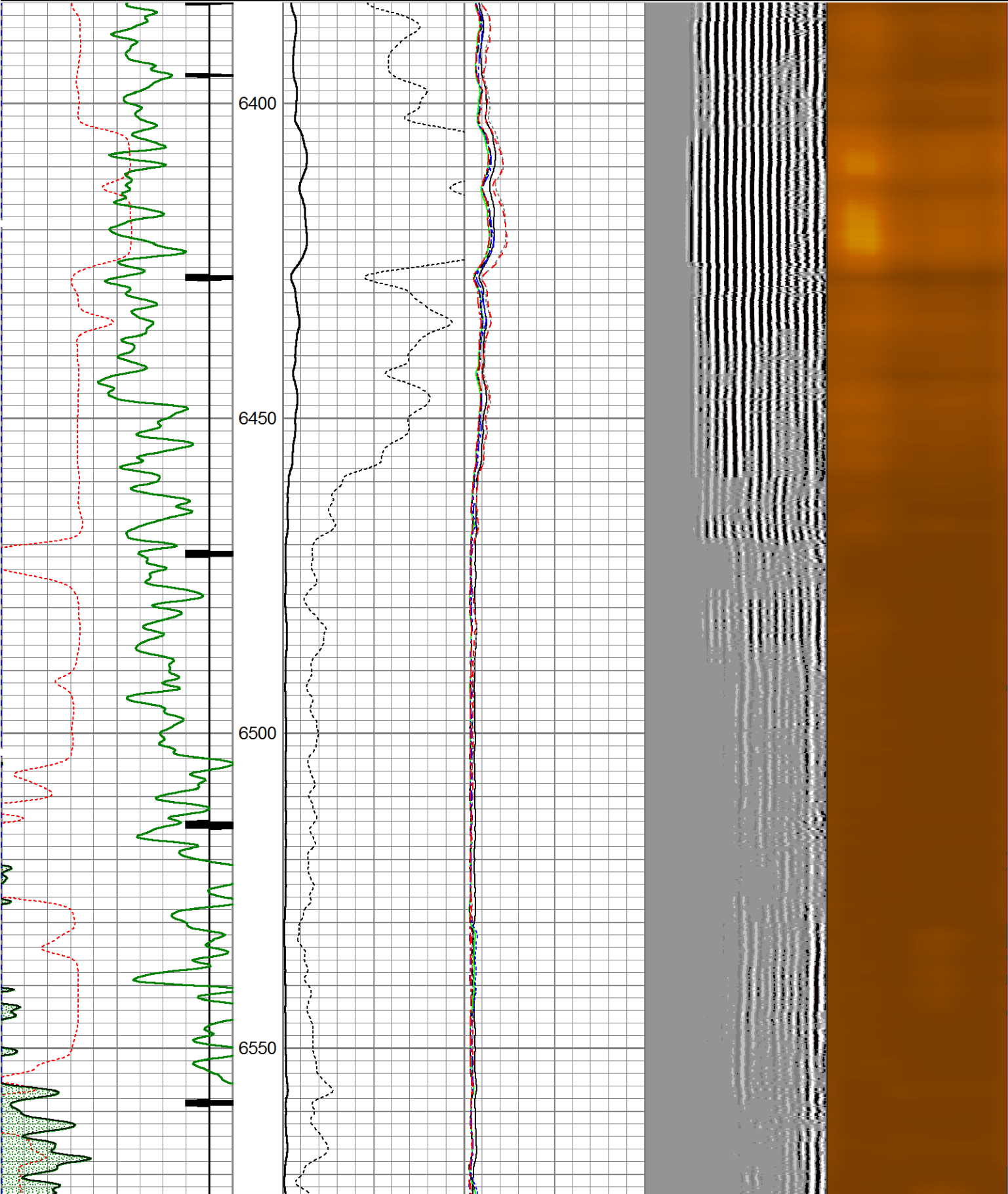
Dataset Creation: Wed Jan 08 13:39:02 2014 by Log 7.0 B1

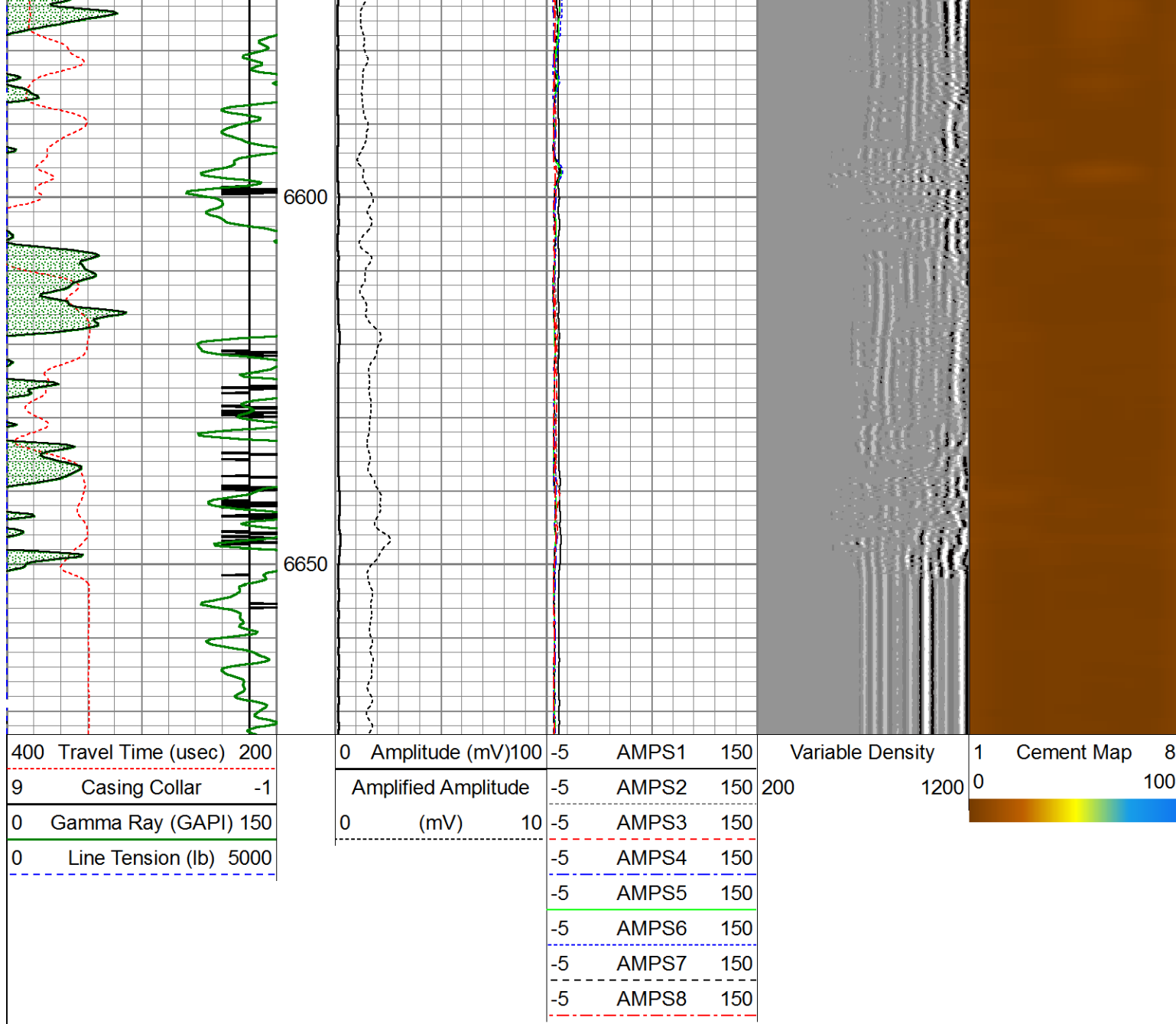
Charted by: Depth in Feet scaled 1:240

400	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	AMPS1	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1		Amplified Amplitude		-5	AMPS2	150	200	1200	0	100

0	Gamma Ray (GAPI) 150
0	Line Tension (lb) 5000

0	(mV)	10	-5	AMPS3	150
			-5	AMPS4	150
			-5	AMPS5	150
			-5	AMPS6	150
			-5	AMPS7	150
			-5	AMPS8	150





Calibration Report		
Database File:	K:\Noble\NCLP PC AA04-67-1HN_RCBL\noble nclp pc aa04-67-ihn.db	
Dataset Pathname:	pass5	
Dataset Creation:	Wed Jan 08 13:48:09 2014 by Log 7.0 B1	
Gamma Ray Calibration Report		
Serial Number:	101135-Dig	
Tool Model:	Probe275	
Performed:	Wed Jan 08 13:15:34 2014	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.8500	GAPI/cps
Segmented Cement Bond Log Calibration Report		
Serial Number:	101129	
Tool Model:	Probe	

Calibration Casing Diameter:	5.500	in
Calibration Depth:	719.167	ft

Master Calibration, performed Wed Jan 08 13:06:47 2014:

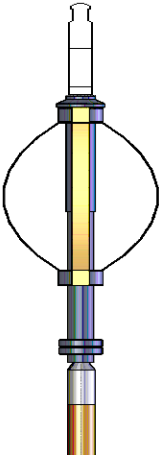
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.573	1.000	71.921	125.404	0.077
CAL	0.007	1.095				
5'	0.007	0.514	1.000	71.921	139.953	-0.034
SUM						
S1	0.007	0.595	0.000	100.000	170.195	-1.249
S2	0.007	0.580	0.000	100.000	174.755	-1.295
S3	0.007	0.590	0.000	100.000	171.722	-1.260
S4	0.007	0.577	0.000	100.000	175.527	-1.301
S5	0.007	0.562	0.000	100.000	180.313	-1.340
S6	0.007	0.557	0.000	100.000	181.798	-1.345
S7	0.007	0.553	0.000	100.000	183.283	-1.354
S8	0.007	0.562	0.000	100.000	180.456	-1.339

Internal Reference Calibration, performed Mon Oct 10 09:42:03 2005:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.007	1.095	1.000	0.000

Air Zero Calibration, performed Wed Jan 08 12:56:43 2014:

	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	

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			Titan Cable_head	1.00	1.44	10.00
			Probe275 2.75" Centralizer	2.88	2.75	20.00

Tool Name	Start Depth (ft)	End Depth (ft)	Tool Length (ft)	Tool Weight (lb)	Tool O.D. (in)
WVF3FT	11.84	11.84	0.00	0.00	0.00
WVFCAL	11.84	11.84	0.00	0.00	0.00
WVFS1	11.84	11.84	0.00	0.00	0.00
WVFS2	11.84	11.84	0.00	0.00	0.00
WVFS3	11.84	11.84	0.00	0.00	0.00
WVFS4	11.84	11.84	0.00	0.00	0.00
WVFS5	11.84	11.84	0.00	0.00	0.00
WVFS6	11.84	11.84	0.00	0.00	0.00
WVFS7	11.84	11.84	0.00	0.00	0.00
WVFS8	11.84	11.84	0.00	0.00	0.00
WVF5FT	10.84	11.84	1.00	0.00	0.00
RBT-Probe (101129)	8.75	11.84	3.09	90.00	2.75
Probe Radii Bond Tool with Digital Telemetry					
Probe275	2.88	5.66	2.78	20.00	2.75
2.75" Centralizer					
CCL	3.88	3.88	0.00	0.00	0.00
GR	2.54	7.32	4.78	57.00	2.75
GR-Probe275 (101135-Dig)					
Probe 2 3/4" Logging Gamma Ray					
Dataset: noble nclp pc aa04-67-ihn.db: field/well/run1/pass5 Total Length: 20.28 ft Total Weight: 197.00 lb O.D.: 2.75 in					