



# RADIAL ANALYSIS BOND LOG

**Baker Atlas**

File No:	Company	WPX ENERGY
GH072039	Well	FEDERAL RGU 24-23-198
API No:	Field	SULPHUR CREEK
06103117870000	County	RIO BLANCO
	State	COLORADO

23 1S 98W	Location	SHL: 1785' FSL, 1921' FWL	Other Services	RPMTTEMP
RGU 24-23-198 PAD		BHL: 1299' FSL, 1897' FWL		
CYCLONE 29	SEC 23	TWP 15	RGE 98W	

Permanent Datum	GL	Elevation	6545 ft	Elevations
Log Measured From	KB	21 ft	Above P. D.	KB 6566 ft
Drill Measured From	KELLY BUSHING			DF
				GL 6545 ft

Date	12/MAY/13
Run	ONE
Service Order	679125
Depth Driller	12464 ft
Depth Logger	12395 ft
Bottom Logged Interval	12393 ft
Top Logged Interval	21 ft
Time Started	0800
Time Finished	1330
Operator Rig Time	5.5 HRS
Type of Fluid in Hole	WATER
Fluid Density	NA
Salinity	NA
Fluid Level	91 ft
Logged Cement Top	NA
Wellhead Pressure	0 psi
Maximum Hole Deviation	NA
Nominal Logging Speed	45 fpm
Maximum Recorded Temperature	252 degF
Reference Log	BAKER HUGHES HDIL/ZDL/CN/GR
Reference Log Date	28/APR/13
Equipment No.	4271
Location	FLOYD RENEAU
Recorded By	GRAND JCT
Witnessed By	WAYNE MARCOTTE

- FOLD HERE

In making interpretations of logs, our employees will give the customer the benefit of their best judgement. But since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

Borehole Record		
Bit Size	From	To
13.4 in	0 ft	3839 ft
7.875 in	3839 ft	12464 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in	32 lbm/ft		0 ft	3839 ft
4.6 in	11.6 lbm/ft	P-110	0 ft	12464 ft

**Remarks**

All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes HDIL/ZDL/CN/GR open hole log dated 4/28/2013 at the clients request.

The amount of linear shift is 14.5 feet.

Logged with zero PSI at wellhead.

The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference.

BHT = 252°F

SJ = 7609'-7632'

Equipment Data

Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10404539	CENT
1	1	GRICCL	1355XA	10580209	CENT

*PRIMARY PRESENTATION*  
*0 PSI*

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	25.530	12406.500
RAL	Amp Gate Start Near	195.000	usec	25.530	12406.500
RAL	Amp Gate Start Radial	195.000	usec	25.530	12406.500
RAL	Amp Gate Width Far	30.000	usec	25.530	12406.500
RAL	Amp Gate Width Near	25.000	usec	25.530	12406.500
RAL	Amp Gate Width Radial	25.000	usec	25.530	12406.500
RAL	casing od	4.500	inches	25.530	12406.500
RAL	casing wt	11.600	lbm/ft	25.530	12406.500
RAL	FB Start Far	291.900	usec	25.530	12406.500
RAL	FB Start Near	180.000	usec	25.530	12406.500
RAL	FB Start Radial	180.000	usec	25.530	12406.500
RAL	FB Thresh Far	10.000	mV	25.530	12406.500
RAL	FB Thresh Near	4.000	mV	25.530	12406.500
RAL	FB Thresh Radial	4.000	mV	25.530	12406.500
RAL	Fluid Travel Time	200.000	usec/ft	25.530	12407.343

**DEPTH OFFSETS**  
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-11.000	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-10.040	AFAR	SIG	TT5			
1355XA	-5.620	CCL					
1355XA	-1.500	GR					
1355XA	0.000	TEMP					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

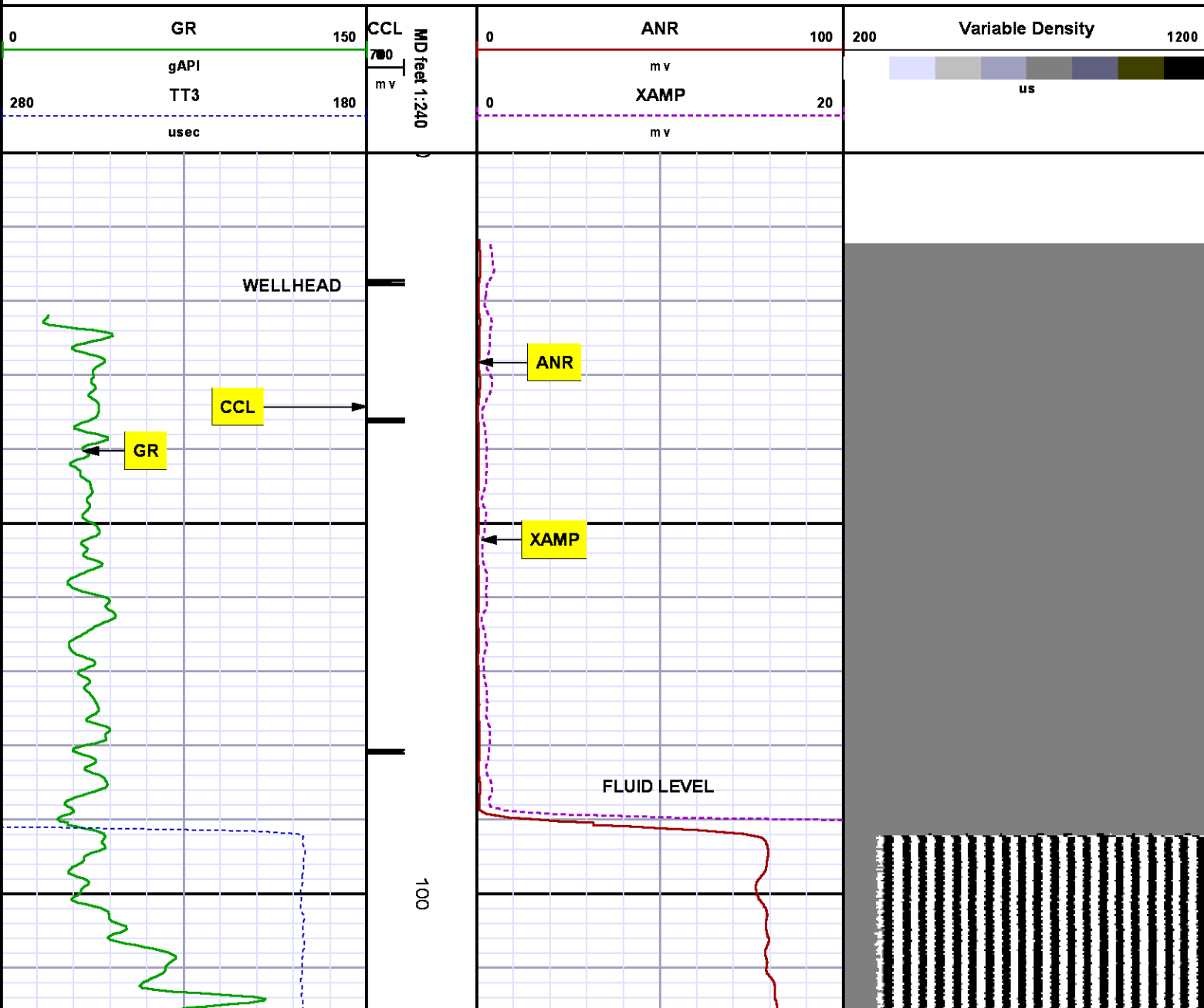
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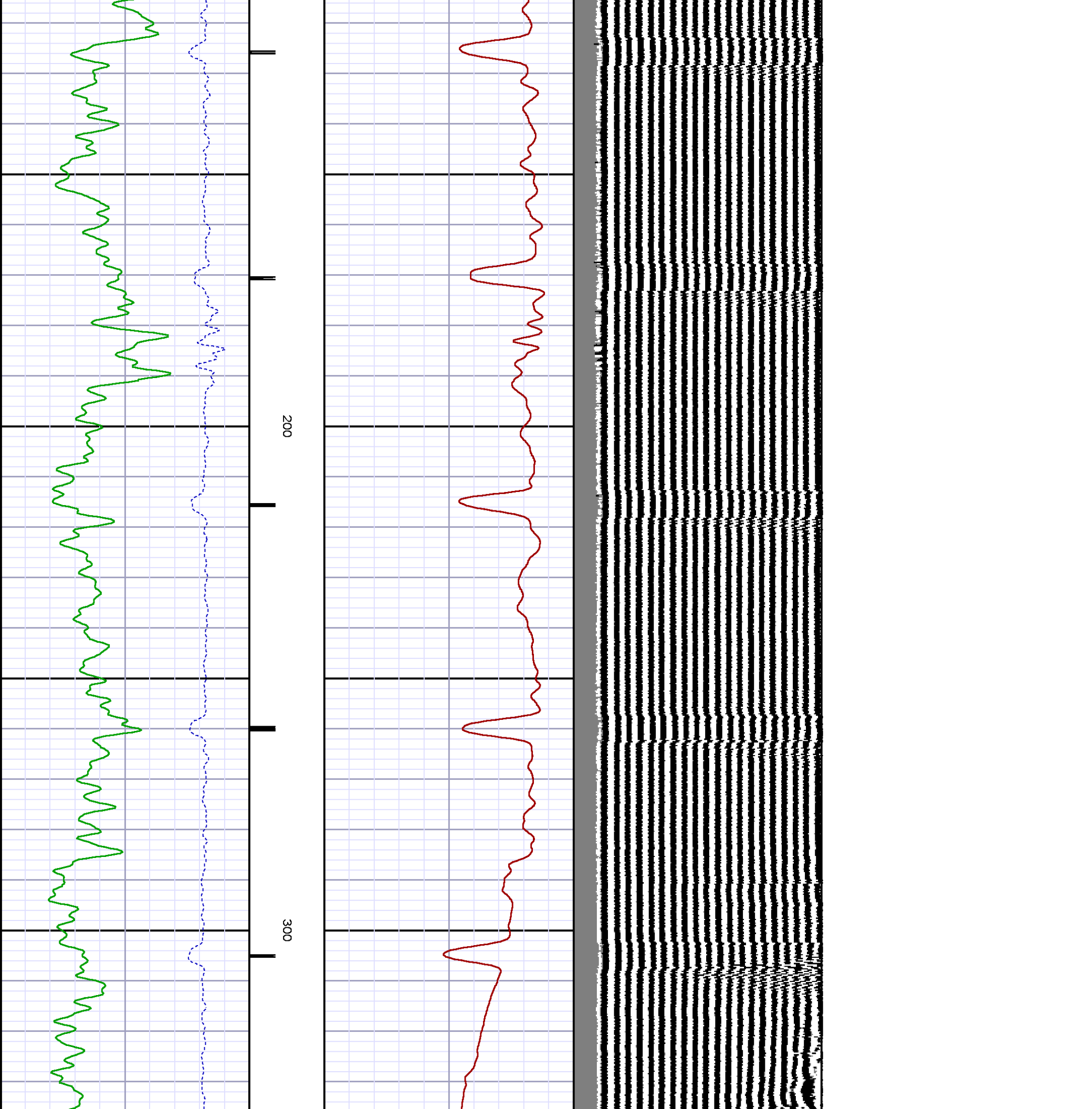
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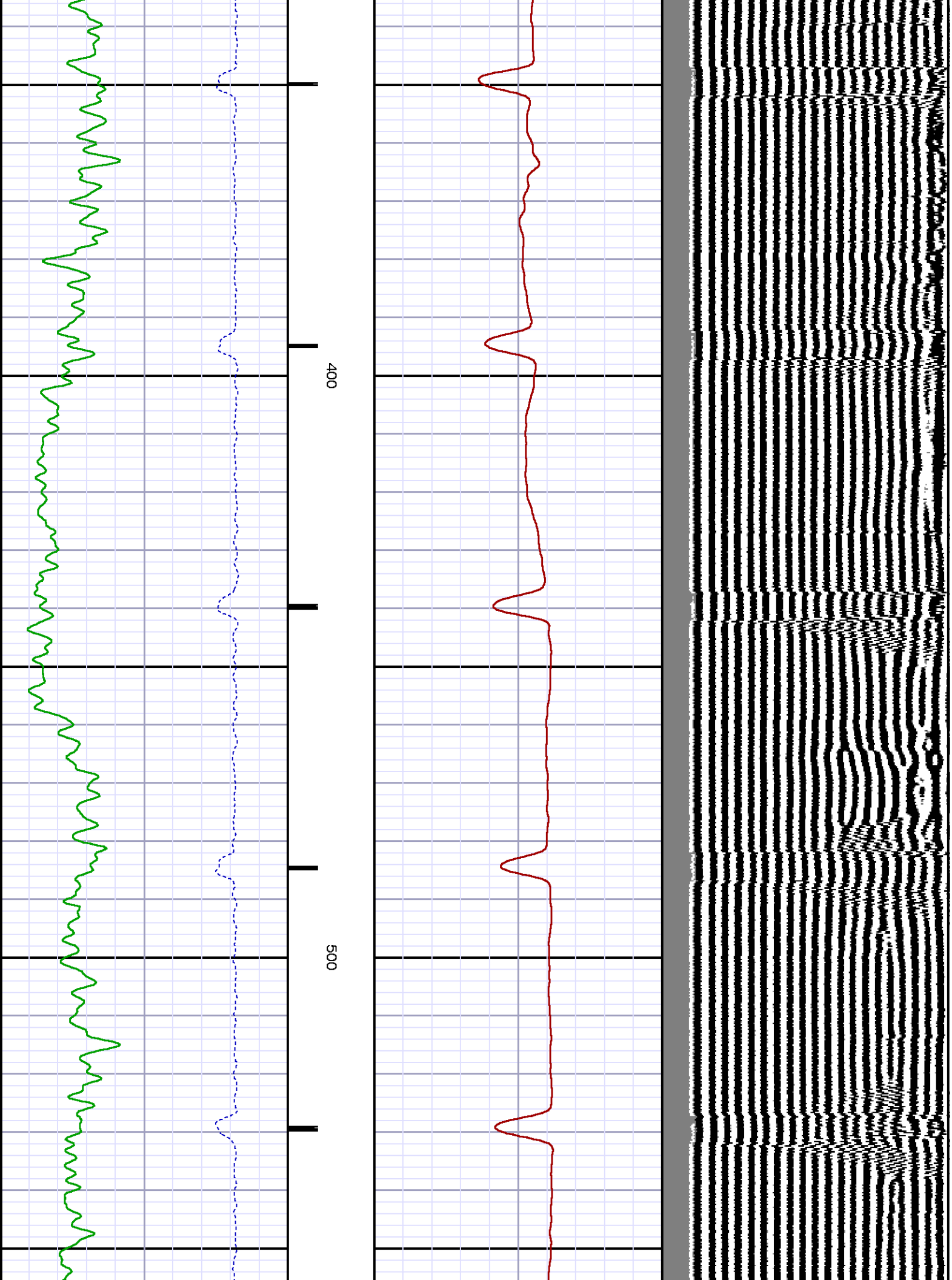
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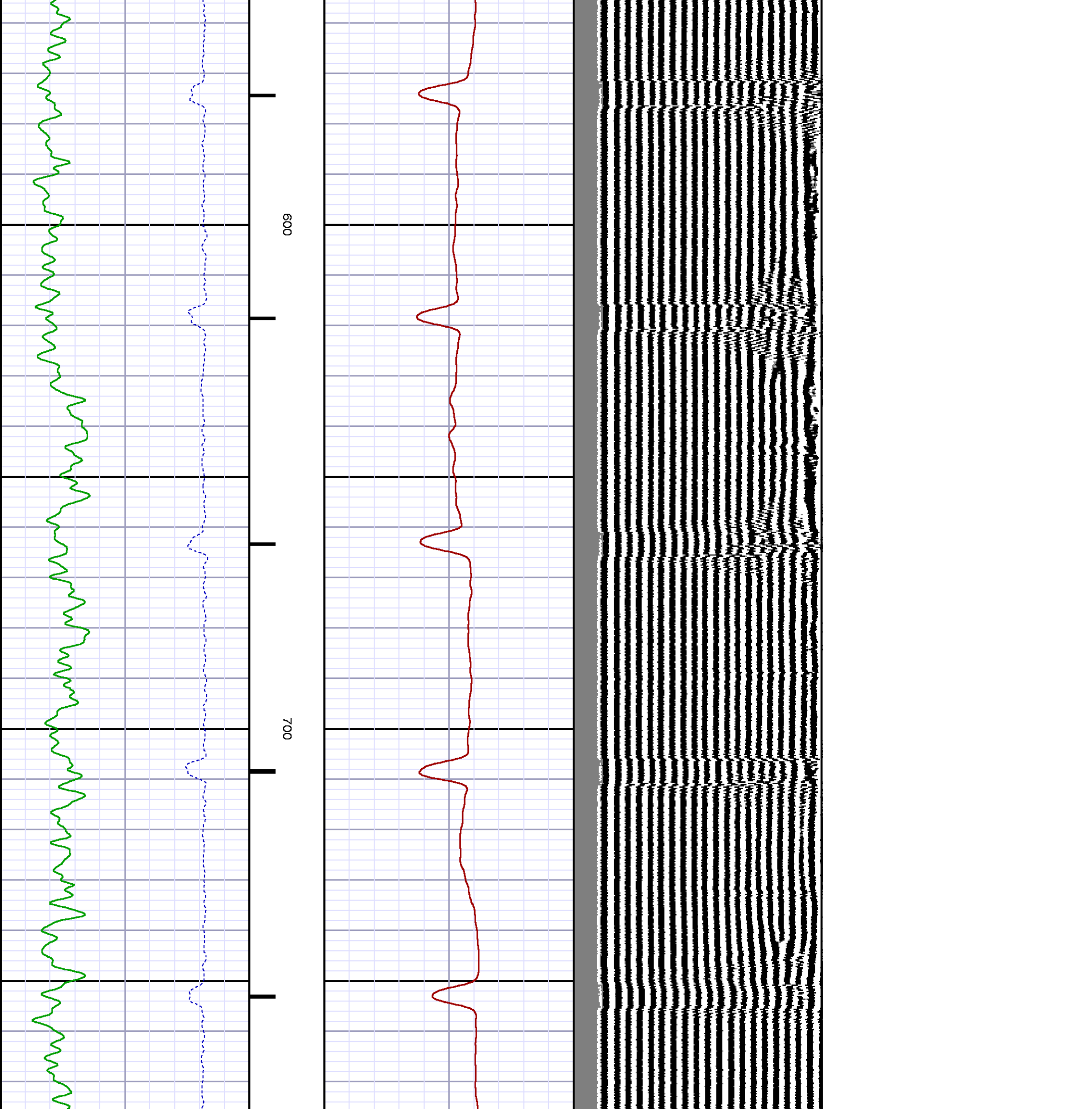
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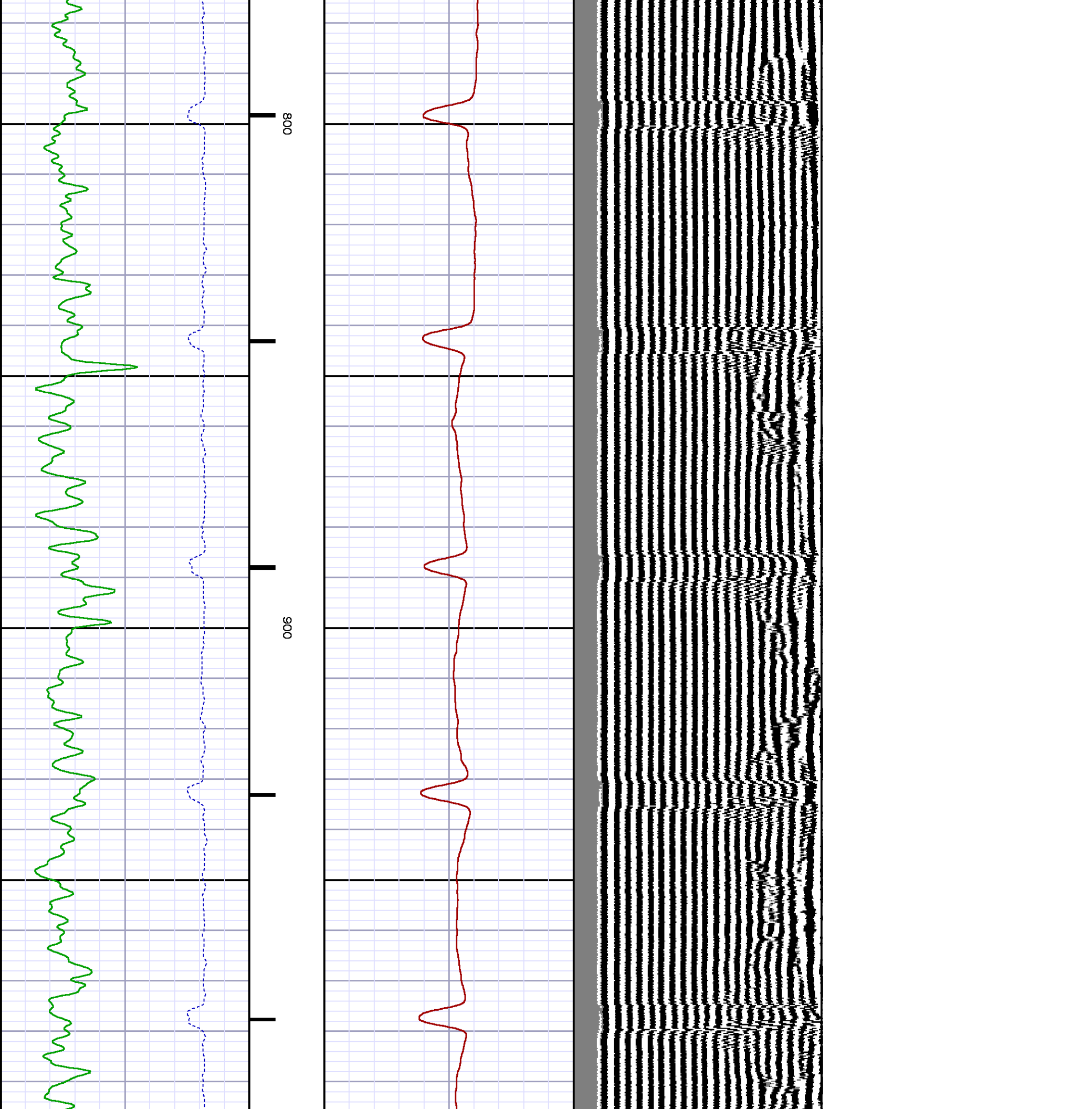
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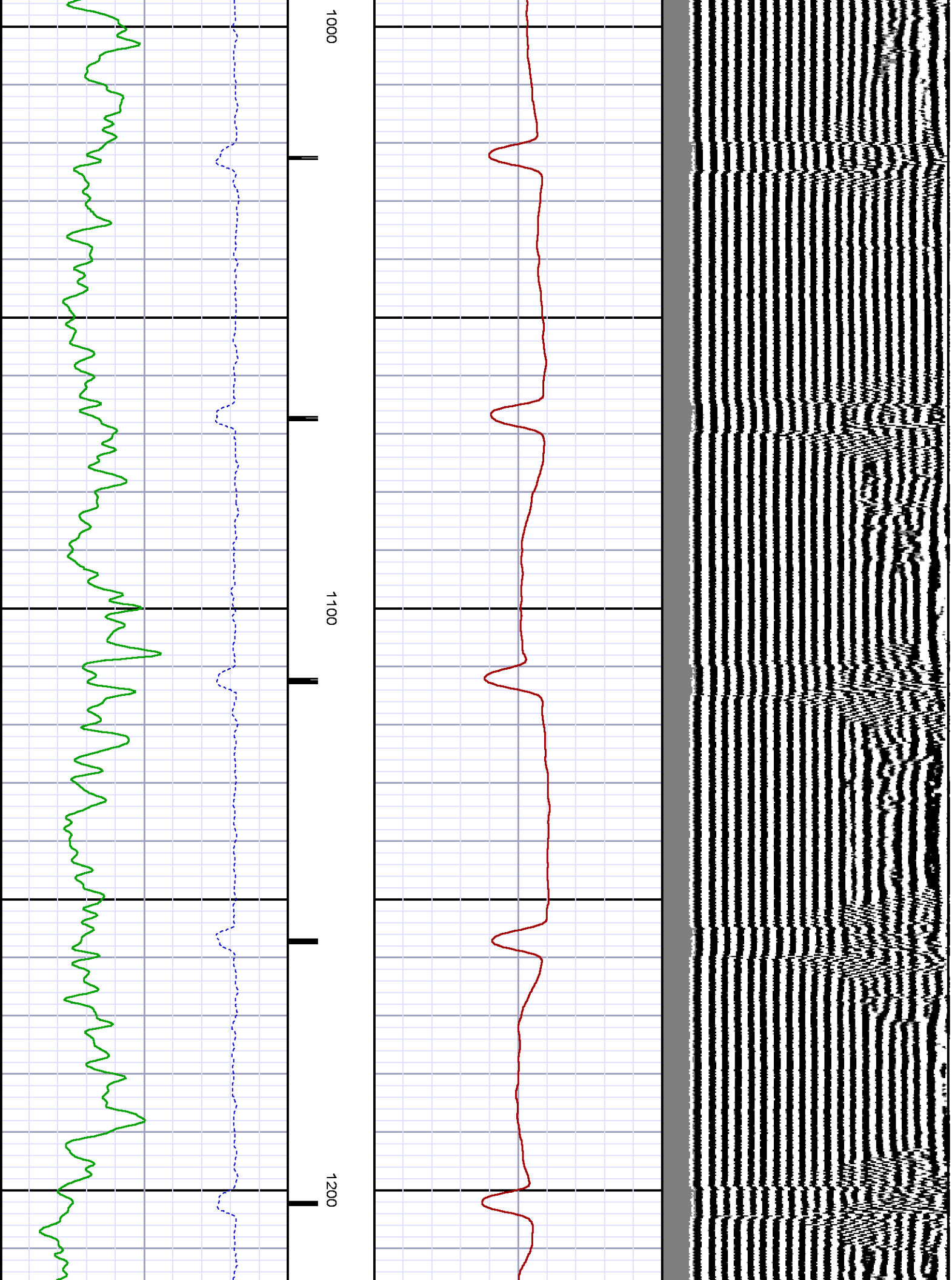


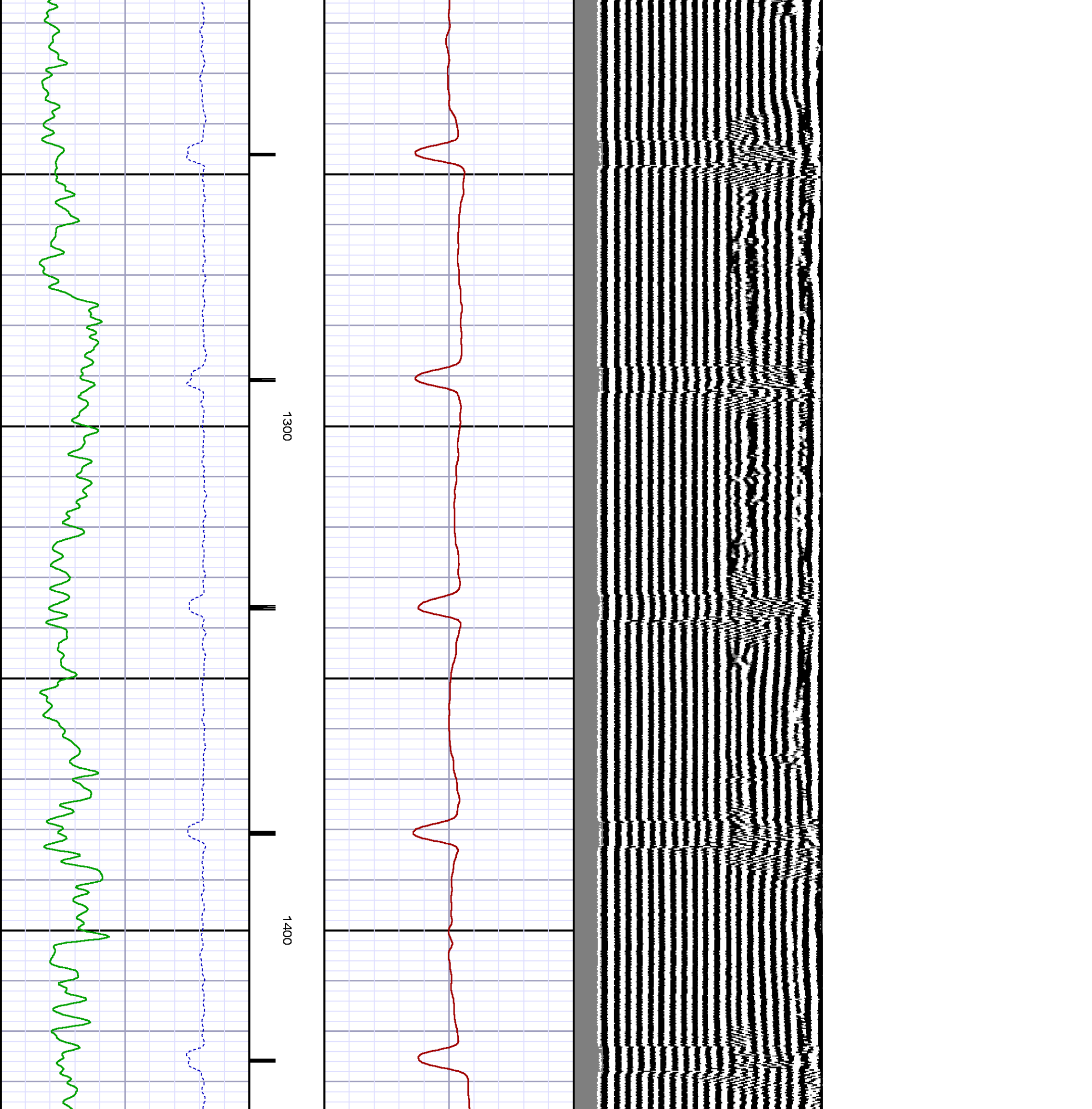


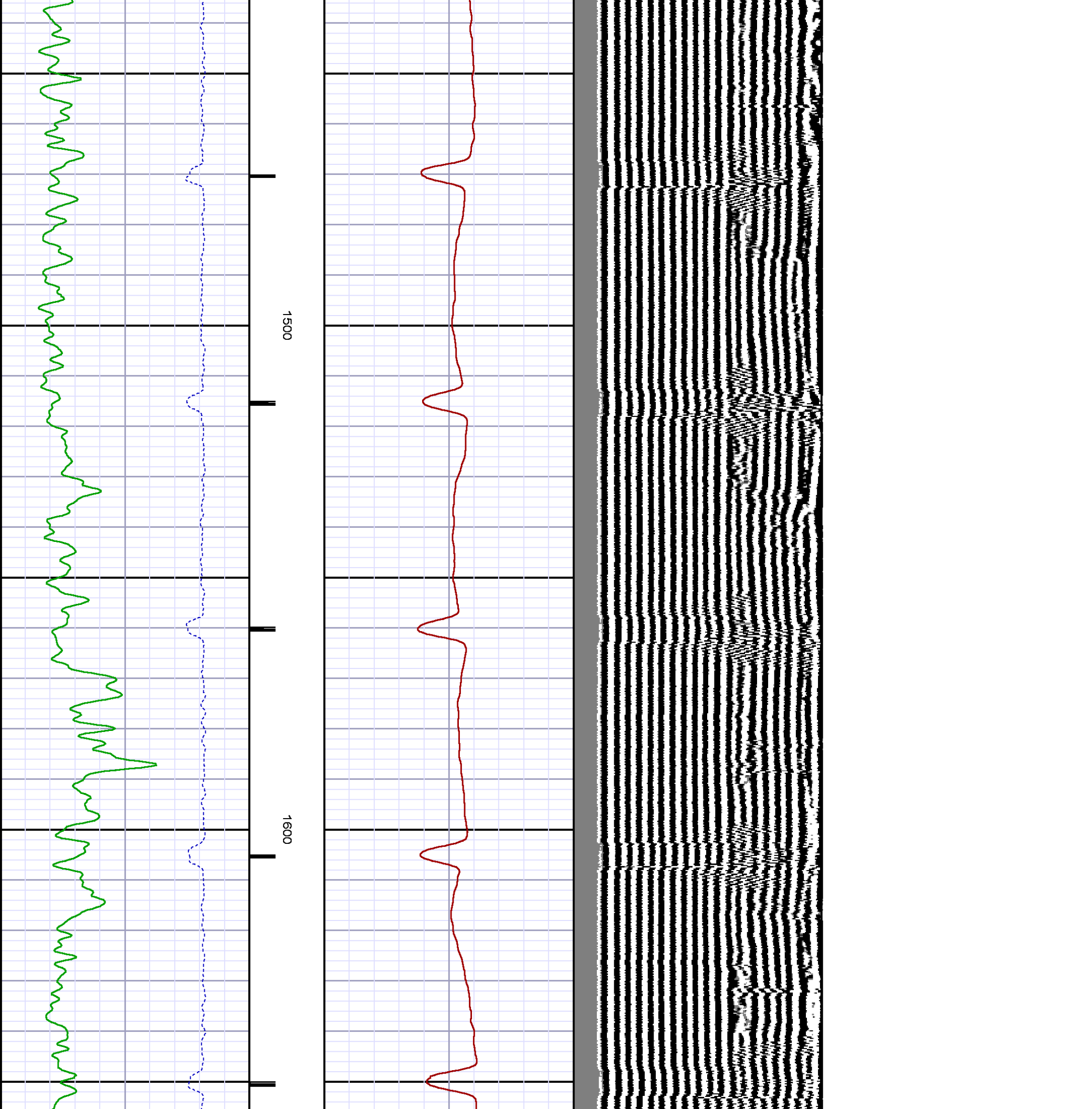


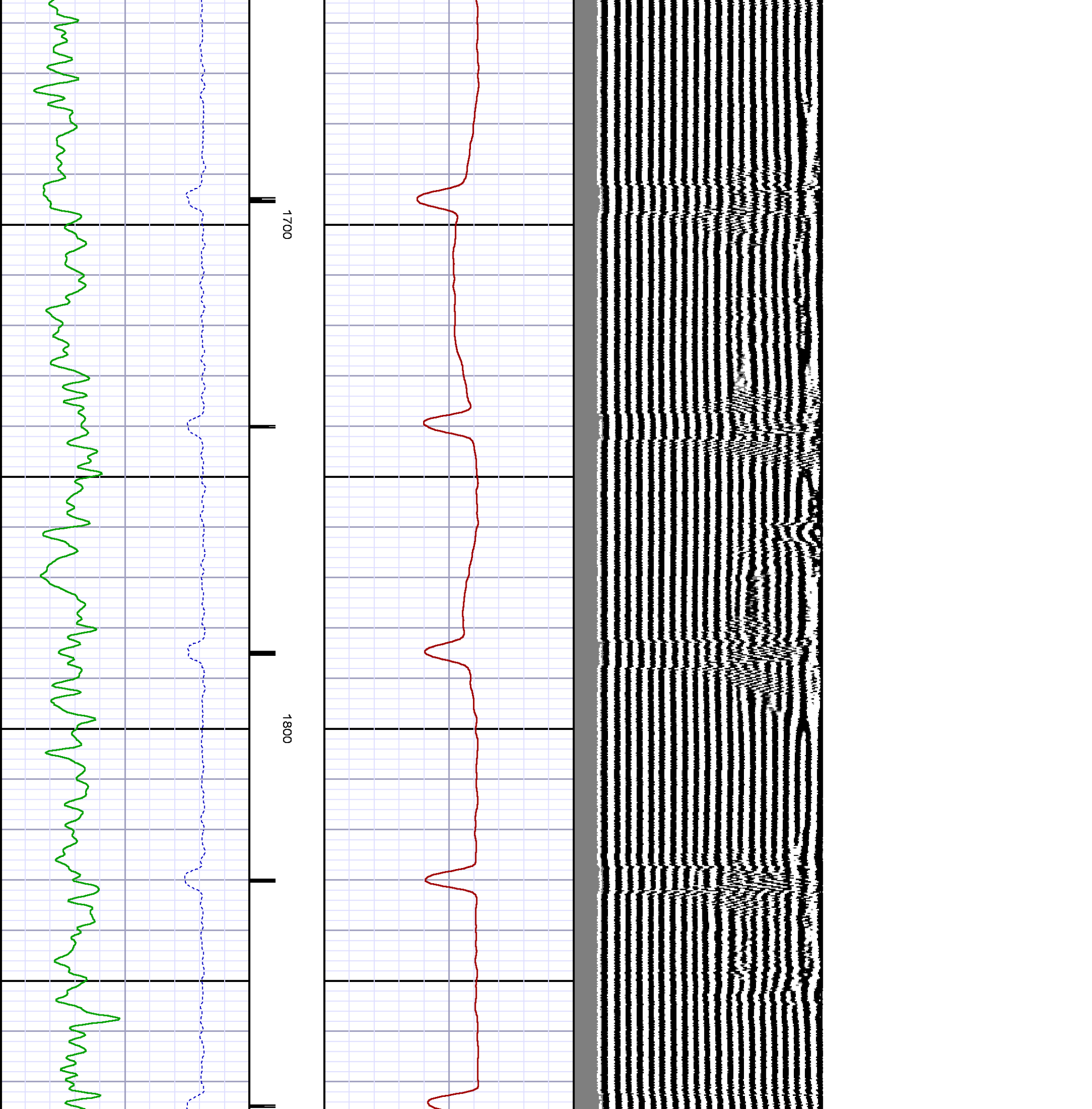


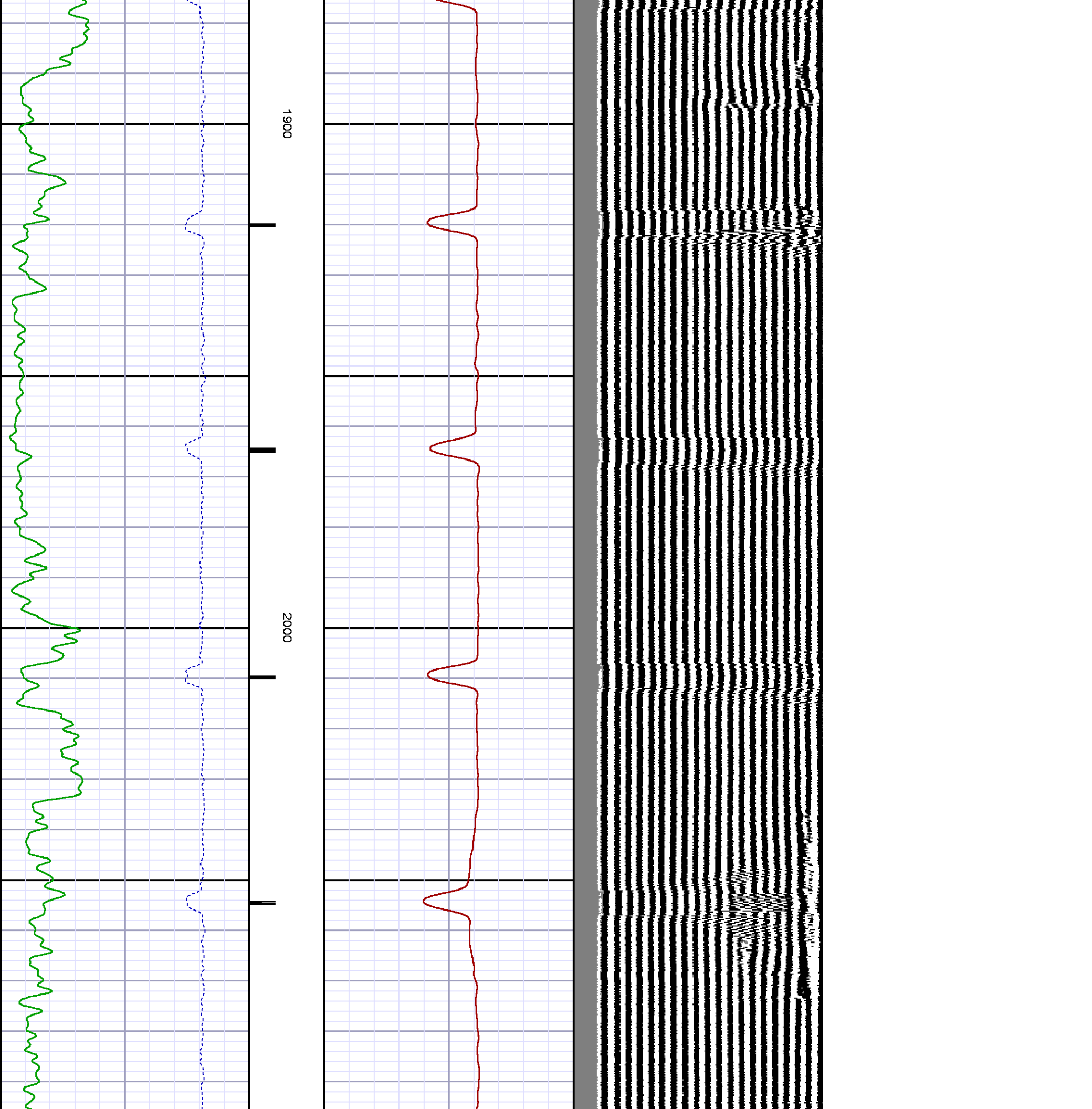


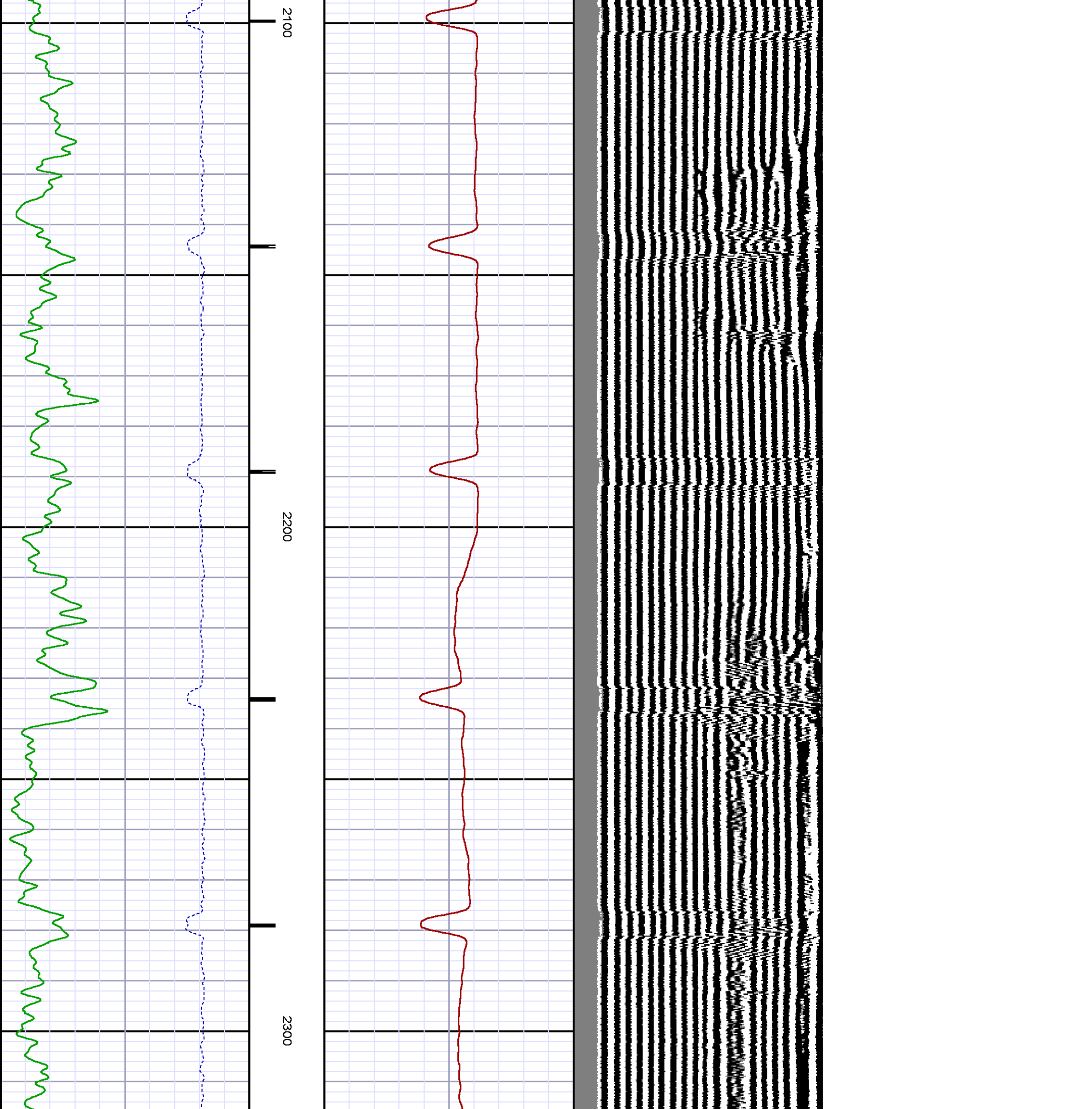


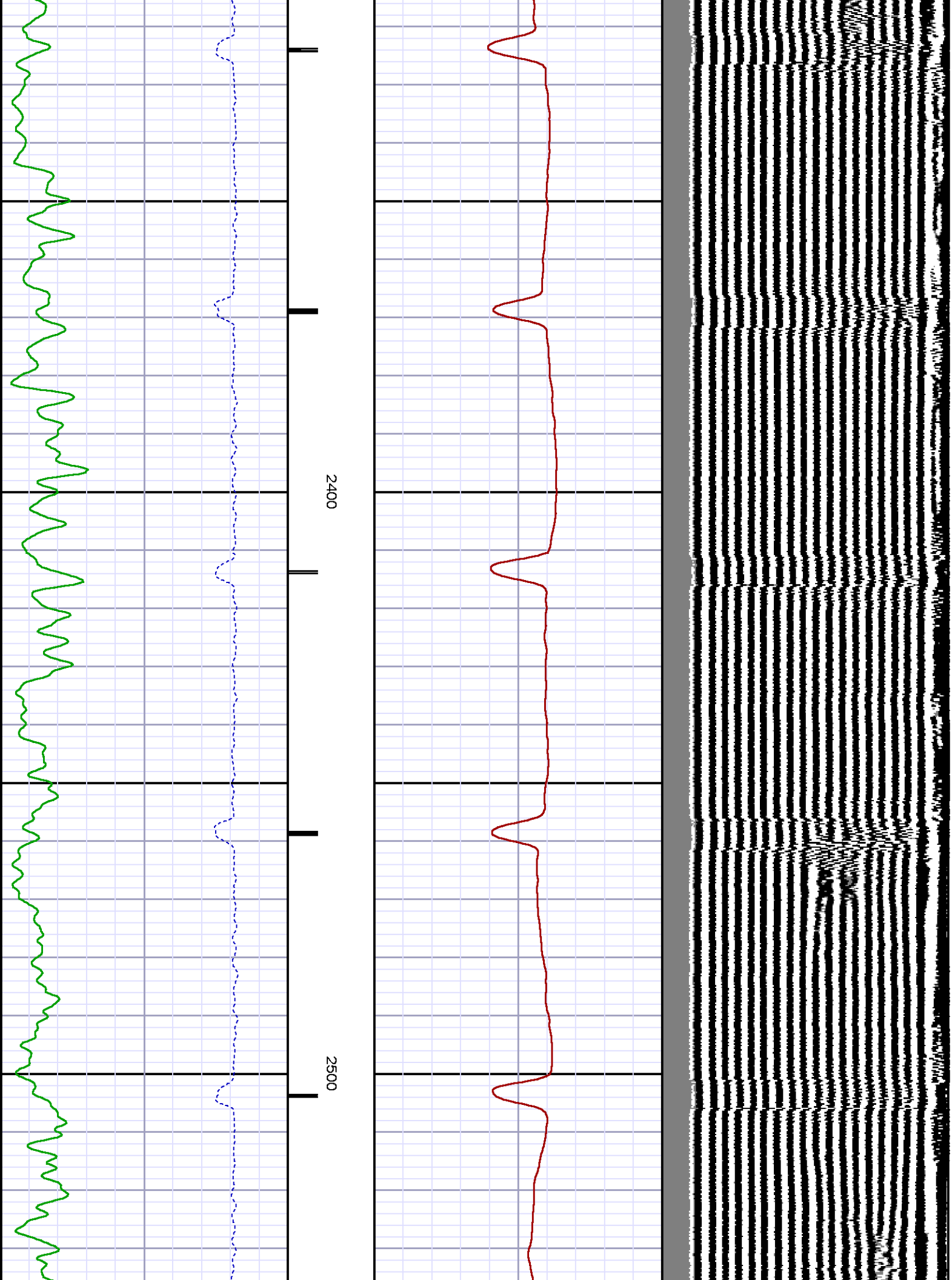


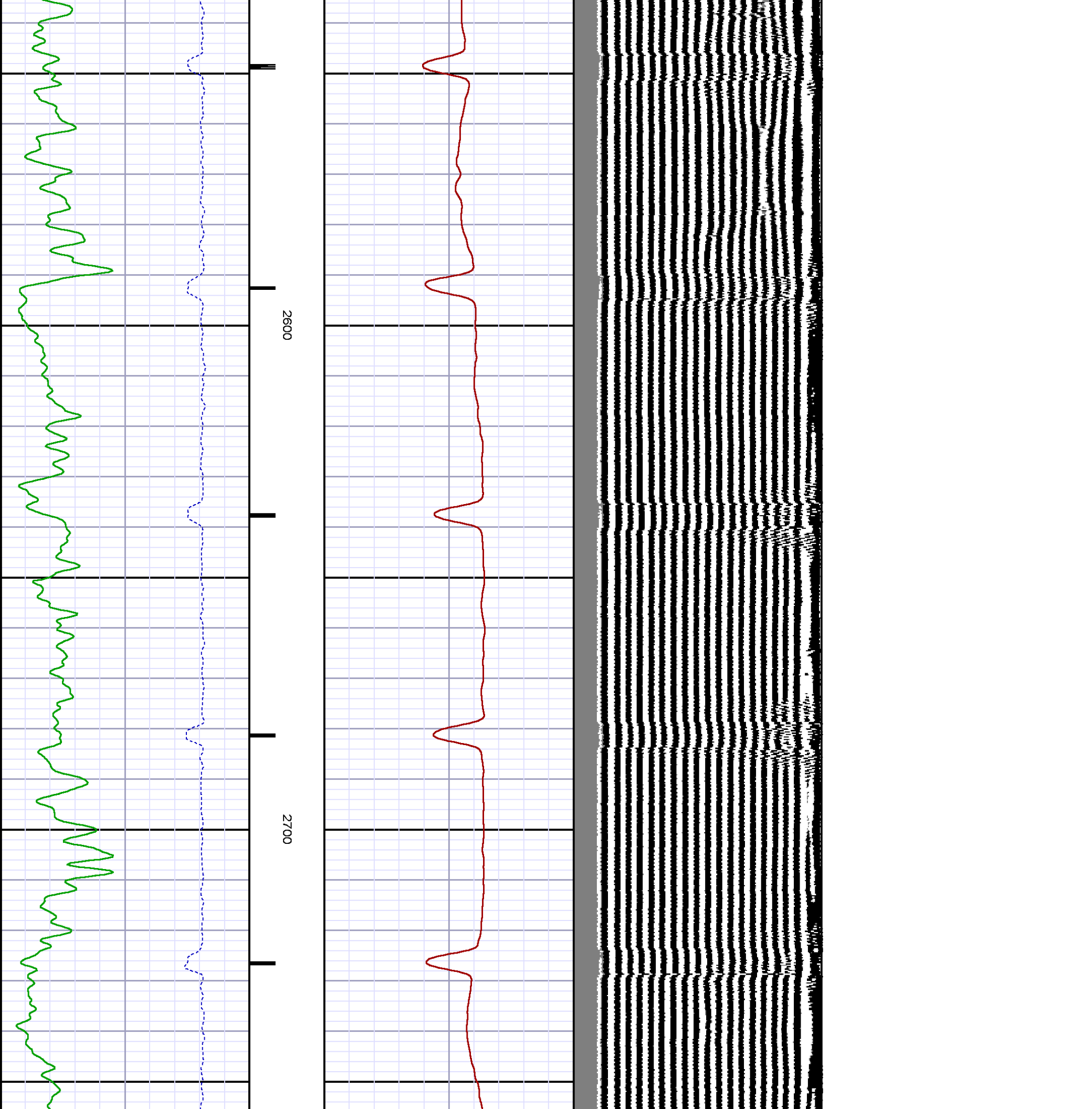


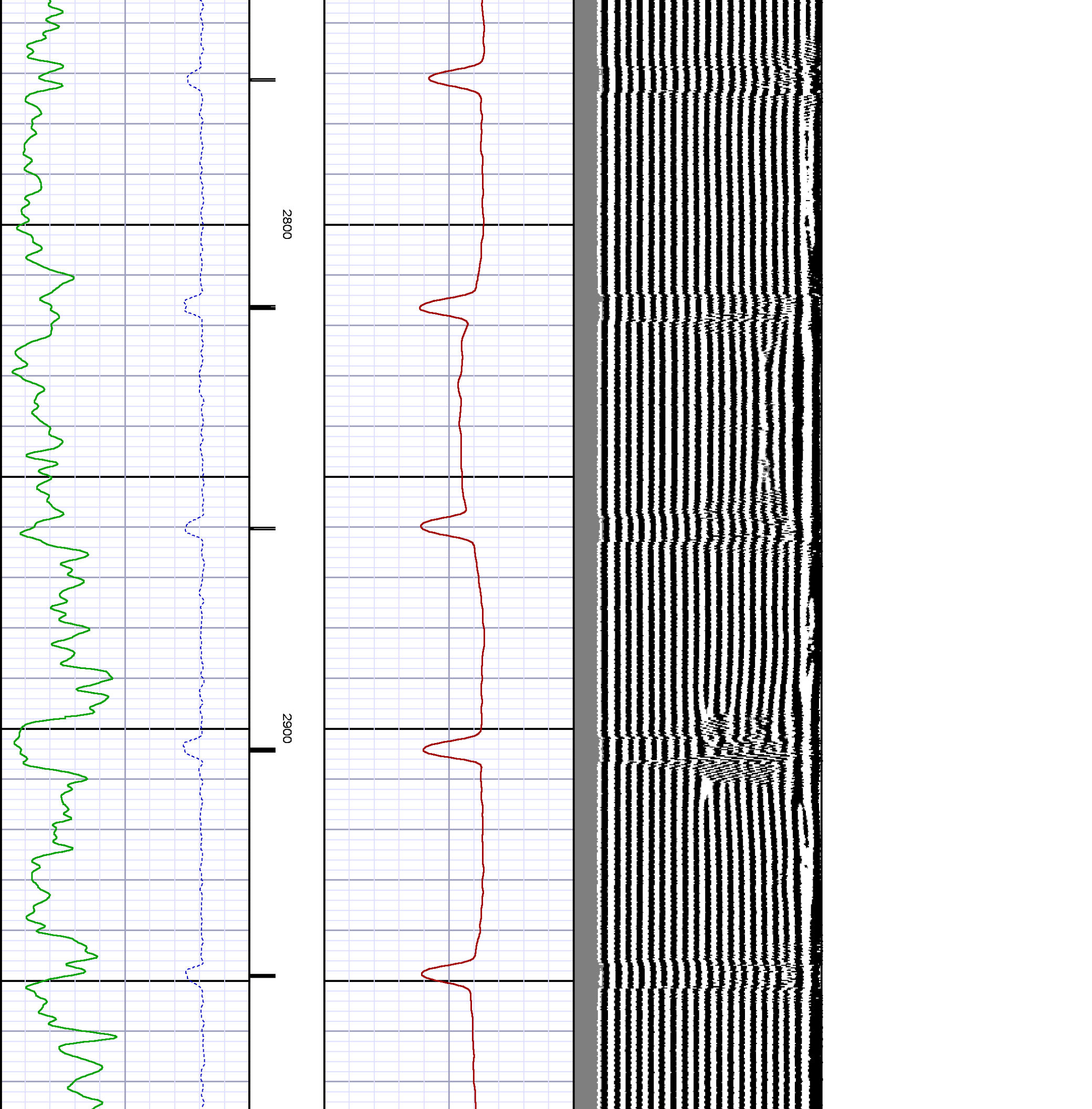


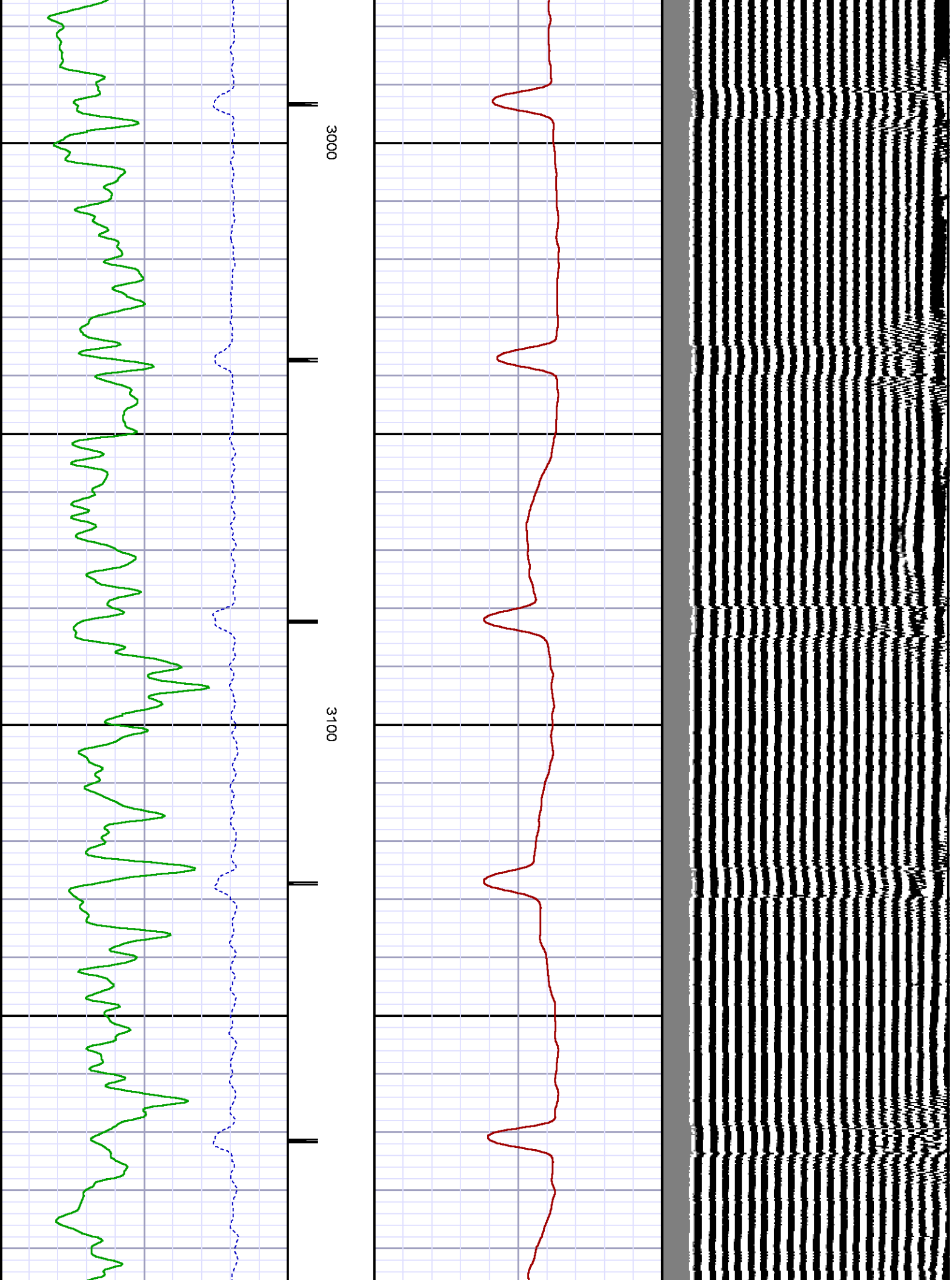


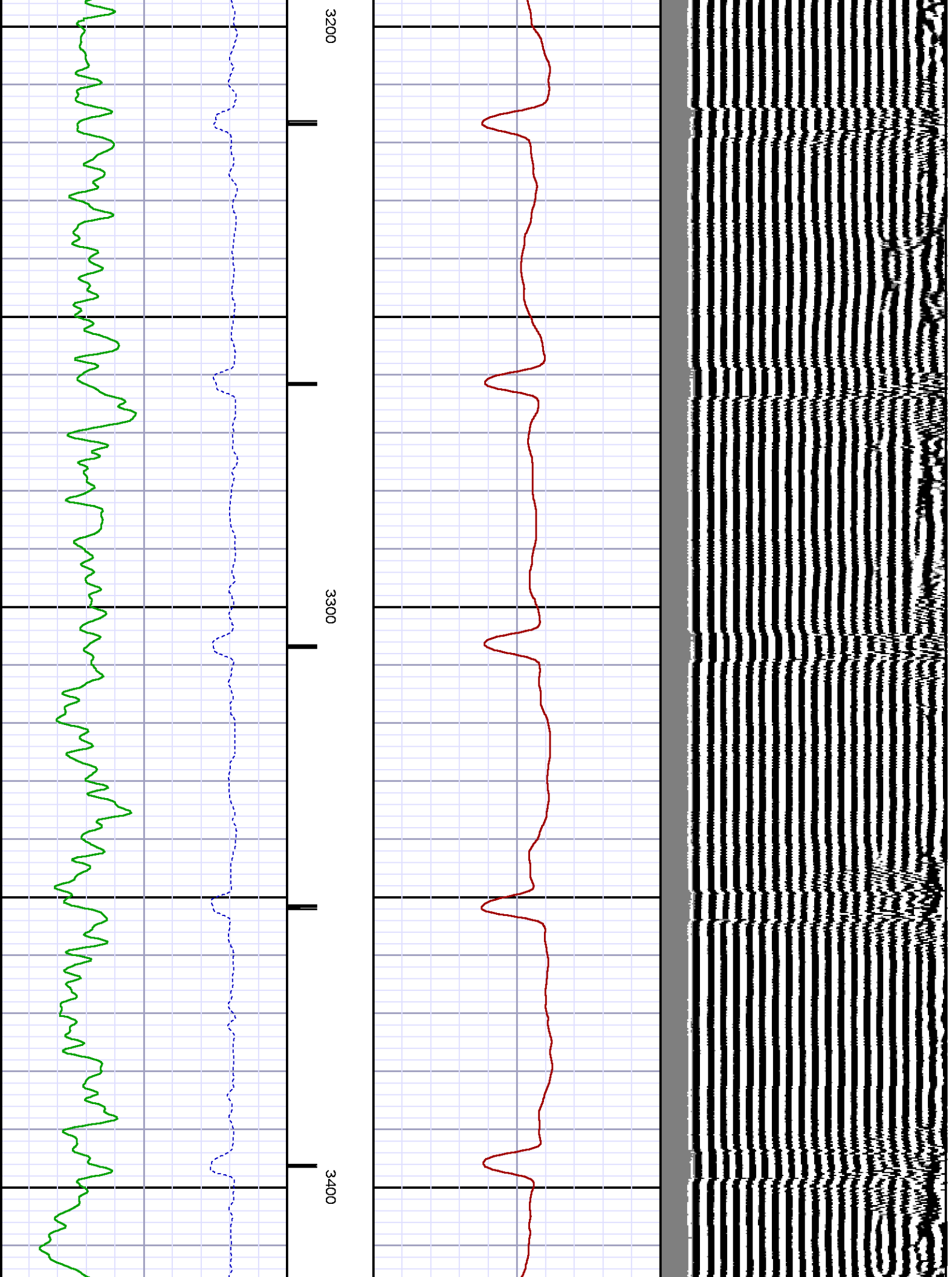


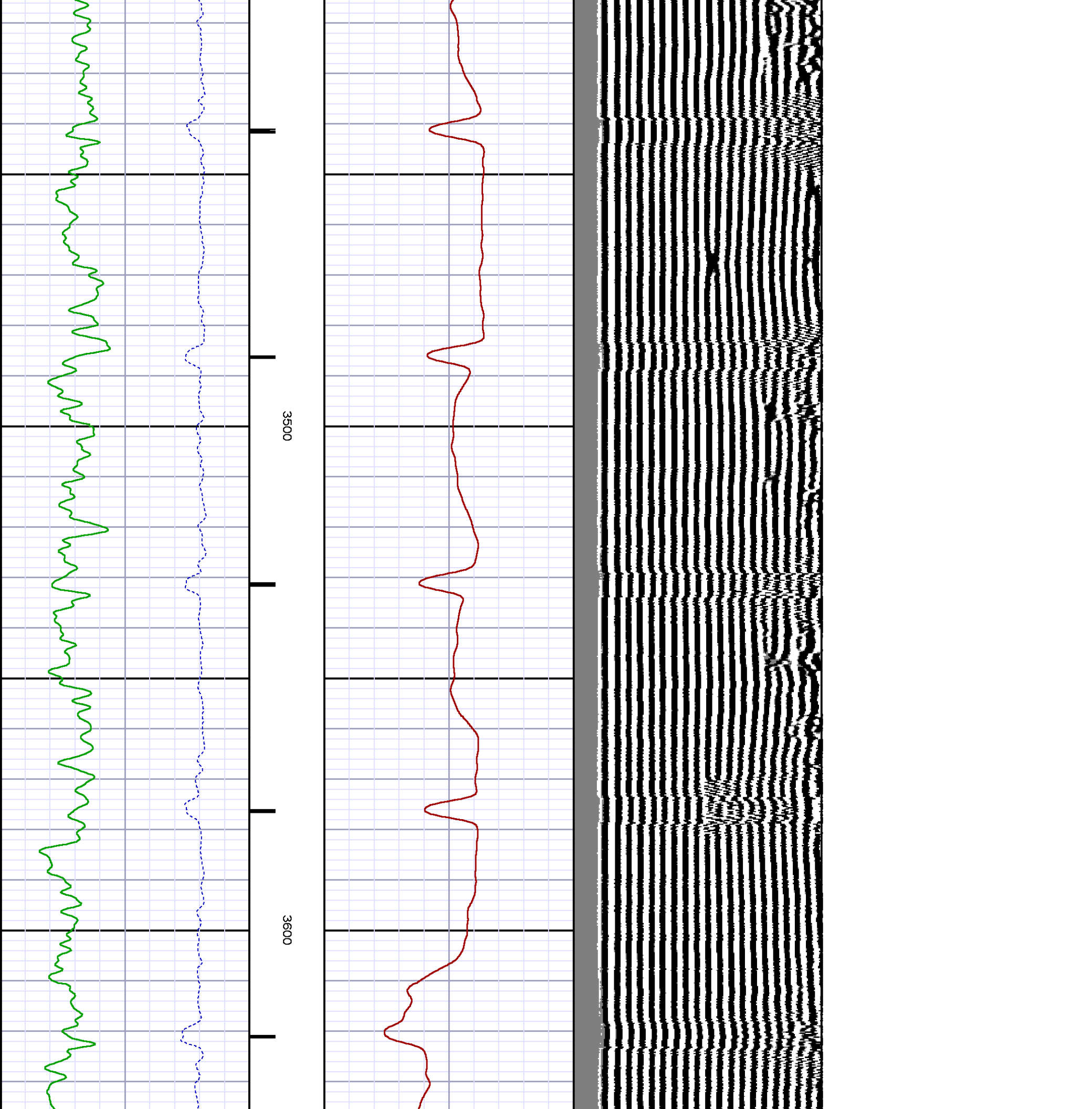


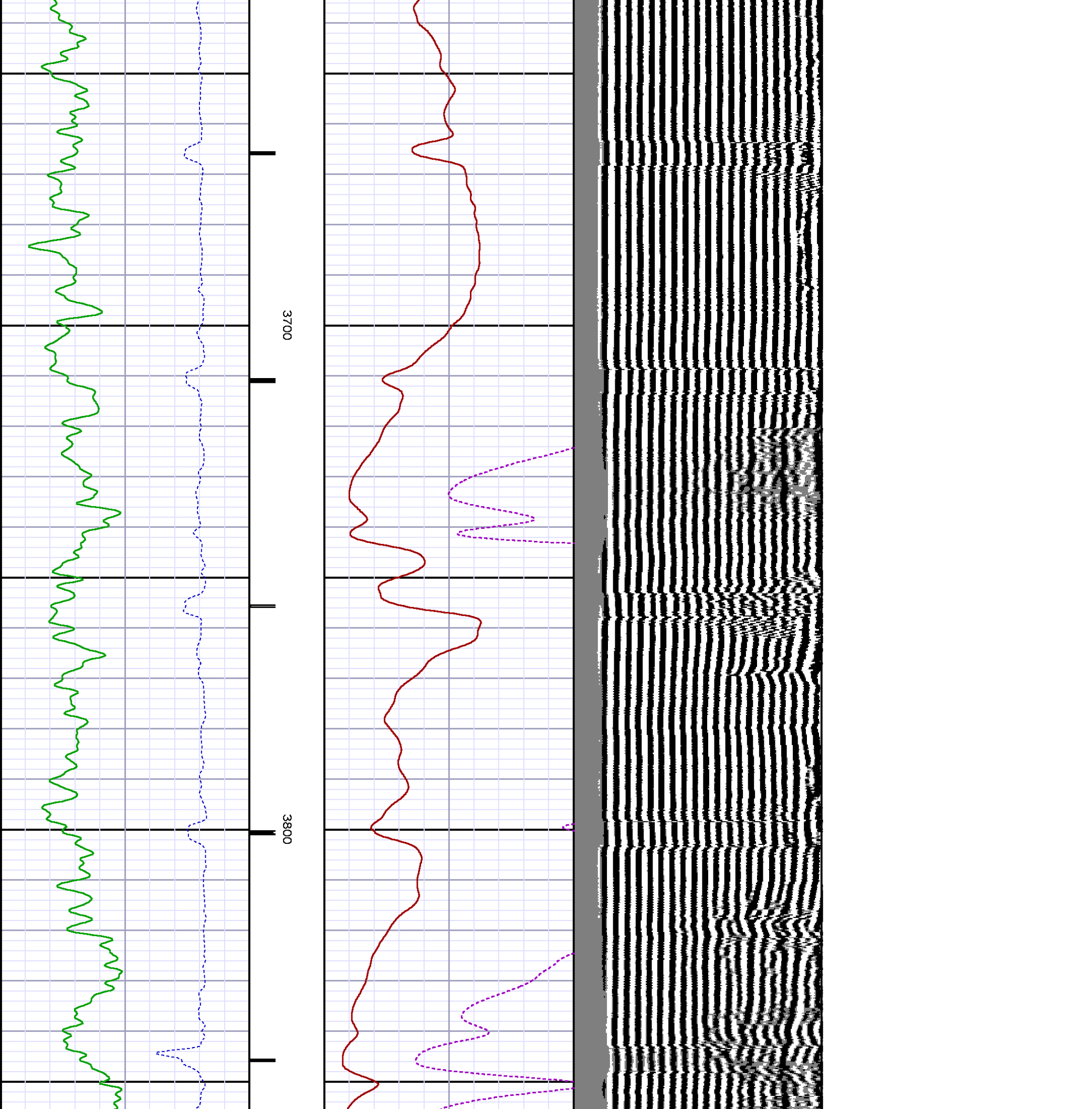


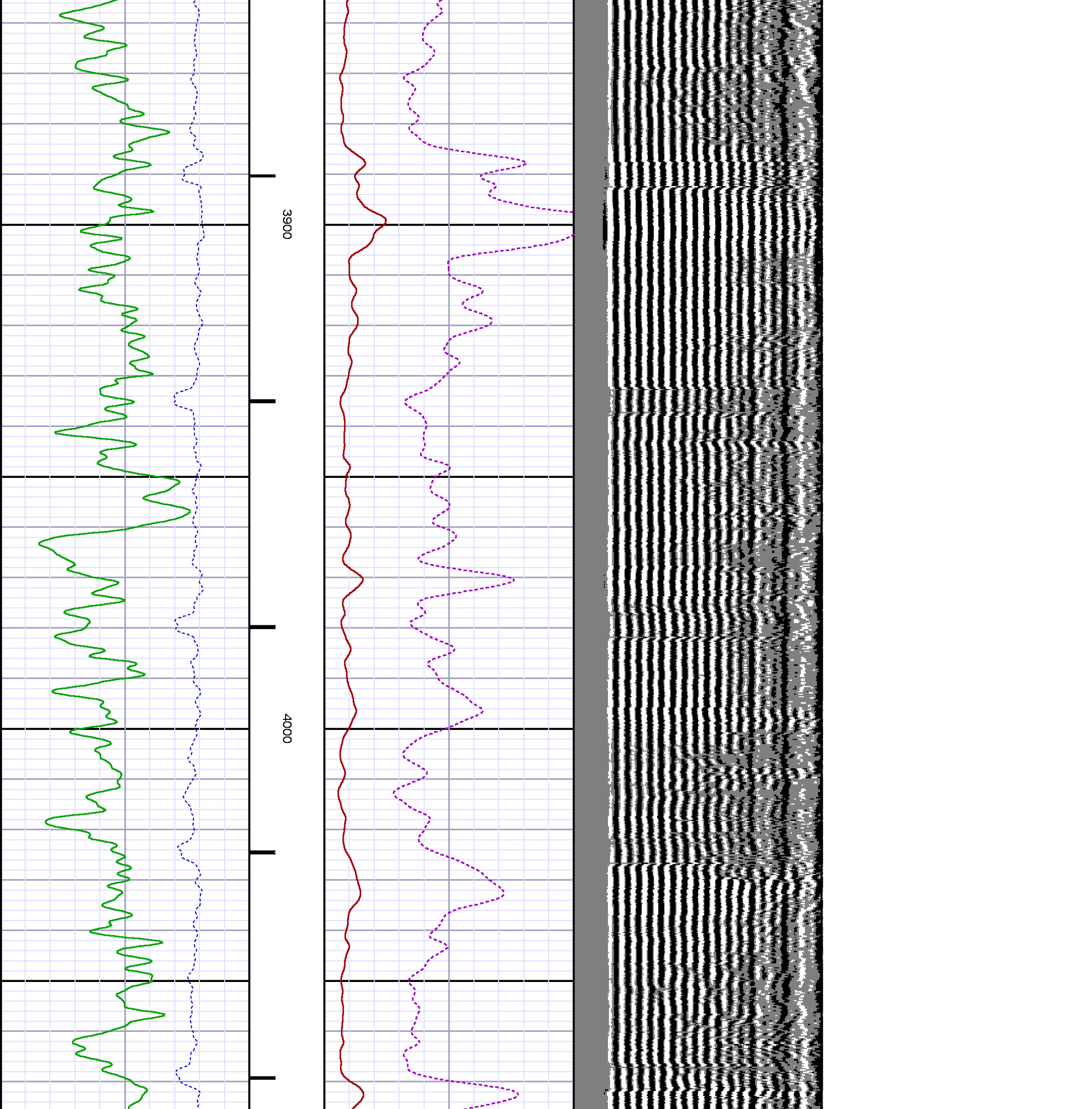


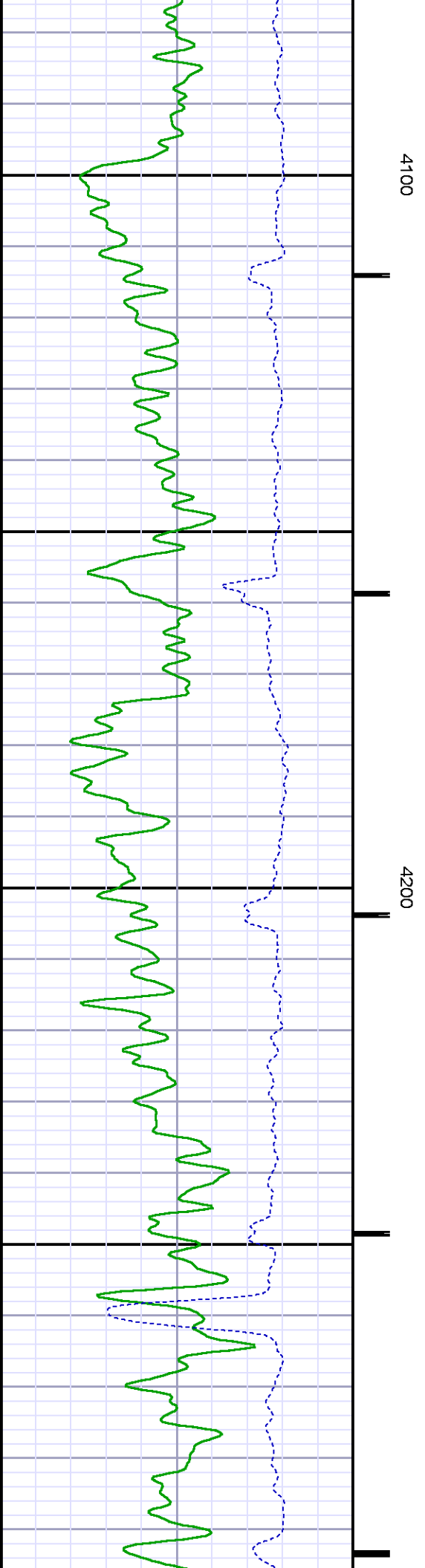
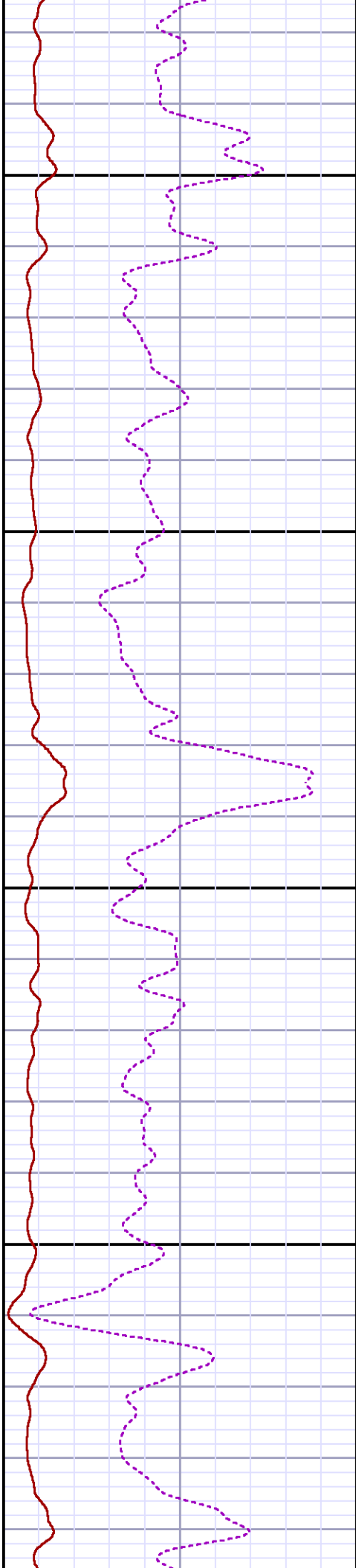
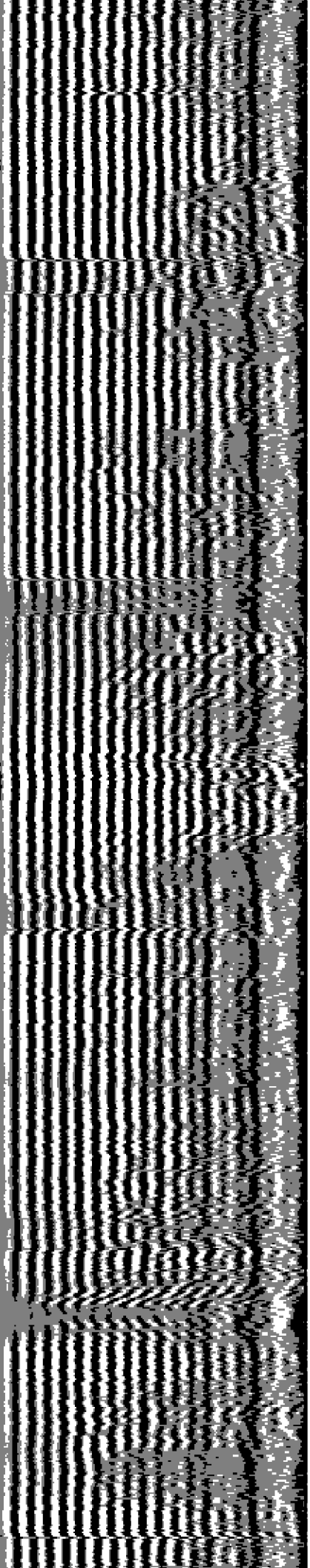






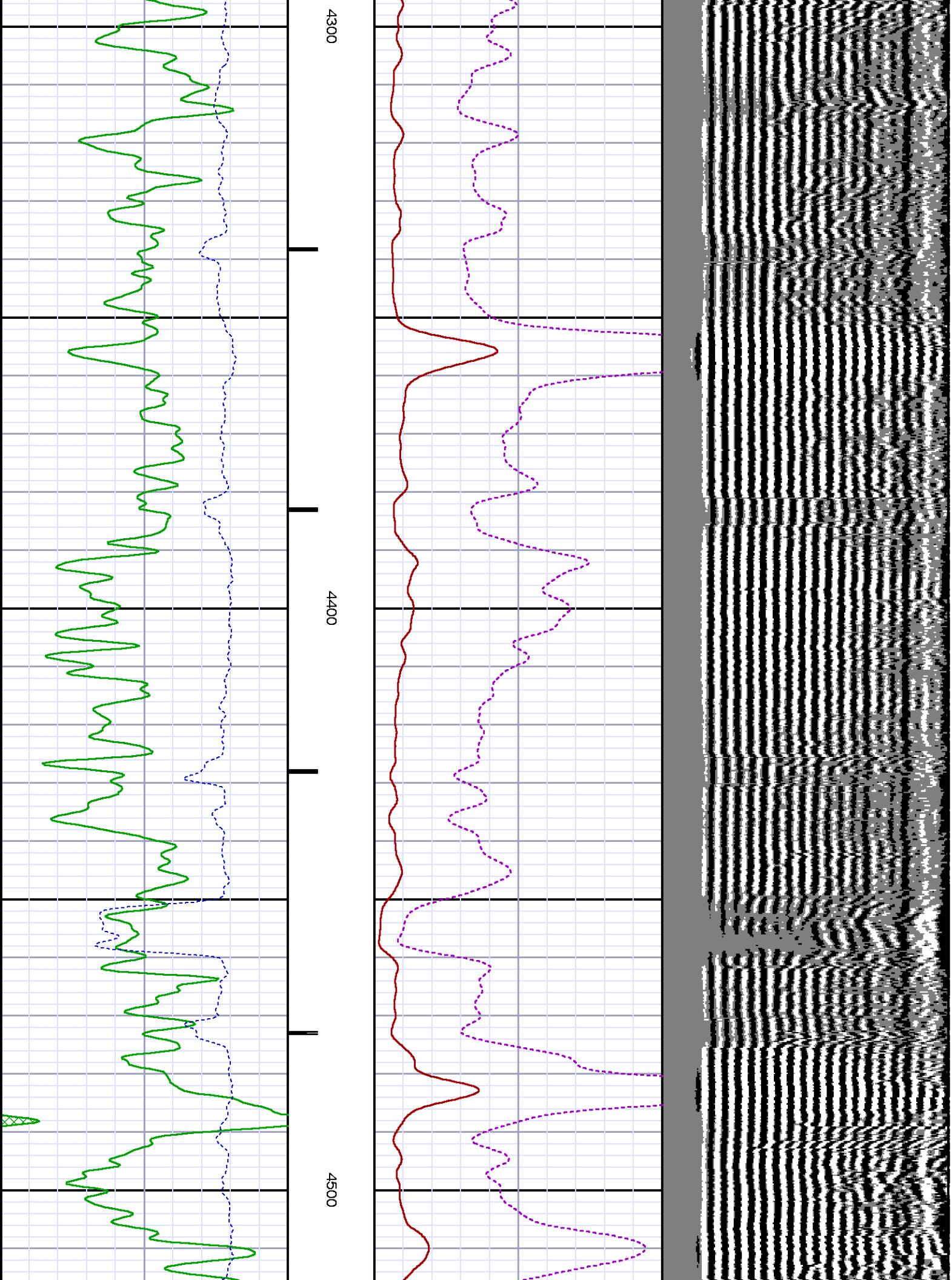


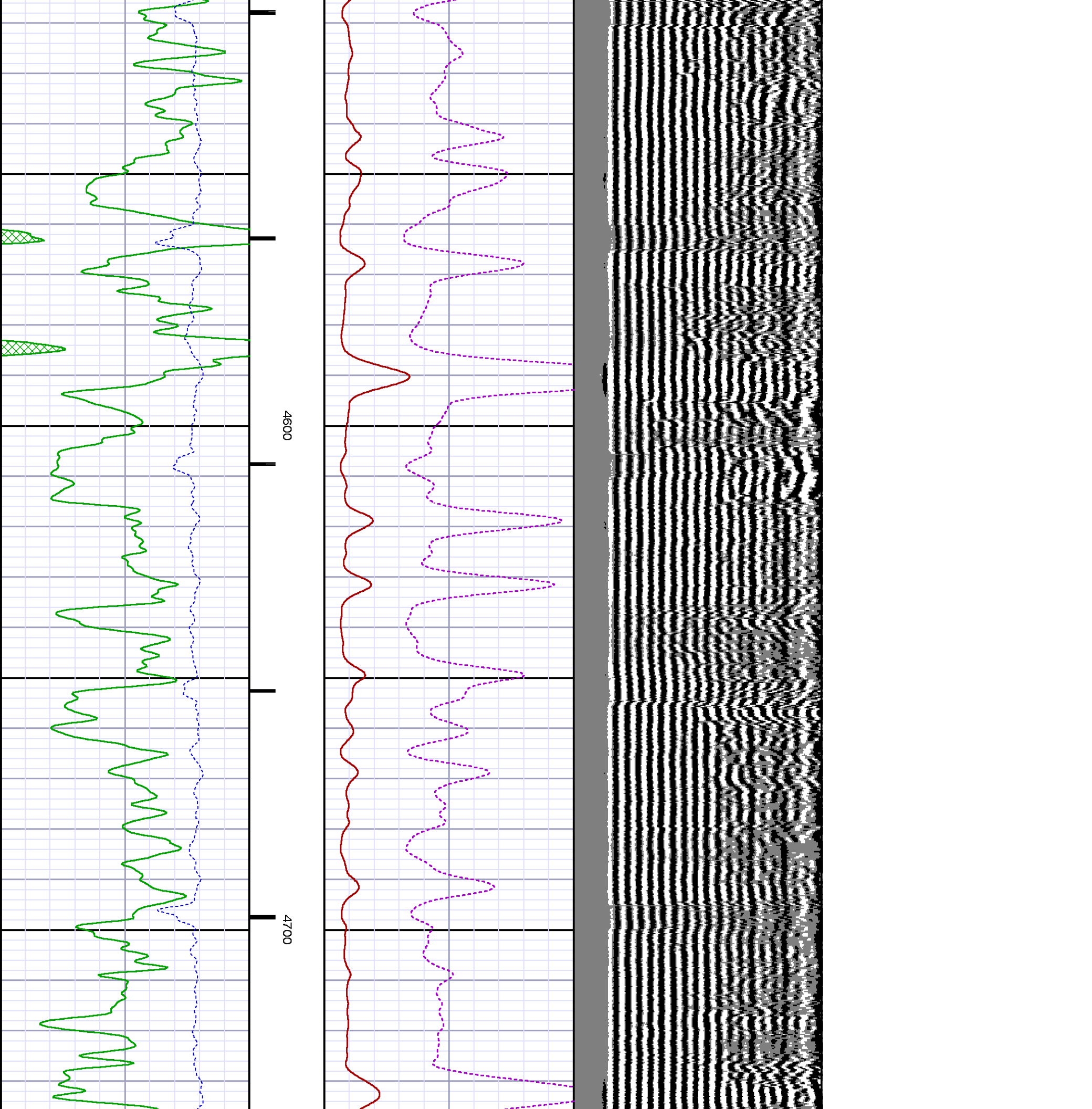


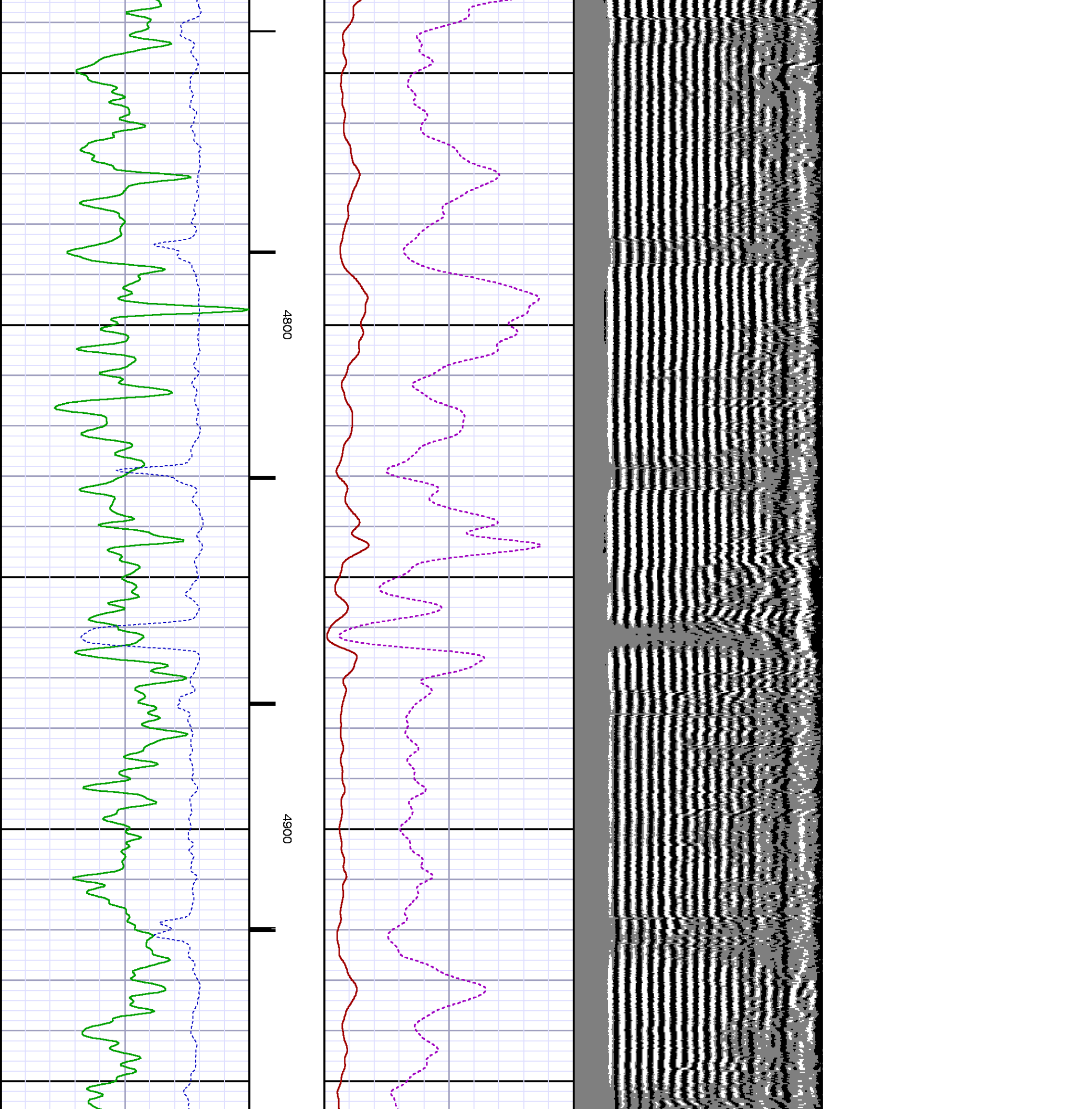


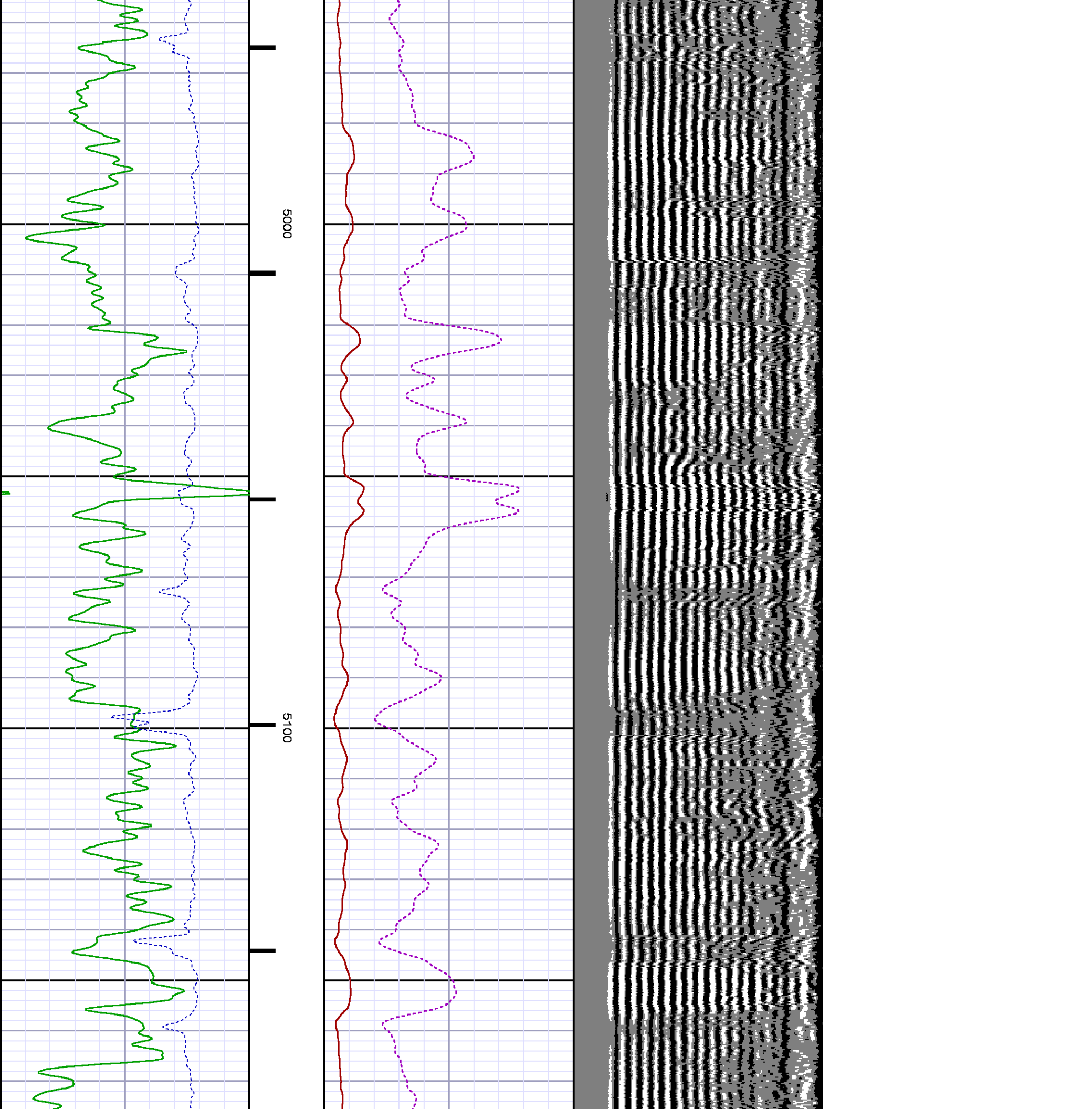
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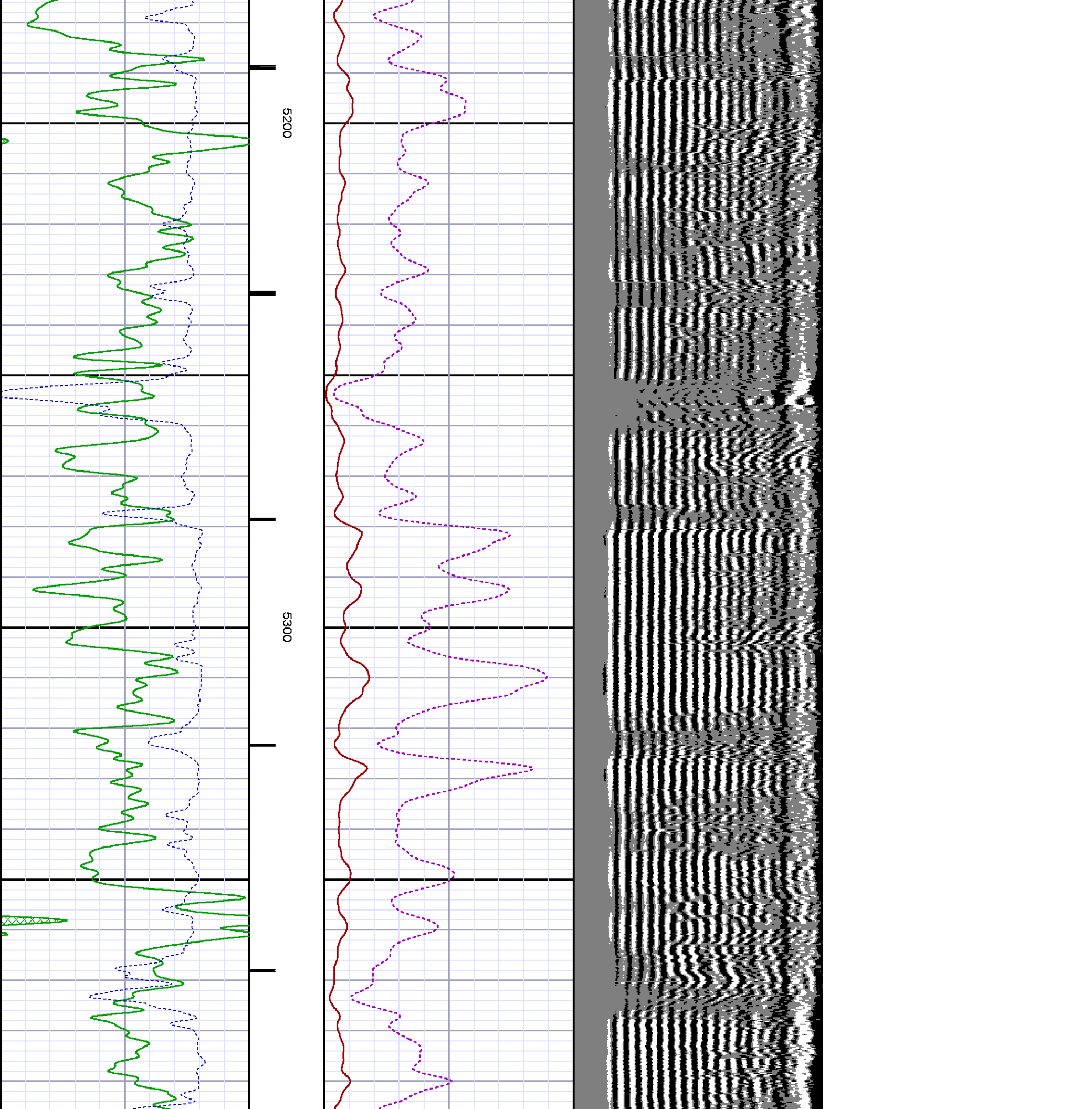
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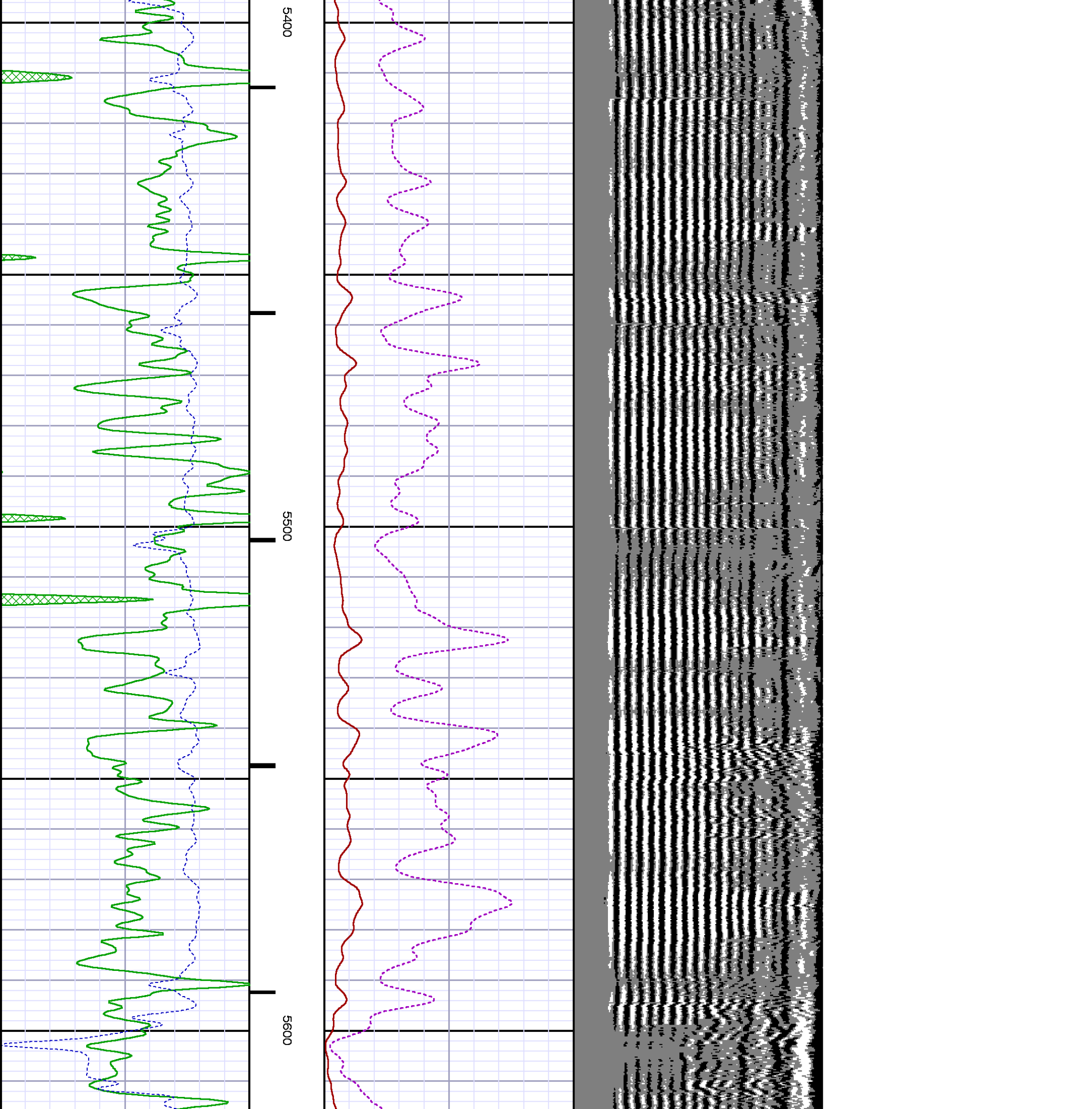


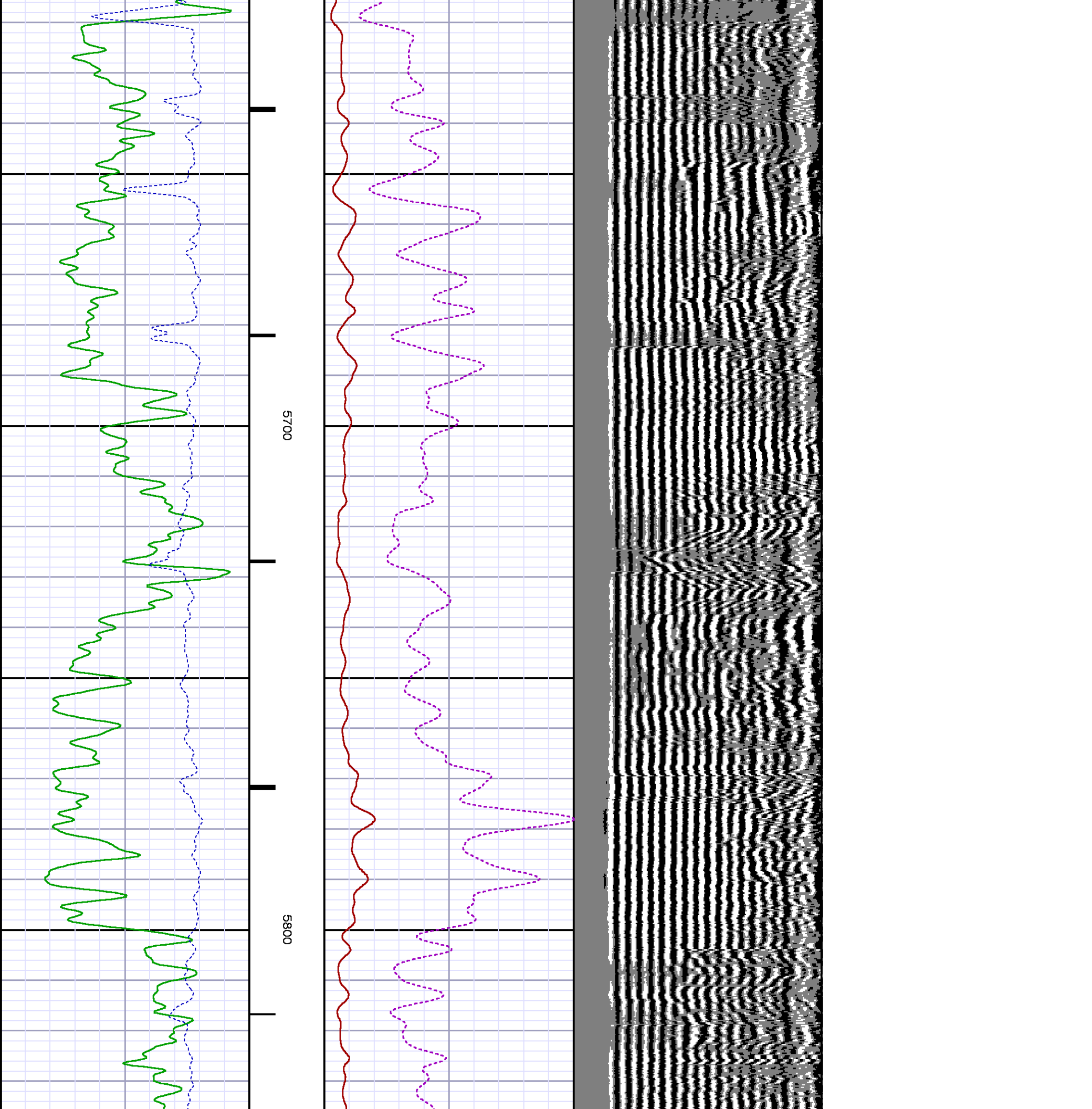


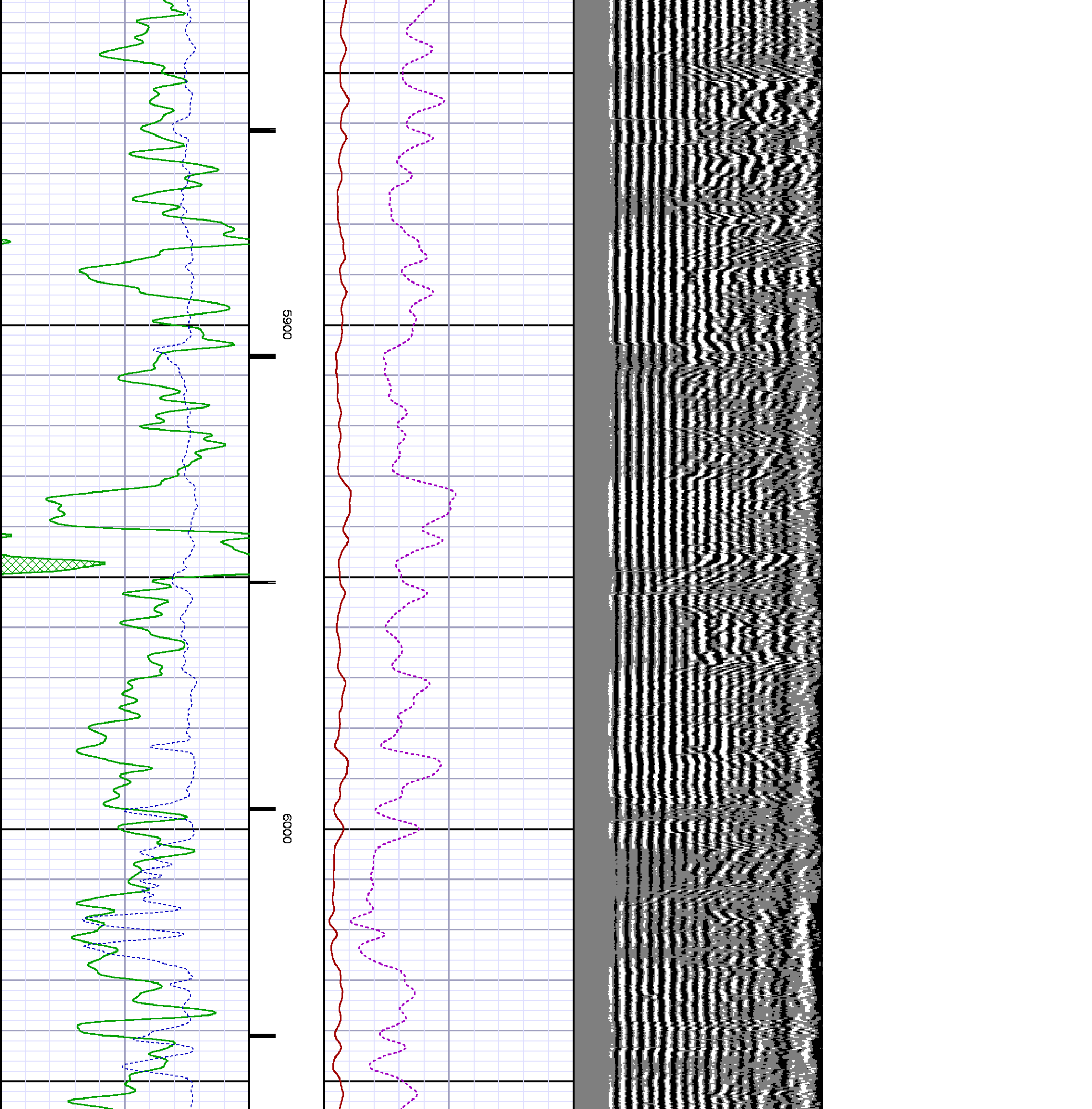


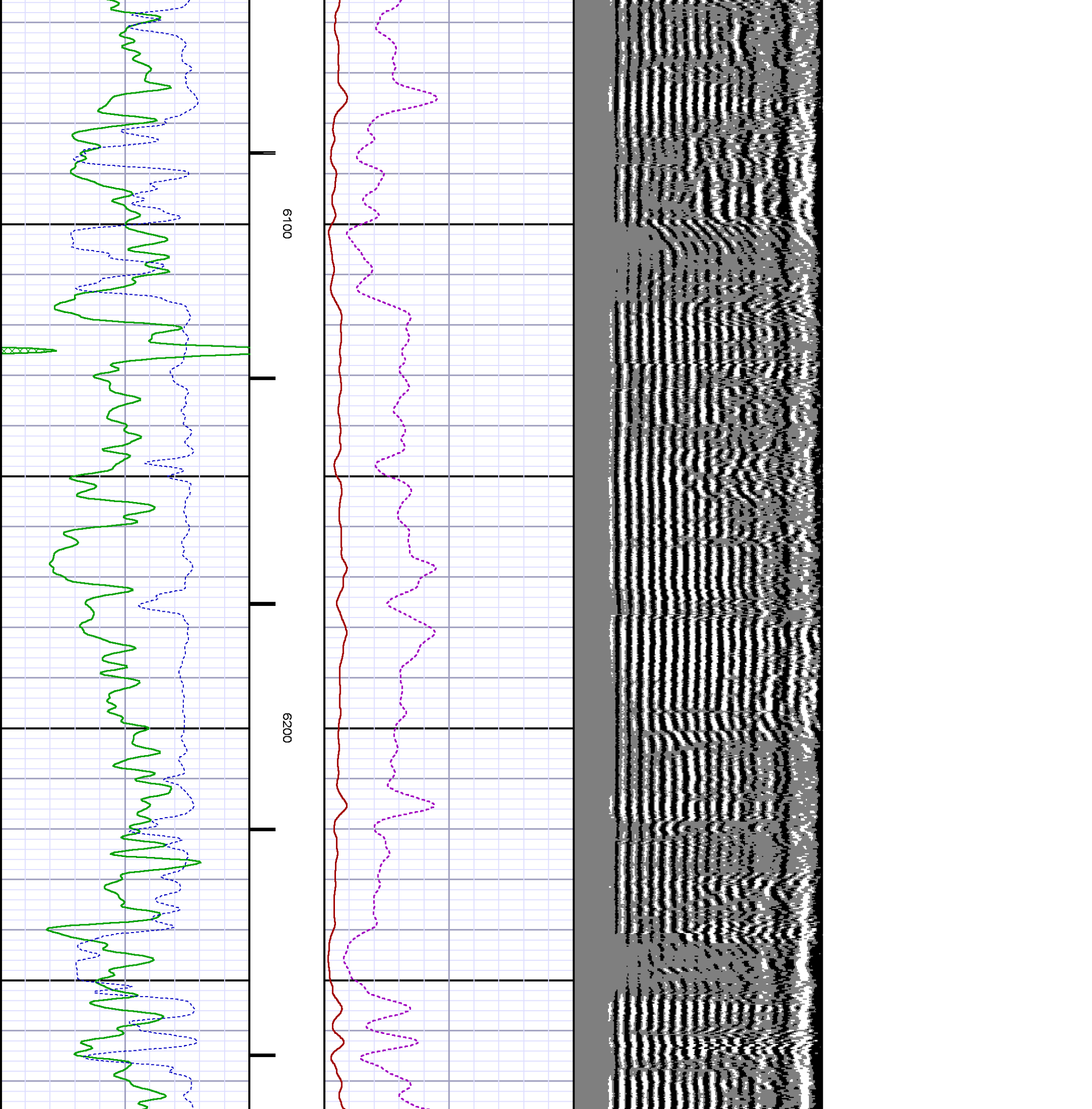


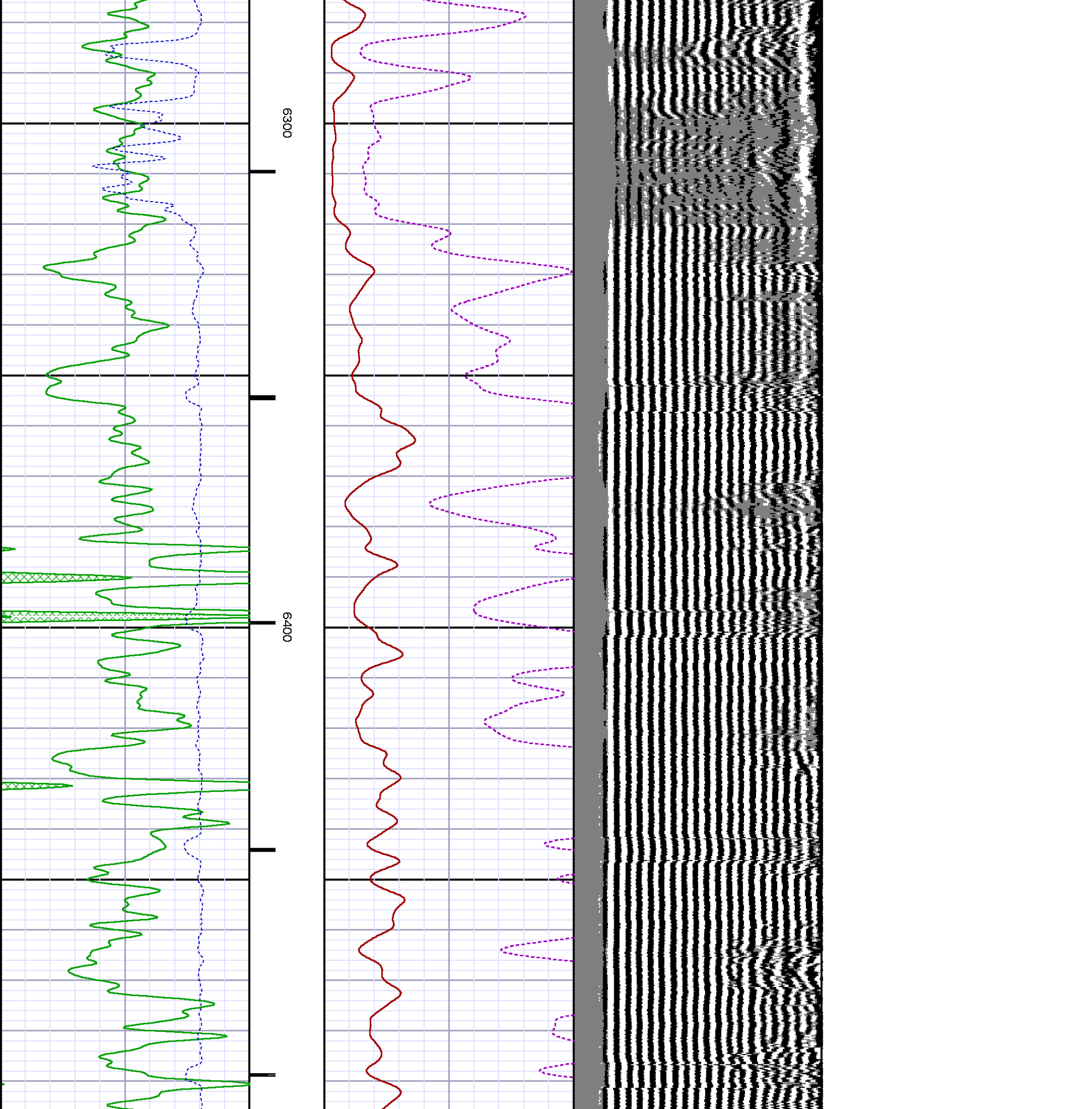


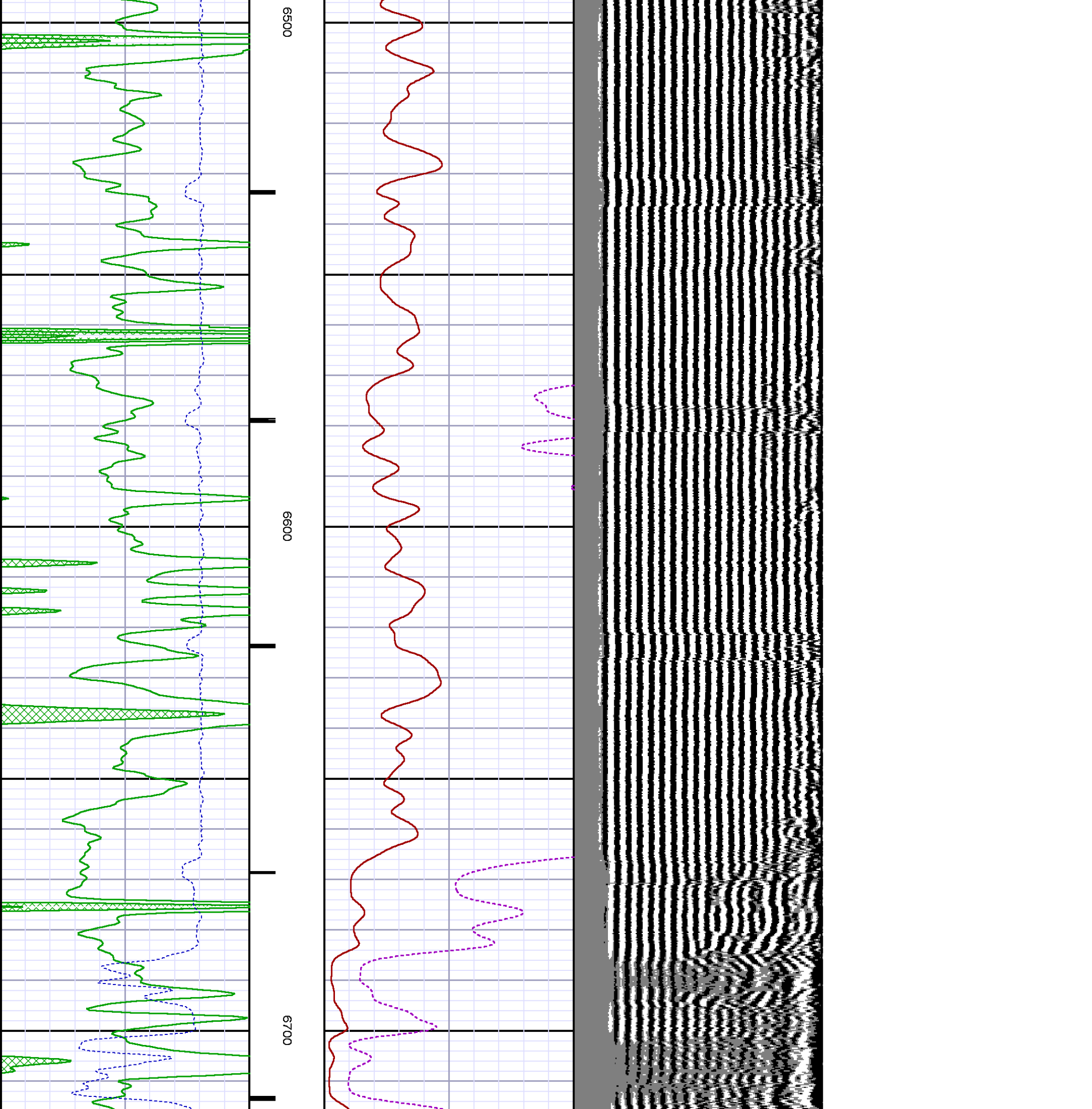


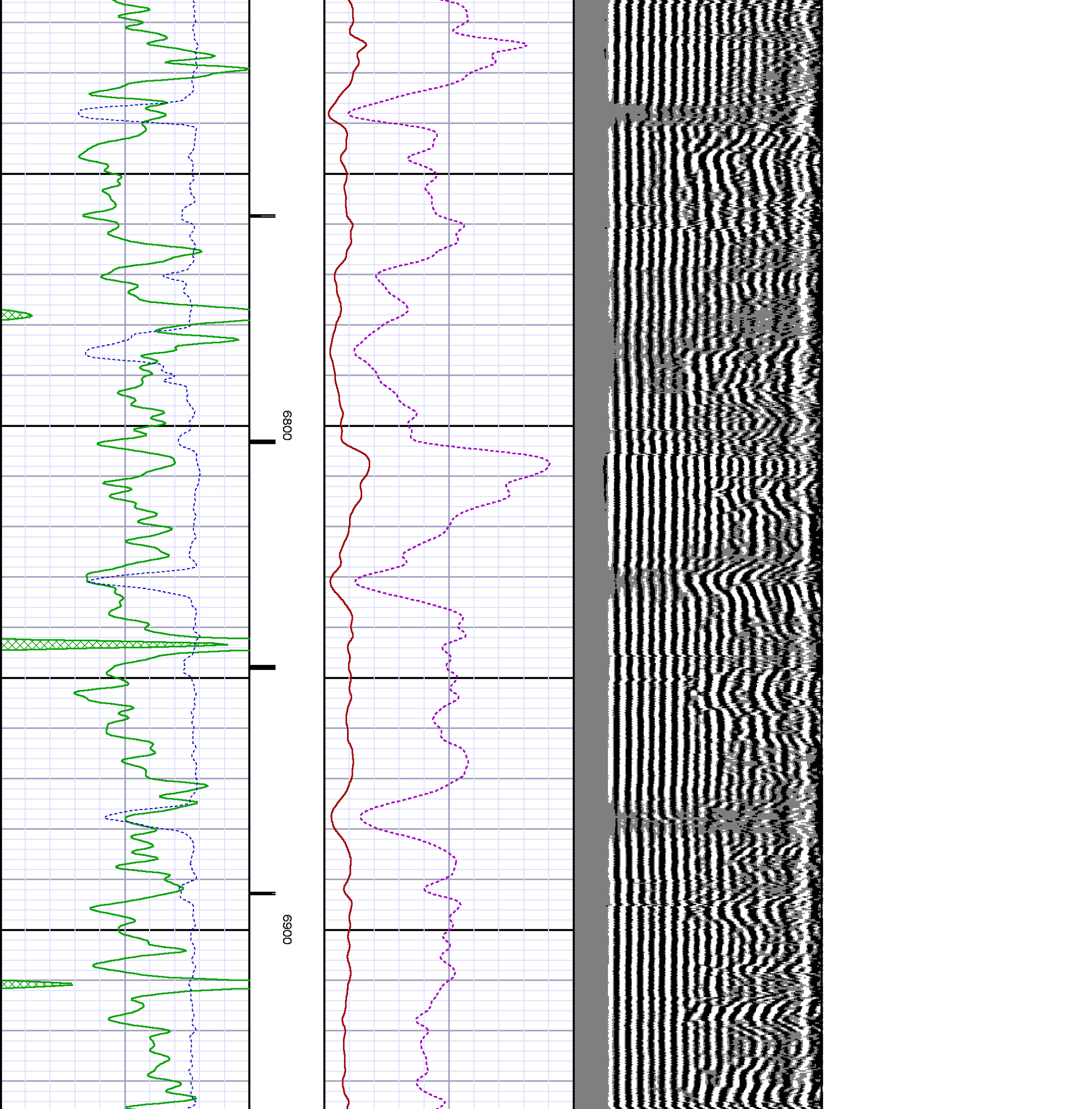


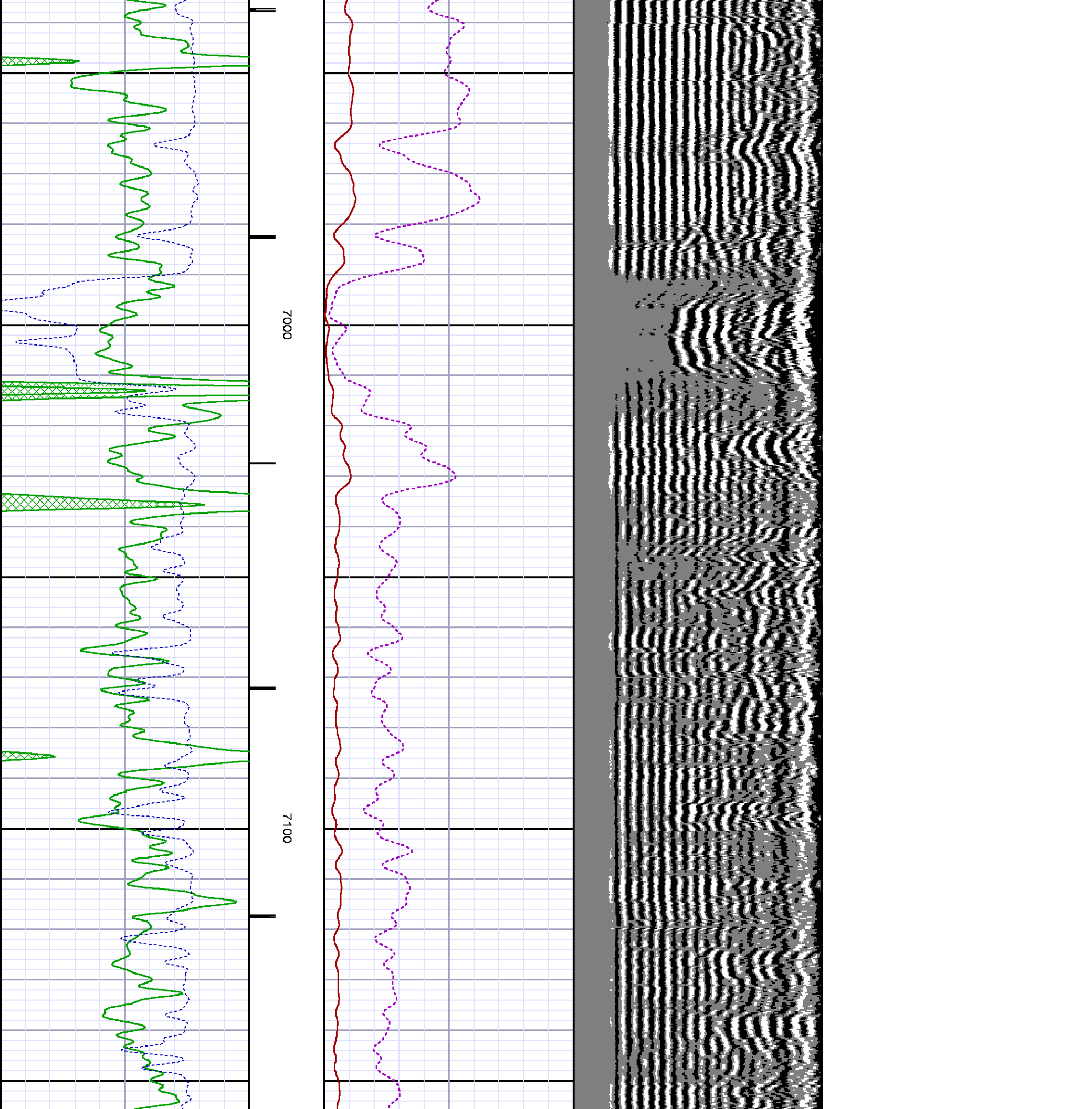


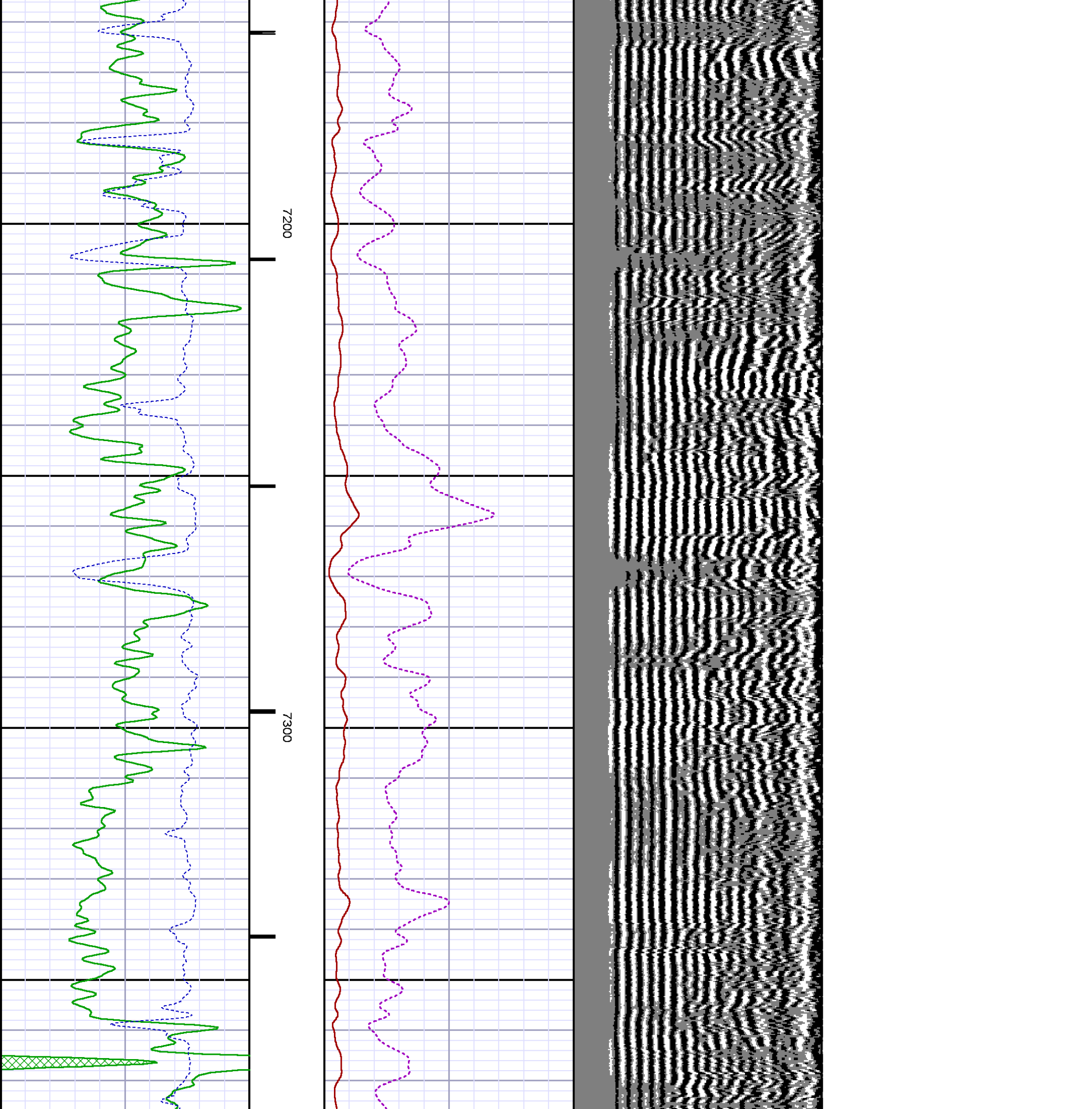


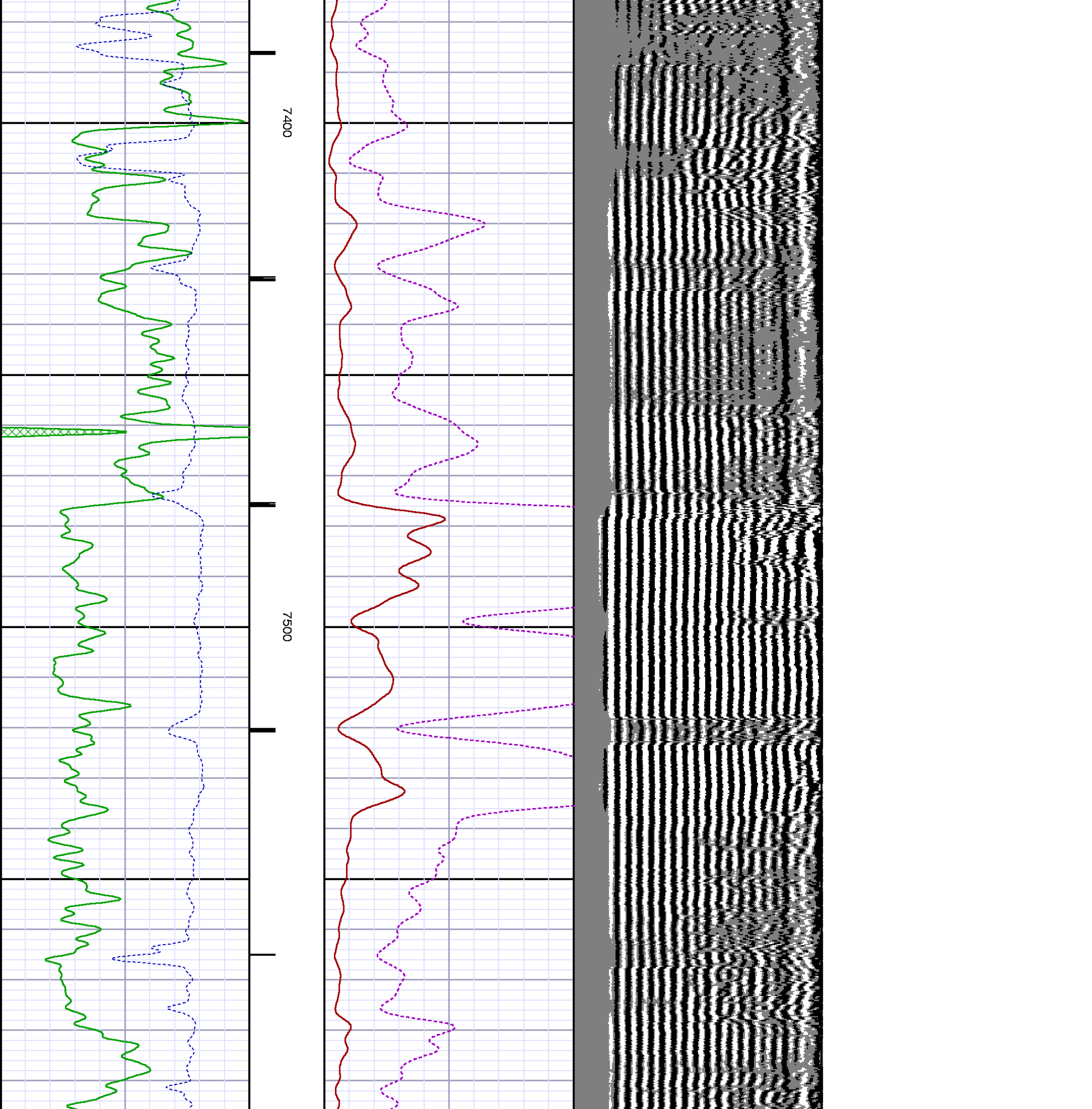


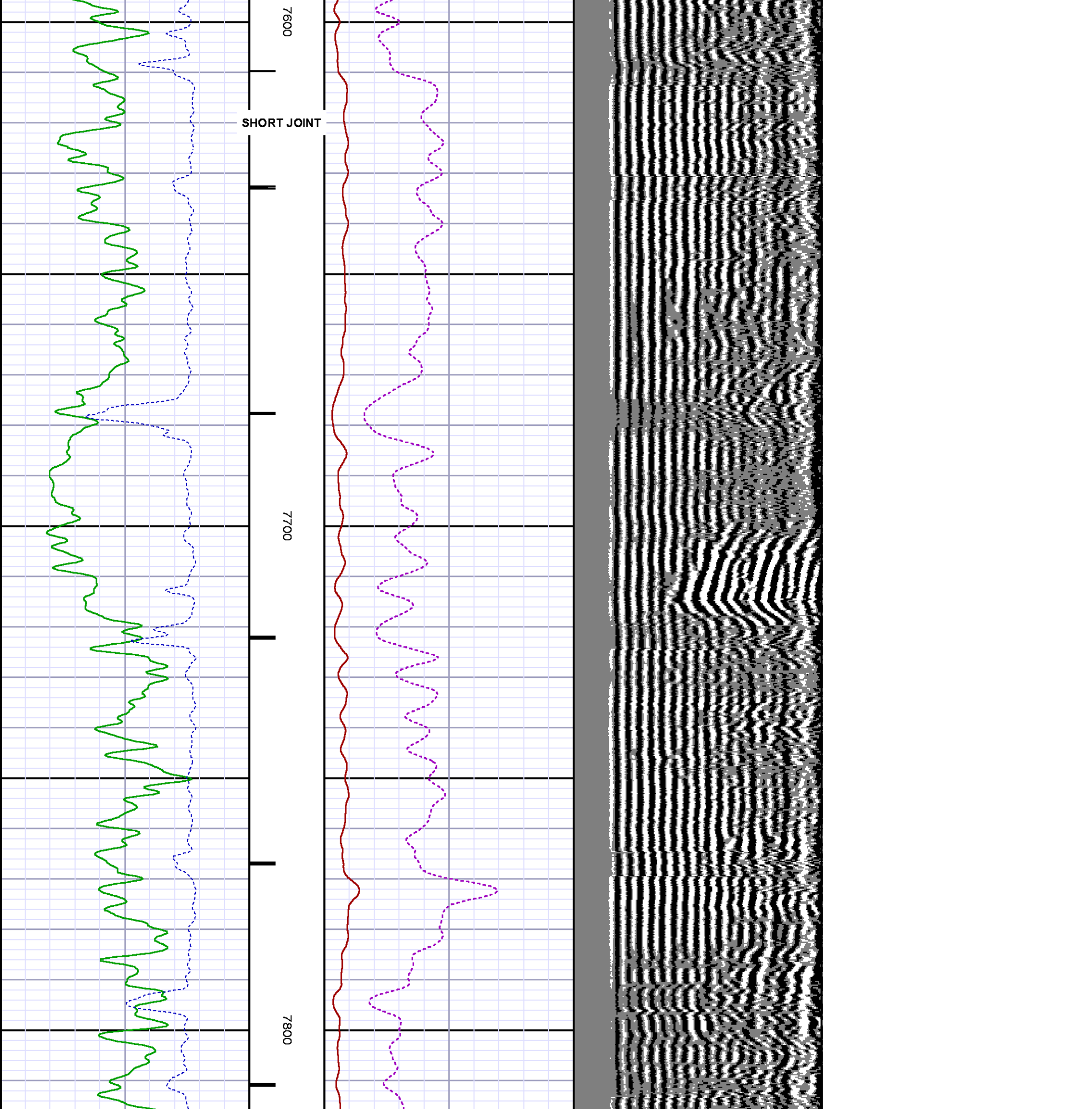


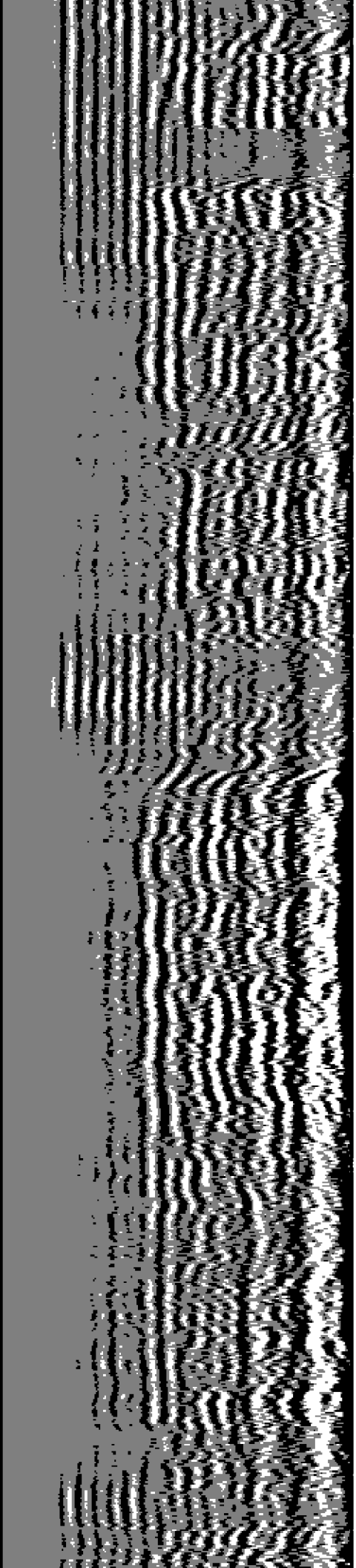
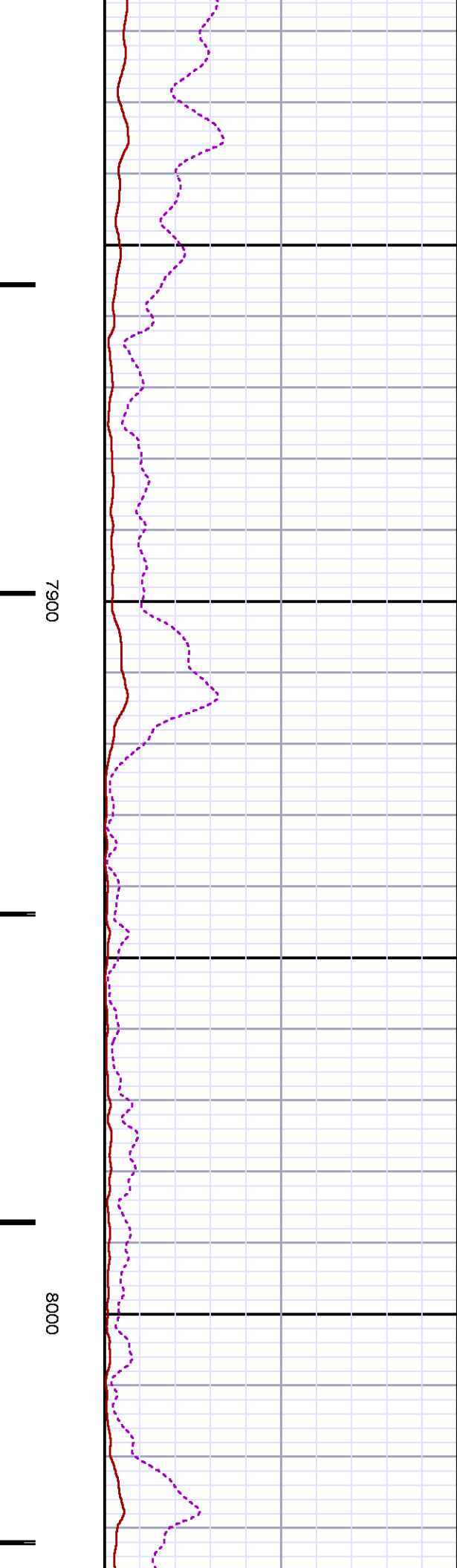
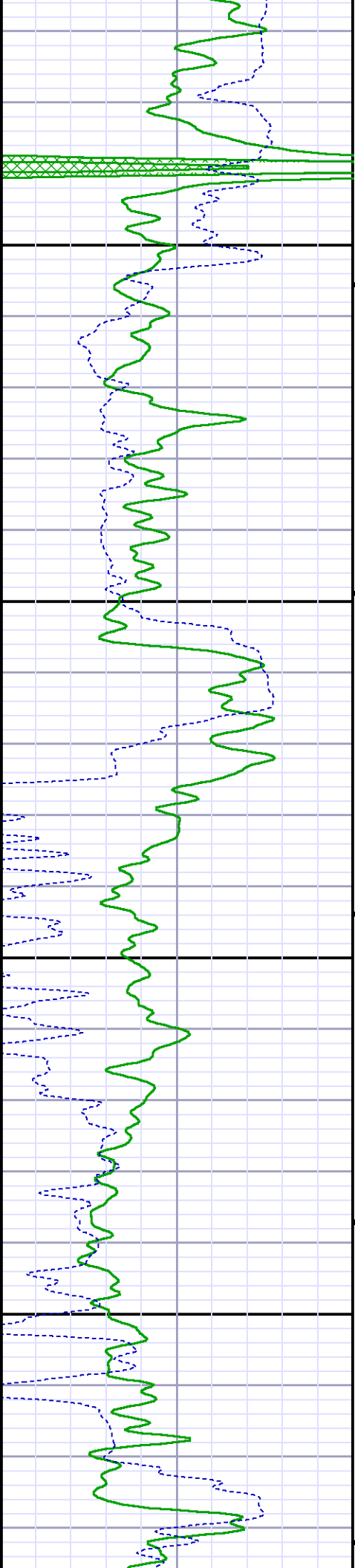






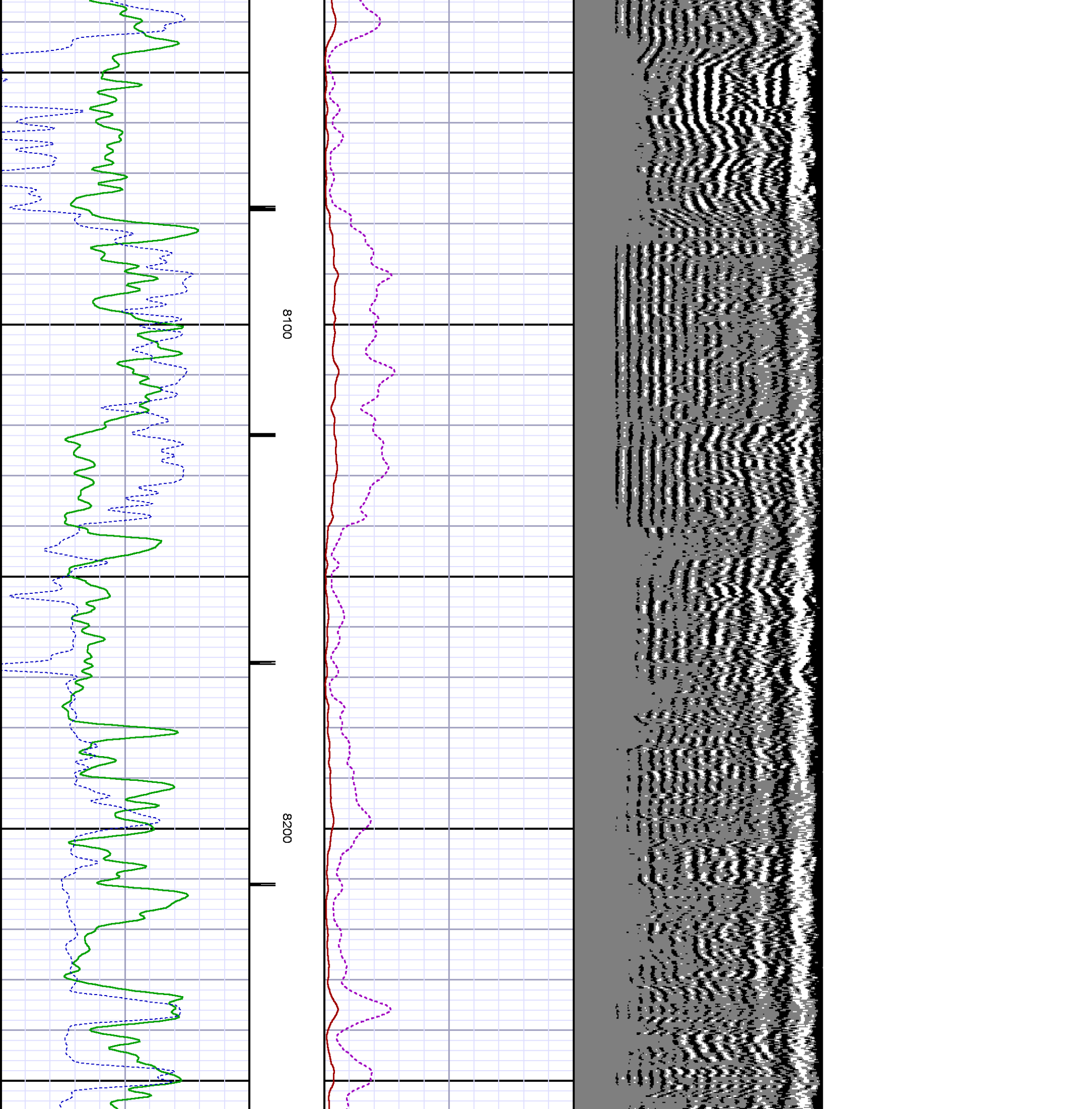


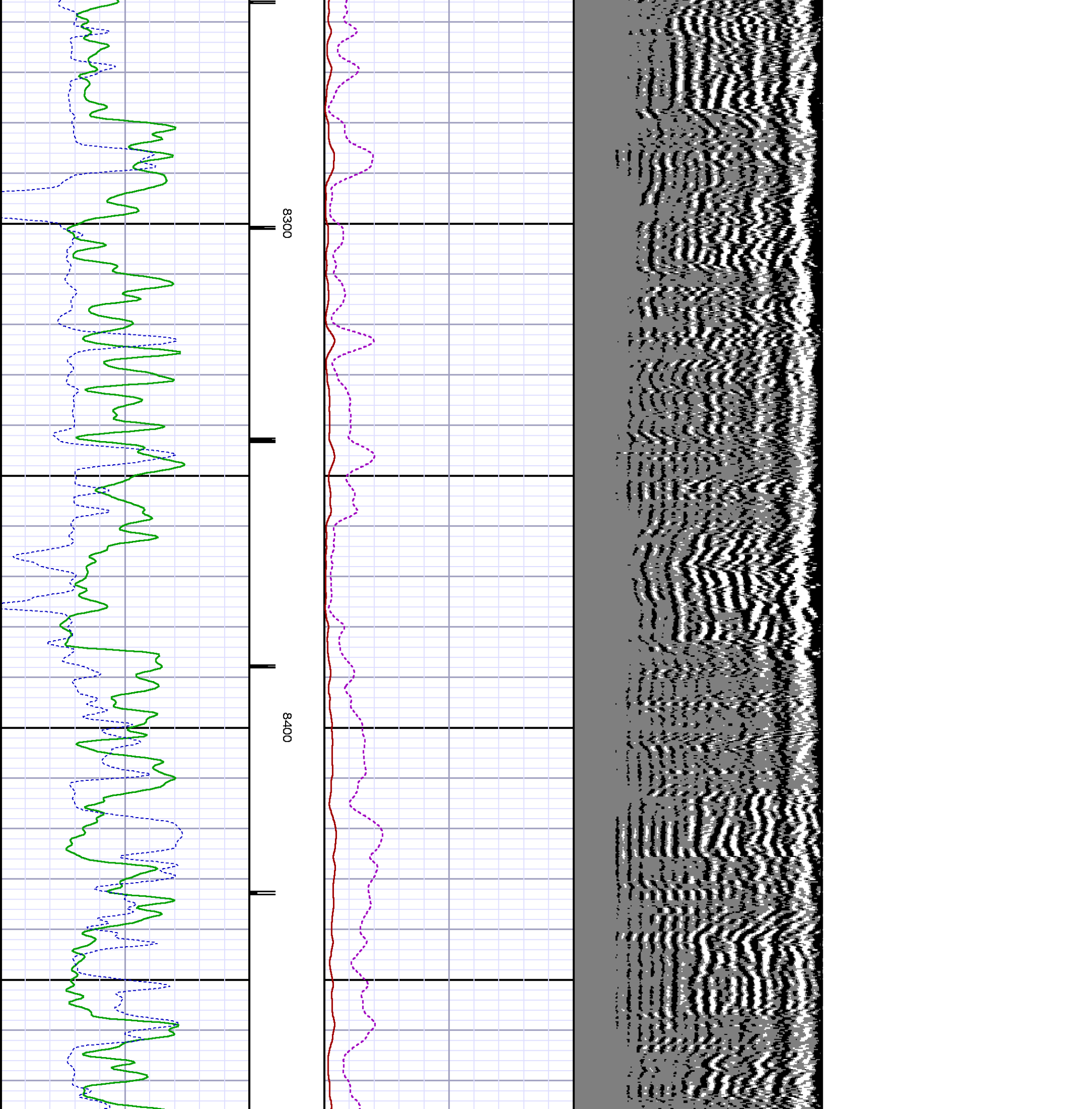


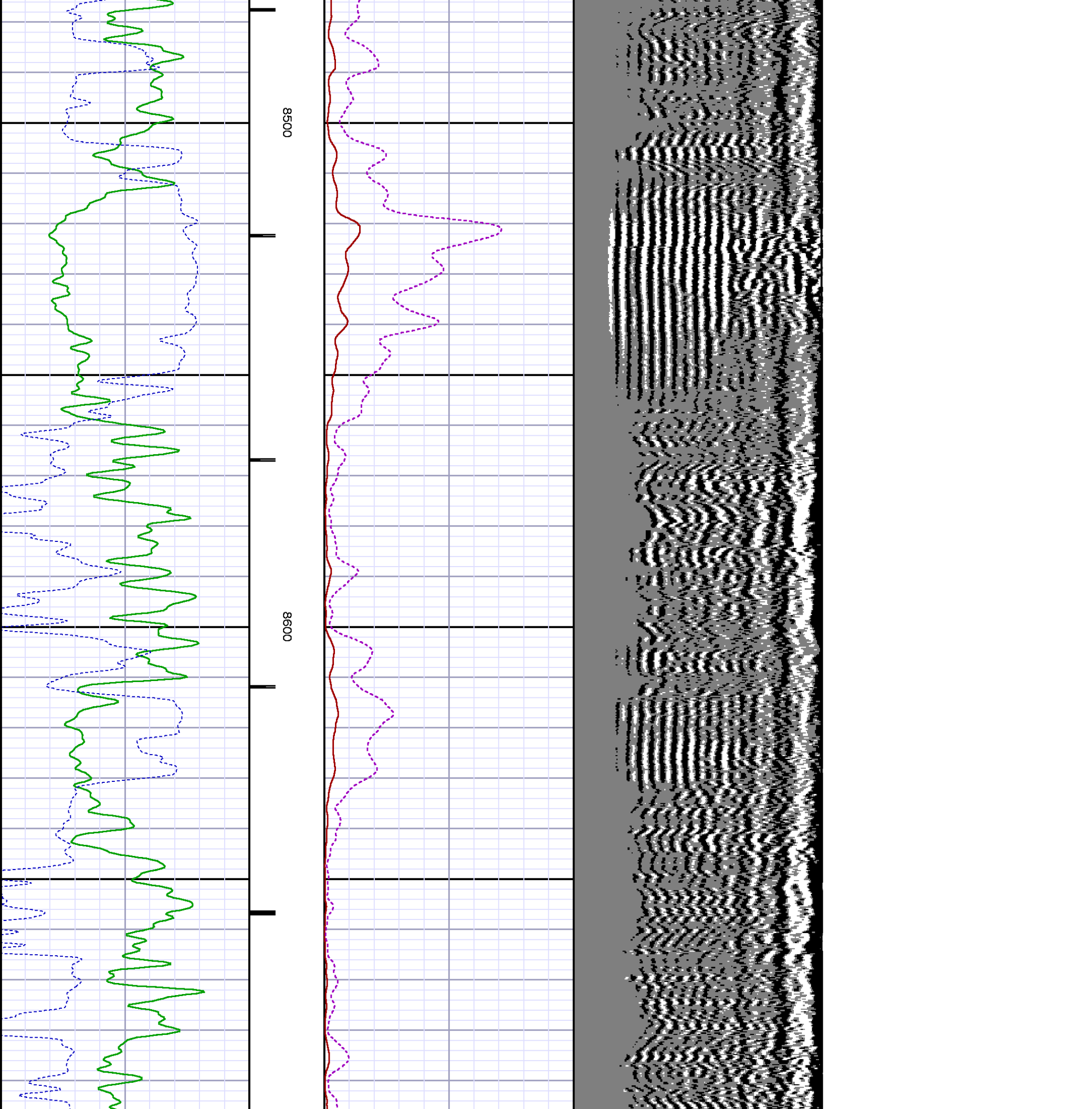


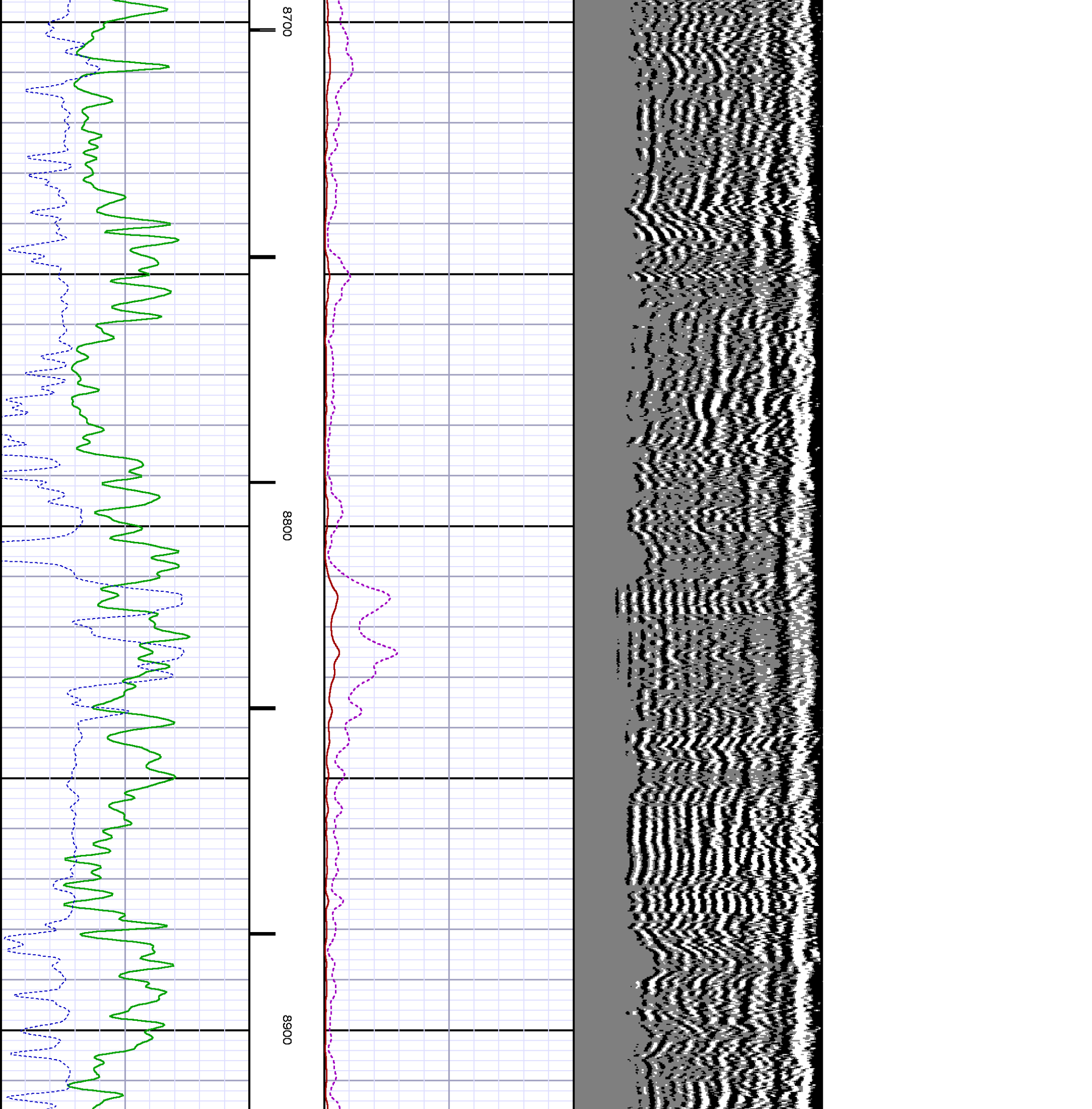
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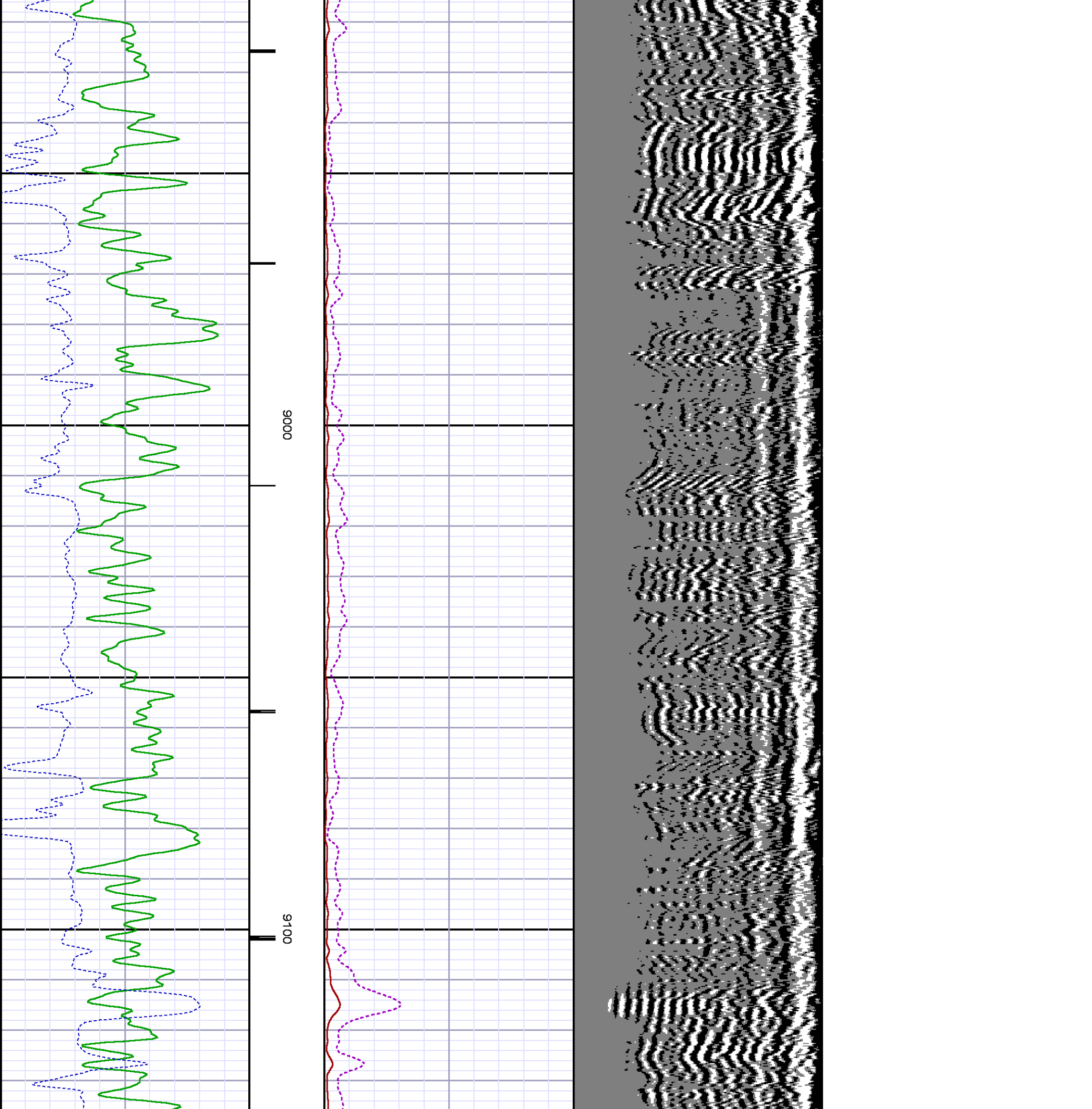
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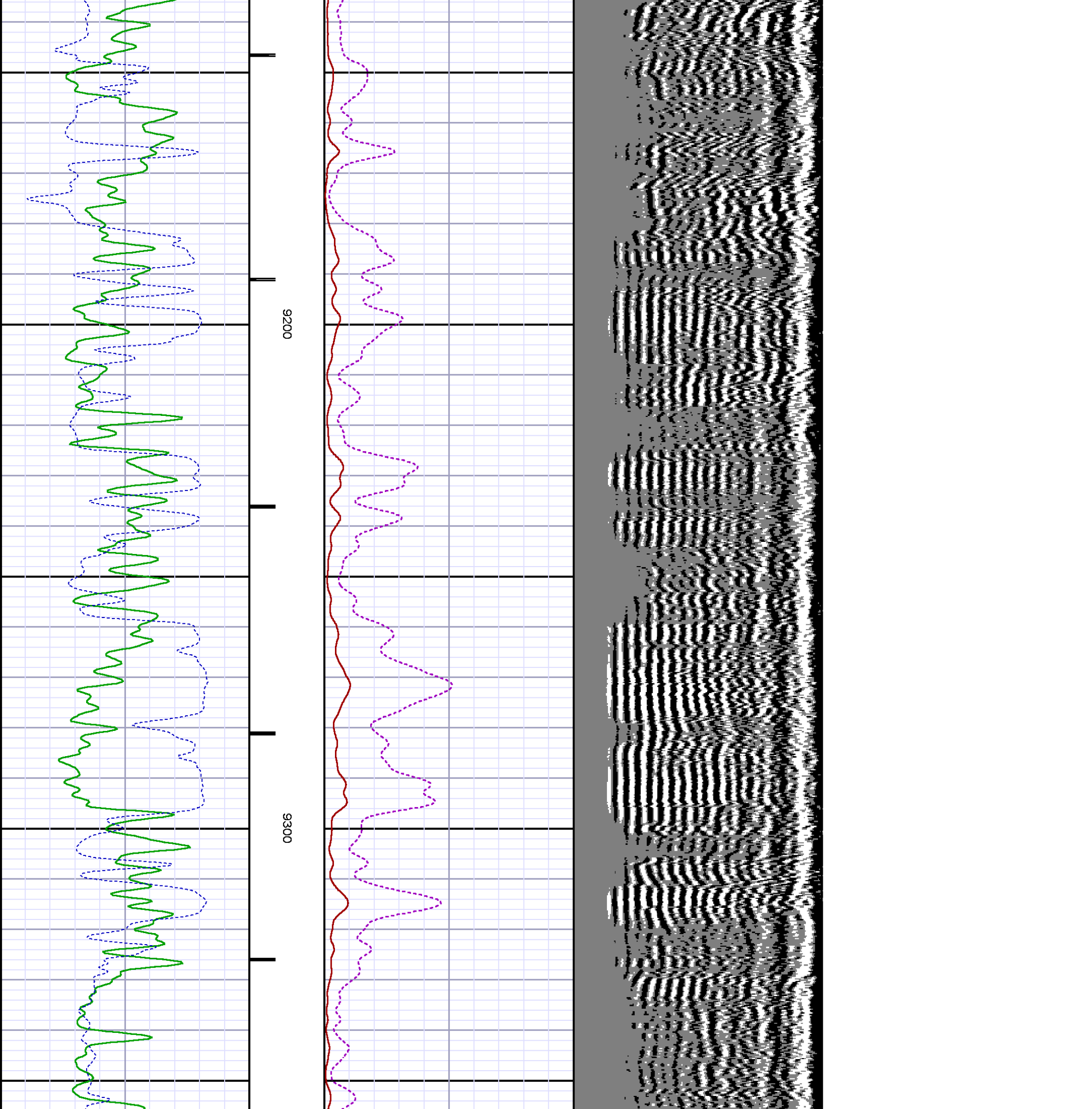


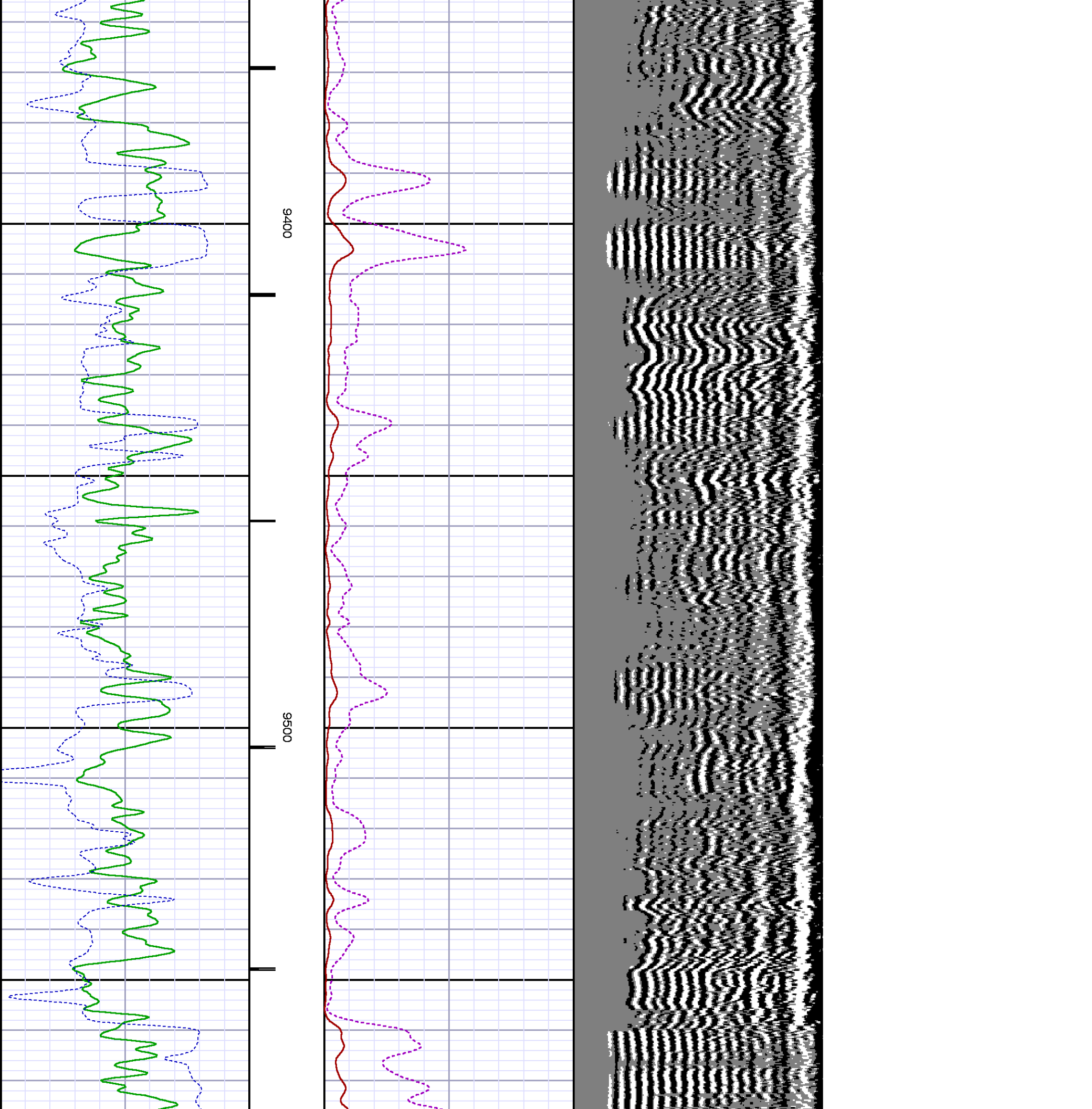


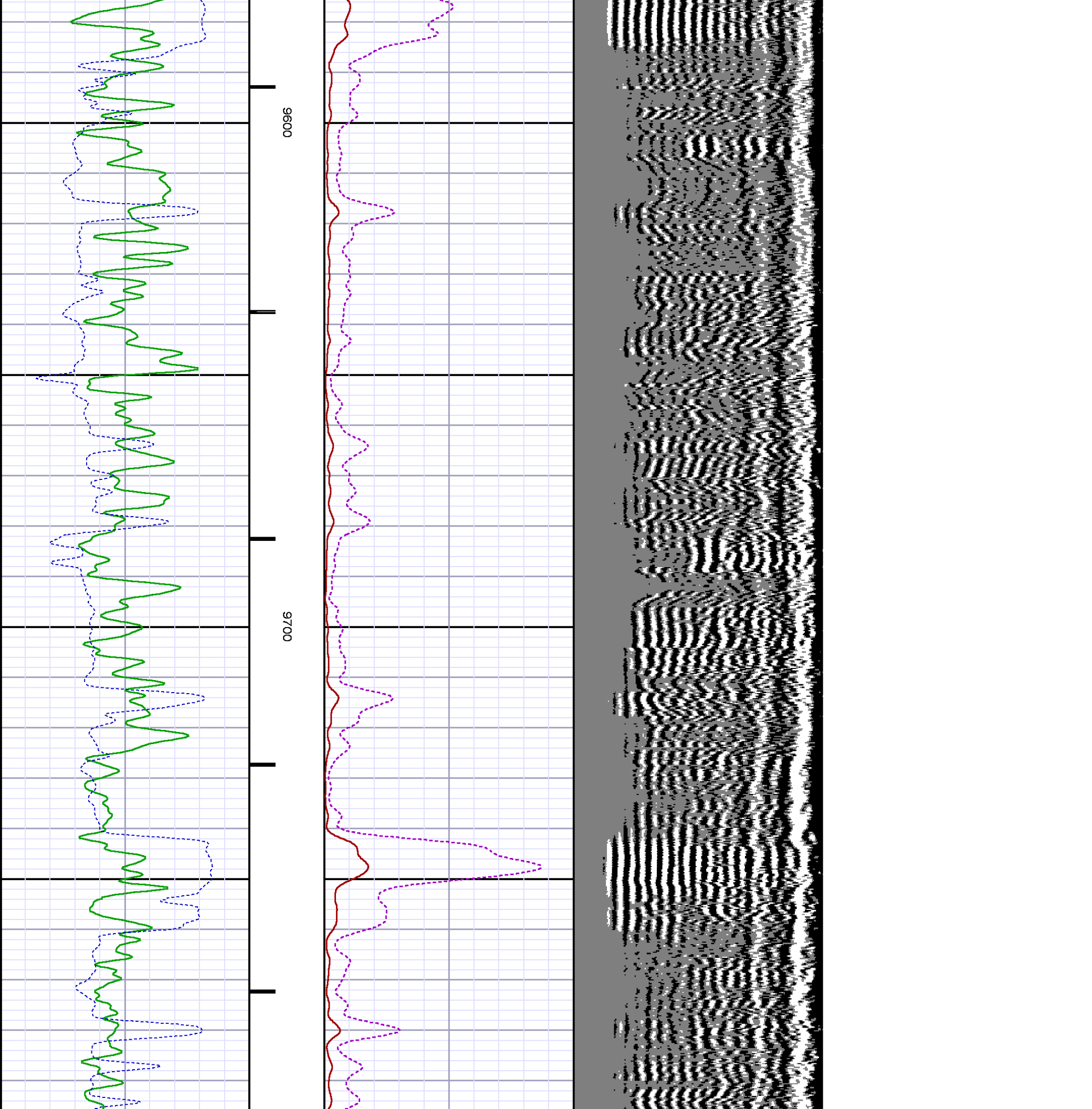


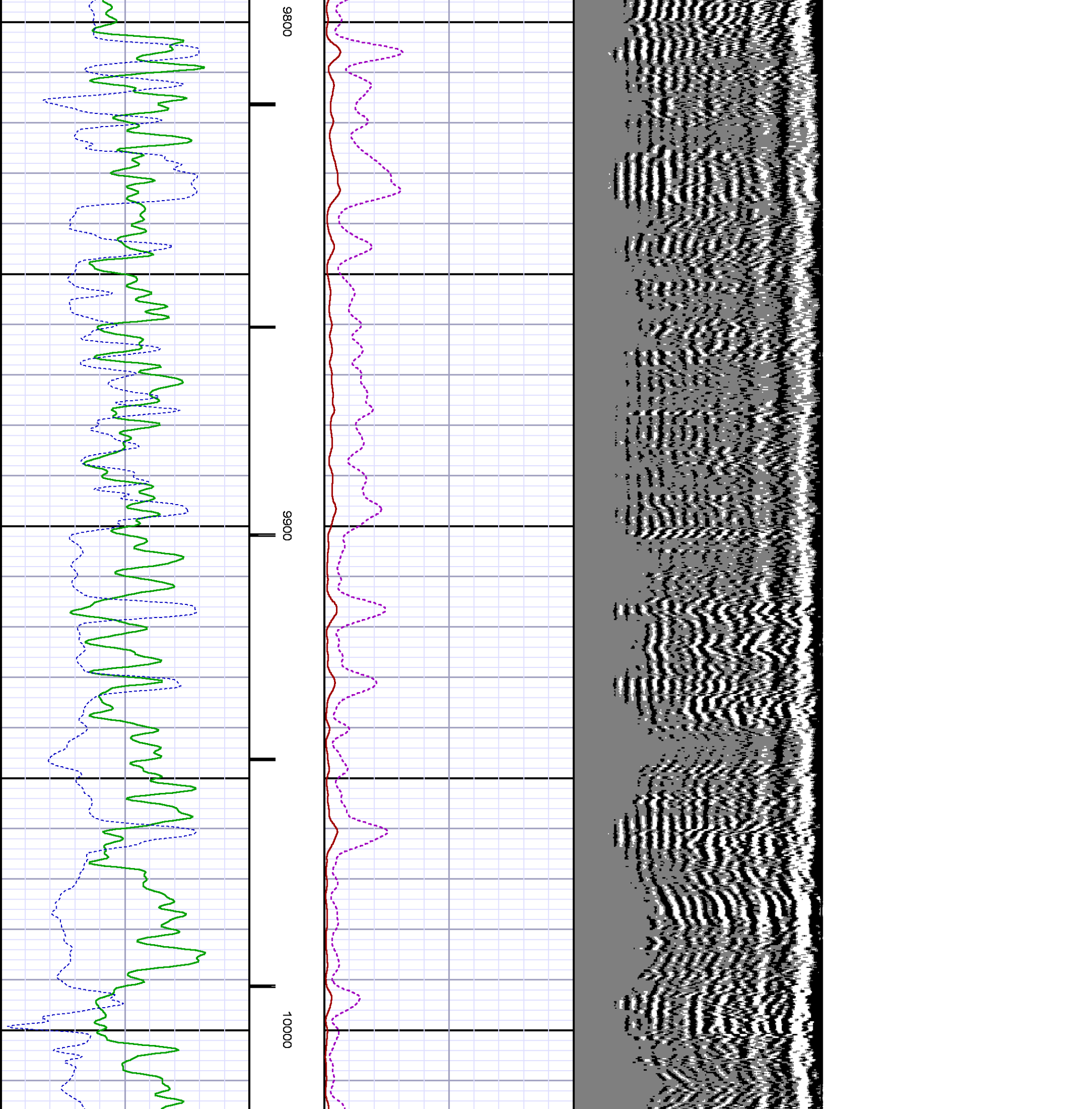


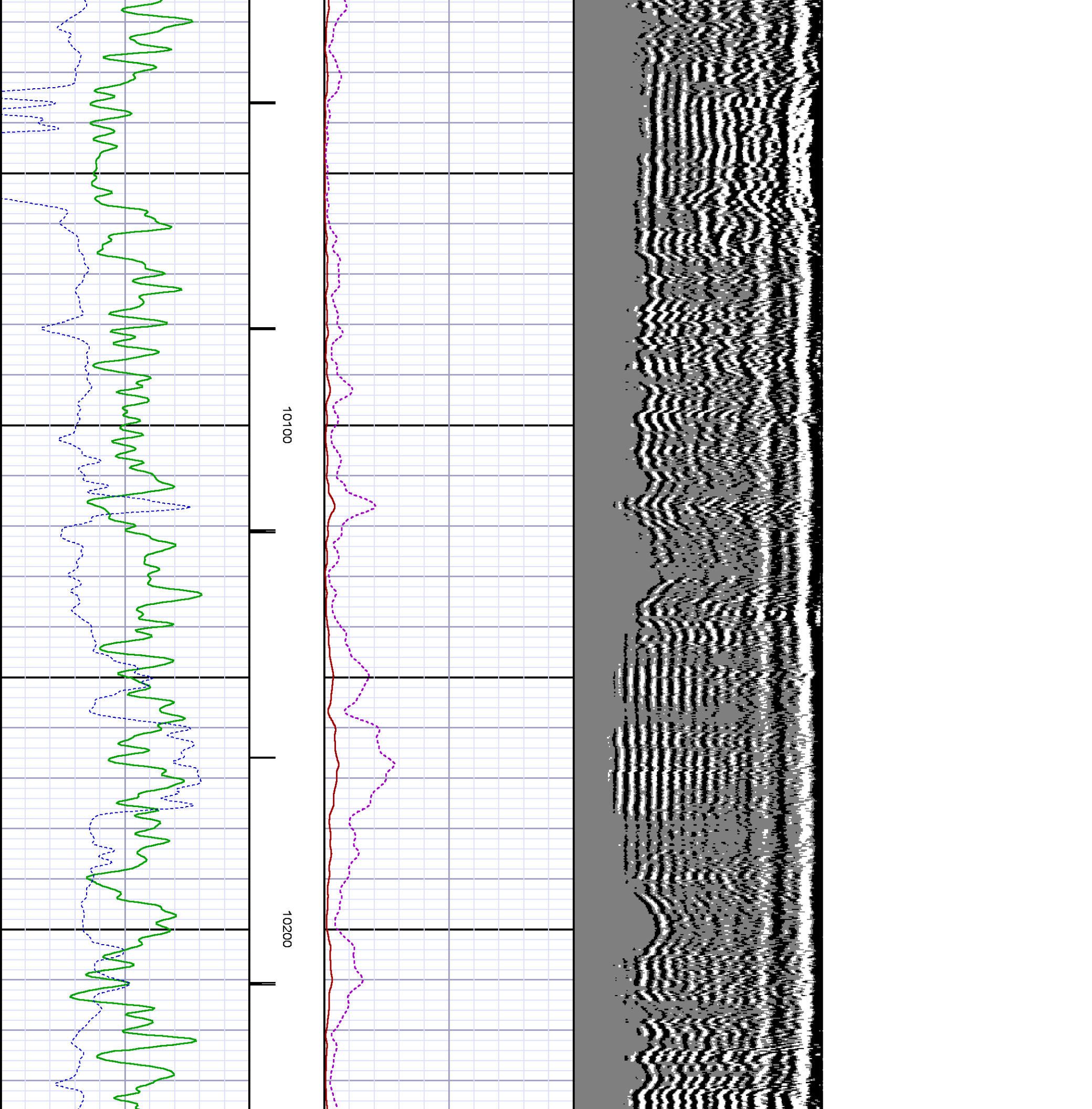


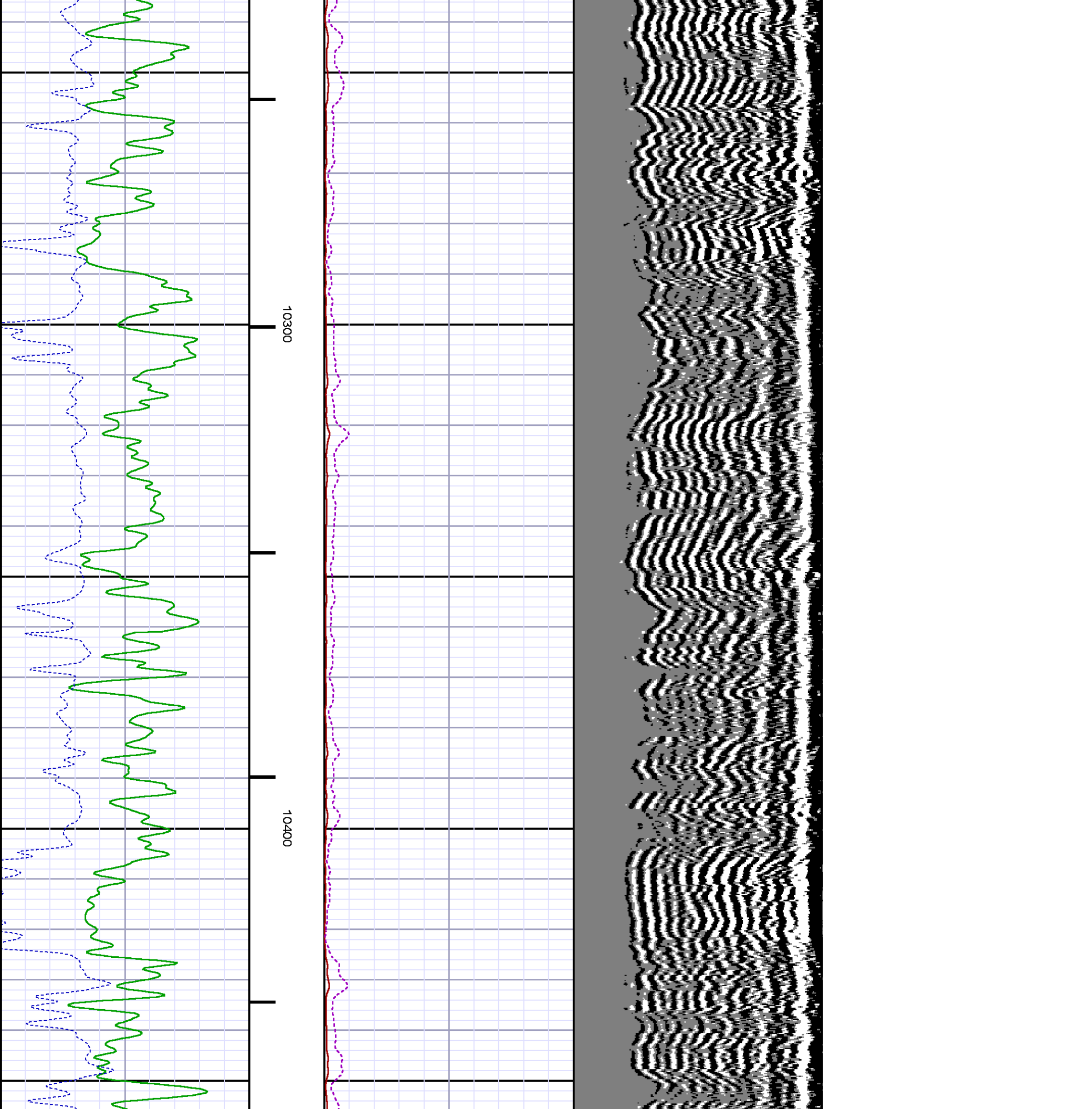


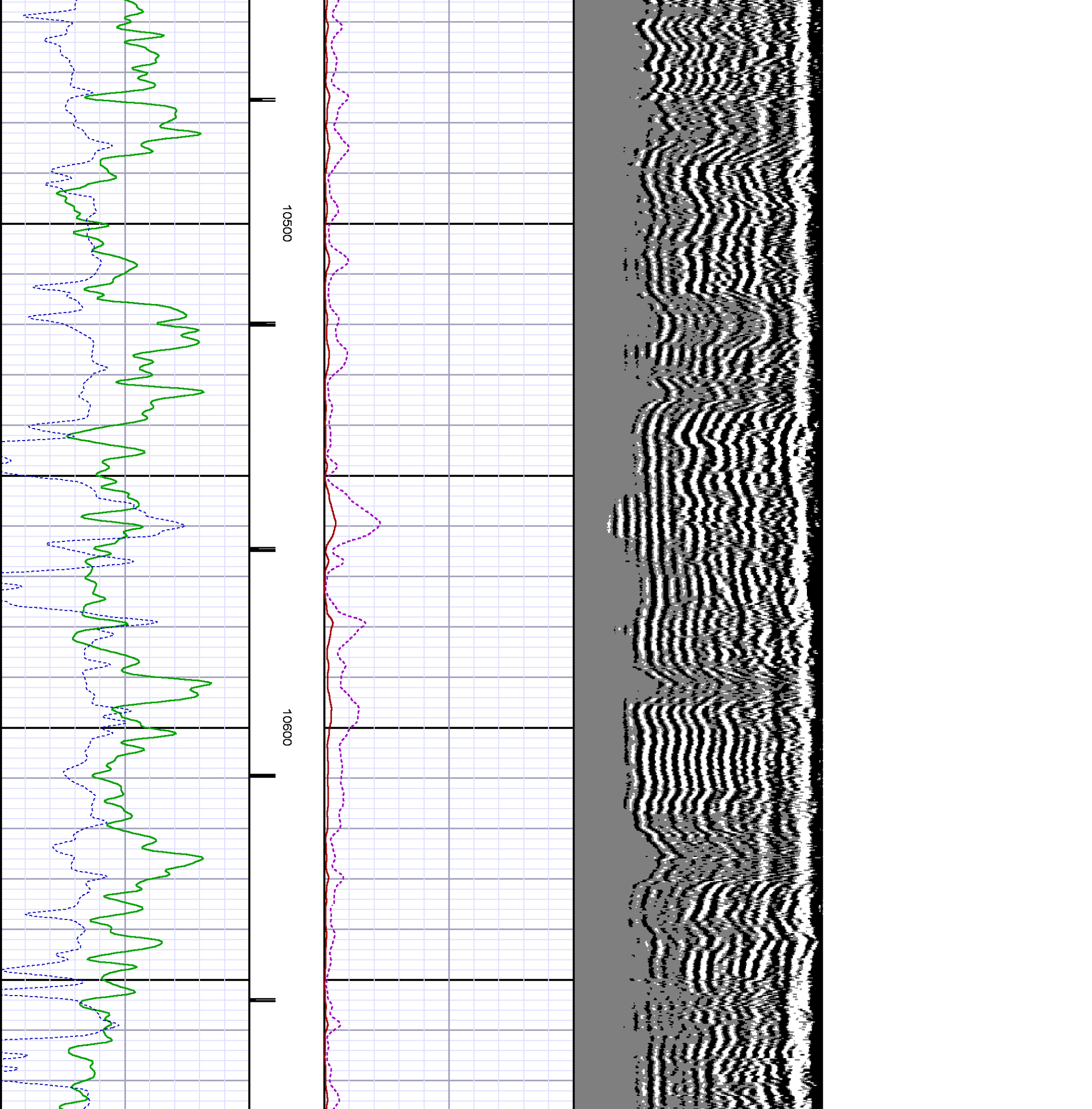


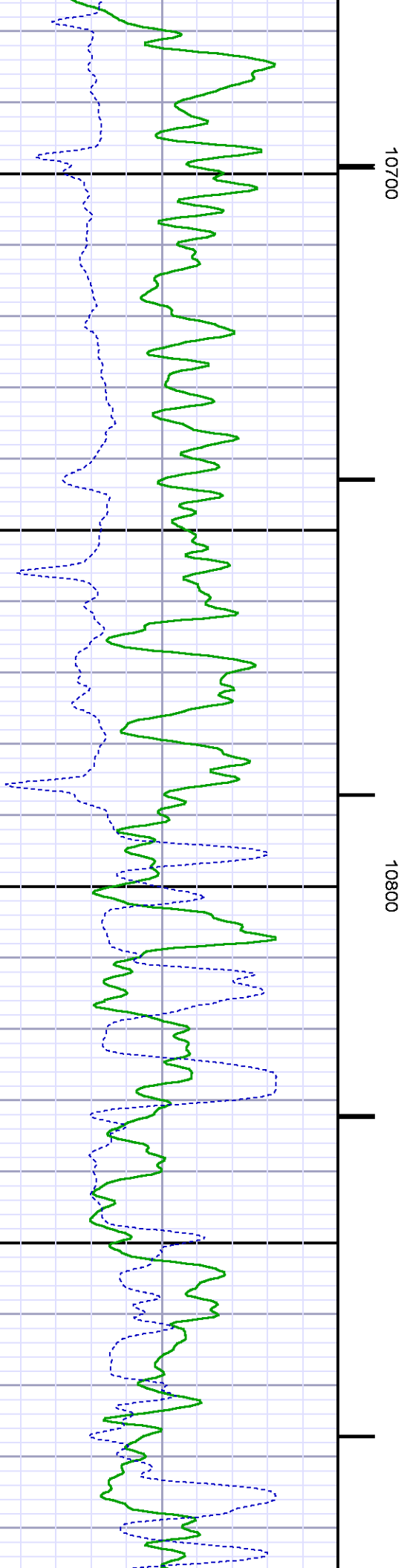
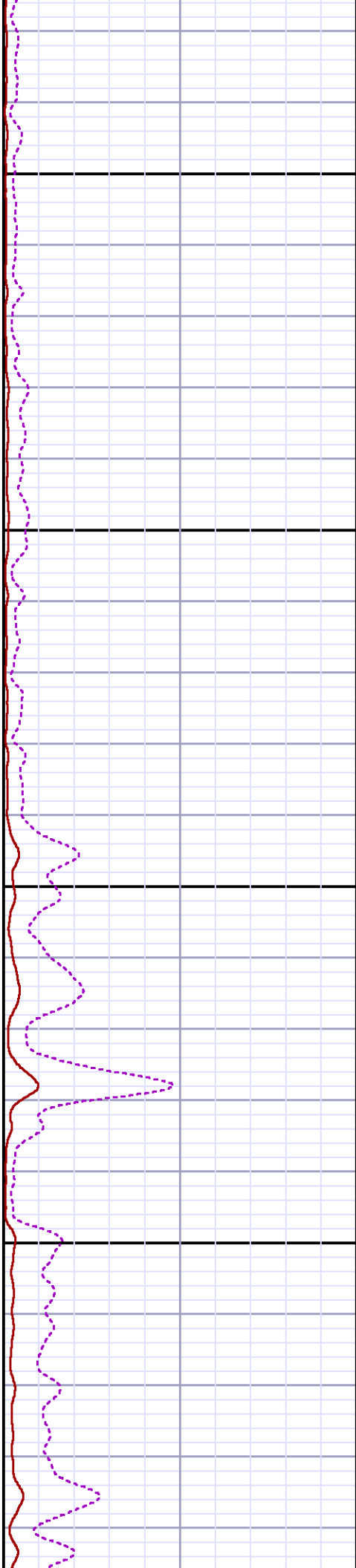
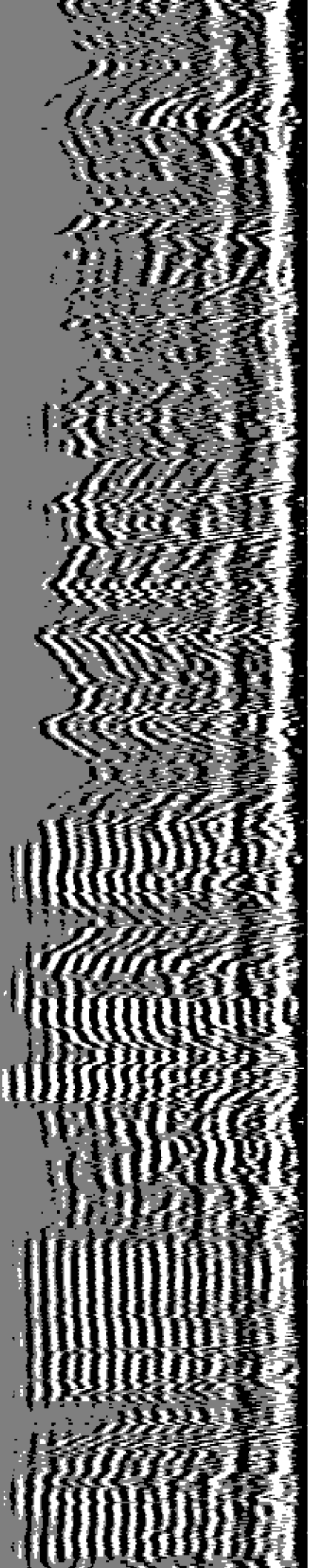


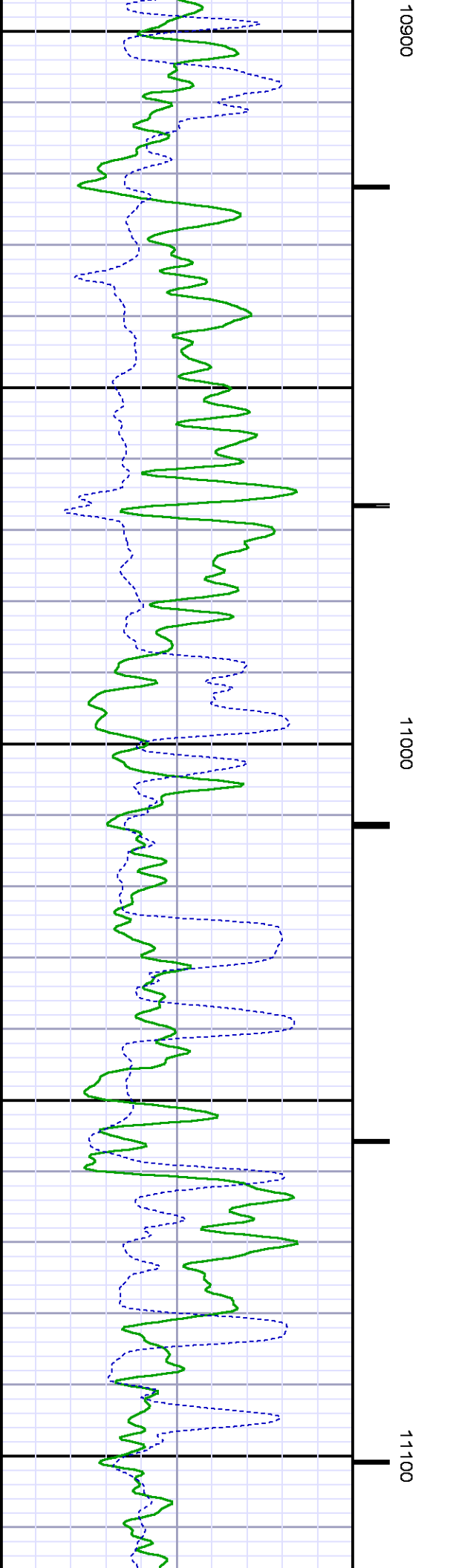
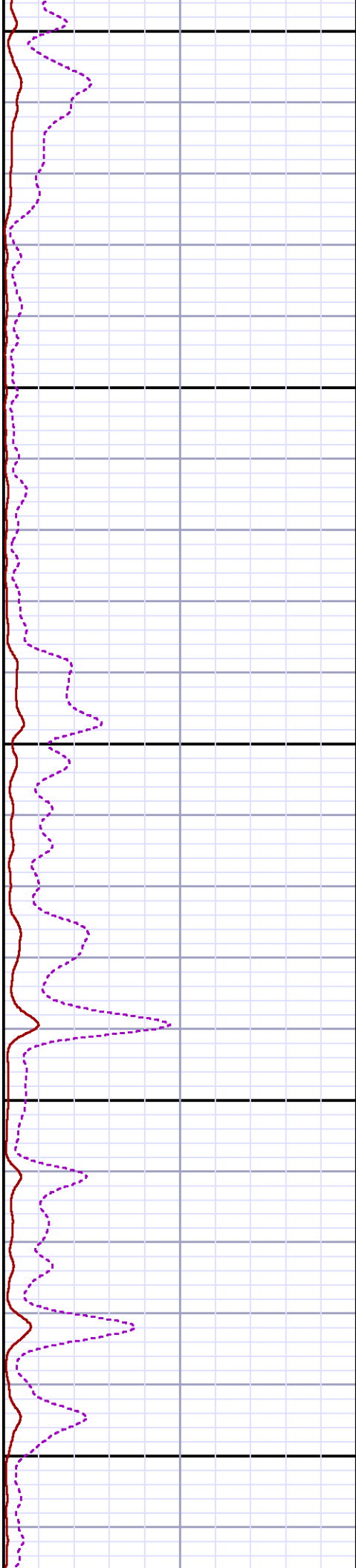
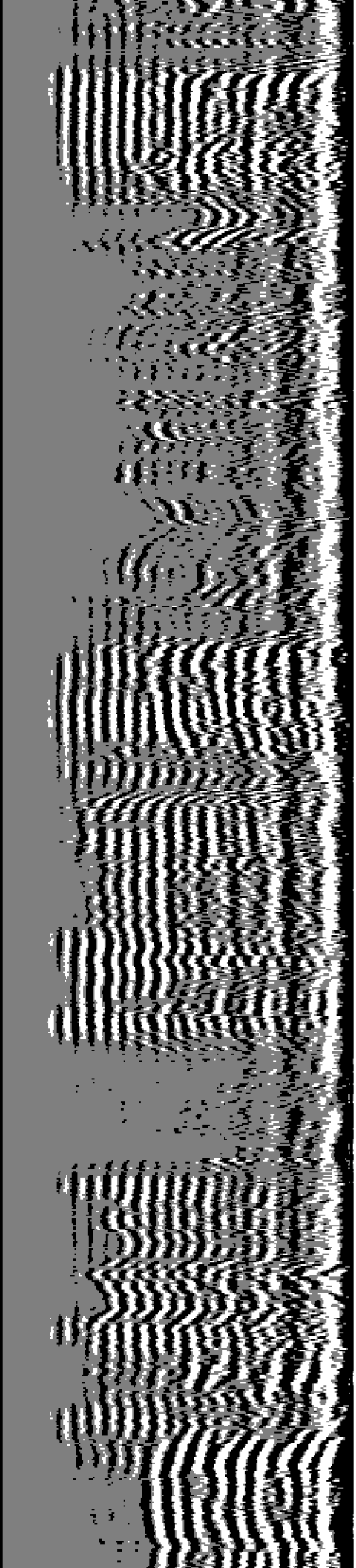


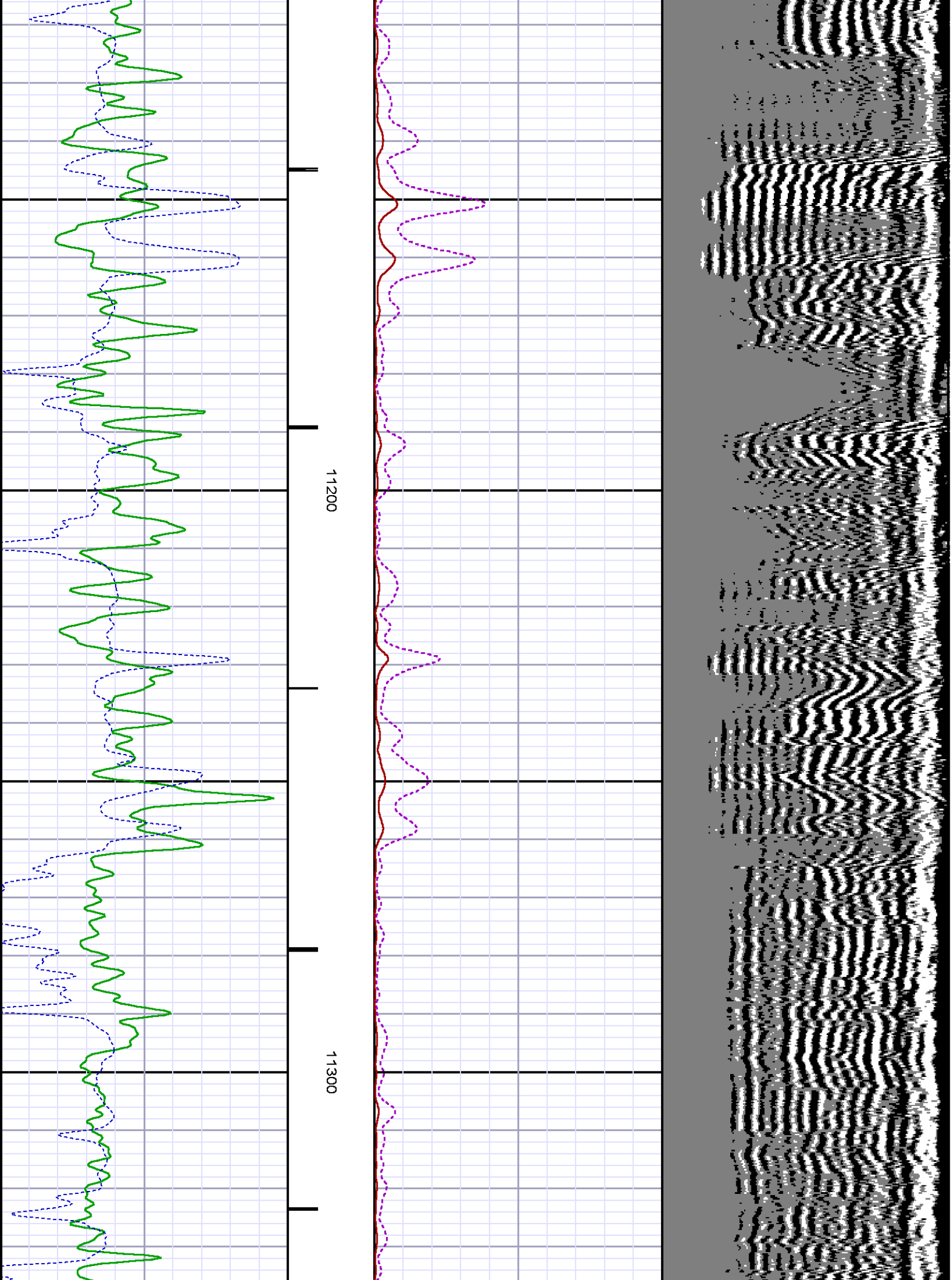


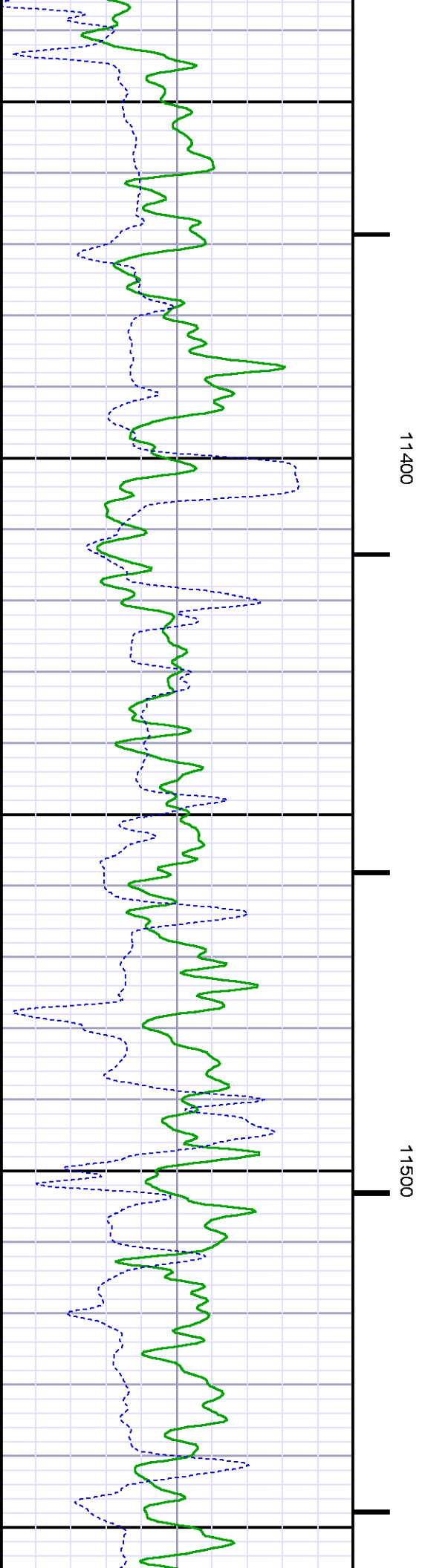
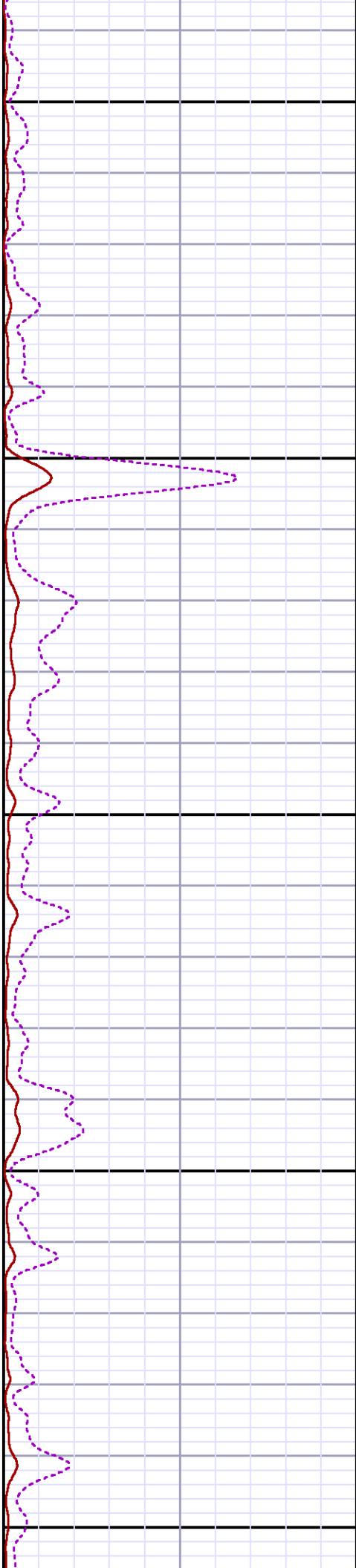
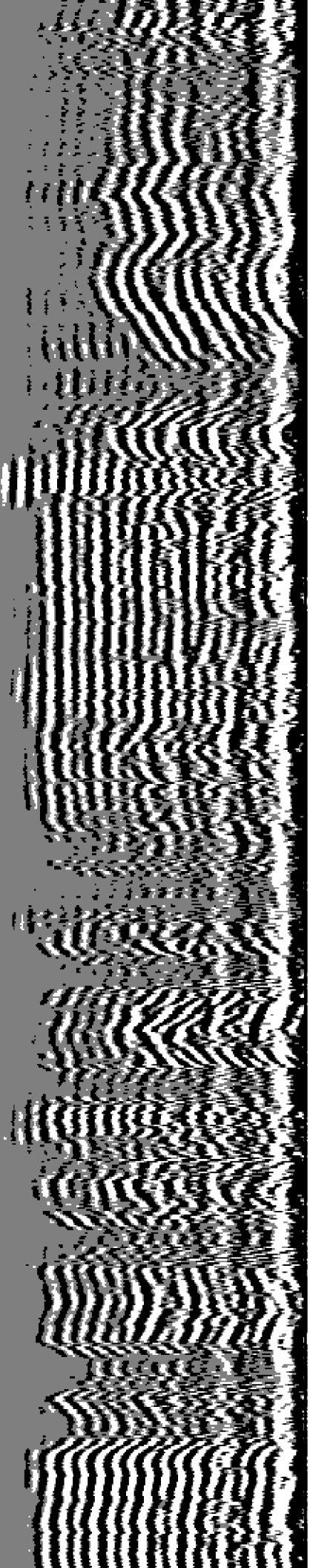


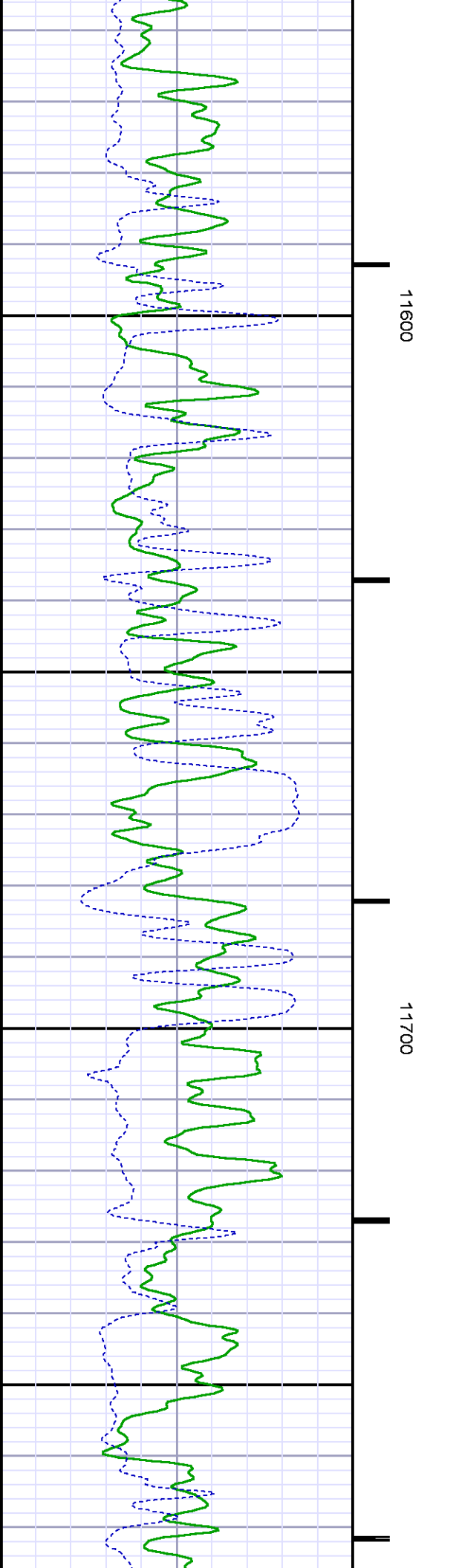
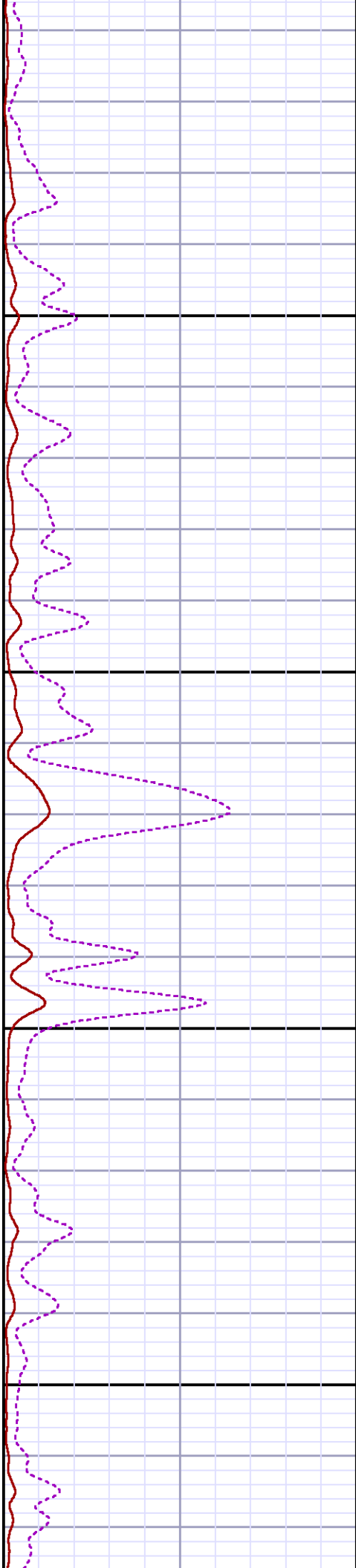
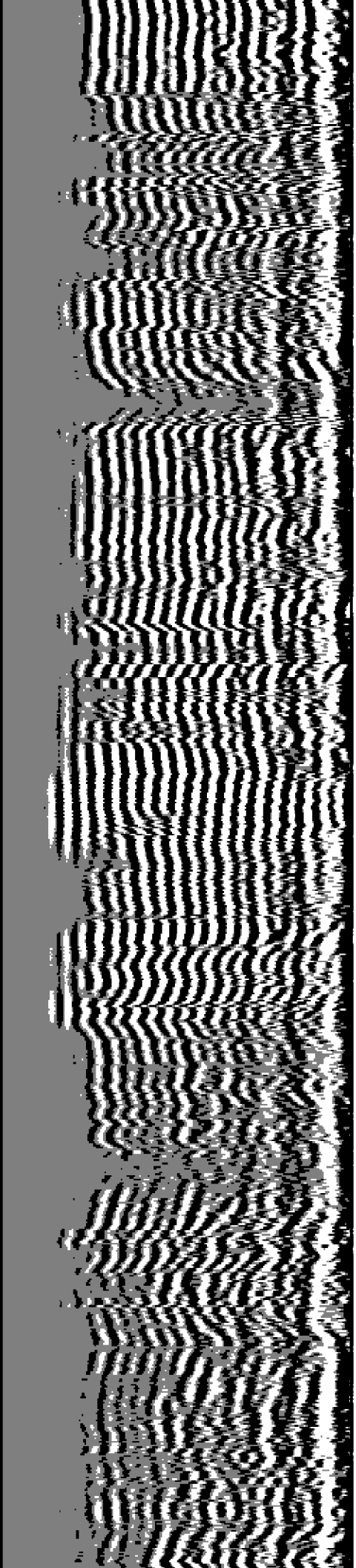


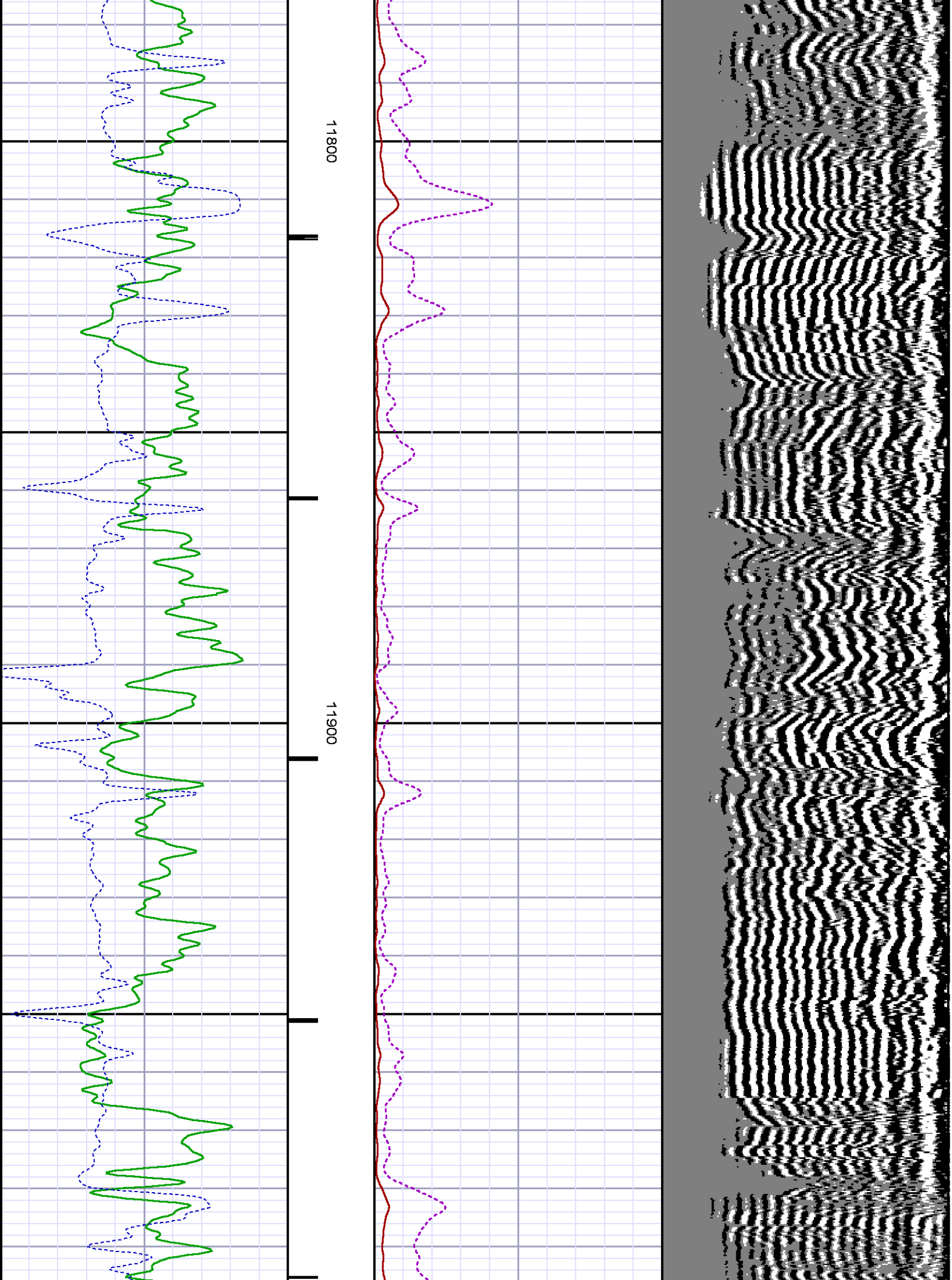


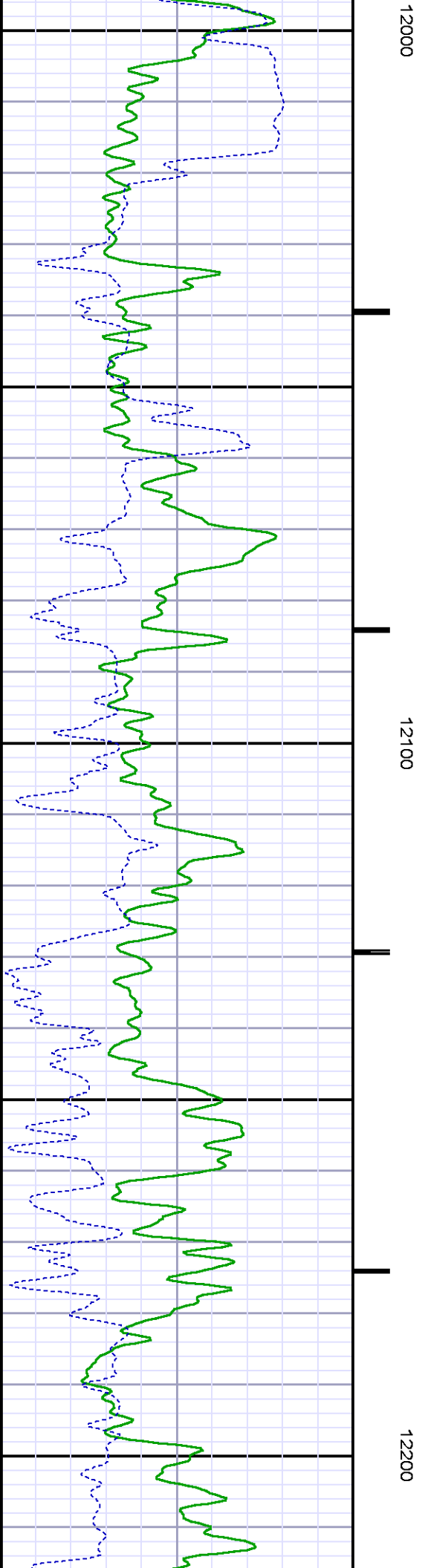
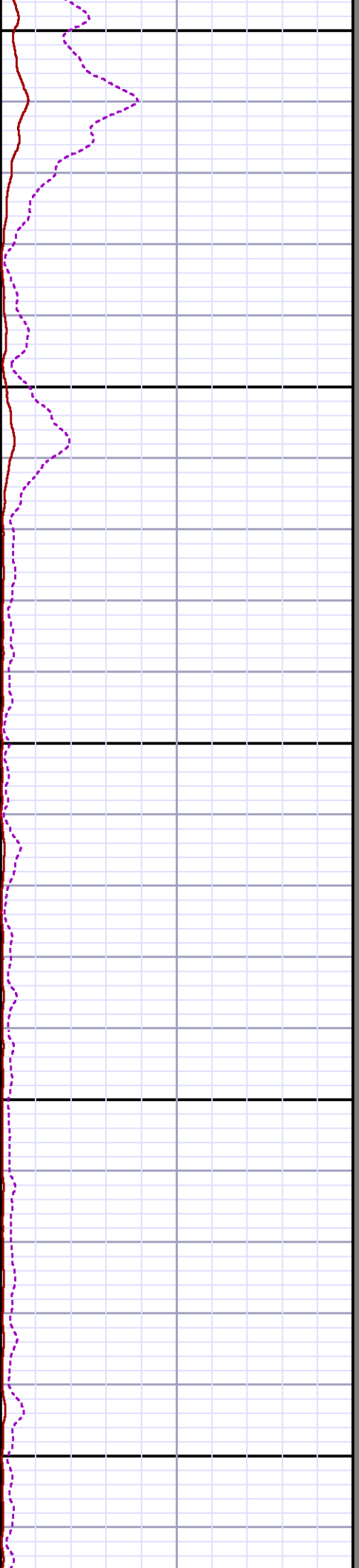
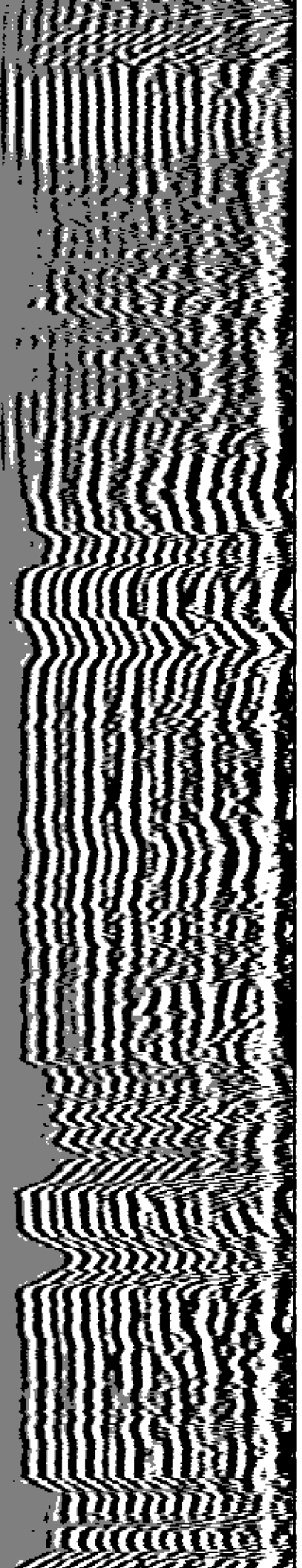


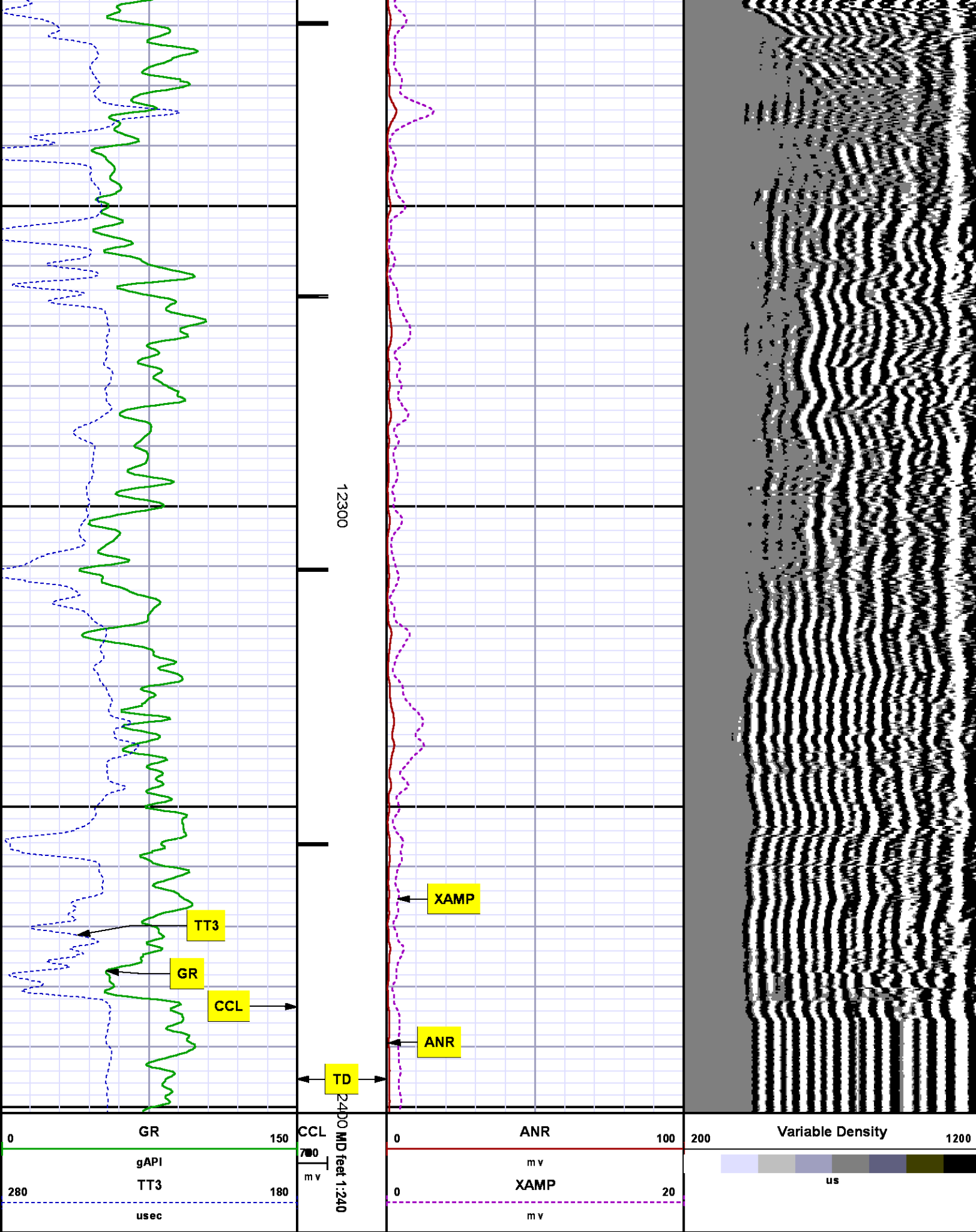












# SECONDARY PRESENTATION

## O PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	25.530	12406.500
RAL	Amp Gate Start Near	195.000	usec	25.530	12406.500
RAL	Amp Gate Start Radial	195.000	usec	25.530	12406.500
RAL	Amp Gate Width Far	30.000	usec	25.530	12406.500
RAL	Amp Gate Width Near	25.000	usec	25.530	12406.500
RAL	Amp Gate Width Radial	25.000	usec	25.530	12406.500
RAL	casing od	4.500	inches	25.530	12406.500
RAL	casing wt	11.600	lbm/ft	25.530	12406.500
RAL	FB Start Far	291.900	usec	25.530	12406.500
RAL	FB Start Near	180.000	usec	25.530	12406.500
RAL	FB Start Radial	180.000	usec	25.530	12406.500
RAL	FB Thresh Far	10.000	mv	25.530	12406.500
RAL	FB Thresh Near	4.000	mv	25.530	12406.500
RAL	FB Thresh Radial	4.000	mv	25.530	12406.500
RAL	Fluid Travel Time	200.000	usec/ft	25.530	12407.343

### DEPTH OFFSETS

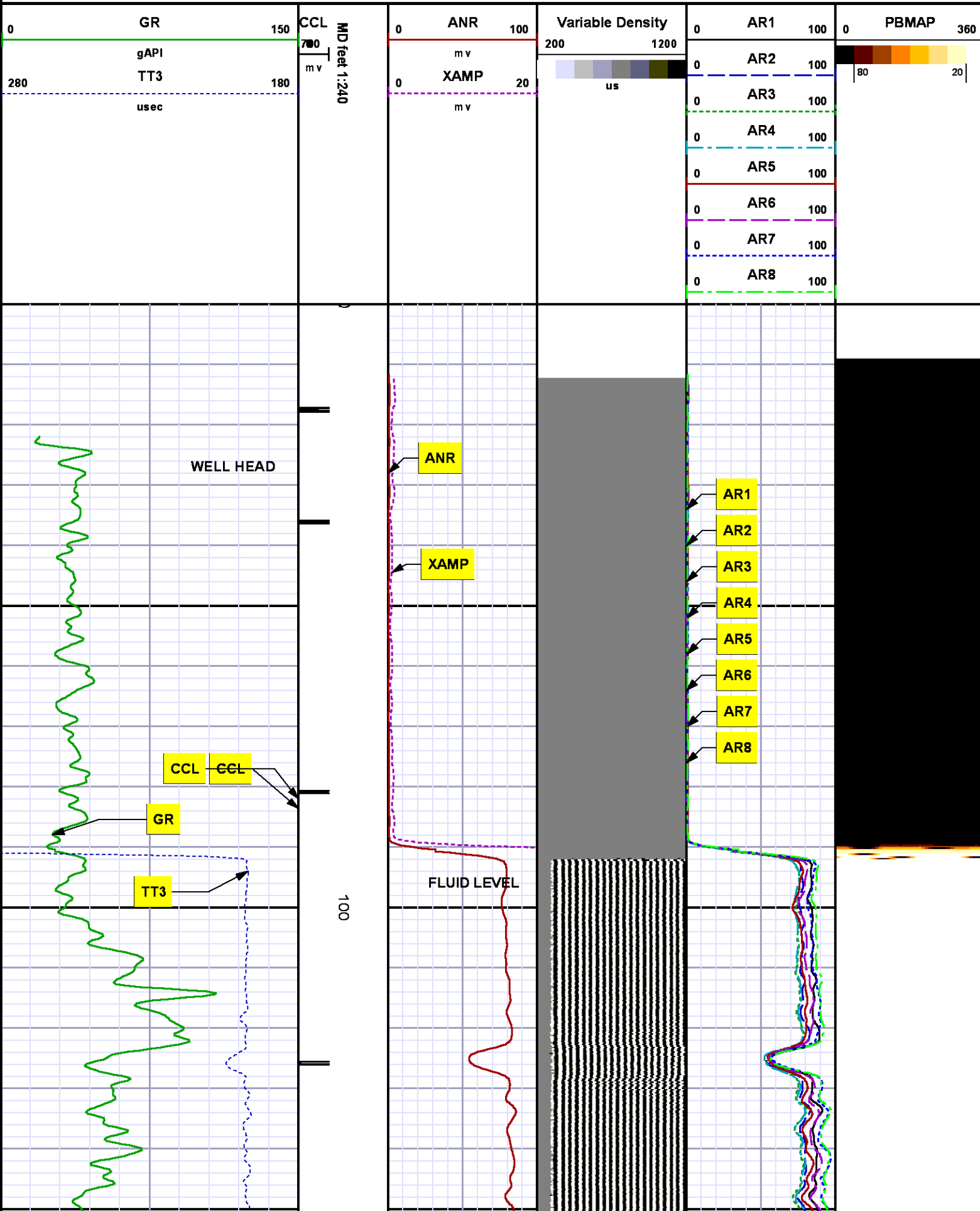
(for Acquired Curves)

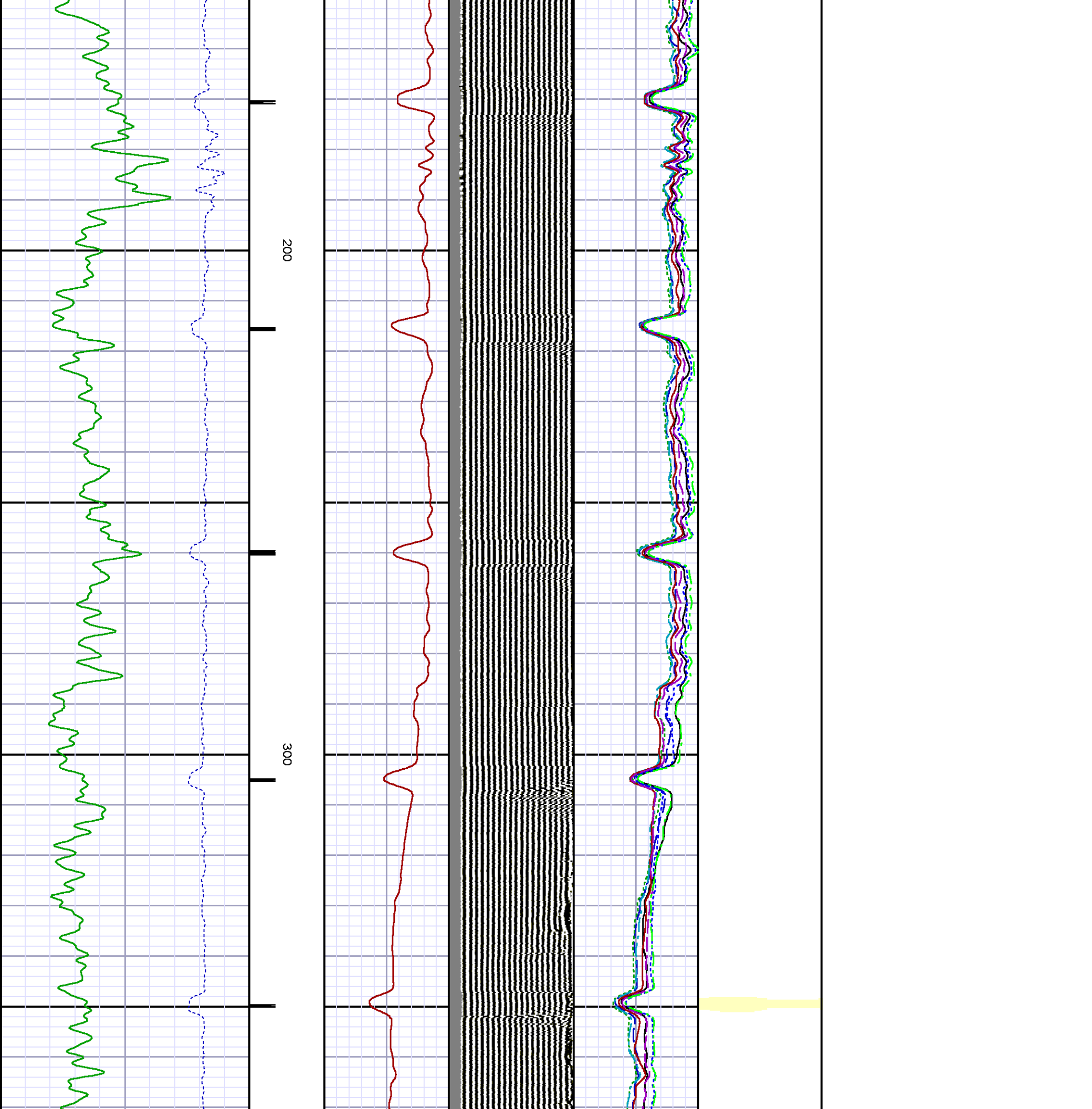
SERIES	DEPTH OFFSET	ACQUIRED CURVES
1426XA	-11.000	ACAL ANR AR1 AR2 AR3 AR4 AR5 AR6 AR7 AR8 CHV FPR2 FPR3 FPR5 TT3 TTR1 TTR2 TTR3 TTR4 TTR5 TTR6 TTR7 TTR8 XAMP
1426XA	-10.040	AFAR SIG TT5
1355XA	-5.620	CCL
1355XA	-1.500	GR
1355XA	0.000	TEMP

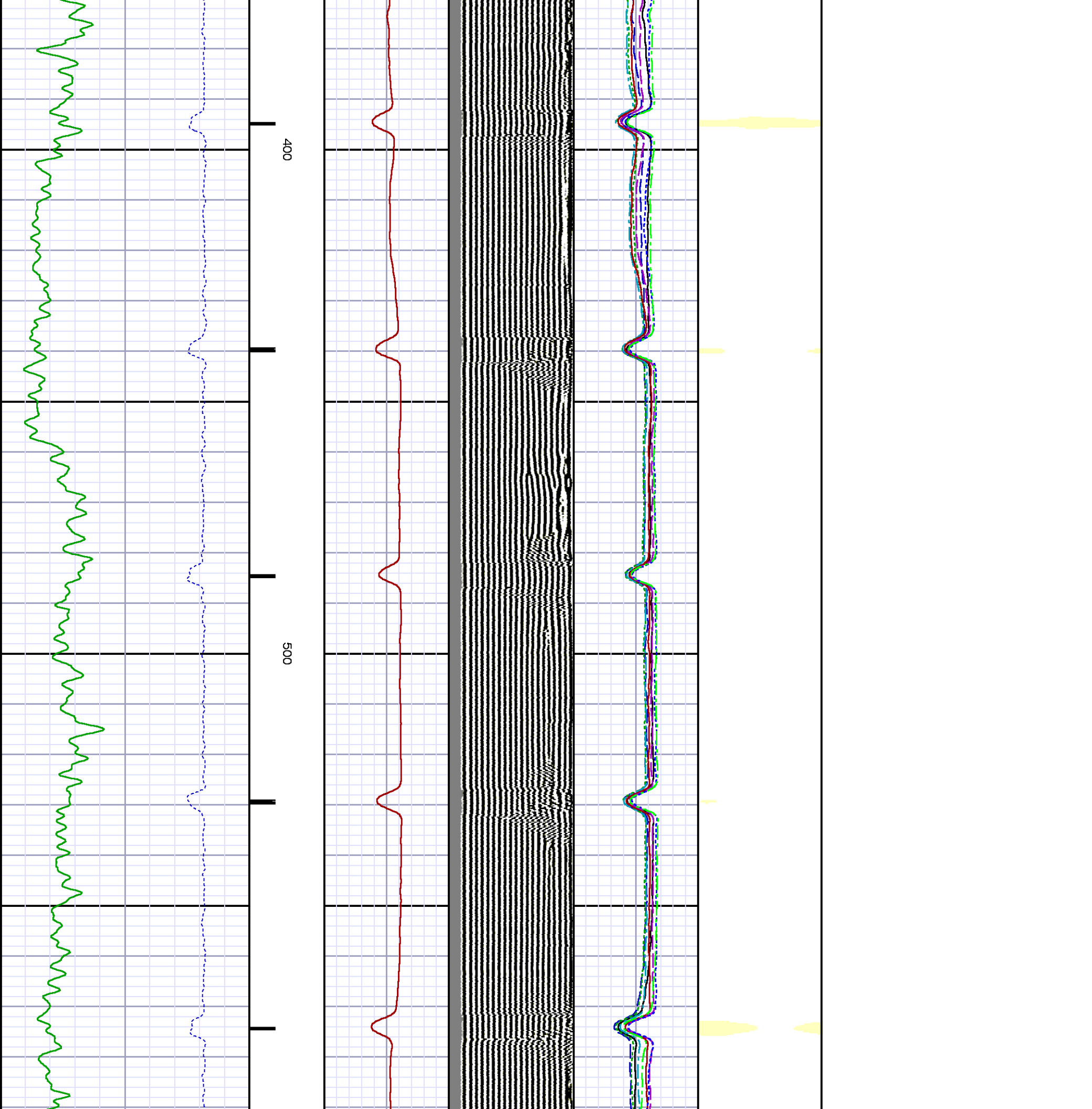
Created by : RAL, v4.8.008

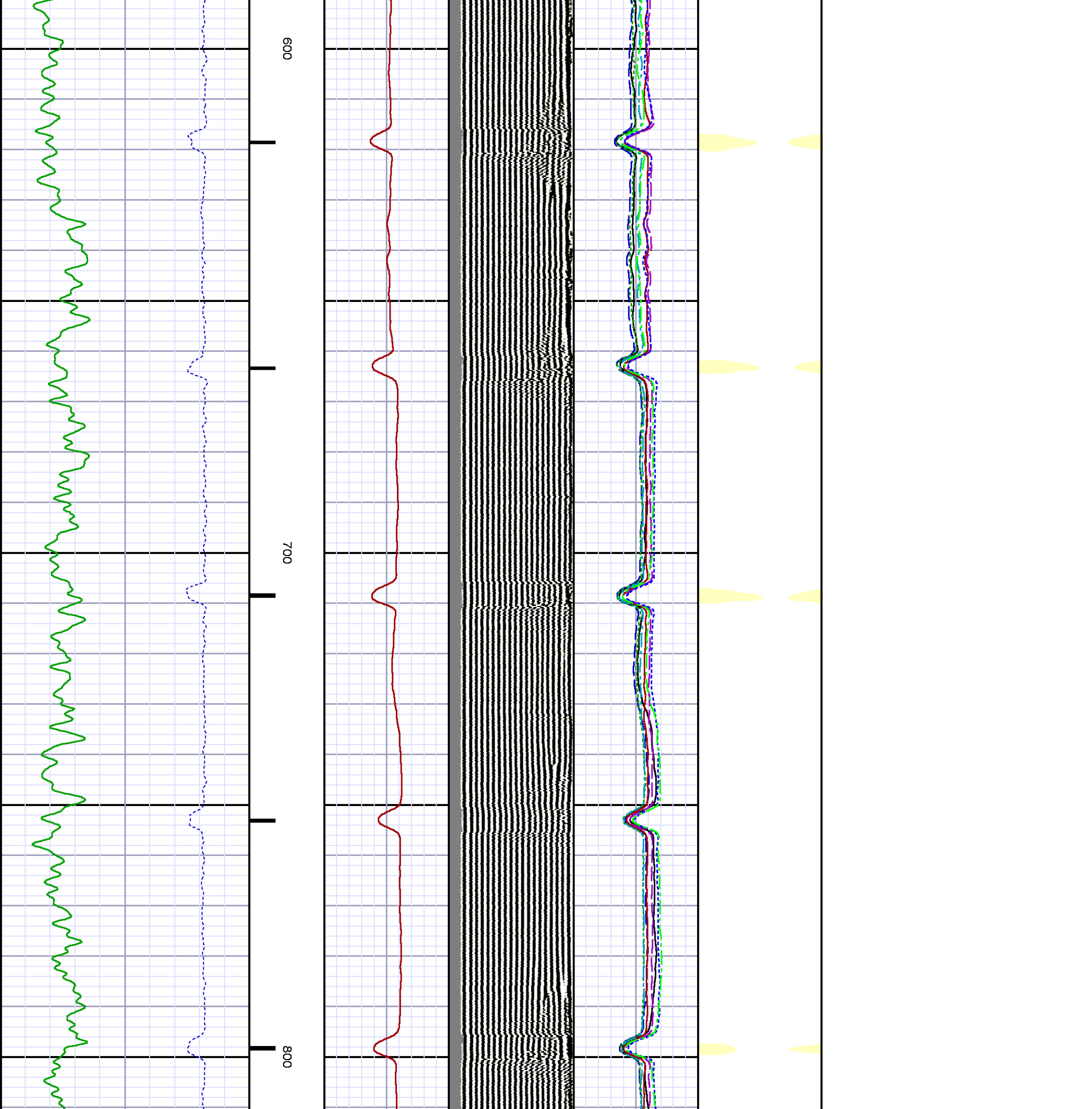
Plotted by : PlotMgr, v5.4.504

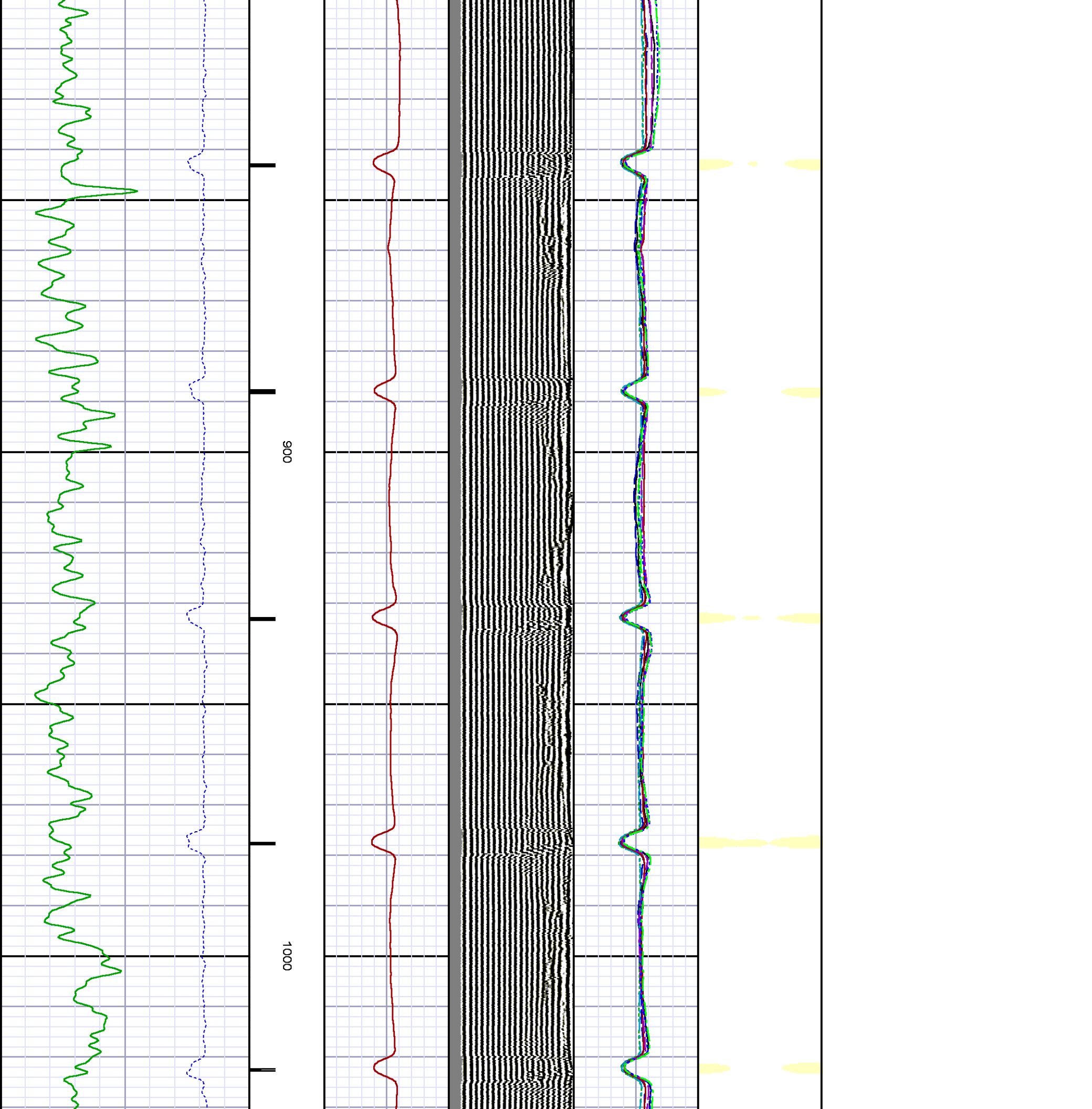
Company : WPX ENERGY

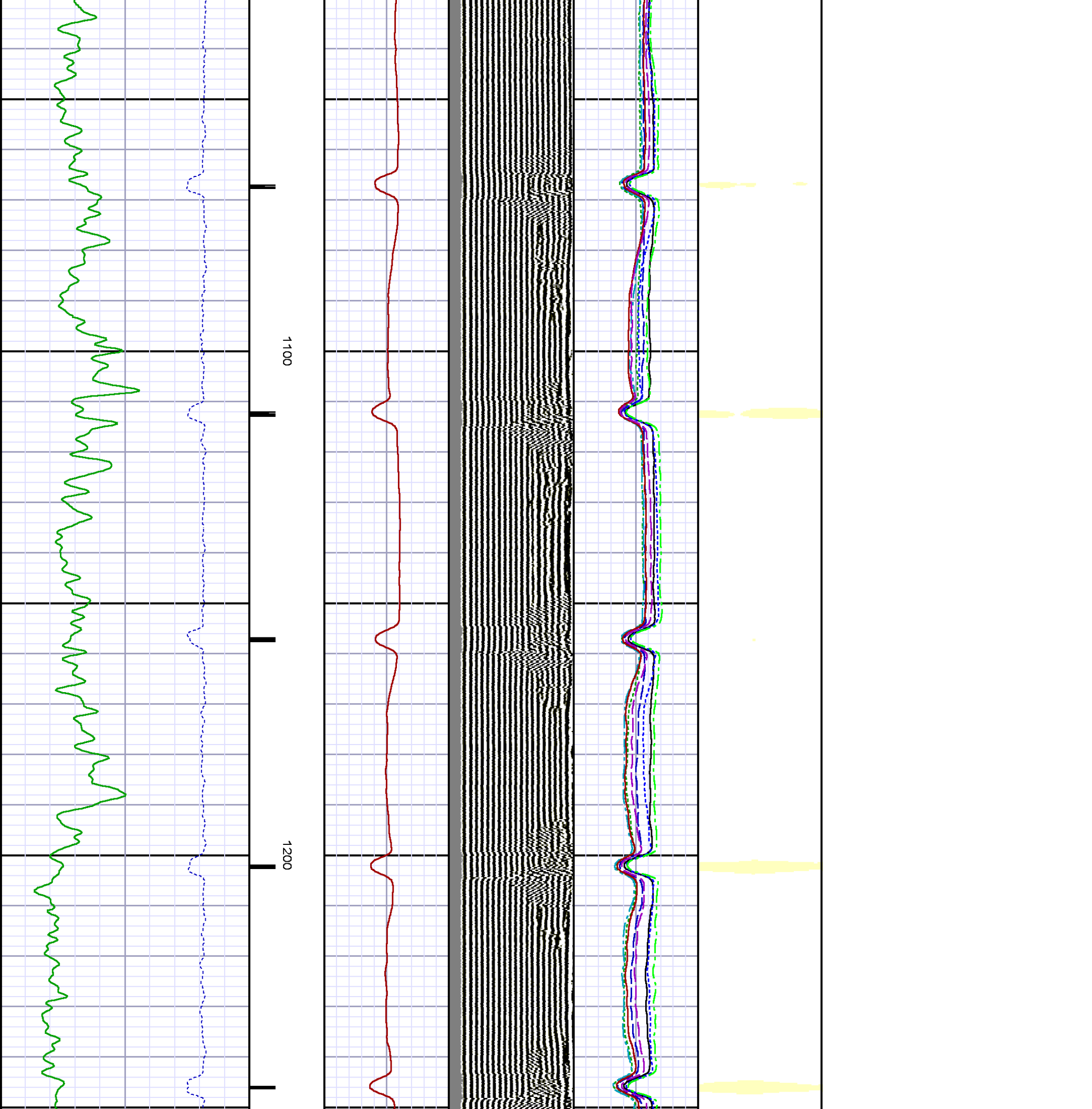


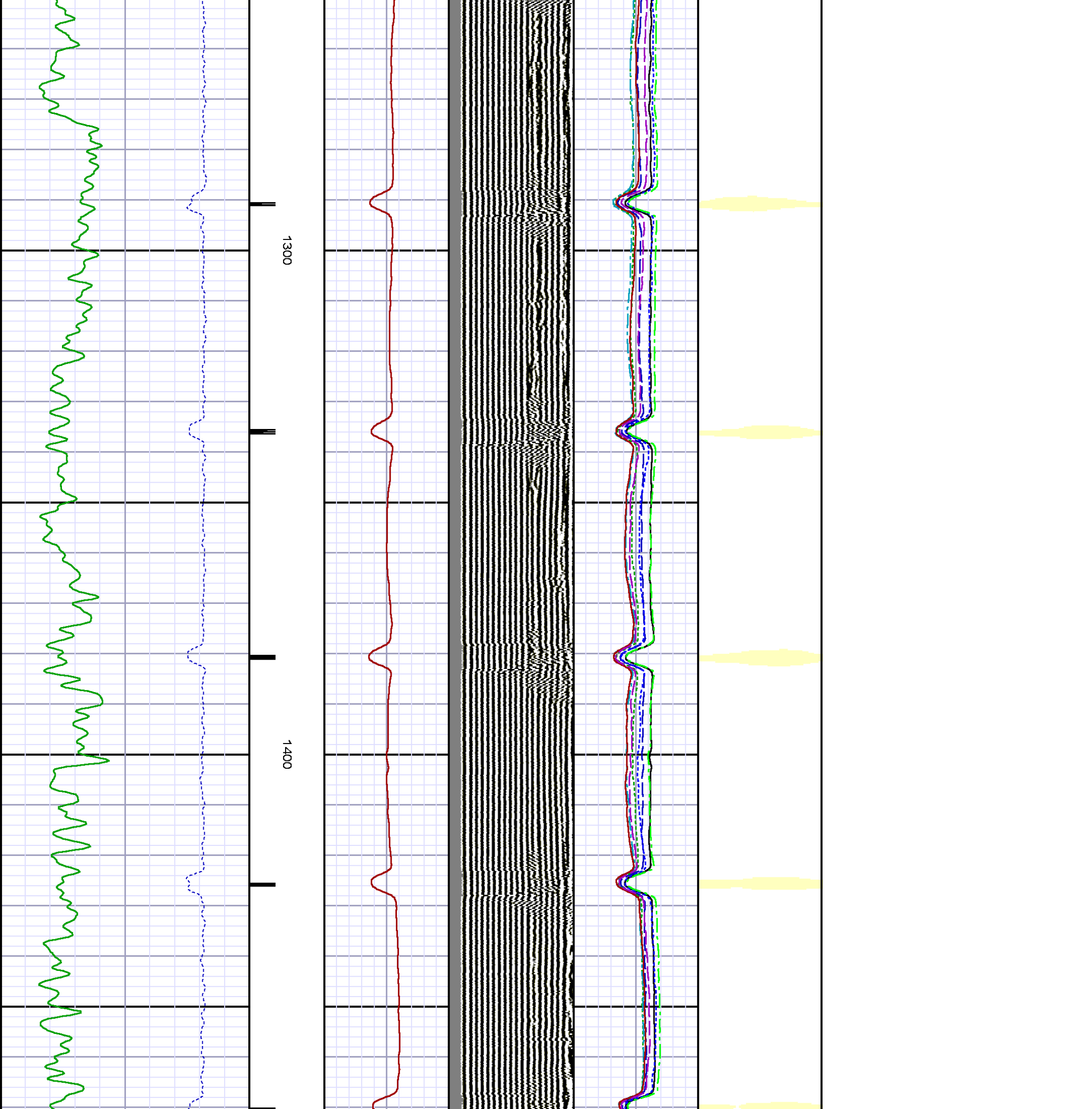


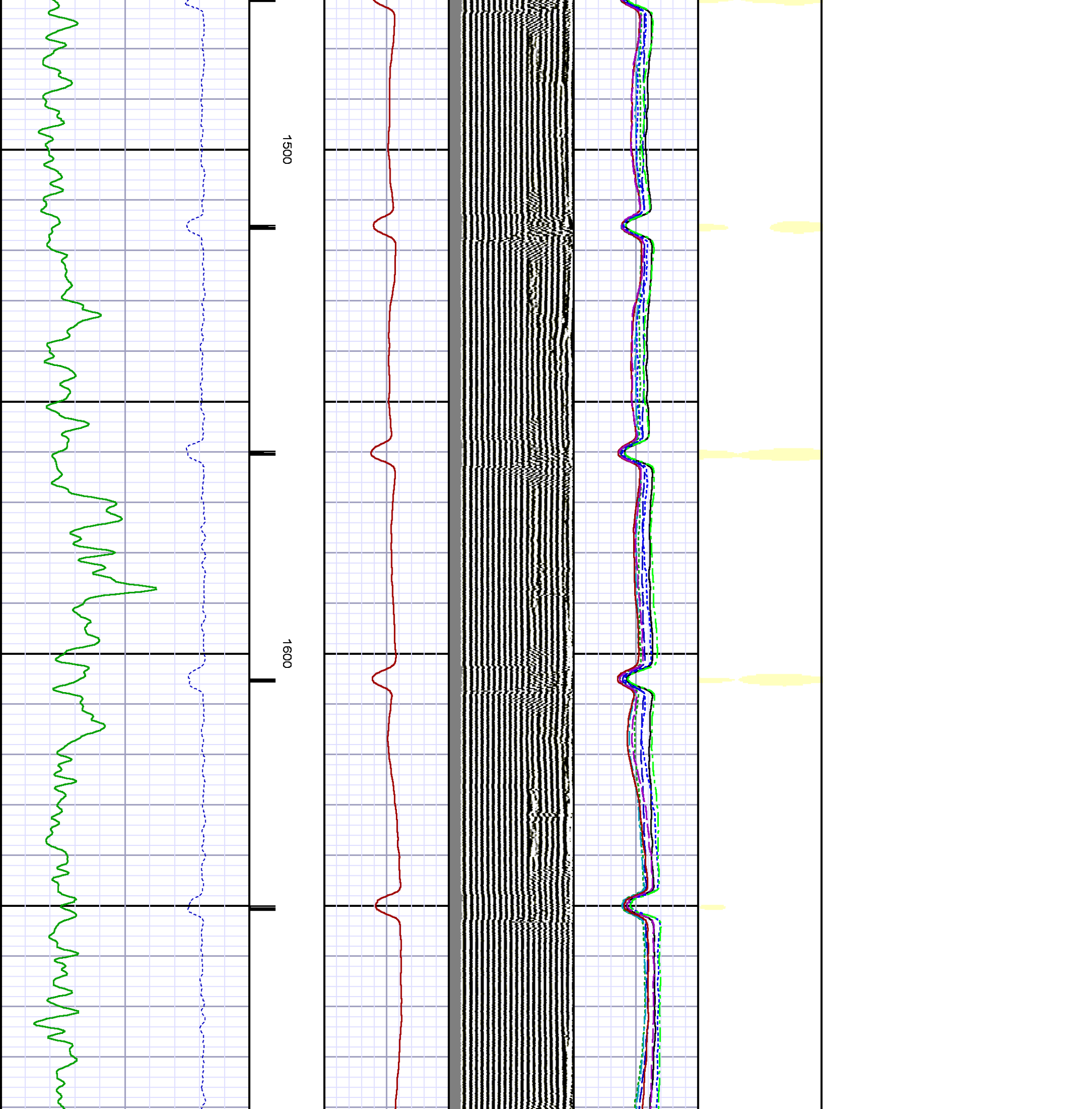


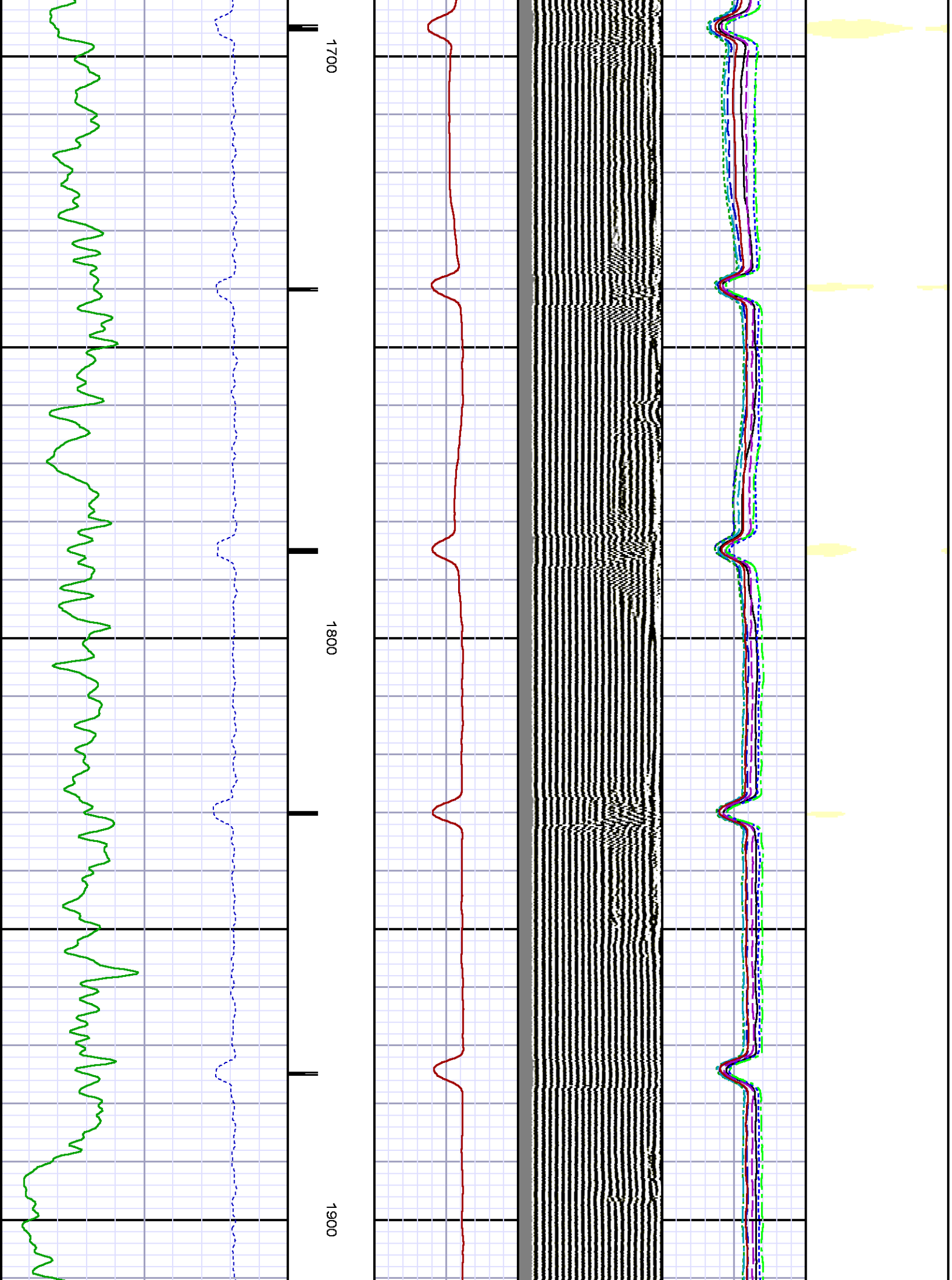


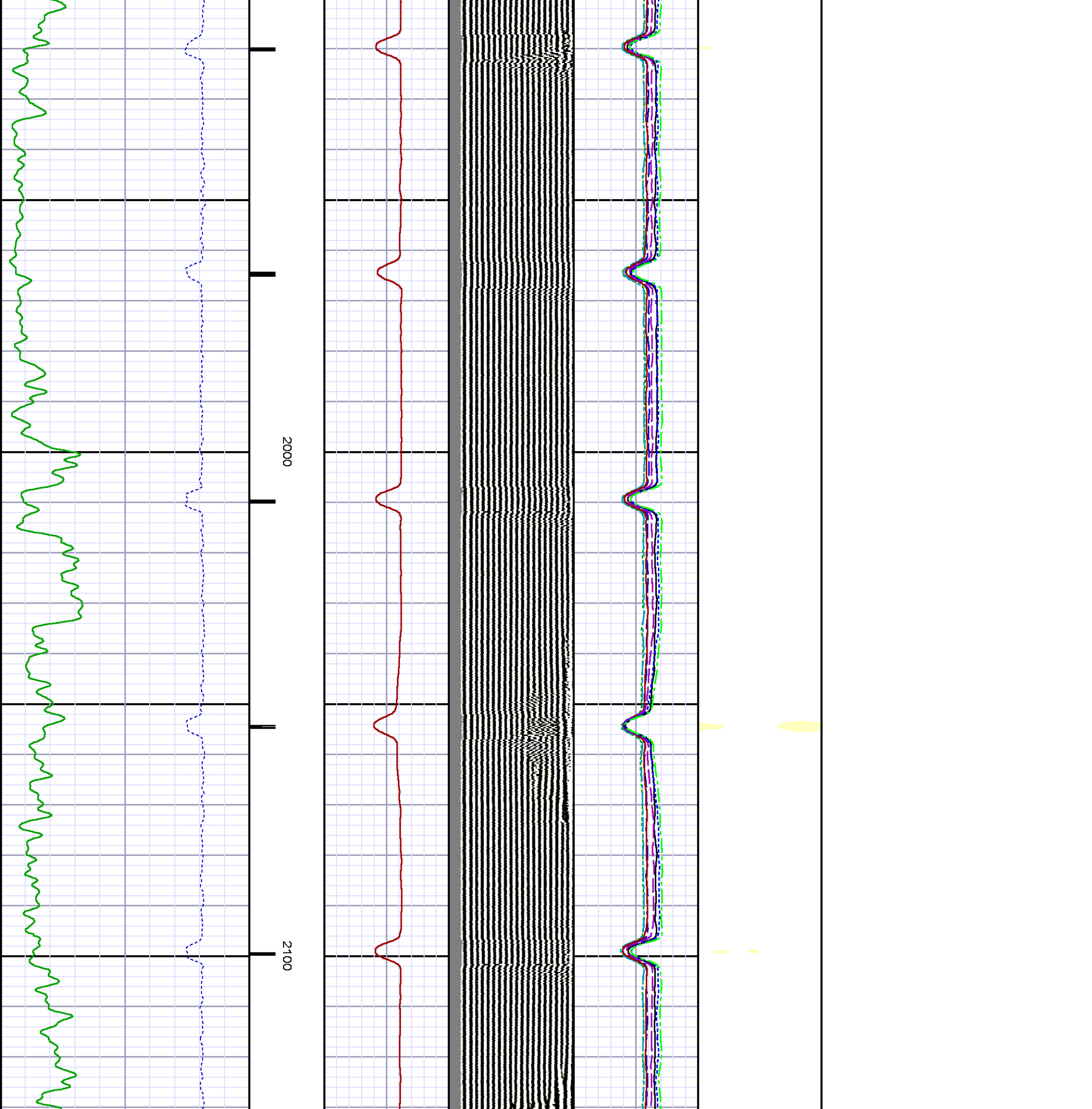


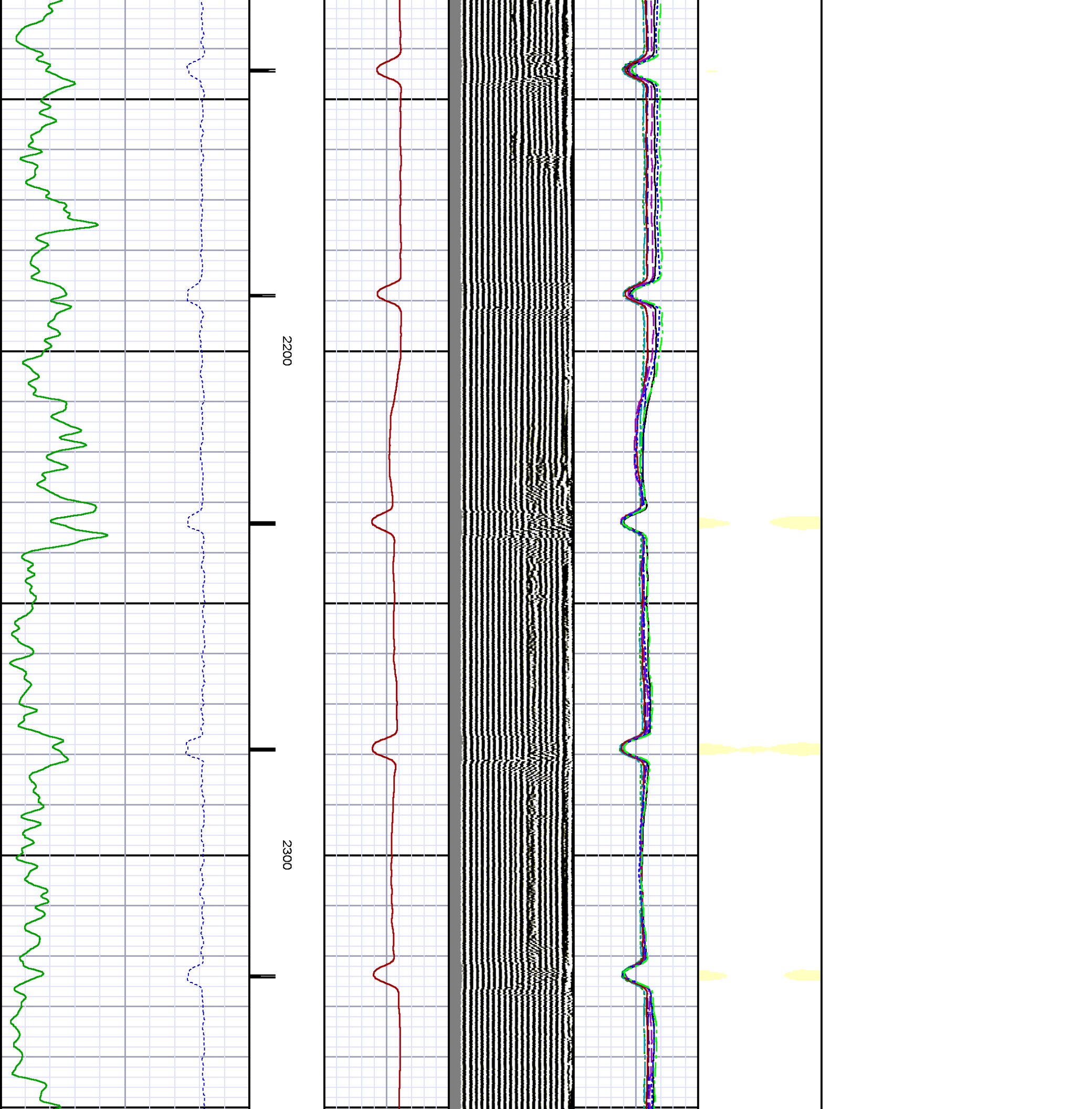


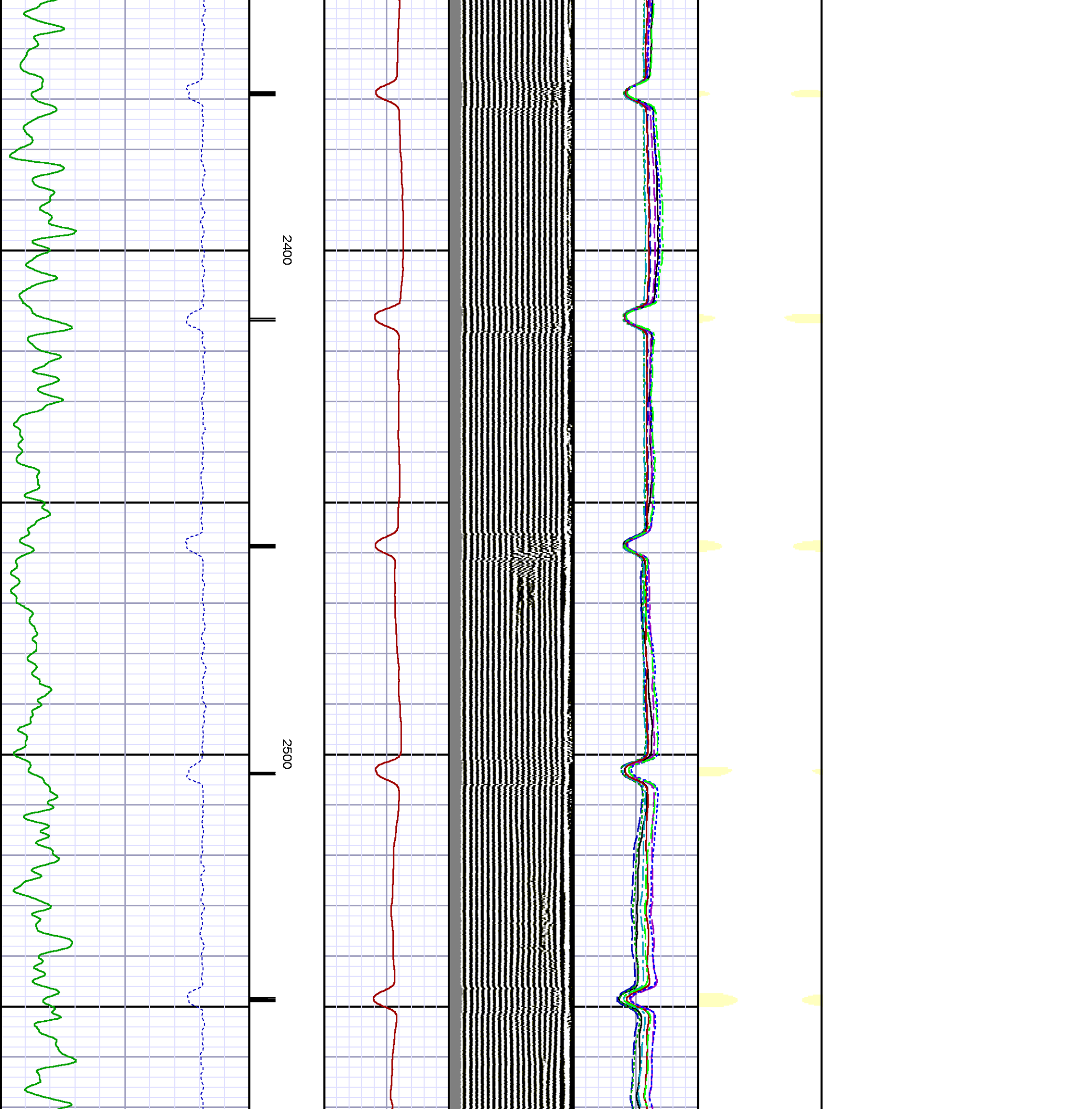


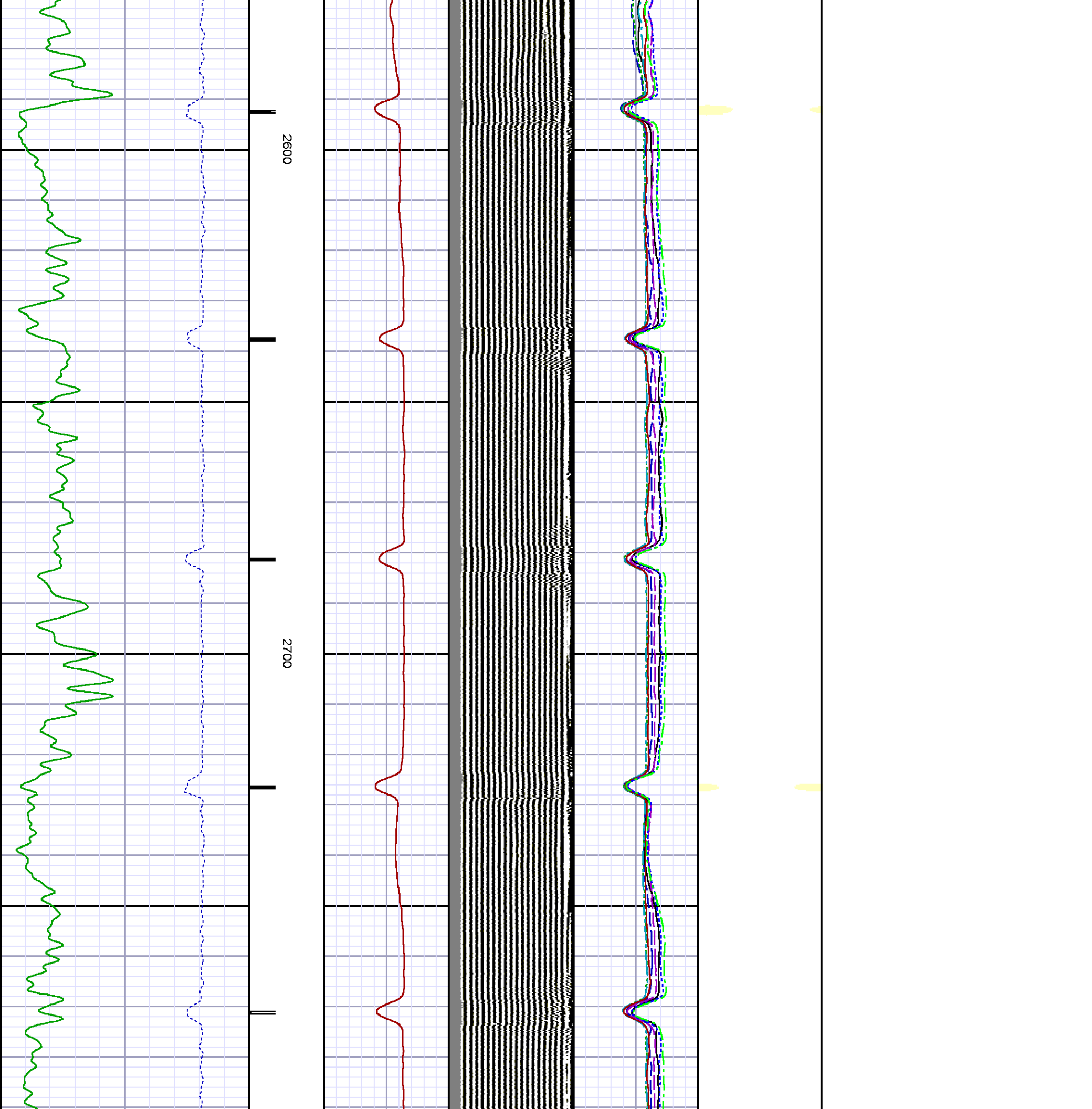


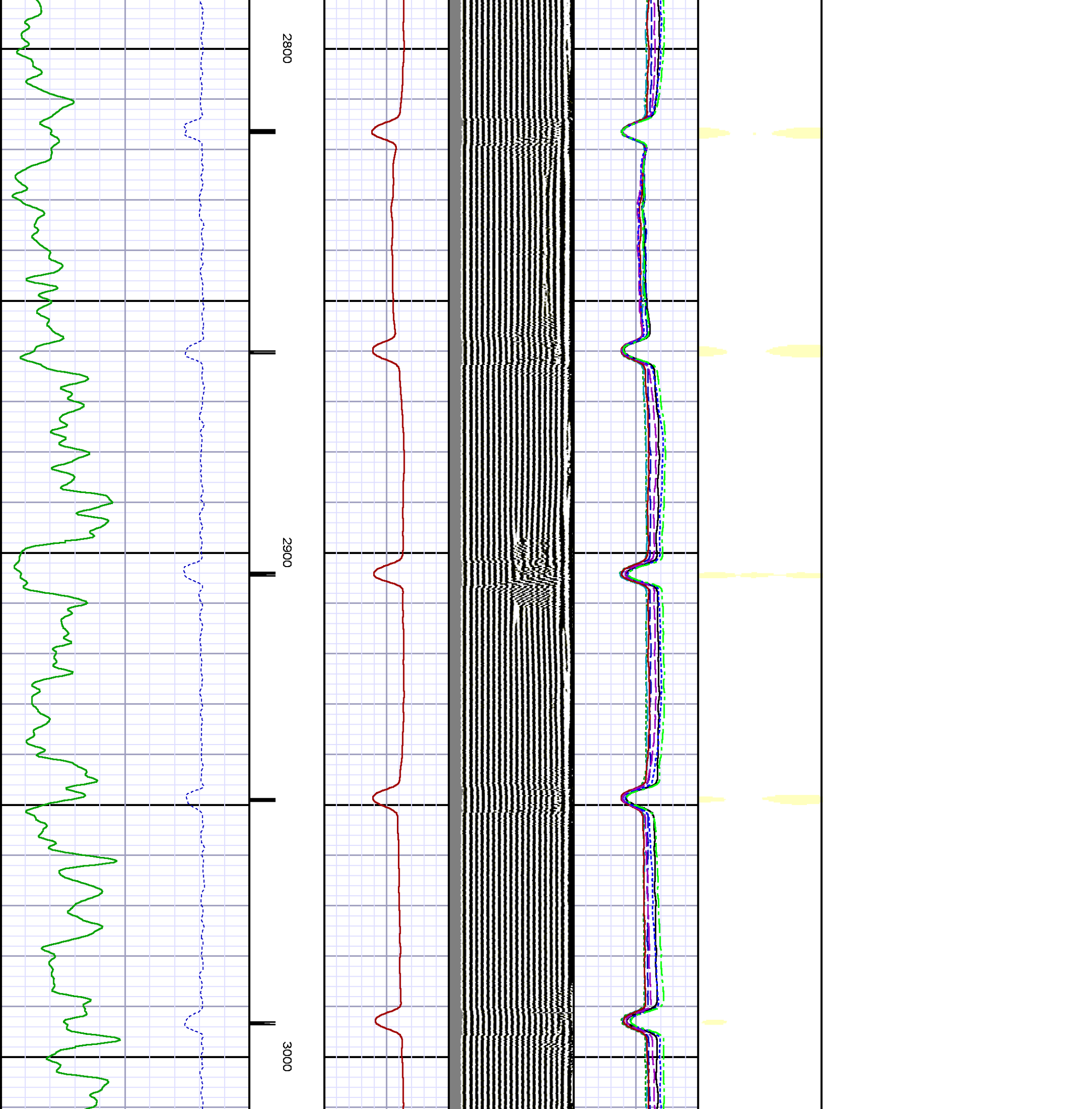


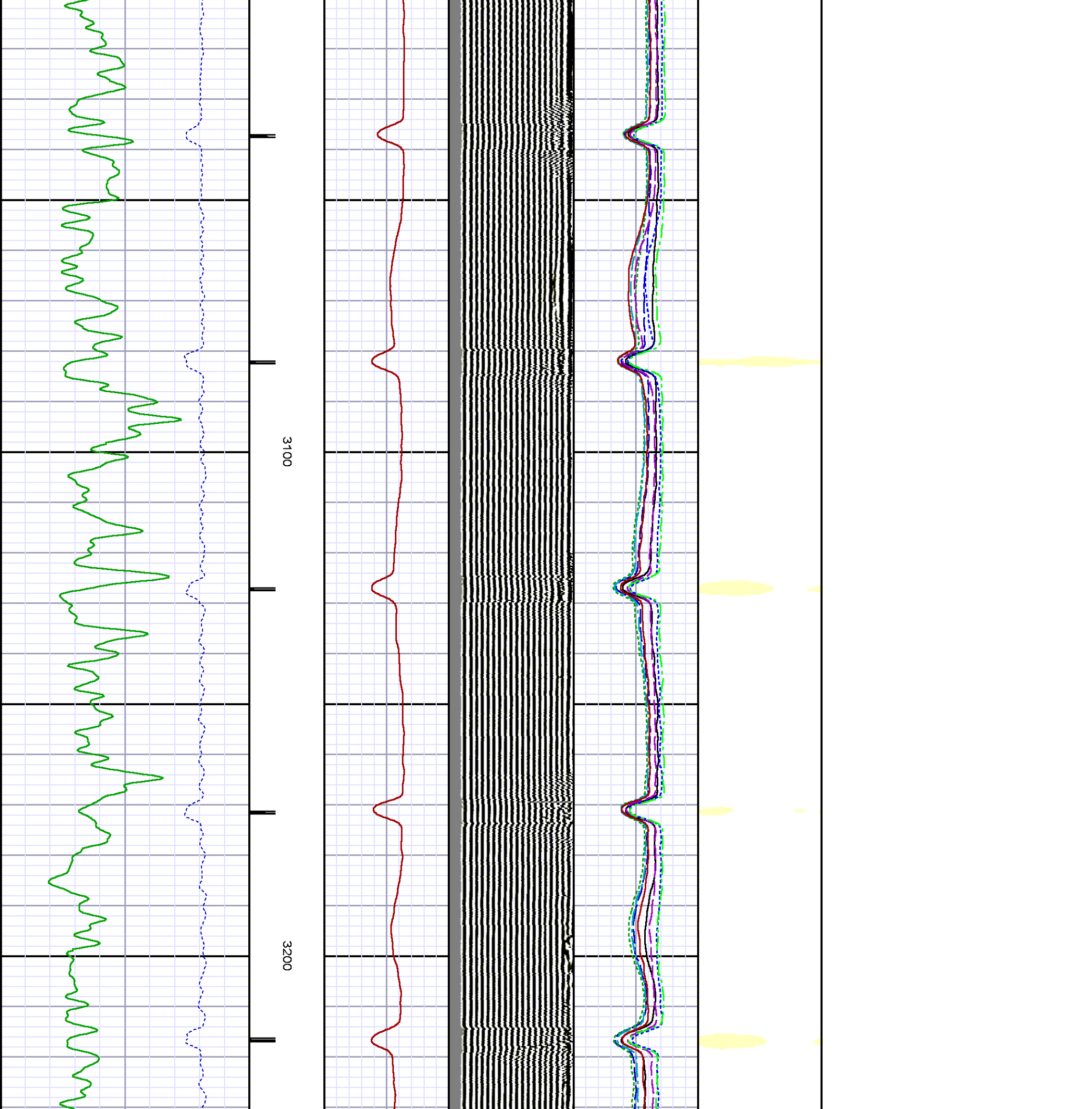


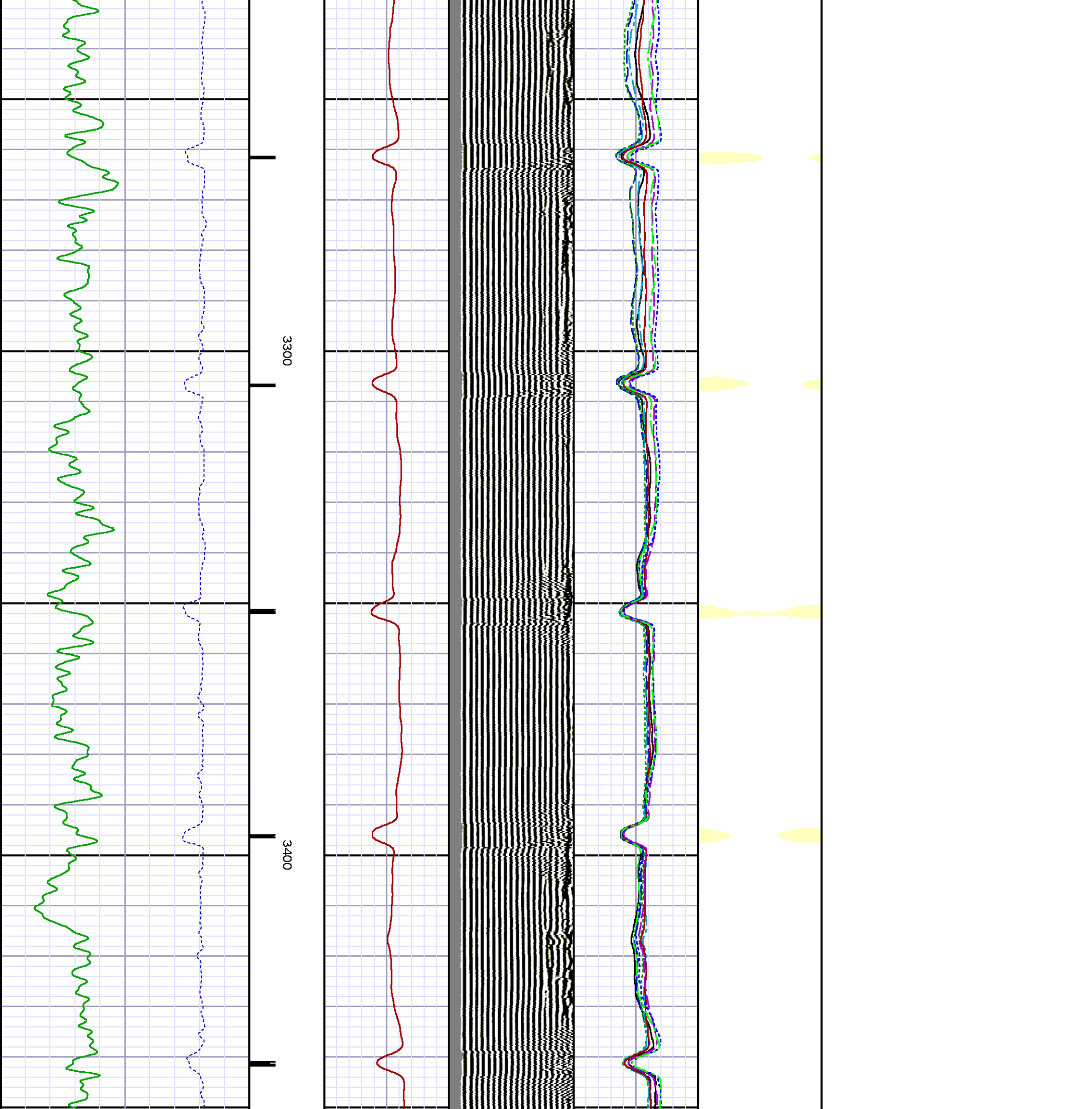


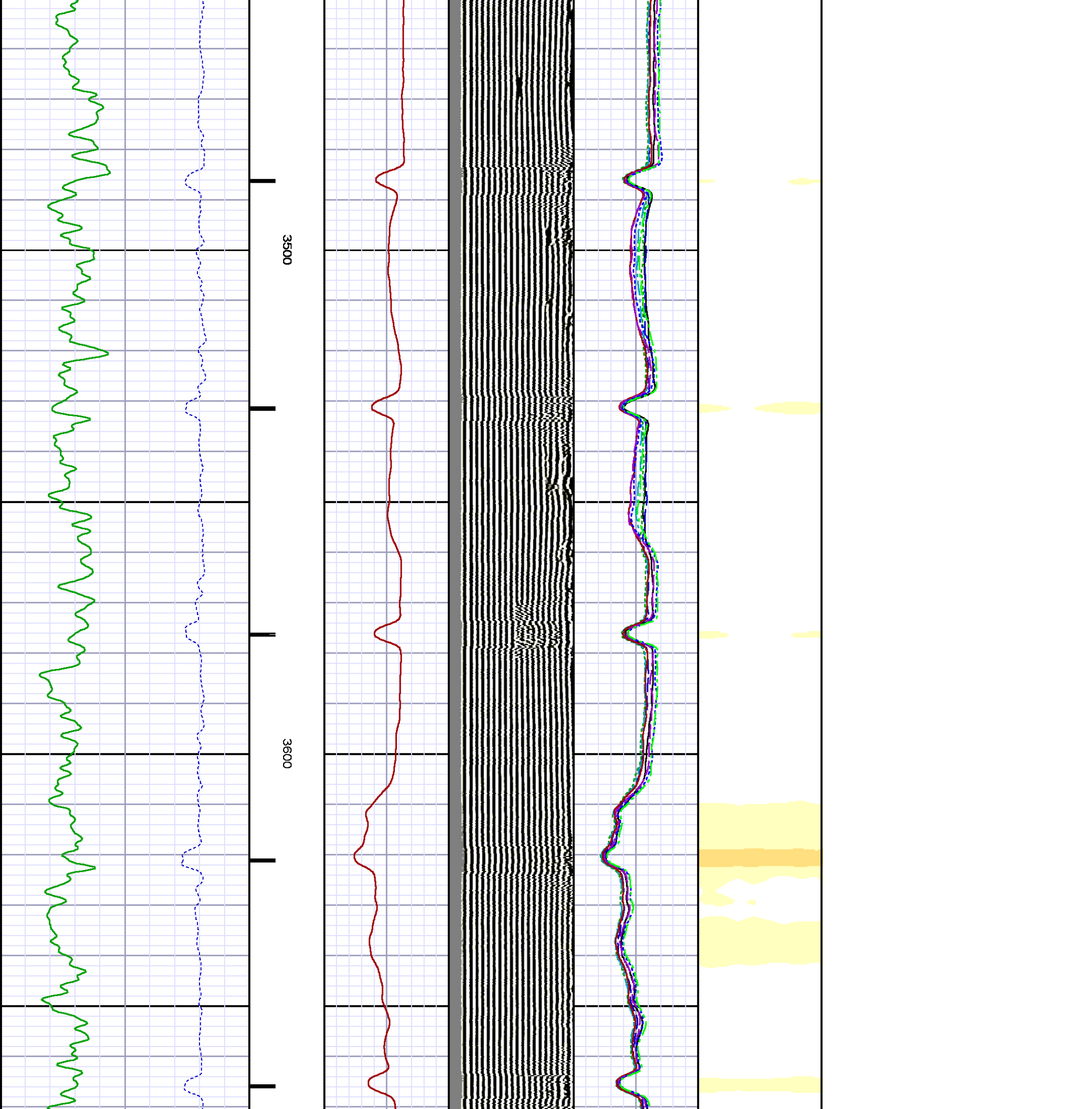


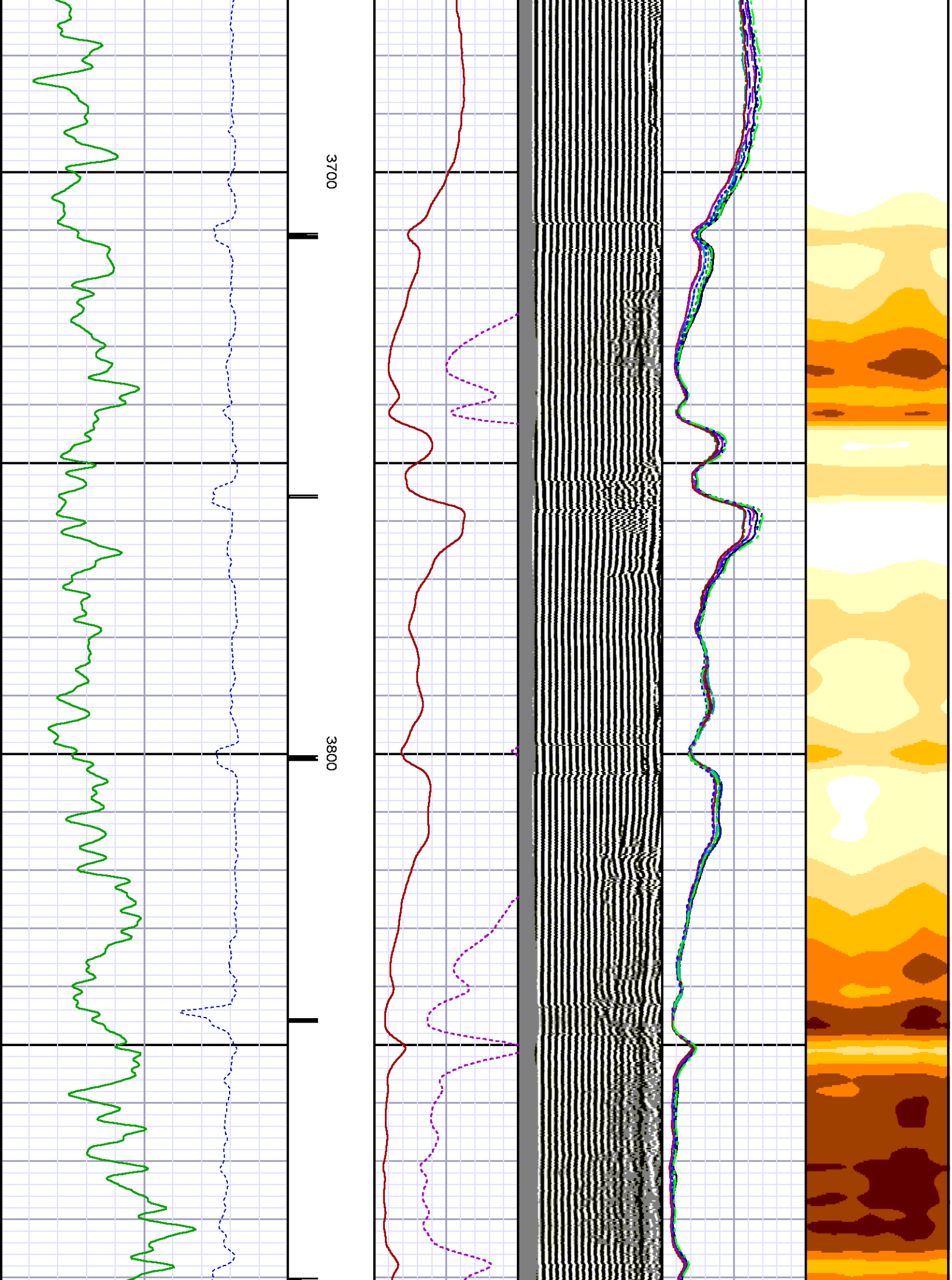


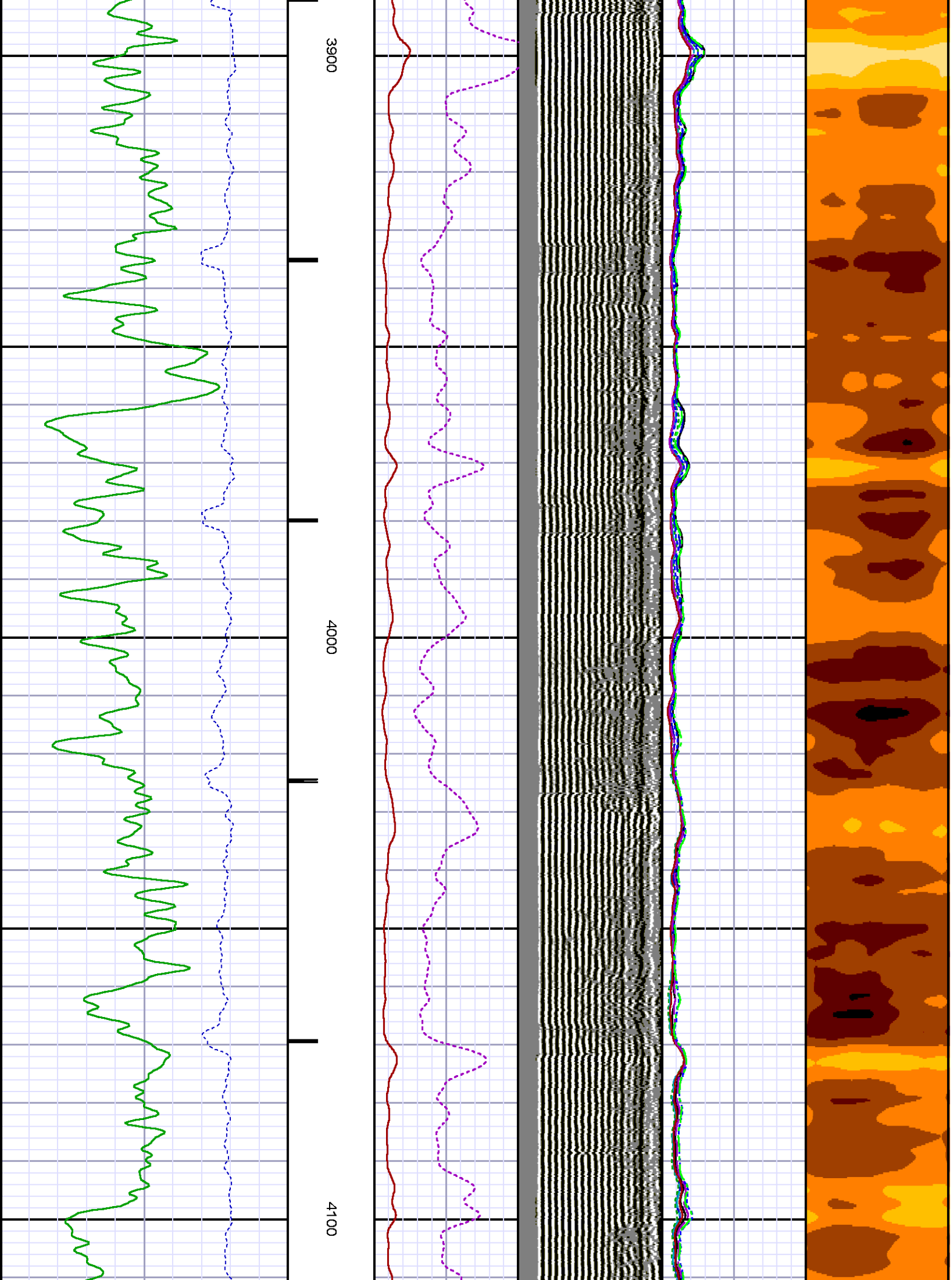


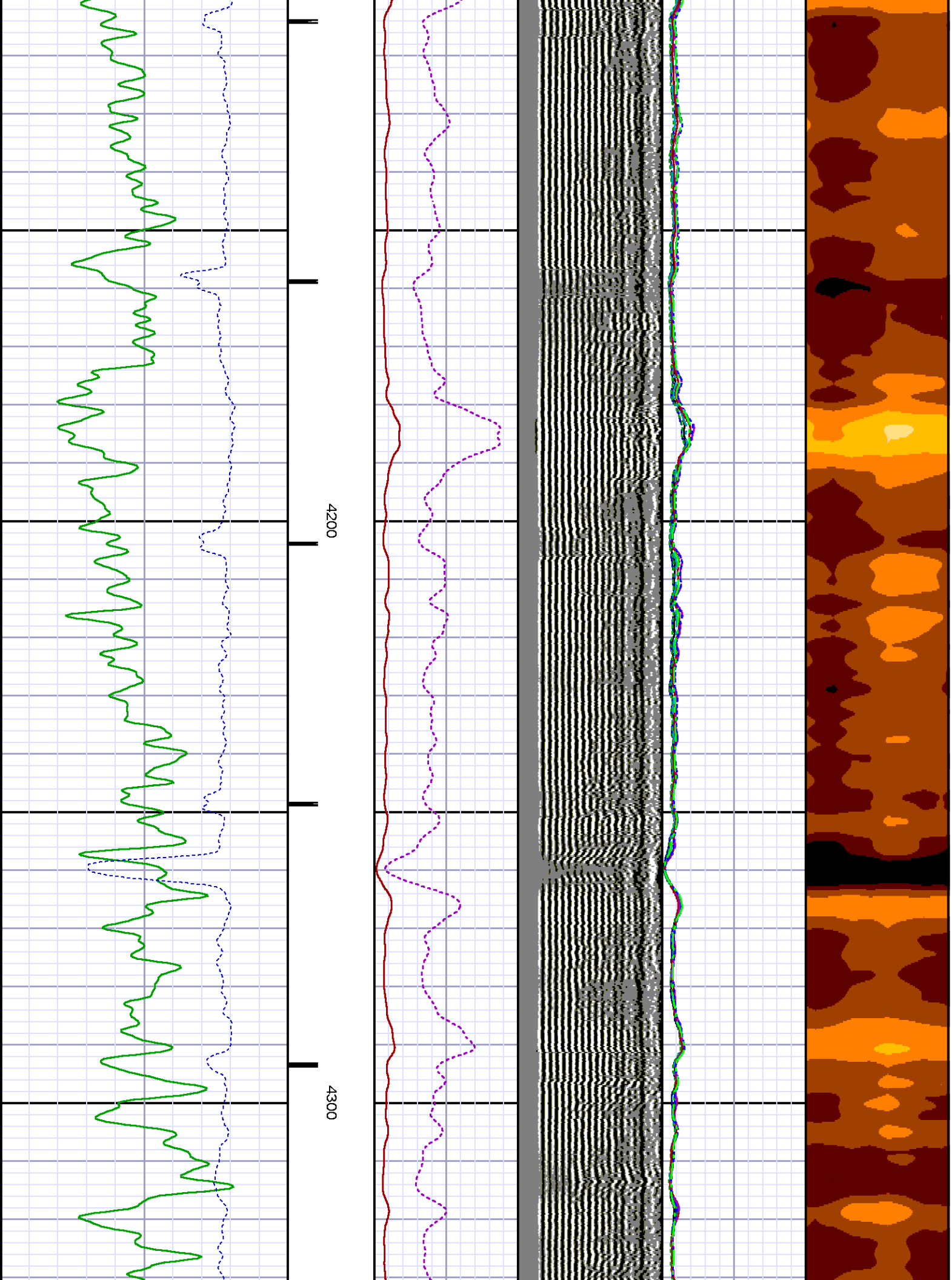


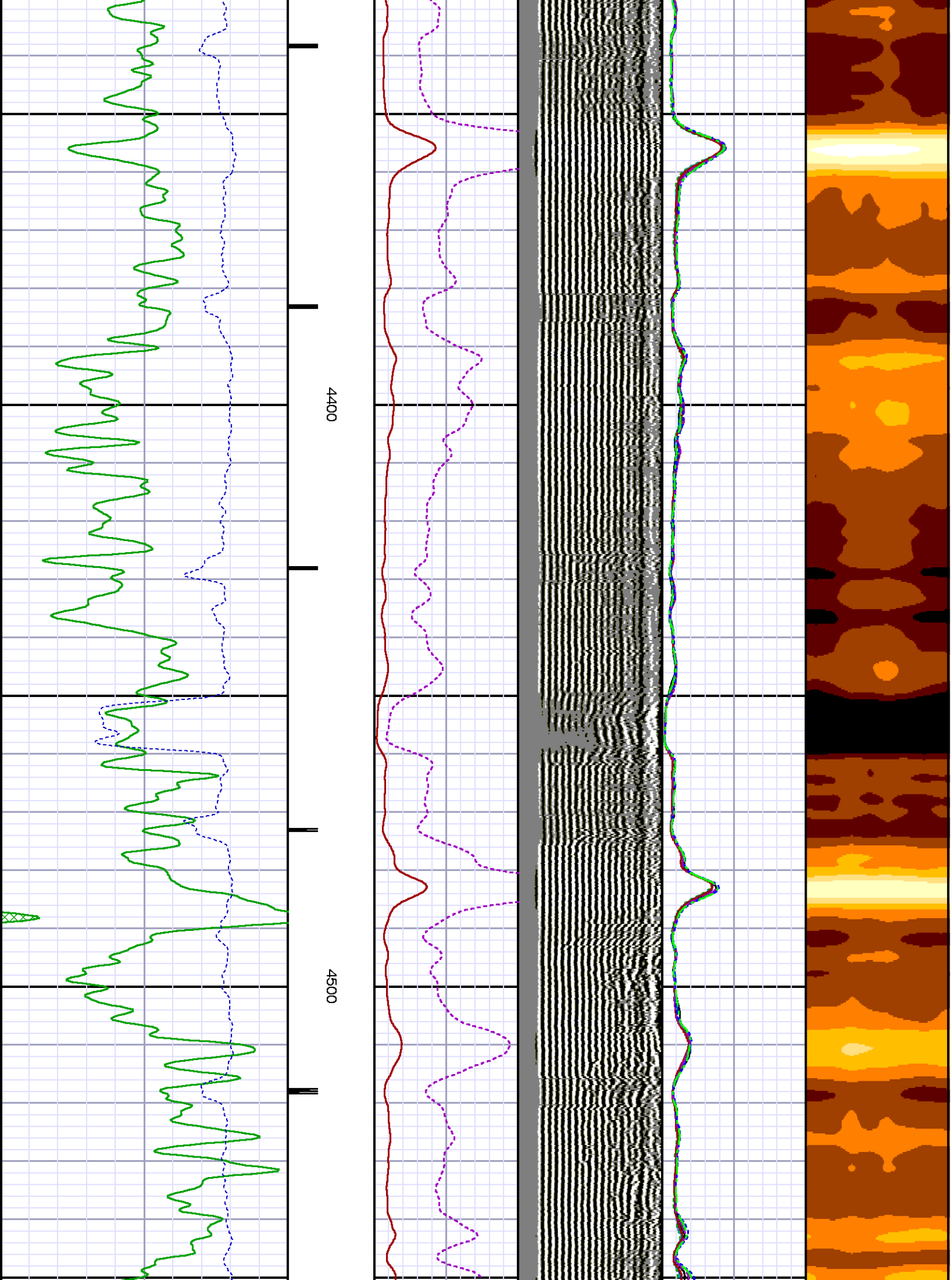


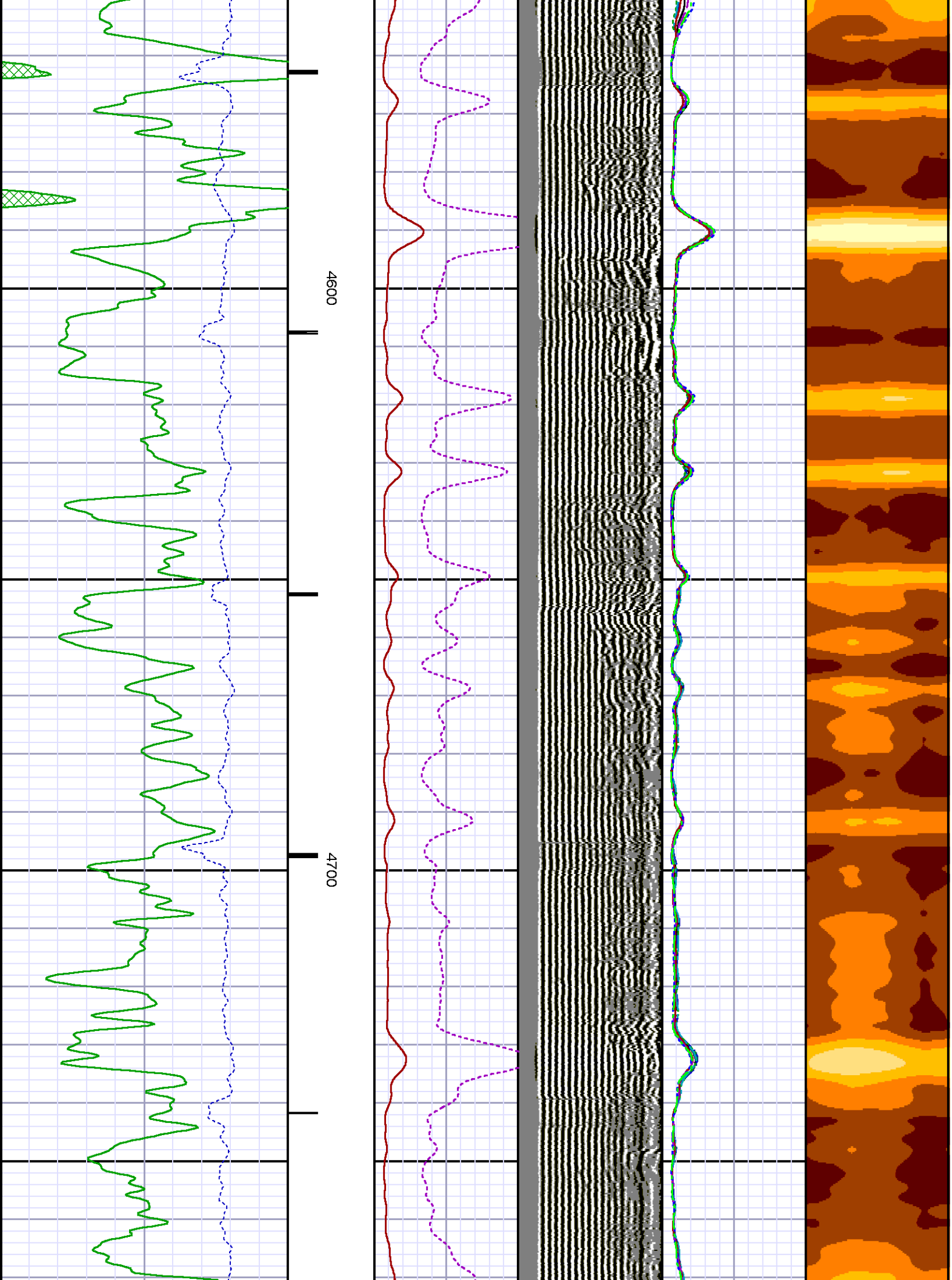


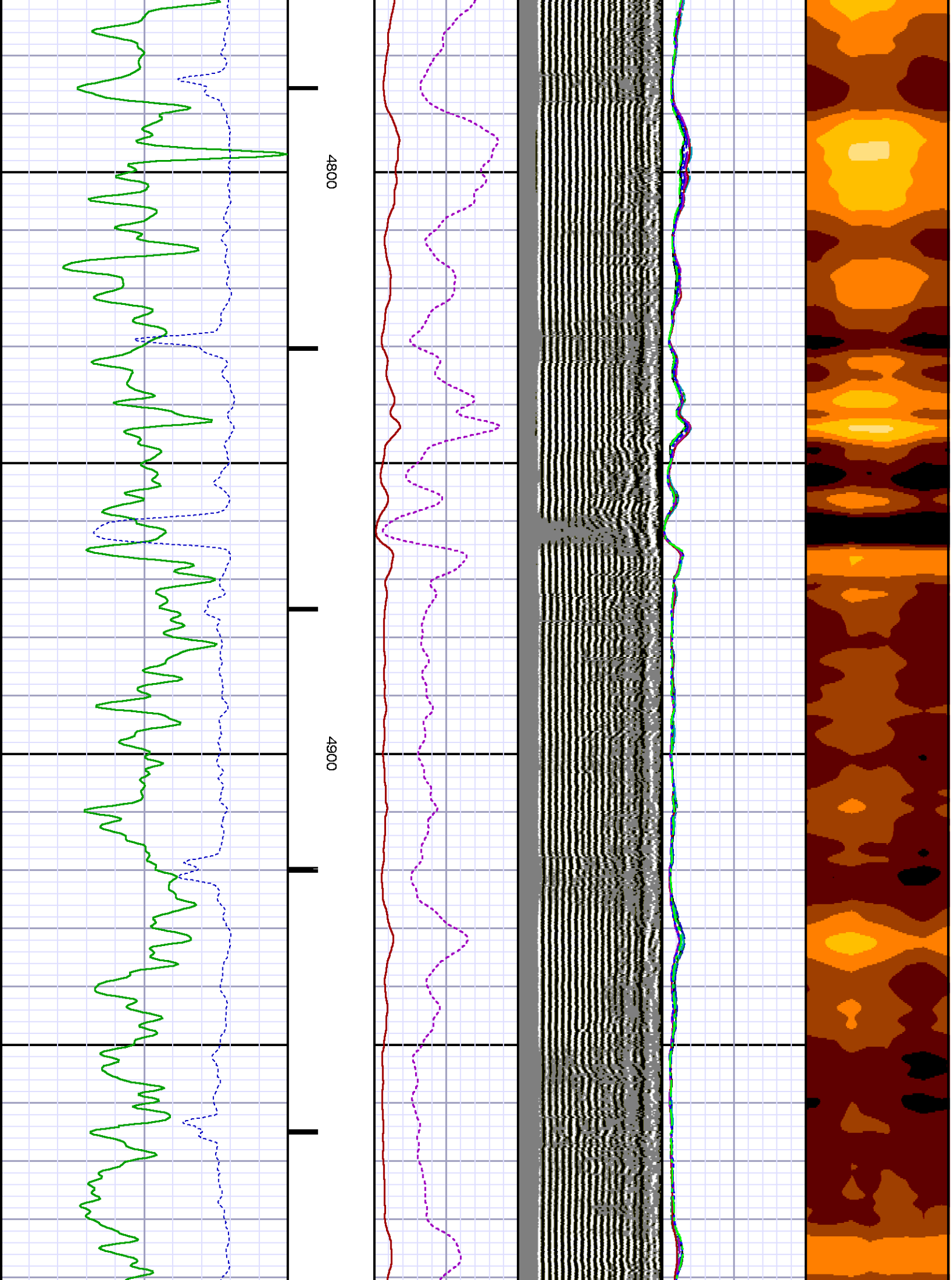


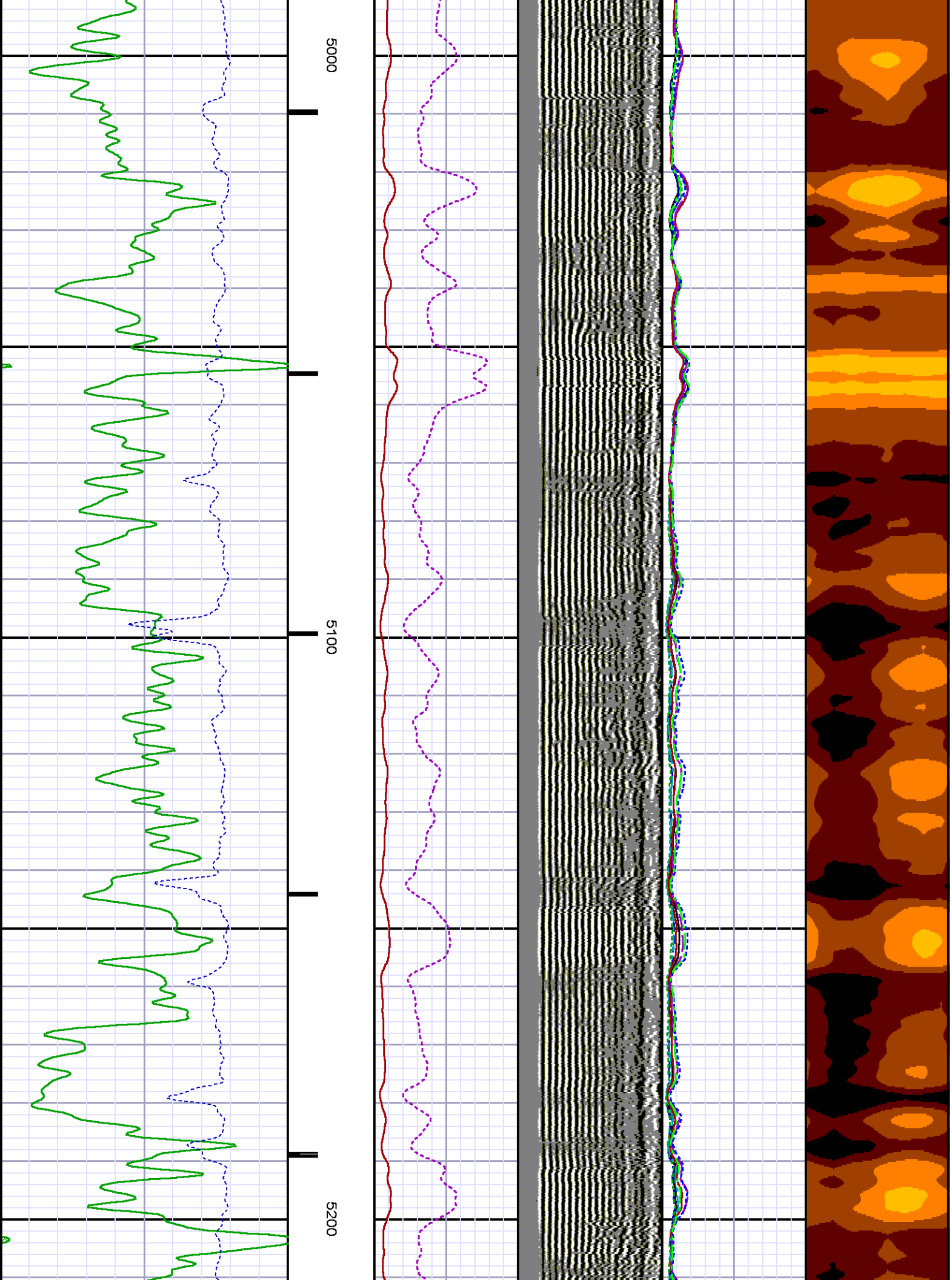


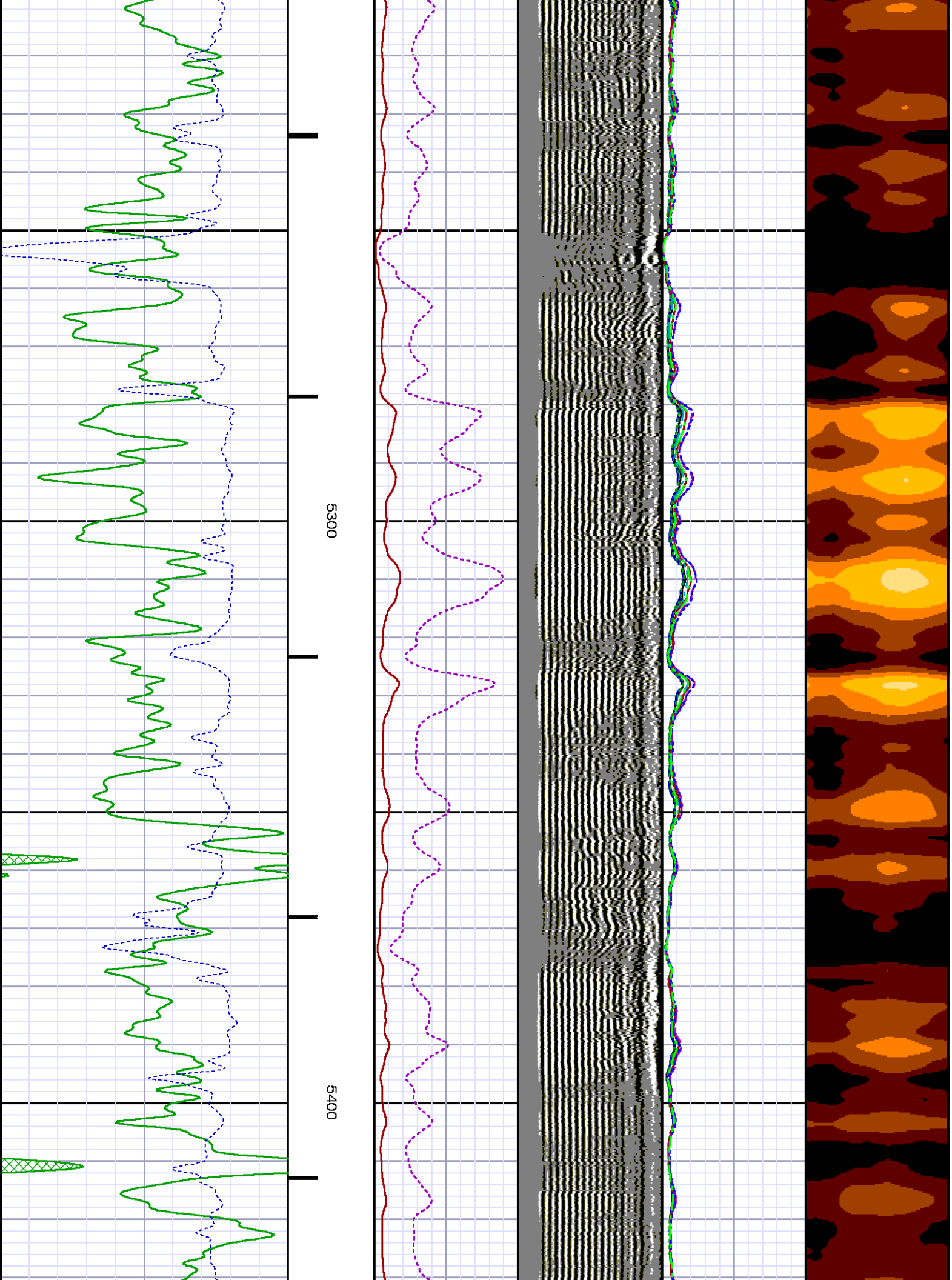


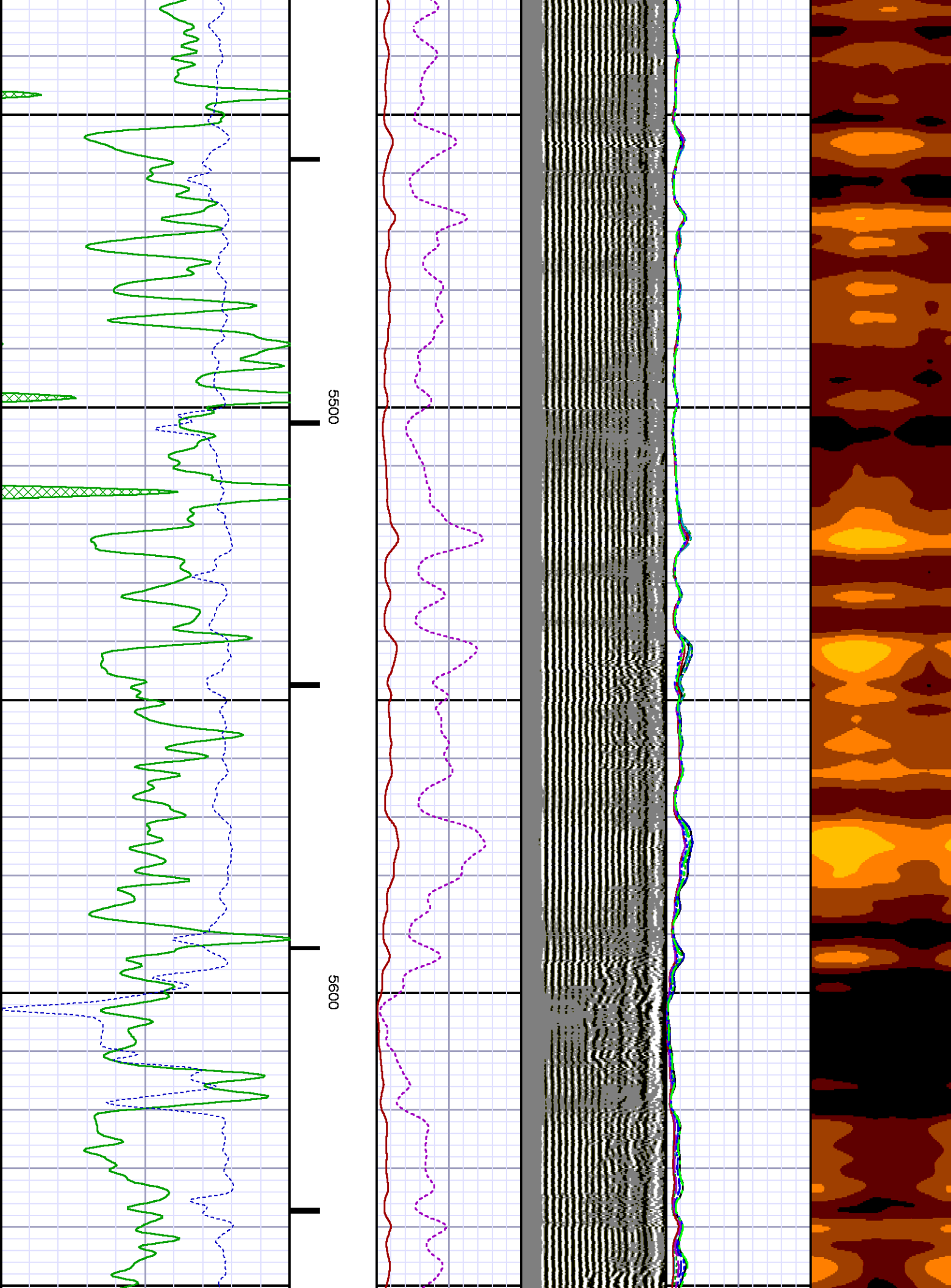


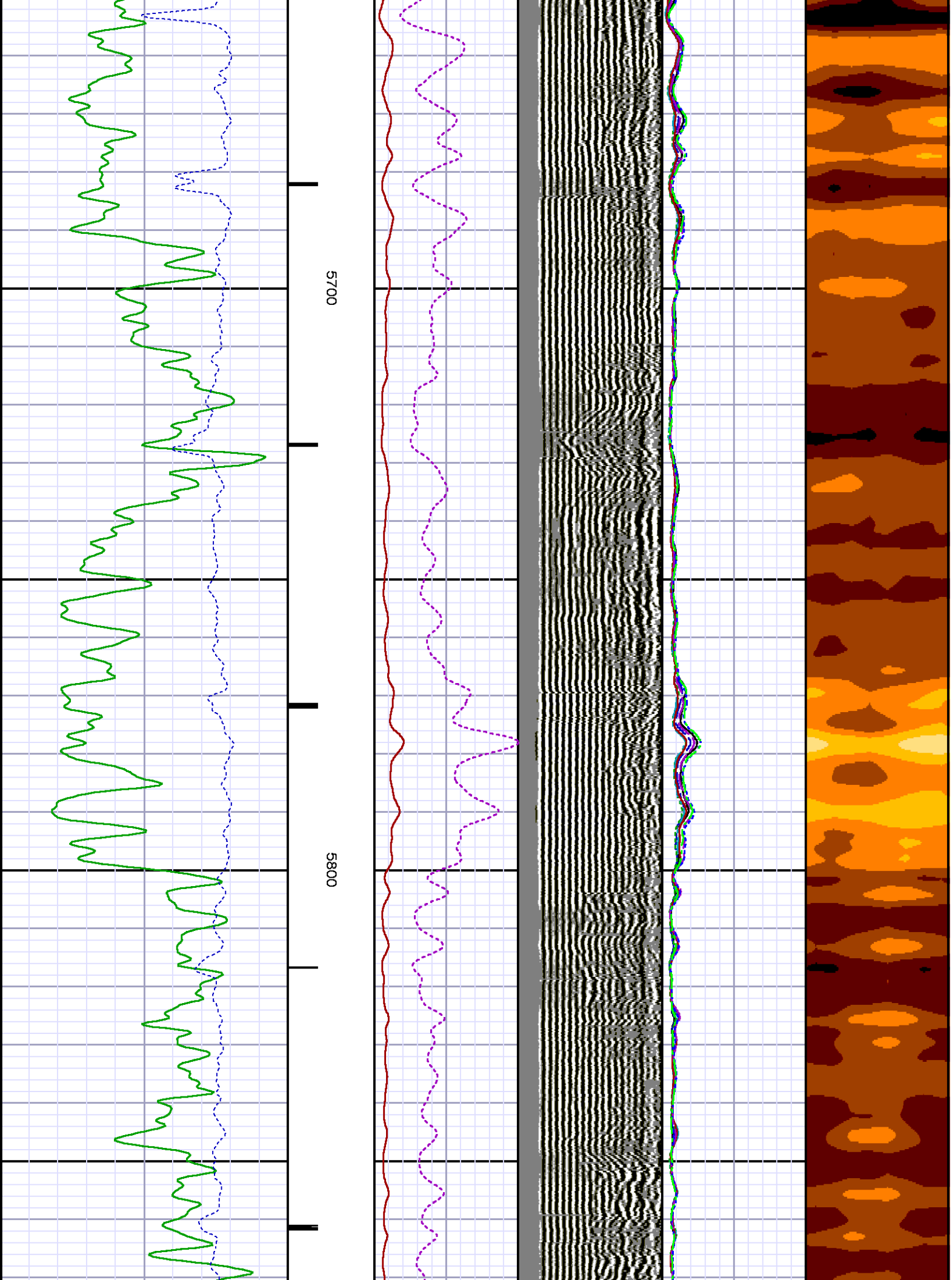


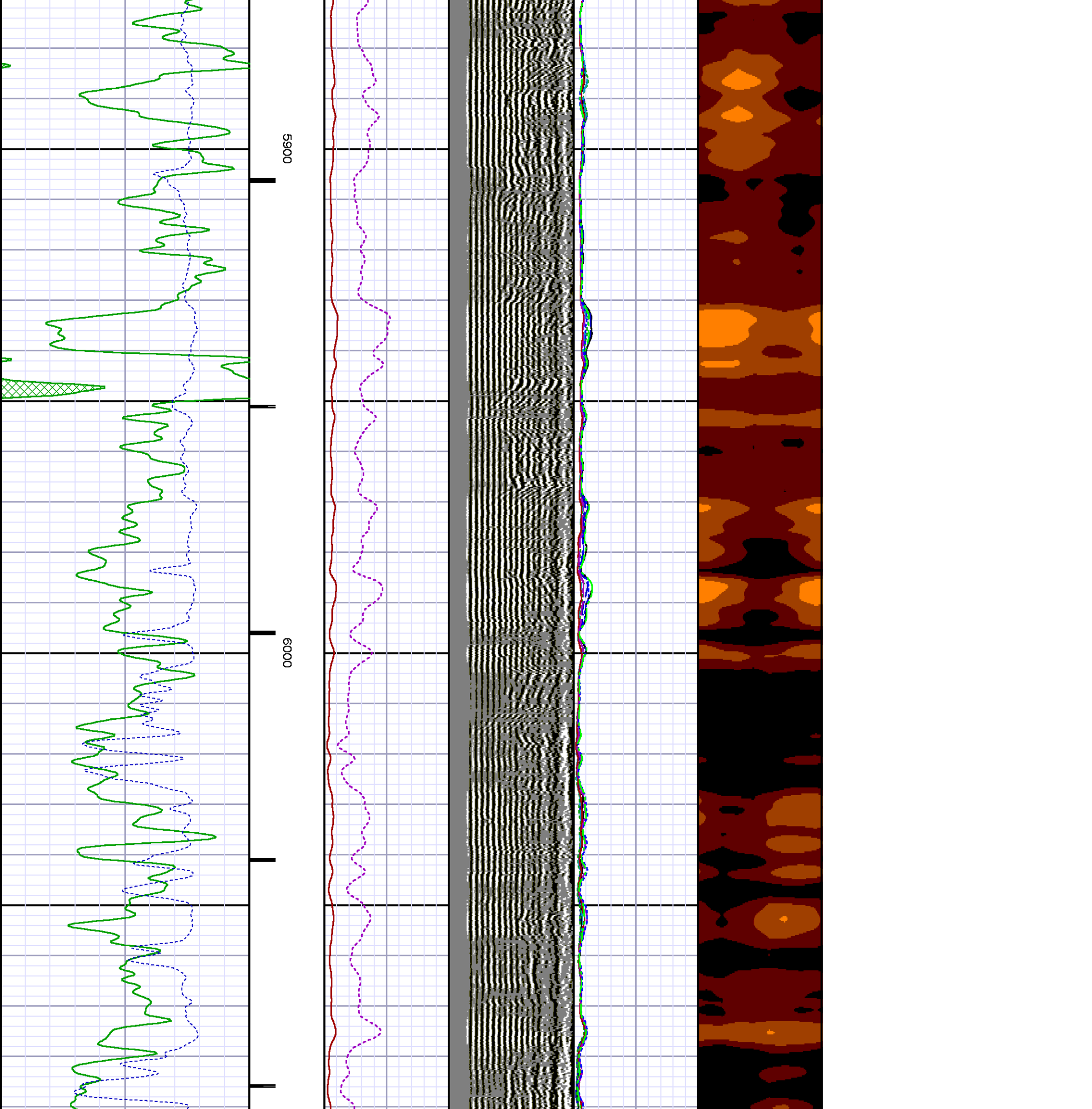


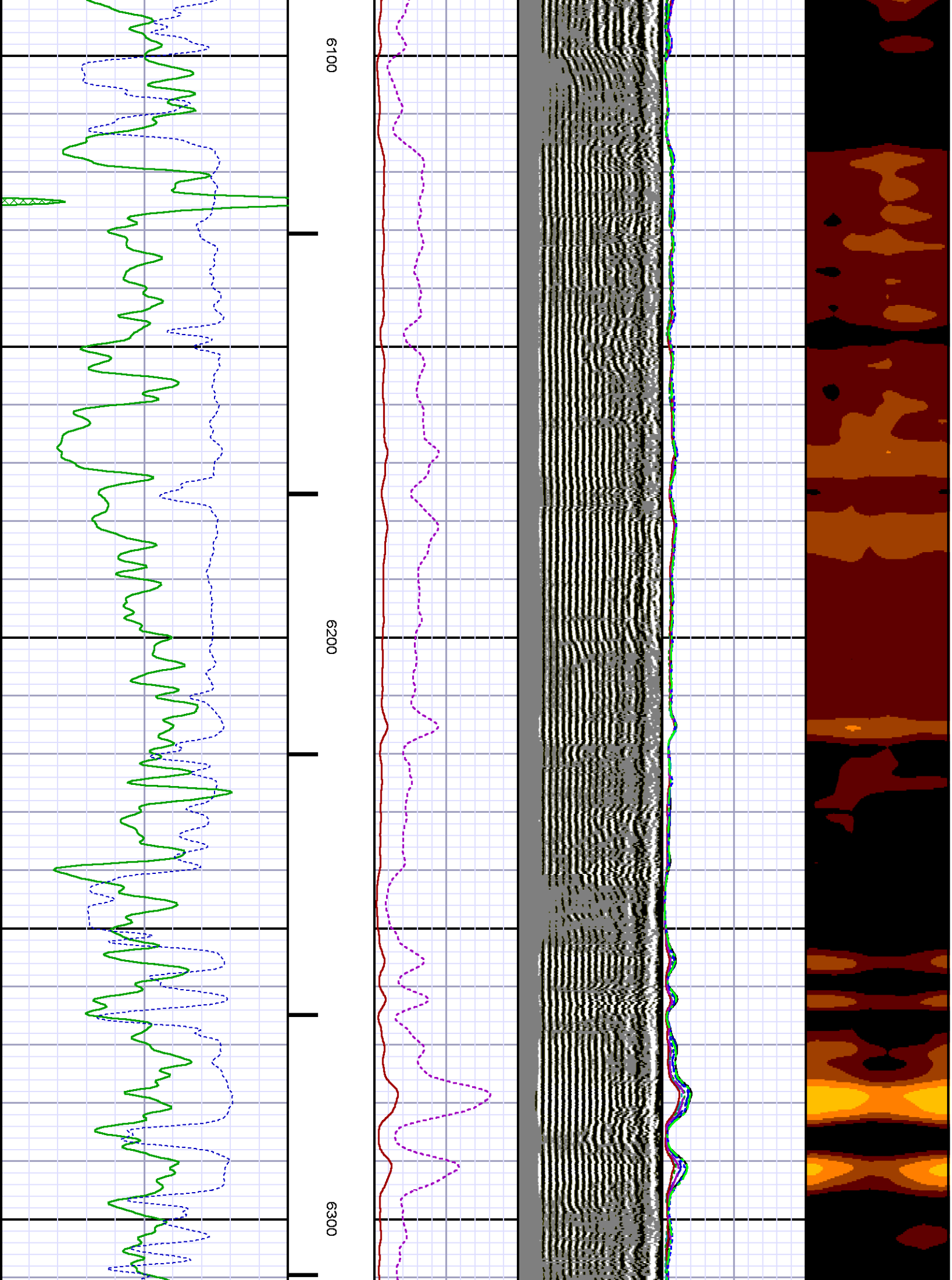


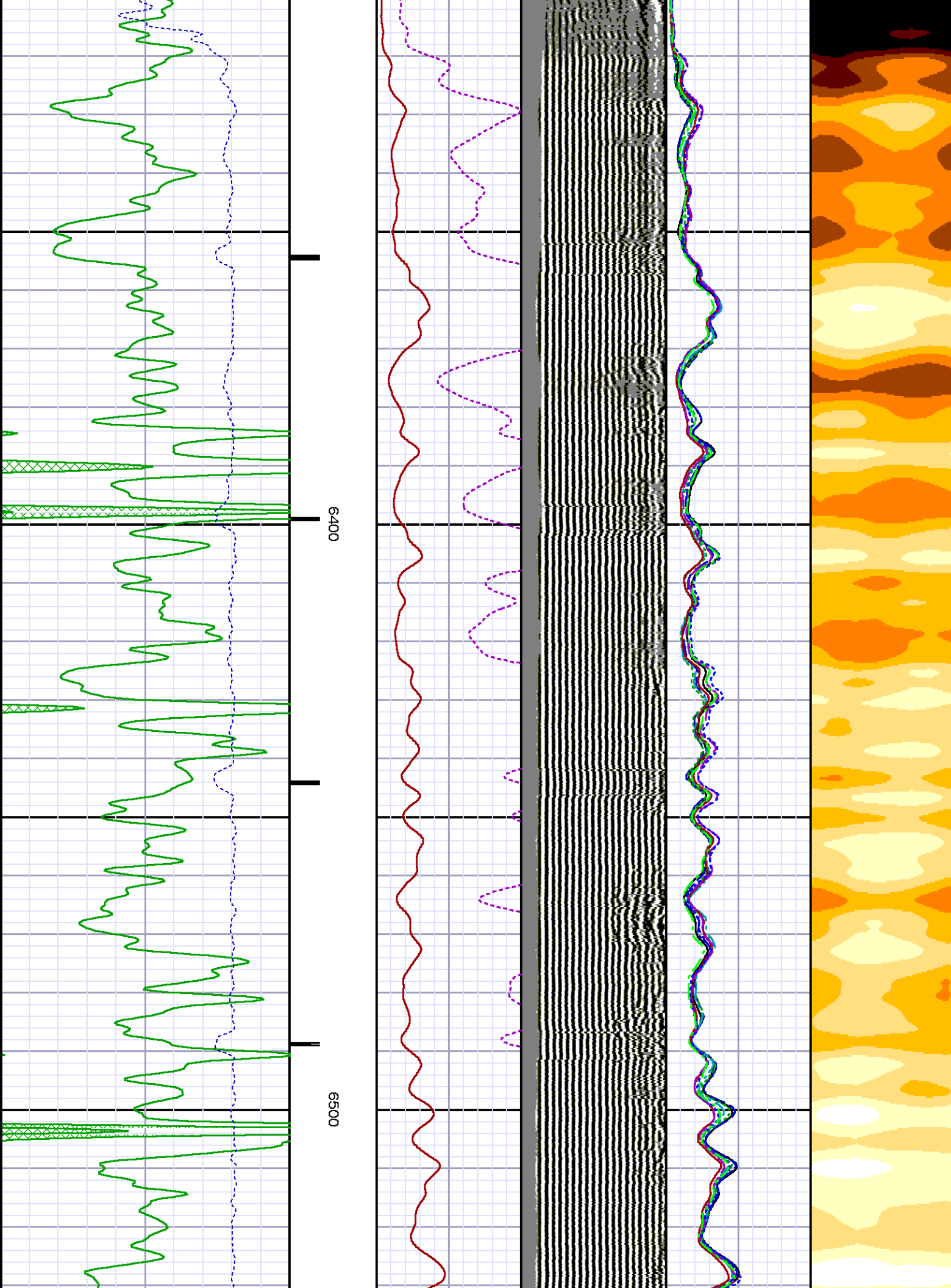


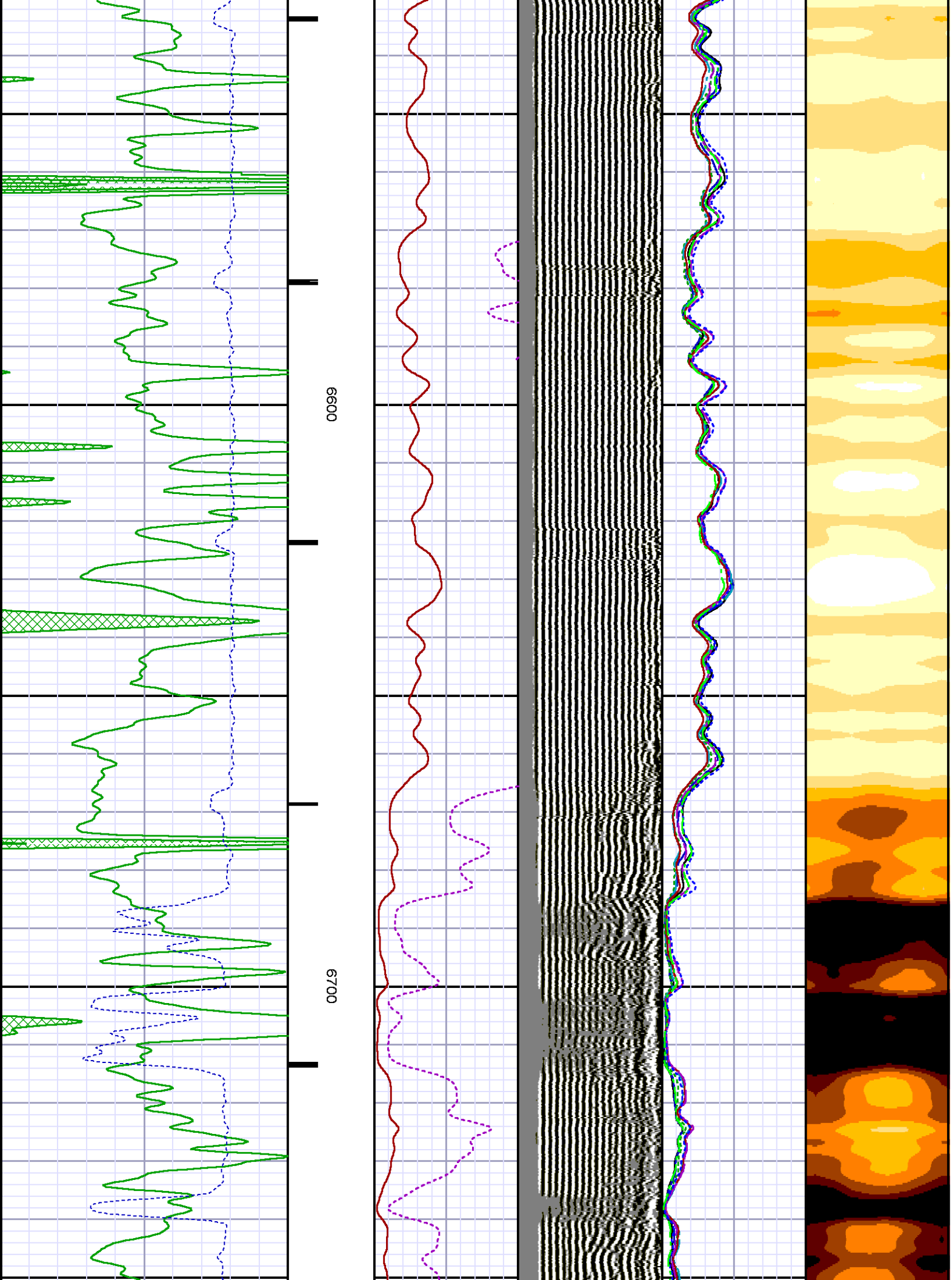


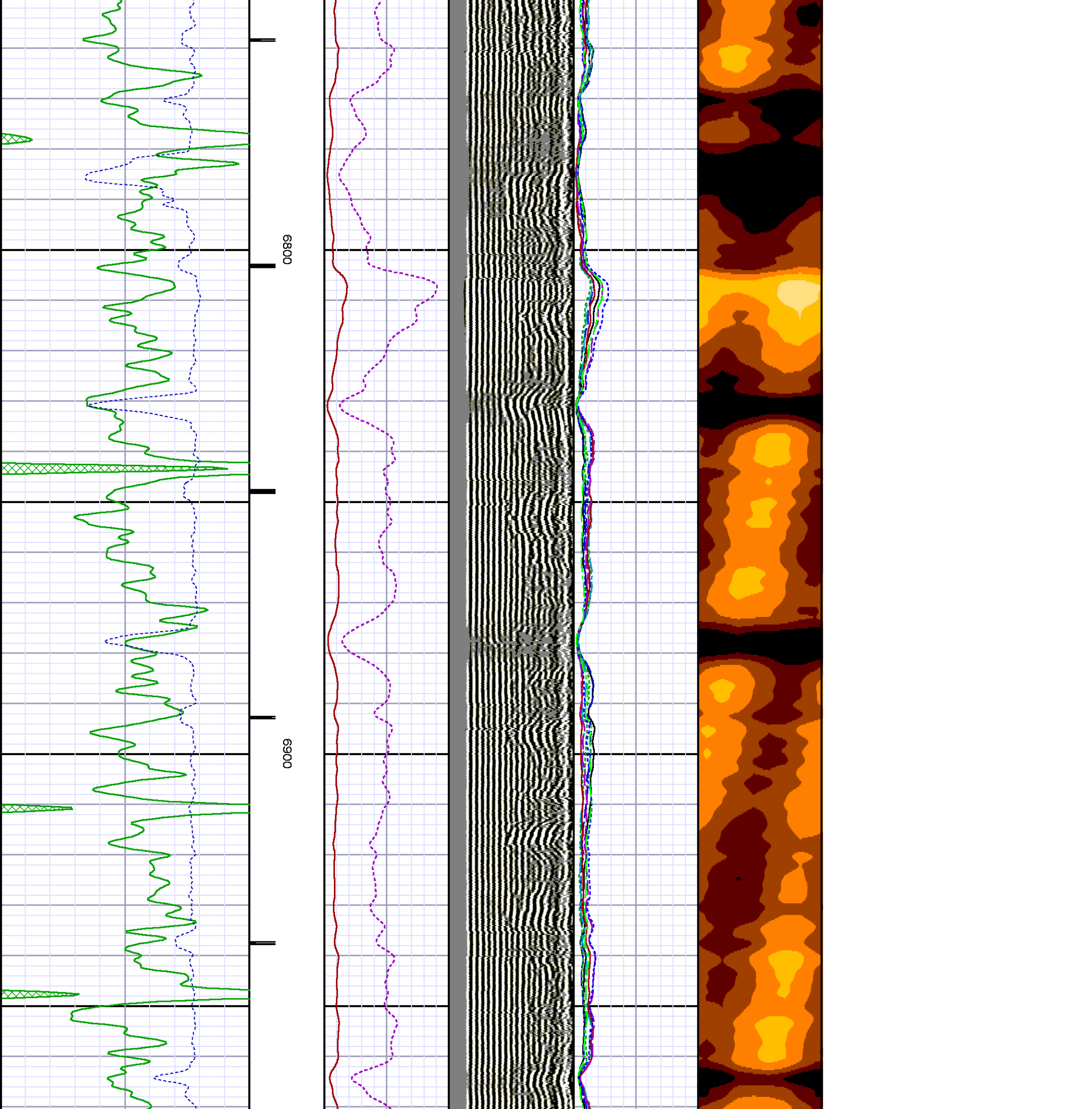


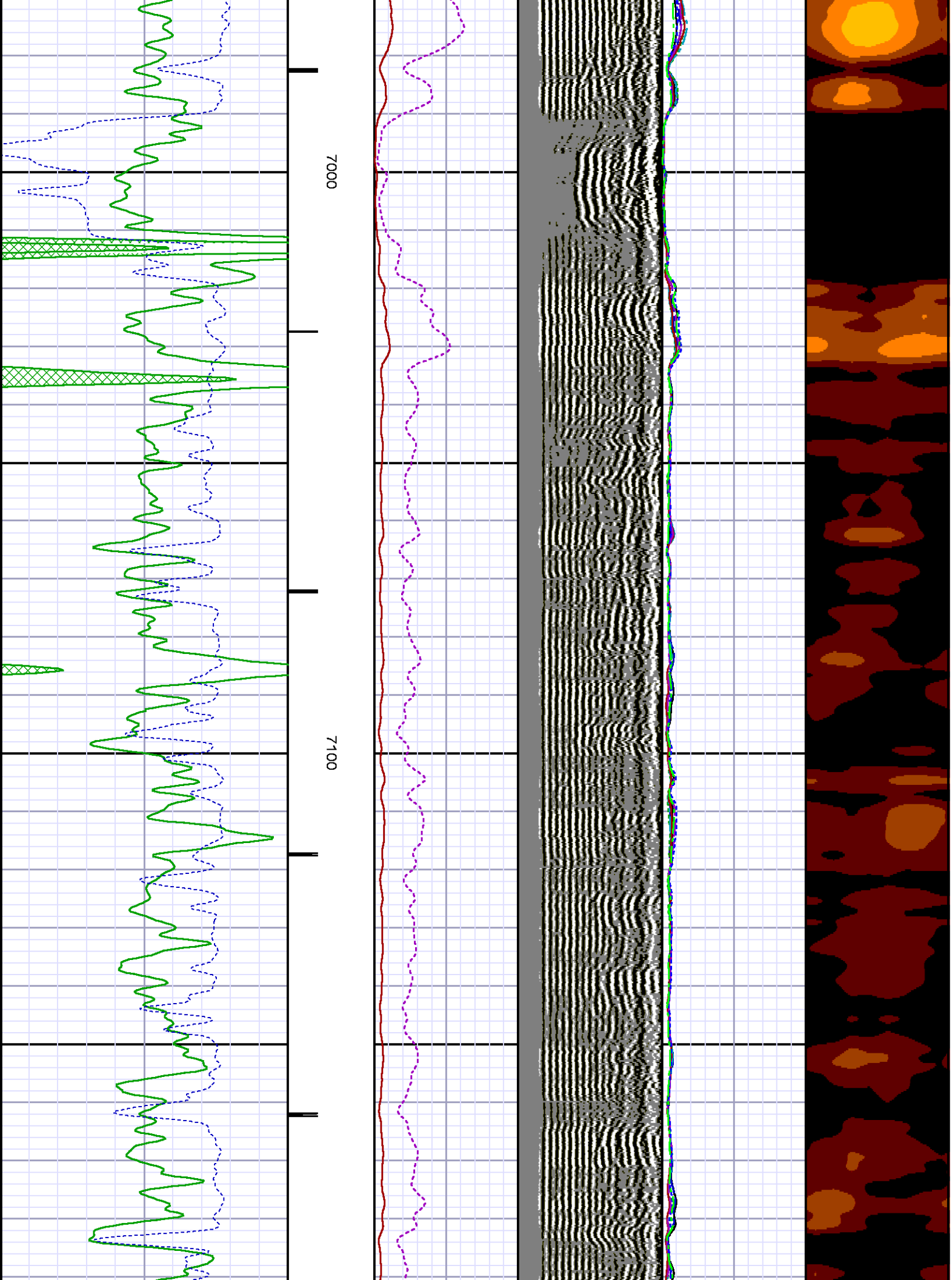


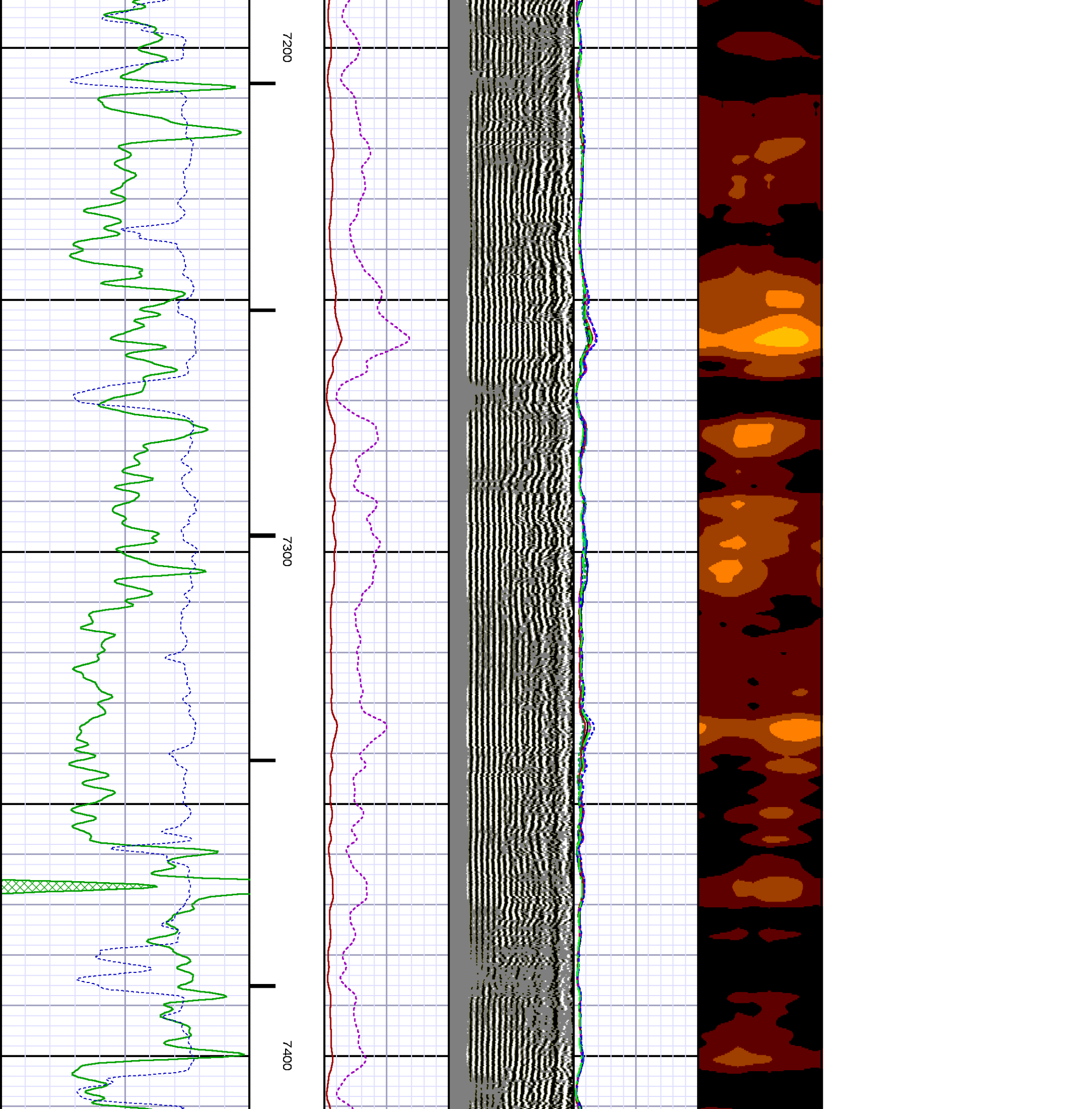


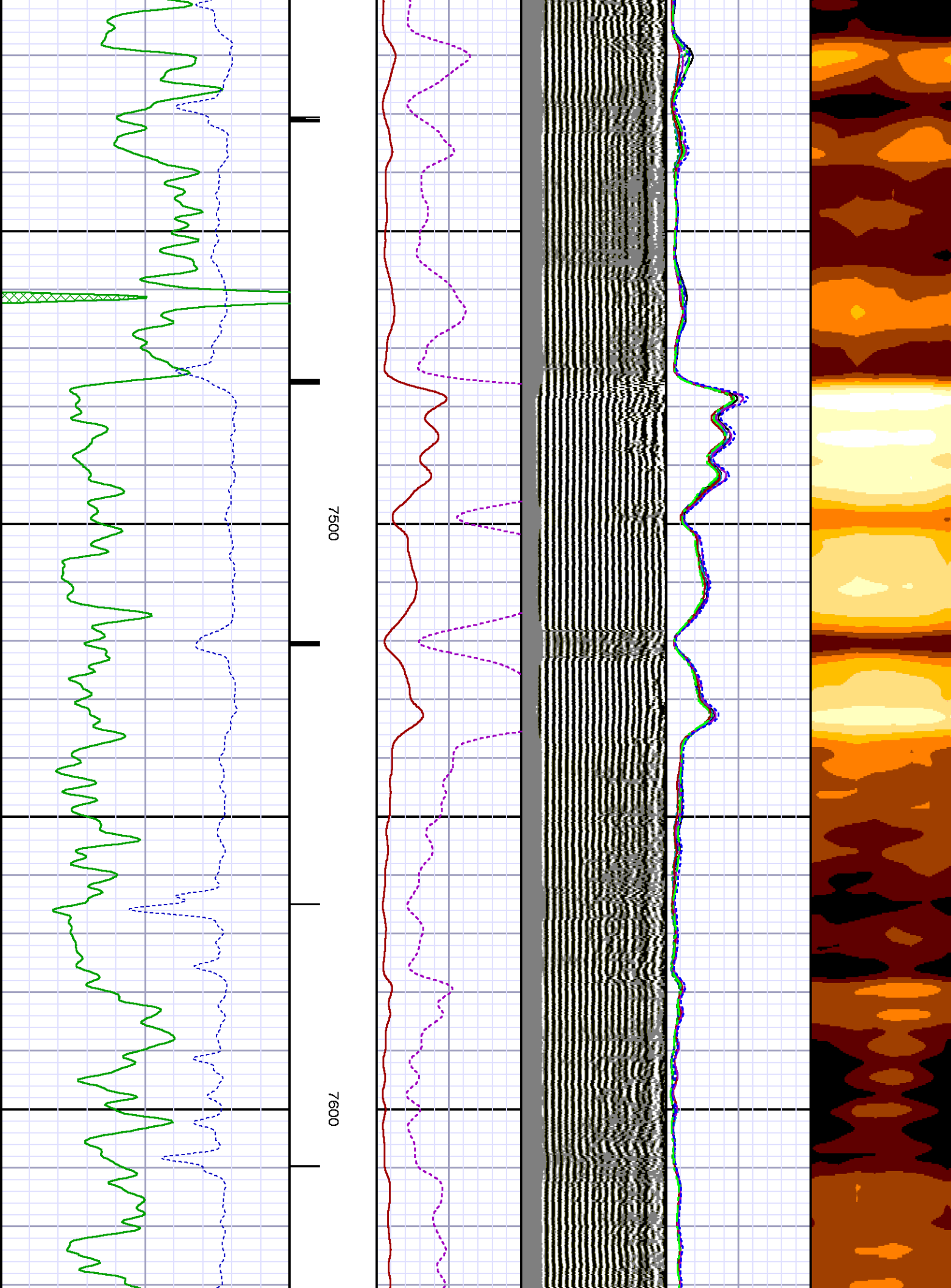


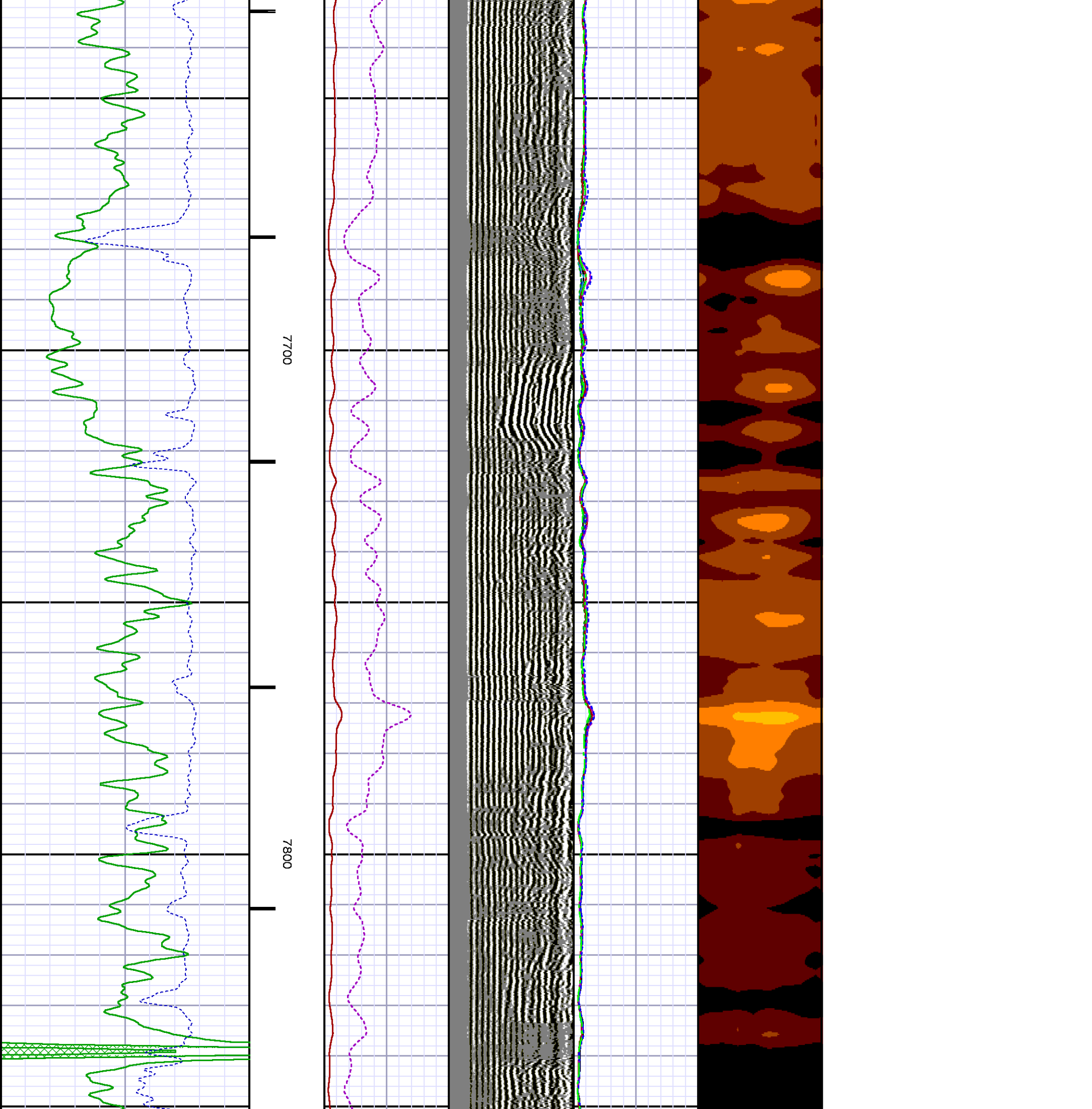


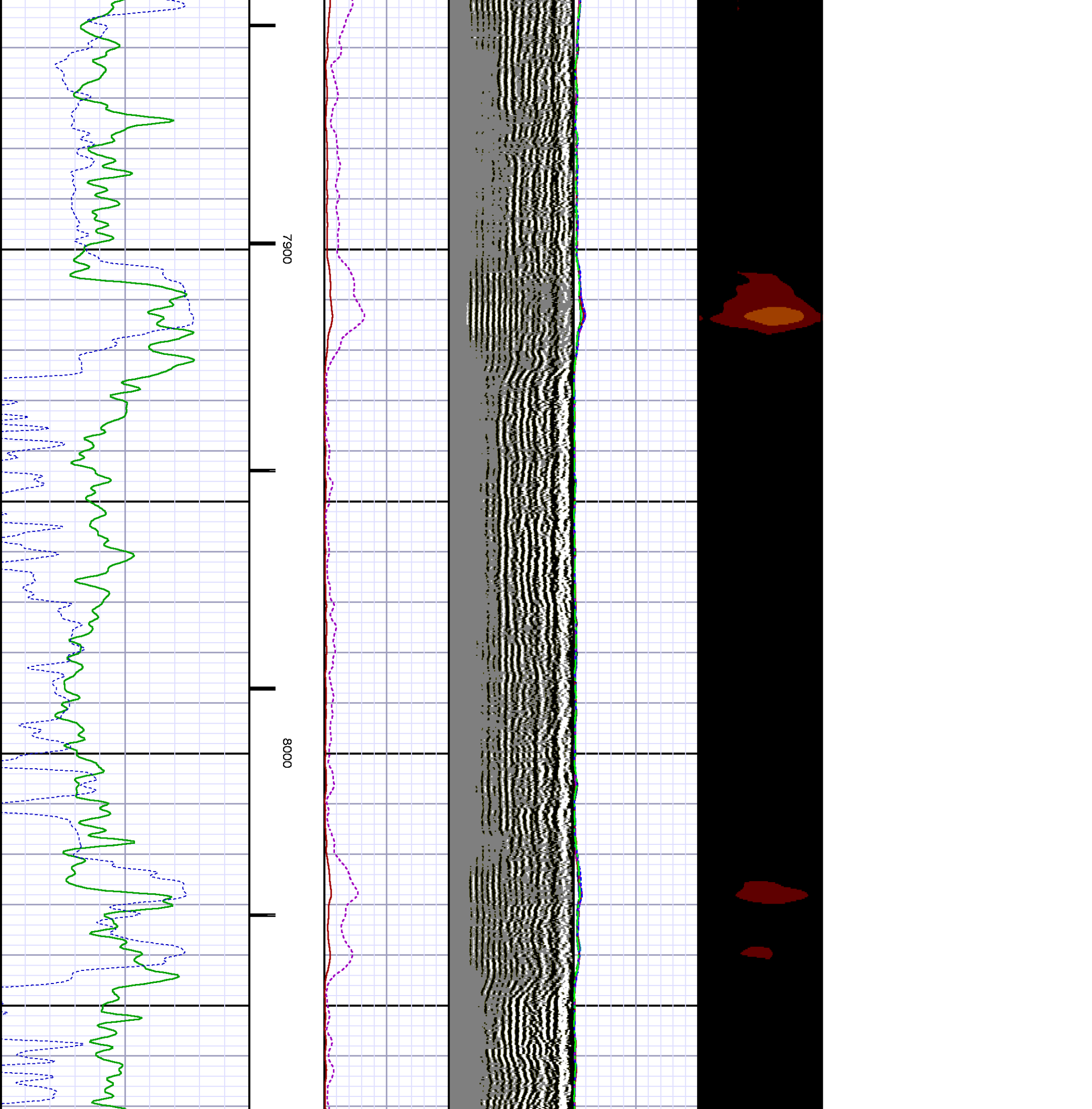


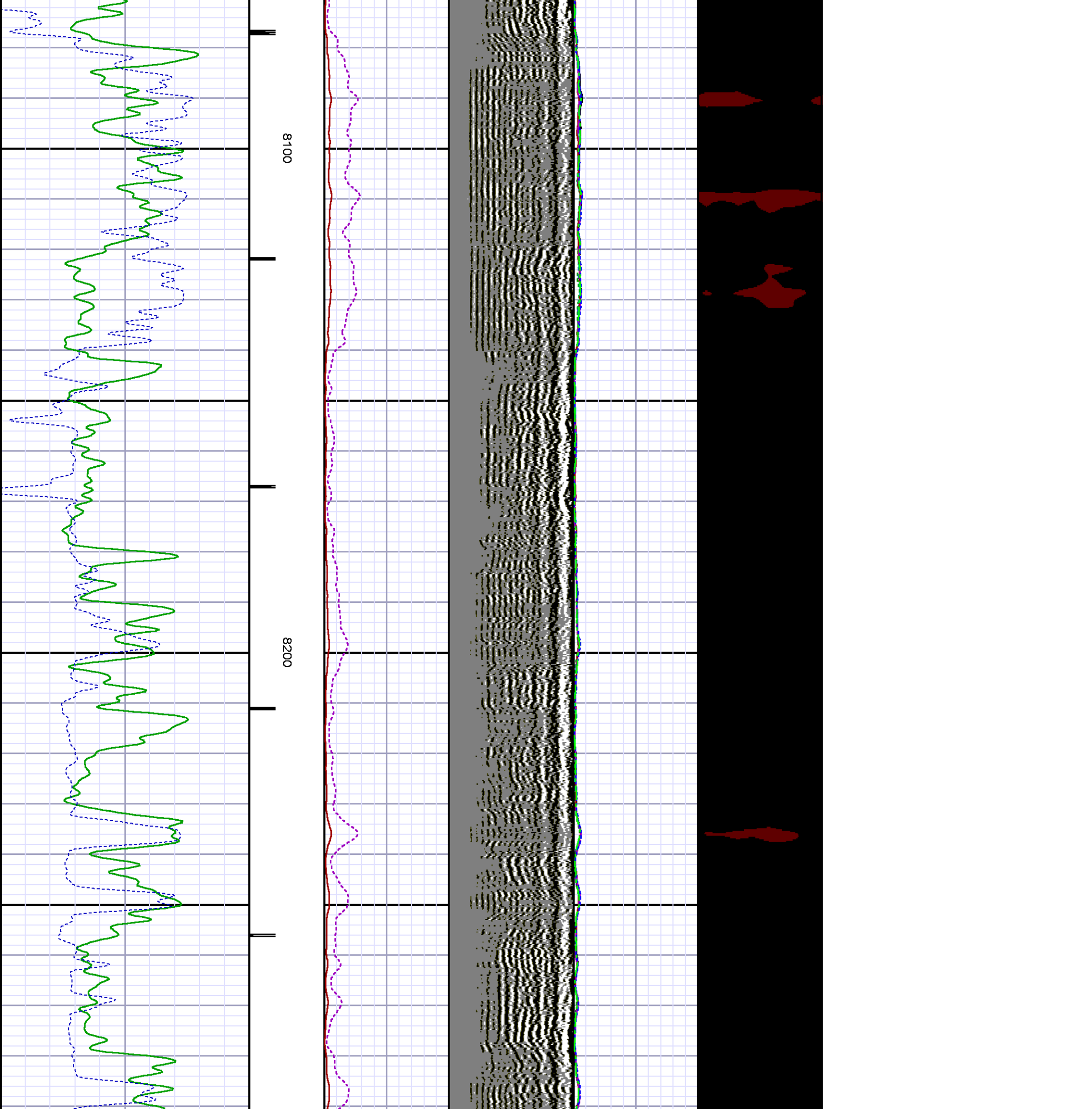


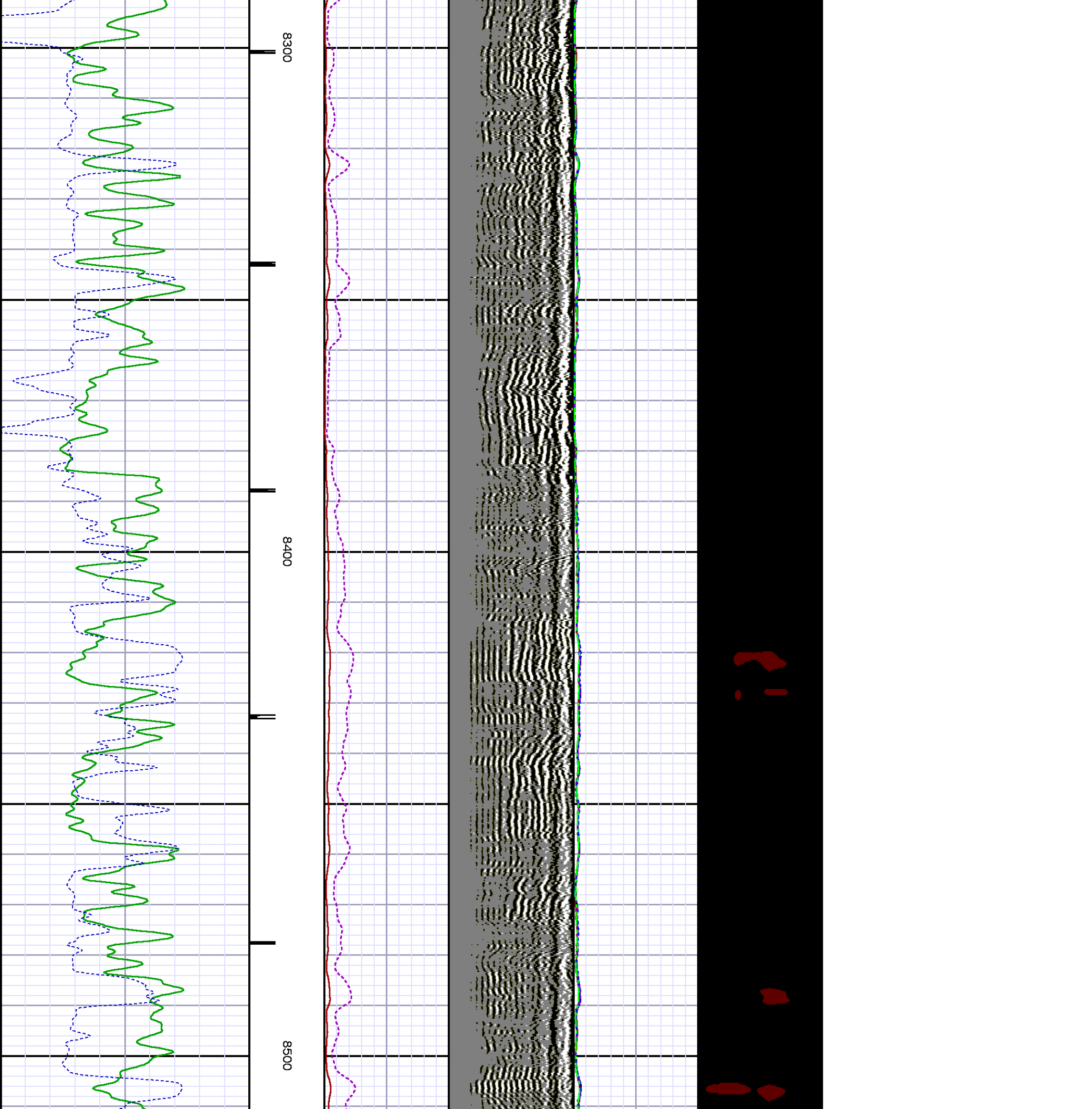


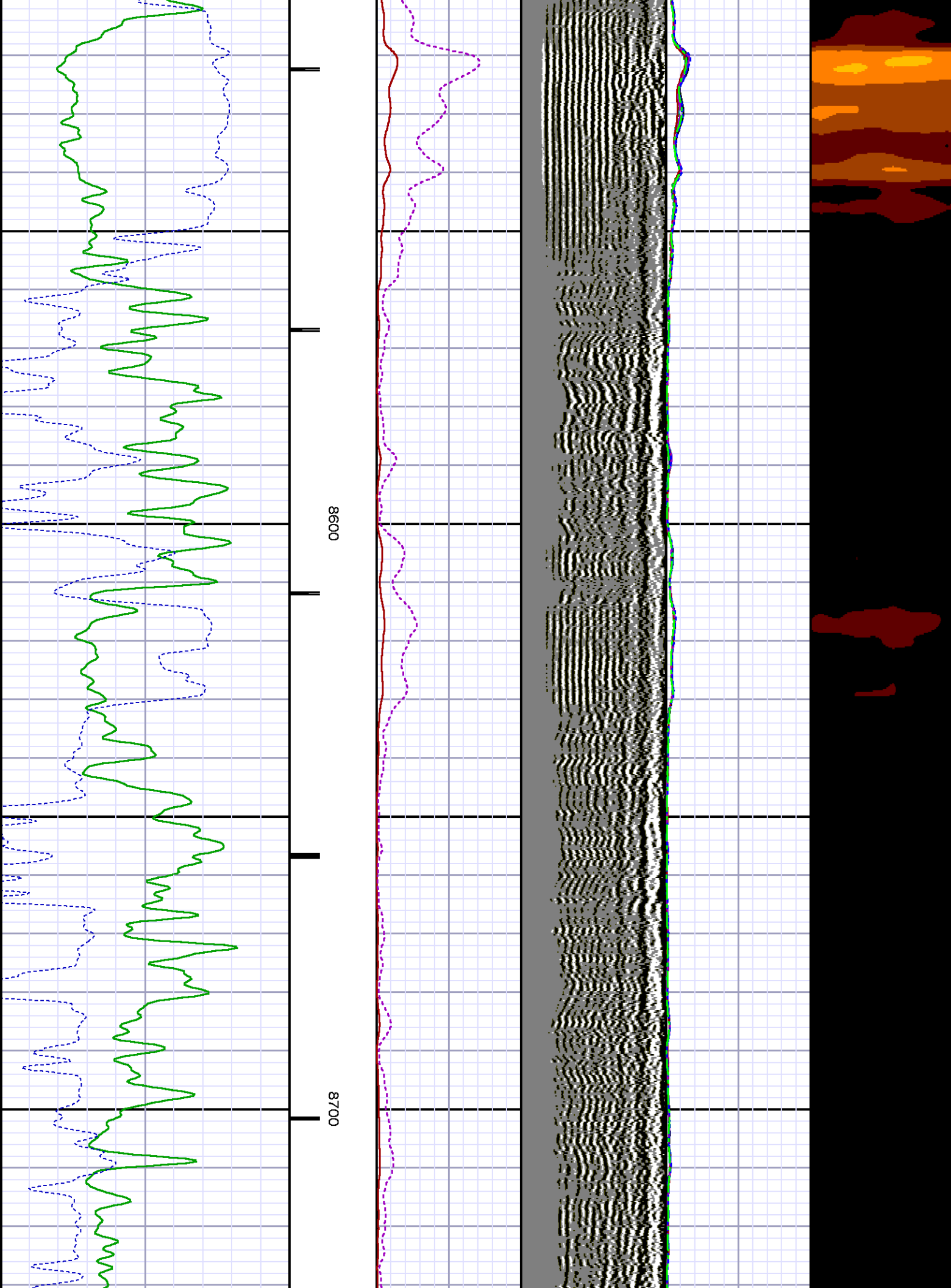


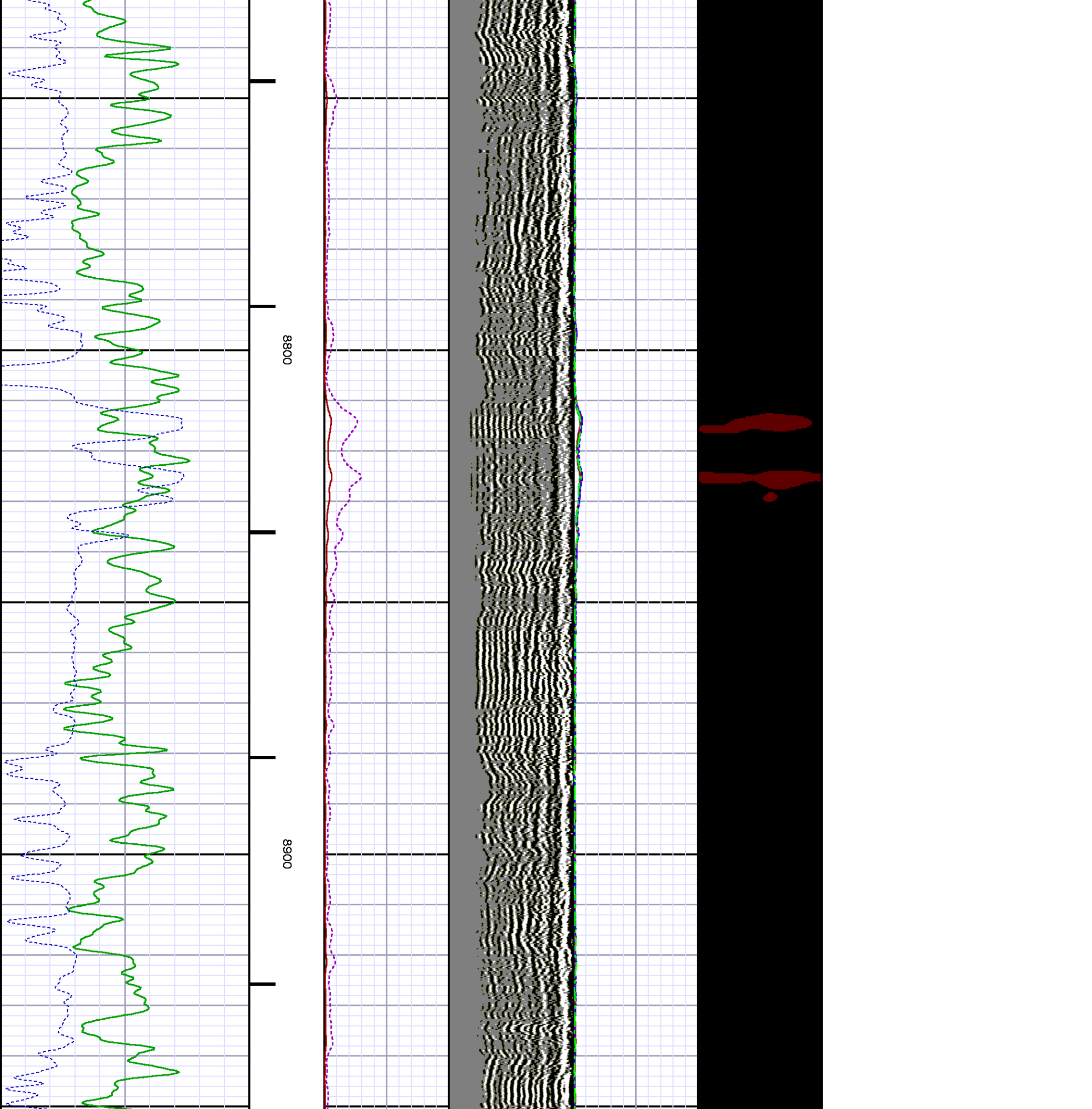


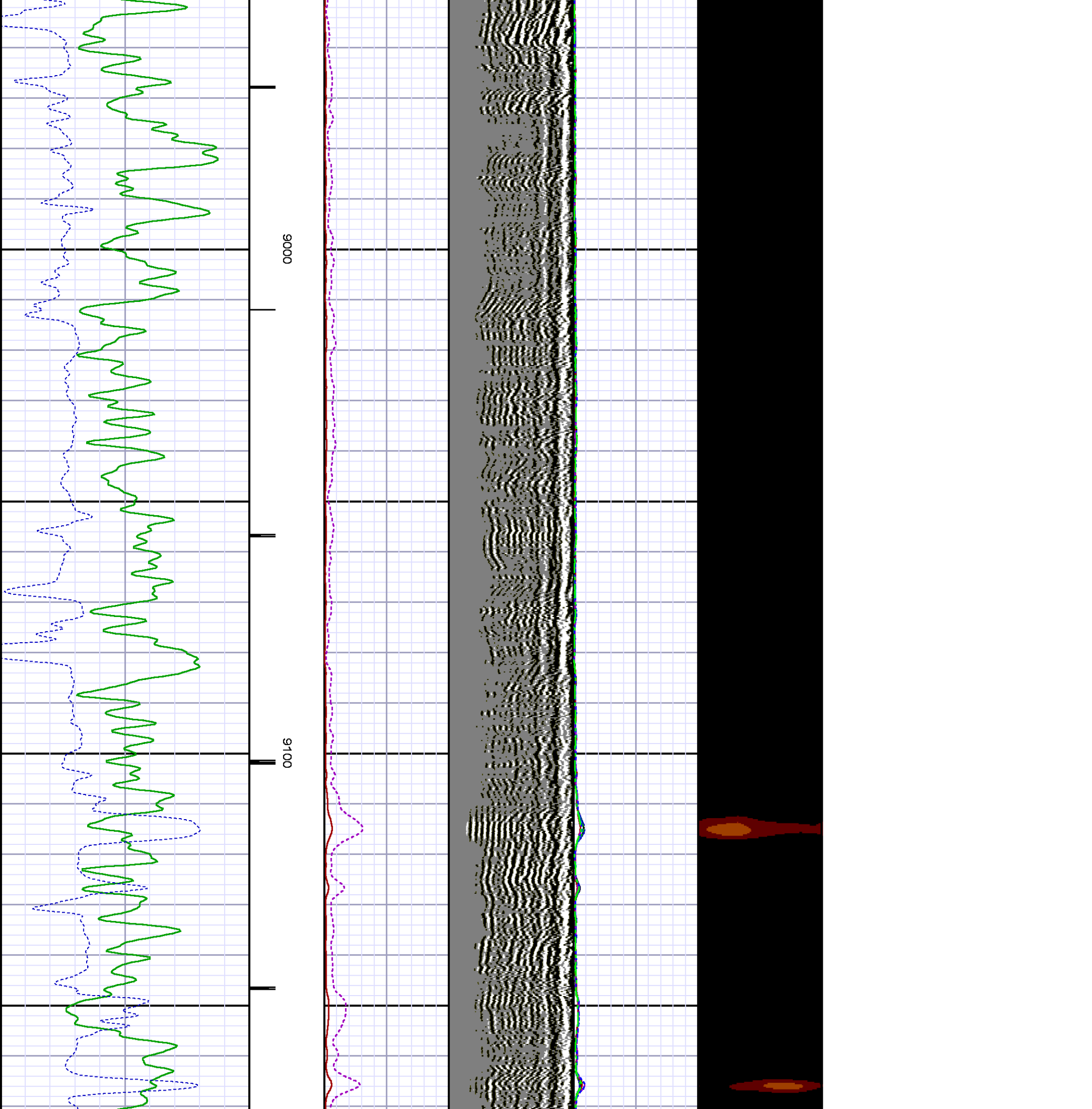


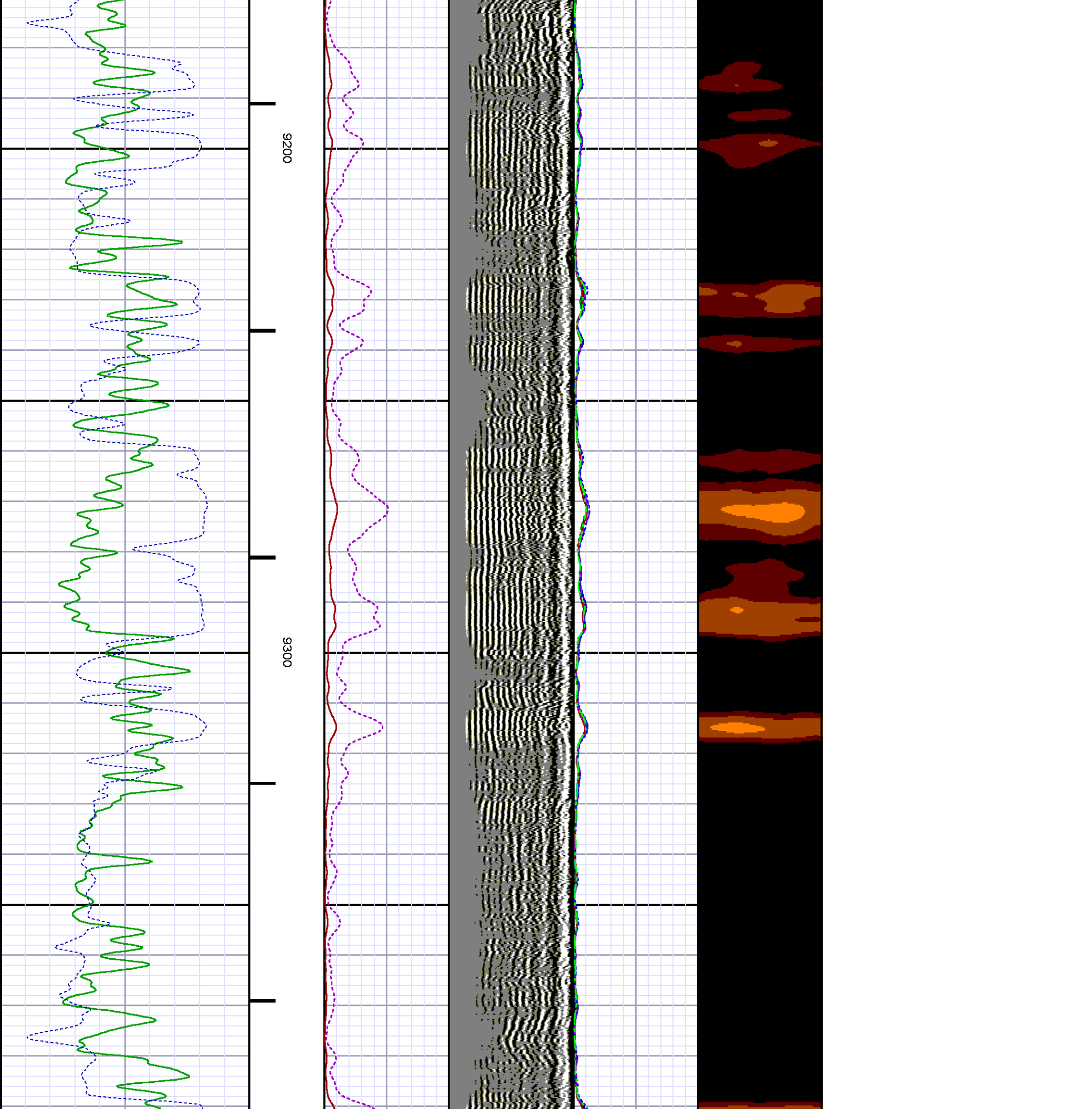


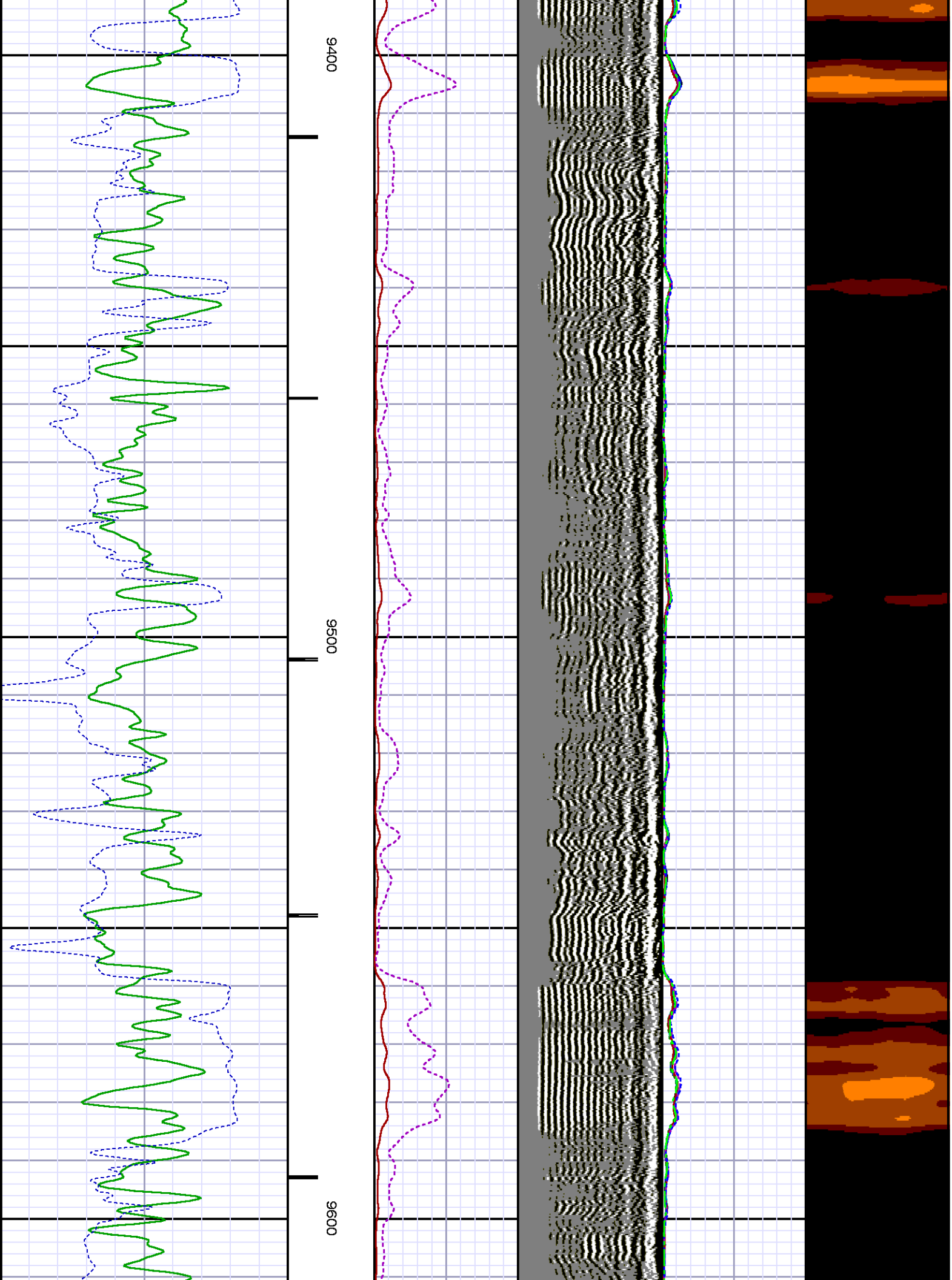


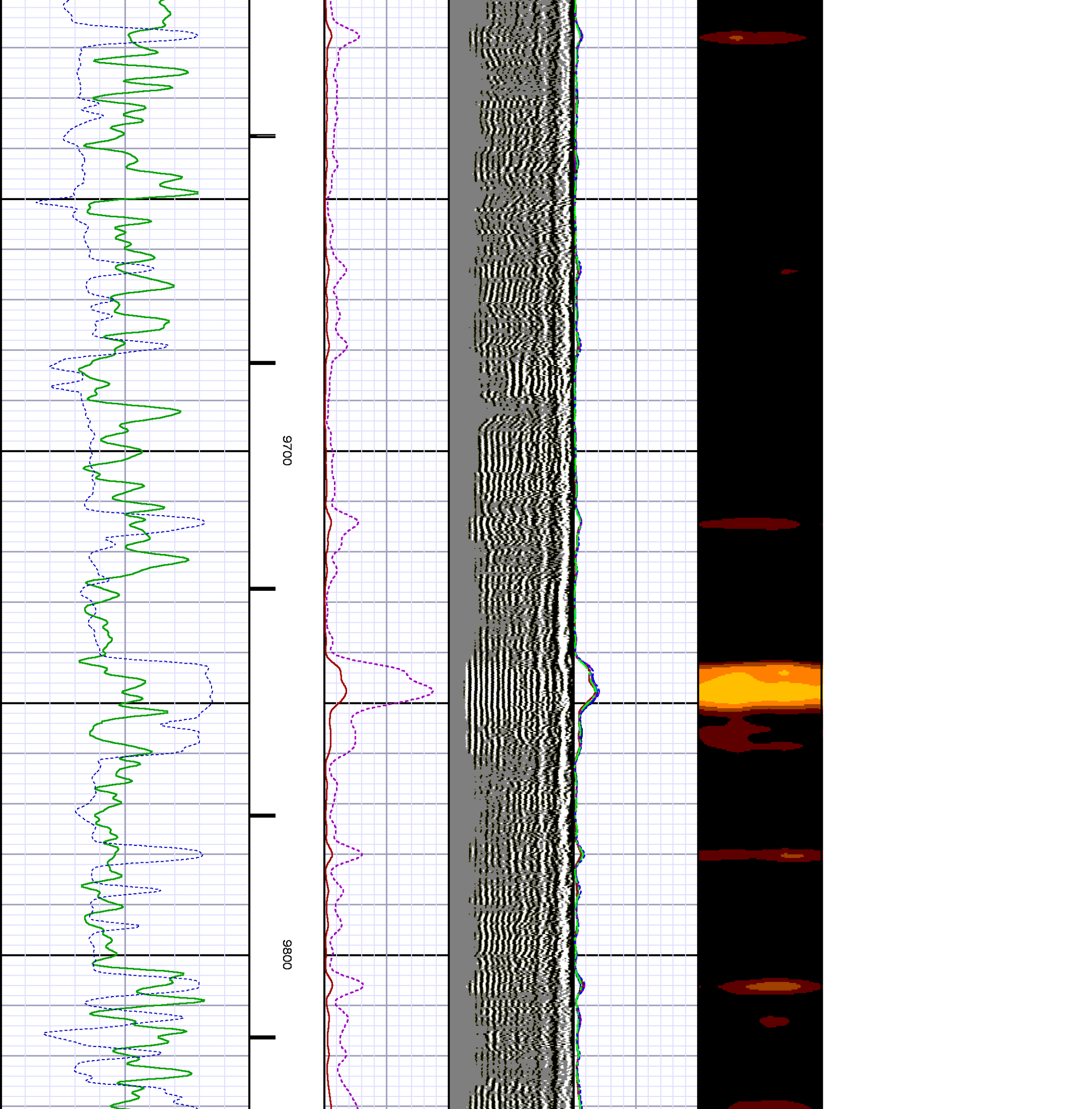


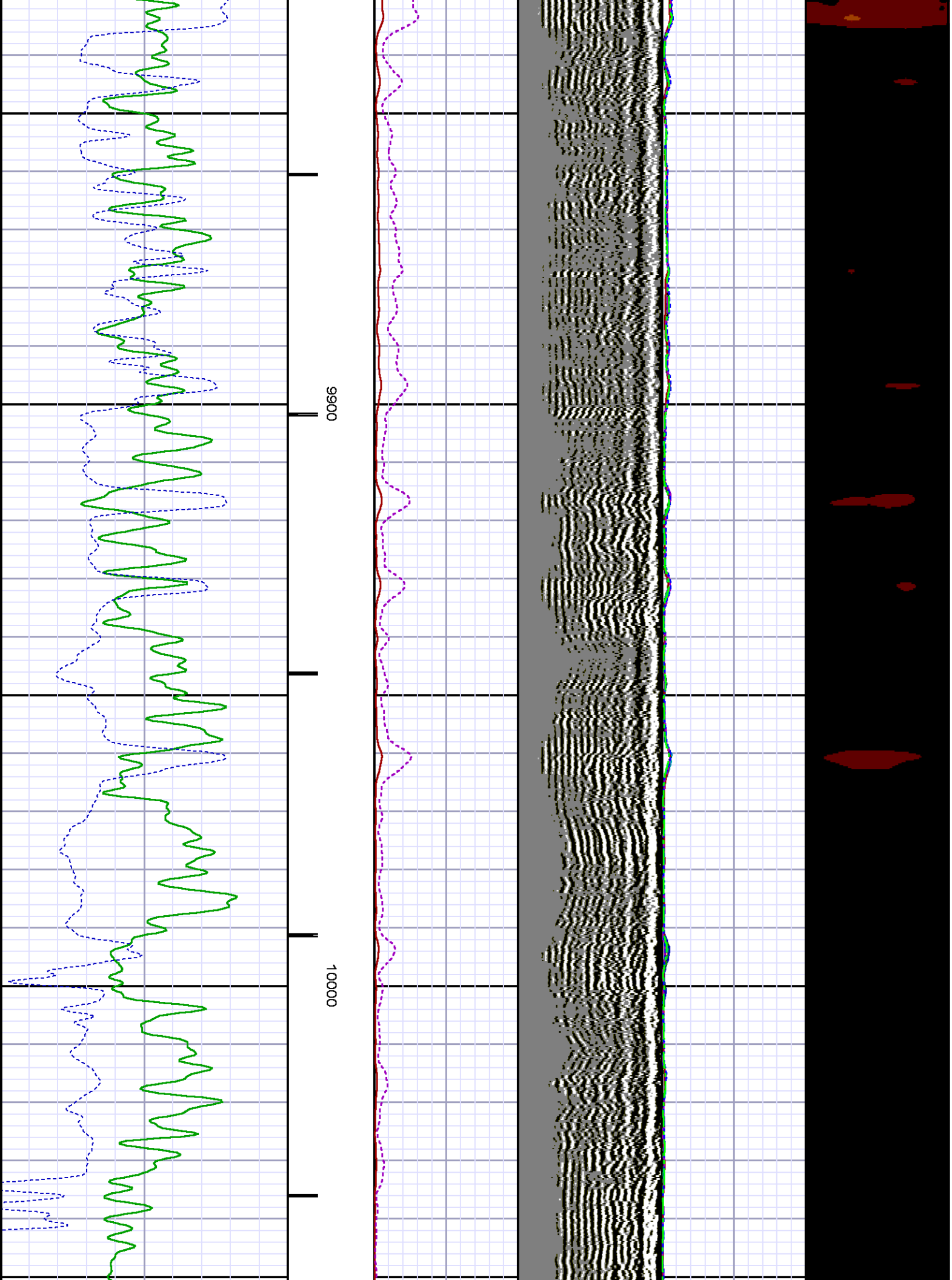


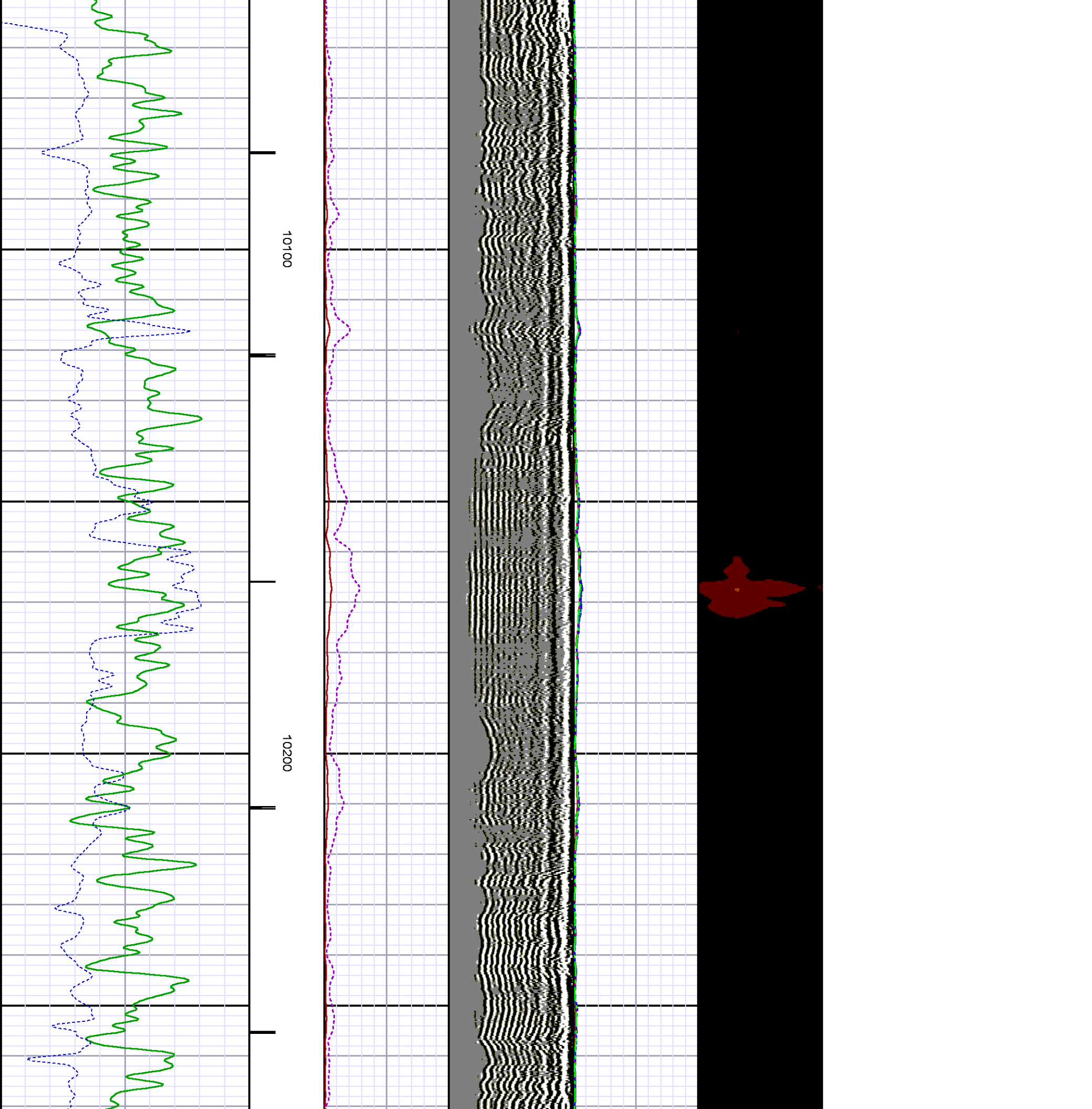


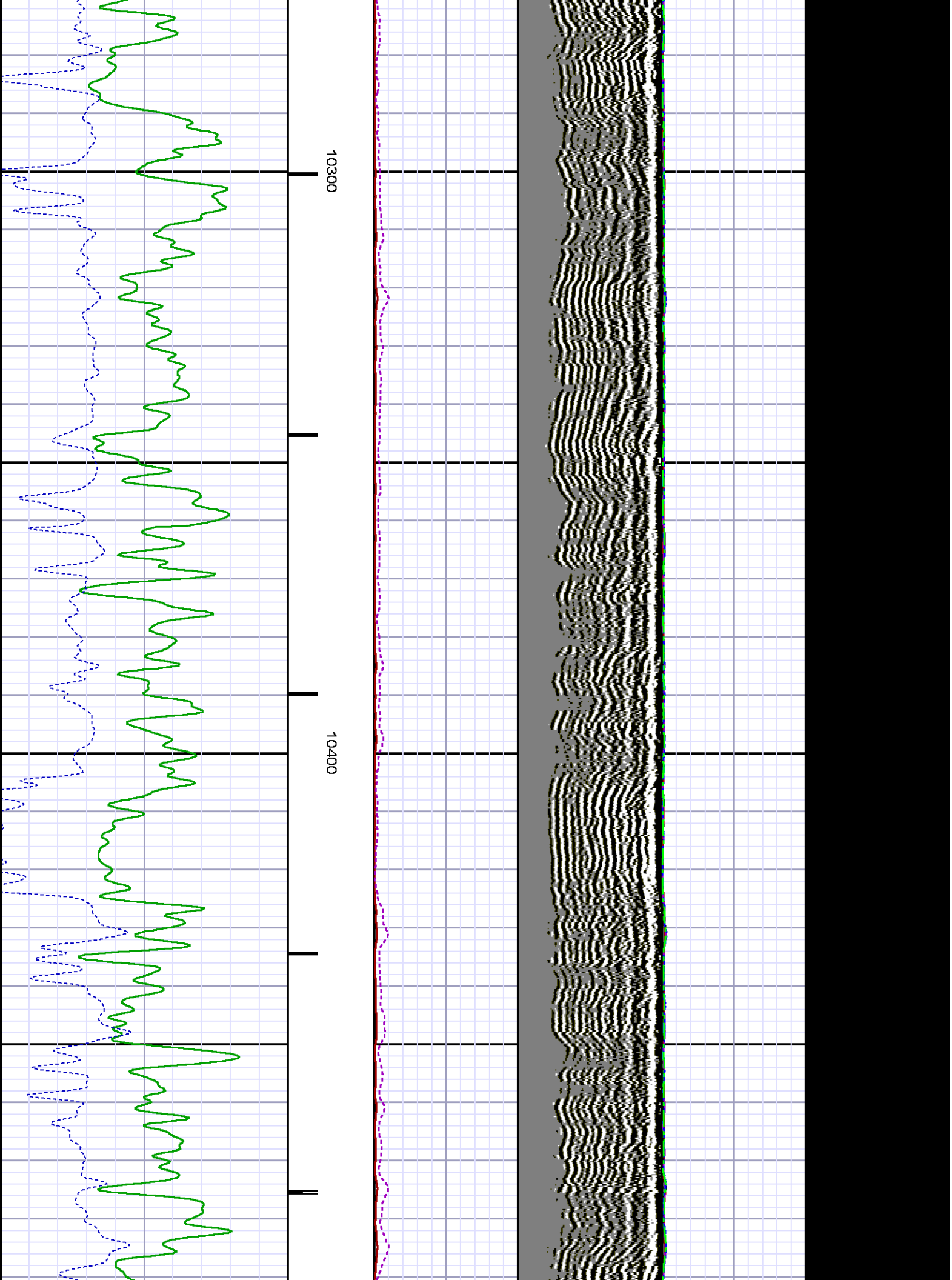


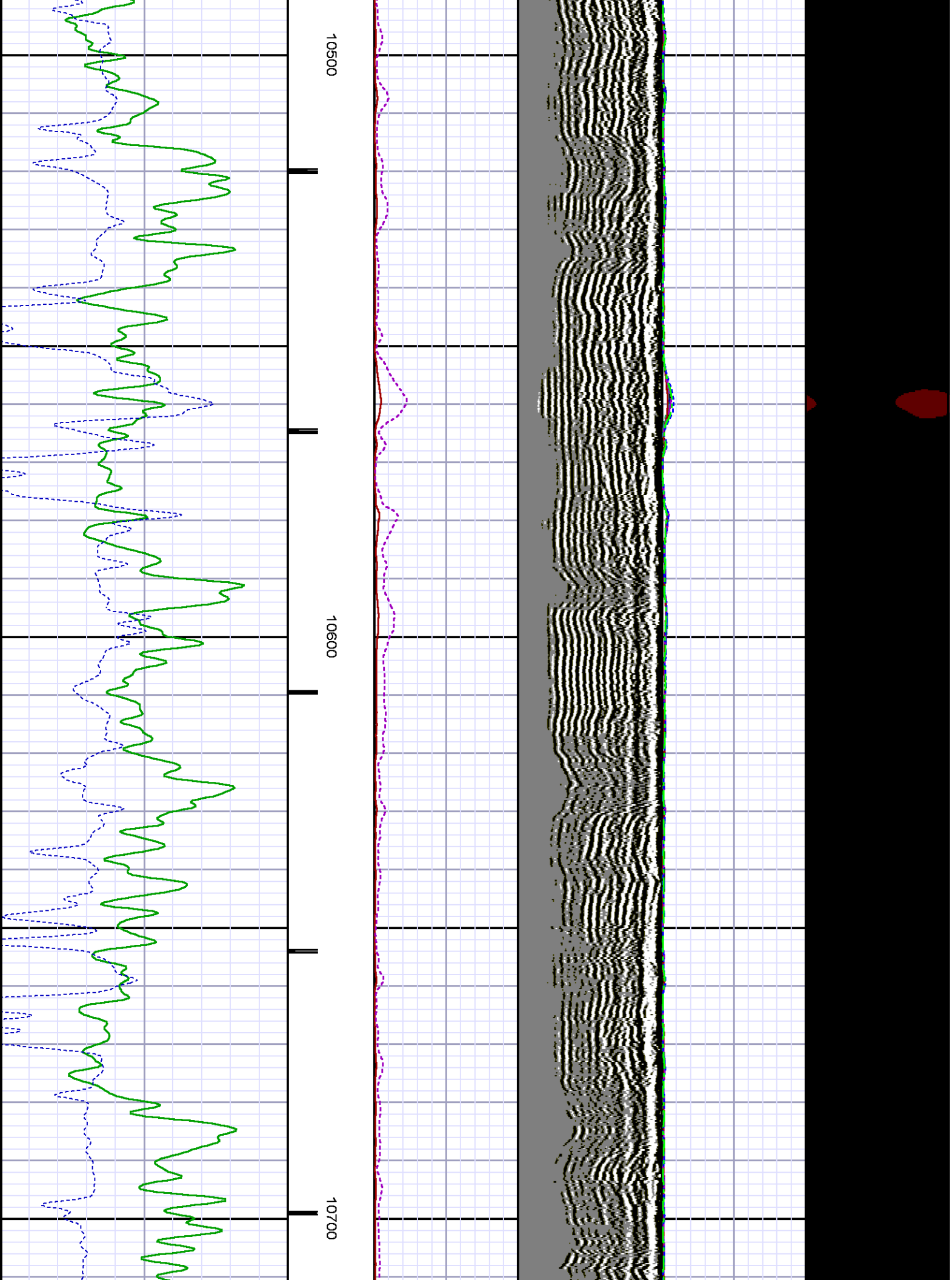


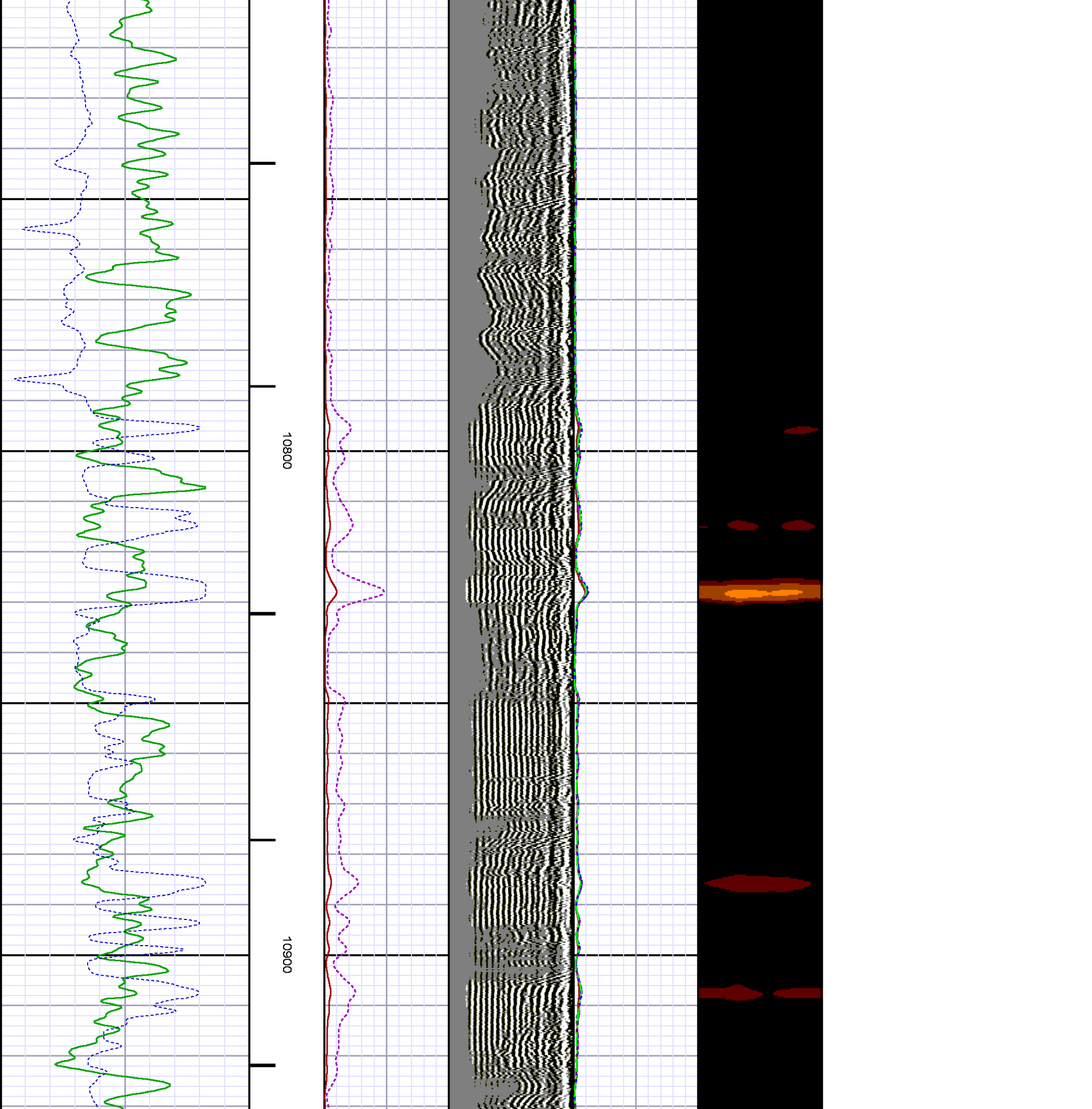


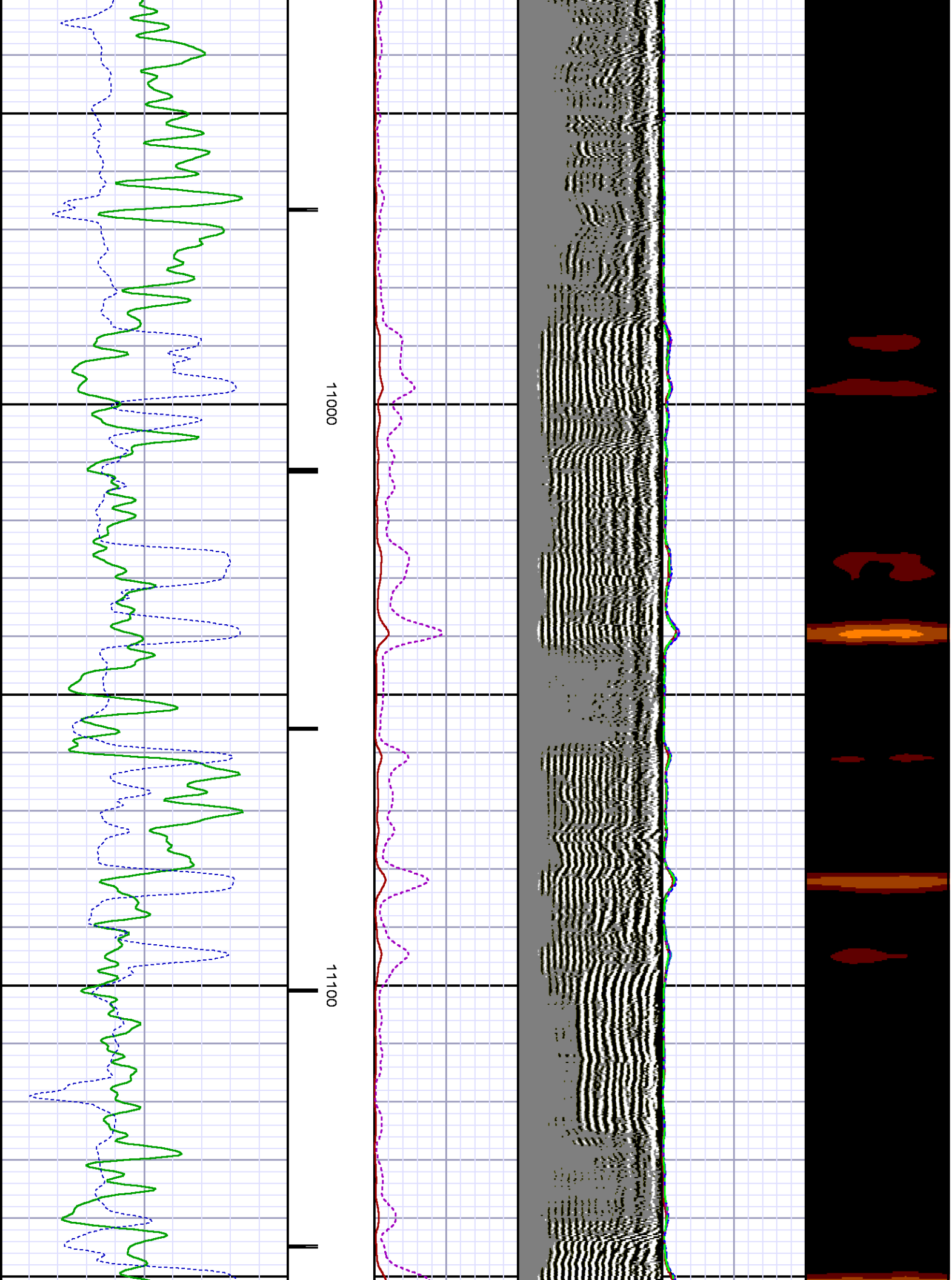


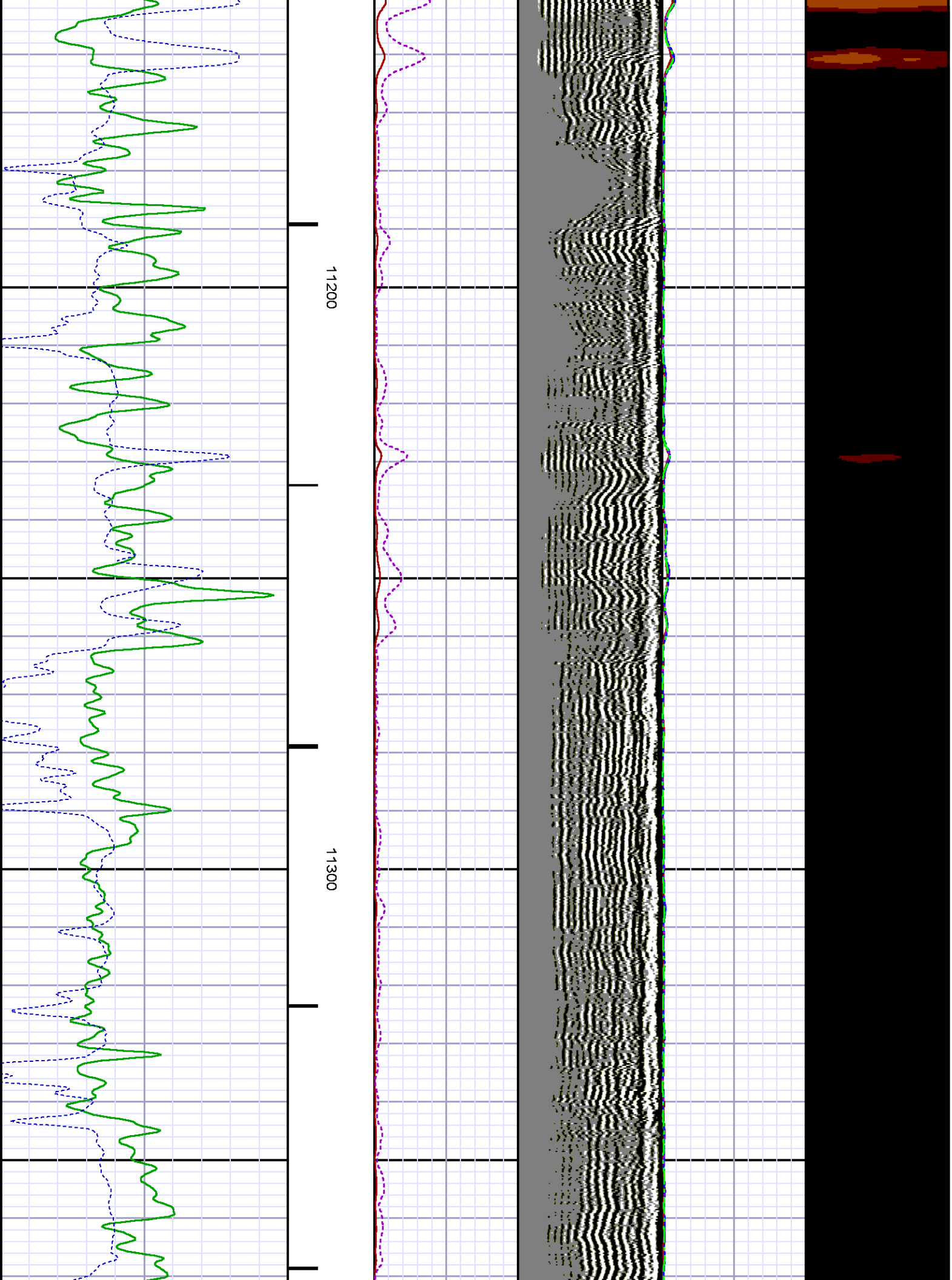


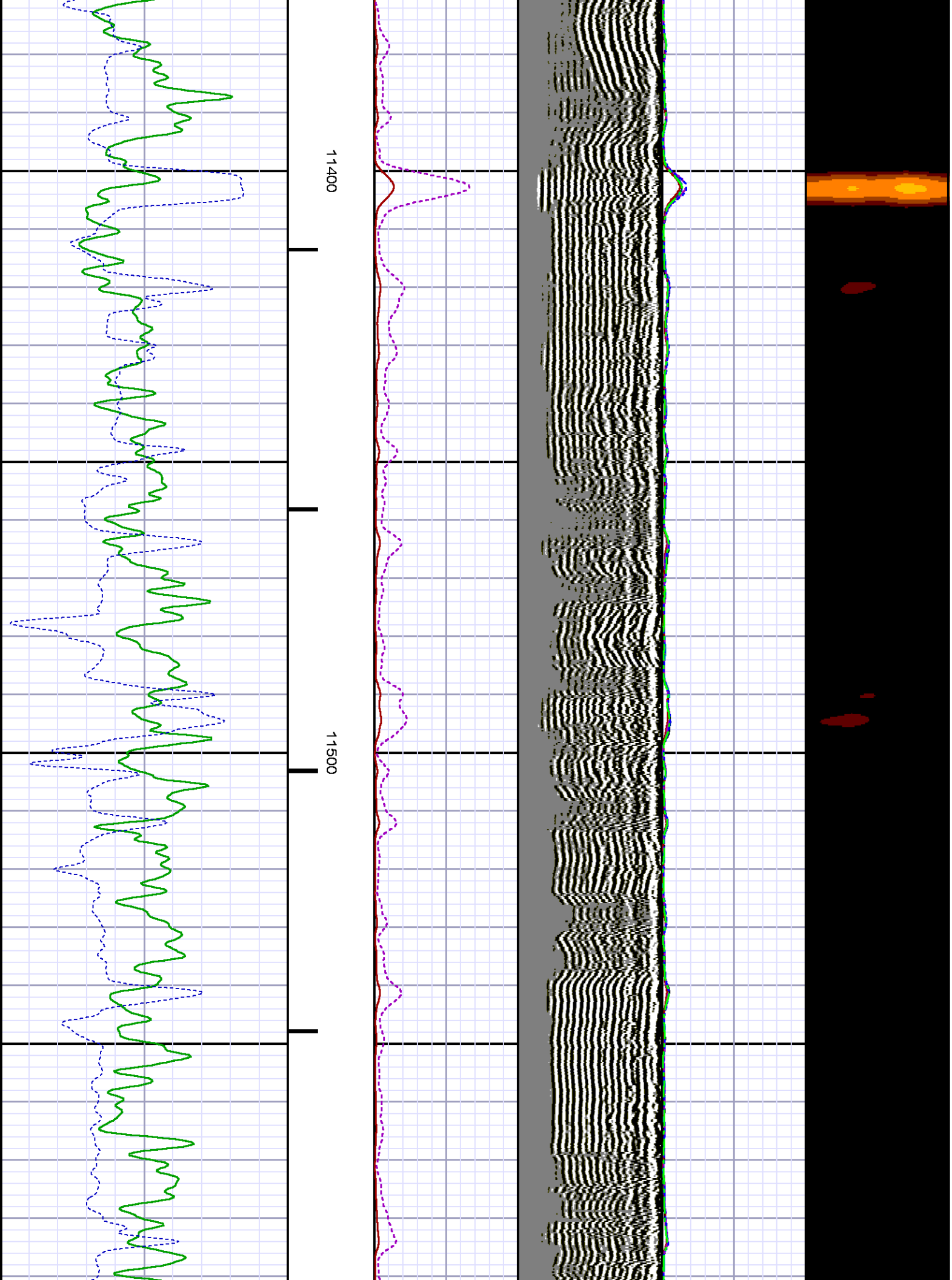


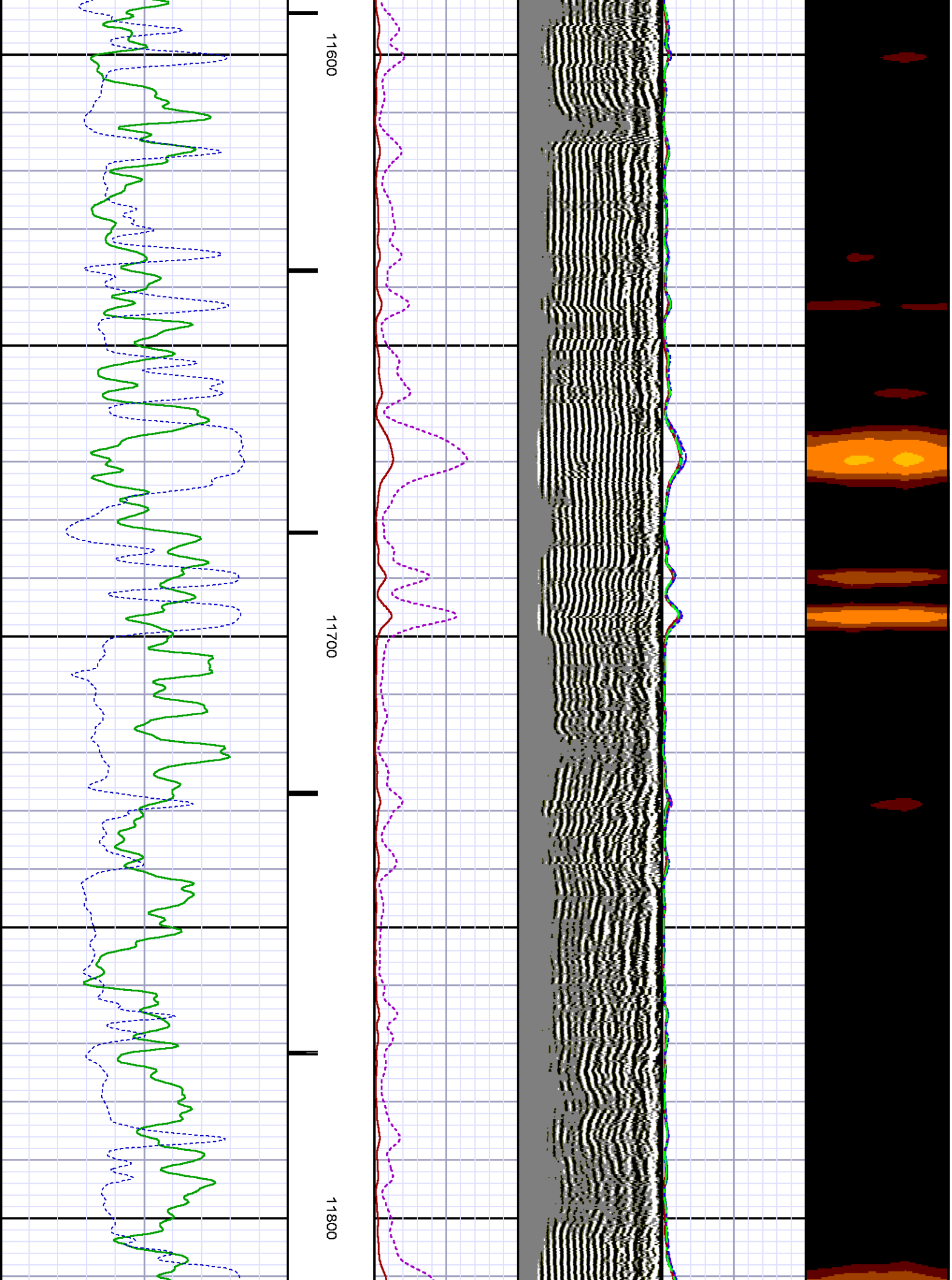


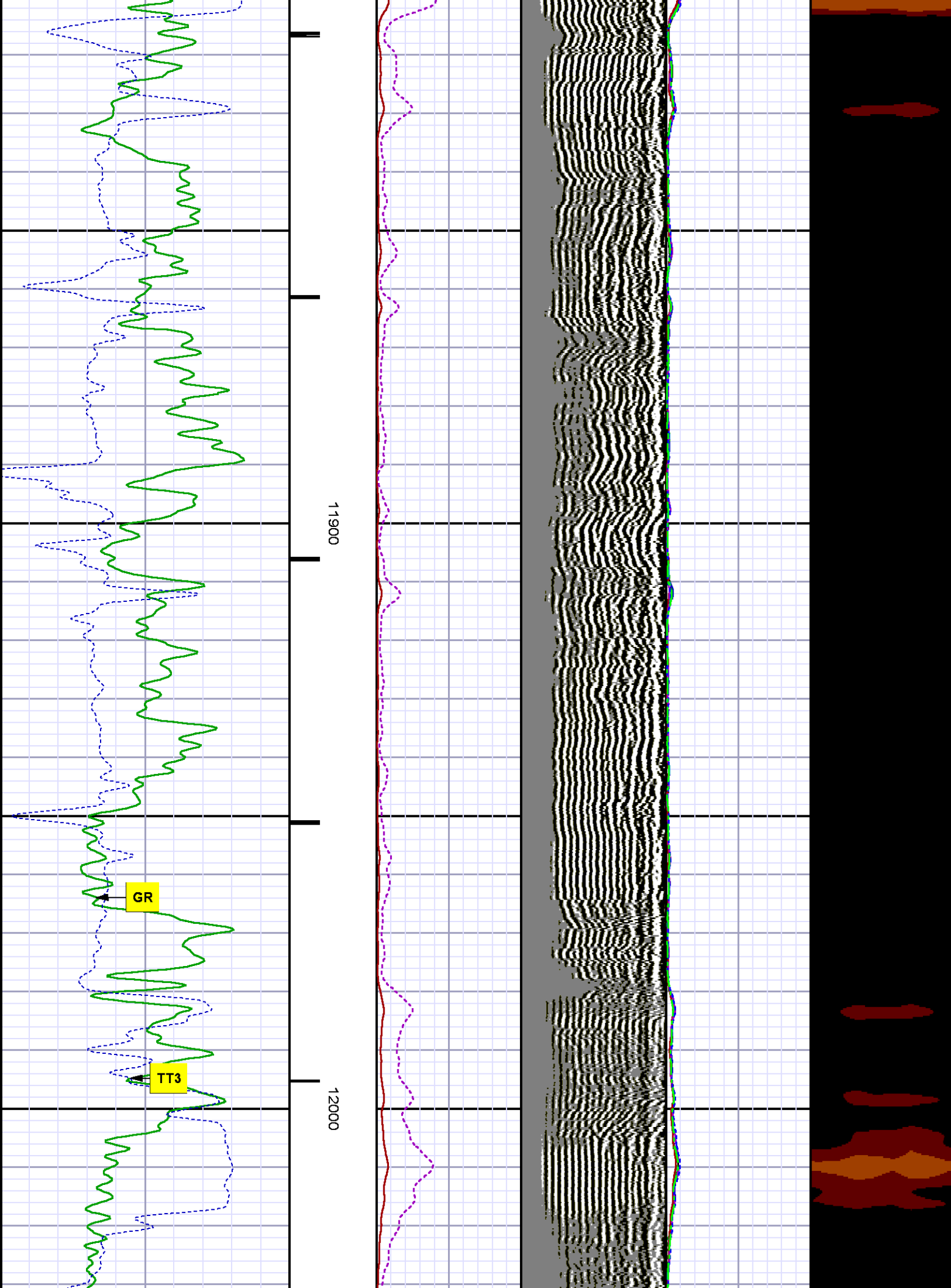


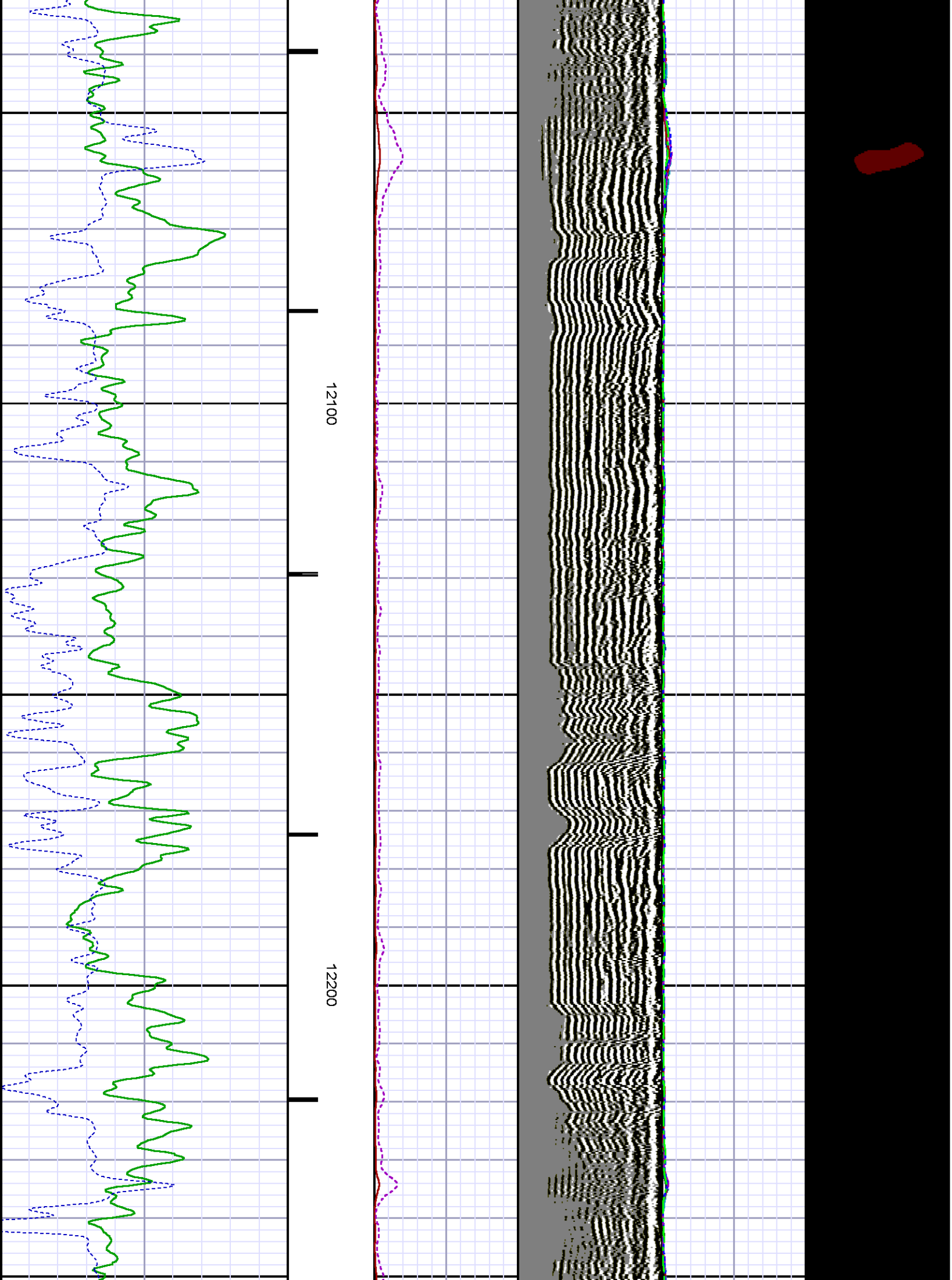


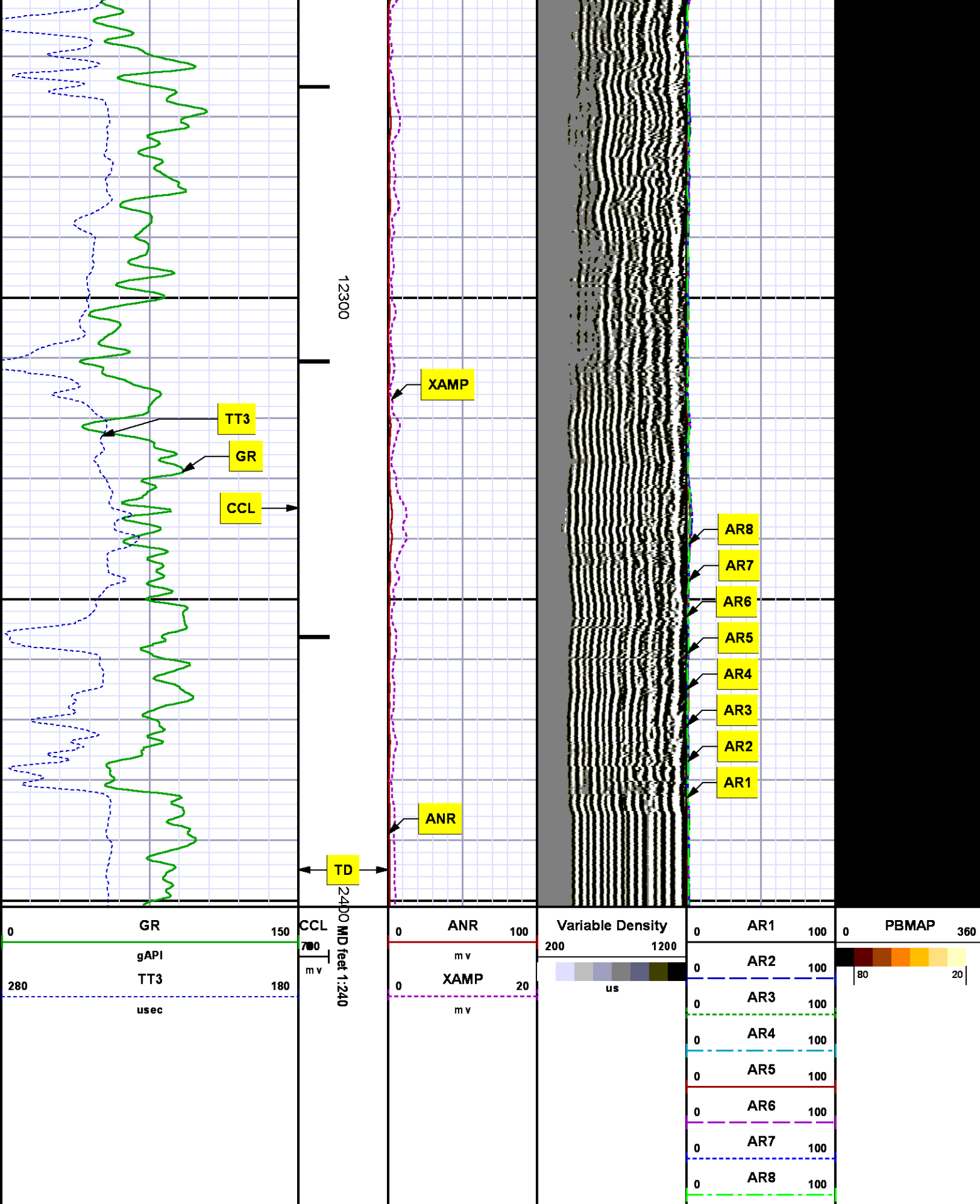












# REPEAT SECTION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	12114.300	12414.300
RAL	Amp Gate Start Near	195.000	usec	12114.300	12414.300
RAL	Amp Gate Start Radial	195.000	usec	12114.300	12414.300
RAL	Amp Gate Width Far	30.000	usec	12114.300	12414.300
RAL	Amp Gate Width Near	25.000	usec	12114.300	12414.300
RAL	Amp Gate Width Radial	25.000	usec	12114.300	12414.300
RAL	casing od	4.500	inches	12114.300	12414.300
RAL	casing wt	11.600	lbm/ft	12114.300	12414.300
RAL	FB Start Far	291.900	usec	12114.300	12414.300
RAL	FB Start Near	180.000	usec	12114.300	12414.300
RAL	FB Start Radial	180.000	usec	12114.300	12414.300
RAL	FB Thresh Far	10.000	mv	12114.300	12414.300
RAL	FB Thresh Near	4.000	mv	12114.300	12414.300
RAL	FB Thresh Radial	4.000	mv	12114.300	12414.300
RAL	Fluid Travel Time	200.000	usec/ft	12114.300	12414.300

## DEPTH OFFSETS

(for Acquired Curves)

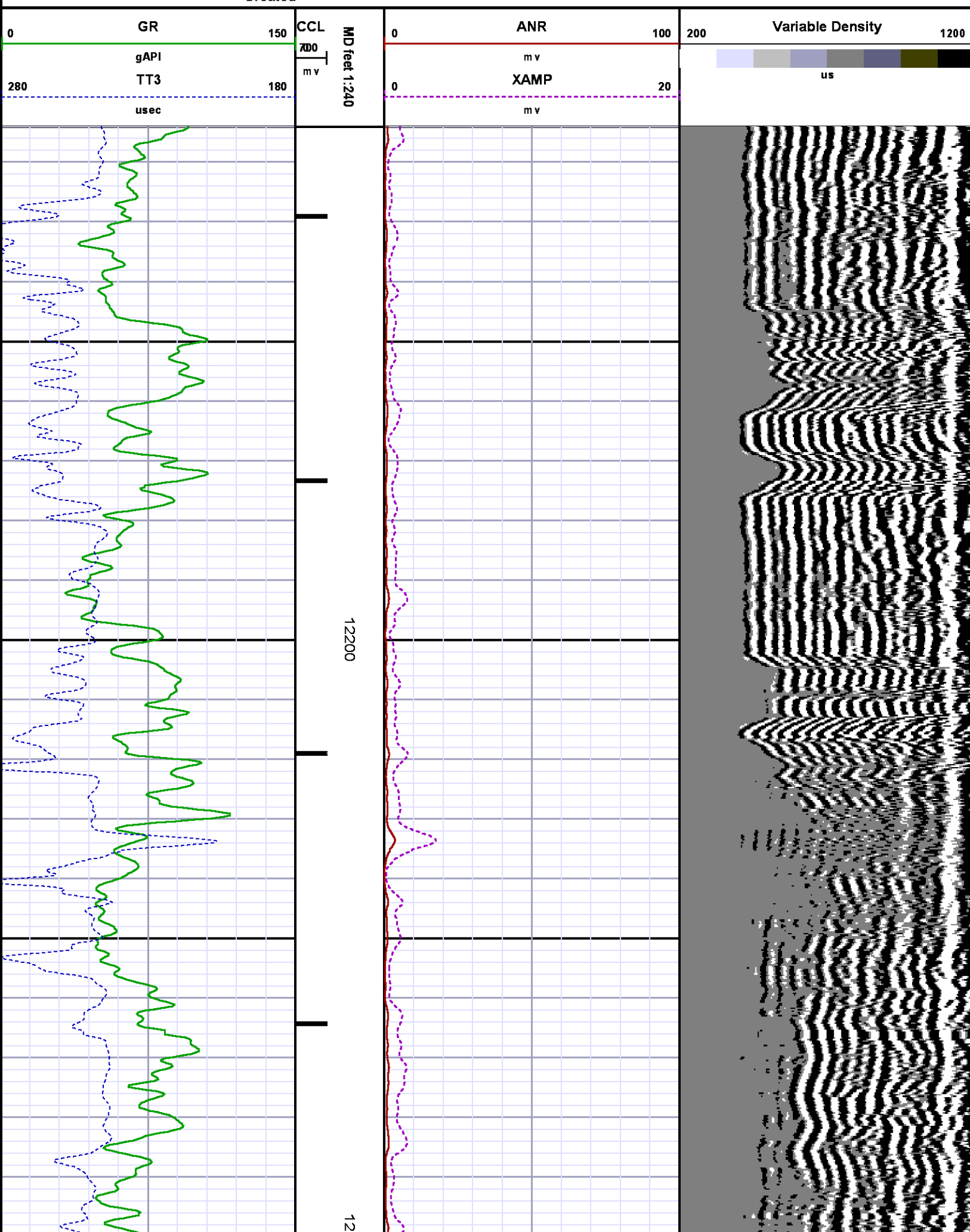
SERIES	DEPTH OFFSET	ACQUIRED CURVES
1426XA	-11.000	ACAL ANR AR1 AR2 AR3 AR4 AR5 AR6 AR7 AR8 CHV FPR2 FPR3 FPR5 TT3 TTR1 TTR2 TTR3 TTR4 TTR5 TTR6 TTR7 TTR8 XAMP
1426XA	-10.040	AFAR SIG TT5
1355XA	-5.620	CCL
1355XA	-1.500	GR
1355XA	0.000	TEMP

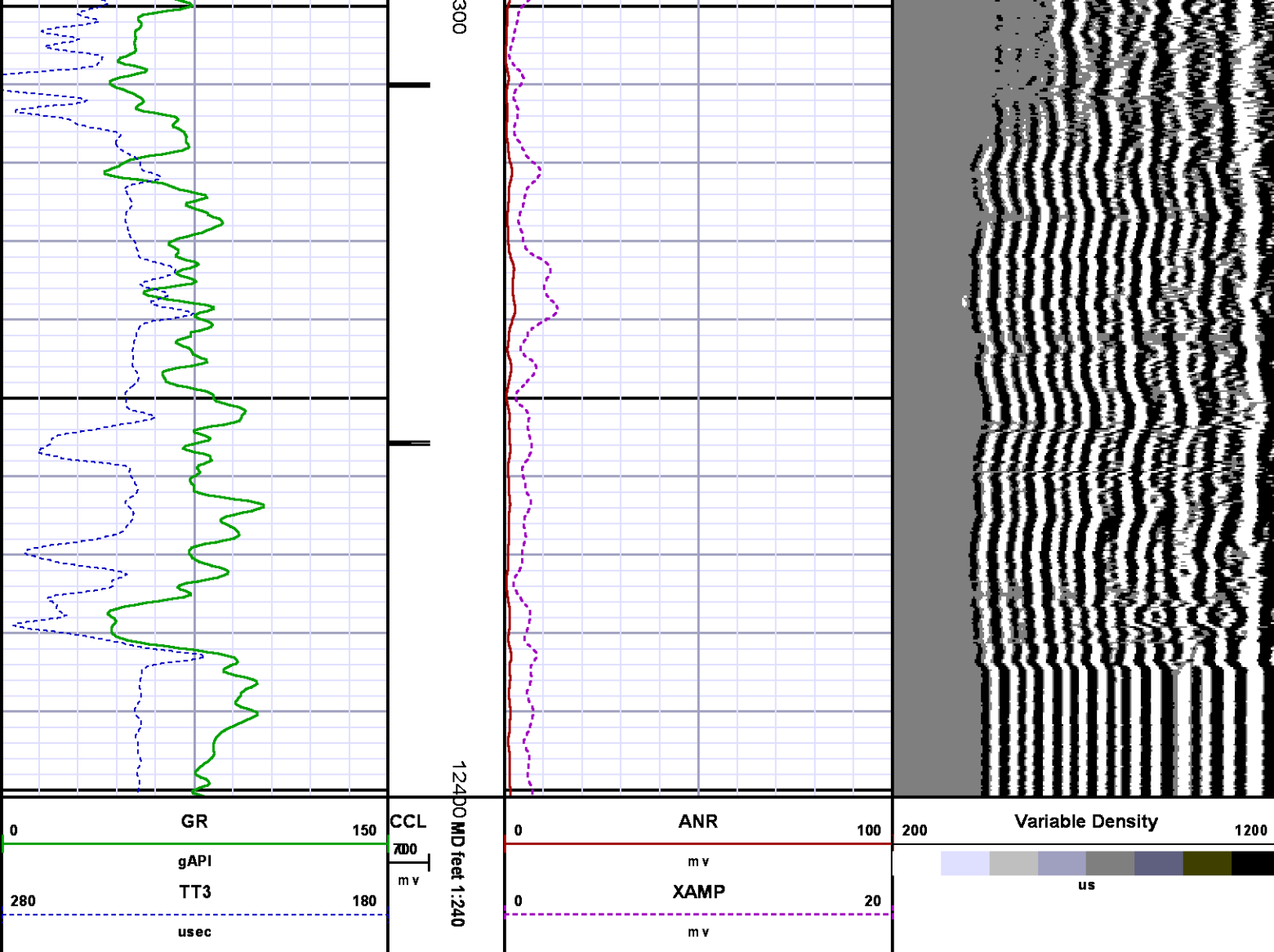
Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

Well : FEDERAL RGU 24-23-198





## CALIBRATION SUMMARY

## GAMMA RAY

Calibration File: C:\case\calver\GR\209M2.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun May 12 13:40:15 2013 TOOL SERIES: 1355XA ASSET: 209 SEQ: M2

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	129.07	523.51	0.469	60.53	245.53	185.00

Verification File: C:\case\calver\GR\209M2.VP

## PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Sun May 12 13:41:35 2013 TOOL SERIES: 1355XA ASSET: 209 SEQ: M2

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	131.47	531.85	0.469	61.66	249.45	187.79

**RALSHP**

Shop Calibration: C:\case\calver\RALSHP\539M12\_shp.cal

## SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun May 12 09:23:08 2013 TOOL SERIES: 1426XA ASSET: 539 SEQ: M12

Tool Delay [usec]	-58.00	Tank OD in	5.50	Tank Wt lbm/ft	15.50	Tank ID in	4.95
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RECEIVER	Travel Time [usec]	Amp. Gate Start [usec]	Amp. Gate Width [usec]	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	218	216	30	166	25	-0.863	100.00	0.19
3 Ft. Receiver	218	216	30	146	25	-0.391	100.00	0.18
5 Ft. Receiver	324	320	30	236	25	0.766	150.00	0.20
Radial #1	218	216	30	141	25	1.092	100.00	0.18
Radial #2	218	216	30	141	25	0.511	100.00	0.18
Radial #3	218	216	30	141	25	-0.184	100.00	0.19
Radial #4	218	216	30	141	25	0.244	100.00	0.18
Radial #5	218	216	30	141	25	-0.313	100.00	0.18
Radial #6	216	216	30	141	25	0.094	100.00	0.18
Radial #7	216	216	30	141	25	-0.197	100.00	0.18
Radial #8	218	216	30	141	25	-0.130	100.00	0.18

**RALFLD**

Wellsite Calibration: C:\case\calver\RALFLD\539M12 fld.cal

## WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun May 12 09:25:15 2013 TOOL SERIES: 1426XA ASSET: 539 SEQ: M12

Tool Delay [usec]	-58.00	Casing OD in	4.50	Casing Wt lbm/ft	11.60	Casing ID in	4.00
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RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	166	25	-0.094	0.000	1.00	100.000
3 Ft. Receiver	195	25	-2.189			
5 Ft. Receiver	305	30	-3.092			
Radial #1	195	25	-3.676			
Radial #2	195	25	-3.056			
Radial #3	195	25	-3.115			

Radial #4	195	25	-3.217
Radial #5	195	25	-4.559
Radial #6	195	25	-3.282
Radial #7	195	25	-3.479
Radial #8	195	25	-3.426

## TOOL DIAGRAM

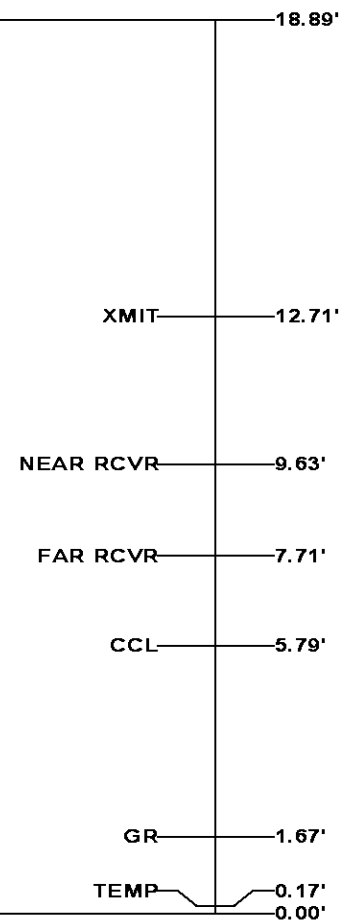
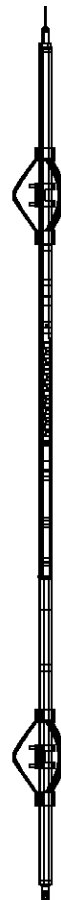
### OTA SHORT CABLE HEAD

### PROBE 2 3/4 DUAL RECEIVER RADII

Series	1426XA
Mnemonic	PROB
Diameter	2.75"
Length	11.17'
Measure Point	0.75' FAR RCVR
Measure Point	2.67' NEAR RCVR
Measure Point	5.75' XMIT
Temp Rating	350.00 °F
Press Rating	18000.00 PSI

### RAL GR/TEMP/CCL/CHV DETECTOR

Series	1355XA
Mnemonic	RAL
Diameter	2.75"
Weight	85.00 lb
Length	6.96'
Measure Point	0.17' TEMP
Measure Point	1.67' GR
Measure Point	5.79' CCL
Temp Rating	400.00 °F
Press Rating	20000.00 PSI



**Total Length: 18.89'**  
**Total Weight: Not Available**  
**Max Diameter: 0' 2.75"**



Company

WPX ENERGY

Well

FEDERAL RGU 24-23-198

Field

SULPHUR CREEK

County

BIG BLANCO

State

COLORADO

File No:

CH072039

API No:

05103117870000

CASE

Location

SHL: 1785' FSL, 1921' FWL

BHL: 1295' FSL, 1897' FWL

Elevations

KB 6566 ft

DF

GL 6545 ft

23 1S 98W

RGU 23-23-198 PAD

CYCLONE 29

SEC 23 TWP 1S RGE 98W