



# RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH02083	Company Well Field County	WPX ENERGY FEDERAL RU 311-5 RULISON GARFIELD	State CO
API No: 05045217810000	Location SHL: 214' FNL & 2601' FWL BHL: 512' FNL & 535' FWL SEC 5 TWP 75 RGE 93W	Other Services RPM	
5 75 93W RU 23-5 PAD NABORS 576	Permanent Datum Log Measured From Drill Measured From	GL Elevation 7602 ft KB 26 ft Above P. D. KB GL 7602 ft	Elevations KB 7628 ft DF GL 7602 ft

Date	13/FEB/14	
Run	ONE	
Service Order	US625284	
Depth Driller	10217 ft	
Depth Logger	10183 ft	
Bottom Logged Interval	10173 ft	
Top Logged Interval	26 ft	
Time Started	8:00	
Time Finished	13:30	
Operator Rig Time	5.5 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	105 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	65 fpm	
Maximum Recorded Temperature	240 degF	
Reference Log	NA	
Reference Log Date	NA	
Equipment No.	4271	GRAND JCT.
Recorded By	NEWELL	
Witnessed By	JEFF DUCY	

- 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
13.5 In	0 ft	1133 ft
8.75 In	1133 ft	10285 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 In			0 ft	1133 ft
4.5 In	11.6 lbm/ft	HCP-110	0 ft	10285 ft

Remarks
All data on this log is shifted using the CCL curve to put the wellhead (top CCL mark) on depth with ground level elevation at the client's request.
The amount of linear shift is 12 feet.
Logged with zero PSI at wellhead.
BHT = 240 °F

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	CBL	1426XA	10218496	CENTRALIZED
1	1	GR/CCL	2459XA	10124121	CENTRALIZED

***PRIMARY PRESENTATION***  
***0 PSI***

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	34.910	10185.000
RAL	Amp Gate Start Near	195.000	usec	34.910	10185.000
RAL	Amp Gate Start Radial	195.000	usec	34.910	10185.000
RAL	Amp Gate Width Far	25.000	usec	34.910	10185.000
RAL	Amp Gate Width Near	25.000	usec	34.910	10185.000
RAL	Amp Gate Width Radial	25.000	usec	34.910	10185.000
RAL	casing od	4.500	inches	34.910	10185.000
RAL	casing wt	11.600	lbm/ft	34.910	10185.000
RAL	FB Start Far	291.900	usec	34.910	10185.000
RAL	FB Start Near	175.391	usec	34.910	10185.000
RAL	FB Start Radial	175.391	usec	34.910	10185.000
RAL	FB Thresh Far	10.000	mv	34.910	10185.000
RAL	FB Thresh Near	4.000	mv	34.910	10185.000
RAL	FB Thresh Radial	4.000	mv	34.910	10185.000
RAL	Fluid Travel Time	200.000	usec/ft	34.910	10185.000

**DEPTH OFFSETS**  
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.750	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTD1	TTD2	TTD3

FPR3	FPR5	TTS	TTR1	TTR2	TTR3
TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
AFAR	SIG	TT5			
CCL					
GR					
NEU					

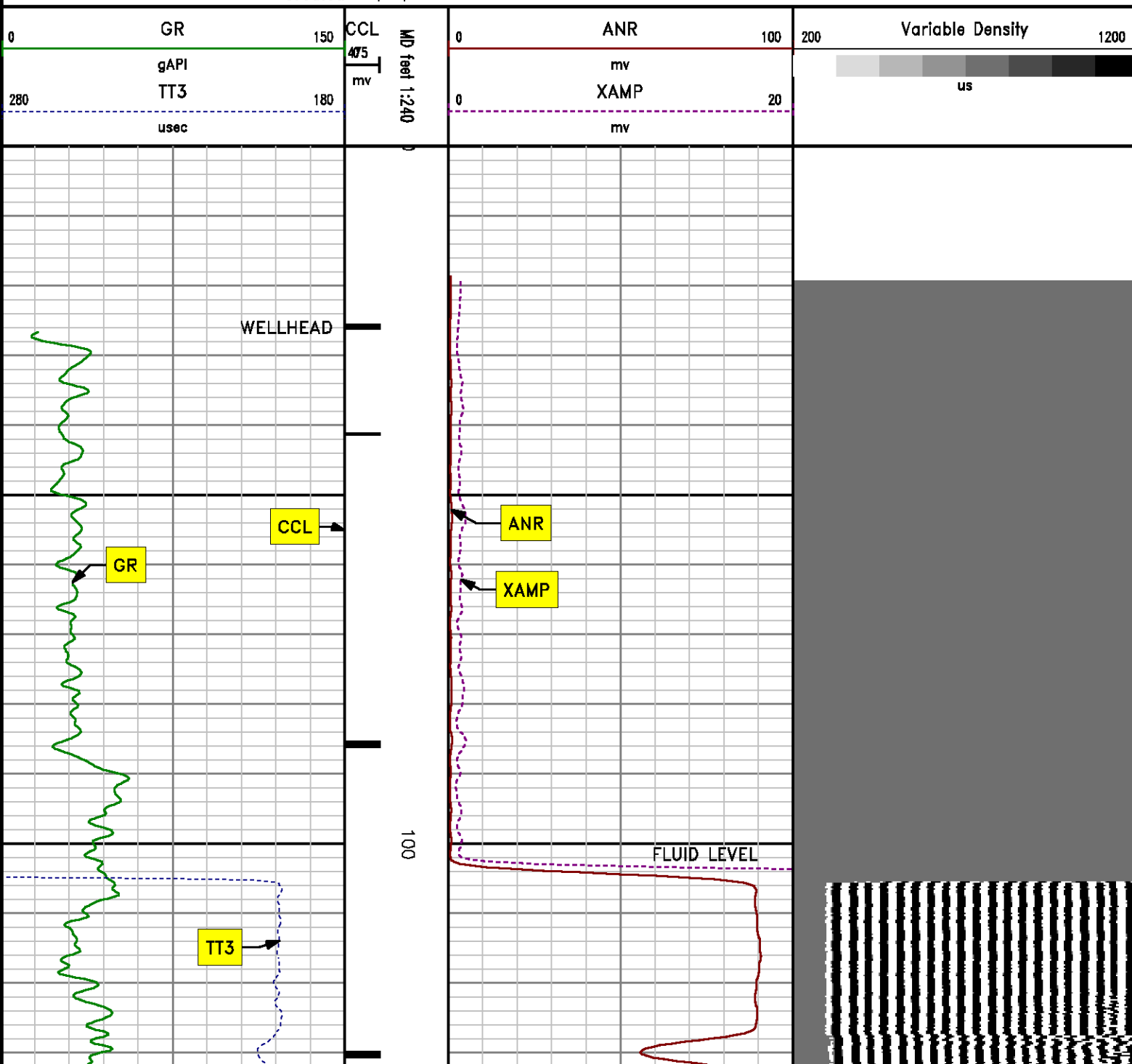
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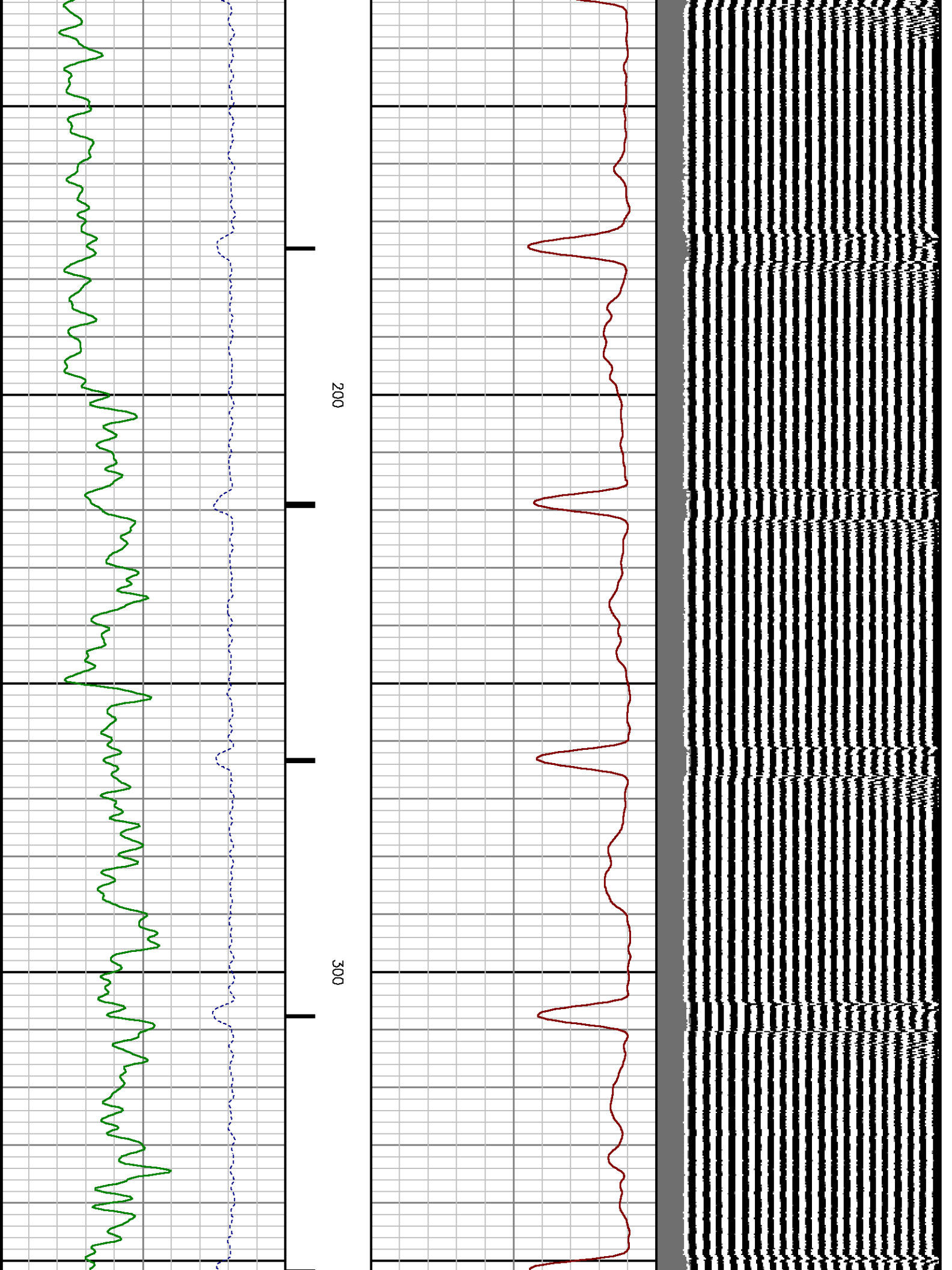
Well : FEDERAL RU 311-5

Mode : PlotMgr 5.4.504

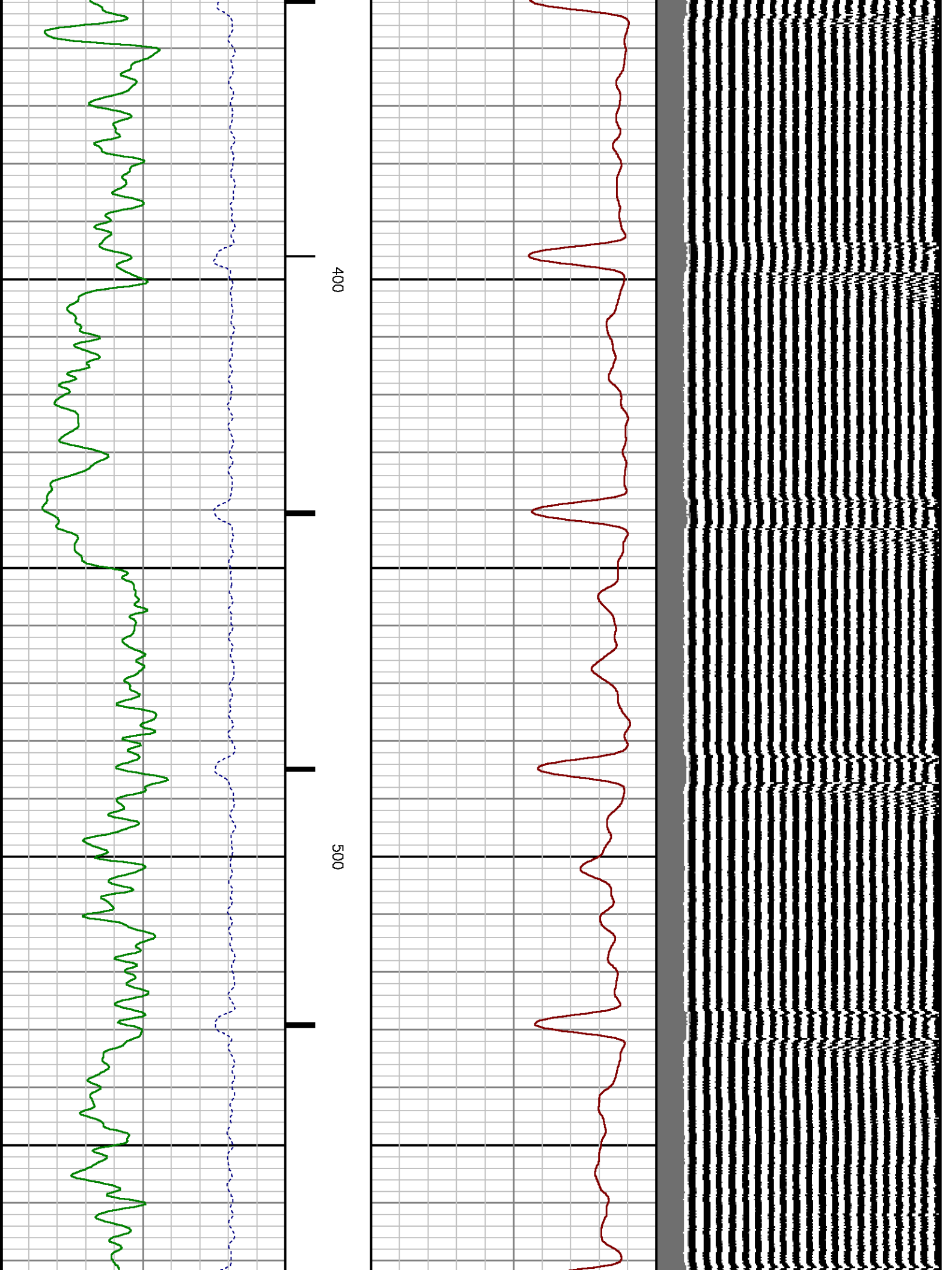
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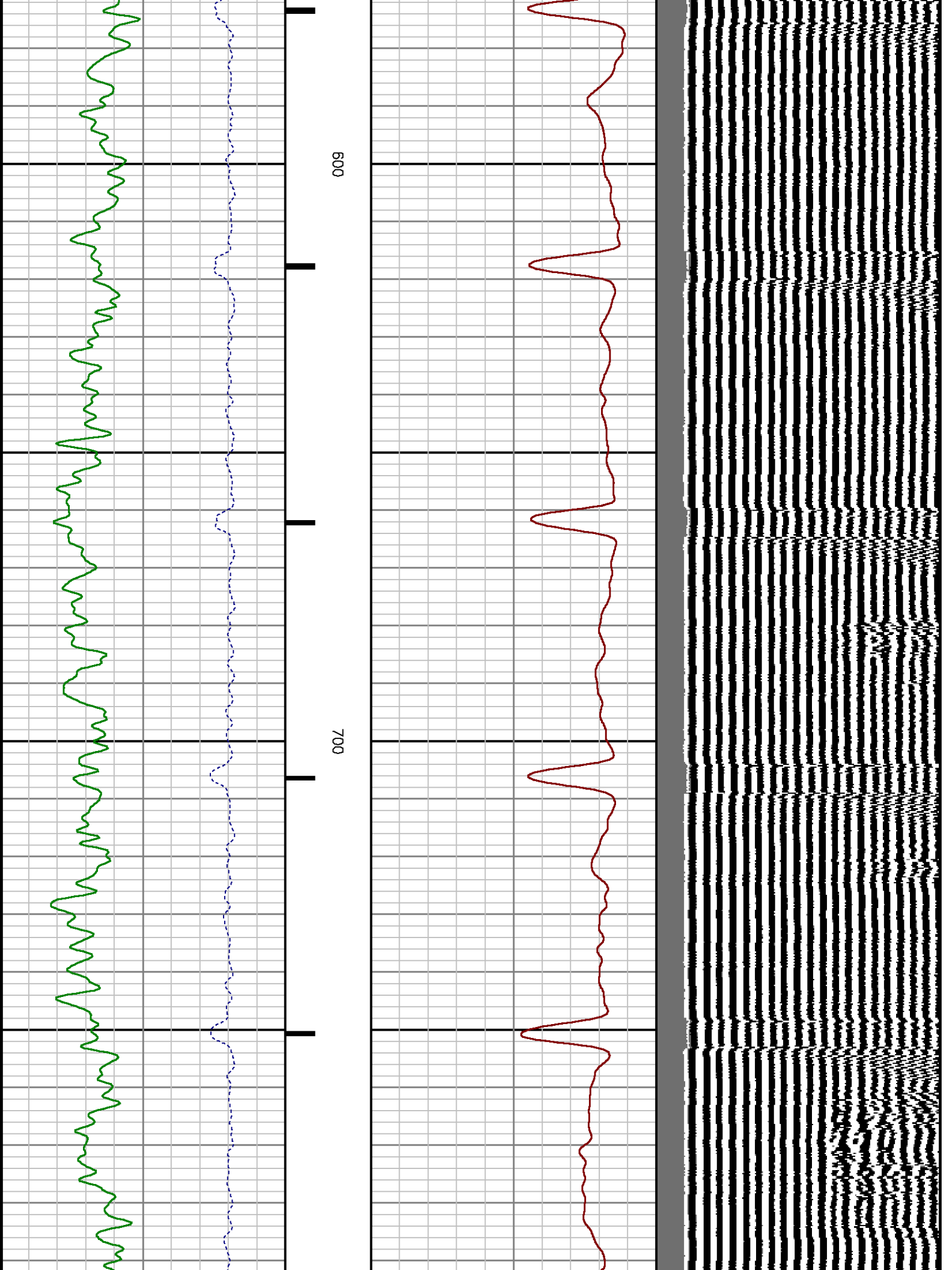
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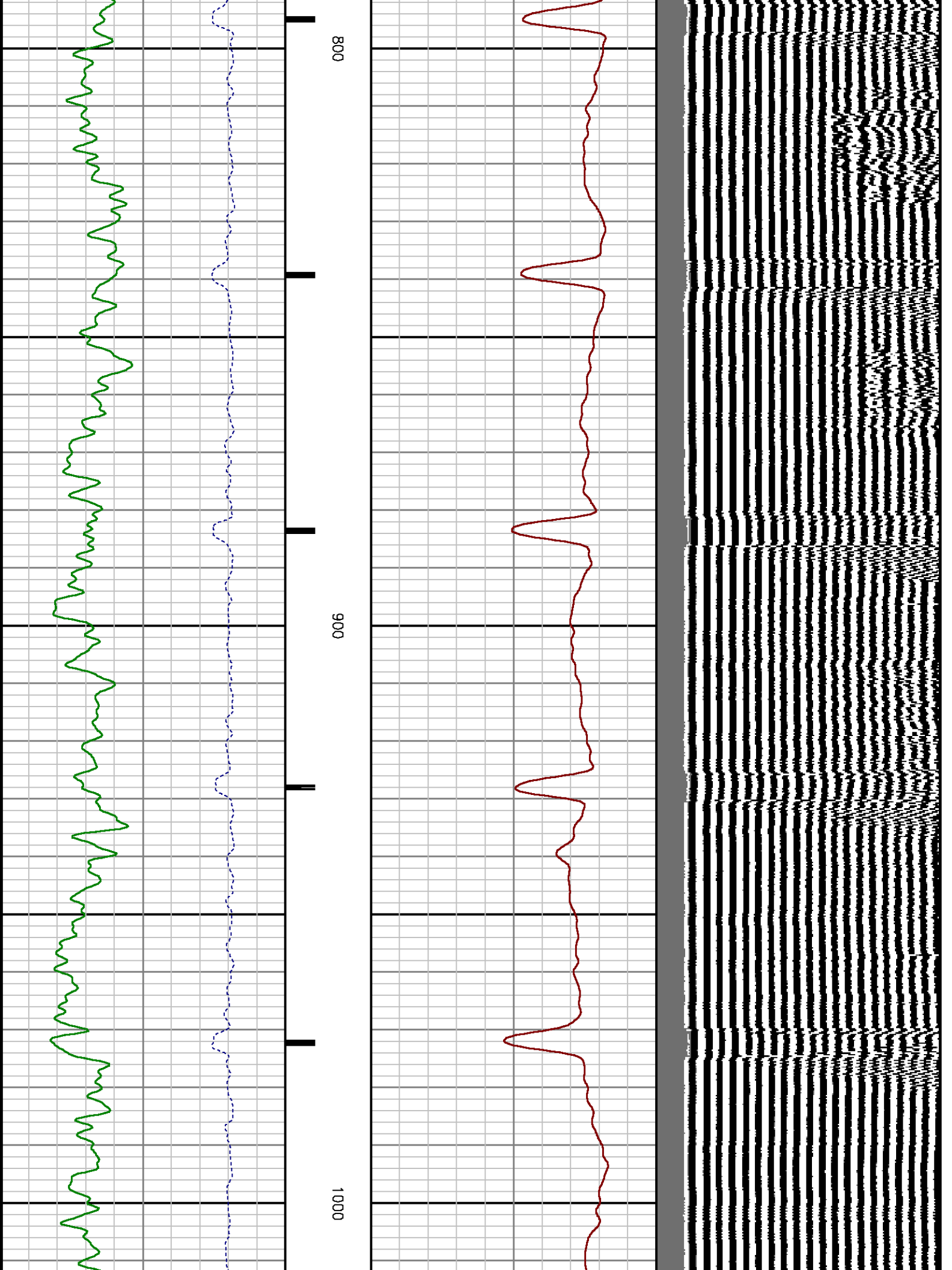




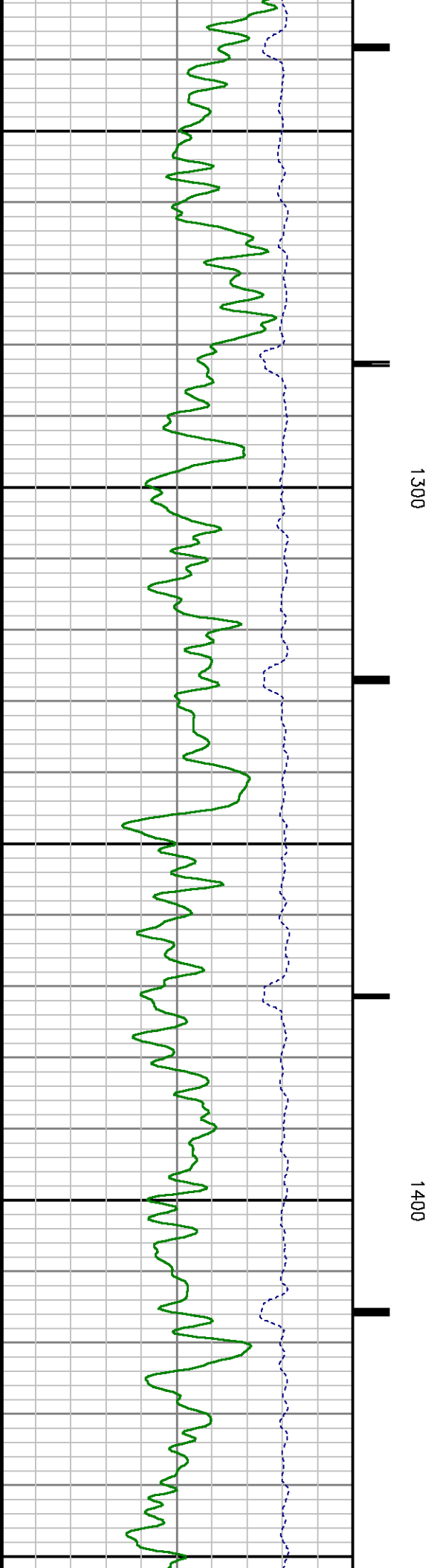
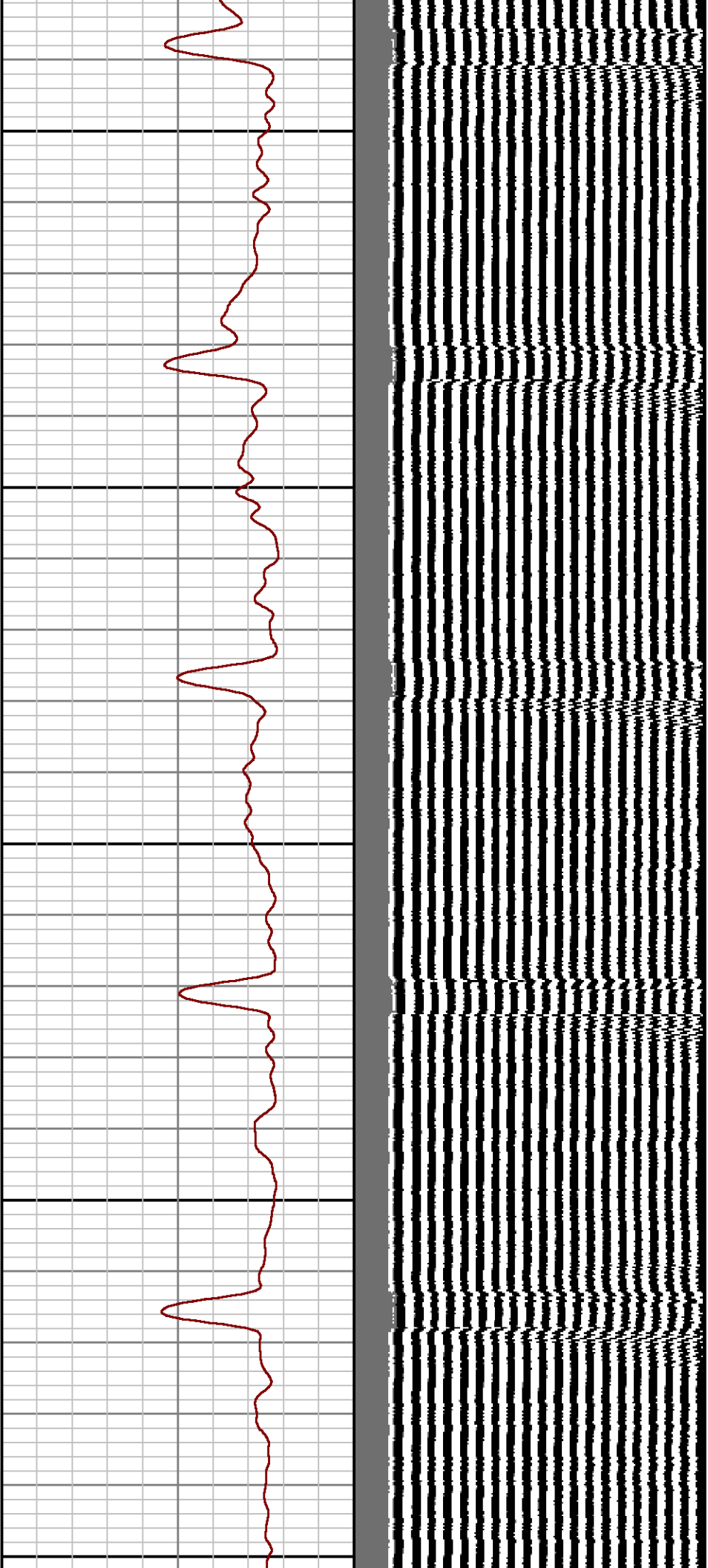


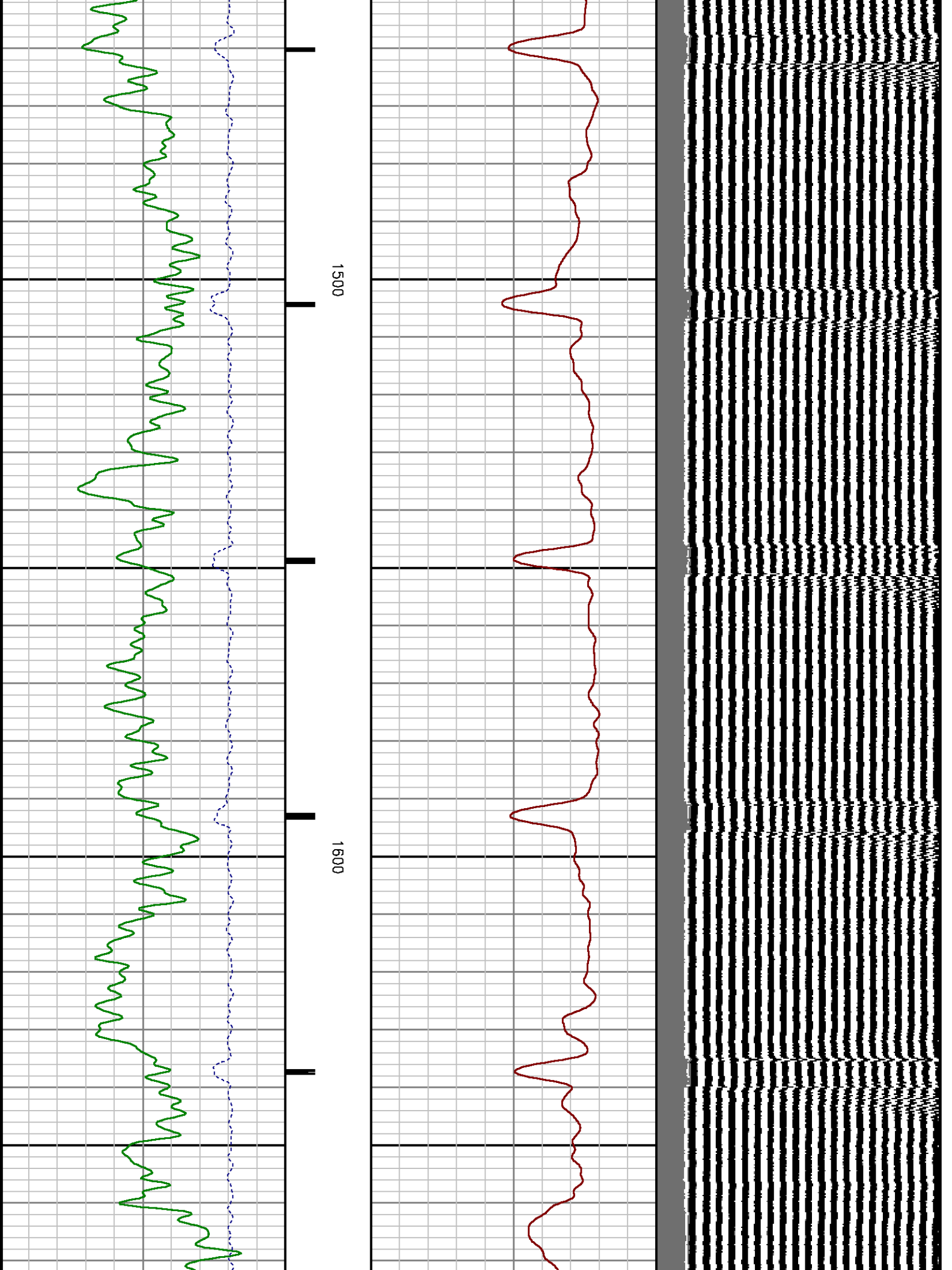


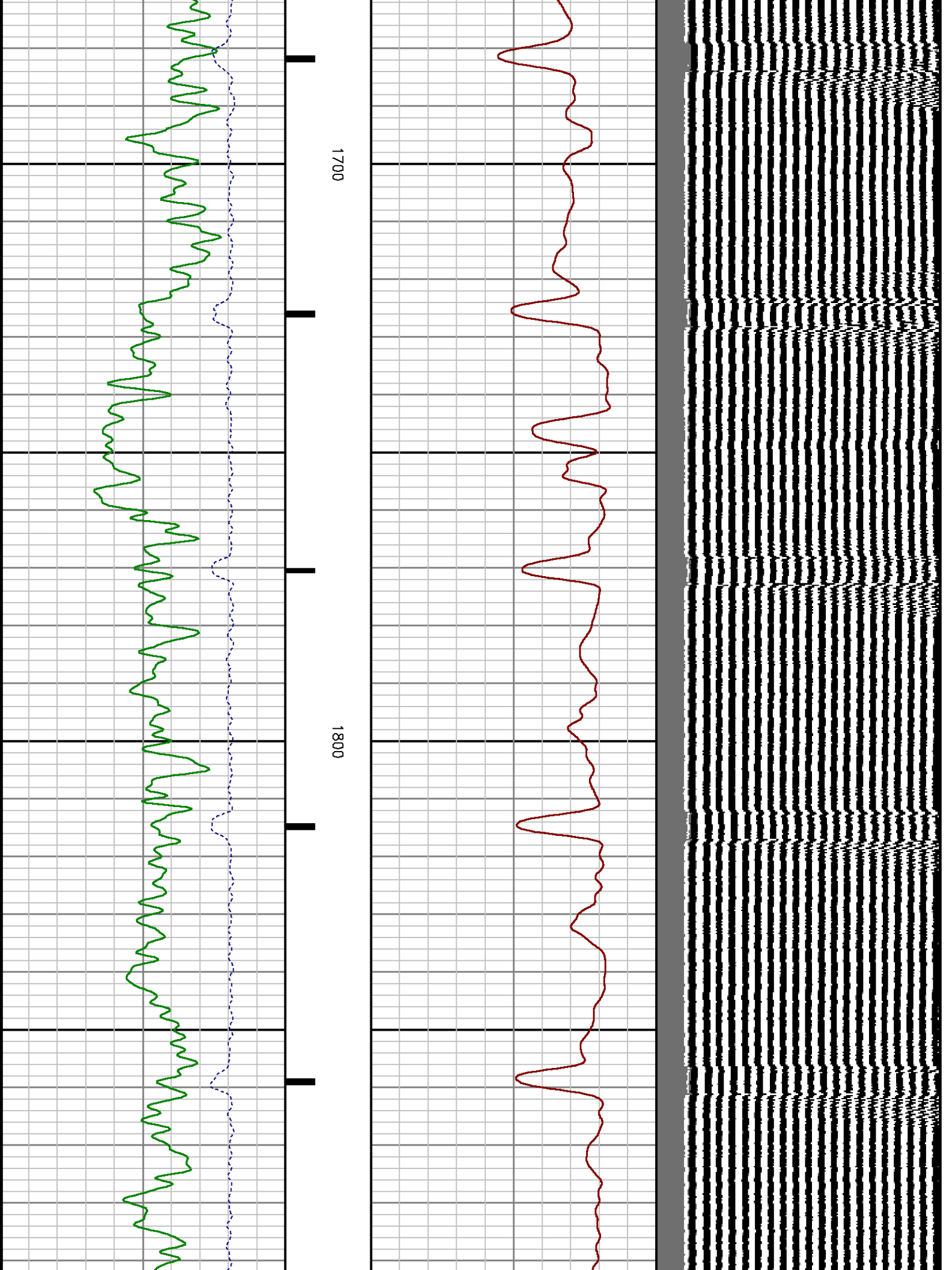




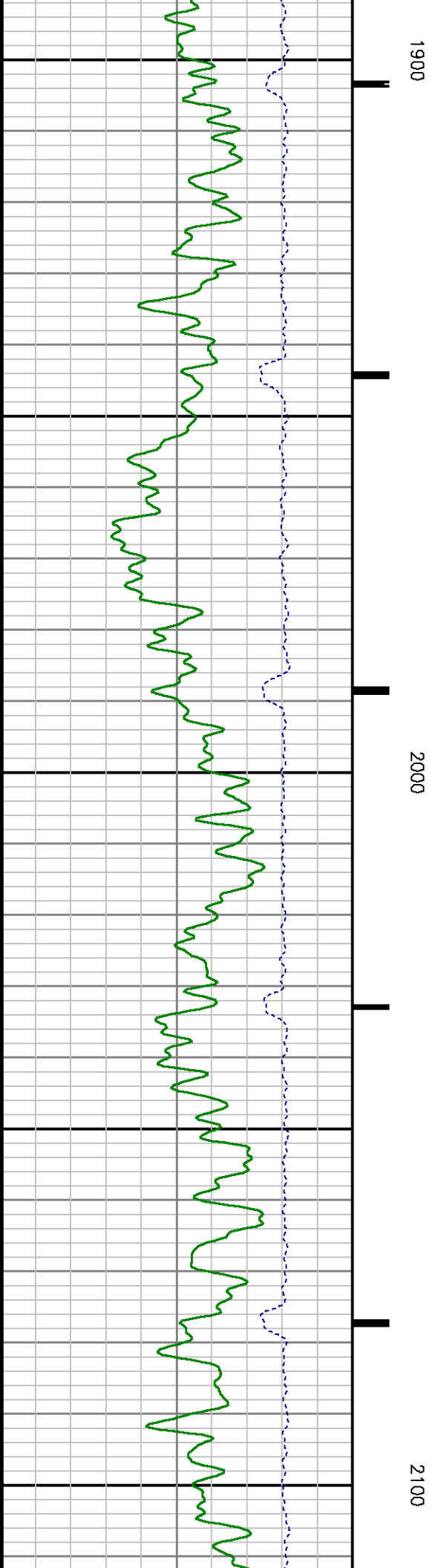
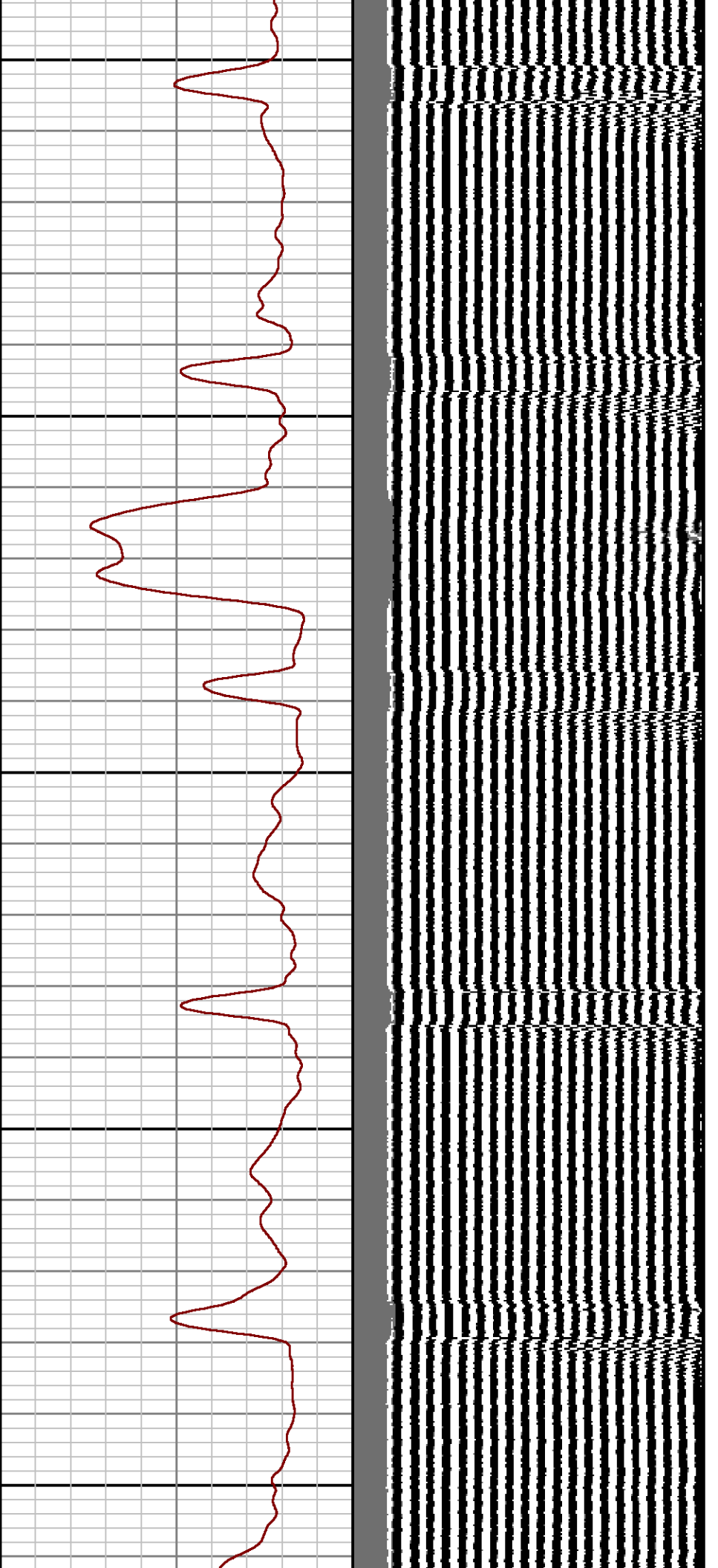




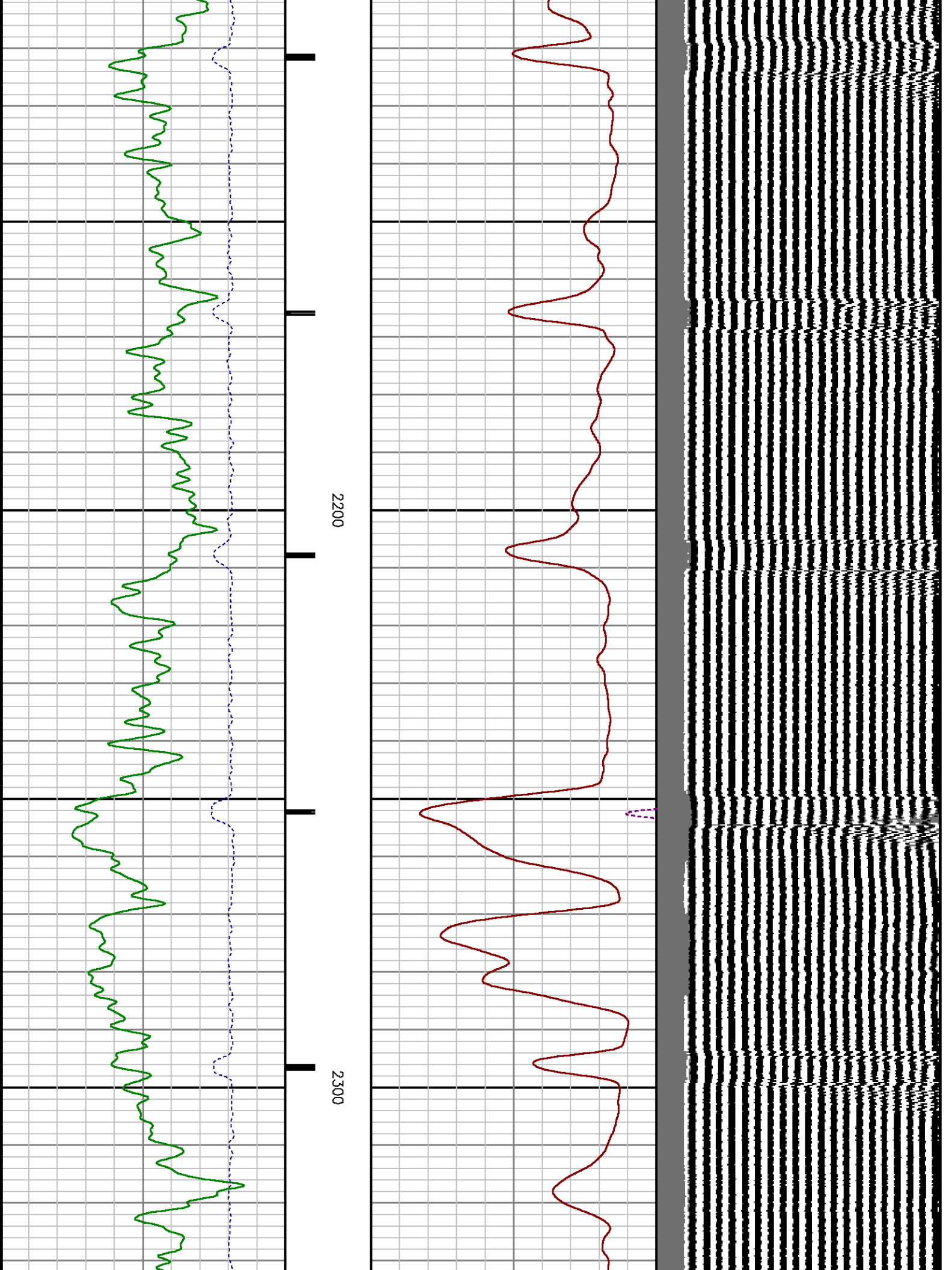


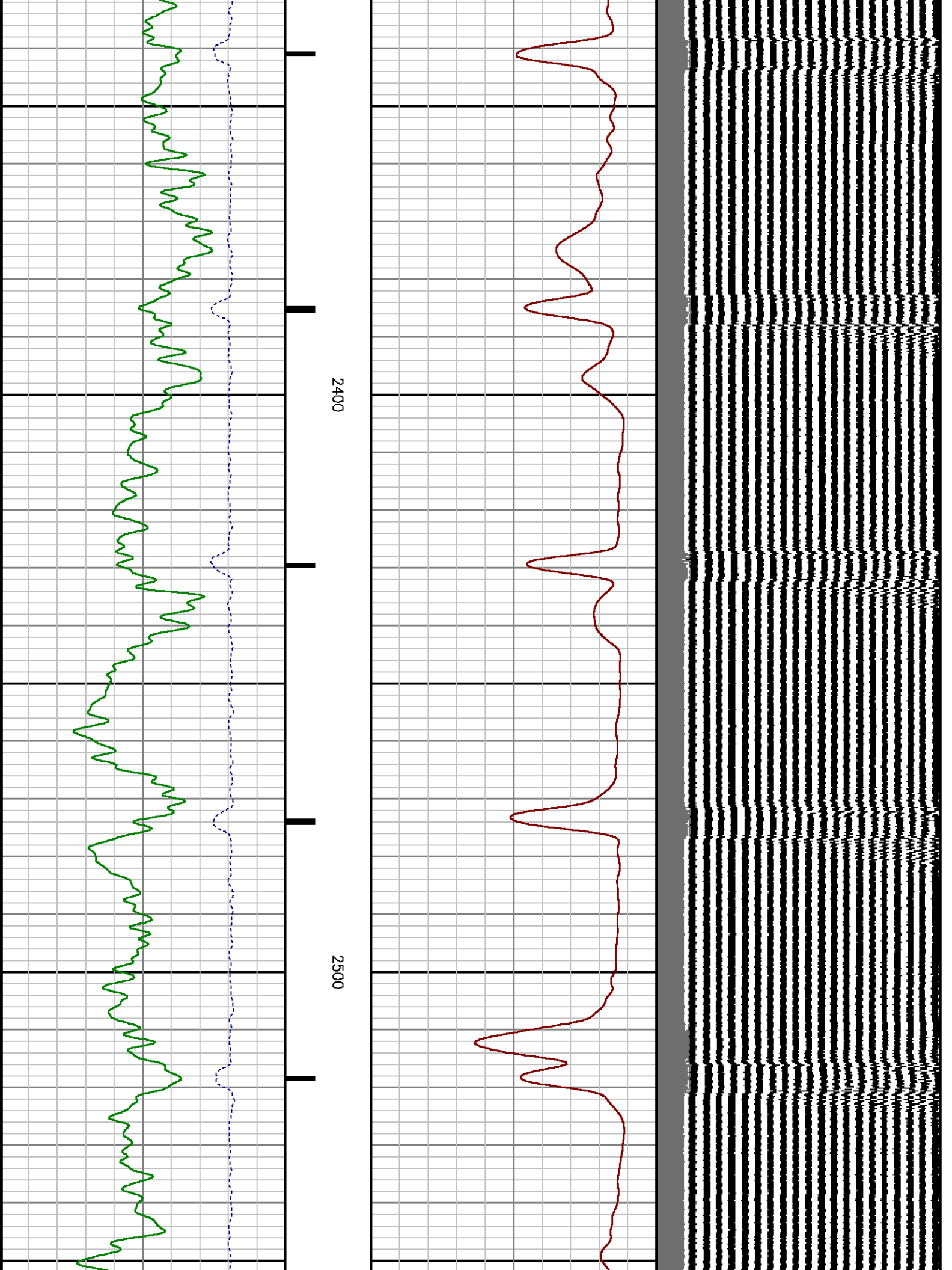


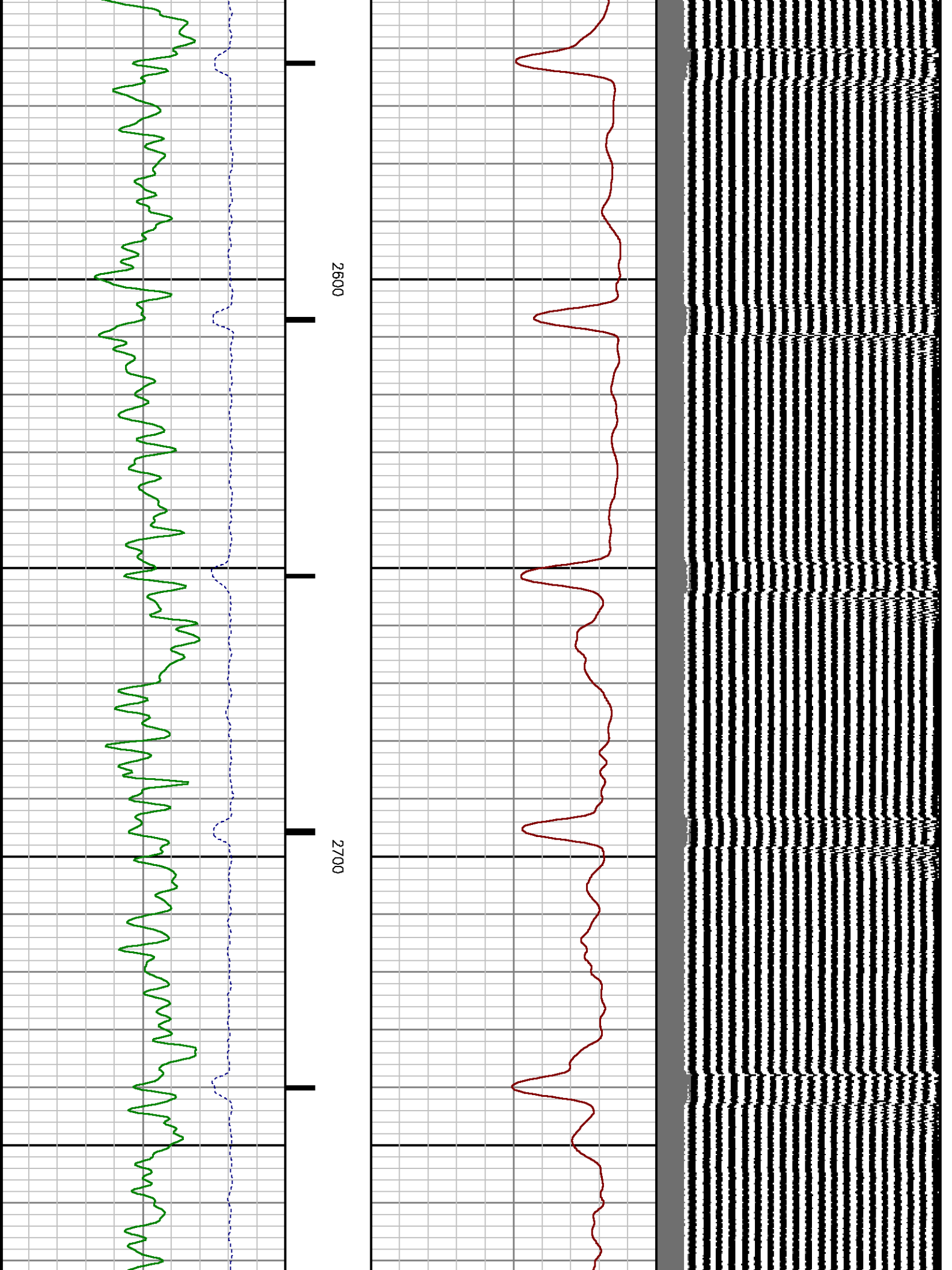


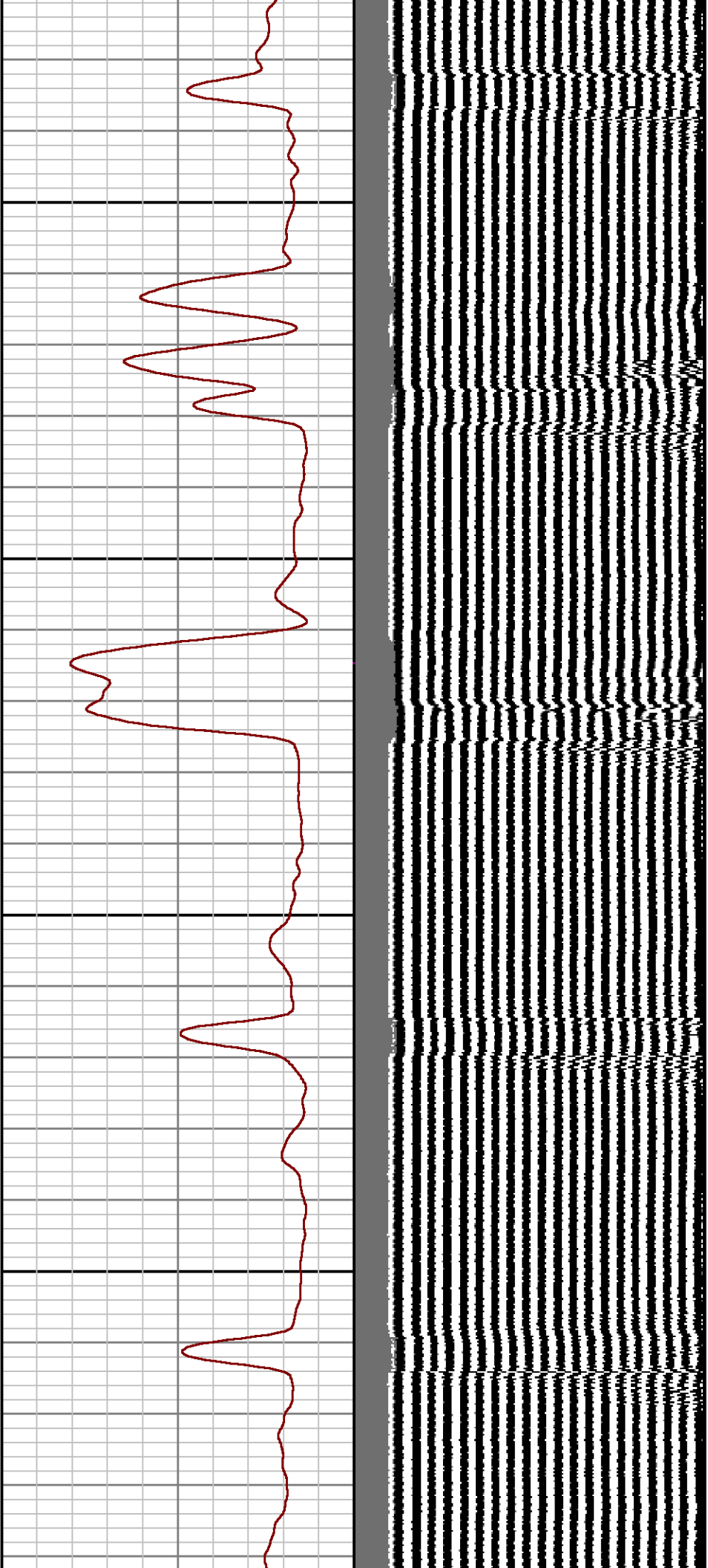






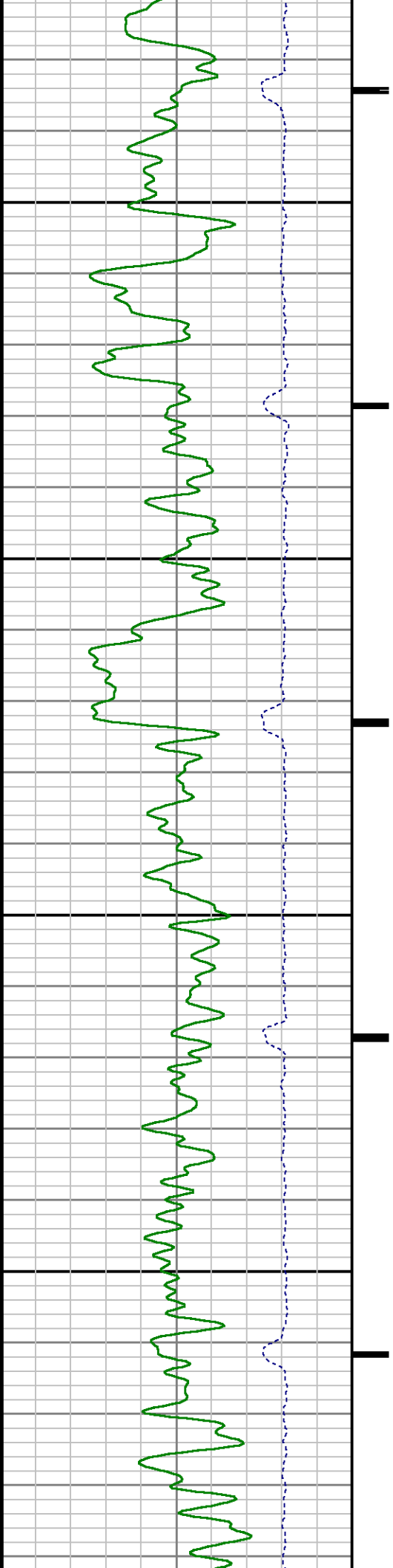


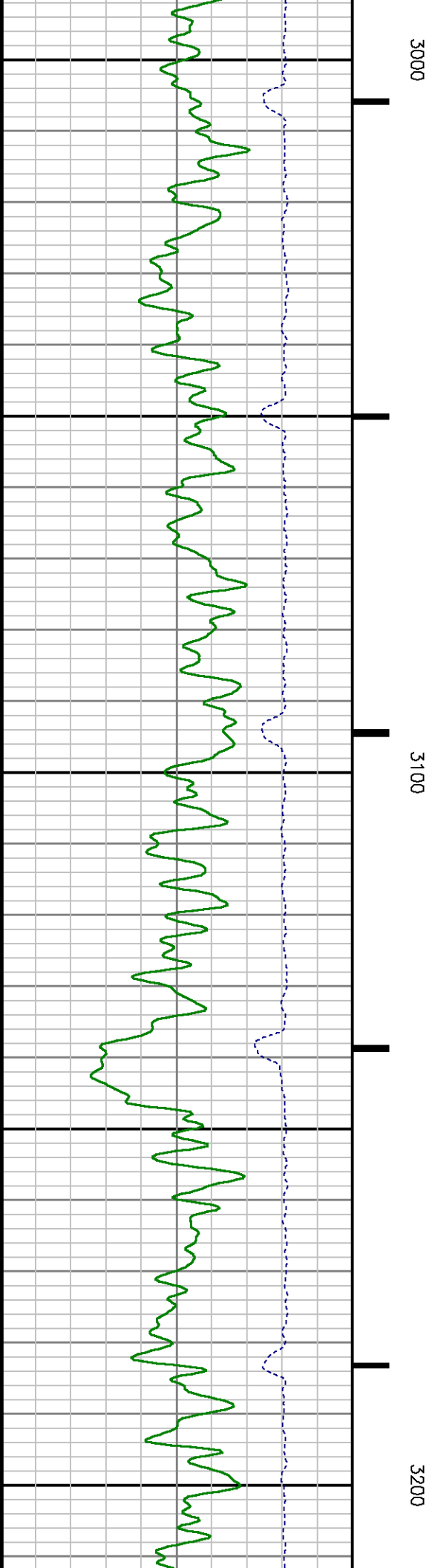
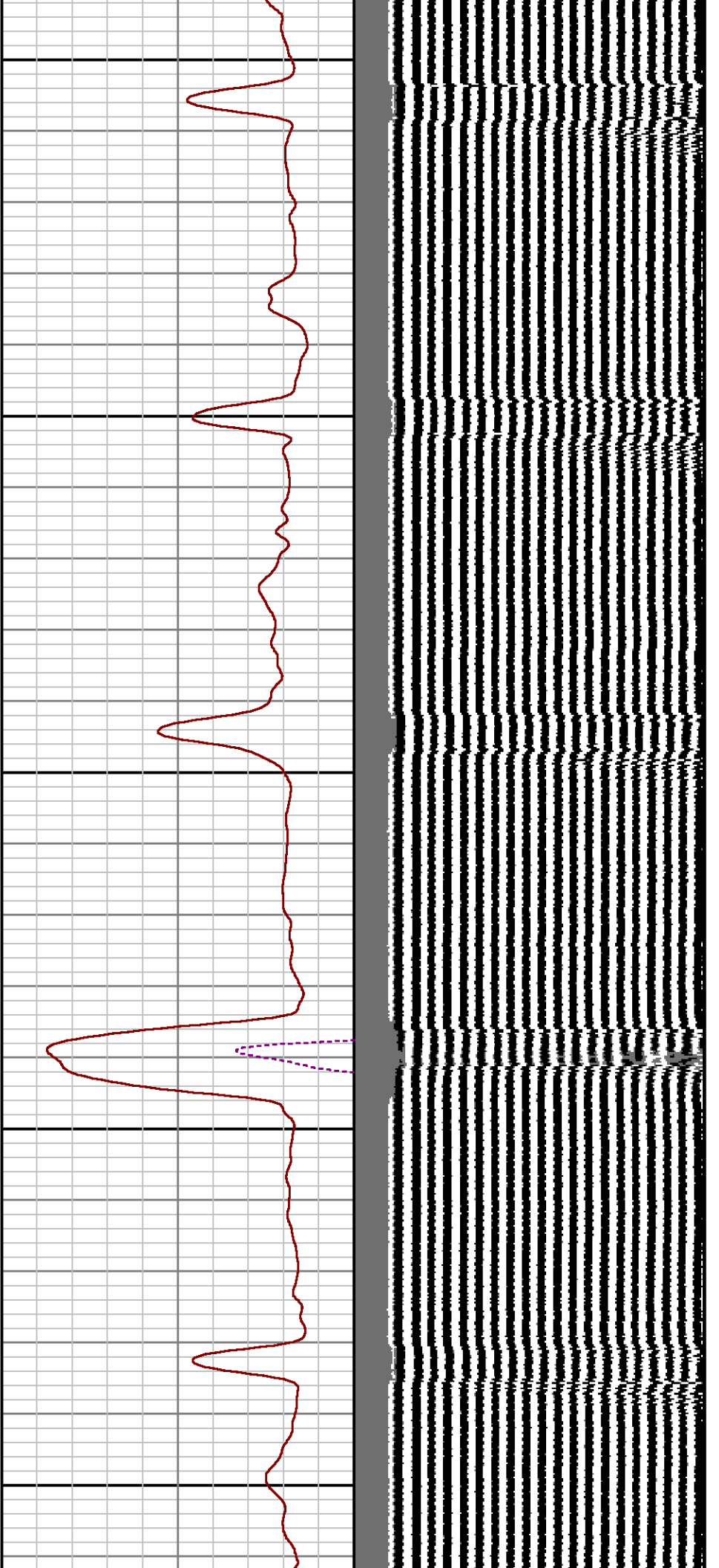


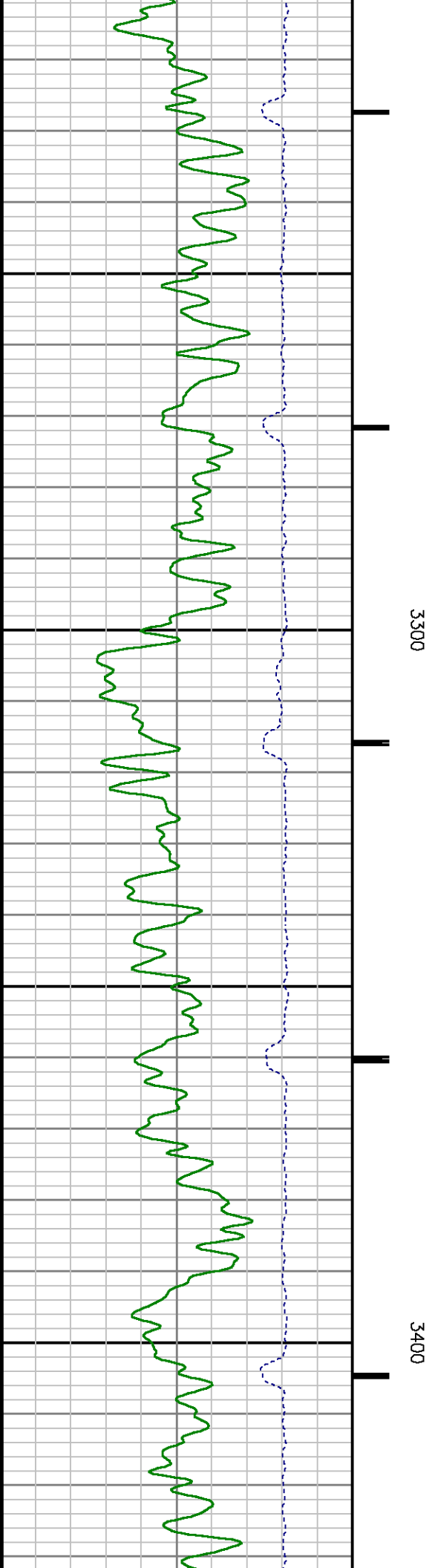
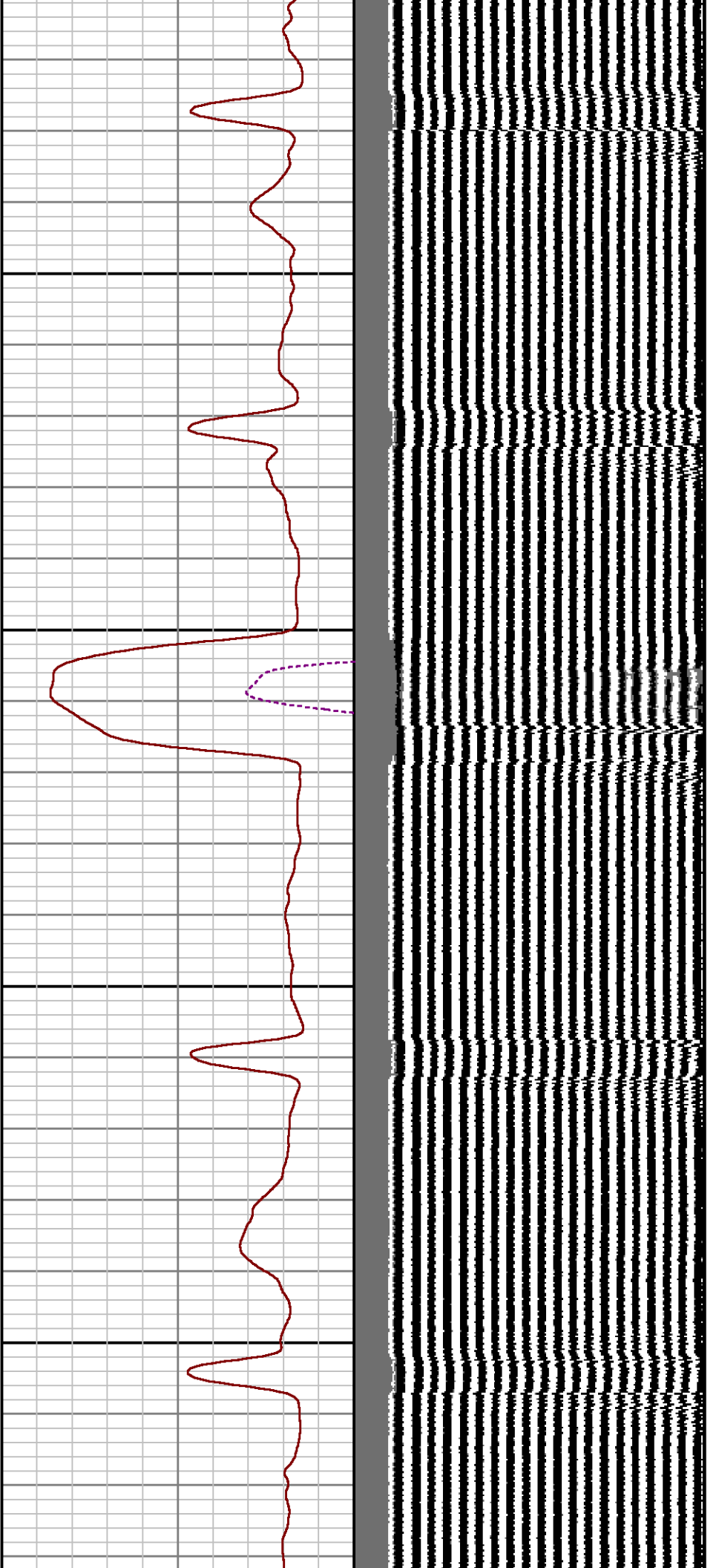


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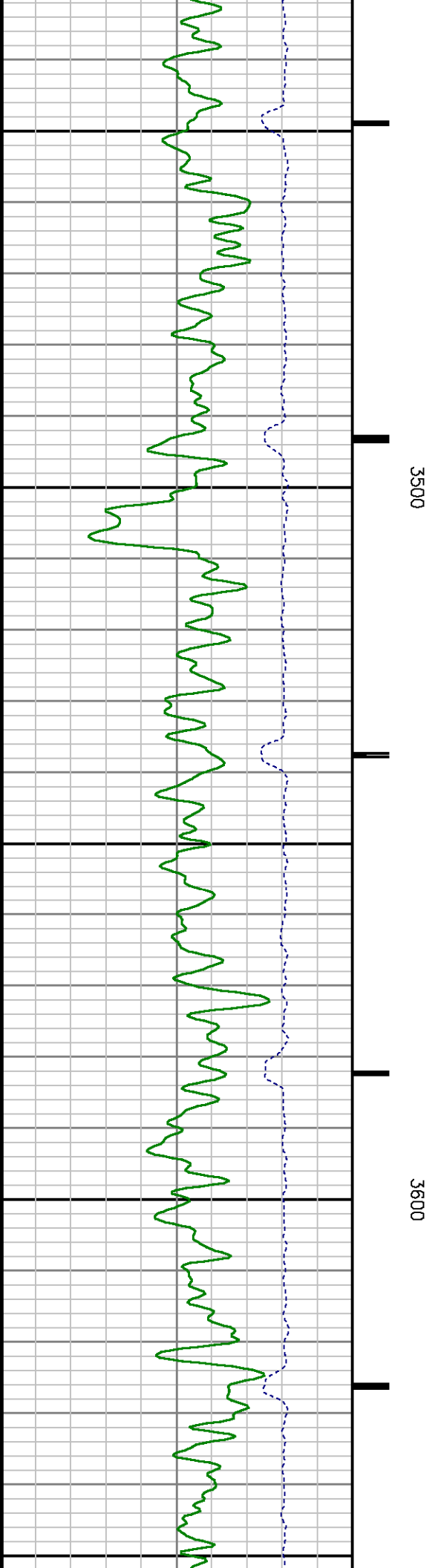
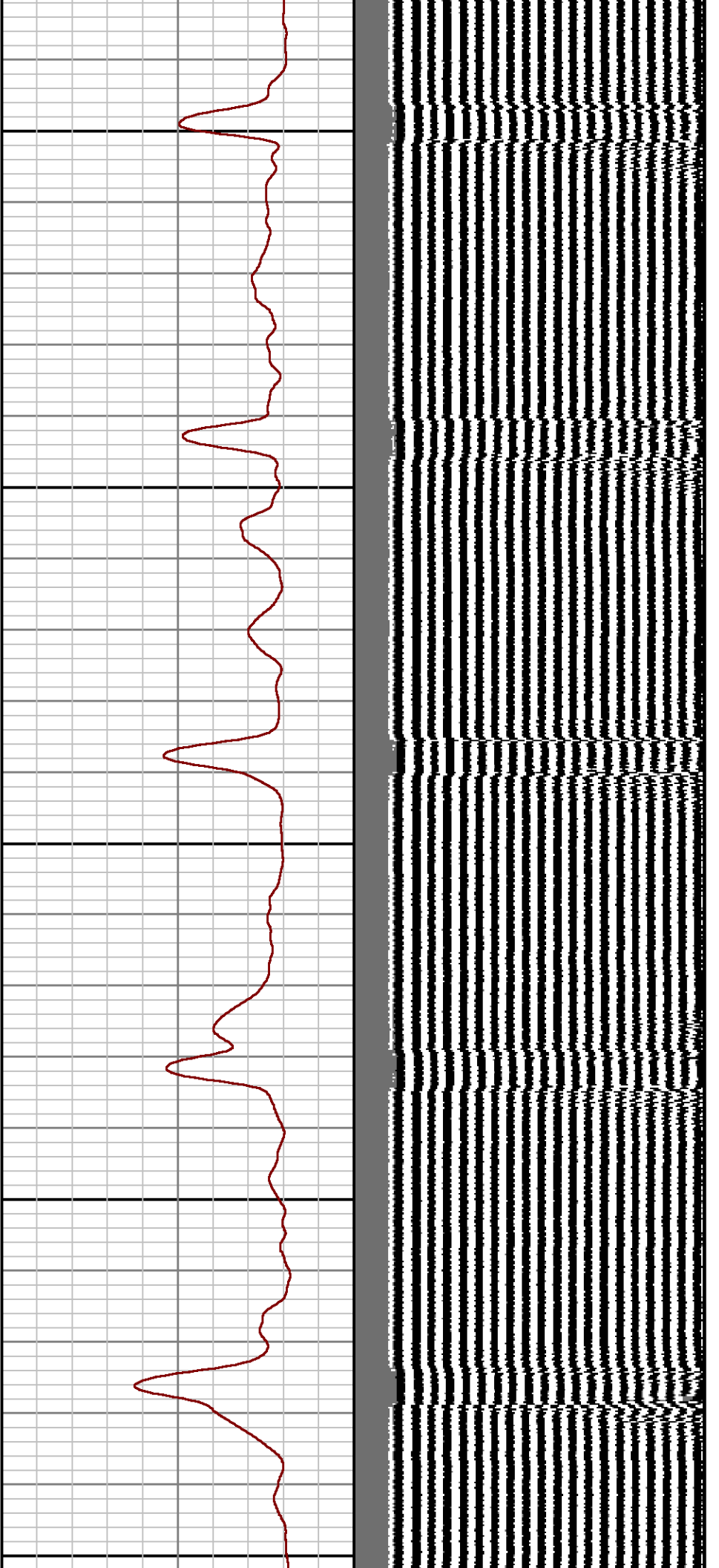
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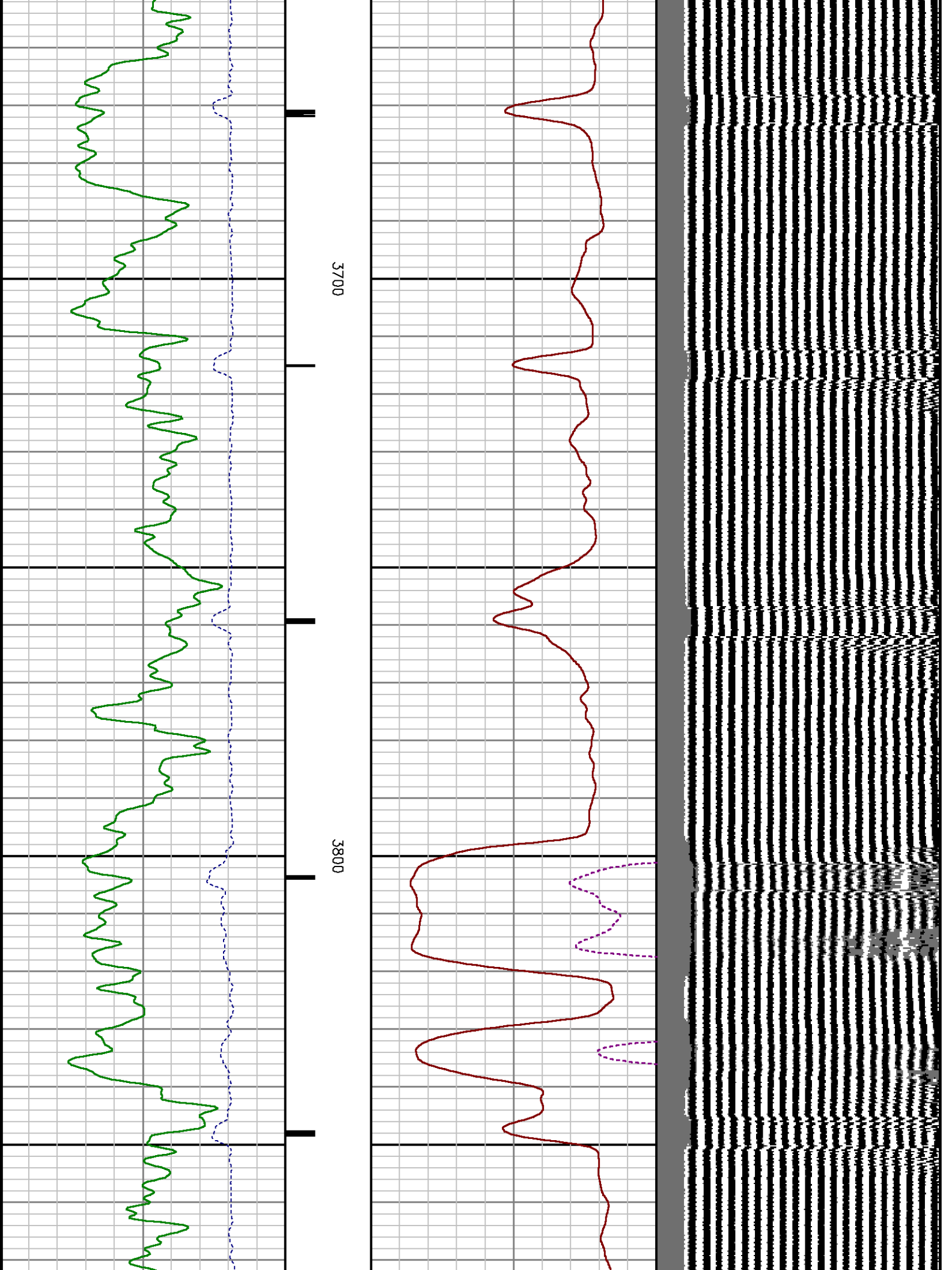




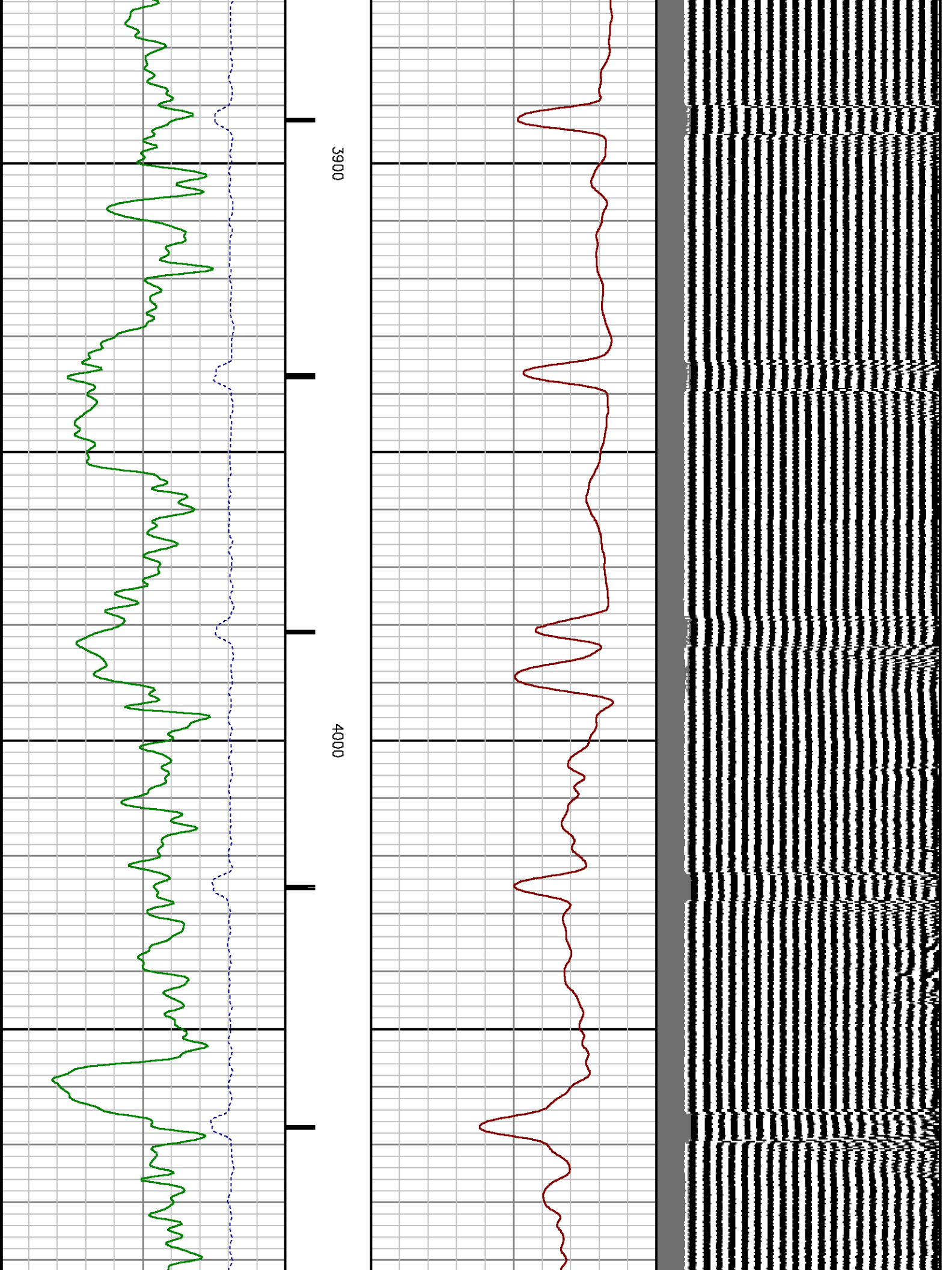


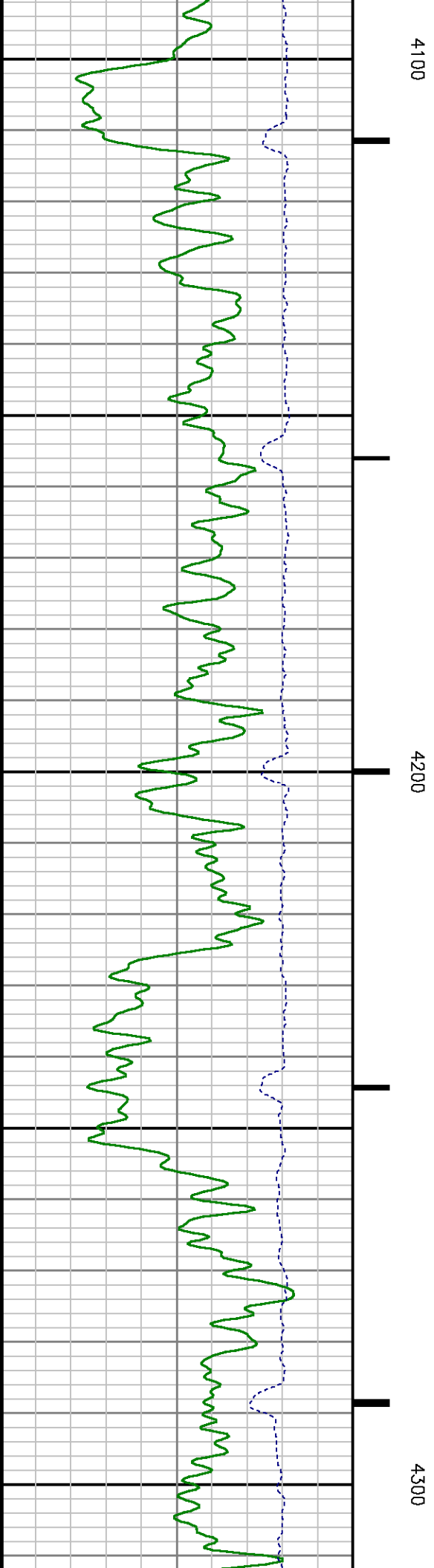
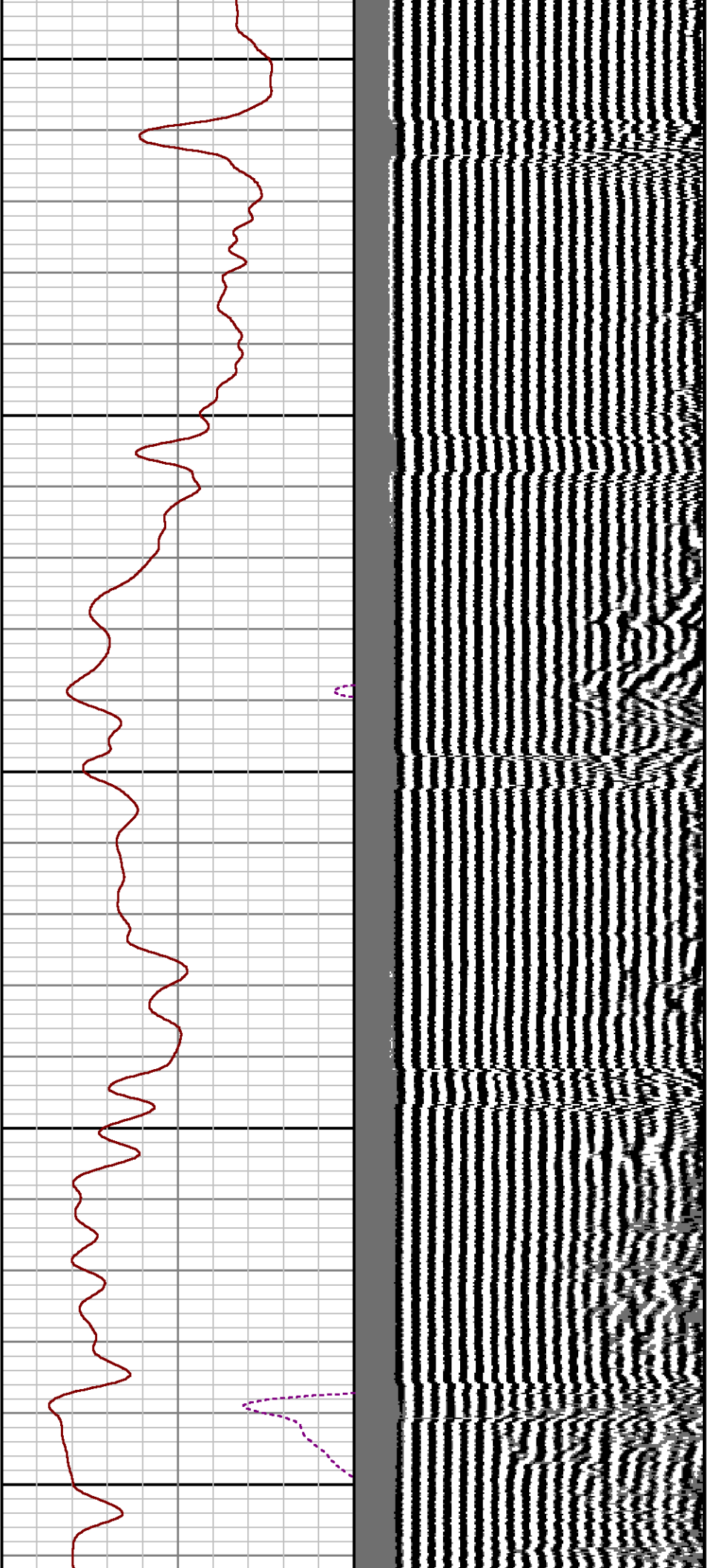


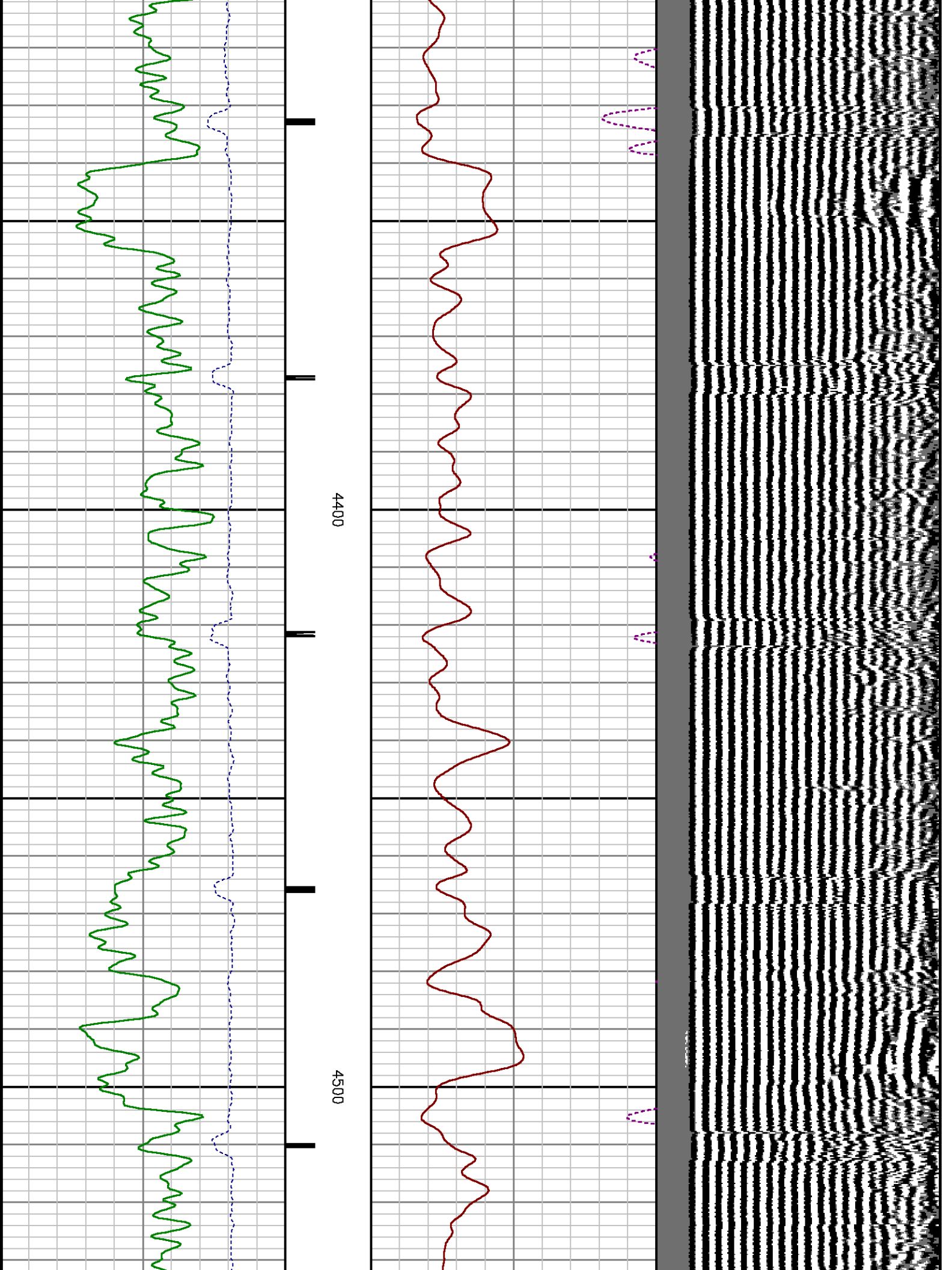


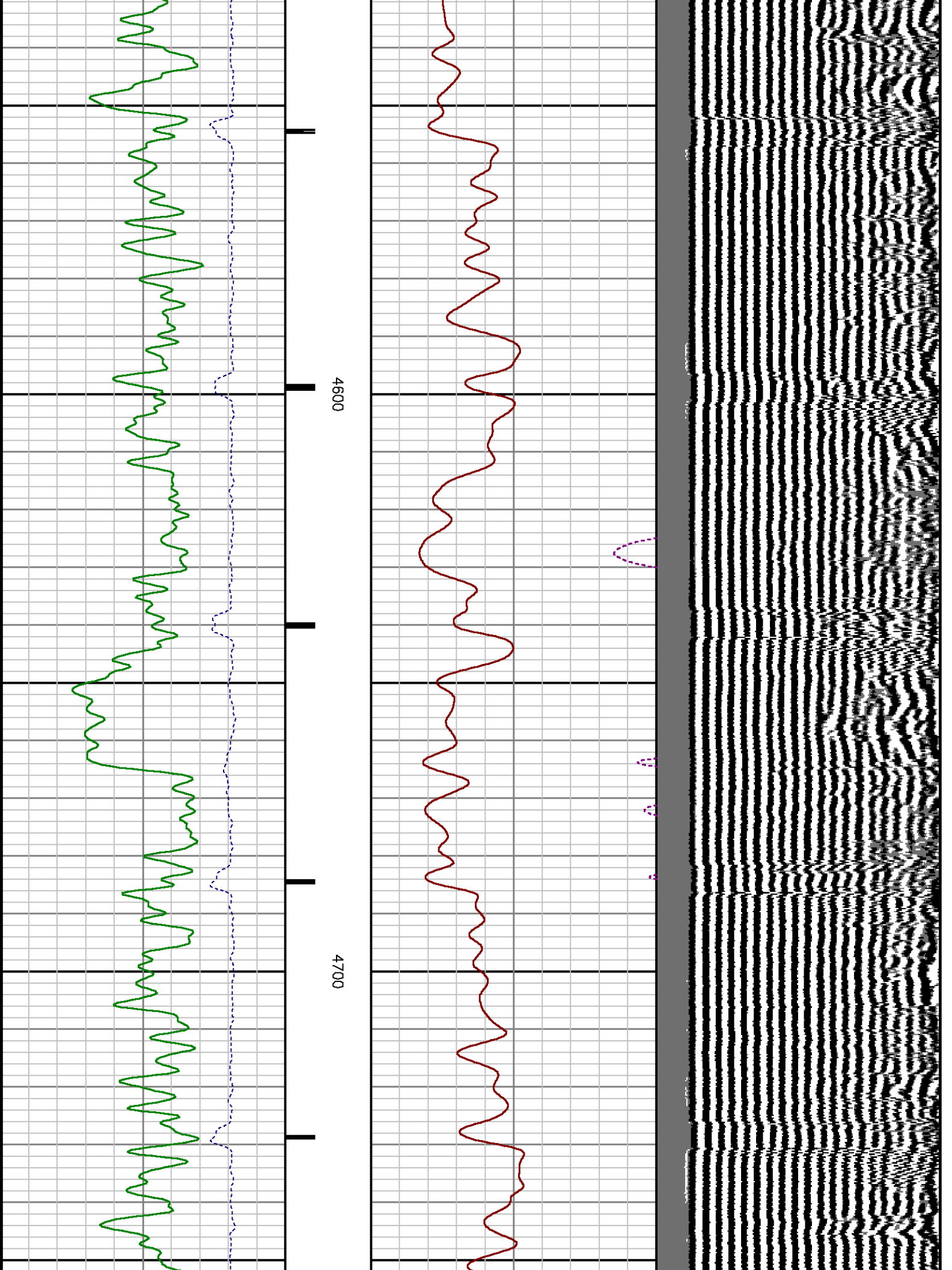


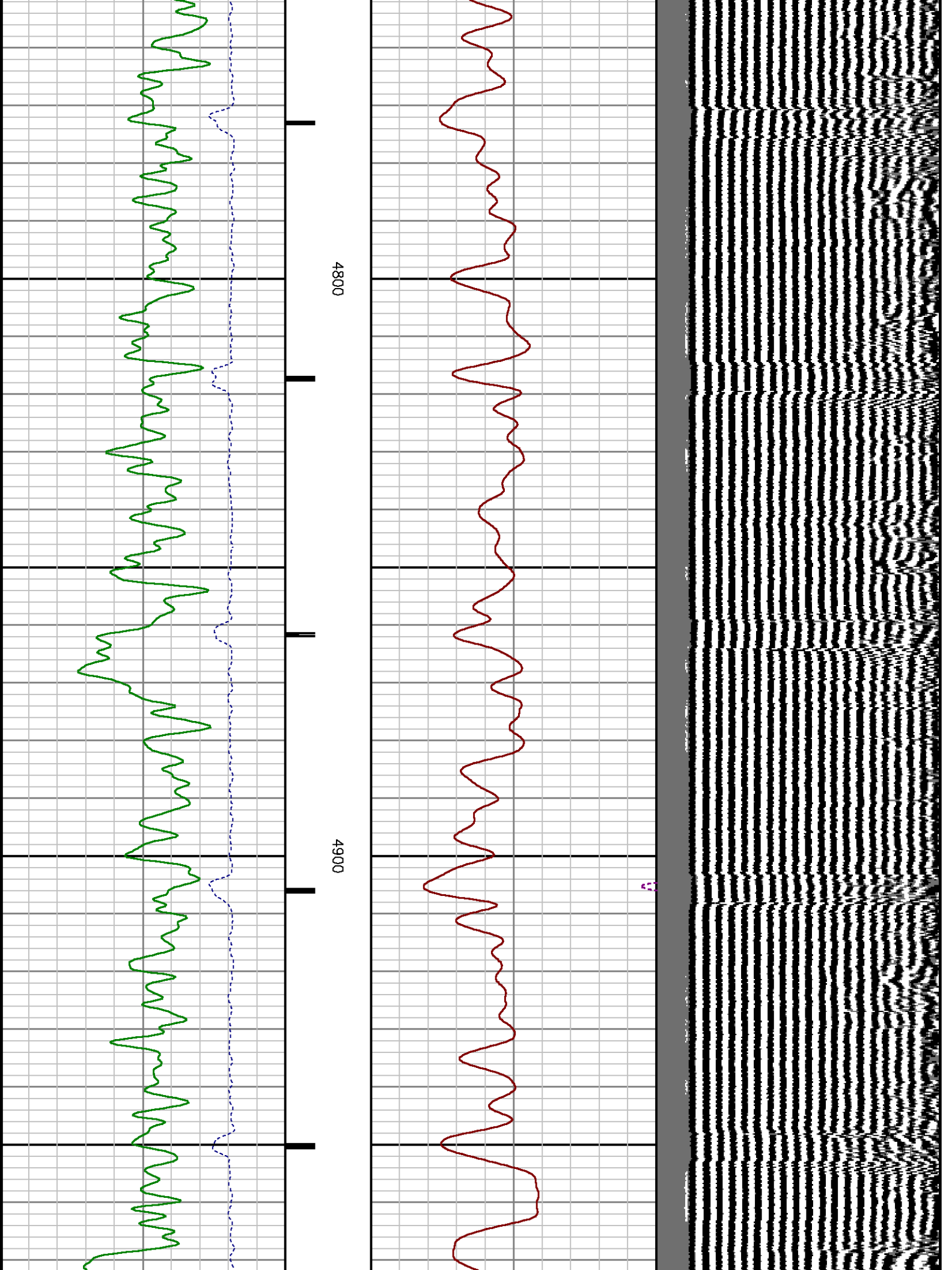




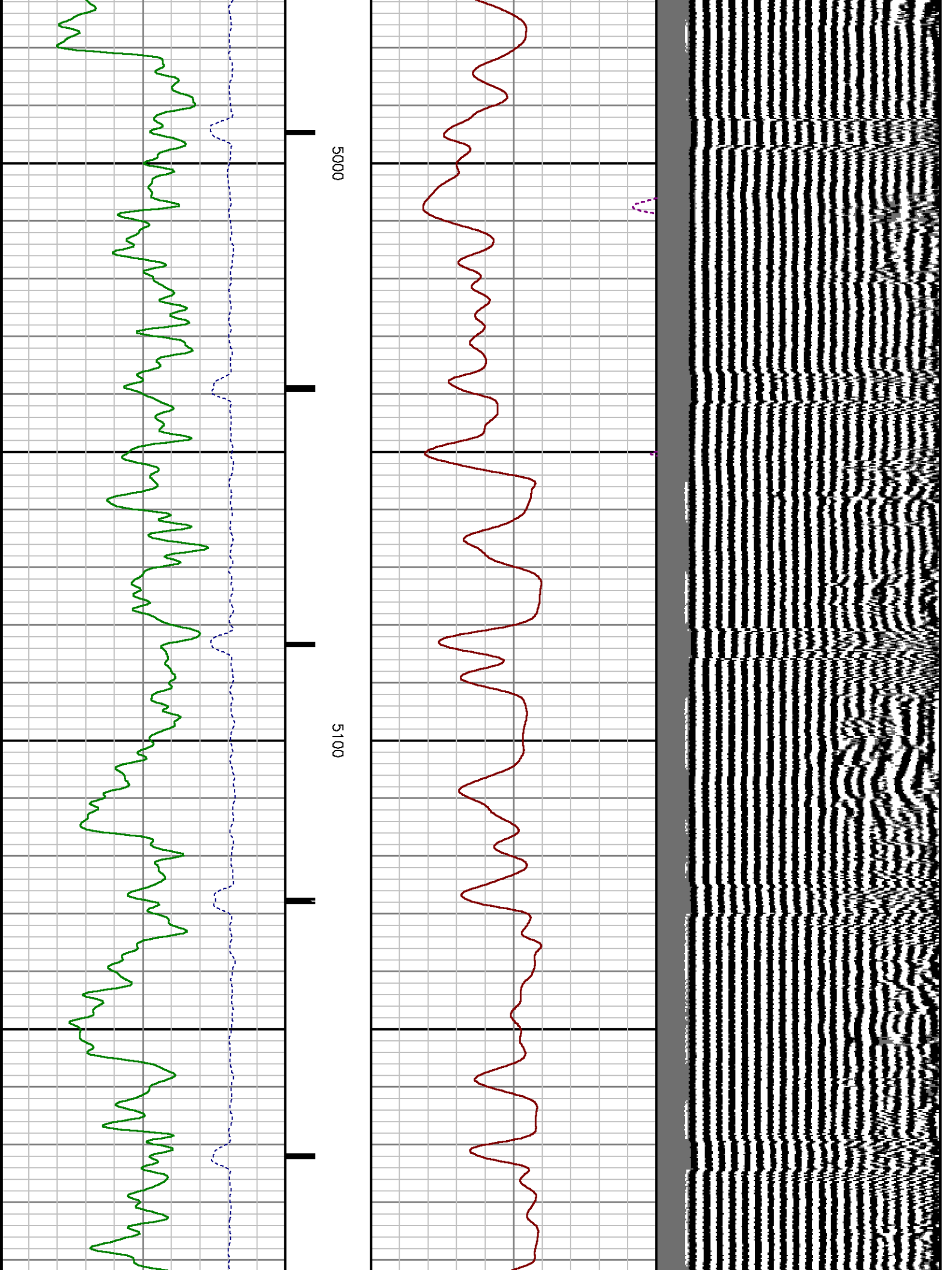


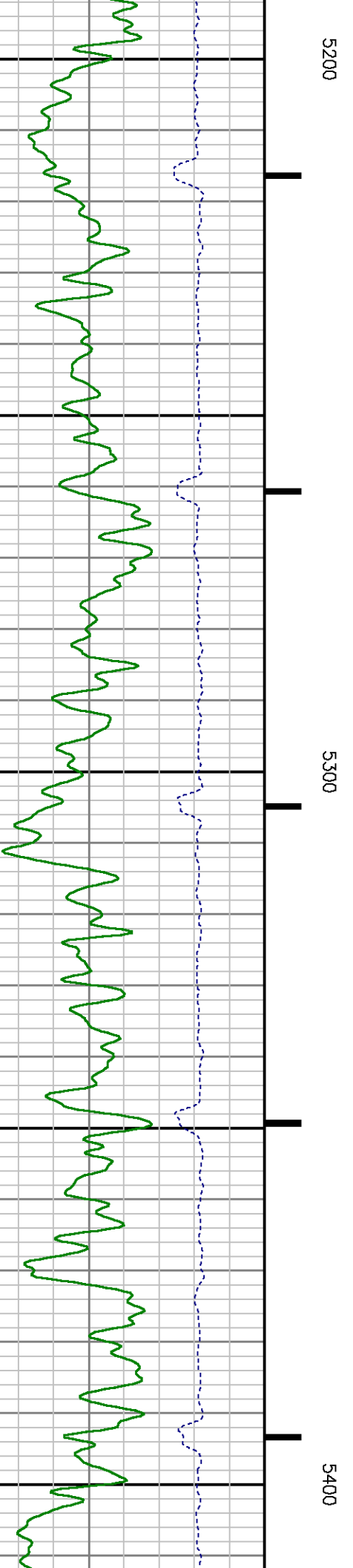
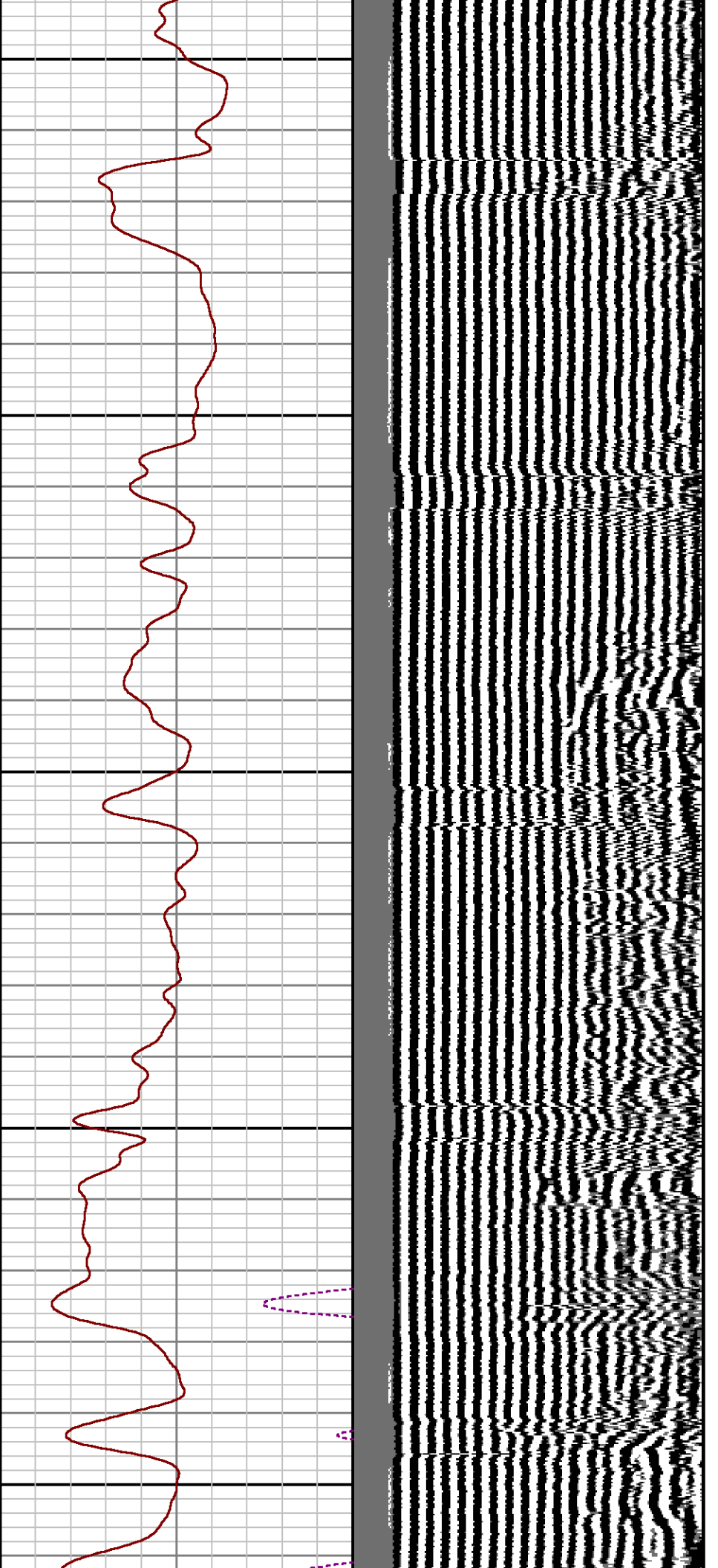


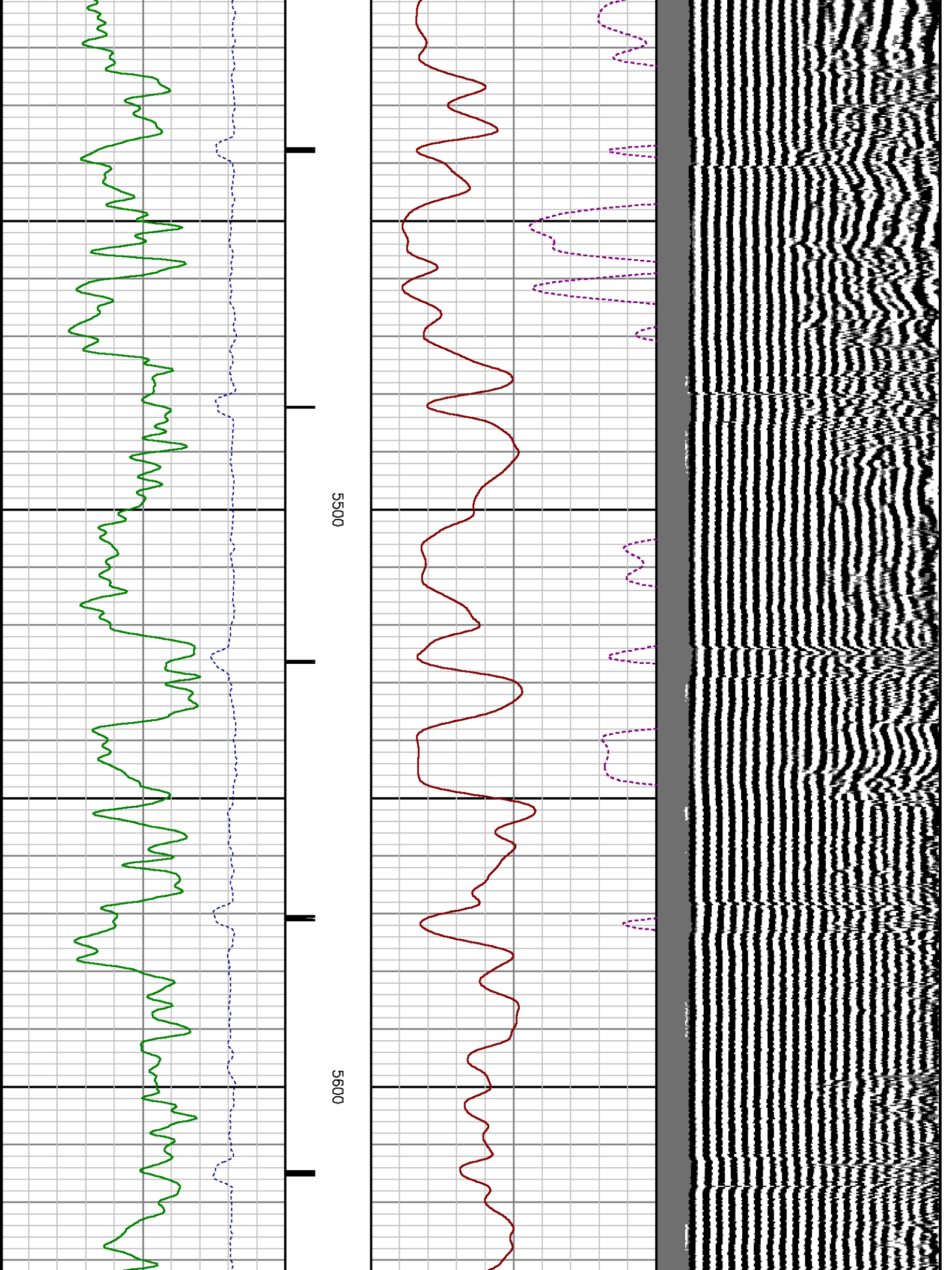




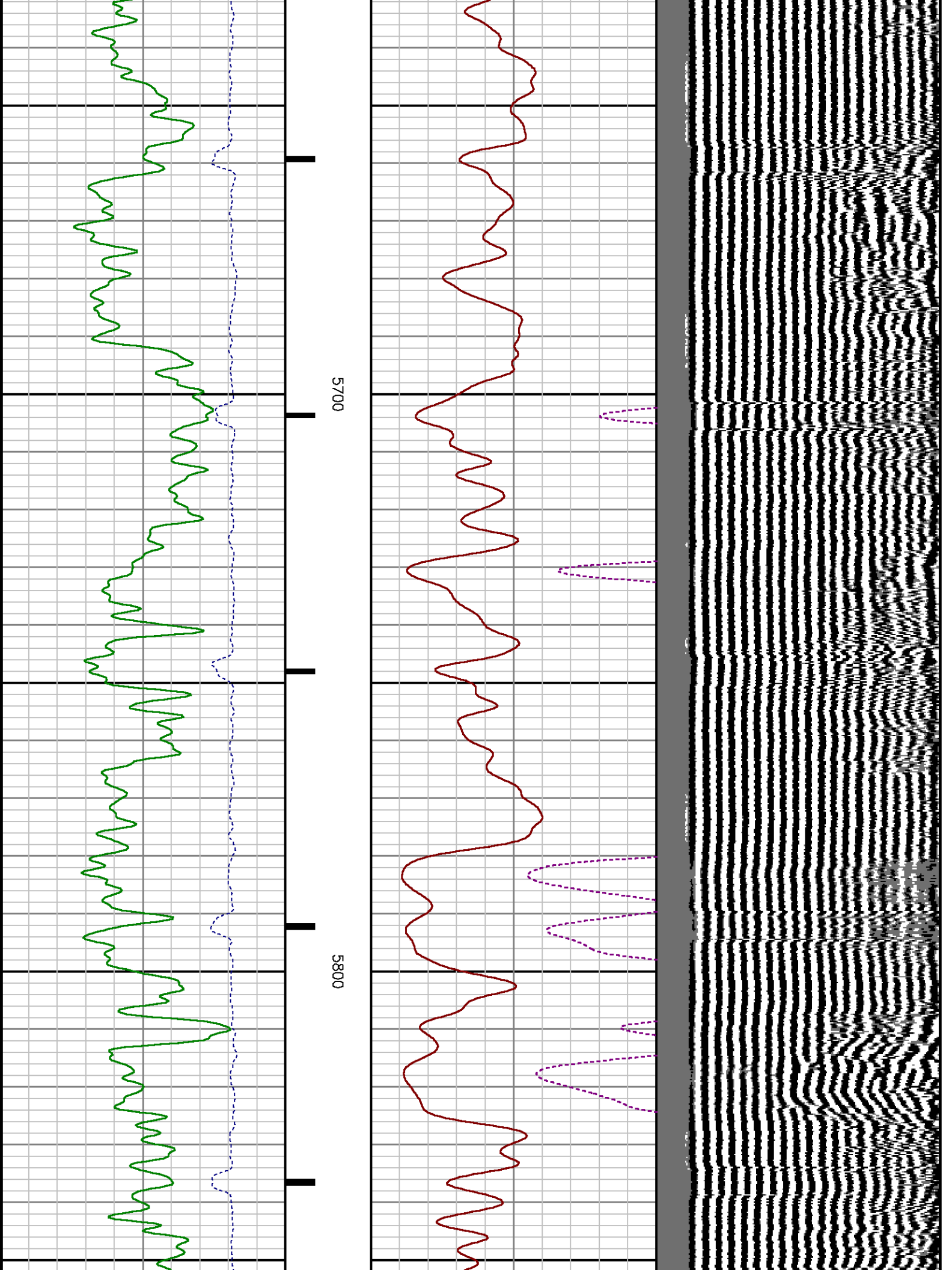


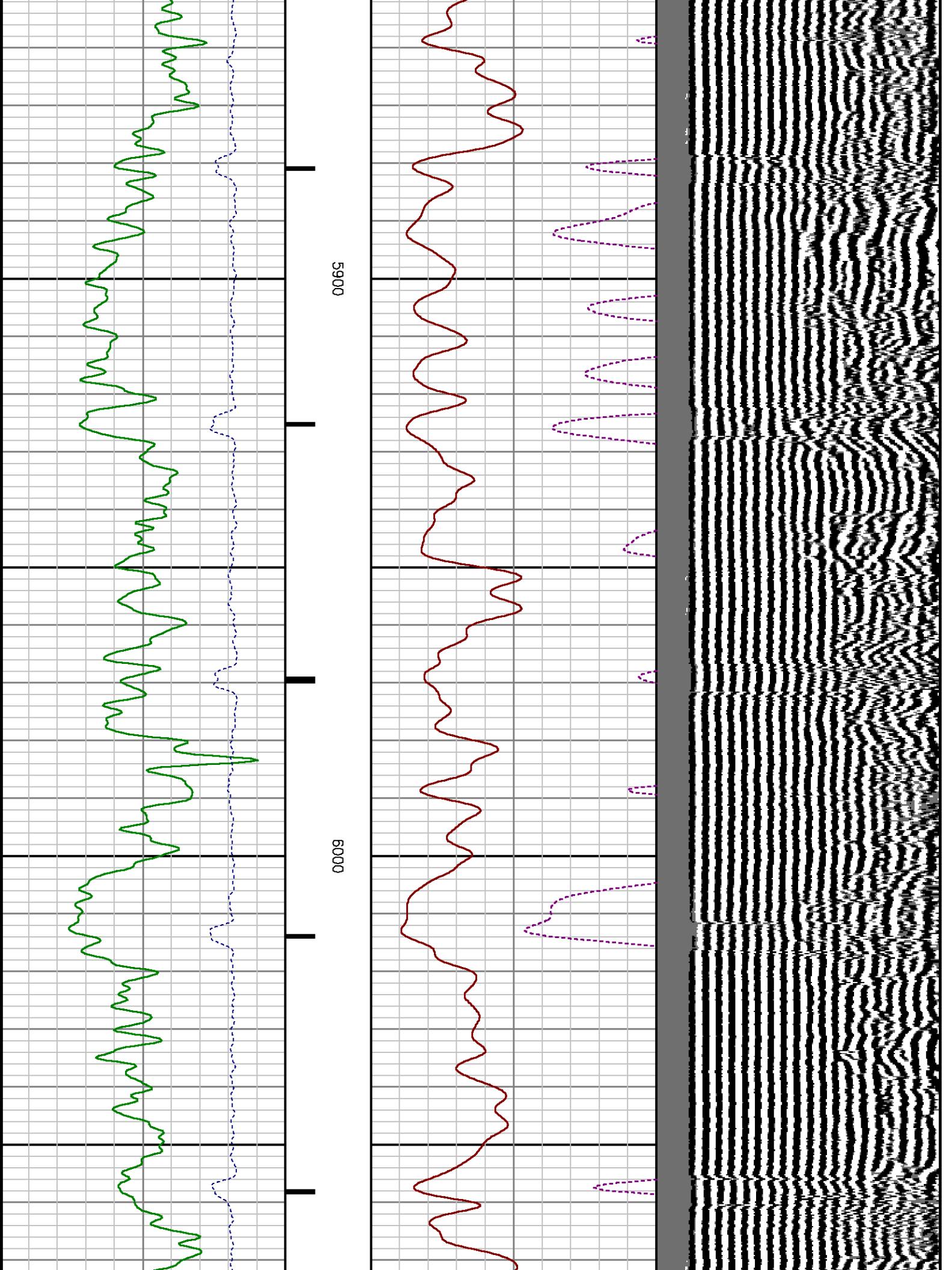


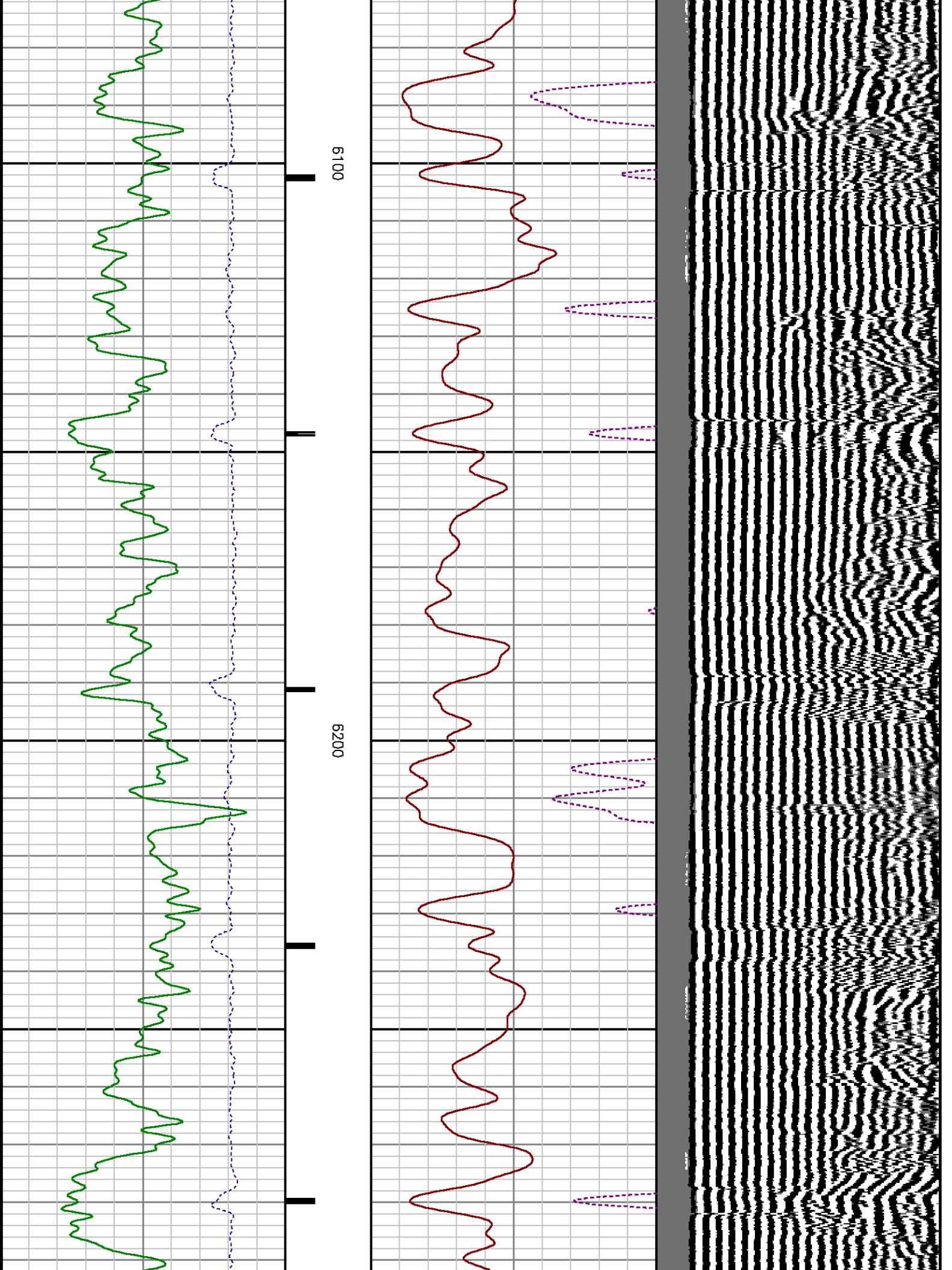


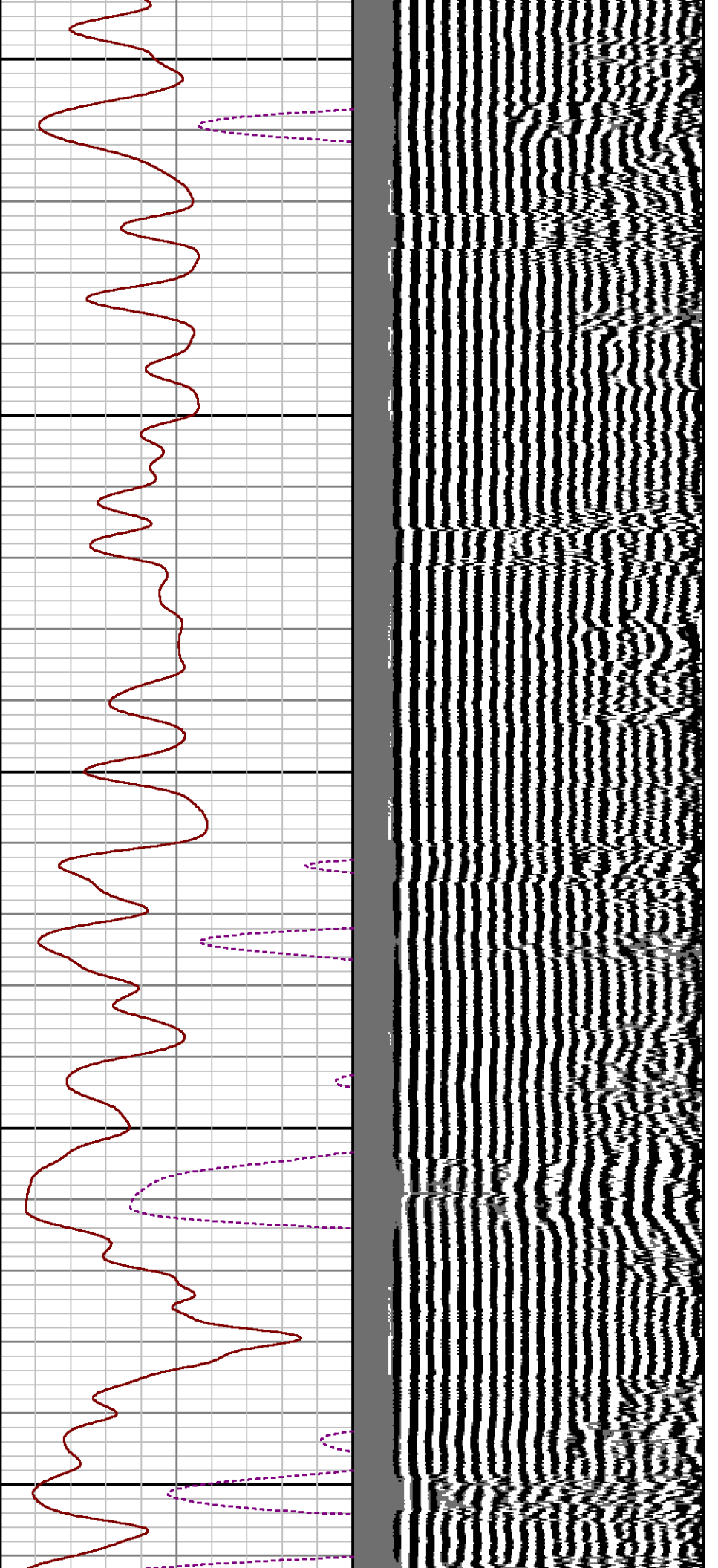








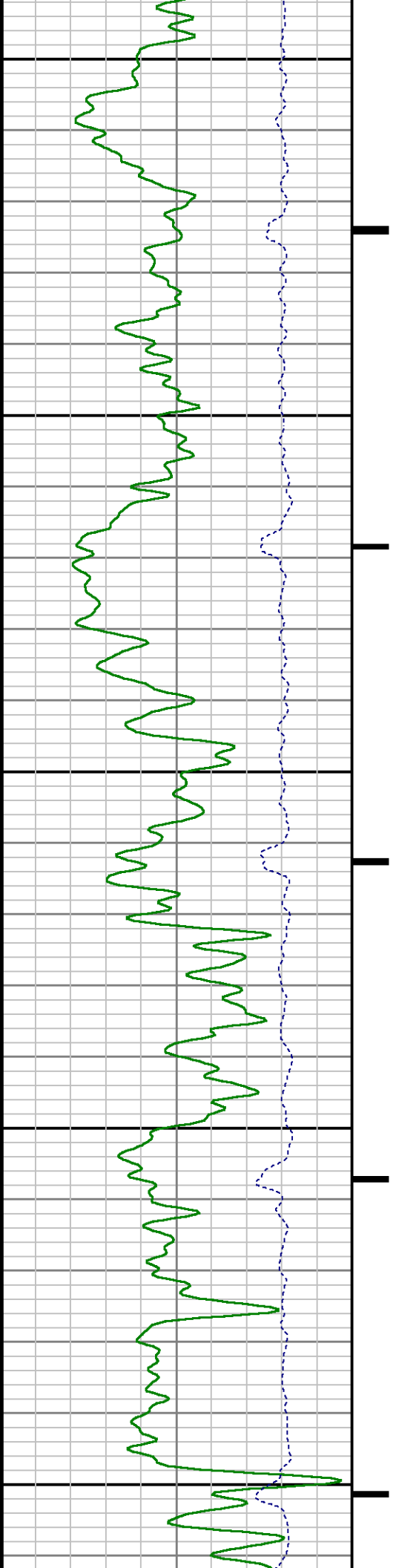


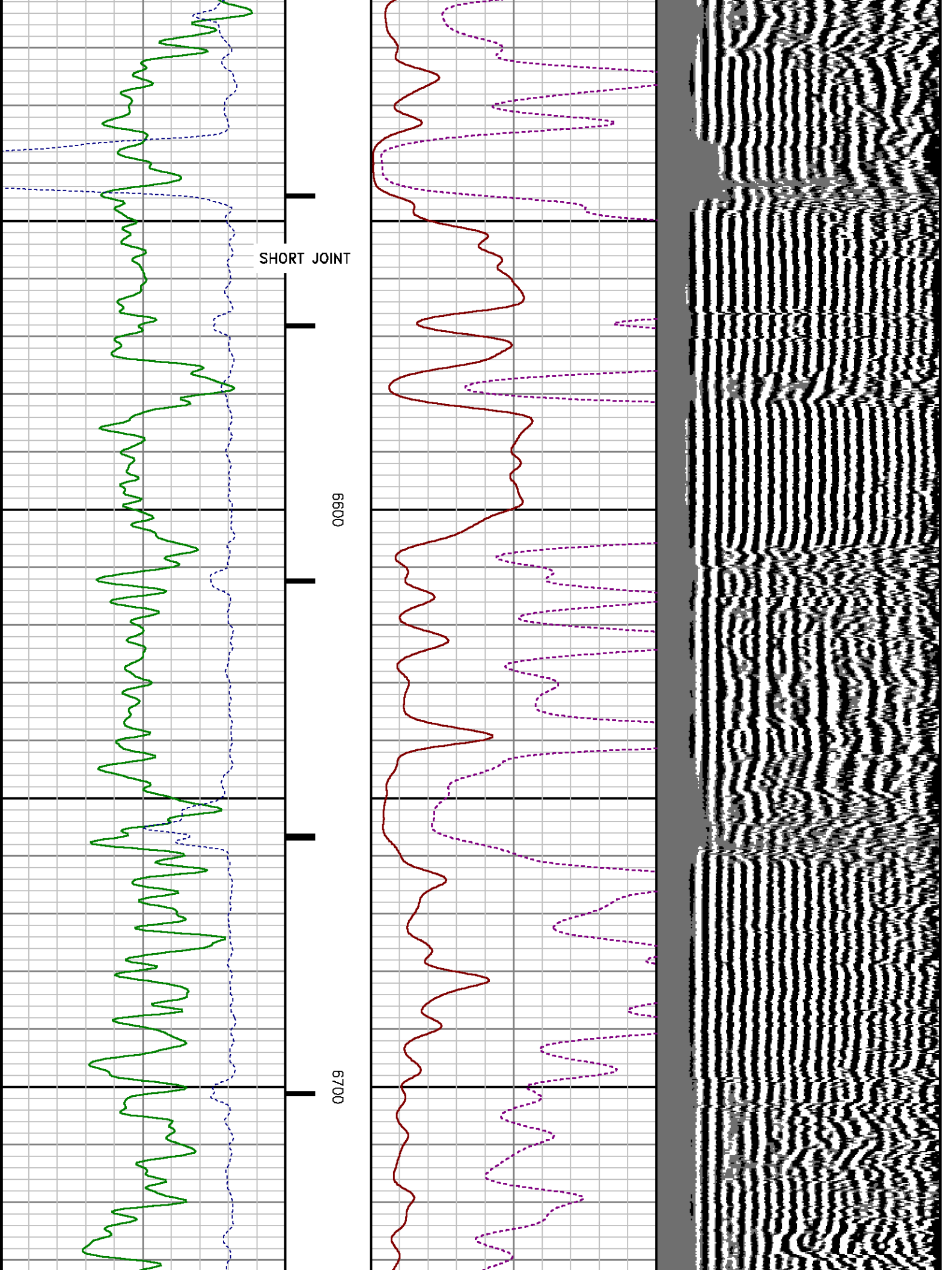


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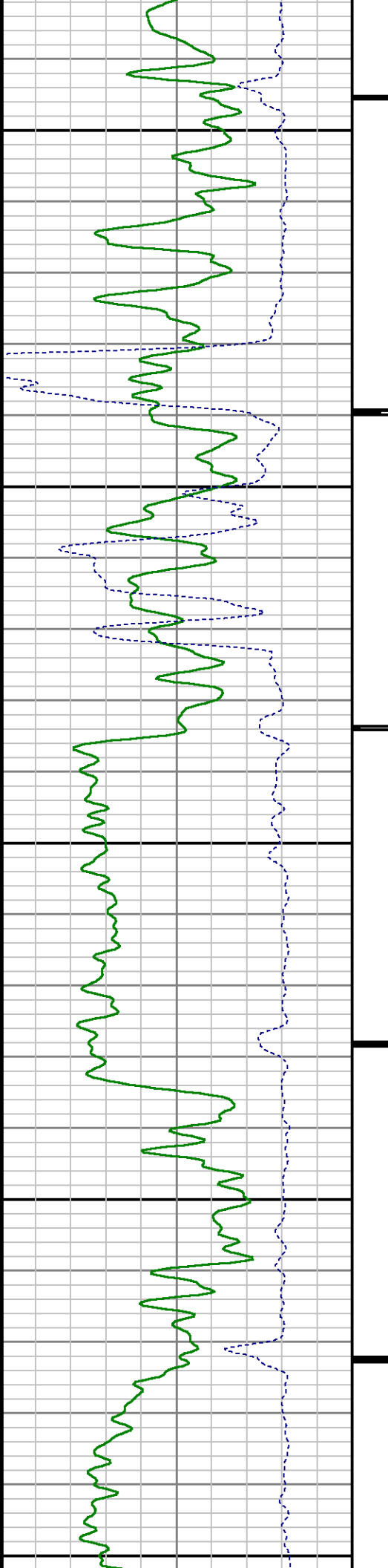
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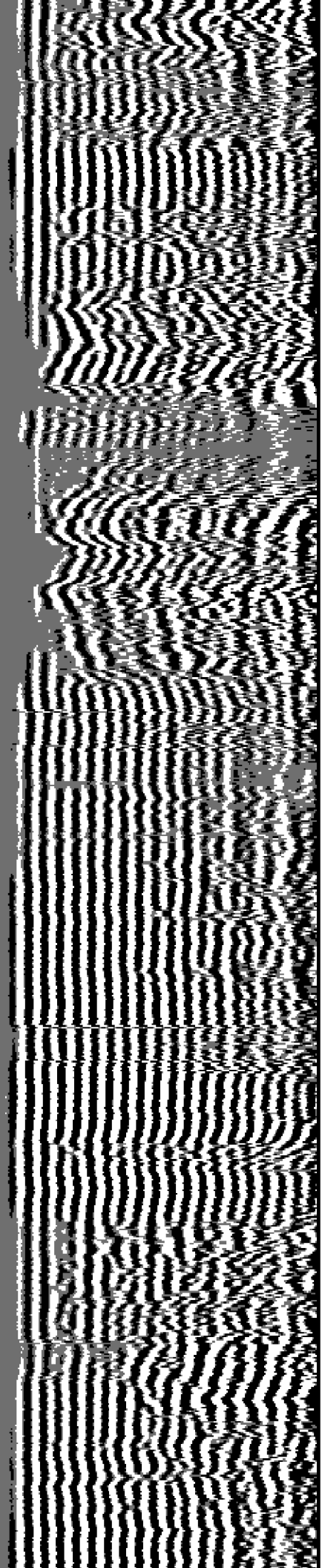
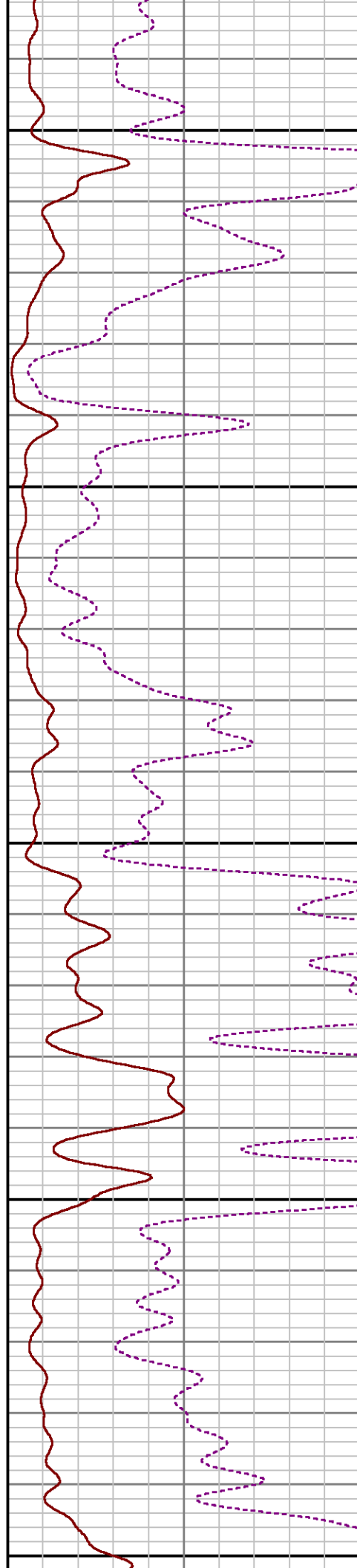


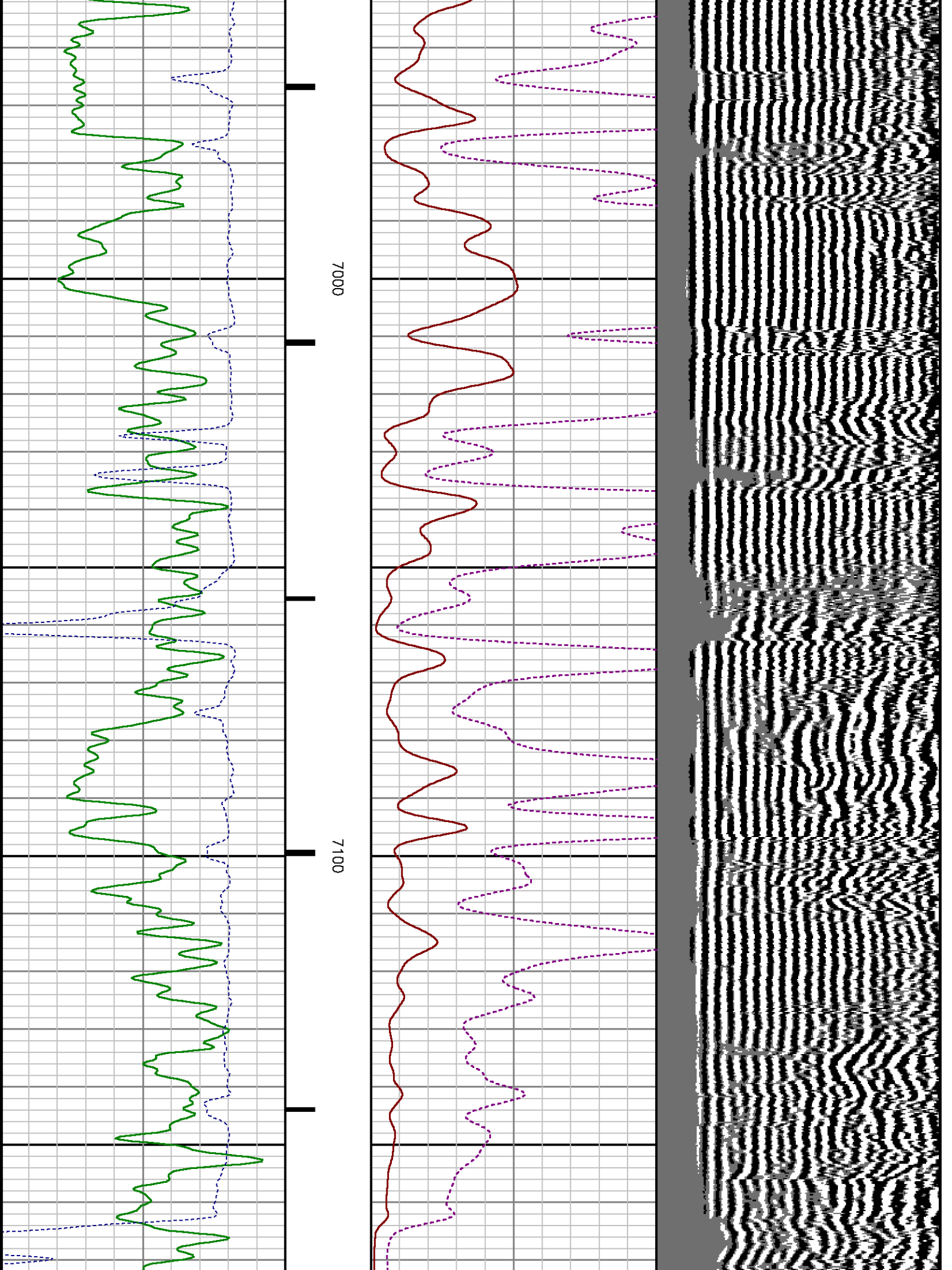


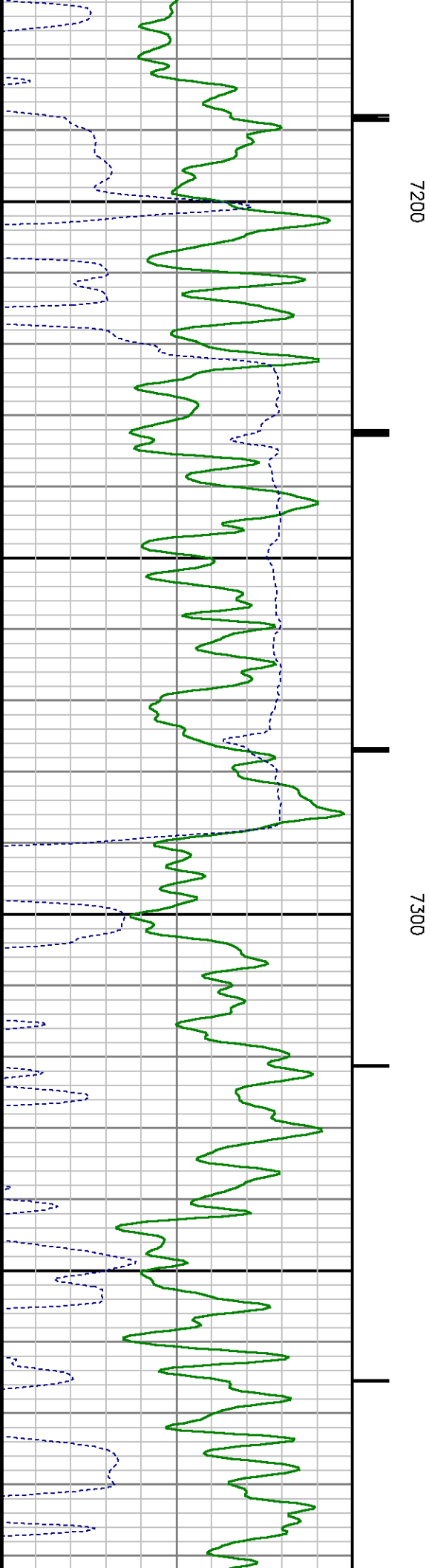
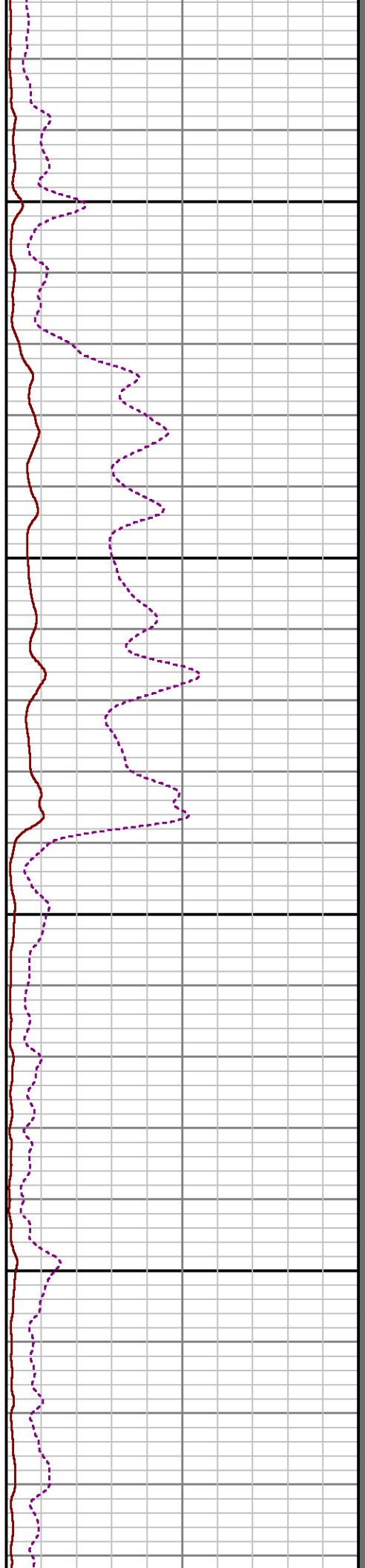
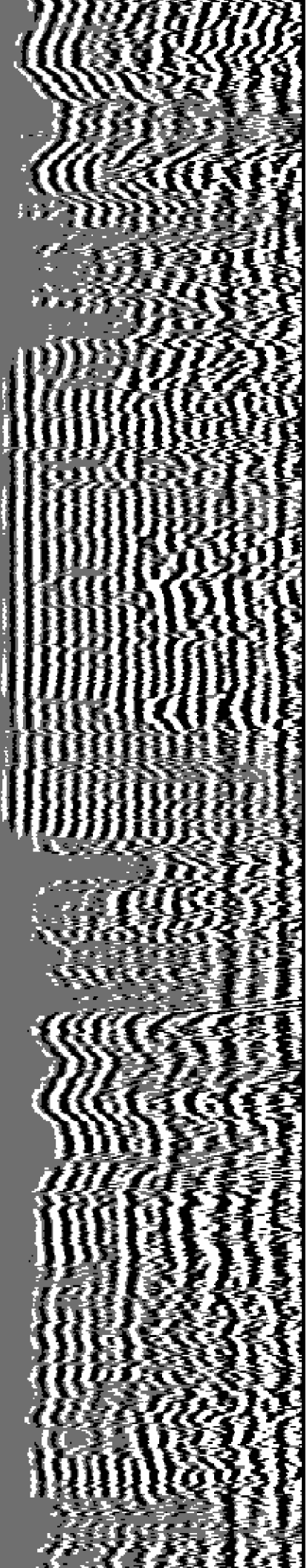


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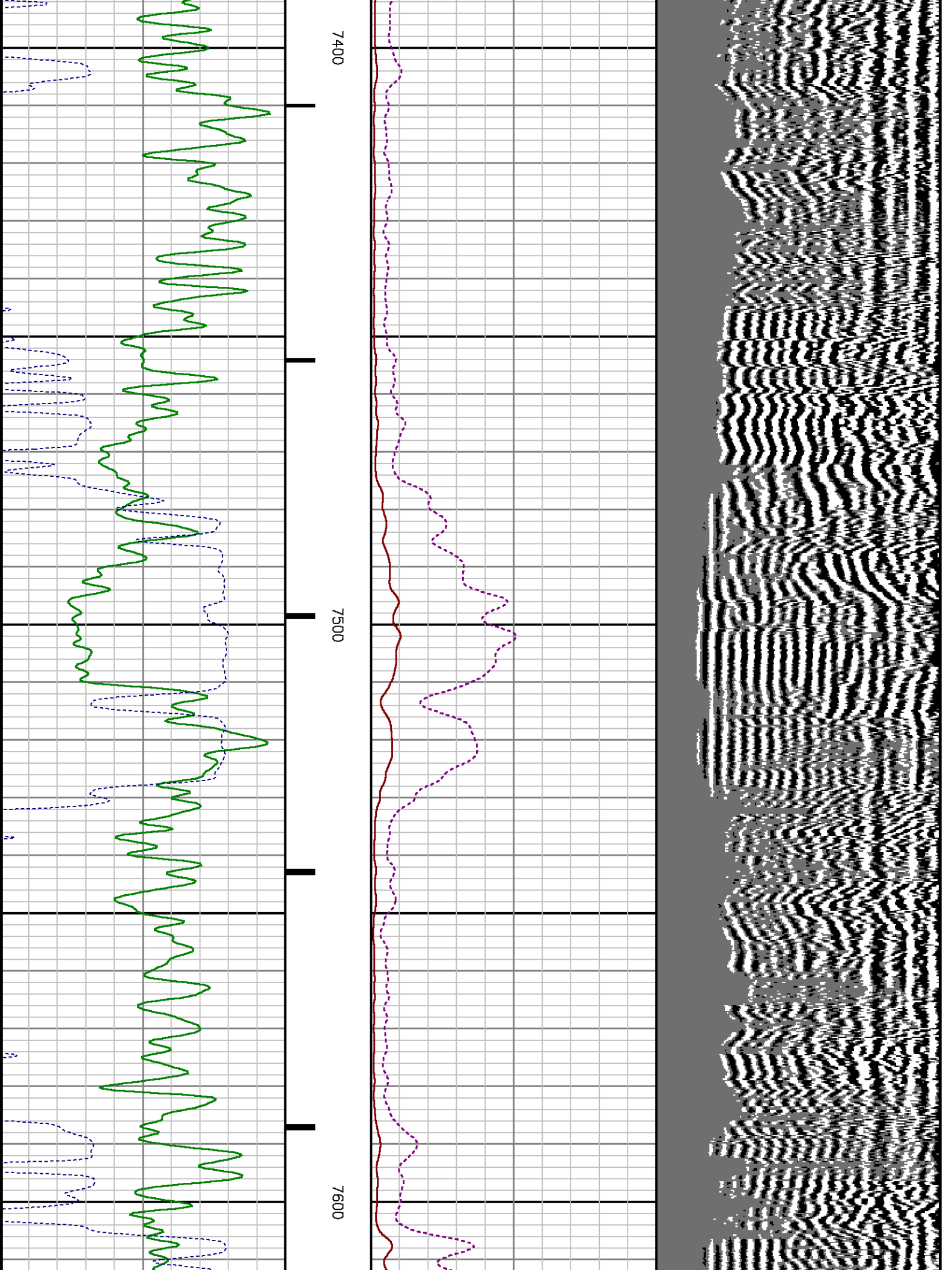
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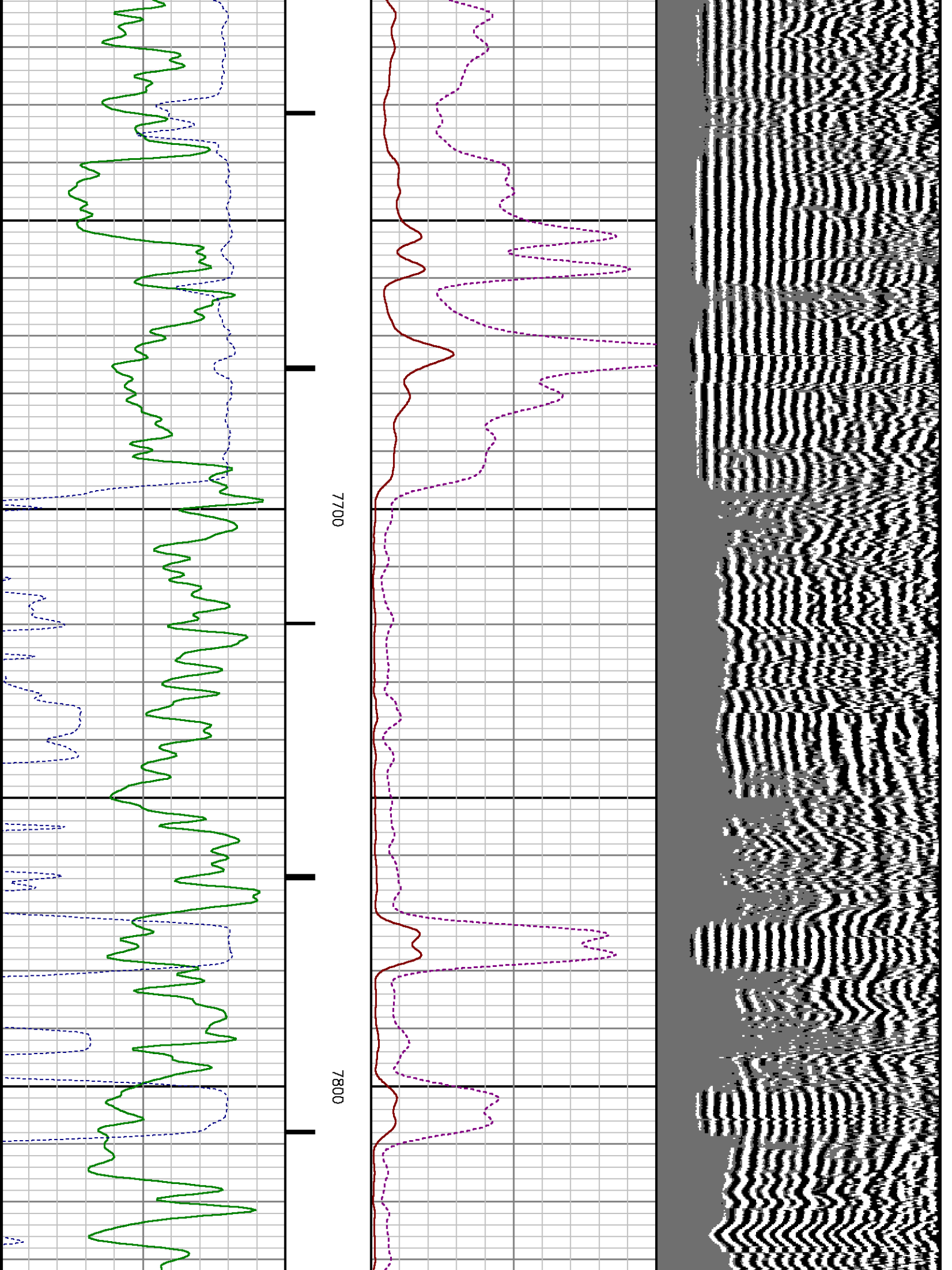


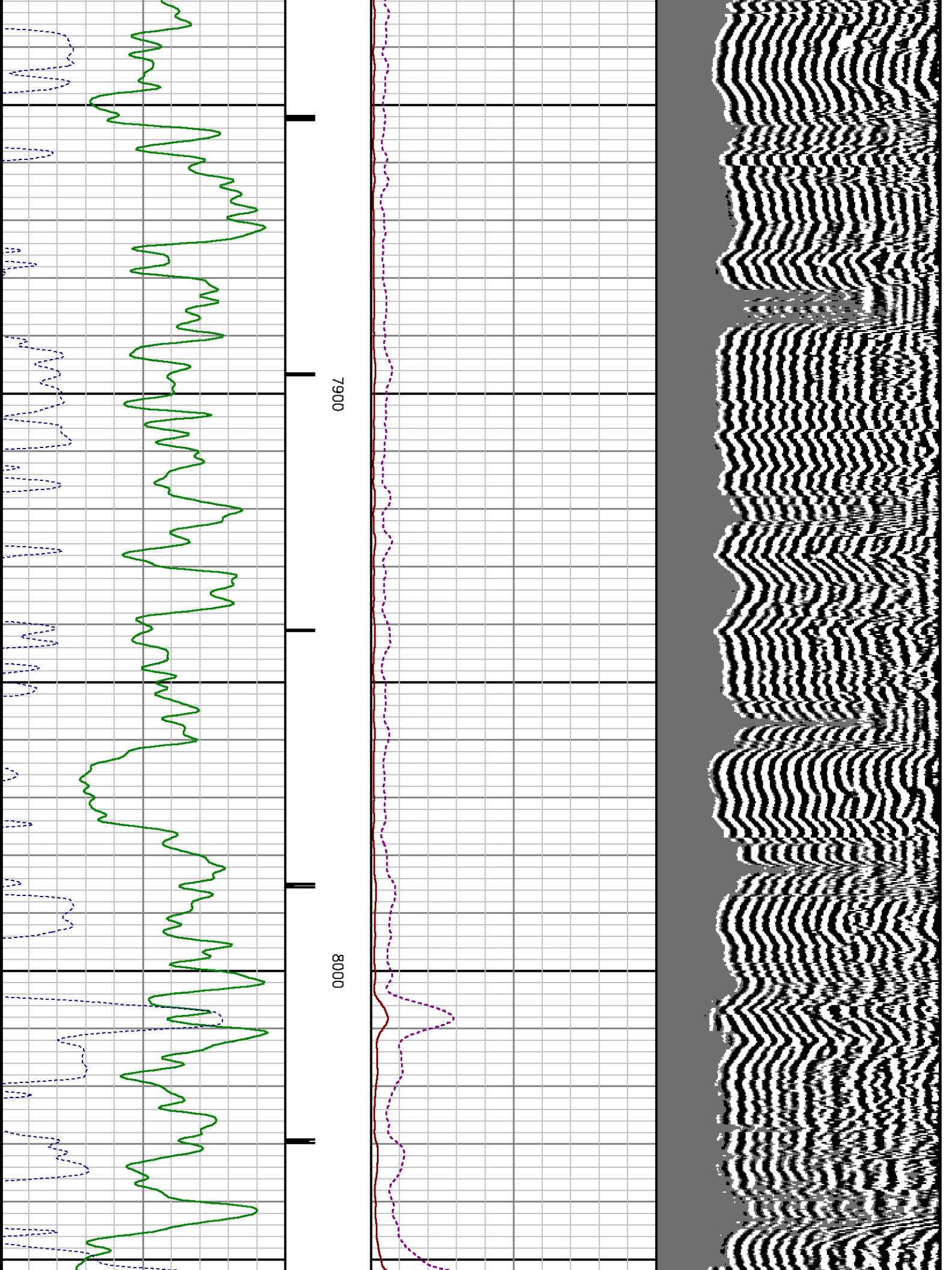


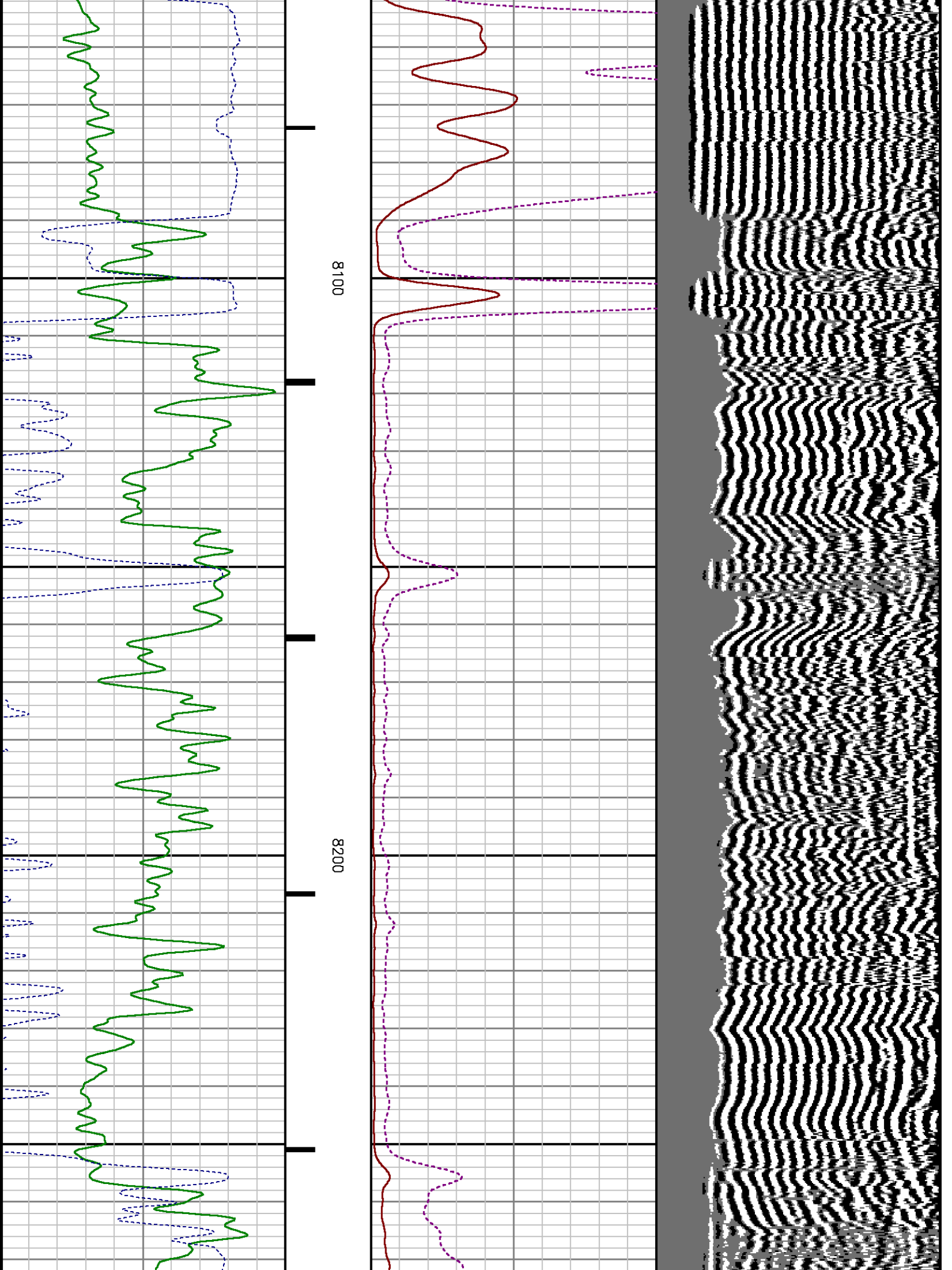


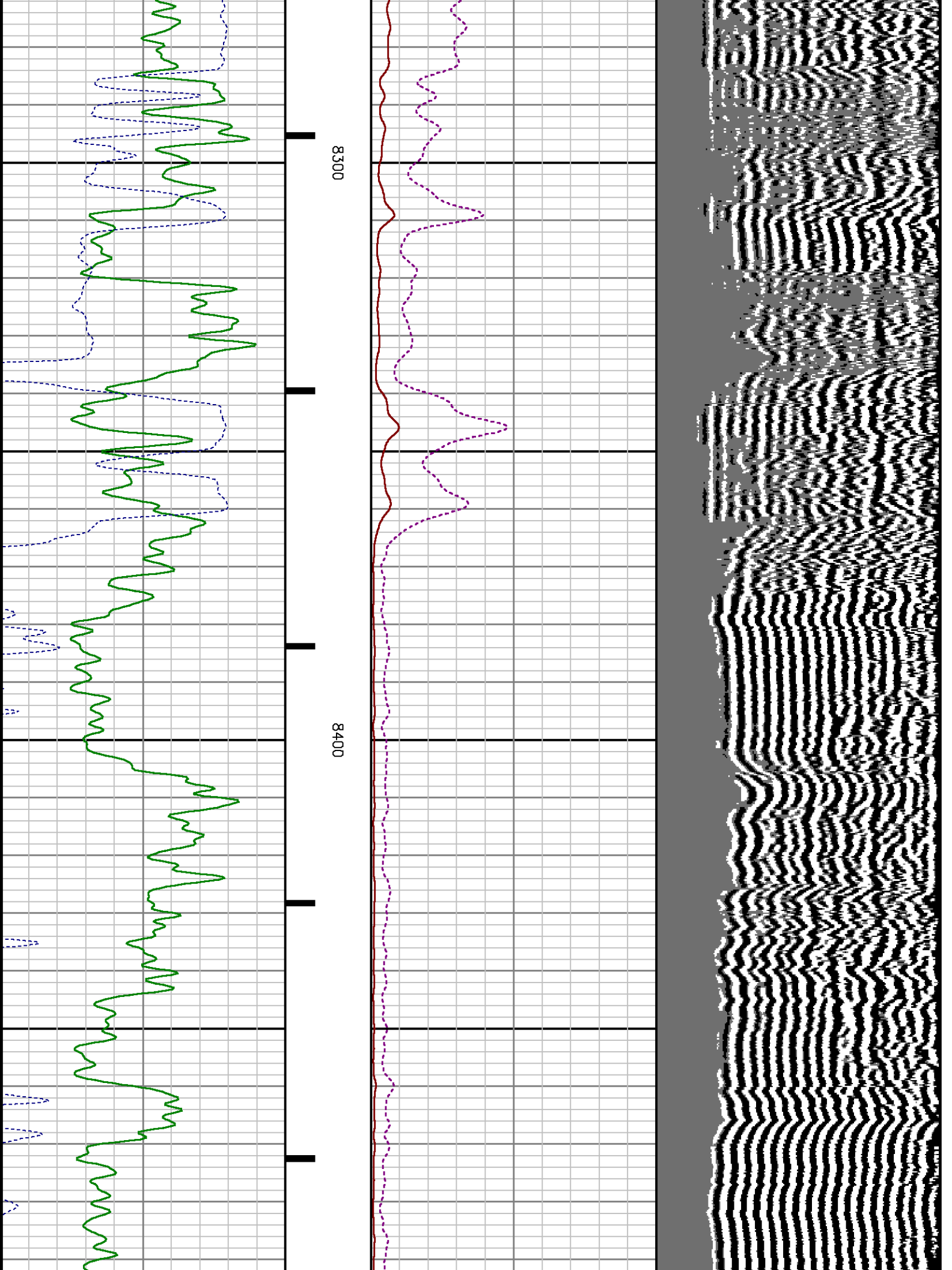




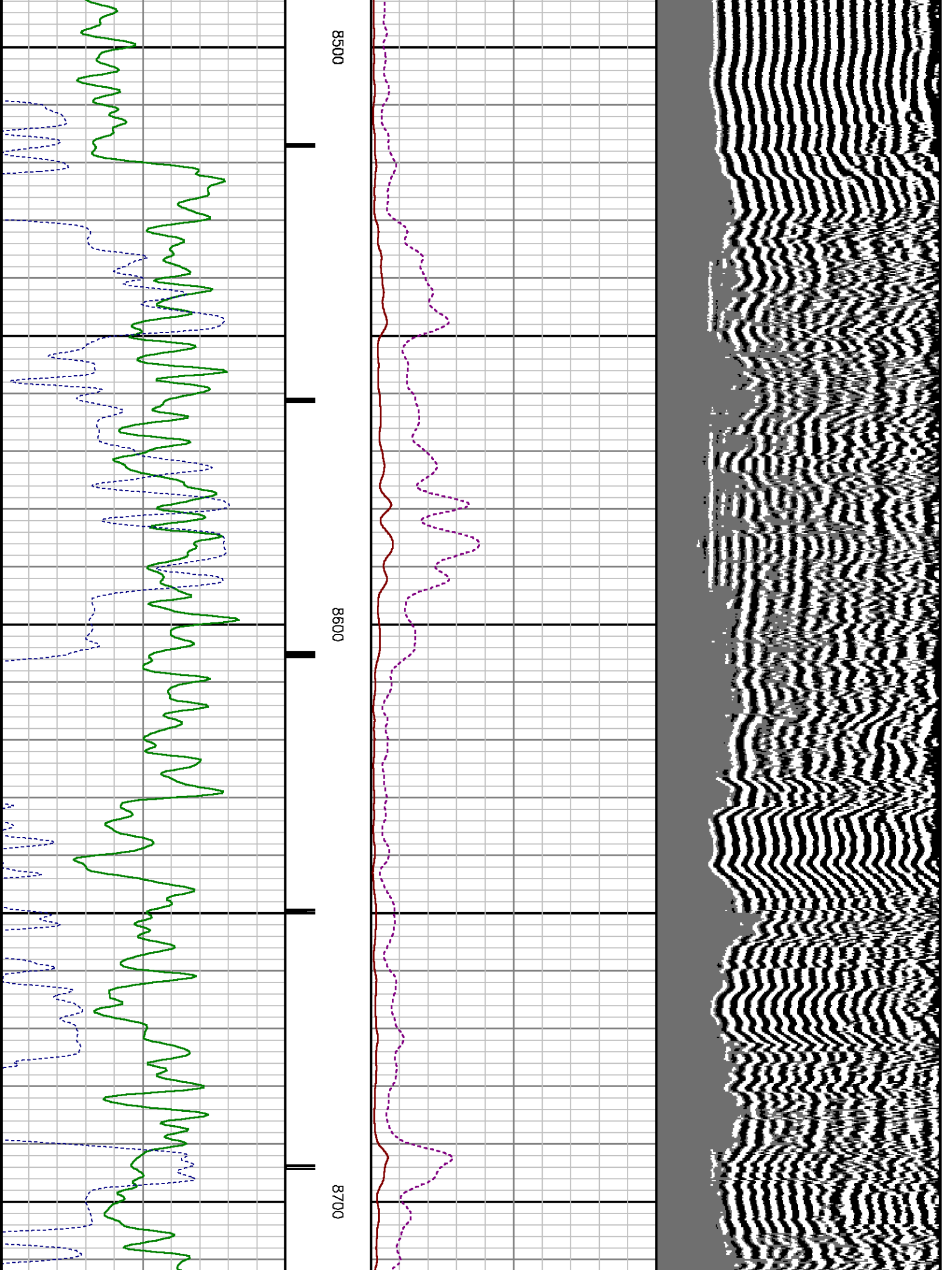




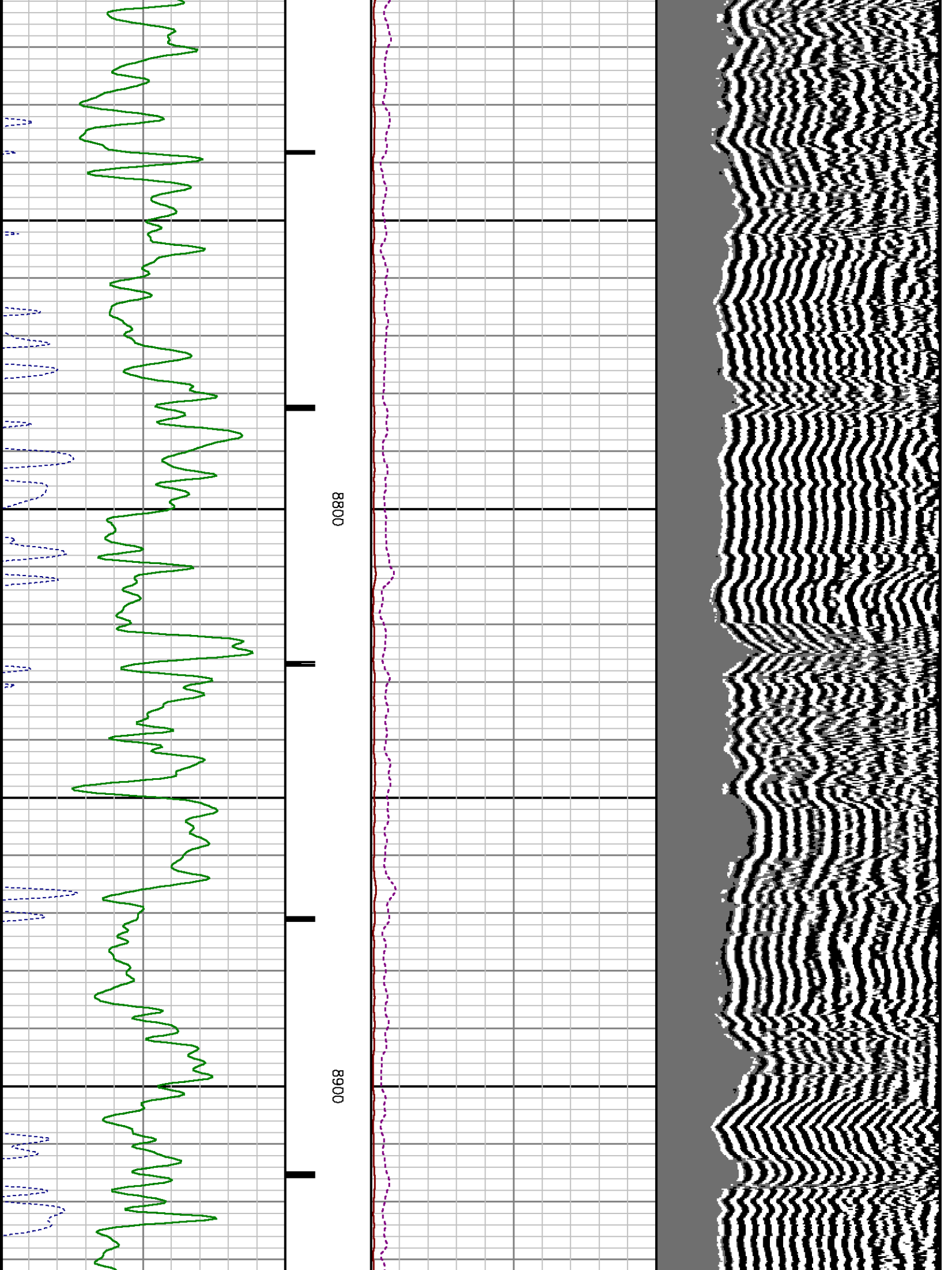


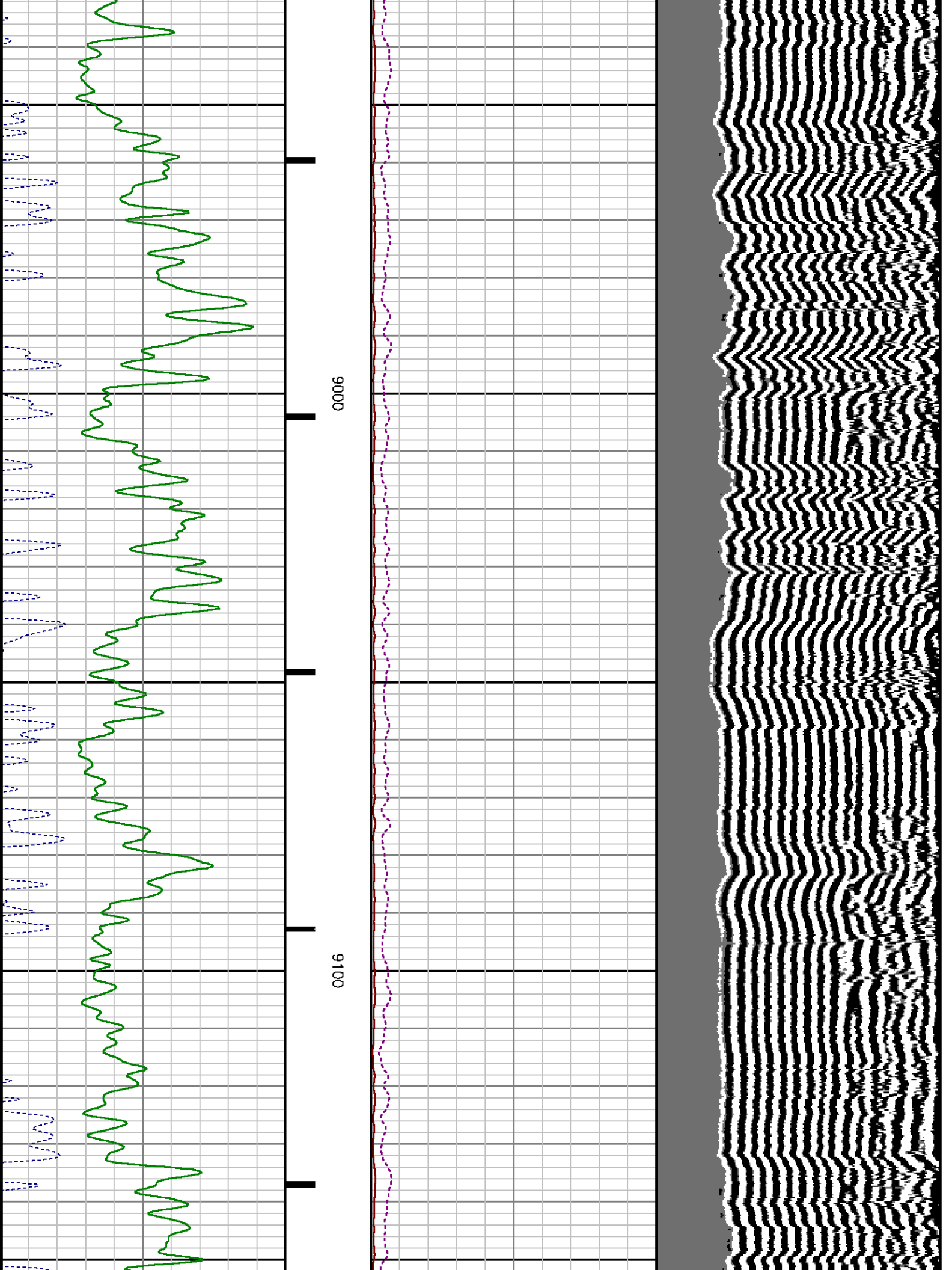


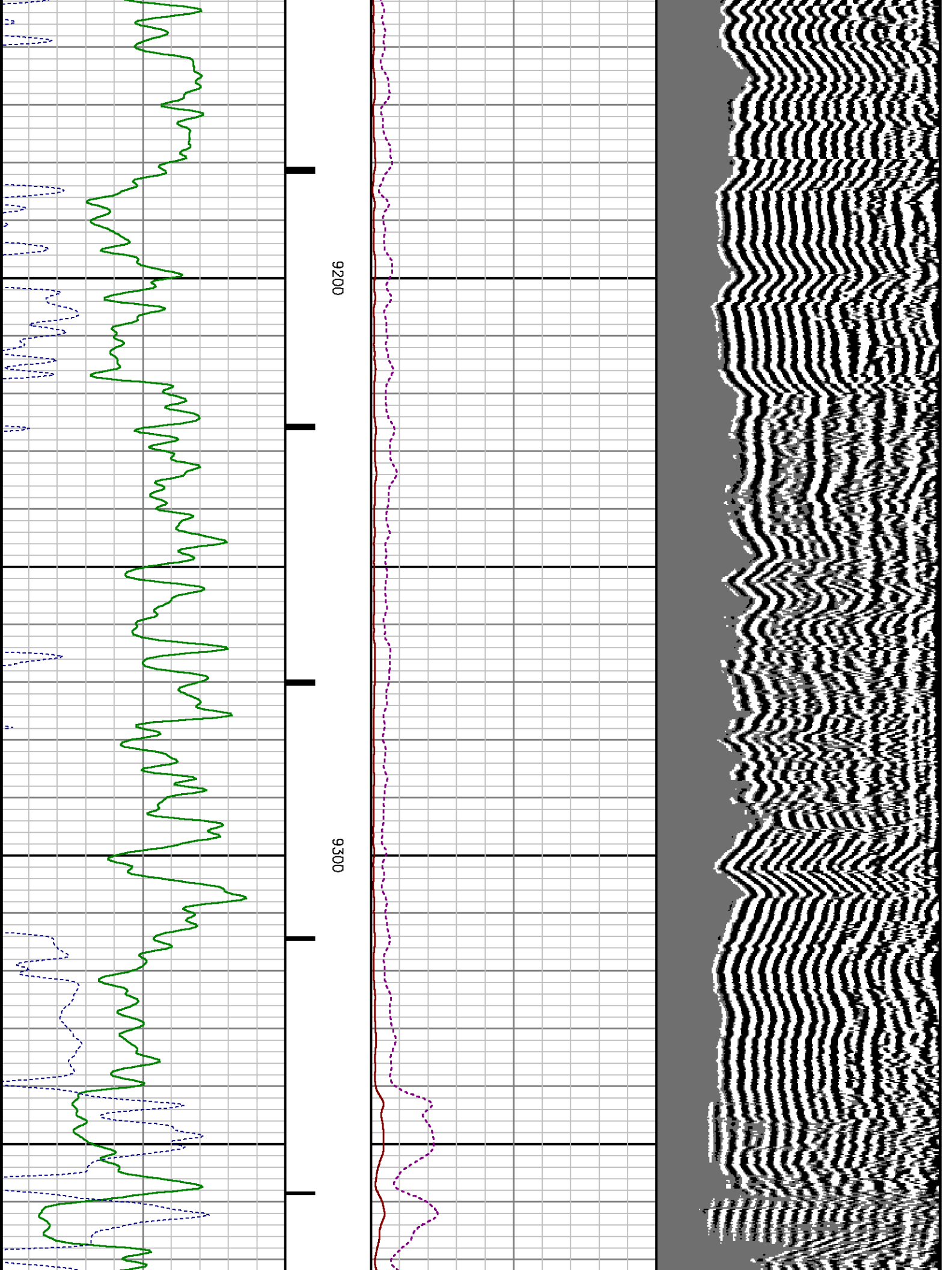


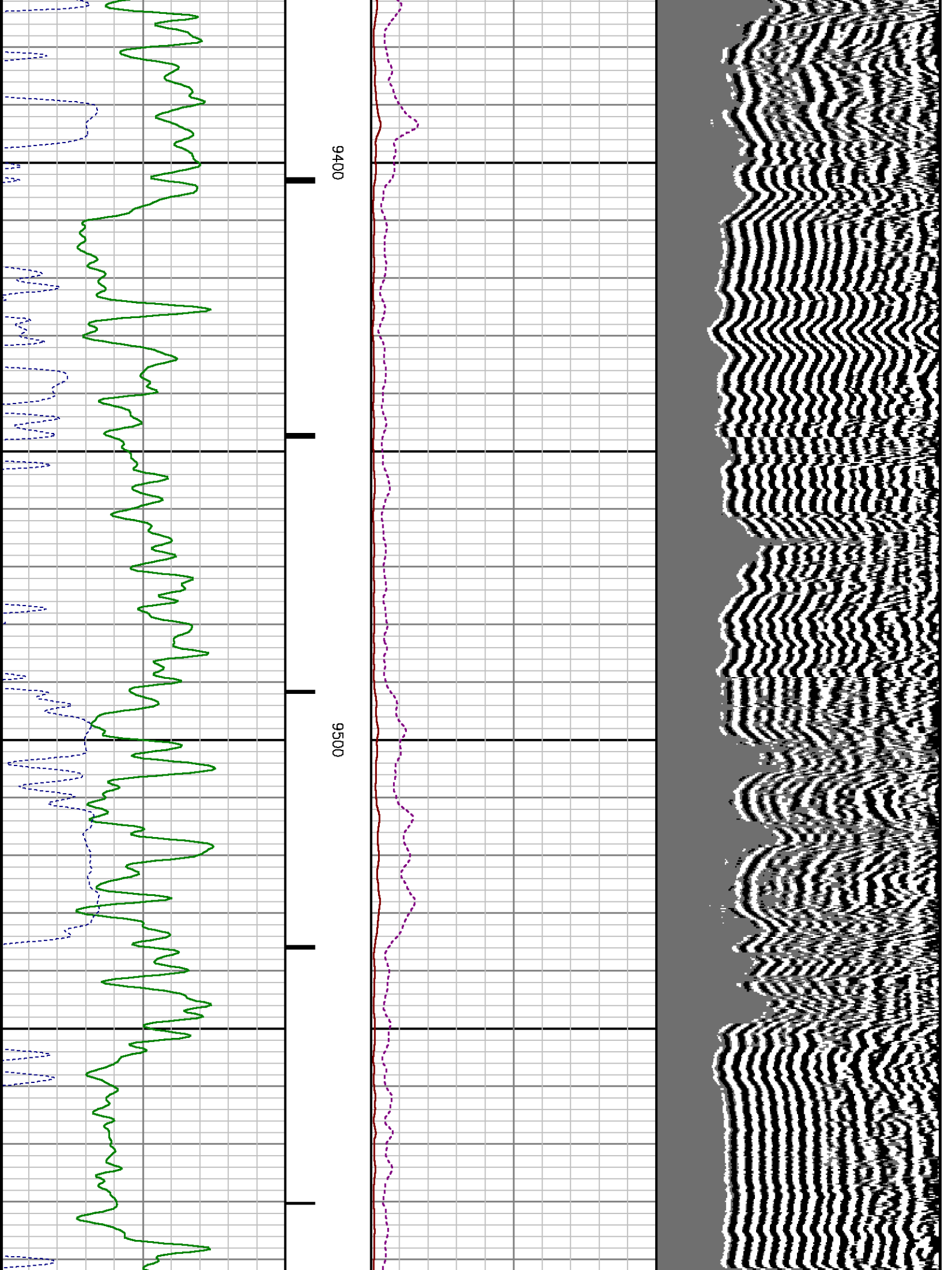


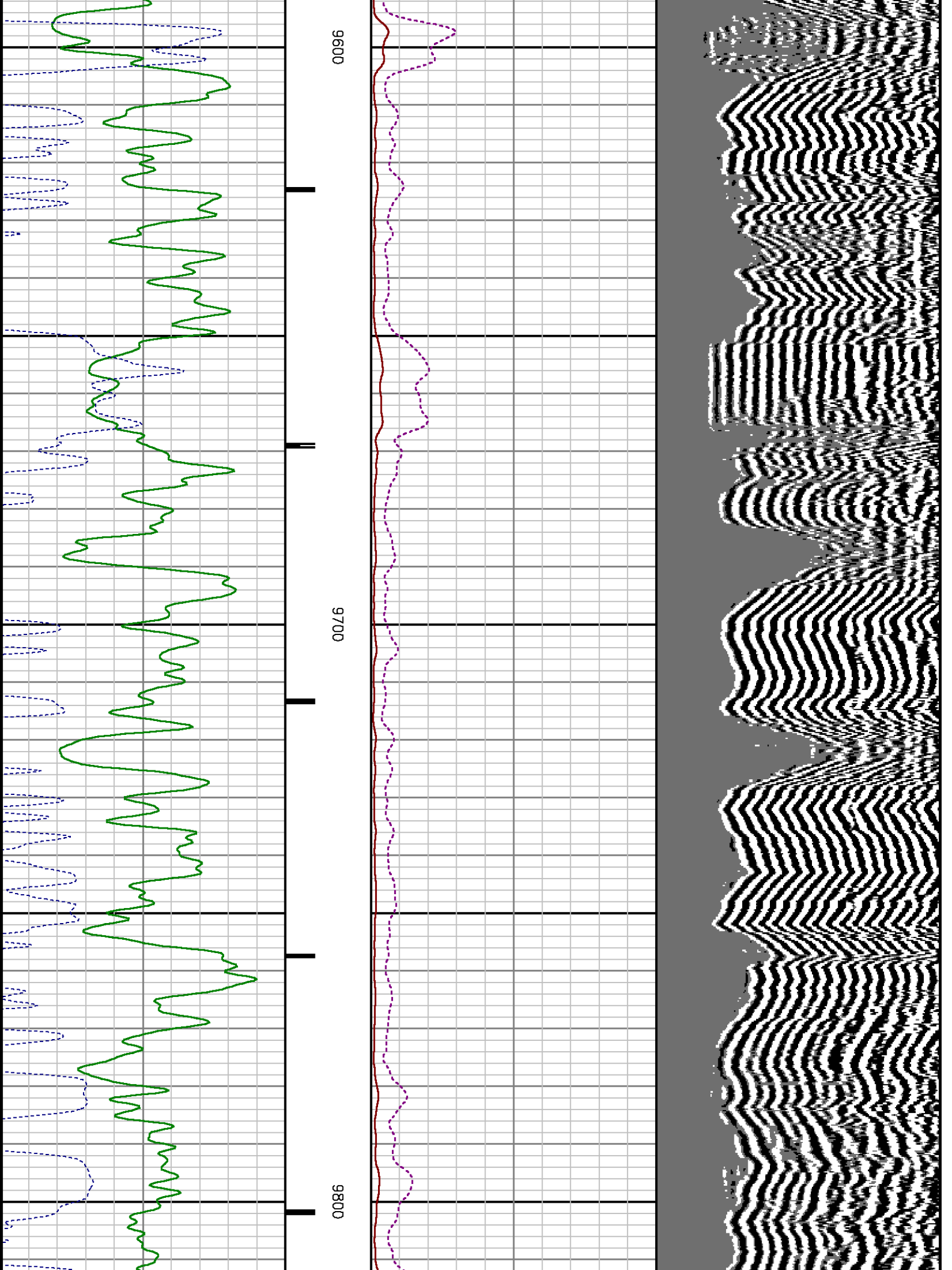




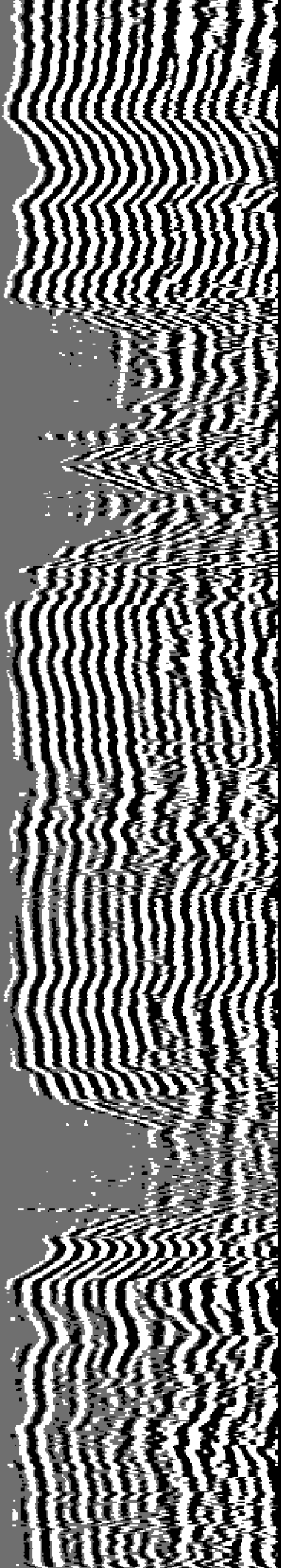






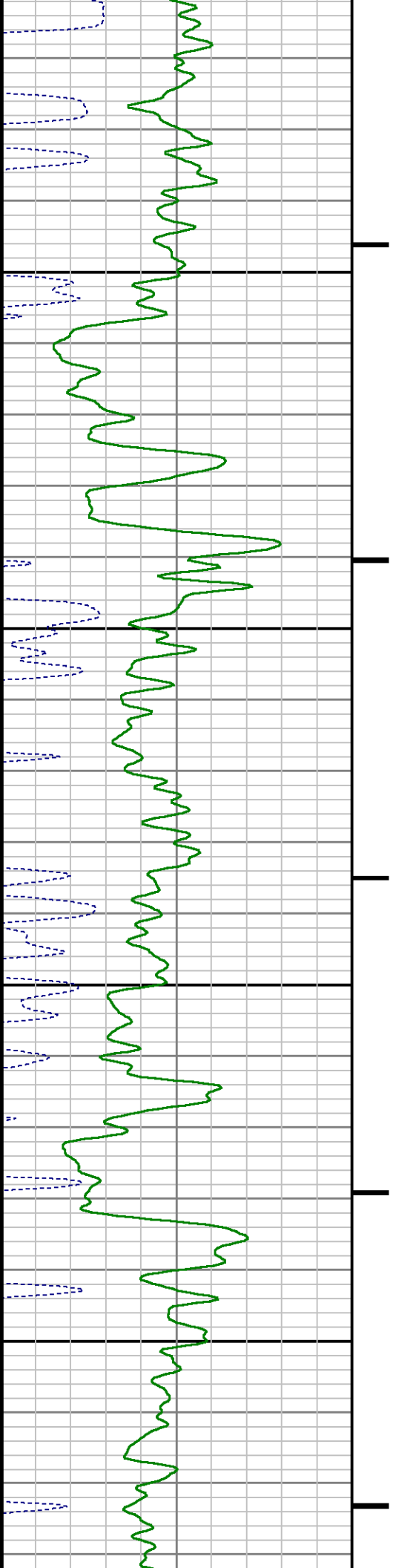




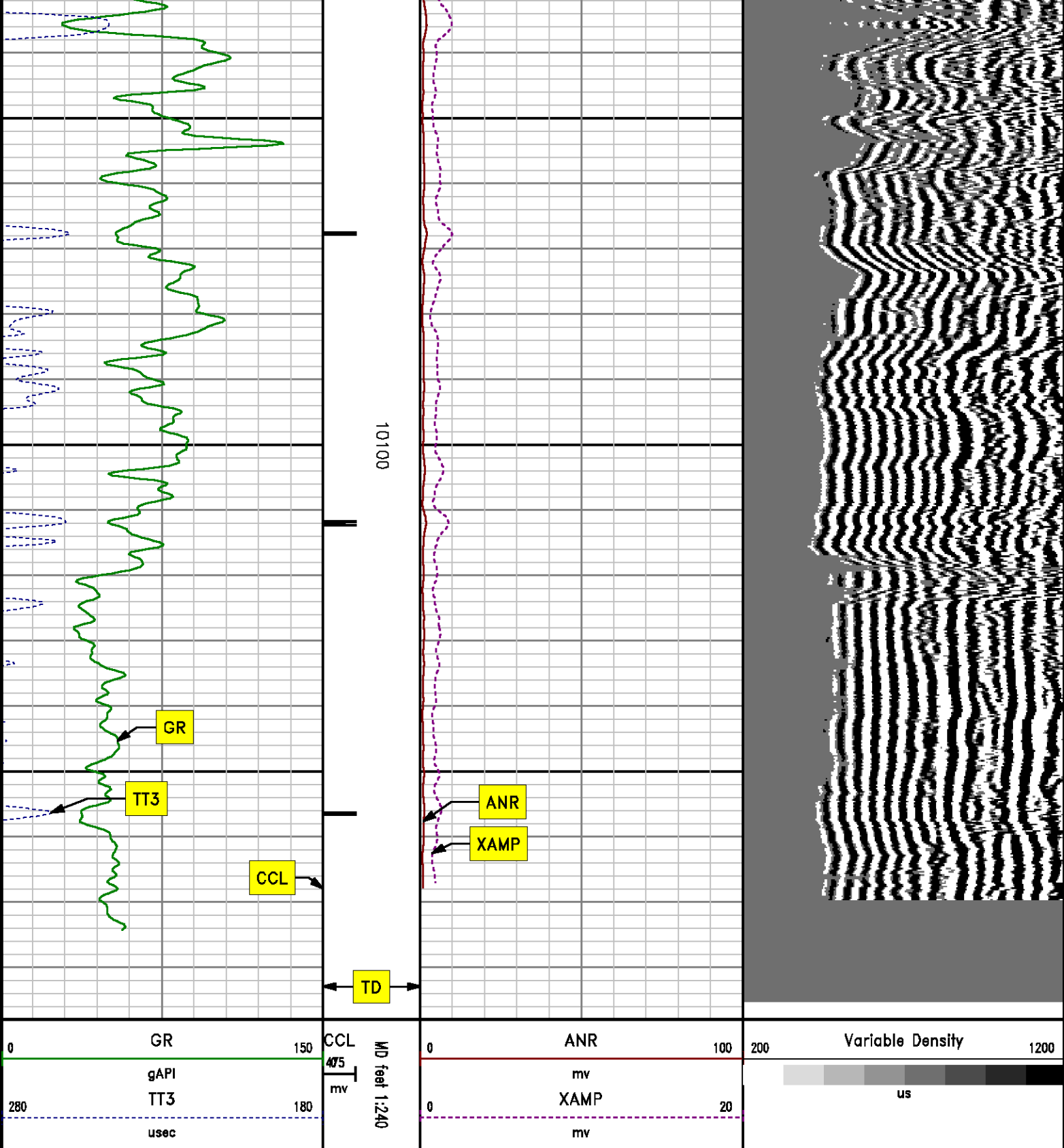


9900

10000







**SECONDARY PRESENTATION**  
**0 PSI**

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	34.910	10185.000
RAL	Amp Gate Start Near	195.000	usec	34.910	10185.000
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RAL	FB Thresh Radial	4.000	mv	34.910	10185.000
RAL	Fluid Travel Time	200.000	usec/ft	34.910	10185.000

### DEPTH OFFSETS (for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.750	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	-15.750	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
2459XA	-9.490	GR					
2459XA	-4.090	NEU					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

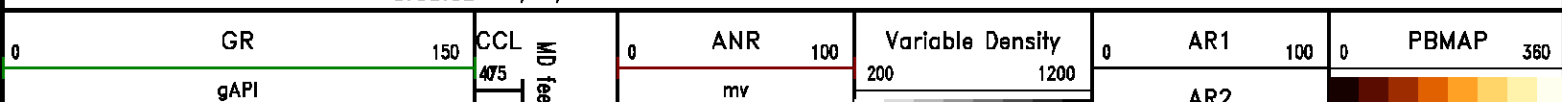
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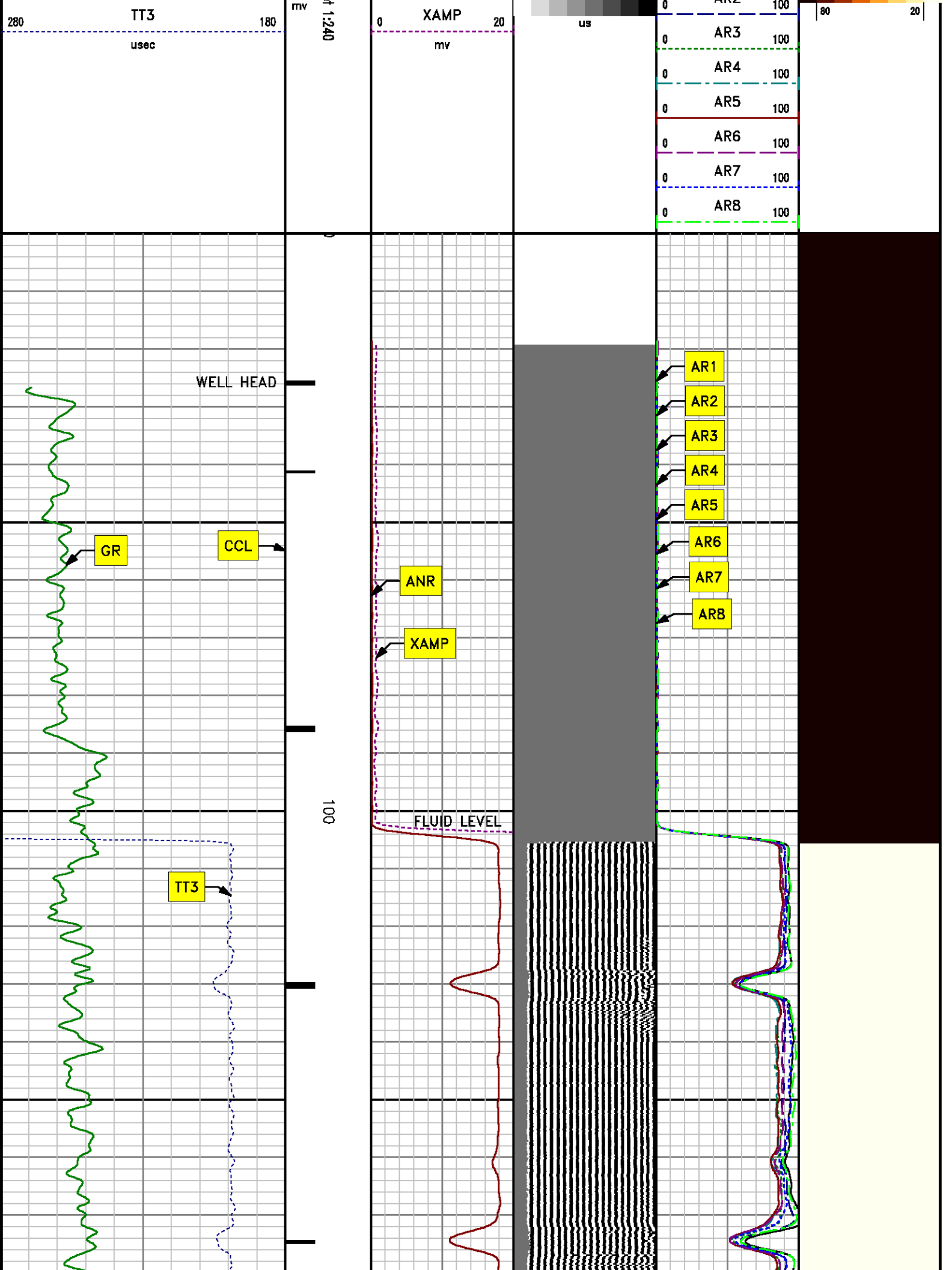
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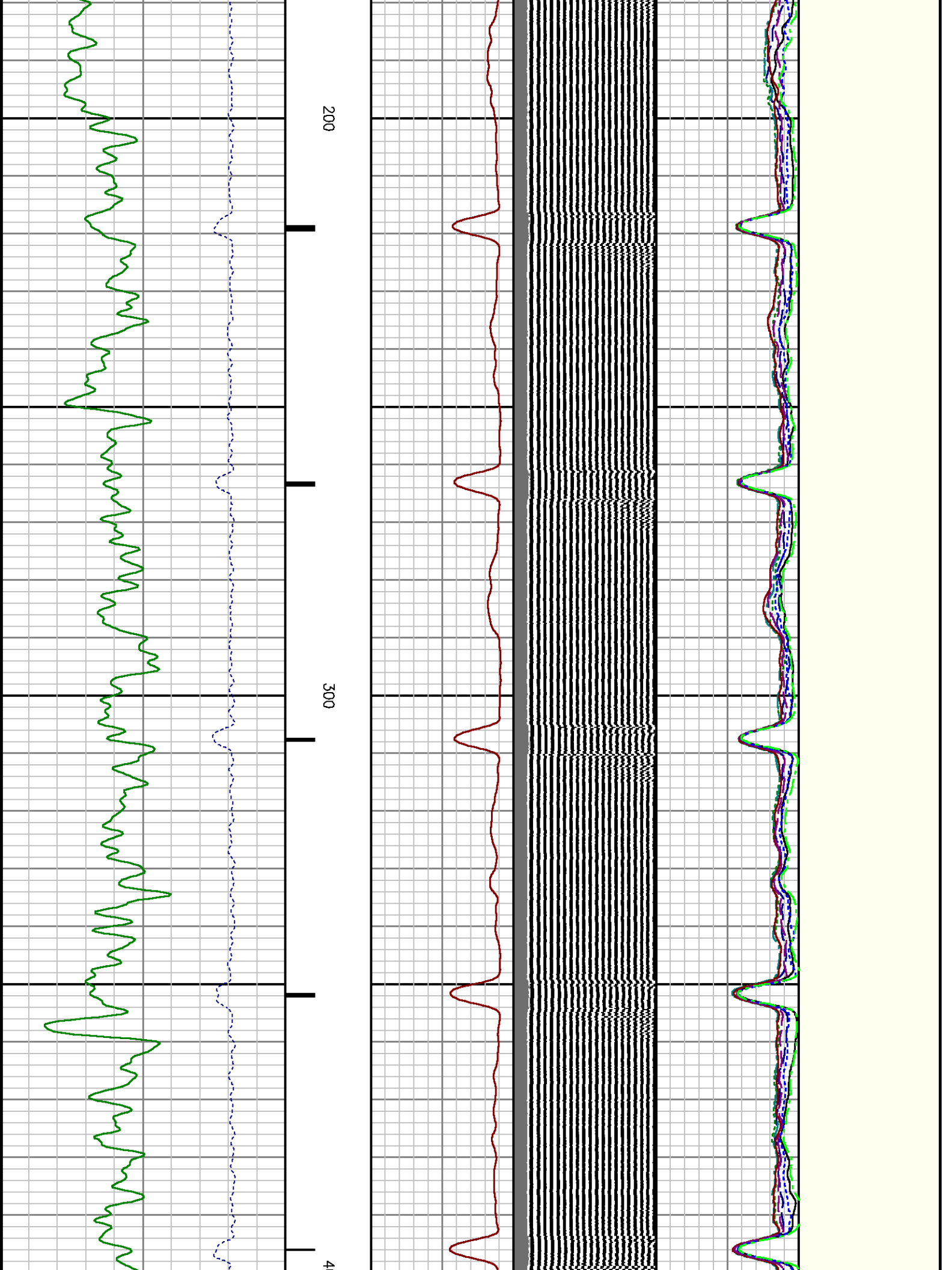
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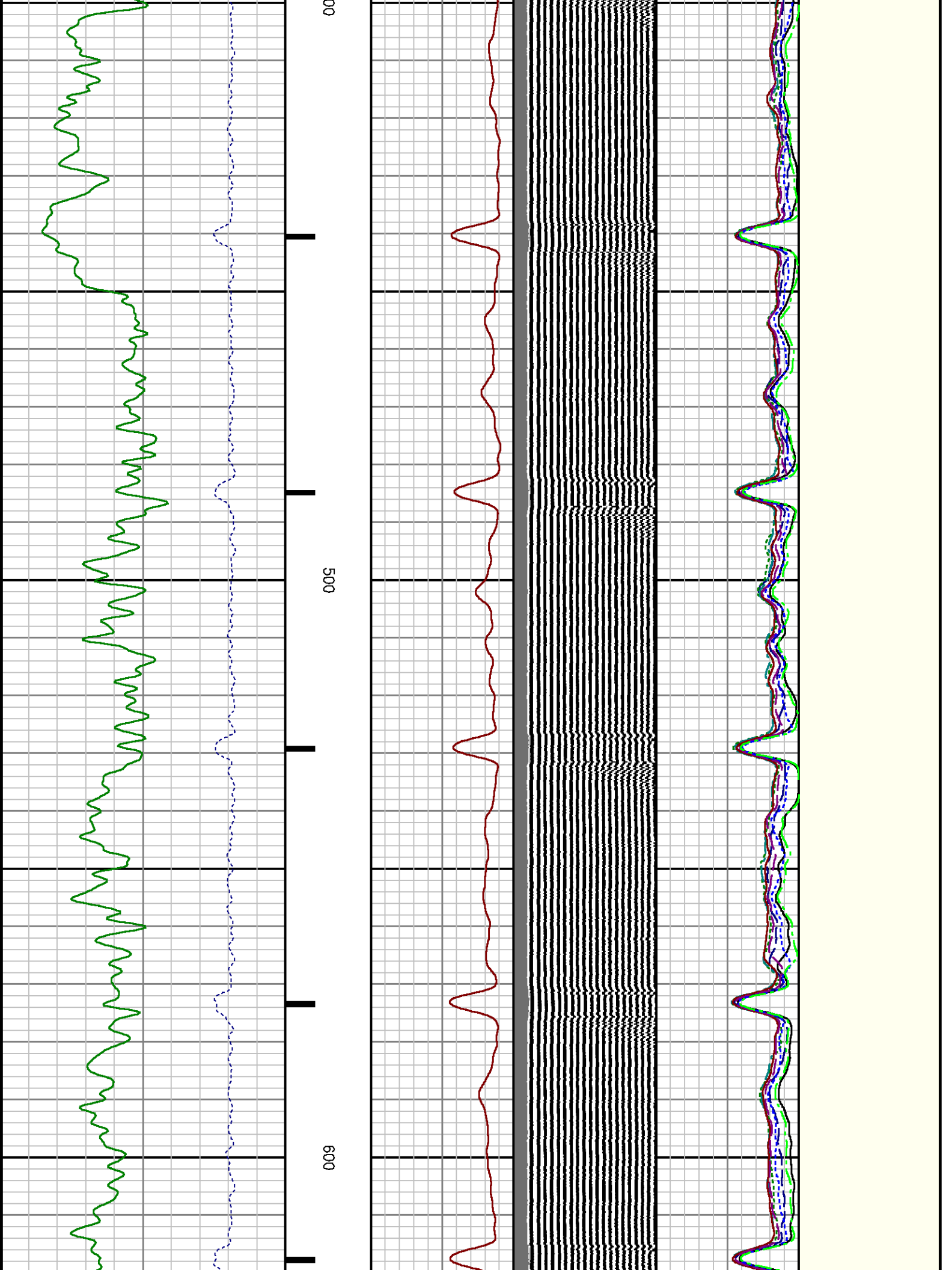
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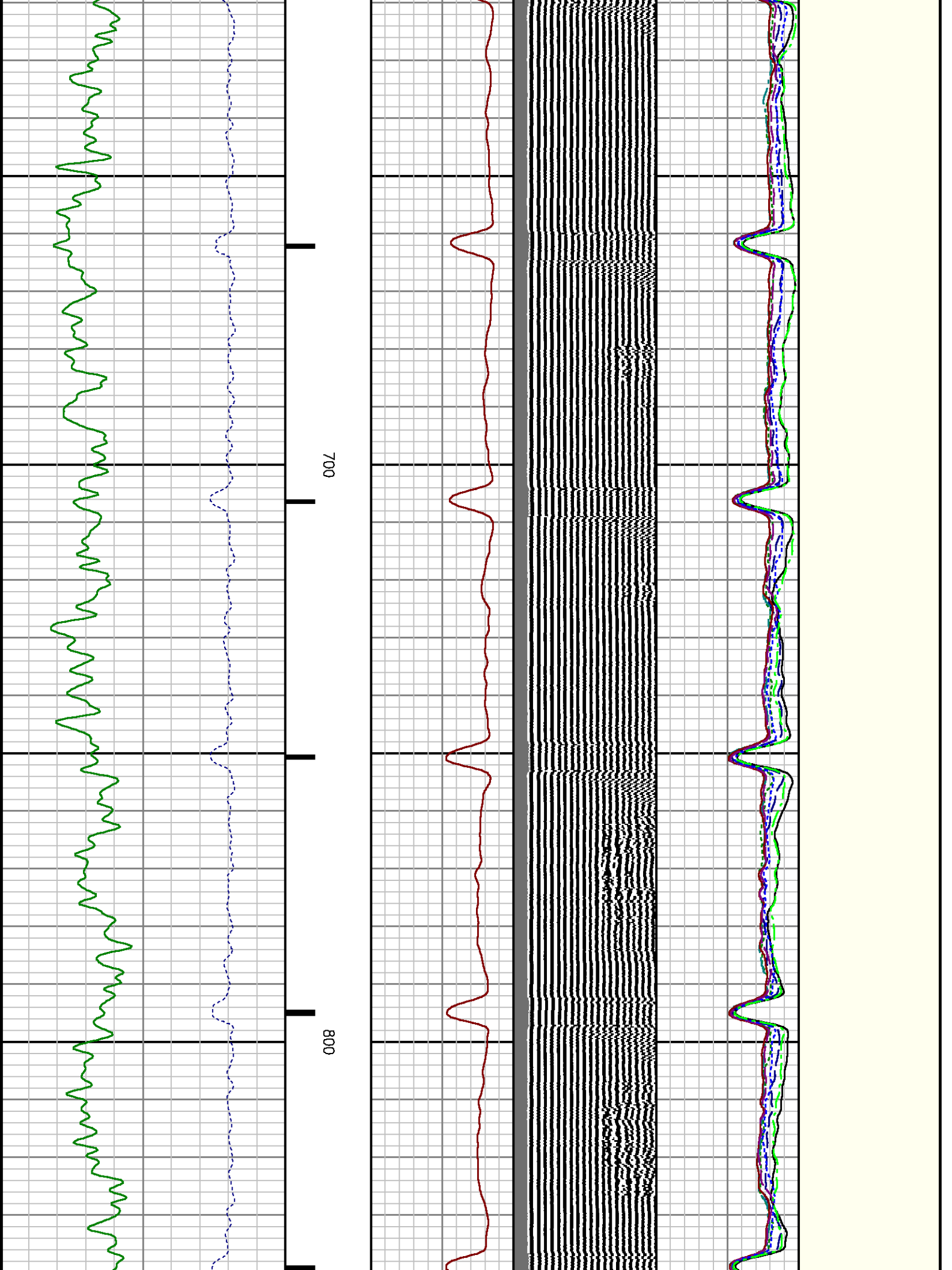
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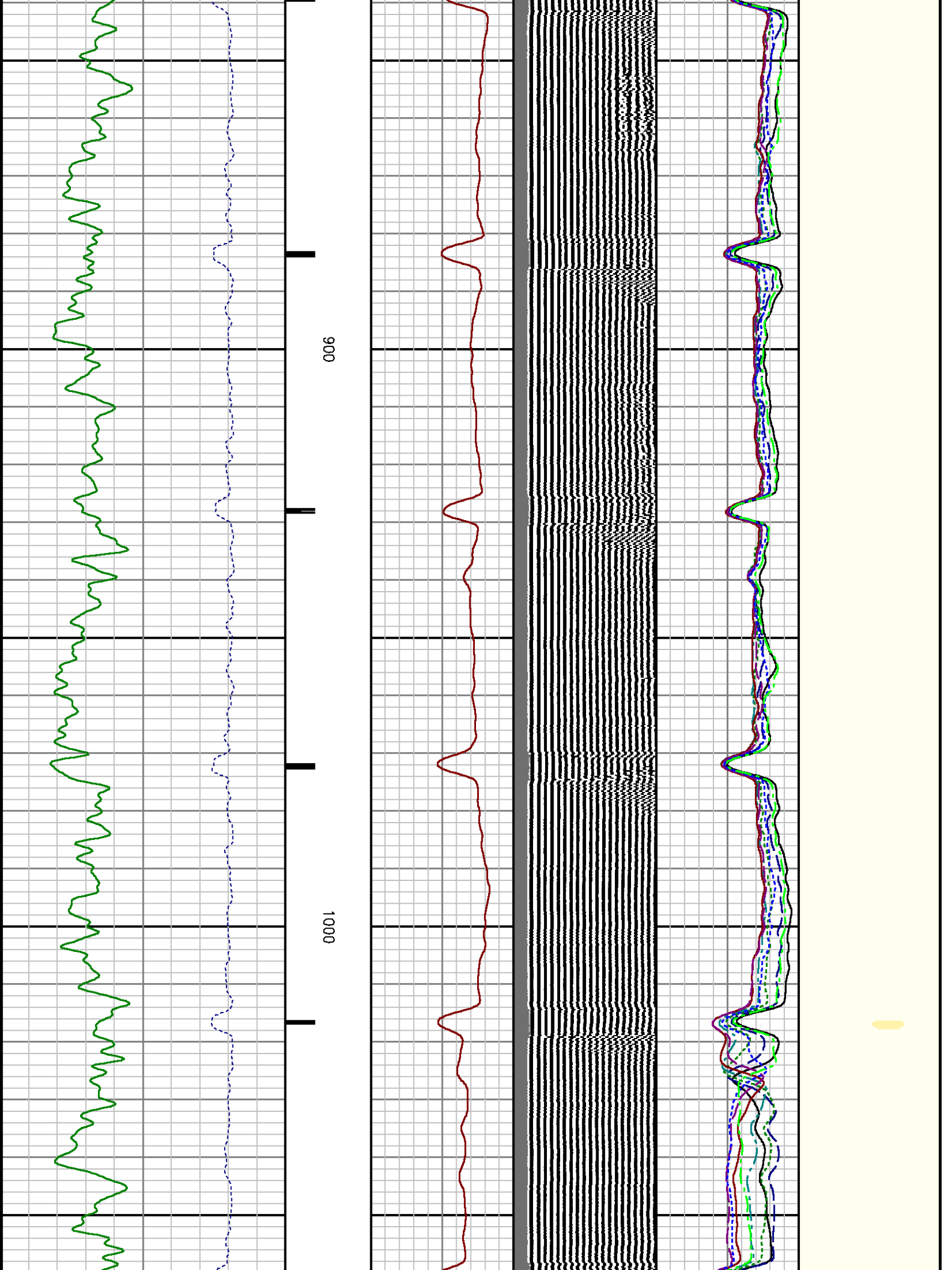


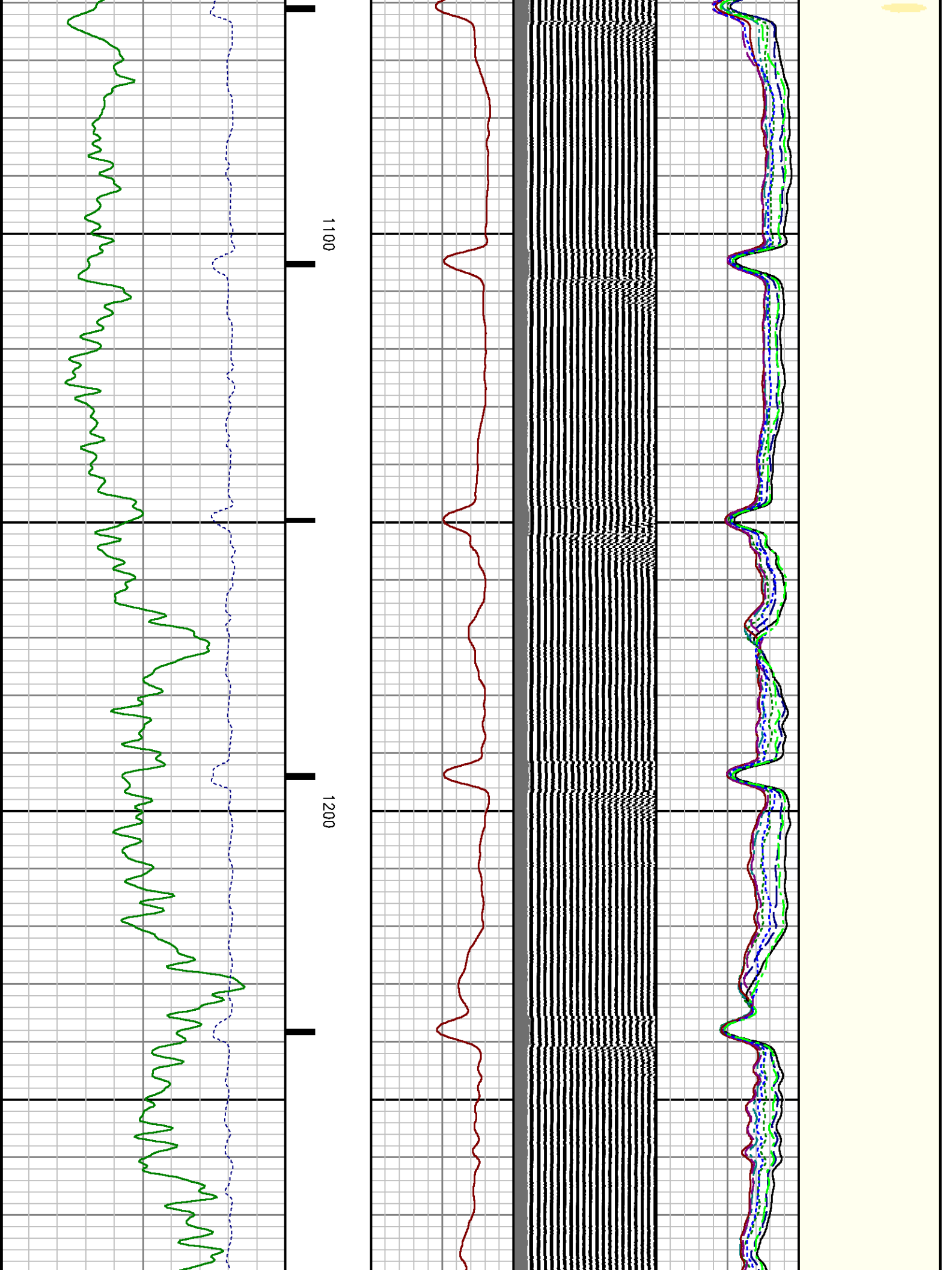


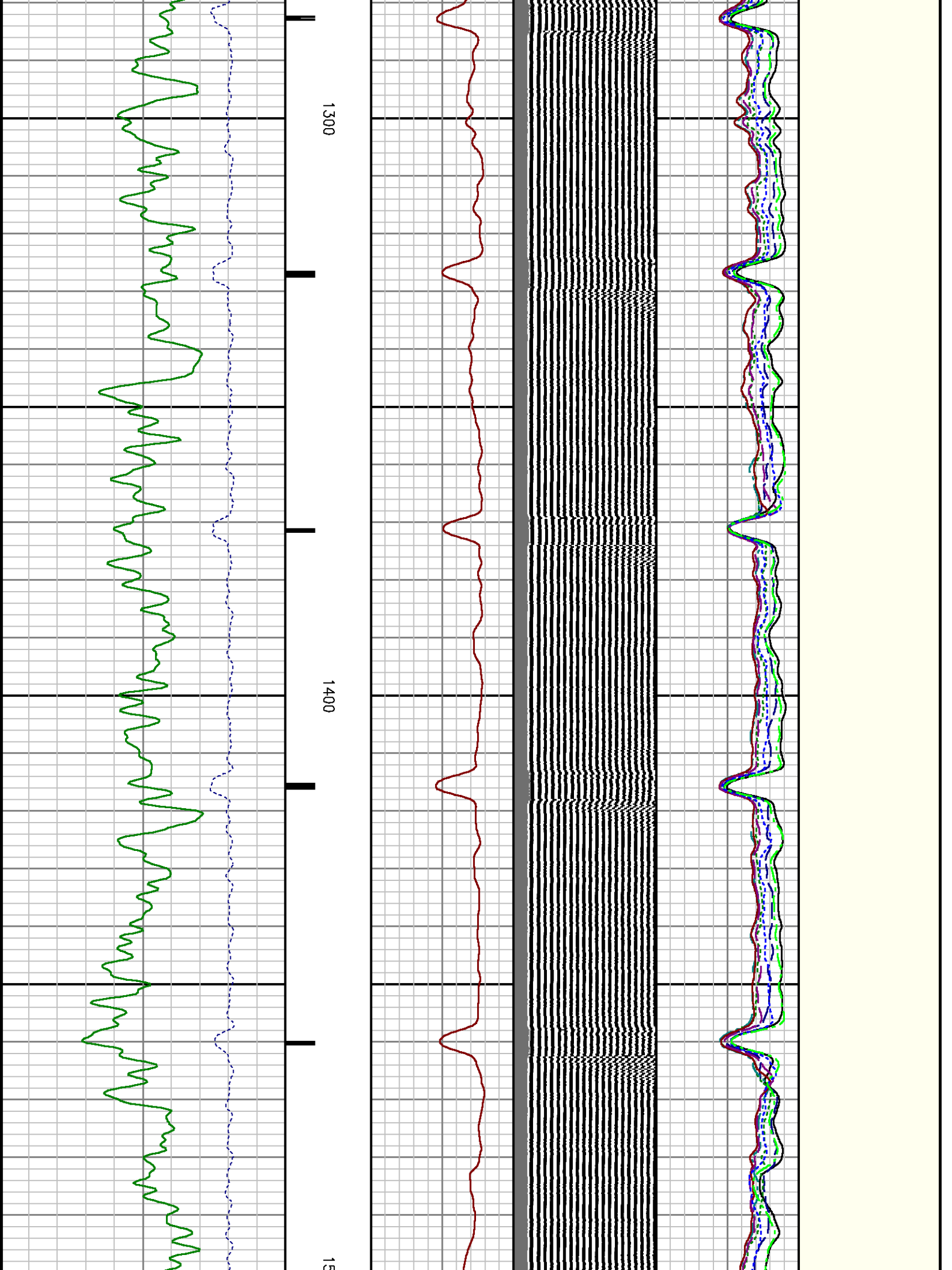


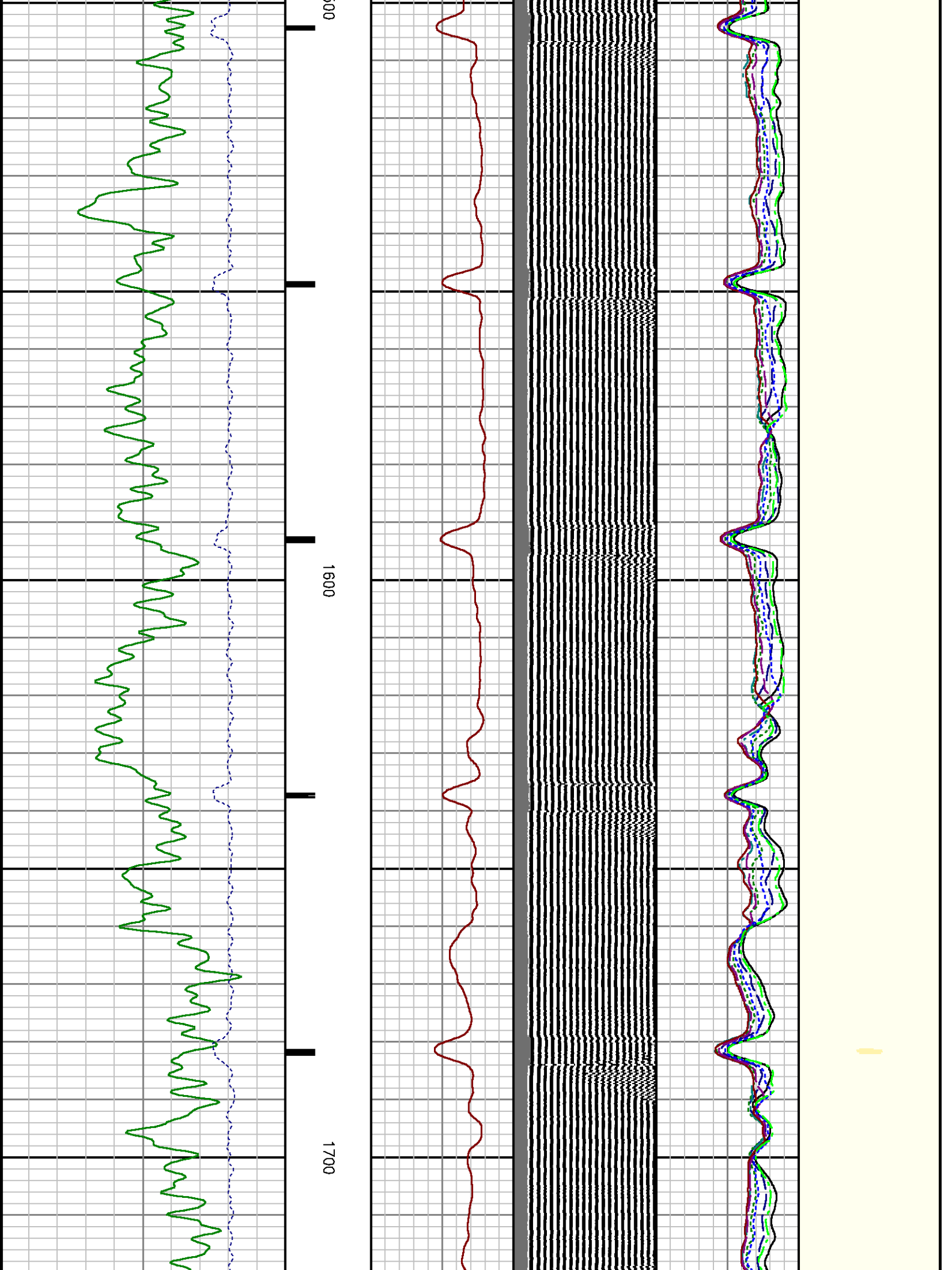


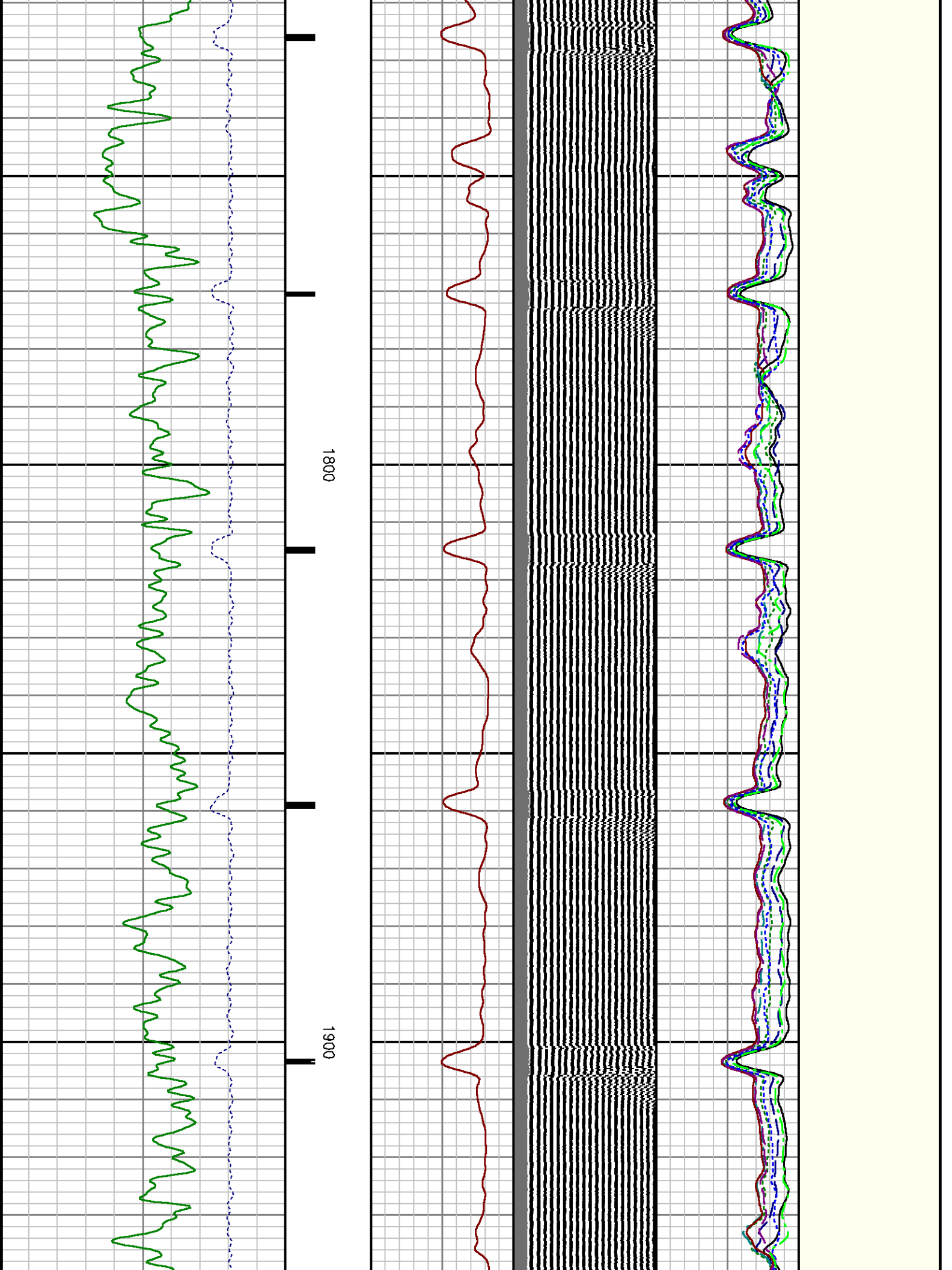


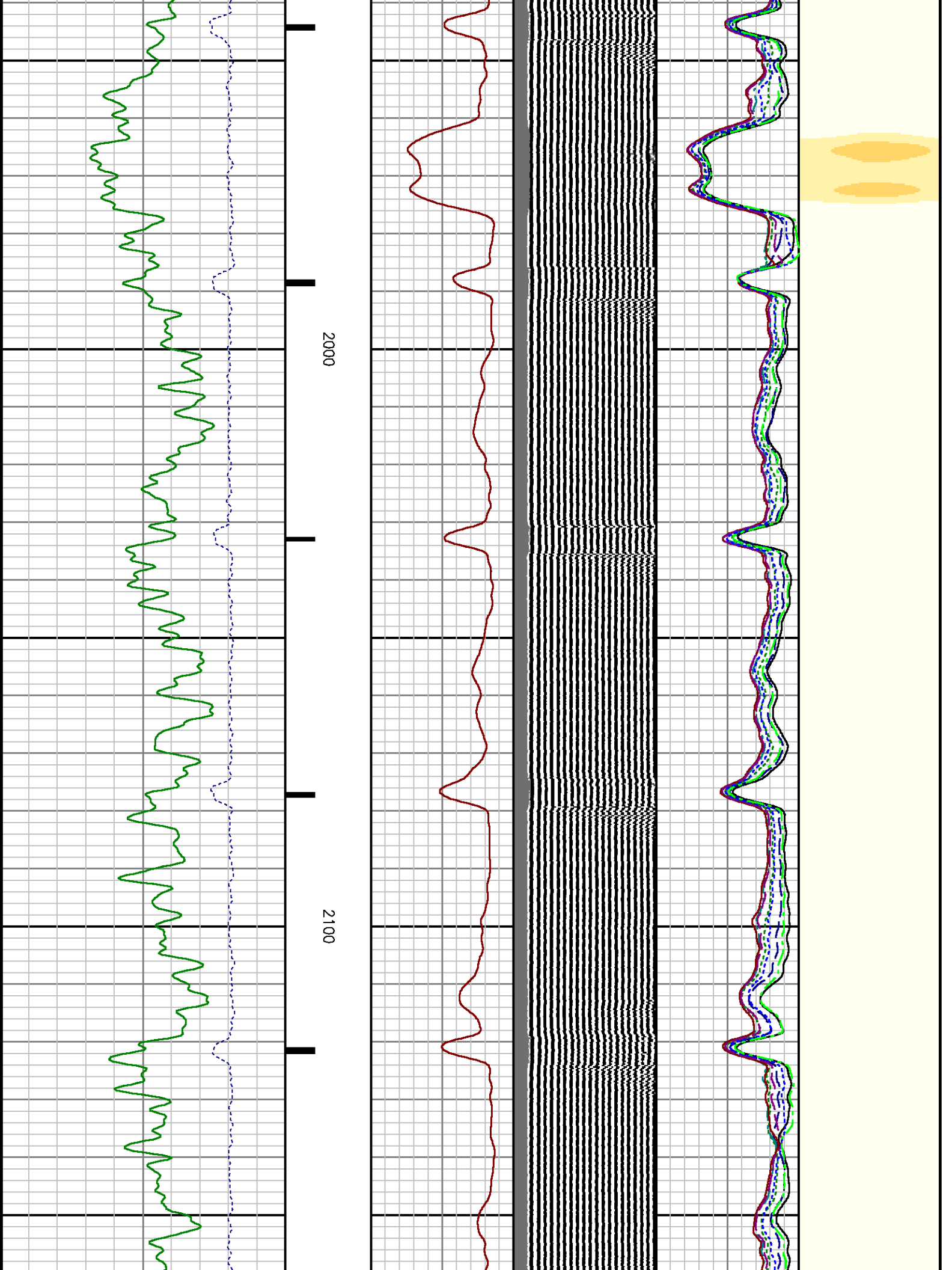




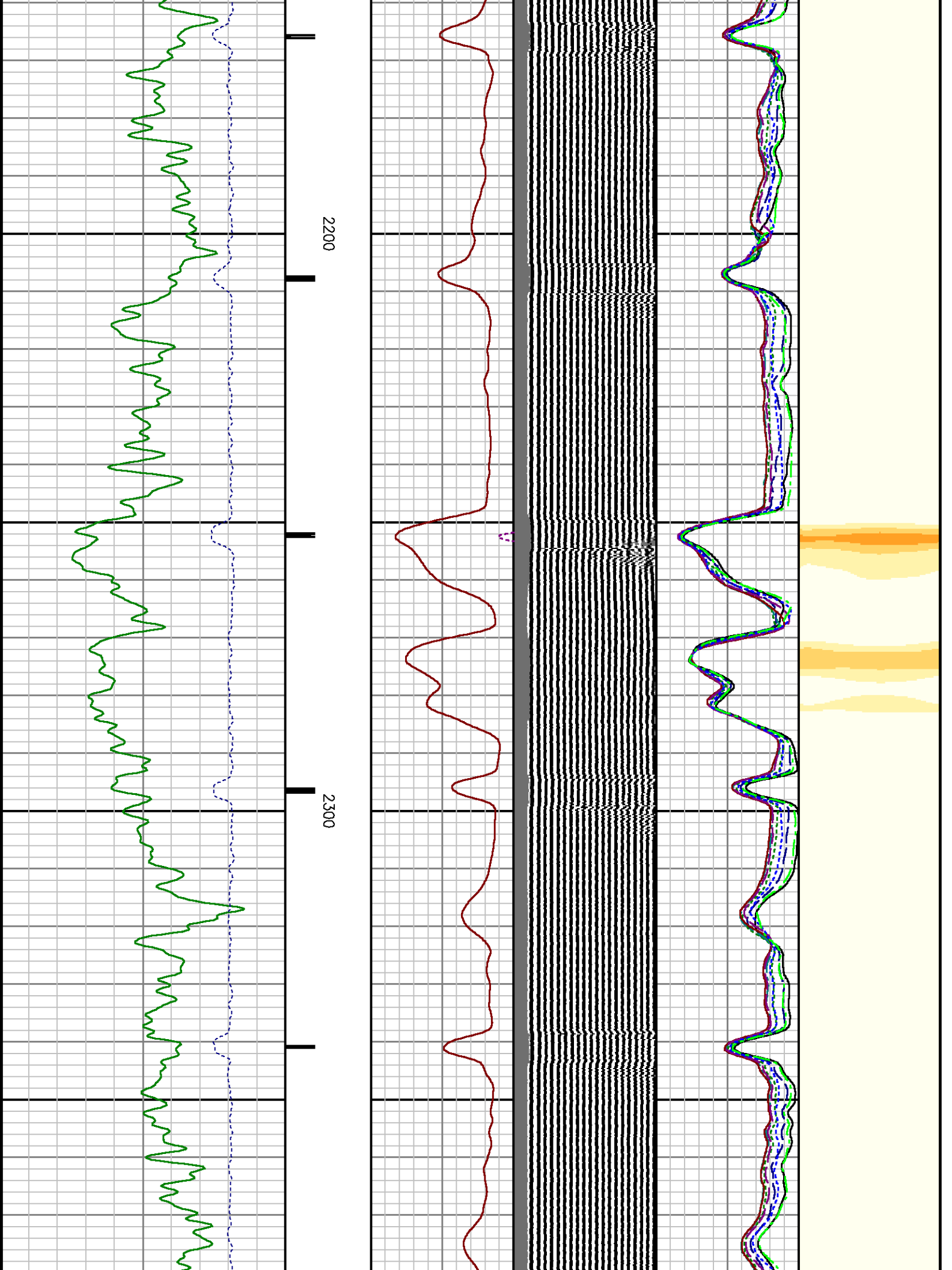


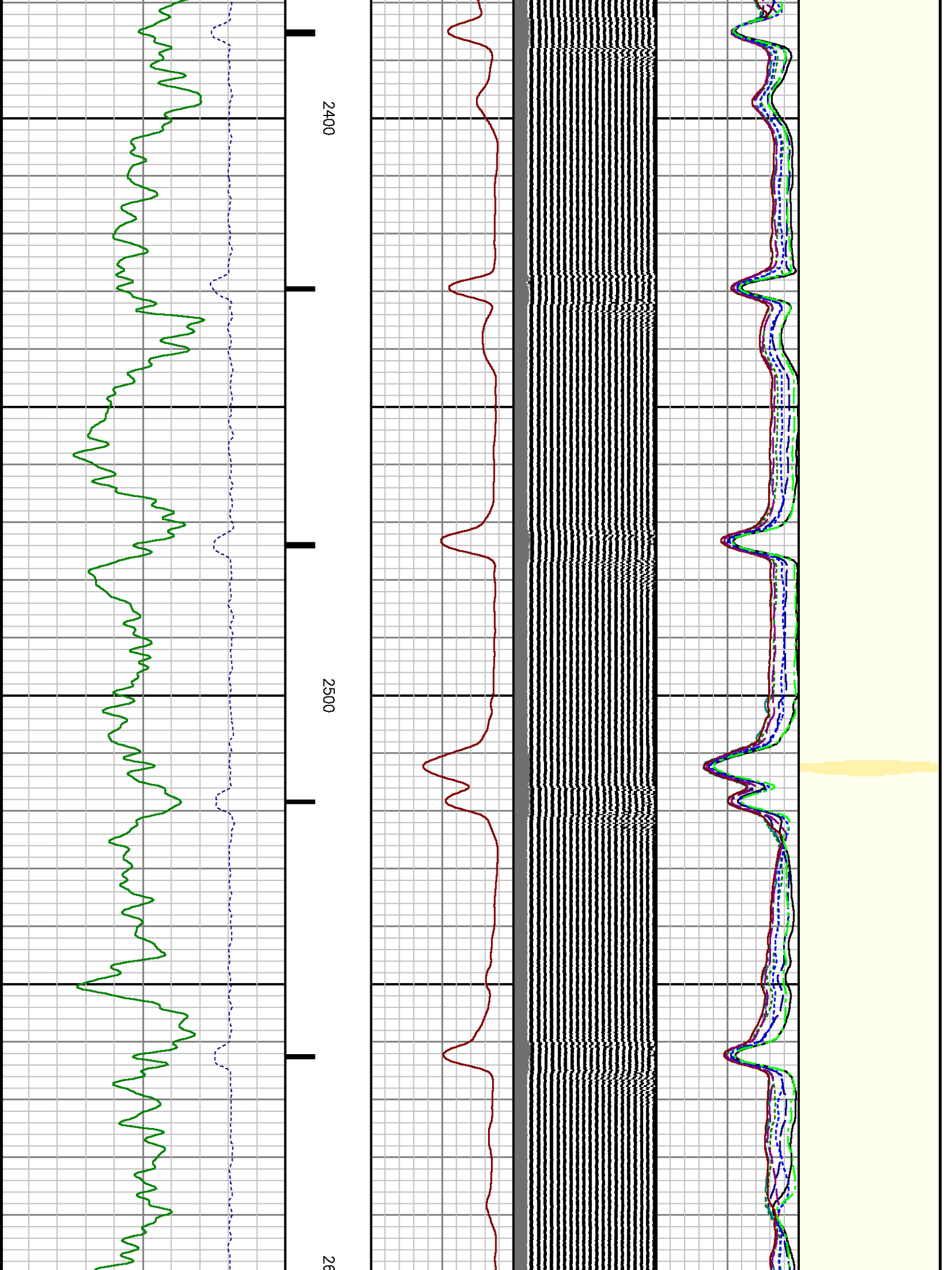


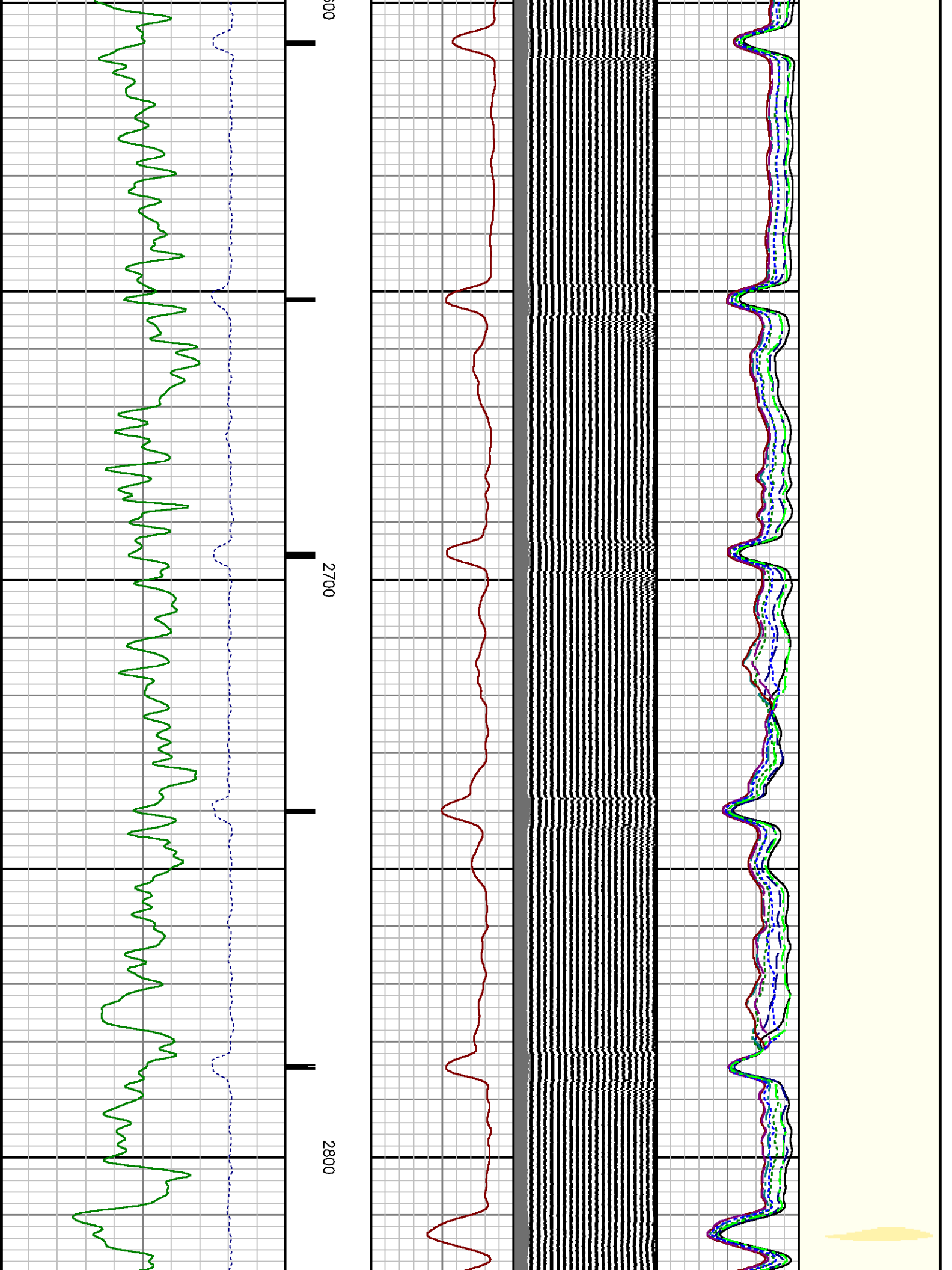


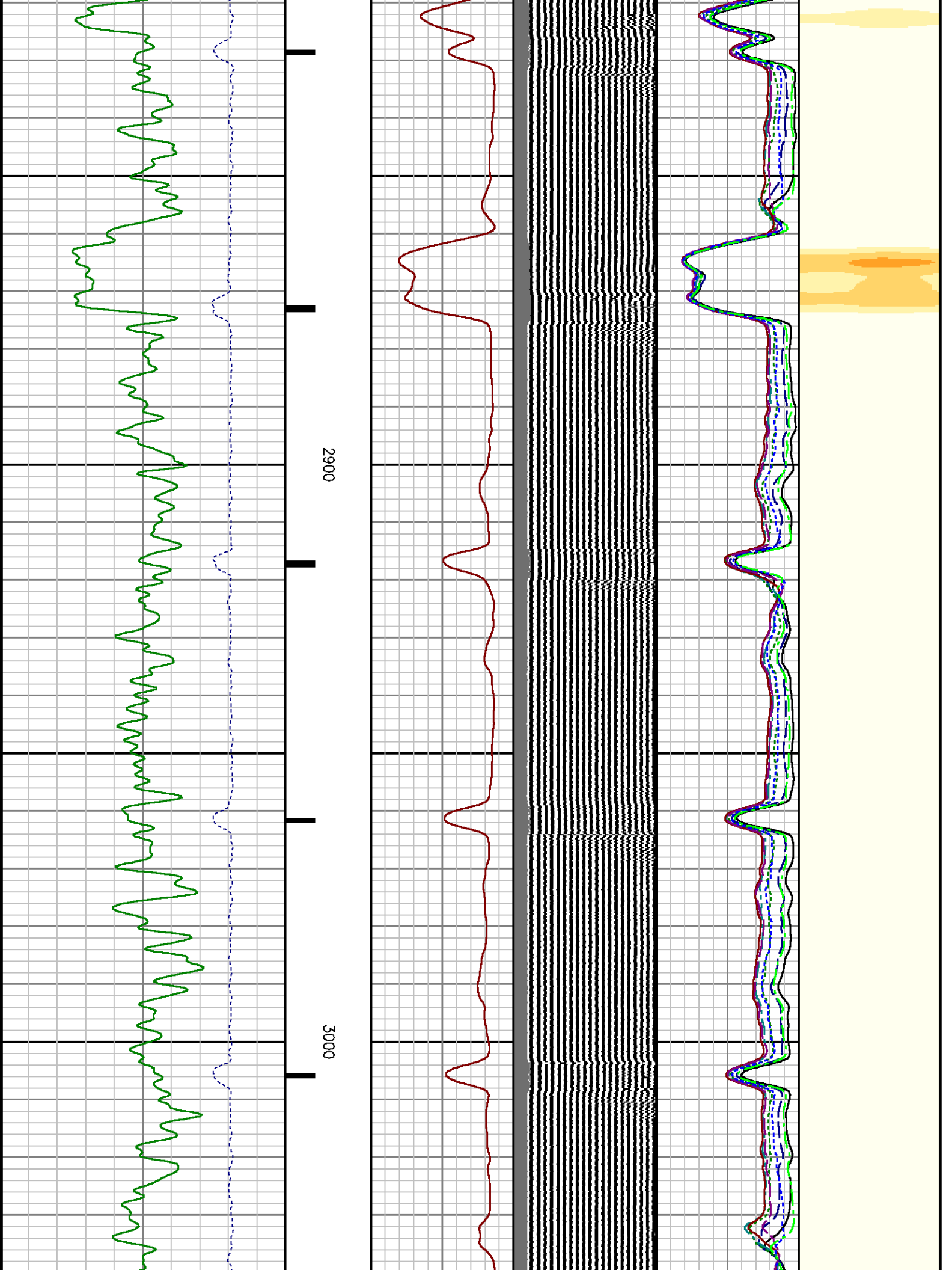


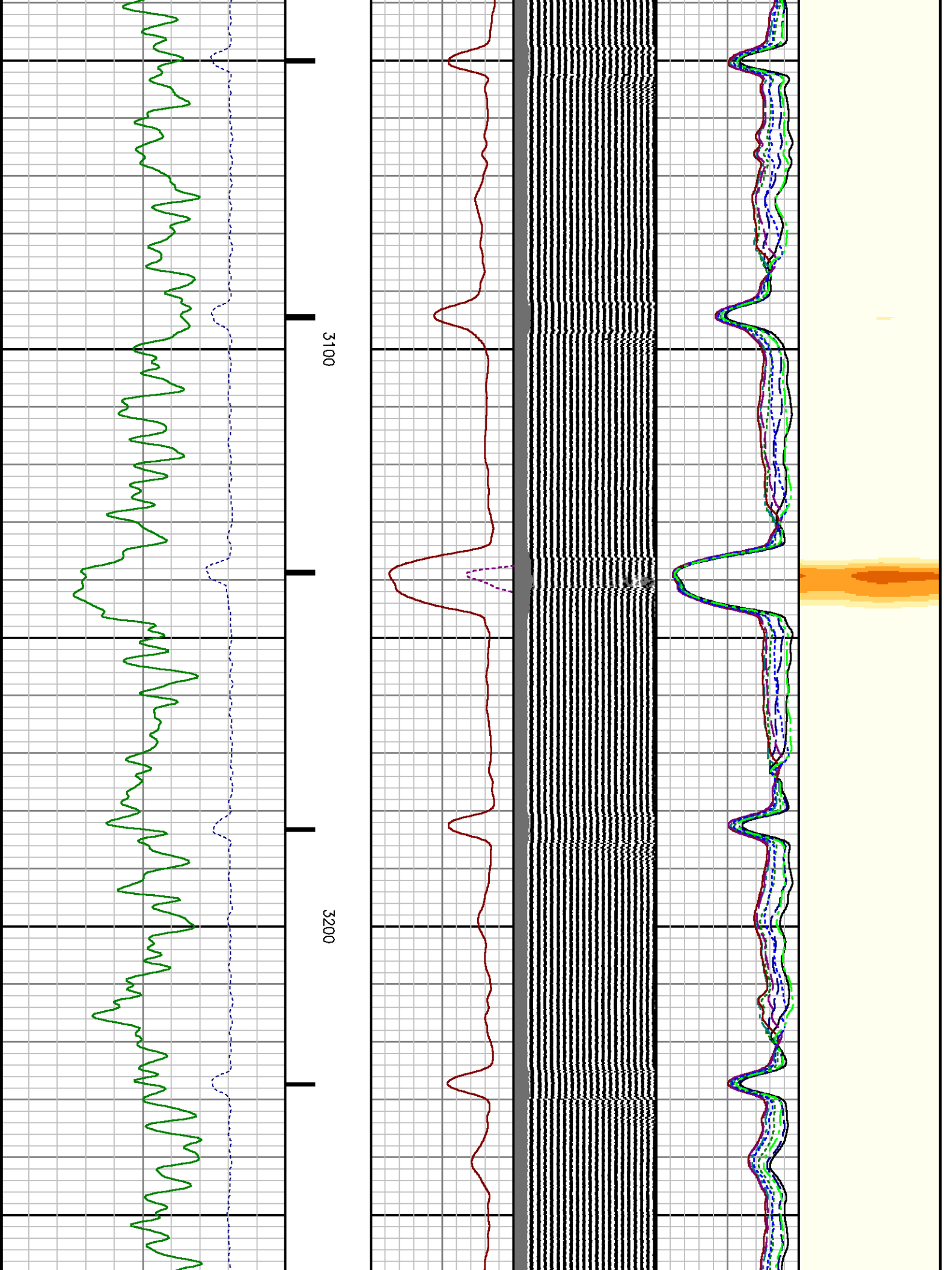


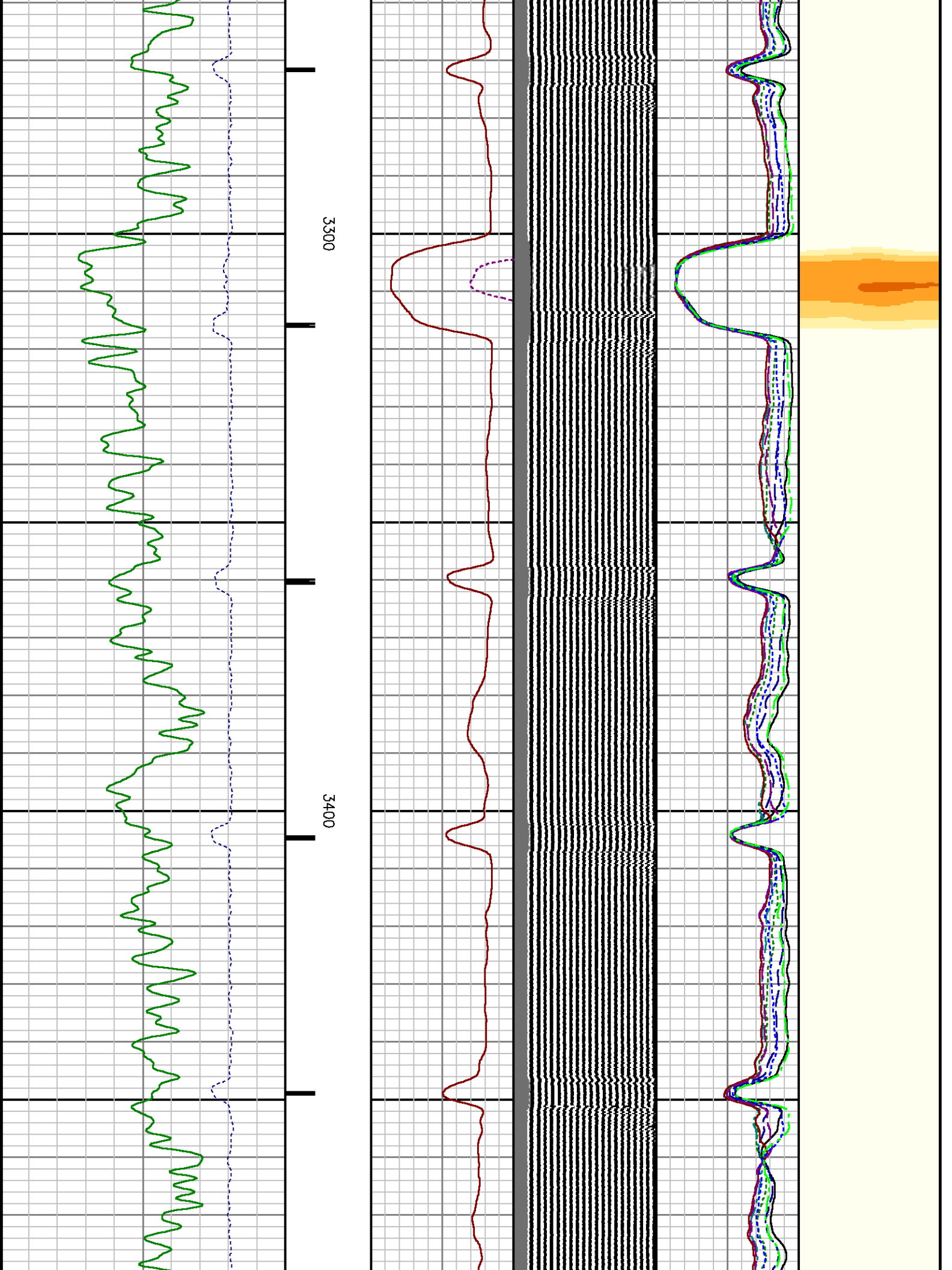




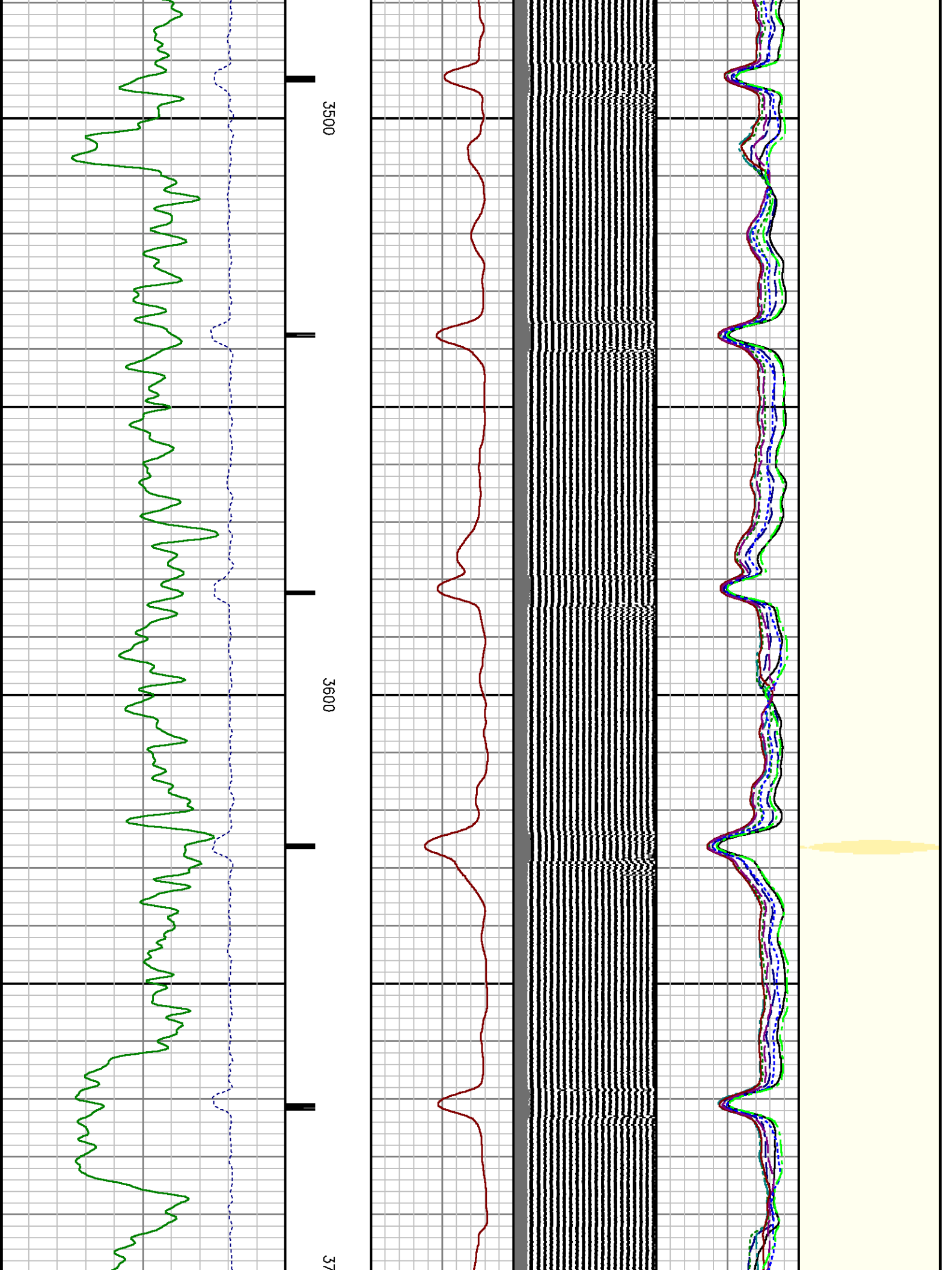


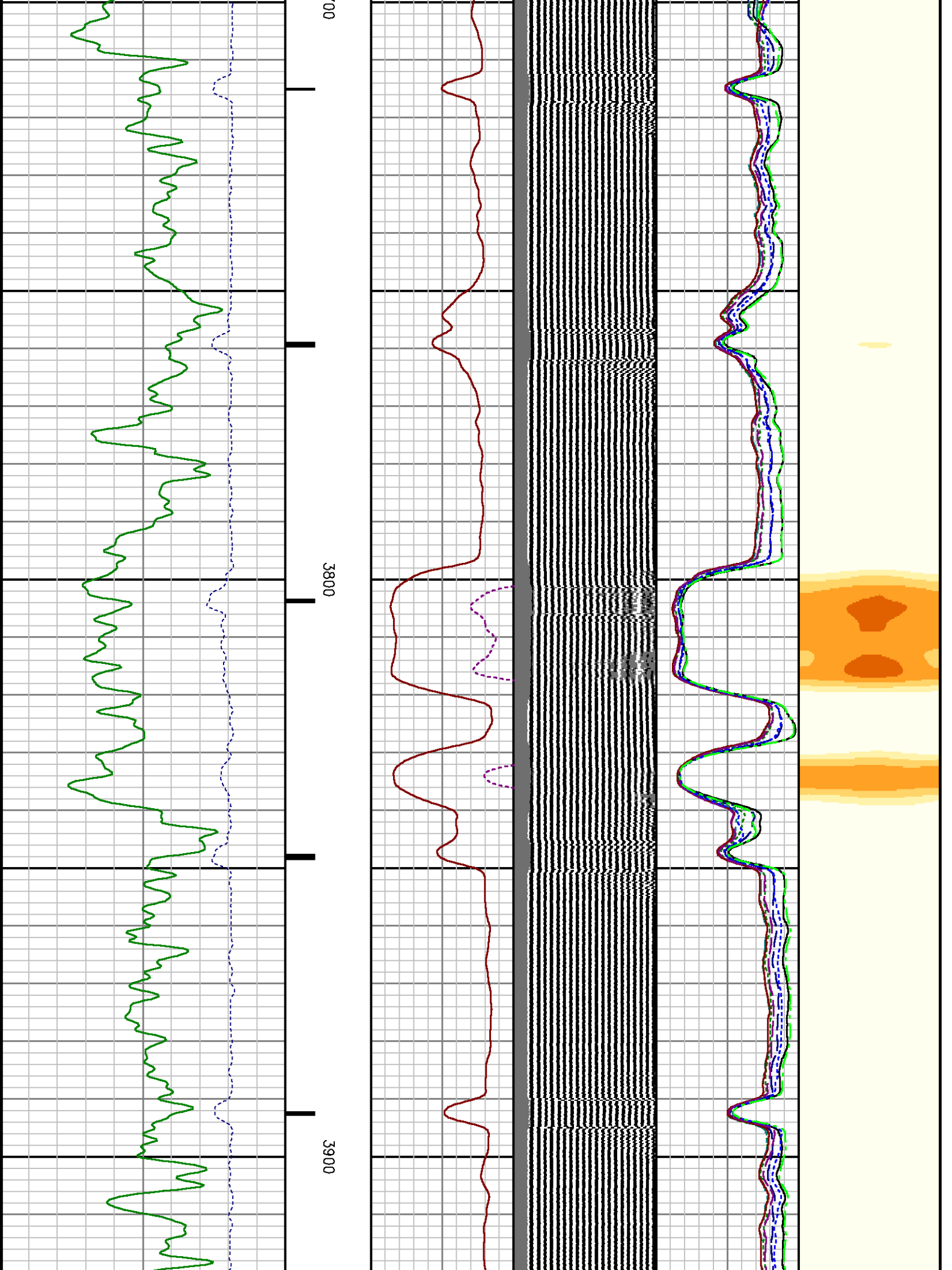


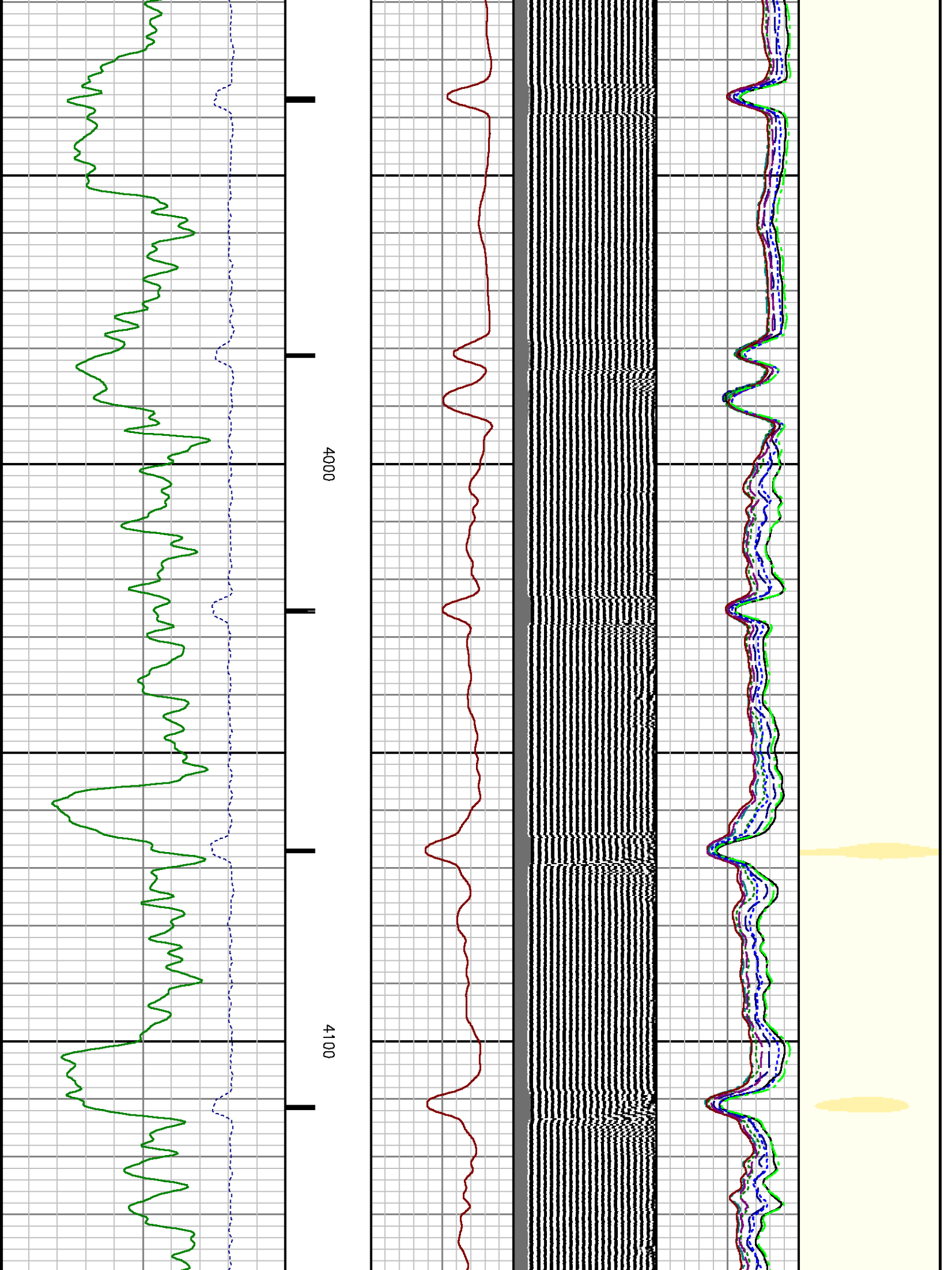


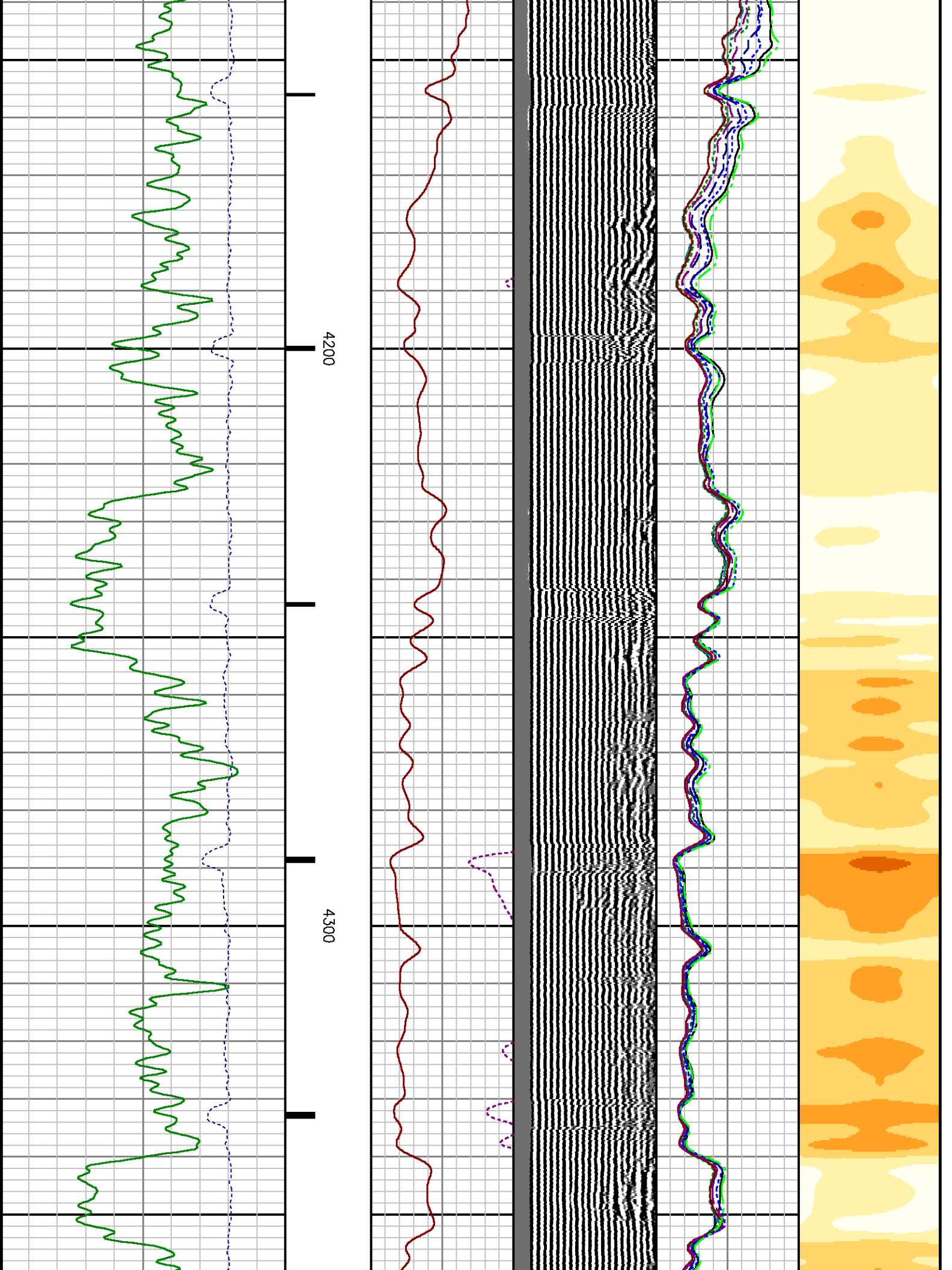


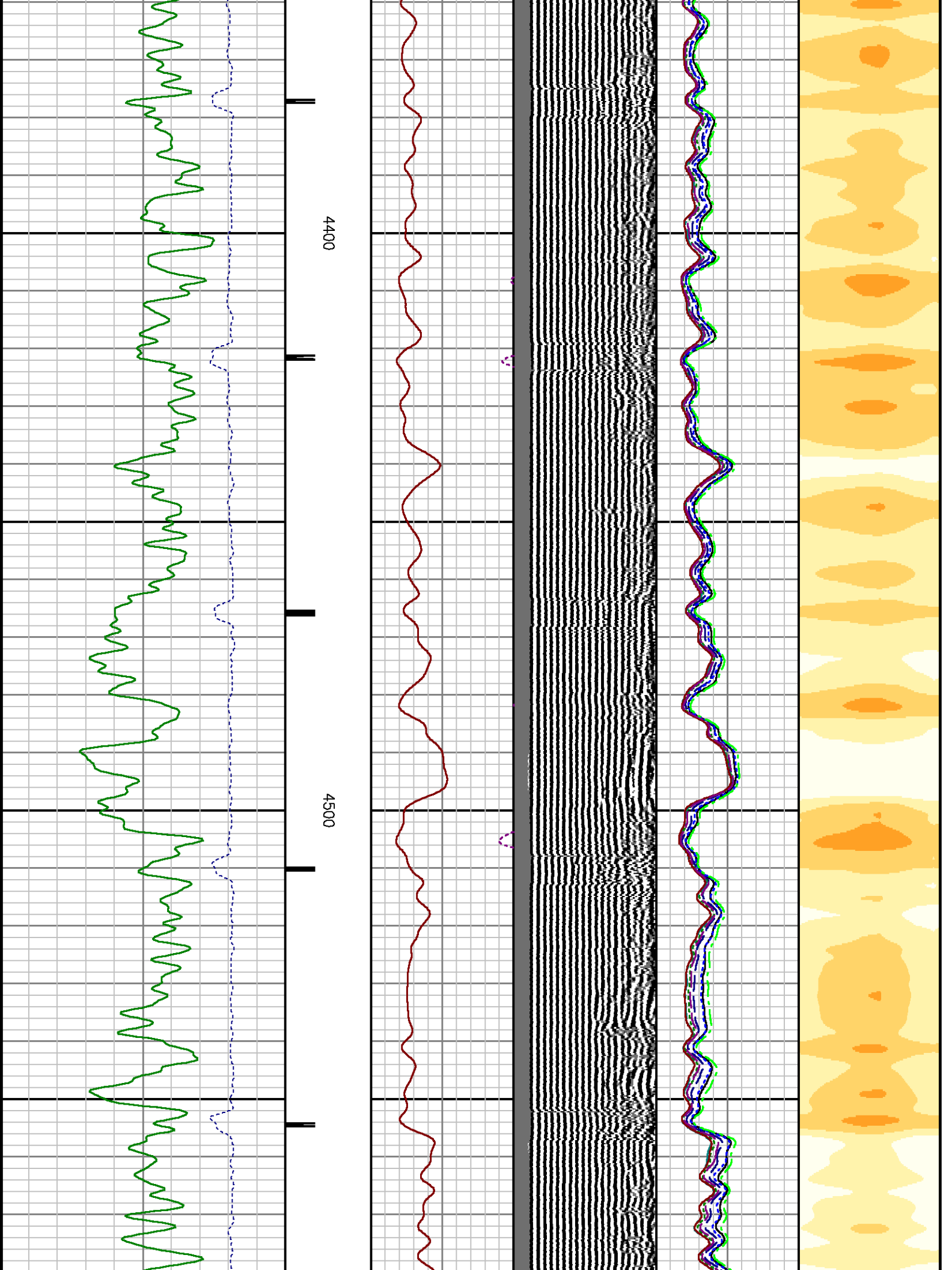




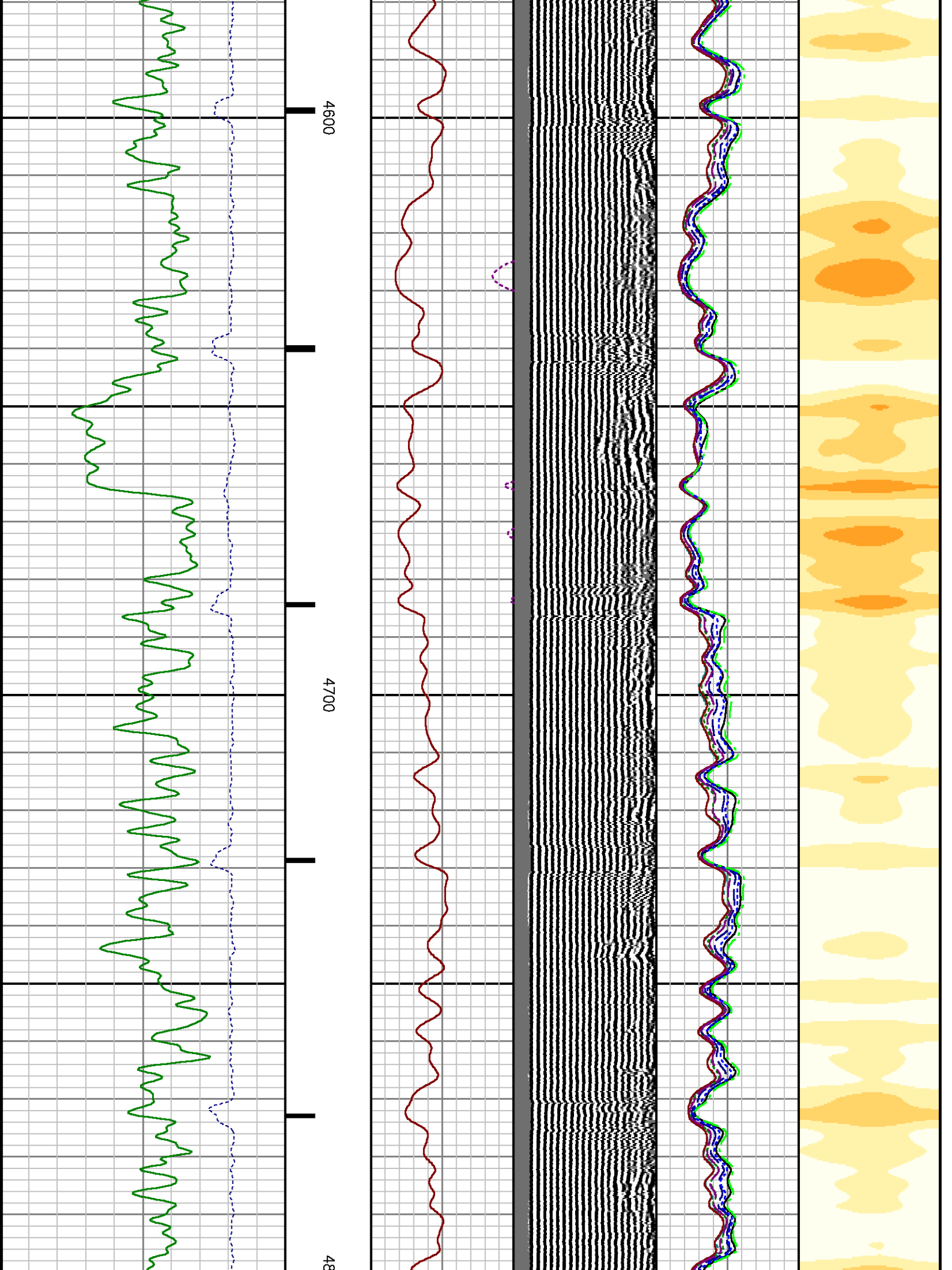




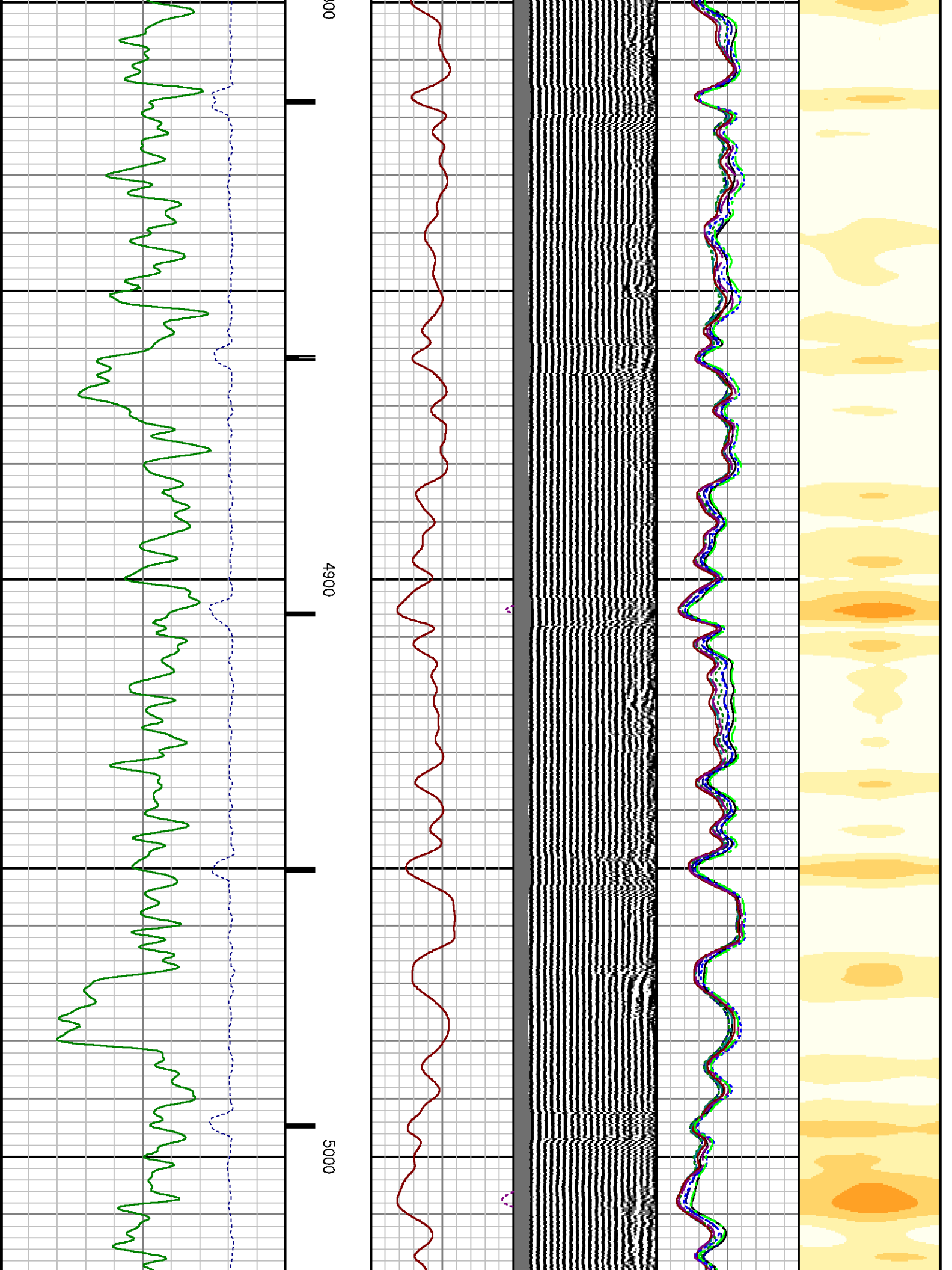


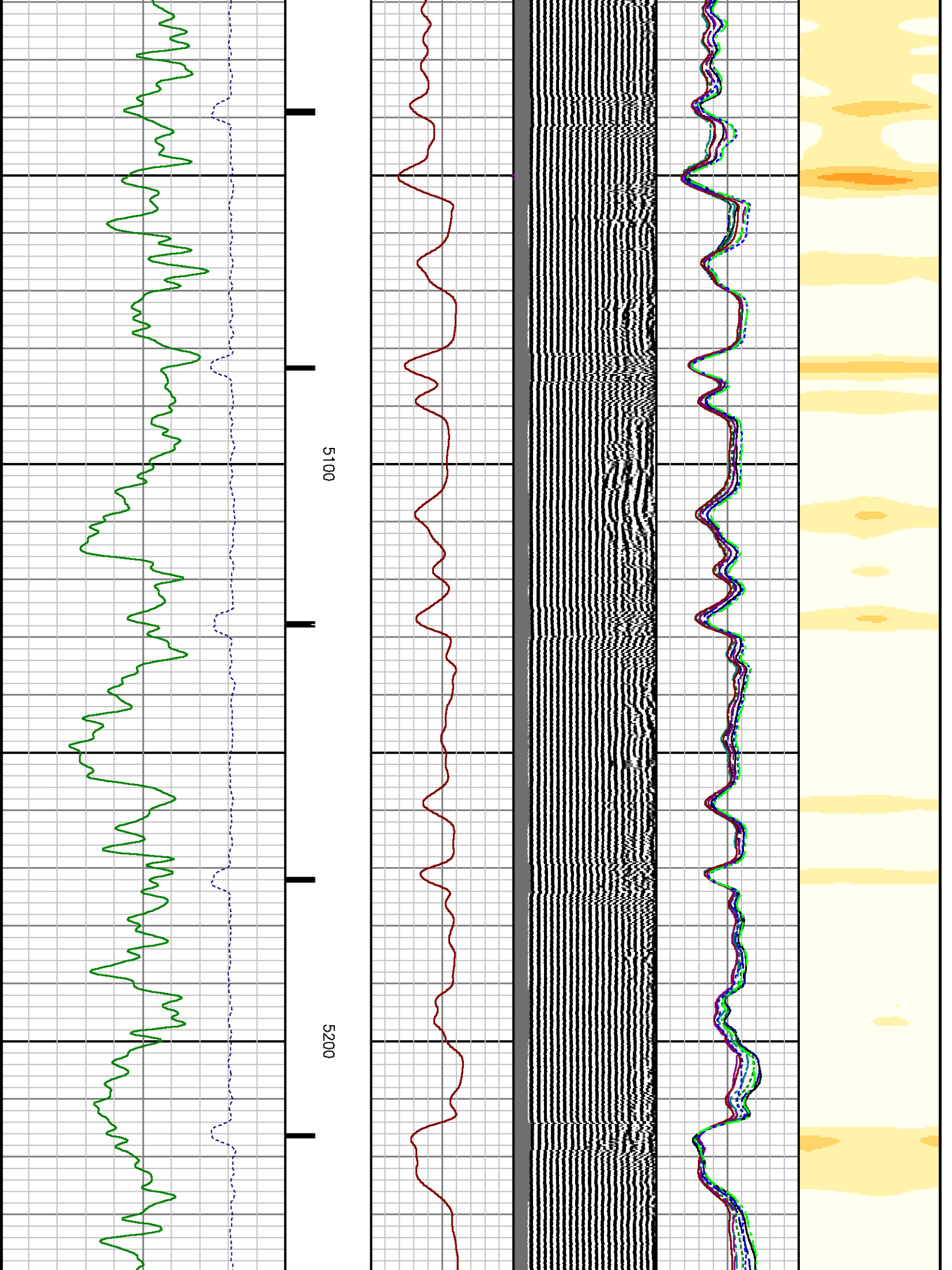


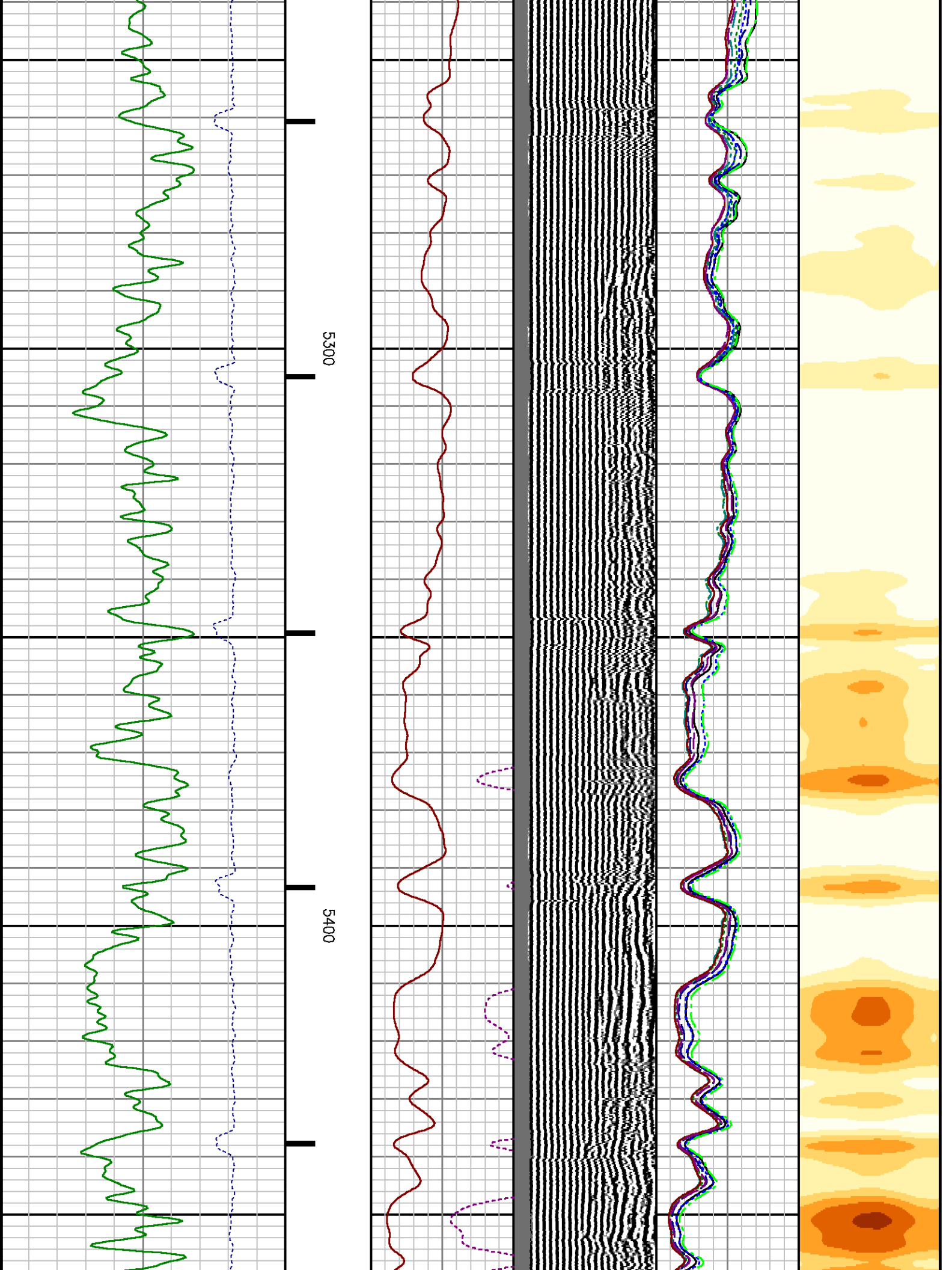


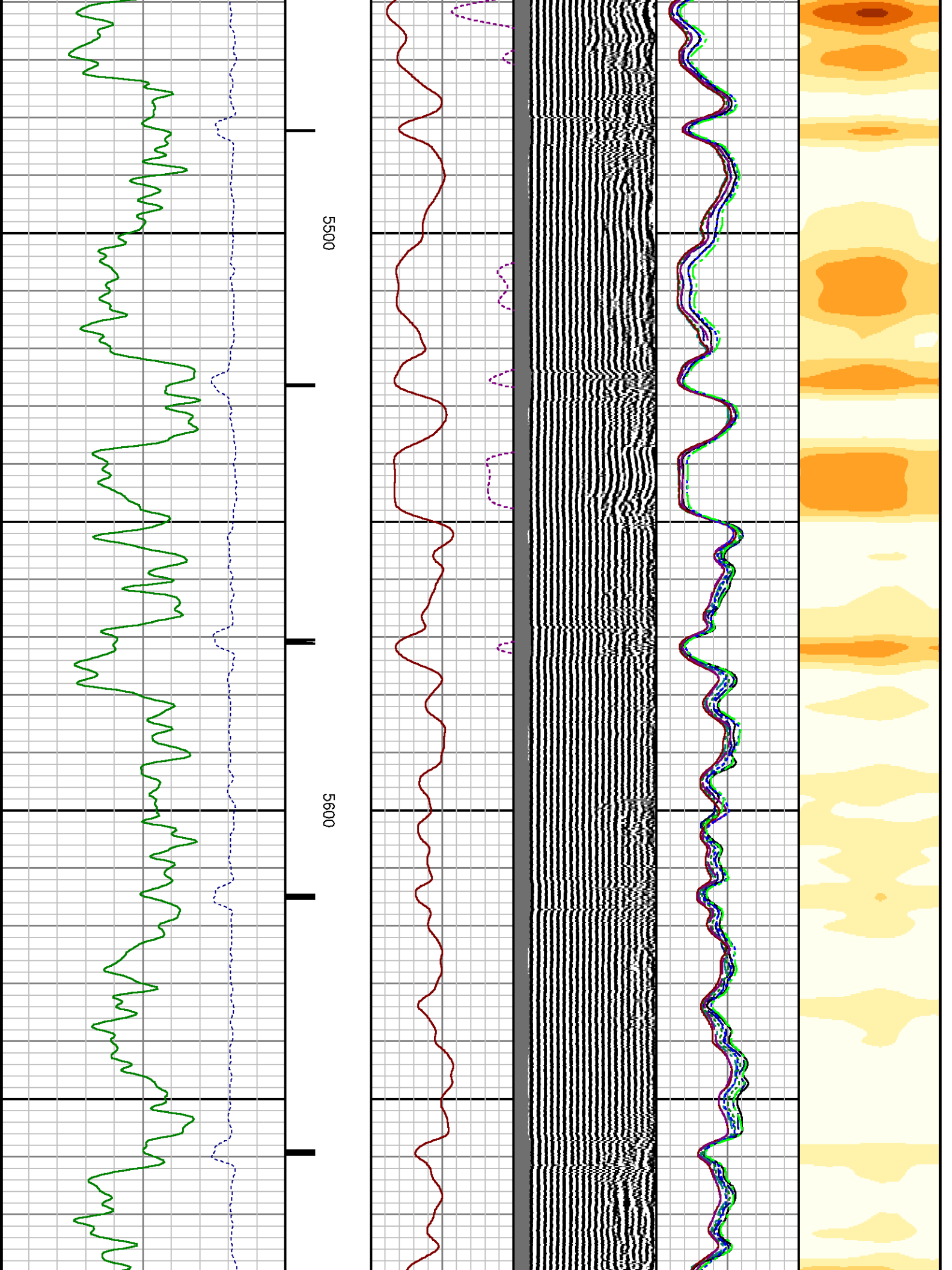


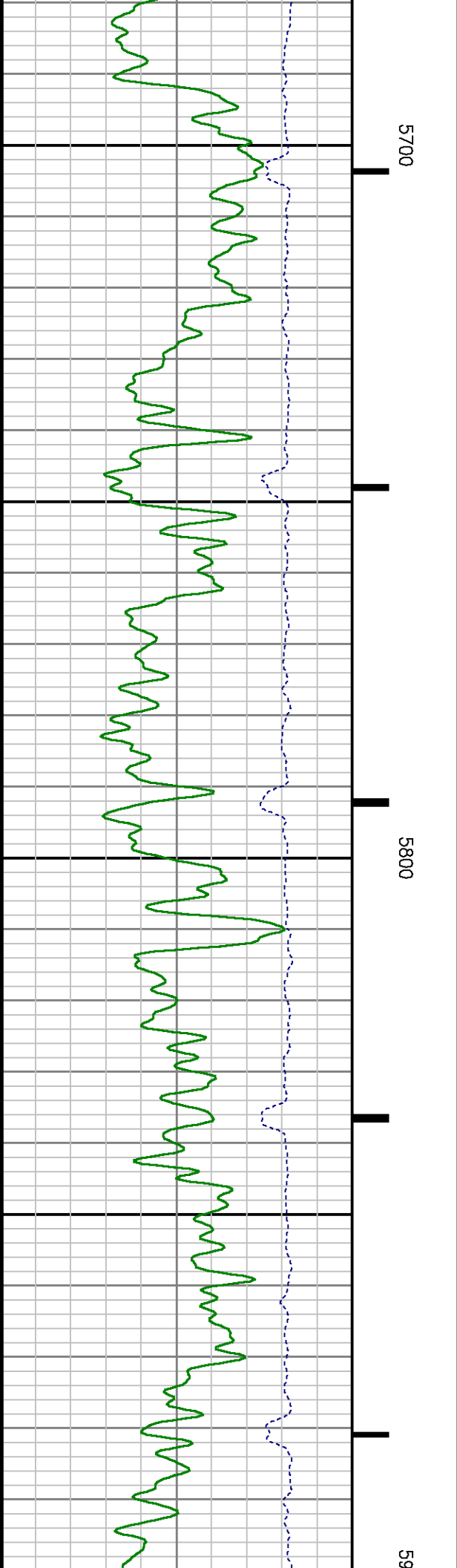
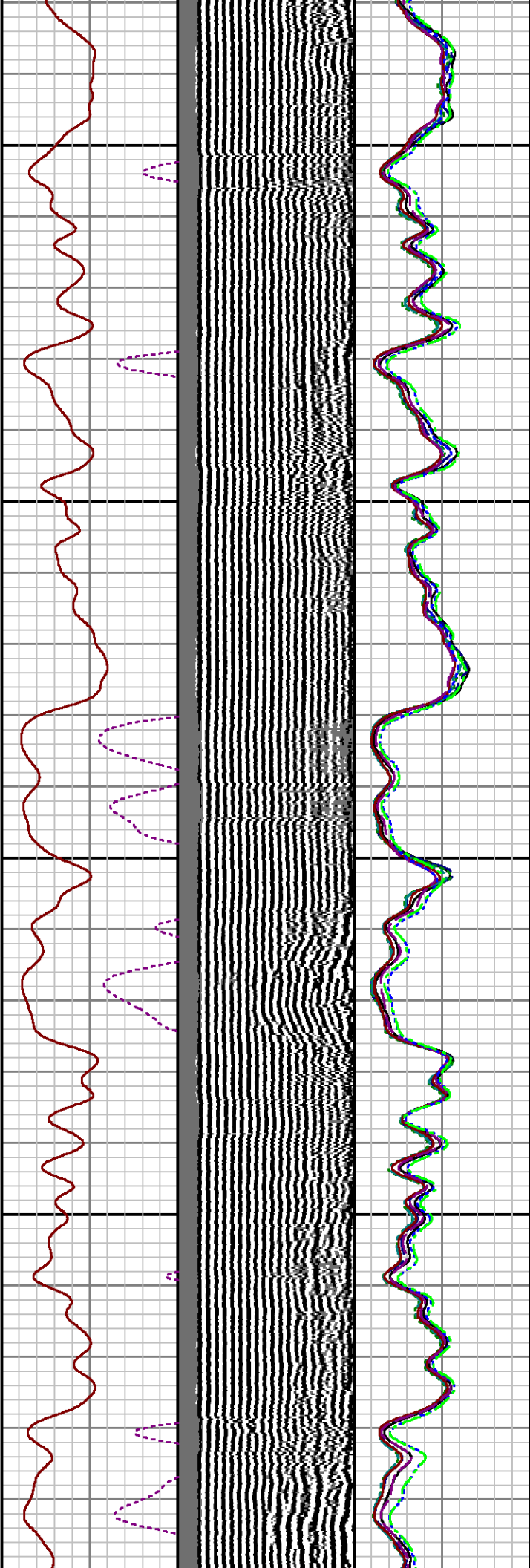
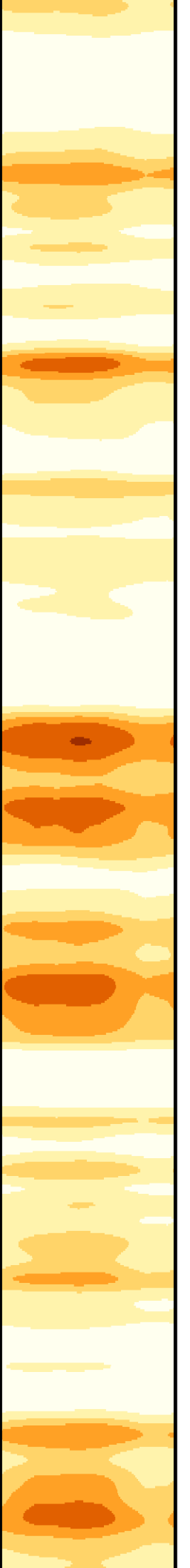




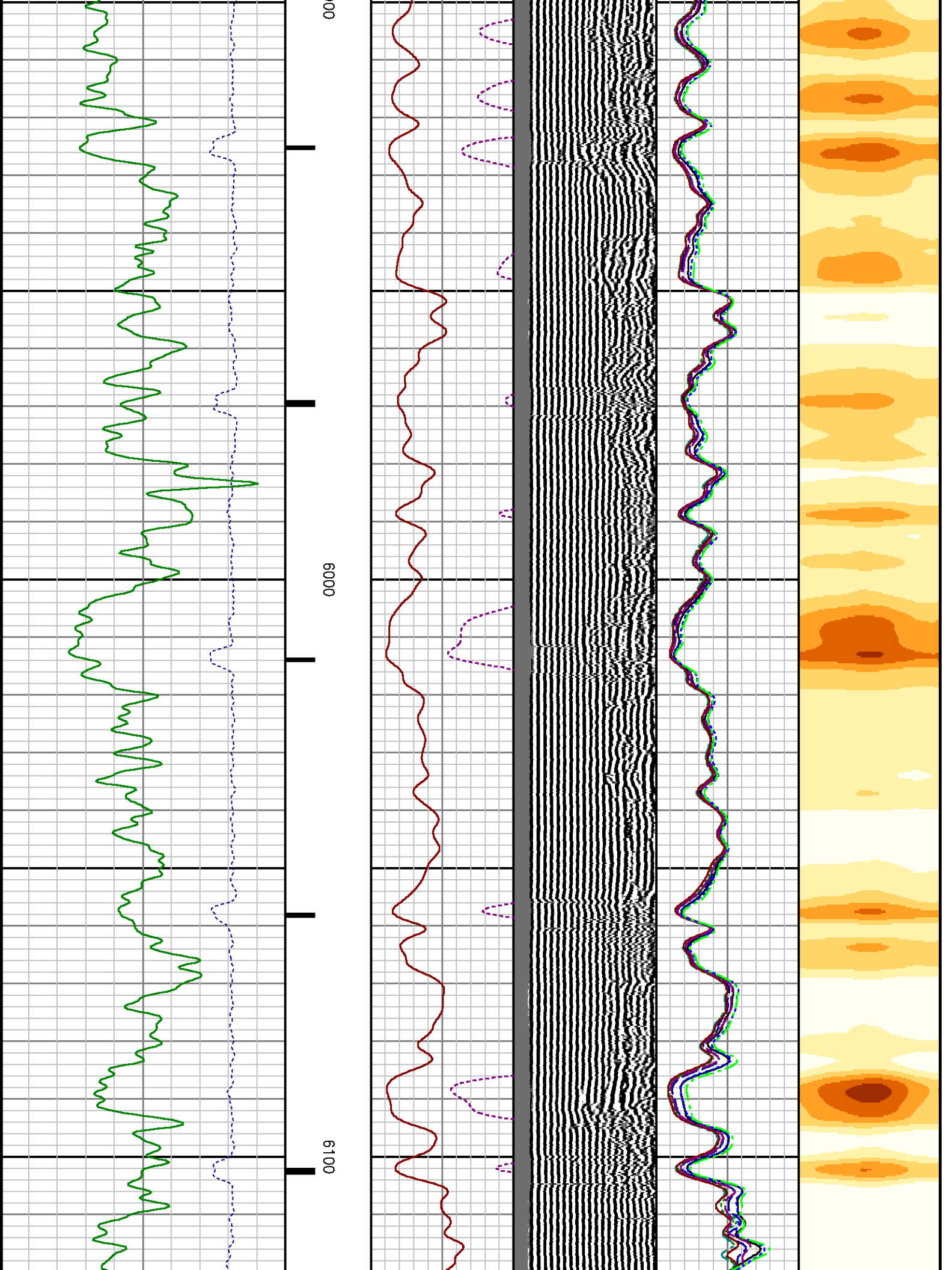




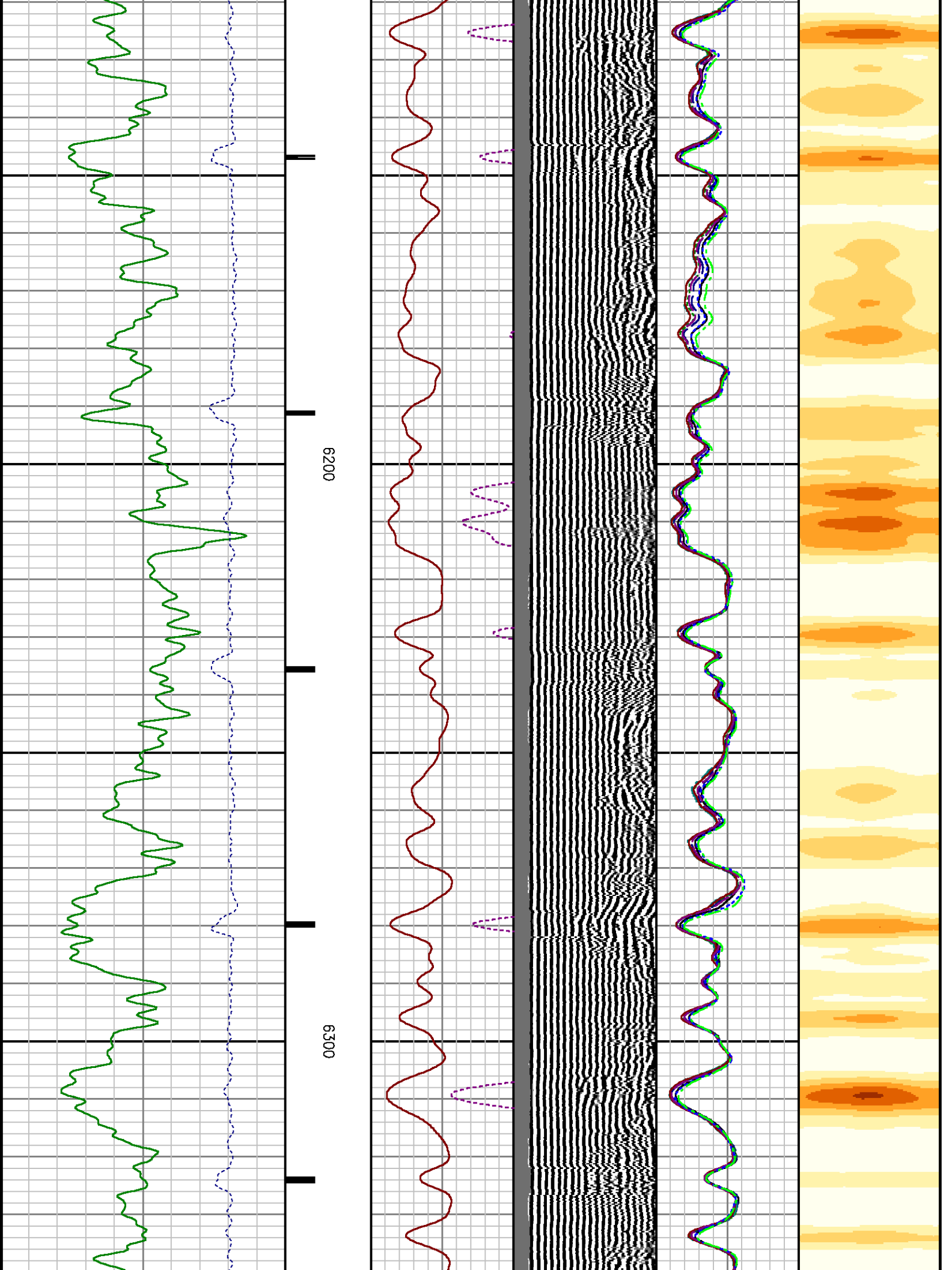


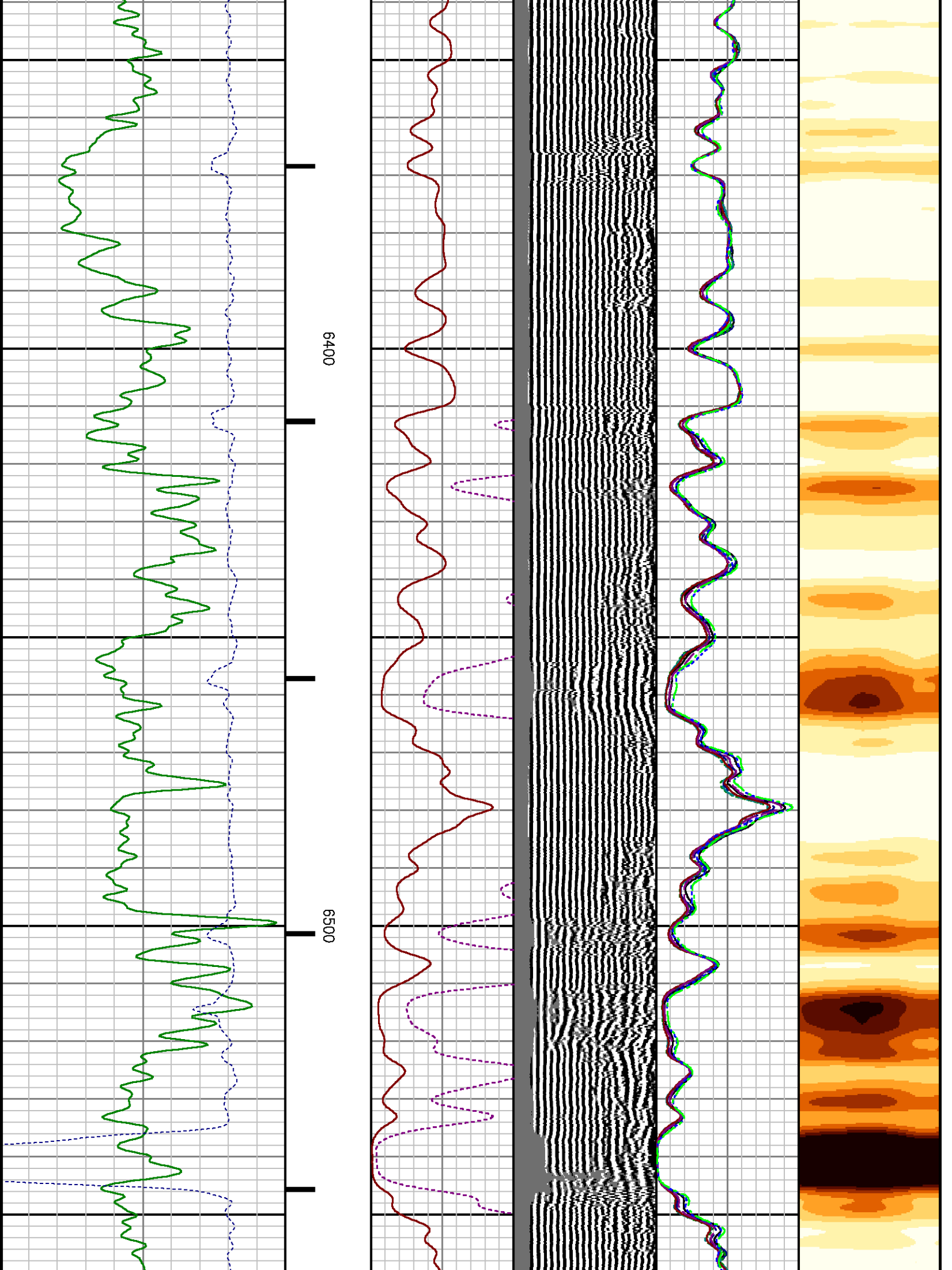


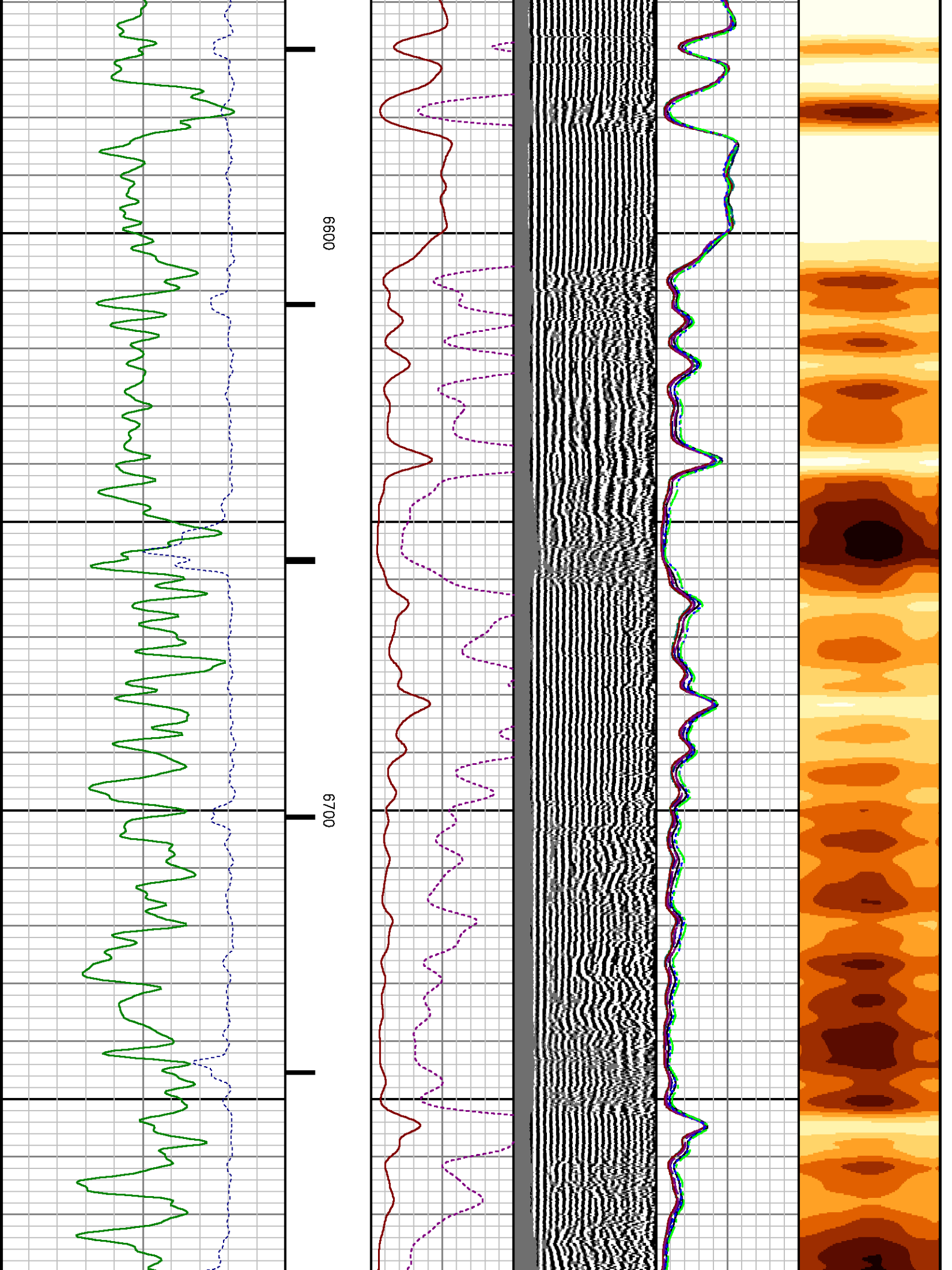


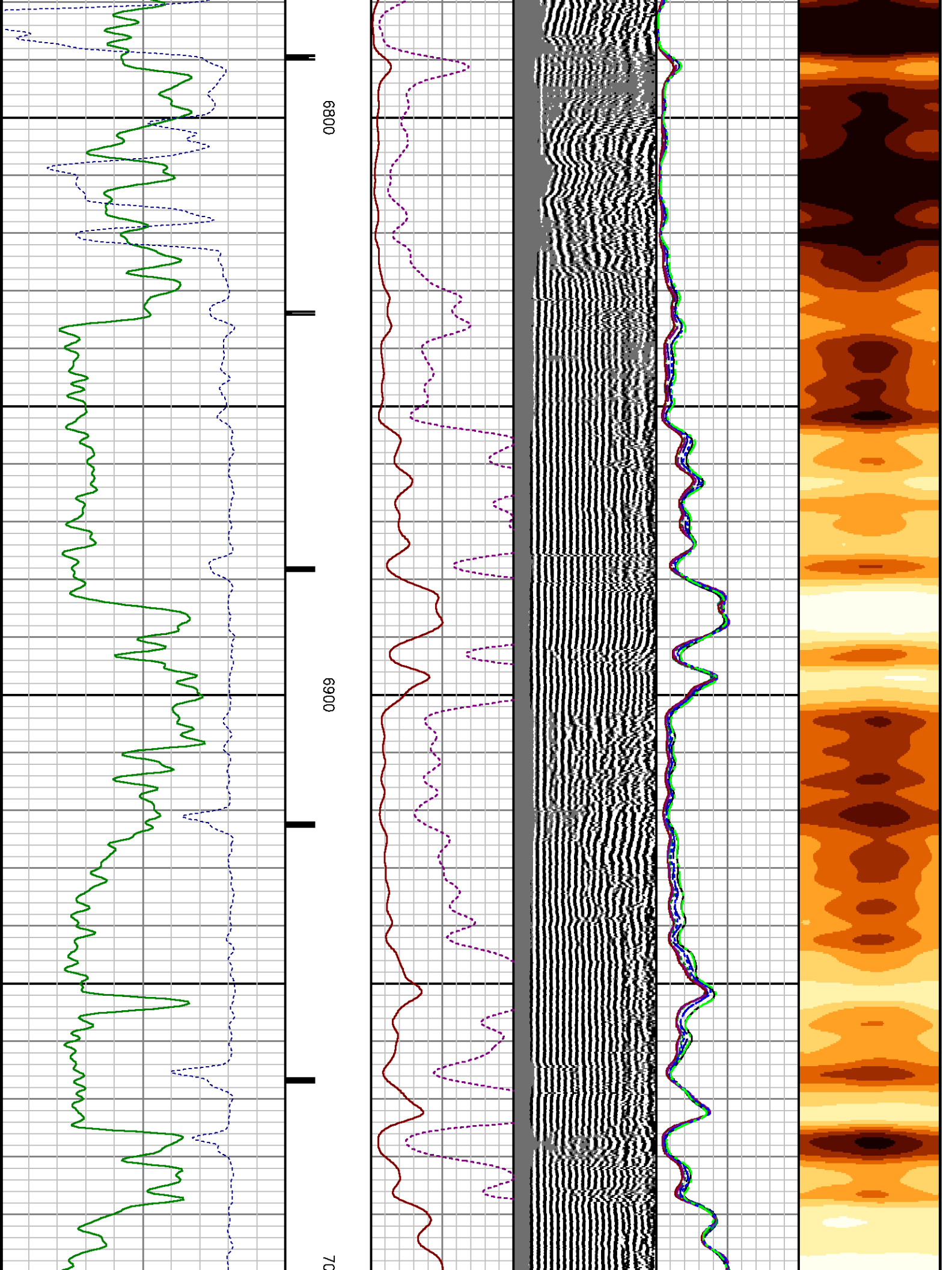


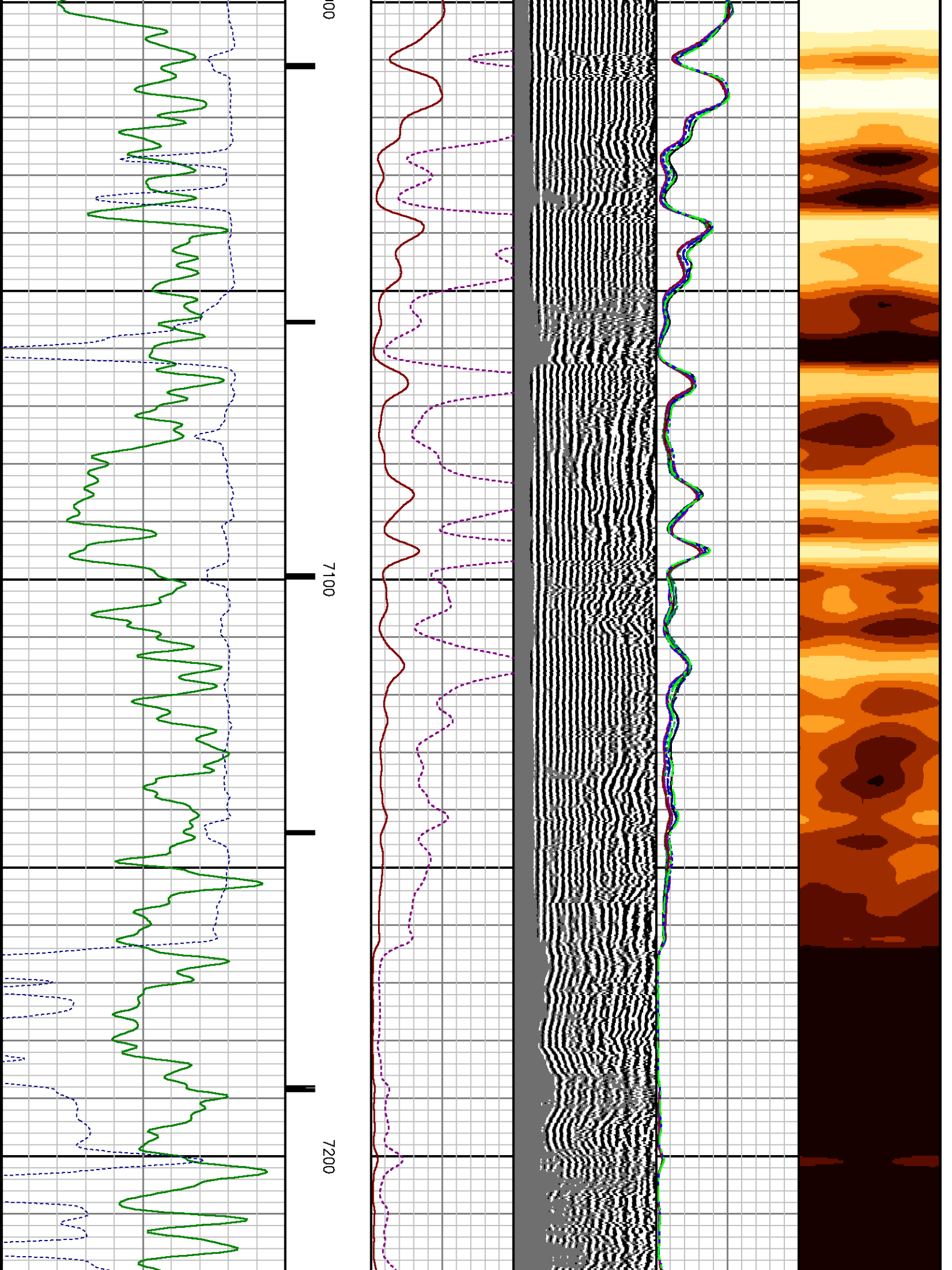




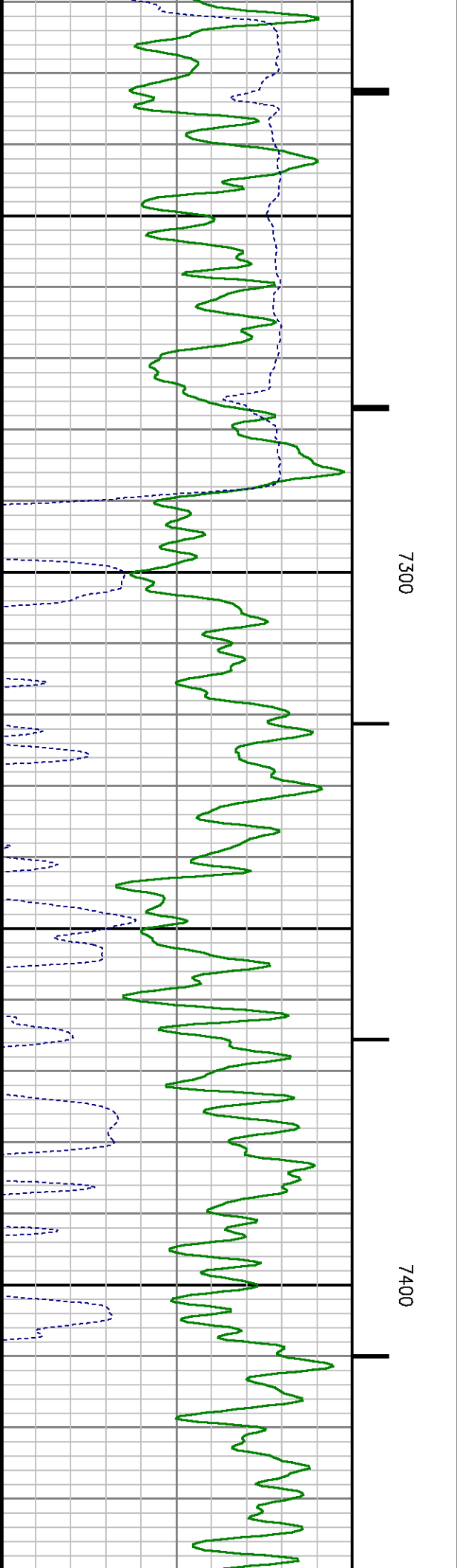
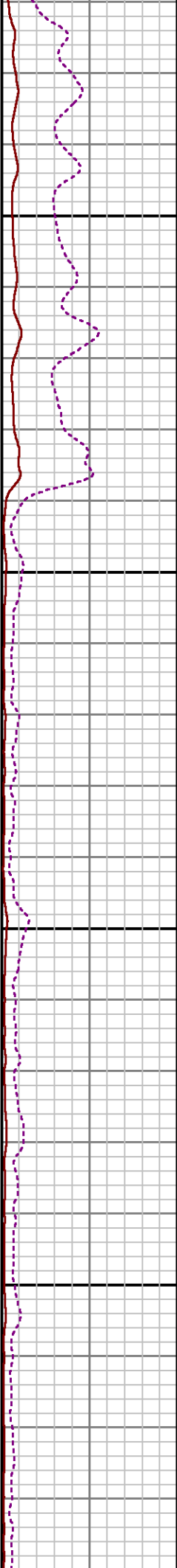
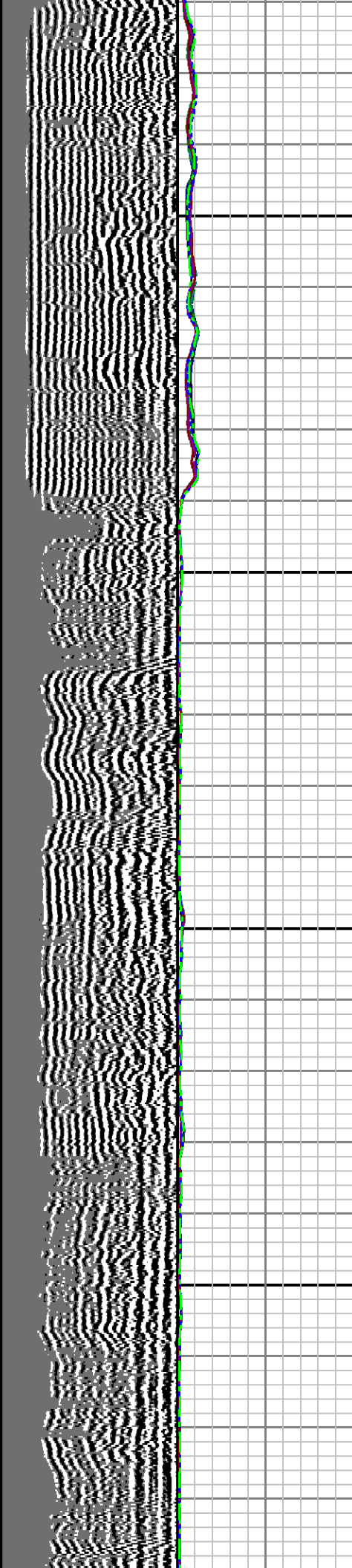
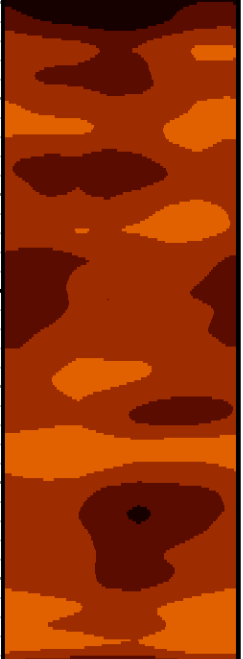




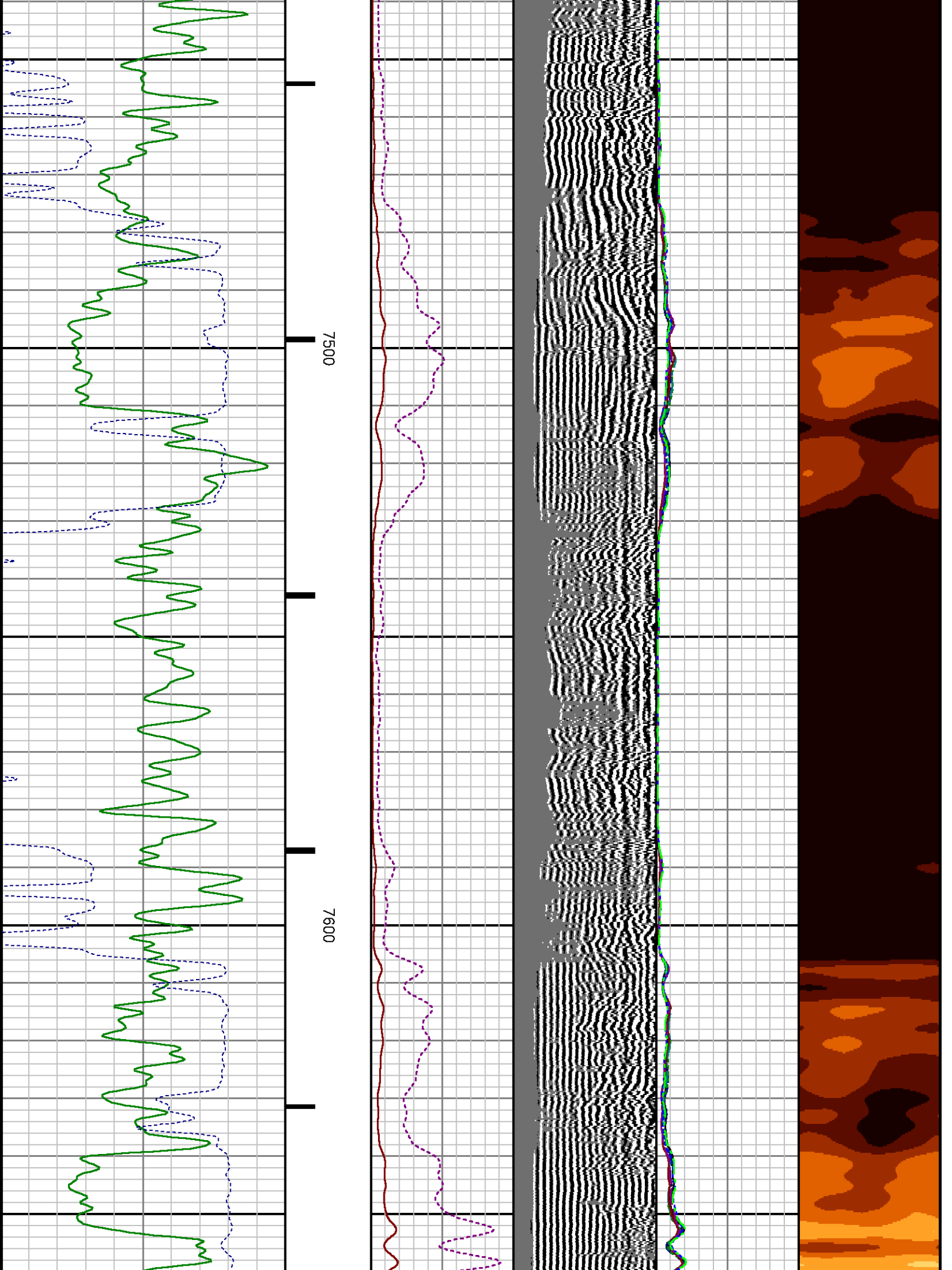


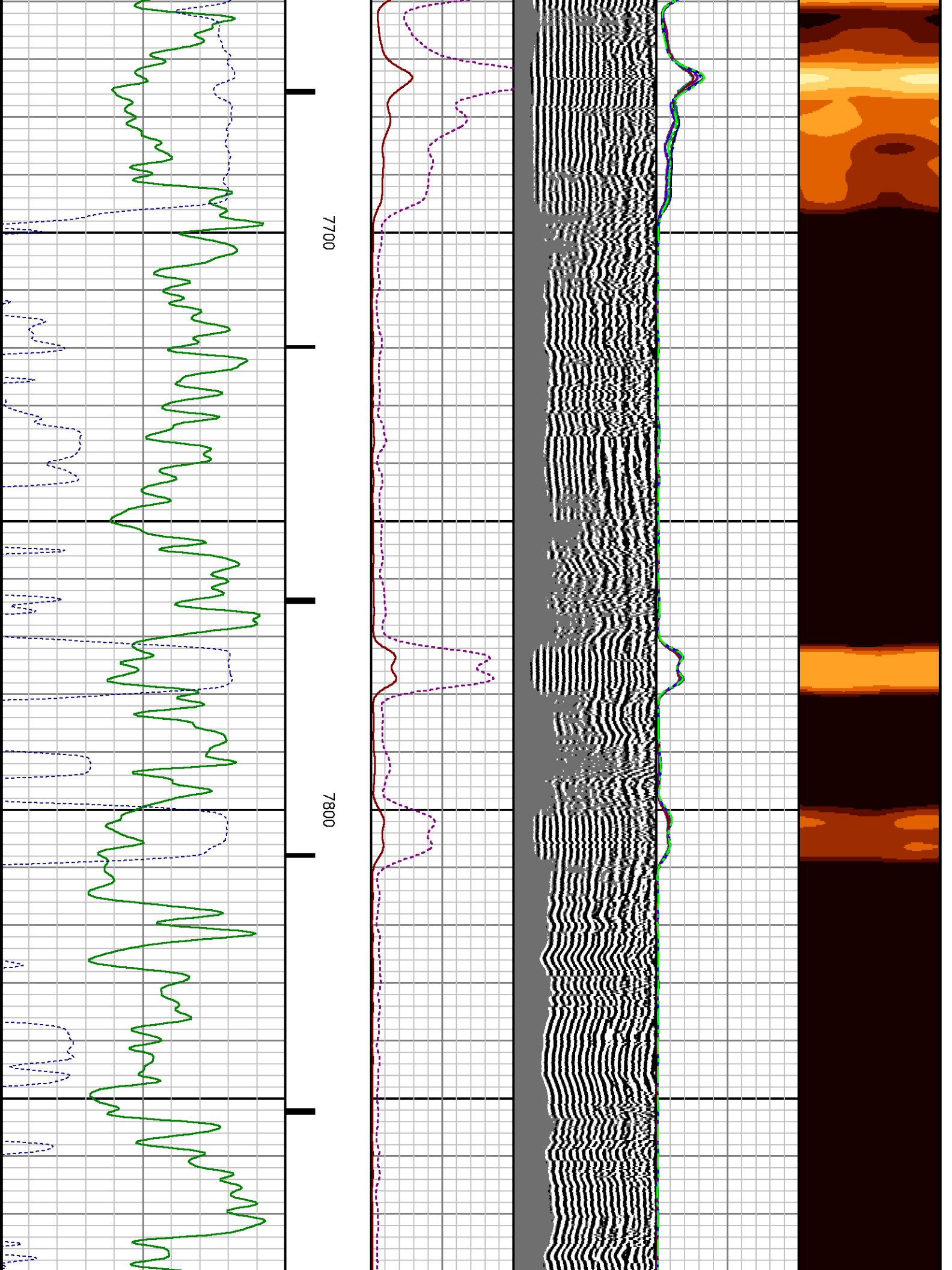


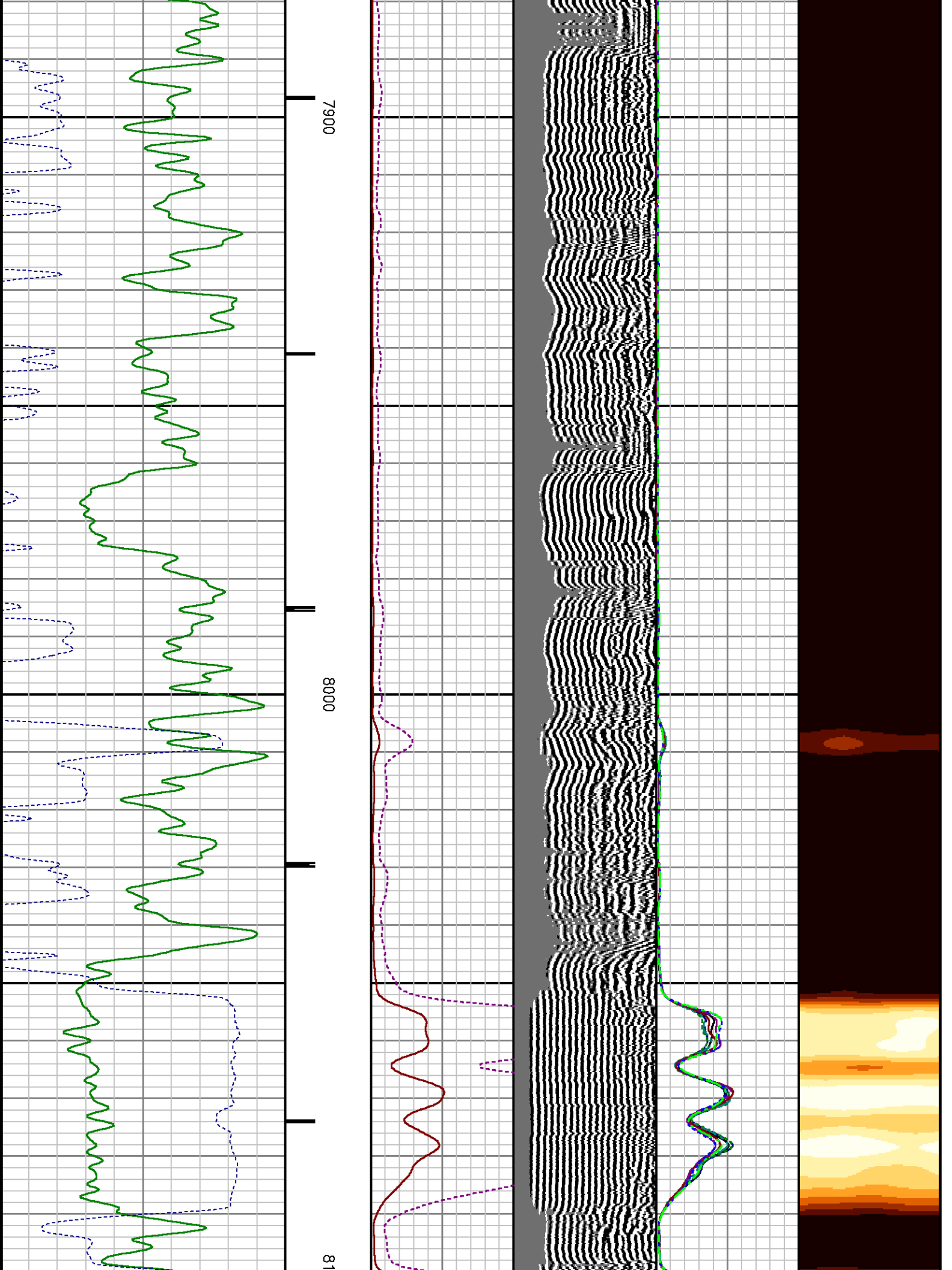


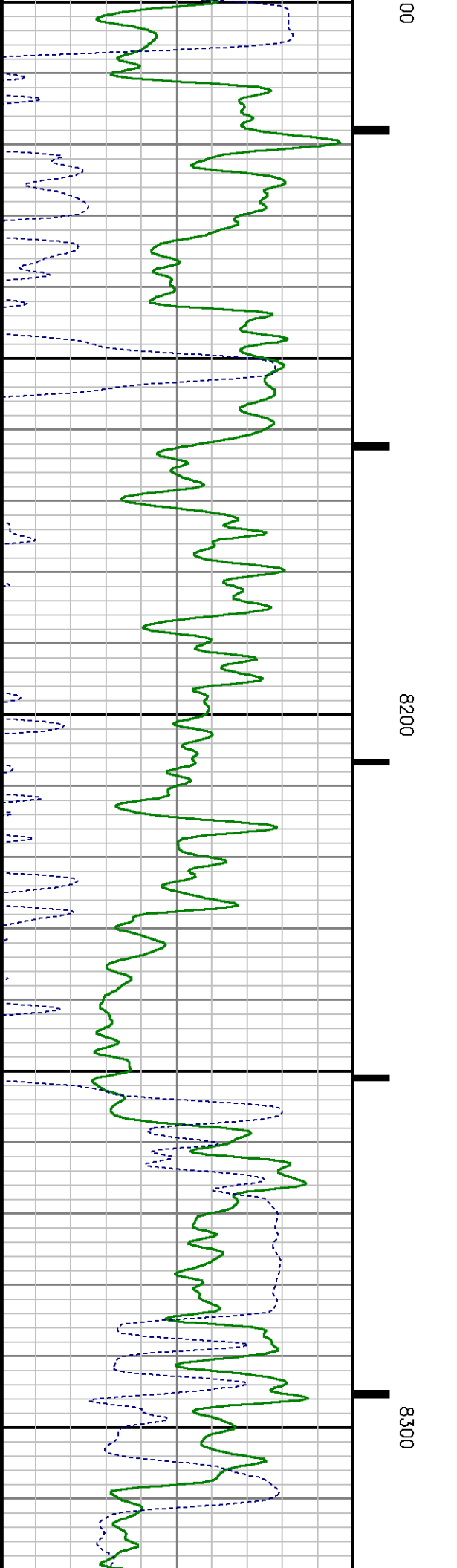
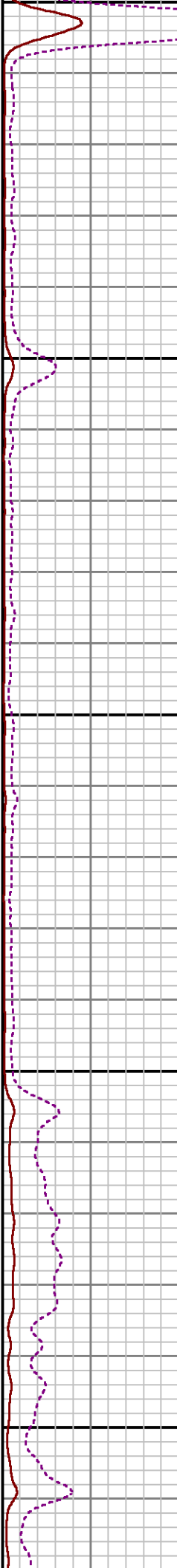
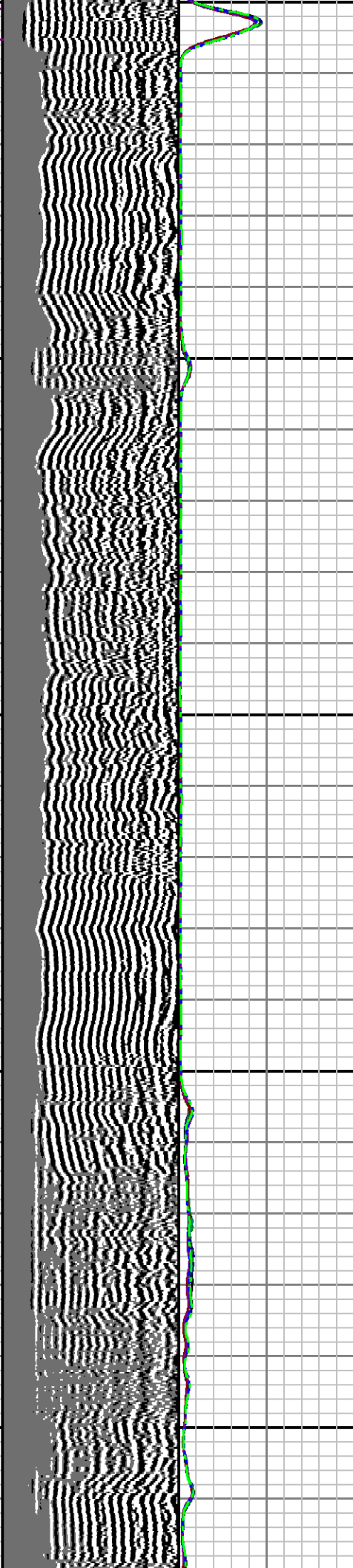
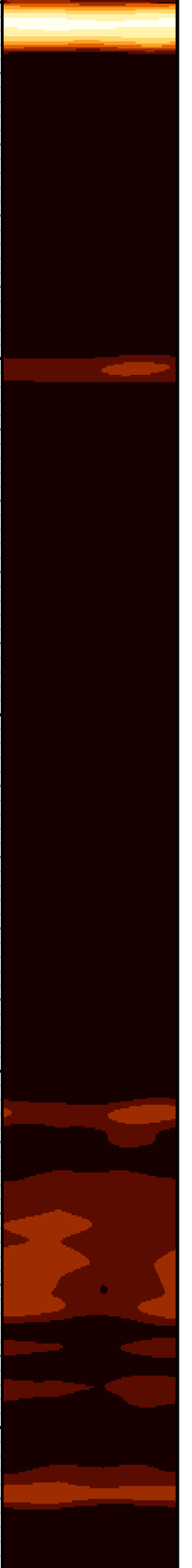


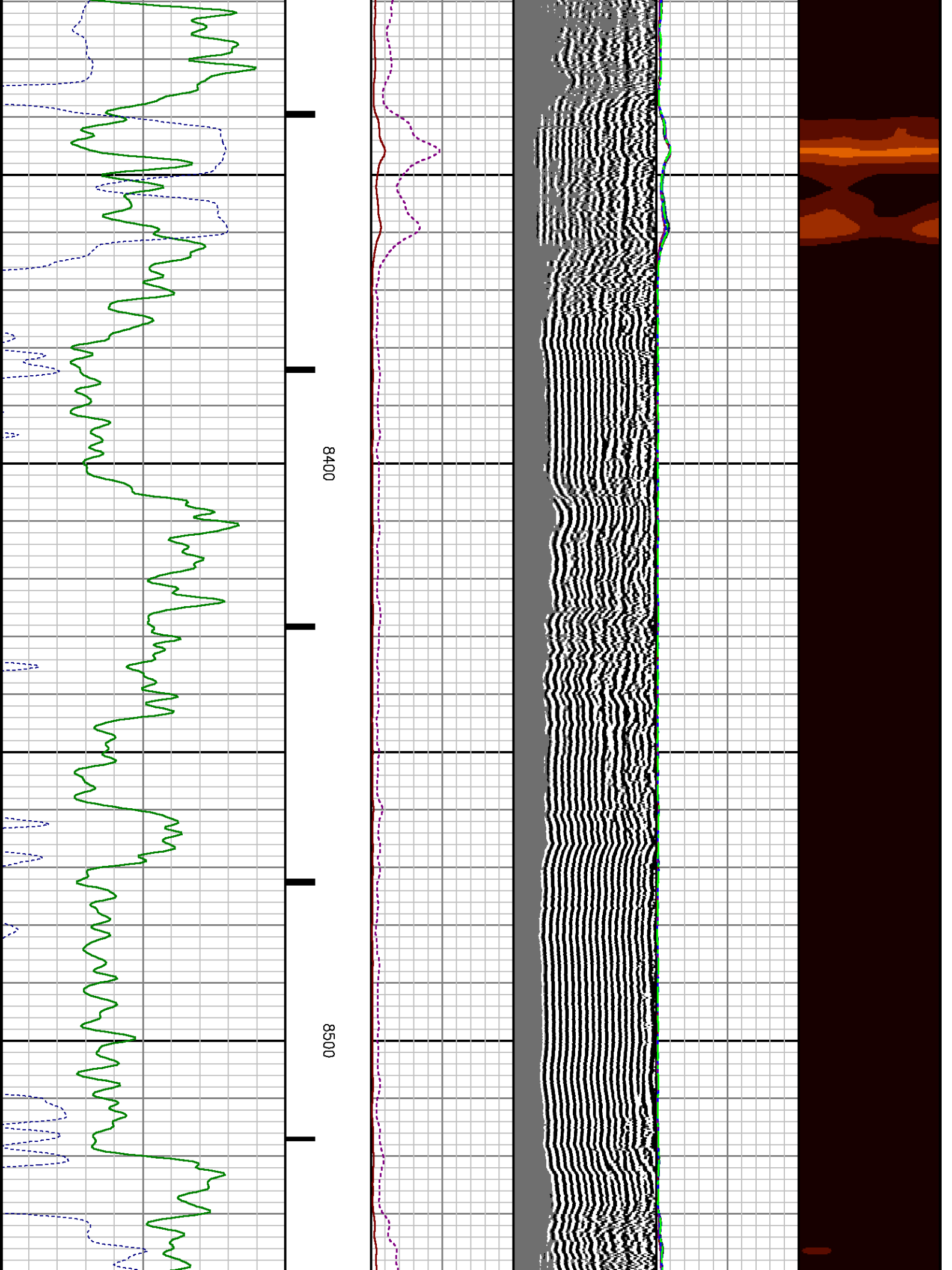




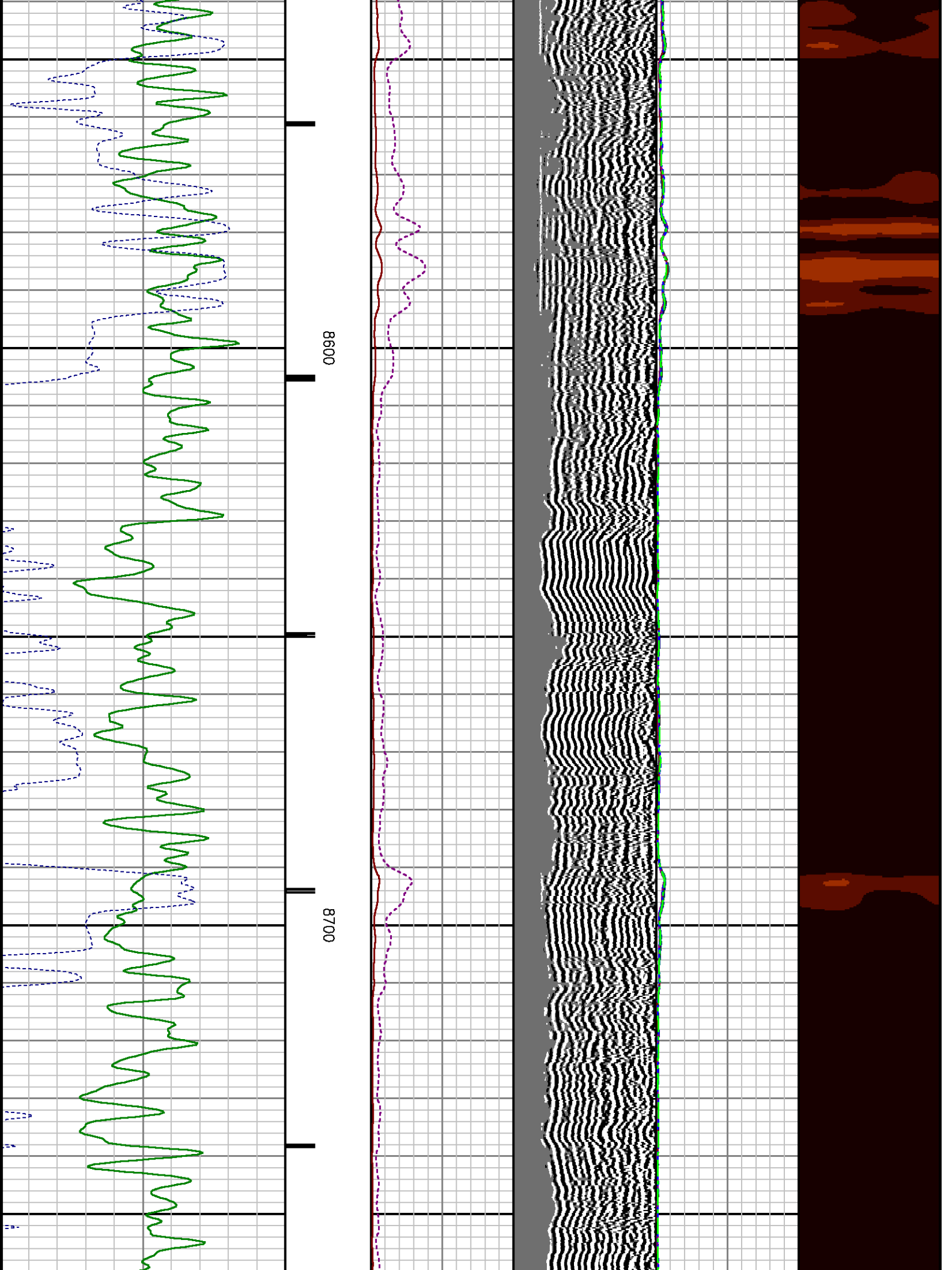




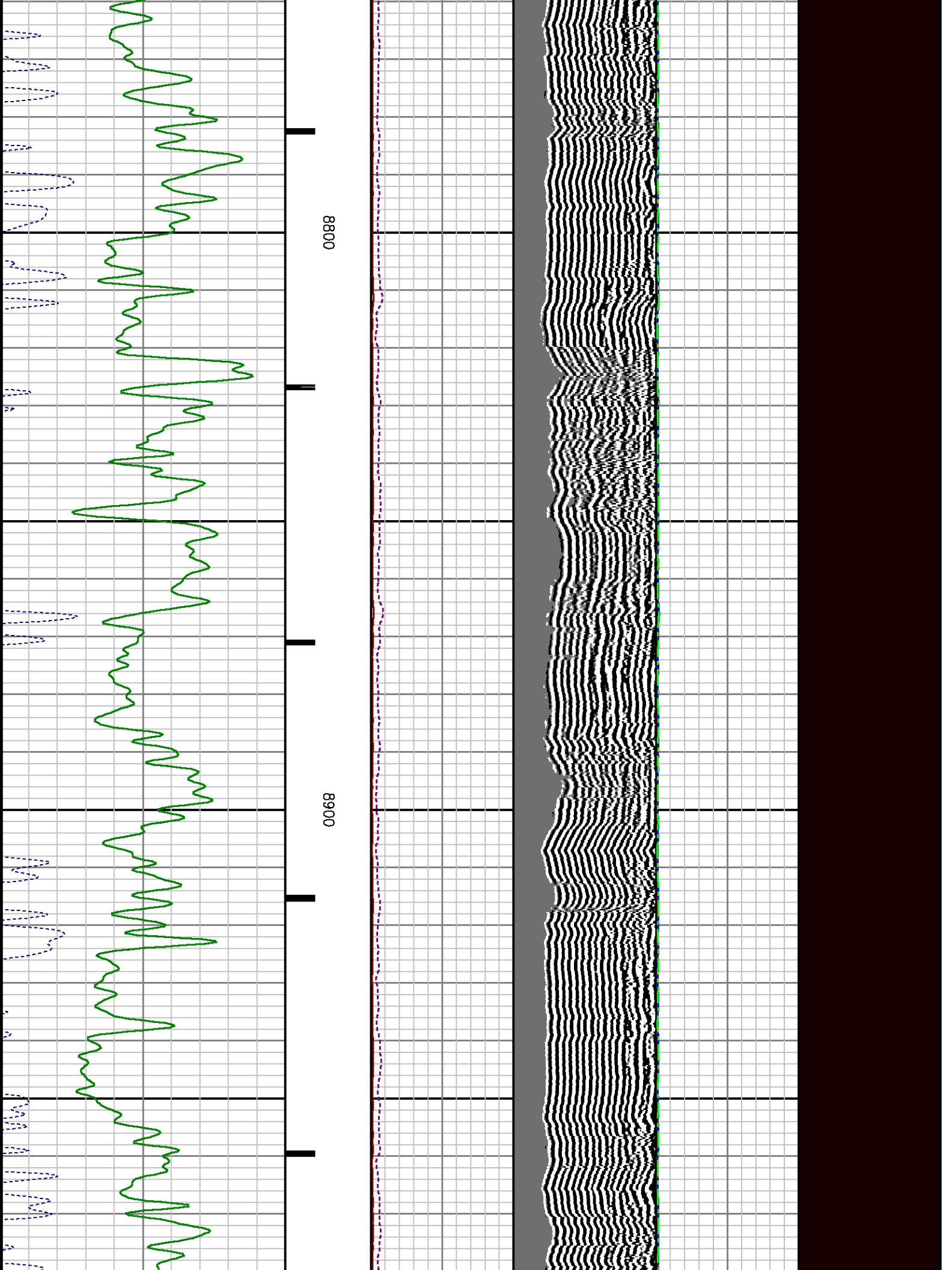


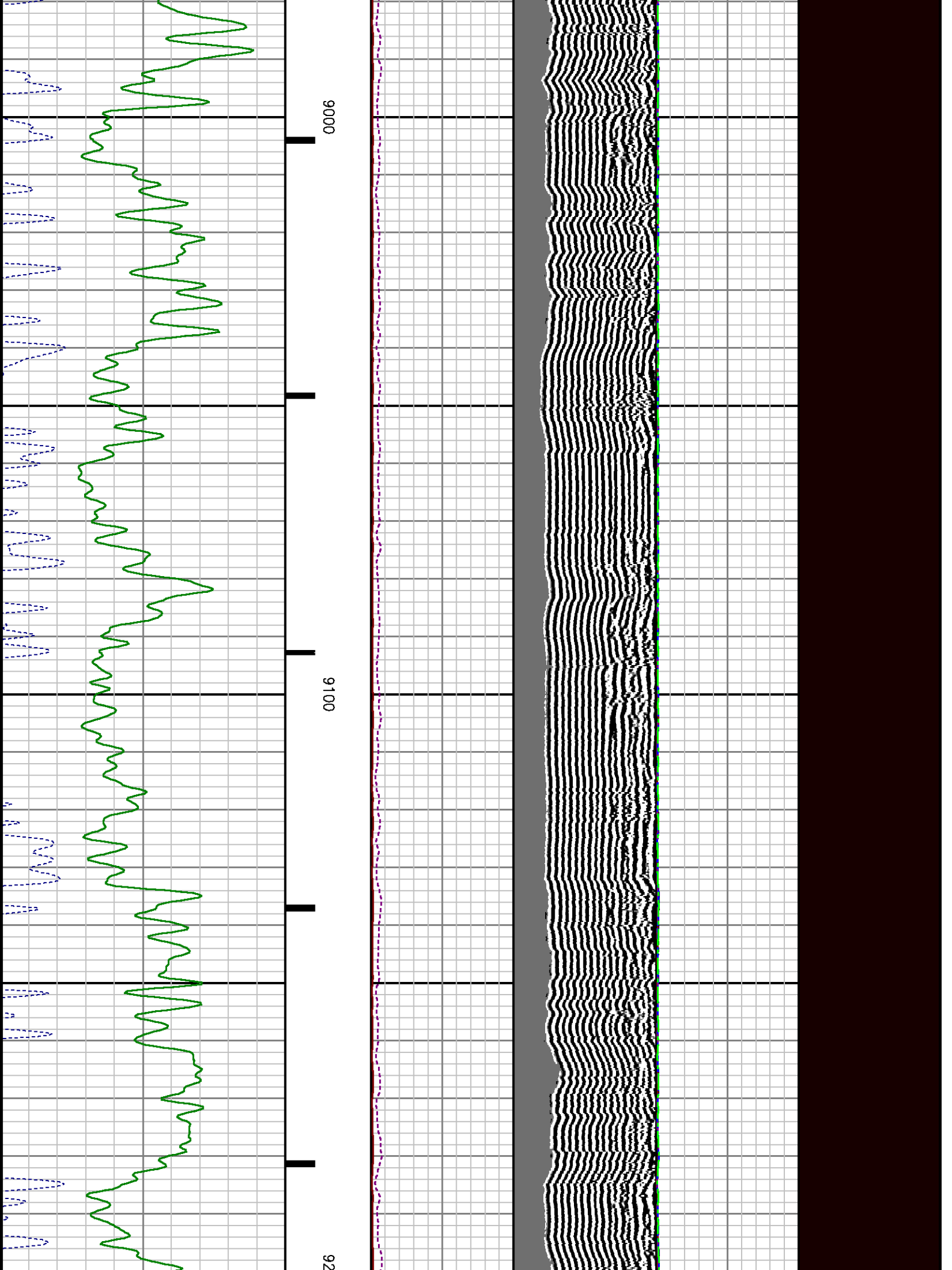


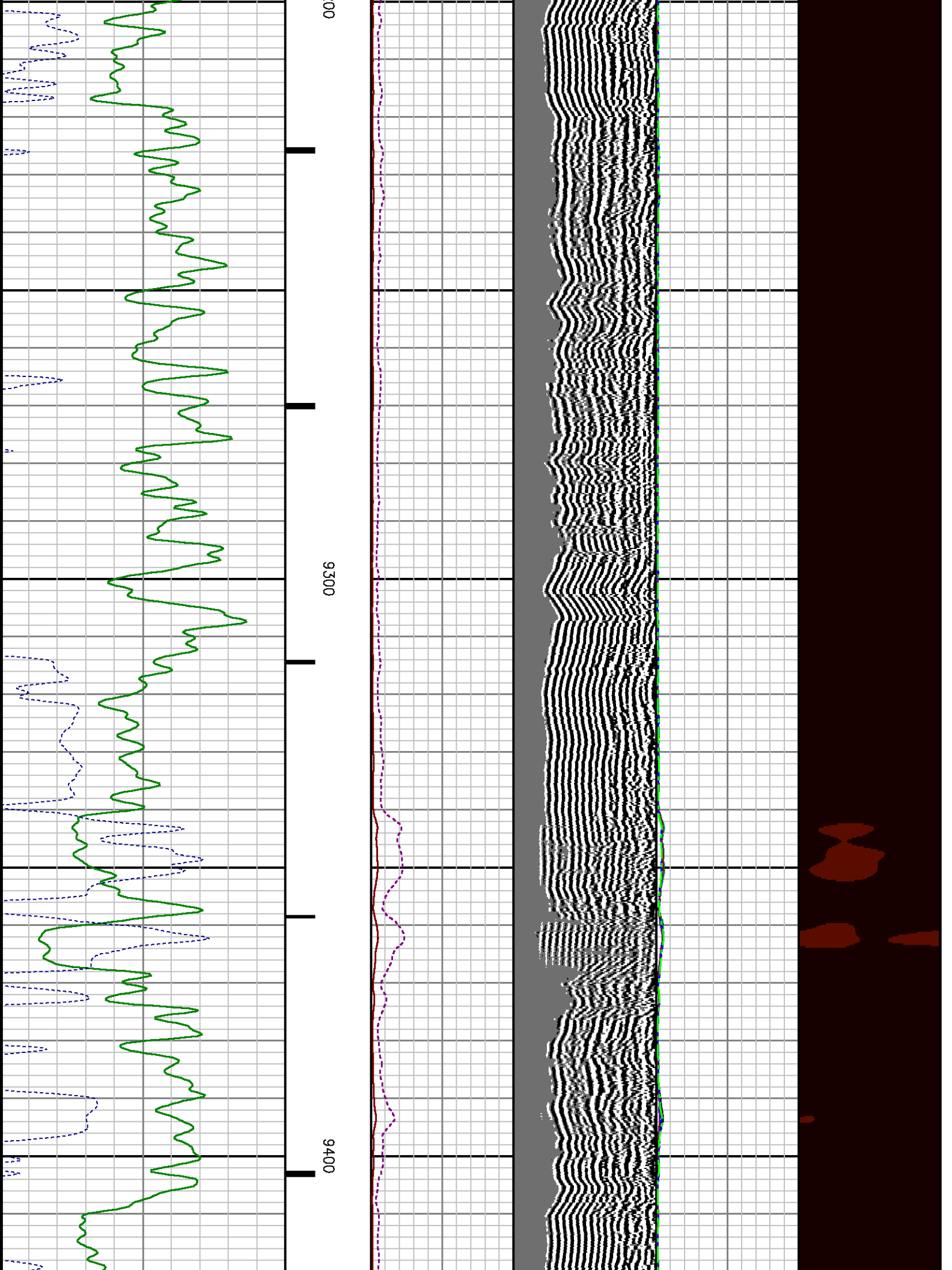


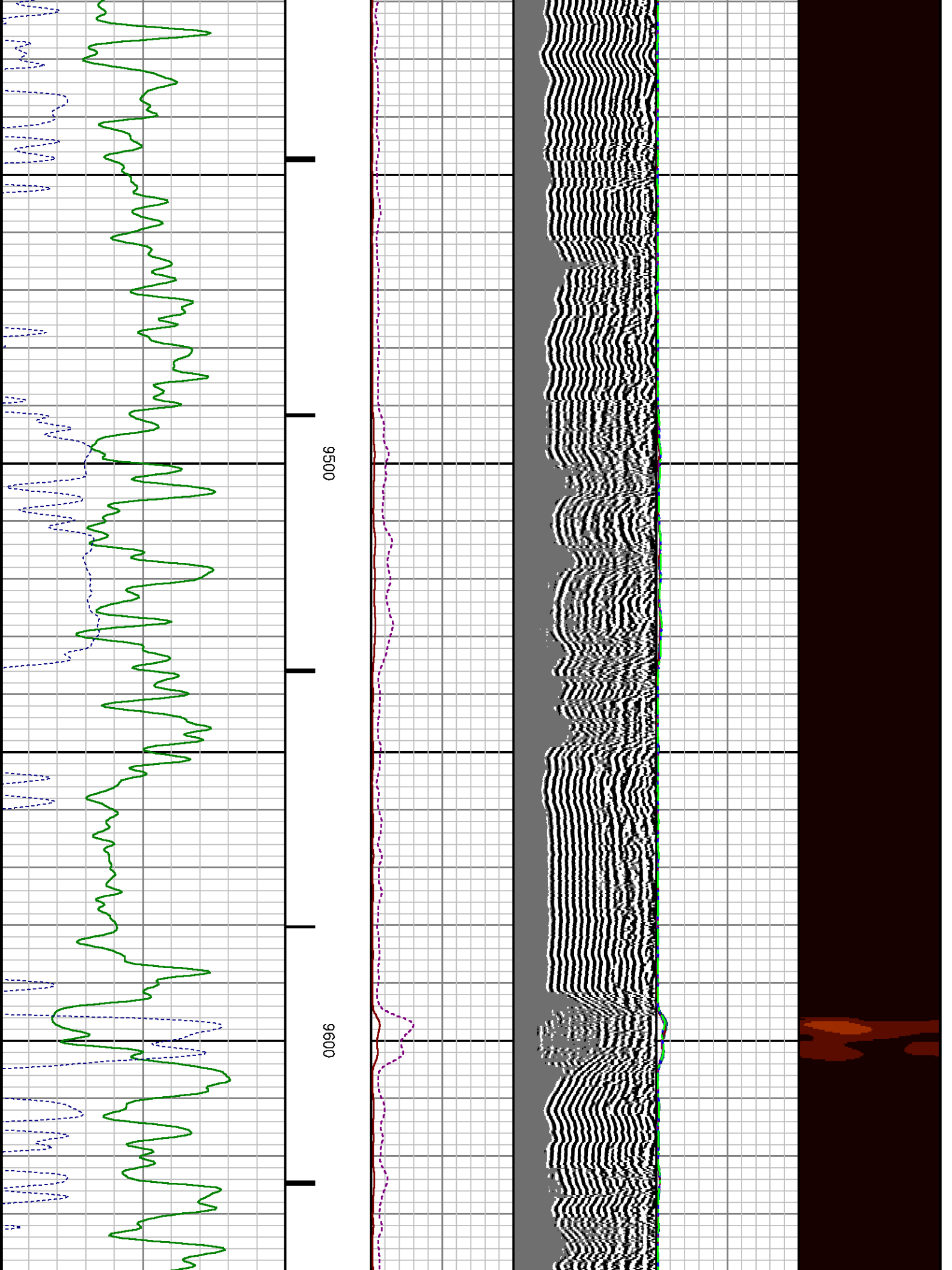


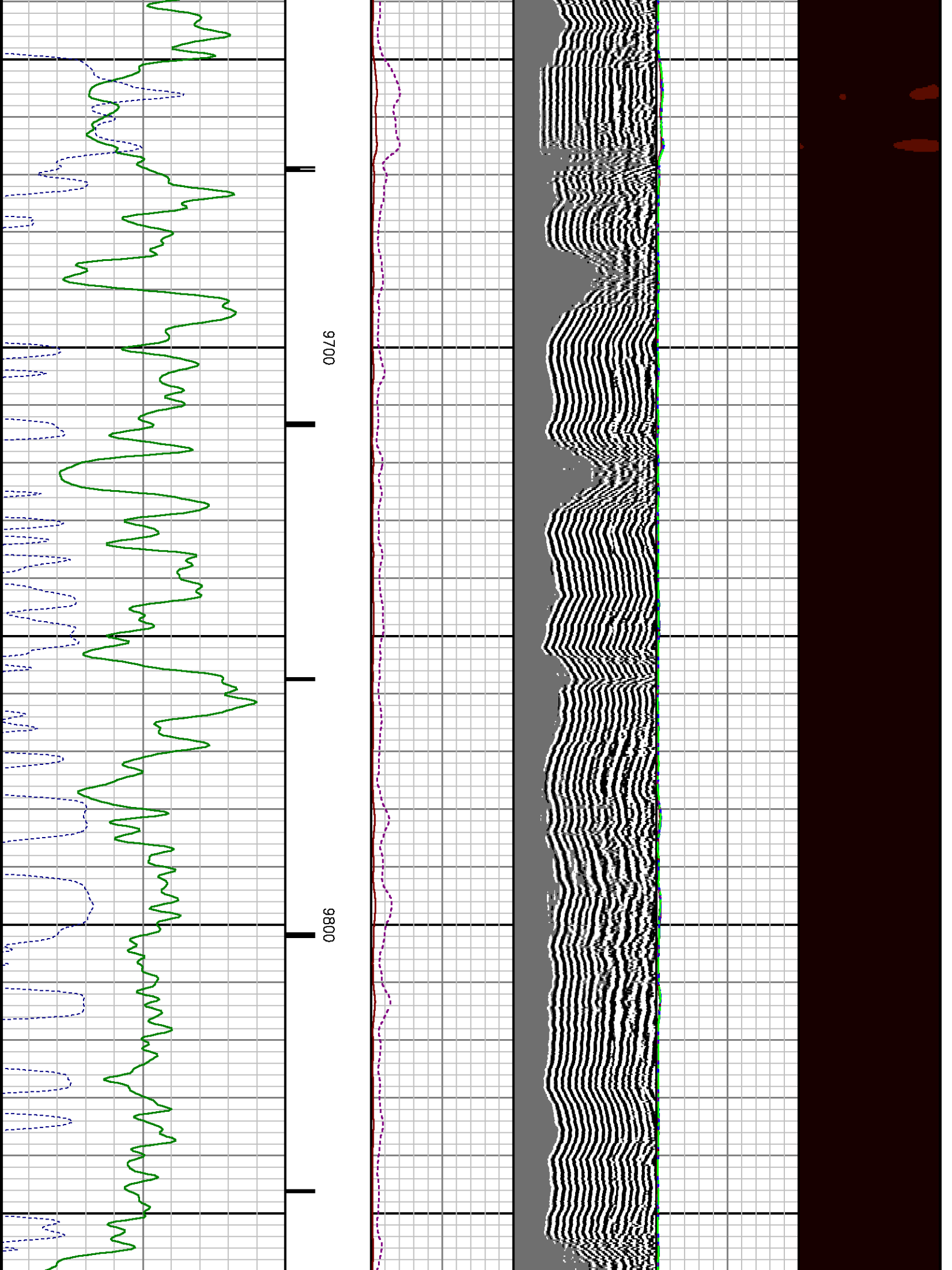


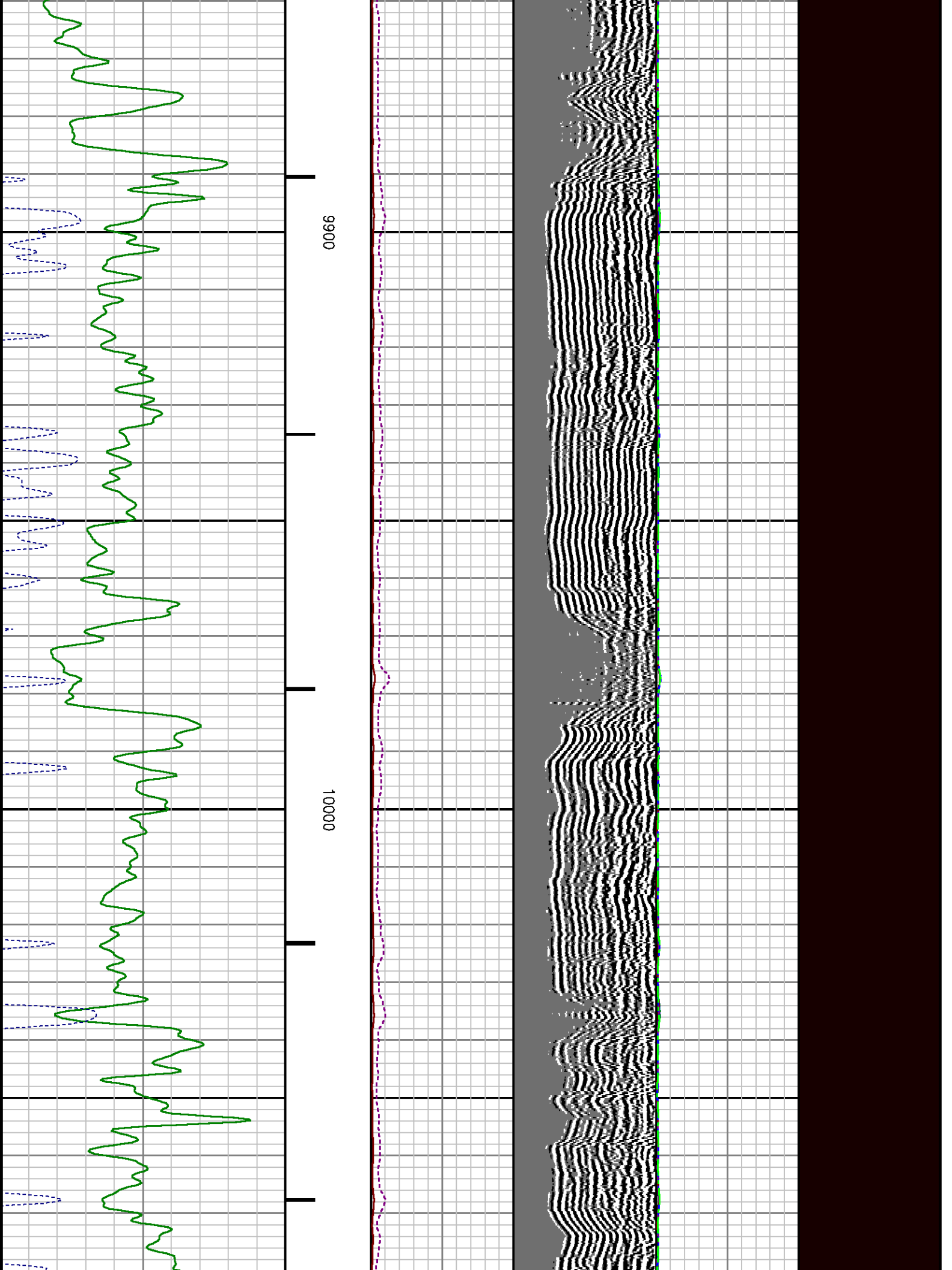




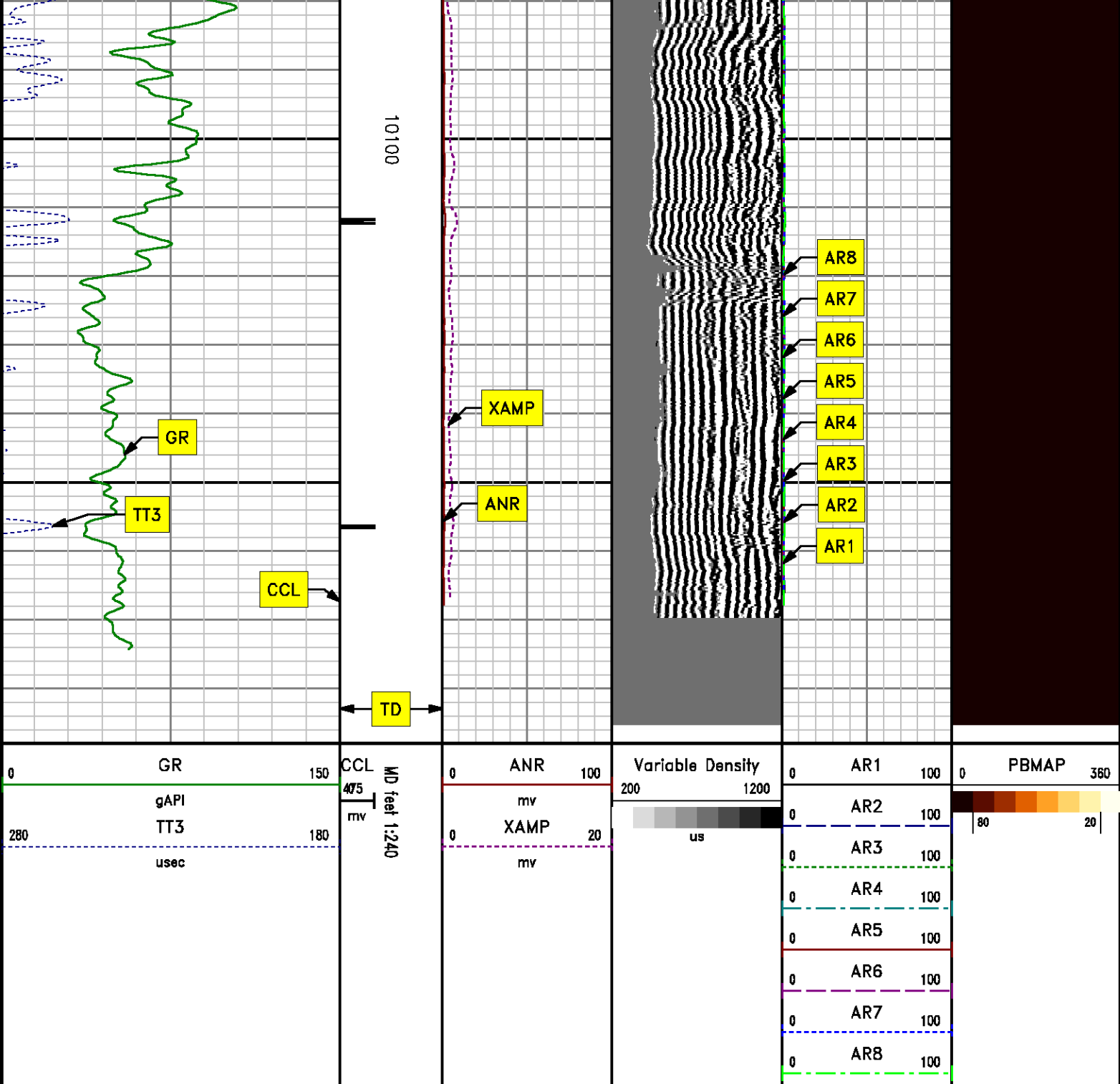












MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	9851.370	10186.370
RAL	Amp Gate Start Near	195.000	usec	9851.370	10186.370
RAL	Amp Gate Start Radial	195.000	usec	9851.370	10186.370
RAL	Amp Gate Width Far	25.000	usec	9851.370	10186.370
RAL	Amp Gate Width Near	25.000	usec	9851.370	10186.370
RAL	Amp Gate Width Radial	25.000	usec	9851.370	10186.370
RAL	casing od	4.500	inches	9851.370	10186.370
RAL	casing wt	11.600	lbm/ft	9851.370	10186.370
RAL	FB Start Far	291.900	usec	9851.370	10186.370
RAL	FB Start Near	175.391	usec	9851.370	10186.370
RAL	FB Start Radial	175.391	usec	9851.370	10186.370
RAL	FB Thresh Far	10.000	mv	9851.370	10186.370
RAL	FB Thresh Near	4.000	mv	9851.370	10186.370
RAL	FB Thresh Radial	4.000	mv	9851.370	10186.370
RAL	Fluid Travel Time	200.000	usec/ft	9851.370	10186.370

## DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.750	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	-15.750	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
2459XA	-9.490	GR					
2459XA	-4.090	NEU					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

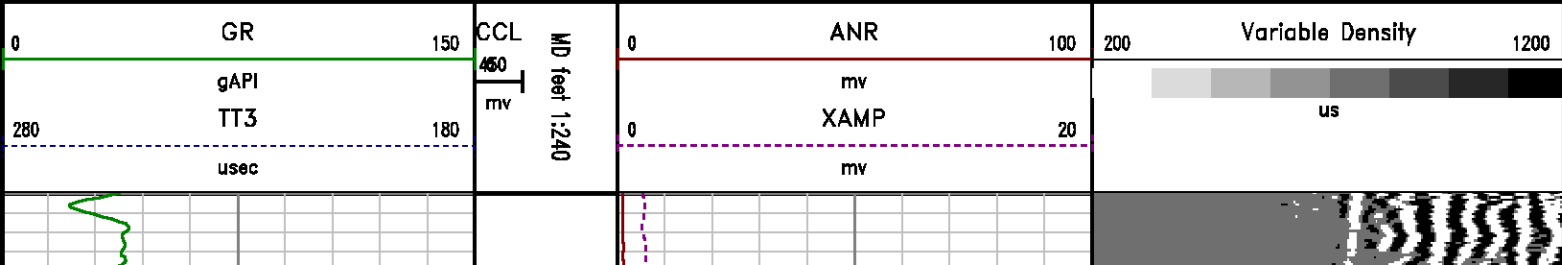
Well : FEDERAL RU 311-5

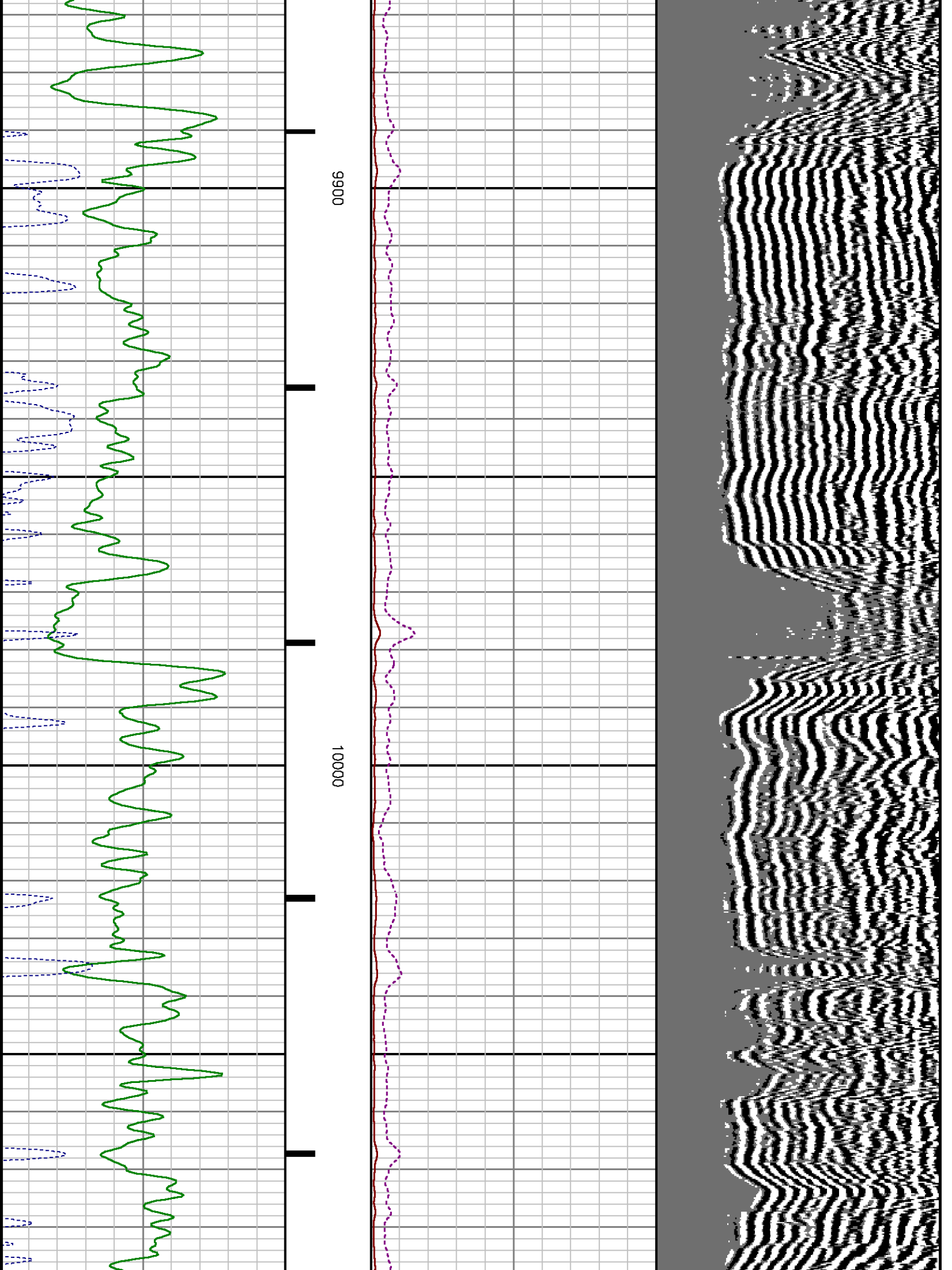
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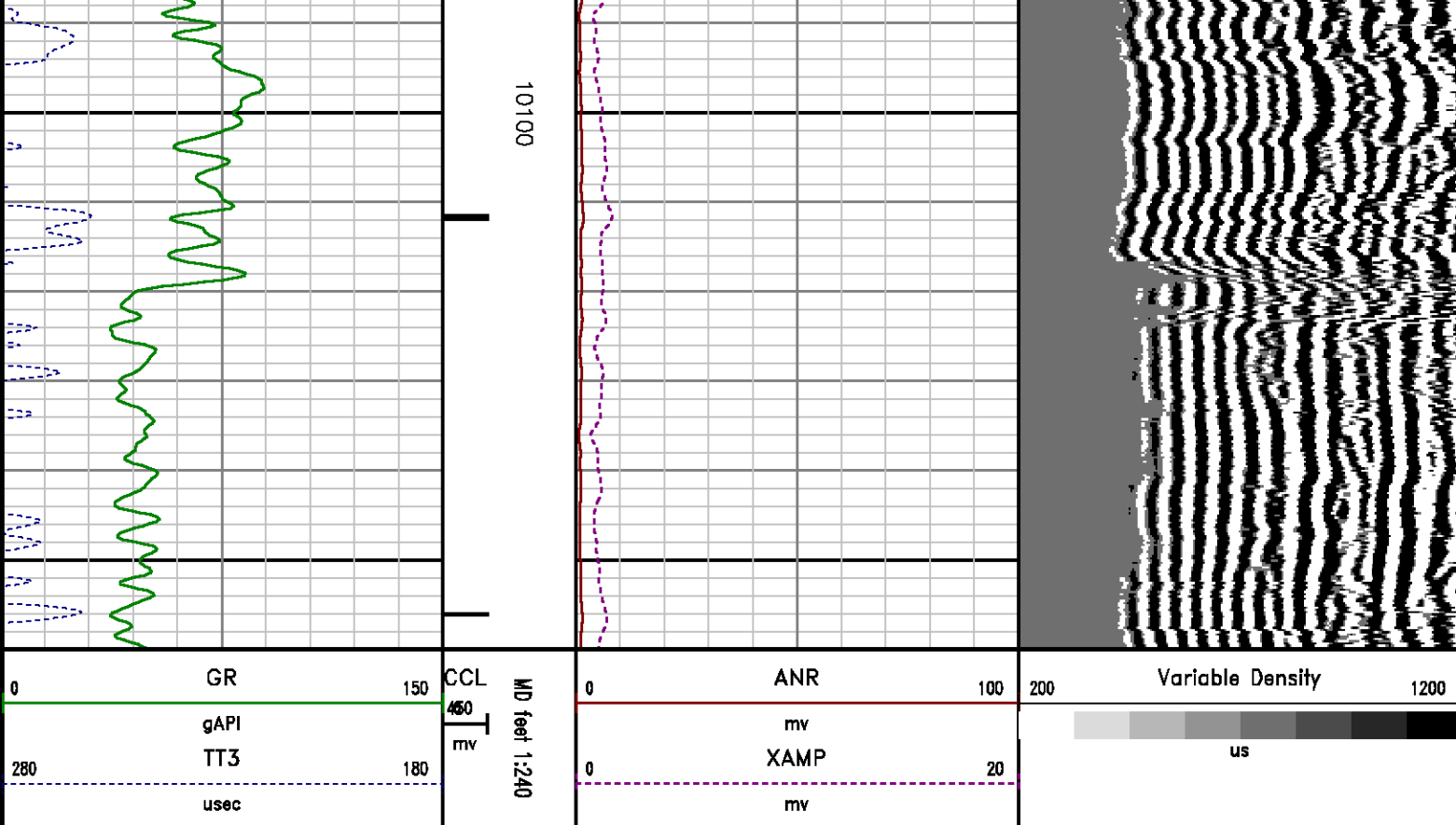
Mode : PlotMgr 5.4.504

Interval : 9860.00 - 10160.00 feet UP

Created : 2/13/2014 7:39:52 PM







## CALIBRATION SUMMARY

*RALSHP*

Shop Calibration: C:\case\calver\RALSHP\49613\_shp.cal

### SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Feb 13 13:20:36 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 13

Tool Delay [u sec] -56.00 Tank OD In 5.50 Tank Wt lbm/ft 15.50 Tank ID In 4.95

RECEIVER	Travel Time [u sec]	Amp. Gate Start [u sec]	Amp. Gate Width [u sec]	Zero Gate Start [u sec]	Zero Gate Width [u sec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	218	216	30	166	25	0.333	100.00	0.16
3 Ft. Receiver	217	216	30	166	14	-0.033	100.00	0.16
5 Ft. Receiver	326	325	30	264	25	1.115	150.00	0.18
Radial #1	217	216	30	166	10	0.060	100.00	0.16
Radial #2	217	216	30	166	10	-0.271	100.00	0.16
Radial #3	218	216	30	166	10	-0.467	100.00	0.16
Radial #4	218	216	30	166	10	-0.083	100.00	0.16
Radial #5	217	216	30	166	10	-0.144	100.00	0.16

Radial #6	216	216	30	166	10	-0.188	100.00	0.16
Radial #7	216	216	30	166	10	-0.244	100.00	0.16
Radial #8	218	216	30	166	10	0.219	100.00	0.16

## RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\49613 fld.cal

### WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Feb 13 13:23:12 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 13

Tool Delay [usec] -56.00 Casing OD in 4.50 Casing Wt lbm/ft 11.60 Casing ID in 4.00

RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	166	25	0.034	0.000	1.00	100.000
3 Ft. Receiver	200	30	1.548			
5 Ft. Receiver	317	30	0.974			
Radial #1	200	30	1.075			
Radial #2	200	30	1.078			
Radial #3	200	30	1.220			
Radial #4	200	30	1.223			
Radial #5	200	30	1.454			
Radial #6	200	30	1.520			
Radial #7	200	30	1.230			
Radial #8	200	30	1.160			

## GAMMA RAY

Calibration File: C:\case\calver\GR\121J2.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jan 21 14:45:39 2014 TOOL SERIES: 2459XA ASSET: 121 SEQ: J2

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
SK2 WA612	71.78	314.67	0.762	54.67	239.67	185.00

Verification File: C:\case\calver\GR\121J2.VP

### PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Tue Jan 21 14:46:51 2014 TOOL SERIES: 2459XA ASSET: 121 SEQ: J2

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
SK2 WA612	74.22	316.93	0.762	56.53	241.40	184.86

# TOOL DIAGRAM

## OTA SHORT CABLE HEAD

## PROBE 2 3/4 DUAL RECEIVER RADII

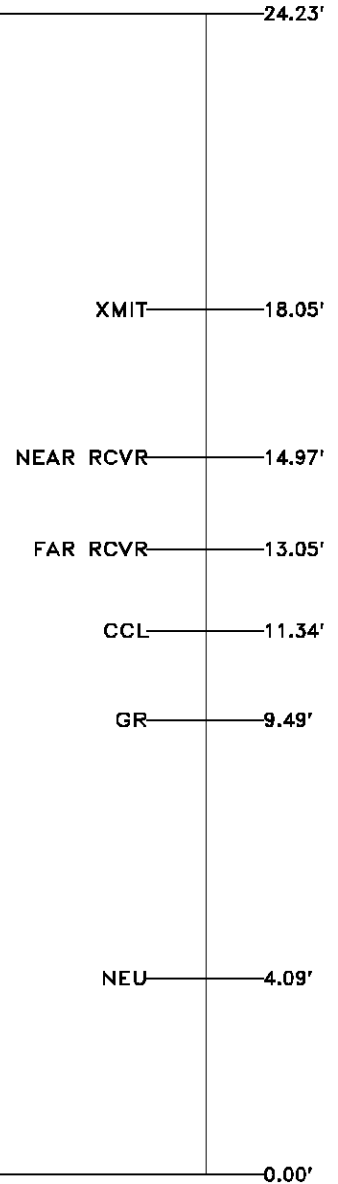
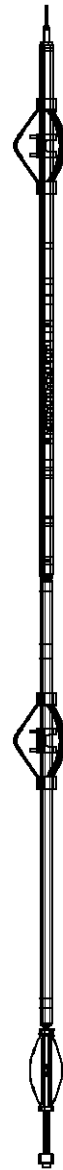
Series	1426XA
Mnemonic	PROB
Diameter	2.75"
Length	11.17'
Measure Point	0.75' FAR RCVR
Measure Point	2.67' NEAR RCVR
Measure Point	5.75' XMIT
Temp Rating	350.00 °F
Press Rating	18000.00 PSI

## Probe GR/CCL/NEU

Series	2459XA
Mnemonic	PROB
Diameter	2.75"
Length	9.42'
Measure Point	1.21' NEU
Measure Point	6.60' GR
Measure Point	8.46' CCL

## CENTRALIZER

Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb



Total Length: 24.23'  
Total Weight: Not Available  
Max Diameter: 0' 3.12"



Company  
Well  
Field  
County

WPX ENERGY  
FEDERAL RU 311-5  
RULISON  
GARFIELD

State CO

File No:  
CH082085  
API No:  
05045217810000



CASE

Location

SHL: 214' FNL & 2601' FWL

BHL: 512' FNL & 535' FWL

SEC 5 TWP 7S RGE 93W

Elevations

KB 7628 ft

DF

GL 7602 ft

5 7S 93W

RU 23-5 PAD

NABORS 576