



# RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH082084	Company Well Field County	WPX ENERGY FEDERAL RU 41-5 RULISON GARFIELD	State CO
API No: 05045217820000	Location SHL: 211' FNL & 2611' FNL BHL: 333' FNL & 703' FEL SEC 5 TWP 7S RGE 9SW		
5 7S 9SW RU 23-5 PAD MABORS 576	Other Services RPM		Elevations KB 7628 ft DF GL 7602 ft
Permanent Datum Log Measured From Drill Measured From	GL KB Elevation 26 ft Above P. D.		

Date	14/FEB/14	
Run	ONE	
Service Order	US625286	
Depth Driller	10297 ft	
Depth Logger	10238 ft	
Bottom Logged Interval	10228 ft	
Top Logged Interval	26 ft	
Time Started	13:30	
Time Finished	17:00	
Operator Rig Time	3.5 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	98 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	65 fpm	
Maximum Recorded Temperature	242 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	1129 ft
8.75 In	1129 ft	10304 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 In			0 ft	1129 ft
4.5 In	11.6 lbm/ft	HCP-110	0 ft	10304 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 11 feet.
Logged with zero PSI at wellhead.
BHT = 242 °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	35.812	10248.750
RAL	Amp Gate Start Near	195.000	usec	35.812	10248.750
RAL	Amp Gate Start Radial	195.000	usec	35.812	10248.750
RAL	Amp Gate Width Far	25.000	usec	35.812	10248.750
RAL	Amp Gate Width Near	25.000	usec	35.812	10248.750
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RAL	casing od	4.500	inches	35.812	10248.750
RAL	casing wt	11.600	lbm/ft	35.812	10248.750
RAL	FB Start Far	291.900	usec	35.812	10248.750
RAL	FB Start Near	175.391	usec	35.812	10248.750
RAL	FB Start Radial	175.391	usec	35.812	10248.750
RAL	FB Thresh Far	10.000	mv	35.812	10248.750
RAL	FB Thresh Near	4.000	mv	35.812	10248.750
RAL	FB Thresh Radial	4.000	mv	35.812	10248.750
RAL	Fluid Travel Time	200.000	usec/ft	35.812	10244.374

**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

1426XA -15.750  
2459XA -11.340  
2459XA -9.490  
2459XA -4.090

FPR3 FPR5 TT3 TTR1 TTR2 TTR3  
TTR4 TTR5 TTR6 TTR7 TTR8 XAMP  
AFAR SIG TT5  
CCL  
GR  
NEU

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

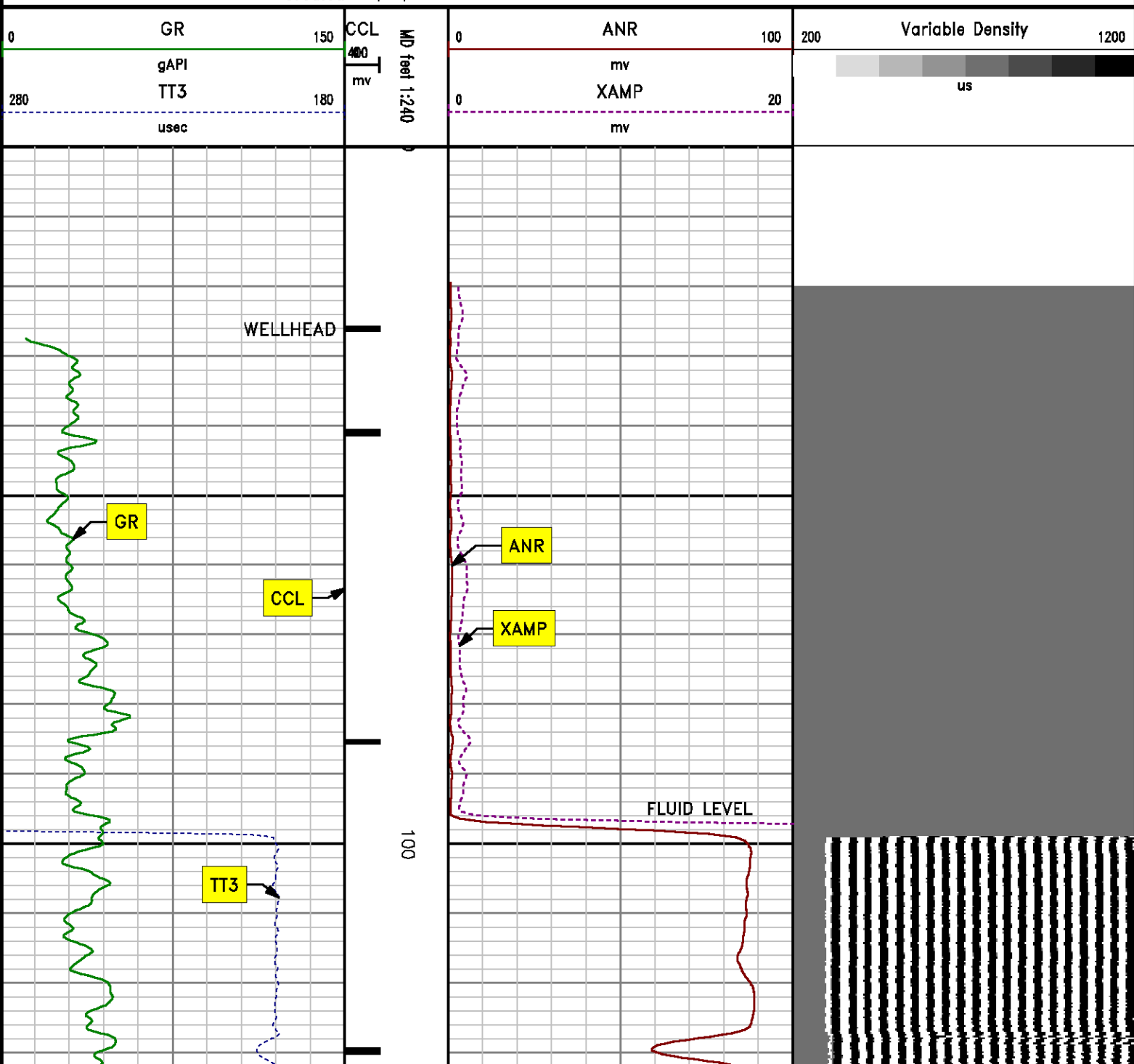
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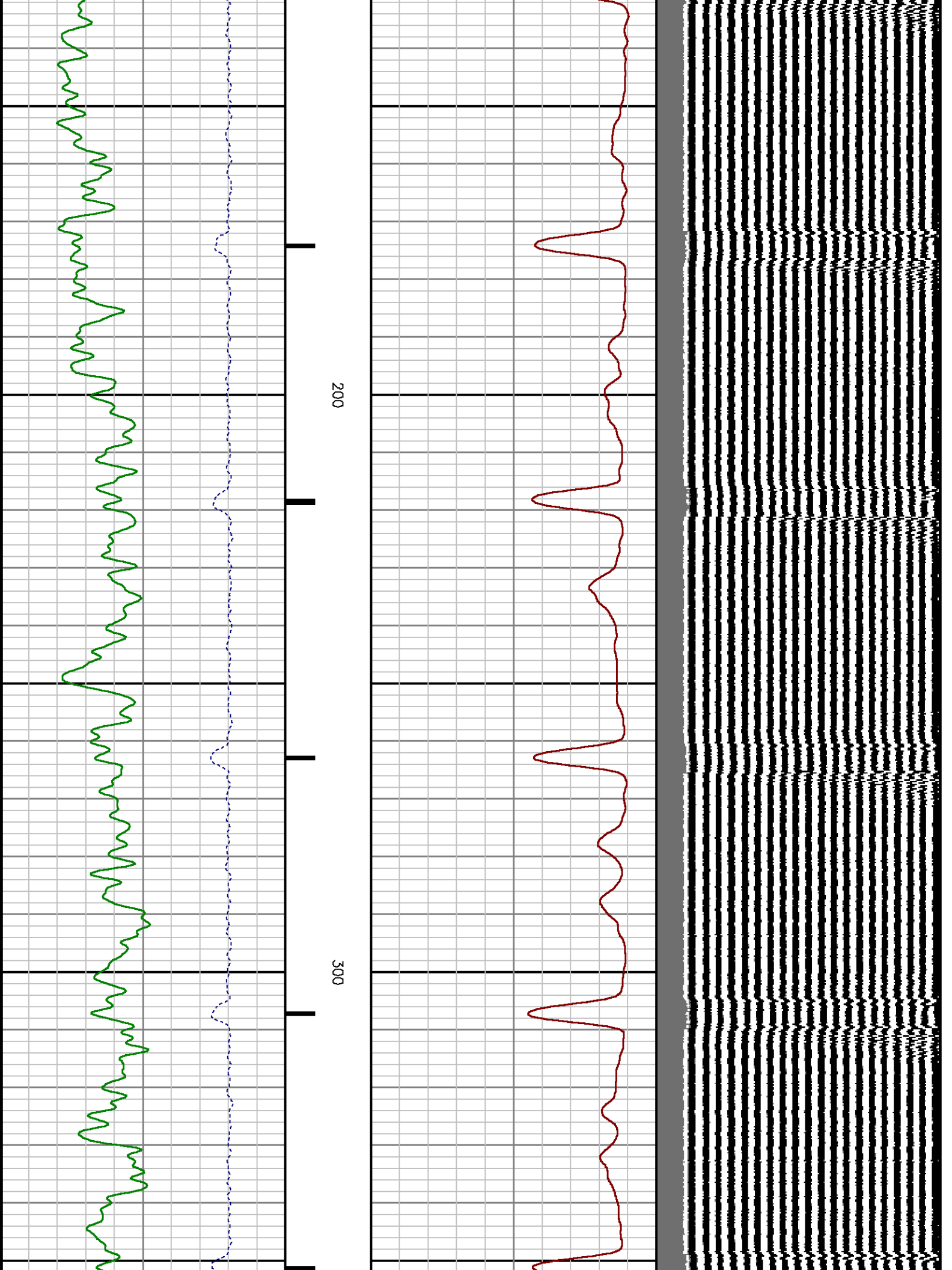
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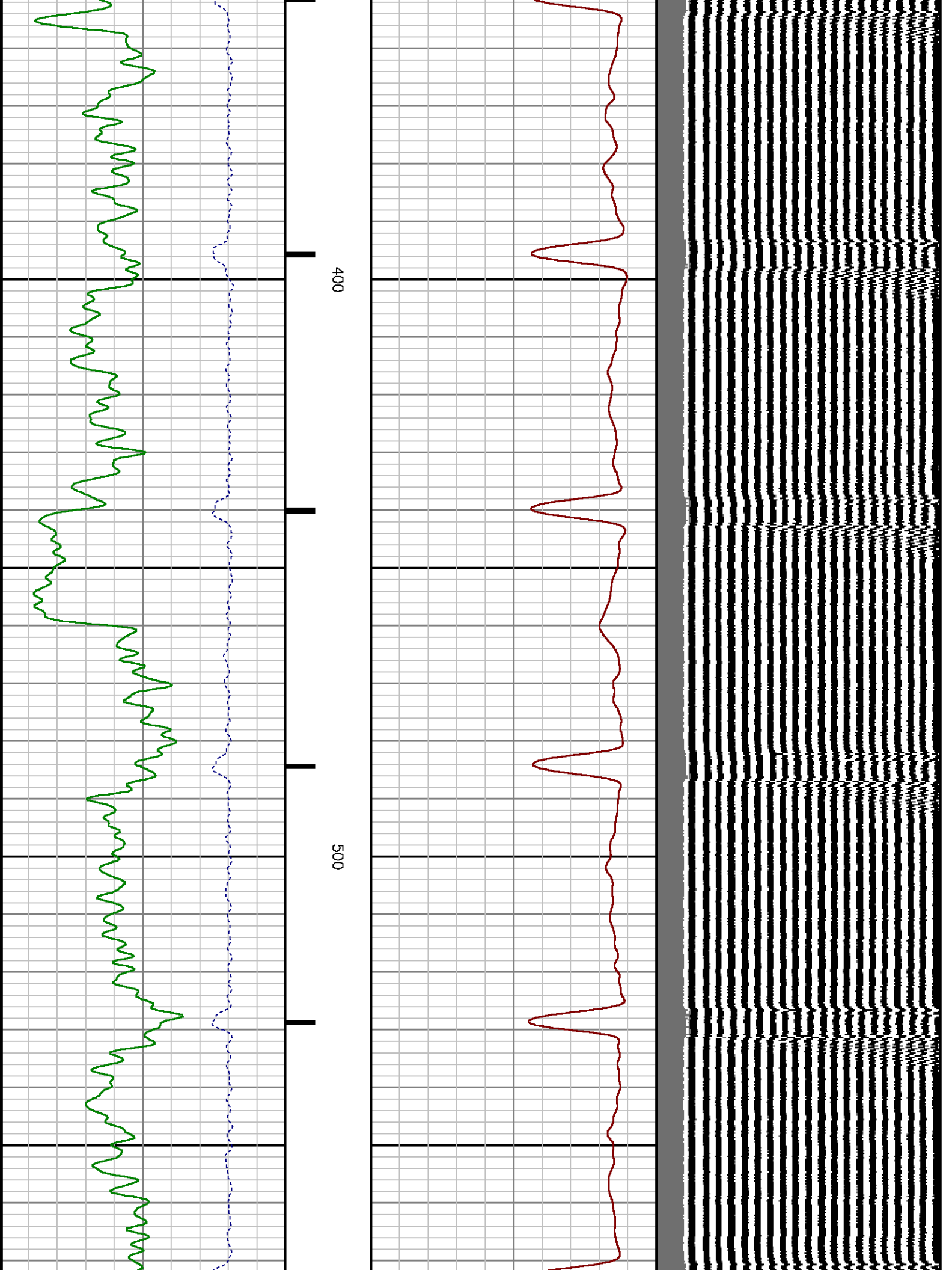
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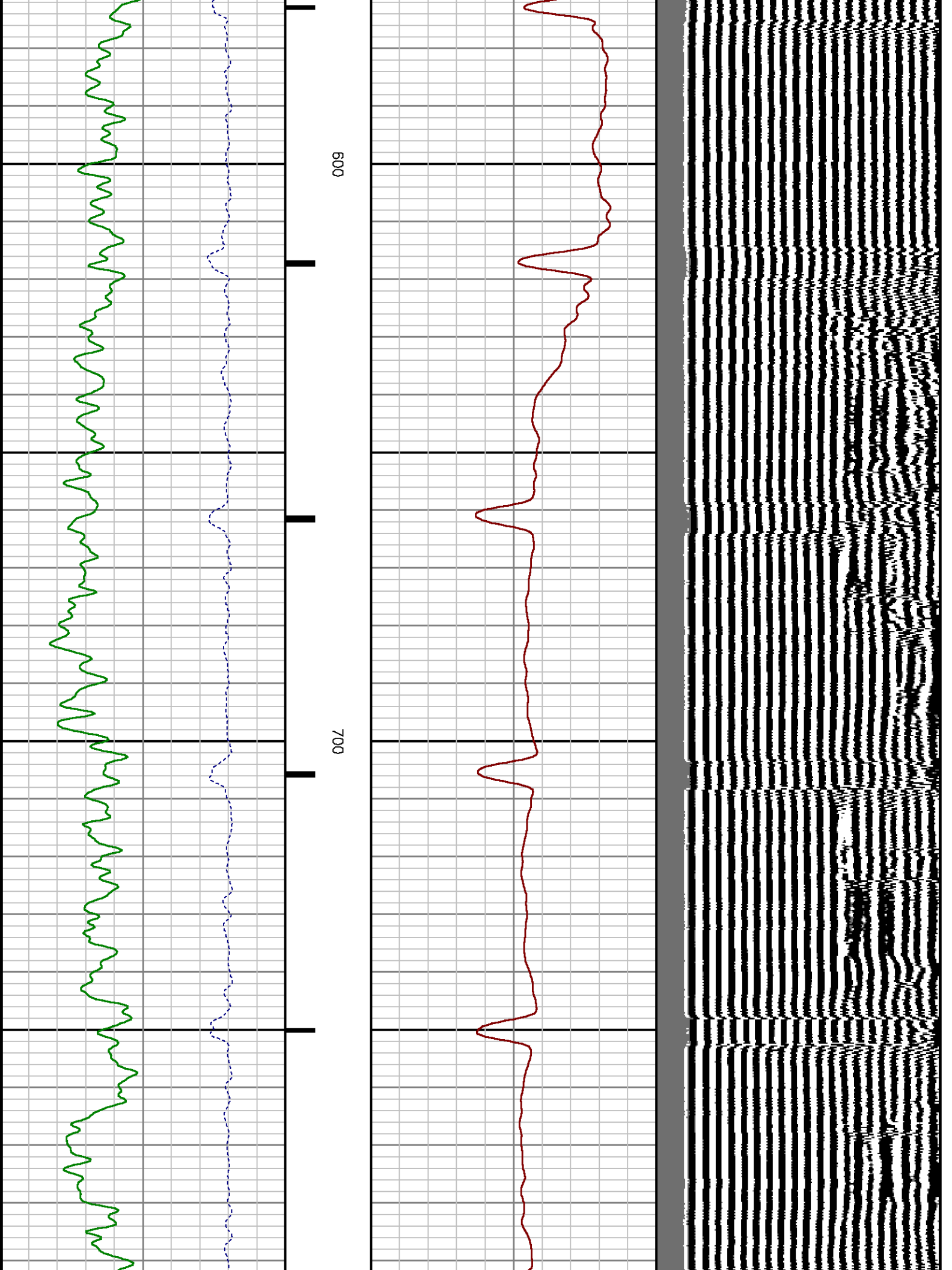
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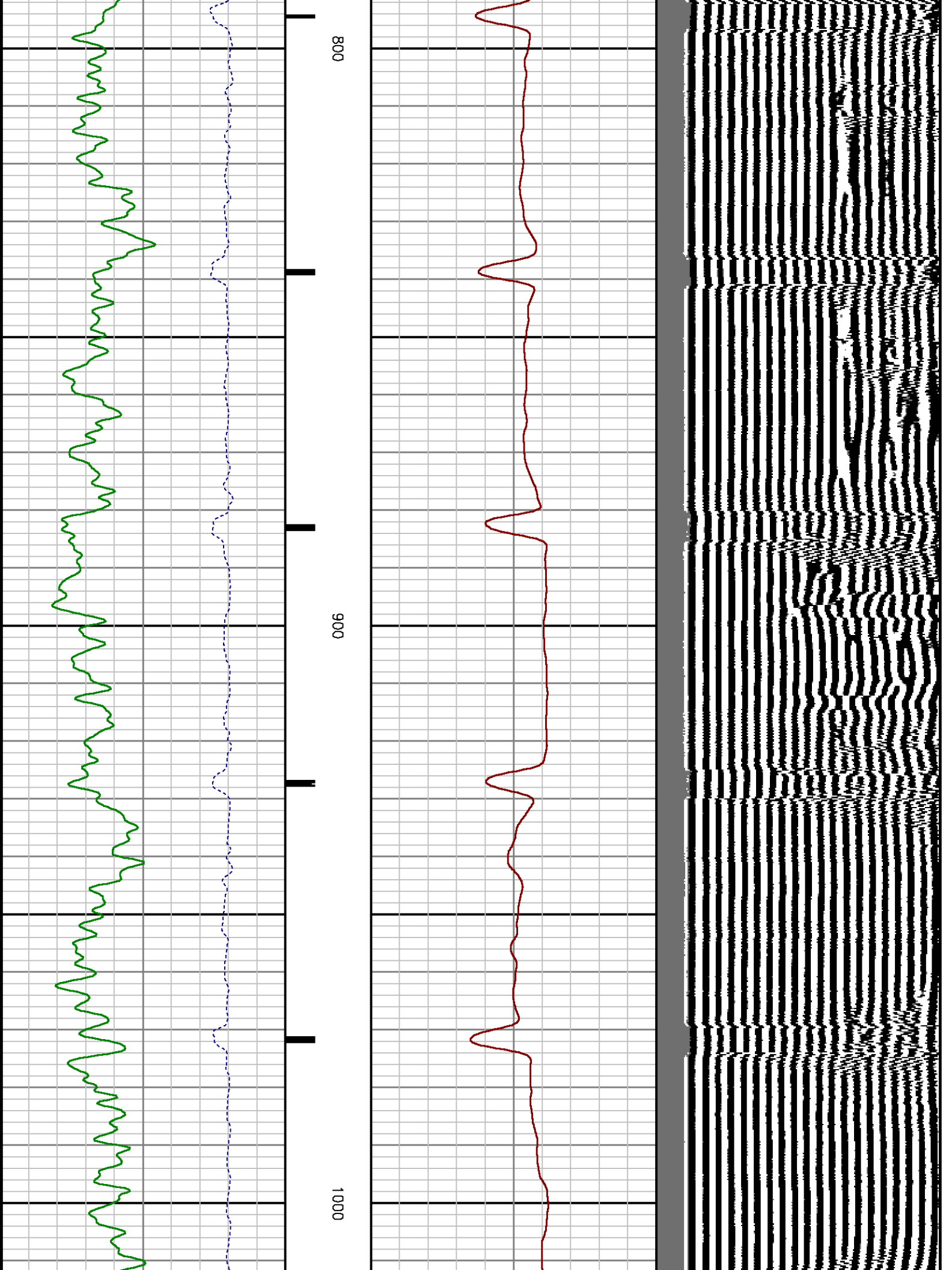


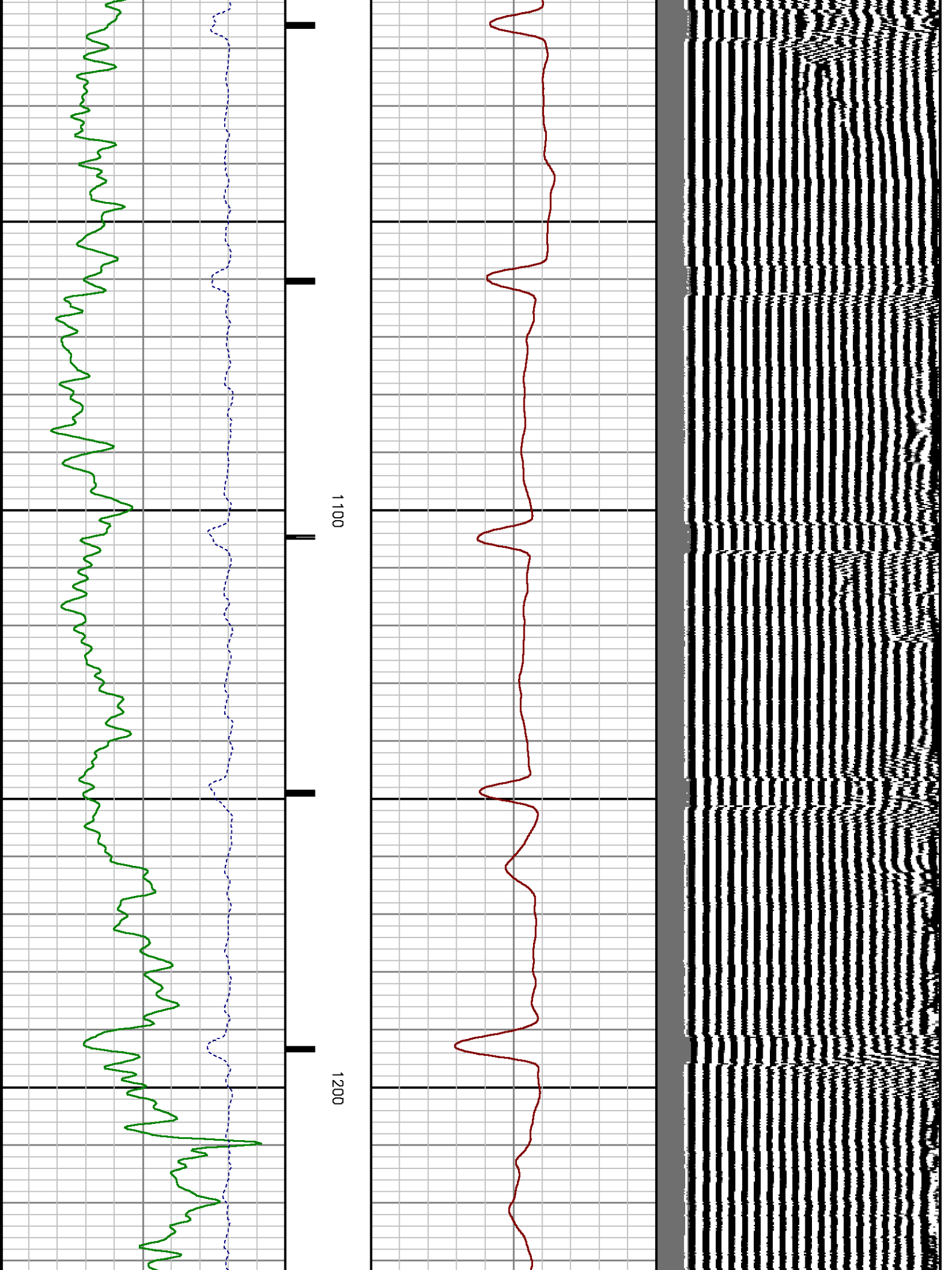


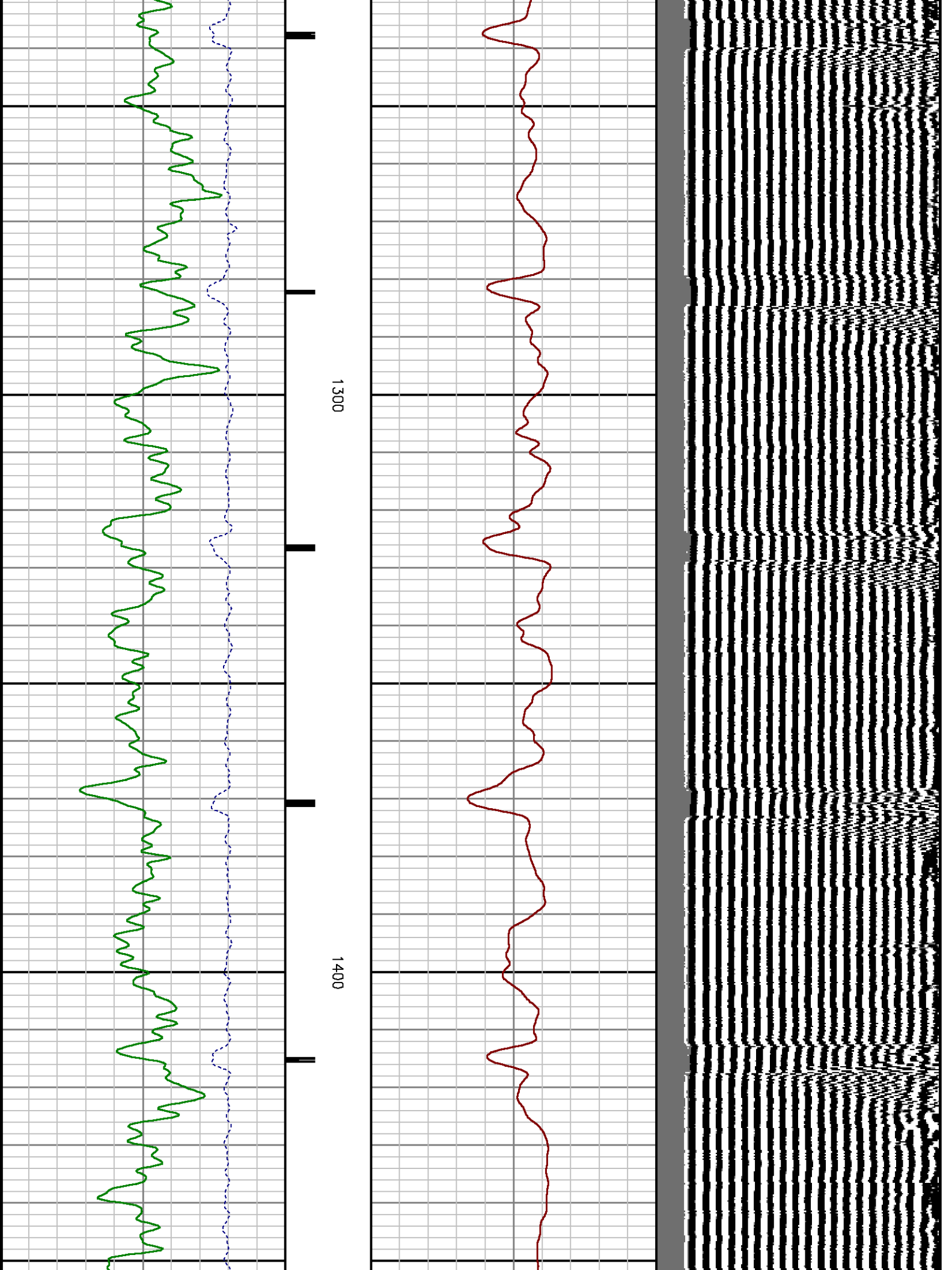


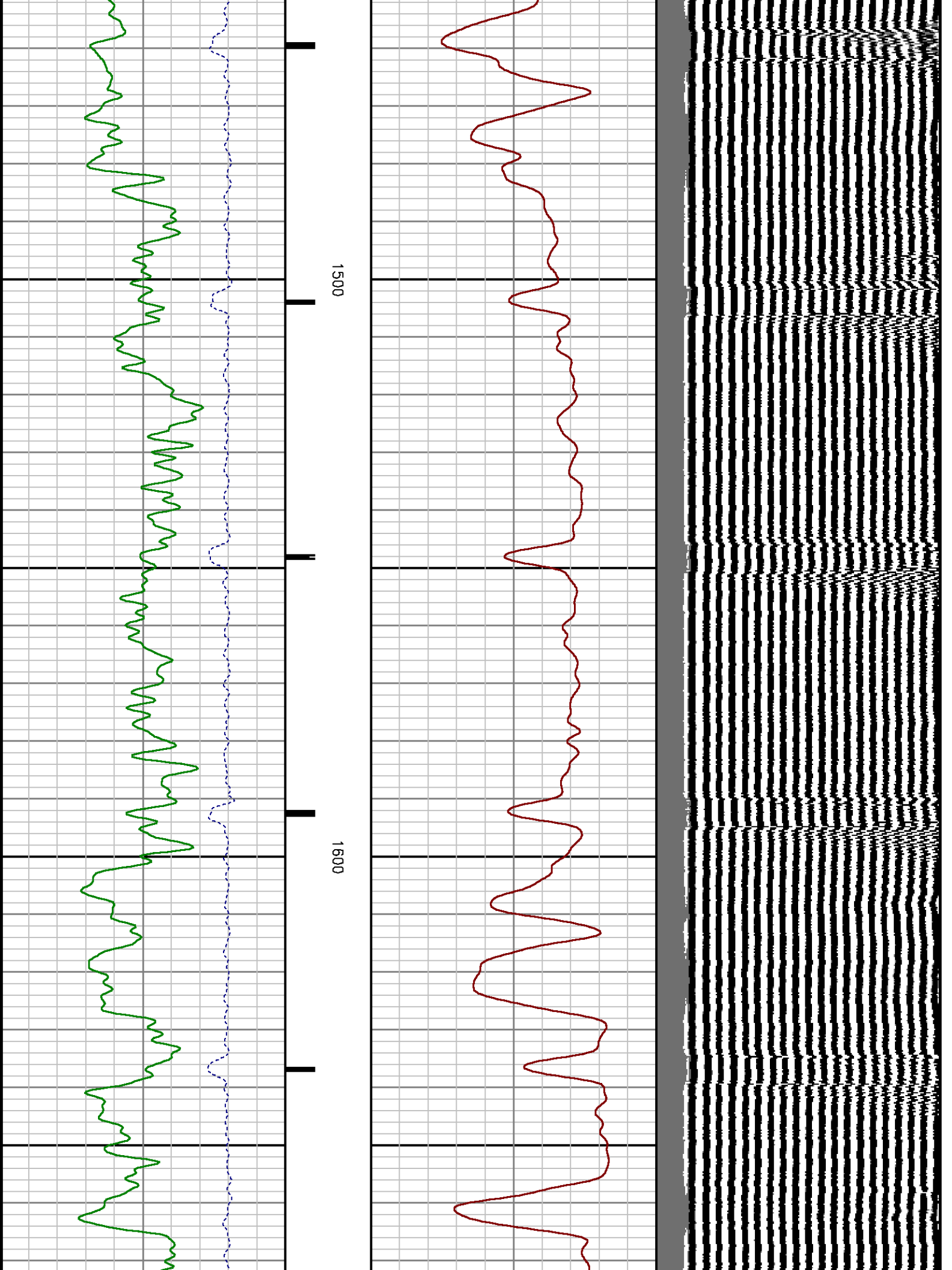


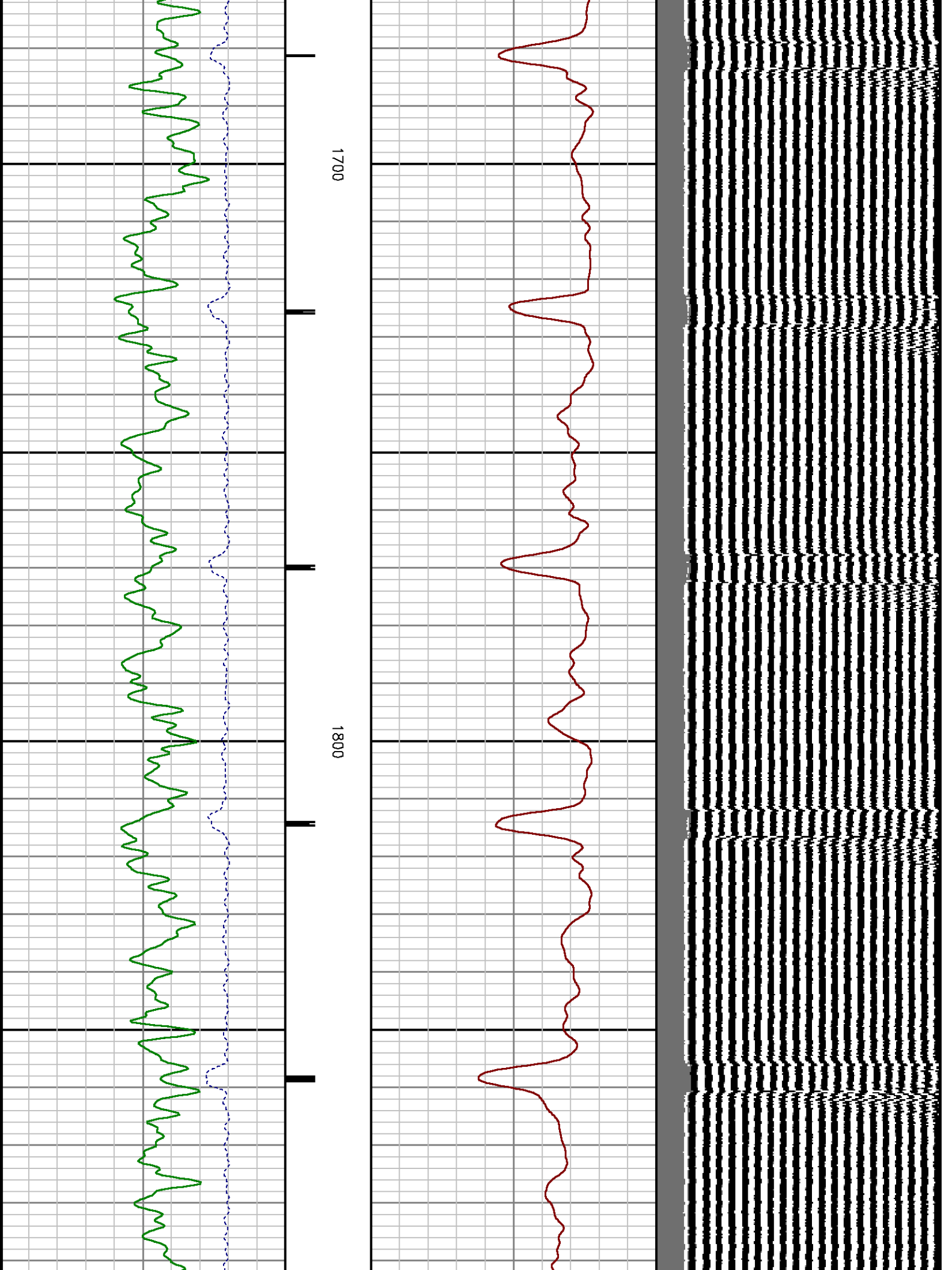




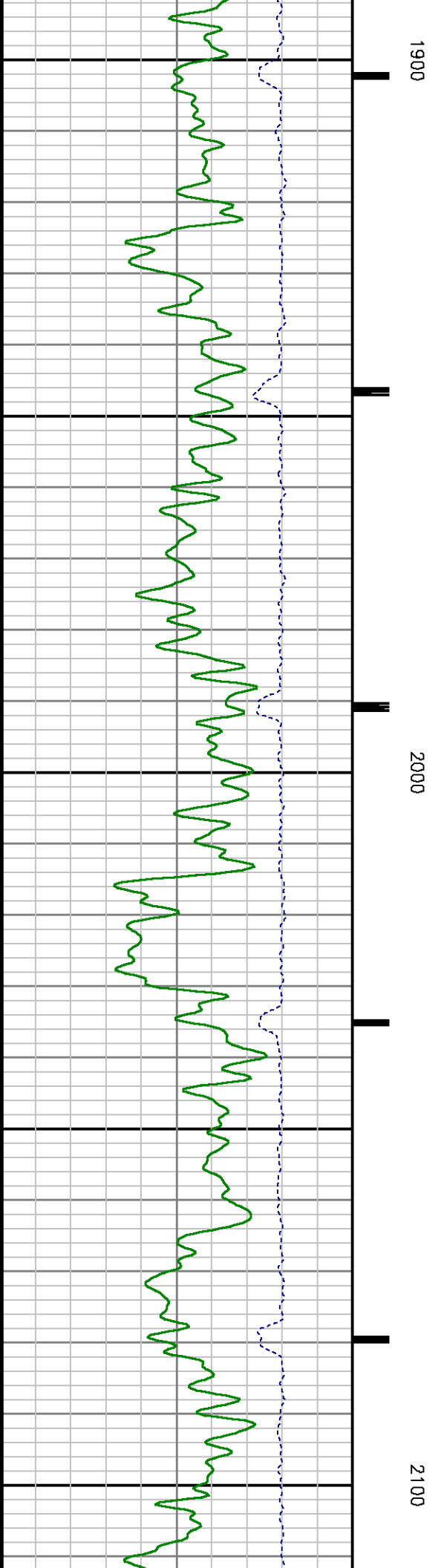
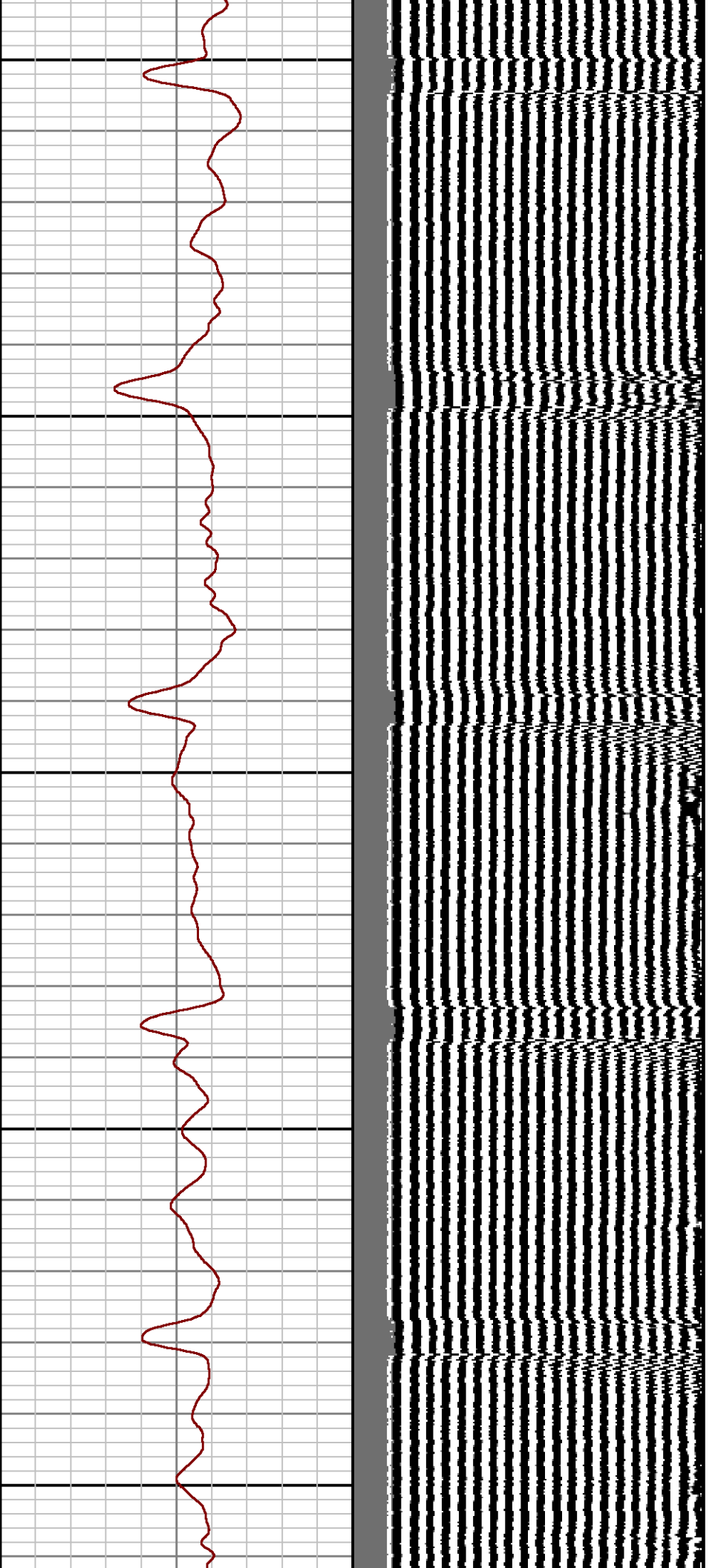




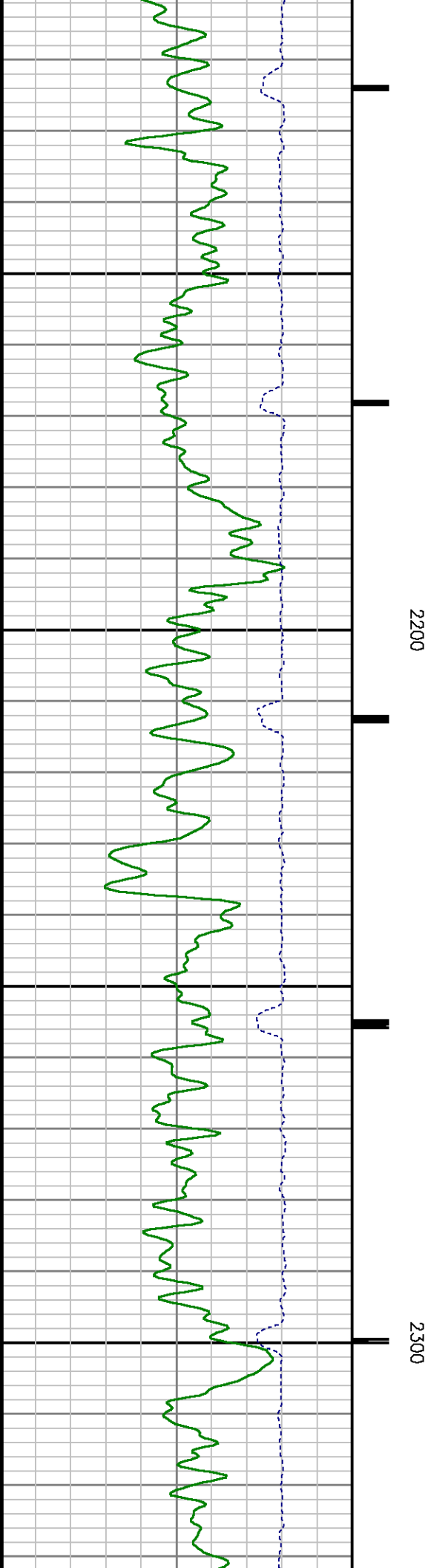
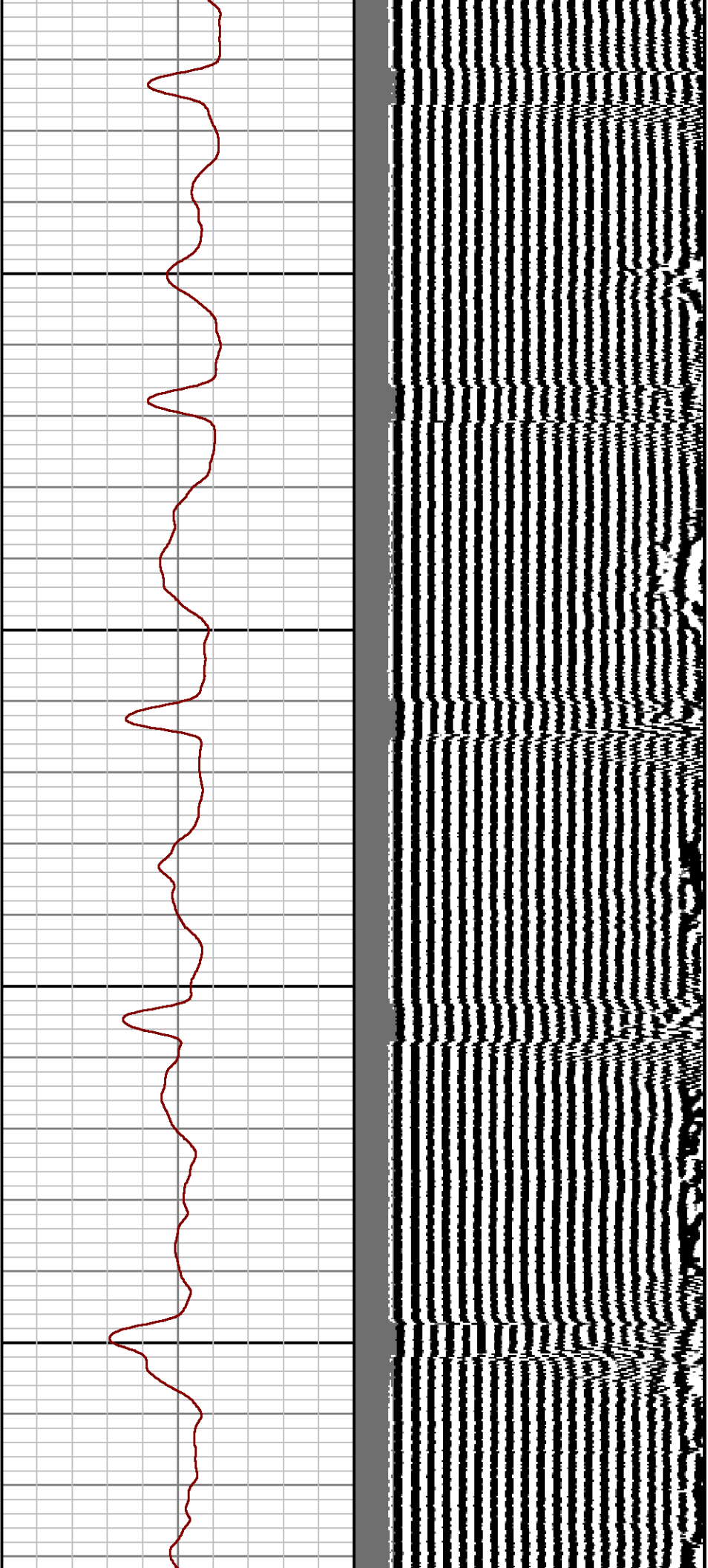


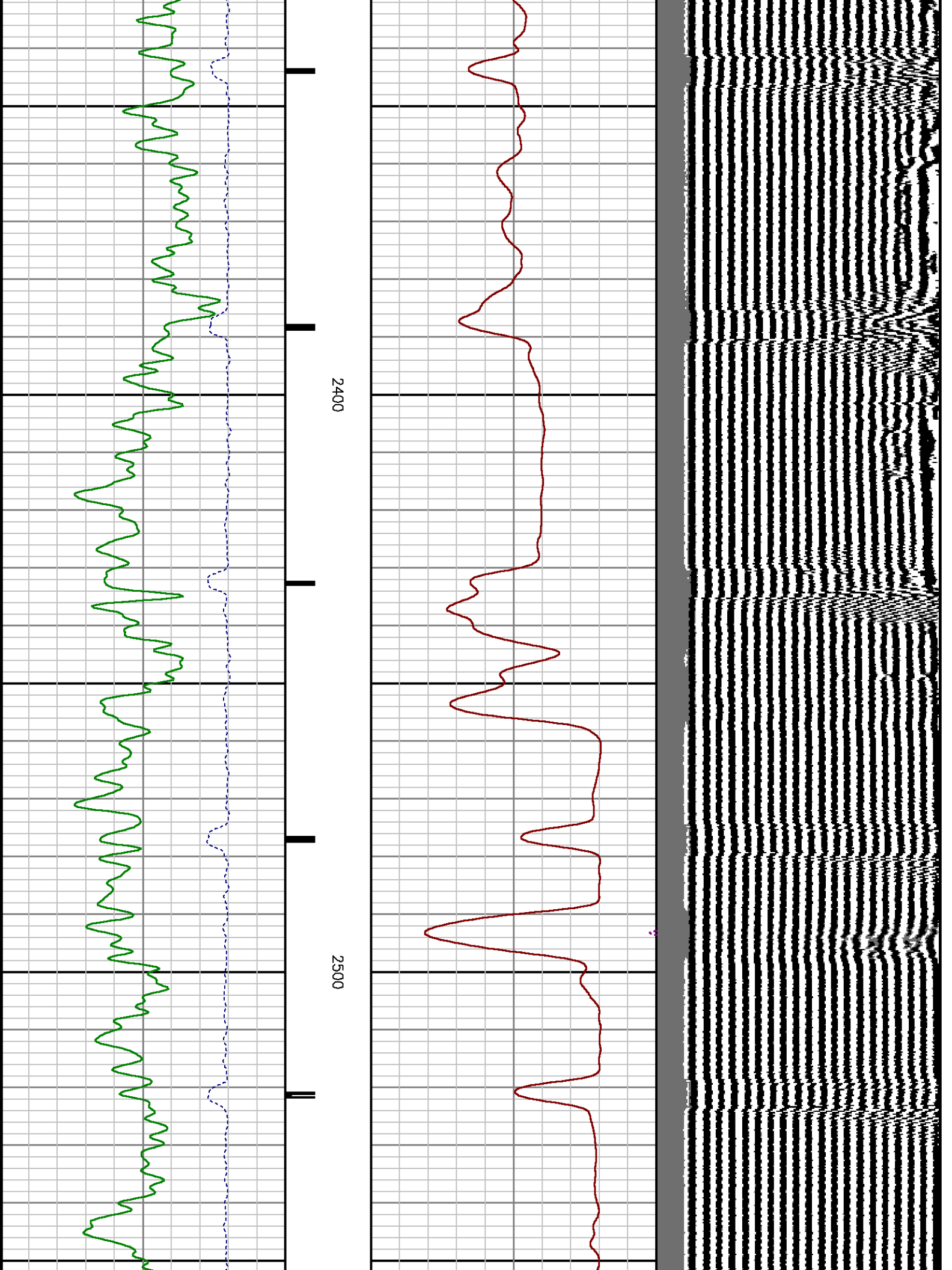


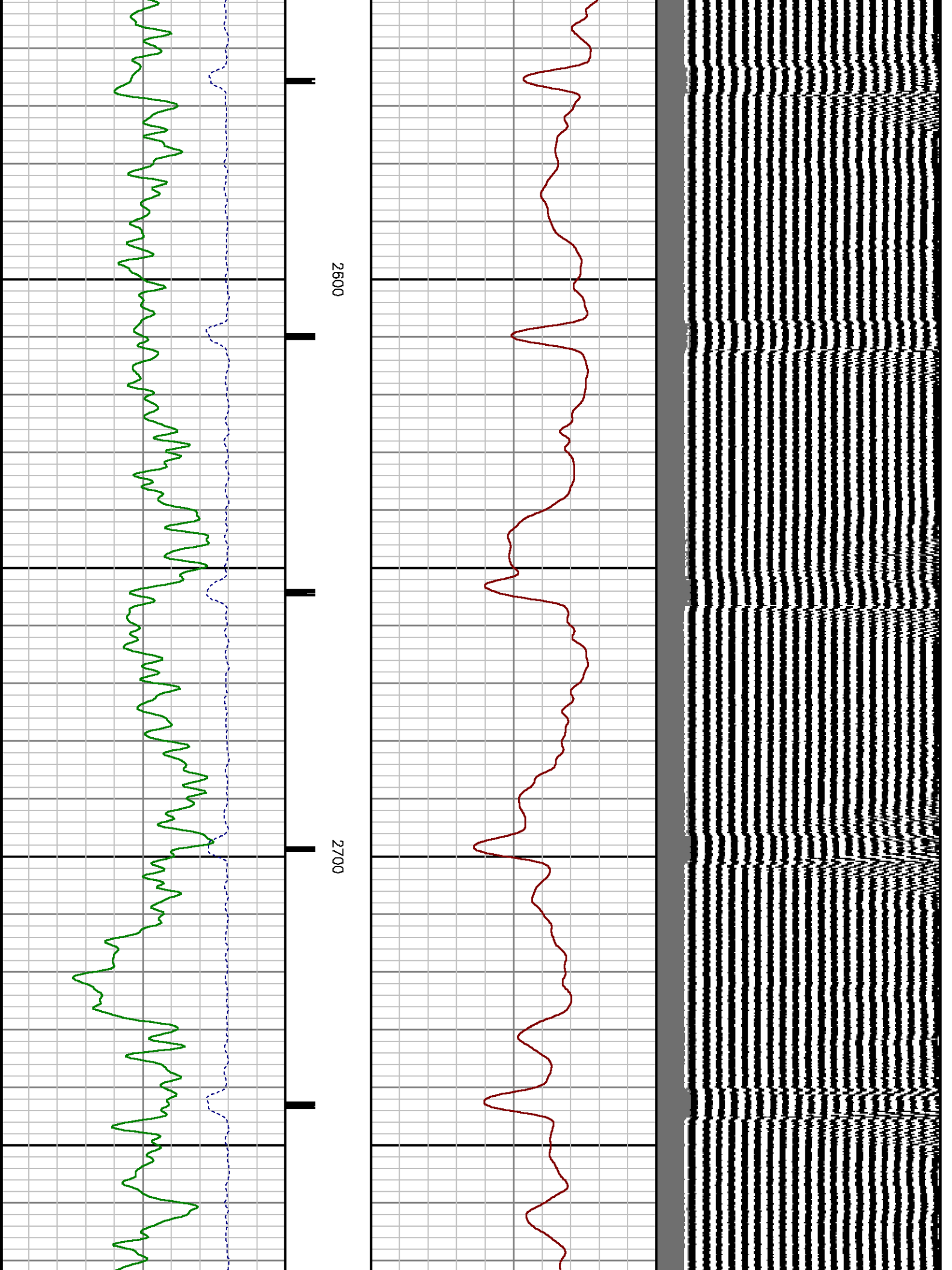


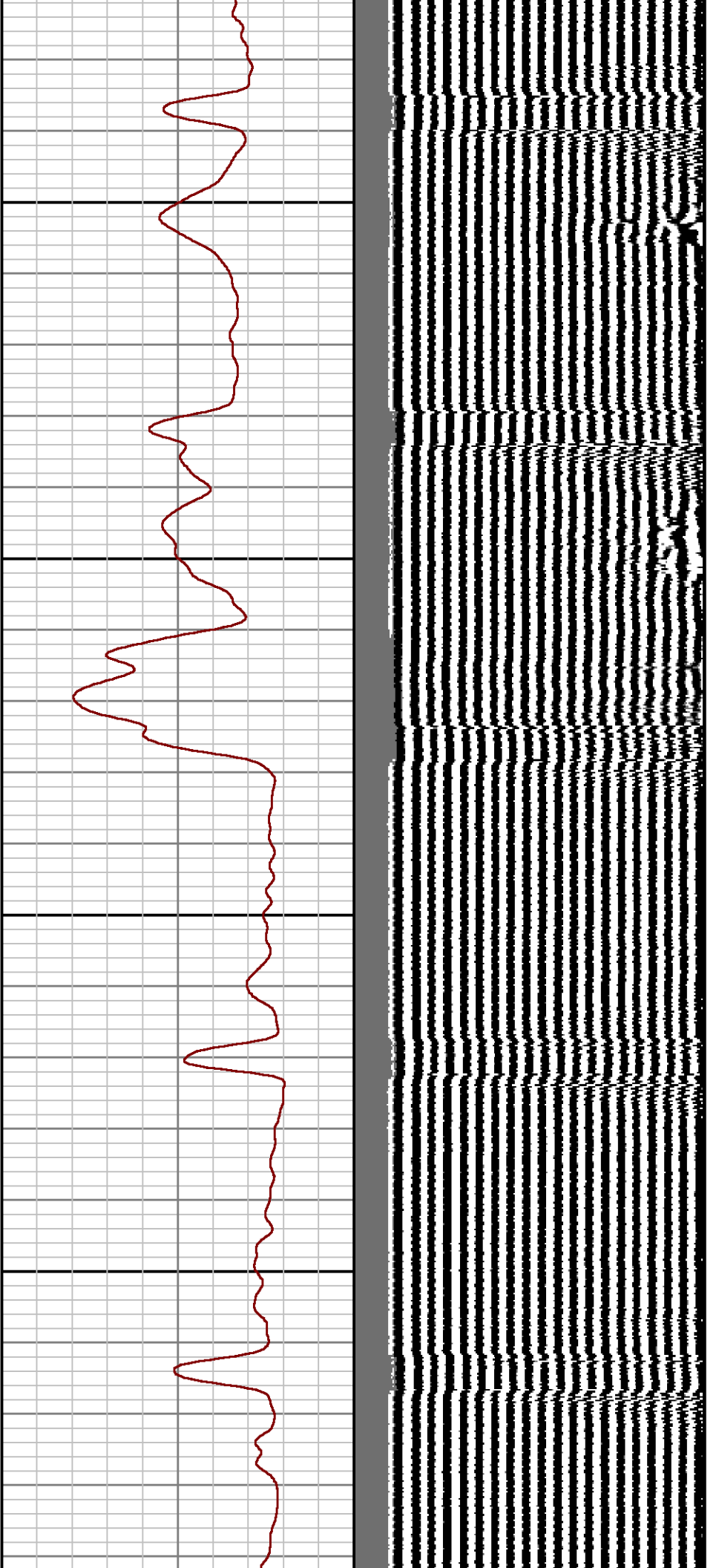






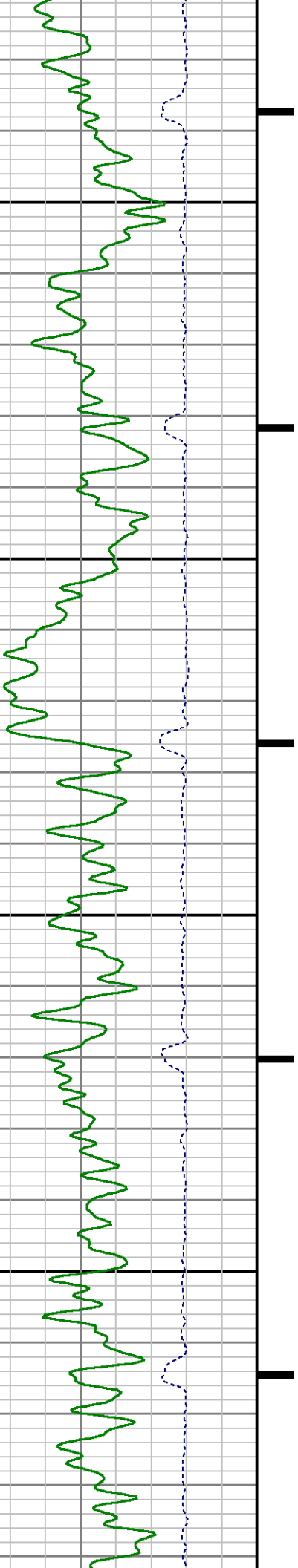


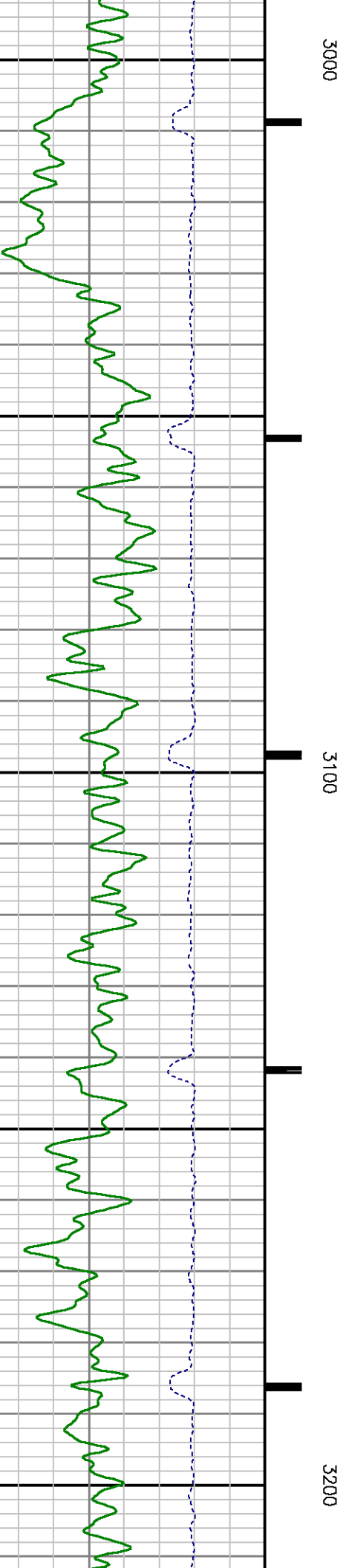
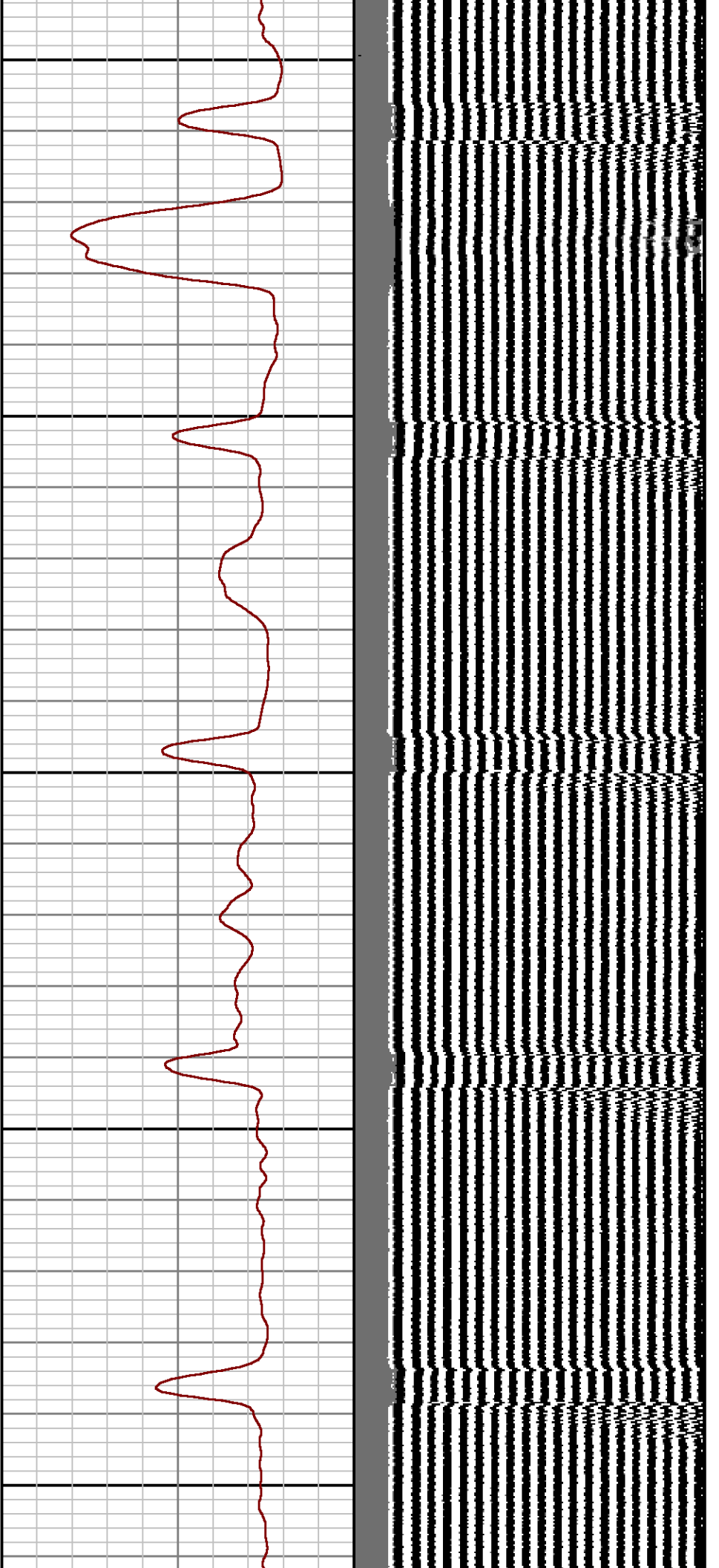


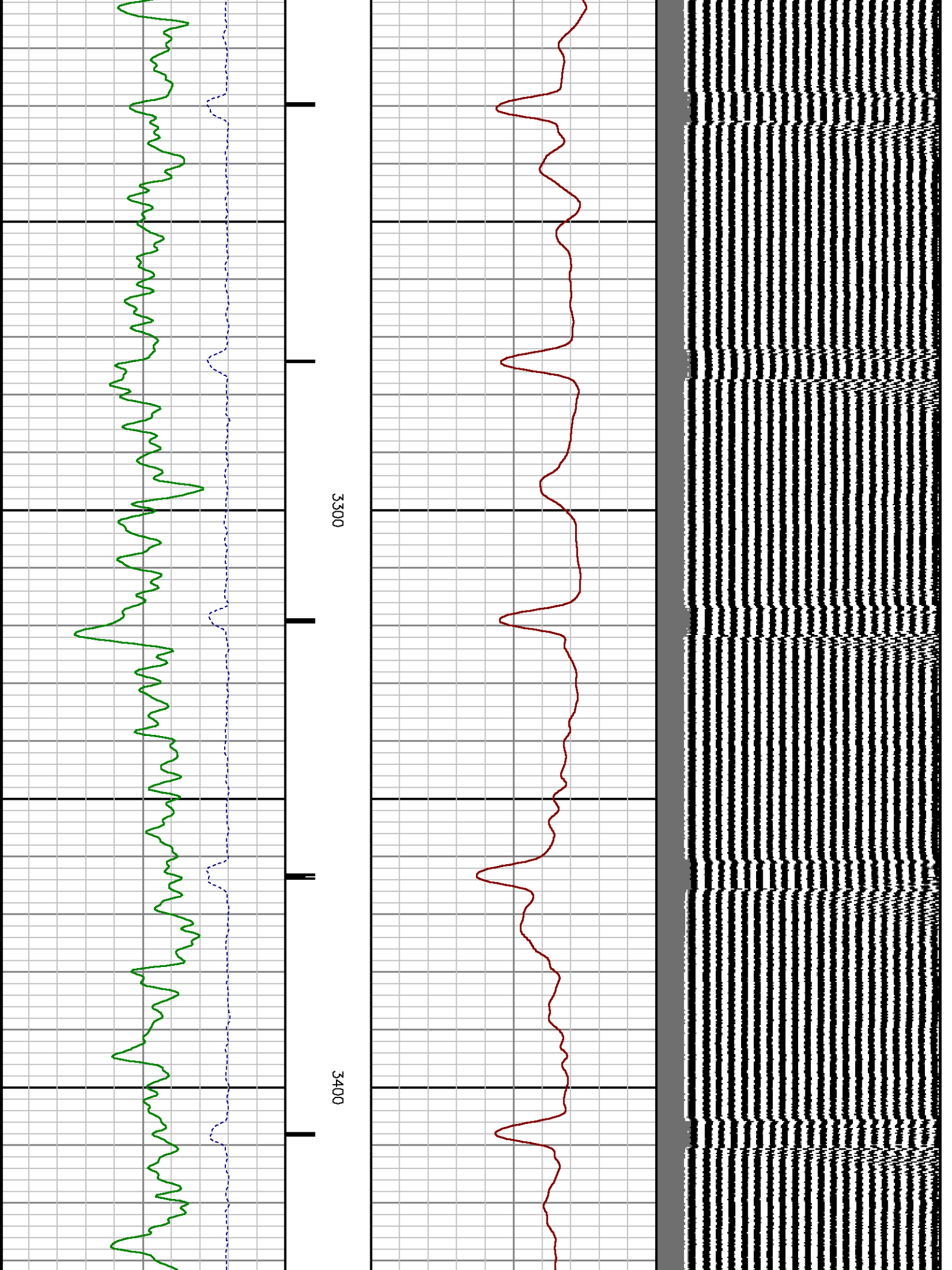


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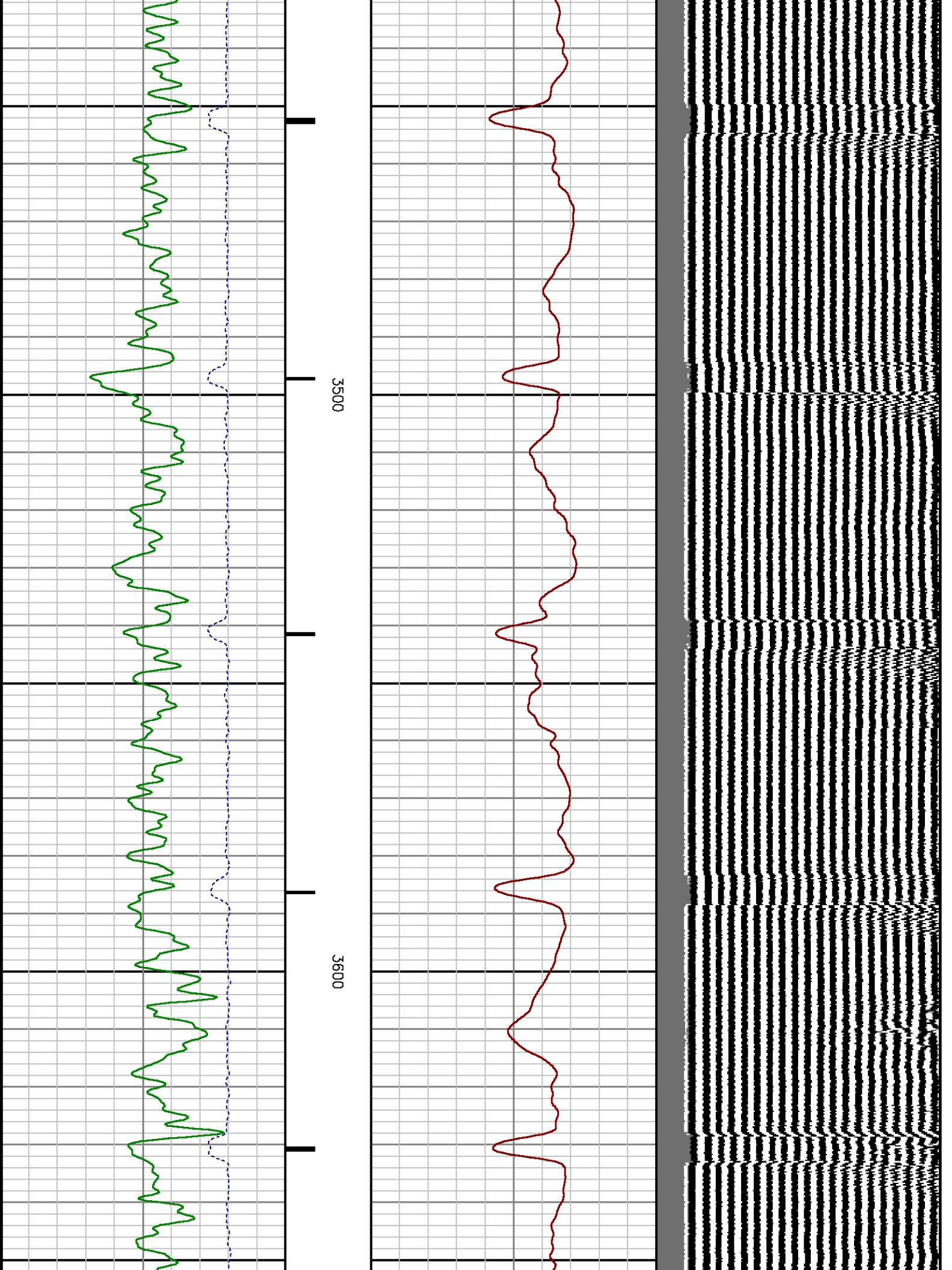
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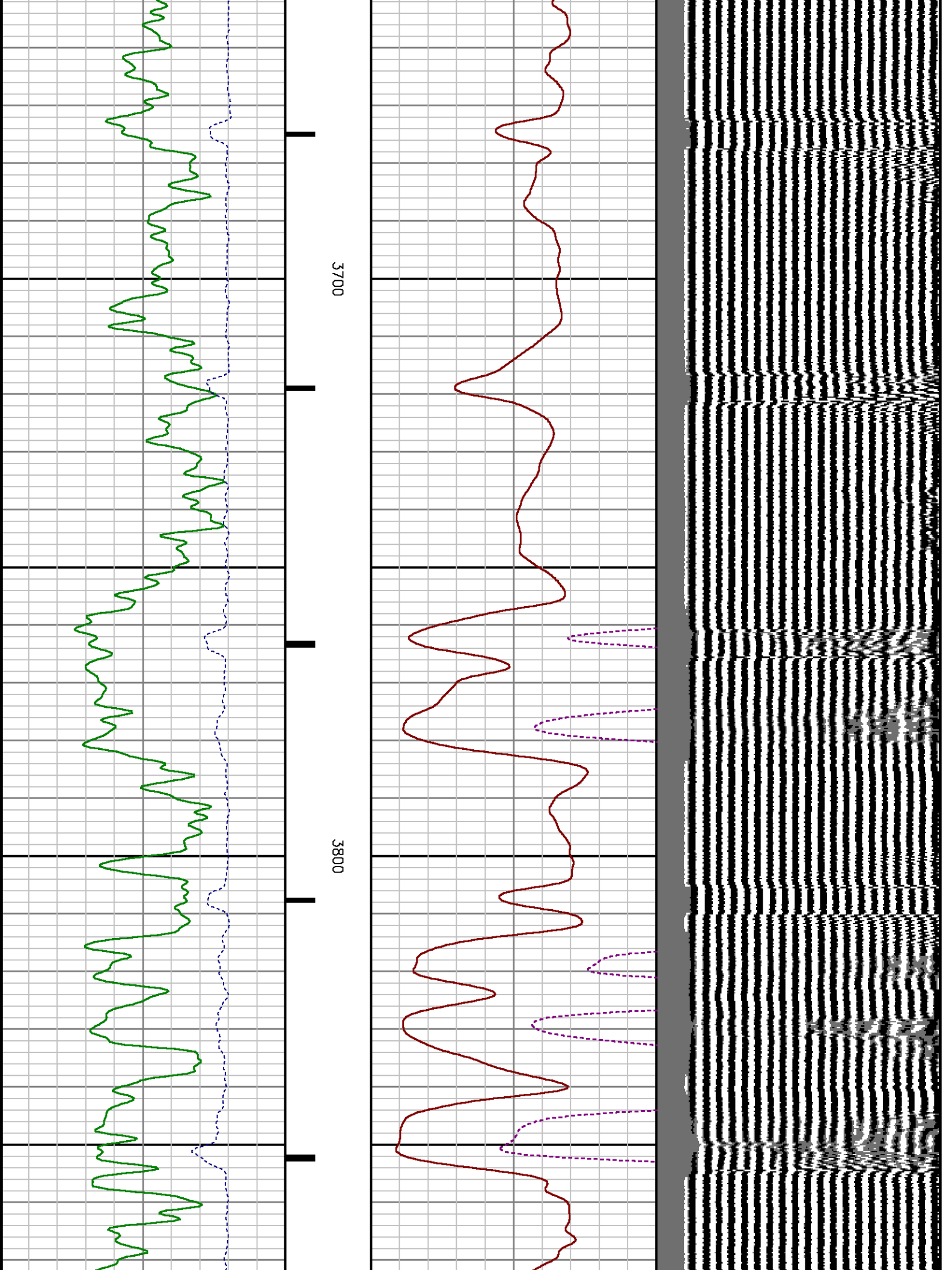




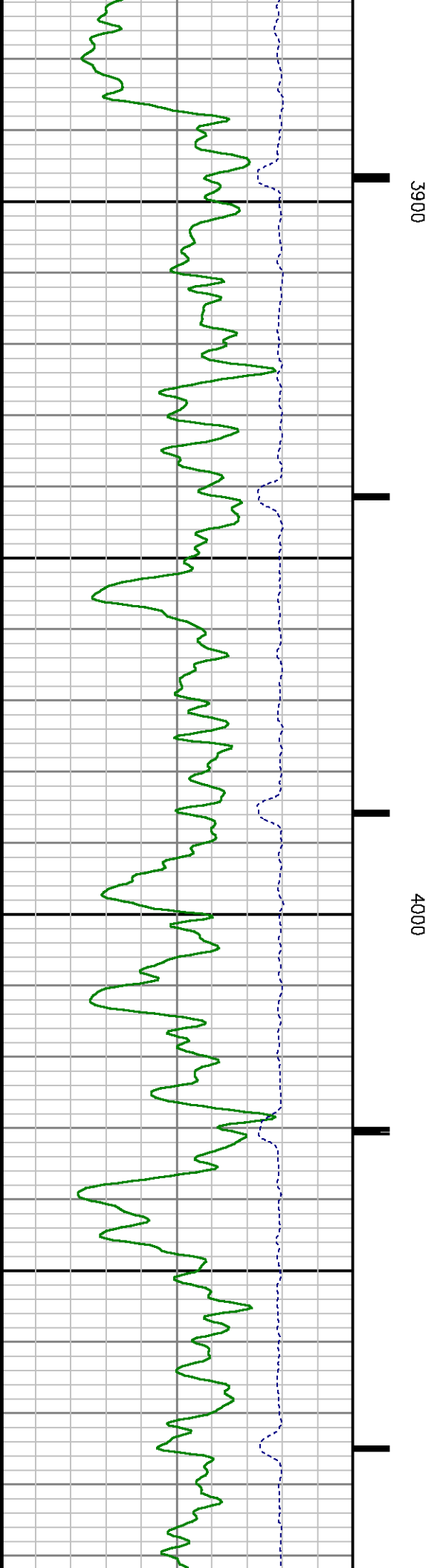
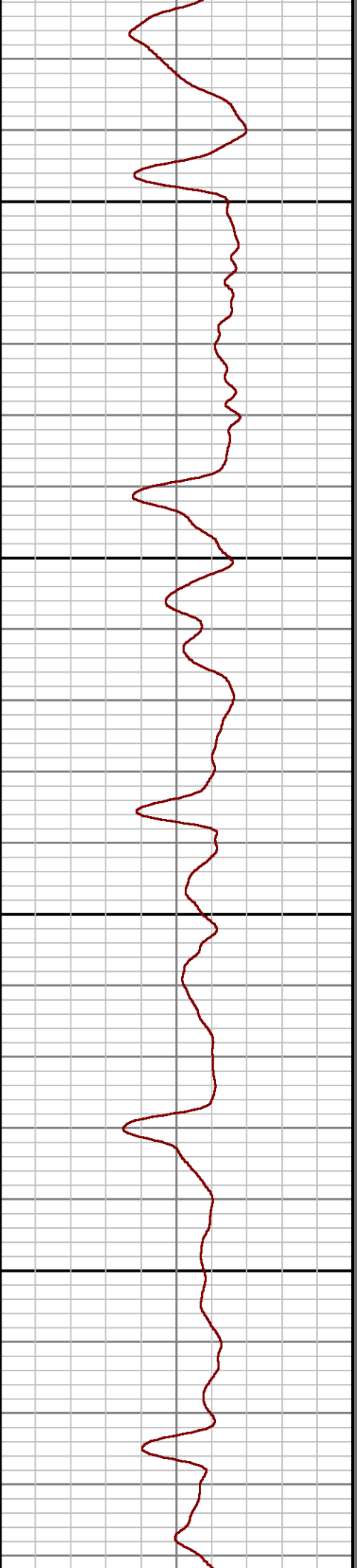
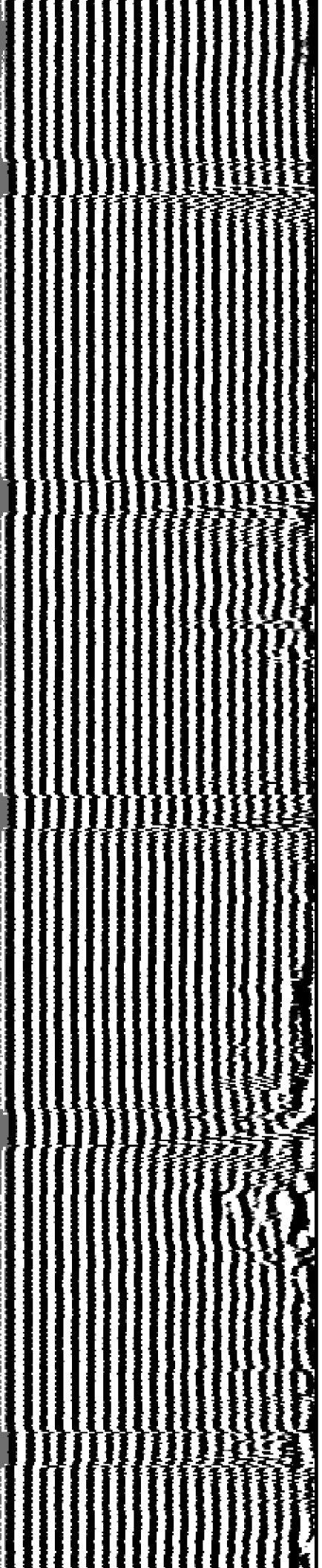


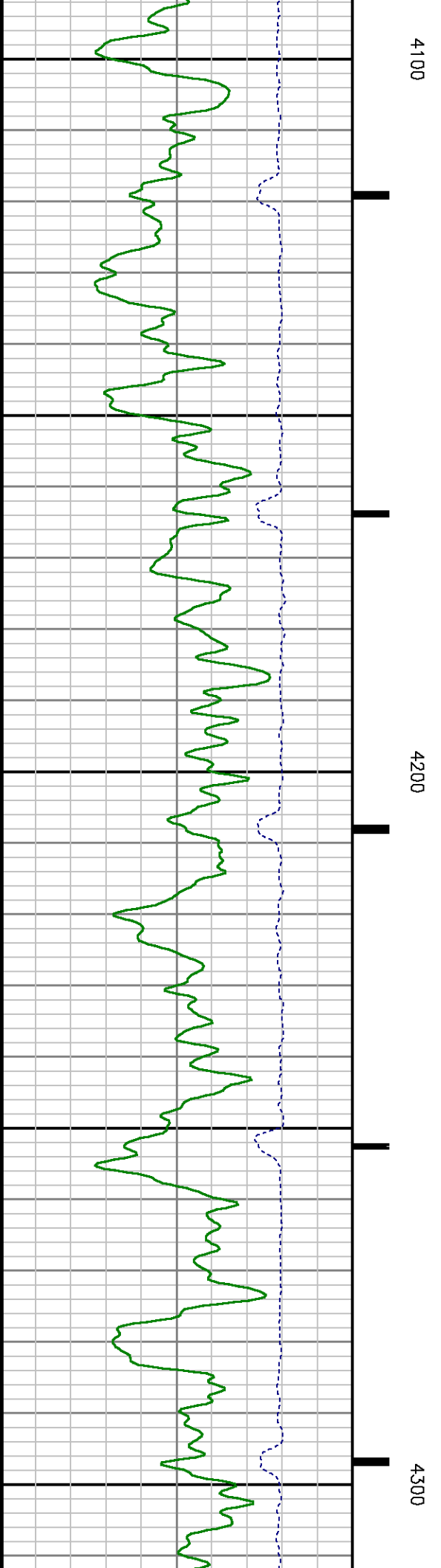
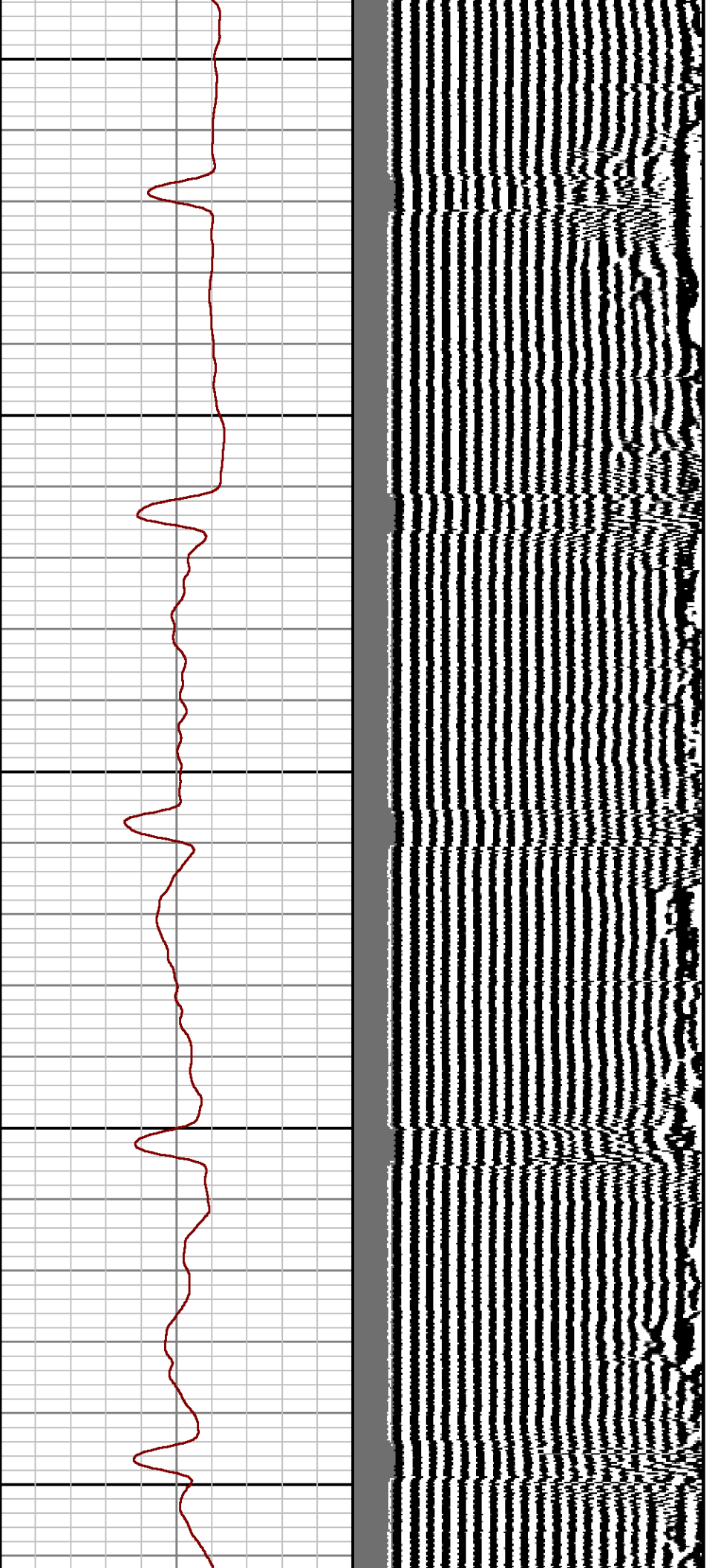


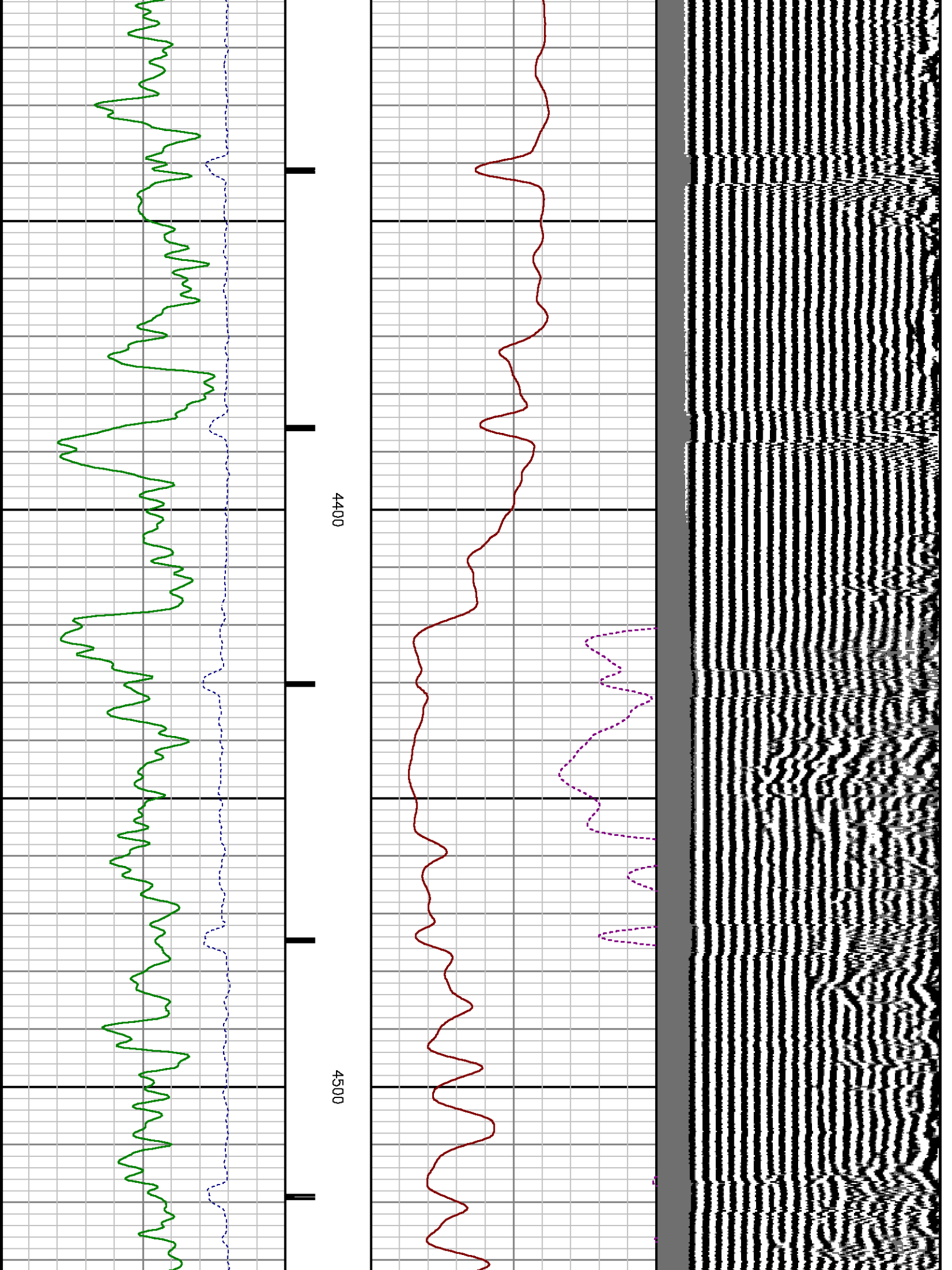


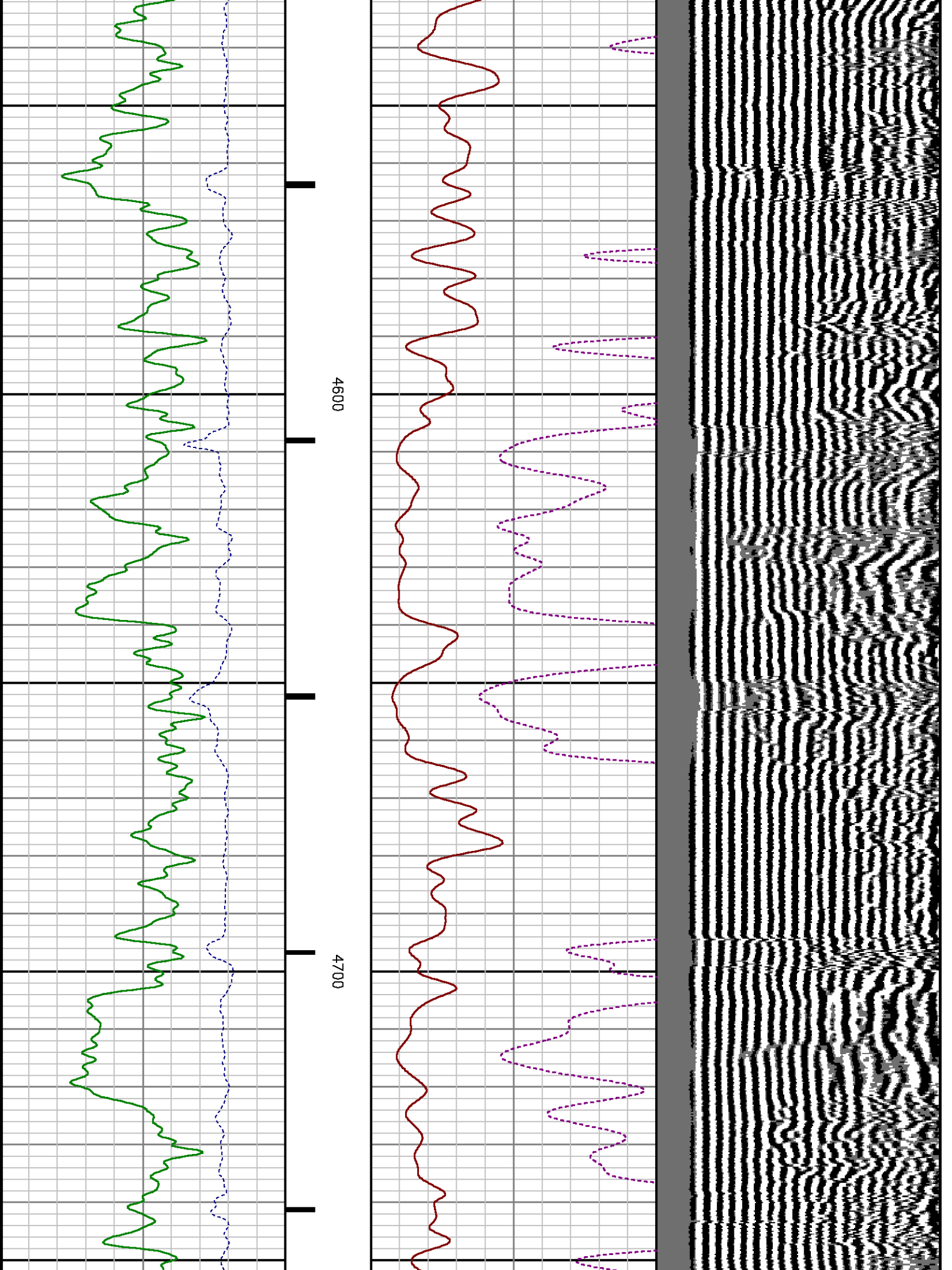


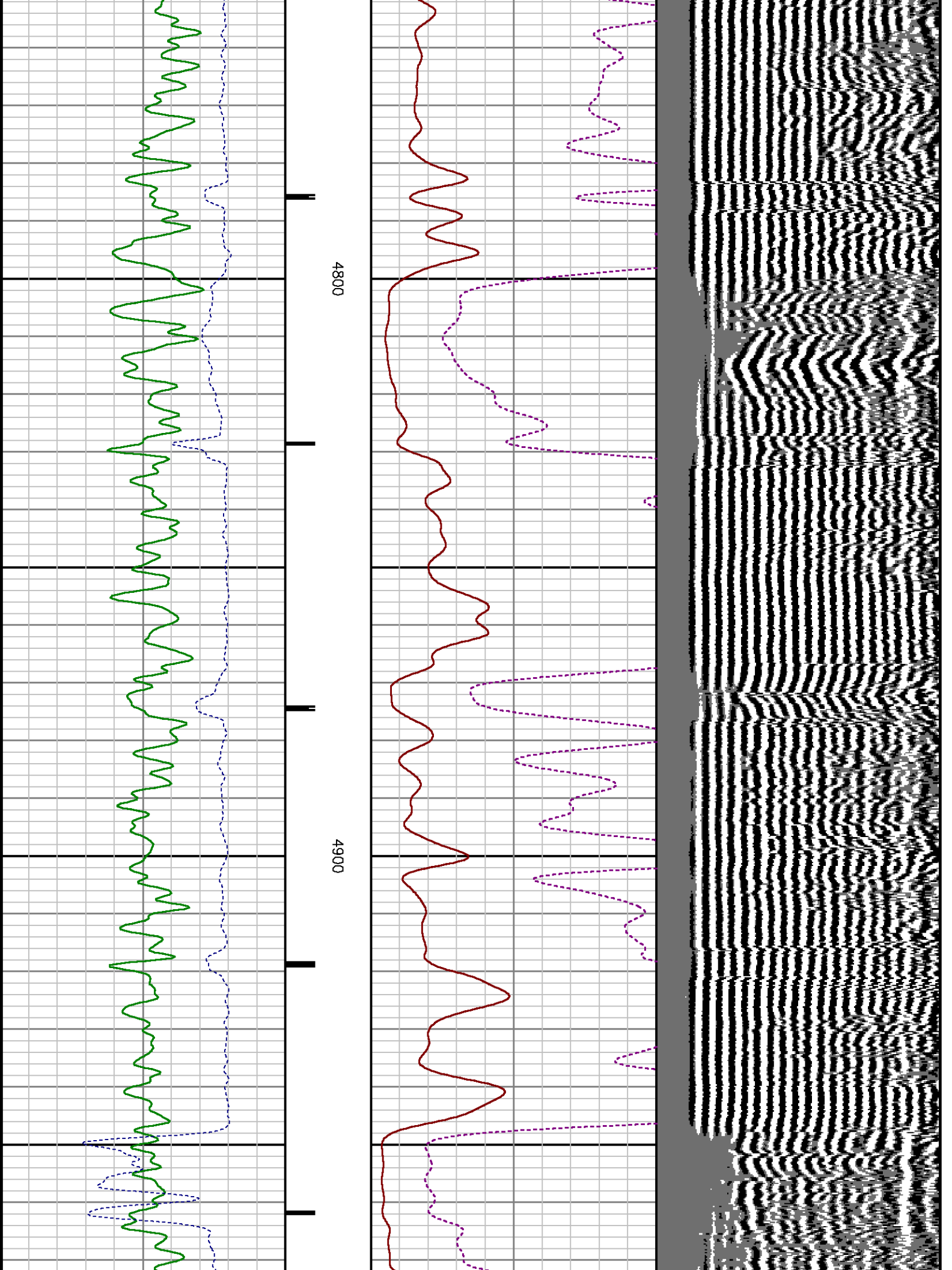




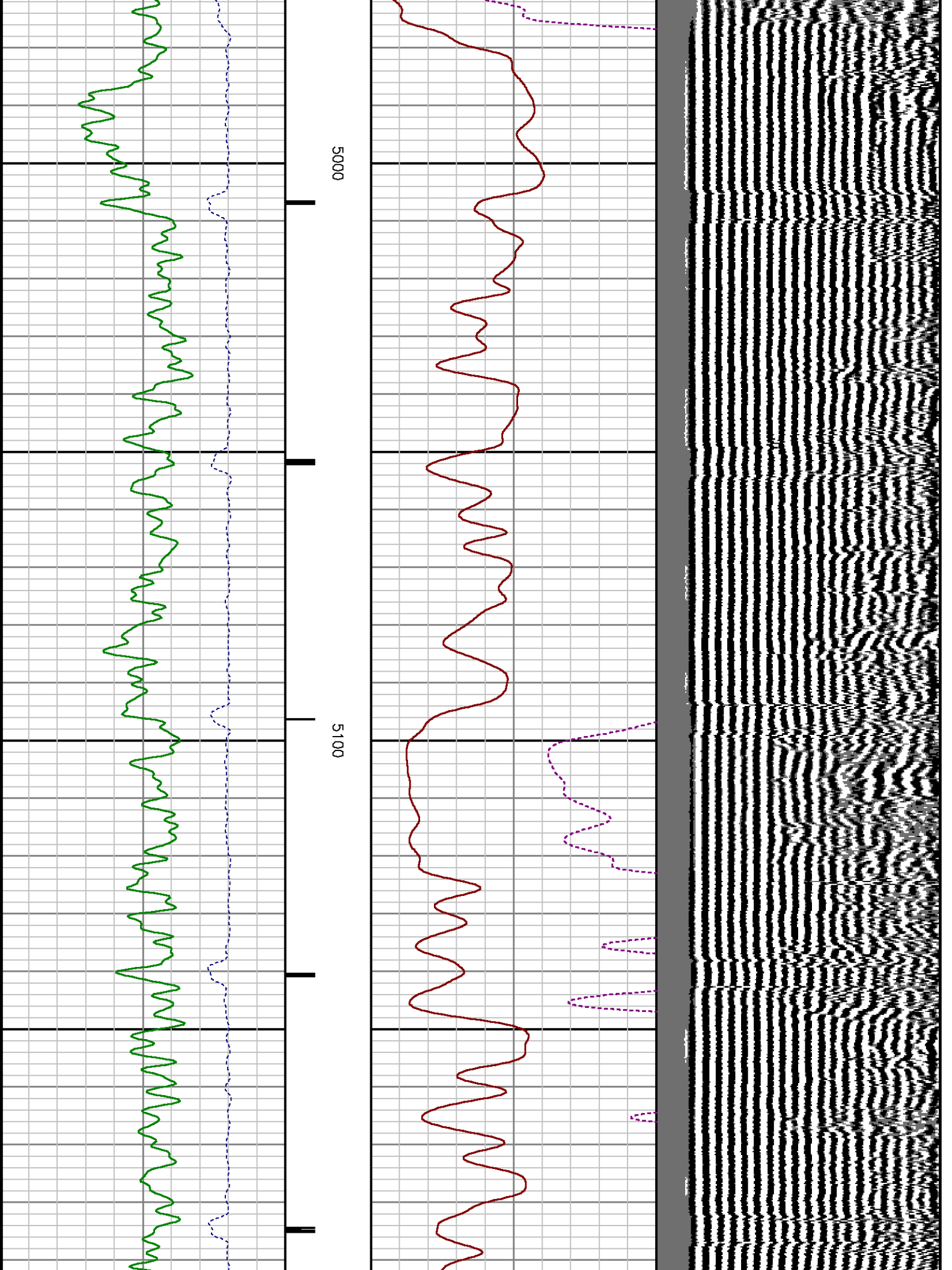


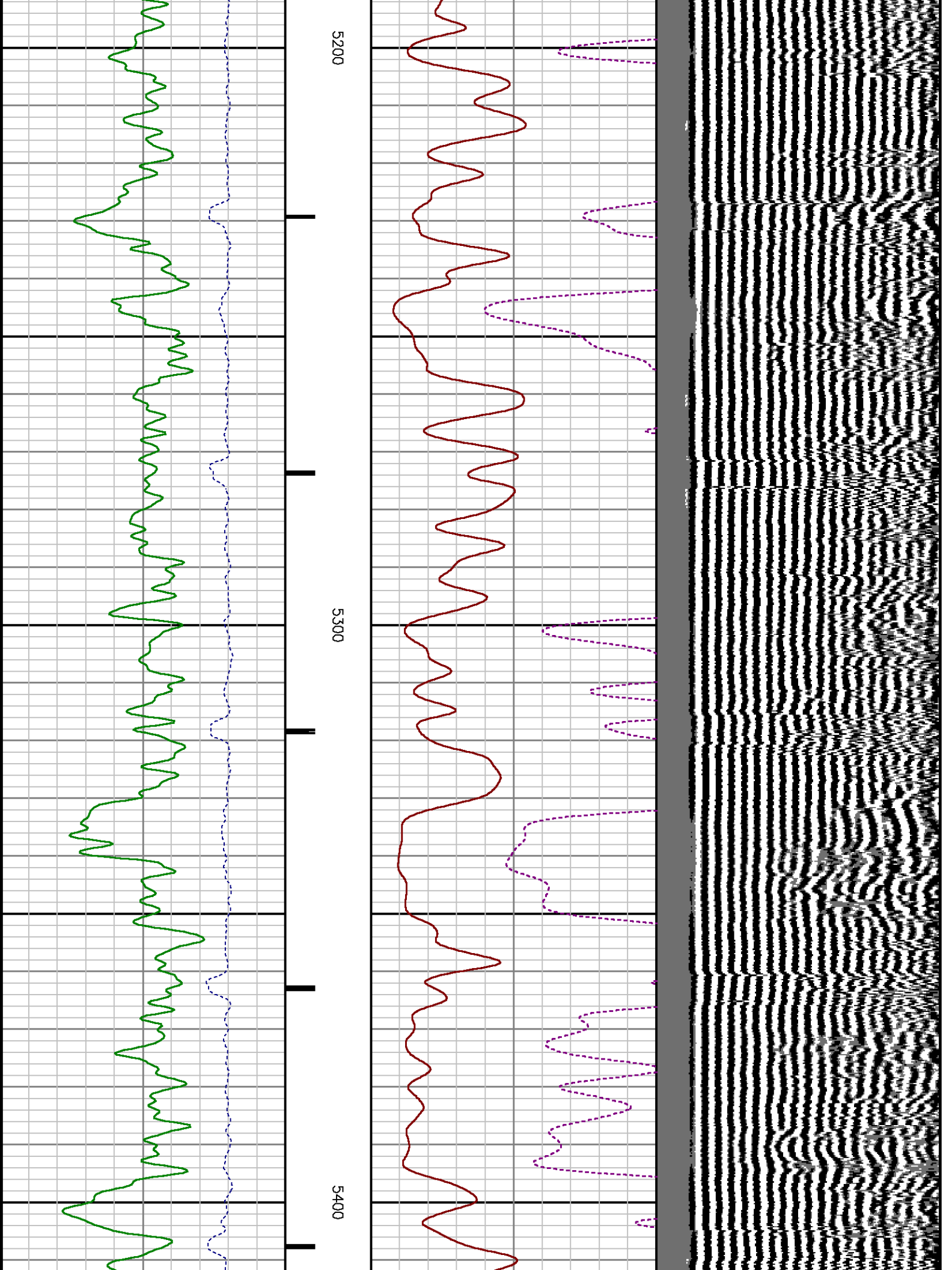


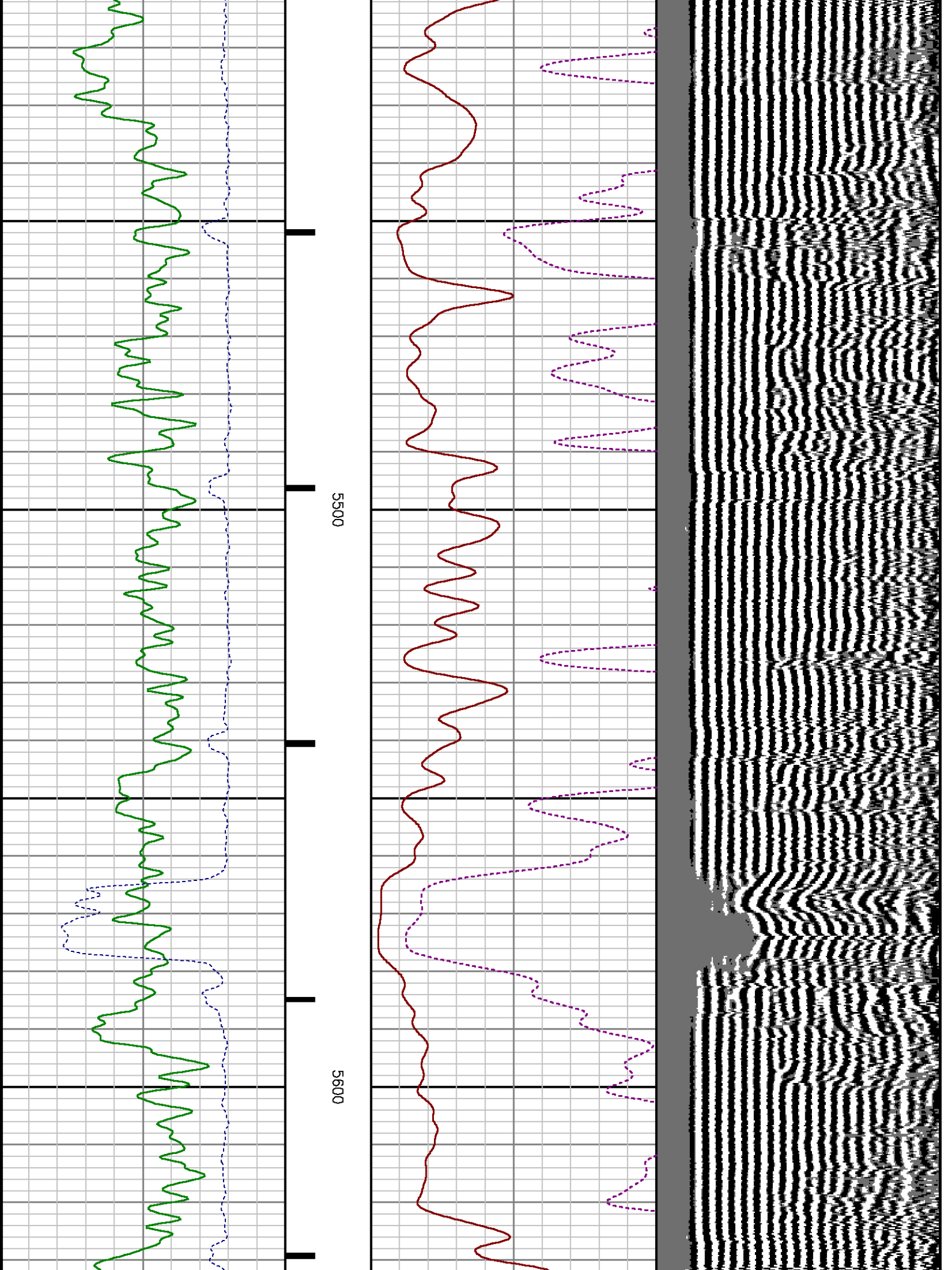




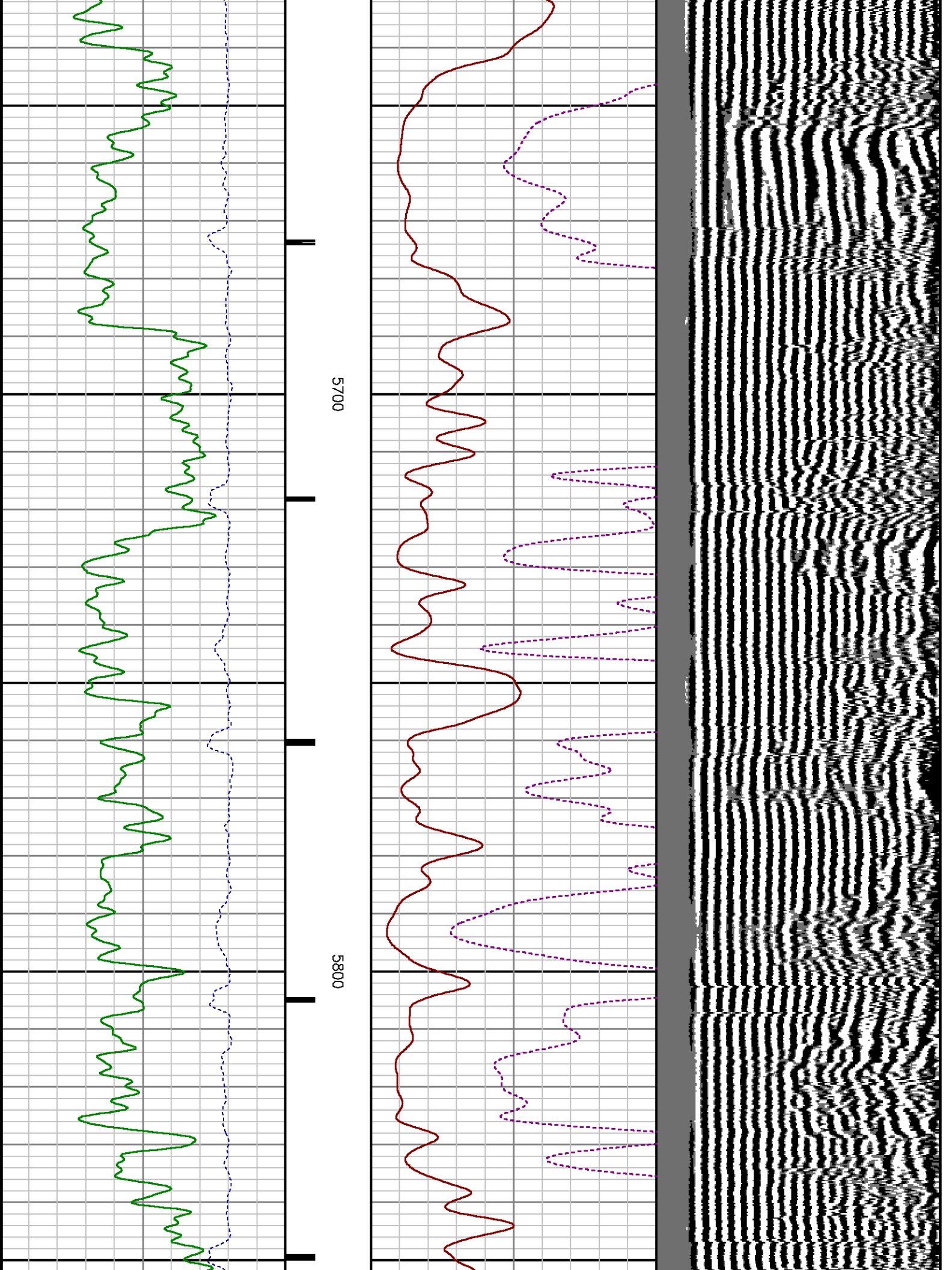


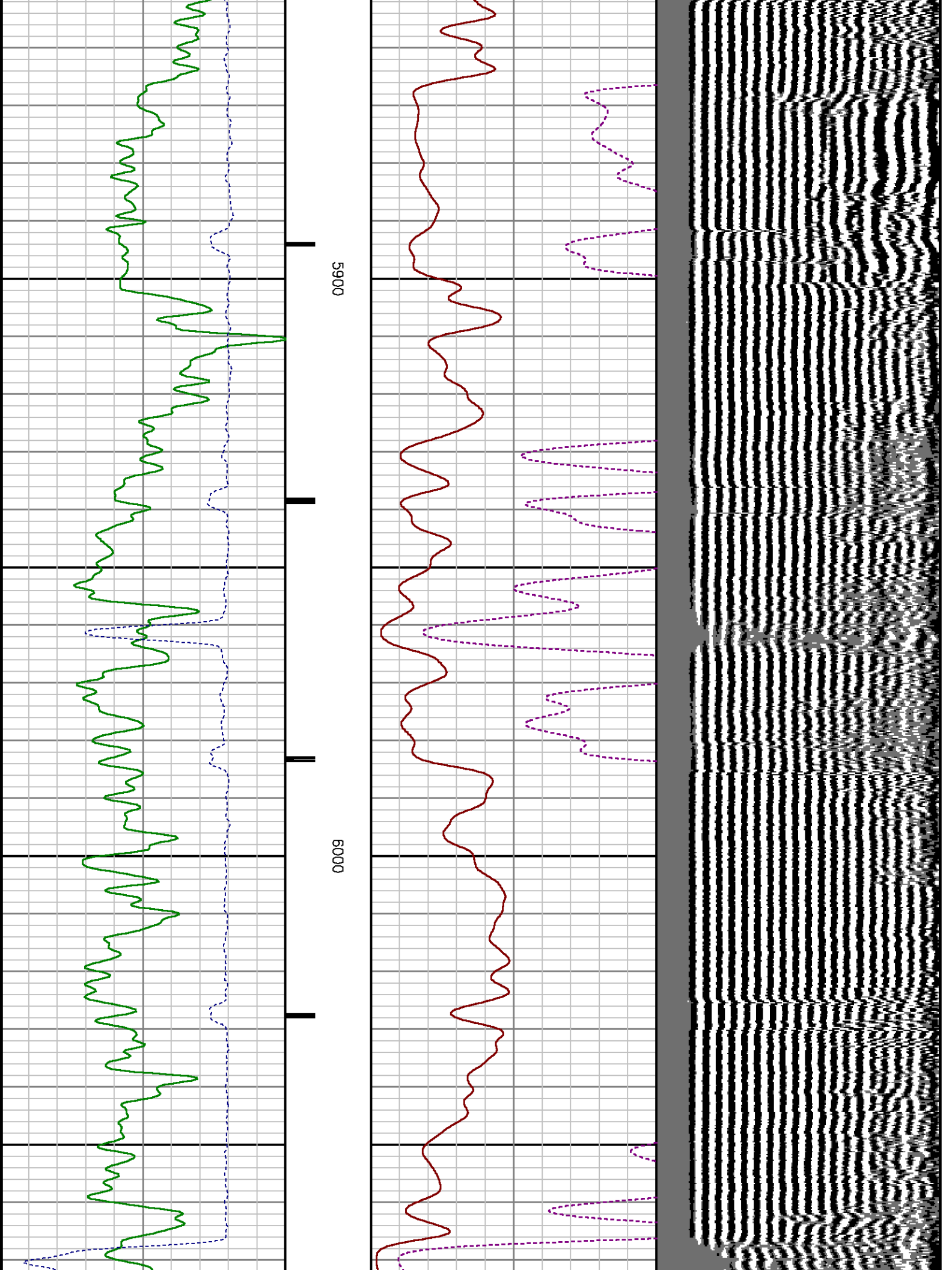


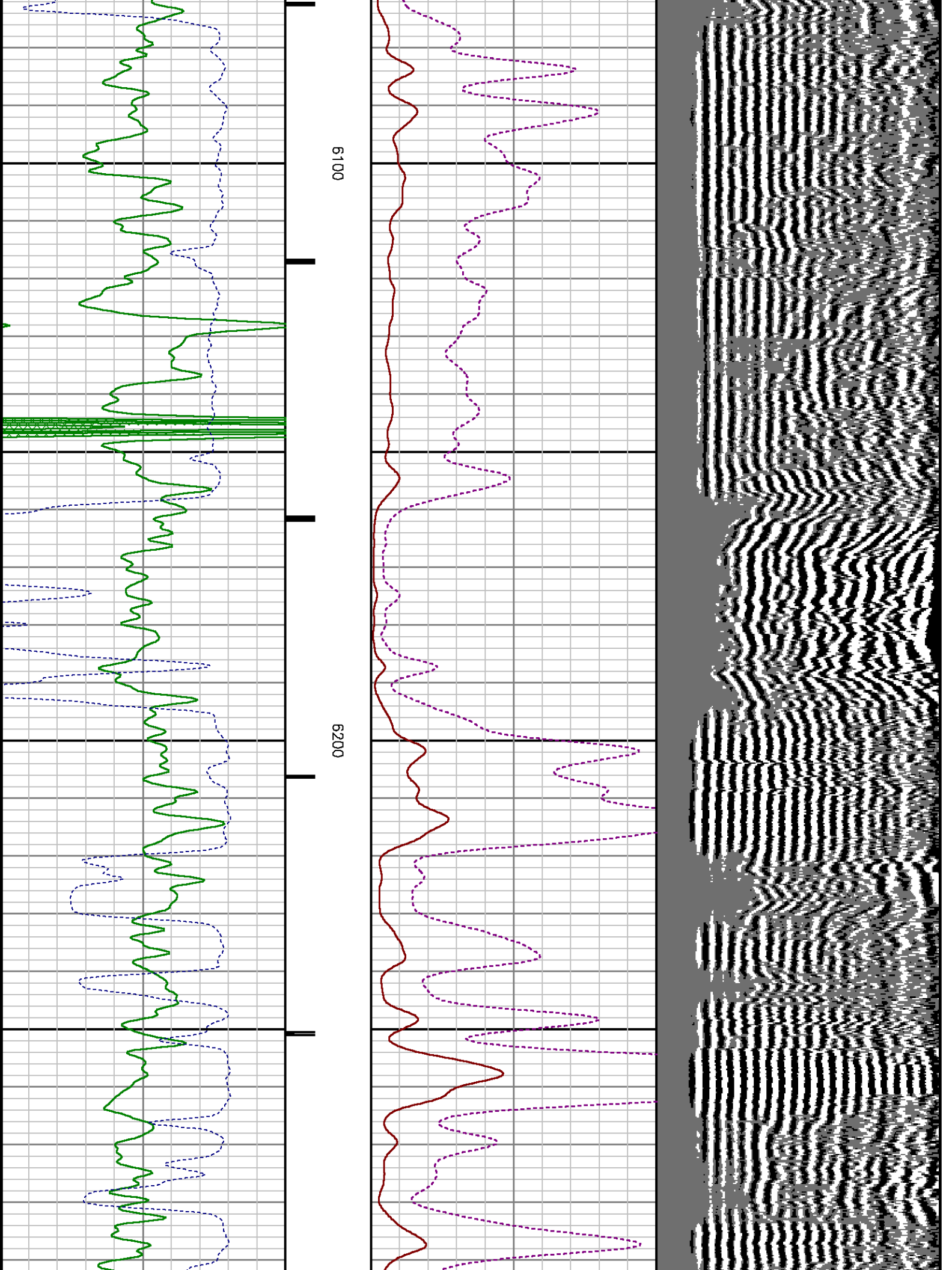


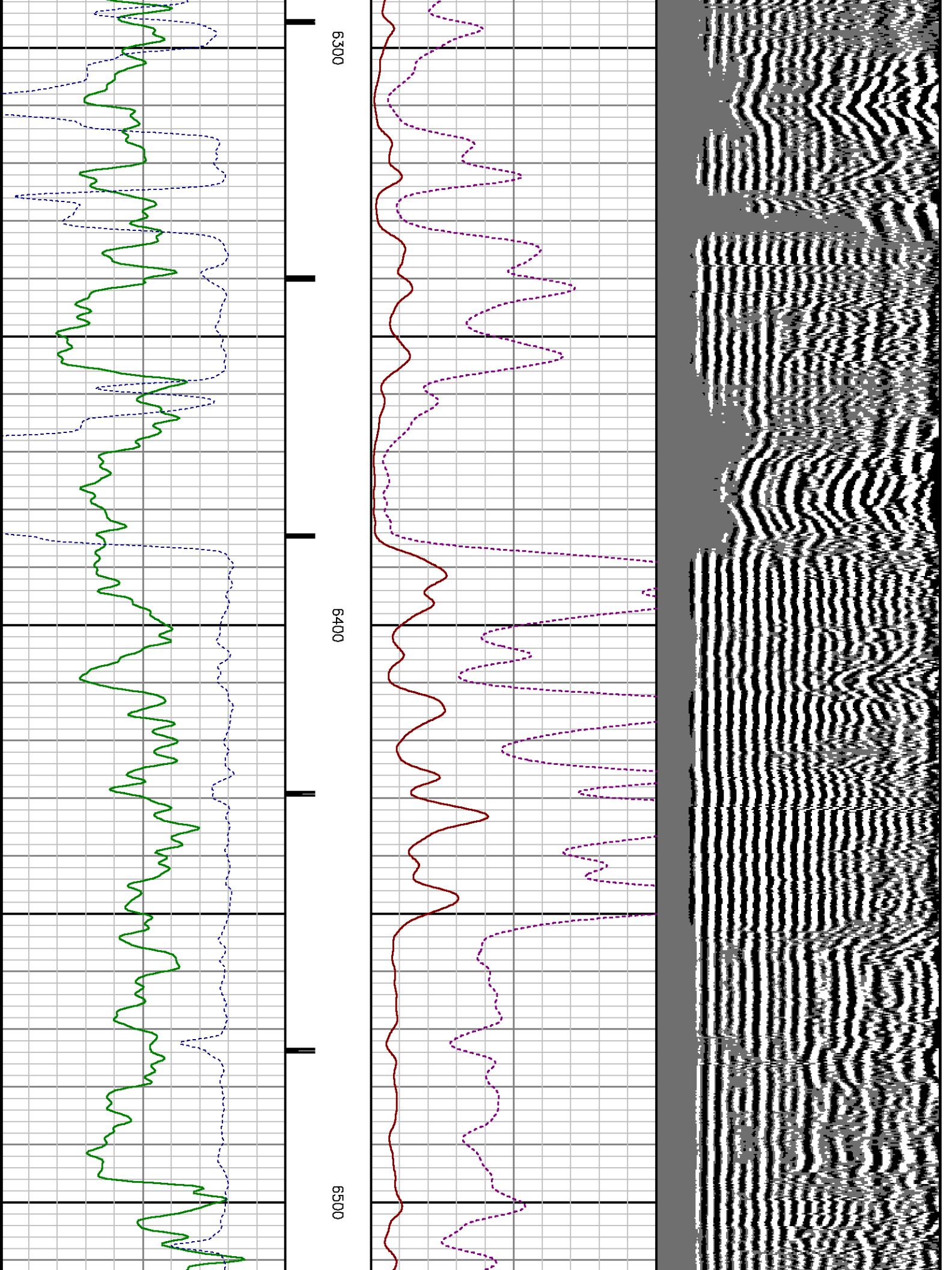




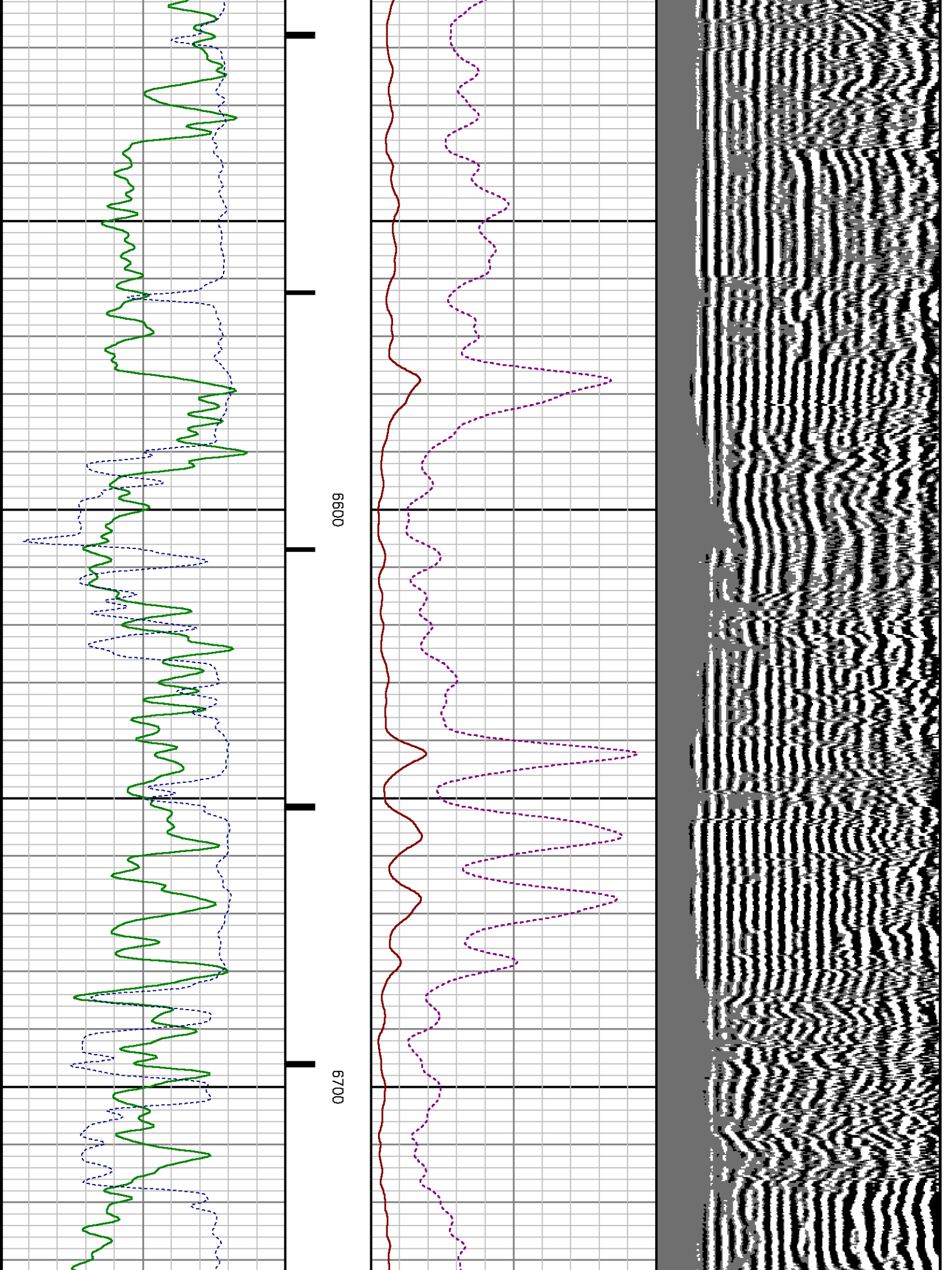


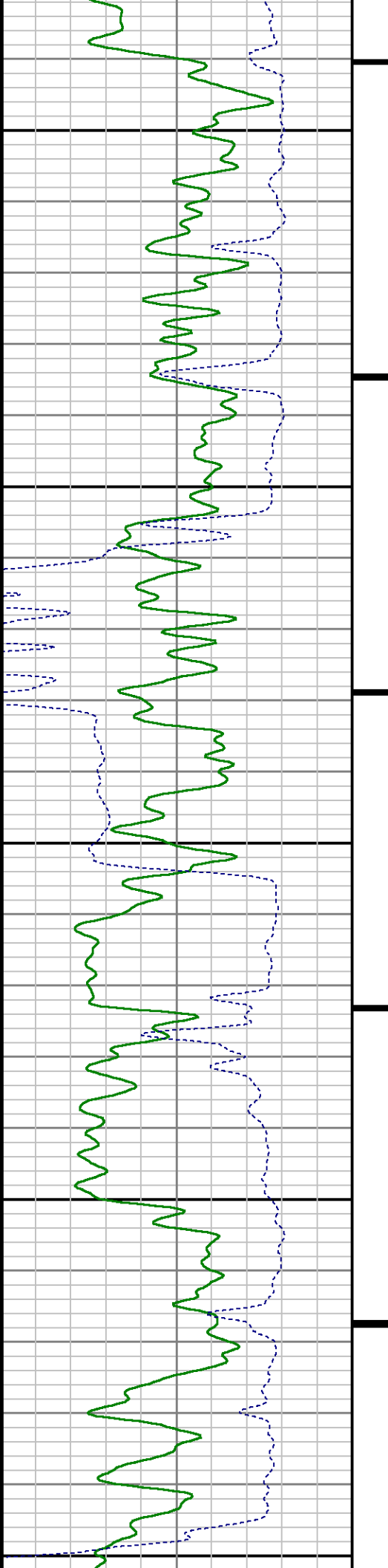






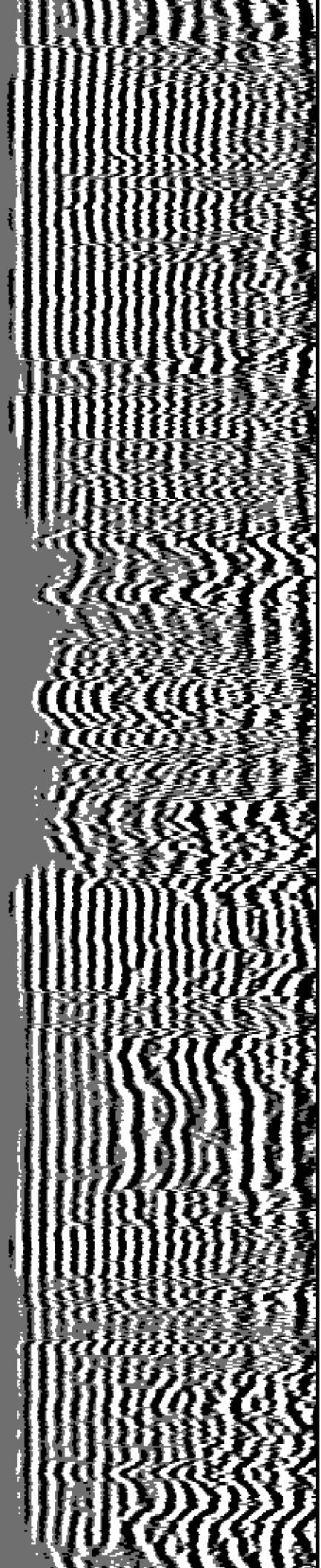
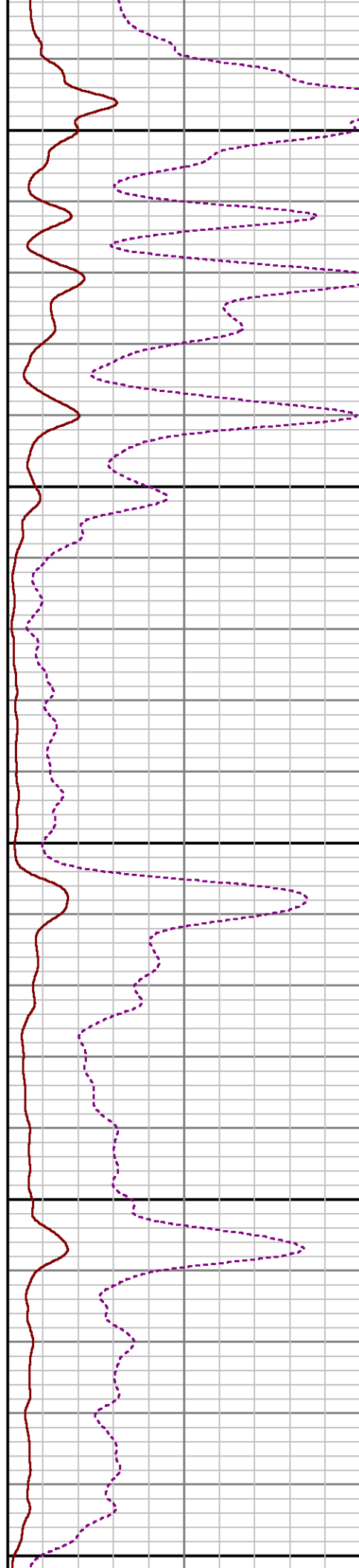


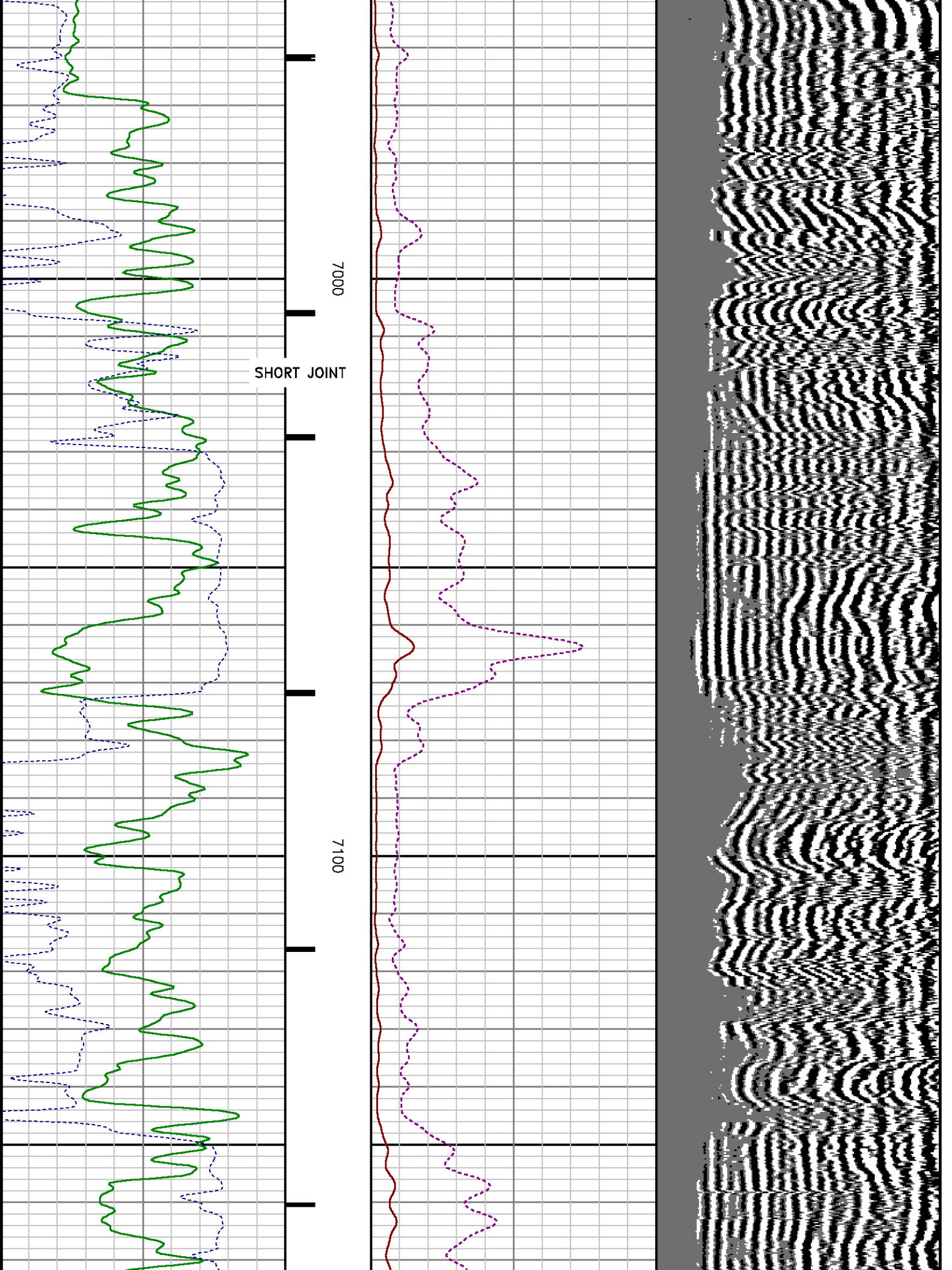


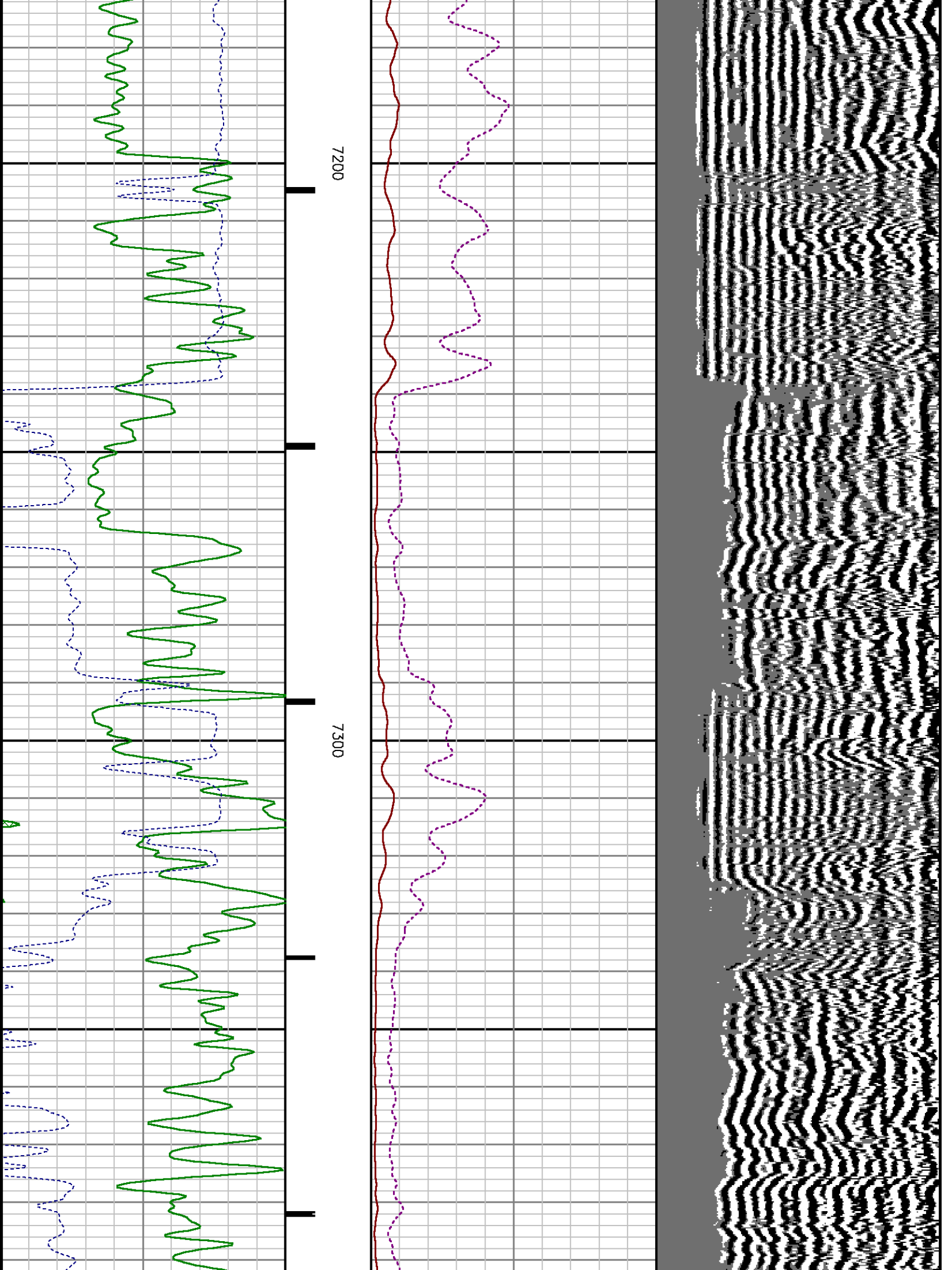


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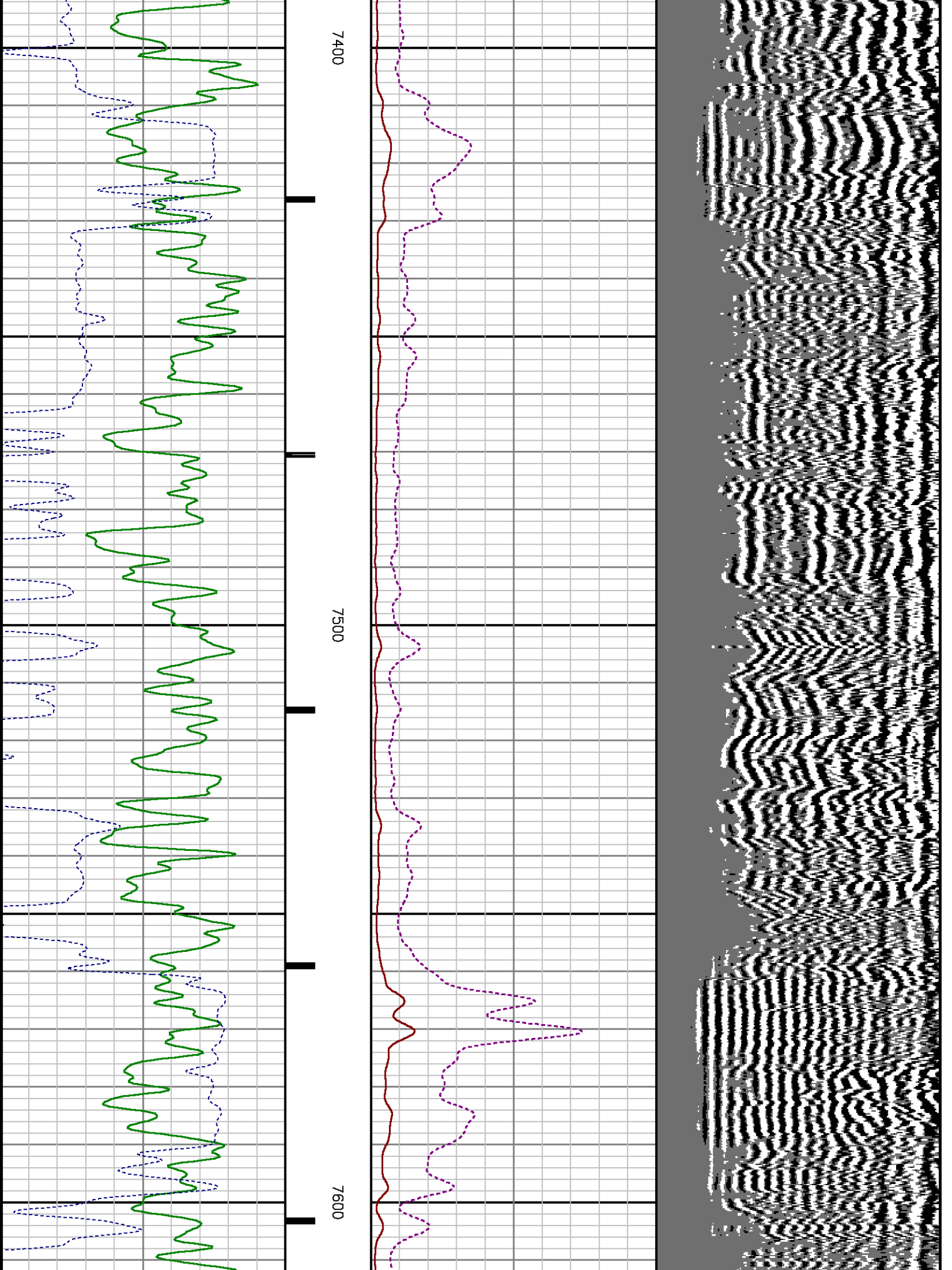
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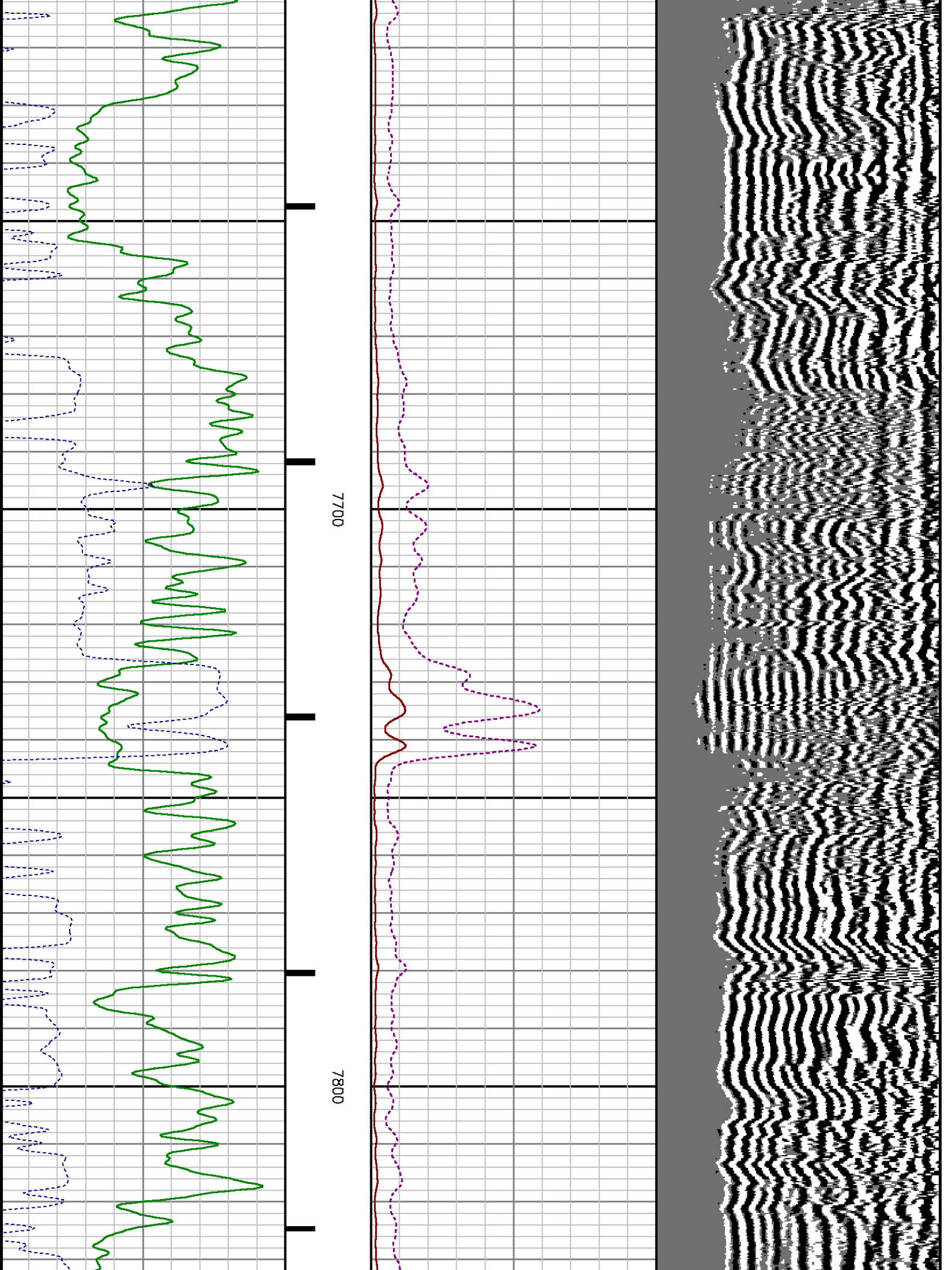


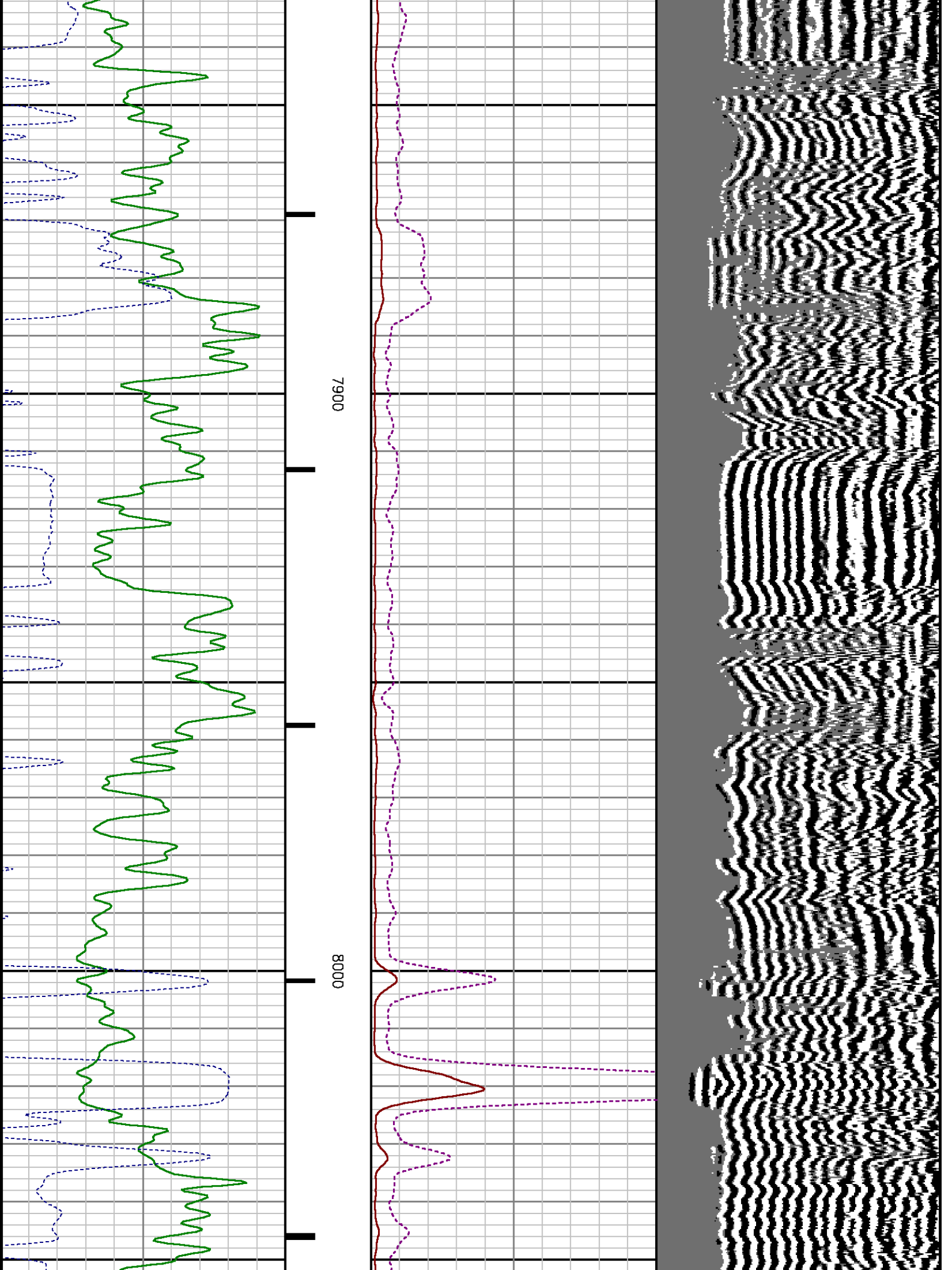


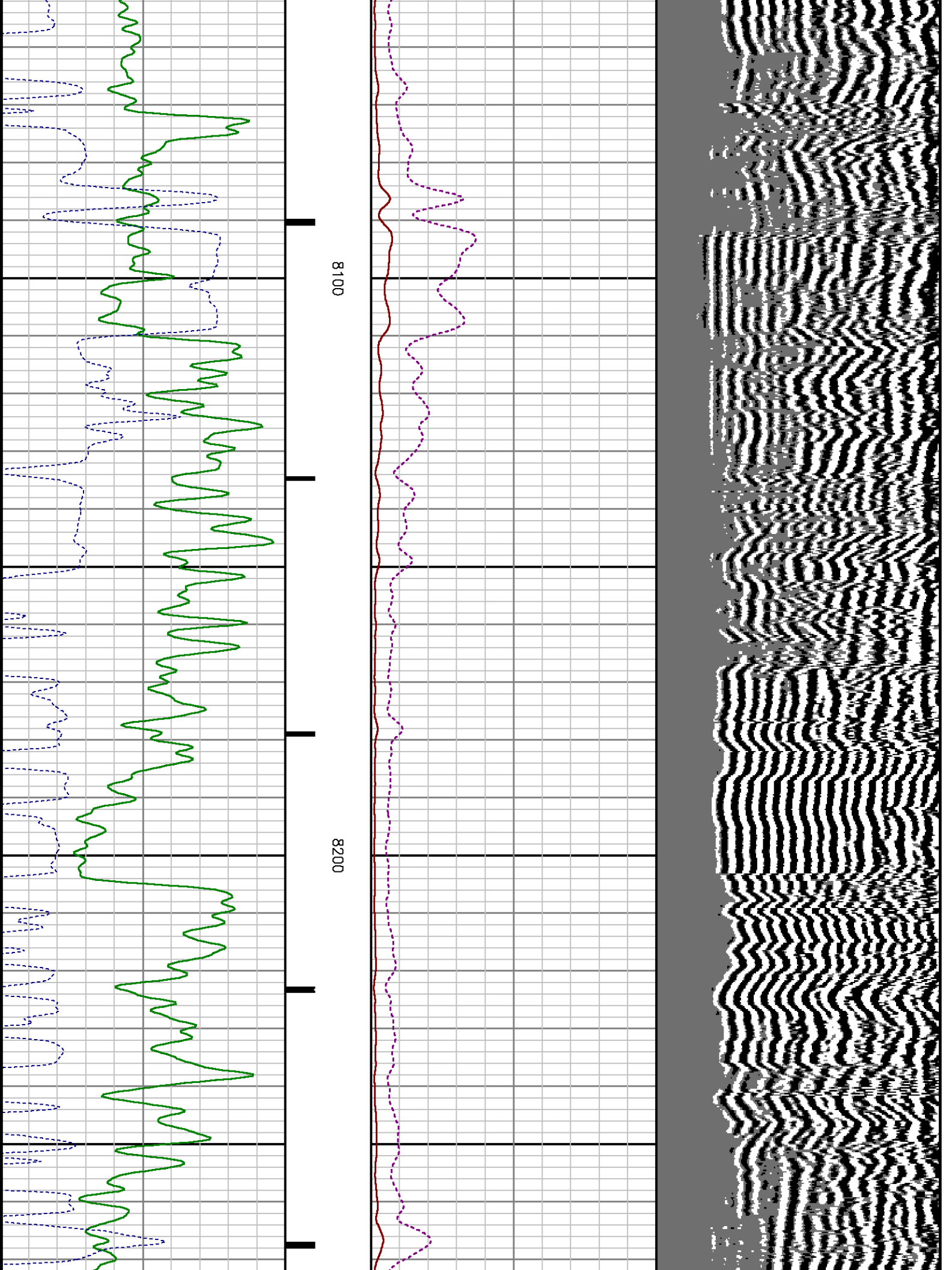


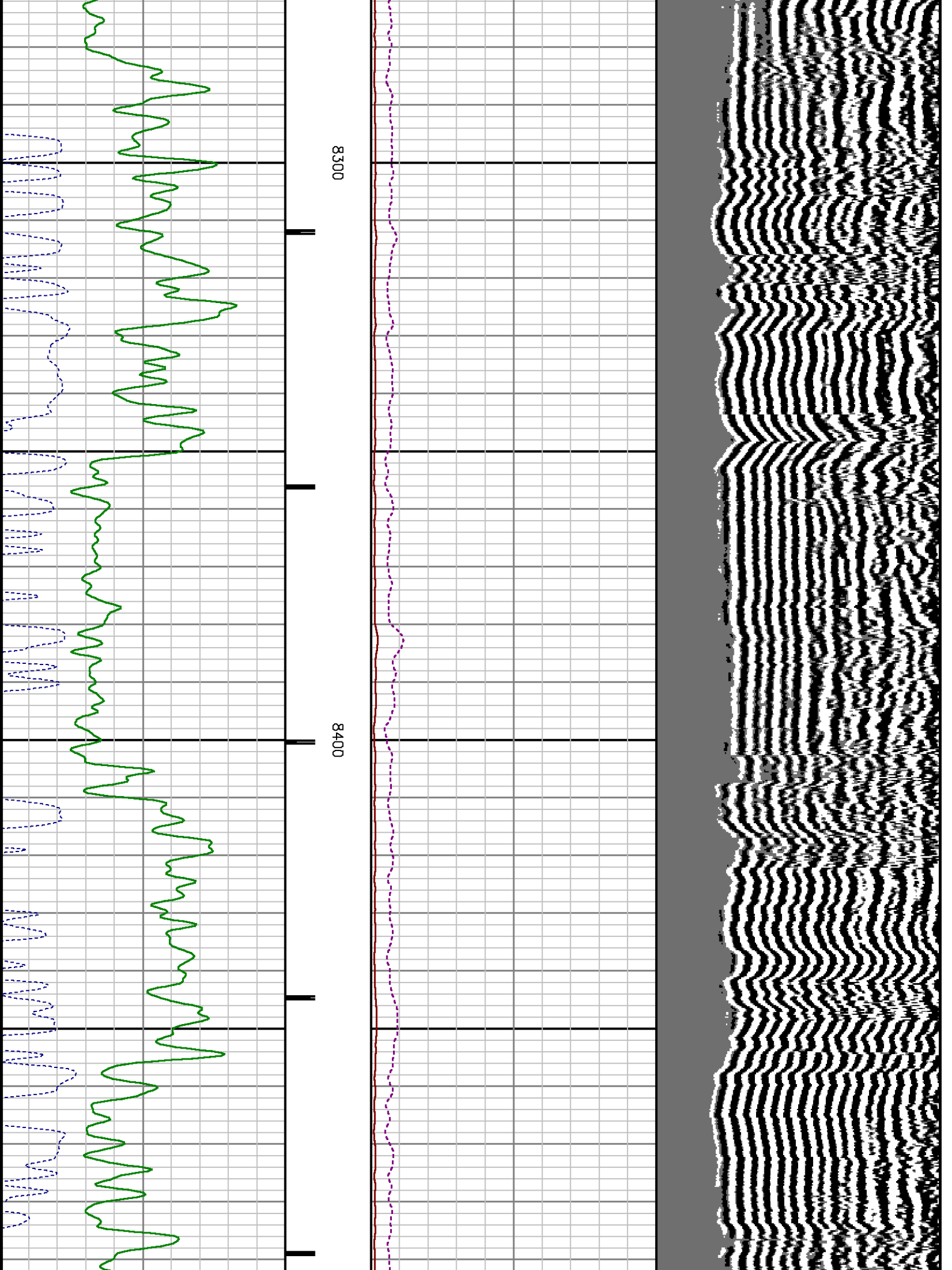




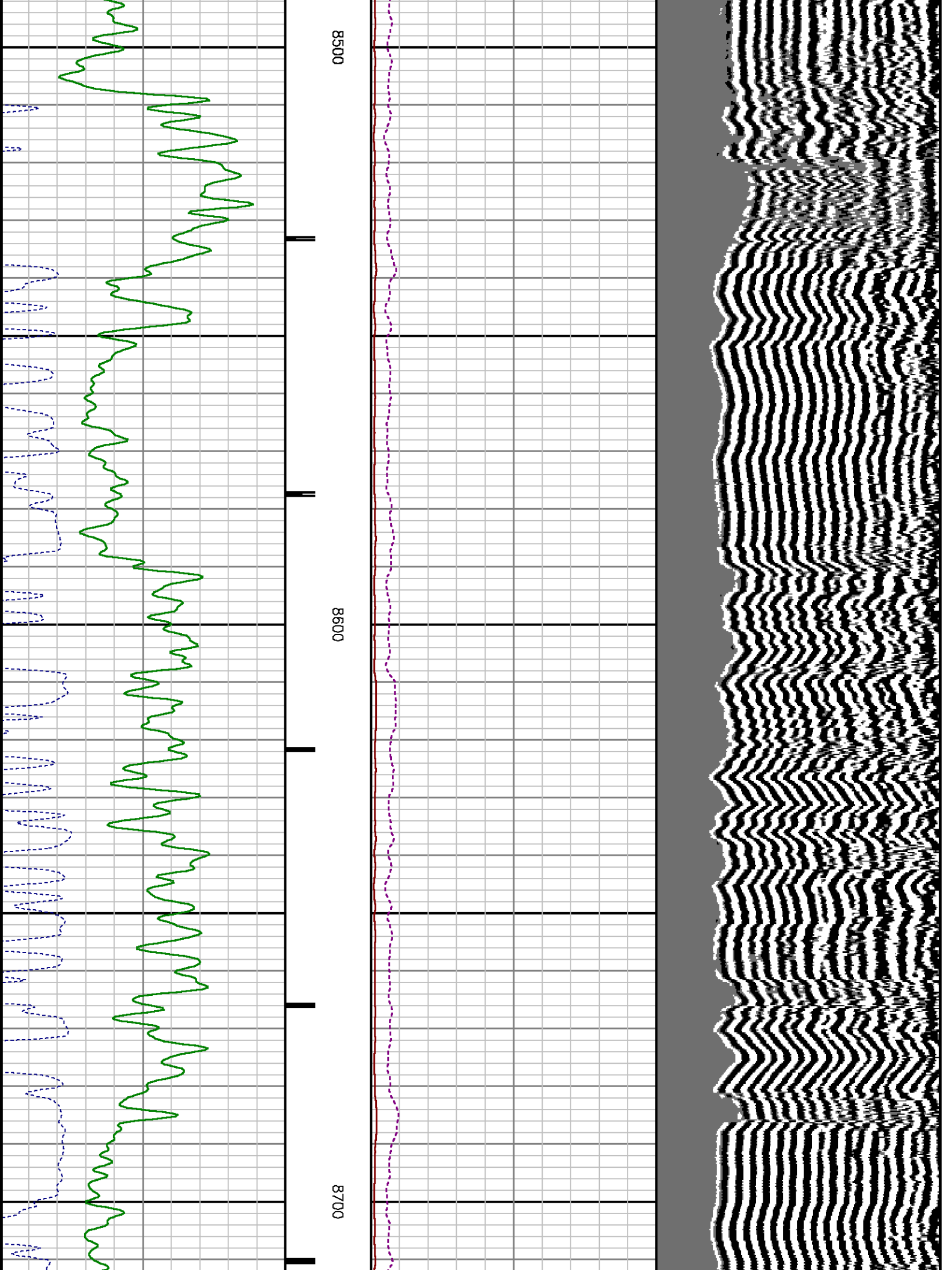




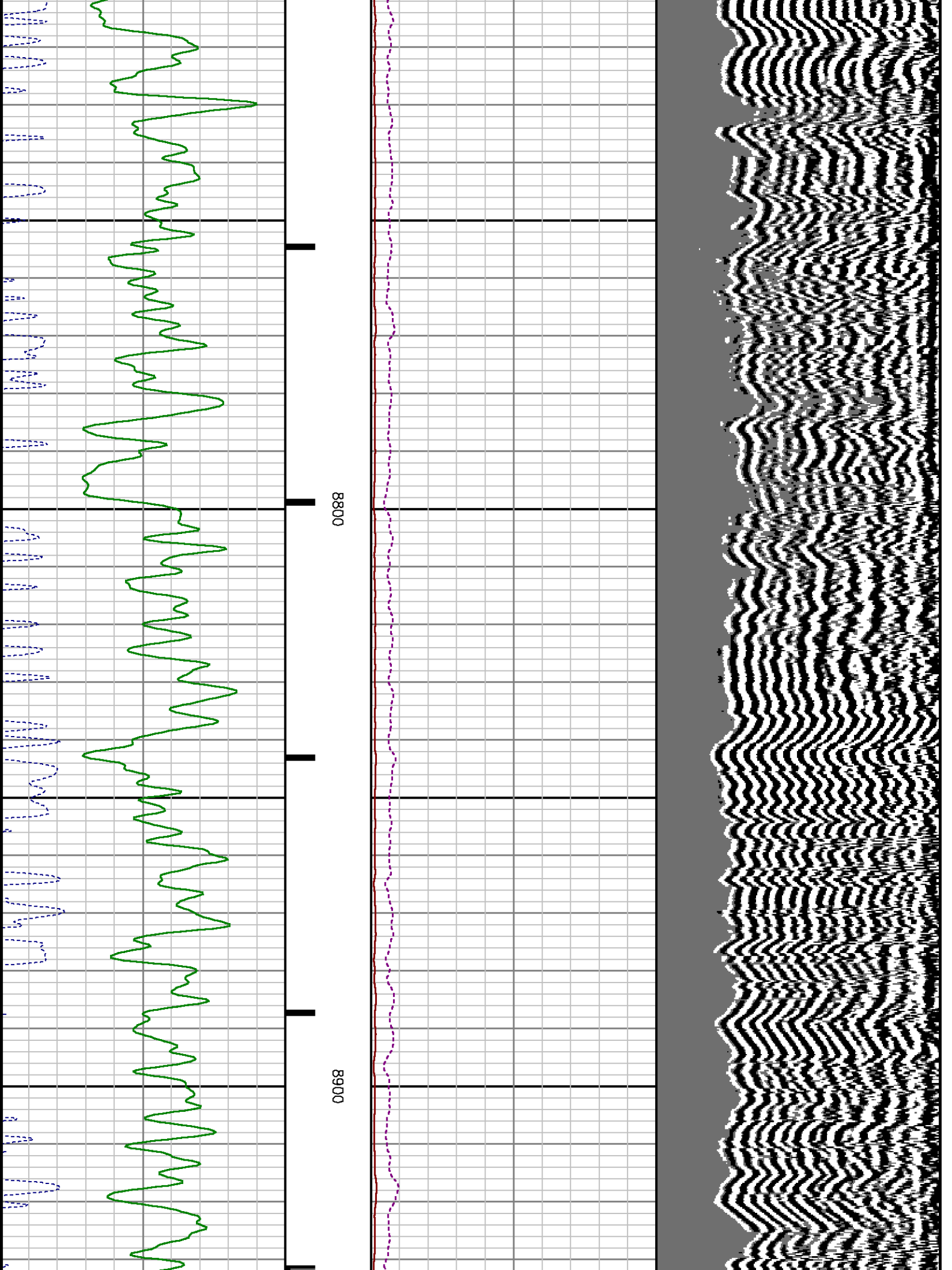


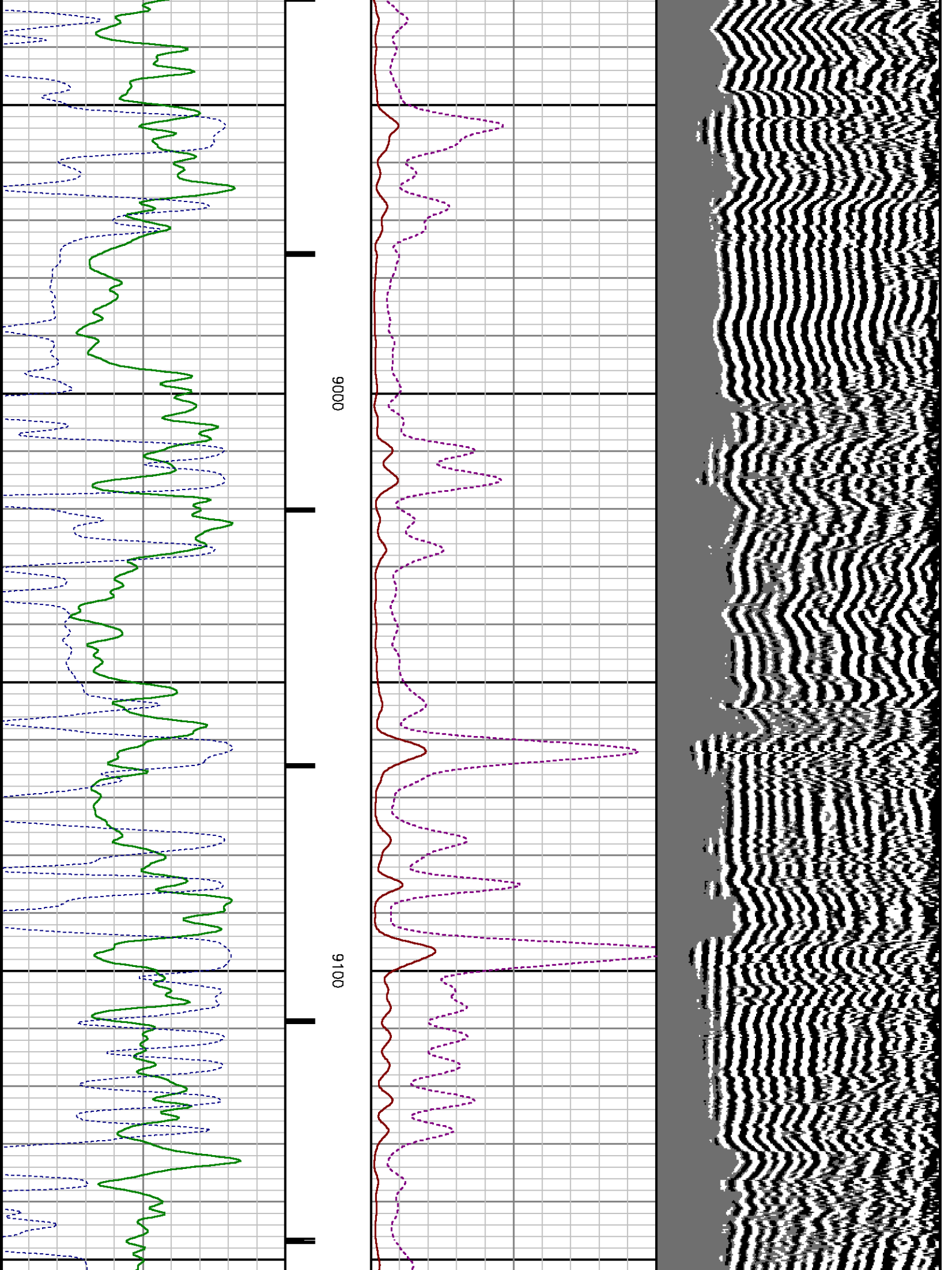


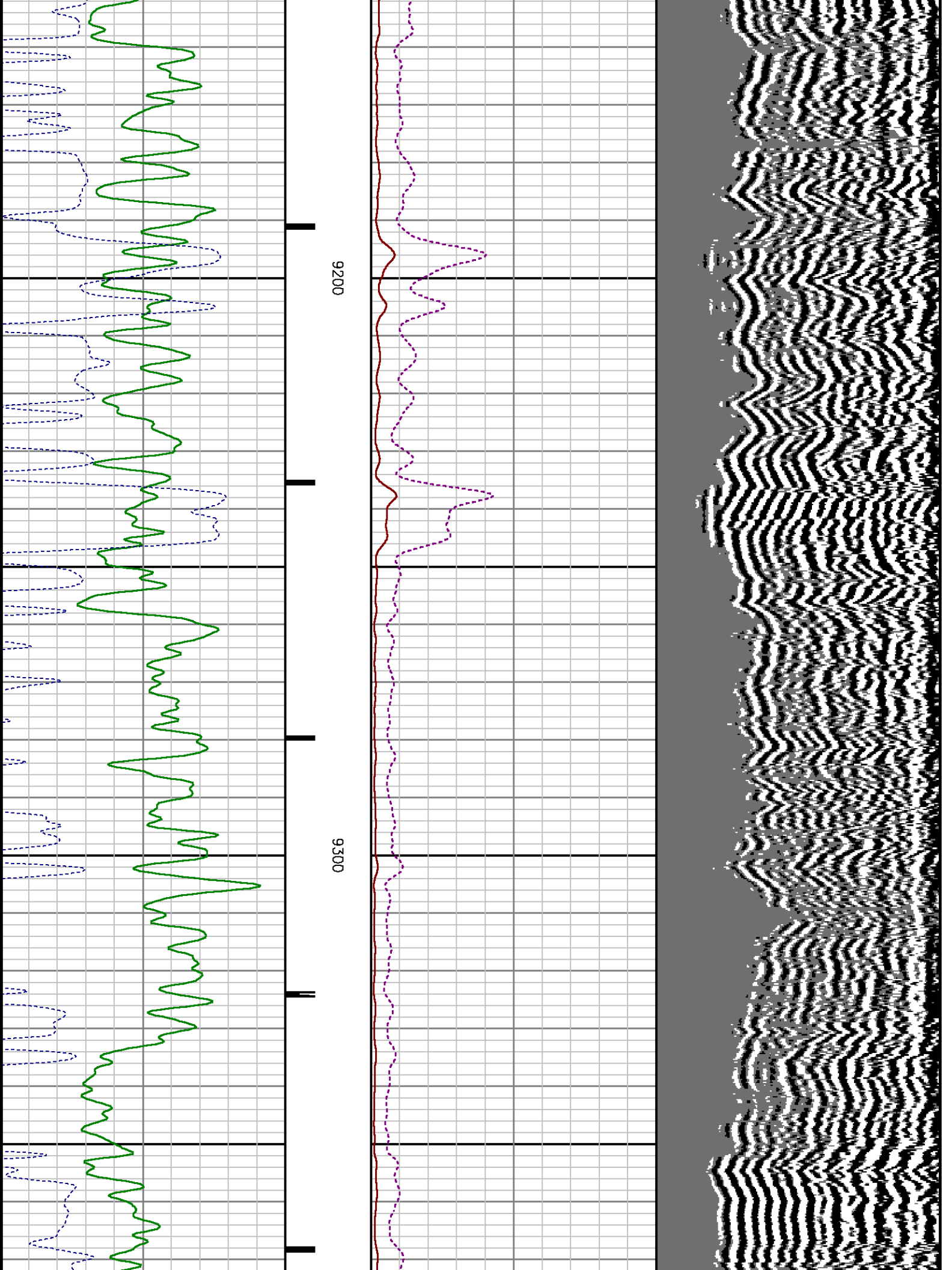


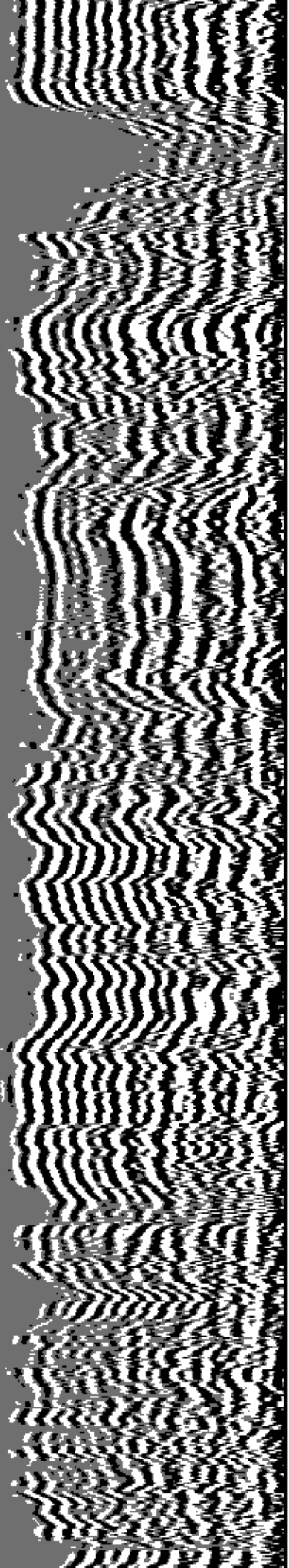






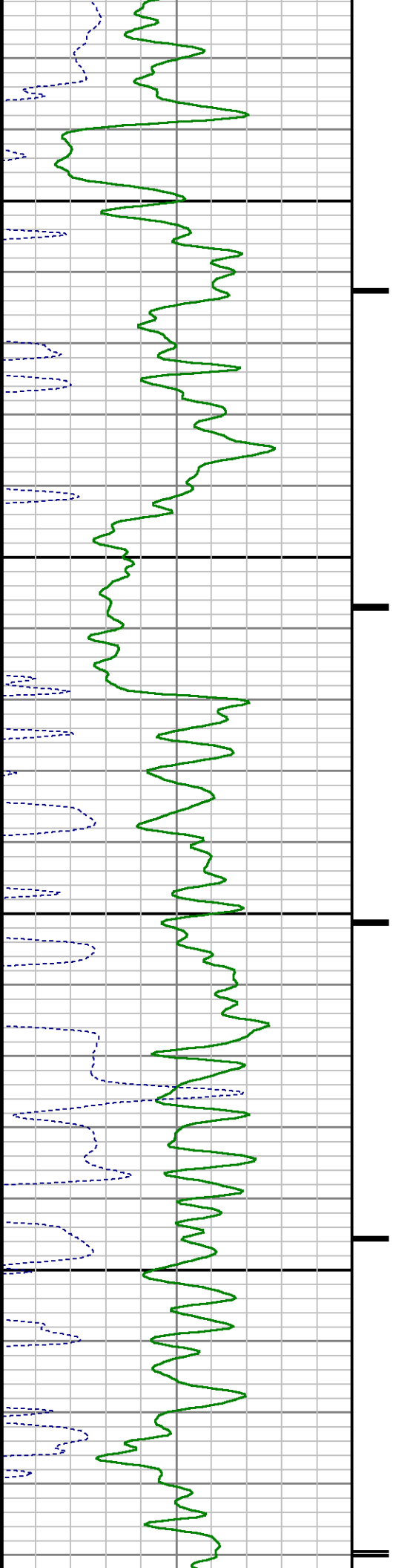


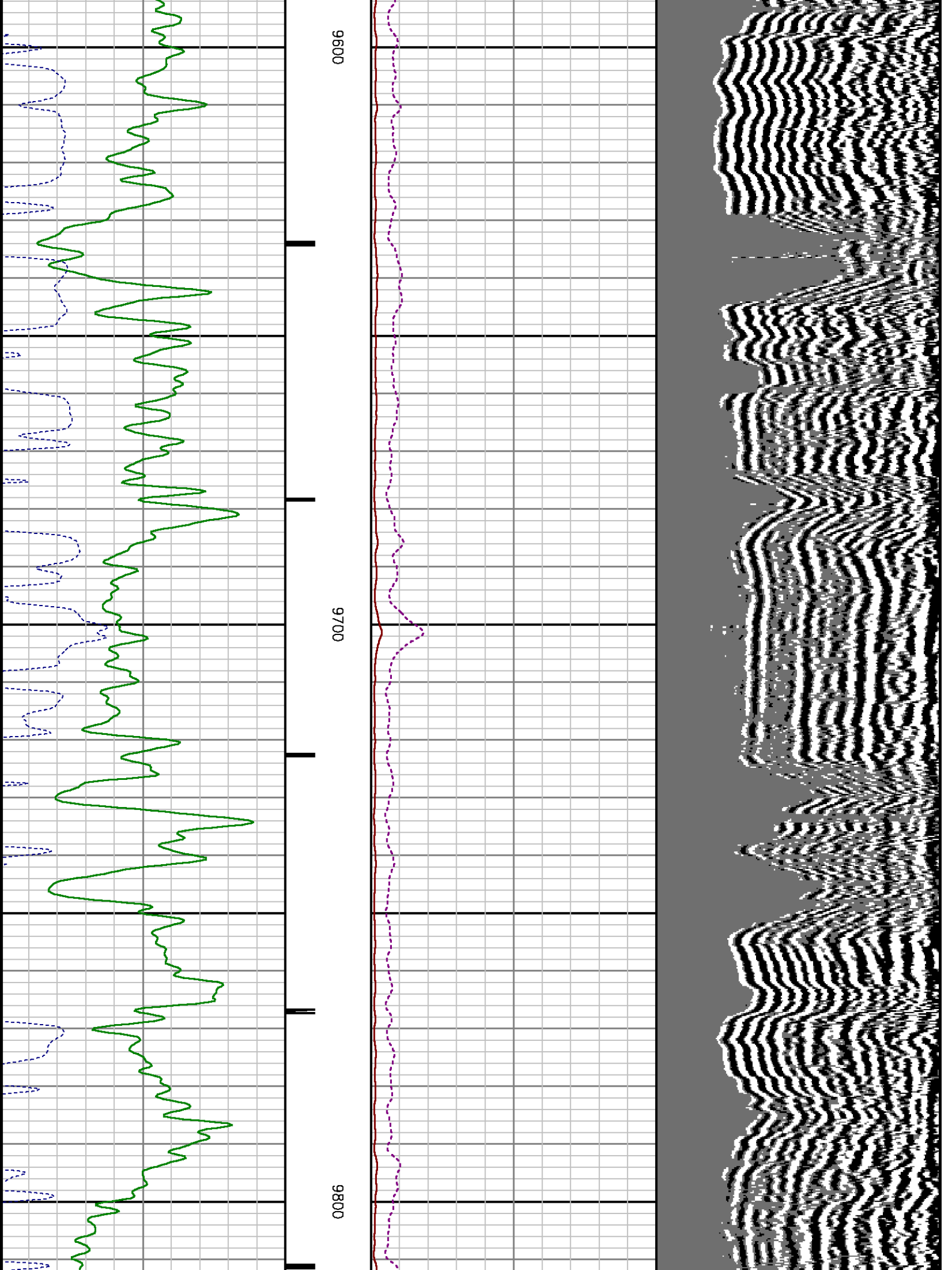




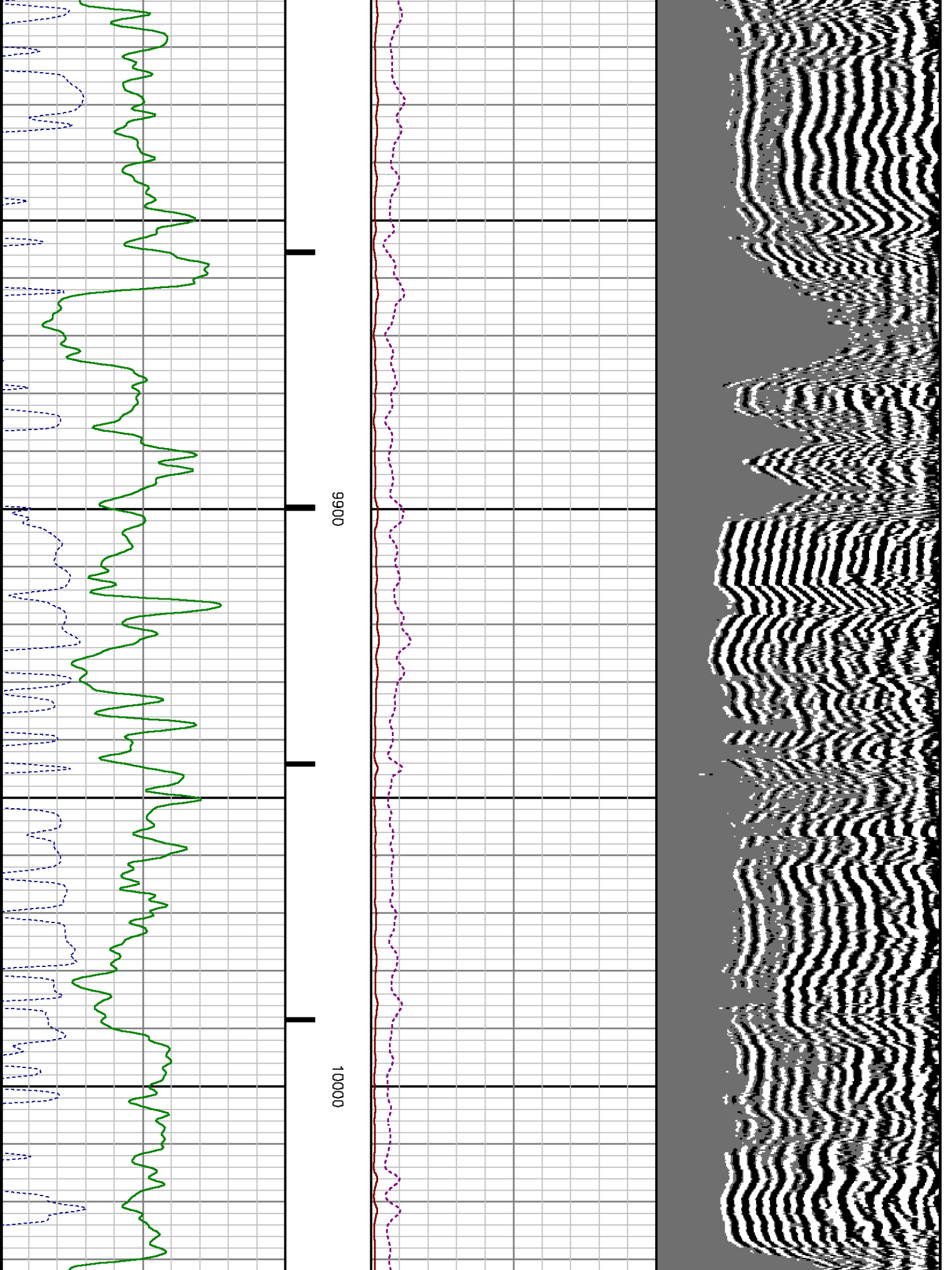
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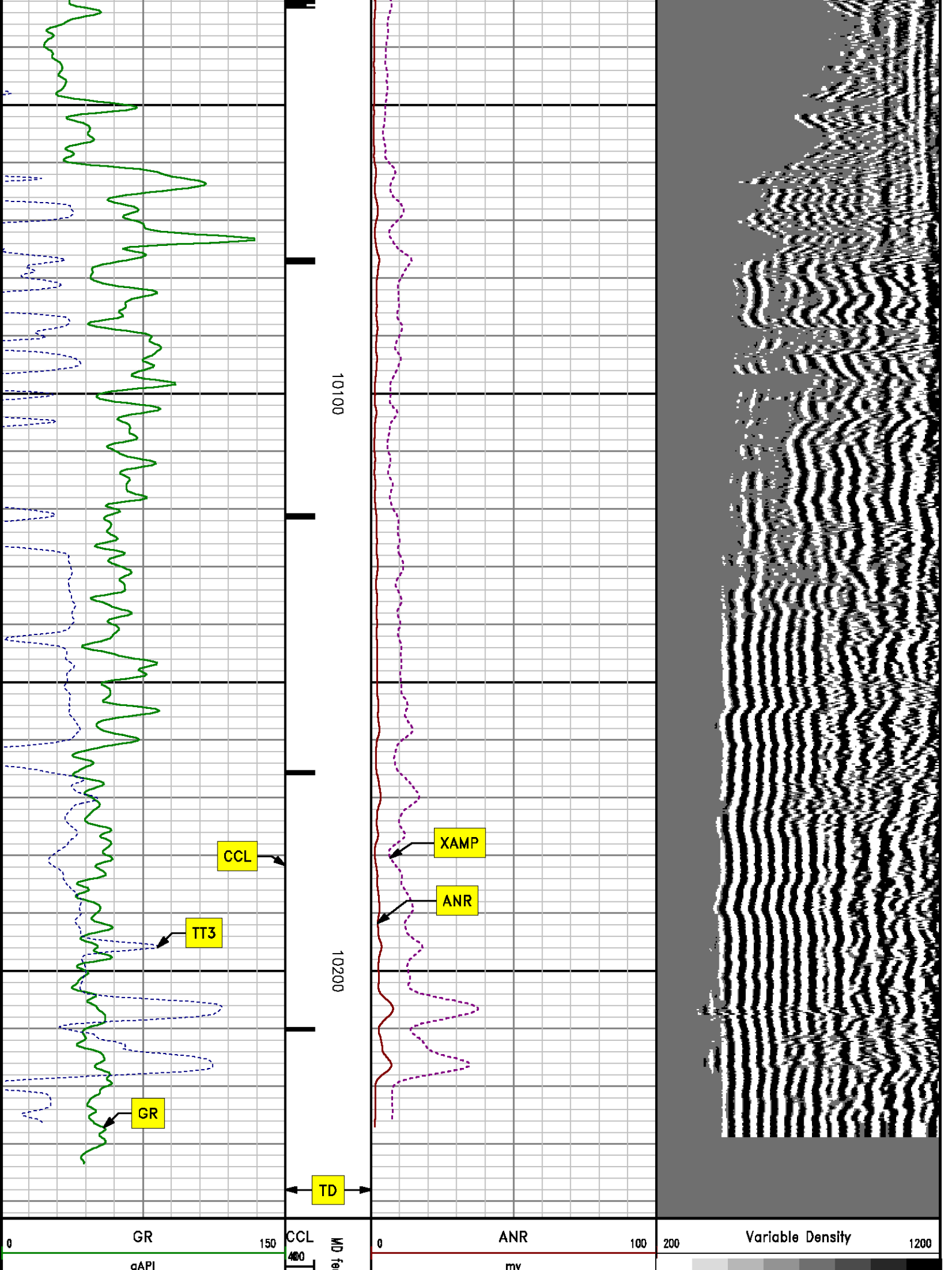












280	TT3	180	mv	0	XAMP	20	us
	u sec				mv		

## SECONDARY PRESENTATION

### 0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	u sec	35.812	10248.750
RAL	Amp Gate Start Near	195.000	u sec	35.812	10248.750
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## DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
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		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

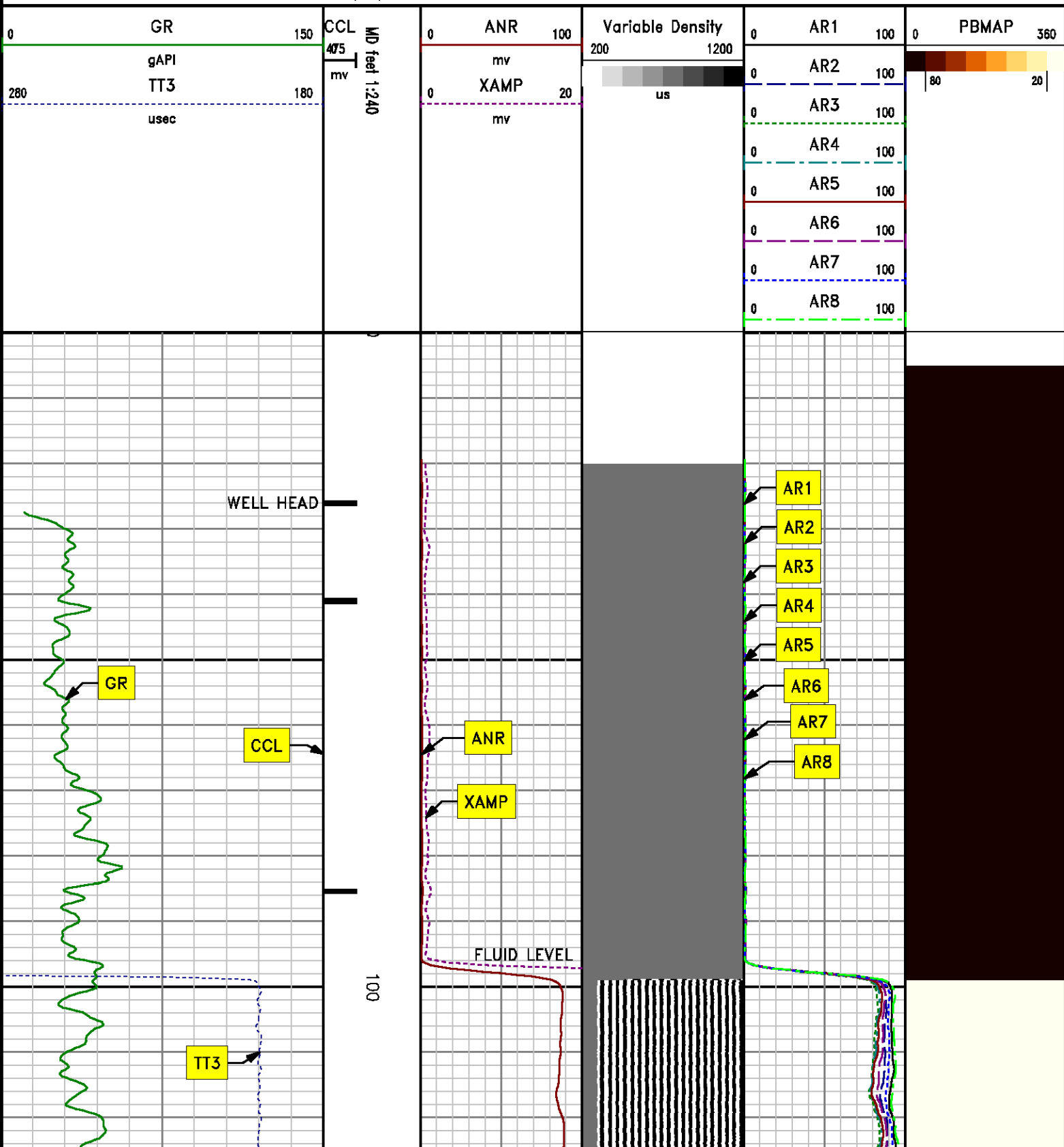
Well : FEDERAL RU 41-5

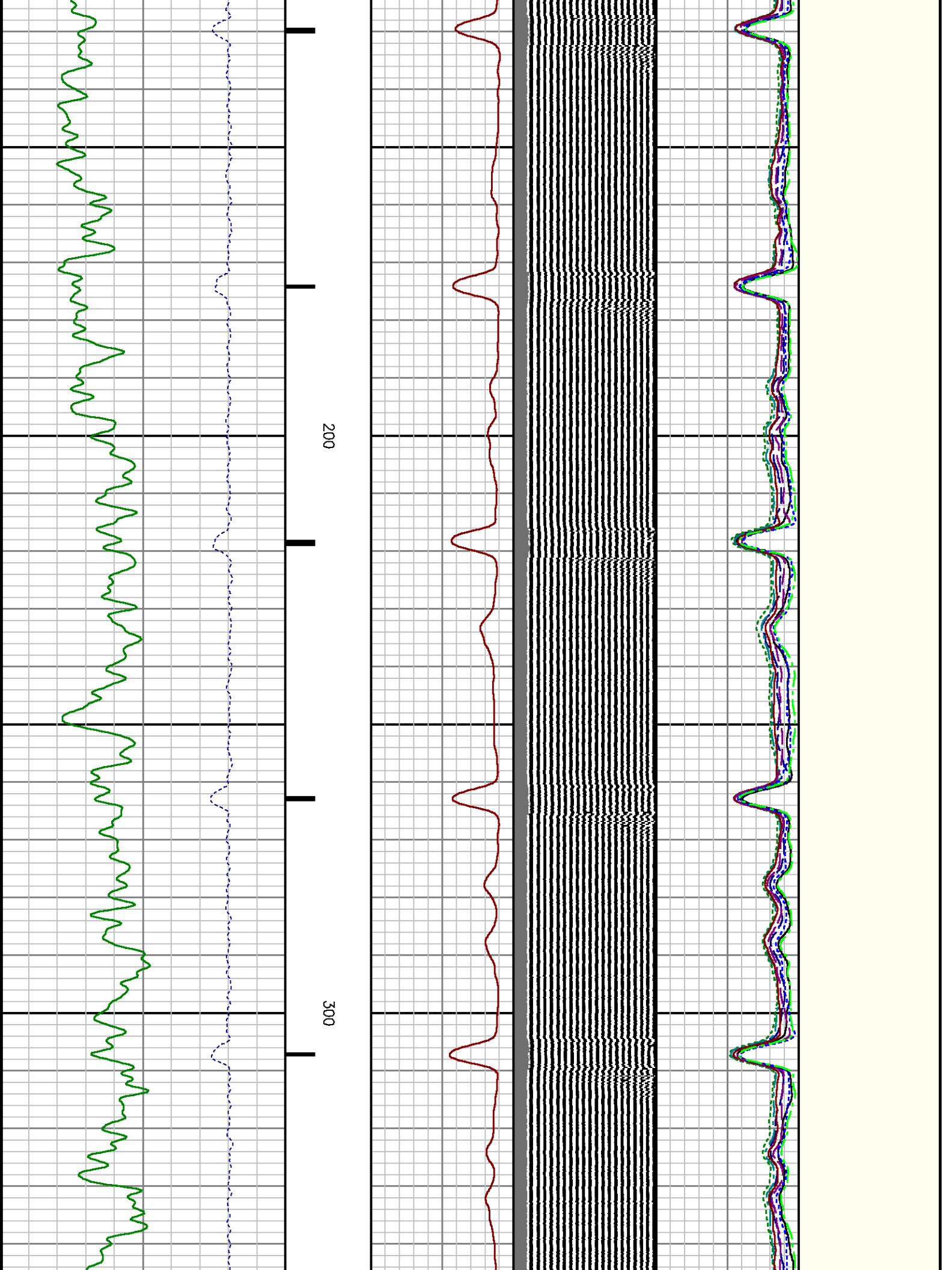
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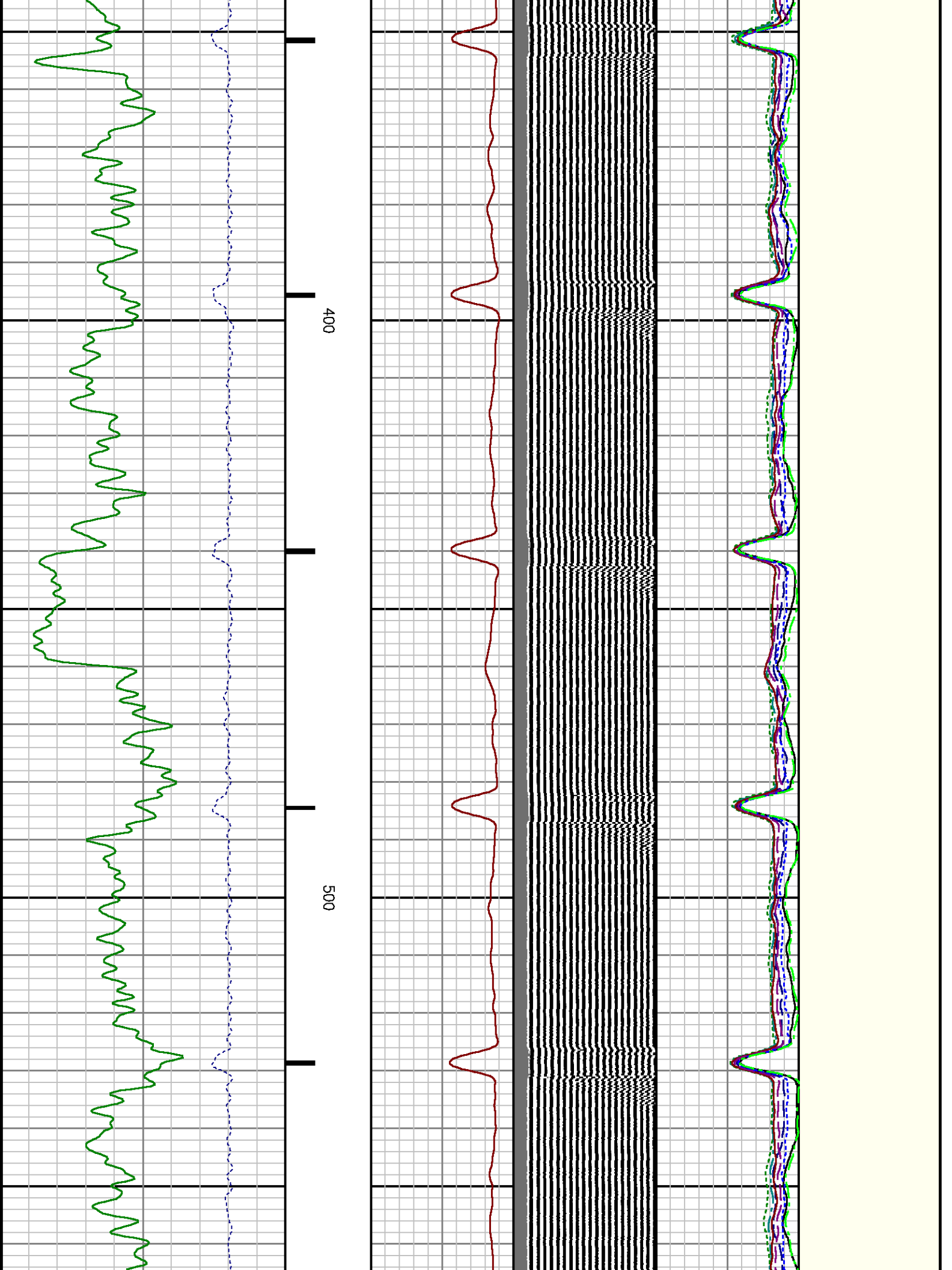
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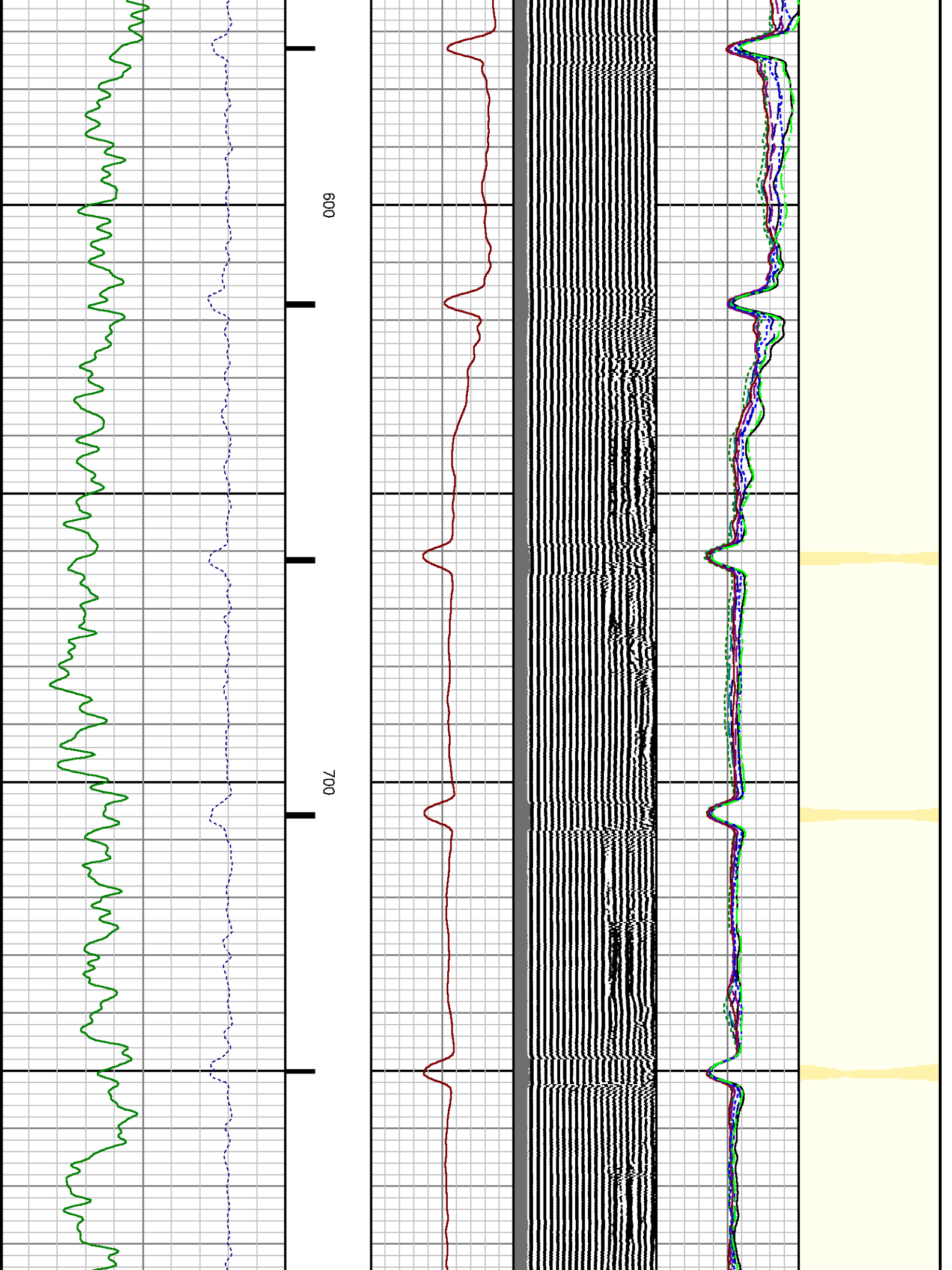
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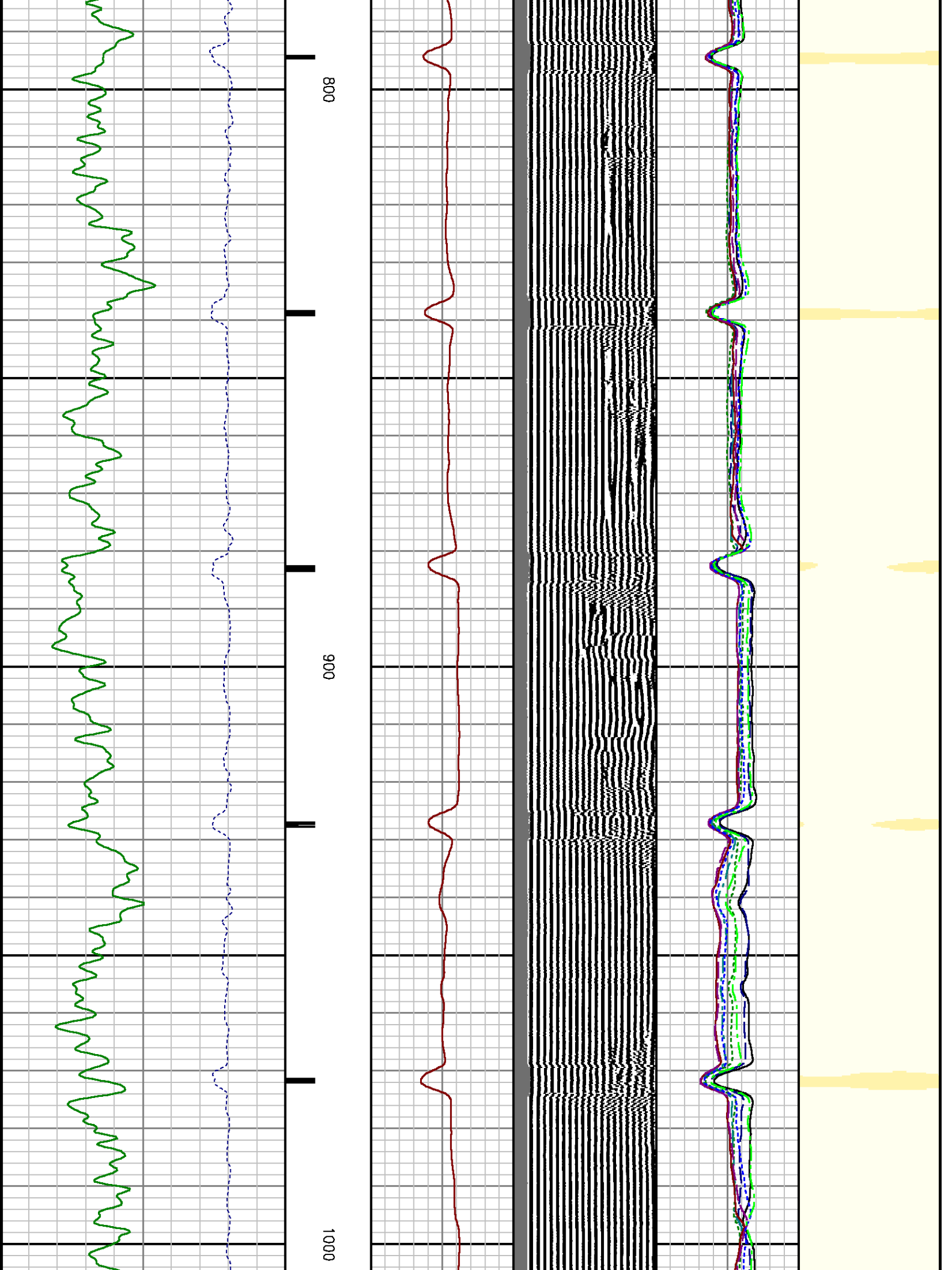


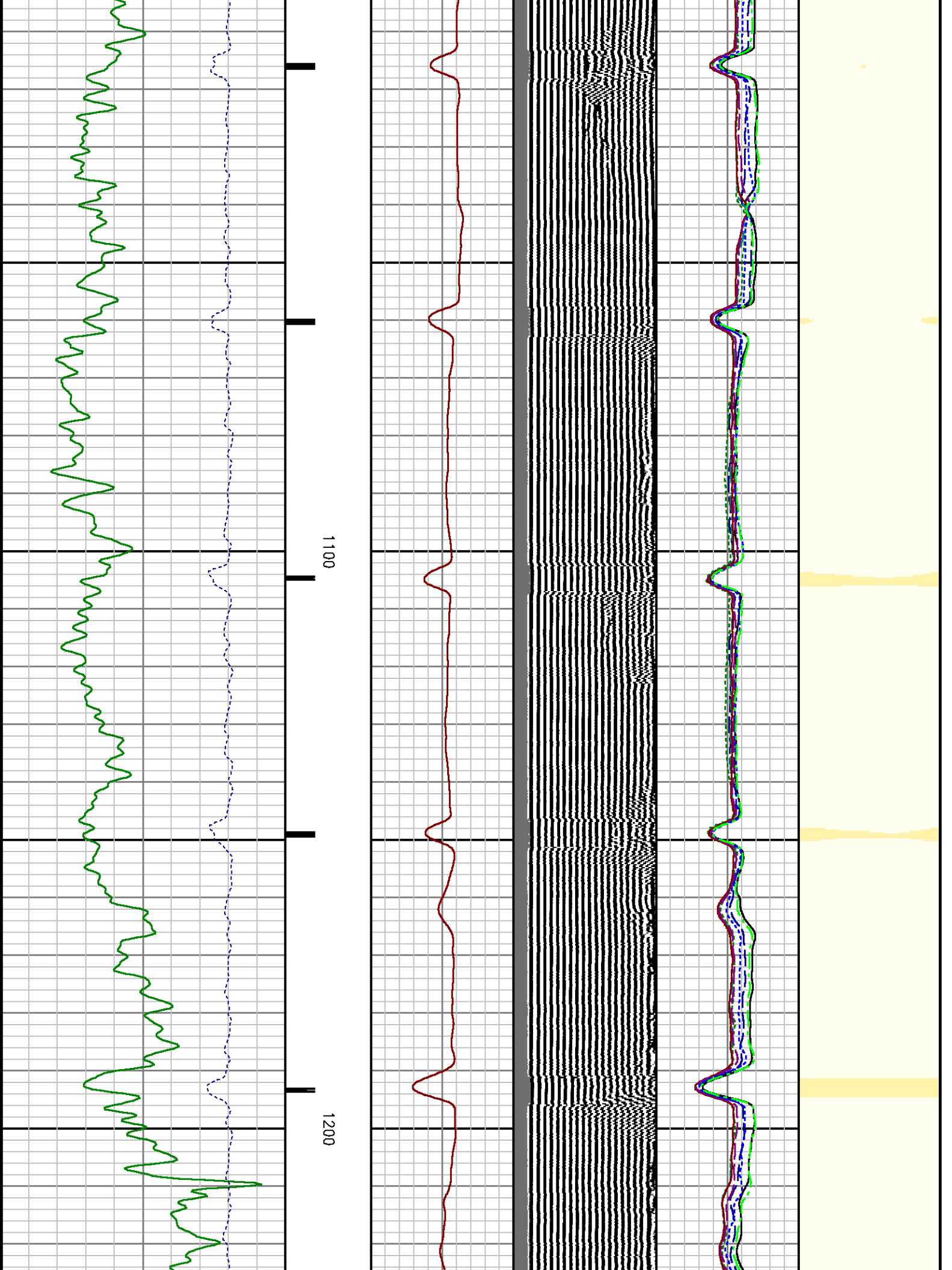


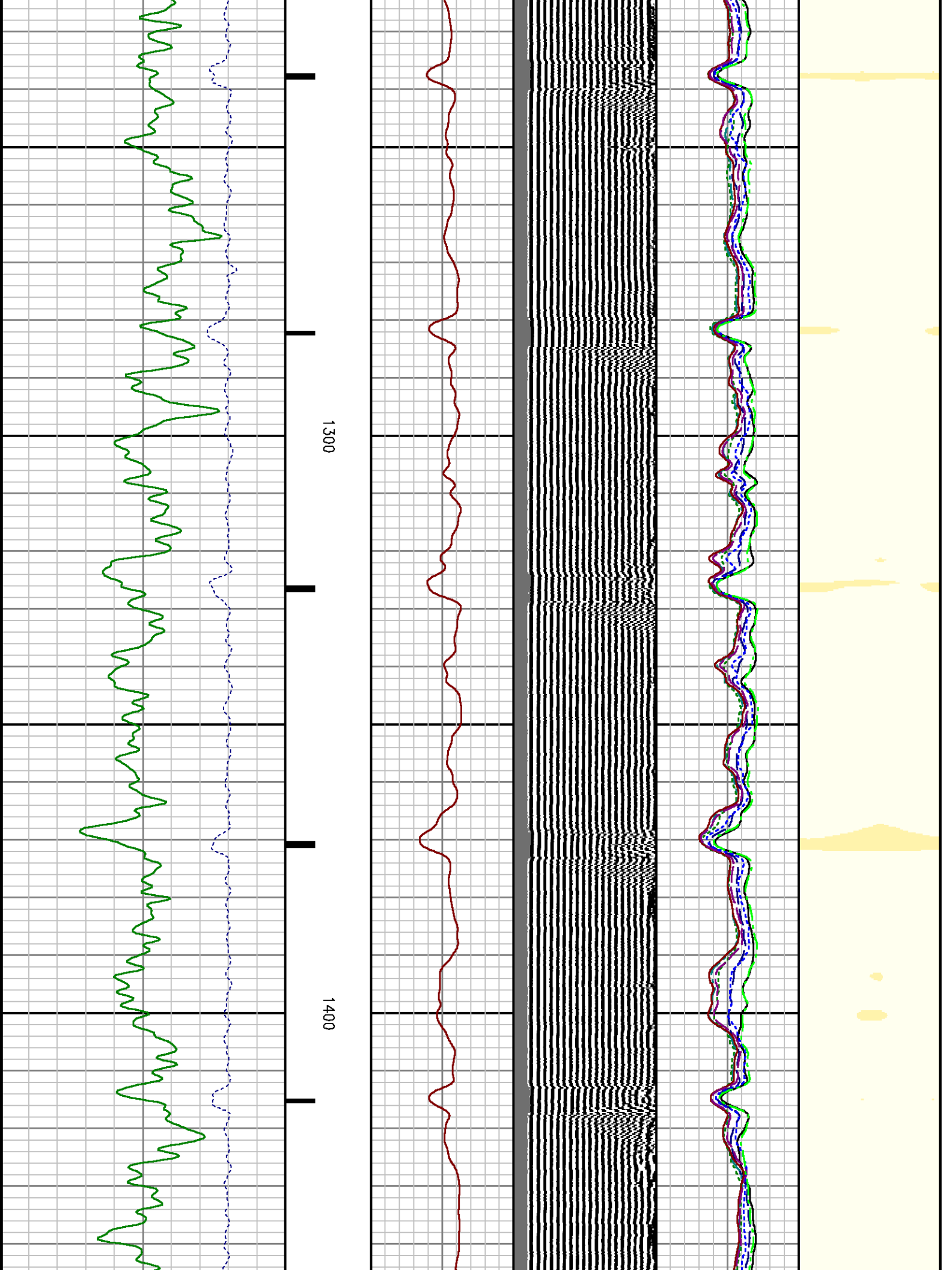


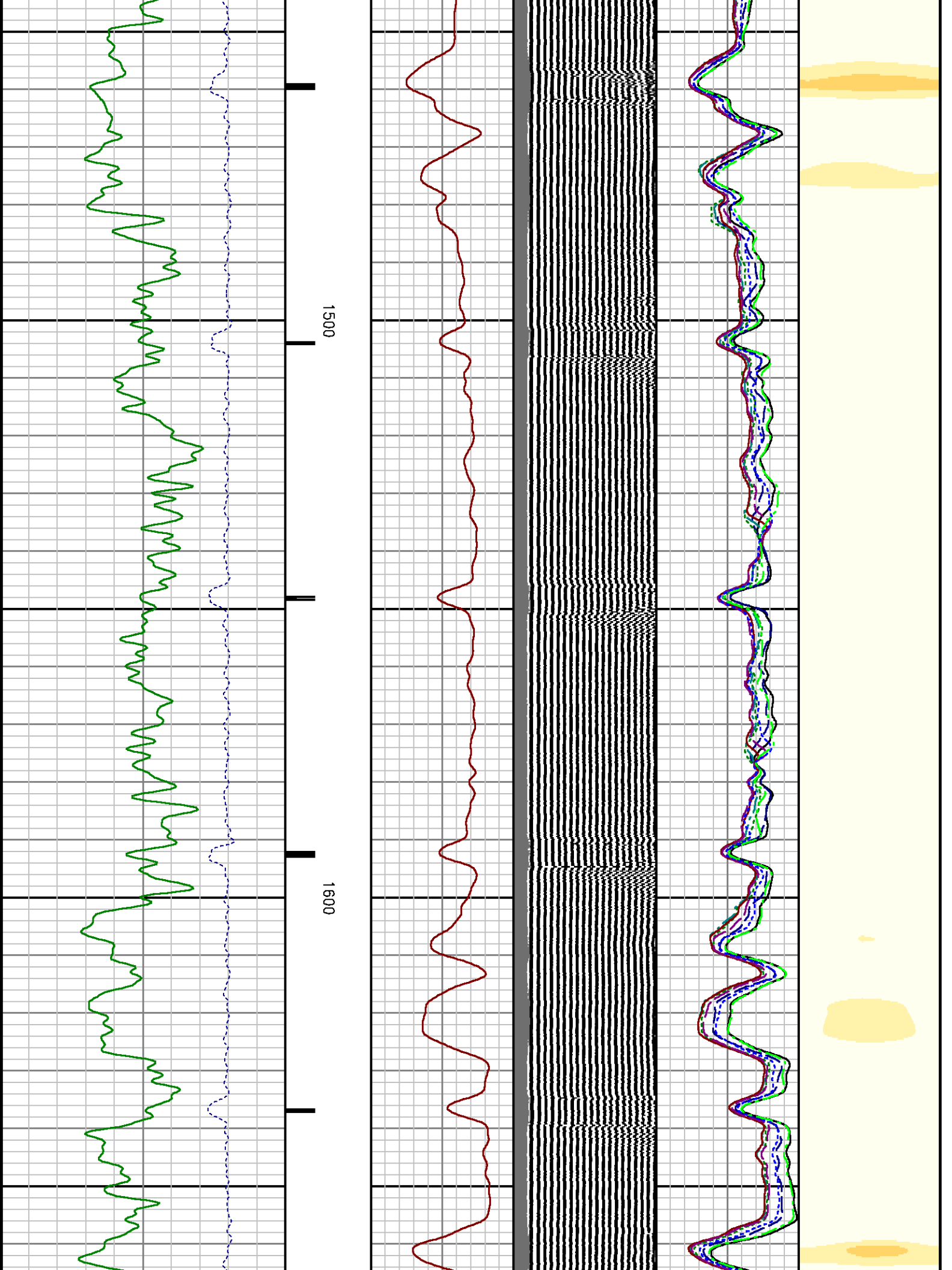


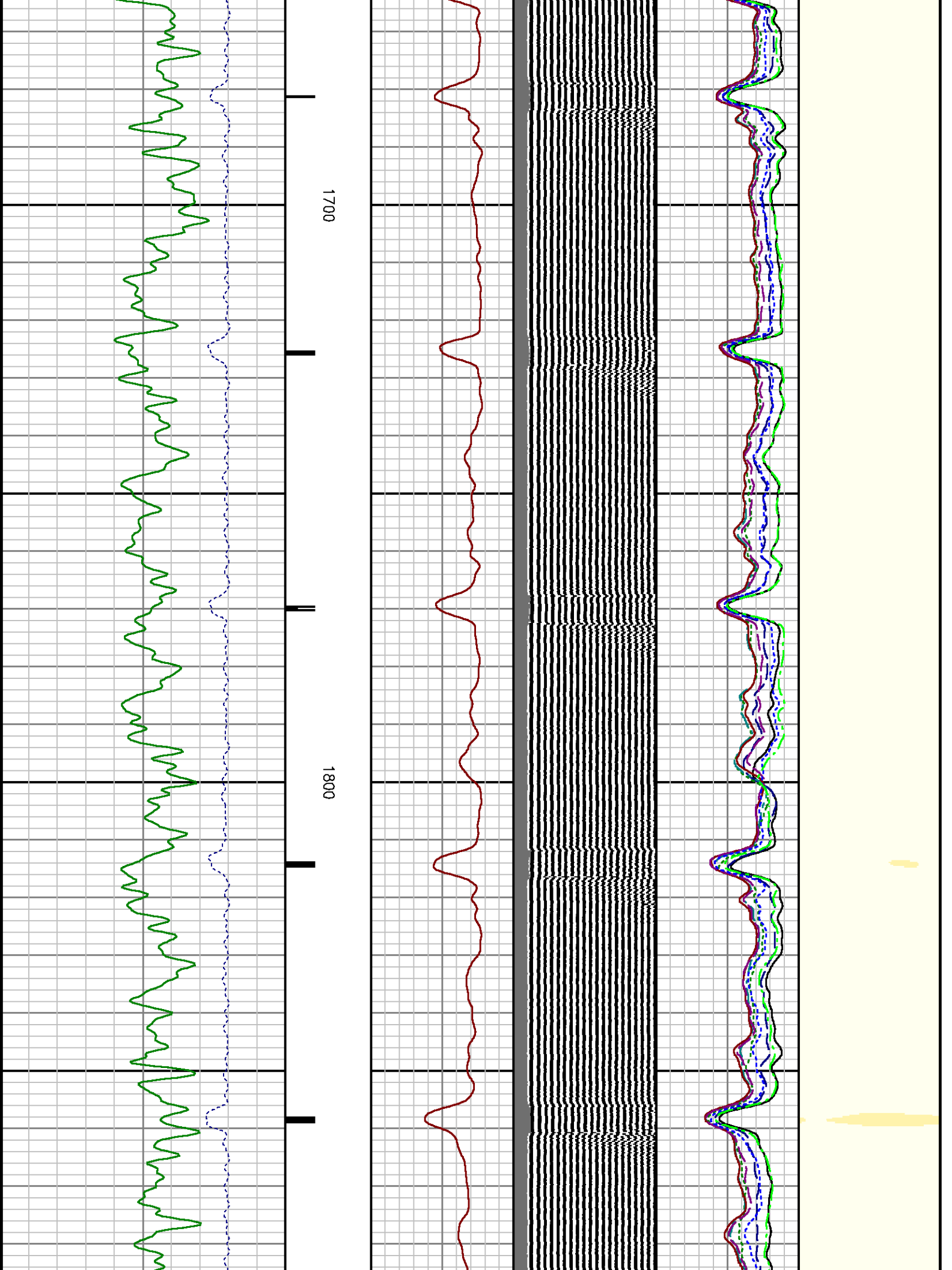


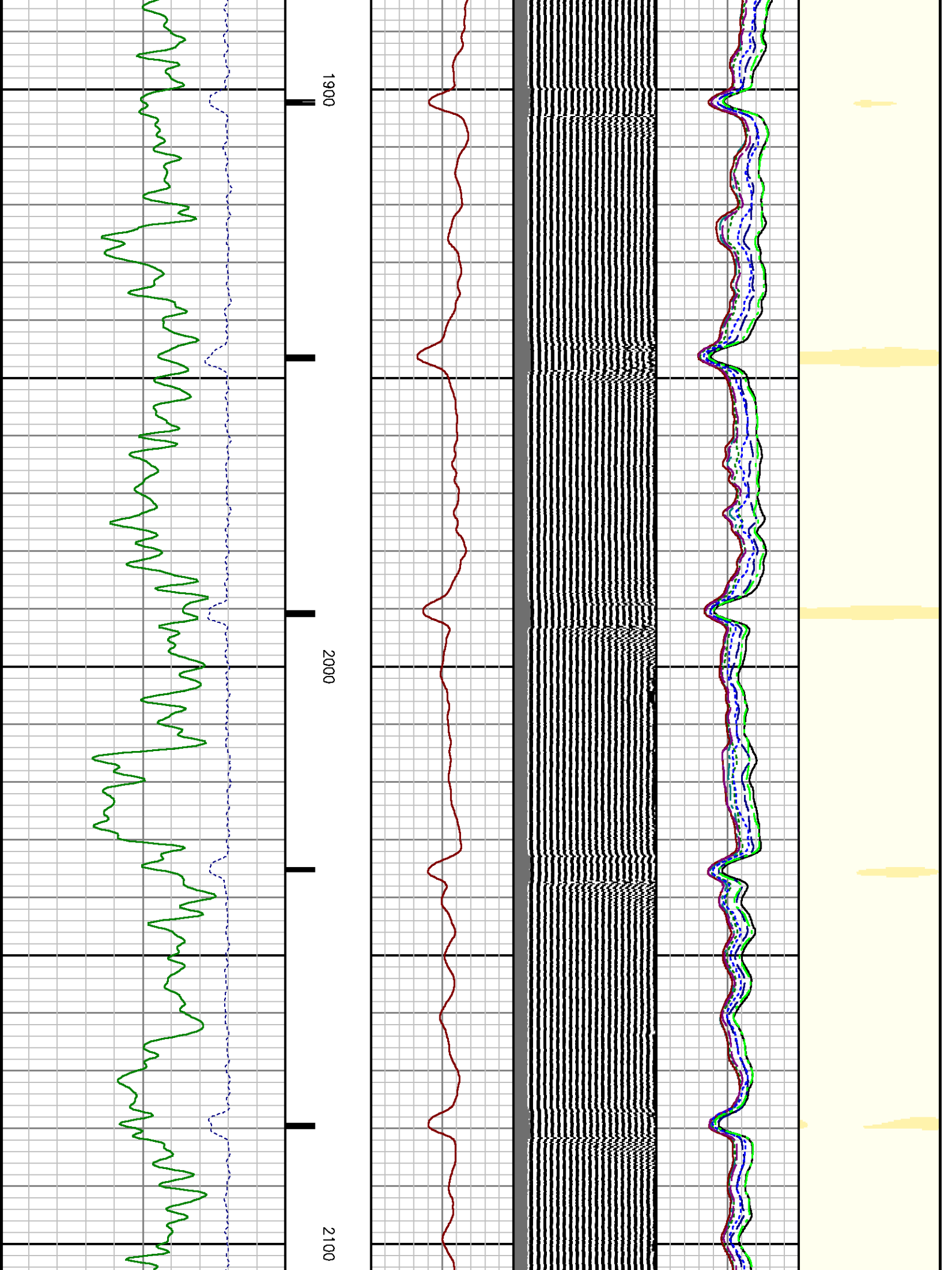




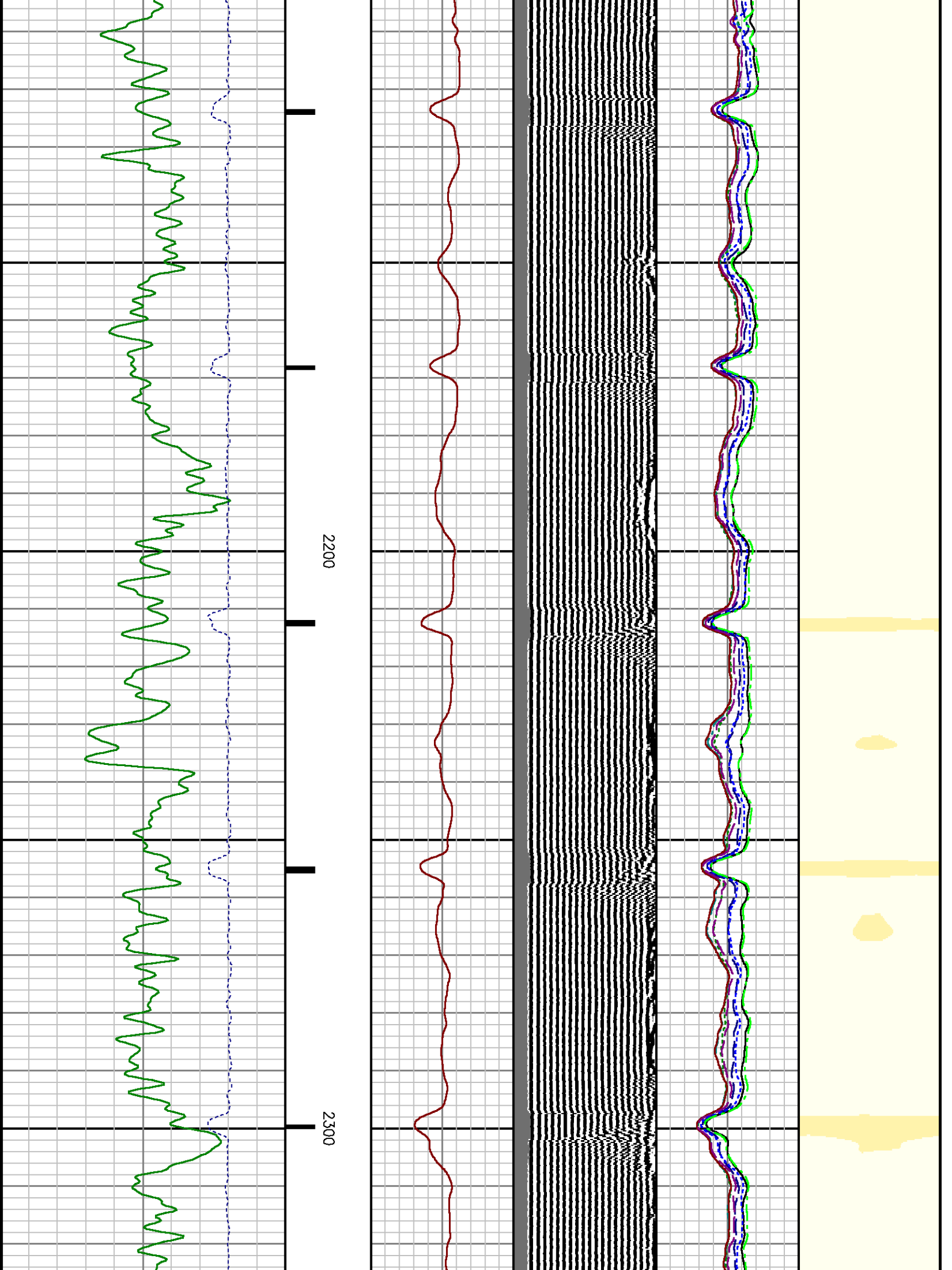


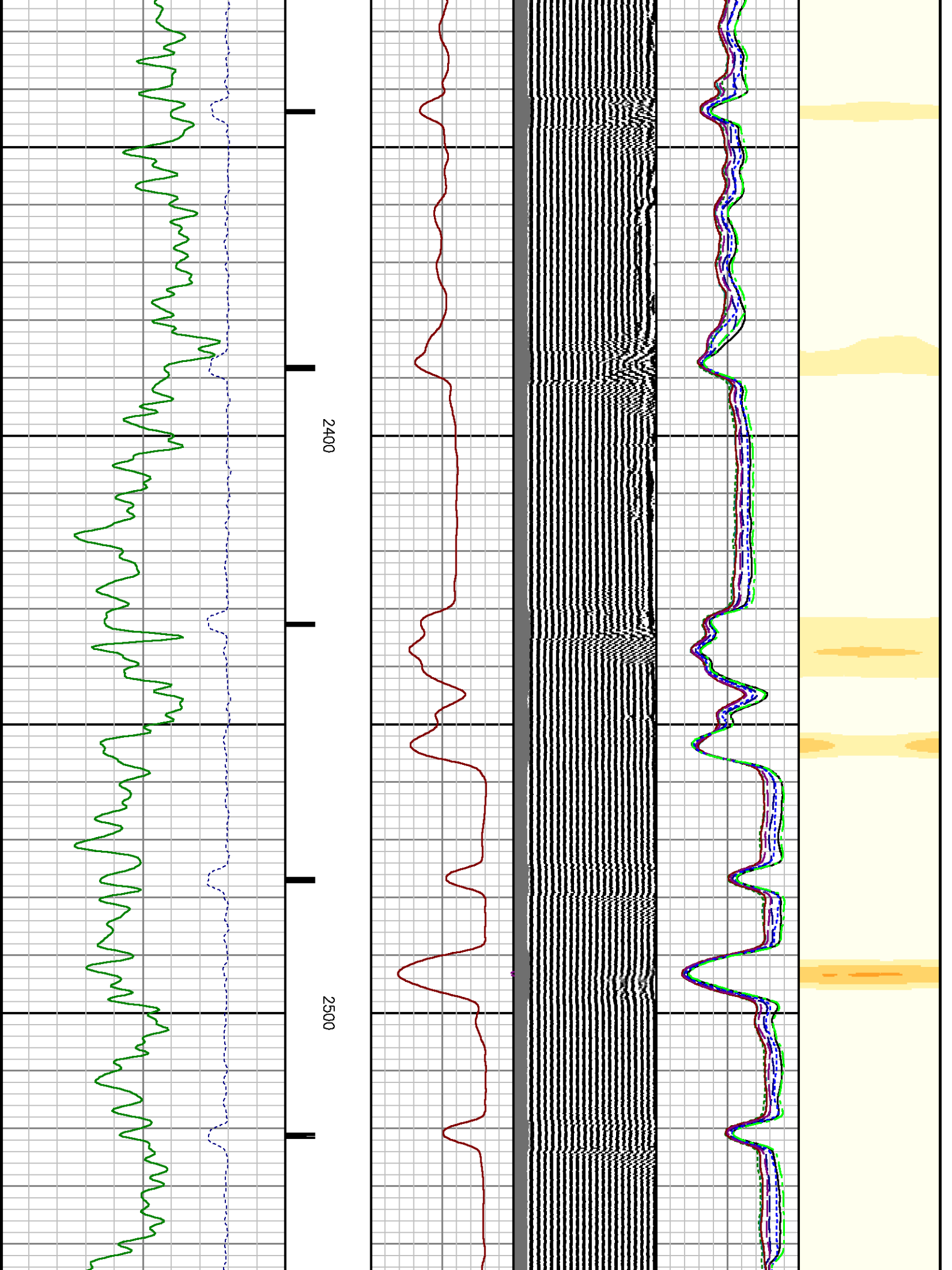


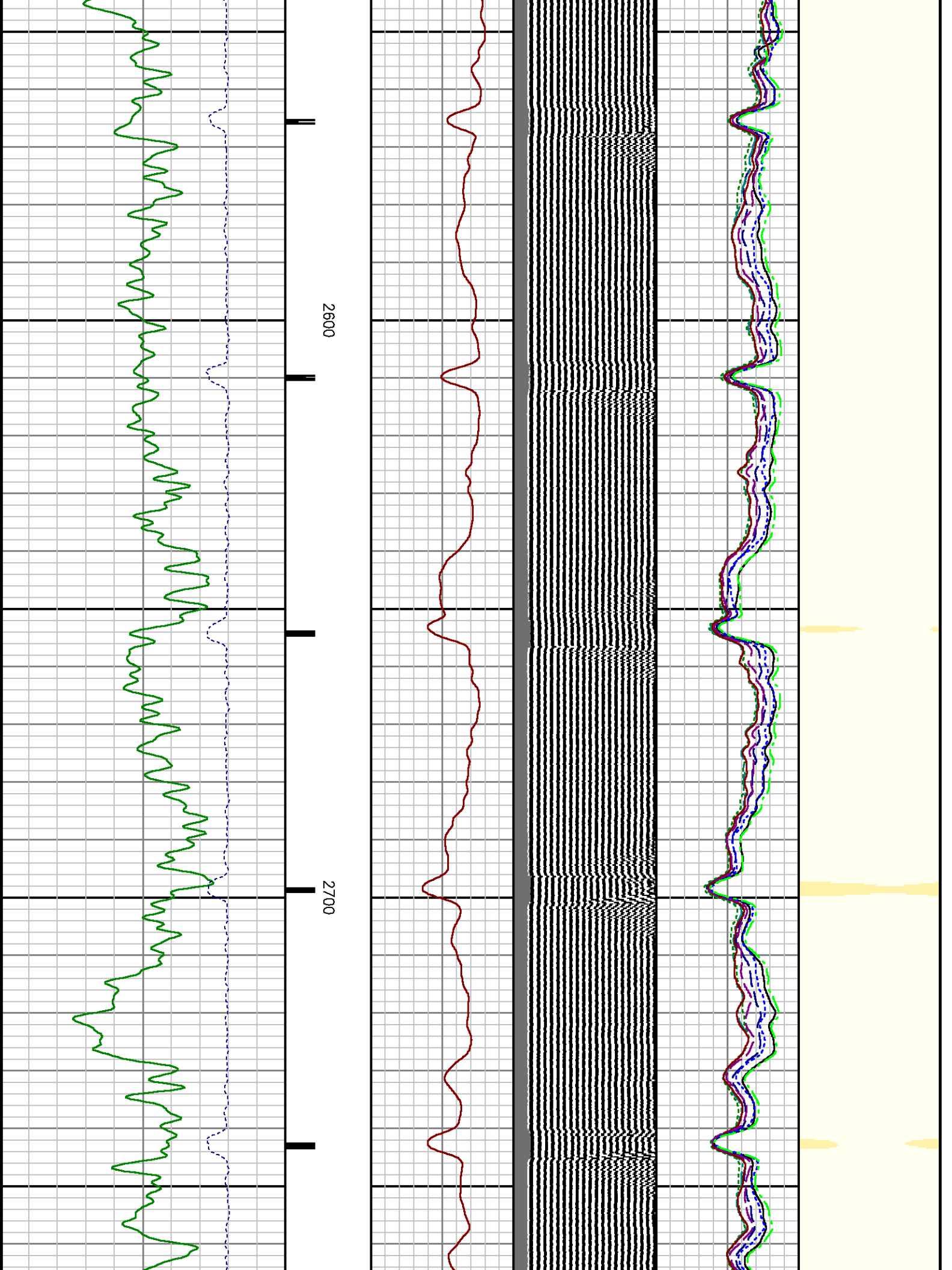


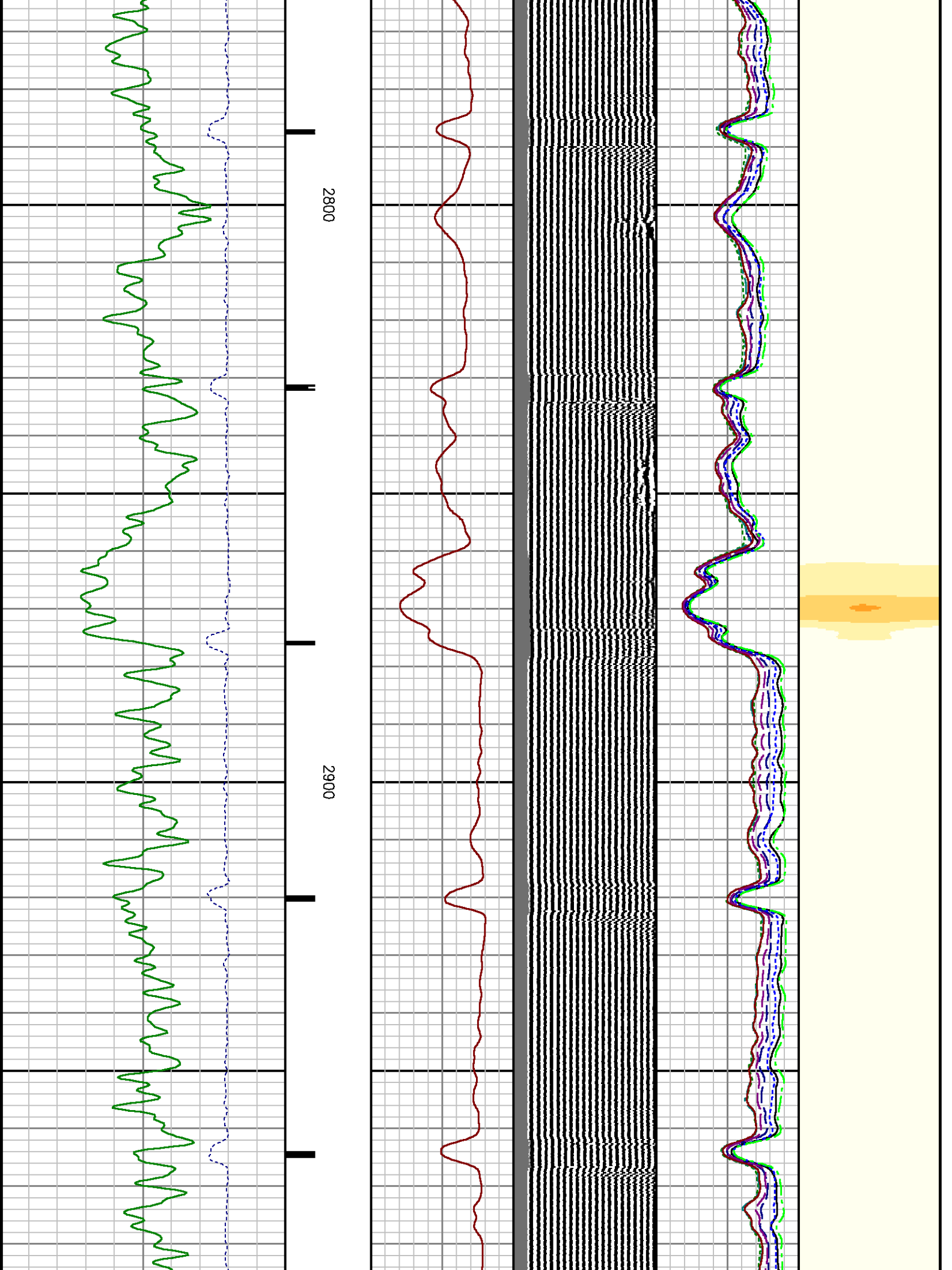


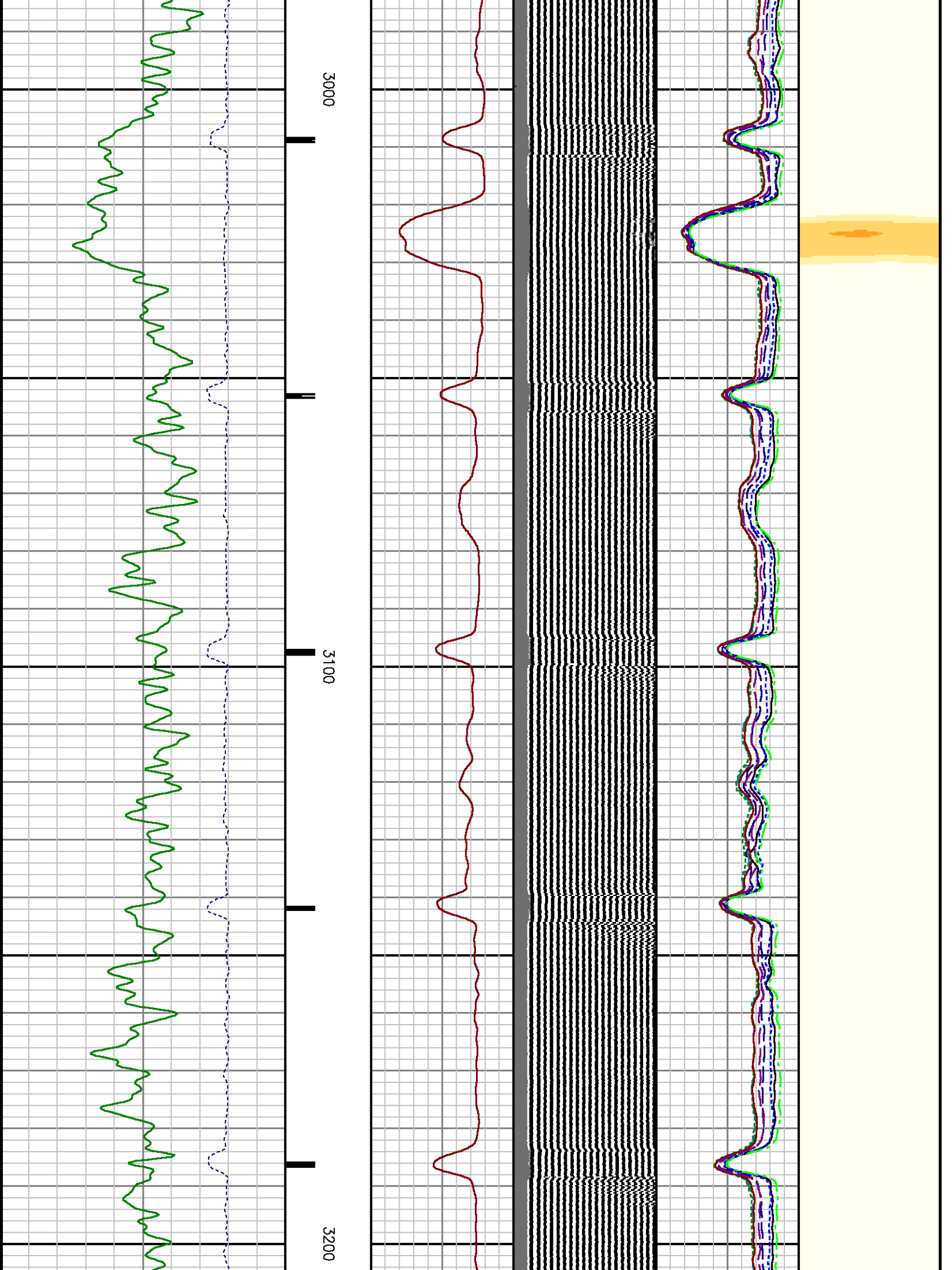


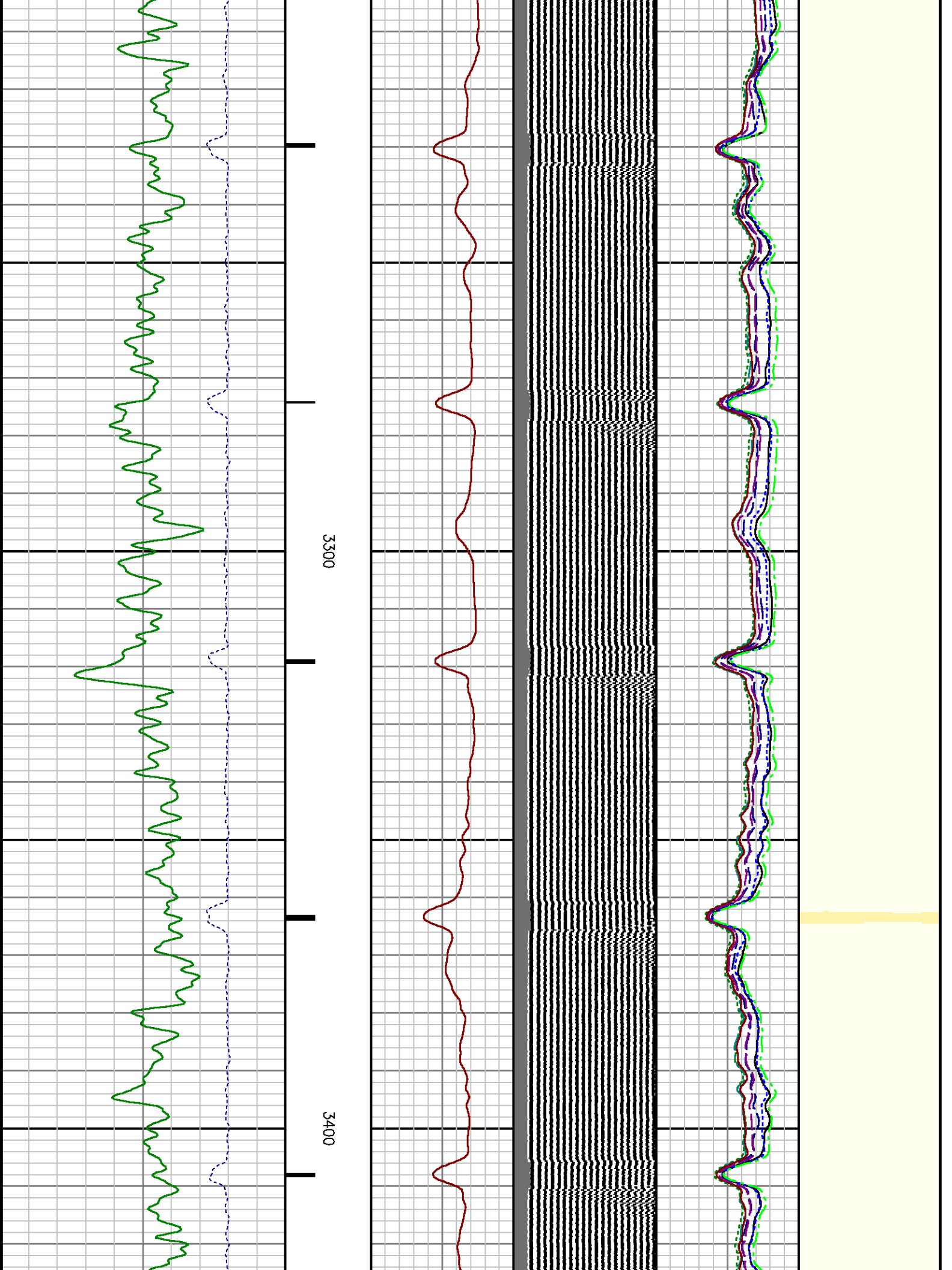




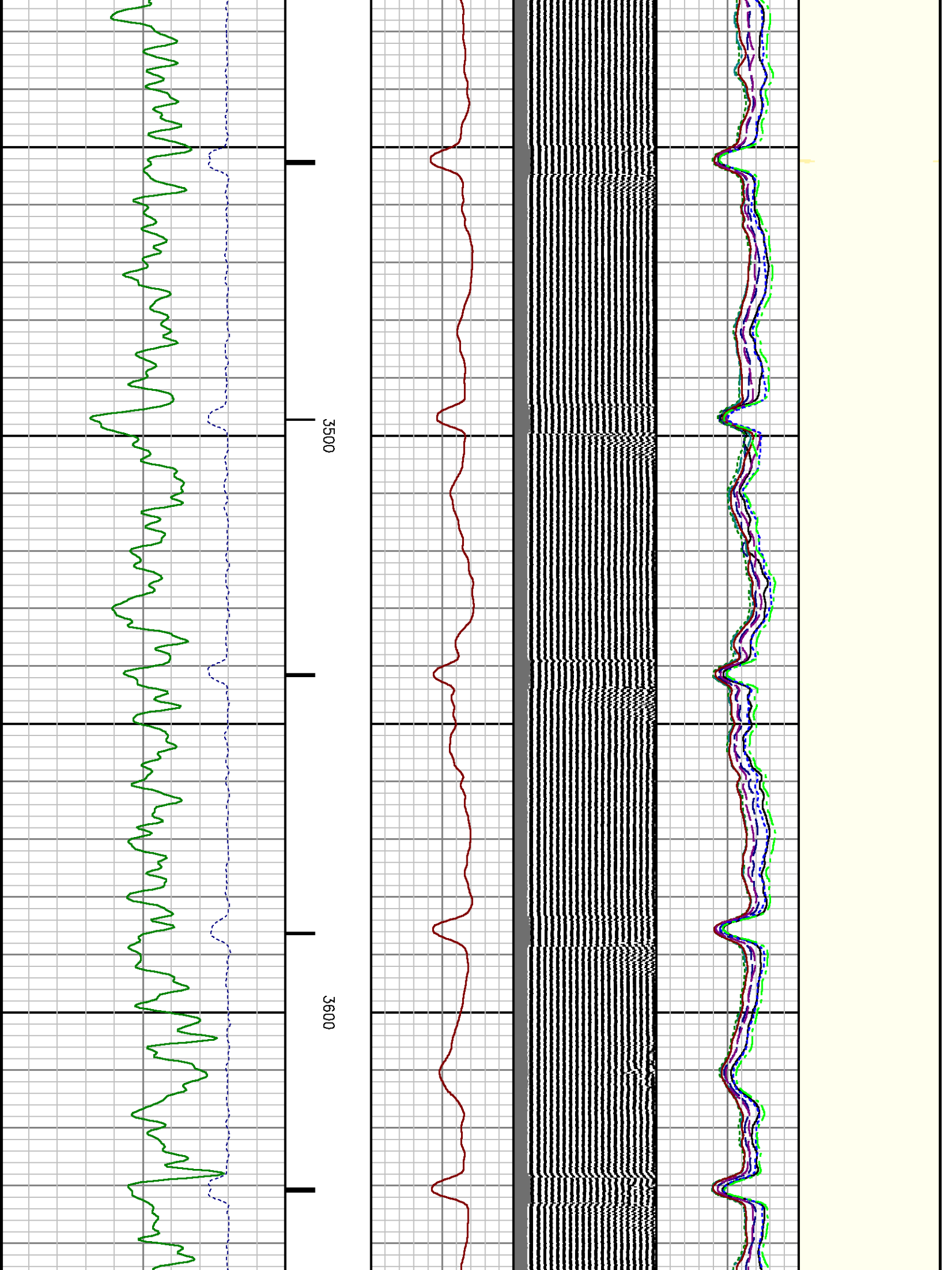


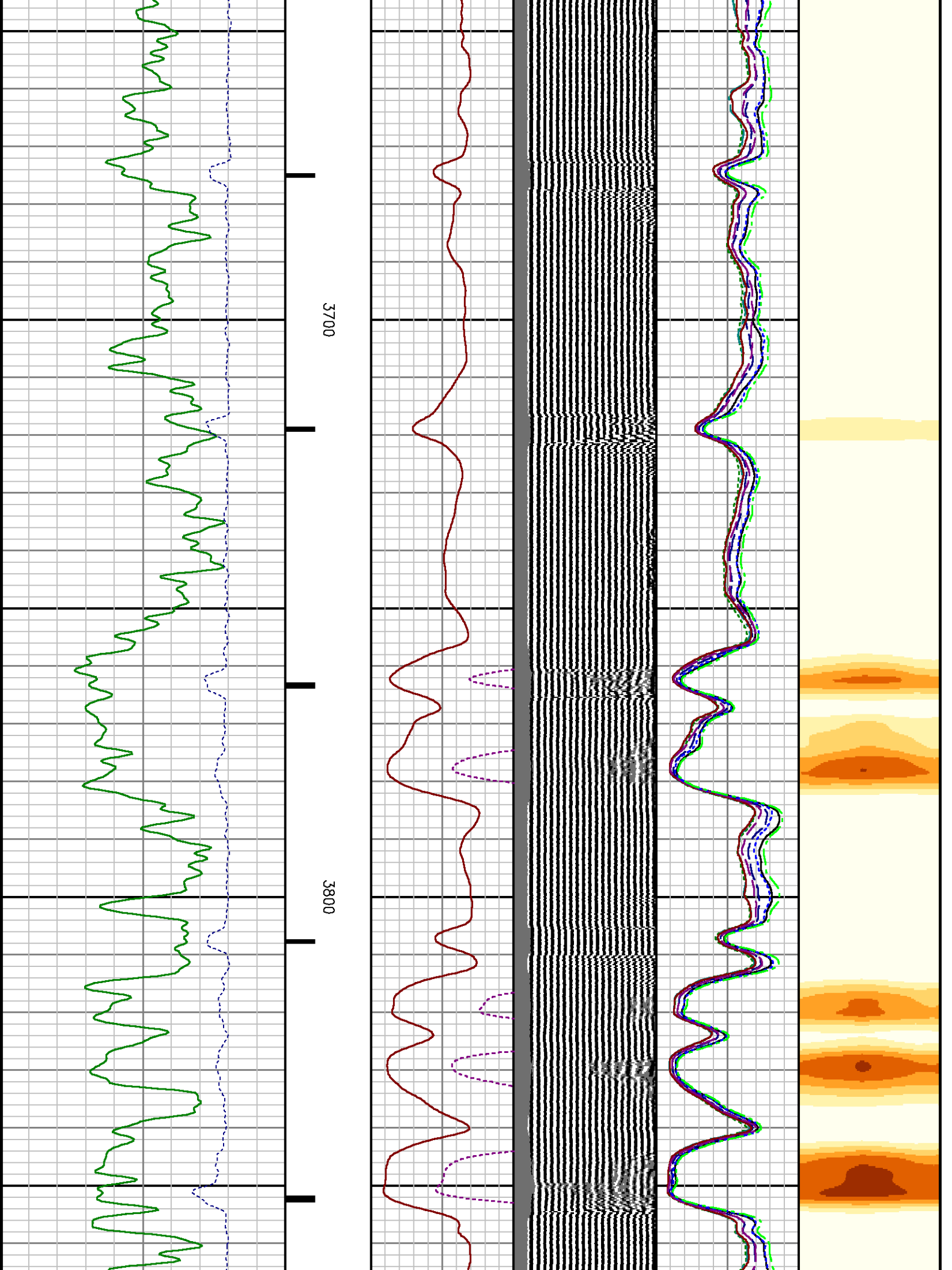


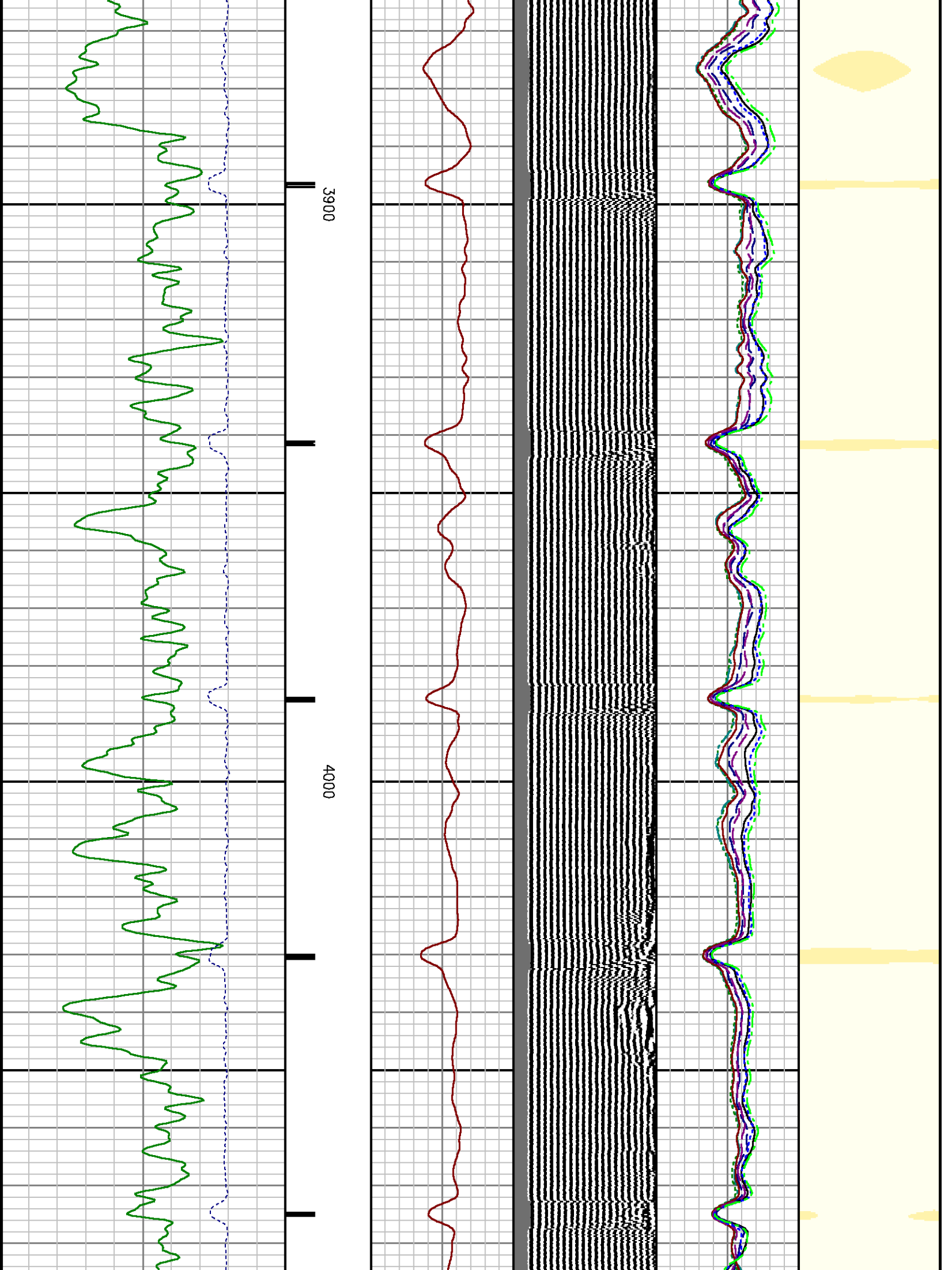


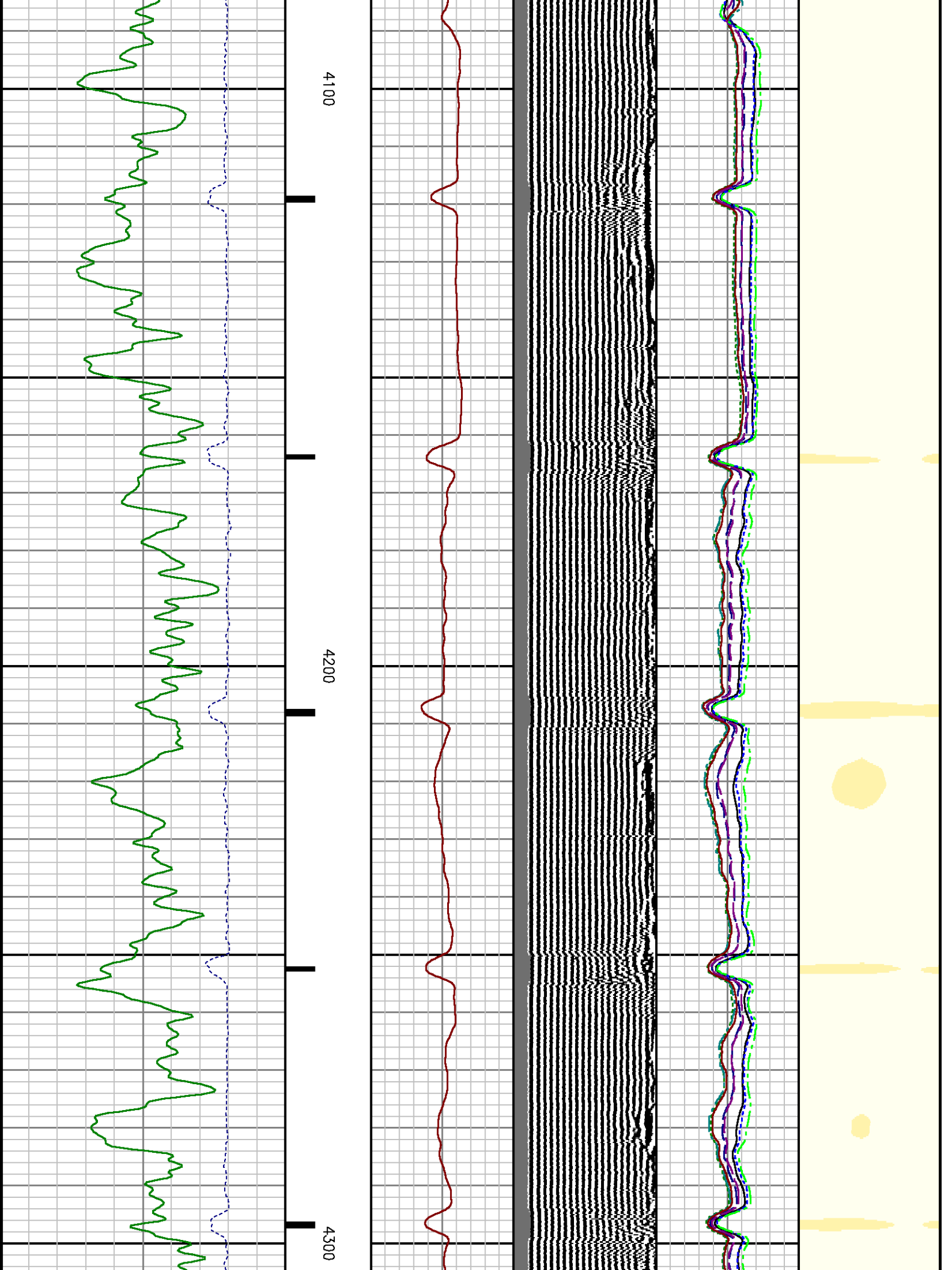


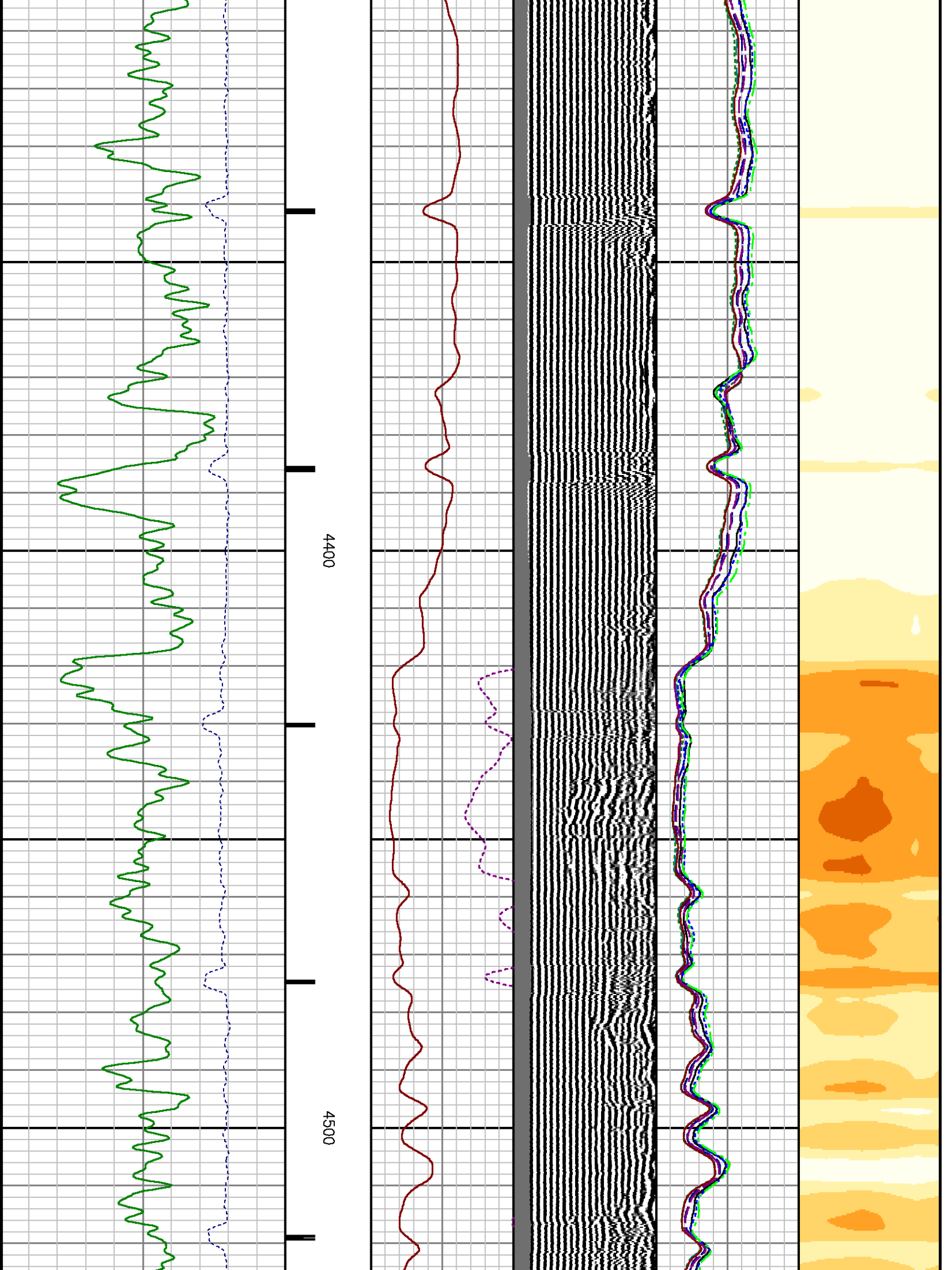




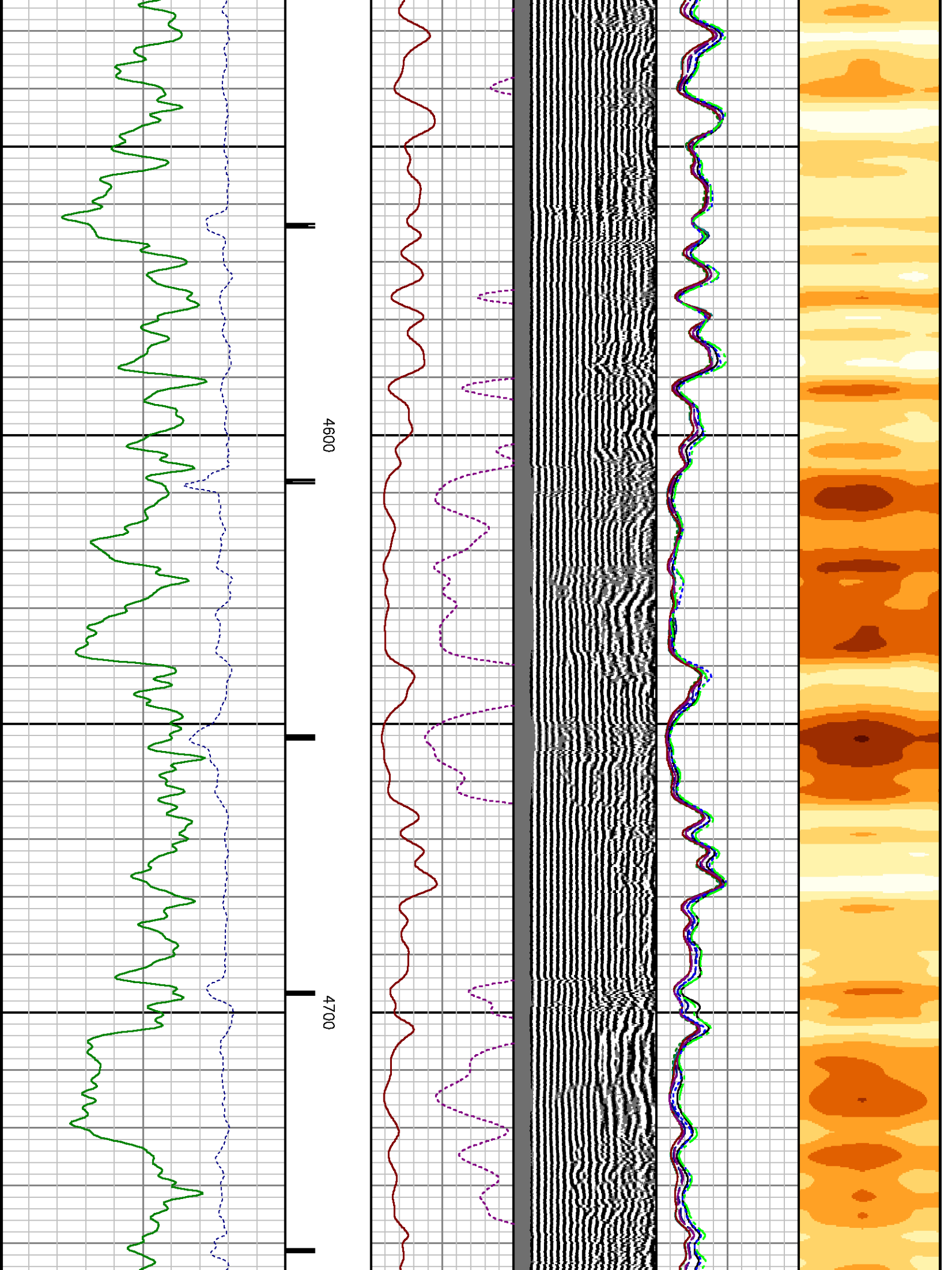




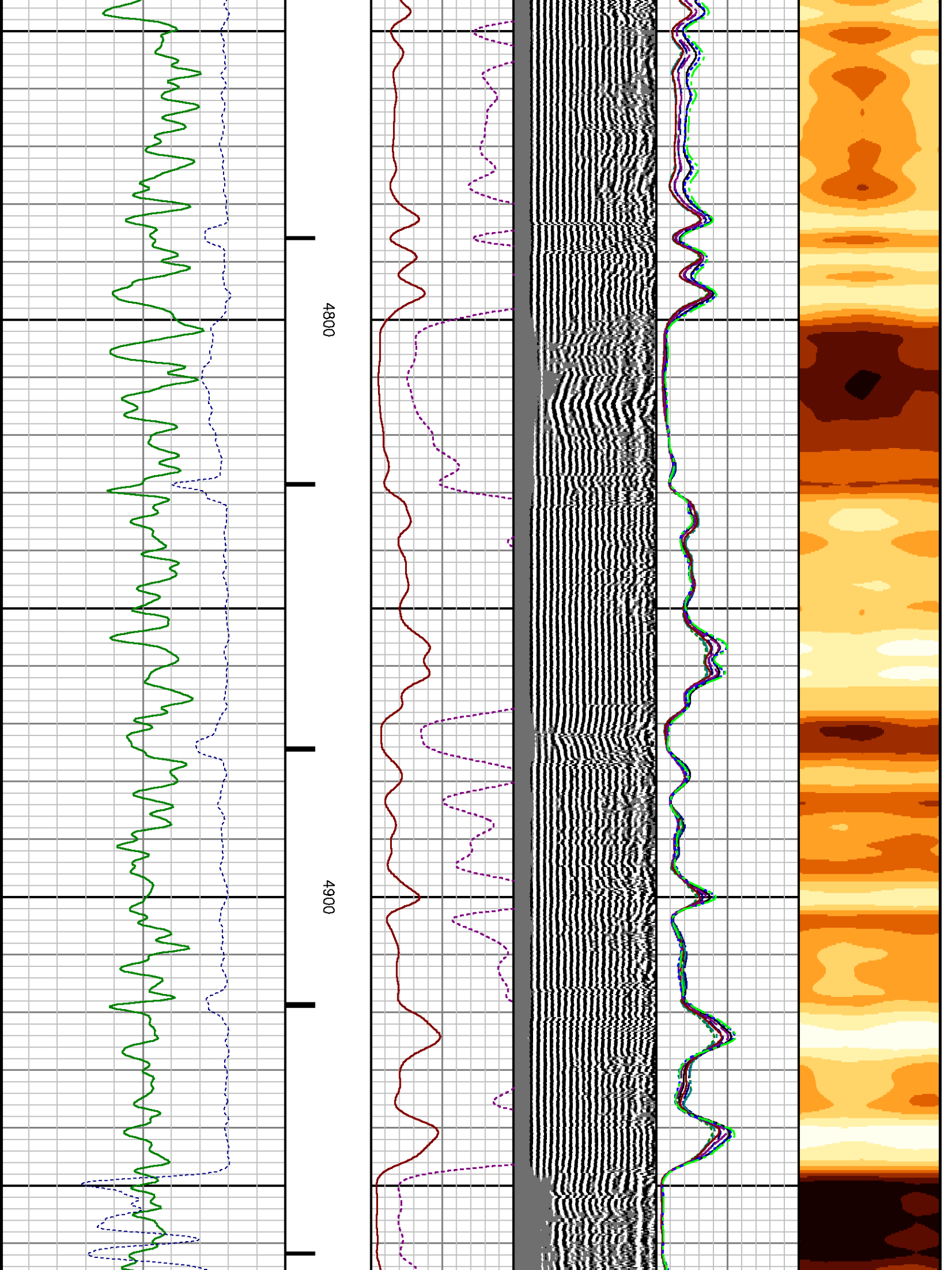


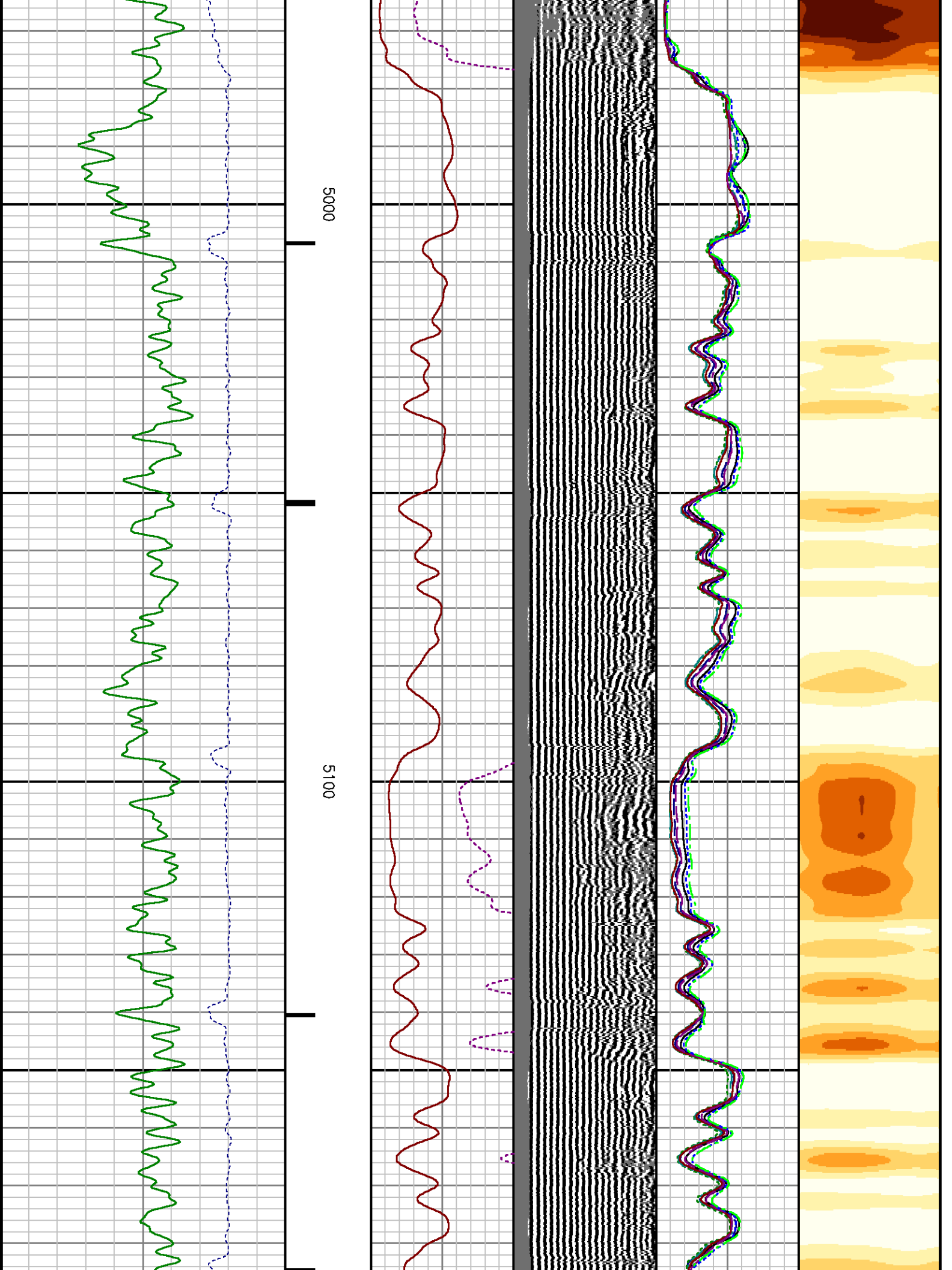


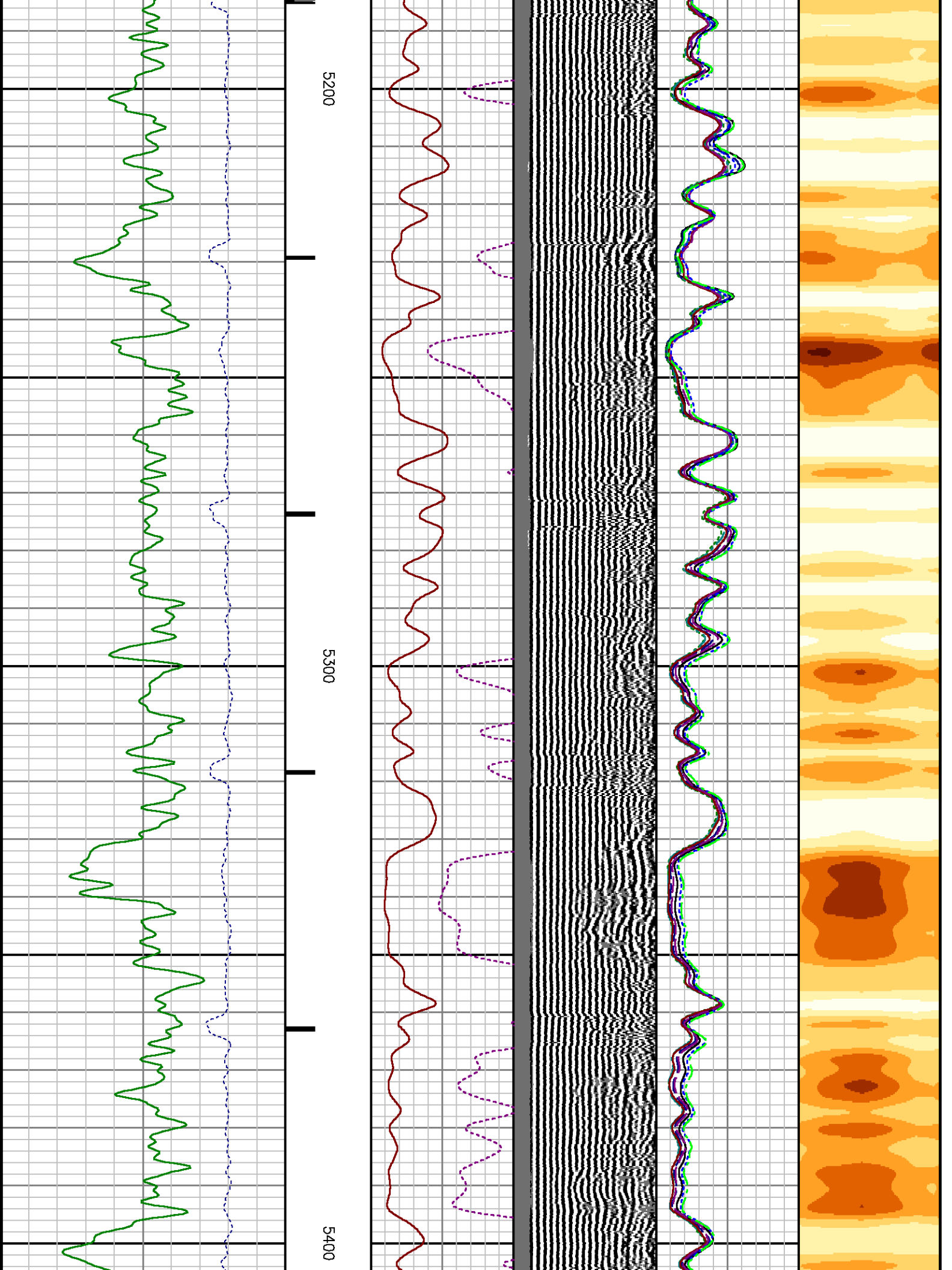


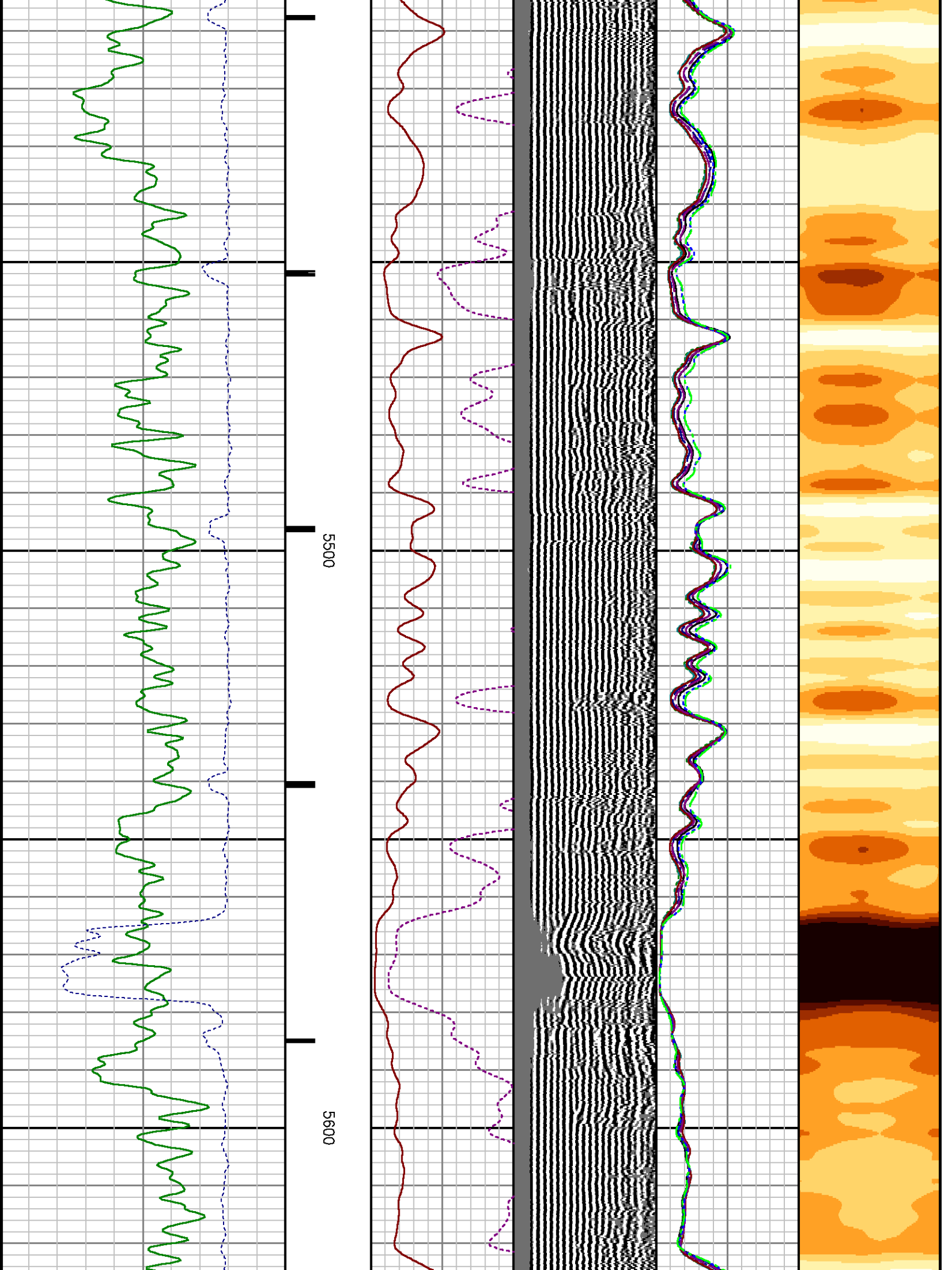




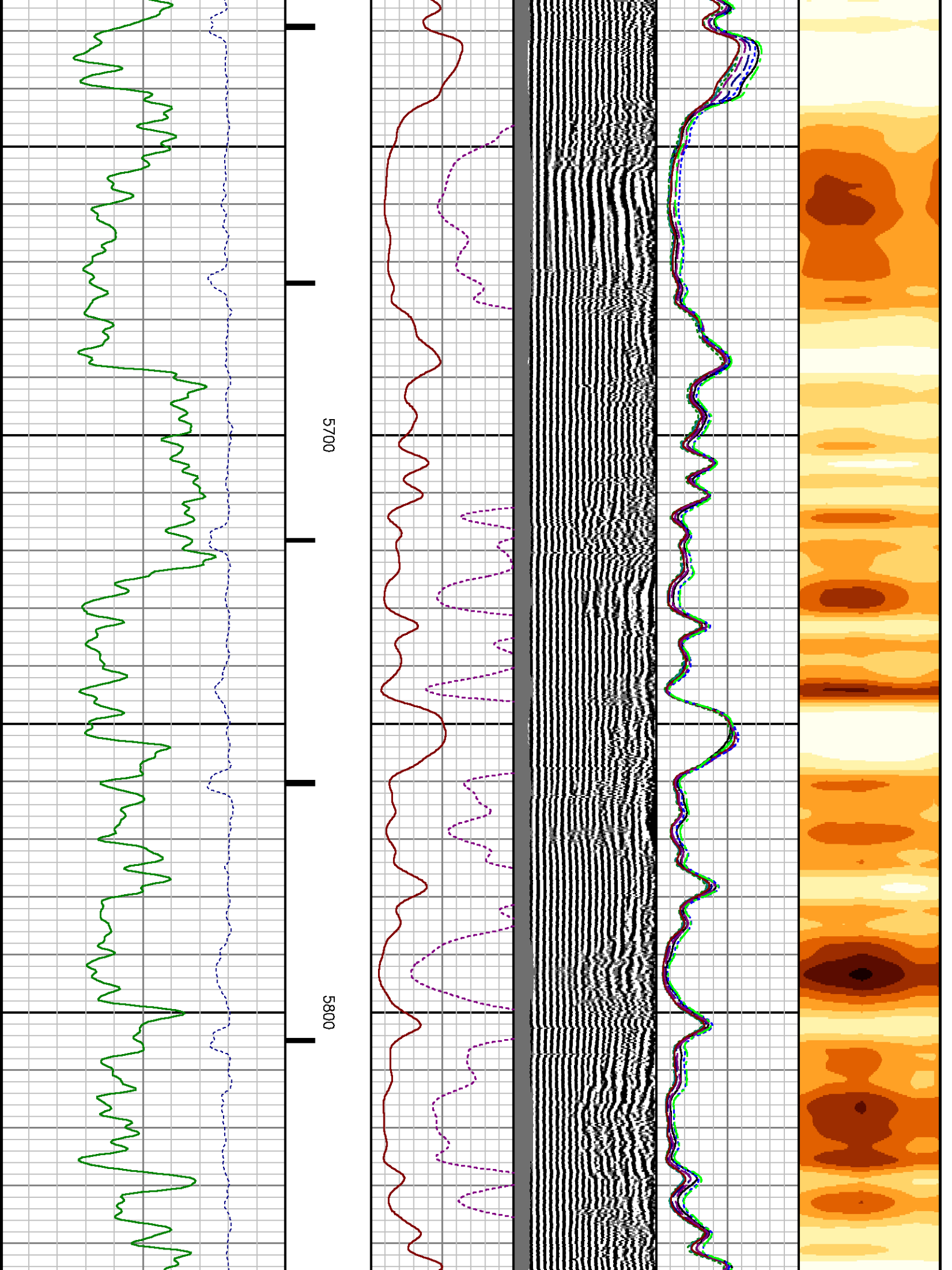


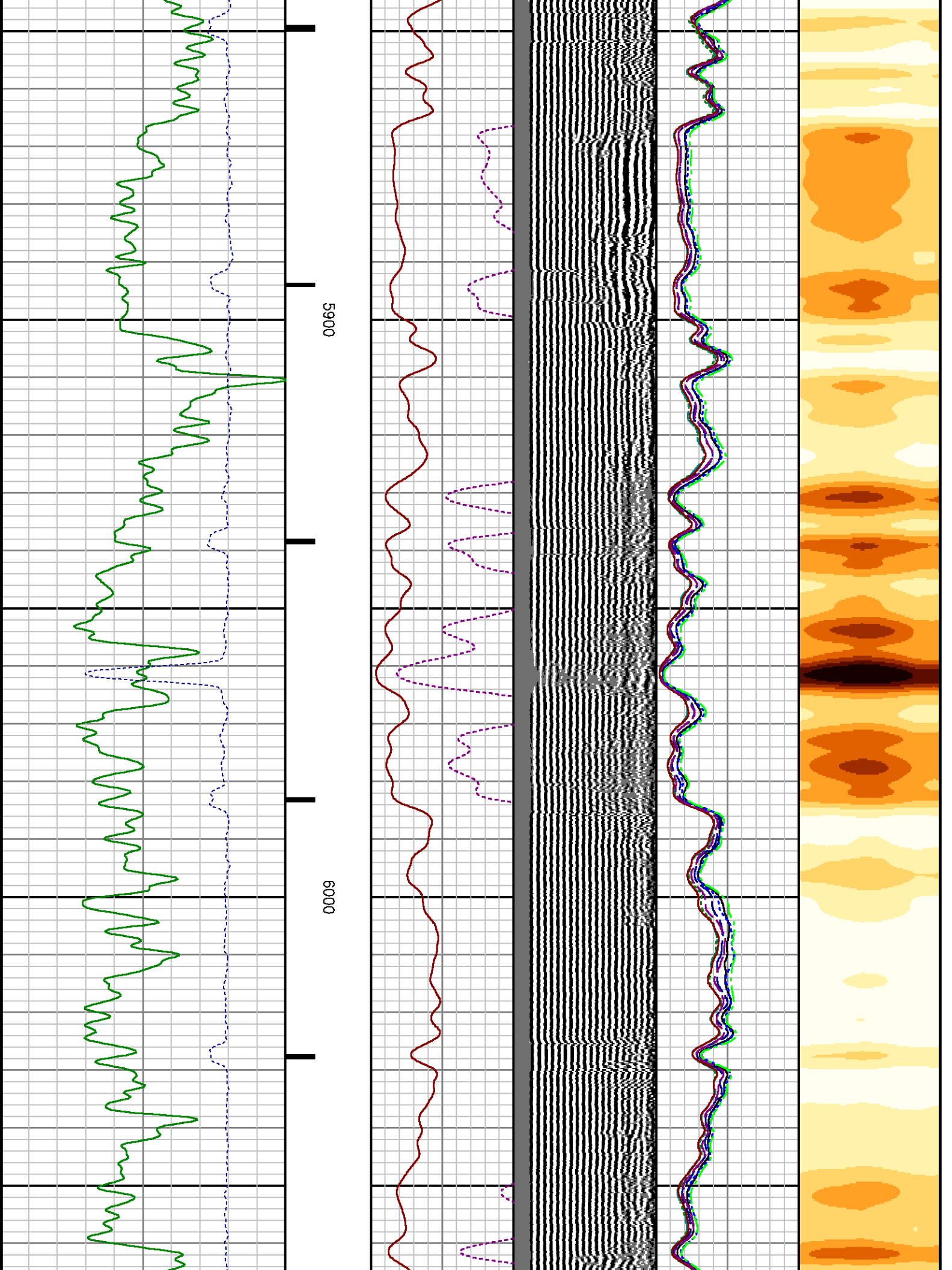




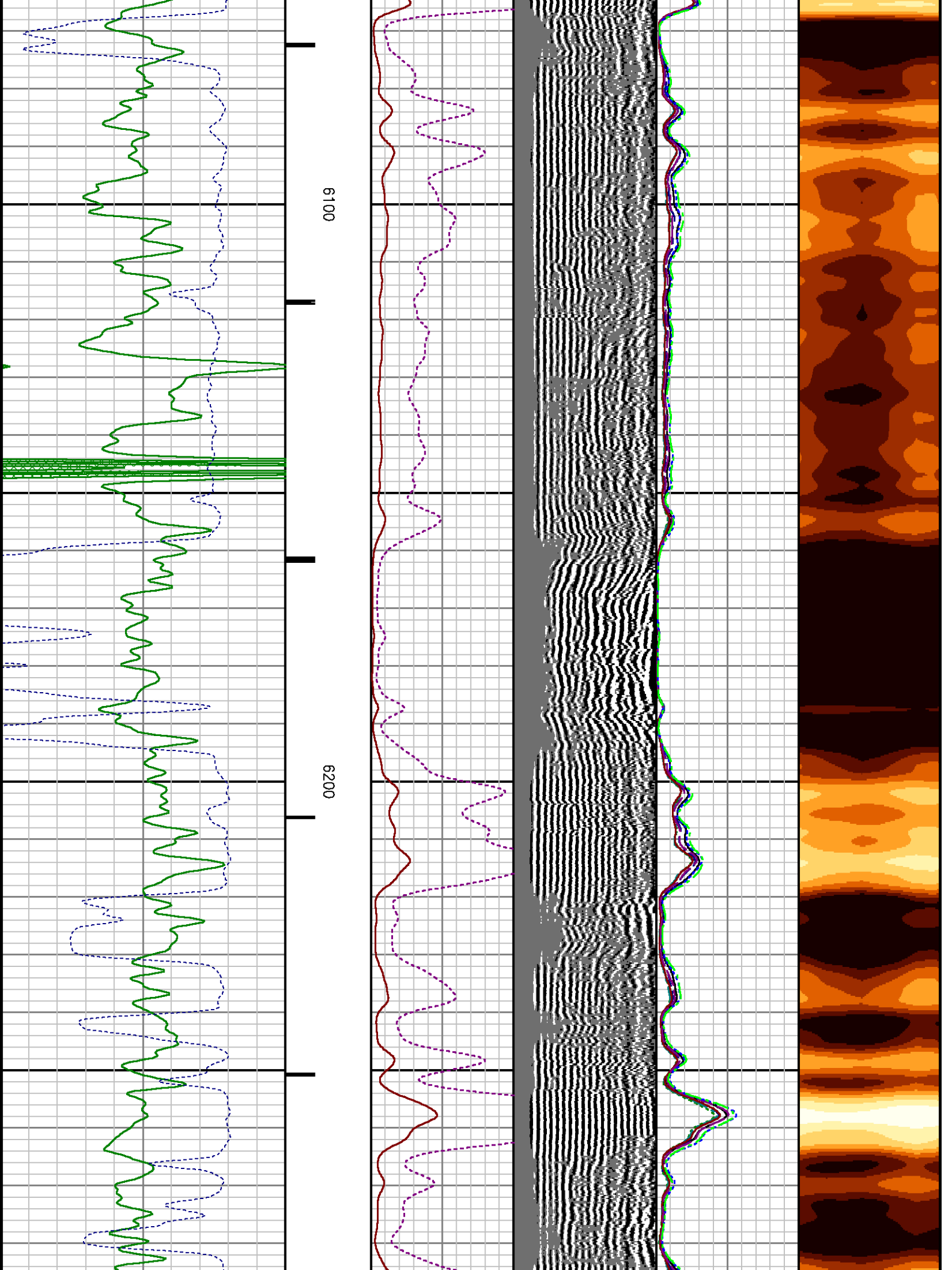


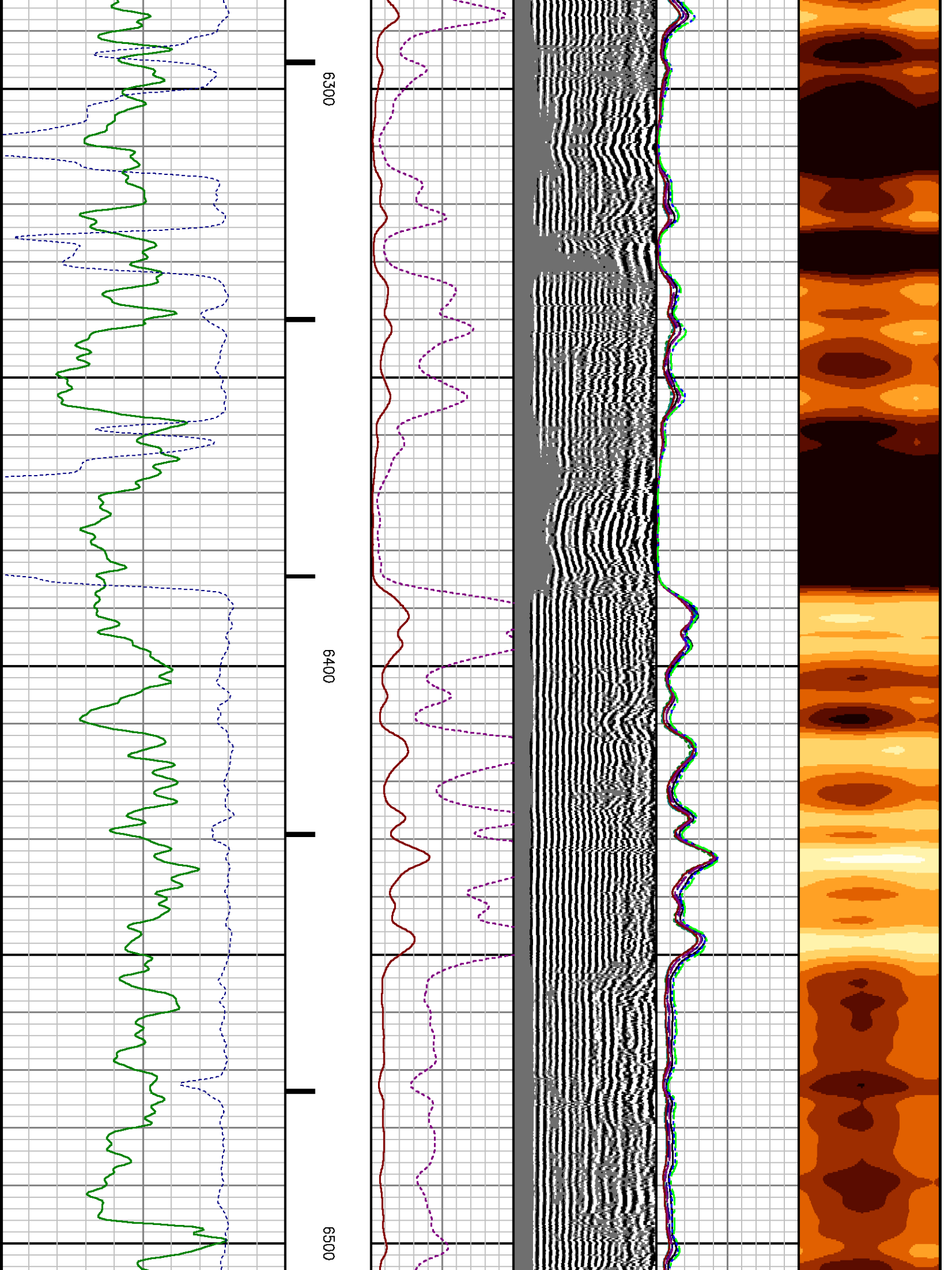


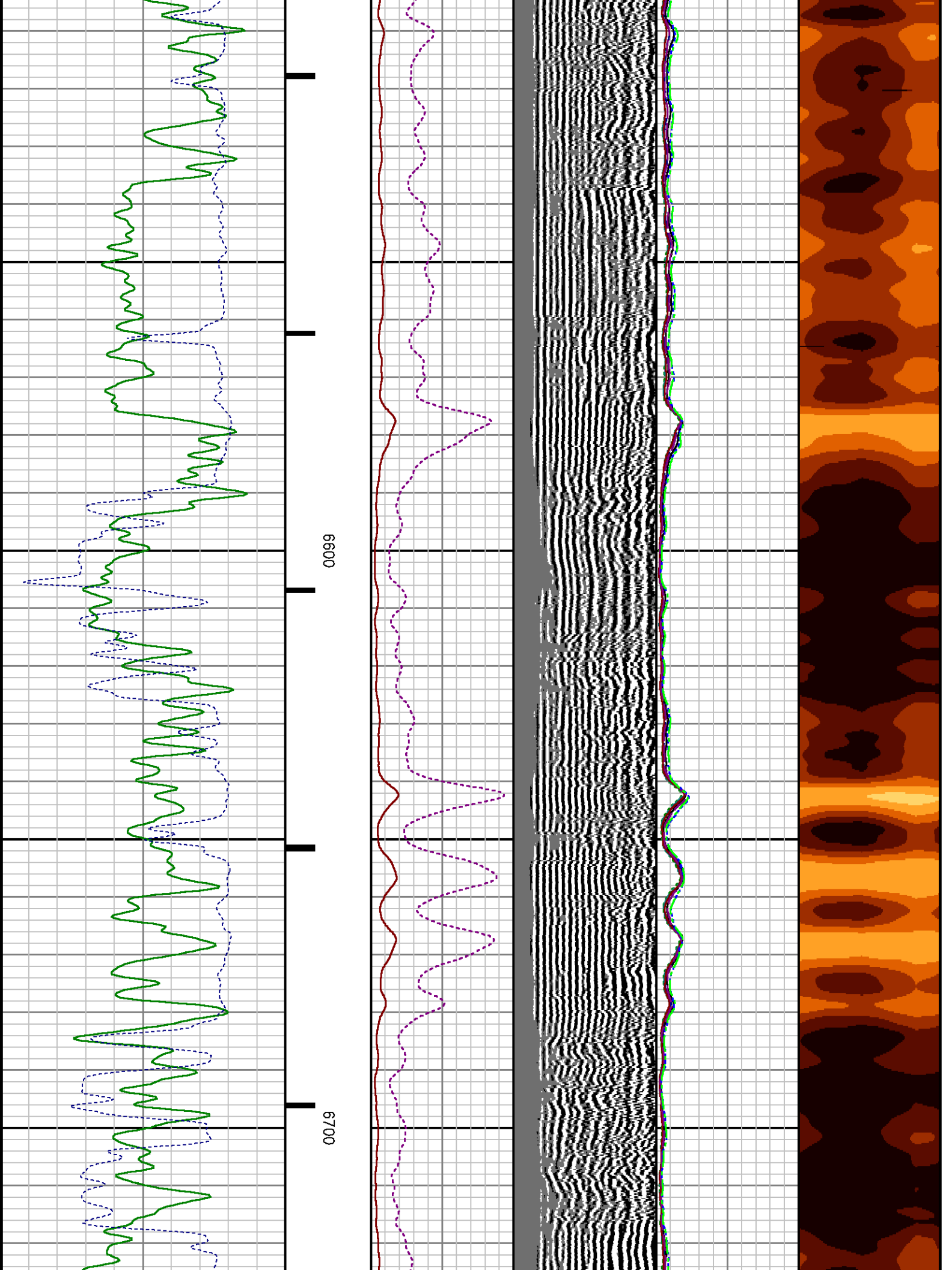


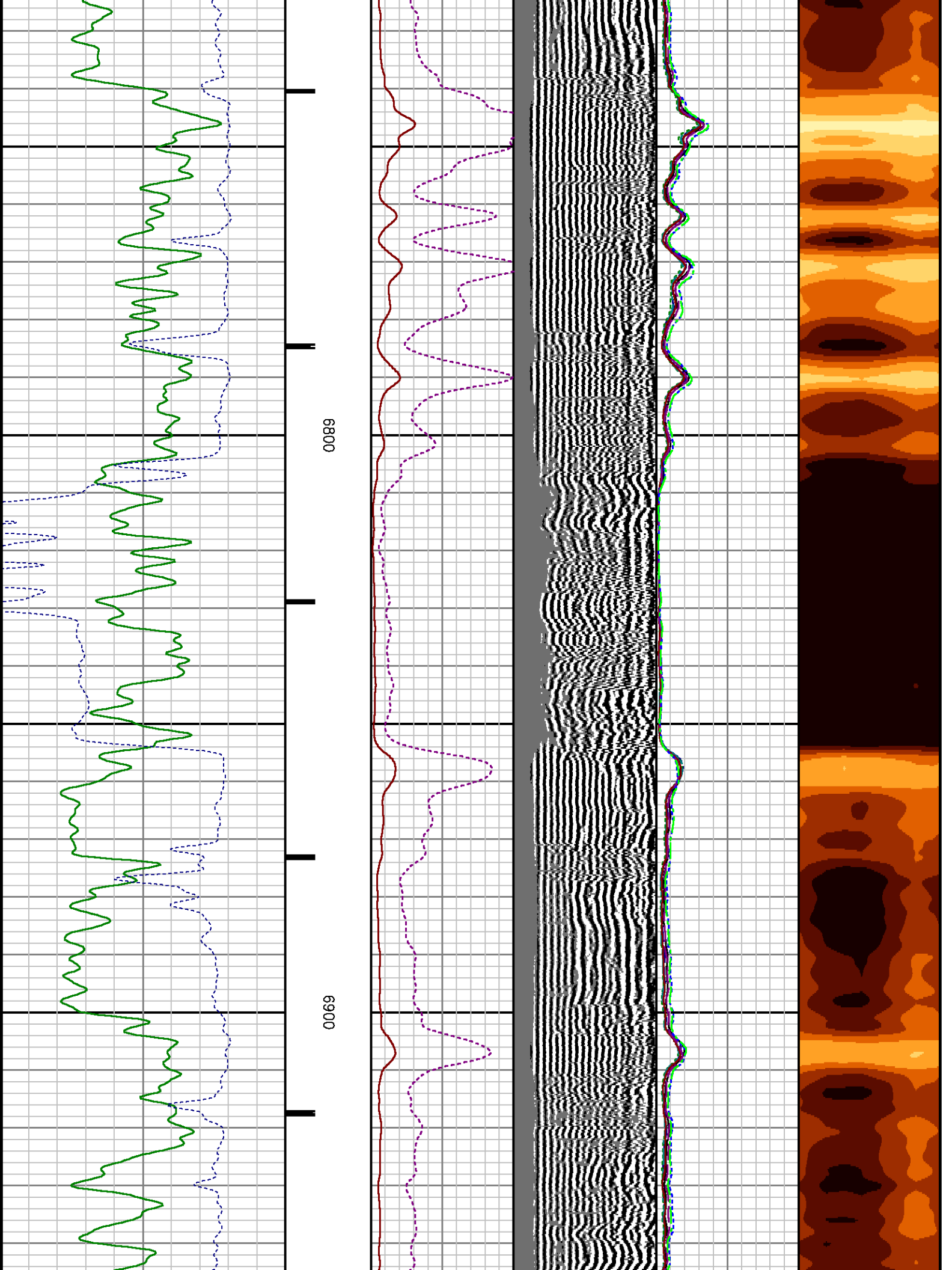




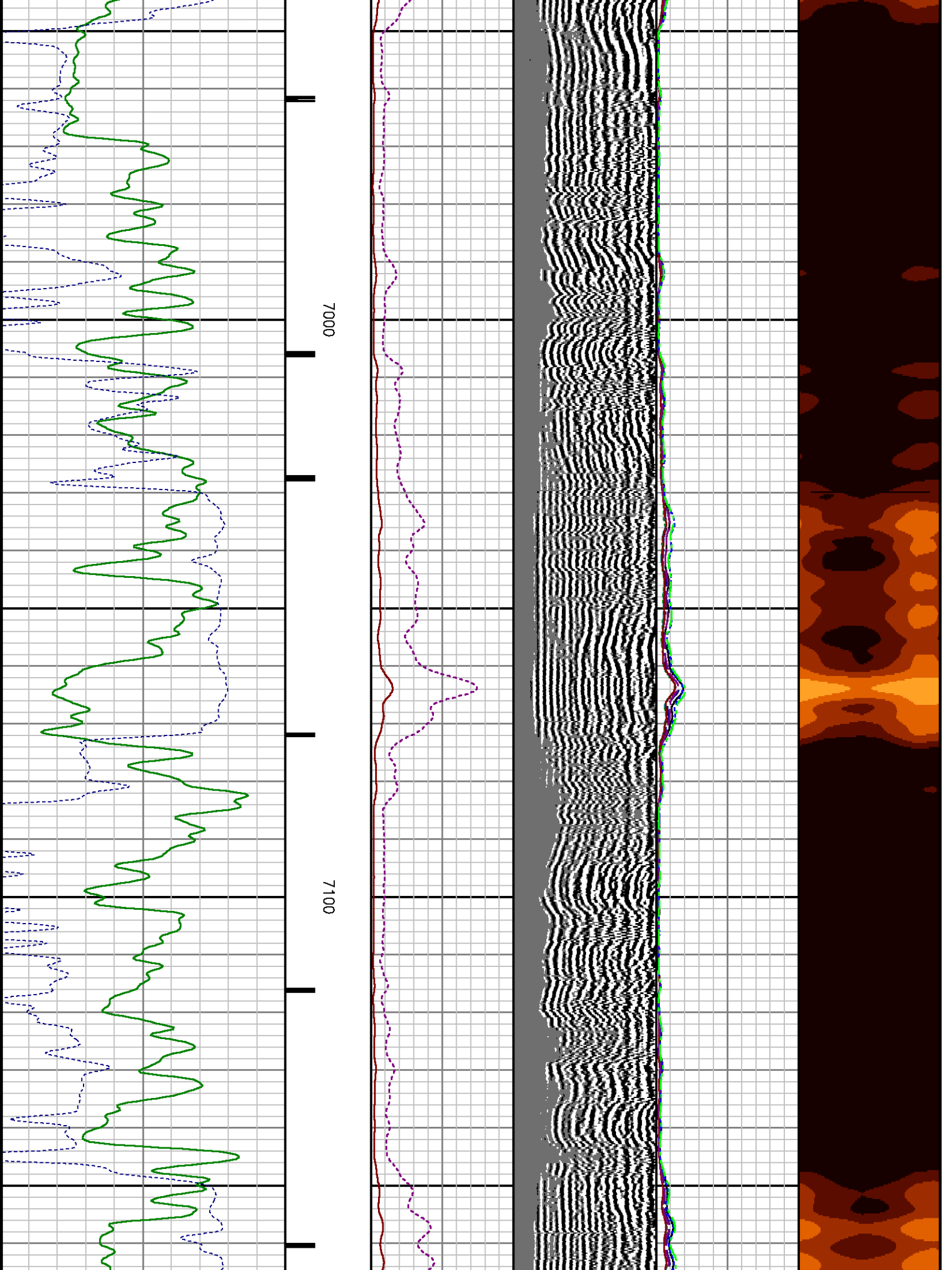


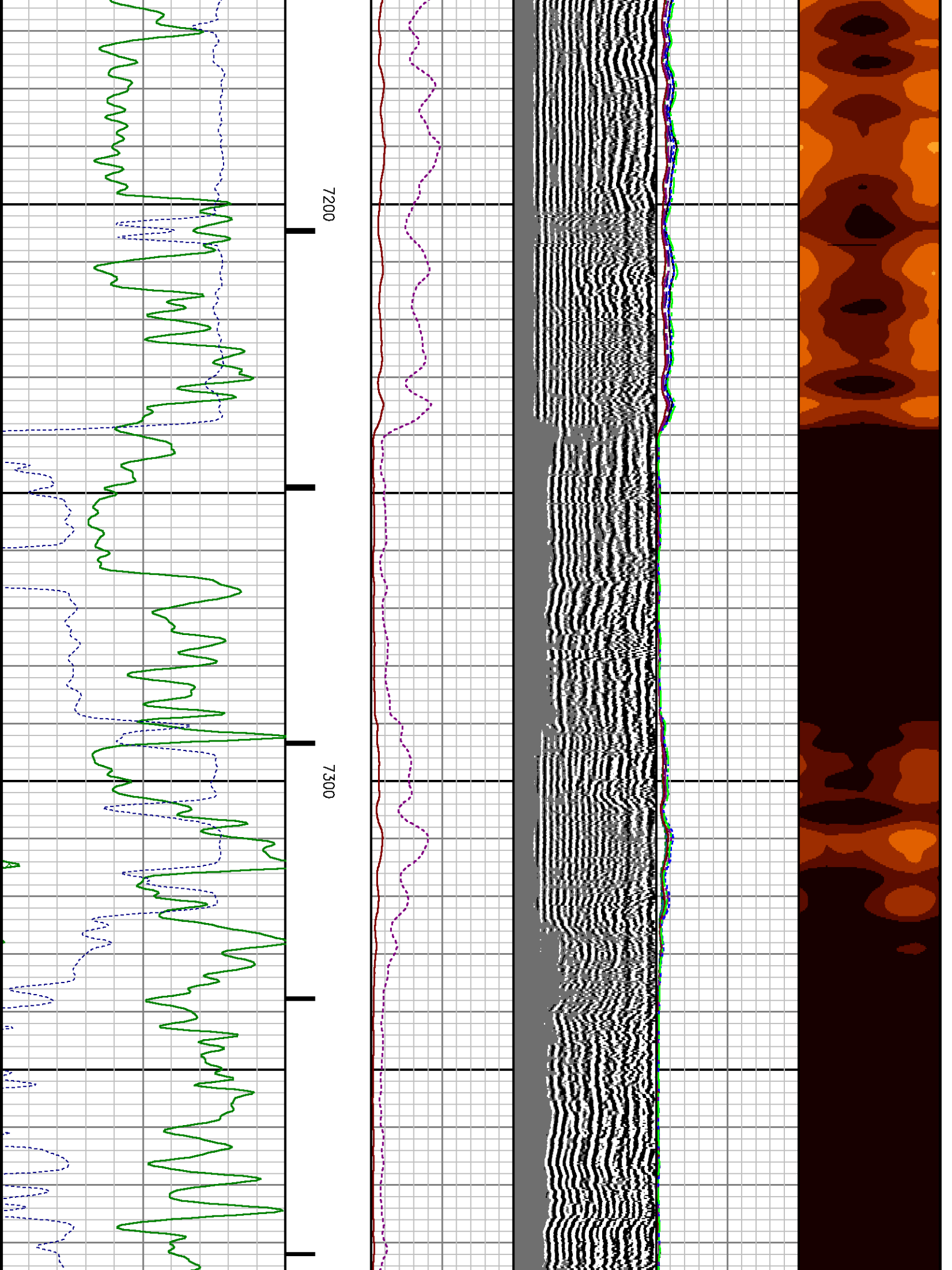




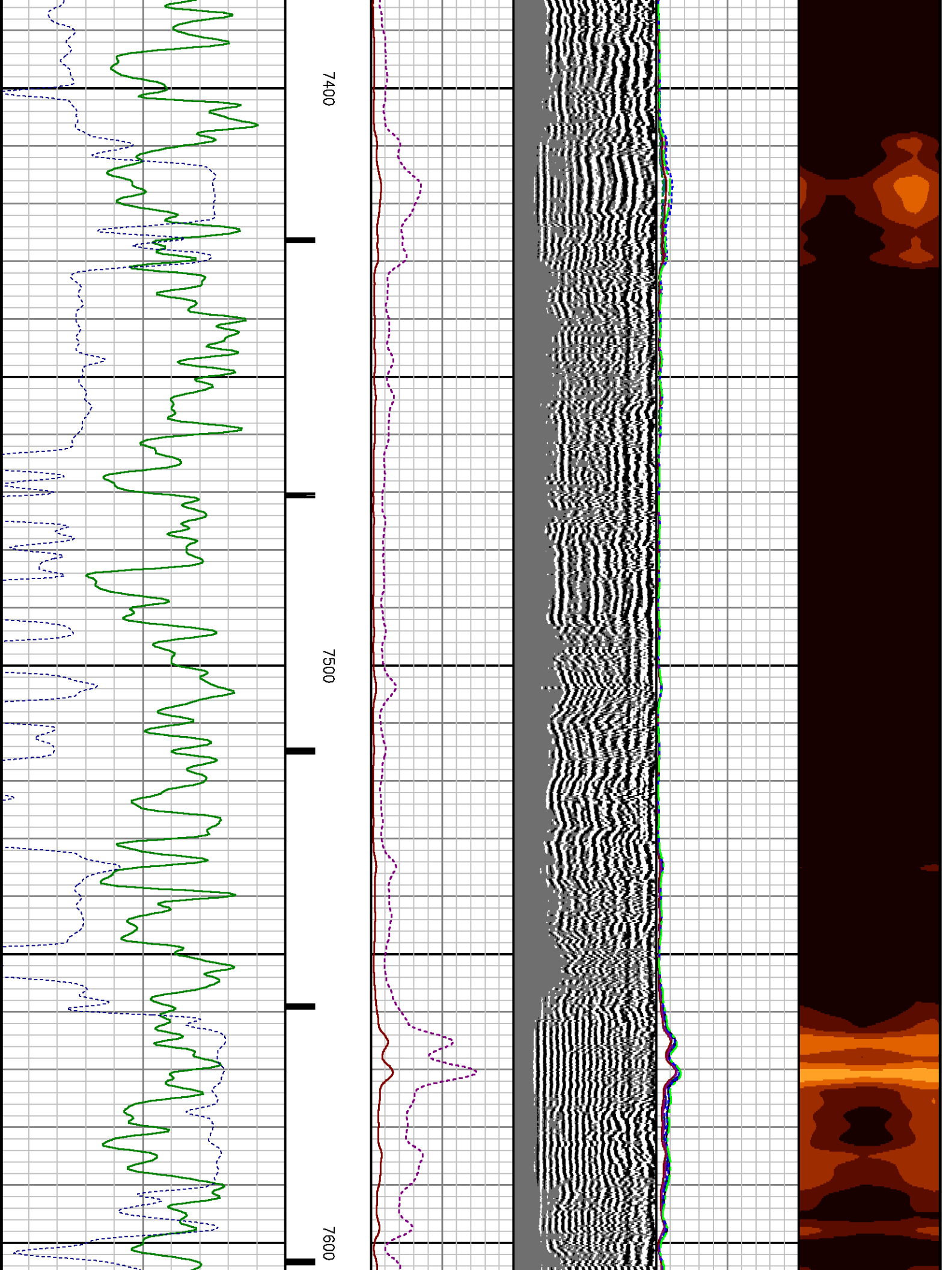


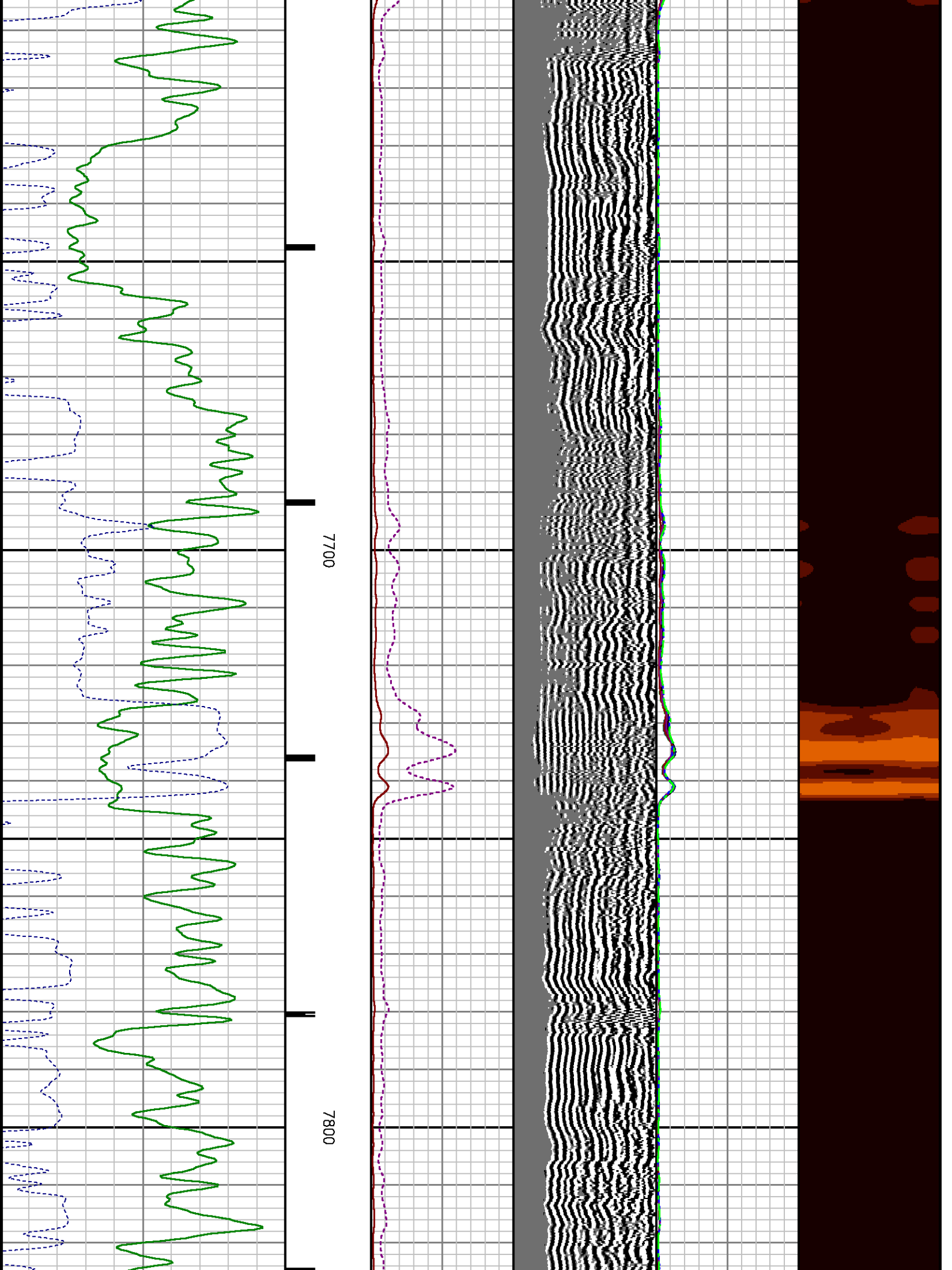


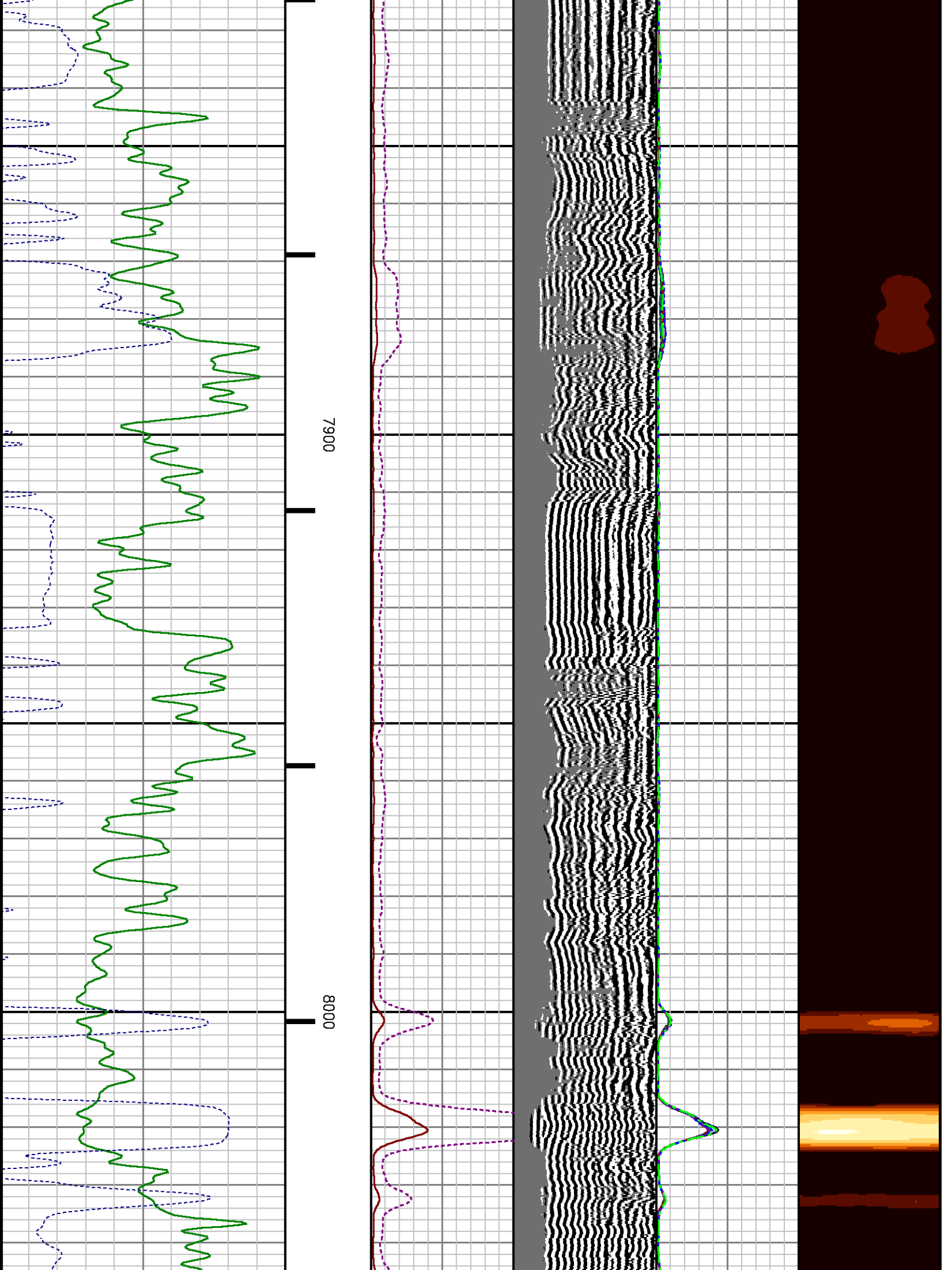


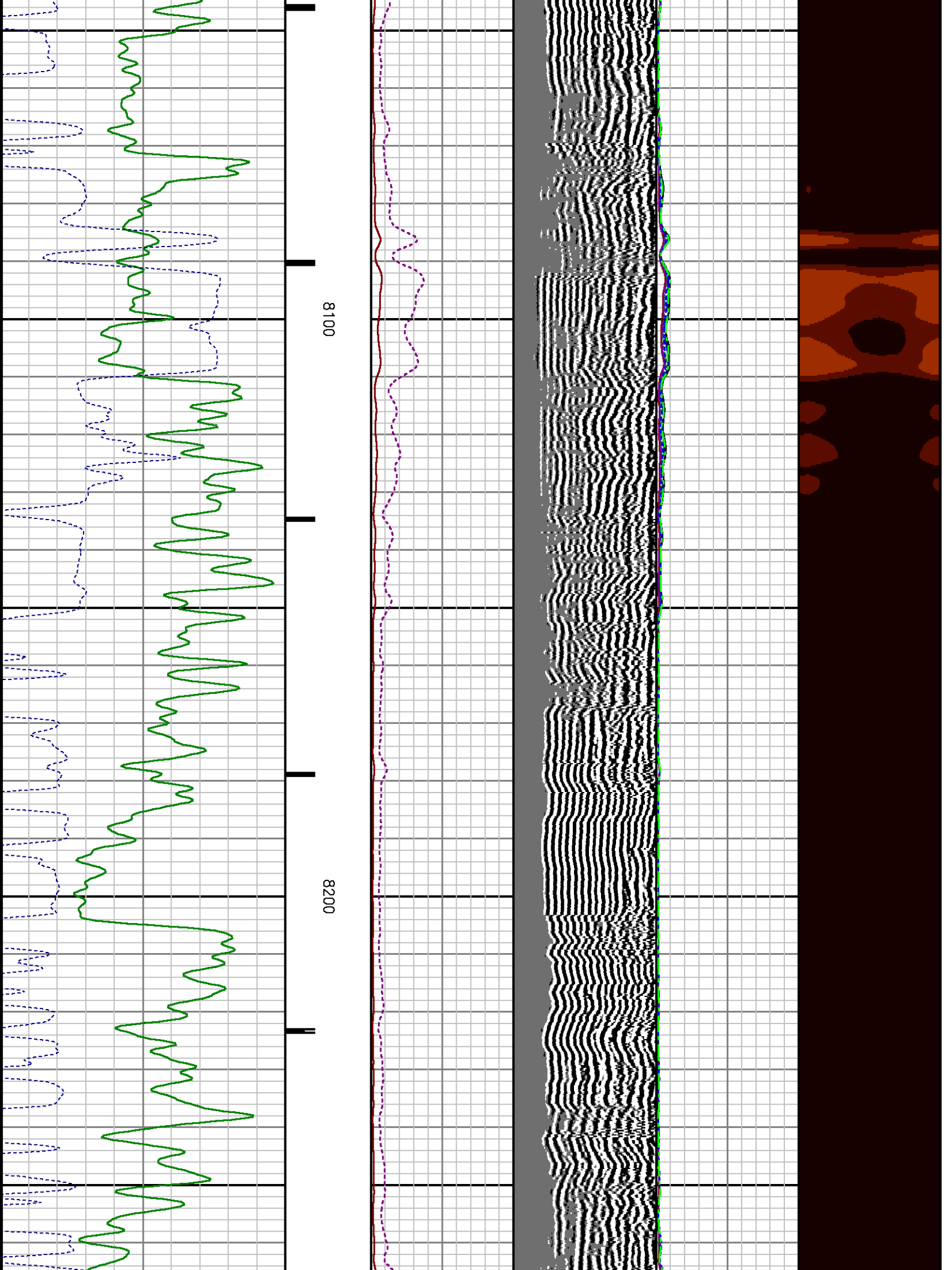


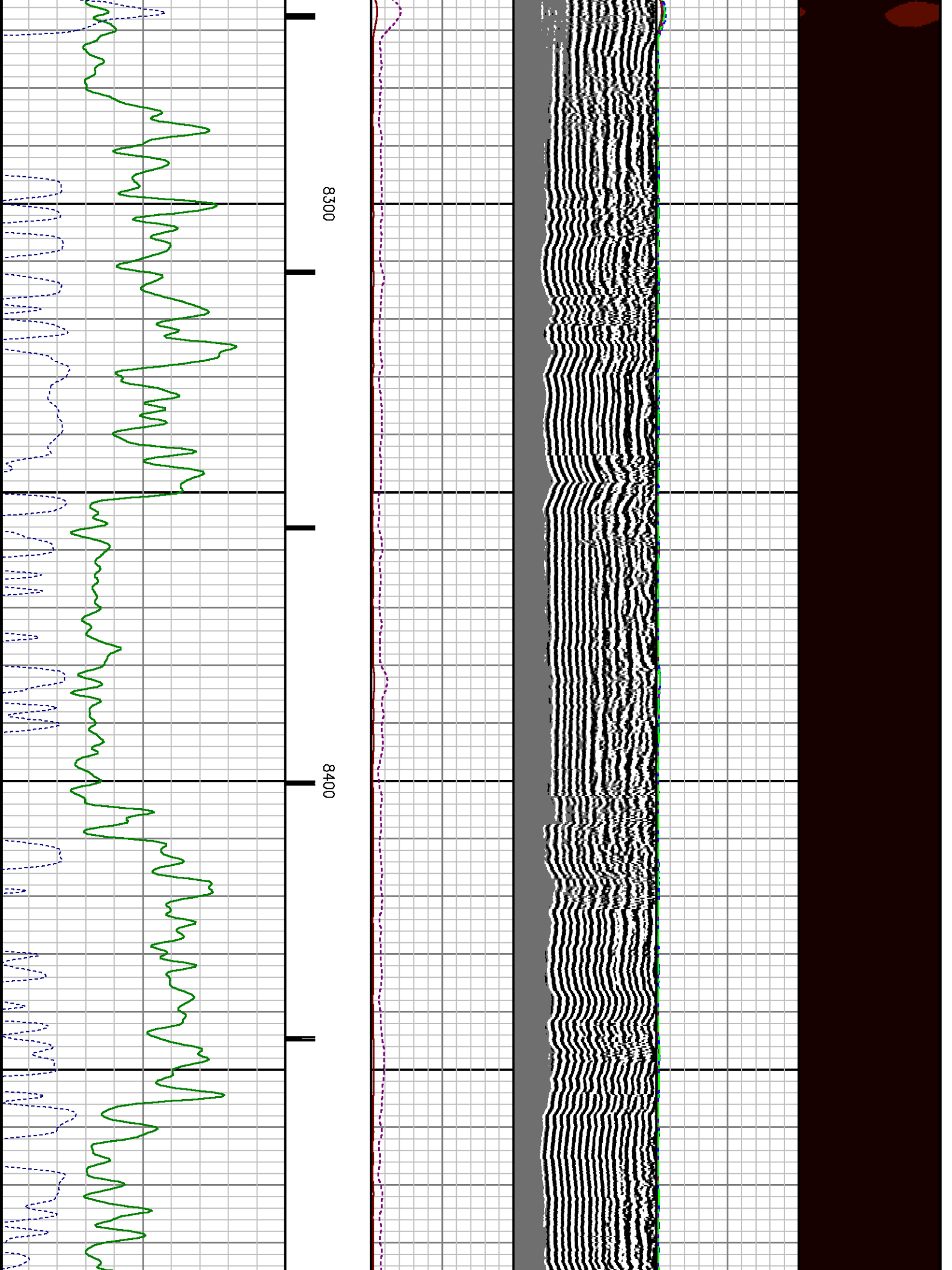




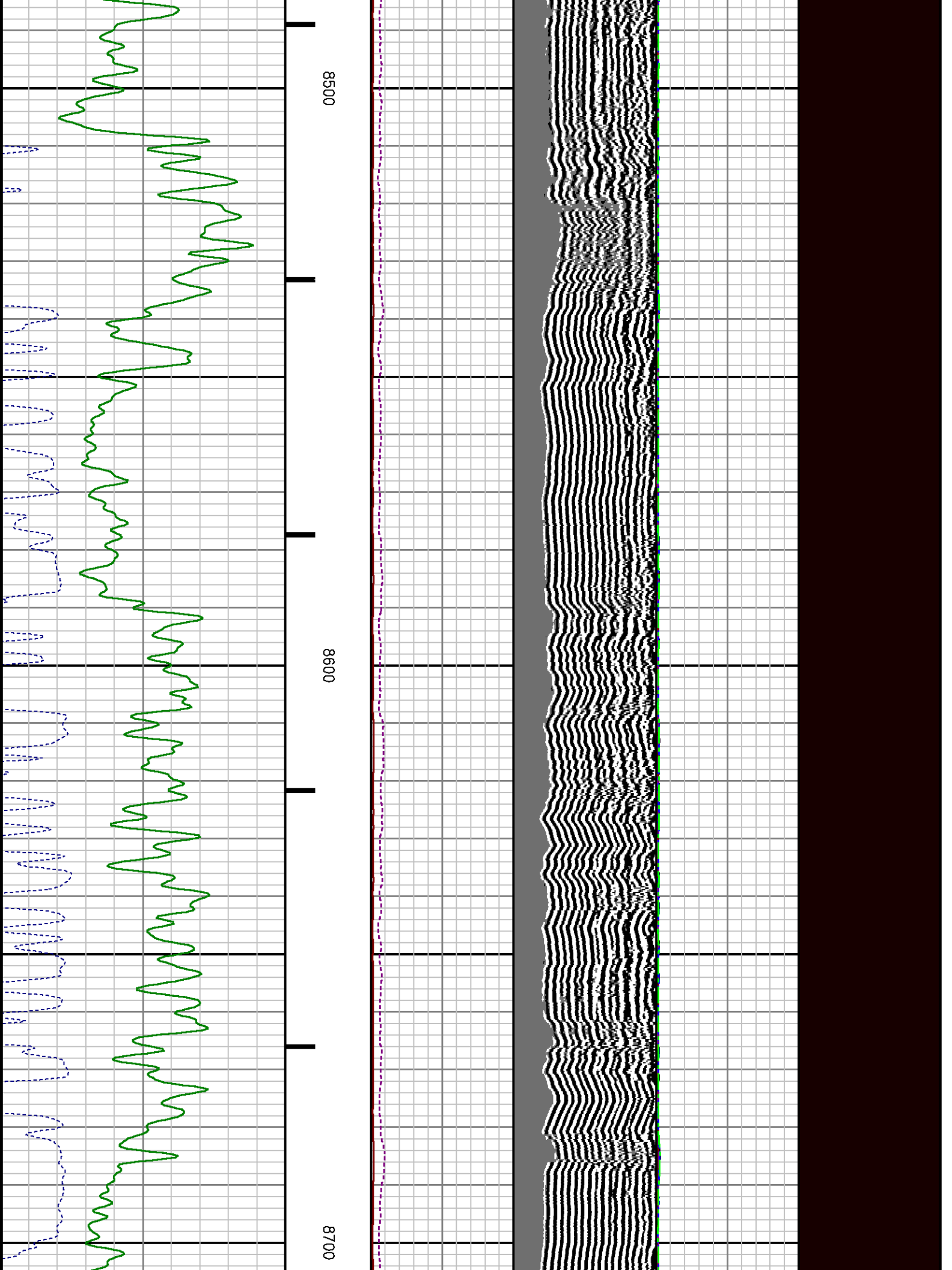




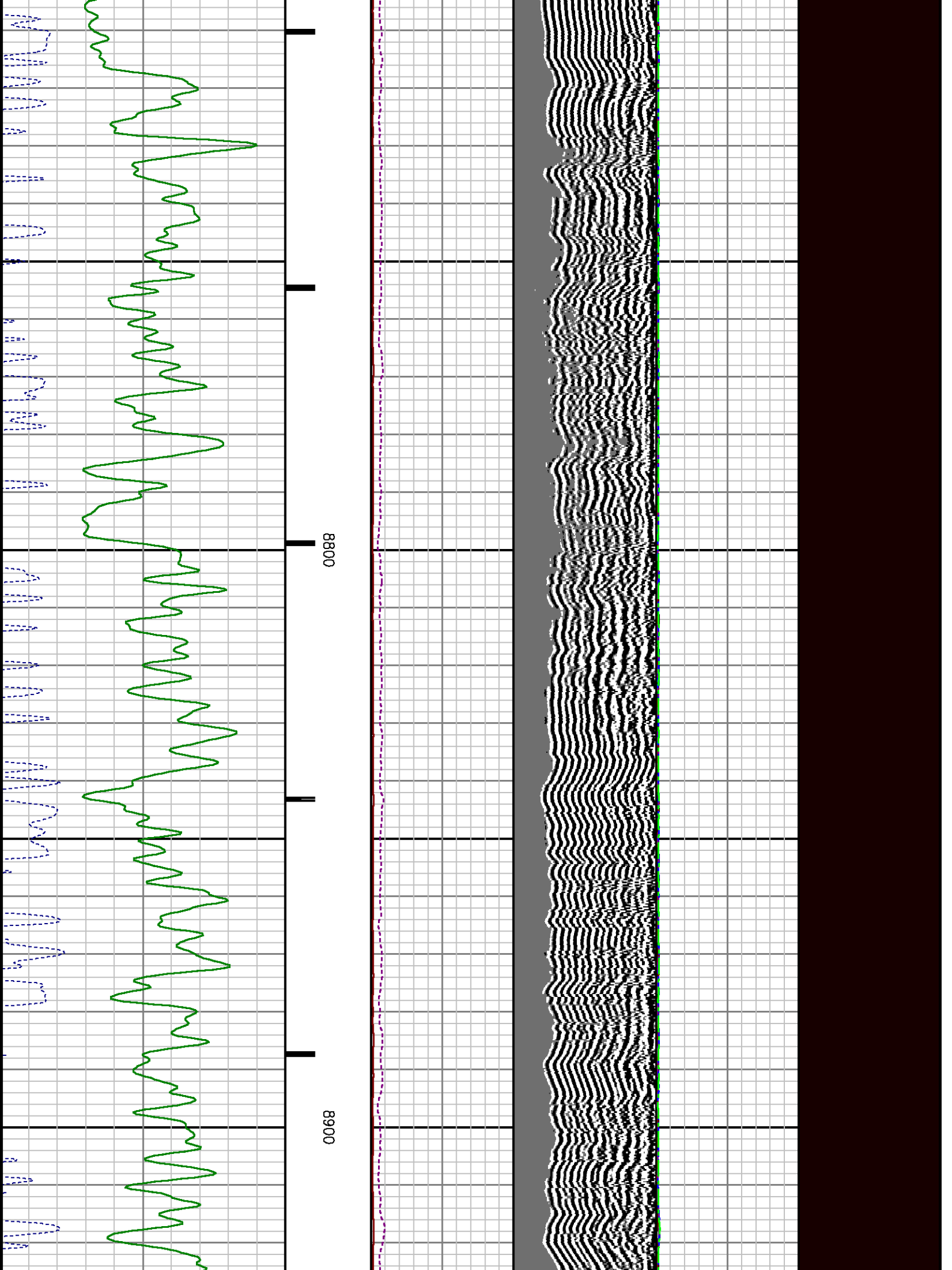


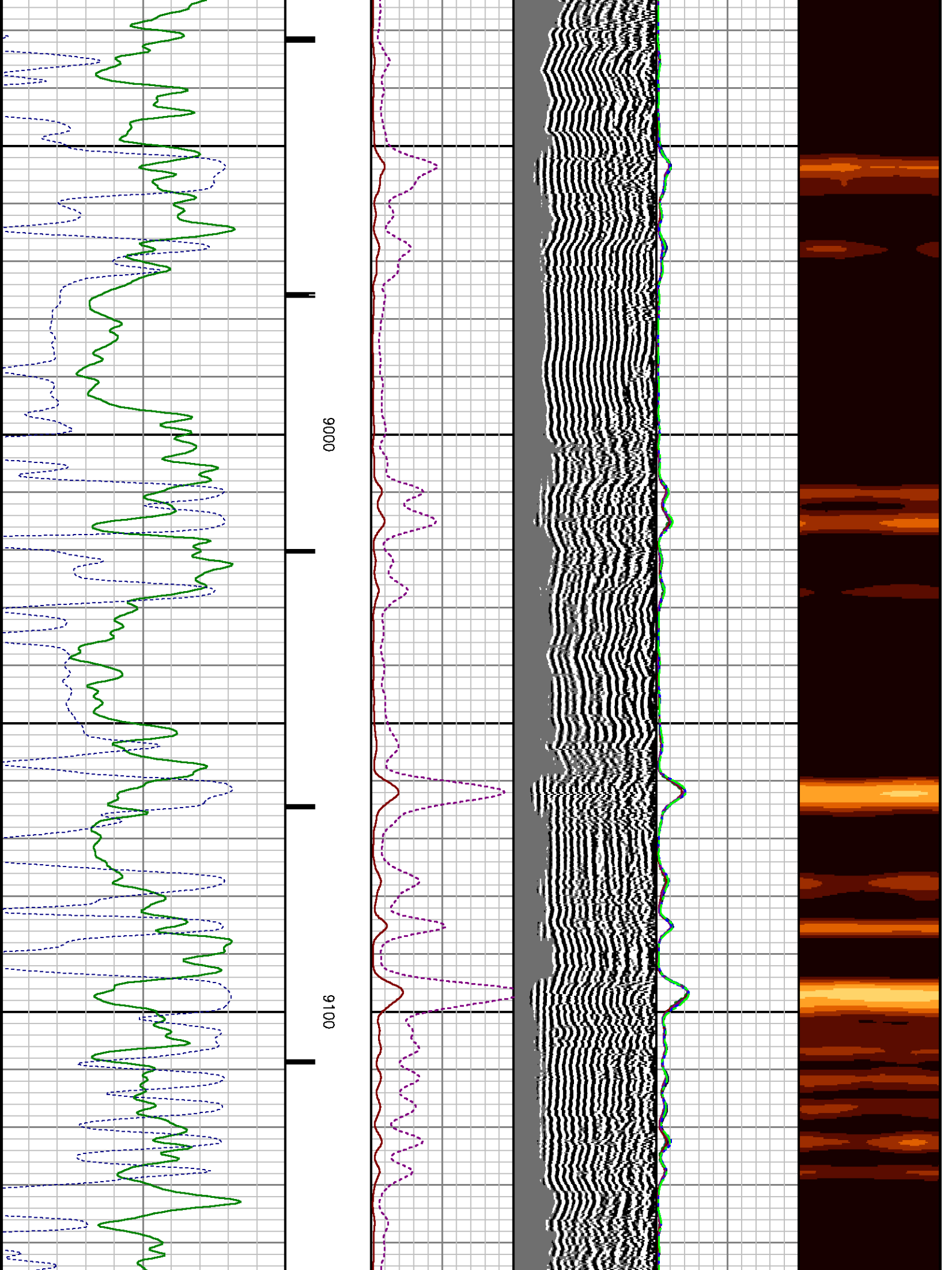


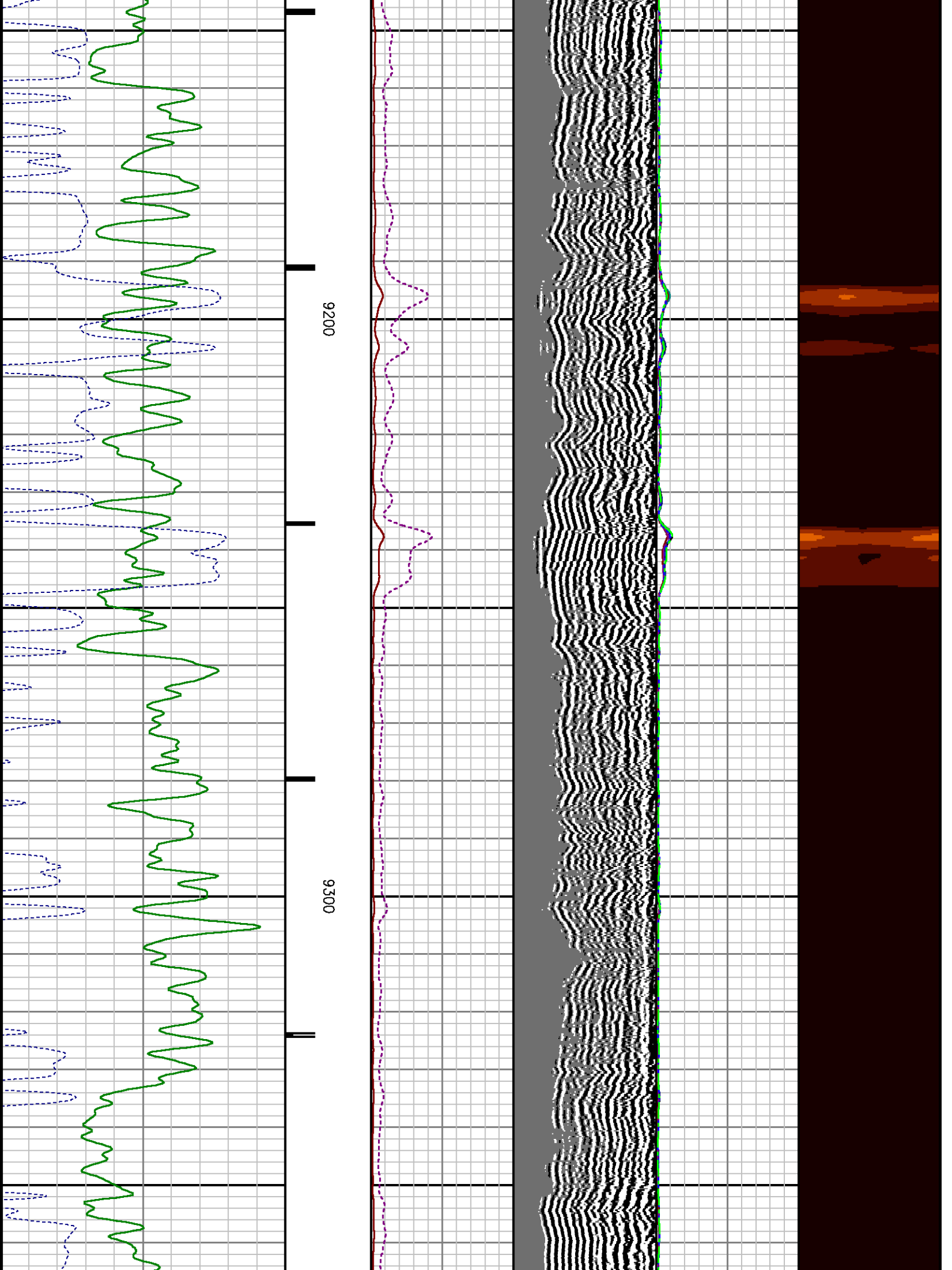


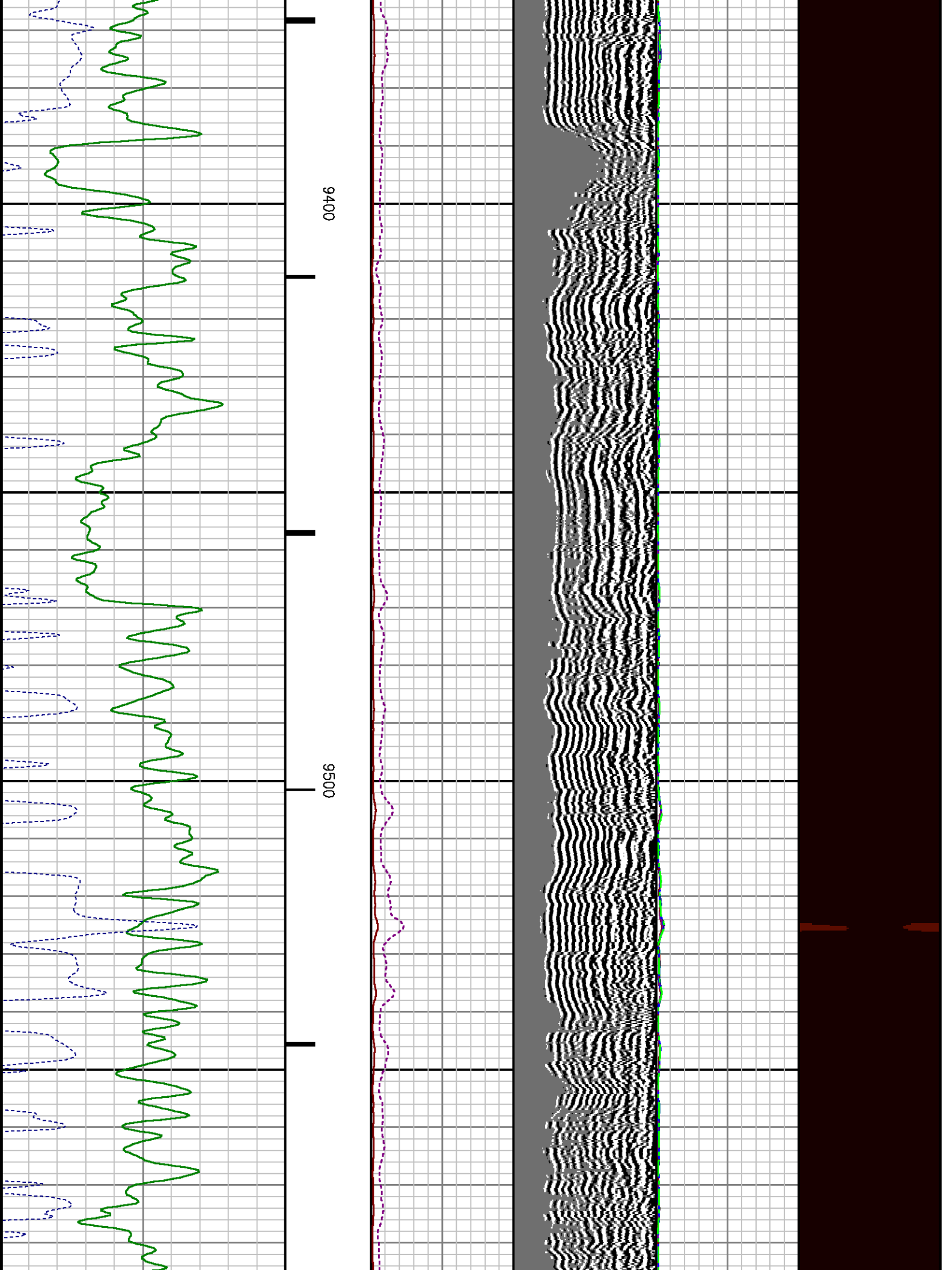


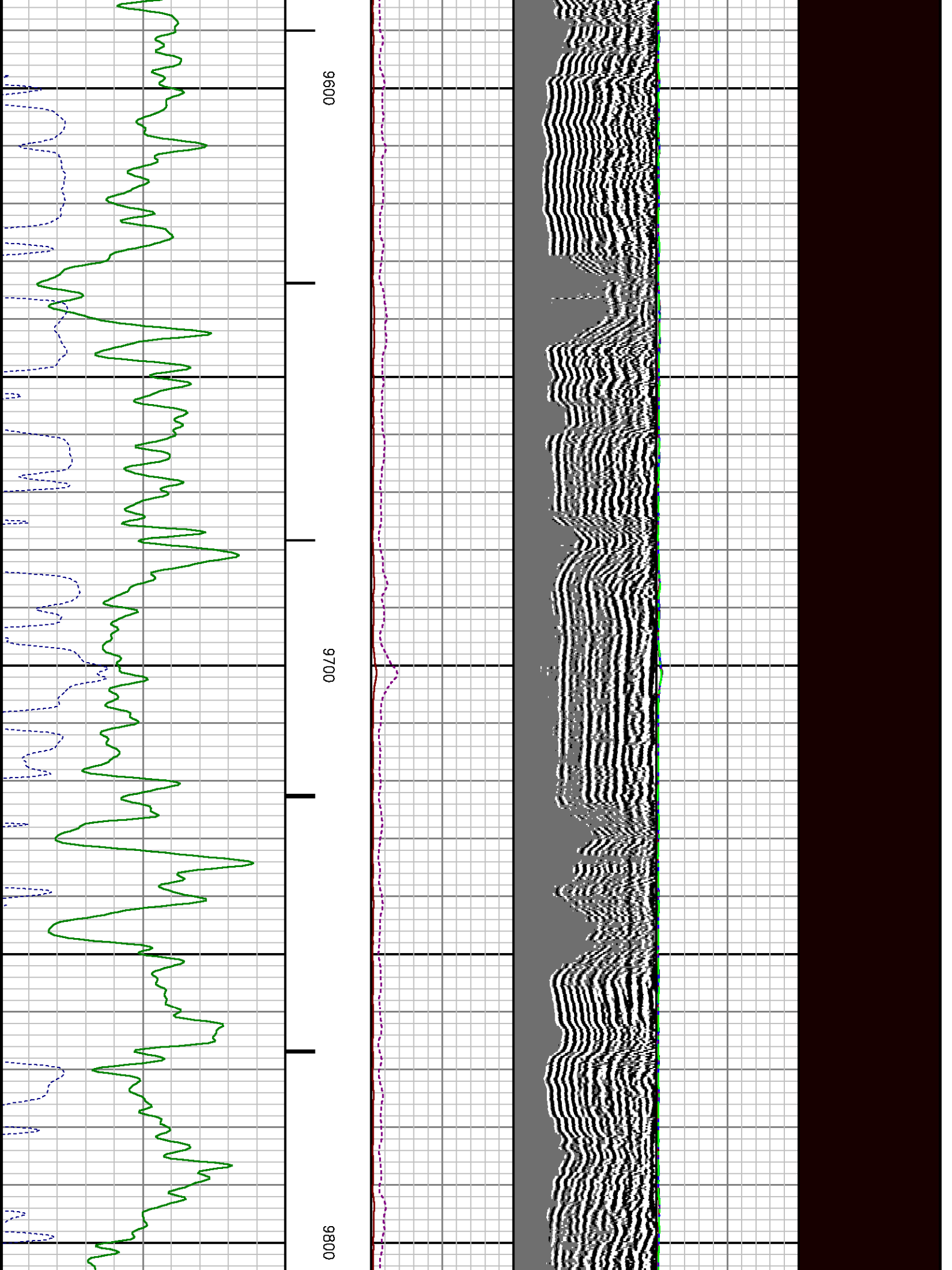




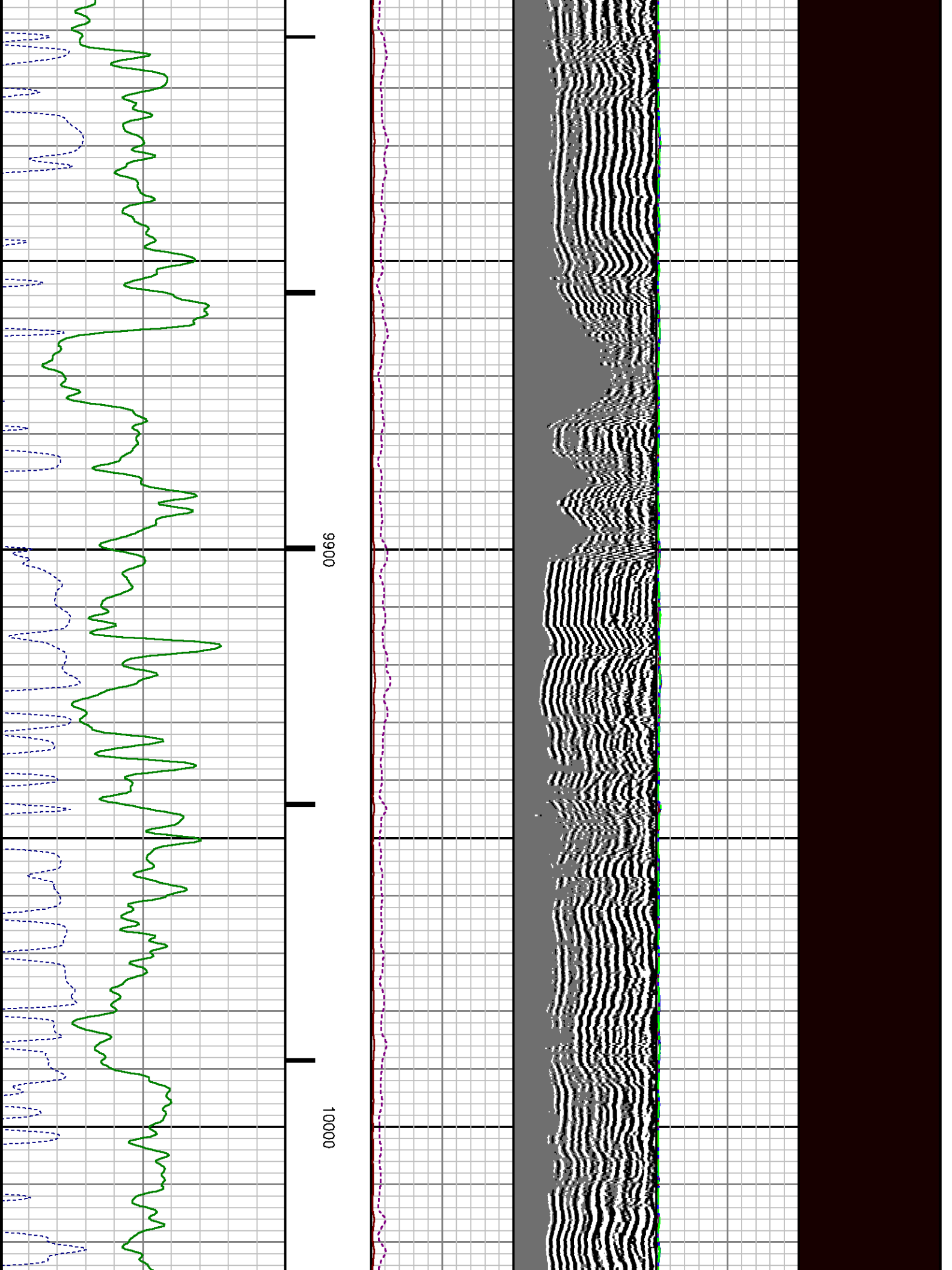




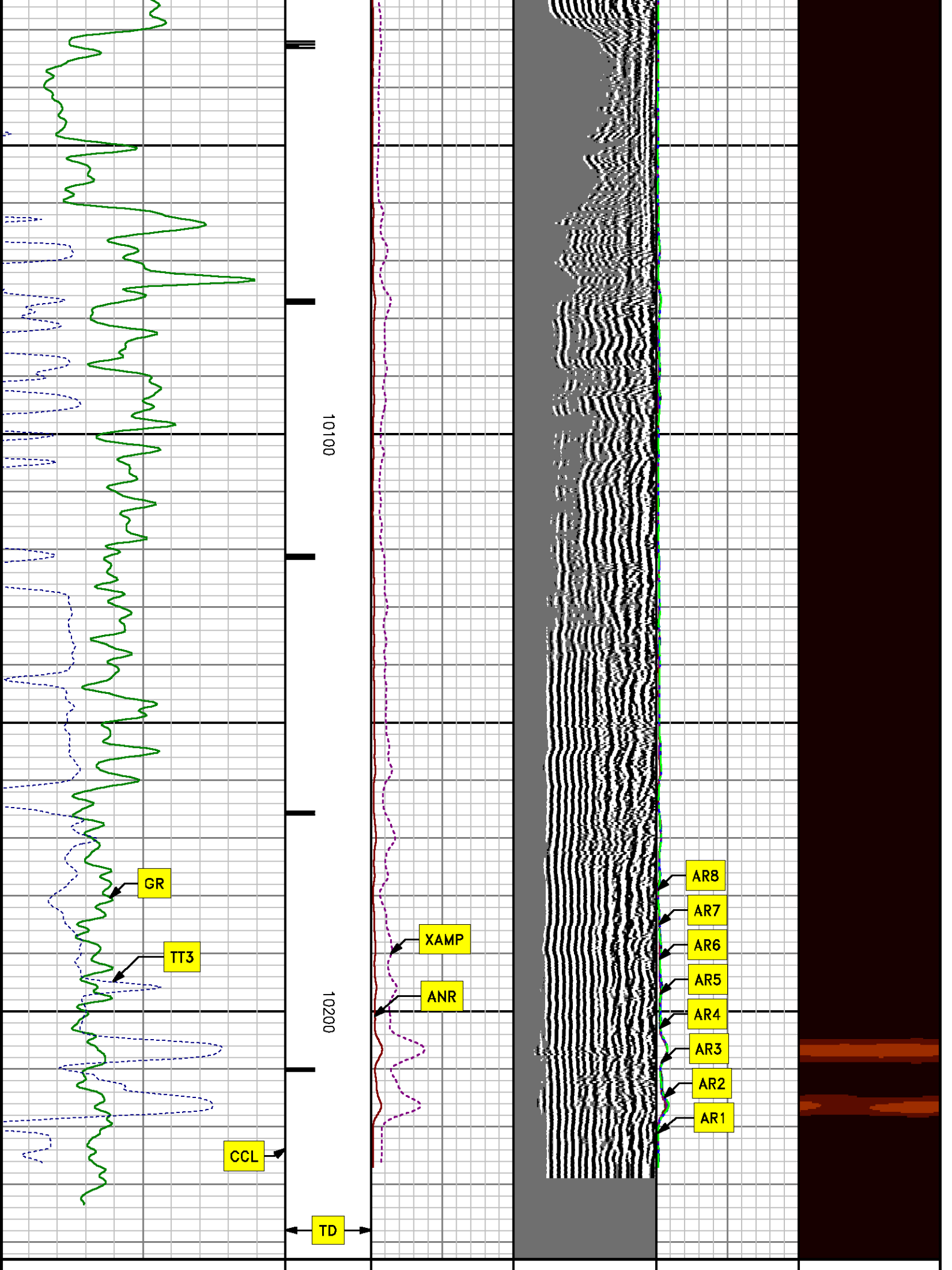


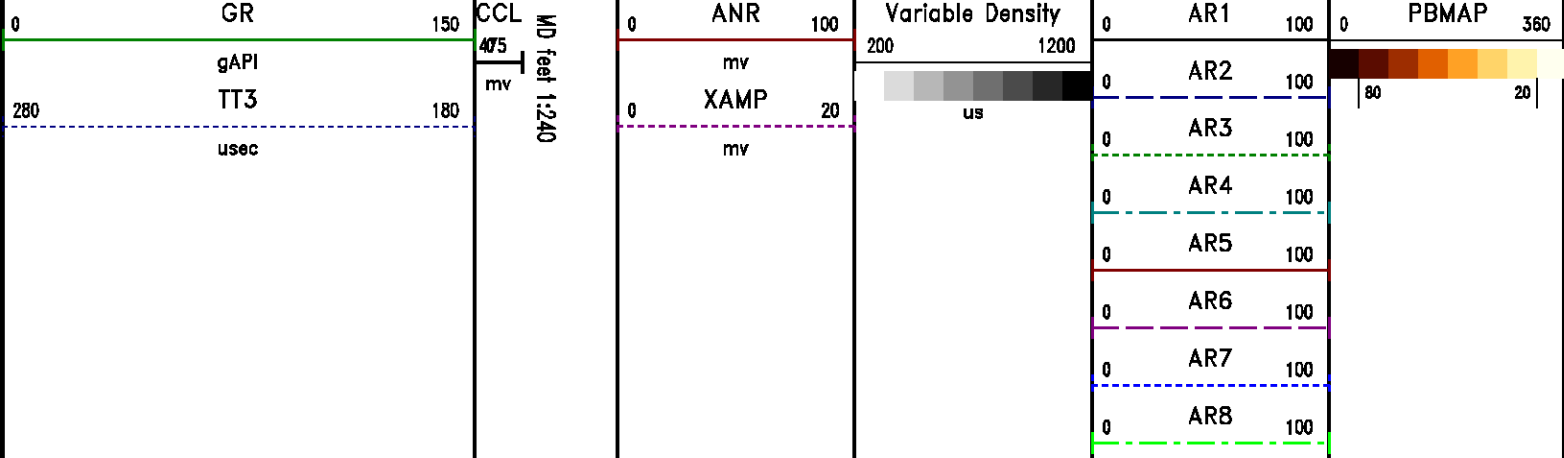












*REPEAT SECTION*  
*0 PSI*

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	9912.141	10245.391
RAL	Amp Gate Start Near	195.000	usec	9912.141	10245.391
RAL	Amp Gate Start Radial	195.000	usec	9912.141	10245.391
RAL	Amp Gate Width Far	25.000	usec	9912.141	10245.391
RAL	Amp Gate Width Near	25.000	usec	9912.141	10245.391
RAL	Amp Gate Width Radial	25.000	usec	9912.141	10245.391
RAL	casing od	4.500	inches	9912.141	10245.391
RAL	casing wt	11.600	lbm/ft	9912.141	10245.391
RAL	FB Start Far	291.900	usec	9912.141	10245.391
RAL	FB Start Near	175.391	usec	9912.141	10245.391
RAL	FB Start Radial	175.391	usec	9912.141	10245.391
RAL	FB Thresh Far	10.000	mv	9912.141	10245.391
RAL	FB Thresh Near	4.000	mv	9912.141	10245.391
RAL	FB Thresh Radial	4.000	mv	9912.141	10245.391
RAL	Fluid Travel Time	200.000	usec/ft	9912.141	10245.327

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

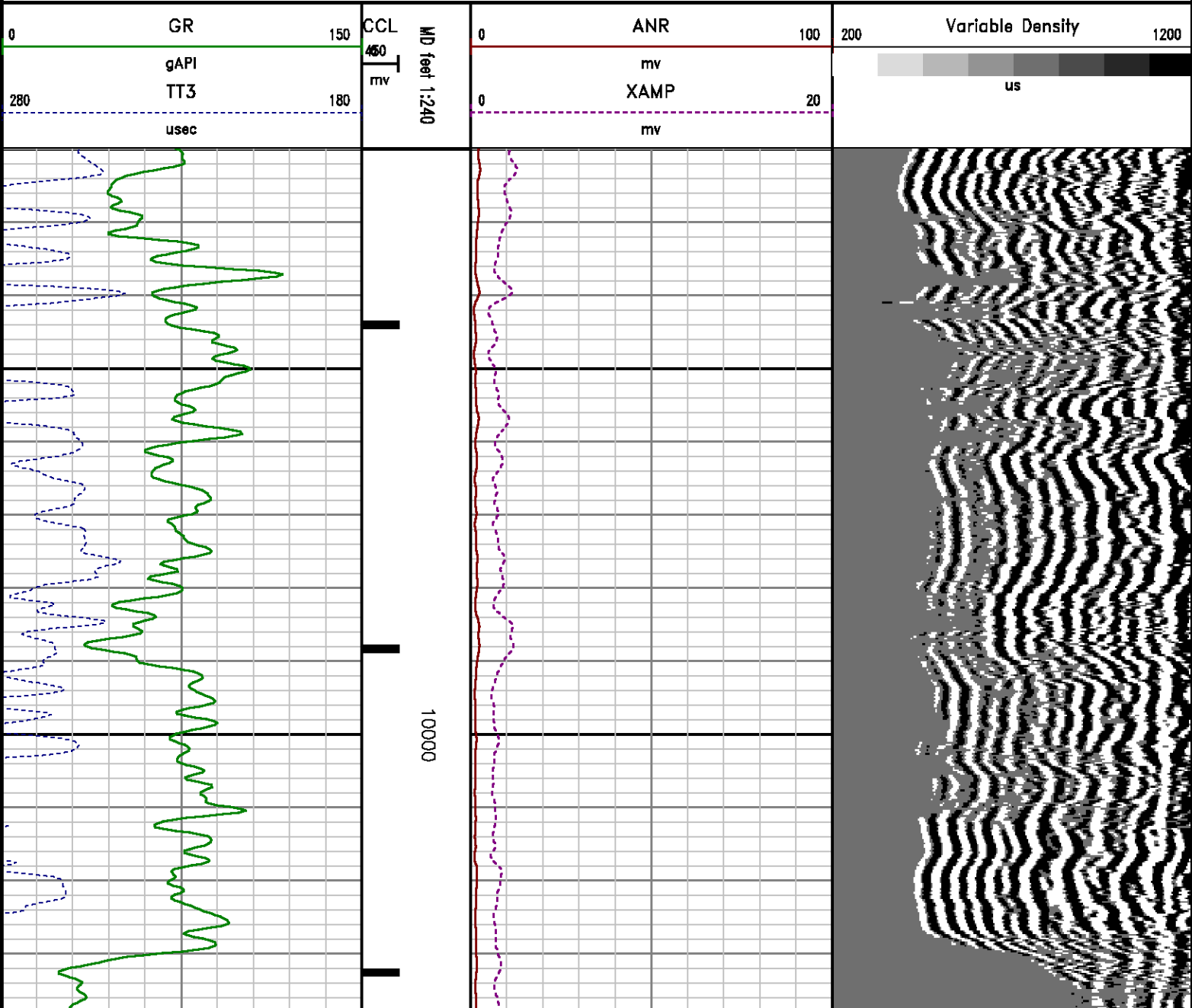
Well : FEDERAL RU 41-5

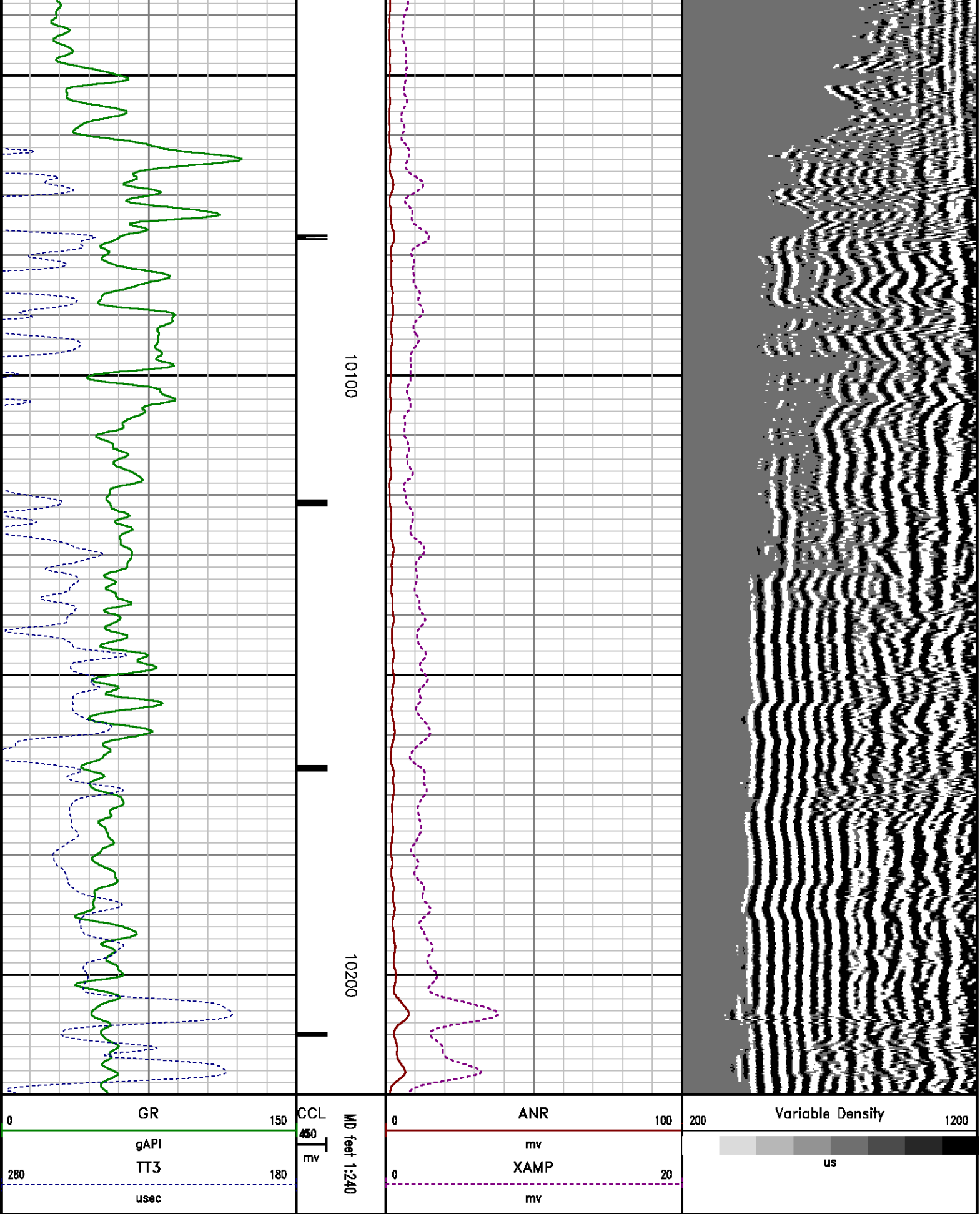
File Name : d:\welldata\wp\federal ru 41-5\41cbl\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 9920.00 - 10220.00 feet UP

Created : 2/14/2014 1:56:07 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 [usec] -56.00 Tank OD In 5.50 Tank Wt lbm/ft 15.50 Tank ID In 4.95

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	0.333	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

Well-site Calibration: C:\case\calver\RALFLD\49613 fld.cal

### WELL-SITE 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	Calibrator On	Multiplicative	Background	Calibrator On	Differential	
	[cps]	[cps]		[api]	[api]	[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

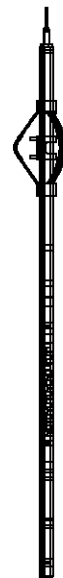
DATE/TIME PERFORMED: Tue Jan 21 14:46:51 2014		TOOL SERIES: 2459XA		ASSET: 121		SEQ: J2	
Calibrator #	Background	Calibrator On	Multiplicative	Background	Calibrator On	Differential	
	[cps]	[cps]		[api]	[api]	[api]	
SK2 WA612	74.22	316.93	0.762	56.53	241.40	184.86	

## 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



	24.23'
XMIT	18.05'
NEAR RCVR	14.97'
FAR RCVR	13.05'


<i>Probe GR/CCL/NEU</i>	
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

<i>CENTRALIZER</i>	
Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb



CCL	11.34'
GR	9.49'
NEU	4.09'
	0.00'

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

 <b>Baker Atlas</b>	<b>Company</b> WPX ENERGY <b>Well</b> FEDERAL RU 41-5 <b>Field</b> RULISON <b>County</b> GARFIELD <b>State</b> CO		<b>File No:</b> CH082084 <b>API No:</b> 05045217820000
	<b>Location</b> SHL: 211' FNL & 2611' FWL BHL: 333' FNL & 703' FEL  <b>SEC</b> 5 <b>TWP</b> 7S <b>RGE</b> 9SW	<b>Elevations</b> <b>KB</b> 7628 ft <b>DF</b> <b>GL</b> 7602 ft	5 7S 93W RU 23-5 PAD NABORS 576