



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: **Company** **WPX ENERGY**

CH086325 **Well** **FEDERAL NER 534-32**

API No: **Field** **RULISON**

05045217830000 **County** **GARFIELD** **State** **CO**

Location

SHL: 163' FNL & 2586' FWL (9 75 93W)

BHL: 145' FSL & 1984' FWL (32 65 93W)

SEC 32 TWP 6S RGE 93W

Other Services

NONE

Permanent Datum **GL** **Elevation** **7603 ft**

Log Measured From **KB** **26 ft** **Above P. D.**

Drill Measured From **KB** **Elevations** **KB 7629 ft** **DF** **GL 7603 ft**

Date	18/JUN/14	
Run	ONE	
Service Order	US086325	
Depth Driller	10018 ft	
Depth Logger	10009 ft	
Bottom Logged Interval	9999 ft	
Top Logged Interval	26 ft	
Time Started	10:30	
Time Finished	15:00	
Operator Rig Time	4.5 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	84 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	65 fpm	
Maximum Recorded Temperature	232 degF	
Reference Log	BAKER HUGHES OPEN HOLE	
Reference Log Date	08/MAY/2014	
Equipment No.	4271	GRAND JUNCTION
Recorded By	NEMELL	
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	1104 ft
8.75 in	1104 ft	10056 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1104 ft
4.5 in	11.6 lbm/ft	P-110	0 ft	10056 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 08/MAY/2014 at the clients request.
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.

The amount of linear shift is 19 feet.

Logged with zero PSI at wellhead.

BHT = 232 °F

SJ = 6759'-6781'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	CBL	1426XA	10218496	CENTRALIZED
1	1	GR/CCL	2459XA	10417456	CENTRALIZED

PRIMARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	26.499	9999.000
RAL	Amp Gate Start Near	195.000	usec	26.499	9999.000
RAL	Amp Gate Start Radial	195.000	usec	26.499	9999.000
RAL	Amp Gate Width Far	25.000	usec	26.499	9999.000
RAL	Amp Gate Width Near	25.000	usec	26.499	9999.000
RAL	Amp Gate Width Radial	25.000	usec	26.499	9999.000
RAL	casing od	4.500	inches	26.499	9999.000
RAL	casing wt	11.600	lbm/ft	26.499	9999.000
RAL	FB Start Far	291.900	usec	26.499	9999.000
RAL	FB Start Near	175.391	usec	26.499	9999.000
RAL	FB Start Radial	175.391	usec	26.499	9999.000
RAL	FB Thresh Far	10.000	mv	26.499	9999.000
RAL	FB Thresh Near	4.000	mv	26.499	9999.000
RAL	FB Thresh Radial	4.000	mv	26.499	9999.000
RAL	Fluid Travel Time	200.000	usec/ft	26.499	9998.874

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

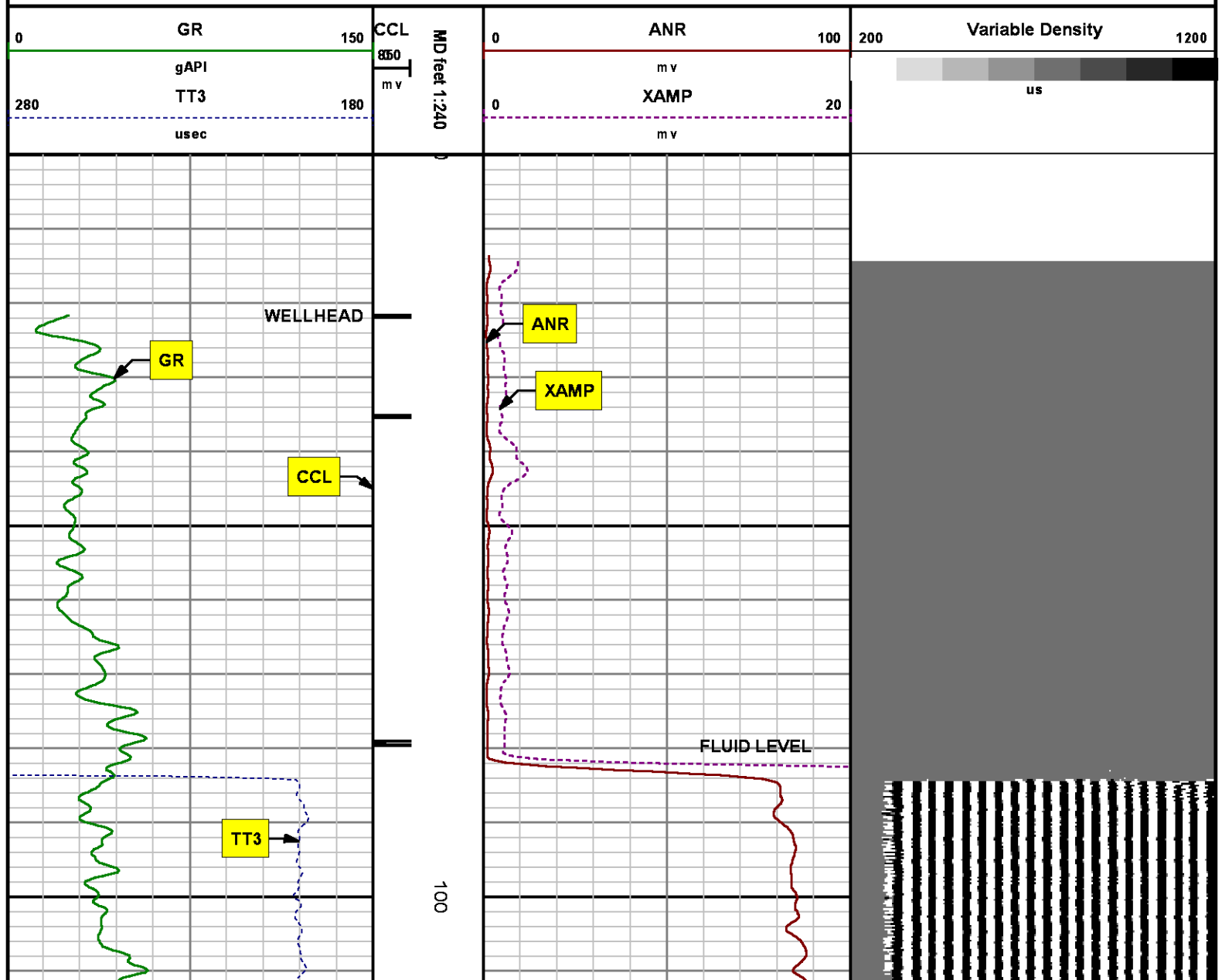
Well : FEDERAL NER 534-32

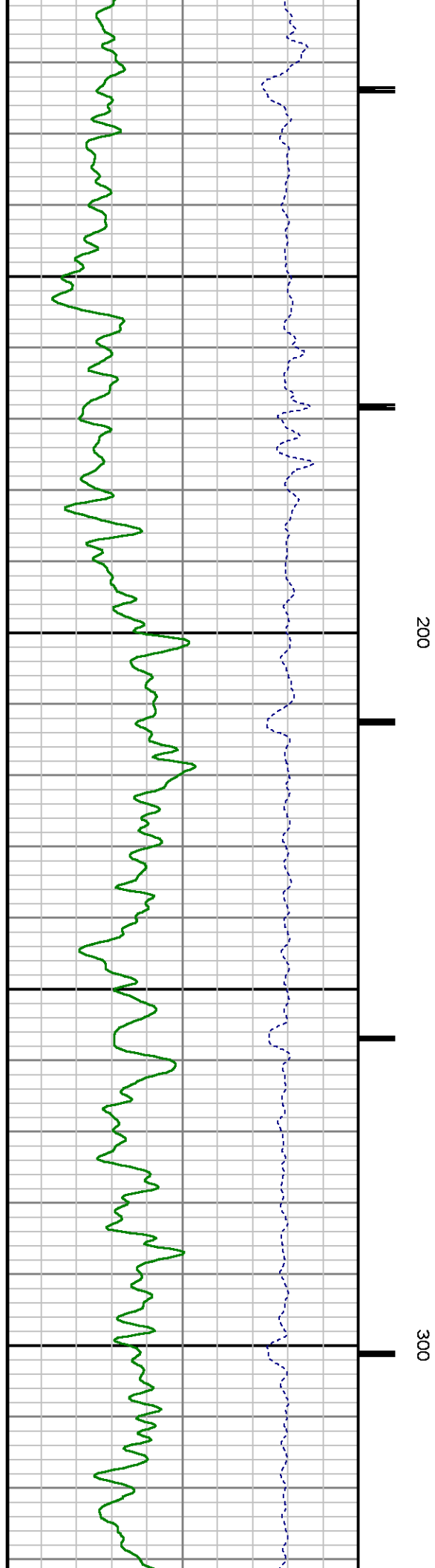
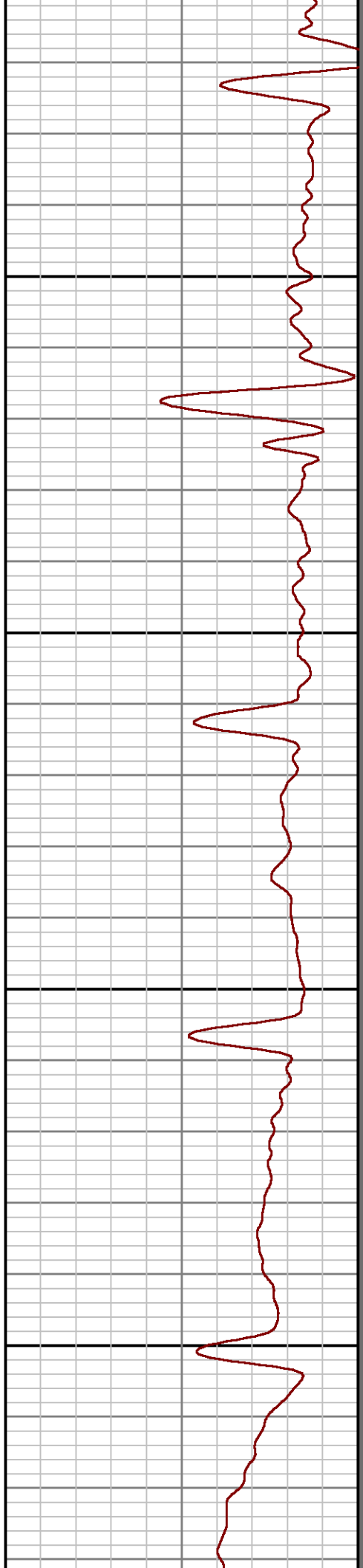
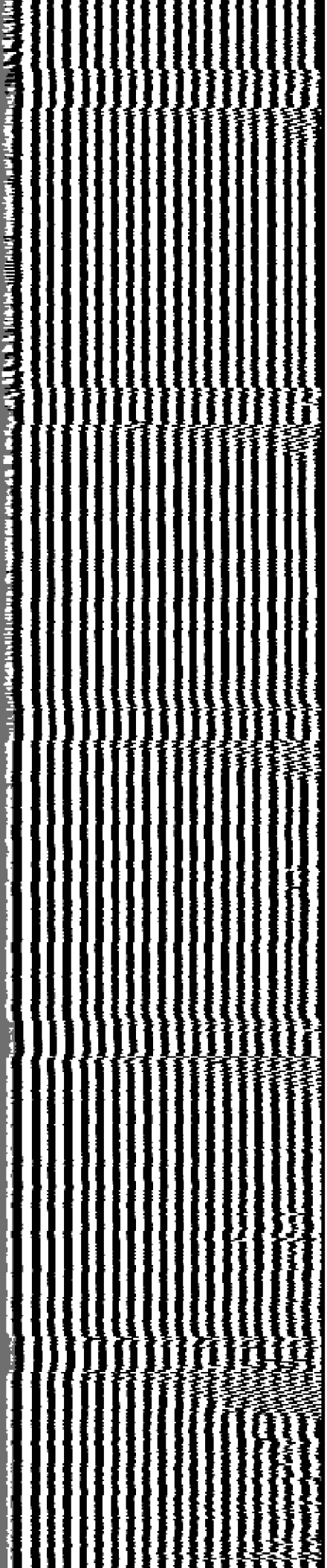
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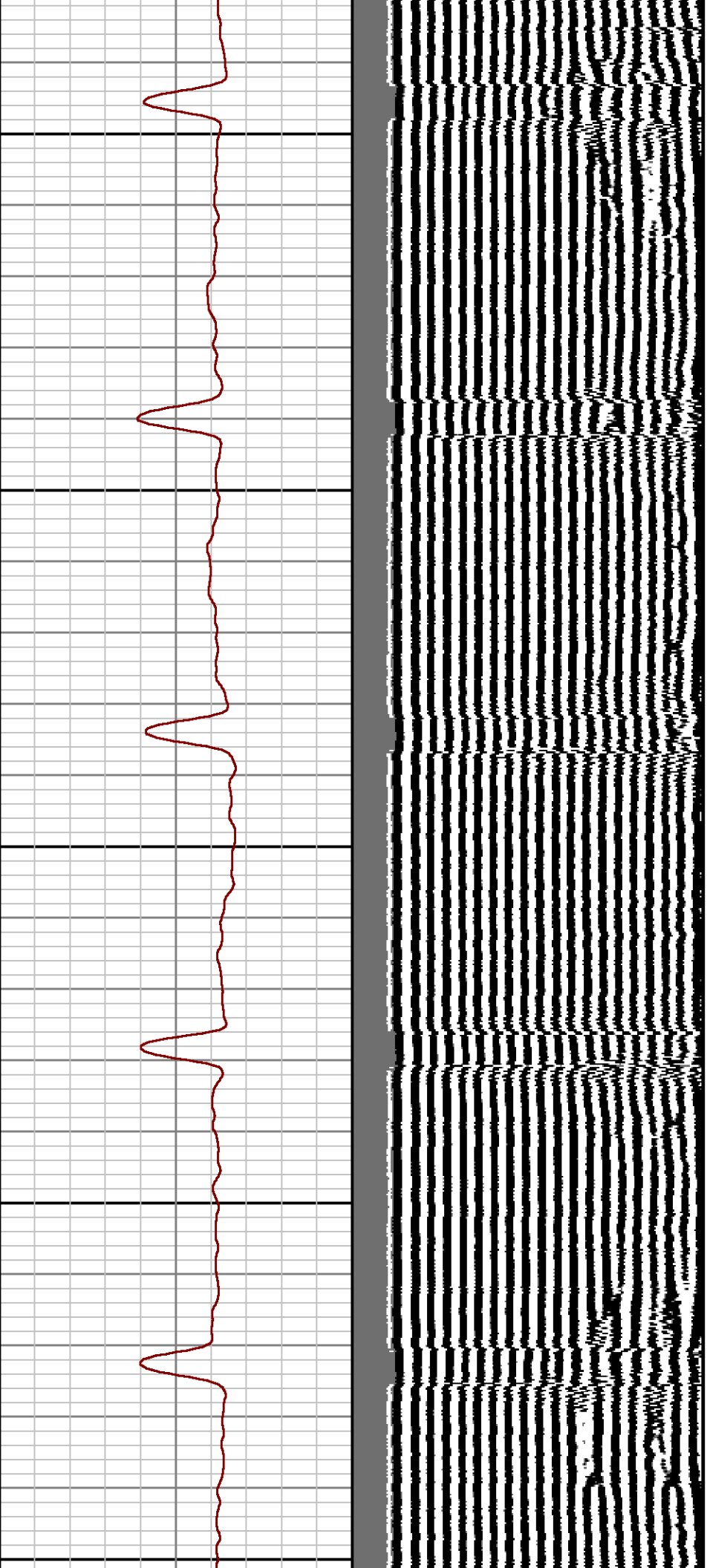
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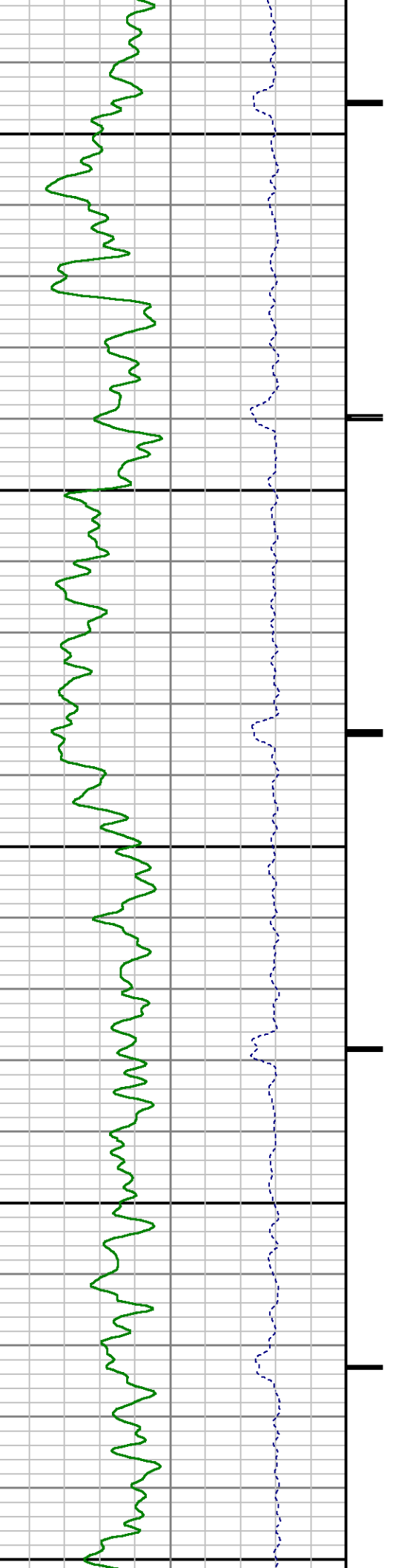


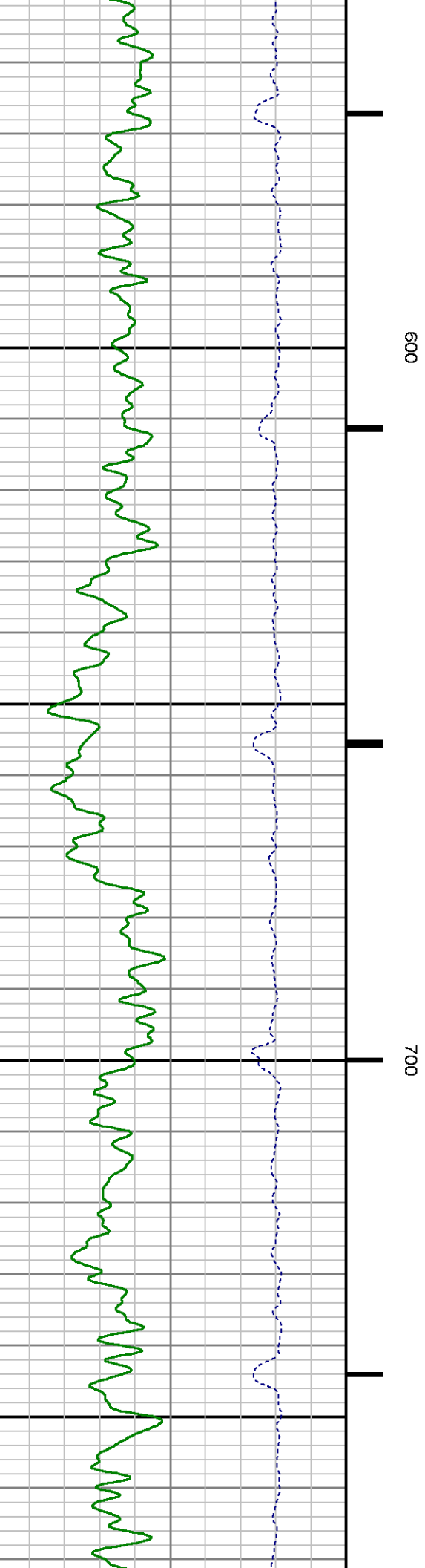
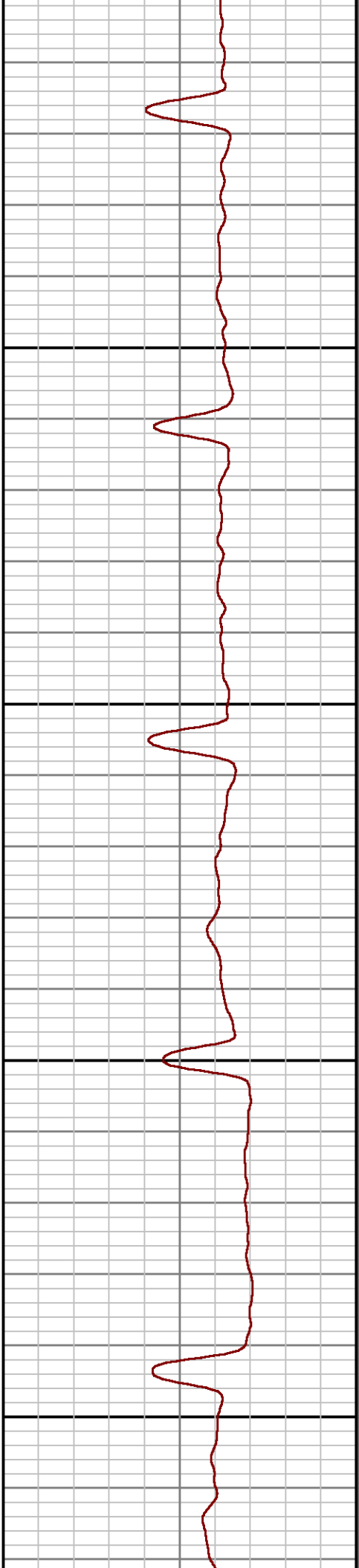
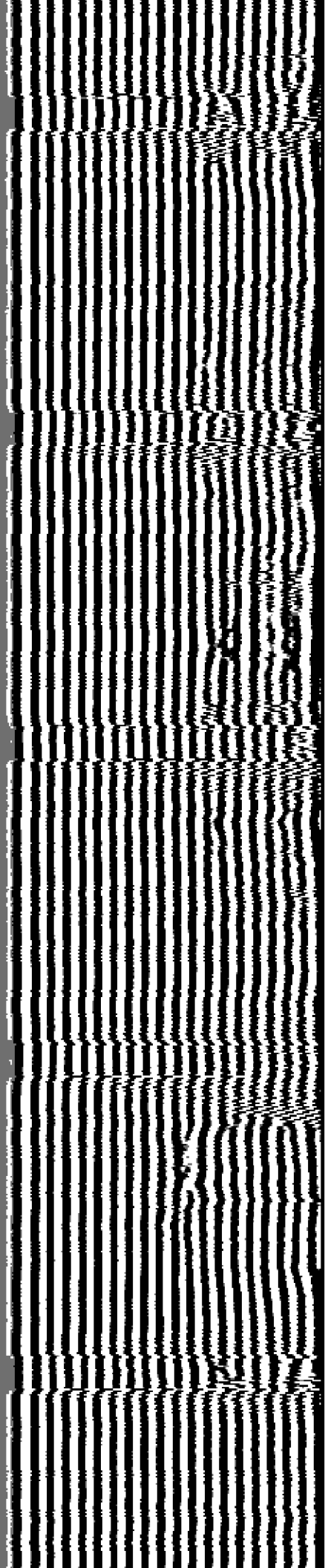


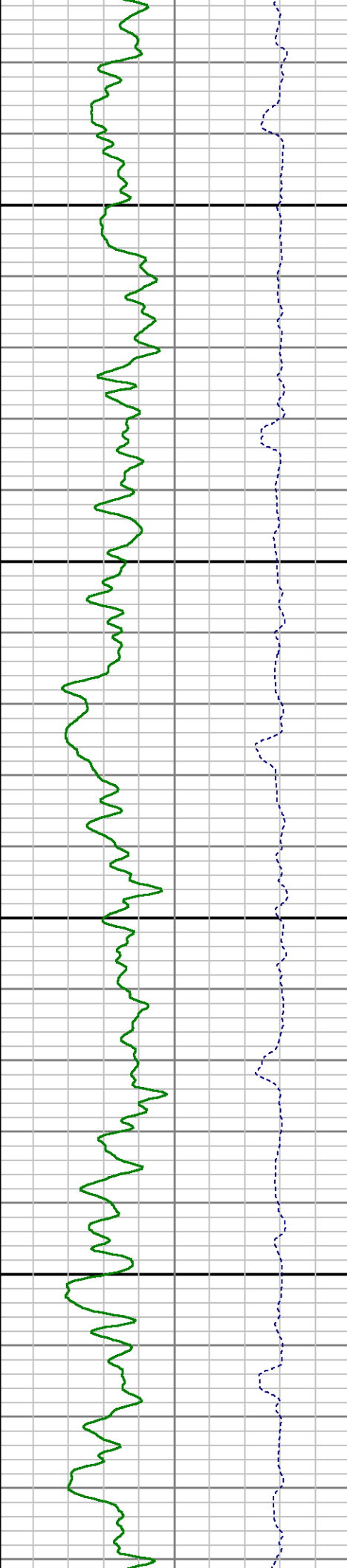
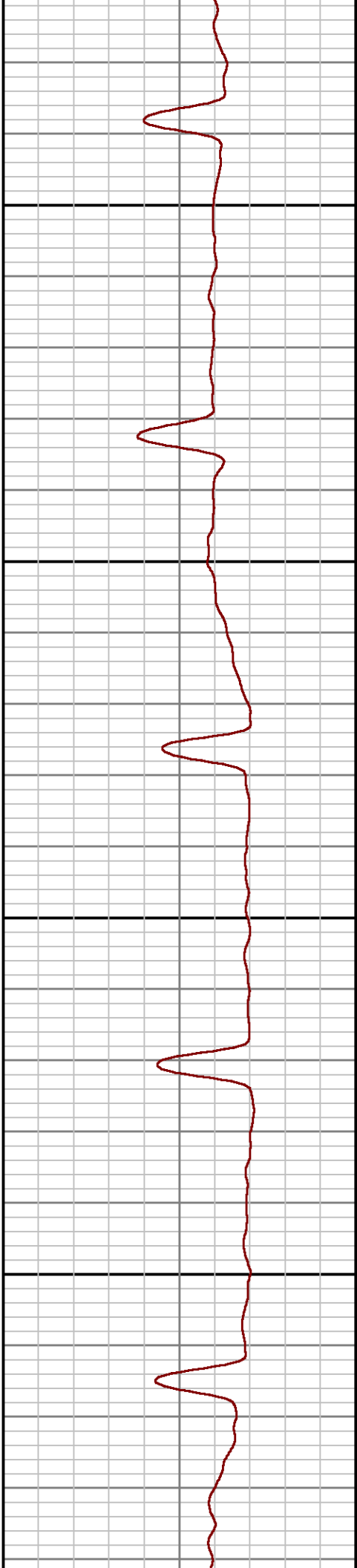
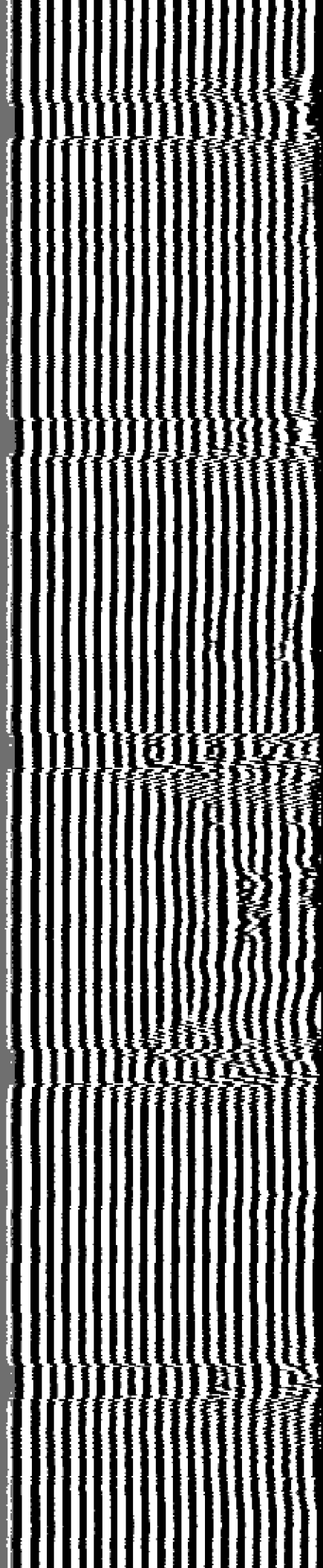


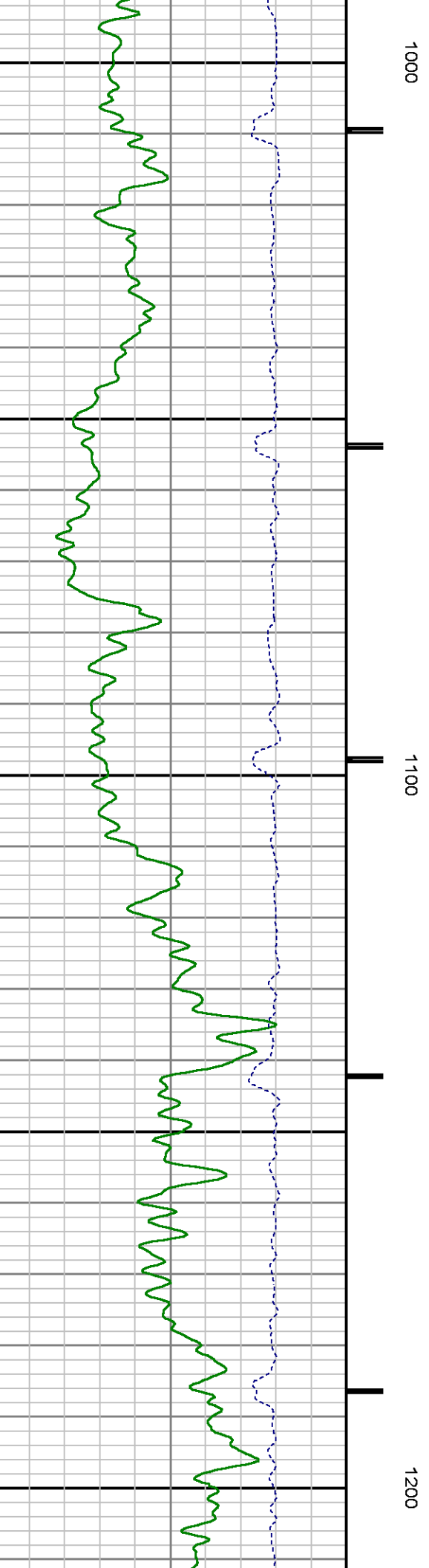
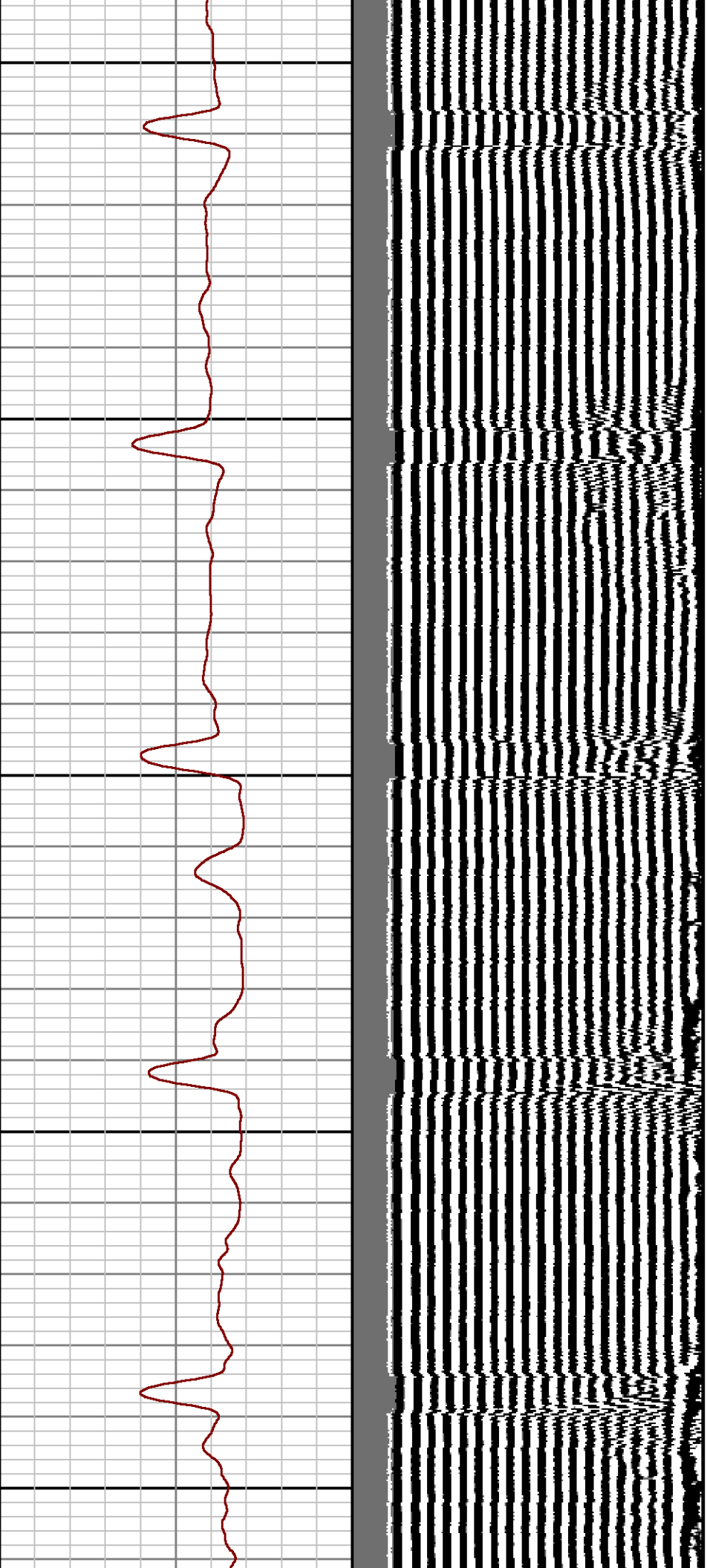
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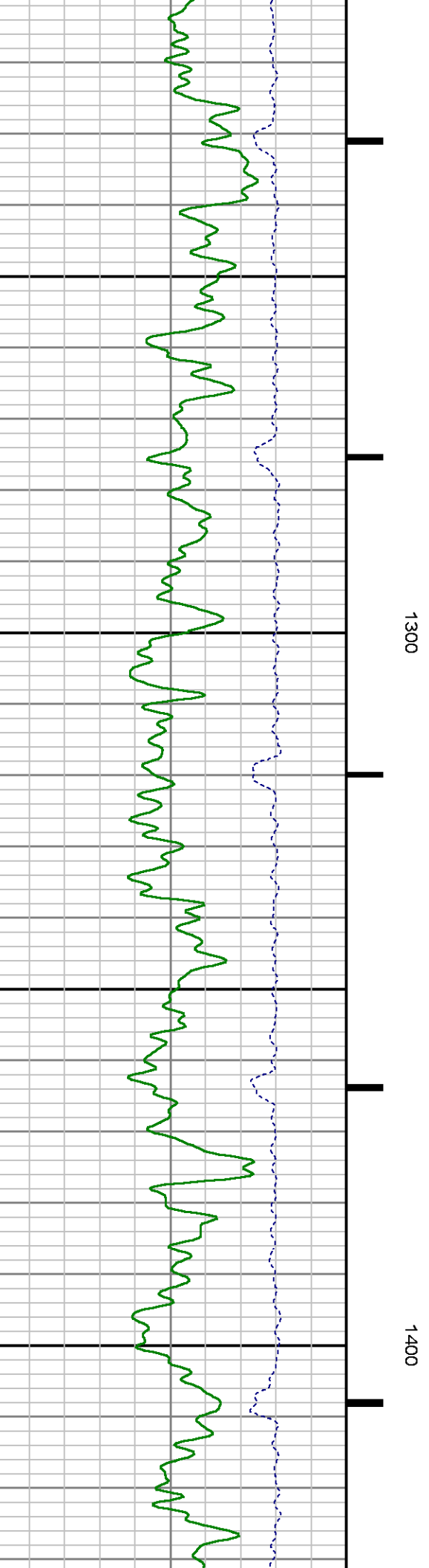
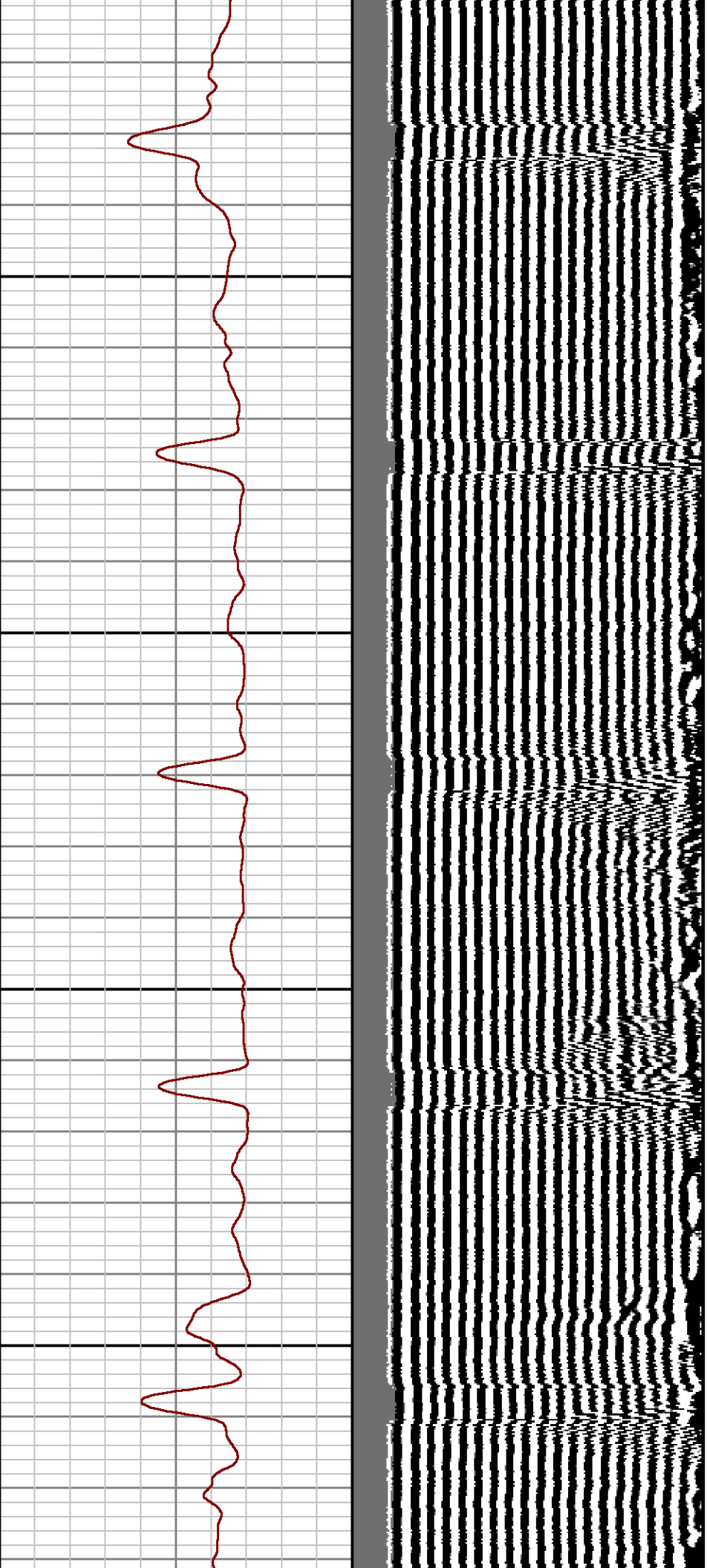
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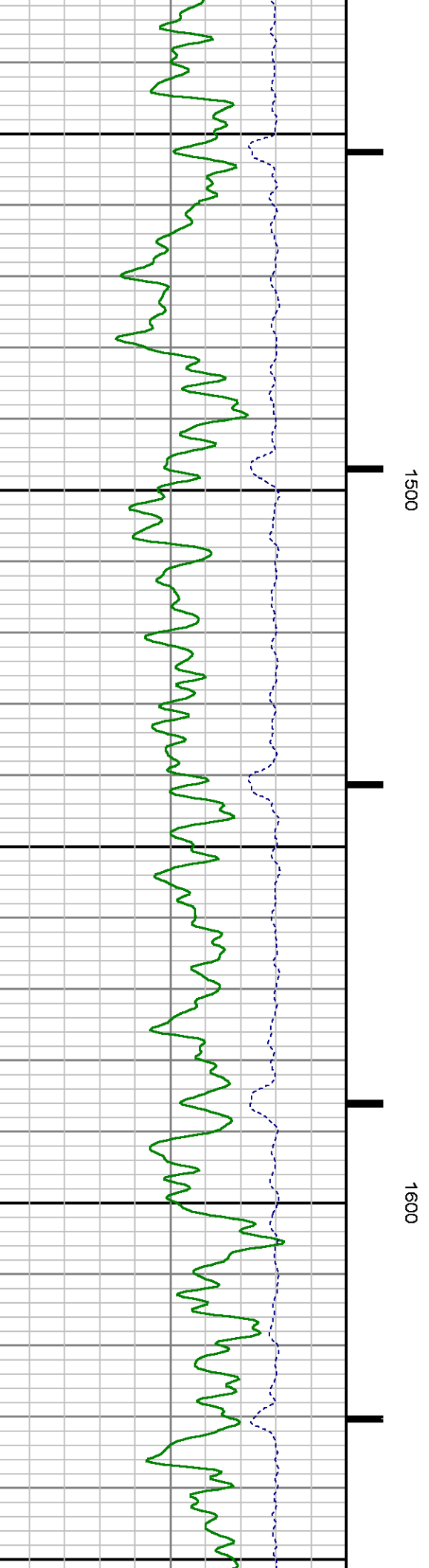
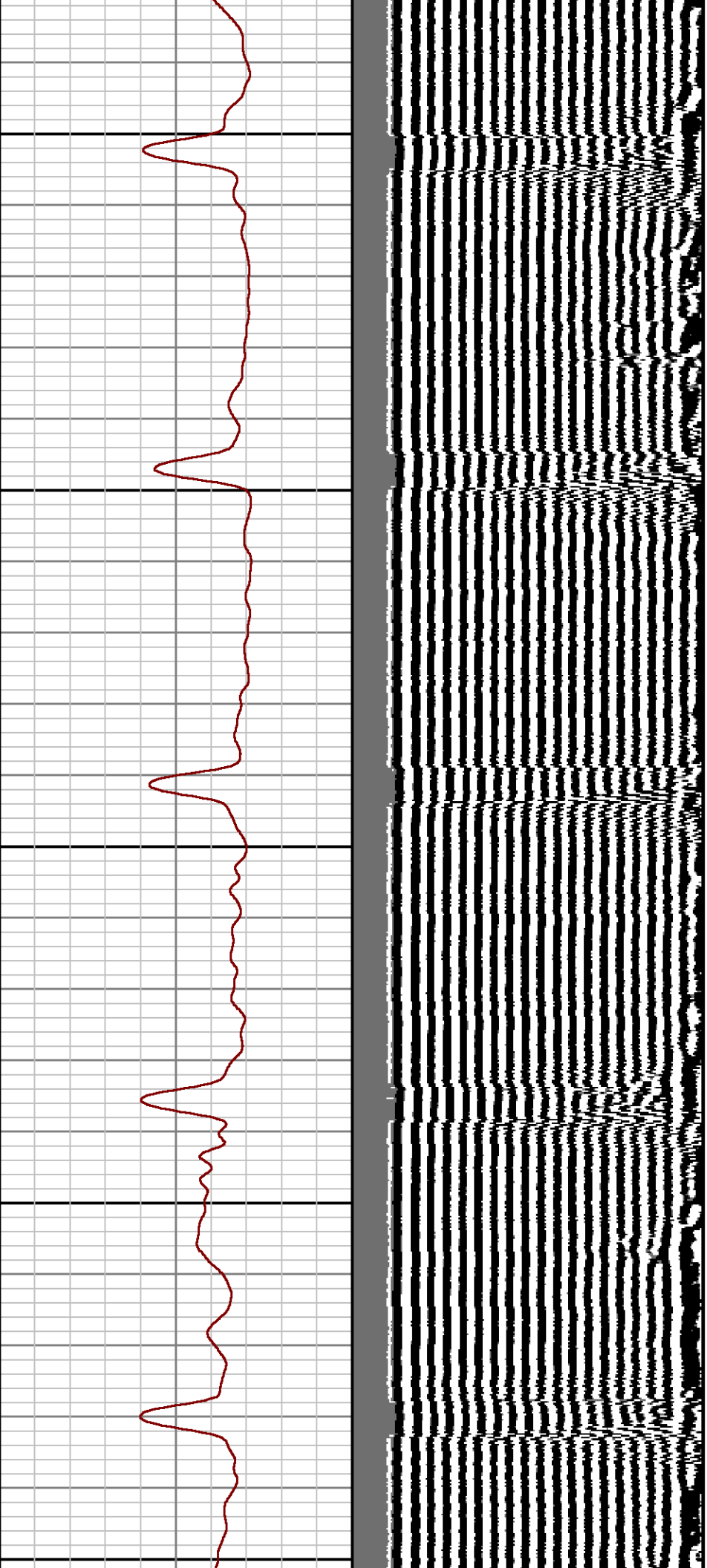


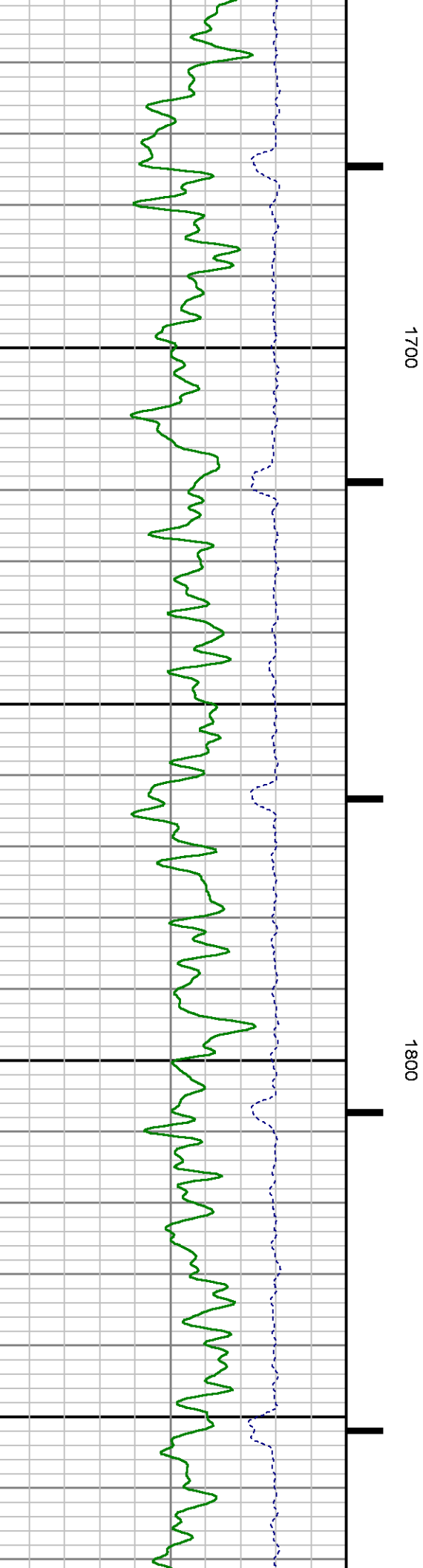
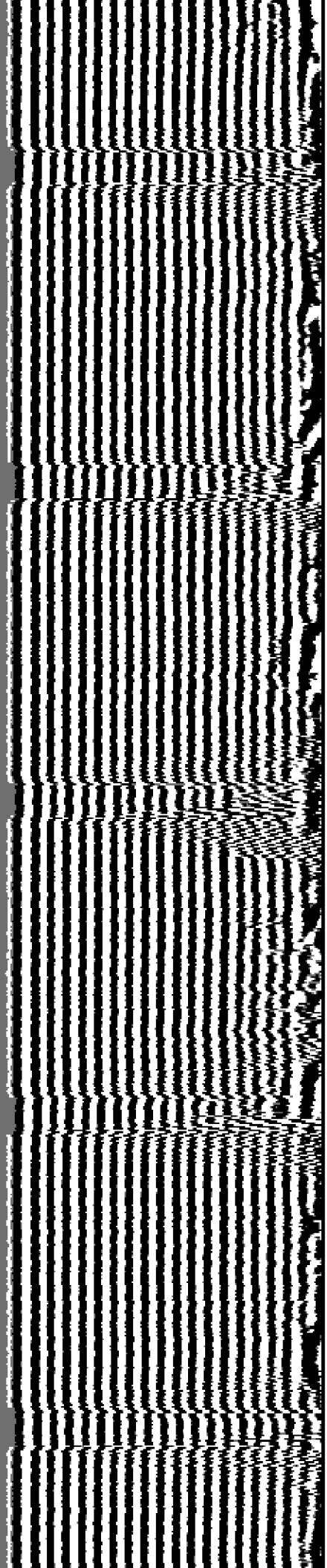


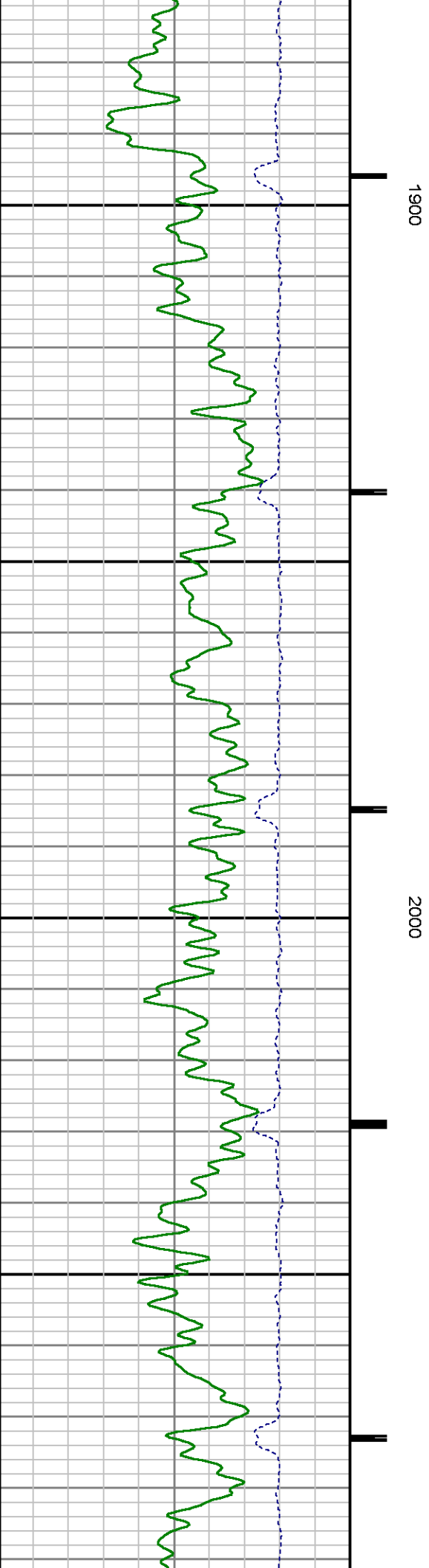
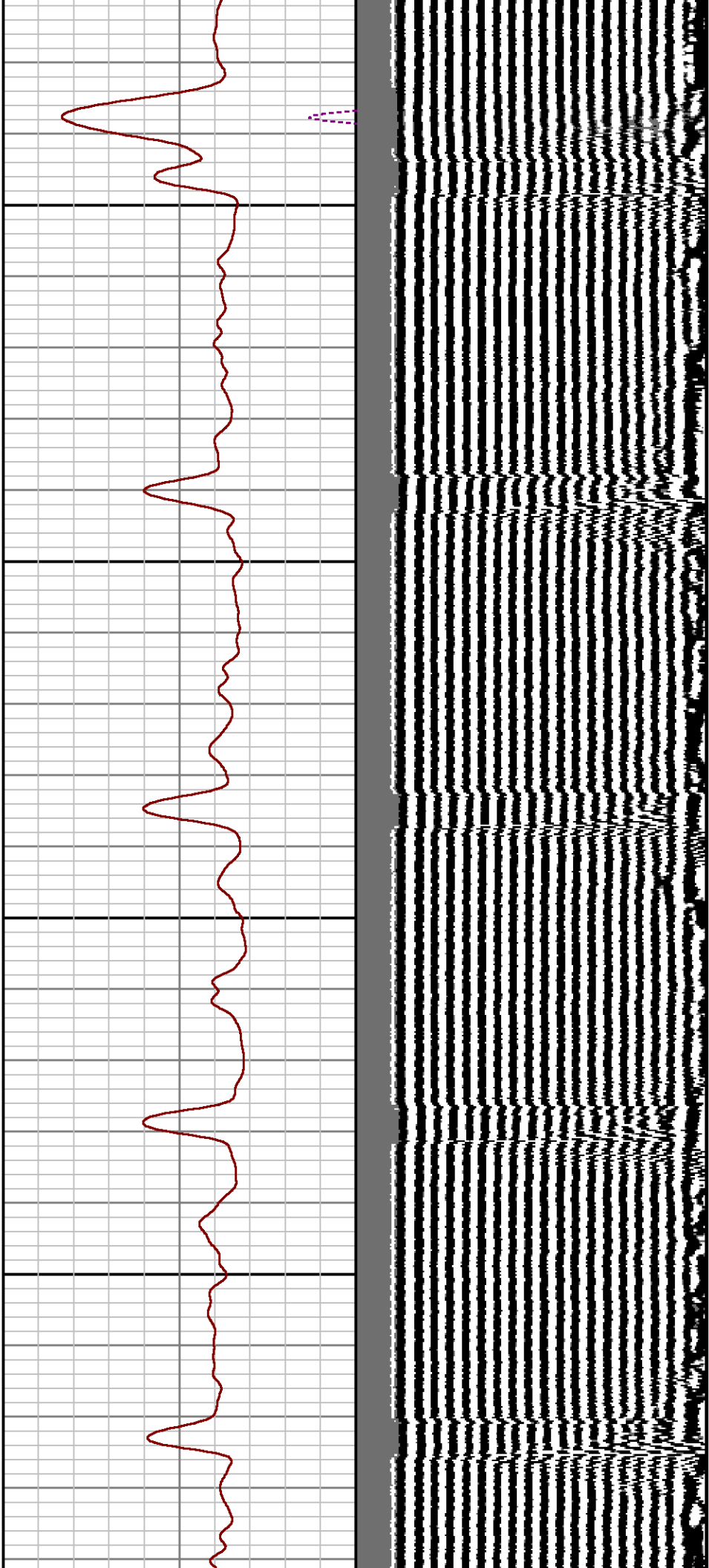


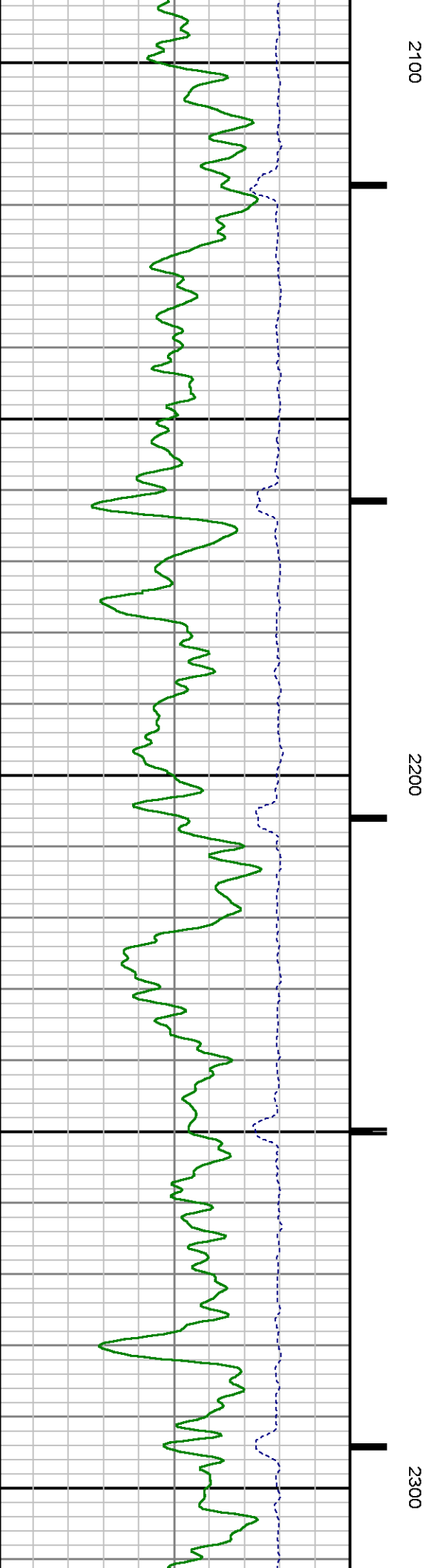
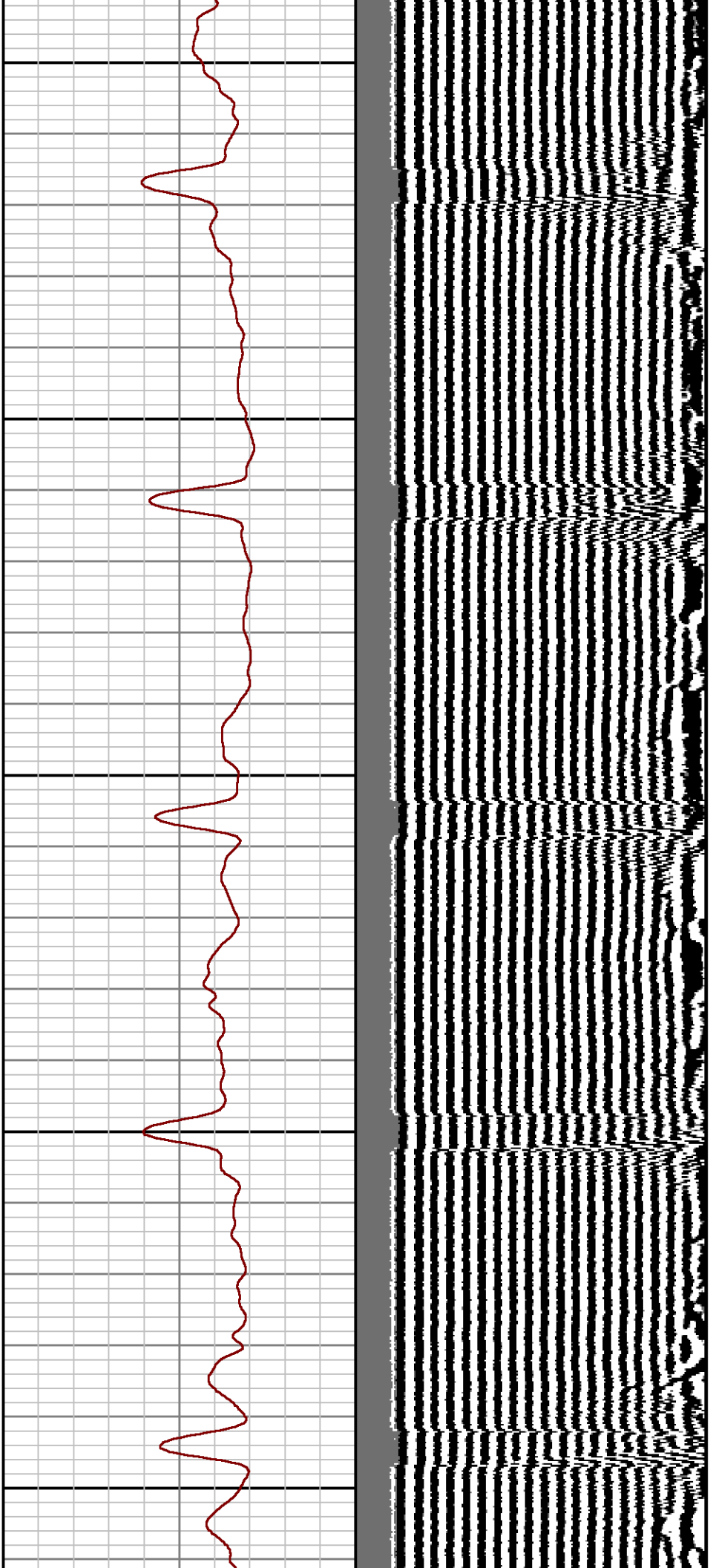


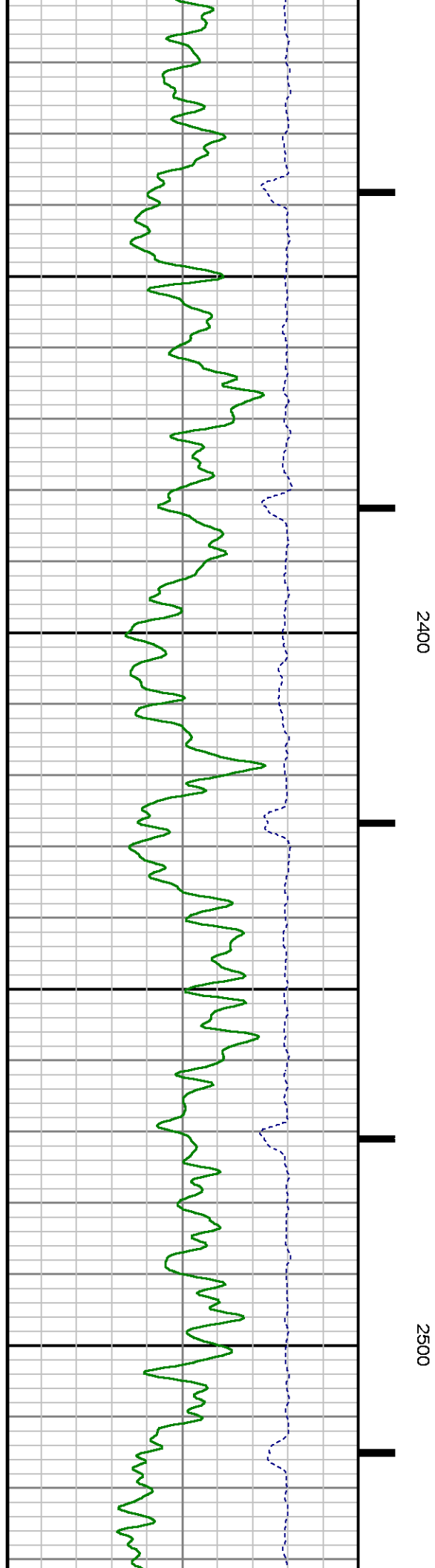
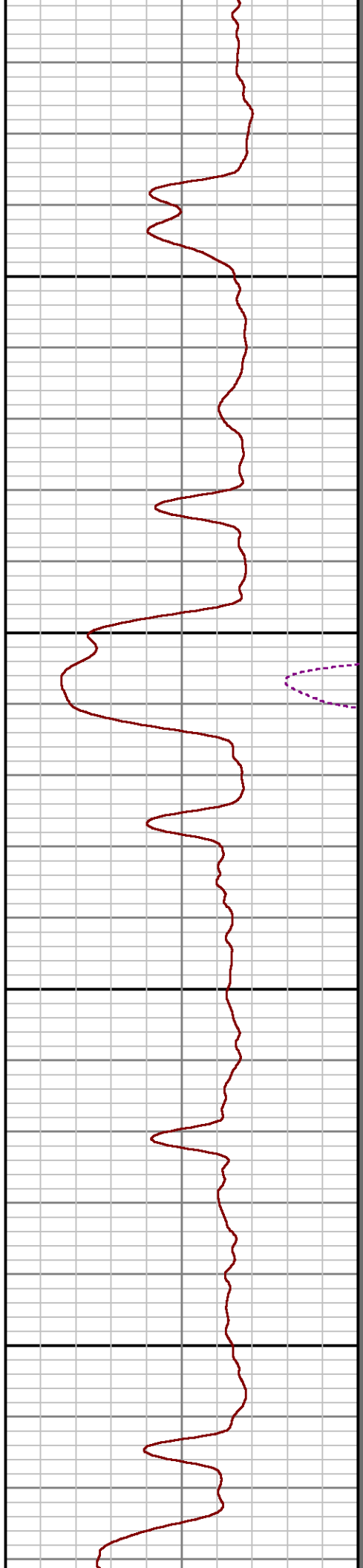
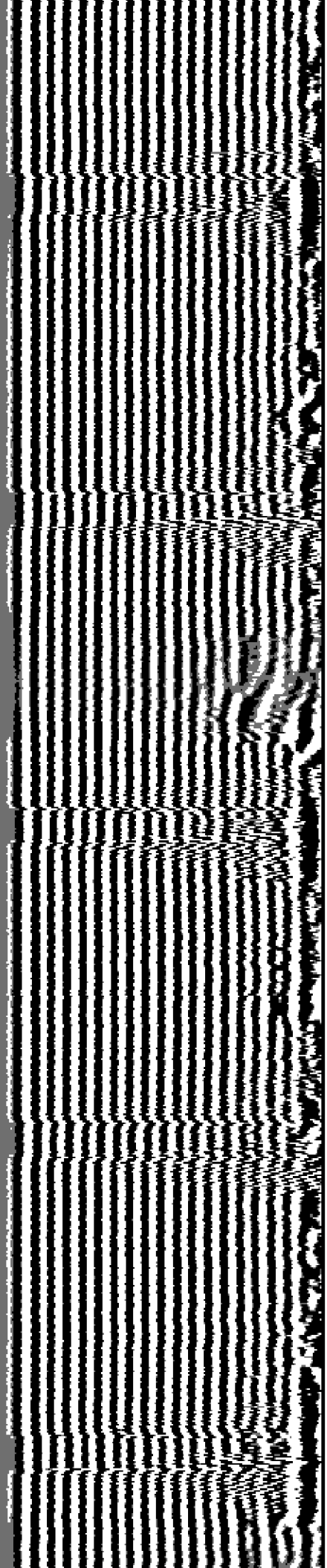


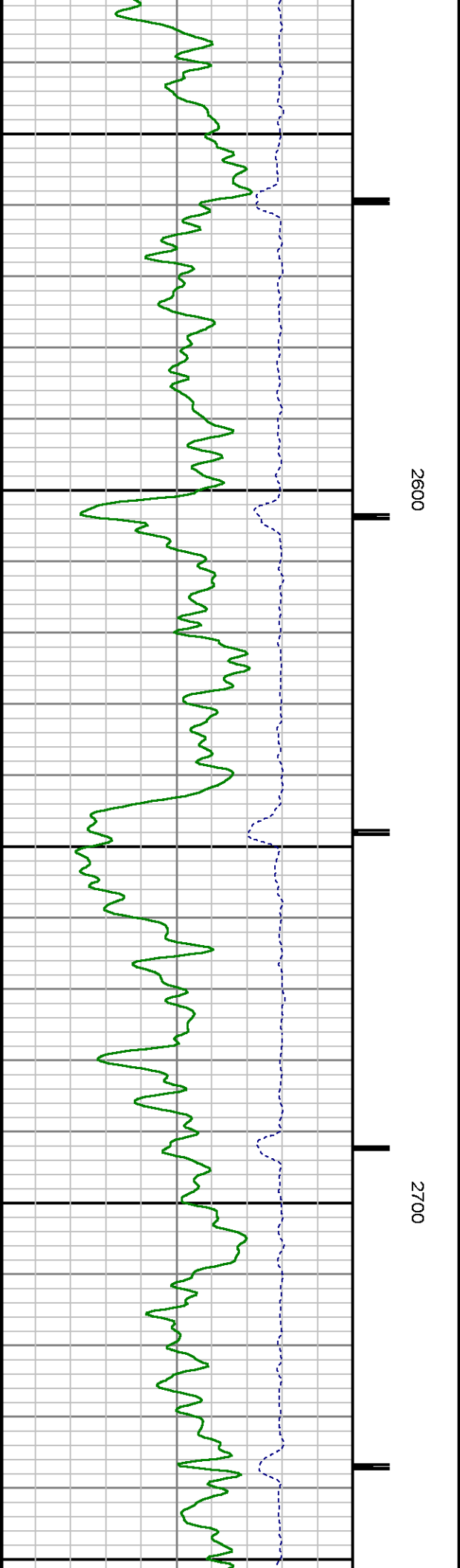
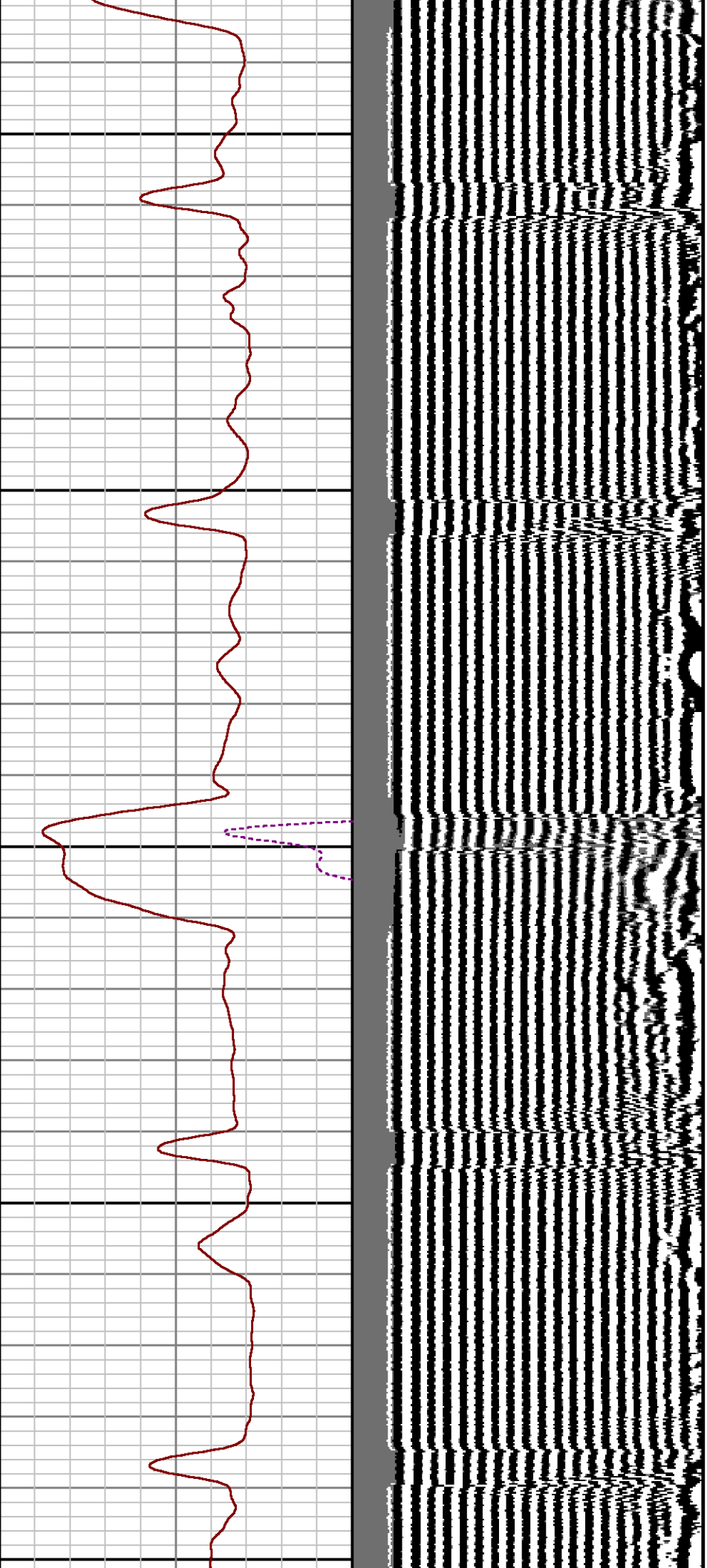


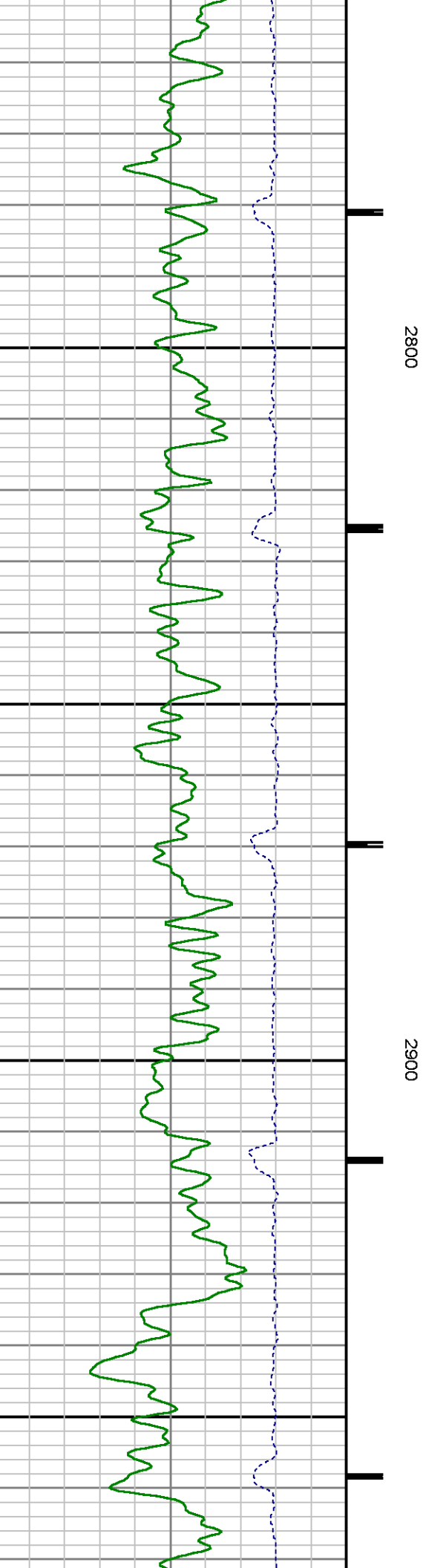
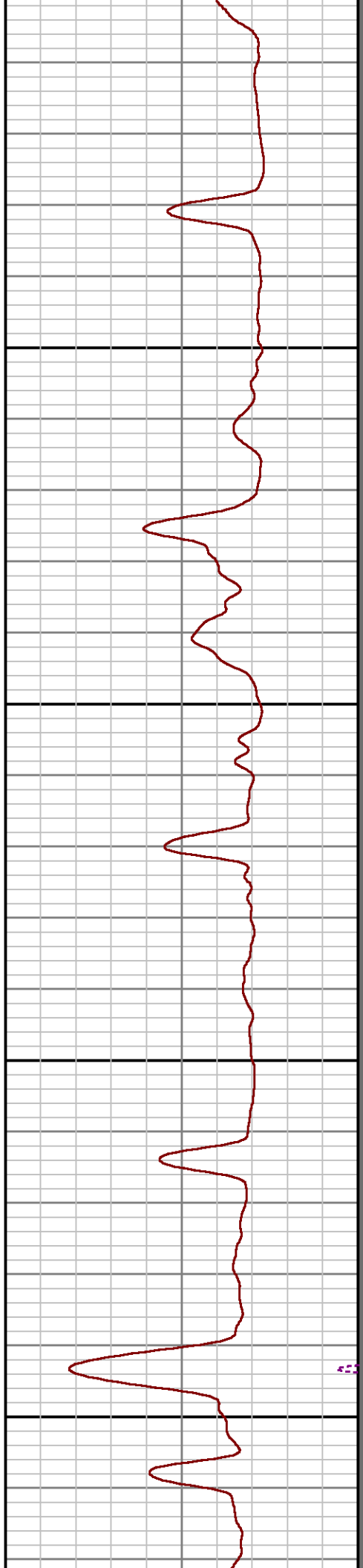
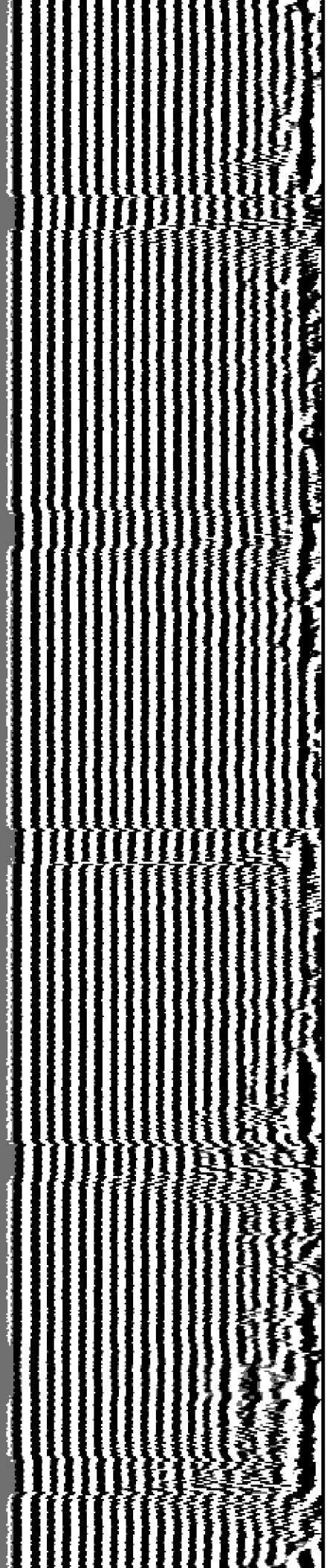


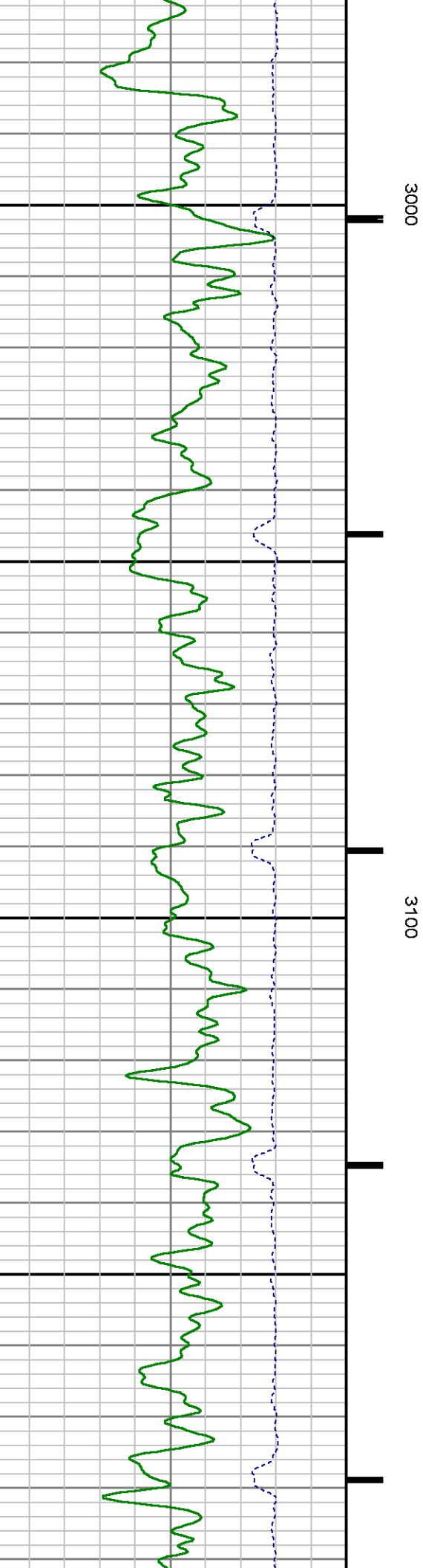
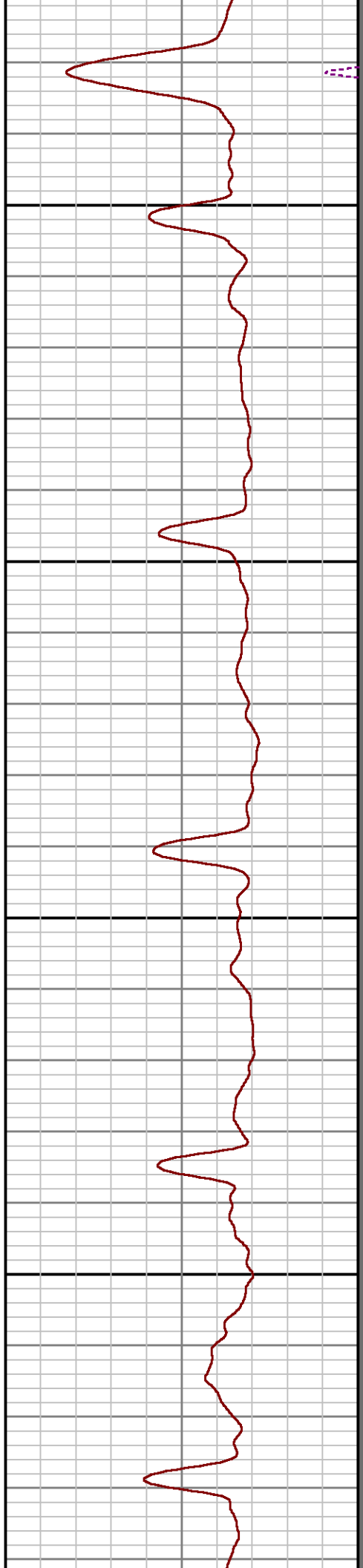
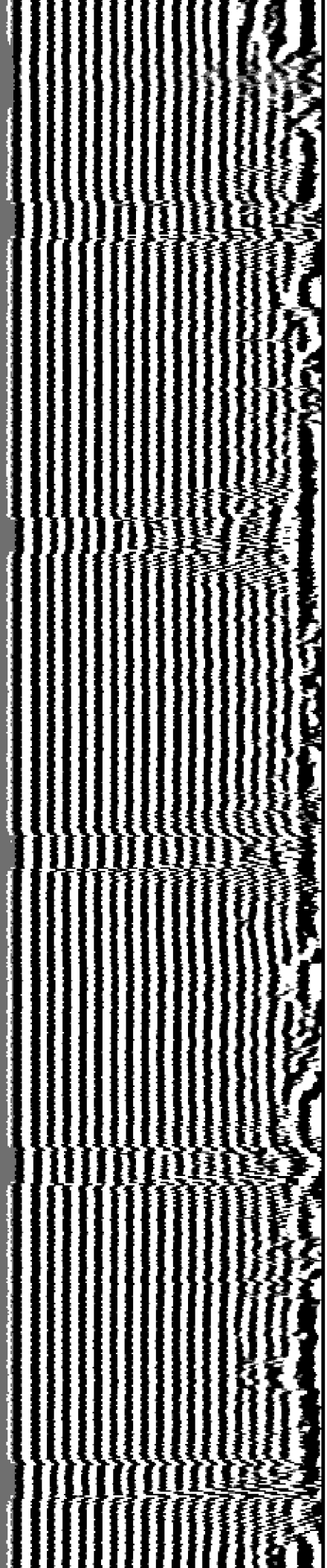


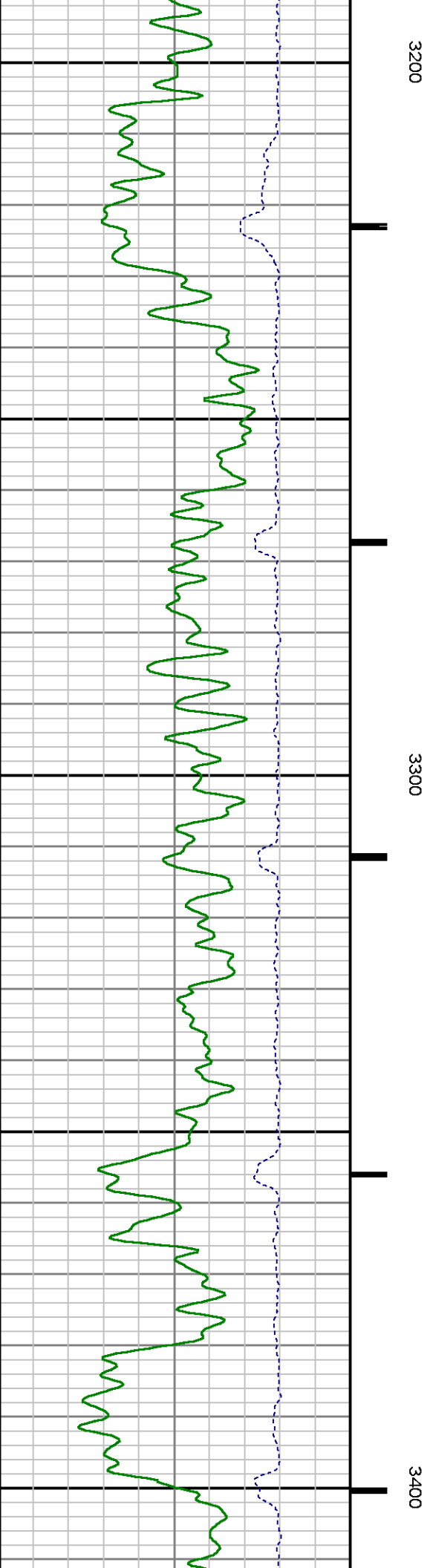
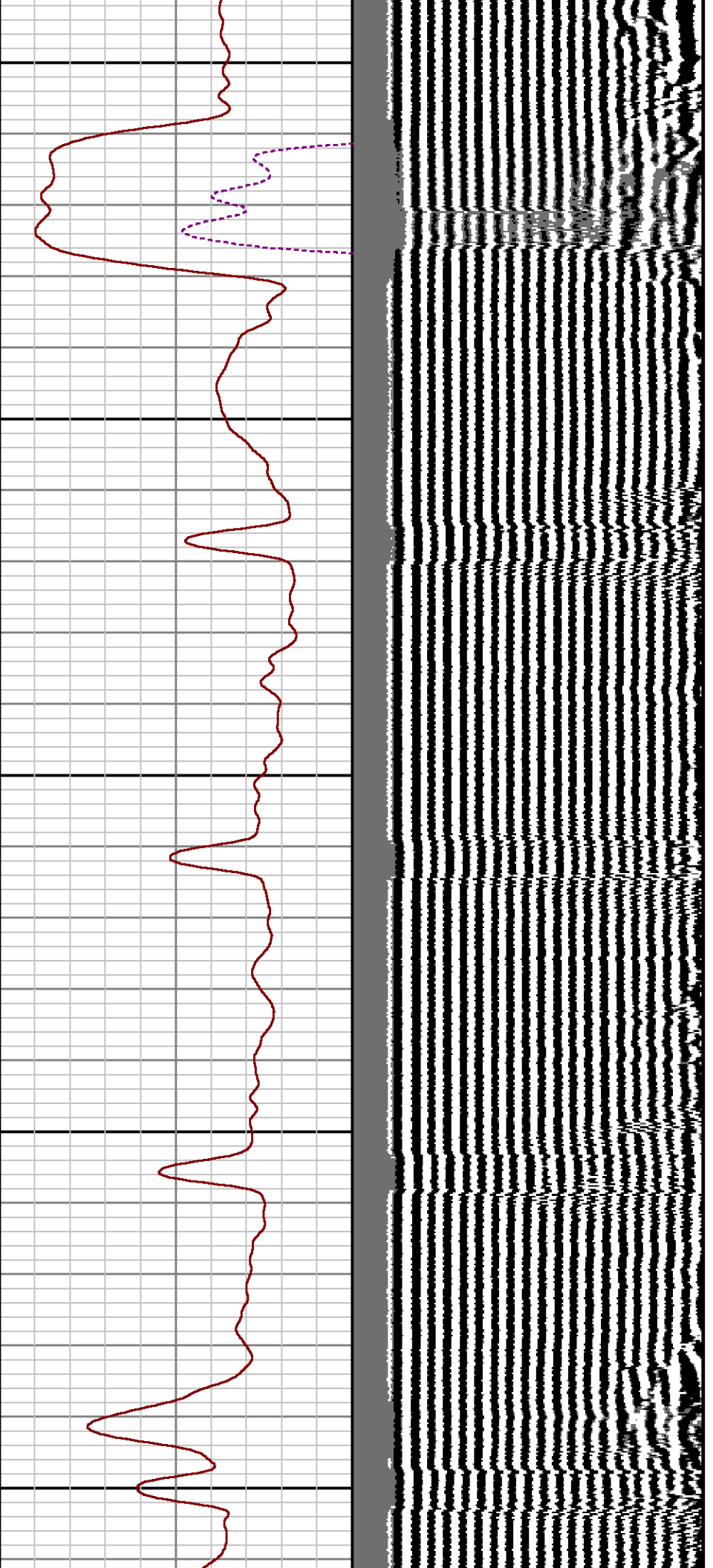


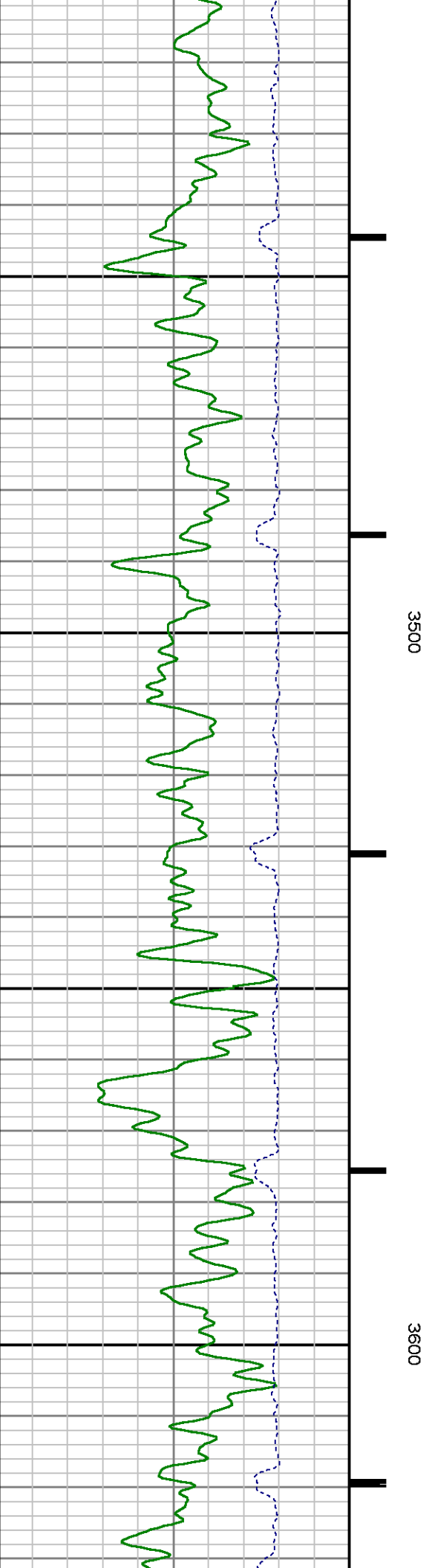
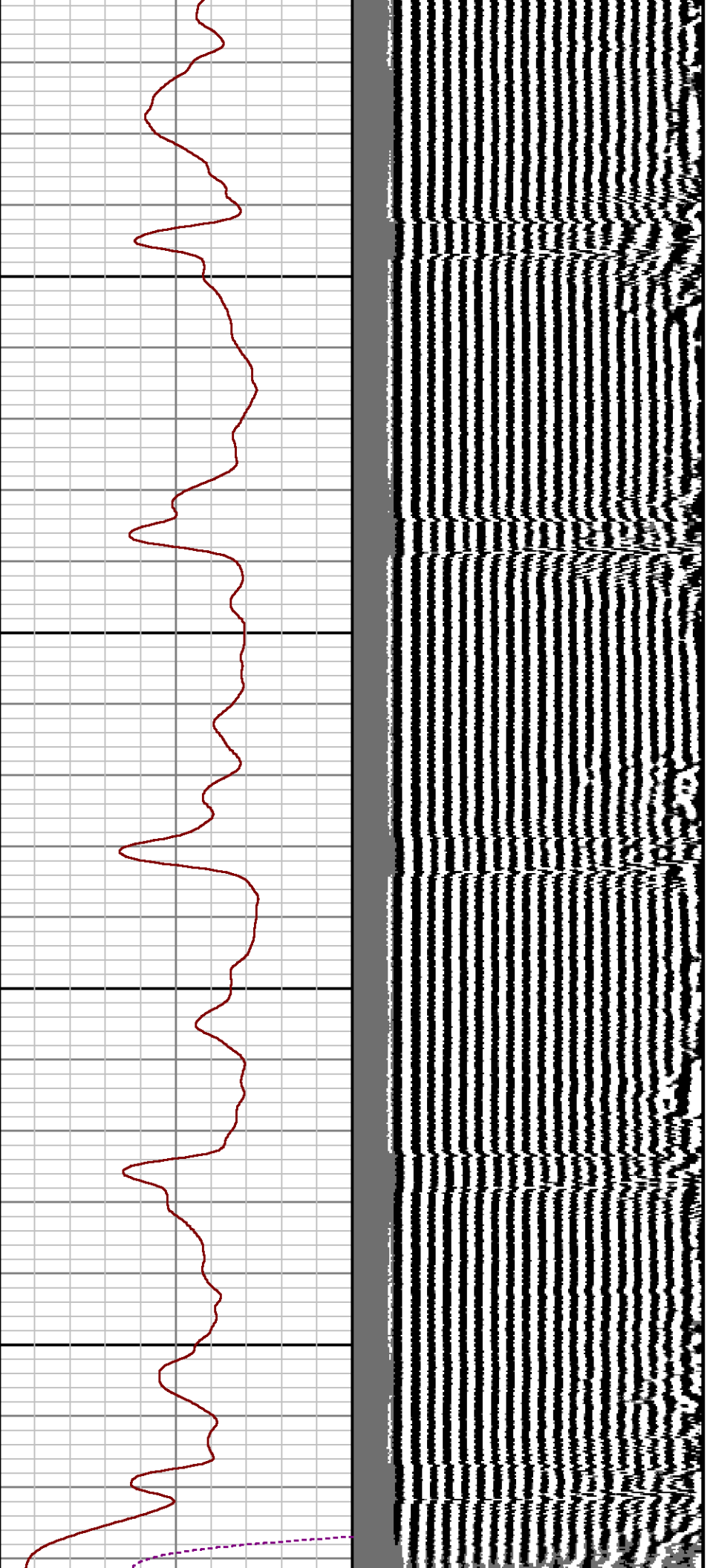


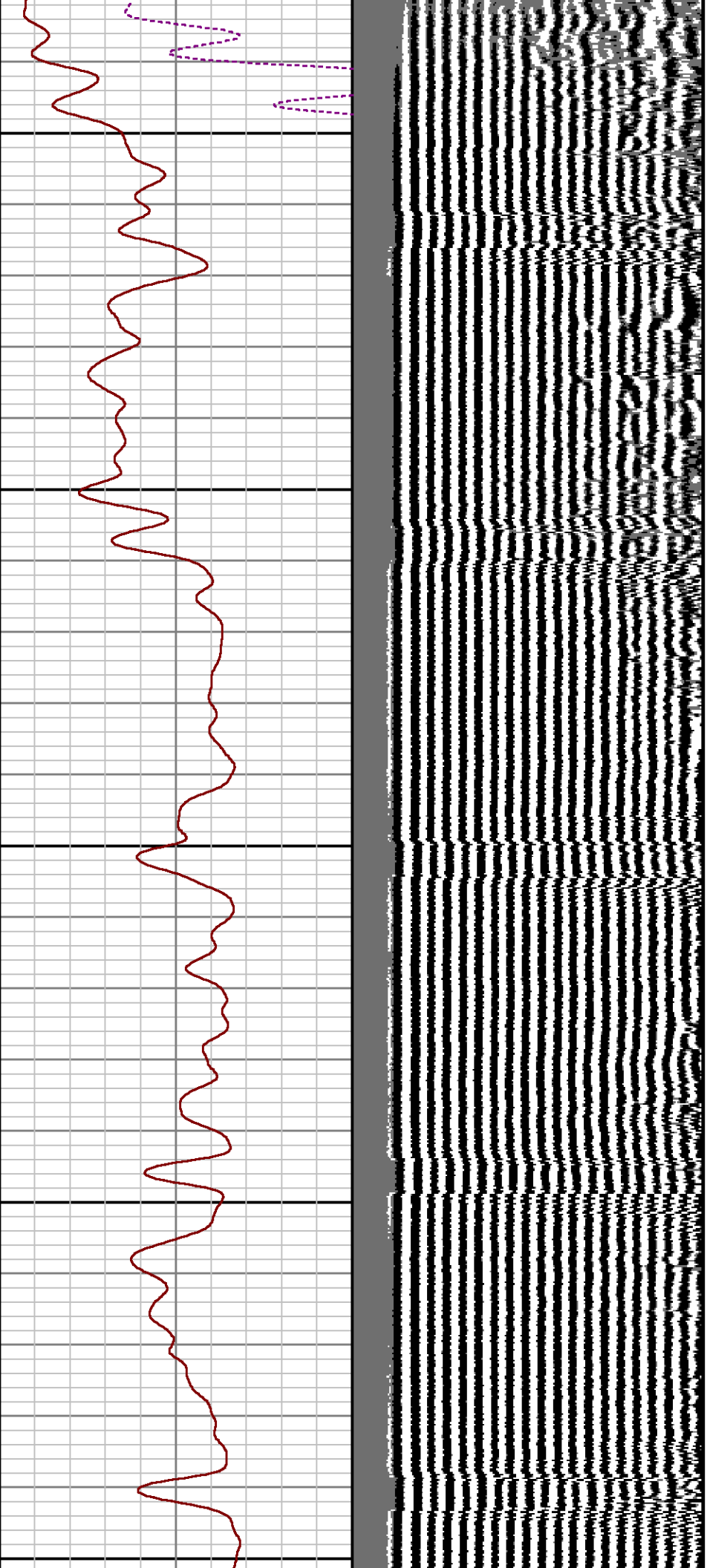






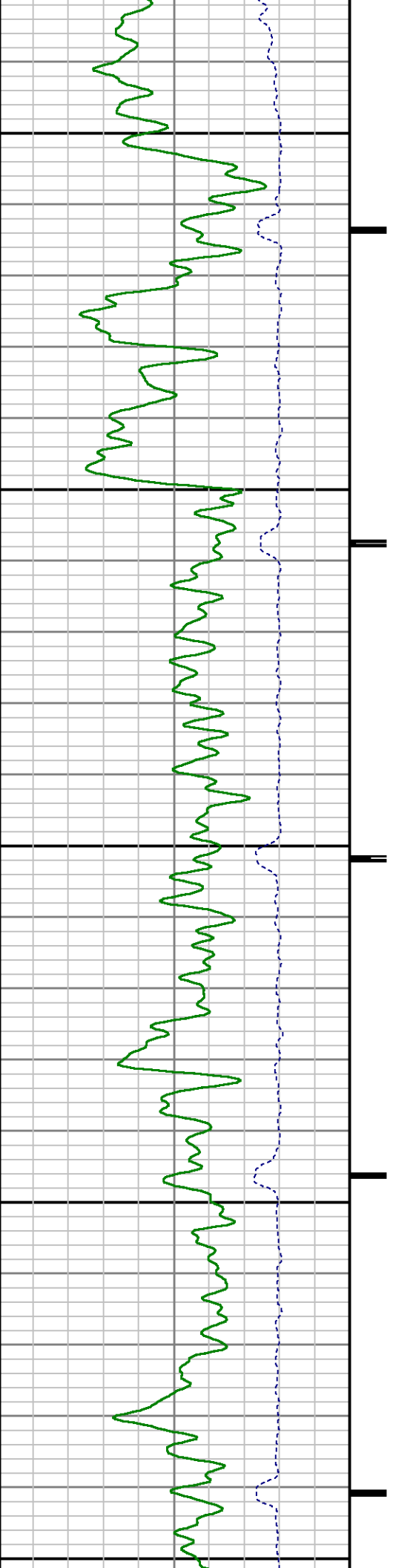


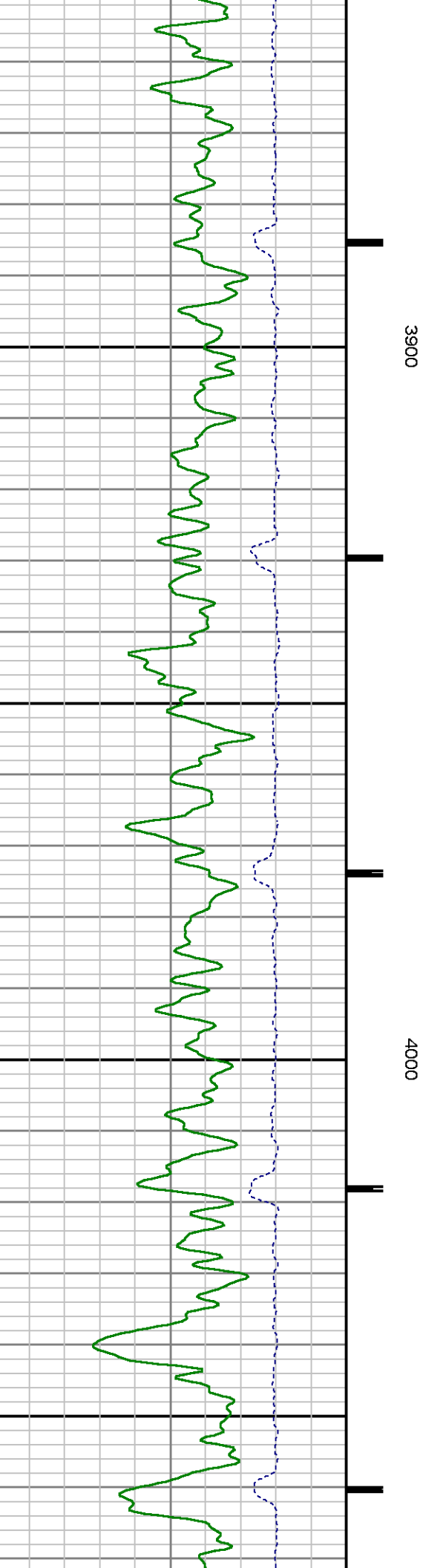
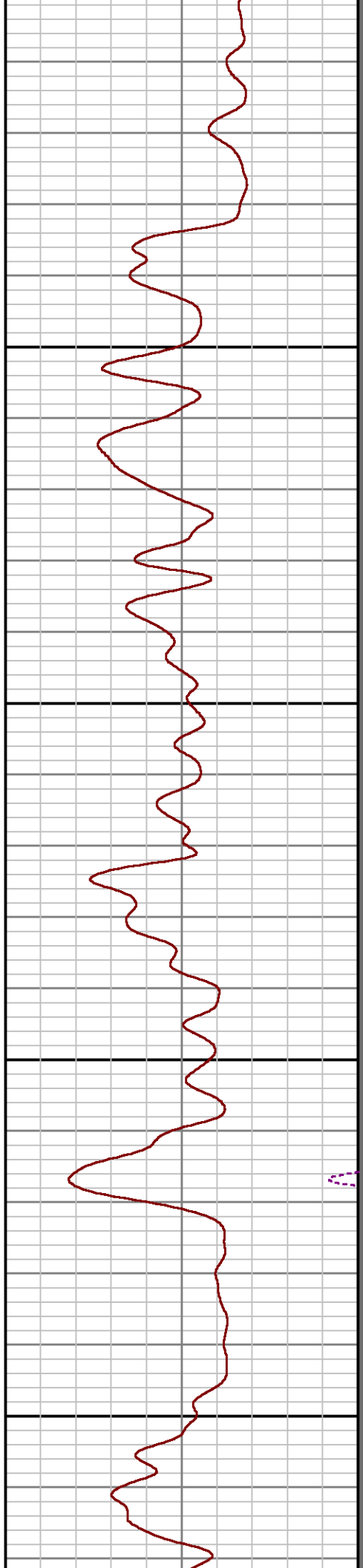
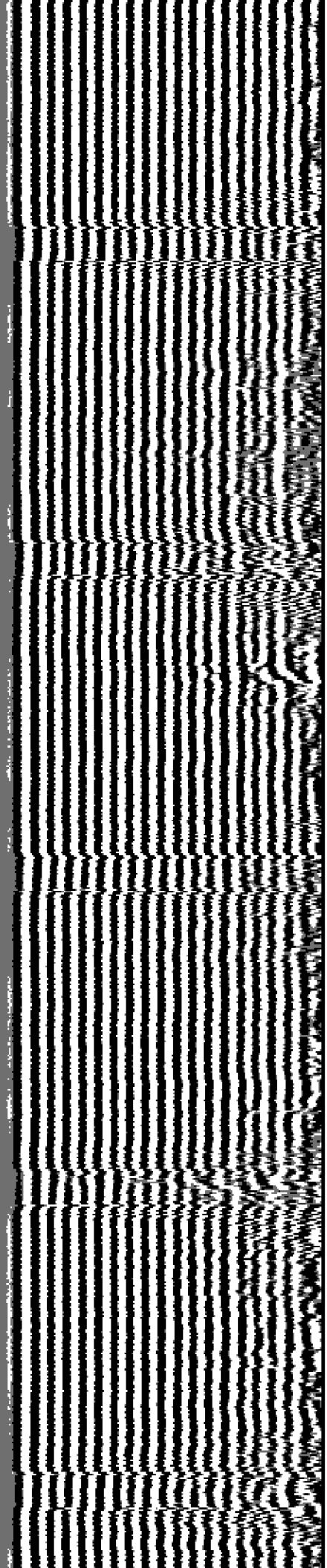


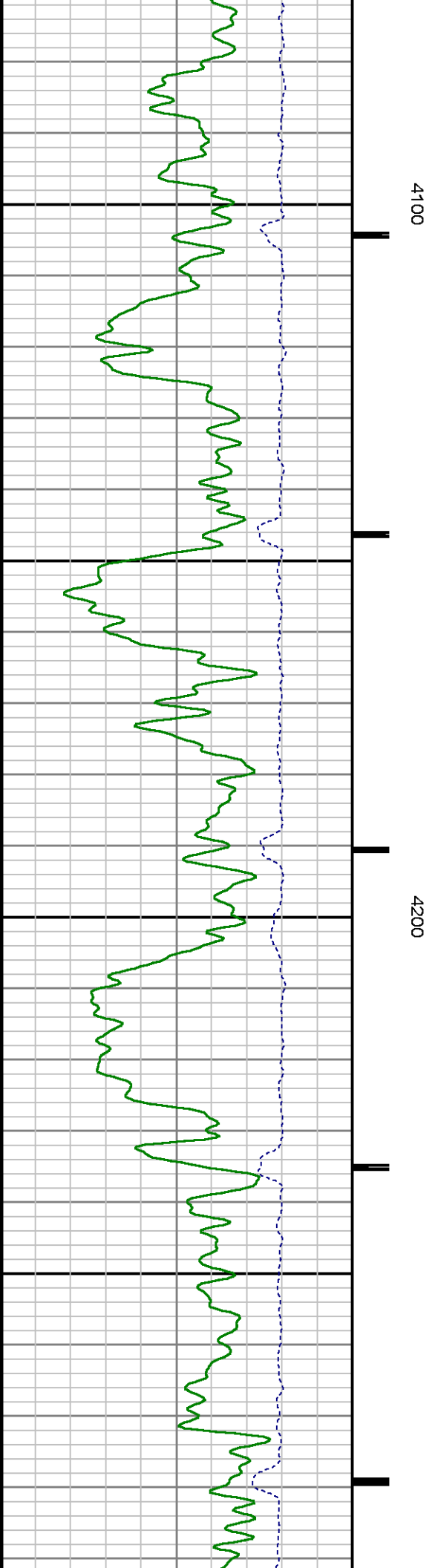
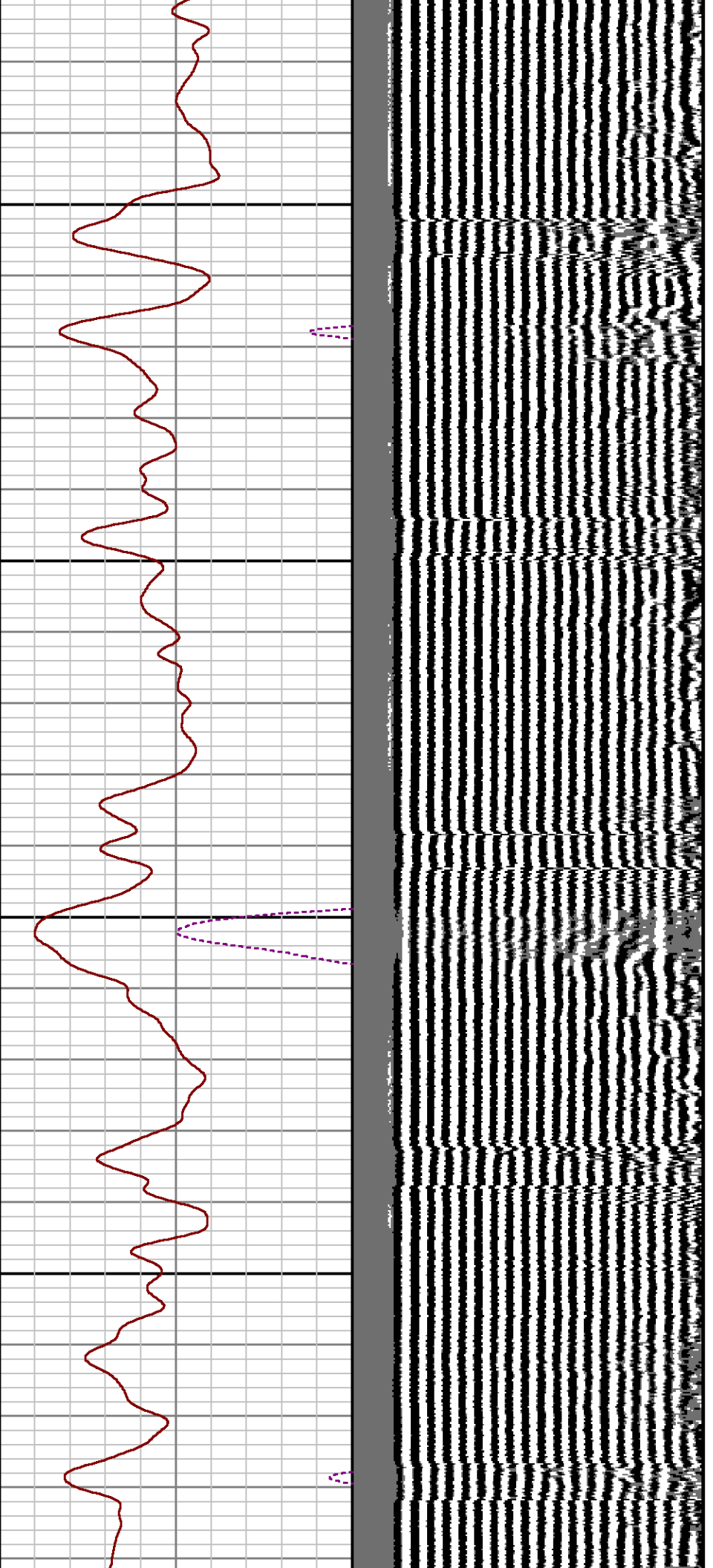


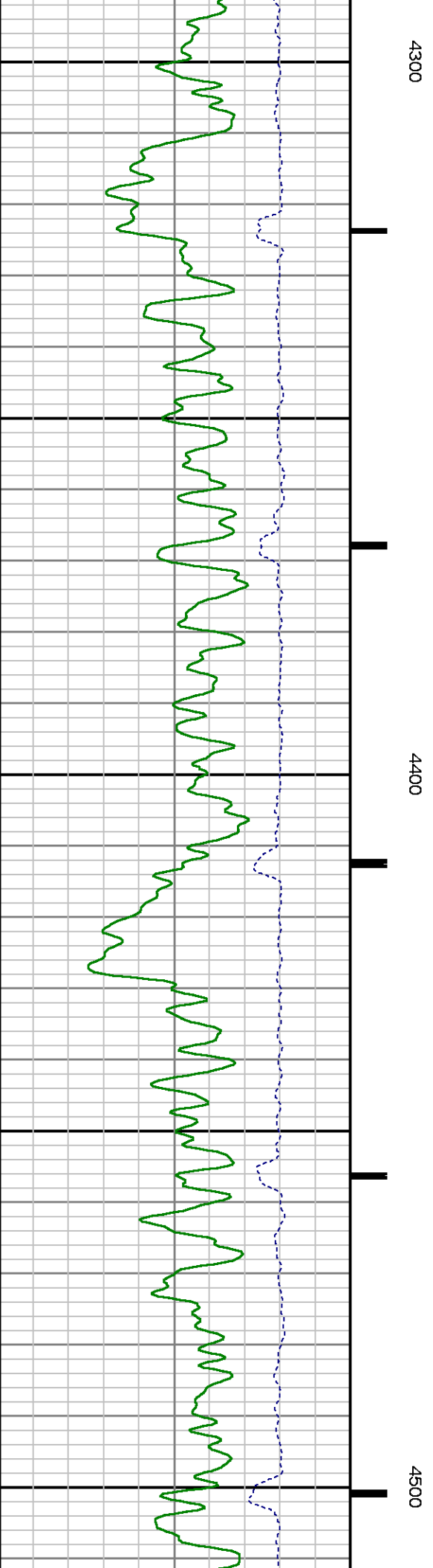
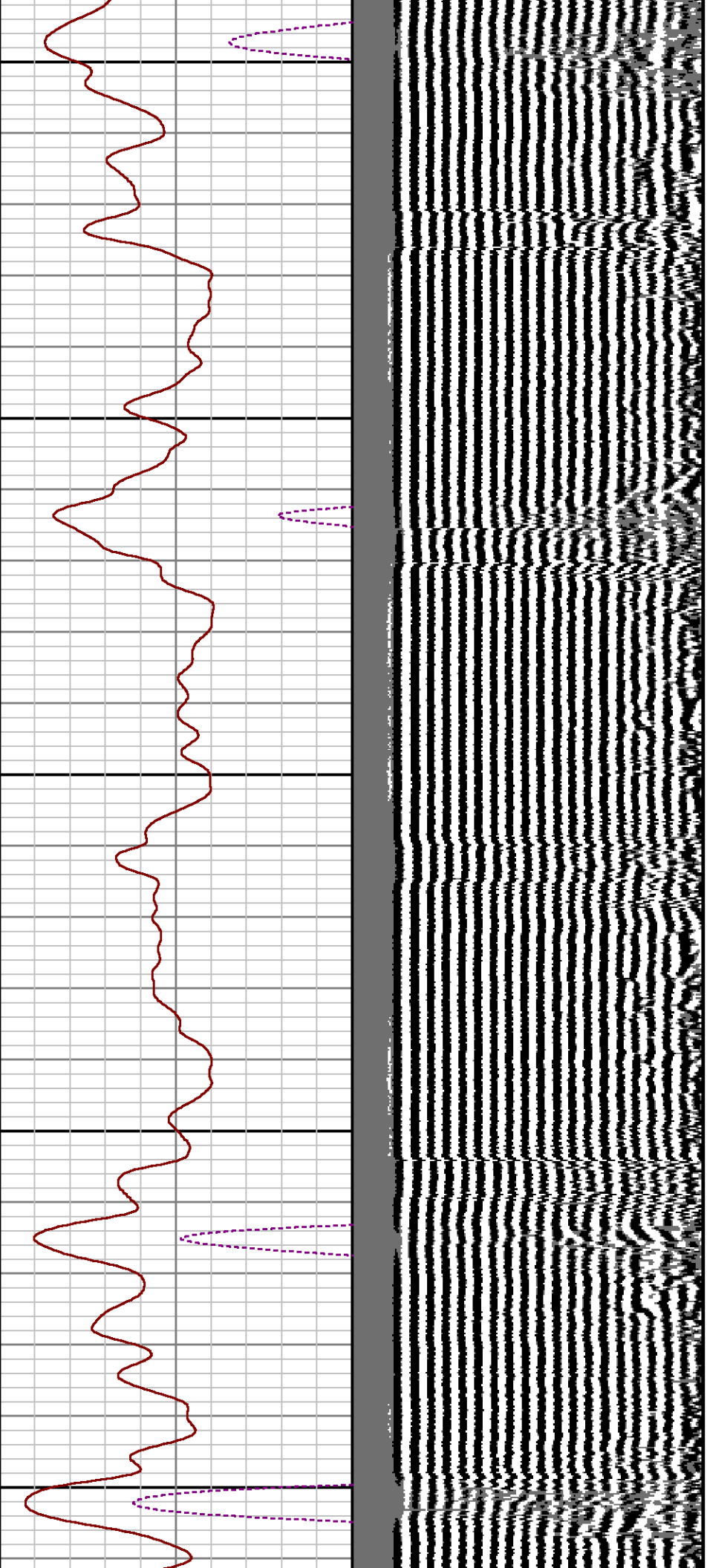
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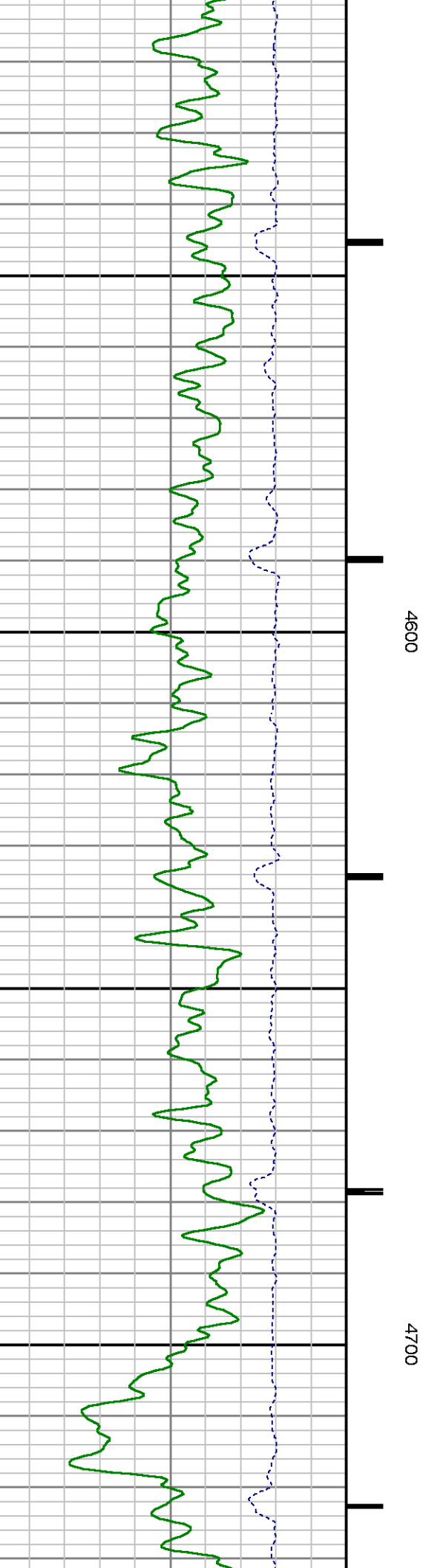
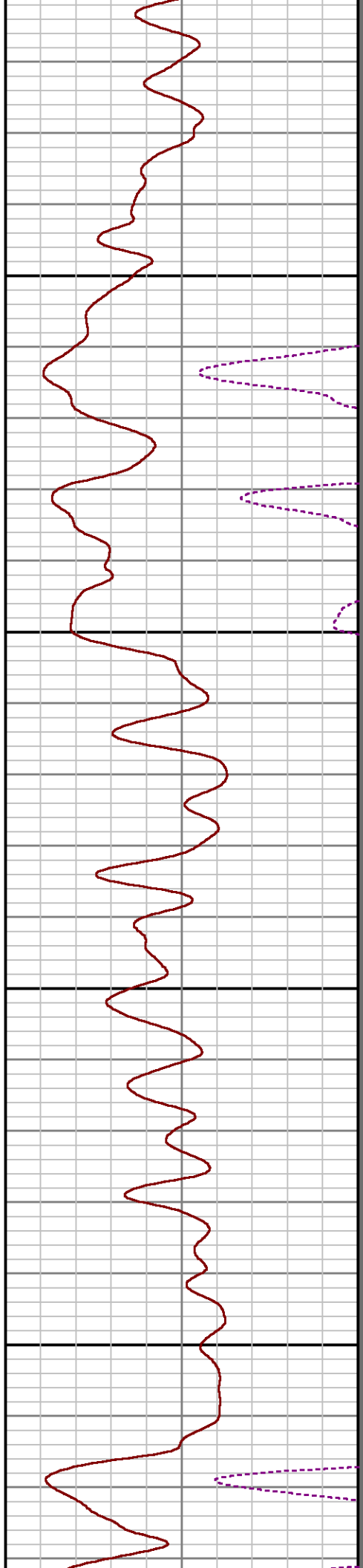
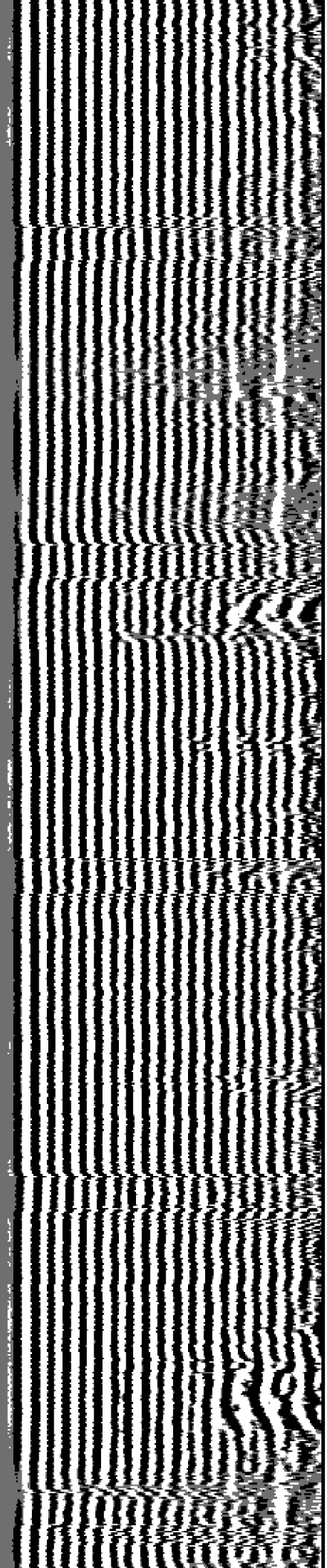
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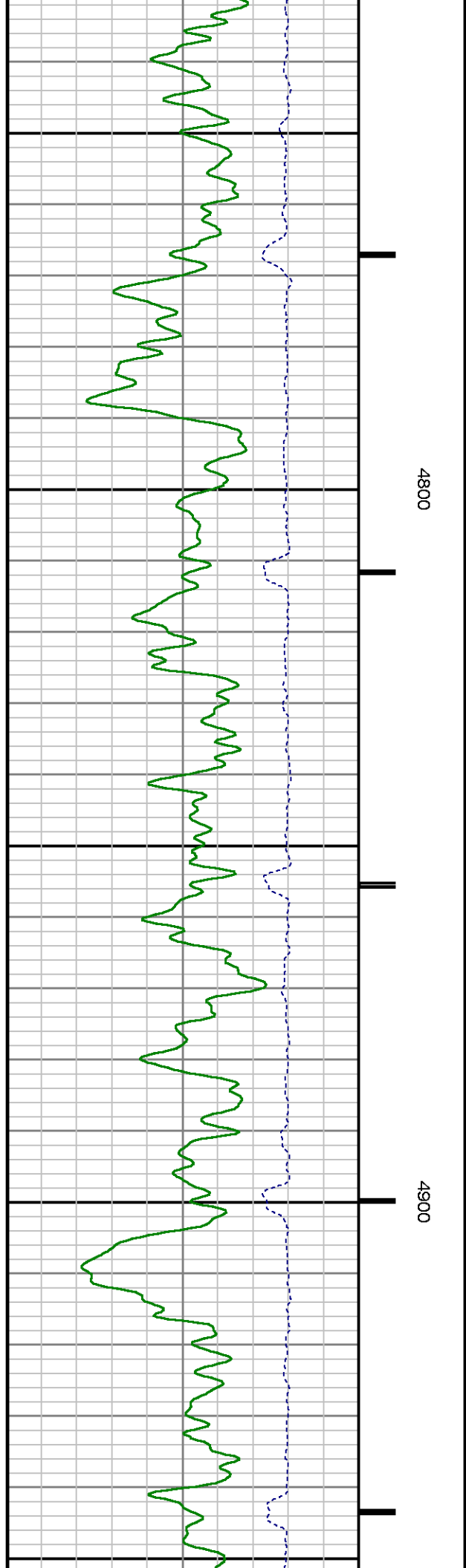
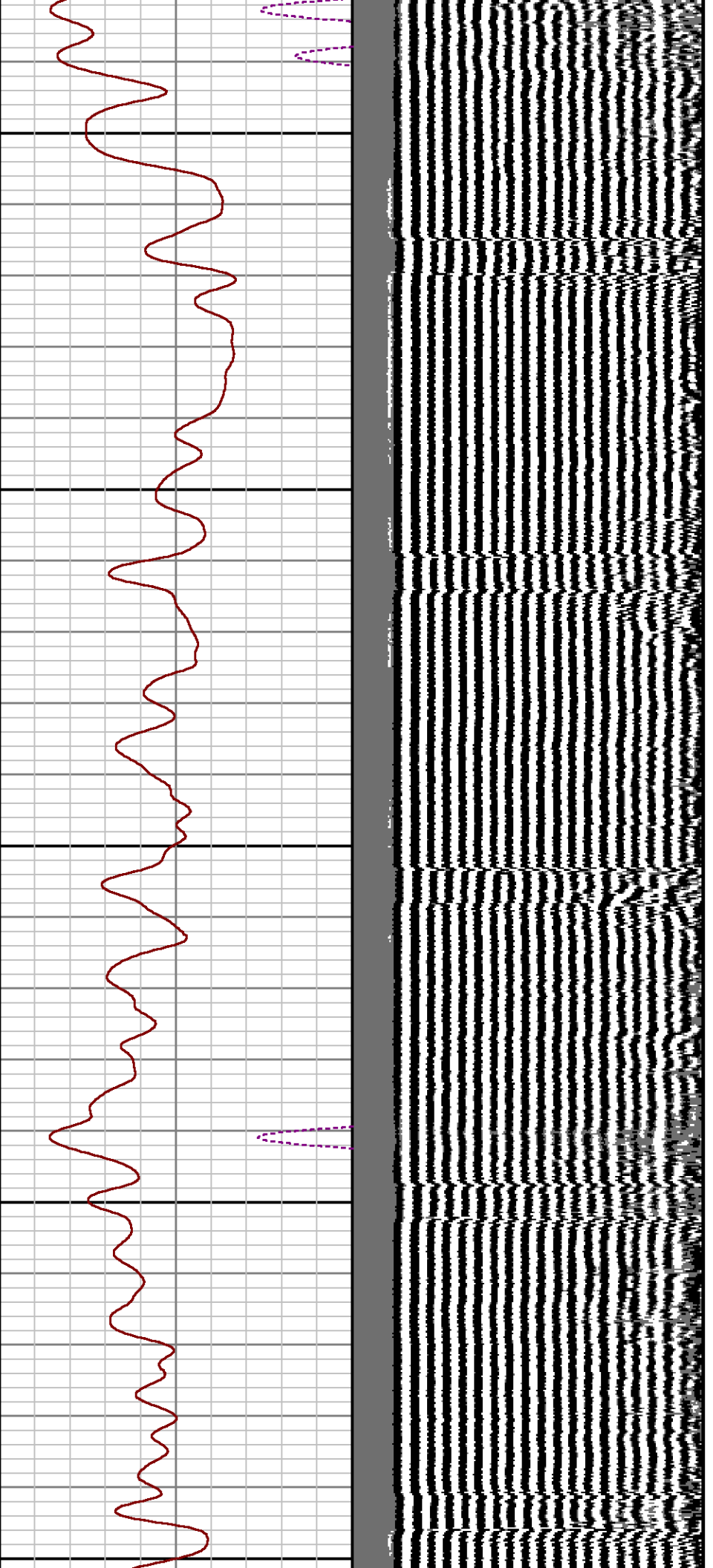


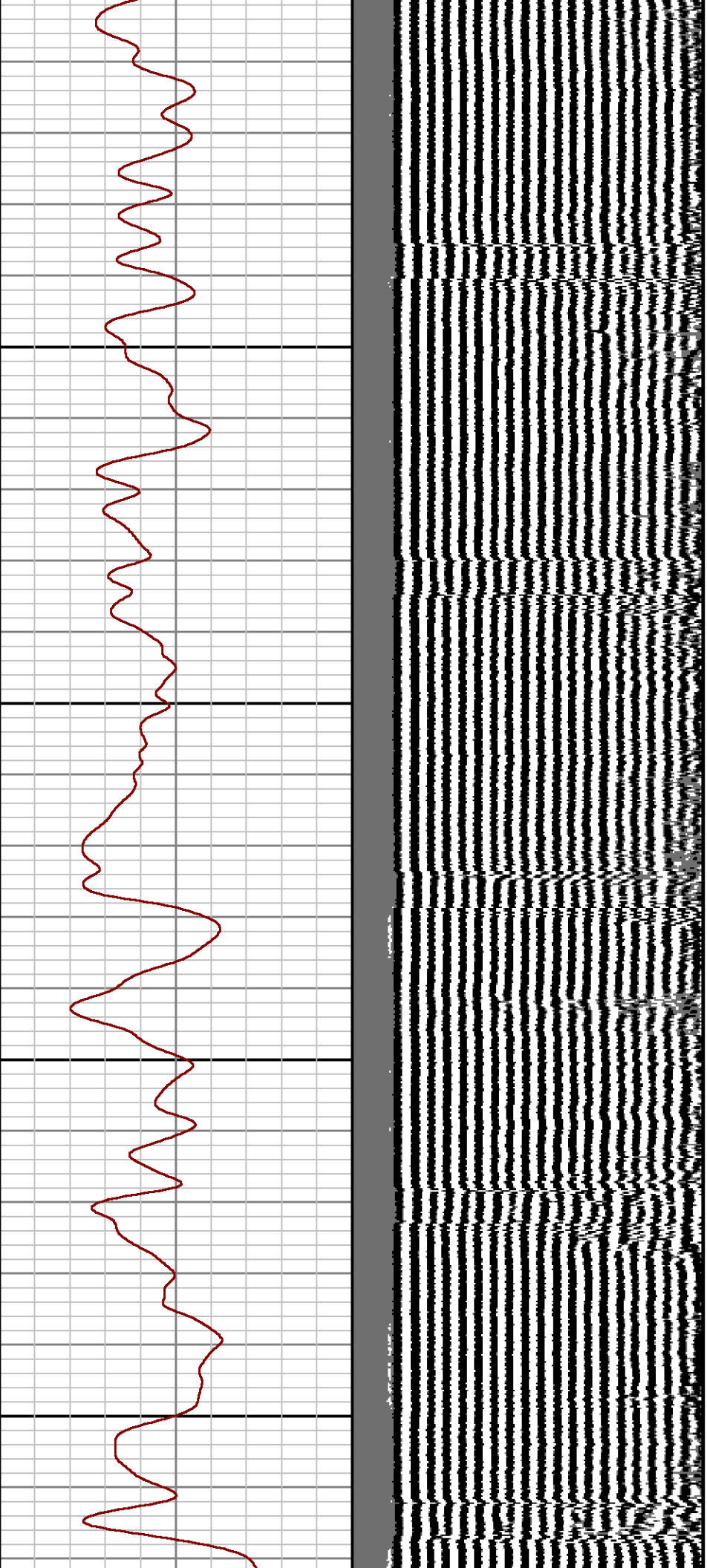






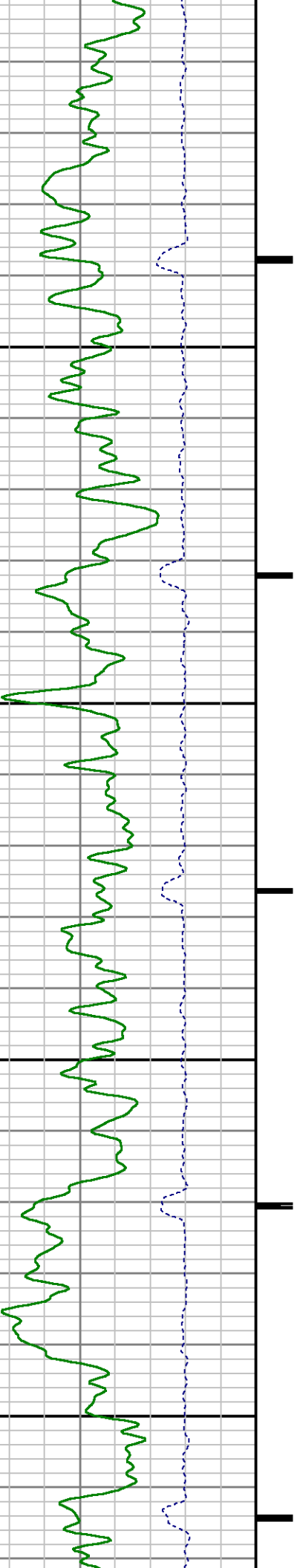


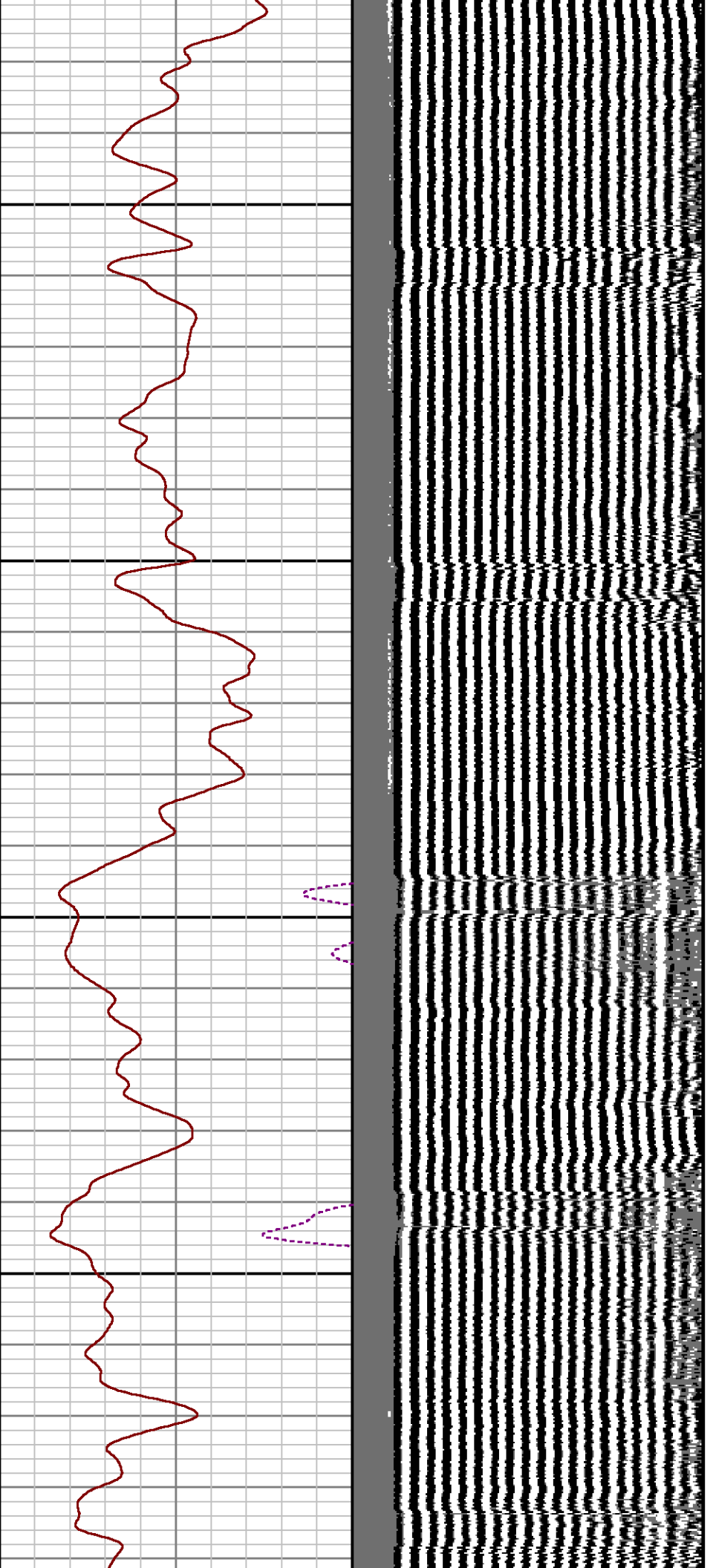




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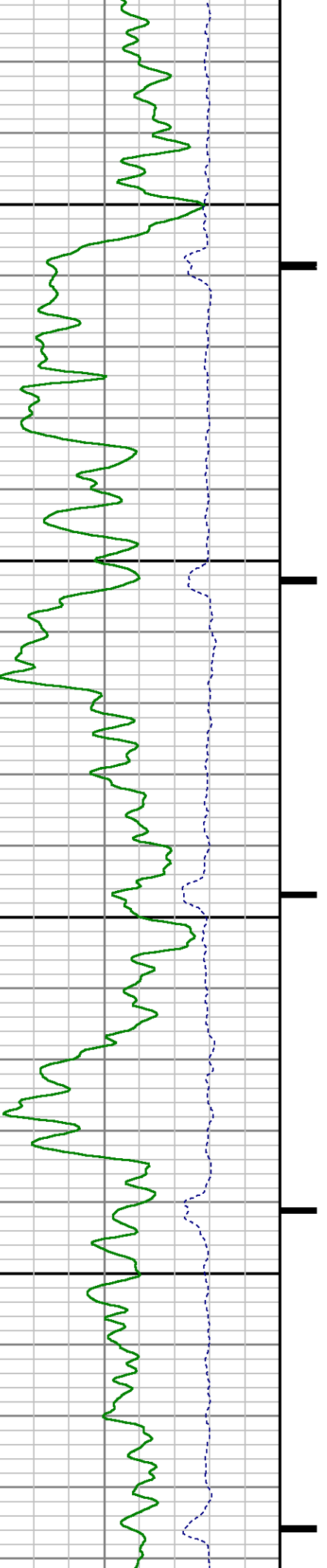
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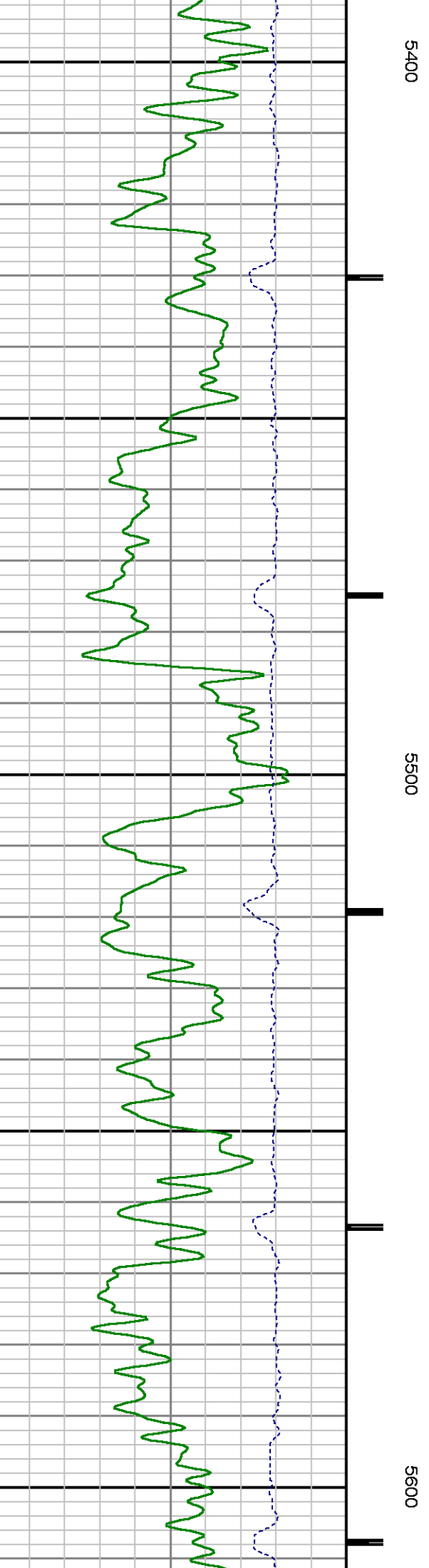
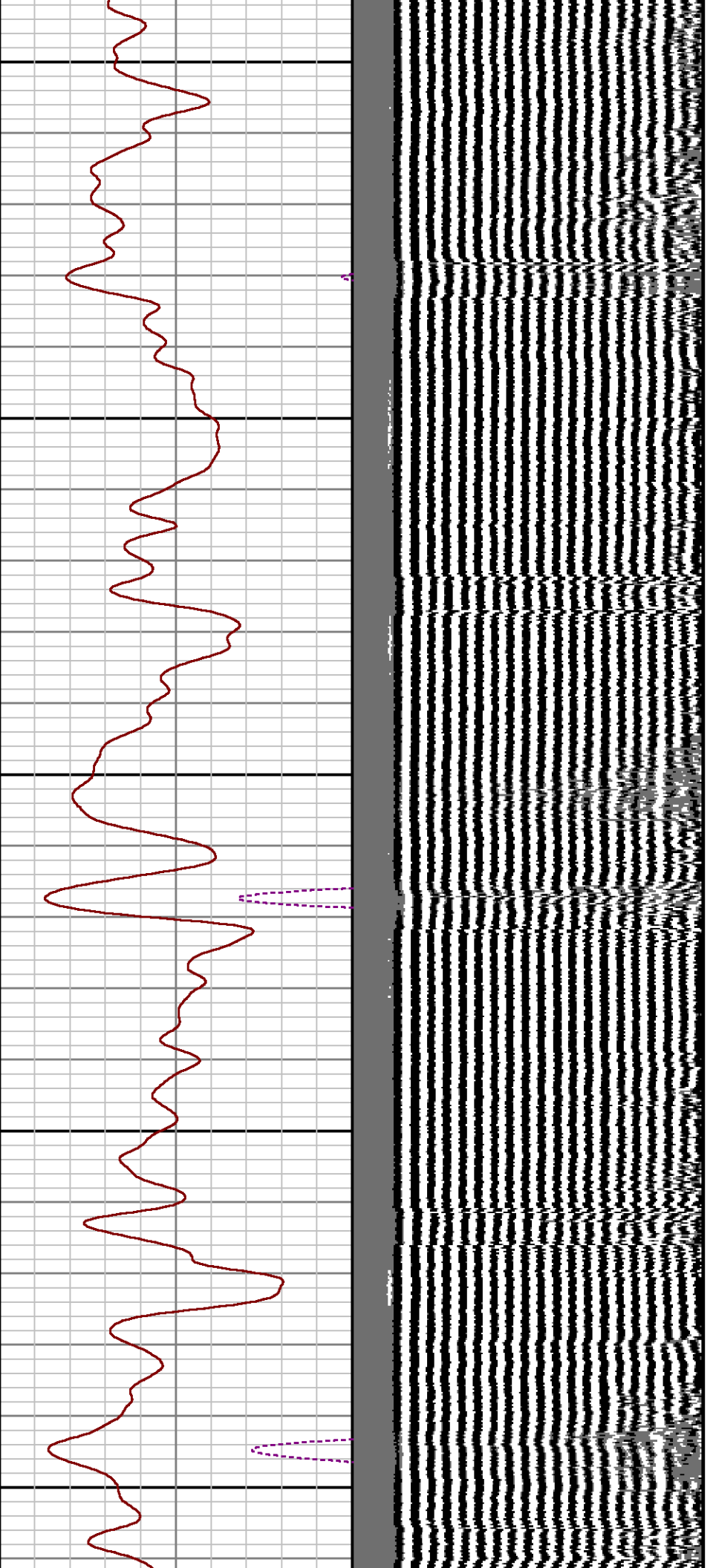


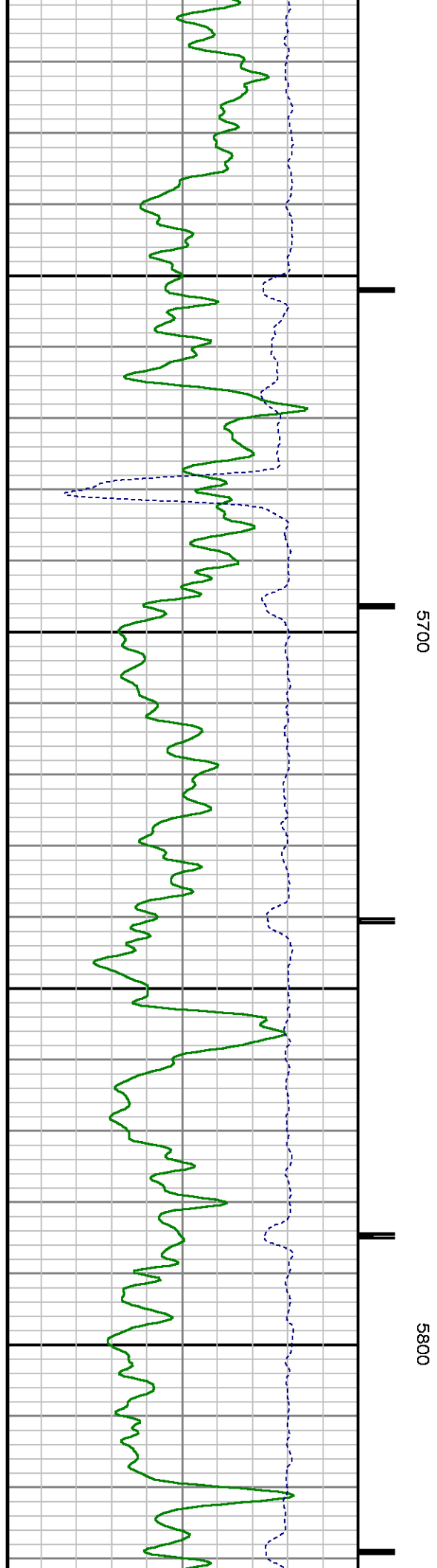
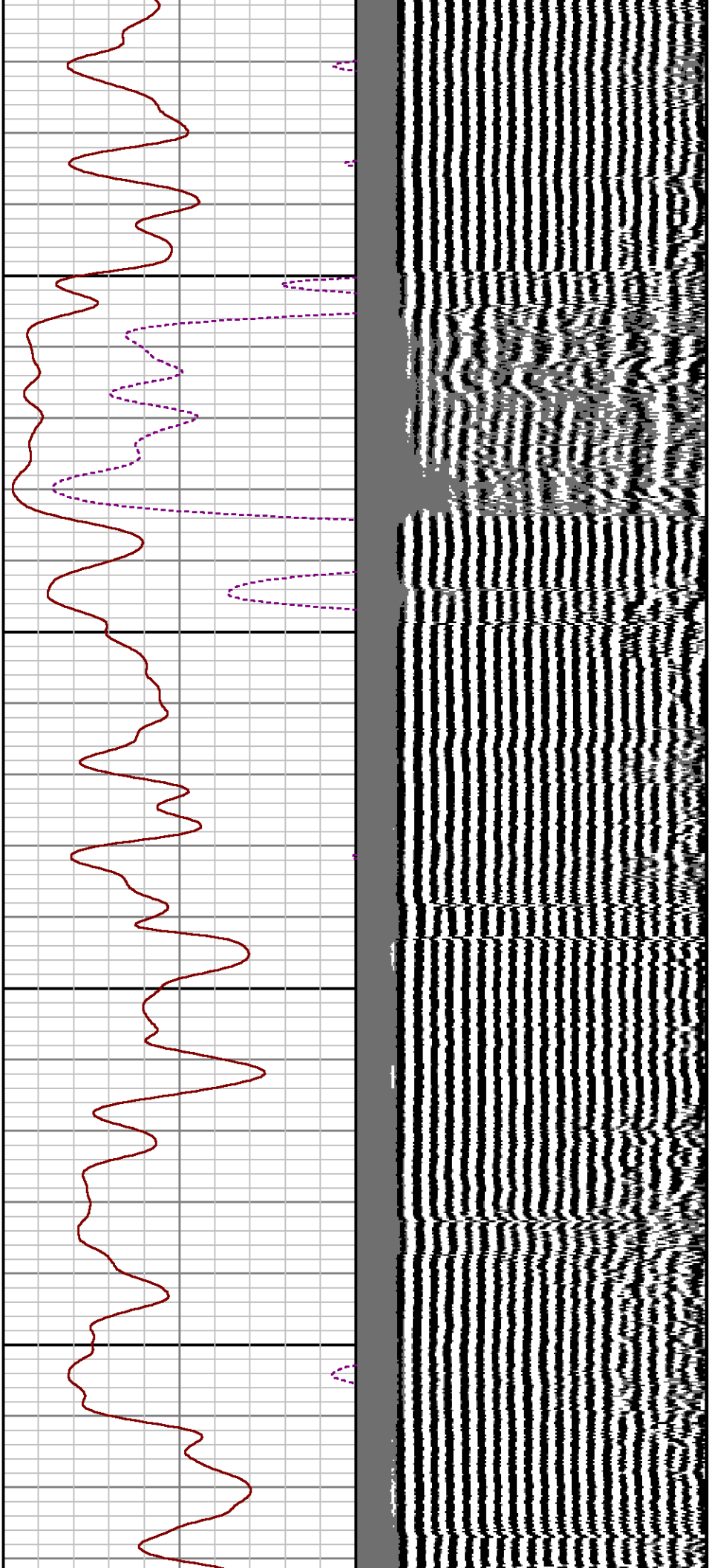


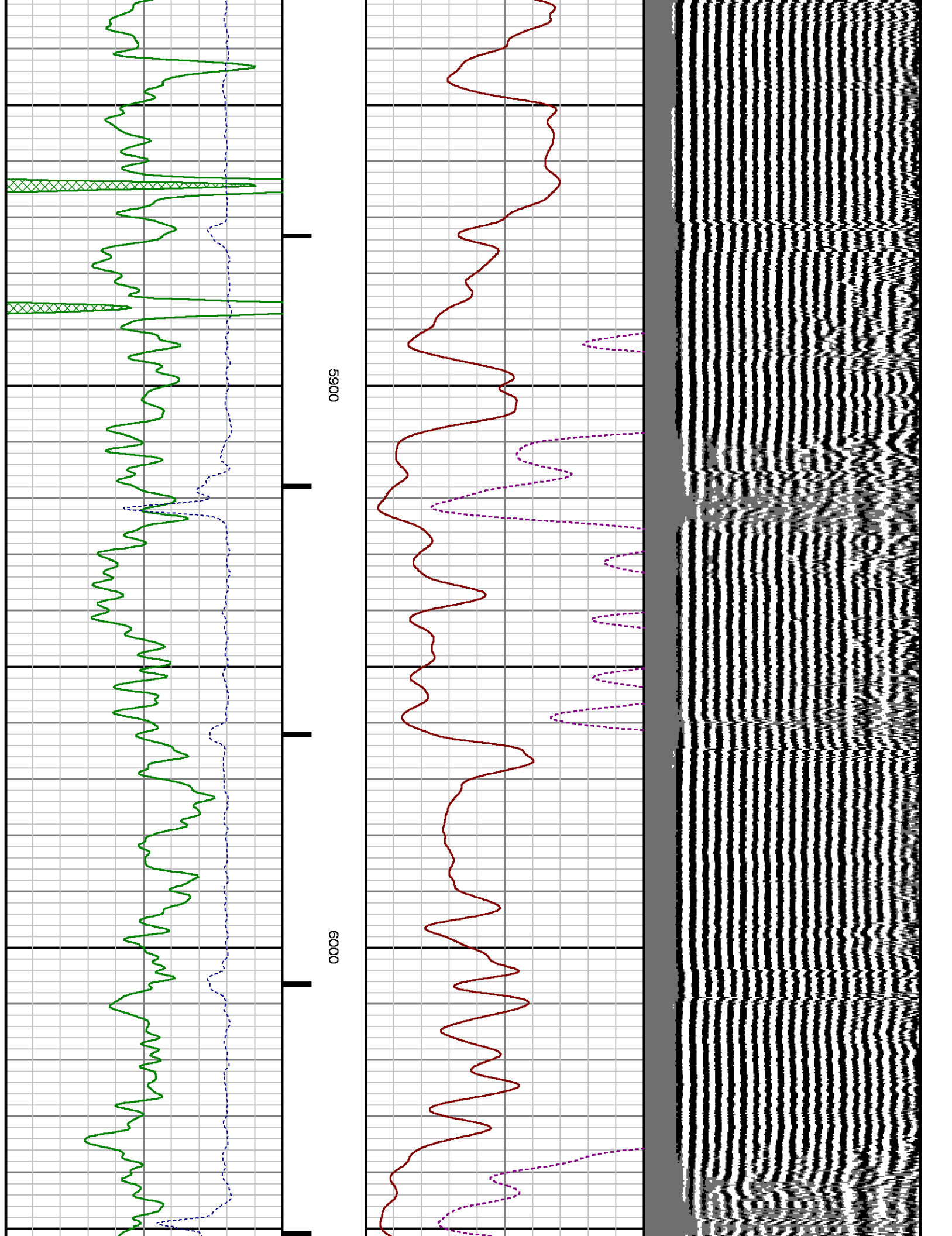
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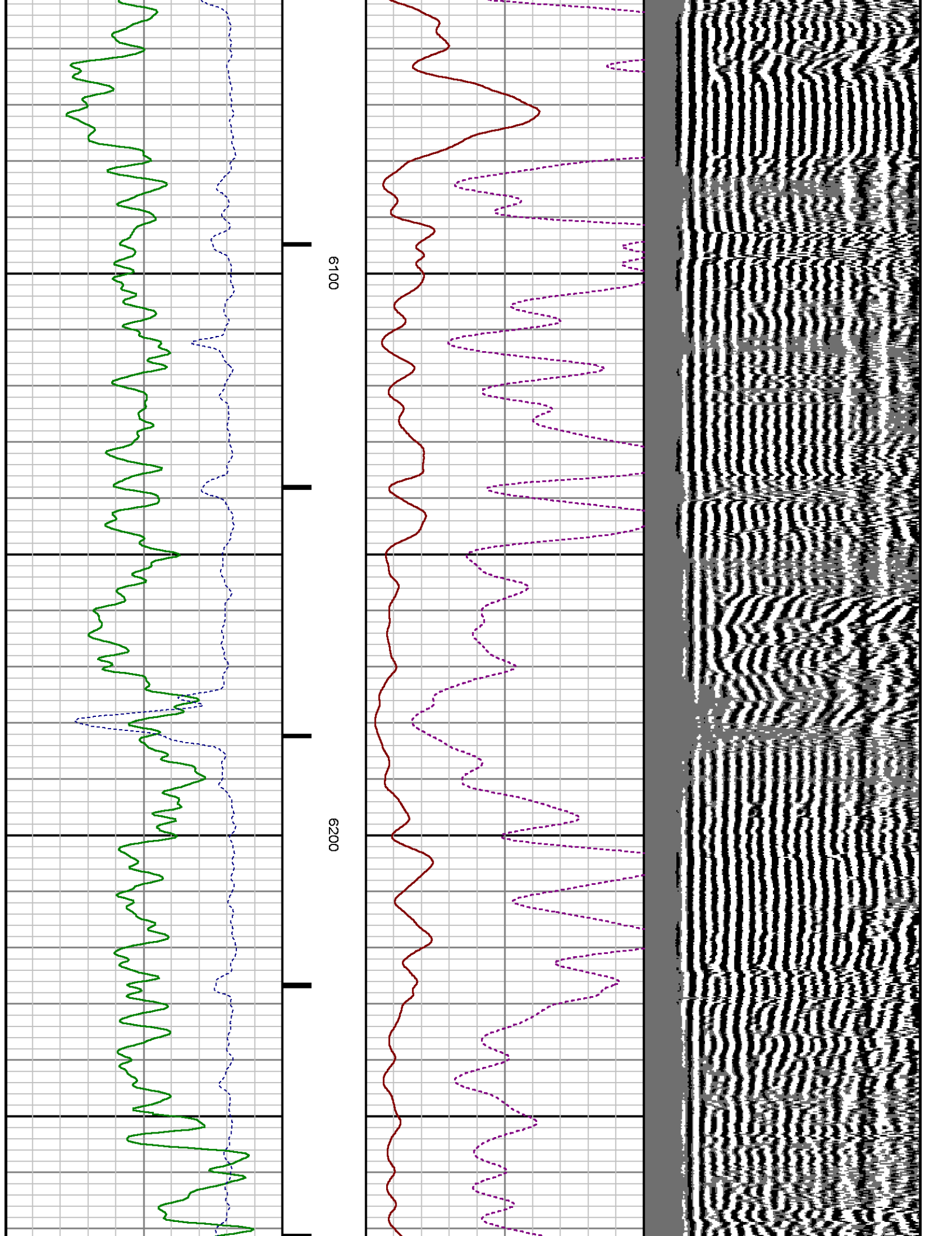
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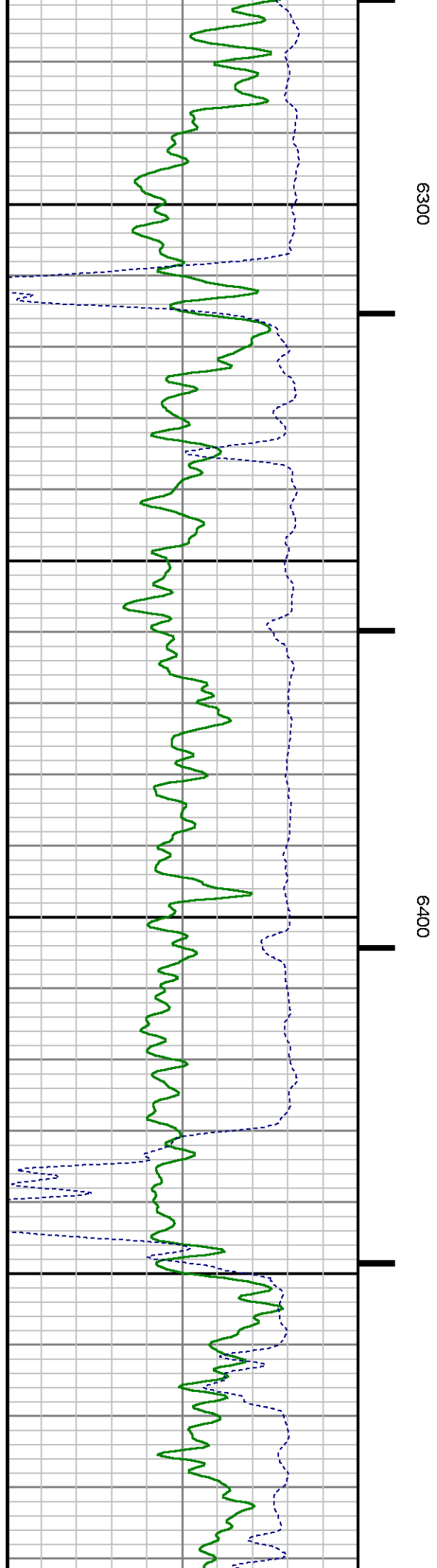
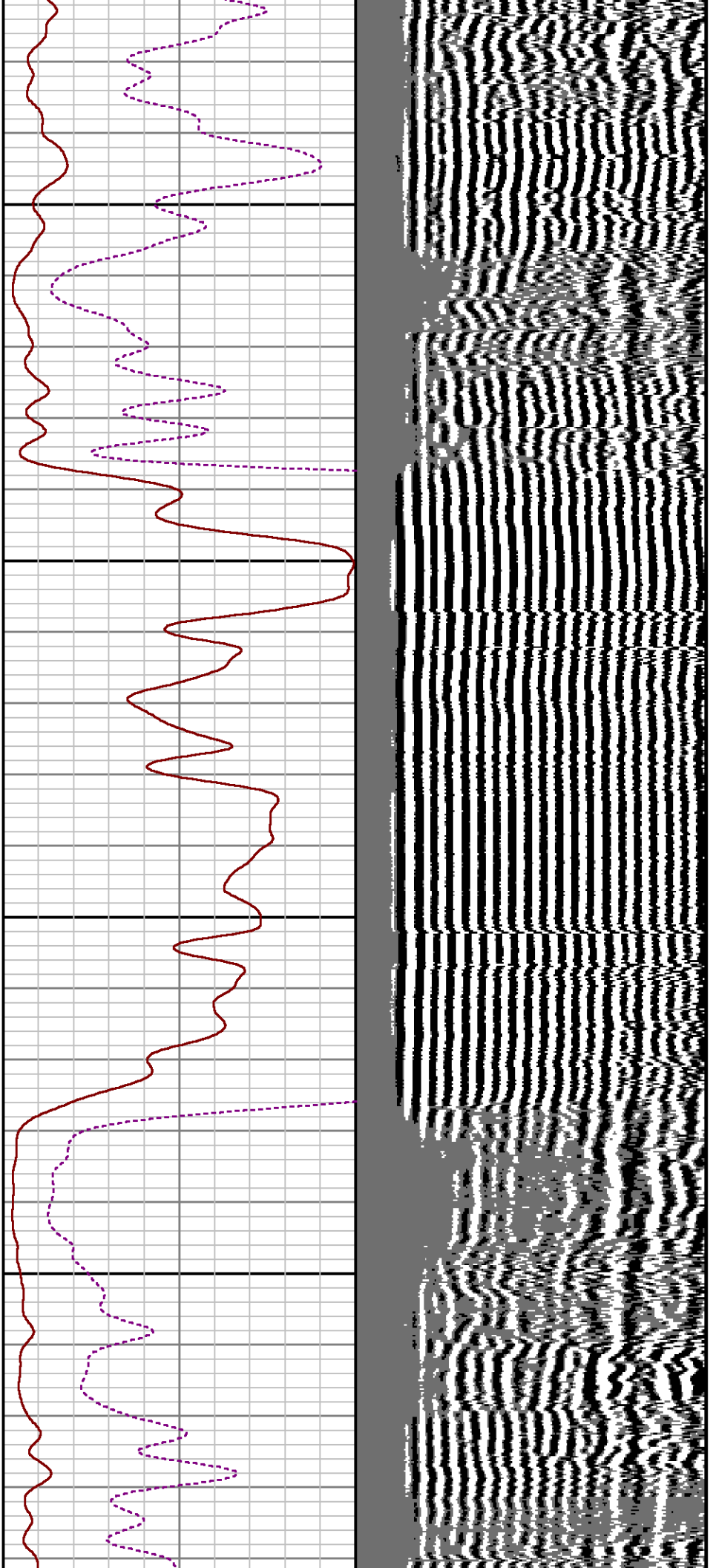


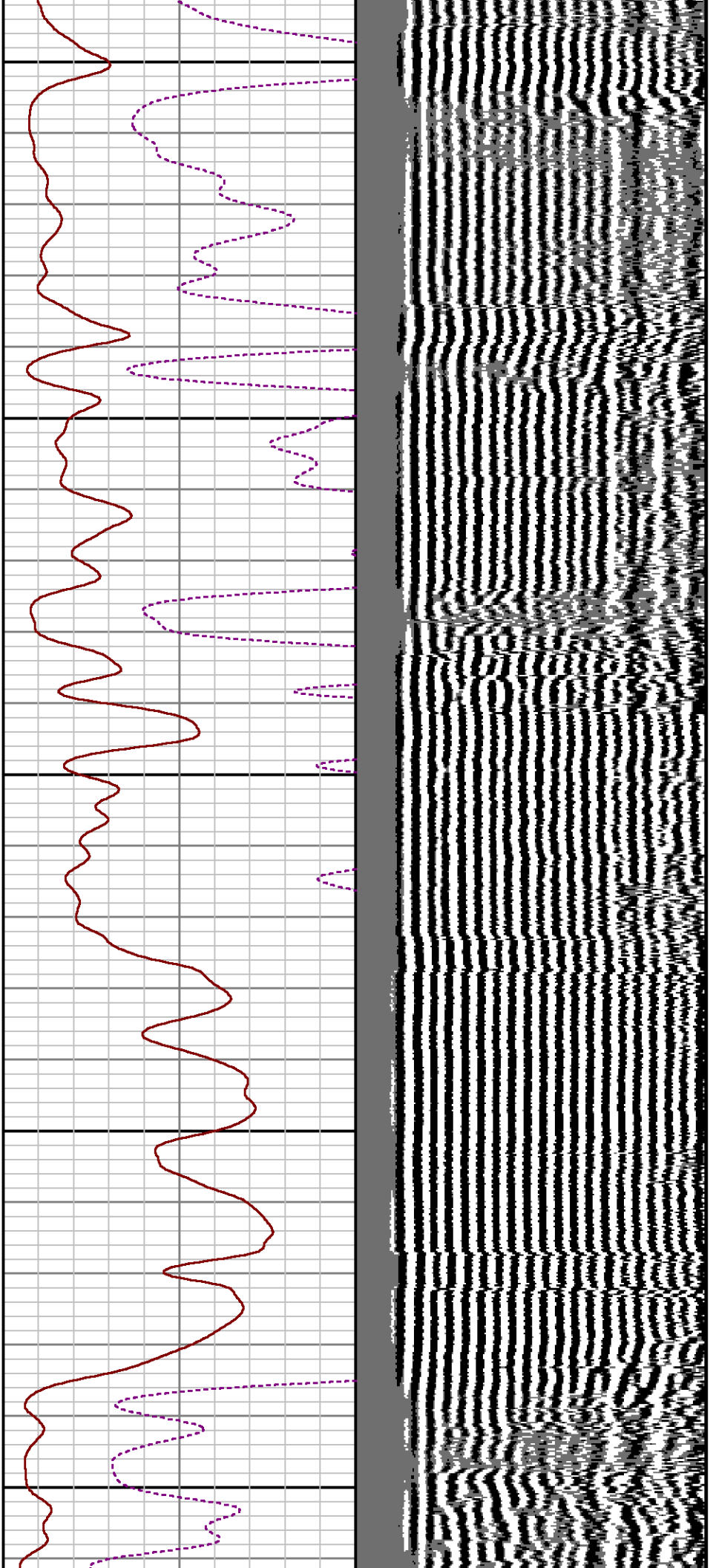








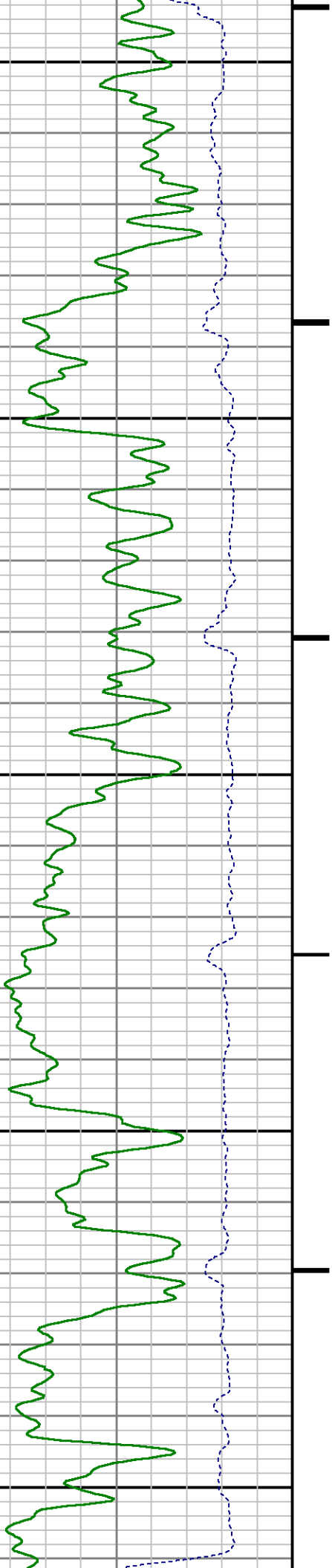


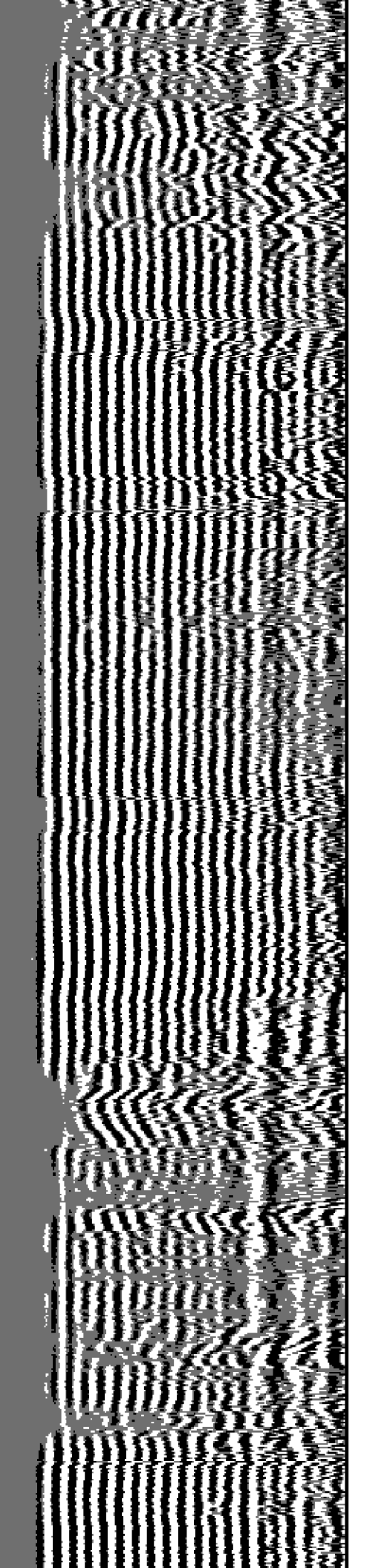
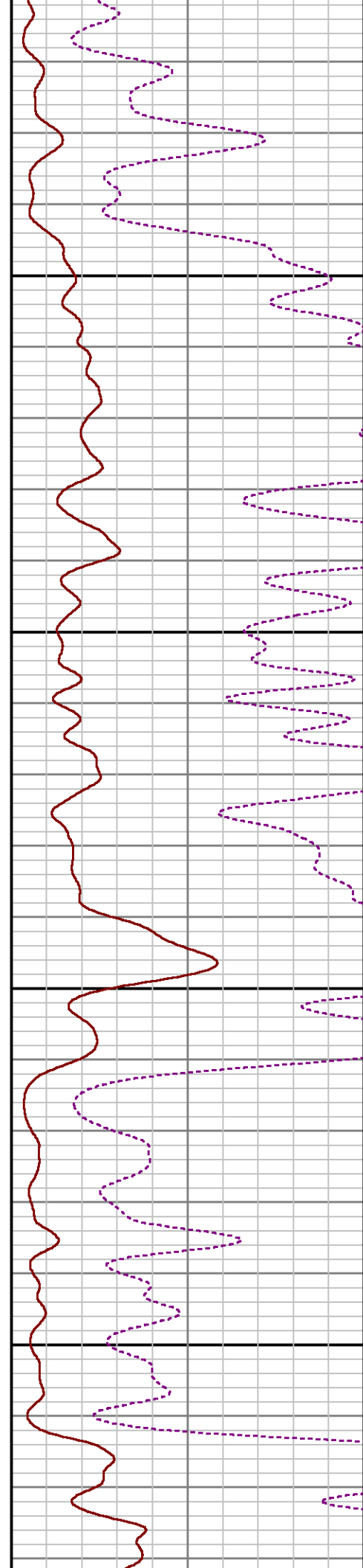
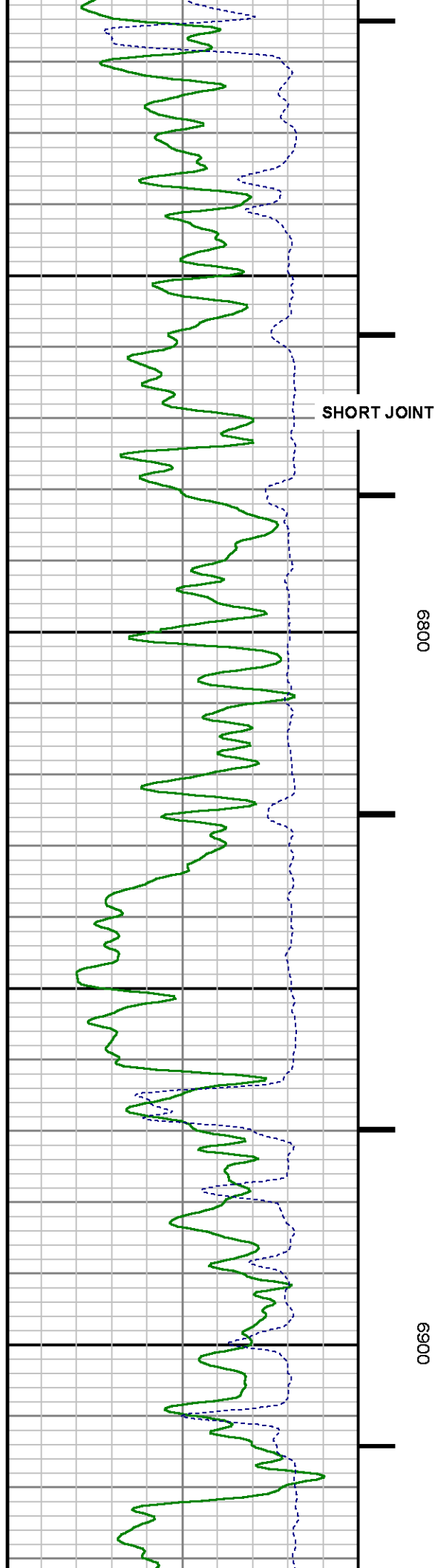


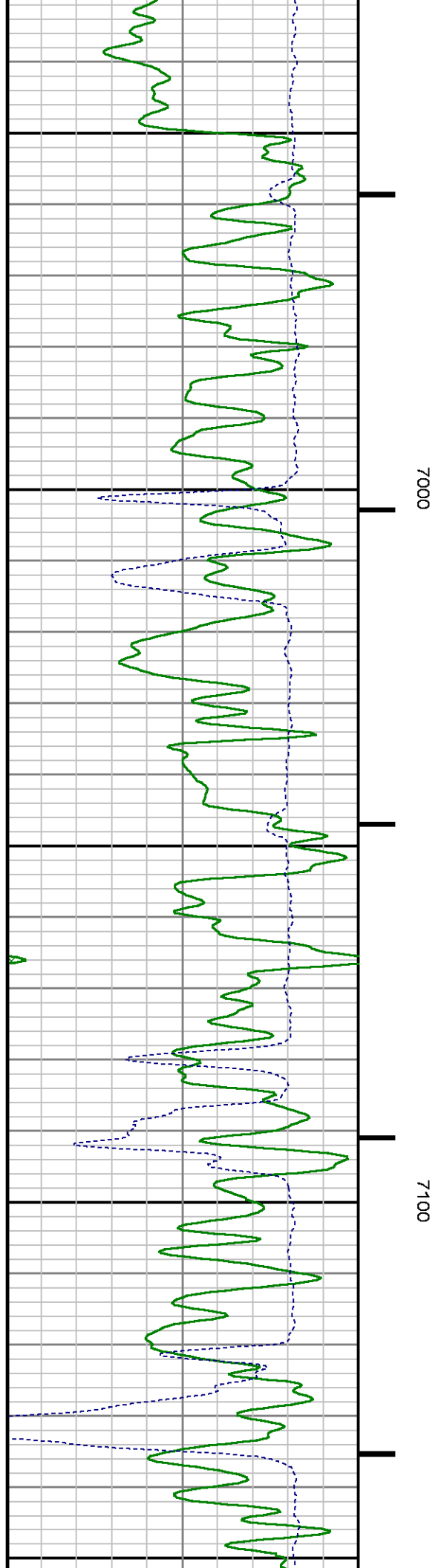
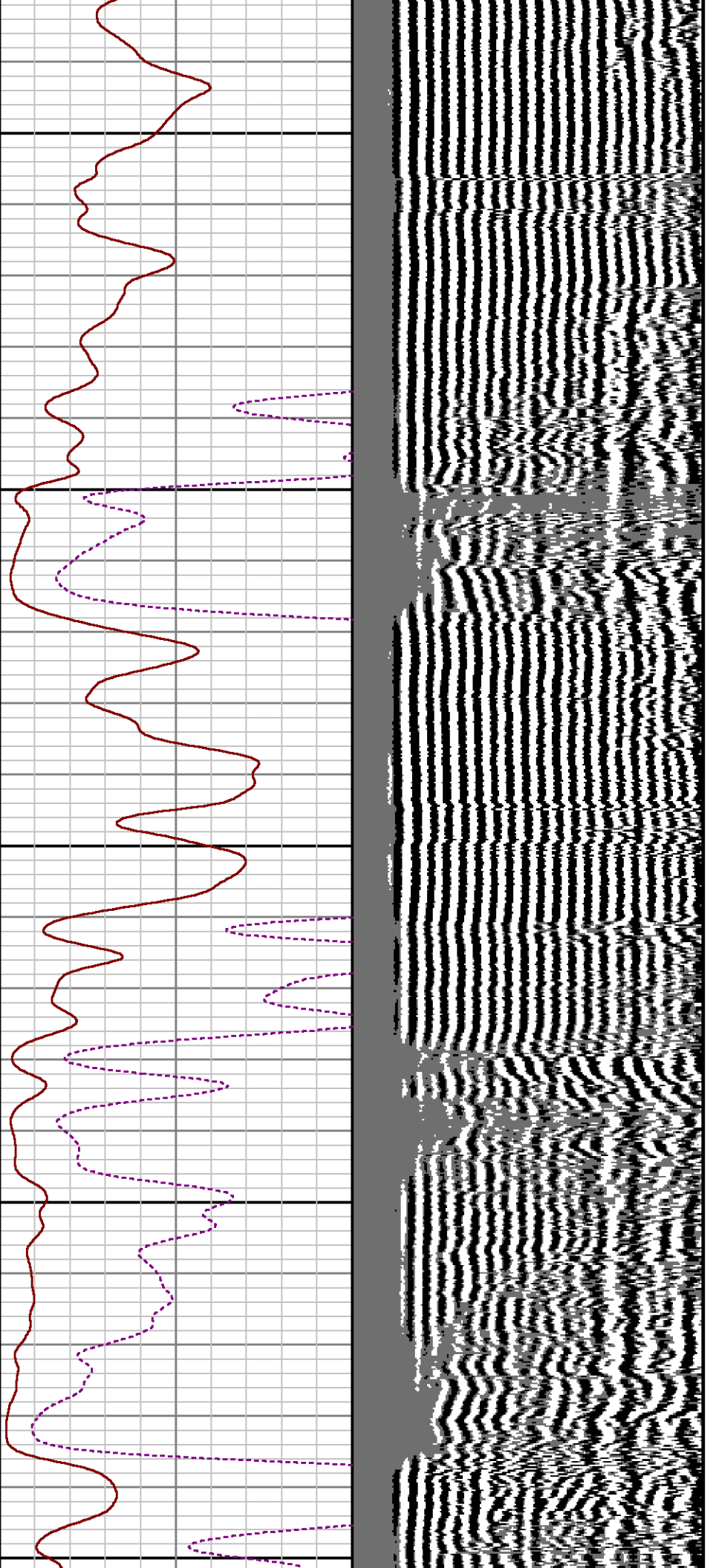
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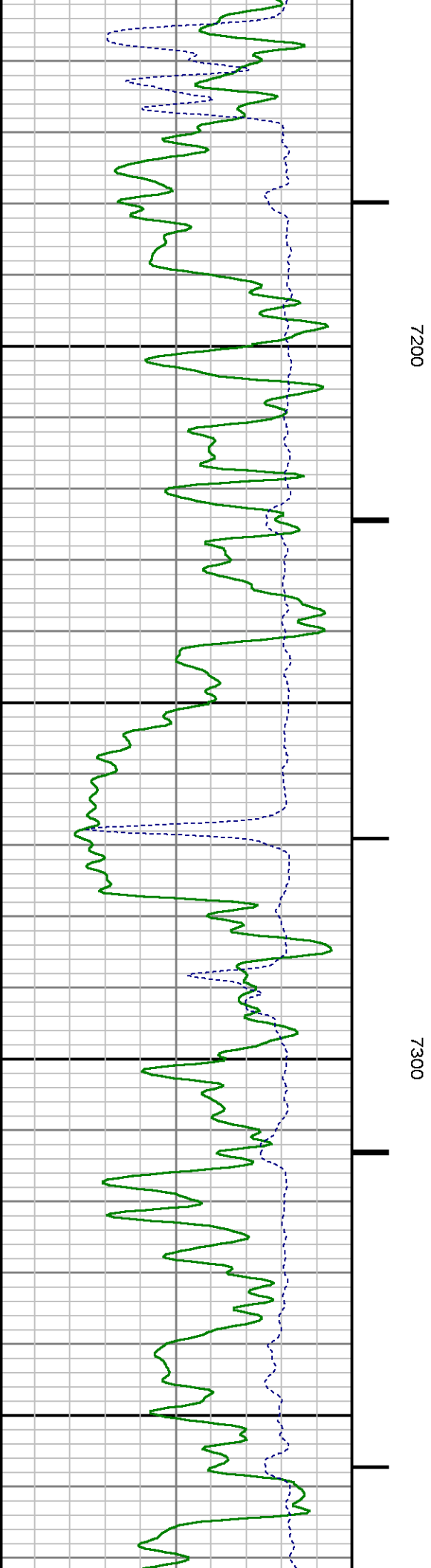
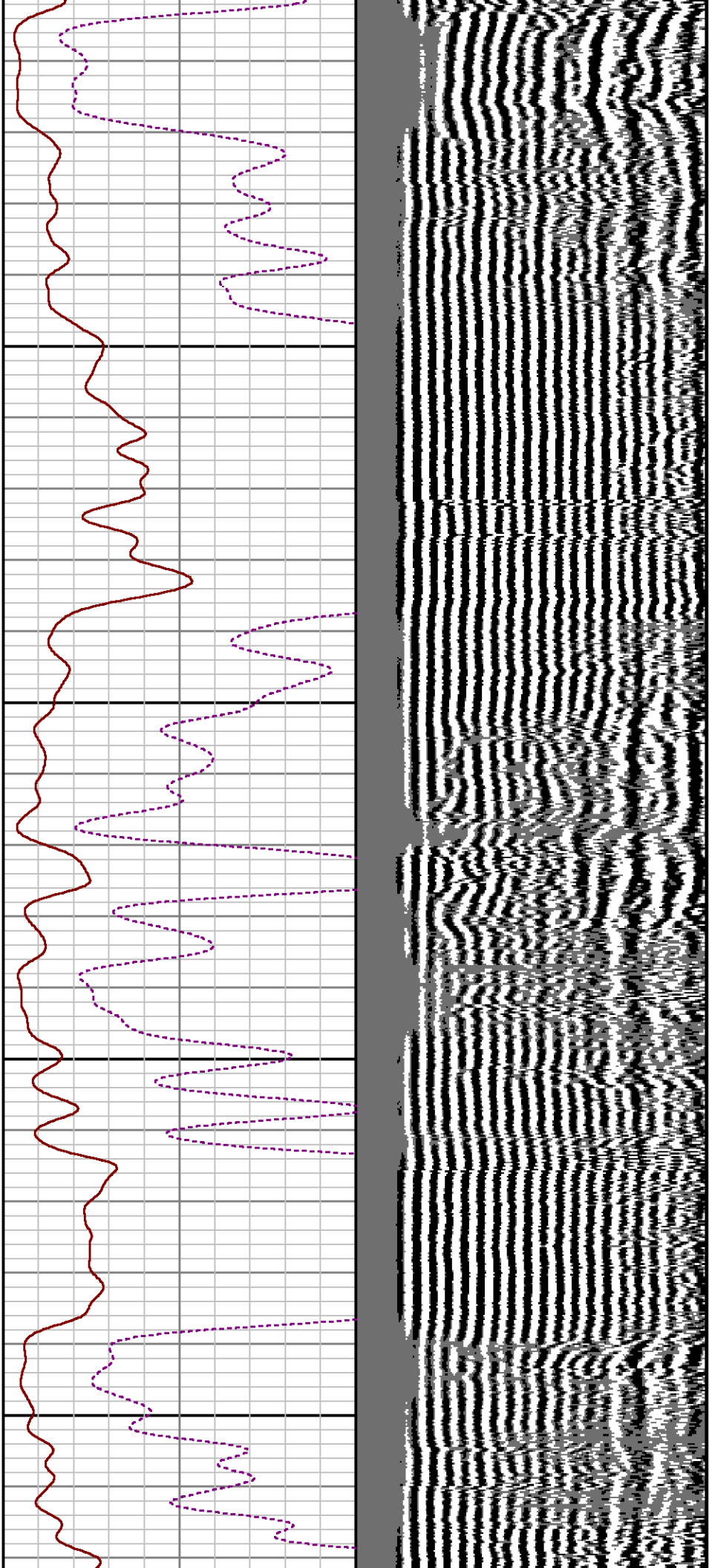
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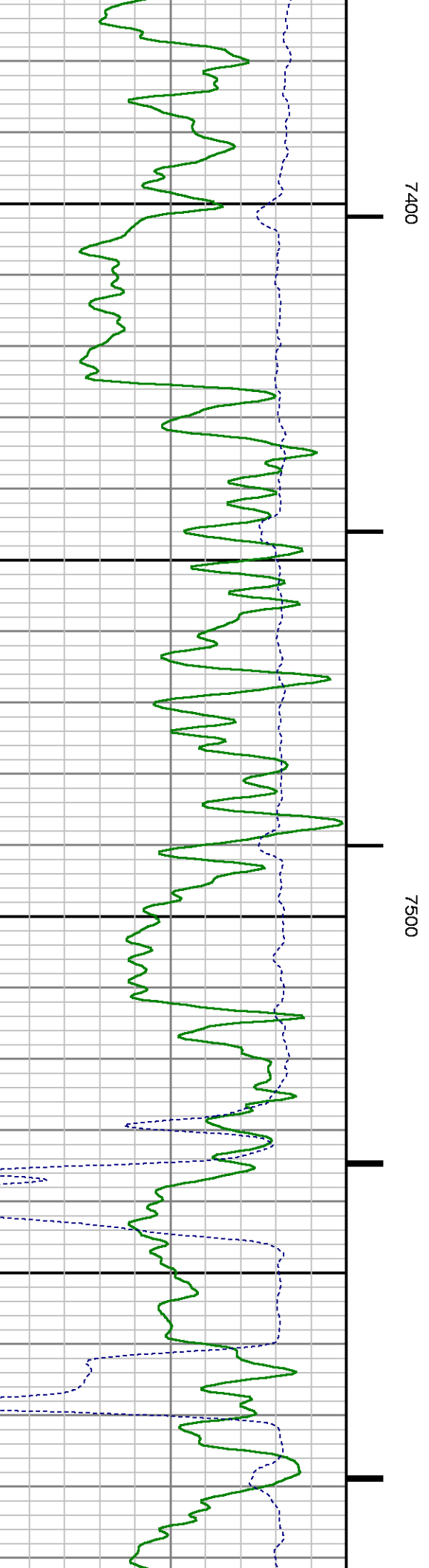
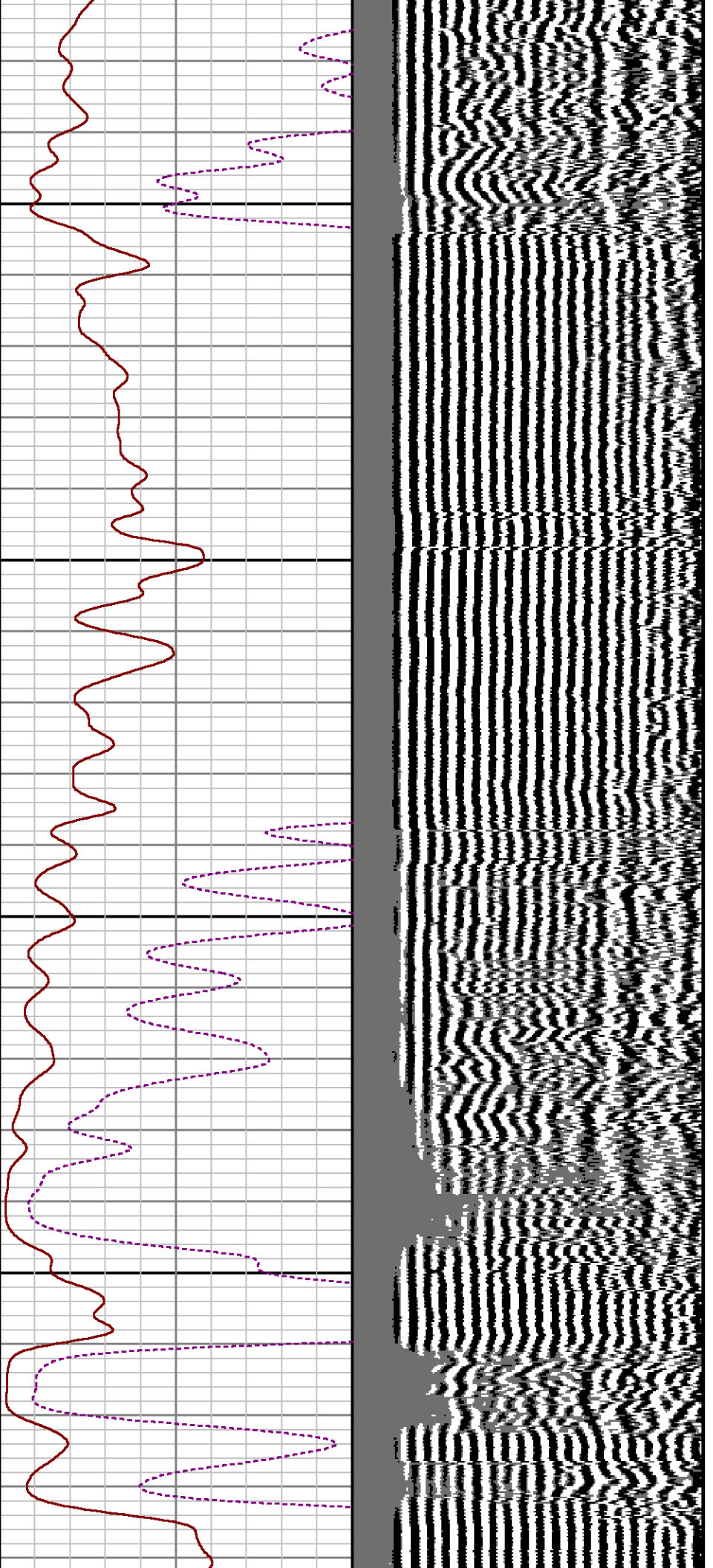
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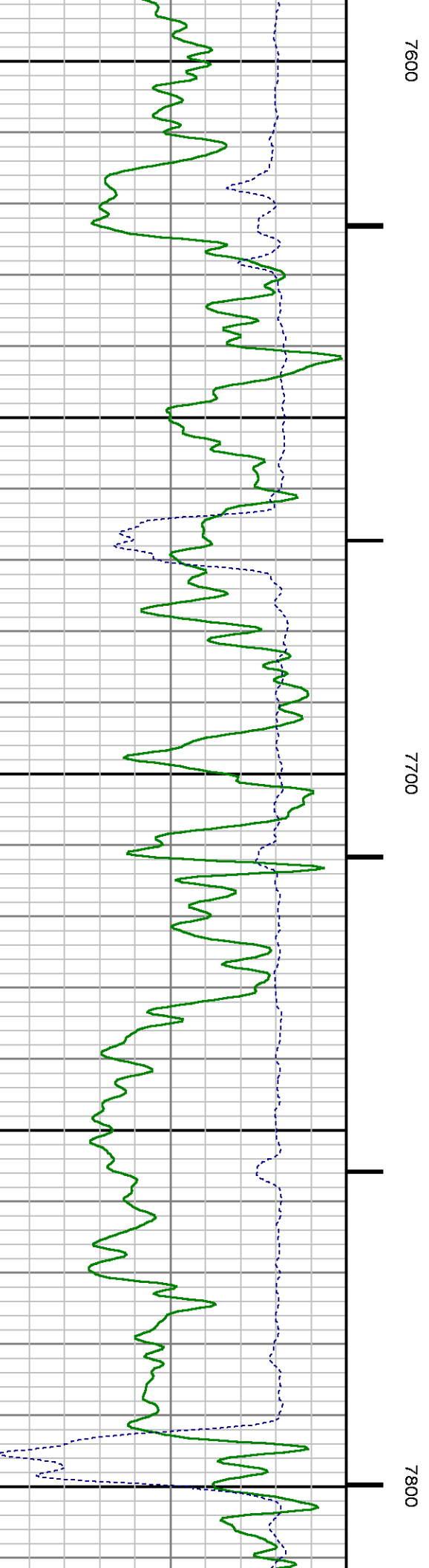
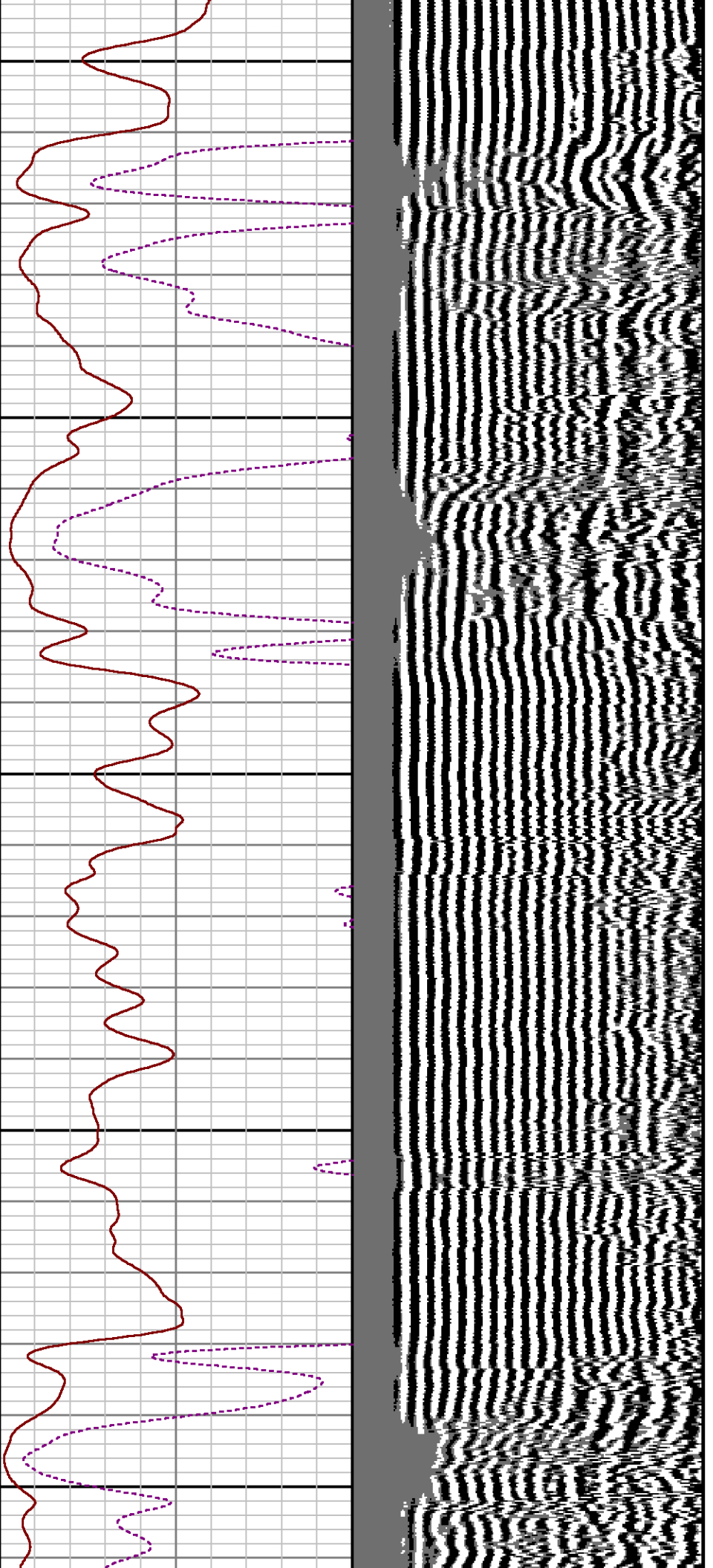


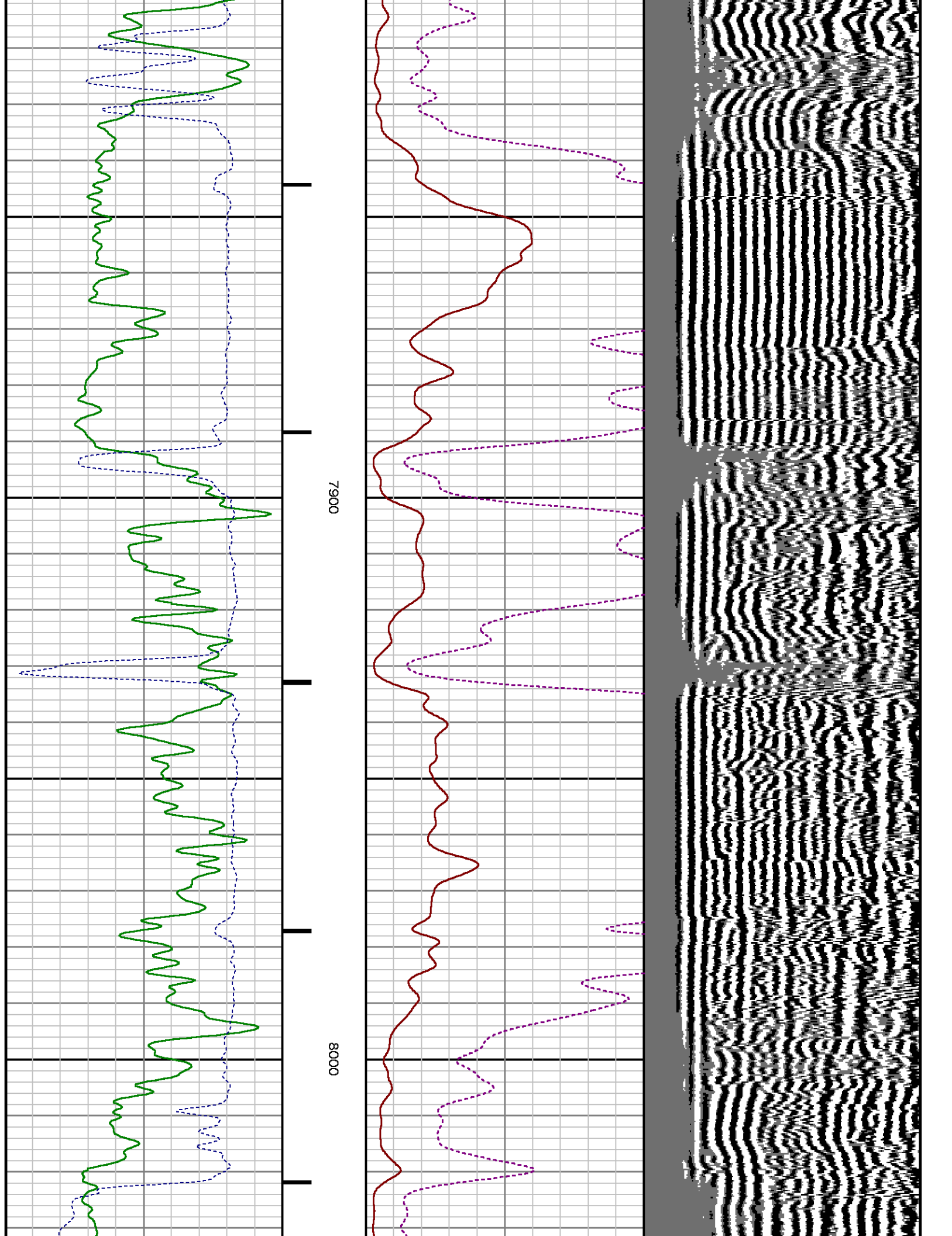


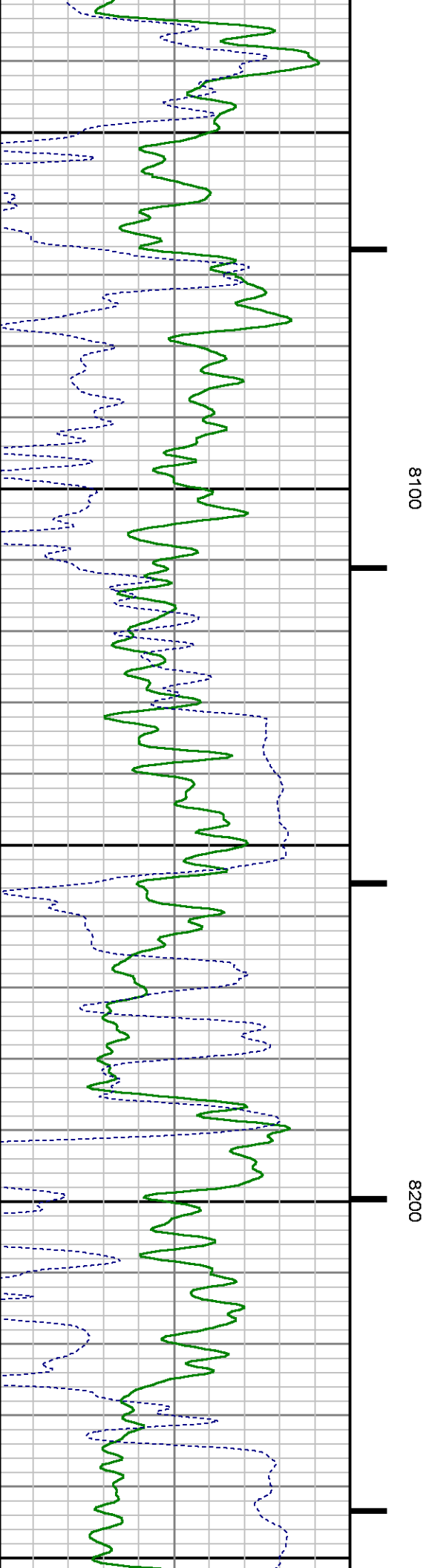
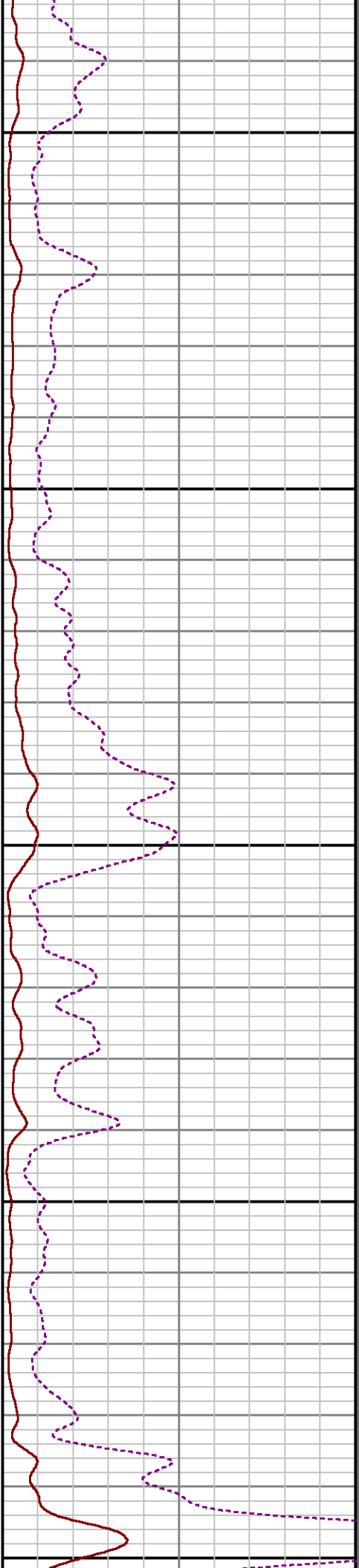
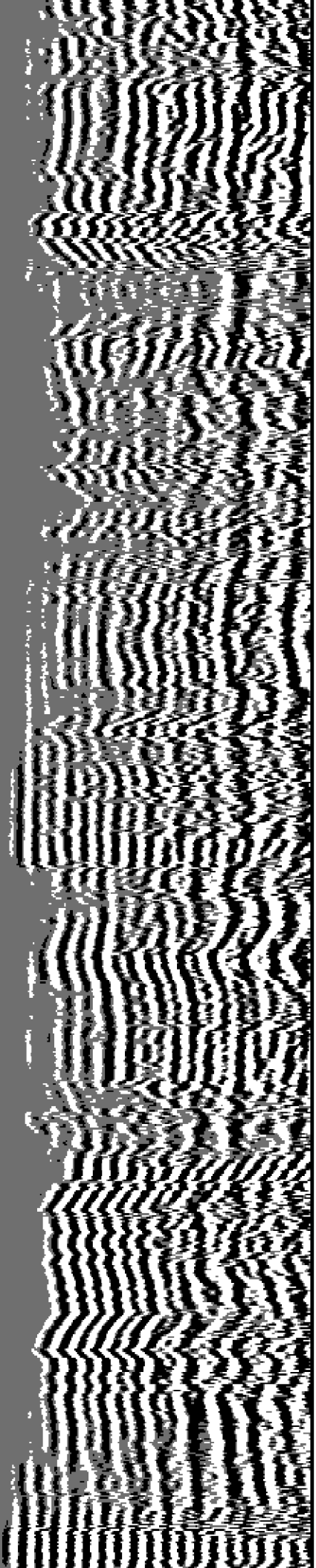


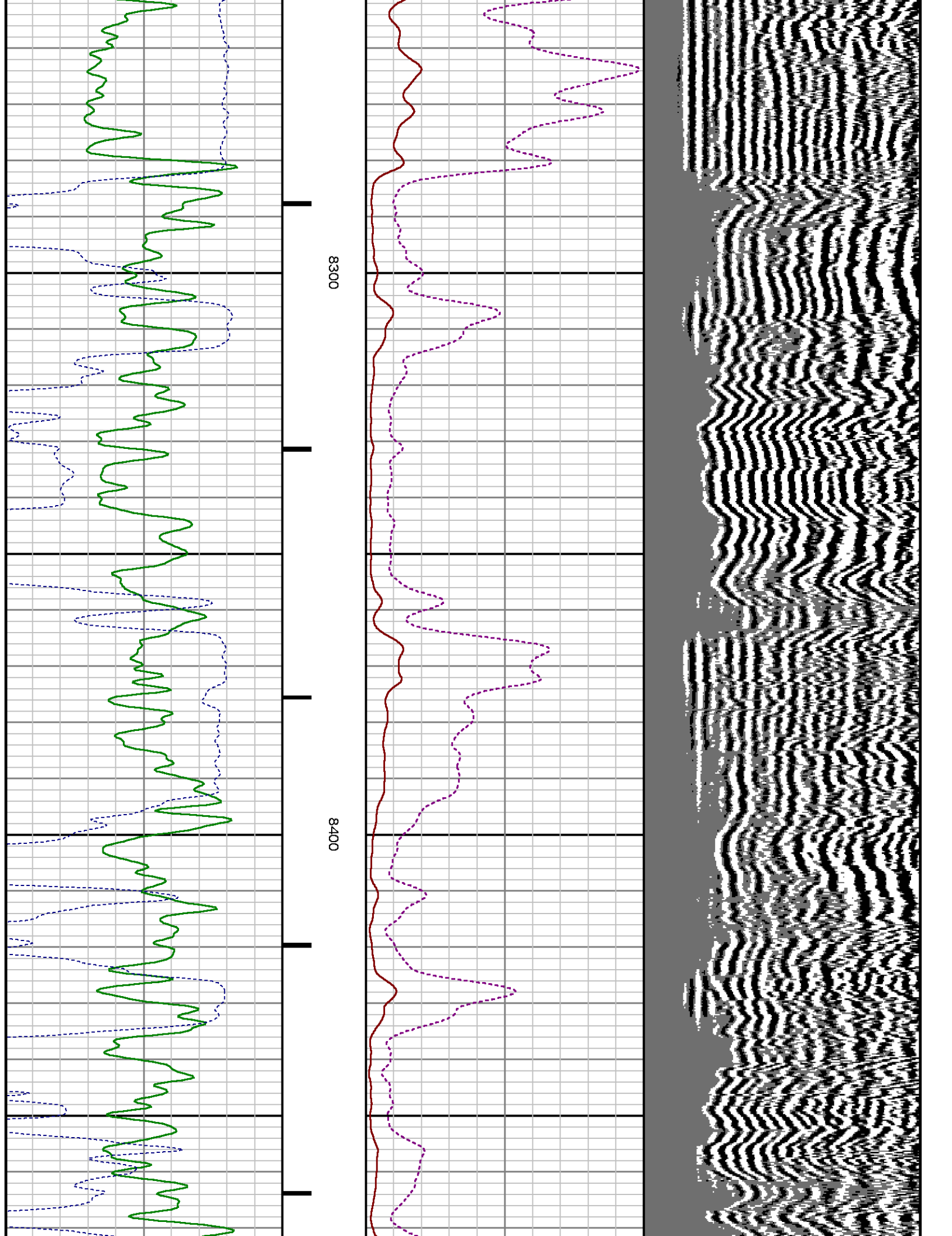


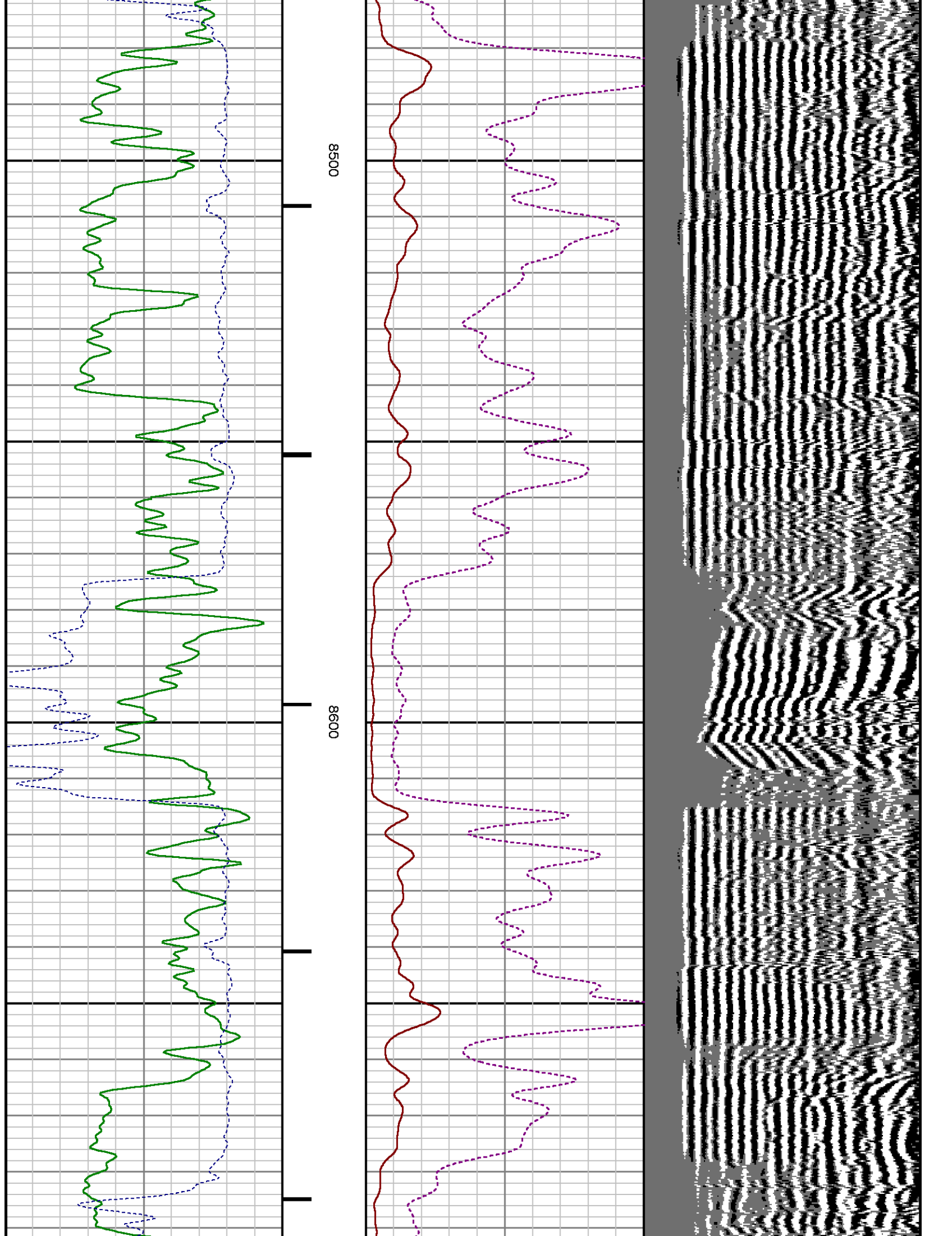


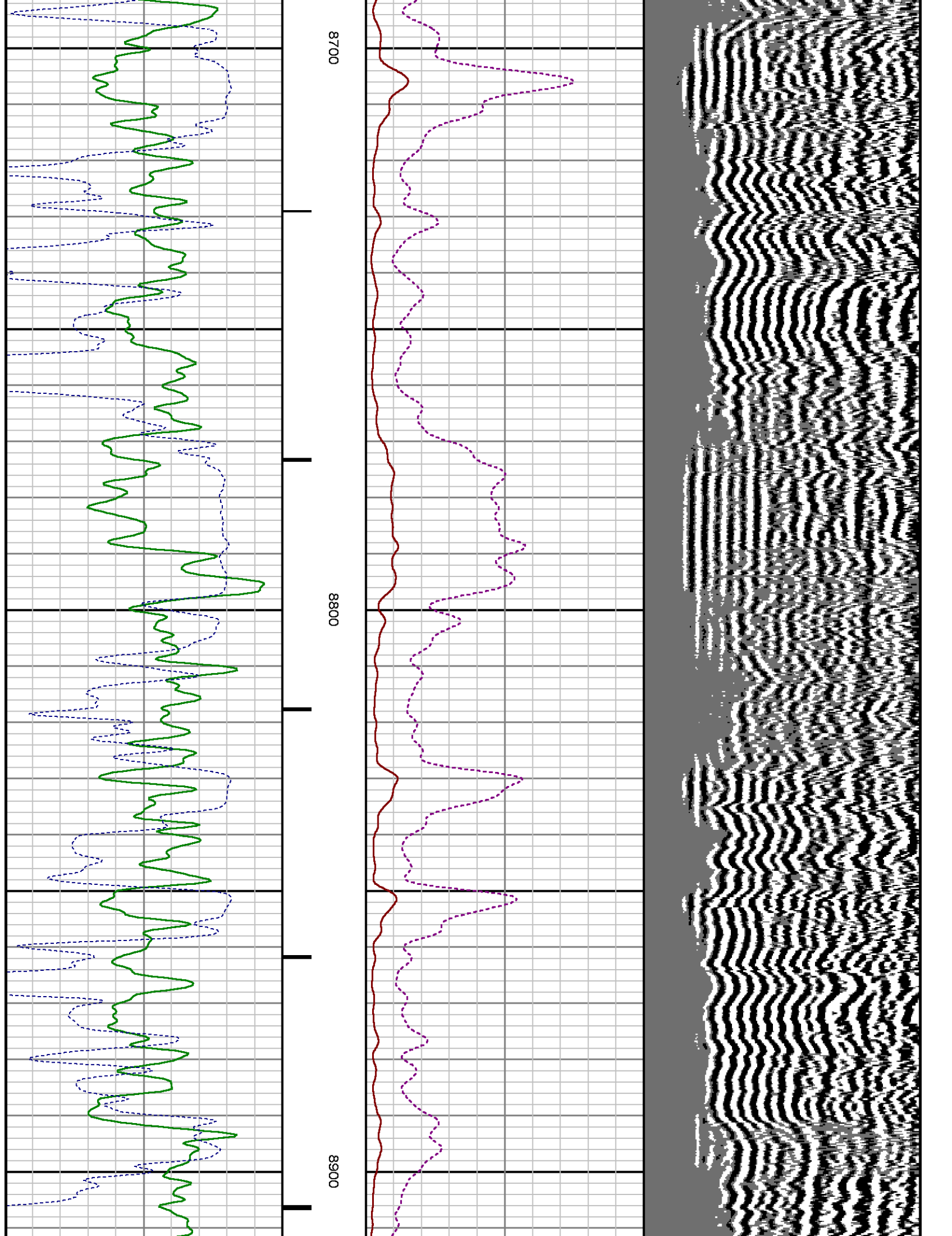


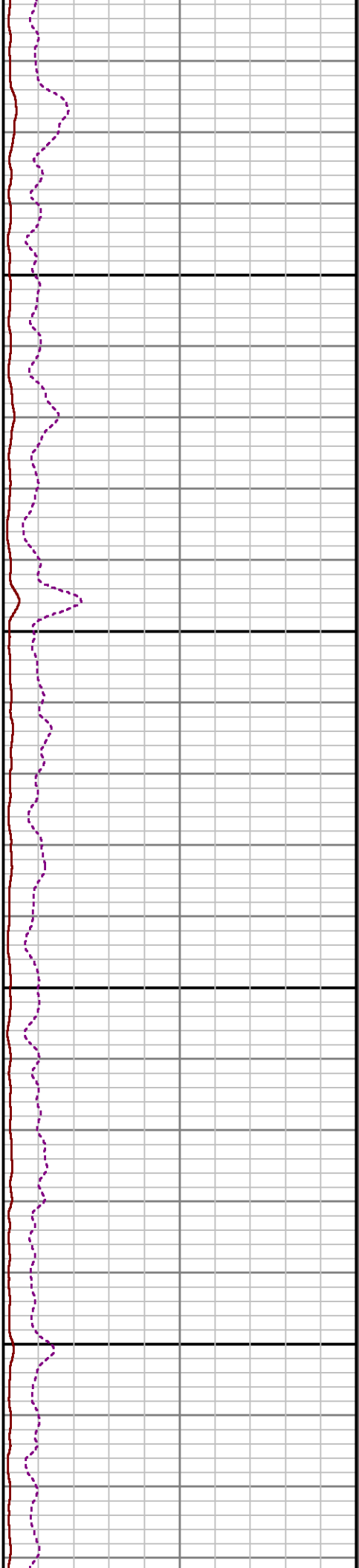
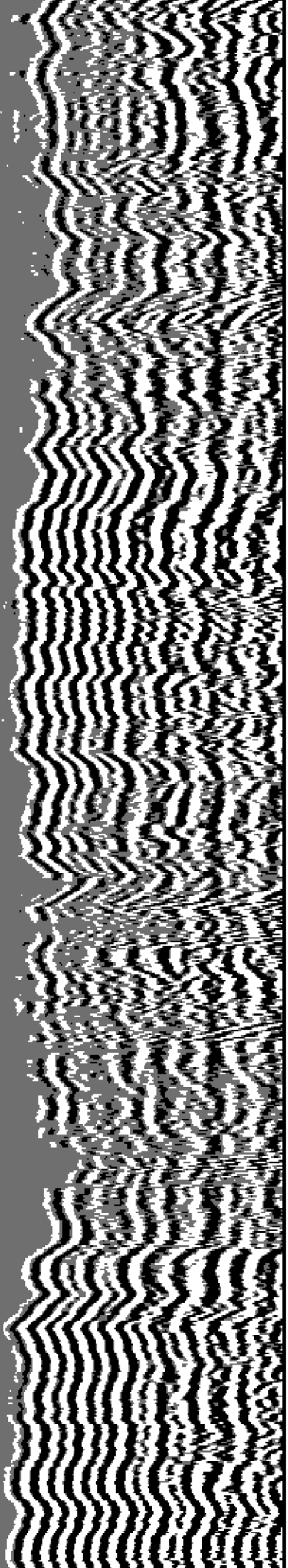






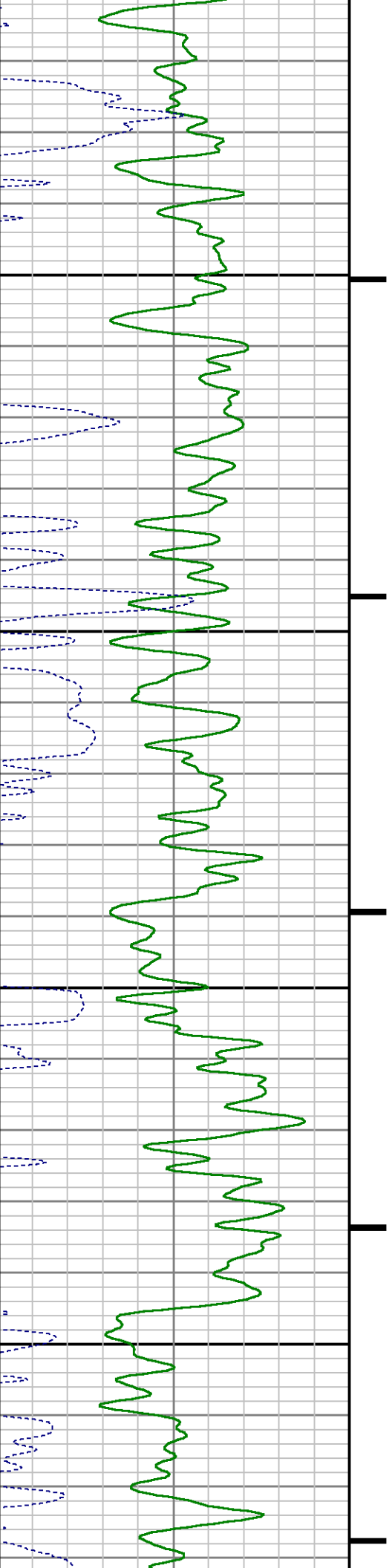


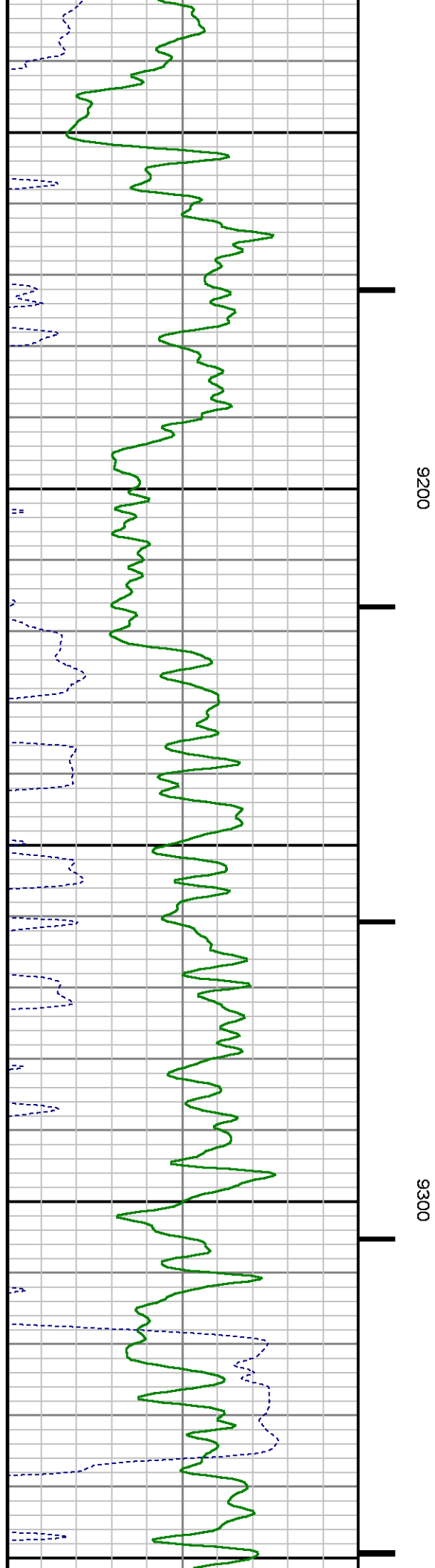
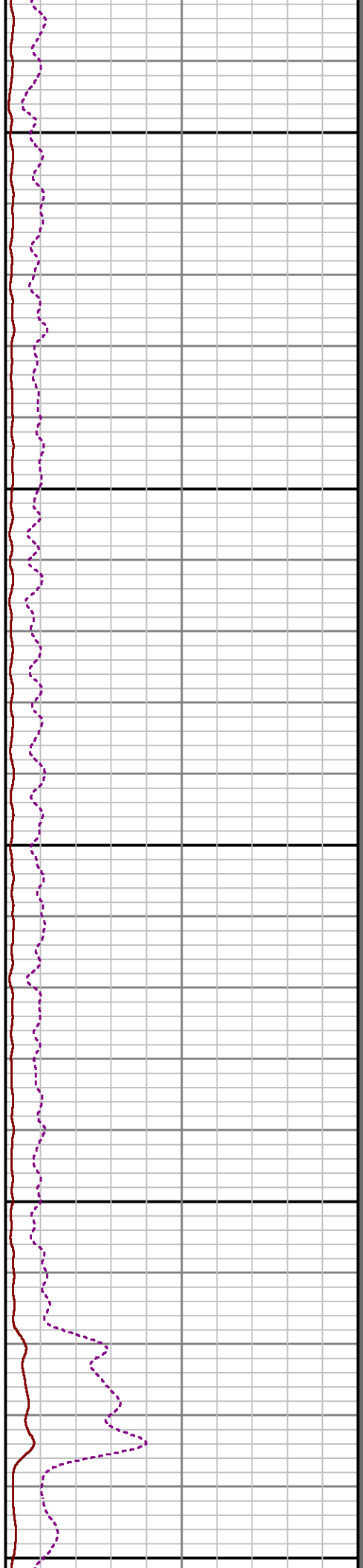
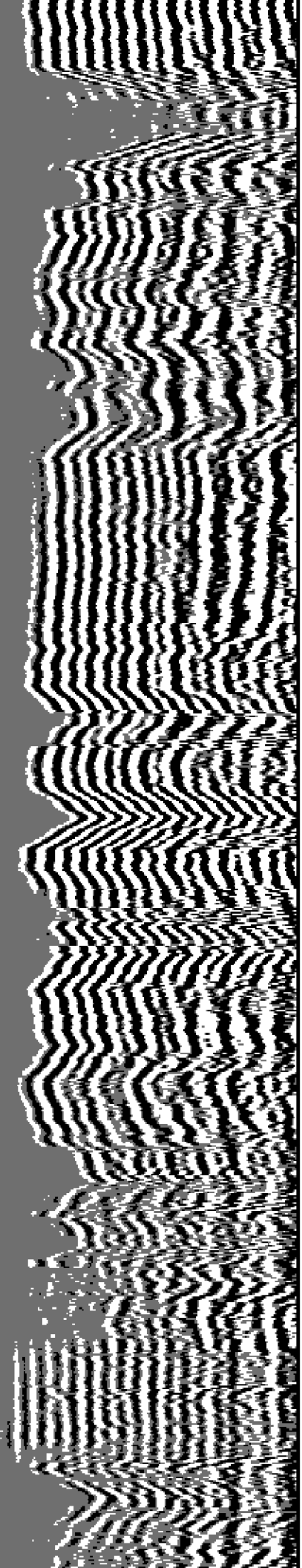


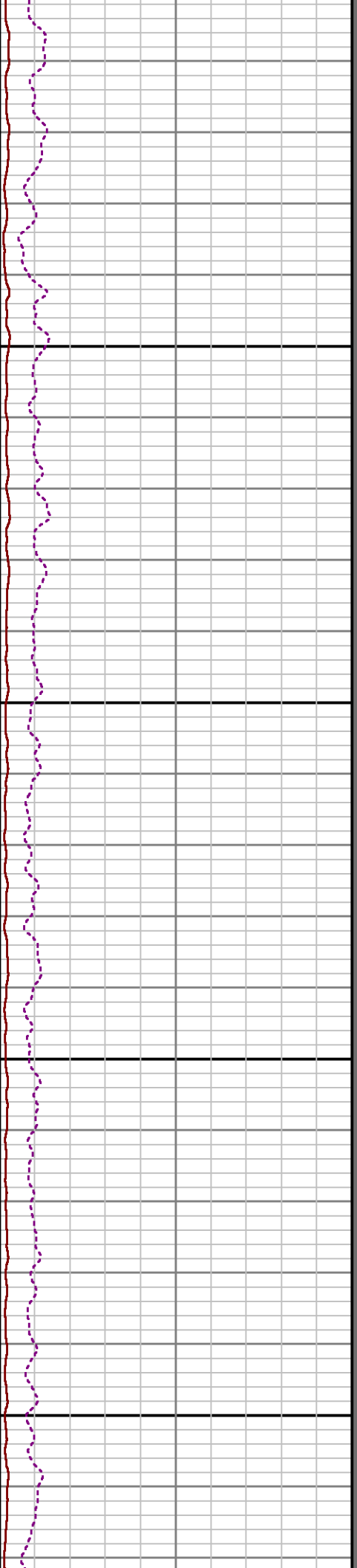
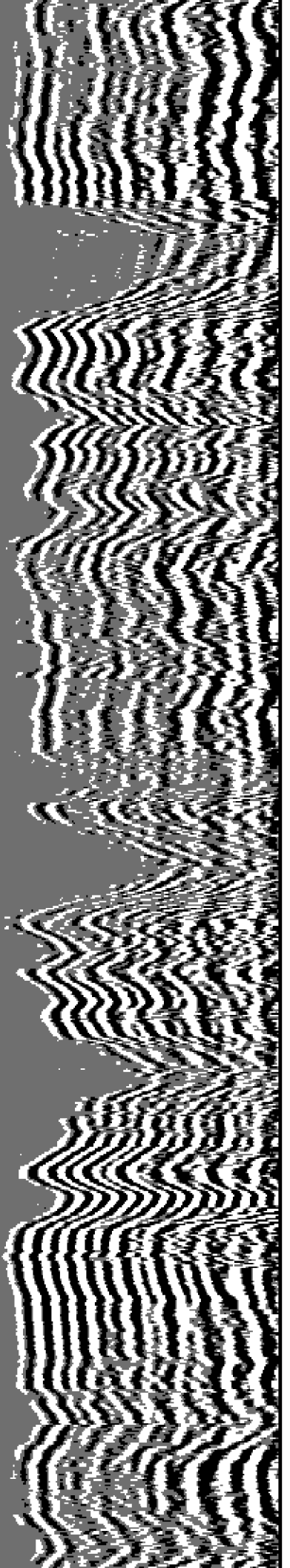


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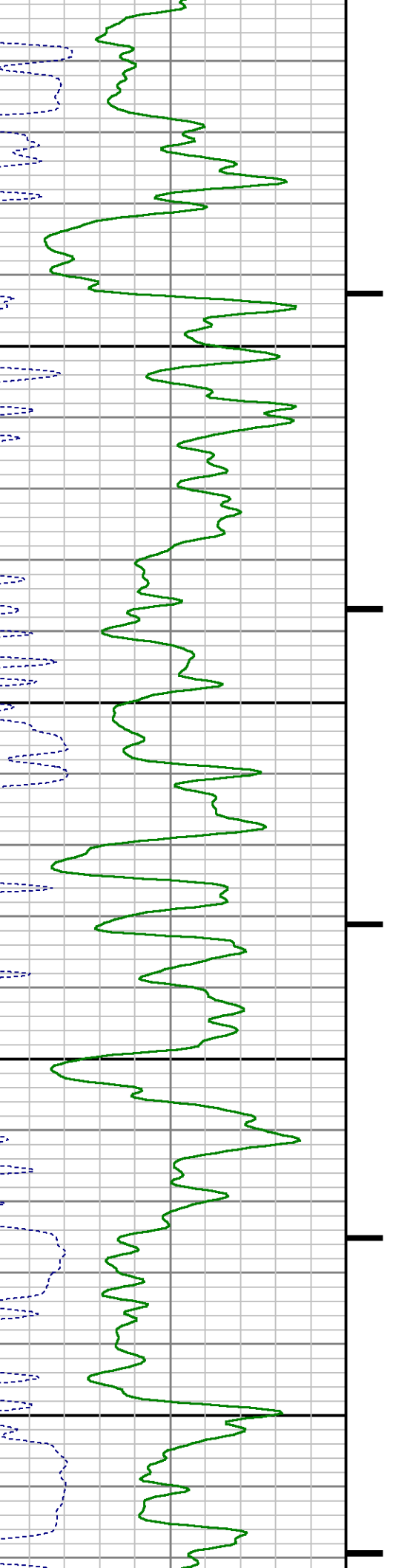


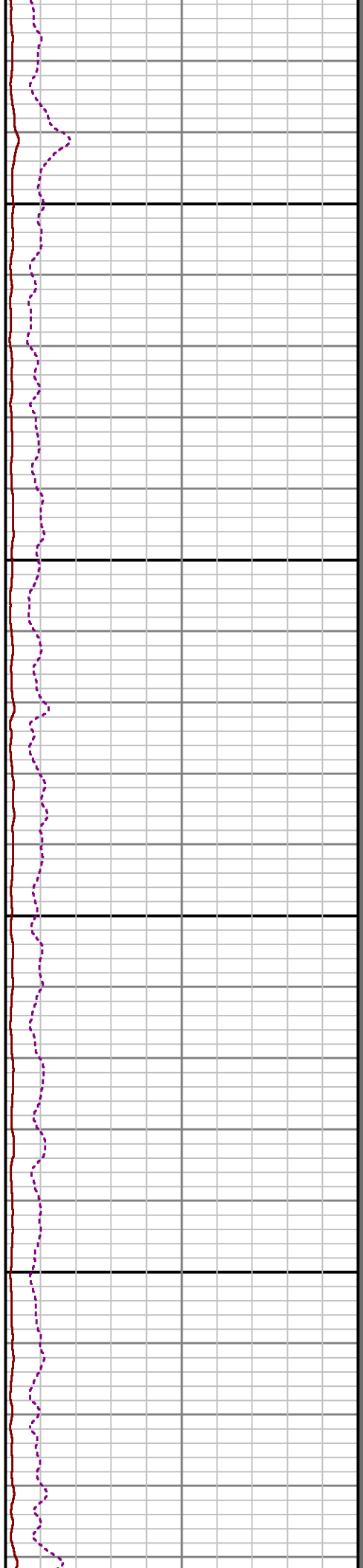
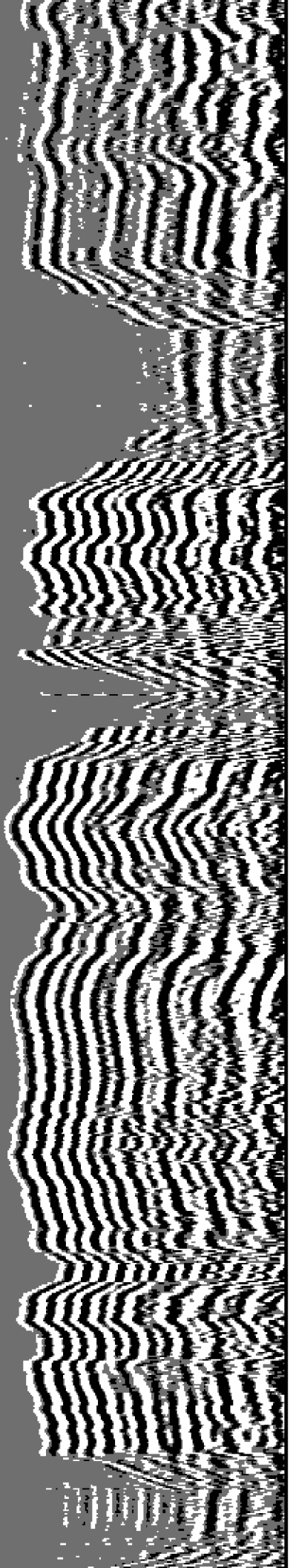




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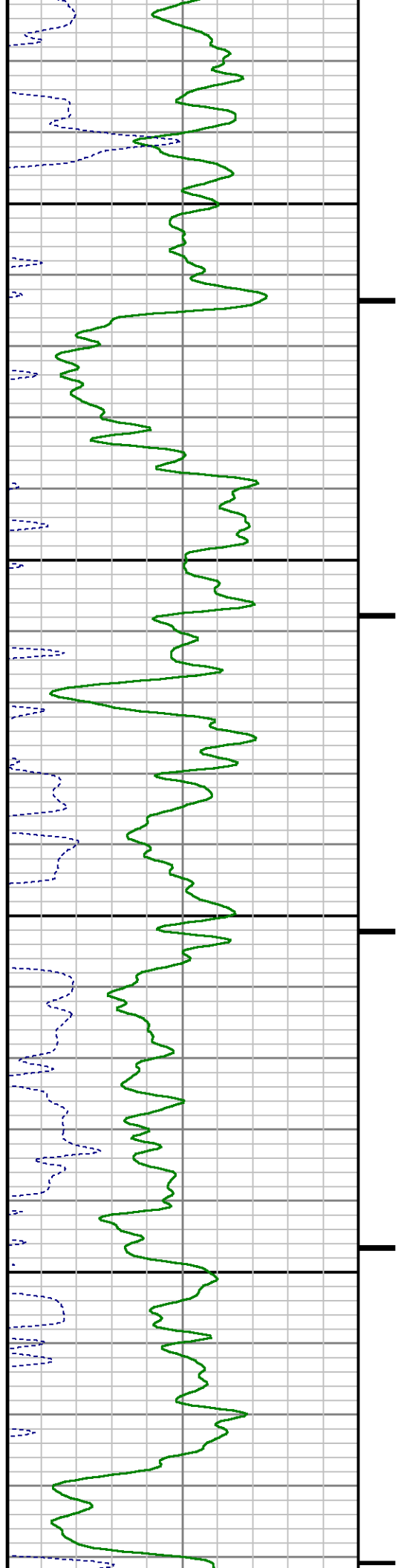
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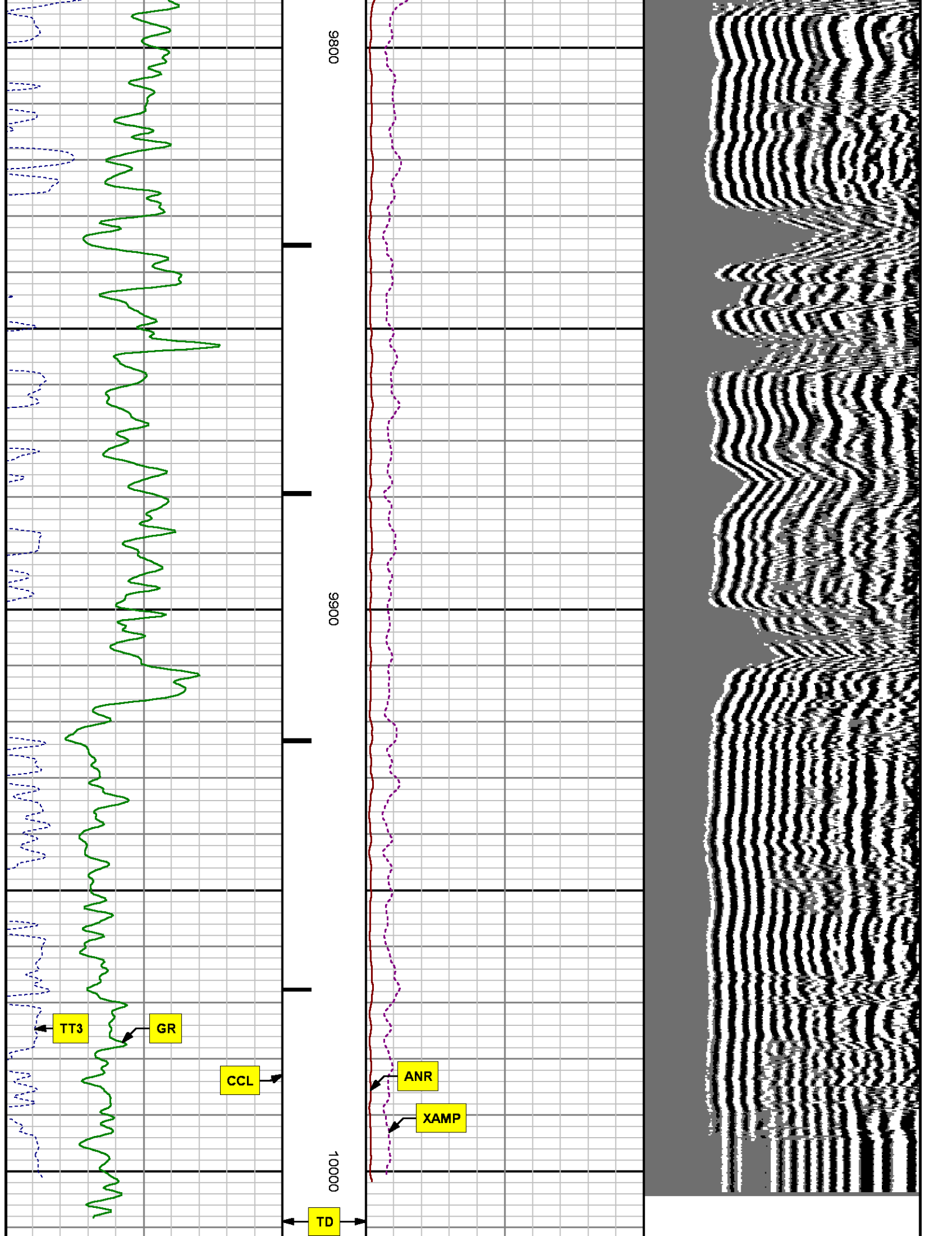


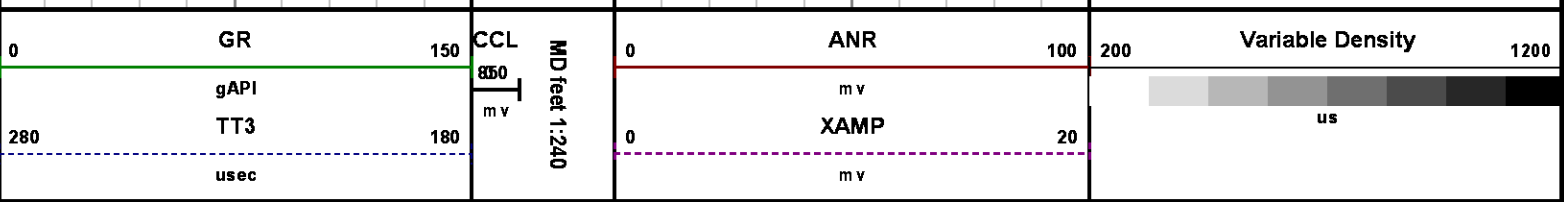


9600

9700







SECONDARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	26.499	9999.000
RAL	Amp Gate Start Near	195.000	usec	26.499	9999.000
RAL	Amp Gate Start Radial	195.000	usec	26.499	9999.000
RAL	Amp Gate Width Far	25.000	usec	26.499	9999.000
RAL	Amp Gate Width Near	25.000	usec	26.499	9999.000
RAL	Amp Gate Width Radial	25.000	usec	26.499	9999.000
RAL	casing od	4.500	inches	26.499	9999.000
RAL	casing wt	11.600	lbm/ft	26.499	9999.000
RAL	FB Start Far	291.900	usec	26.499	9999.000
RAL	FB Start Near	175.391	usec	26.499	9999.000
RAL	FB Start Radial	175.391	usec	26.499	9999.000
RAL	FB Thresh Far	10.000	m v	26.499	9999.000
RAL	FB Thresh Near	4.000	m v	26.499	9999.000
RAL	FB Thresh Radial	4.000	m v	26.499	9999.000
RAL	Fluid Travel Time	200.000	usec/ft	26.499	9998.874

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
		AFAR	SIG	TT5			
1426XA	-15.750						

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

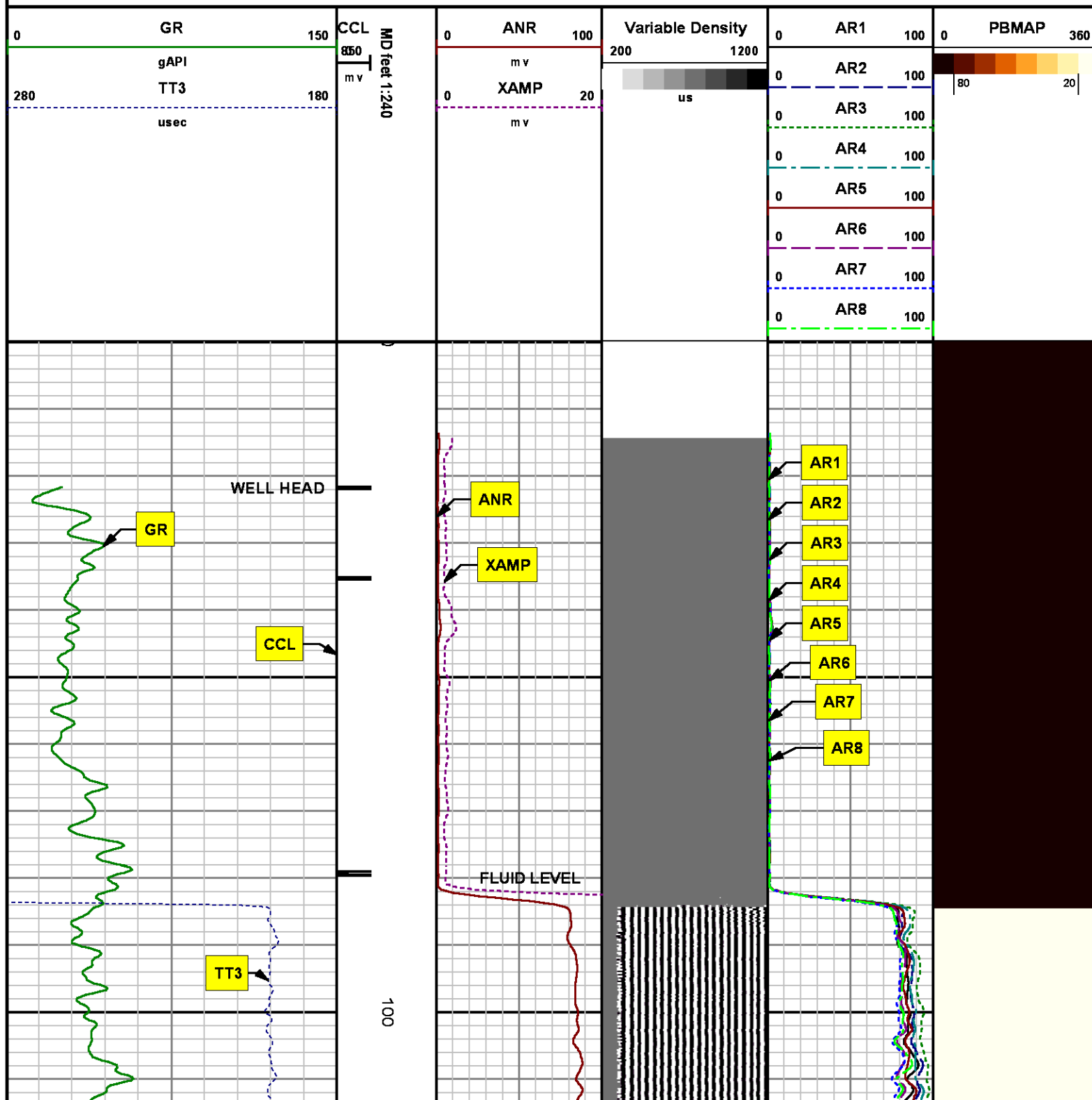
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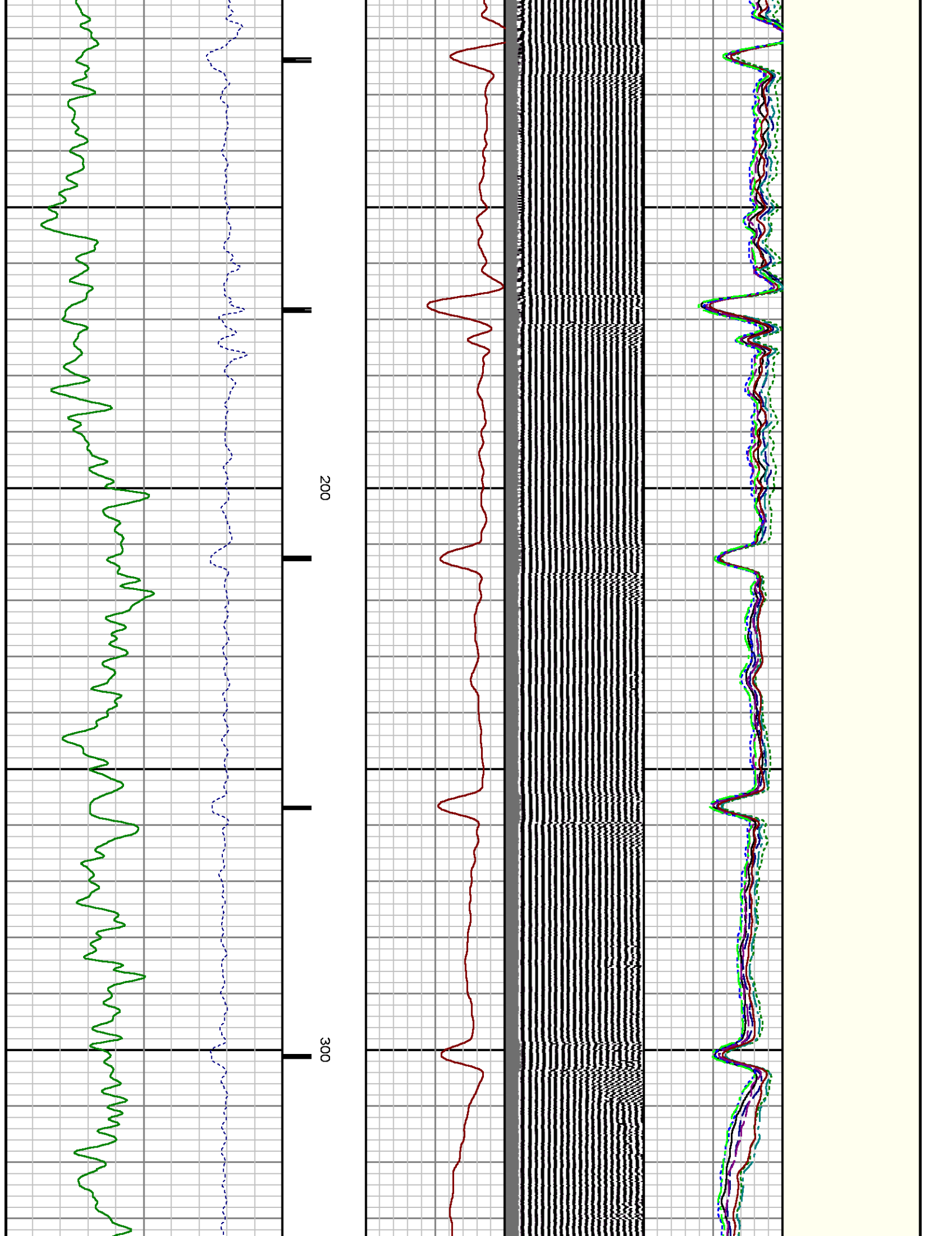
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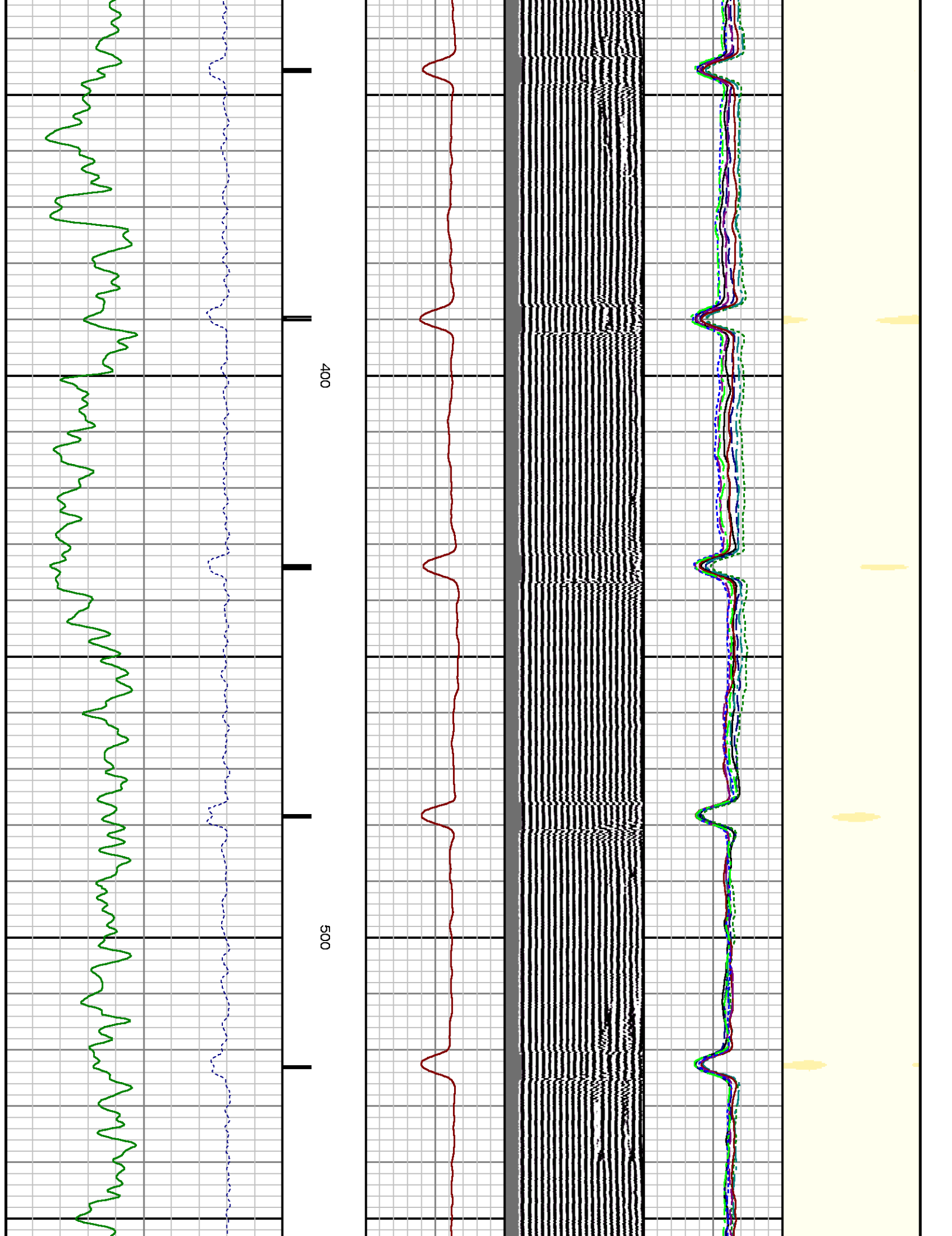
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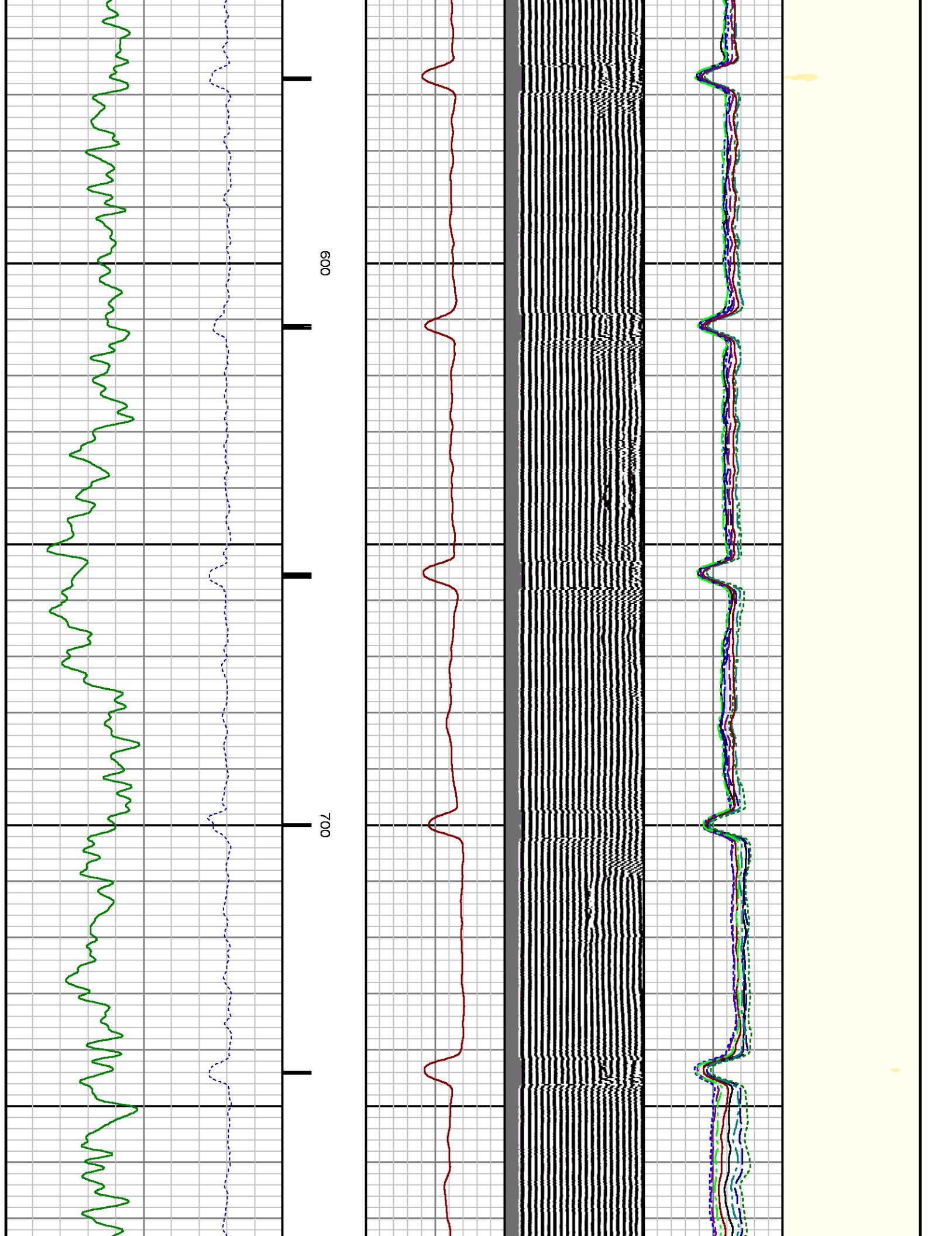
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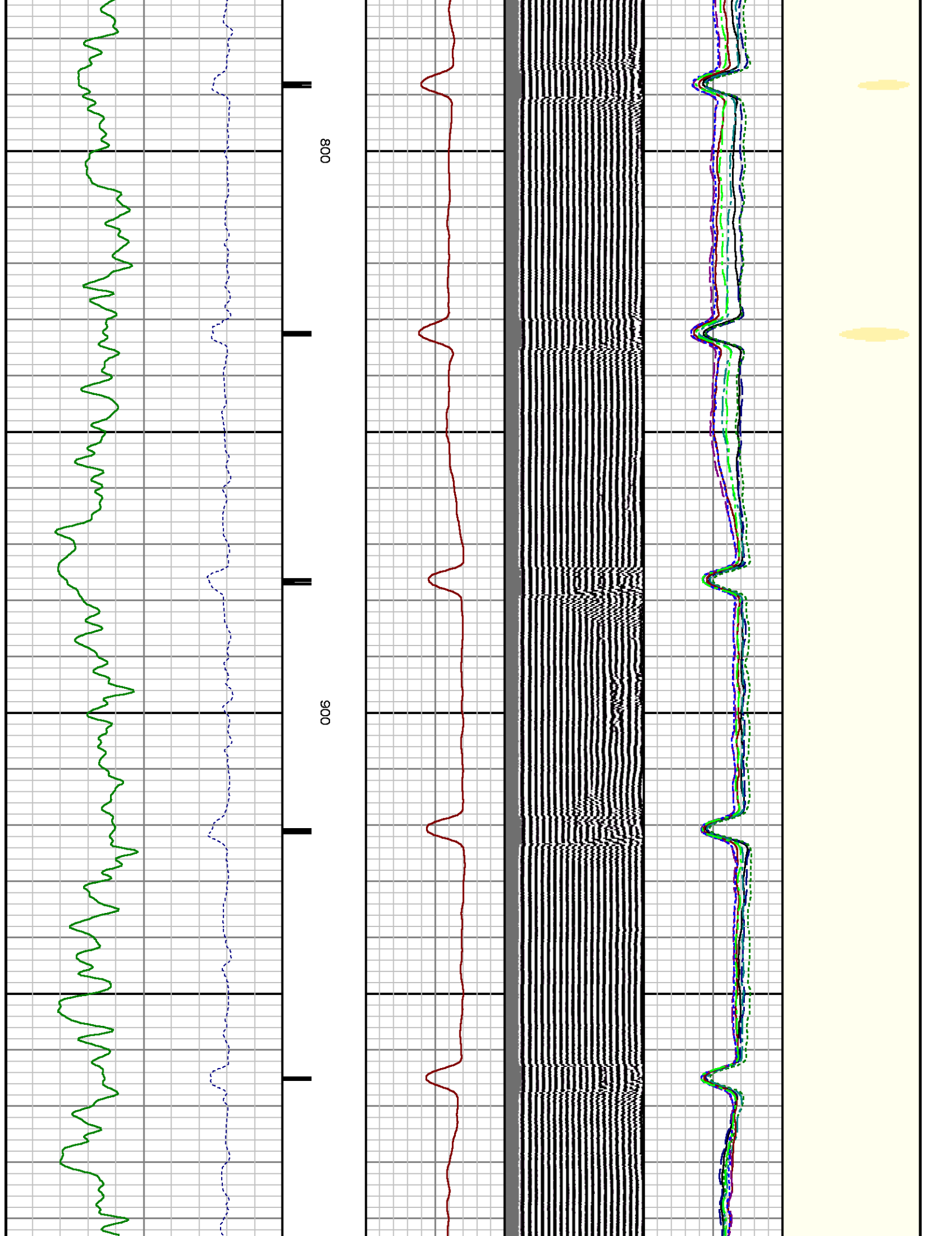
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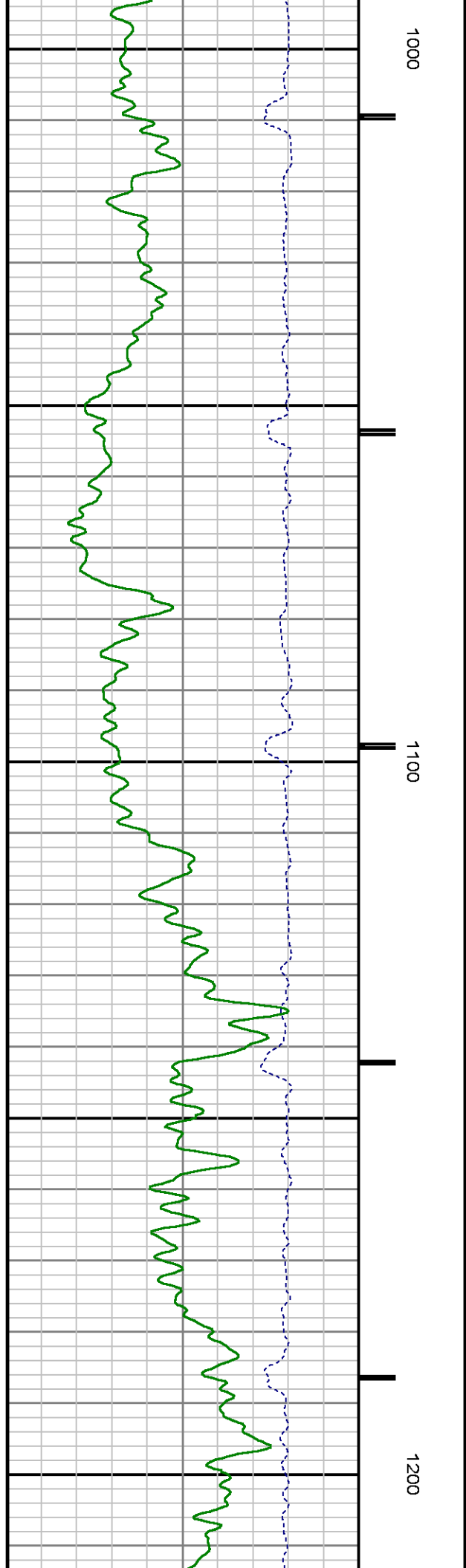
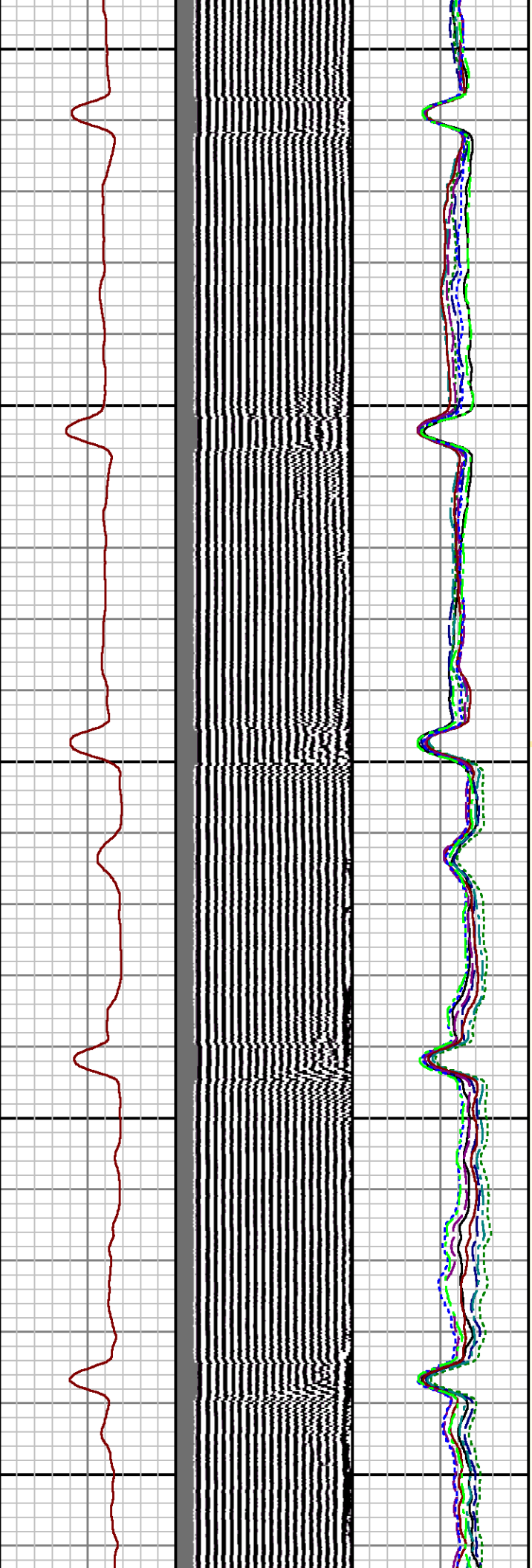
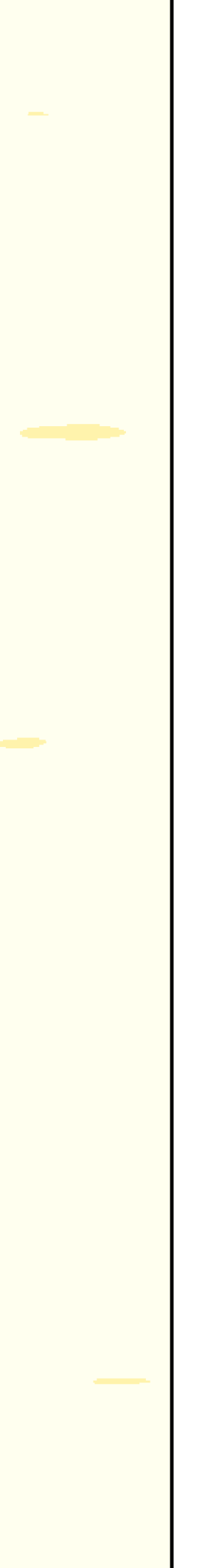


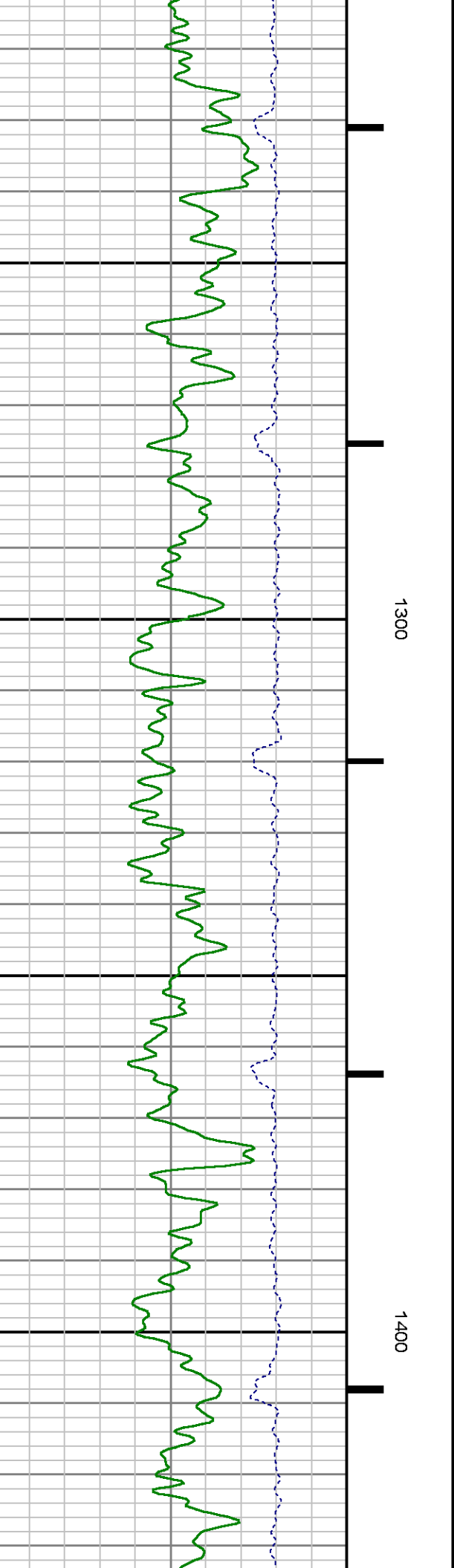
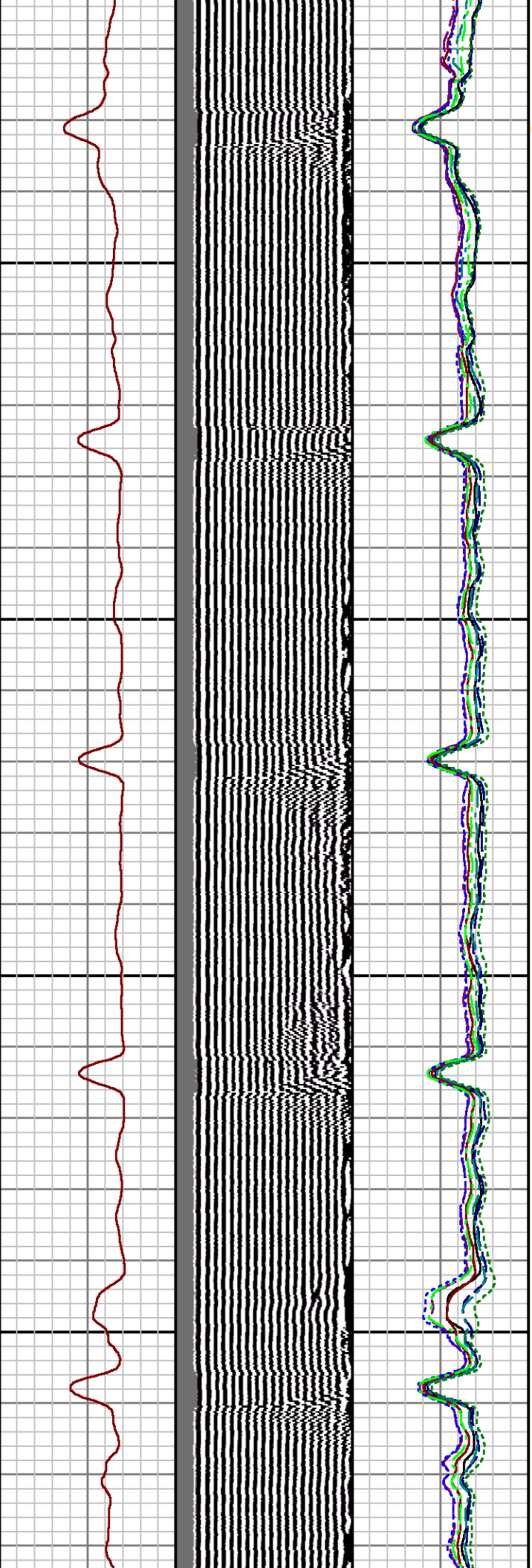


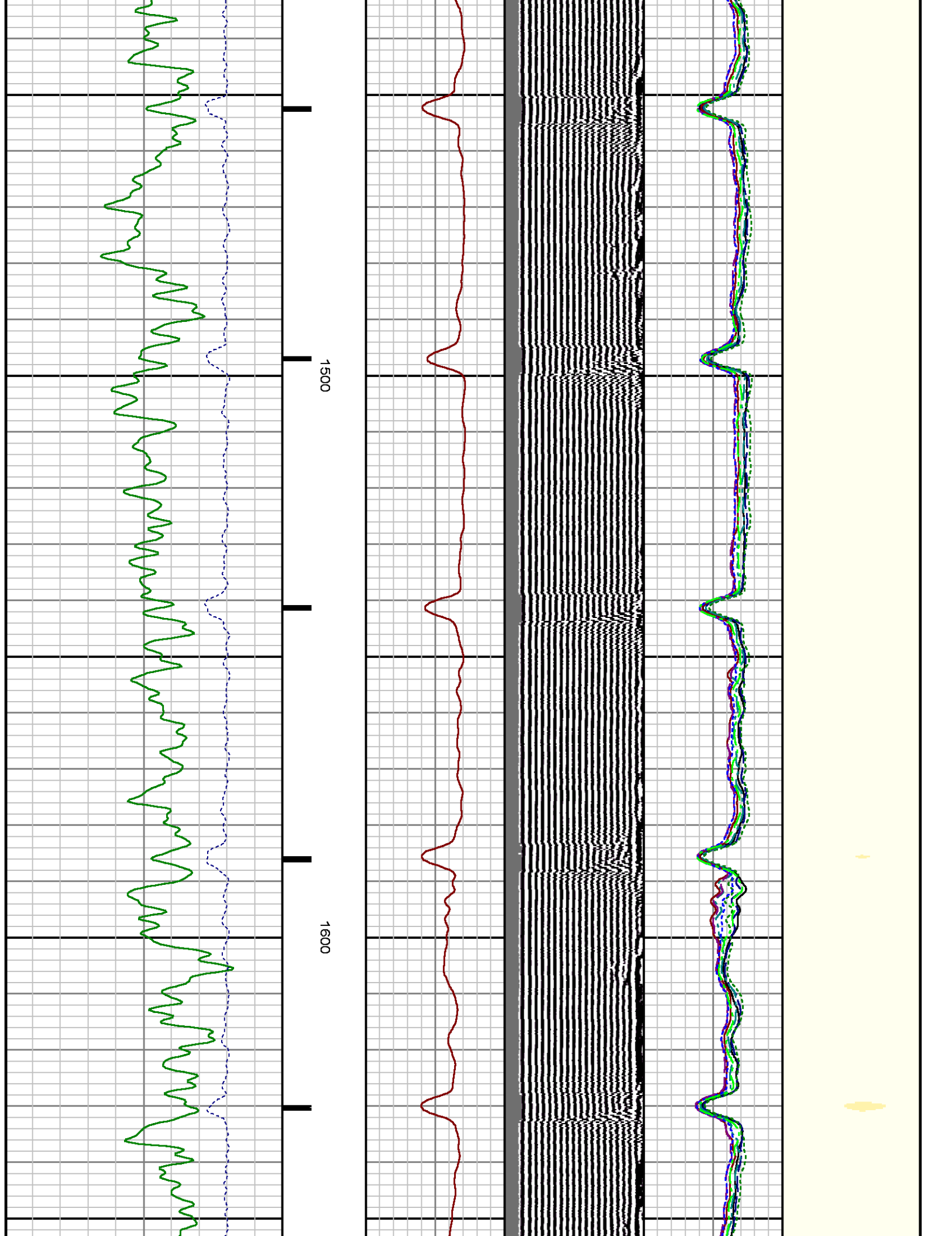


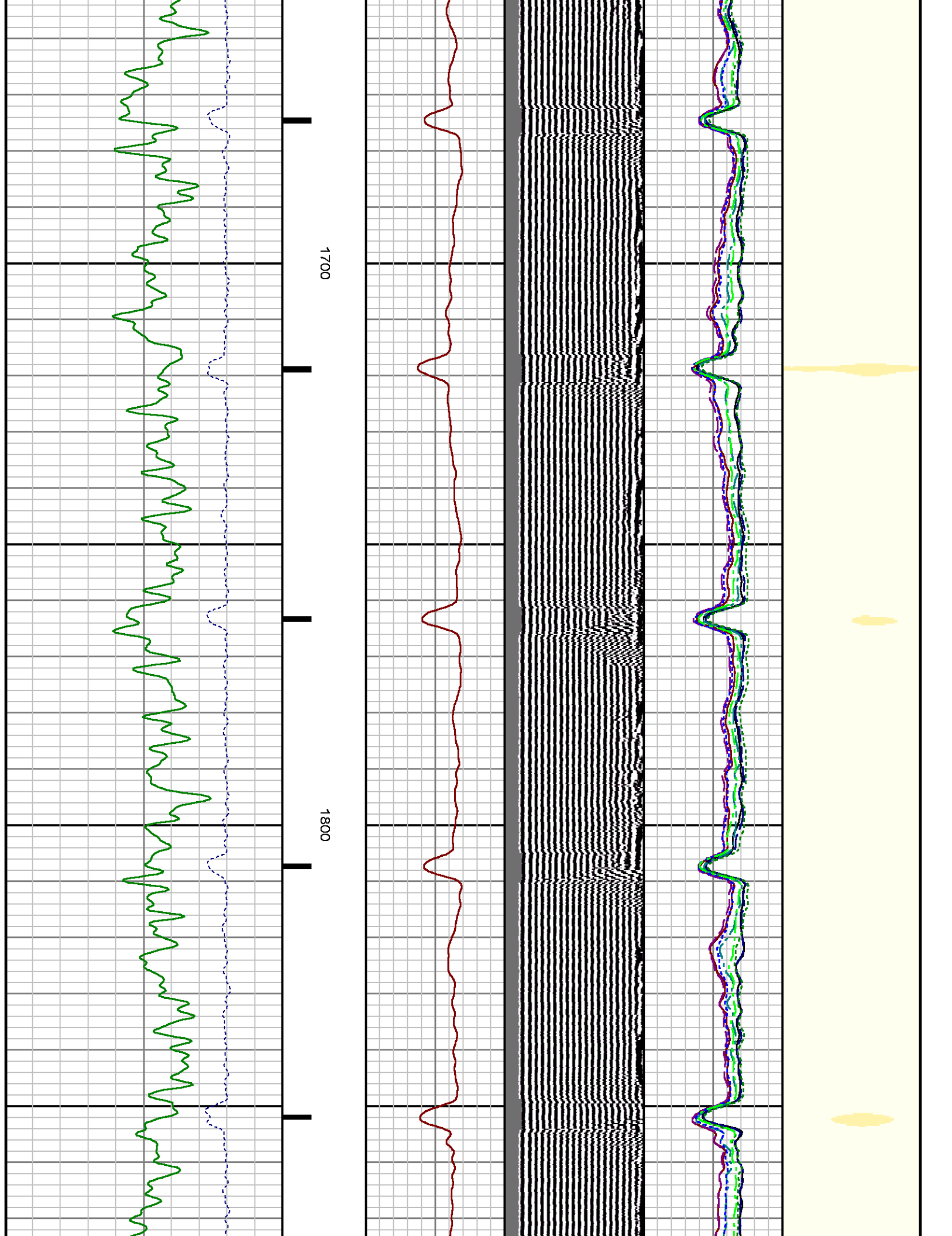


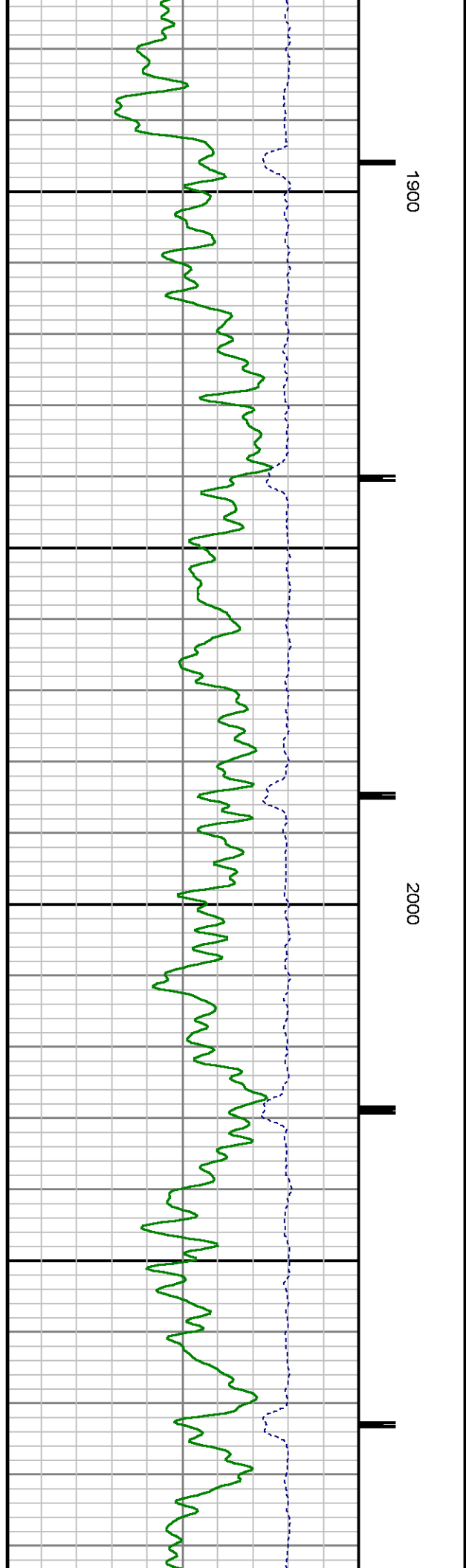
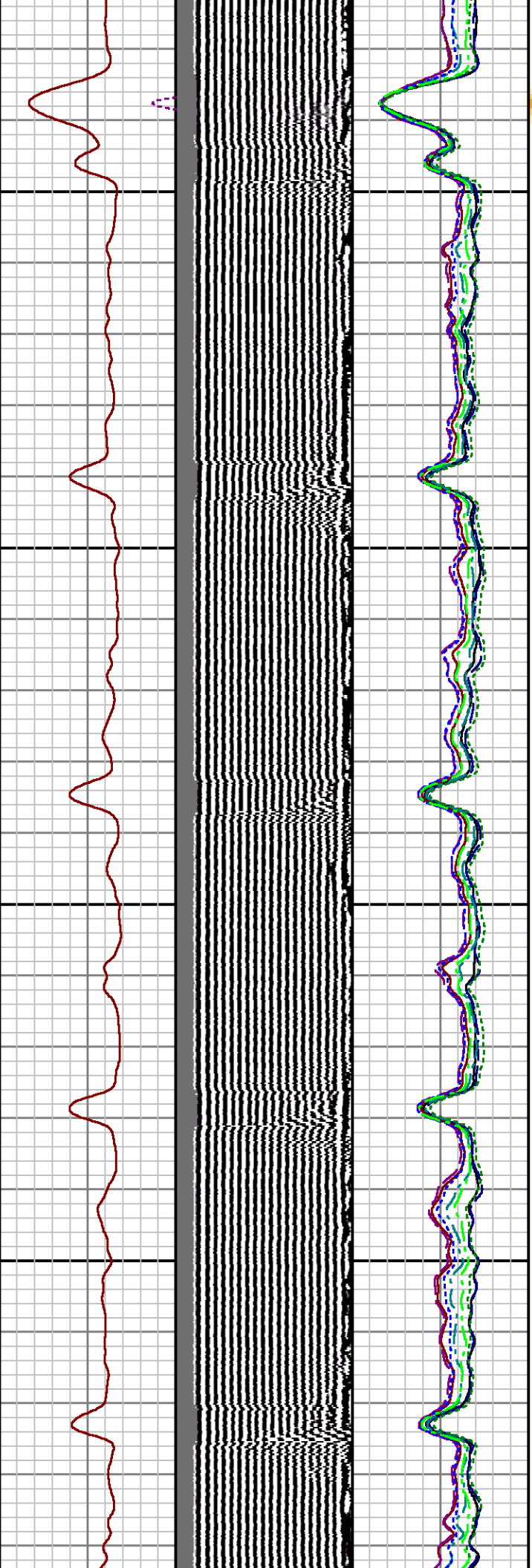
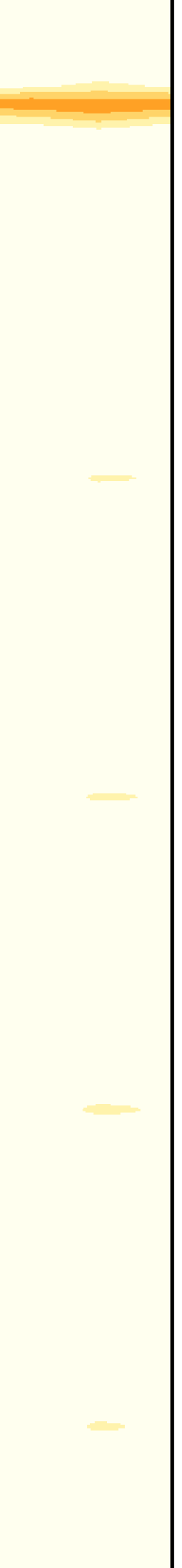


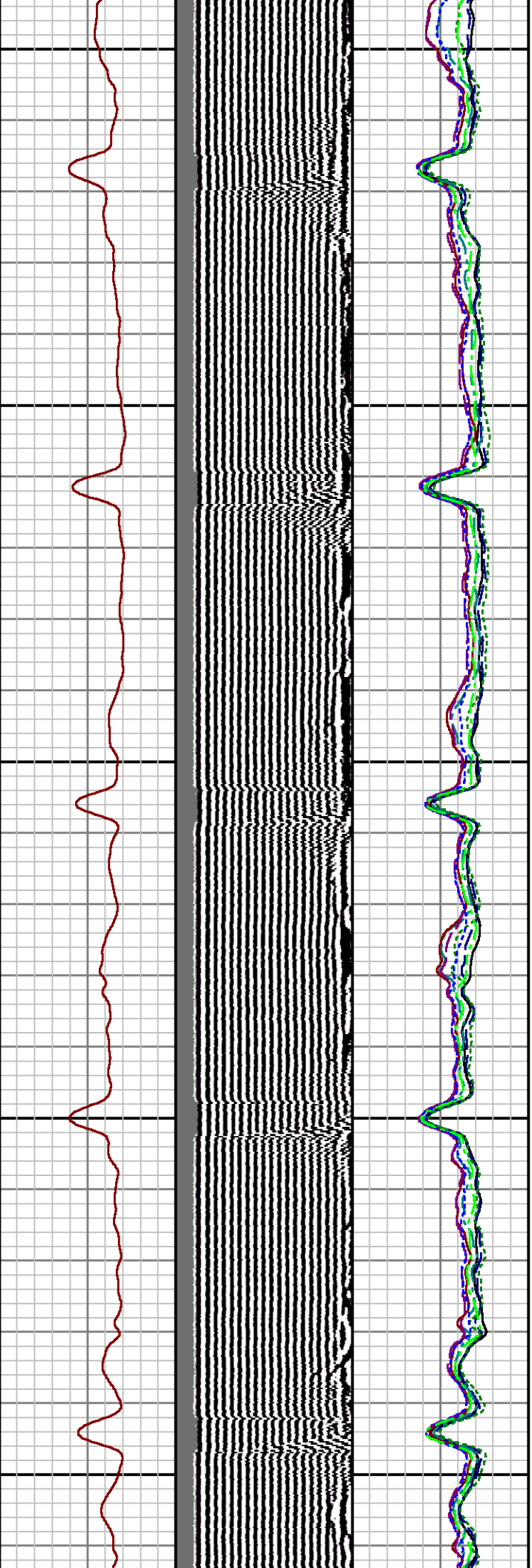








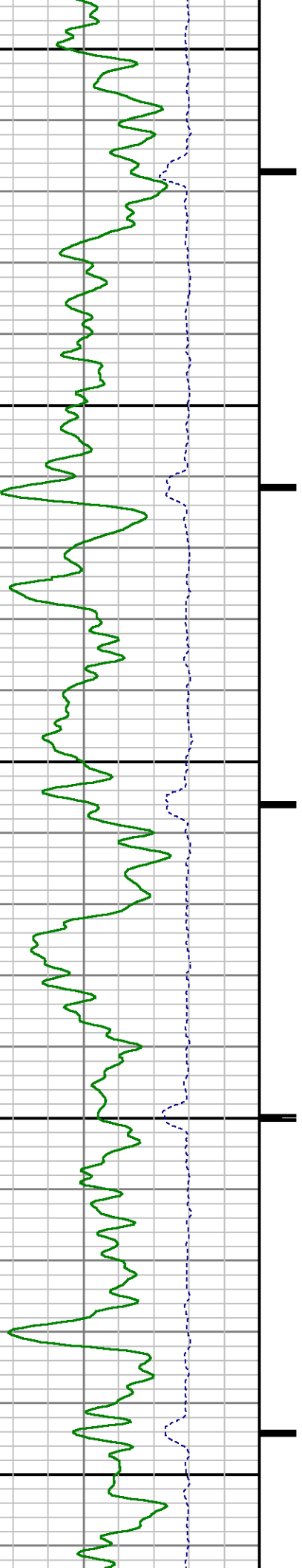


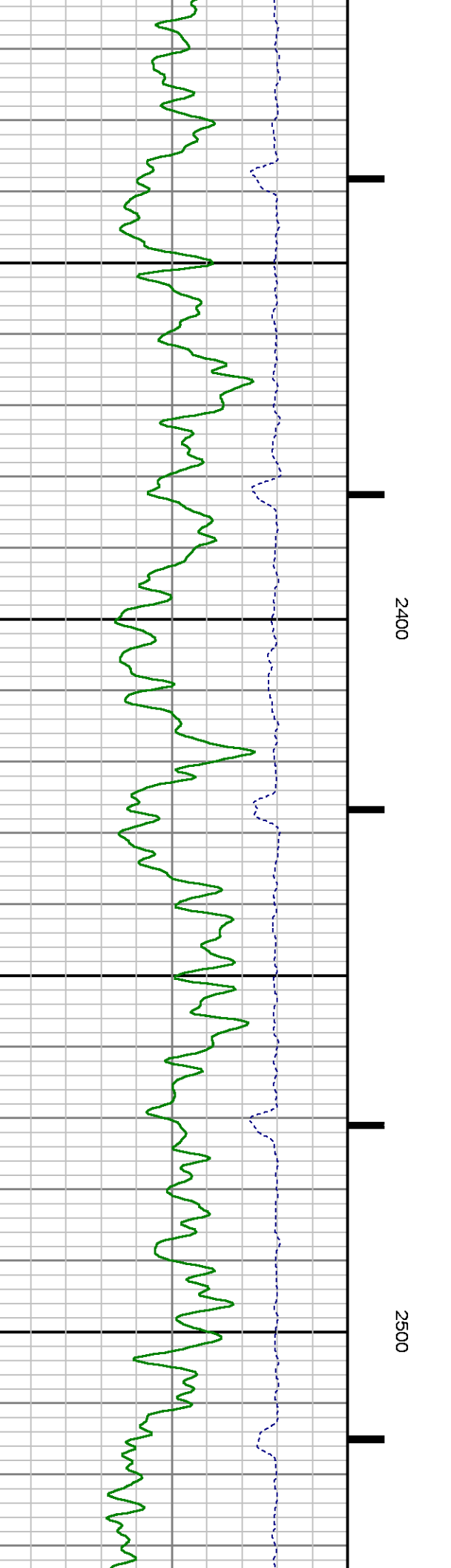
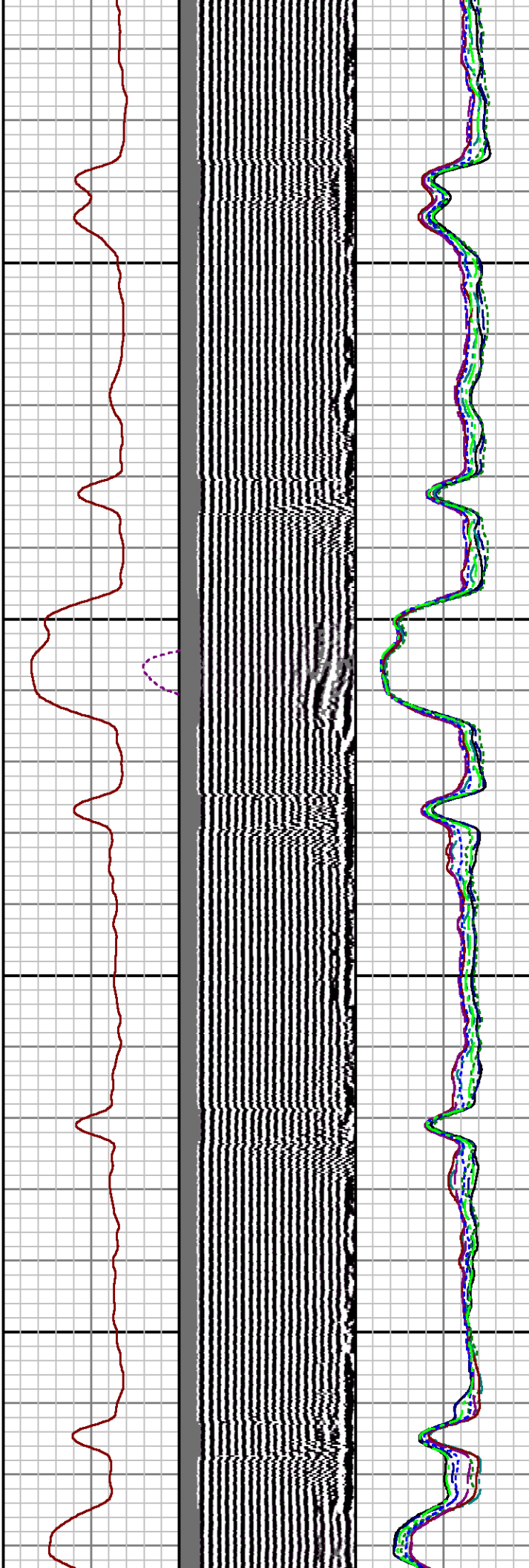
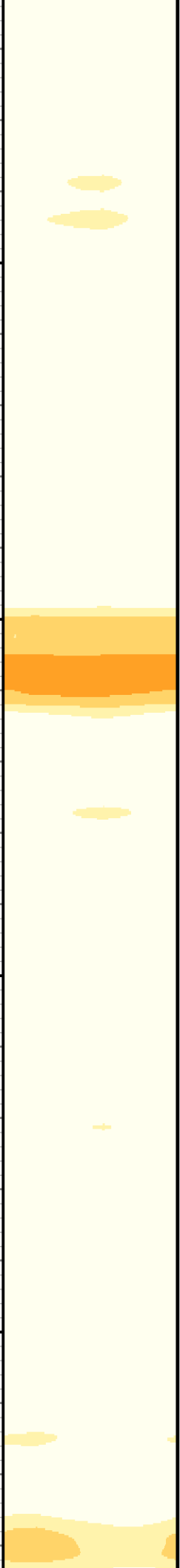


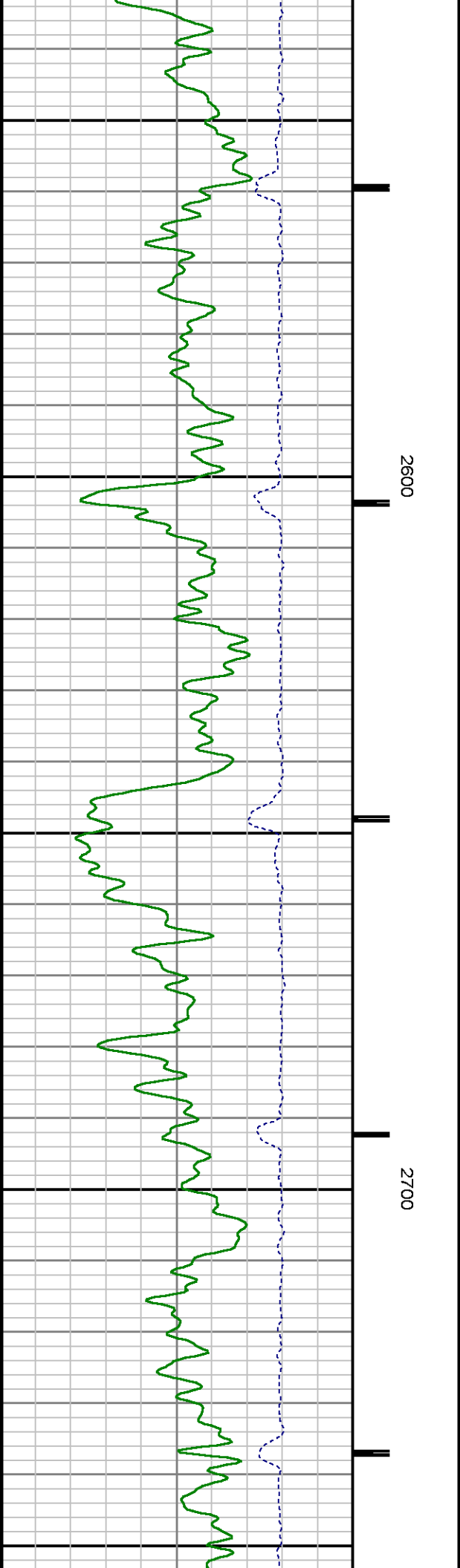
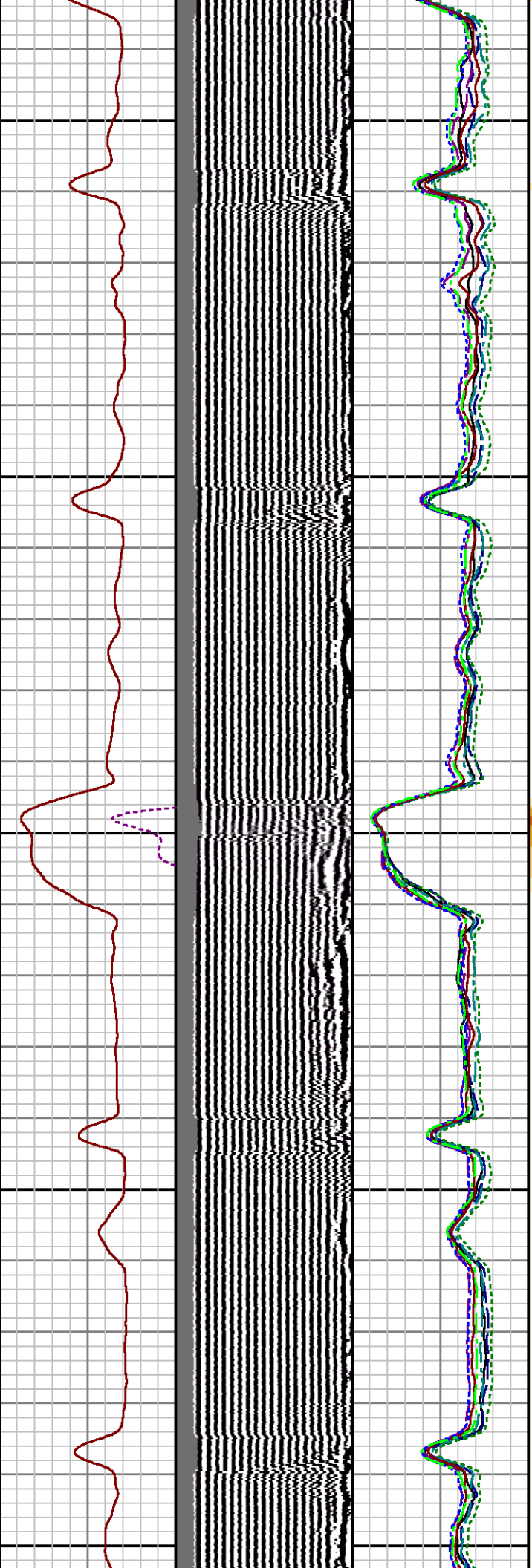
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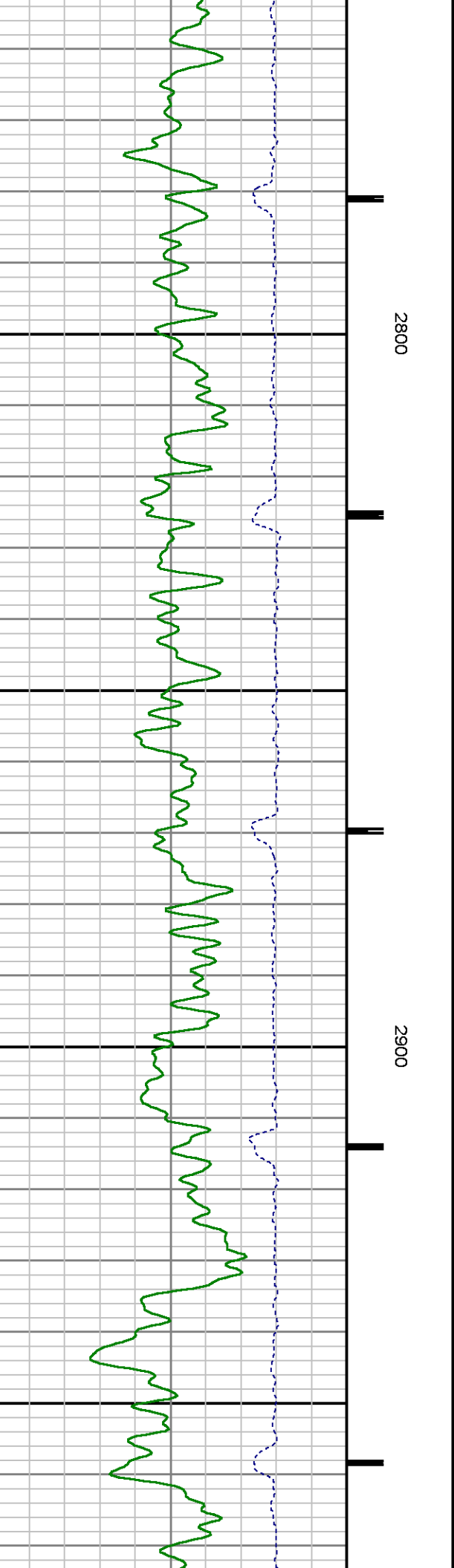
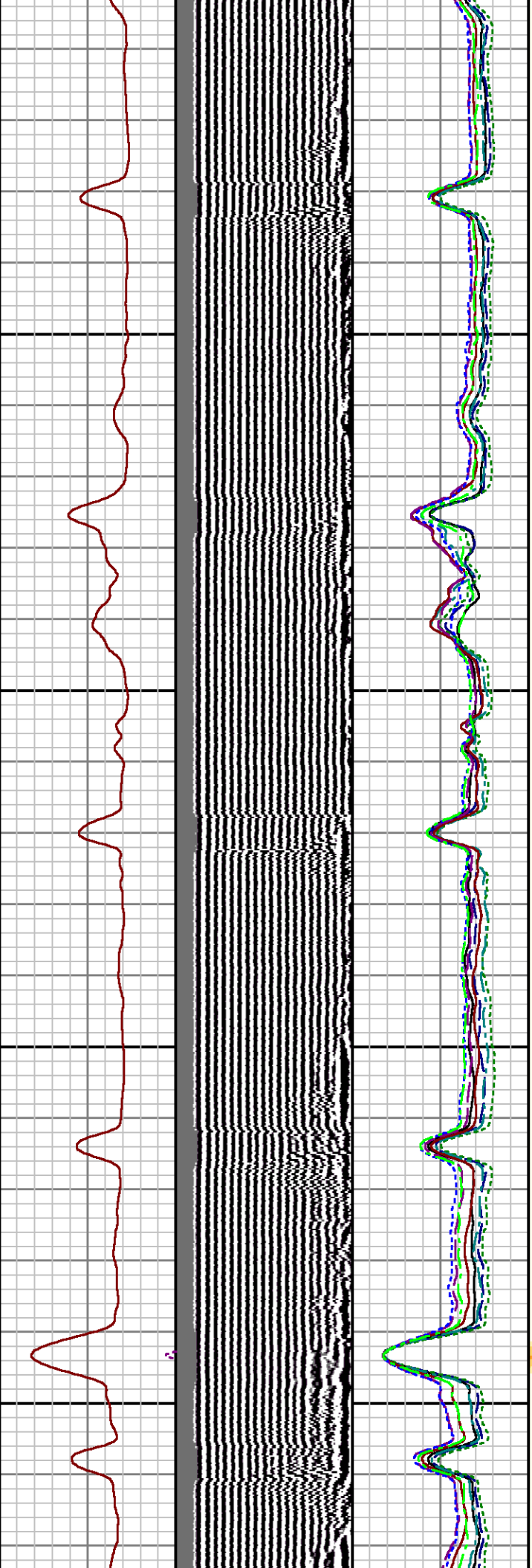
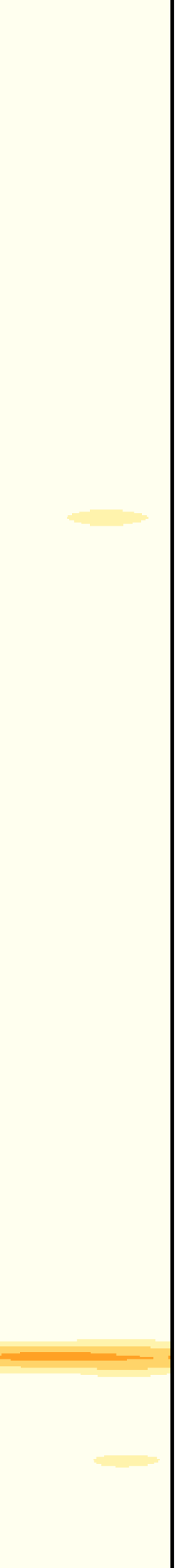
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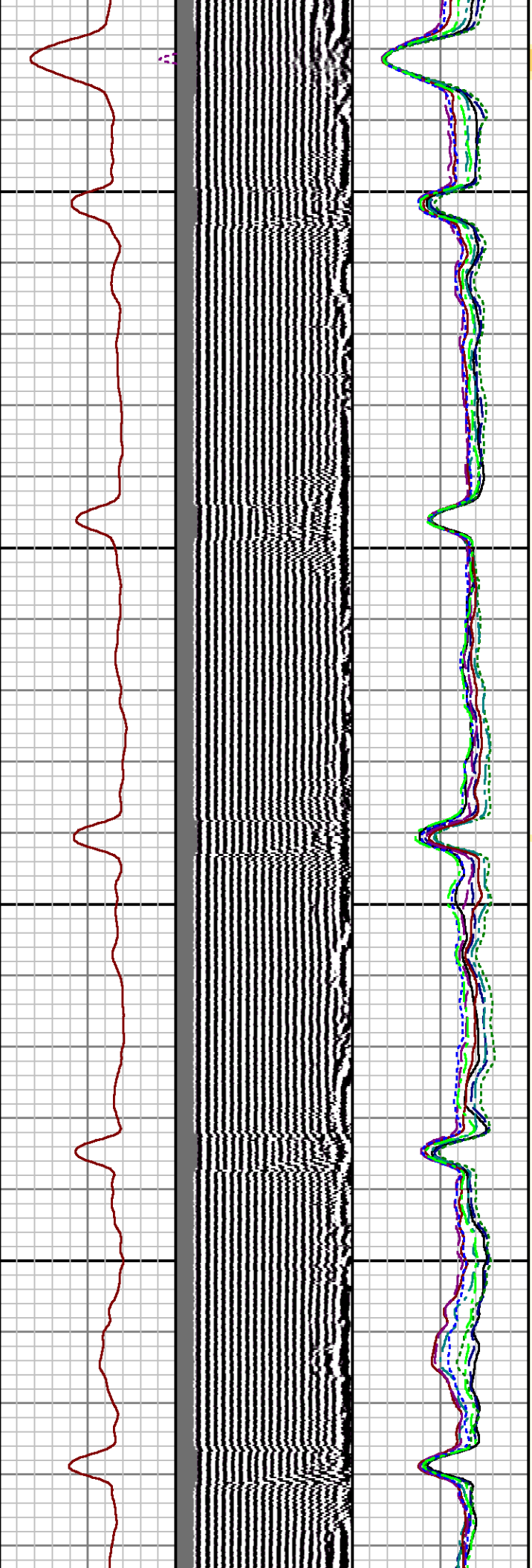
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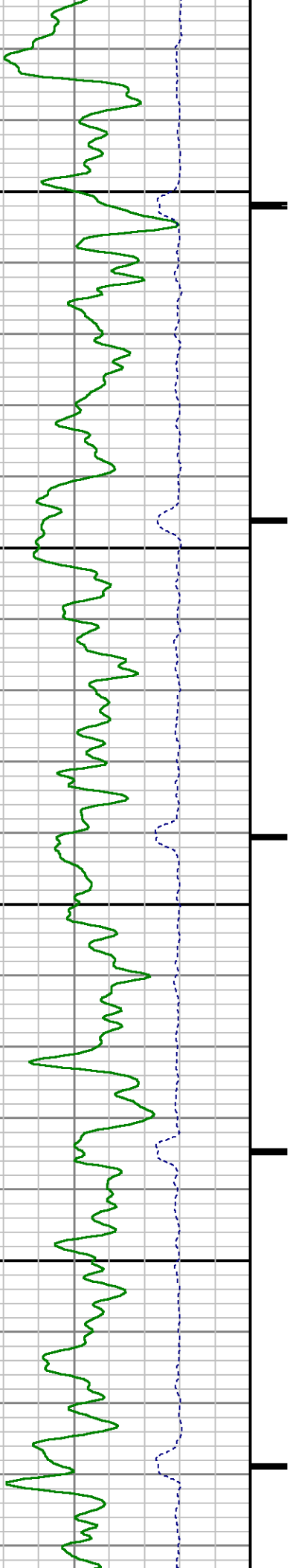


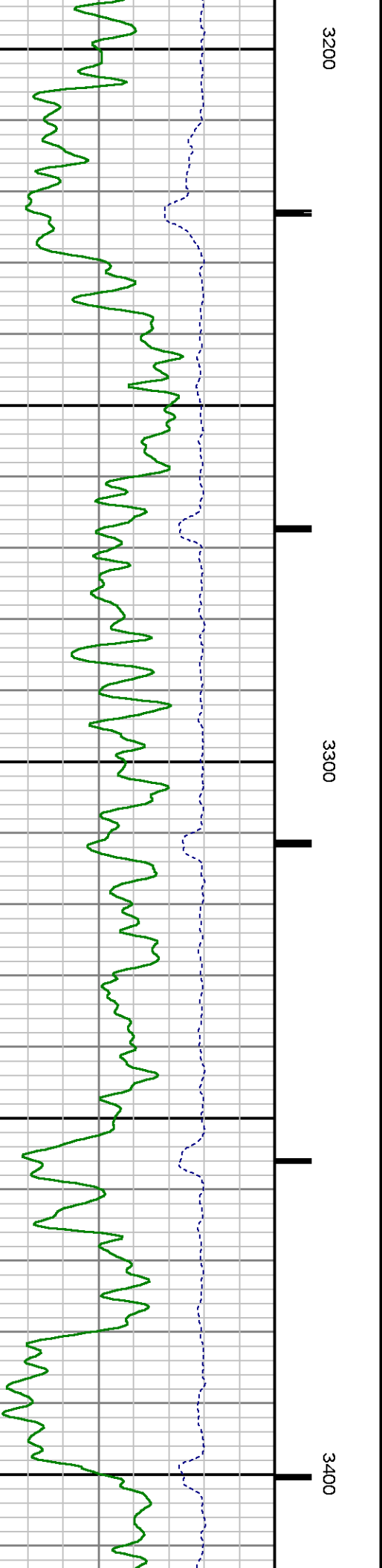
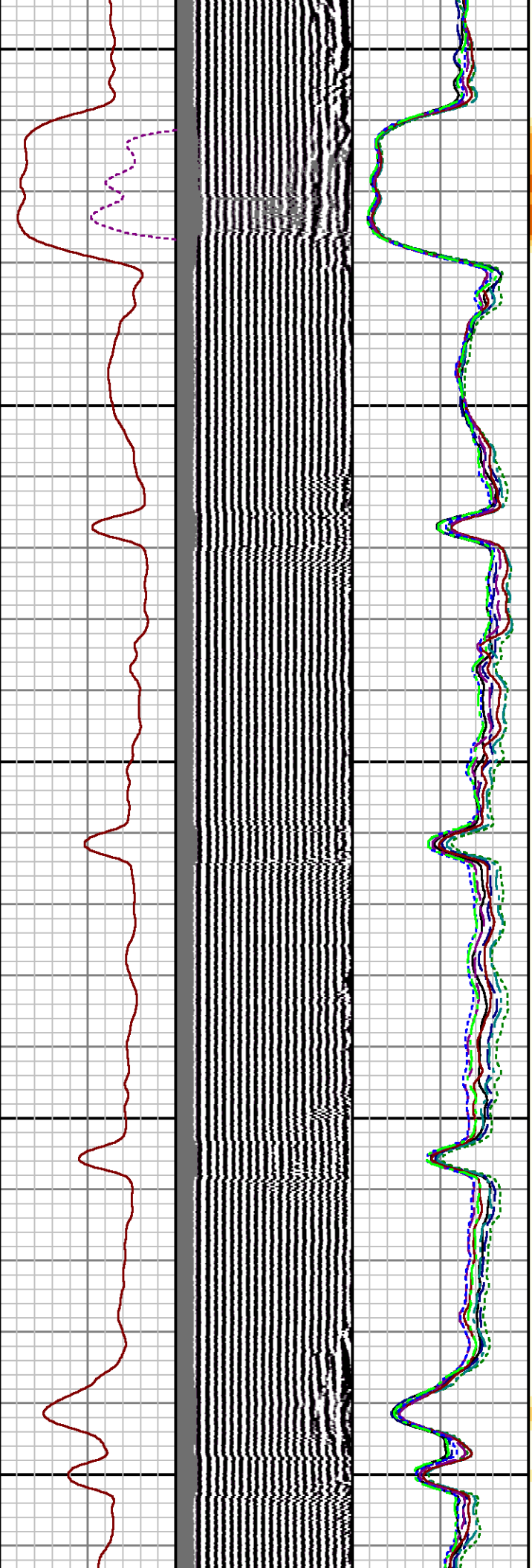




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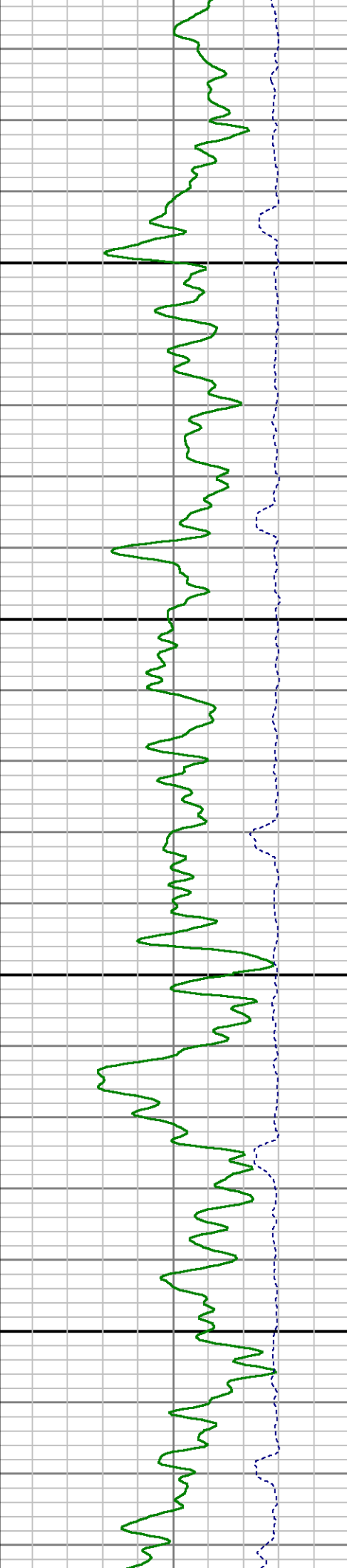
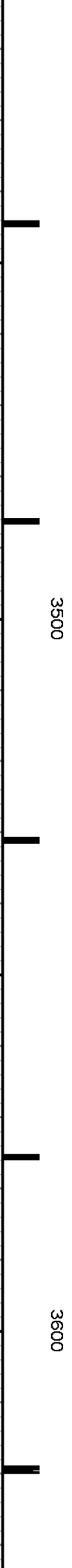
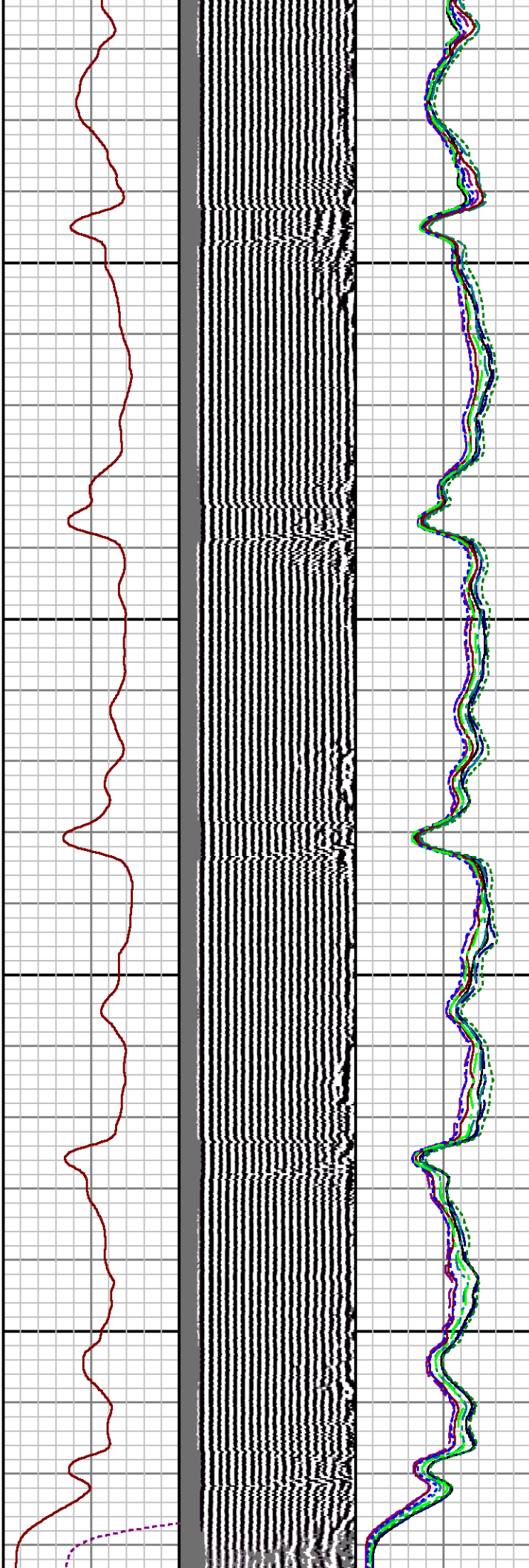
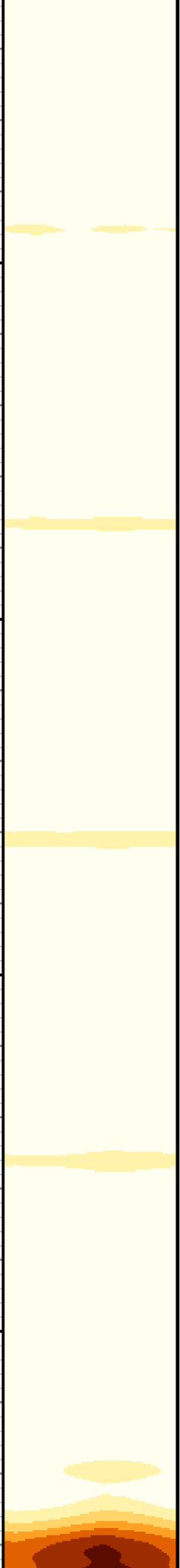


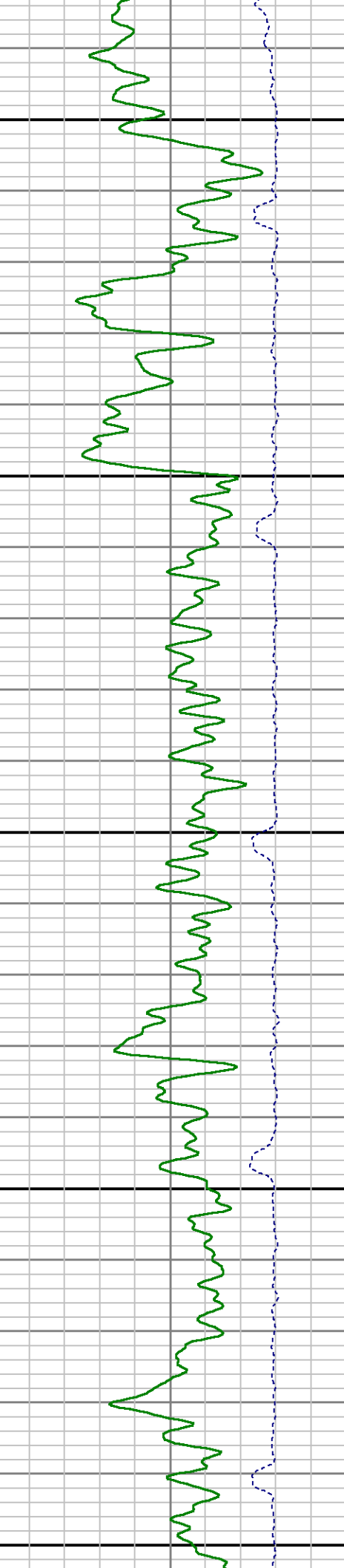
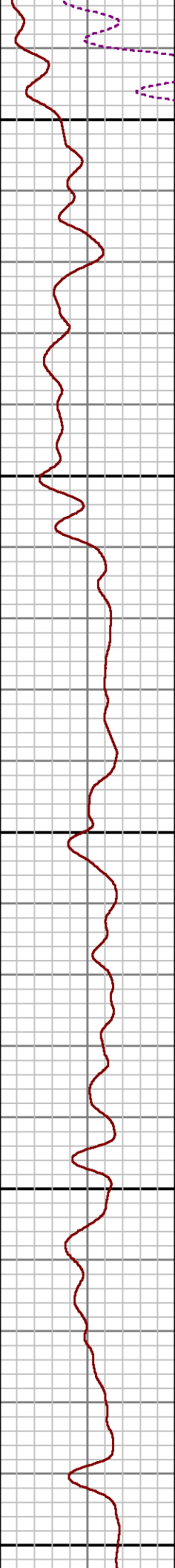
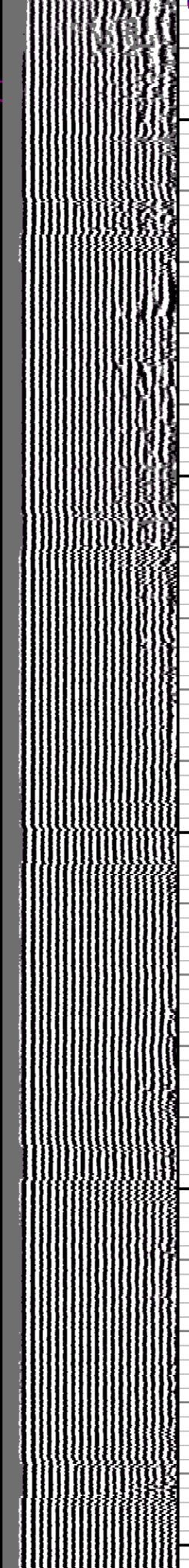
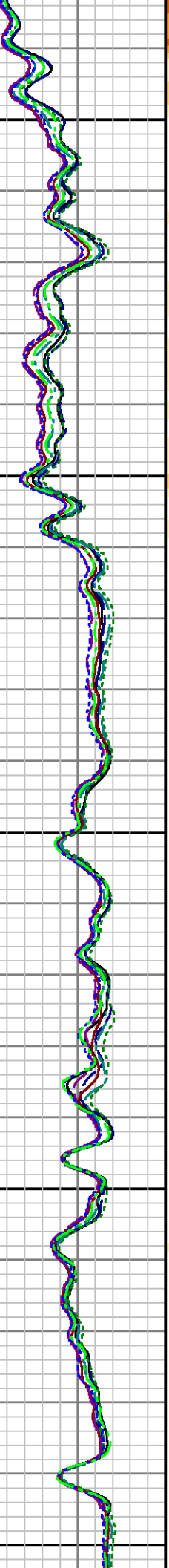


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3300

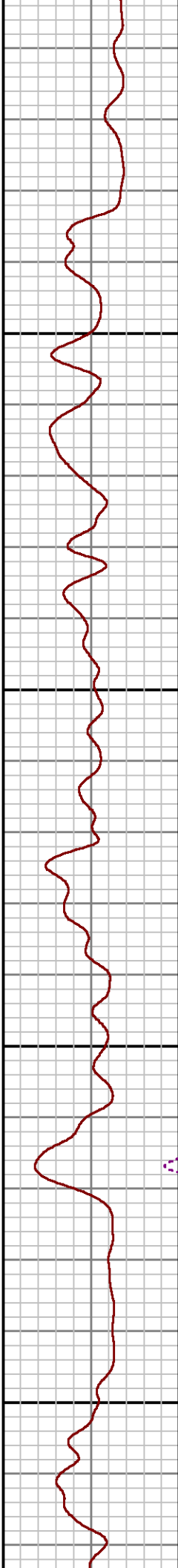
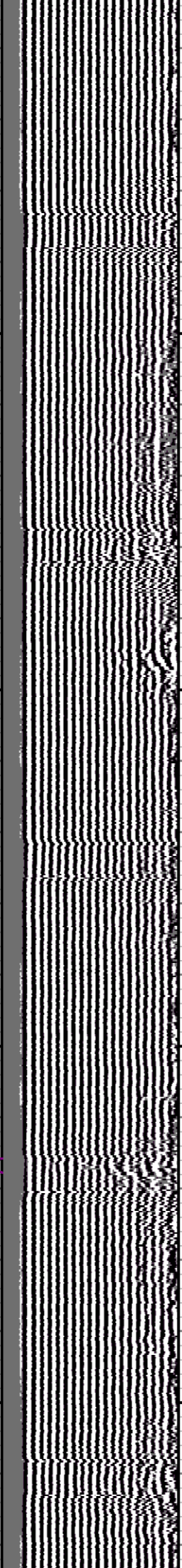
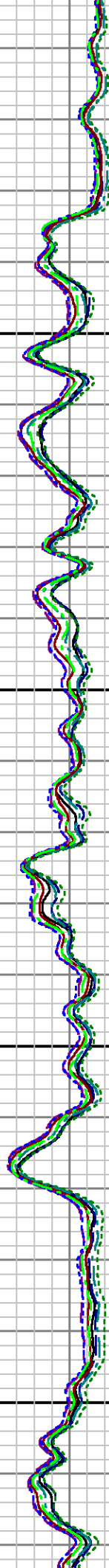
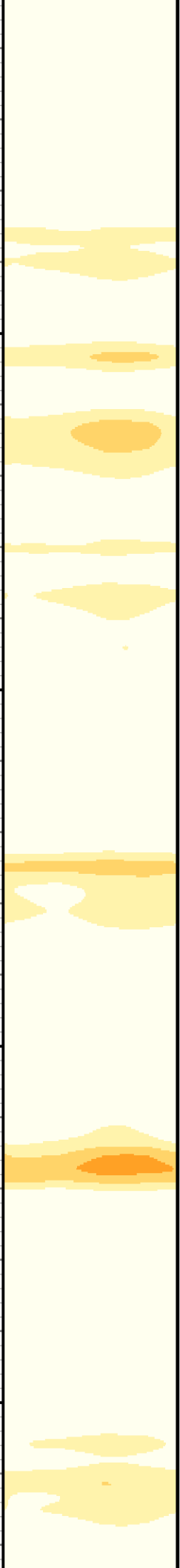
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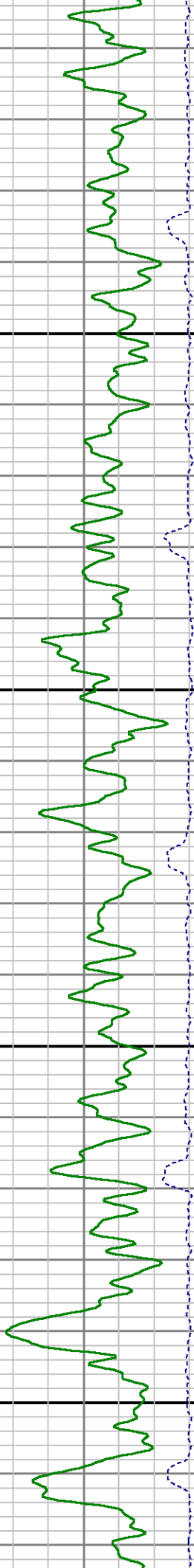
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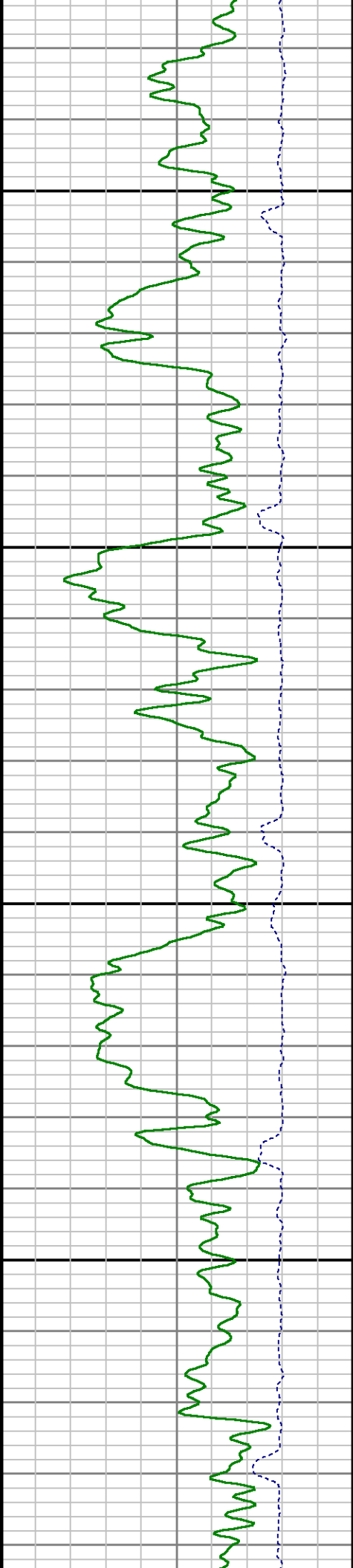
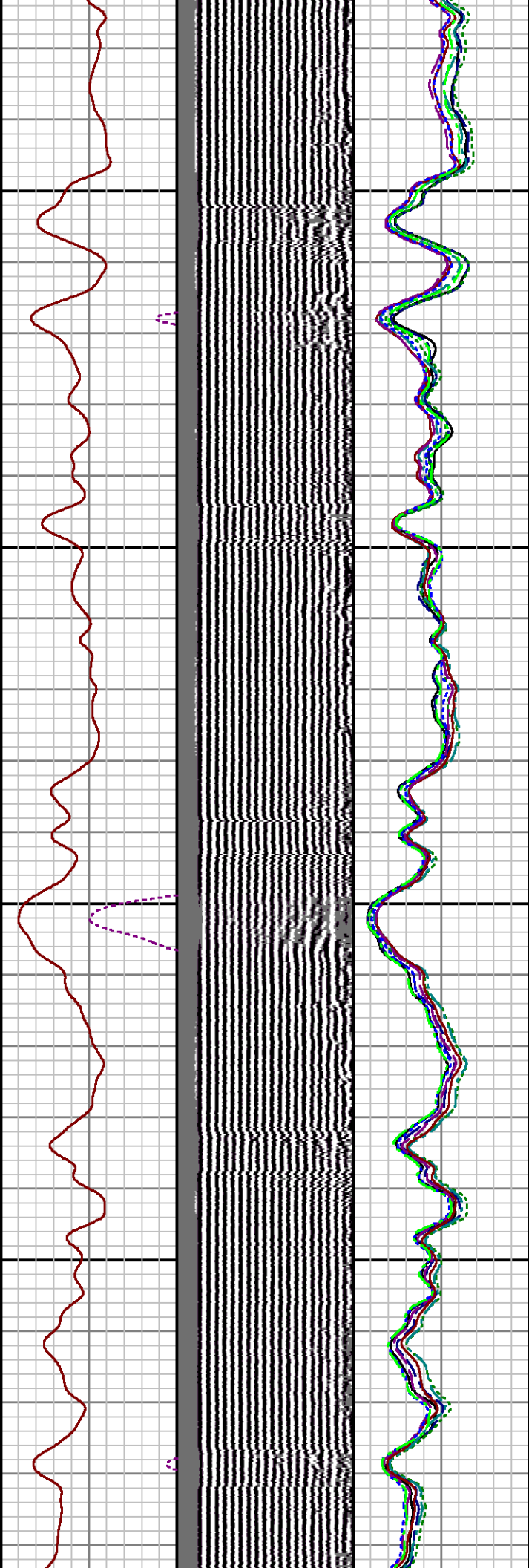
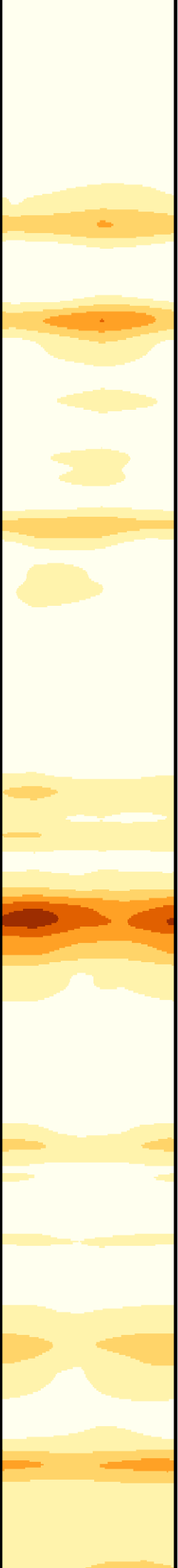
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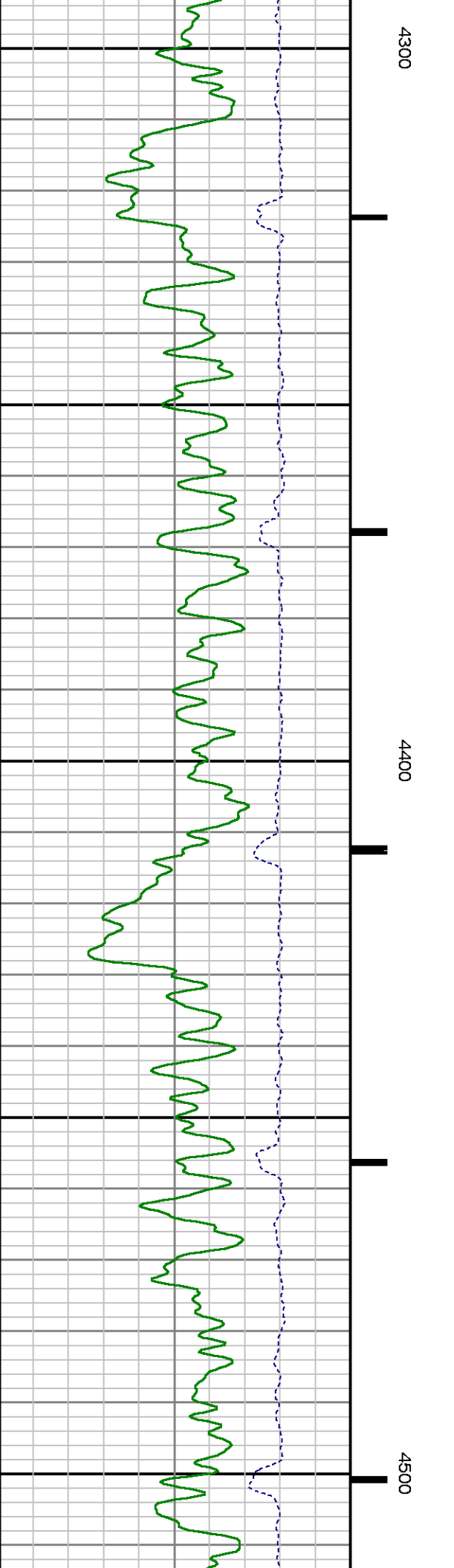
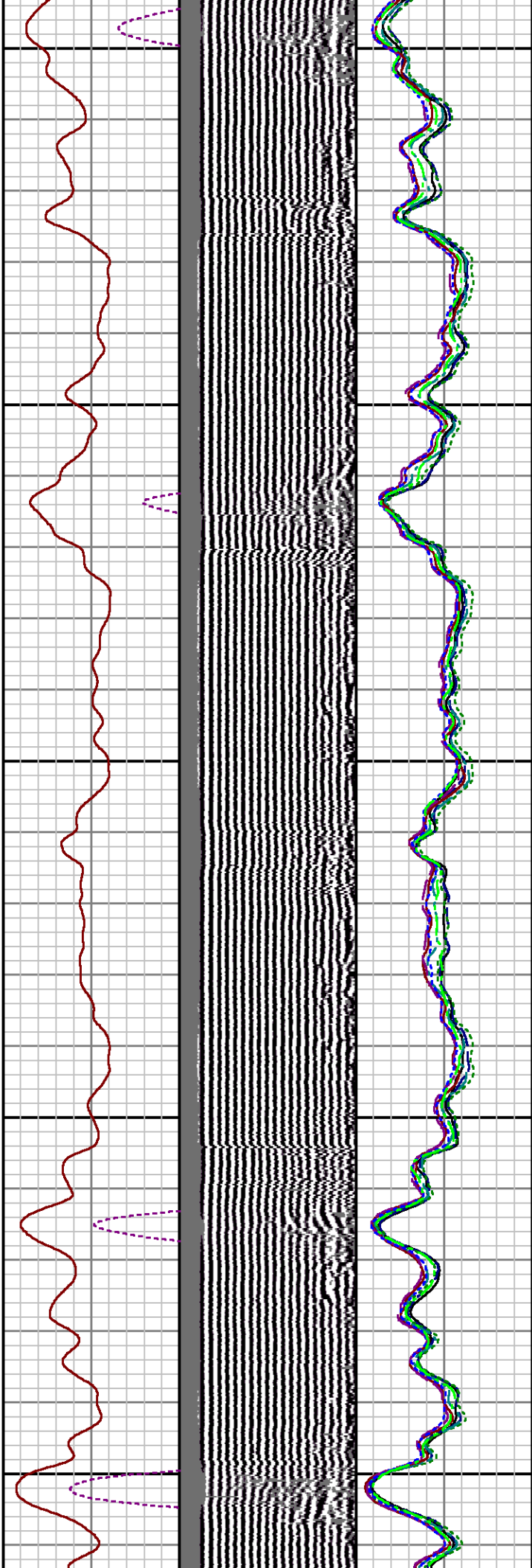
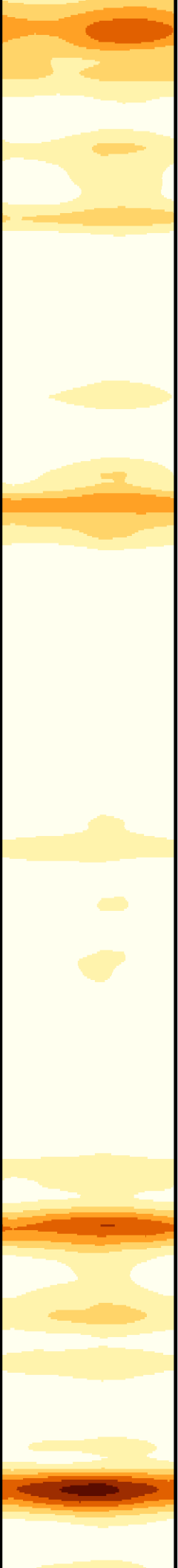


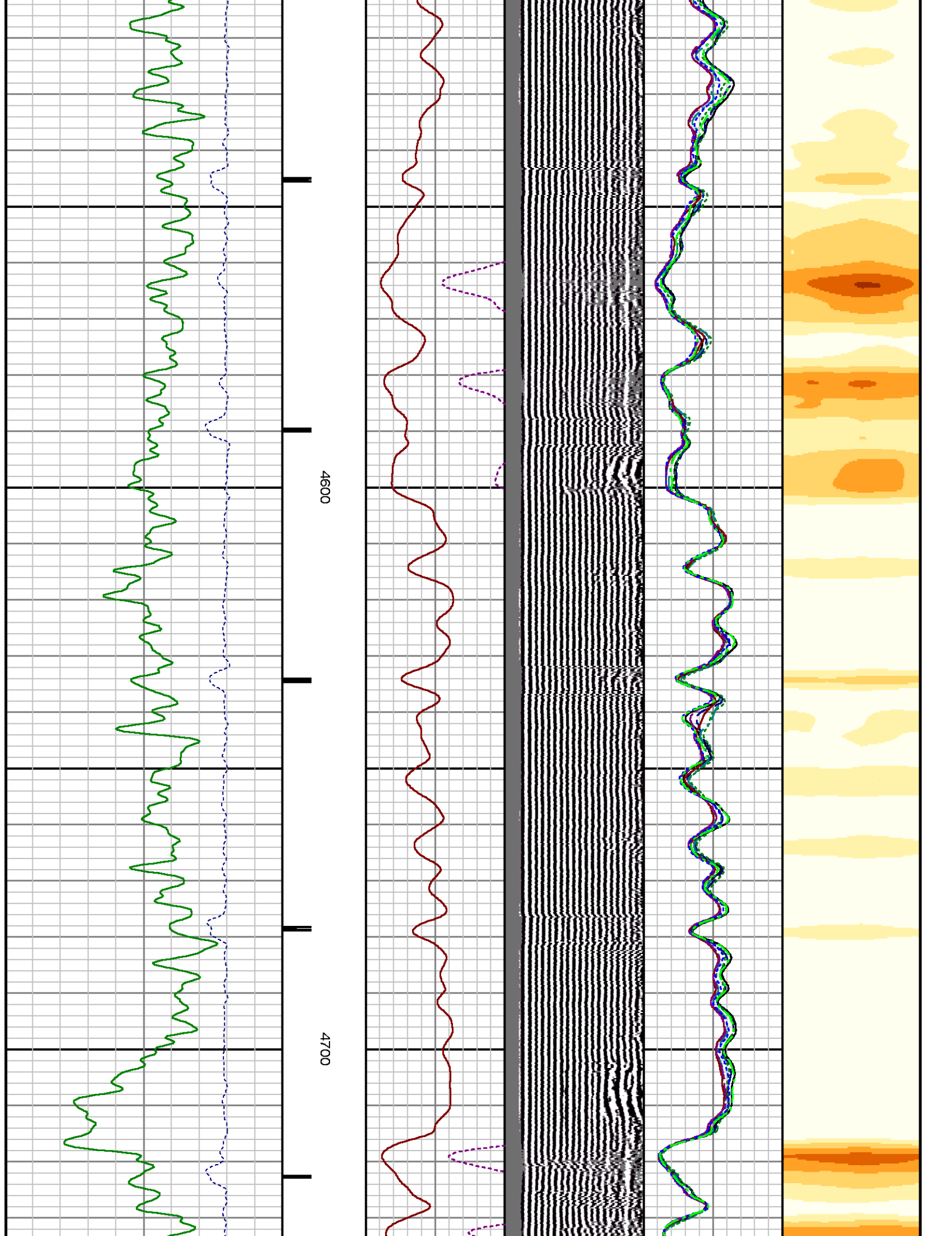
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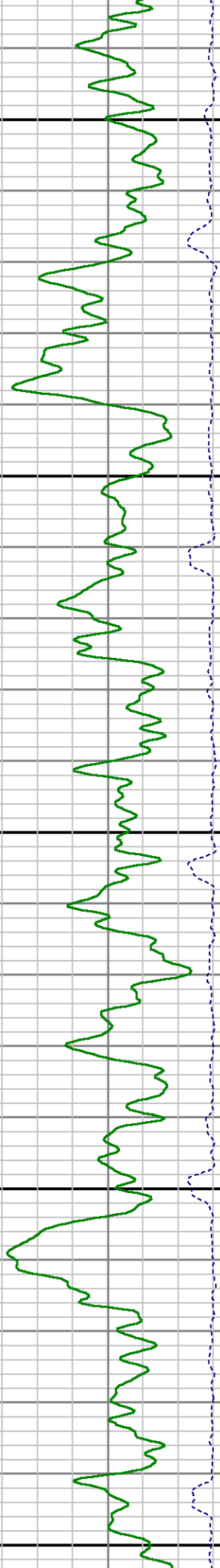
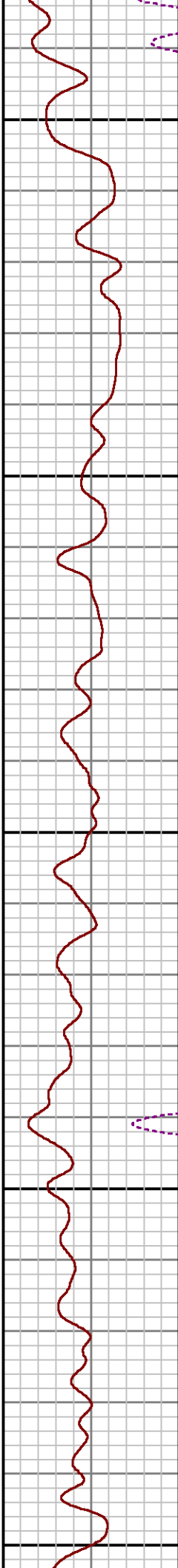
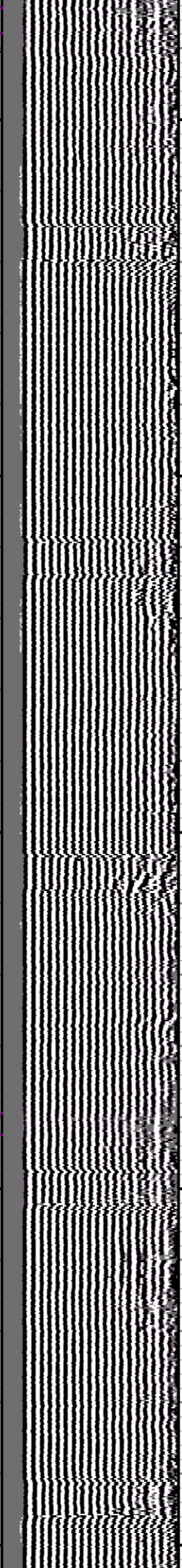
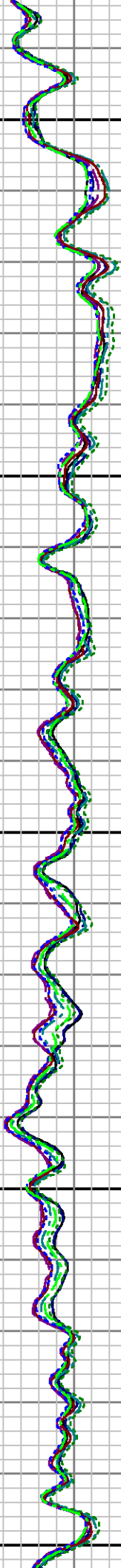
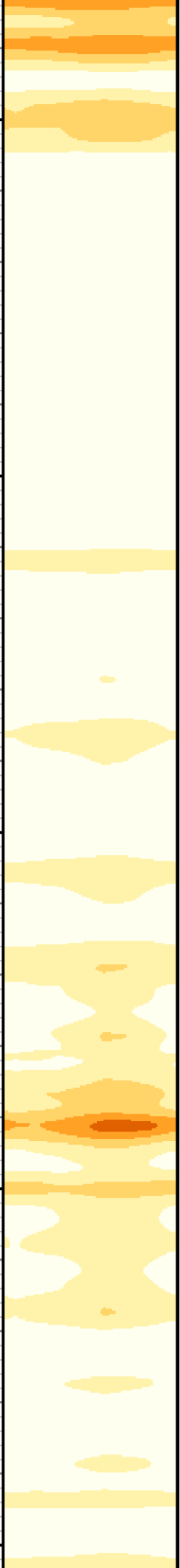
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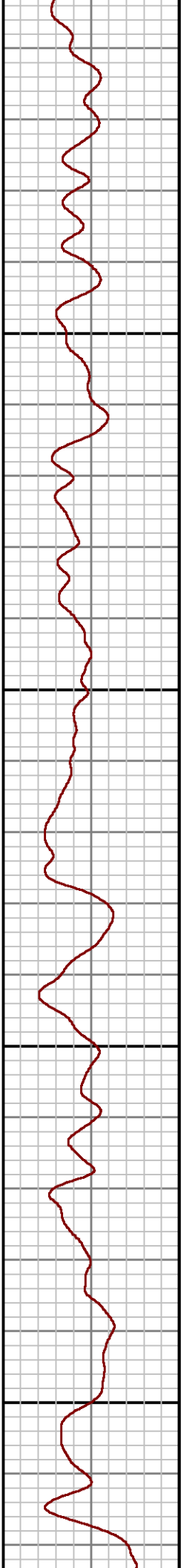
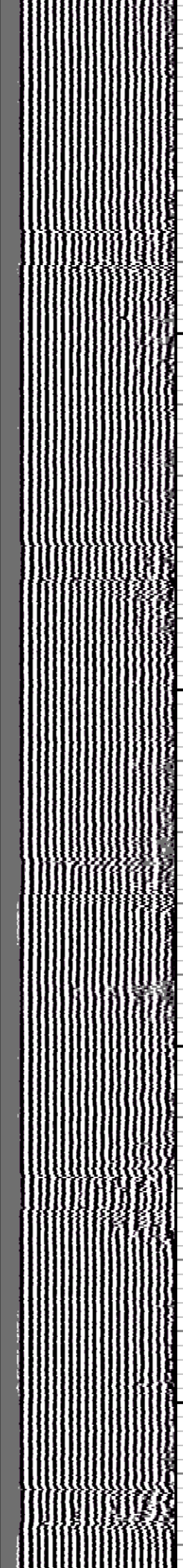
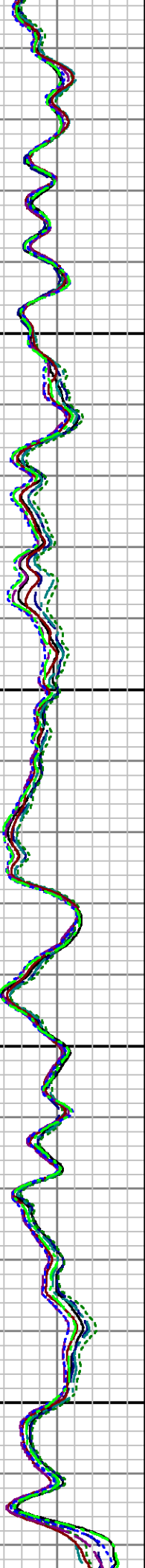
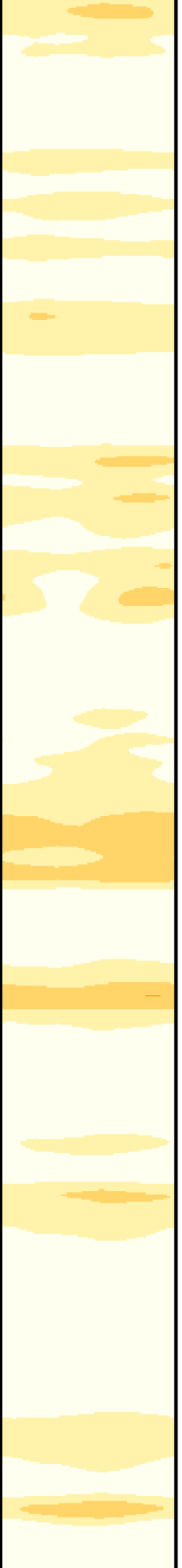






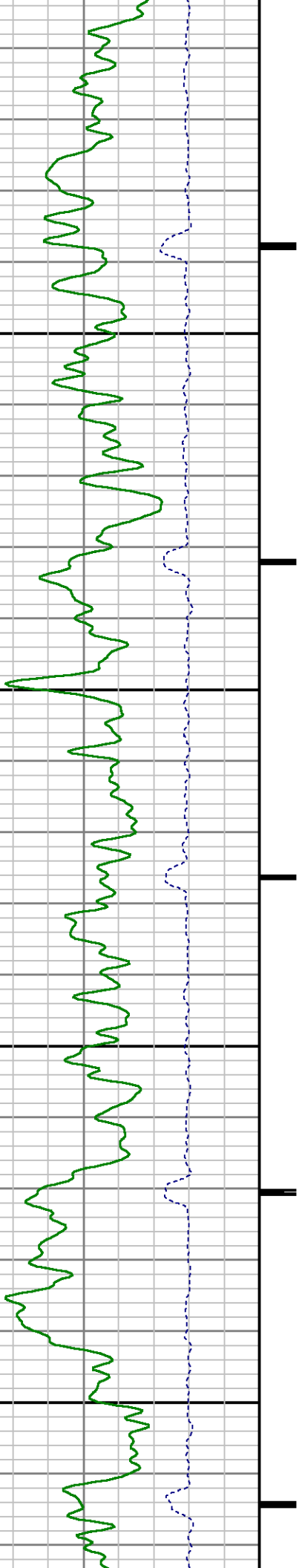


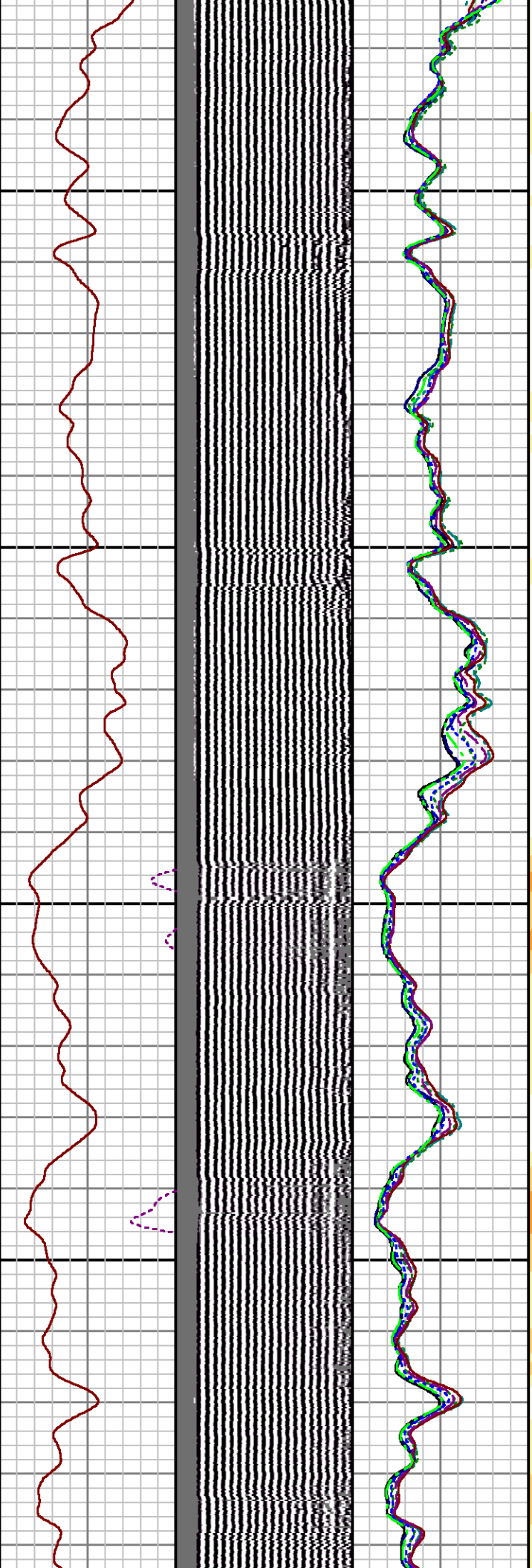
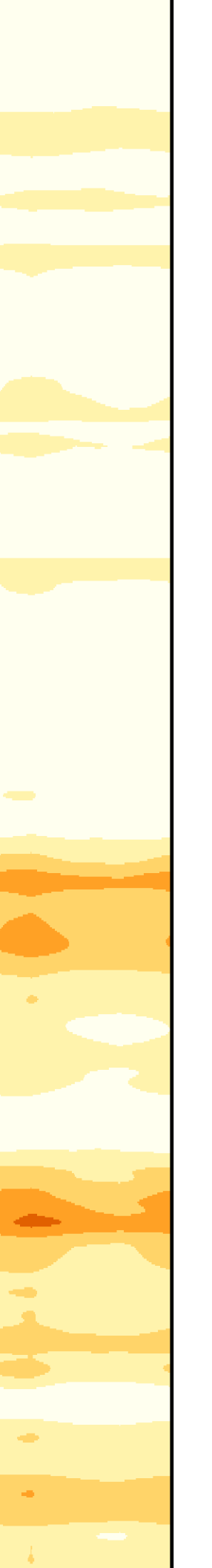




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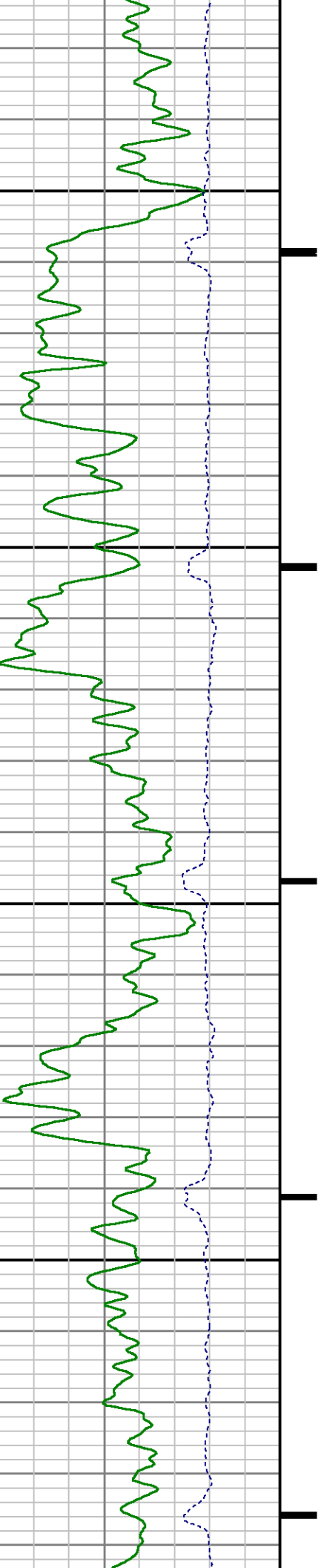
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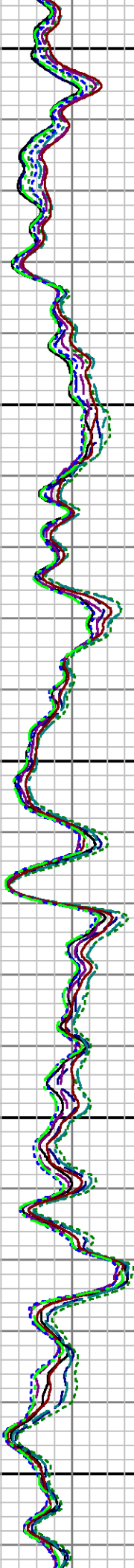
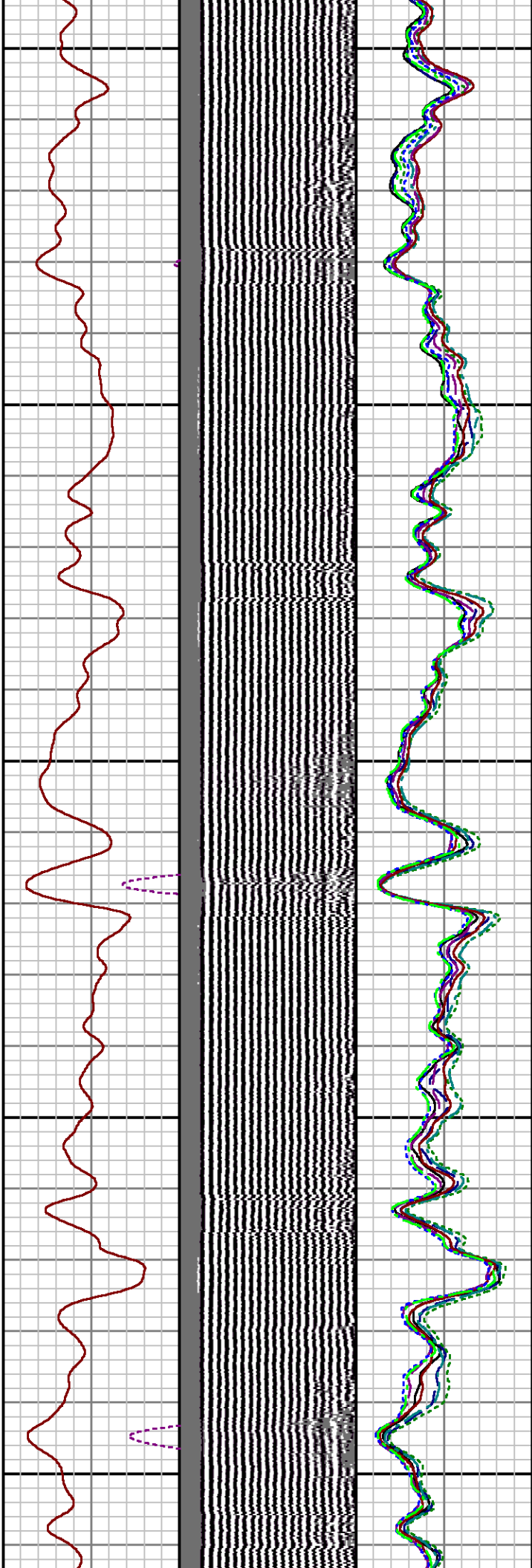
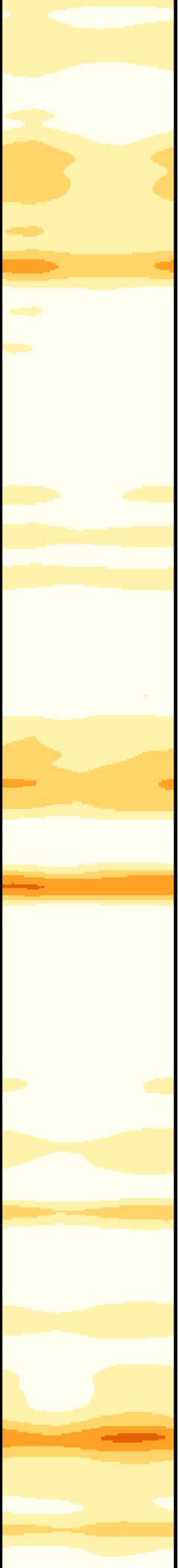




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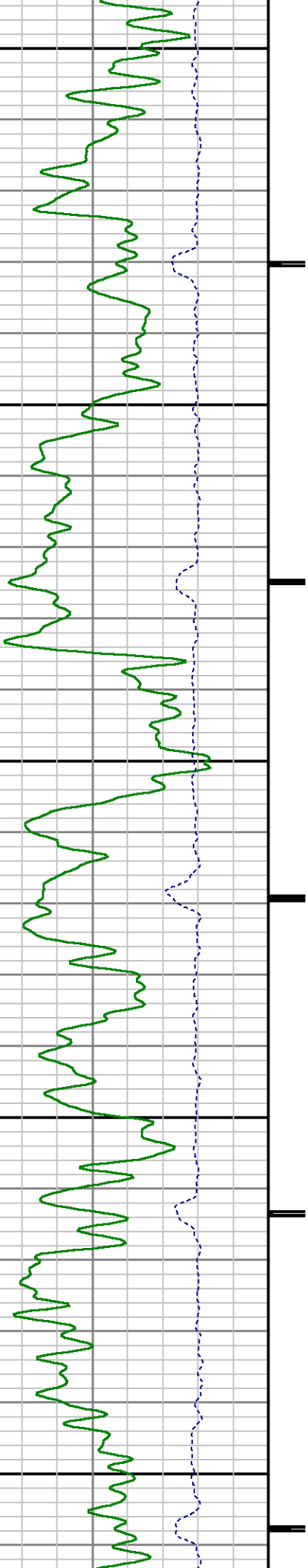


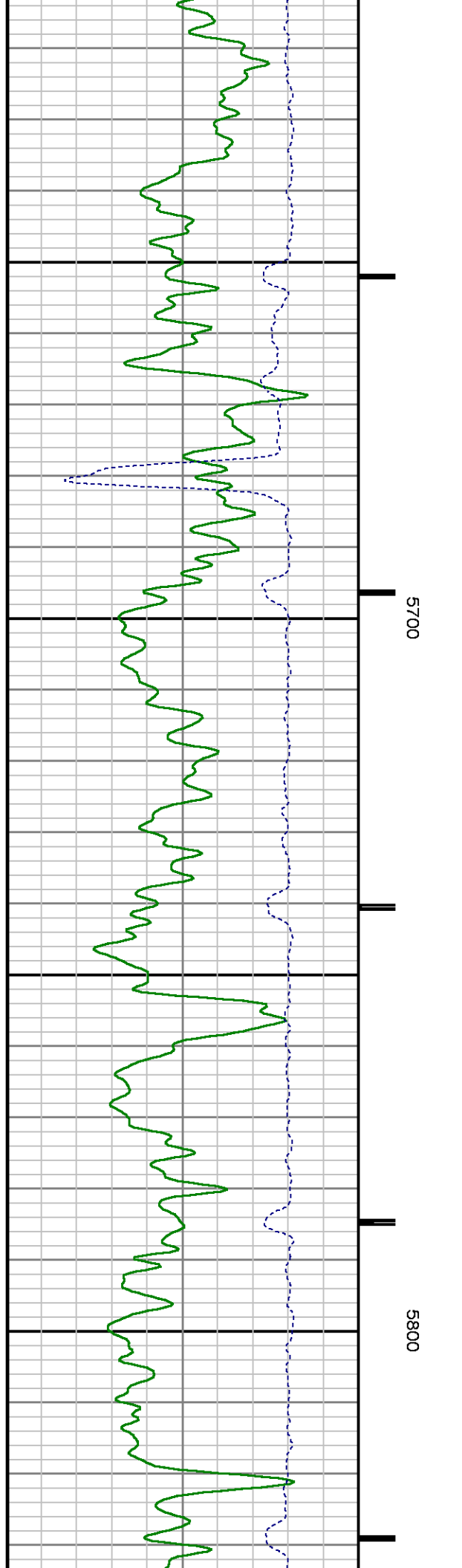
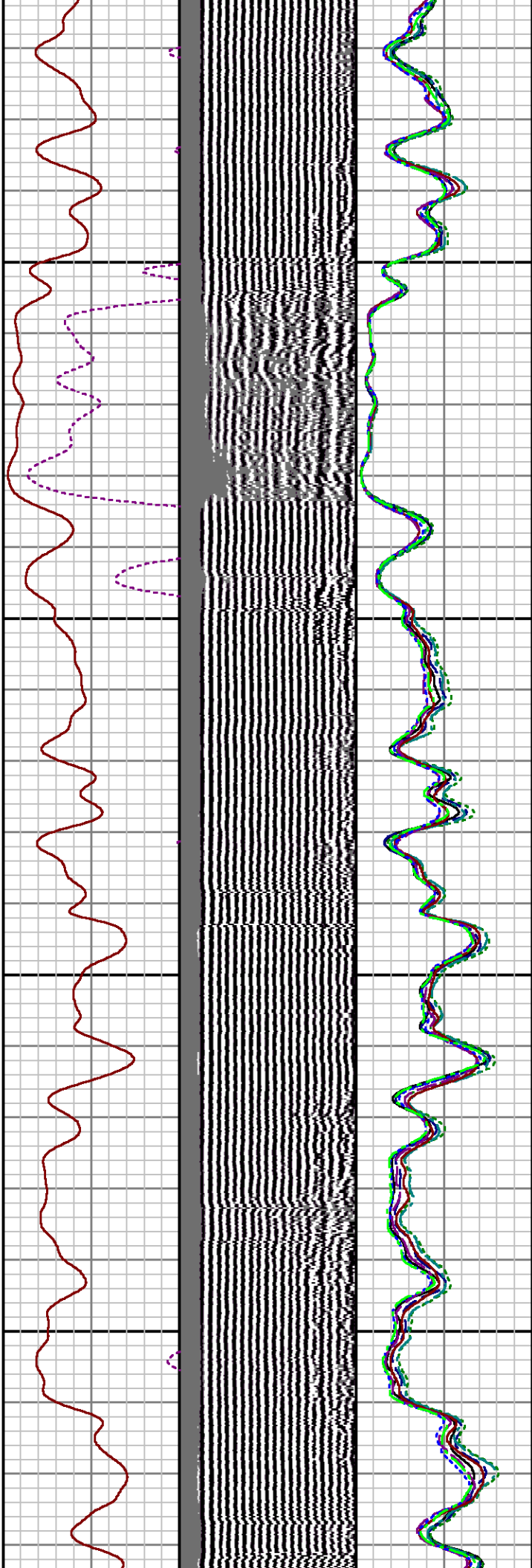
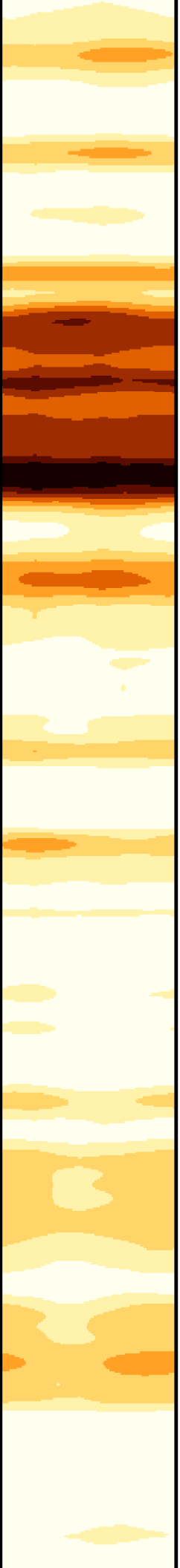


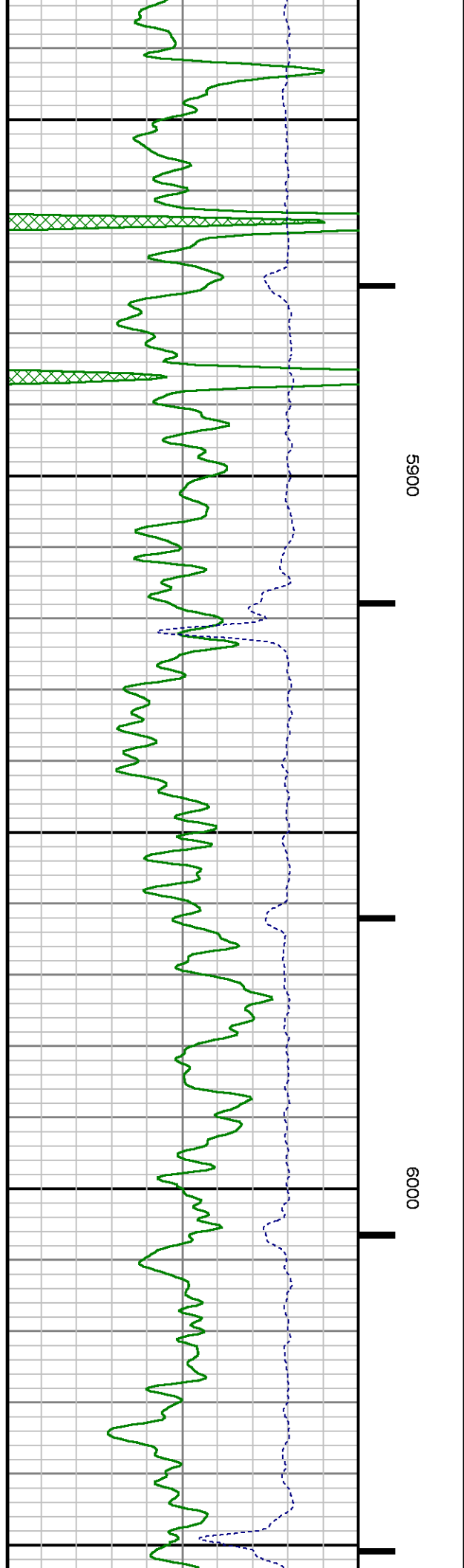
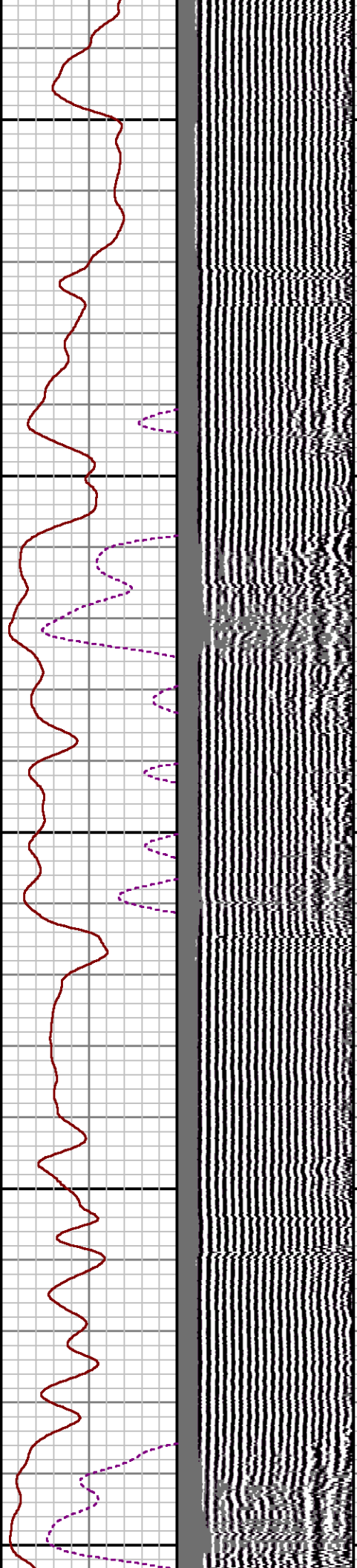
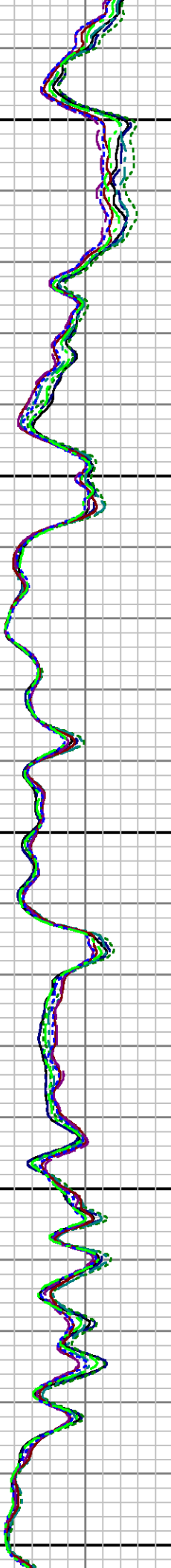
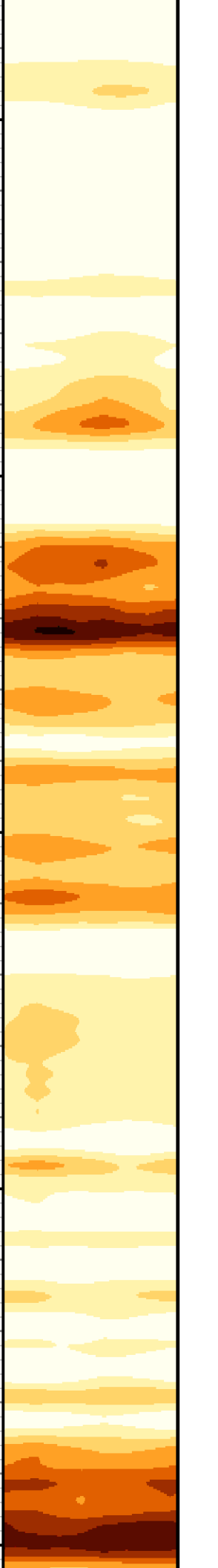
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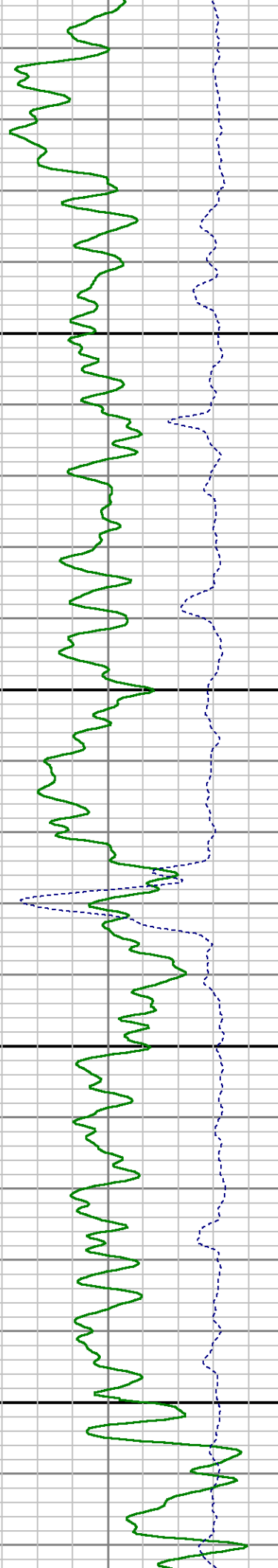
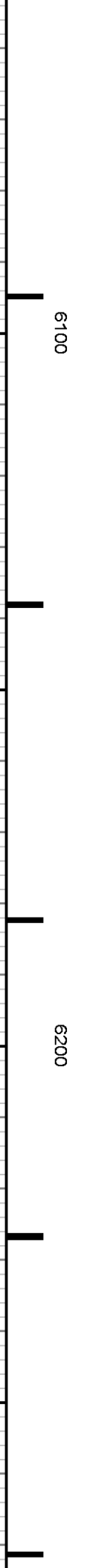
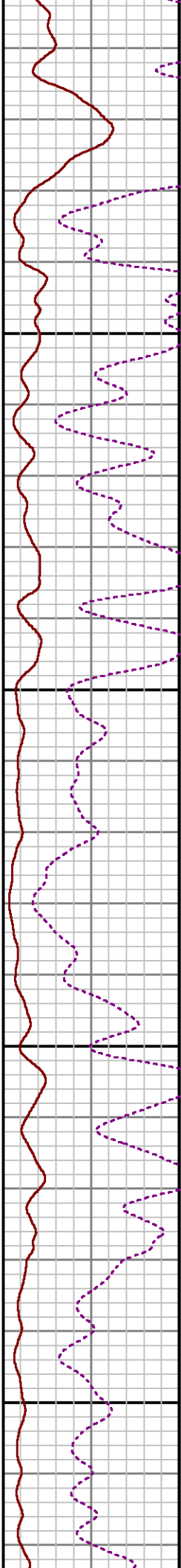
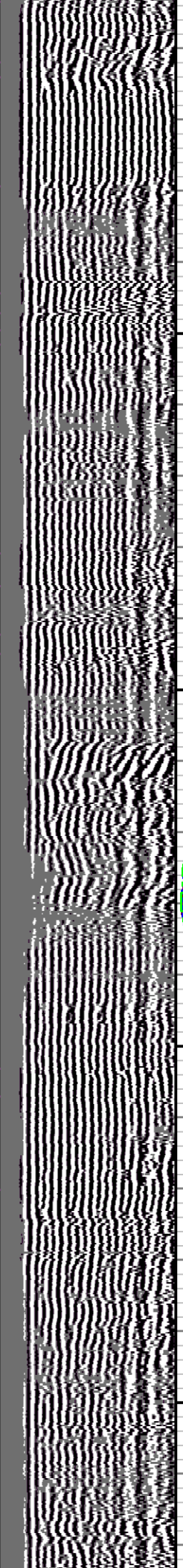
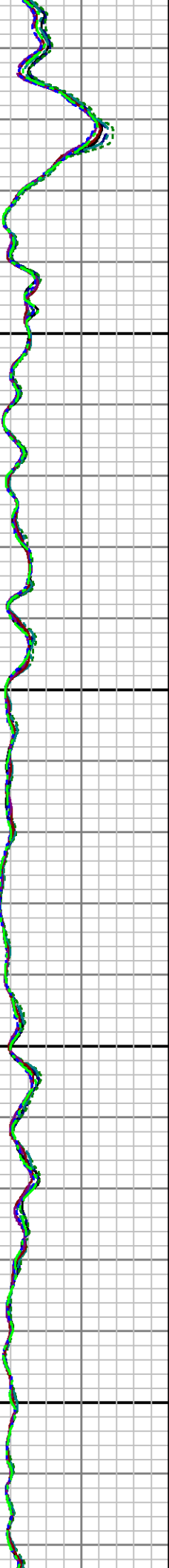
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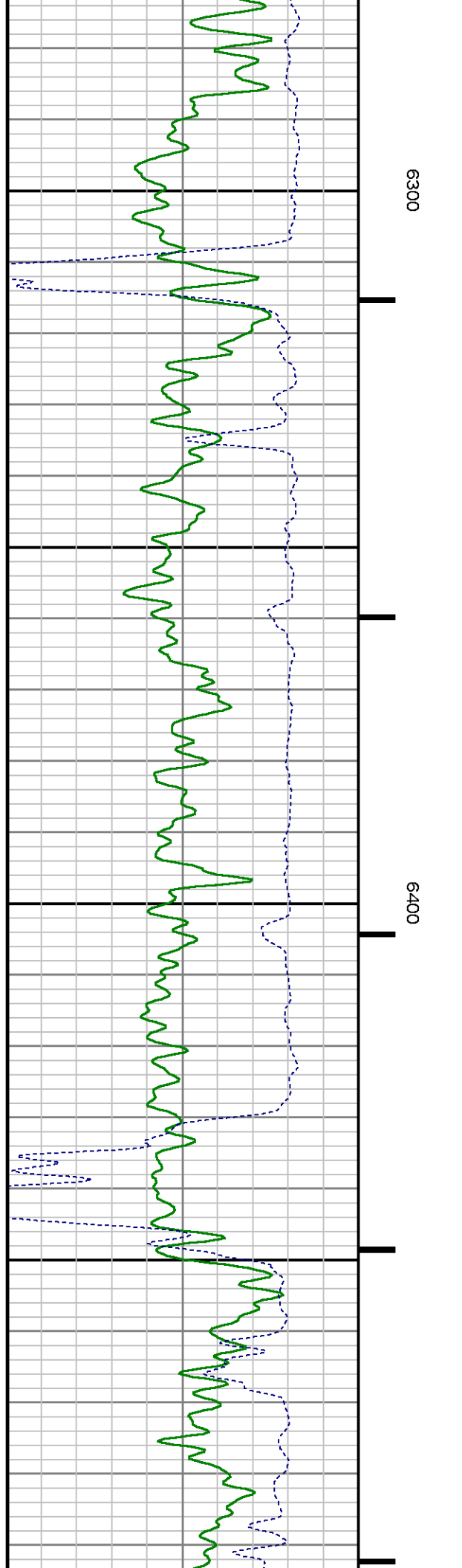
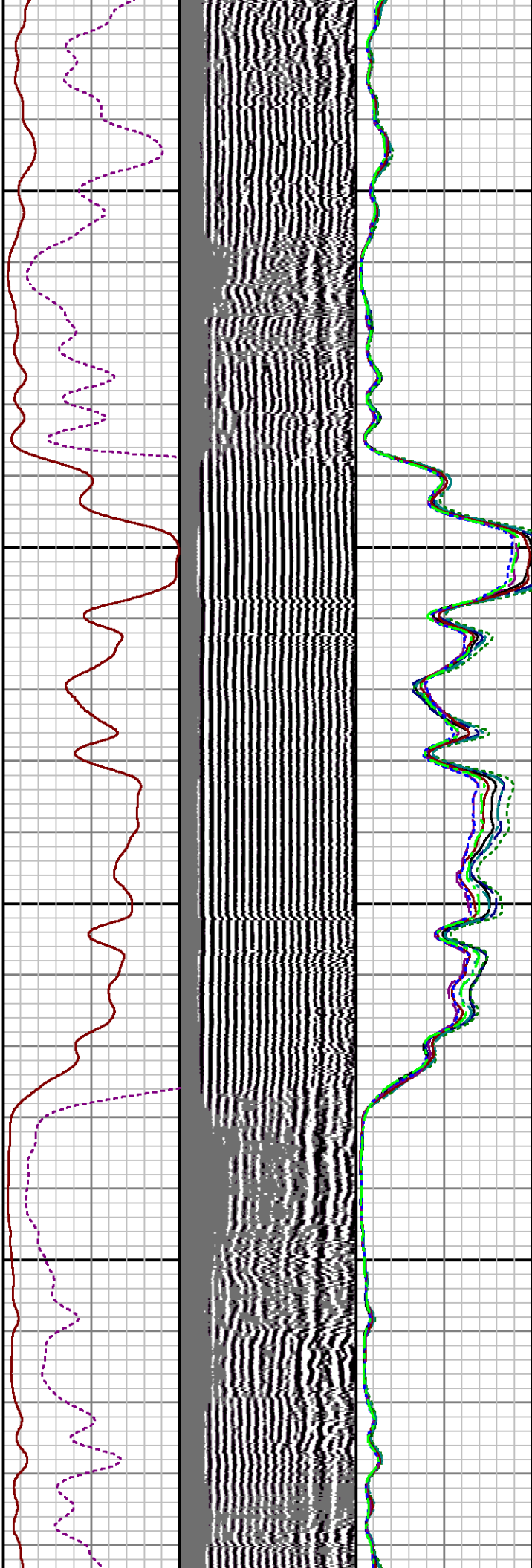
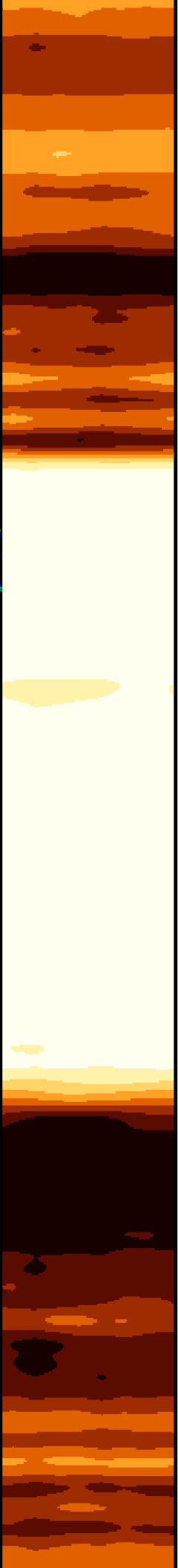
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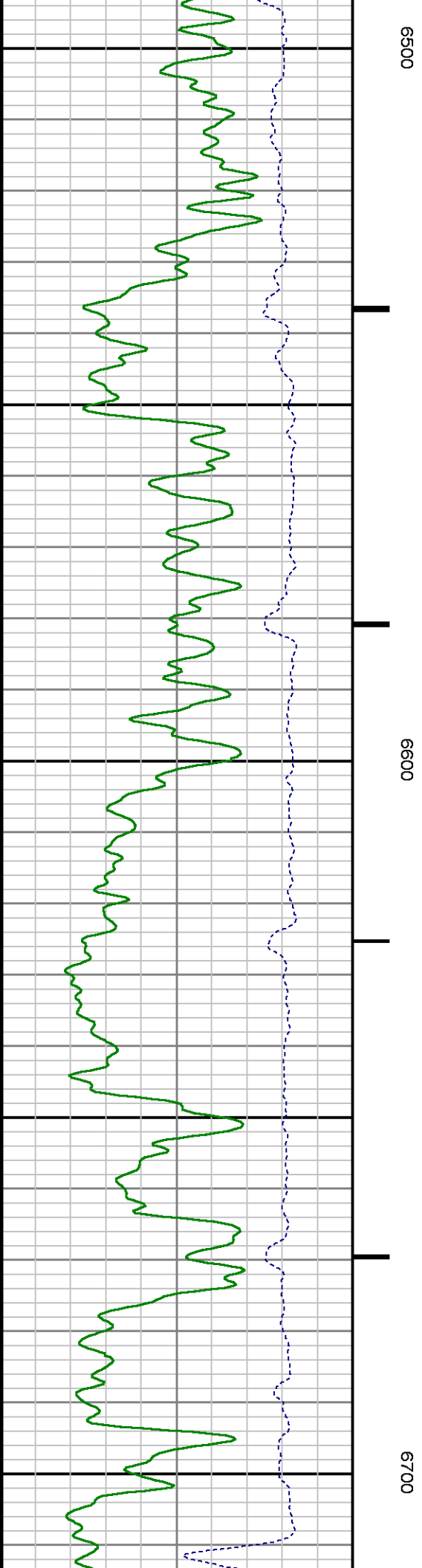
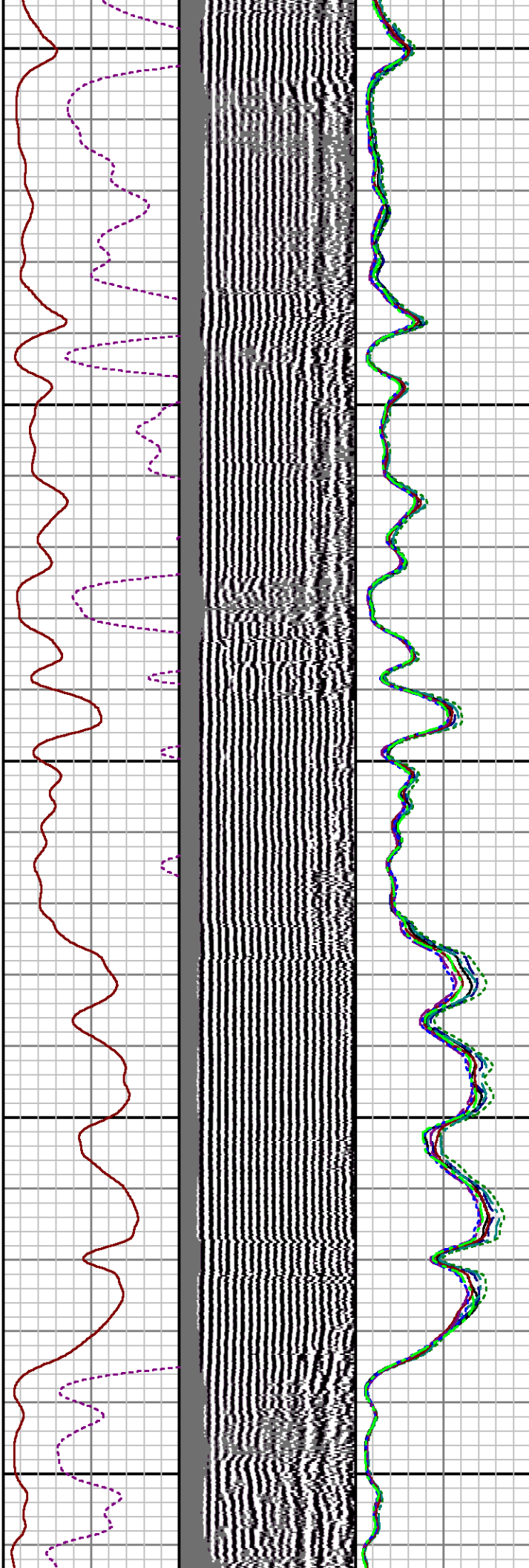
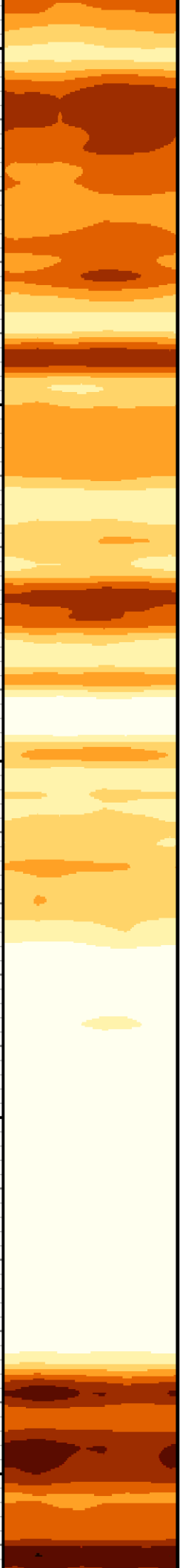


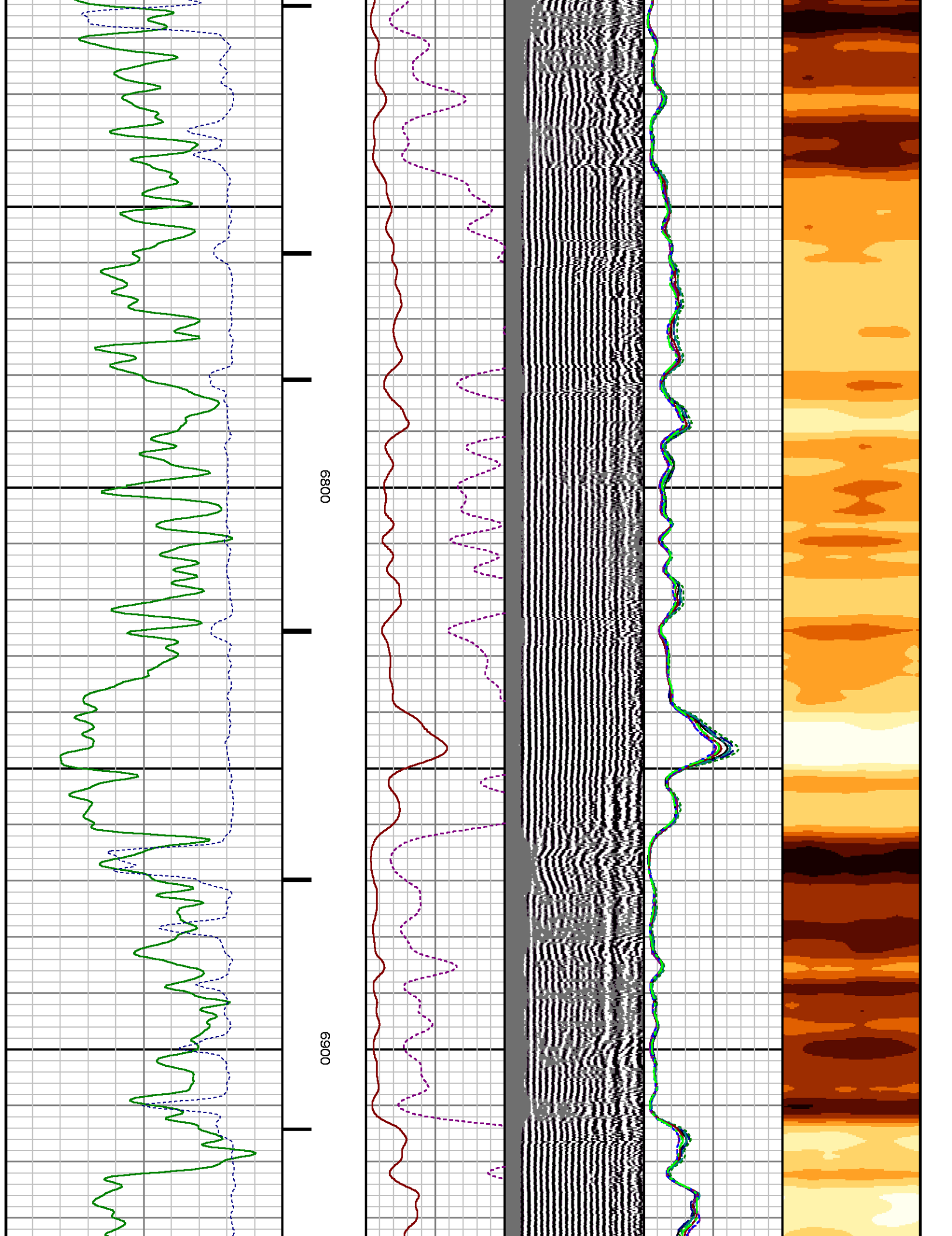


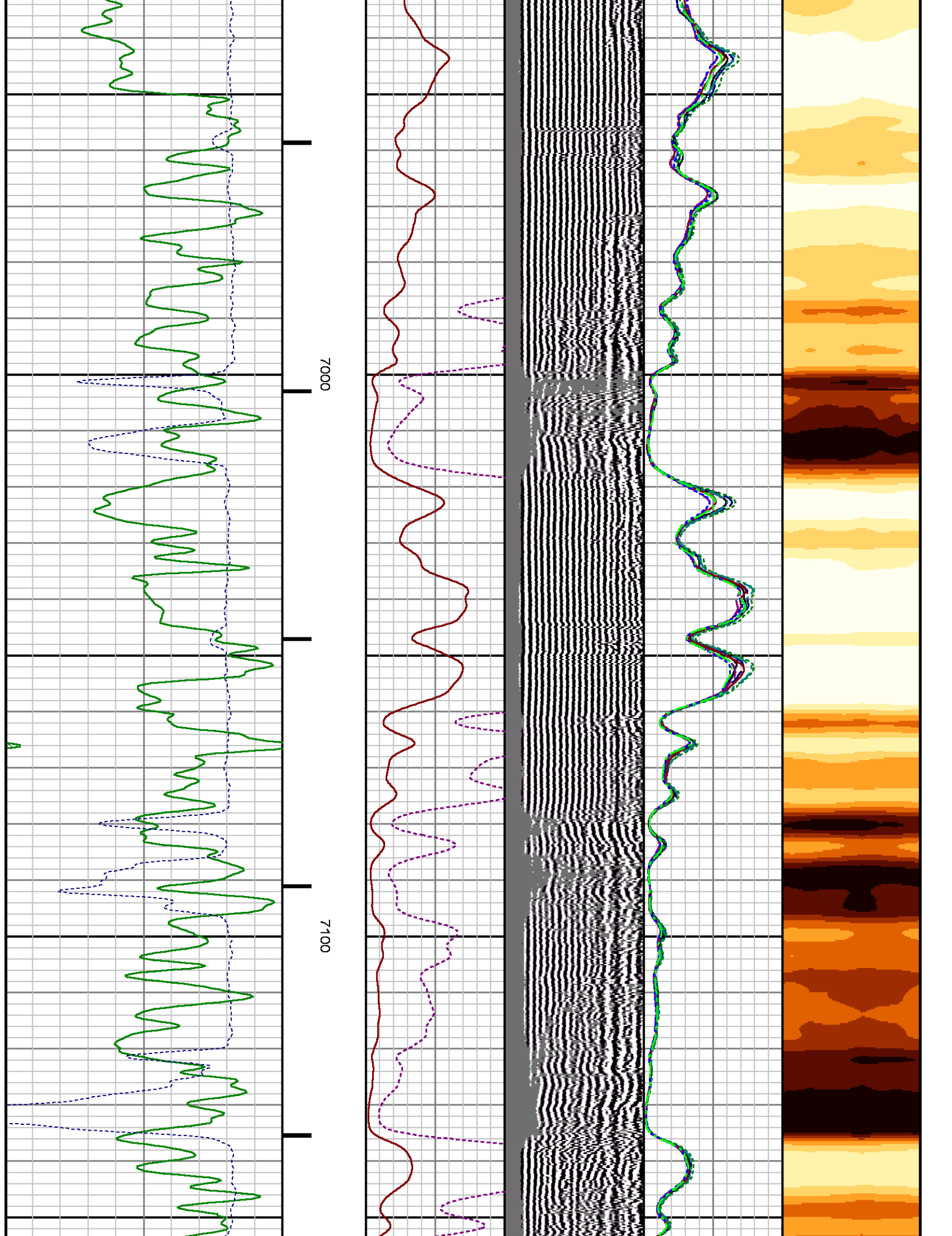


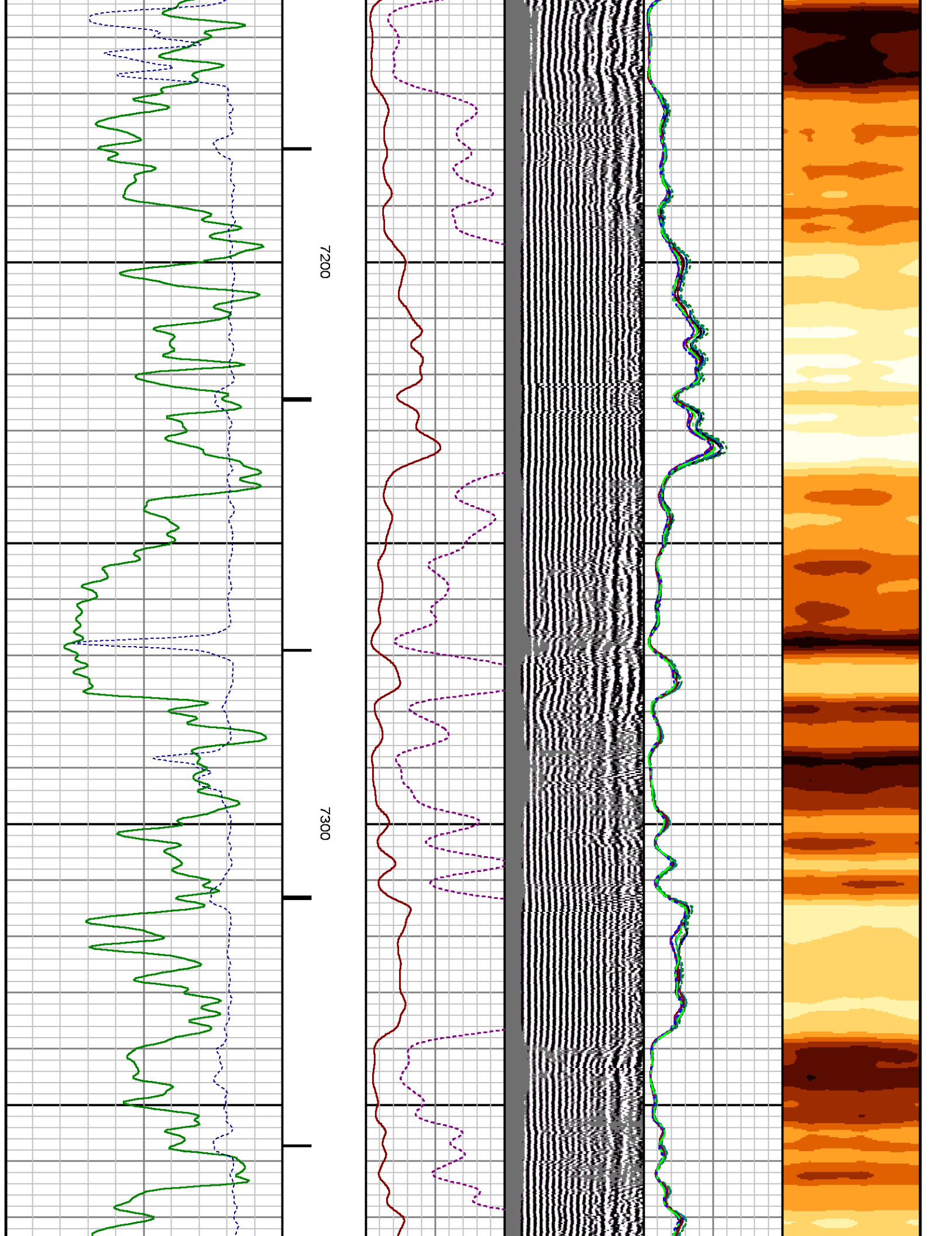


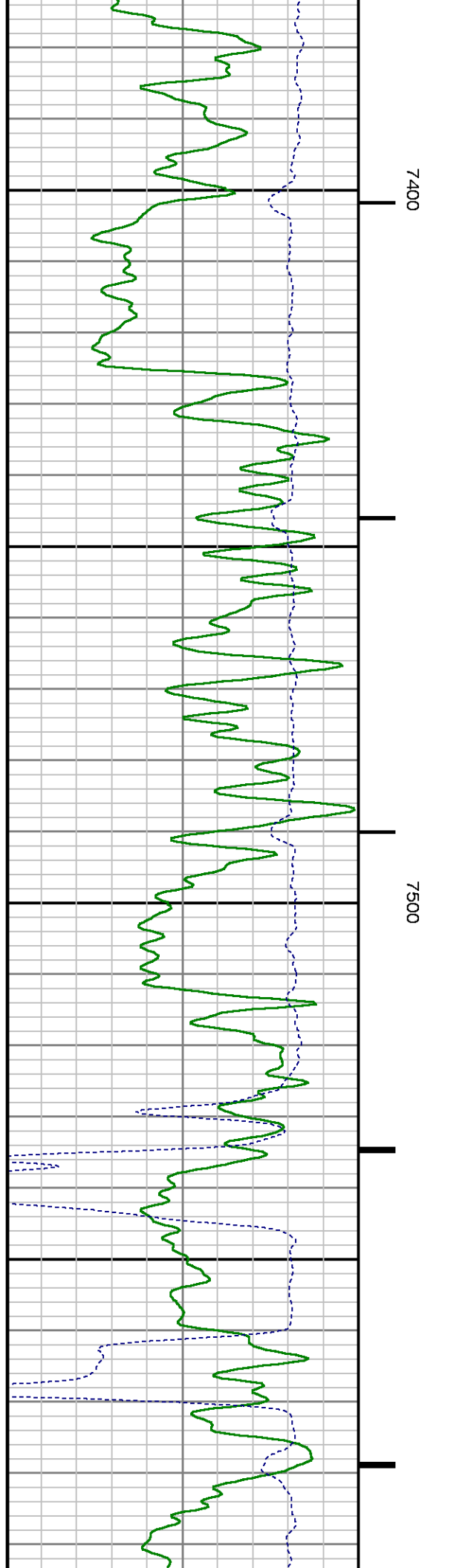
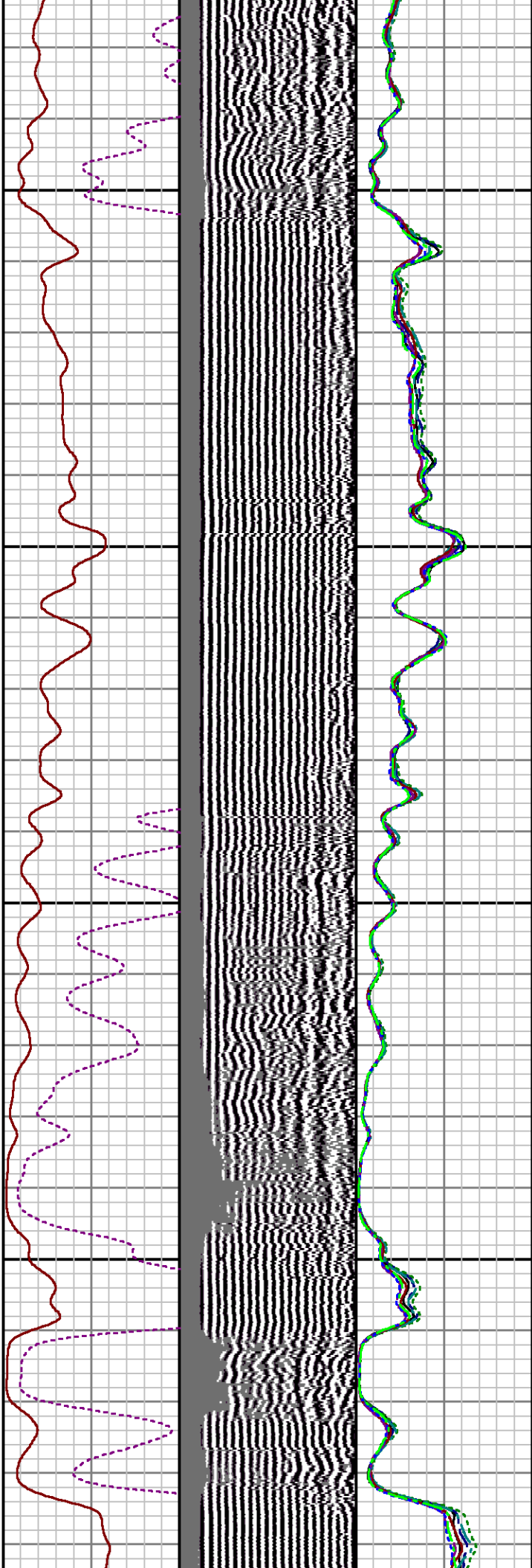
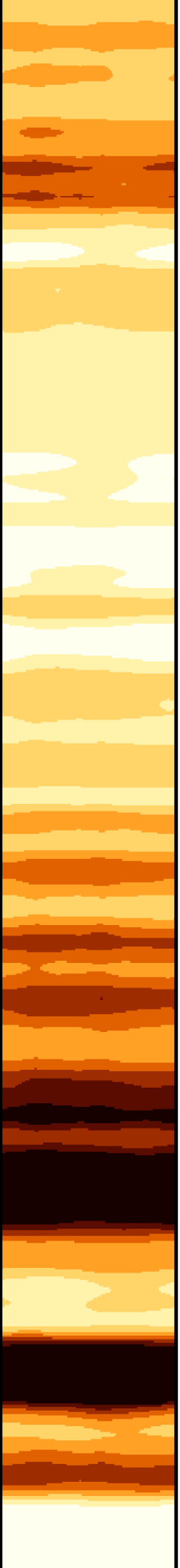


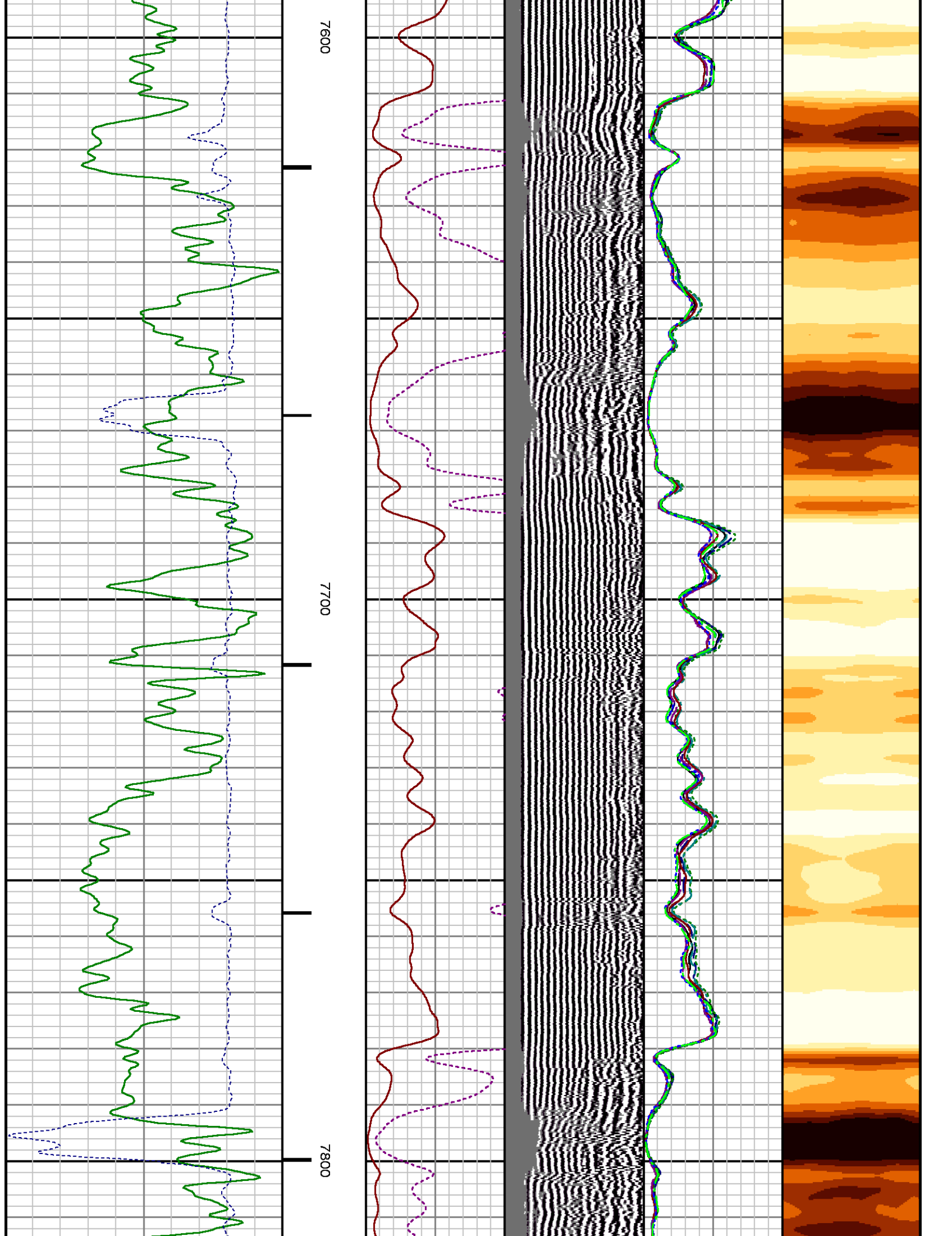


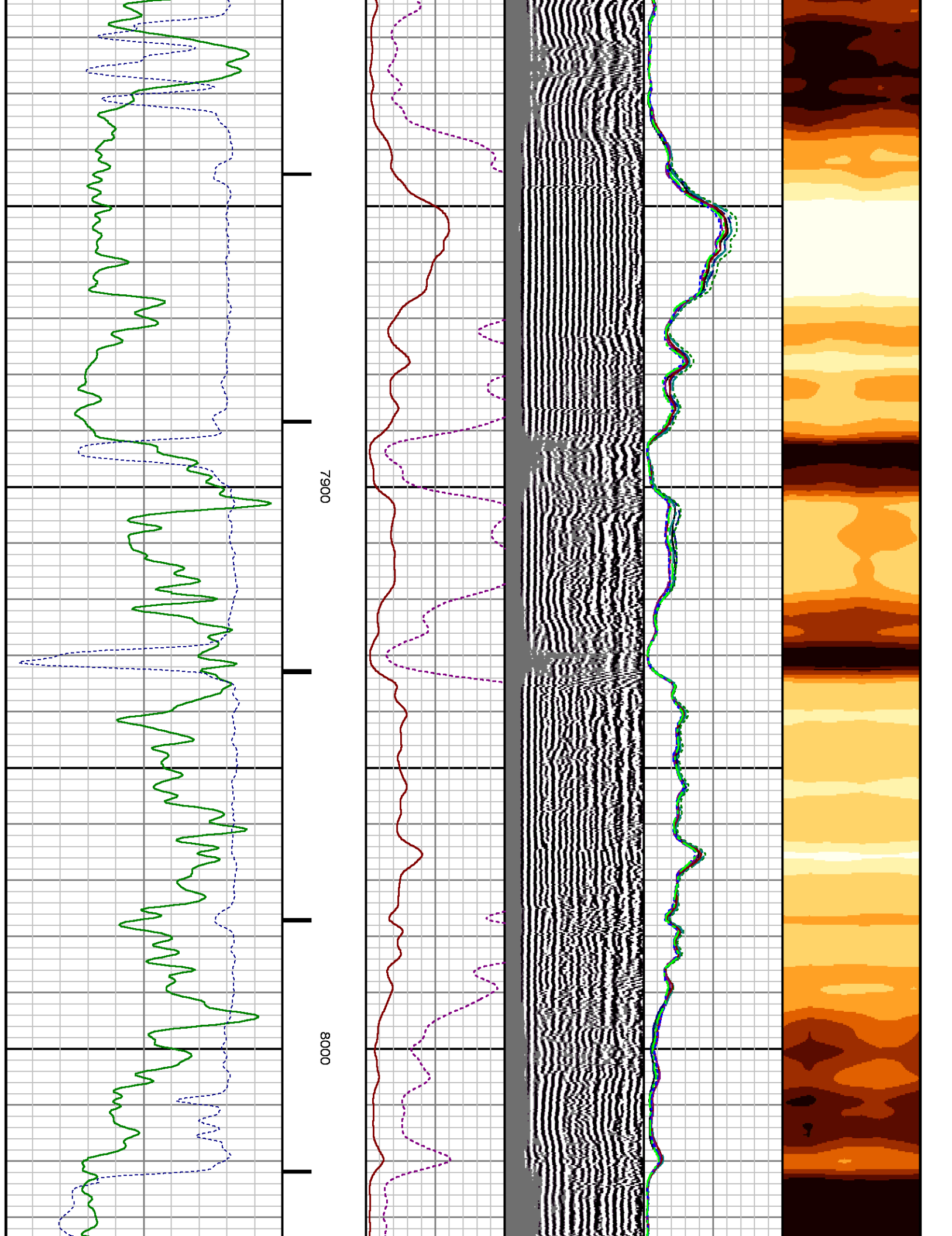


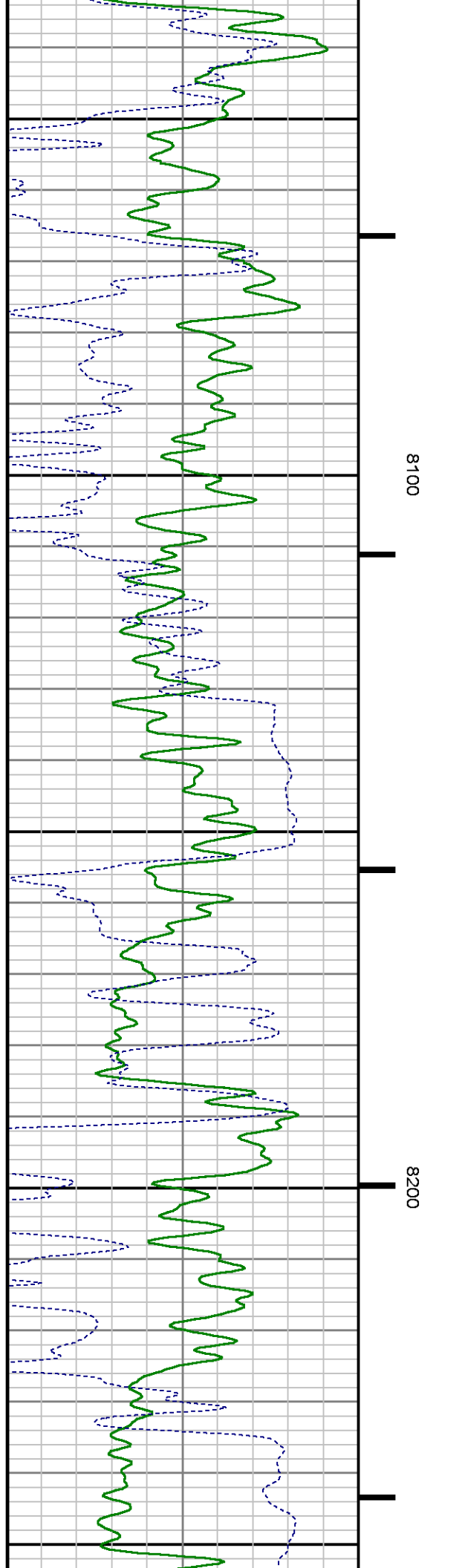
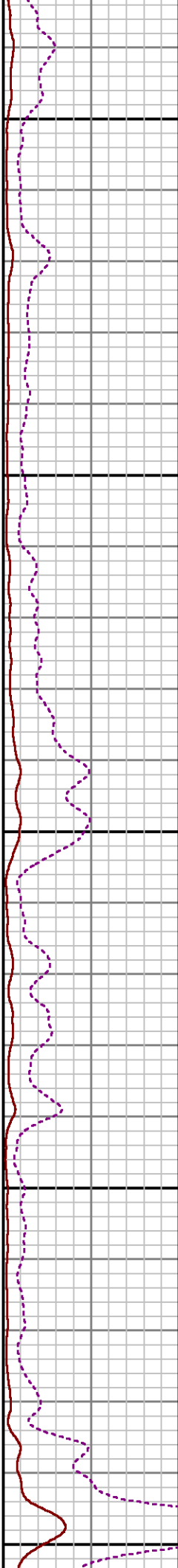
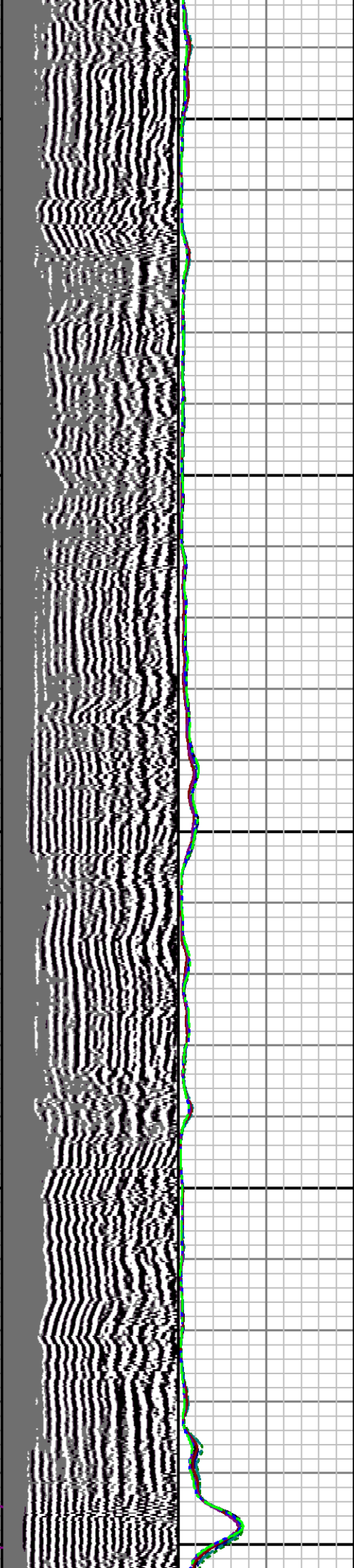


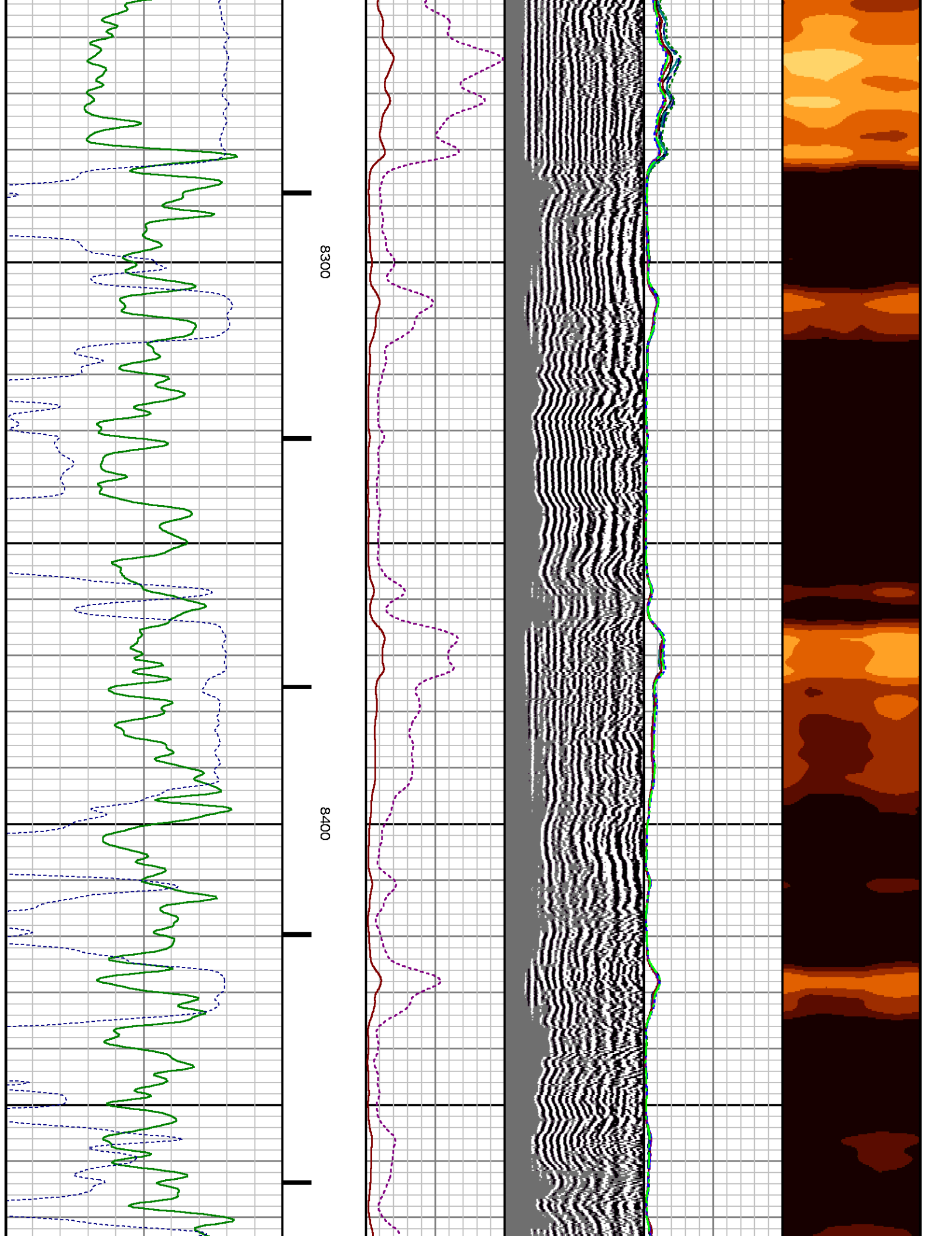


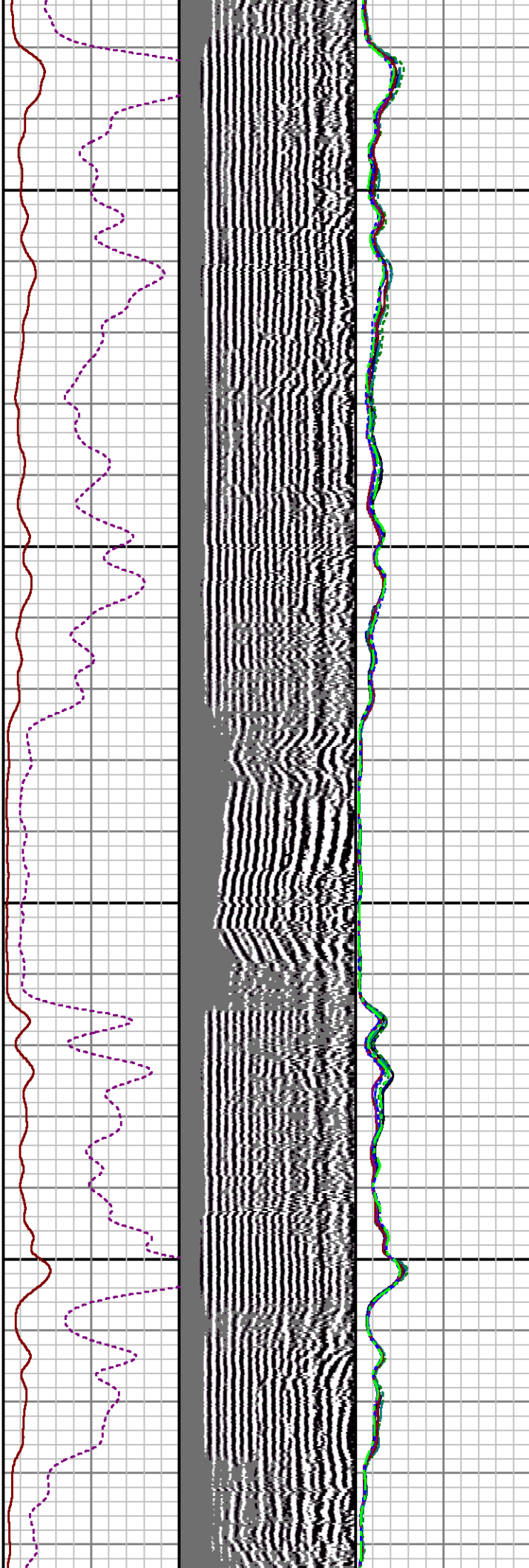






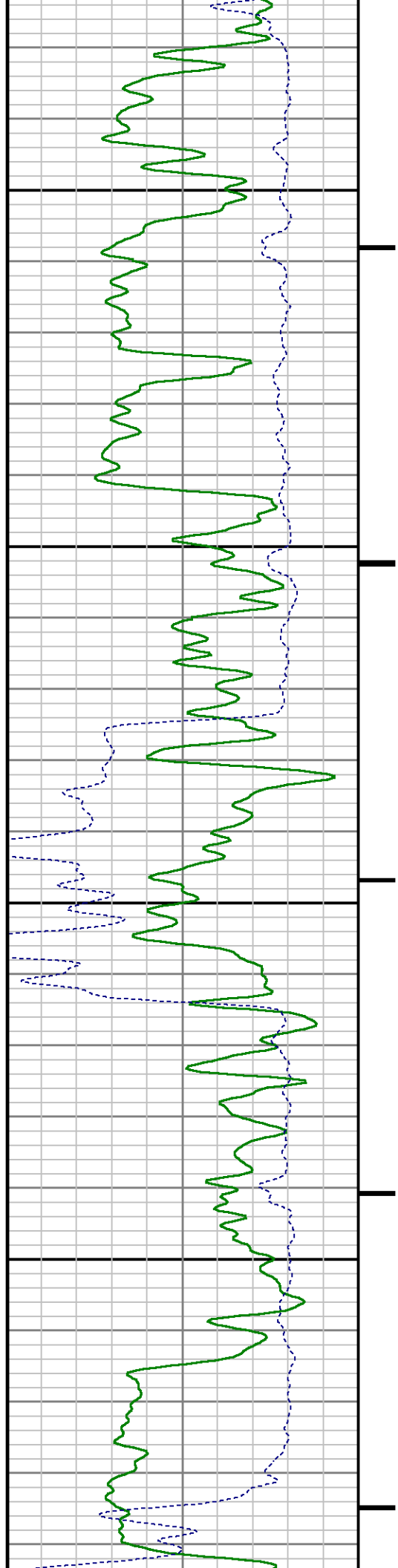


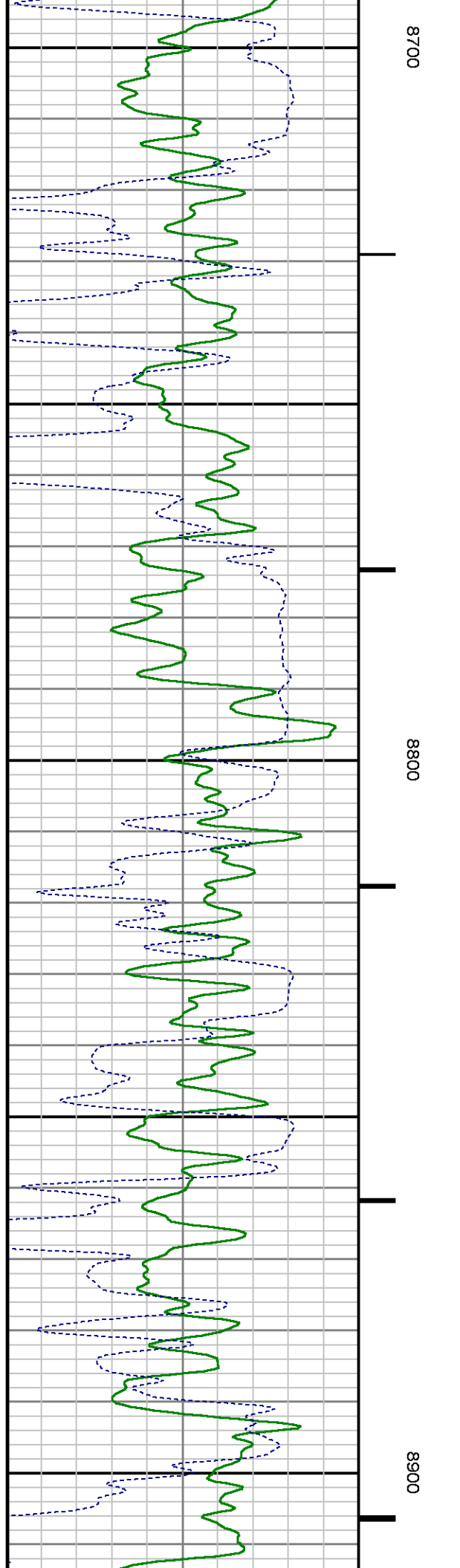
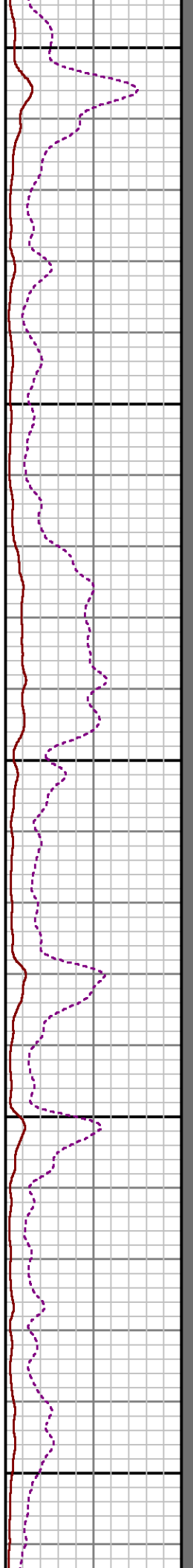
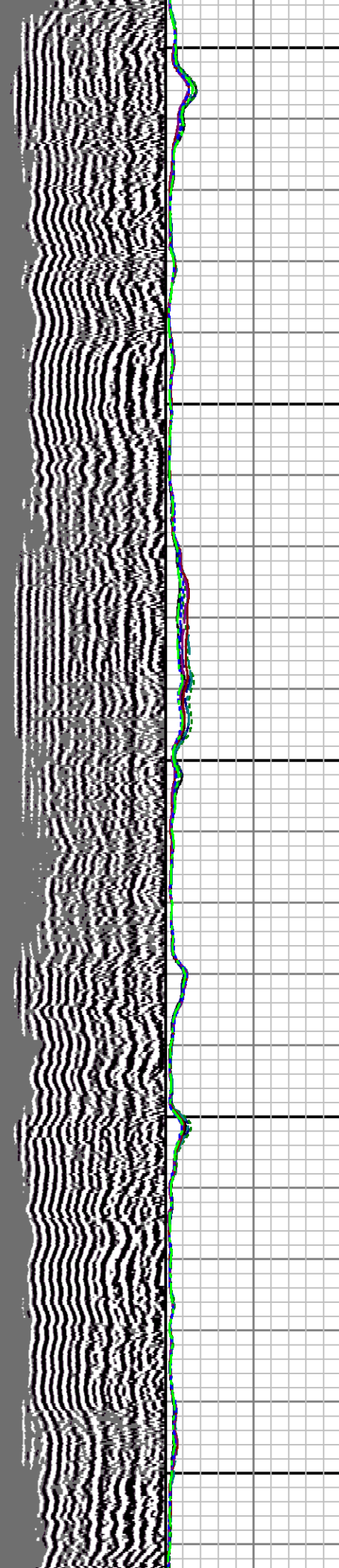
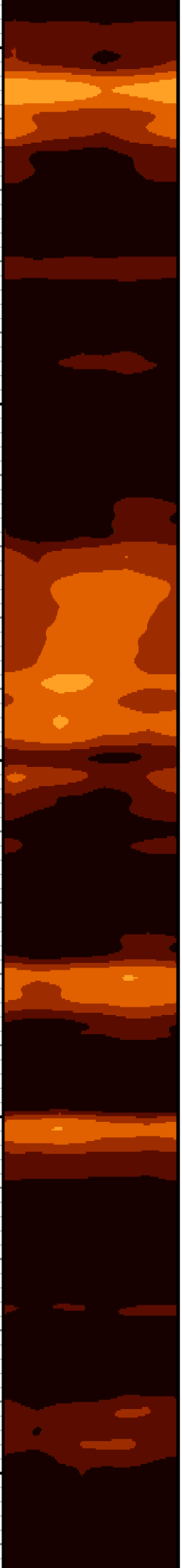


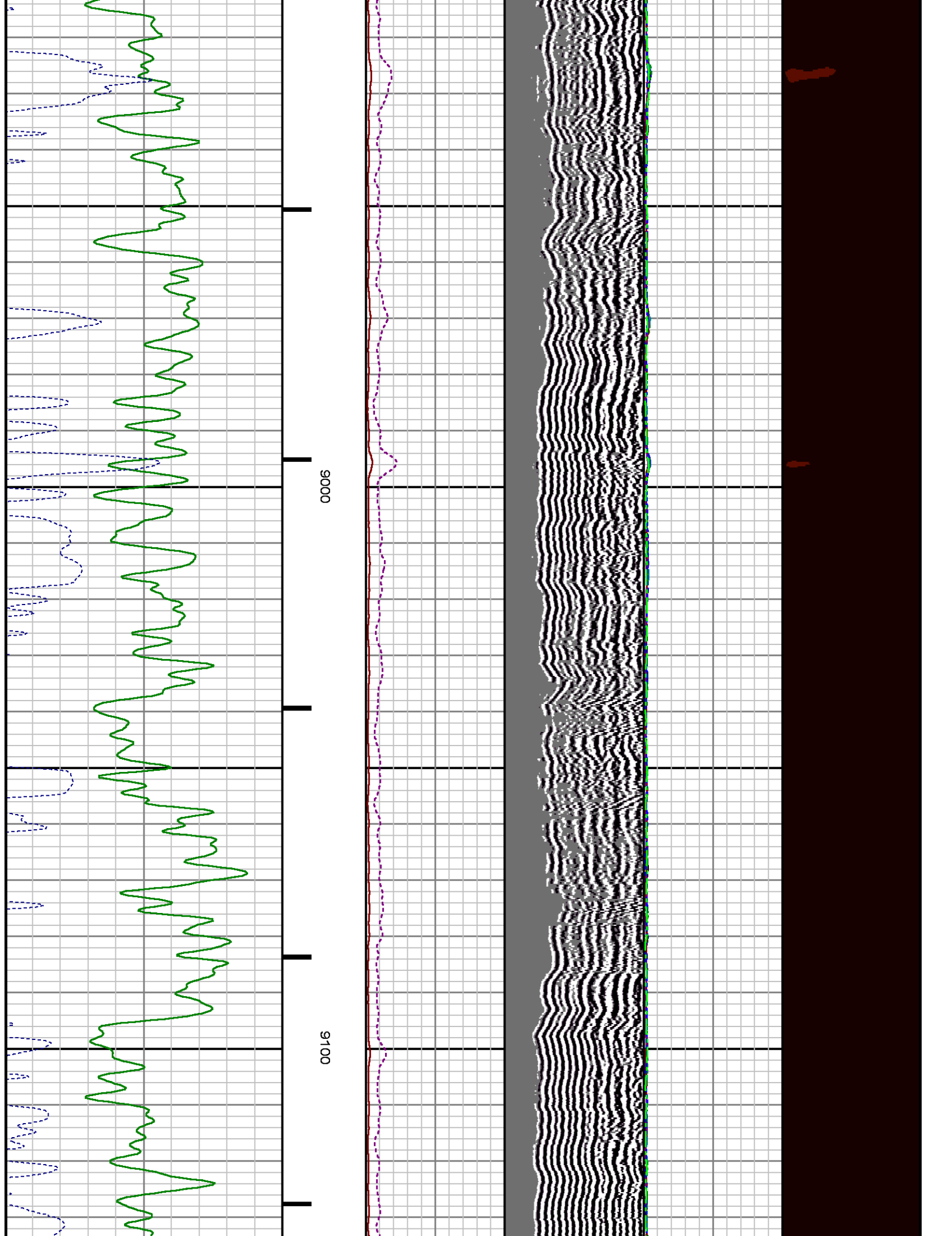


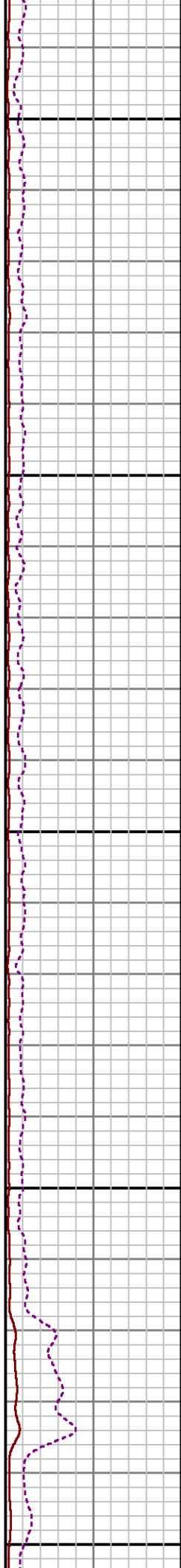
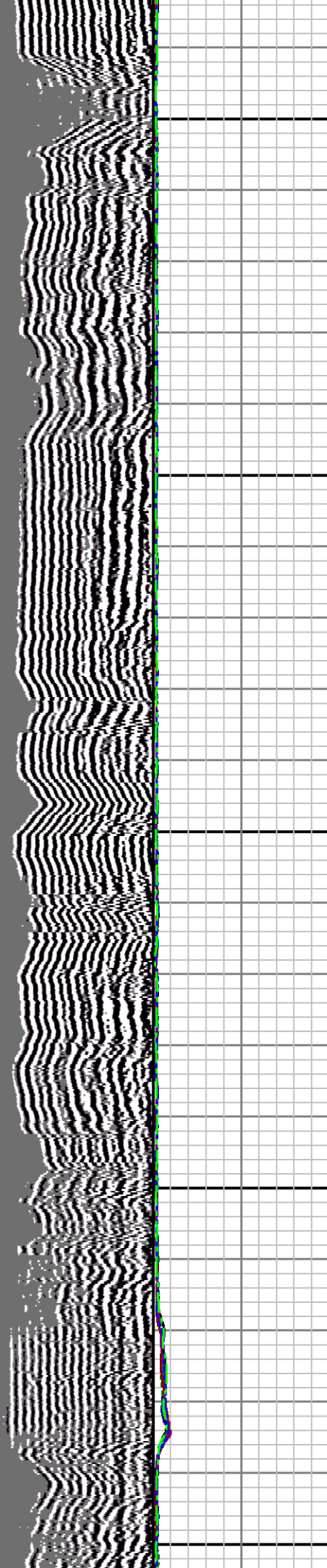
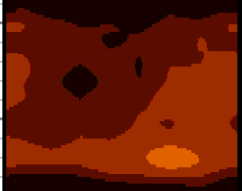
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8600



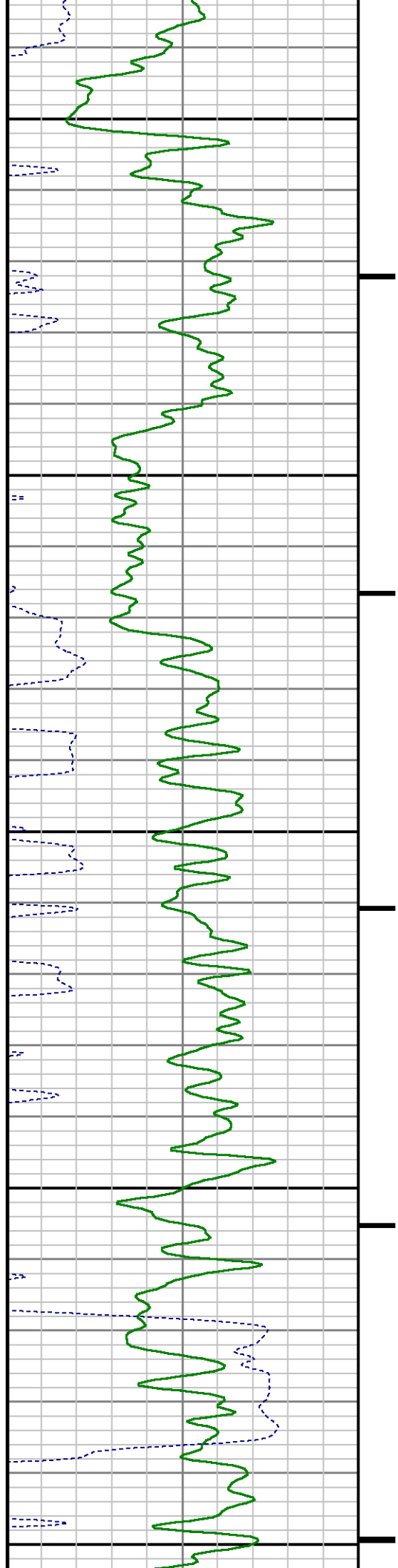


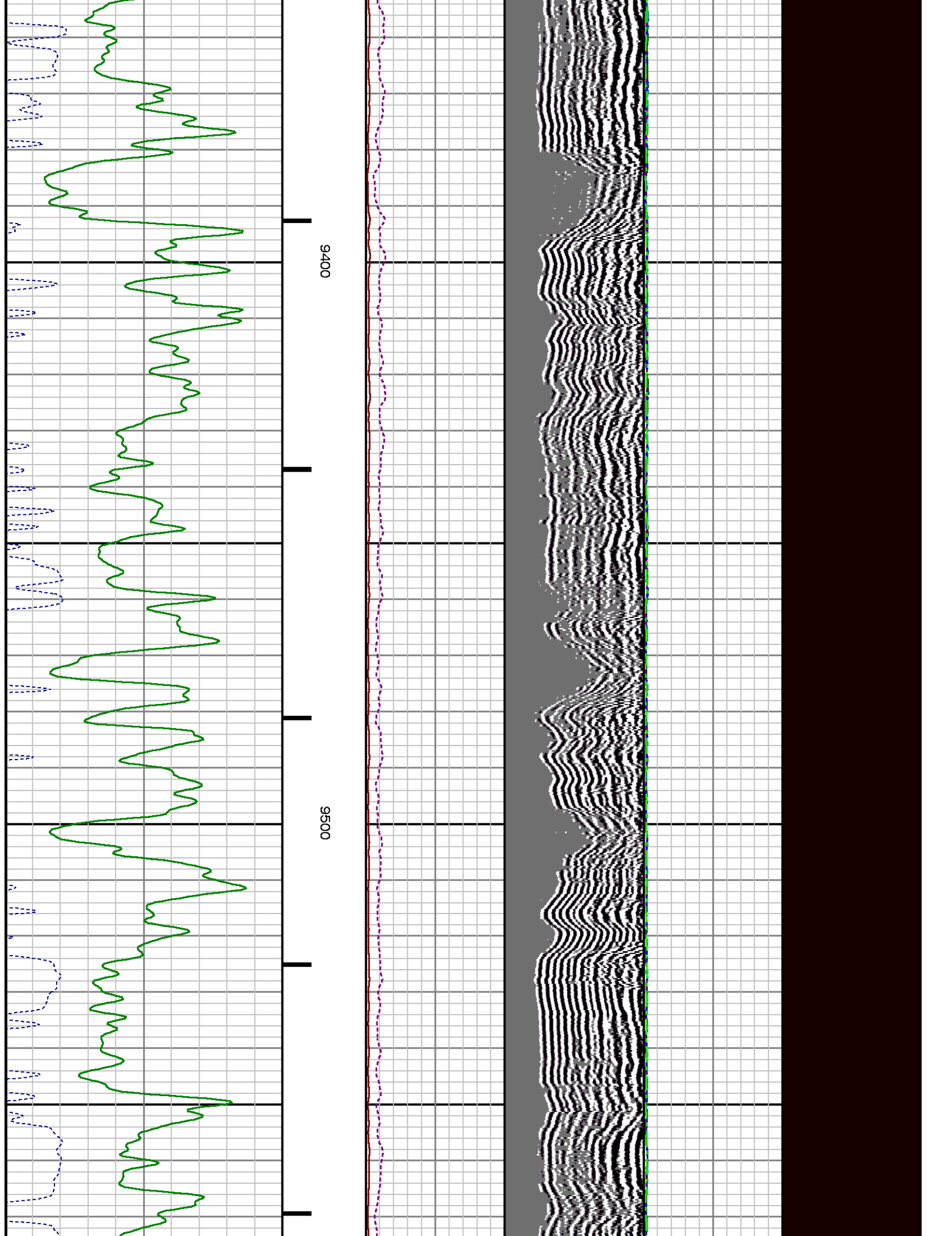


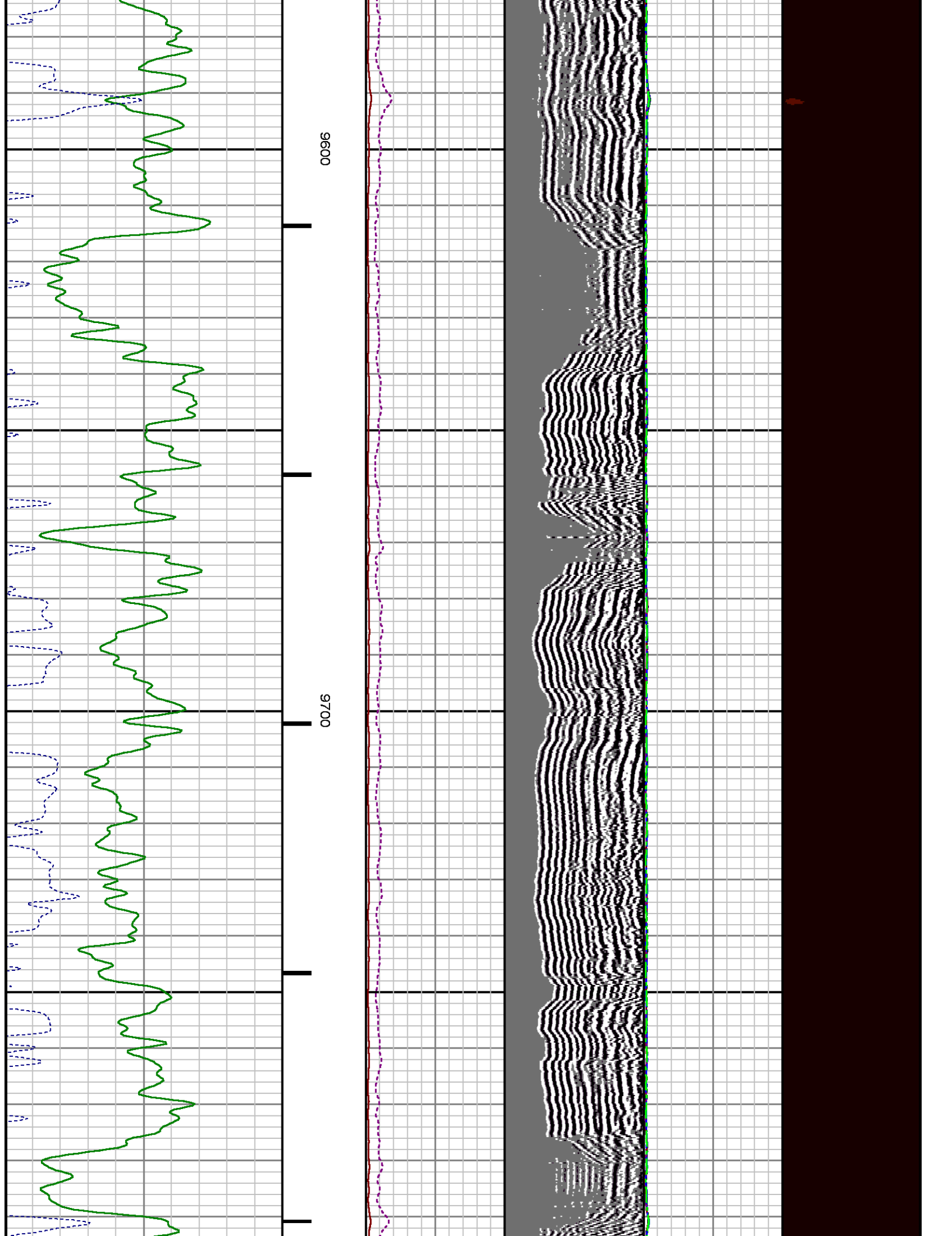


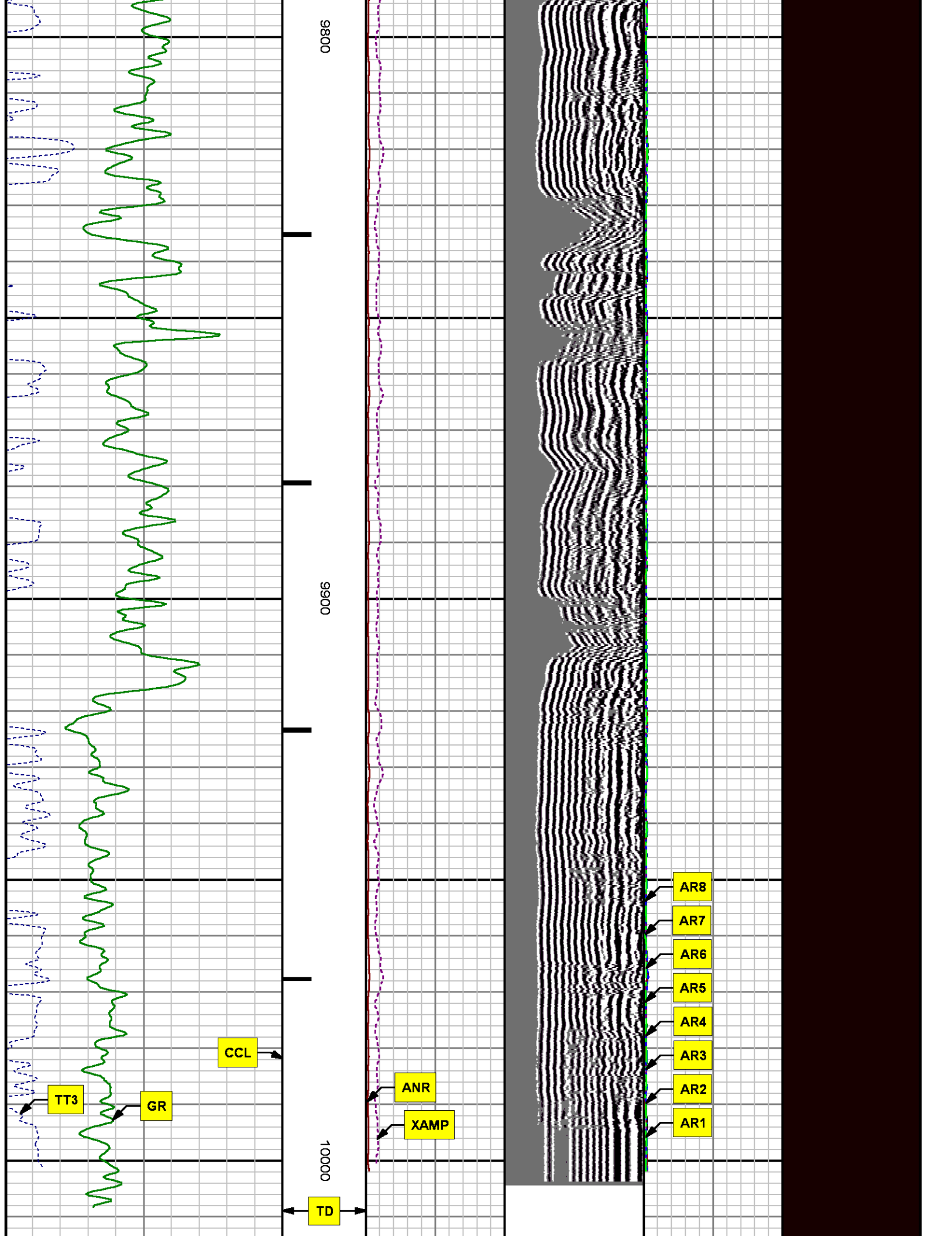
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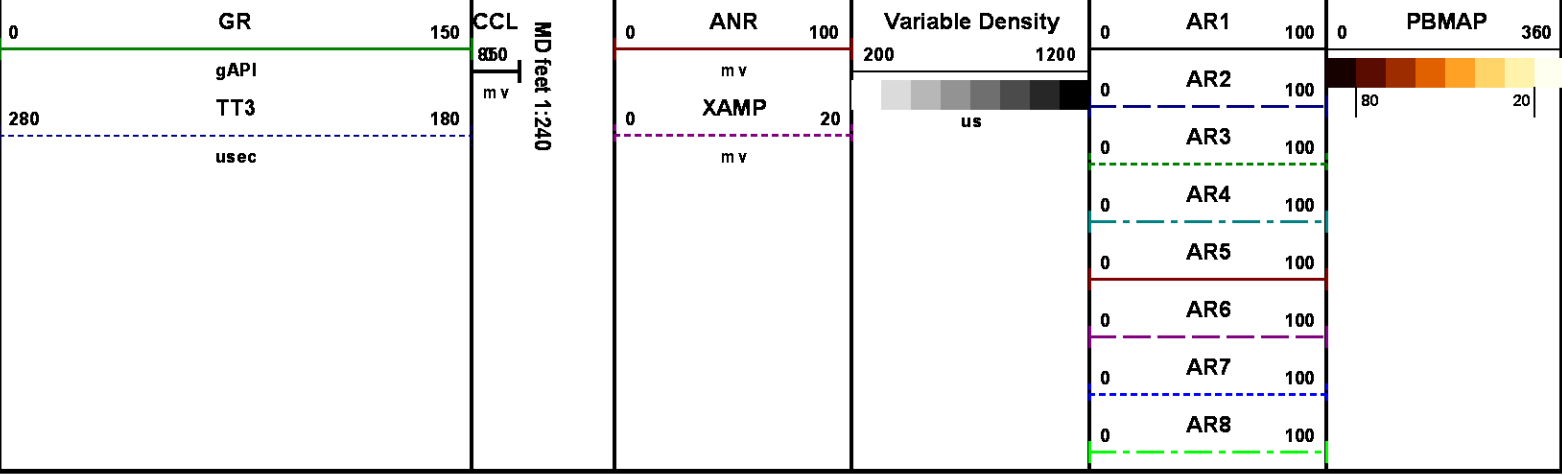
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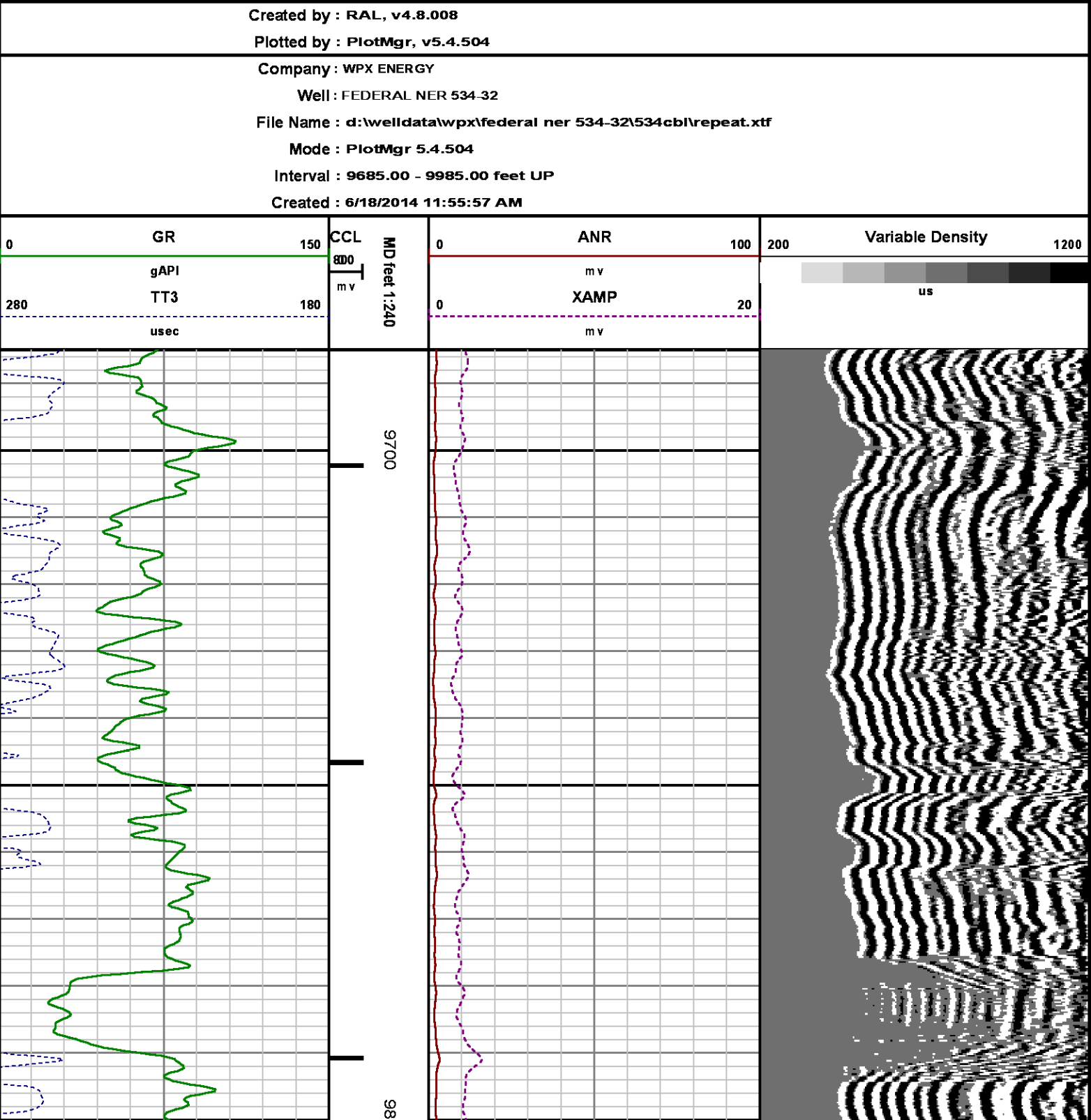


REPEAT SECTION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	u sec	9679.800	10018.050
RAL	Amp Gate Start Near	195.000	u sec	9679.800	10018.050
RAL	Amp Gate Start Radial	195.000	u sec	9679.800	10018.050
RAL	Amp Gate Width Far	25.000	u sec	9679.800	10018.050
RAL	Amp Gate Width Near	25.000	u sec	9679.800	10018.050
RAL	Amp Gate Width Radial	25.000	u sec	9679.800	10018.050
RAL	casing od	4.500	inches	9679.800	10018.050
RAL	casing wt	11.600	lbm/ft	9679.800	10018.050
RAL	FB Start Far	291.900	u sec	9679.800	10018.050
RAL	FB Start Near	175.391	u sec	9679.800	10018.050
RAL	FB Start Radial	175.391	u sec	9679.800	10018.050
RAL	FB Thresh Far	10.000	m v	9679.800	10018.050
RAL	FB Thresh Near	4.000	m v	9679.800	10018.050
RAL	FB Thresh Radial	4.000	m v	9679.800	10018.050
RAL	Fluid Travel Time	200.000	u sec/ft	9679.800	10017.893

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							





CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\49617_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jun 17 11:33:48 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 17

Tool Delay [usec] Tank OD Tank Wt Tank ID

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	<input type="text" value="219"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="166"/>	<input type="text" value="25"/>	<input type="text" value="-0.166"/>	<input type="text" value="100.00"/>	<input type="text" value="0.33"/>
3 Ft. Receiver	<input type="text" value="218"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="166"/>	<input type="text" value="16"/>	<input type="text" value="0.286"/>	<input type="text" value="100.00"/>	<input type="text" value="0.32"/>
5 Ft. Receiver	<input type="text" value="327"/>	<input type="text" value="325"/>	<input type="text" value="30"/>	<input type="text" value="258"/>	<input type="text" value="25"/>	<input type="text" value="0.824"/>	<input type="text" value="150.00"/>	<input type="text" value="0.37"/>
Radial #1	<input type="text" value="218"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="166"/>	<input type="text" value="17"/>	<input type="text" value="0.885"/>	<input type="text" value="100.00"/>	<input type="text" value="0.33"/>
Radial #2	<input type="text" value="217"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="166"/>	<input type="text" value="17"/>	<input type="text" value="0.406"/>	<input type="text" value="100.00"/>	<input type="text" value="0.32"/>
Radial #3	<input type="text" value="217"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="166"/>	<input type="text" value="17"/>	<input type="text" value="0.842"/>	<input type="text" value="100.00"/>	<input type="text" value="0.32"/>
Radial #4	<input type="text" value="217"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="166"/>	<input type="text" value="17"/>	<input type="text" value="0.766"/>	<input type="text" value="100.00"/>	<input type="text" value="0.32"/>
Radial #5	<input type="text" value="217"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="166"/>	<input type="text" value="17"/>	<input type="text" value="0.521"/>	<input type="text" value="100.00"/>	<input type="text" value="0.32"/>
Radial #6	<input type="text" value="217"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="166"/>	<input type="text" value="17"/>	<input type="text" value="0.629"/>	<input type="text" value="100.00"/>	<input type="text" value="0.33"/>
Radial #7	<input type="text" value="218"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="166"/>	<input type="text" value="17"/>	<input type="text" value="0.776"/>	<input type="text" value="100.00"/>	<input type="text" value="0.33"/>
Radial #8	<input type="text" value="220"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="166"/>	<input type="text" value="17"/>	<input type="text" value="0.402"/>	<input type="text" value="100.00"/>	<input type="text" value="0.33"/>

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\49617 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jun 17 11:47:41 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 17

Tool Delay [usec] Casing OD Casing Wt Casing ID

RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	<input type="text" value="166"/>	<input type="text" value="25"/>	<input type="text" value="0.015"/>	<input type="text" value="0.000"/>	<input type="text" value="1.00"/>	<input type="text" value="100.000"/>
3 Ft. Receiver	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="2.229"/>			
5 Ft. Receiver	<input type="text" value="317"/>	<input type="text" value="30"/>	<input type="text" value="2.484"/>			
Radial #1	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="1.381"/>			
Radial #2	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="1.572"/>			
Radial #3	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="1.966"/>			
Radial #4	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="2.019"/>			

Radial #5	200	30	2.136
Radial #6	200	30	2.071
Radial #7	200	30	1.676
Radial #8	200	30	1.619

GAMMA RAY

Calibration File: C:\case\calver\GRV456J1.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jun 10 11:37:19 2014 TOOL SERIES: 2459XA ASSET: 456 SEQ: J1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	93.20	369.51	0.670	62.40	247.40	185.00

Verification File: C:\case\calver\GRV456J1.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Tue Jun 10 11:38:30 2014 TOOL SERIES: 2459XA ASSET: 456 SEQ: J1

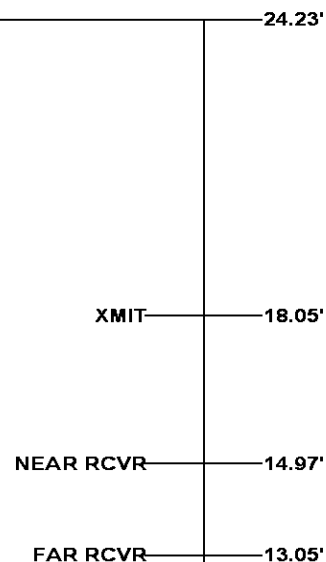
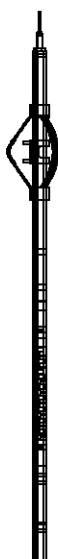
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	101.16	371.24	0.670	67.73	248.56	180.83

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

CCL 11.34'

GR 9.49'

NEU 4.09'

0.00'

Total Length: 24.23'**Total Weight: Not Available****Max Diameter: 0' 3.12"****Baker Atlas***CASE***Company**

WPX ENERGY

Well

FEDERAL NER 534-32

Field

RULISON

County

GARFIELD

State

CO

Location

SHL: 163' FNL & 2586' FWL (5 7S 93W)

BHL: 145' FSL & 1984' FWL (32 6S 93W)

SEC 32 TWP 6S RGE 93W

Elevations

KB 7629 ft

DF

GL 7603 ft

File No:

CH086325

API No:

05045217830000

32 6S 93W

RU 23-5 PAD

NABORS 576