



# RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: \_\_\_\_\_ Company \_\_\_\_\_ WPX ENERGY

CH082311 Well \_\_\_\_\_ FEDERAL PA 441-21

API No: \_\_\_\_\_ Field \_\_\_\_\_ PARACHUTE

0504520320000 County \_\_\_\_\_ GARFIELD State \_\_\_\_\_ COLORADO

## Location

21 6S 95W

PA 22-21 PAD

NABORS 673

SHL: 2600' FNL & 1456' FWL  
BHL: 954' FNL & 249' FEL (NENE)

SEC 21 TWP 6S RGE 95W

## Other Services

RPM

GL \_\_\_\_\_ Elevation \_\_\_\_\_ 6030 ft

KB \_\_\_\_\_ 26 ft Above P. D.

KELLY BUSHING

Elevations

KB 6056 ft

DF

GL 6030 ft

Date \_\_\_\_\_ 11/FEB/14

Run \_\_\_\_\_ ONE

Service Order \_\_\_\_\_ US625282

Depth Driller \_\_\_\_\_ 10090 ft

Depth Logger \_\_\_\_\_ 10064 ft

Bottom Logged Interval \_\_\_\_\_ 10054 ft

Top Logged Interval \_\_\_\_\_ 26 ft

Time Started \_\_\_\_\_ 0900

Time Finished \_\_\_\_\_ 1400

Operator Rig Time \_\_\_\_\_ 5 HRS

Type of Fluid in Hole \_\_\_\_\_ WATER

Fluid Density \_\_\_\_\_ NA

Salinity \_\_\_\_\_ NA

Fluid Level \_\_\_\_\_ 79 ft

Logged Cement Top \_\_\_\_\_ NA

Wellhead Pressure \_\_\_\_\_ 0 psi

Maximum Hole Deviation \_\_\_\_\_ NA

Nominal Logging Speed \_\_\_\_\_ 66 fpm

Maximum Recorded Temperature \_\_\_\_\_ 25.1 degF

Reference Log \_\_\_\_\_ NONE

Reference Log Date \_\_\_\_\_ NA

Equipment No. \_\_\_\_\_ 4271

Location \_\_\_\_\_ GRAND JCT

Recorded By \_\_\_\_\_ FLOYD RENEAU

Witnessed By \_\_\_\_\_ GRAN JACOBS

- 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	1568 ft
8.75 in	1568 ft	10090 ft

## Casing Record

Size	Weight	Grade	From	To
9.625 in			0 ft	1568 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	10090 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 16.5 feet.  
Logged with zero PSI at wellhead.

BHT = 251 °F

SJ = 6567'- 6591'

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

PRIMARY PRESENTATION  
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	35.562	10064.500
RAL	Amp Gate Start Near	195.000	usec	35.562	10064.500
RAL	Amp Gate Start Radial	195.000	usec	35.562	10064.500
RAL	Amp Gate Width Far	25.000	usec	35.562	10064.500
RAL	Amp Gate Width Near	25.000	usec	35.562	10064.500
RAL	Amp Gate Width Radial	25.000	usec	35.562	10064.500
RAL	casing od	4.500	inches	35.562	10064.500
RAL	casing wt	11.600	lbm/ft	35.562	10064.500
RAL	FB Start Far	291.900	usec	35.562	10064.500
RAL	FB Start Near	175.391	usec	35.562	10064.500
RAL	FB Start Radial	175.391	usec	35.562	10064.500
RAL	FB Thresh Far	10.000	mv	35.562	10064.500
RAL	FB Thresh Near	4.000	mv	35.562	10064.500
RAL	FB Thresh Radial	4.000	mv	35.562	10064.500
RAL	Fluid Travel Time	200.000	usec/ft	35.562	10065.155

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

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

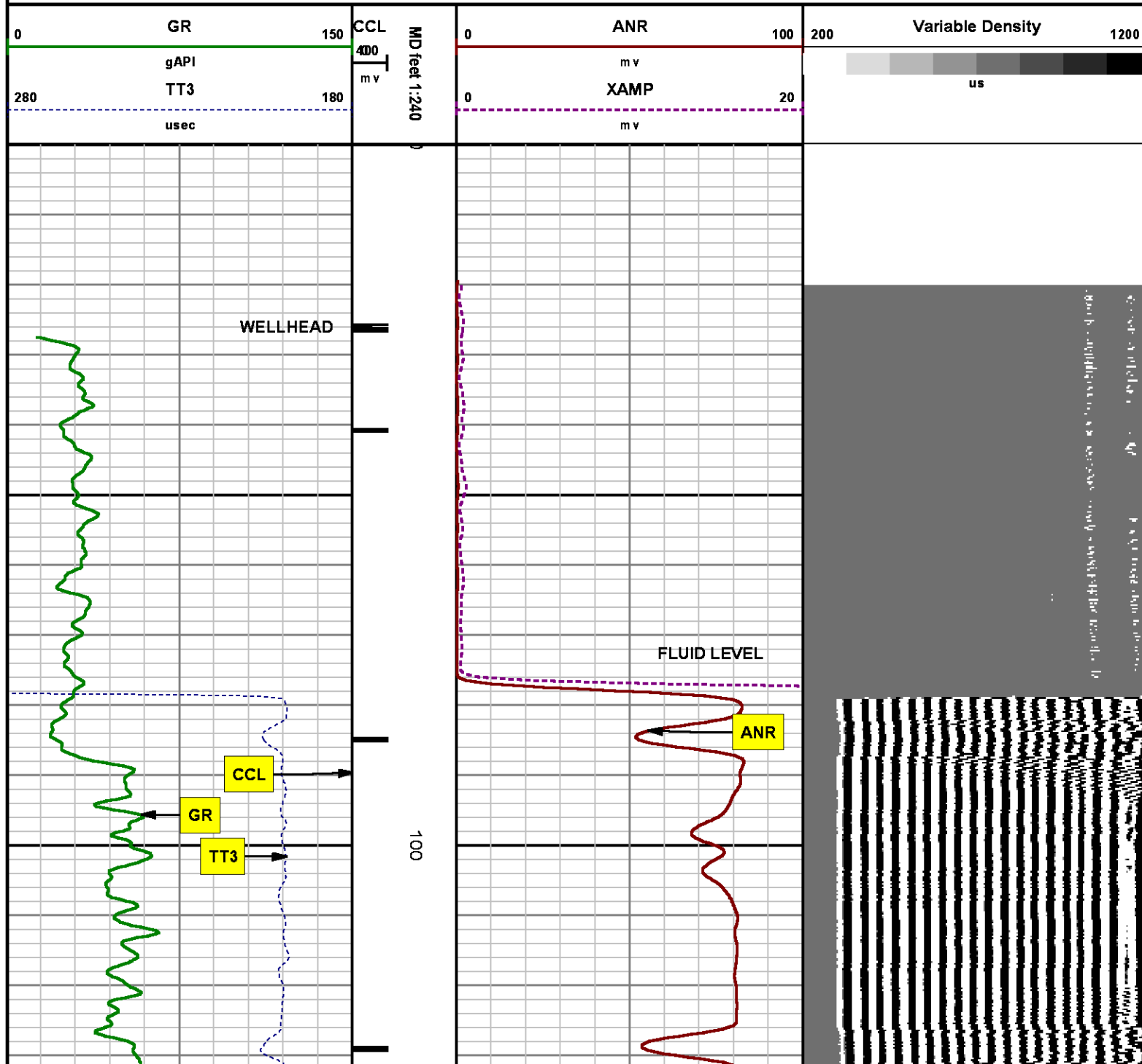
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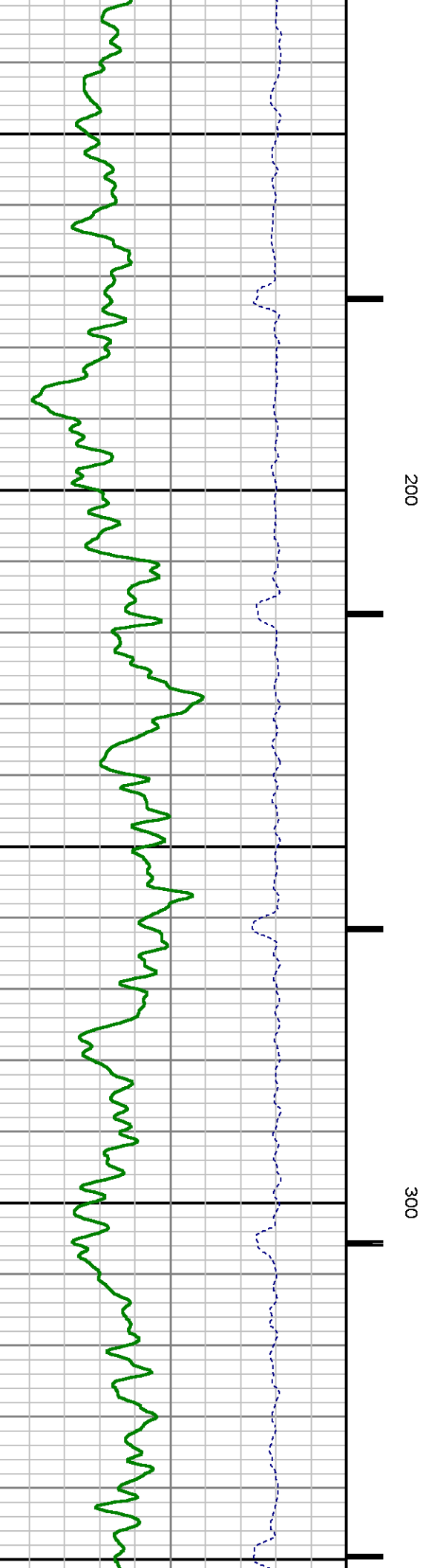
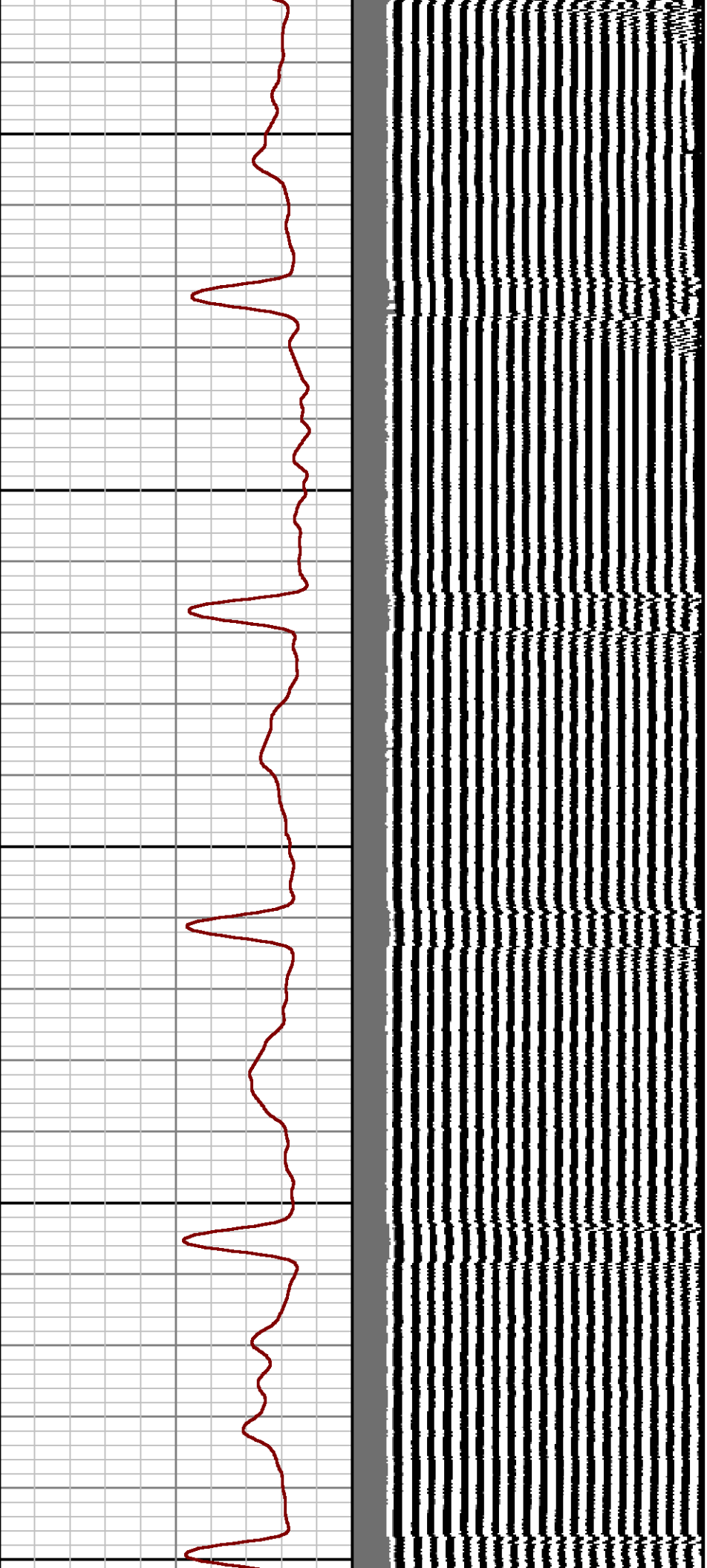
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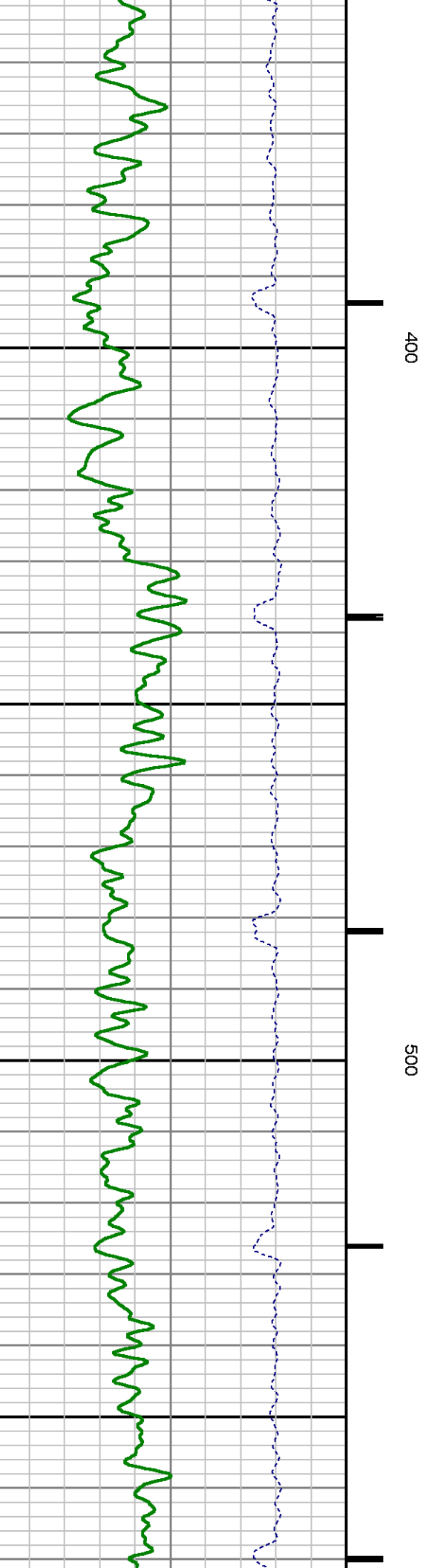
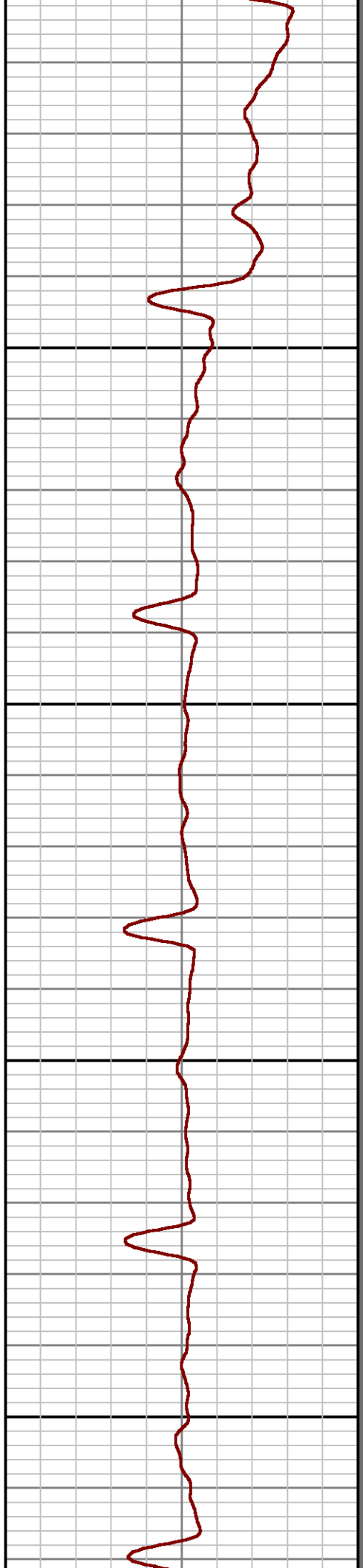
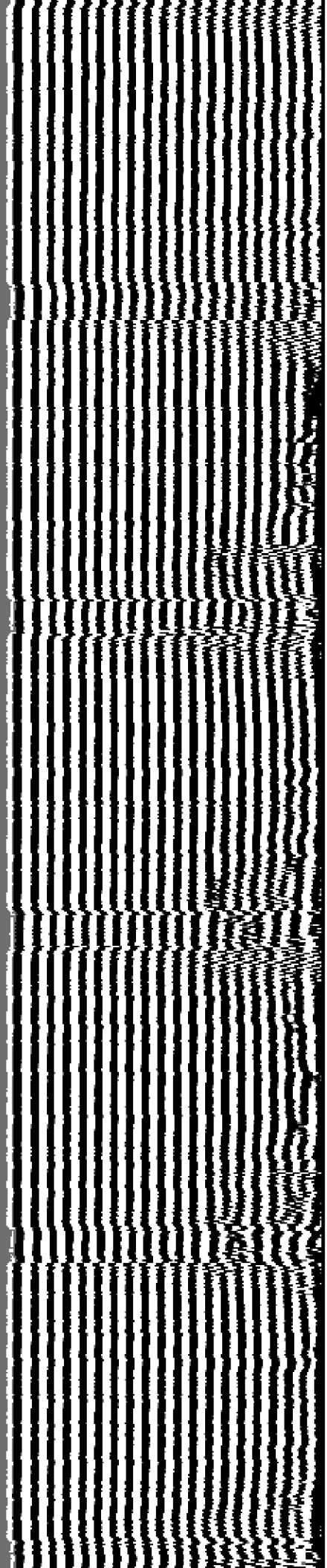
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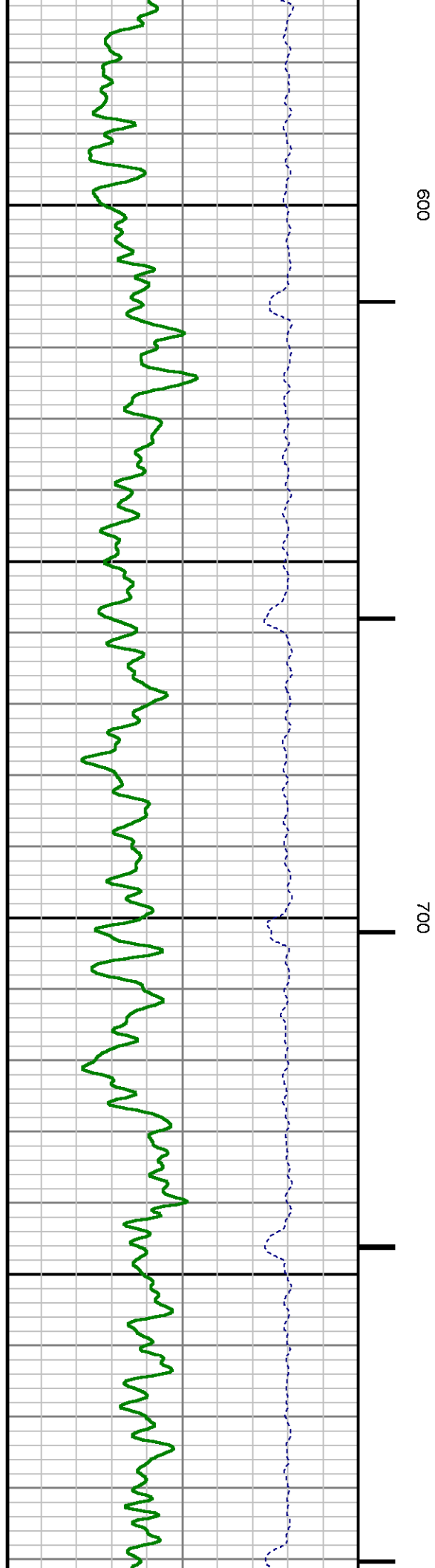
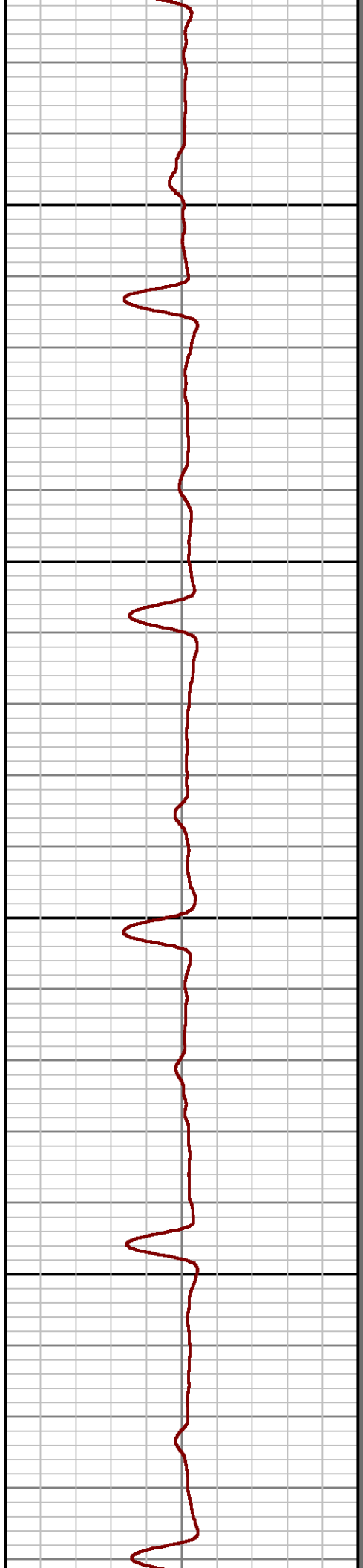
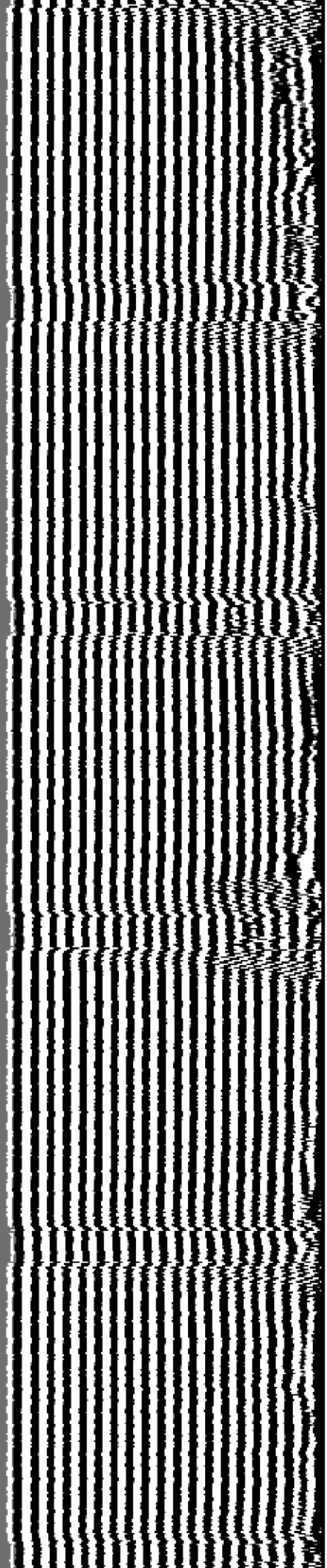
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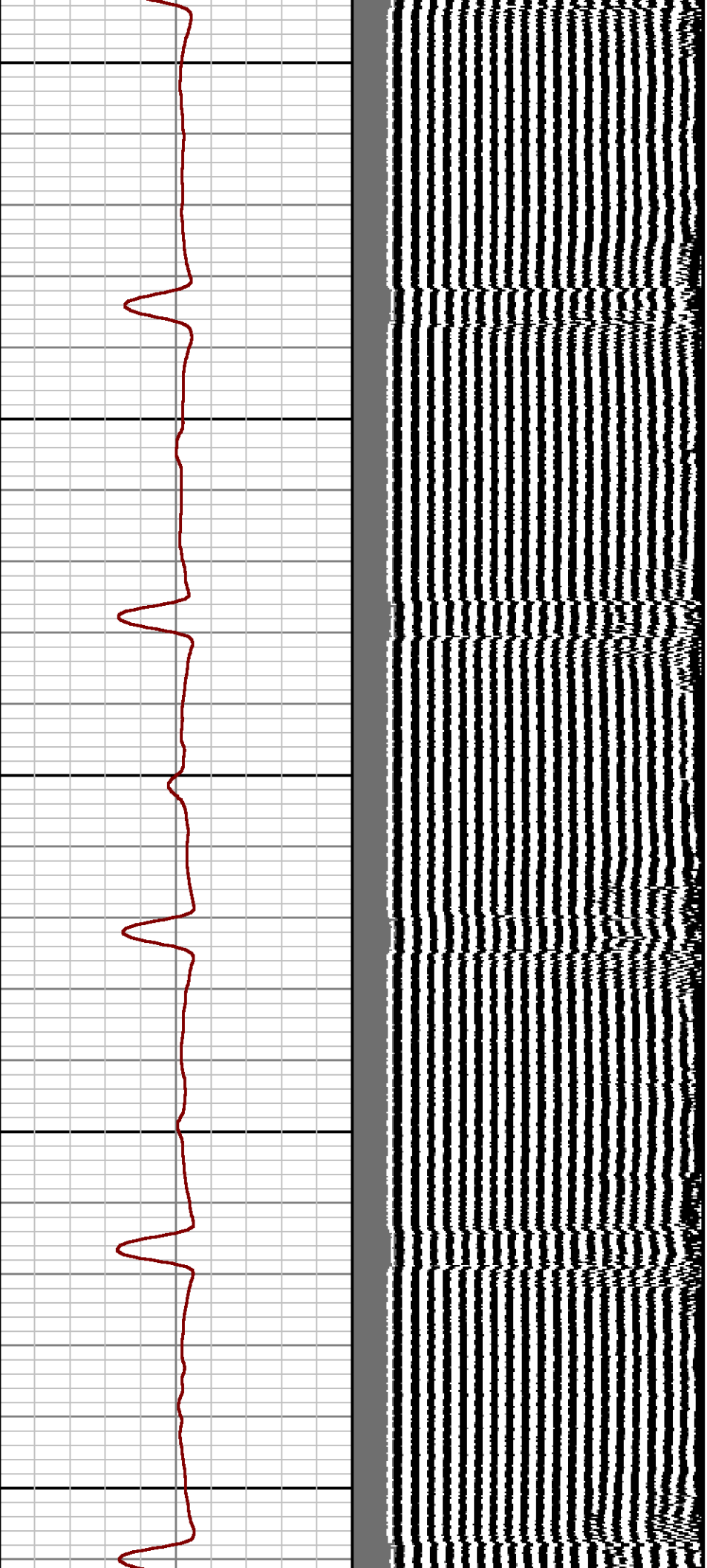








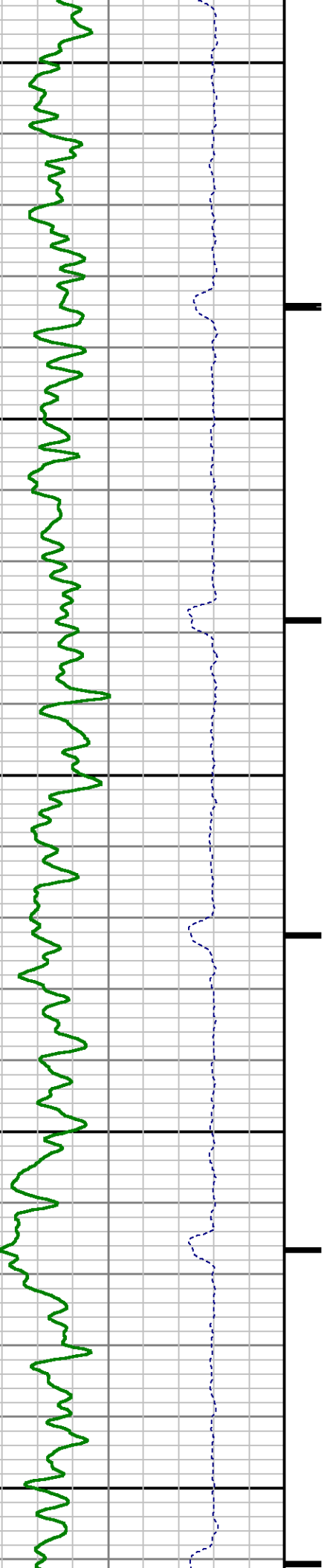


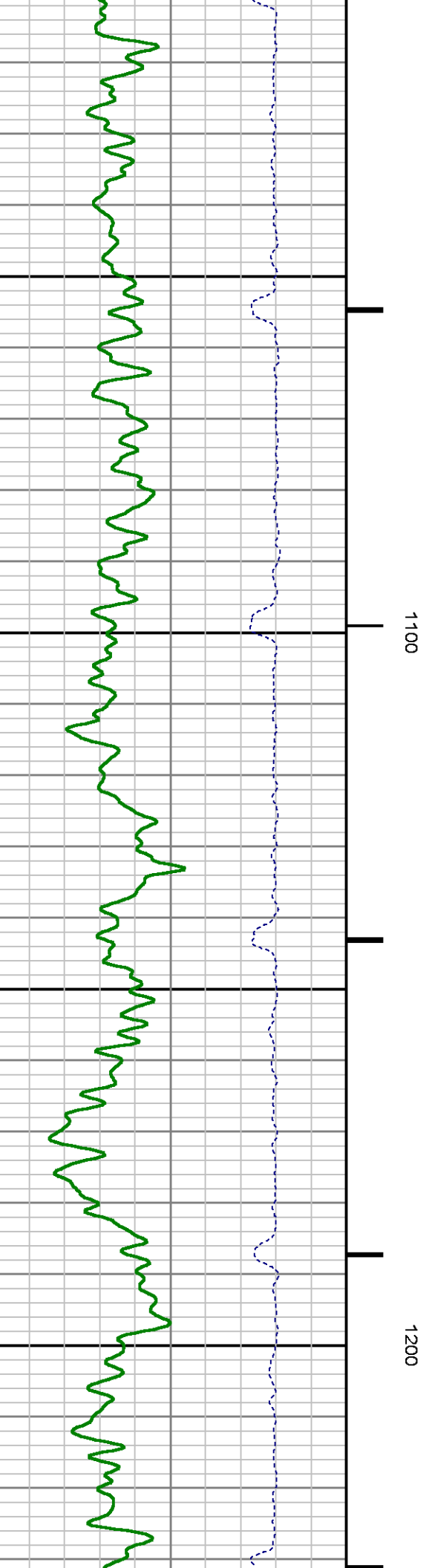
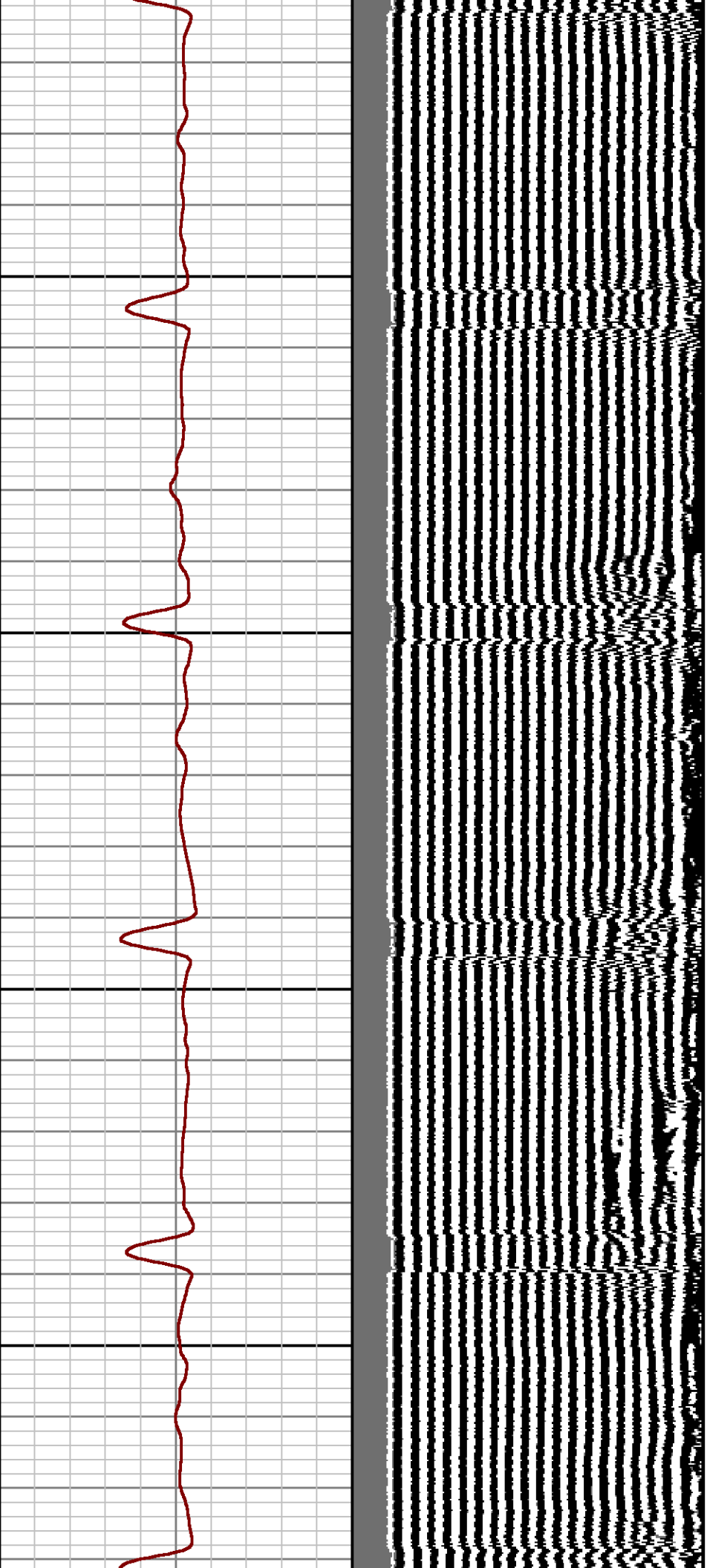


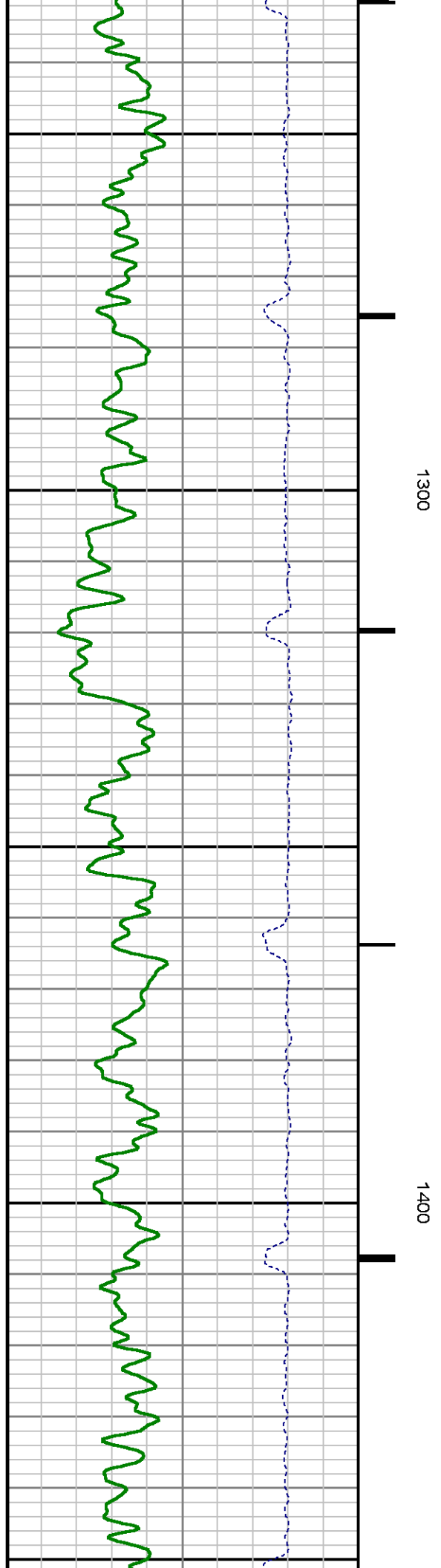
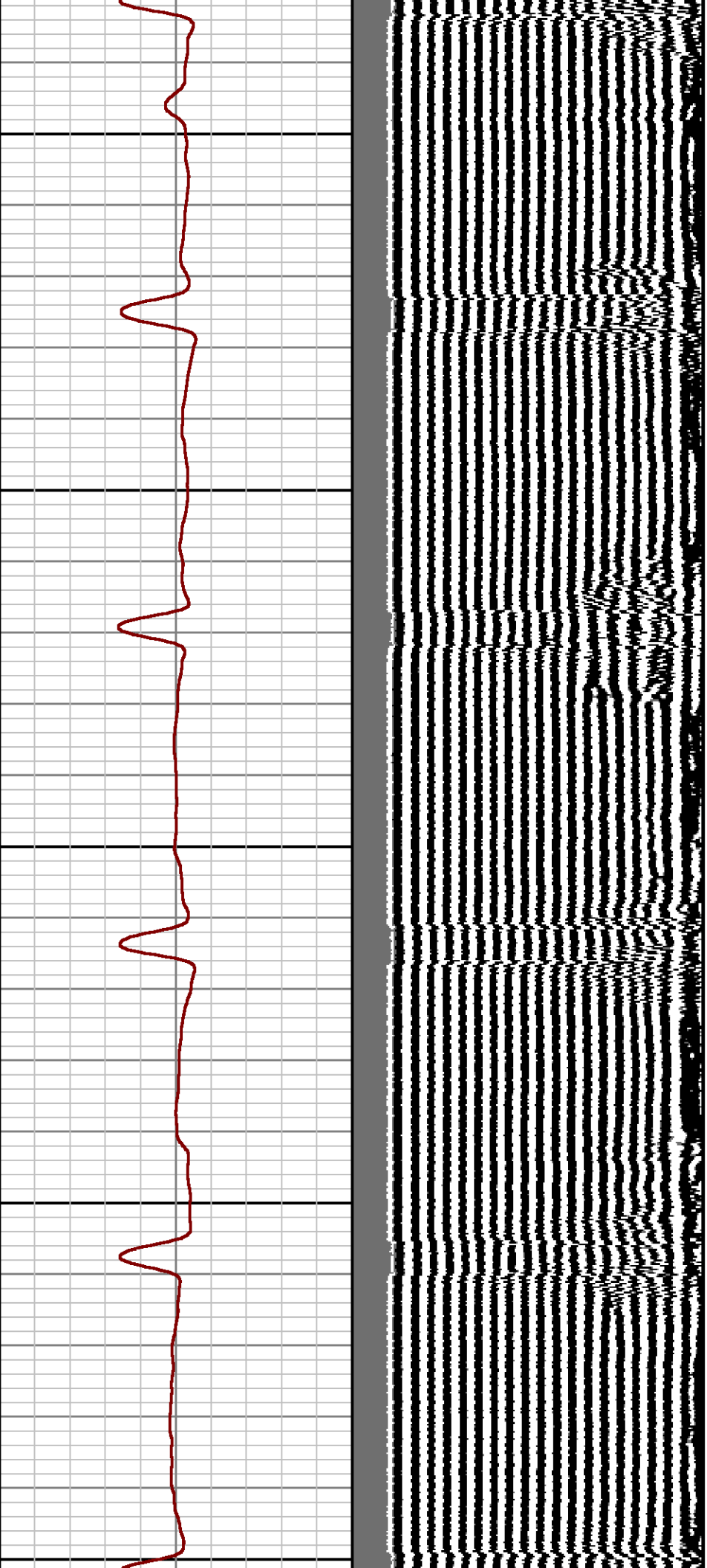
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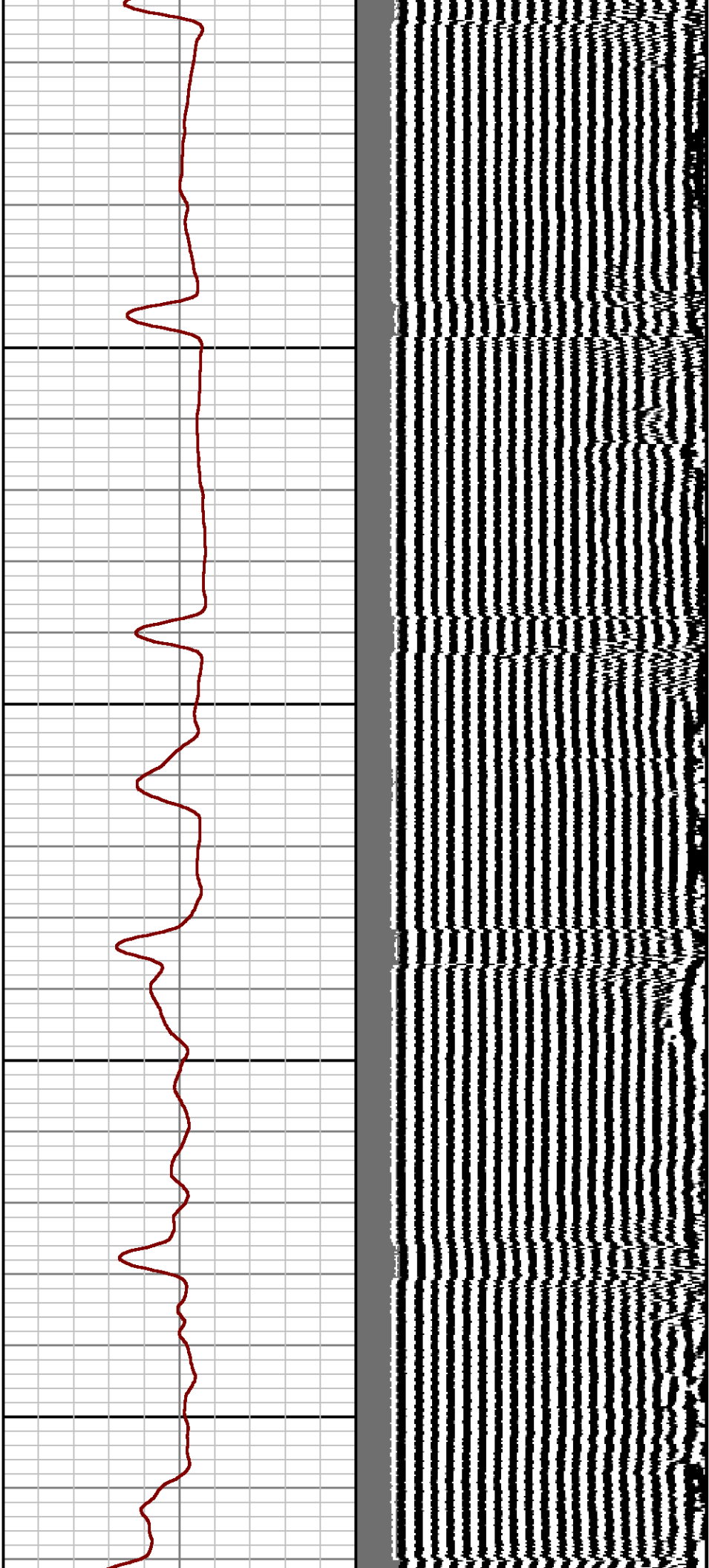
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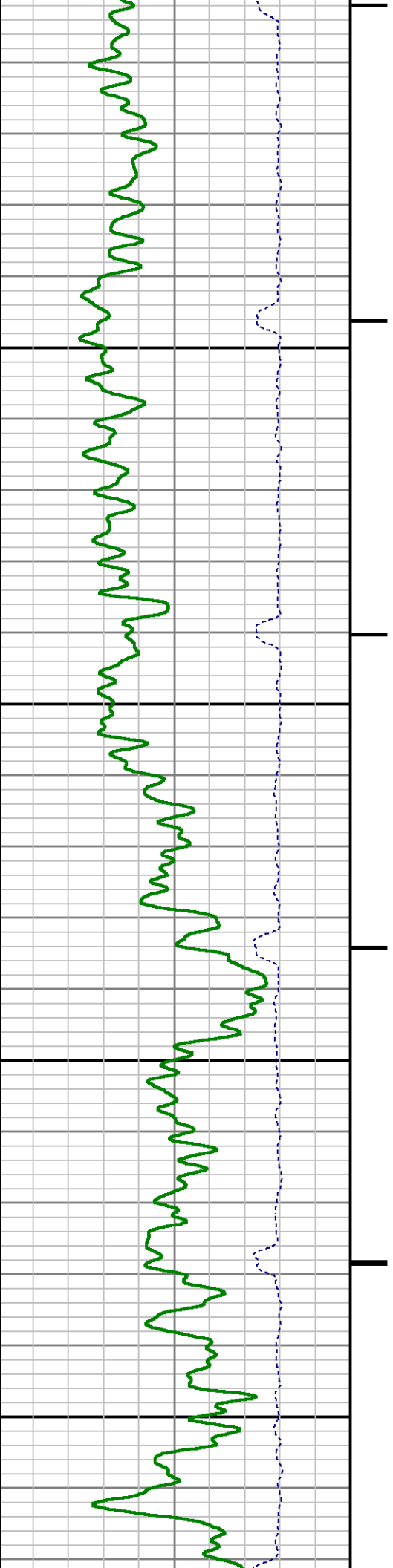


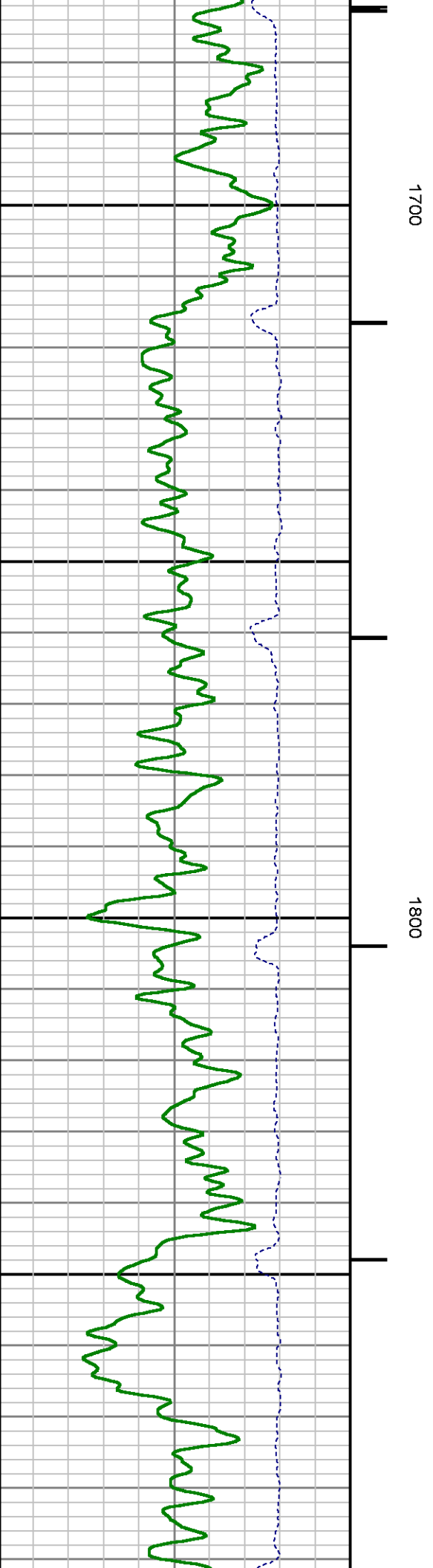
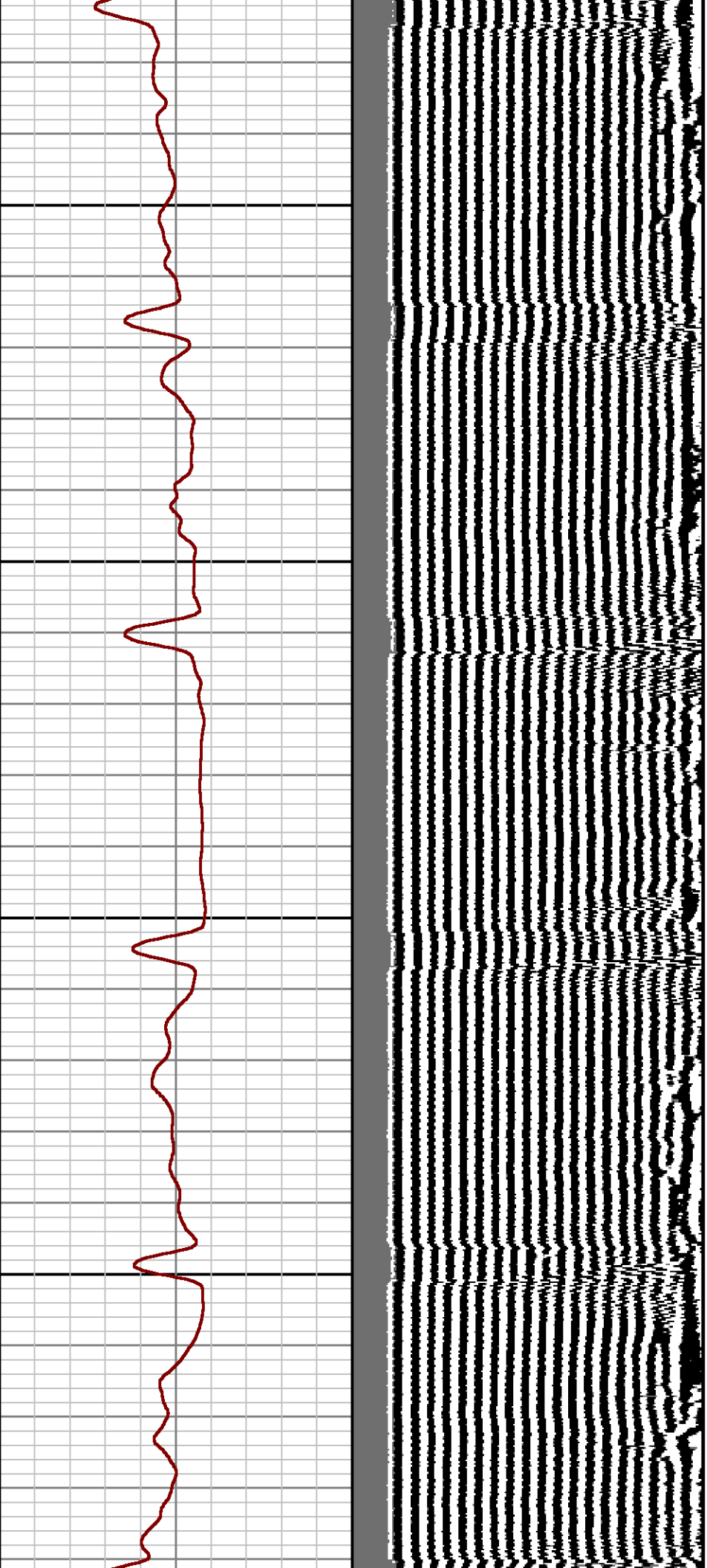




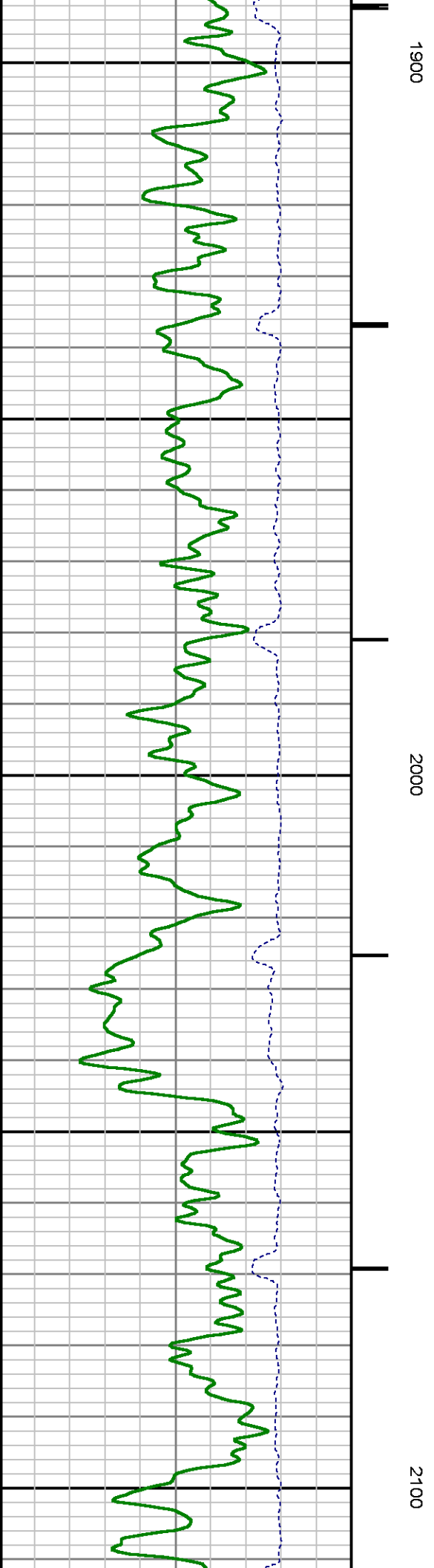
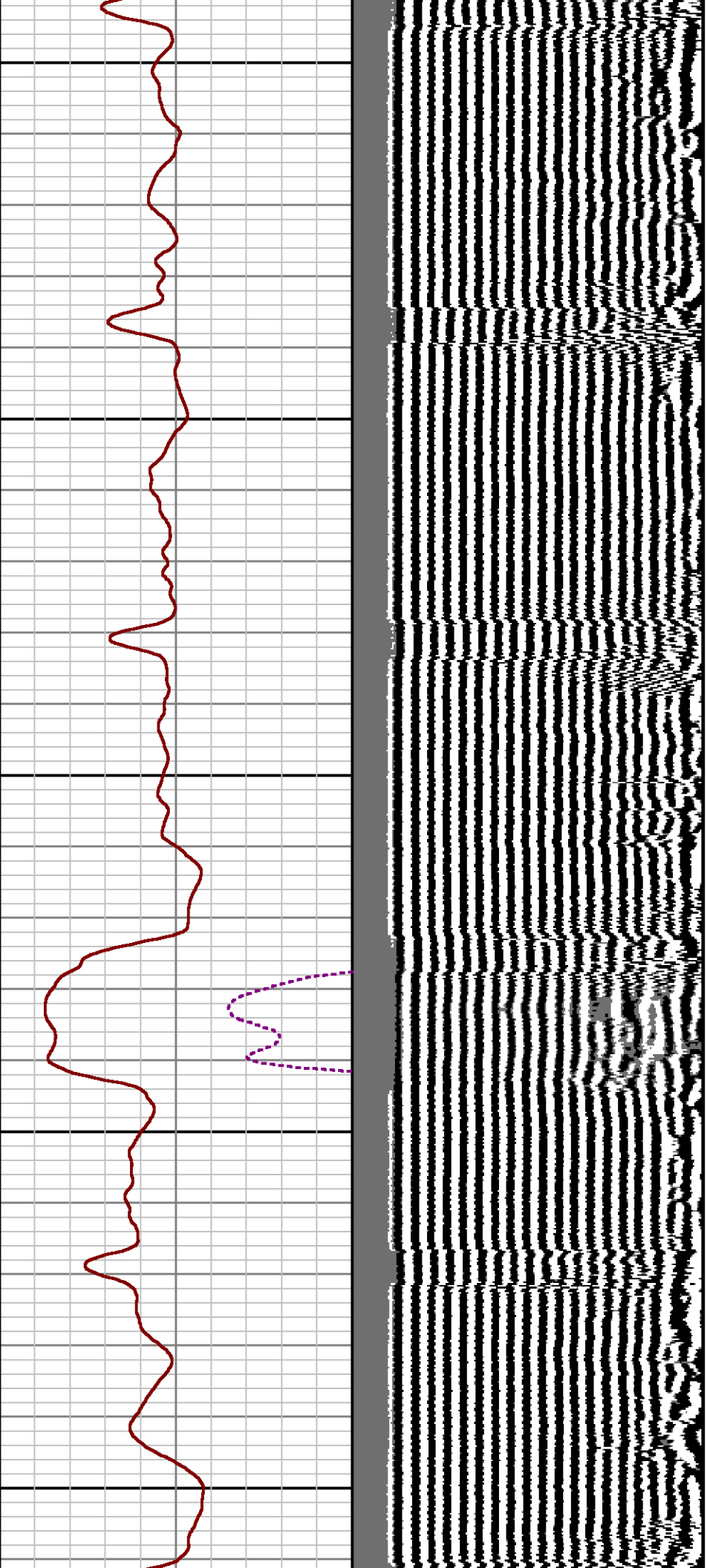
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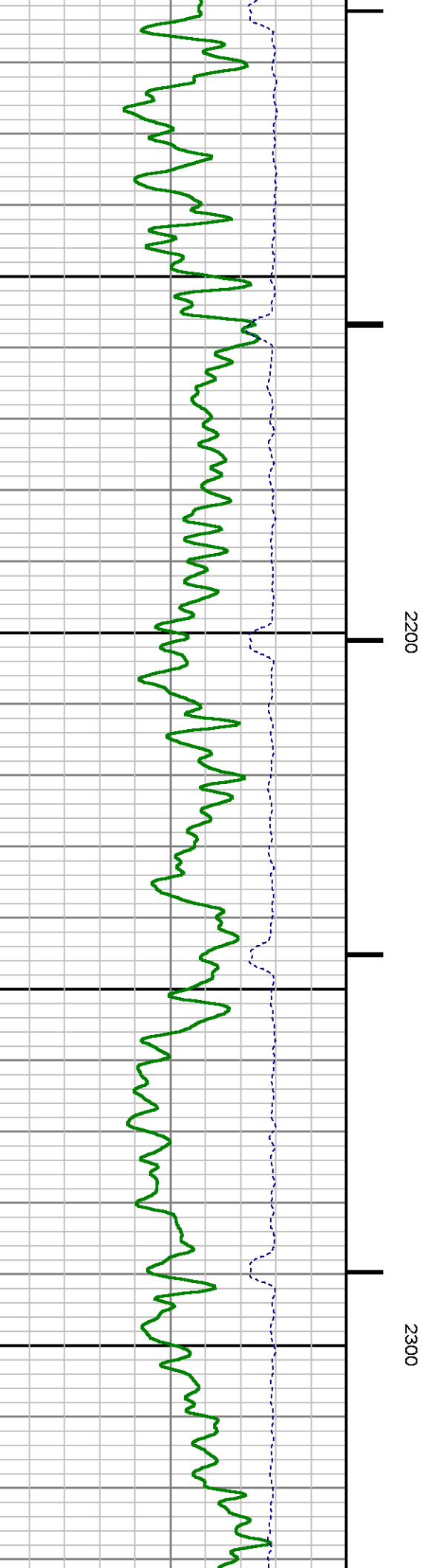
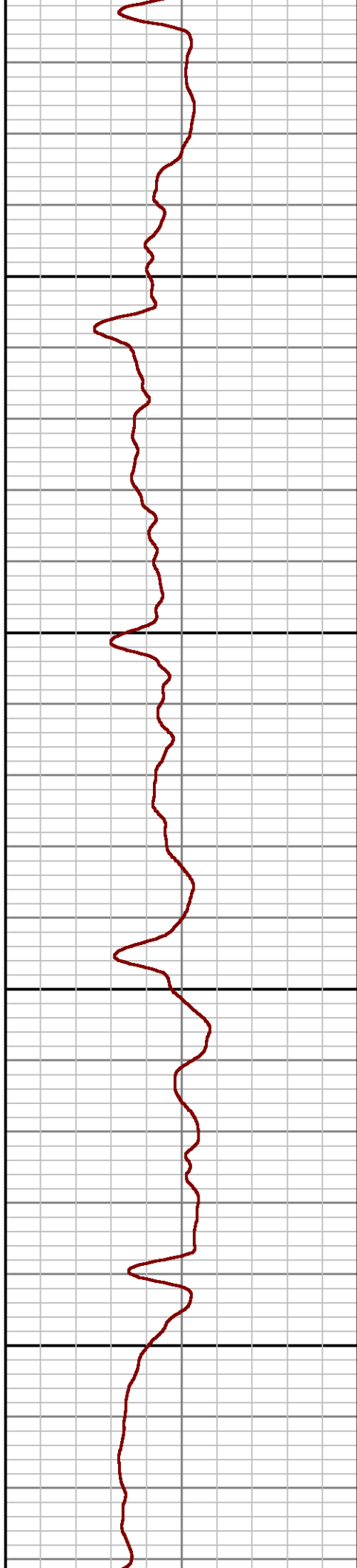
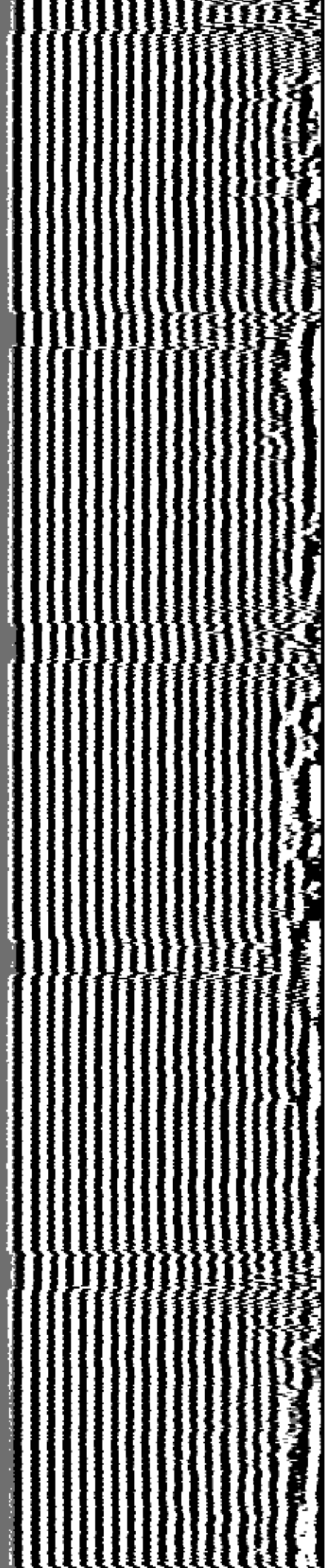


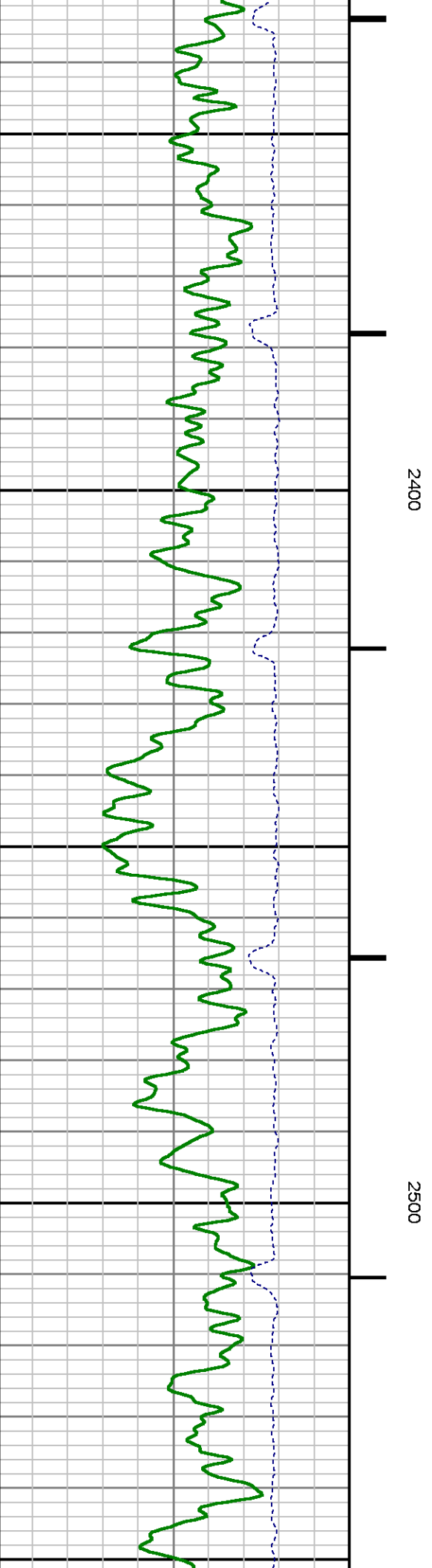
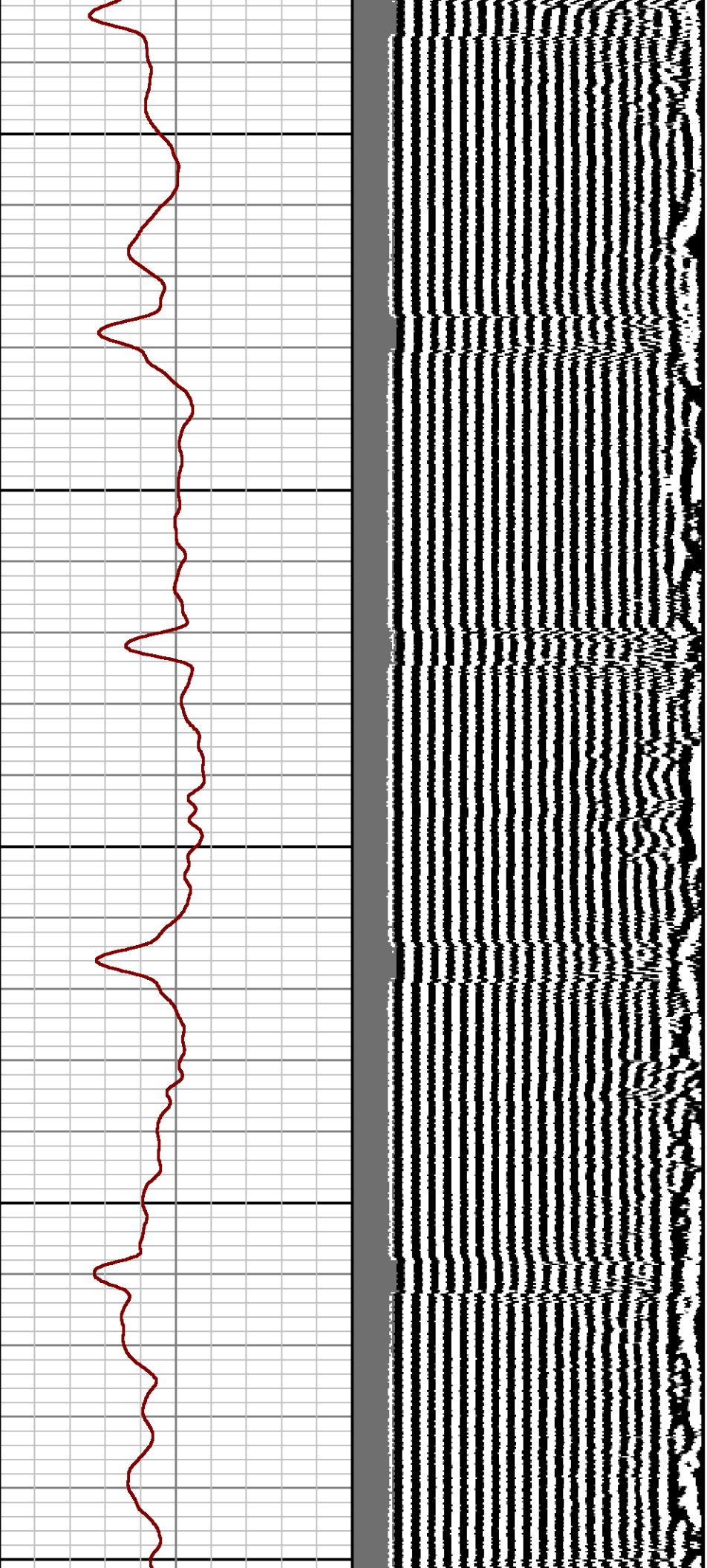


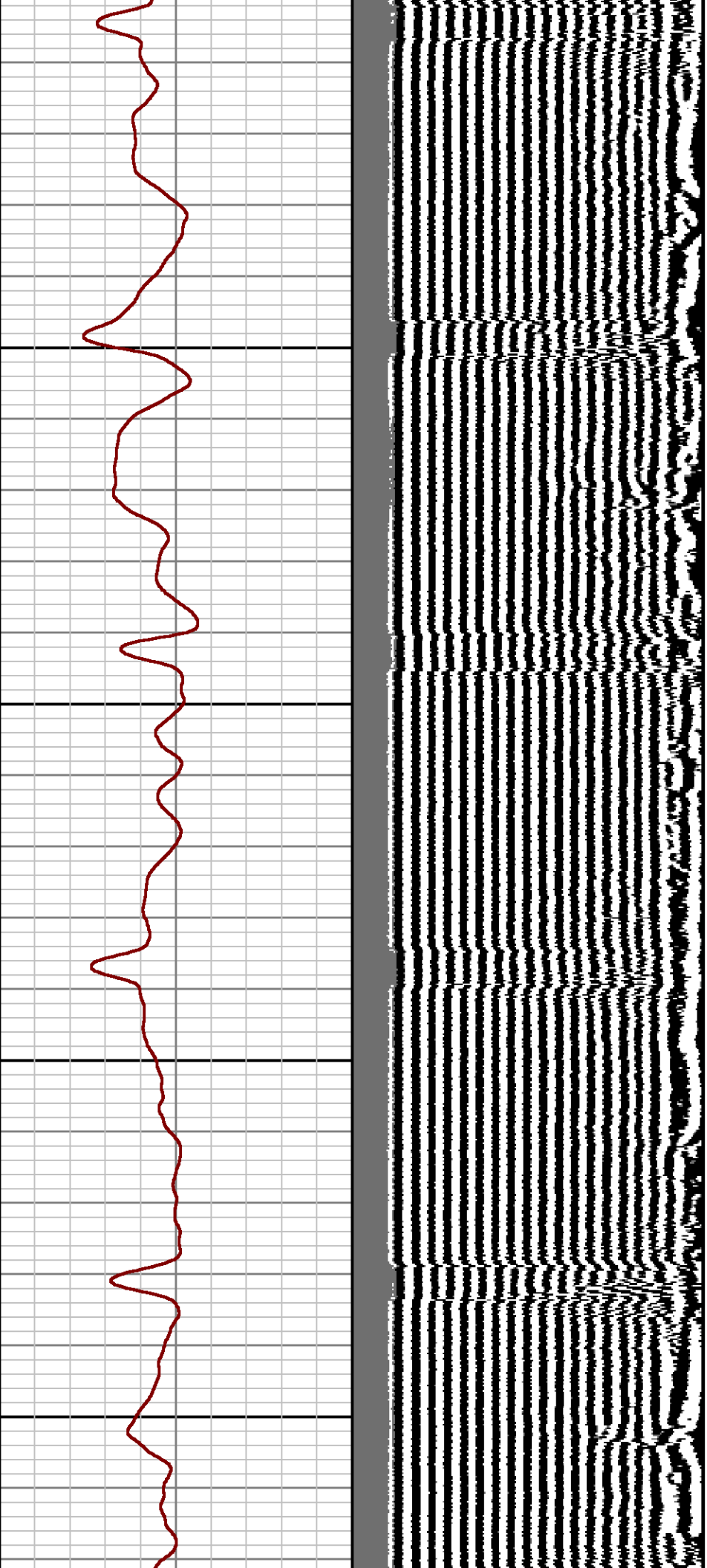






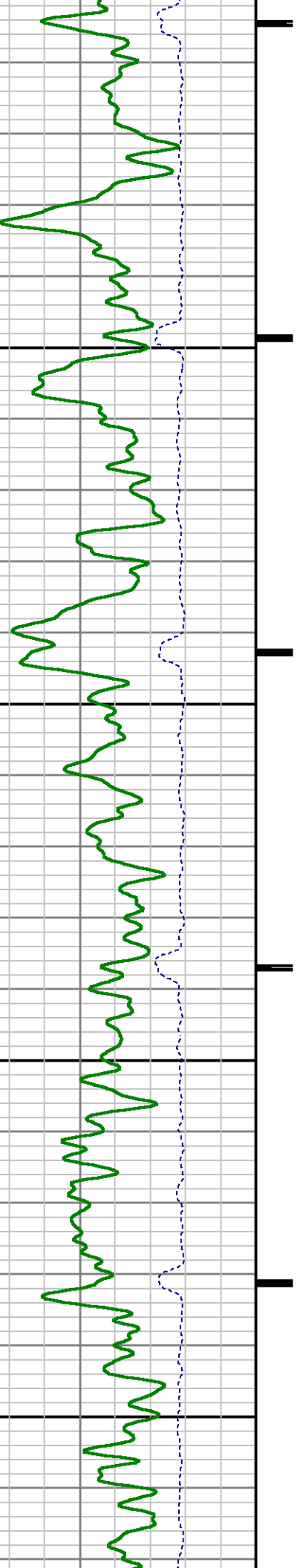


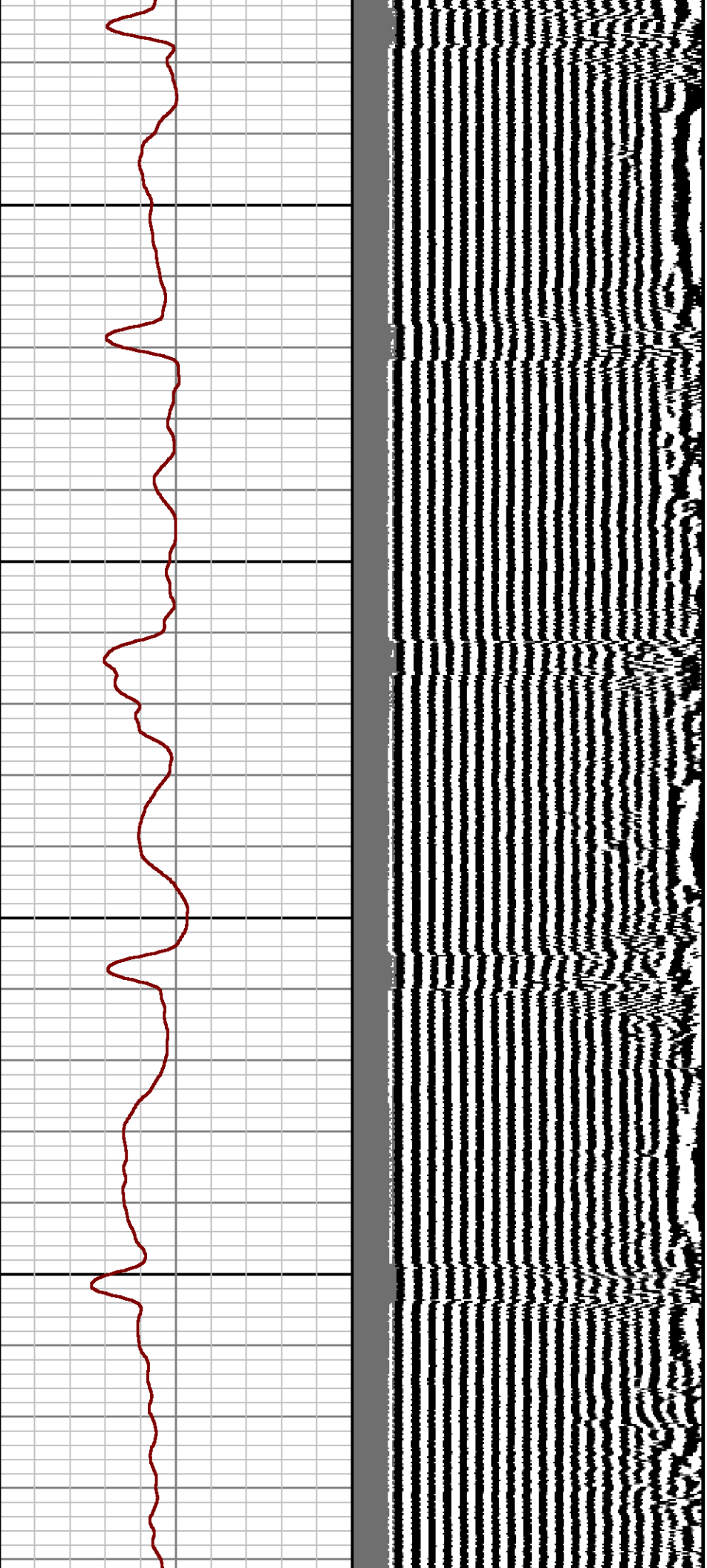




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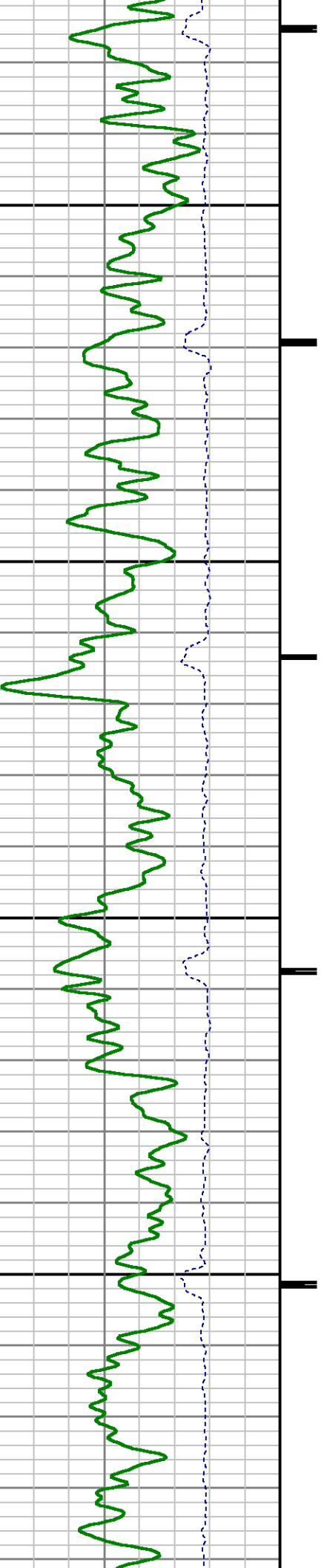
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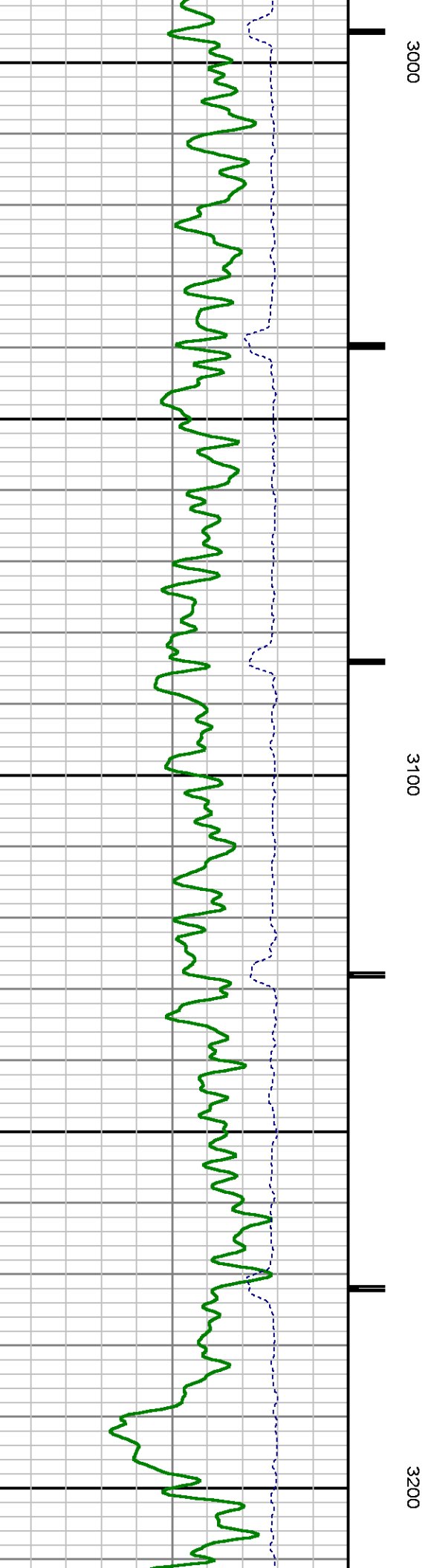
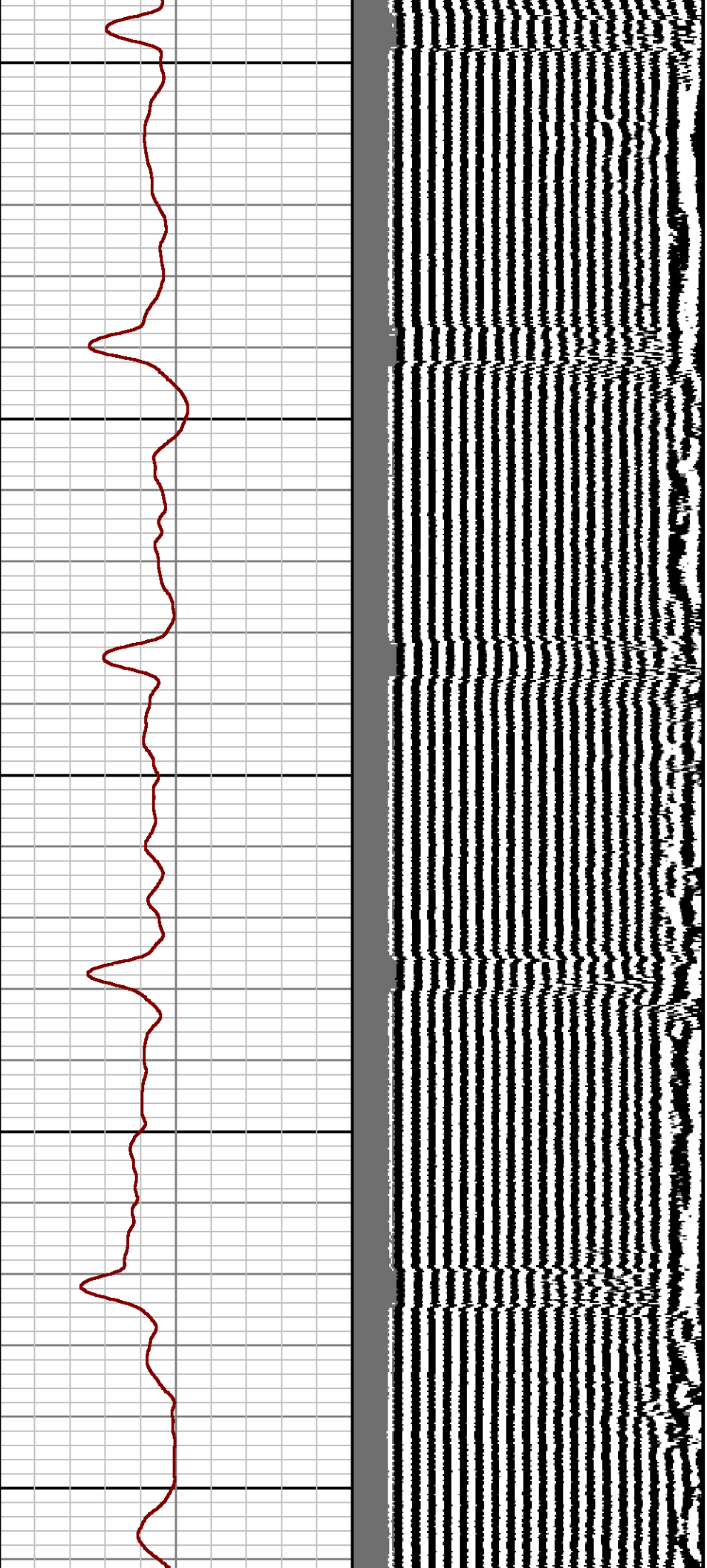


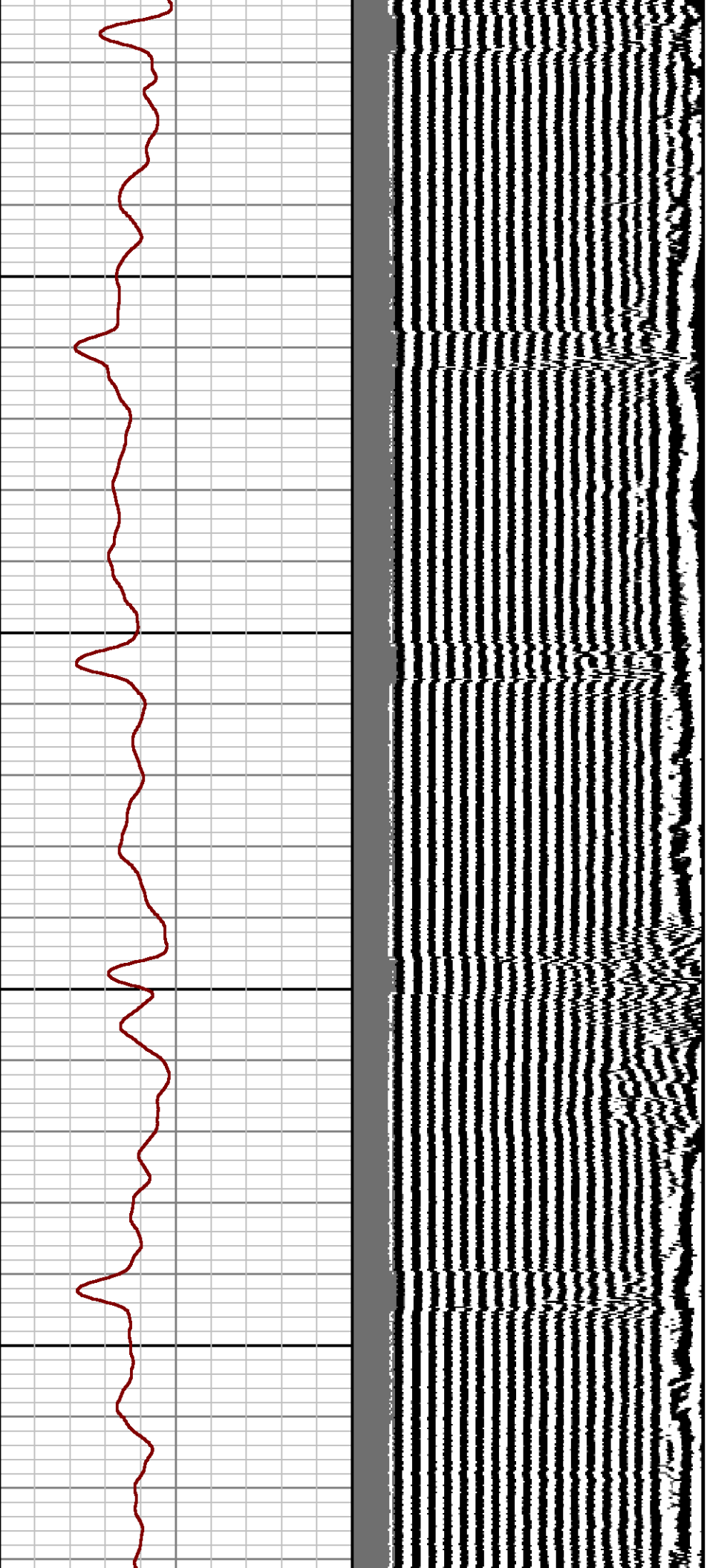


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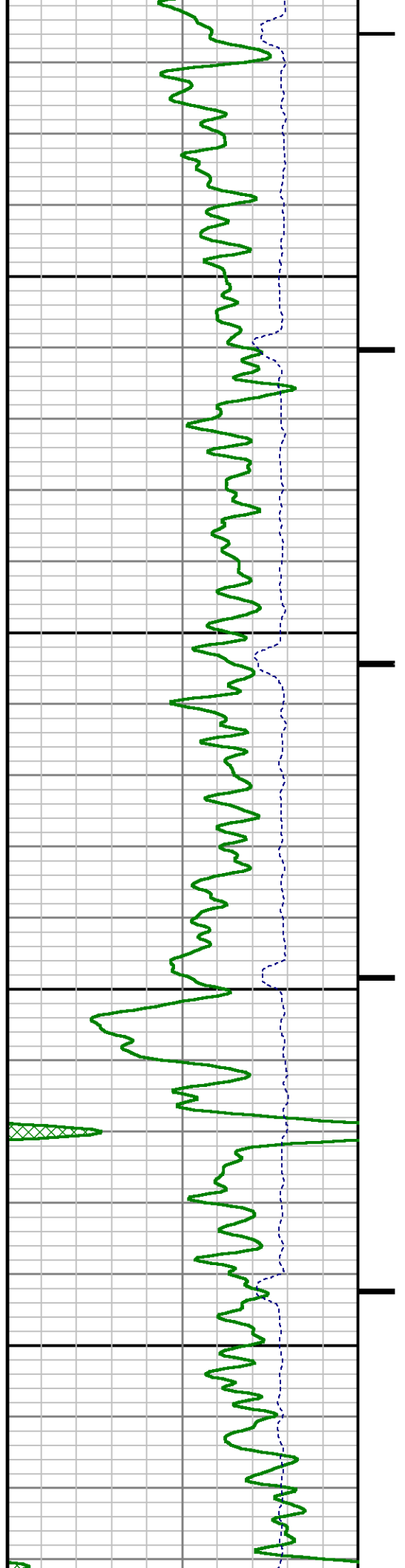




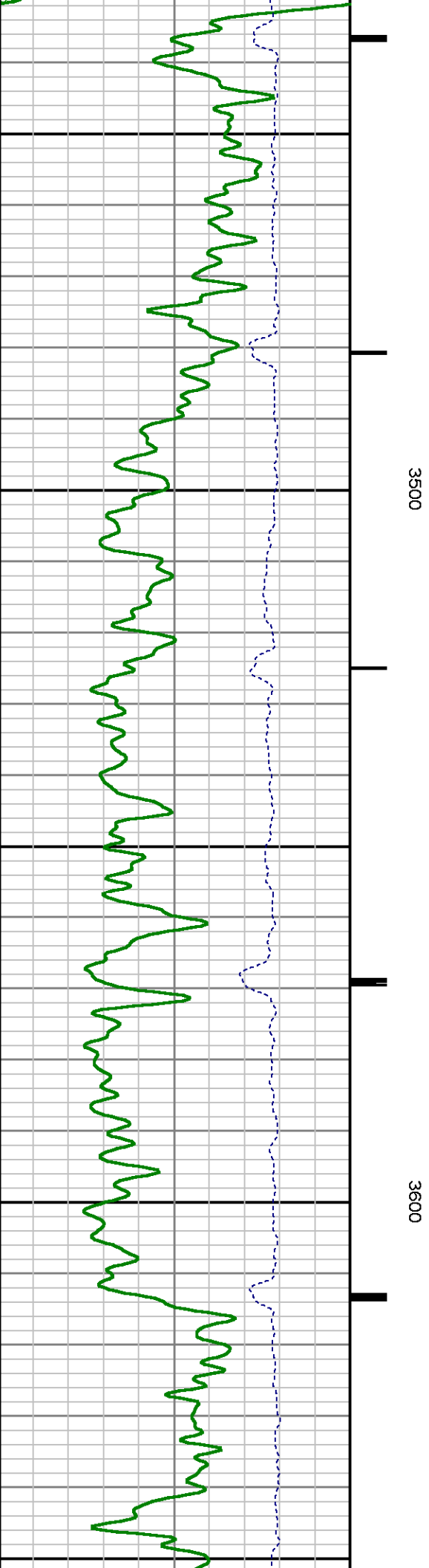
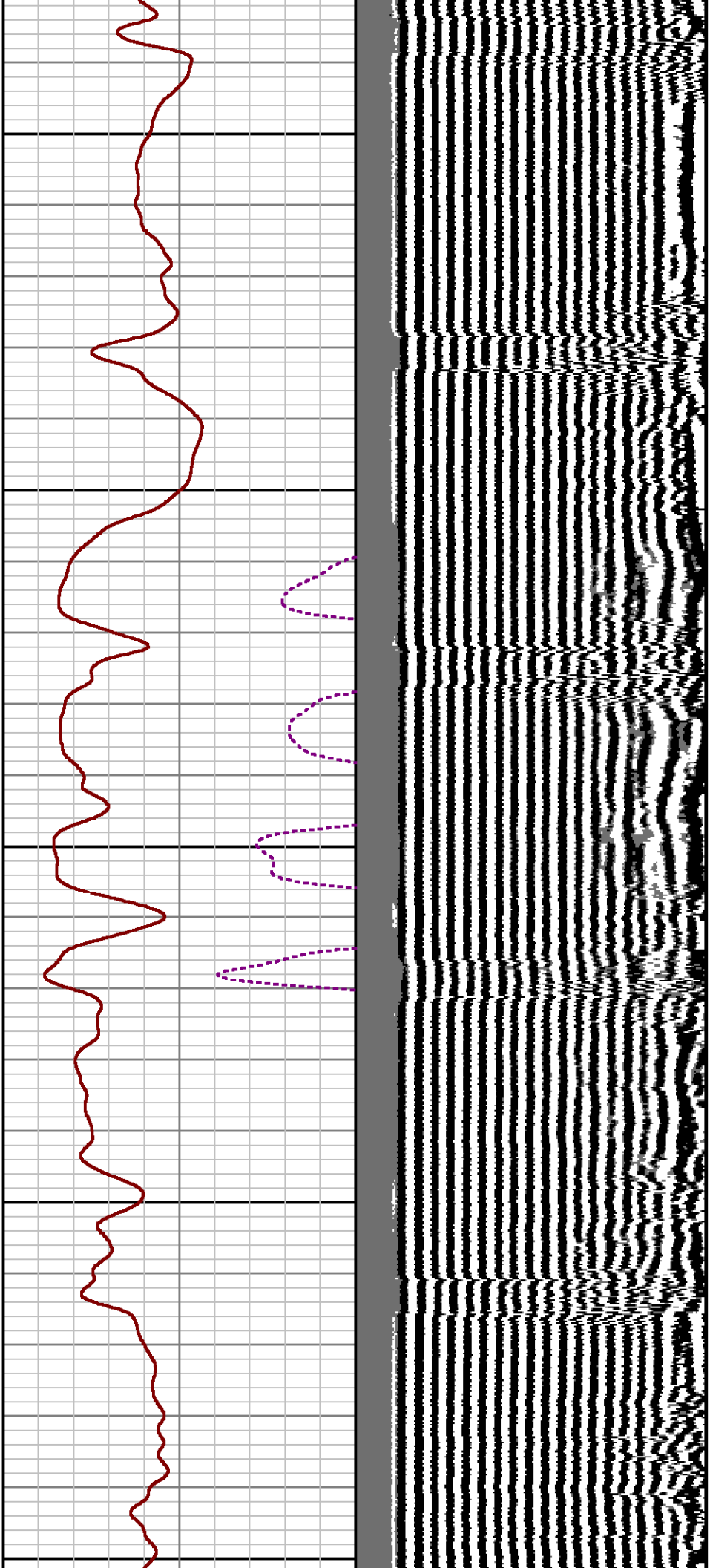


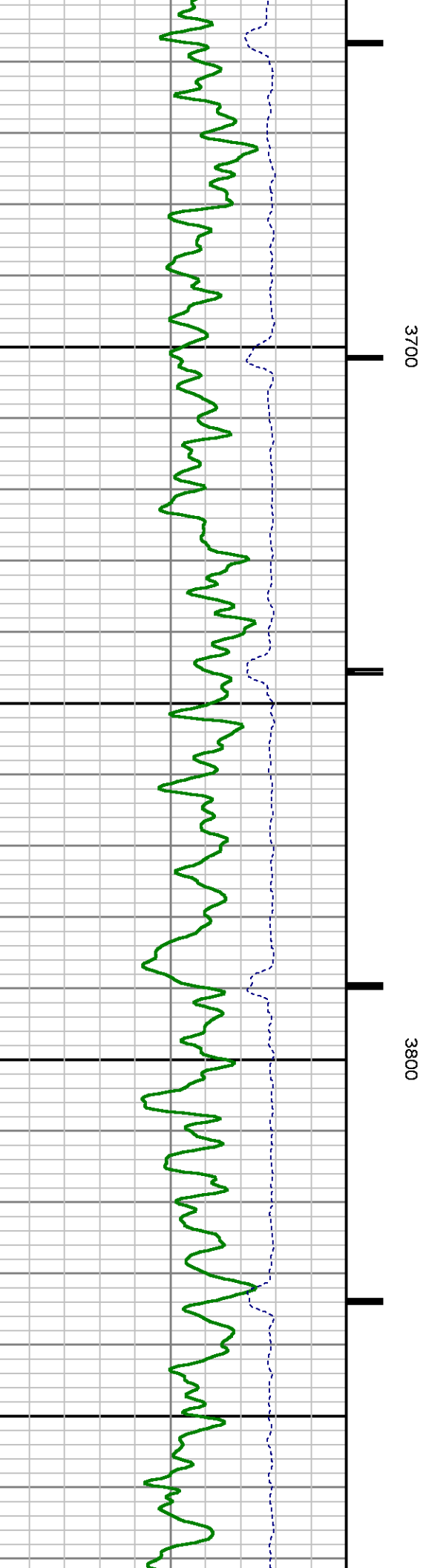
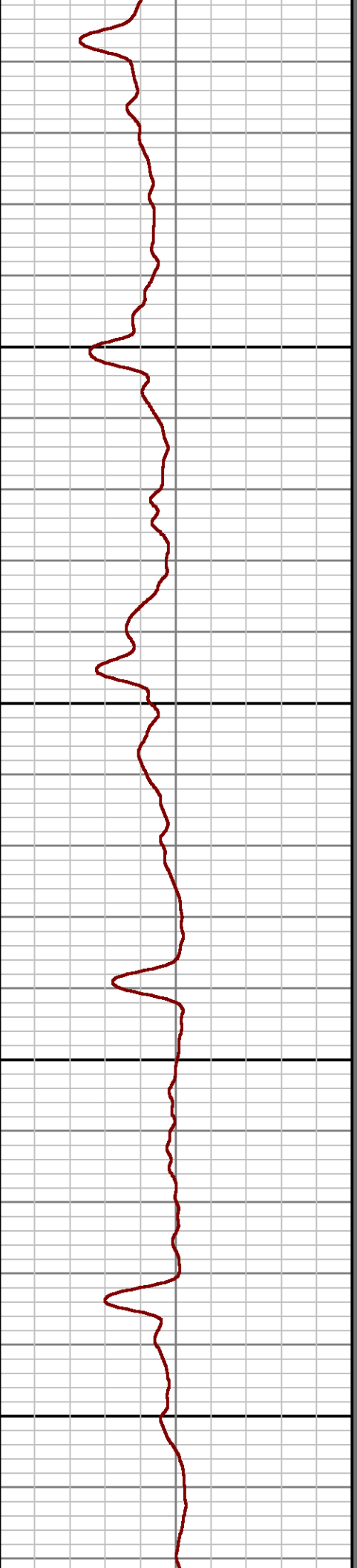
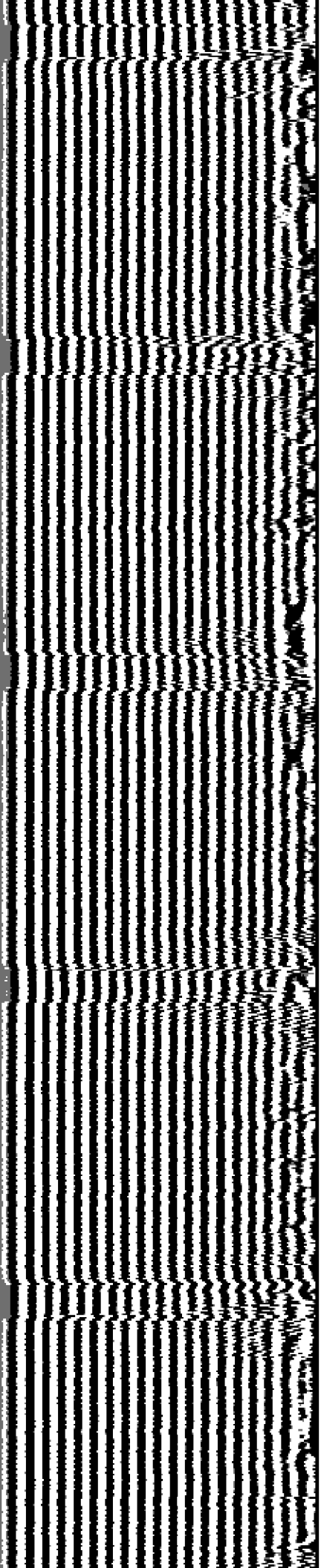
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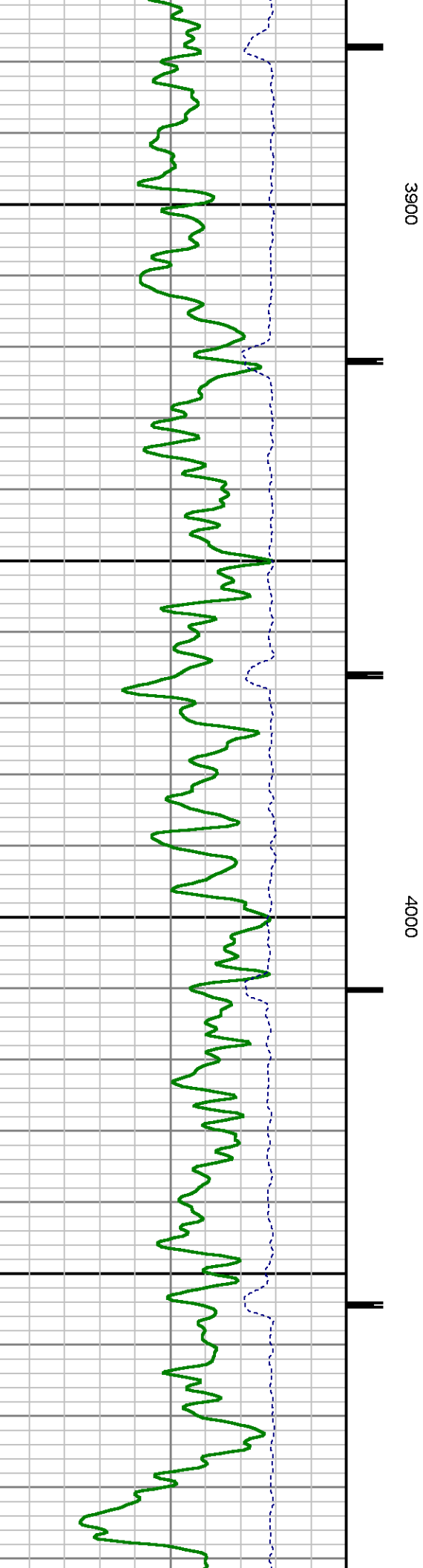
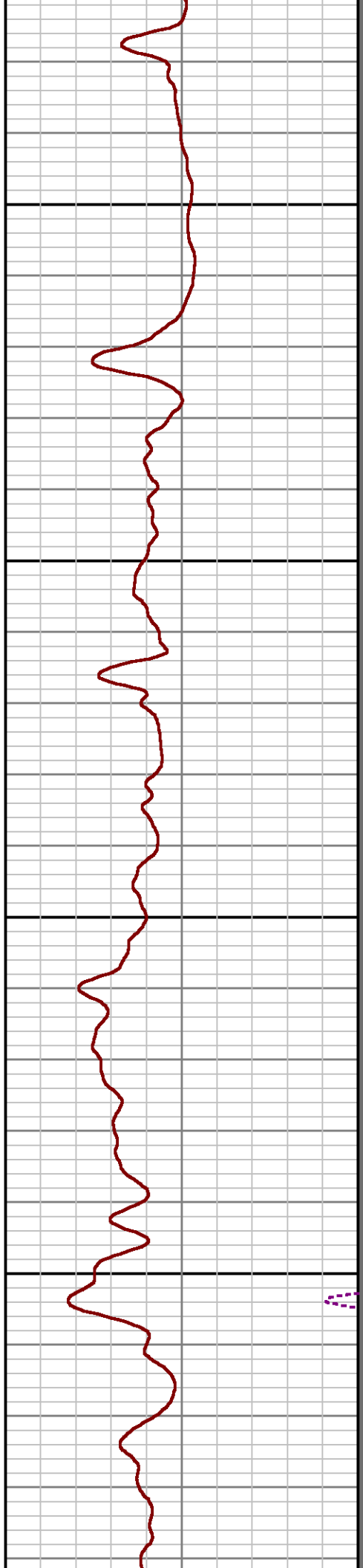
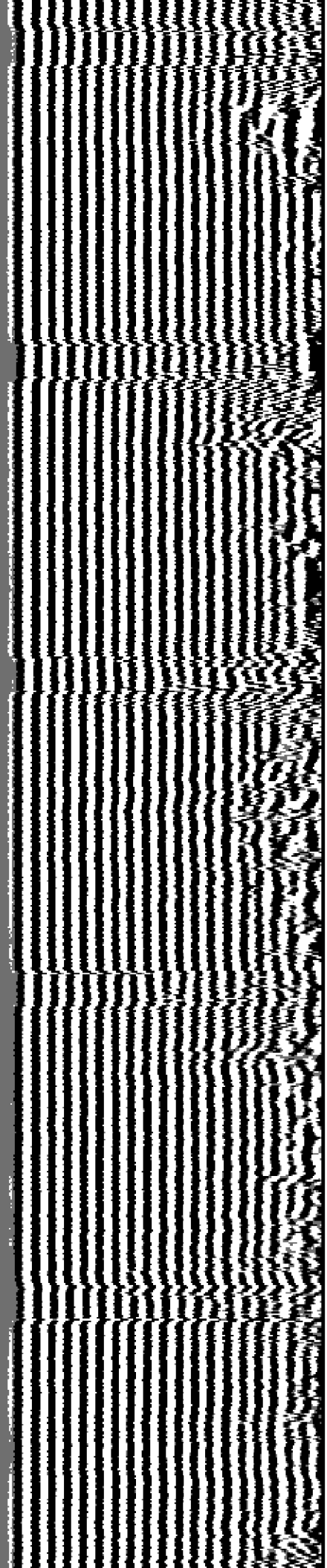


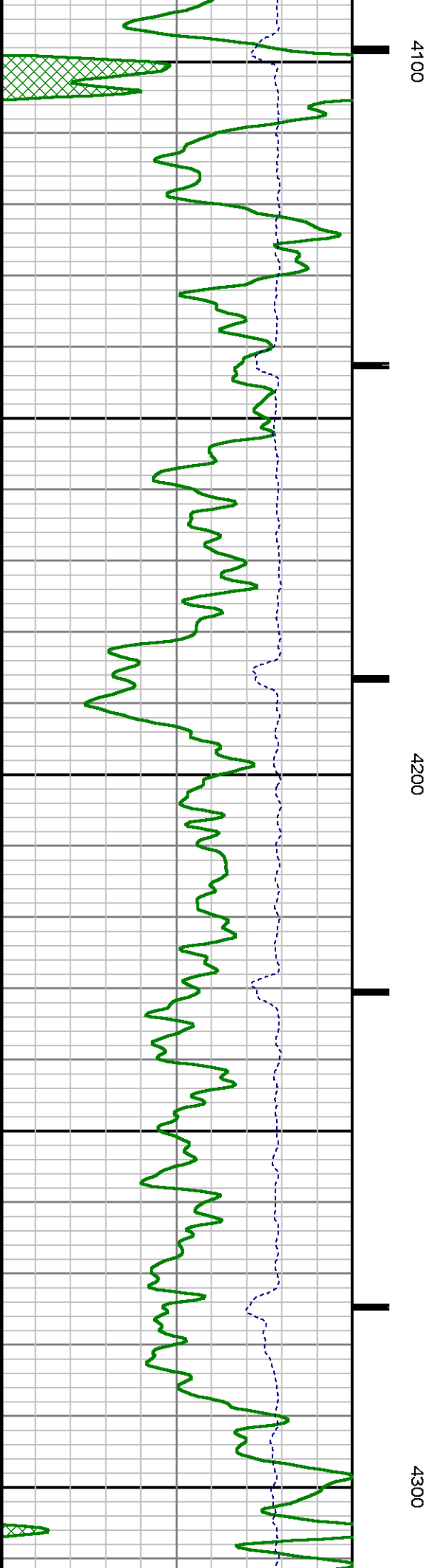
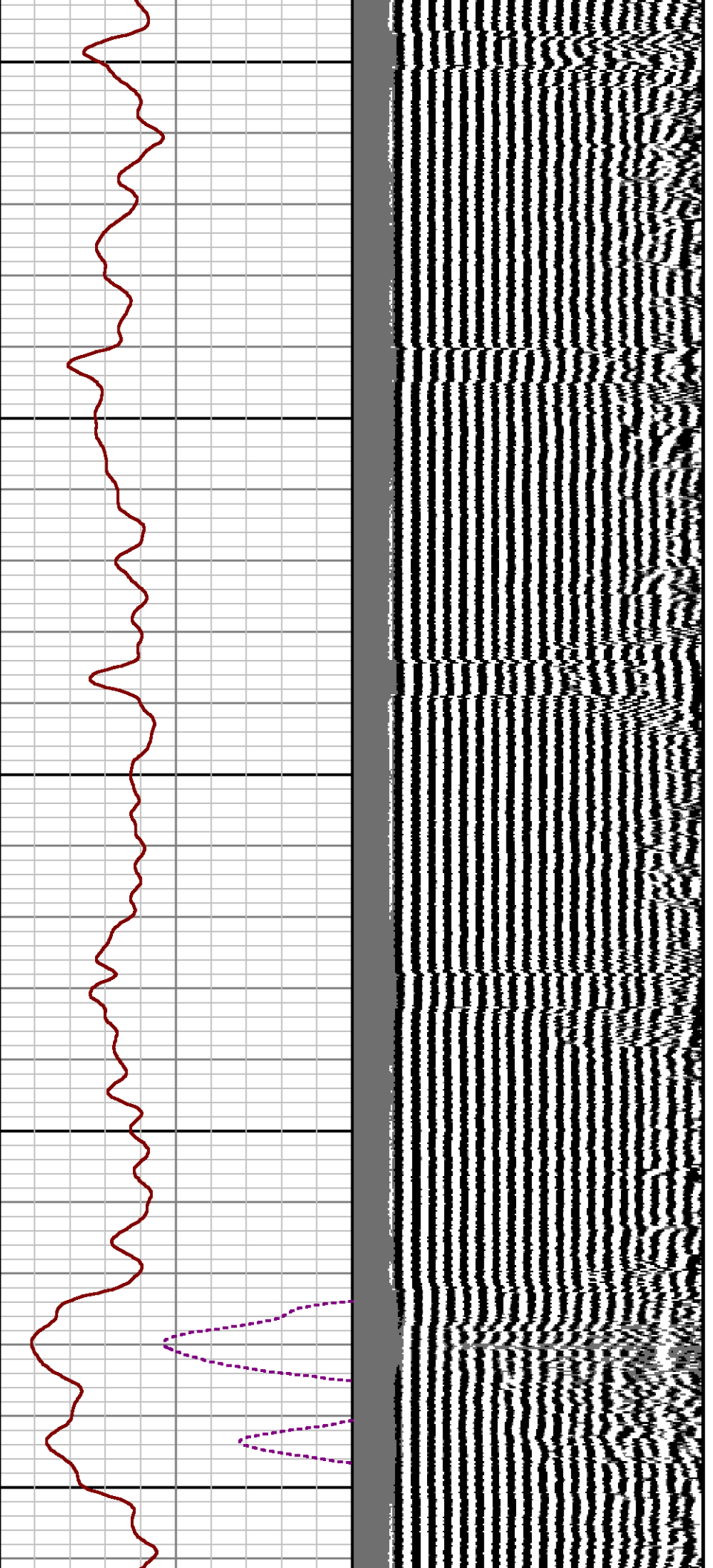


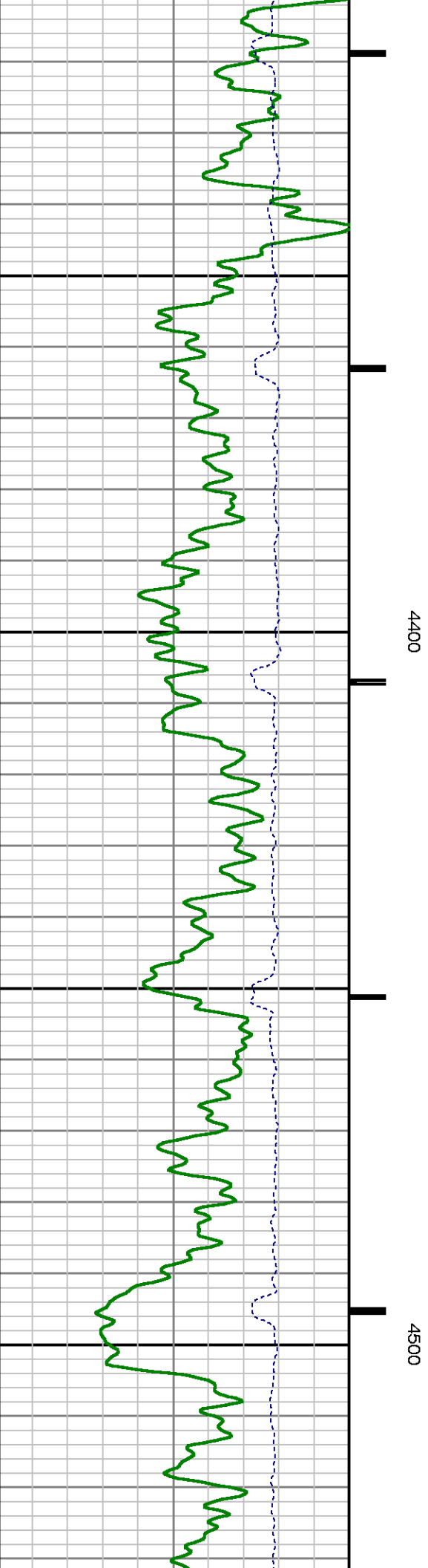
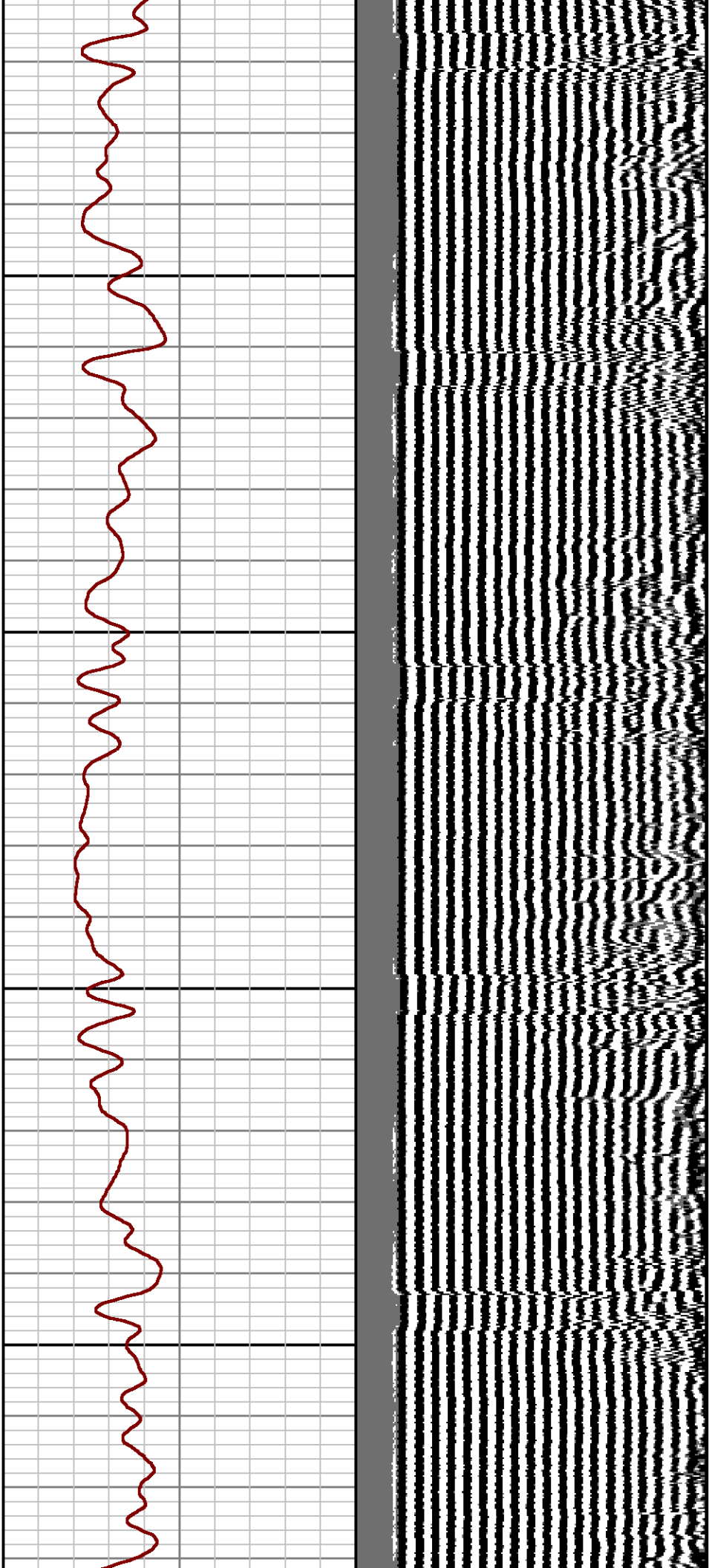


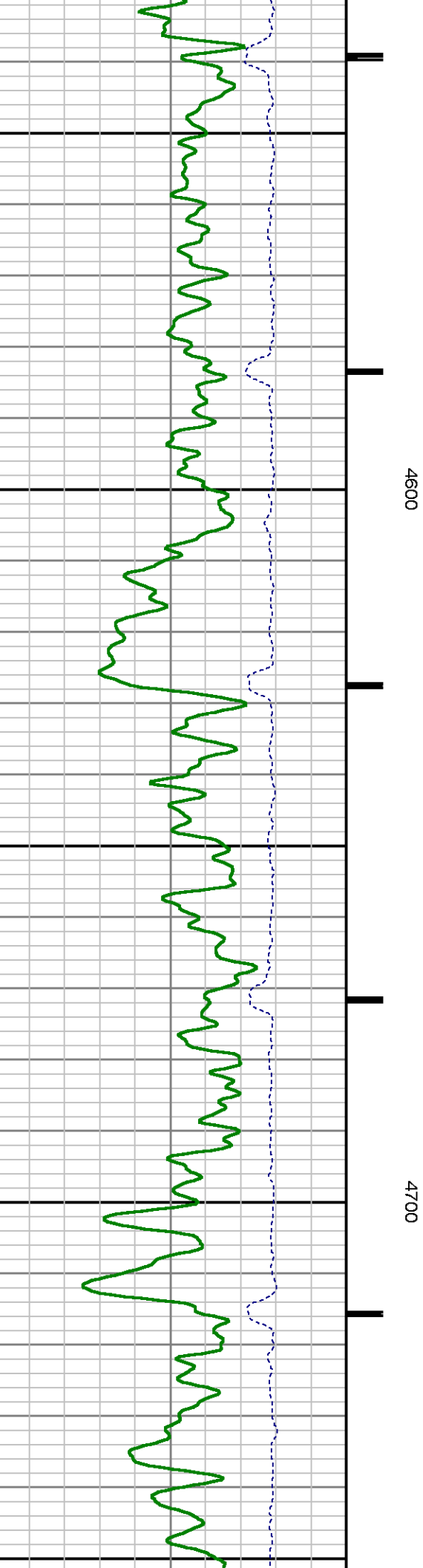
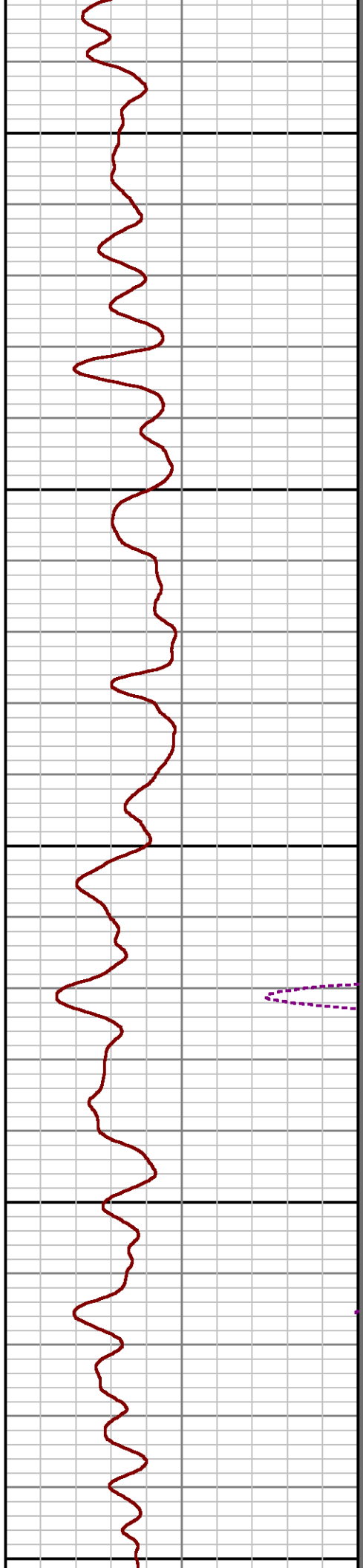
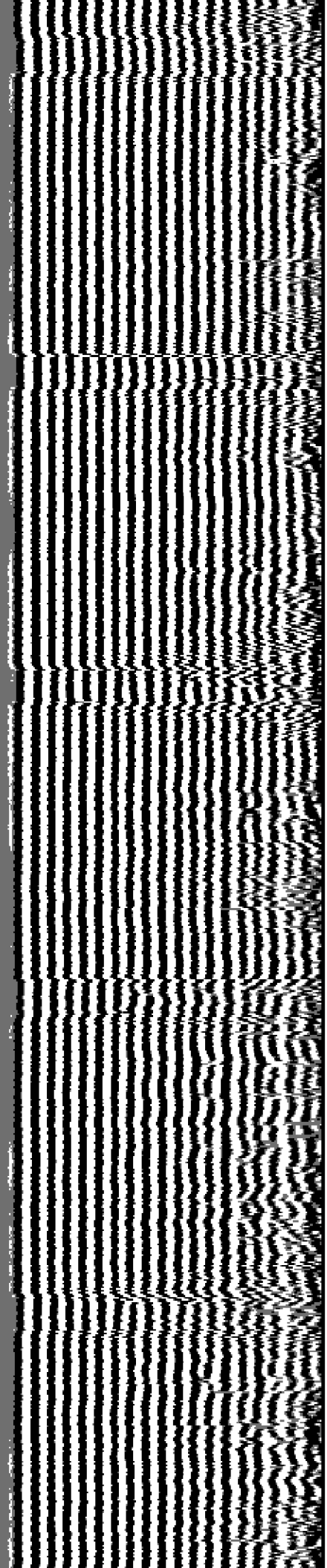


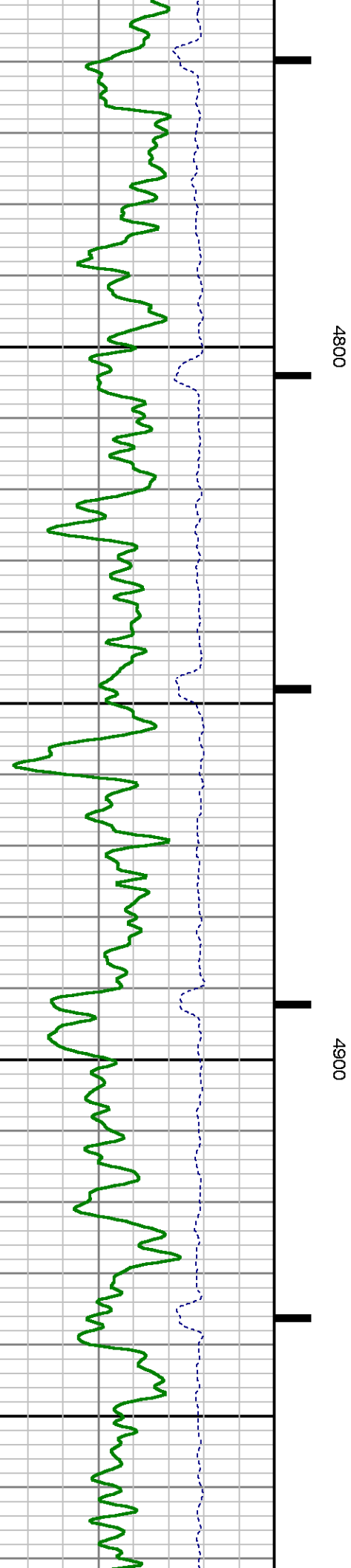
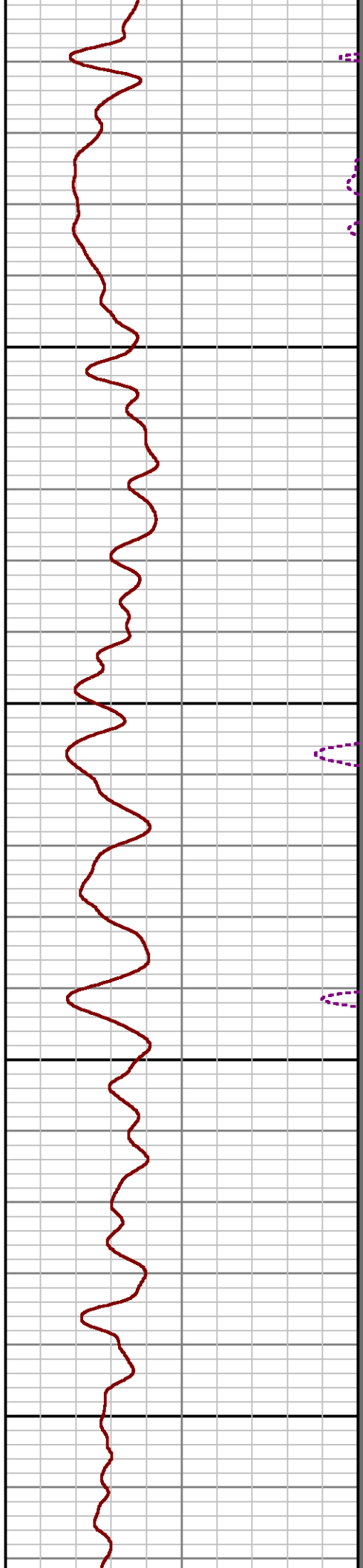
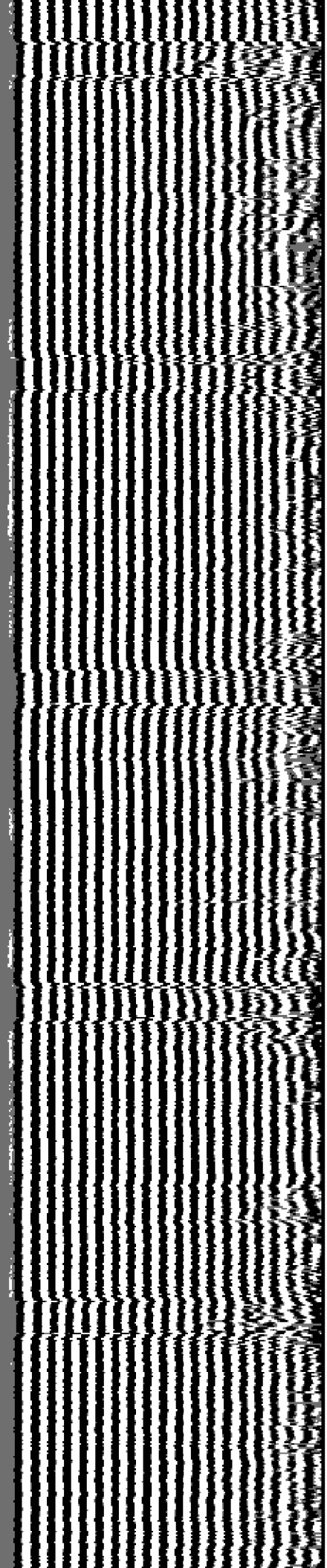




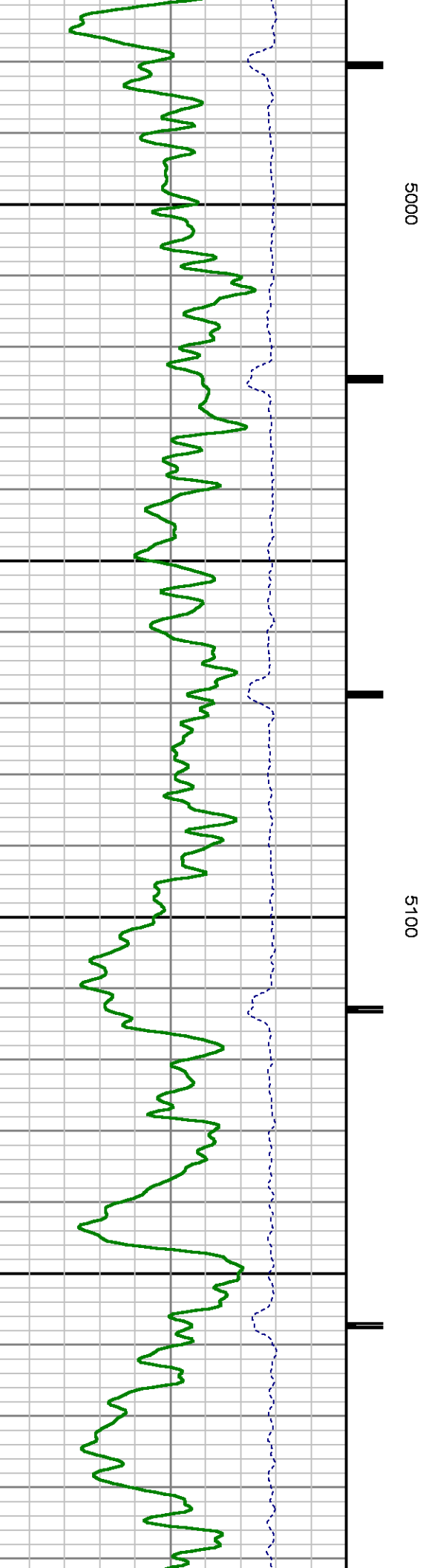
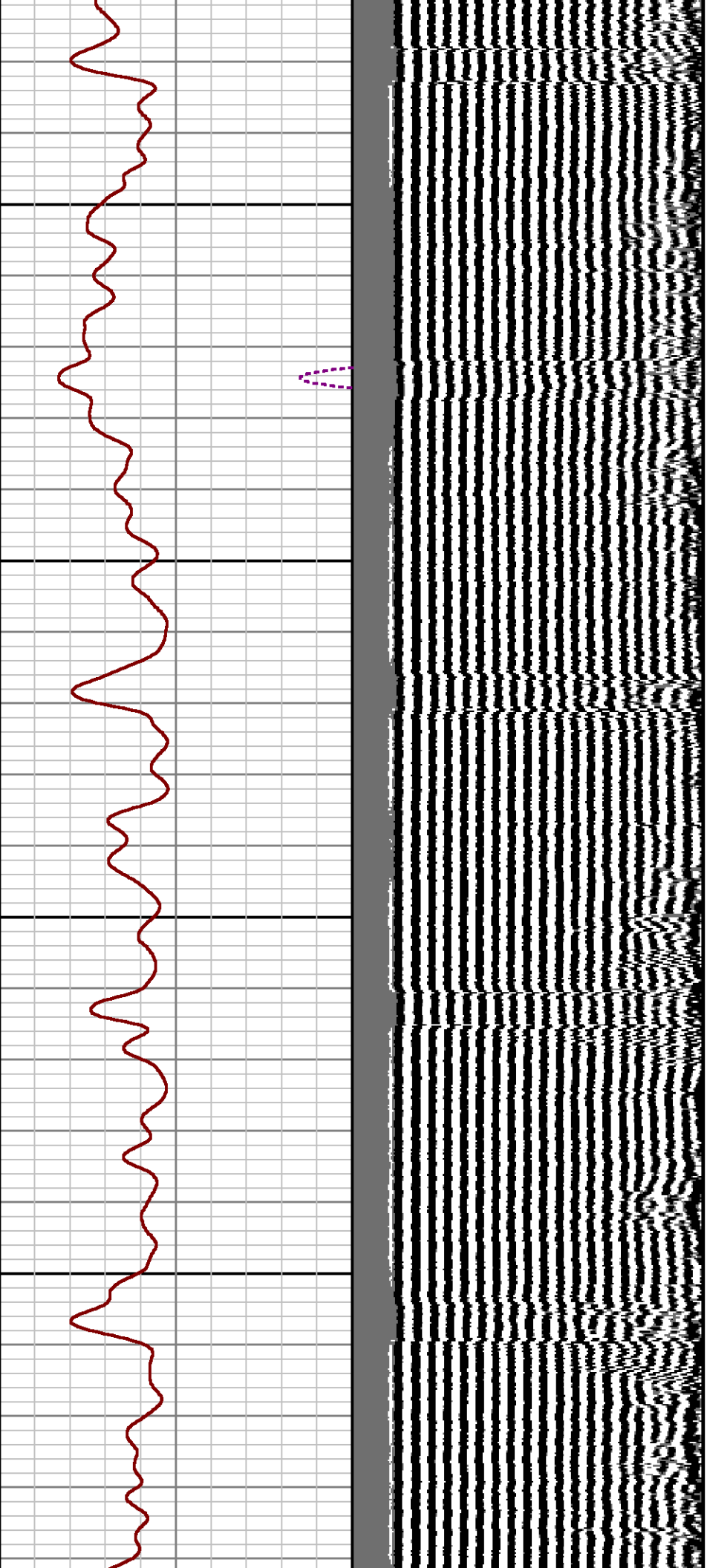


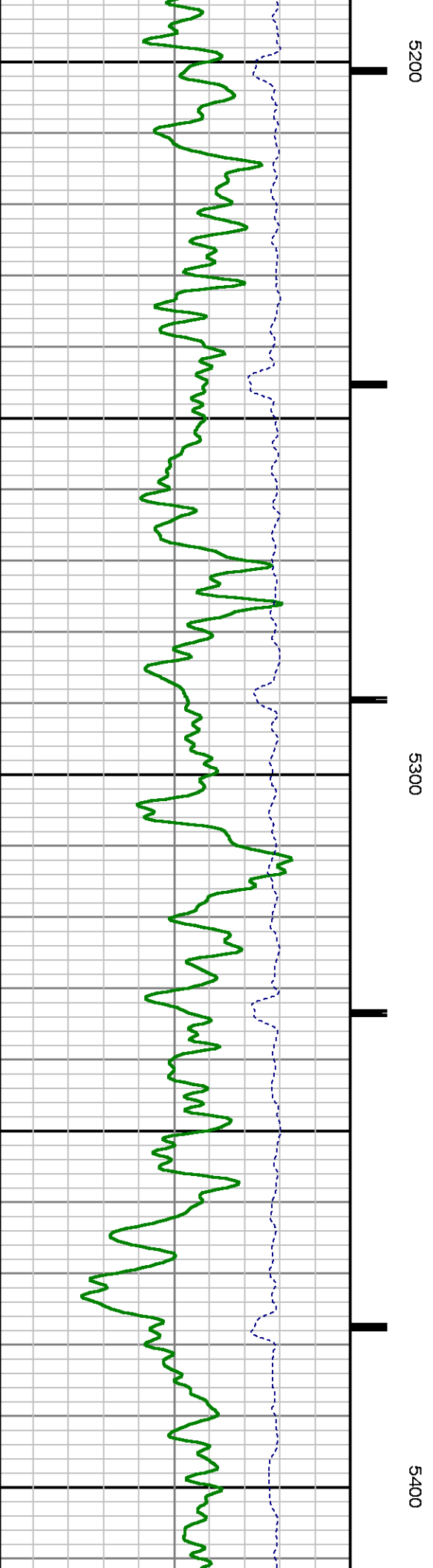
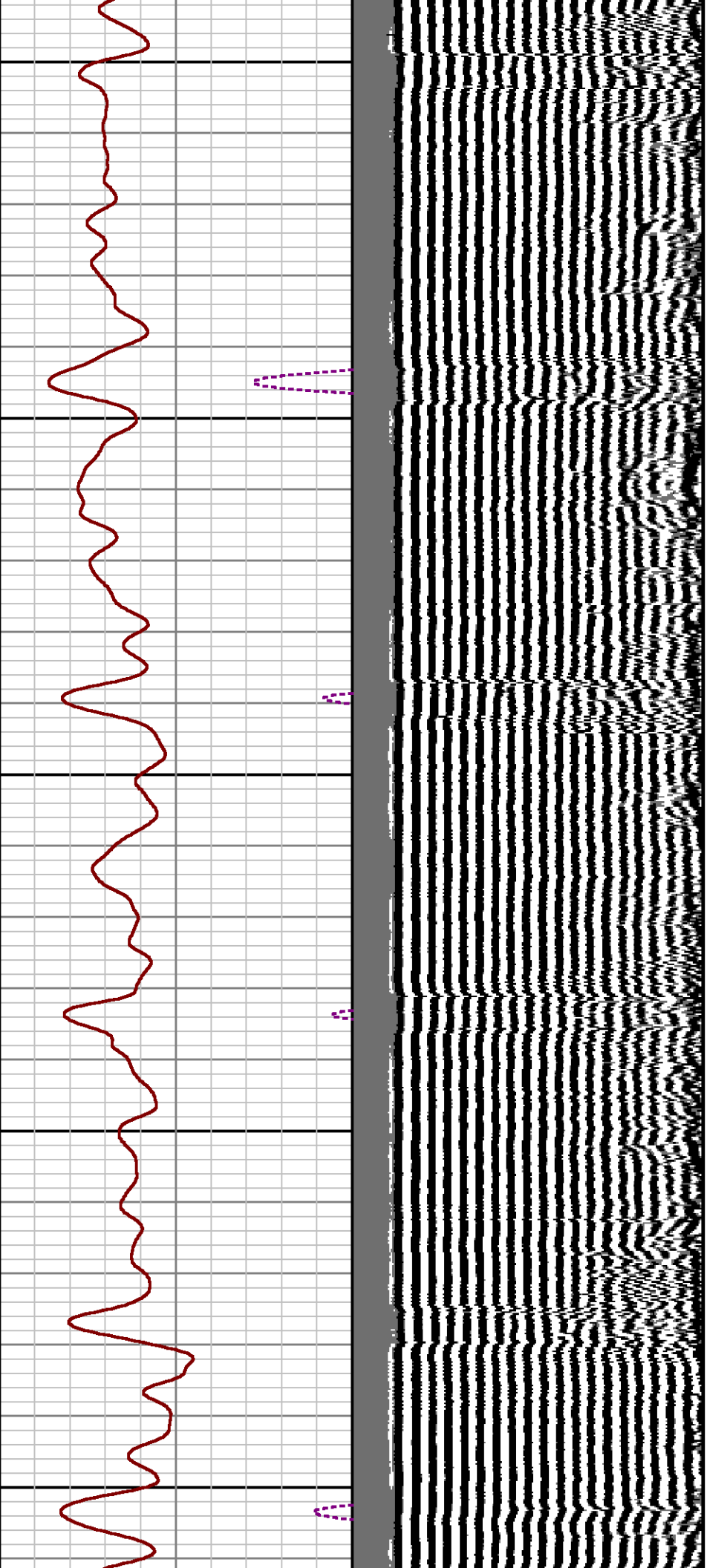


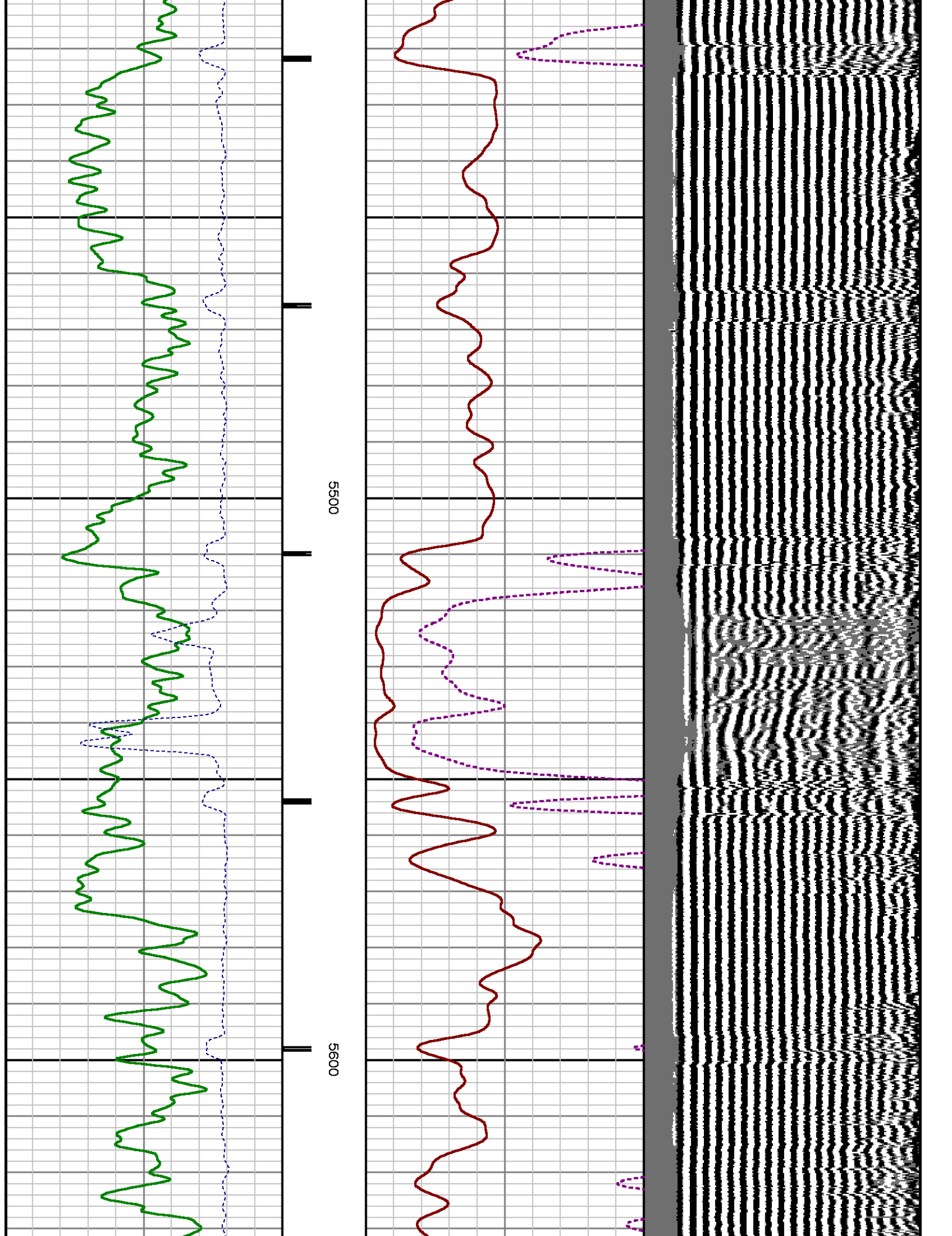




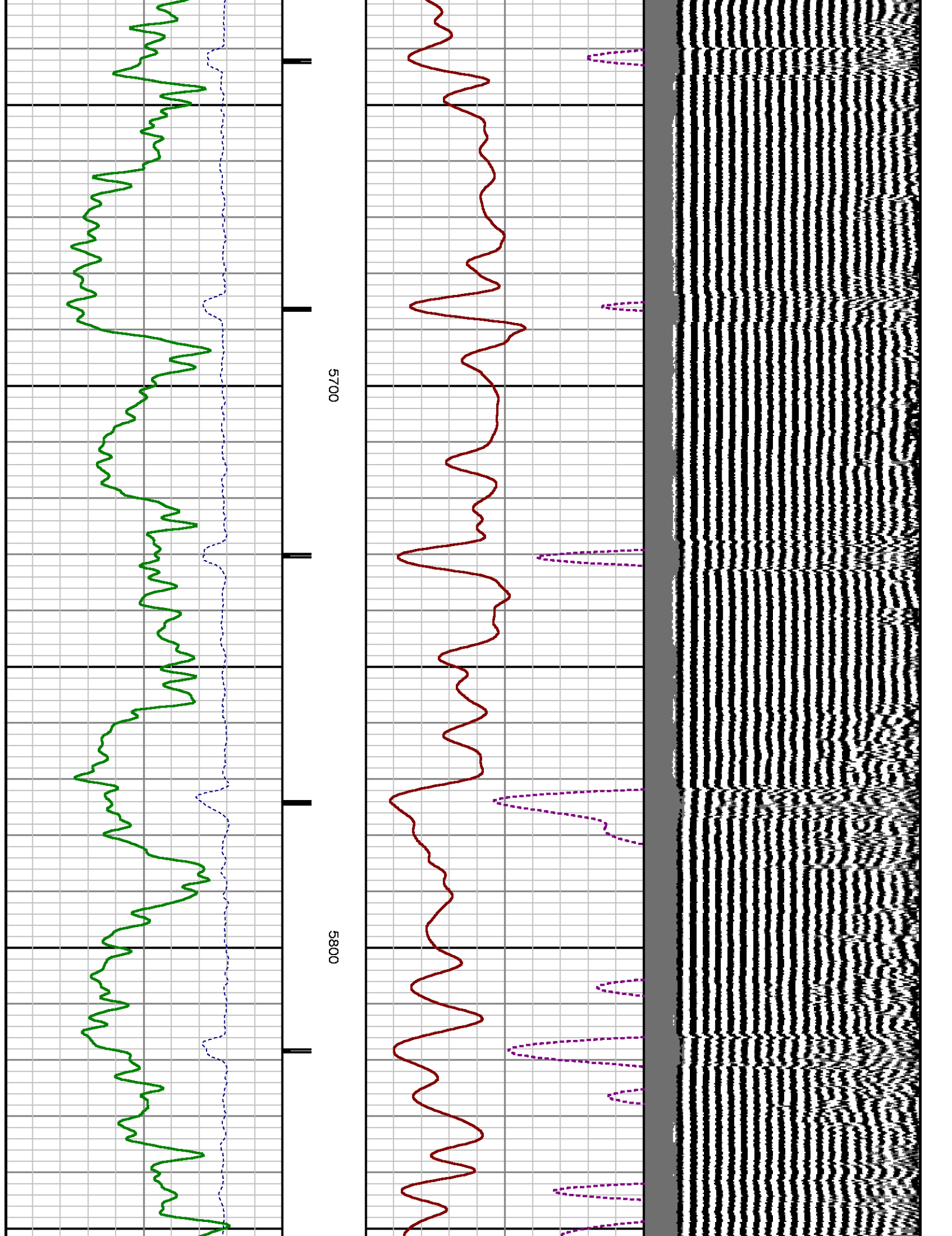


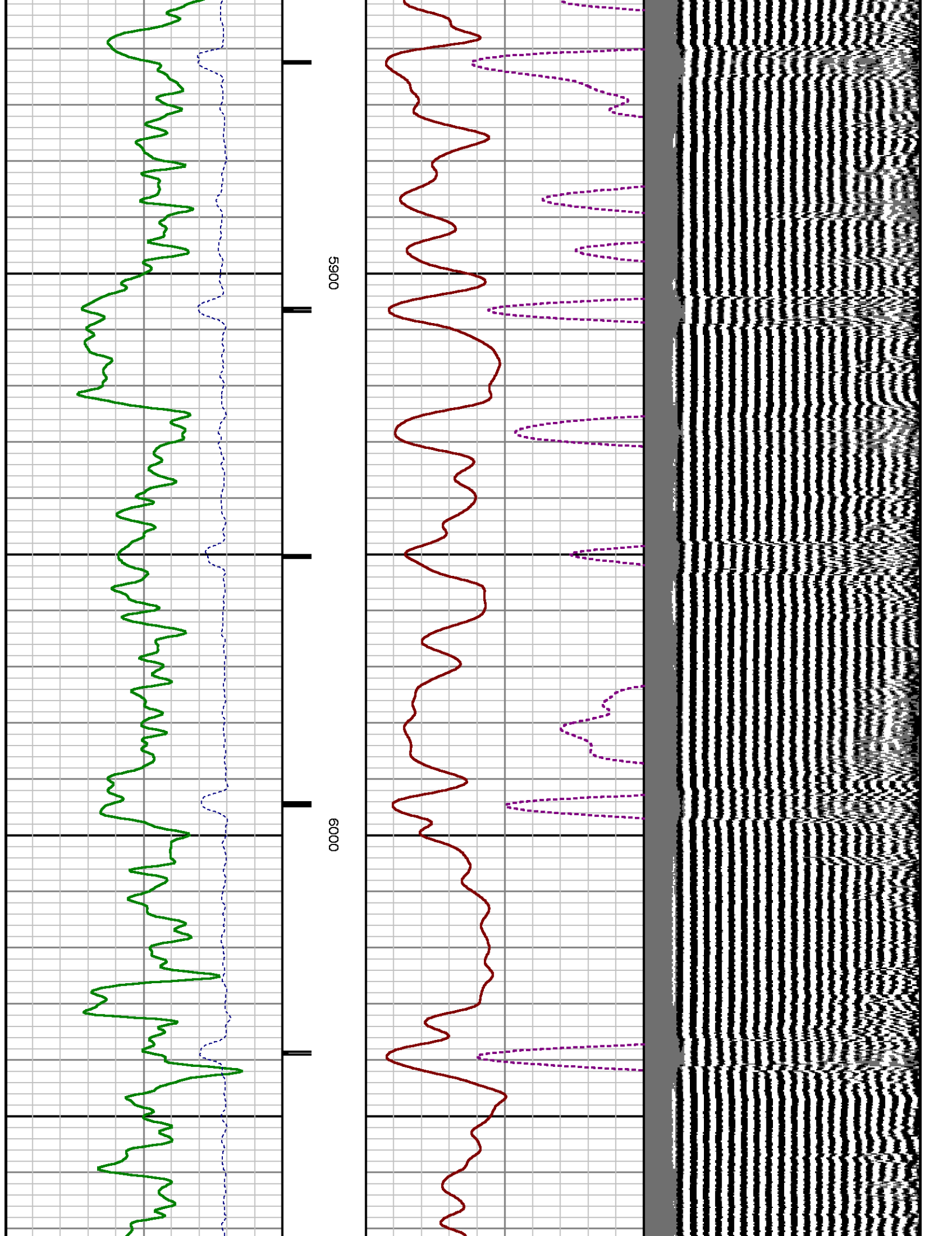


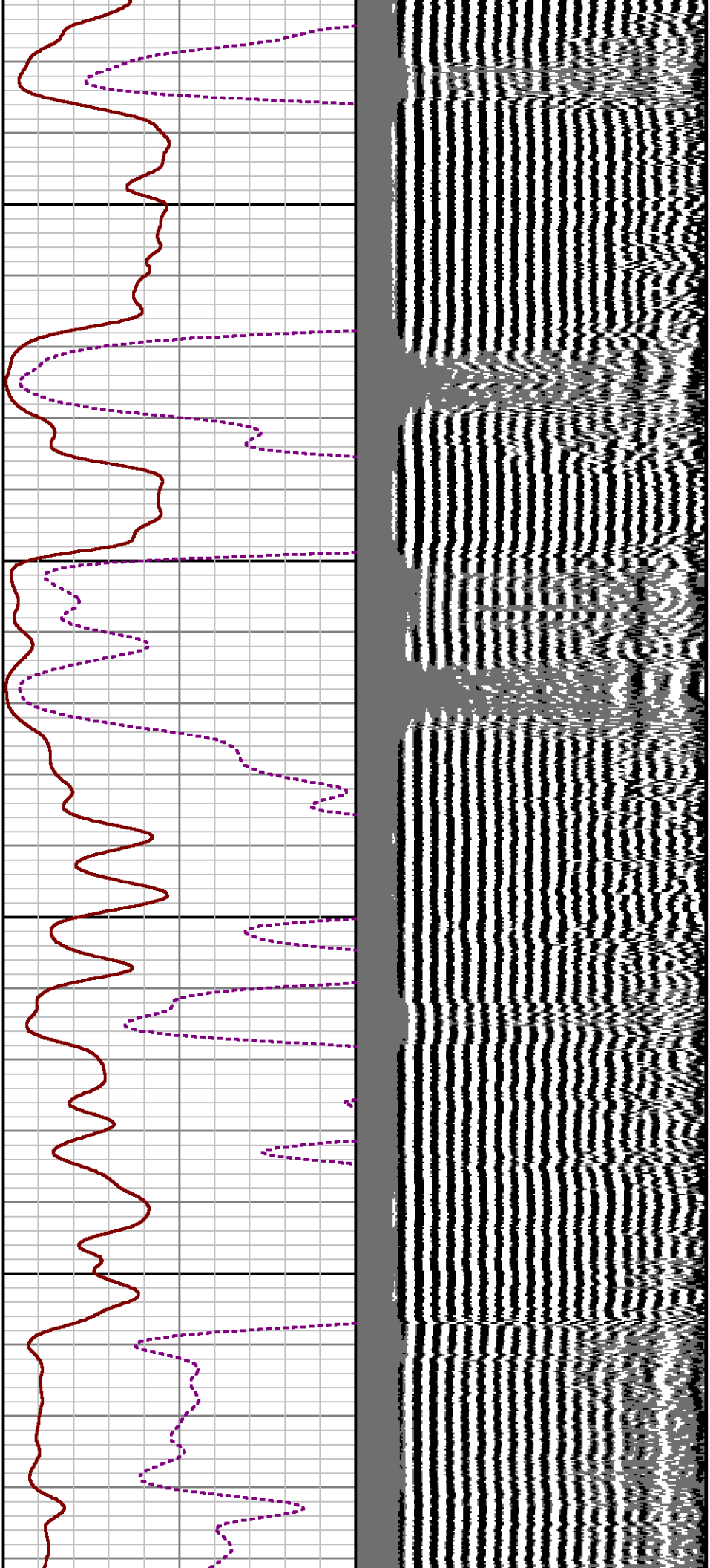






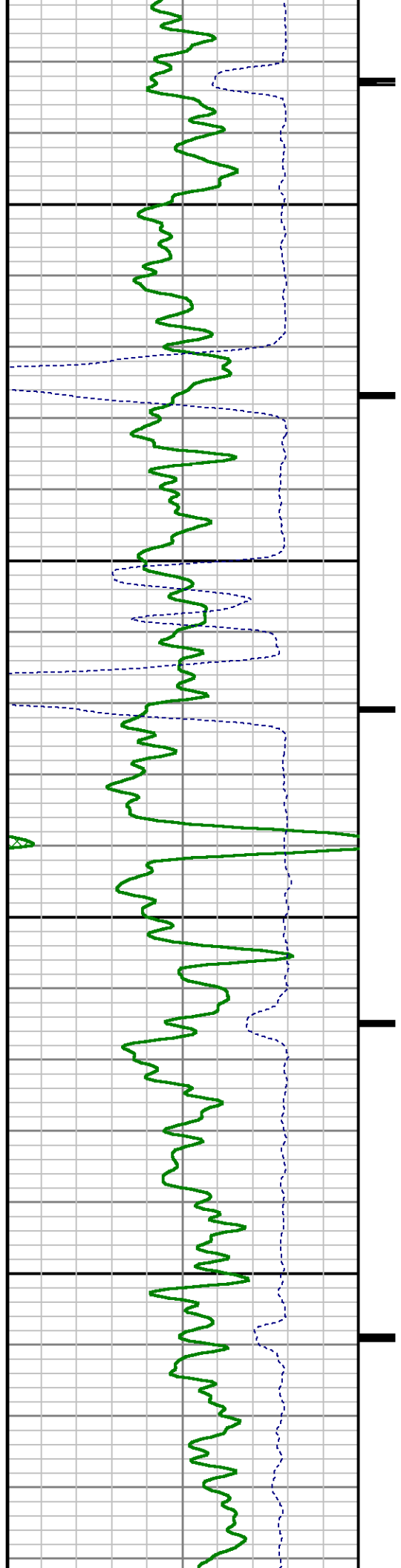


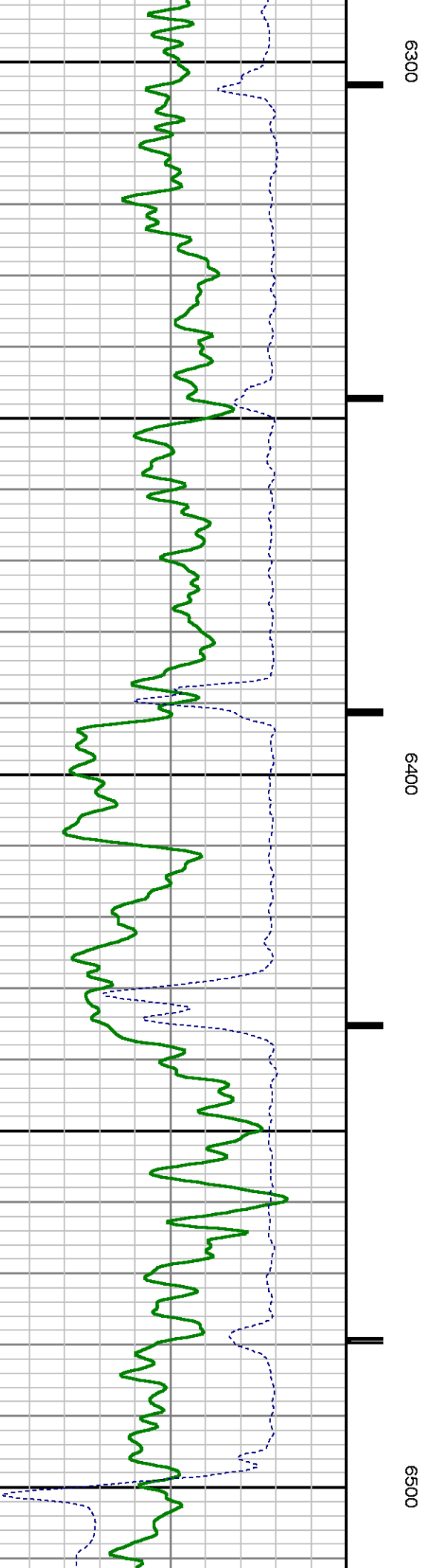
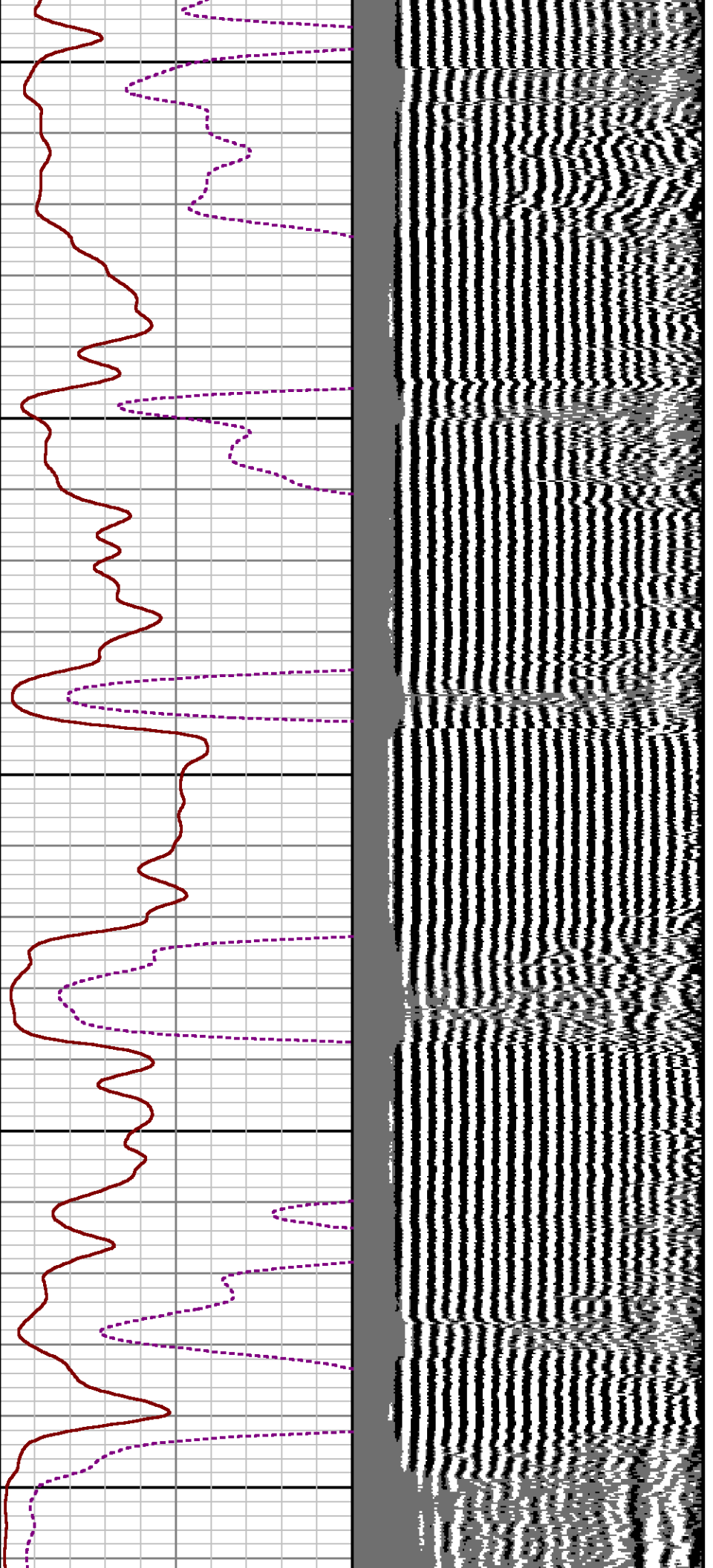


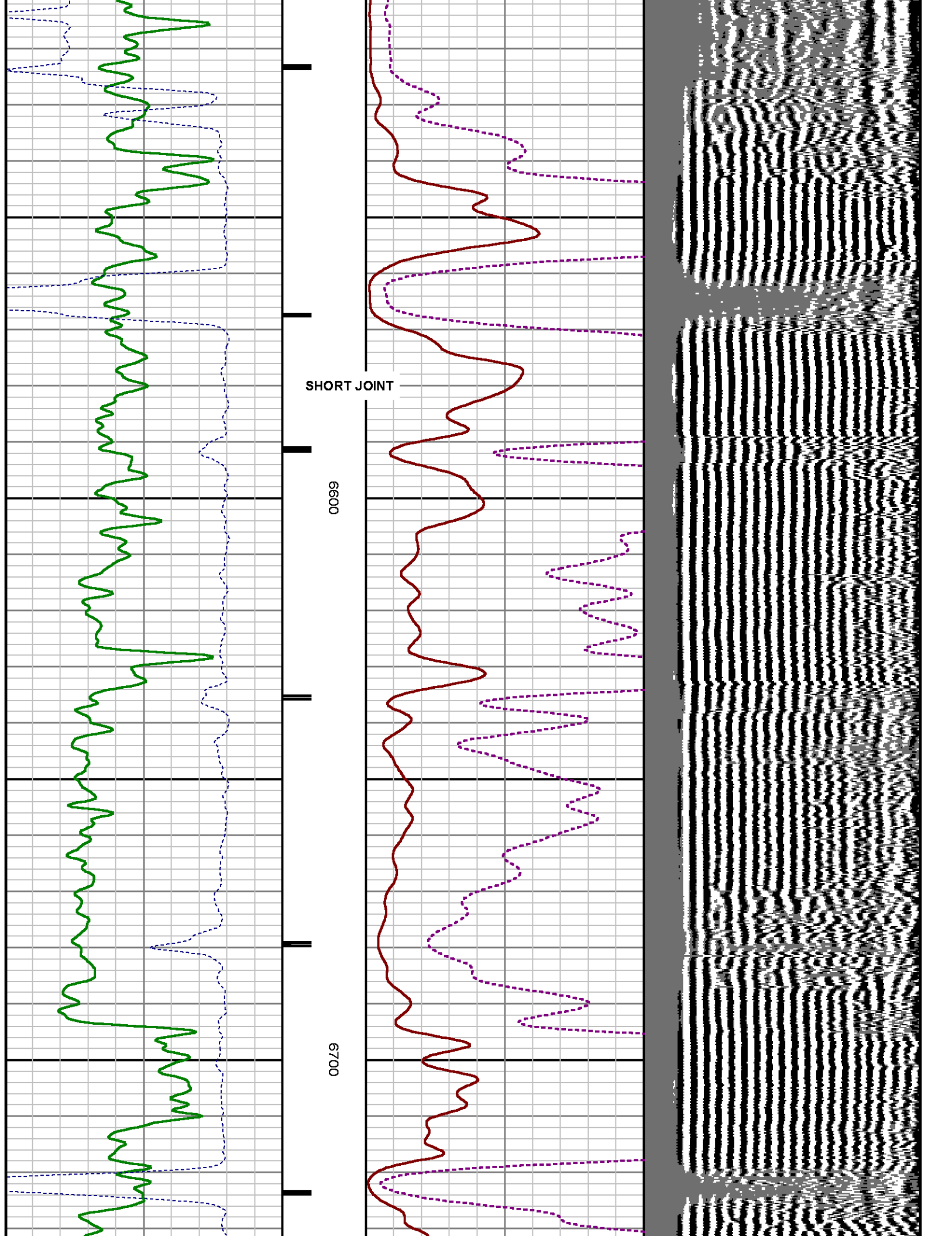


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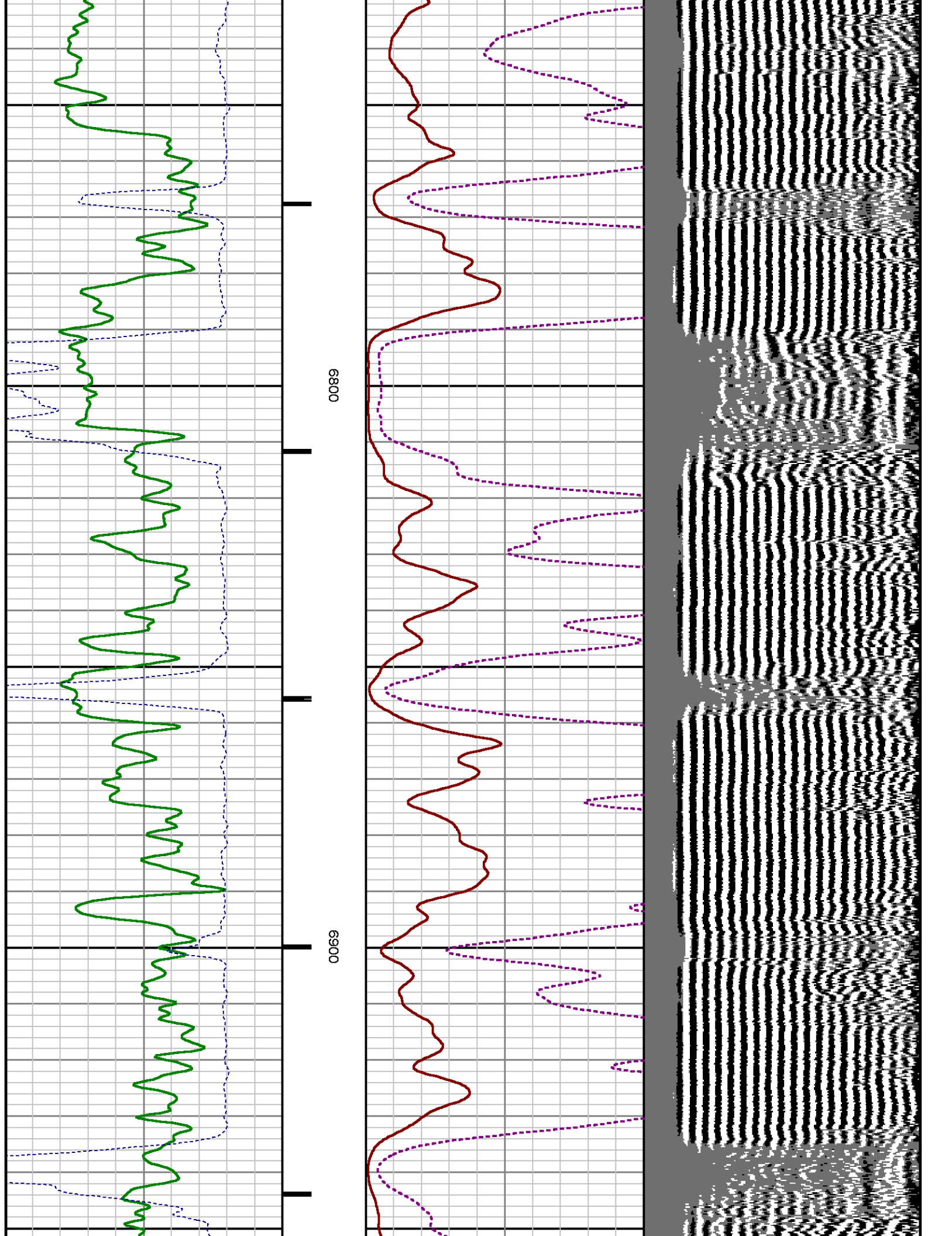
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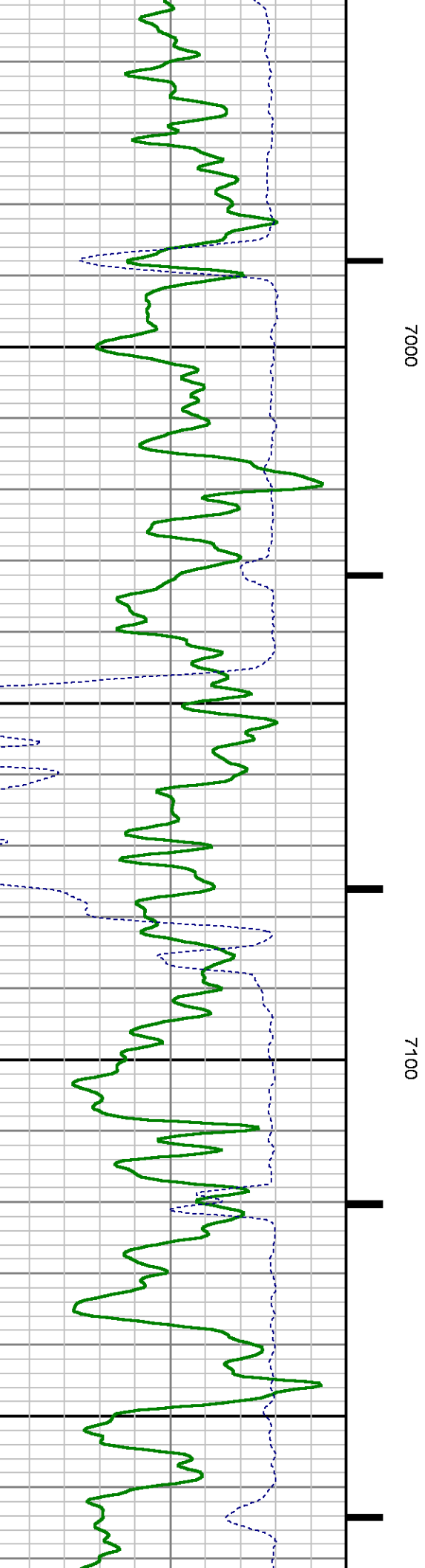
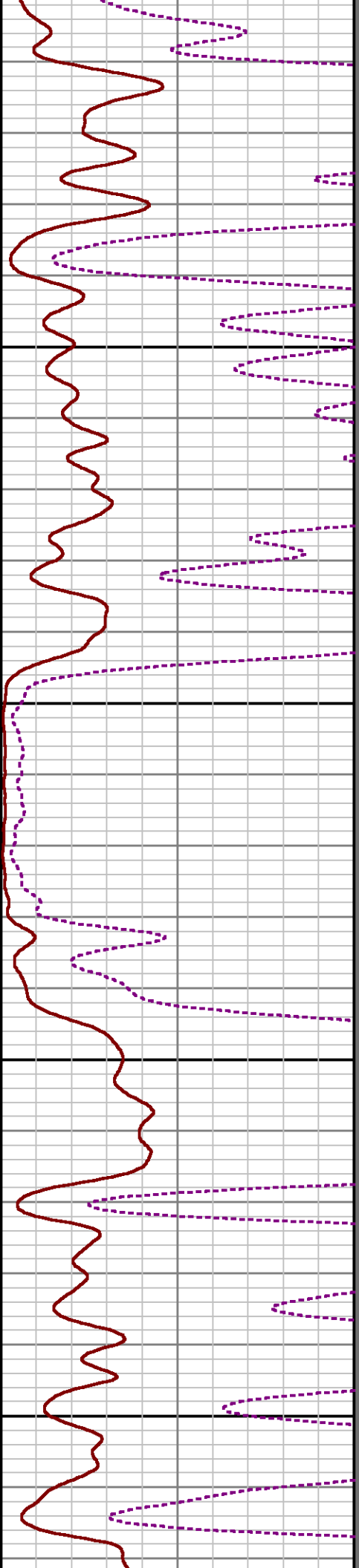
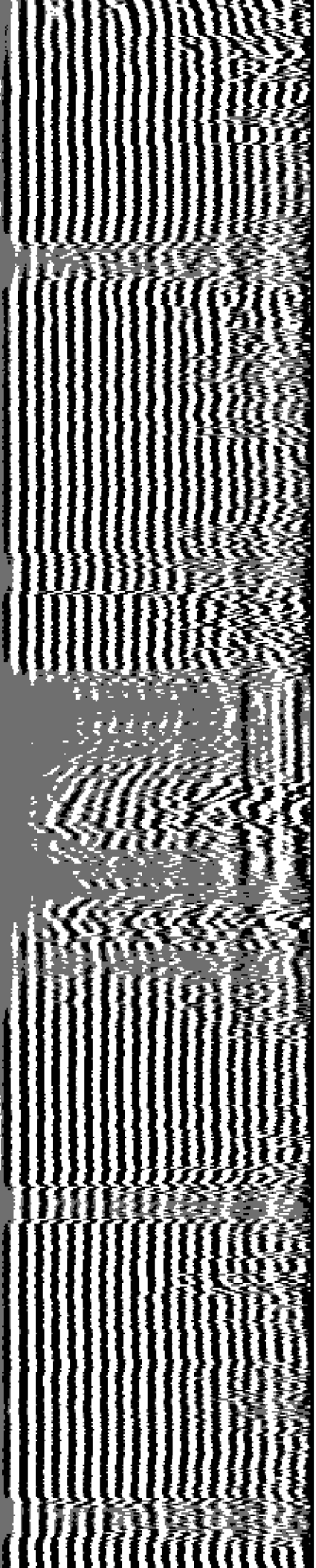


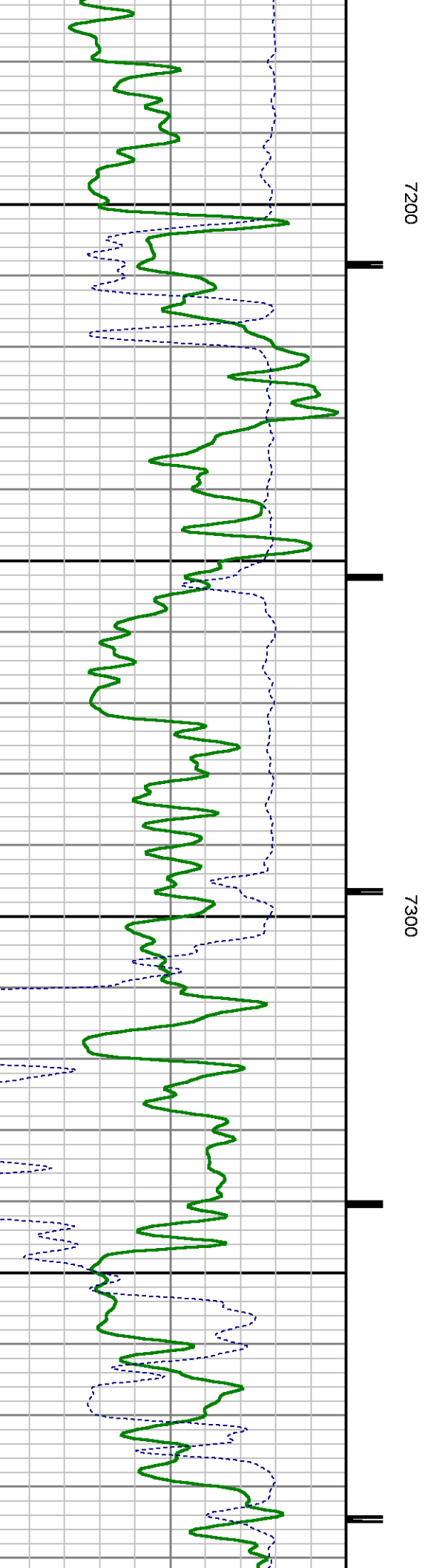
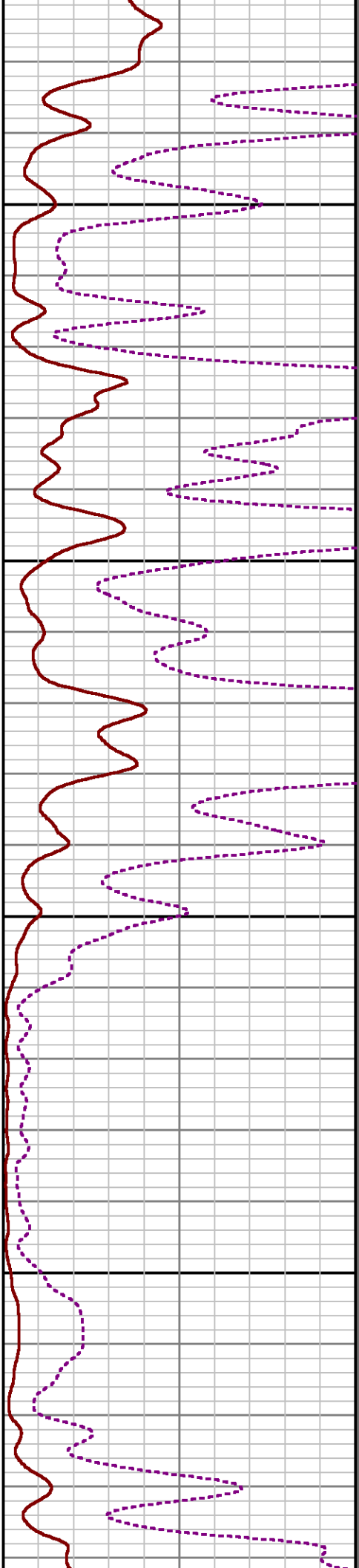
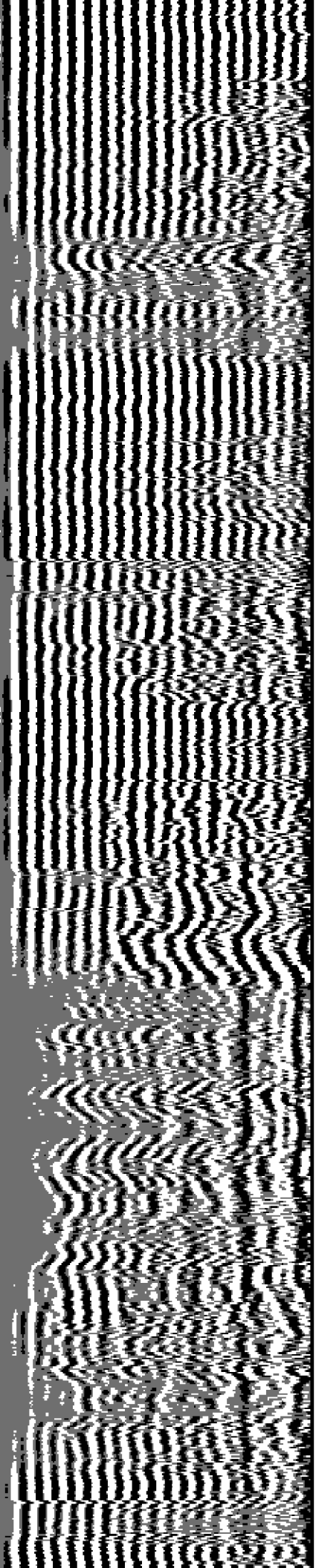




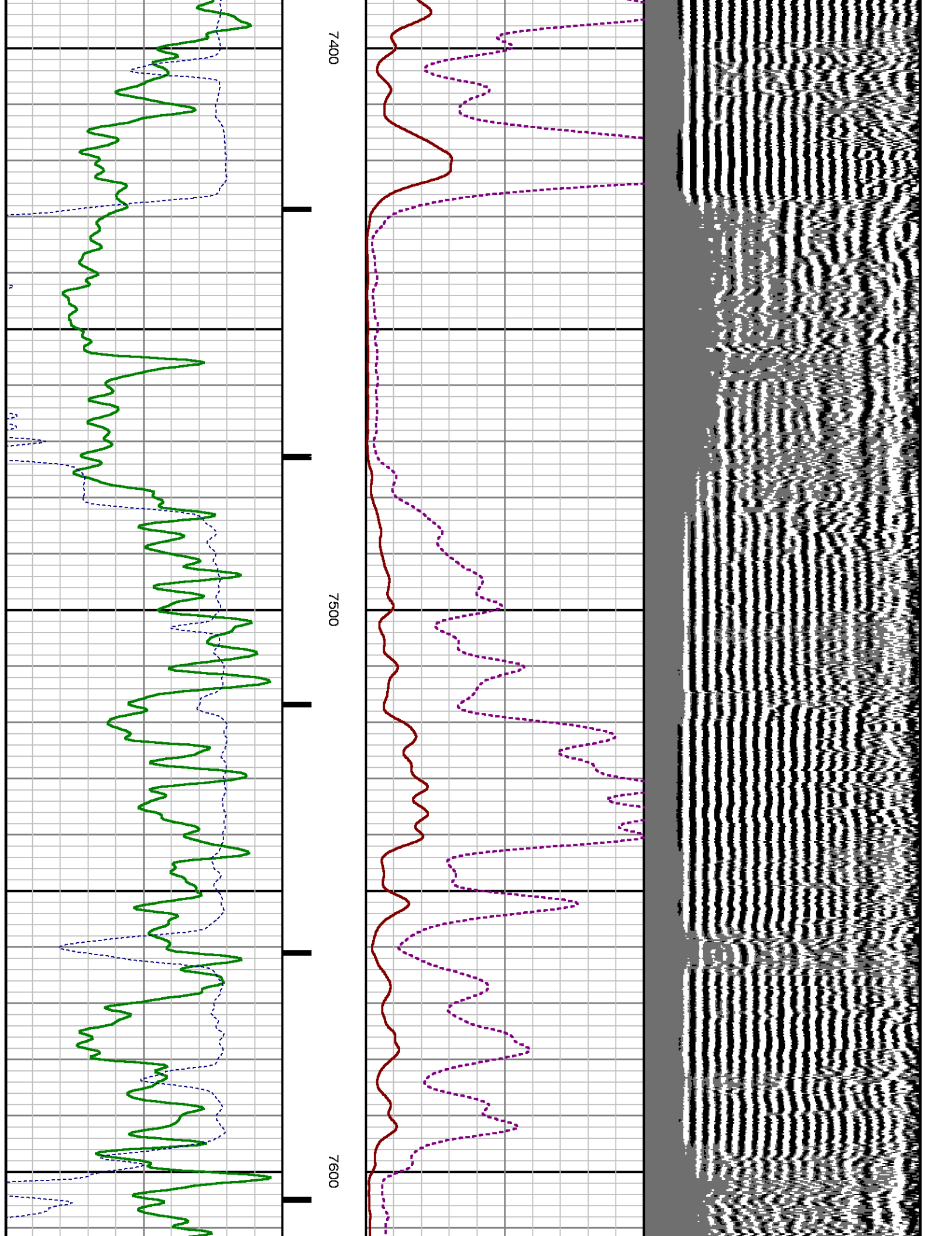


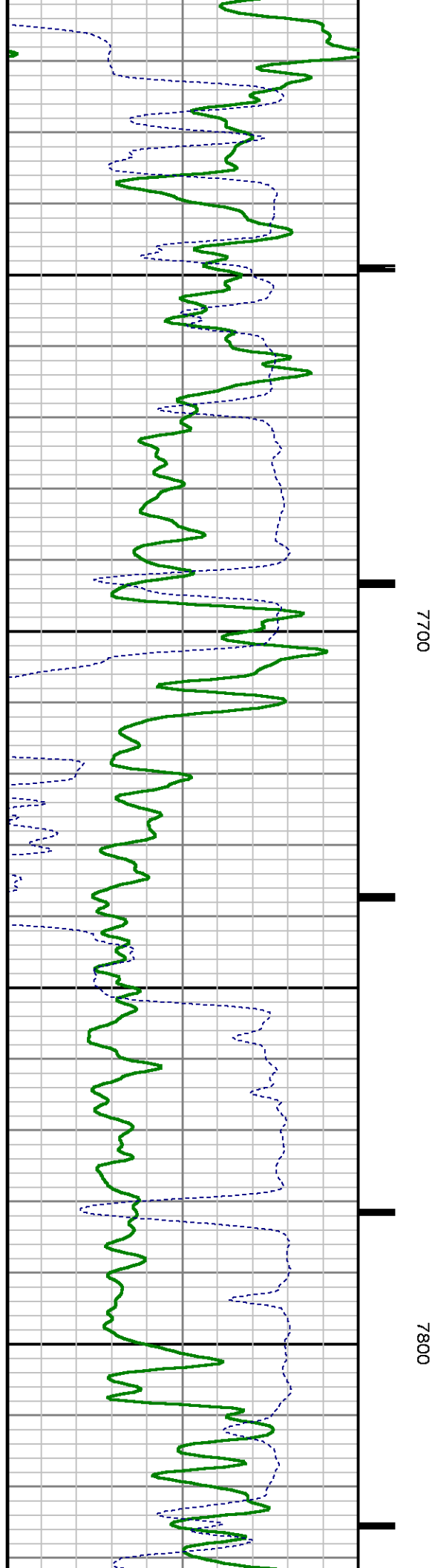
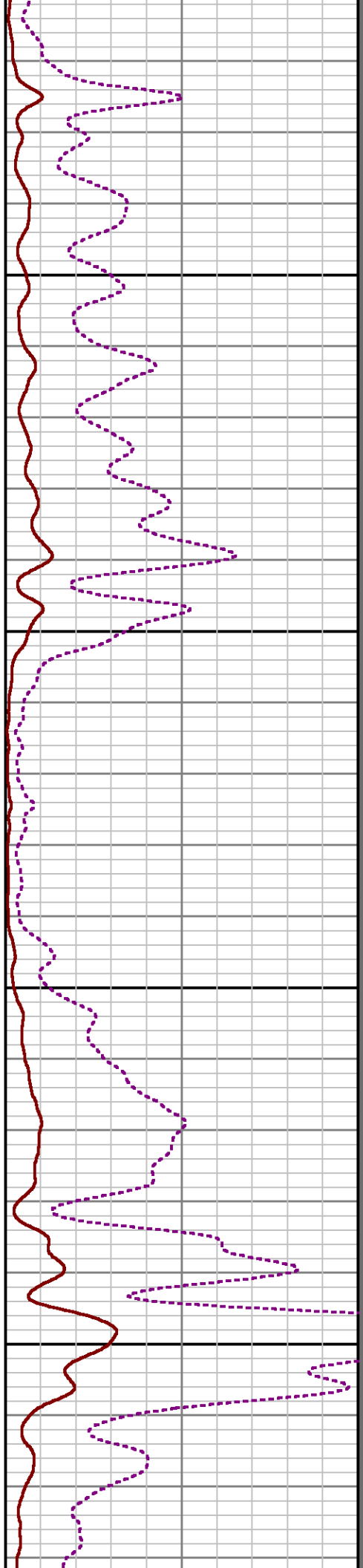
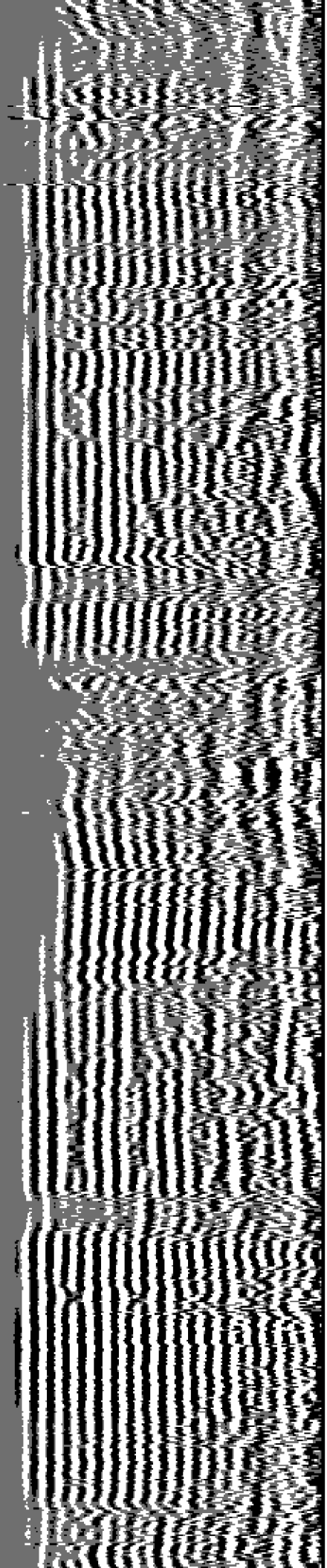


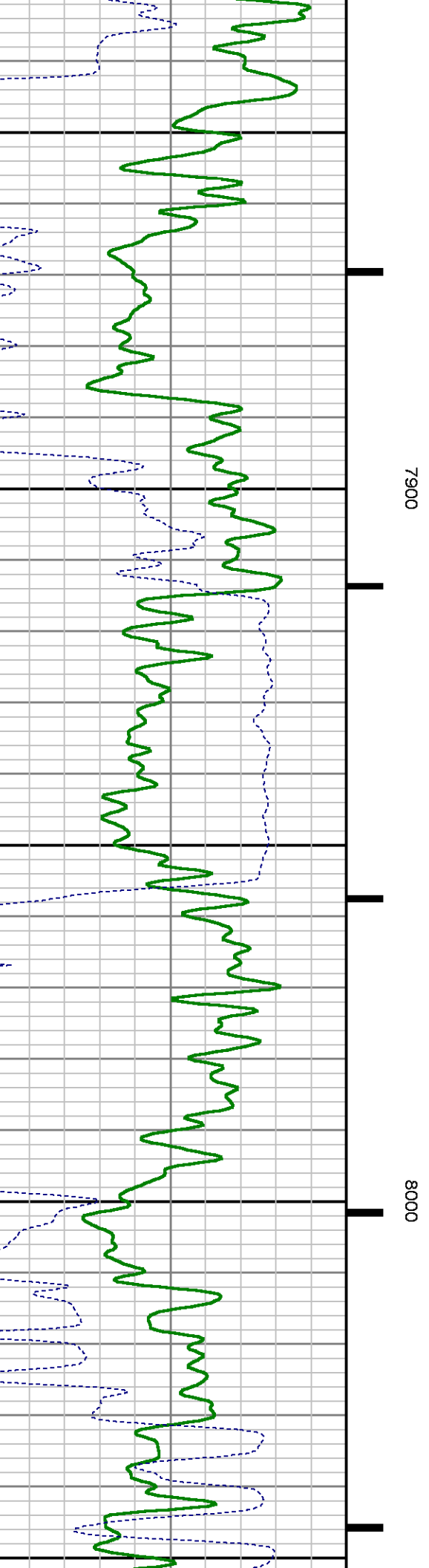
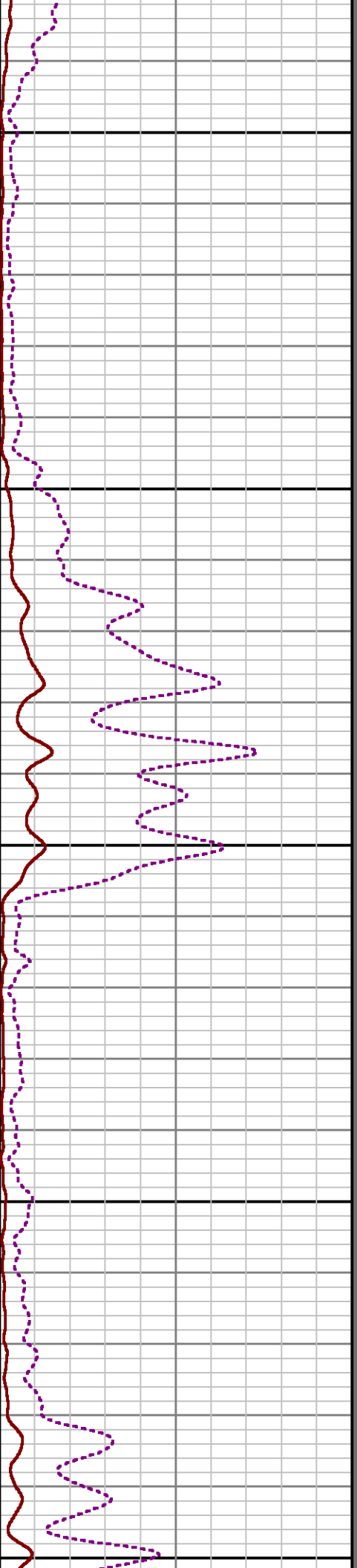
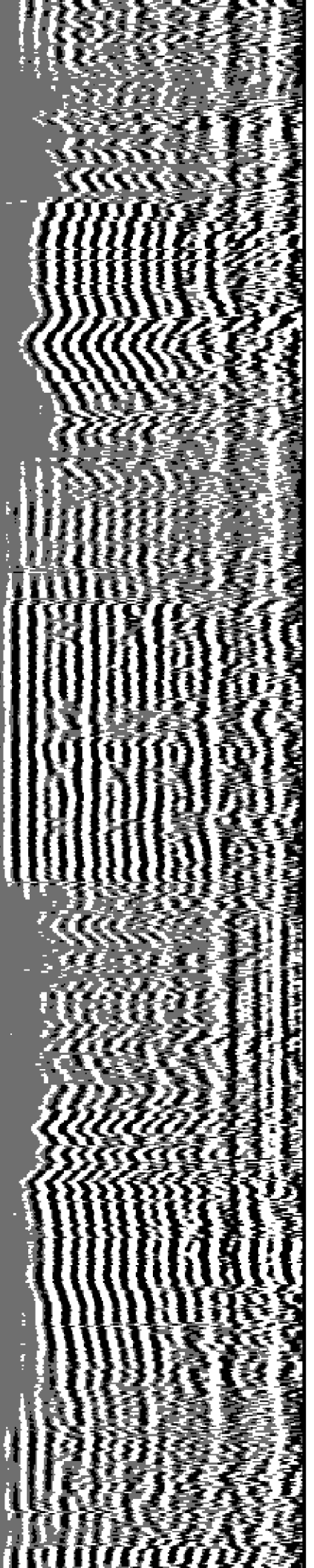


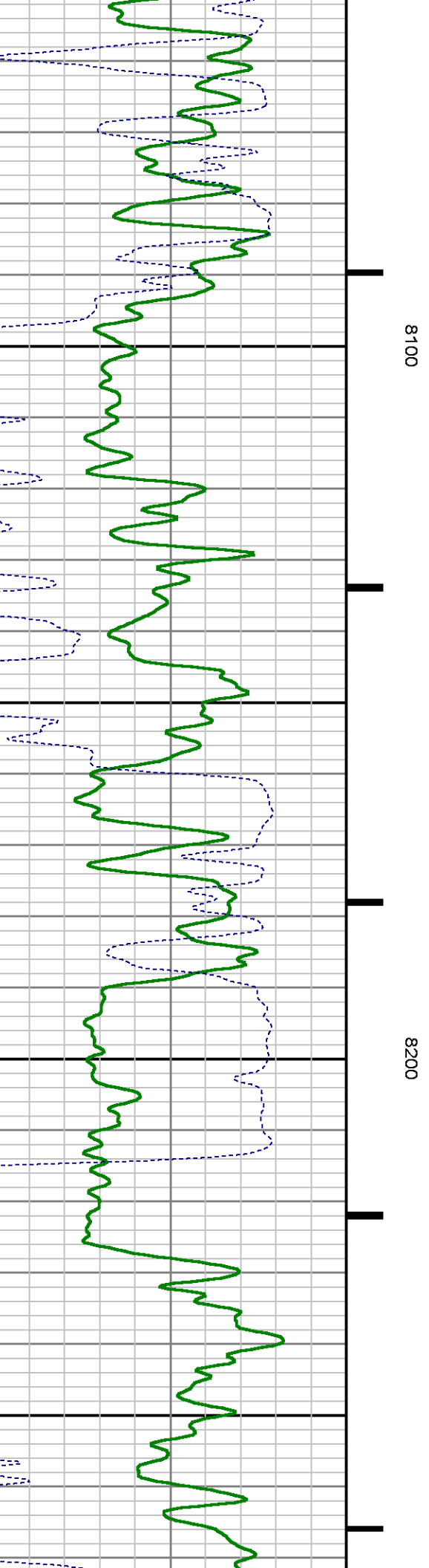
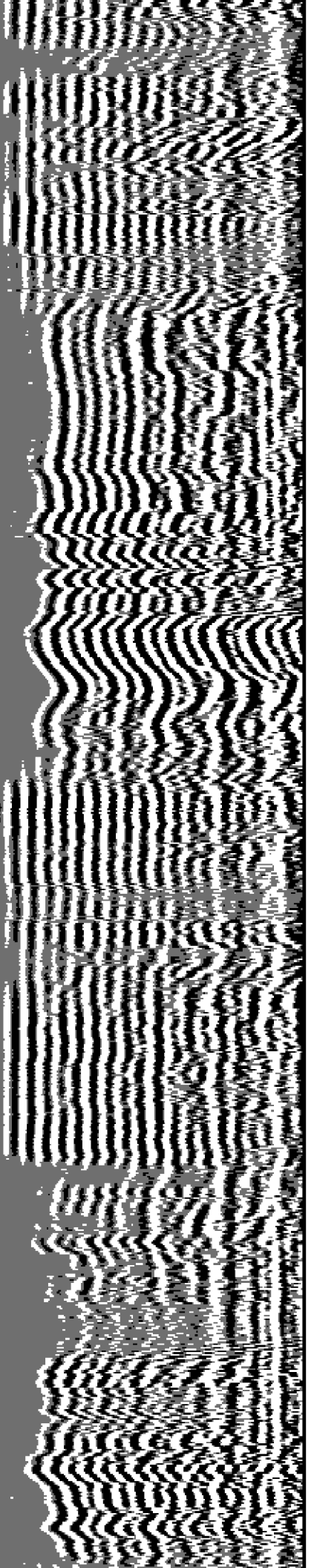




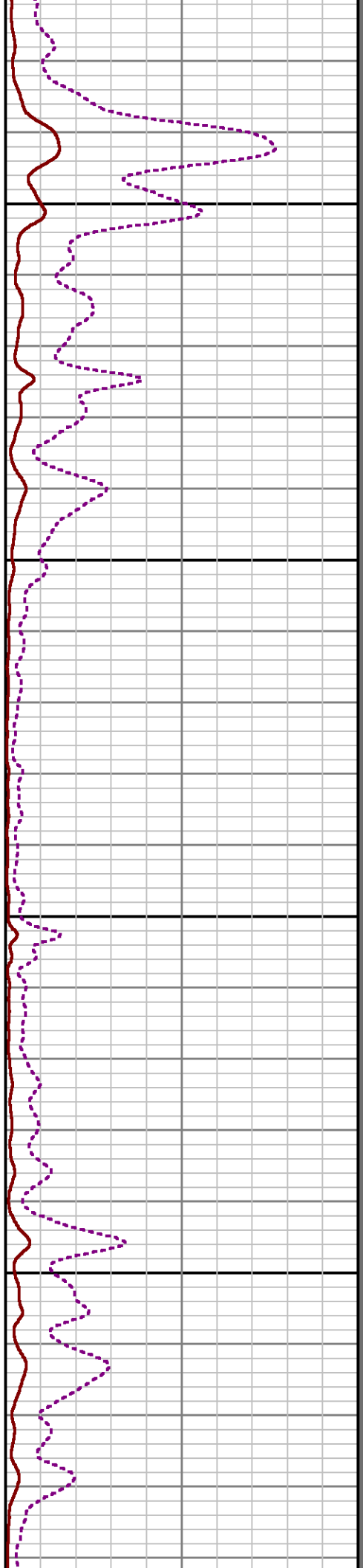
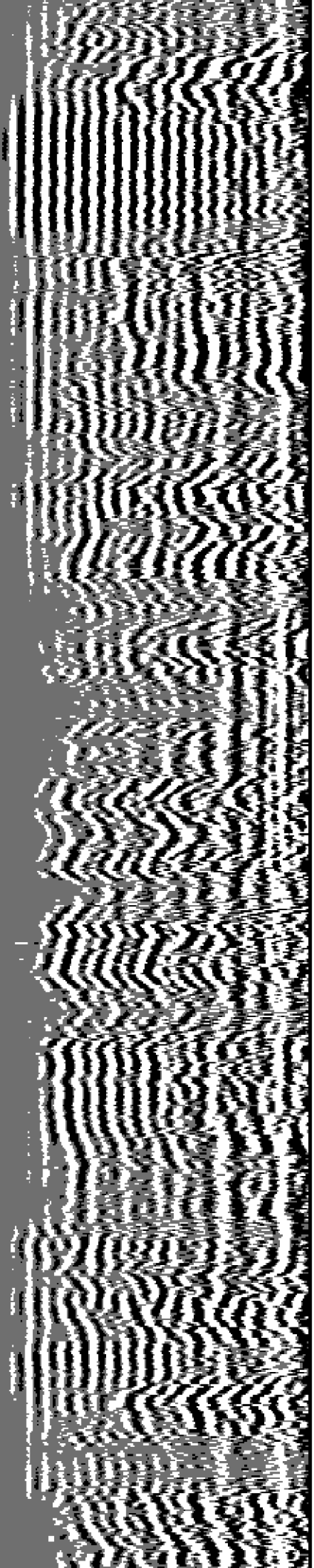






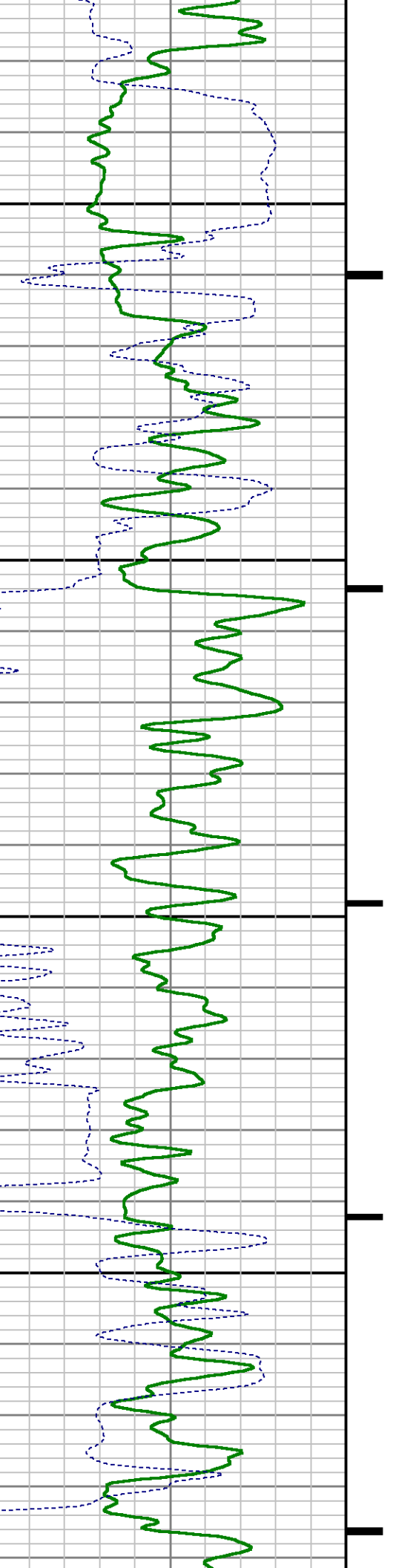


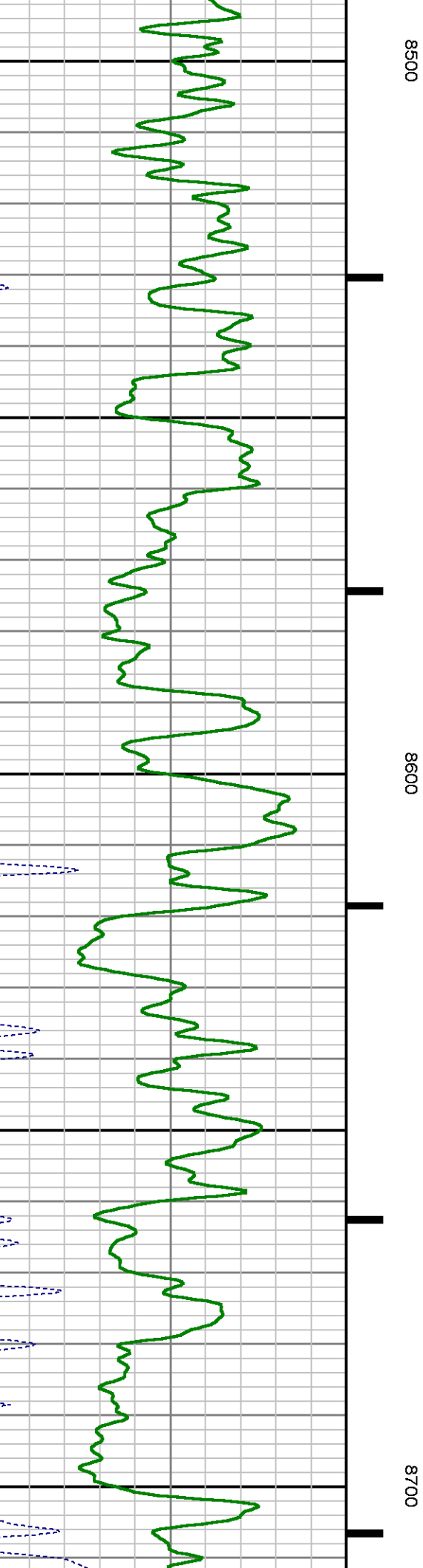
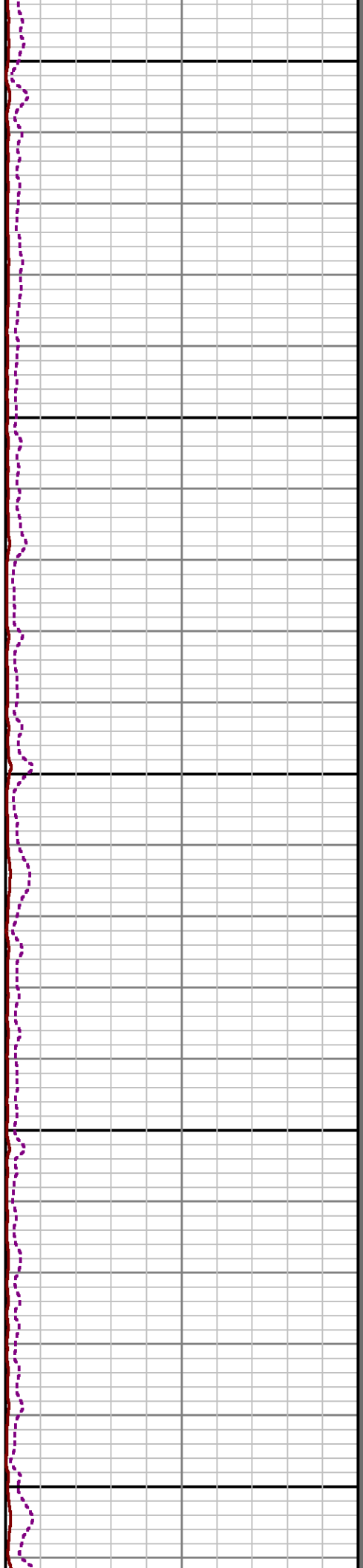
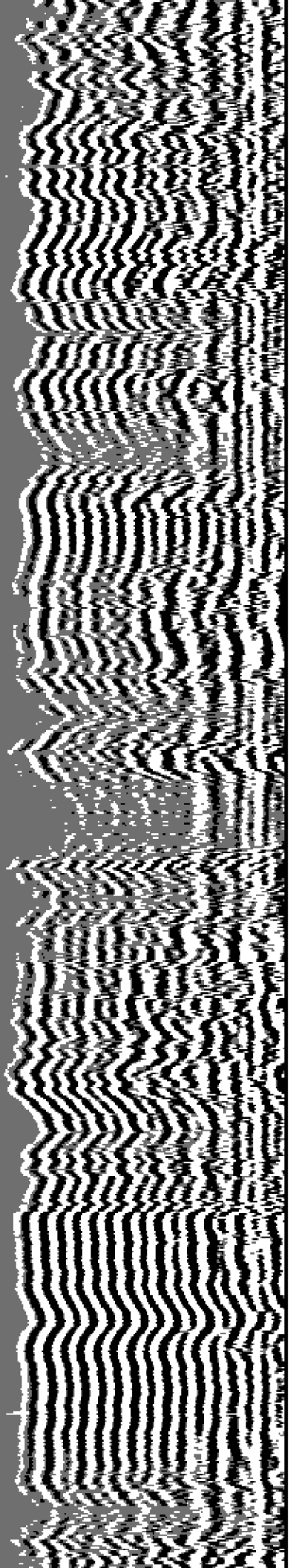




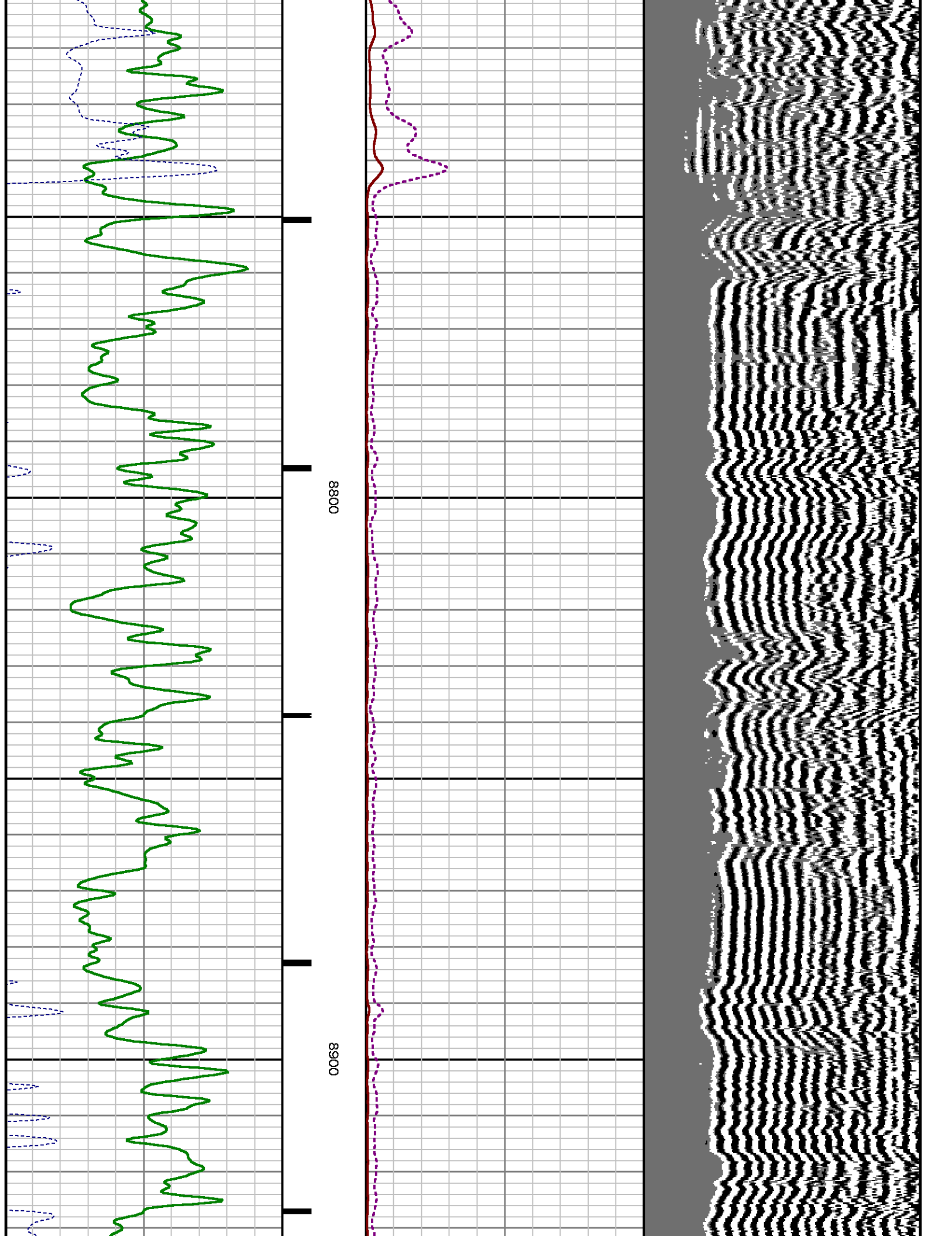
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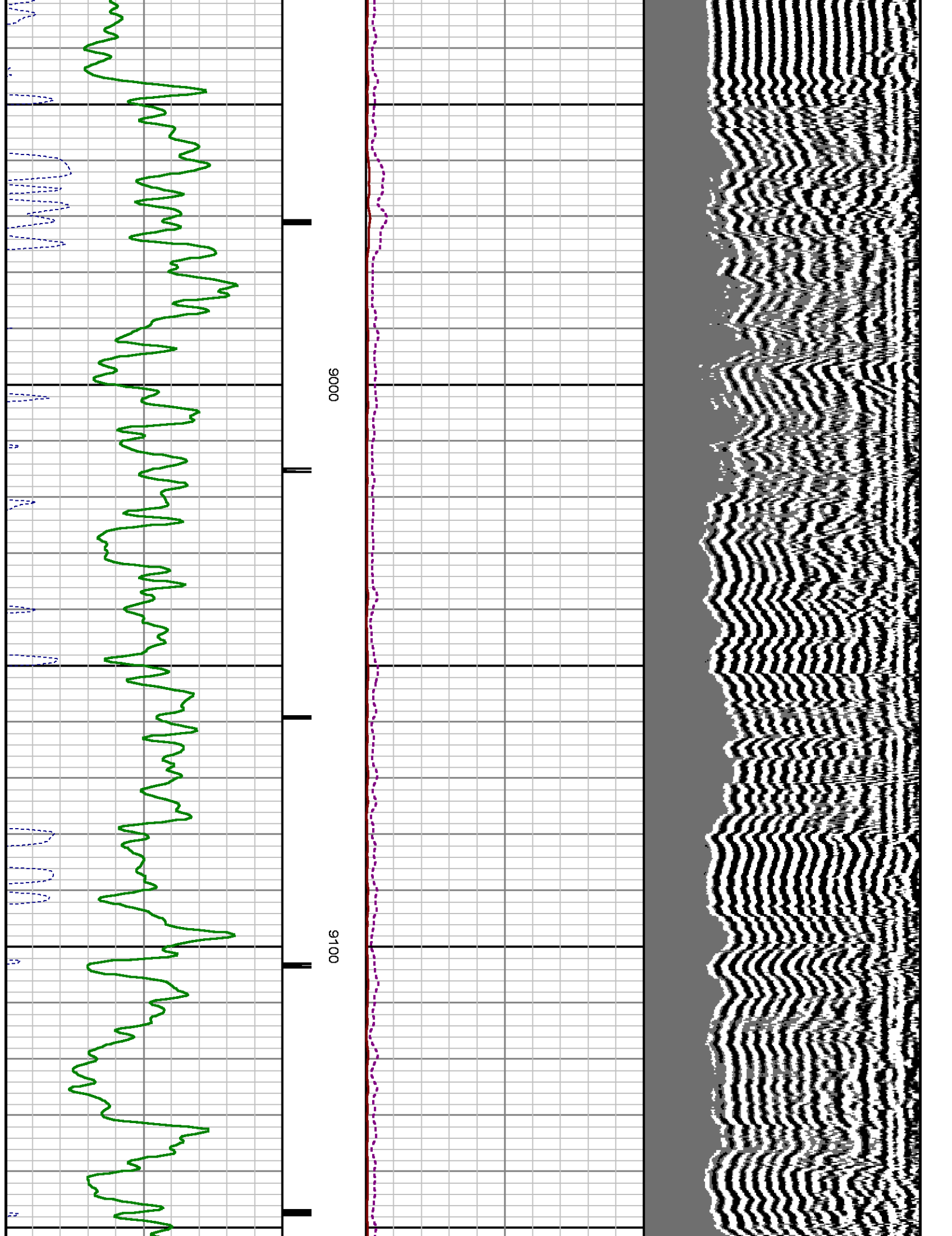
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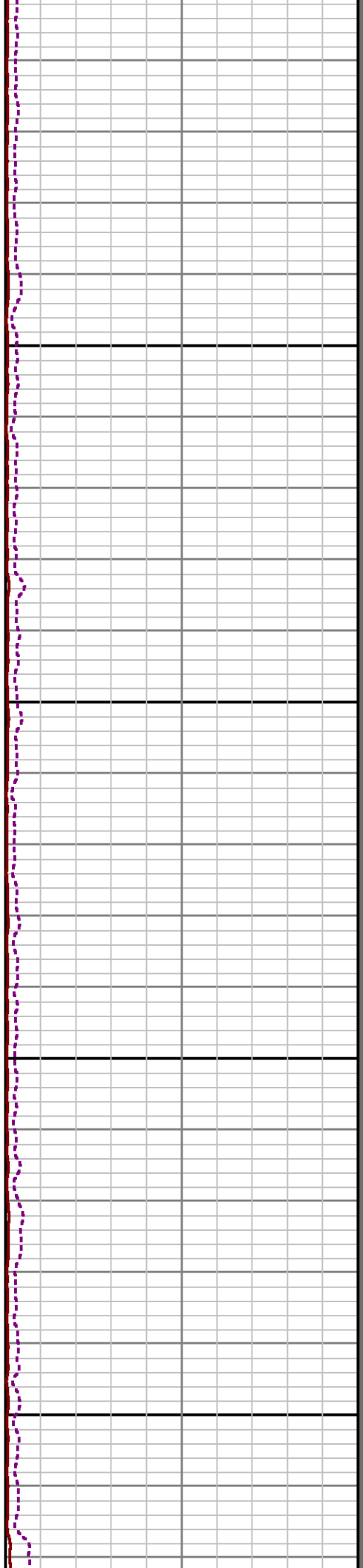
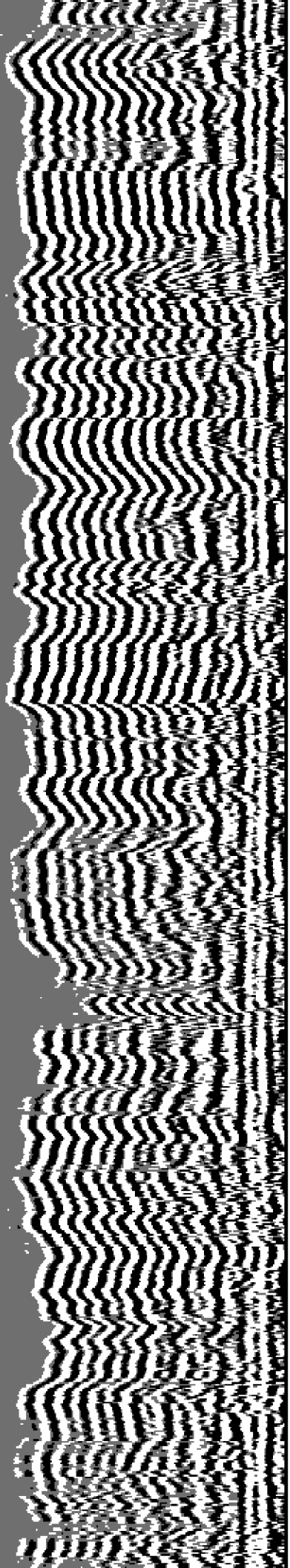






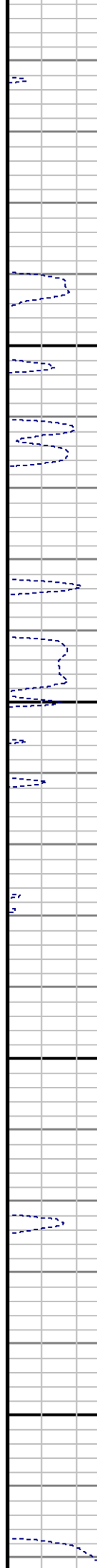
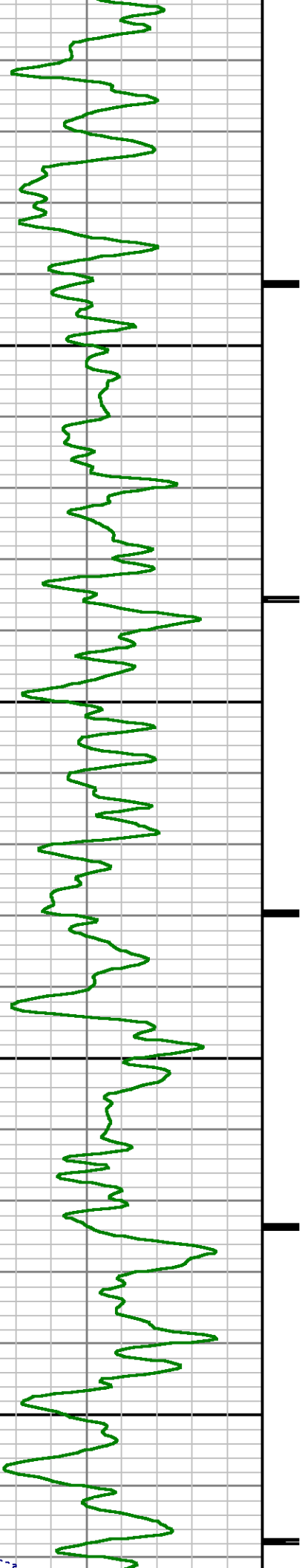


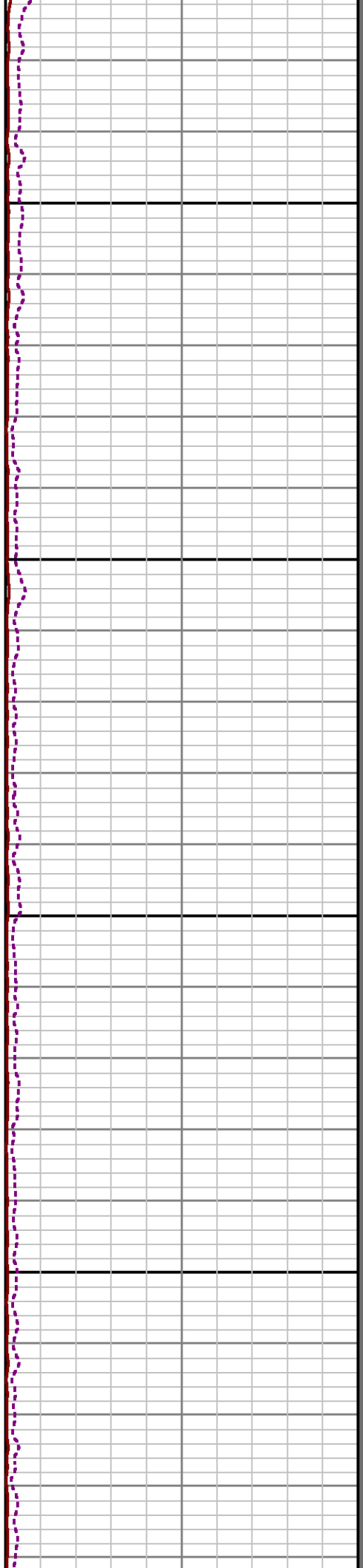
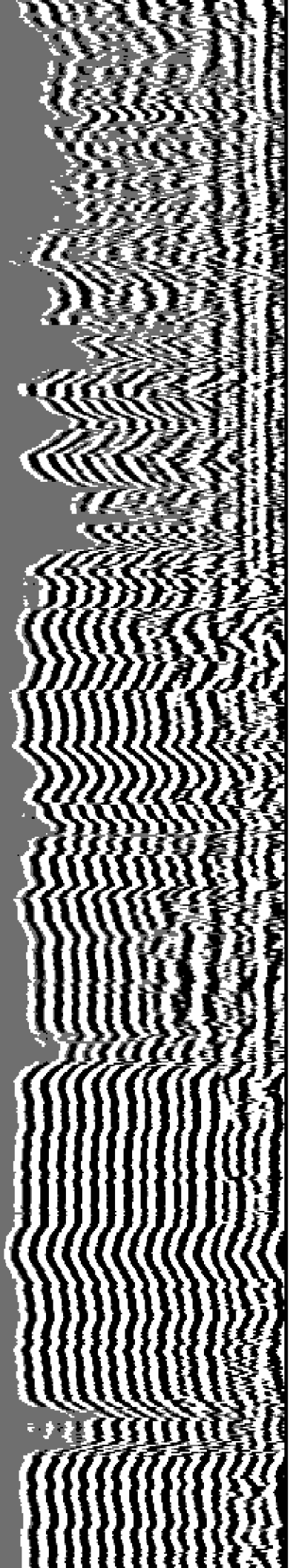




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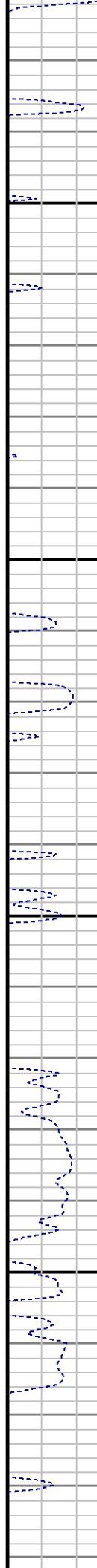
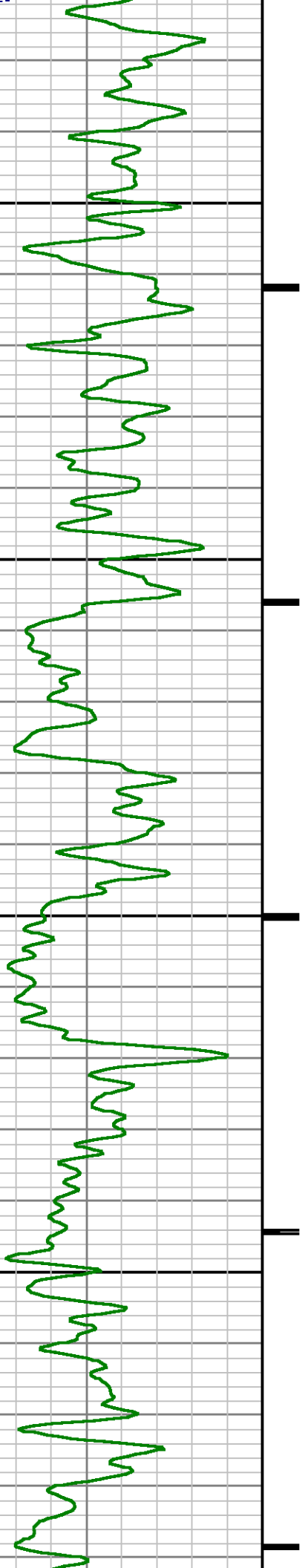
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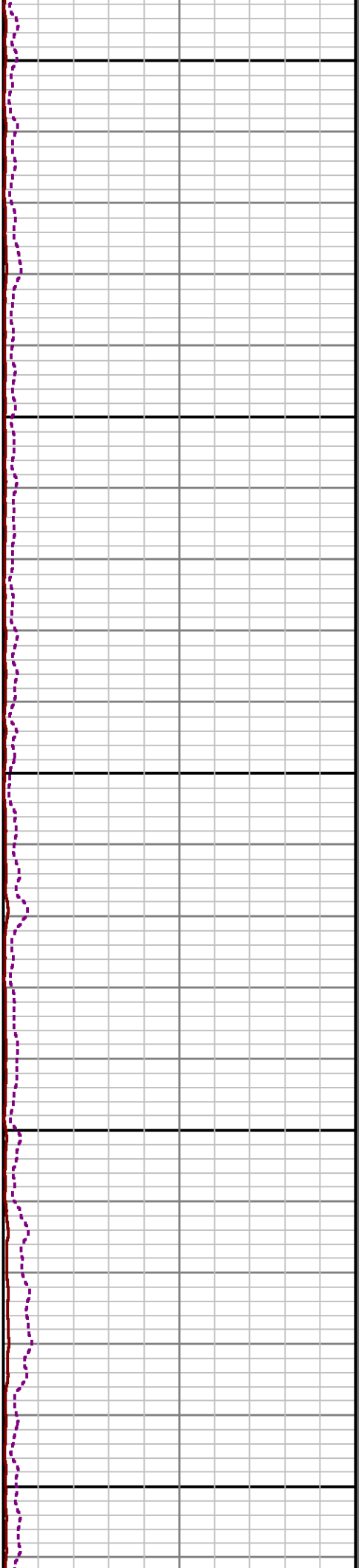
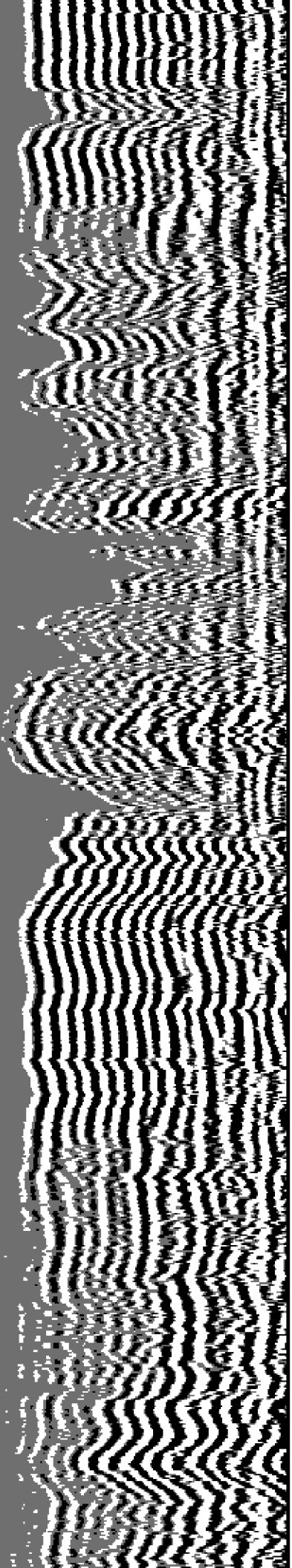




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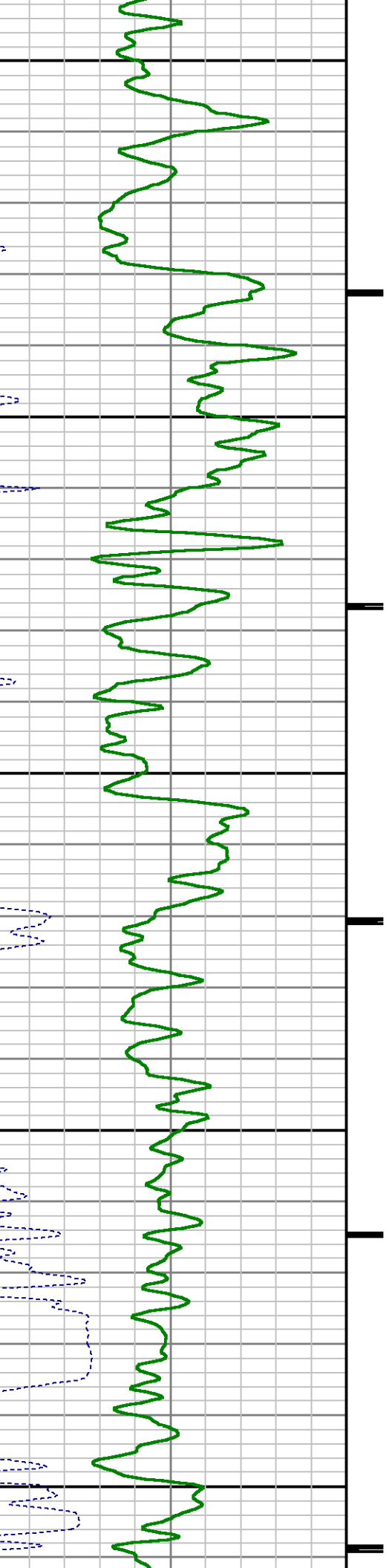
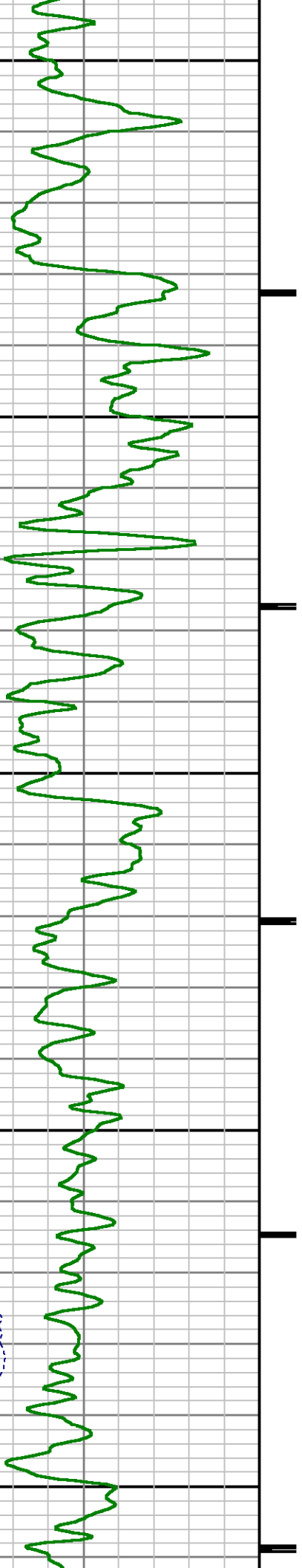




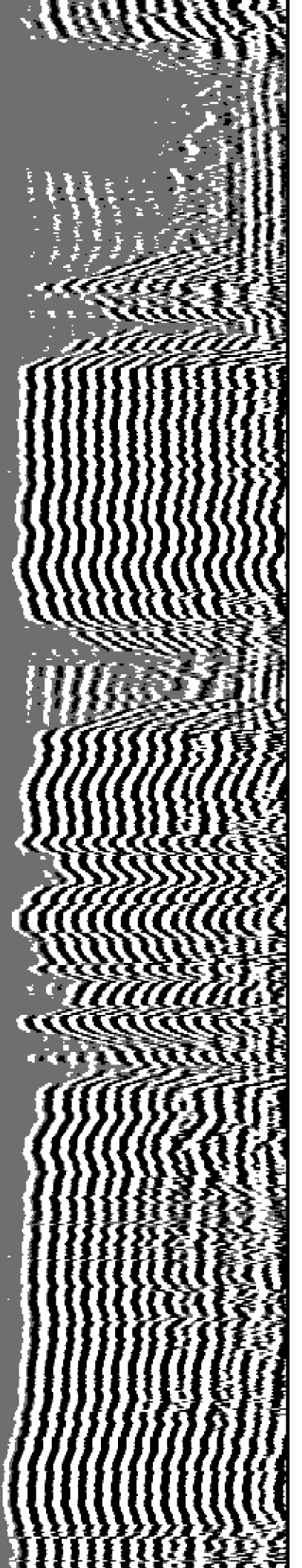
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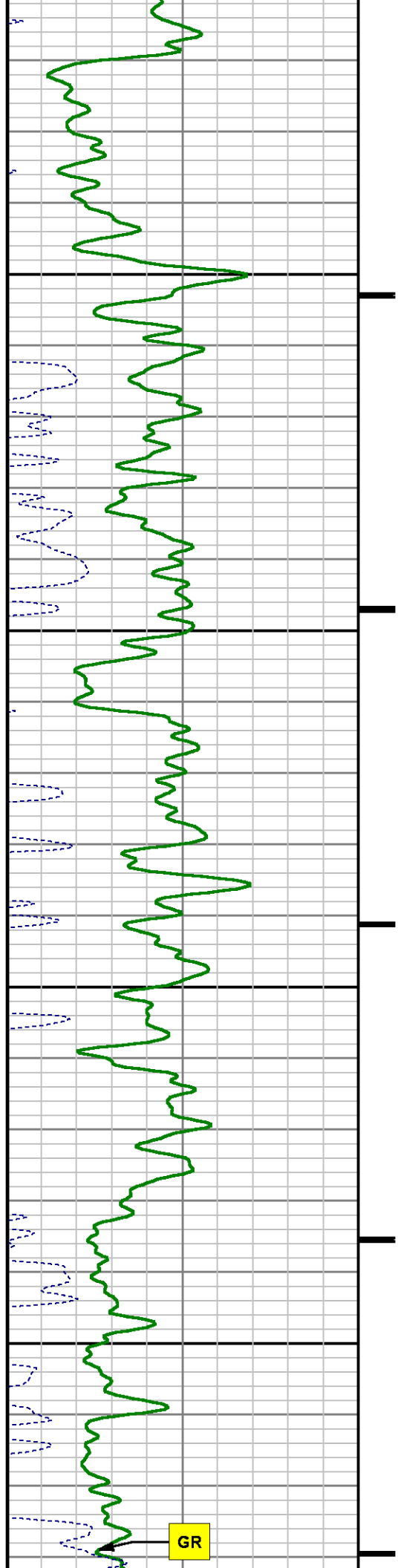


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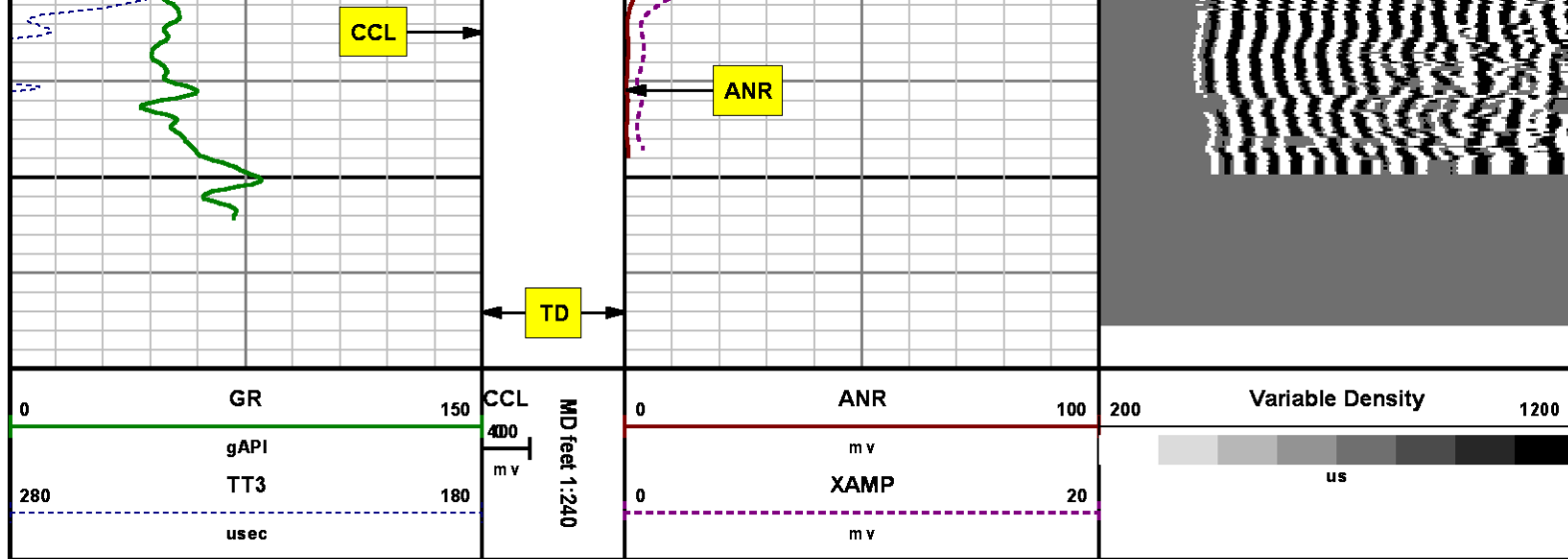
10000

XAMP

GR







## SECONDARY PRESENTATION 0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	35.562	10064.500
RAL	Amp Gate Start Near	195.000	usec	35.562	10064.500
RAL	Amp Gate Start Radial	195.000	usec	35.562	10064.500
RAL	Amp Gate Width Far	25.000	usec	35.562	10064.500
RAL	Amp Gate Width Near	25.000	usec	35.562	10064.500
RAL	Amp Gate Width Radial	25.000	usec	35.562	10064.500
RAL	casing od	4.500	inches	35.562	10064.500
RAL	casing wt	11.600	lbm/ft	35.562	10064.500
RAL	FB Start Far	291.900	usec	35.562	10064.500
RAL	FB Start Near	175.391	usec	35.562	10064.500
RAL	FB Start Radial	175.391	usec	35.562	10064.500
RAL	FB Thresh Far	10.000	mv	35.562	10064.500
RAL	FB Thresh Near	4.000	mv	35.562	10064.500
RAL	FB Thresh Radial	4.000	mv	35.562	10064.500
RAL	Fluid Travel Time	200.000	usec/ft	35.562	10065.155

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES							
1426XA	-16.750	ACAL	ANR	AR1	AR2	AR3	AR4		
		AR5	AR6	AR7	AR8	CHV	FPR2		
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3		
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP		
1426XA	-15.750	AFAR	SIG	TT5					
2459XA	-11.340	CCL							
2459XA	-9.490	GR							
2459XA	-4.090	NEU							

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

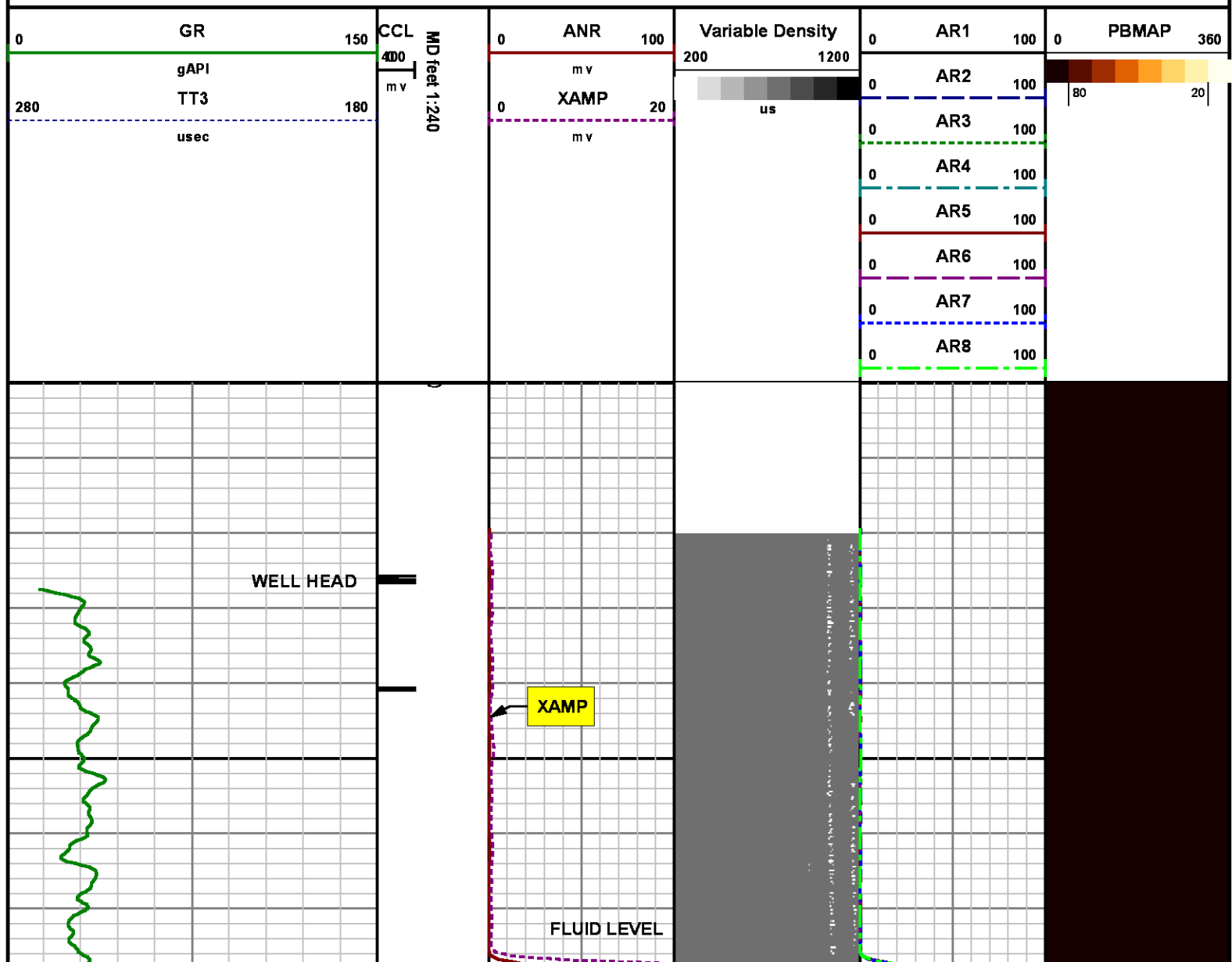
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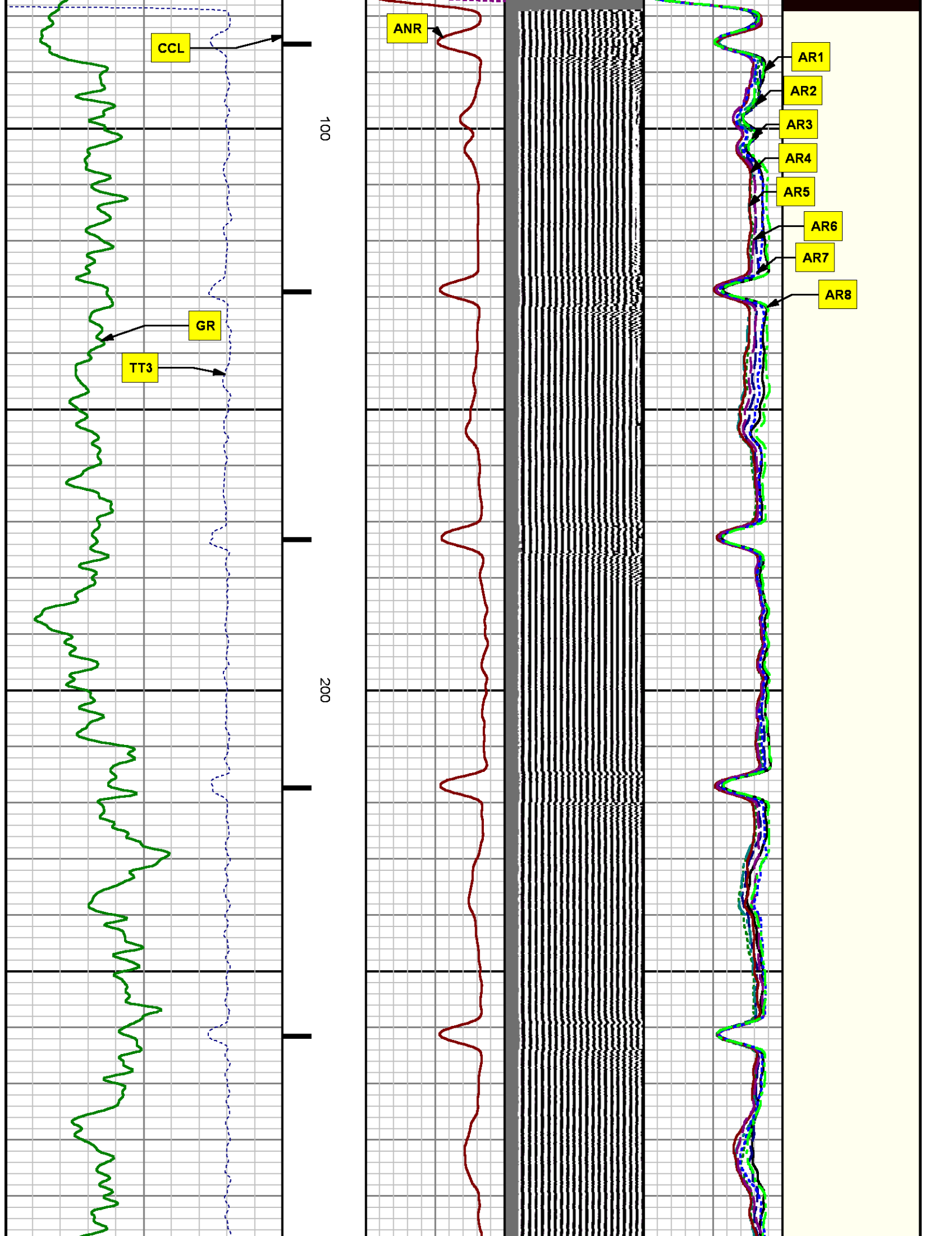
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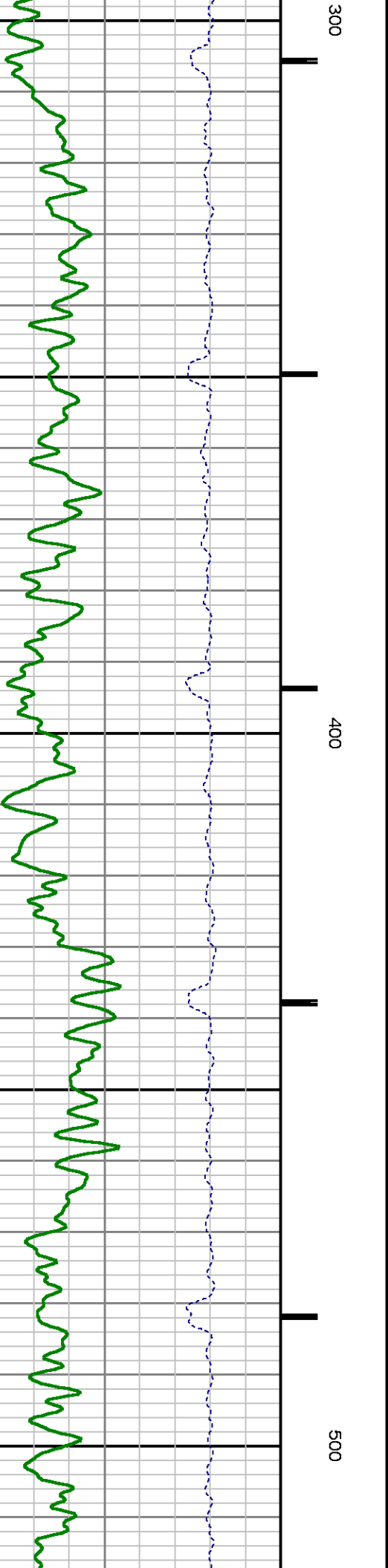
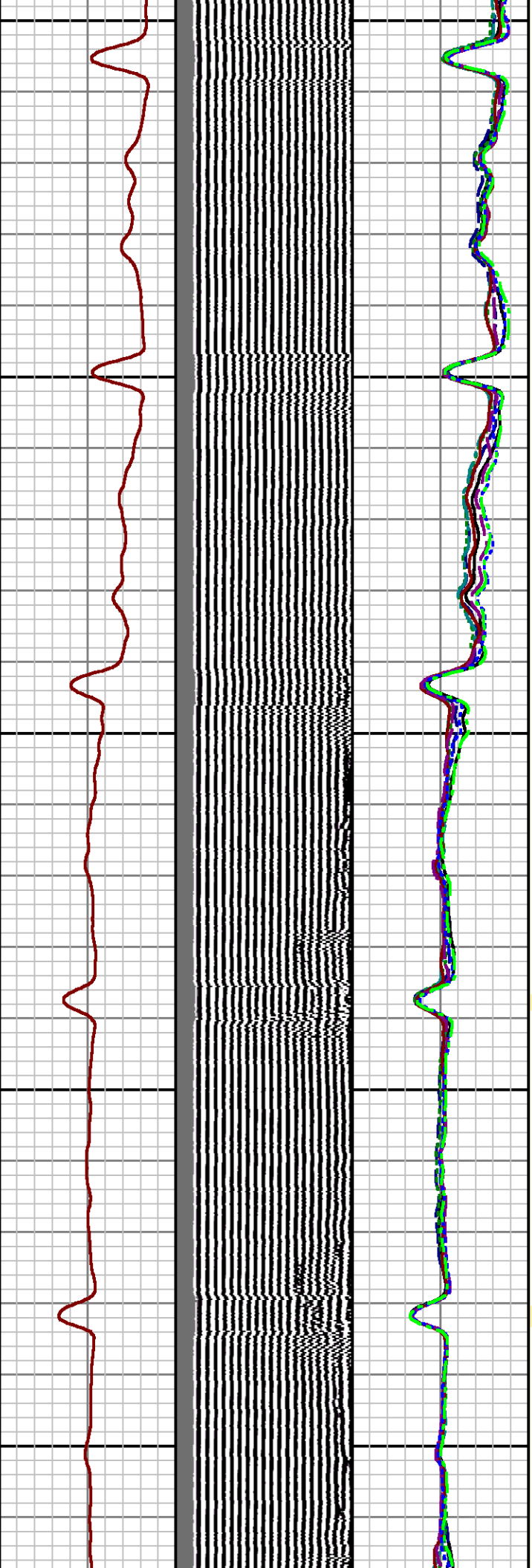
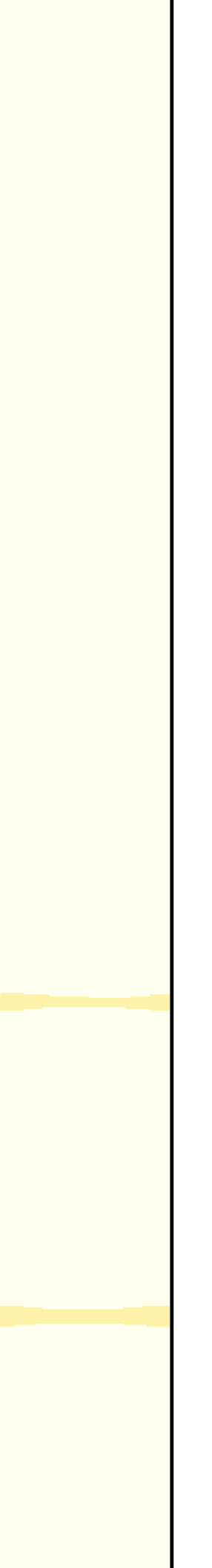
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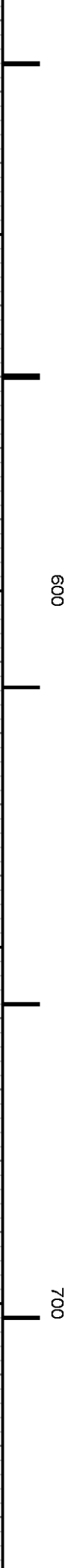
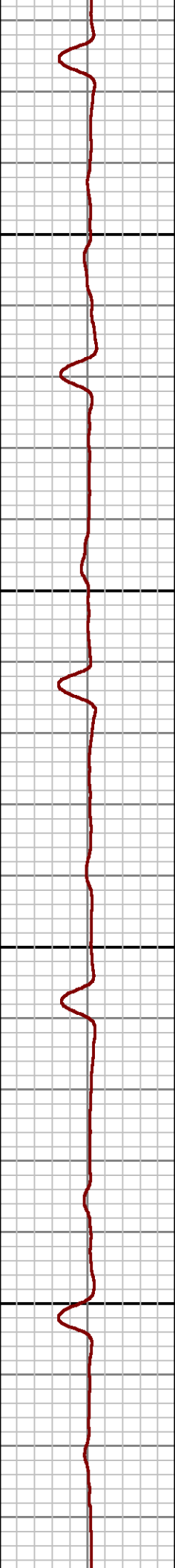
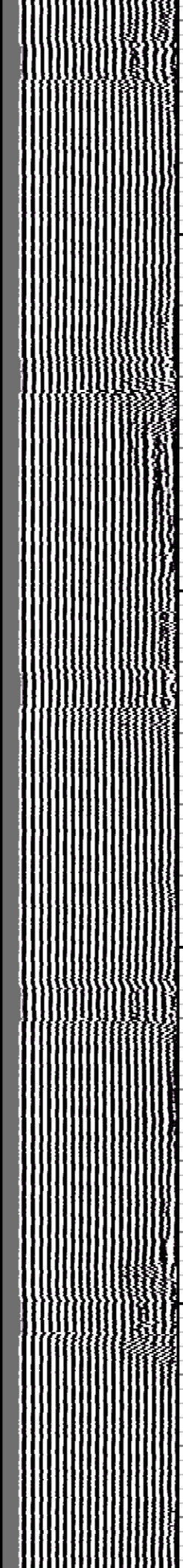
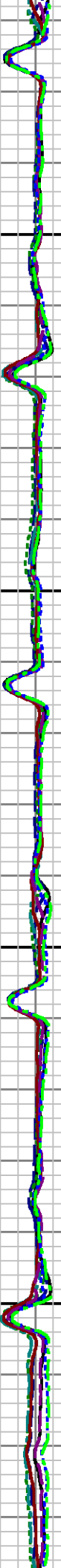
Interval : 0.00 - 10070.00 feet UP

Created : 2/11/2014 4:26:31 PM



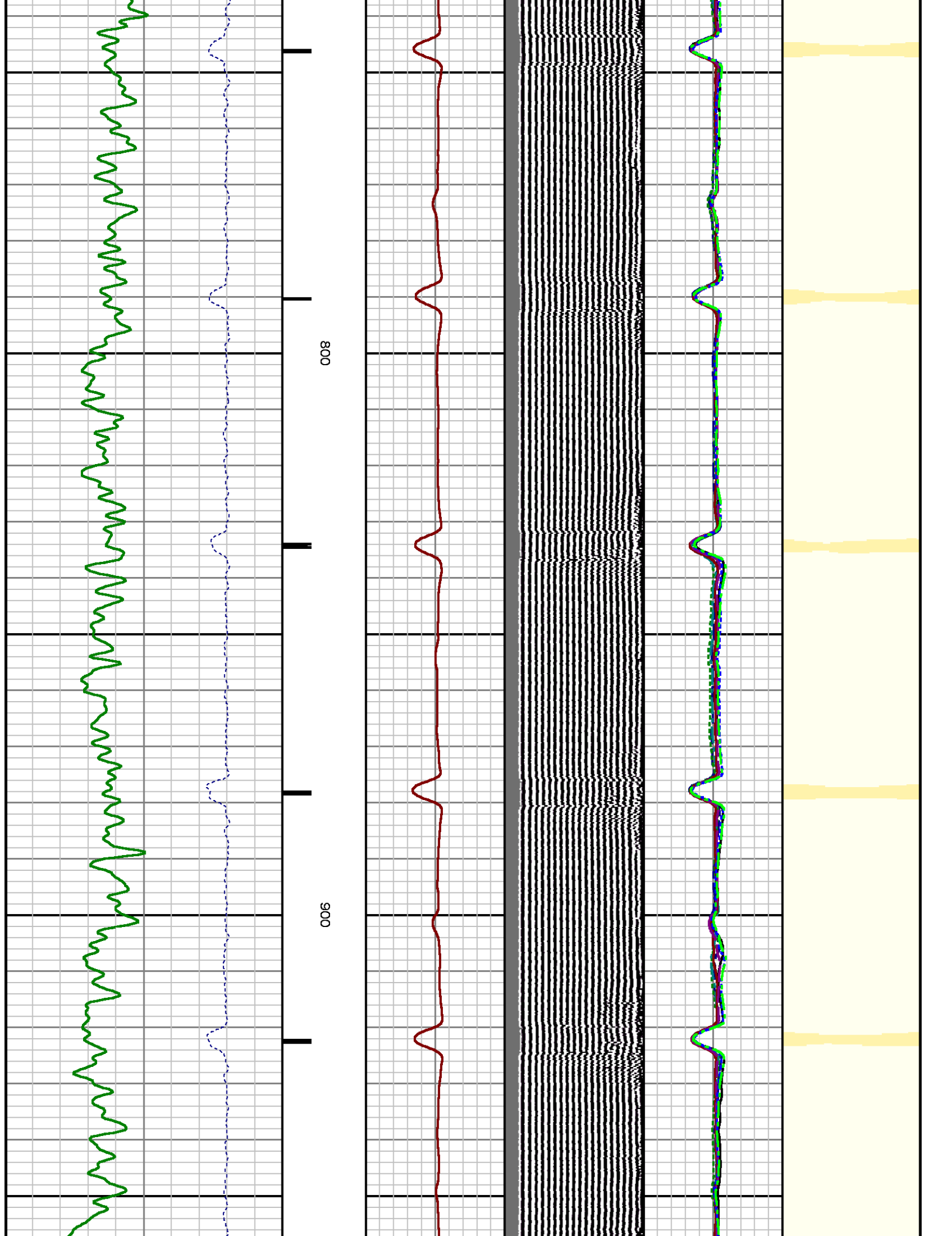




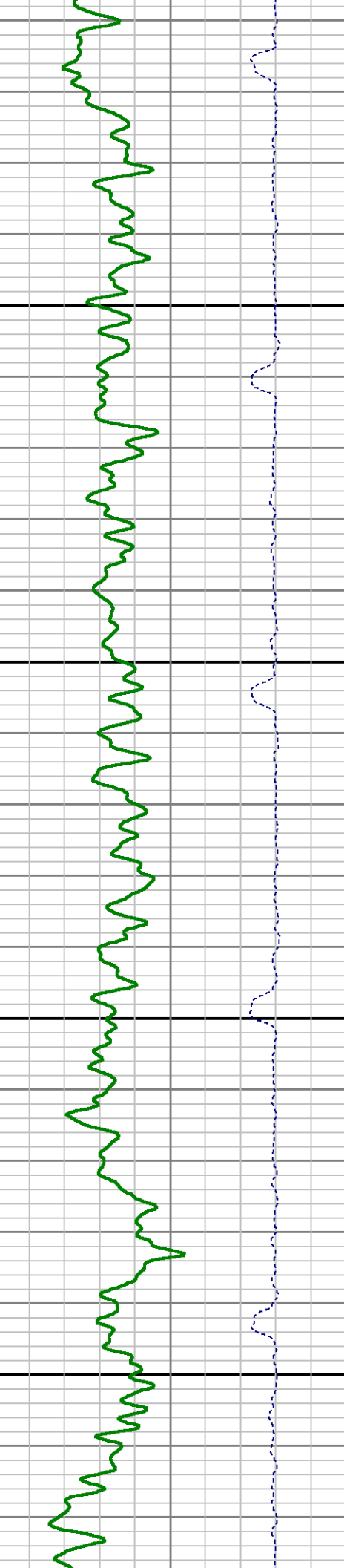
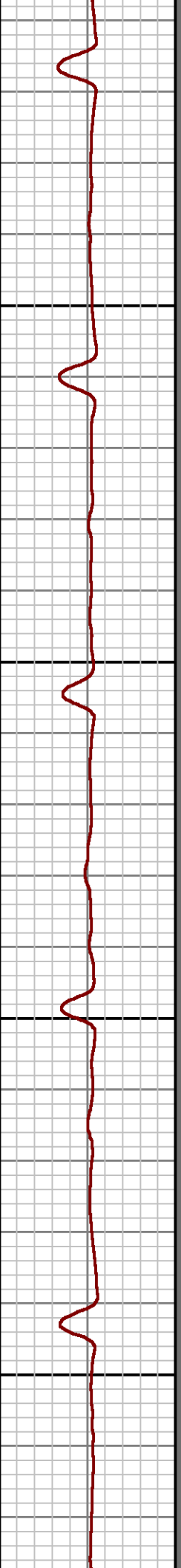
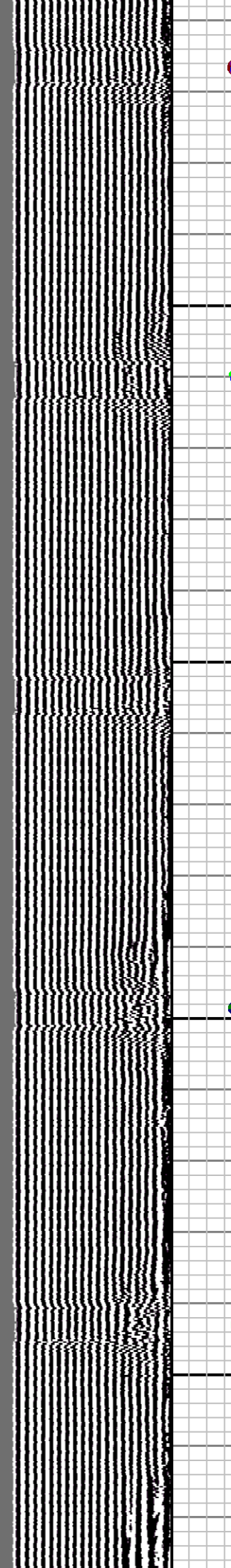
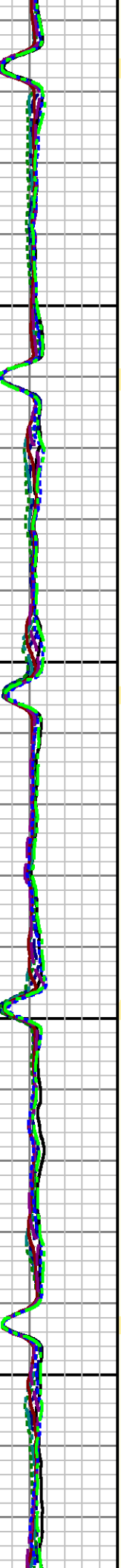


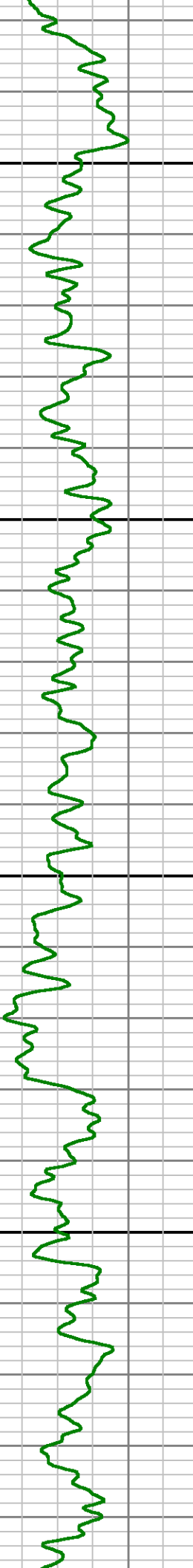
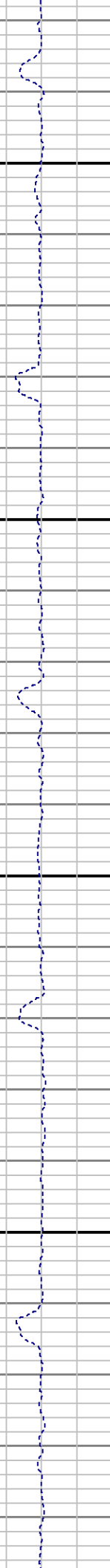
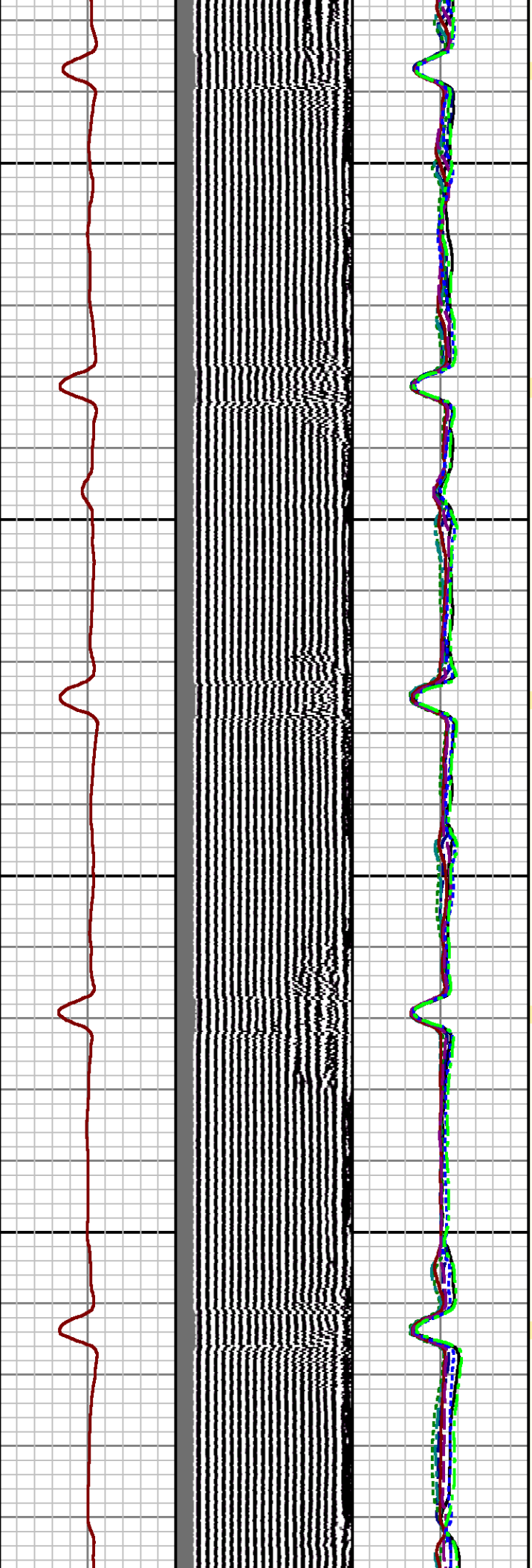
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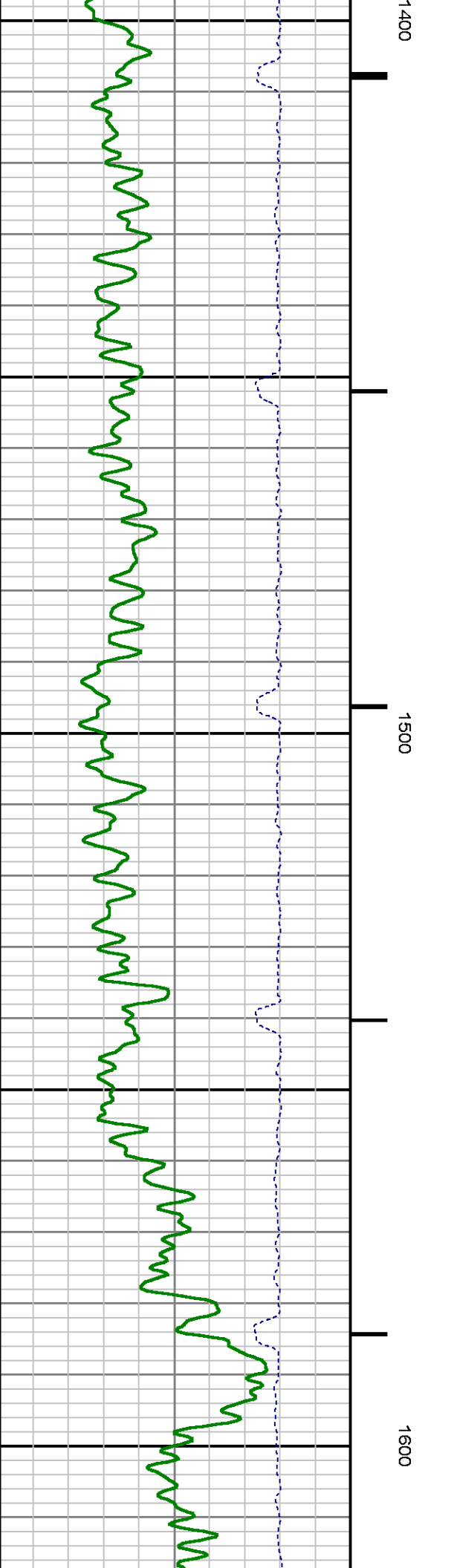
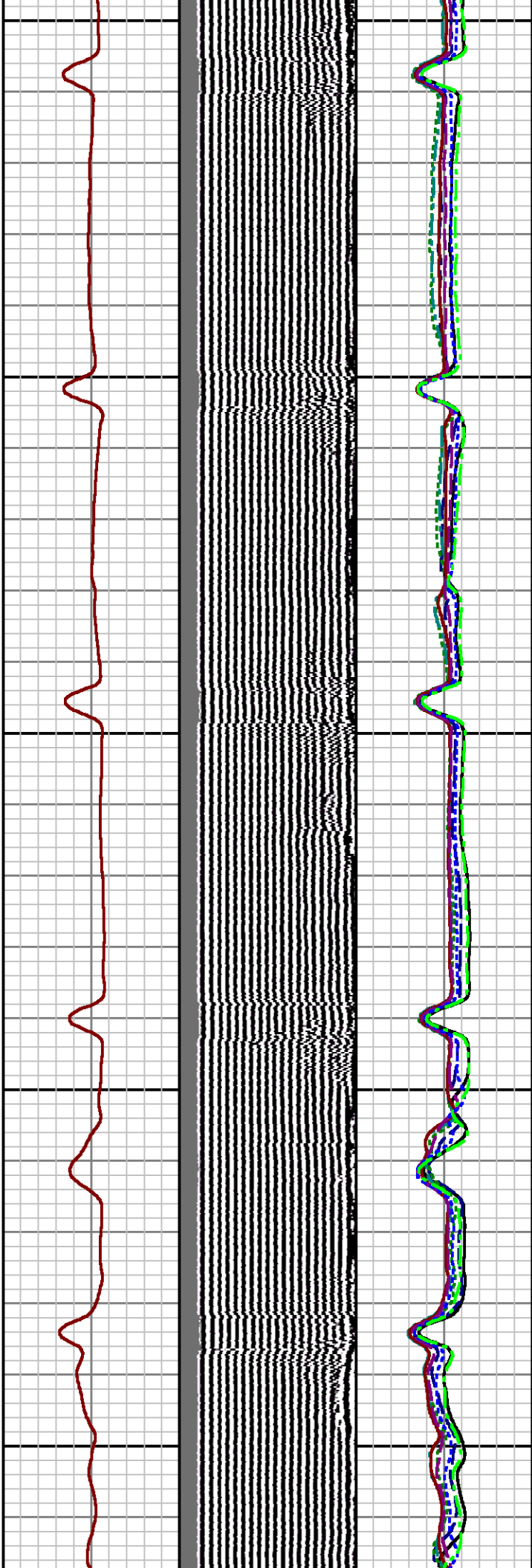
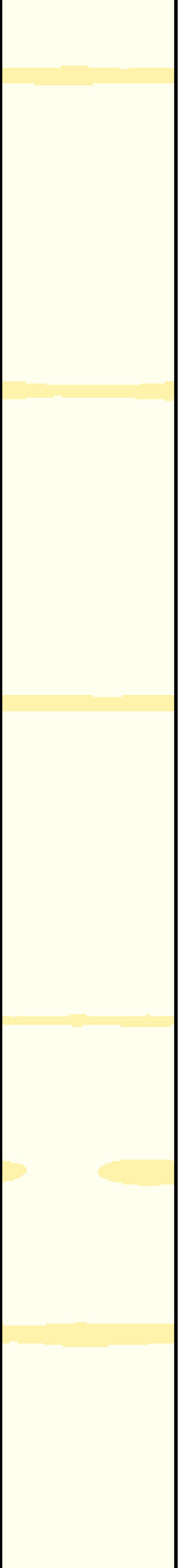
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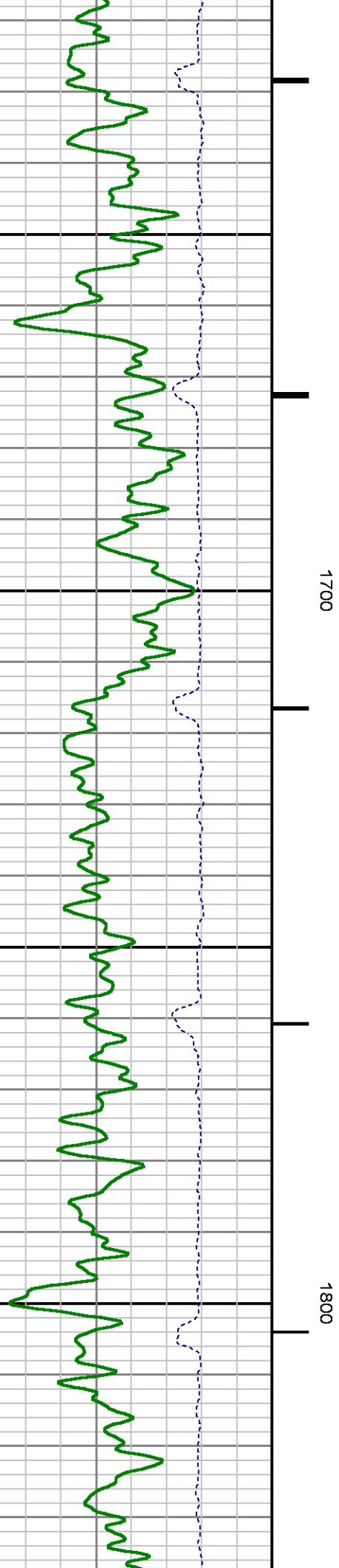
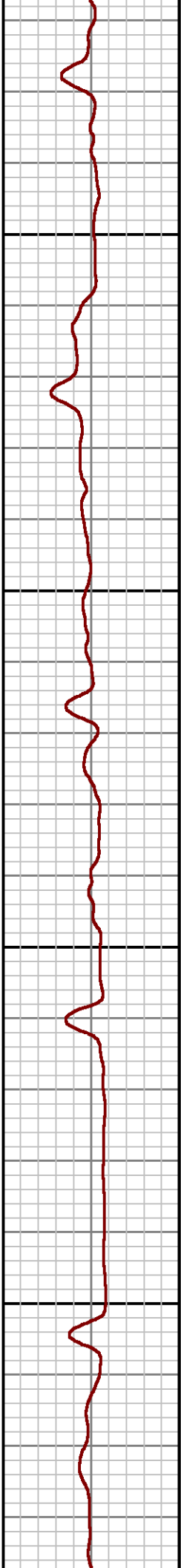
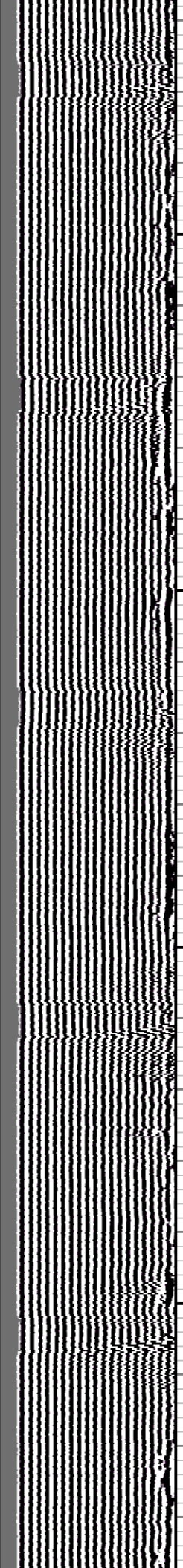
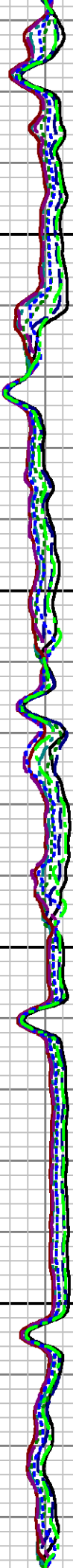
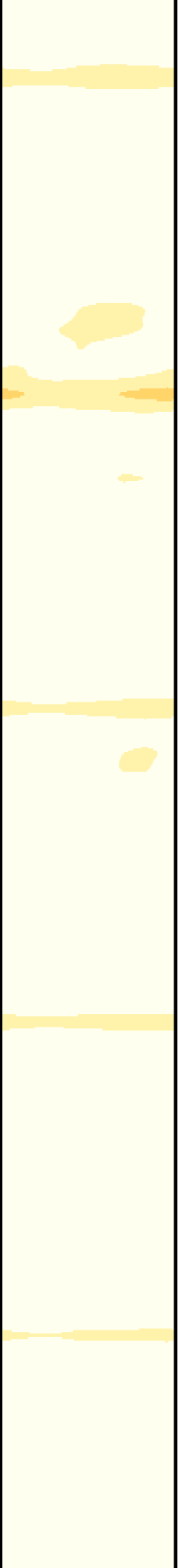


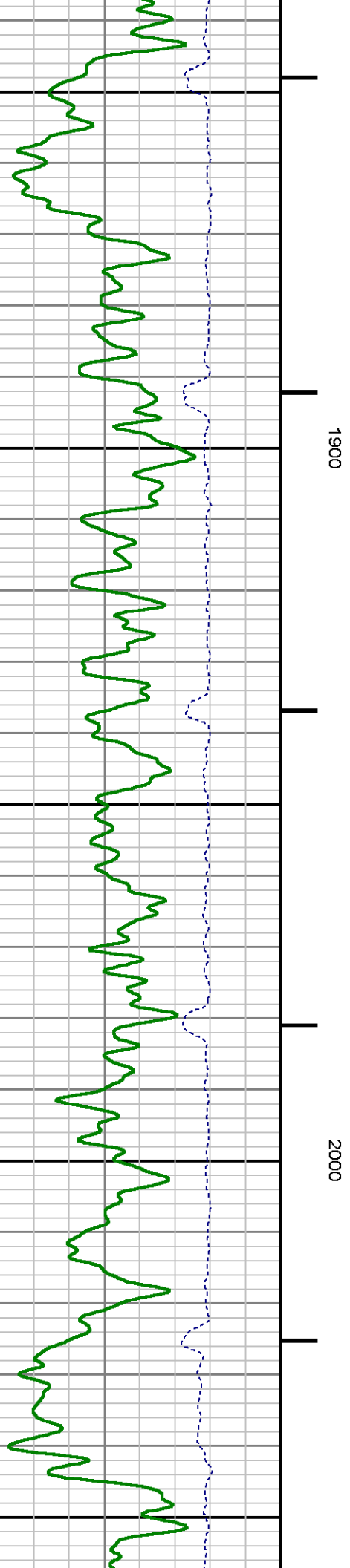
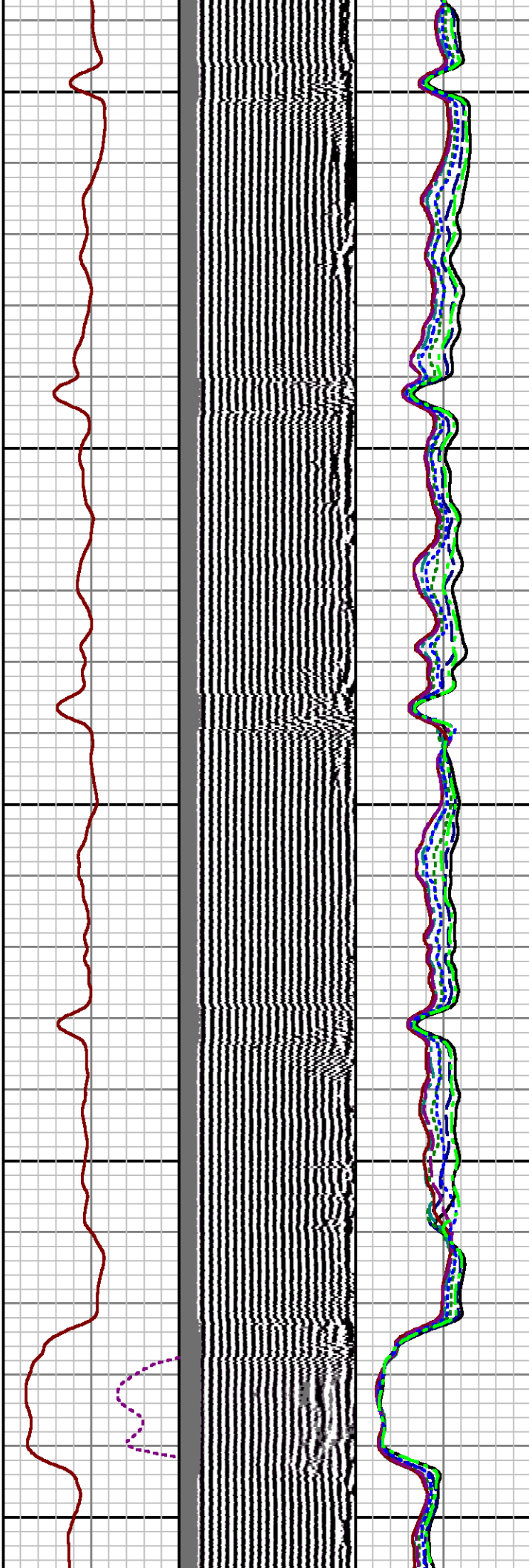
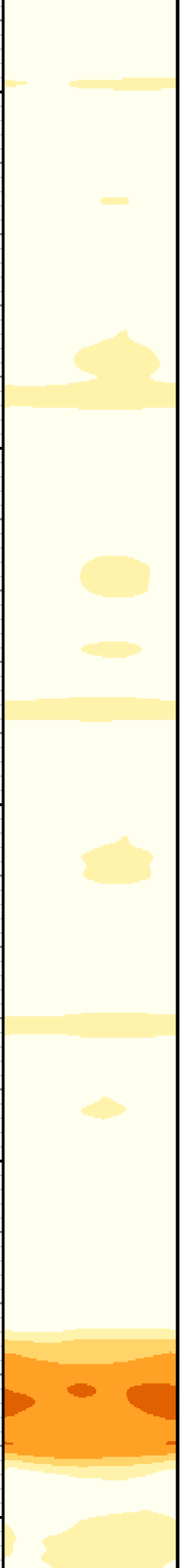




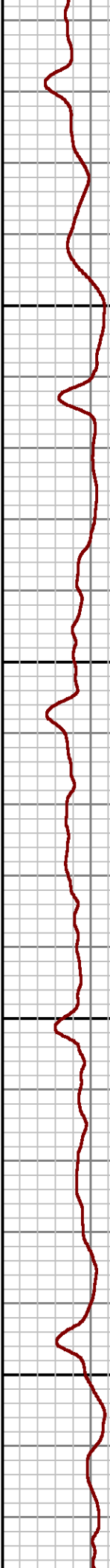
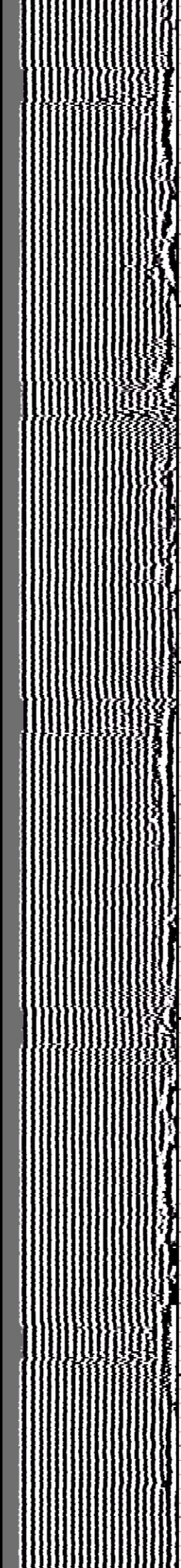
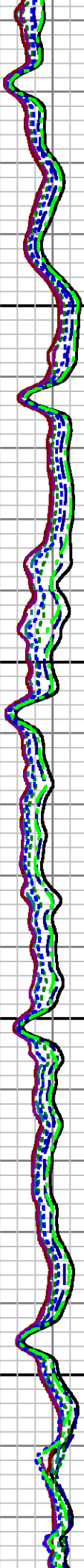
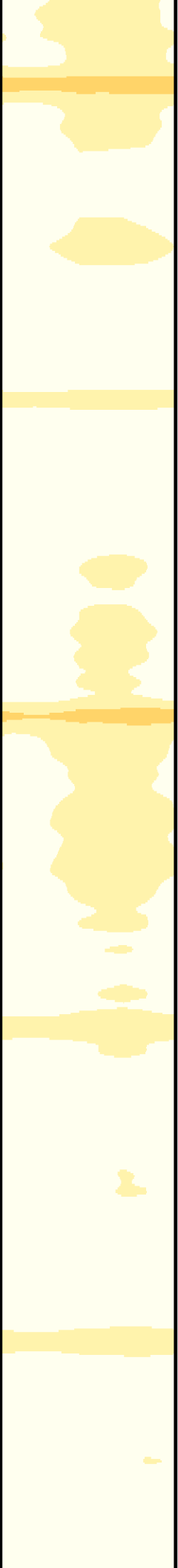






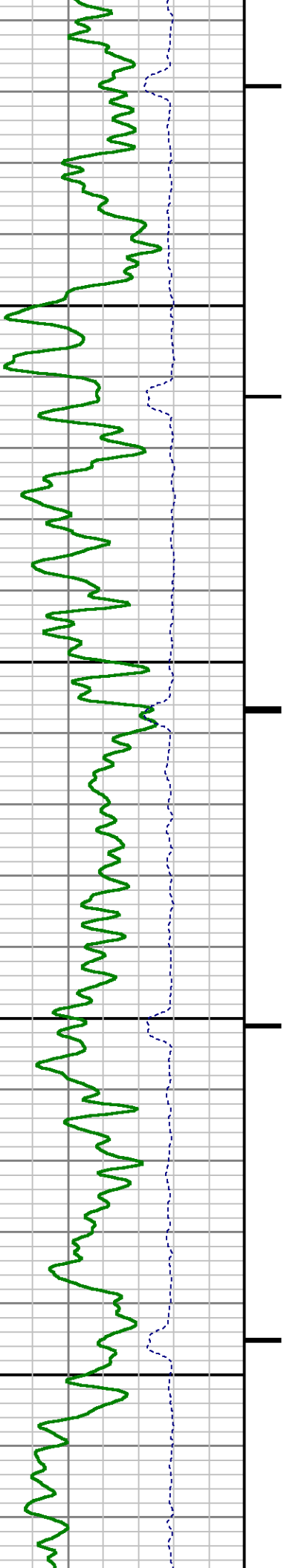




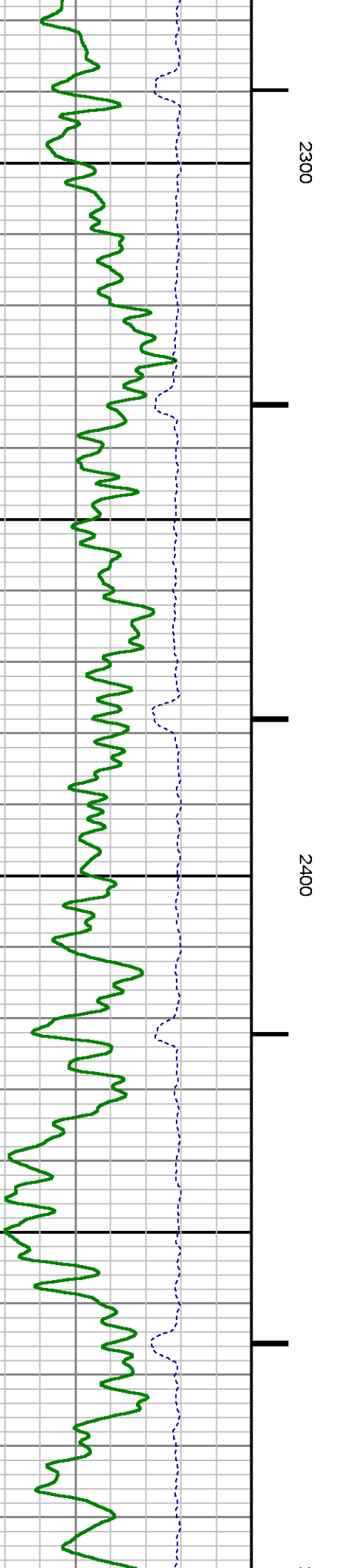
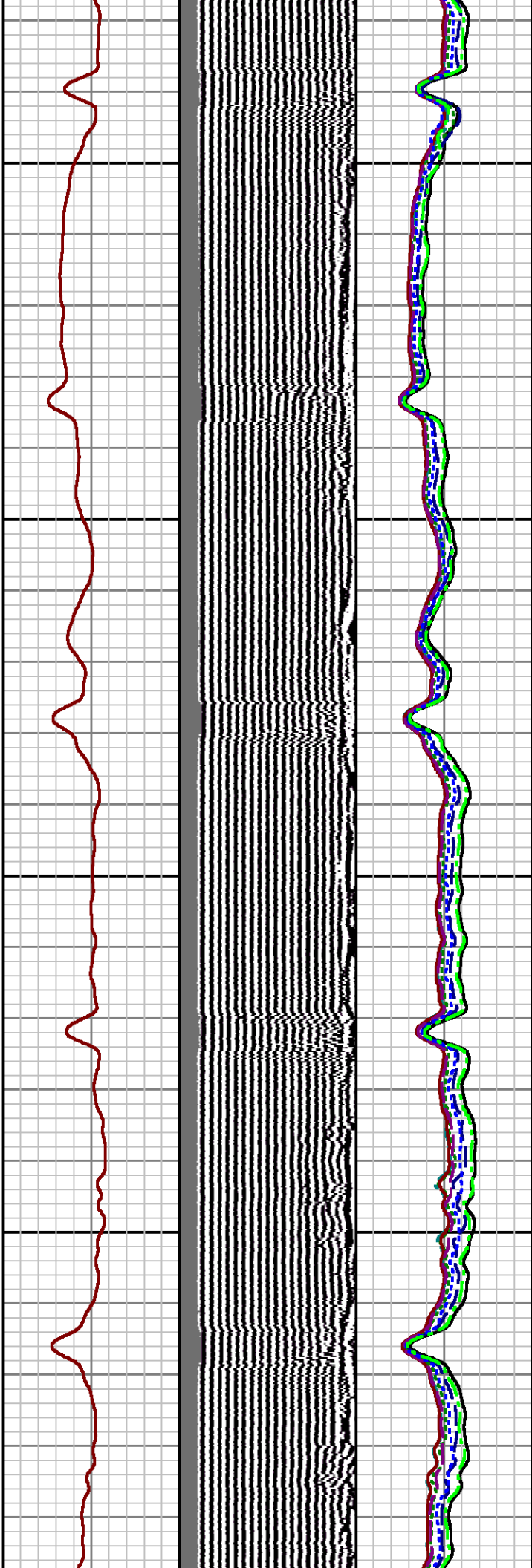
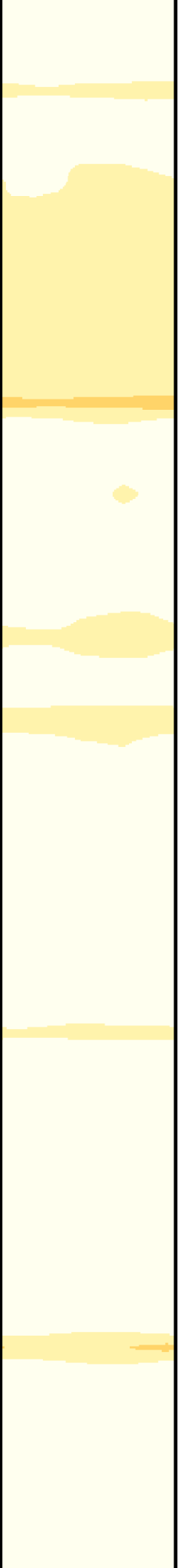


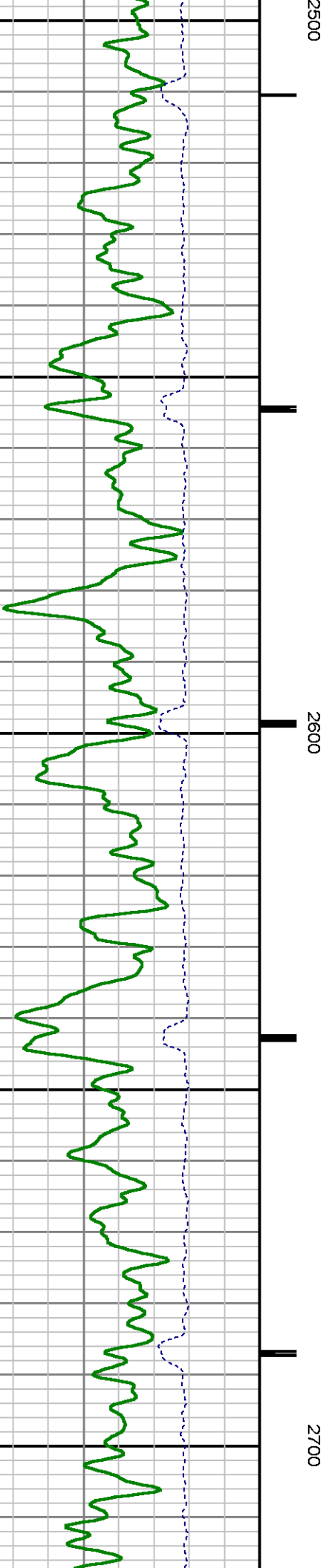
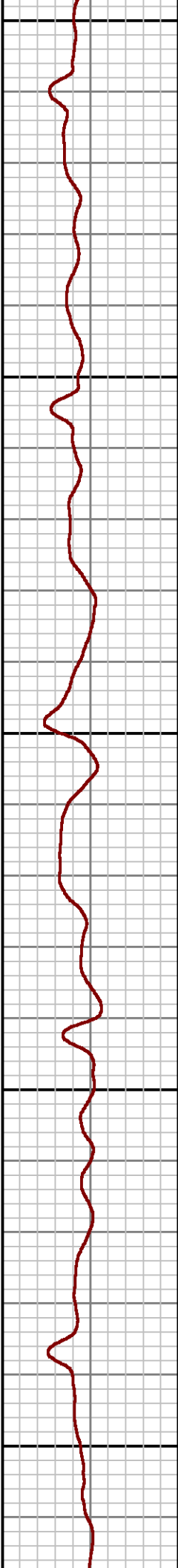
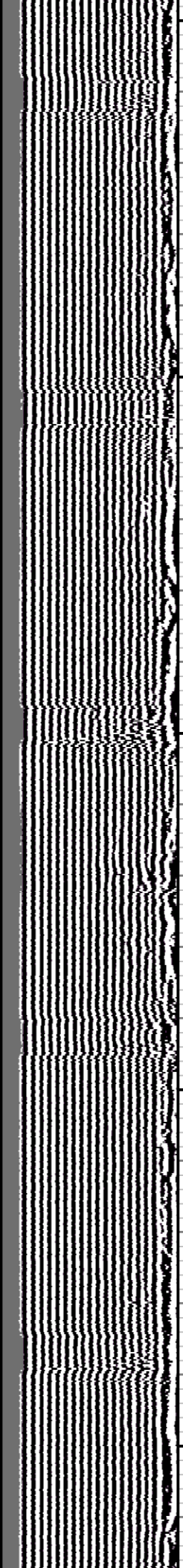
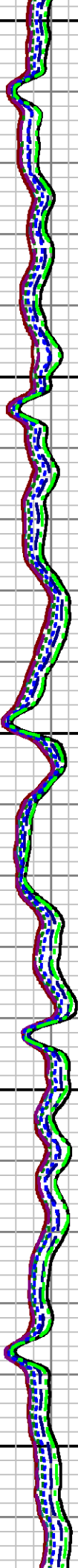
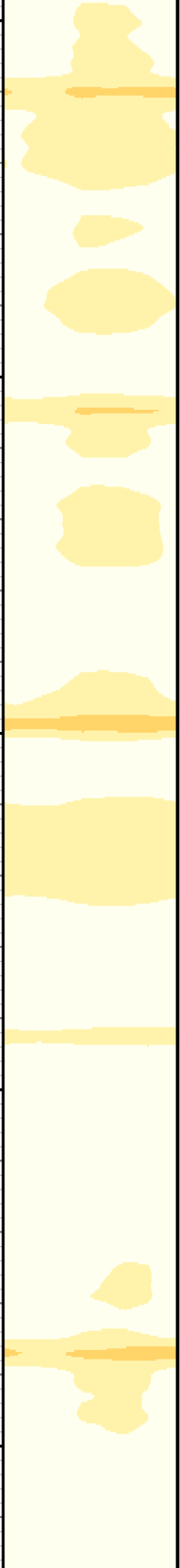
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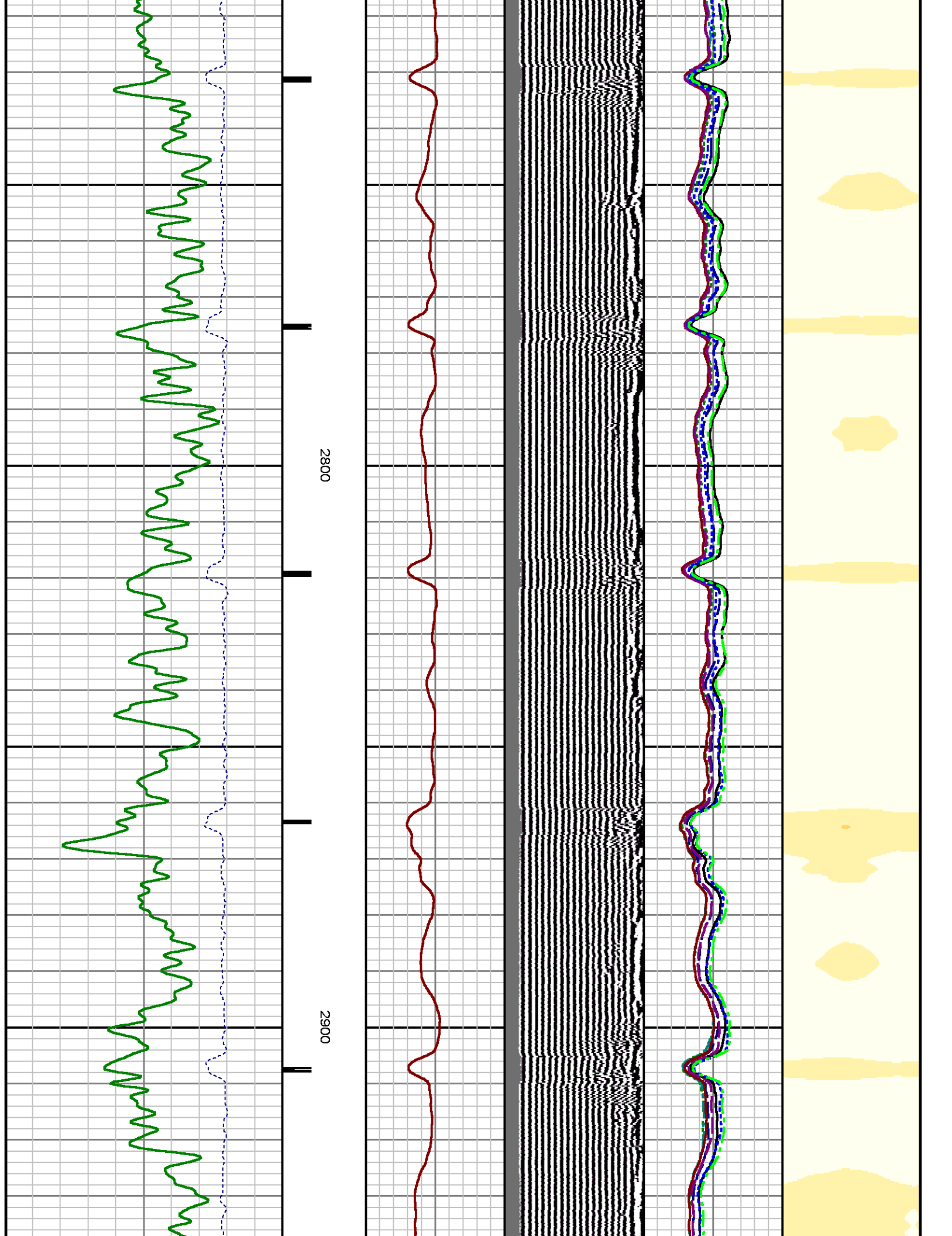
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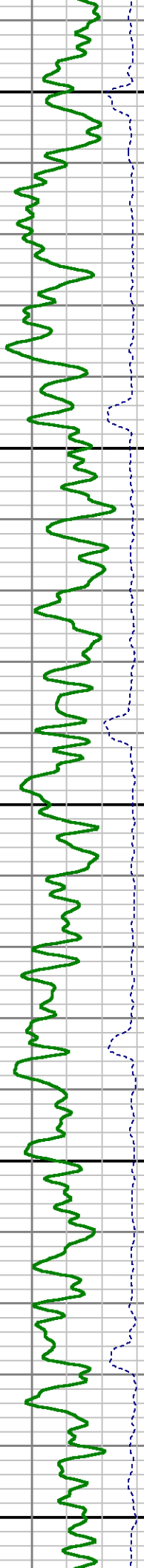
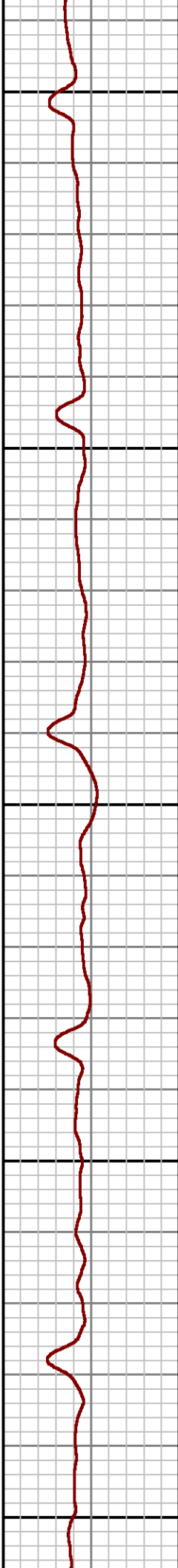
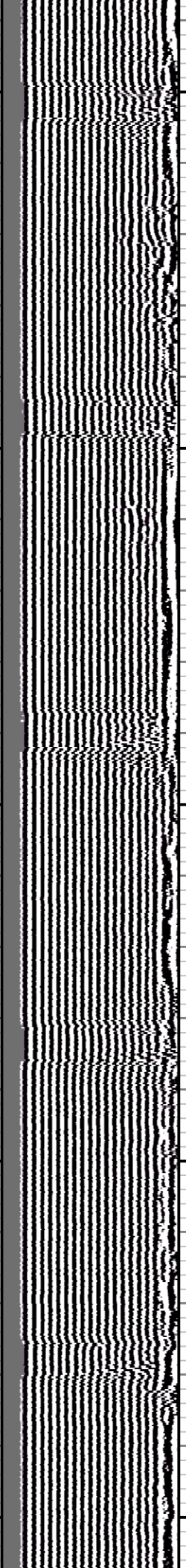
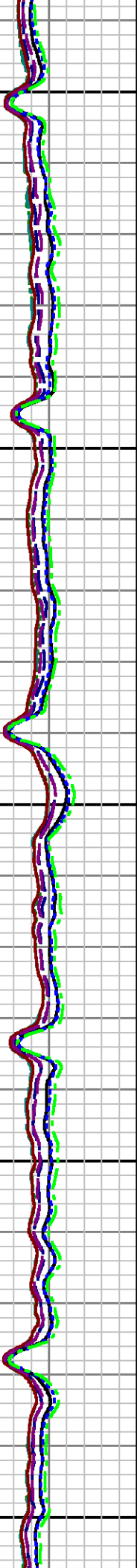
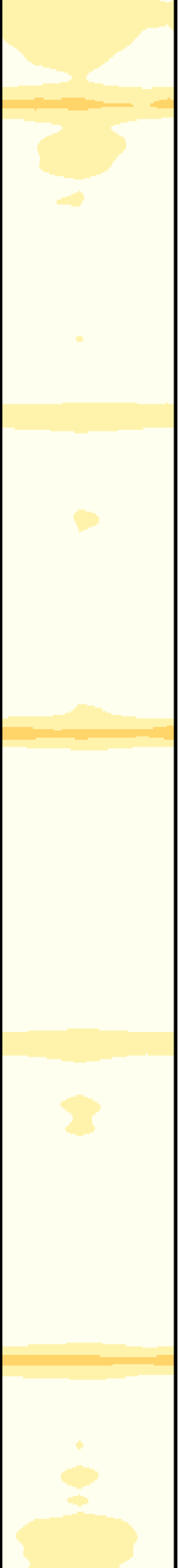


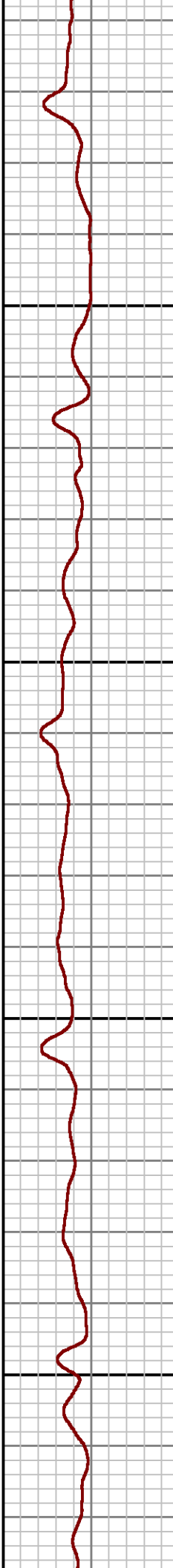
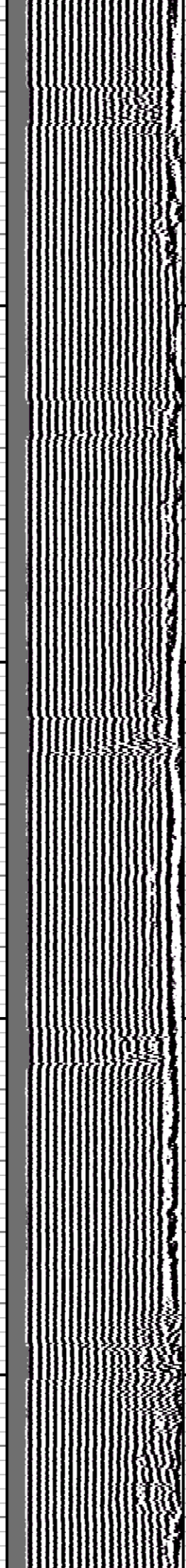
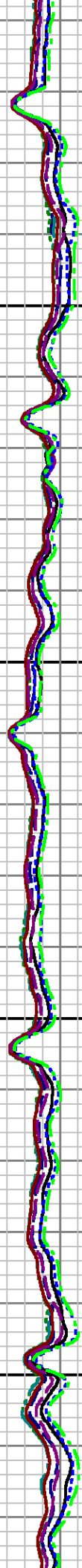
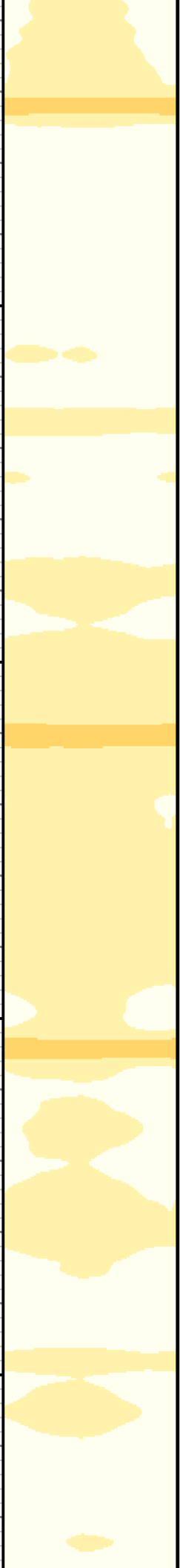






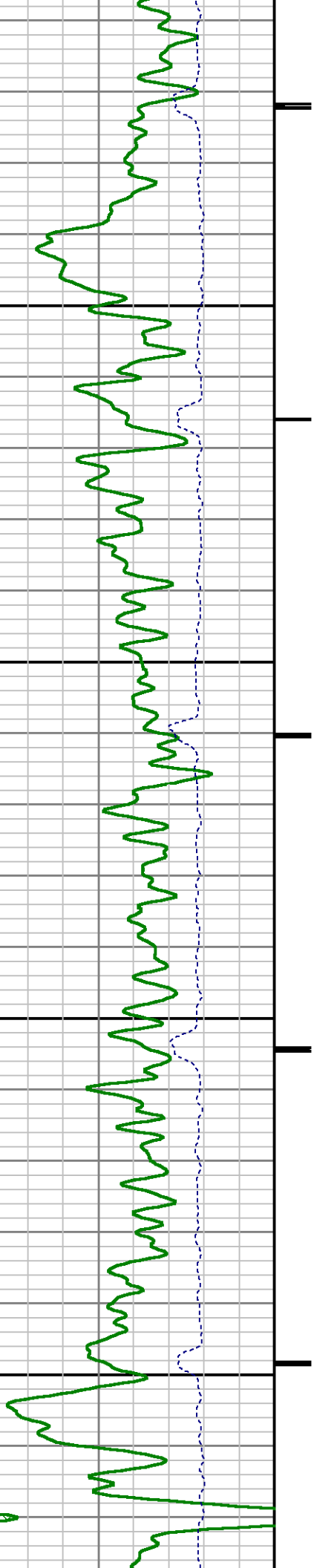




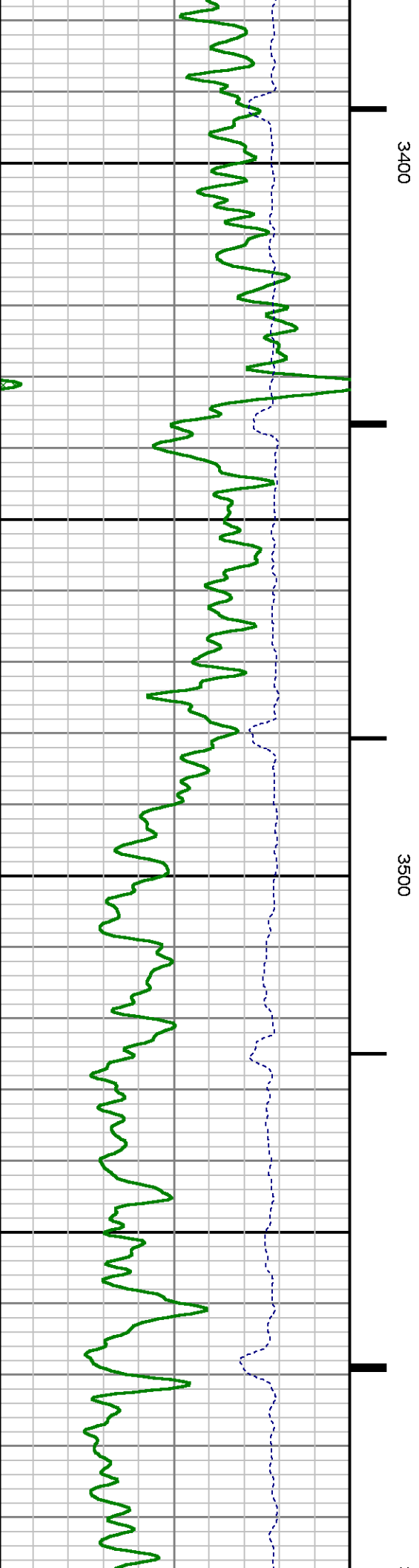
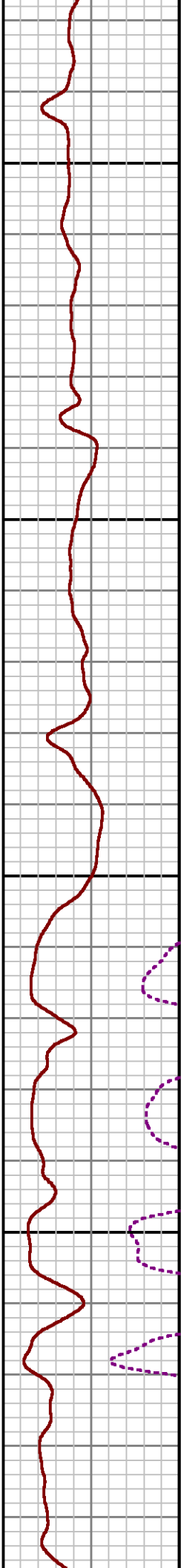
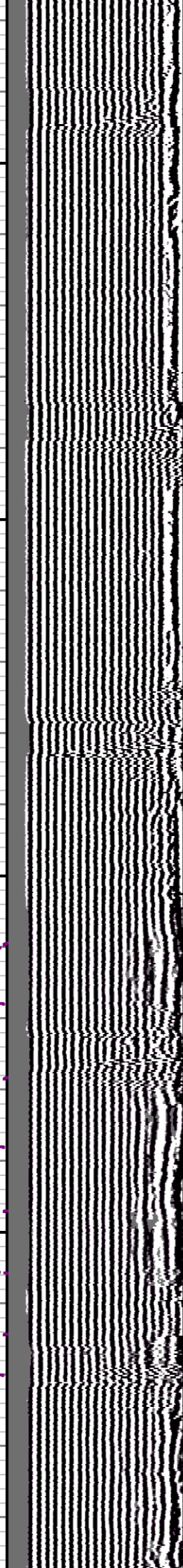
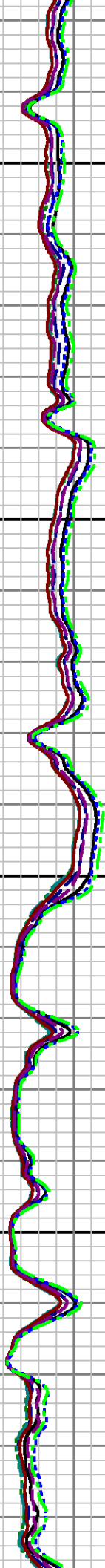
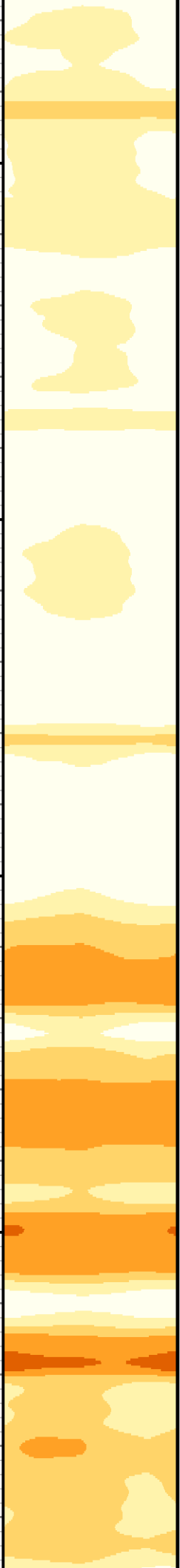


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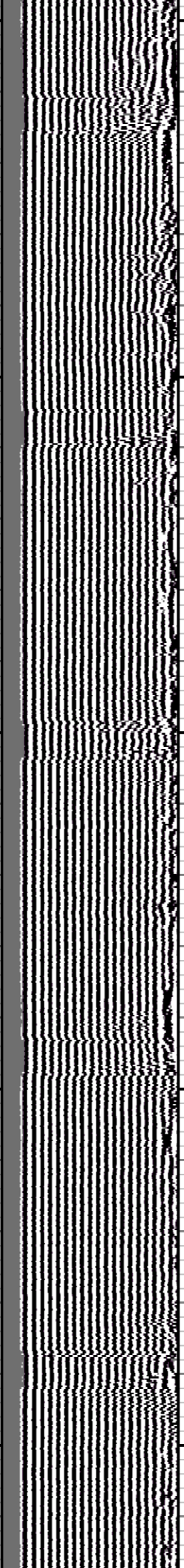
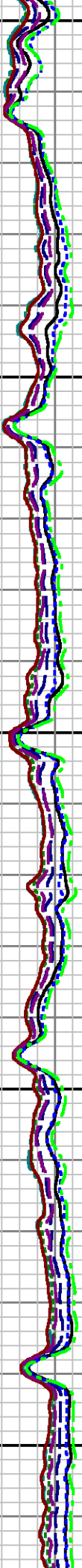
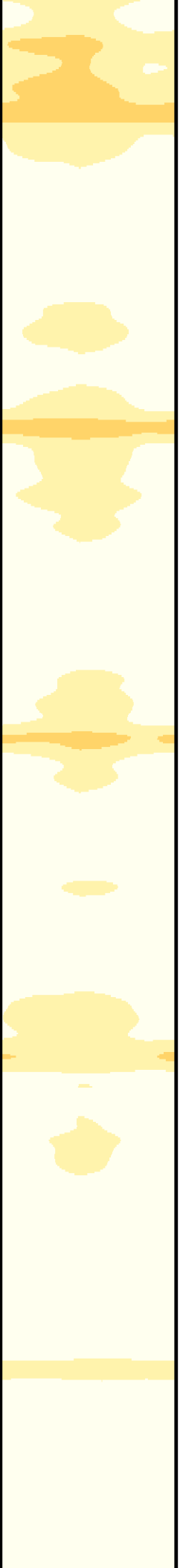
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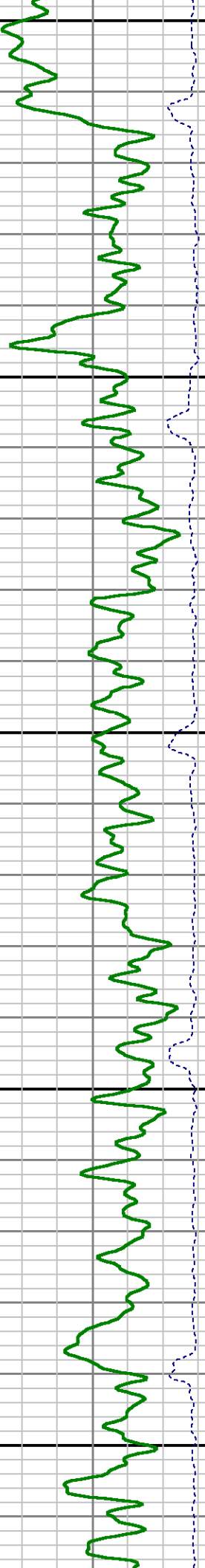


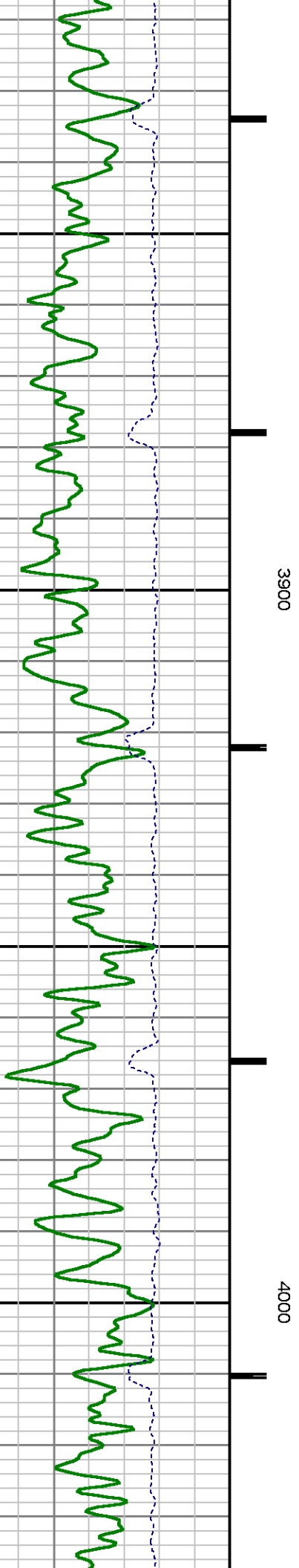
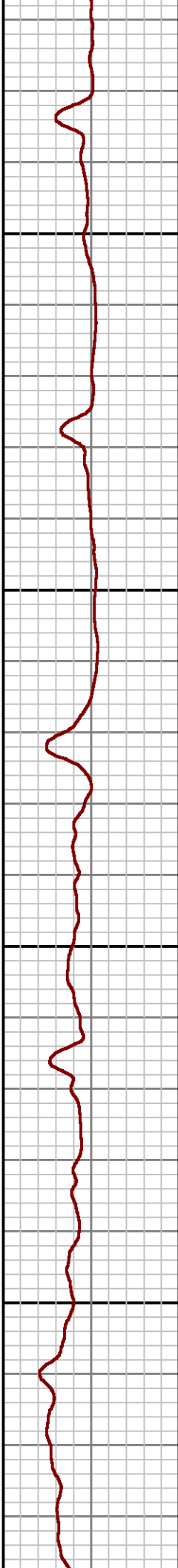
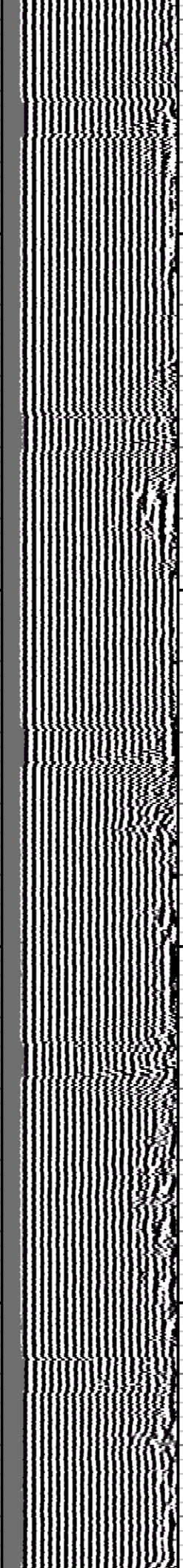
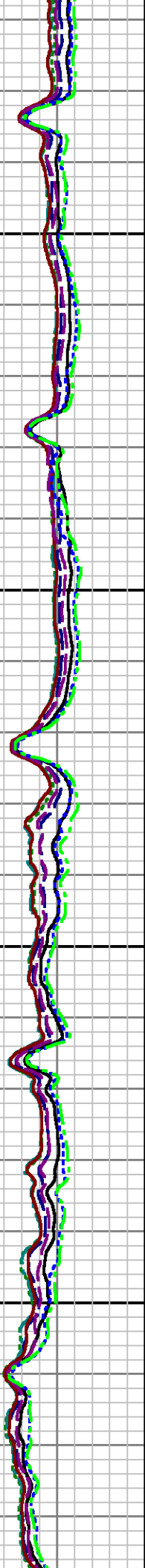
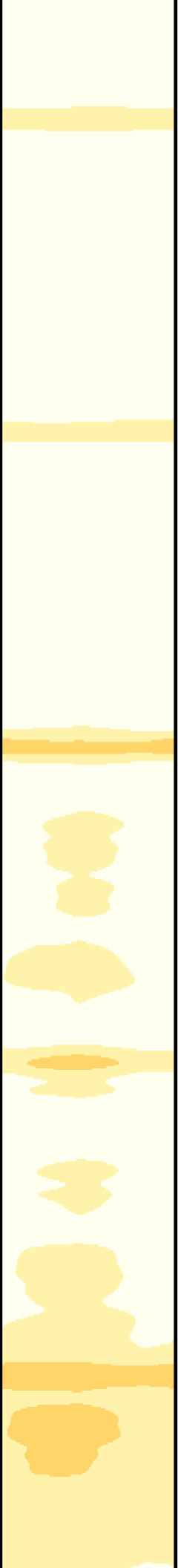


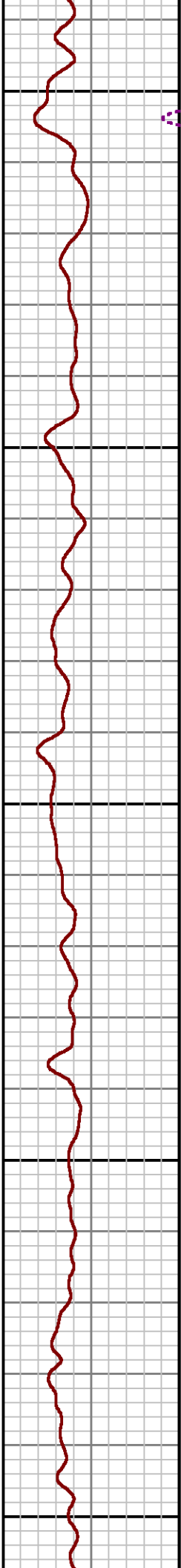
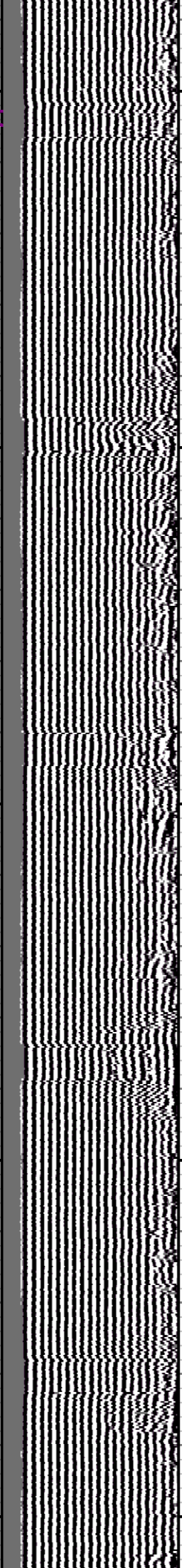
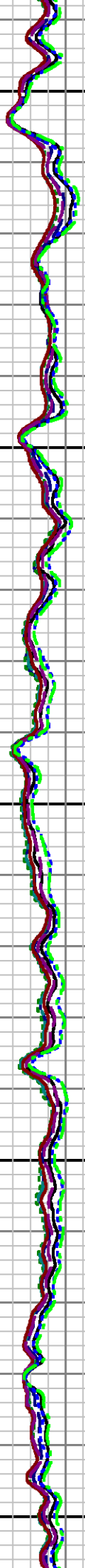
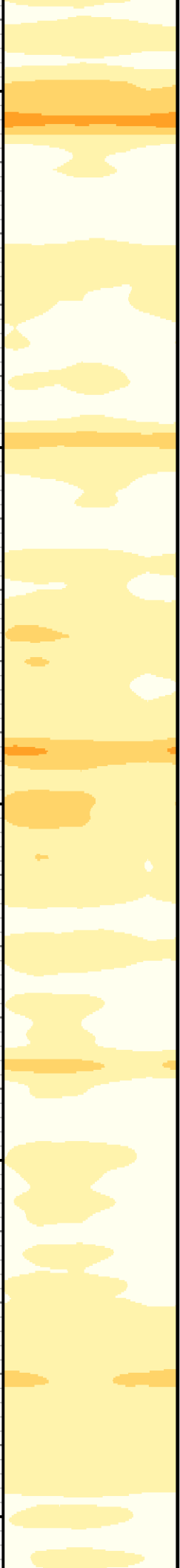
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3700

3800

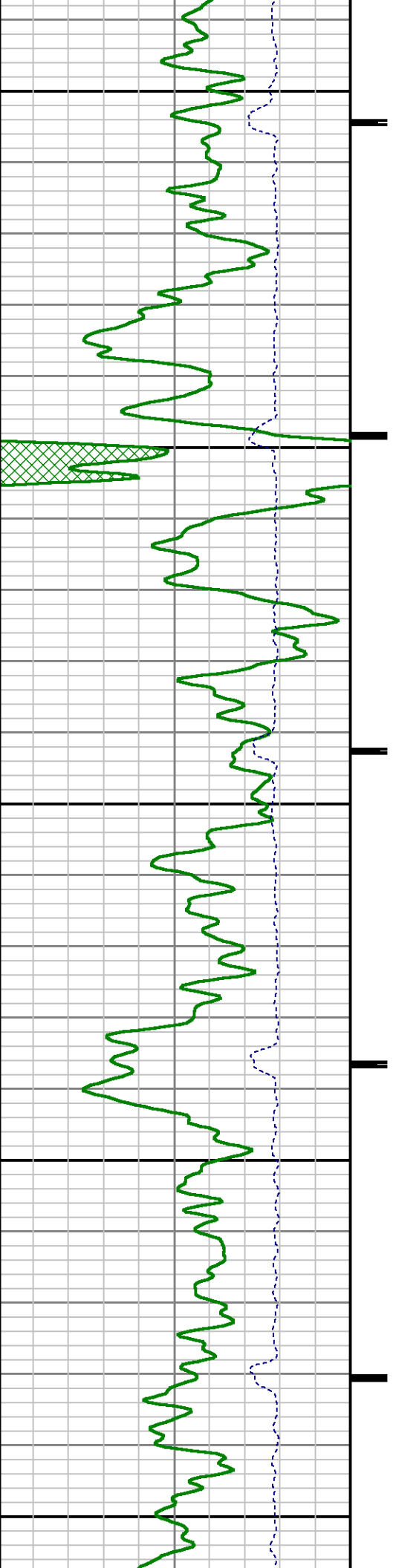


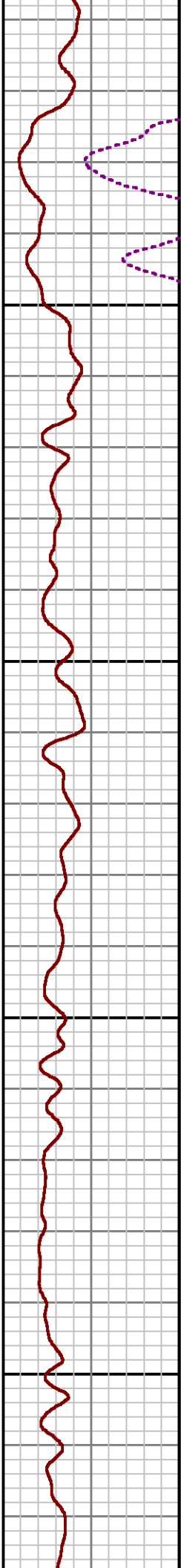
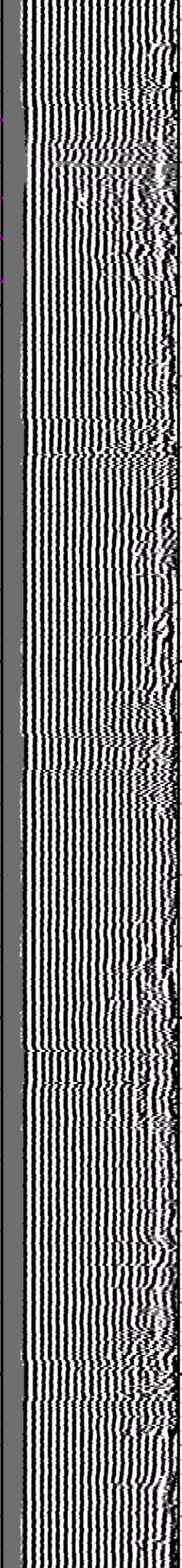
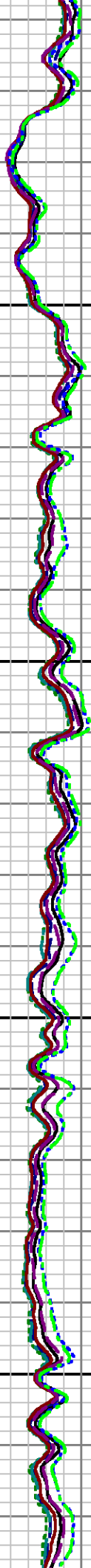
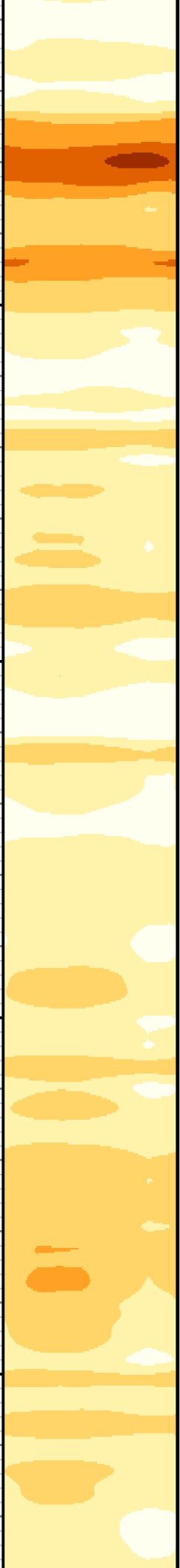




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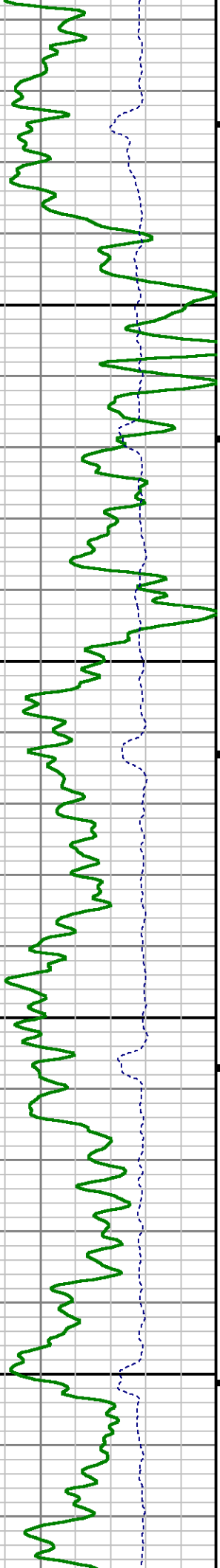
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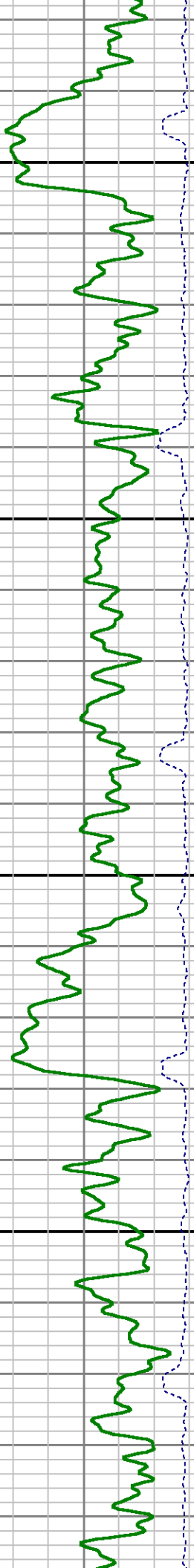
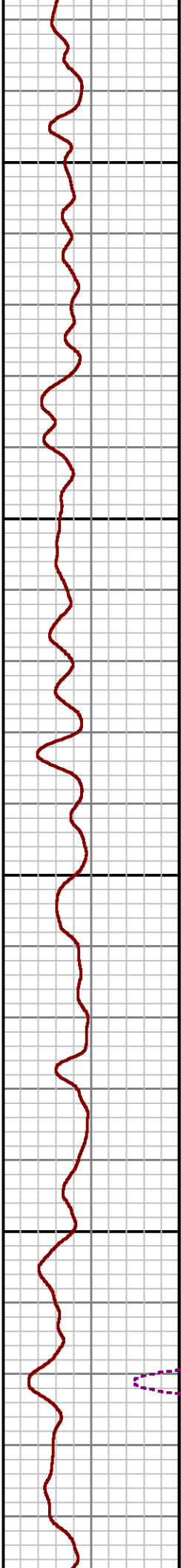
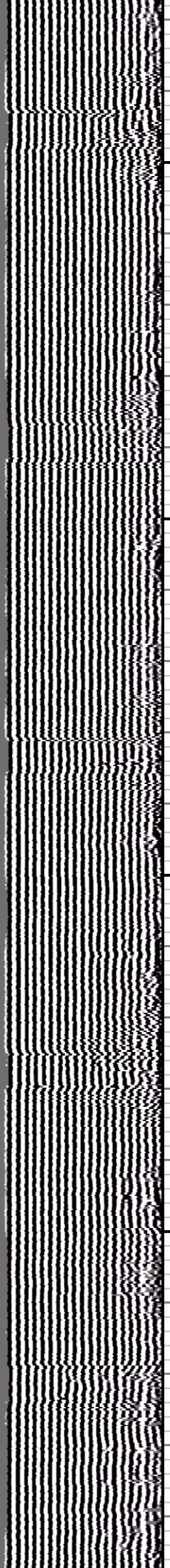
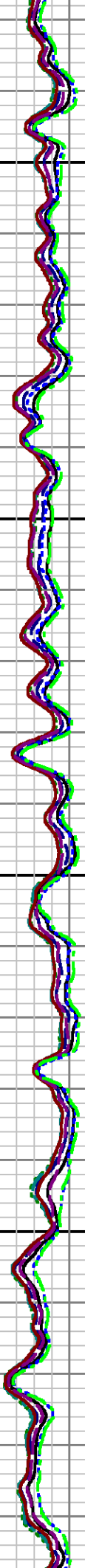
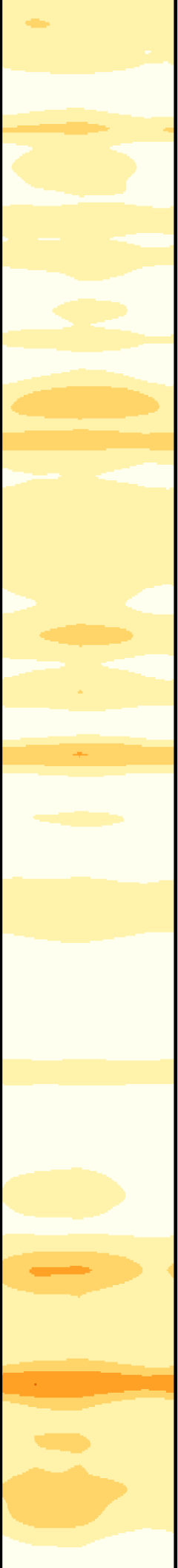




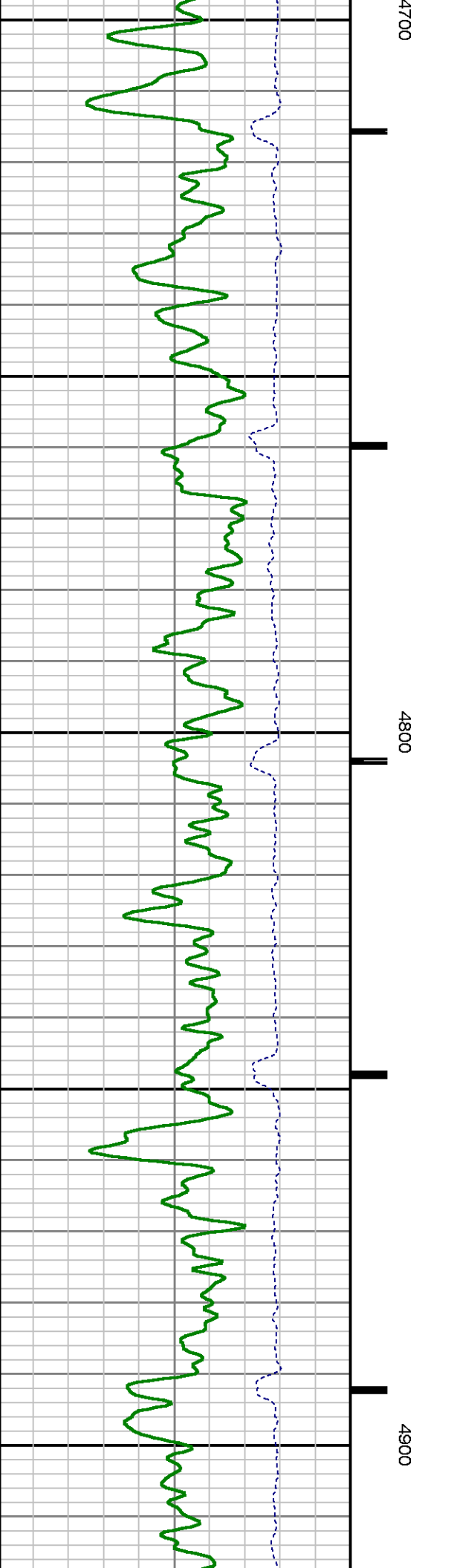
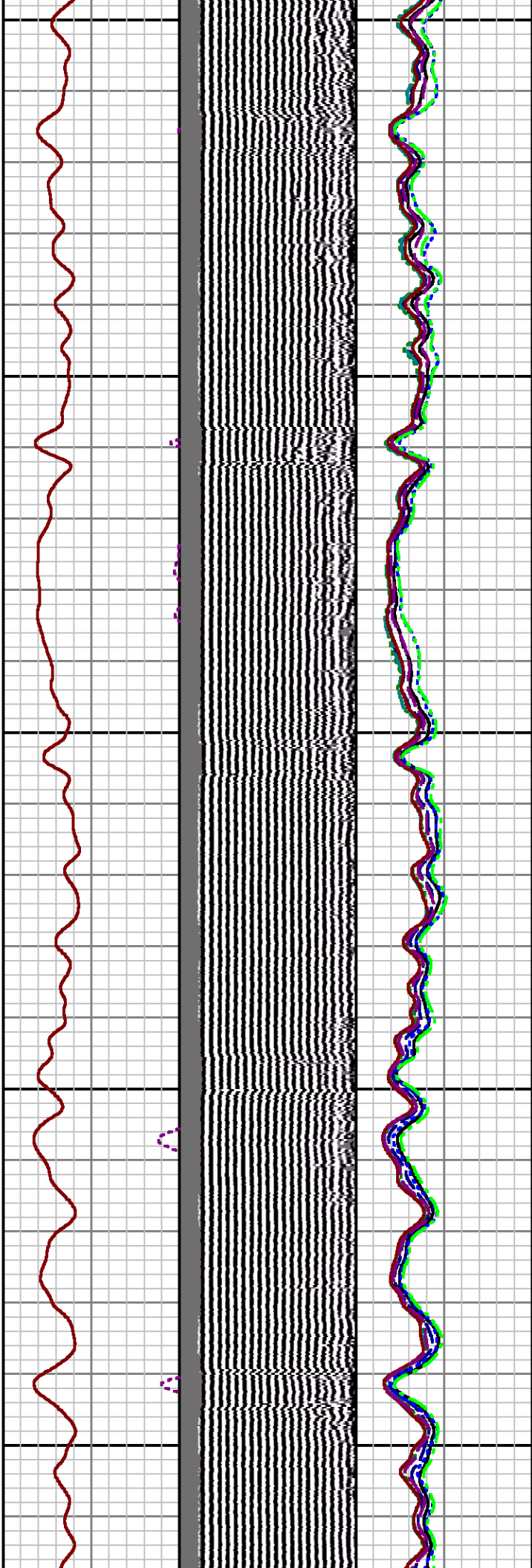
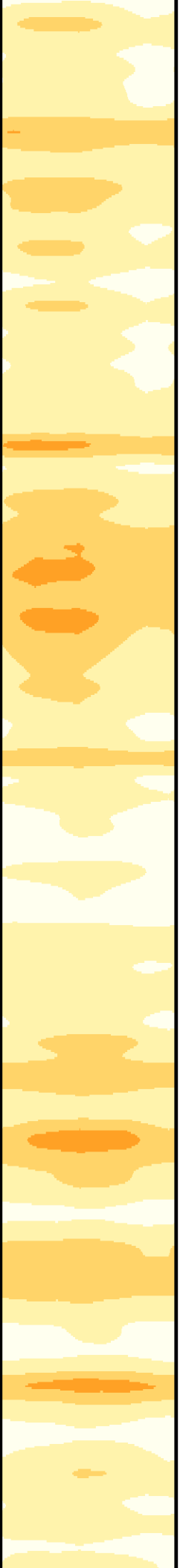
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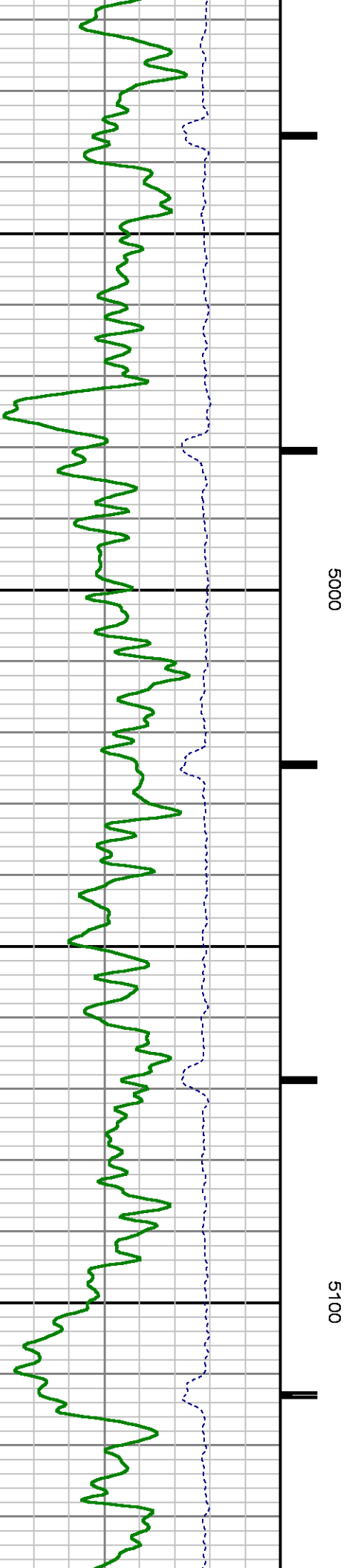
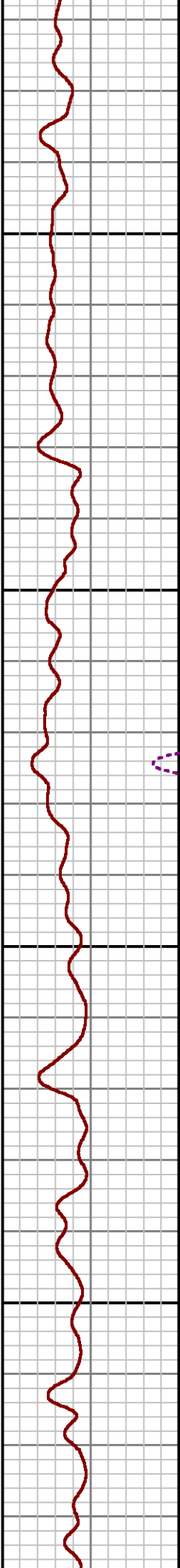
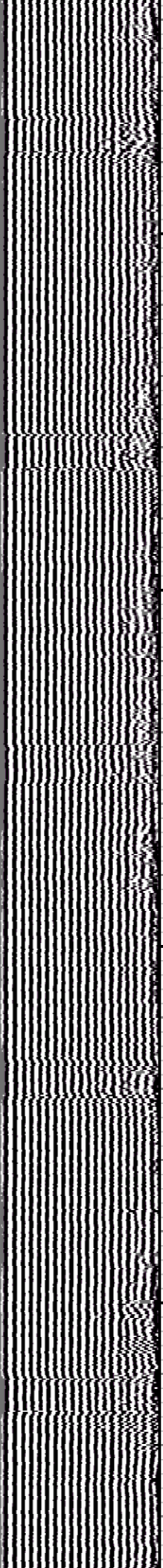
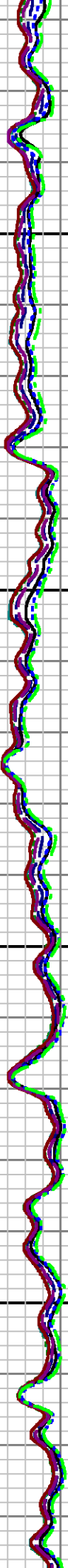
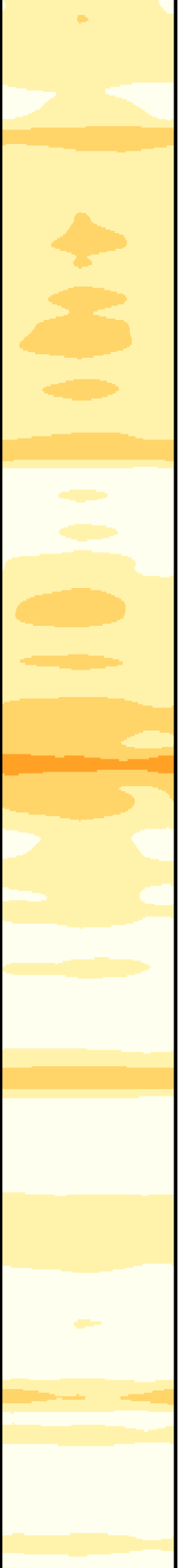


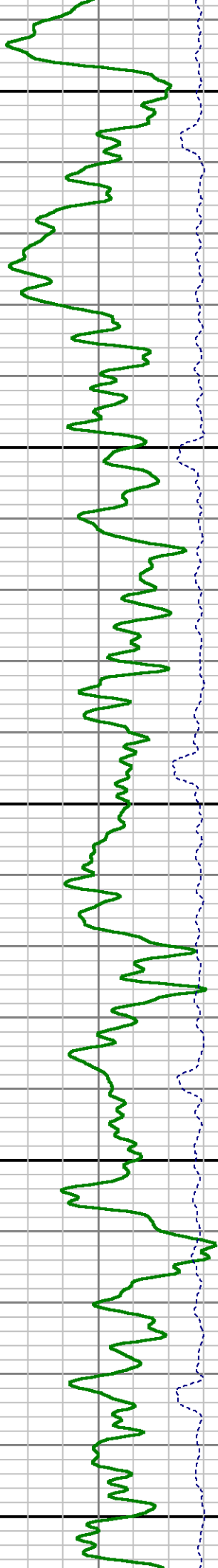
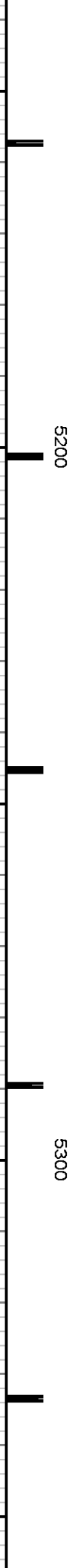
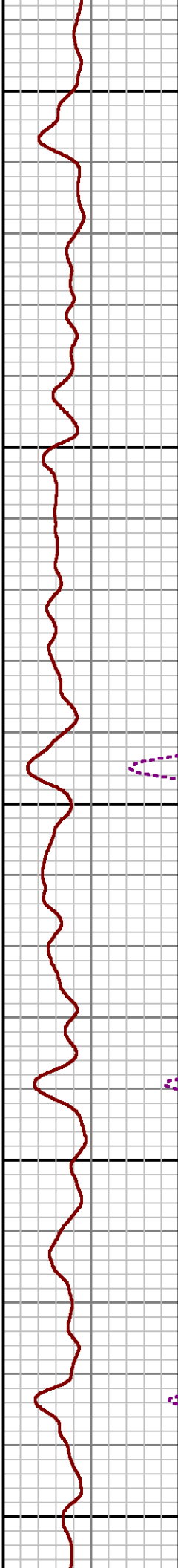
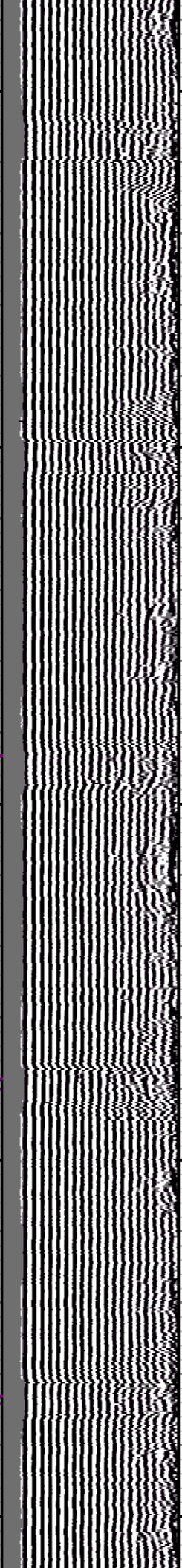
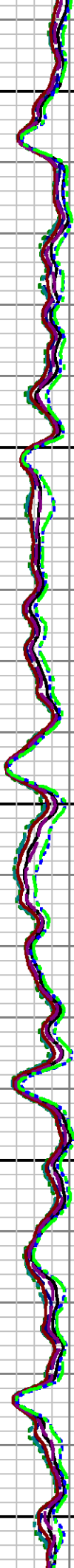
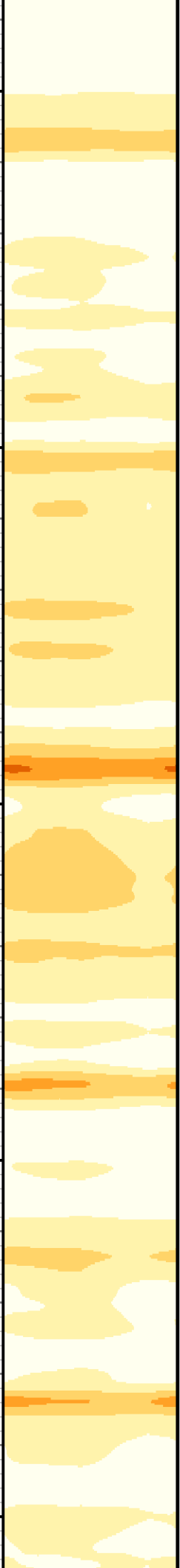


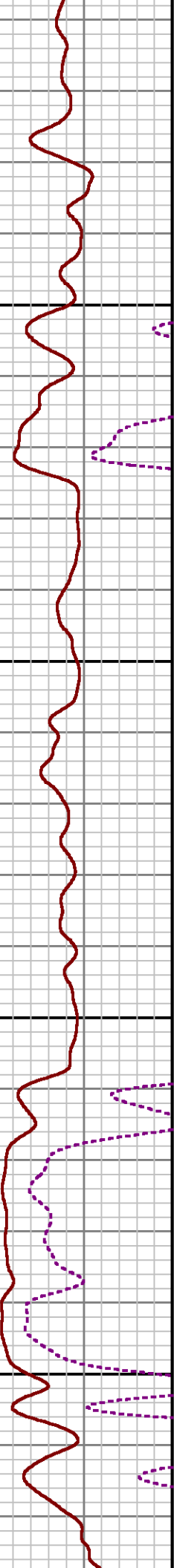
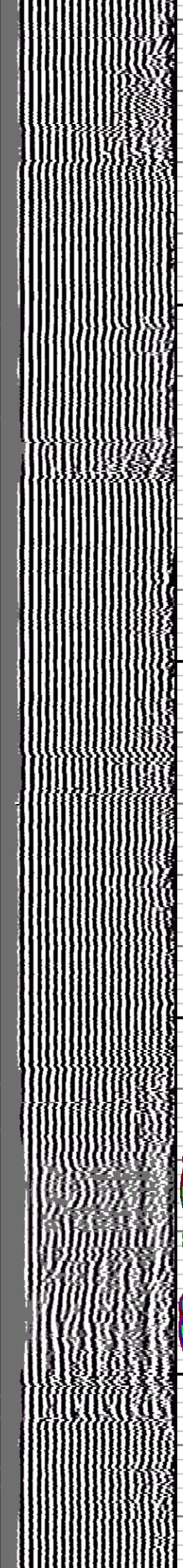
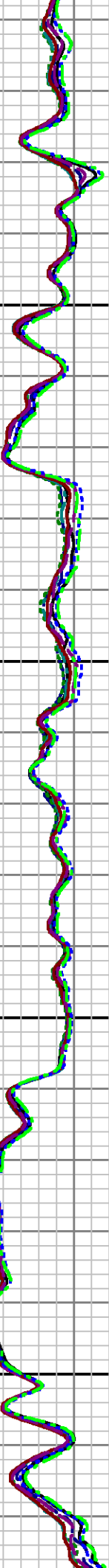
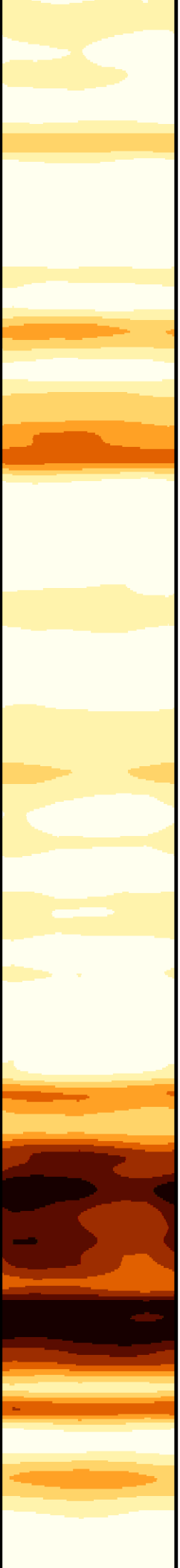






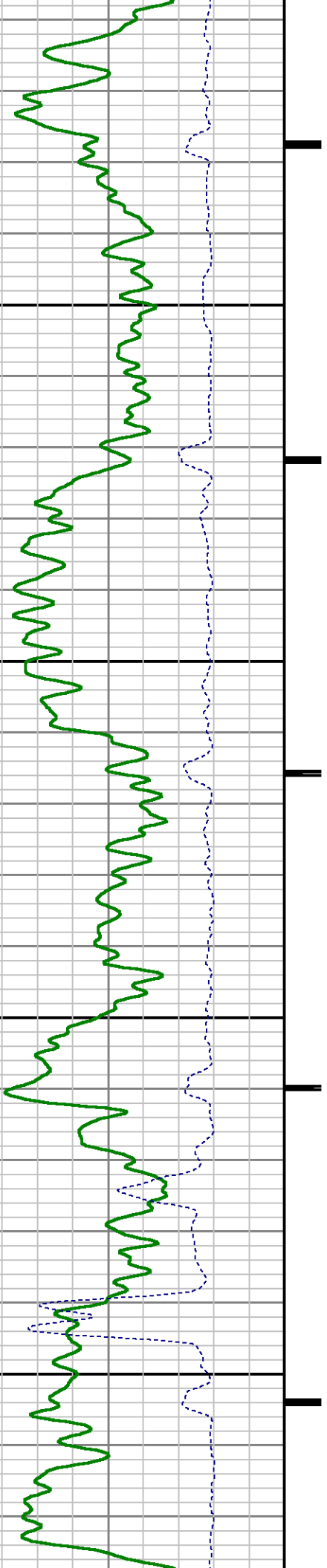


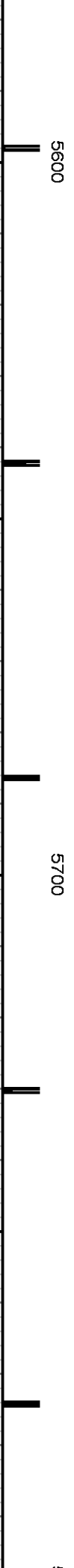
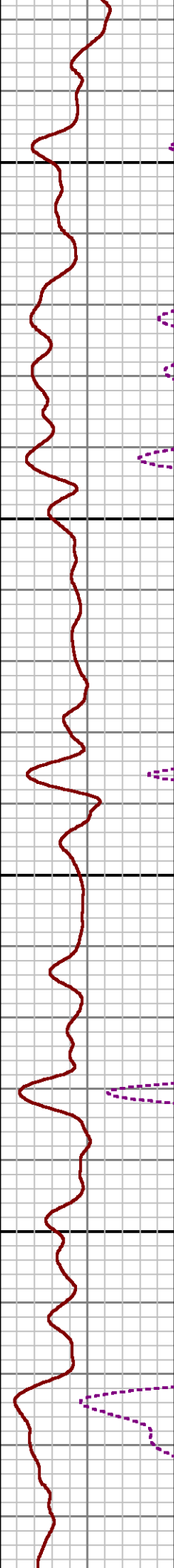
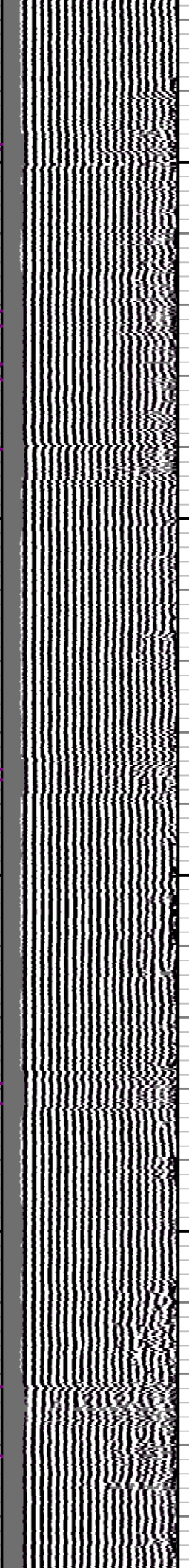
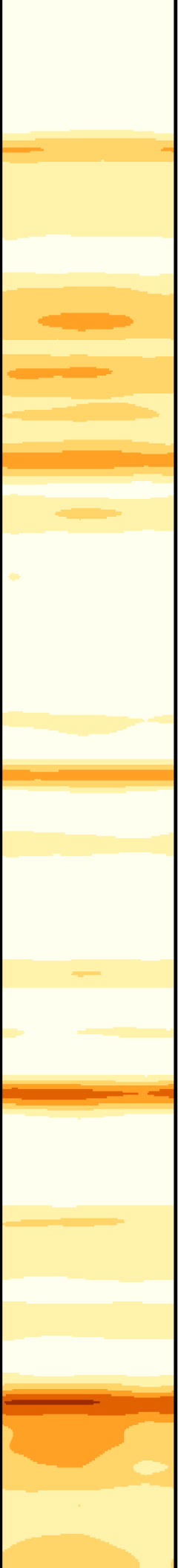




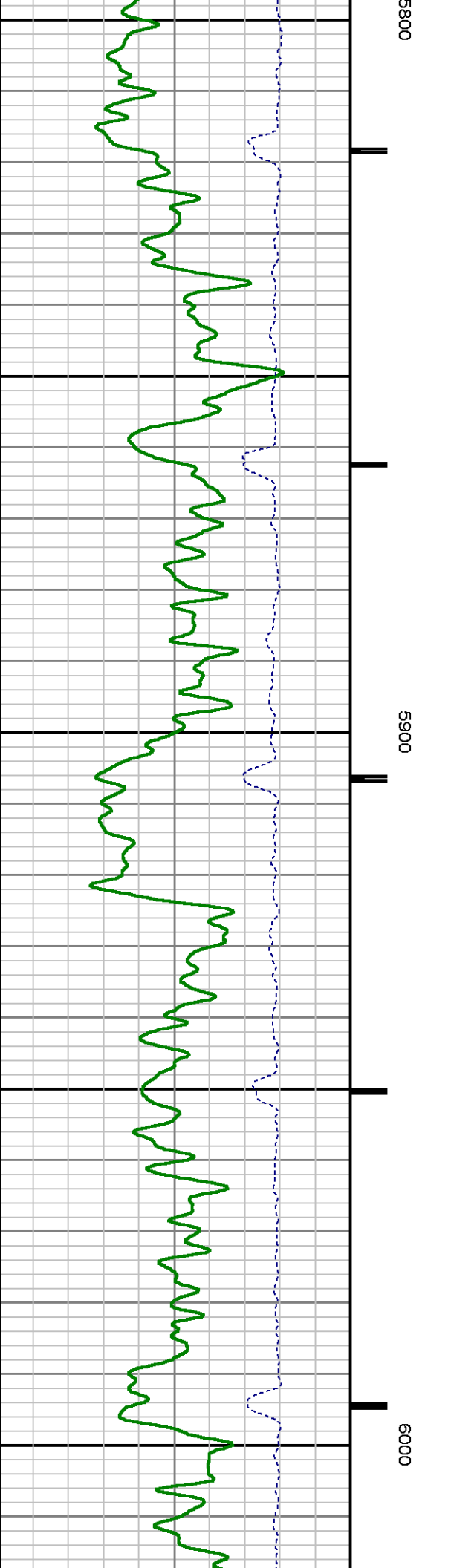
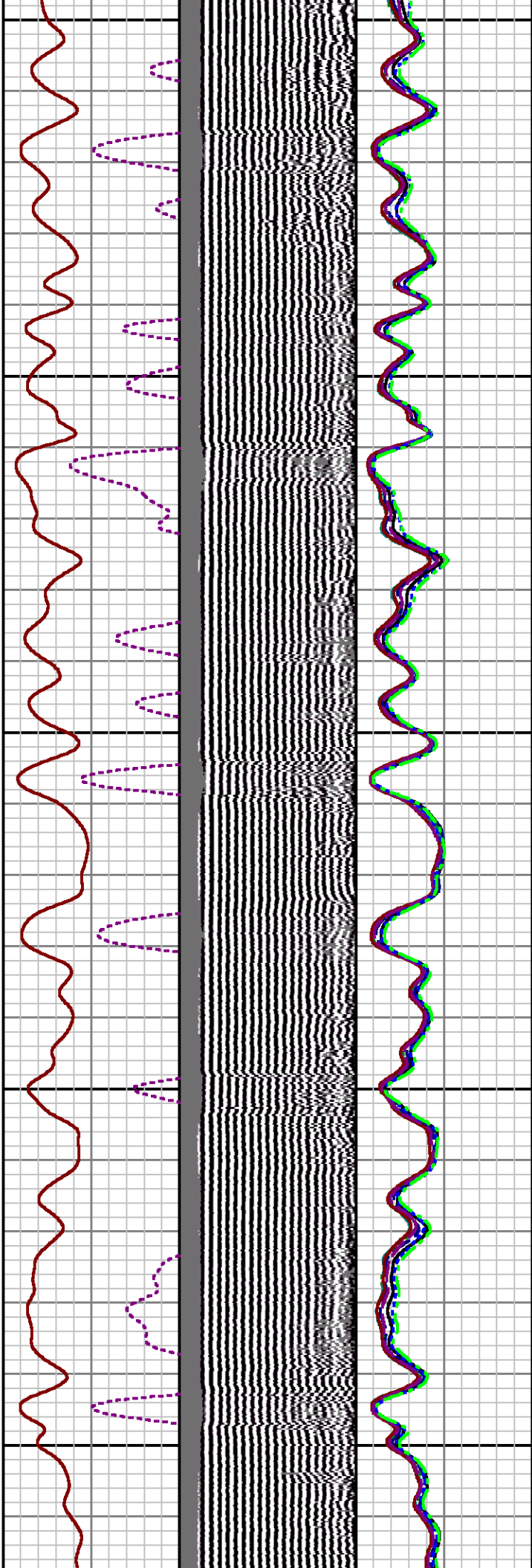
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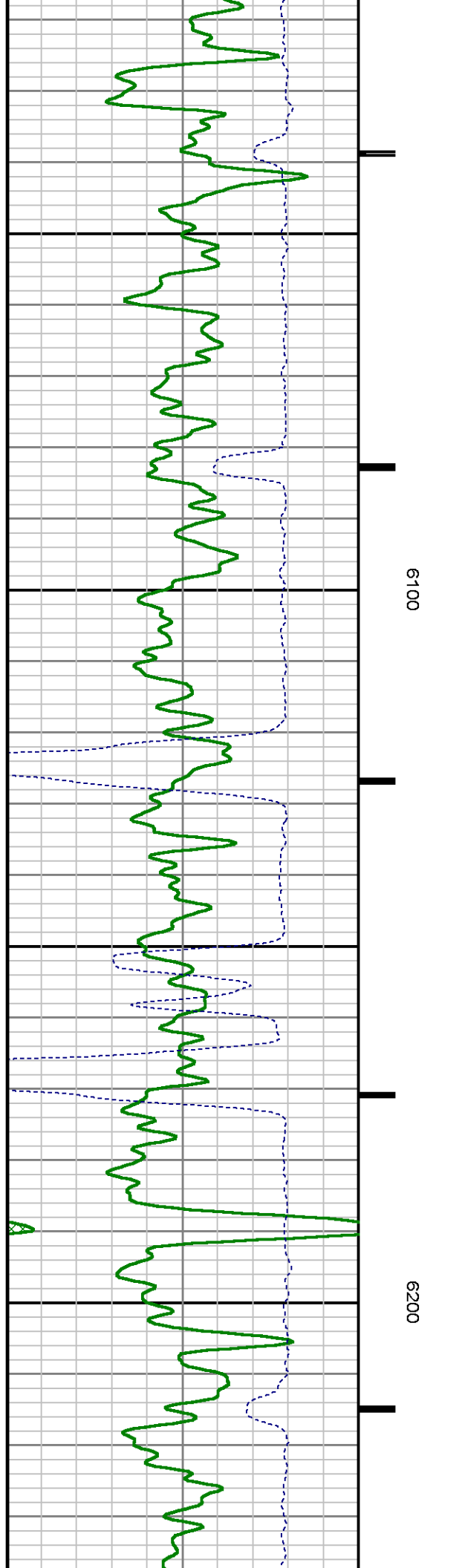
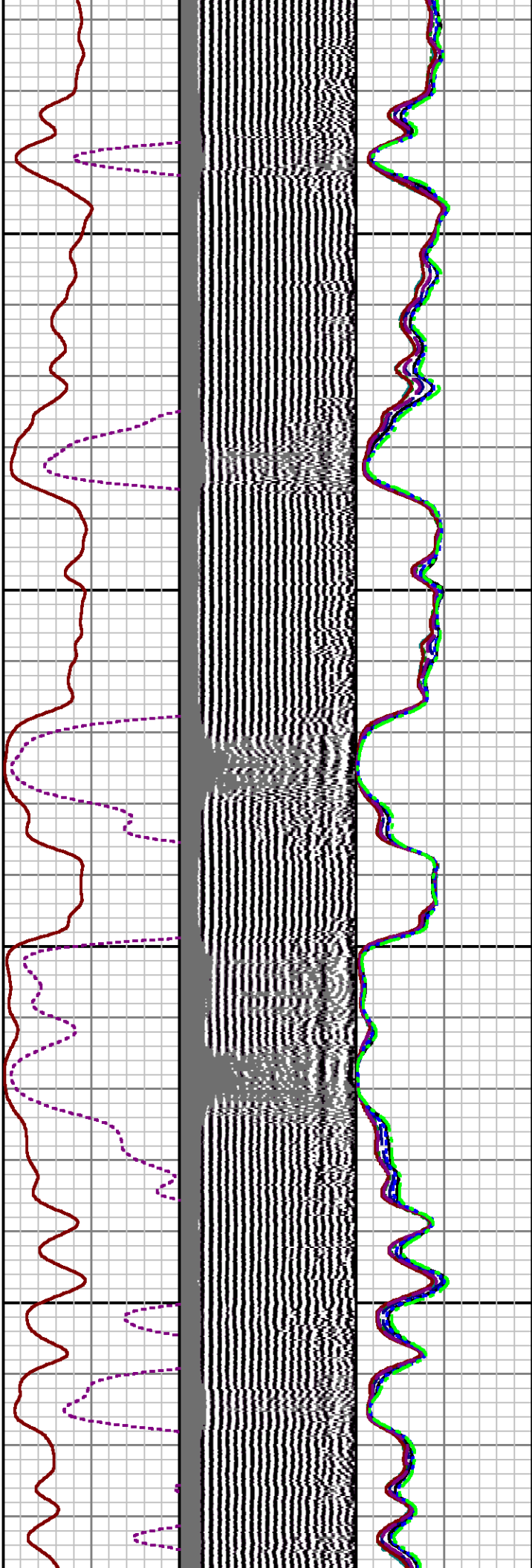
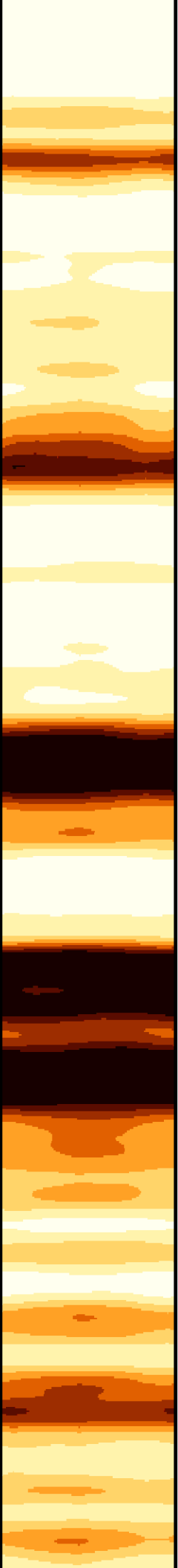
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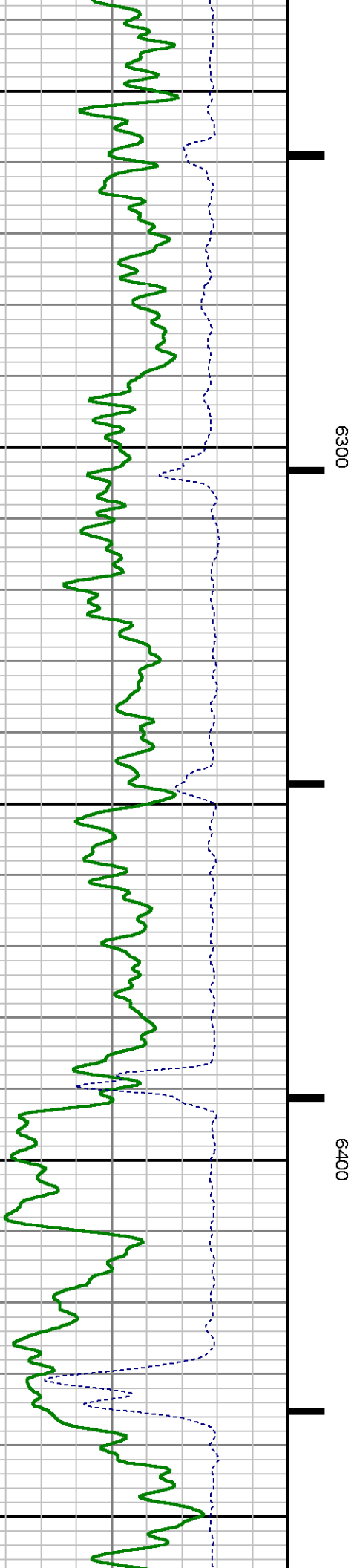
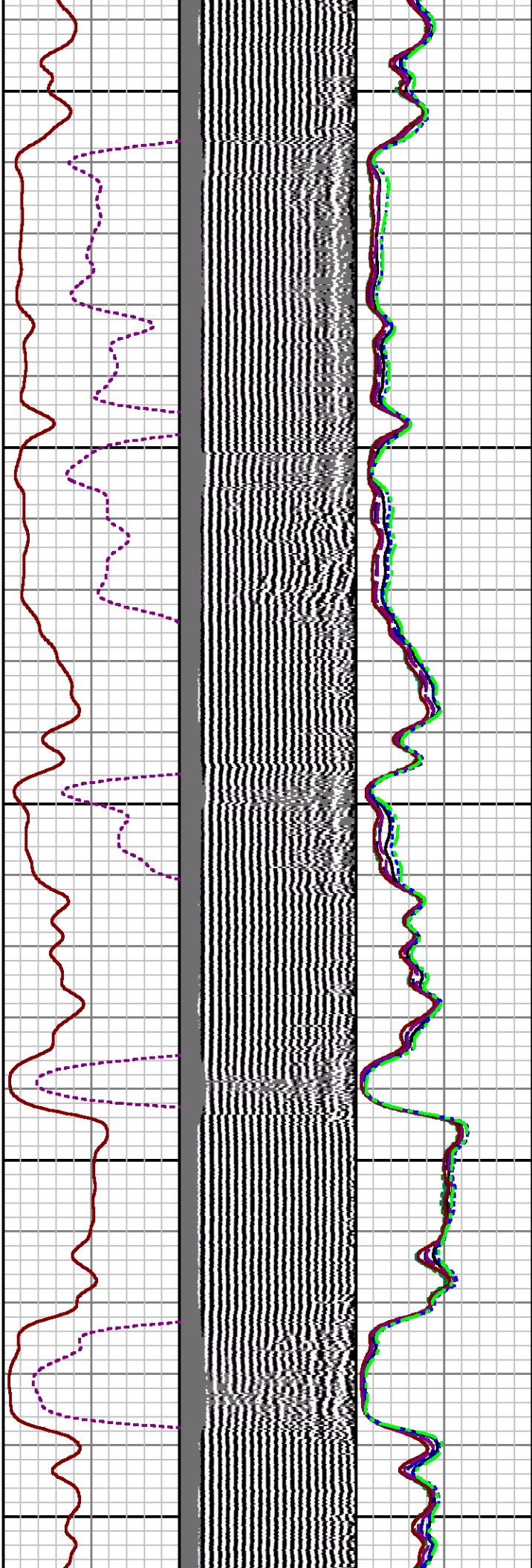


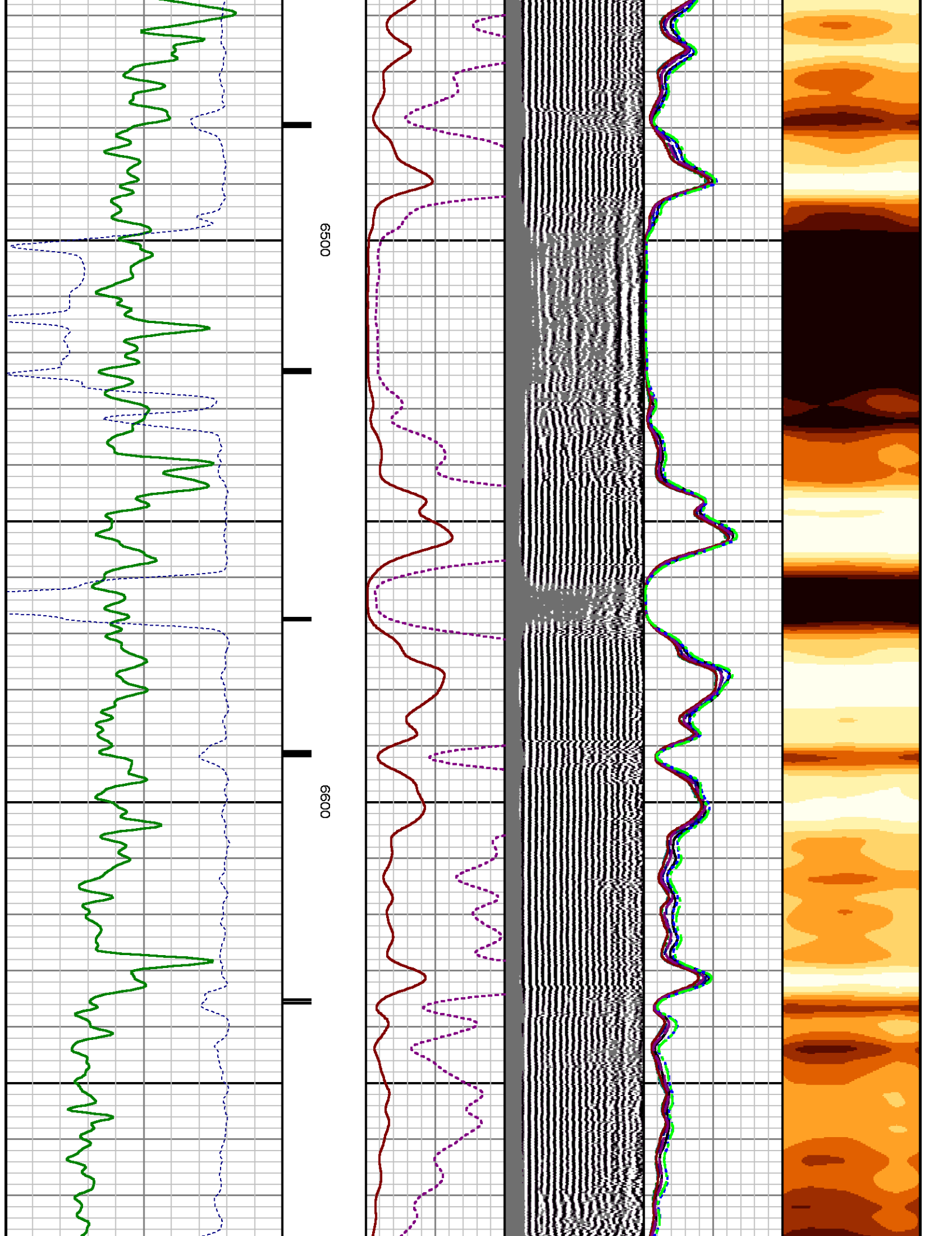


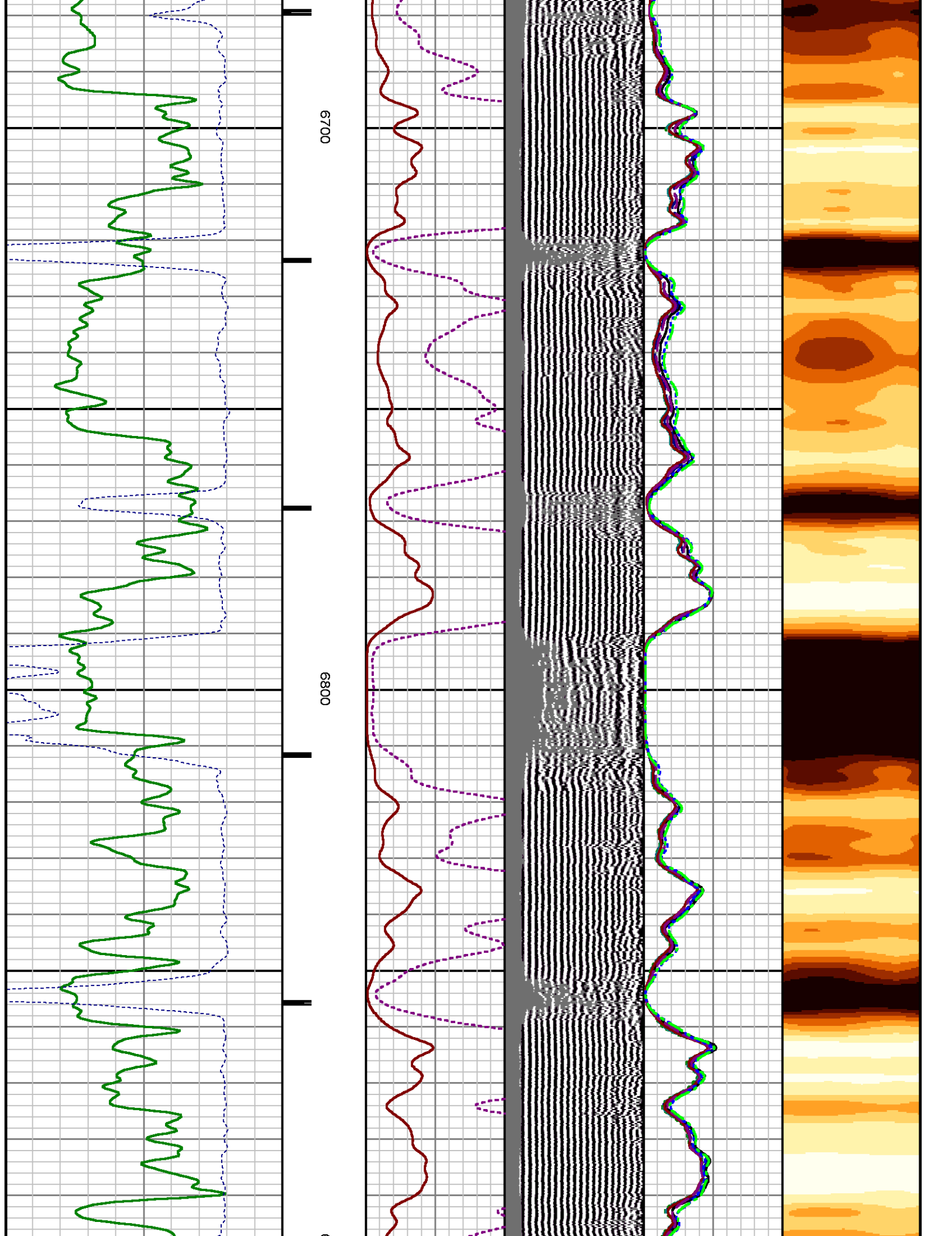


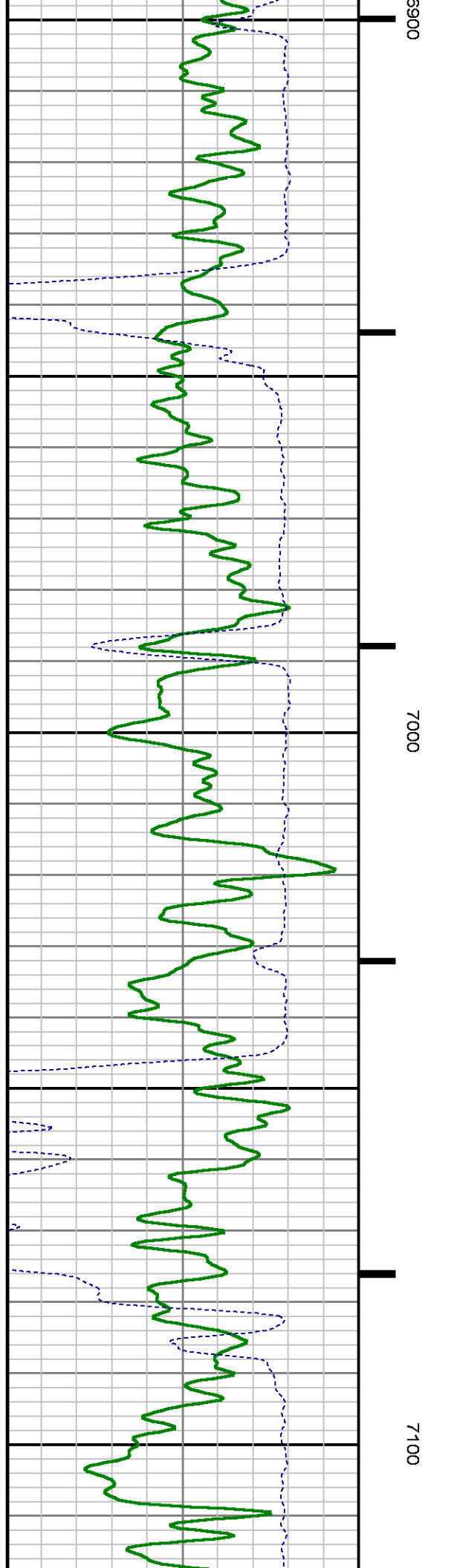
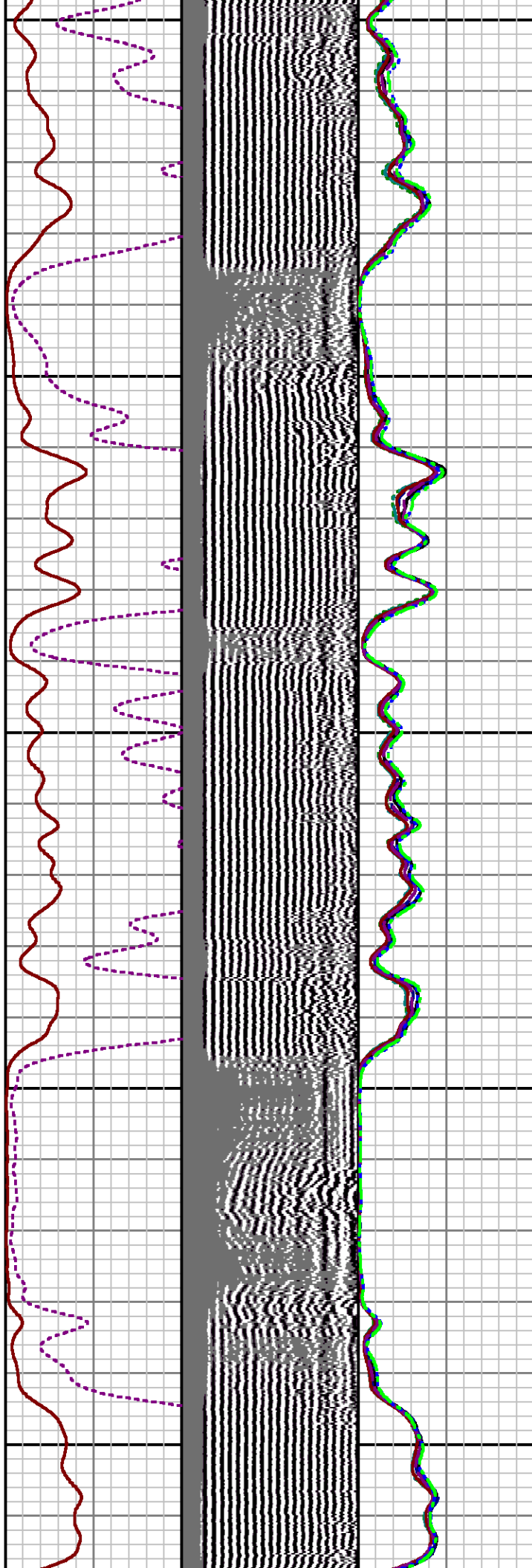




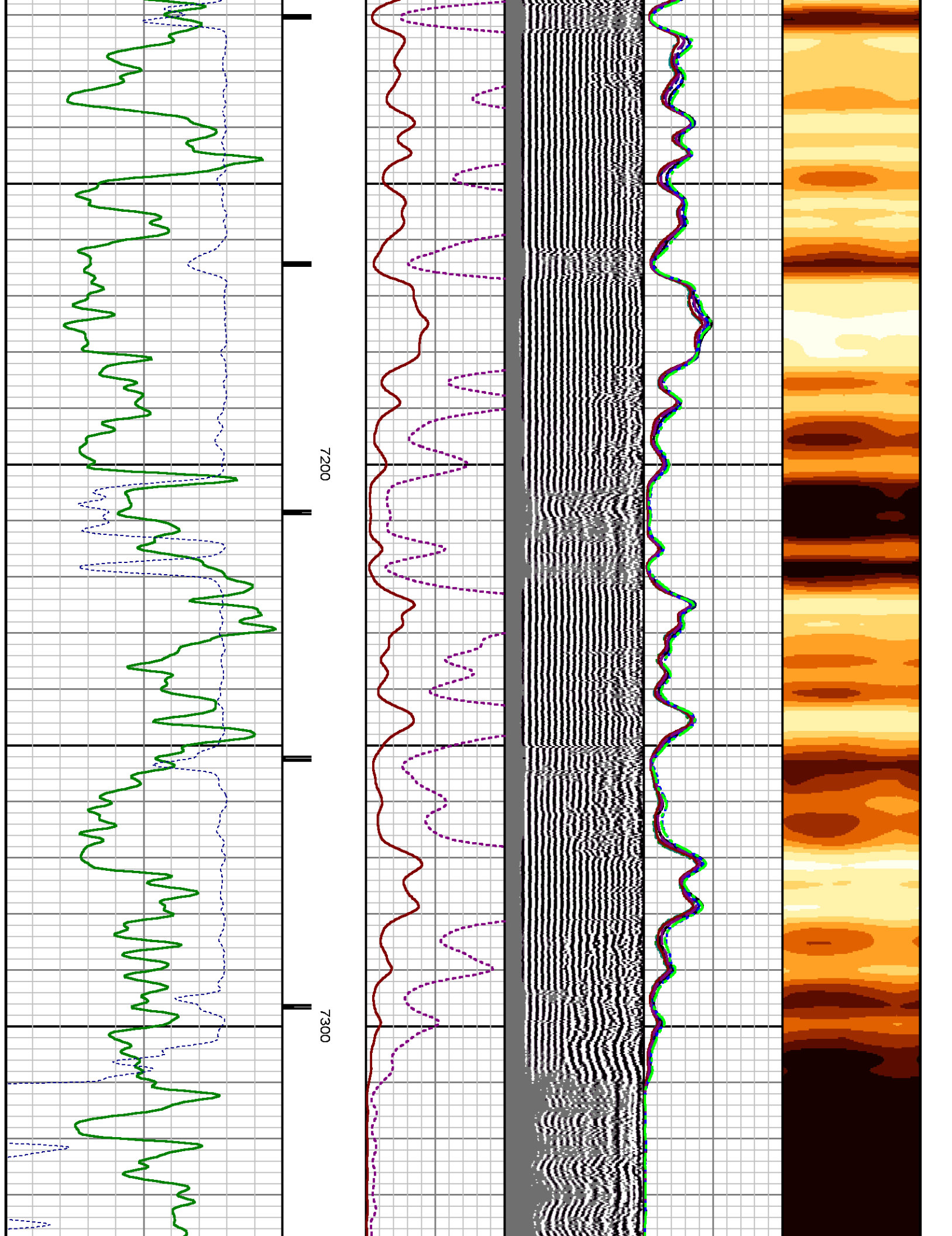


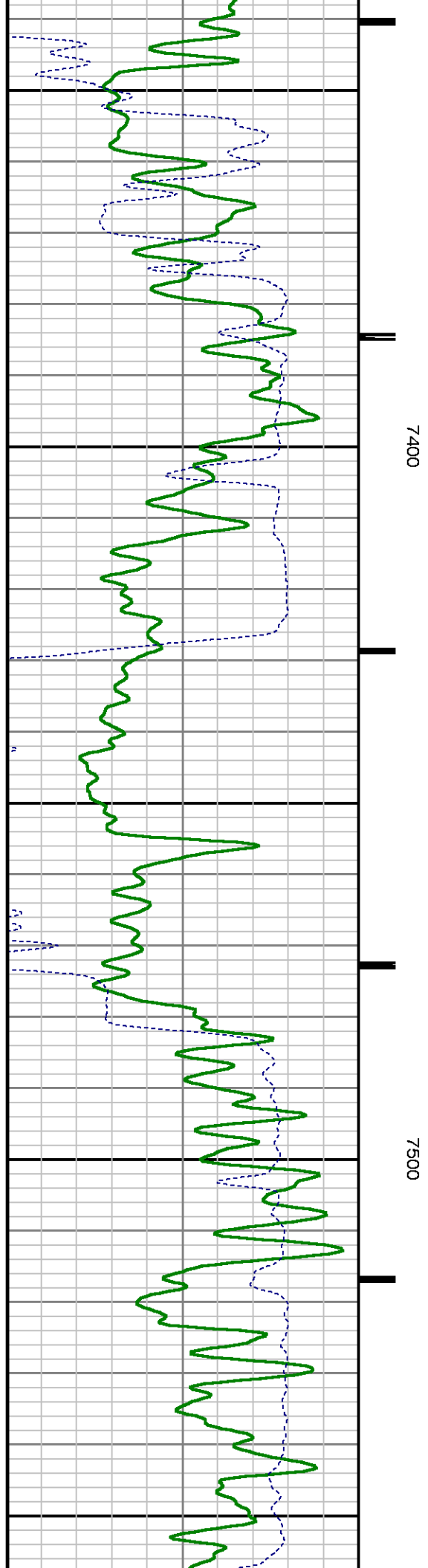
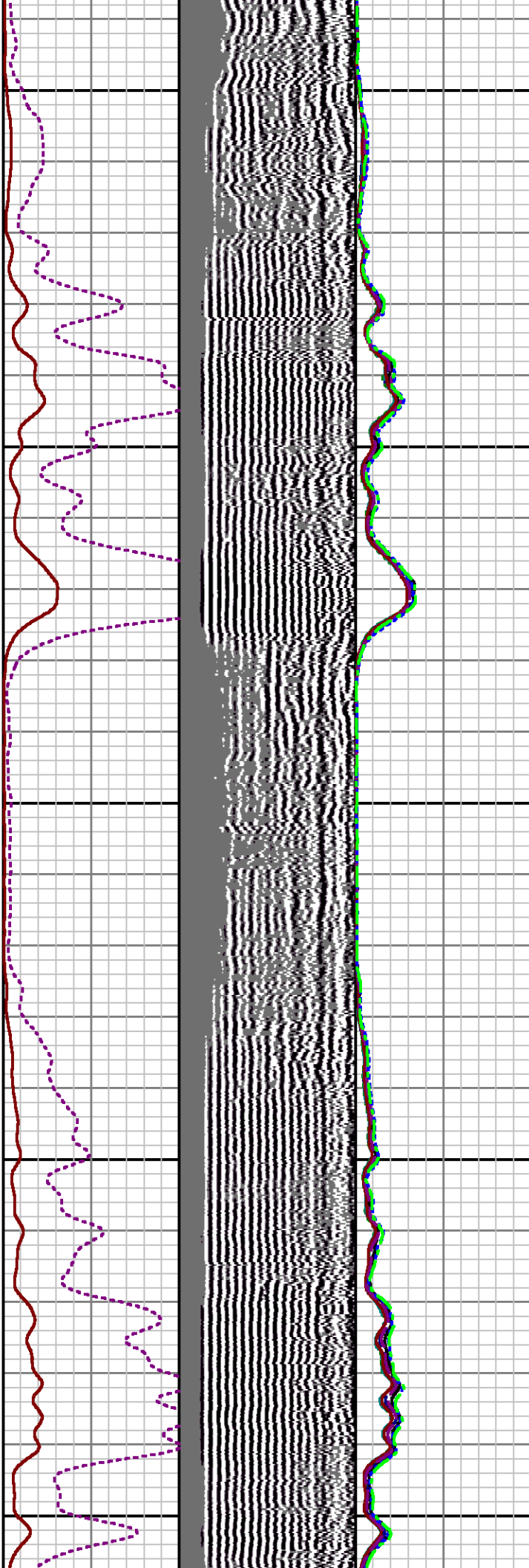




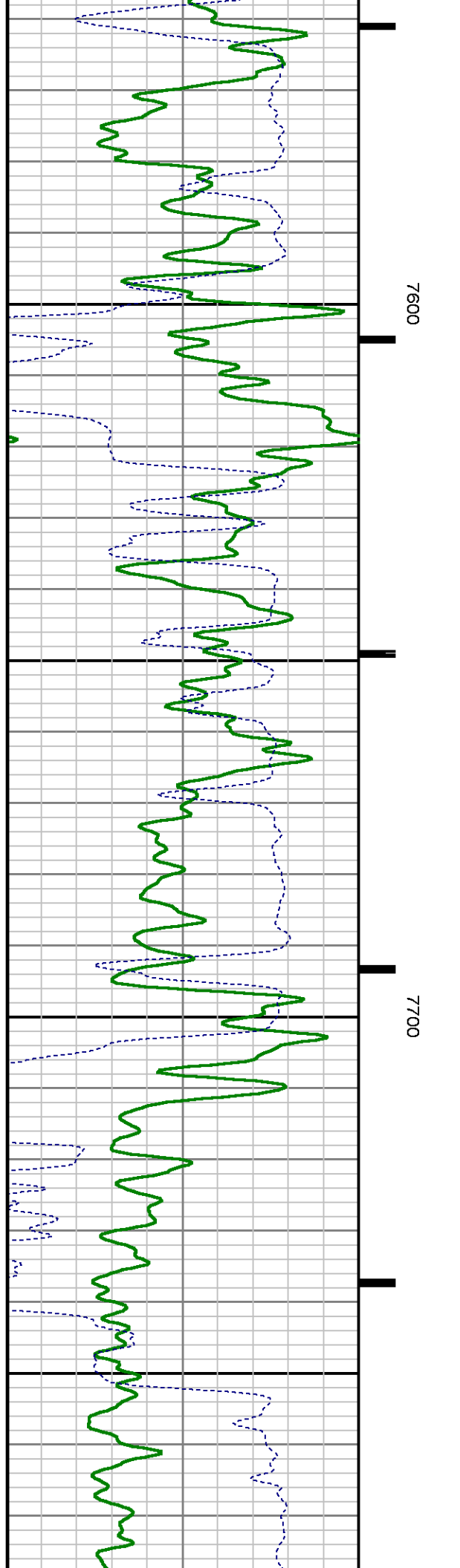
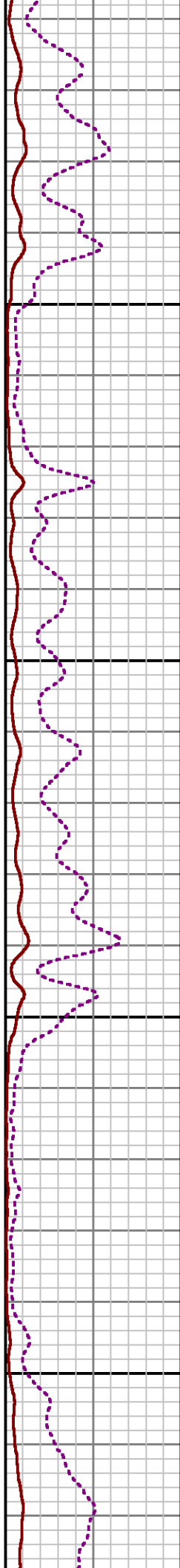
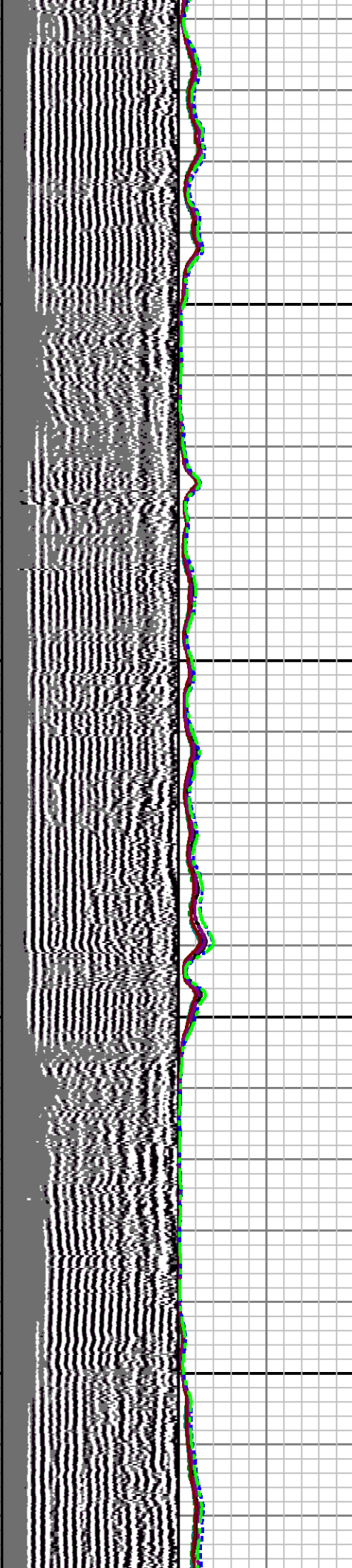
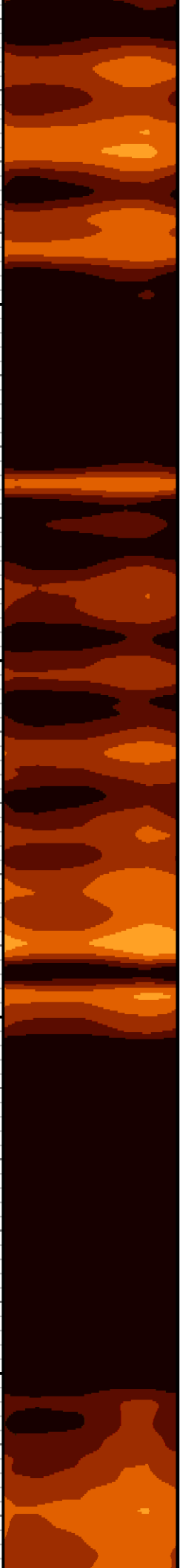


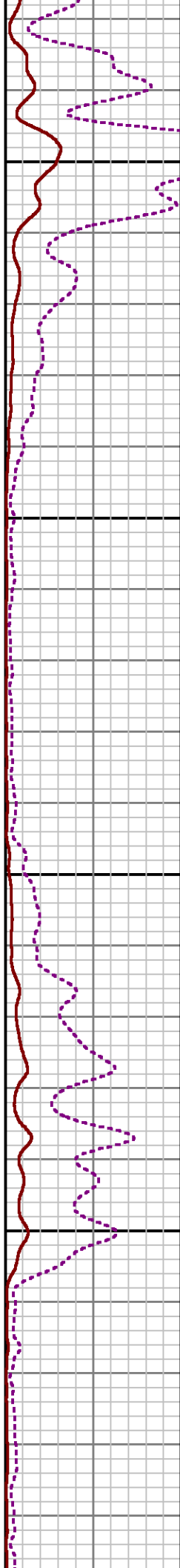
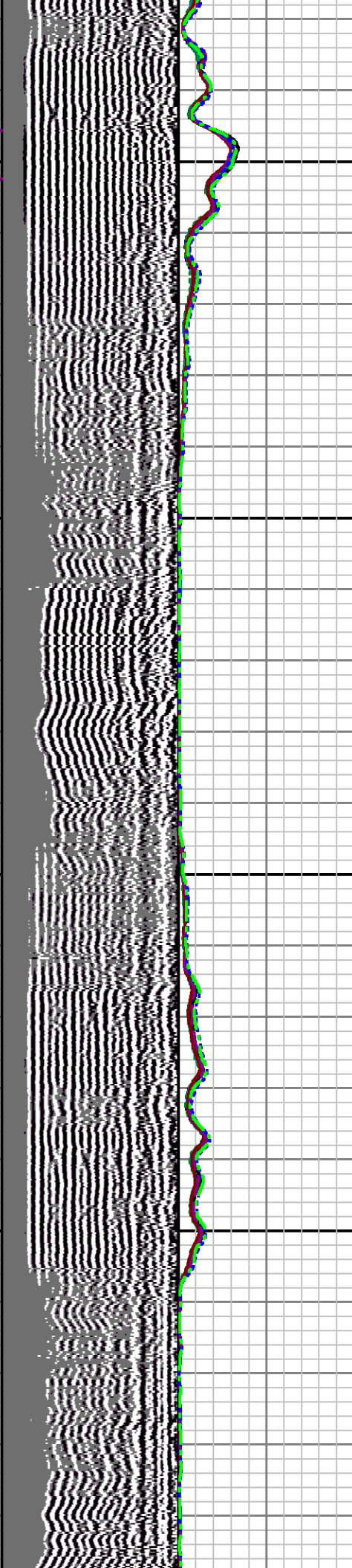






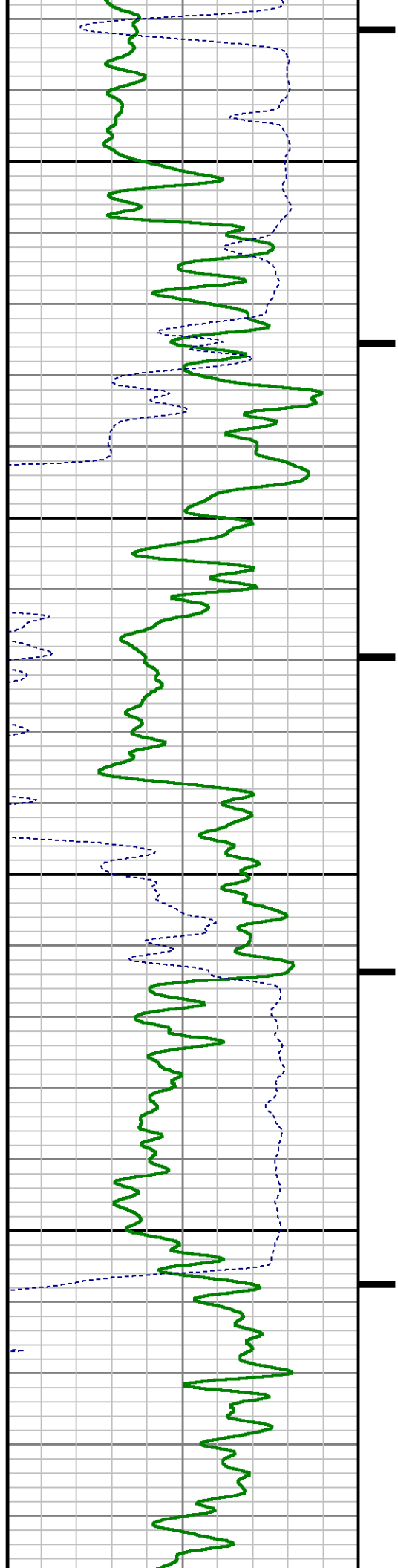


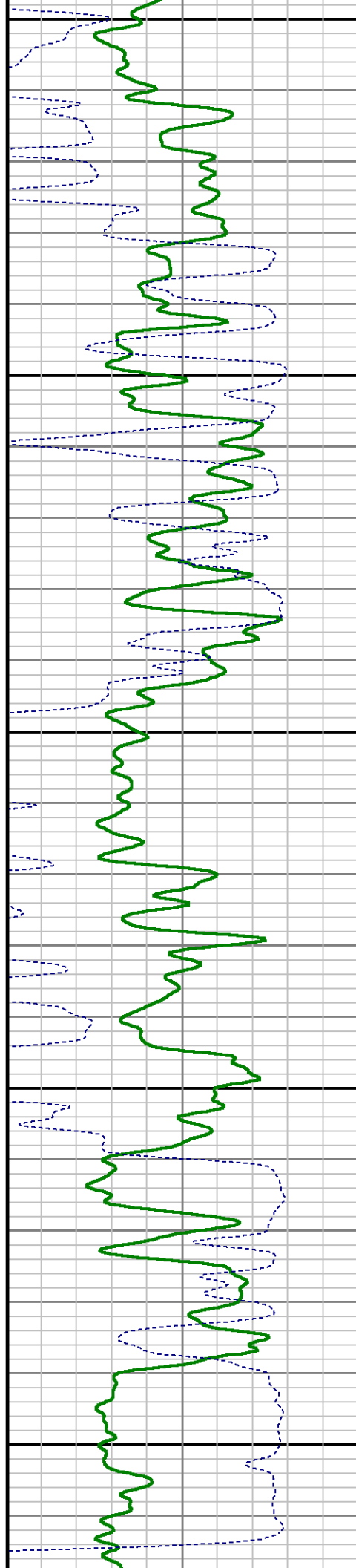
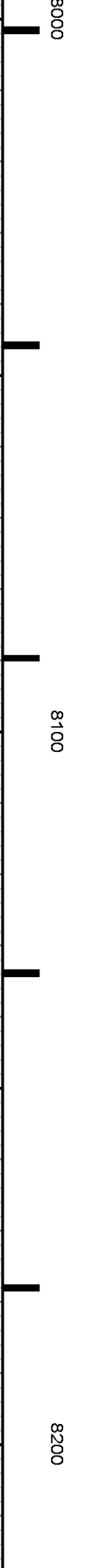
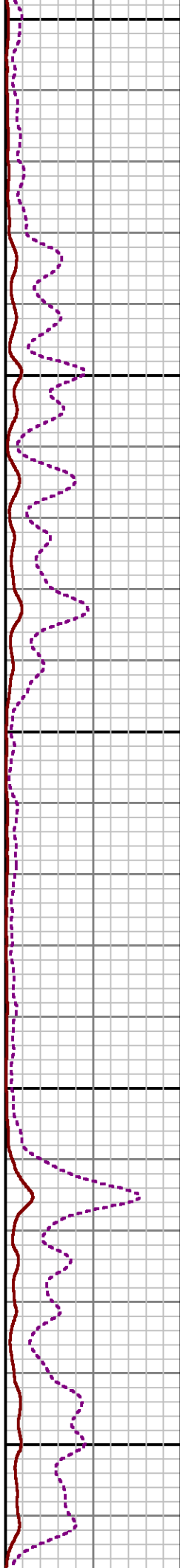
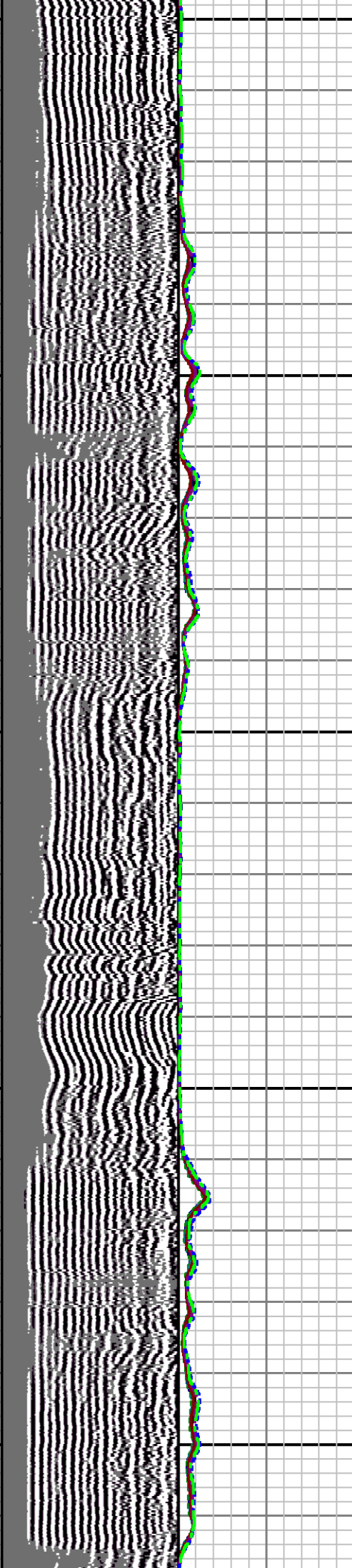


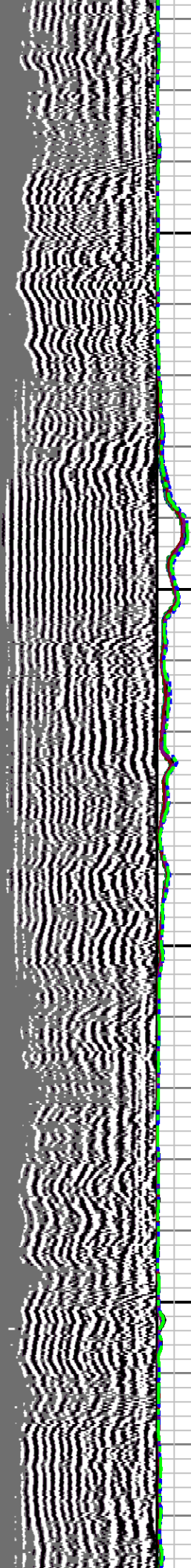


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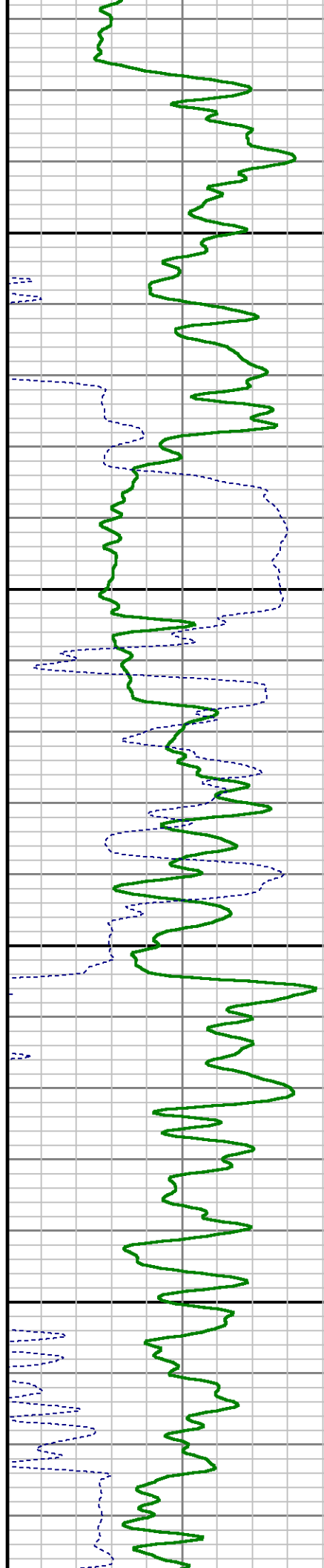




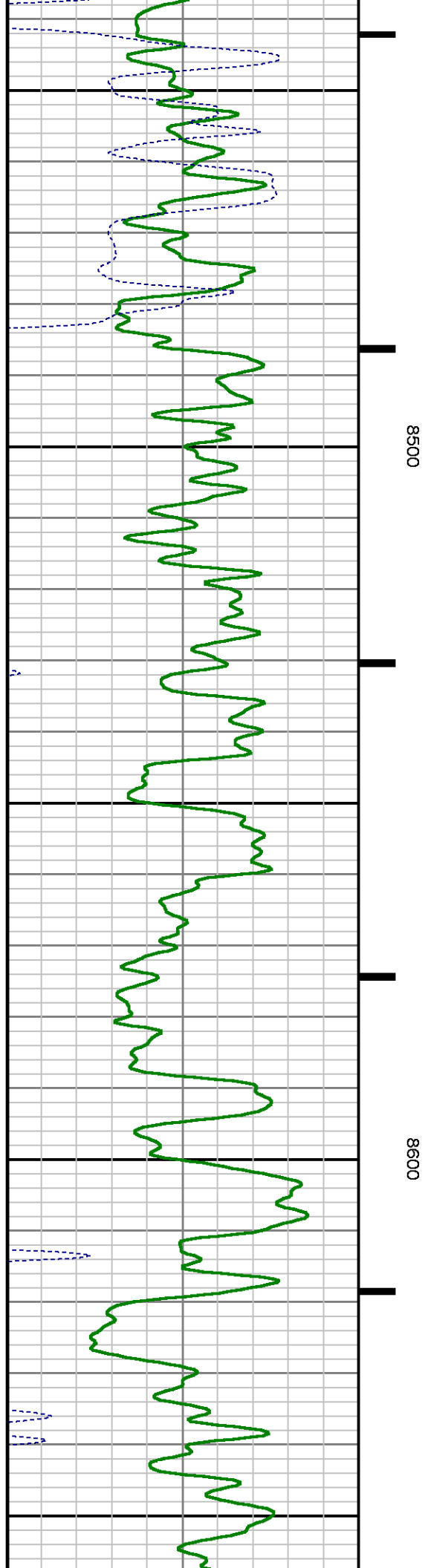
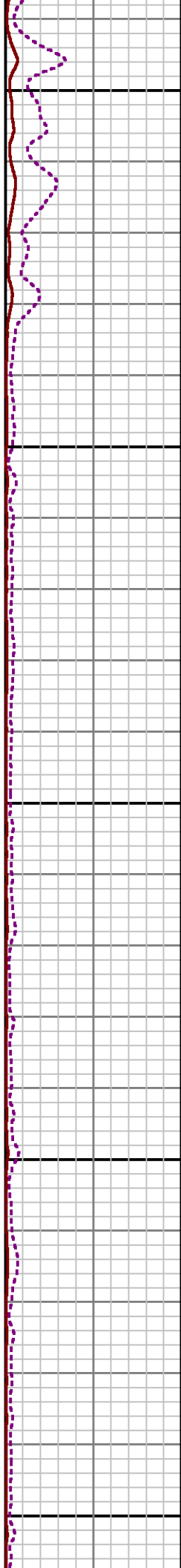
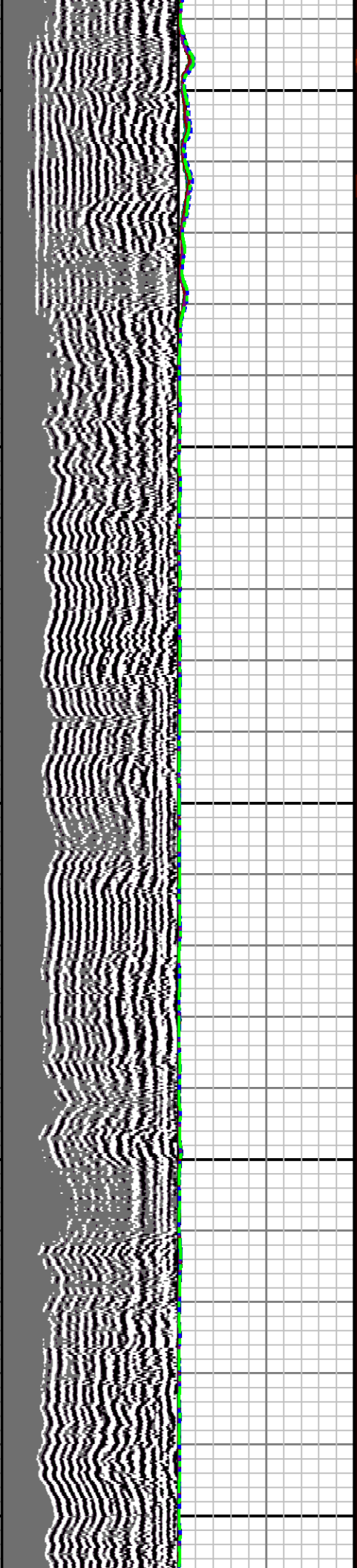


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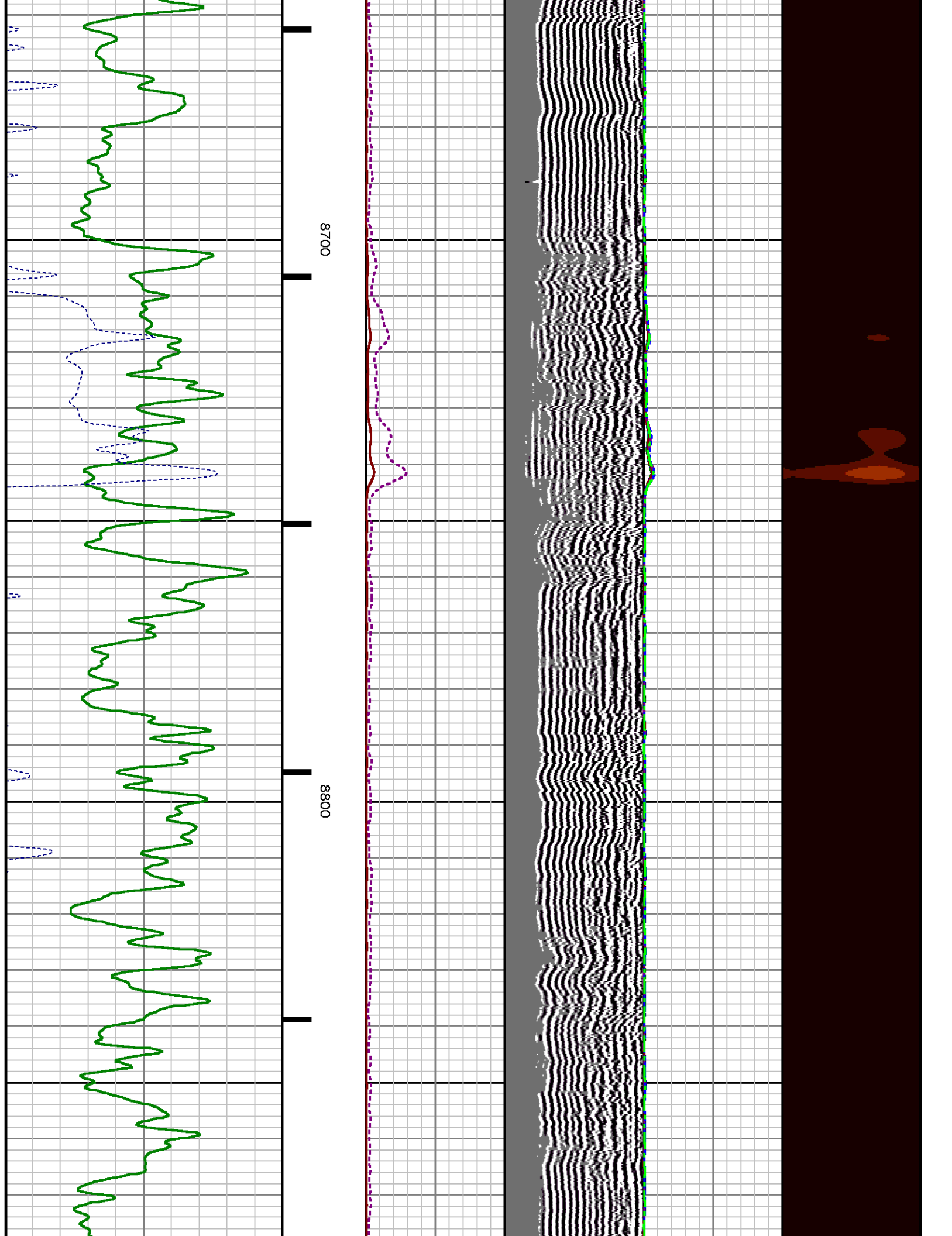
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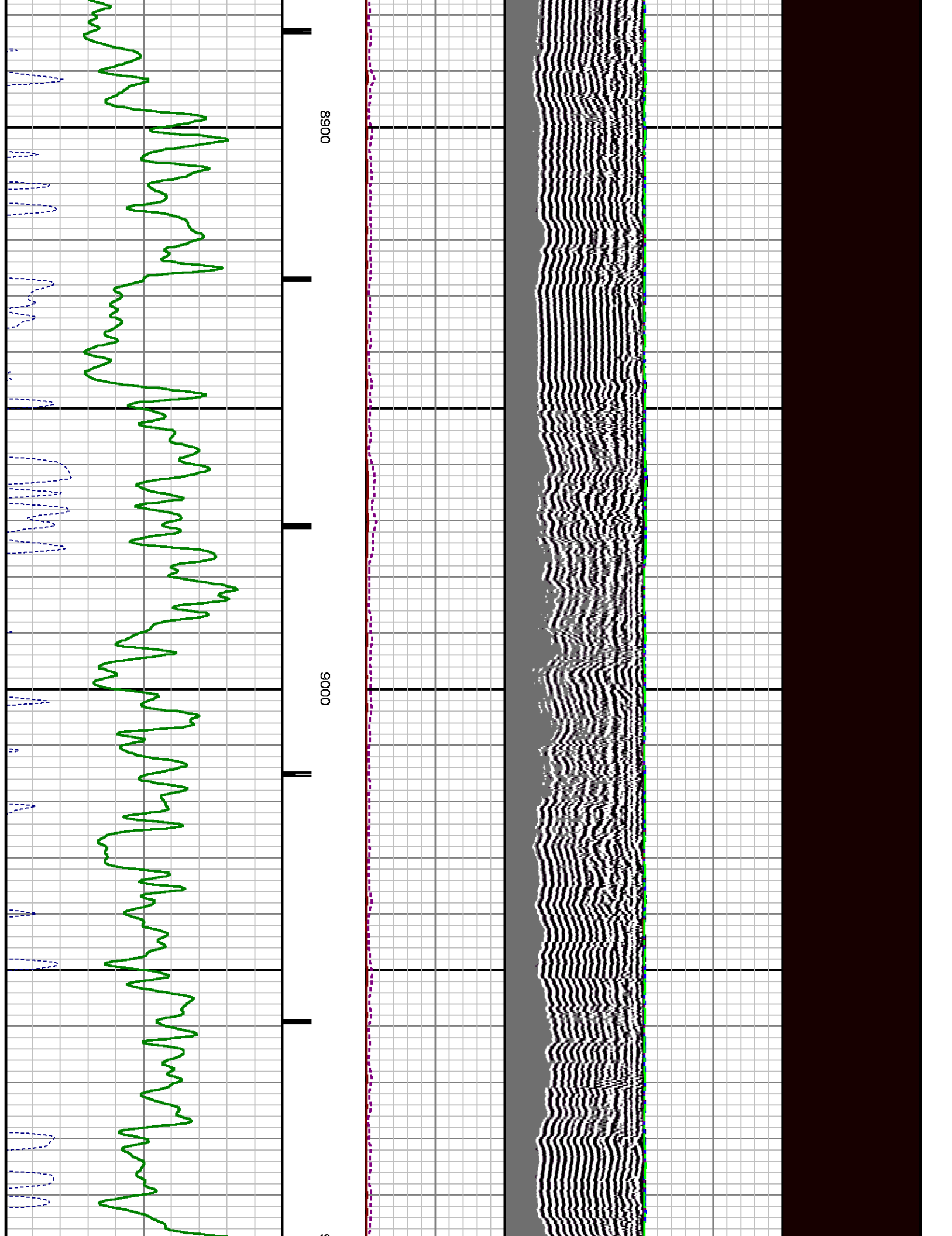


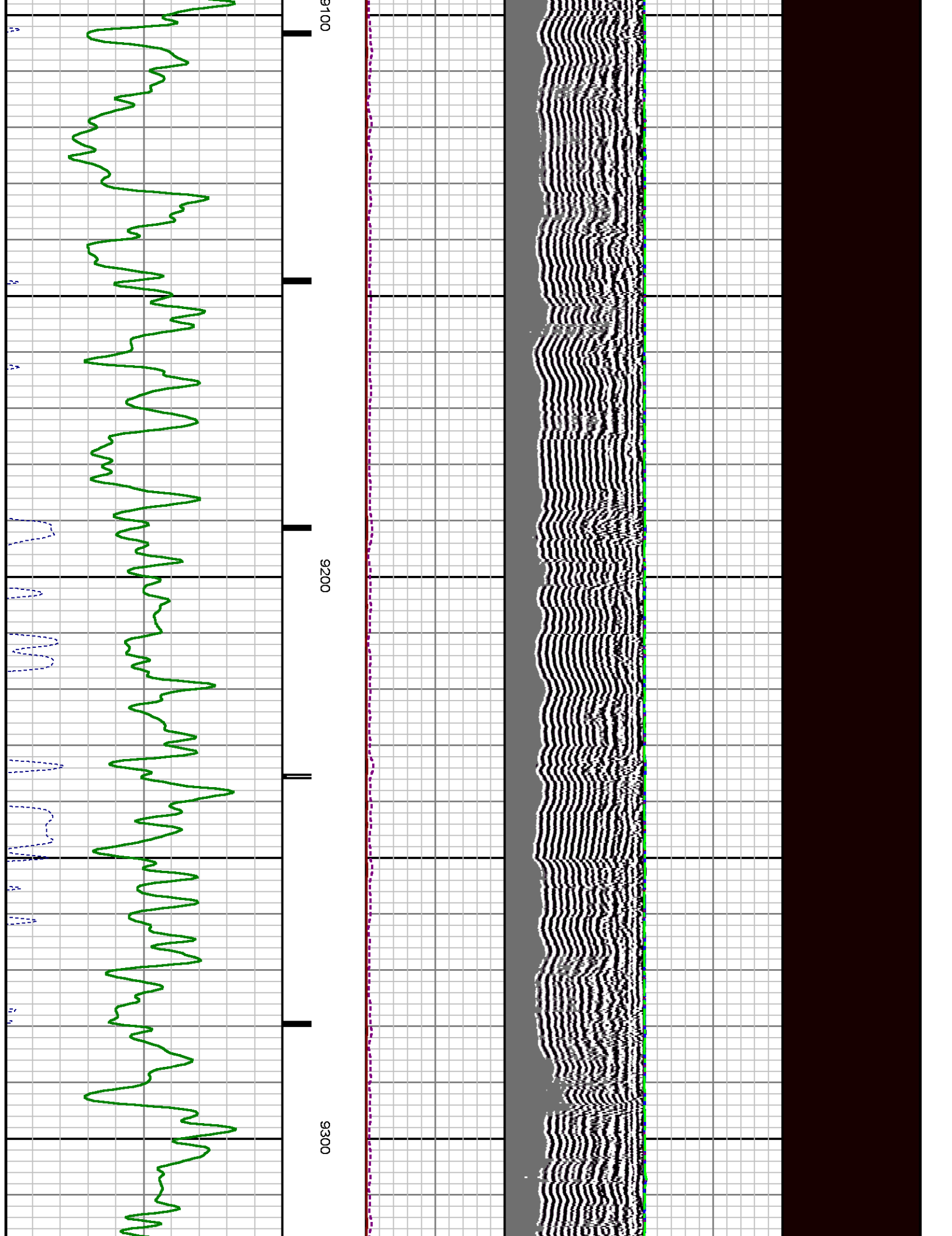


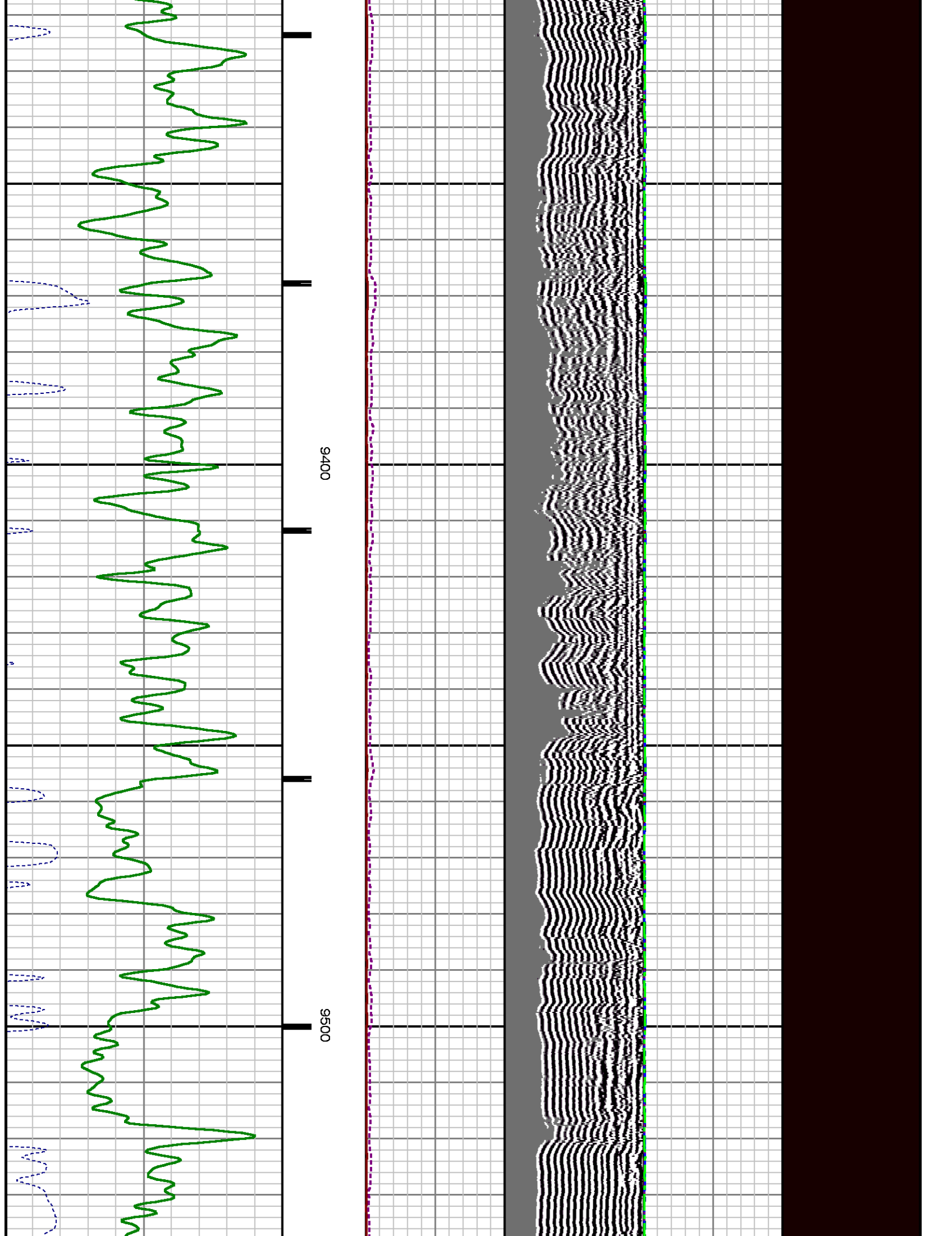


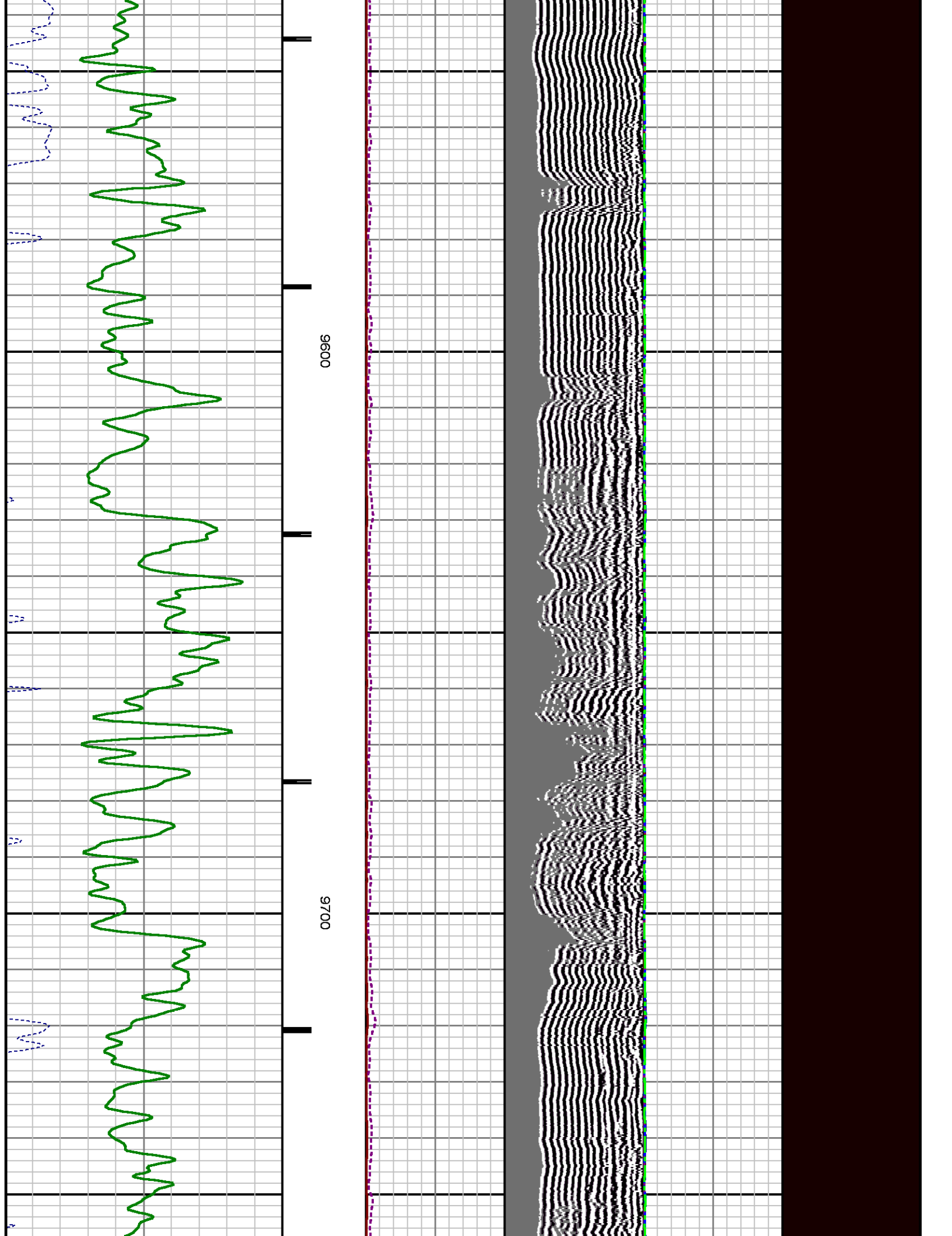




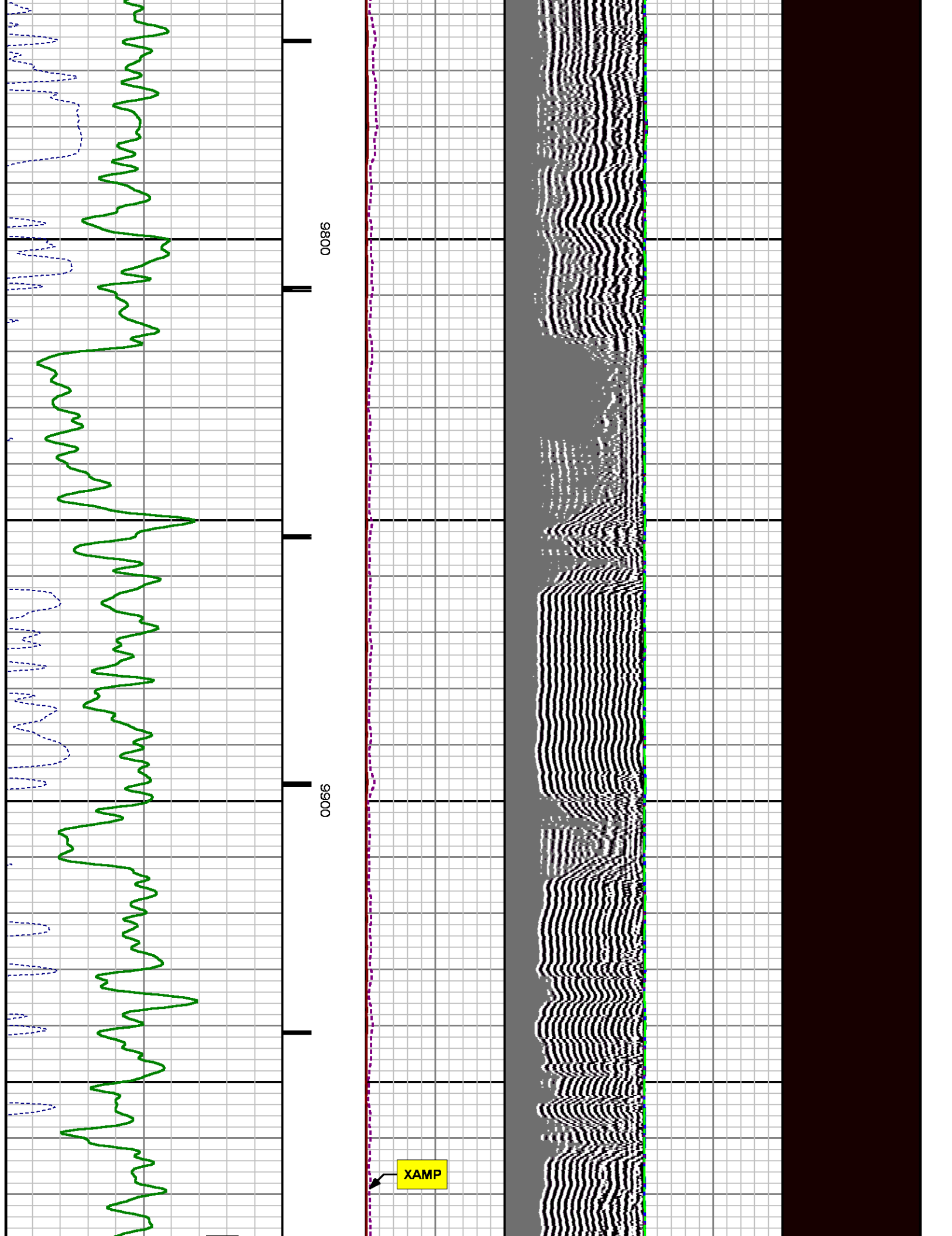


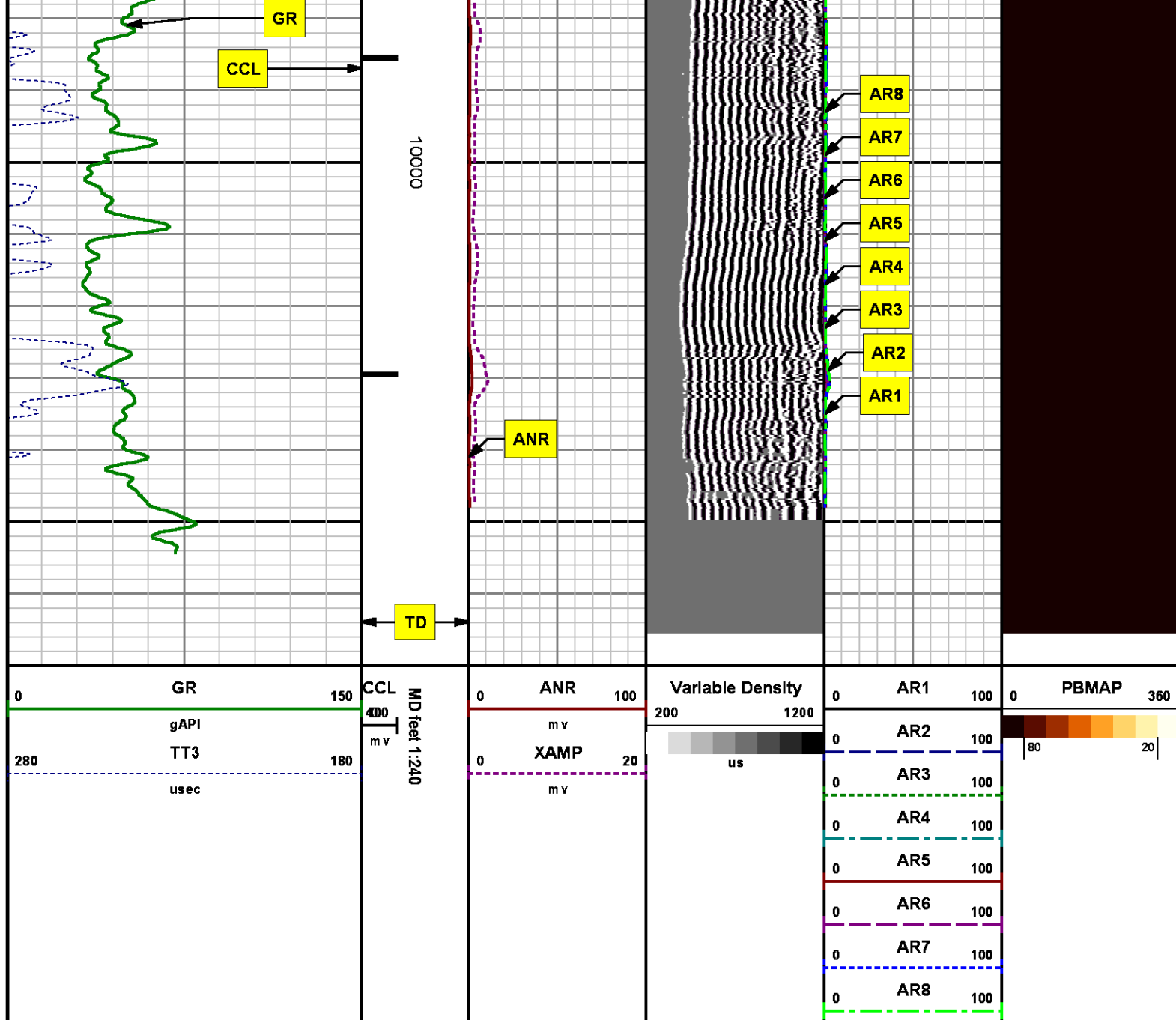












REPEAT SECTION  
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
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RAL		305.000	usec	9755.810	10064.810
RAL	Amp Gate Start Far	195.000	usec	9755.810	10064.810
RAL	Amp Gate Start Radial	195.000	usec	9755.810	10064.810
RAL	Amp Gate Width Far	25.000	usec	9755.810	10064.810
RAL	Amp Gate Width Near	25.000	usec	9755.810	10064.810
RAL	Amp Gate Width Radial	25.000	usec	9755.810	10064.810
RAL	casing od	4.500	inches	9755.810	10064.810
RAL	casing wt	11.600	lbm/ft	9755.810	10064.810
RAL	FB Start Far	291.900	usec	9755.810	10064.810
RAL	FB Start Near	175.391	usec	9755.810	10064.810
RAL	FB Start Radial	175.391	usec	9755.810	10064.810
RAL	FB Thresh Far	10.000	mV	9755.810	10064.810
RAL	FB Thresh Near	4.000	mV	9755.810	10064.810
RAL	FB Thresh Radial	4.000	mV	9755.810	10064.810
RAL	Fluid Travel Time	200.000	usec/ft	9755.810	10065.621

## DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
		ACAL	ANR	AR1	AR2	AR3	AR4
1426XA	-16.750	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

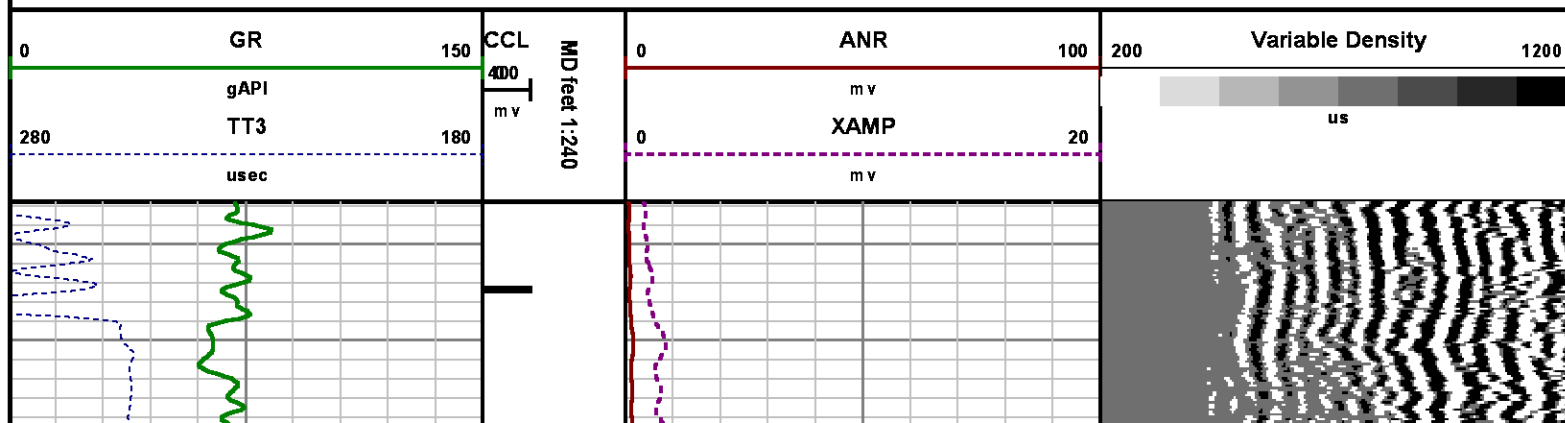
Well : FEDERAL PA 441-21

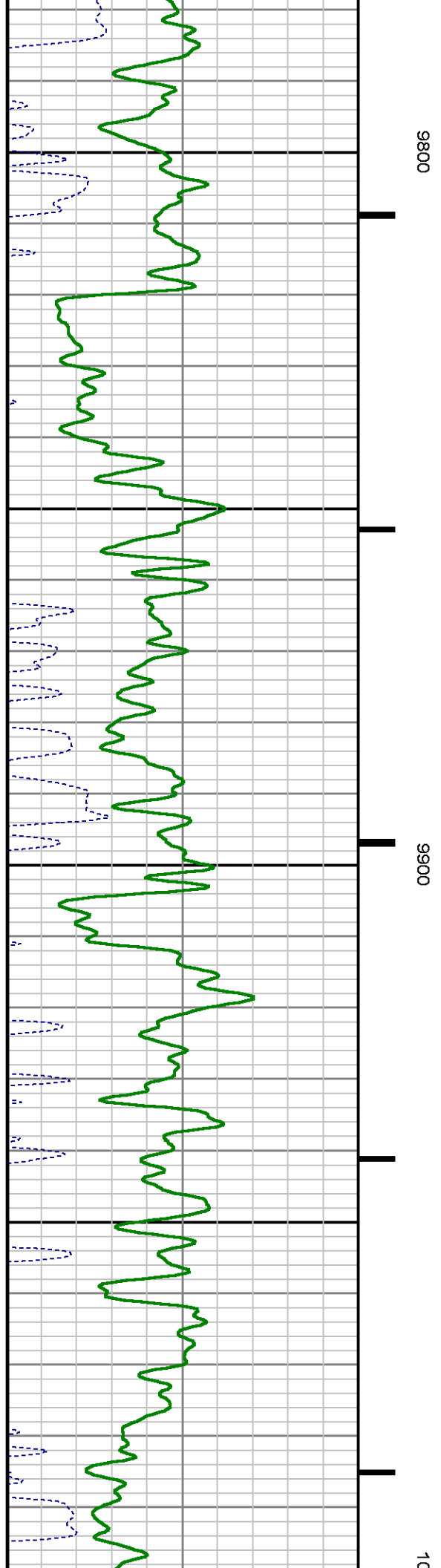
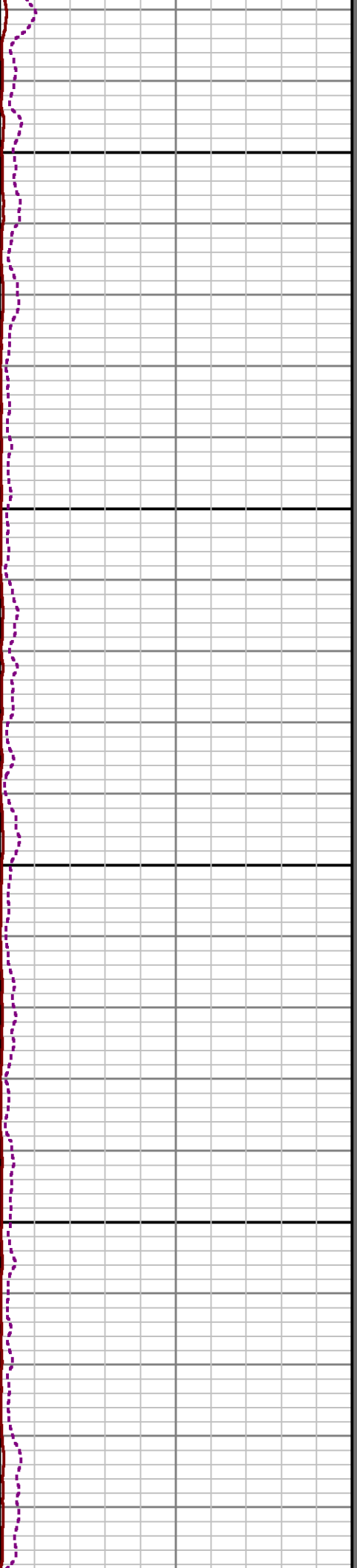
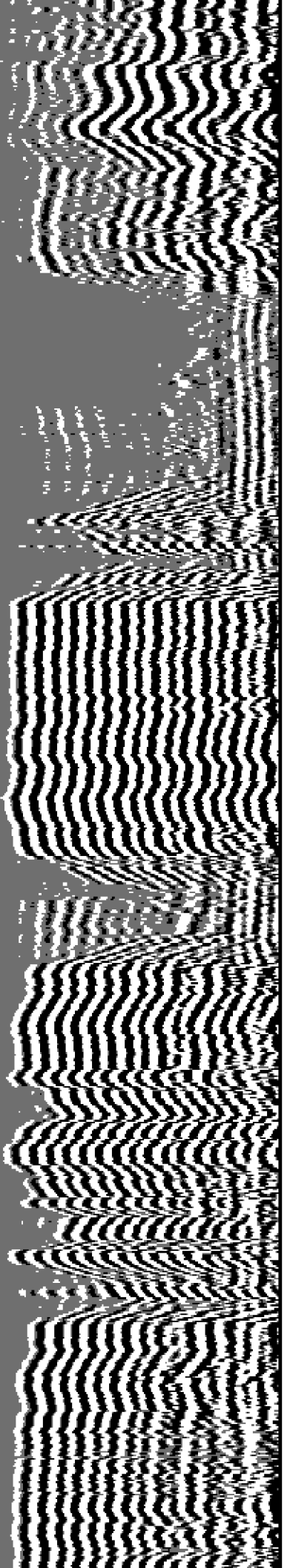
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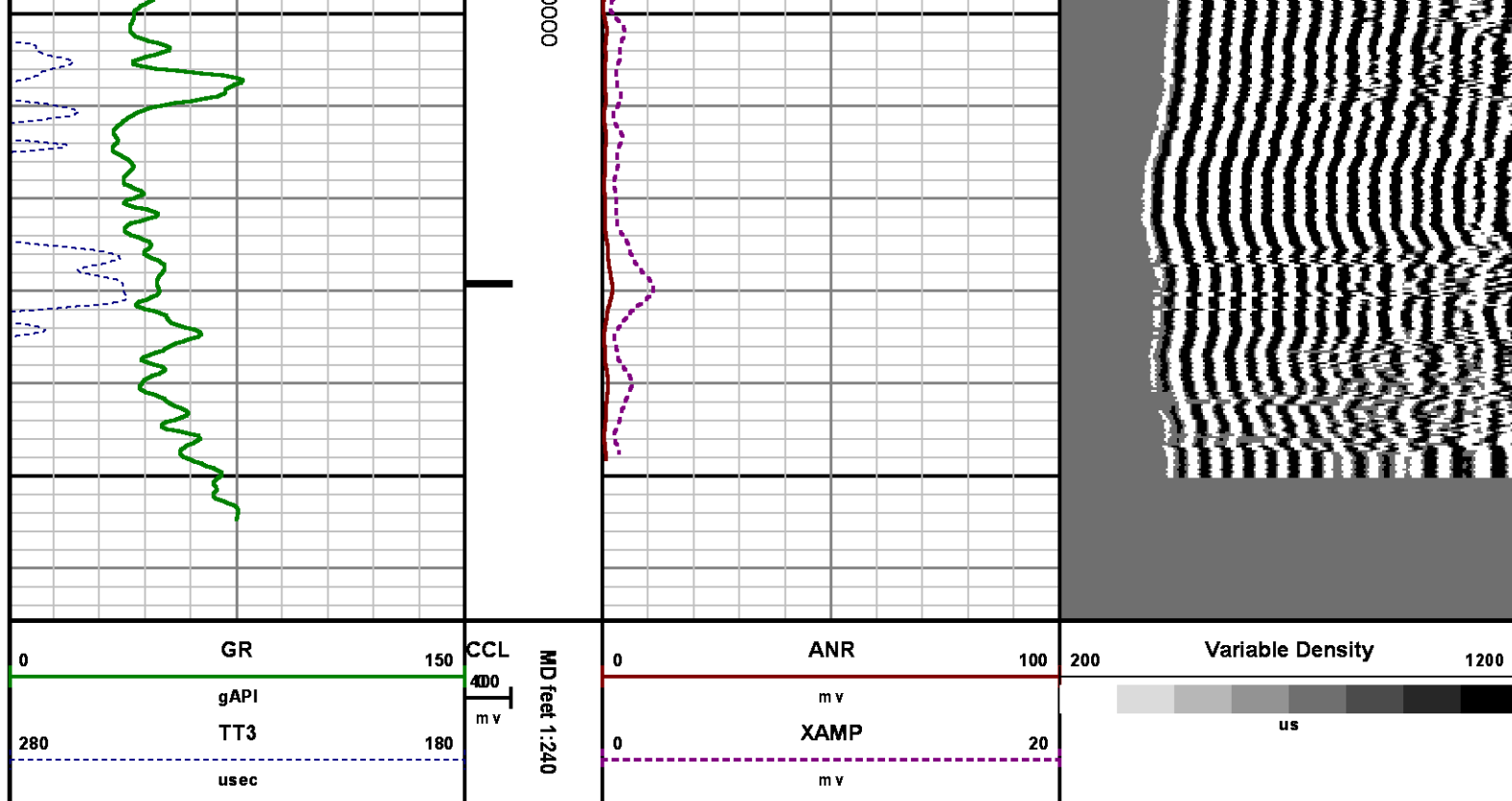
Mode : PlotMgr 5.4.504

Interval : 9755.56 - 10065.81 feet UP

Created : 2/11/2014 4:32:49 PM







## CALIBRATION SUMMARY

*RALSHP*

Shop Calibration: C:\case\calver\RALSHP\496F11\_shp.cal

### SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Feb 11 13:30:26 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: F11

Tool Delay [u sec]  Tank OD  Tank Wt  Tank ID

RECEIVER	Travel Time [u sec]	Amp. Gate Start [u sec]	Amp. Gate Width [u sec]	Zero Gate Start [u sec]	Zero Gate Width [u sec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	218	216	30	166	25	0.017	100.00	0.16
3 Ft. Receiver	218	216	30	149	25	-0.233	100.00	0.16
5 Ft. Receiver	327	325	30	237	25	0.260	150.00	0.18
Radial #1	218	216	30	150	25	-0.144	100.00	0.16
Radial #2	218	216	30	150	25	-0.418	100.00	0.16
Radial #3	218	216	30	150	25	-0.477	100.00	0.16
Radial #4	218	216	30	150	25	-0.269	100.00	0.16
Radial #5	218	216	30	150	25	-0.203	100.00	0.16
Radial #6	218	216	30	150	25	-0.120	100.00	0.16
Radial #7	218	216	30	150	25	-0.120	100.00	0.16



Radial #7	216	216	30	150	25	-0.180	100.00	0.16
Radial #8	218	216	30	150	25	-0.205	100.00	0.16

## RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\496F11 fld.cal

### WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Feb 11 13:35:03 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: F11

Tool Delay [usec] -54.00 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	-0.010	0.000	1.00	100.000
3 Ft. Receiver	195	25	1.905			
5 Ft. Receiver	305	25	2.558			
Radial #1	195	25	1.327			
Radial #2	195	25	1.354			
Radial #3	195	25	1.478			
Radial #4	195	25	1.517			
Radial #5	195	25	1.726			
Radial #6	195	25	1.847			
Radial #7	195	25	1.511			
Radial #8	195	25	1.501			

## GAMMA RAY

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

### CALIBRATION SUMMARY

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

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

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

### PRIMARY LOG VERIFICATION

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

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

# TOOL DIAGRAM

## OTA SHORT CABLE HEAD

## PROBE 2 3/4 DUAL RECEIVER RADII

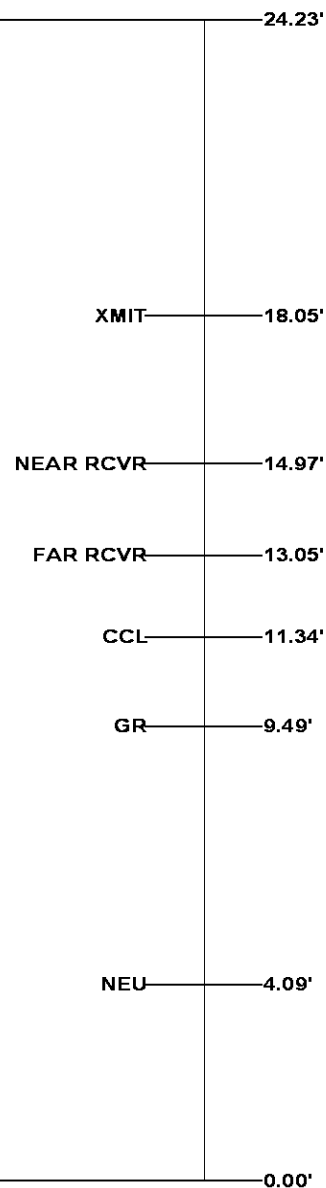
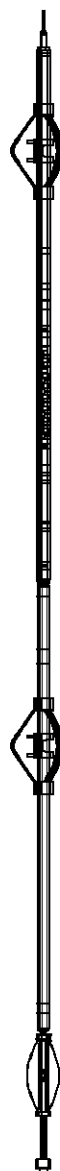
Series	1426XA
Mnemonic	PROB
Diameter	2.75"
Length	11.17'
Measure Point	0.75' FAR RCVR
Measure Point	2.67' NEAR RCVR
Measure Point	5.75' XMIT
Temp Rating	350.00 °F
Press Rating	18000.00 PSI

## Probe GR/CCL/NEU

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

## CENTRALIZER

Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb



Total Length: 24.23'

Total Weight: Not Available

Max Diameter: 0' 3.12"



Baker Atlas

Company  
Well  
Field  
County

WPX ENERGY  
FEDERAL PA 441-21  
PARACHUTE  
GARFIELD

State

COLORADO

Location

Elevations

File No:  
CH082311

API No:

05045220320000



SHL: 2600' FNL & 1456' FWL

BHL: 954' FNL & 249' FEL (NENE)

SEC 21 TWP 6S RGE 95W

KB 6056 ft

DF

GL 6030 ft

21 6S 95W

PA 22-21 PAD

NABORS 573