



# RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH091002	Company Well Field County	WPX ENERGY CHEVRON GM 12-21 GRAND VALLEY GARFIELD	State CO
API No: 05045223590000	Location SHL: 2034' FNL & 703' FEL (20 6S 96W) BHL: 1350' FNL & 1001' FWL (21 6S 96W) SEC 21 TWP 6S RGE 96W		
21 6S 96W GM 442-20 CYCLONE 17	Other Services RPM		Elevations KB 5596 ft DF GL 5575 ft
Permanent Datum Log Measured From Drill Measured From	GL KB KB	Elevation 21 ft Above P. D.	

Date	10/OCT/14	
Run	ONE	
Service Order	US091002	
Depth Driller	7318 ft	
Depth Logger	7248 ft	
Bottom Logged Interval	7238 ft	
Top Logged Interval	21 ft	
Time Started	0:00	
Time Finished	4:00	
Operator Rig Time	4 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	61 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	65 fpm	
Maximum Recorded Temperature	241 degF	
Reference Log	NA	
Reference Log Date	NA	
Equipment No.	44271	GRAND JUNCTION
Recorded By	NEWELL	
Witnessed By	COLE APPLIGATE	

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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	1074 ft
8.75 in	1074 ft	7332 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1074 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	7332 ft

Remarks
All data on this log is shifted using the GCL curve to put the wellhead (top CCL mark) on depth with ground level elevation at the clients request.
The amount of linear shift is 5 feet.
Logged with zero PSI at wellhead.
BHT = 241 °F

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	CBL	1426XA	10124106	CENTRALIZED
1	1	GR/CCL	2459XA	10218503	CENTRALIZED

PRIMARY PRESENTATION  
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	25.300	4595.000
RAL	Amp Gate Start Near	195.000	usec	25.300	4595.000
RAL	Amp Gate Start Radial	195.000	usec	25.300	4595.000
RAL	Amp Gate Width Far	25.000	usec	25.300	4595.000
RAL	Amp Gate Width Near	25.000	usec	25.300	4595.000
RAL	Amp Gate Width Radial	25.000	usec	25.300	4595.000
RAL	casing od	4.500	inches	25.300	4595.000
RAL	casing wt	11.600	lbm/ft	25.300	4595.000
RAL	FB Start Far	291.900	usec	25.300	4595.000
RAL	FB Start Near	175.391	usec	25.300	4595.000
RAL	FB Start Radial	175.391	usec	25.300	4595.000
RAL	FB Thresh Far	10.000	mv	25.300	4595.000
RAL	FB Thresh Near	4.000	mv	25.300	4595.000
RAL	FB Thresh Radial	4.000	mv	25.300	4595.000
RAL	Fluid Travel Time	200.000	usec/ft	25.300	4595.000
RAL	Amp Gate Start Far	305.000	usec	4595.000	7255.000
RAL	Amp Gate Start Near	195.000	usec	4595.000	7255.000
RAL	Amp Gate Start Radial	195.000	usec	4595.000	7255.000
RAL	Amp Gate Width Far	25.000	usec	4595.000	7255.000
RAL	Amp Gate Width Near	25.000	usec	4595.000	7255.000
RAL	Amp Gate Width Radial	25.000	usec	4595.000	7255.000
RAL	casing od	4.500	inches	4595.000	7255.000
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RAL	FB Start Far	291.900	usec	4595.000	7255.000
RAL	FB Start Near	175.391	usec	4595.000	7255.000
RAL	FB Start Radial	175.391	usec	4595.000	7255.000
RAL	FB Thresh Far	10.000	mv	4595.000	7255.000
RAL	FB Thresh Near	4.000	mv	4595.000	7255.000
RAL	FB Thresh Radial	4.000	mv	4595.000	7255.000

RAL	FB Thresh Near	4.000	mv	4595.000	7255.000
RAL	FB Thresh Radial	4.000	mv	4595.000	7255.000
RAL	Fluid Travel Time	200.000	usec/ft	4595.000	7255.000

## DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-12.360	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	-11.360	AFAR	SIG	TT5			
2459XA	-7.250	CCL					
2459XA	-5.390	GR					
2459XA	0.000	NEU					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

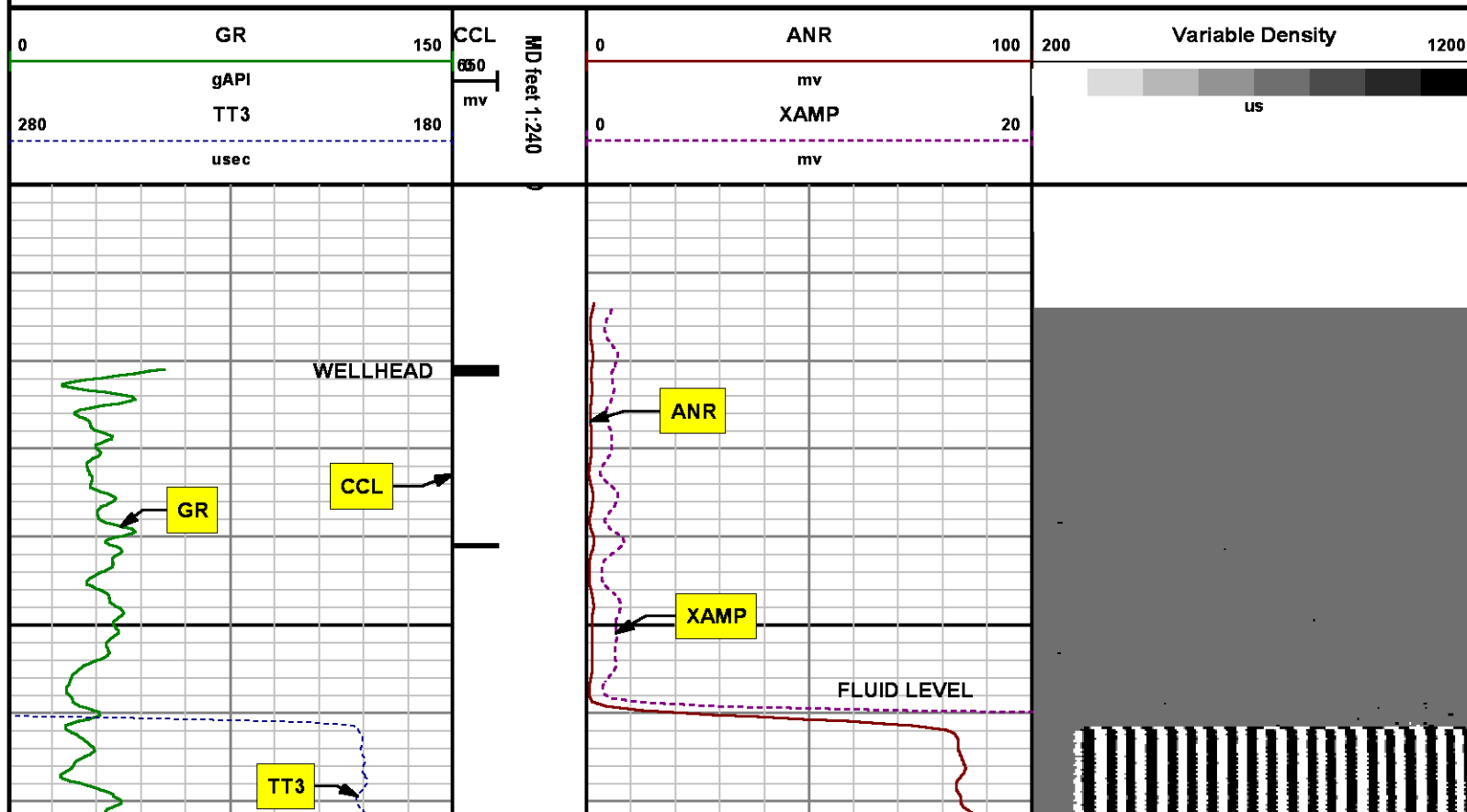
Well : CHEVRON GM 12-21

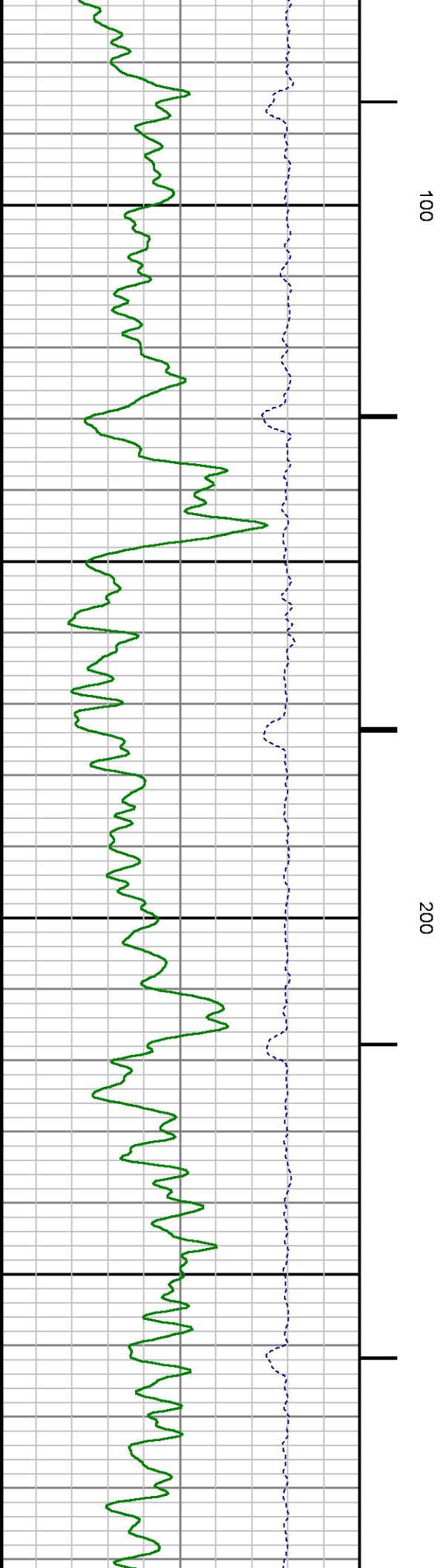
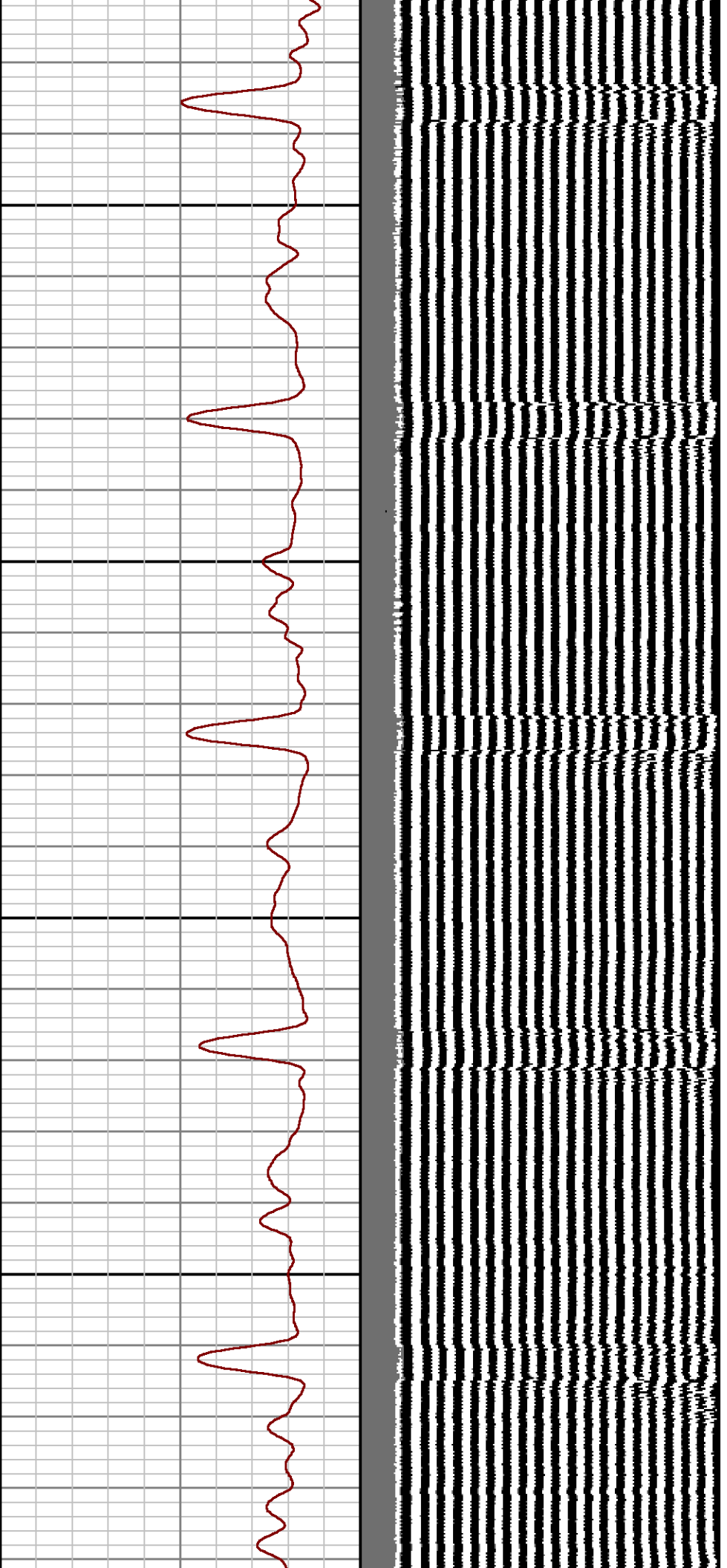
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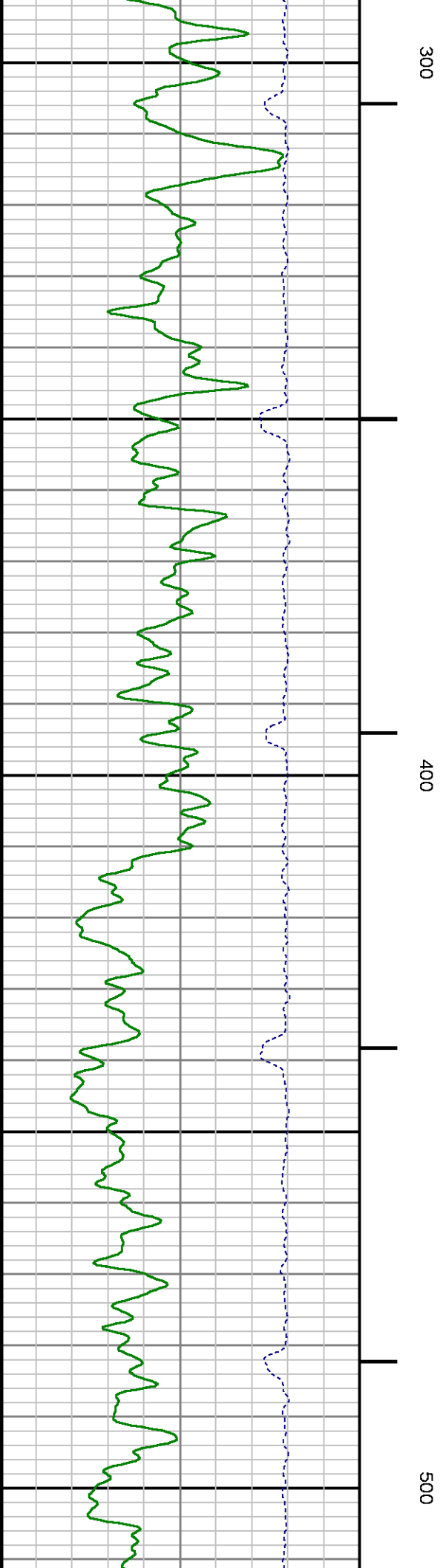
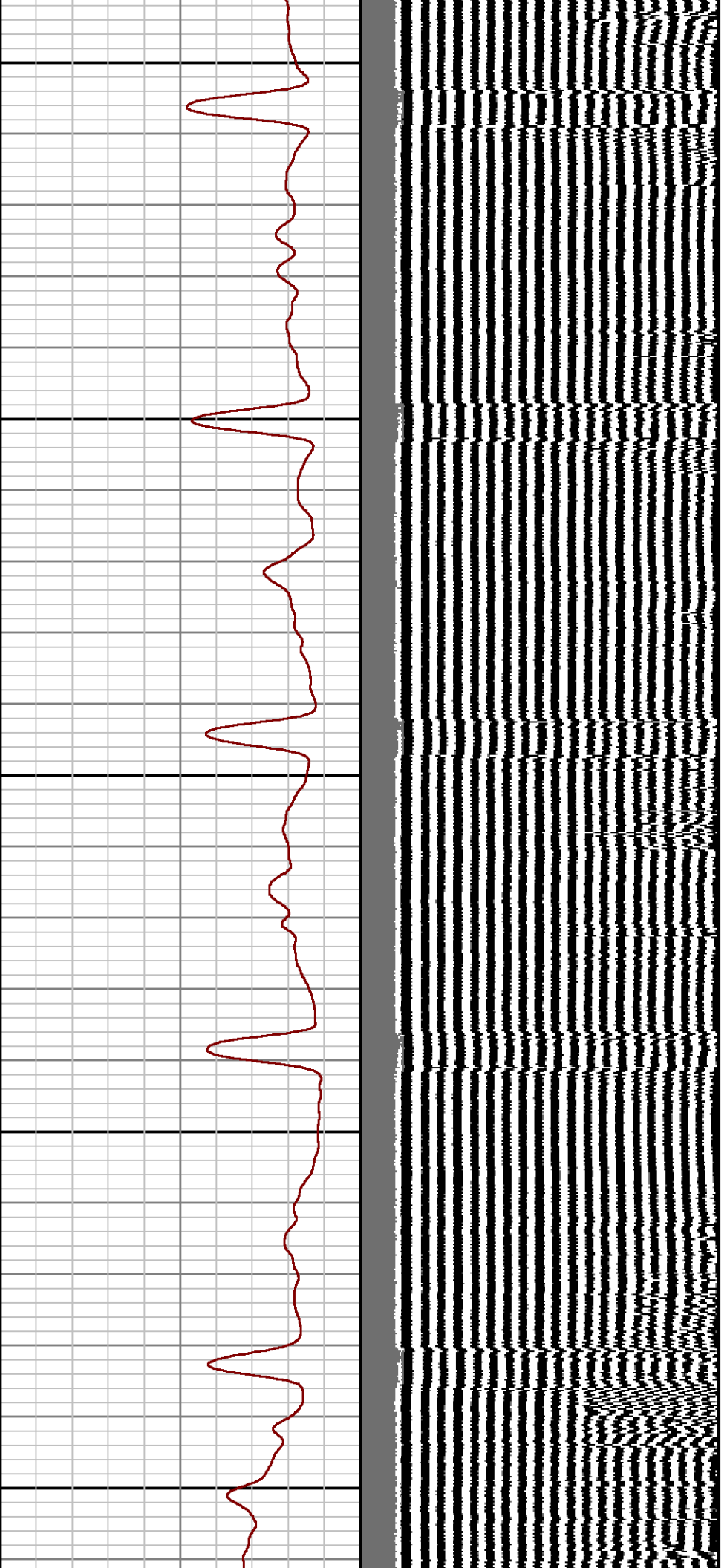
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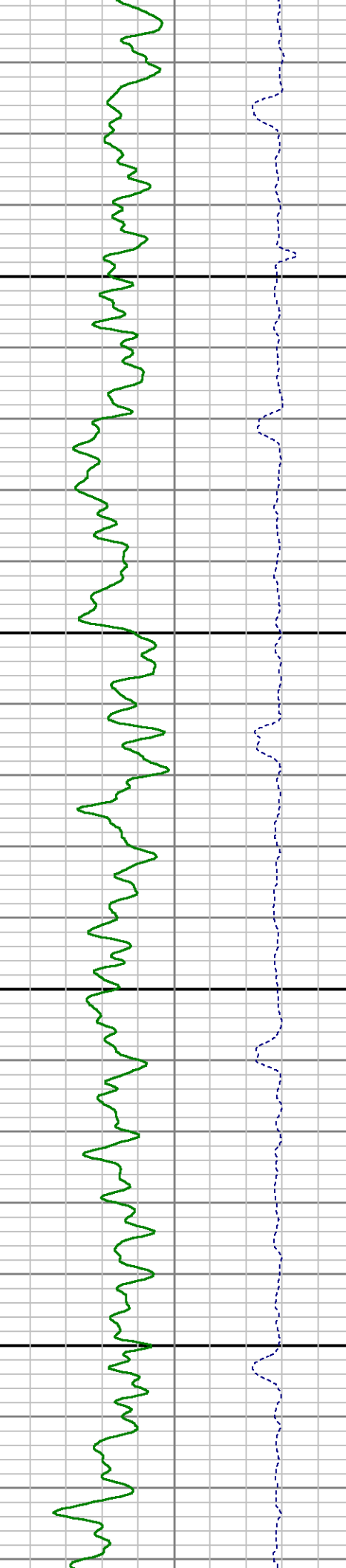
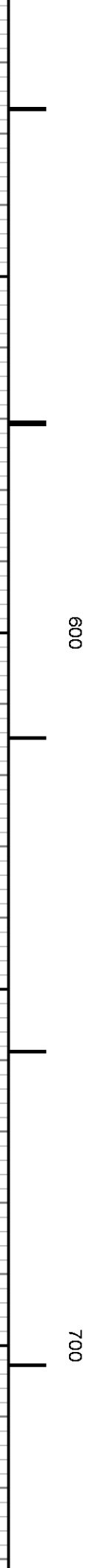
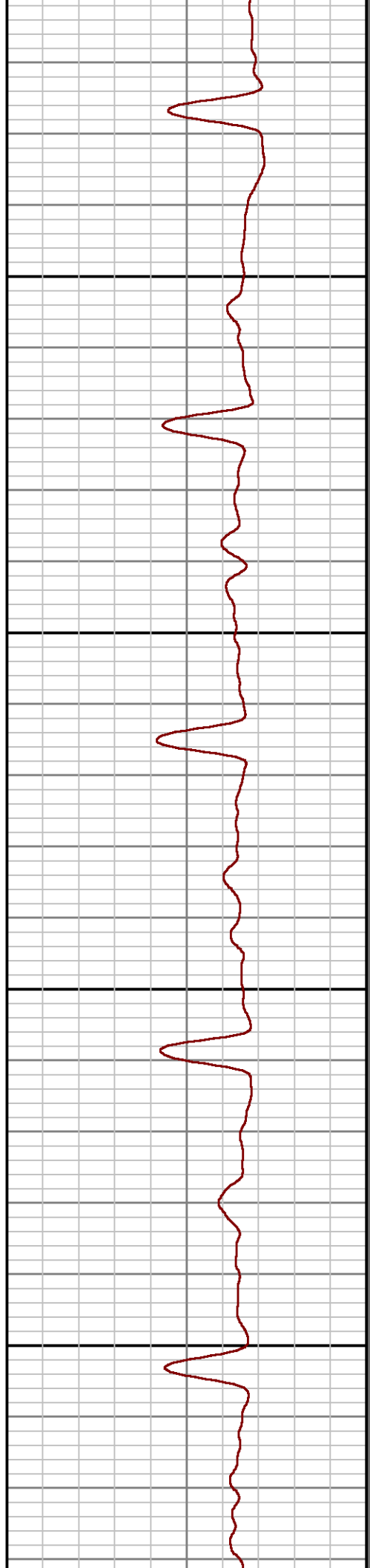
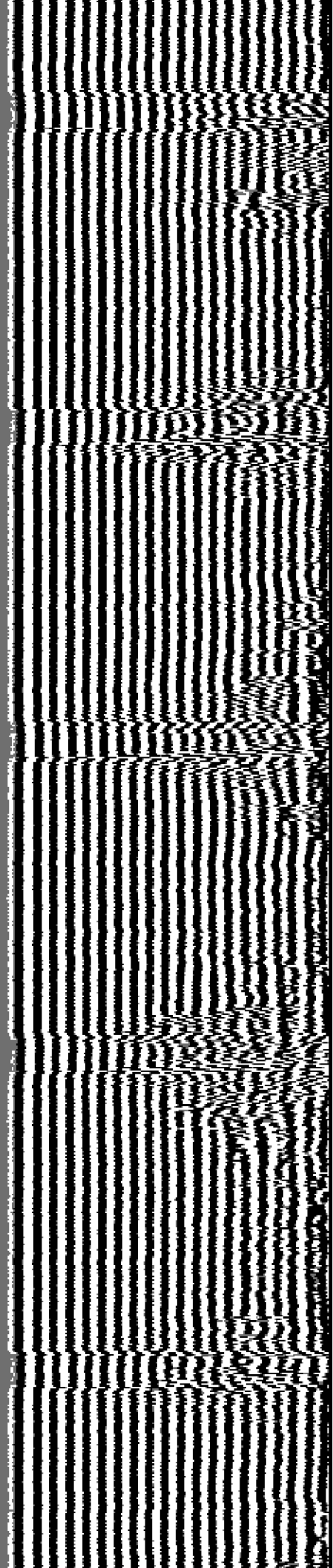
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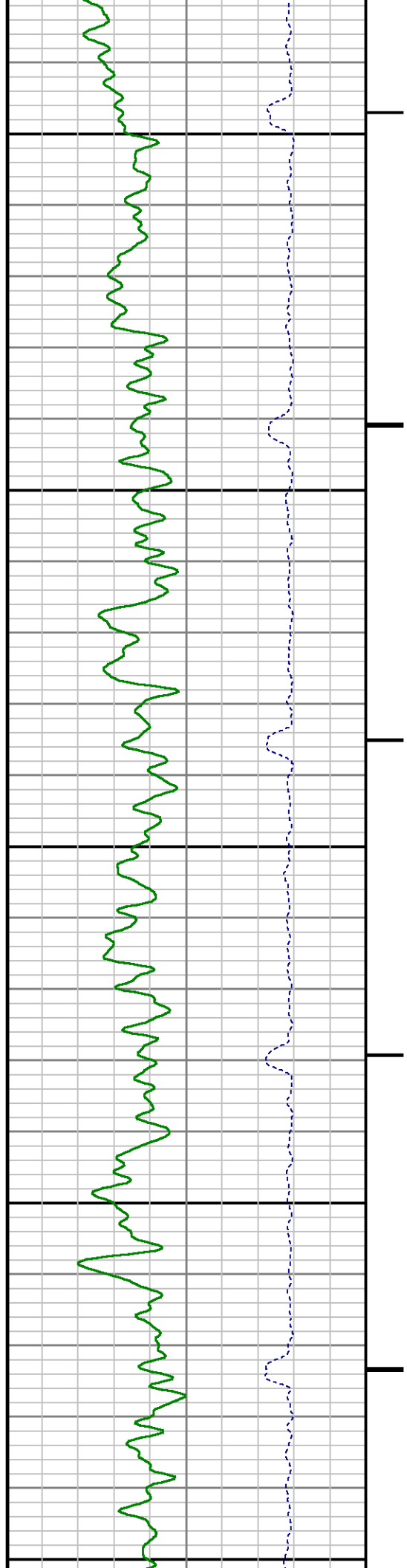
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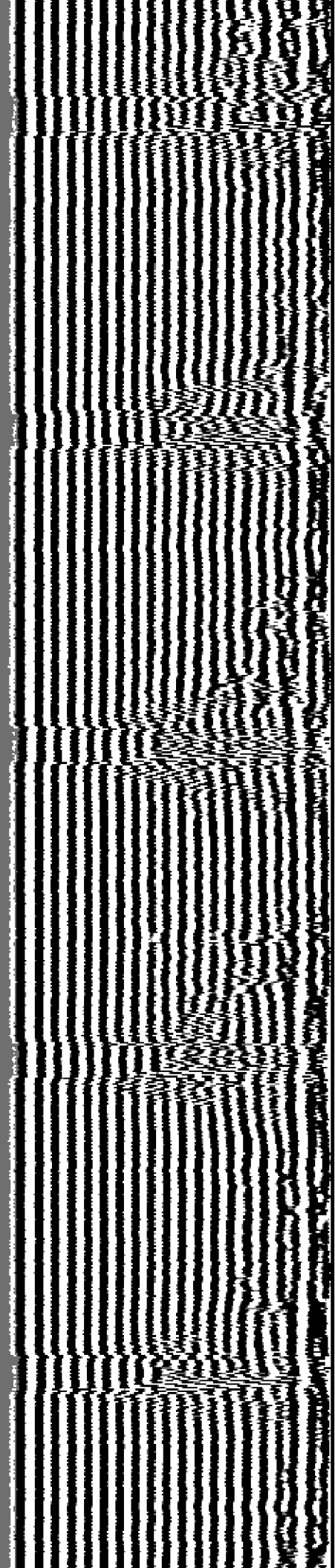
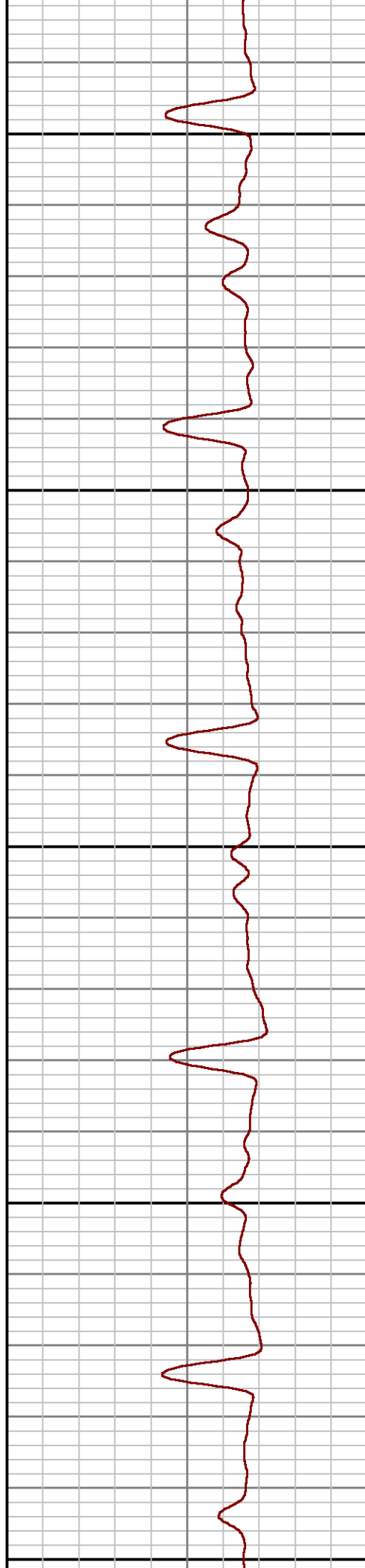




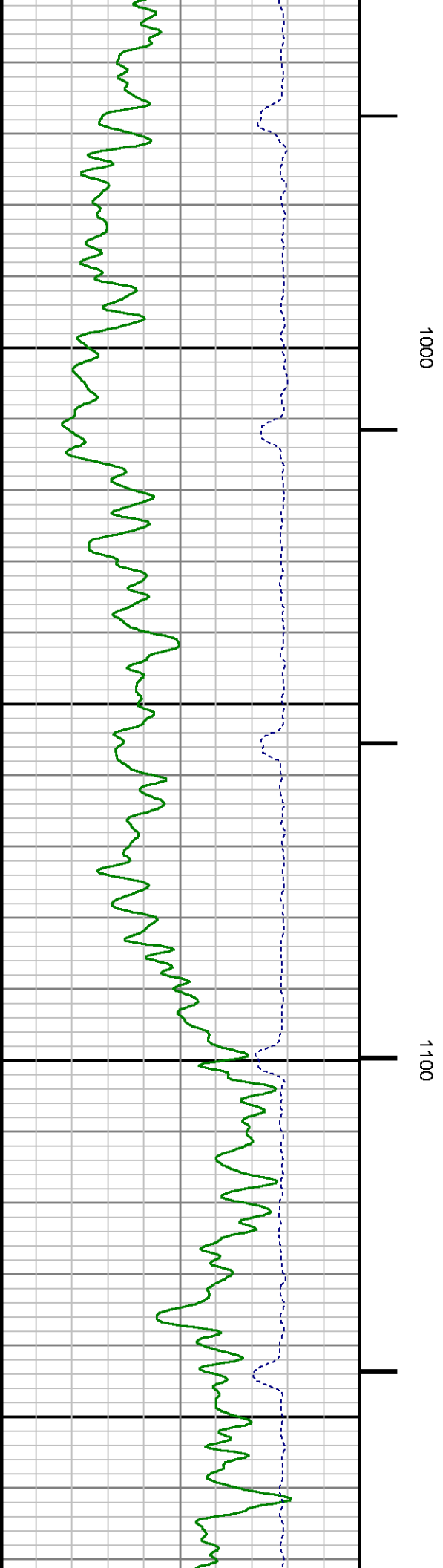
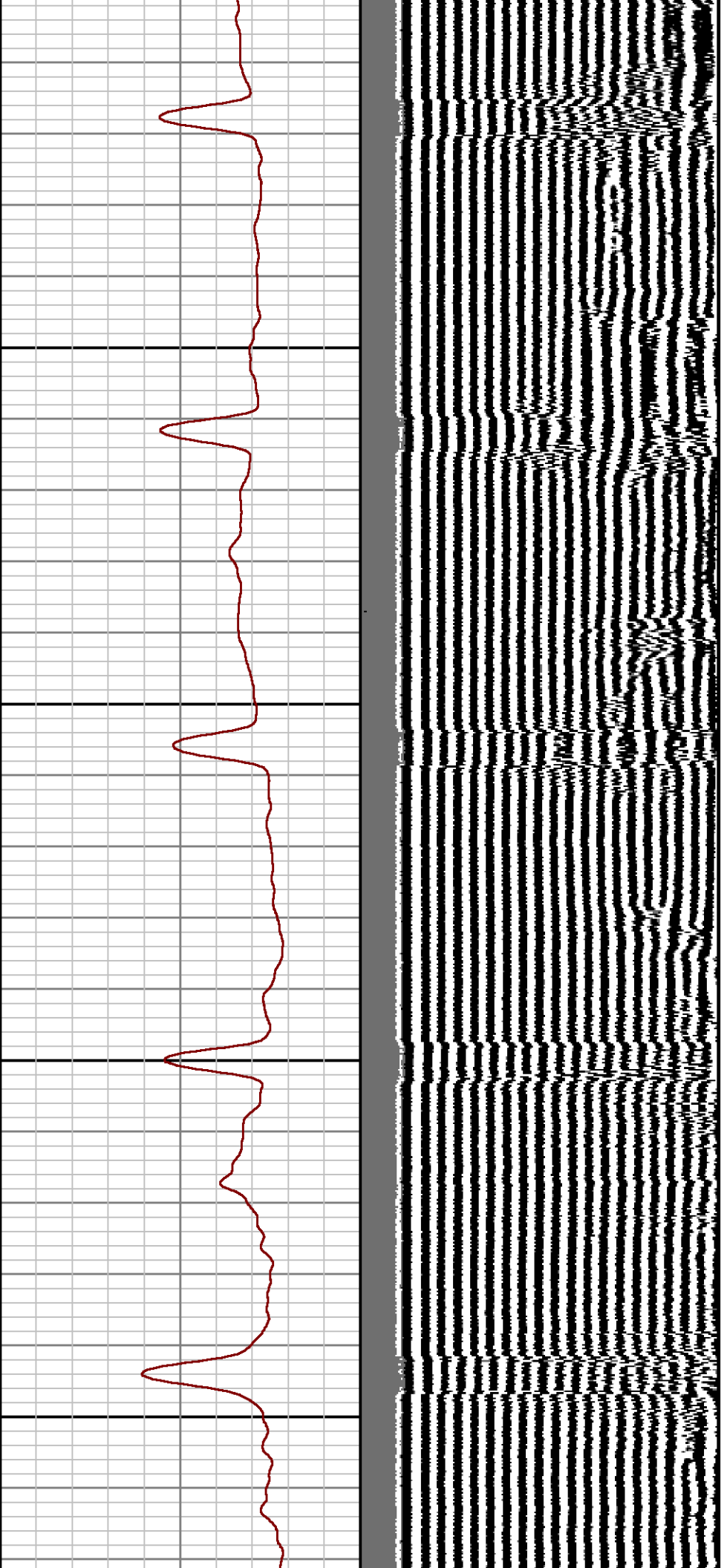


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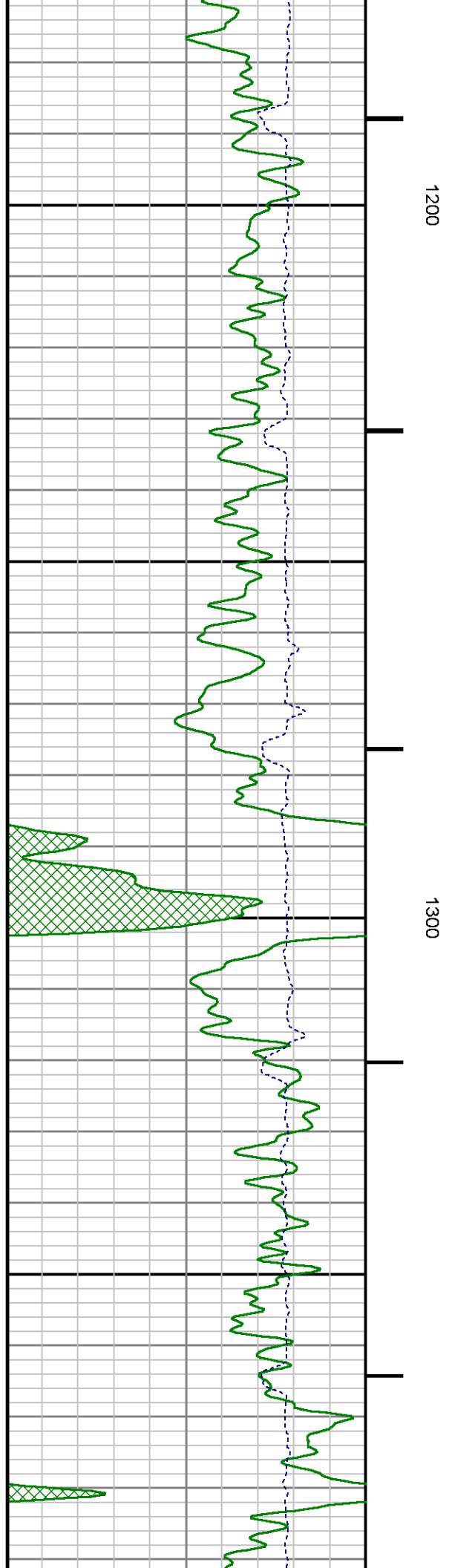
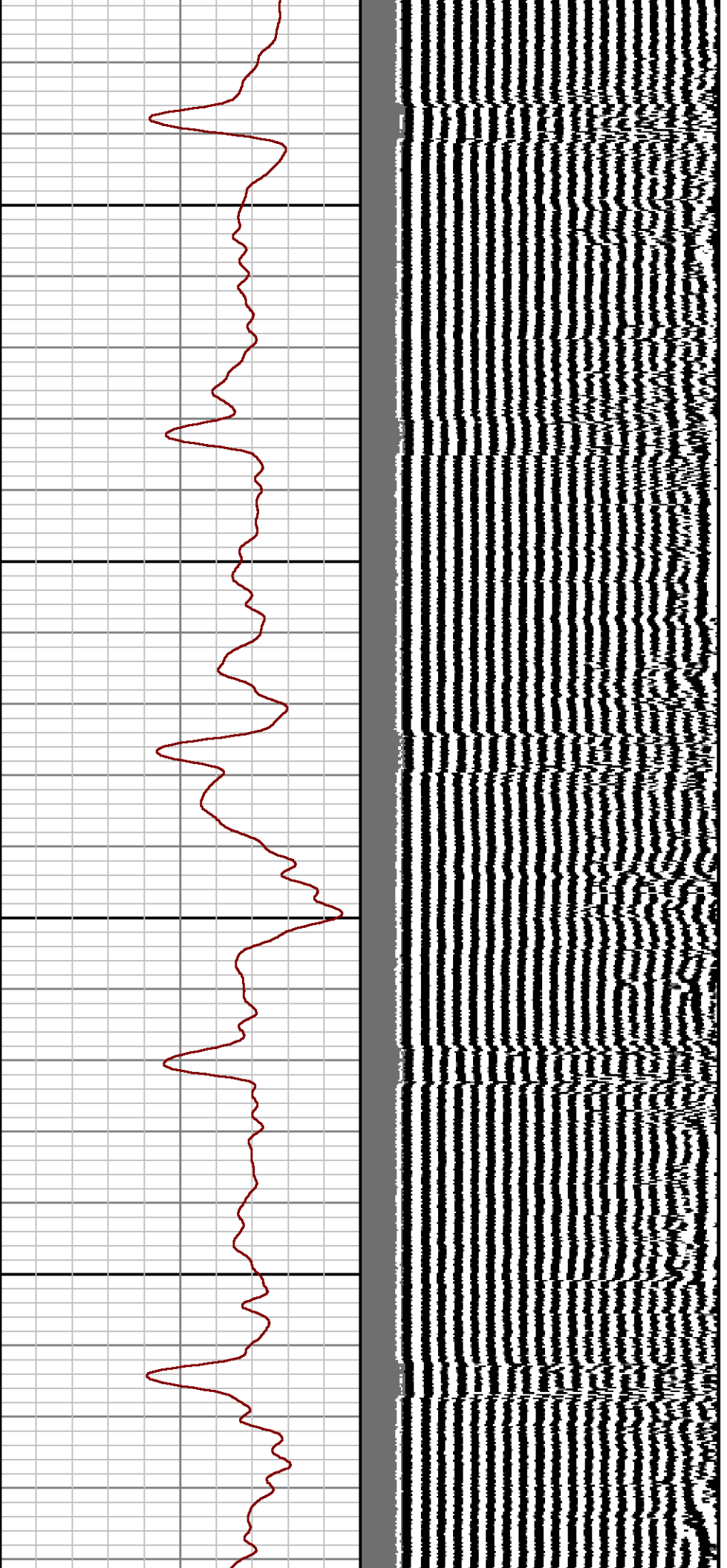
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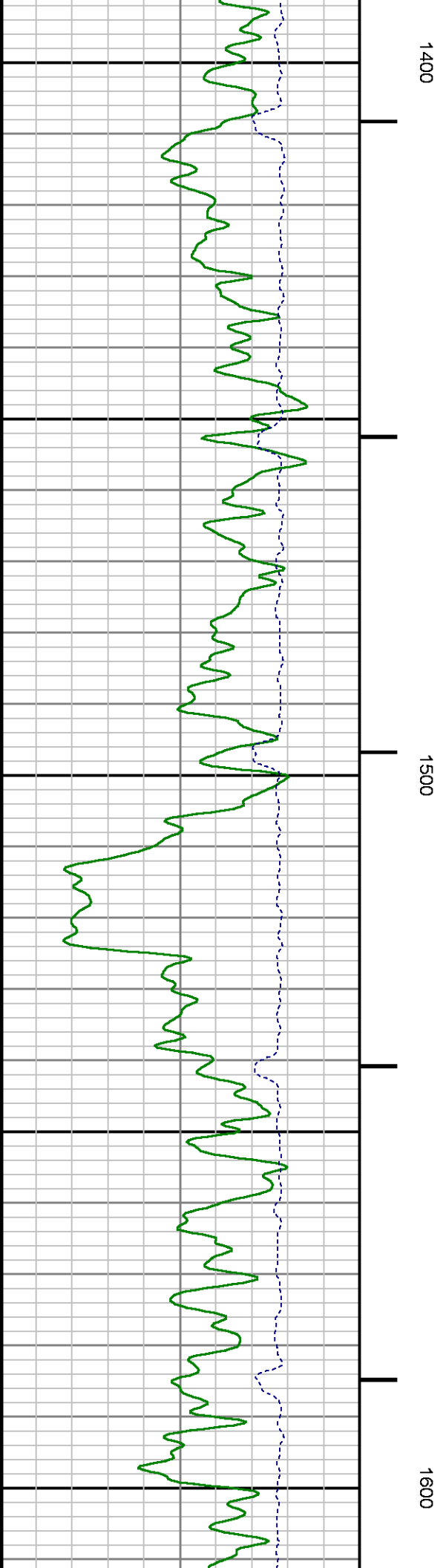
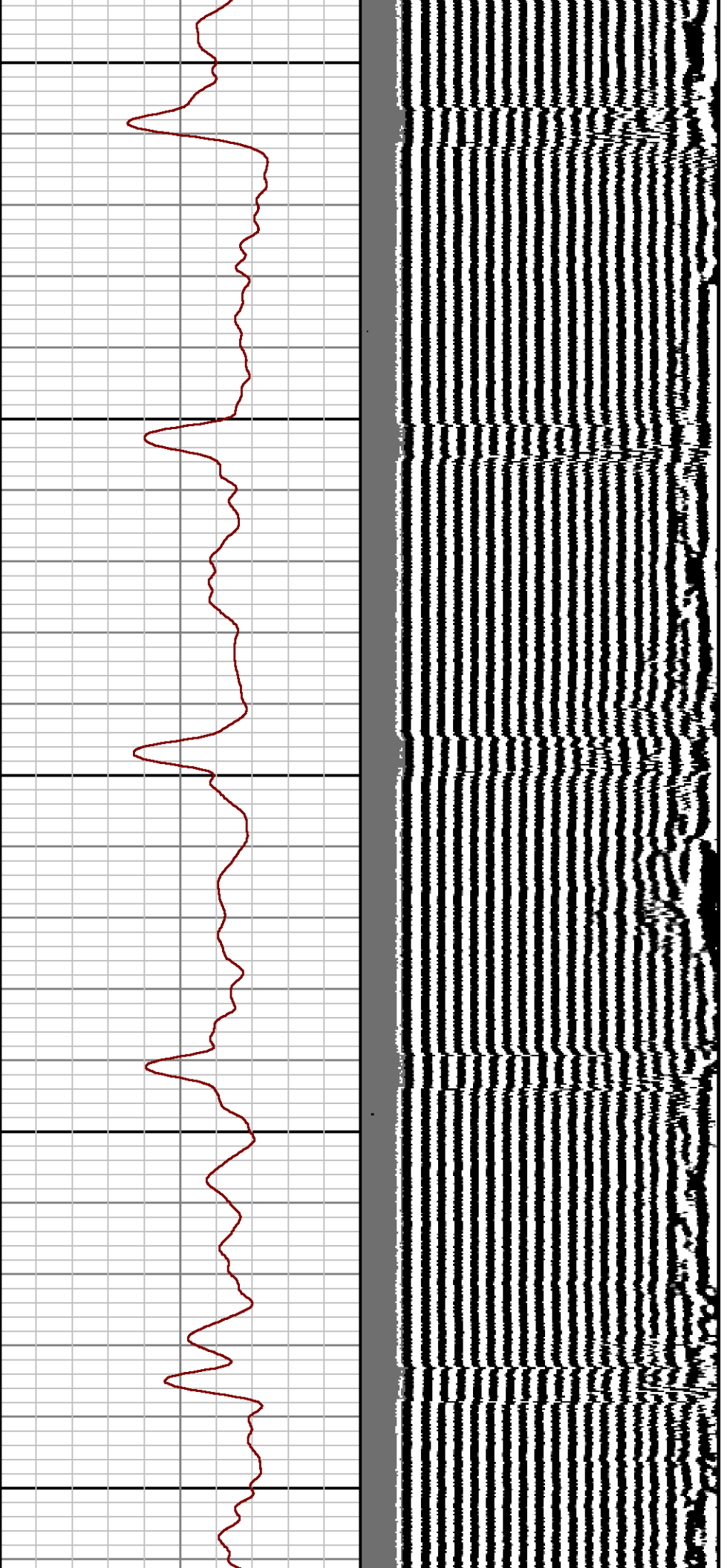


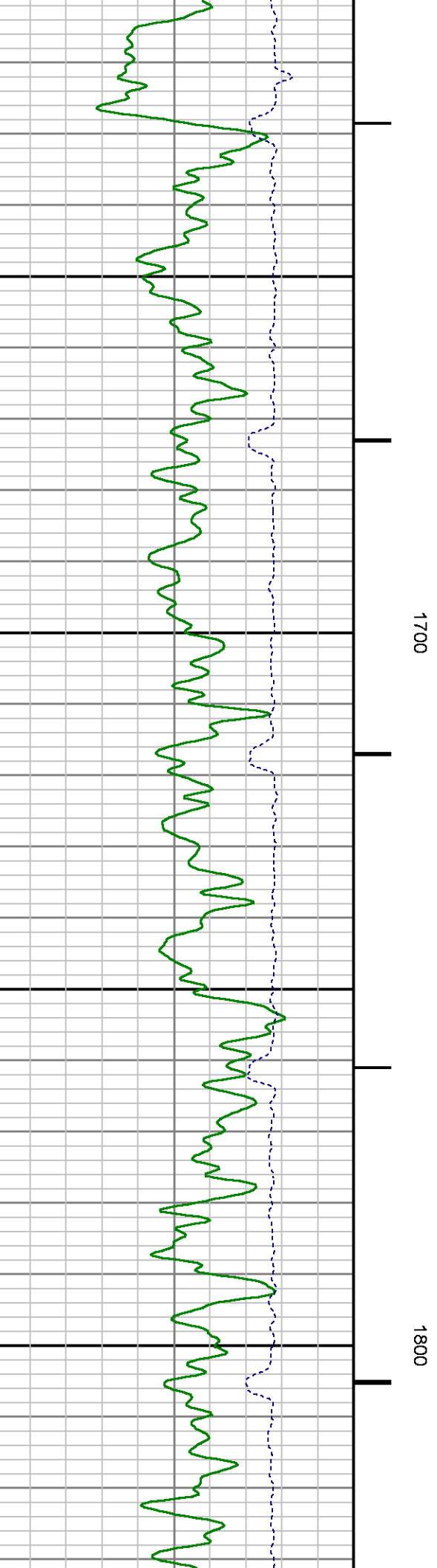
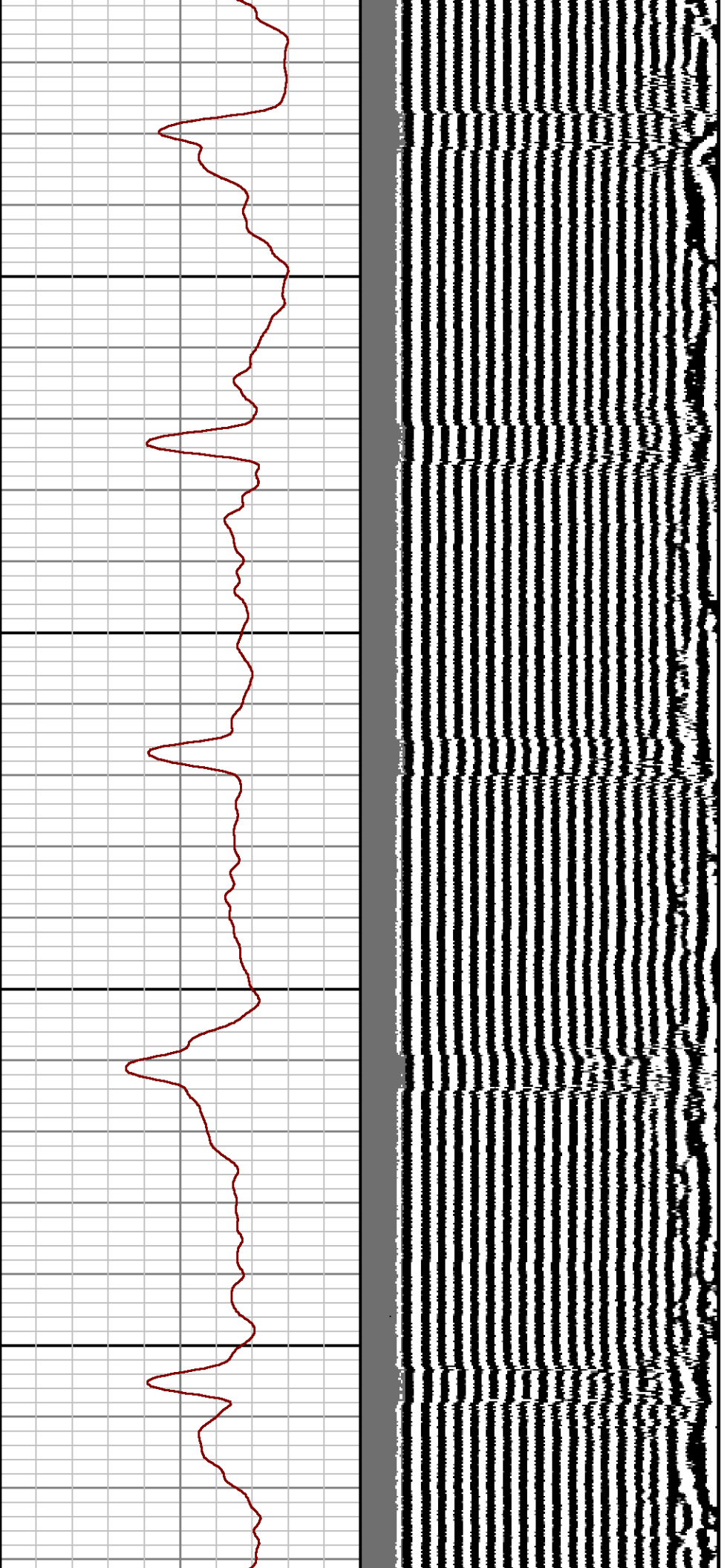


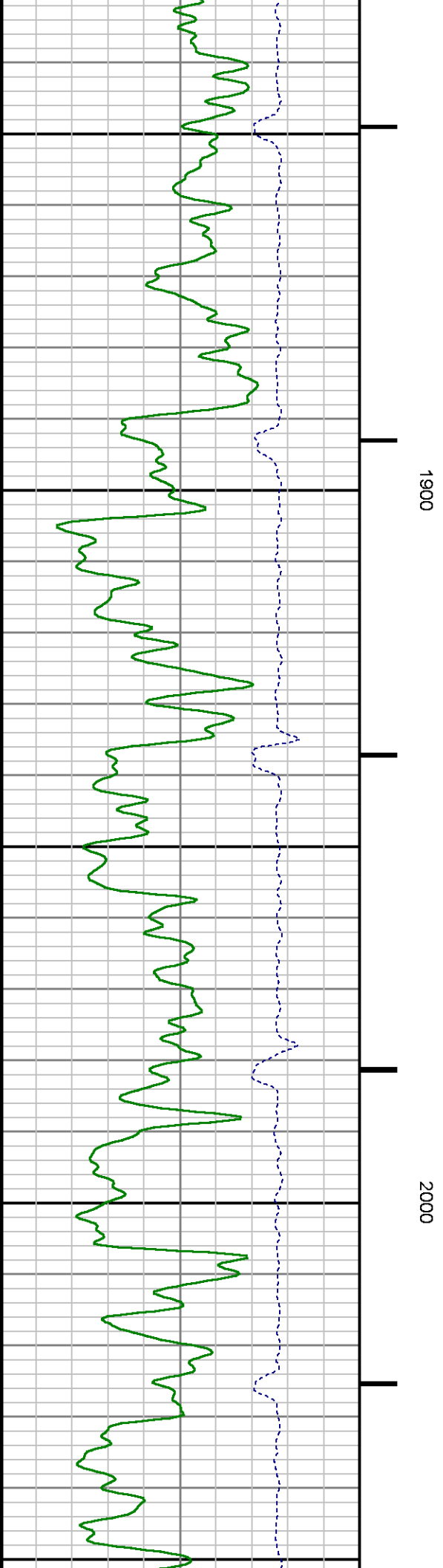
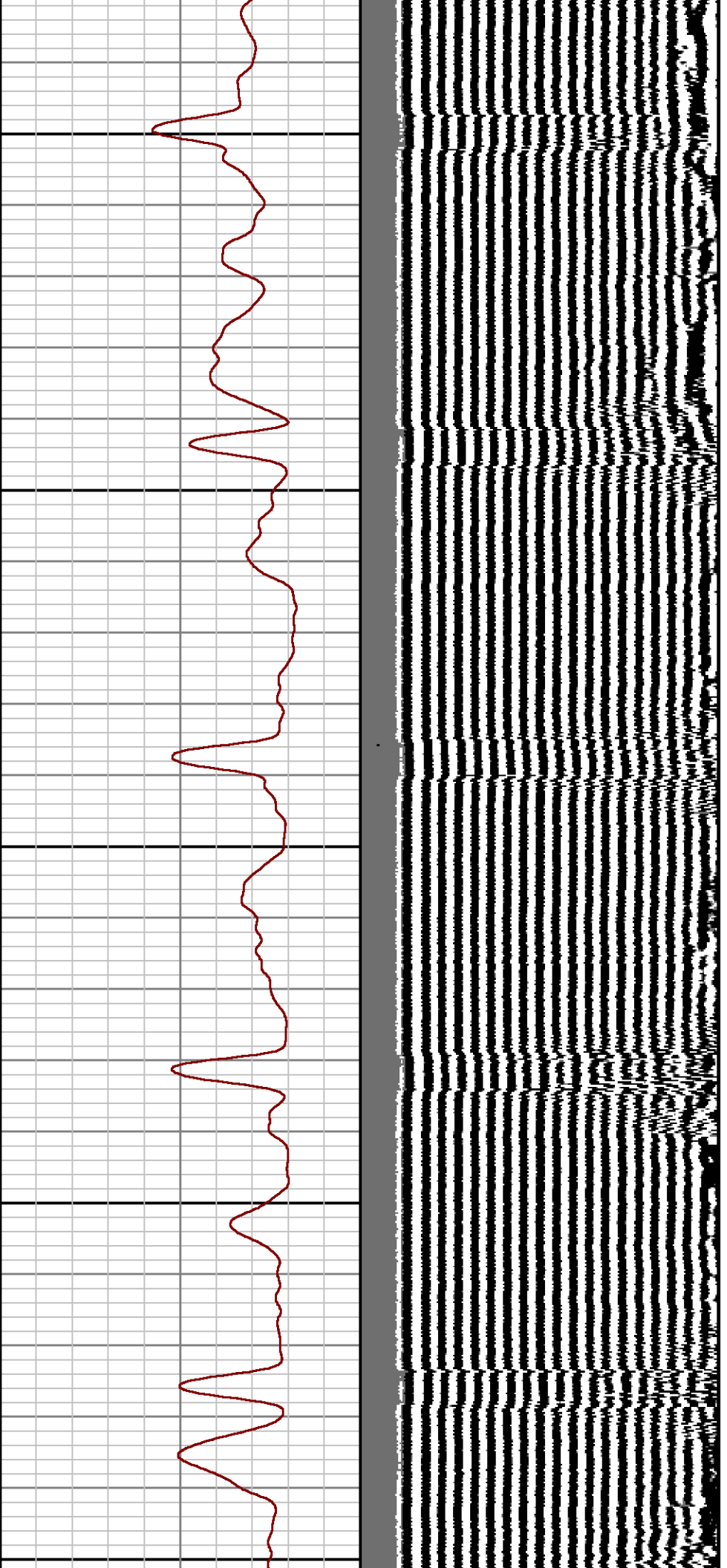


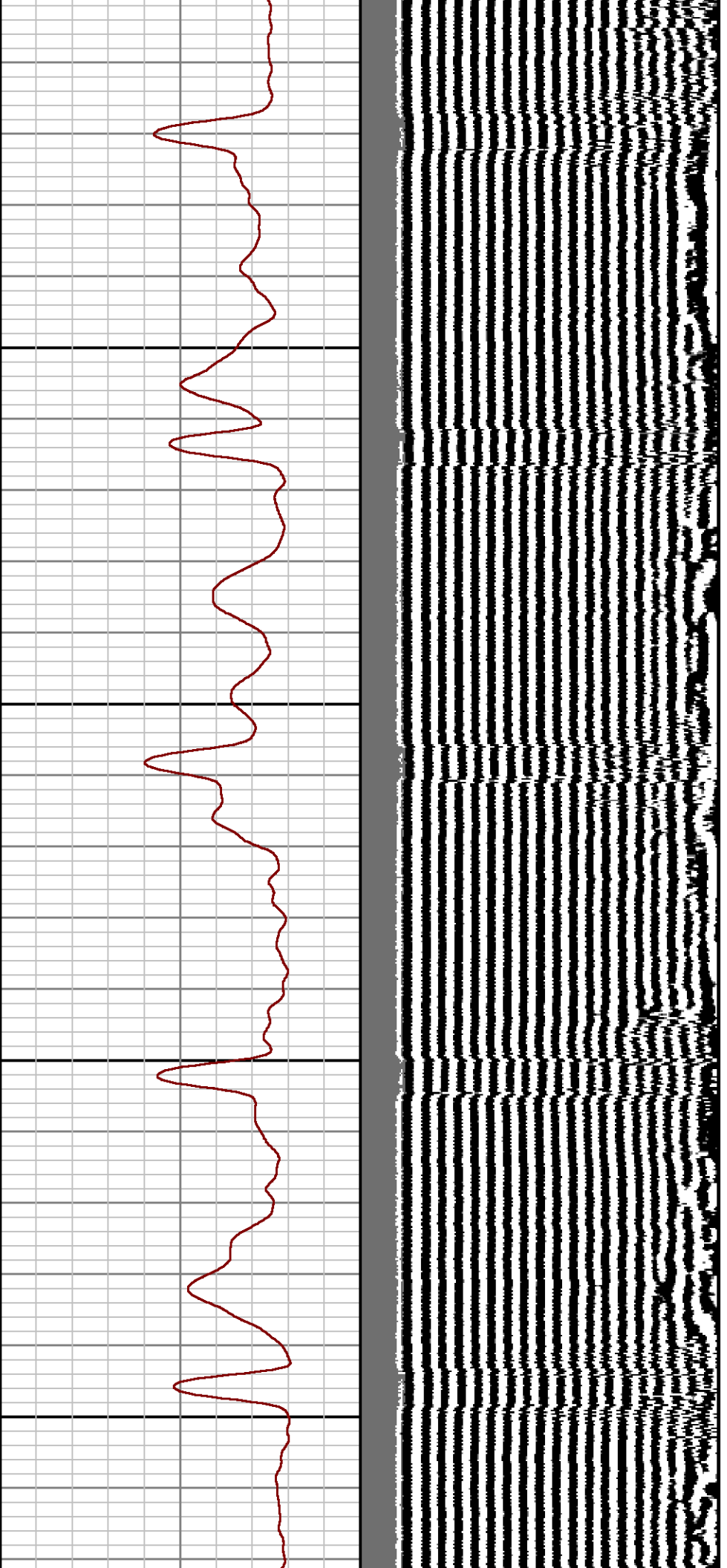






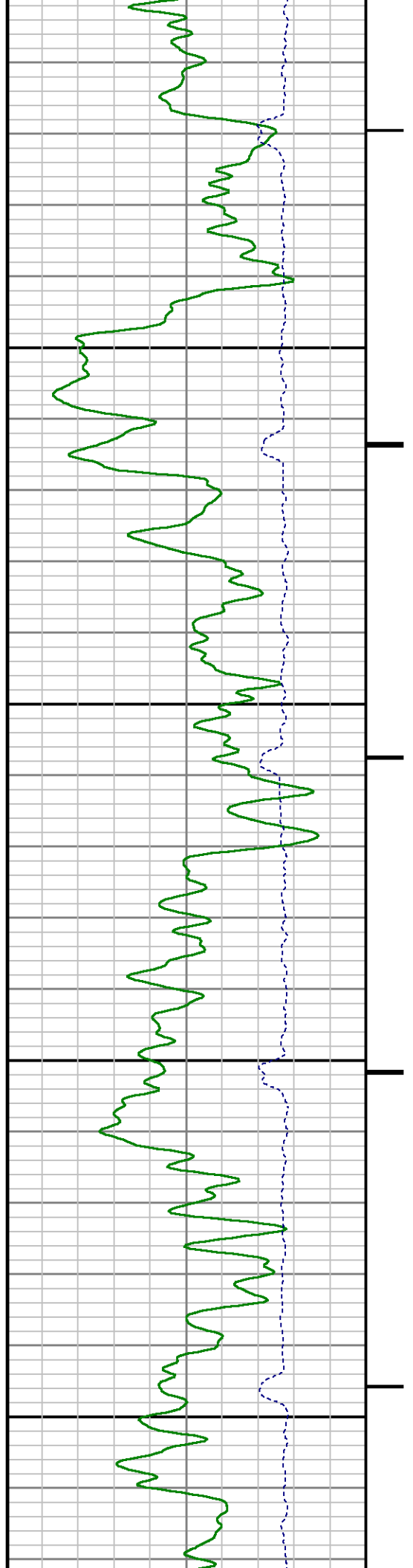




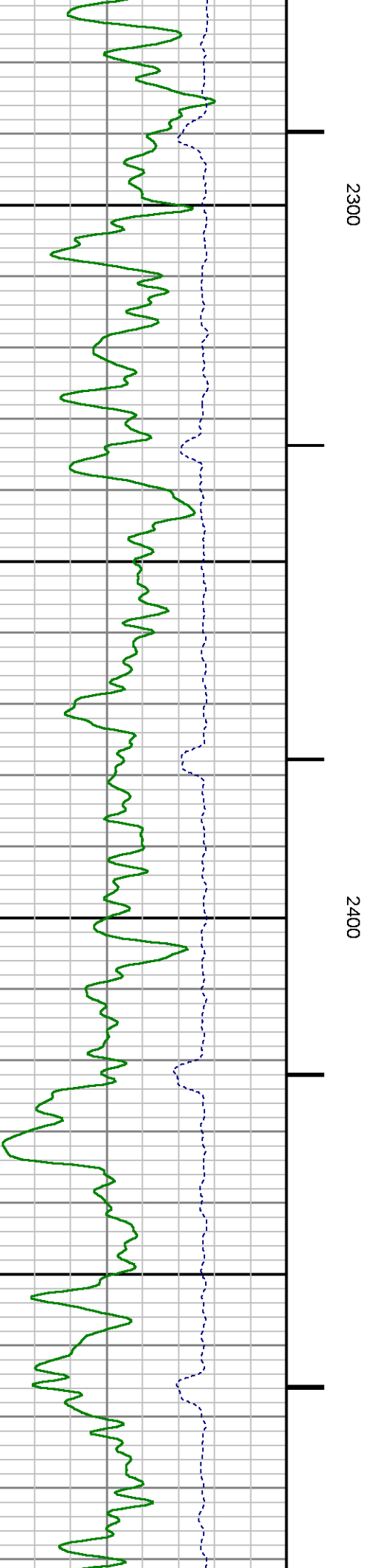
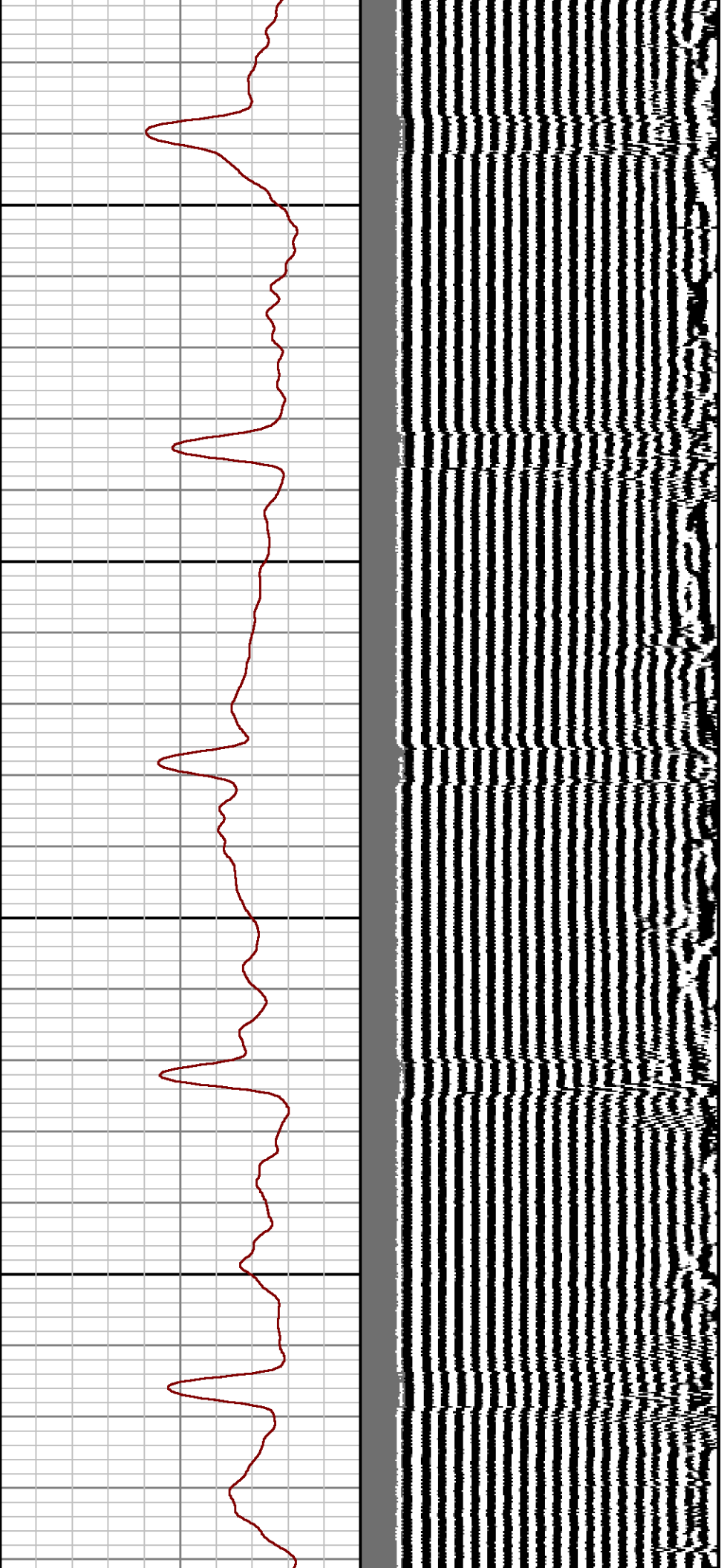


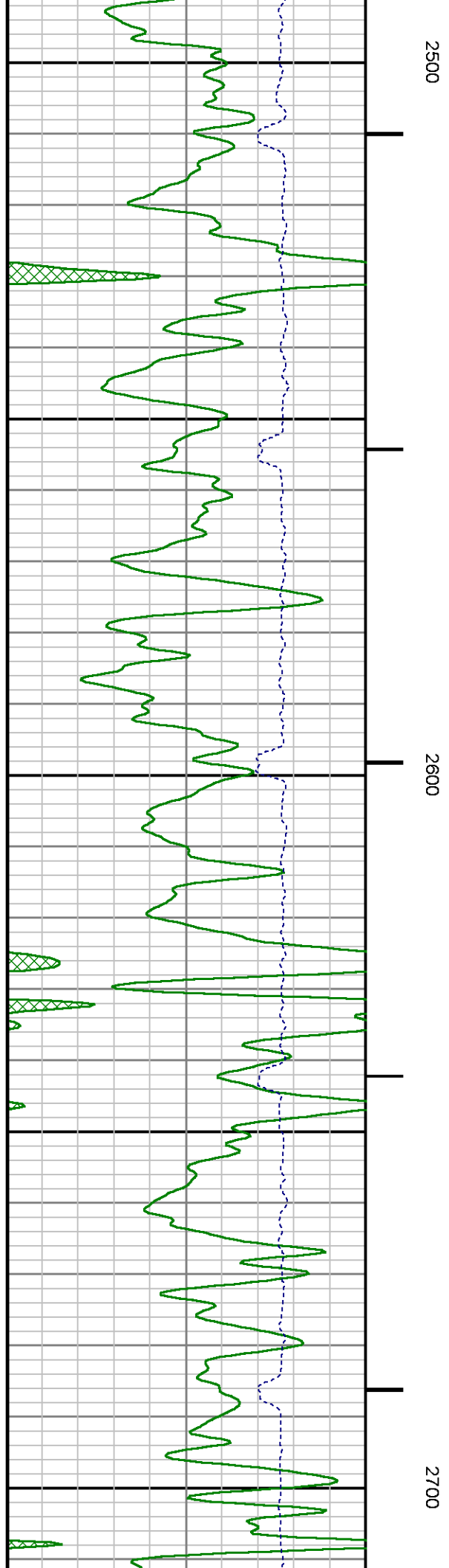
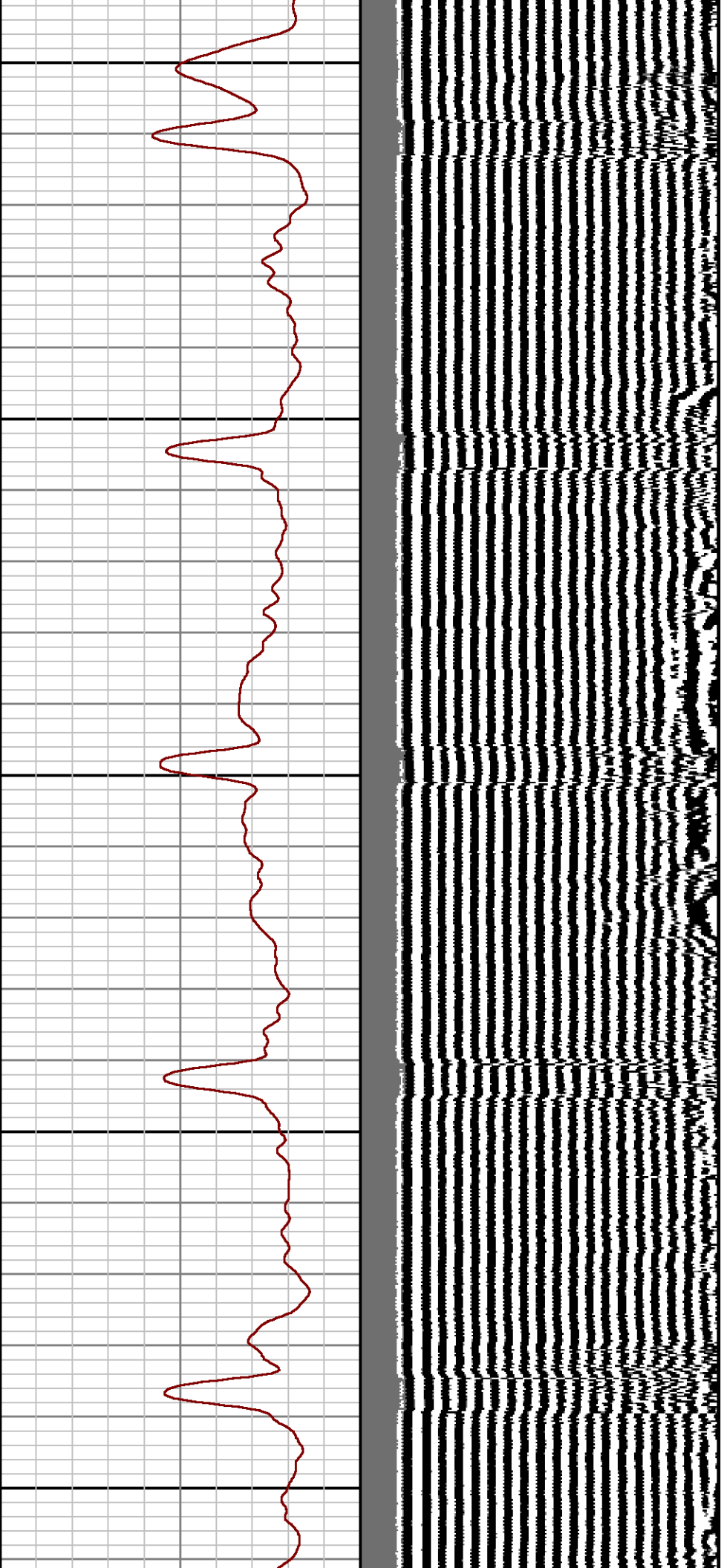
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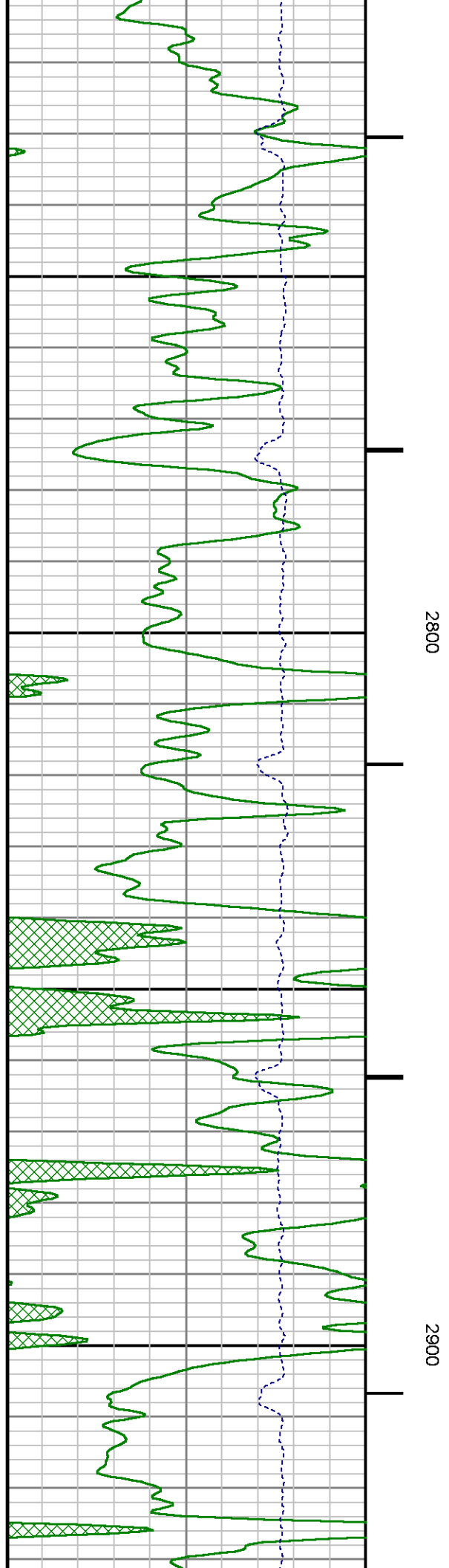
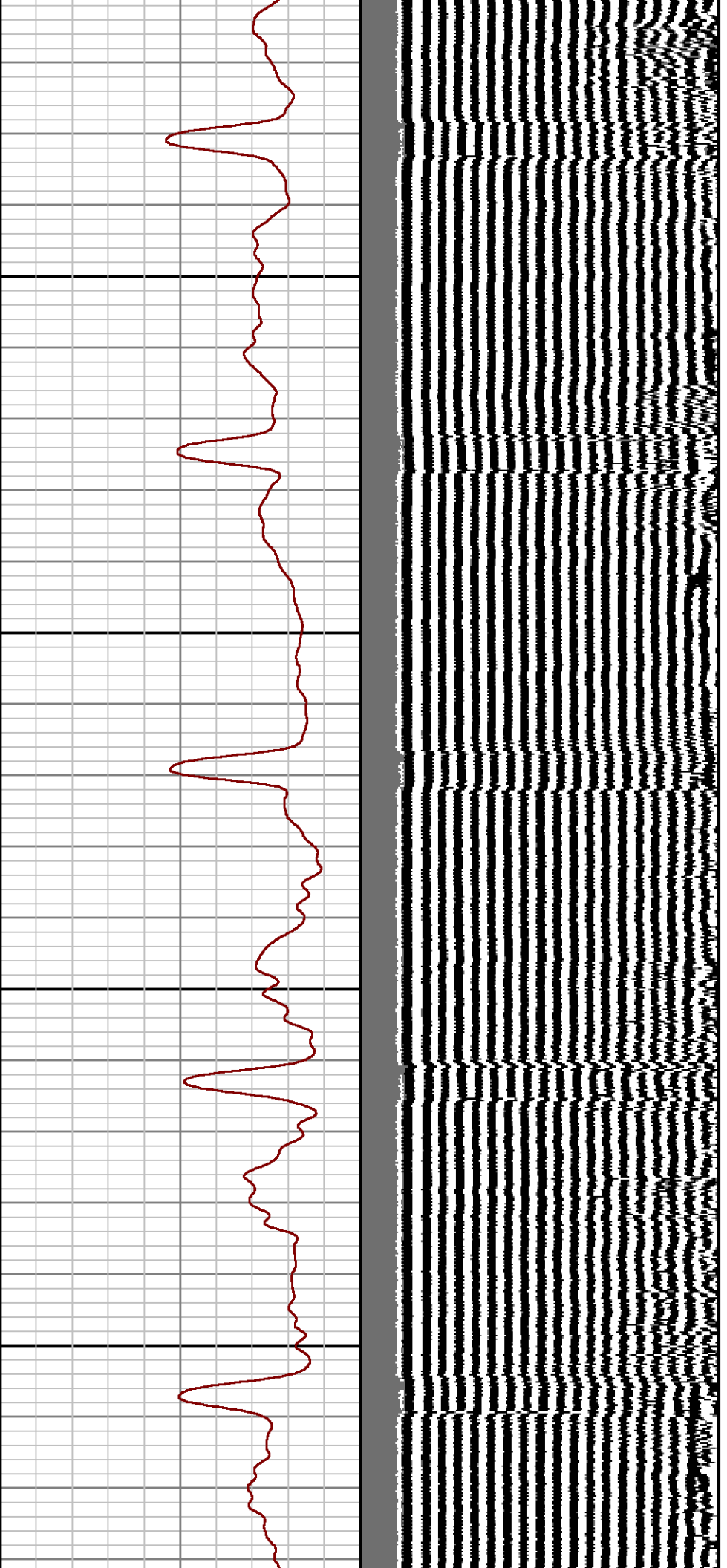


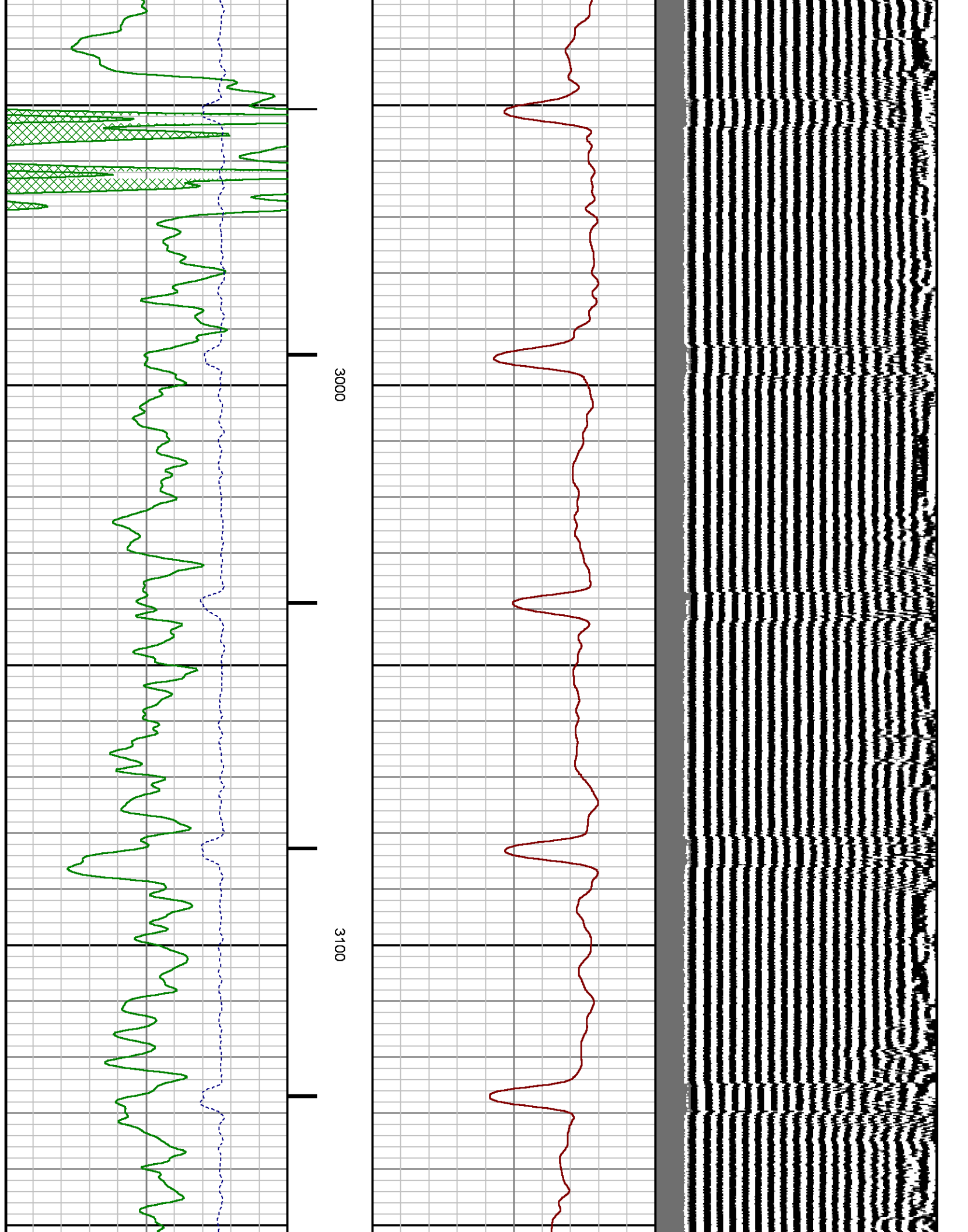


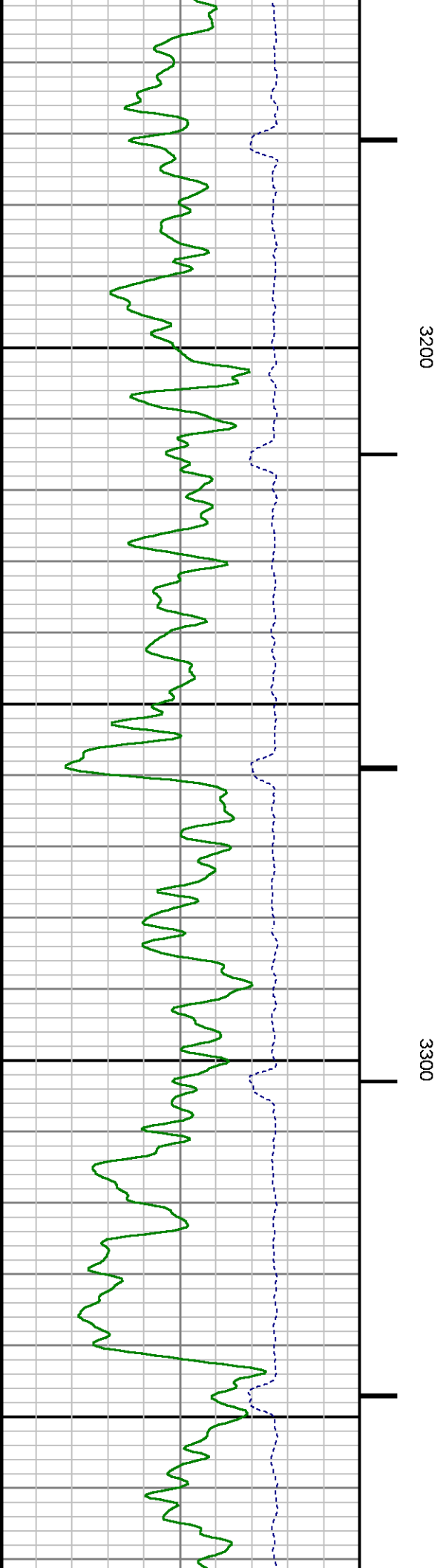
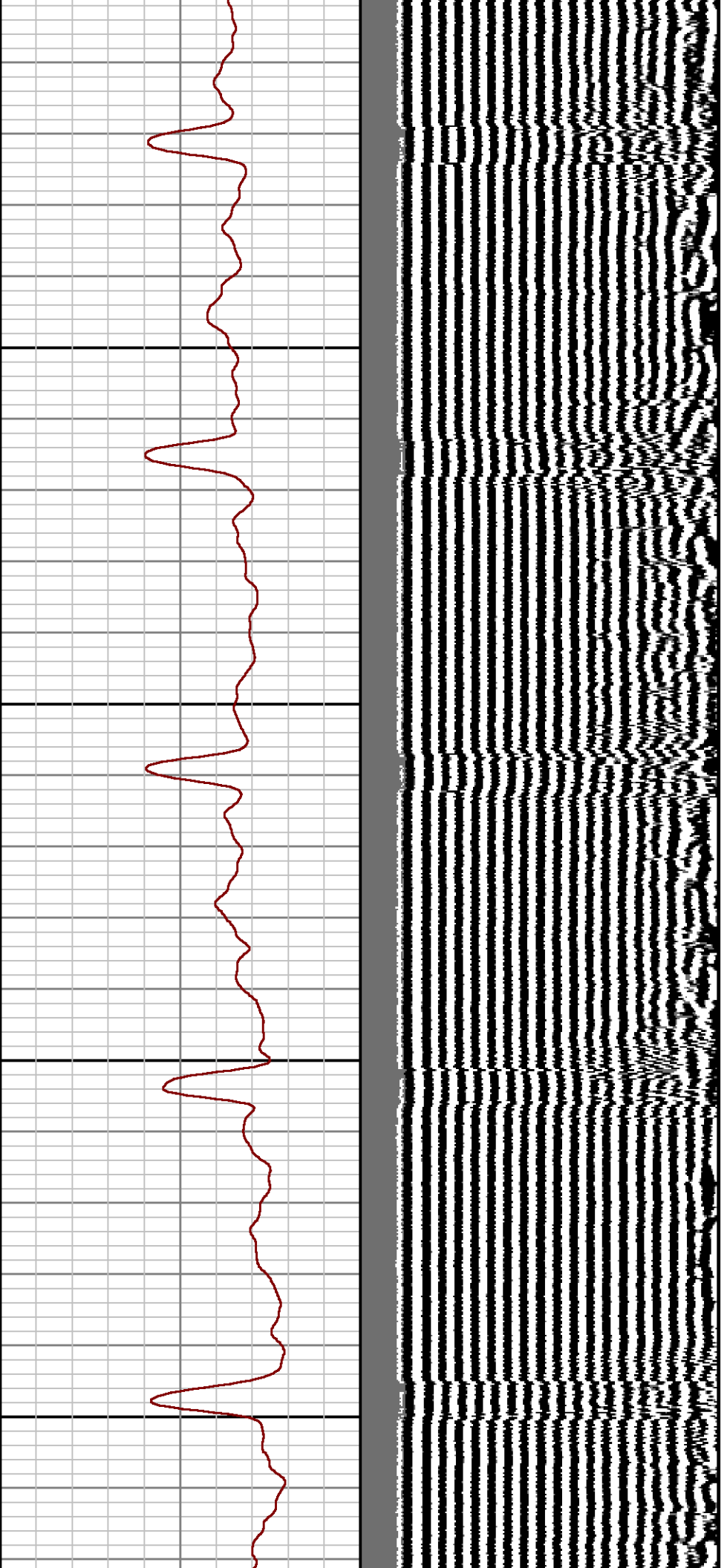


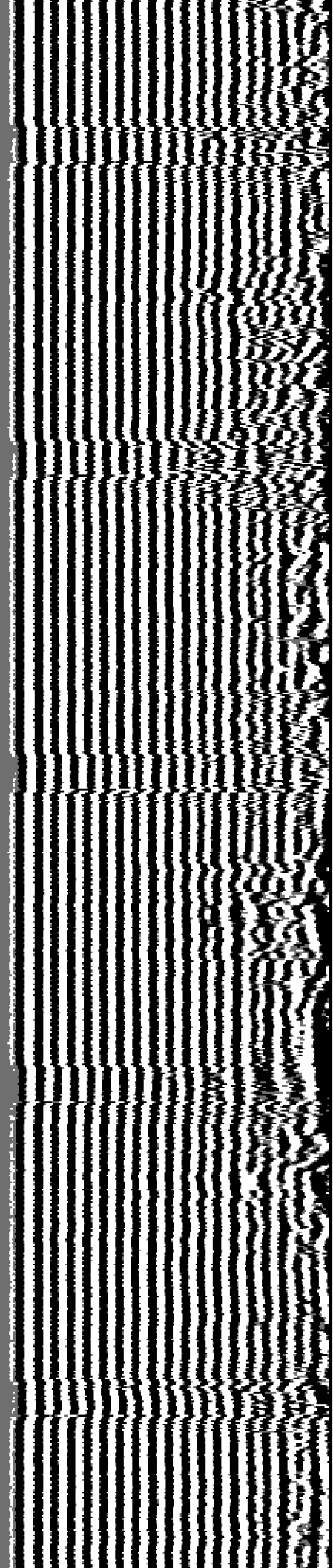






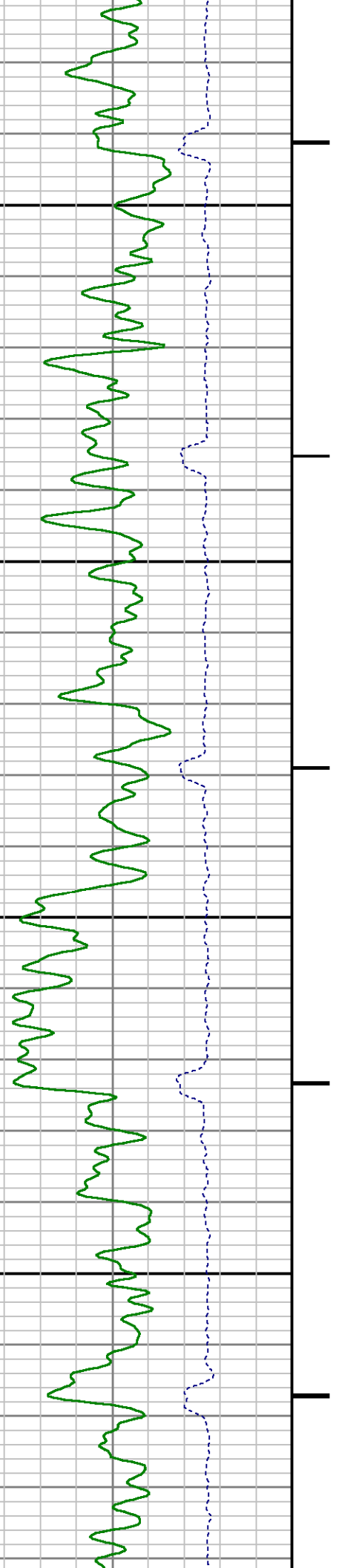


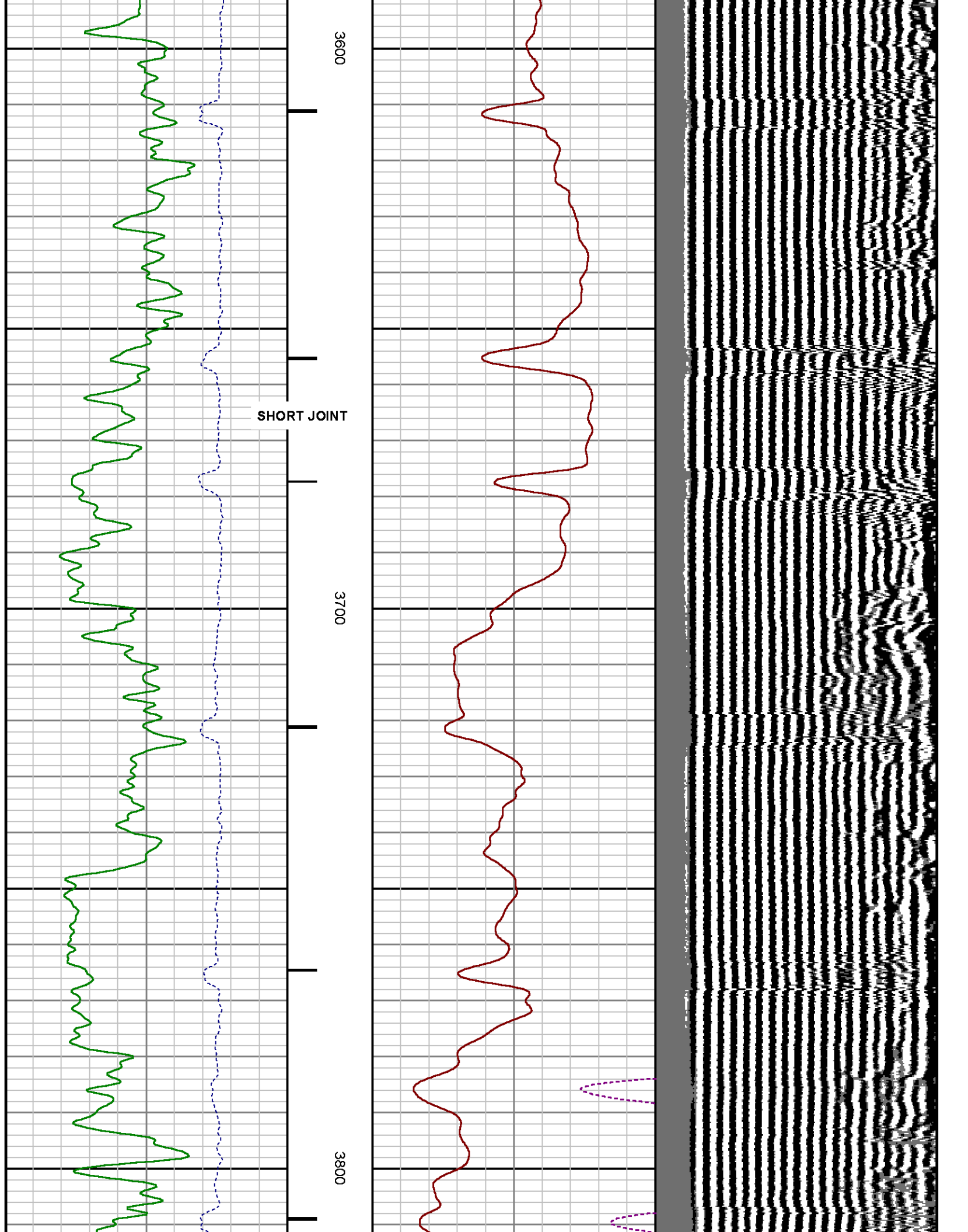




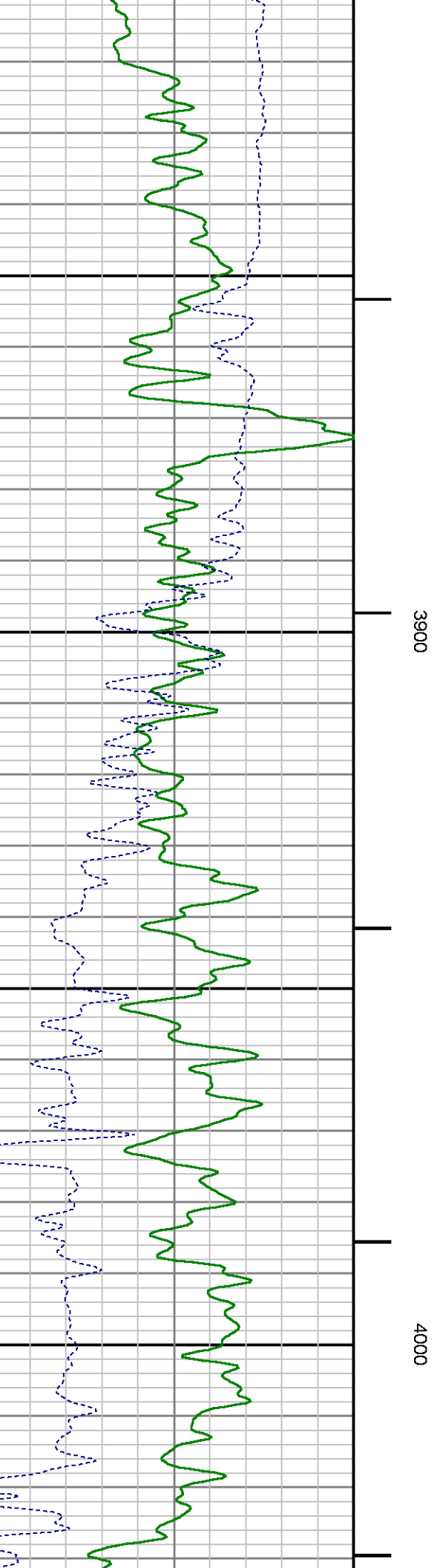
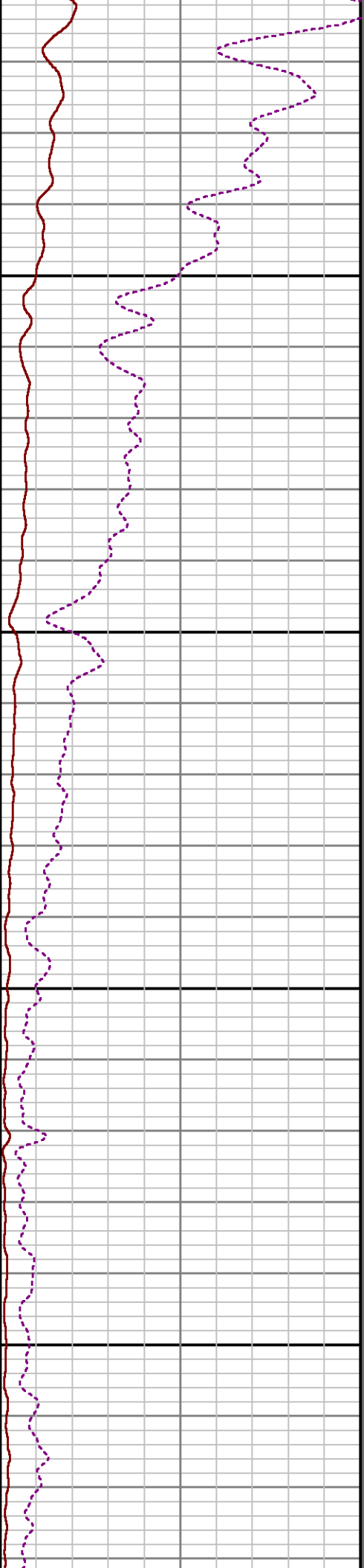
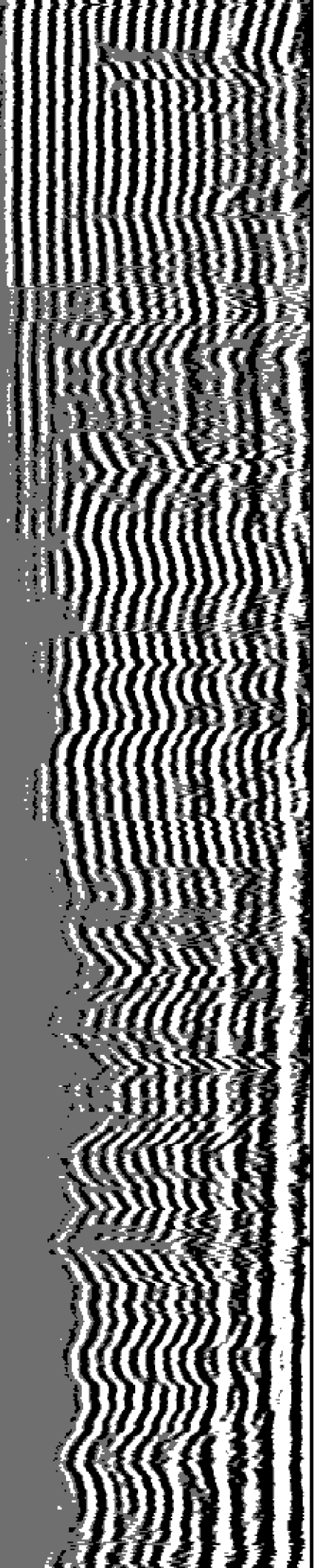
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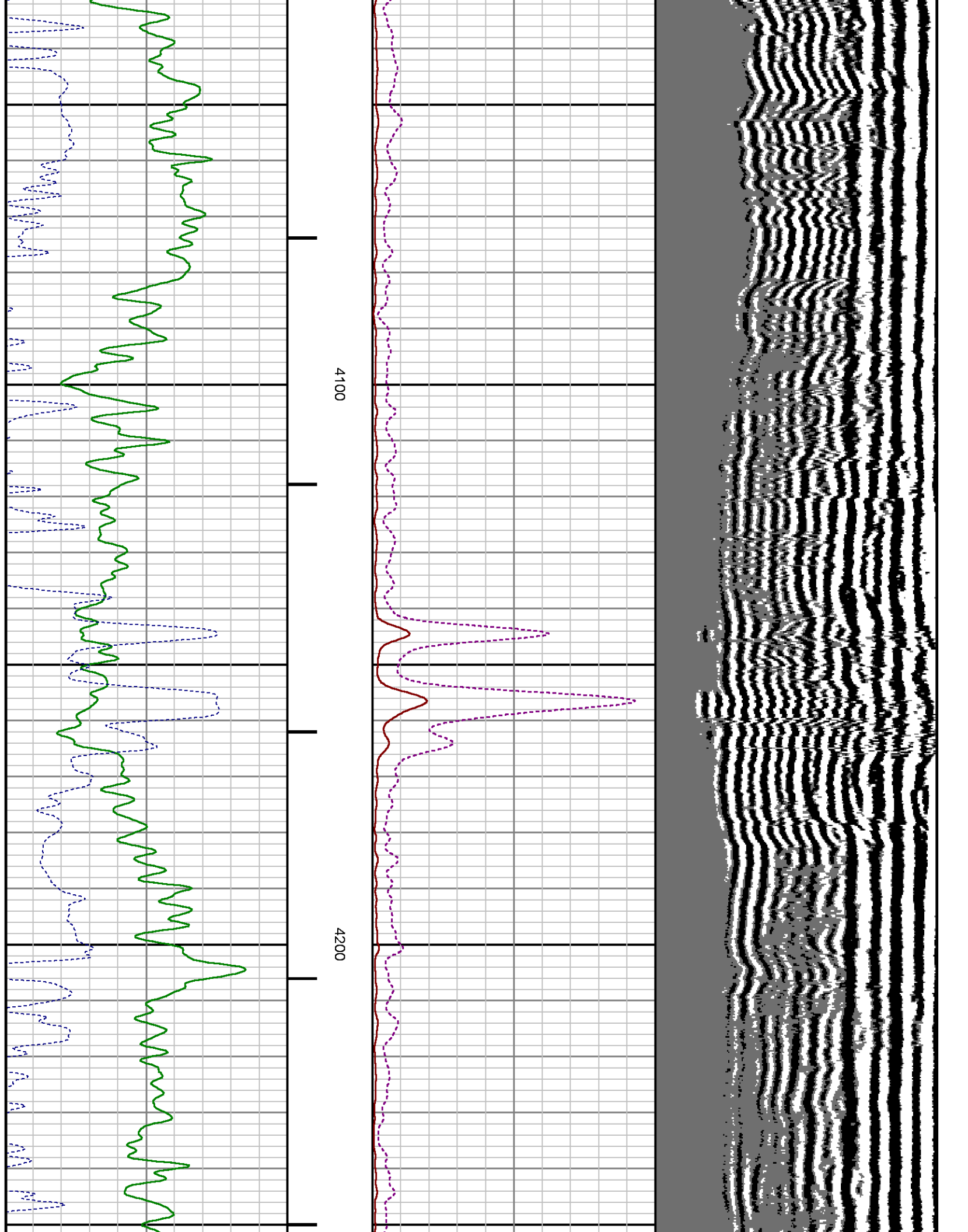
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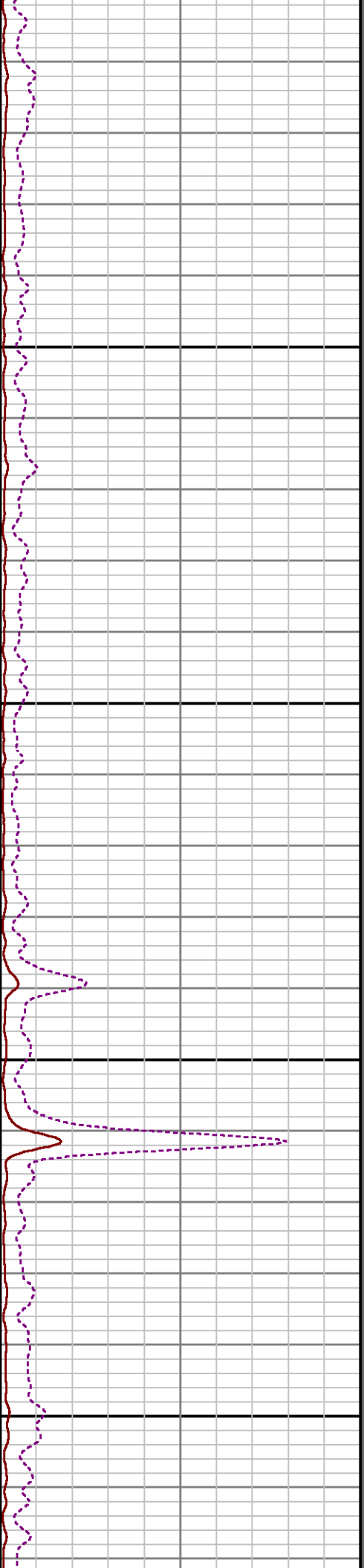
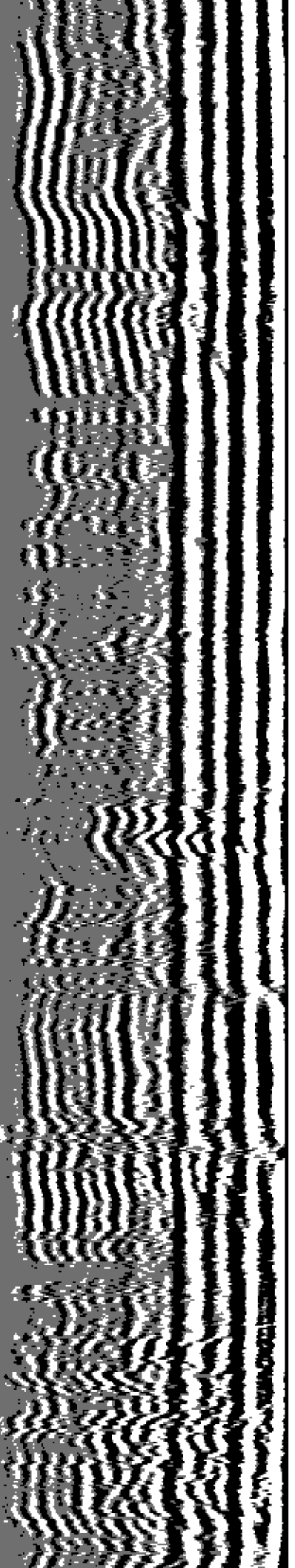






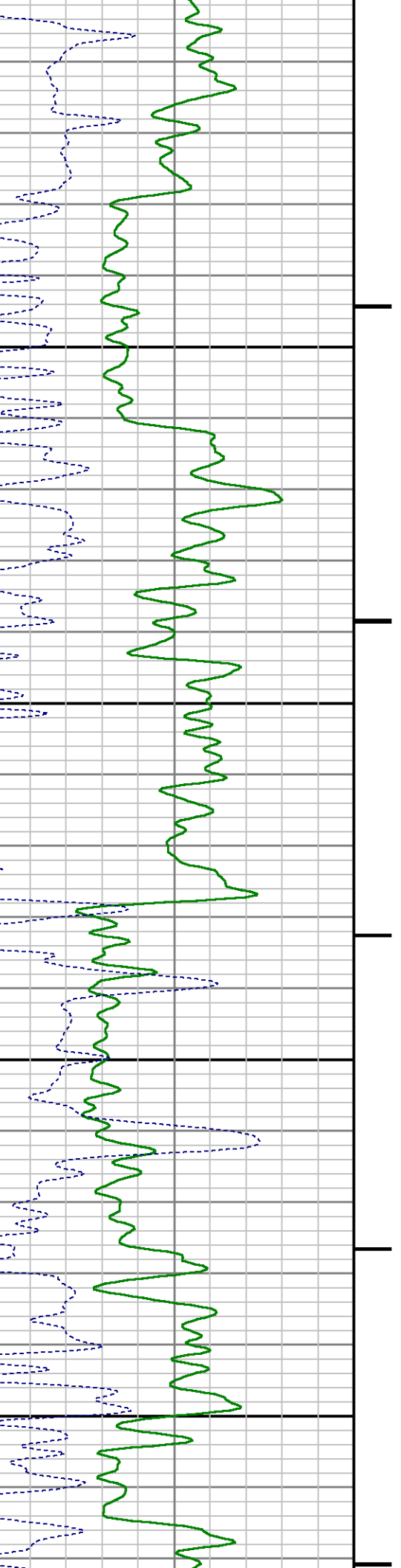


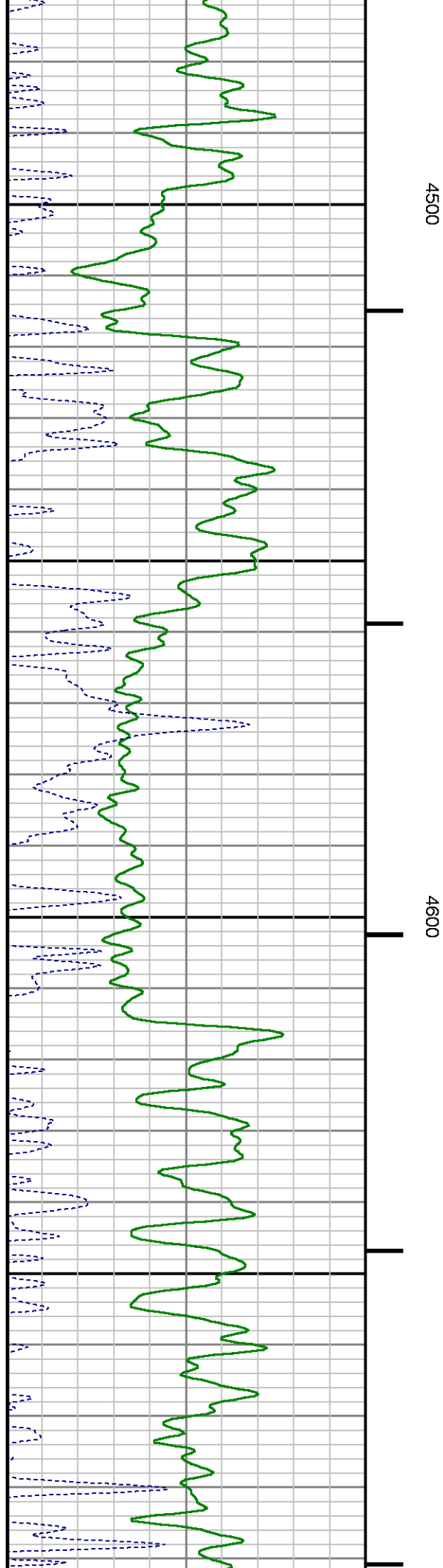
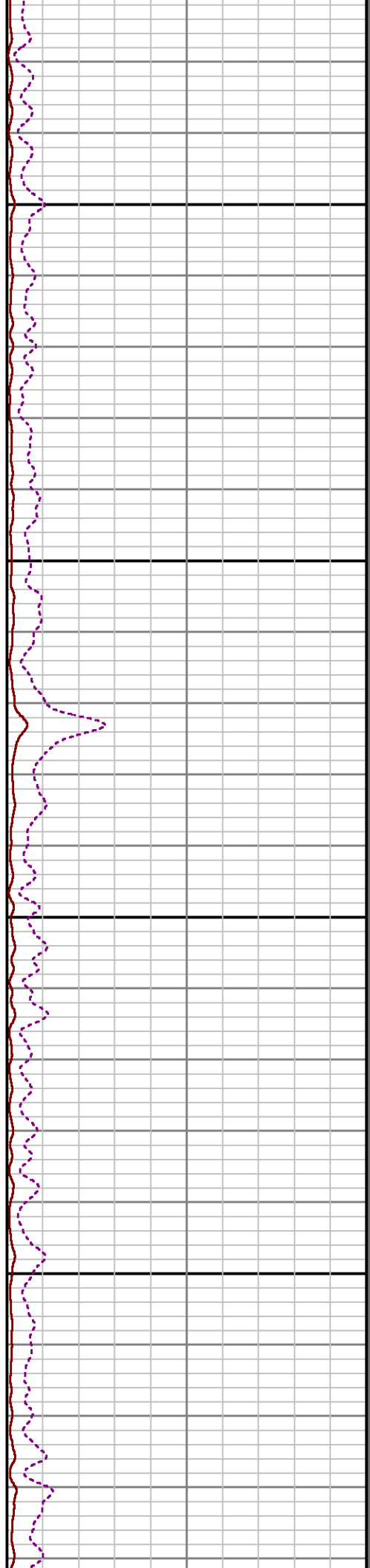
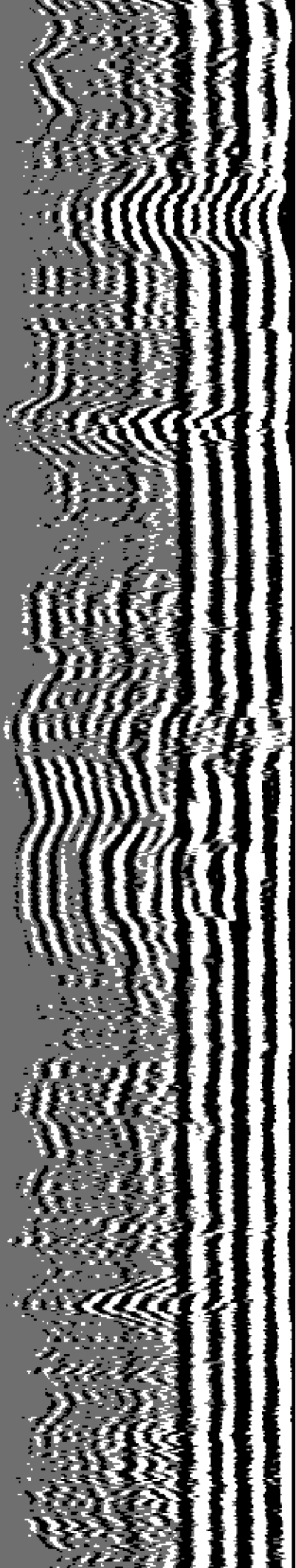


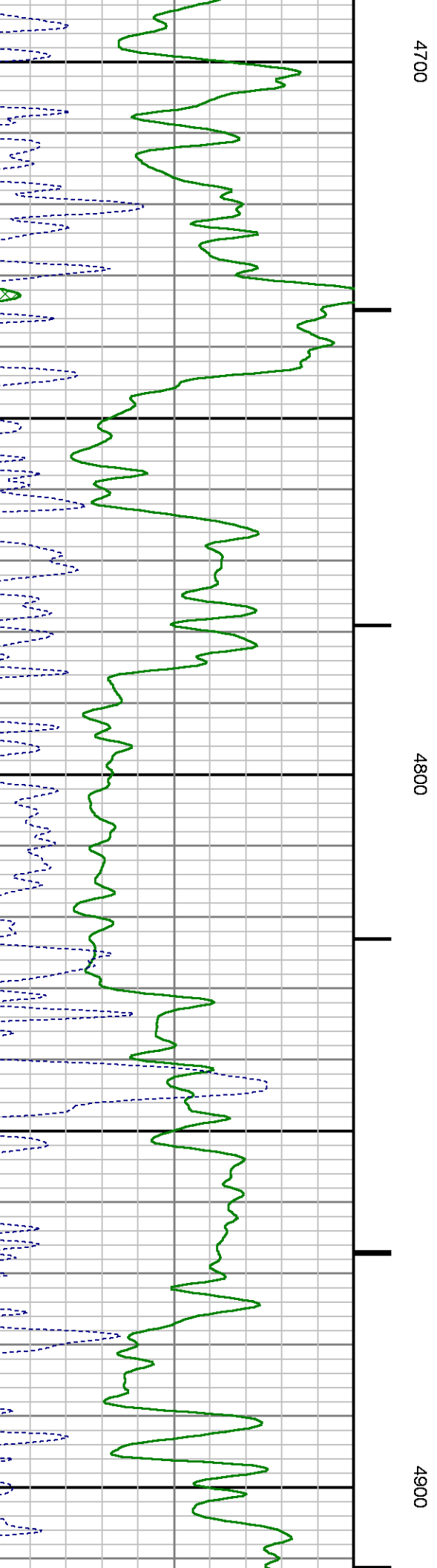
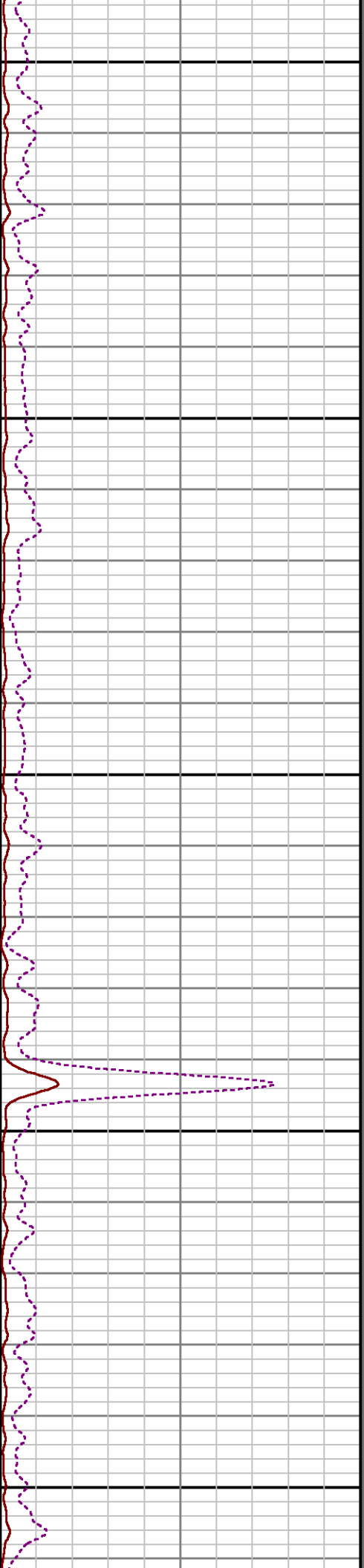
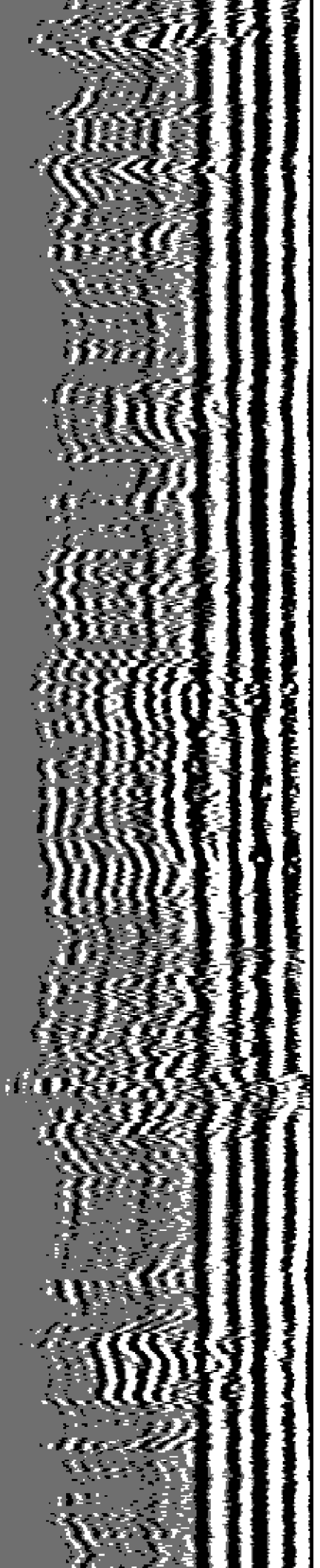


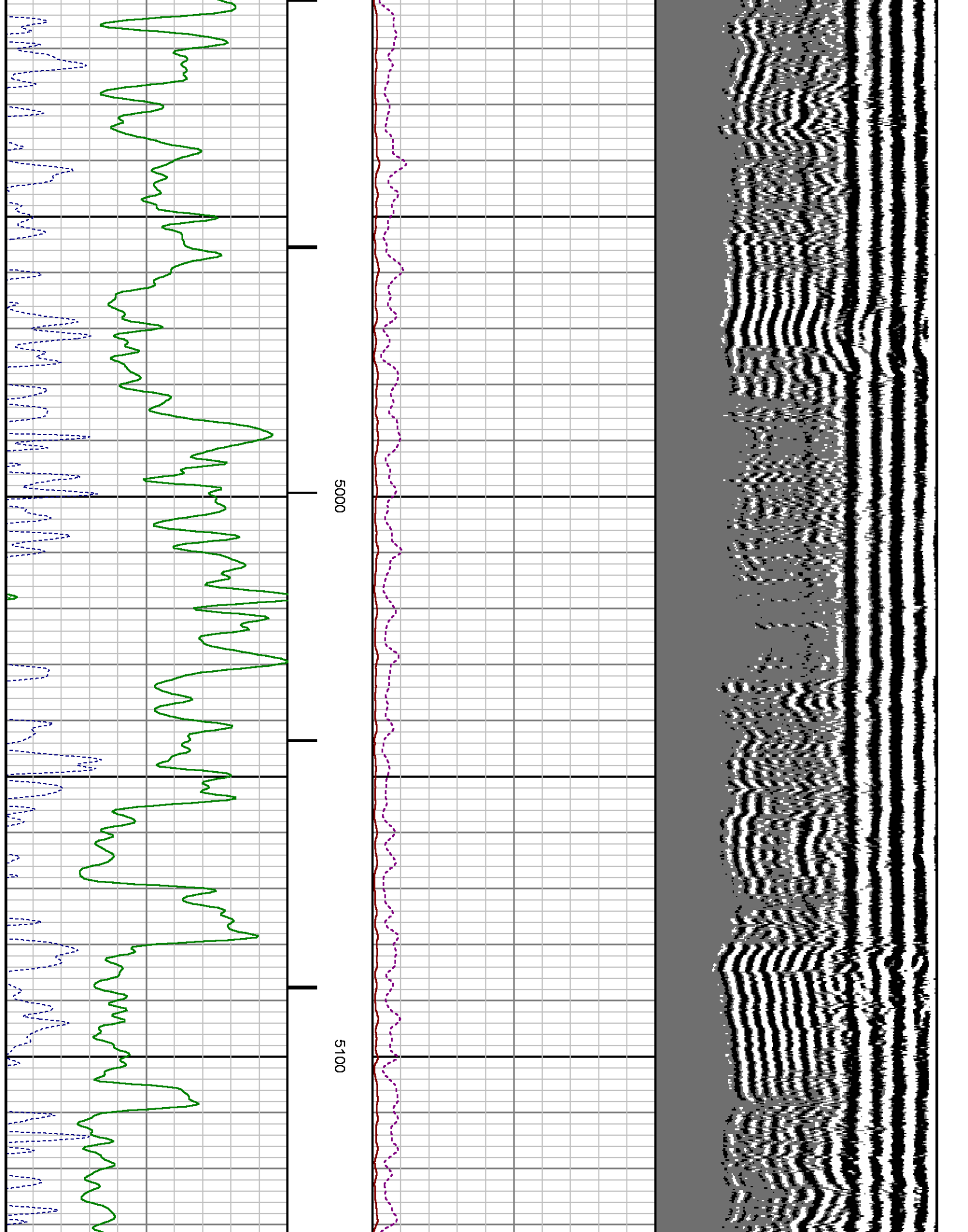
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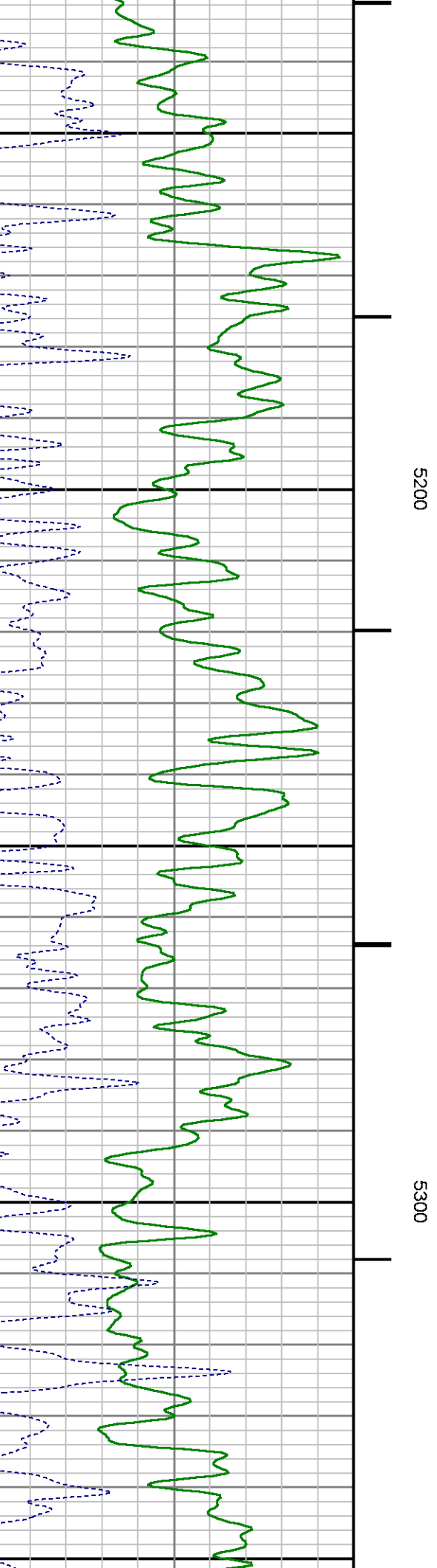
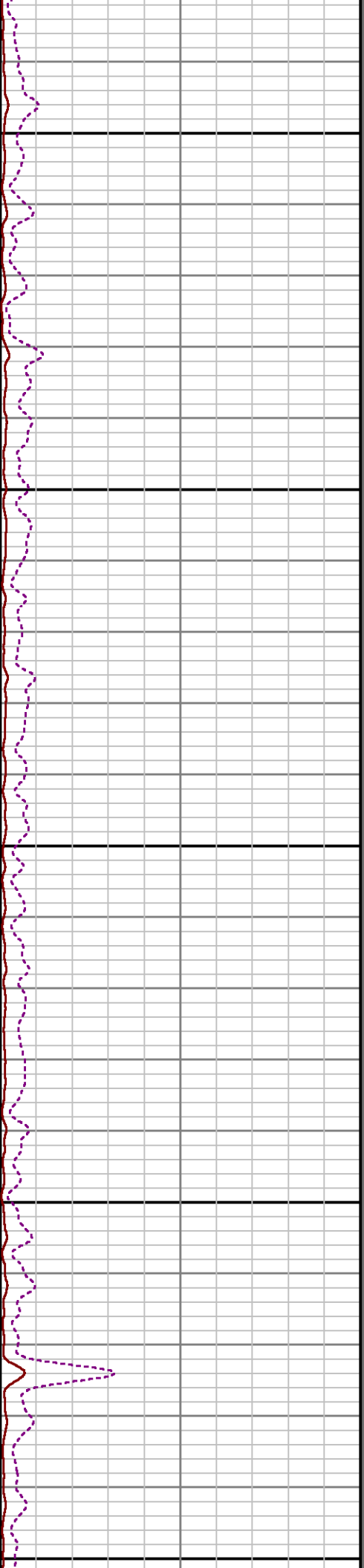
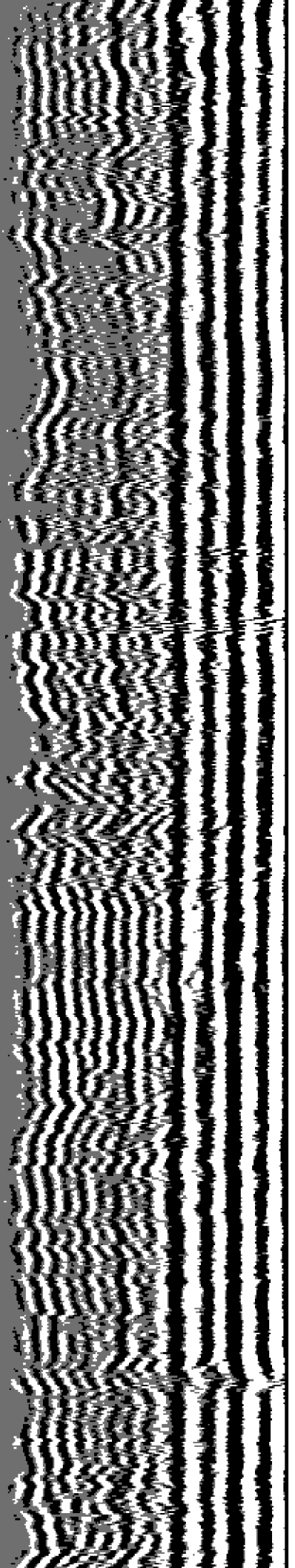
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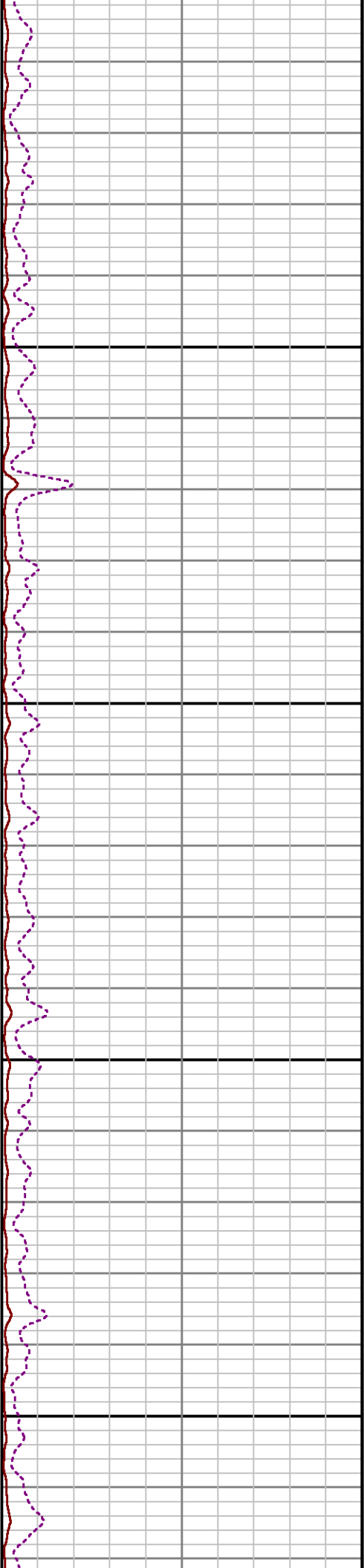
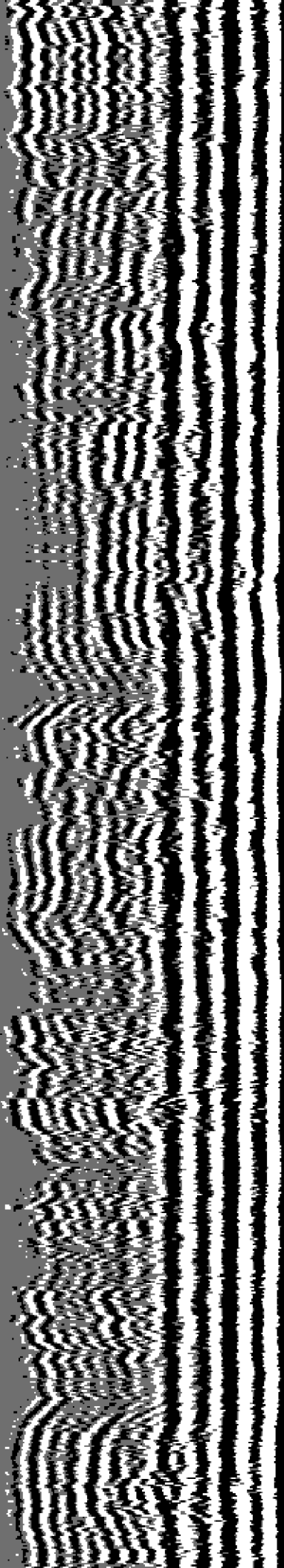






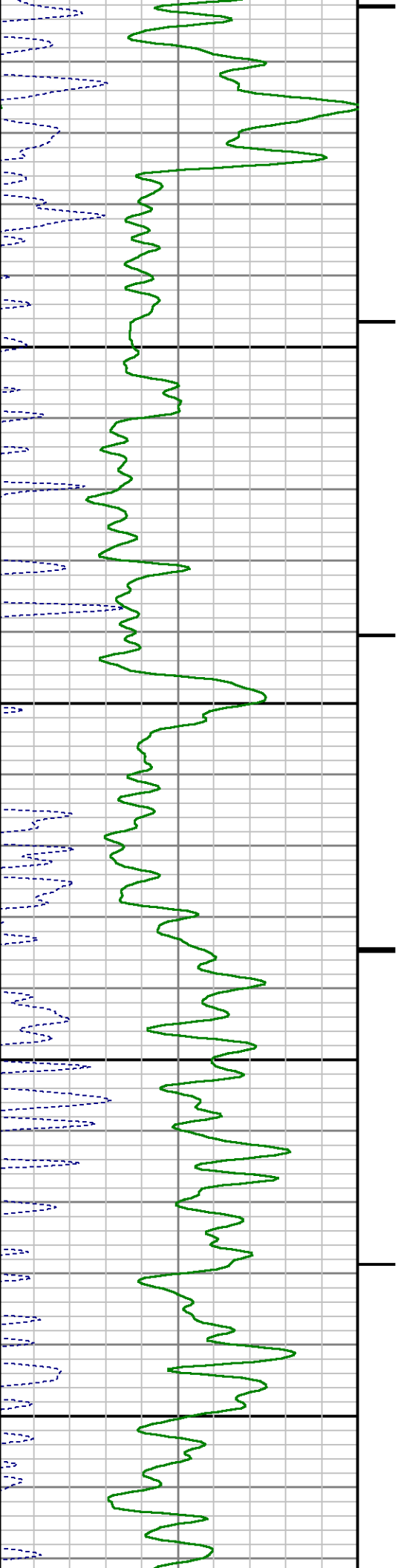


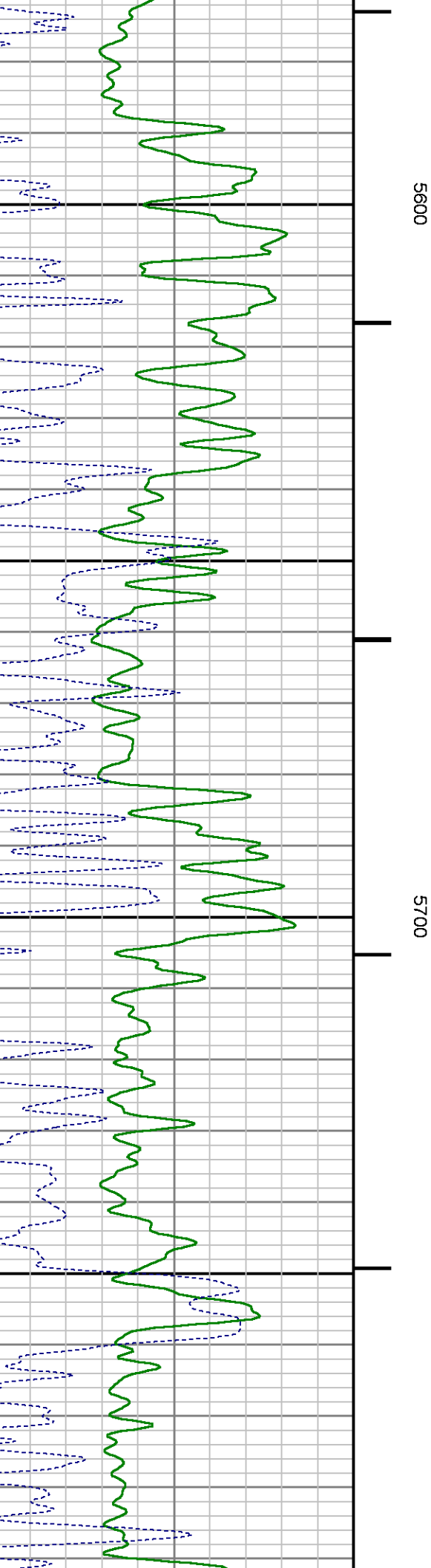
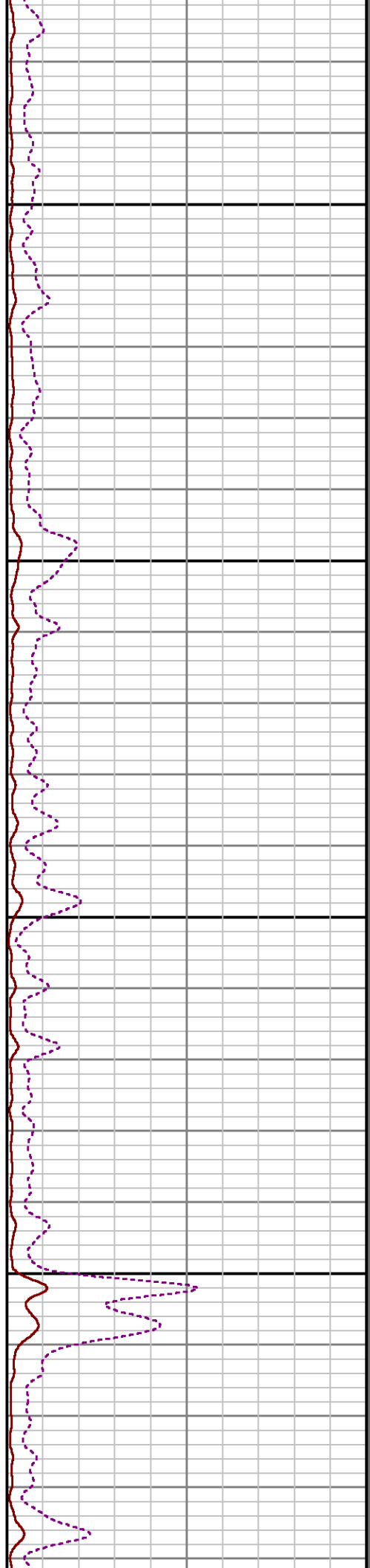
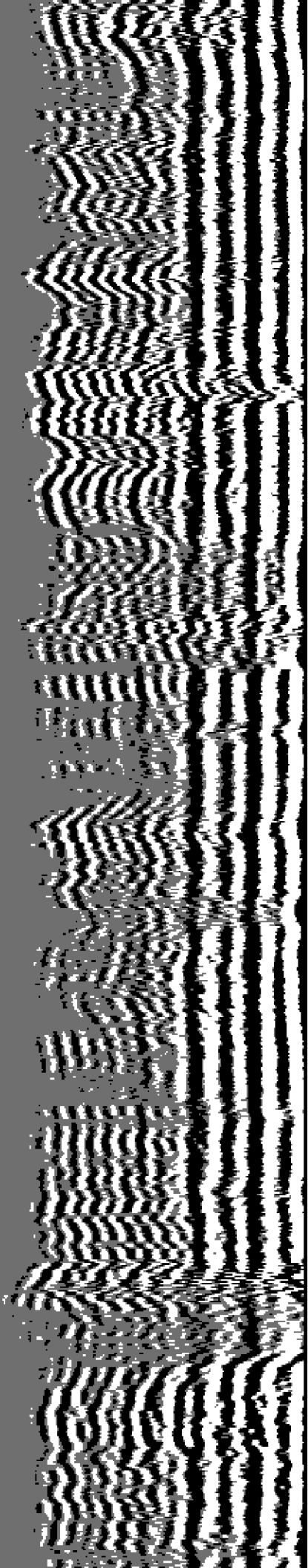




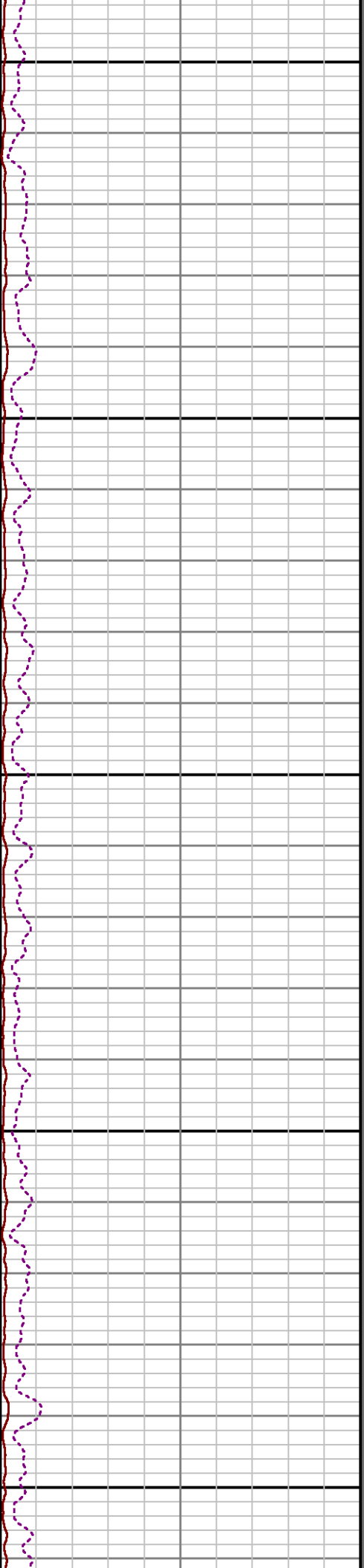
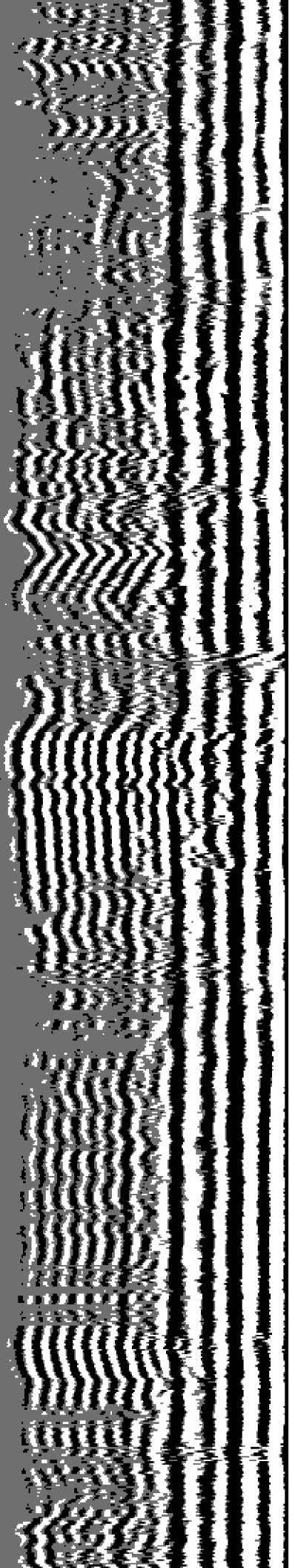
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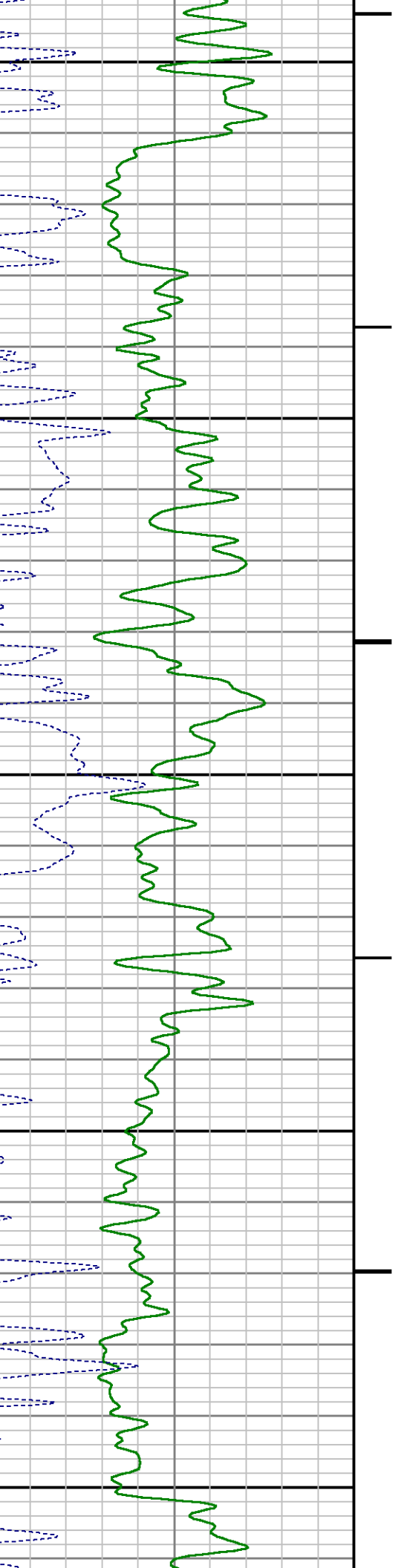


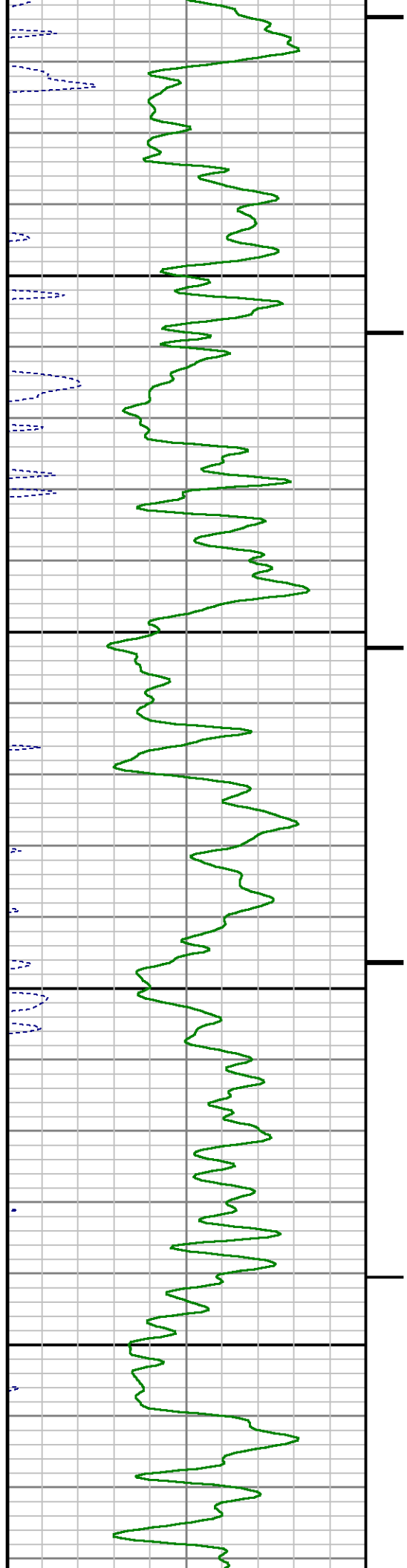
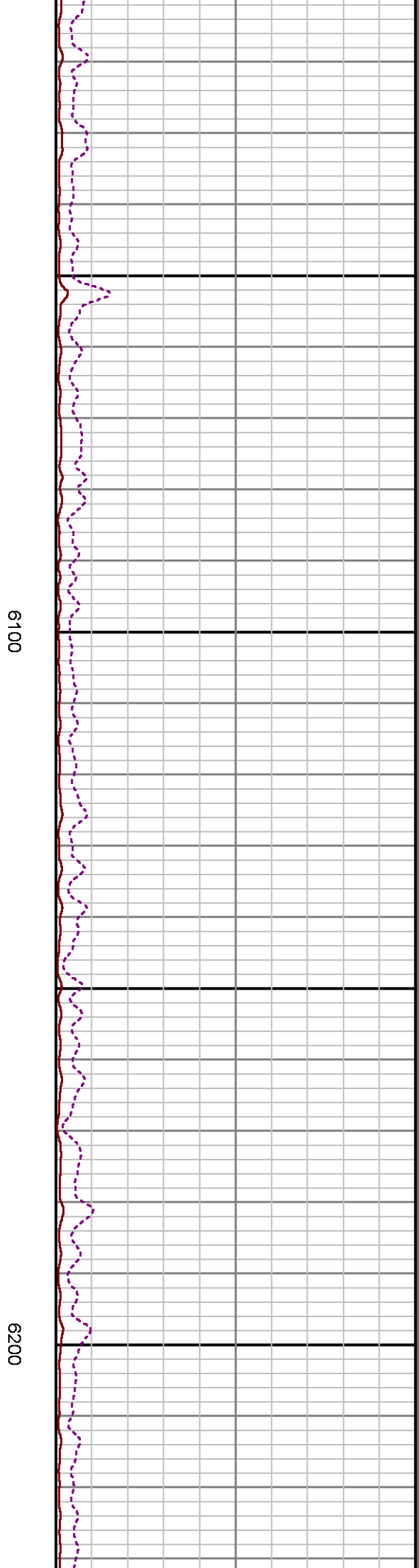
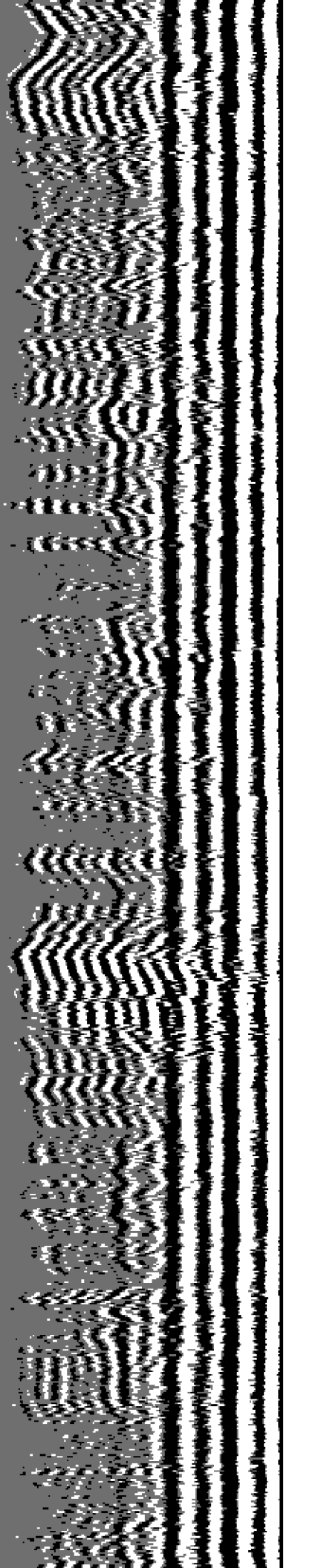


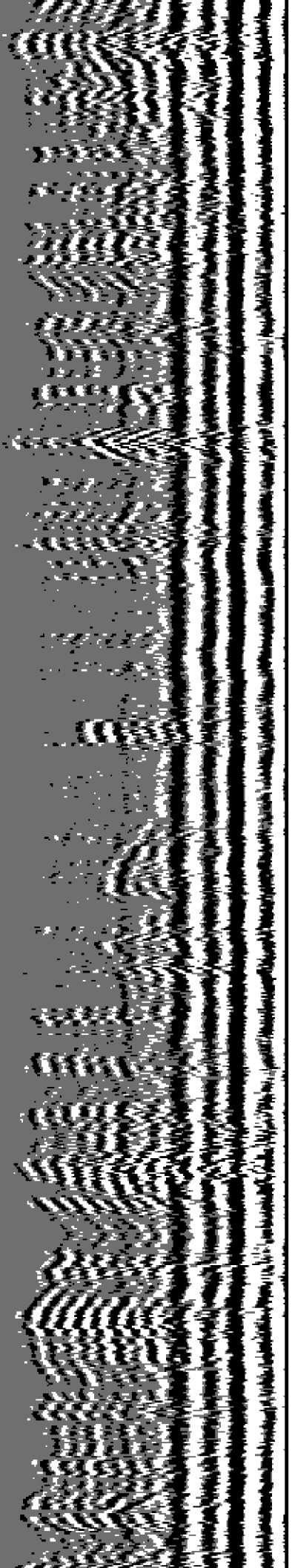
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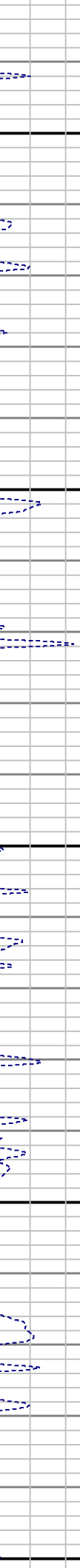
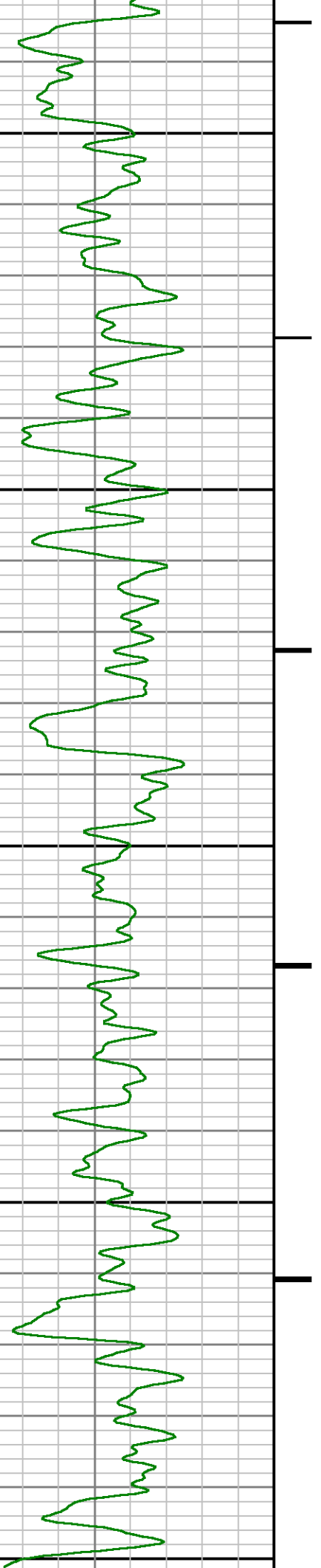


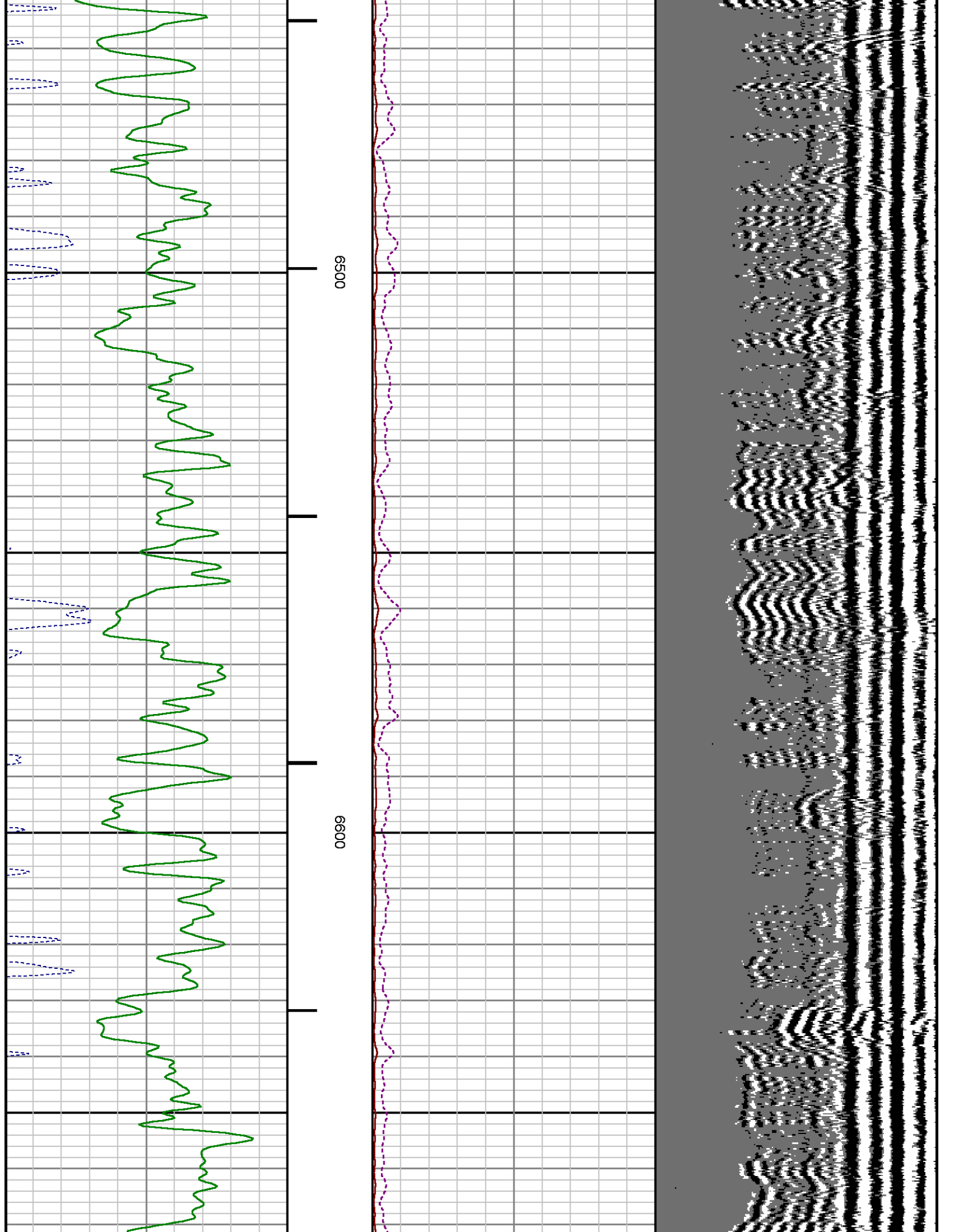


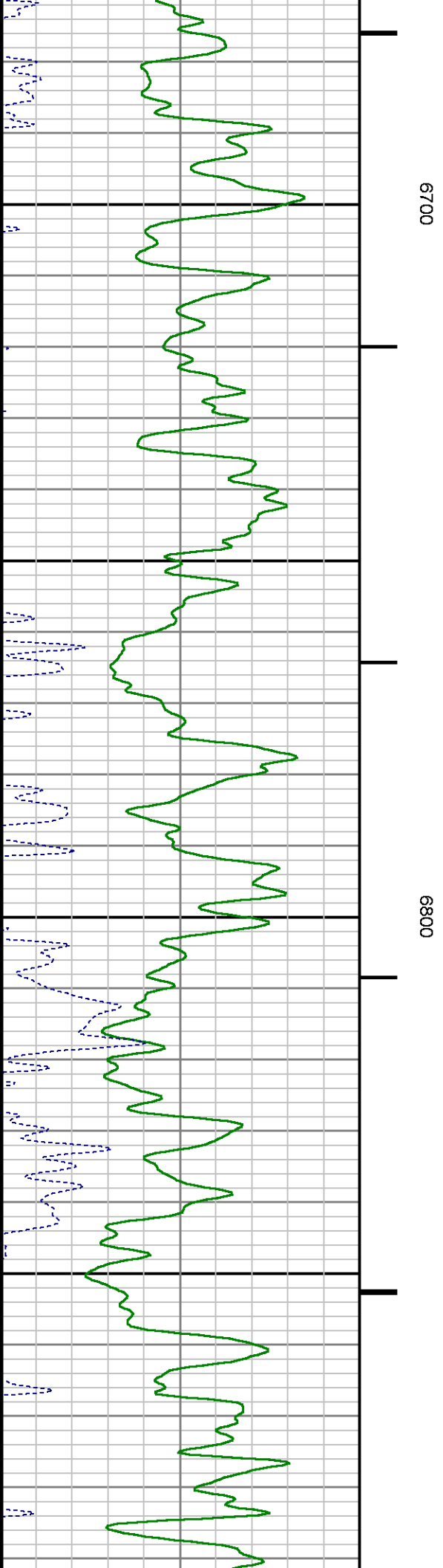
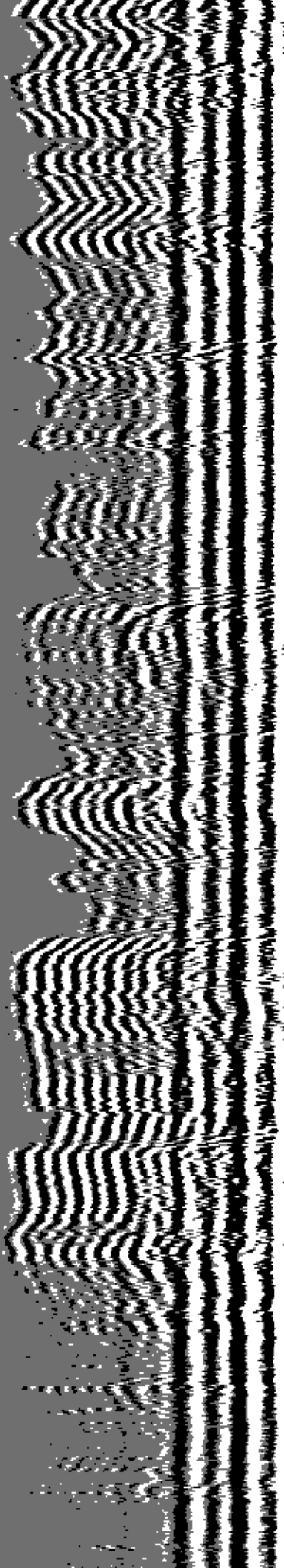


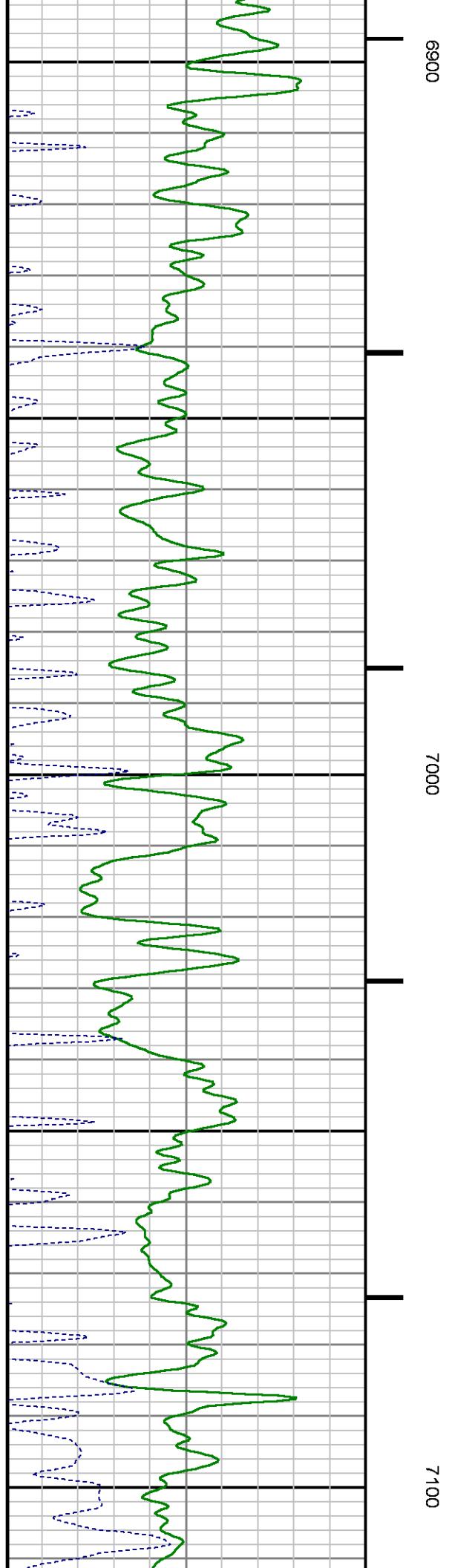
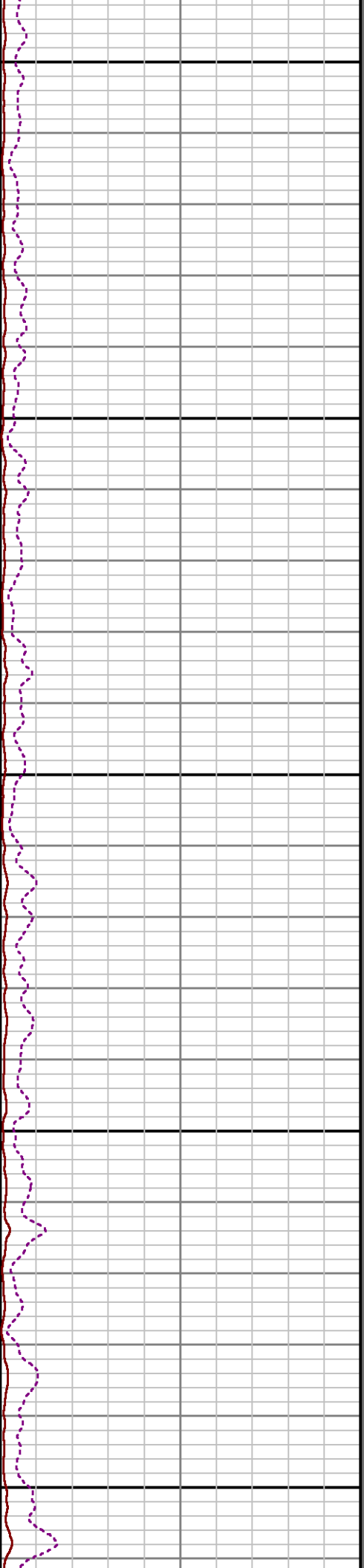
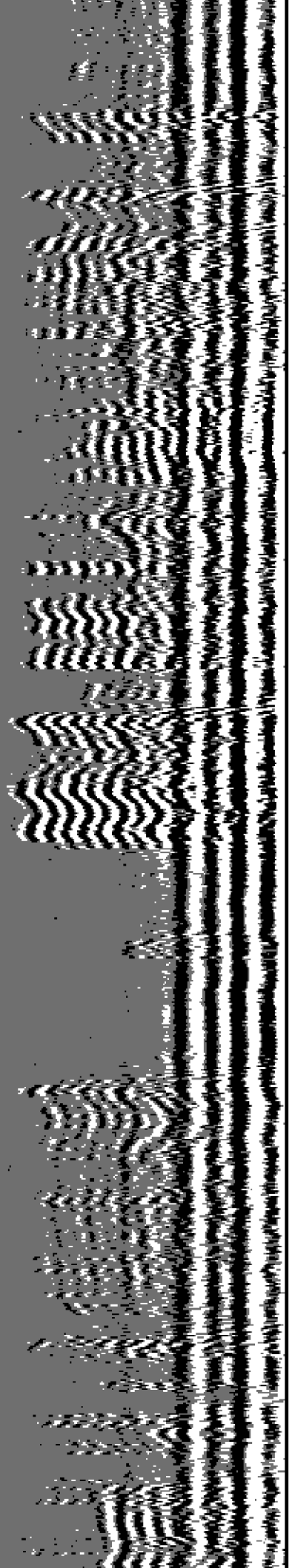
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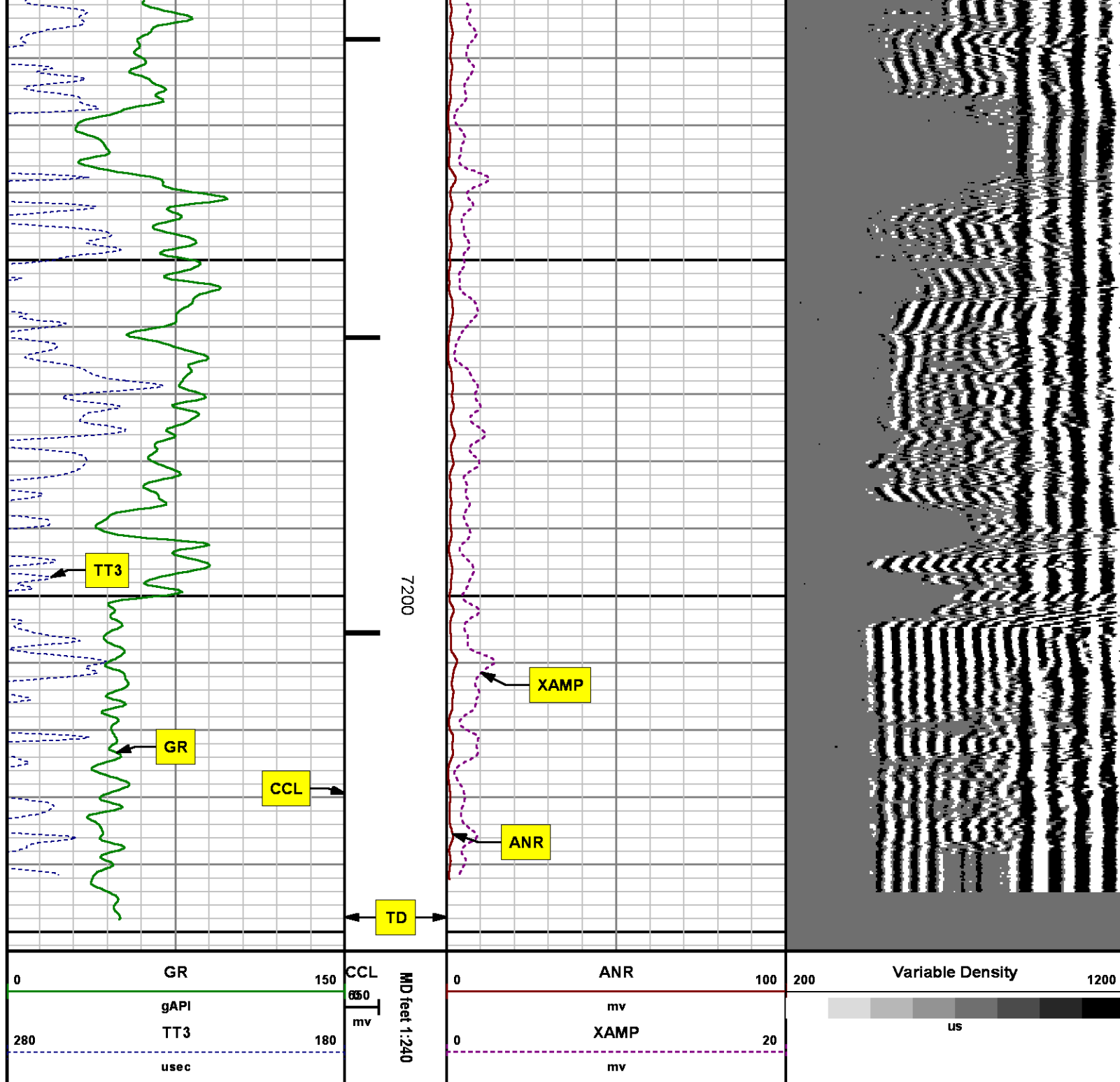












SECONDARY PRESENTATION  
0 PSI



MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	25.300	4595.000
RAL	Amp Gate Start Near	195.000	usec	25.300	4595.000
RAL	Amp Gate Start Radial	195.000	usec	25.300	4595.000
RAL	Amp Gate Width Far	25.000	usec	25.300	4595.000
RAL	Amp Gate Width Near	25.000	usec	25.300	4595.000
RAL	Amp Gate Width Radial	25.000	usec	25.300	4595.000
RAL	casing od	4.500	inches	25.300	4595.000
RAL	casing wt	11.600	lbm/ft	25.300	4595.000
RAL	FB Start Far	291.900	usec	25.300	4595.000
RAL	FB Start Near	175.391	usec	25.300	4595.000
RAL	FB Start Radial	175.391	usec	25.300	4595.000
RAL	FB Thresh Far	10.000	mv	25.300	4595.000
RAL	FB Thresh Near	4.000	mv	25.300	4595.000
RAL	FB Thresh Radial	4.000	mv	25.300	4595.000
RAL	Fluid Travel Time	200.000	usec/ft	25.300	4595.000
RAL	Amp Gate Start Far	305.000	usec	4595.000	7255.000
RAL	Amp Gate Start Near	195.000	usec	4595.000	7255.000
RAL	Amp Gate Start Radial	195.000	usec	4595.000	7255.000
RAL	Amp Gate Width Far	25.000	usec	4595.000	7255.000
RAL	Amp Gate Width Near	25.000	usec	4595.000	7255.000
RAL	Amp Gate Width Radial	25.000	usec	4595.000	7255.000
RAL	casing od	4.500	inches	4595.000	7255.000
RAL	casing wt	11.600	lbm/ft	4595.000	7255.000
RAL	FB Start Far	291.900	usec	4595.000	7255.000
RAL	FB Start Near	175.391	usec	4595.000	7255.000
RAL	FB Start Radial	175.391	usec	4595.000	7255.000
RAL	FB Thresh Far	10.000	mv	4595.000	7255.000
RAL	FB Thresh Near	4.000	mv	4595.000	7255.000
RAL	FB Thresh Radial	4.000	mv	4595.000	7255.000
RAL	Fluid Travel Time	200.000	usec/ft	4595.000	7255.000

## DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES							
1426XA	-12.360	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	-11.360	AFAR	SIG	TT5					
2459XA	-7.250	CCL							
2459XA	-5.390	GR							
2459XA	0.000	NEU							

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

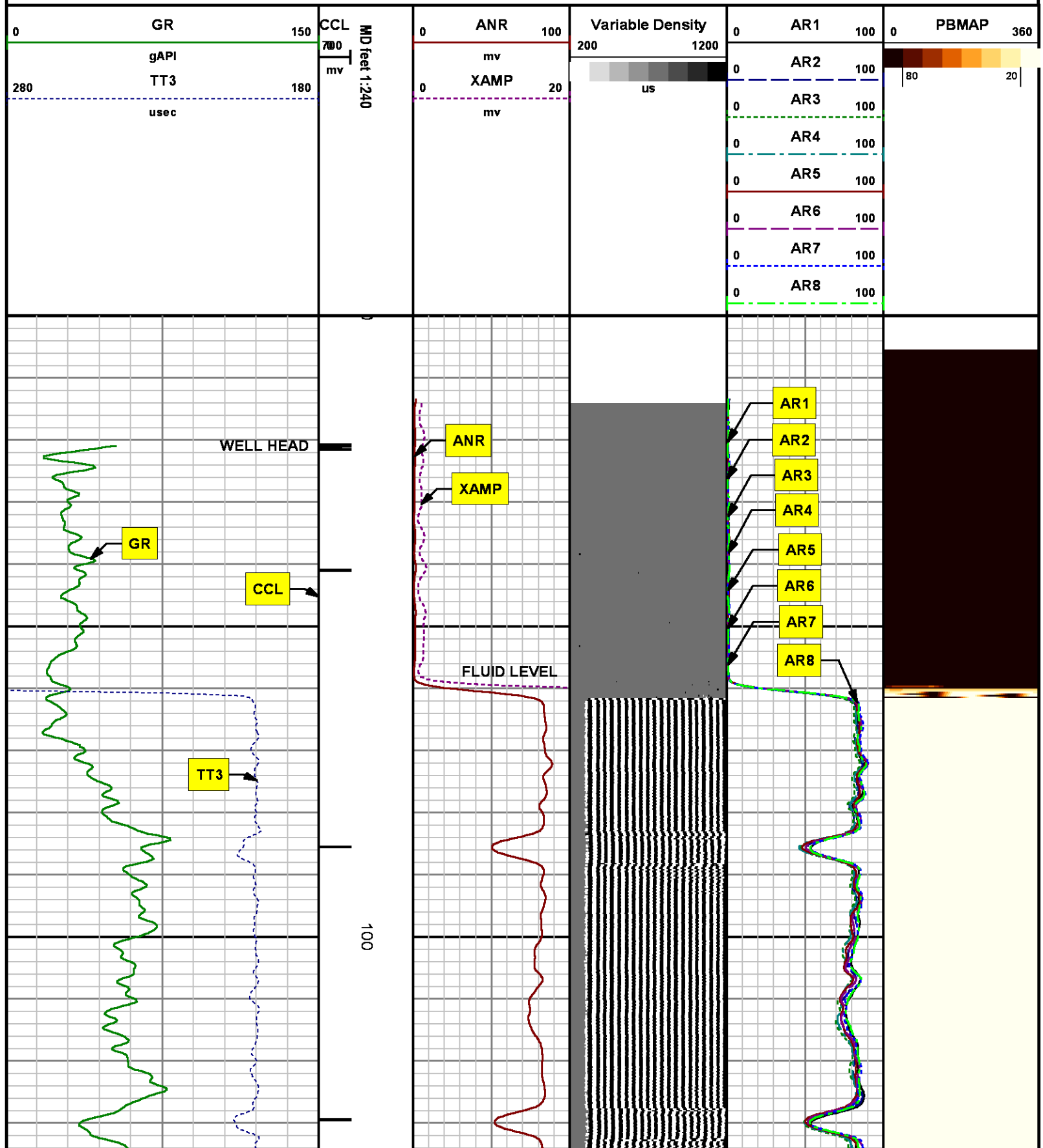
Well : CHEVRON GM 12-21

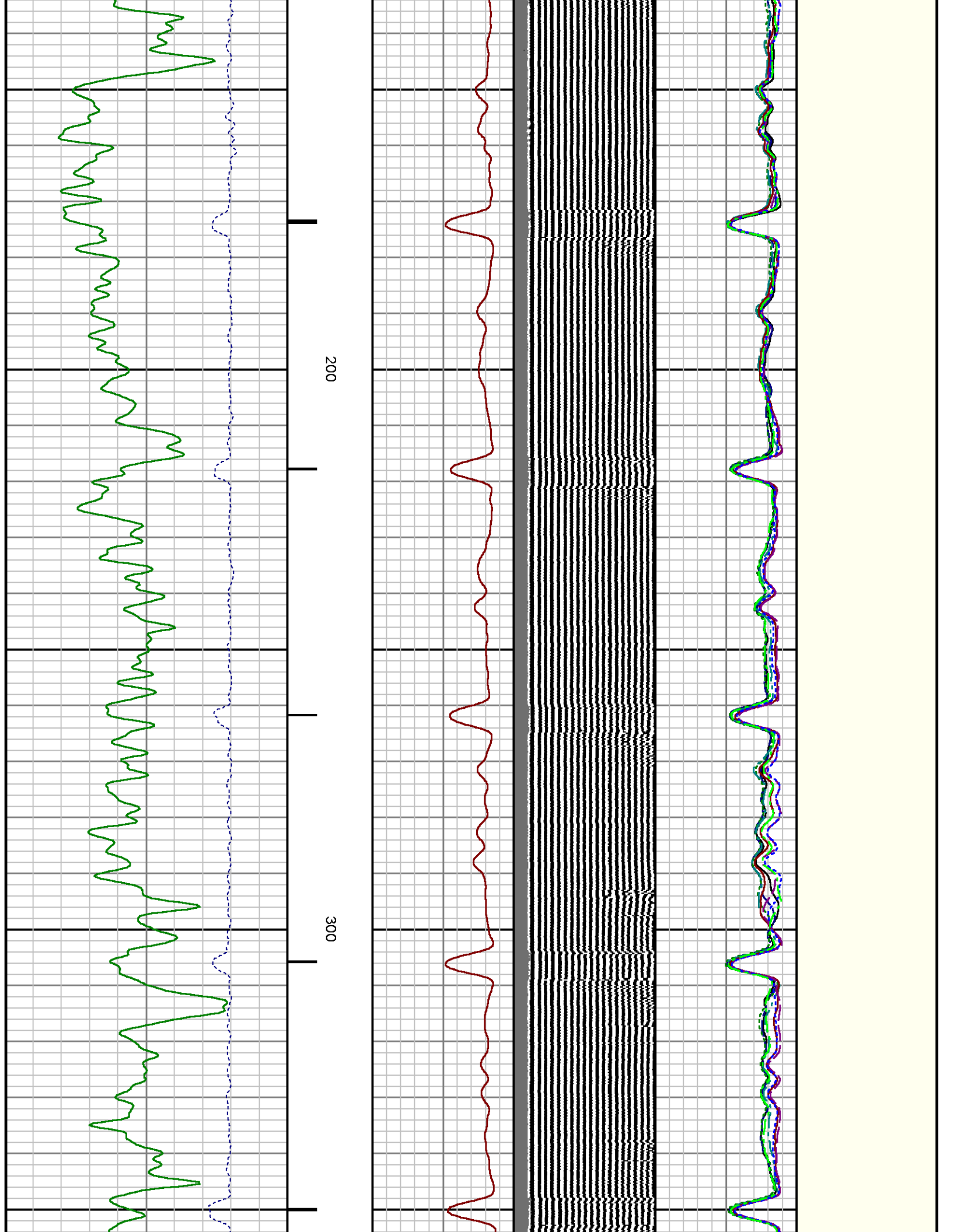
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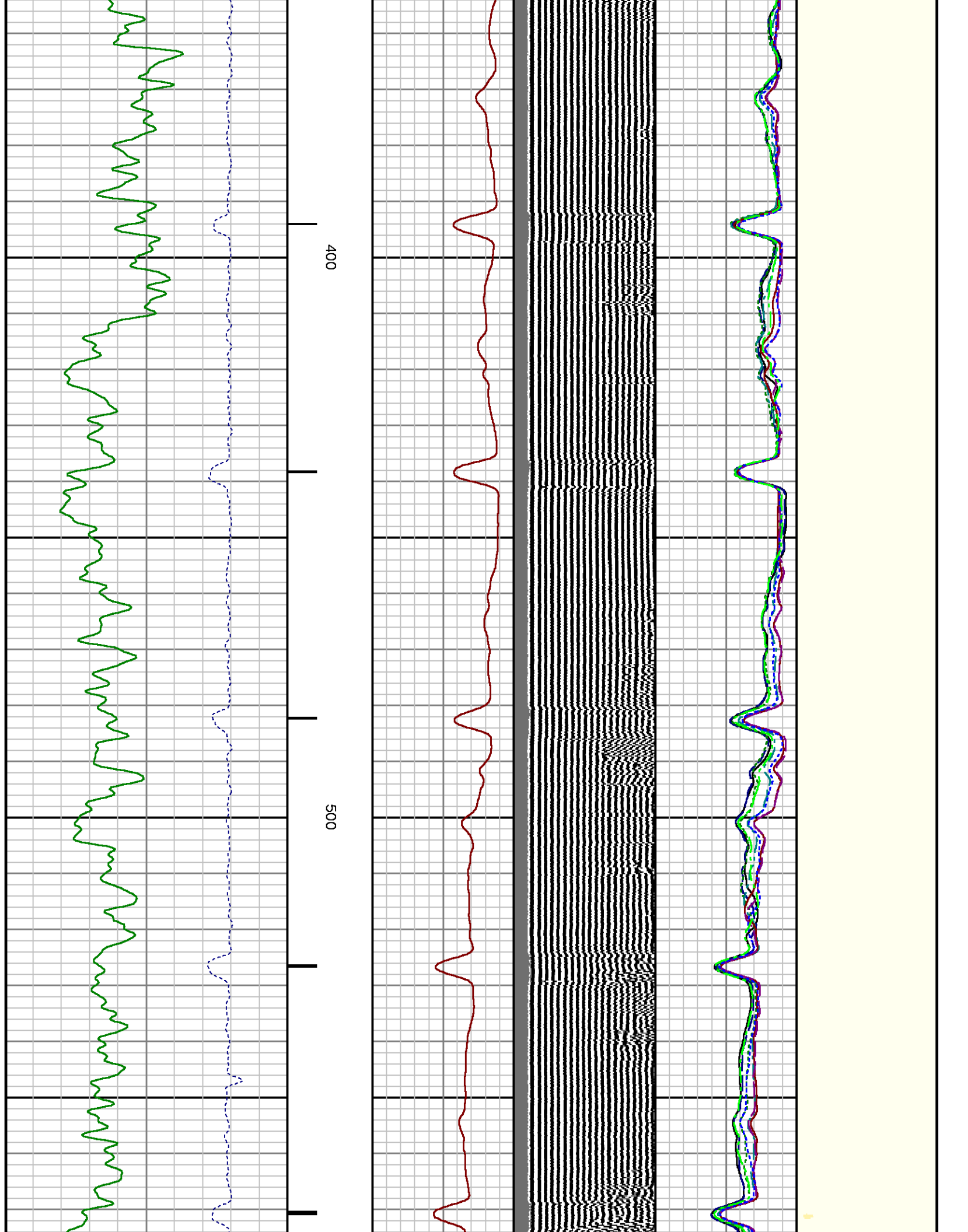
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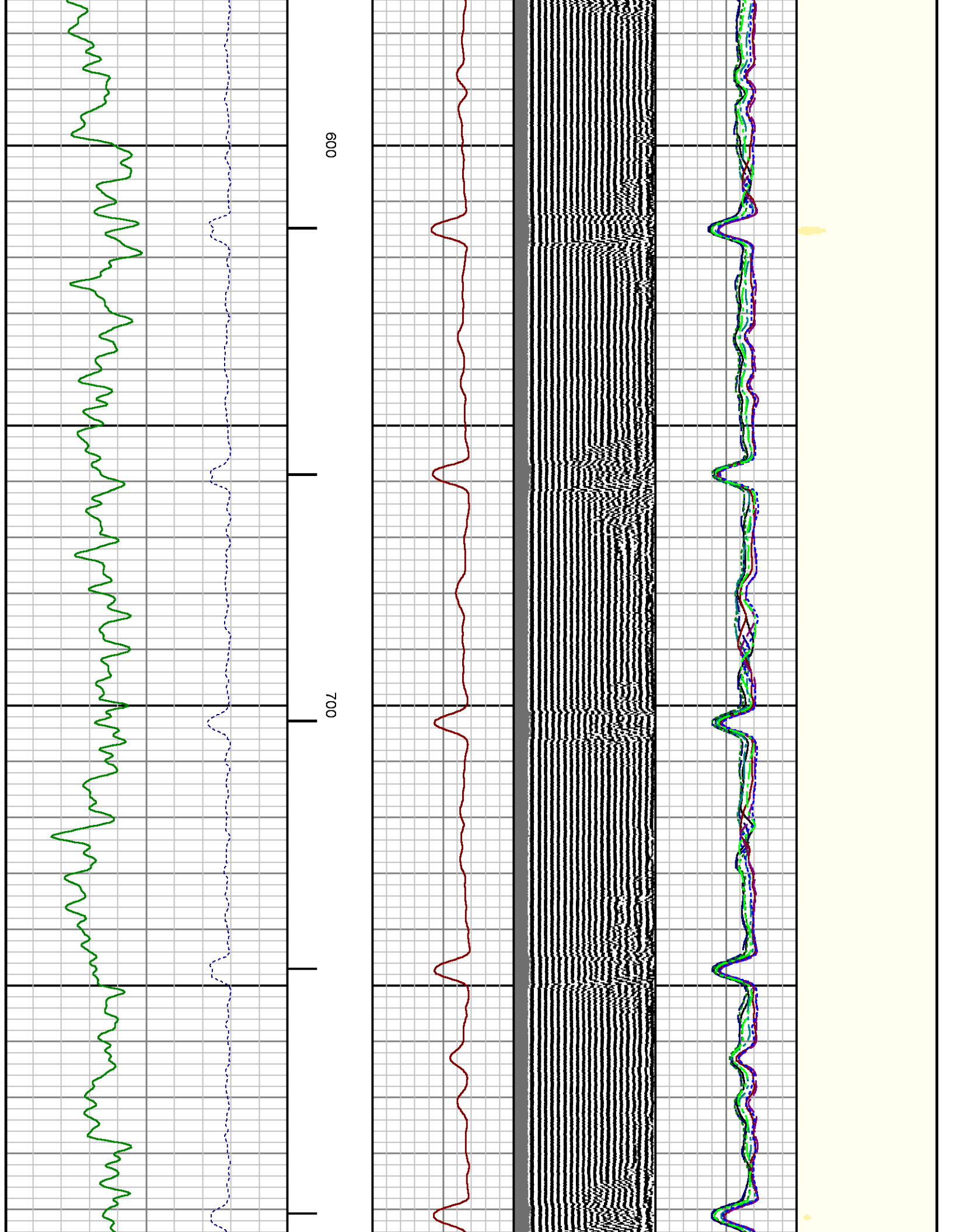
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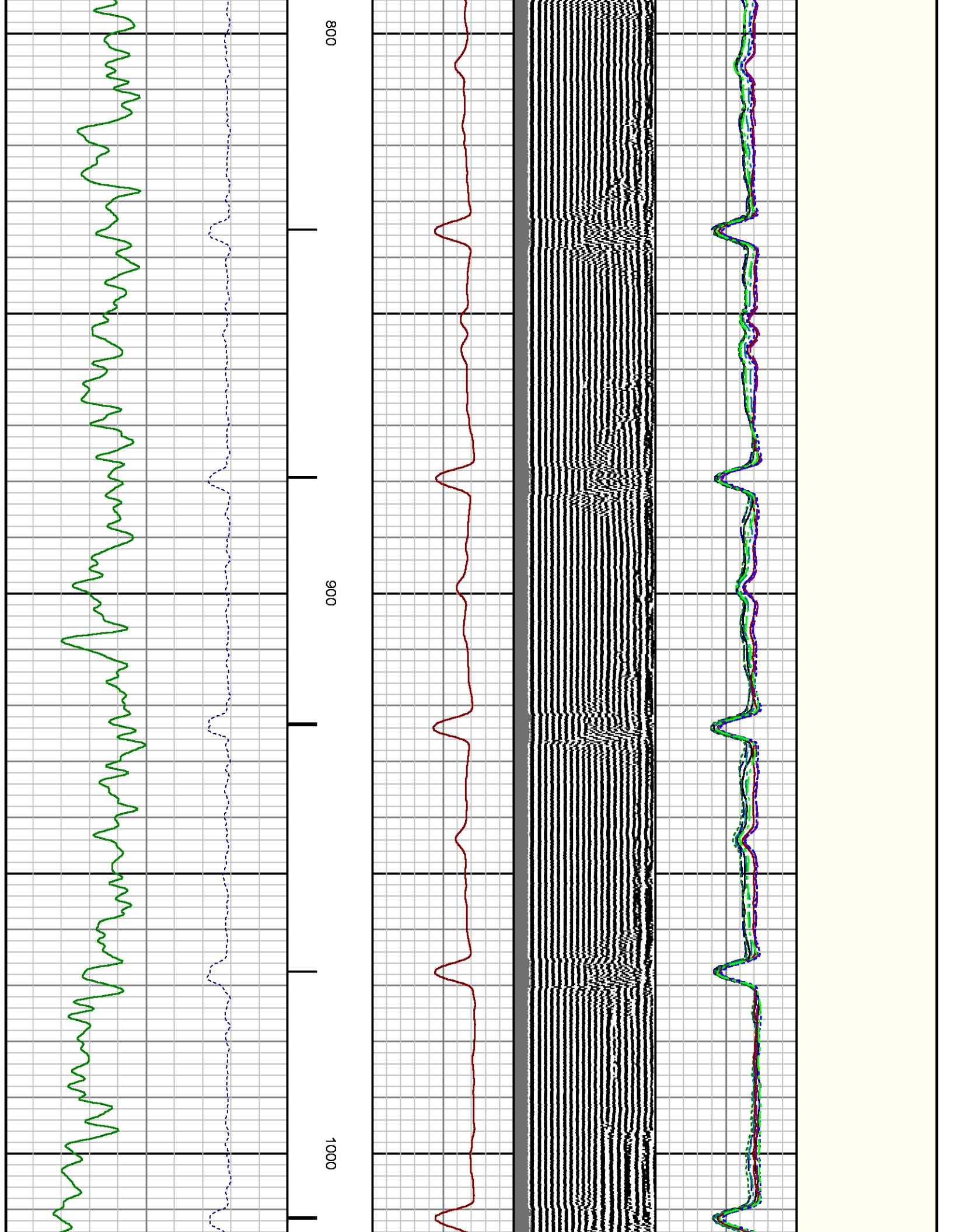
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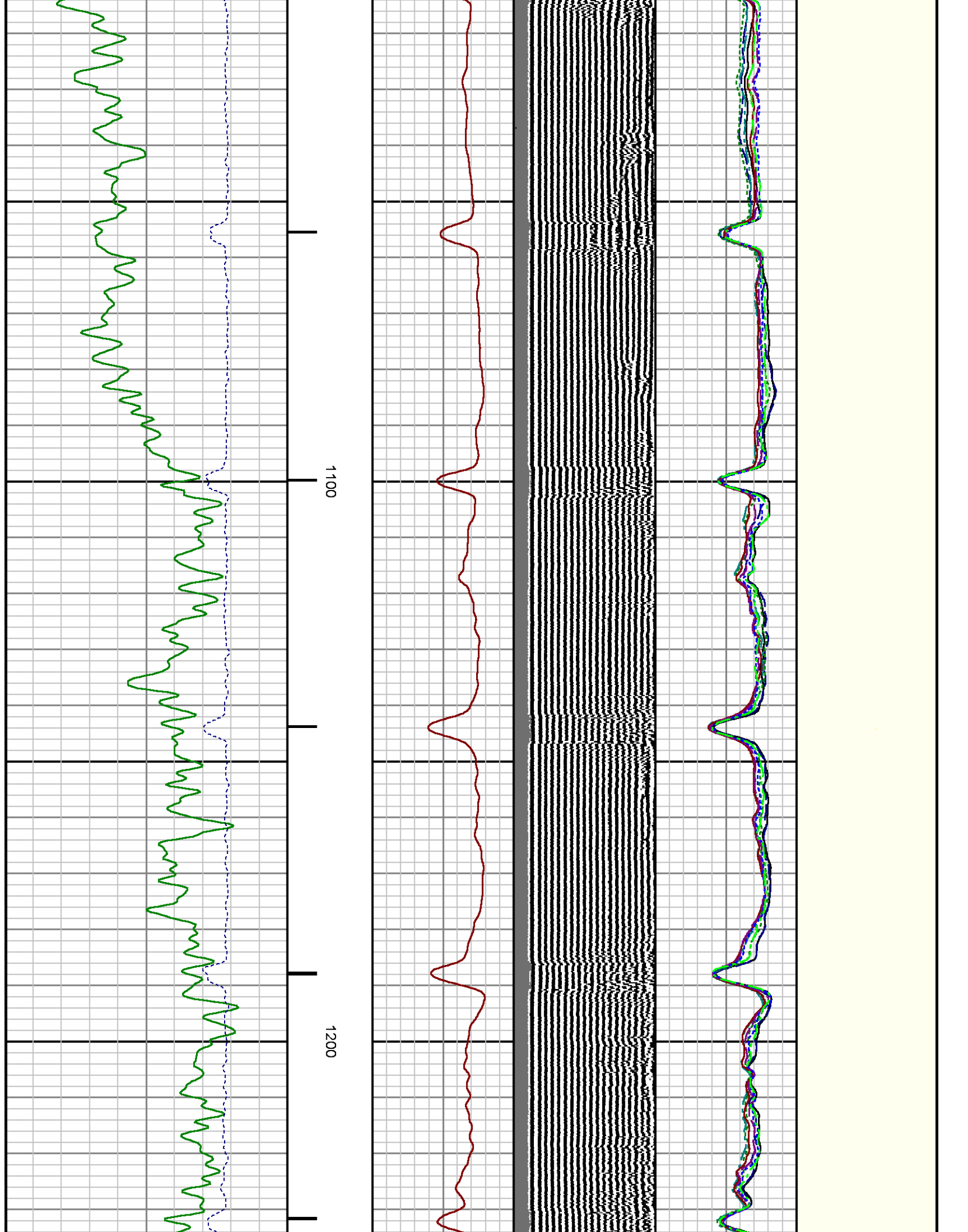


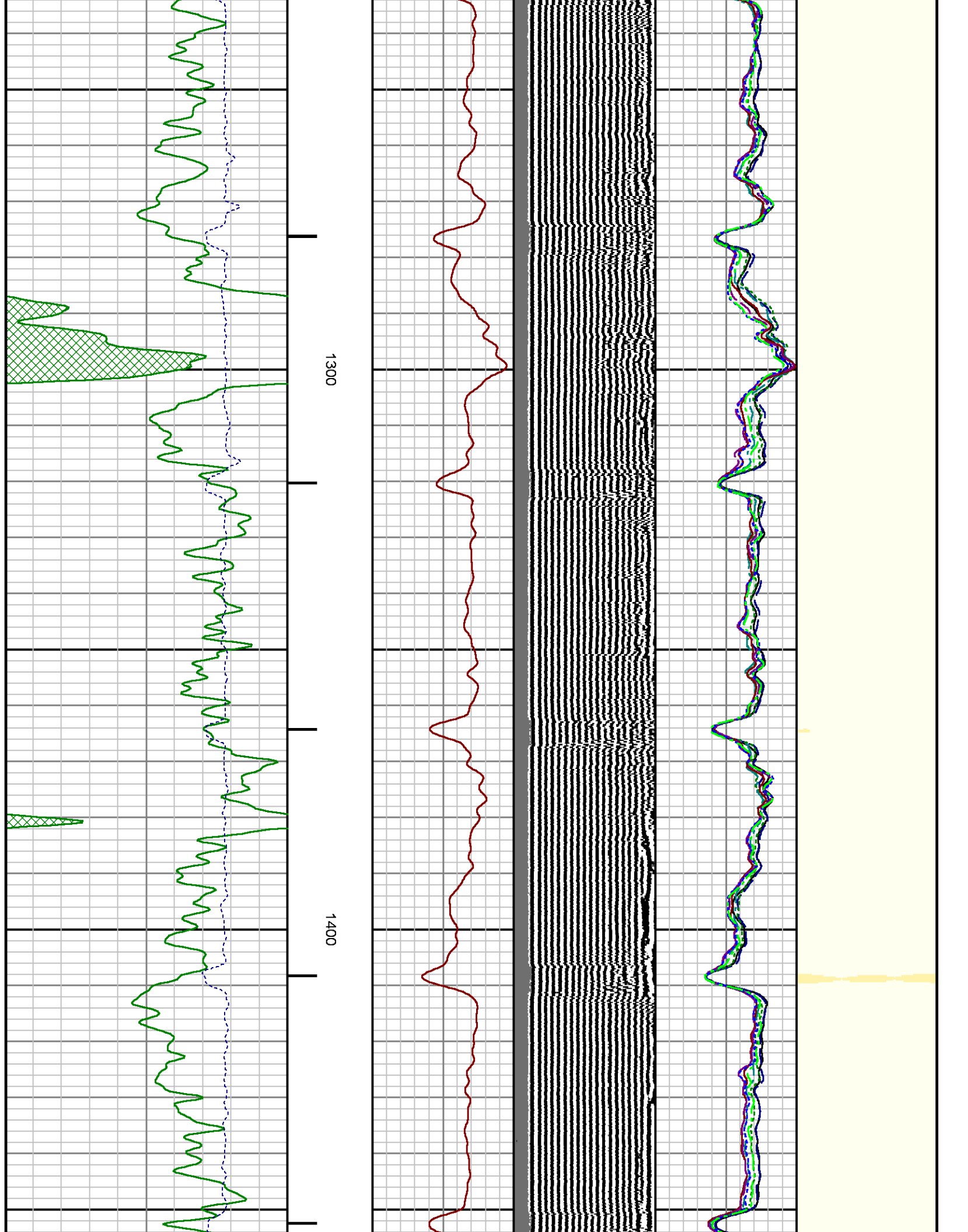


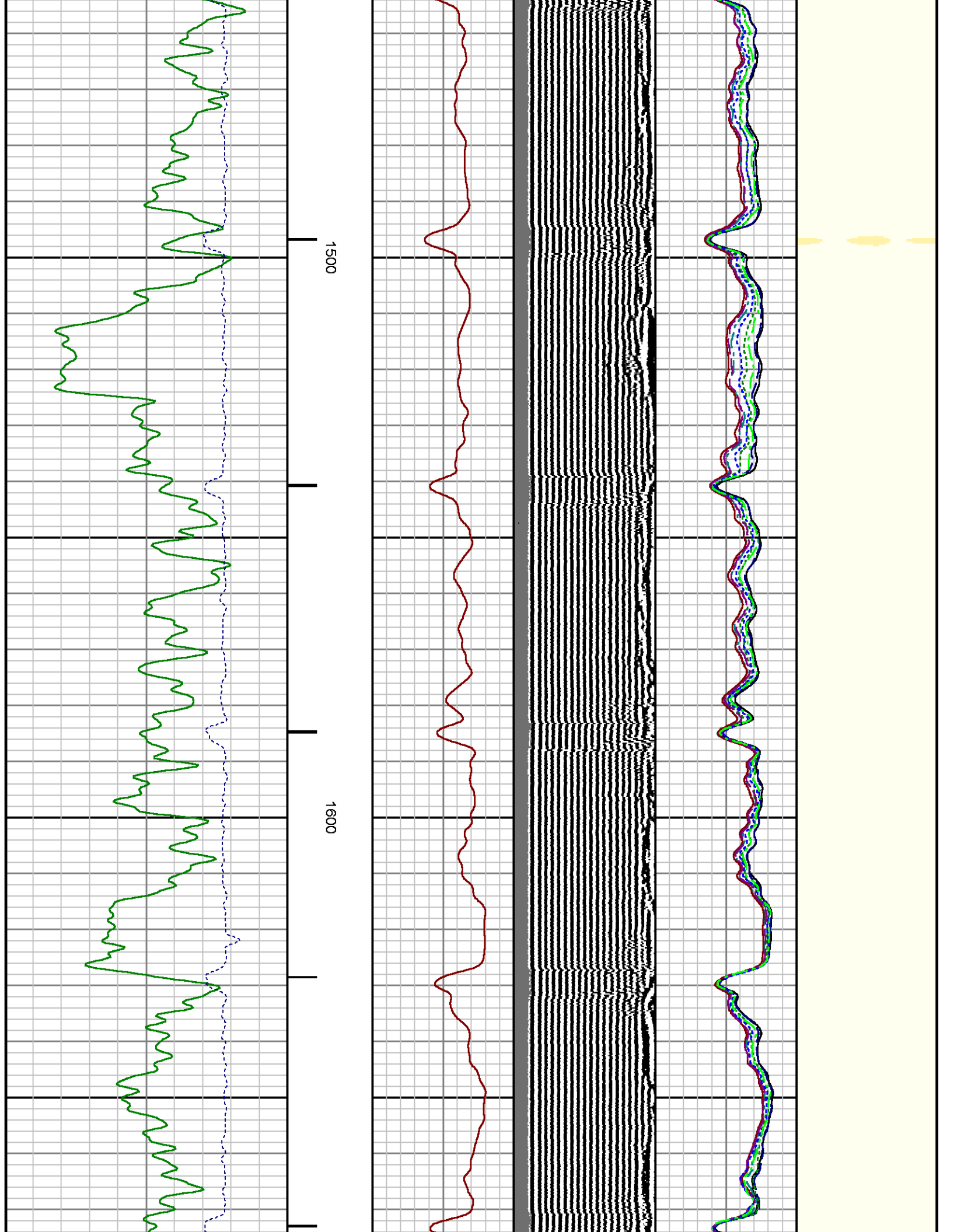


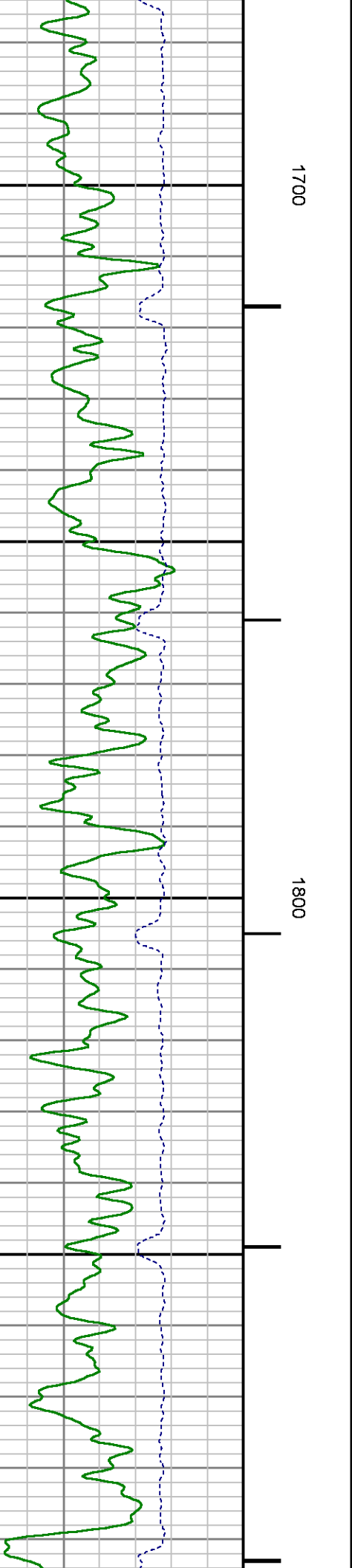
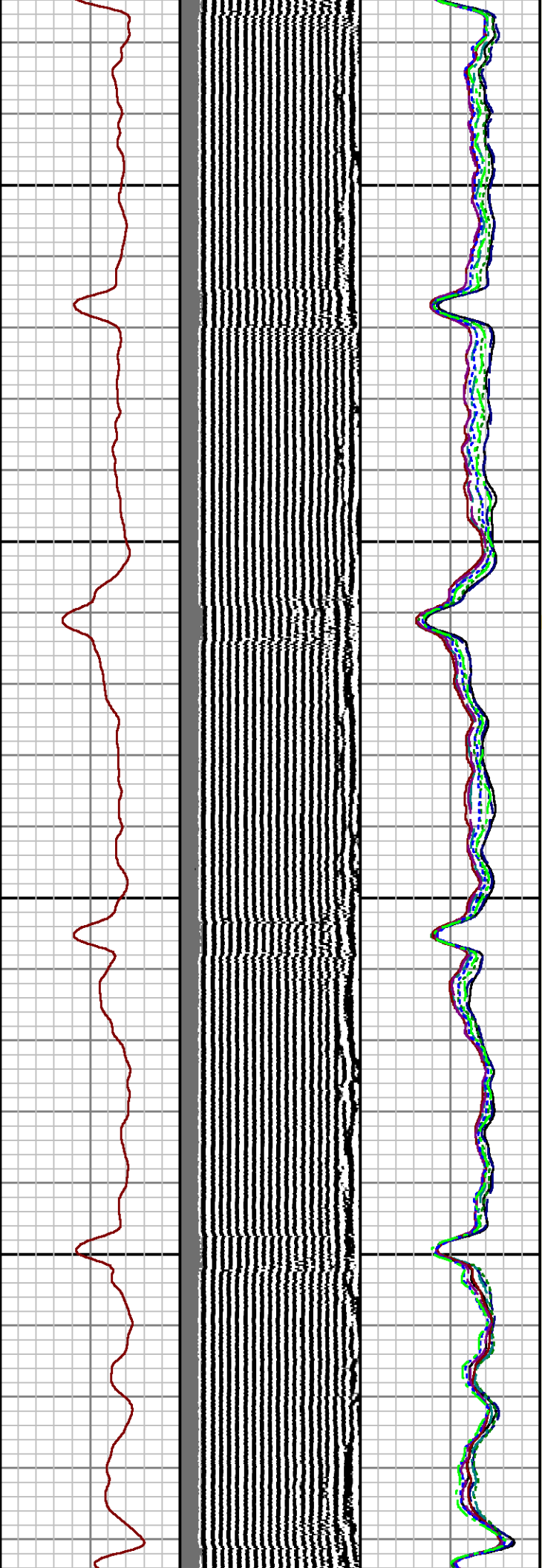
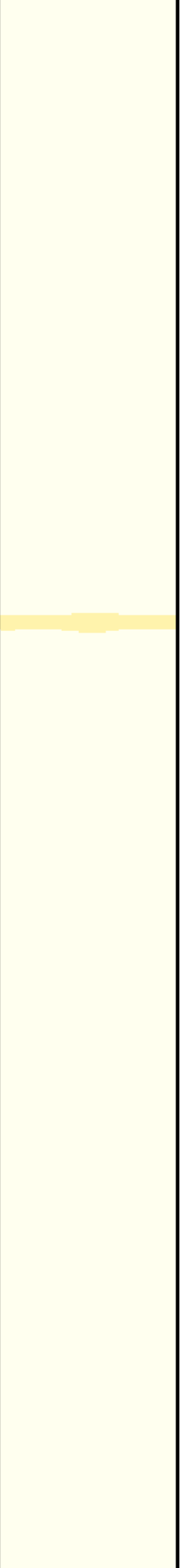






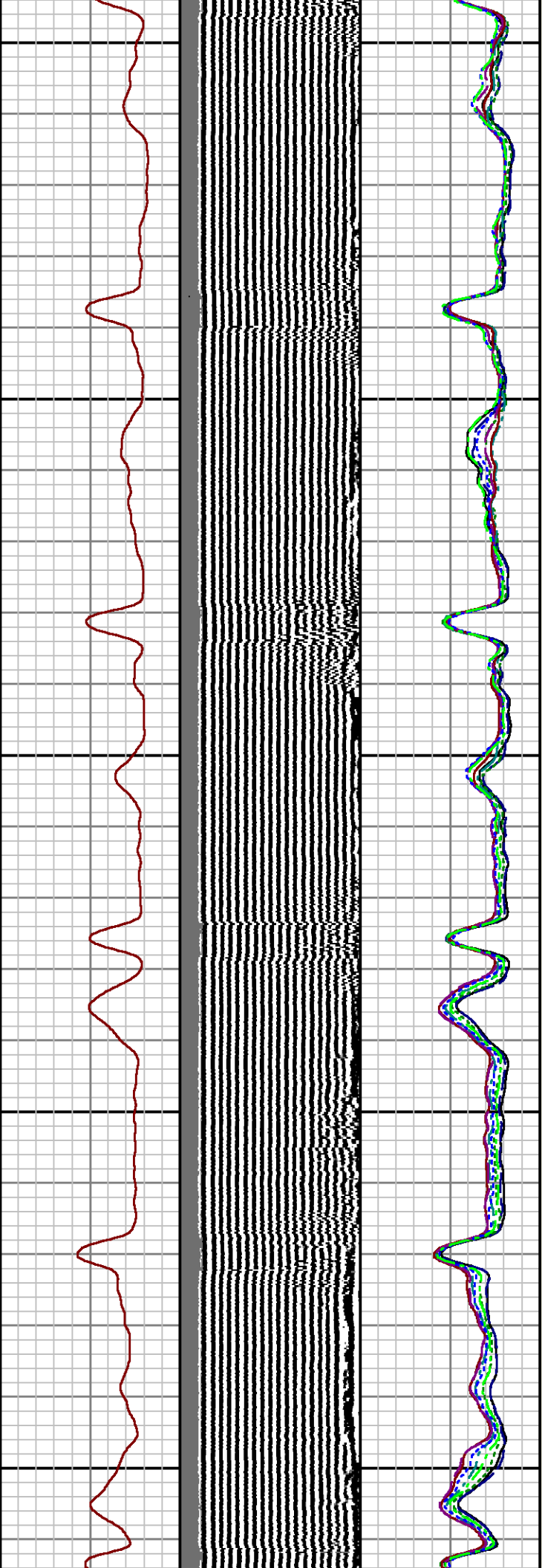






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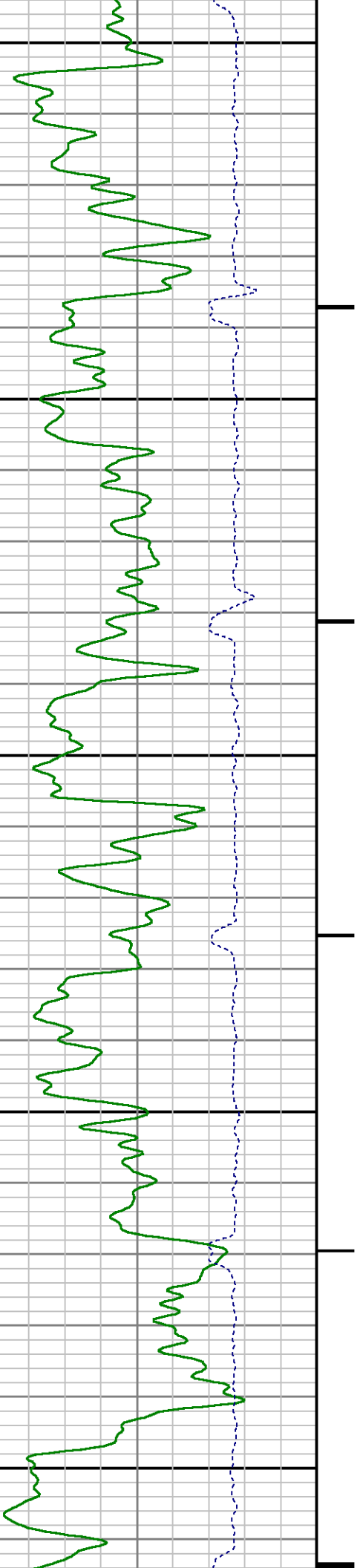
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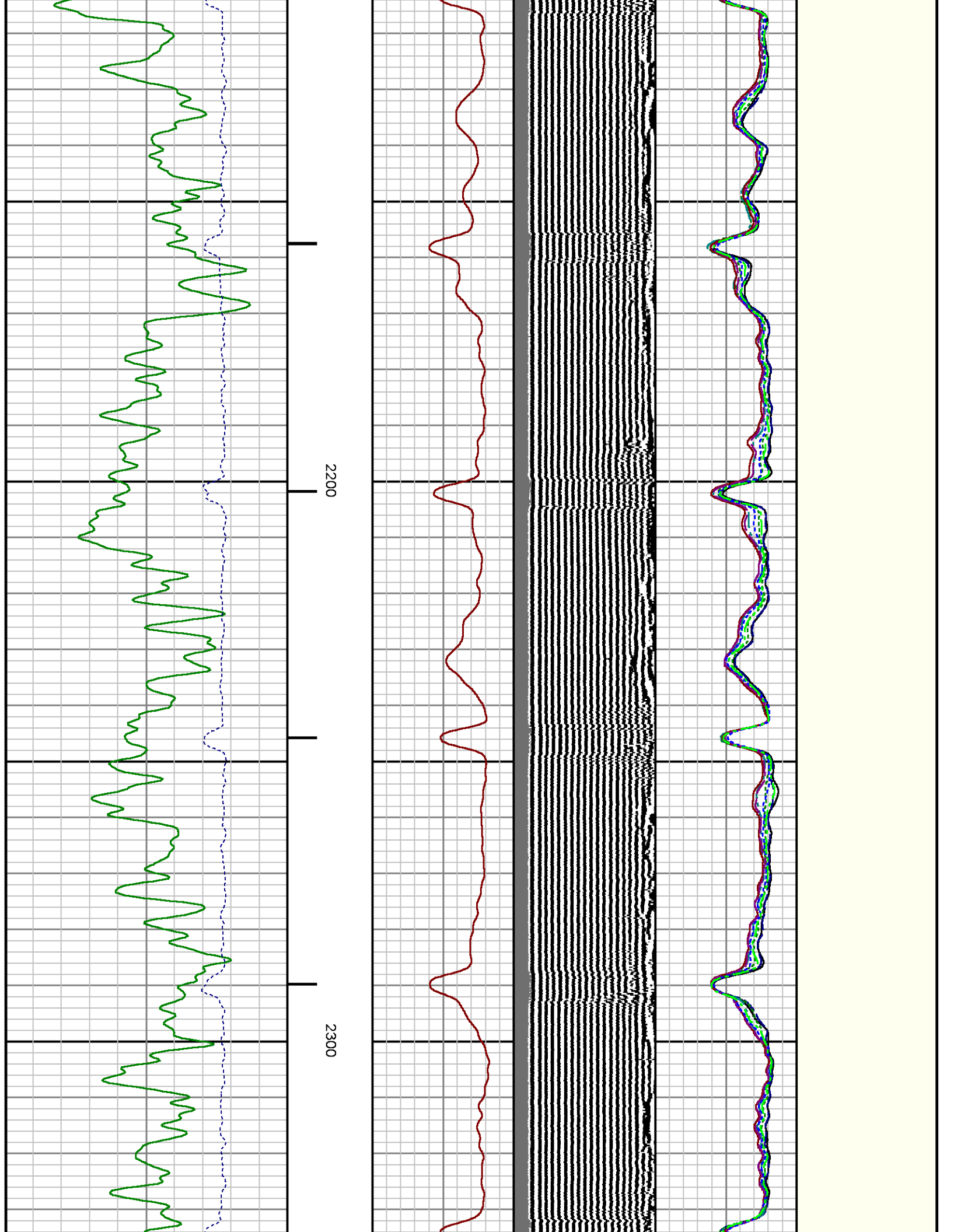
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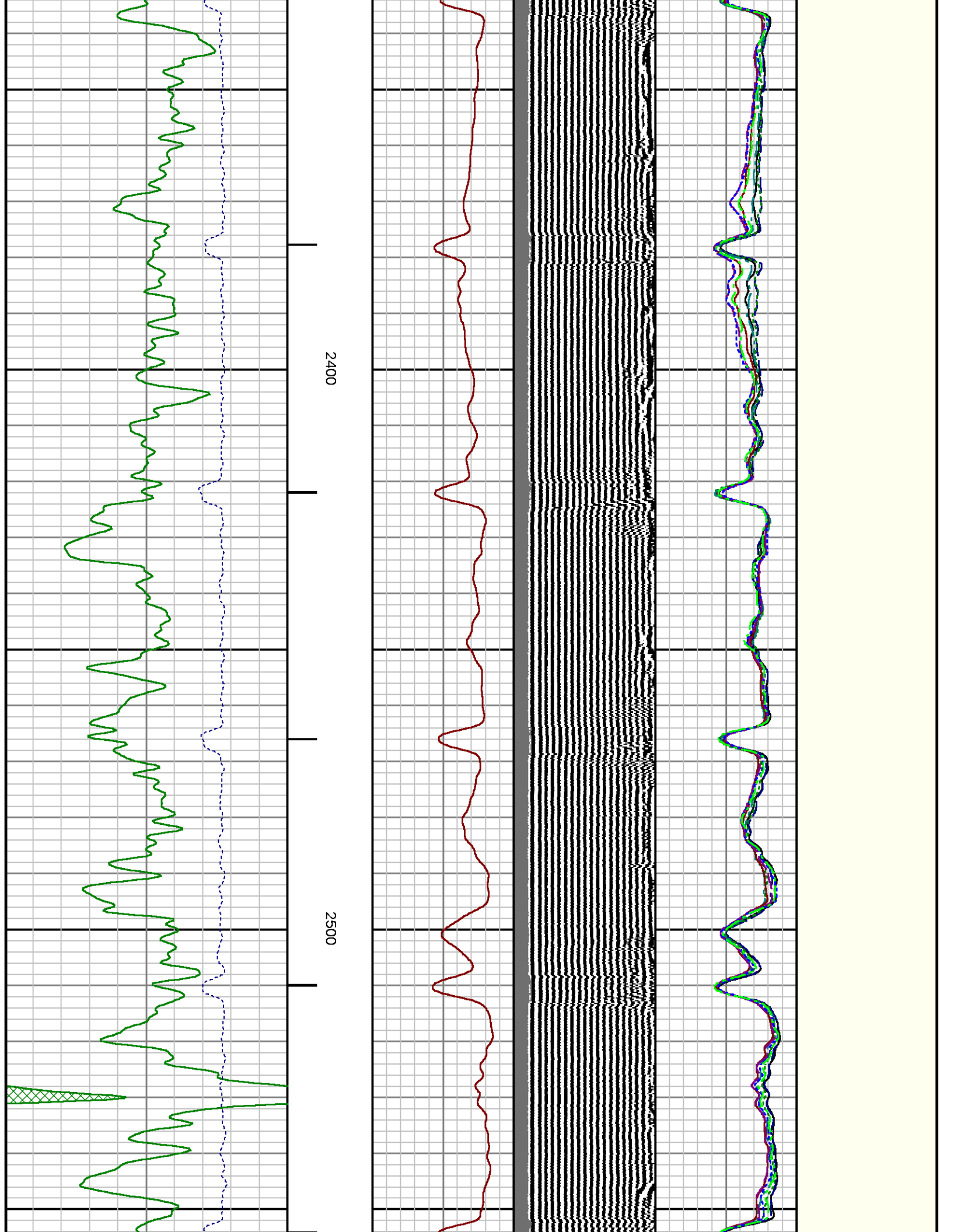
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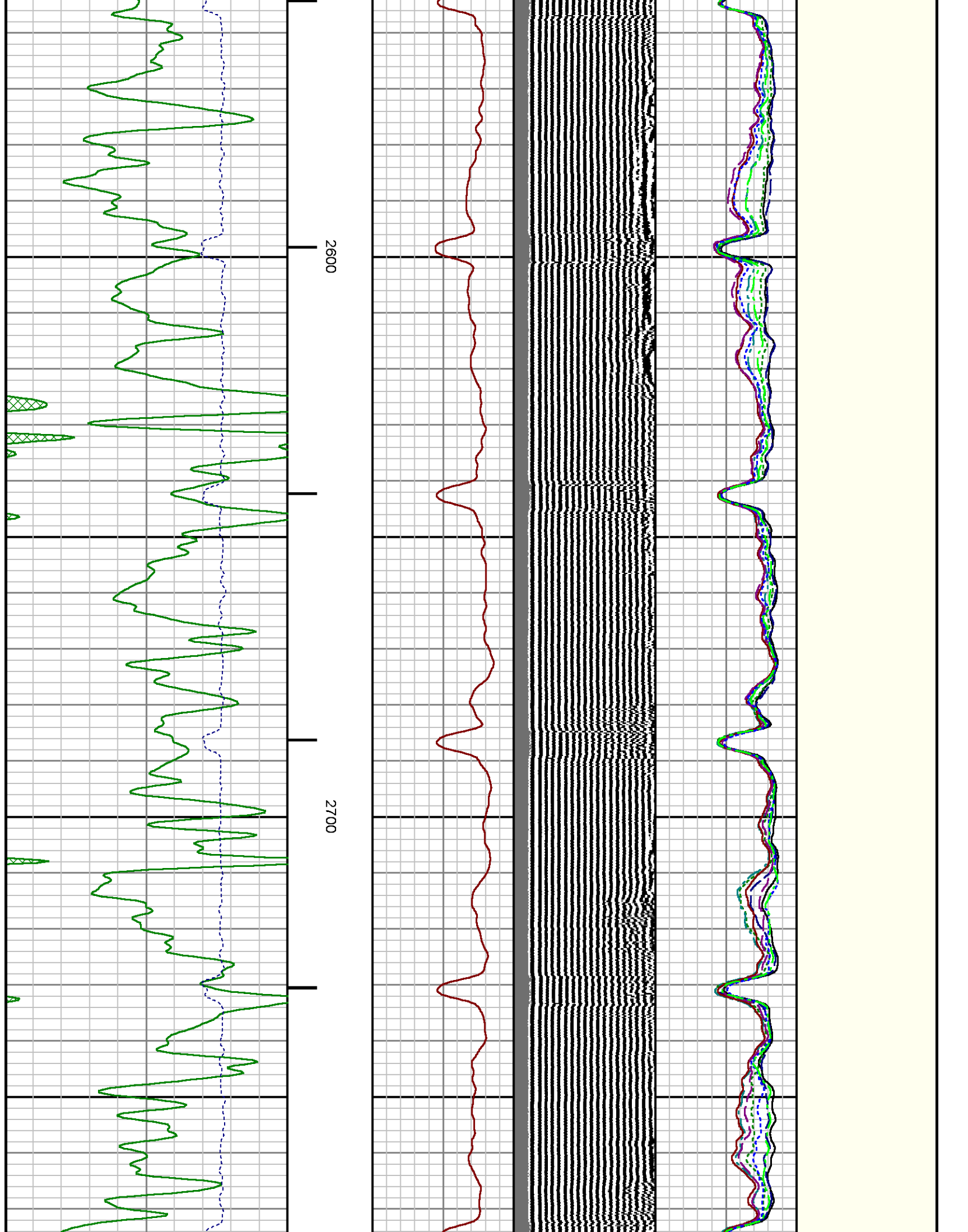


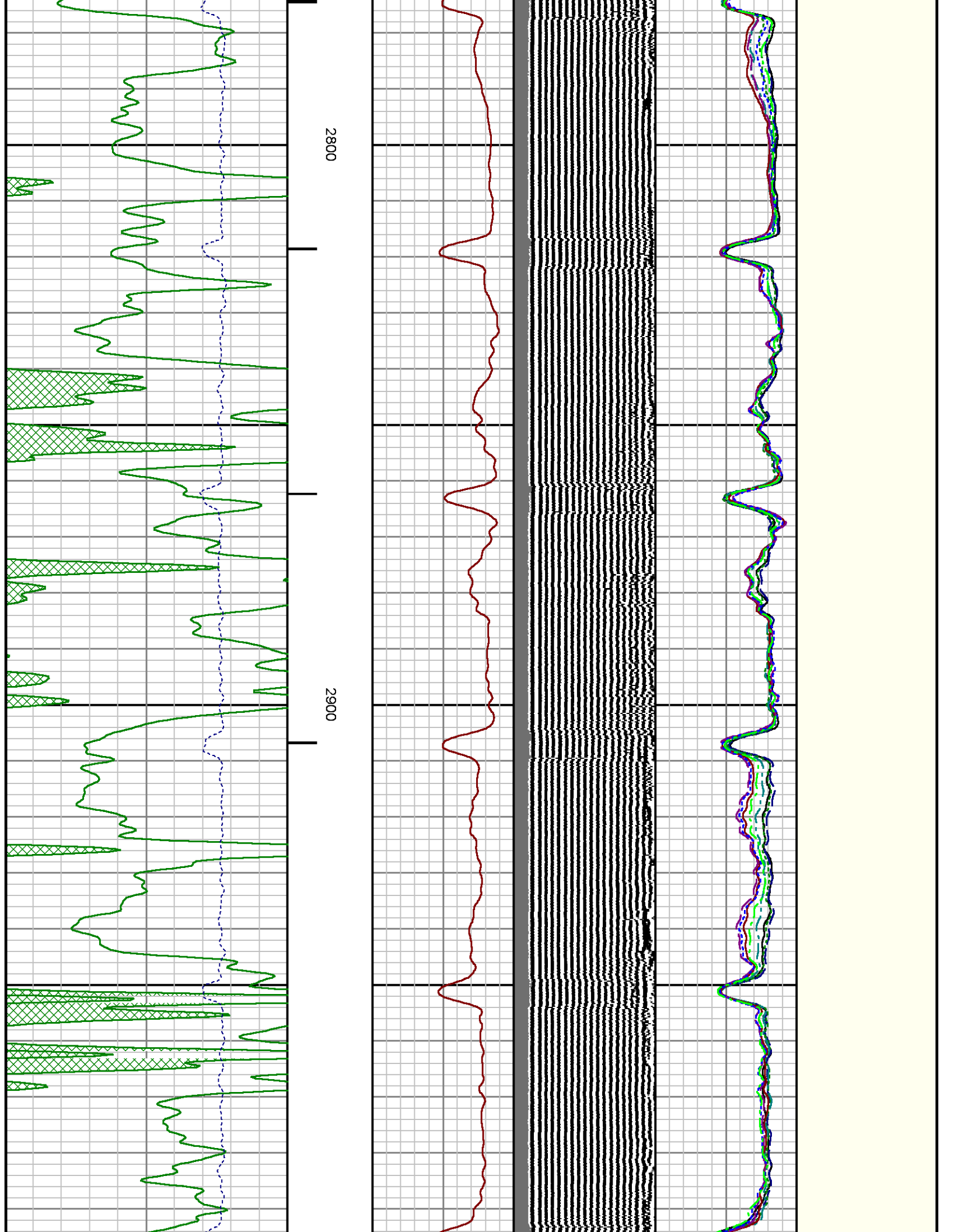


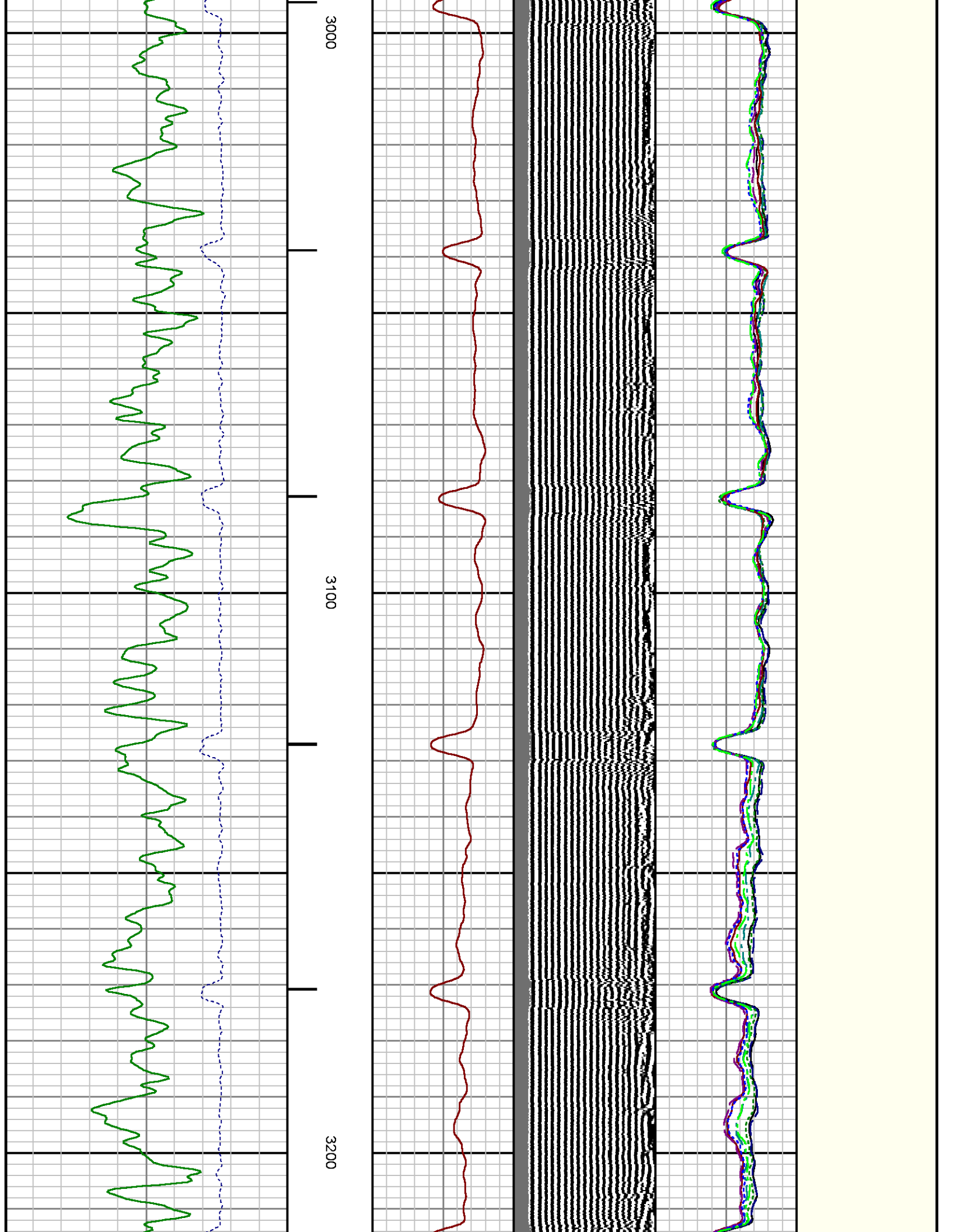


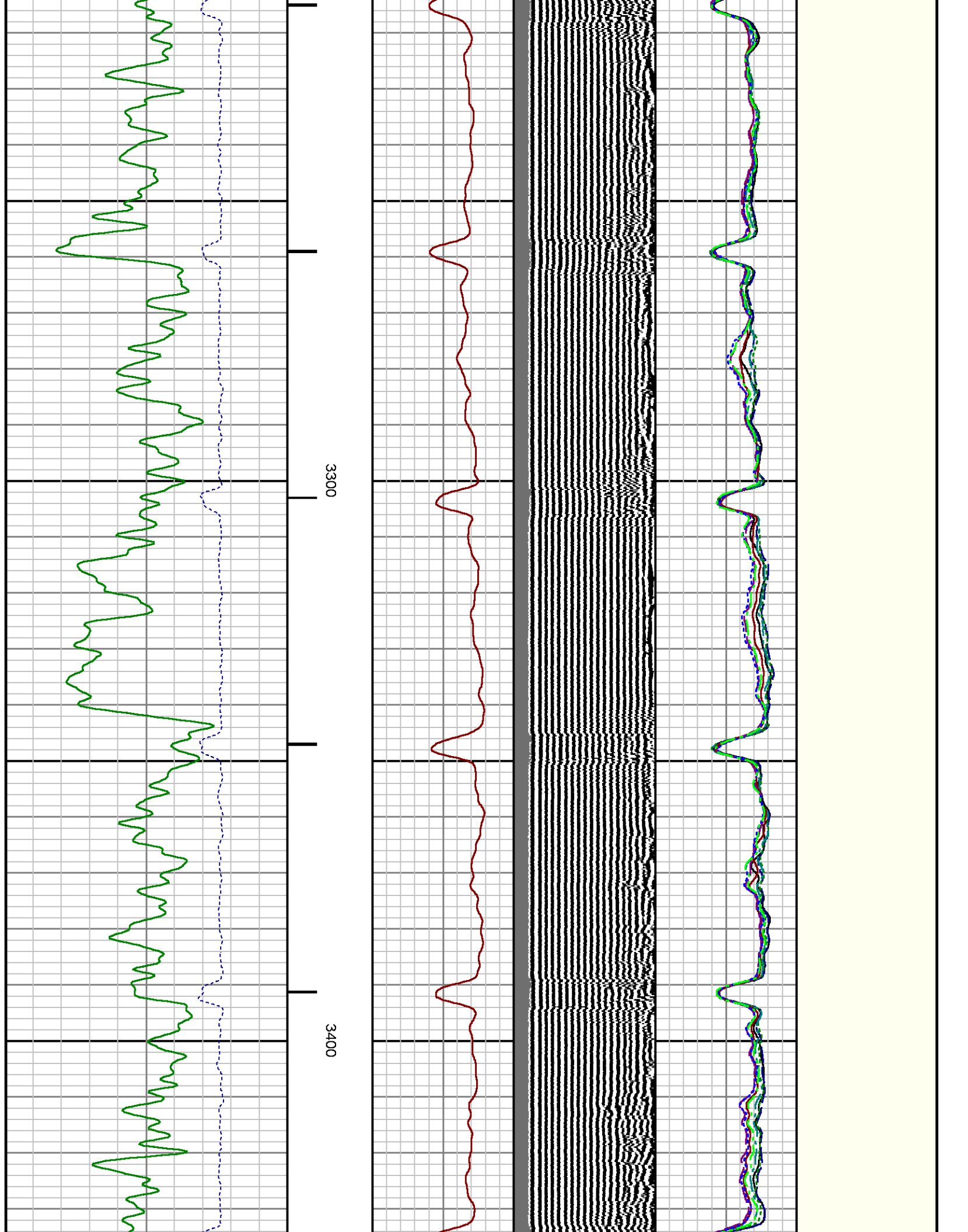




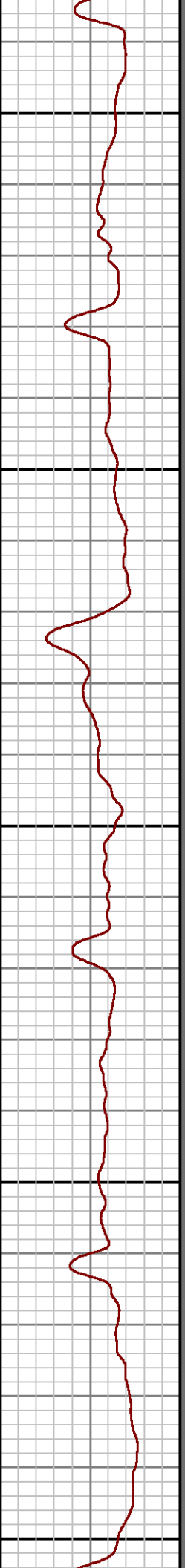
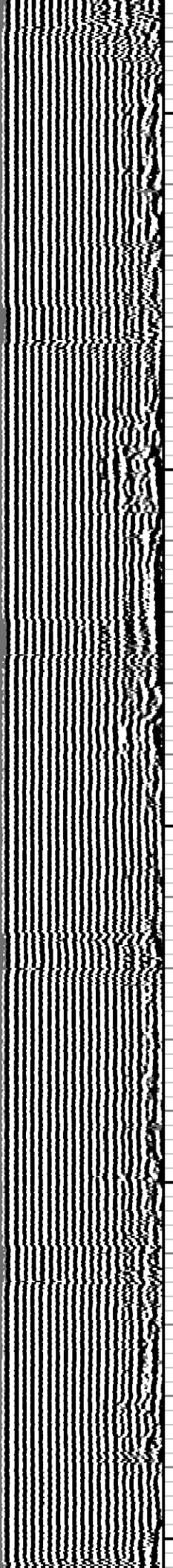
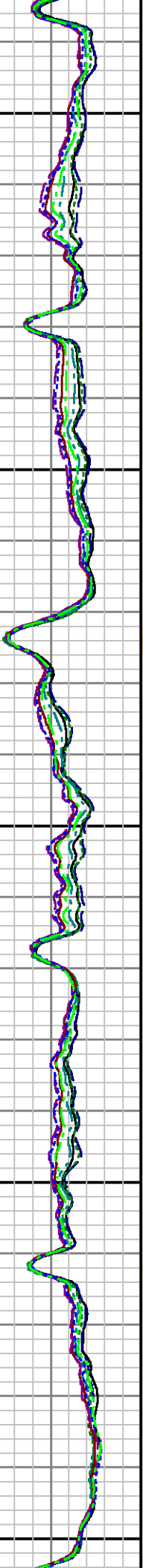
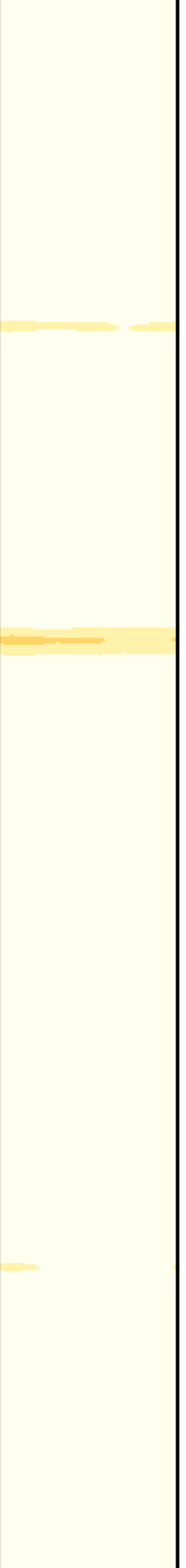






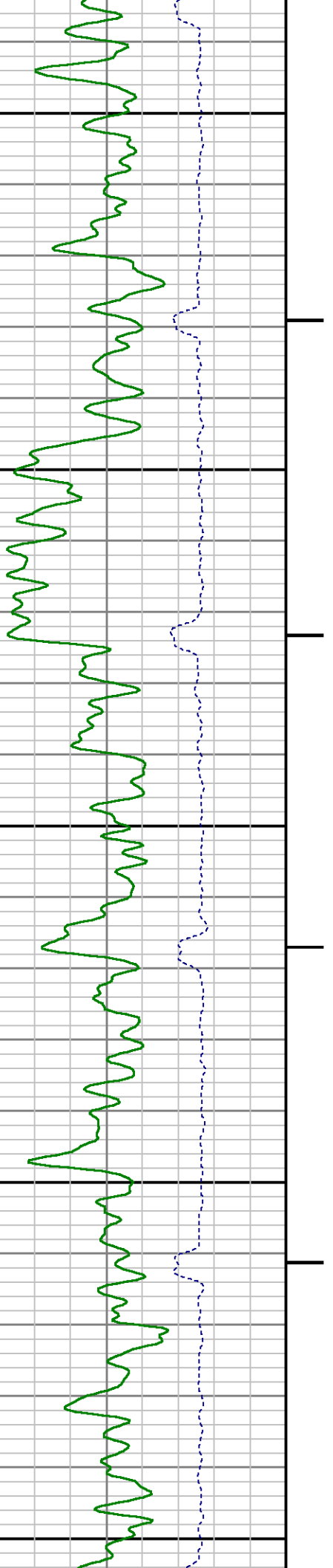




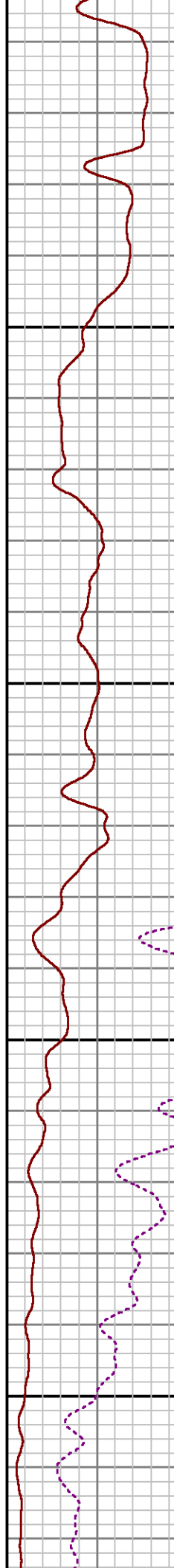
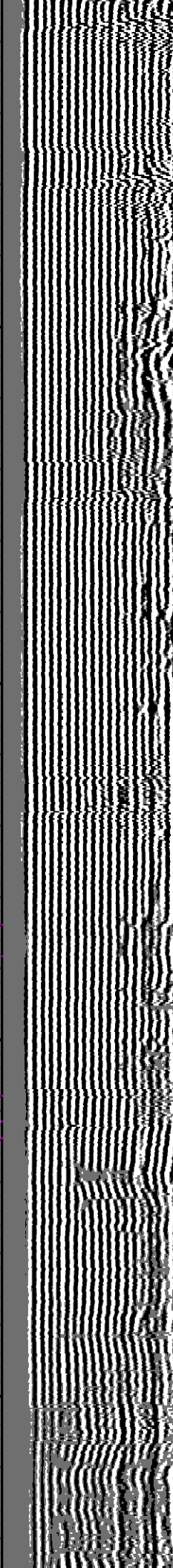
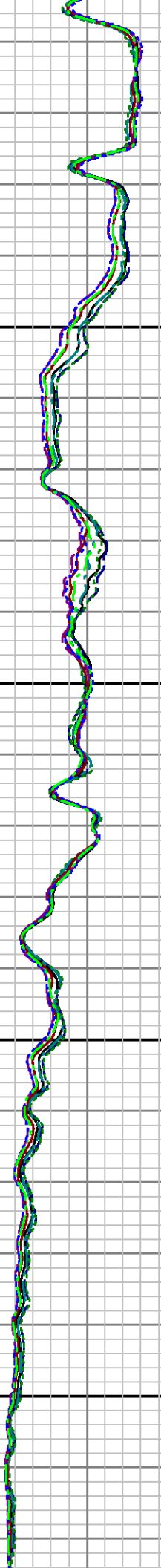
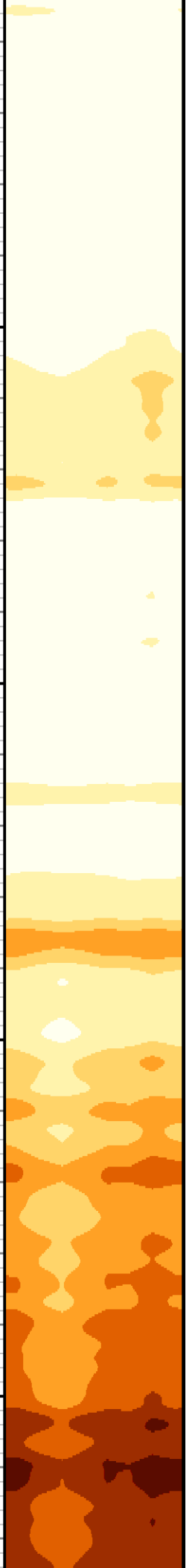


3500

3600

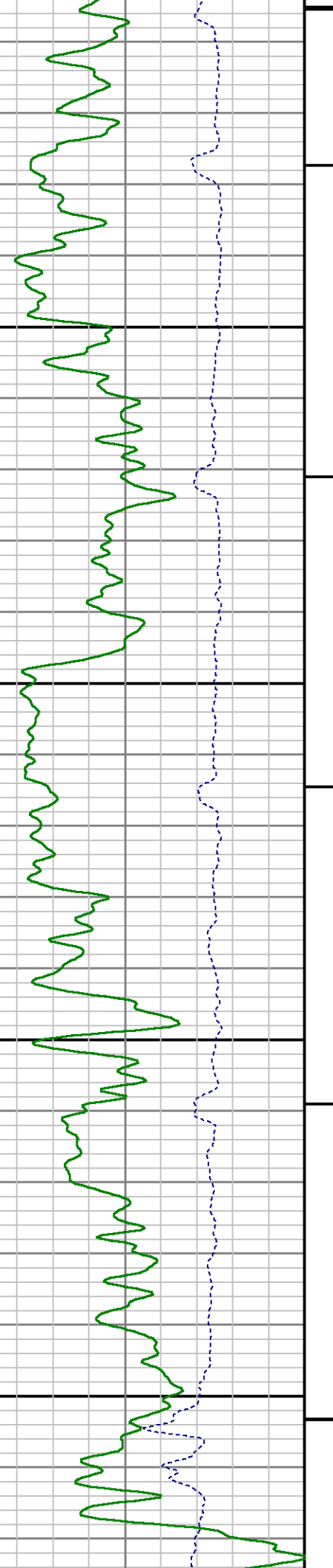


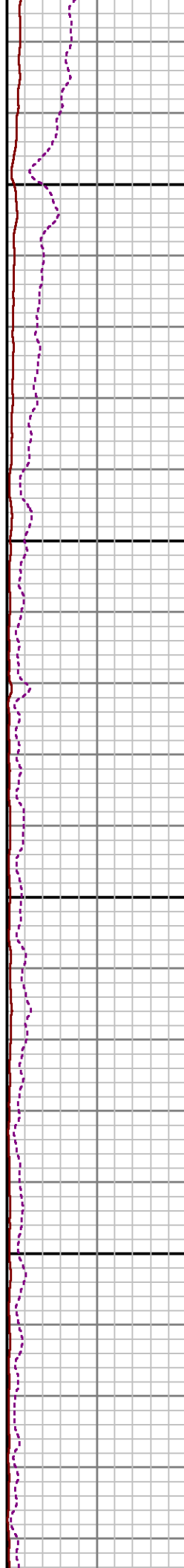
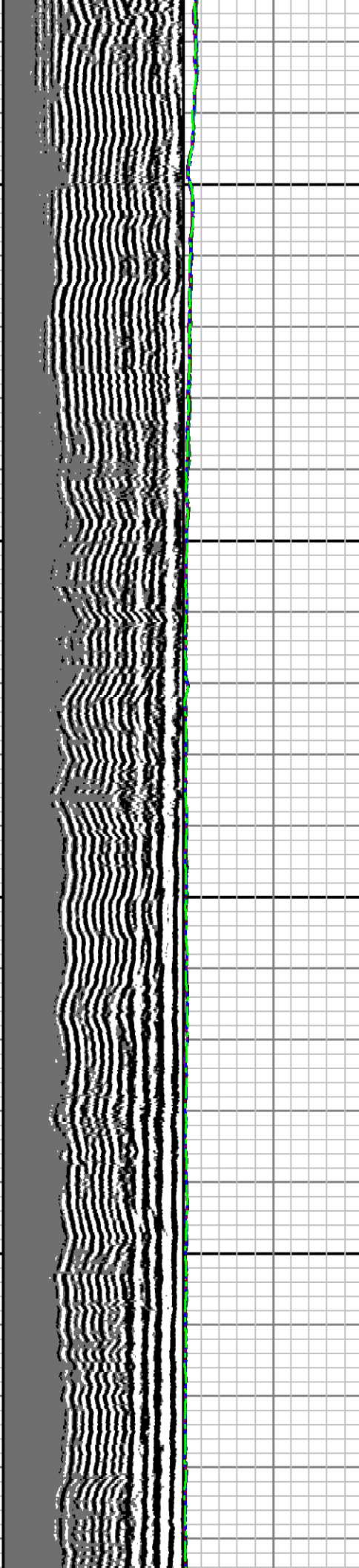




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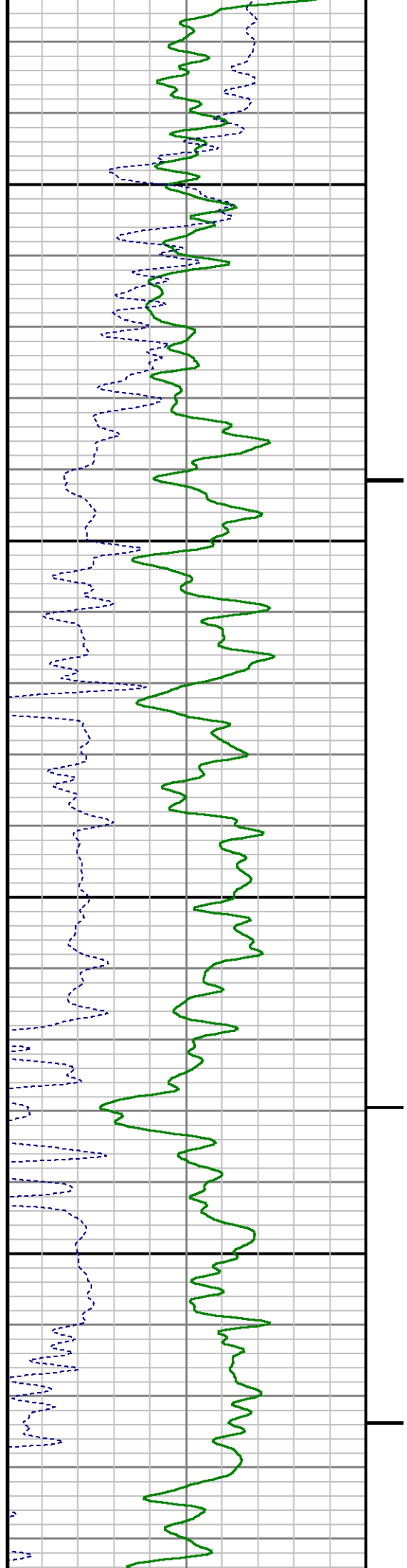
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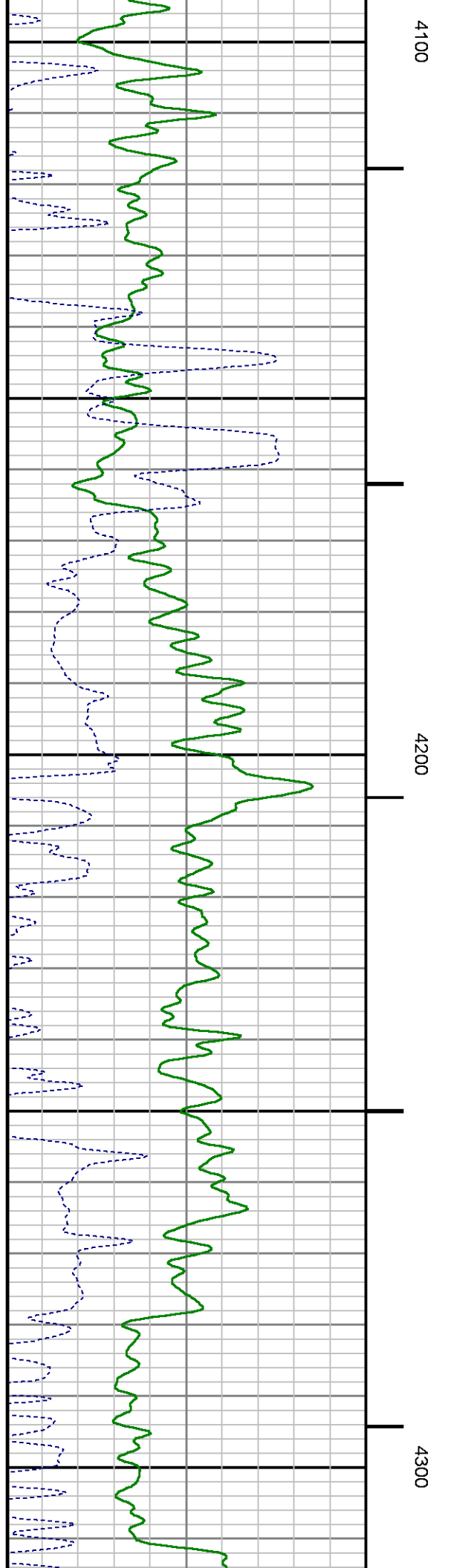
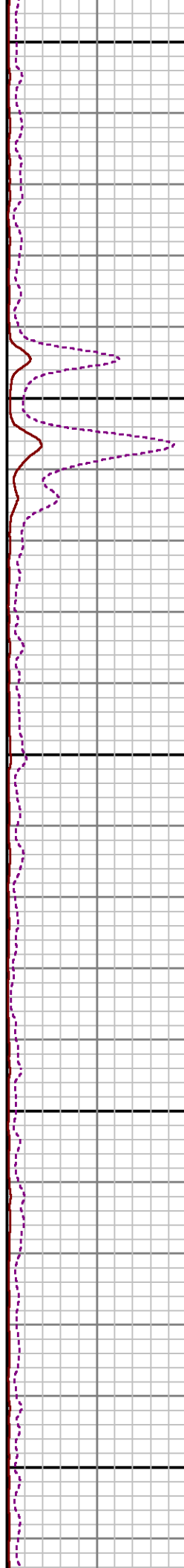
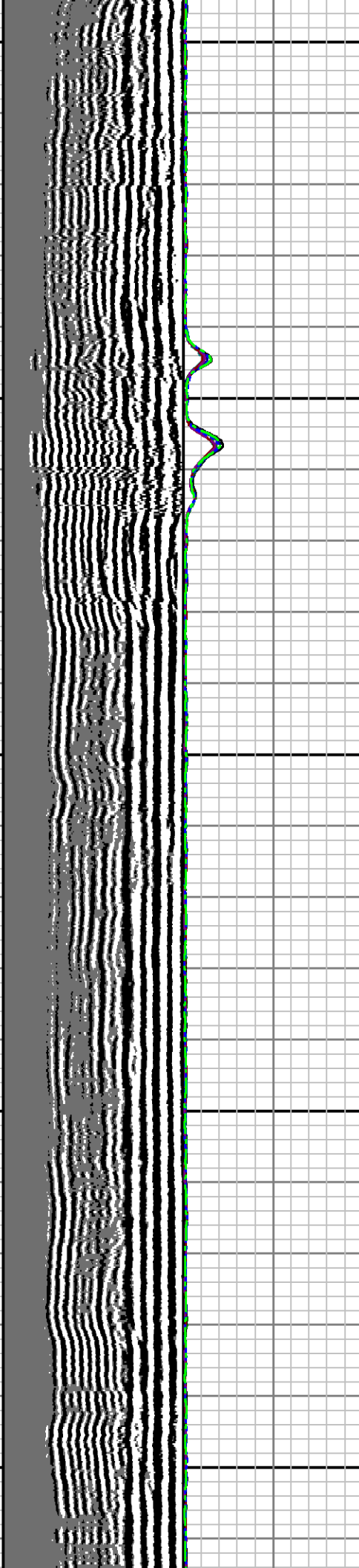
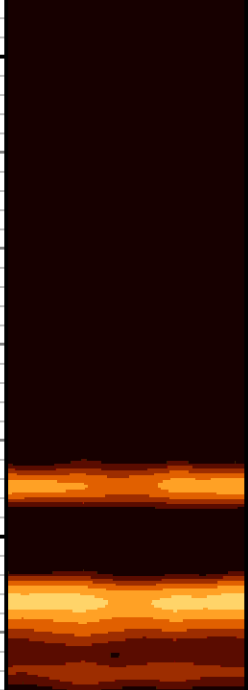


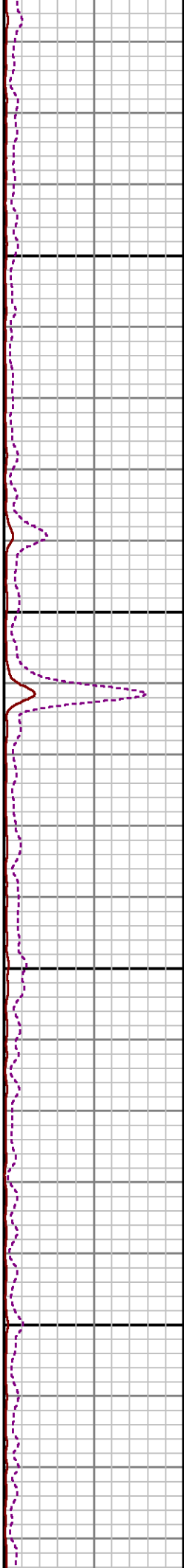
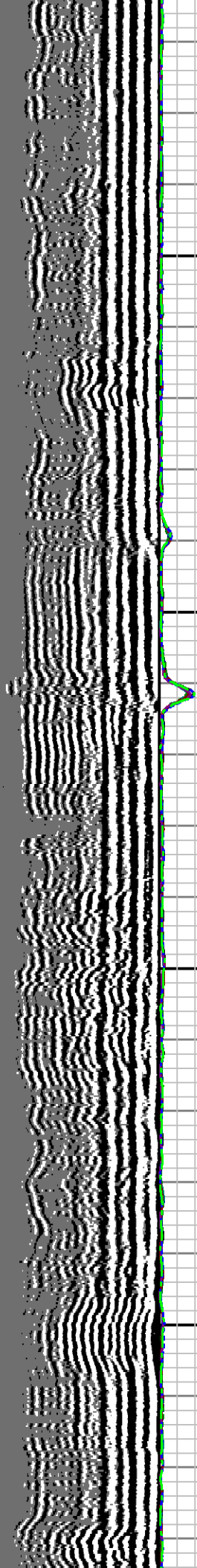
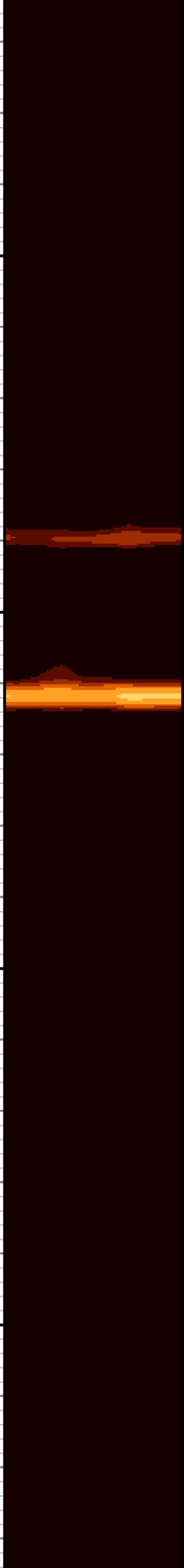


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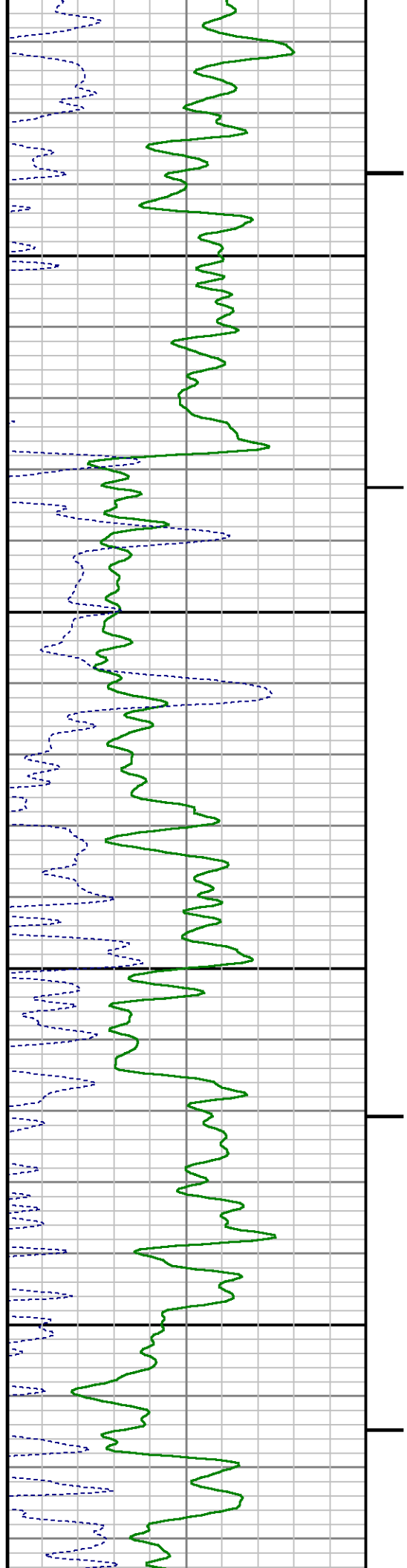


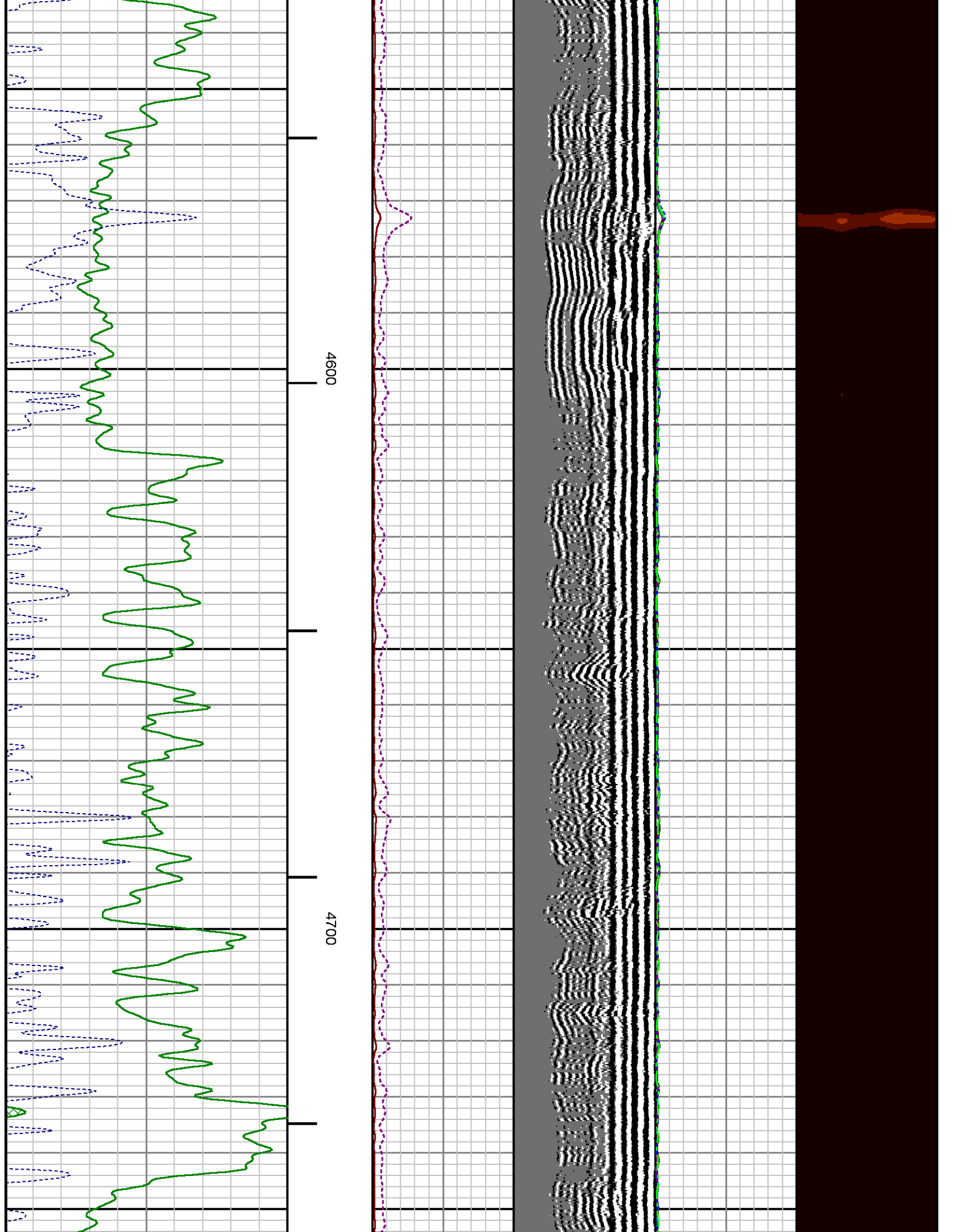


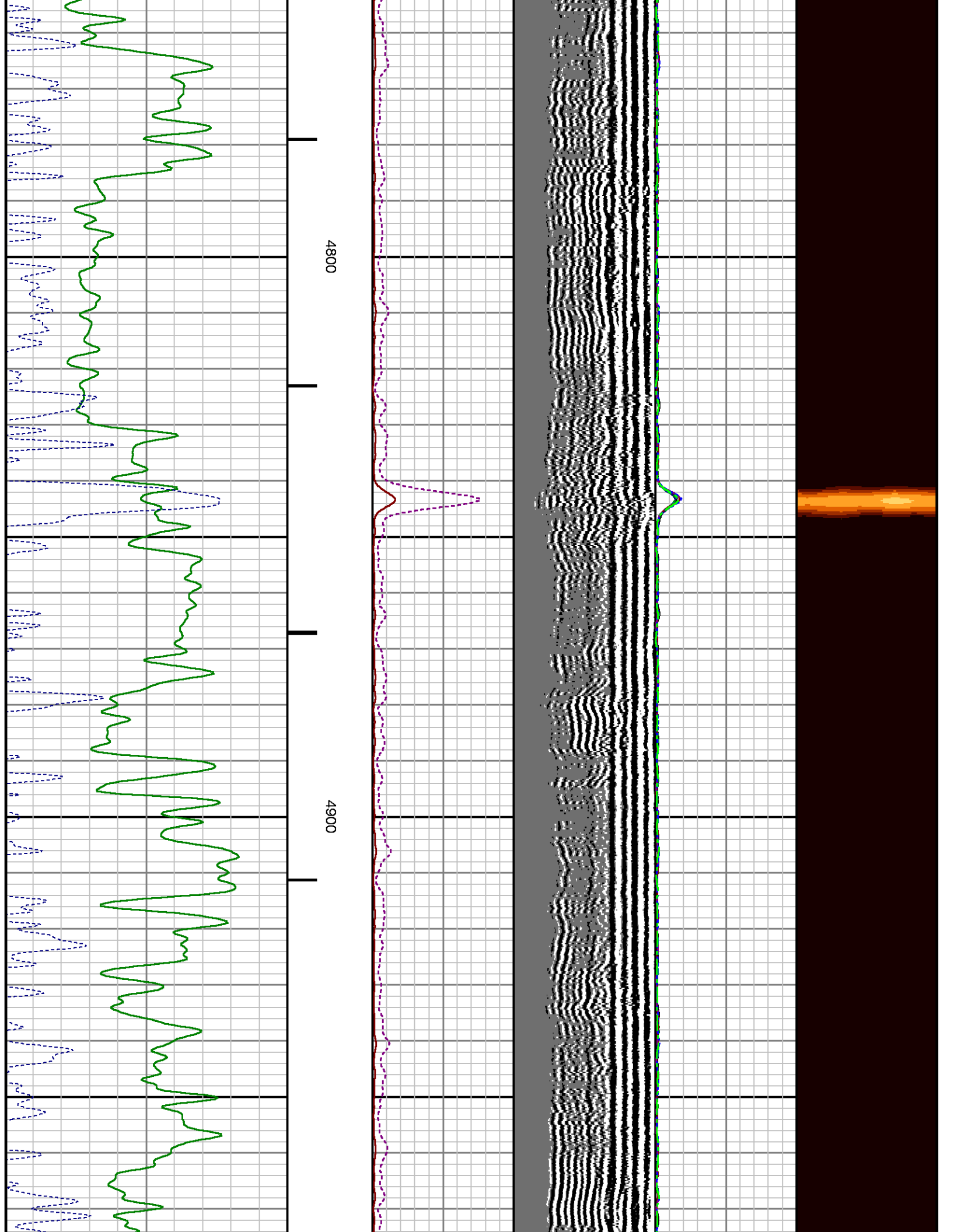


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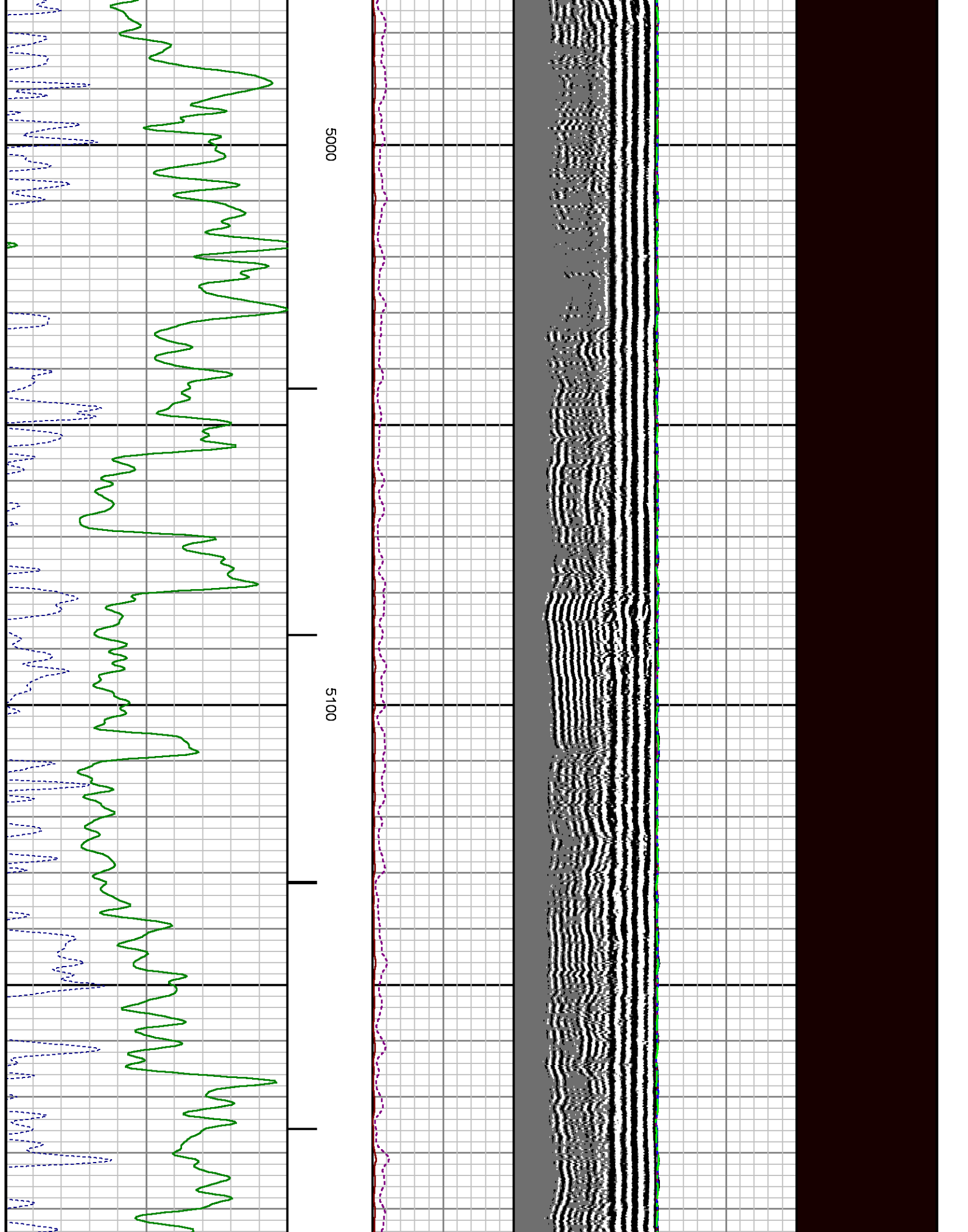
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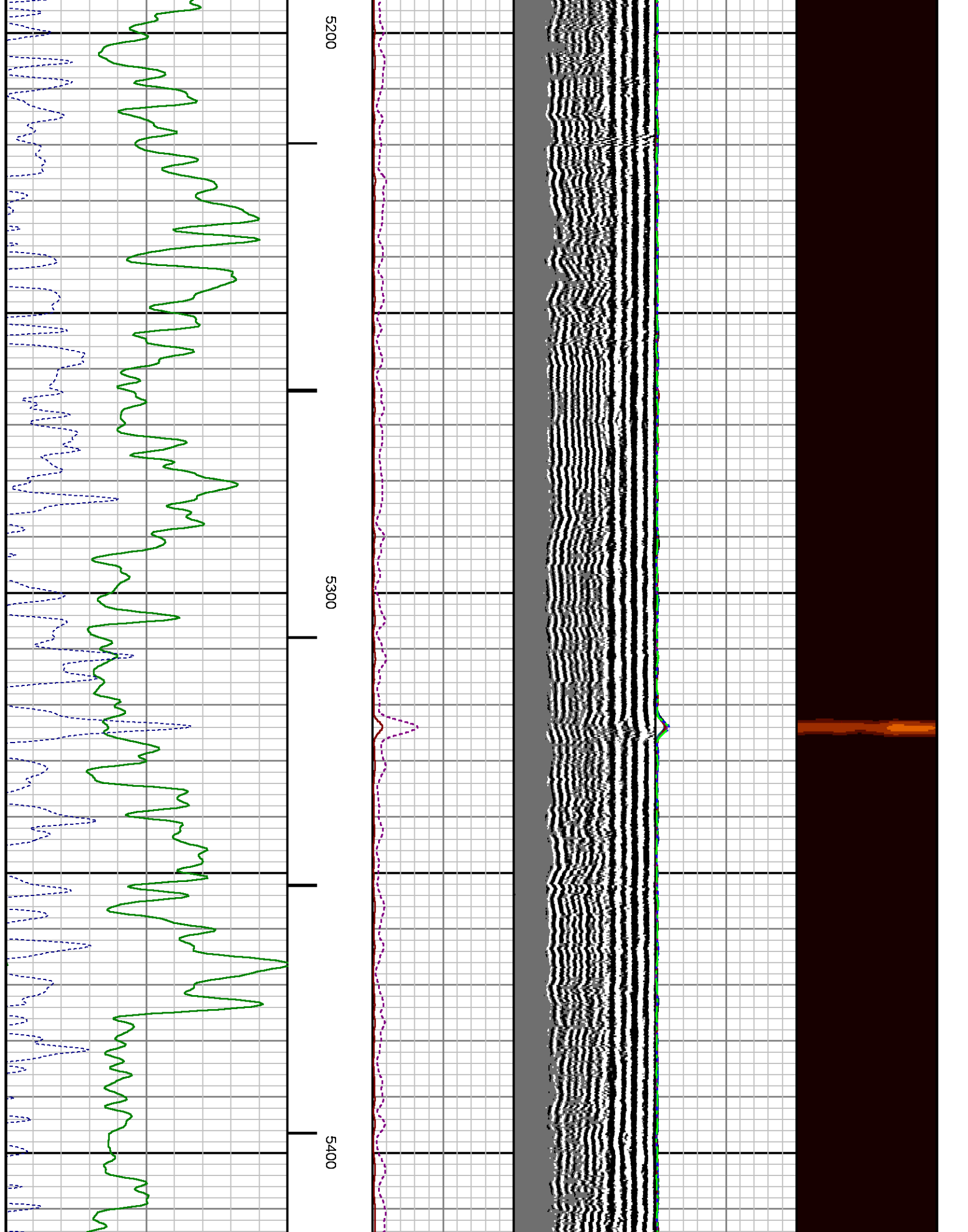


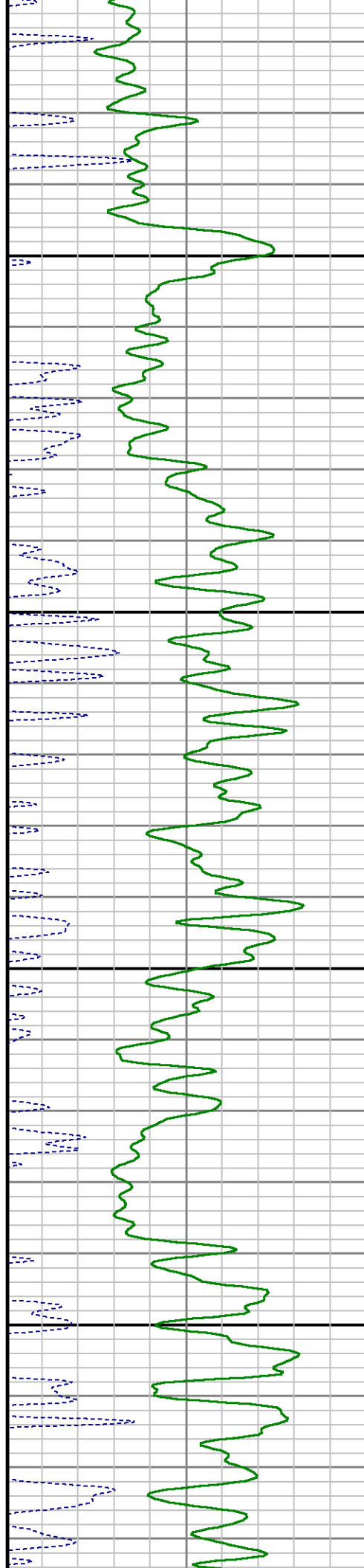
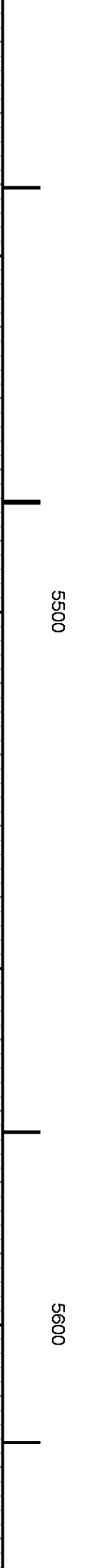
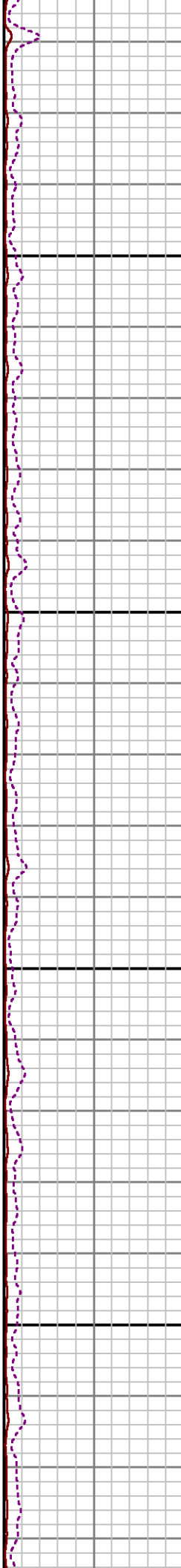
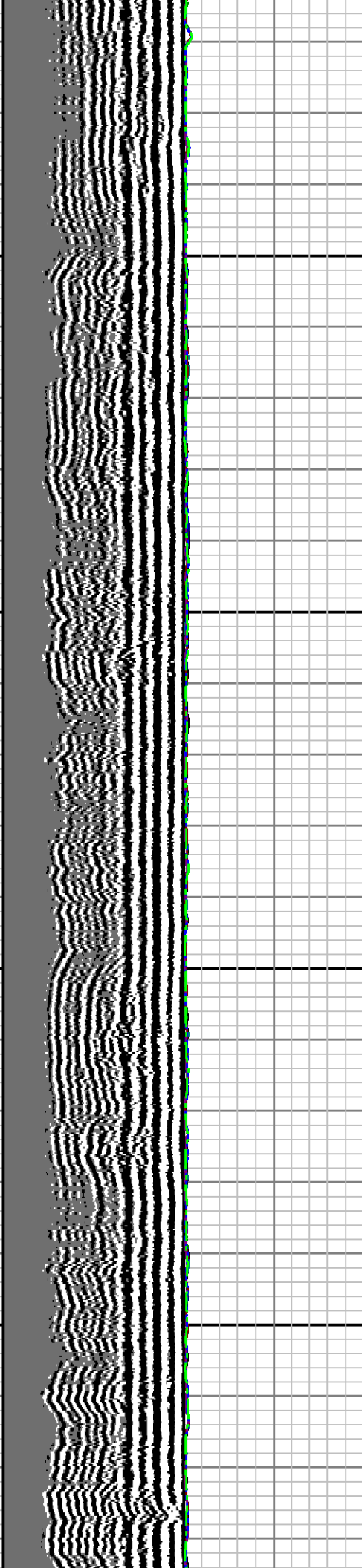
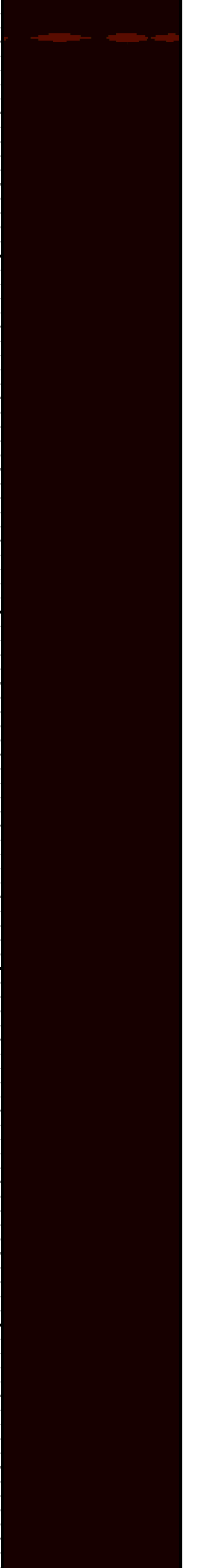


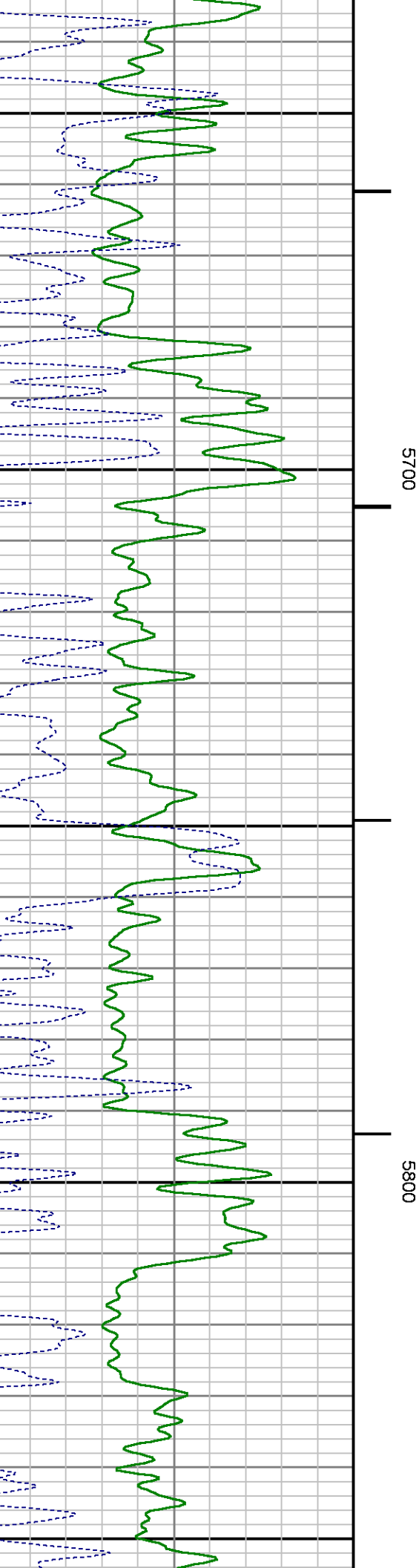
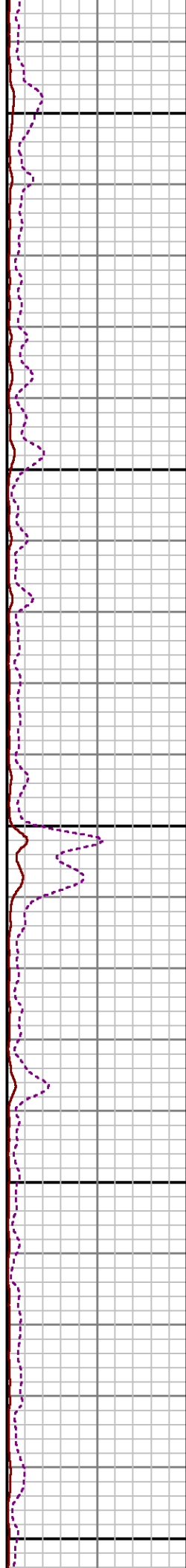
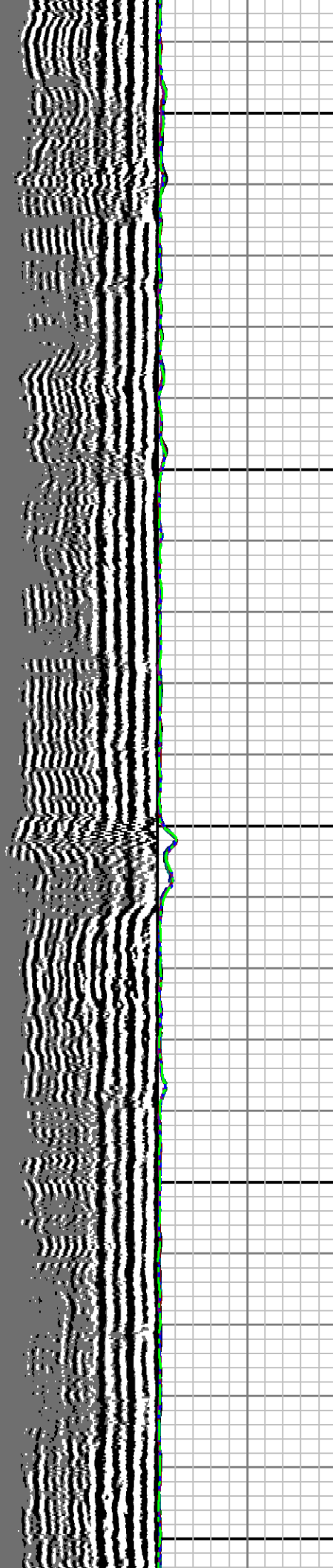
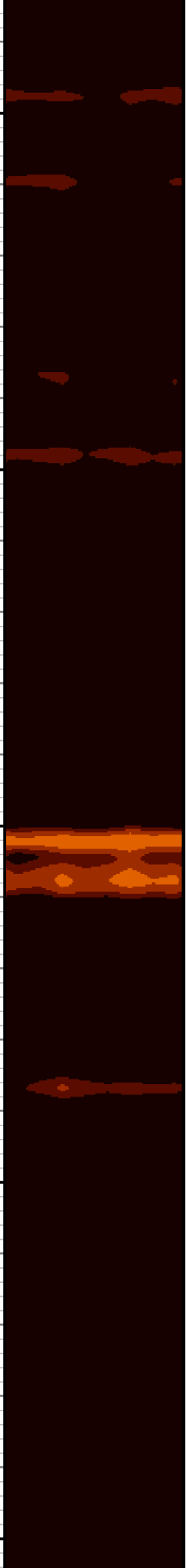


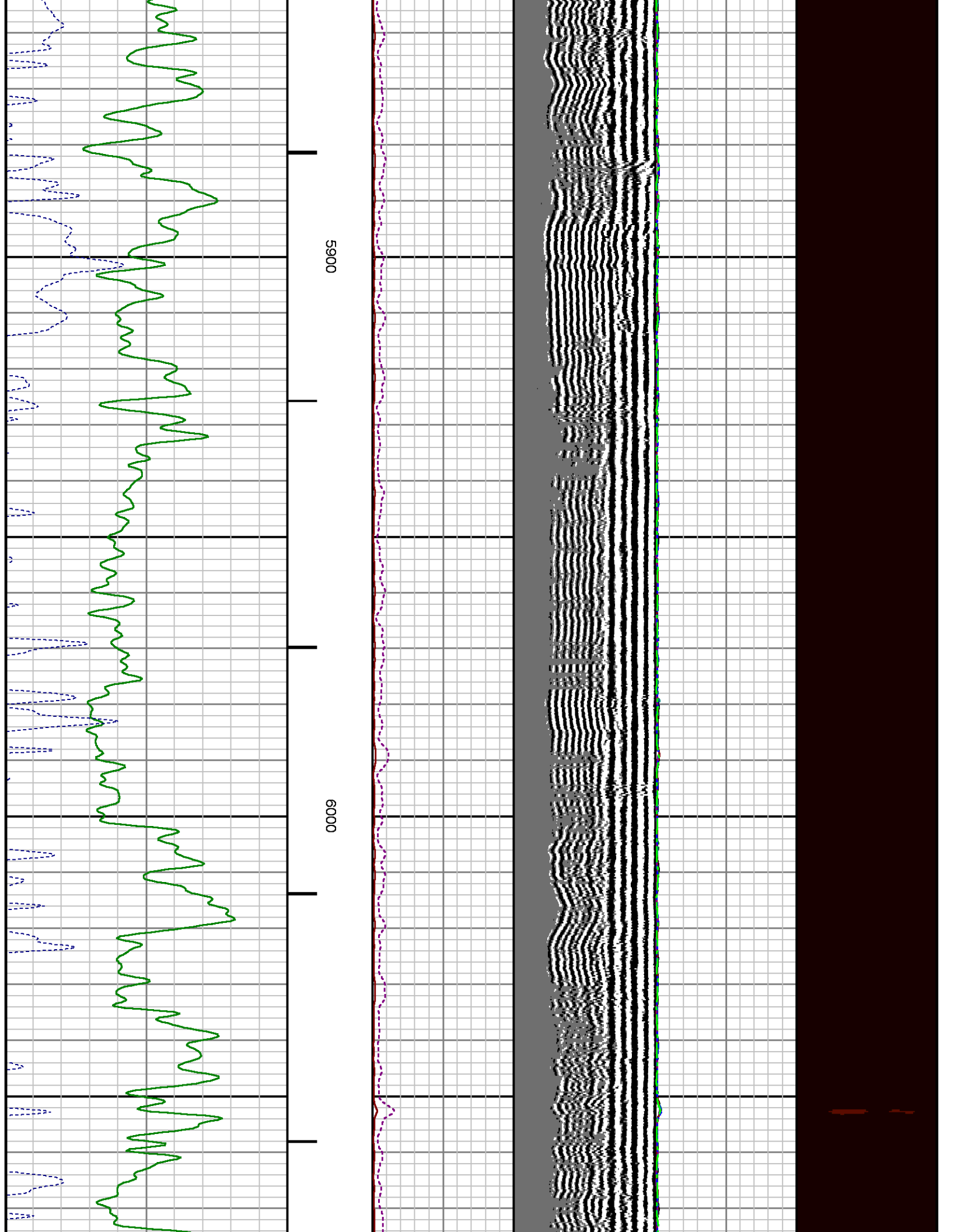


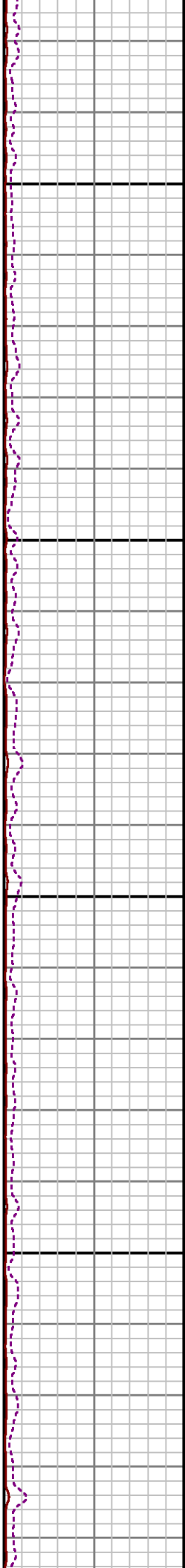
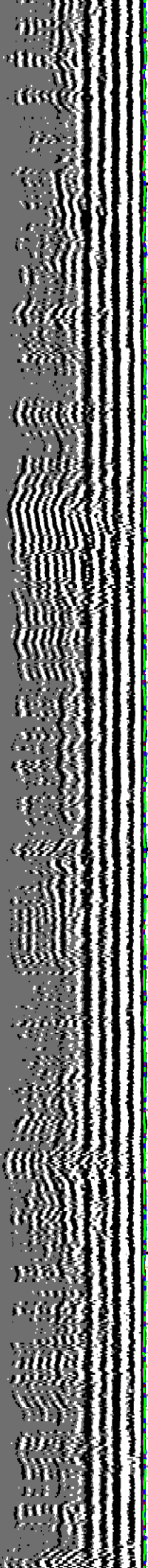






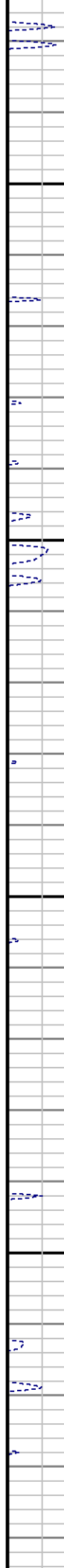




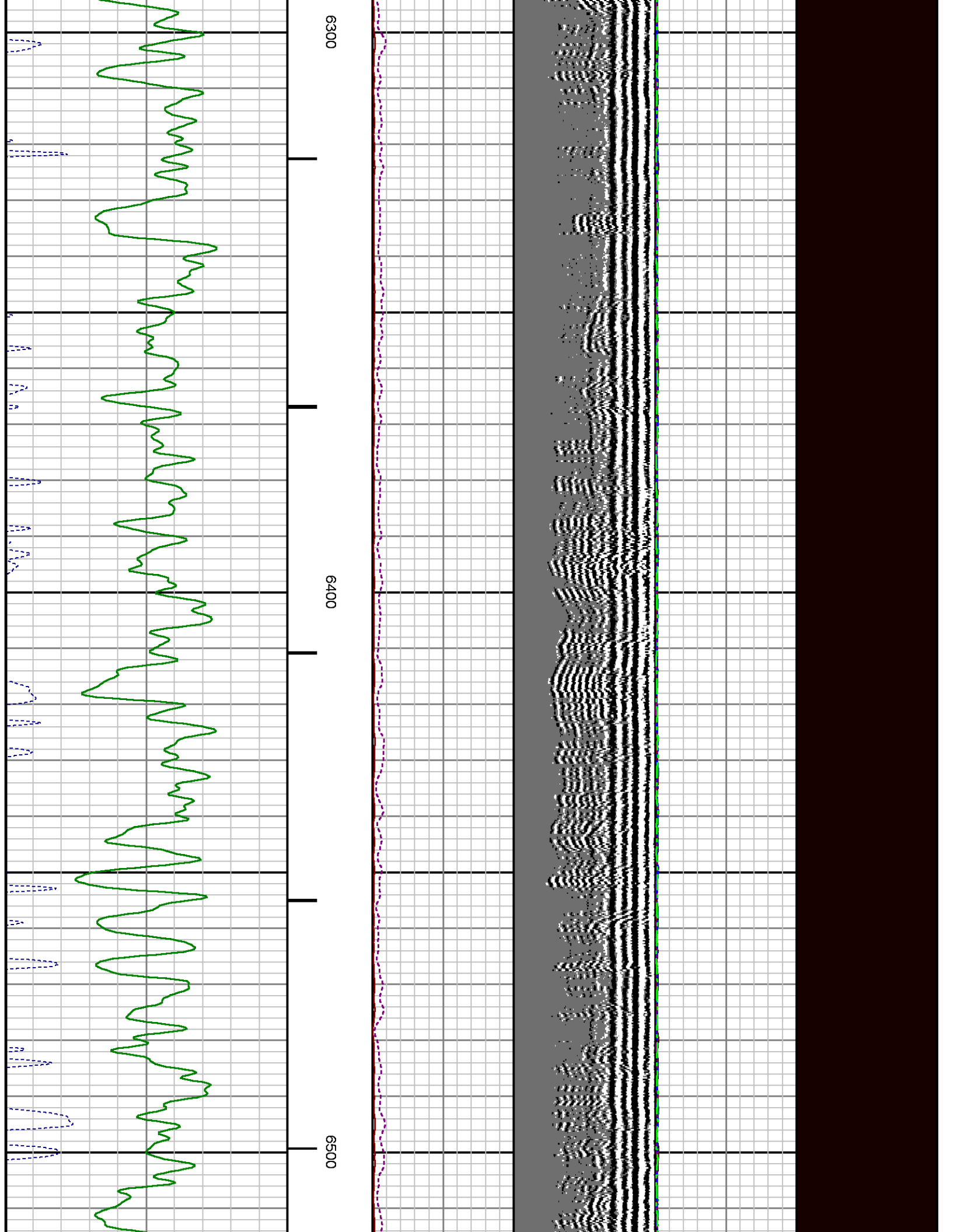


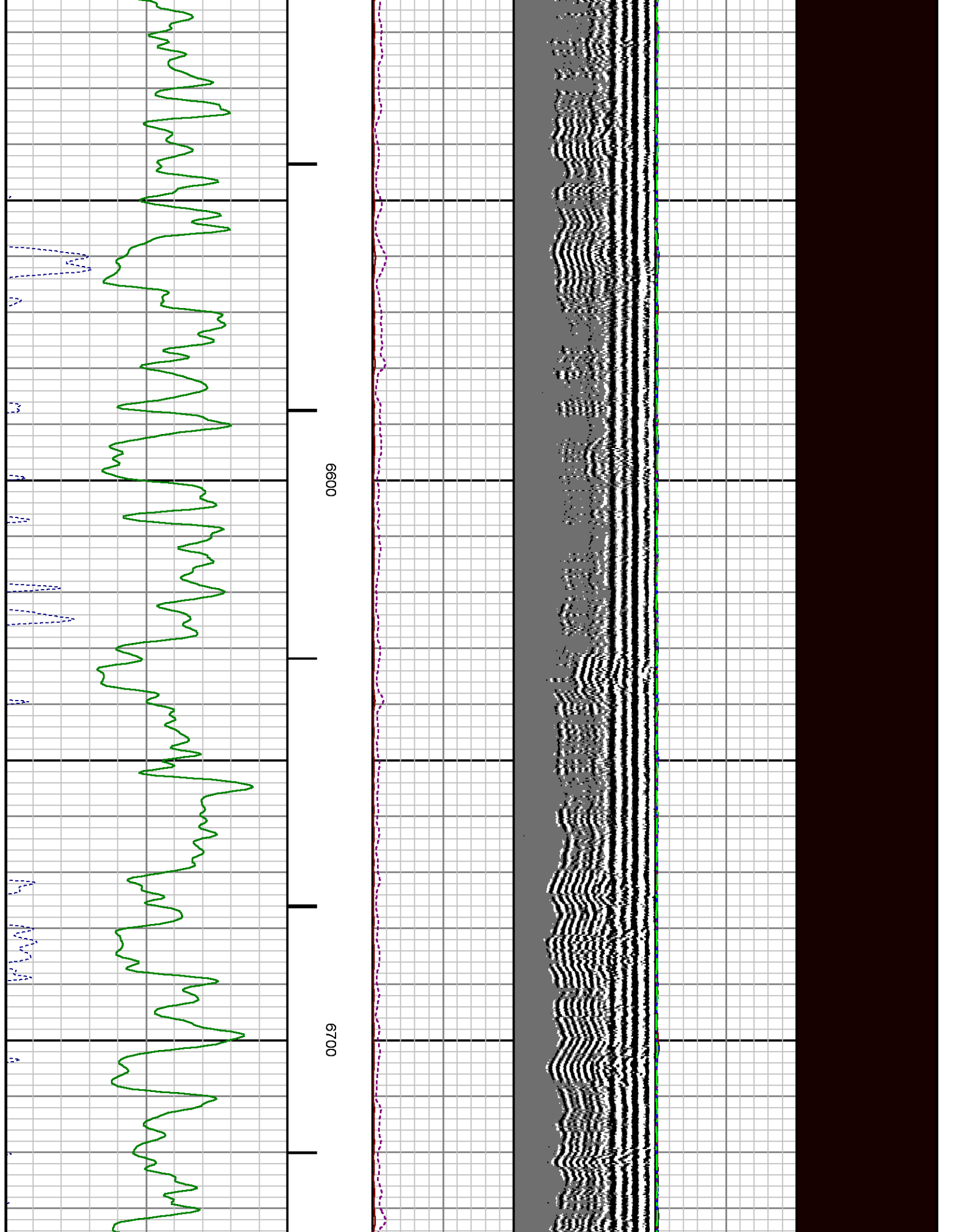
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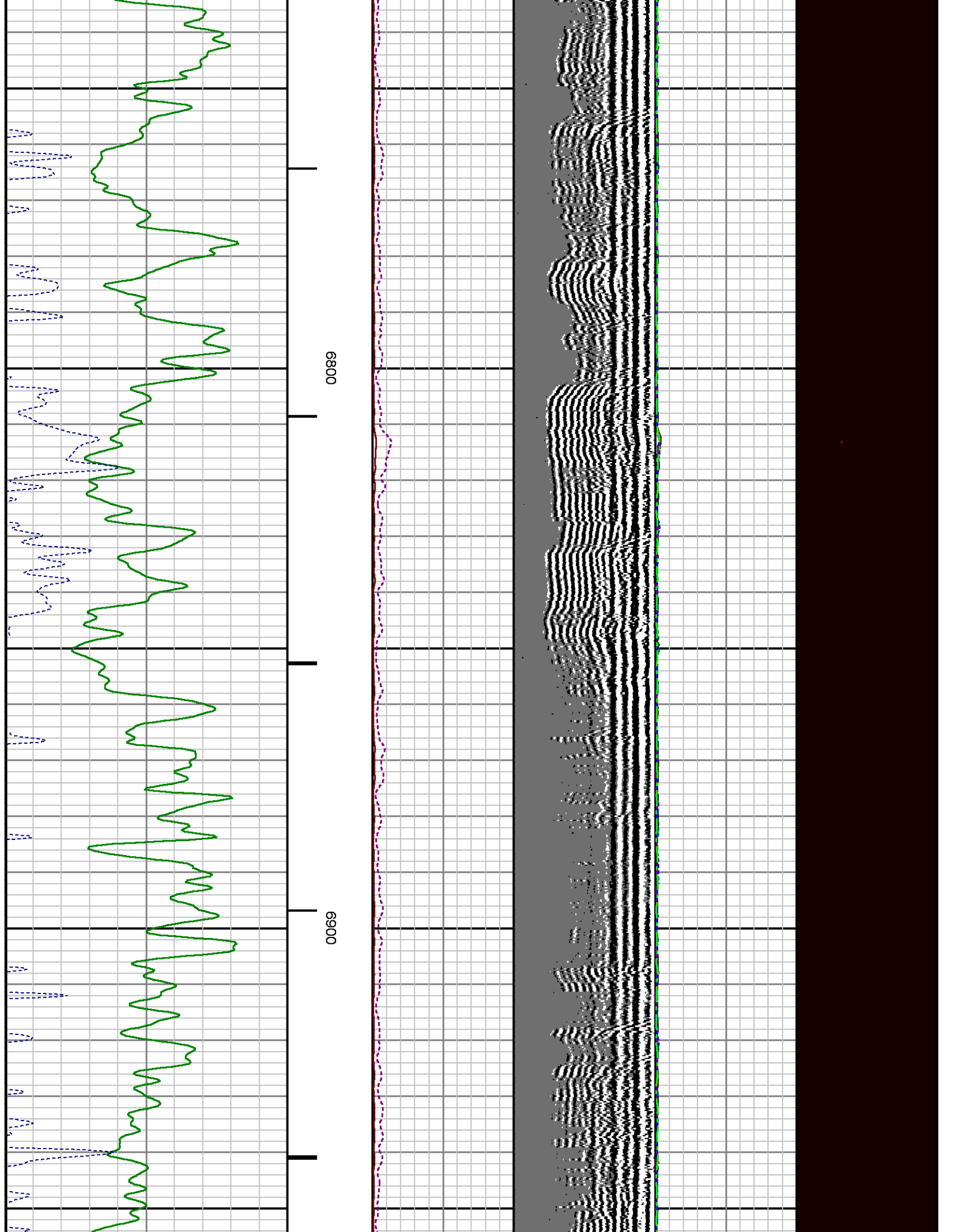
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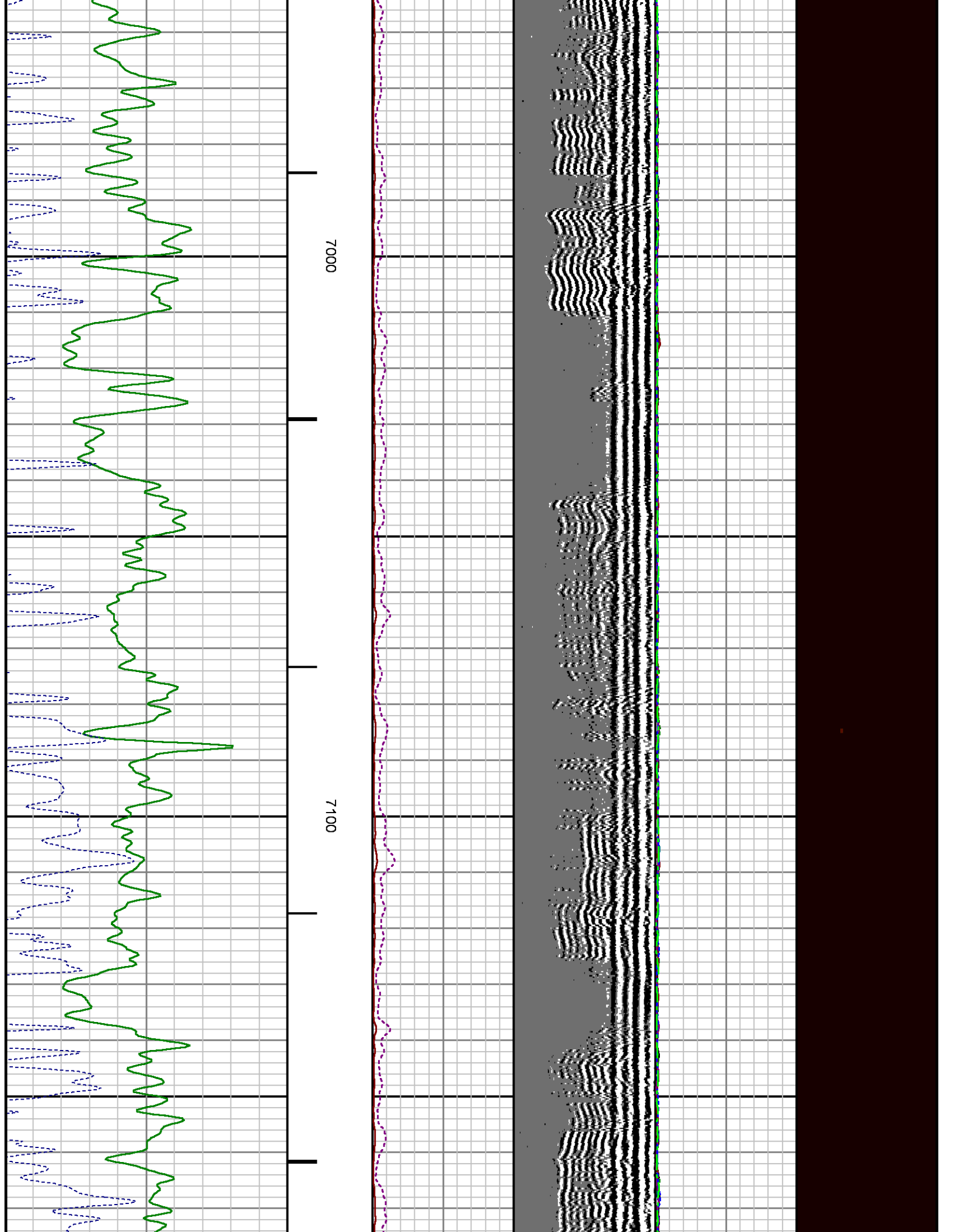


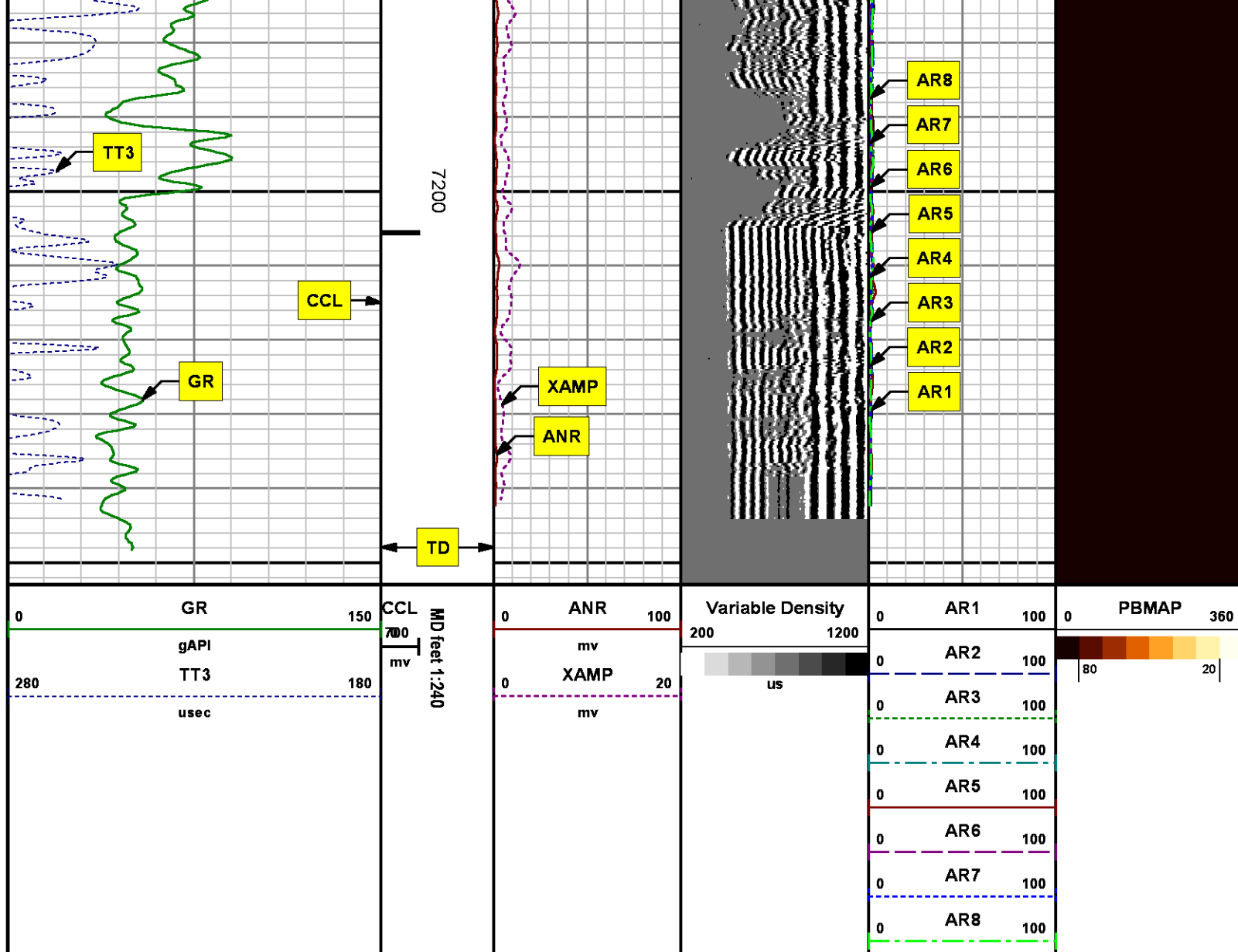












REPEAT SECTION  
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	6869.767	7300.530
RAL	Amp Gate Start Near	195.000	usec	6869.767	7300.530
RAL	Amp Gate Start Radial	195.000	usec	6869.767	7300.530
RAL	Amp Gate Width Far	25.000	usec	6869.767	7300.530

RAL	Amp Gate Width Near	25.000	usec	6869.767	7300.530
RAL	Amp Gate Width Radial	25.000	usec	6869.767	7300.530
RAL	casing od	4.500	inches	6869.767	7300.530
RAL	casing wt	11.600	lbm/ft	6869.767	7300.530
RAL	FB Start Far	291.900	usec	6869.767	7300.530
RAL	FB Start Near	175.391	usec	6869.767	7300.530
RAL	FB Start Radial	175.391	usec	6869.767	7300.530
RAL	FB Thresh Far	10.000	mv	6869.767	7300.530
RAL	FB Thresh Near	4.000	mv	6869.767	7300.530
RAL	FB Thresh Radial	4.000	mv	6869.767	7300.530
RAL	Fluid Travel Time	200.000	usec/ft	6869.767	7301.030

## DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES							
1426XA	-12.360	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	-11.360	AFAR	SIG	TT5					
2459XA	-7.250	CCL							
2459XA	-5.390	GR							
2459XA	0.000	NEU							

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

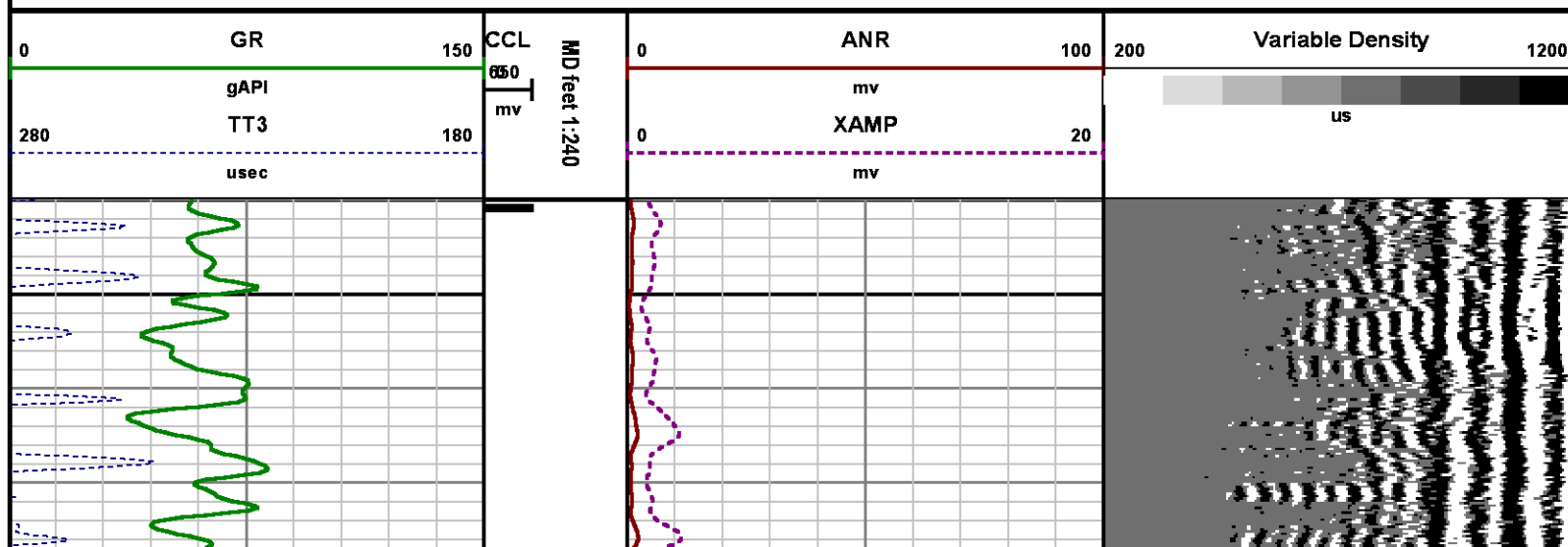
Well : CHEVRON GM 12-21

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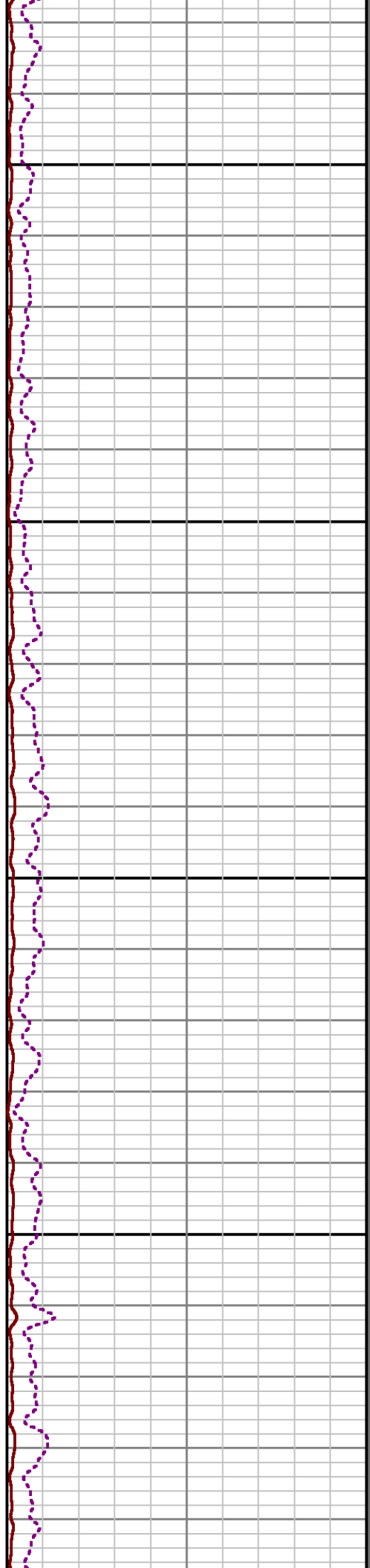
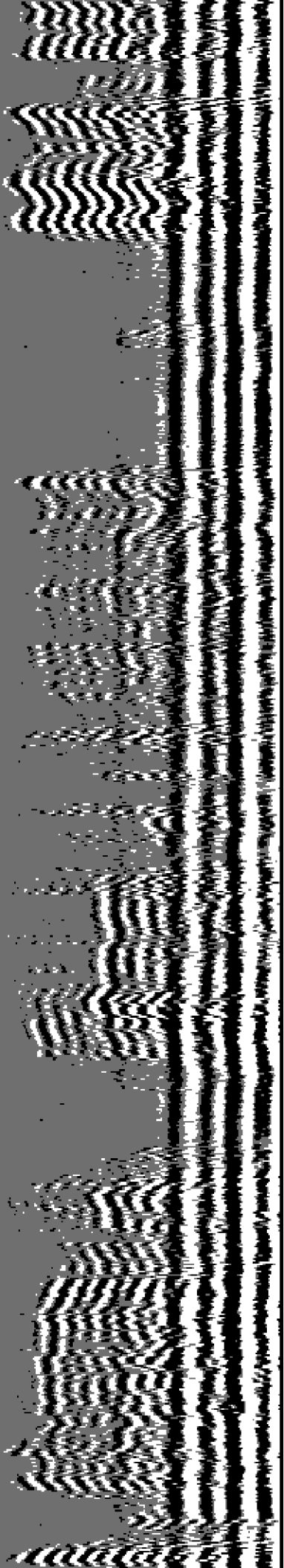
Mode : PlotMgr 5.4.504

Interval : 6940.00 - 7240.00 feet UP

Created : 10/10/2014 5:33:32 AM

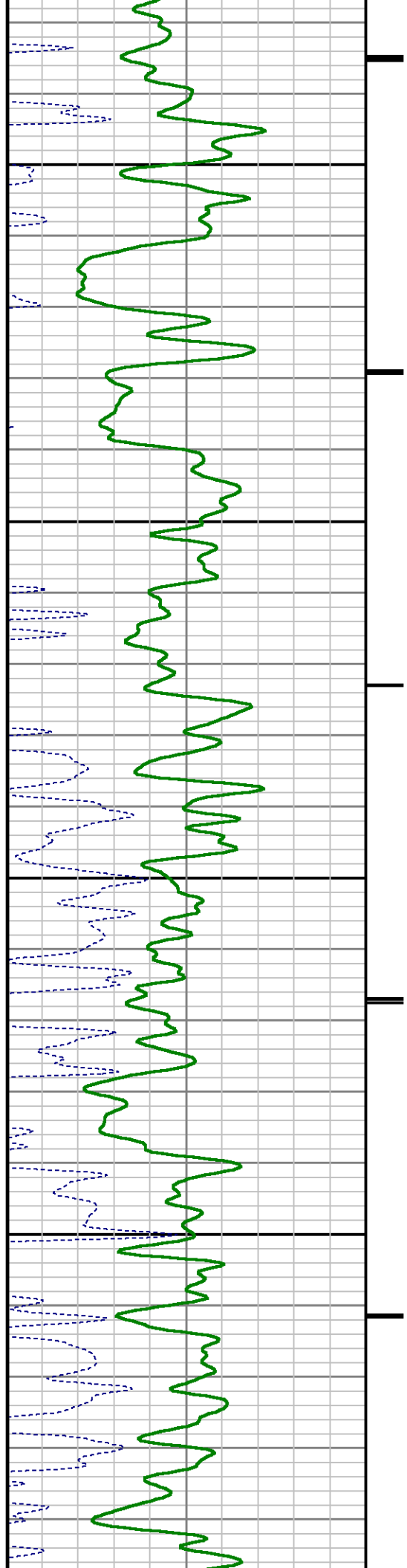


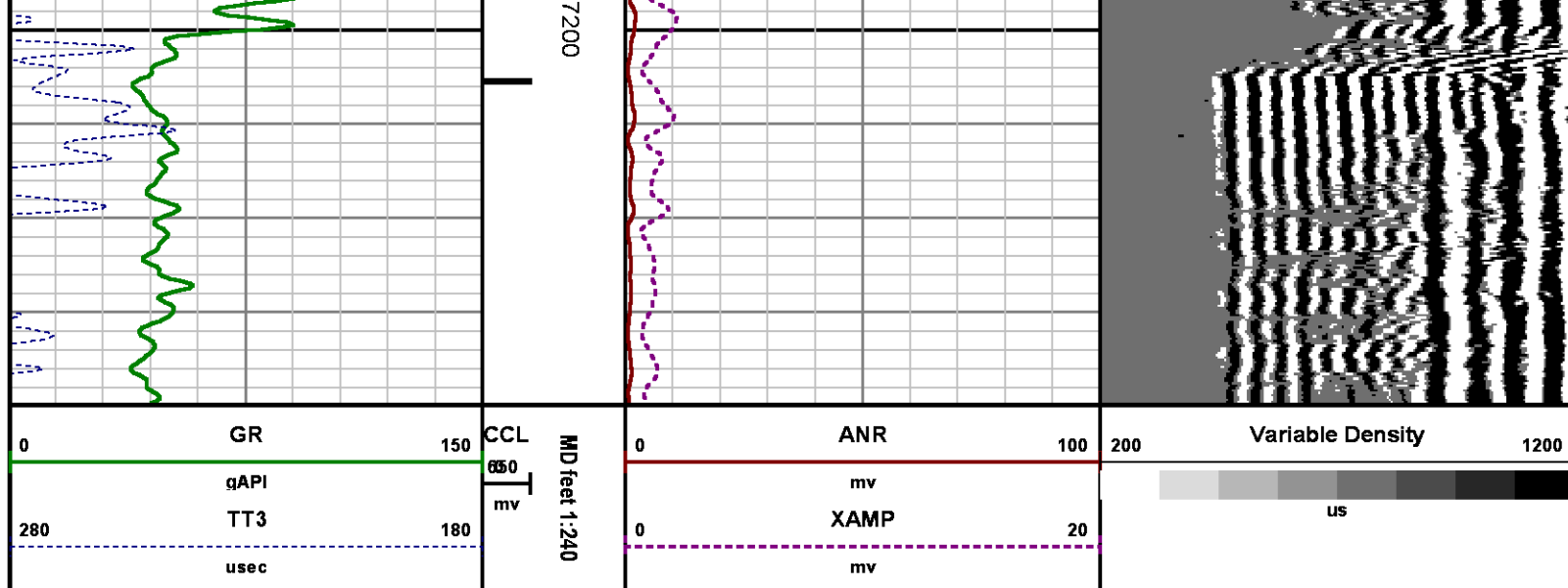




7000

7100





## CALIBRATION SUMMARY

*RALSHP*

Shop Calibration: C:\case\calver\RALSHP\10609\_shp.cal

### SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Oct 09 21:42:22 2014 TOOL SERIES: 1426XA ASSET: 106 SEQ: 09

Tool Delay [usec] -52.00 Tank OD in 5.50 Tank Wt lbm/ft 15.50 Tank ID in 4.95

RECEIVER	Travel Time [usec]	Amp. Gate Start [usec]	Amp. Gate Width [usec]	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	217	216	30	166	25	-0.399	100.00	0.54
3 Ft. Receiver	218	216	30	166	16	-0.528	100.00	0.54
5 Ft. Receiver	326	325	30	255	25	0.489	150.00	0.59
Radial #1	218	216	30	166	12	0.327	100.00	0.54
Radial #2	218	216	30	166	12	0.267	100.00	0.55
Radial #3	218	216	30	166	12	-0.204	100.00	0.54
Radial #4	218	216	30	166	12	0.160	100.00	0.55
Radial #5	217	216	30	166	12	-0.392	100.00	0.54
Radial #6	216	216	30	166	12	0.488	100.00	0.54
Radial #7	216	216	30	166	12	-0.006	100.00	0.53
Radial #8	217	216	30	166	12	-0.360	100.00	0.53

# RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\1069\_fid.cal

## WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Oct 10 00:17:06 2014 TOOL SERIES: 1426XA ASSET: 106 SEQ: 9

Tool Delay [usec]  Casing OD  in Casing Wt  lbm/ft Casing ID  in

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="-0.077"/>	<input type="text" value="0.000"/>	<input type="text" value="0.67"/>	<input type="text" value="100.000"/>
3 Ft. Receiver	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.656"/>			
5 Ft. Receiver	<input type="text" value="317"/>	<input type="text" value="30"/>	<input type="text" value="-1.001"/>			
Radial #1	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-3.275"/>			
Radial #2	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-2.370"/>			
Radial #3	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.875"/>			
Radial #4	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-2.330"/>			
Radial #5	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.892"/>			
Radial #6	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.715"/>			
Radial #7	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.428"/>			
Radial #8	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.815"/>			

# GAMMA RAY

Calibration File: C:\case\calver\GR\503O8.cal

## CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Oct 08 09:03:02 2014 TOOL SERIES: 2459XA ASSET: 503 SEQ: 08

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	<input type="text" value="110.22"/>	<input type="text" value="393.29"/>	<input type="text" value="0.654"/>	<input type="text" value="72.04"/>	<input type="text" value="257.04"/>	<input type="text" value="185.00"/>

Verification File: C:\case\calver\GR\503O8.VP

## PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Wed Oct 08 09:04:12 2014 TOOL SERIES: 2459XA ASSET: 503 SEQ: 08

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	<input type="text" value="101.07"/>	<input type="text" value="384.62"/>	<input type="text" value="0.654"/>	<input type="text" value="66.05"/>	<input type="text" value="251.37"/>	<input type="text" value="185.32"/>

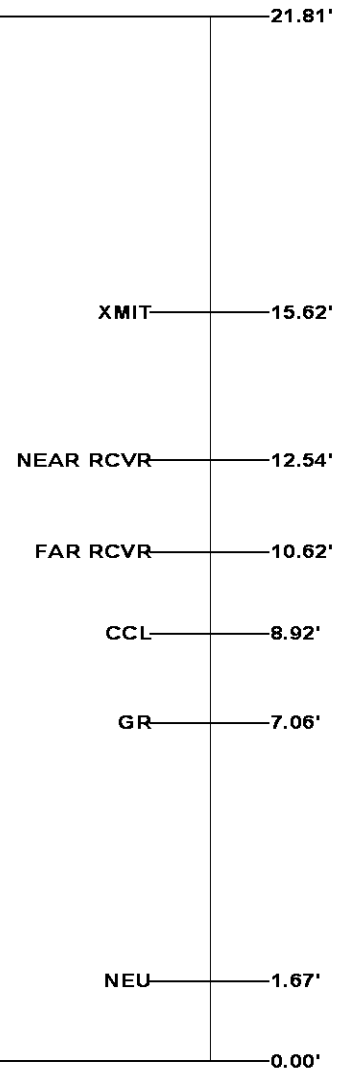
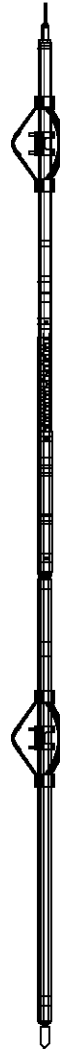
# TOOL DIAGRAM

**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



**Total Length: 21.81'**  
**Total Weight: Not Available**  
**Max Diameter: 0' 2.75"**

**Baker Atlas****CASE****Company****WPX ENERGY****Well****CHEVRON GM 12-21****Field****GRAND VALLEY****County****GARFIELD****State****CO****Location****SHL: 2034' FNL & 703' FEL (20 6S 96W)****BHL: 1350' FNL & 1001' FWL (21 6S 96W)****Elevations****KB 5596 ft****DF****GL 5575 ft****File No:****CH091002****API No:****05045223590000****21 6S 96W****GM 442-20****CYCLONE 17****SEC 21 TWP 6S RGE 96W**