



# RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH091031	Company Well FEDERAL SG 442-28	WPX ENERGY
API No: 05045219570000	Field County GRAND VALLEY GARFIELD	State COLORADO
28 7S 96W SG 43-28 PAD H&P 318	Location SHL: 2262' FSL & 473' FEL BHL: 2192' FNL & 150' FEL (SENE) SEC 28 TWP 7S RGE 96W	Other Services RPM
Permanent Datum Log Measured From Drill Measured From	GL KB KELLY BUSHING Elevation 24 ft Above P. D.	Elevations KB 5143 ft DF GL 5119 ft

Date	29/SEP/14	
Run	ONE	
Service Order	US091031	
Depth Driller	5242 ft	
Depth Logger	5208 ft	
Bottom Logged Interval	5198 ft	
Top Logged Interval	24 ft	
Time Started	14:00	
Time Finished	17:00	
Operator Rig Time	3 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	53 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	65 fpm	
Maximum Recorded Temperature	190 degF	
Reference Log	BAKER HUGHES OPEN HOLE	
Reference Log Date	19/SEP/14	
Equipment No.	44271	GRAND JCT
Recorded By	FLOYD RENEAU	
Witnessed By	JEFF BRADY	

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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	24 ft	963 ft
8.75 in	963 ft	5242 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			24 ft	963 ft
4.5 in	11.6 lbm/ft	I-80	24 ft	5242 ft

Remarks

All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes HDIL/ZDL/CN/GR open hole log dated 9/16/2014 at the clients request.

The amount of linear shift is 7 feet.

The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference.

Logged with zero PSI at wellhead.

BHT = 190°F

SJ = 1717'-1739'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10218496	CENT
1	1	GR/CCL	2459XA	10417457	CENT

PRIMARY PRESENTATION

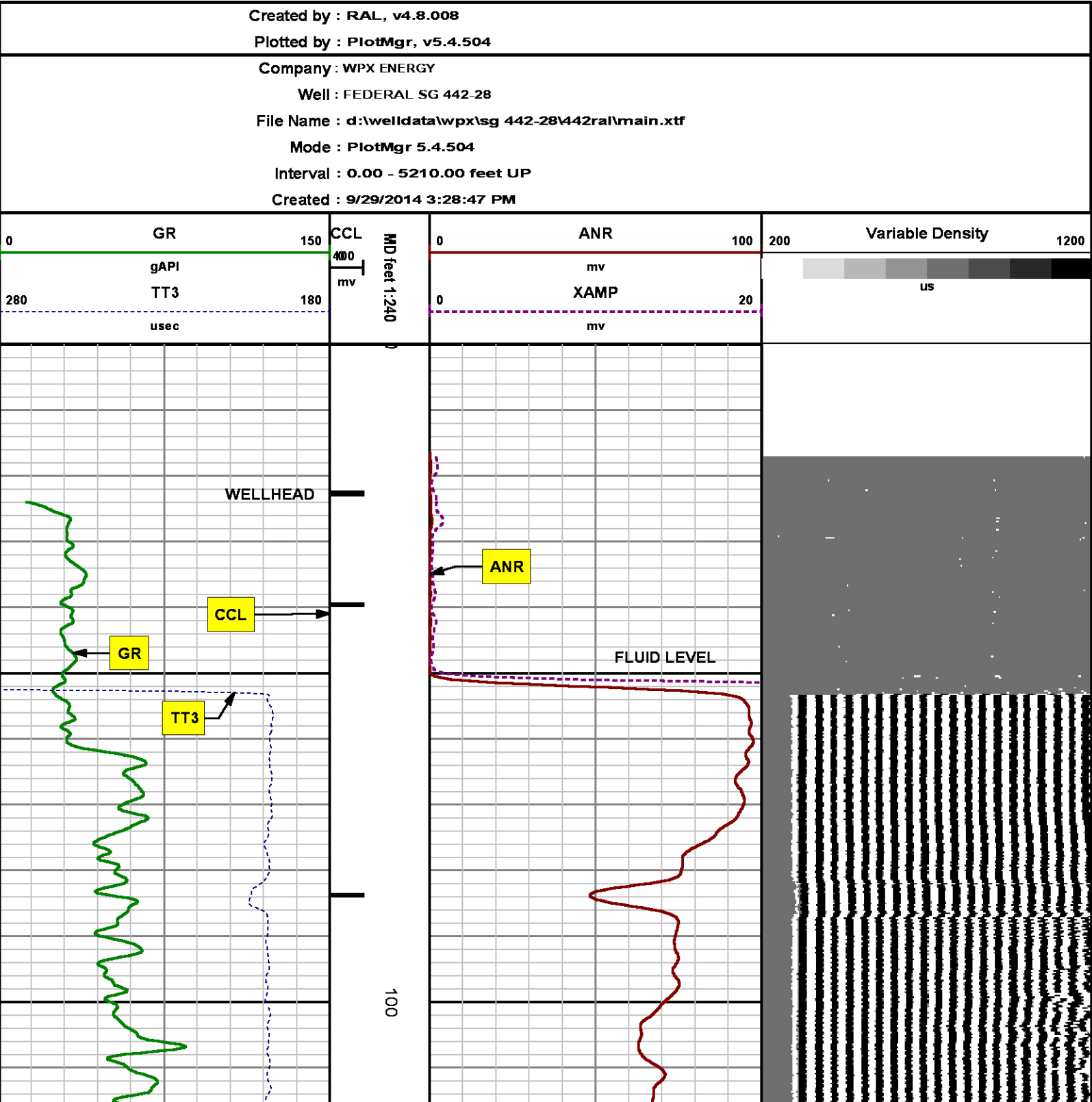
0 PSI

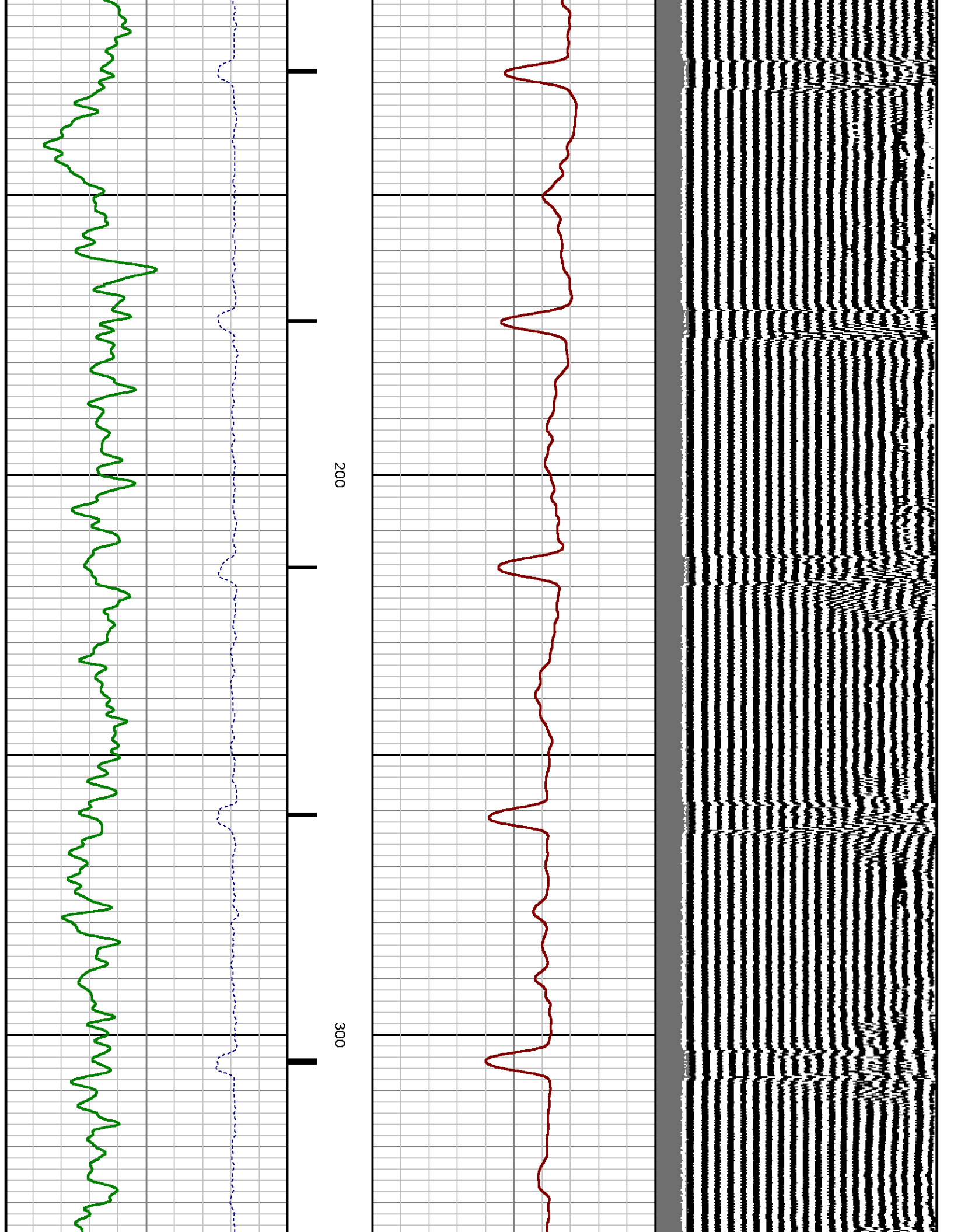
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	28.687	5202.000
RAL	Amp Gate Start Near	195.000	usec	28.687	5202.000
RAL	Amp Gate Start Radial	195.000	usec	28.687	5202.000
RAL	Amp Gate Width Far	25.000	usec	28.687	5202.000
RAL	Amp Gate Width Near	25.000	usec	28.687	5202.000
RAL	Amp Gate Width Radial	25.000	usec	28.687	5202.000
RAL	casing od	4.500	inches	28.687	5202.000
RAL	casing wt	11.600	lbm/ft	28.687	5202.000
RAL	FB Start Far	291.900	usec	28.687	5202.000
RAL	FB Start Near	180.000	usec	28.687	5202.000
RAL	FB Start Radial	180.000	usec	28.687	5202.000
RAL	FB Thresh Far	10.000	mv	28.687	5202.000
RAL	FB Thresh Near	4.000	mv	28.687	5202.000
RAL	FB Thresh Radial	4.000	mv	28.687	5202.000
RAL	Fluid Travel Time	200.000	usec/ft	28.687	5201.906

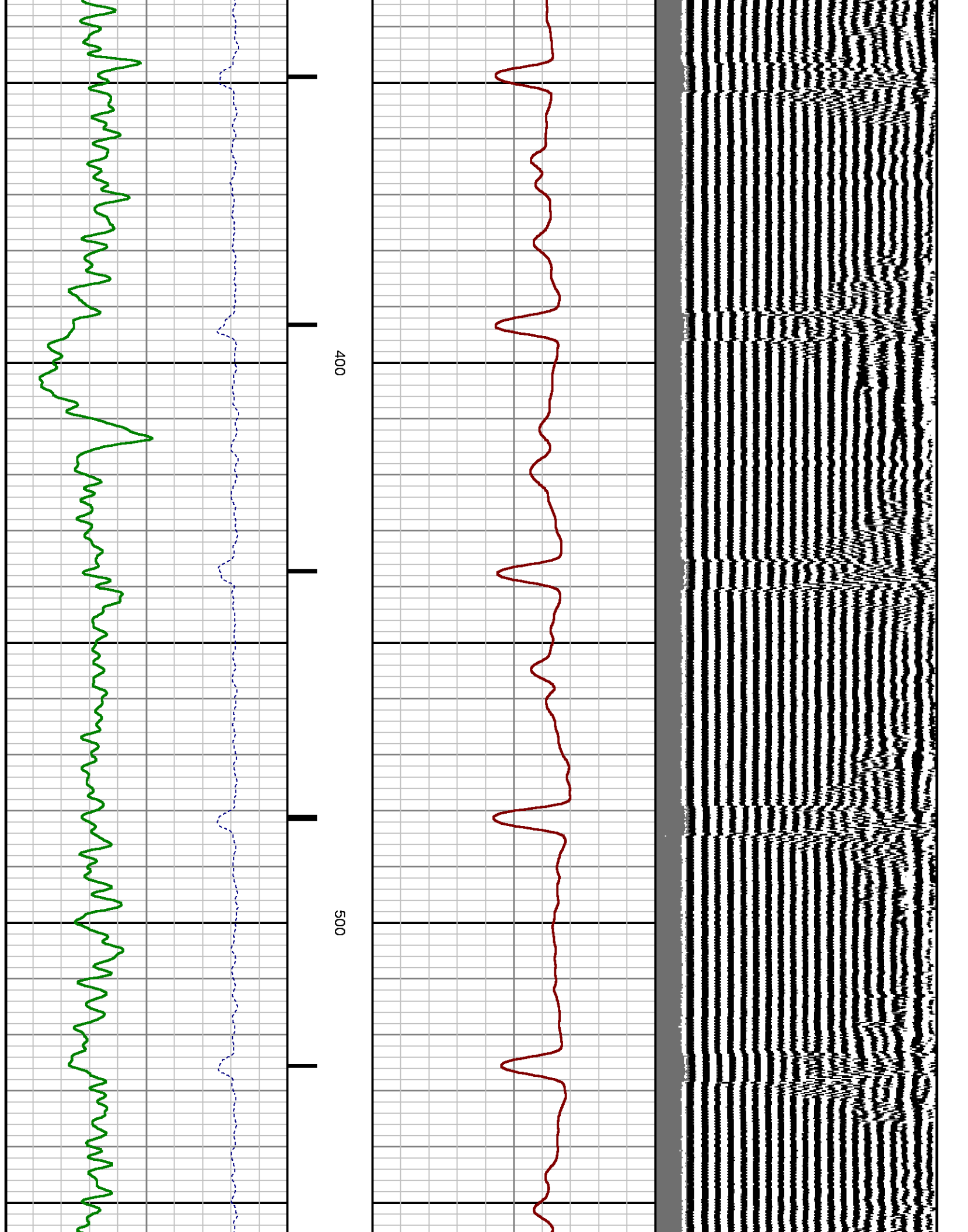
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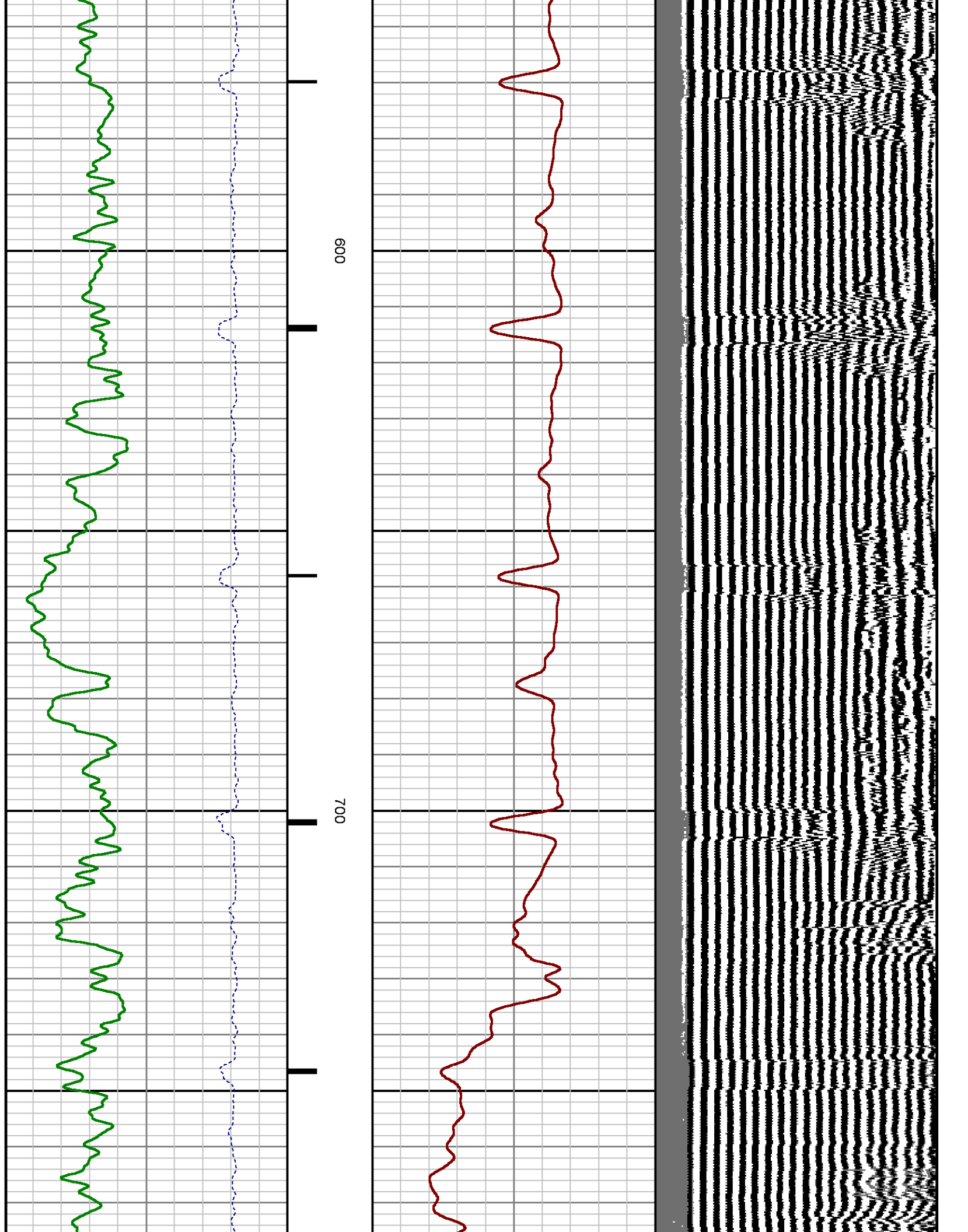
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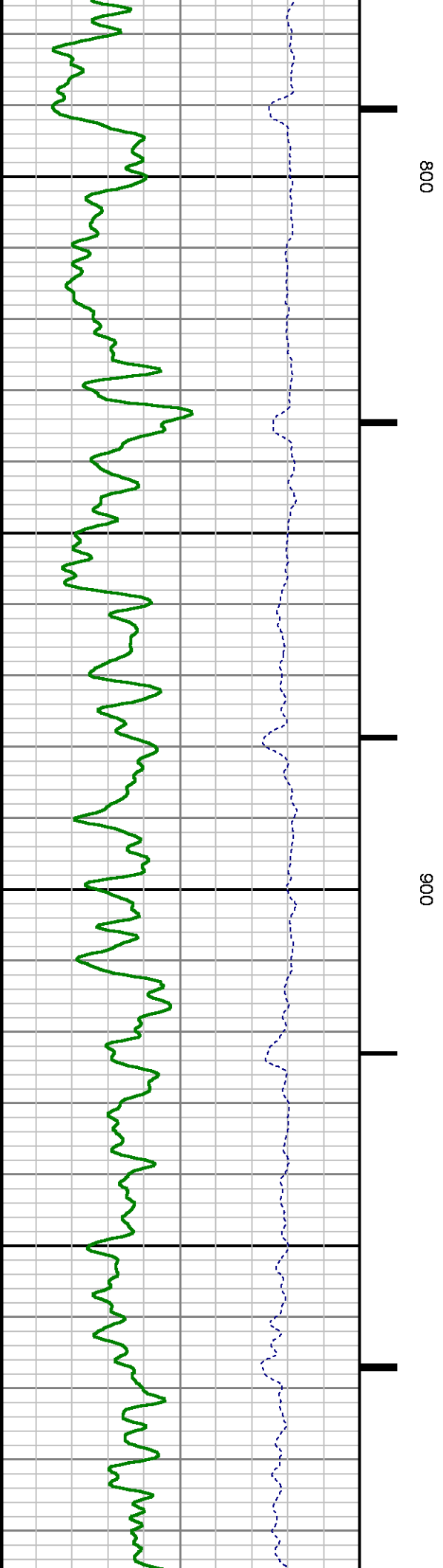
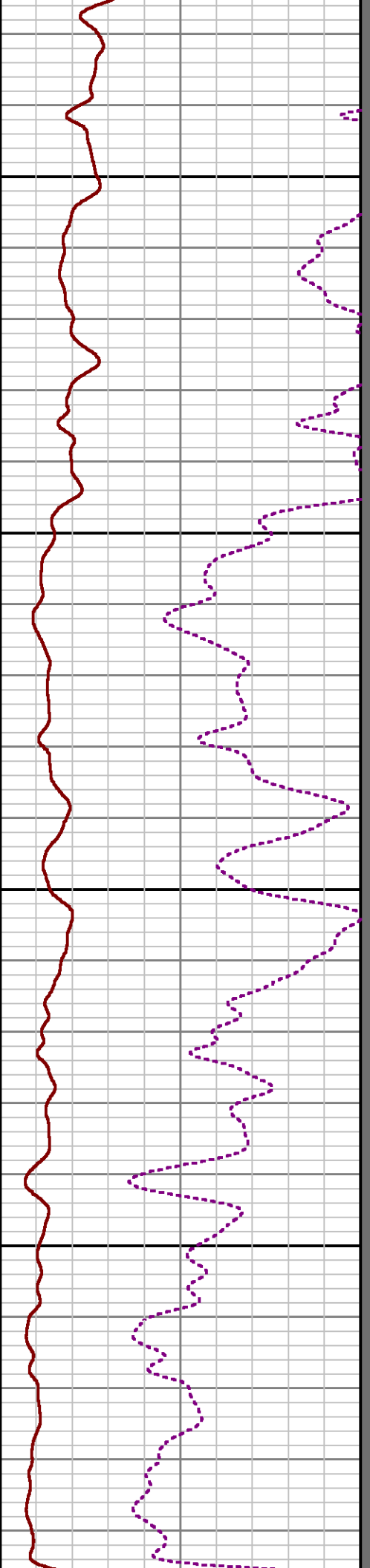
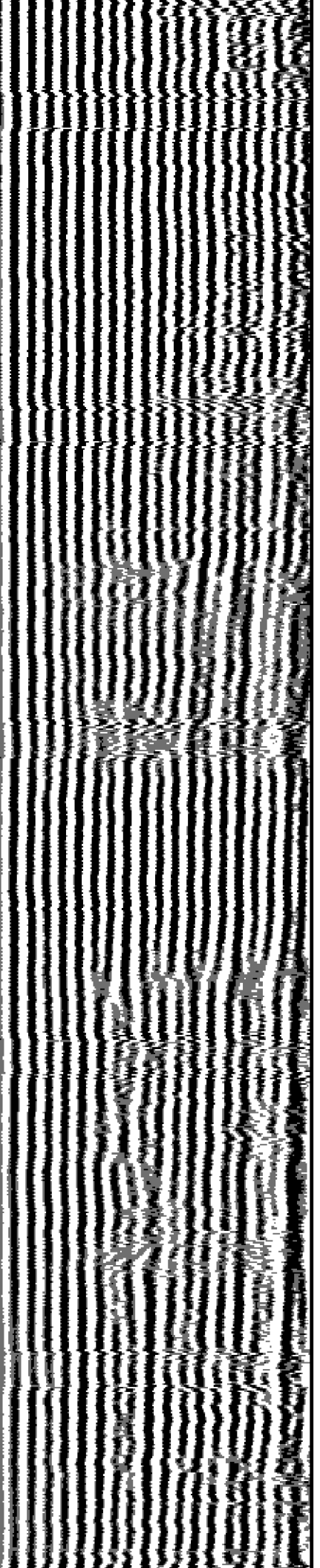
SERIES	DEPTH OFFSET	ACQUIRED CURVES							
1426XA	-12.360	ACAL	ANR	AR1	AR2	AR3	AR4		
		AR5	AR6	AR7	AR8	CHV	FPR2		
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3		
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP		
1426XA	-11.360	AFAR	SIG	TT5					
2459XA	-7.250	CCL							
2459XA	-5.390	GR							
2459XA	0.000	NEU							



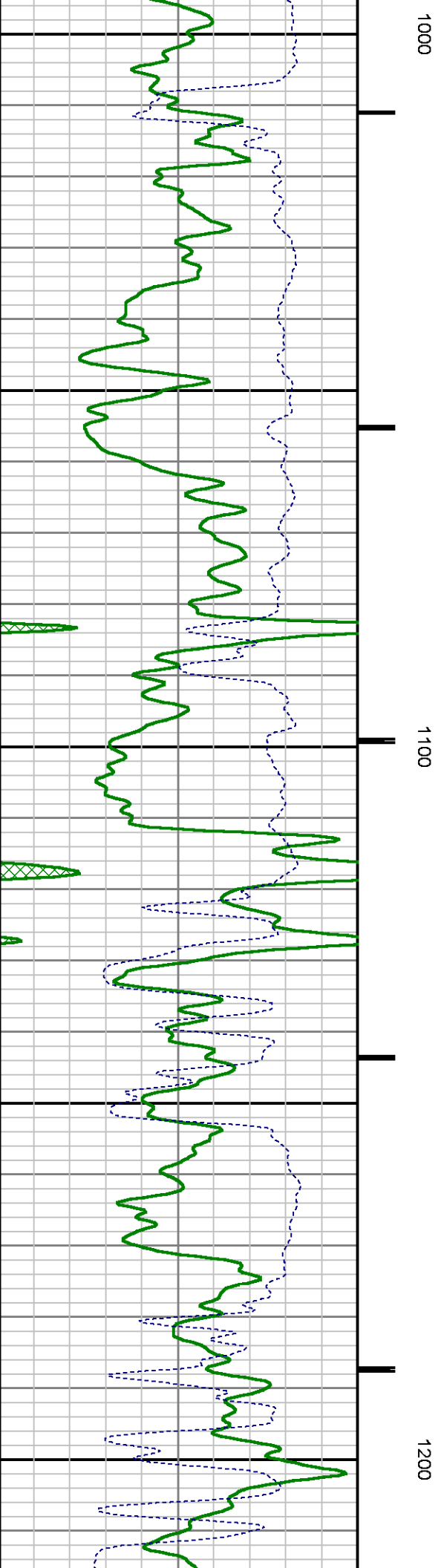
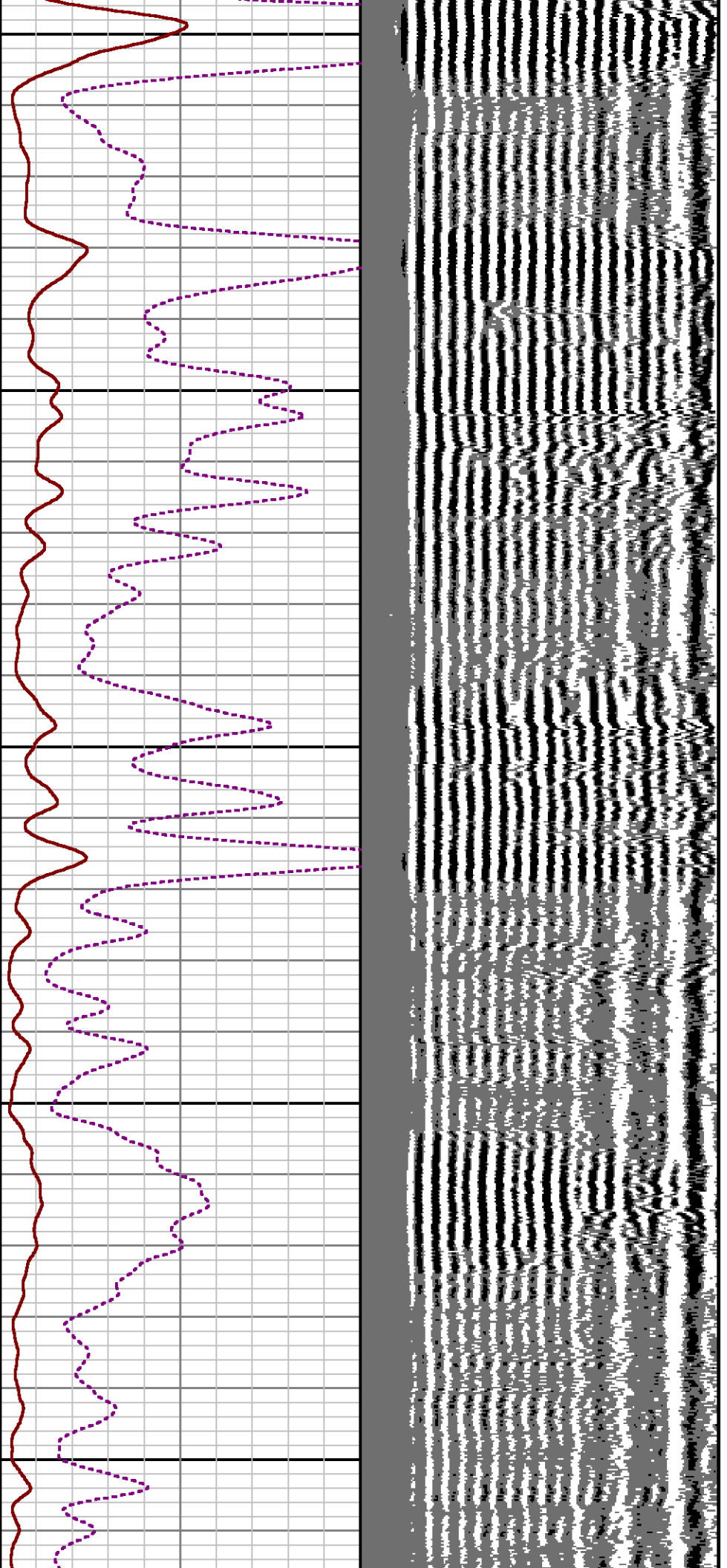




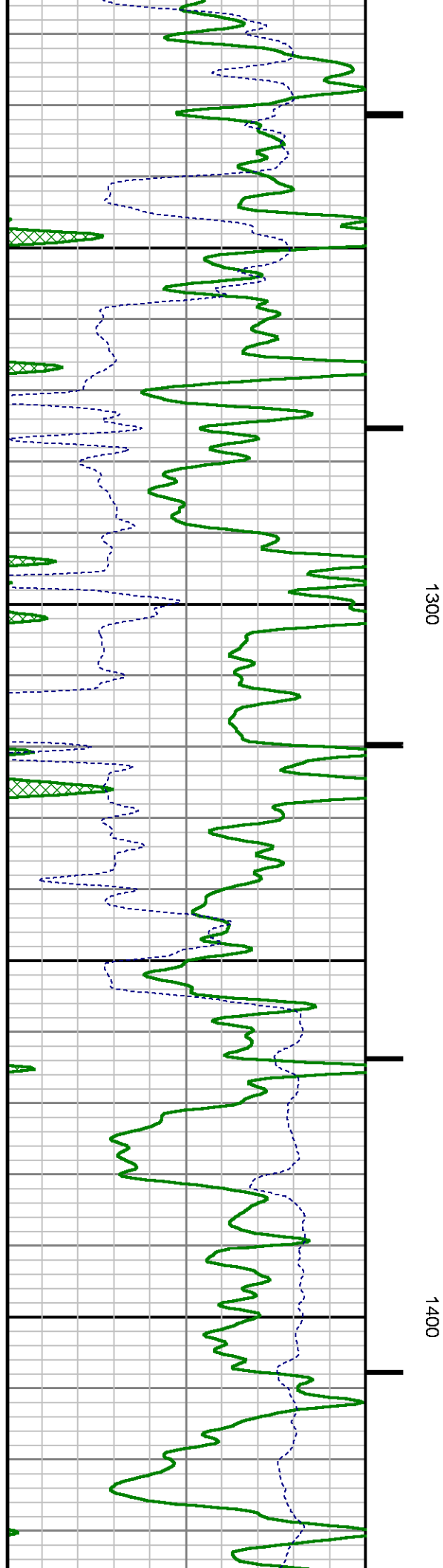
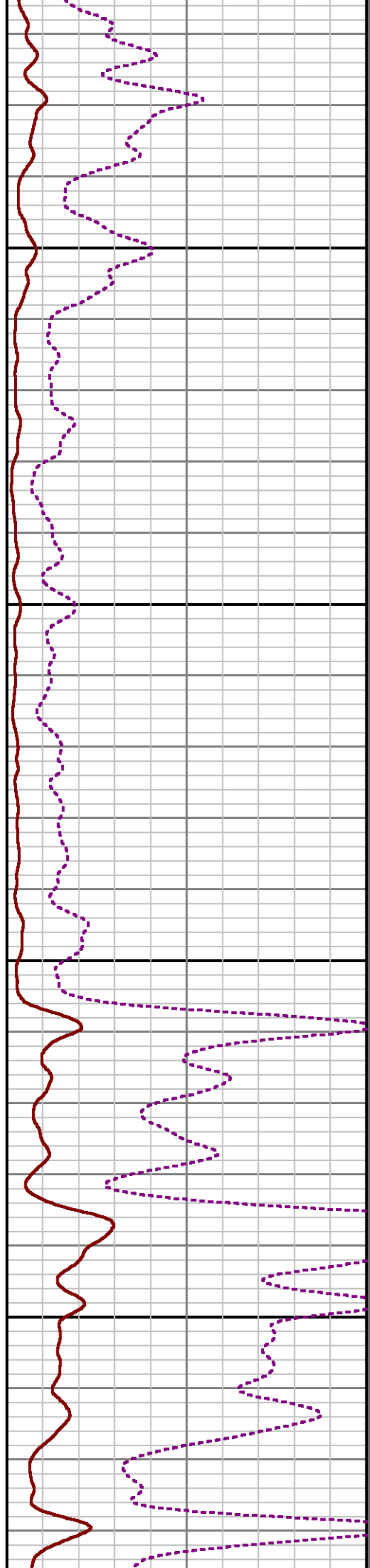
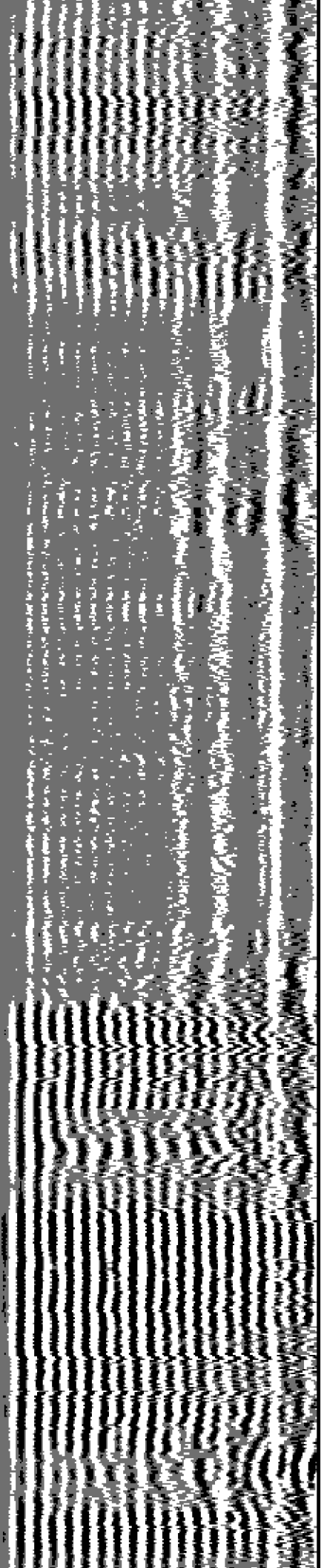


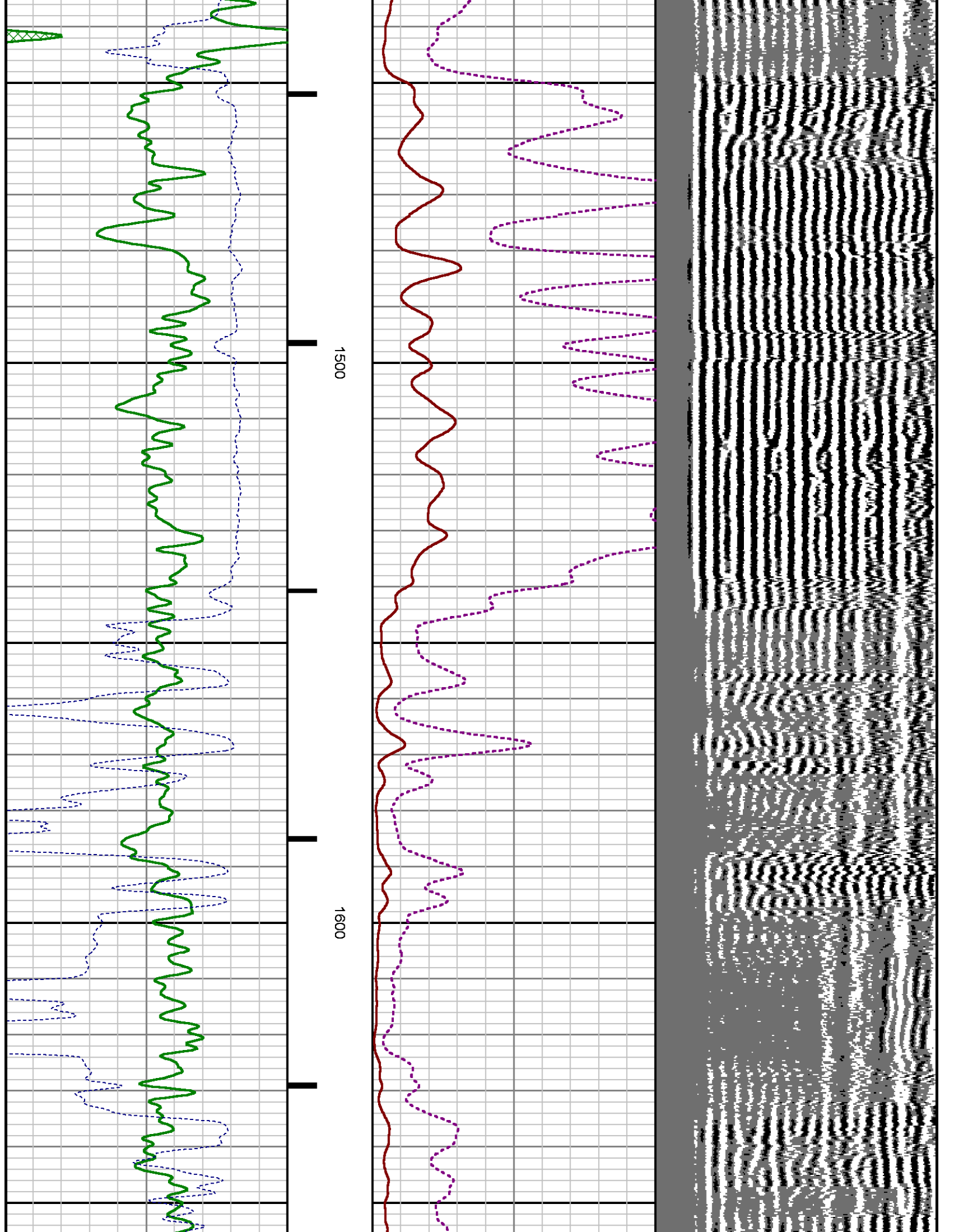


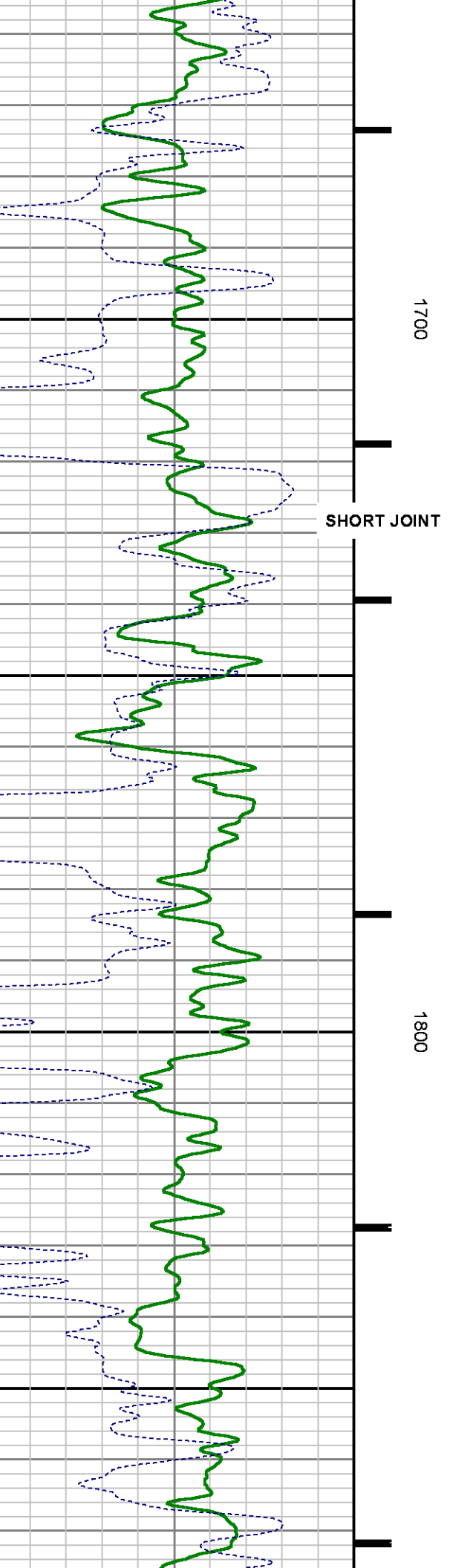
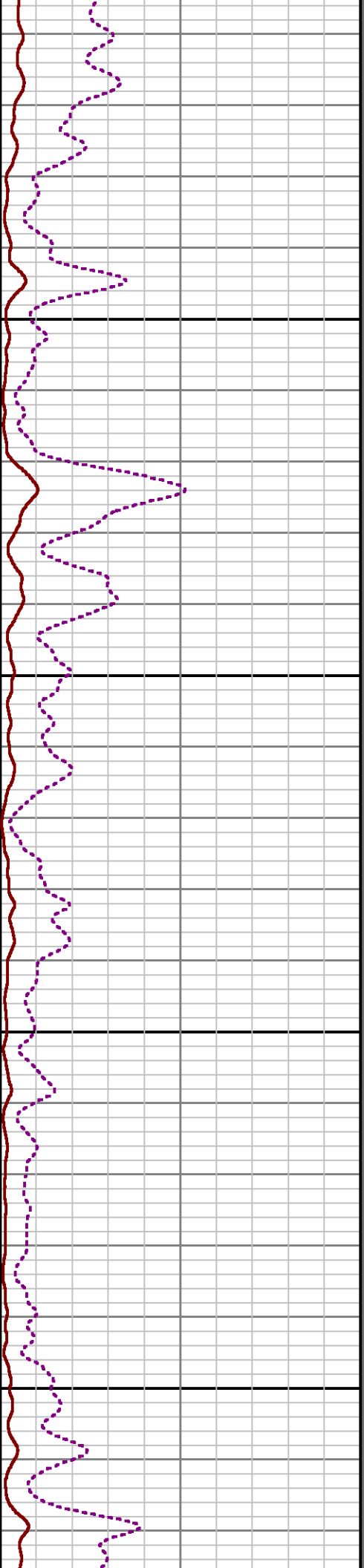
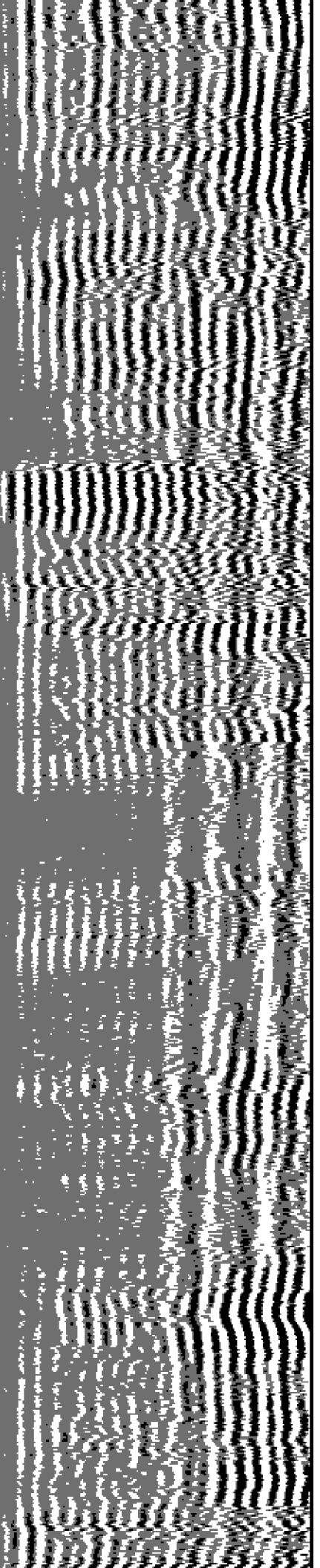


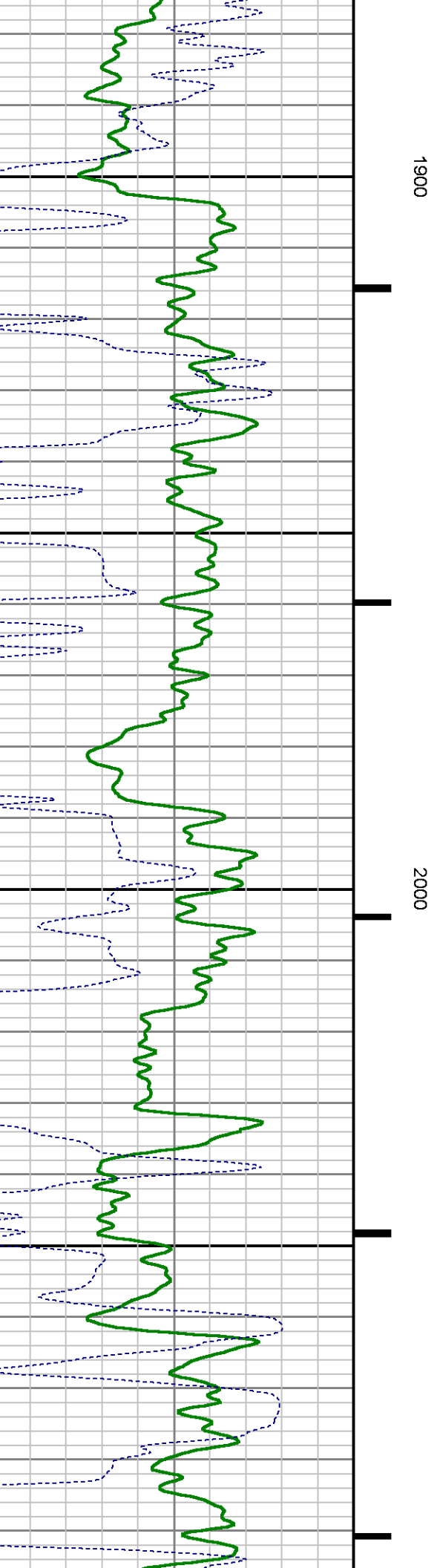
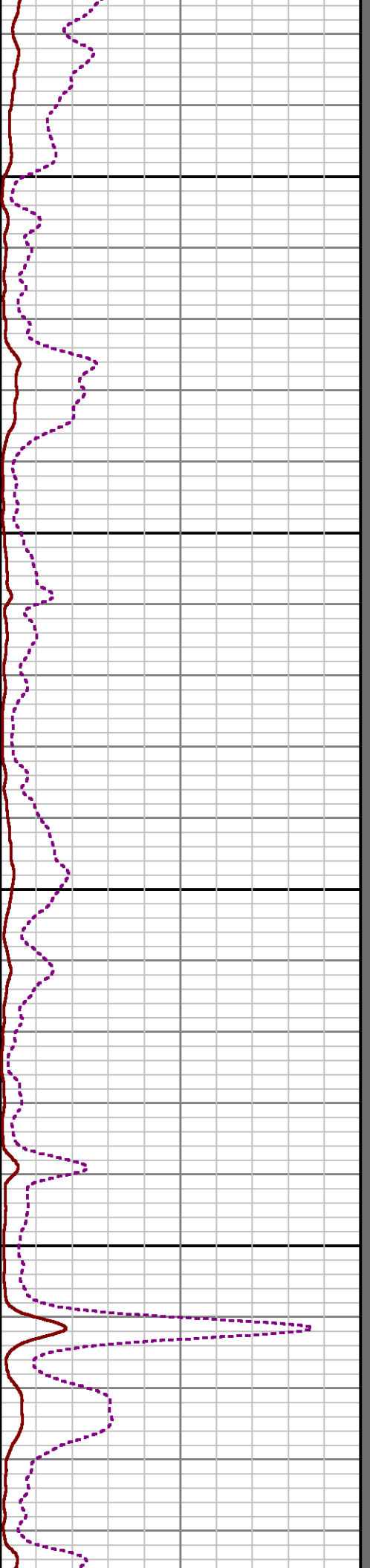
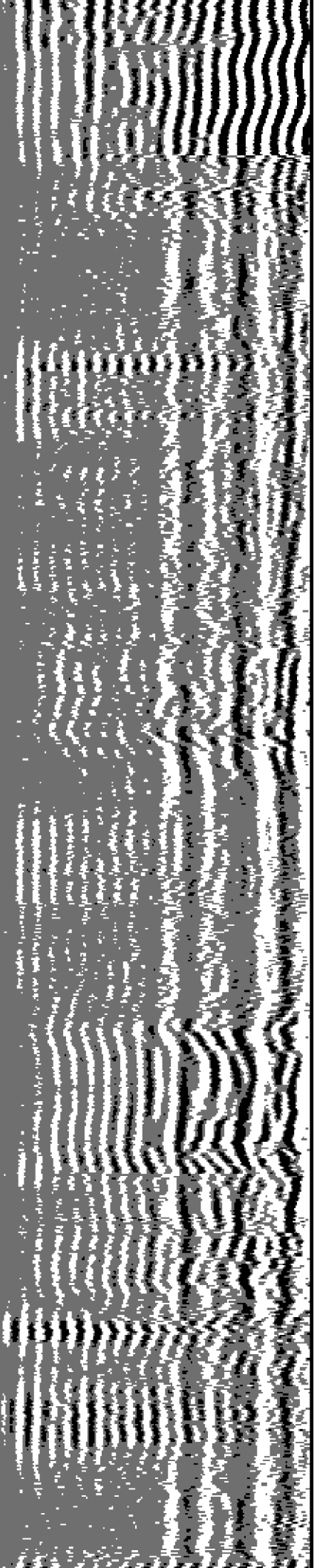


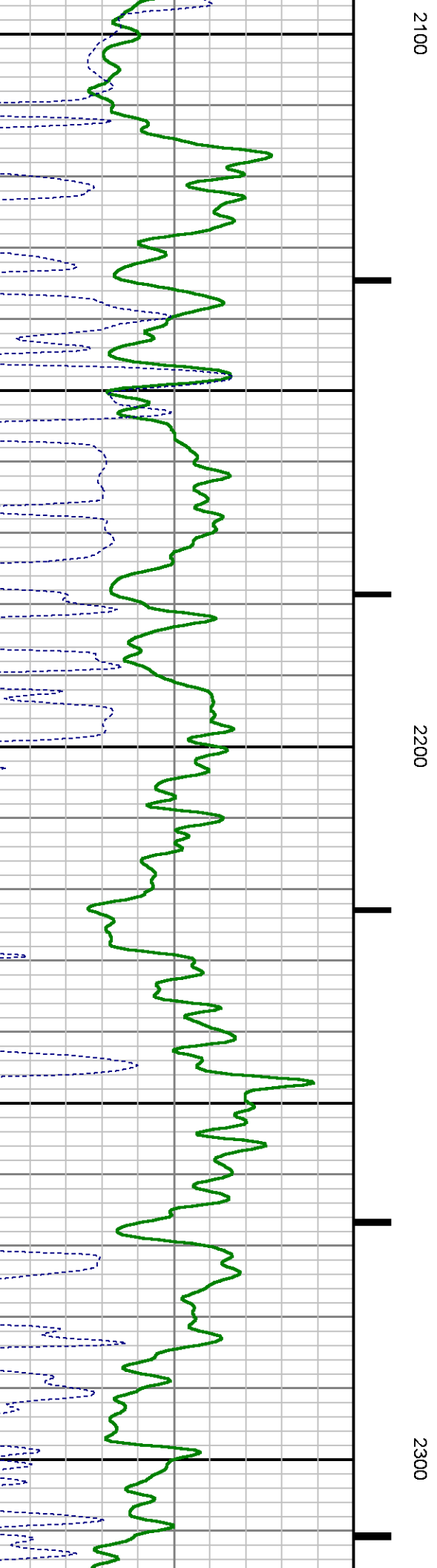
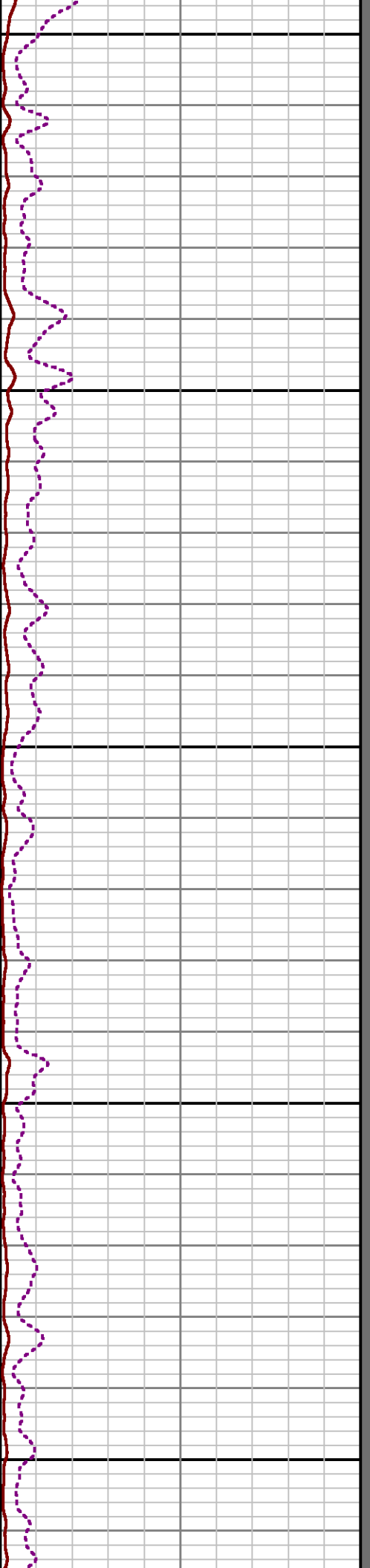
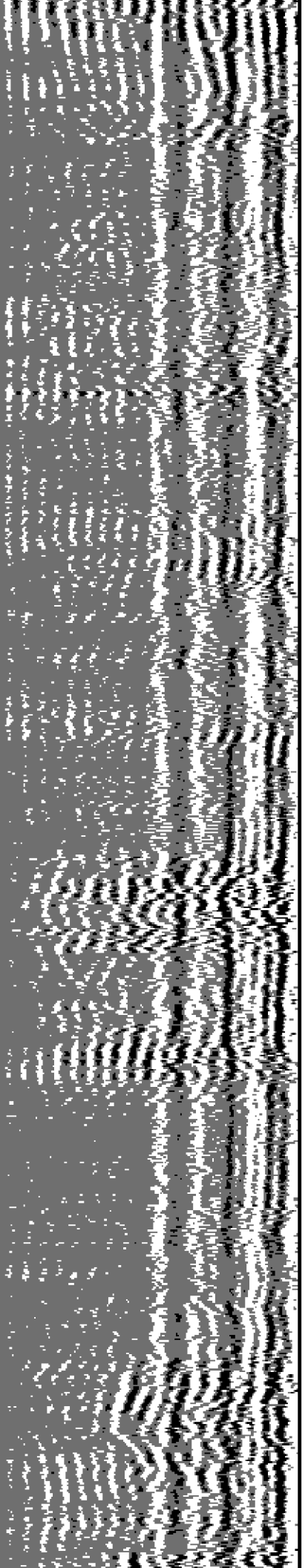




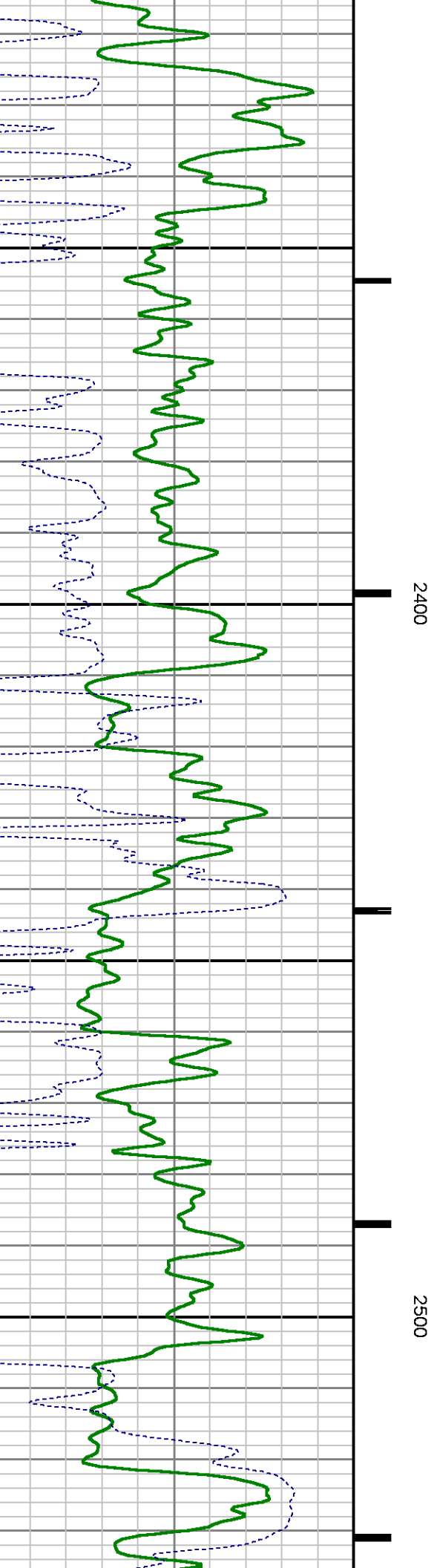
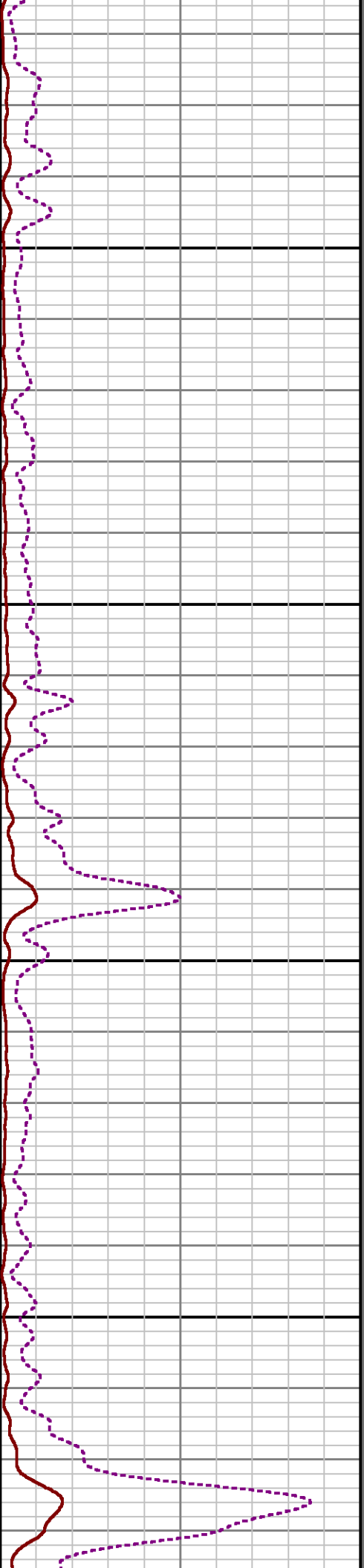
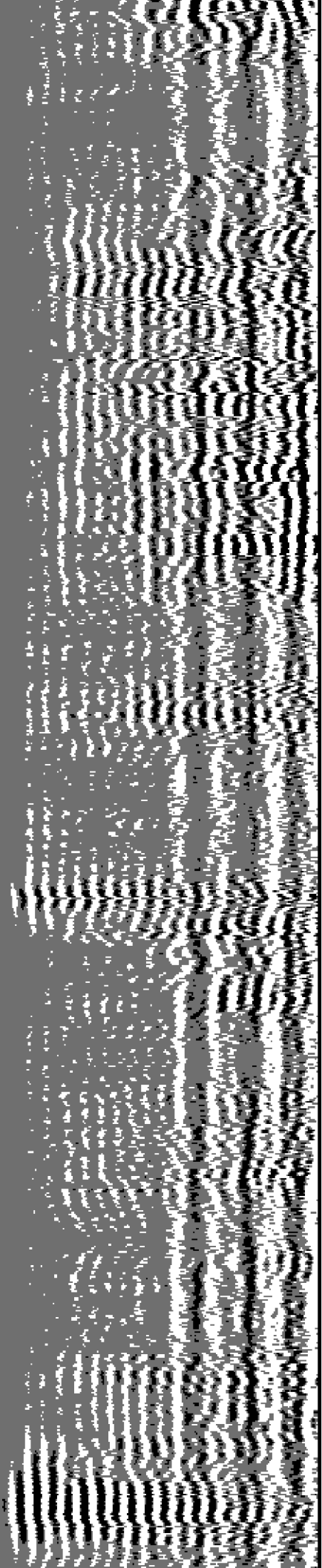




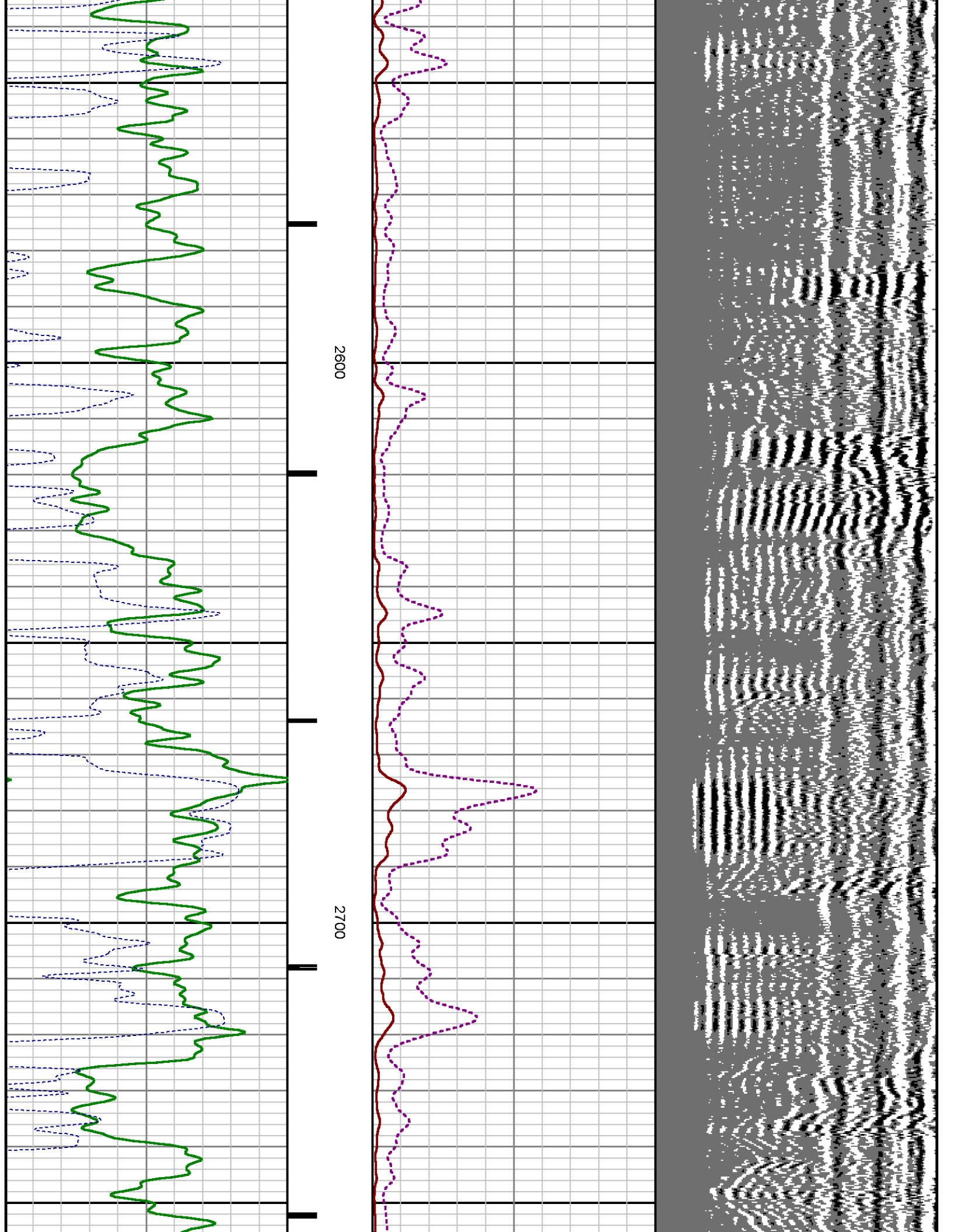


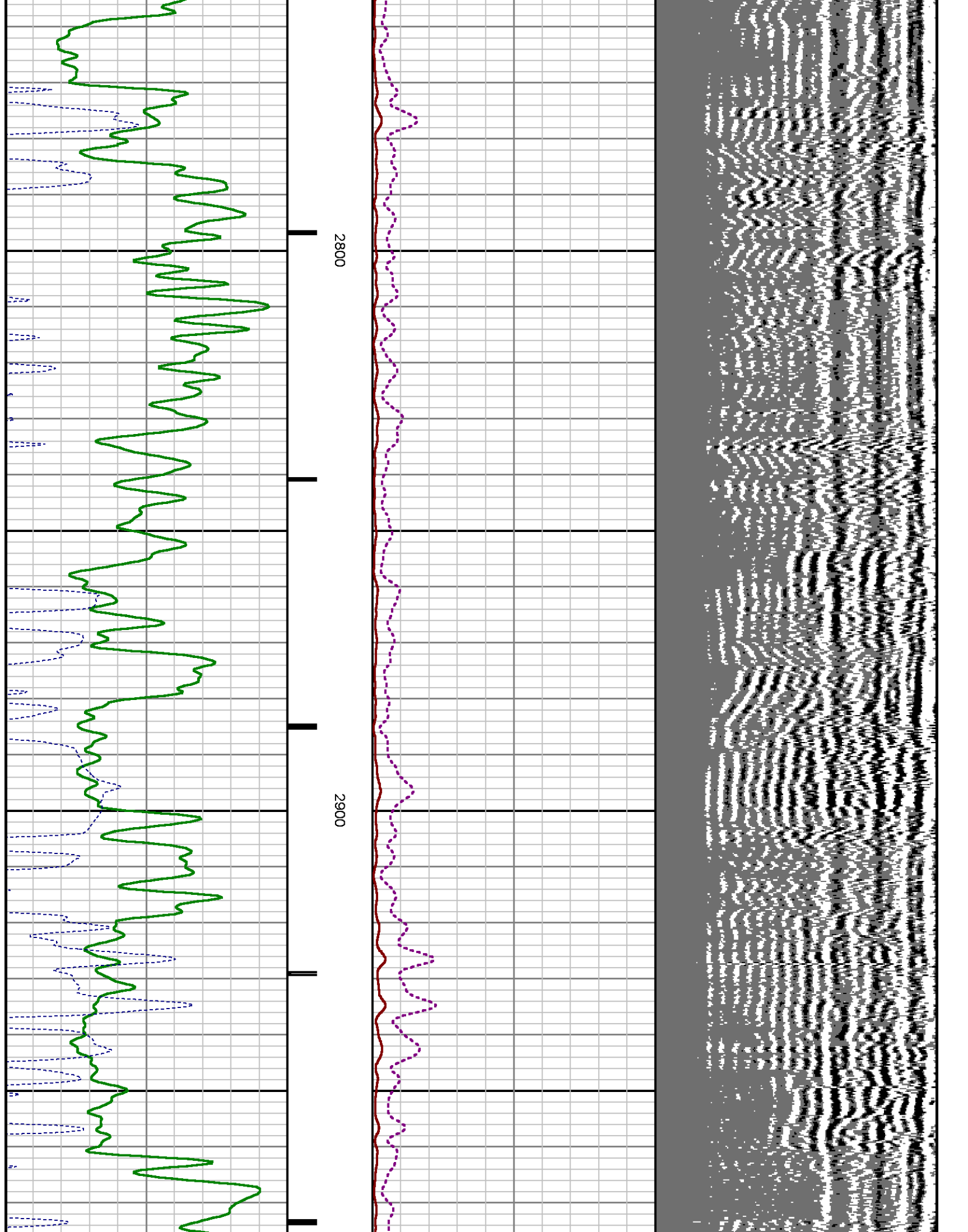


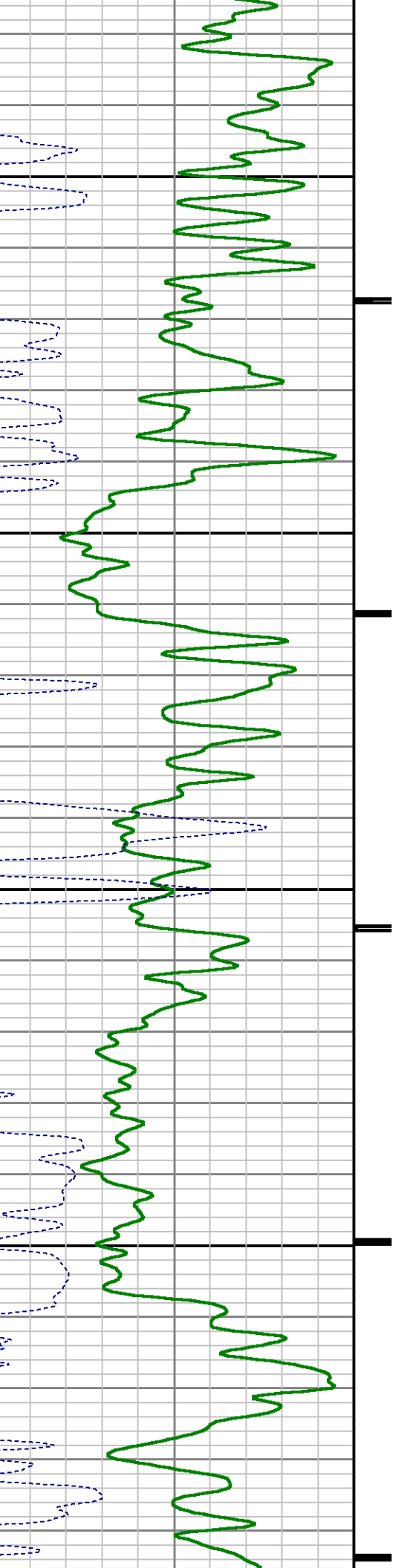
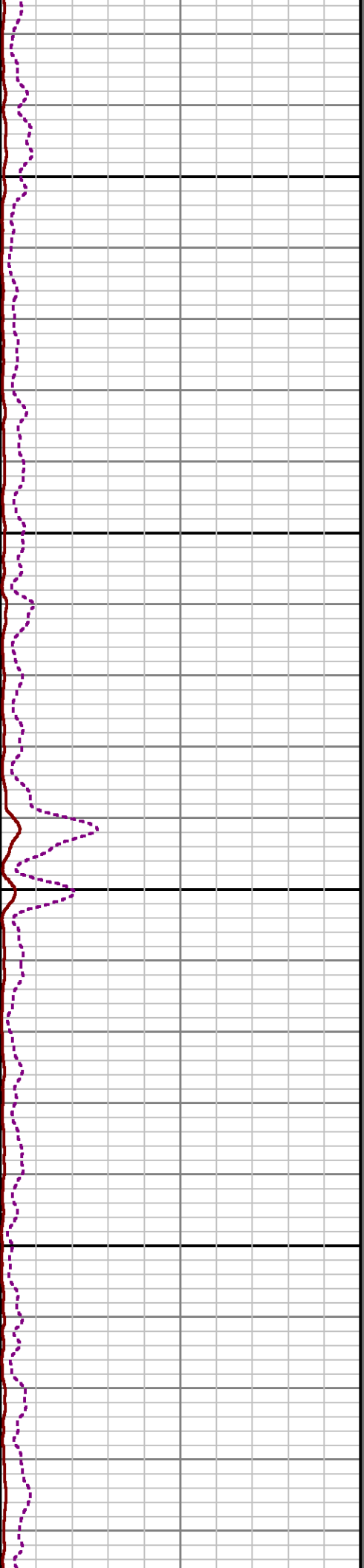
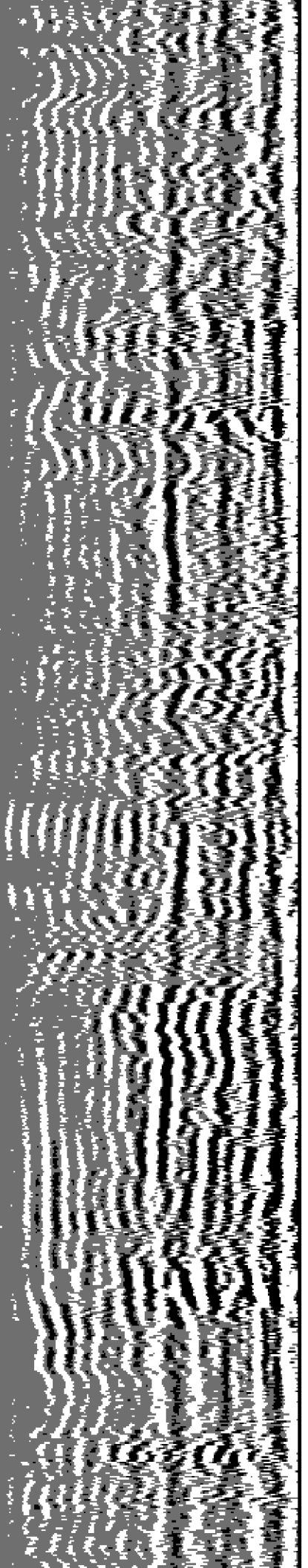


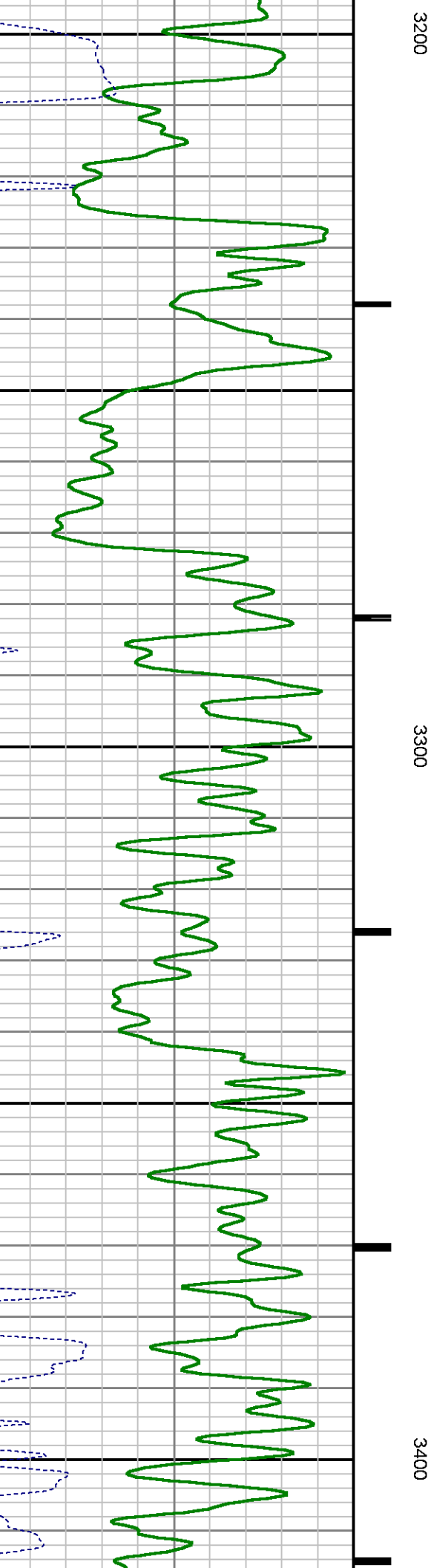
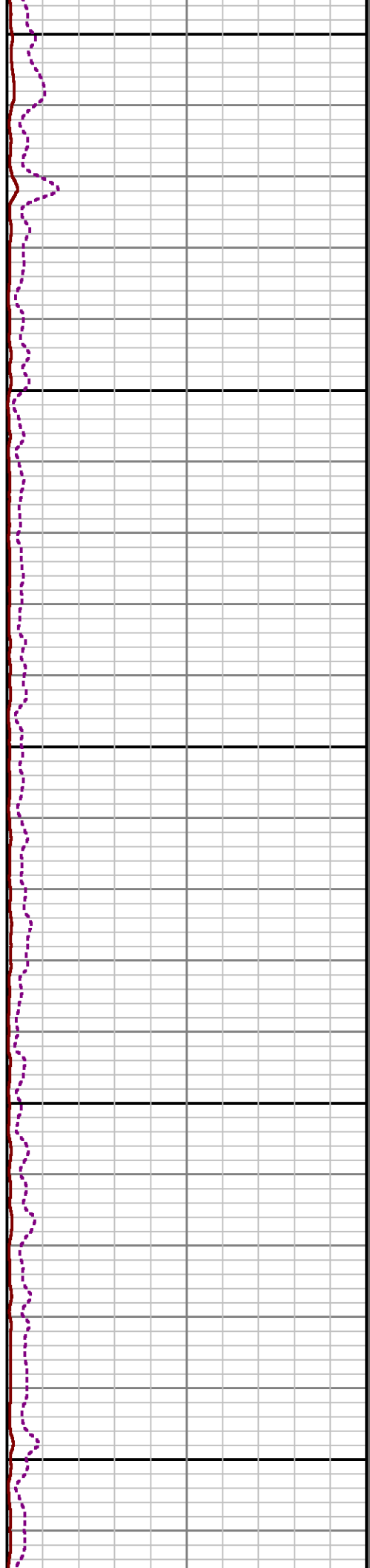
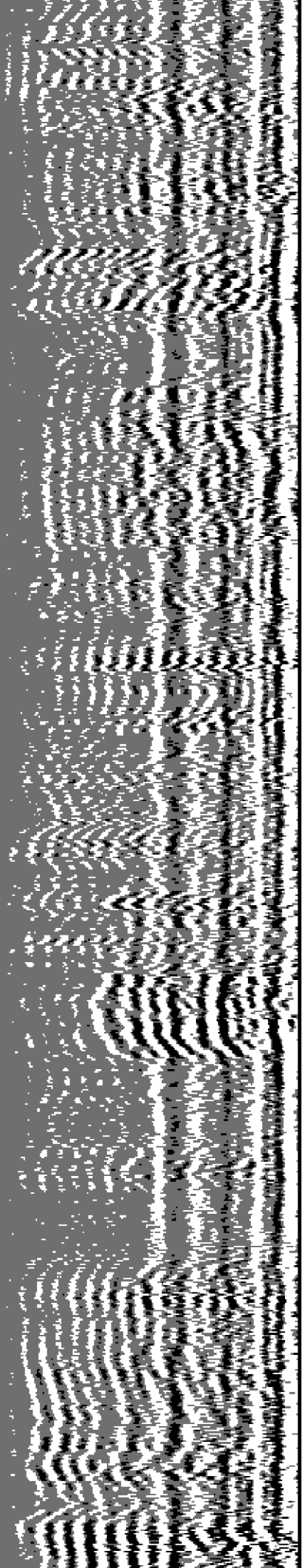


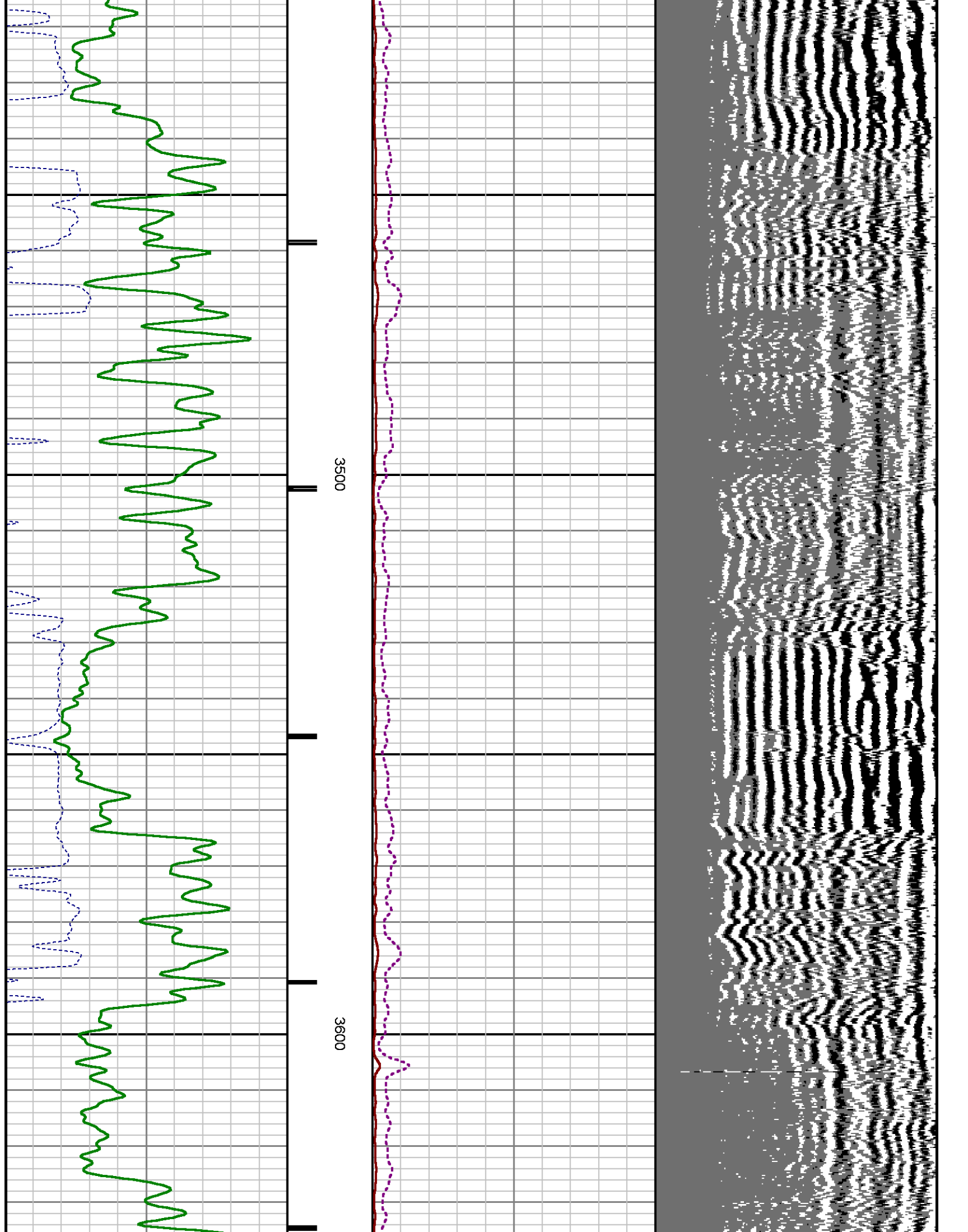




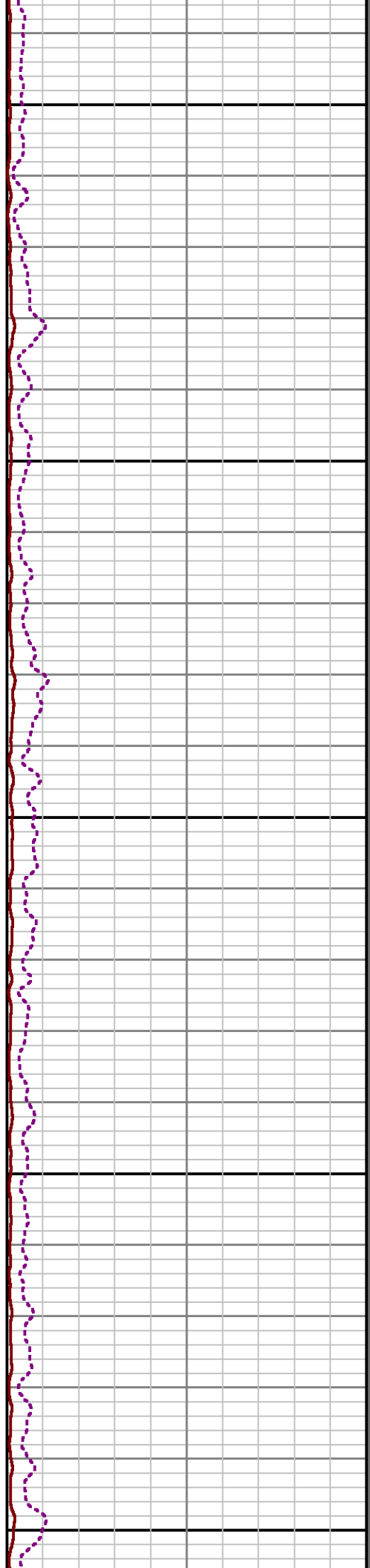
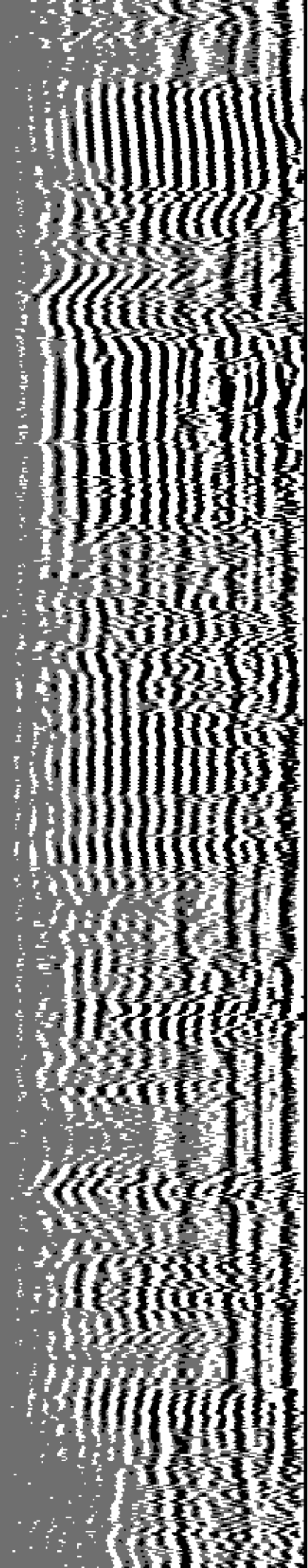






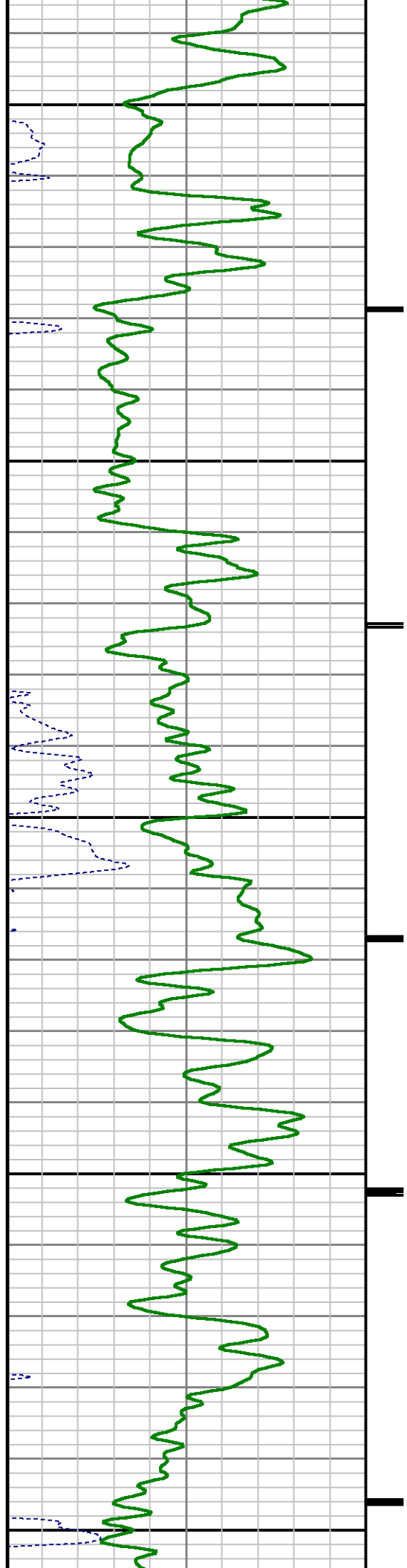




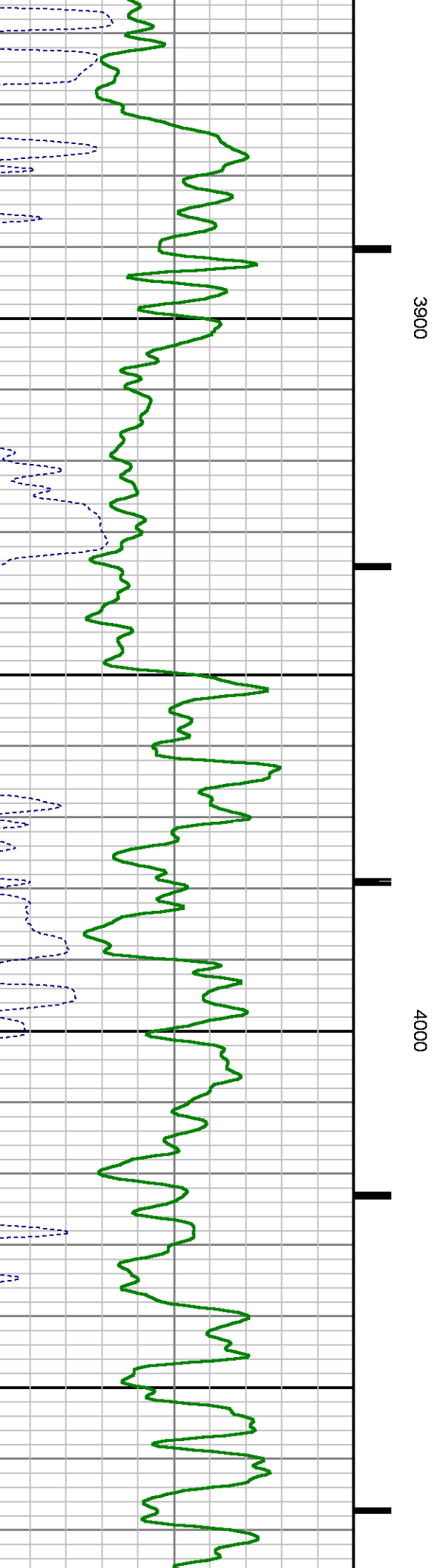
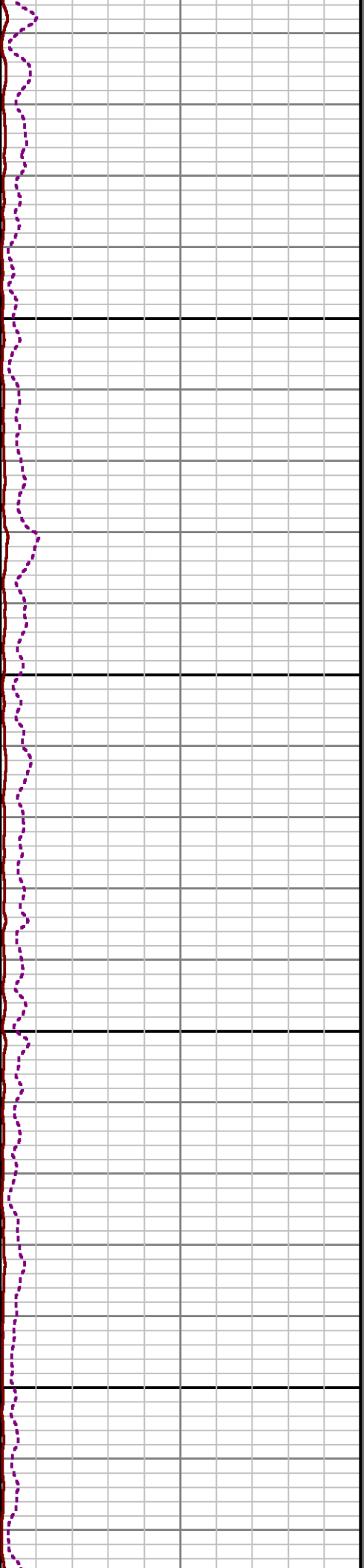
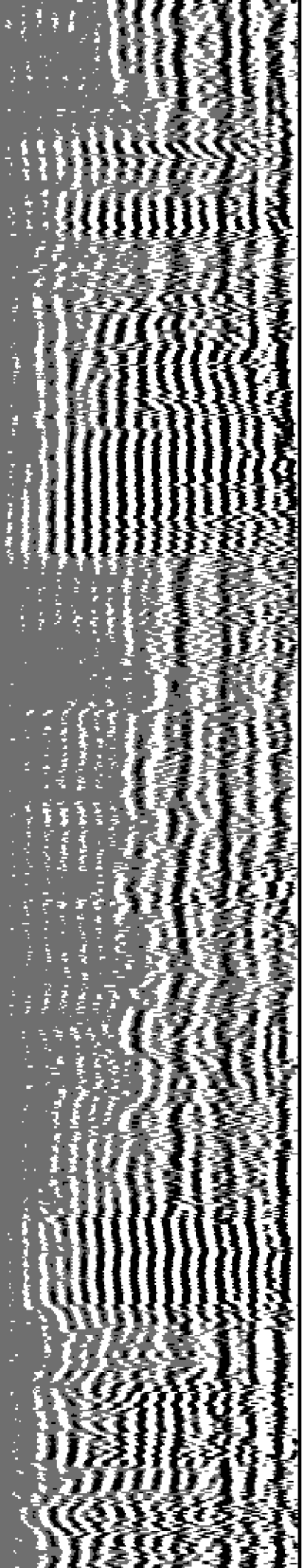


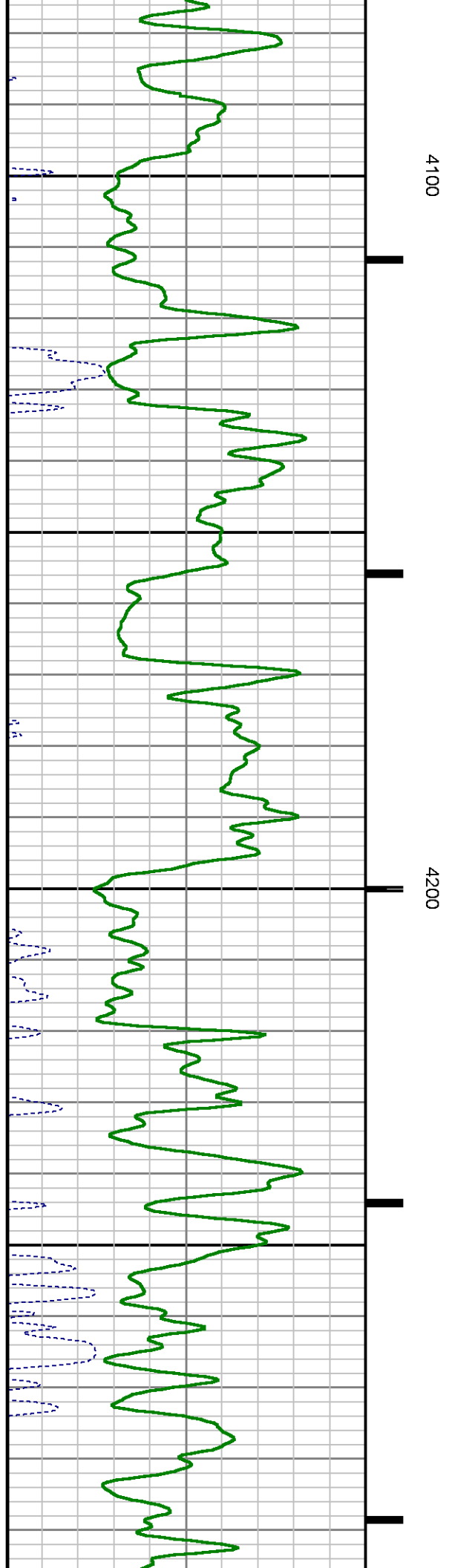
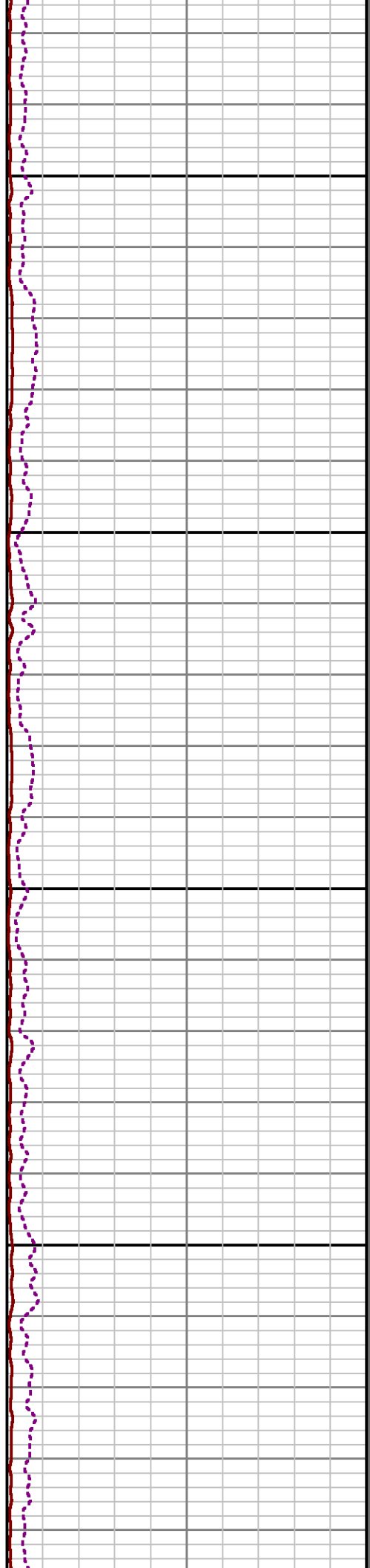
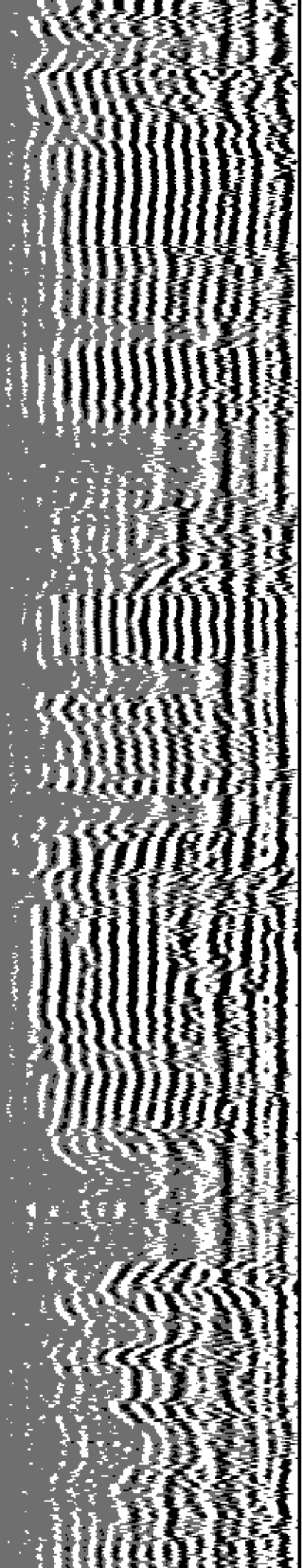
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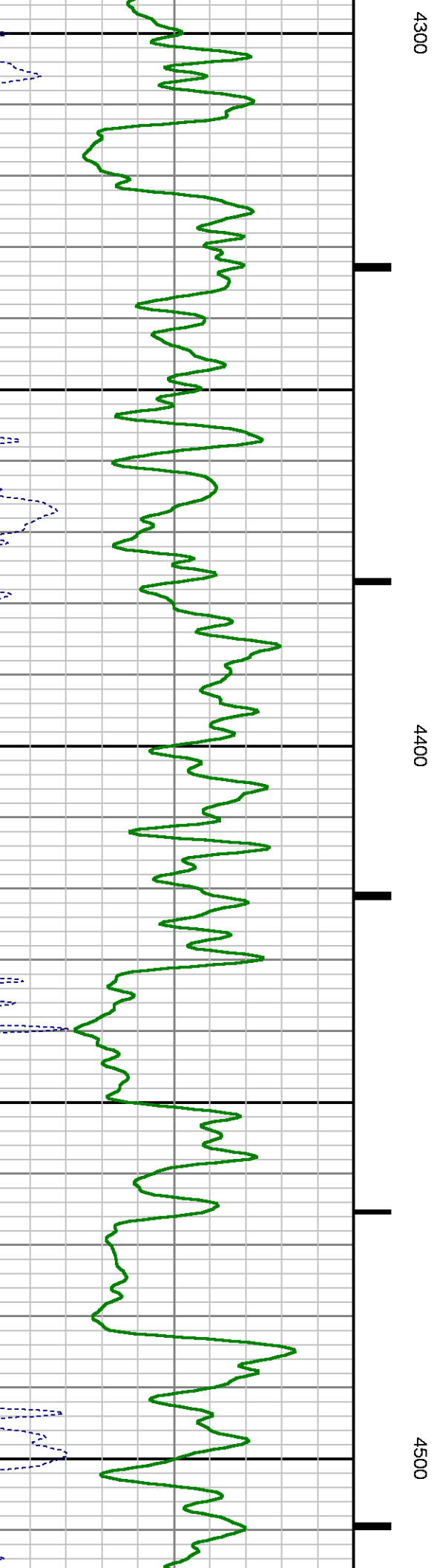
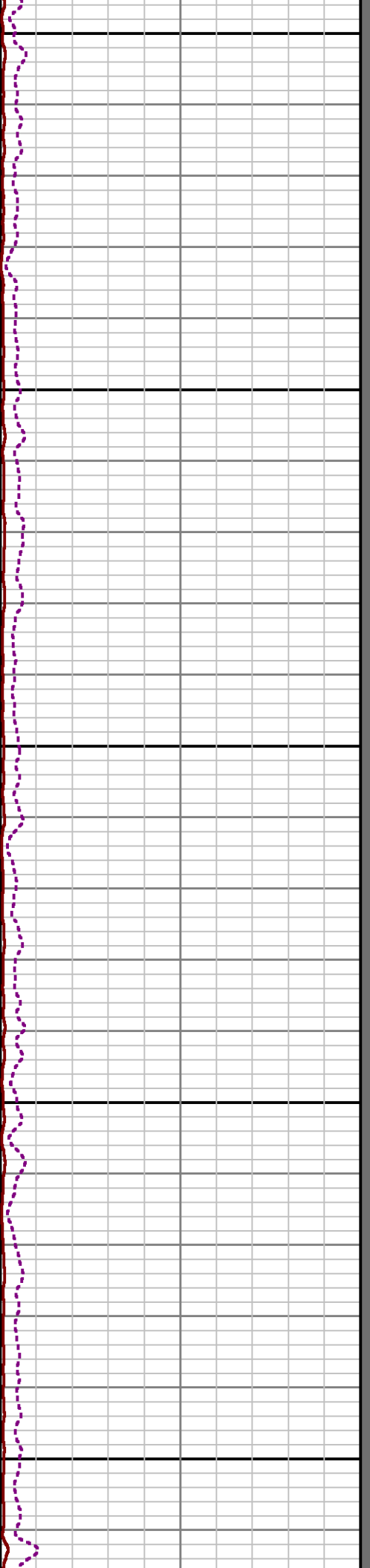
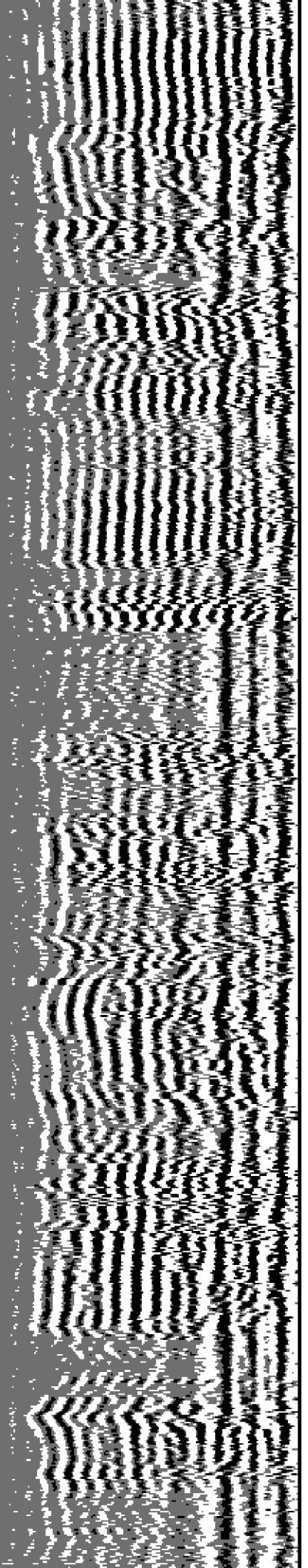
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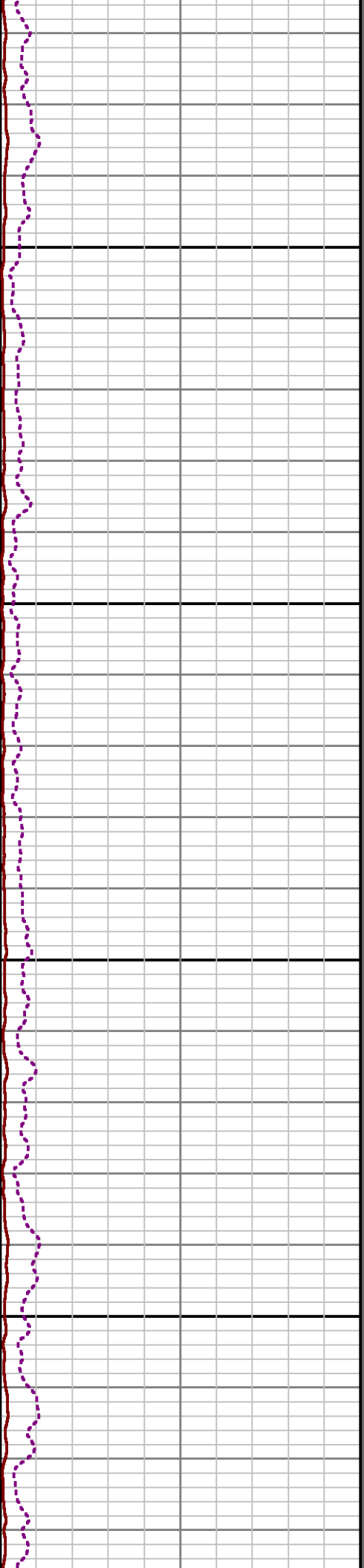
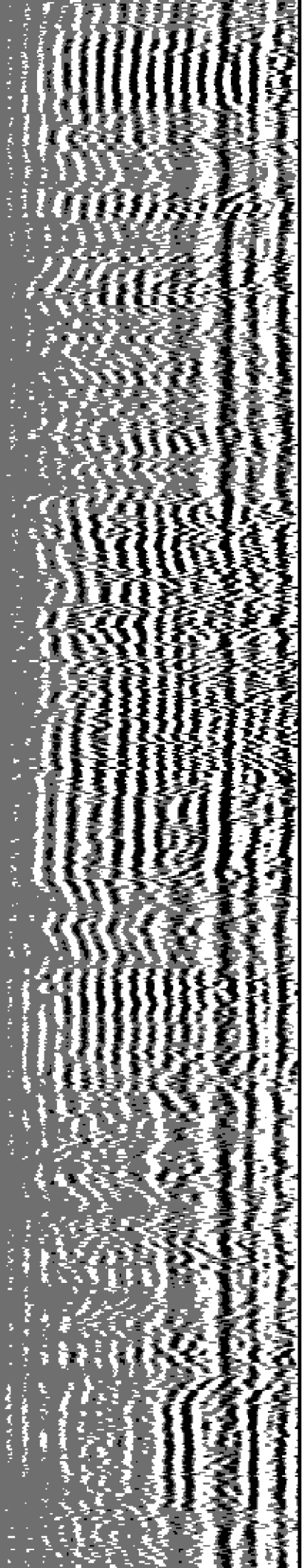






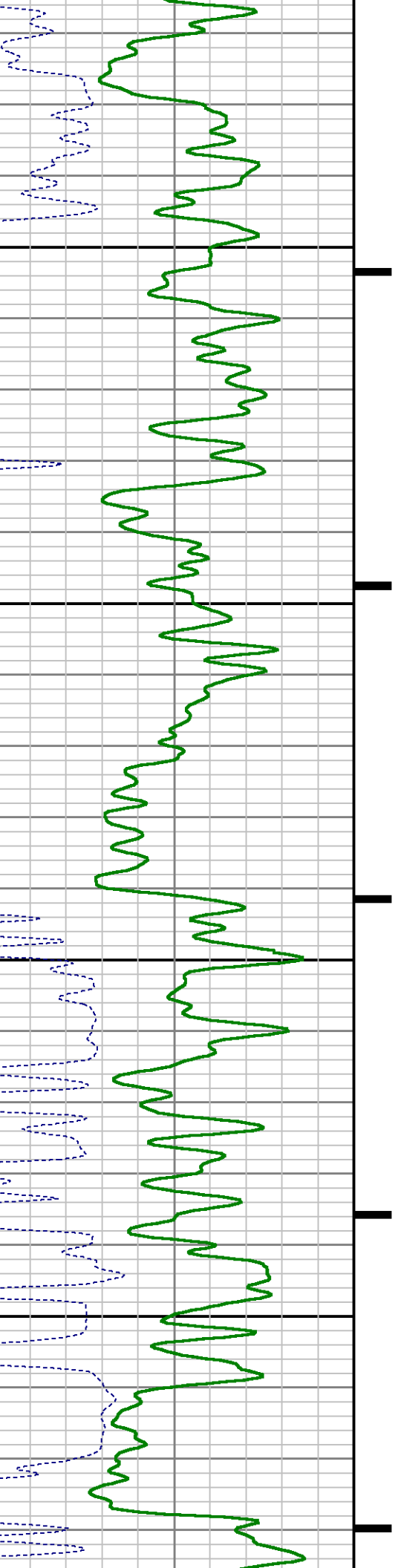


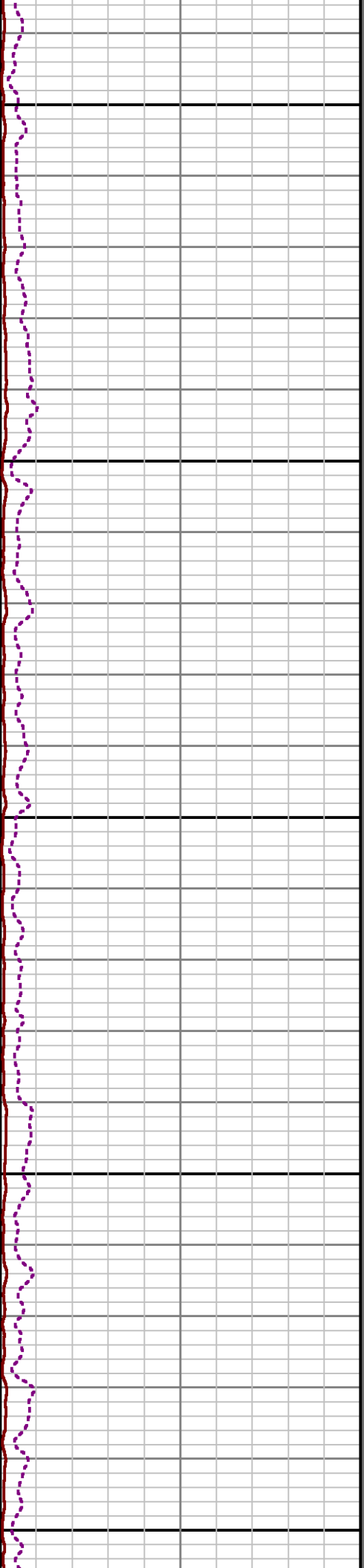
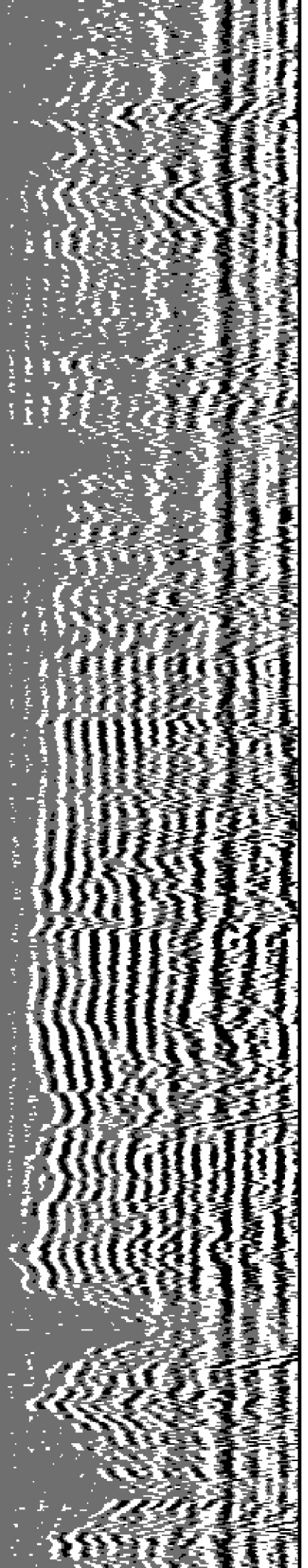




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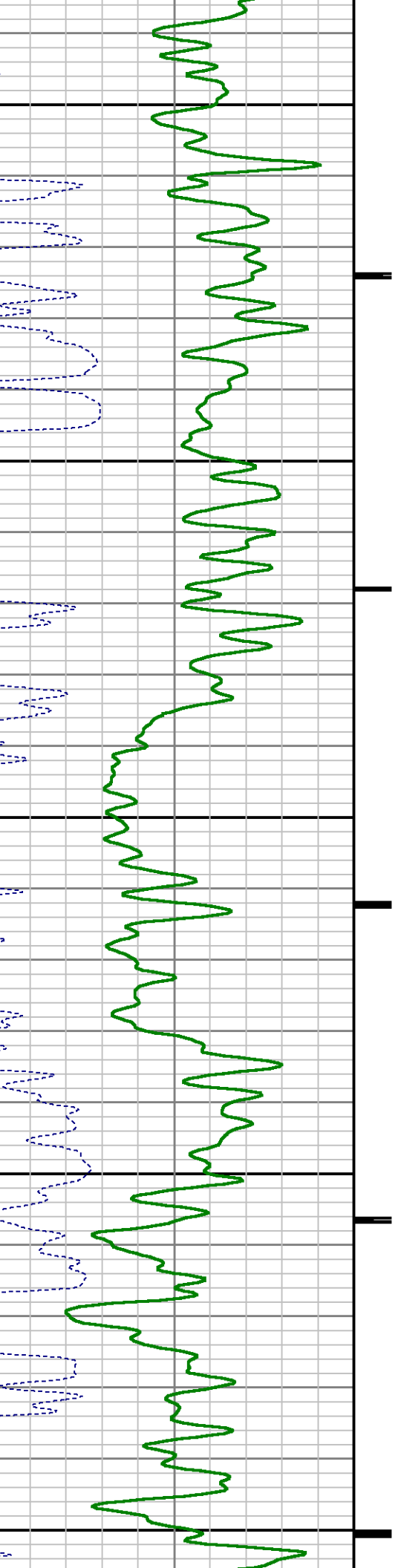
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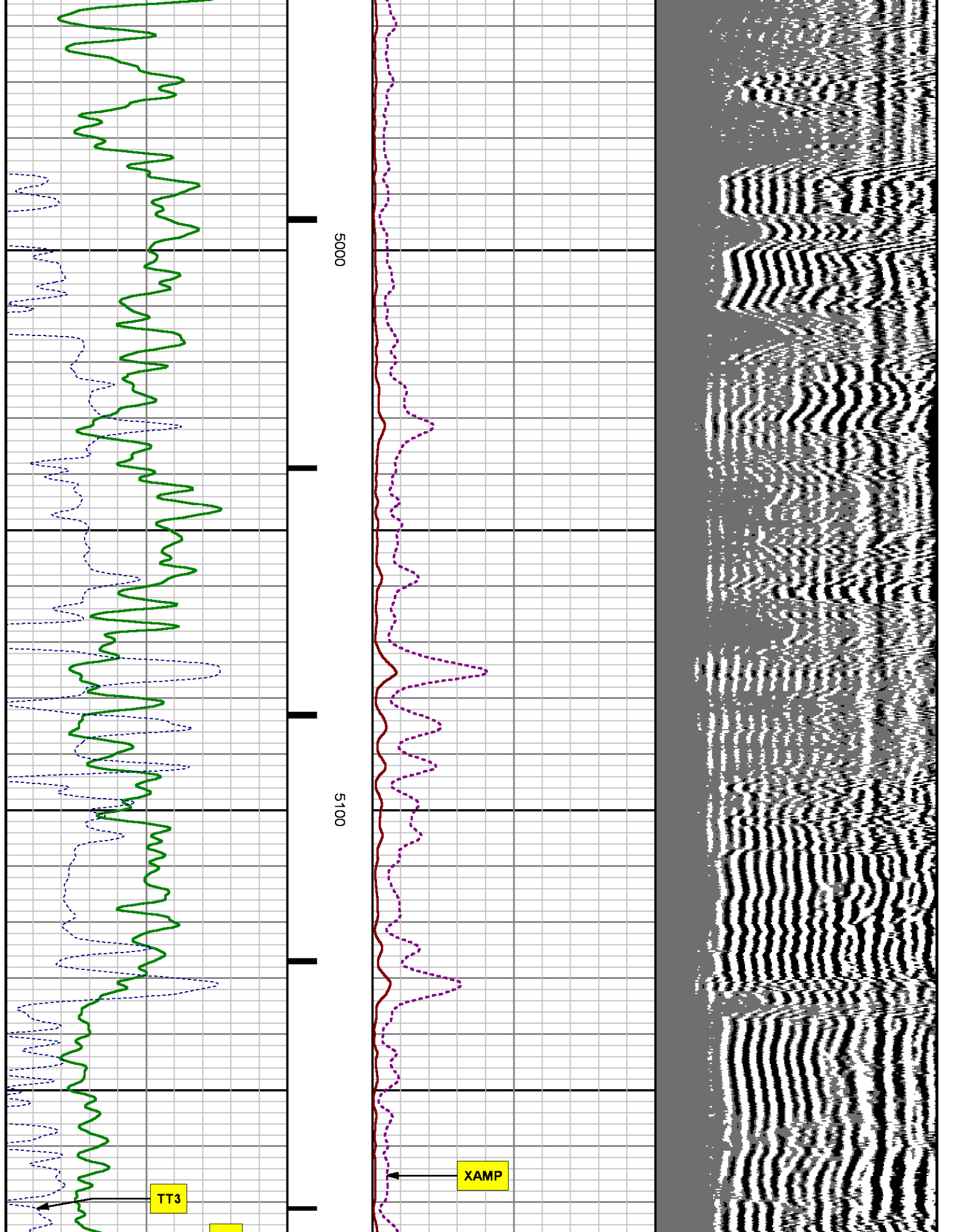


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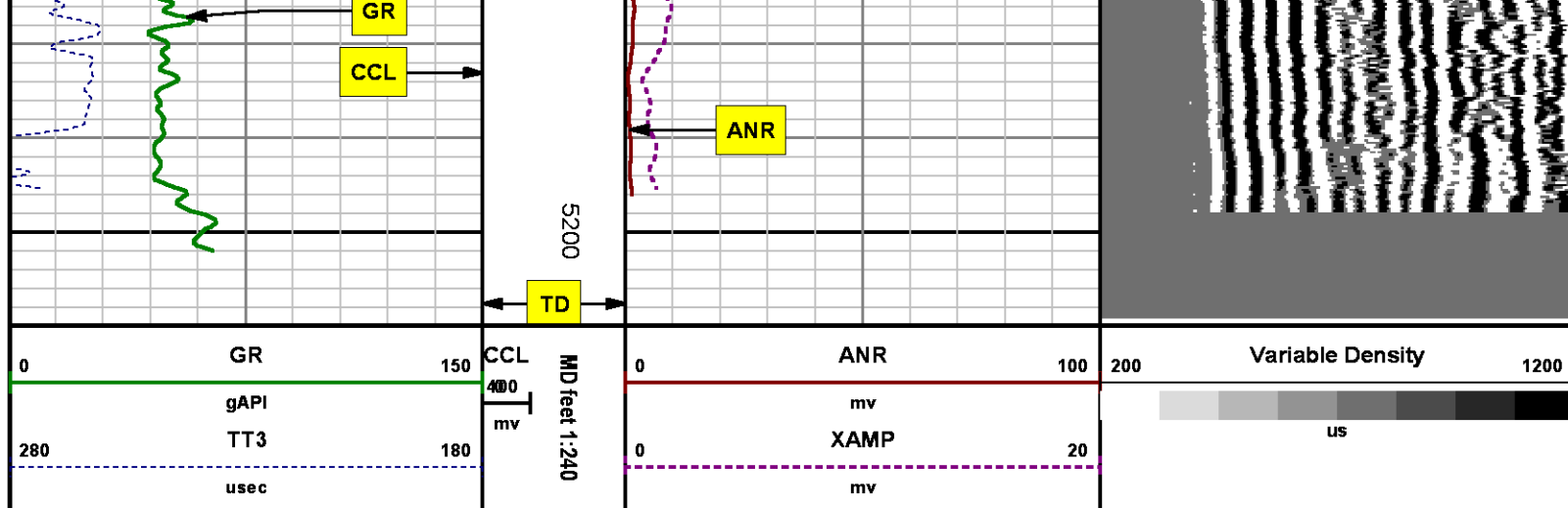
4900











## SECONDARY PRESENTATION

### 0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	28.687	5202.000
RAL	Amp Gate Start Near	195.000	usec	28.687	5202.000
RAL	Amp Gate Start Radial	195.000	usec	28.687	5202.000
RAL	Amp Gate Width Far	25.000	usec	28.687	5202.000
RAL	Amp Gate Width Near	25.000	usec	28.687	5202.000
RAL	Amp Gate Width Radial	25.000	usec	28.687	5202.000
RAL	casing od	4.500	inches	28.687	5202.000
RAL	casing wt	11.600	lbm/ft	28.687	5202.000
RAL	FB Start Far	291.900	usec	28.687	5202.000
RAL	FB Start Near	180.000	usec	28.687	5202.000
RAL	FB Start Radial	180.000	usec	28.687	5202.000
RAL	FB Thresh Far	10.000	mv	28.687	5202.000
RAL	FB Thresh Near	4.000	mv	28.687	5202.000
RAL	FB Thresh Radial	4.000	mv	28.687	5202.000
RAL	Fluid Travel Time	200.000	usec/ft	28.687	5201.906

## DEPTH OFFSETS

(for Acquired Curves)

(per required 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

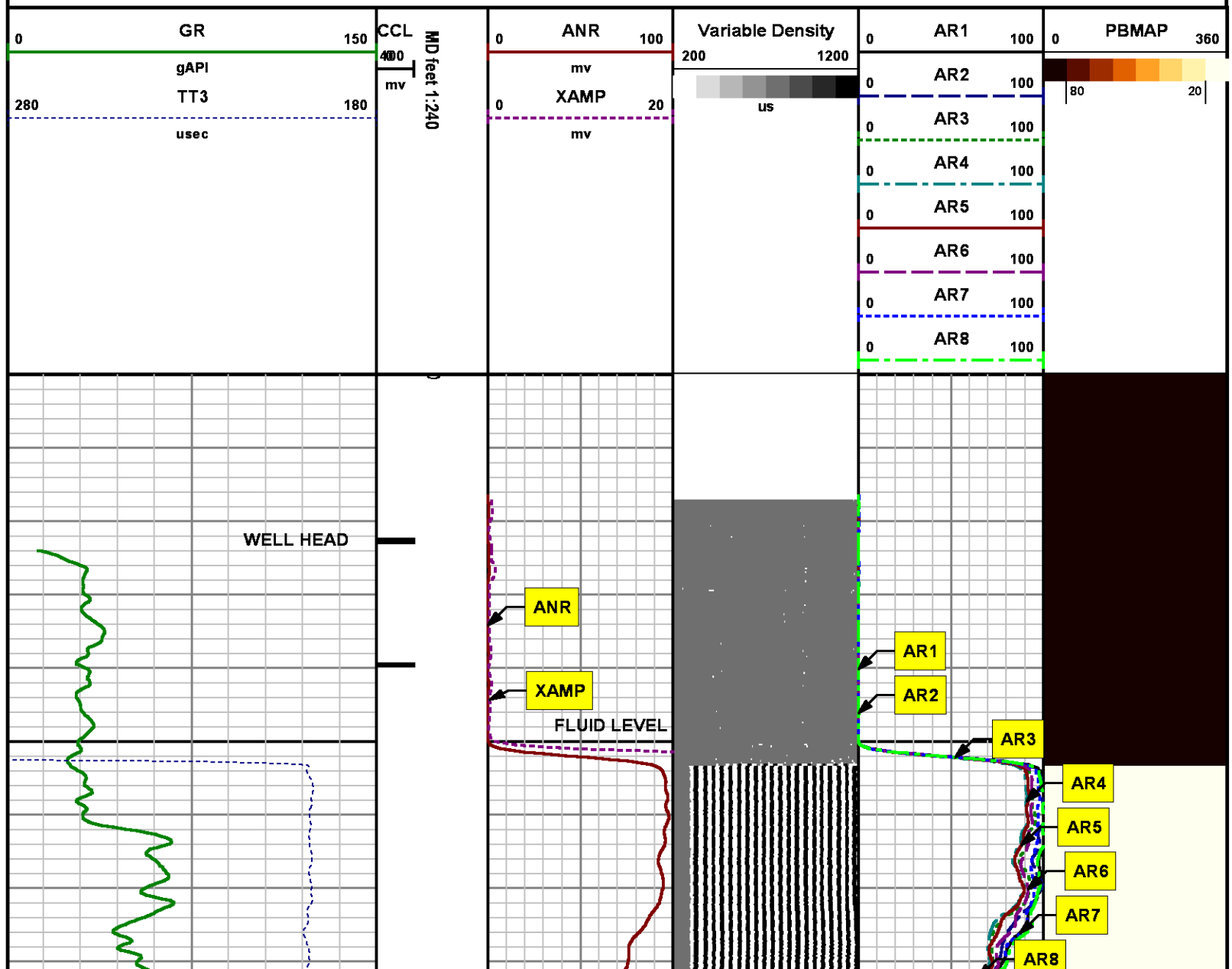
Well : FEDERAL SG 442-28

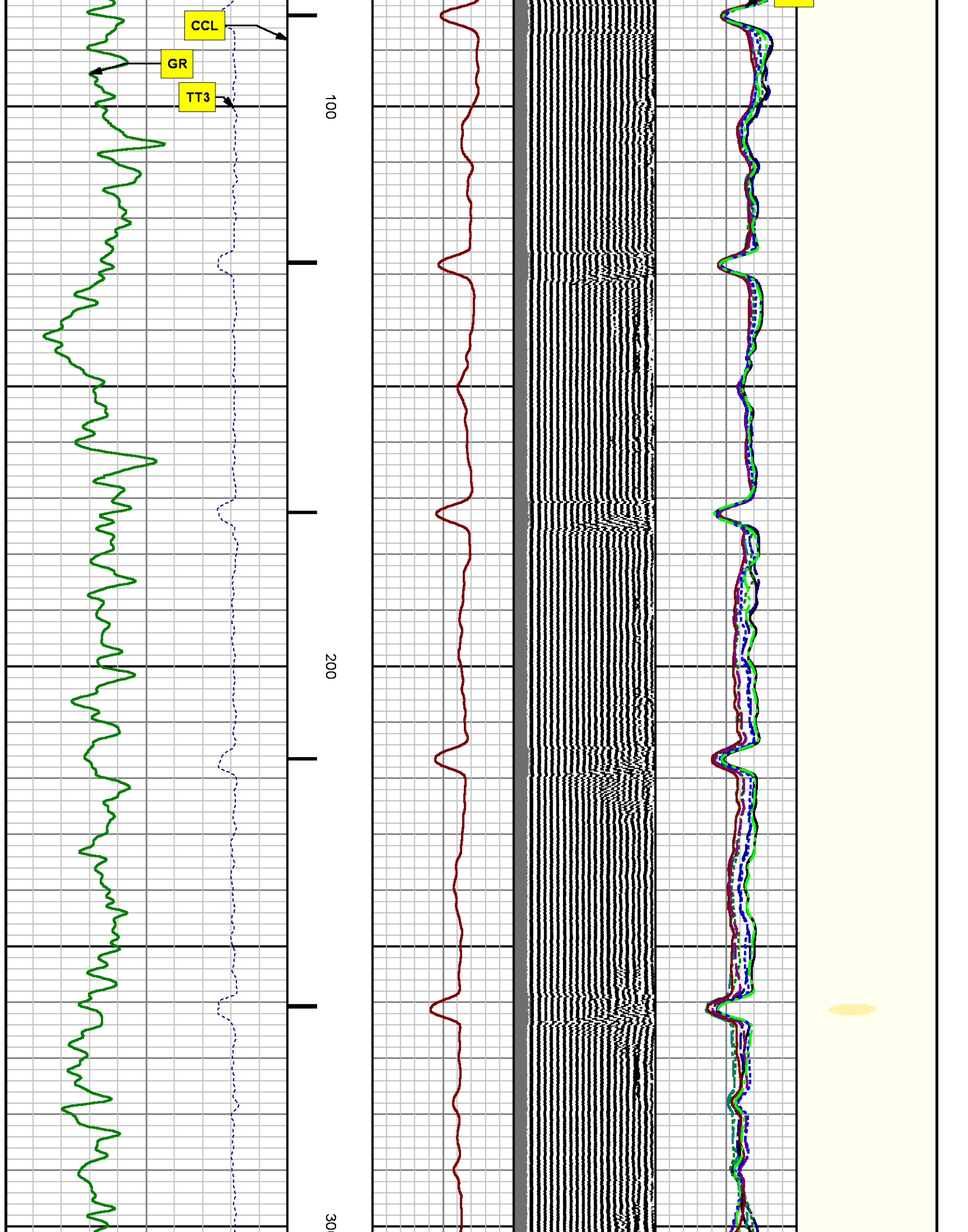
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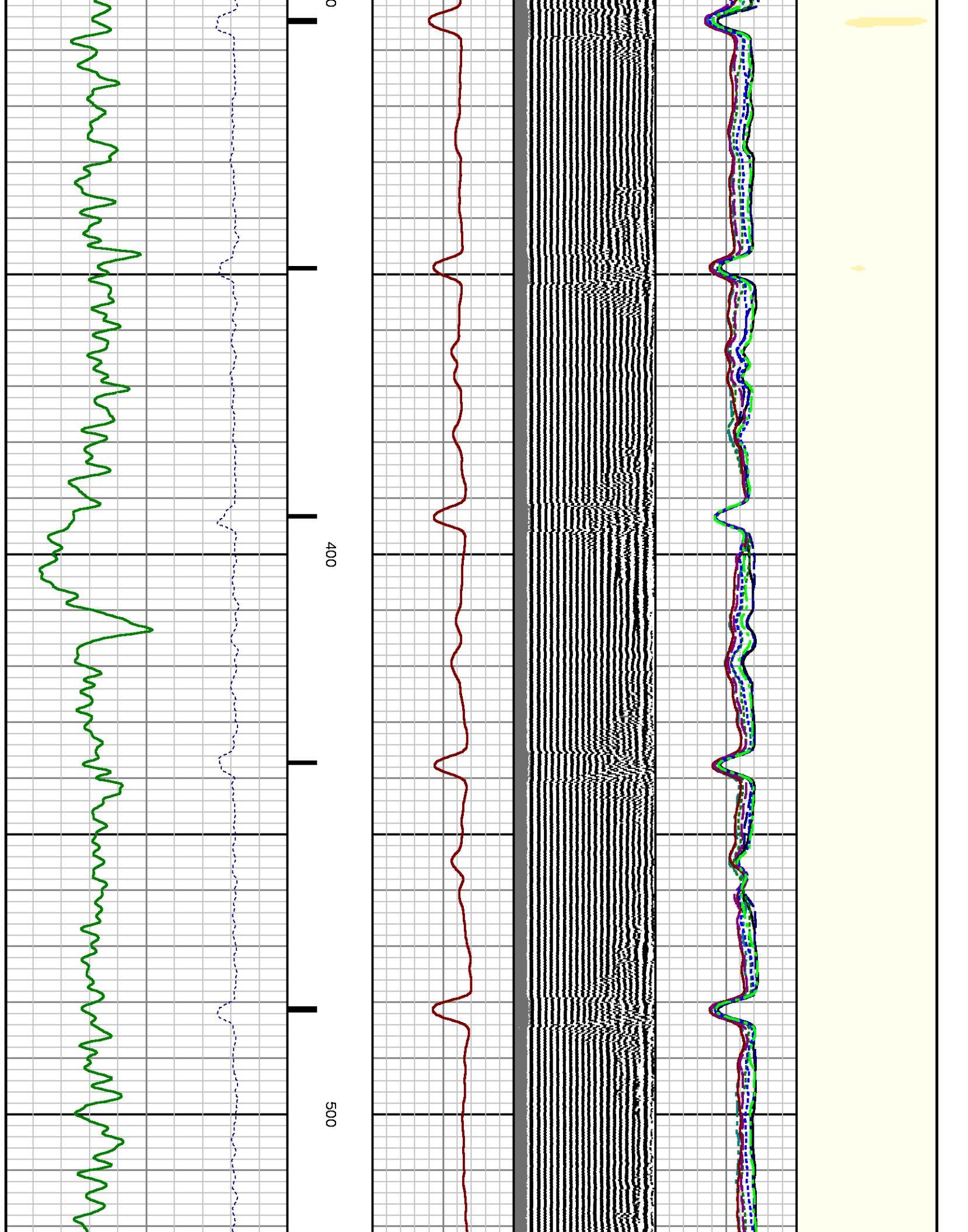
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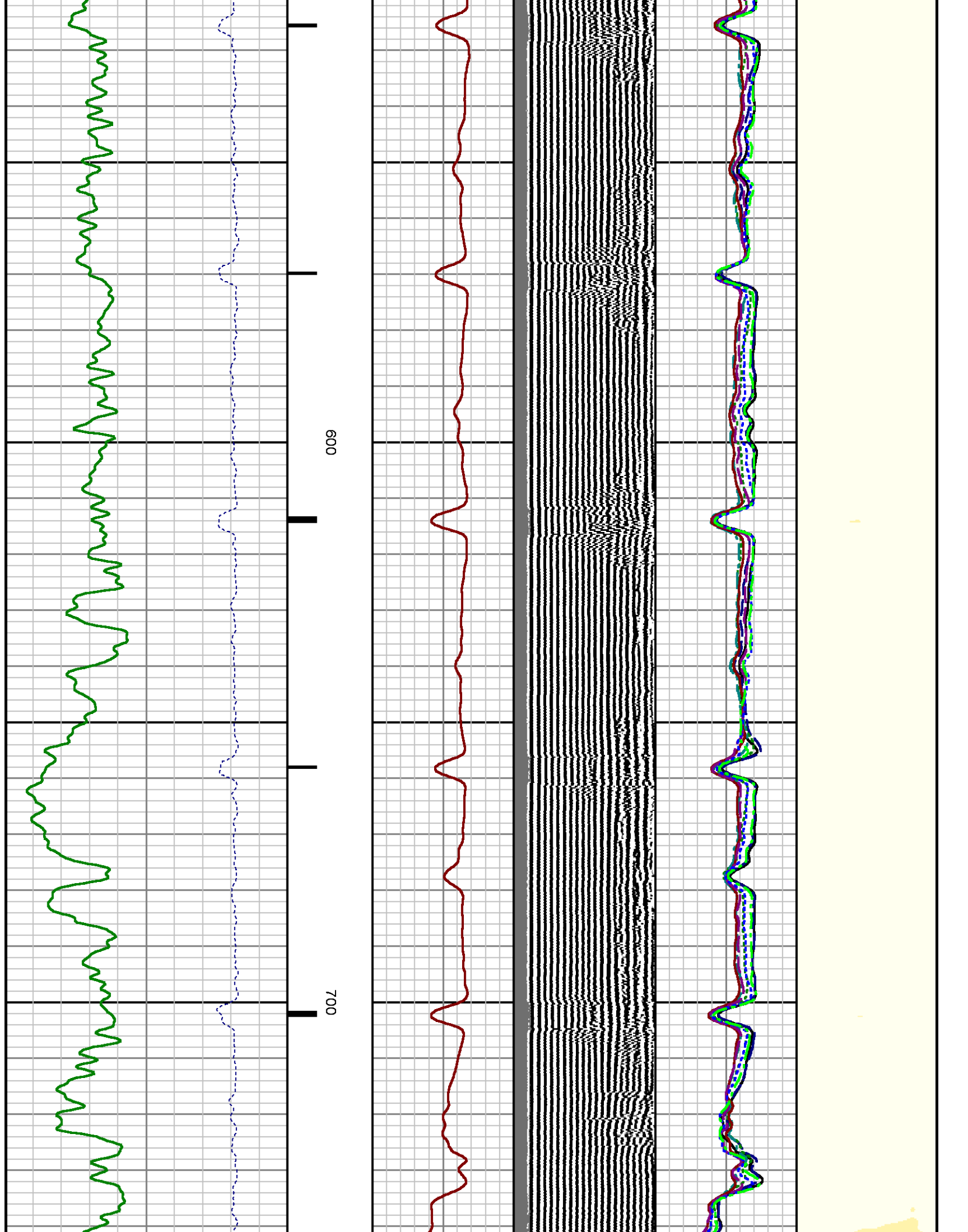
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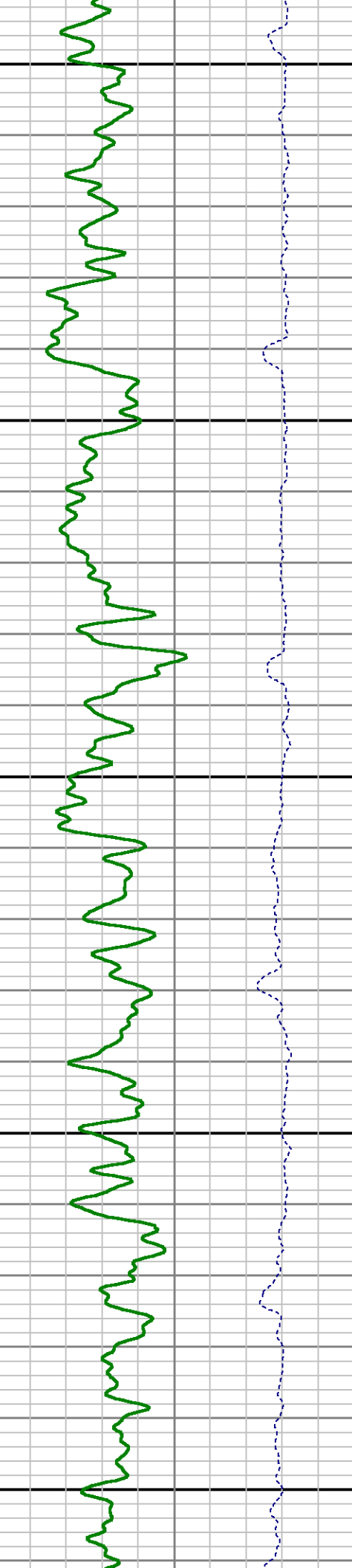
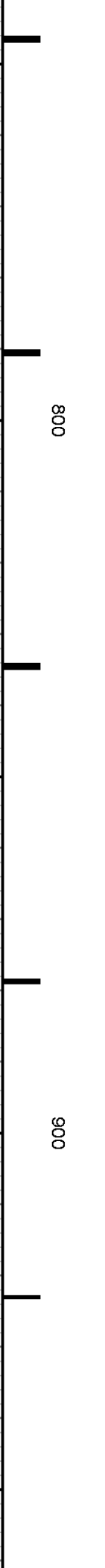
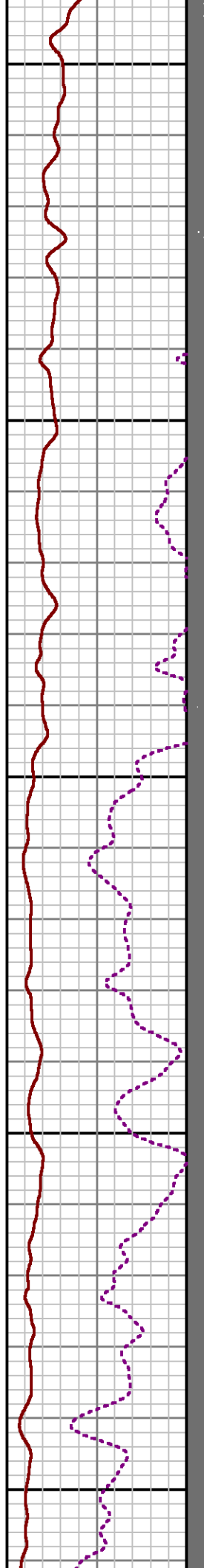
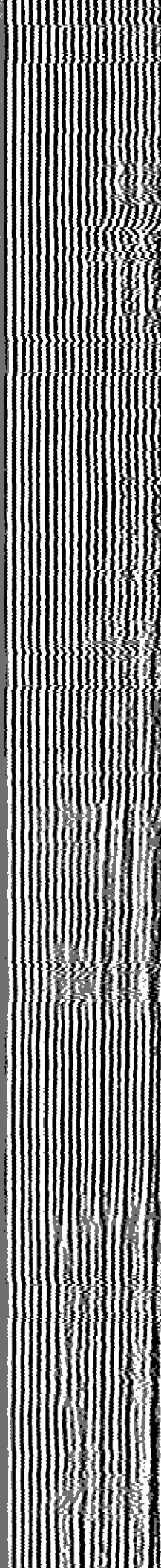
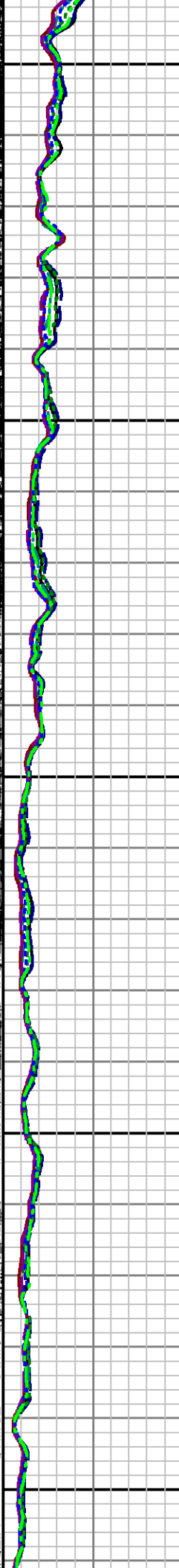
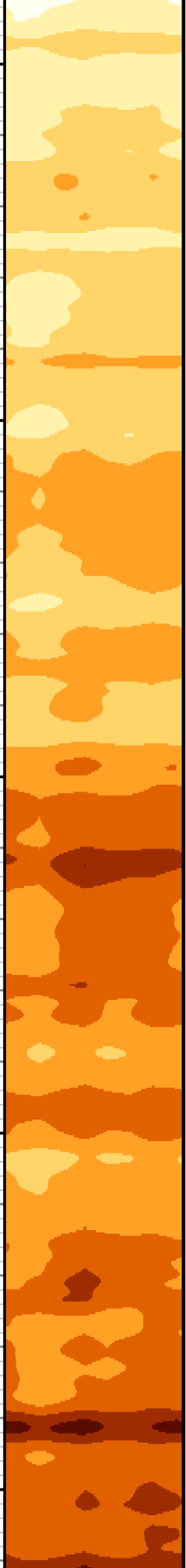
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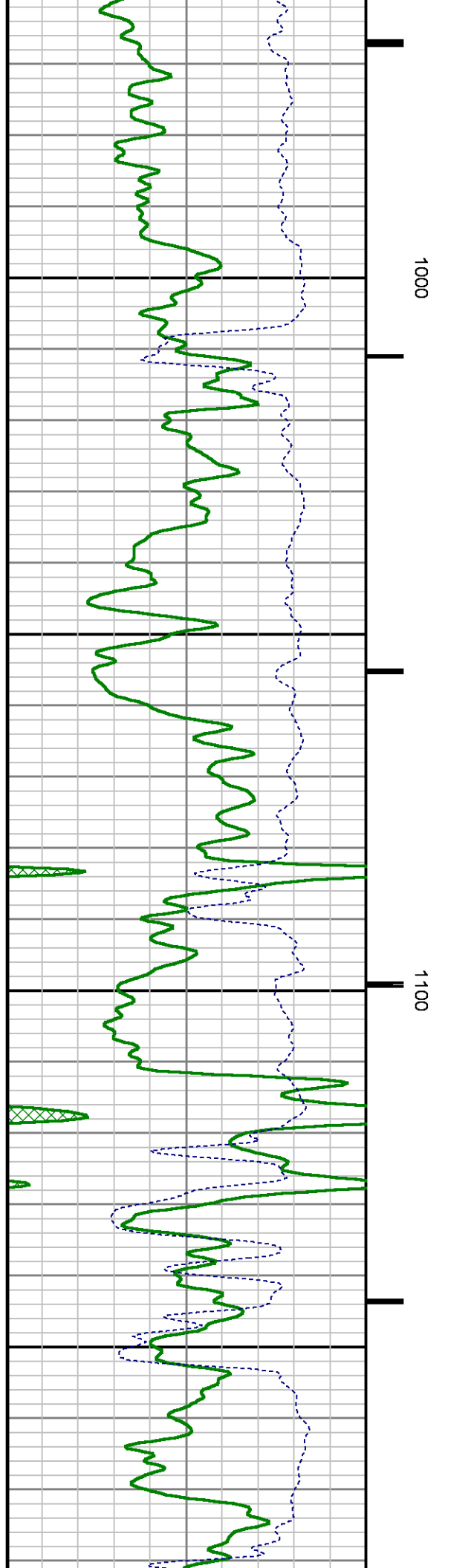
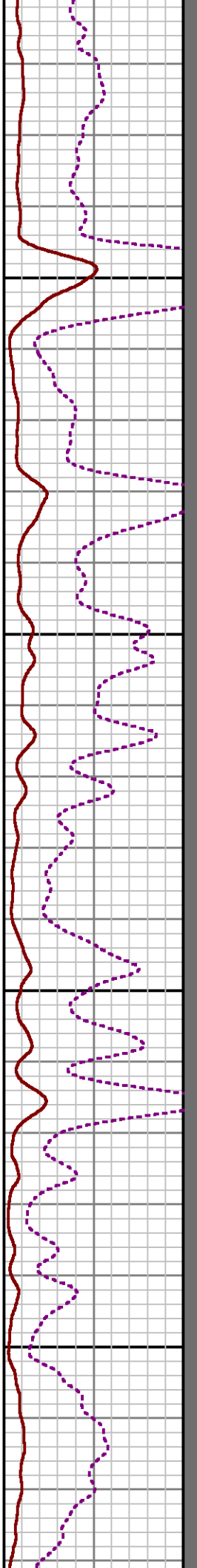
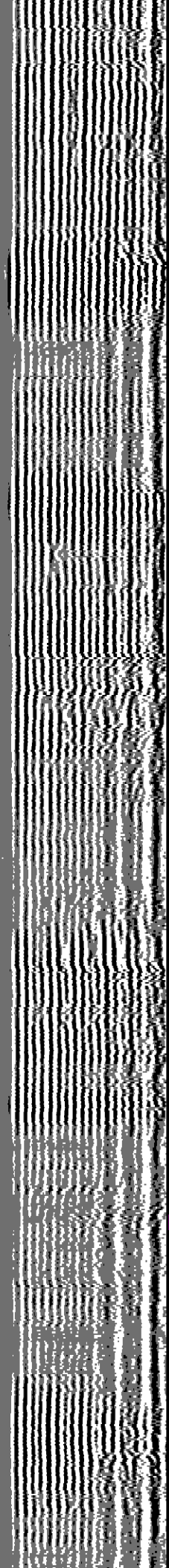
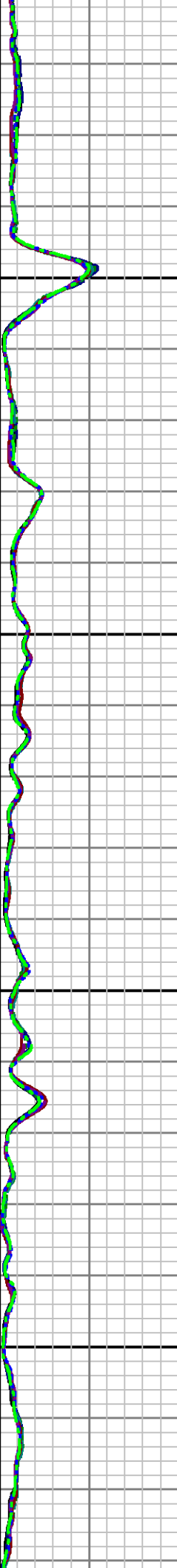


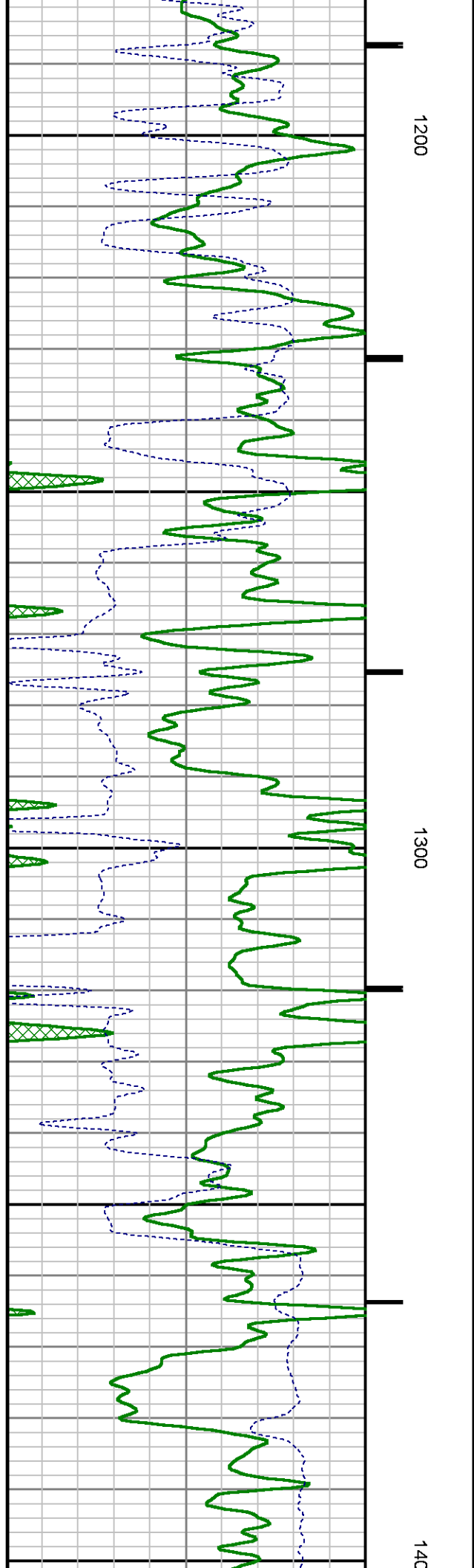
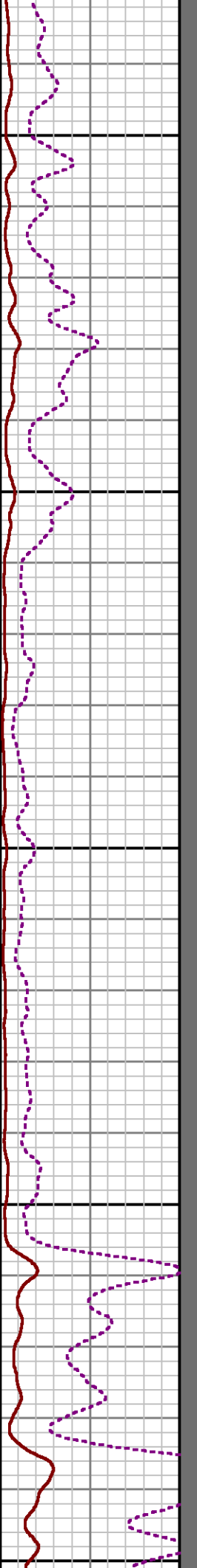
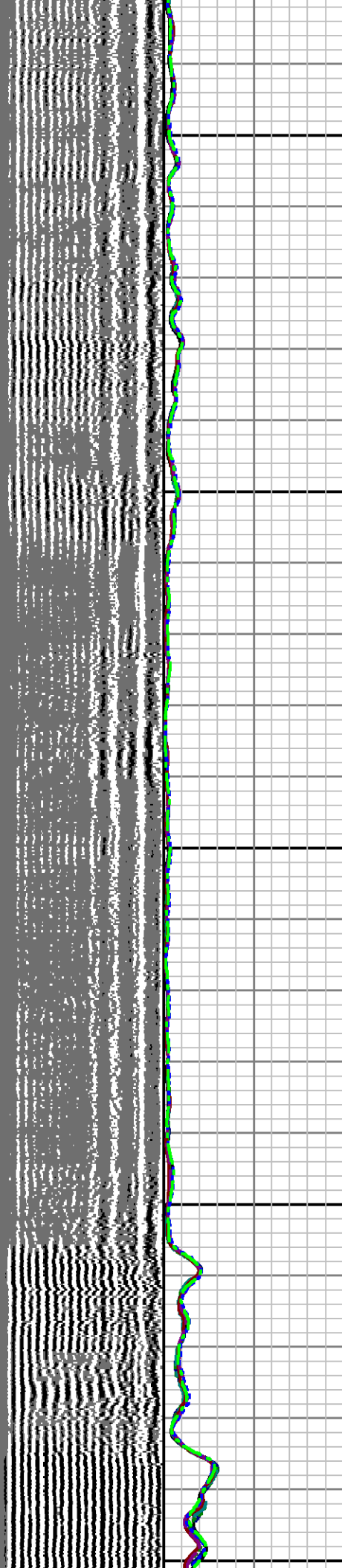


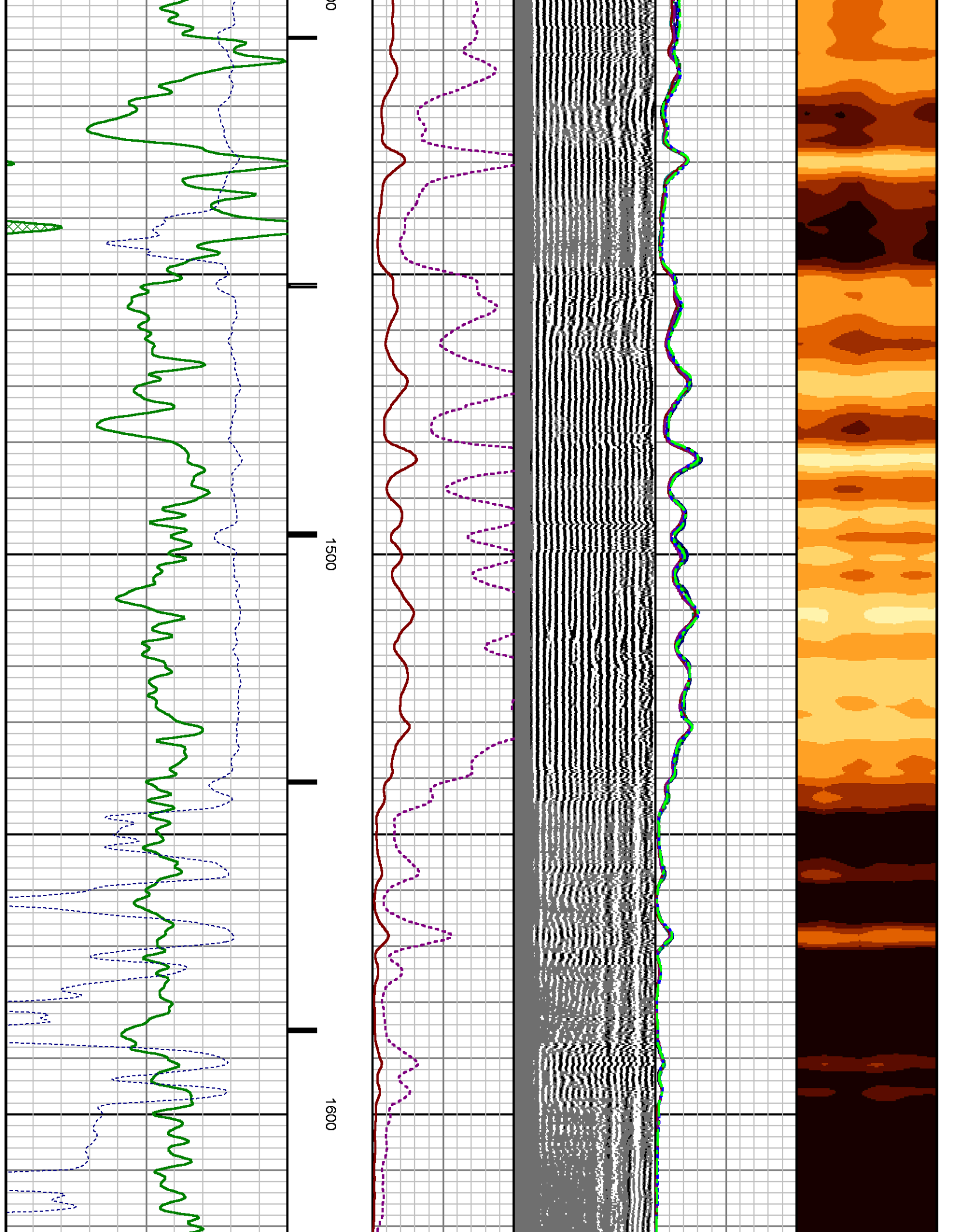


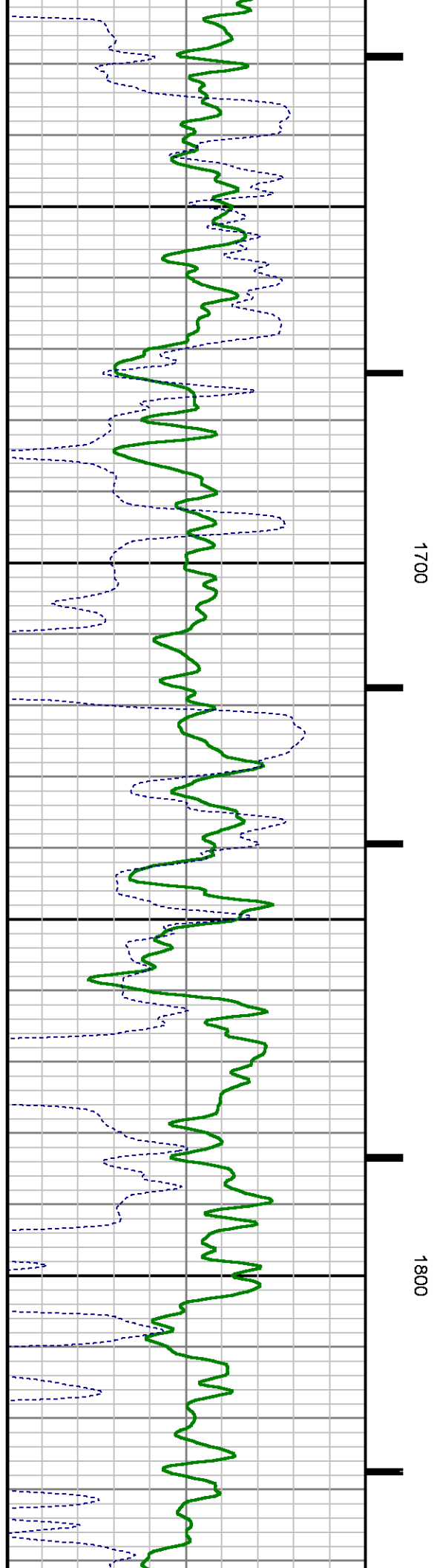
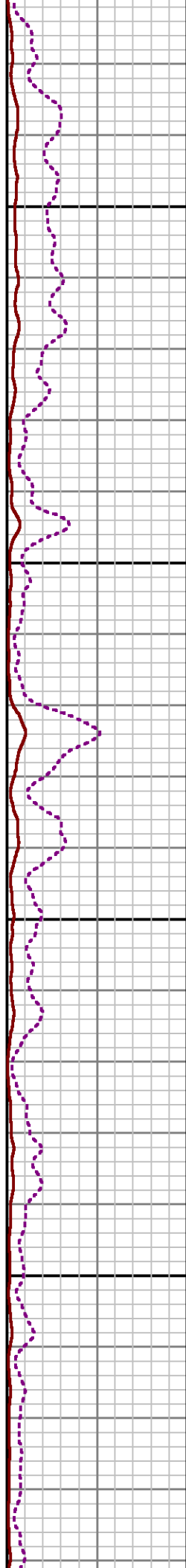
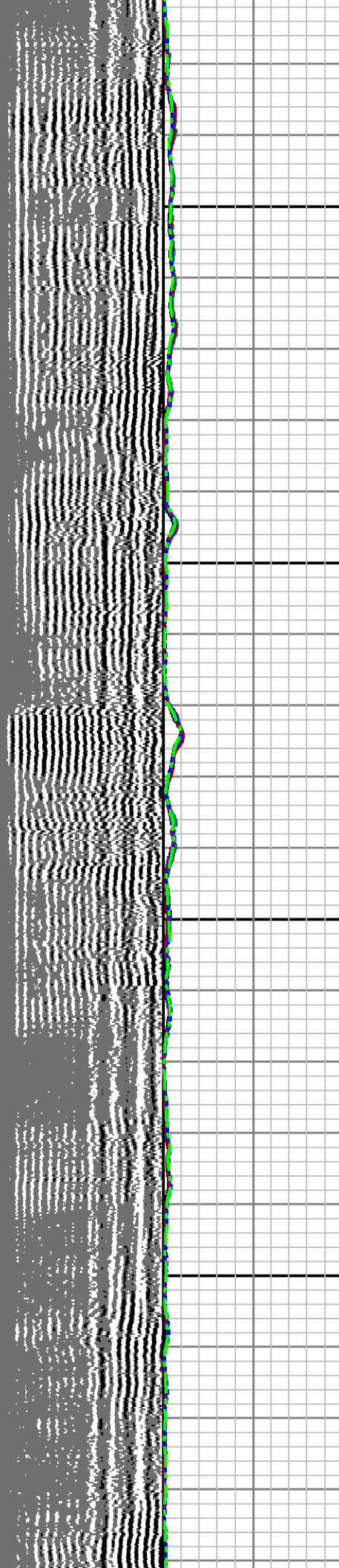
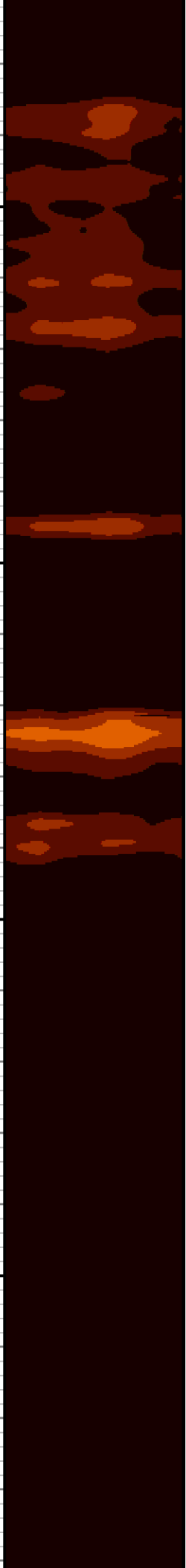


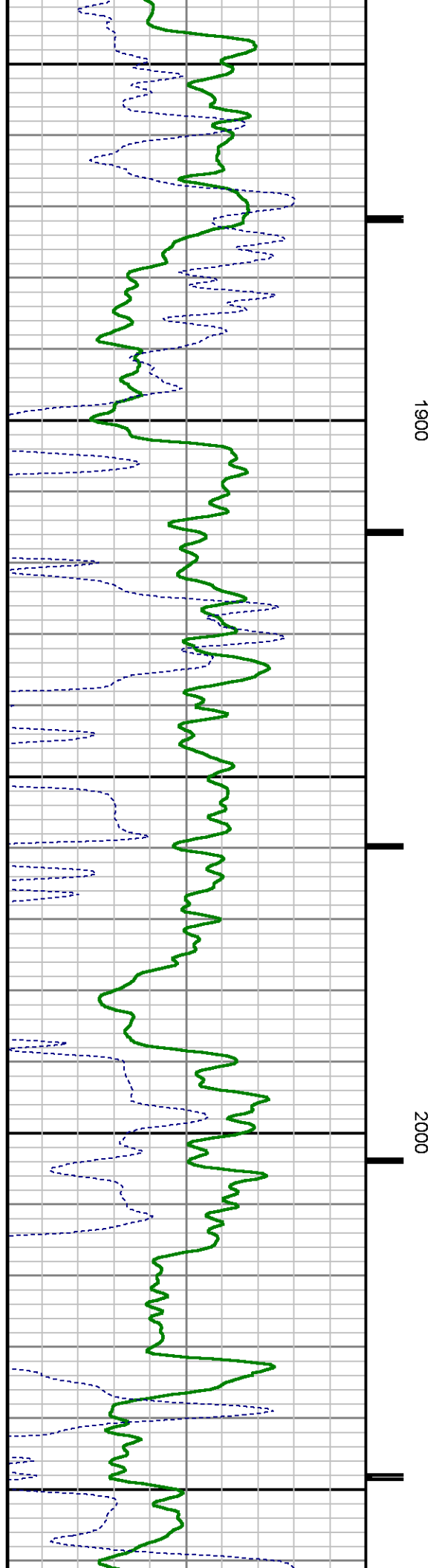
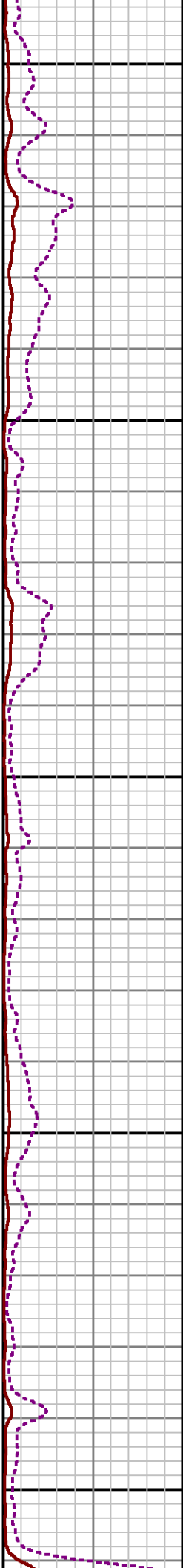
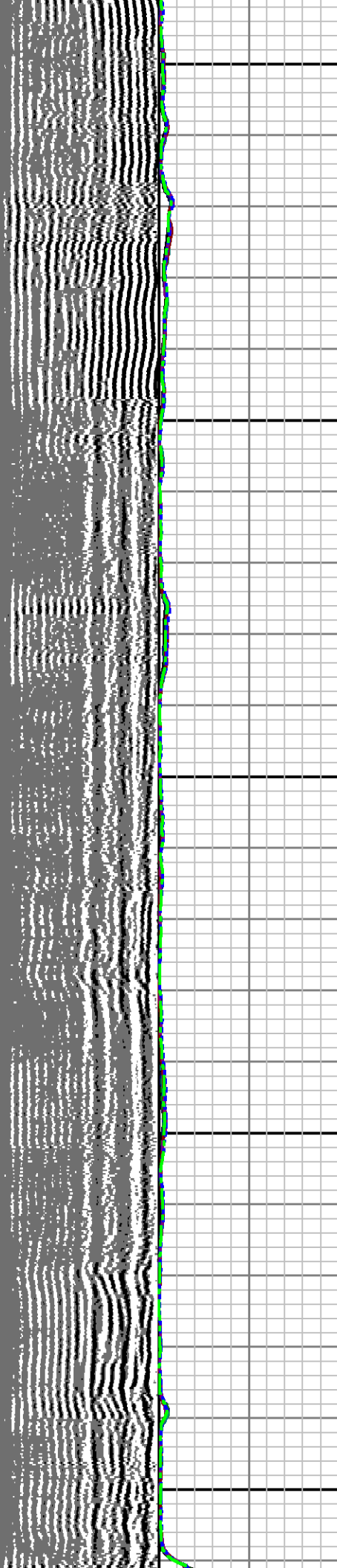
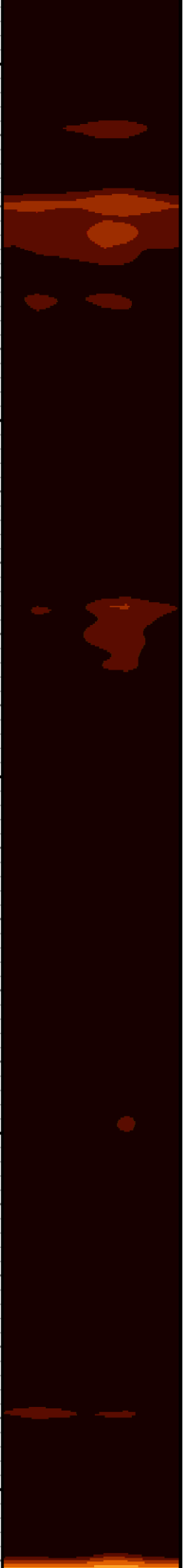




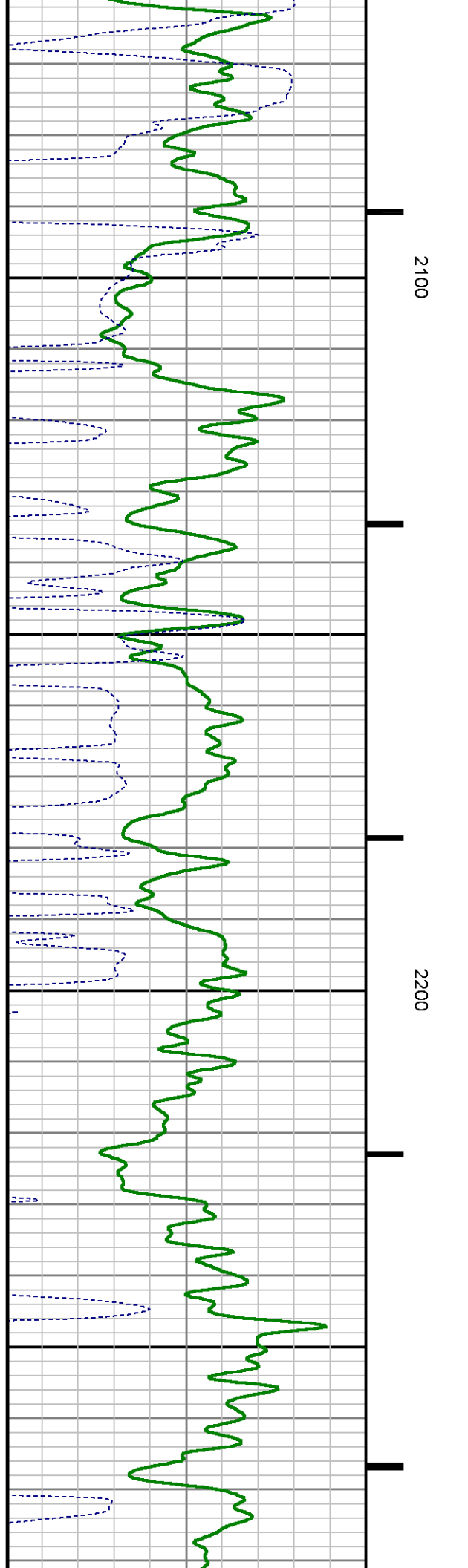
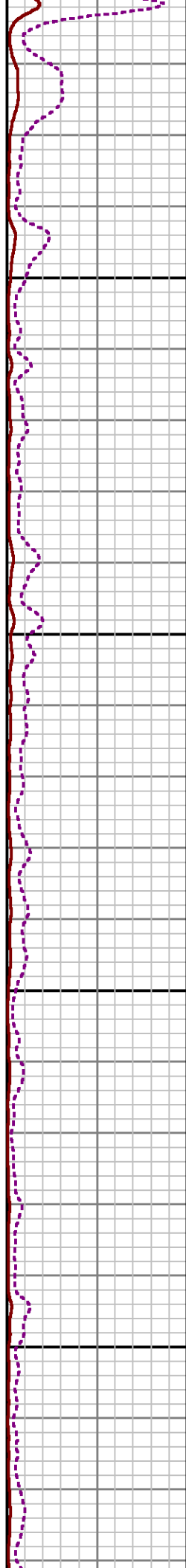
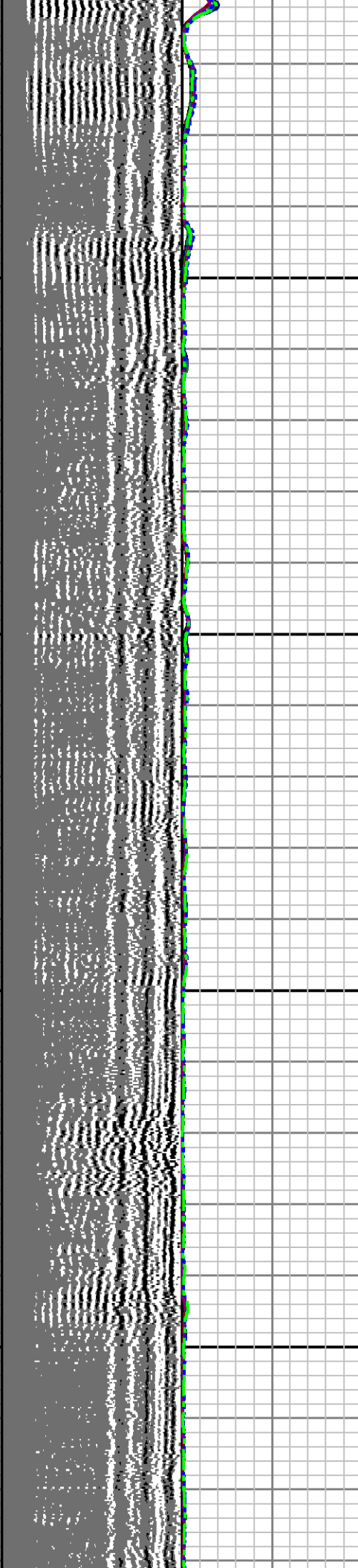
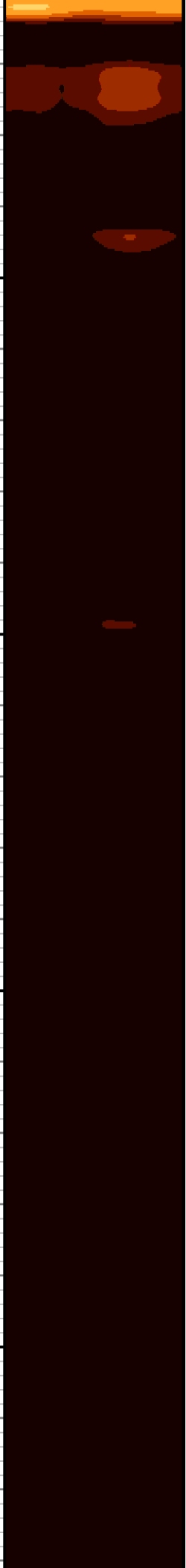




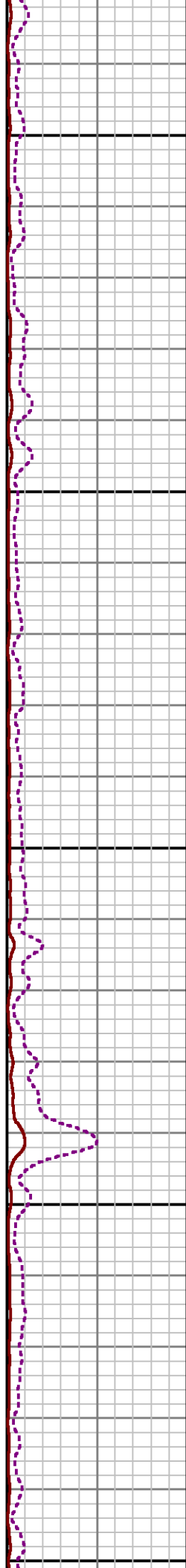
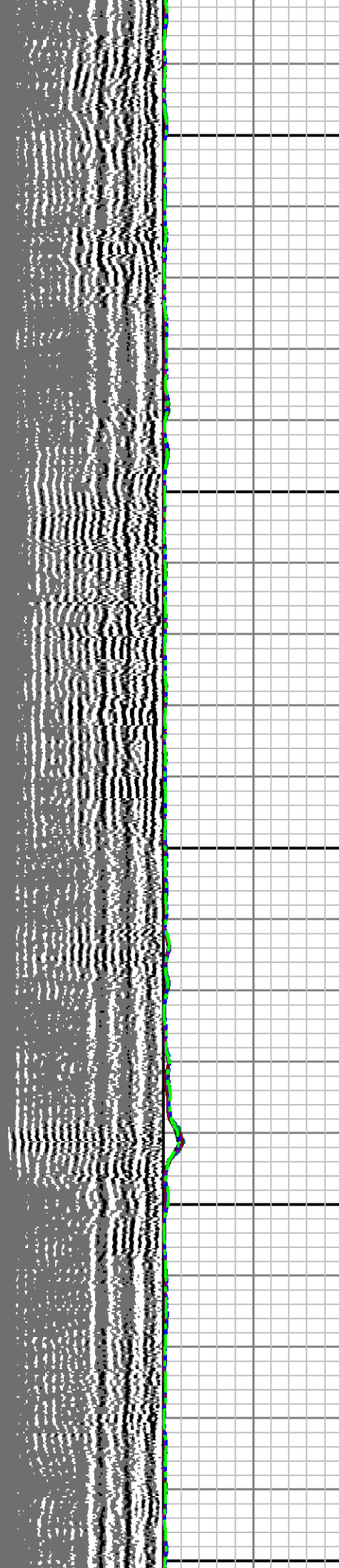








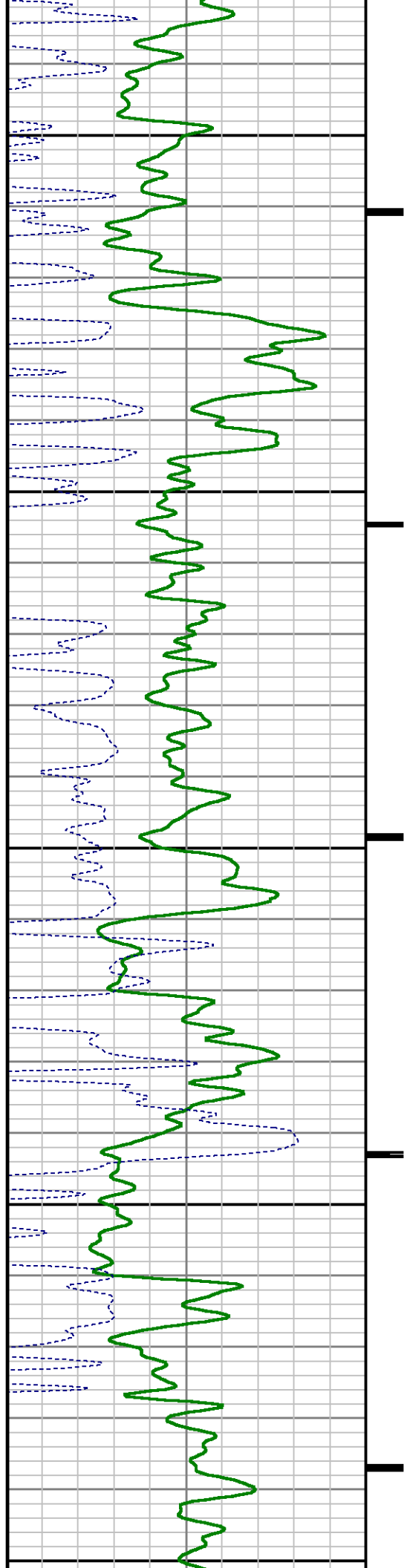


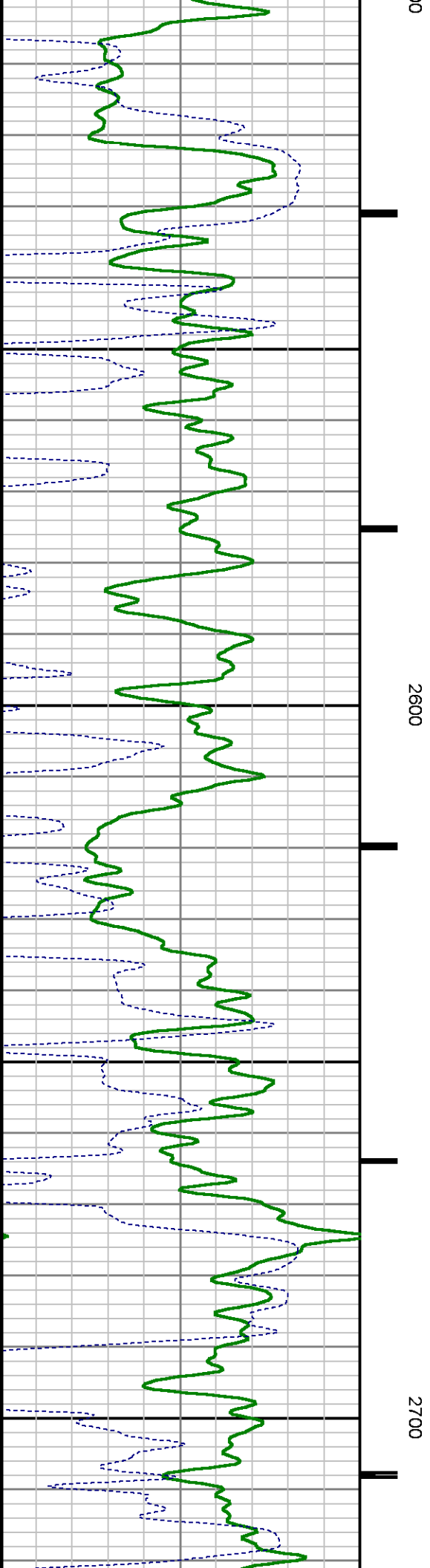
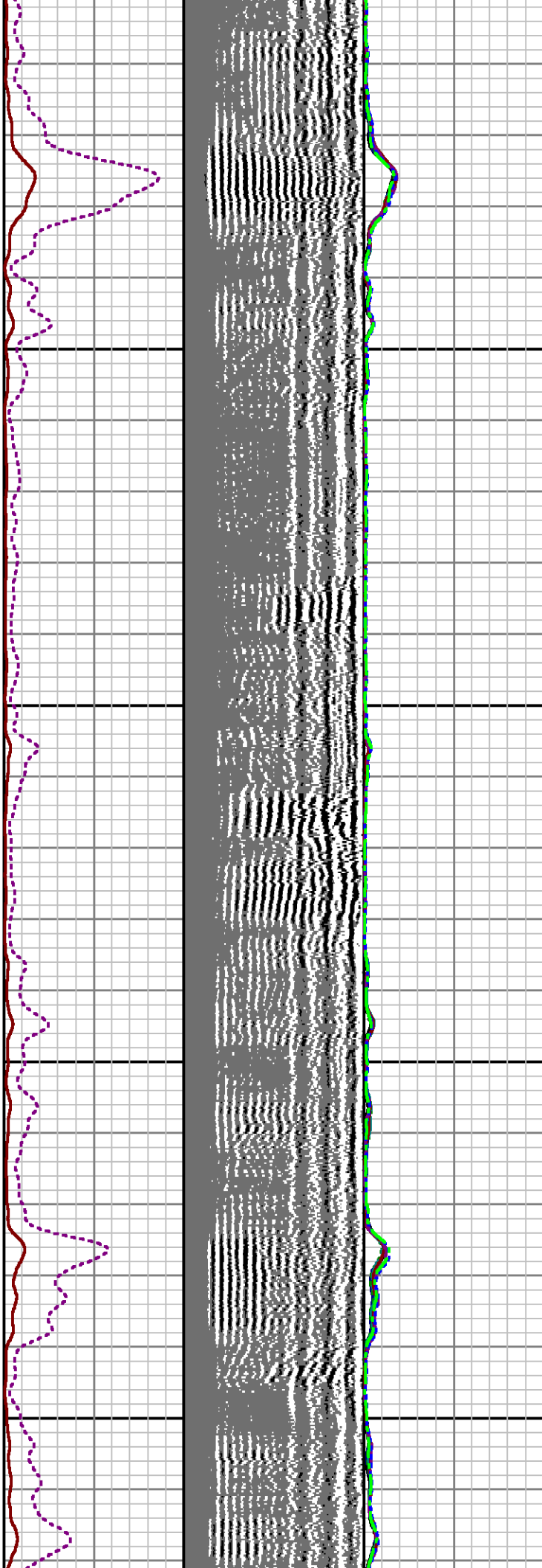
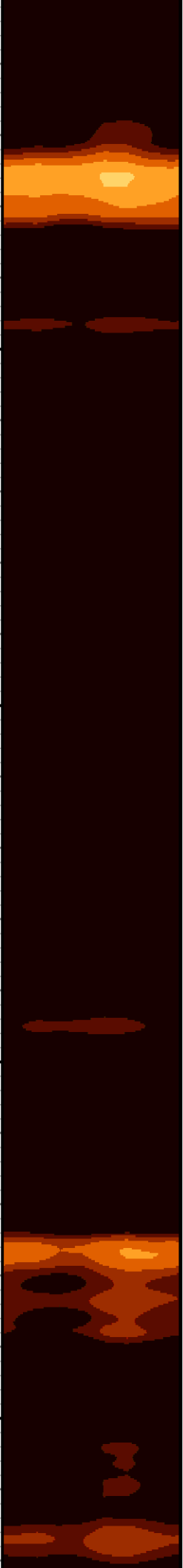


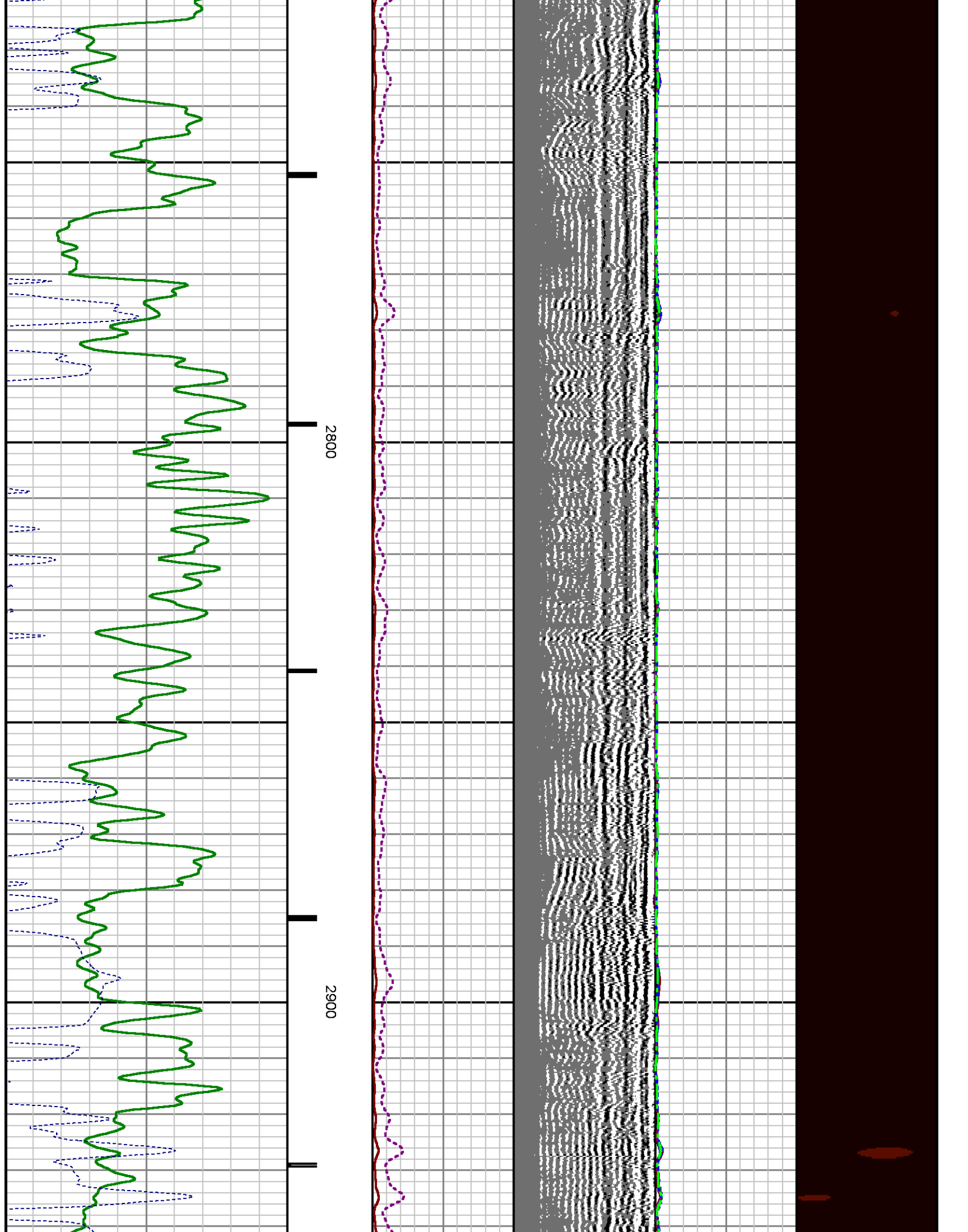
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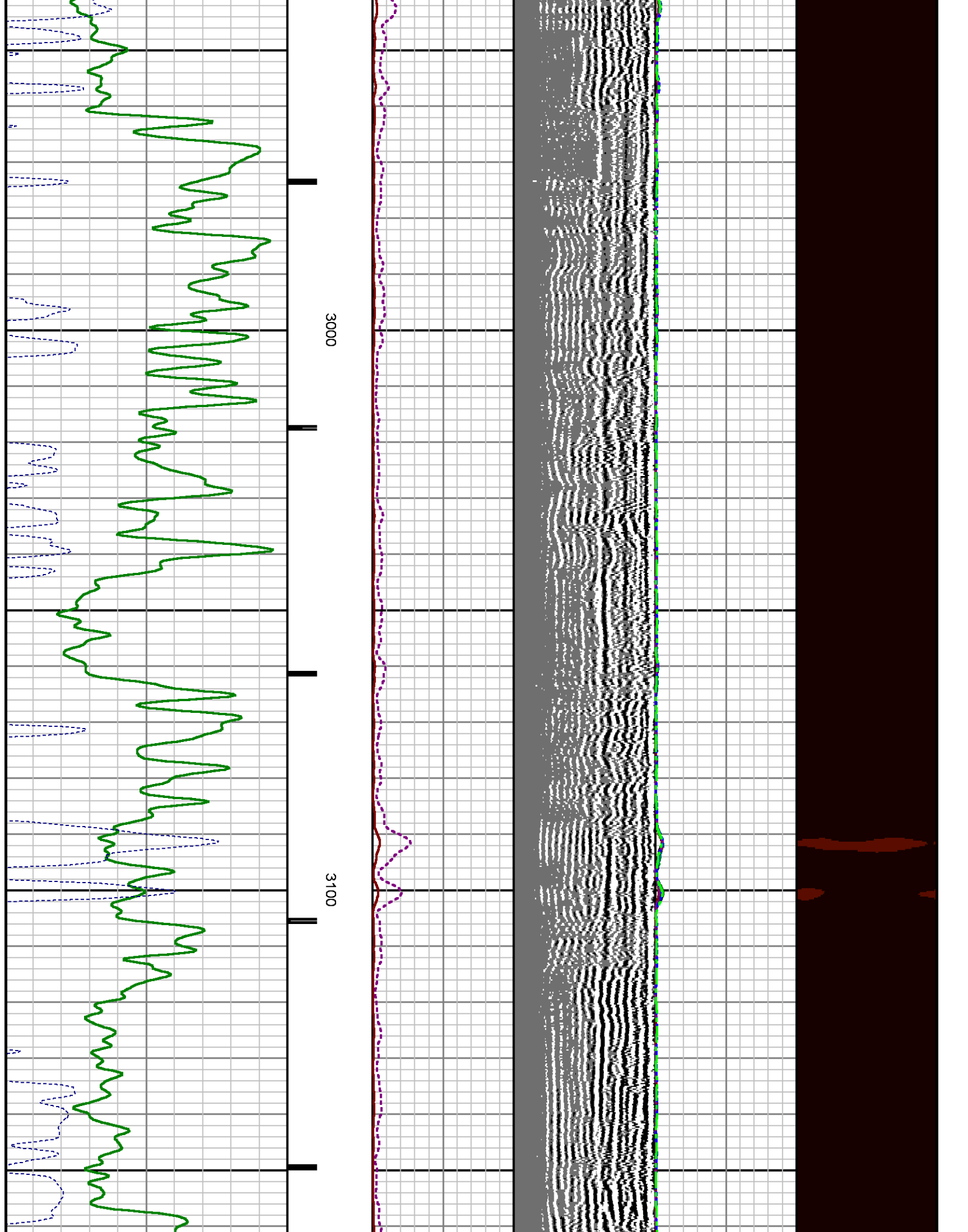
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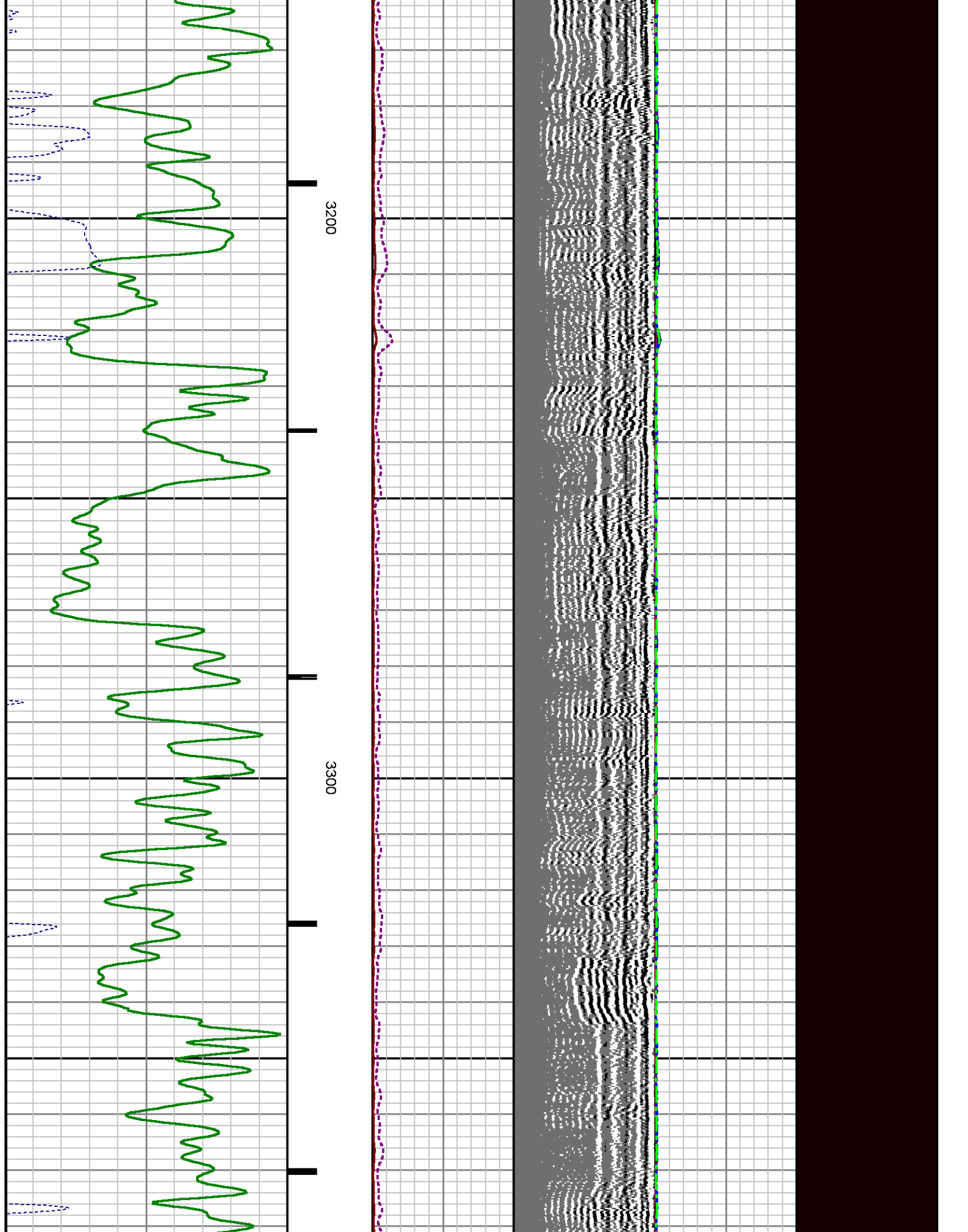
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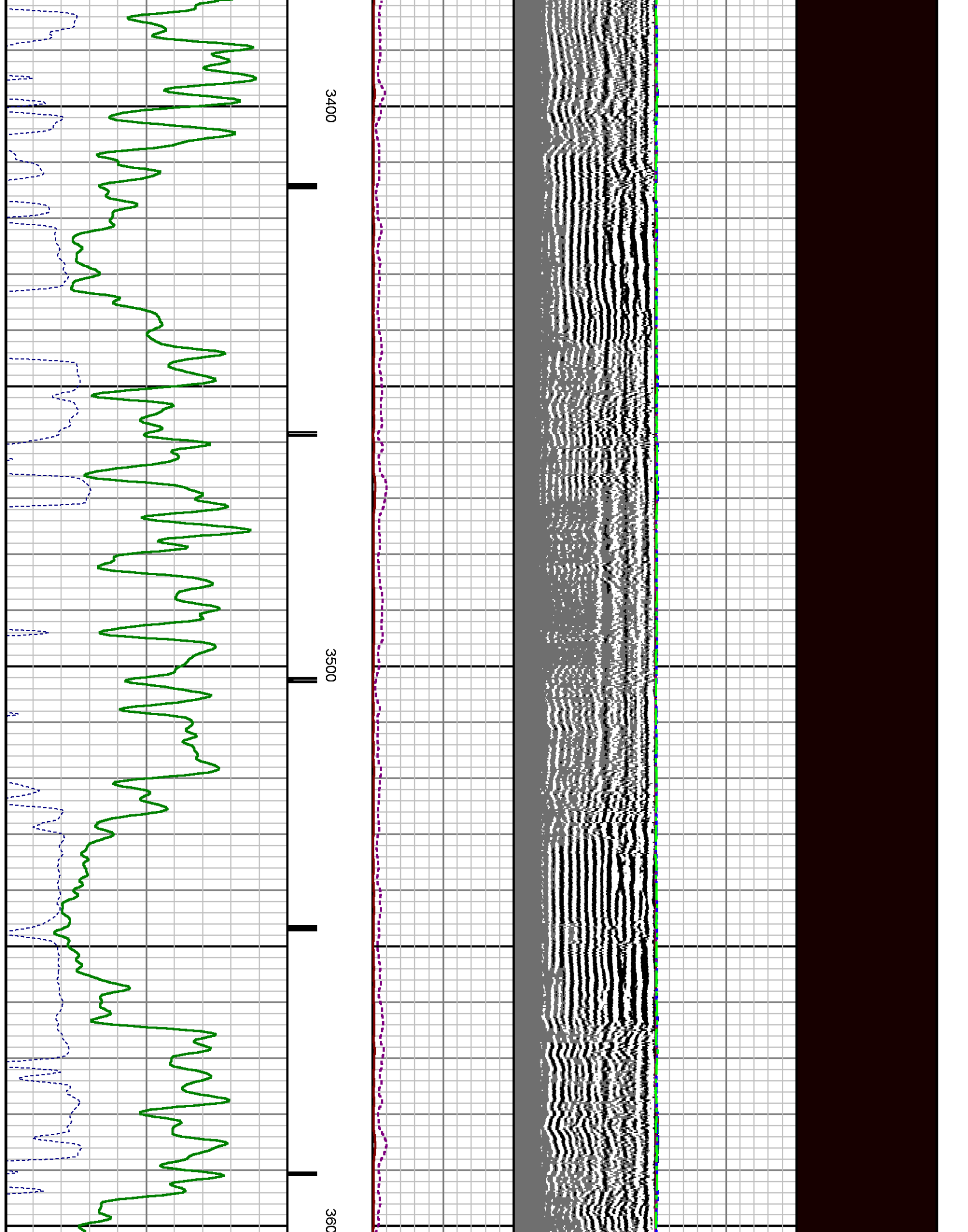




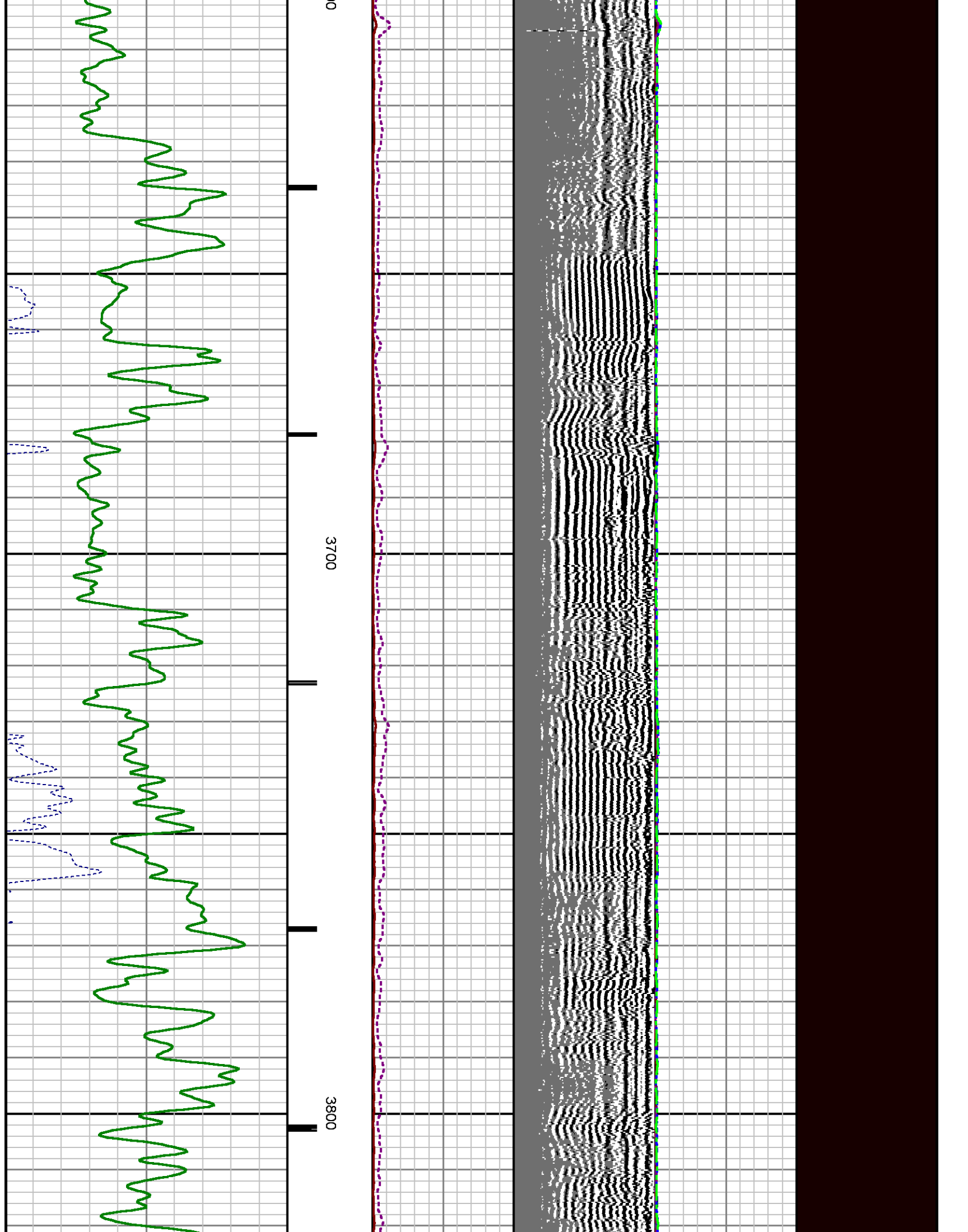


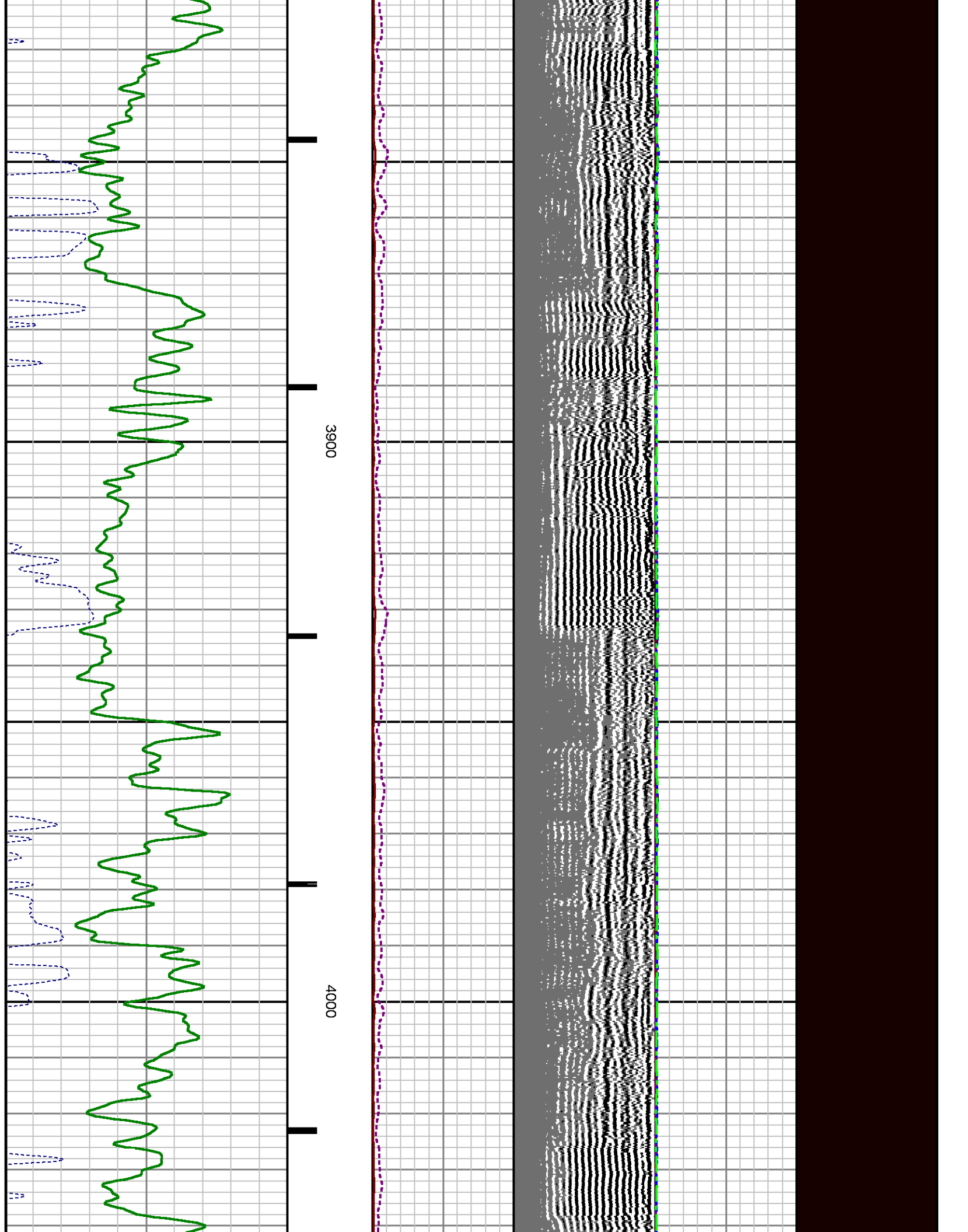


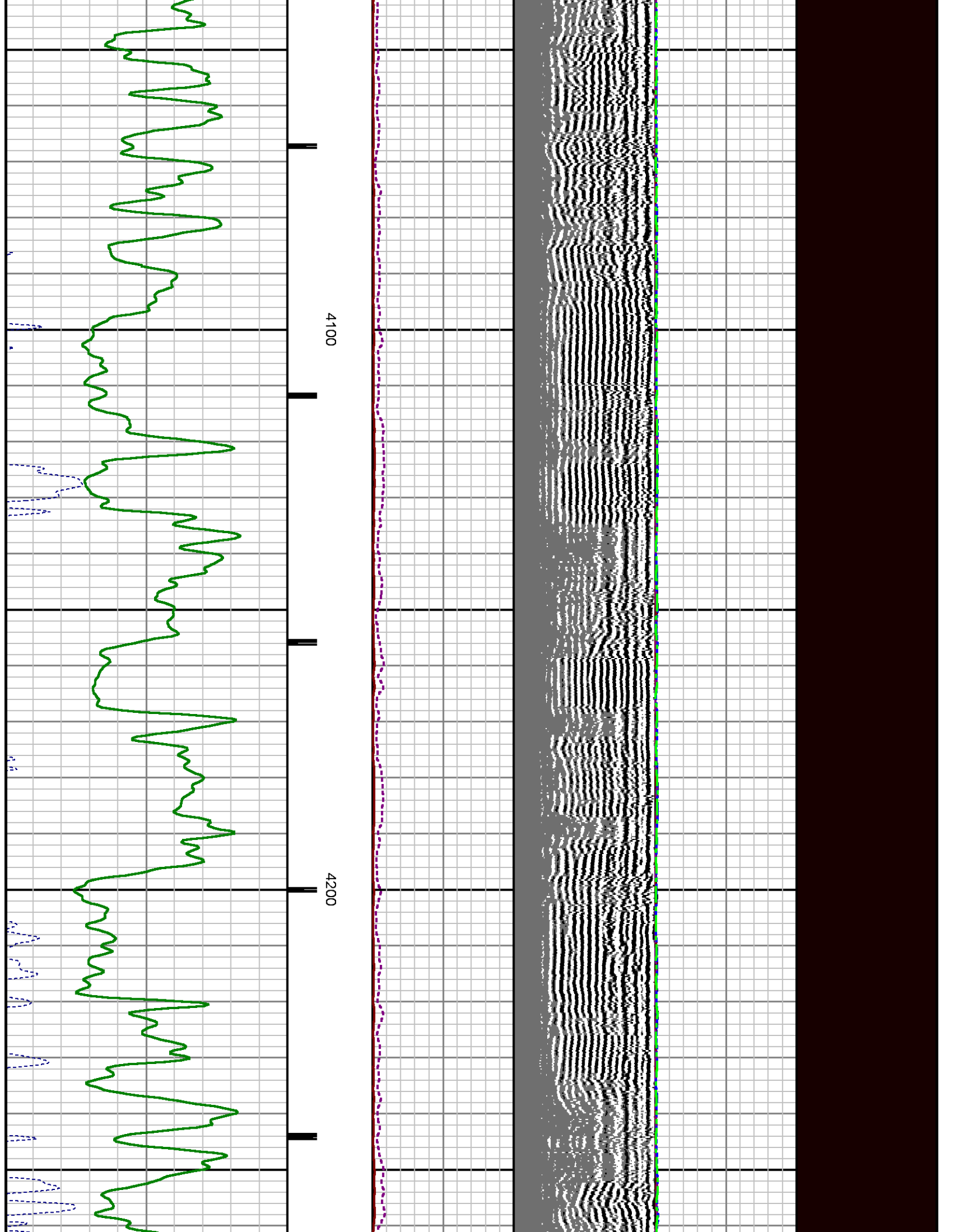


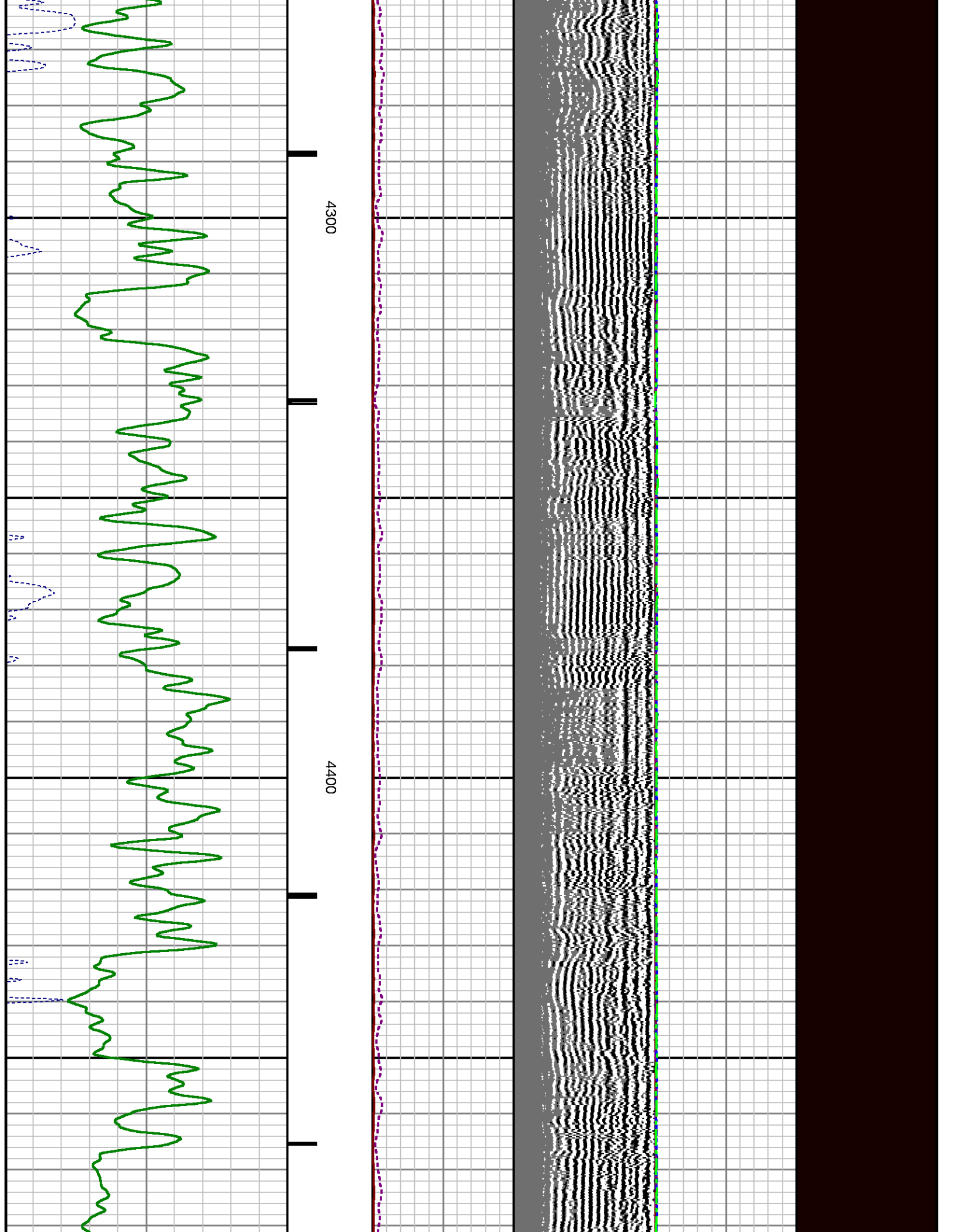


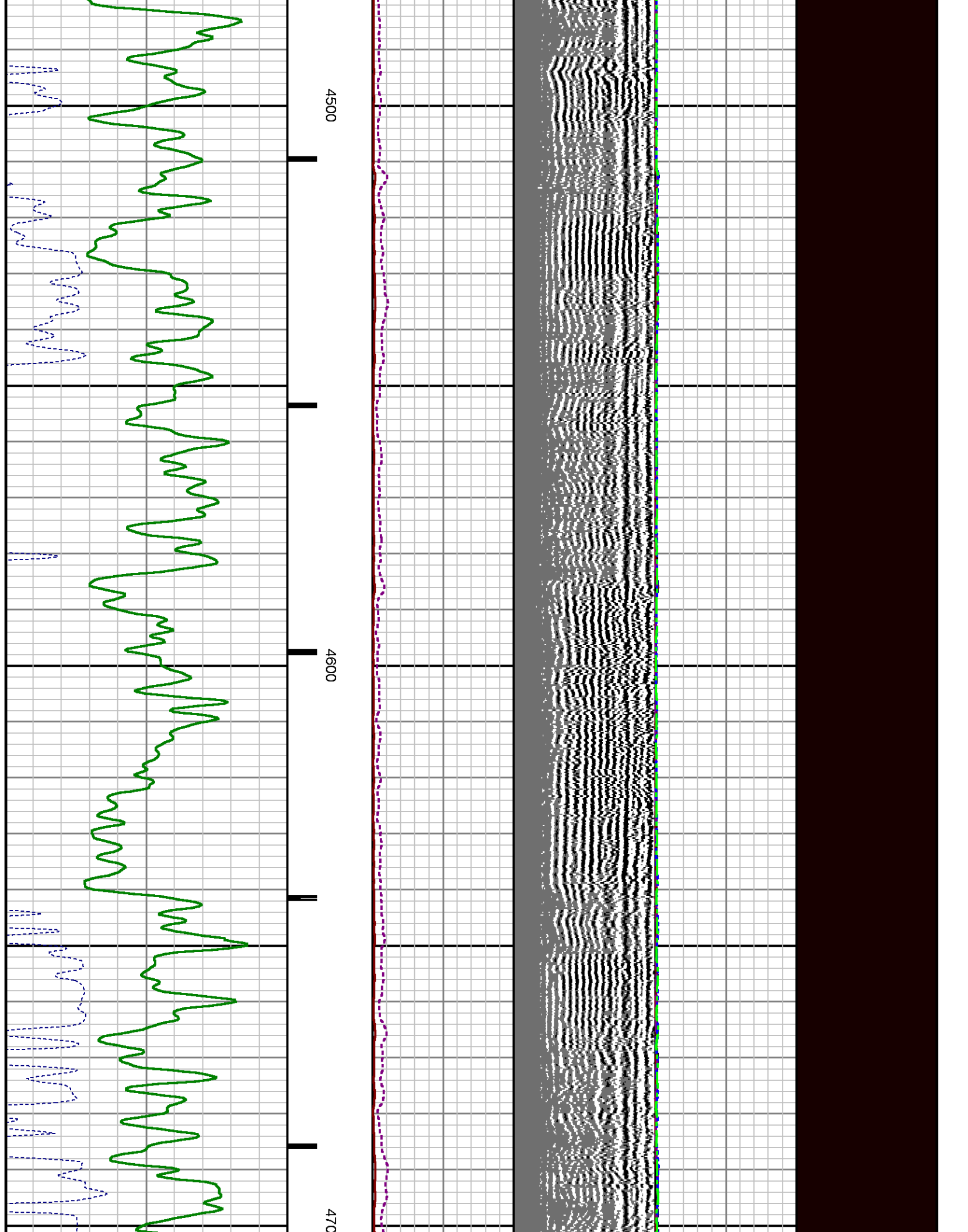


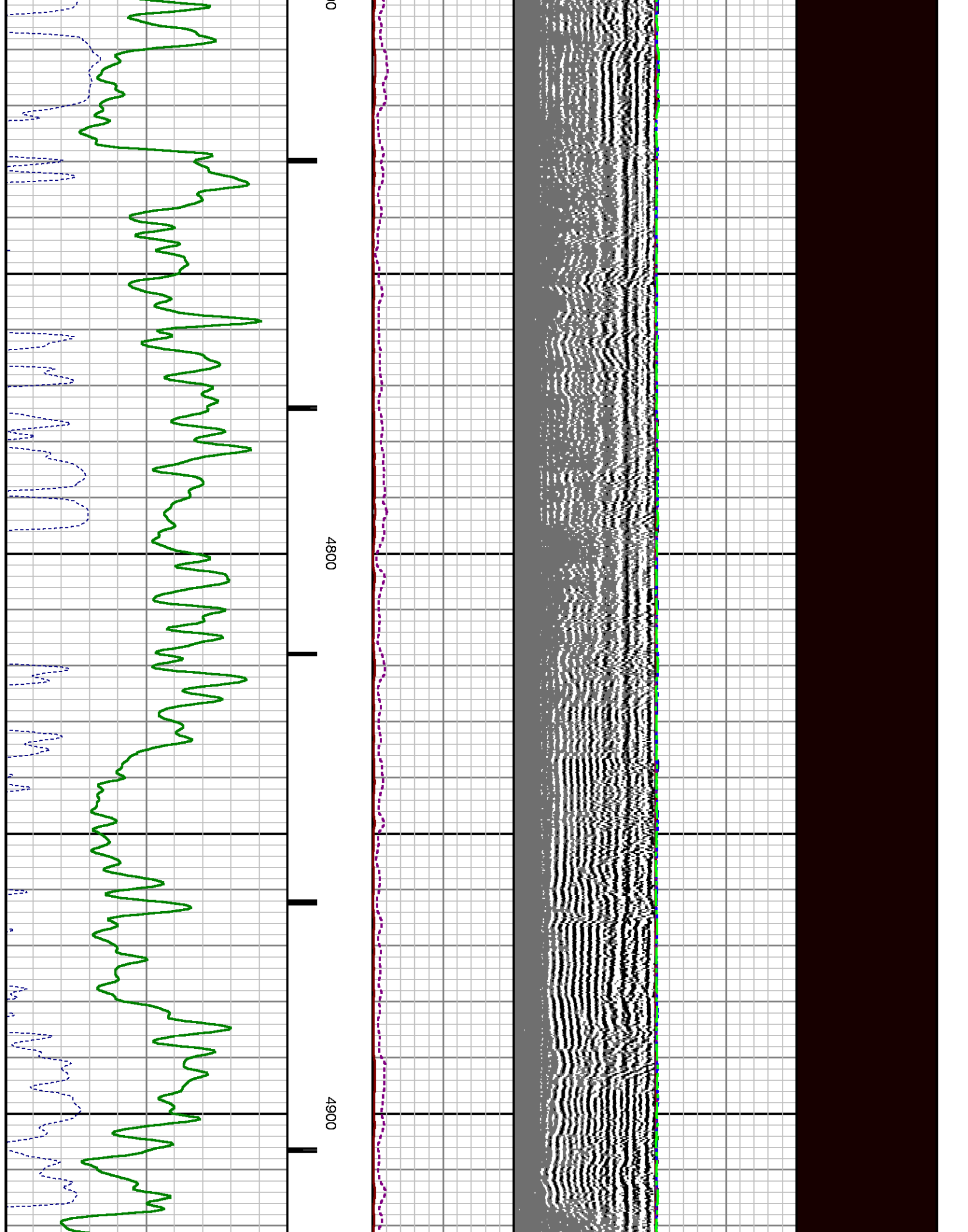




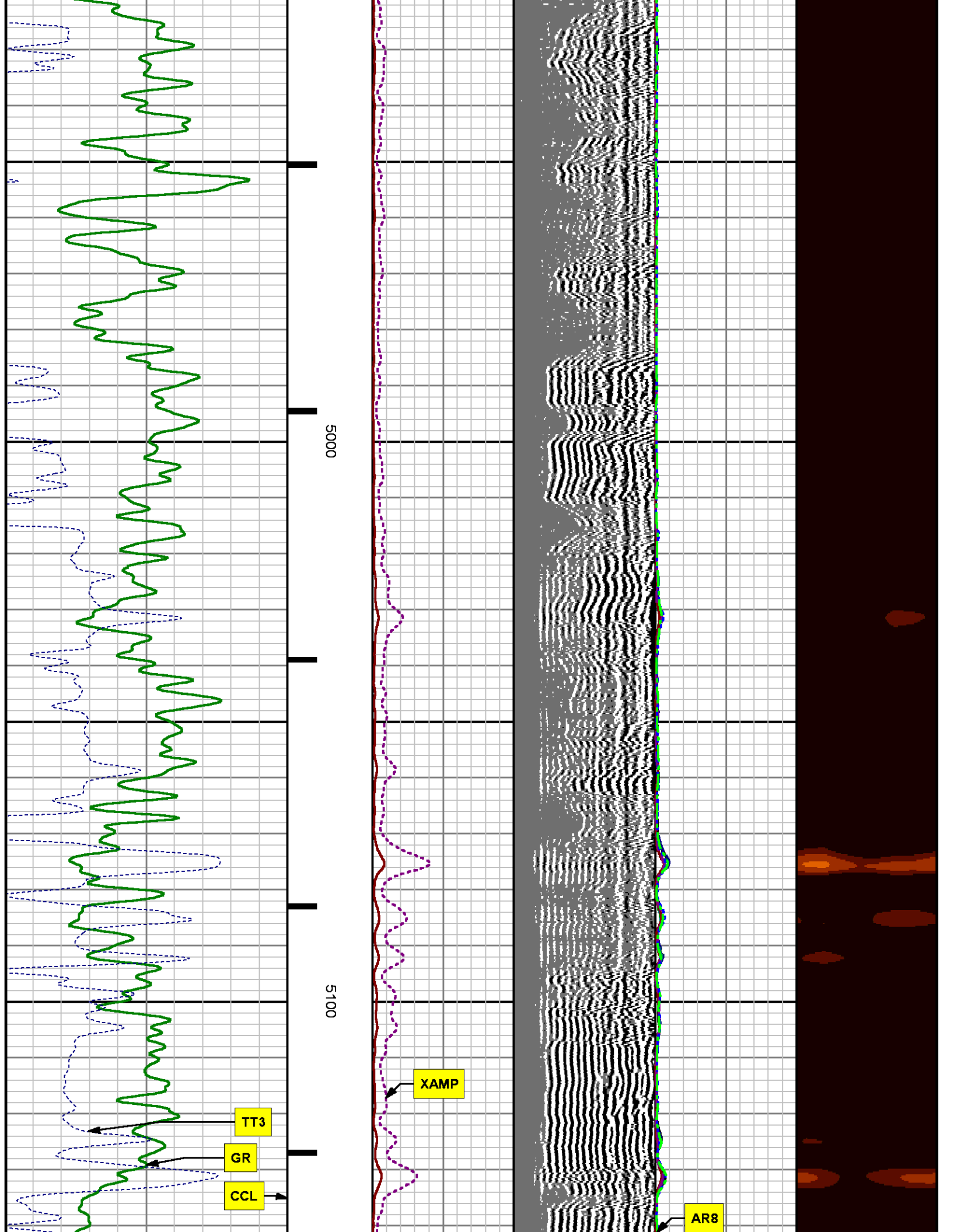


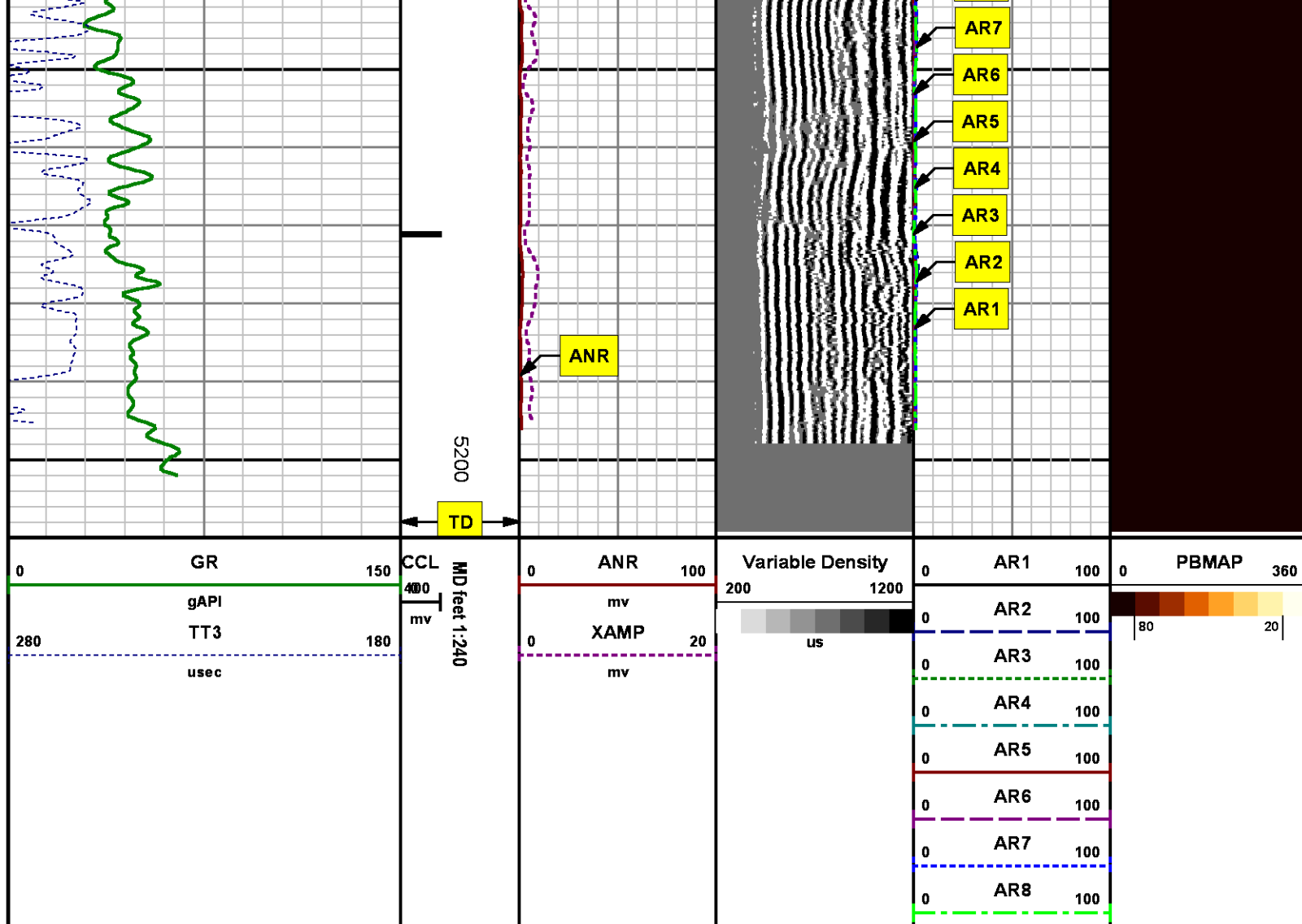












*REPEAT SECTION*  
*0 PSI*

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	u sec	4886.516	5208.610
RAL	Amp Gate Start Near	195.000	u sec	4886.516	5208.610
RAL	Amp Gate Start Radial	195.000	u sec	4886.516	5208.610
RAL	Amp Gate Width Far	25.000	u sec	4886.516	5208.610
RAL	Amp Gate Width Near	25.000	u sec	4886.516	5208.610
RAL	Amp Gate Width Radial	25.000	u sec	4886.516	5208.610

RAL	casing od	4.500	inches	4886.516	5208.610
RAL	casing wt	11.600	lbm/ft	4886.516	5208.610
RAL	FB Start Far	291.900	usec	4886.516	5208.610
RAL	FB Start Near	180.000	usec	4886.516	5208.610
RAL	FB Start Radial	180.000	usec	4886.516	5208.610
RAL	FB Thresh Far	10.000	mv	4886.516	5208.610
RAL	FB Thresh Near	4.000	mv	4886.516	5208.610
RAL	FB Thresh Radial	4.000	mv	4886.516	5208.610
RAL	Fluid Travel Time	200.000	usec/ft	4886.516	5208.234

## 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

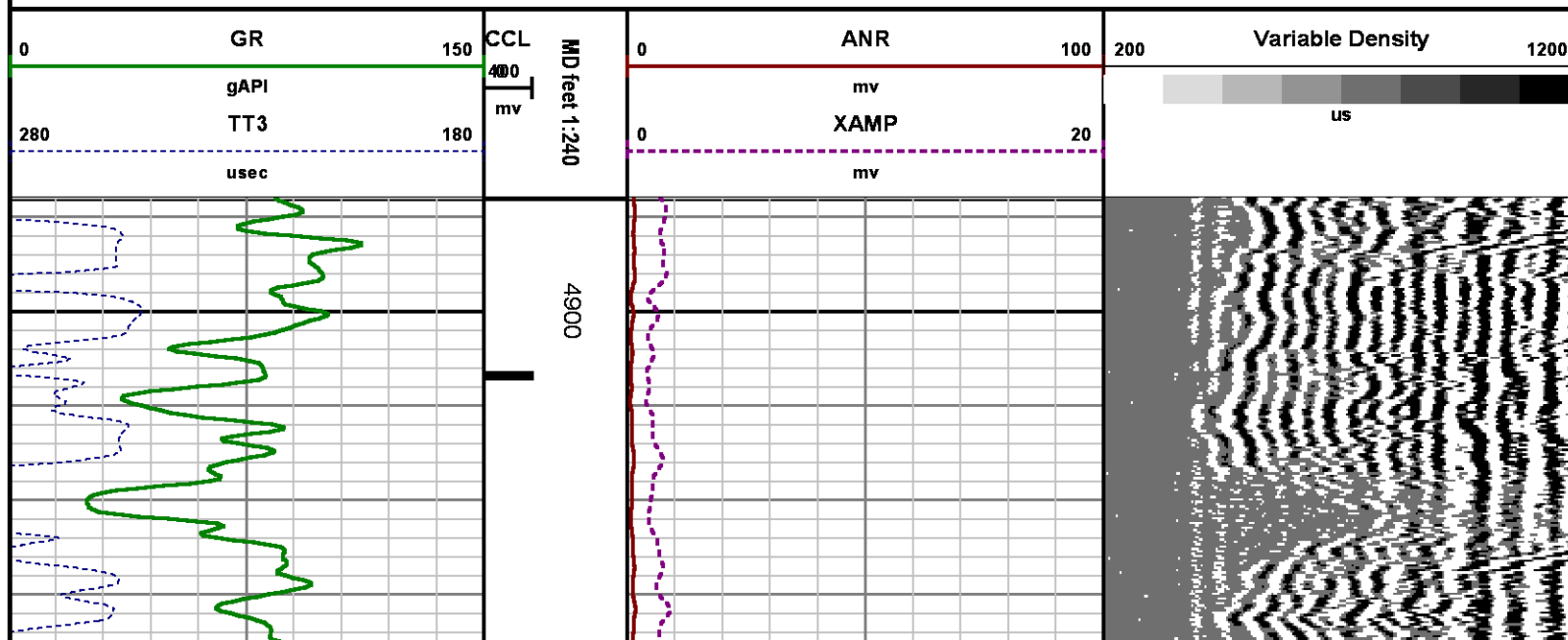
Well : FEDERAL SG 442-28

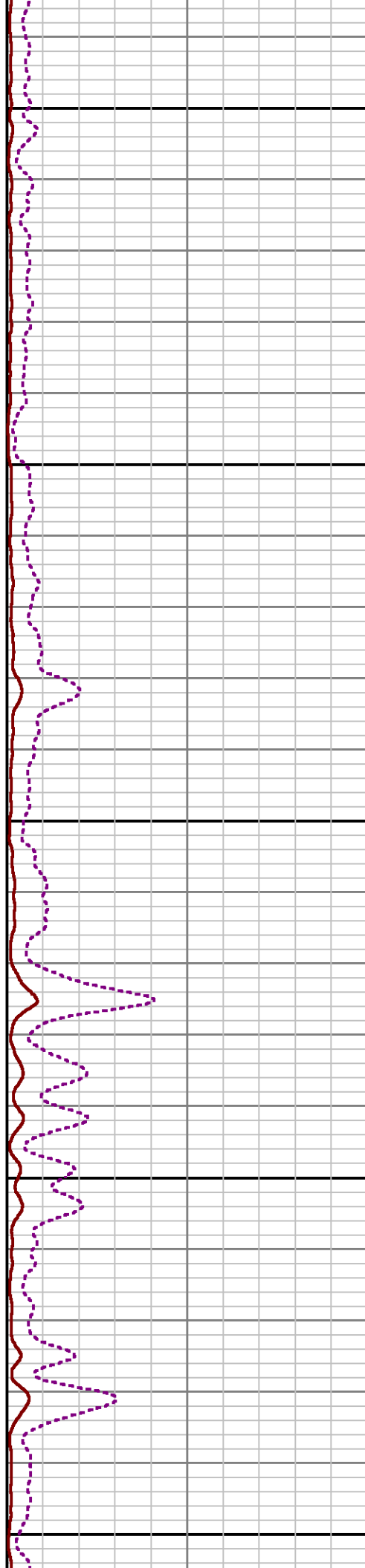
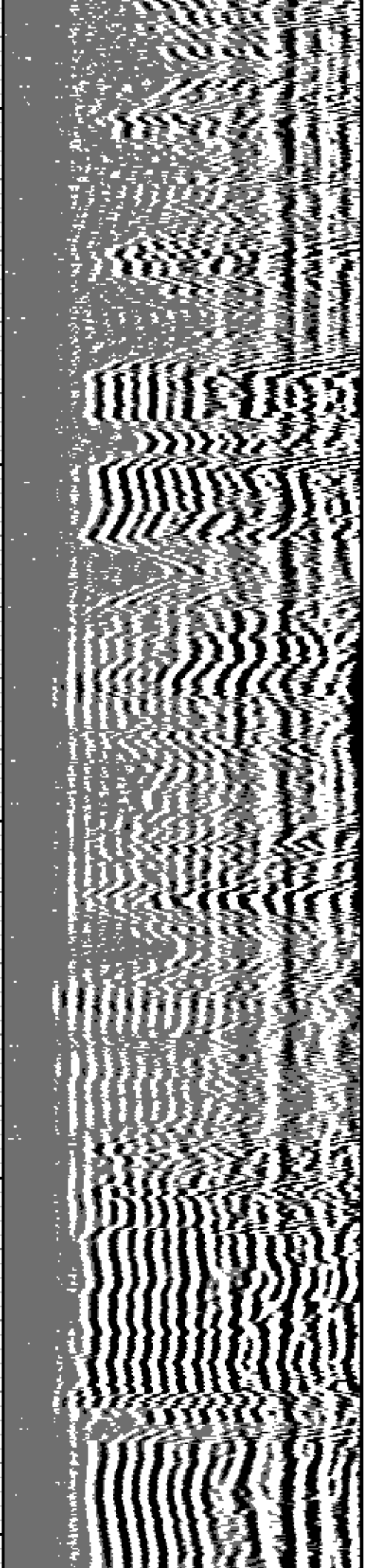
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Mode : PlotMgr 5.4.504

Interval : 4888.00 - 5208.61 feet UP

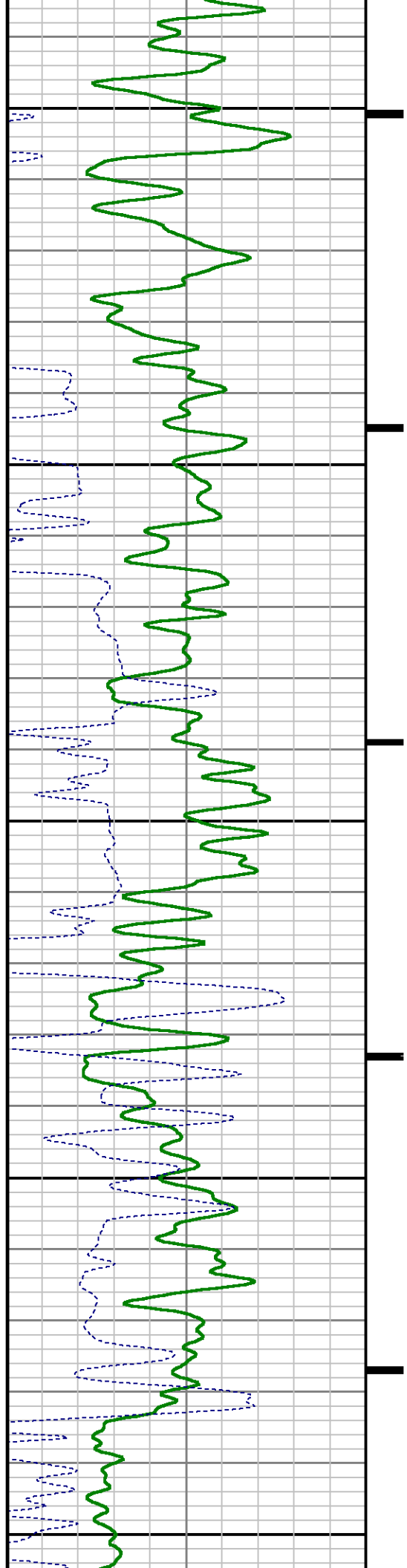
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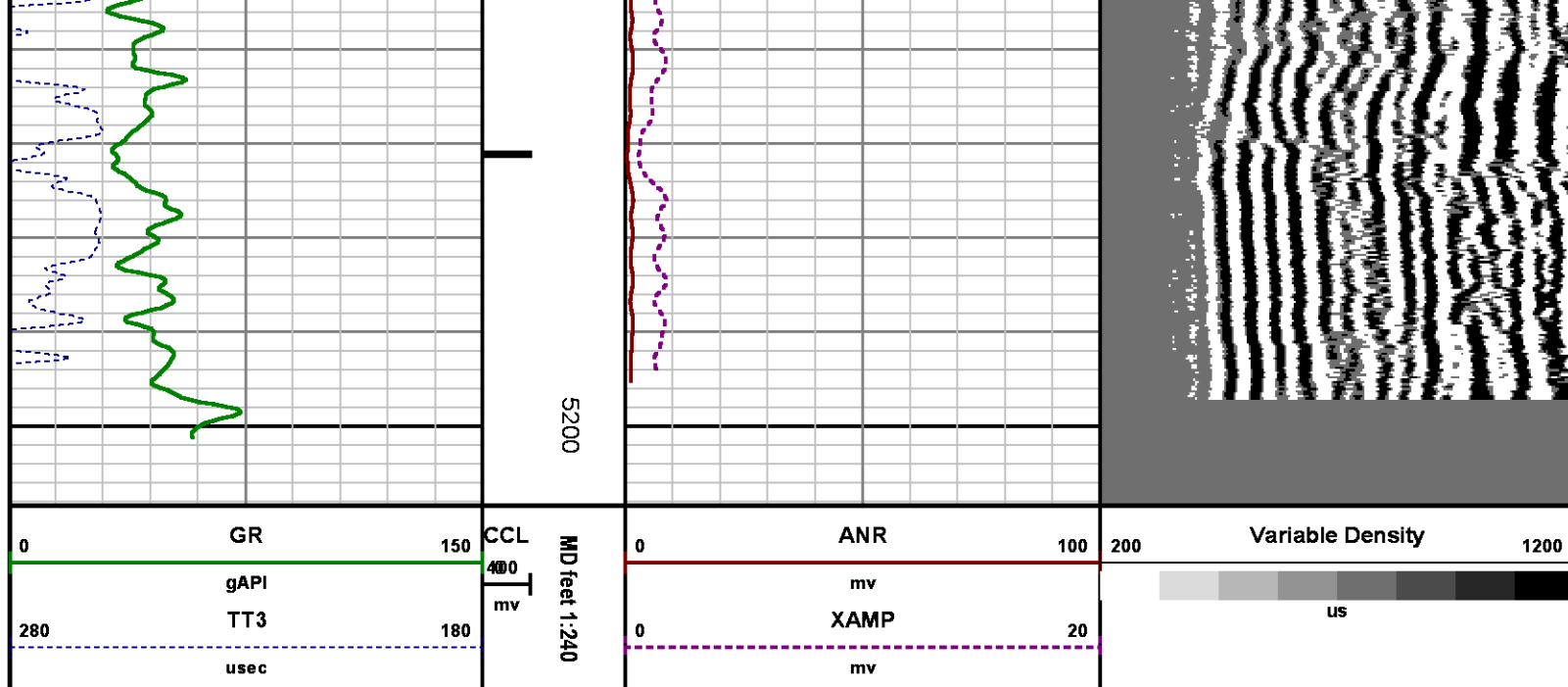




5000

5100





## CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\496SEP28\_shp.cal

### SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Sep 28 14:04:57 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: SEP28

Tool Delay [u sec]  Tank OD in  Tank Wt lbm/ft  Tank ID in

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	219	216	30	166	25	-0.054	100.00	0.30
3 Ft. Receiver	219	216	30	166	25	0.982	100.00	0.30
5 Ft. Receiver	327	332	30	282	25	4.785	150.00	0.35
Radial #1	219	216	30	166	25	1.002	100.00	0.30
Radial #2	219	216	30	166	25	0.740	100.00	0.30
Radial #3	219	216	30	166	25	0.824	100.00	0.30
Radial #4	219	216	30	166	25	1.038	100.00	0.30
Radial #5	219	216	30	166	25	1.424	100.00	0.30
Radial #6	219	216	30	166	25	1.155	100.00	0.30
Radial #7	219	216	30	166	25	1.252	100.00	0.31
Radial #8	219	216	30	166	25	1.113	100.00	0.31

# RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\496SEP28\_fid.cal

## WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Sep 28 14:07:03 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: SEP28

Tool Delay [usec] -55.00 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	-0.138	0.000	1.00	100.000
3 Ft. Receiver	195	25	3.540			
5 Ft. Receiver	305	25	5.365			
Radial #1	195	25	3.496			
Radial #2	195	25	3.419			
Radial #3	195	25	3.559			
Radial #4	195	25	3.593			
Radial #5	195	25	4.036			
Radial #6	195	25	4.156			
Radial #7	195	25	3.312			
Radial #8	195	25	3.408			

# GAMMA RAY

Calibration File: C:\case\calver\GR\45712.cal

## CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Sep 12 08:49:06 2014 TOOL SERIES: 2459XA ASSET: 457 SEQ: 12

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	92.09	359.07	0.693	63.81	248.81	185.00

Verification File: C:\case\calver\GR\45712.VP

## PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Fri Sep 12 08:50:21 2014 TOOL SERIES: 2459XA ASSET: 457 SEQ: 12

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	92.31	353.73	0.693	63.97	245.12	181.15



# TOOL DIAGRAM

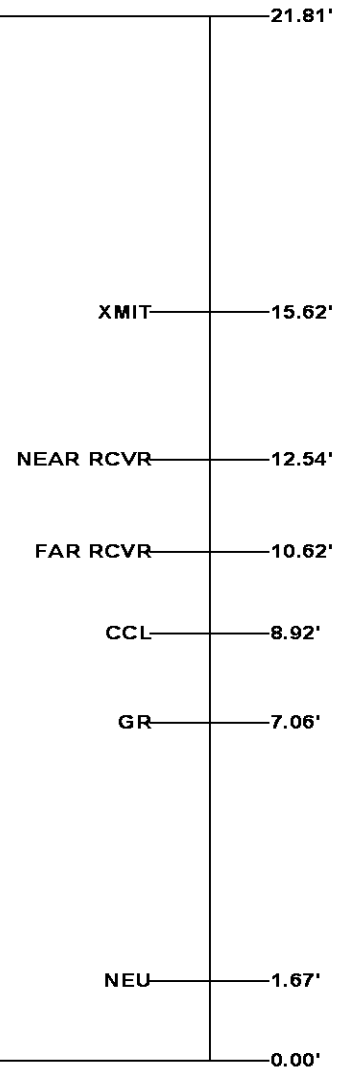
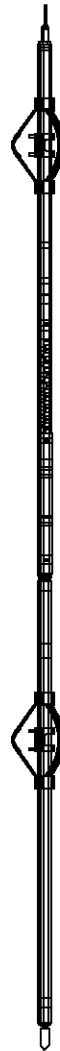
## OTA SHORT CABLE HEAD

## 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

FEDERAL SG 442-28

## Field

GRAND VALLEY

## County

GARFIELD

## State

COLORADO

## Location

SHL: 2262' FSL & 473' FEL

BHL: 2192' FNL & 150' FEL (SENE)

## Elevations

KB 5143 ft

DF

GL 5119 ft

## File No:

CH091031

## API No:

05045219570000

28 7S 96W

SG 43-28 PAD

H&P 318

SEC 28 TWP 7S RGE 96W