



RADIAL ANALYSIS BOND LOG

Baker Atlas

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

CH087277 **Well** **FEDERAL NER 14-32**

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

05045217930000 **County** **GARFIELD** **State** **CO**

Location

SHL: 196' FNL & 2584' FWL (5 75 93W)

BHL: 1130' FSL & 647' FWL (32 65 93W)

SEC 32 TWP 6S RGE 93W

Other Services

RPM

GL Elevation 7603 ft

KB 26 ft Above P. D.

KB Elevations 7629 ft

KB DF

GL 7603 ft

Date 21/JUN/14

Run ONE

Service Order USC087277

Depth Driller 10392 ft

Depth Logger 10357 ft

Bottom Logged Interval 10347 ft

Top Logged Interval 26 ft

Time Started 11:00

Time Finished 15:30

Operator Rig Time 4.5 HOURS

Type of Fluid in Hole WATER

Fluid Density NA

Salinity NA

Fluid Level 81 ft

Logged Cement Top NA

Wellhead Pressure 0 psi

Maximum Hole Deviation NA

Nominal Logging Speed 65 fpm

Maximum Recorded Temperature 239 degF

Reference Log NA

Reference Log Date NA

Equipment No. 4271 Location GRAND JUNCTION

Recorded By NEMELL

Witnessed By JEFF DUCY

- FOLD HERE

In making interpretations of logs, our employees will give the customer the benefit of their best judgement. But since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

Borehole Record

Bit Size	From	To
13.5 in	0 ft	1138 ft
8.75 in	1138 ft	10438 ft

Casing Record

Size	Weight	Grade	From	To
9.625 in			0 ft	1138 ft
4.5 in	11.6 lbm/ft	P-110	0 ft	10438 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 9 feet.

Logged with zero PSI at wellhead.

BHT = 239 °F

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

PRIMARY PRESENTATION

0 PSI

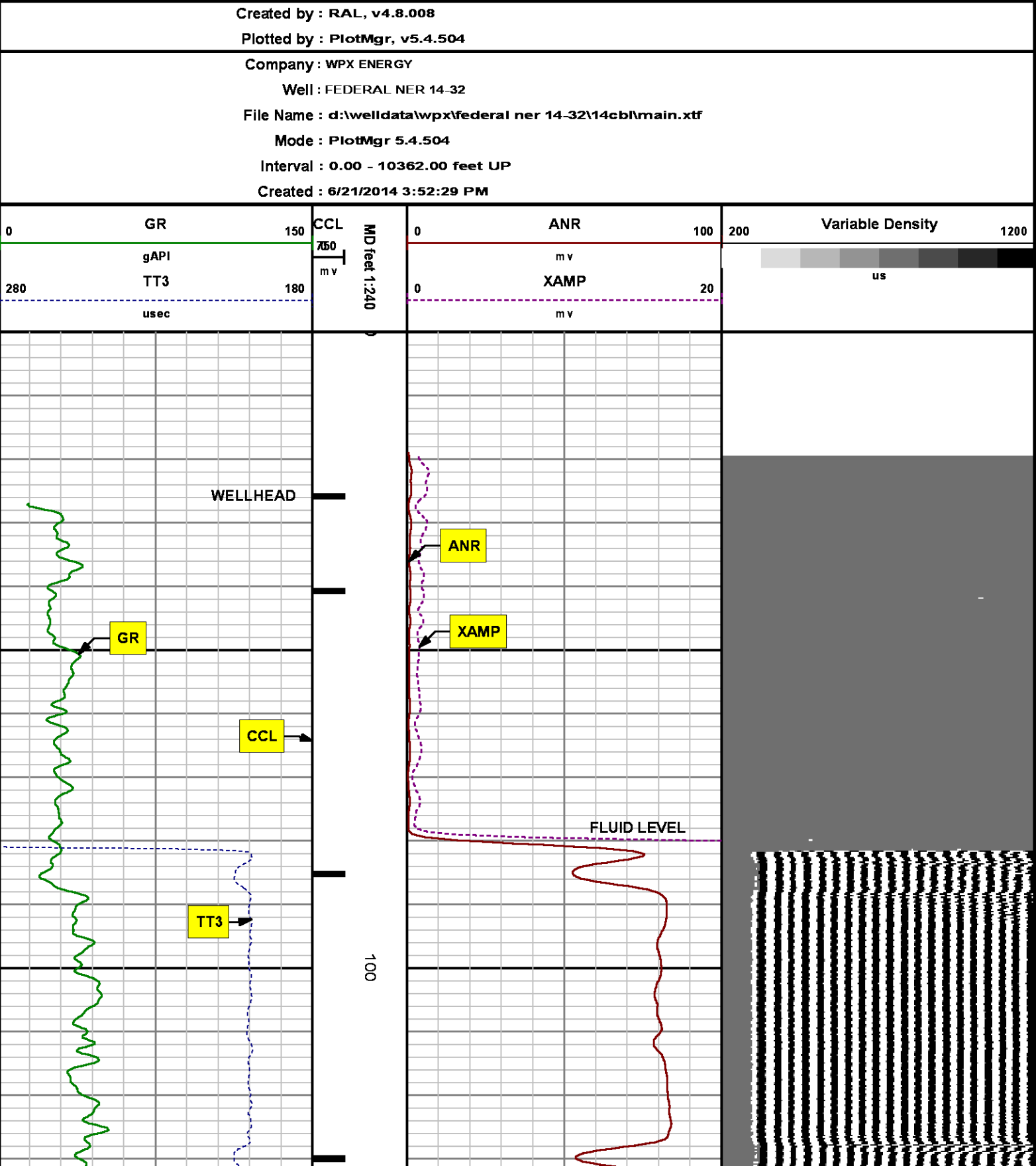
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	35.247	10362.500
RAL	Amp Gate Start Near	195.000	usec	35.247	10362.500
RAL	Amp Gate Start Radial	195.000	usec	35.247	10362.500
RAL	Amp Gate Width Far	25.000	usec	35.247	10362.500
RAL	Amp Gate Width Near	25.000	usec	35.247	10362.500
RAL	Amp Gate Width Radial	25.000	usec	35.247	10362.500
RAL	casing od	4.500	inches	35.247	10362.500
RAL	casing wt	11.600	lbm/ft	35.247	10362.500
RAL	FB Start Far	291.900	usec	35.247	10362.500
RAL	FB Start Near	175.391	usec	35.247	10362.500
RAL	FB Start Radial	175.391	usec	35.247	10362.500
RAL	FB Thresh Far	10.000	mv	35.247	10362.500
RAL	FB Thresh Near	4.000	mv	35.247	10362.500
RAL	FB Thresh Radial	4.000	mv	35.247	10362.500
RAL	Fluid Travel Time	200.000	usec/ft	35.247	10363.341

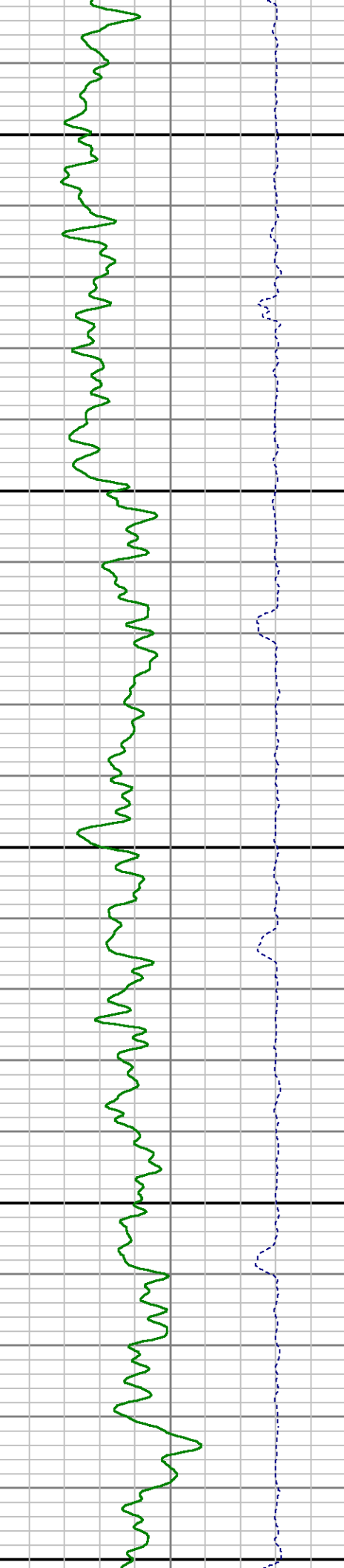
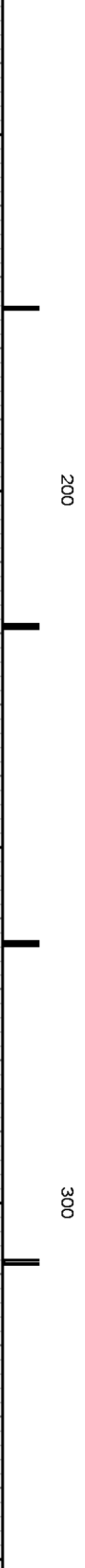
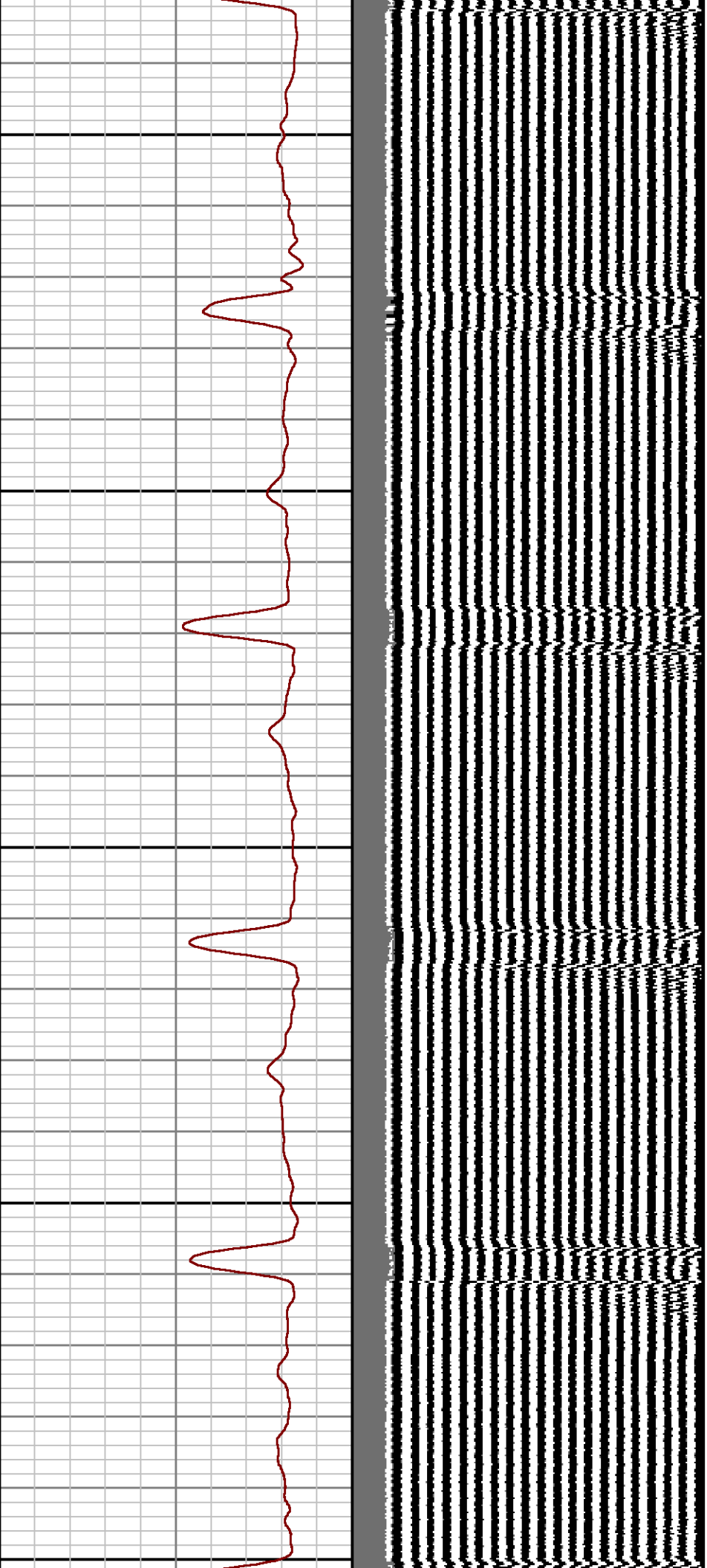
DEPTH OFFSETS

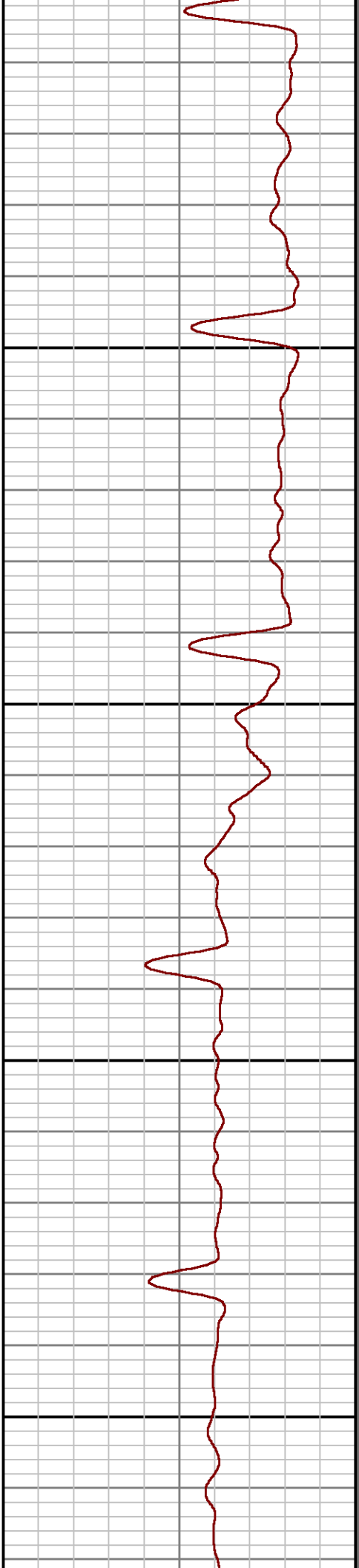
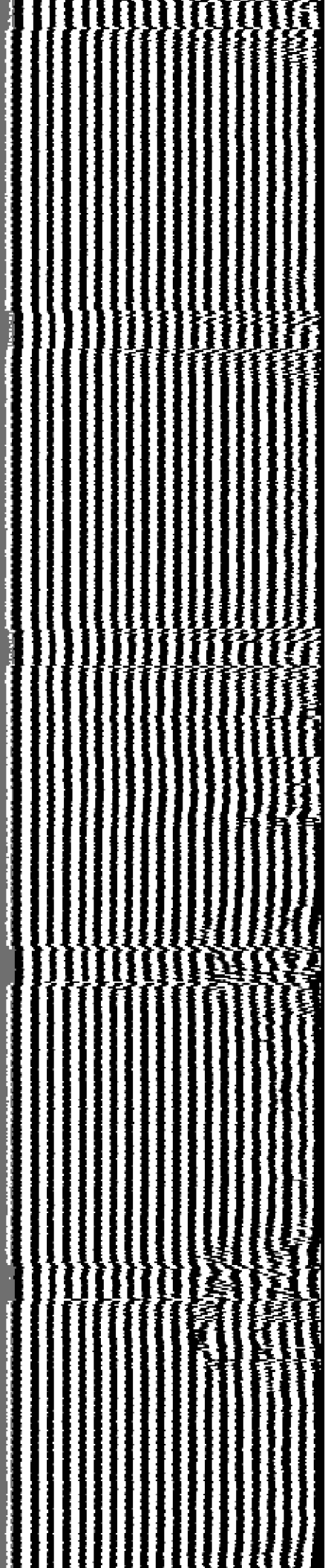
(for Acquired Curves)

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					

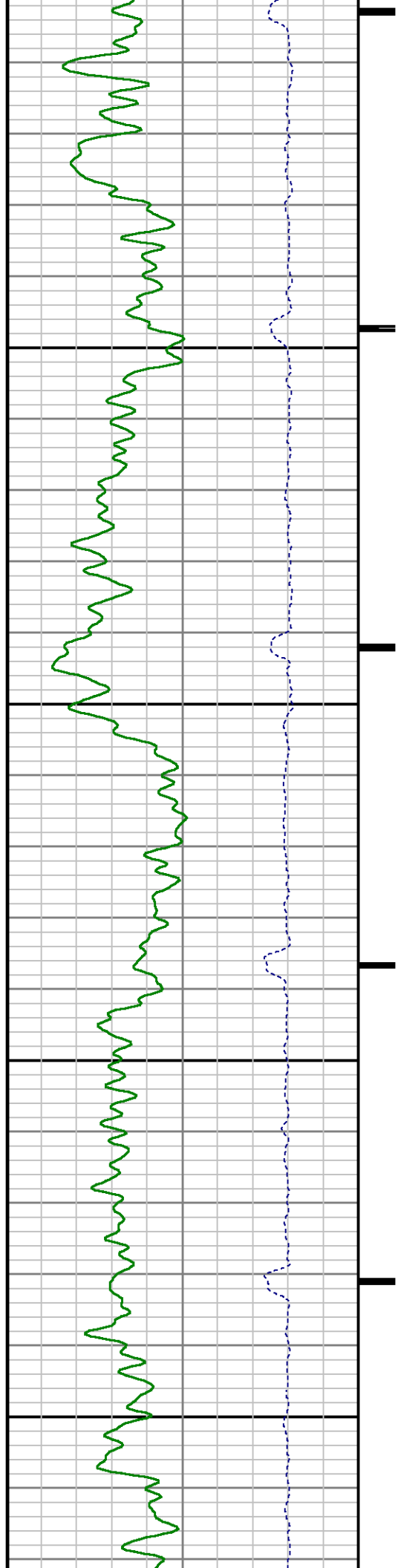


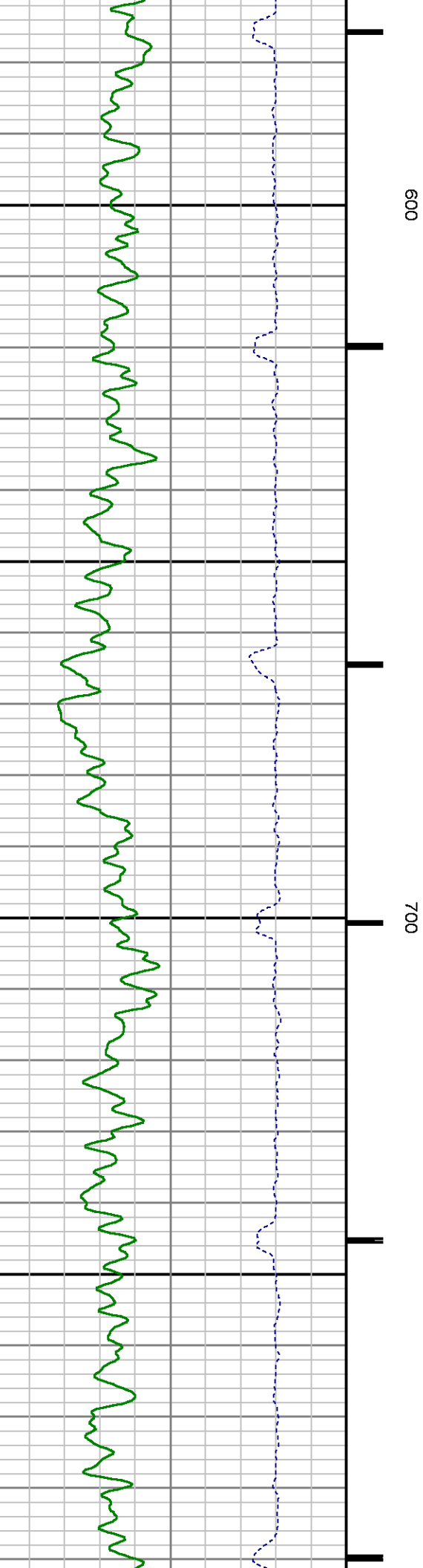
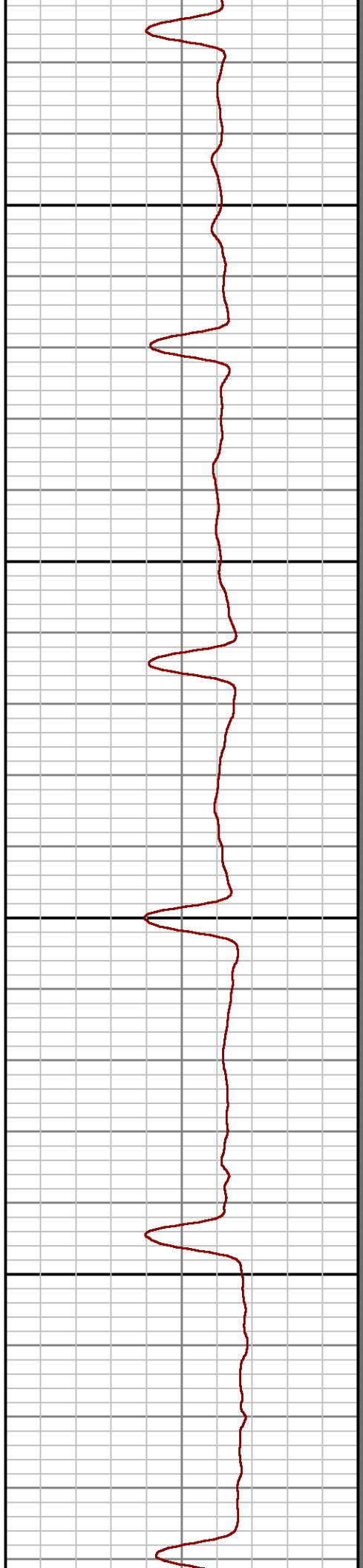
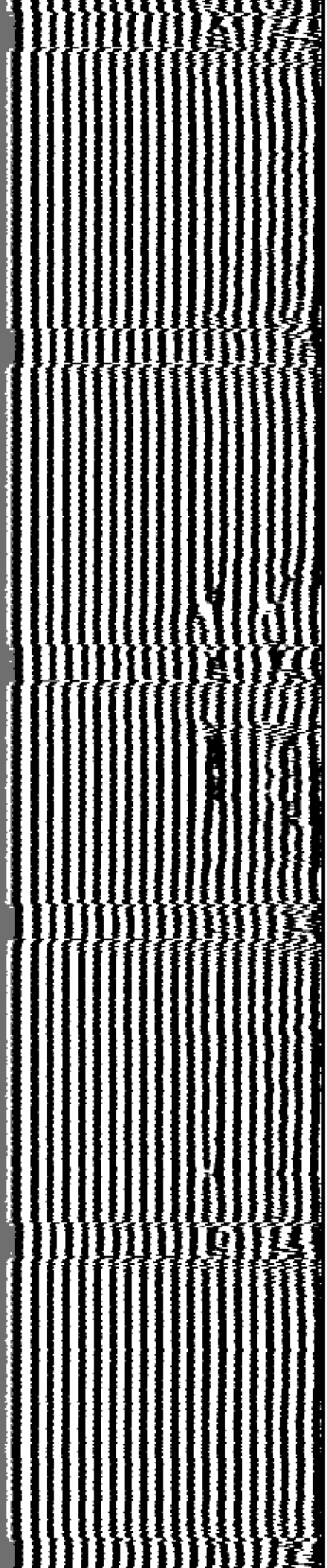


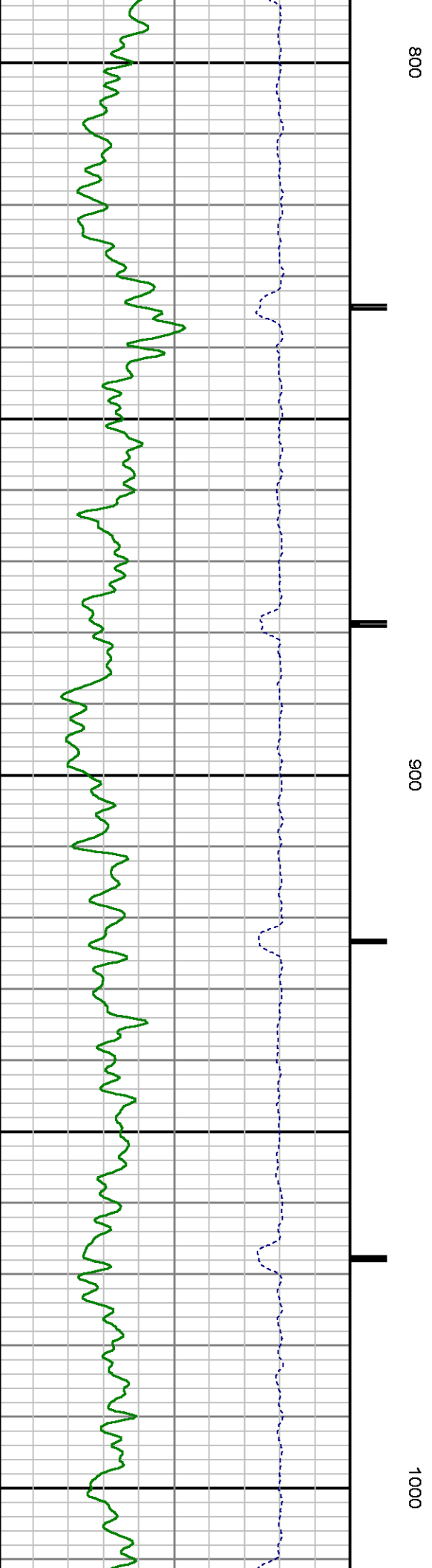
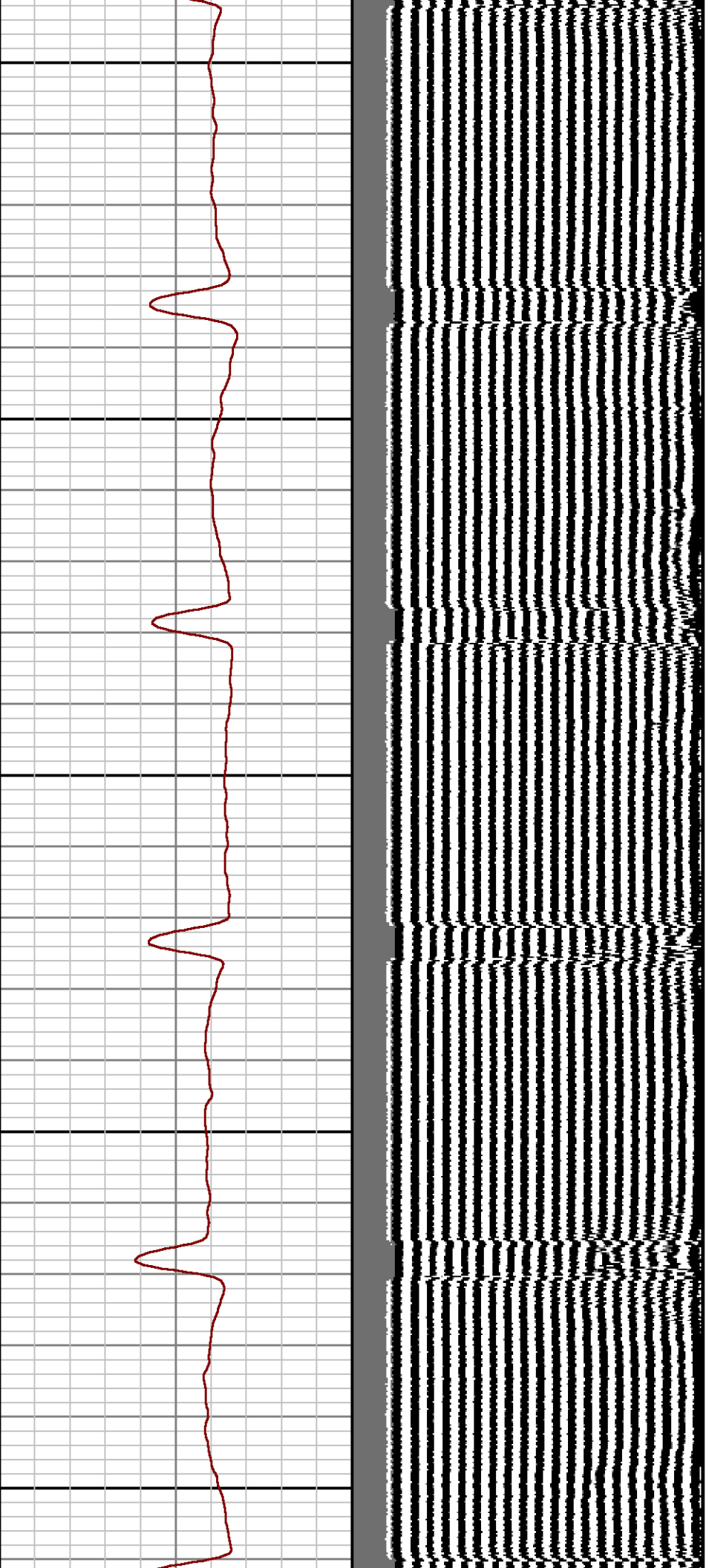


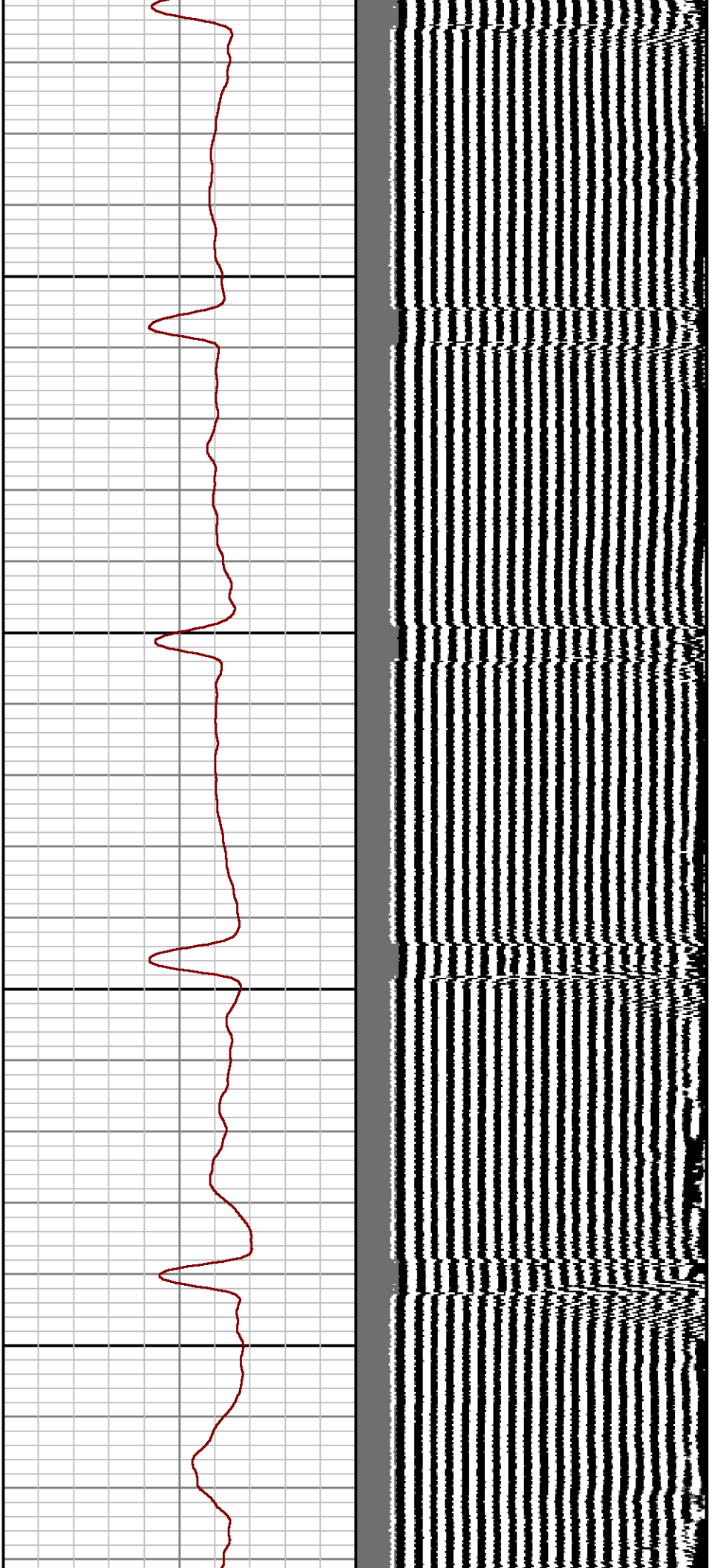
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500



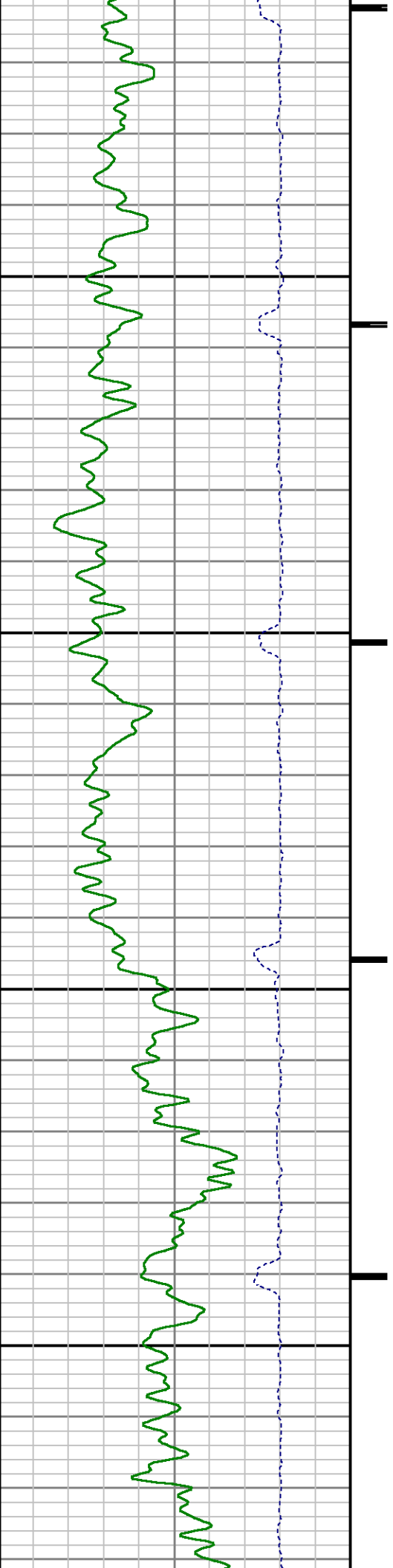


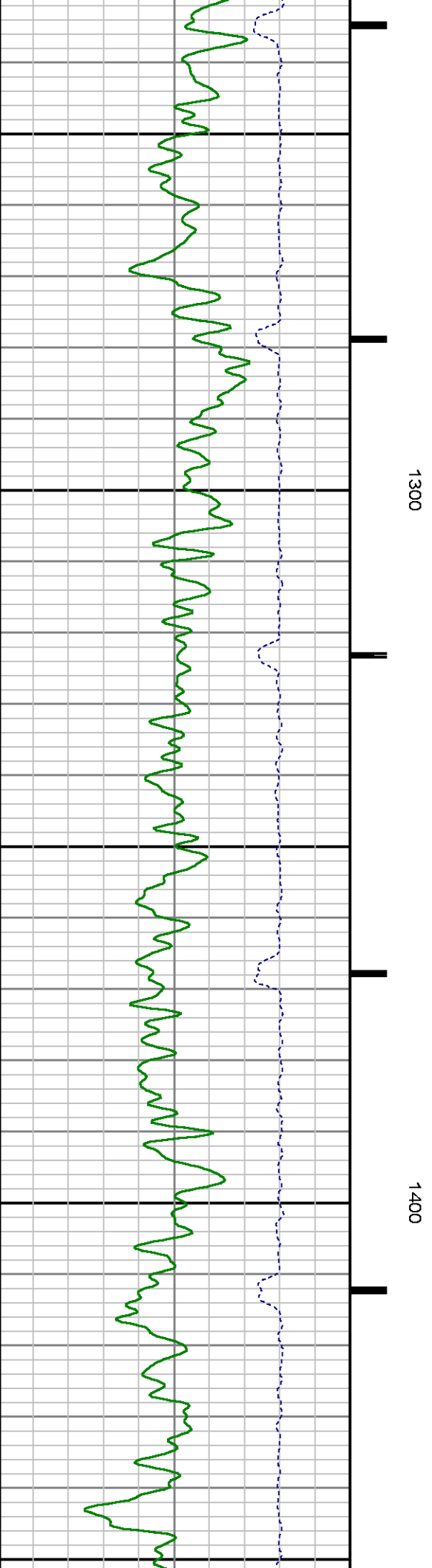
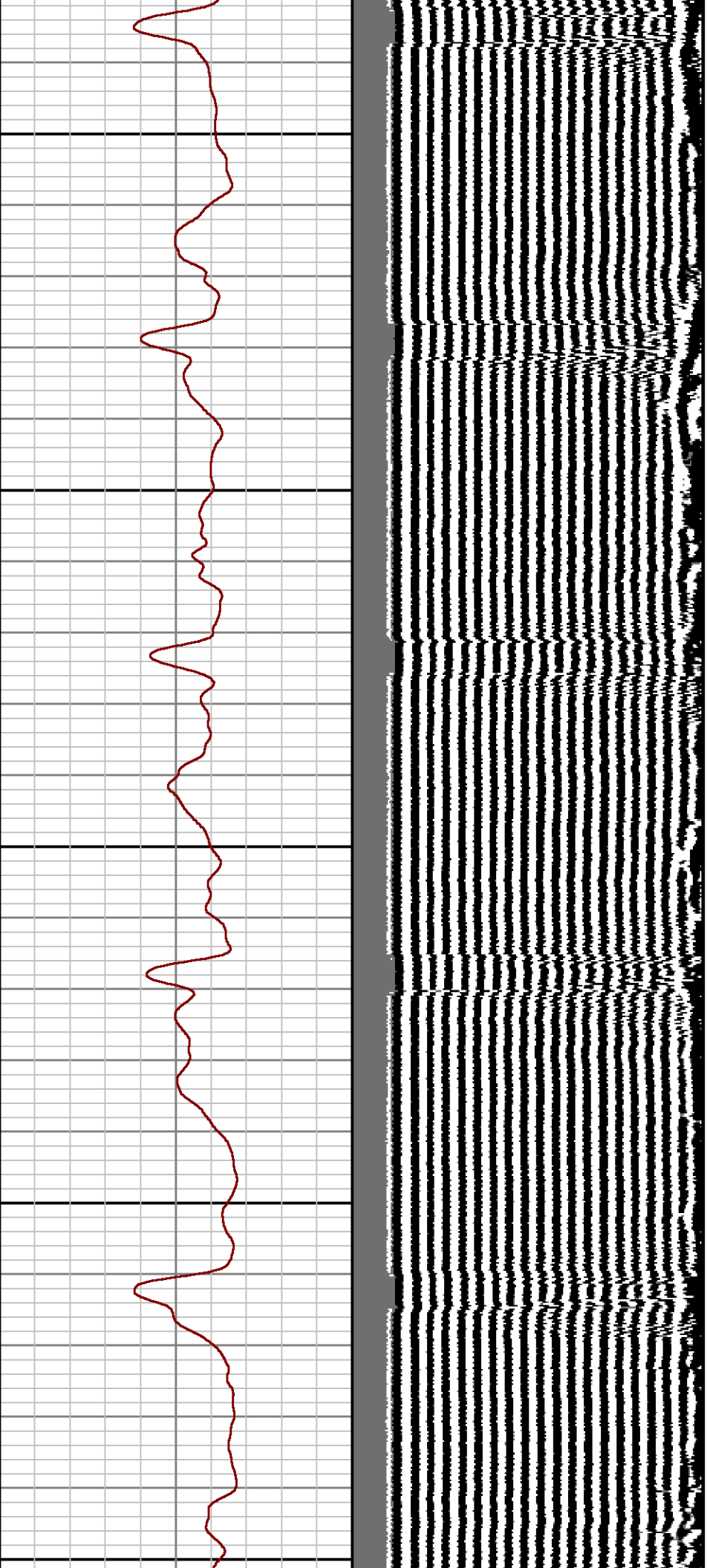


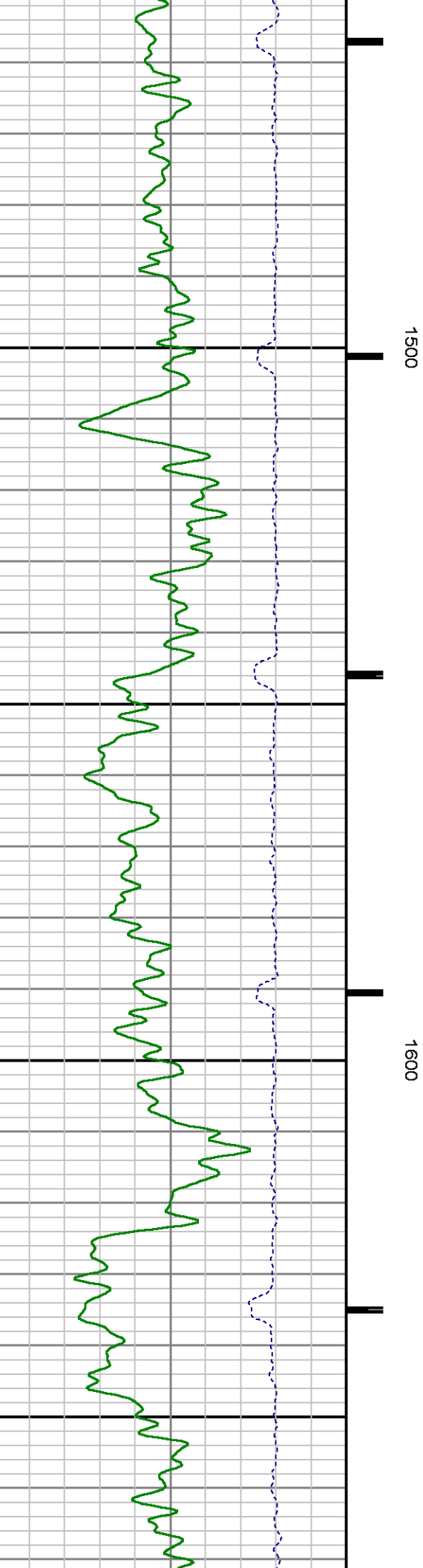
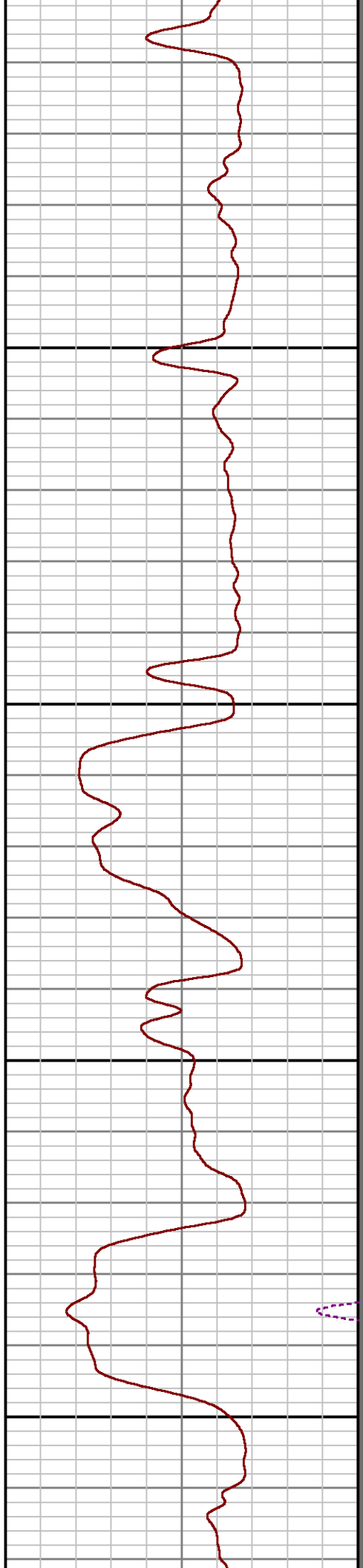
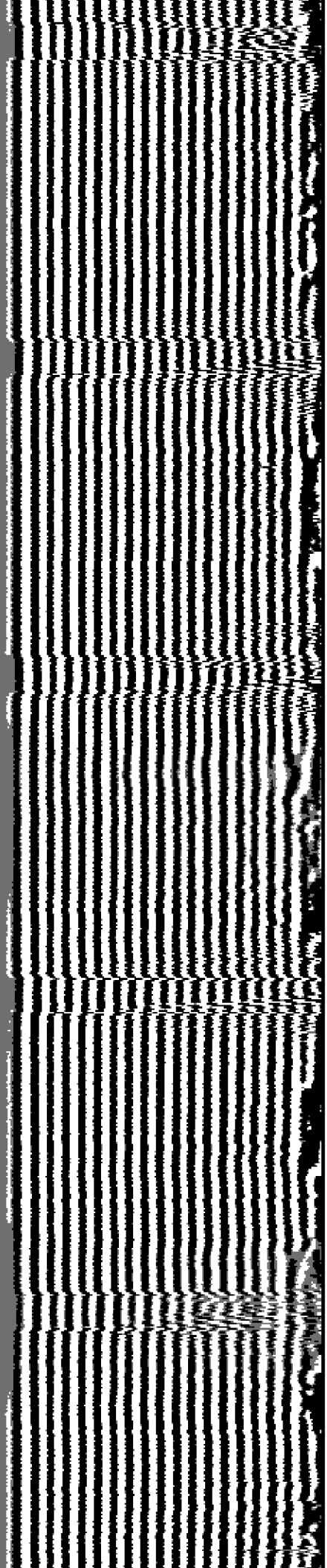


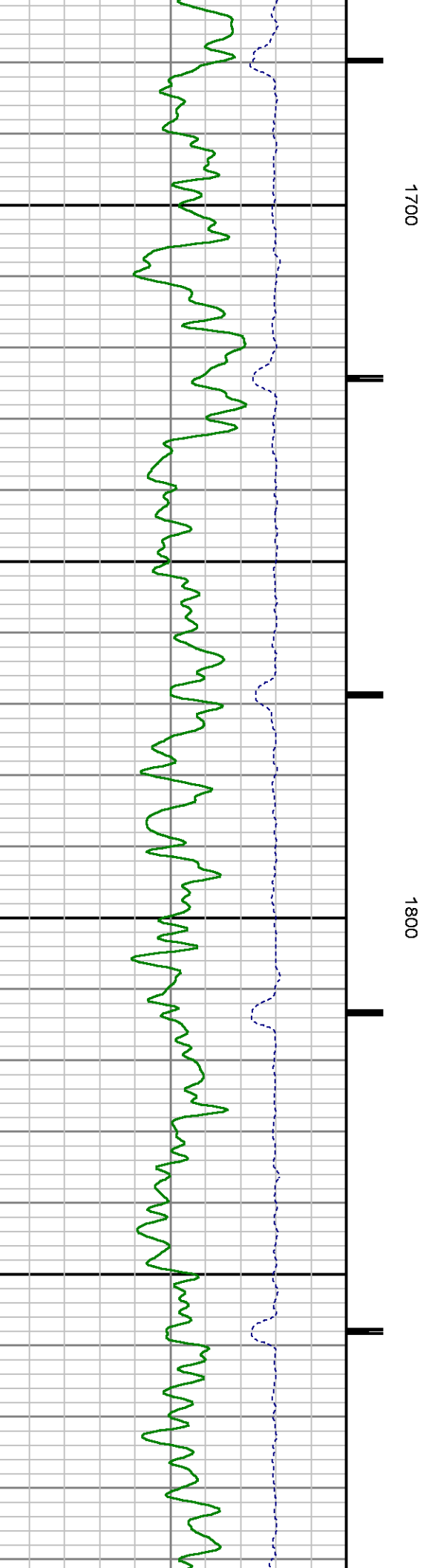
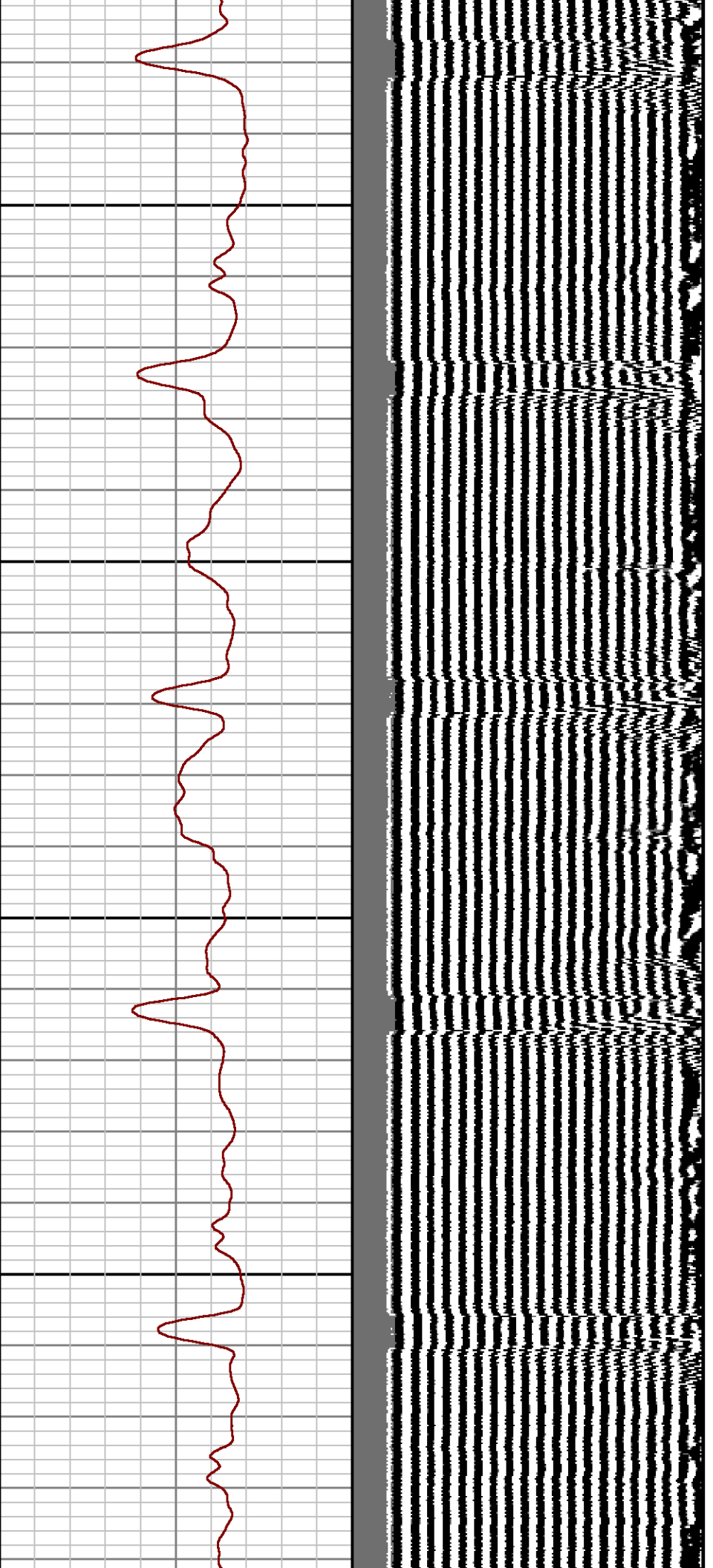
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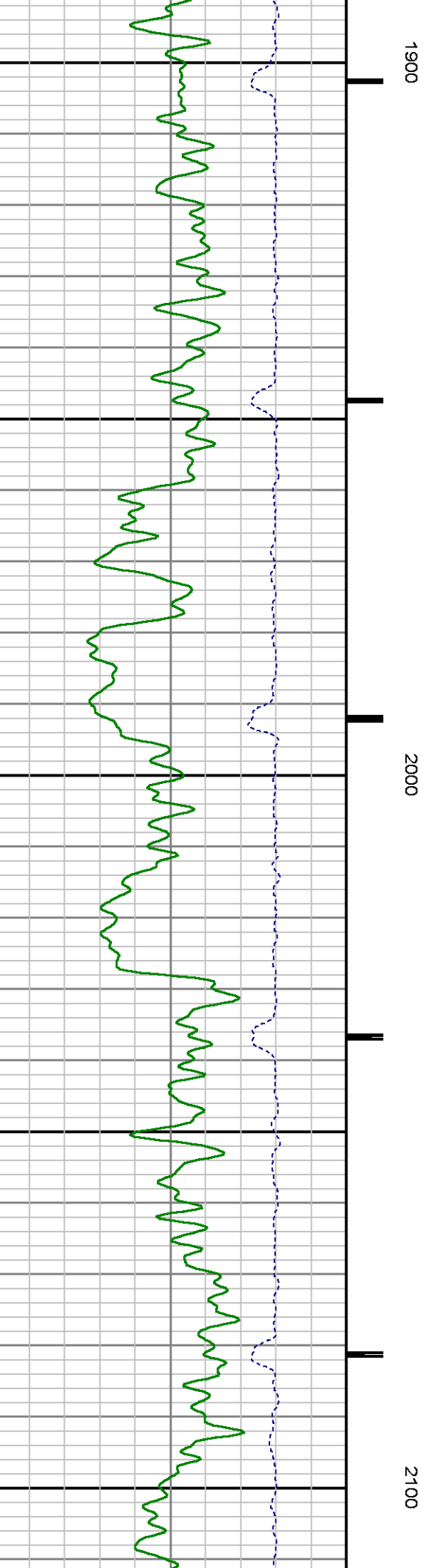
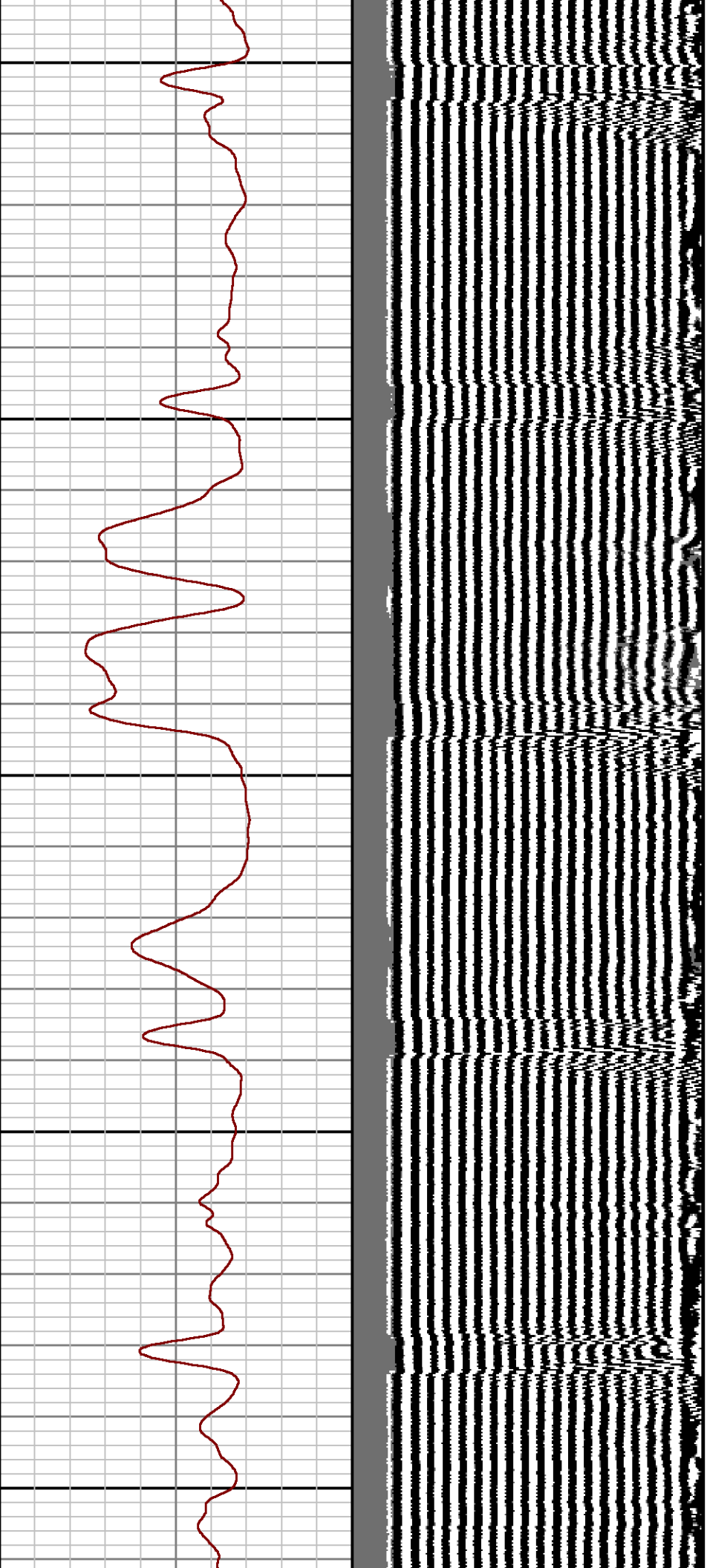
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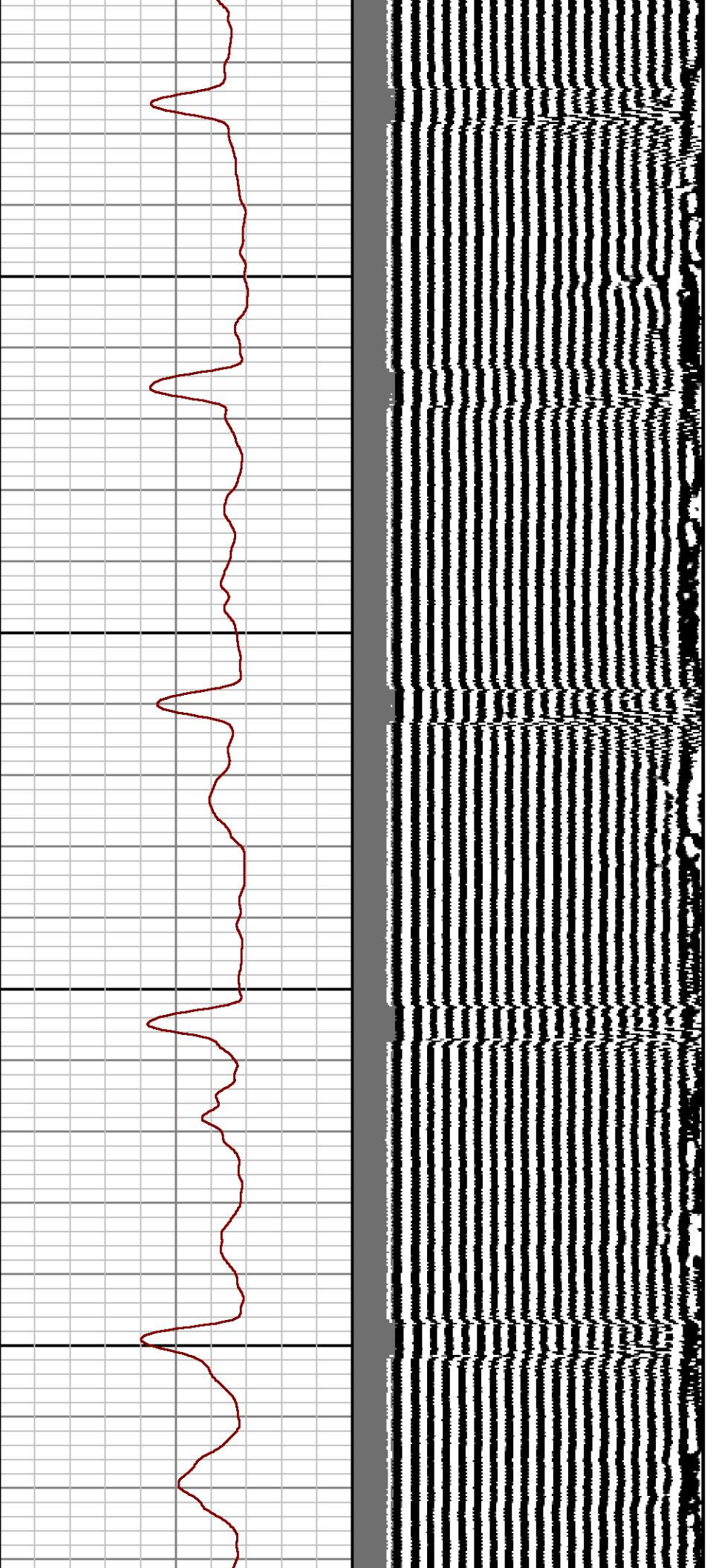






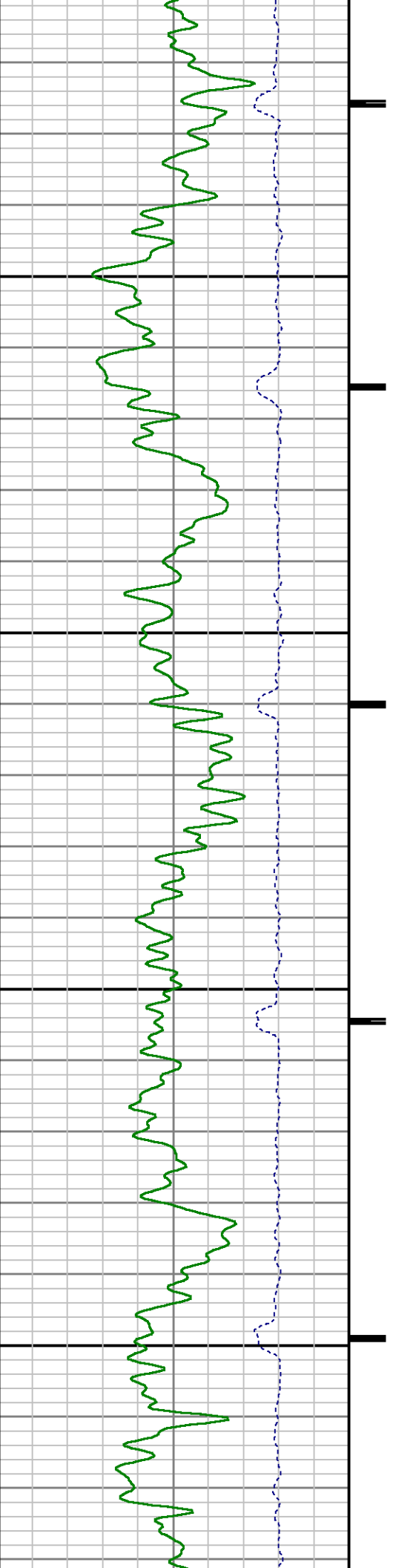


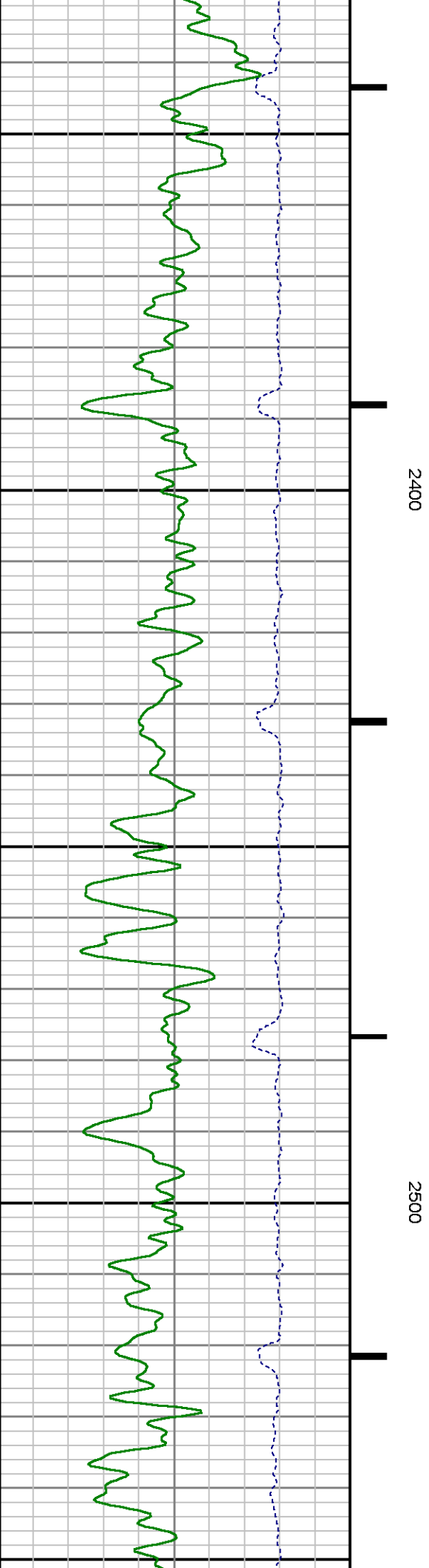
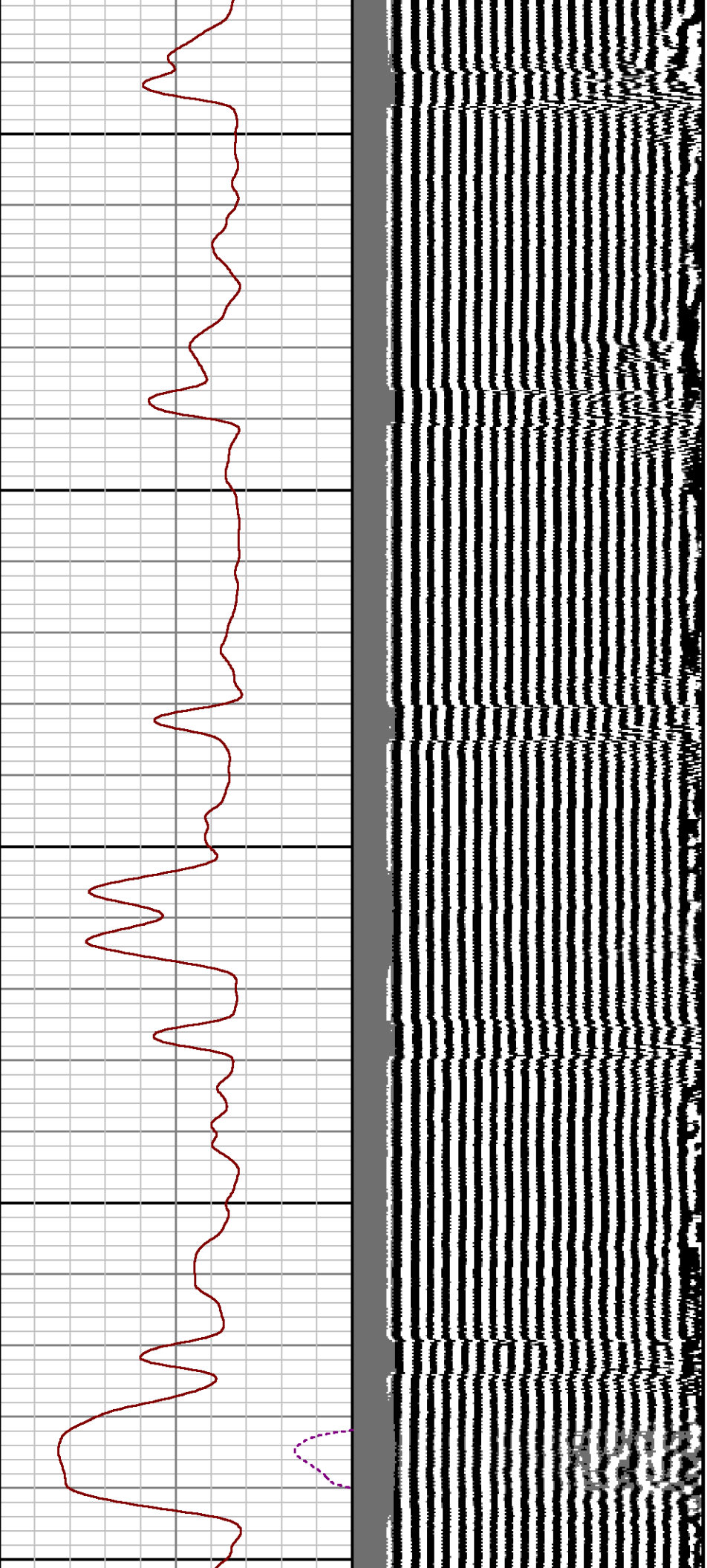


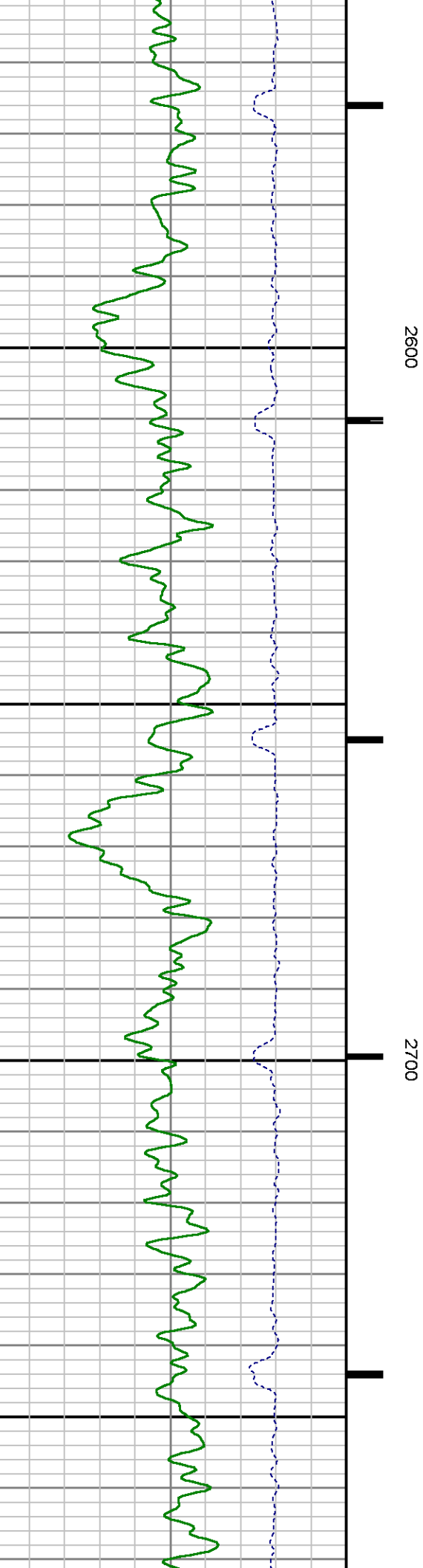
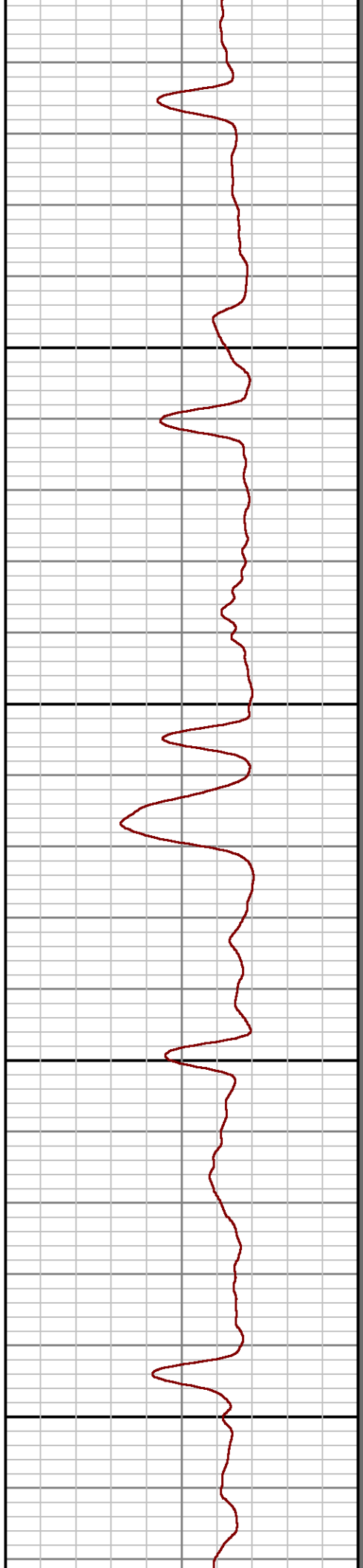
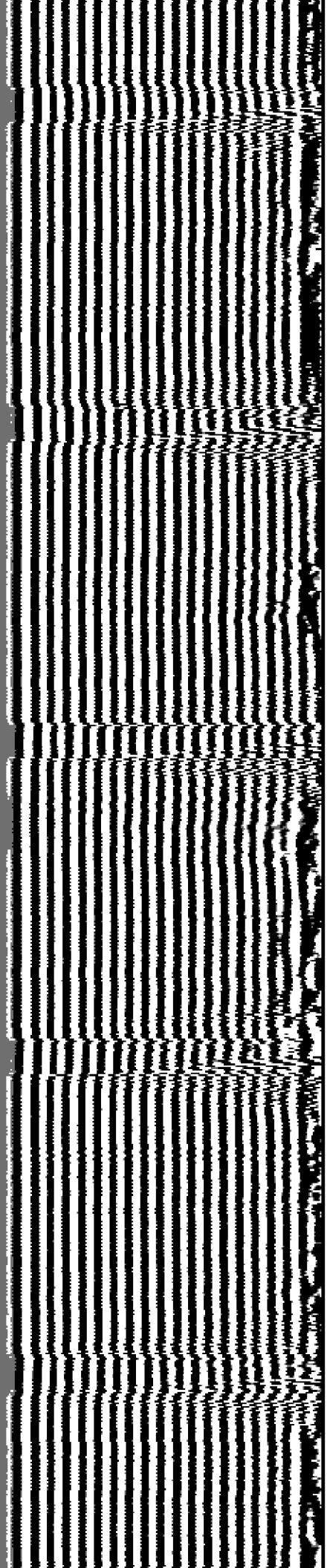


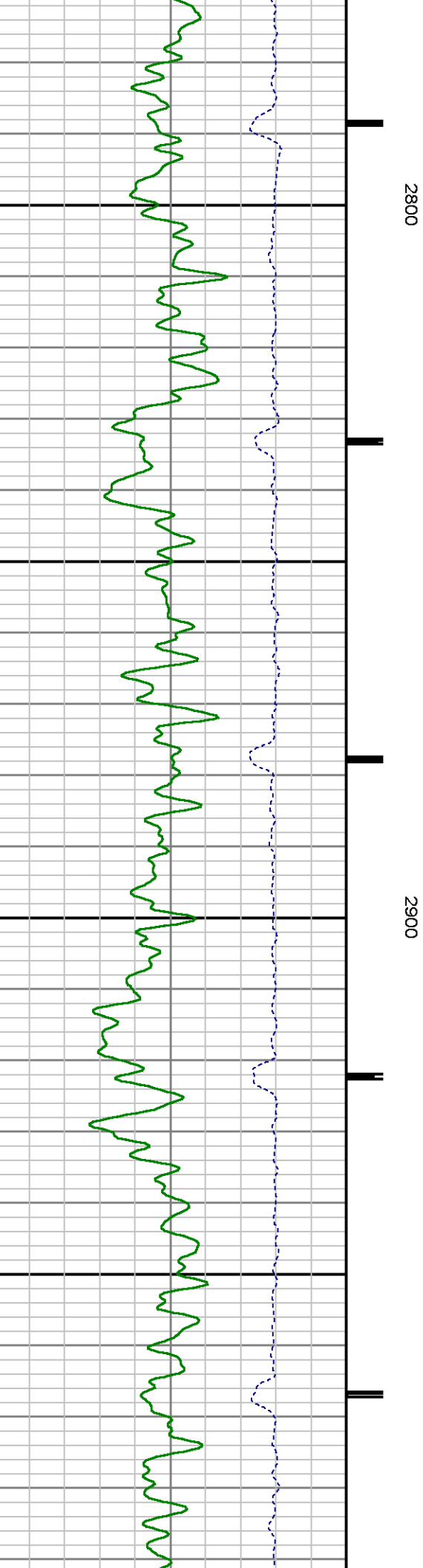
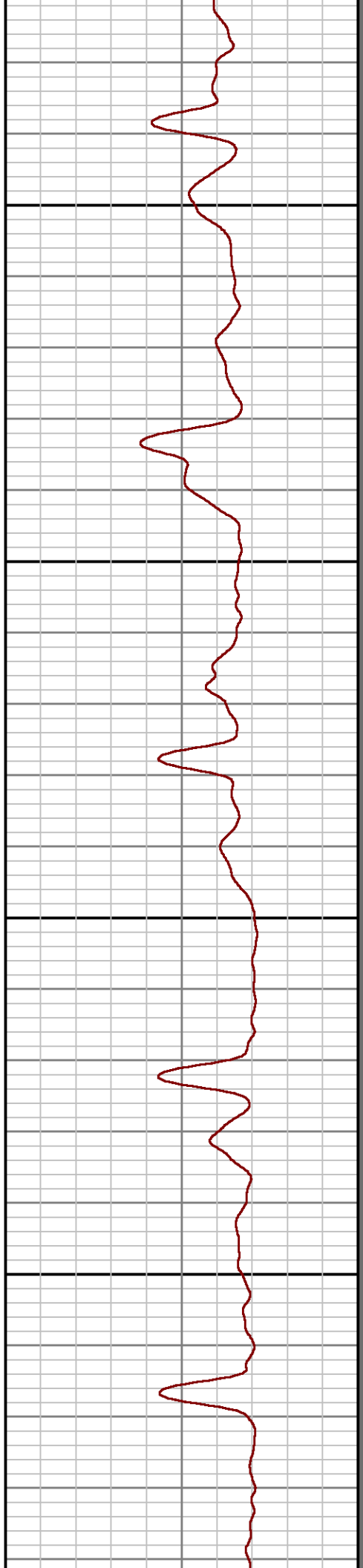
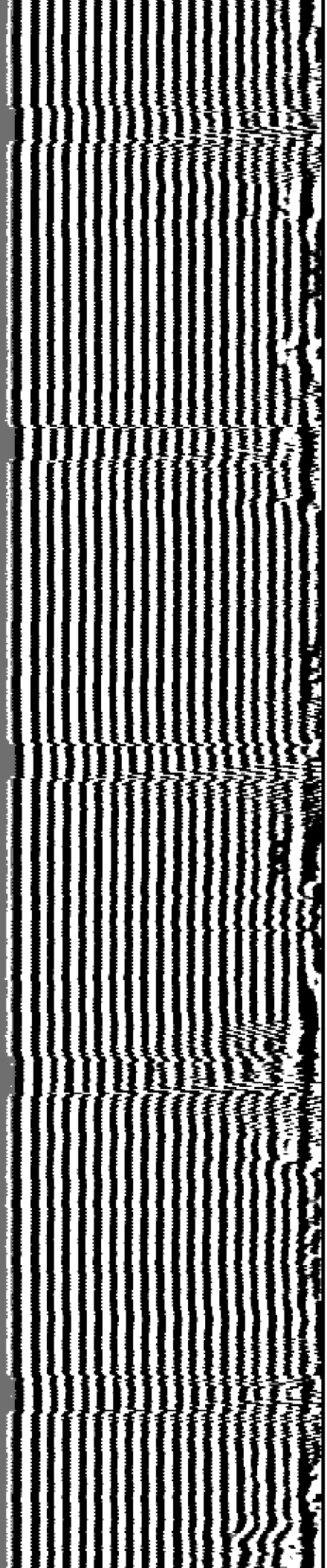
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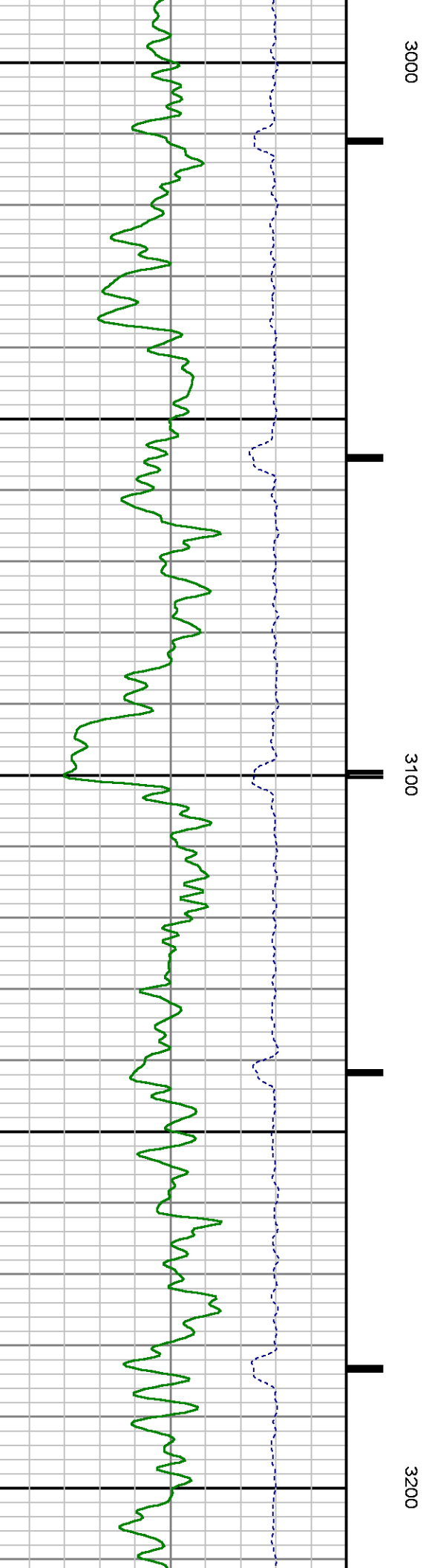
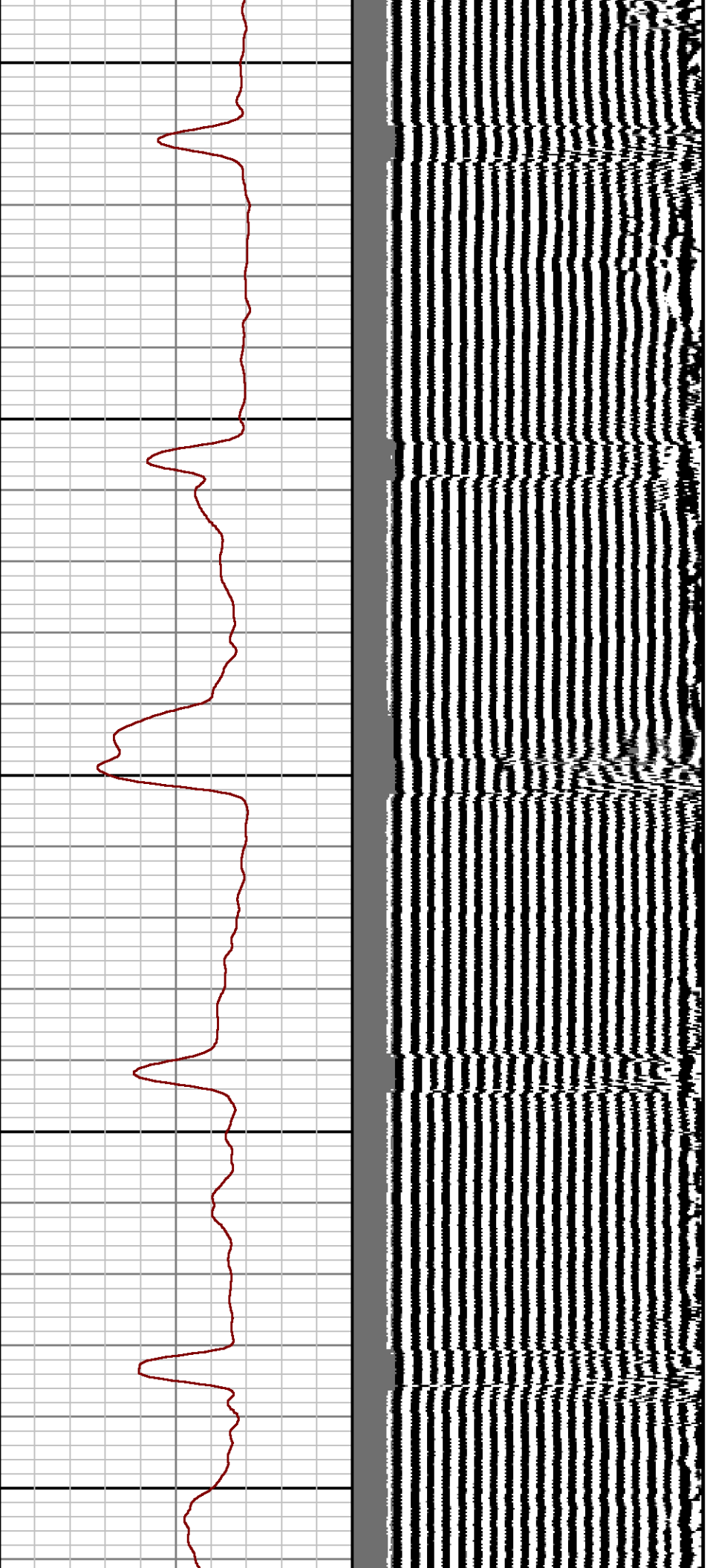
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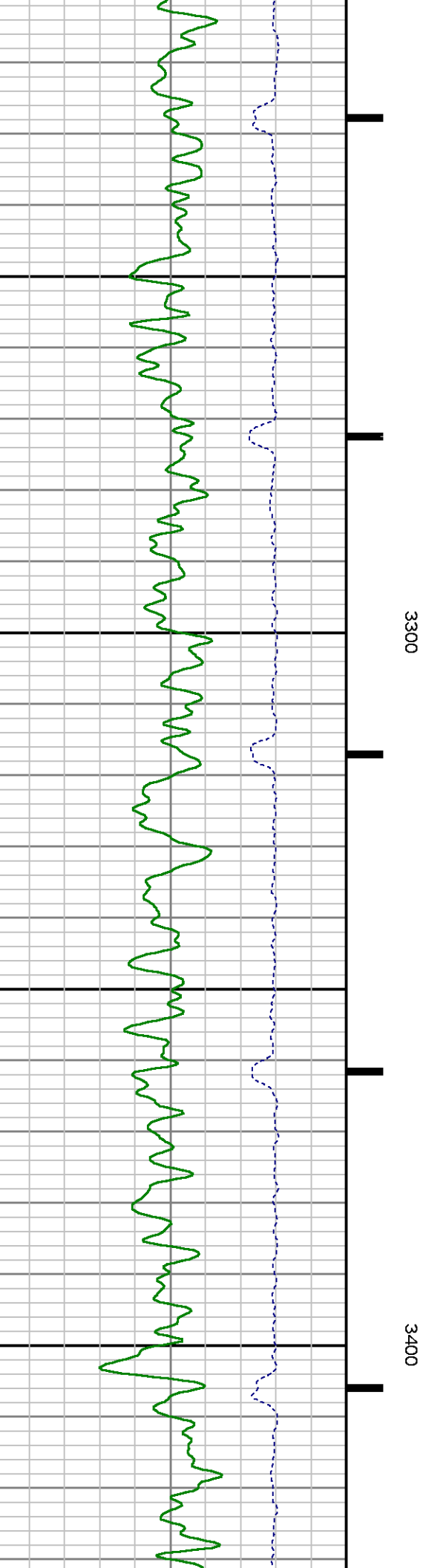
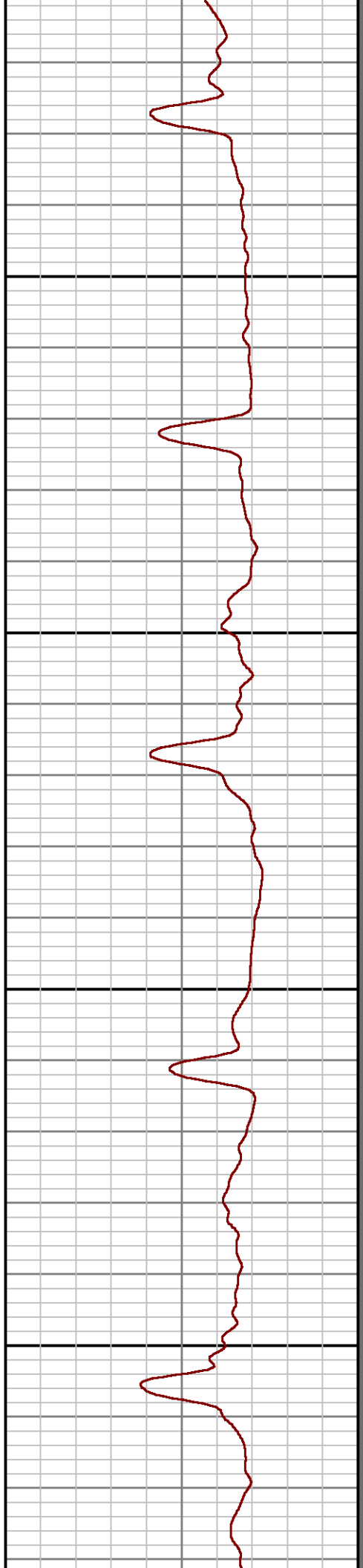
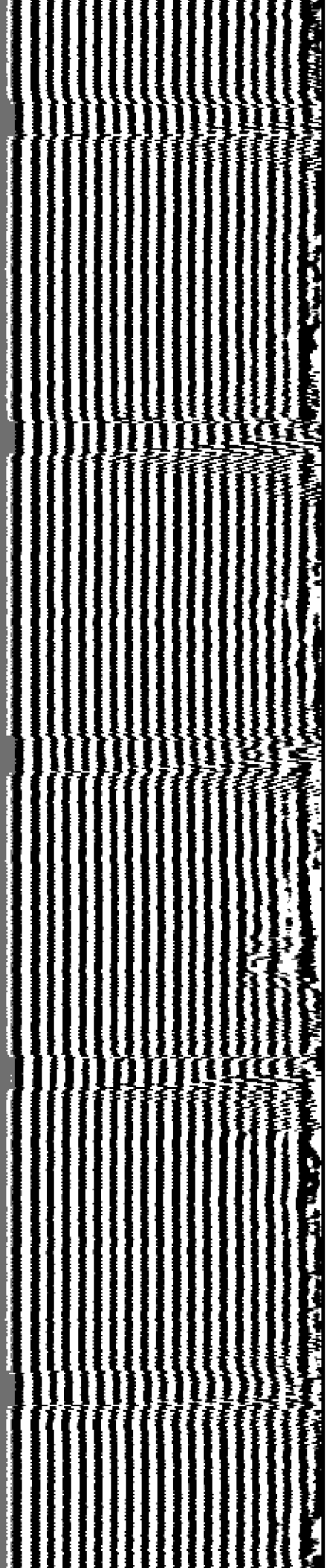


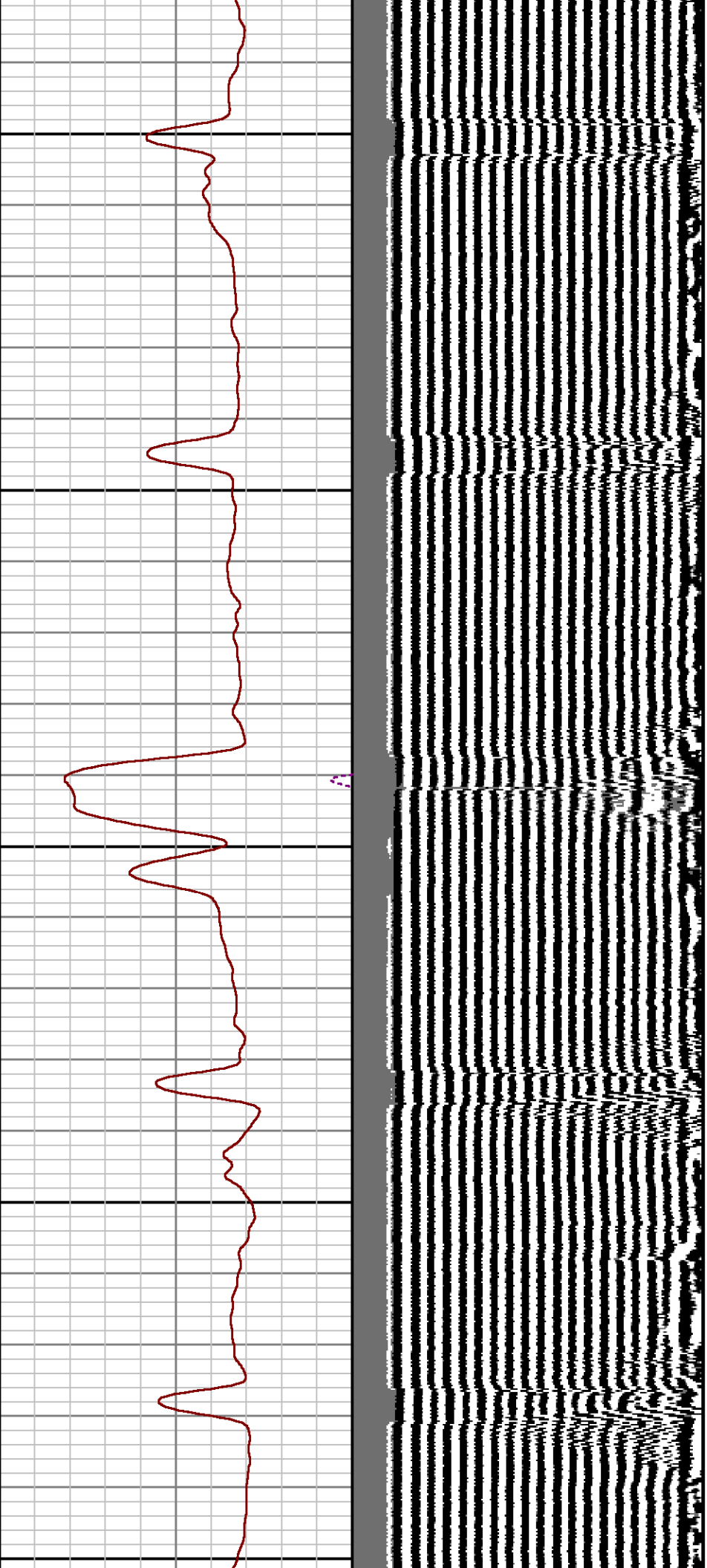






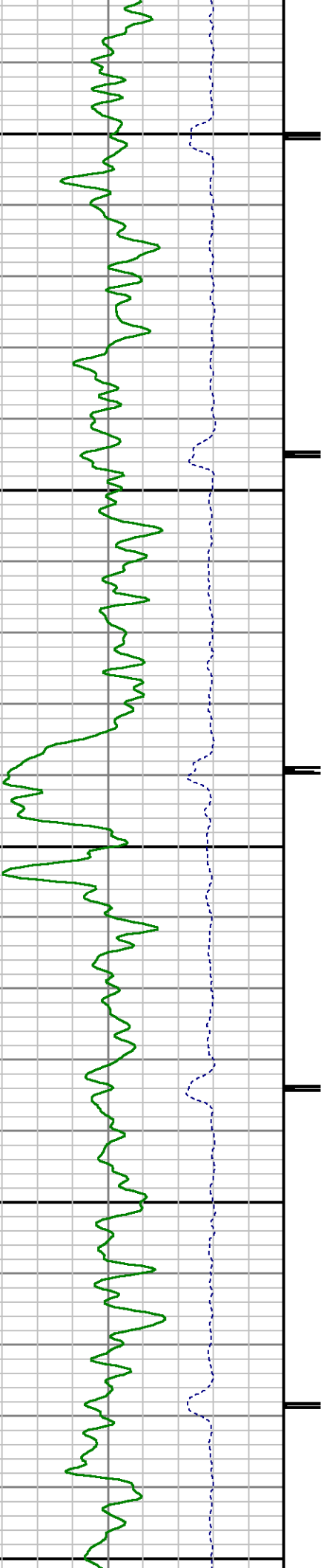


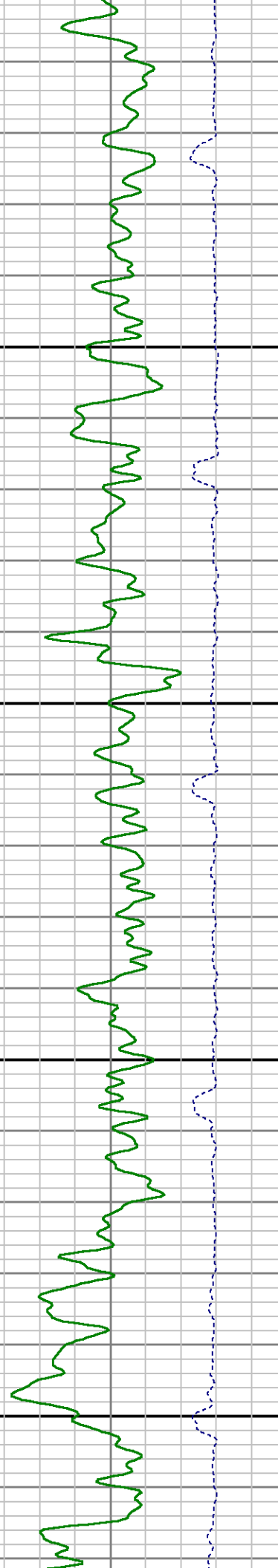
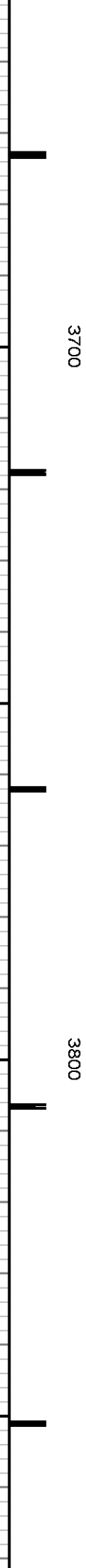
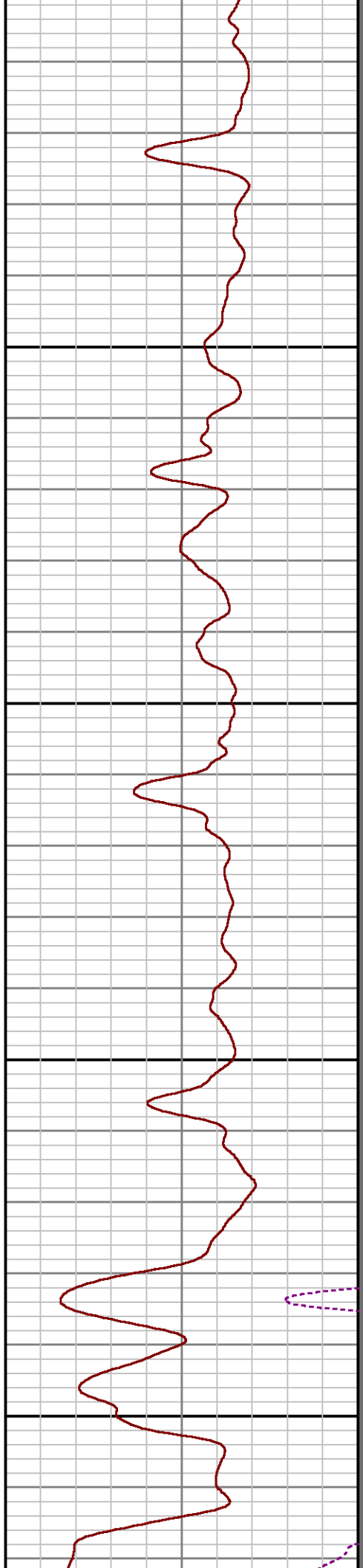
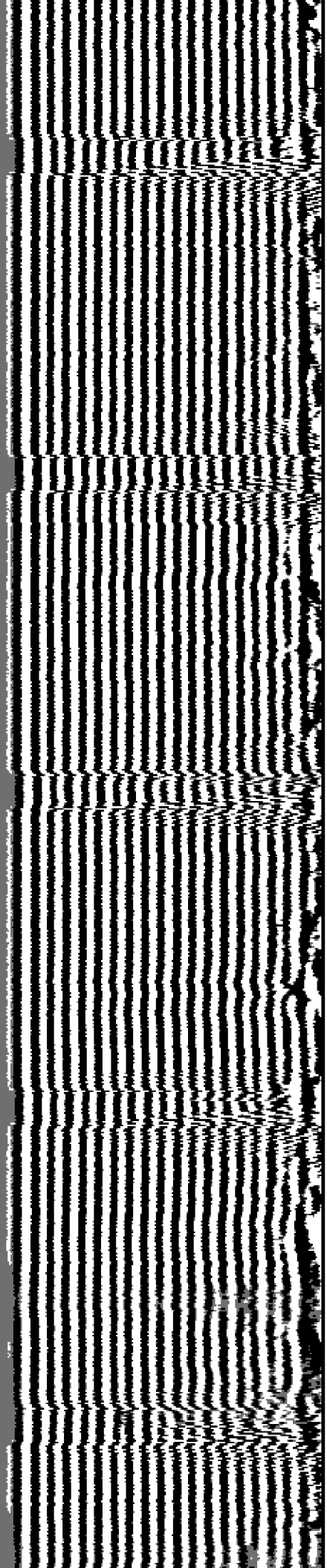


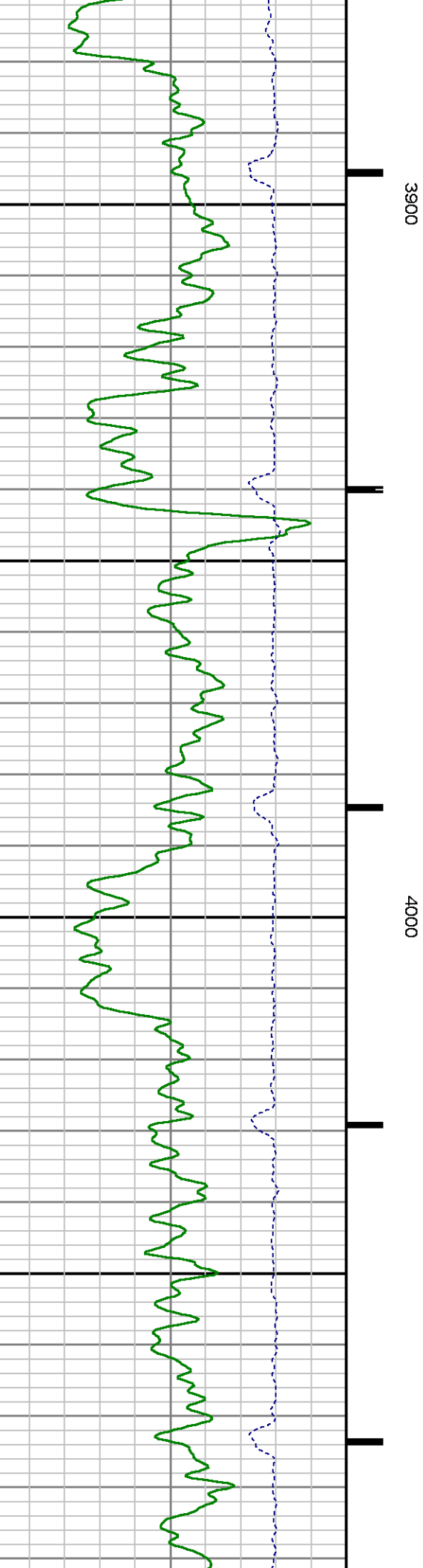
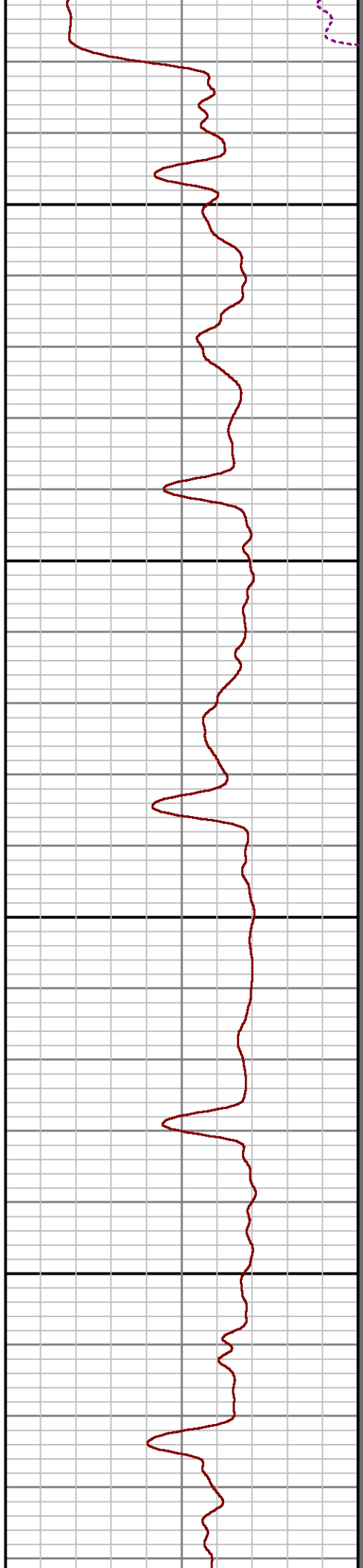
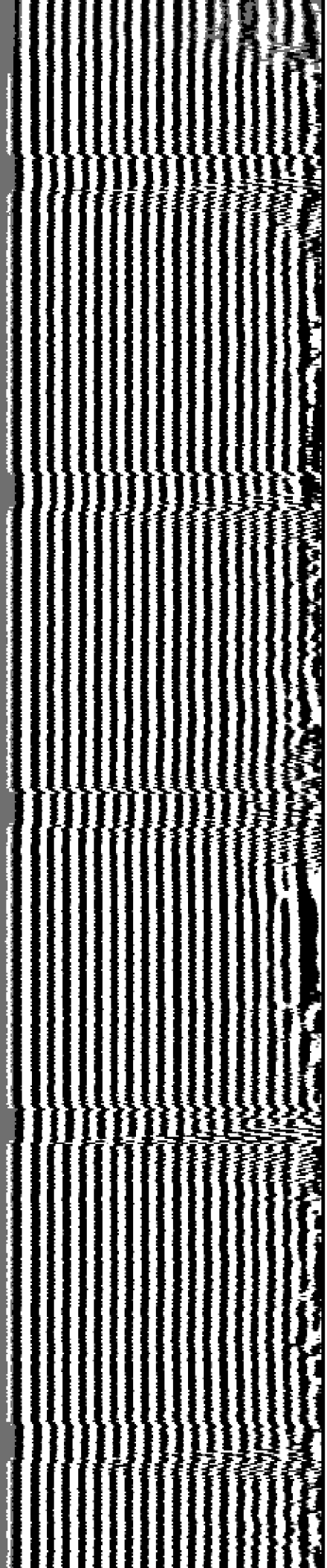


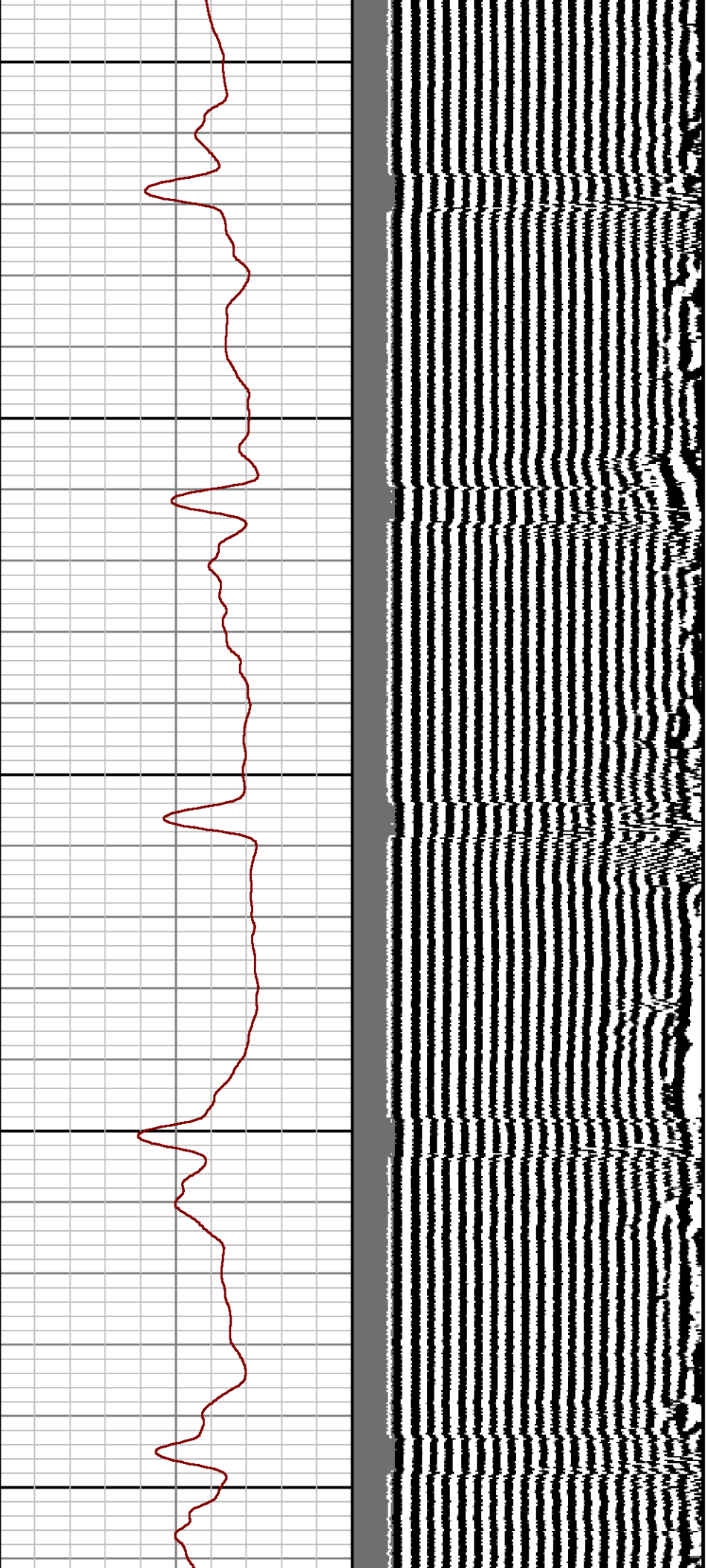
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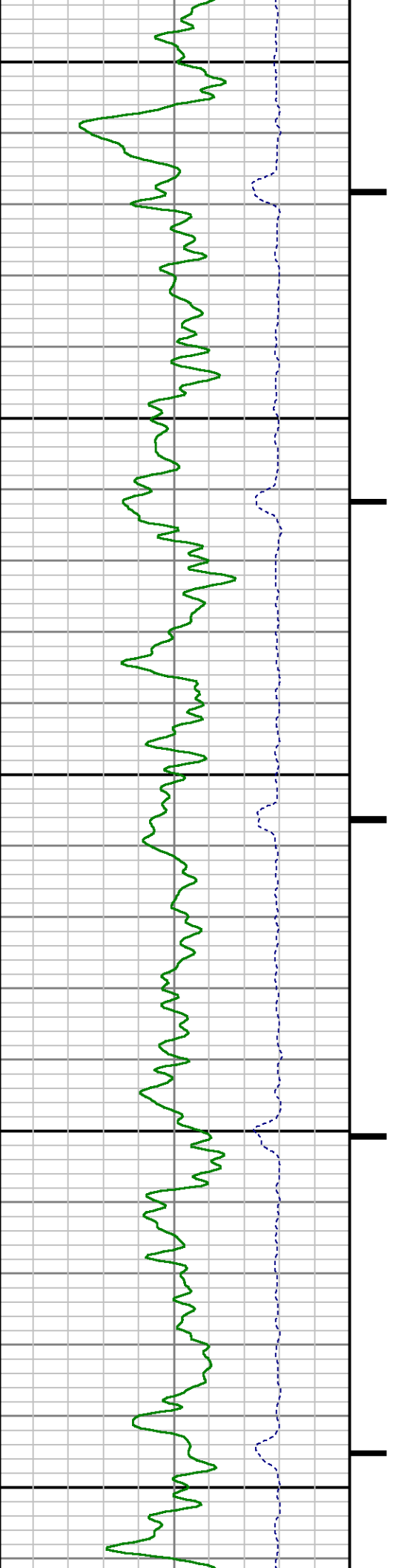


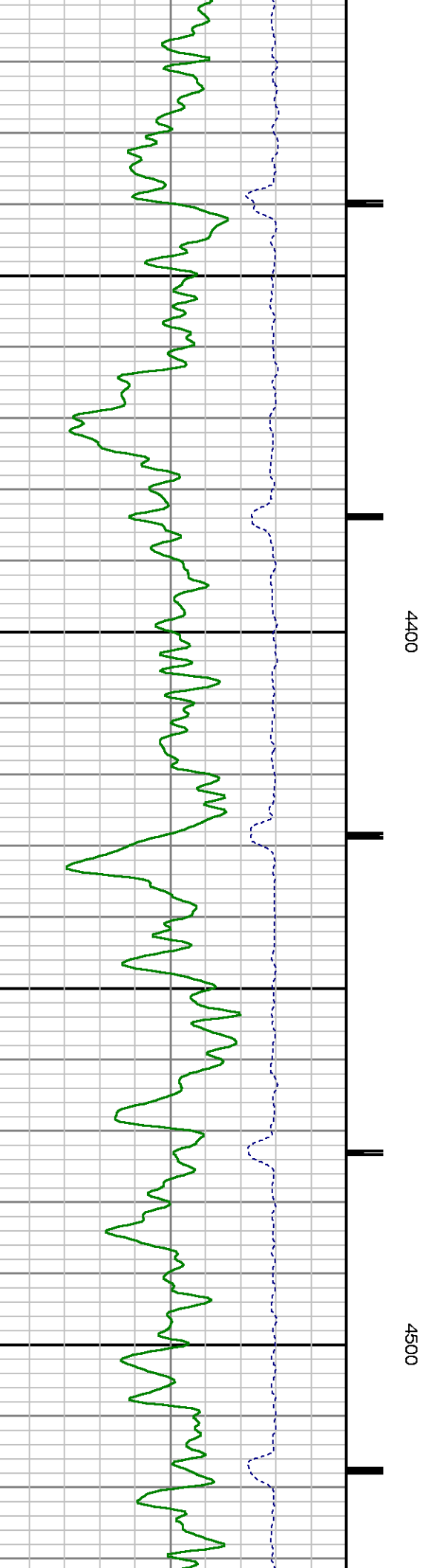
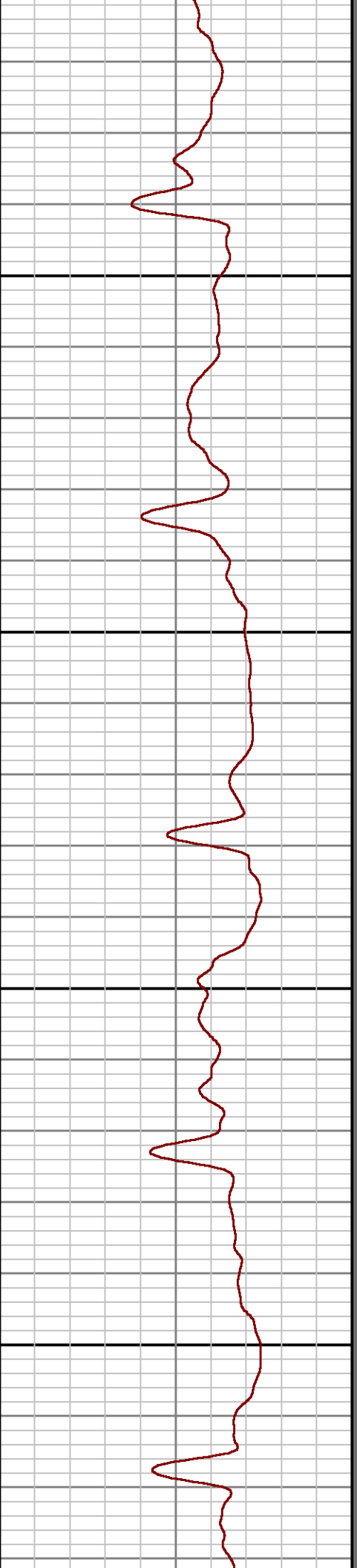
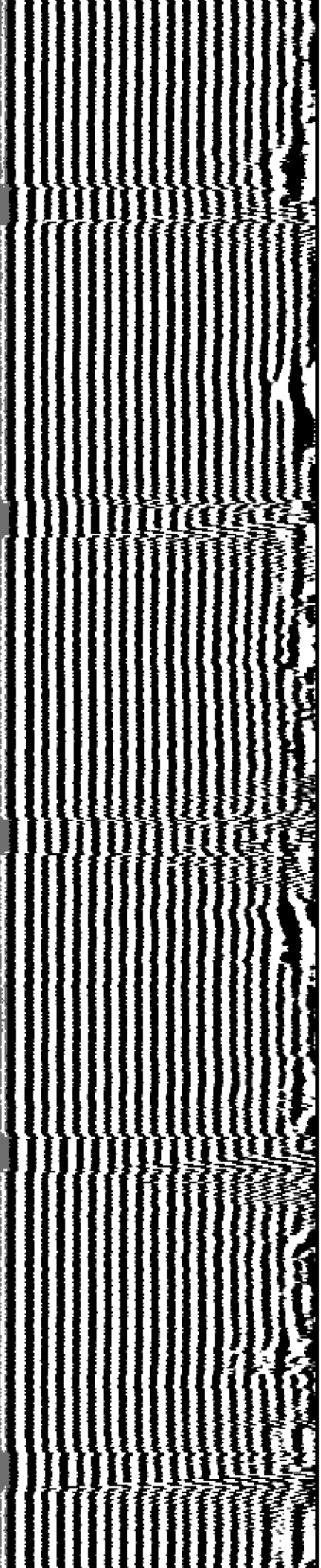


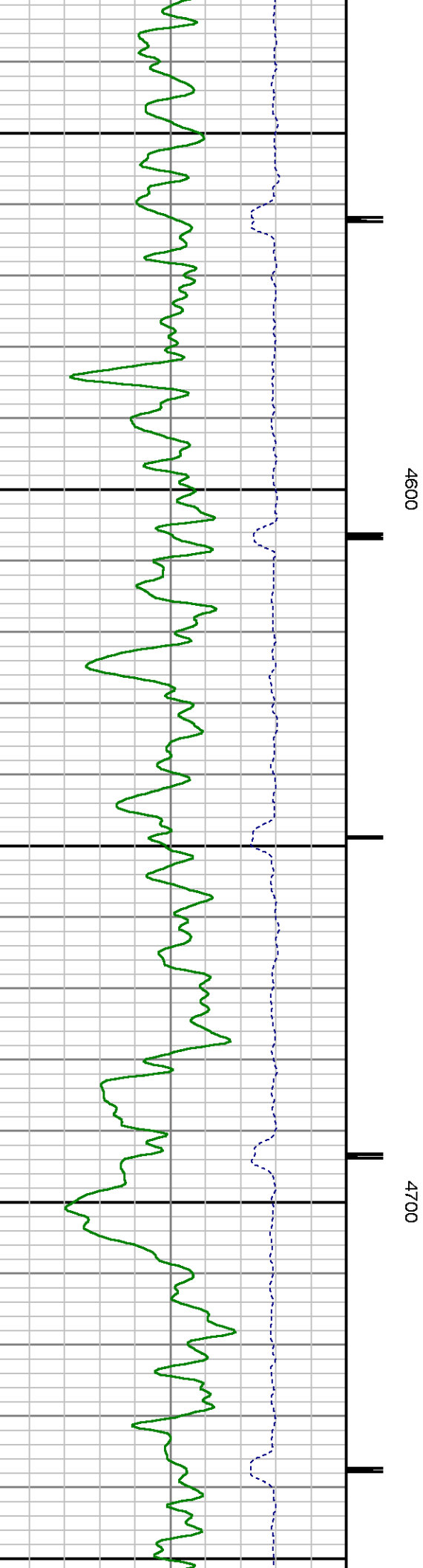
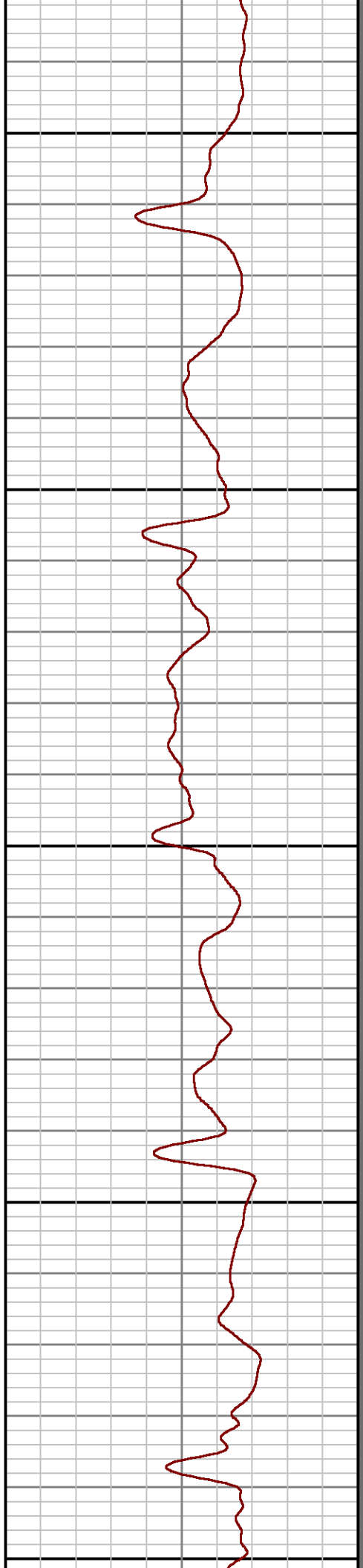
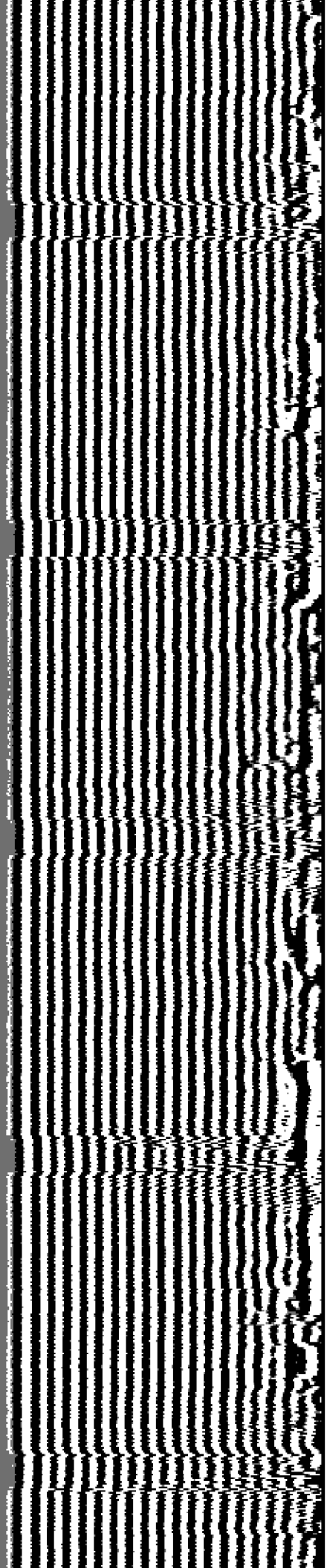
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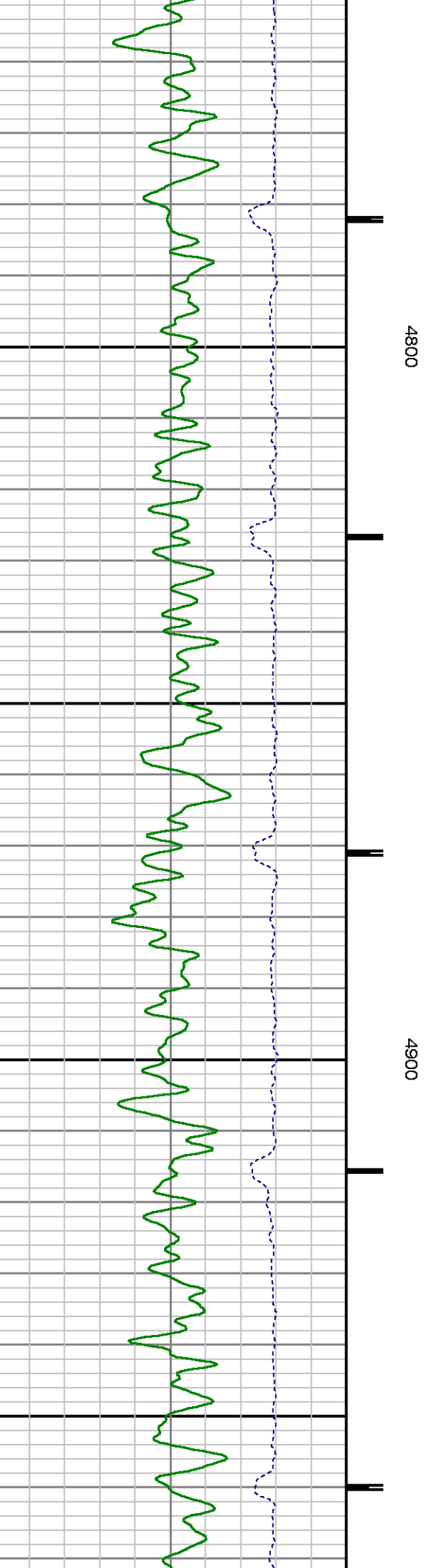
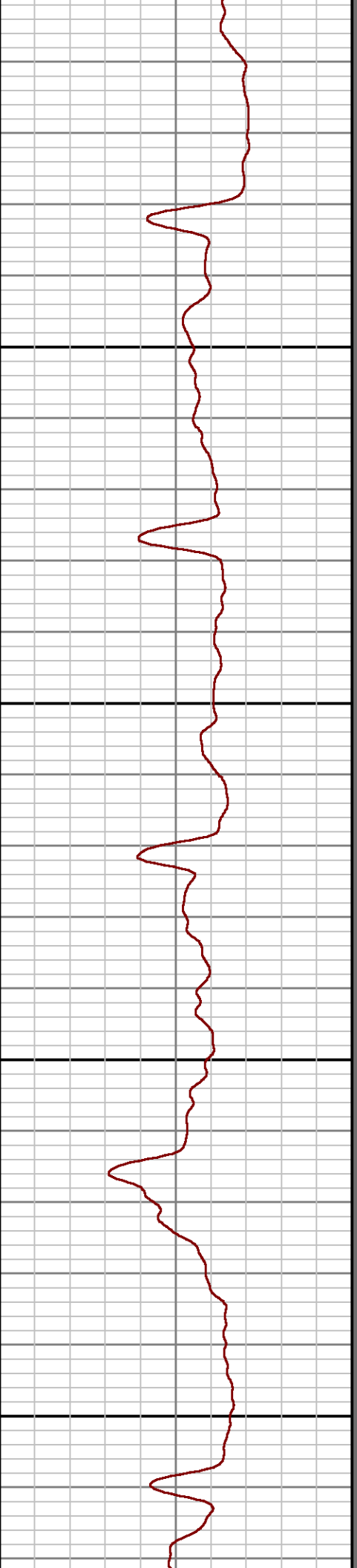
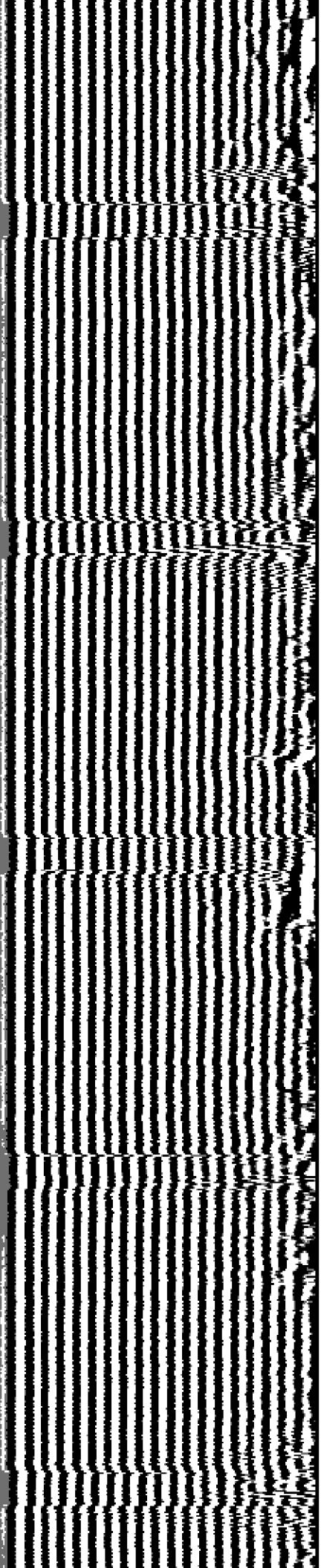
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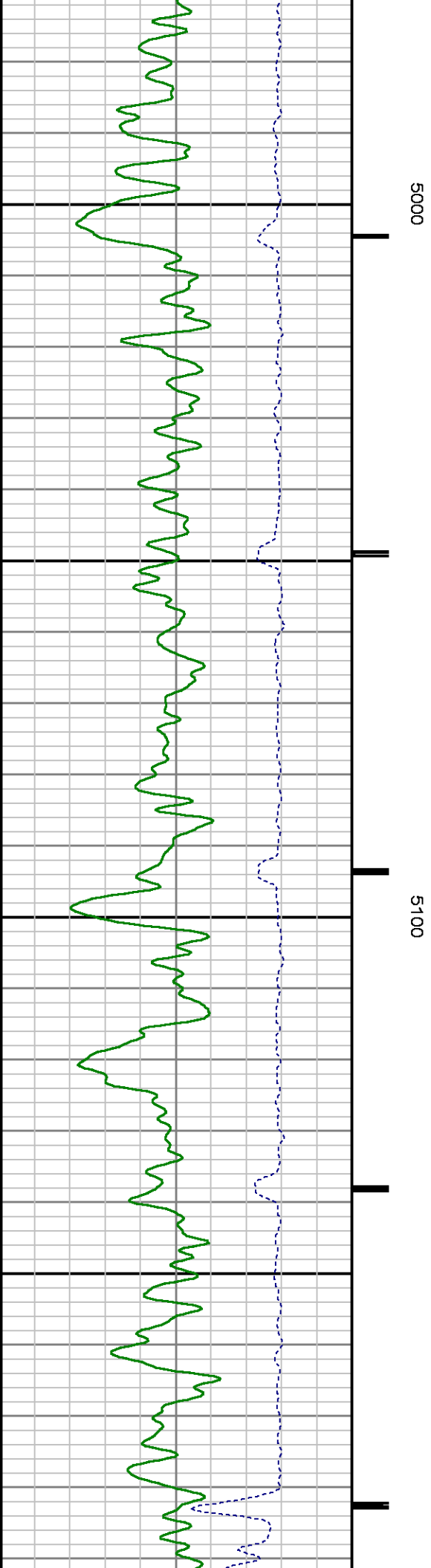
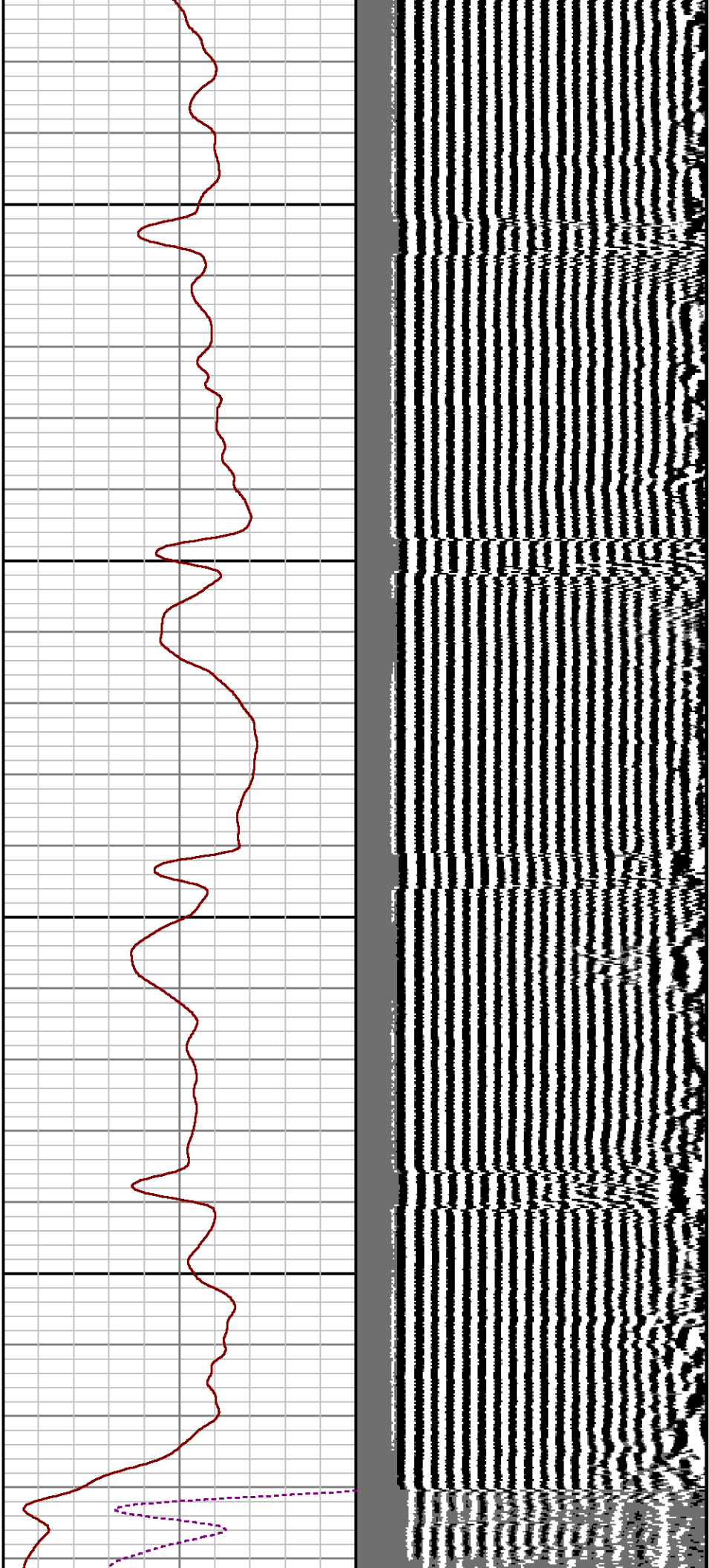
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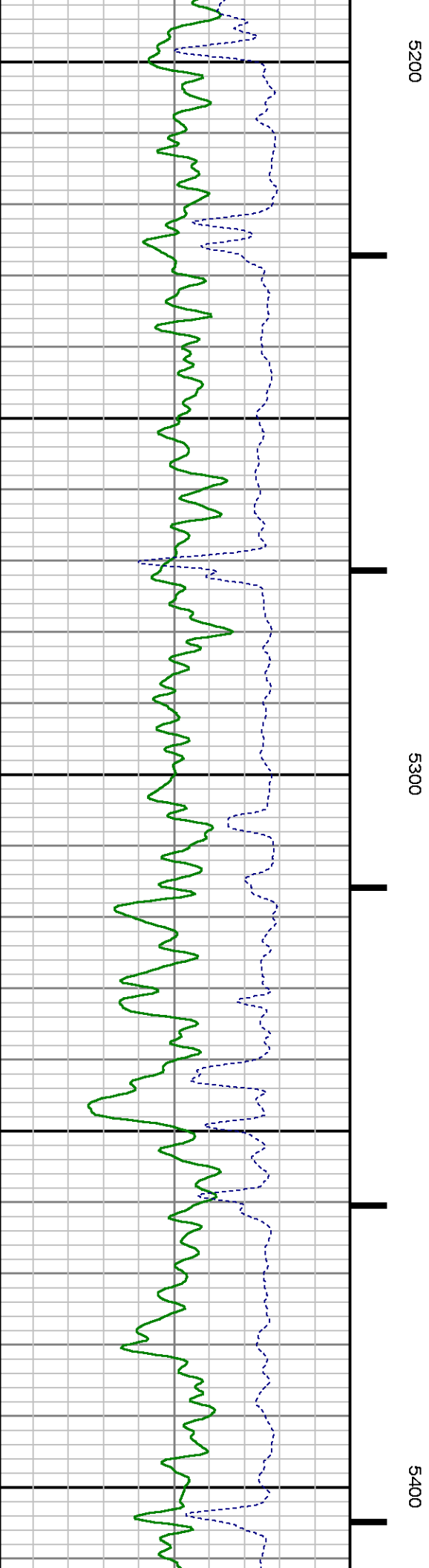
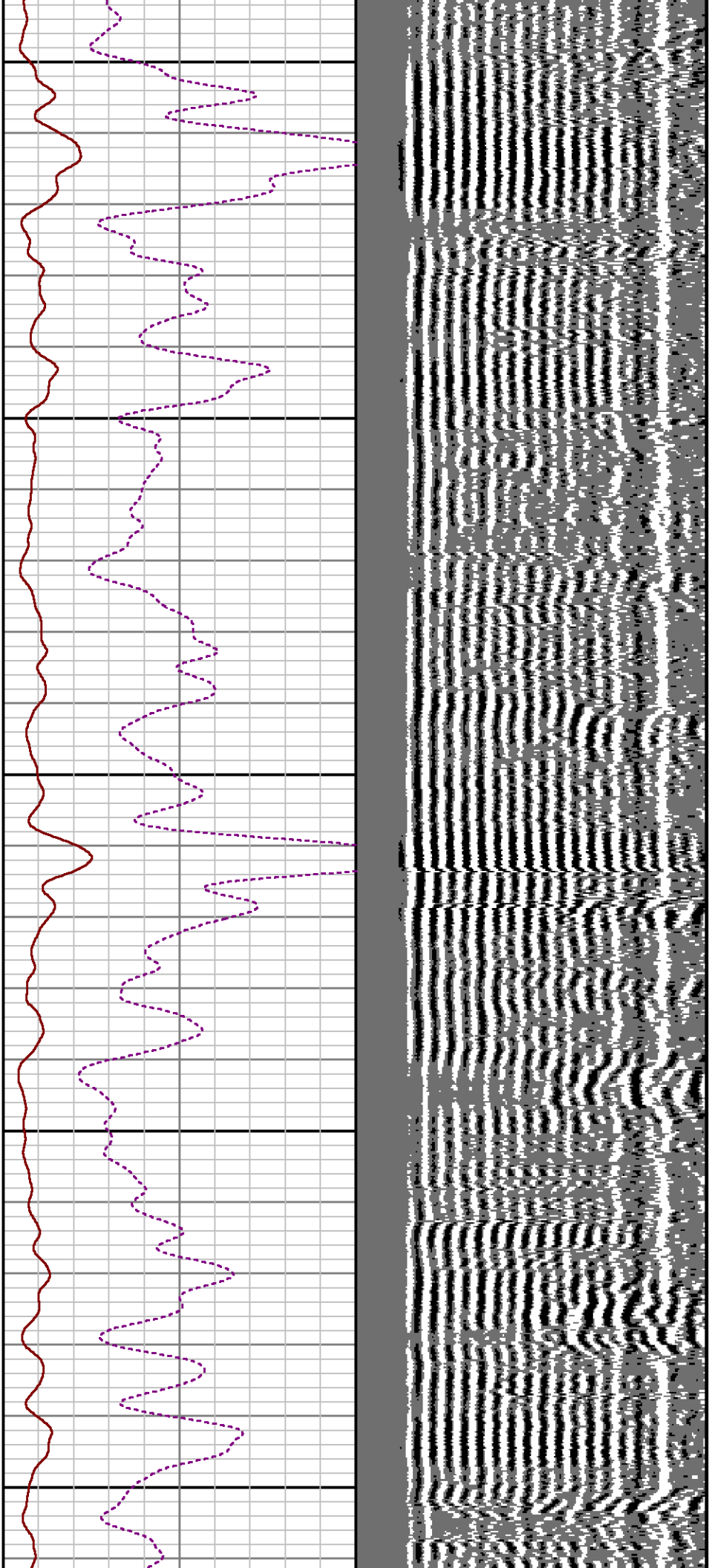


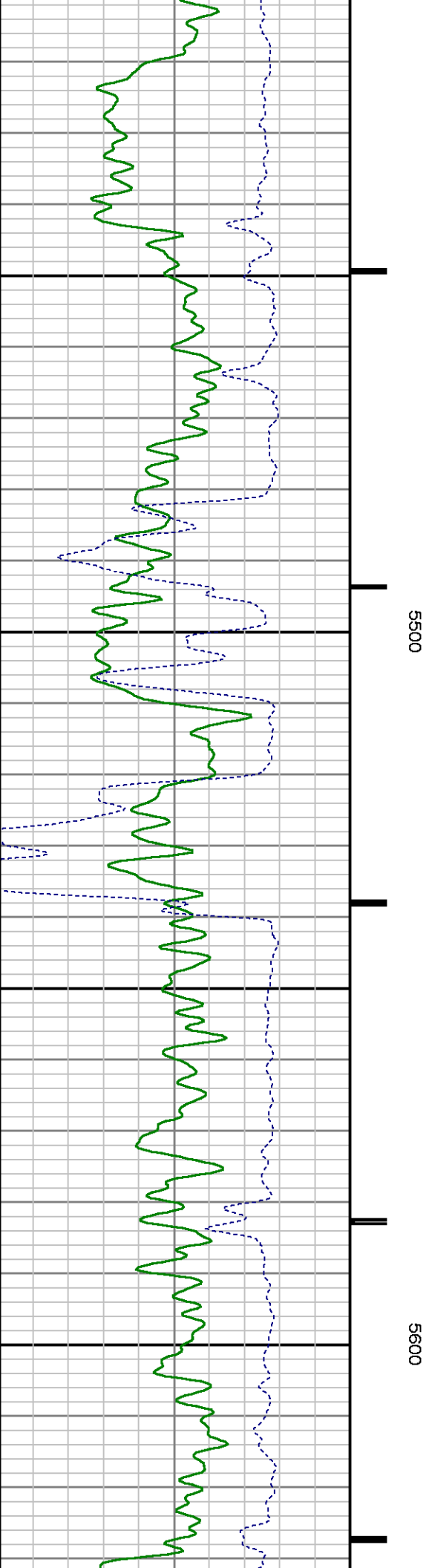
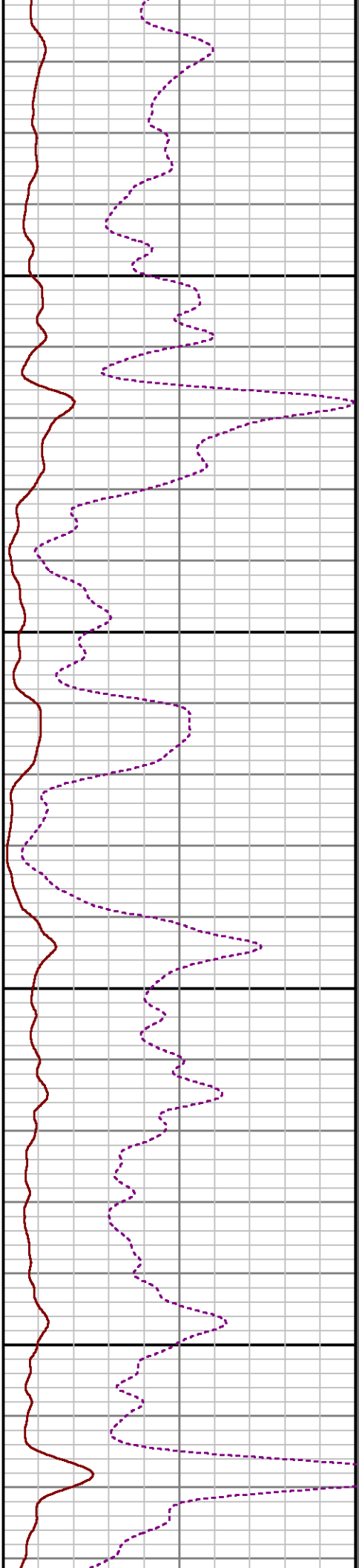
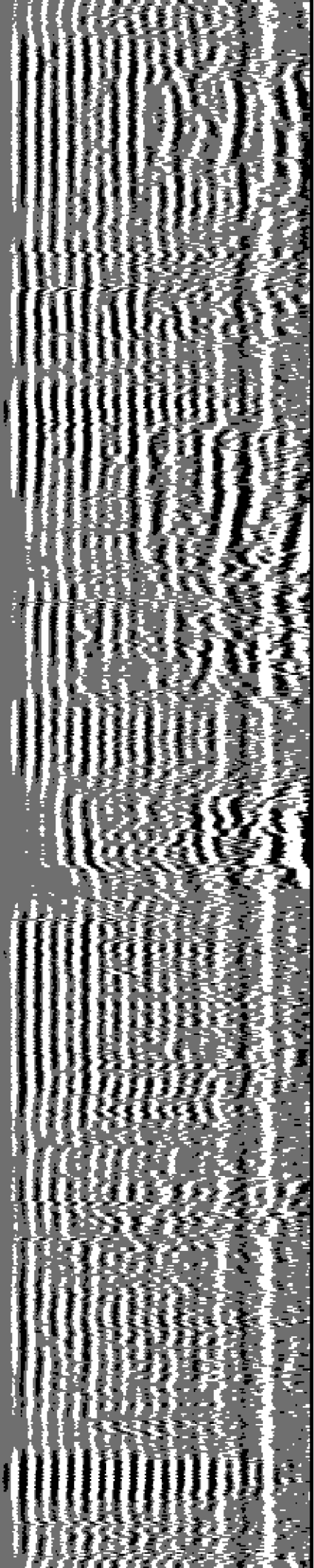


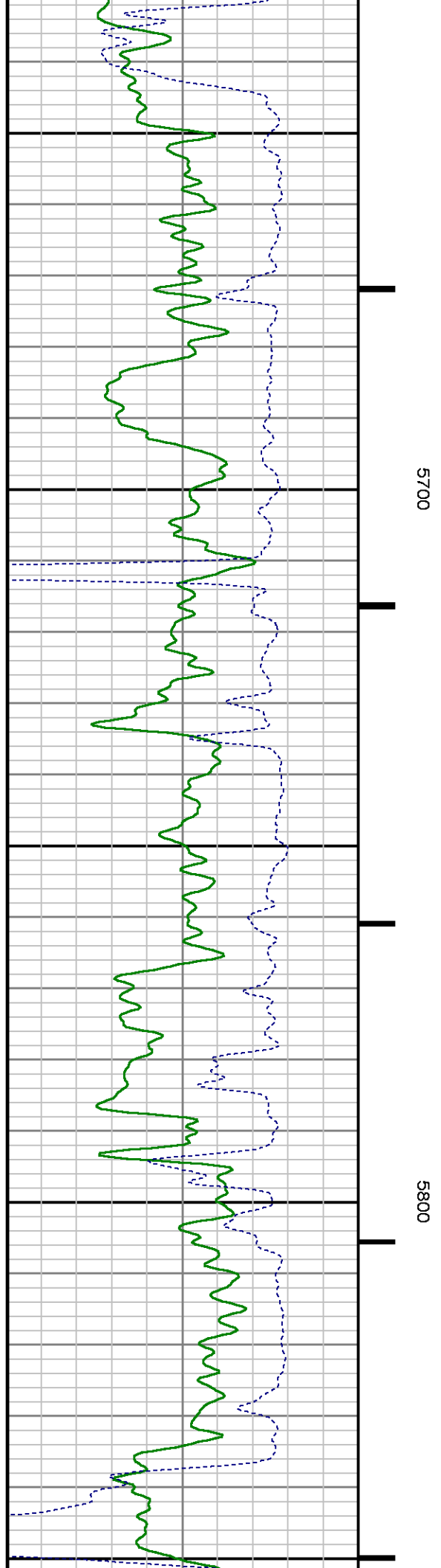
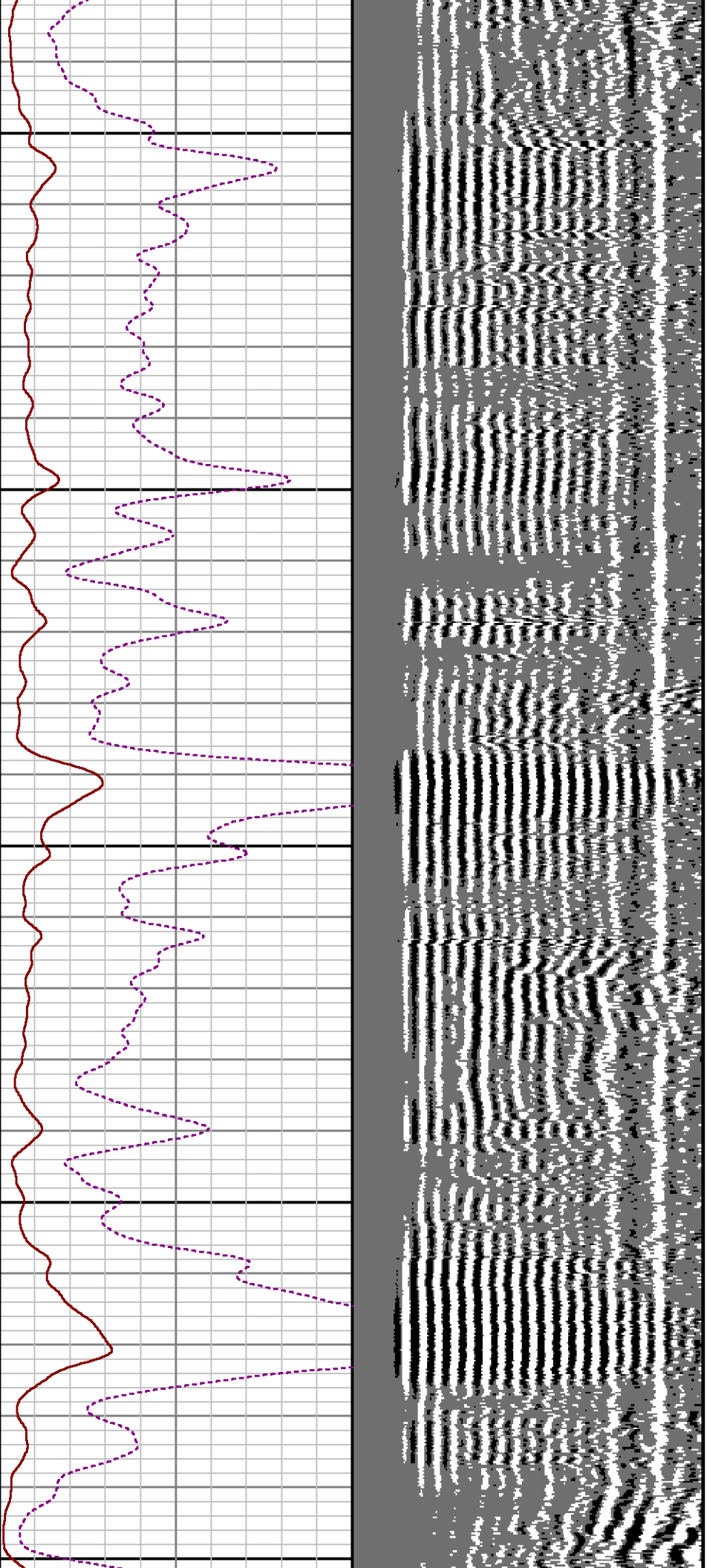


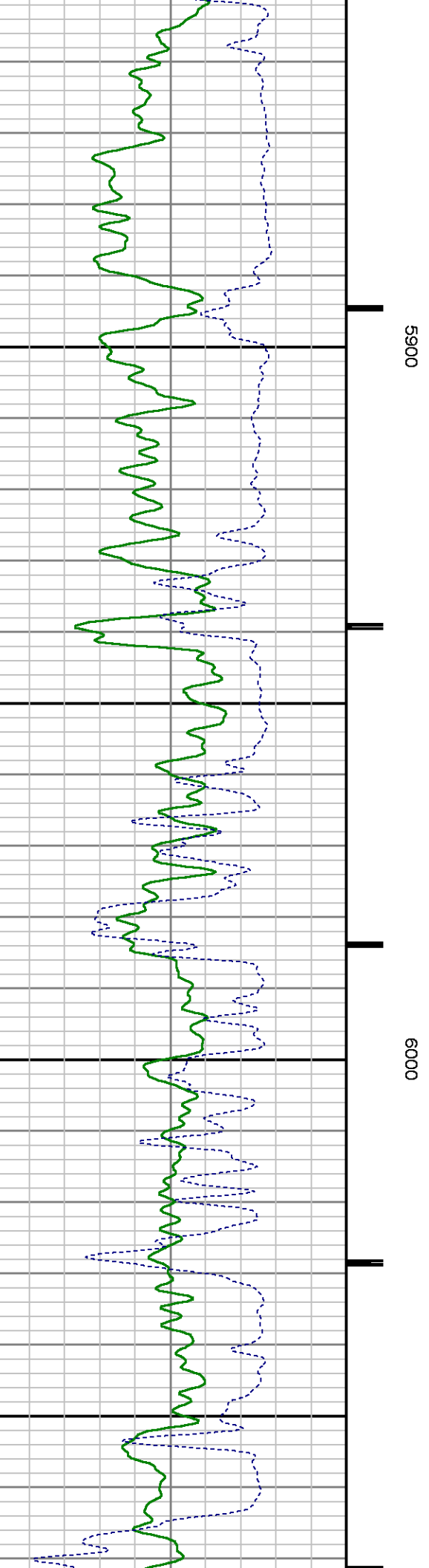
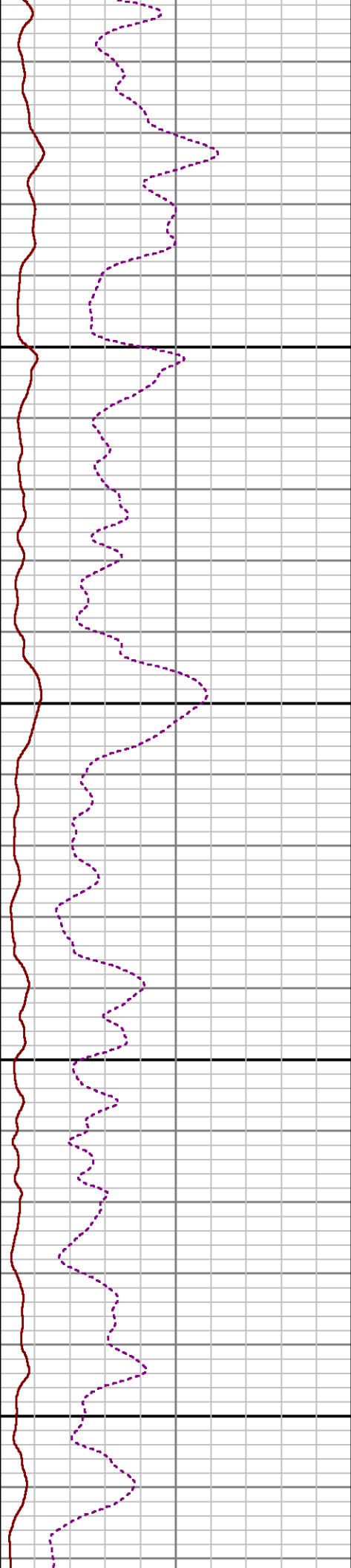
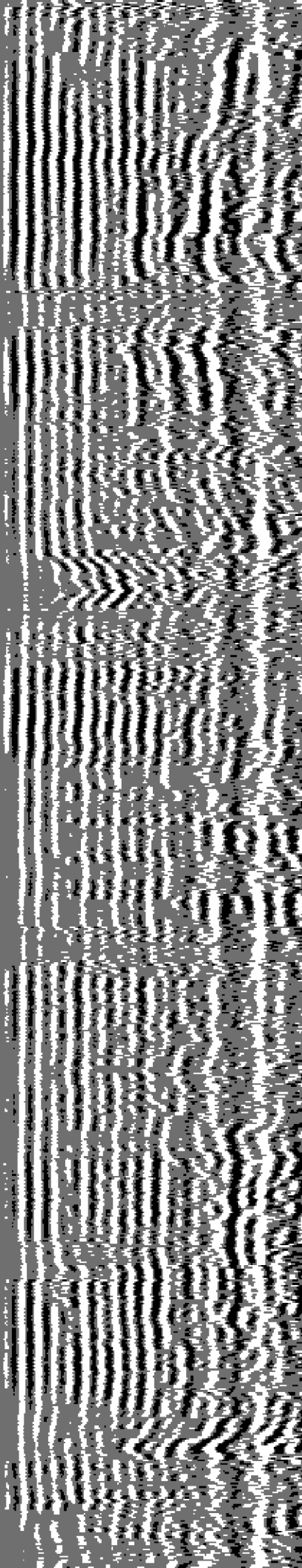


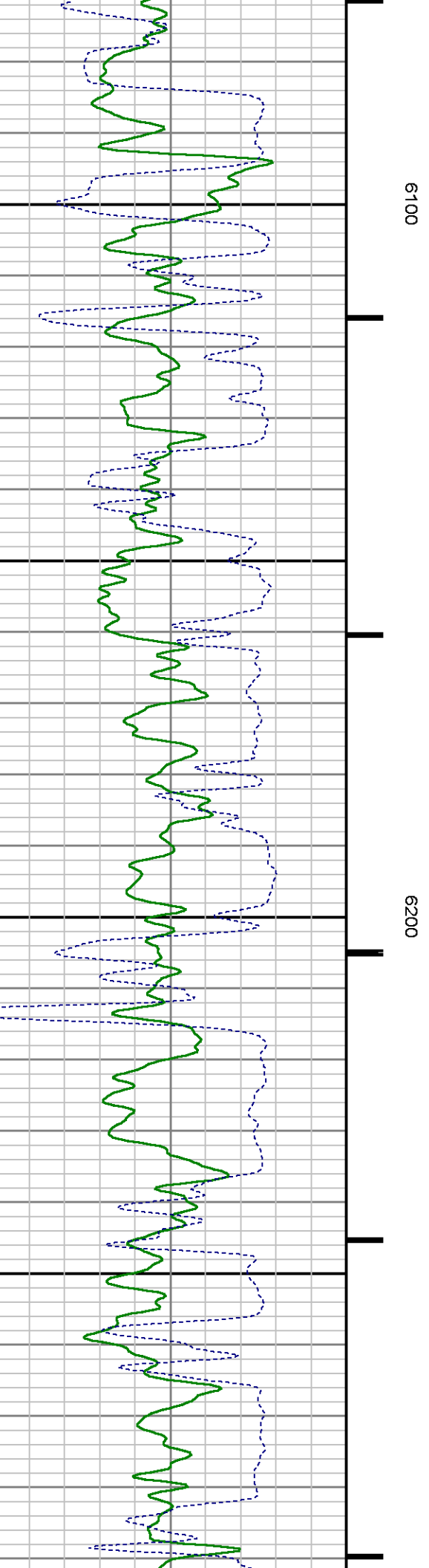
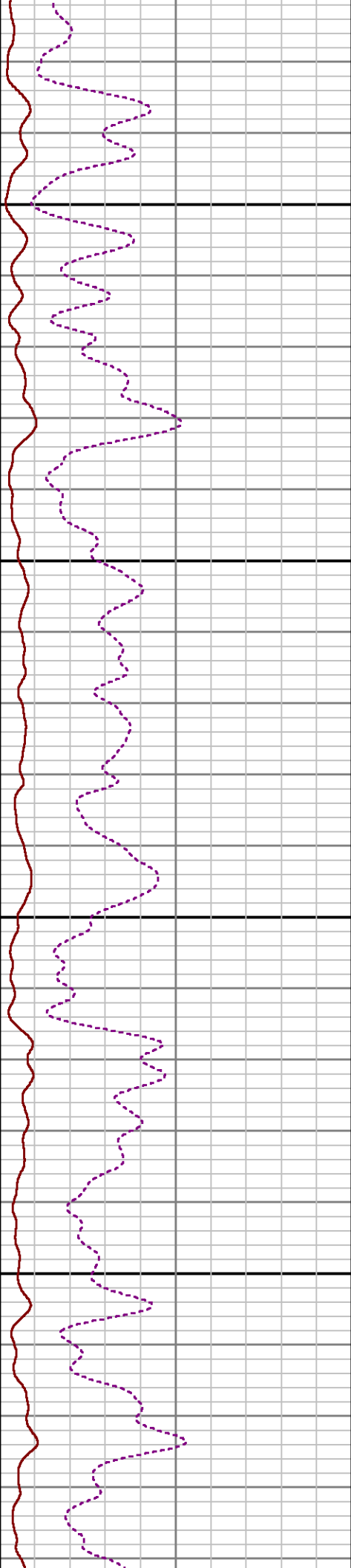
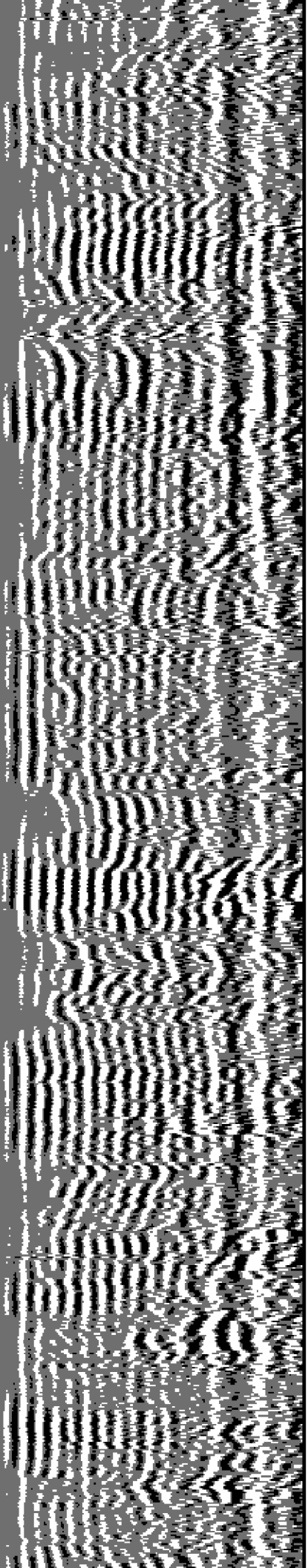


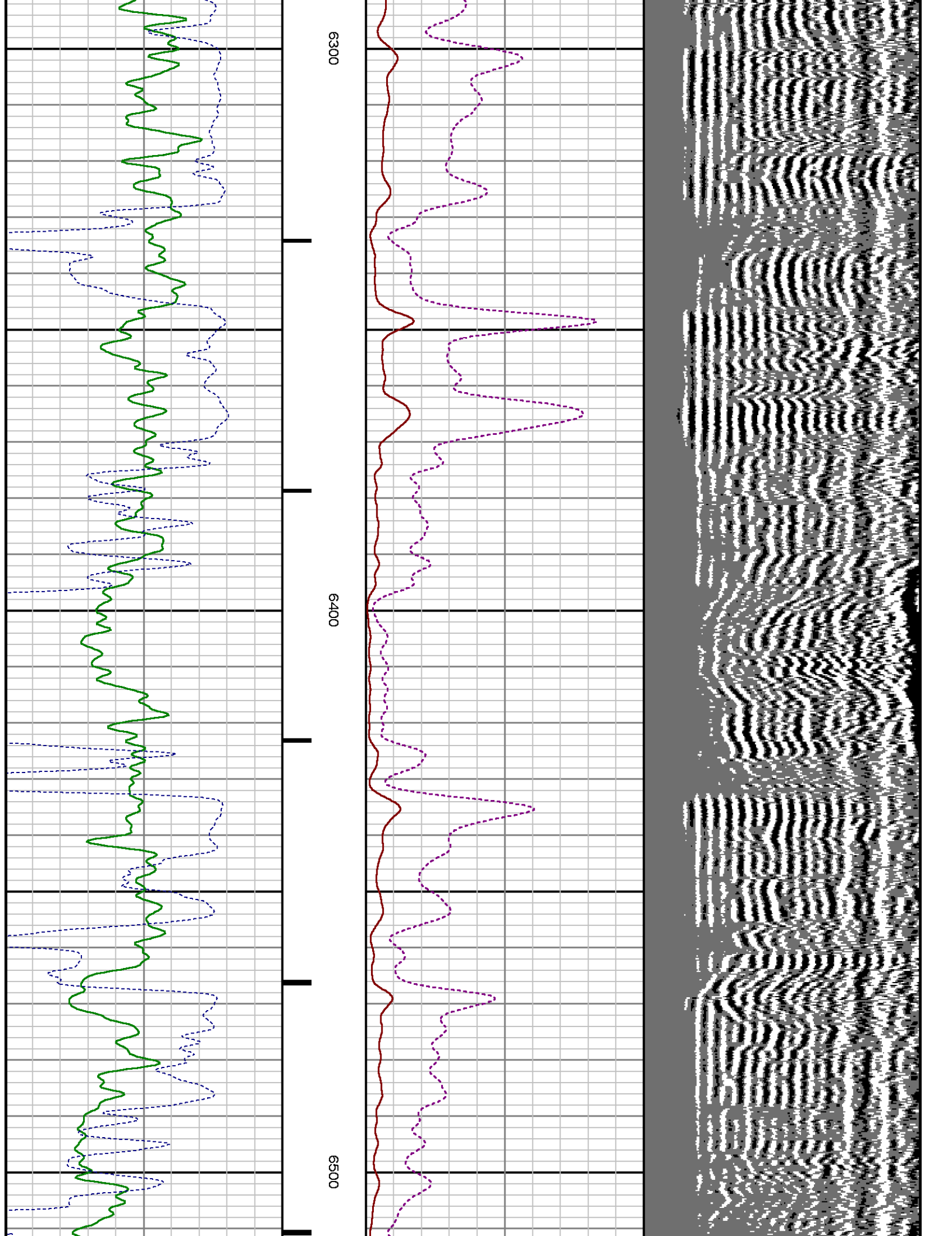


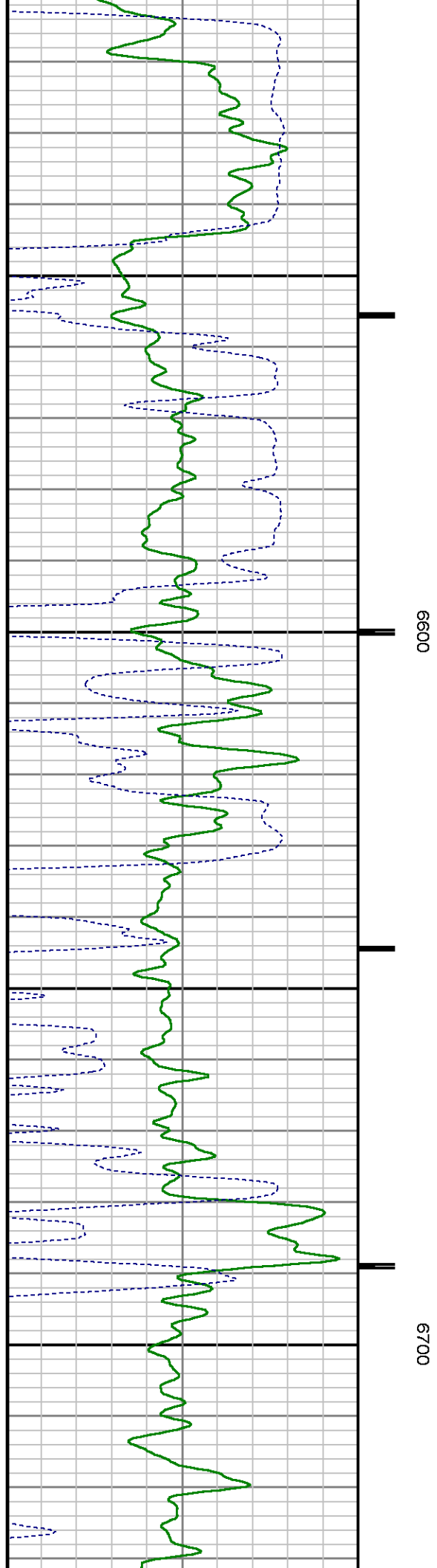
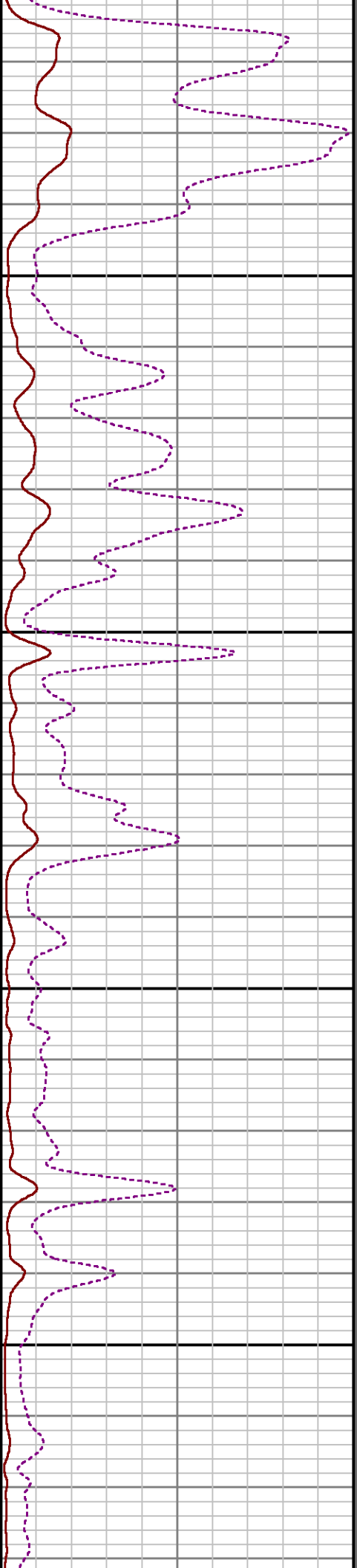
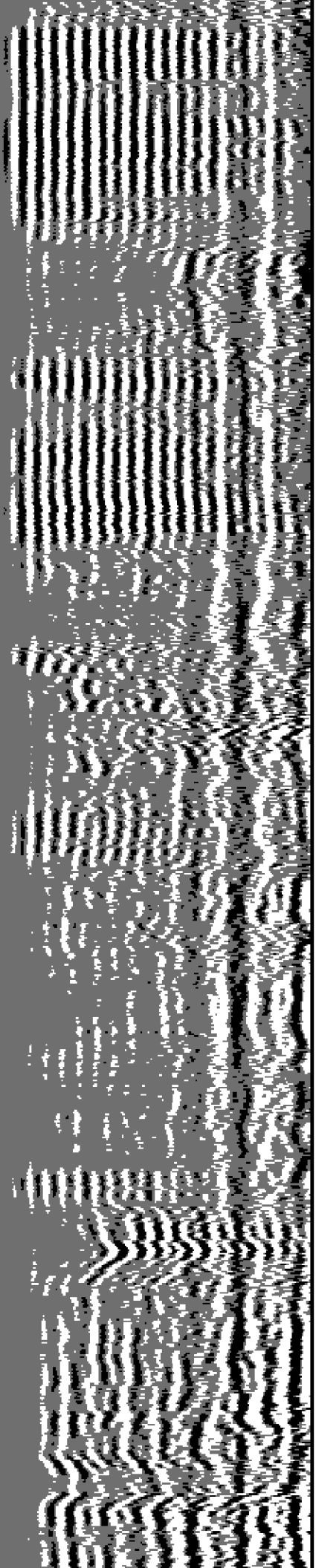


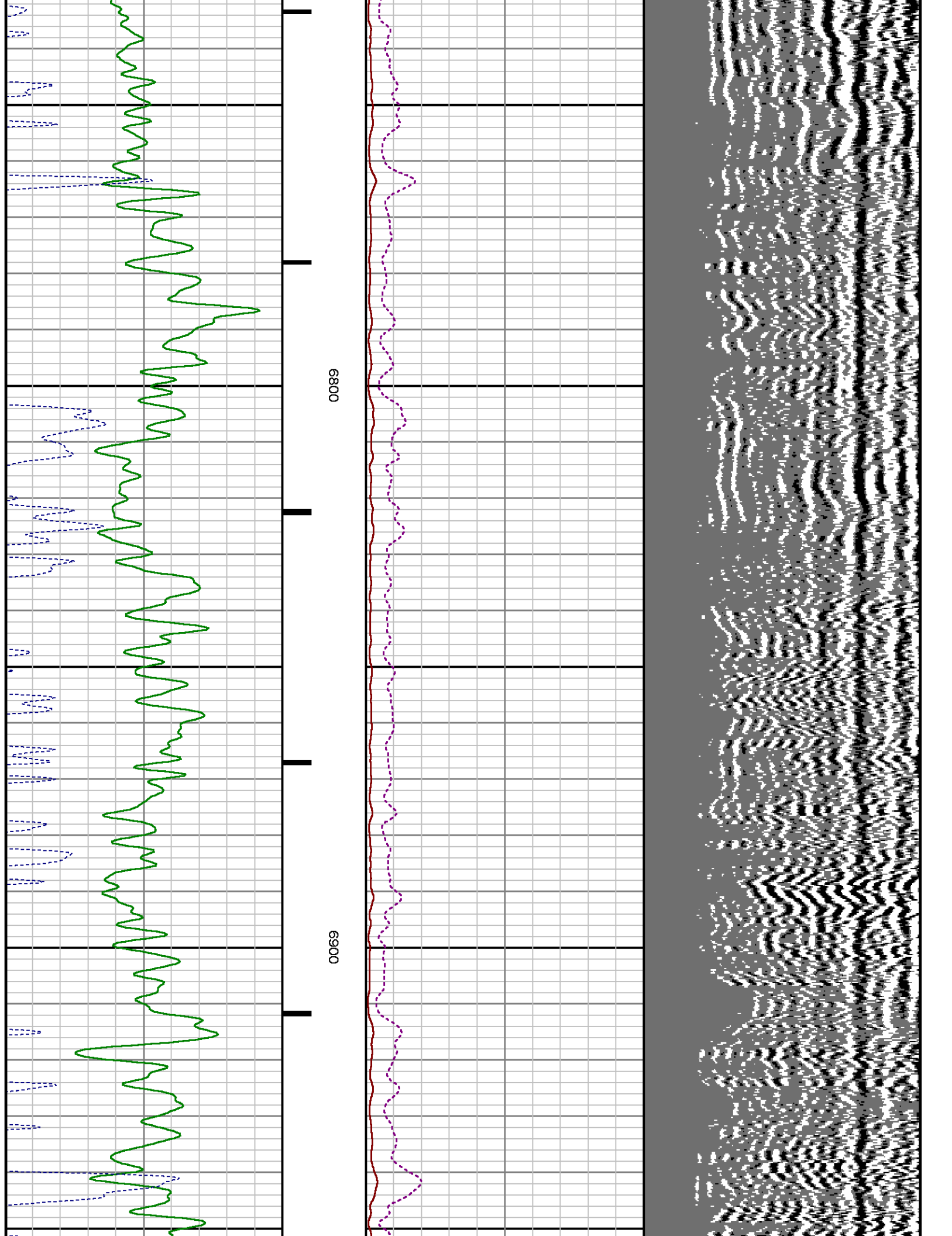


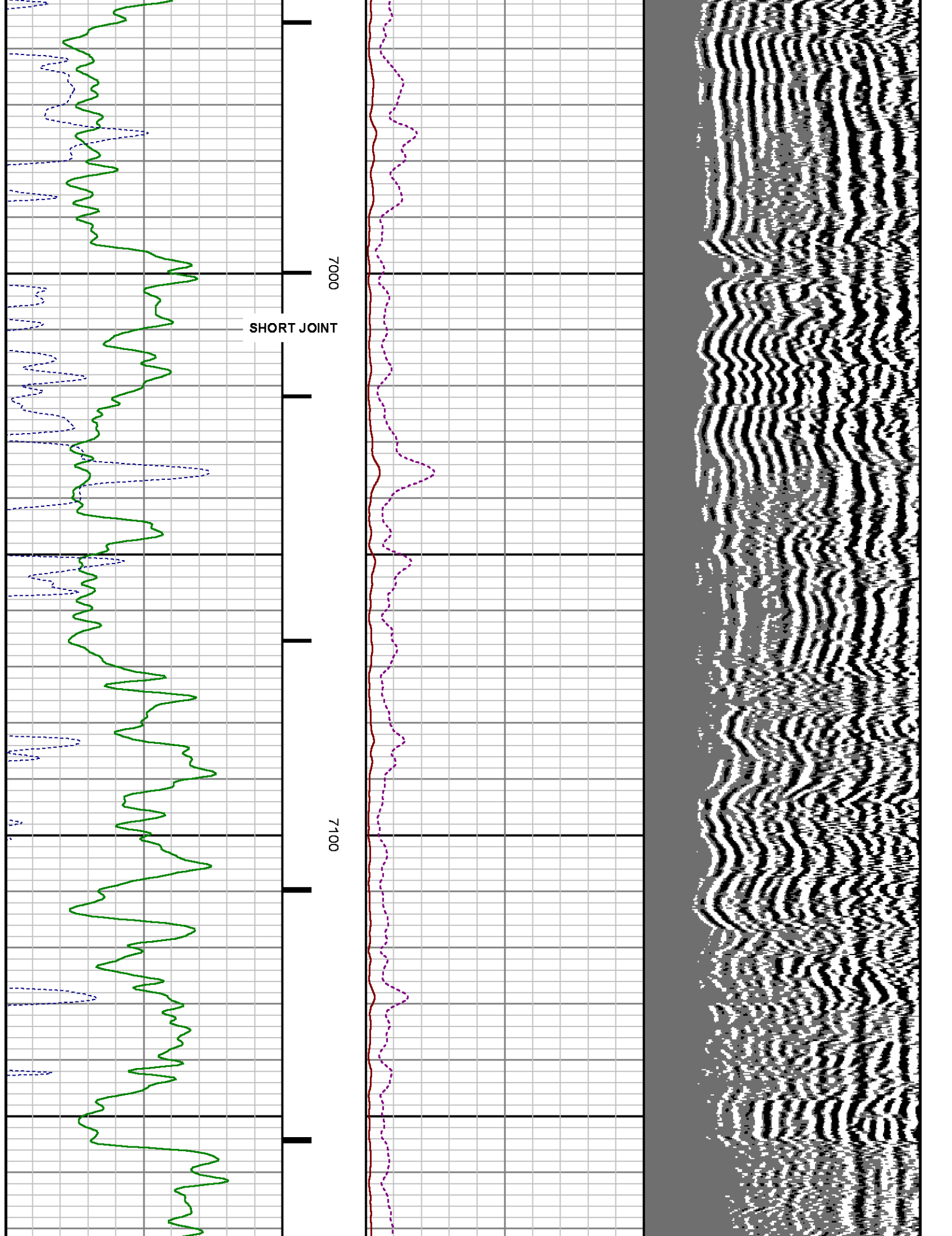


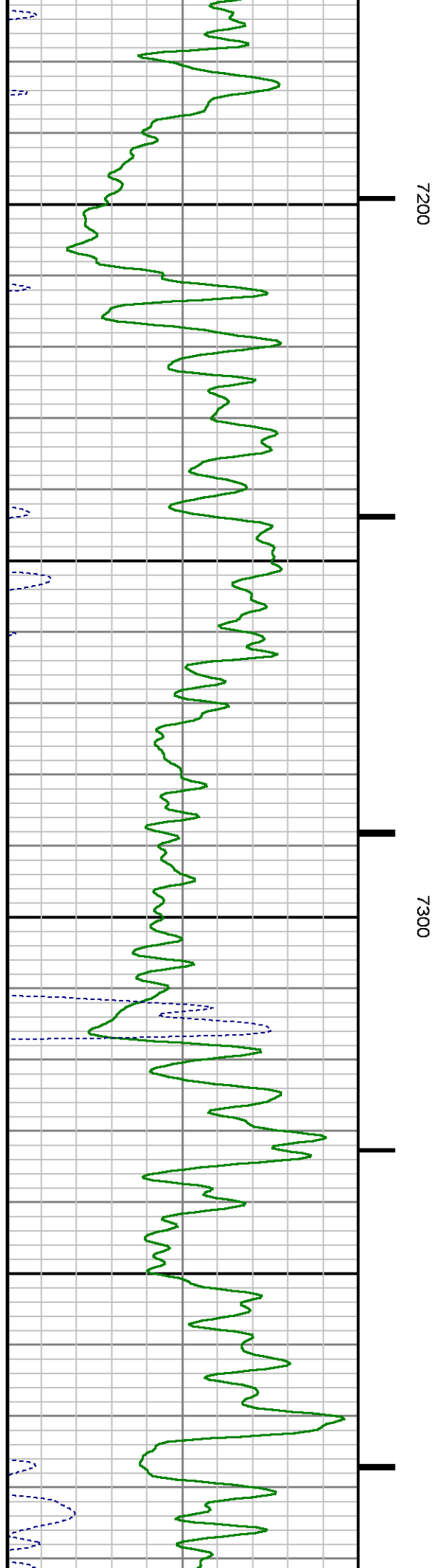
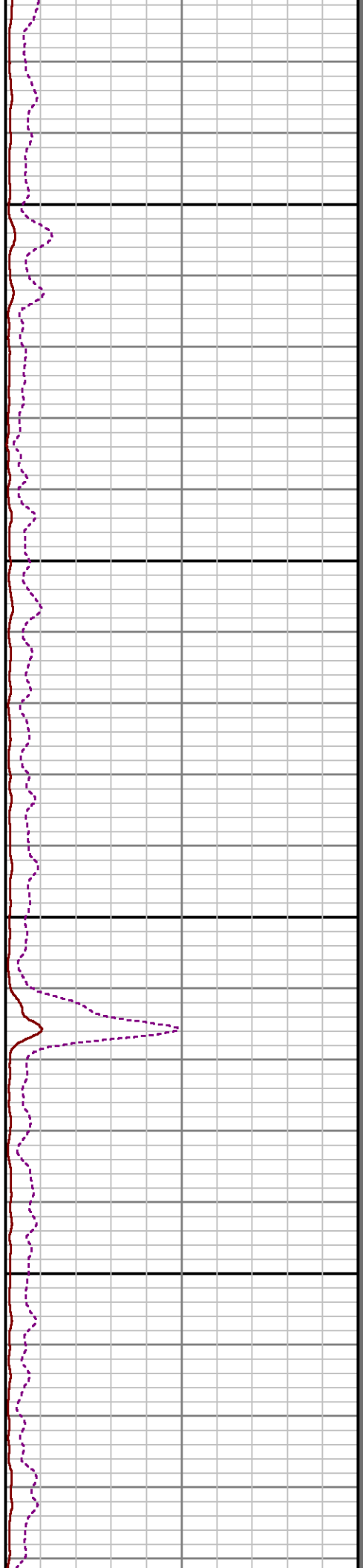
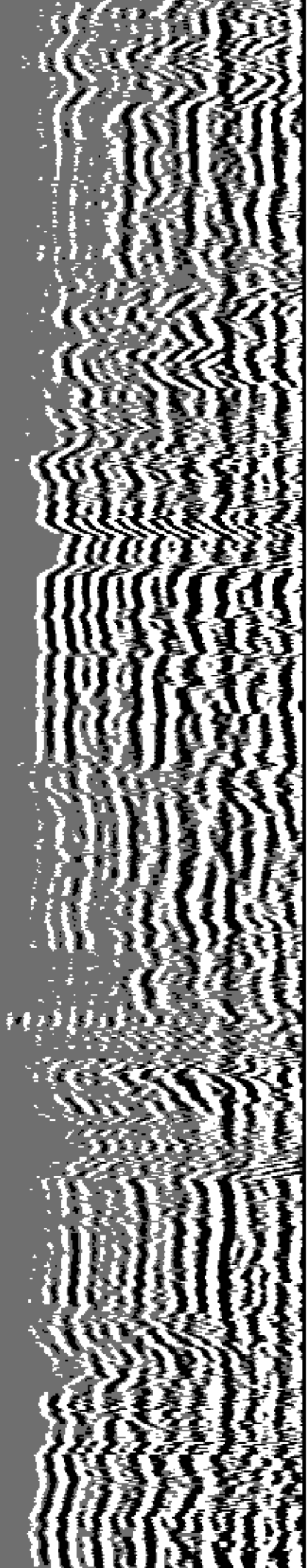


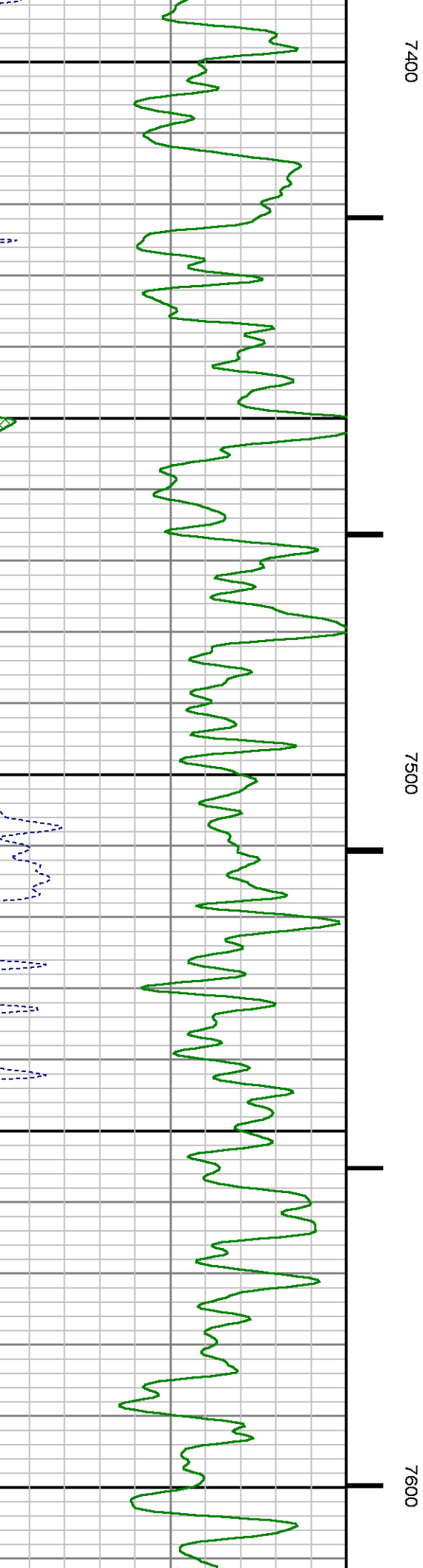
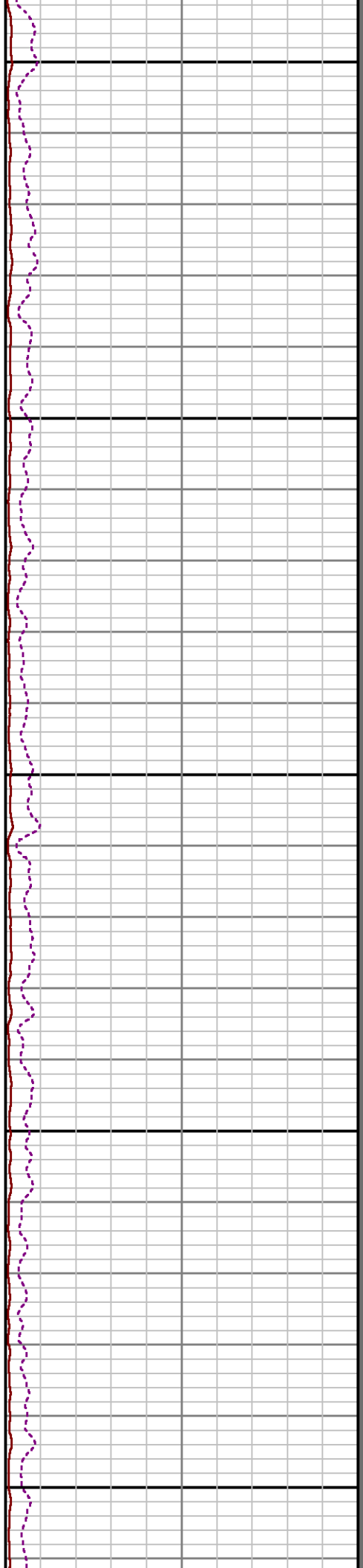
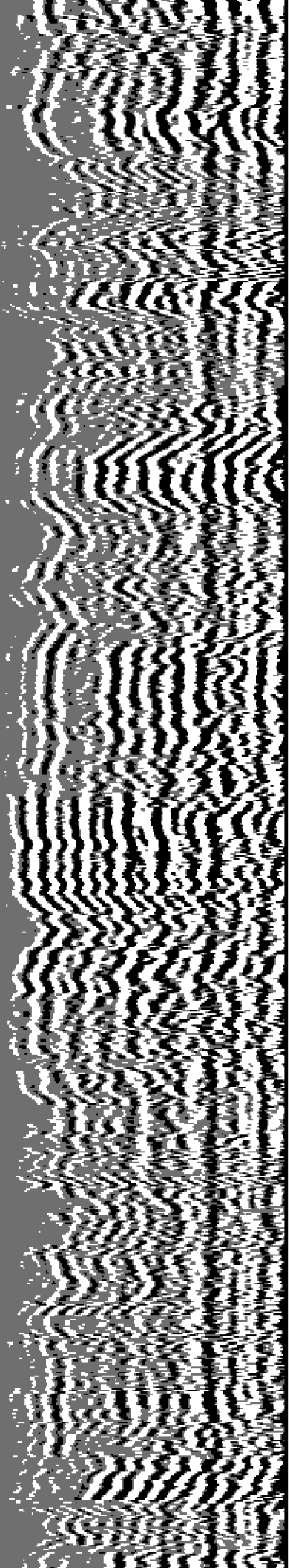


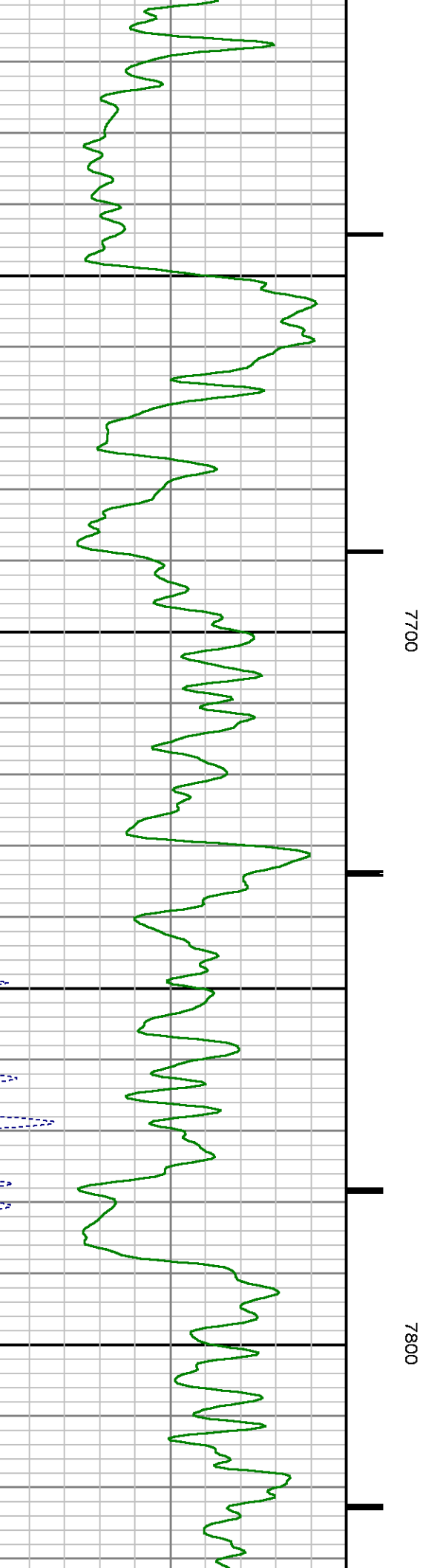
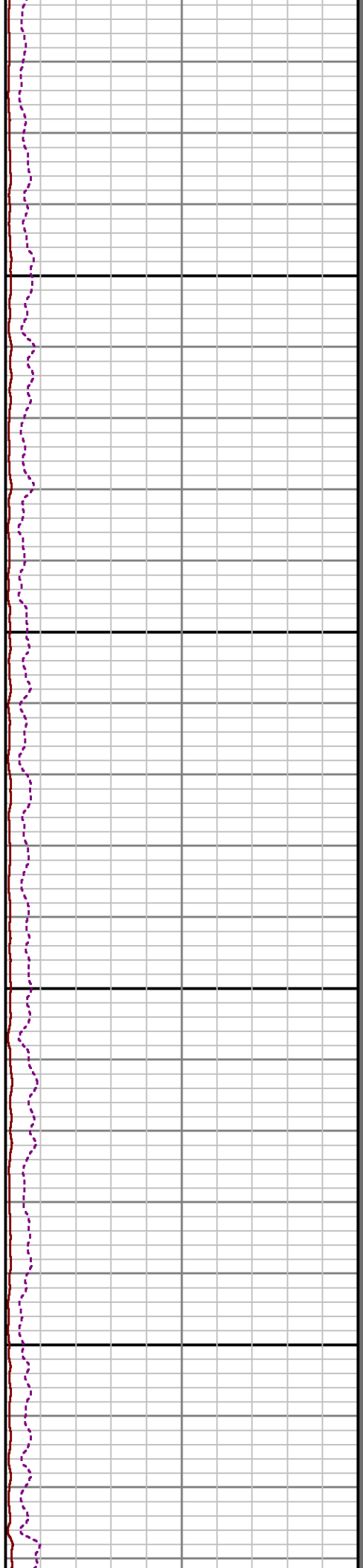
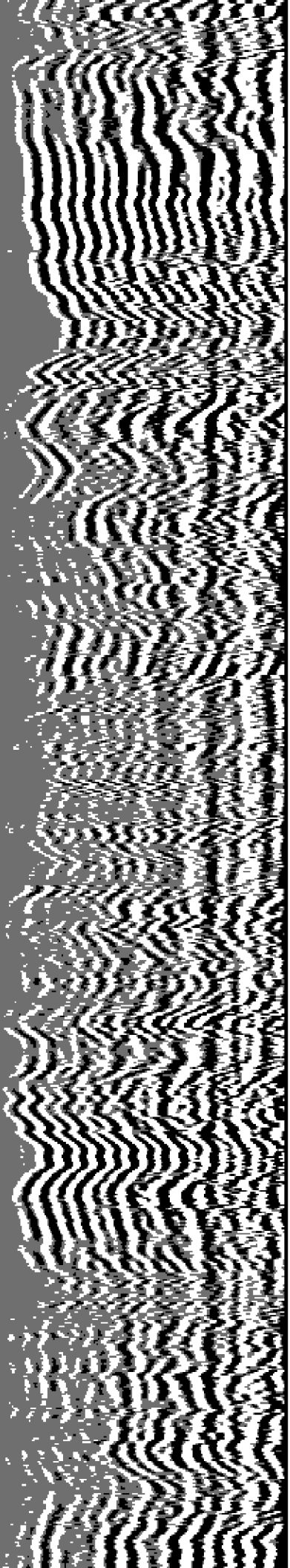


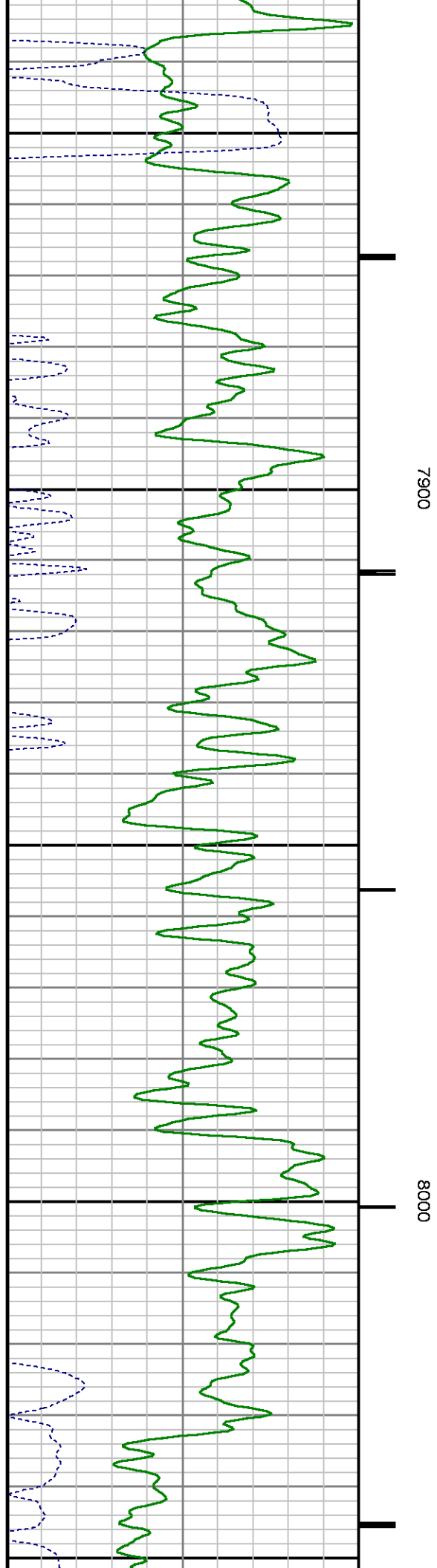
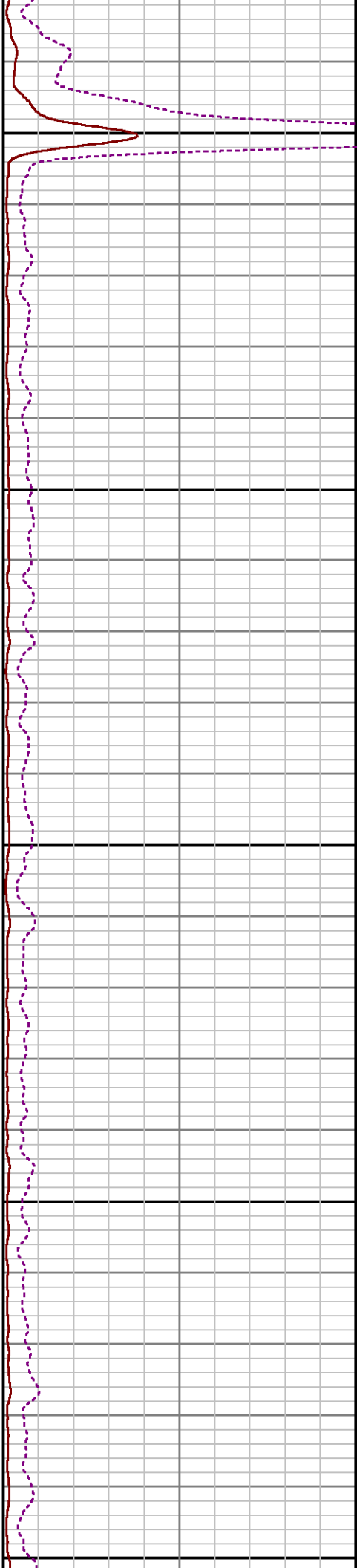
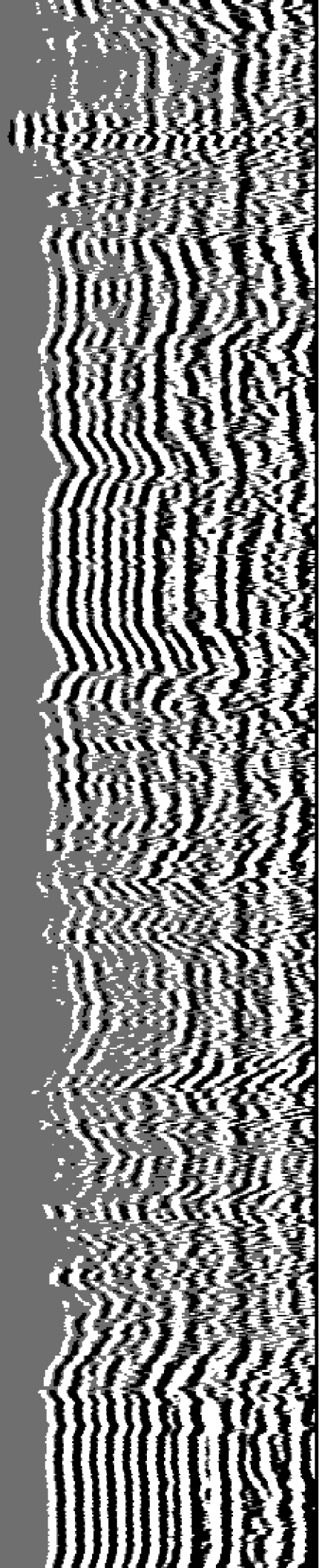


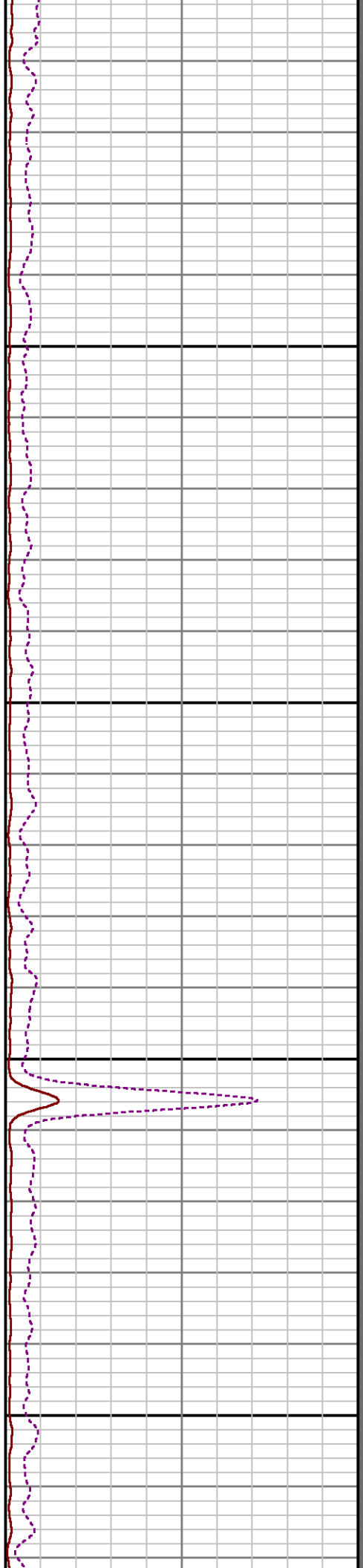
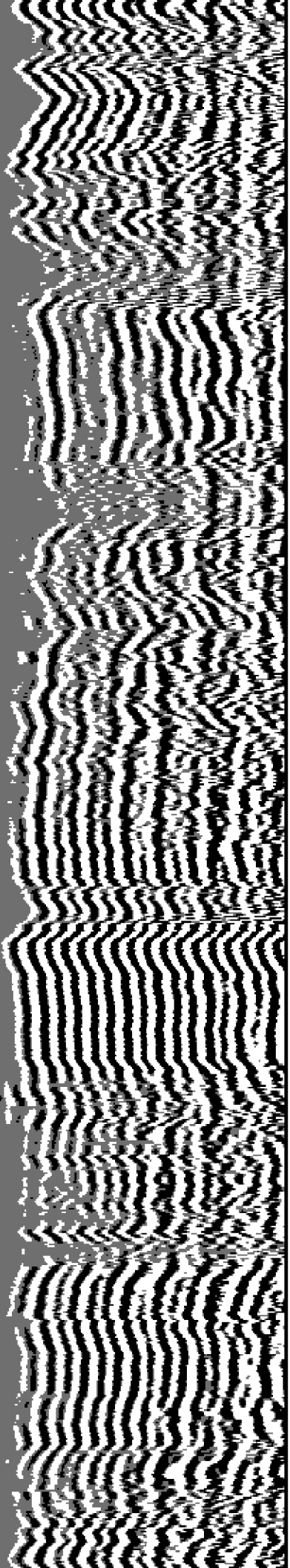






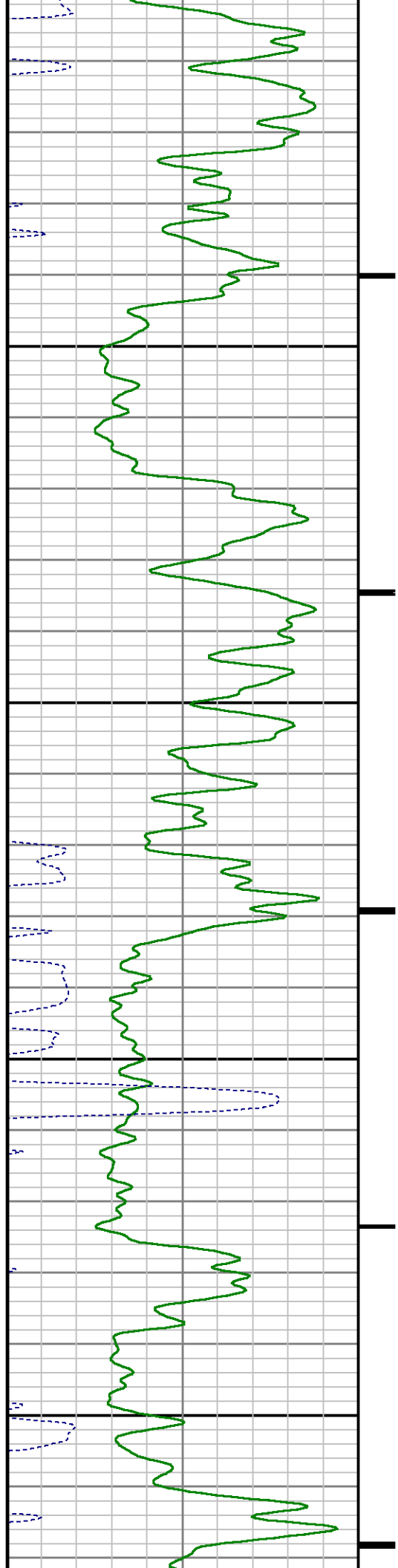


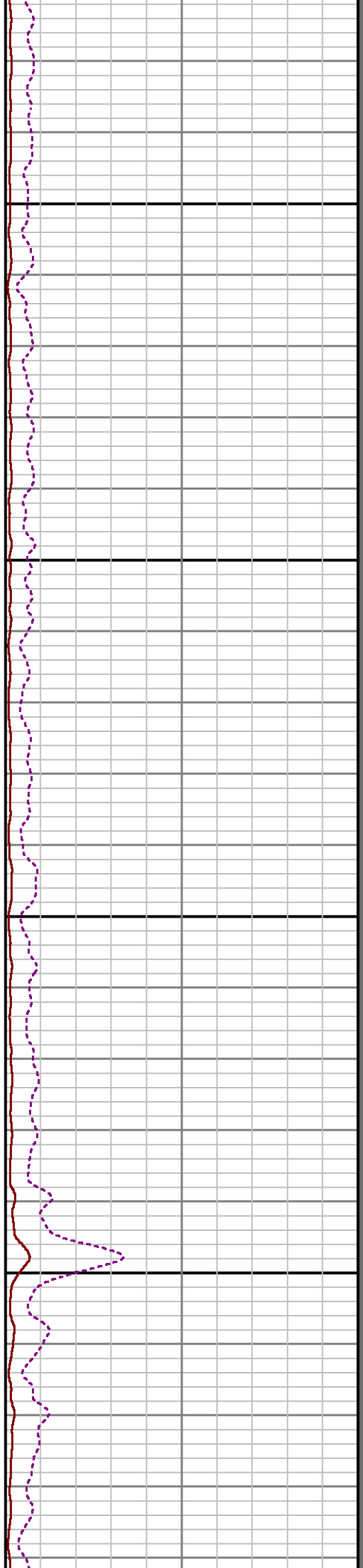
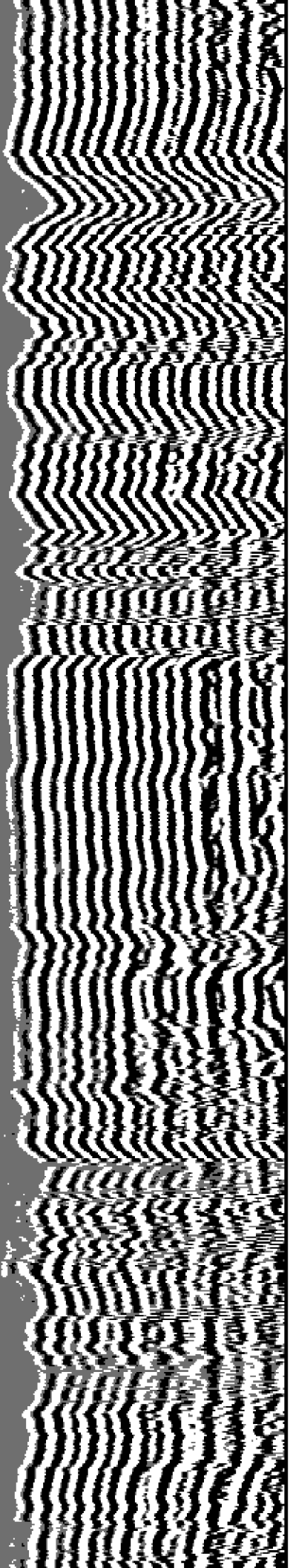




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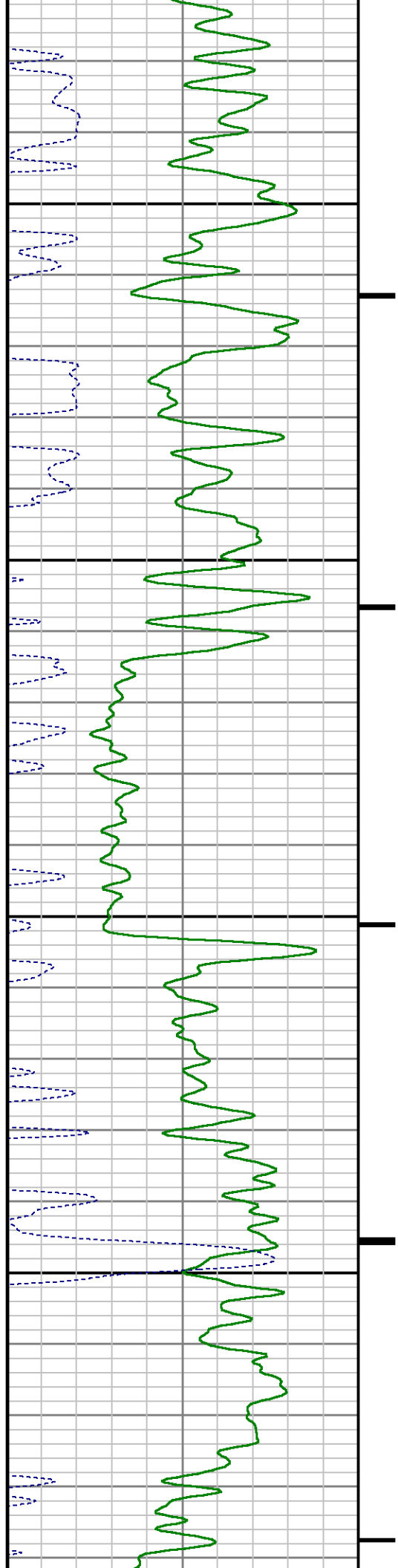
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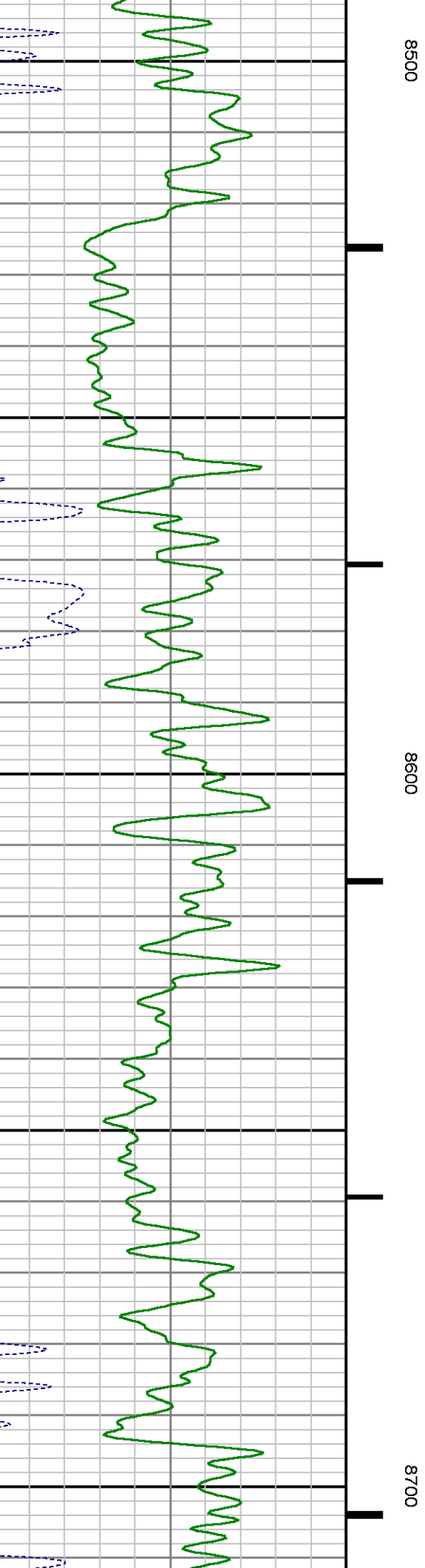
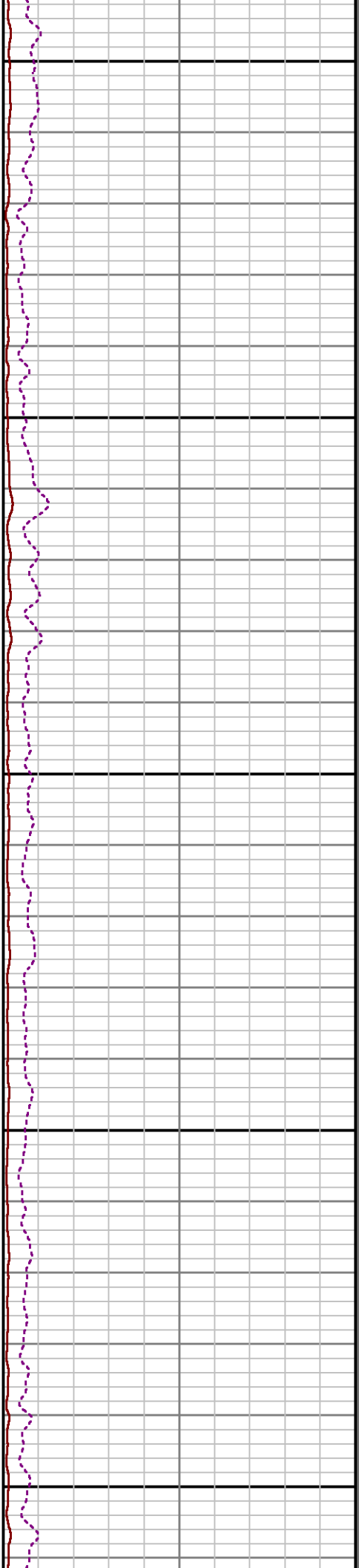
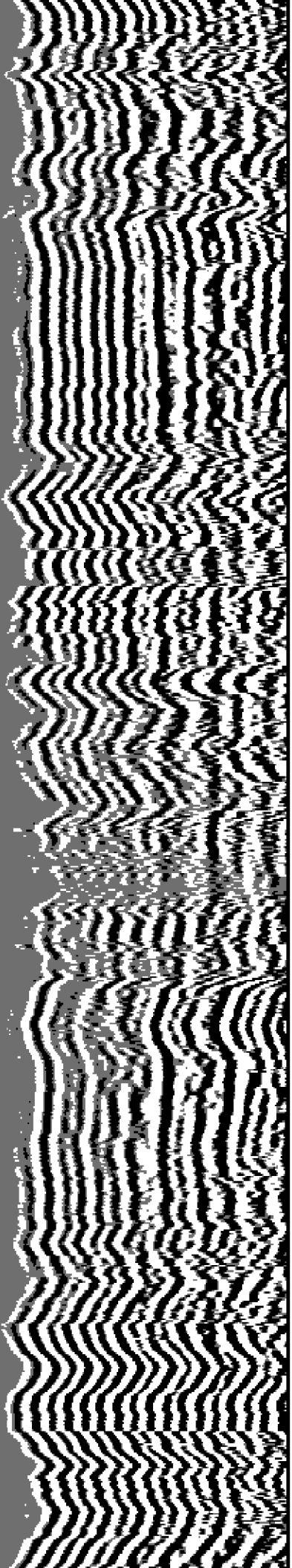


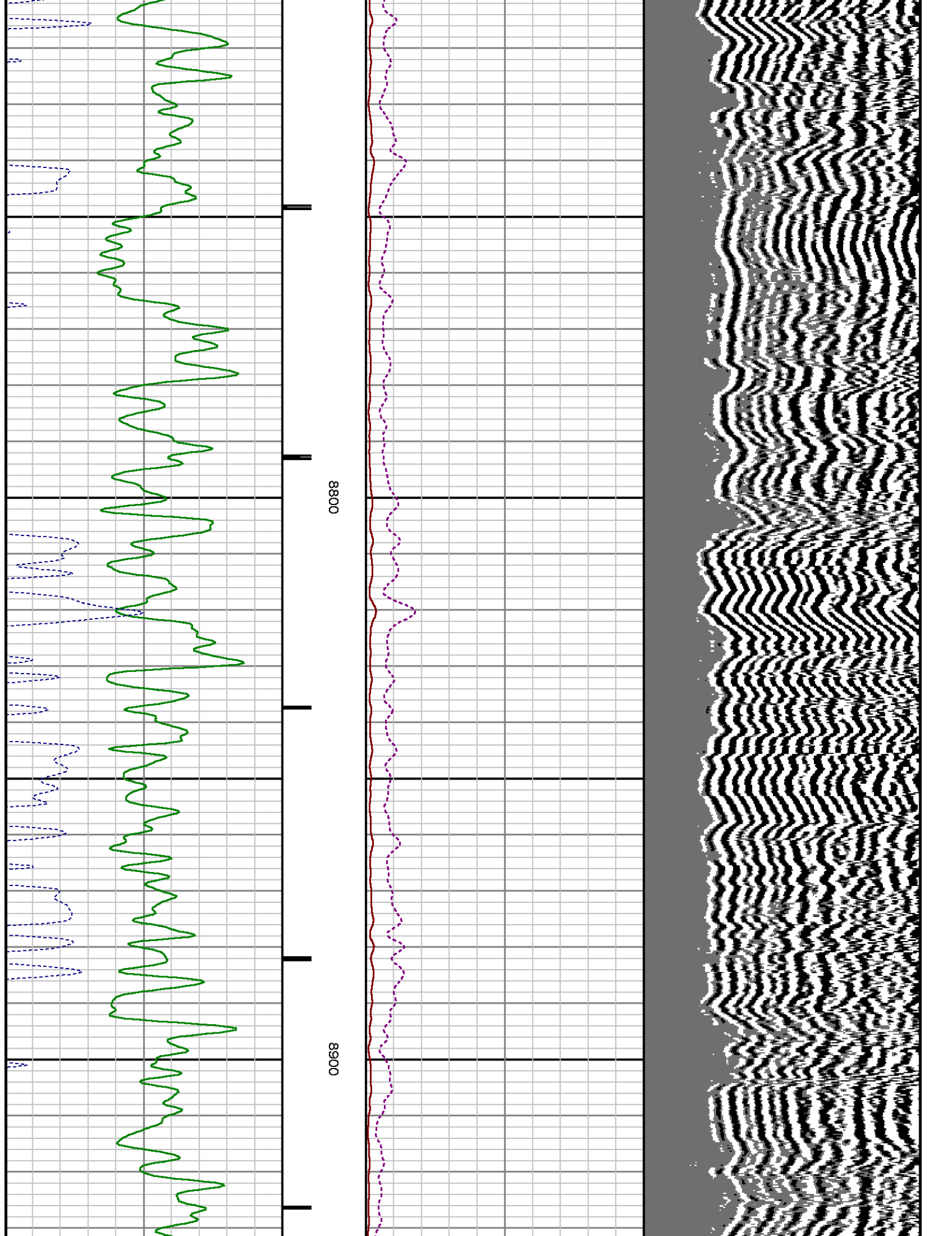


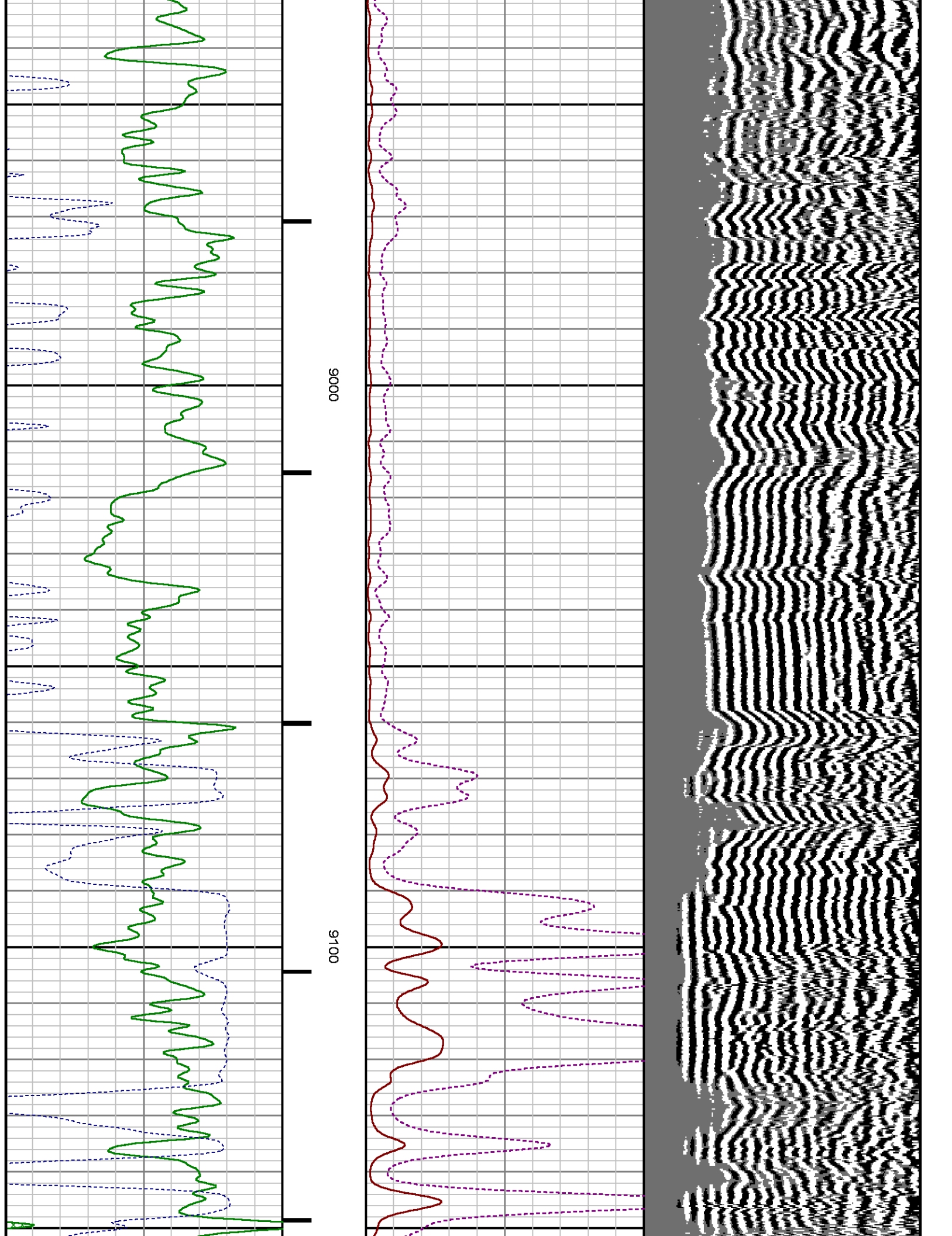
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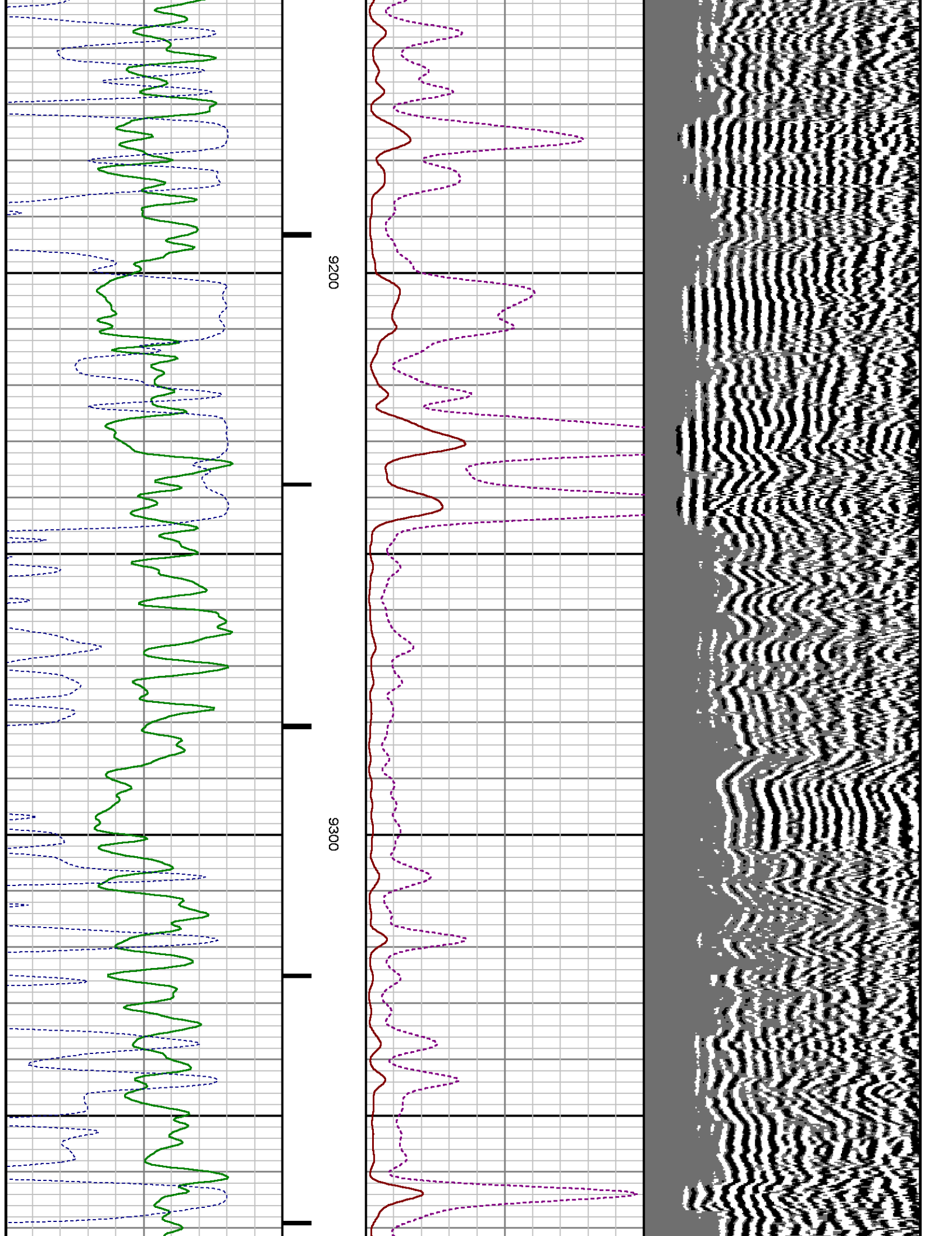
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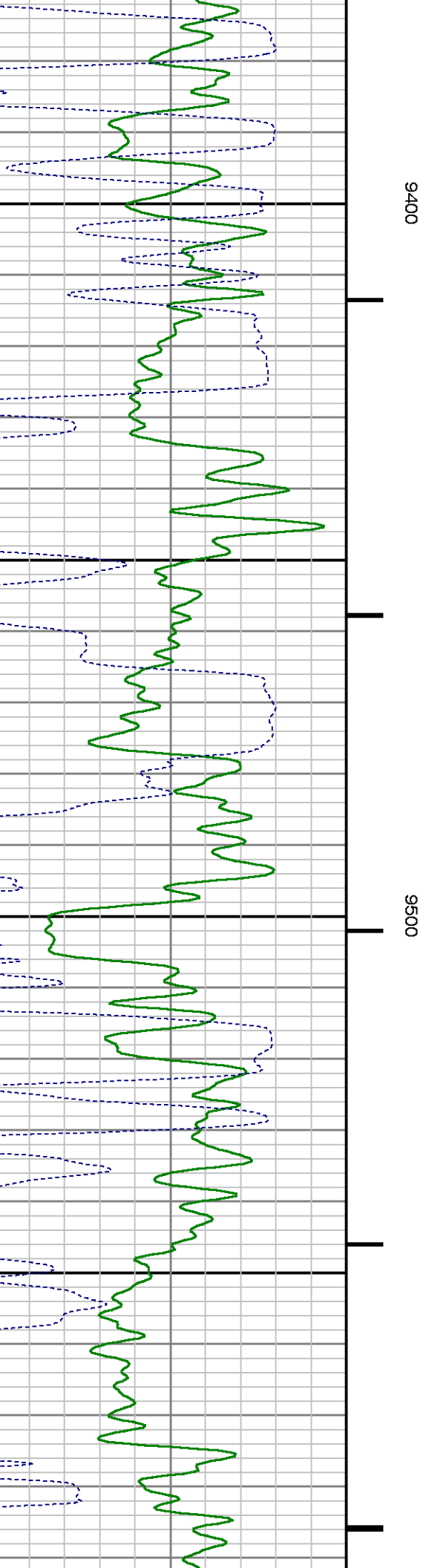
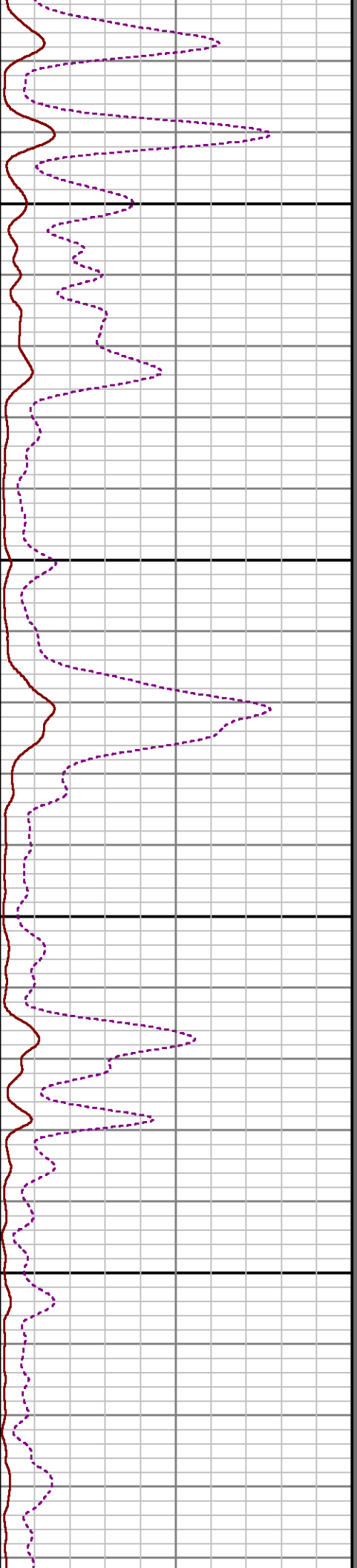
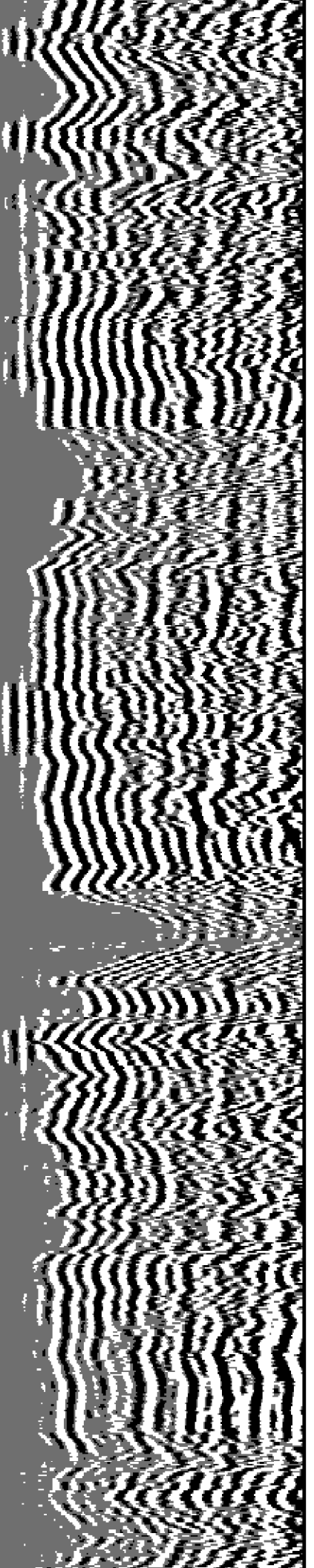


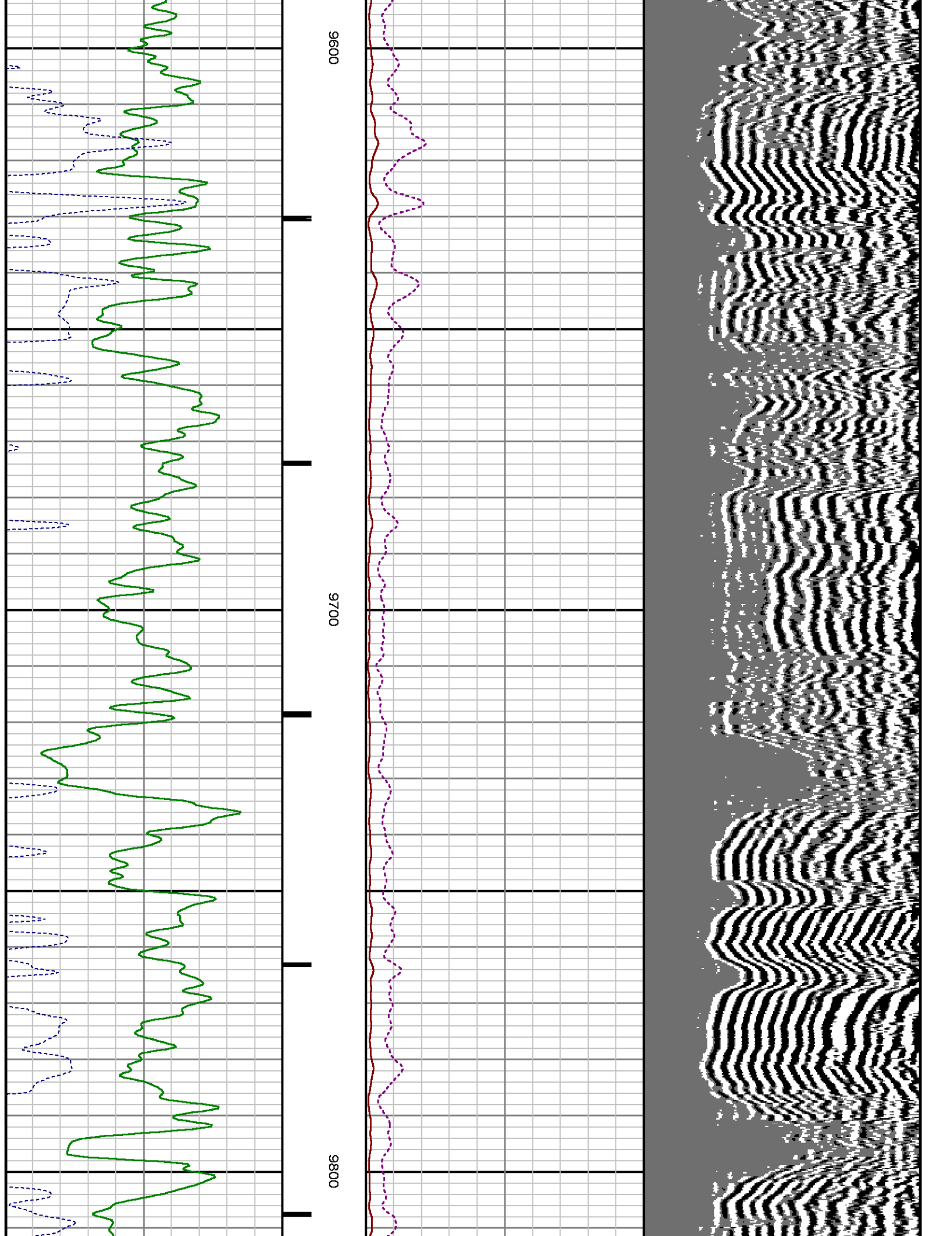


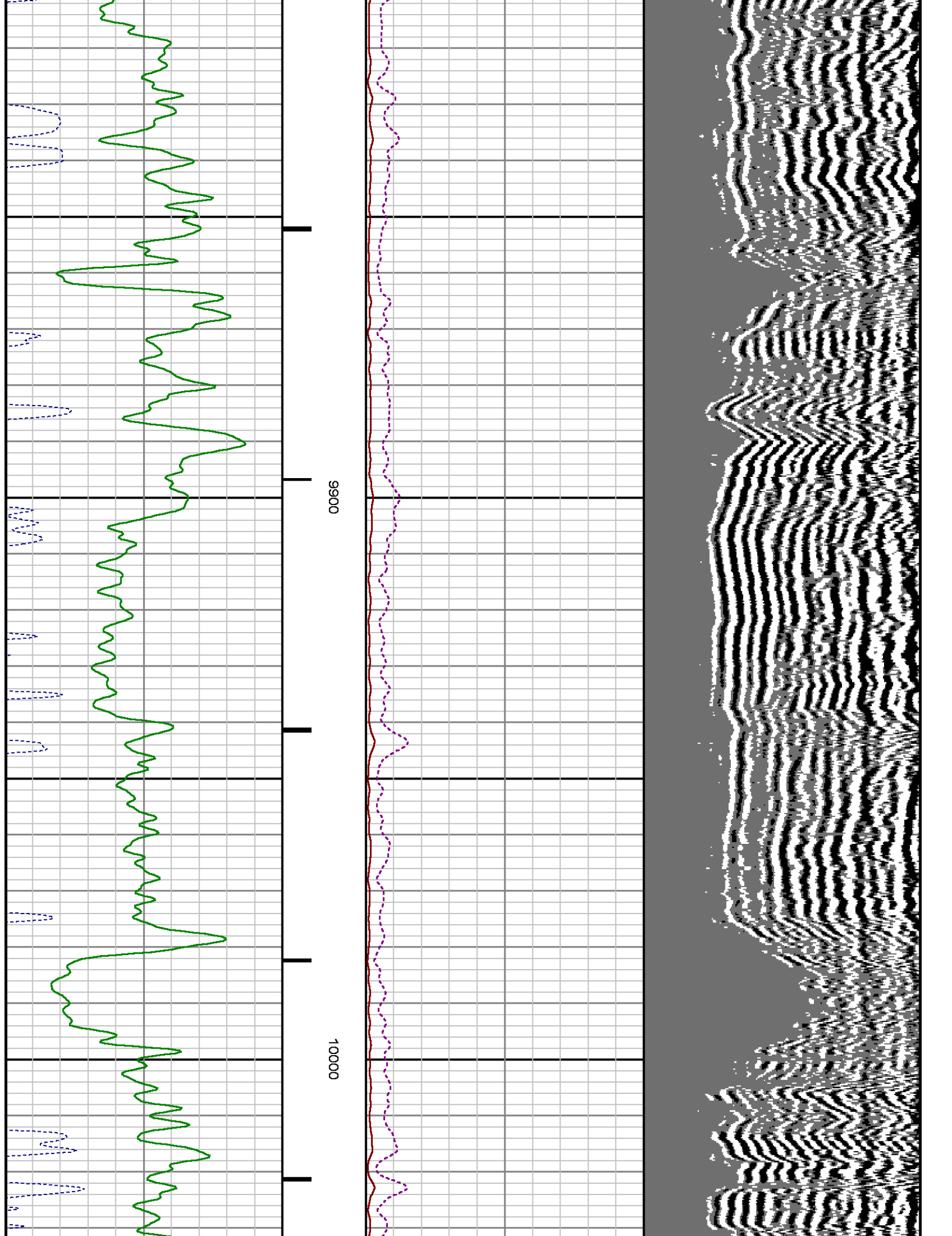


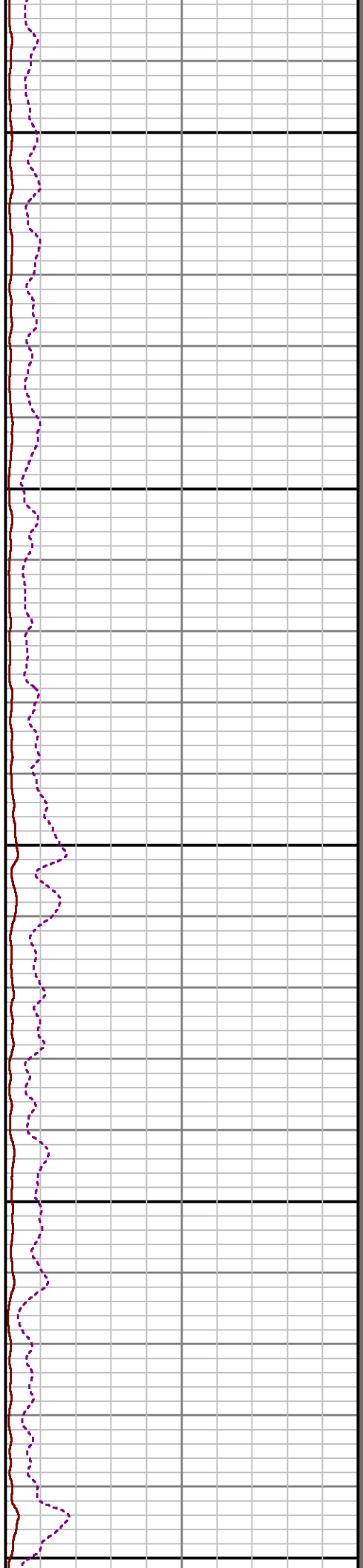
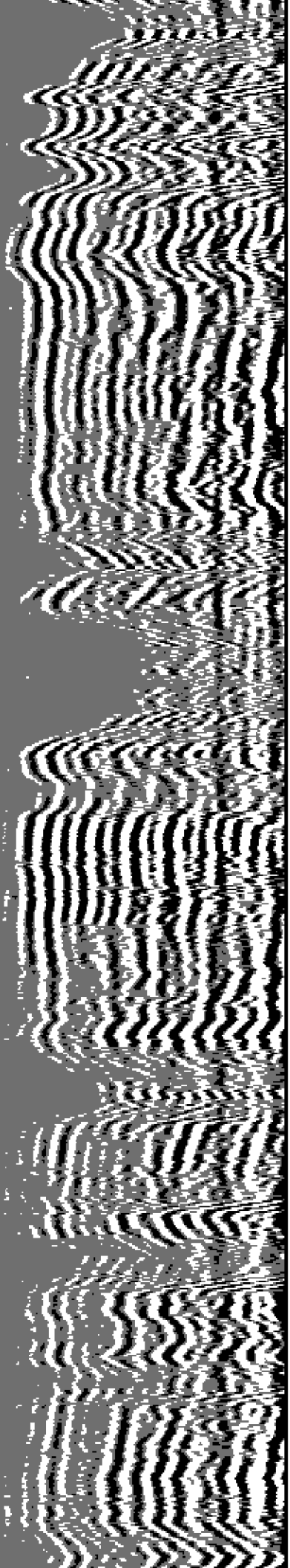






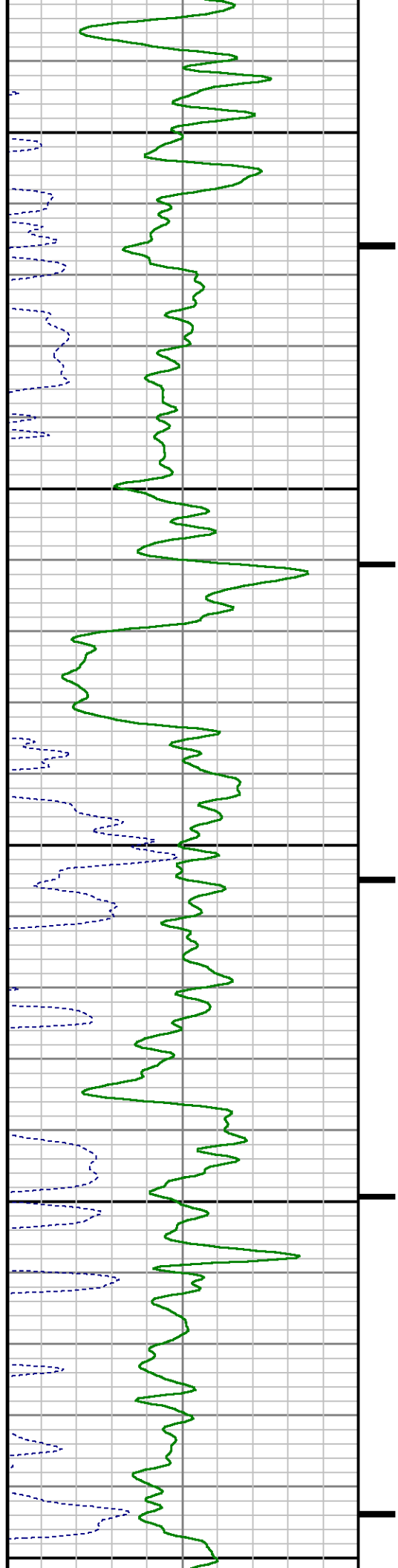


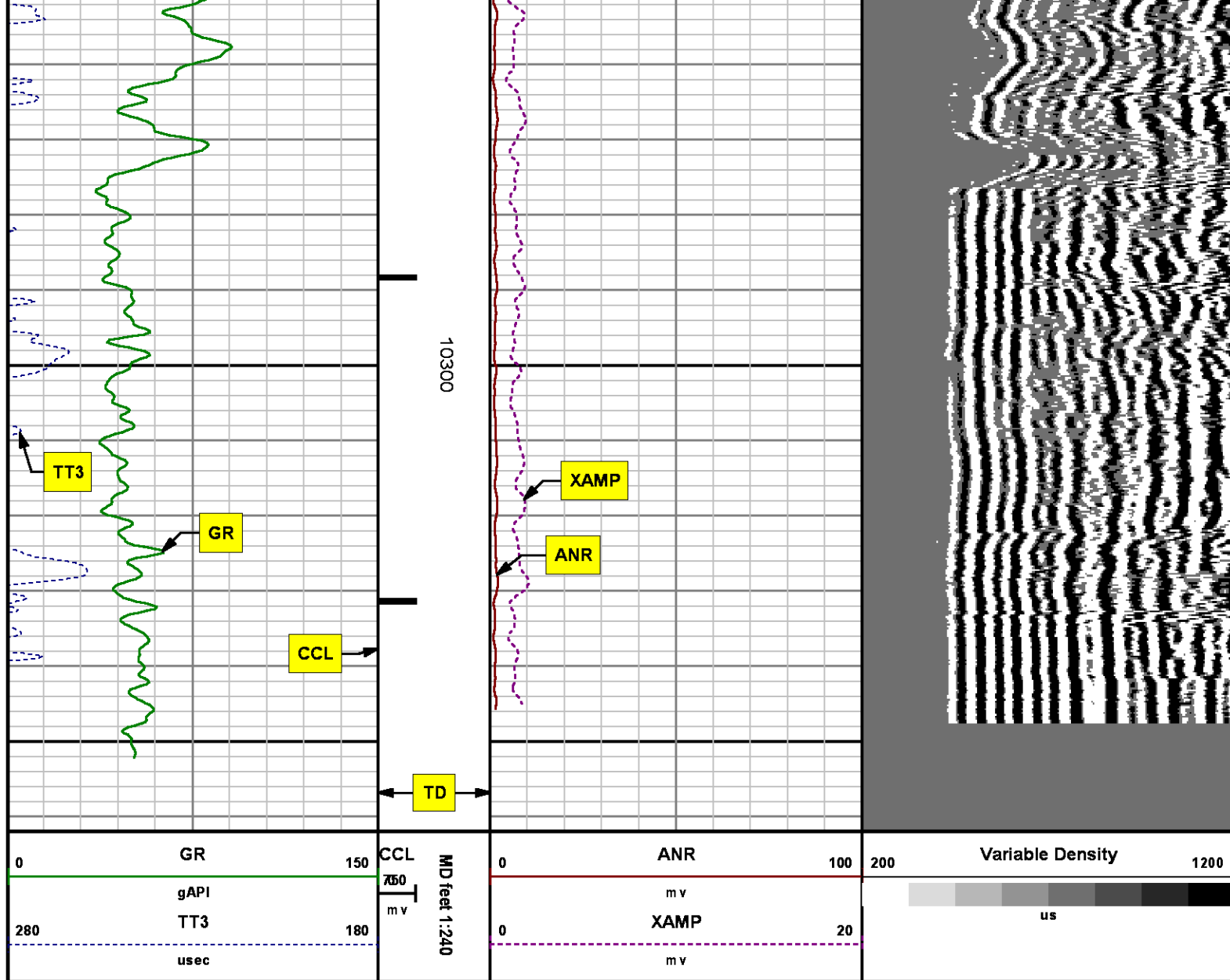




10100

10200





SECONDARY PRESENTATION 0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	35.247	10362.500
RAL	Amp Gate Start Near	195.000	usec	35.247	10362.500
RAL	Amp Gate Start Radial	195.000	usec	35.247	10362.500

RAL	Amp Gate Width Far	25.000	usec	35.247	10362.500
RAL	Amp Gate Width Near	25.000	usec	35.247	10362.500
RAL	Amp Gate Width Radial	25.000	usec	35.247	10362.500
RAL	casing od	4.500	inches	35.247	10362.500
RAL	casing wt	11.600	lbm/ft	35.247	10362.500
RAL	FB Start Far	291.900	usec	35.247	10362.500
RAL	FB Start Near	175.391	usec	35.247	10362.500
RAL	FB Start Radial	175.391	usec	35.247	10362.500
RAL	FB Thresh Far	10.000	mv	35.247	10362.500
RAL	FB Thresh Near	4.000	mv	35.247	10362.500
RAL	FB Thresh Radial	4.000	mv	35.247	10362.500
RAL	Fluid Travel Time	200.000	usec/ft	35.247	10363.341

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

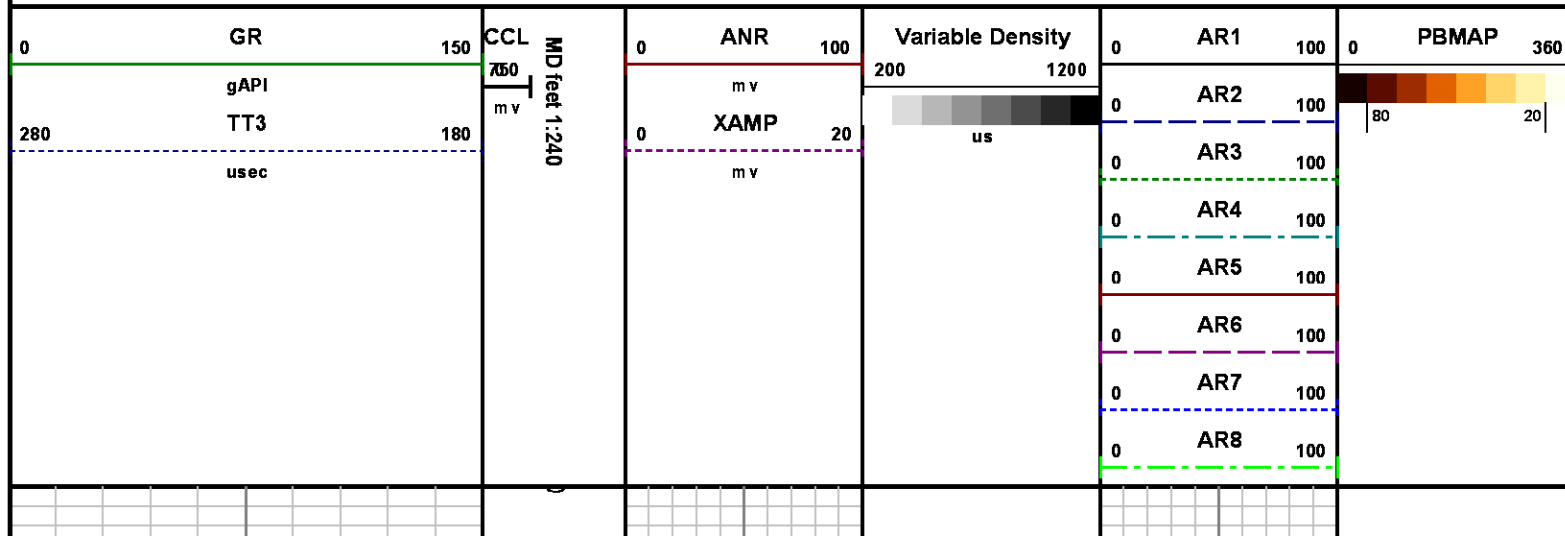
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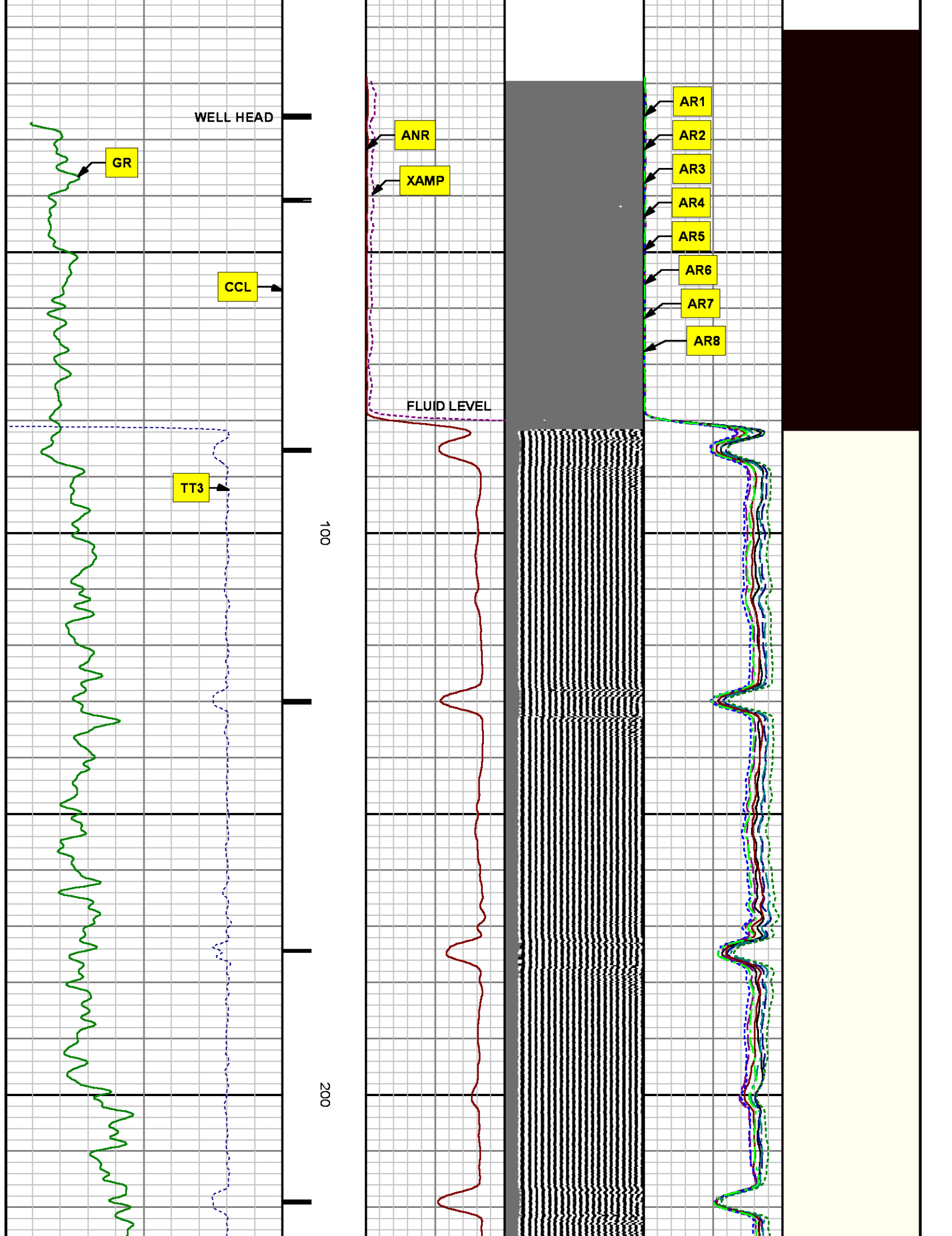
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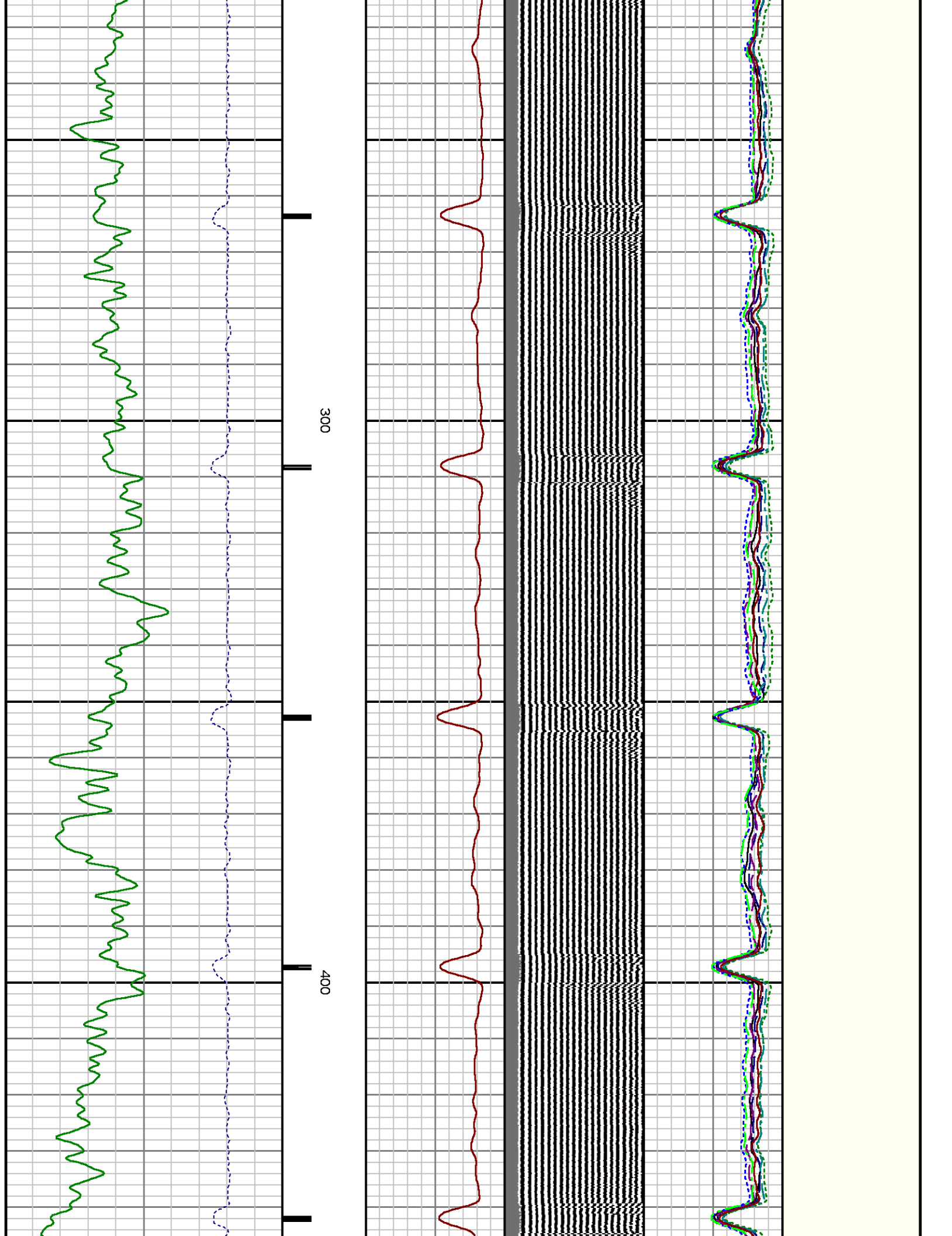
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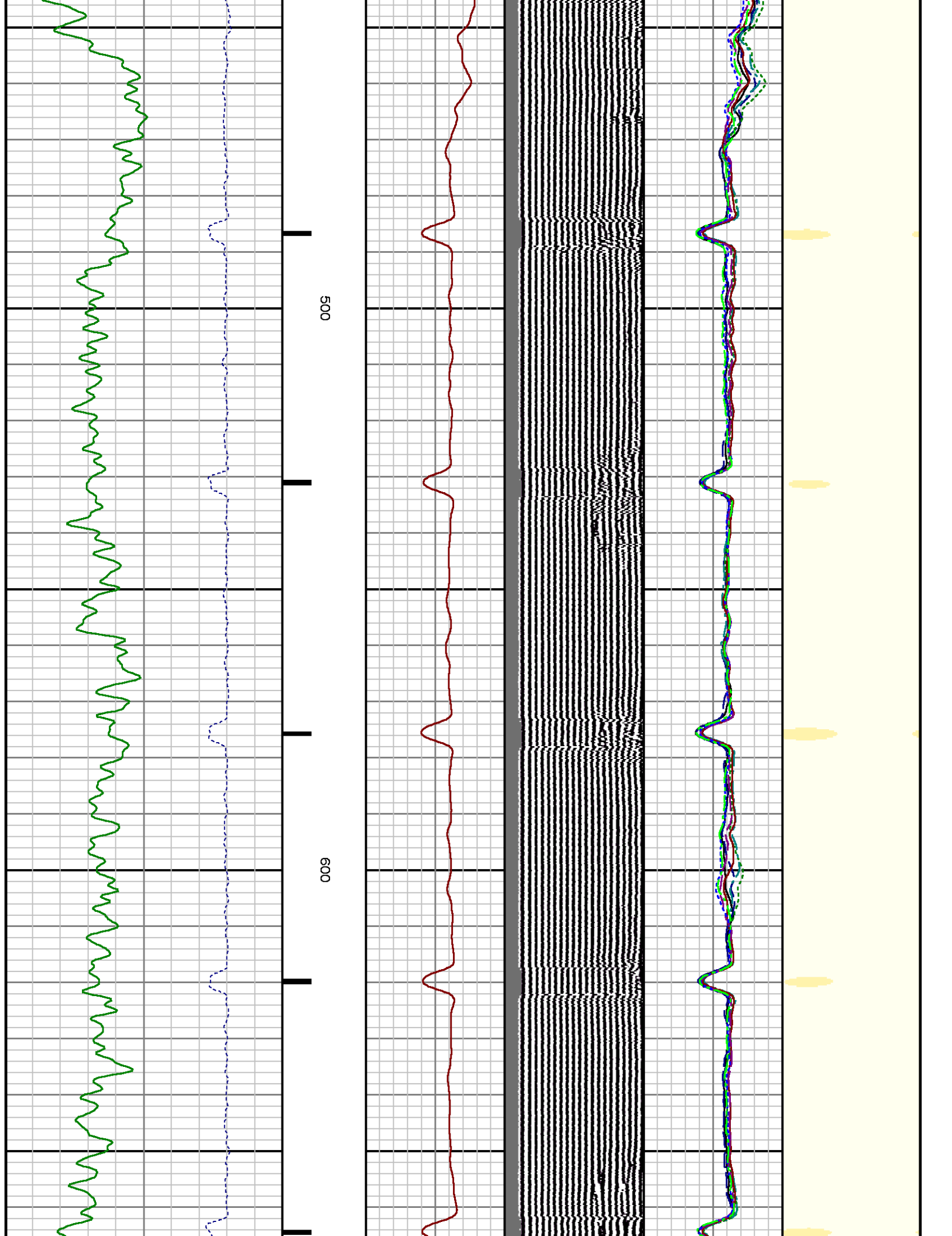
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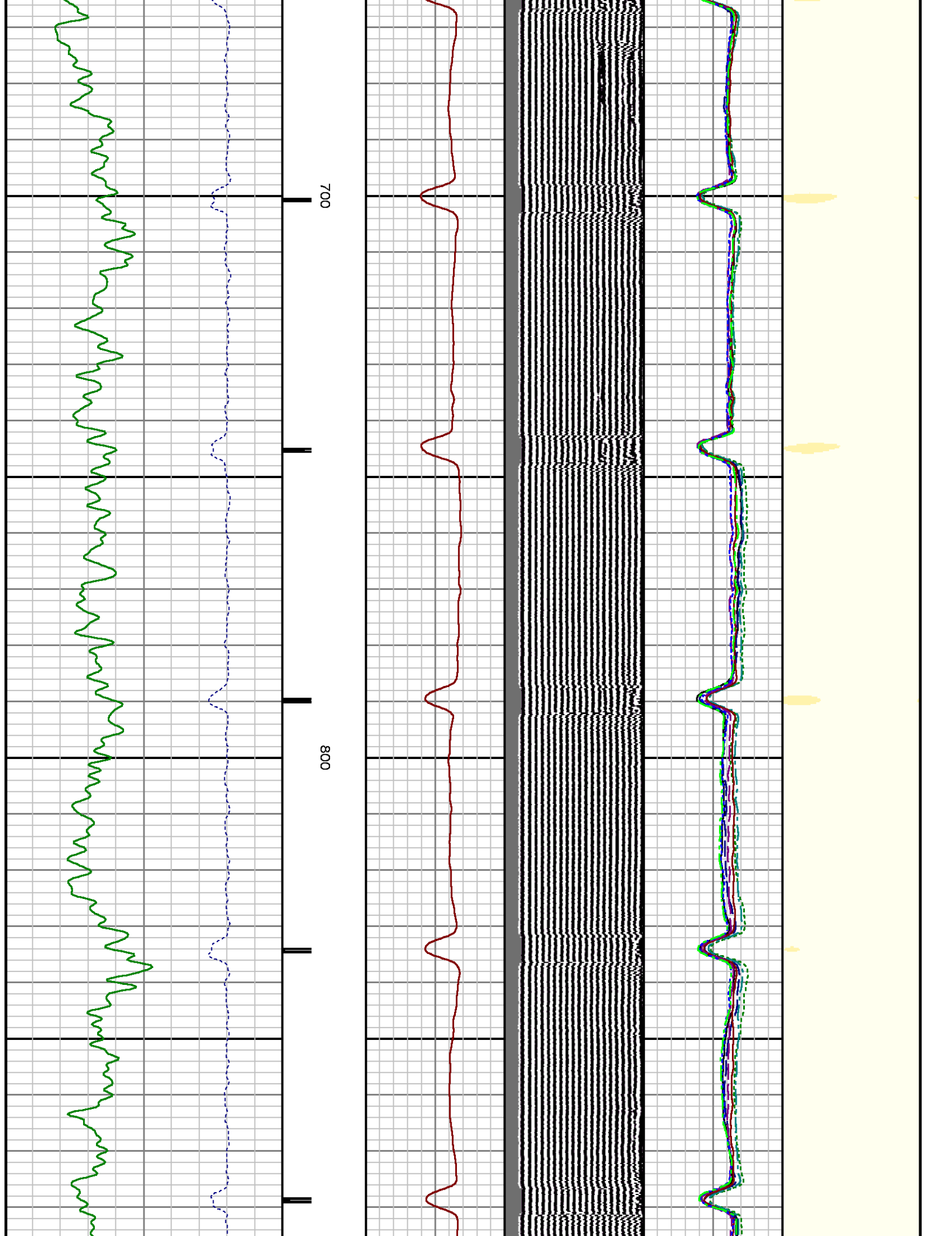
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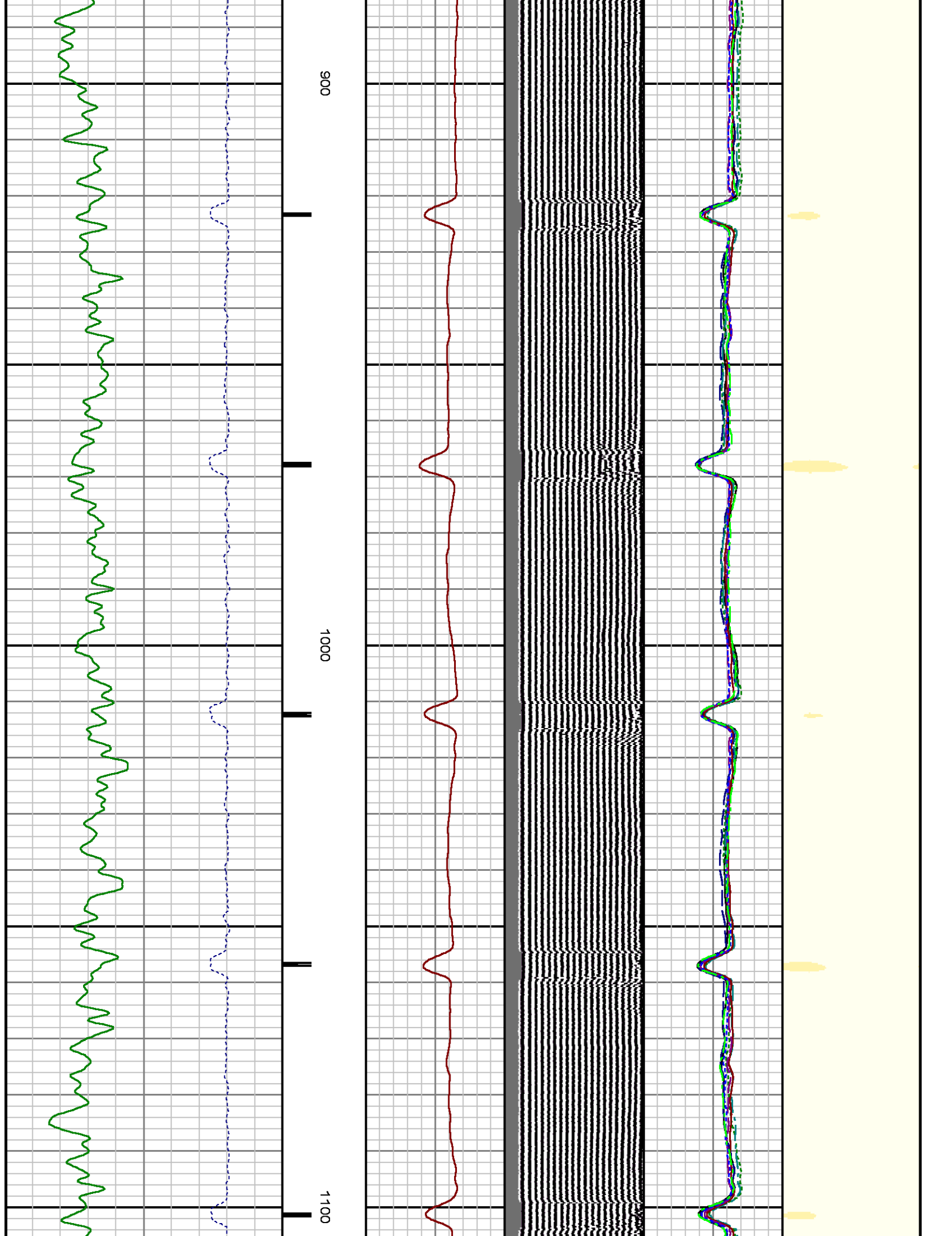


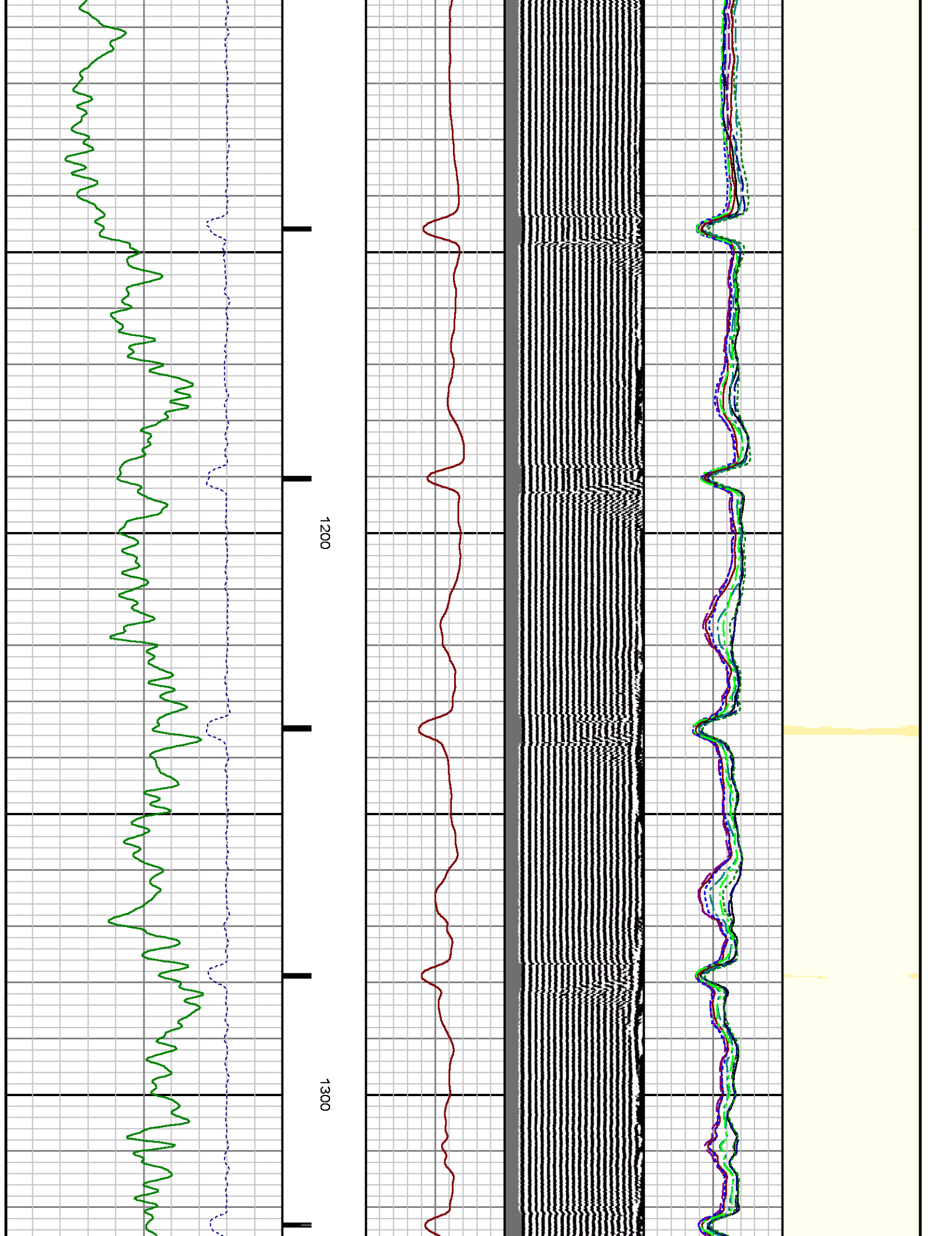


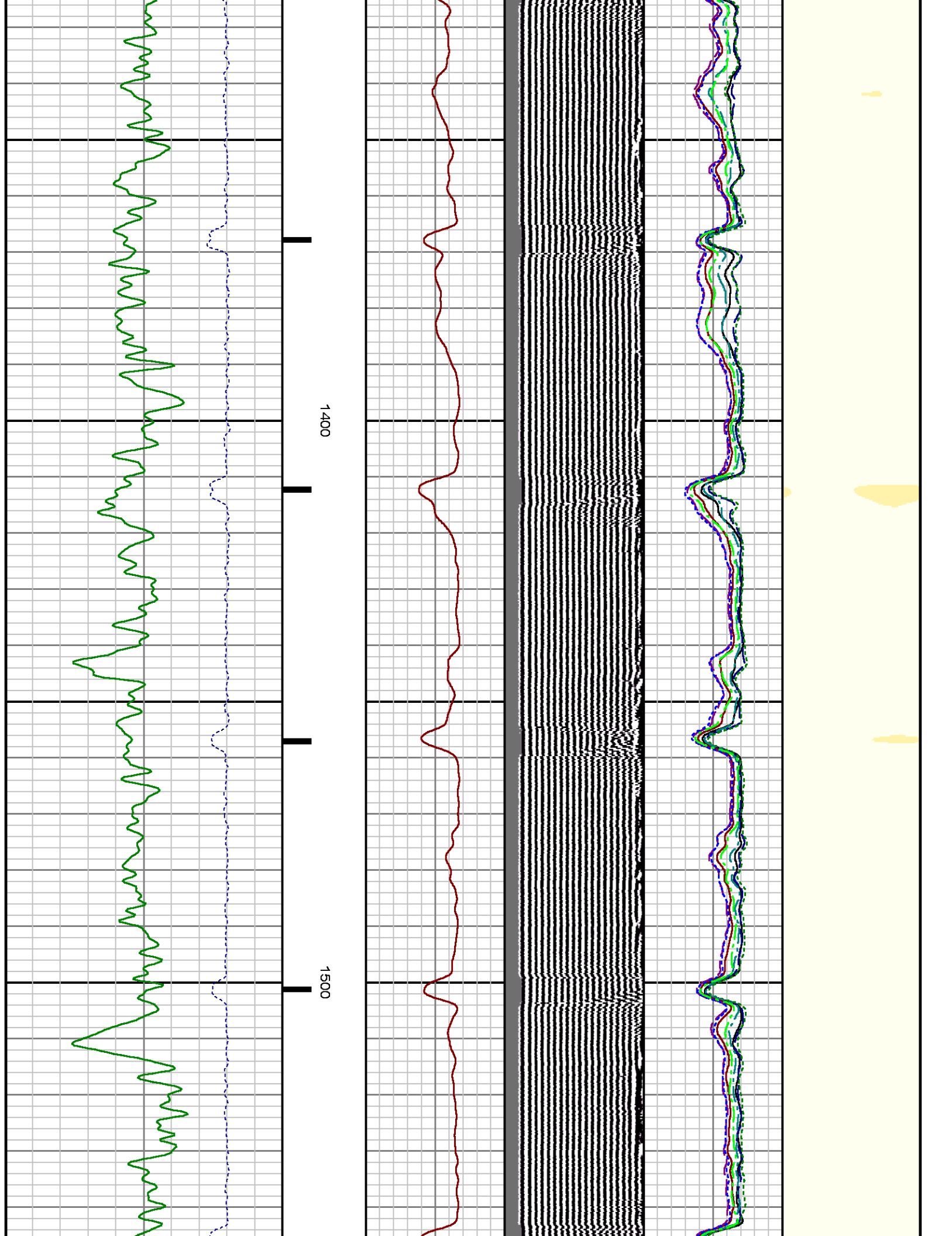


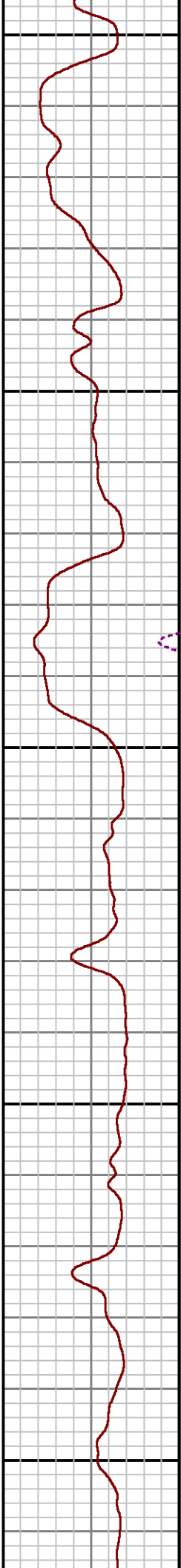
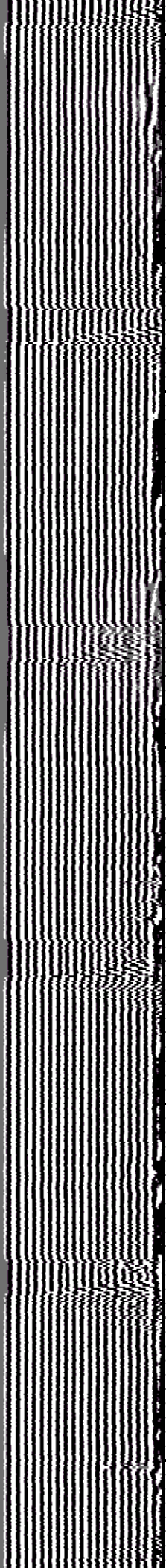
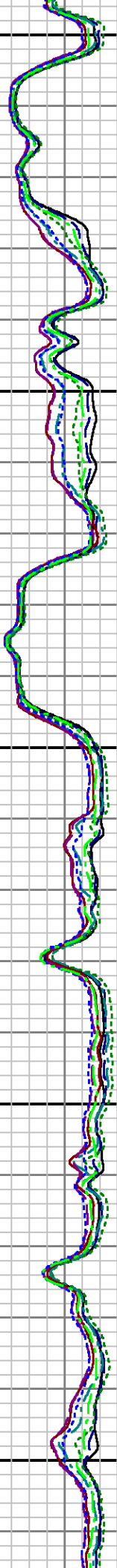
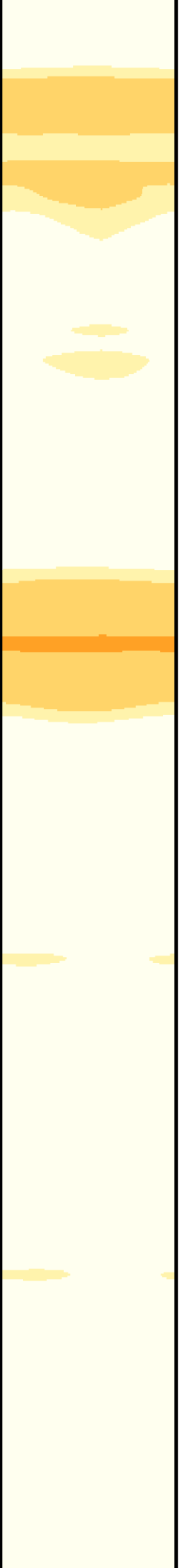






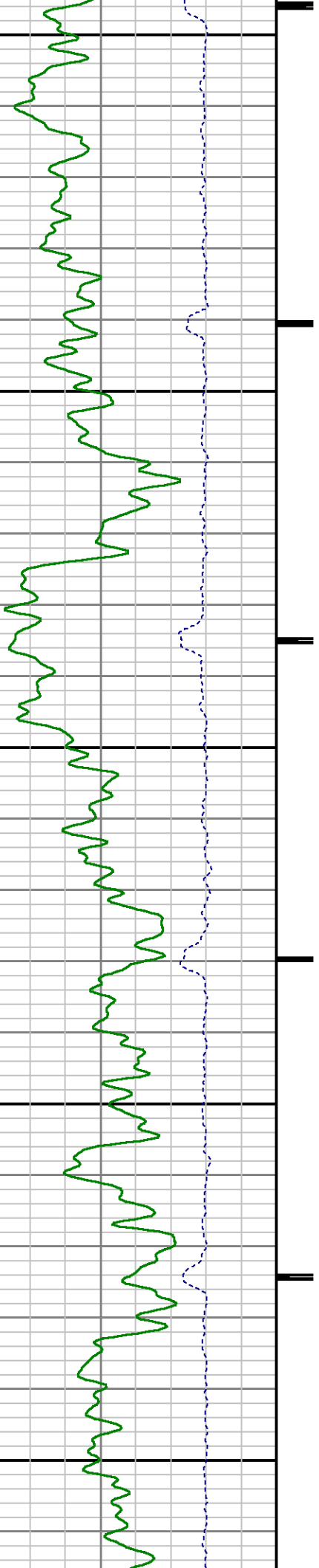


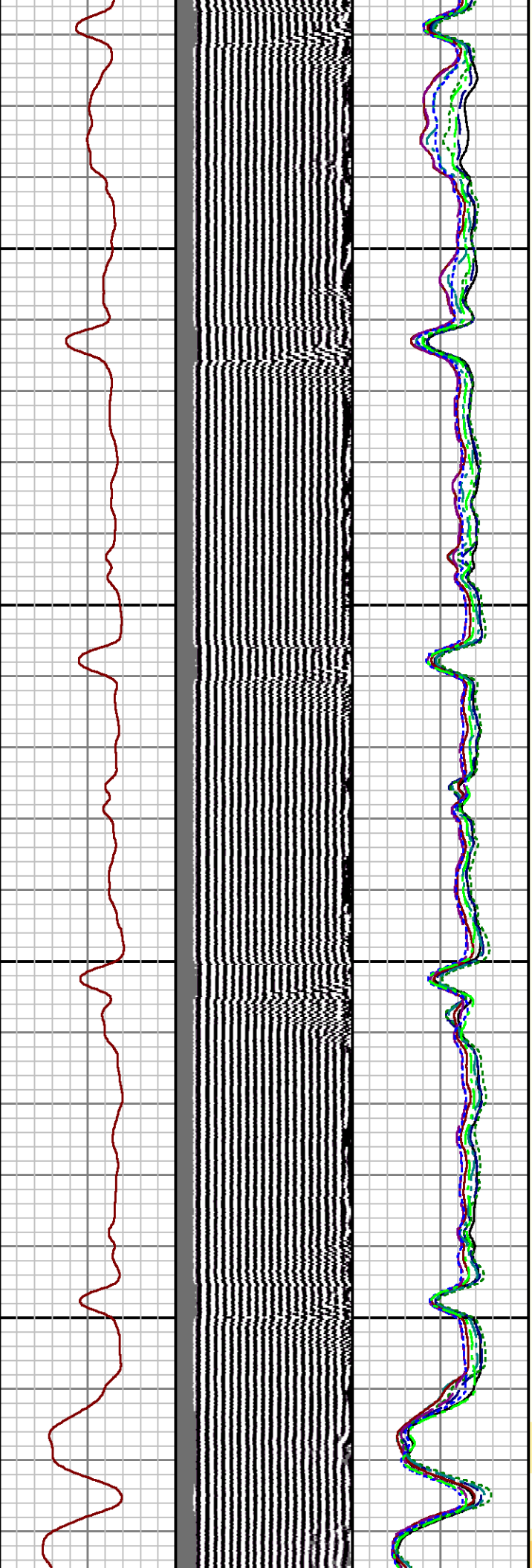




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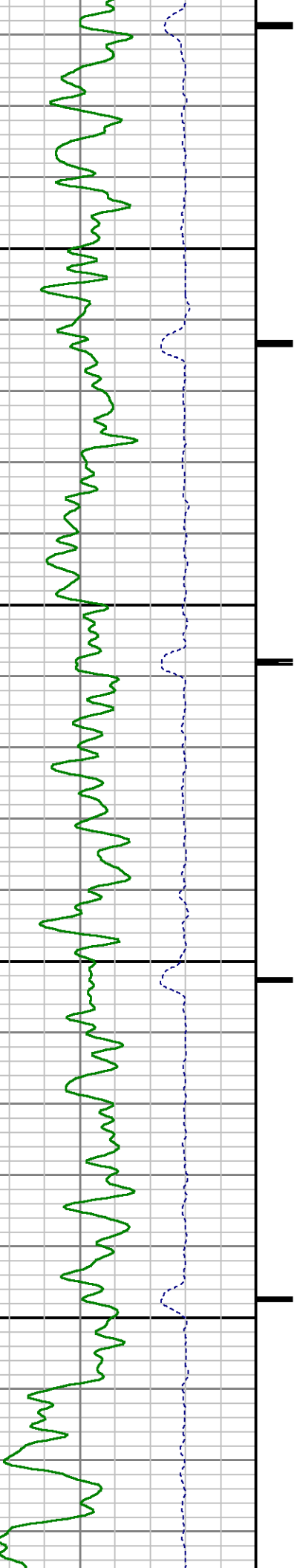
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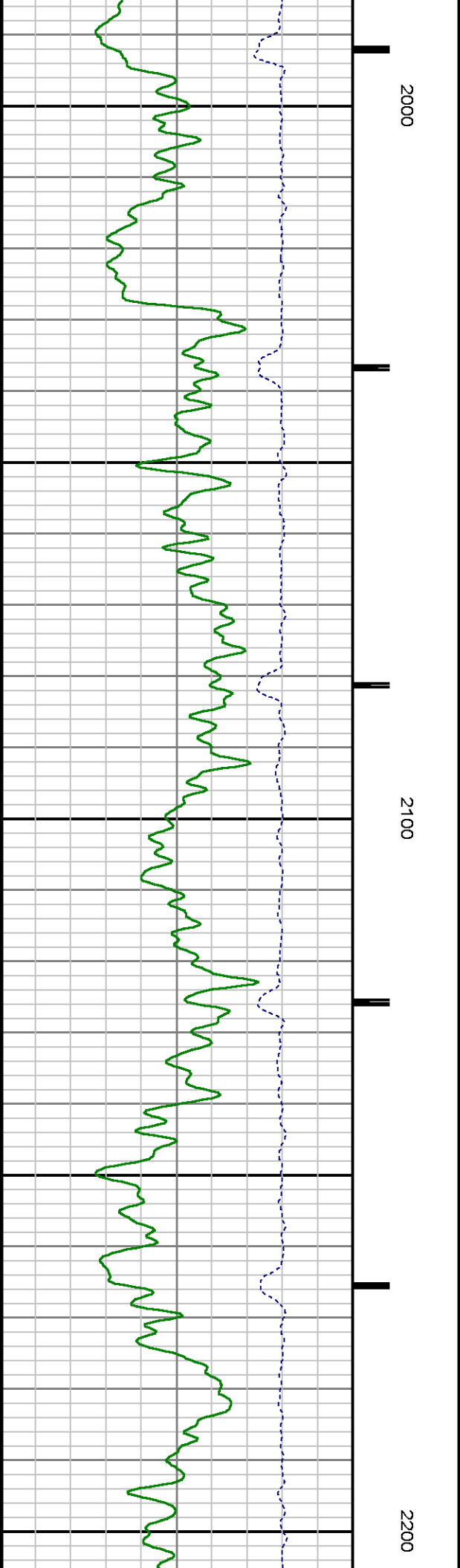
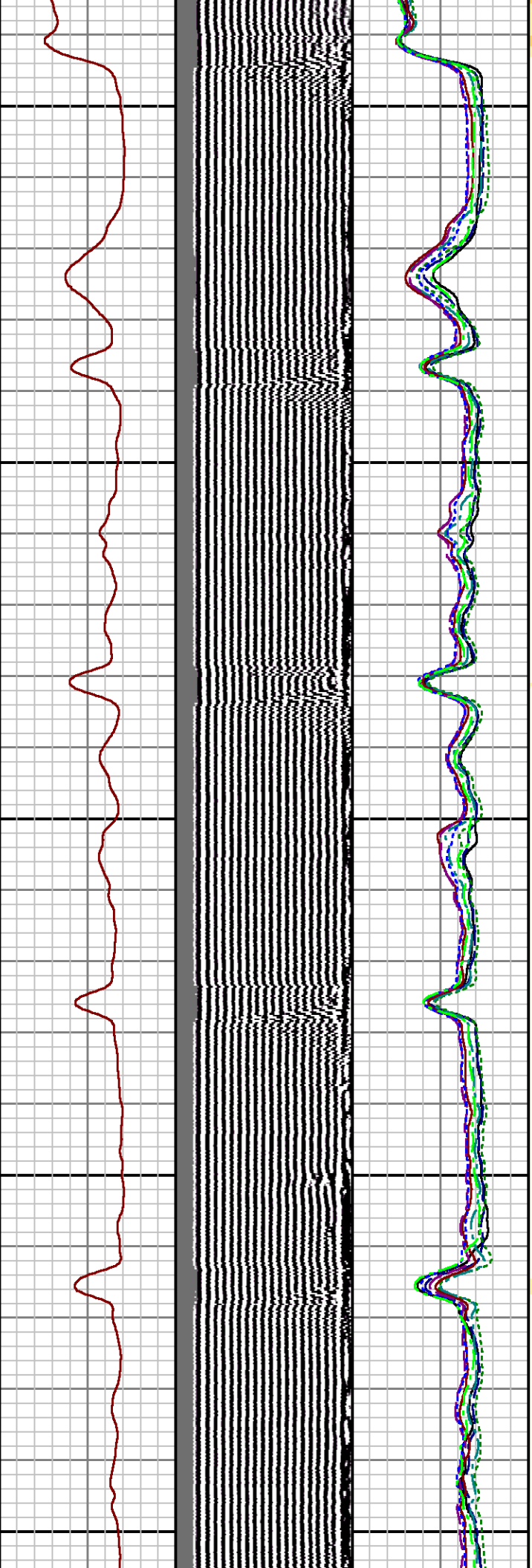


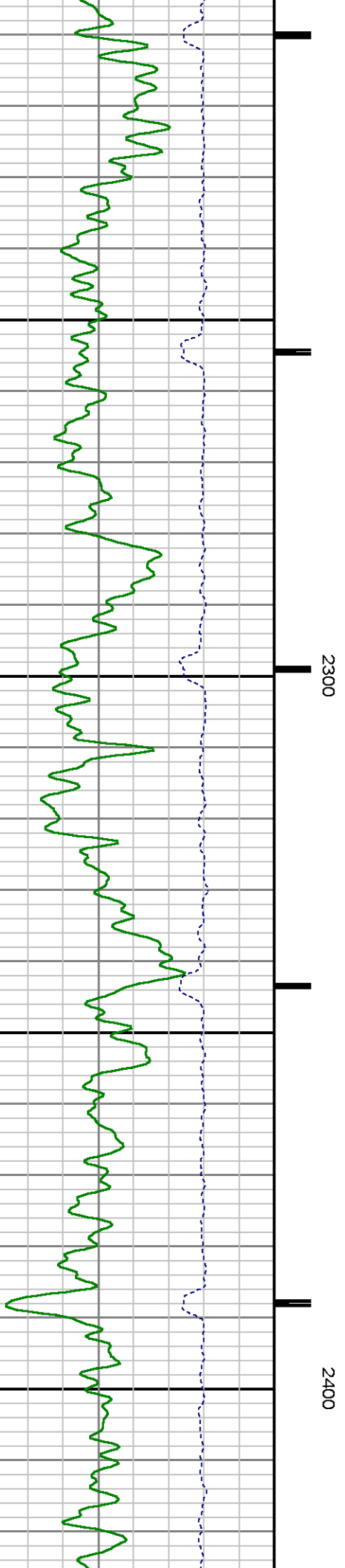
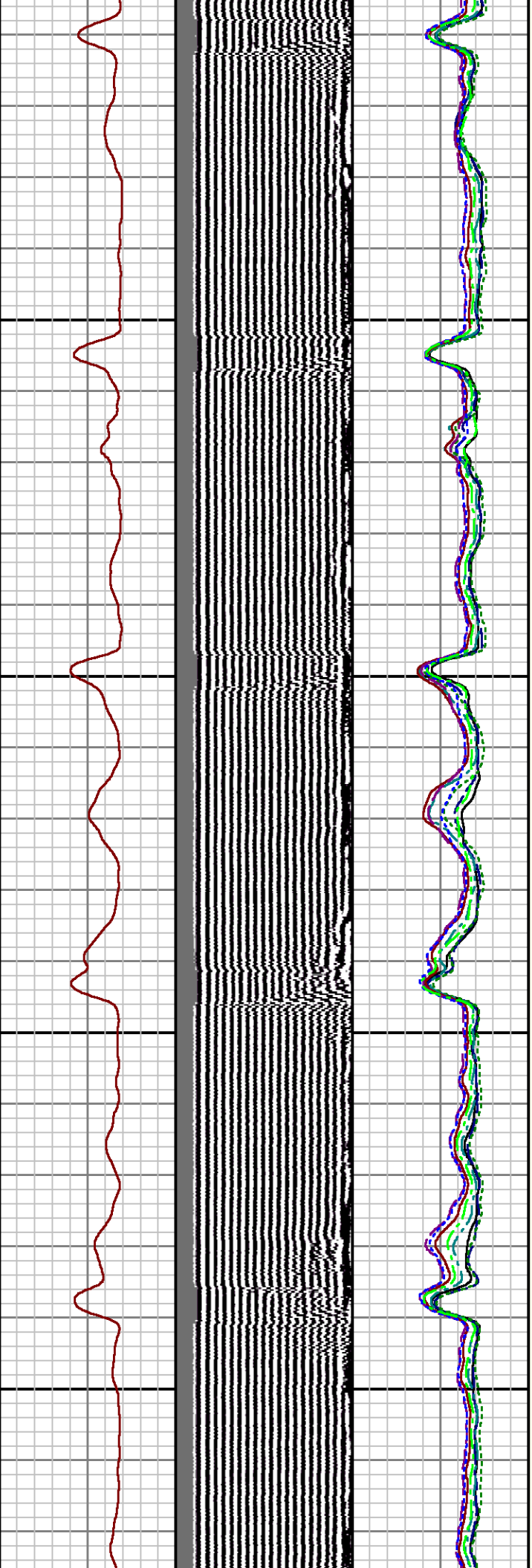


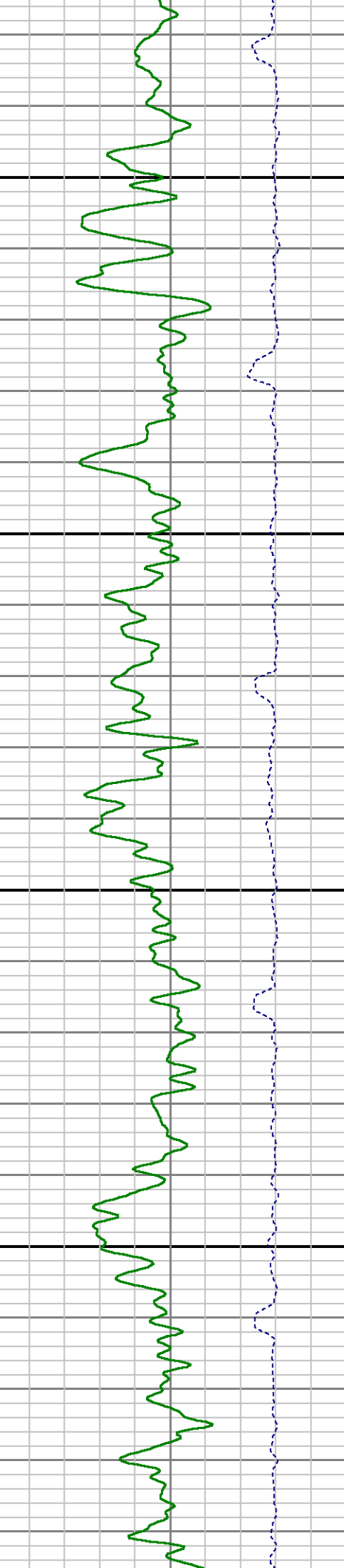
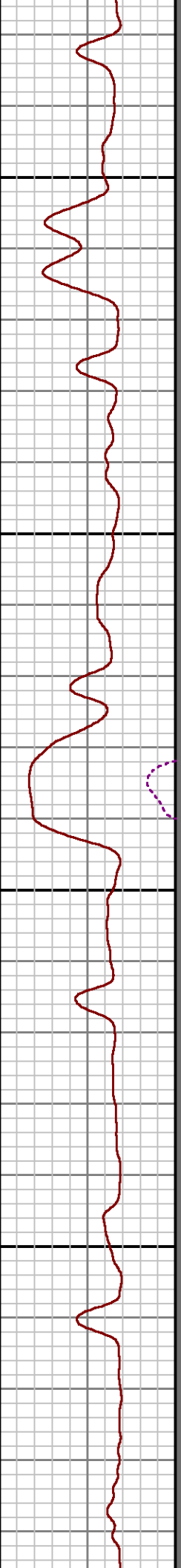
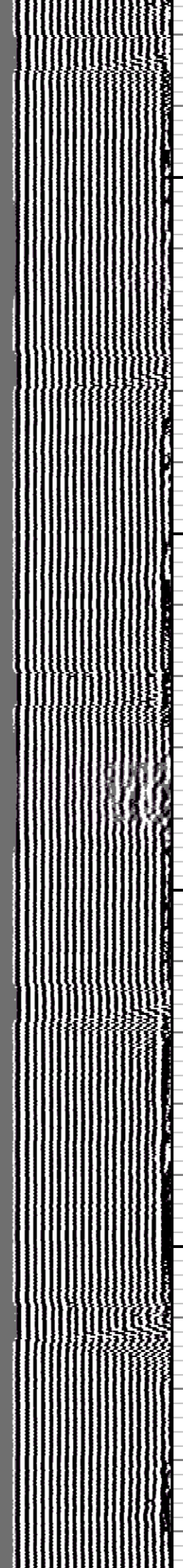
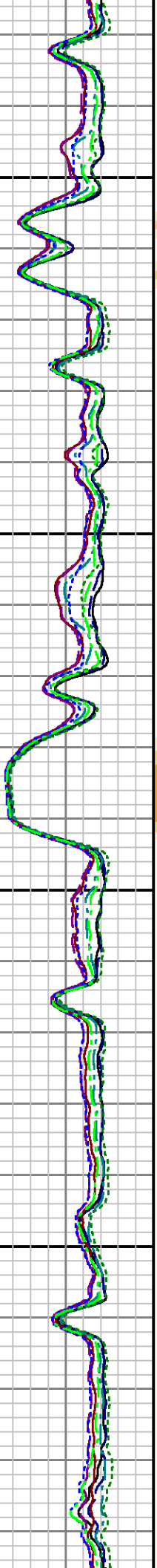
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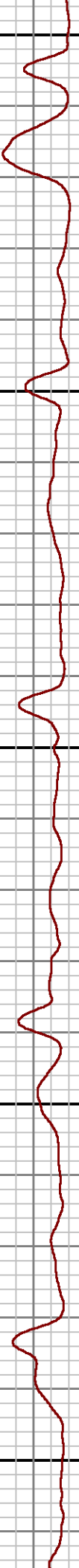
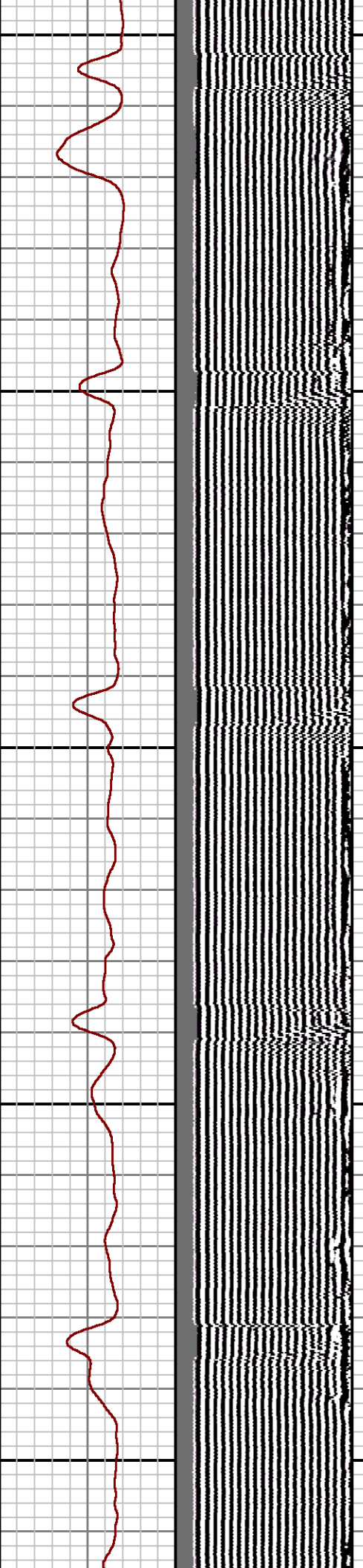
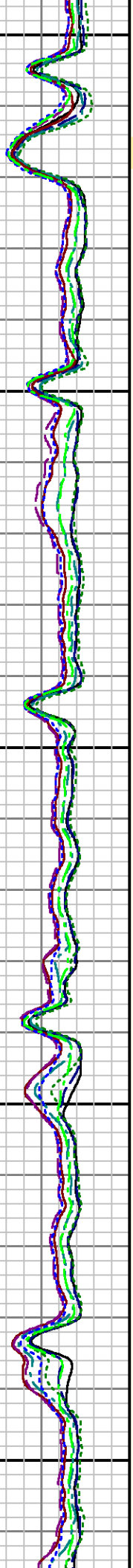
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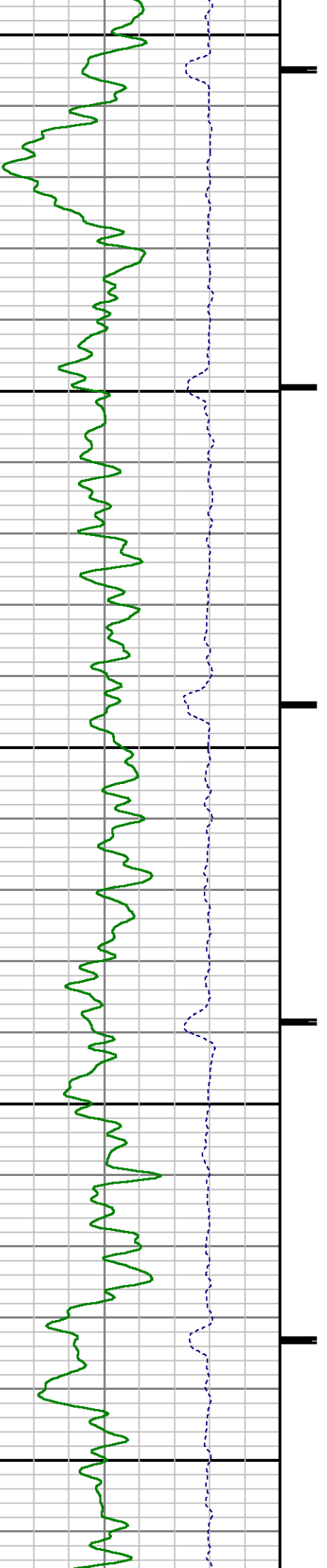


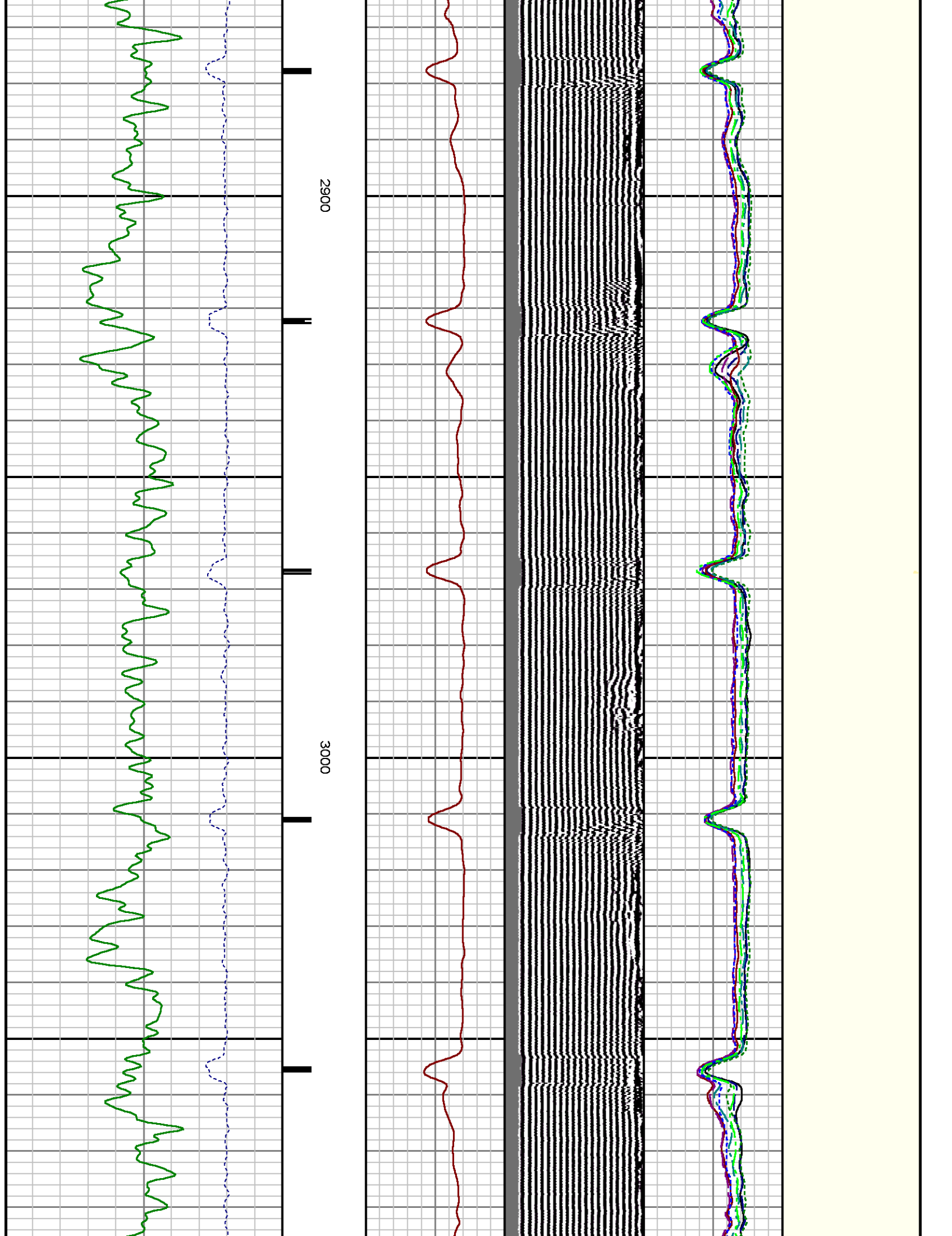


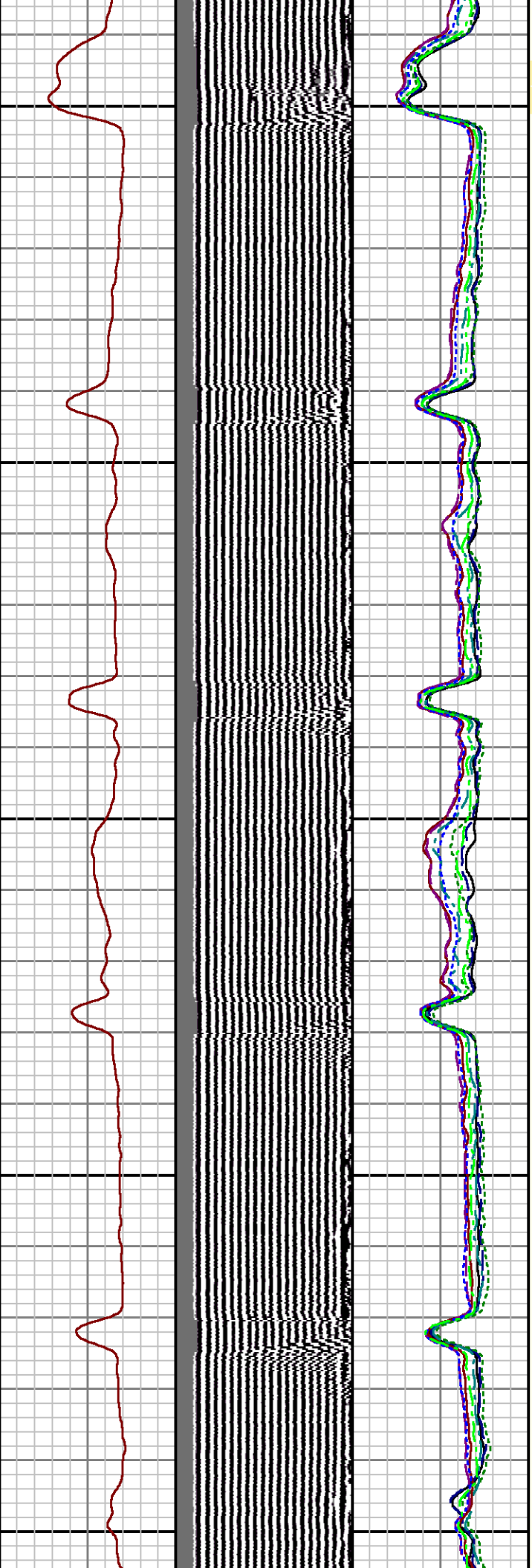


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2800



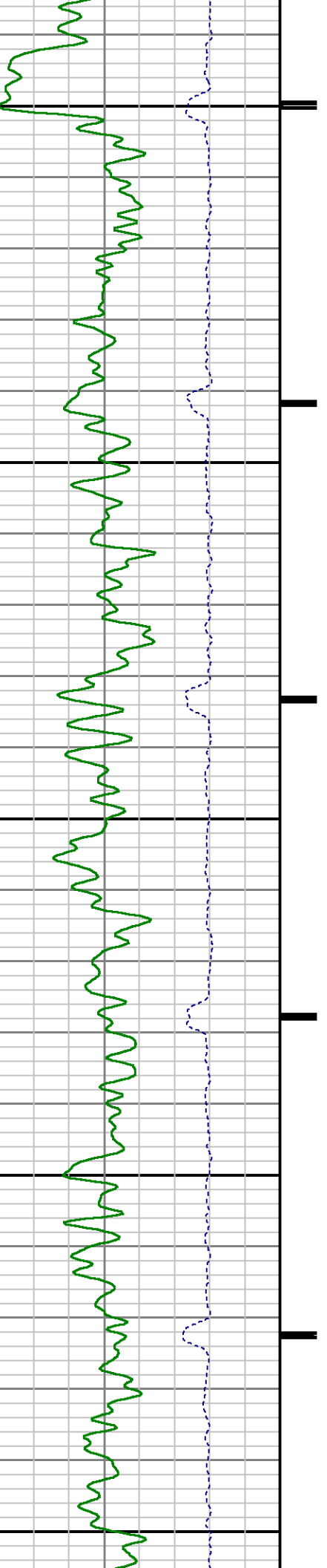


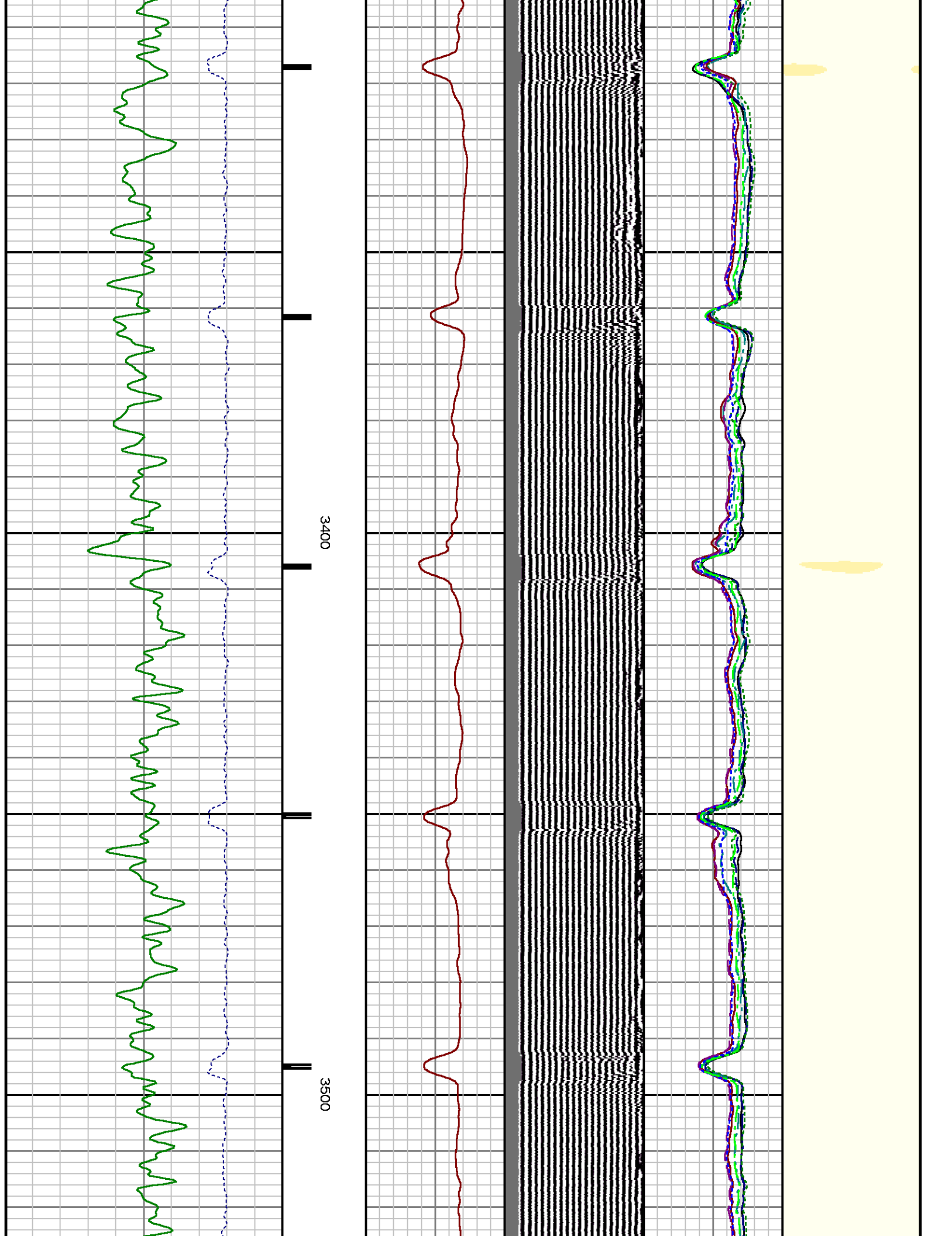


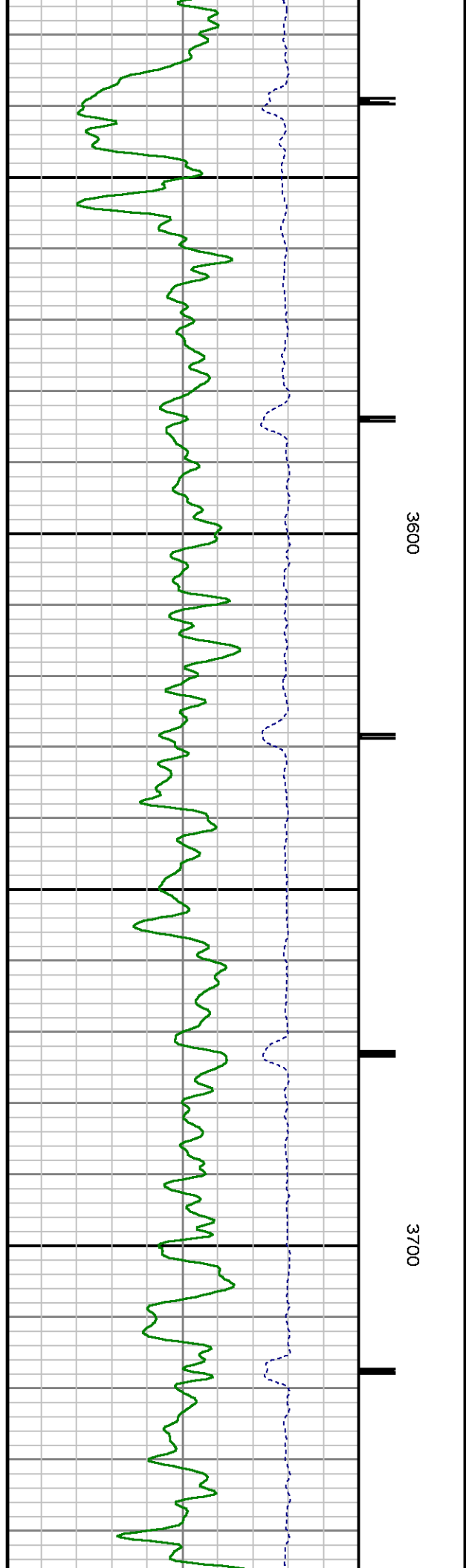
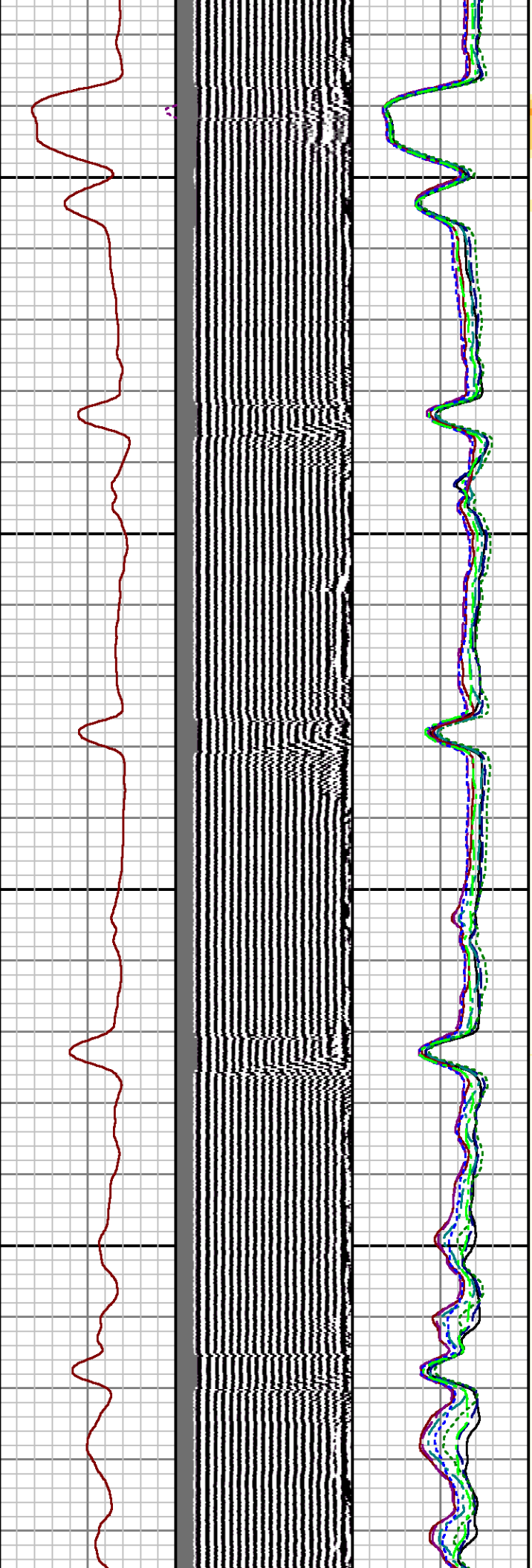
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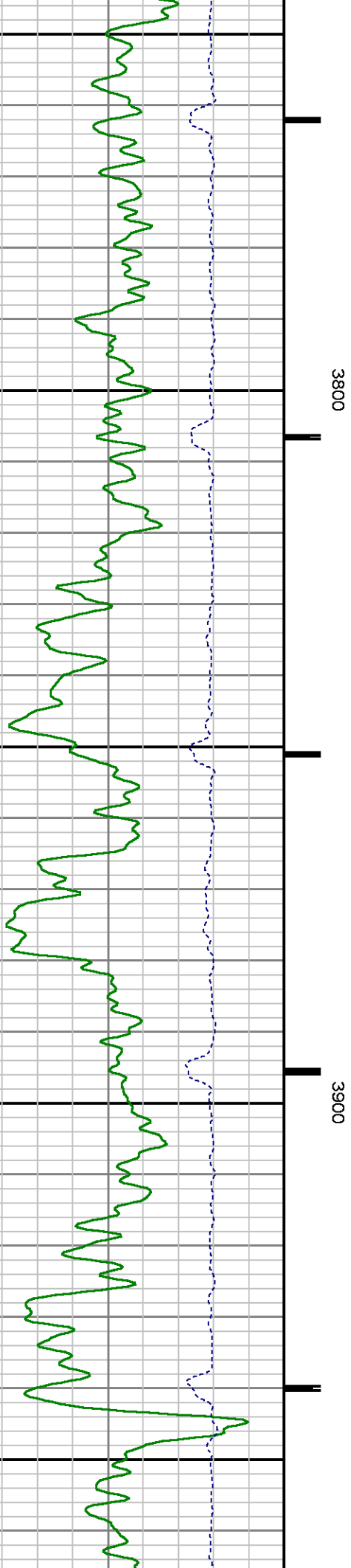
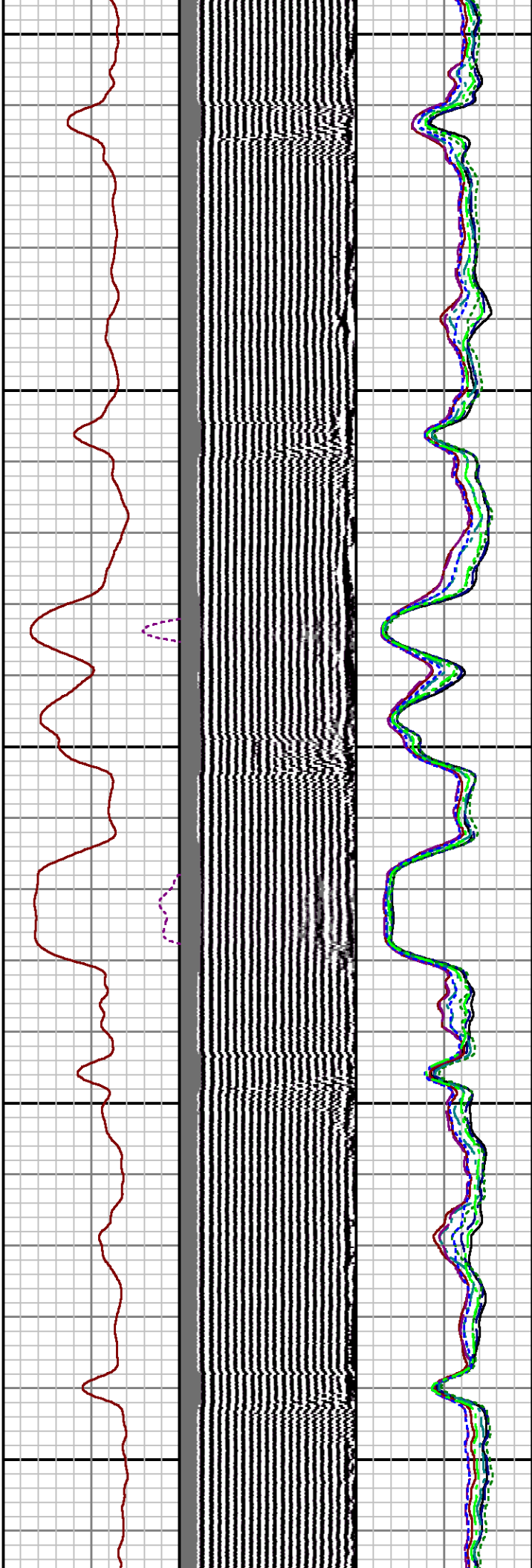
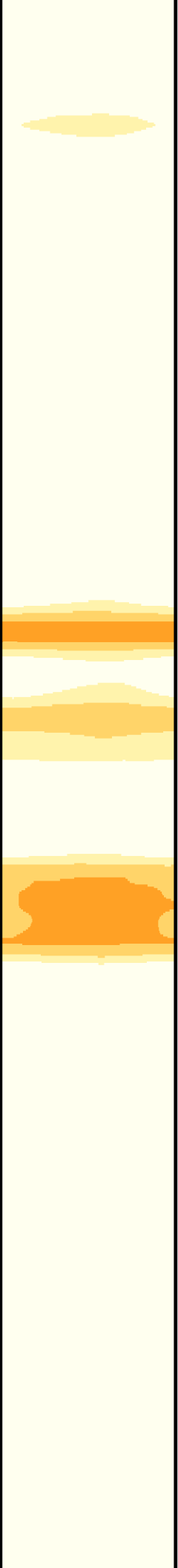
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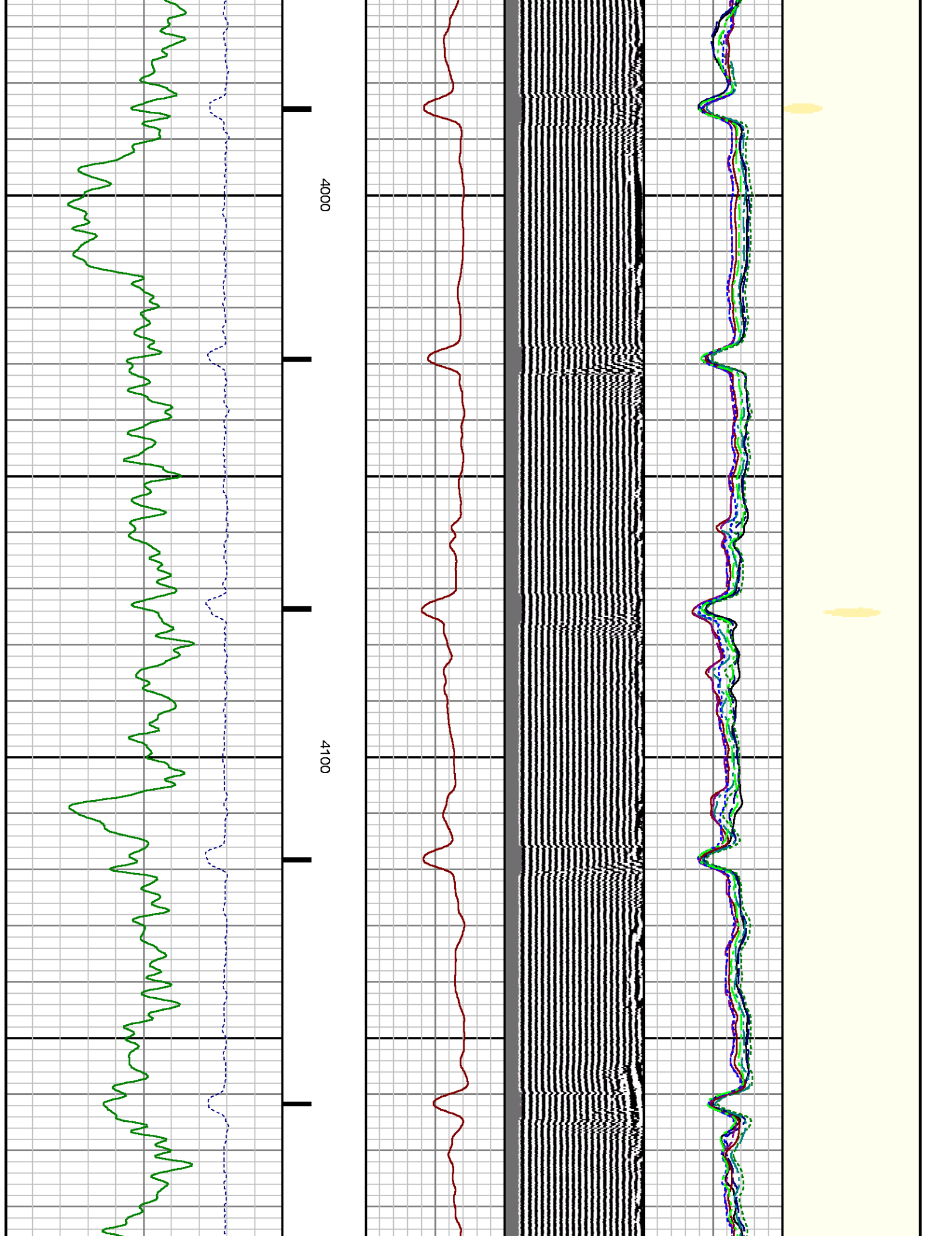
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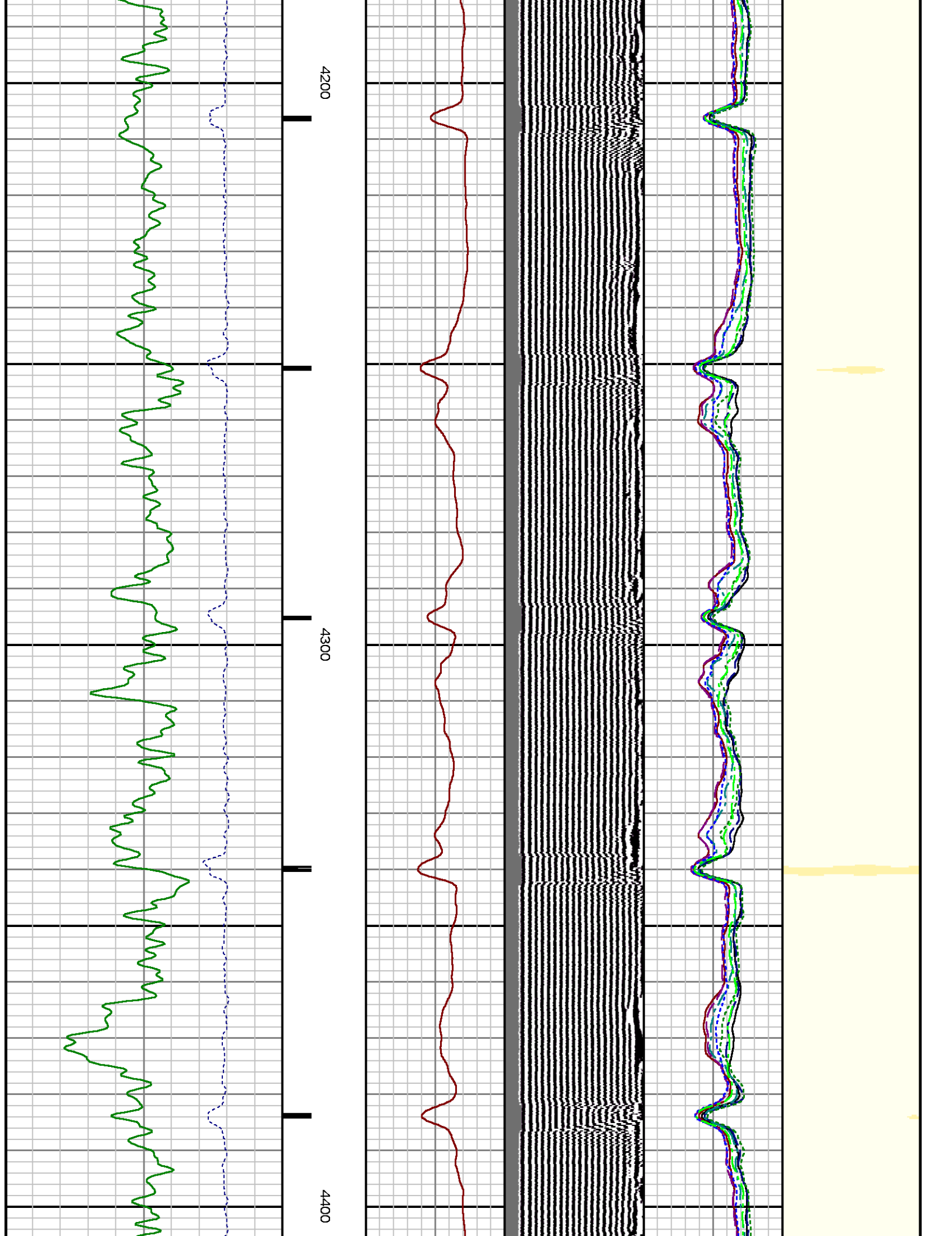


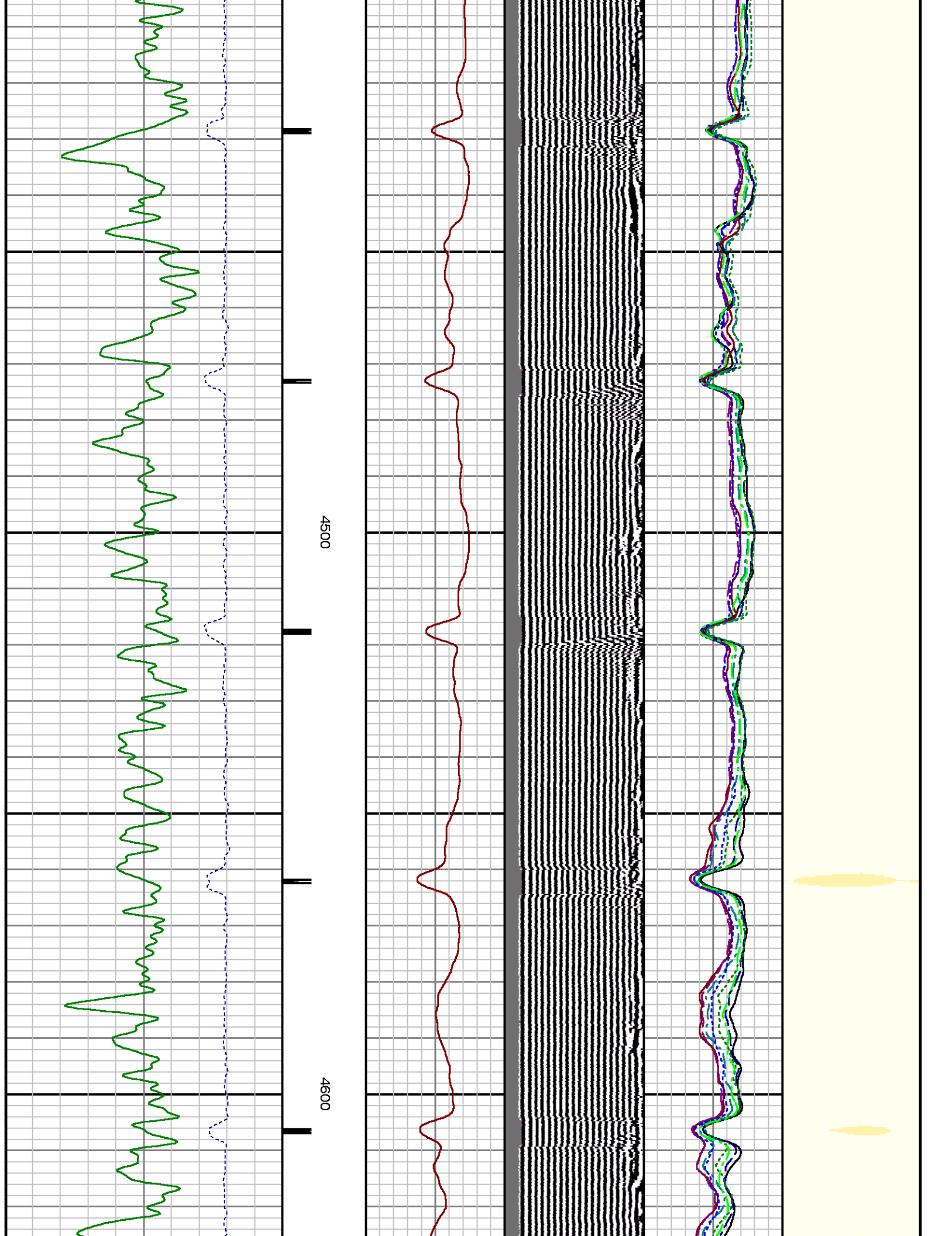


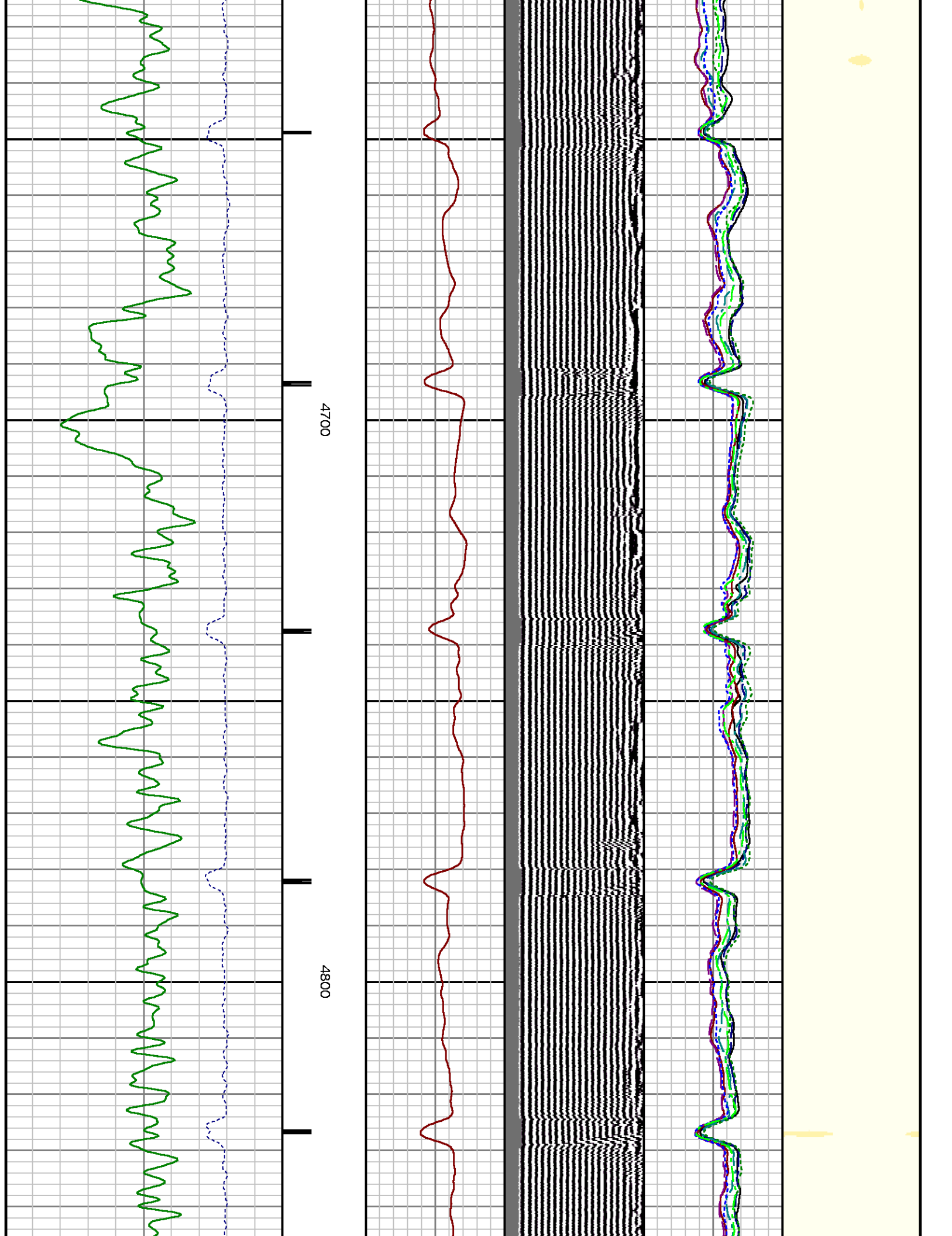


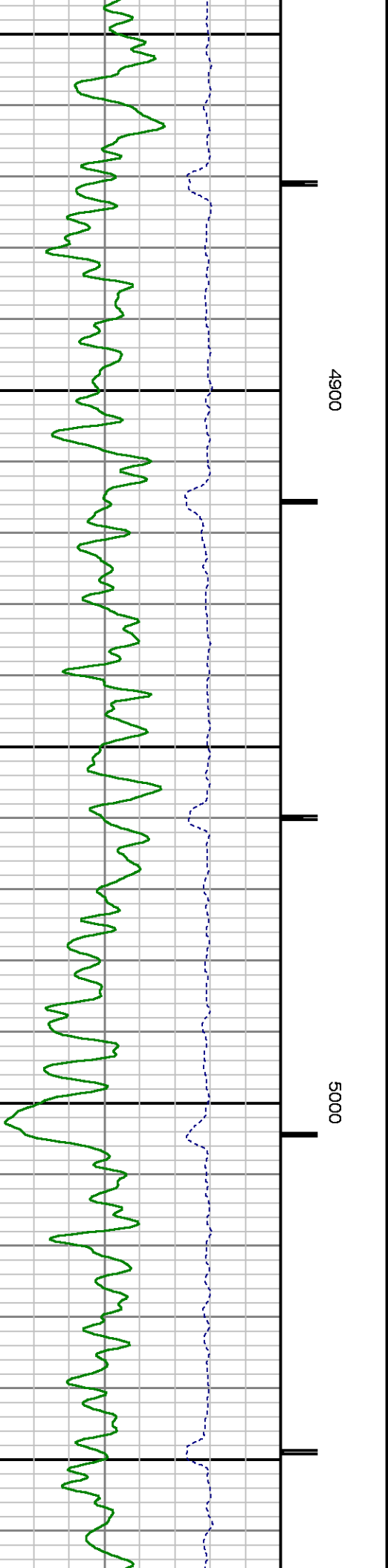
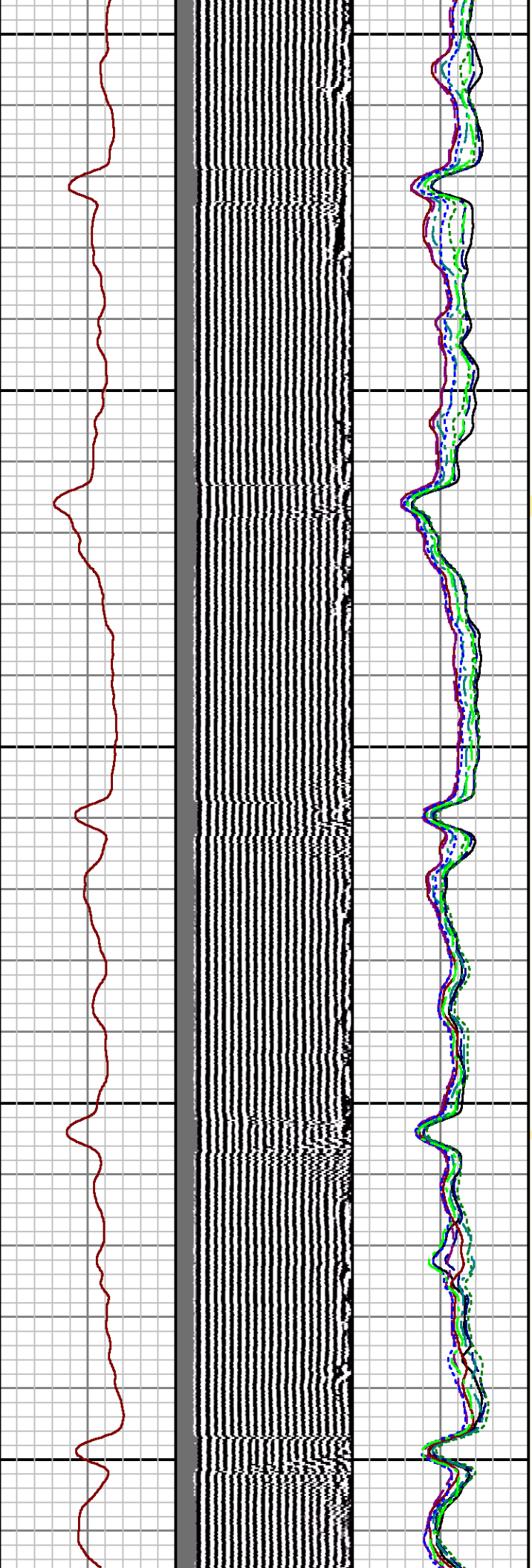


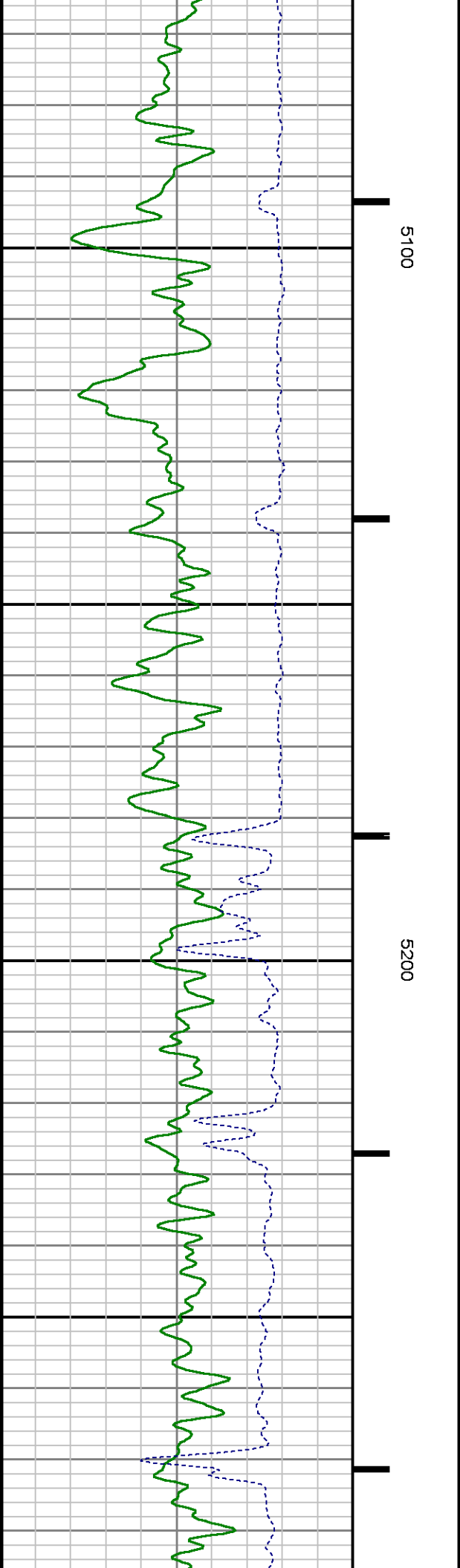
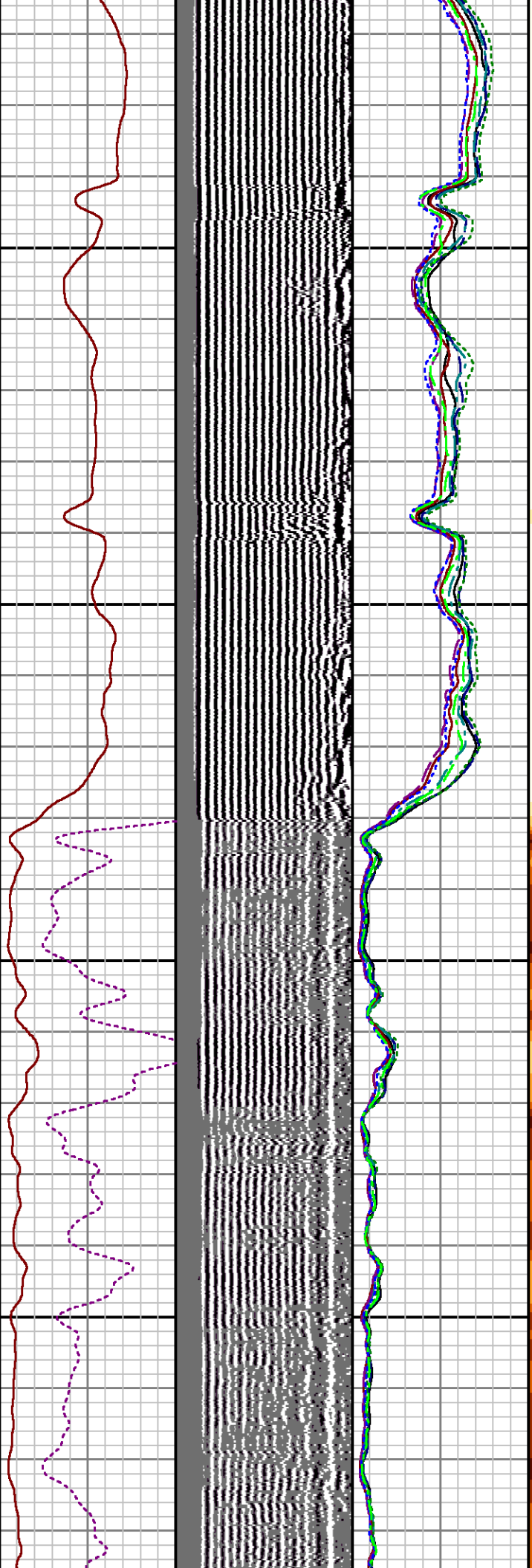
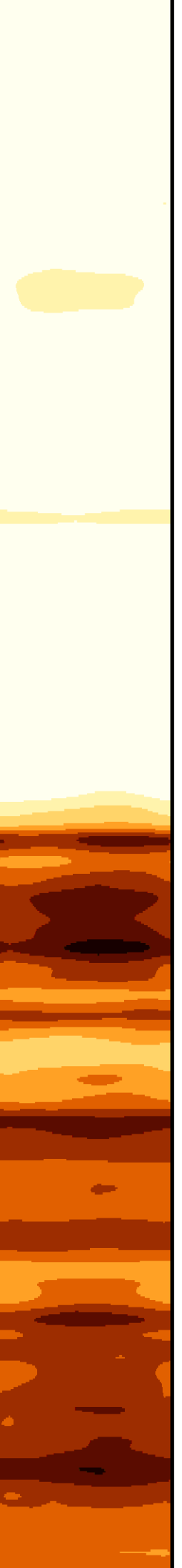


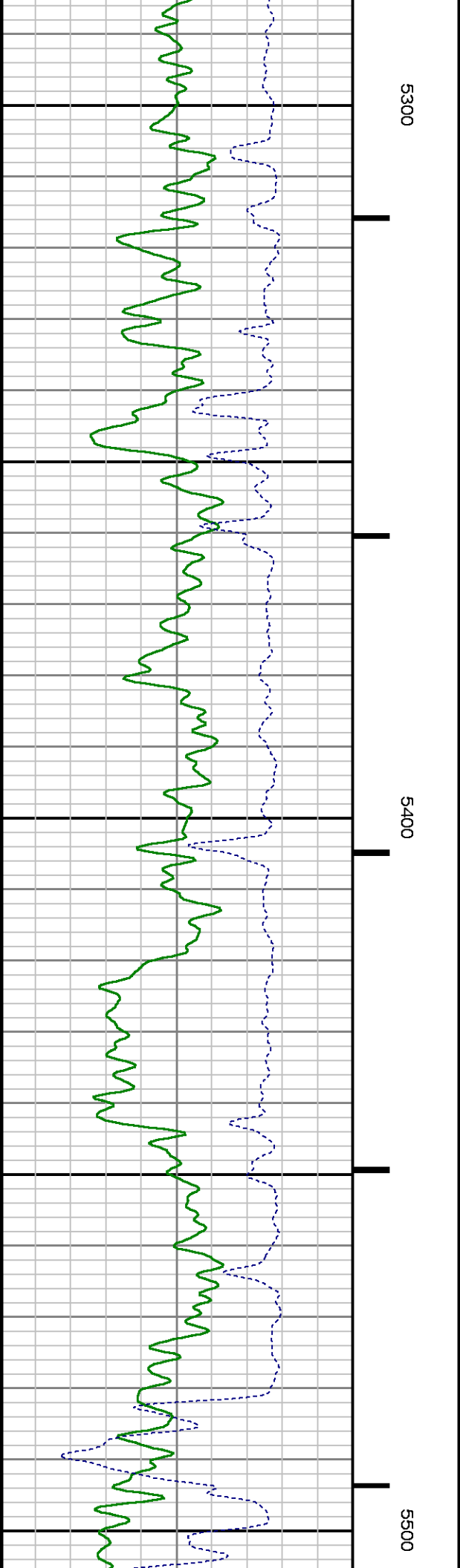
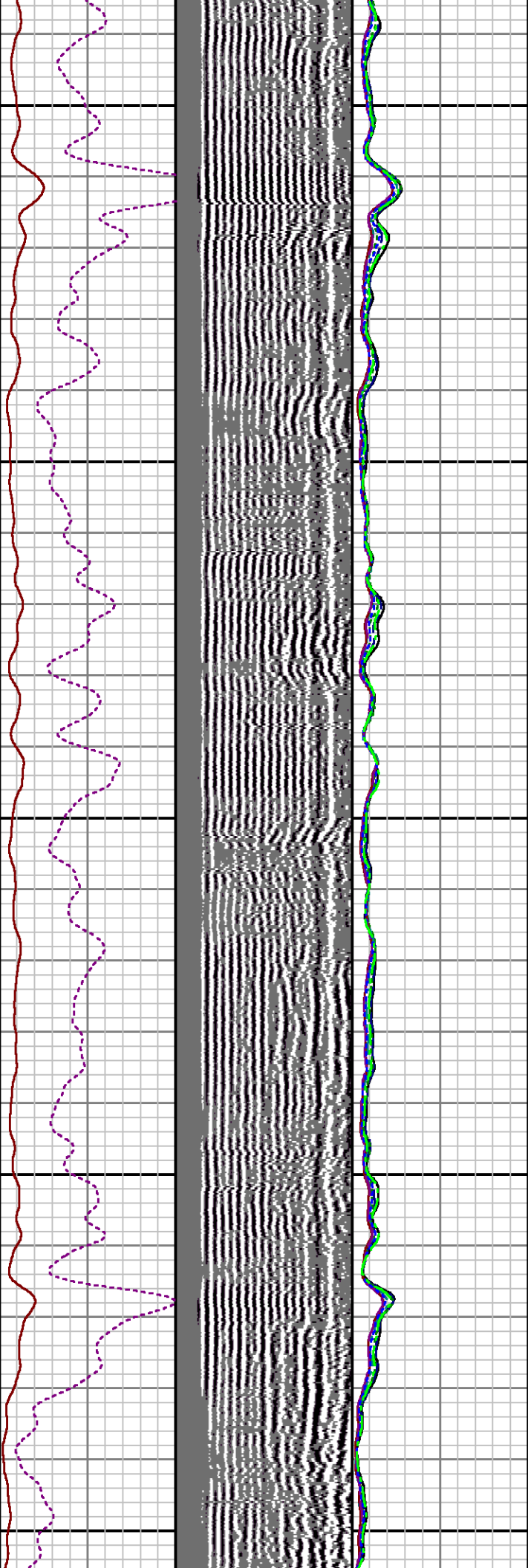


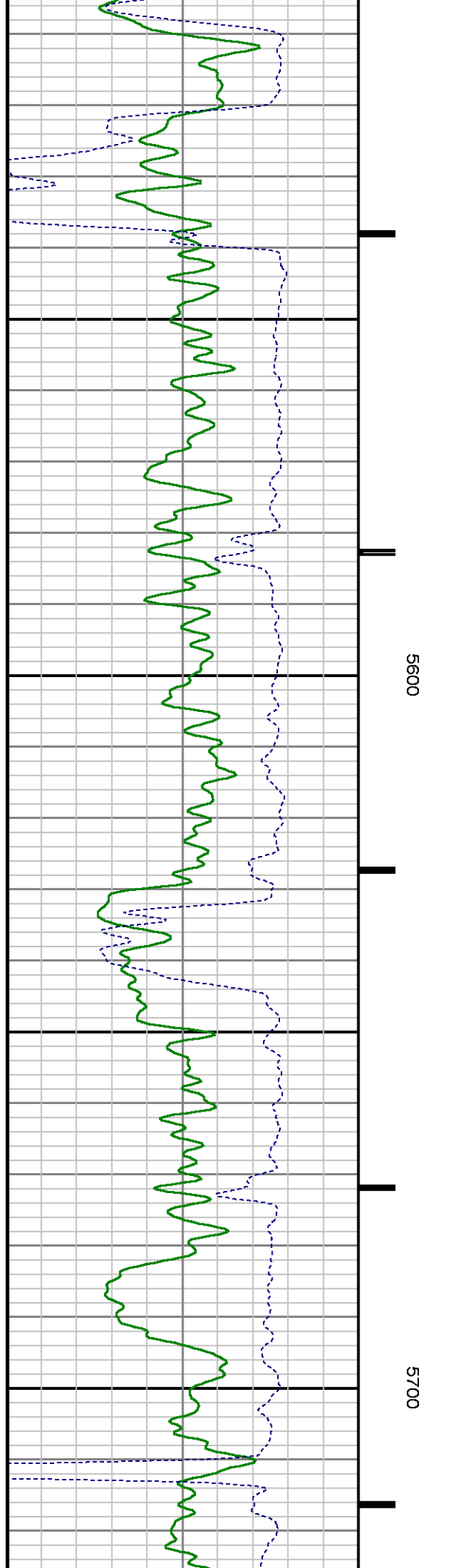
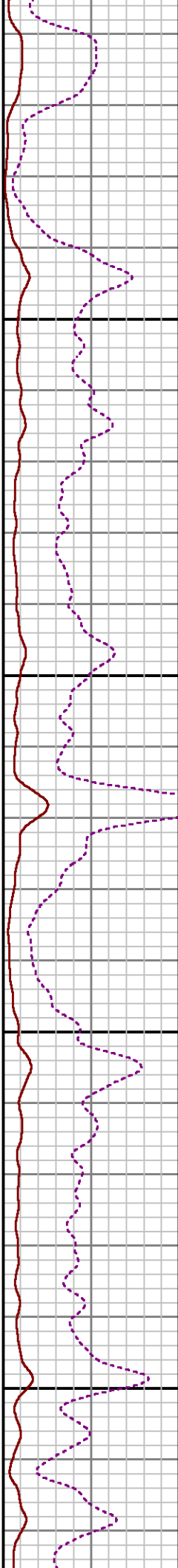
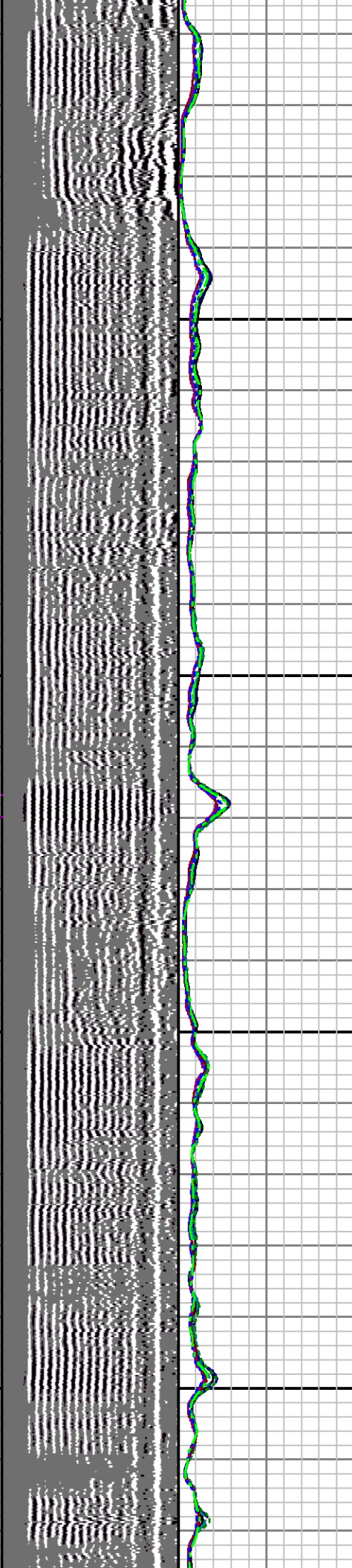


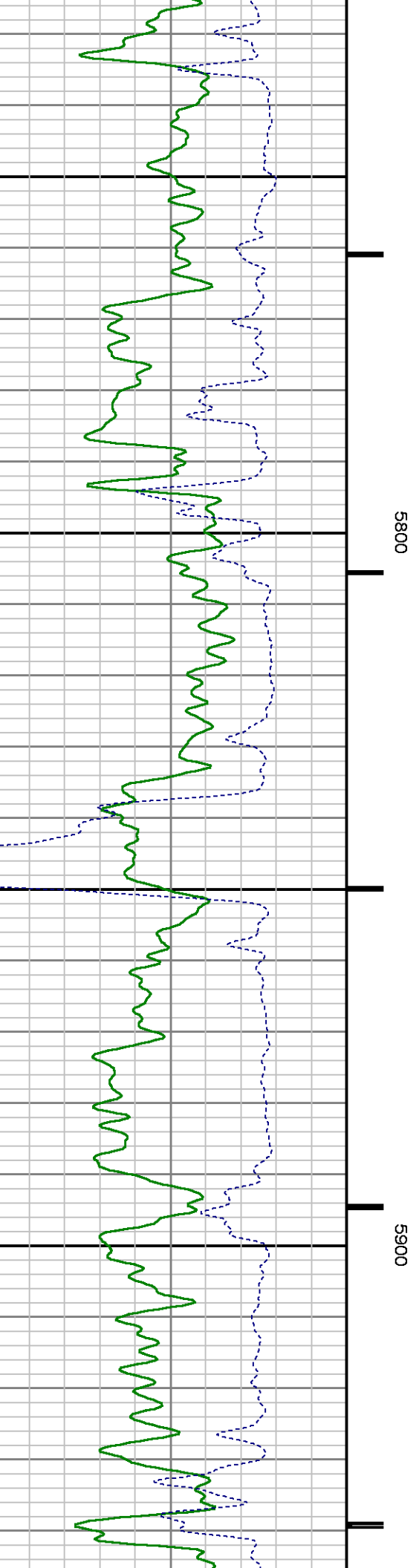
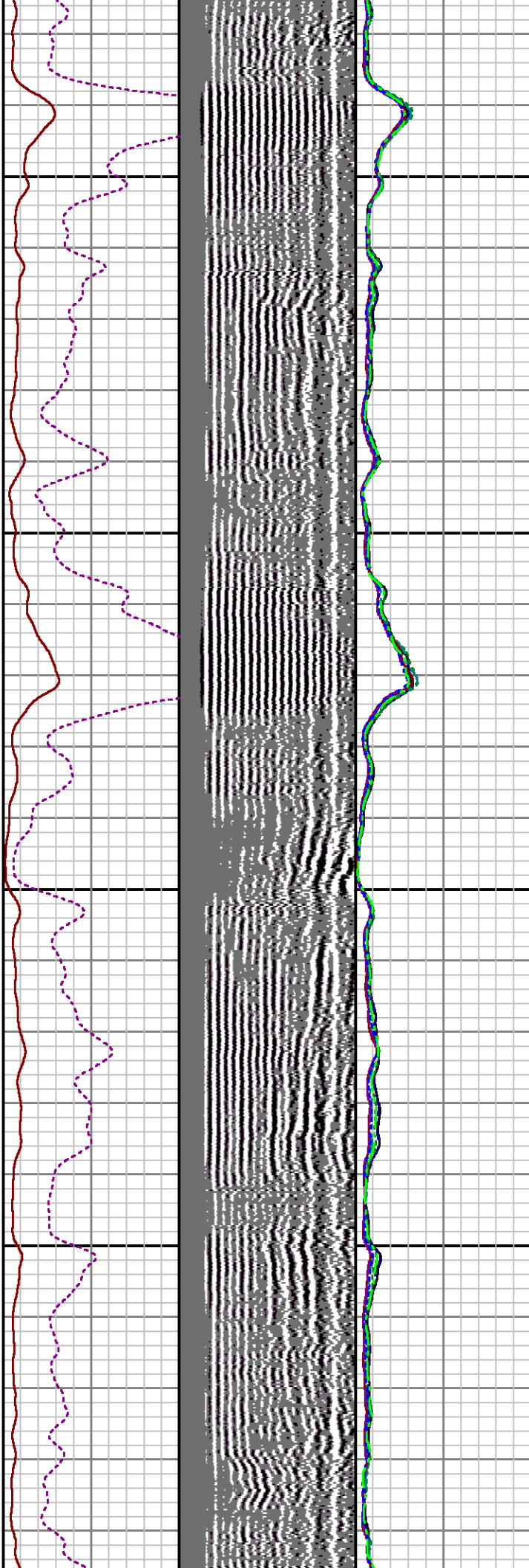


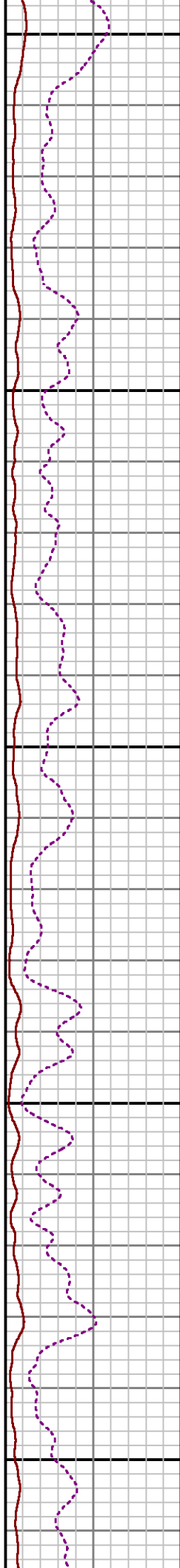
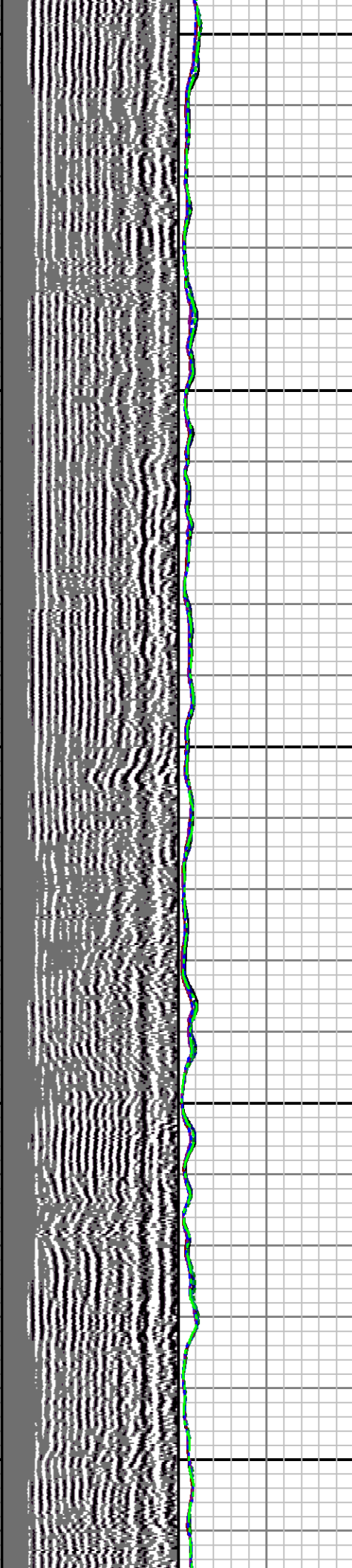






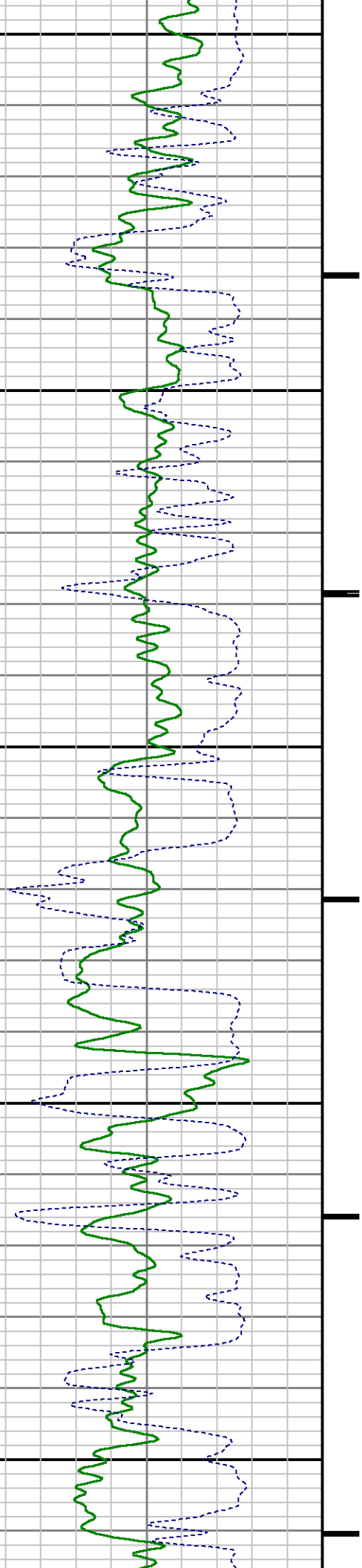


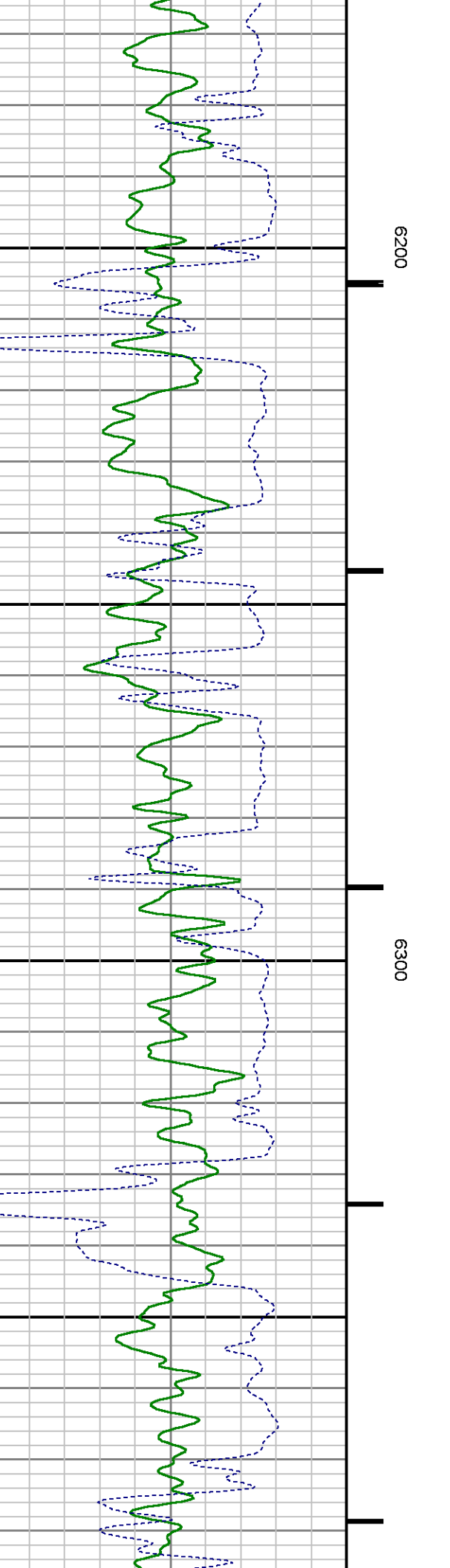
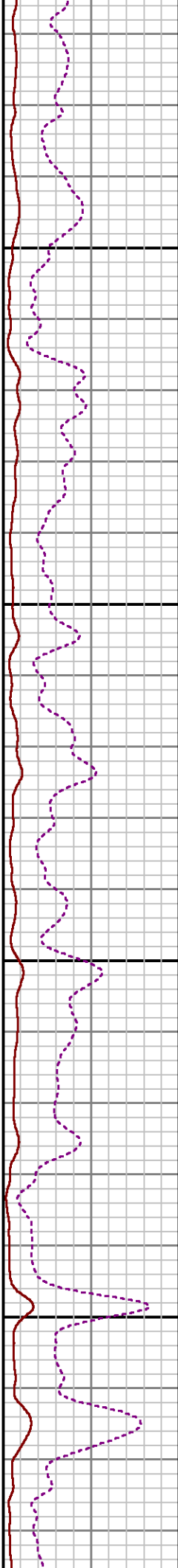
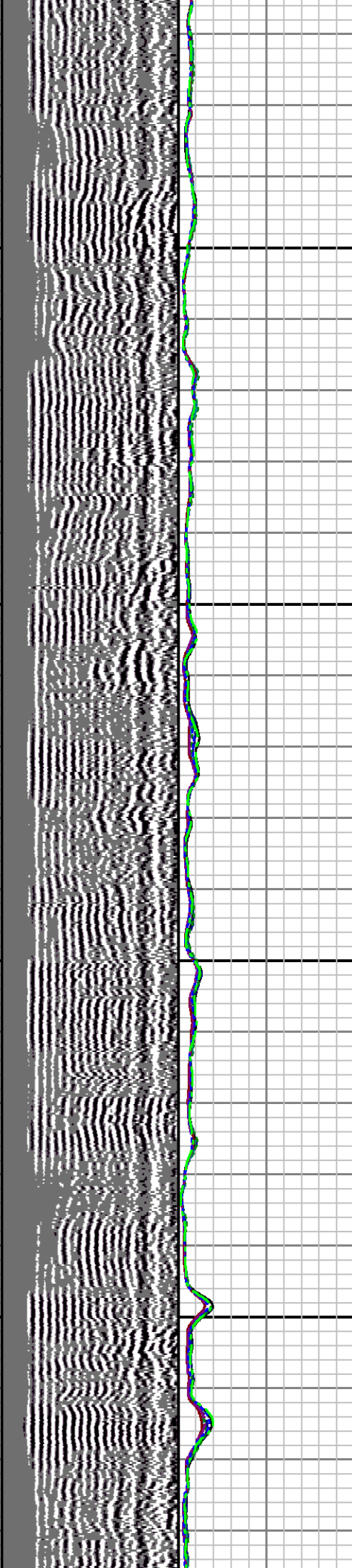
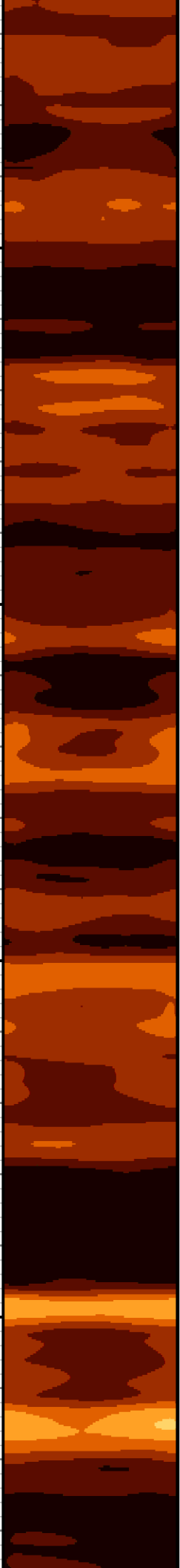


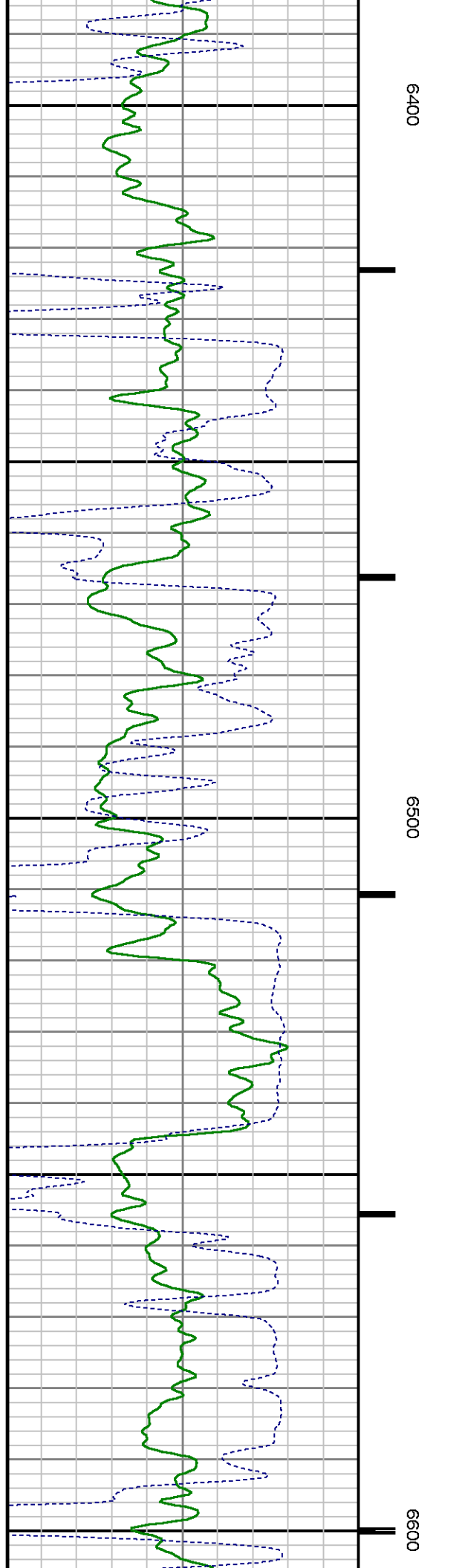
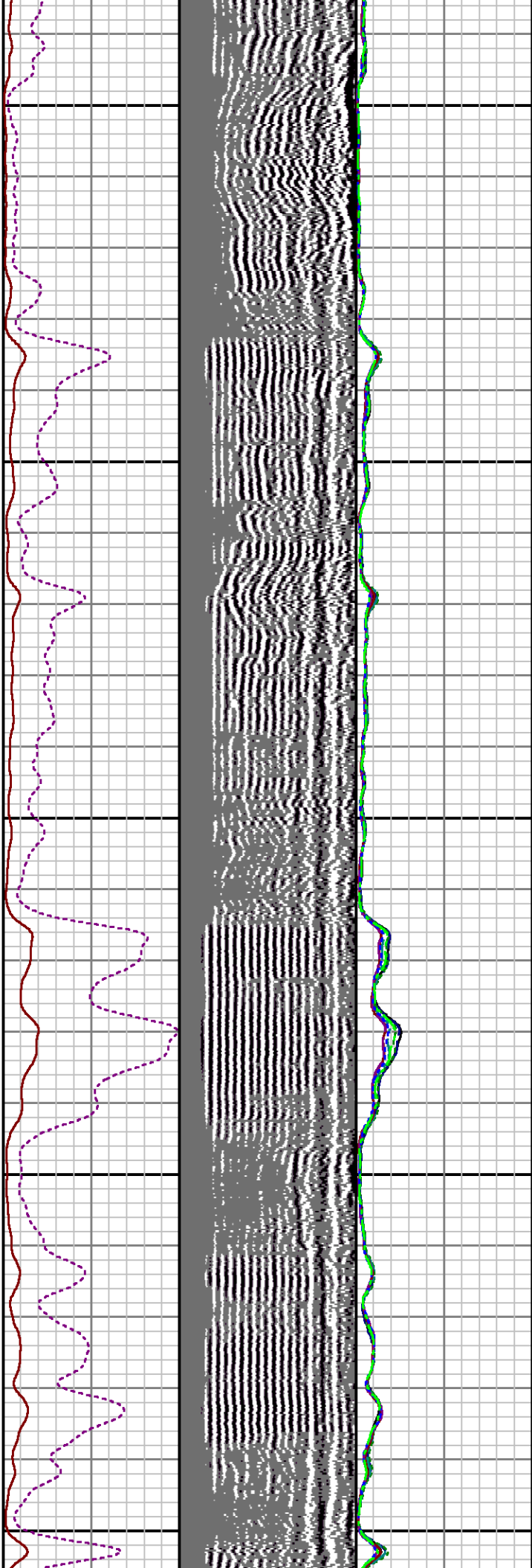


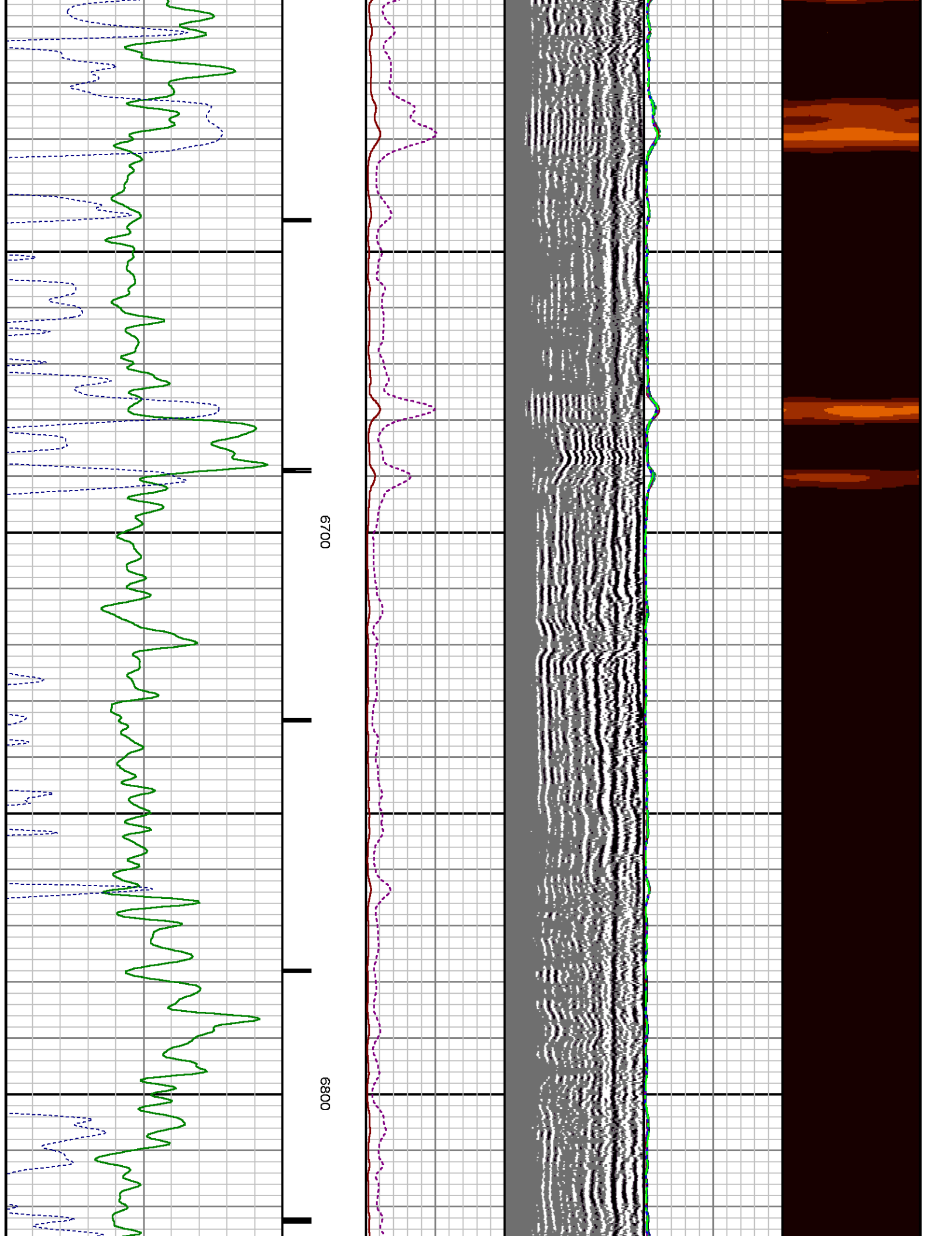
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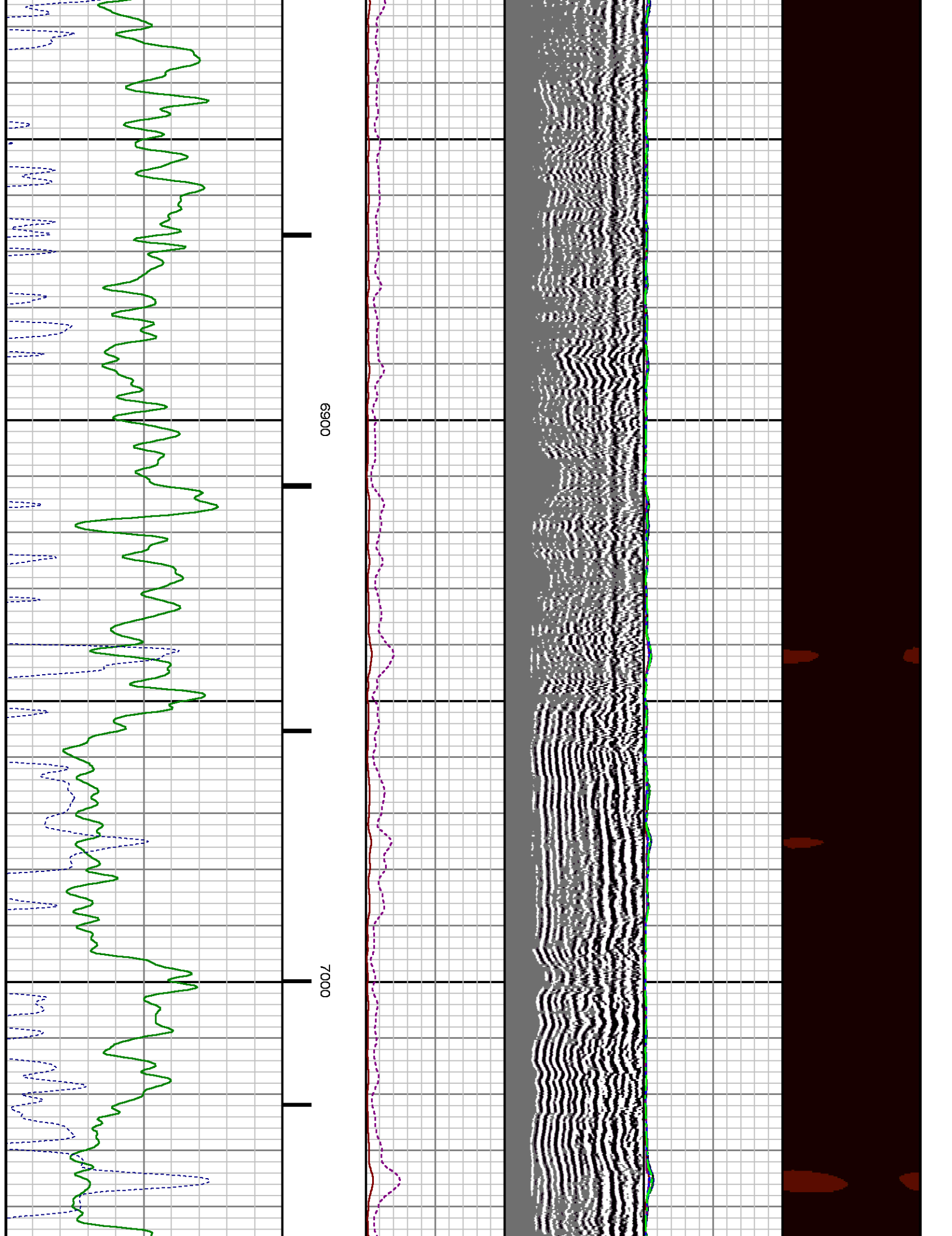
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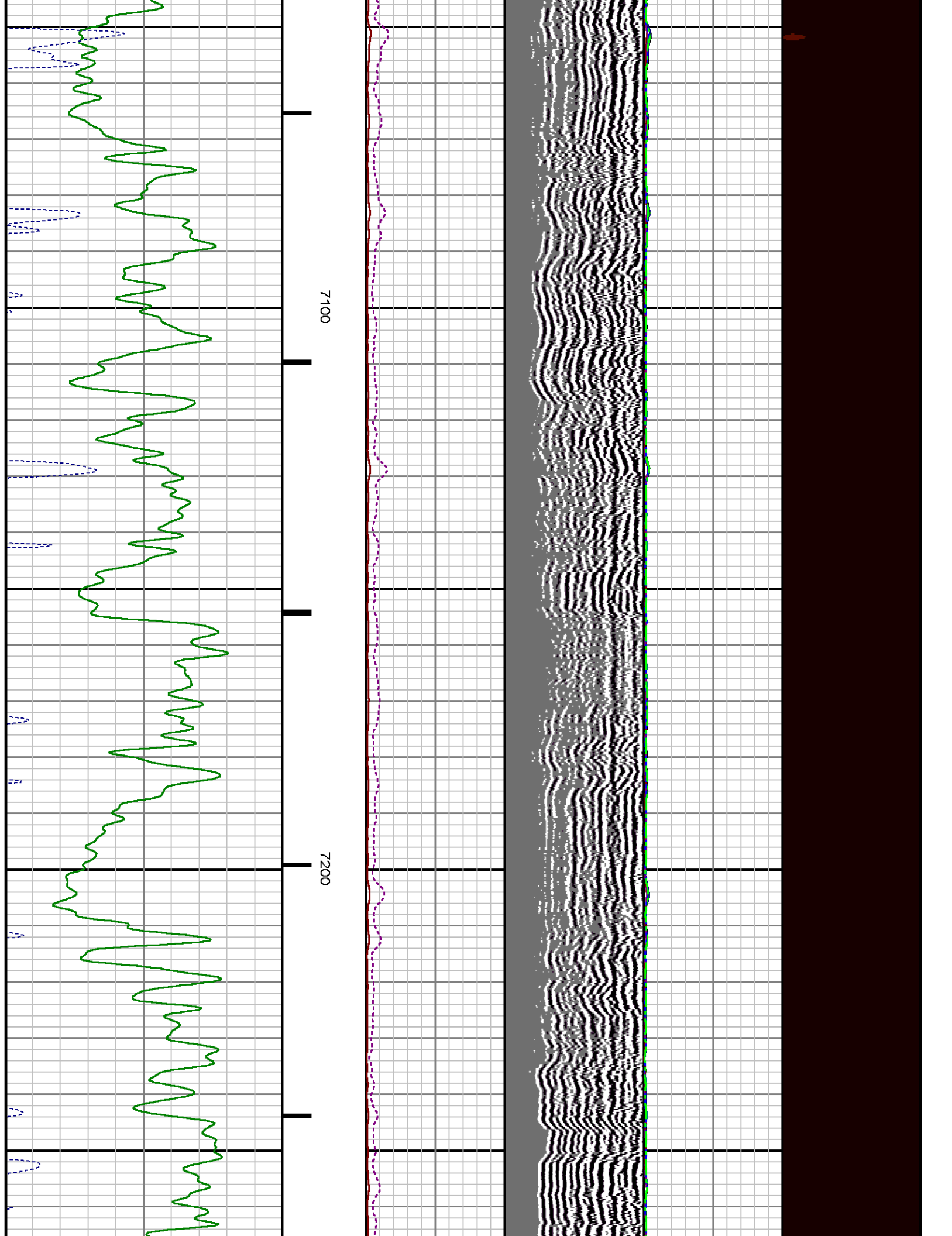


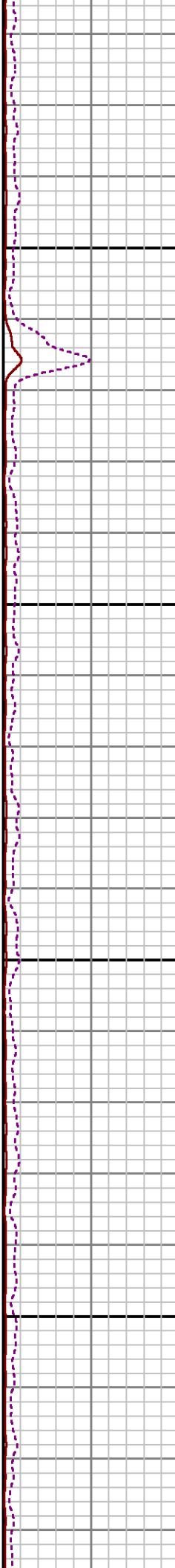
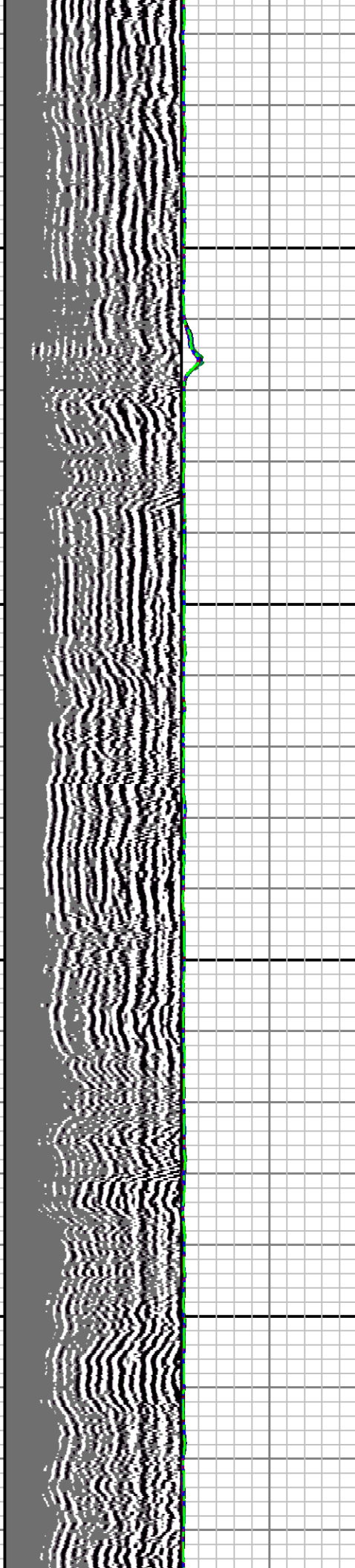






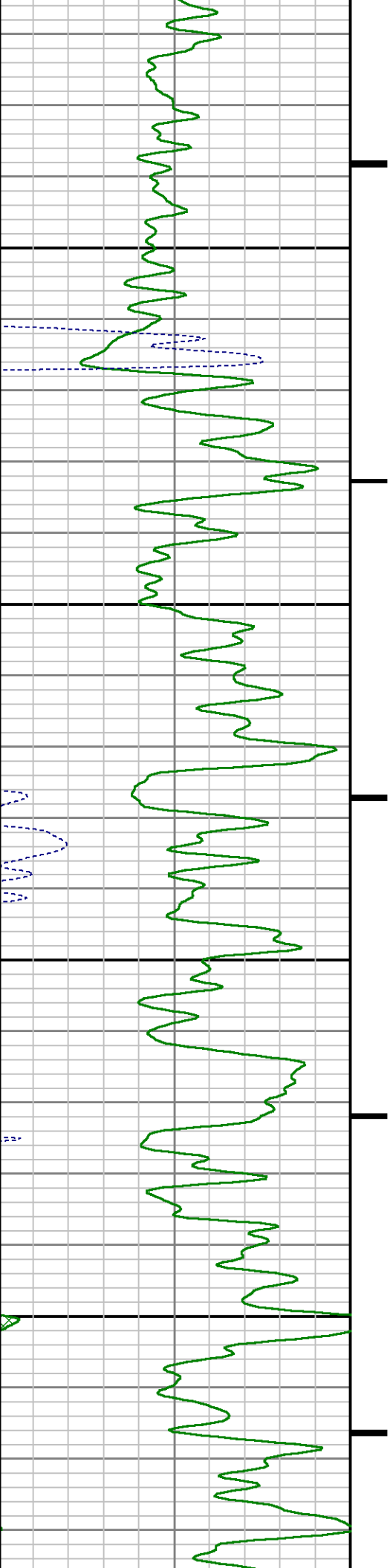


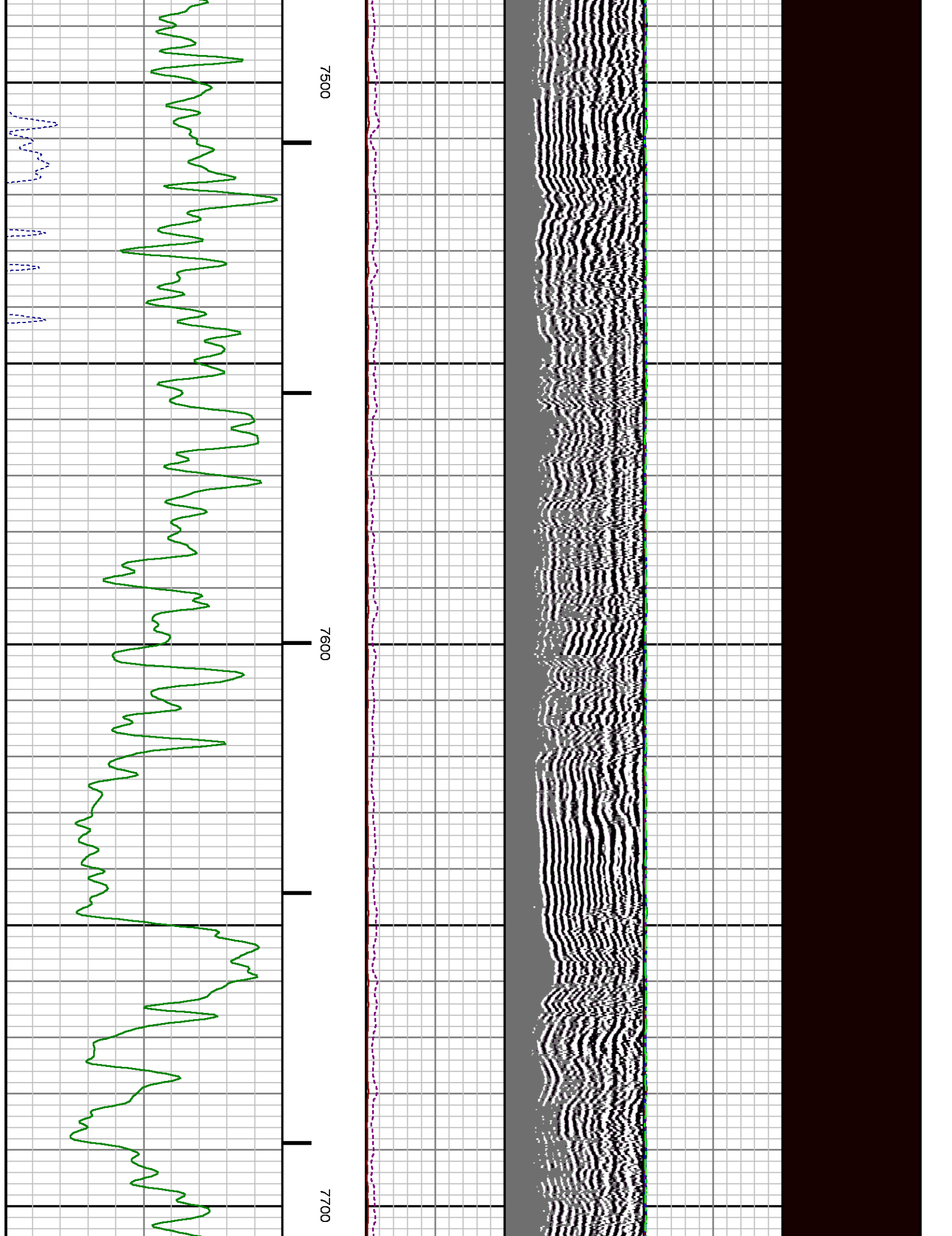


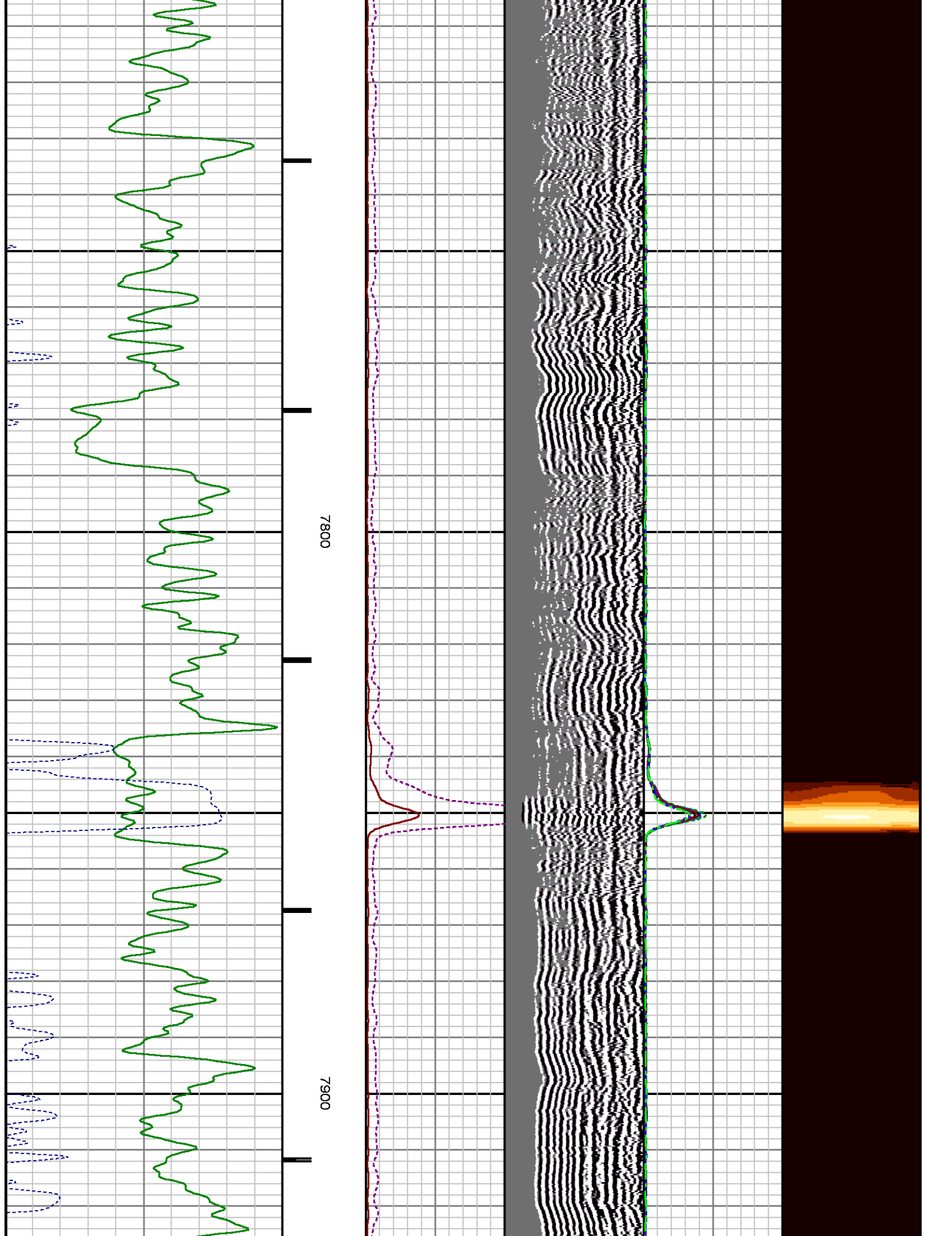


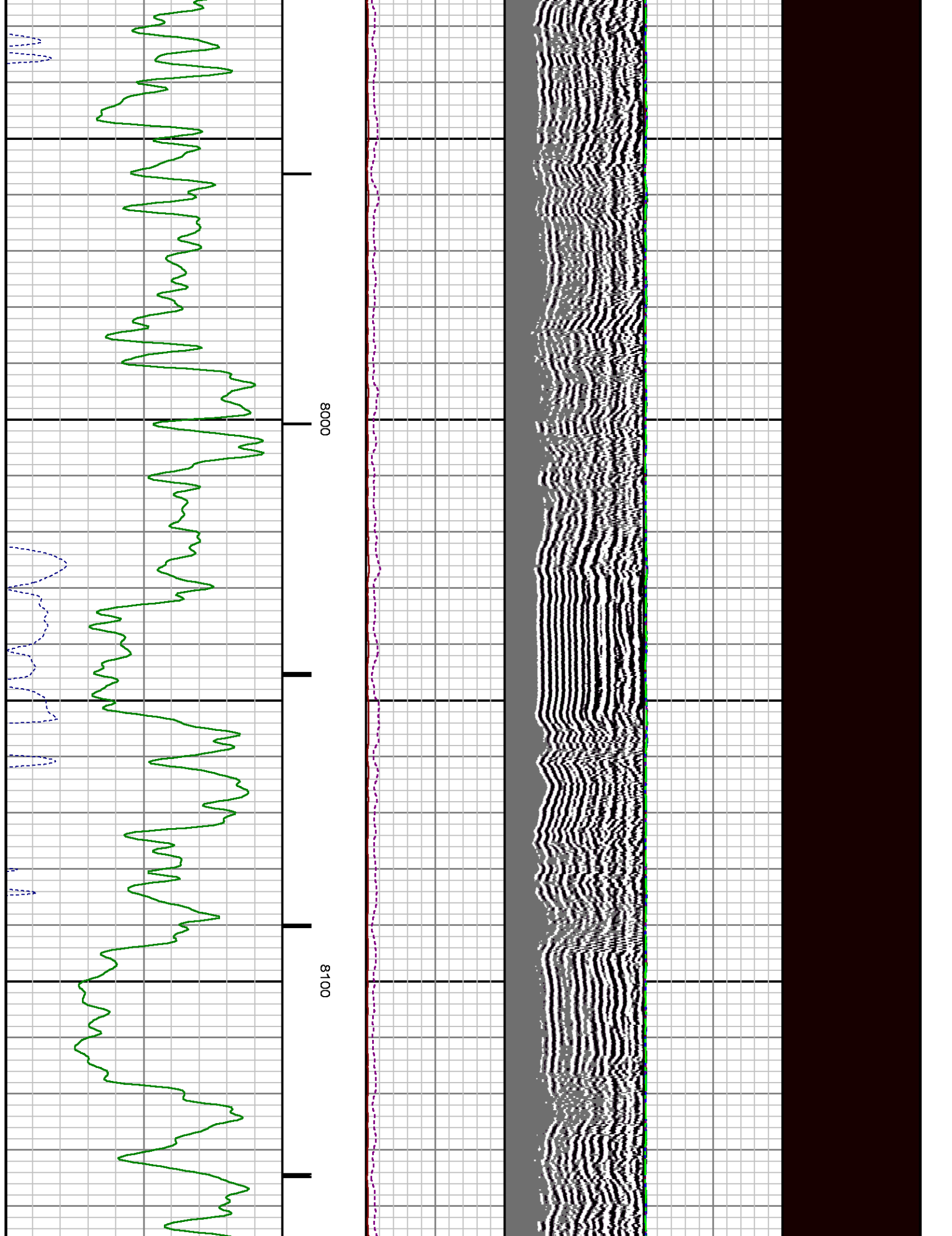
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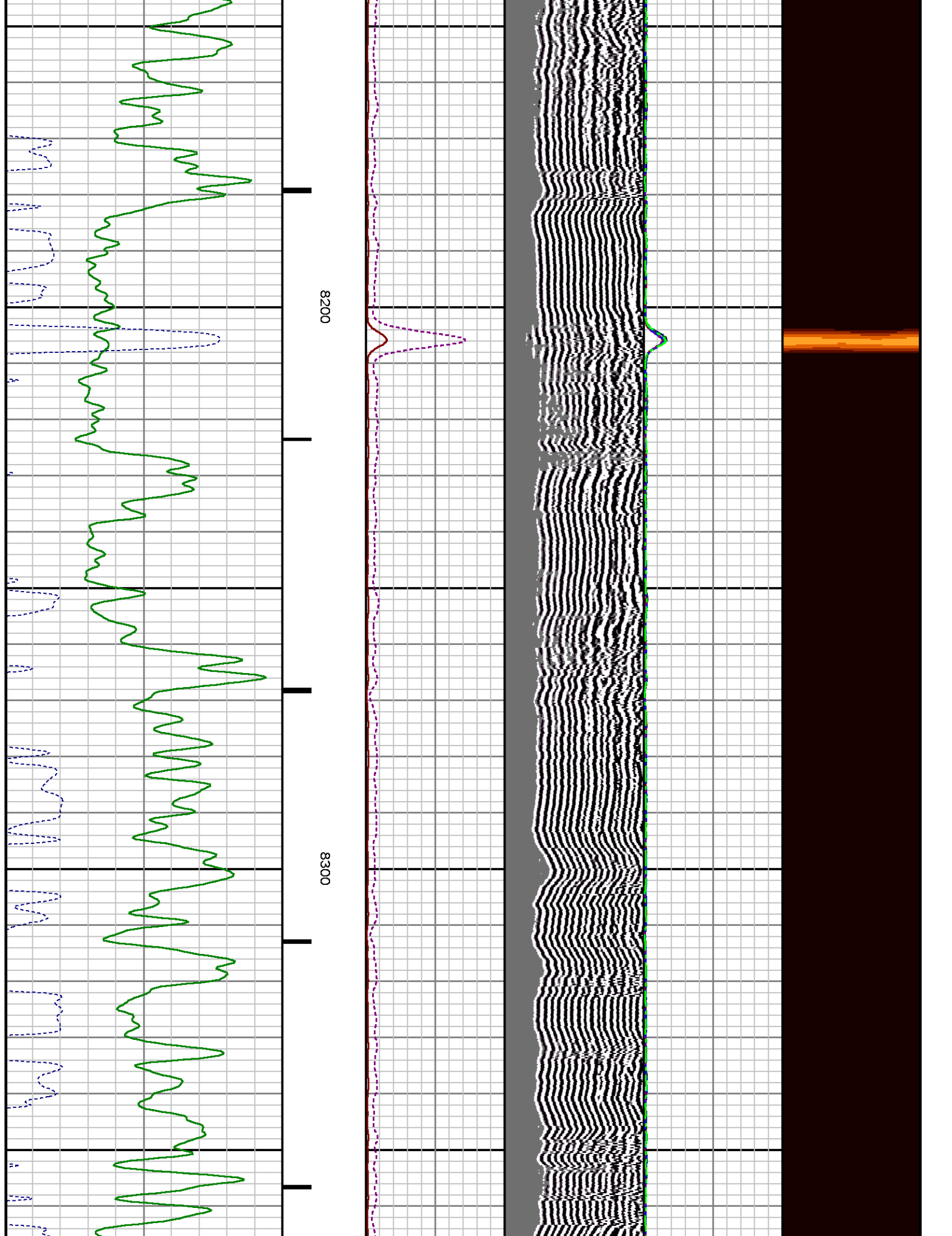
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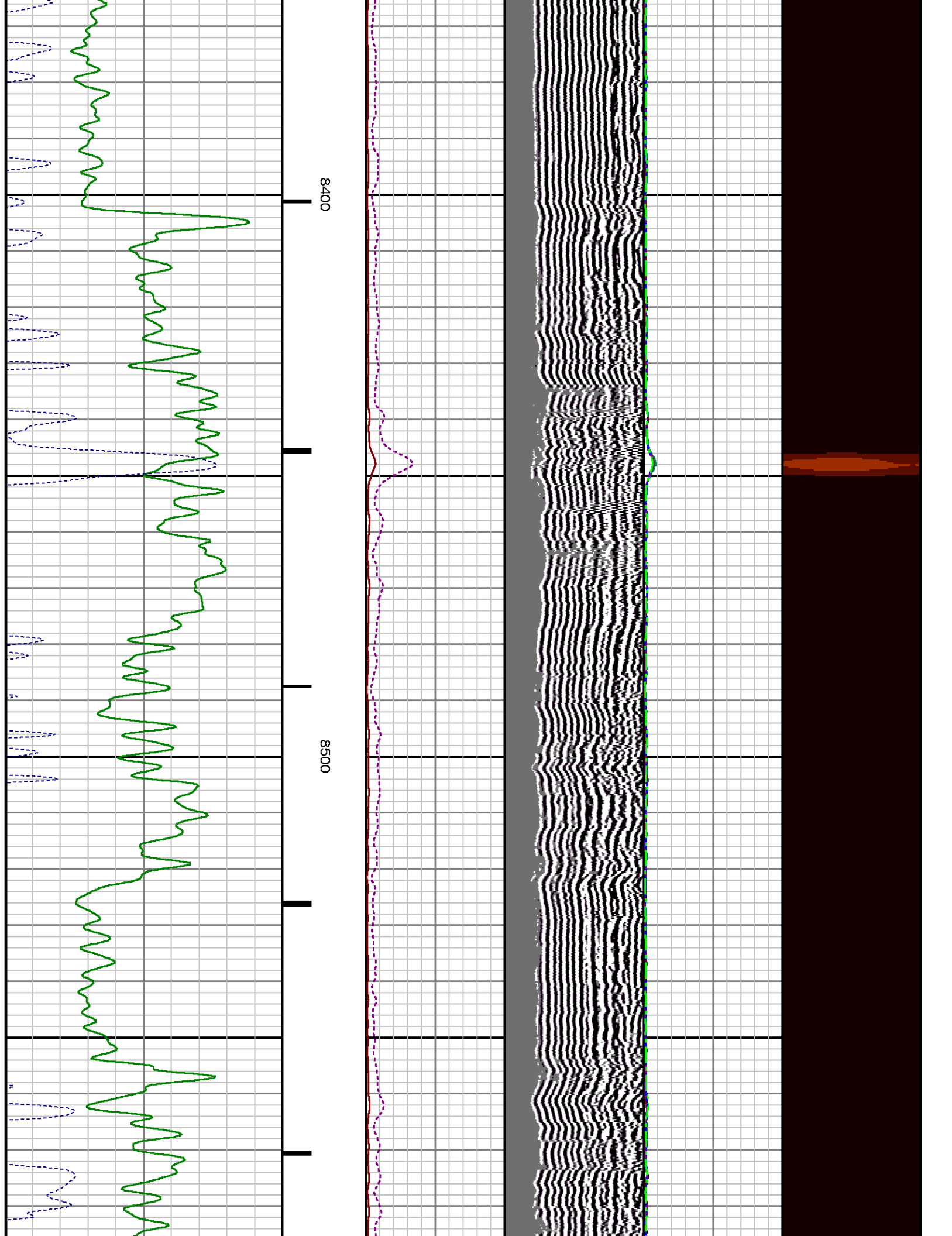


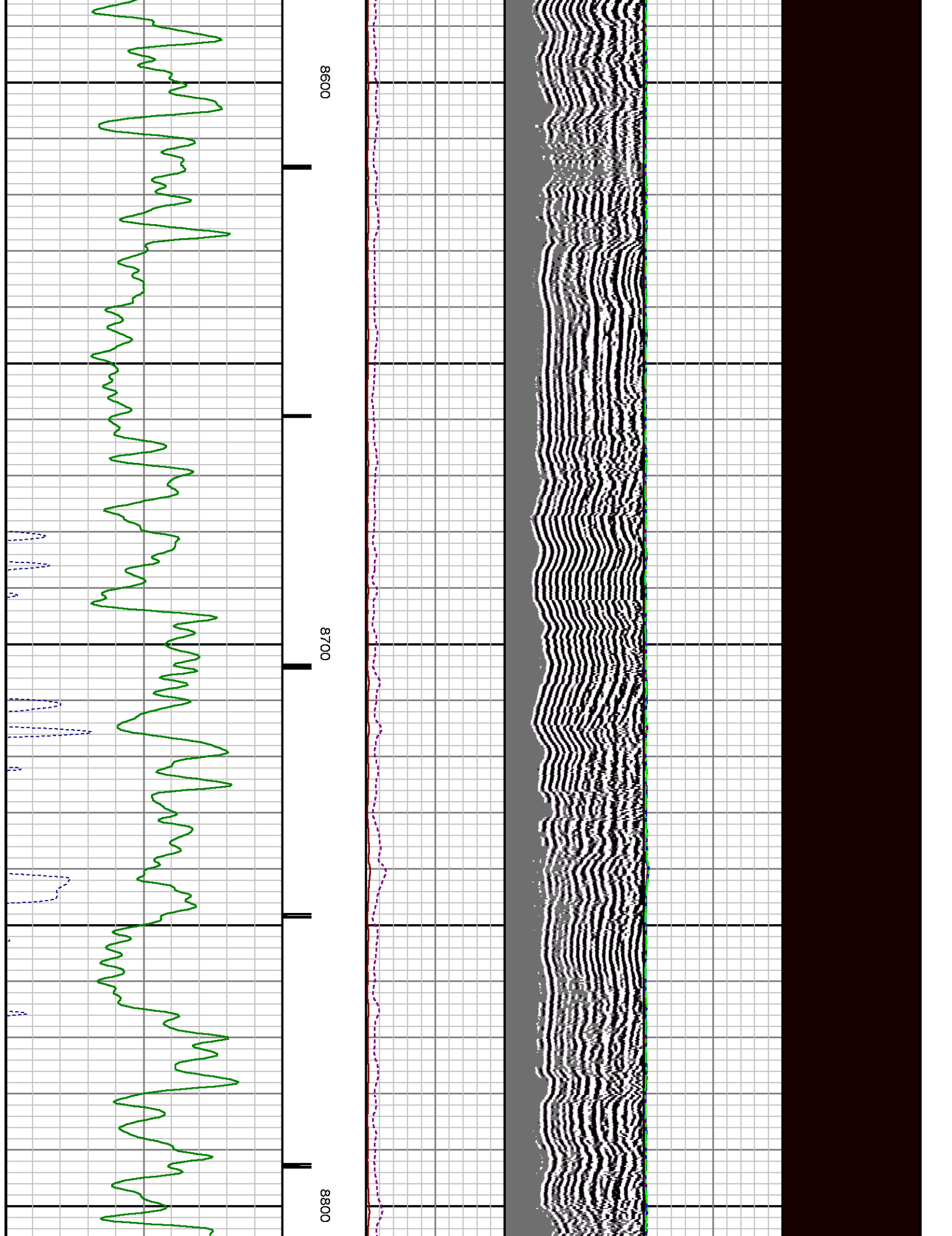


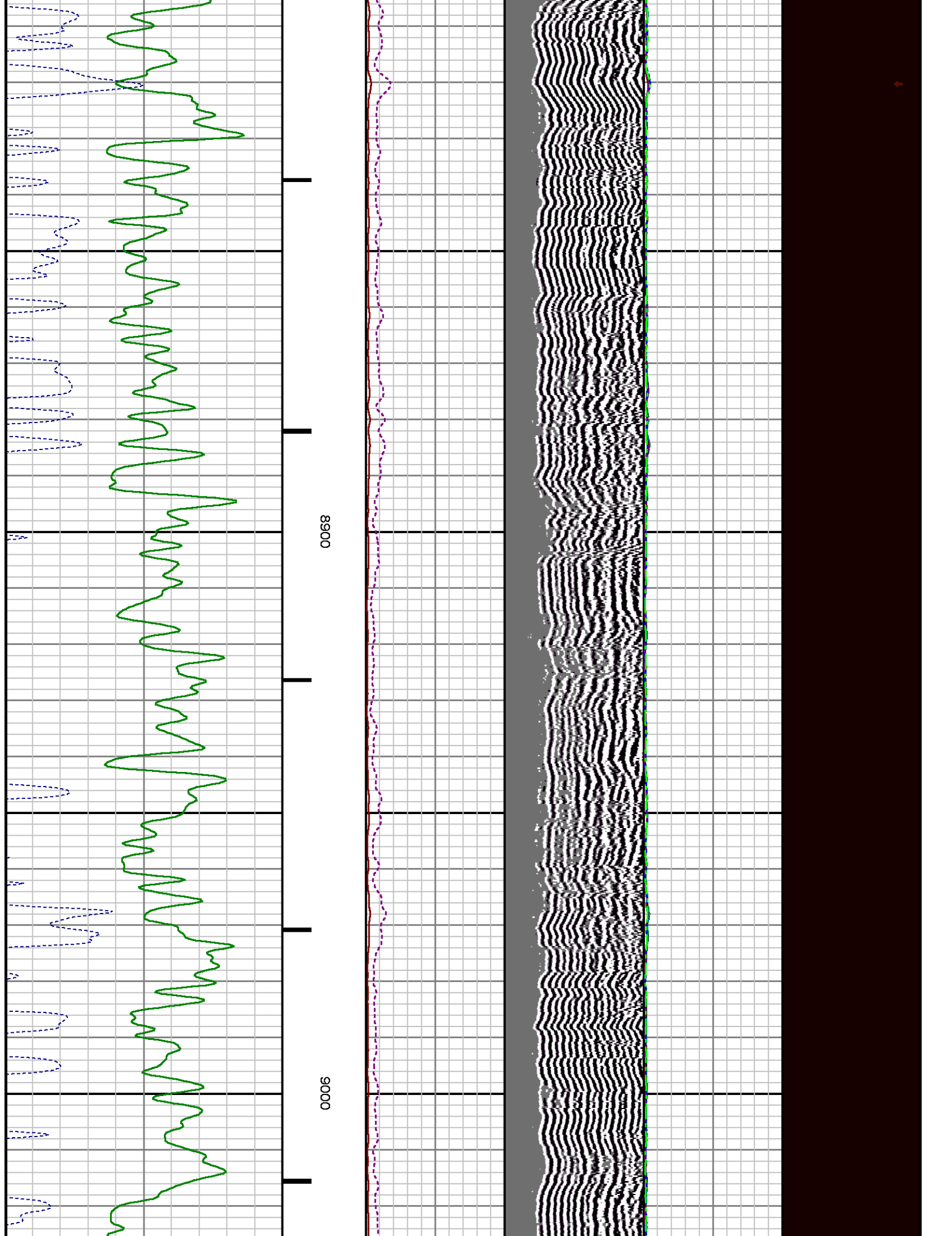


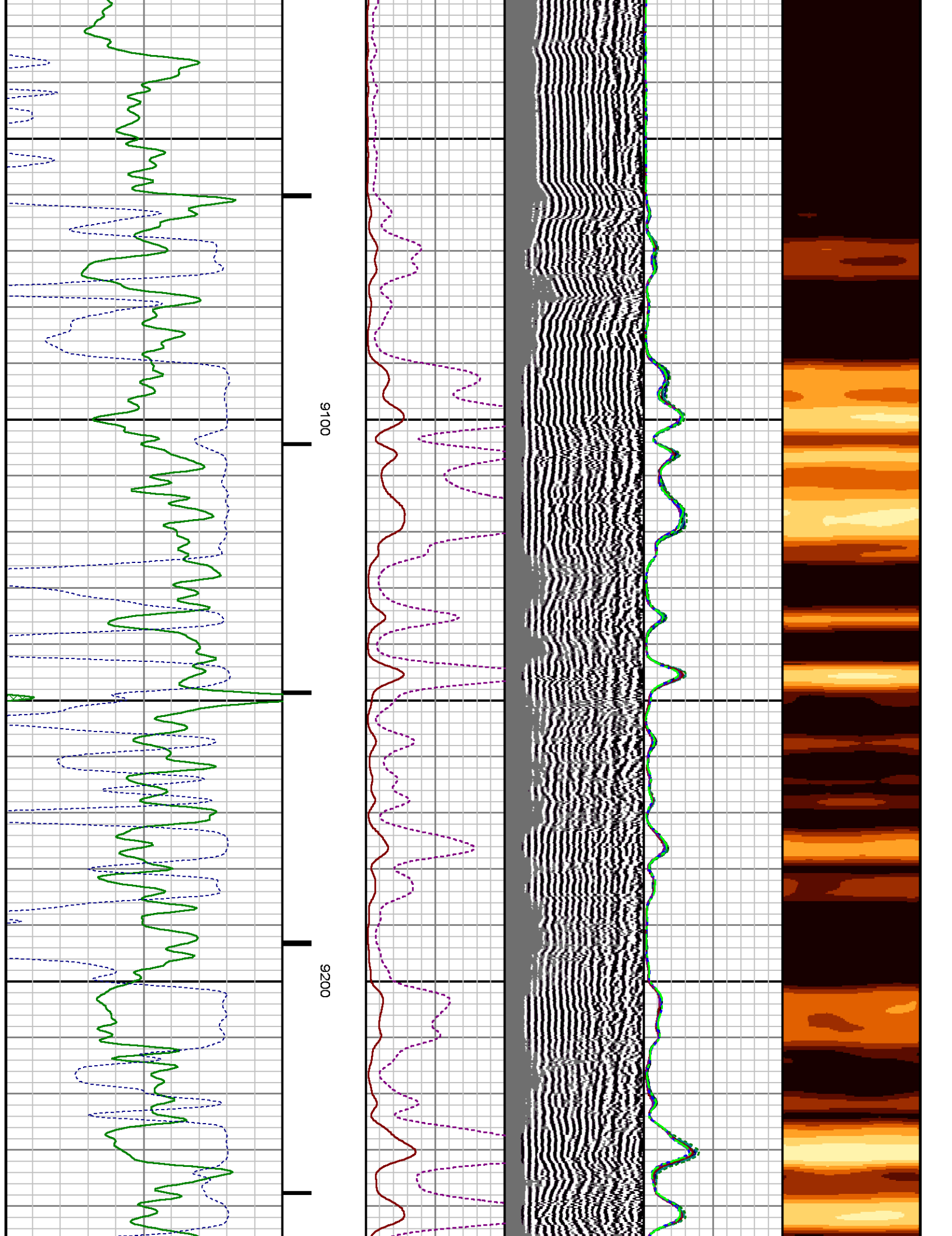


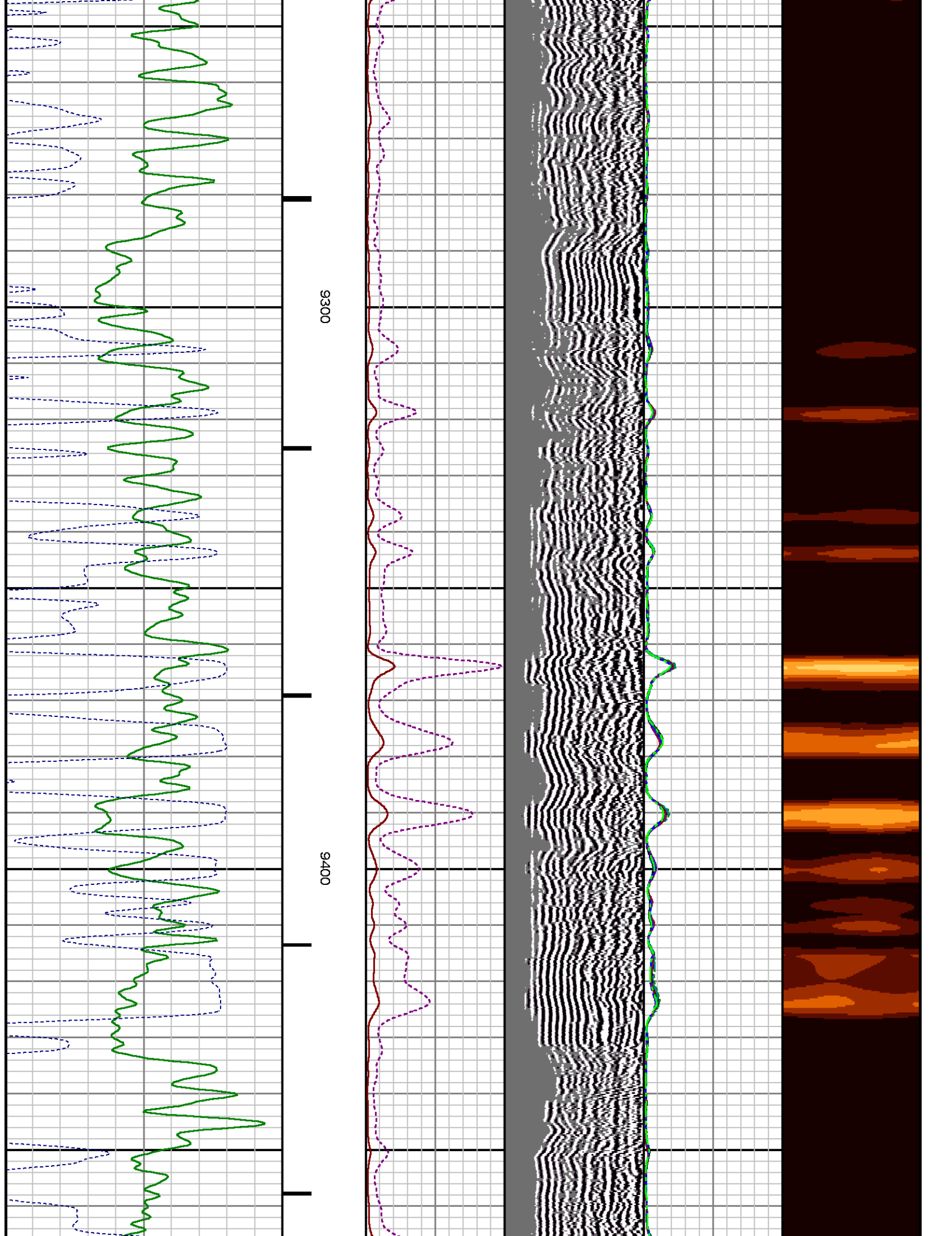


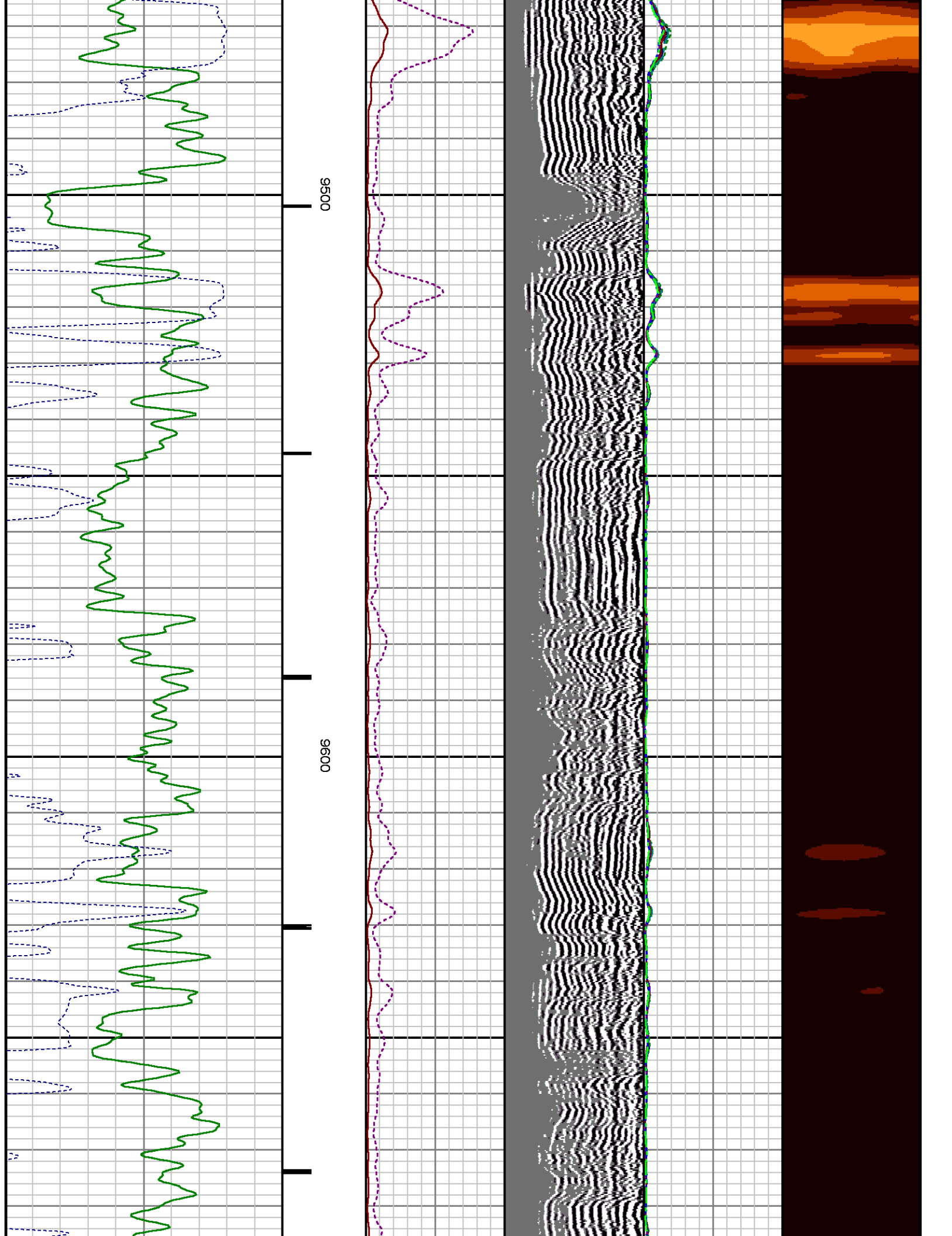


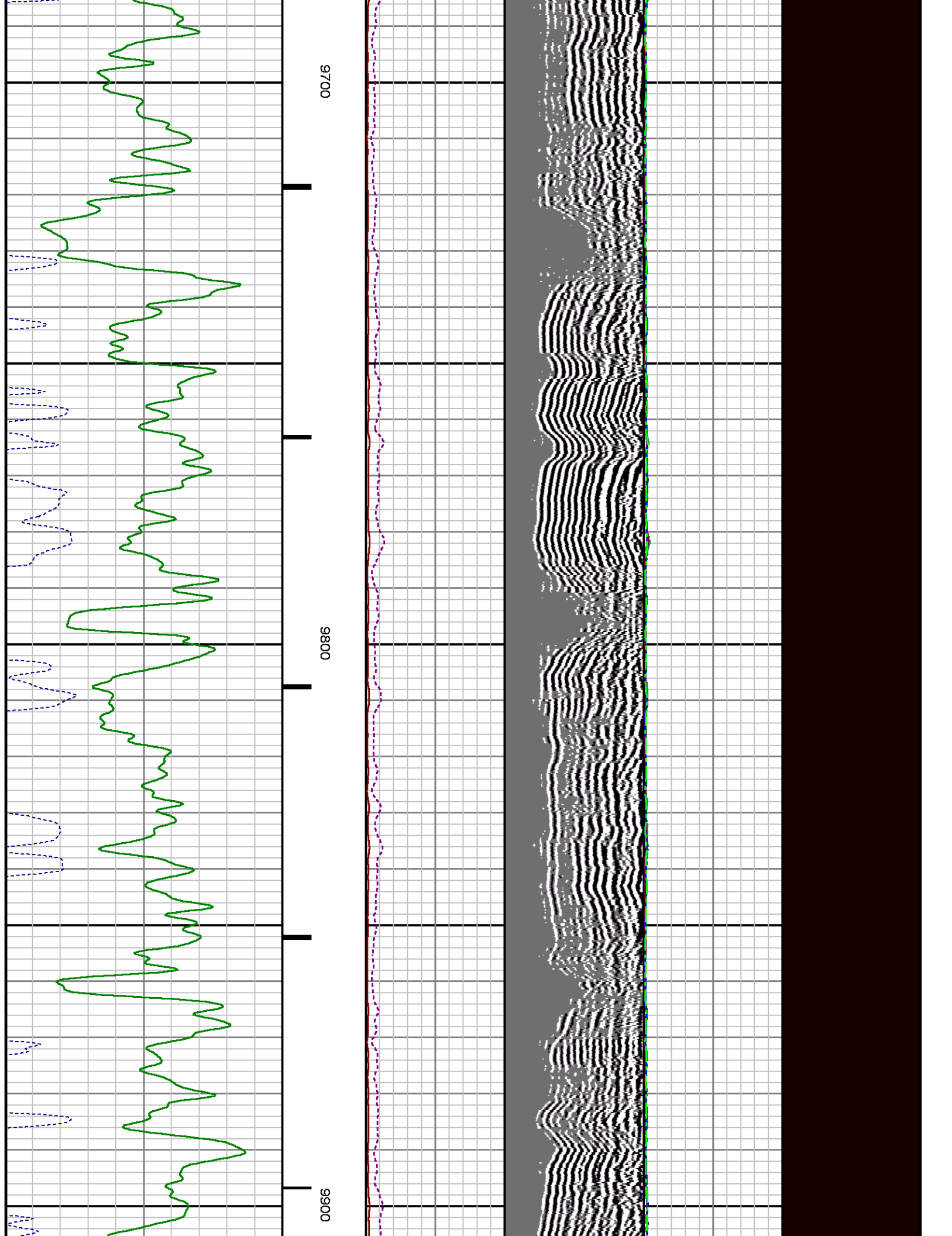


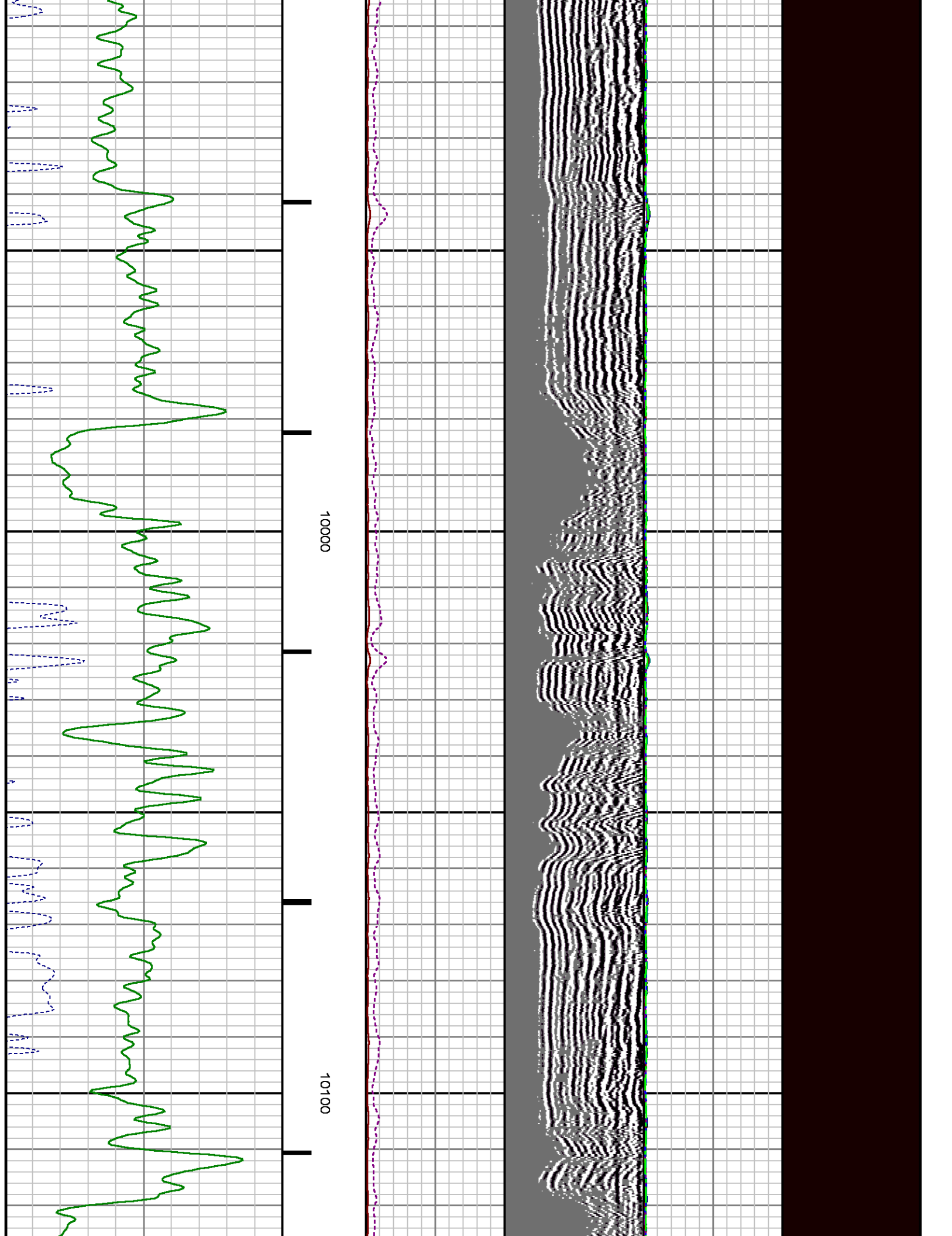


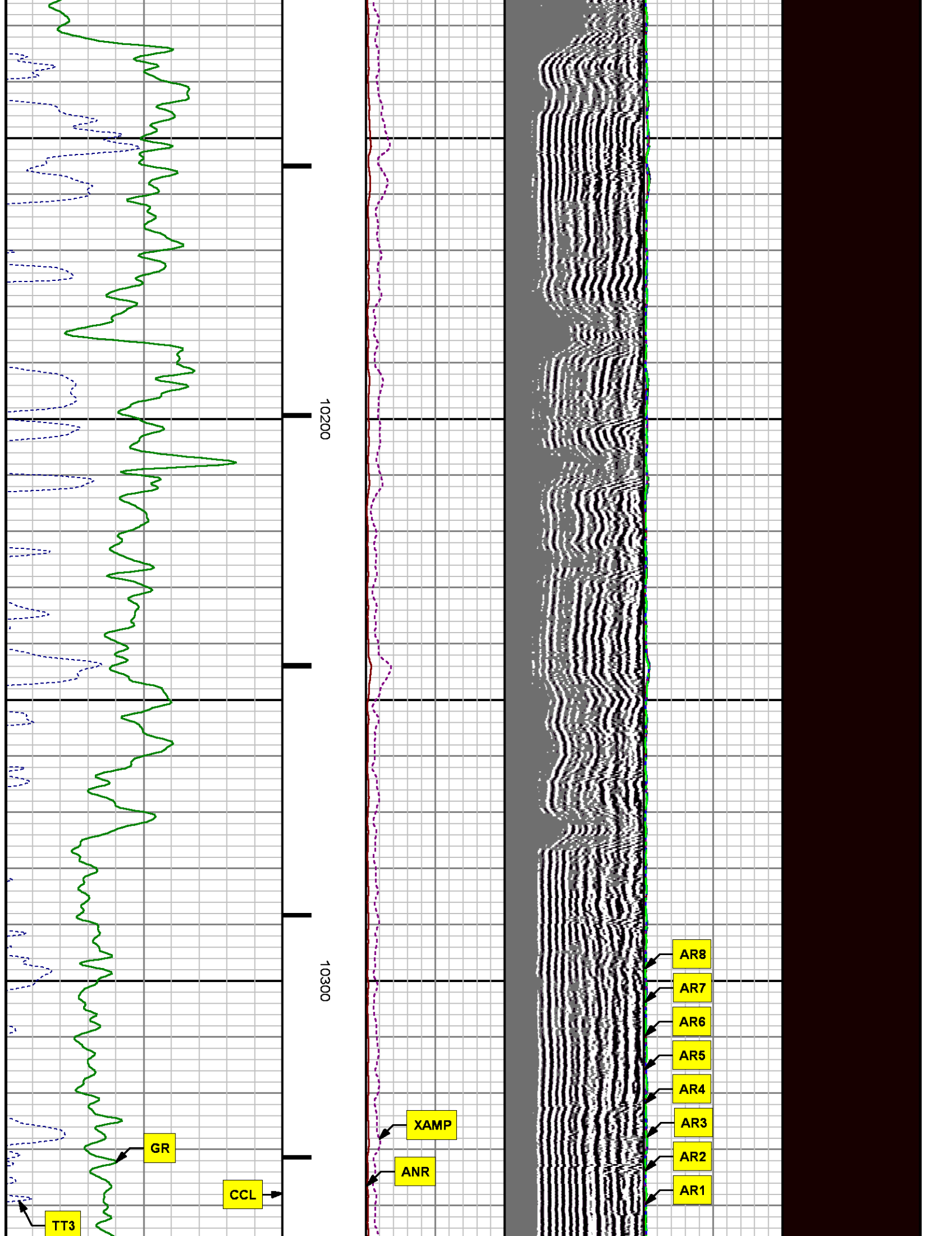


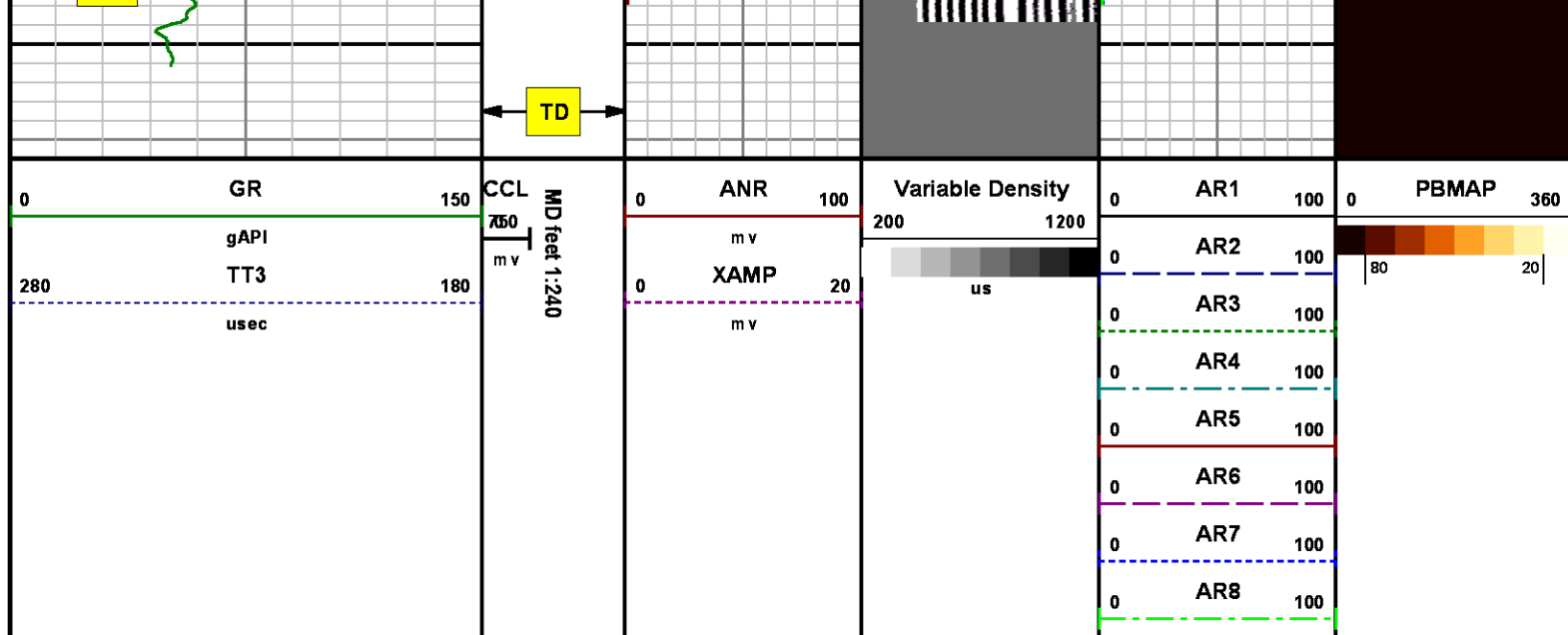












*REPEAT SECTION
0 PSI*

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	10010.160	10358.160
RAL	Amp Gate Start Near	195.000	usec	10010.160	10358.160
RAL	Amp Gate Start Radial	195.000	usec	10010.160	10358.160
RAL	Amp Gate Width Far	25.000	usec	10010.160	10358.160
RAL	Amp Gate Width Near	25.000	usec	10010.160	10358.160
RAL	Amp Gate Width Radial	25.000	usec	10010.160	10358.160
RAL	casing od	4.500	inches	10010.160	10358.160
RAL	casing wt	11.600	lbm/ft	10010.160	10358.160
RAL	FB Start Far	291.900	usec	10010.160	10358.160
RAL	FB Start Near	175.391	usec	10010.160	10358.160
RAL	FB Start Radial	175.391	usec	10010.160	10358.160
RAL	FB Thresh Far	10.000	mv	10010.160	10358.160
RAL	FB Thresh Near	4.000	mv	10010.160	10358.160
RAL	FB Thresh Radial	4.000	mv	10010.160	10358.160
RAL	Fluid Travel Time	200.000	usec/ft	10010.160	10358.501

DEPTH OFFSETS

(for Acquired Curves)

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

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

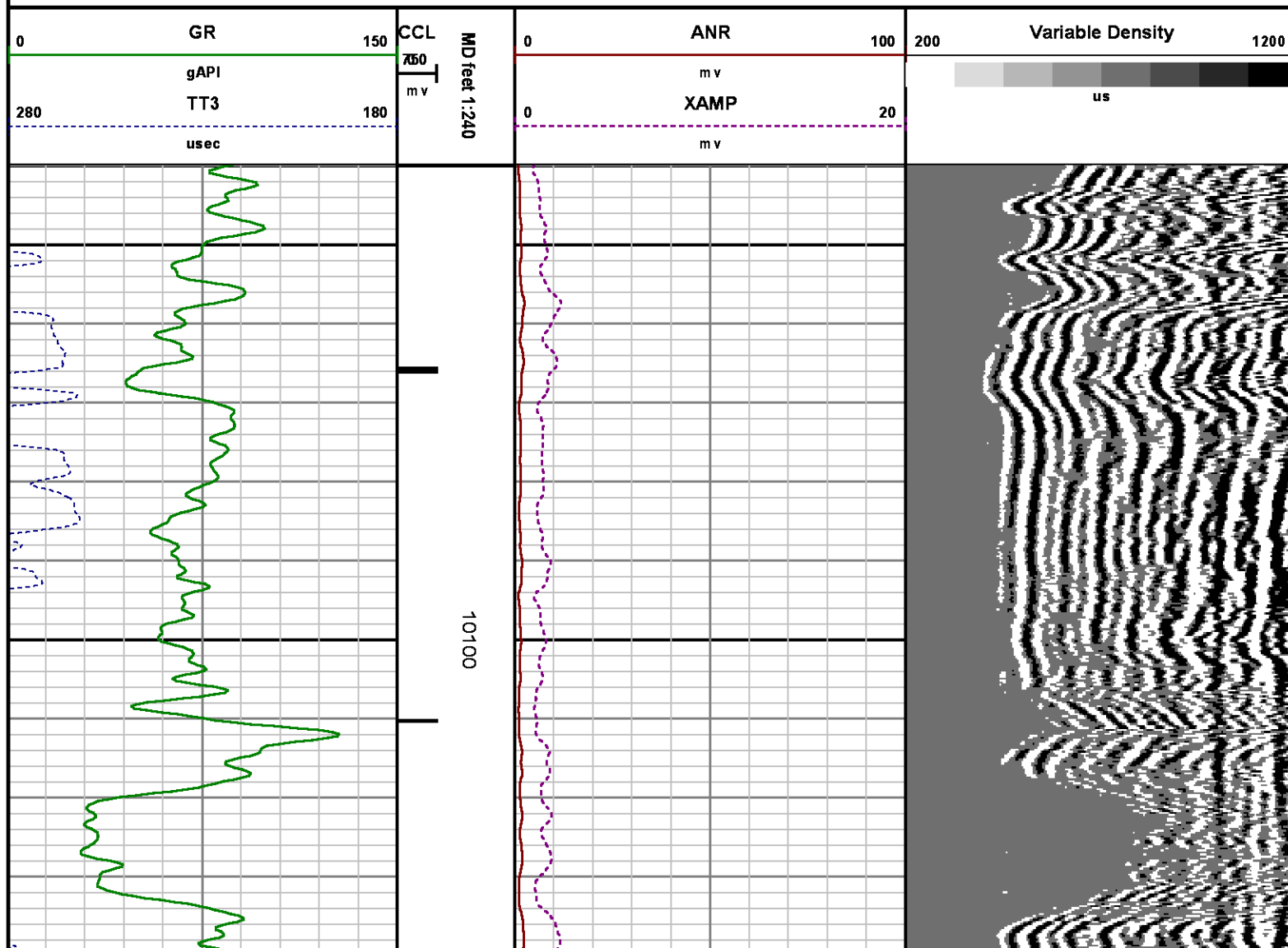
Well : FEDERAL NER 14-32

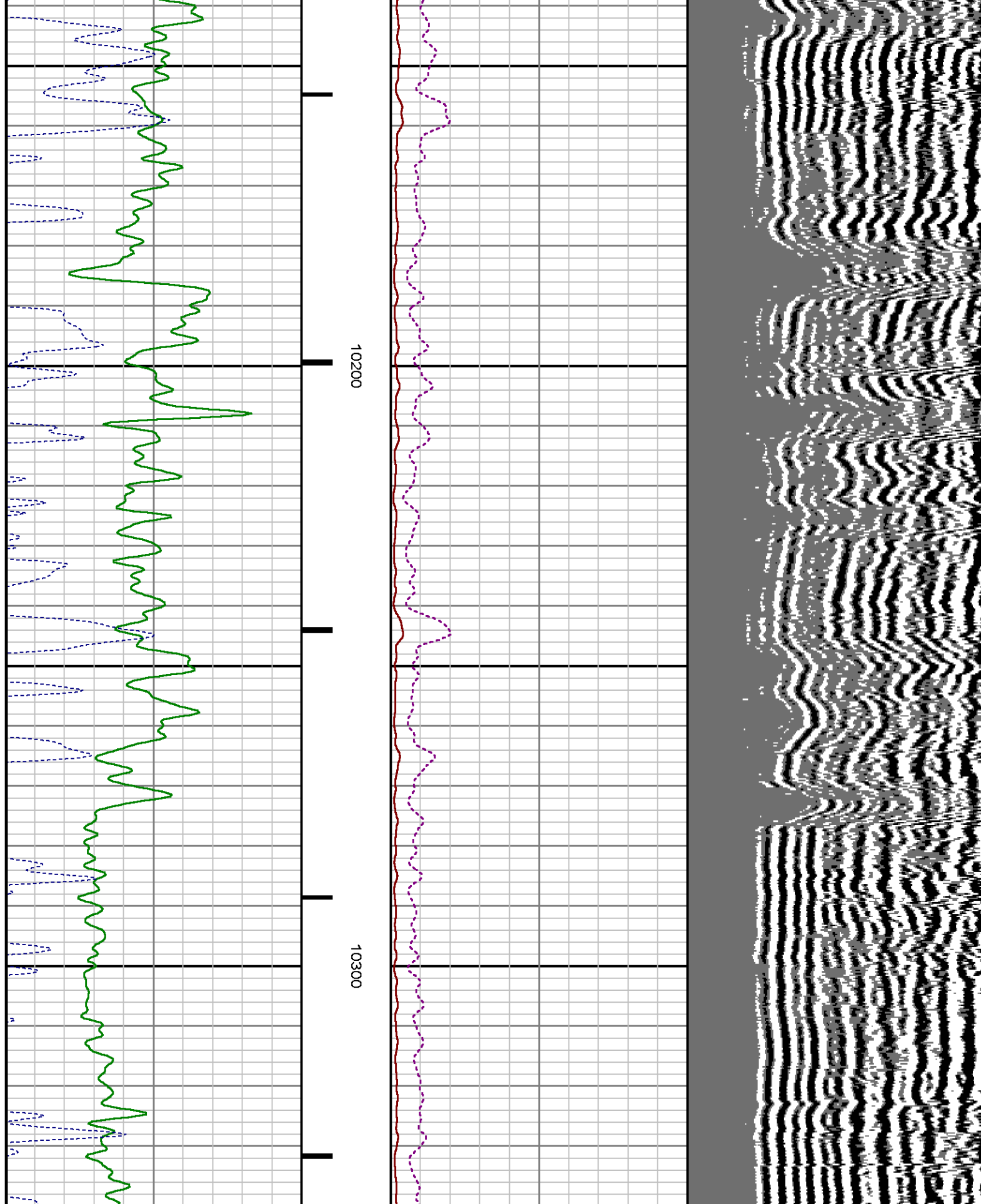
File Name : d:\welldata\wpx\federal ner 14-32\14cb\repeat.xtf


Mode : PlotMgr 5.4.504

Interval : 10040.00 - 10340.00 feet UP

Created : 6/21/2014 3:57:21 PM





0 GR 150		0 ANR 100		200 Variable Density 1200	
gAPI		m v			
TT3		XAMP		us	
280 180		0 20			
u sec		m v			

10200

10300

MD feet 1:240

CCL
750
m v

CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\49621_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sat Jun 21 12:06:12 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 21

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	219	216	30	166	25	0.276	100.00	0.32
3 Ft. Receiver	219	216	30	166	17	1.008	100.00	0.31
5 Ft. Receiver	327	325	30	257	25	0.231	150.00	0.36
Radial #1	219	216	30	166	17	0.934	100.00	0.32
Radial #2	217	216	30	166	17	0.192	100.00	0.31
Radial #3	217	216	30	166	17	0.599	100.00	0.31
Radial #4	217	216	30	166	17	1.112	100.00	0.31
Radial #5	218	216	30	166	17	0.725	100.00	0.31
Radial #6	219	216	30	166	17	0.625	100.00	0.32
Radial #7	219	216	30	166	17	0.507	100.00	0.32
Radial #8	220	216	30	166	17	0.783	100.00	0.32

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\49621 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sat Jun 21 12:12:21 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 21

Tool Delay [usec] -52.00 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	0.099	0.000	1.00	100.000
3 Ft. Receiver	200	30	3.085			
5 Ft. Receiver	317	30	3.818			

Radial #1	200	30	2.442
Radial #2	200	30	2.654
Radial #3	200	30	3.015
Radial #4	200	30	3.117
Radial #5	200	30	3.201
Radial #6	200	30	3.128
Radial #7	200	30	2.544
Radial #8	200	30	2.502

GAMMA RAY

Calibration File: C:\case\calver\GR\456J1.cal

CALIBRATION SUMMARY

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

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

Verification File: C:\case\calver\GR\456J1.VP

PRIMARY LOG VERIFICATION

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

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

TOOL DIAGRAM

OTA SHORT CABLE HEAD

PROBE 2 3/4 DUAL RECEIVER RADII

Series 1426XA
 Mnemonic PROB
 Diameter 2.75"
 Length 11.17'
 Measure Point 0.75' FAR RCVR
 Measure Point 2.67' NEAR RCVR
 Measure Point 5.75' XMIT
 Temp Rating 350.00 °F
 Part # 1426200000



24.23'
 XMIT 18.05'

Press Rating 18000.00 PSI

NEAR RCVR	14.97'
FAR RCVR	13.05'
CCL	11.34'
GR	9.49'
NEU	4.09'
	0.00'

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

CASE

Company

WPX ENERGY

Well

FEDERAL NER 14-32

Field

RULISON

County

GARFIELD

State

CO

Location

SHL: 156' FNL & 2584' FWL (5 7S 93W)

BHL: 1130' FSL & 647' FWL (32 6S 93W)

SEC 32 TWP 6S RGE 93W

Elevations

KB 7629 ft

DF

GL 7603 ft

File No:

CH087277

API No:

05045217930000

32 6S 93W

RU 23-5 PAD

NABORS 576