



Baker Atlas

RADIAL ANALYSIS BOND LOG

File No: CH087677 Company WPX ENERGY

Well FEDERAL NER 524-32

API No: RULISON

County GARFIELD State CO

05045217980000

Location

SHL: 146' FNL & 2592' FWL (5 75 93W)

BHL: 495' FSL & 1875' FWL (32 65 93W)

SEC 32 TWP 6S RGE 93W

Other Services

RPM

Permanent Datum GL Elevation 7603

Log Measured From KB 26 Above P. D.

Drill Measured From KB Elevations KB 7629 DF GL 7603

Date	13/JUL/14
Run	ONE
Service Order	US087677
Depth Driller	10051
Depth Logger	10014
Bottom Logged Interval	10004
Top Logged Interval	26
Time Started	13:30
Time Finished	18:00
Operator Rig Time	4.5 HOURS
Type of Fluid in Hole	WATER
Fluid Density	NA
Salinity	NA
Fluid Level	79
Logged Cement Top	NA
Wellhead Pressure	0
Maximum Hole Deviation	NA
Nominal Logging Speed	65
Maximum Recorded Temperature	241
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	0	1108
8.75	1108	10103

Casing Record				
Size	Weight	Grade	From	To
9.625			0	1108
4.5	11.6	P-110	0	10103

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 4 feet.
Logged with zero PSI at wellhead.
BHT = 241 °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	28.922	10017.750
RAL	Amp Gate Start Near	195.000	usec	28.922	10017.750
RAL	Amp Gate Start Radial	195.000	usec	28.922	10017.750
RAL	Amp Gate Width Far	25.000	usec	28.922	10017.750
RAL	Amp Gate Width Near	25.000	usec	28.922	10017.750
RAL	Amp Gate Width Radial	25.000	usec	28.922	10017.750
RAL	casing od	4.500	inches	28.922	10017.750
RAL	casing wt	11.600	lbm/ft	28.922	10017.750
RAL	FB Start Far	291.900	usec	28.922	10017.750
RAL	FB Start Near	175.391	usec	28.922	10017.750
RAL	FB Start Radial	175.391	usec	28.922	10017.750
RAL	FB Thresh Far	10.000	mv	28.922	10017.750
RAL	FB Thresh Near	4.000	mv	28.922	10017.750
RAL	FB Thresh Radial	4.000	mv	28.922	10017.750
RAL	Fluid Travel Time	200.000	usec/ft	28.922	10018.609

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
AFAR	SIG	TT5			
CCL					
GR					
NEU					

Plotted by : PlotMgr, v5.4.504

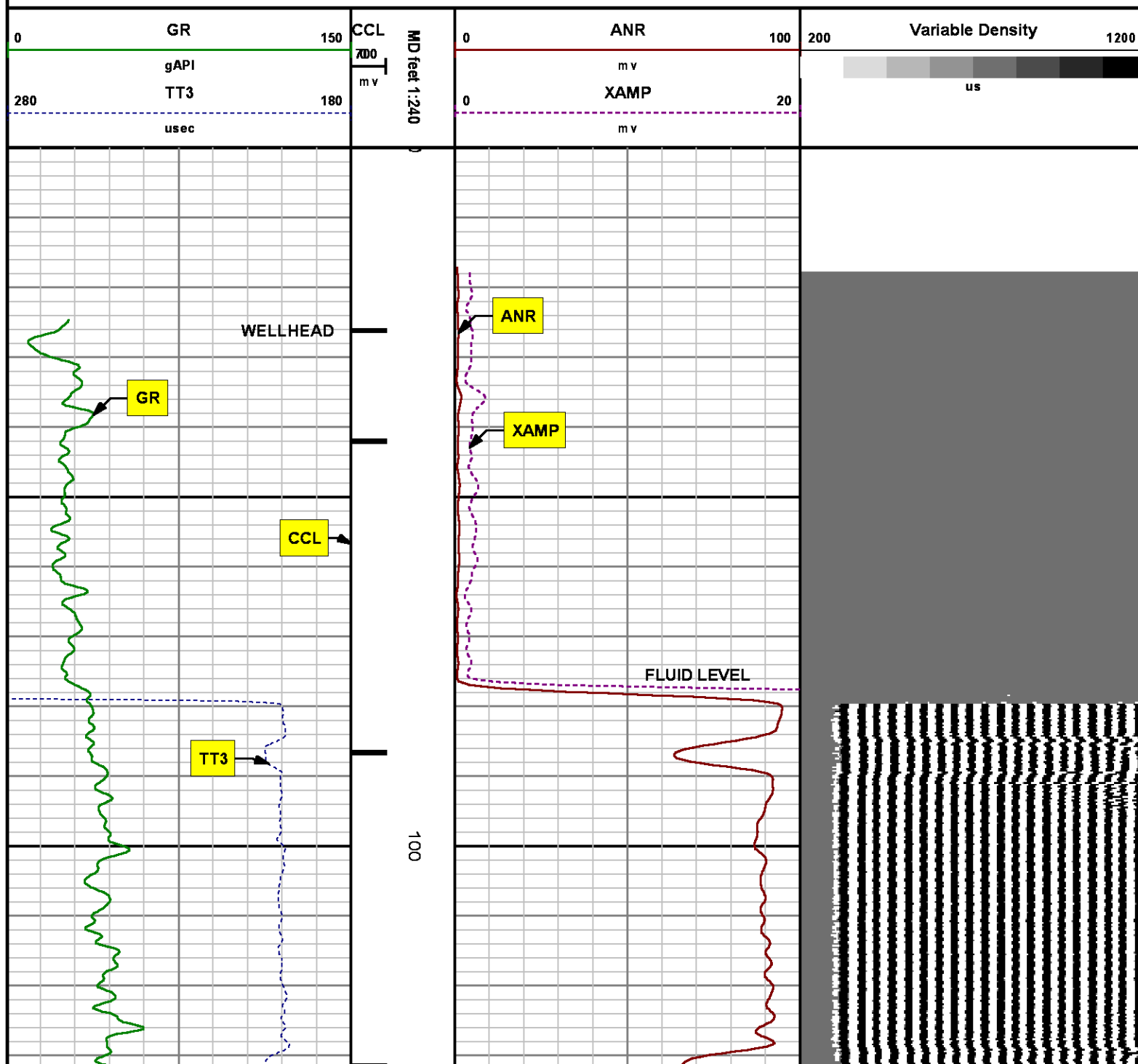
Well : FEDERAL NER 524-32

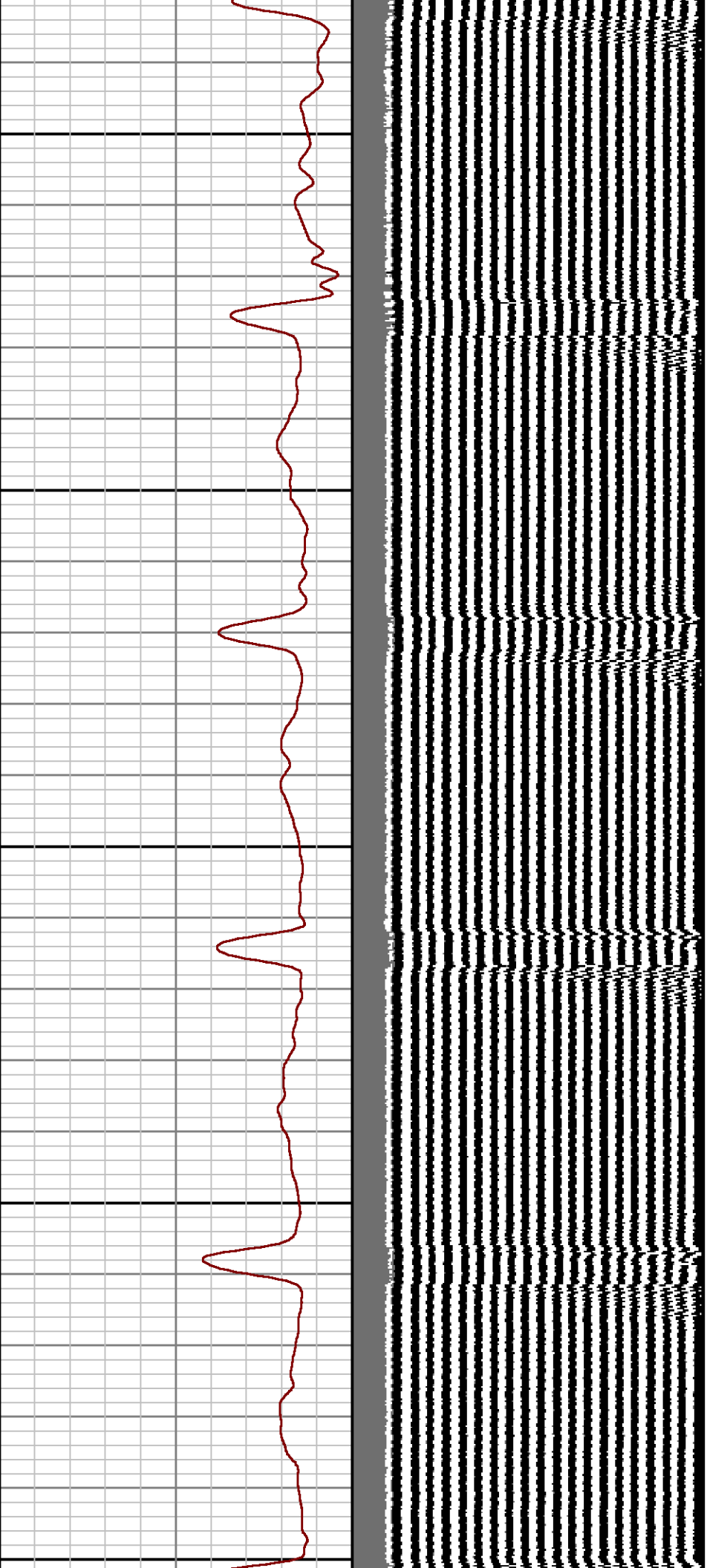
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Mode : PlotMgr 5.4.504

Interval : 0.00 - 10019.00 feet UP

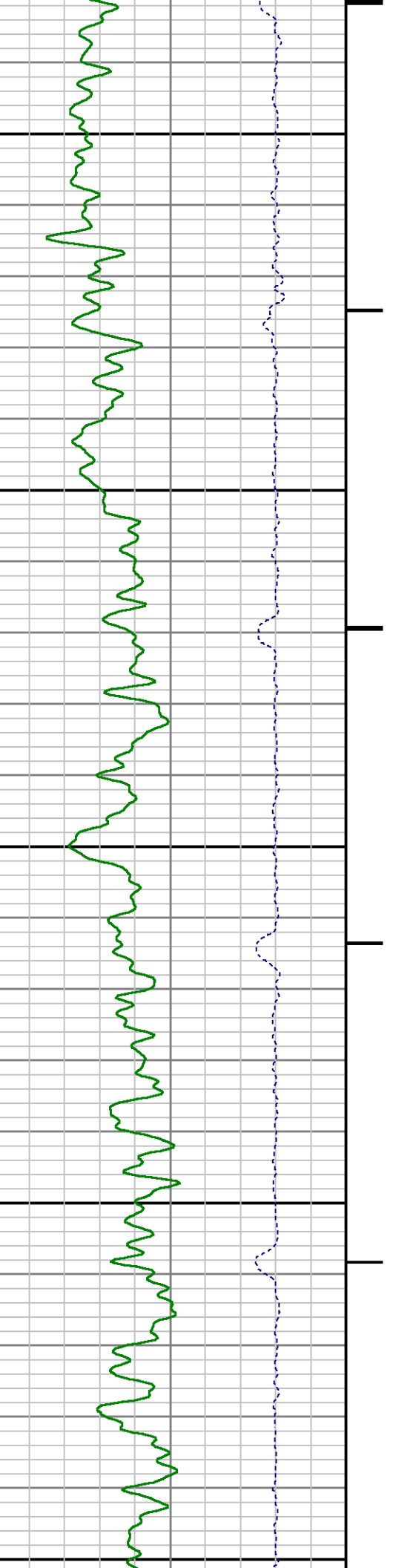
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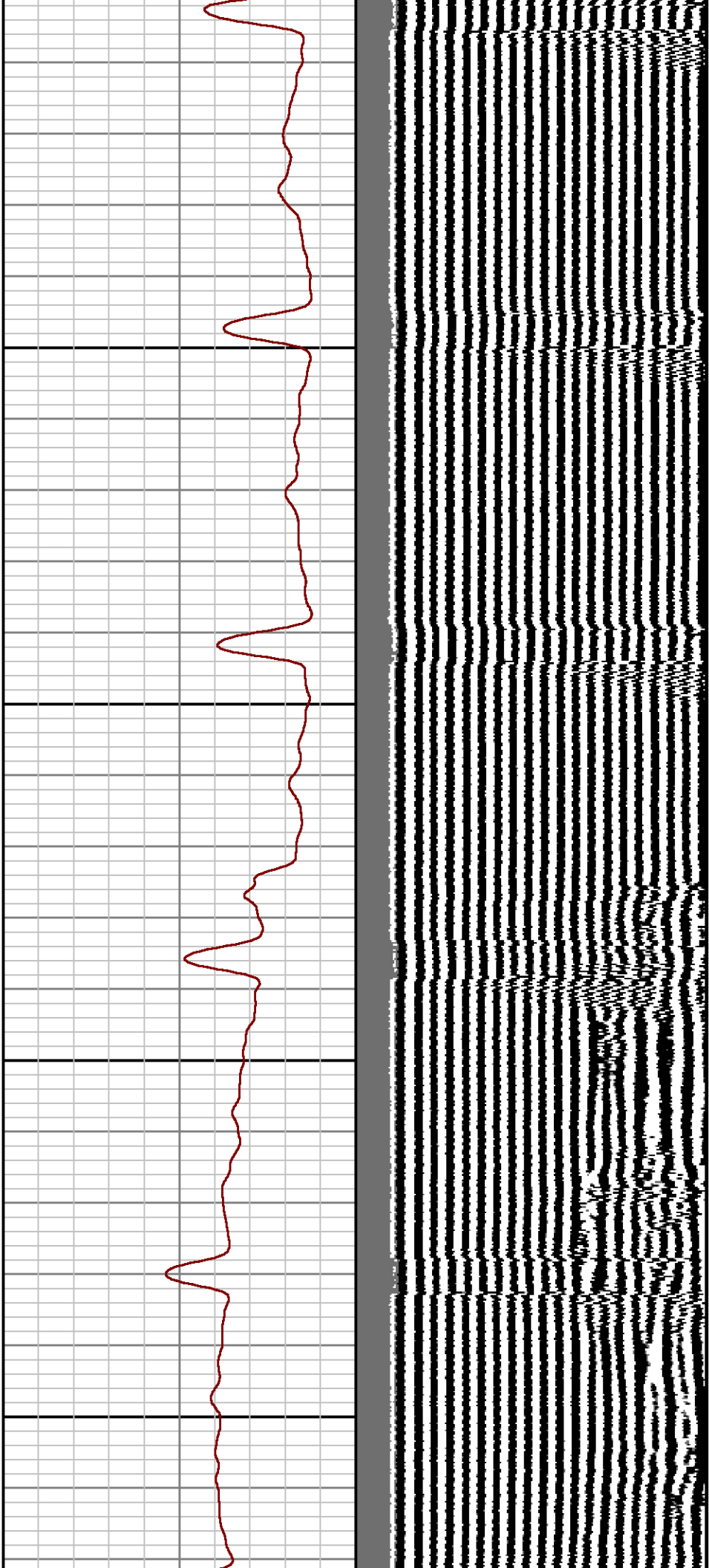




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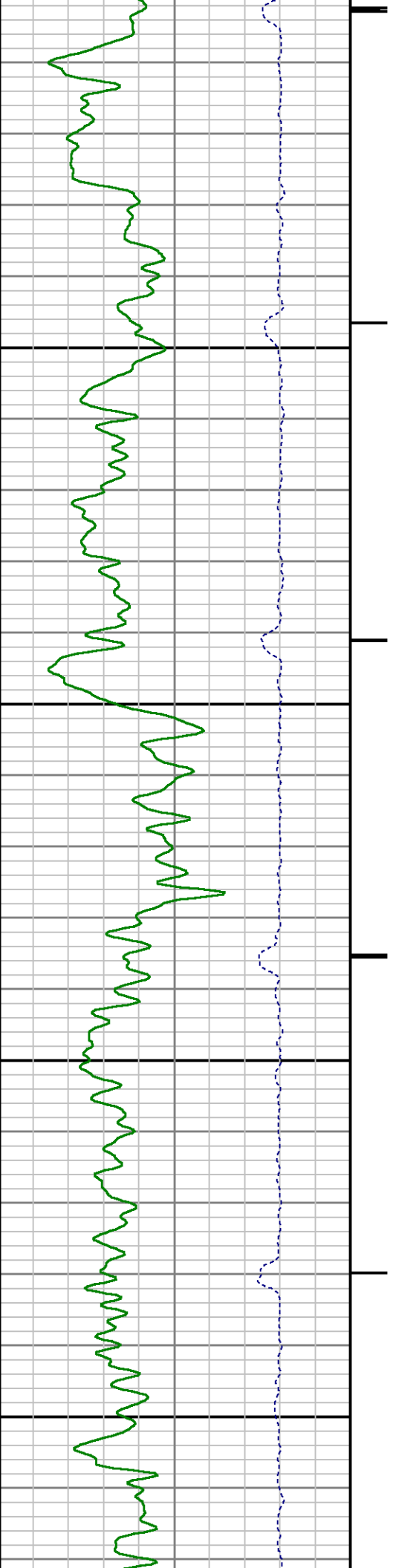
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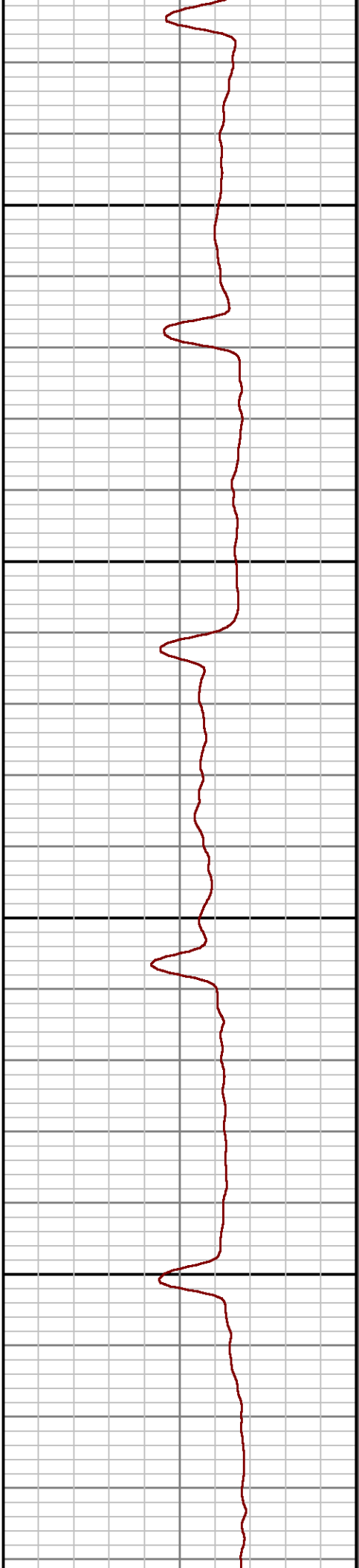
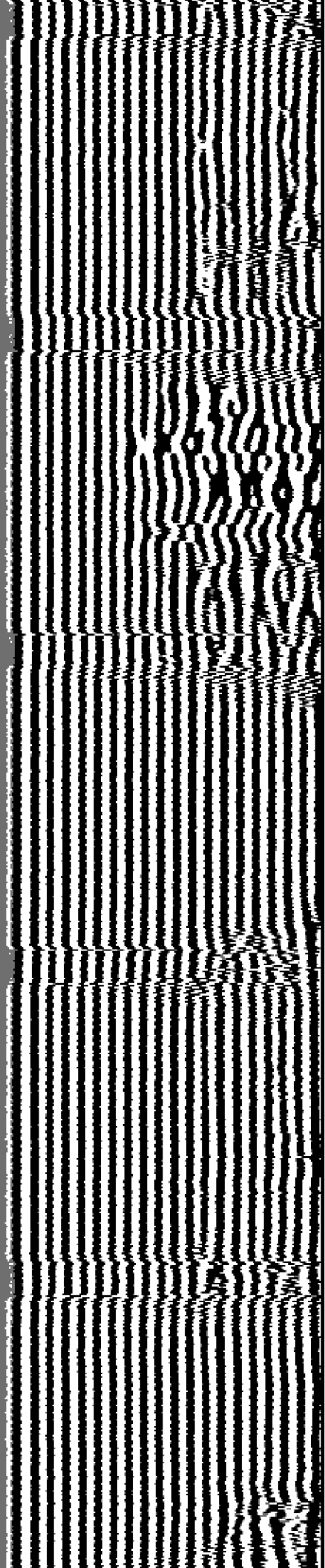




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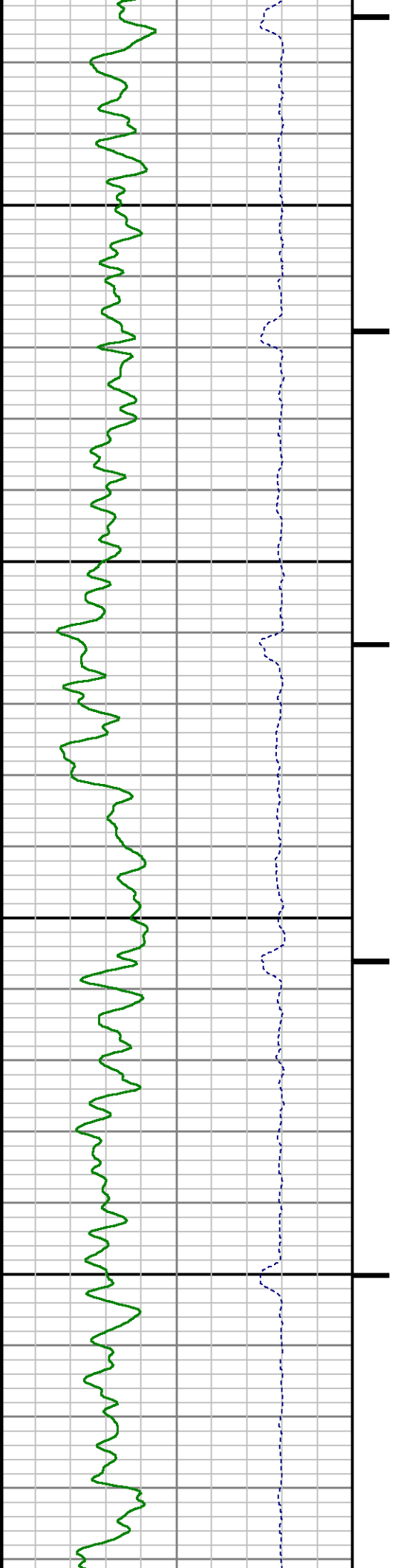
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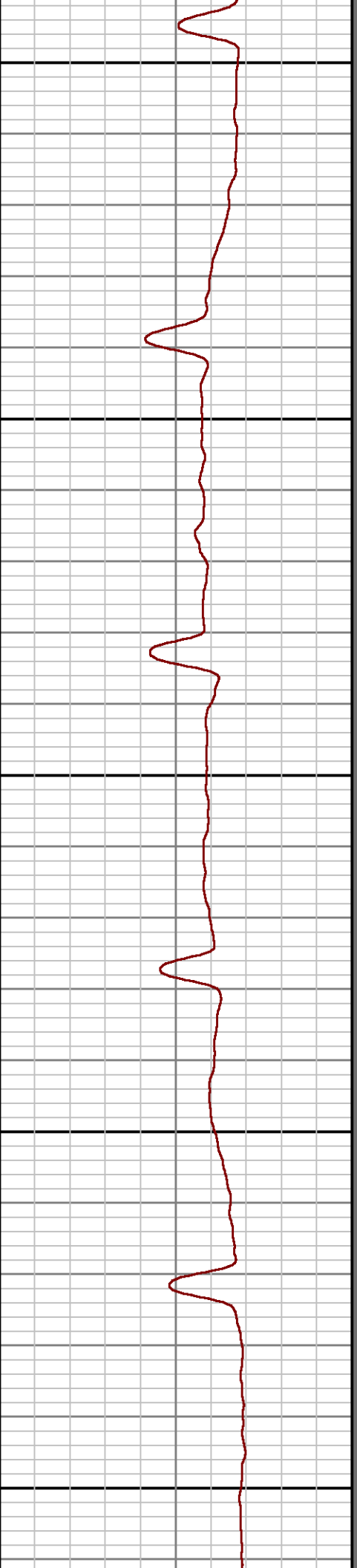
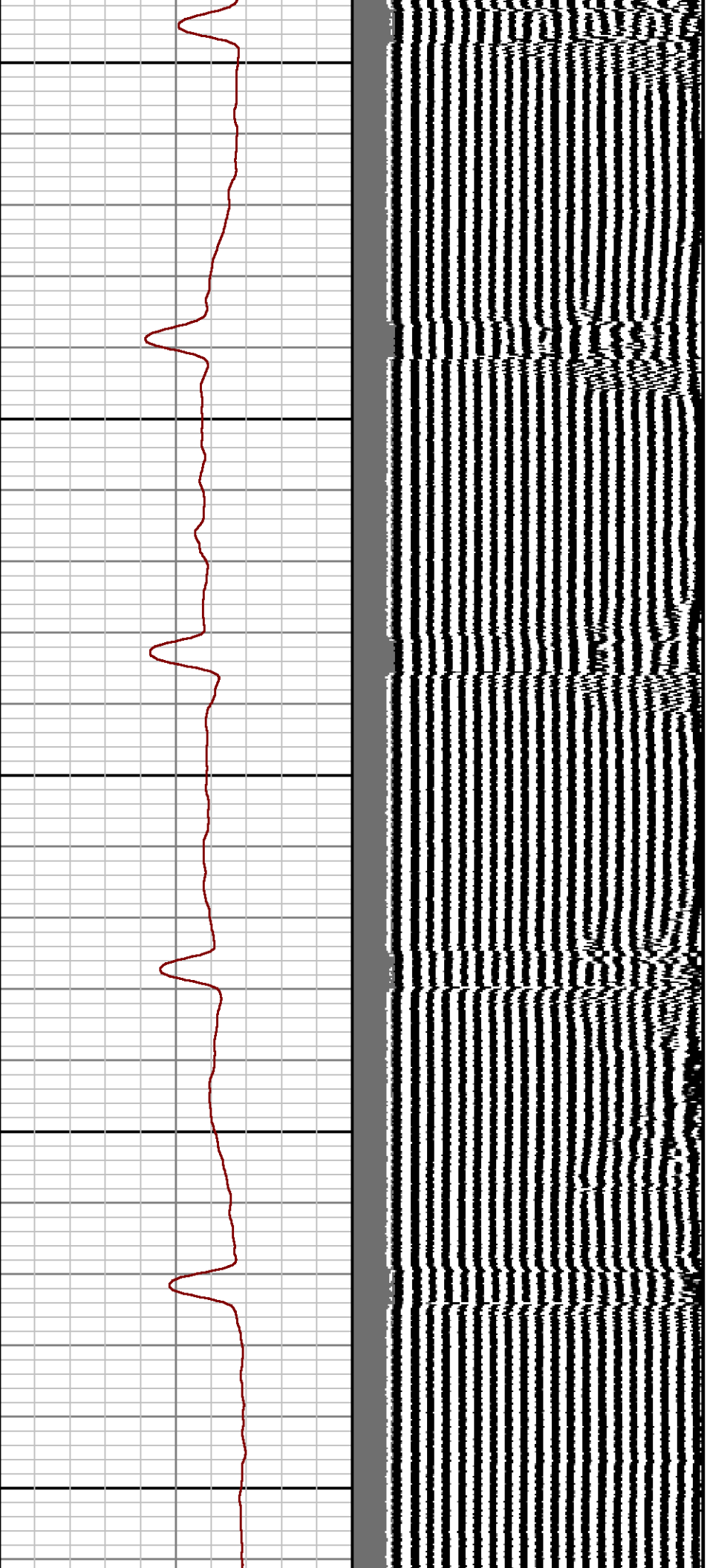




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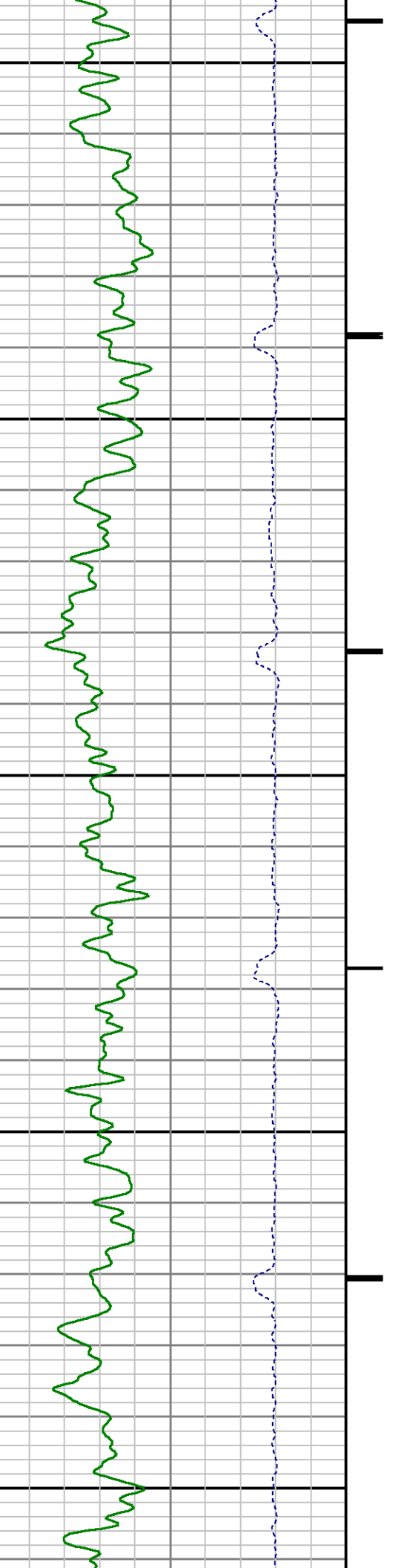


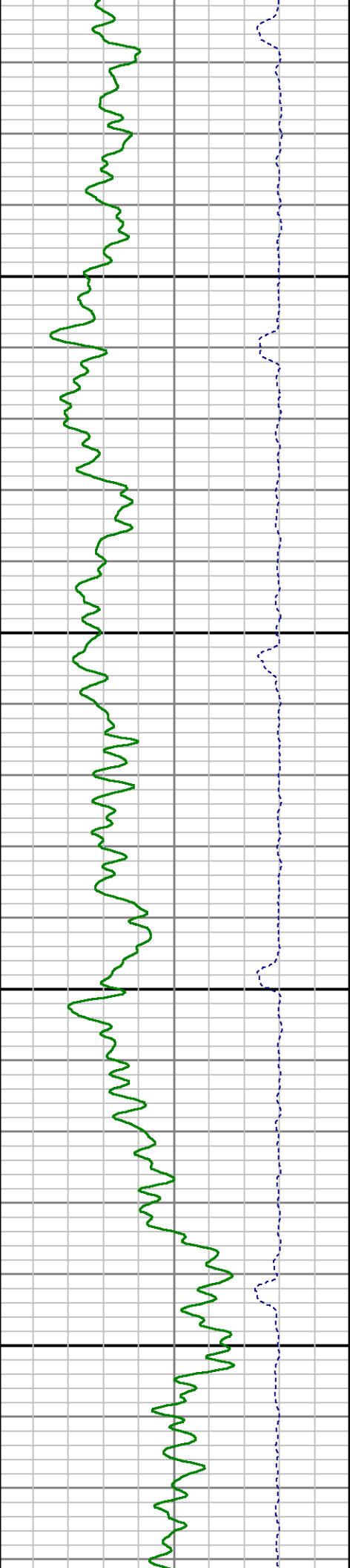
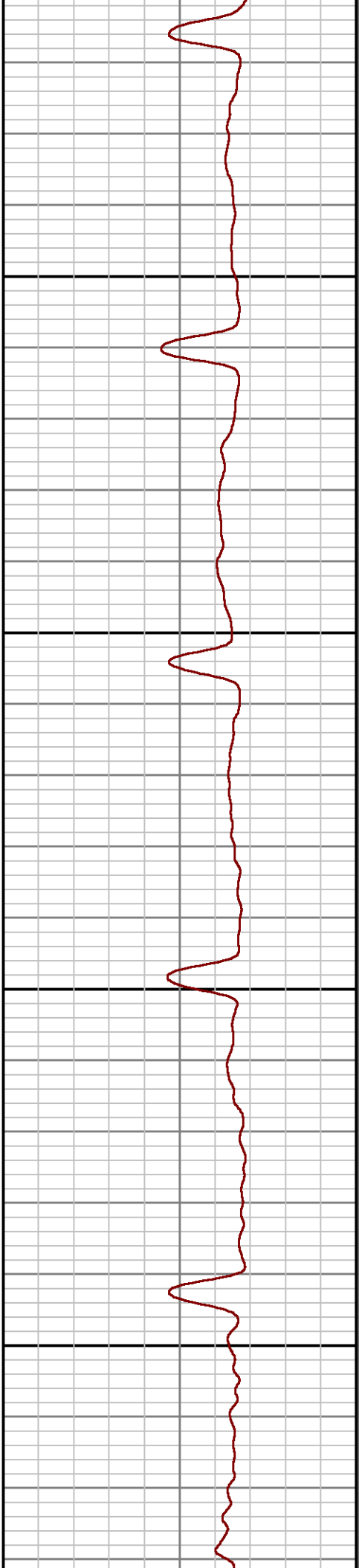
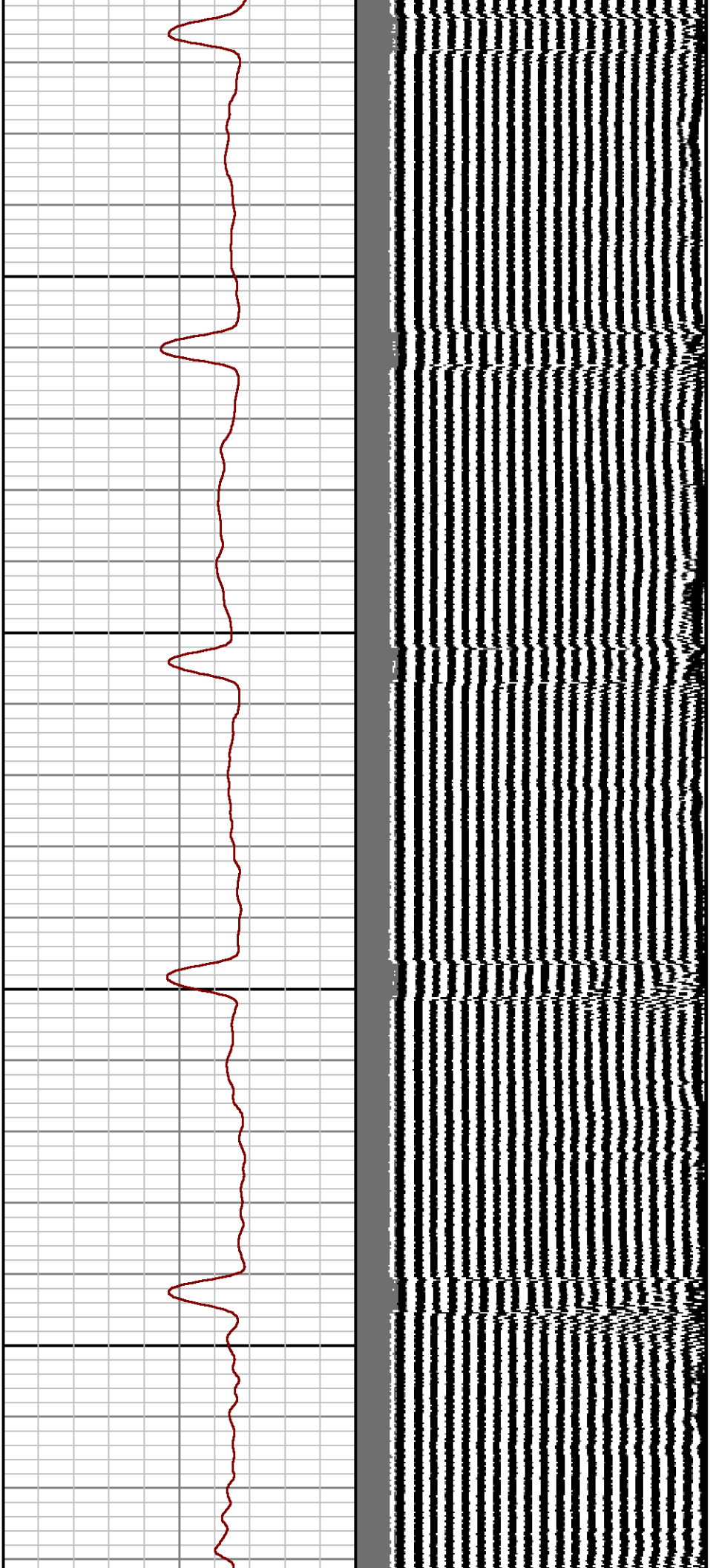


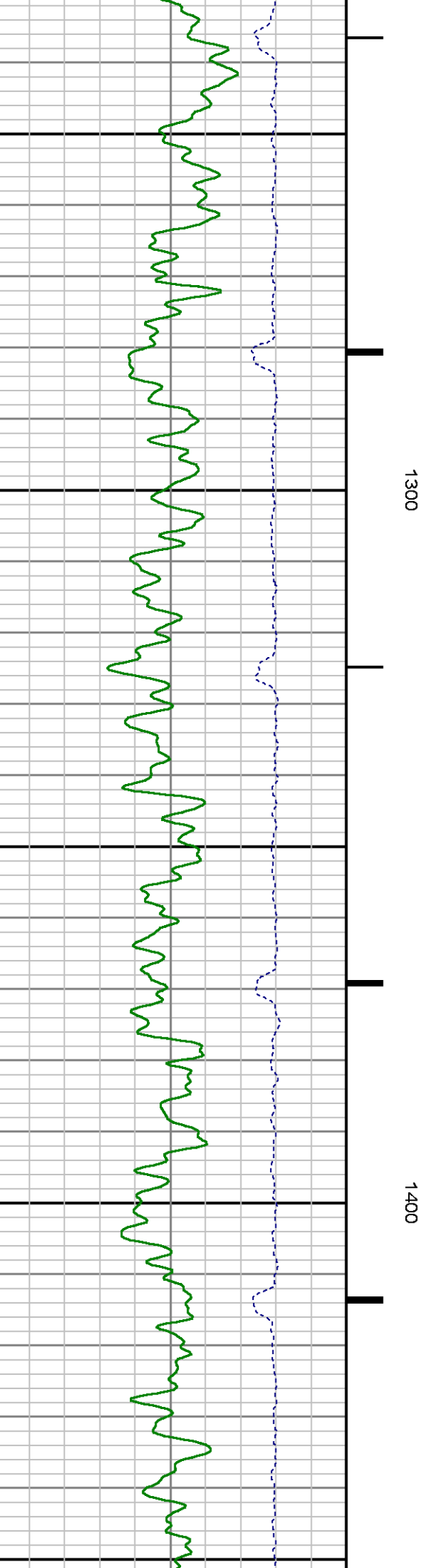
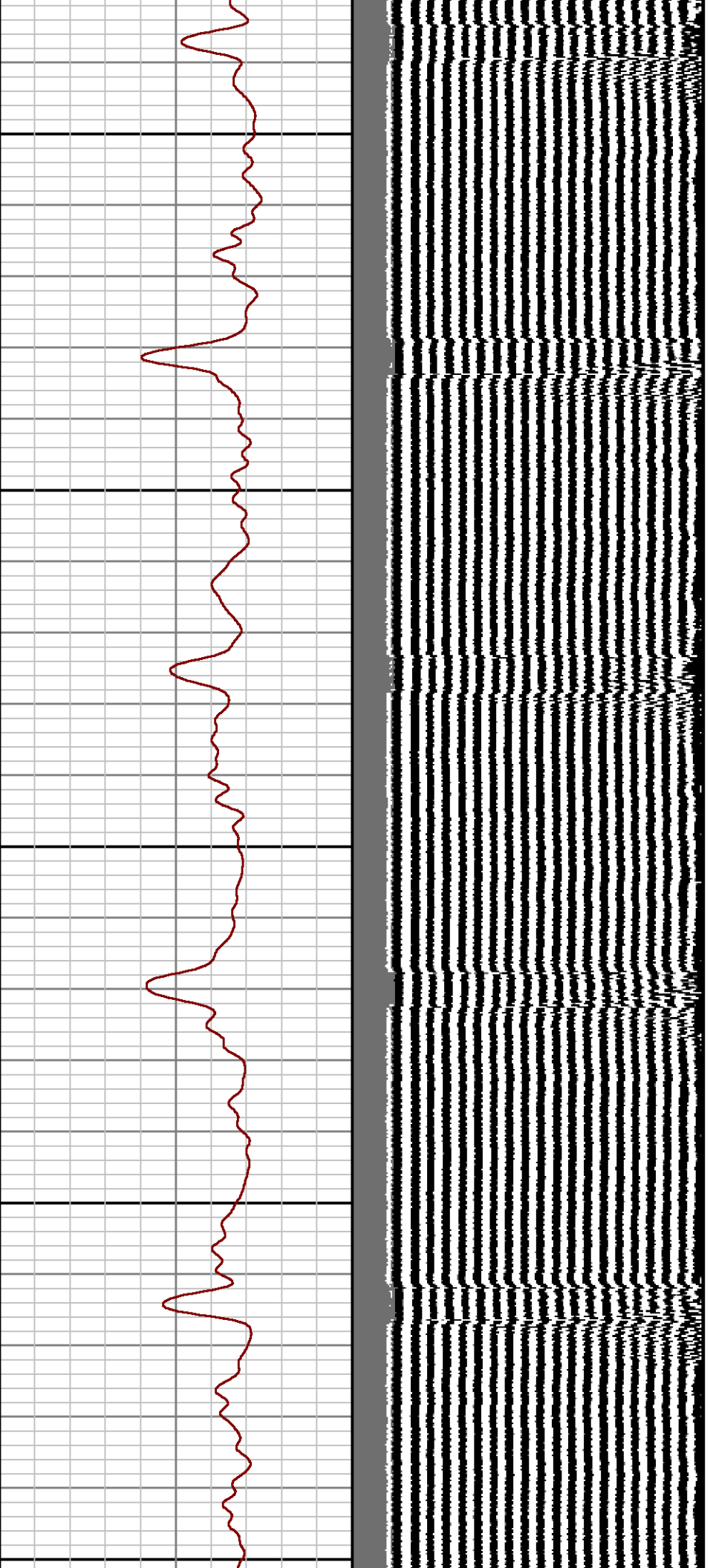
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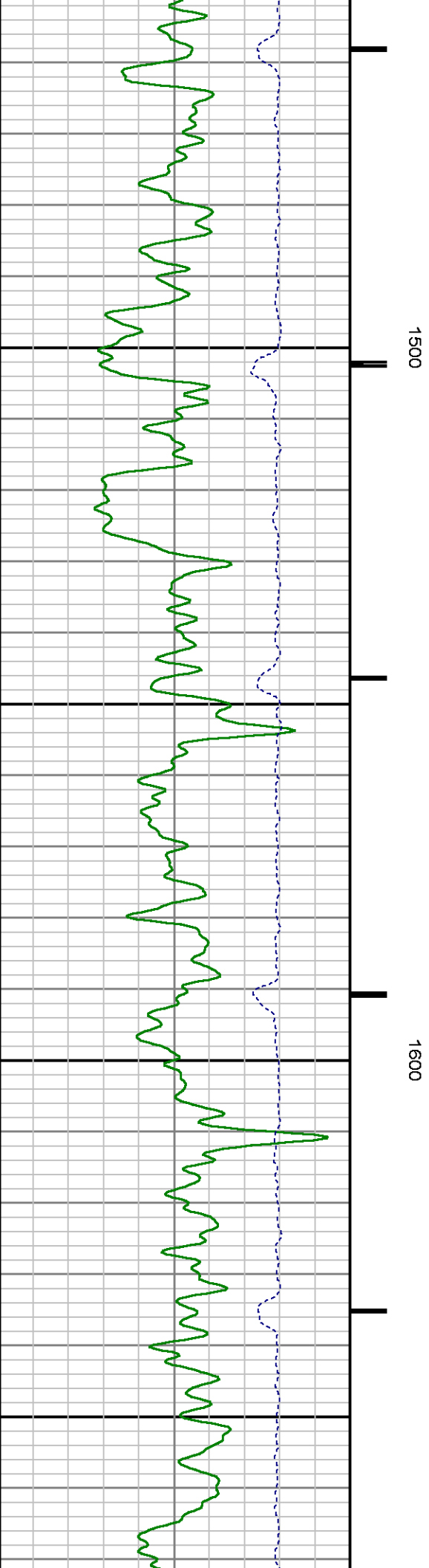
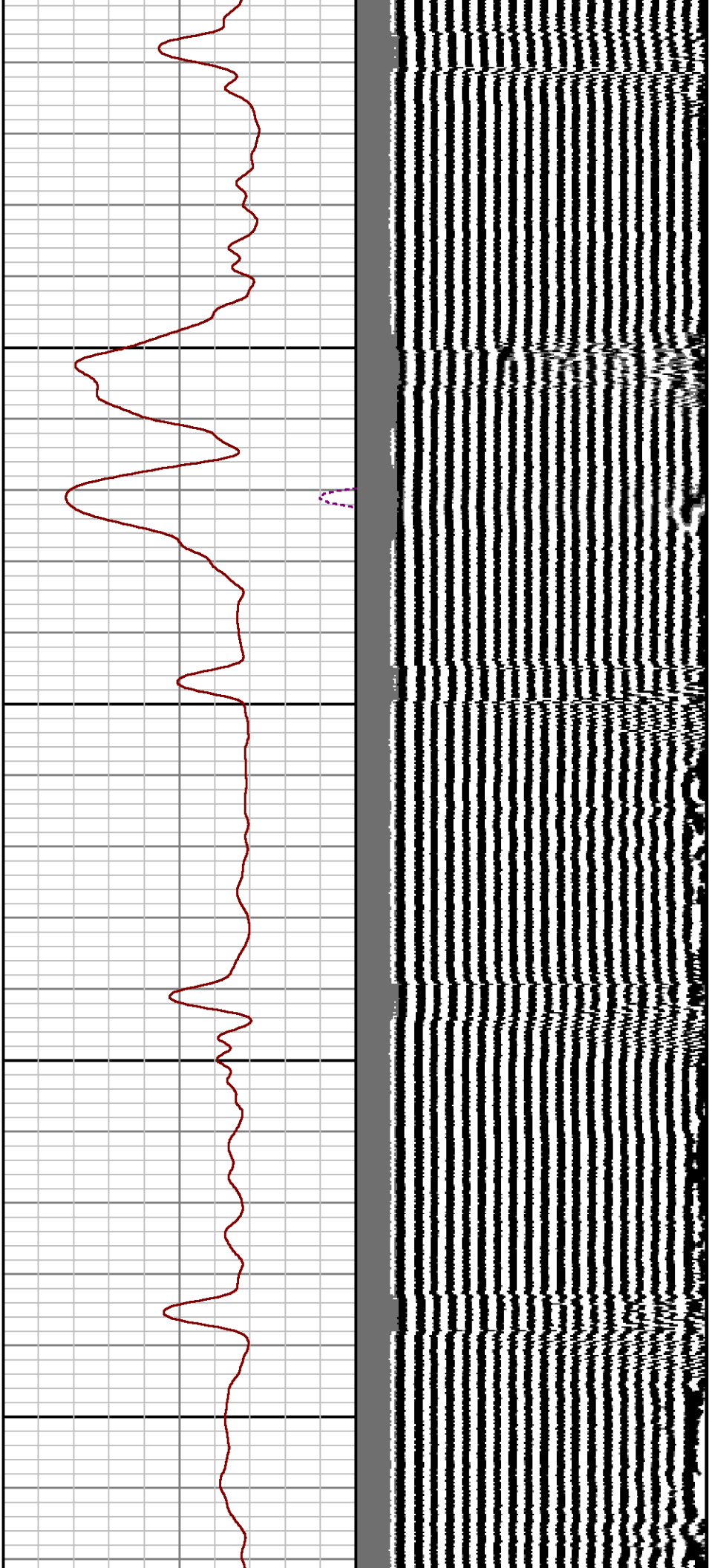
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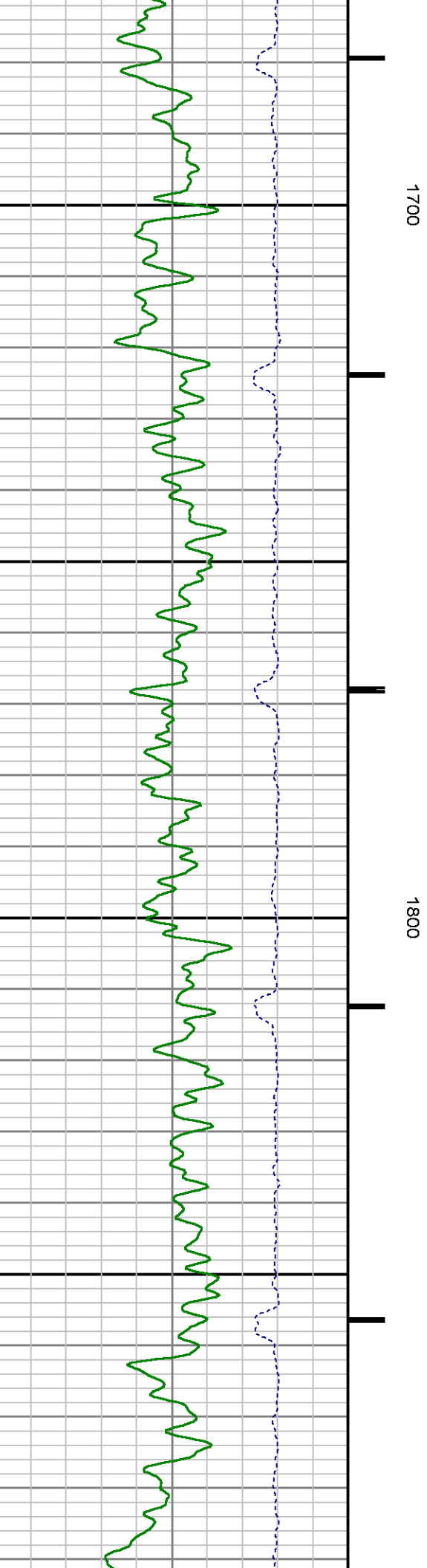
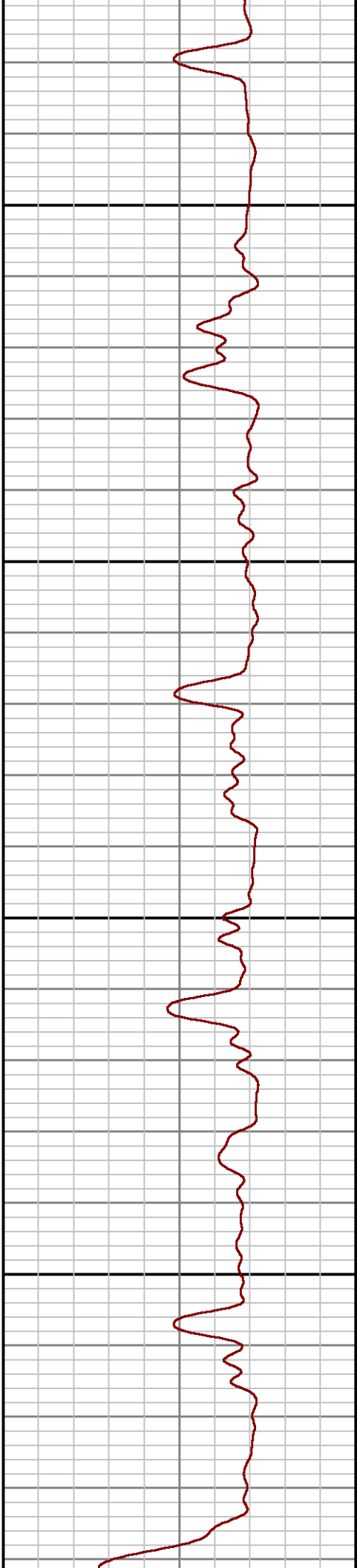
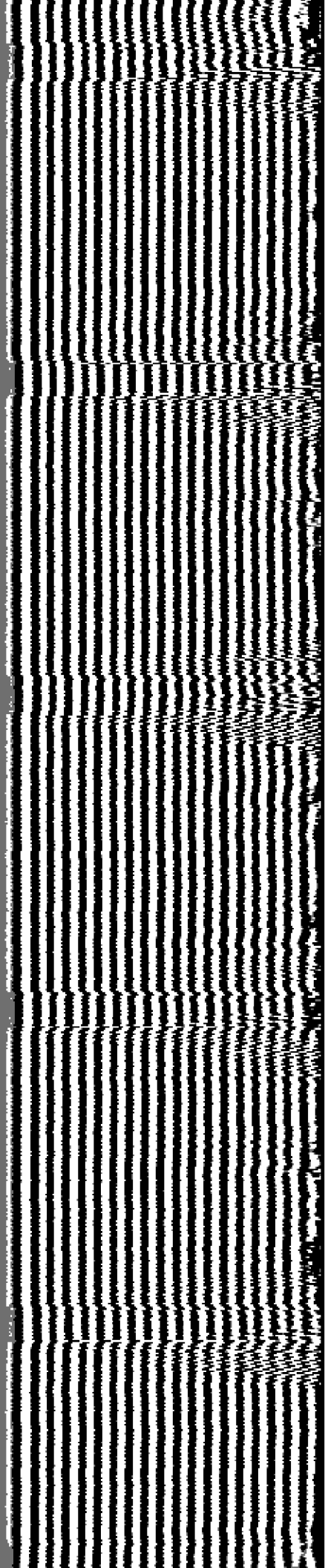
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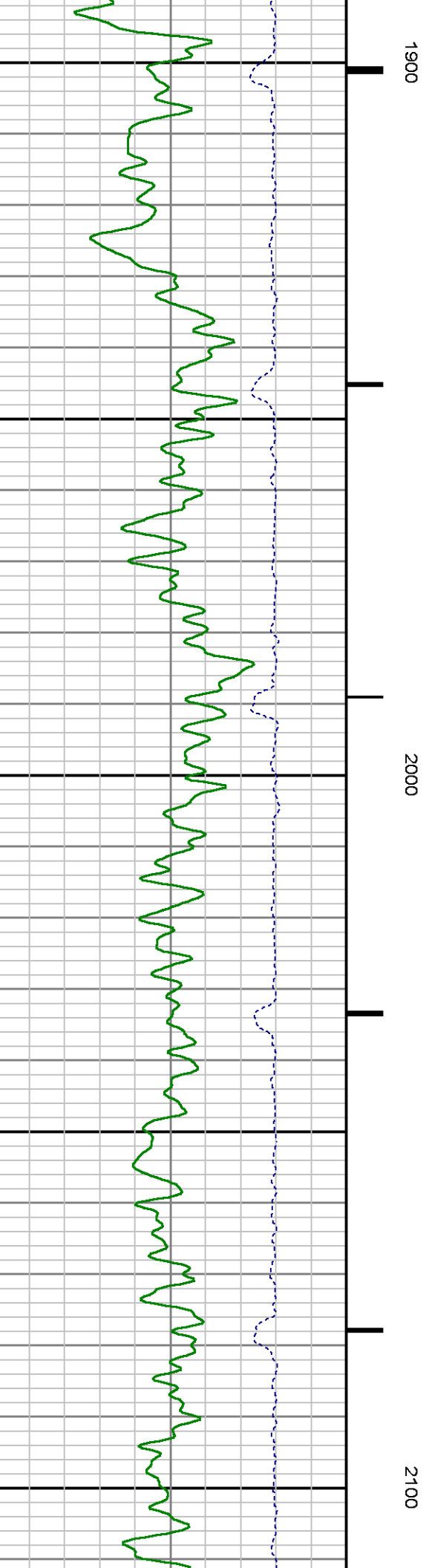
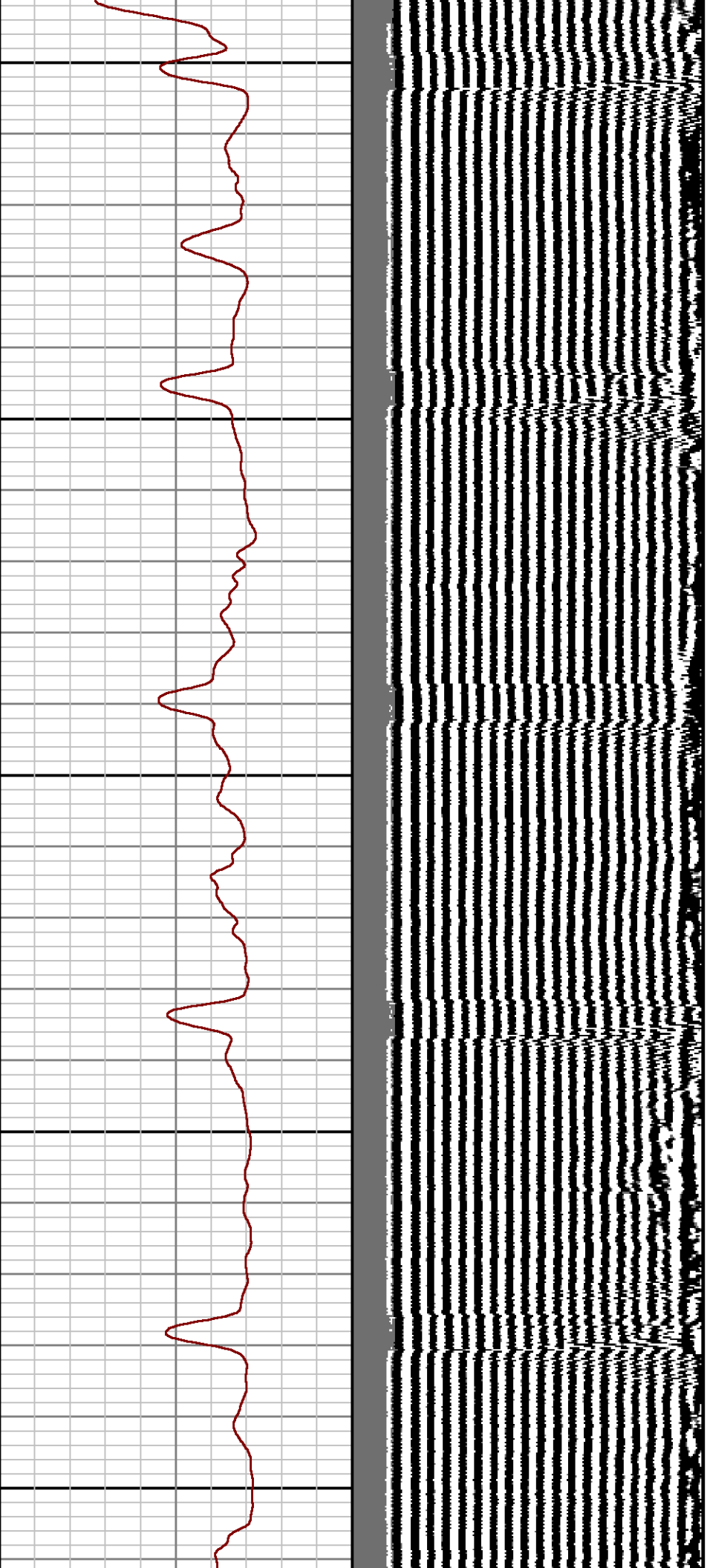


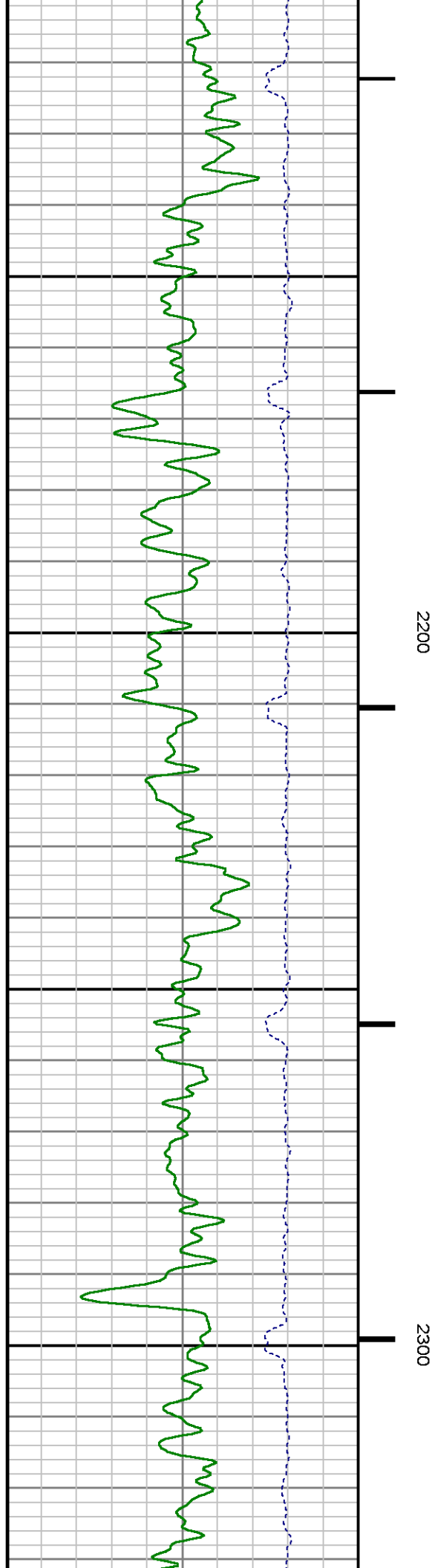
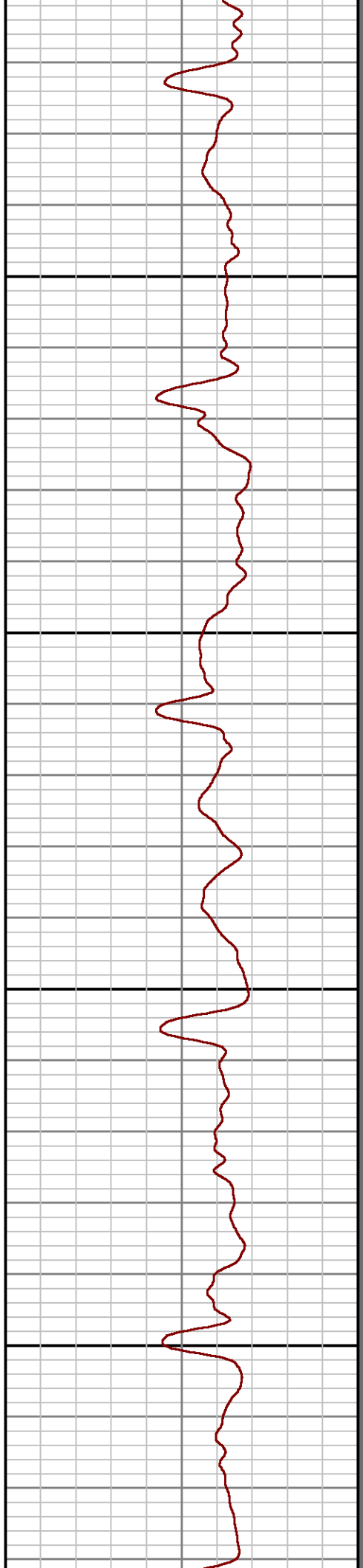
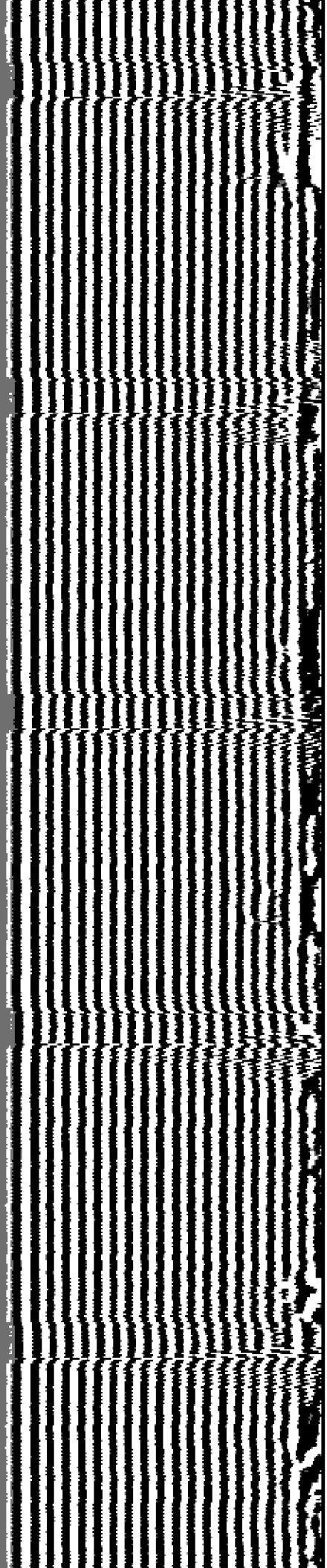


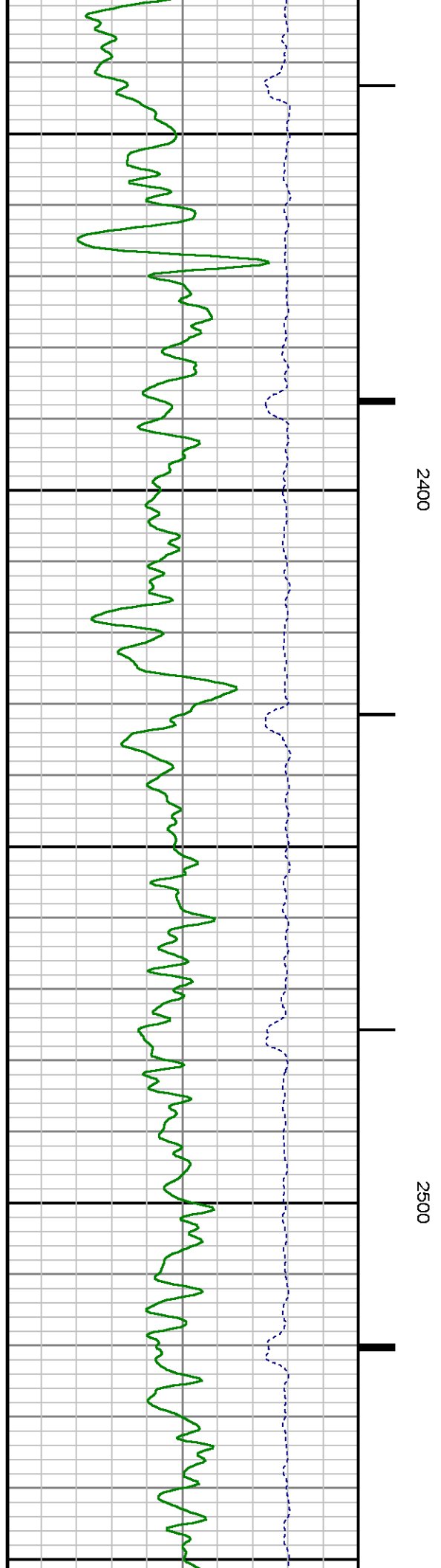
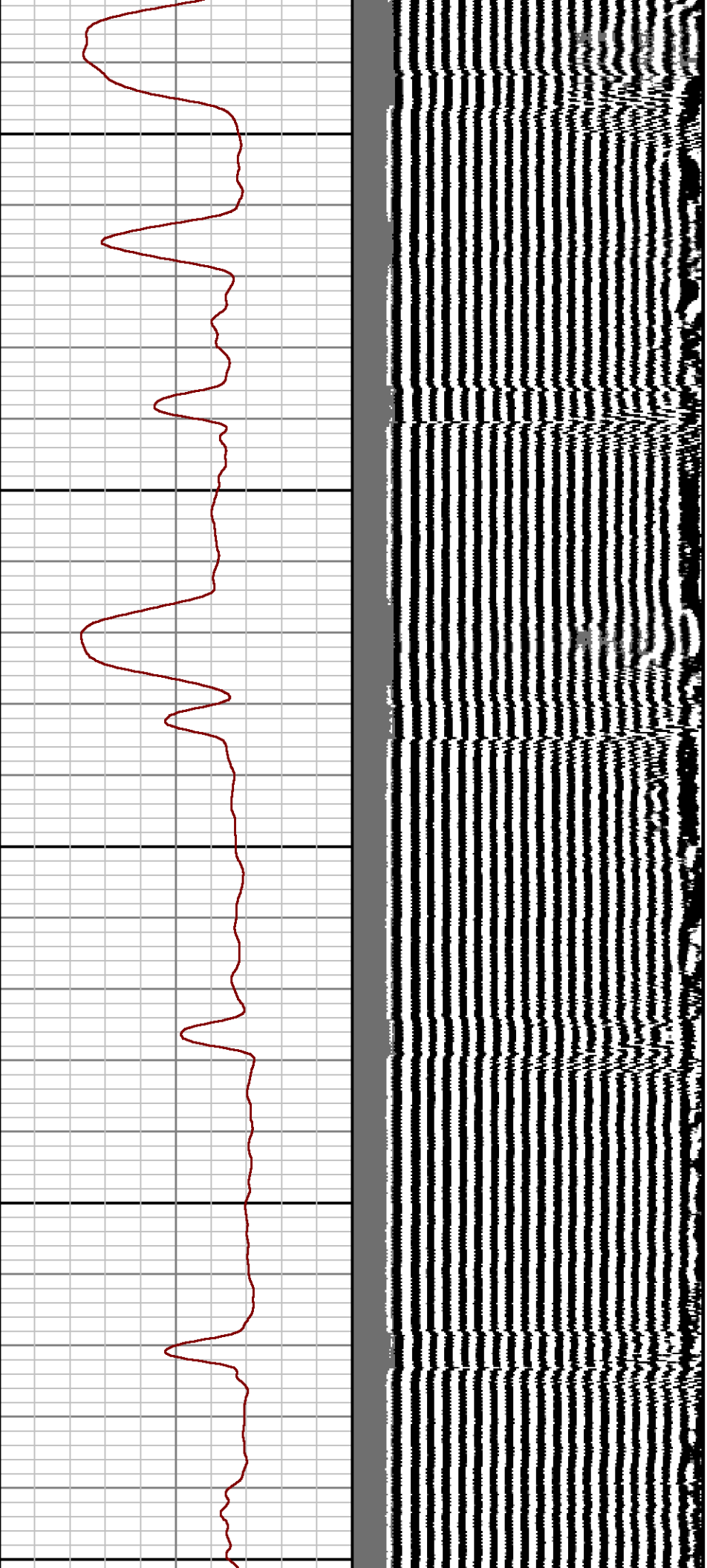


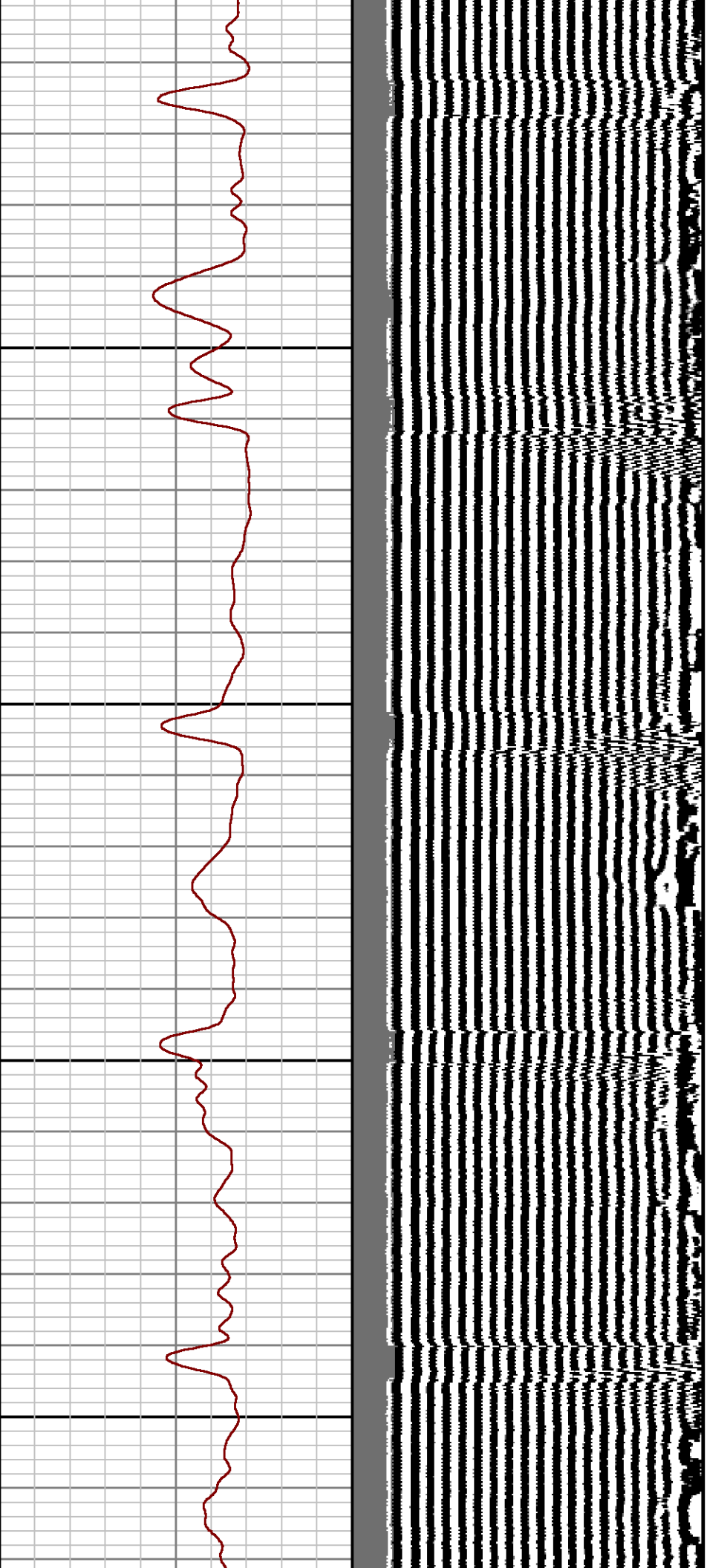






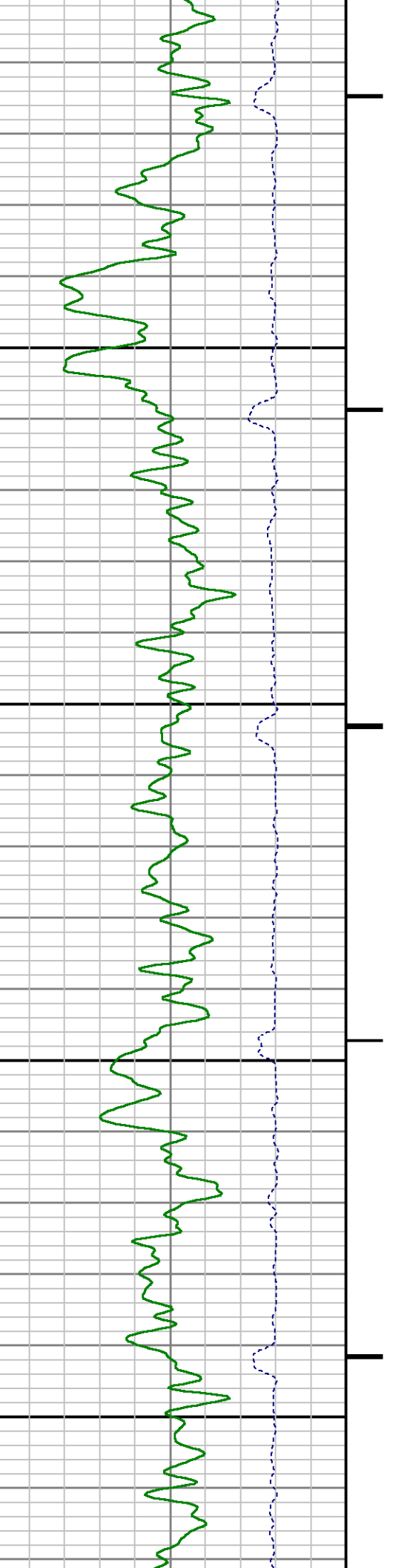


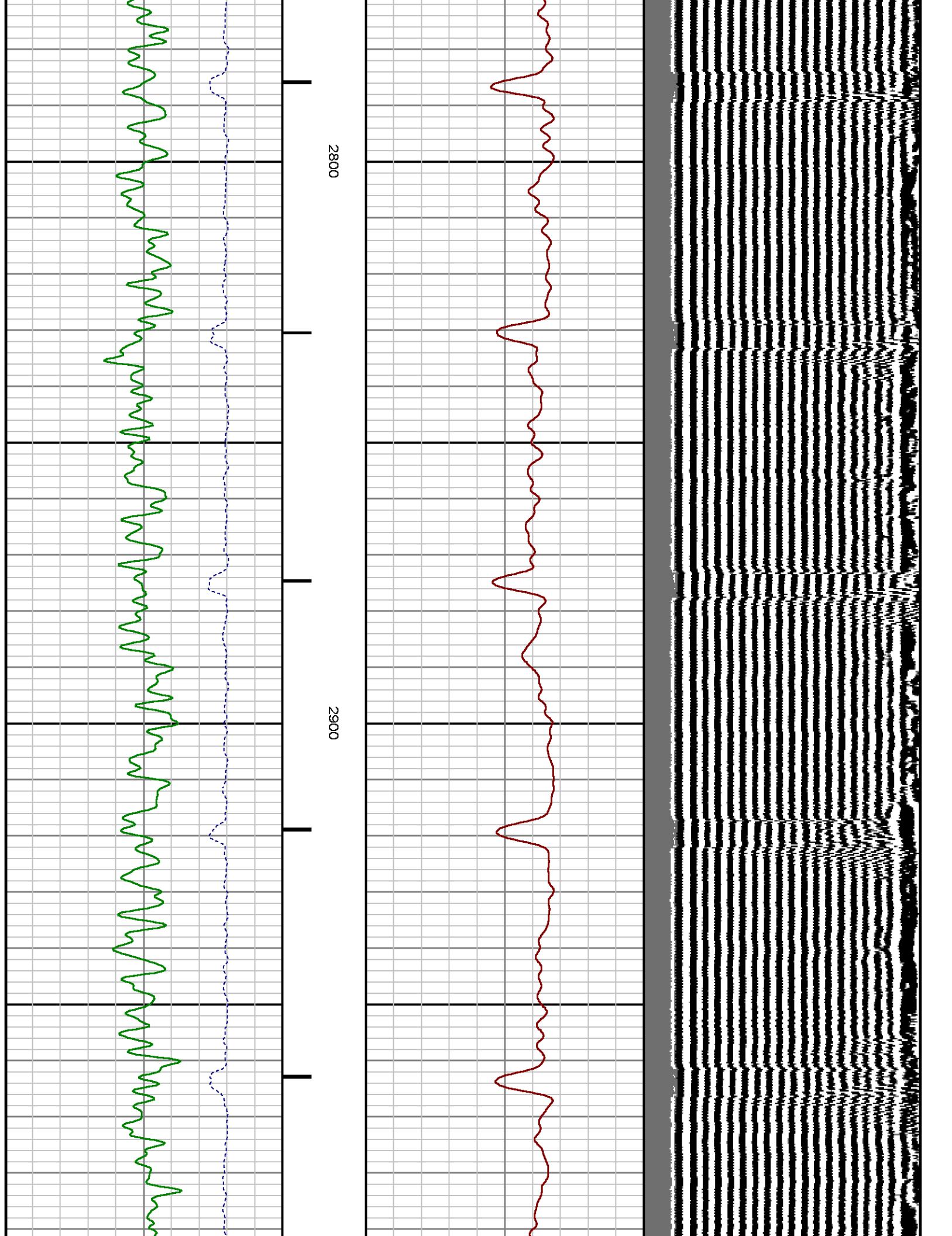


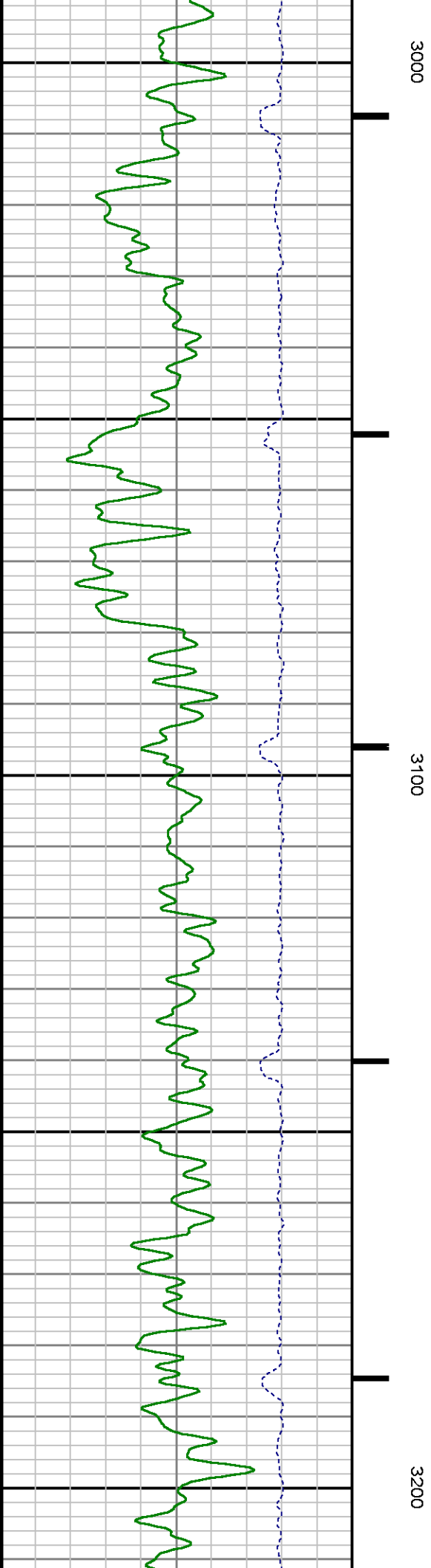
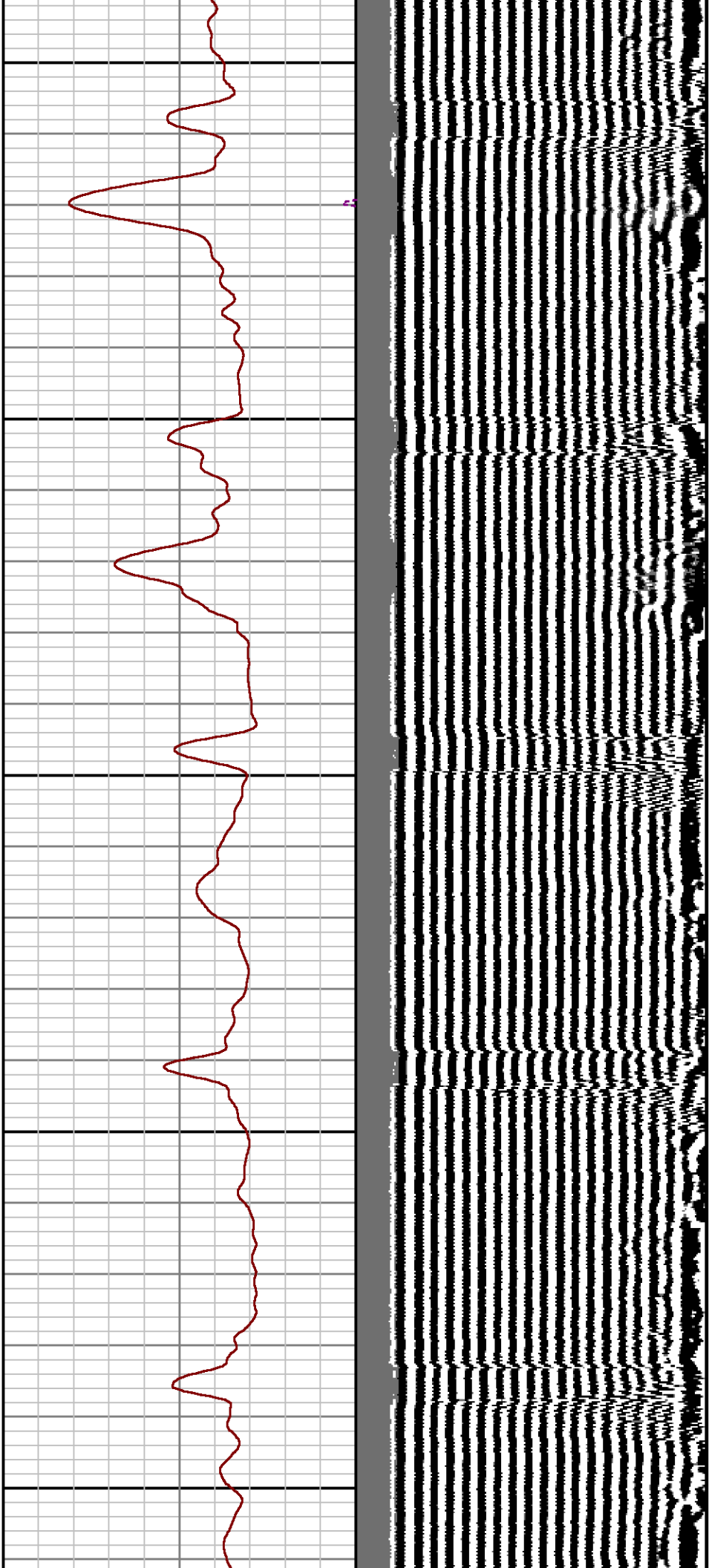


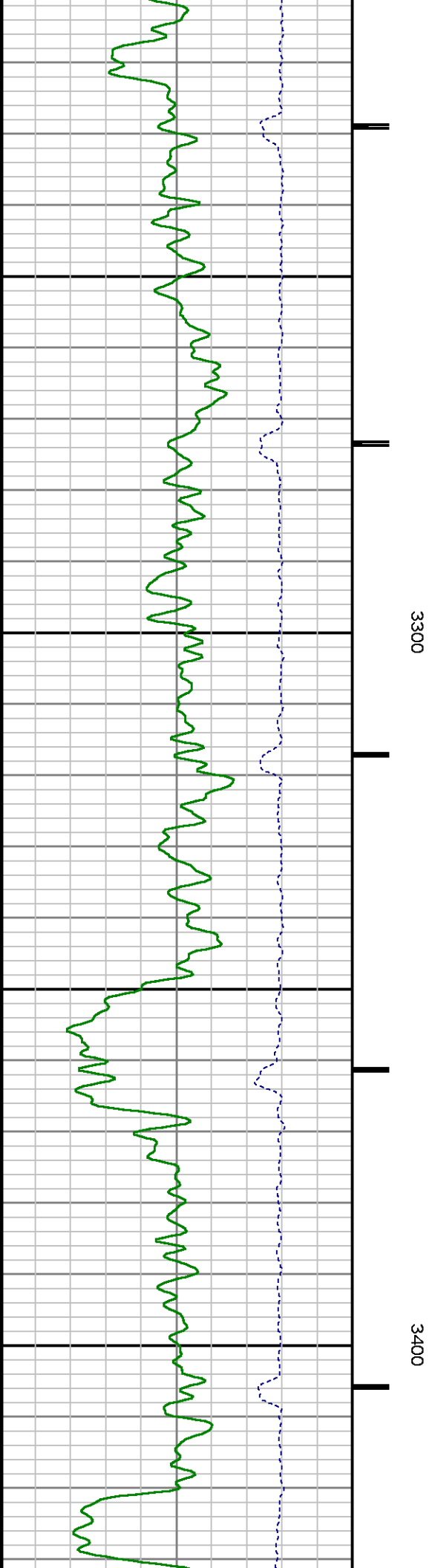
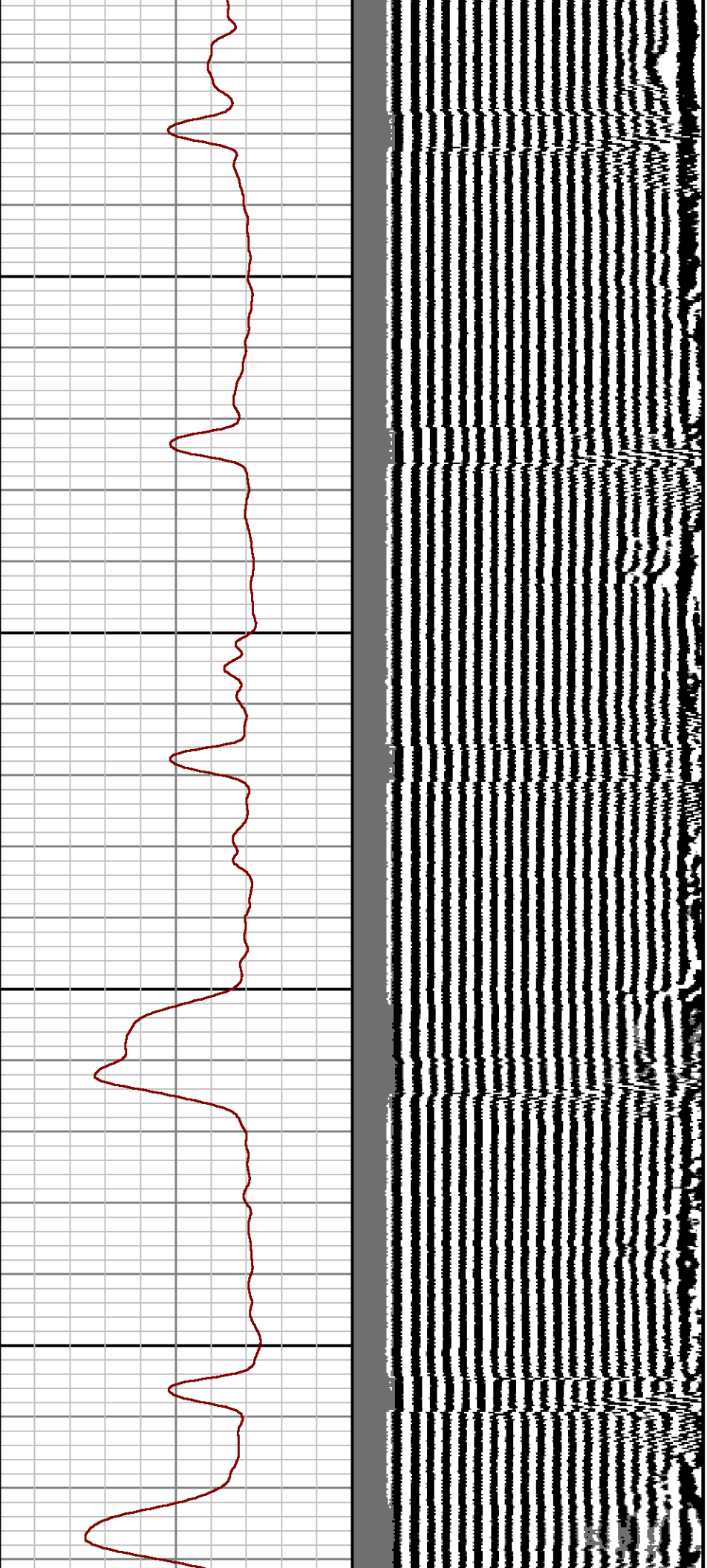
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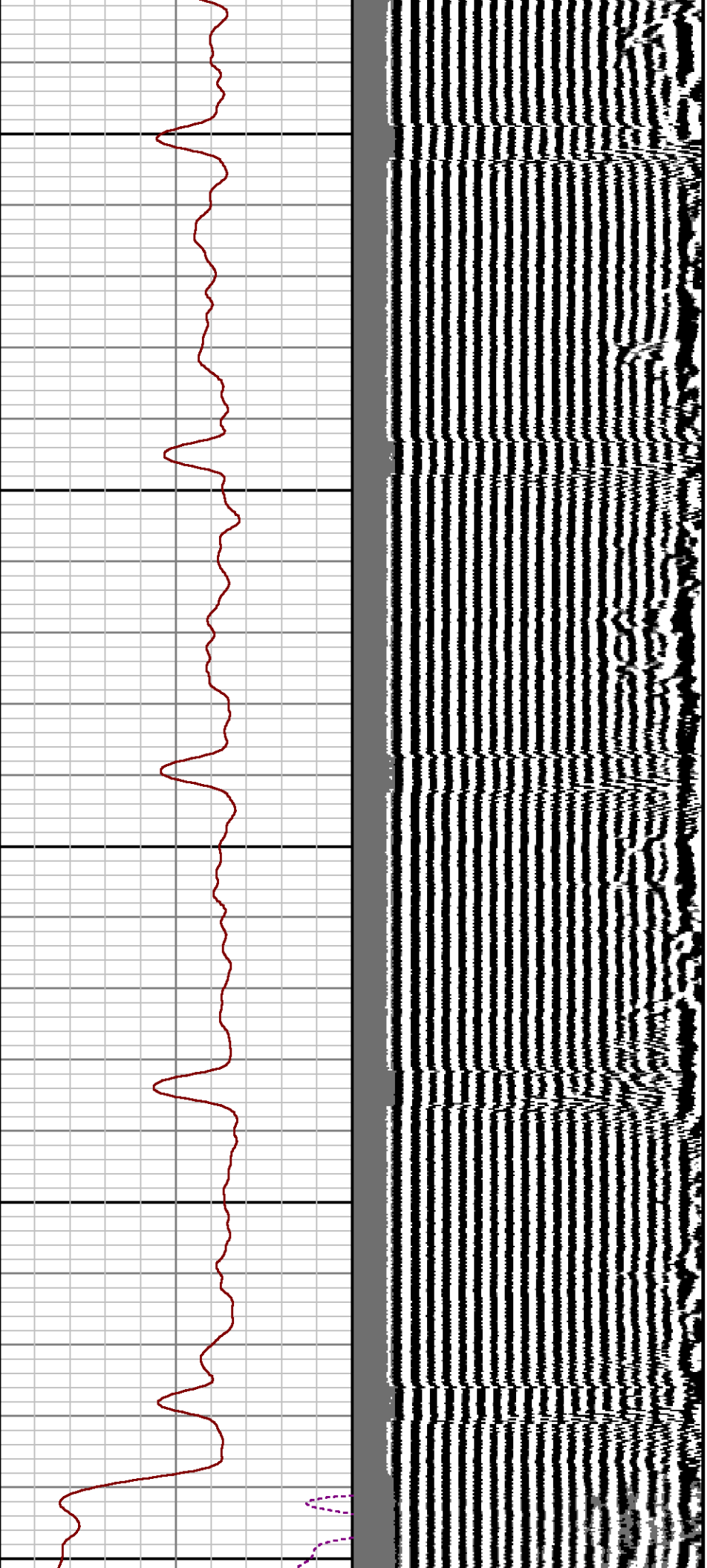
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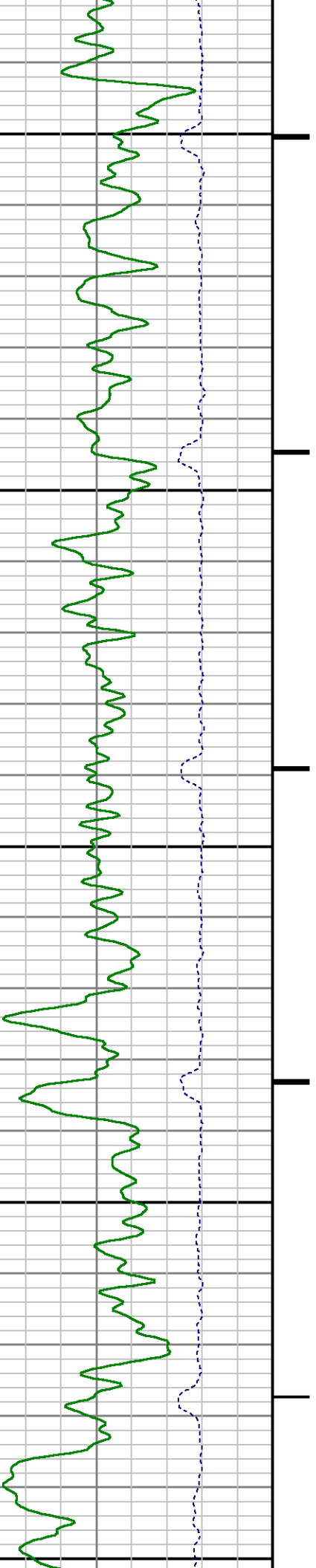


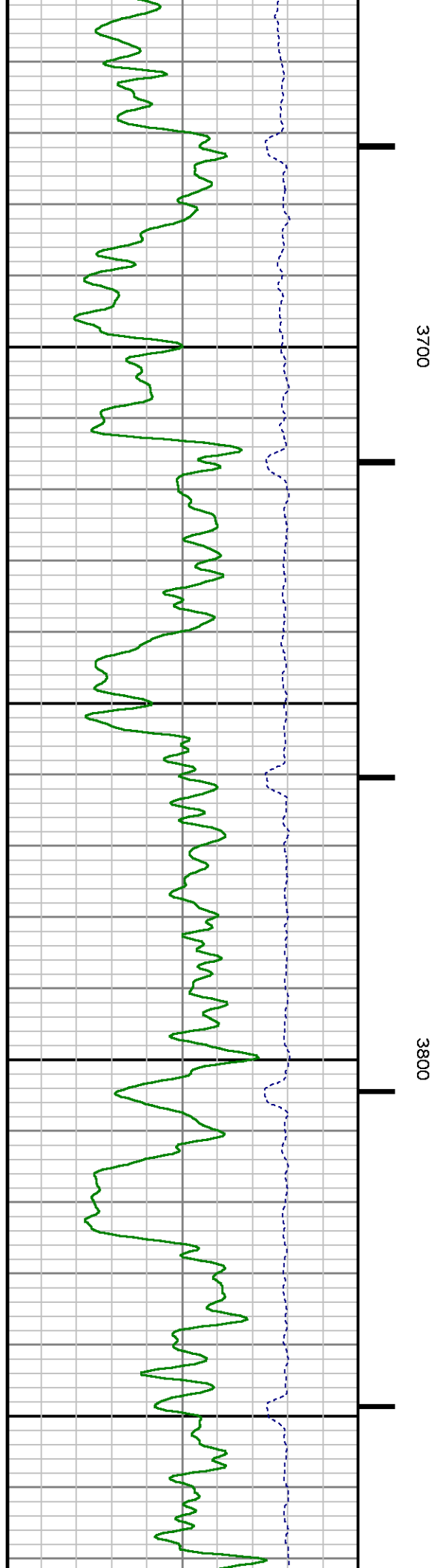
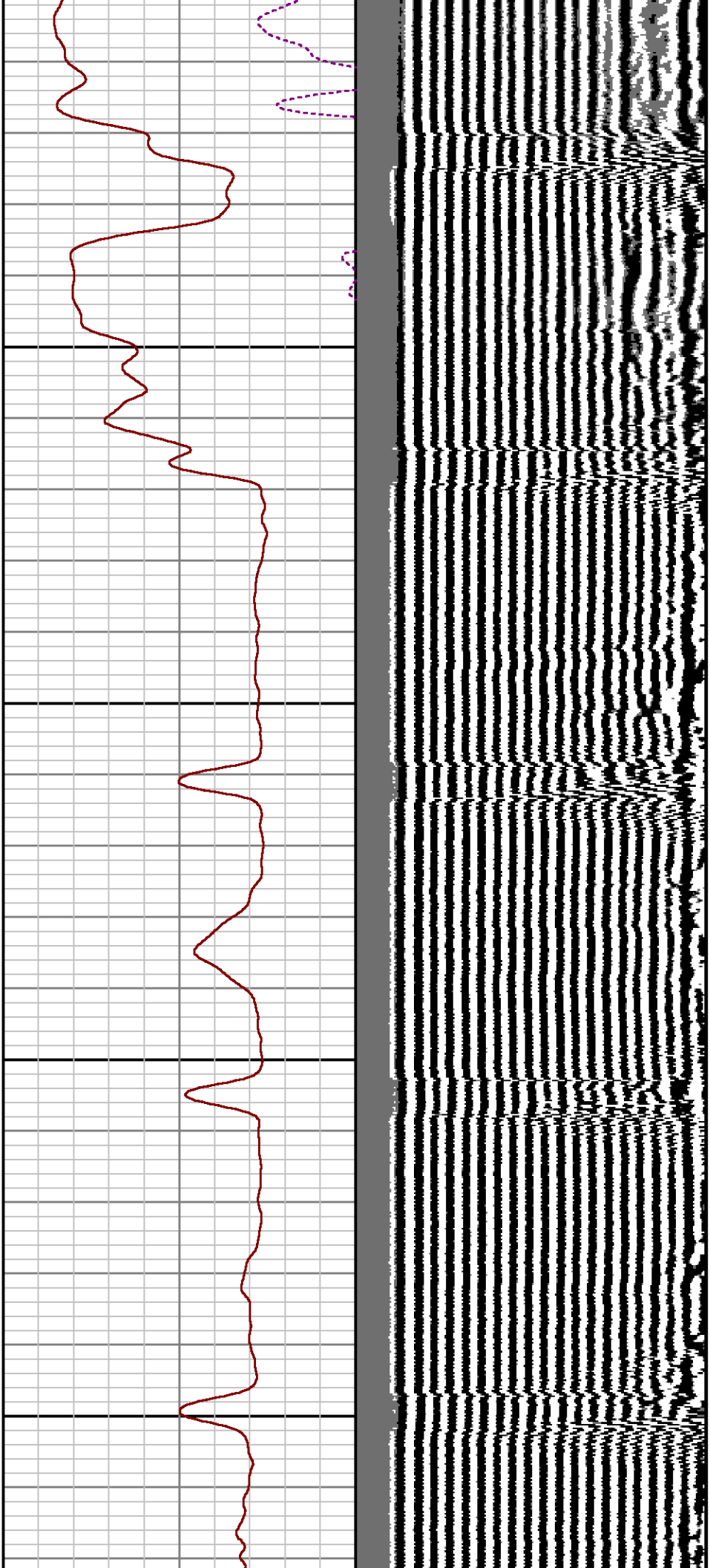


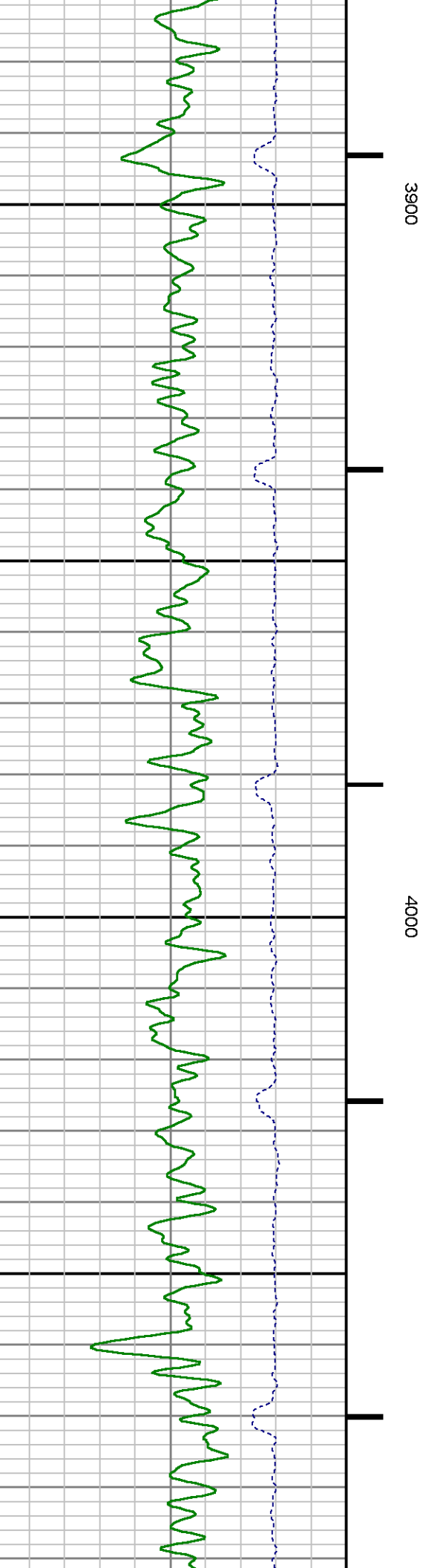
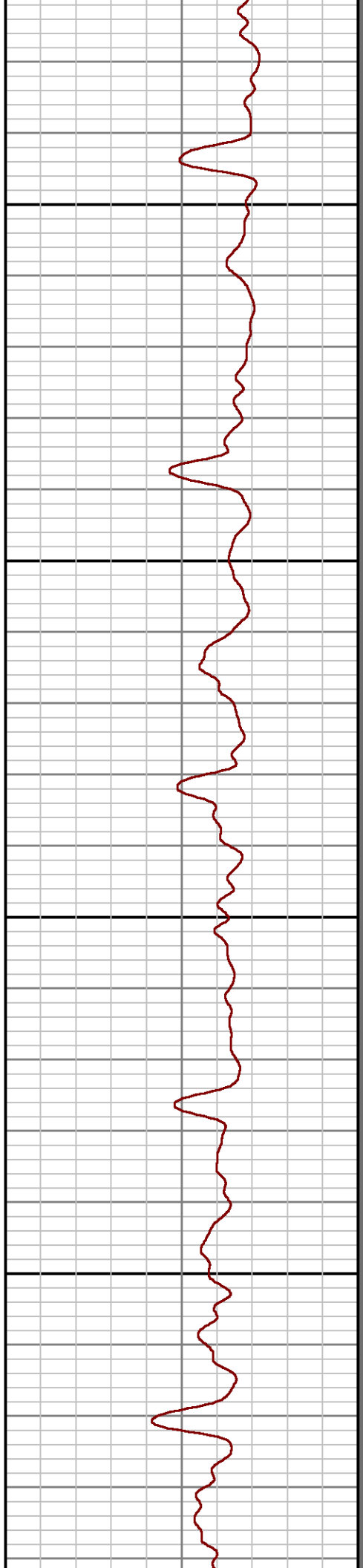
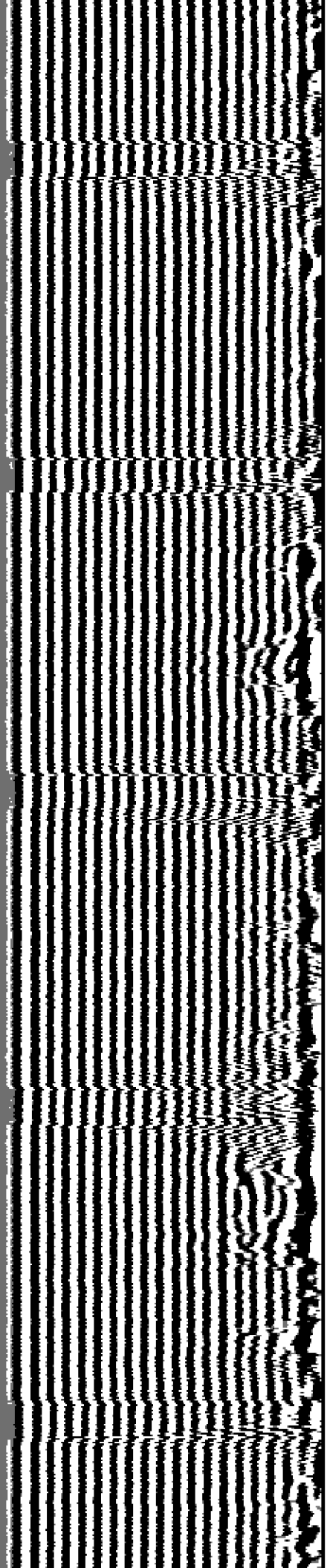


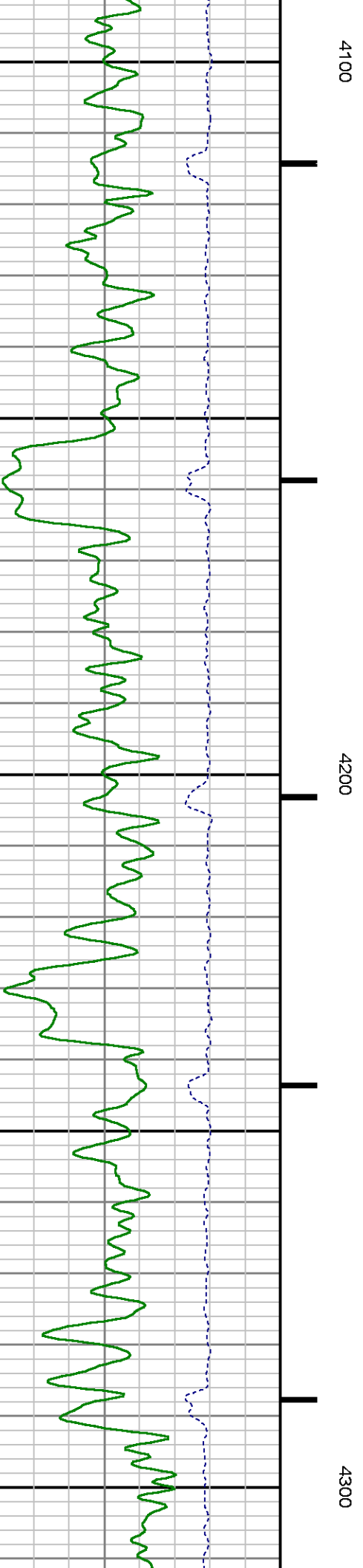
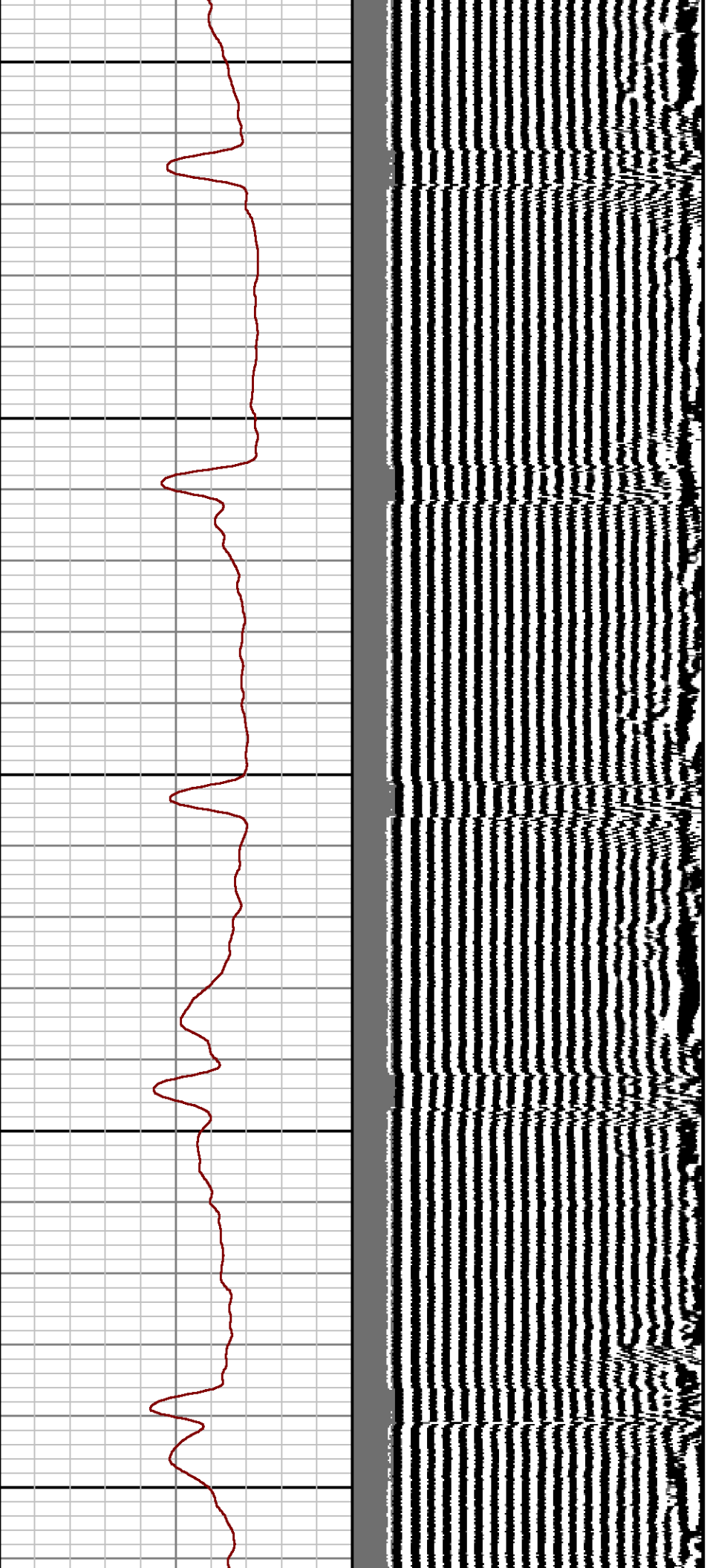
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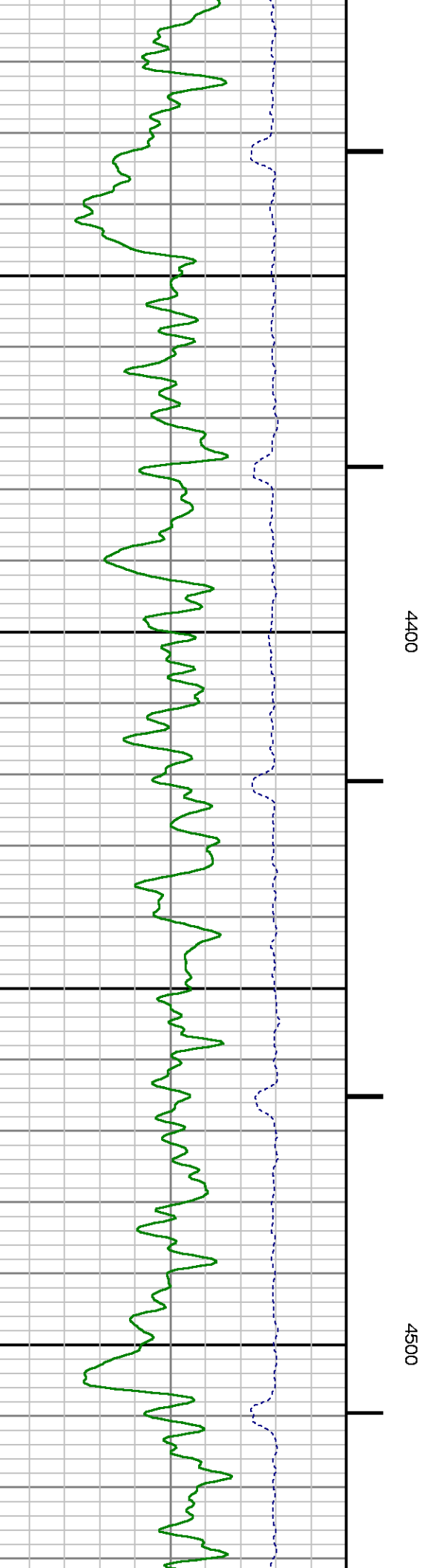
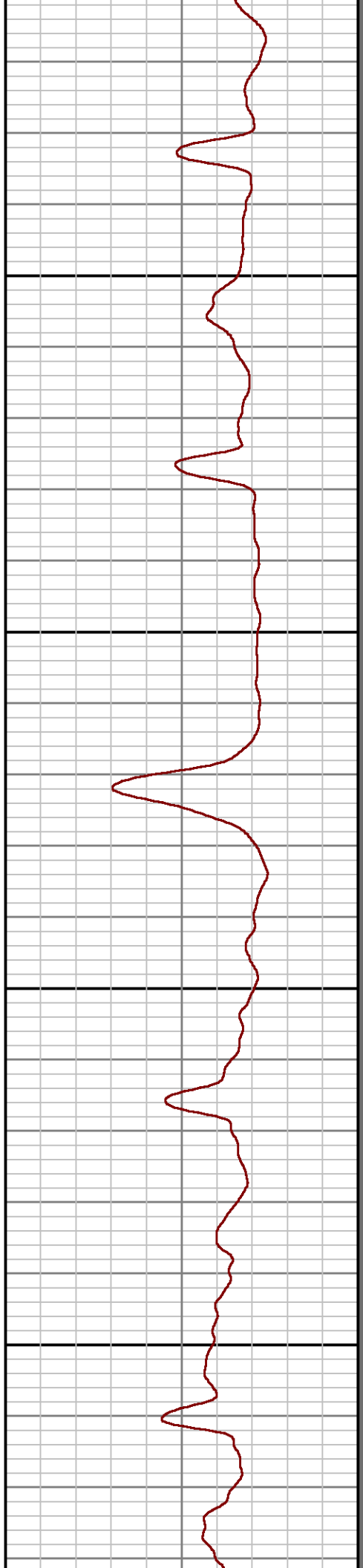
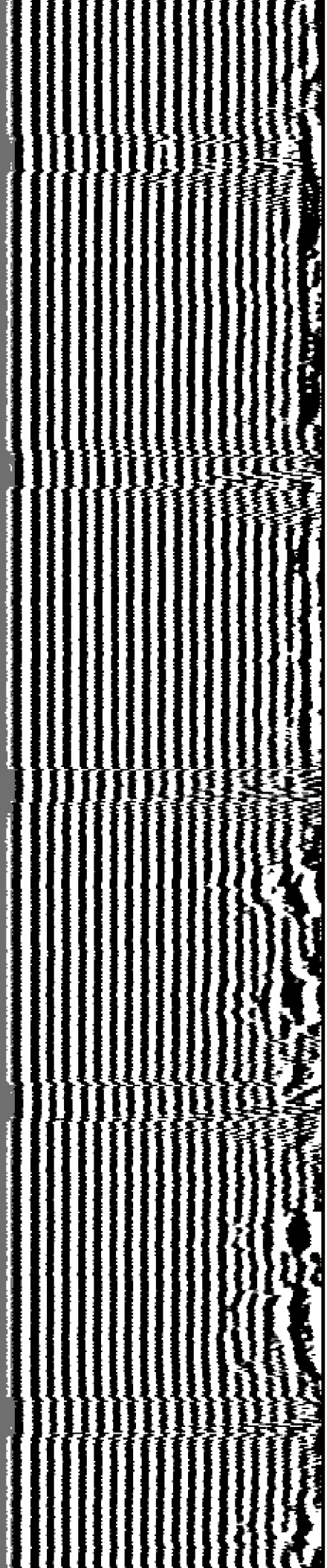
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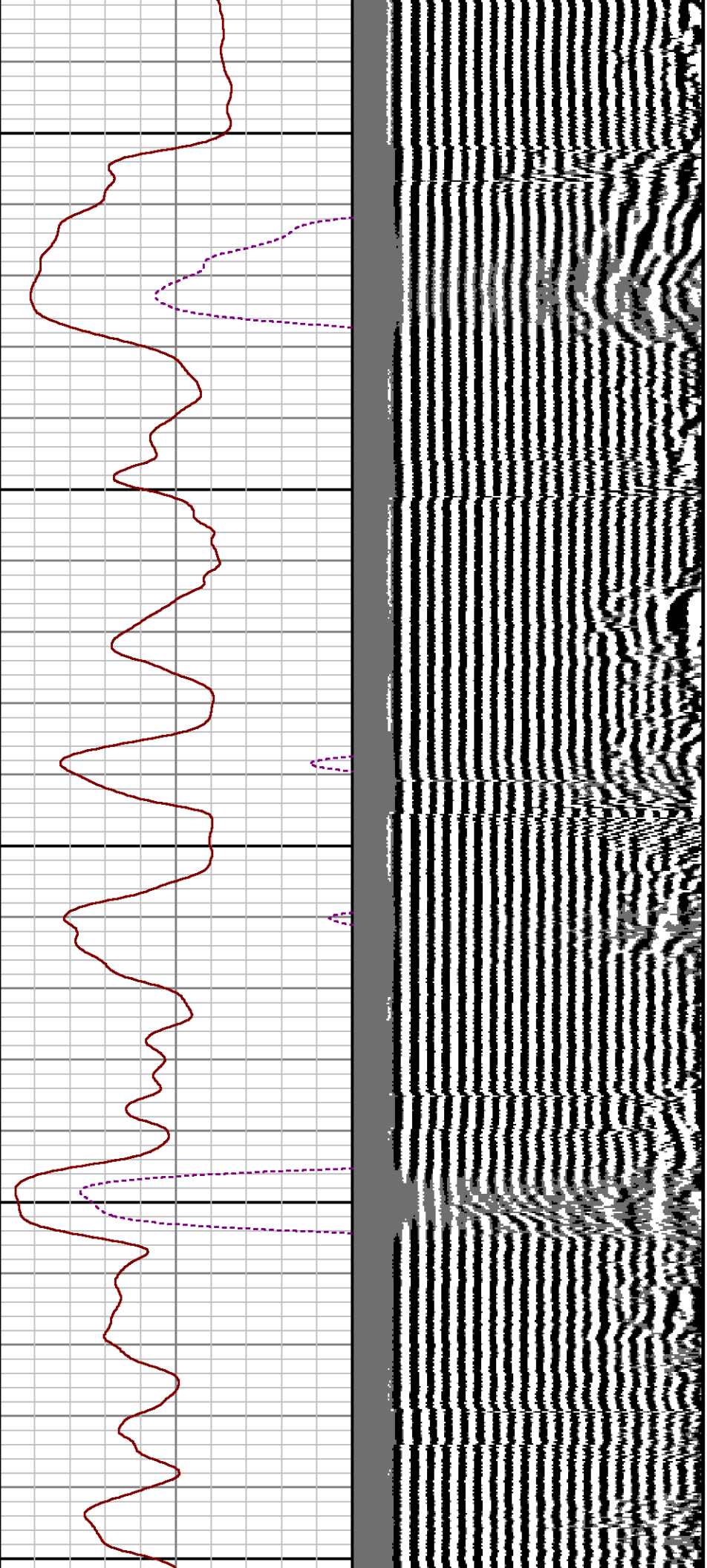






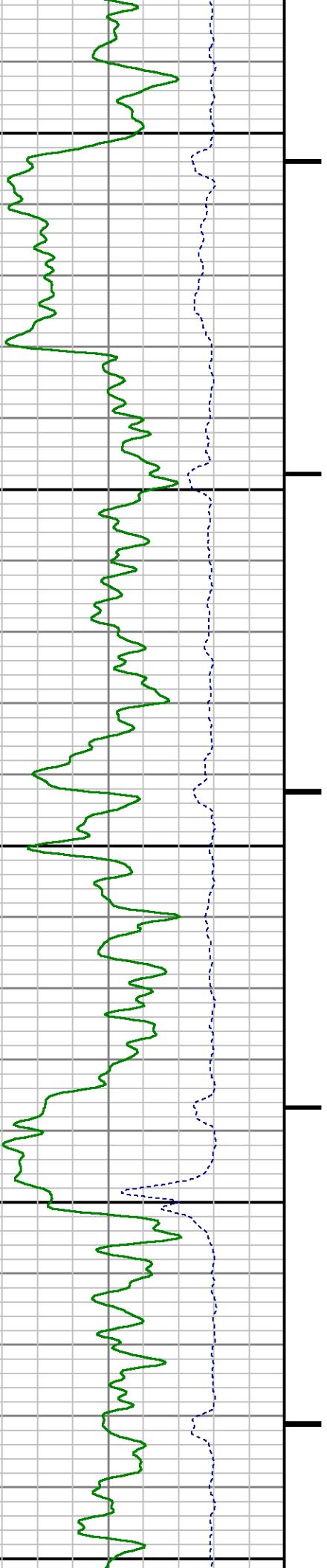


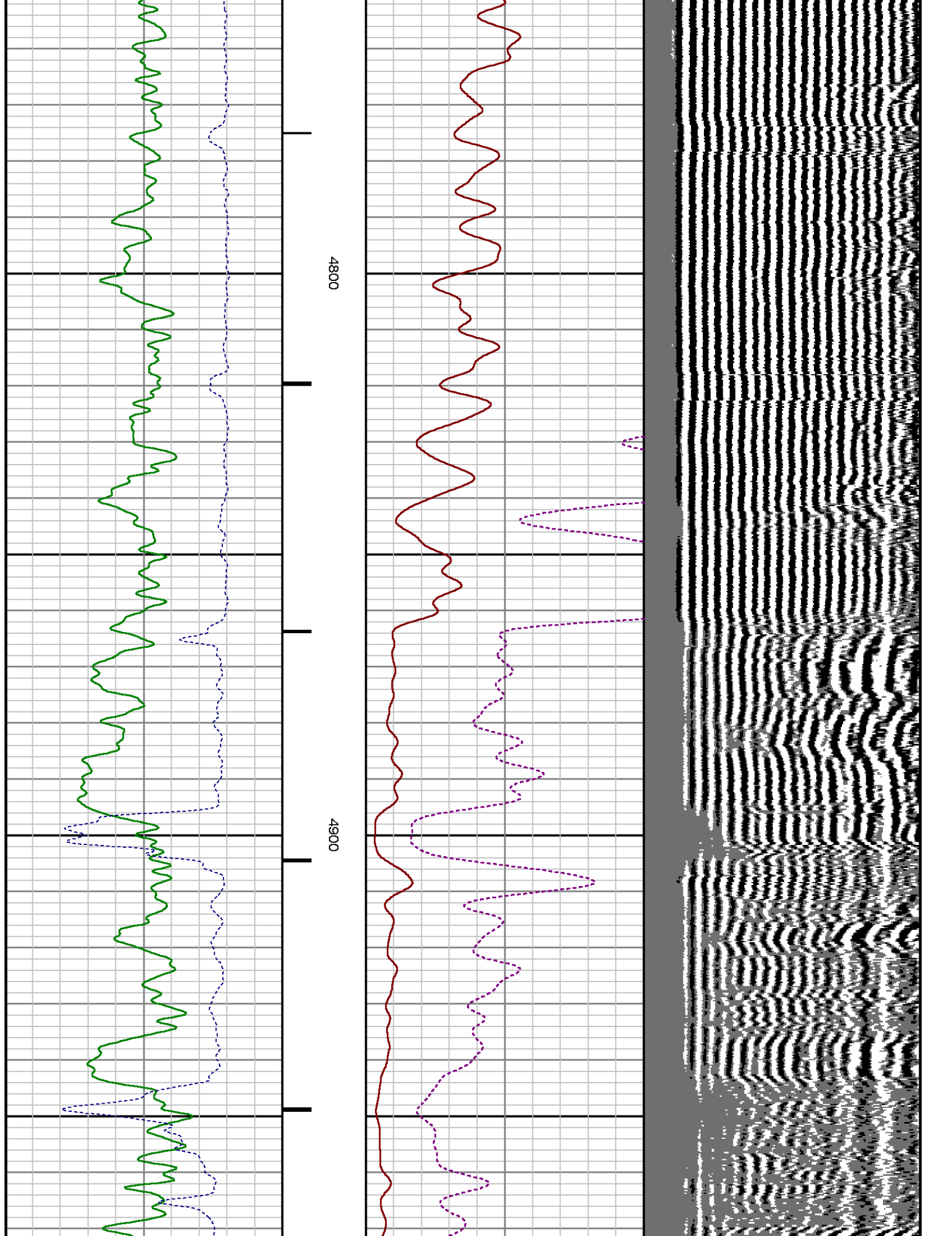


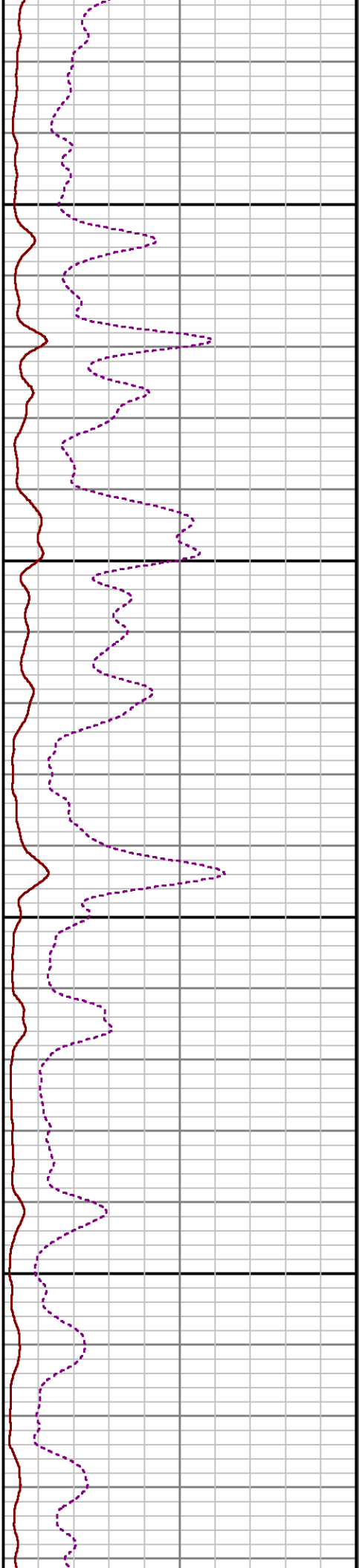
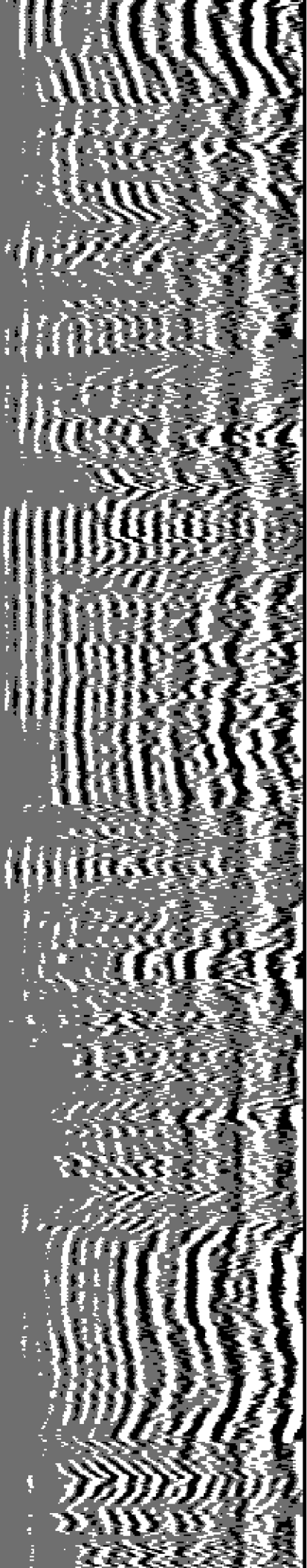


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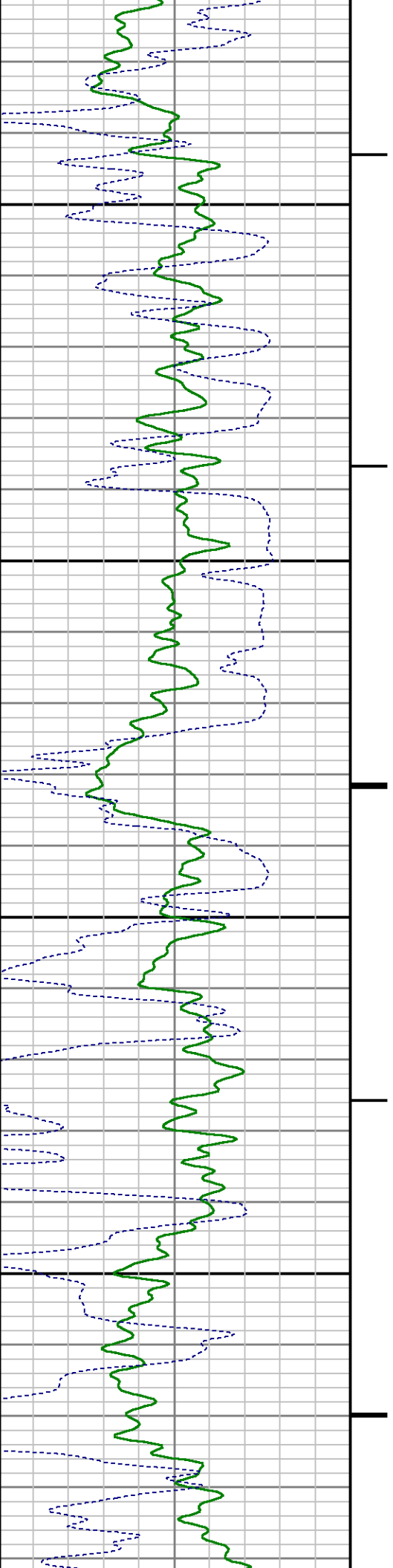


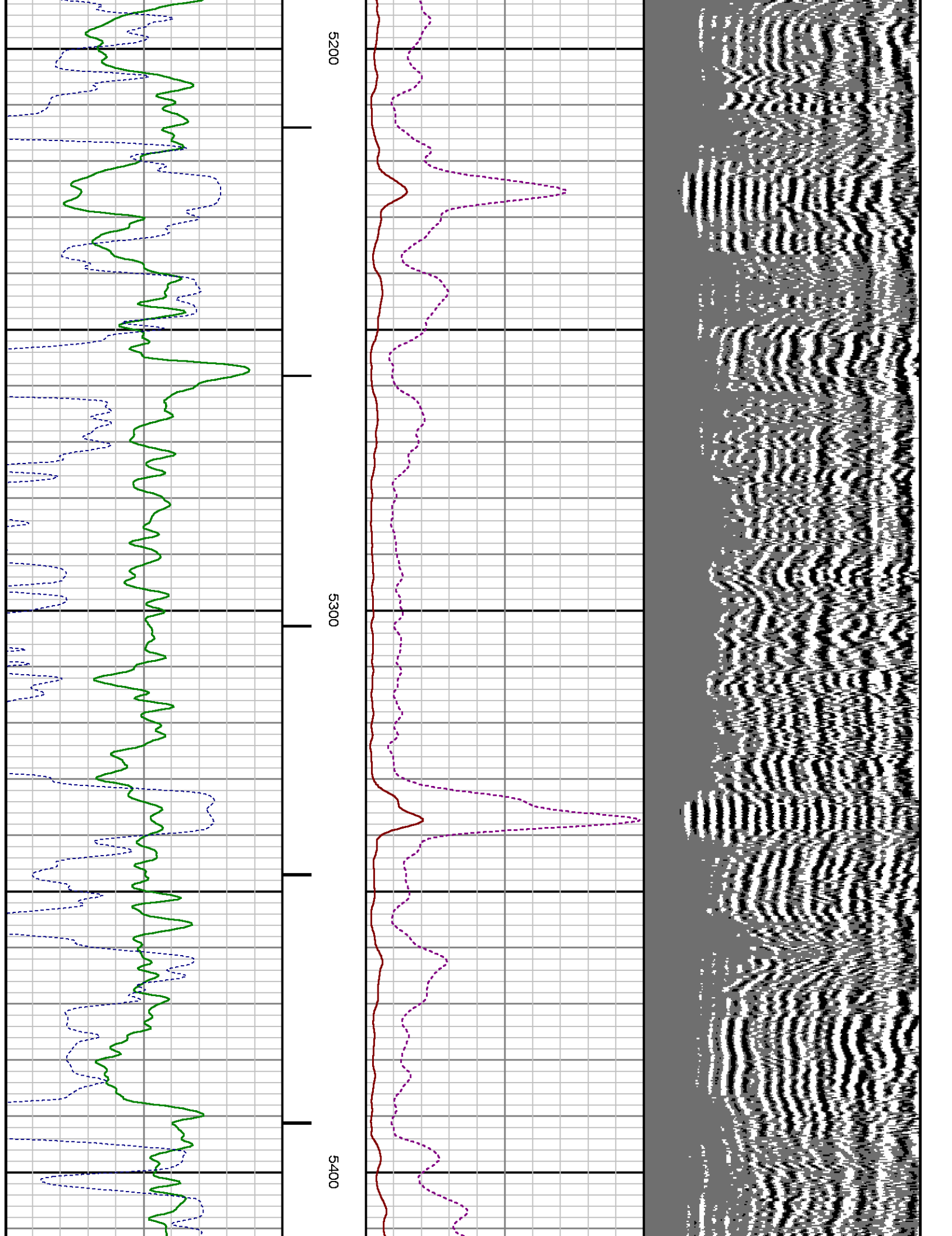


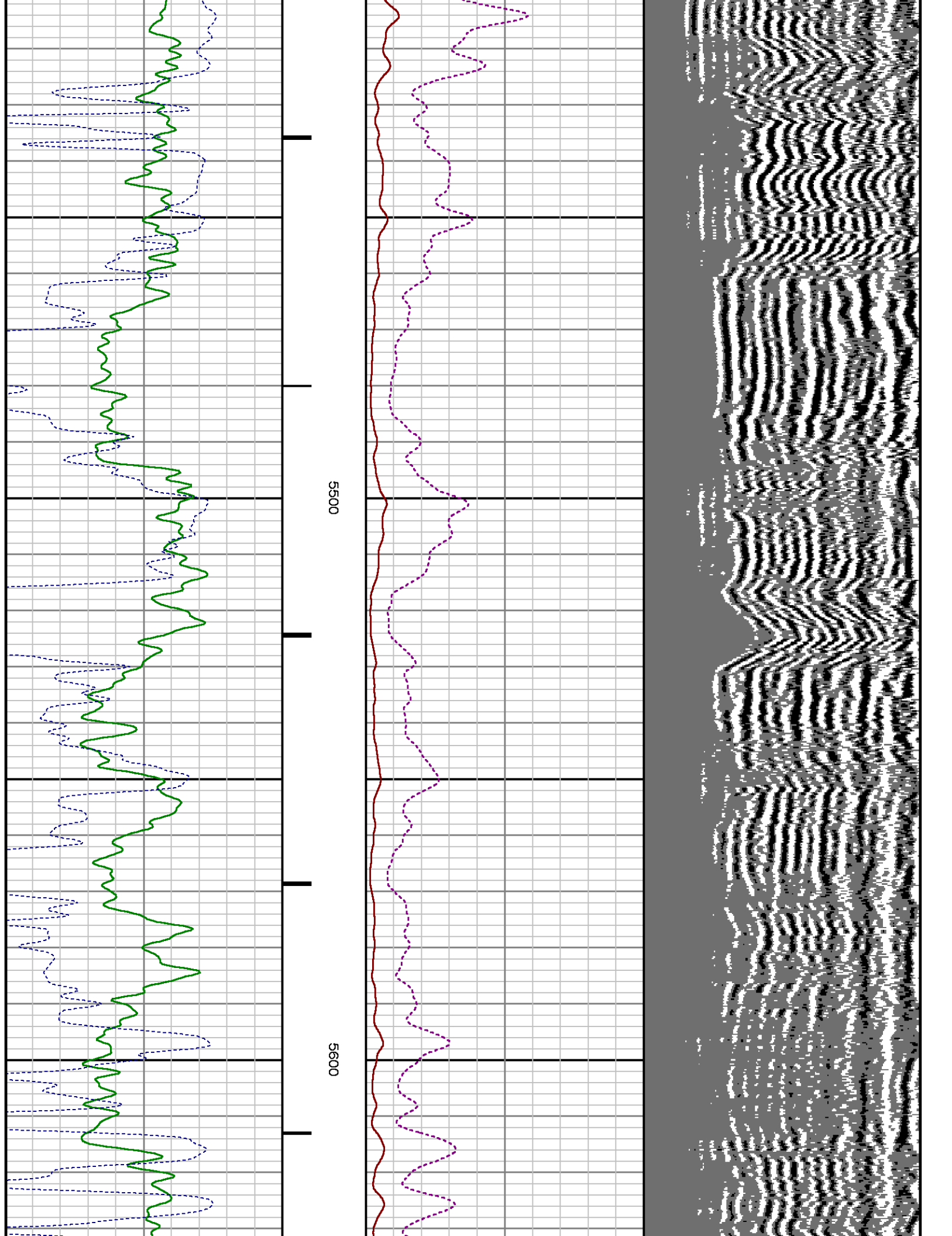


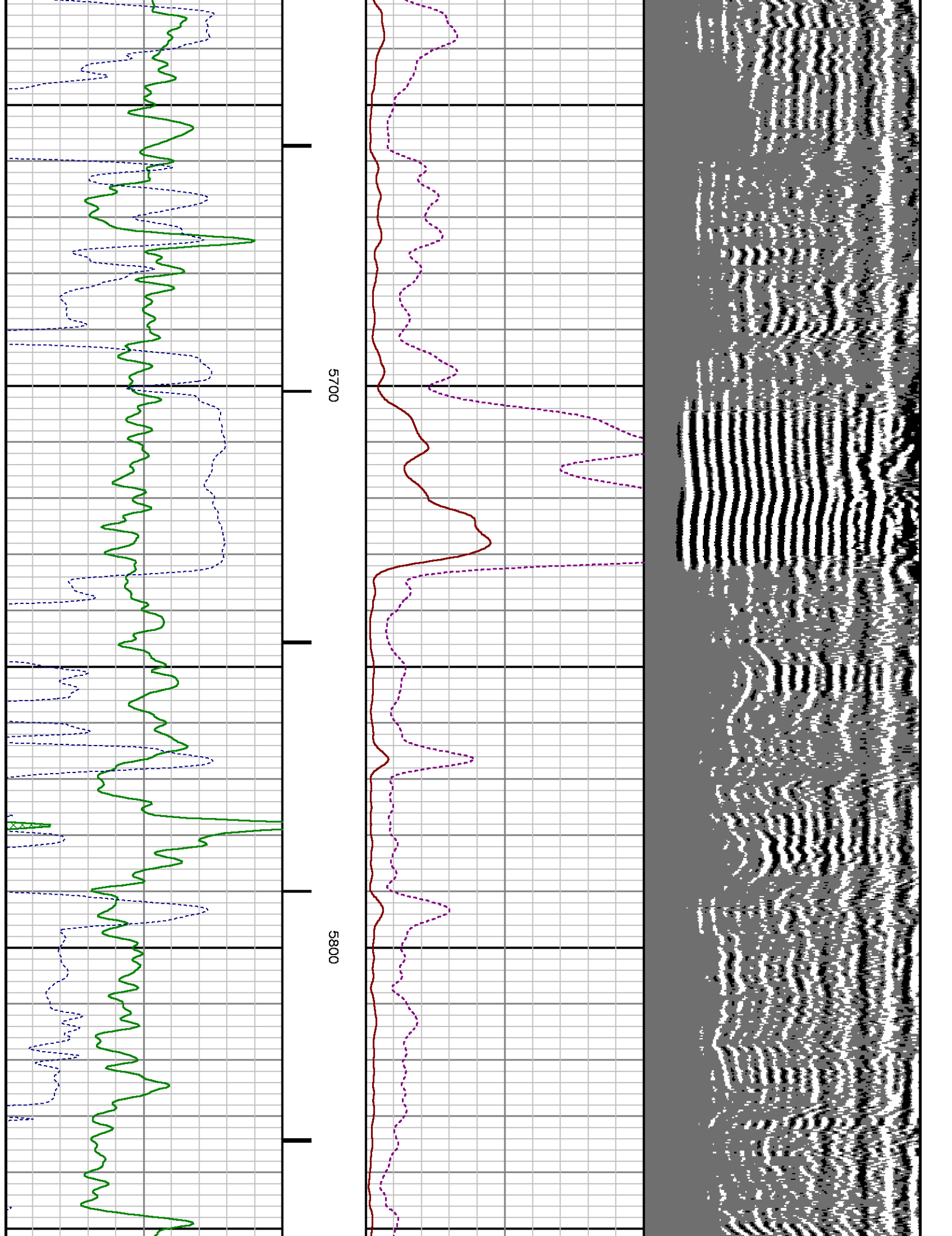
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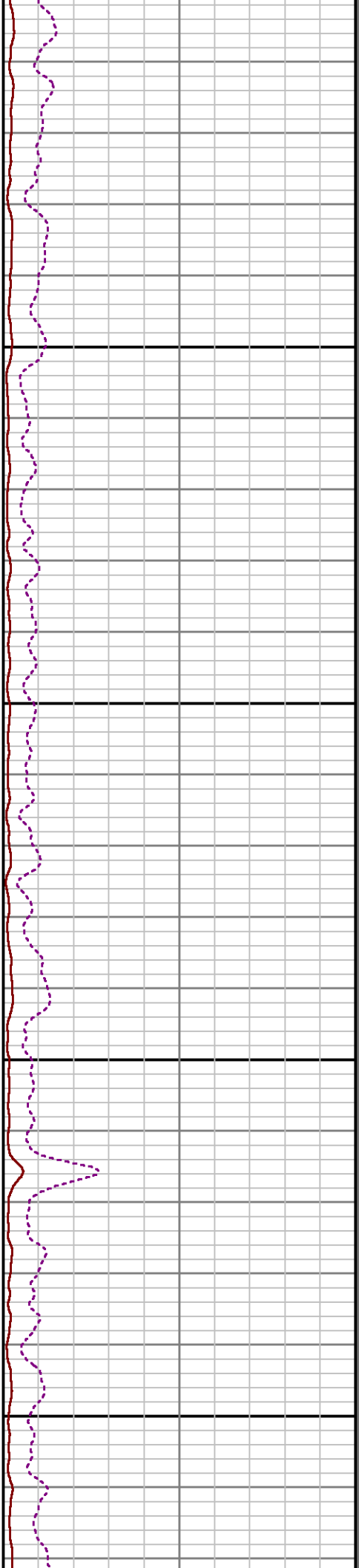
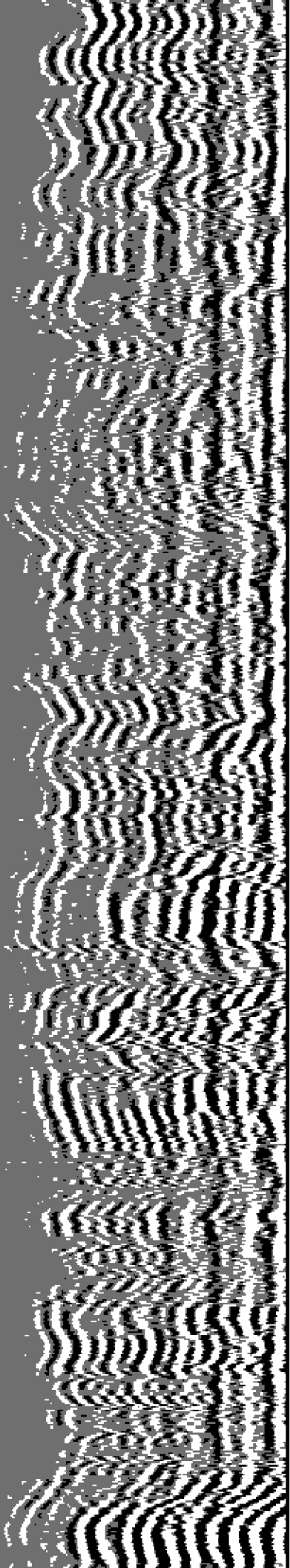
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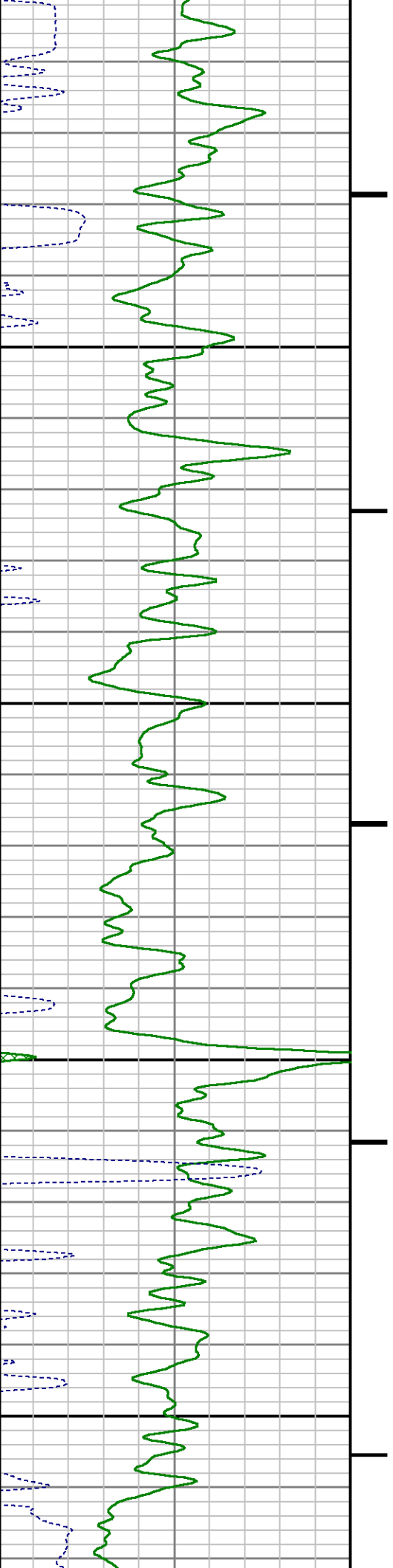


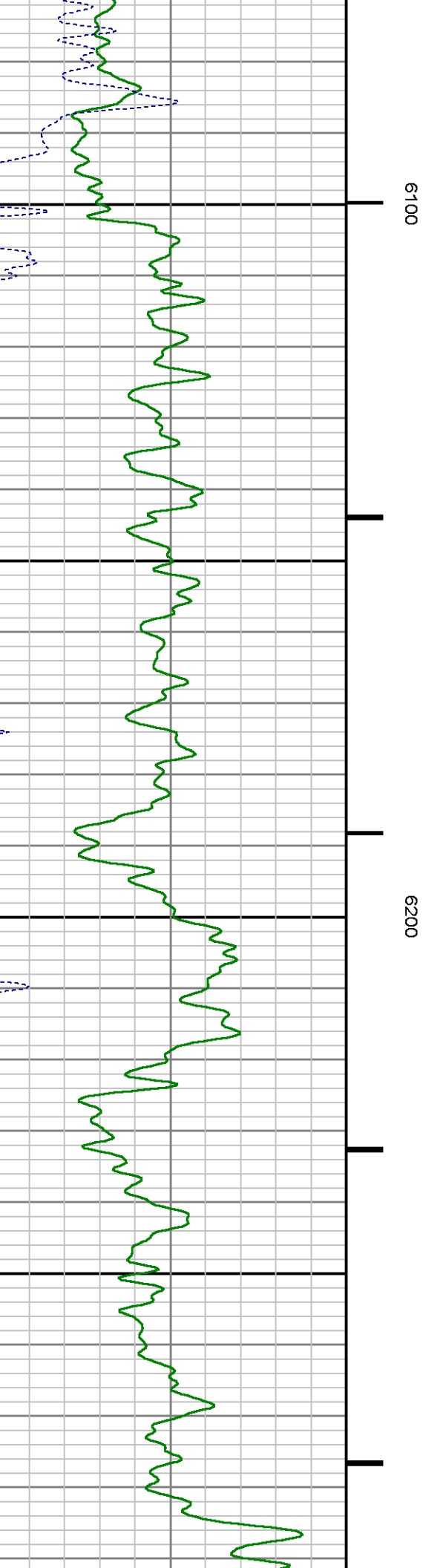
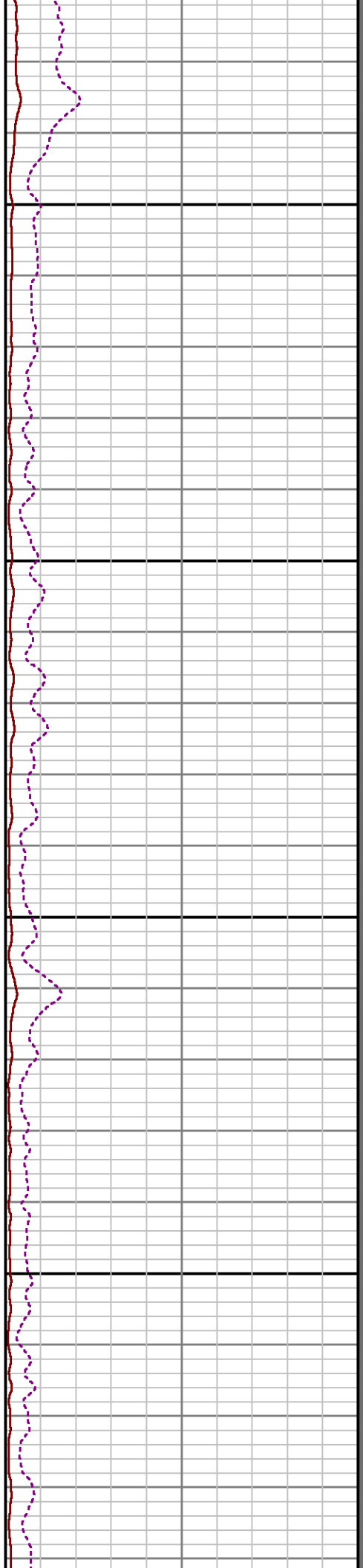
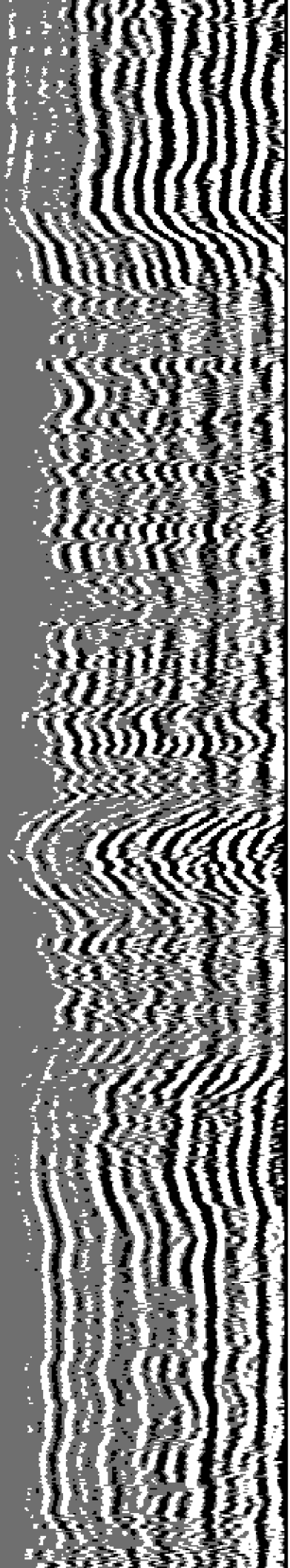


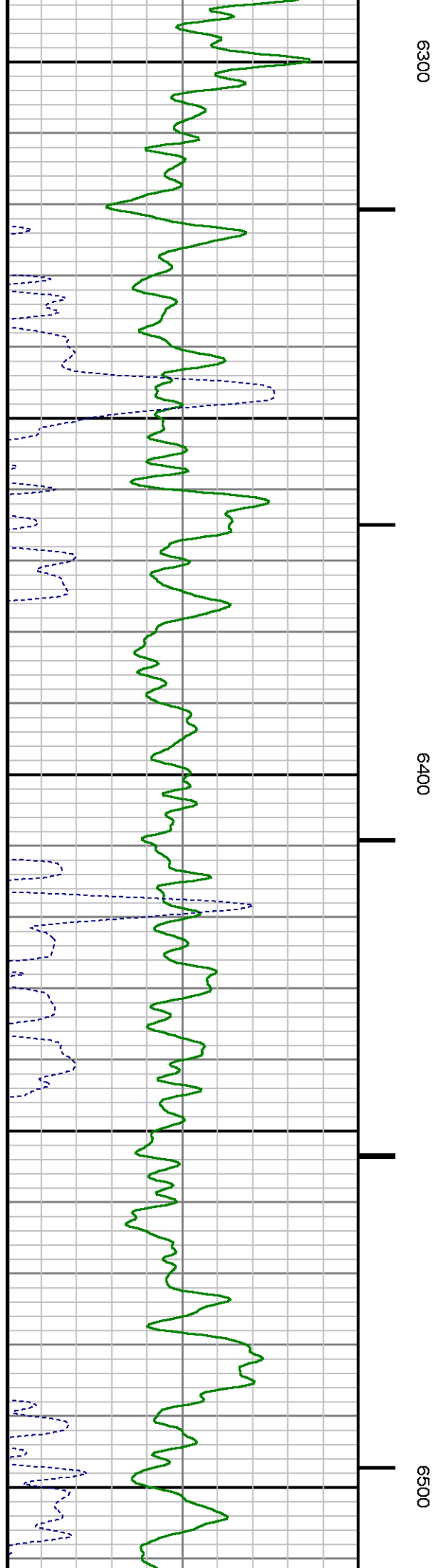
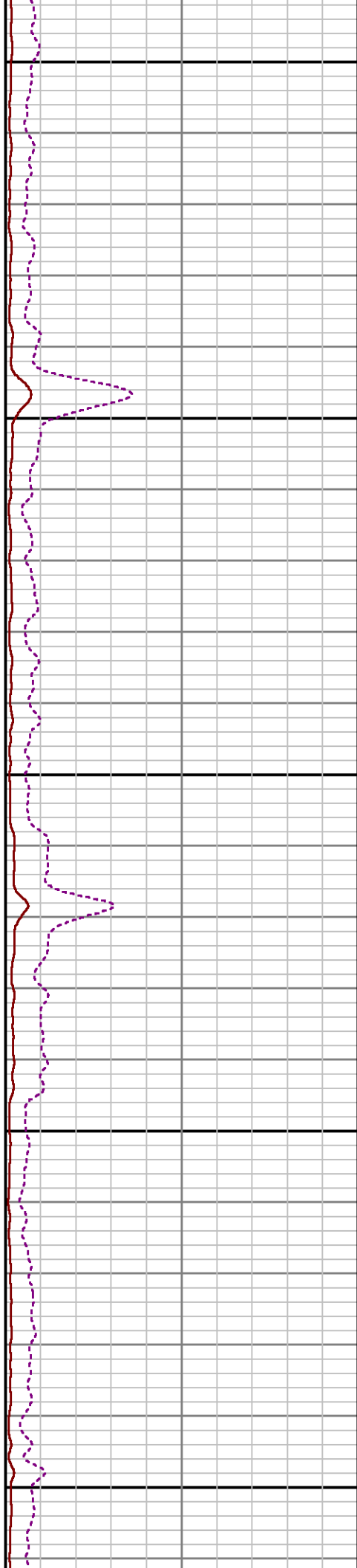
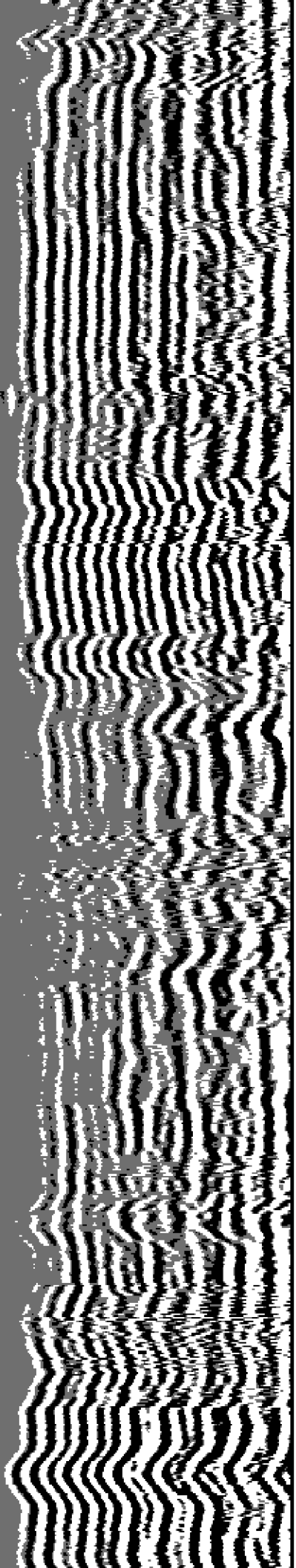


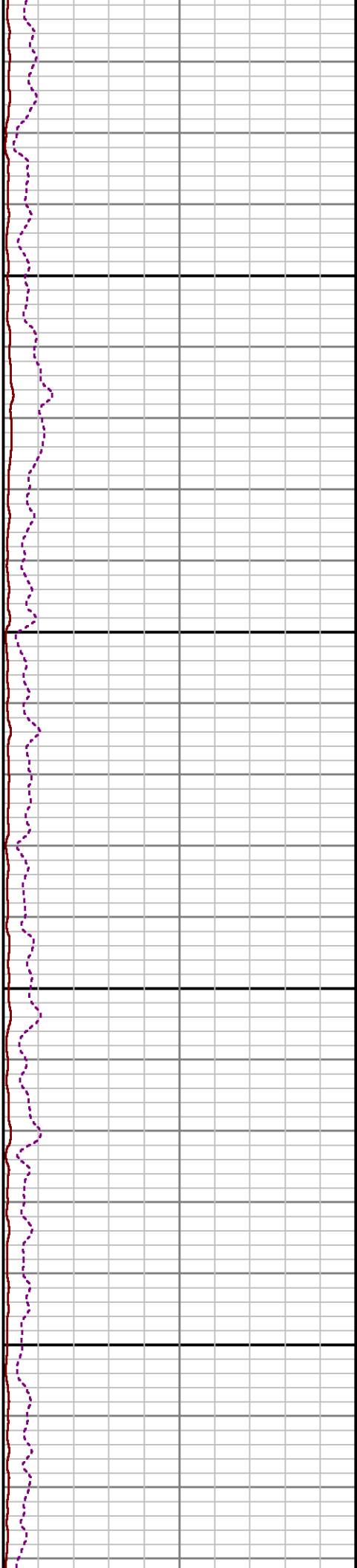
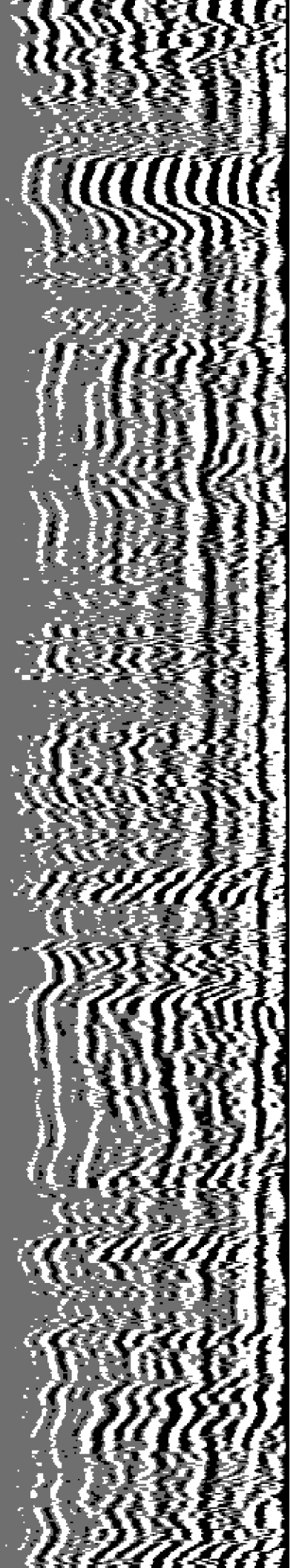
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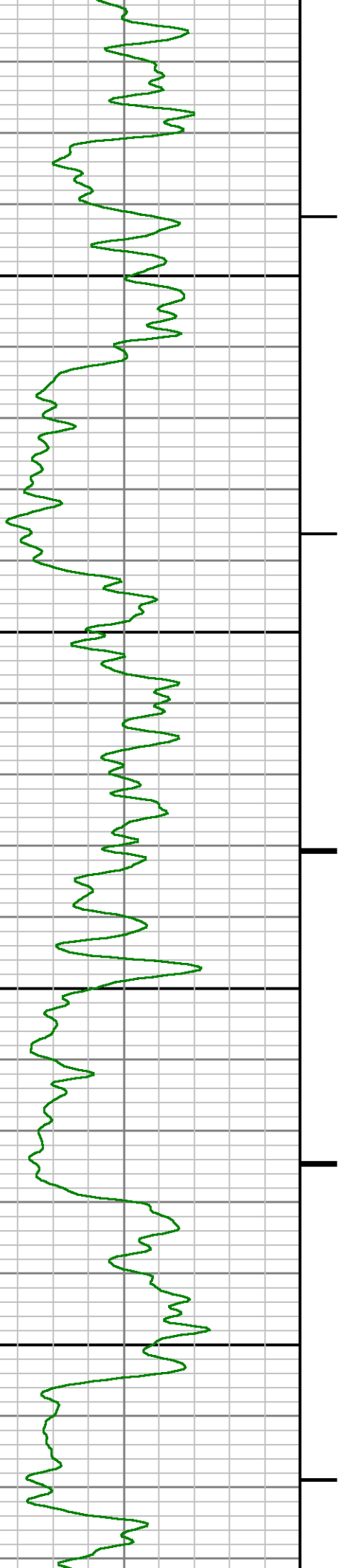






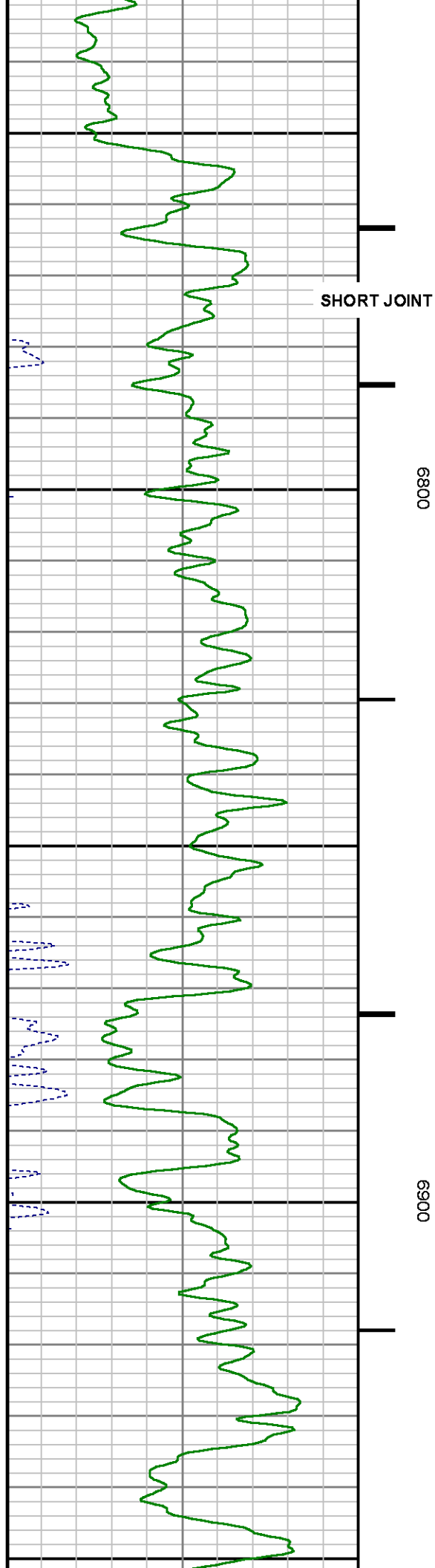
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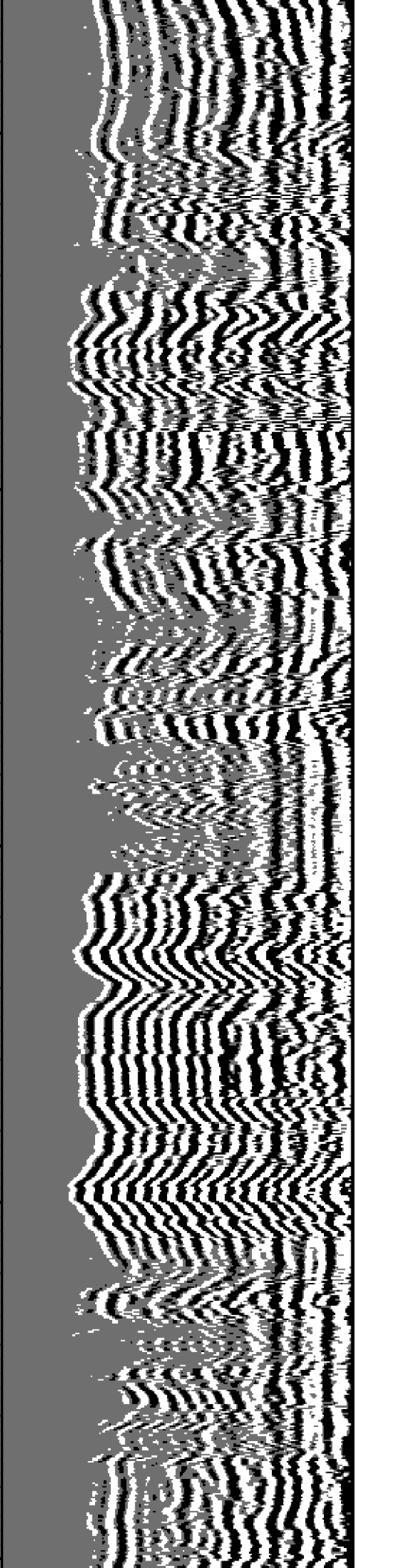
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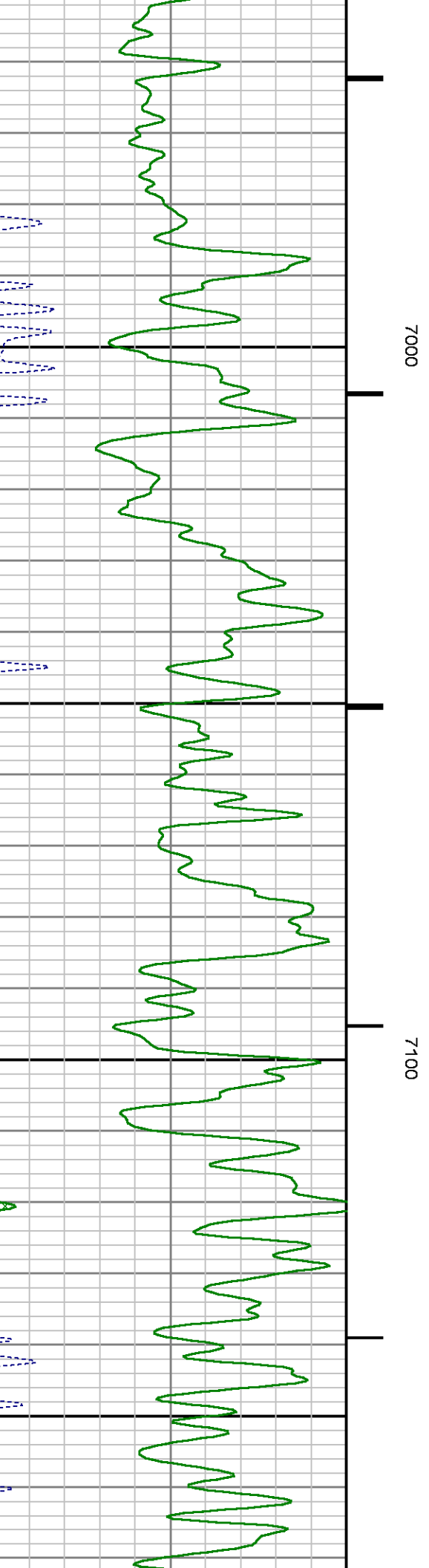
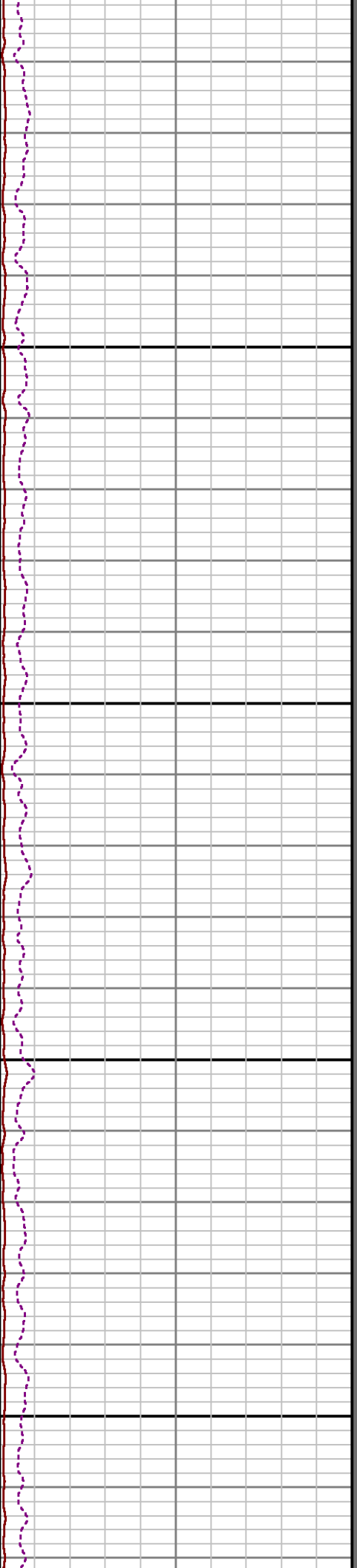
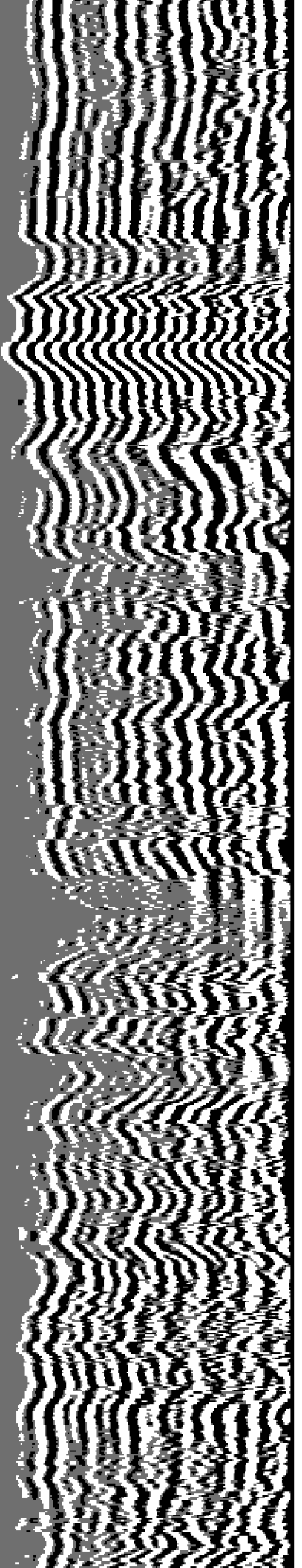
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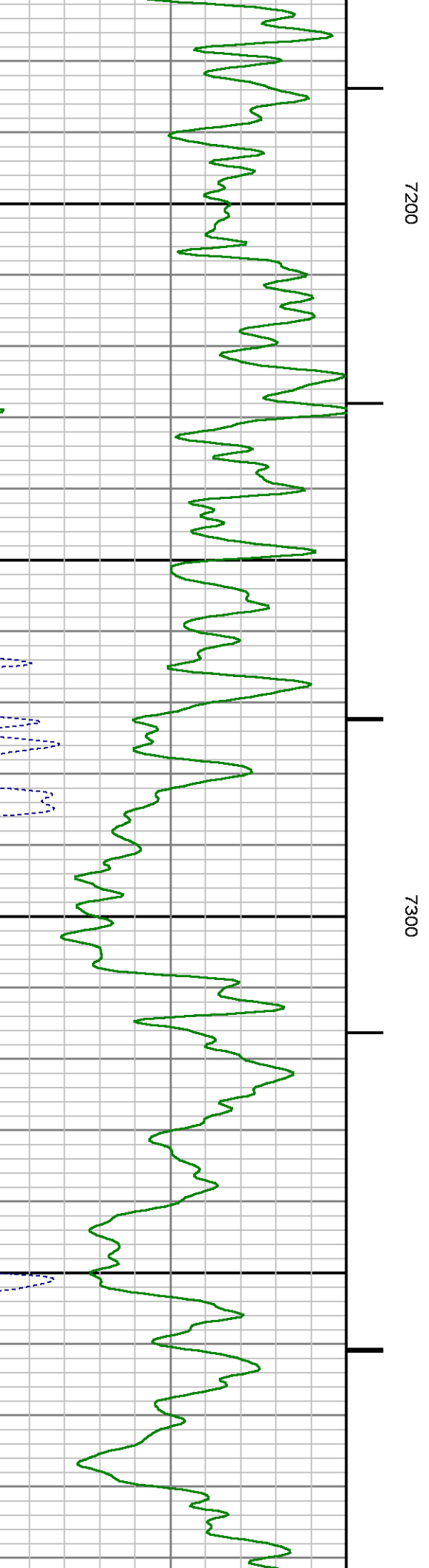
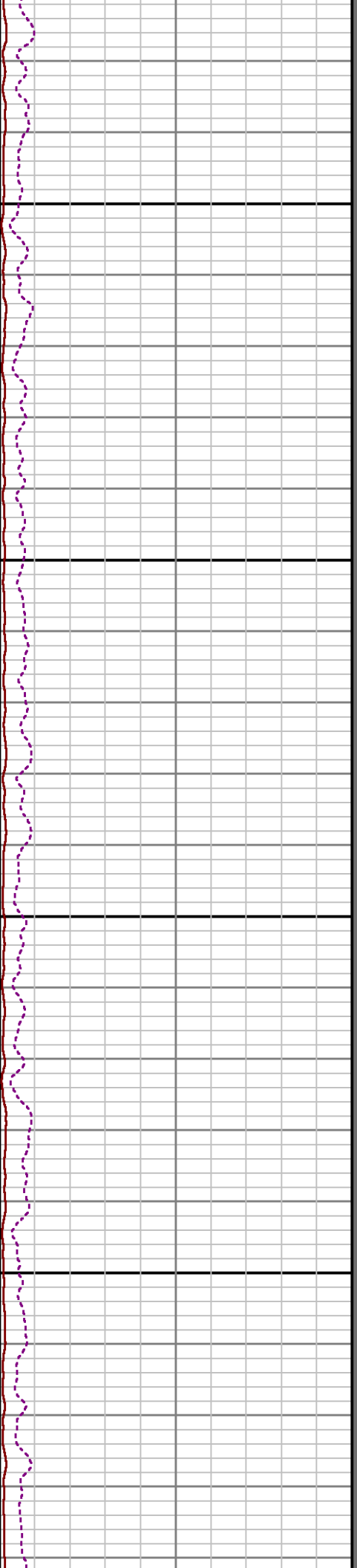
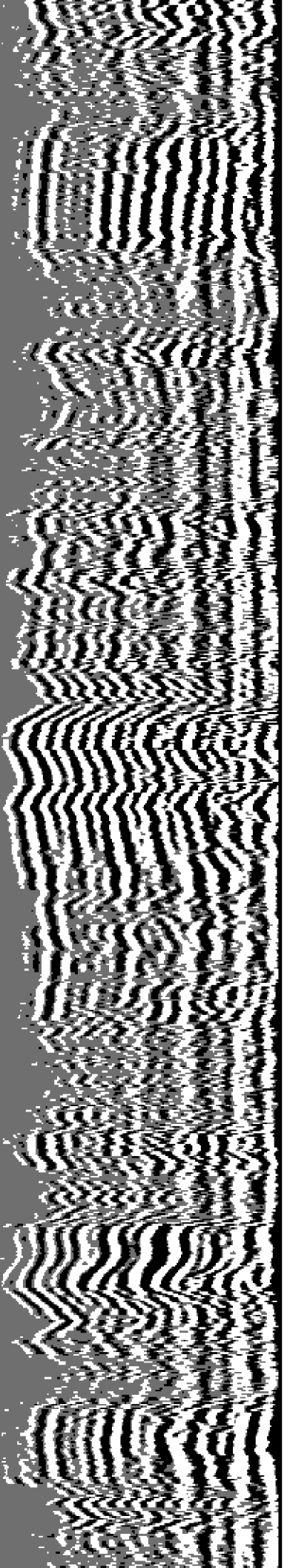


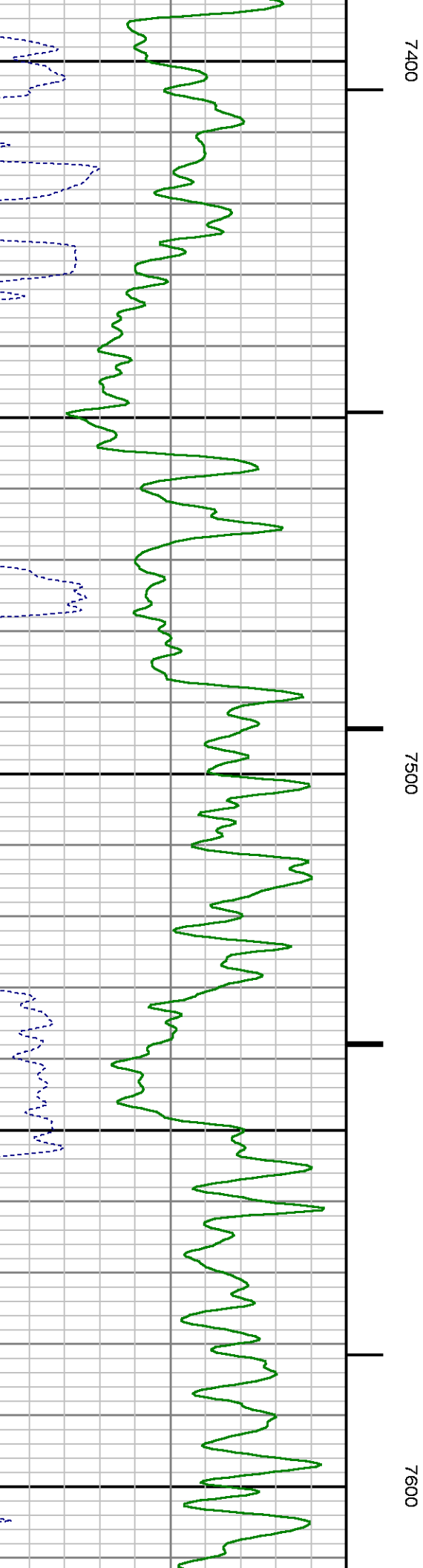
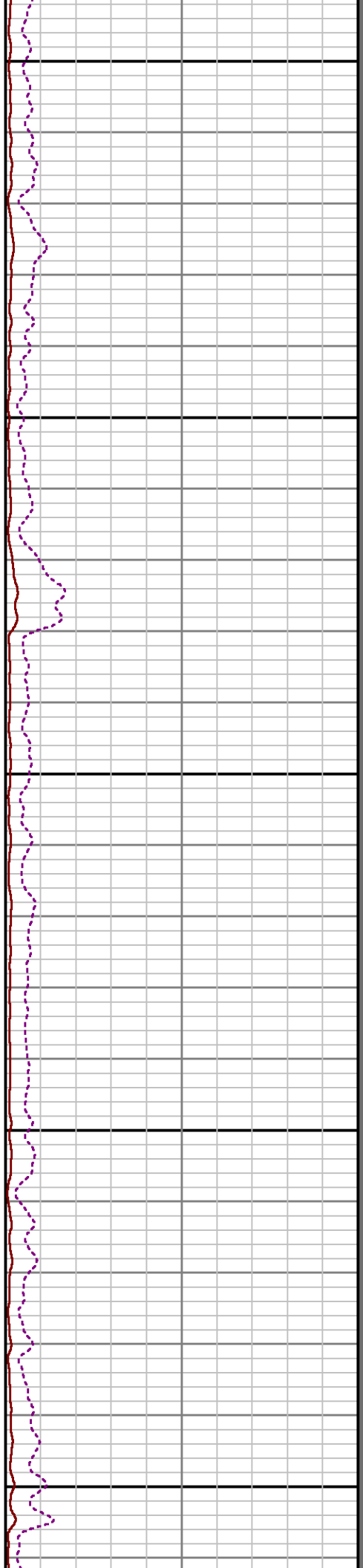
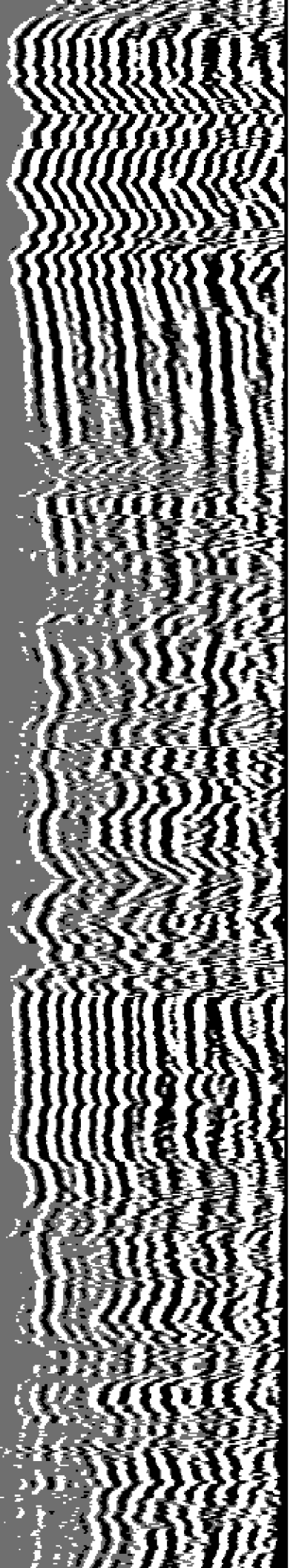
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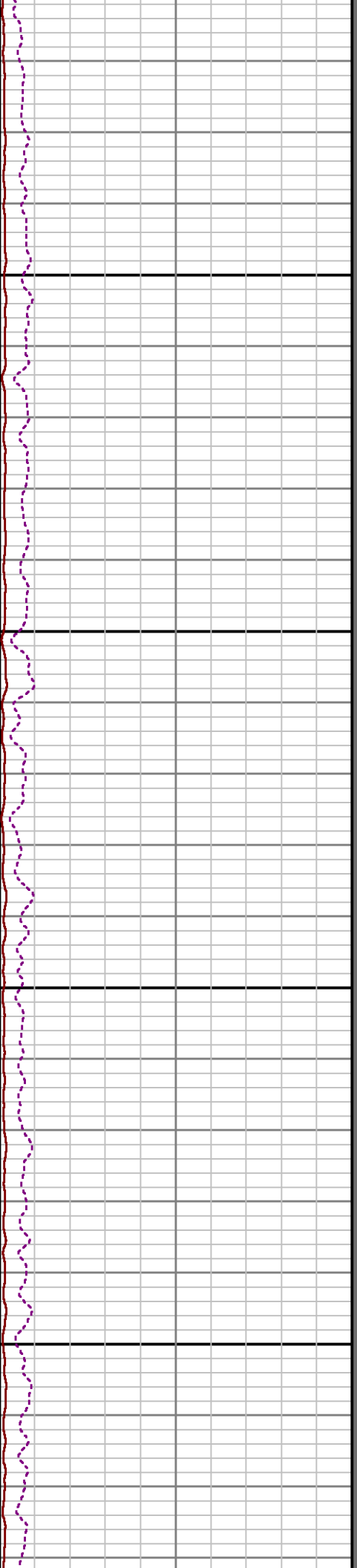
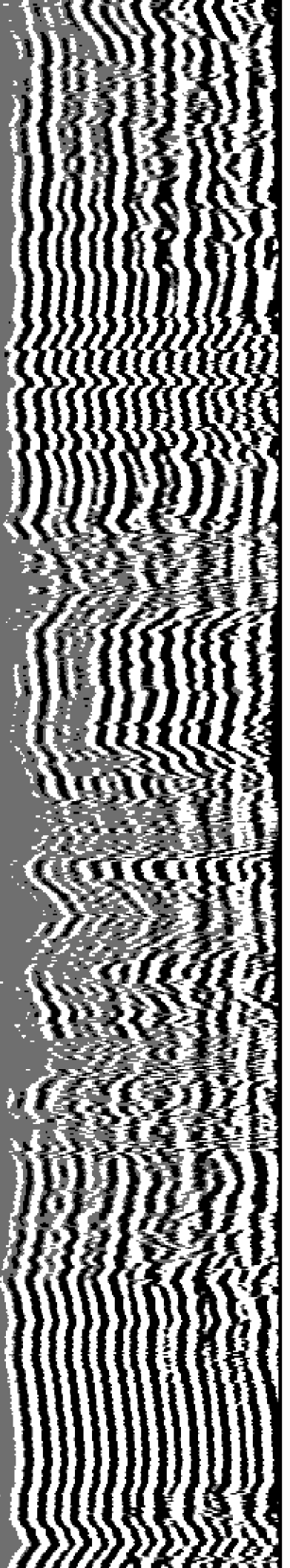
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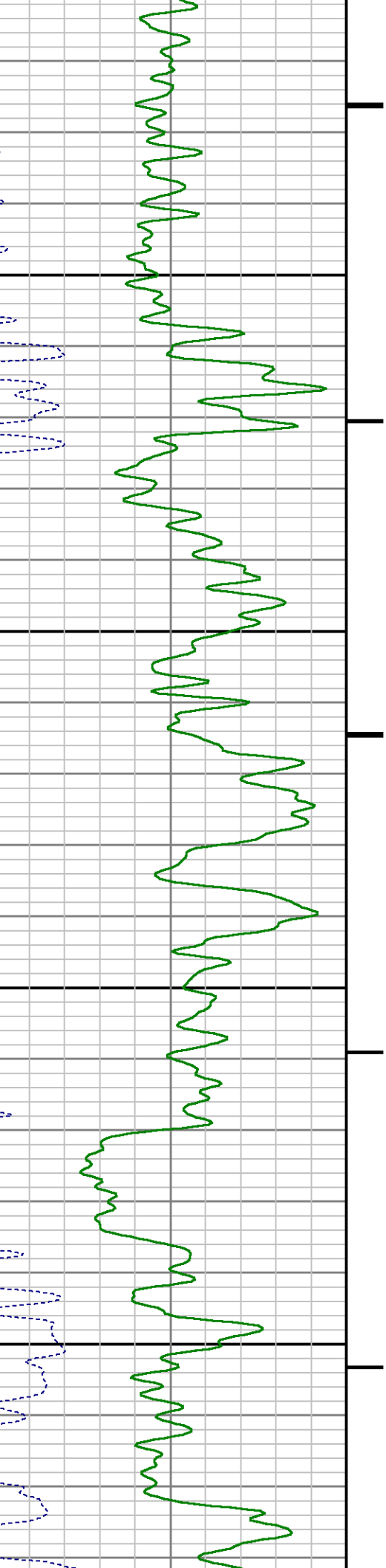


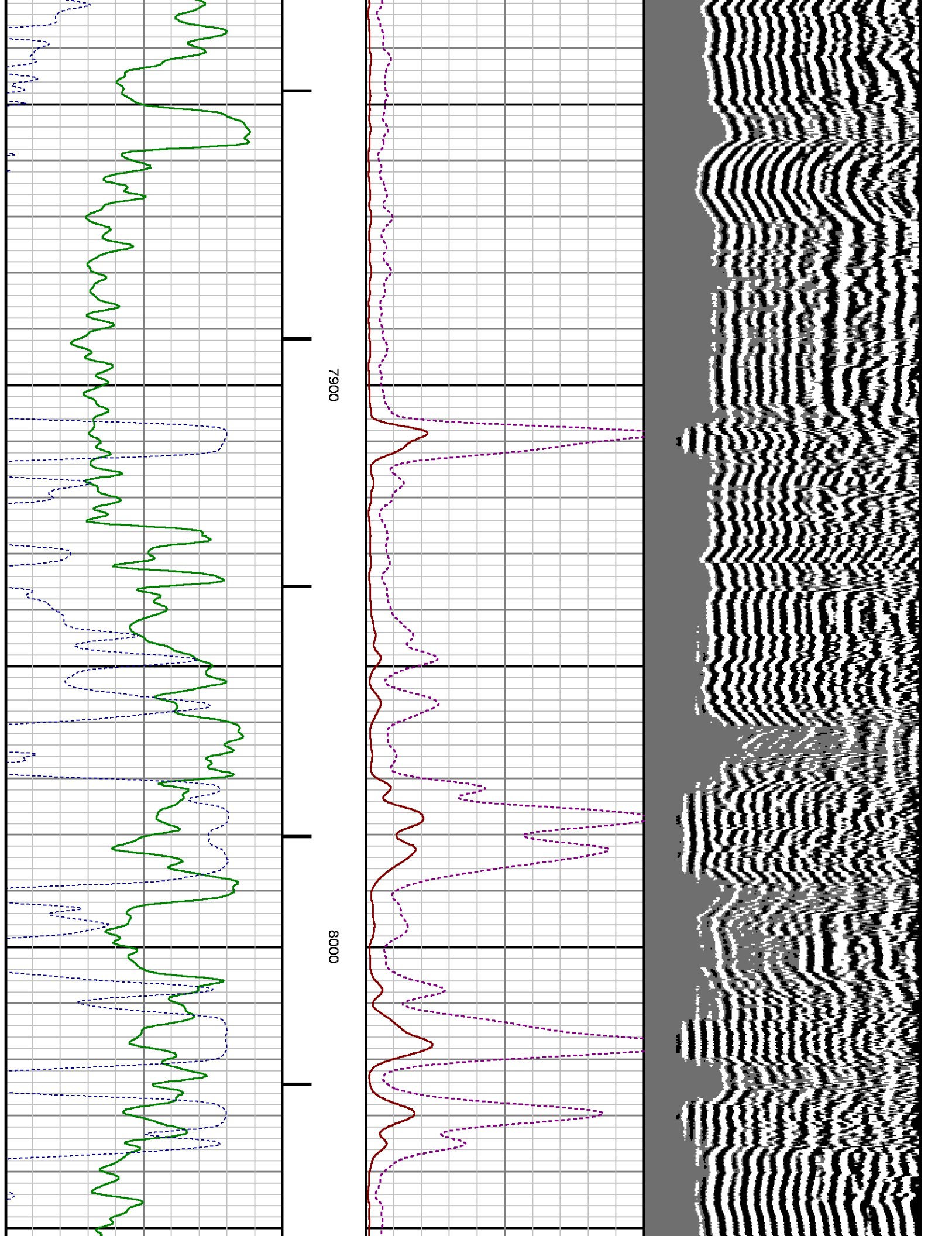


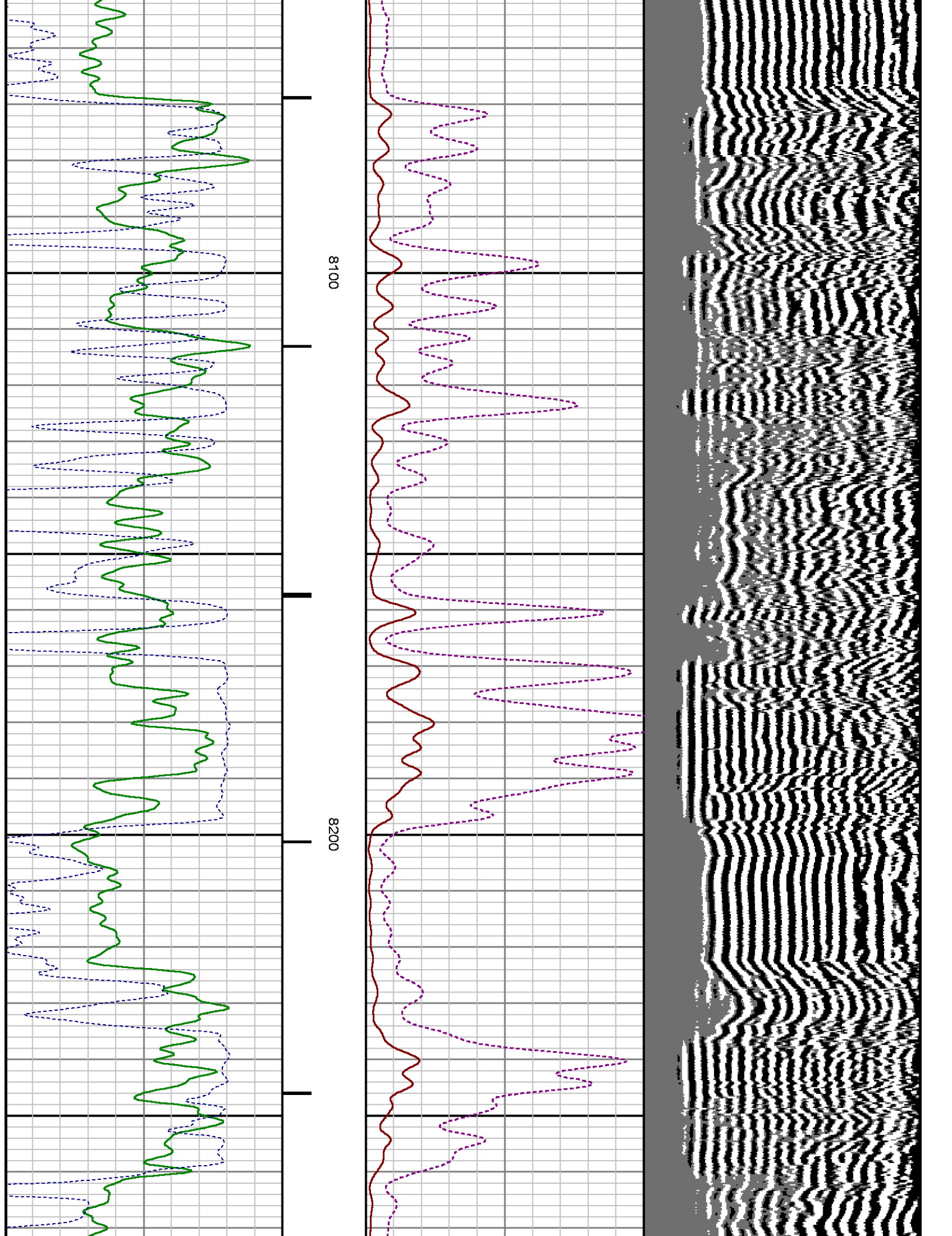


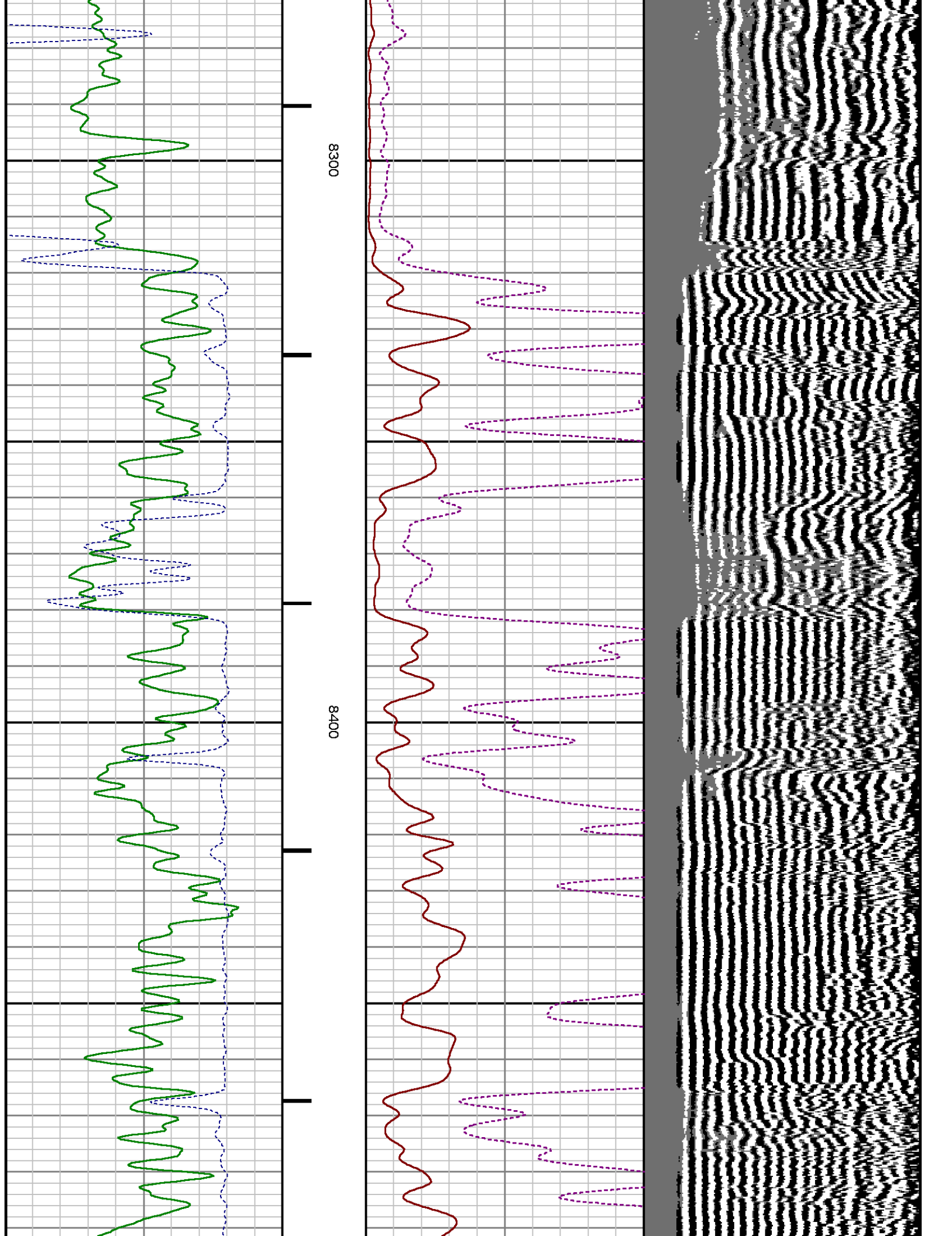
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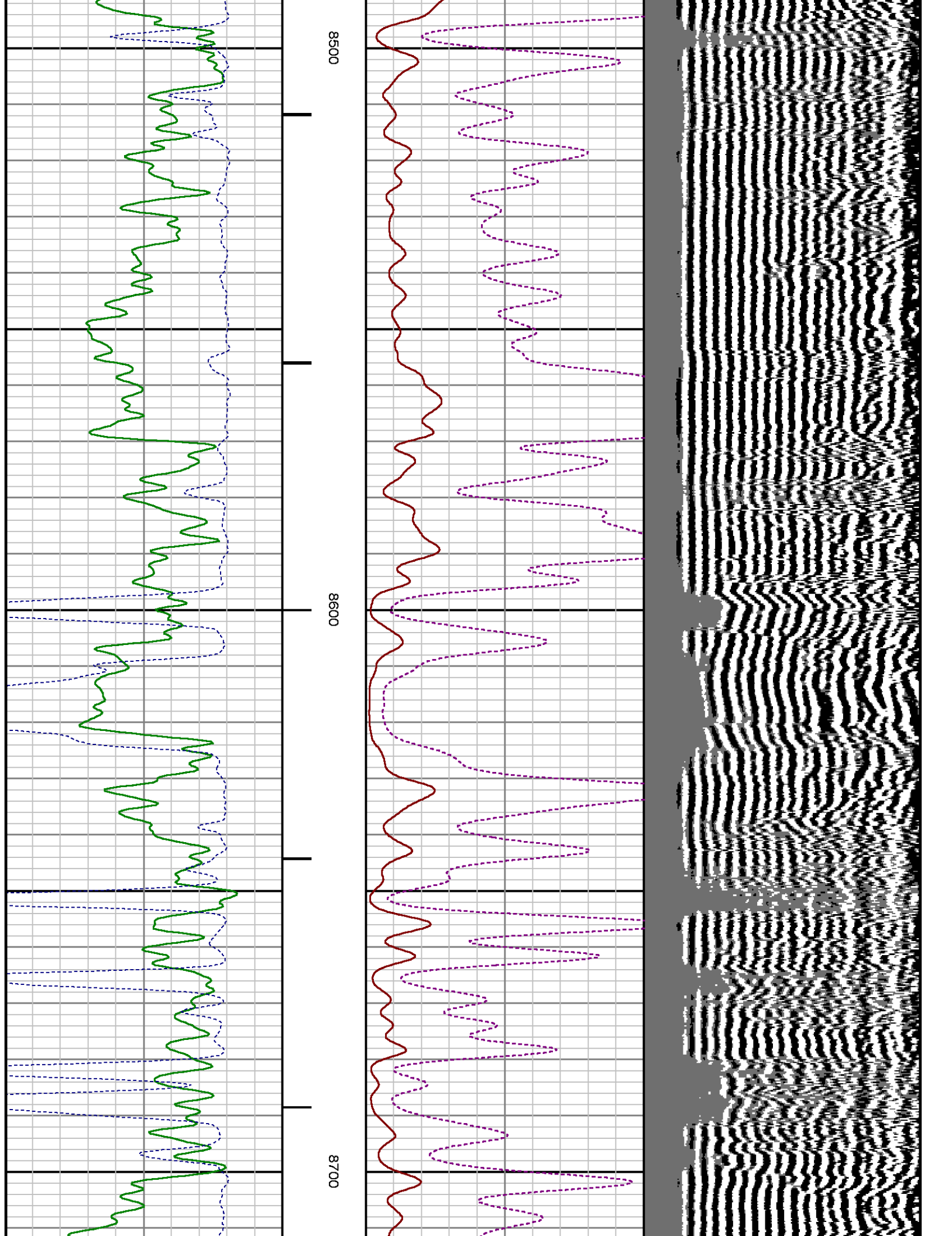
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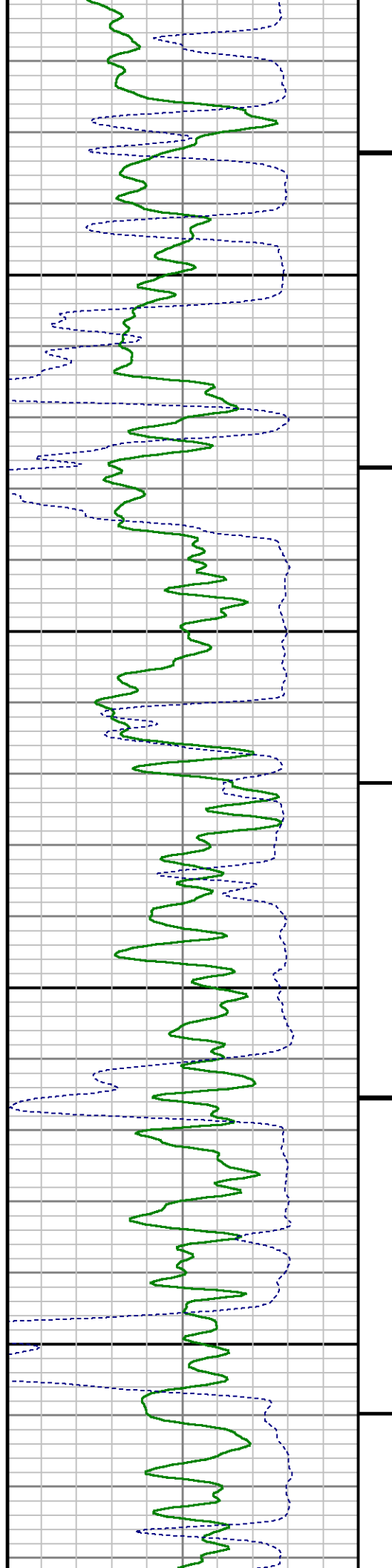






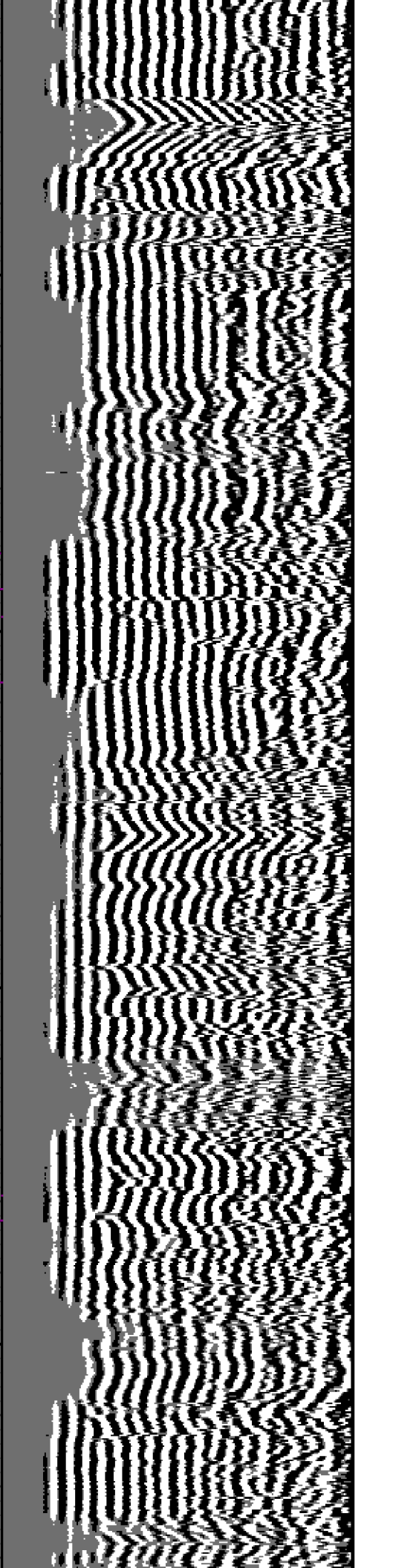
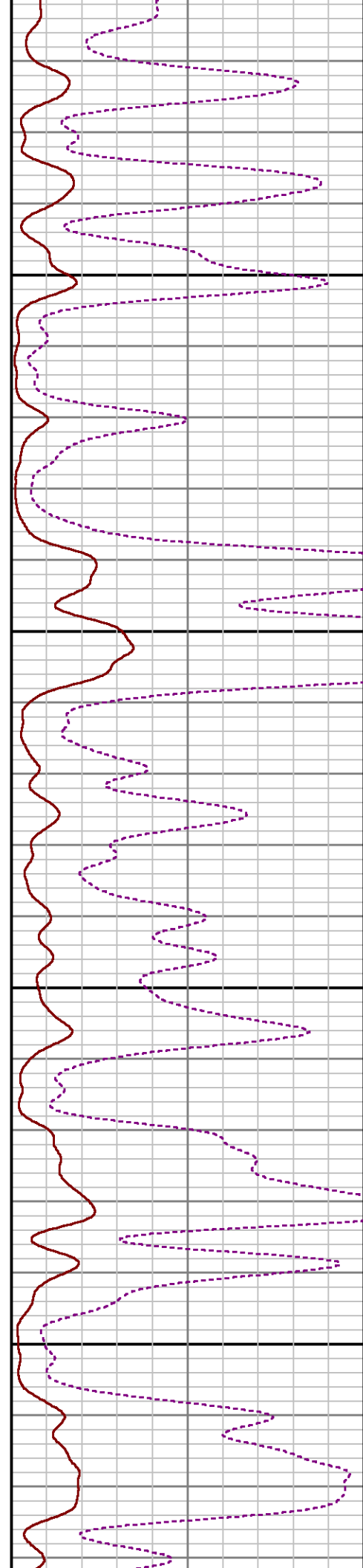


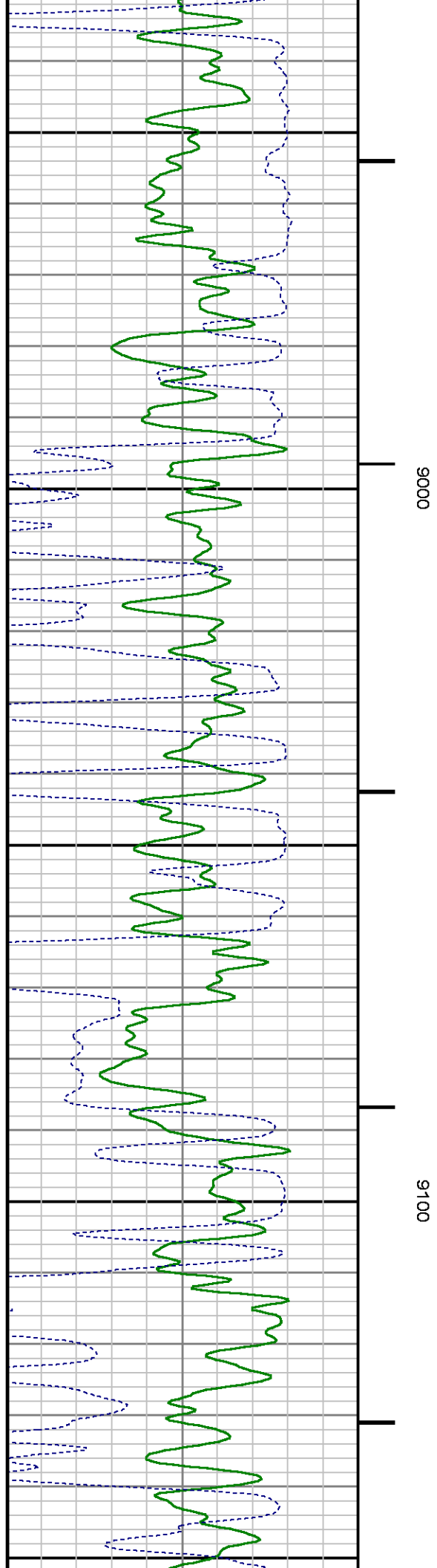
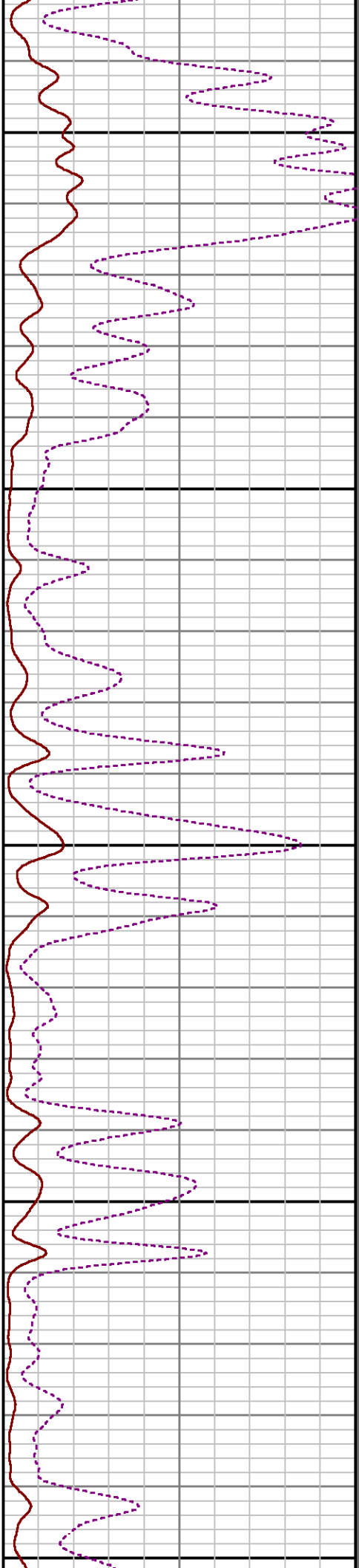
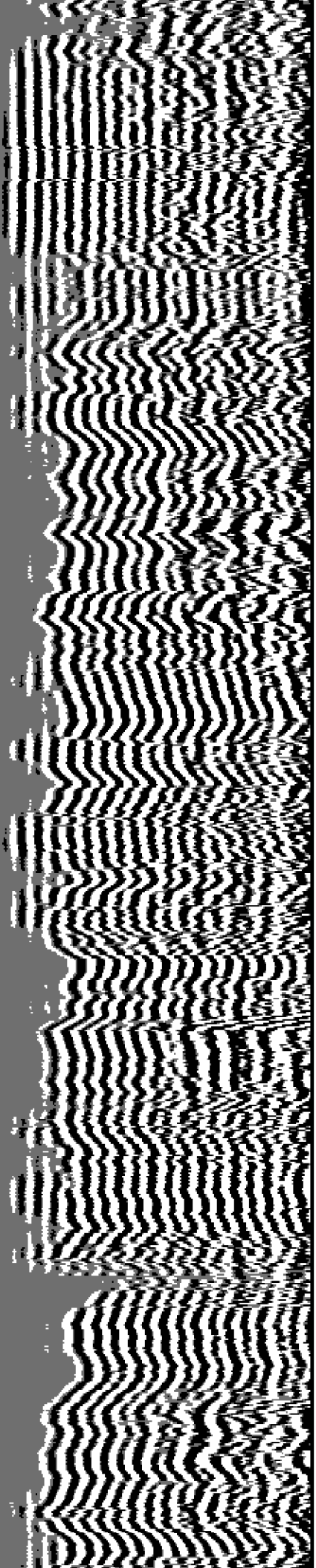


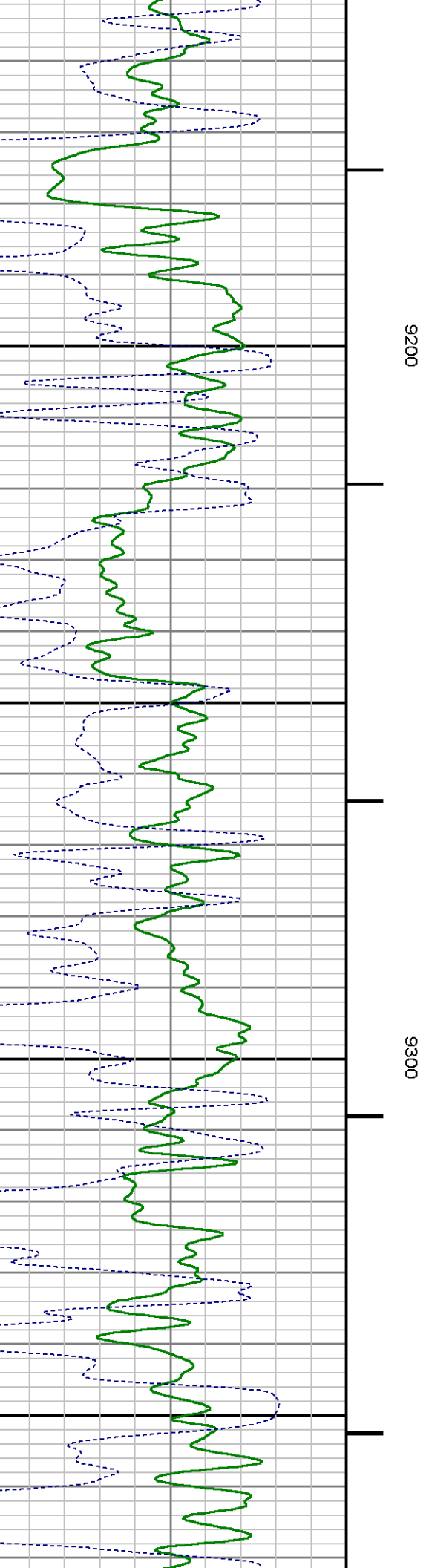
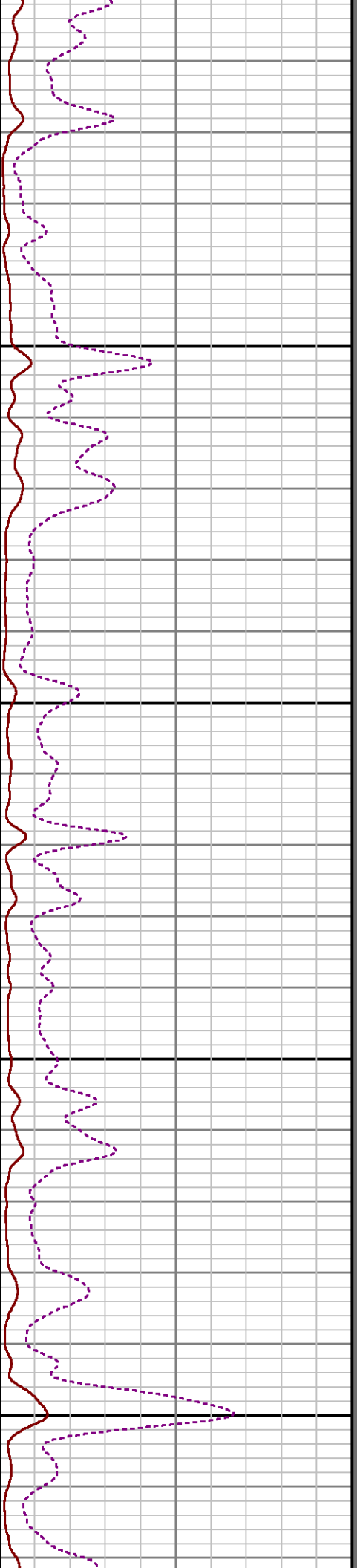
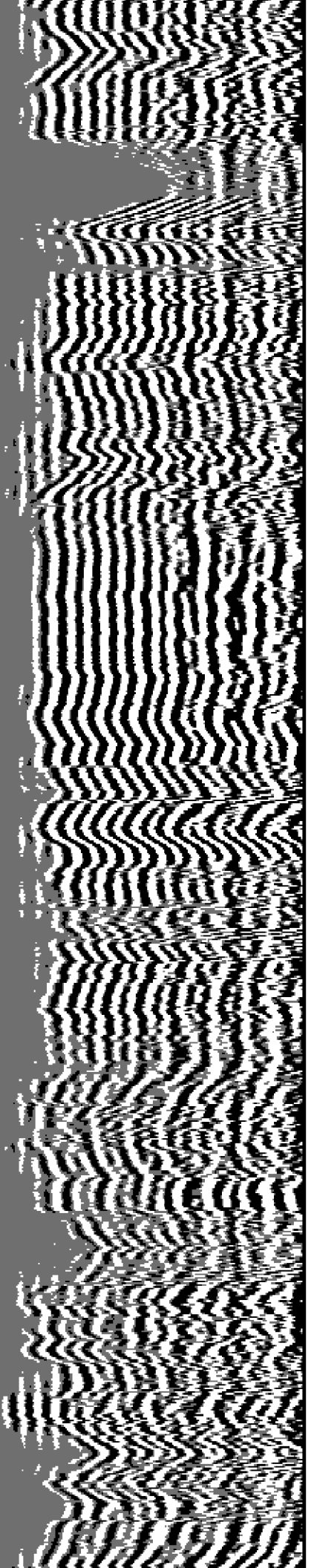


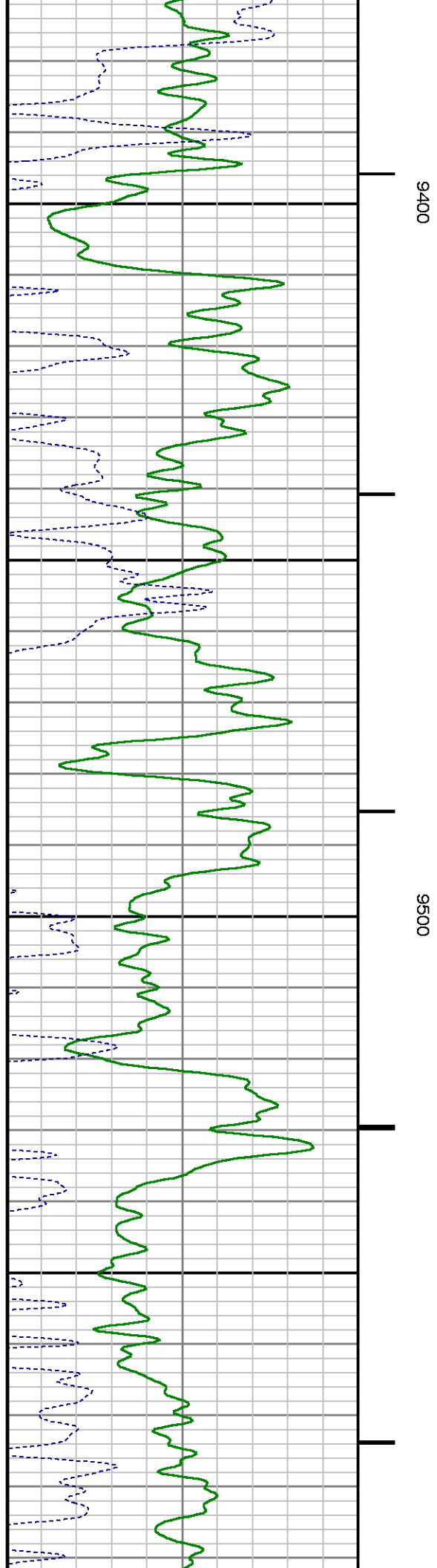
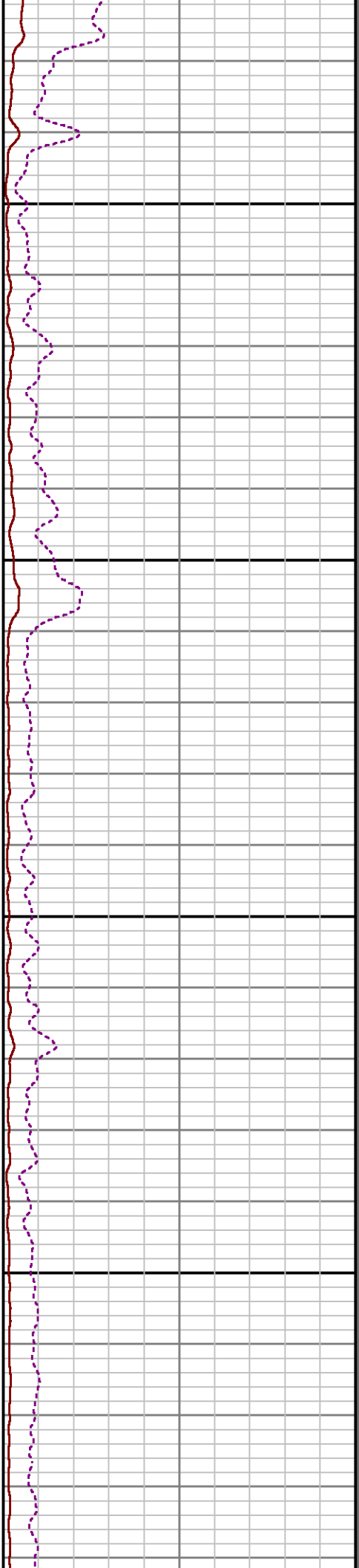
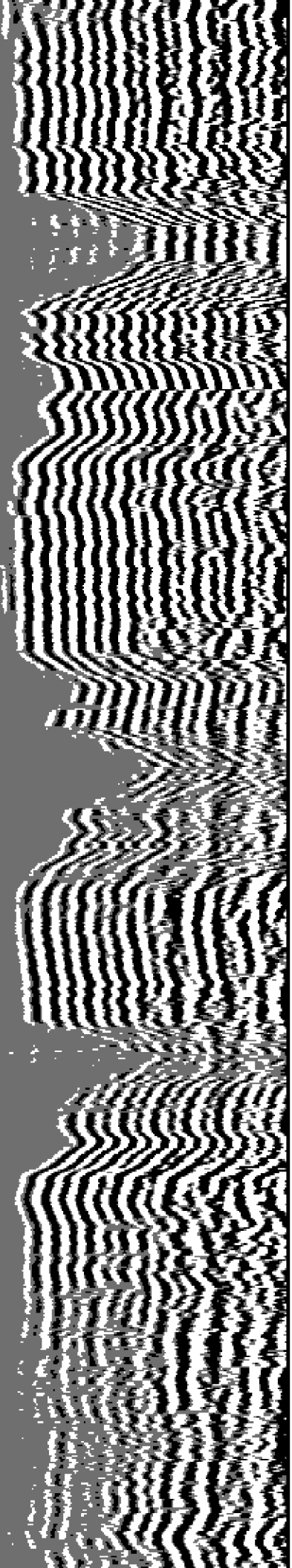
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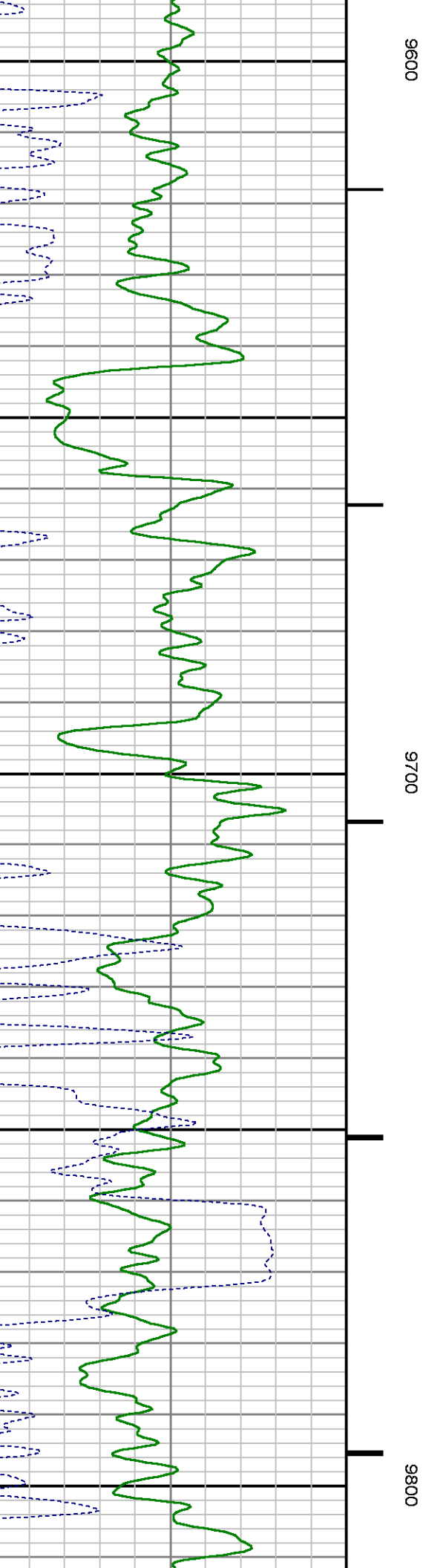
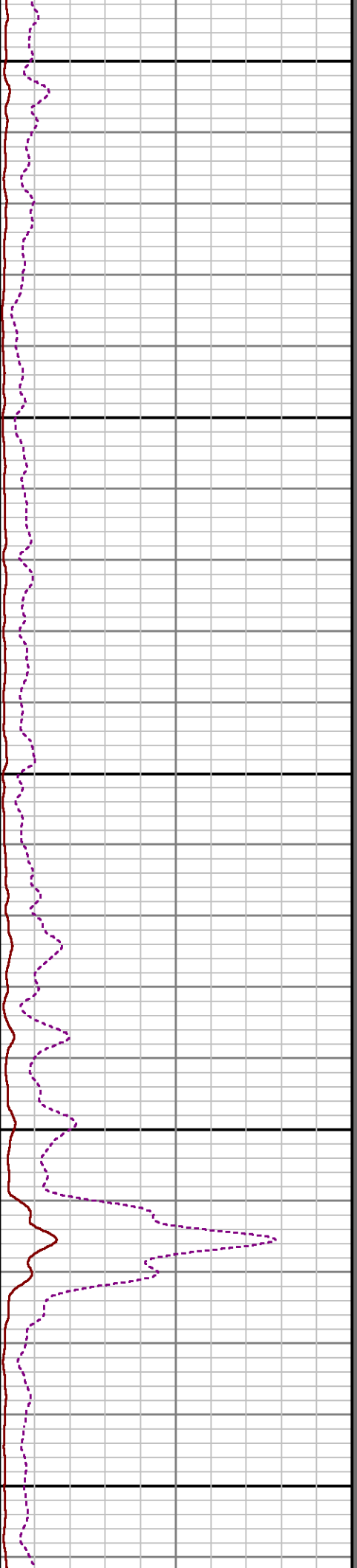
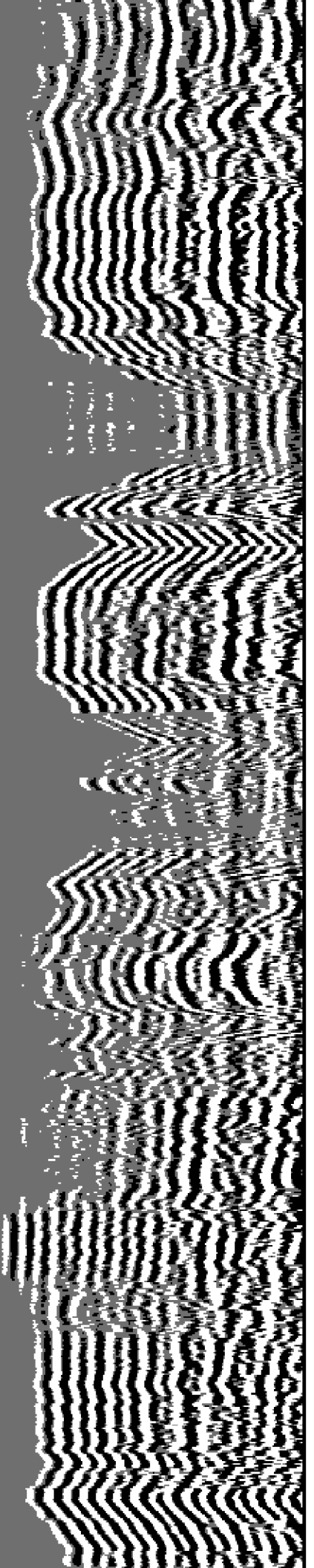
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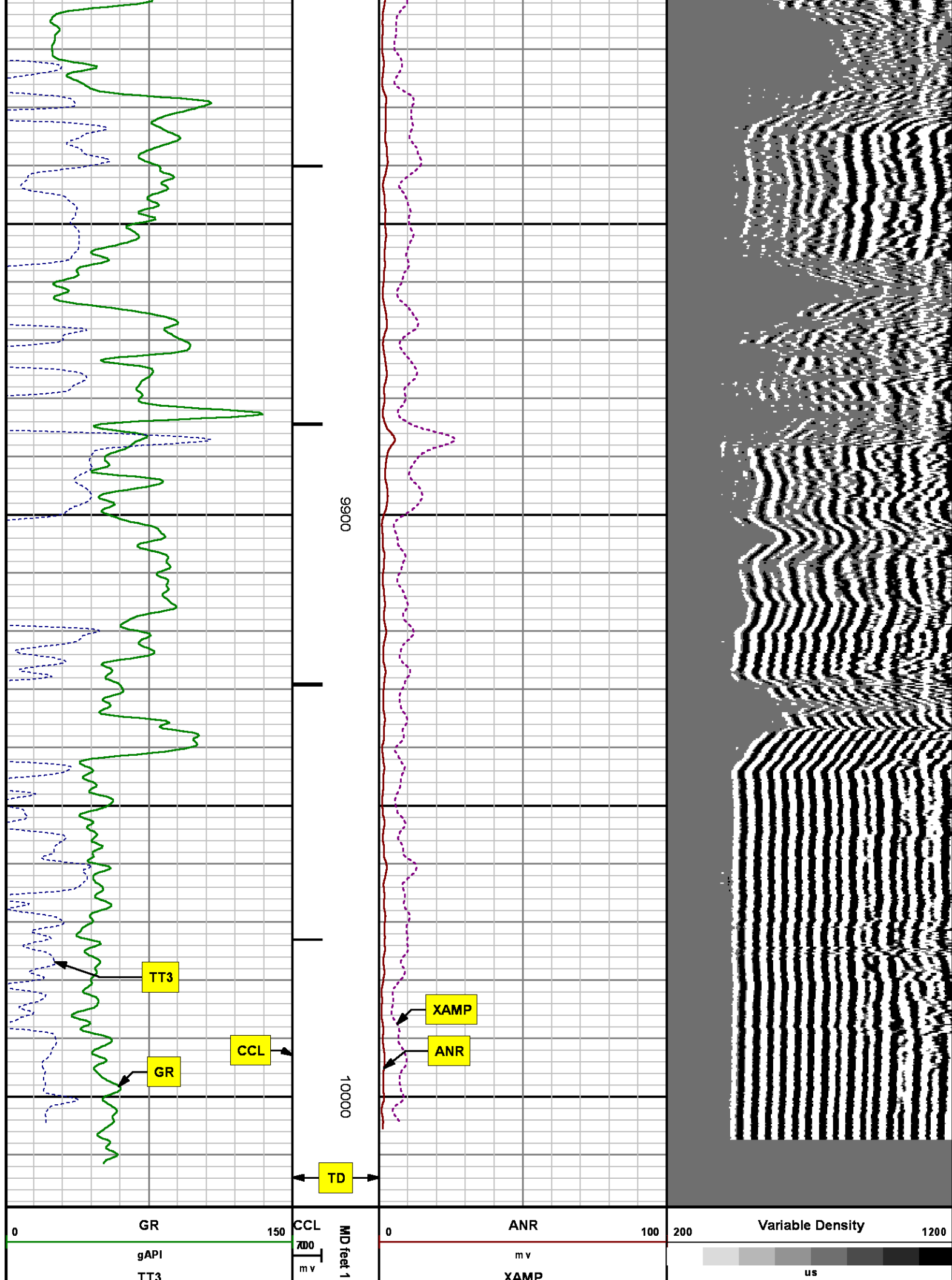












SECONDARY PRESENTATION
O PSI

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
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		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

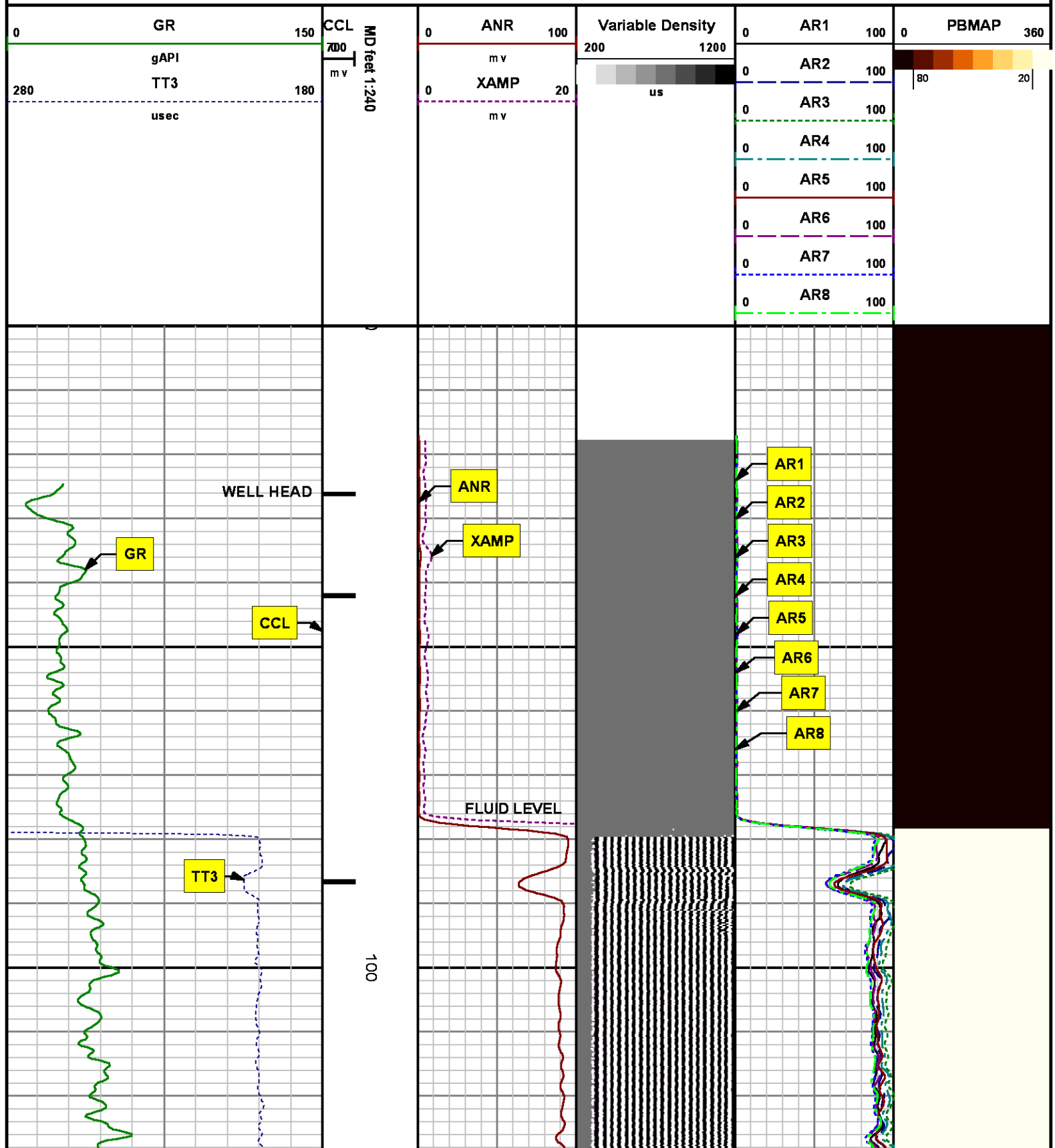
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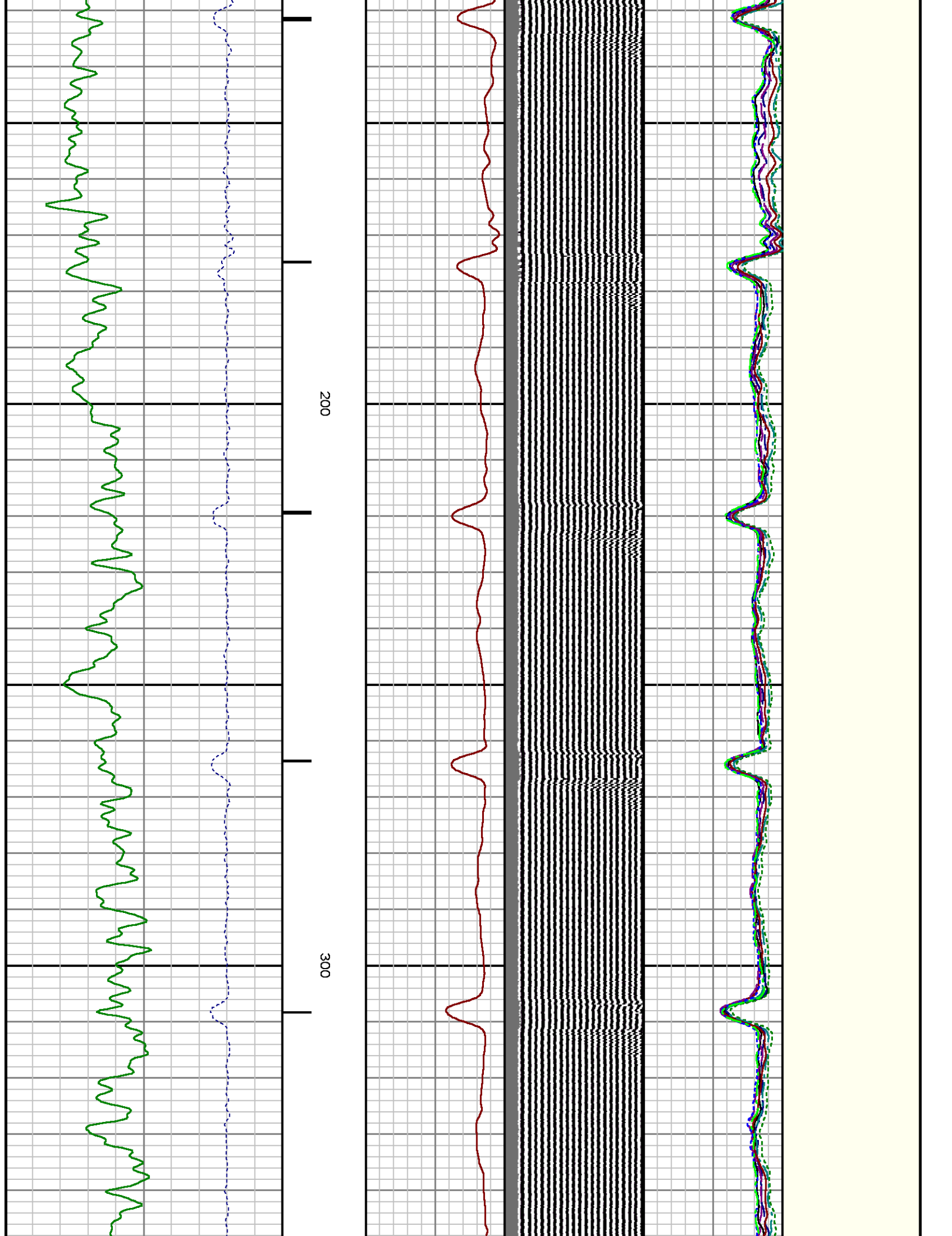
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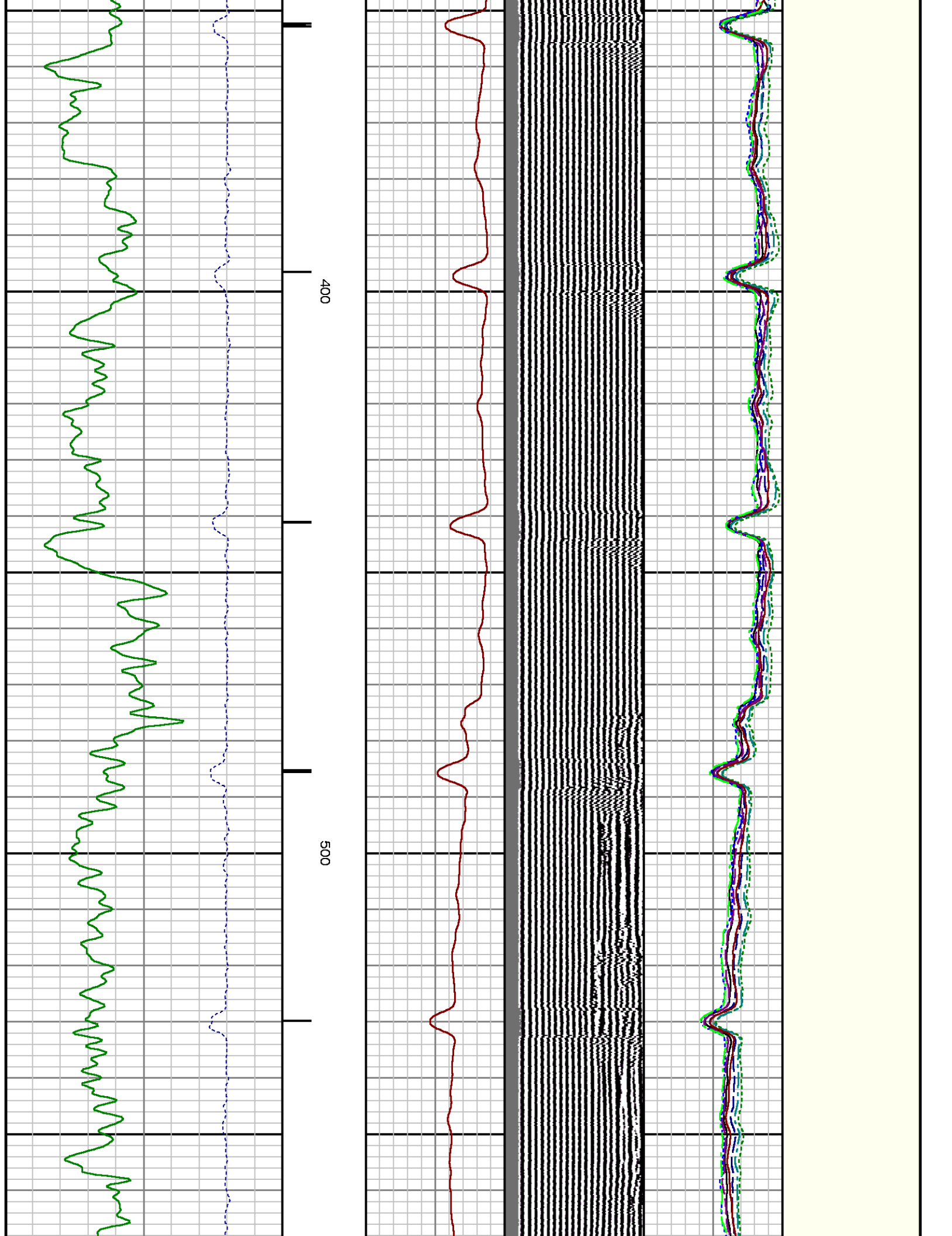
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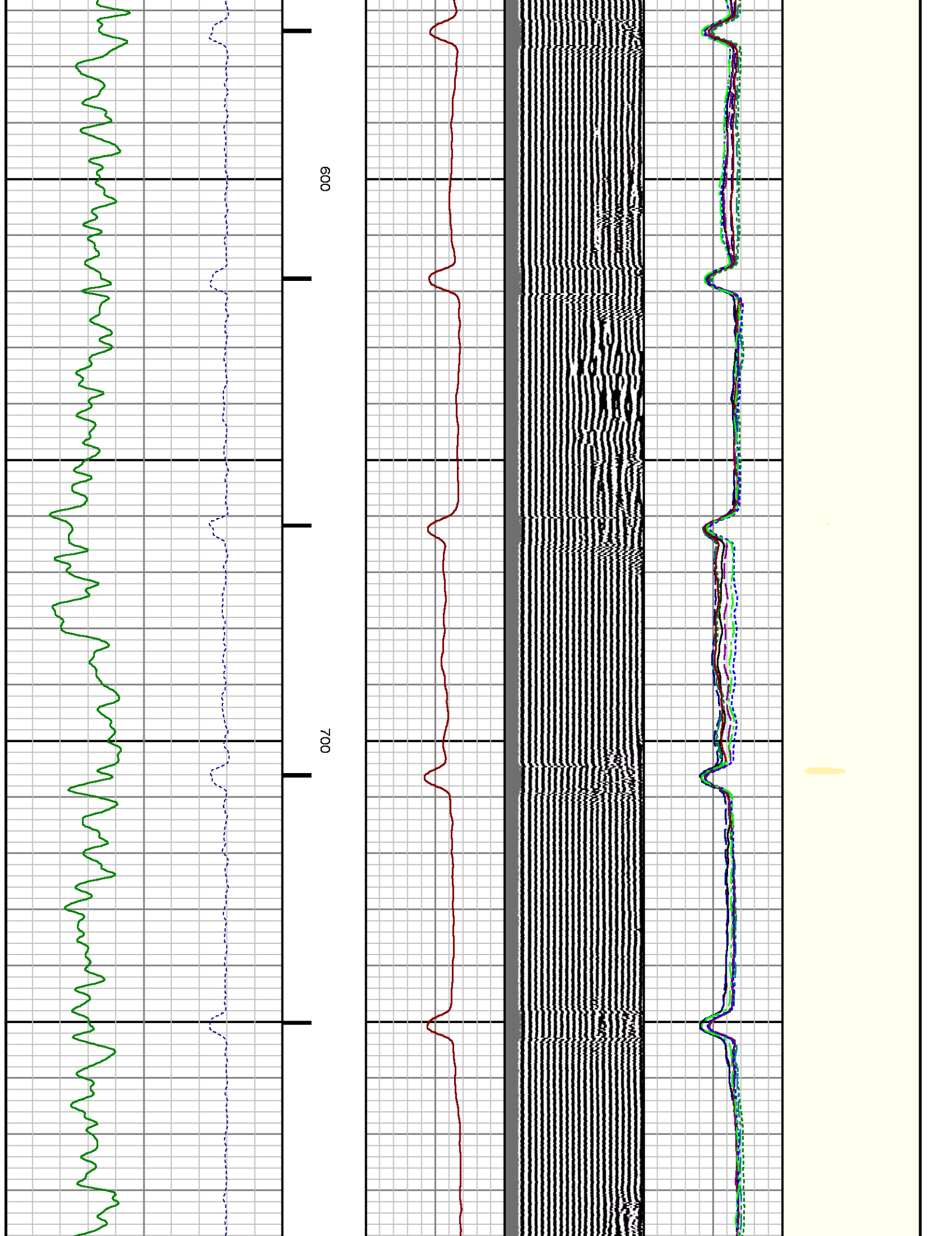
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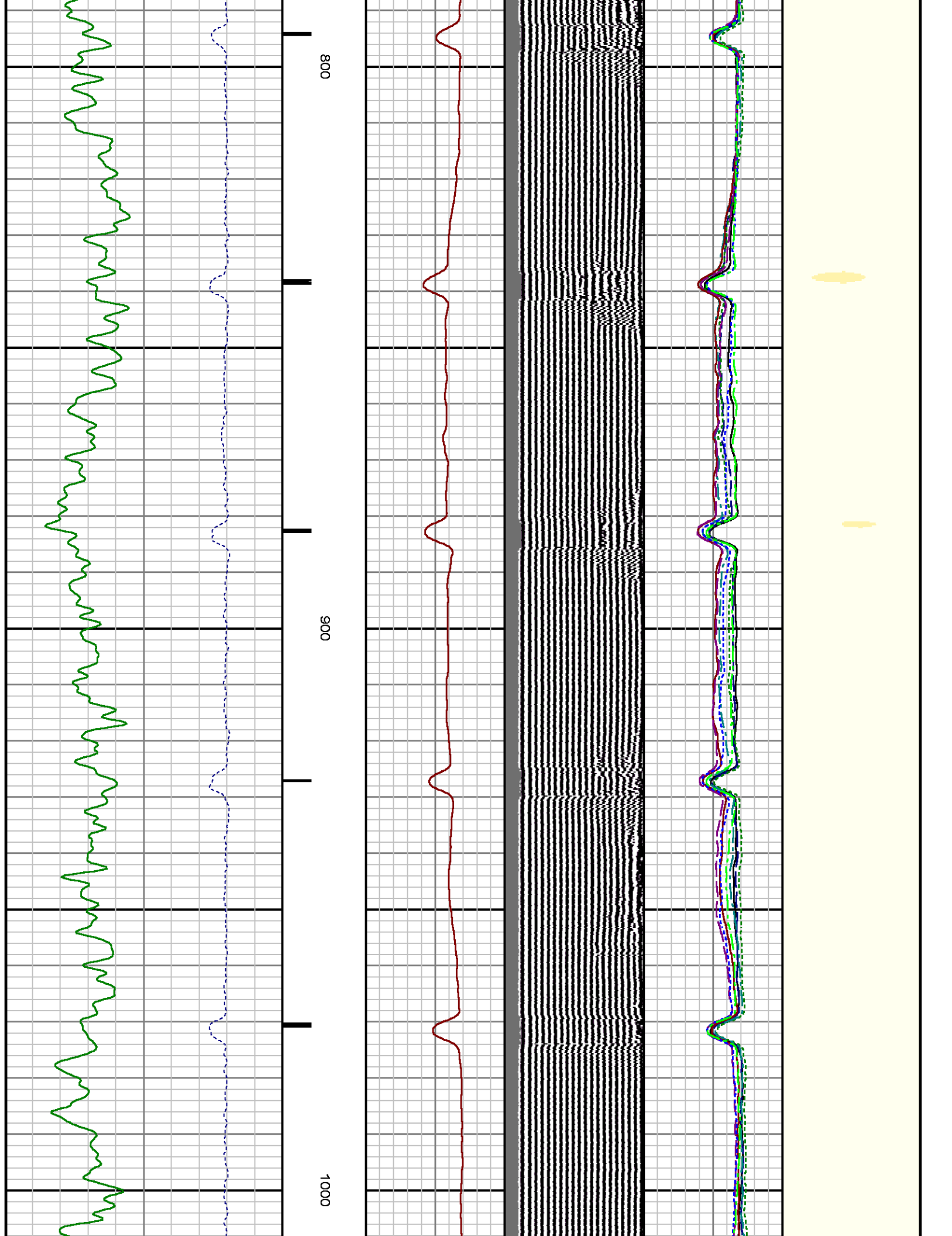
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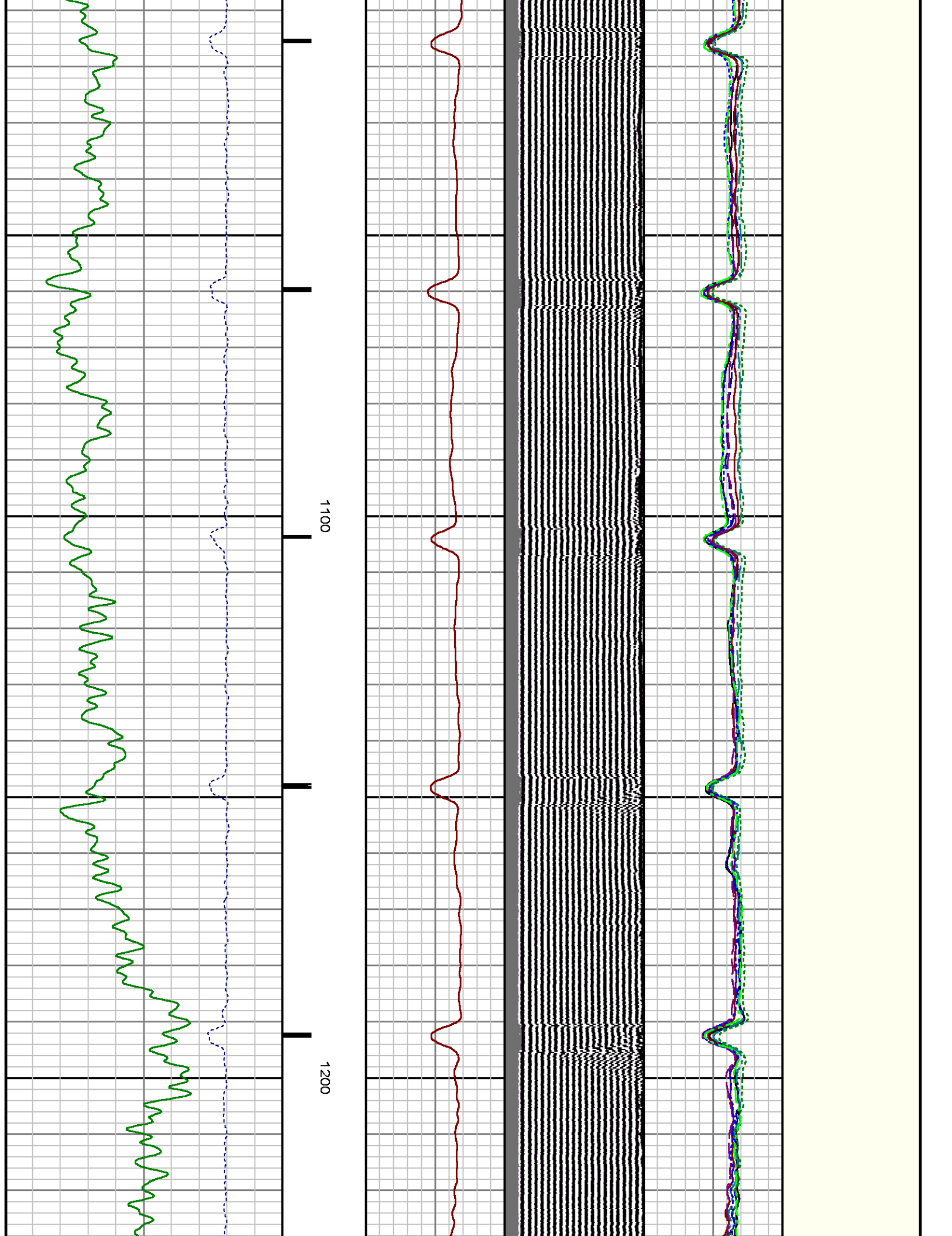


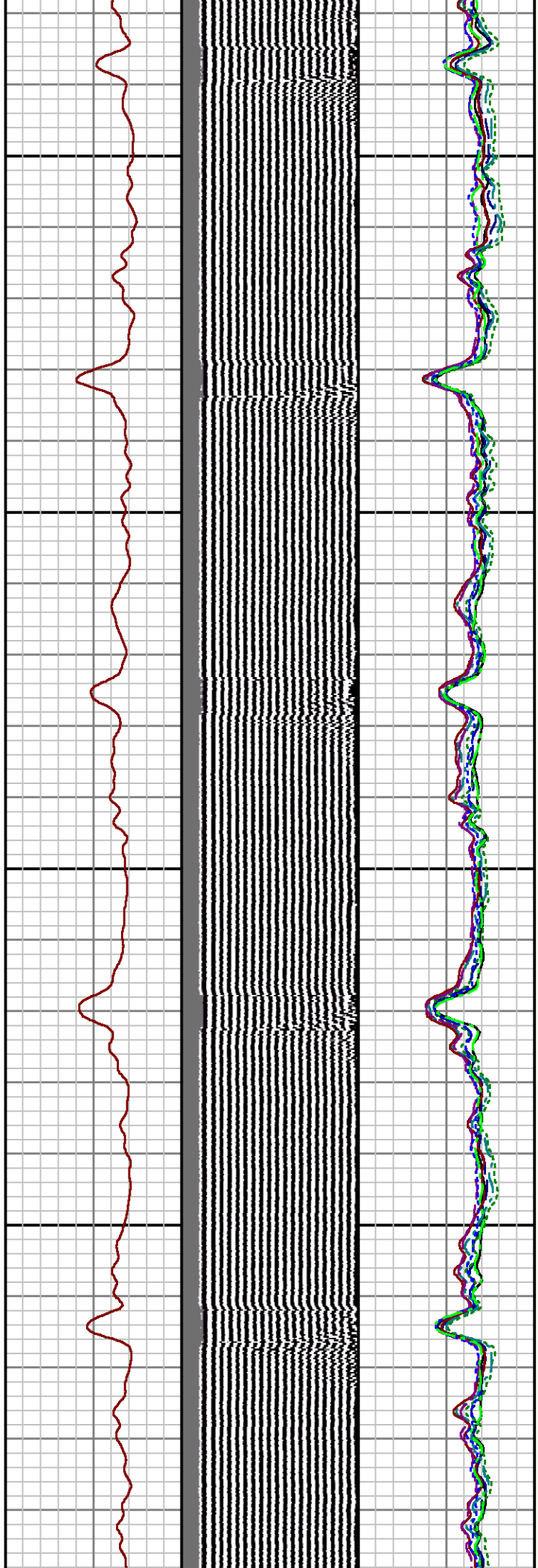






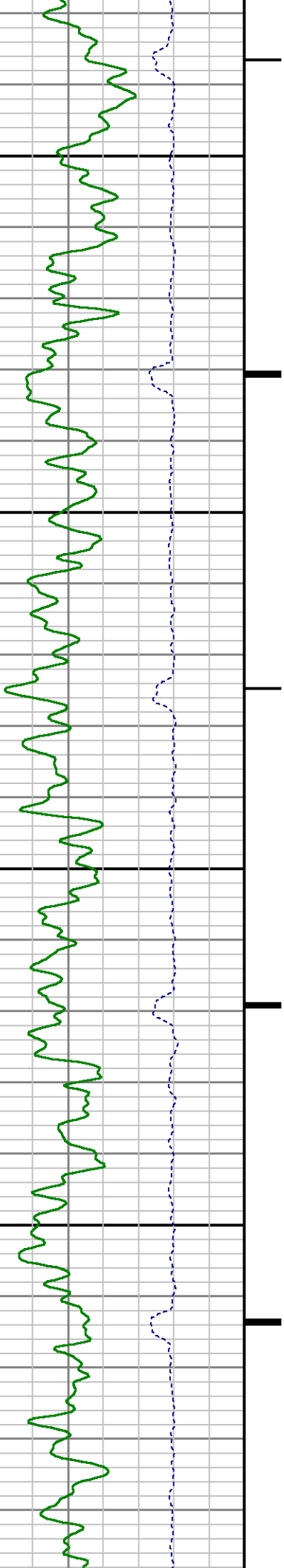


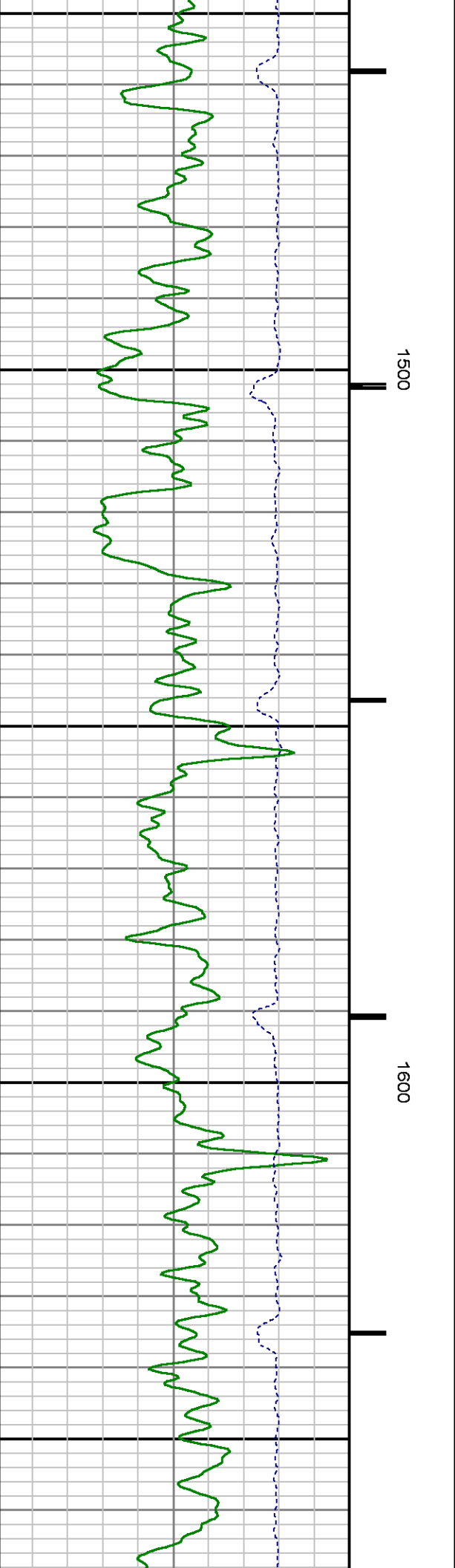
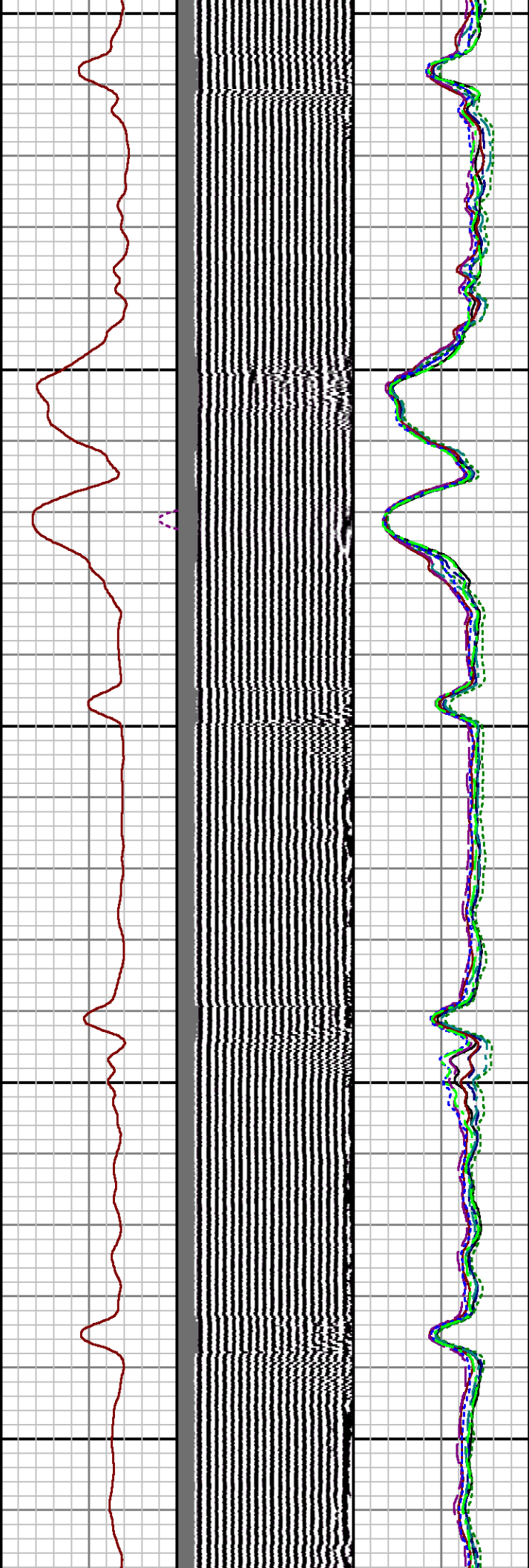
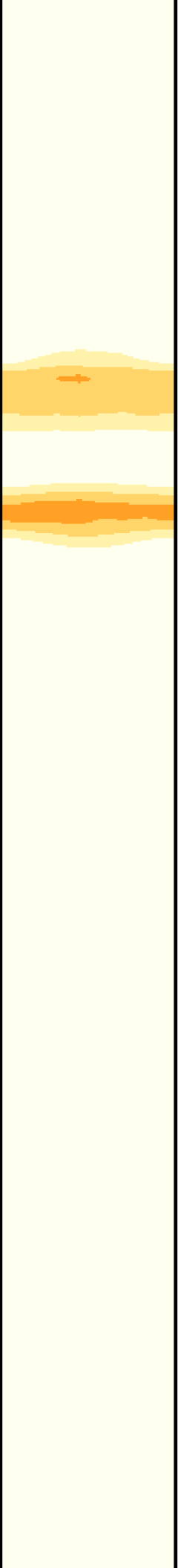


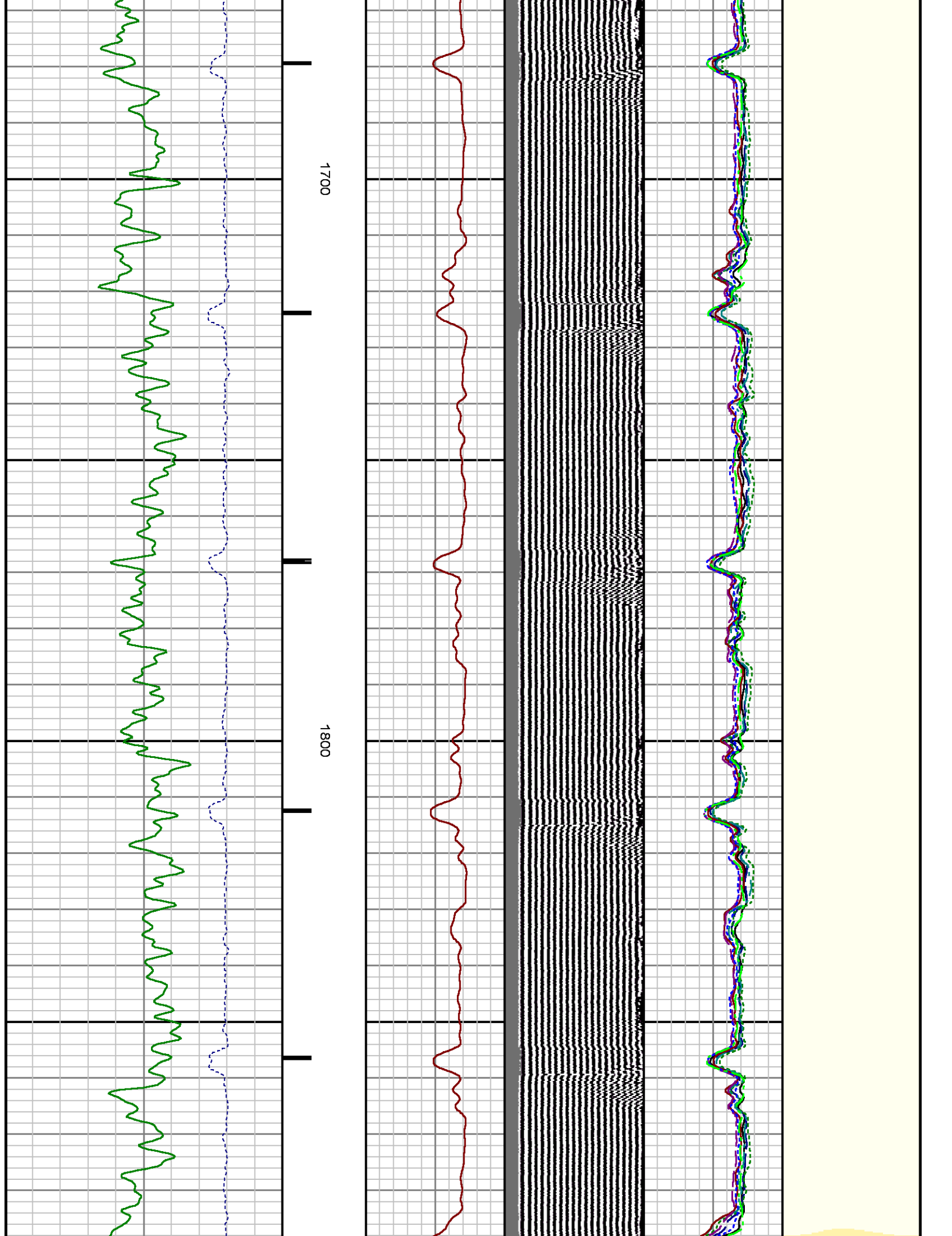


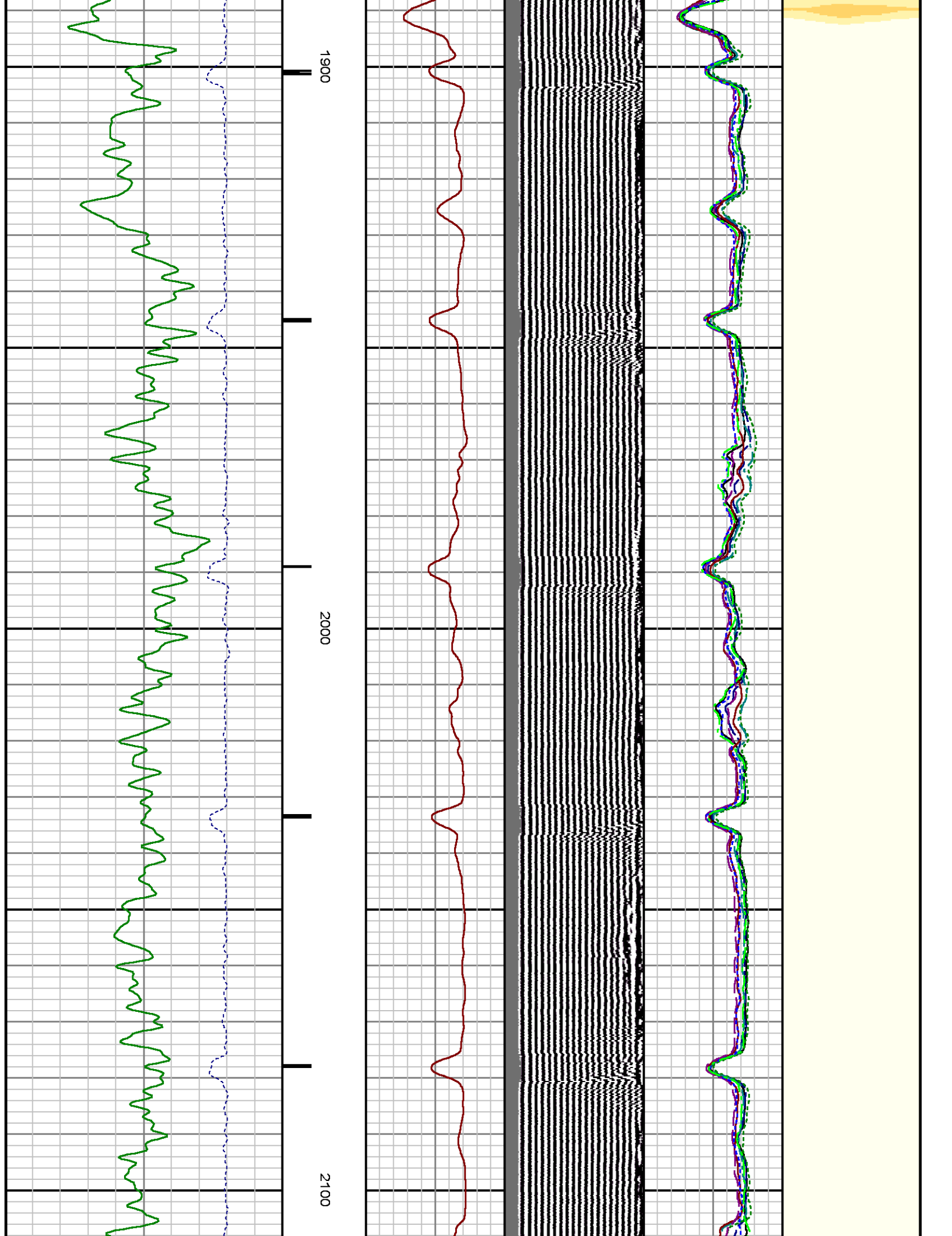
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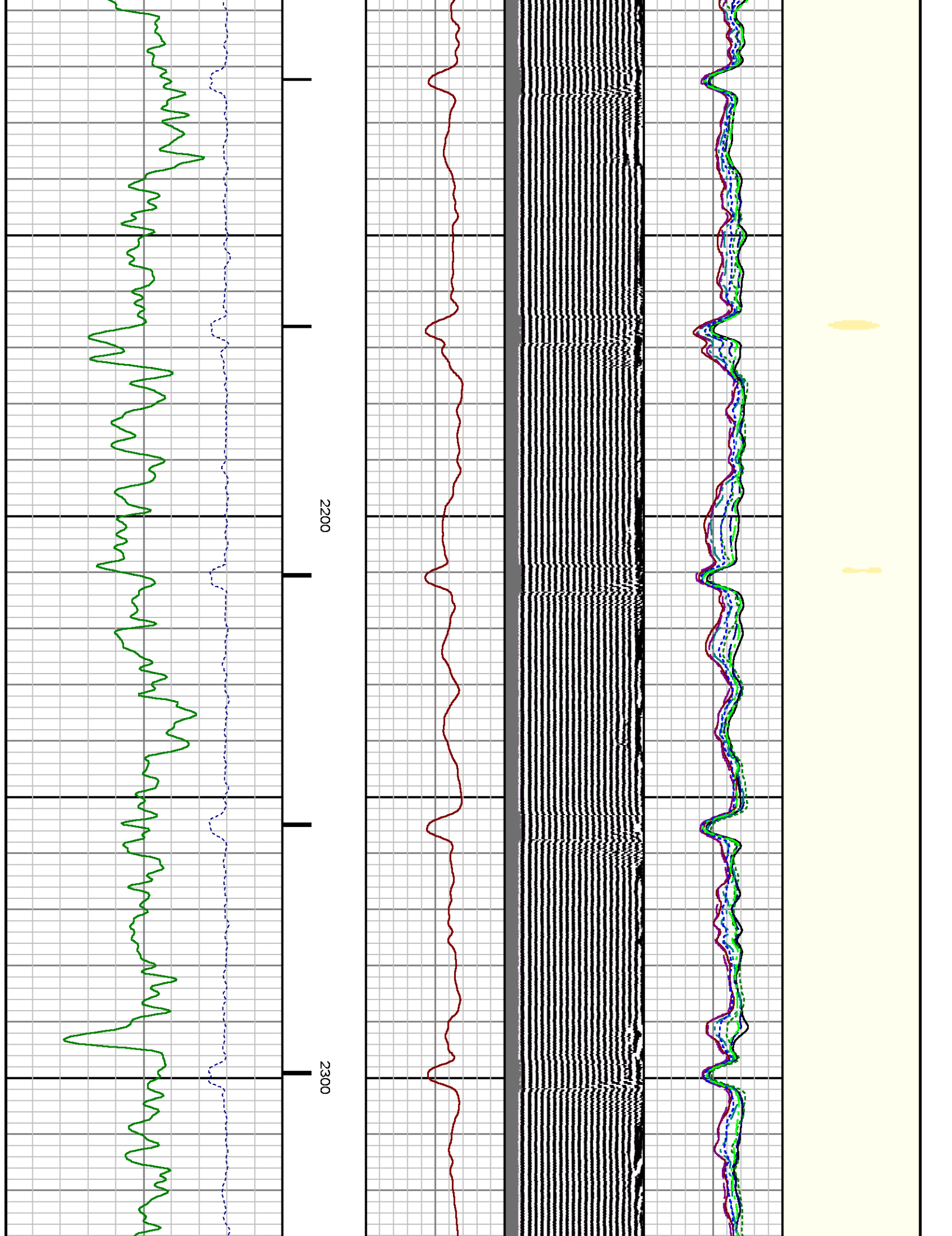
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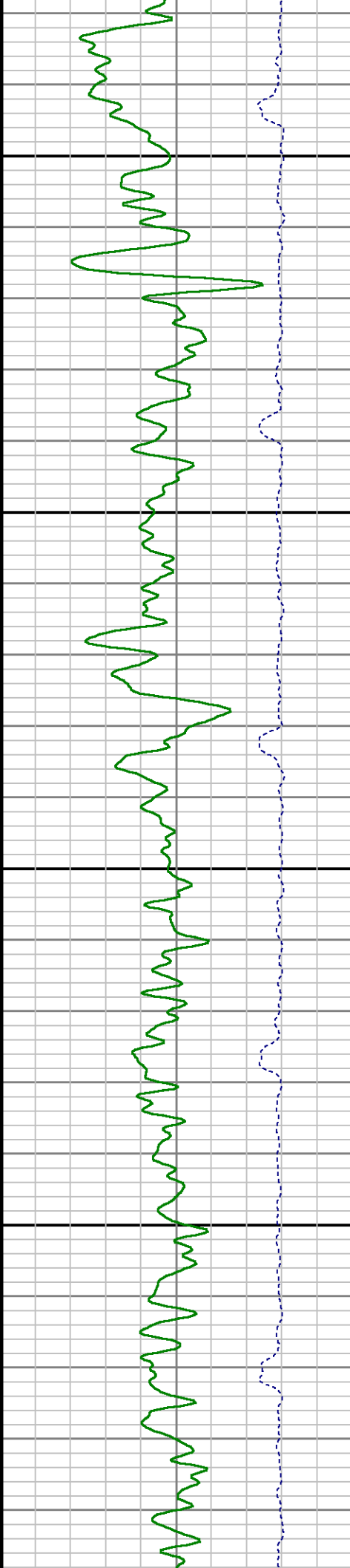
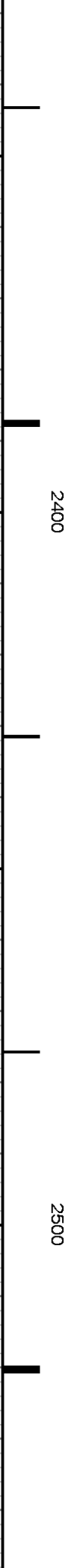
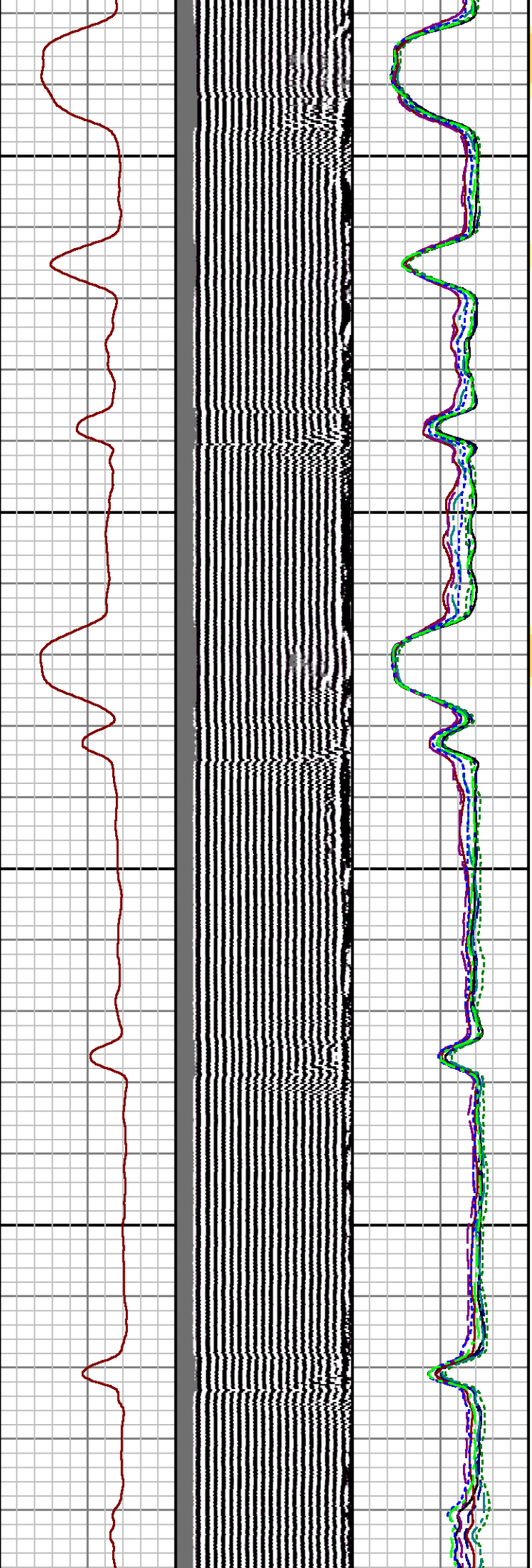
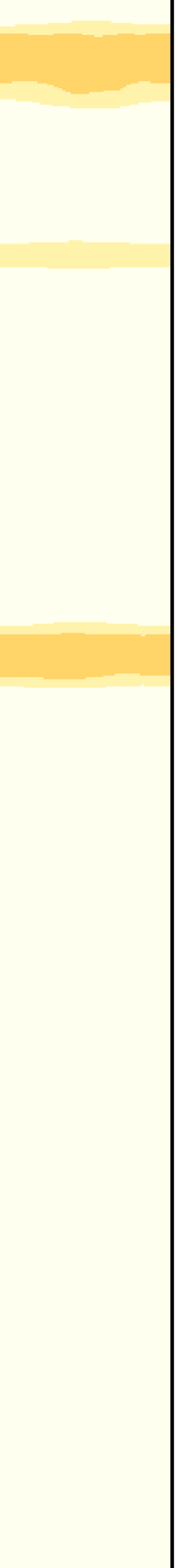


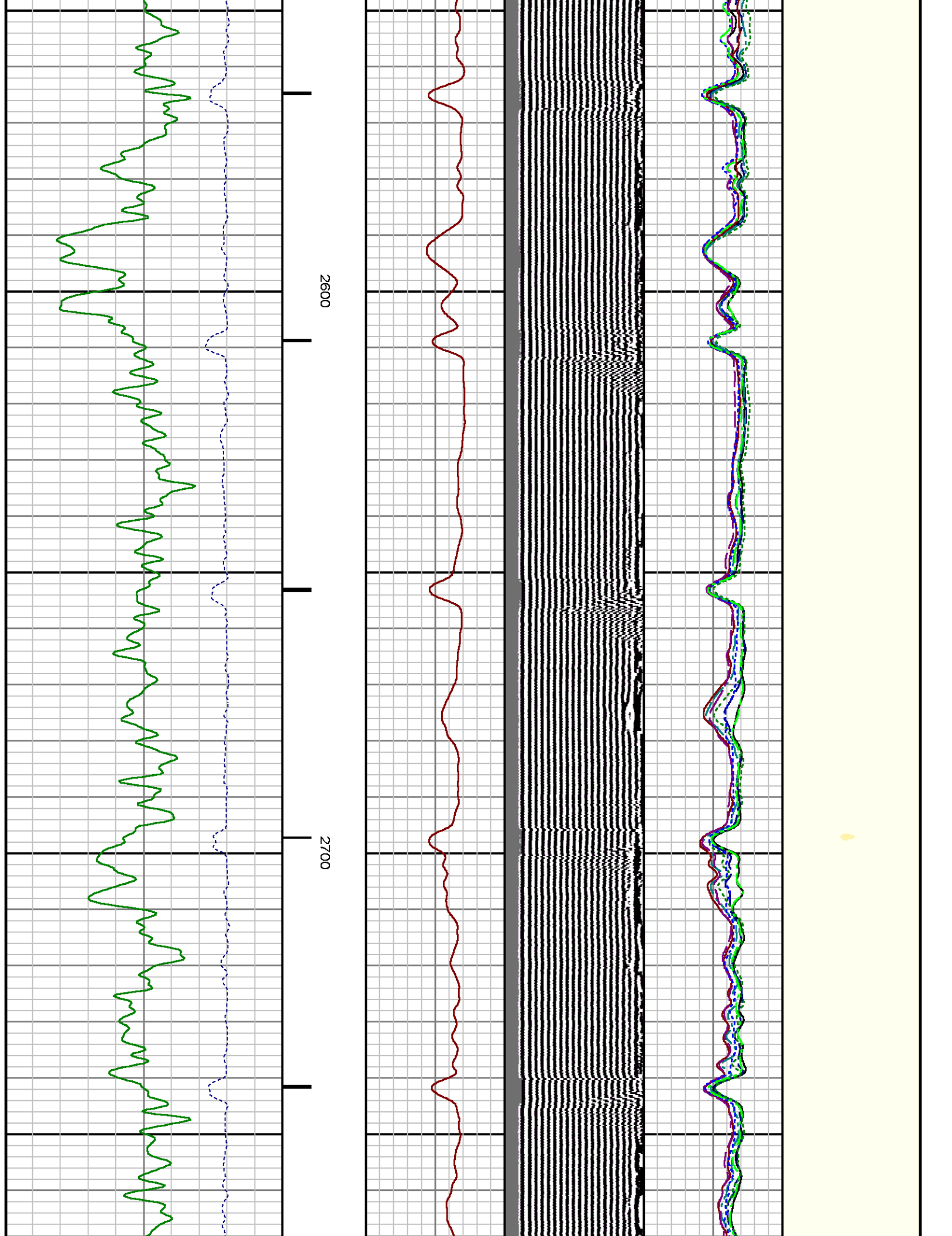


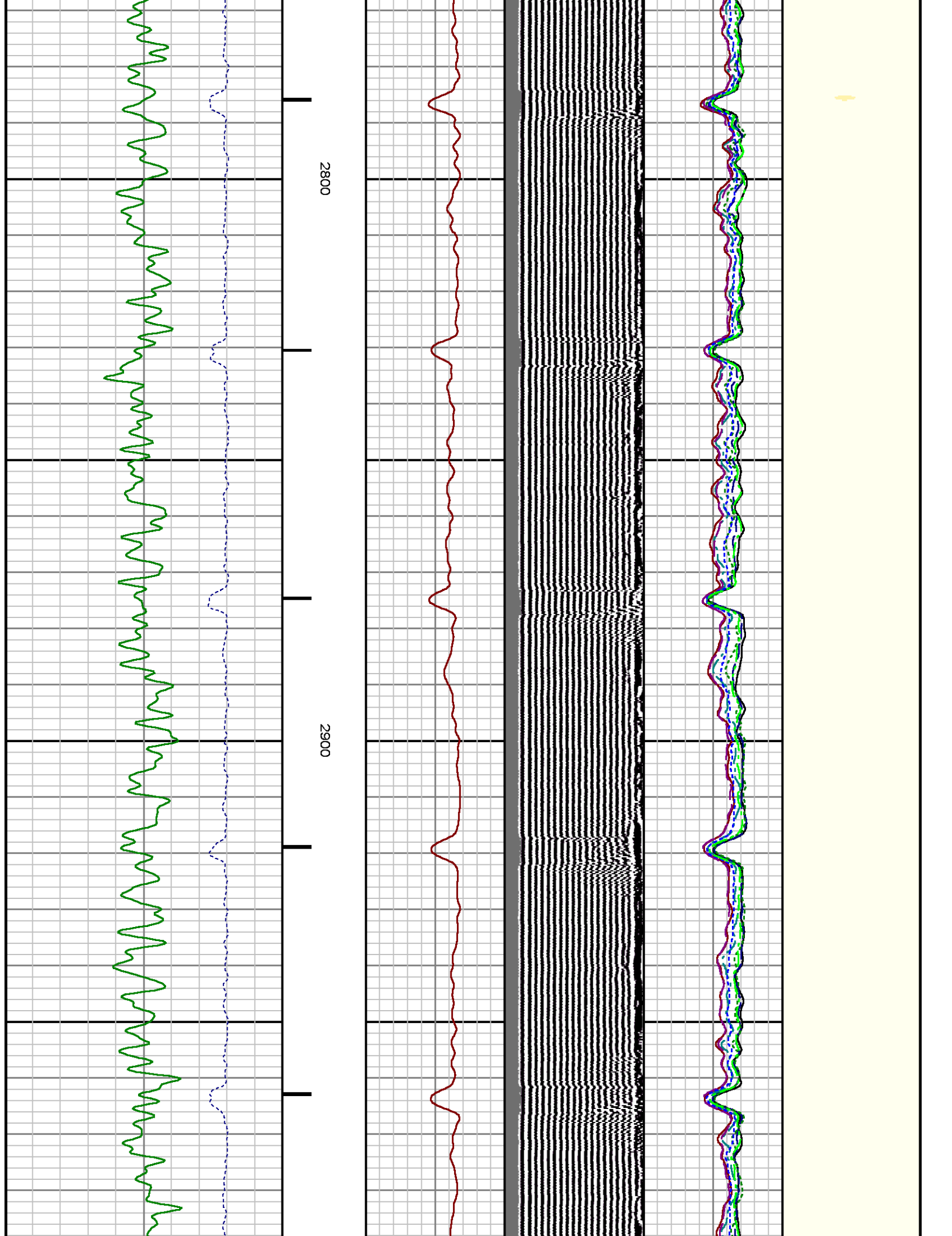


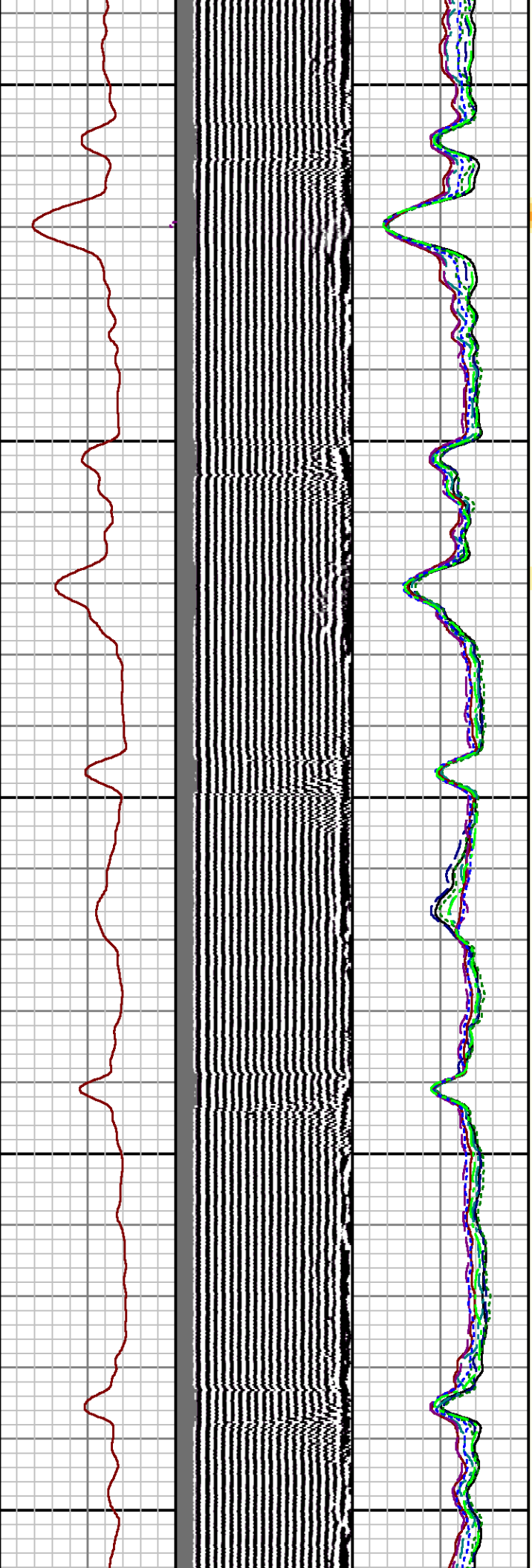








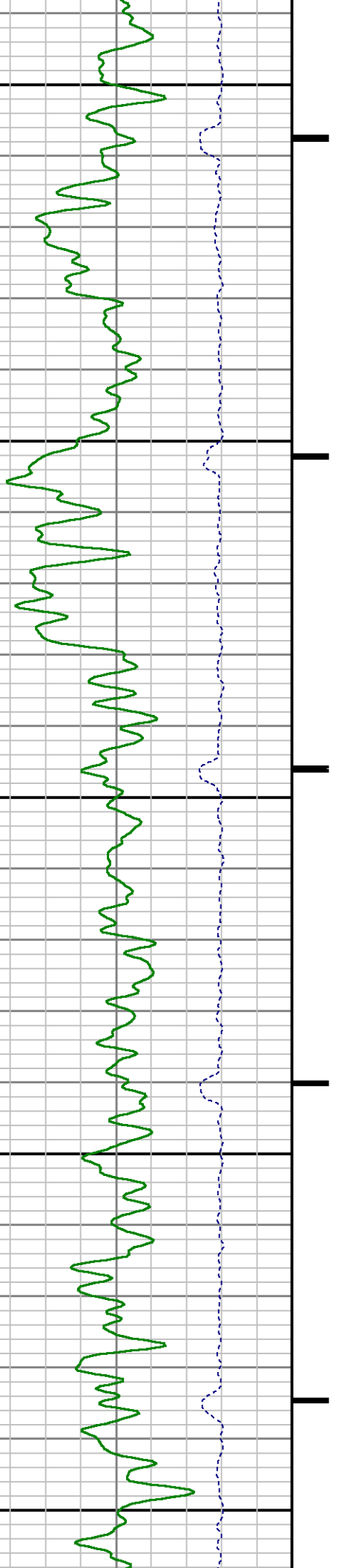


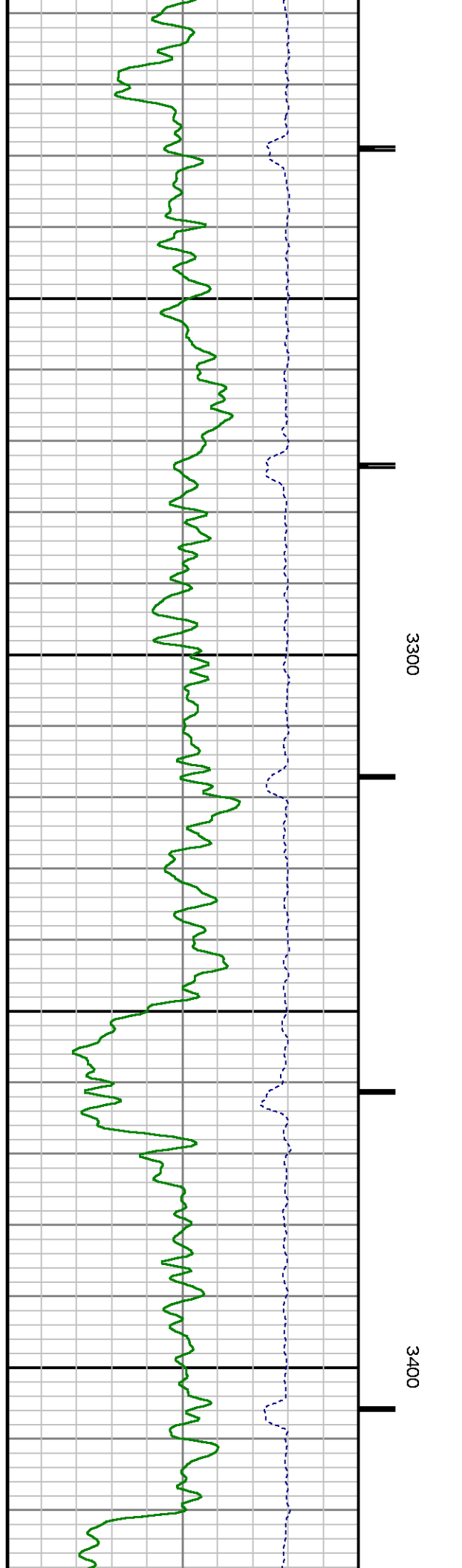
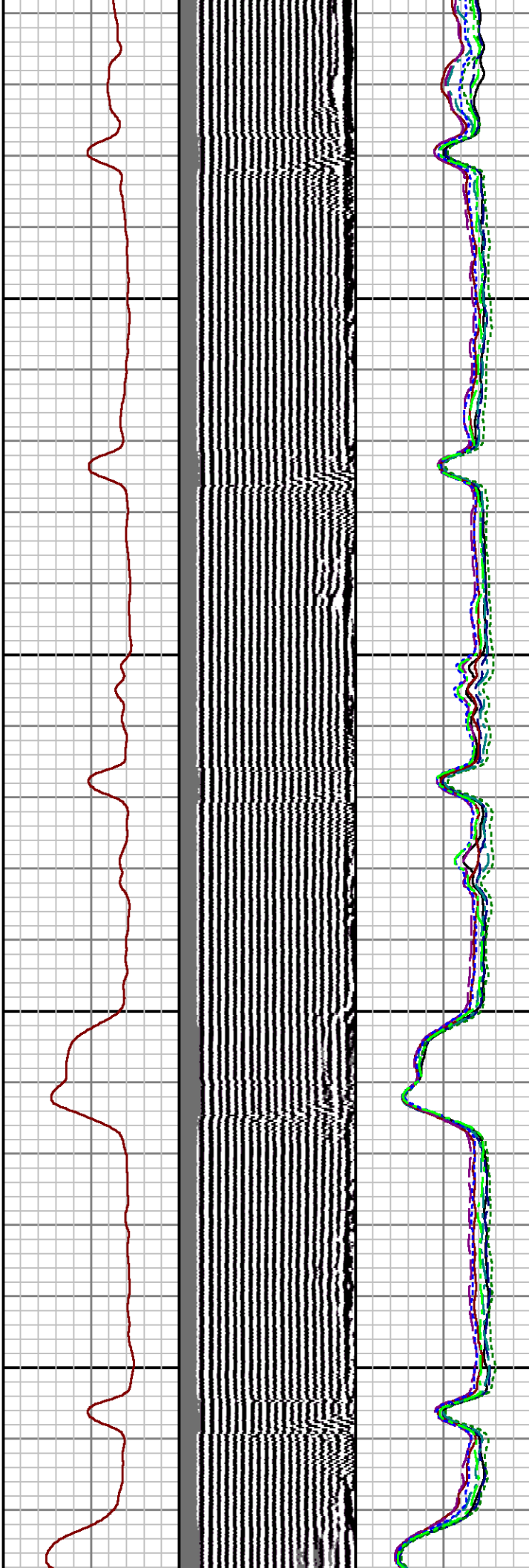
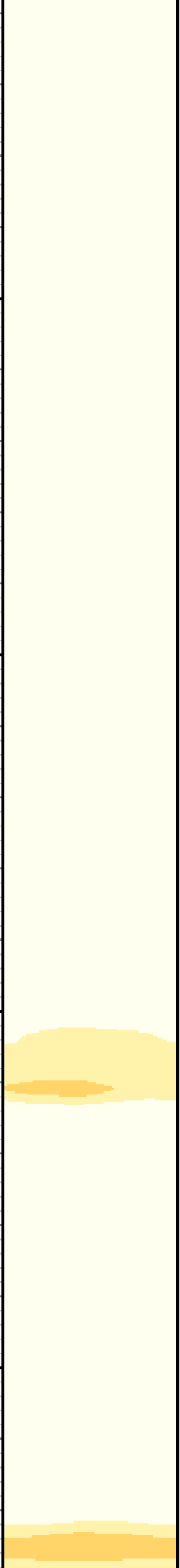


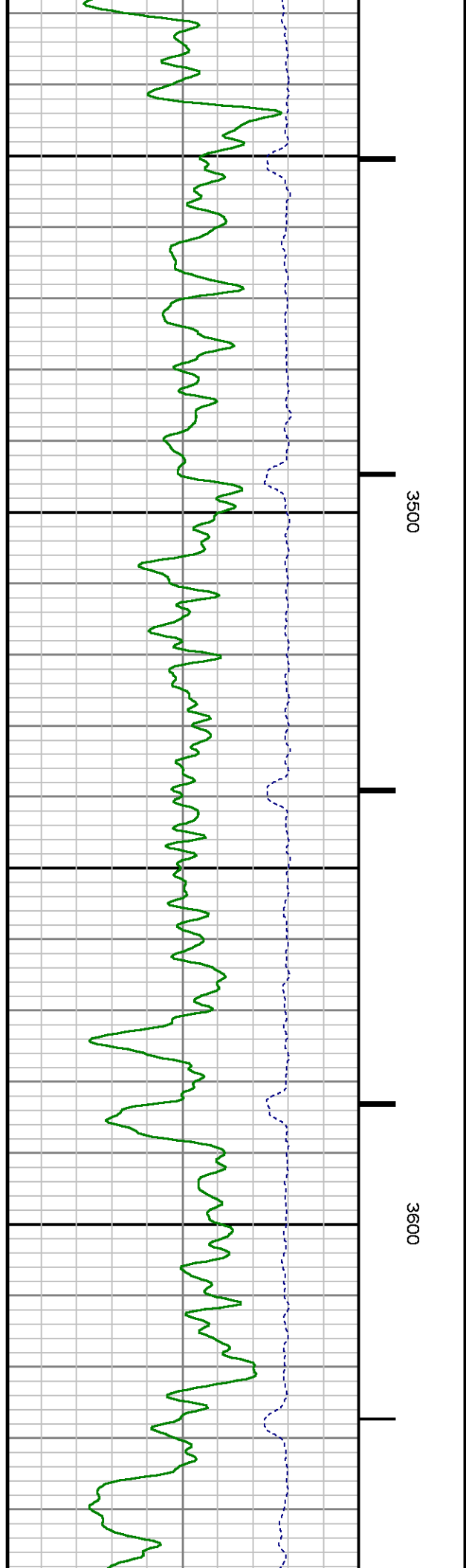
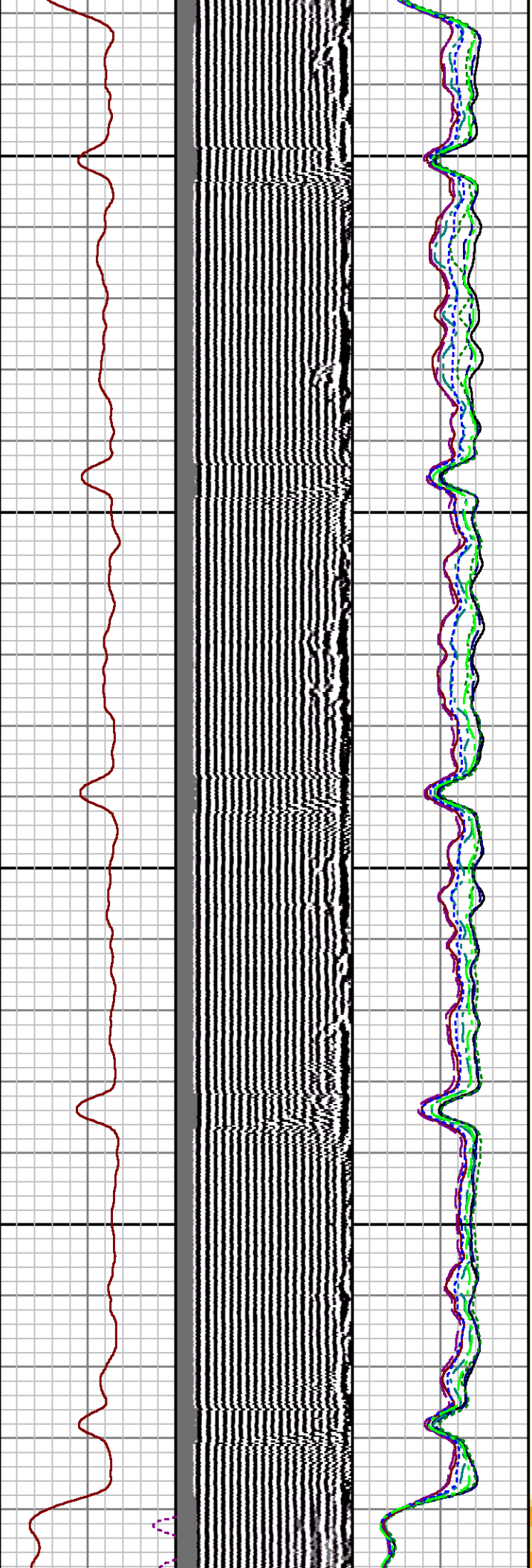
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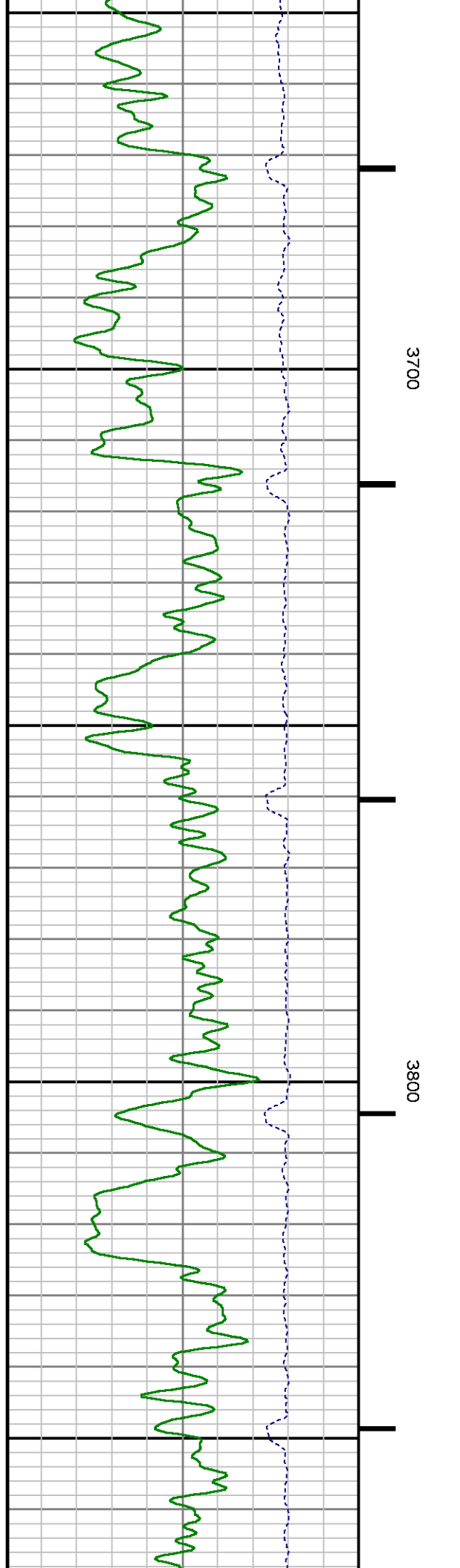
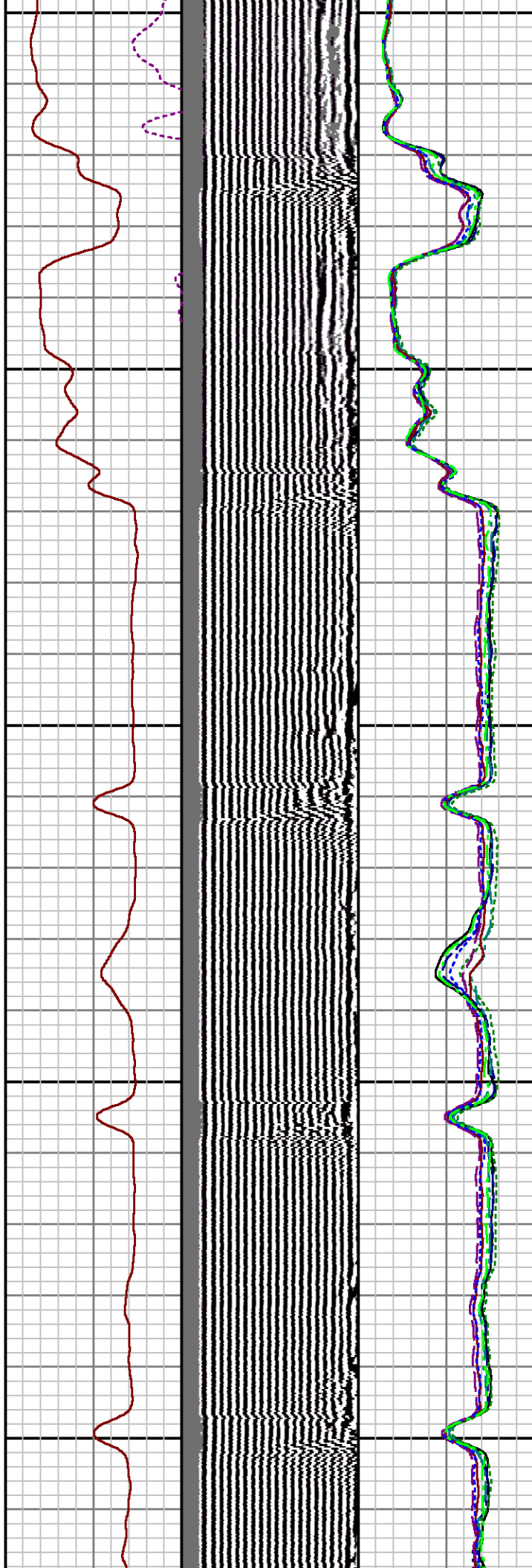
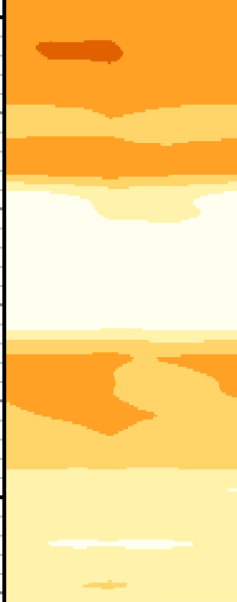
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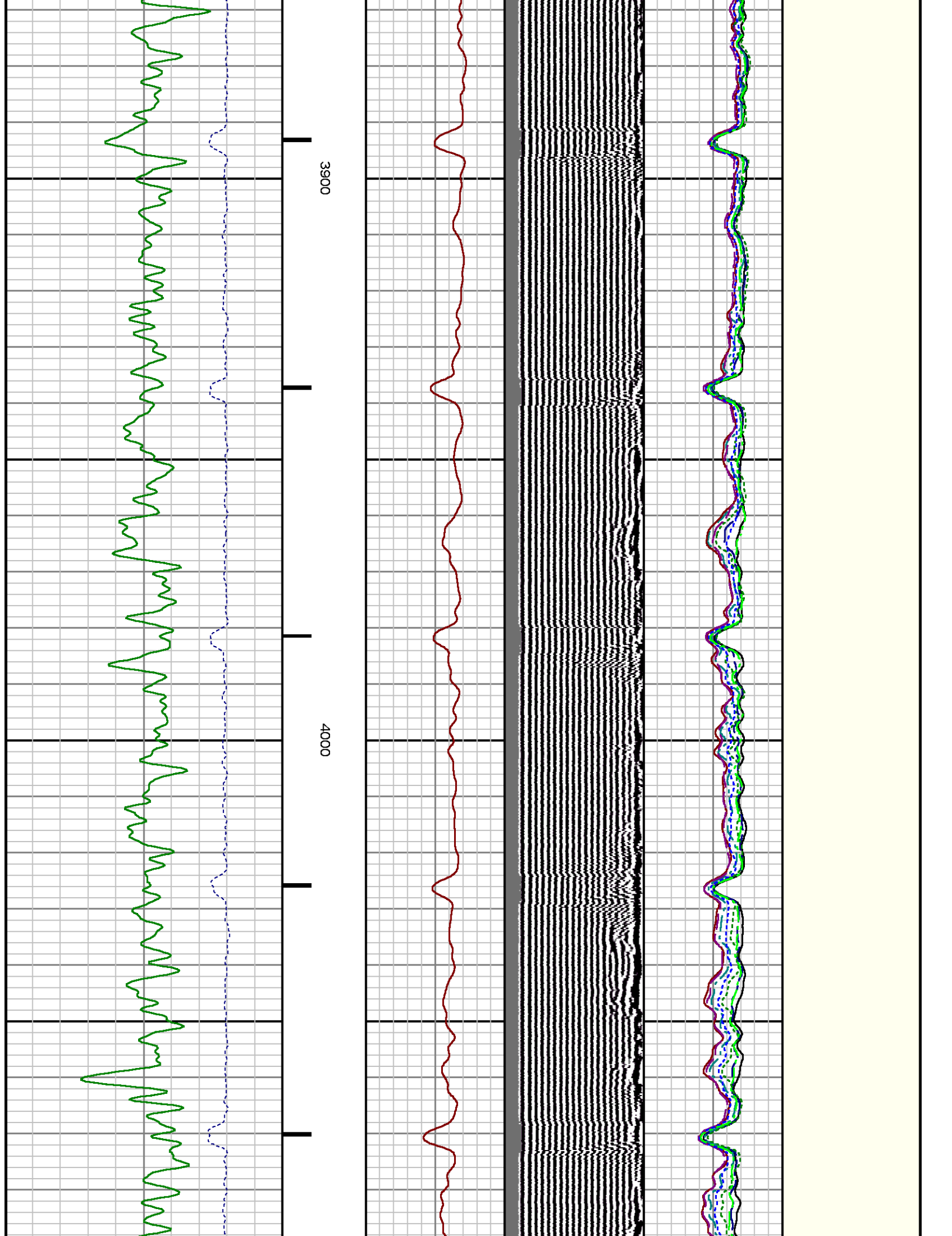
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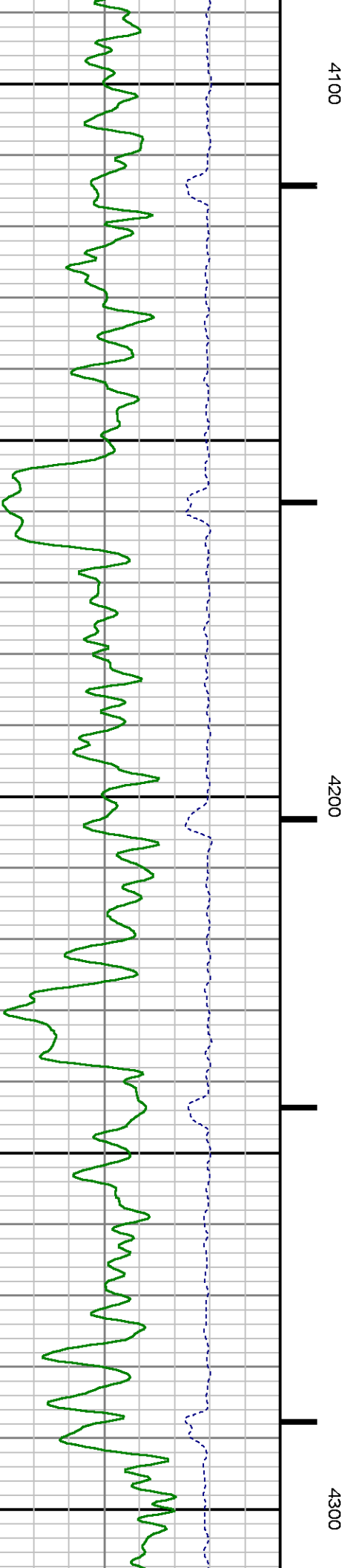
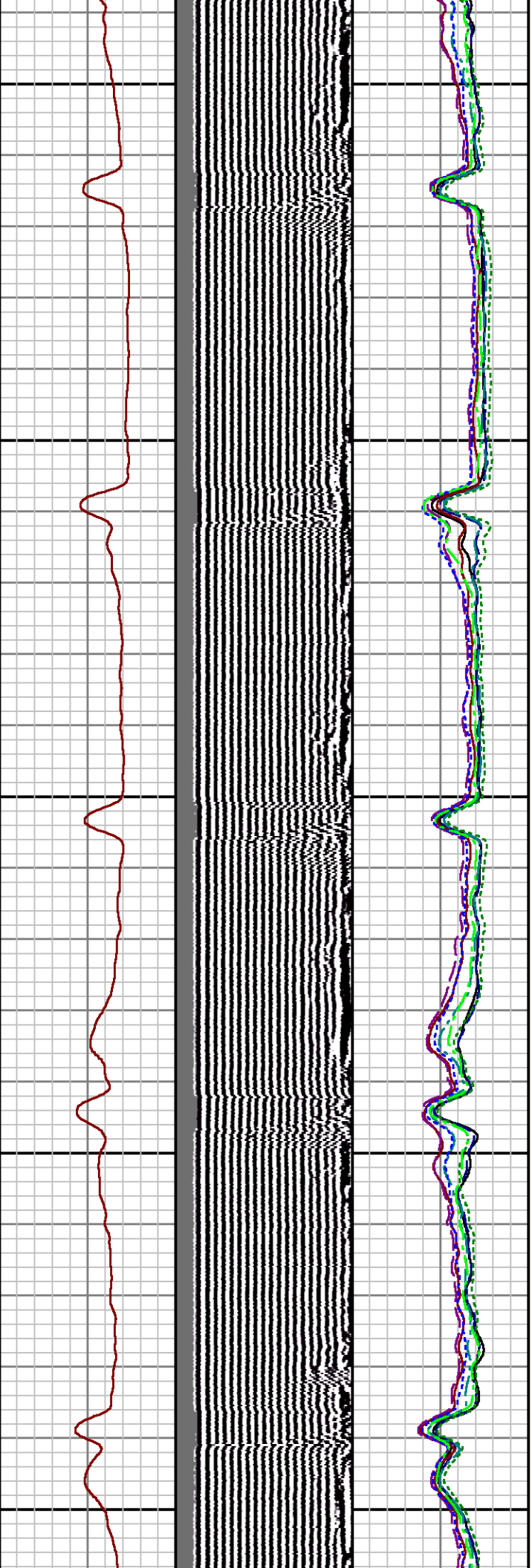


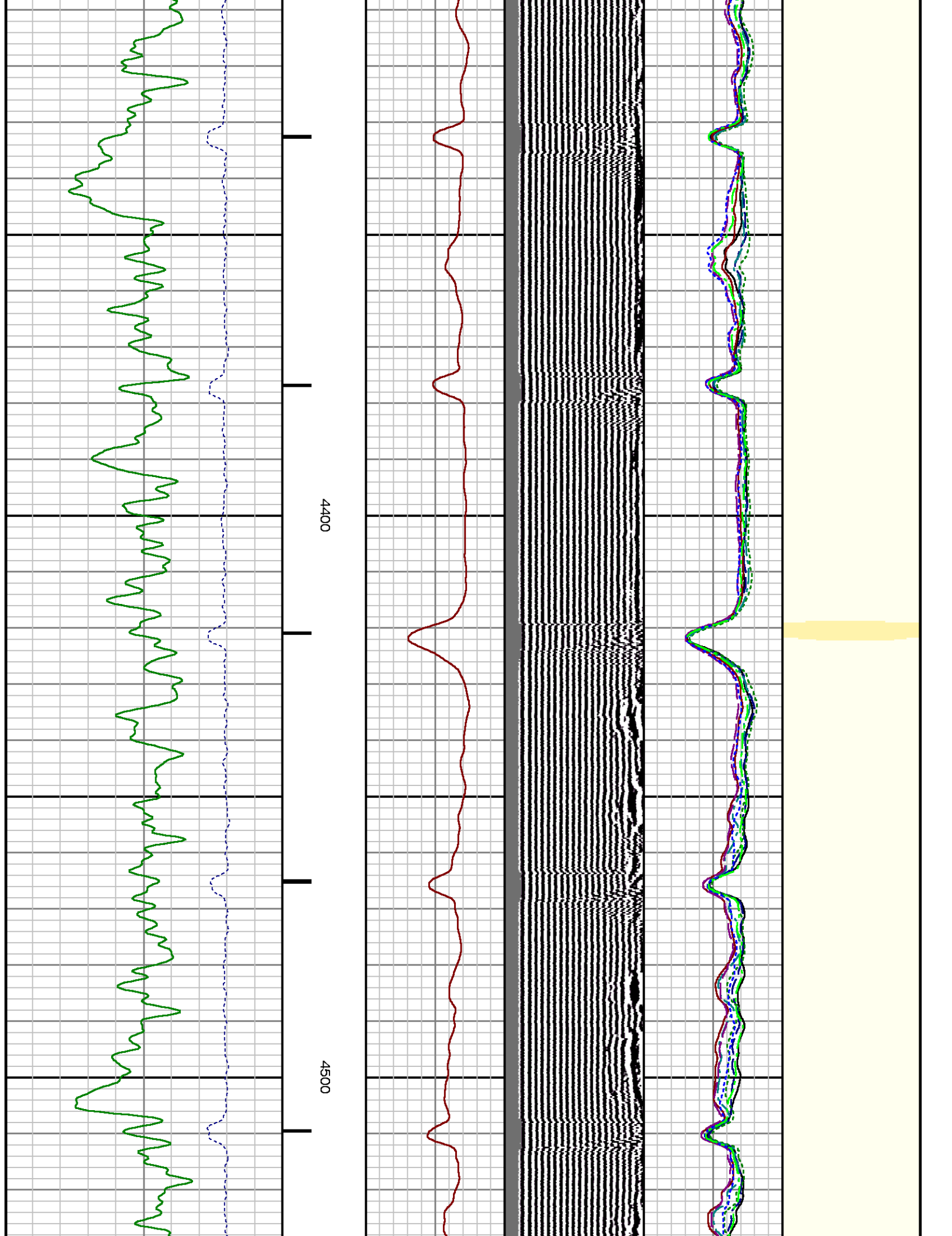


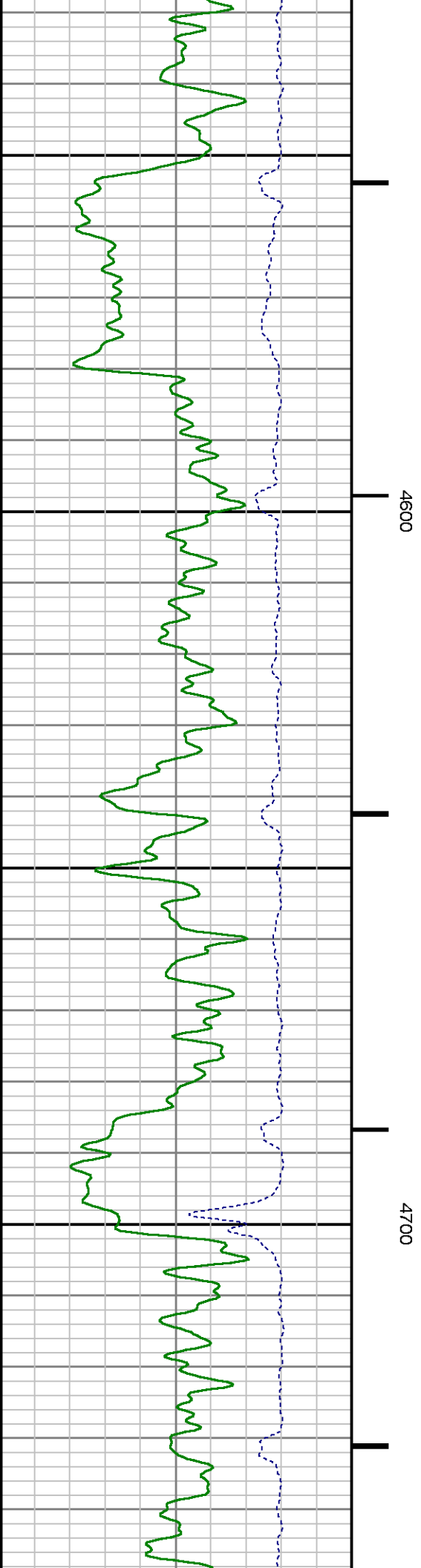
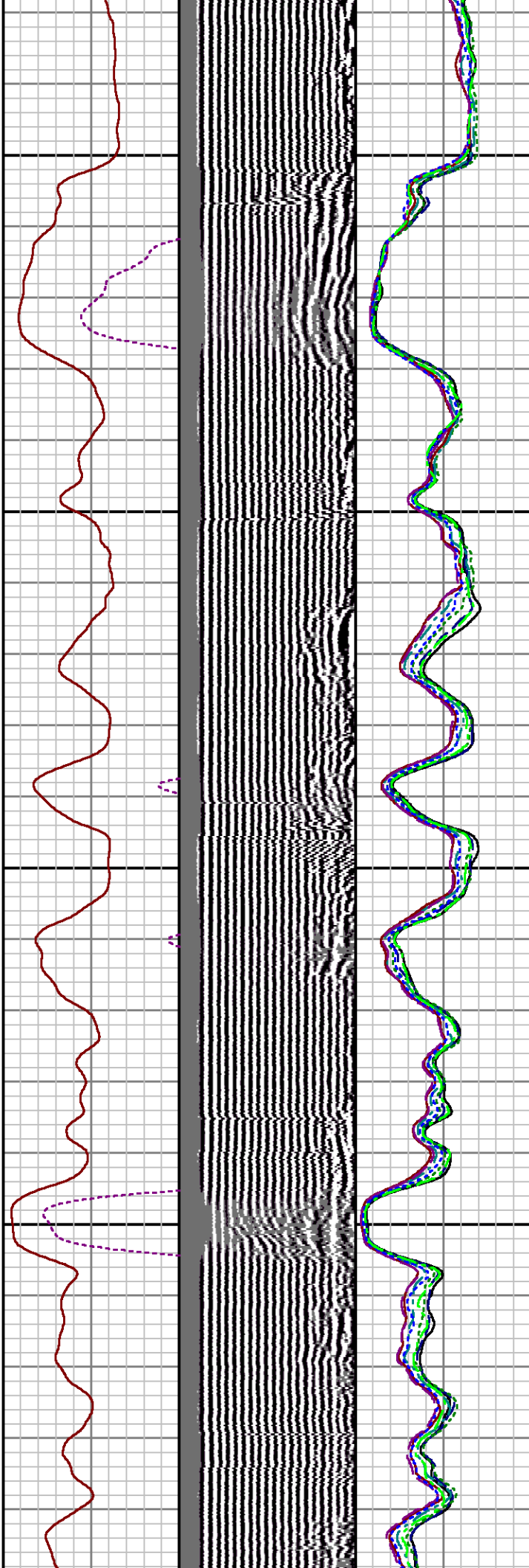
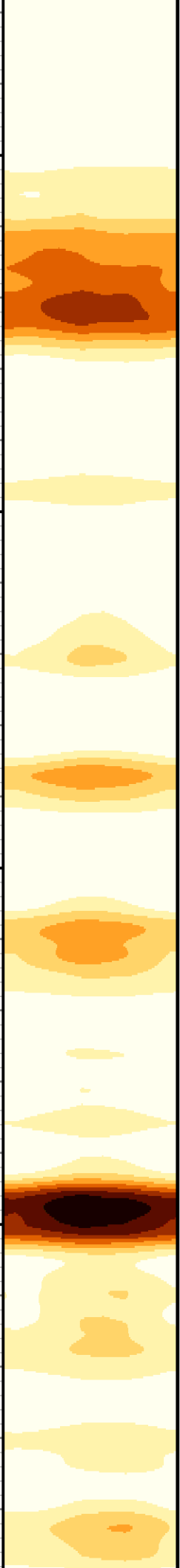


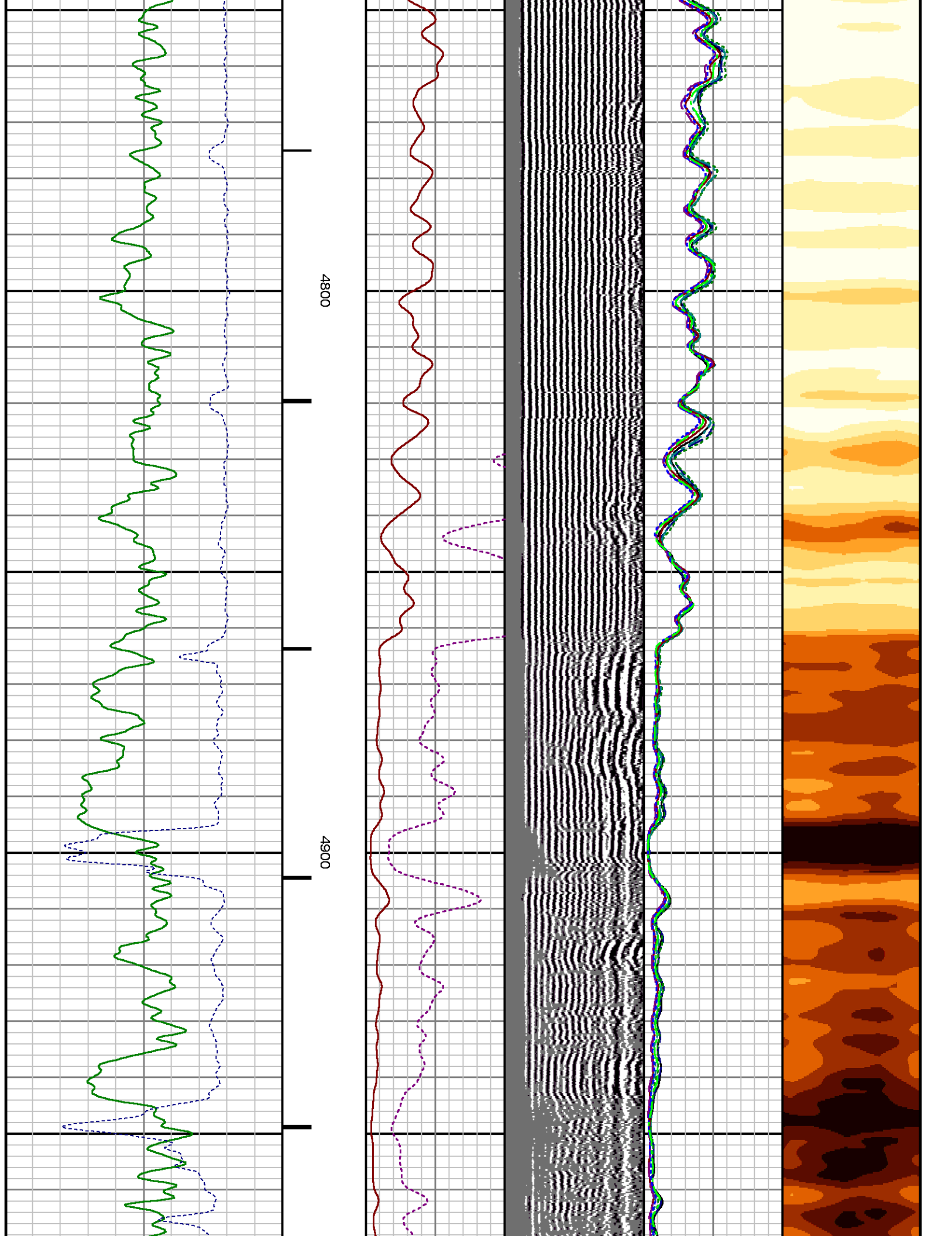


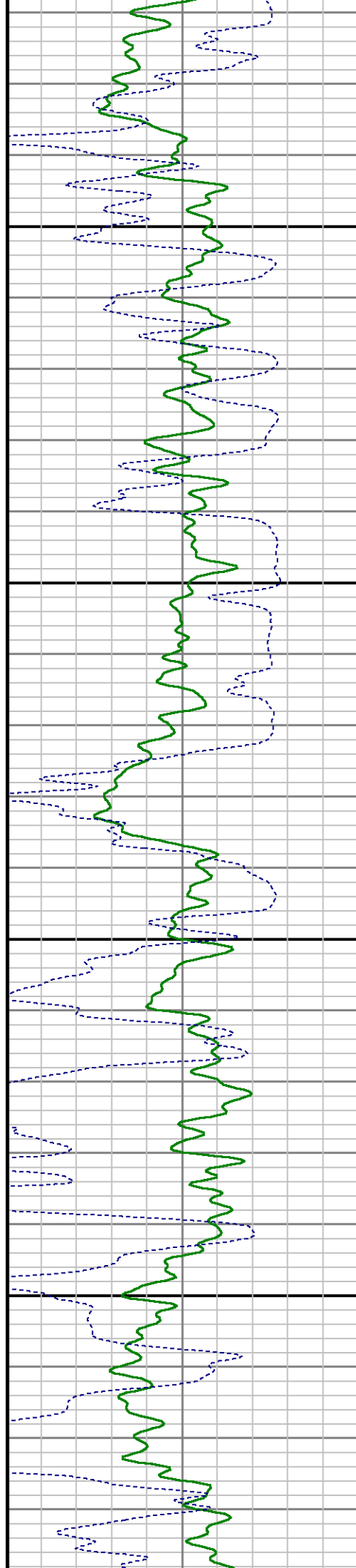
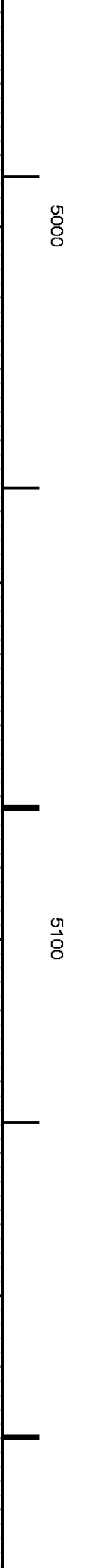
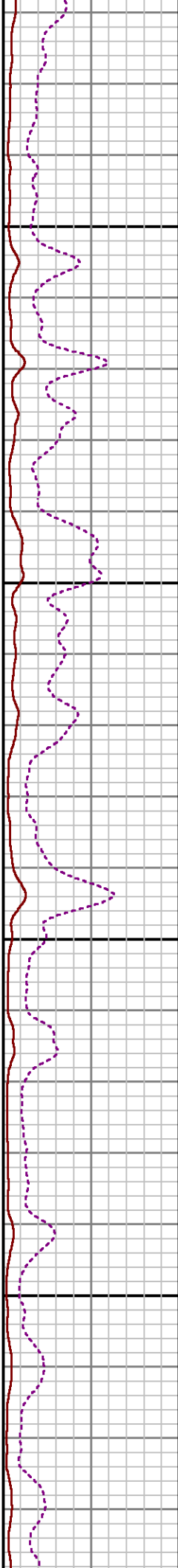
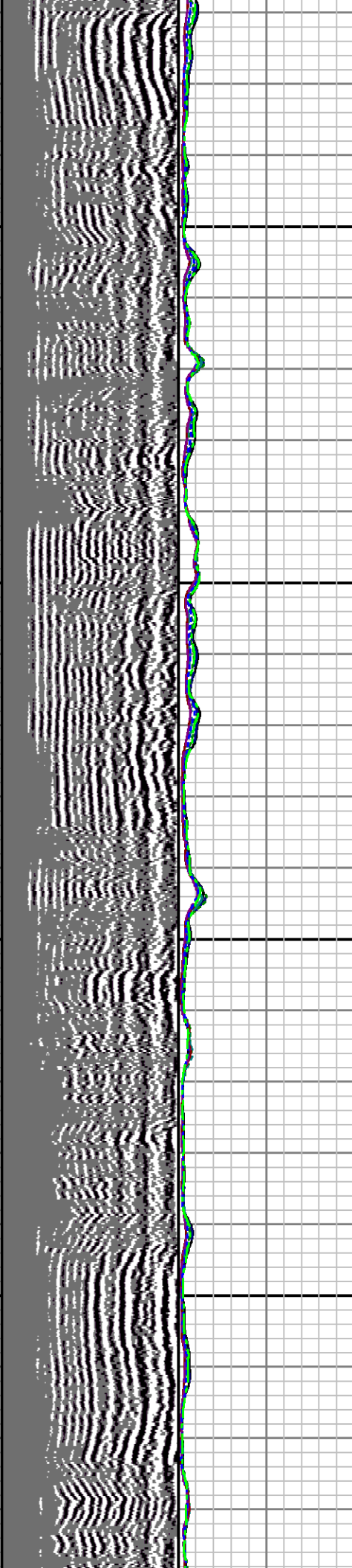


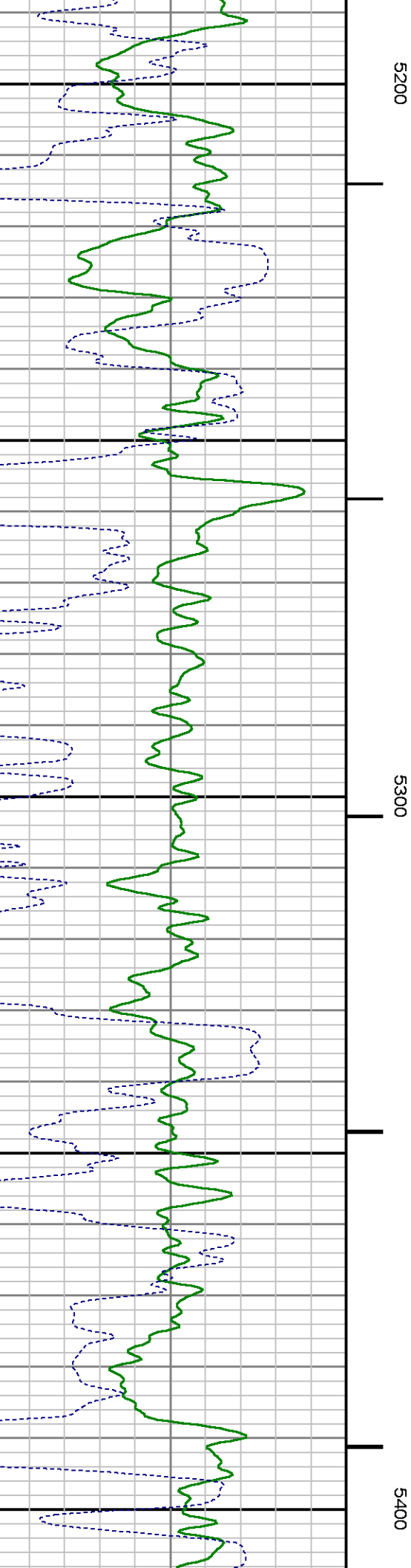
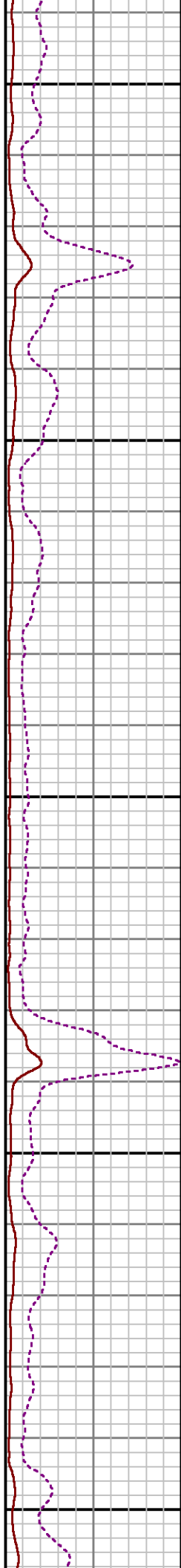
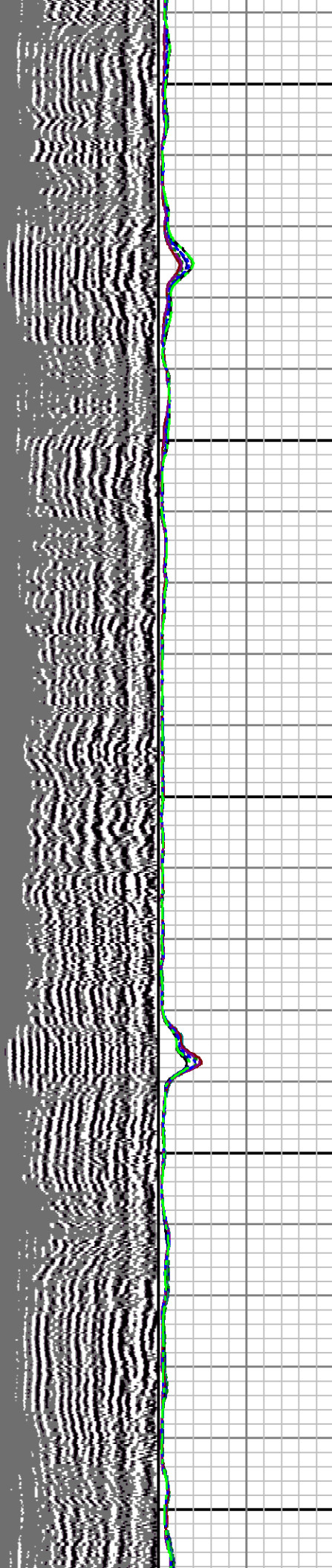


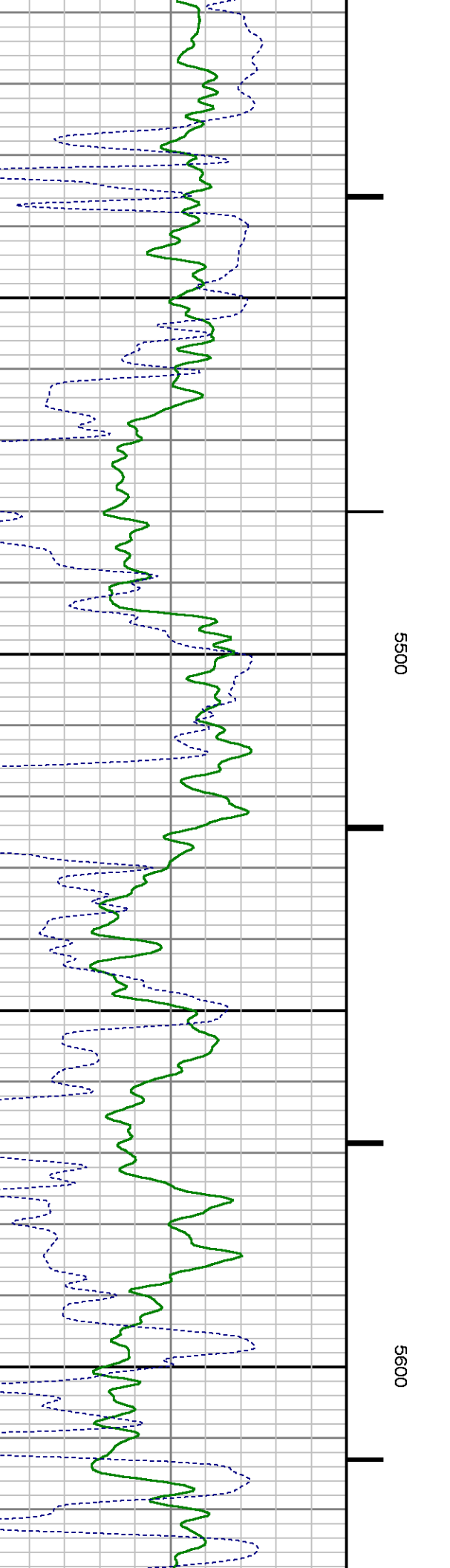
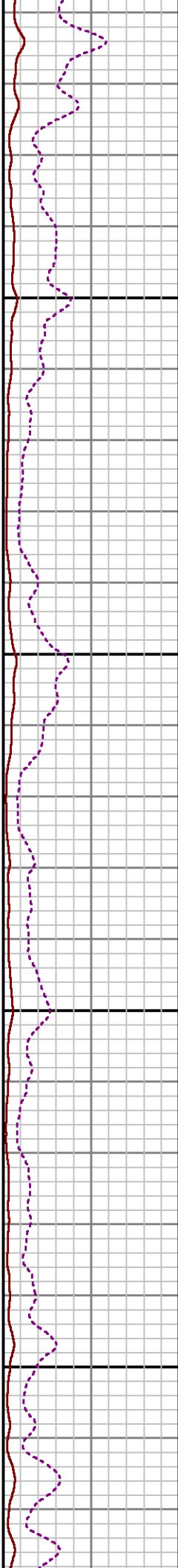
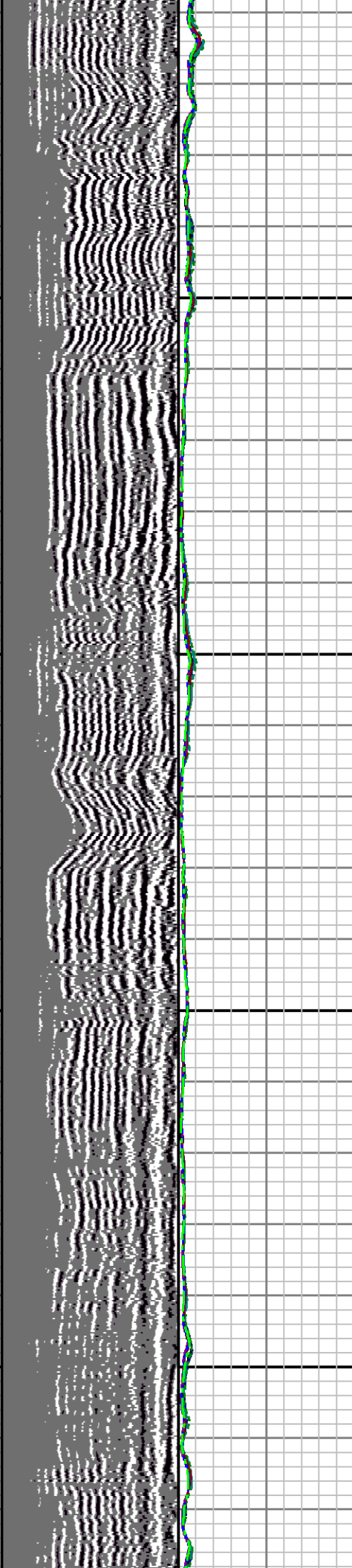


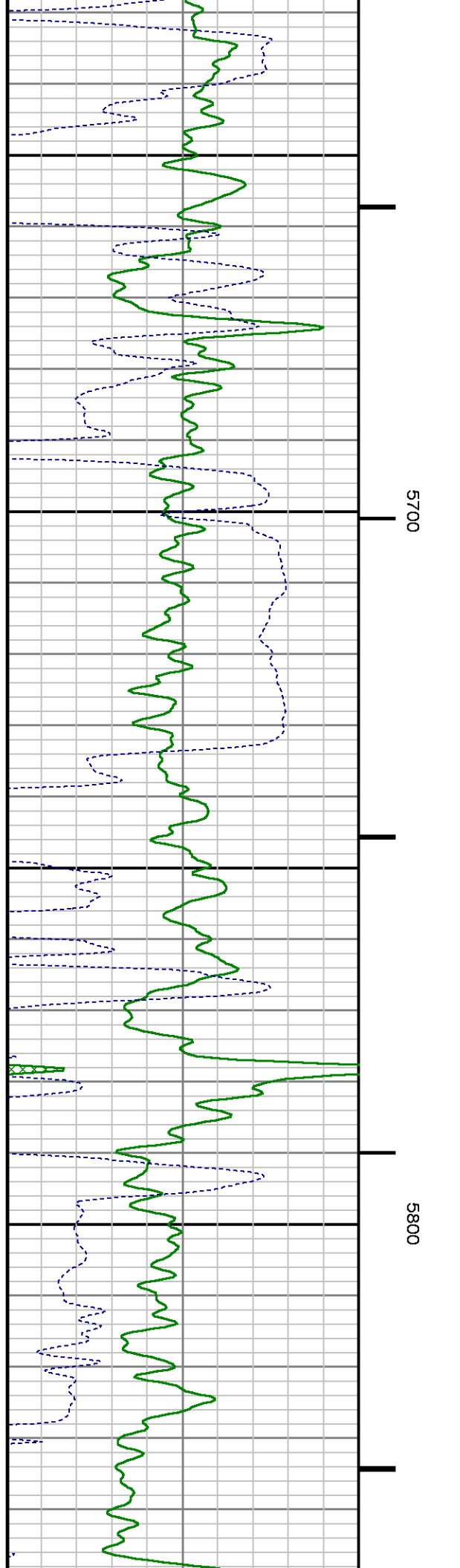
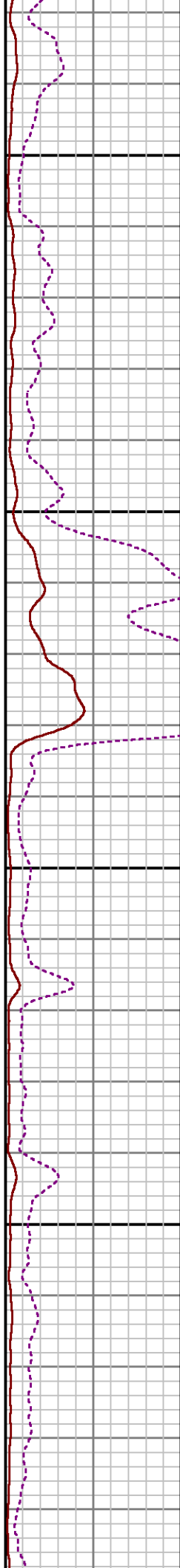
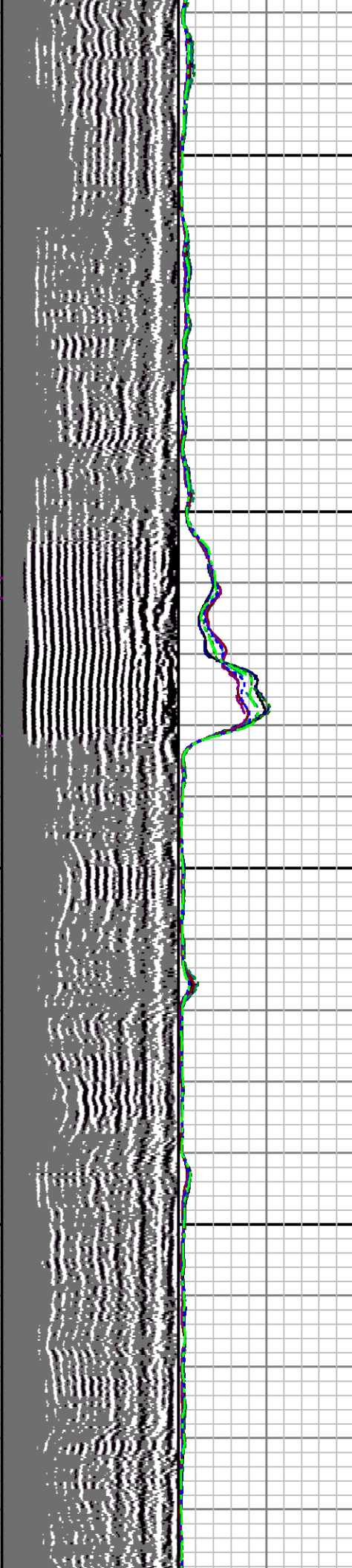
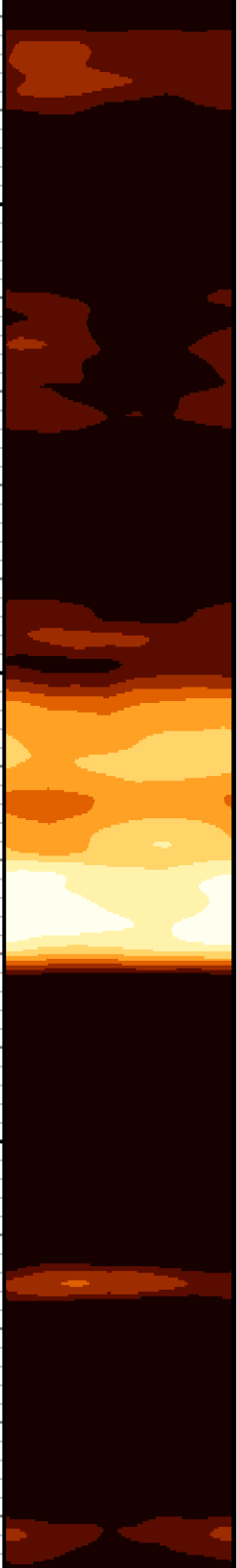


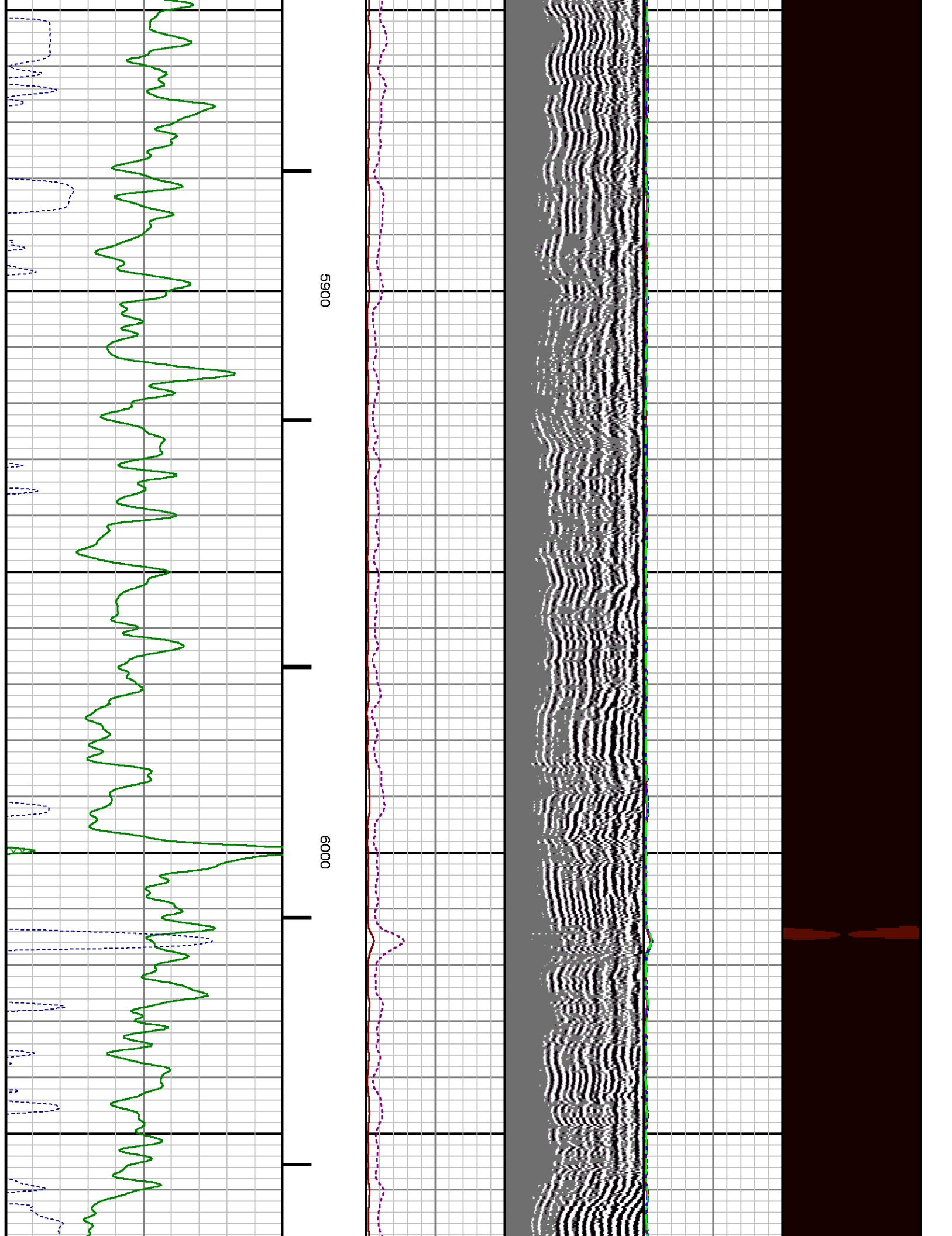


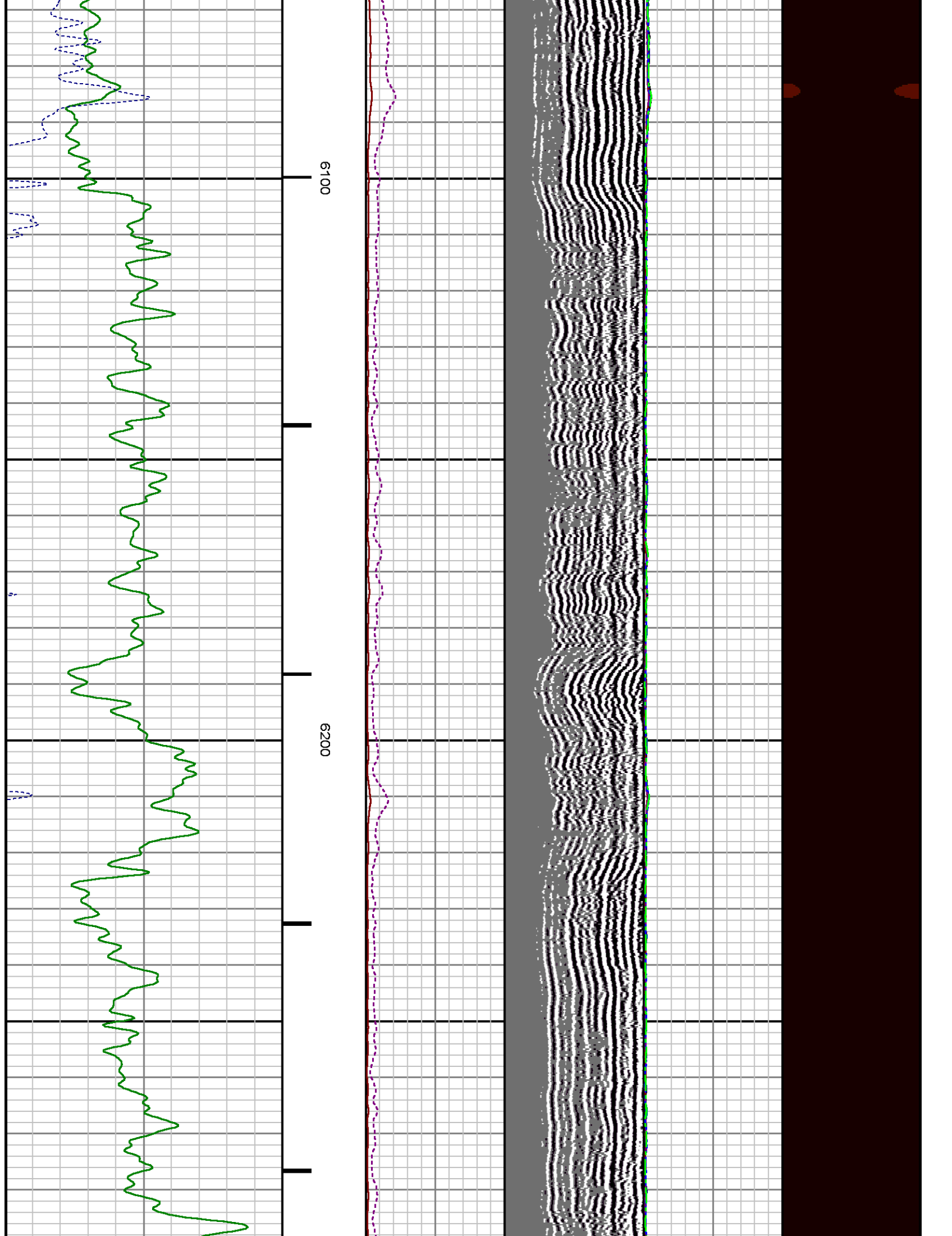


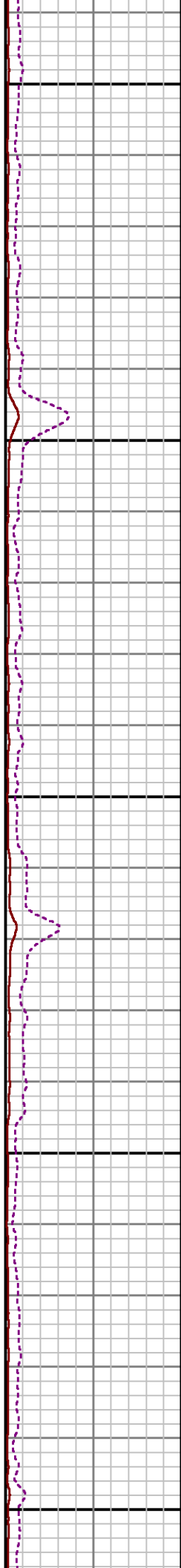
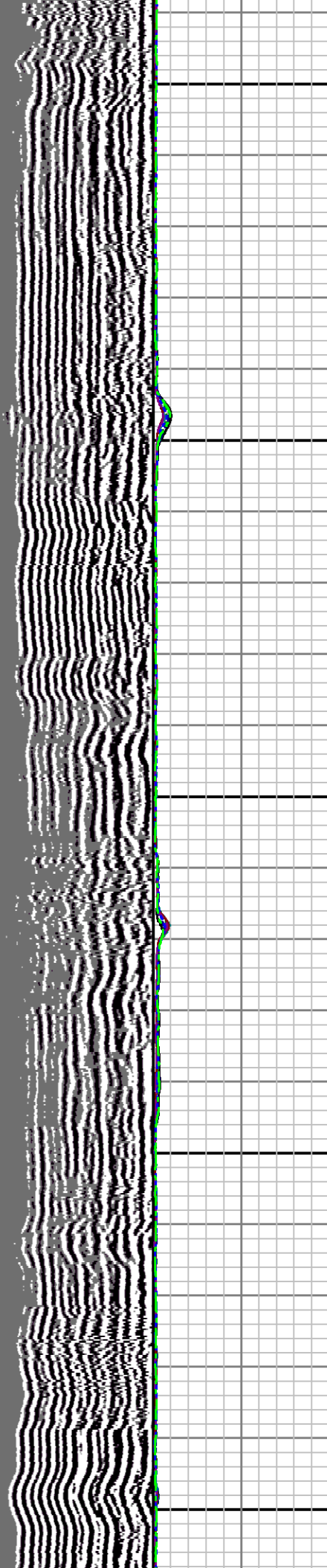








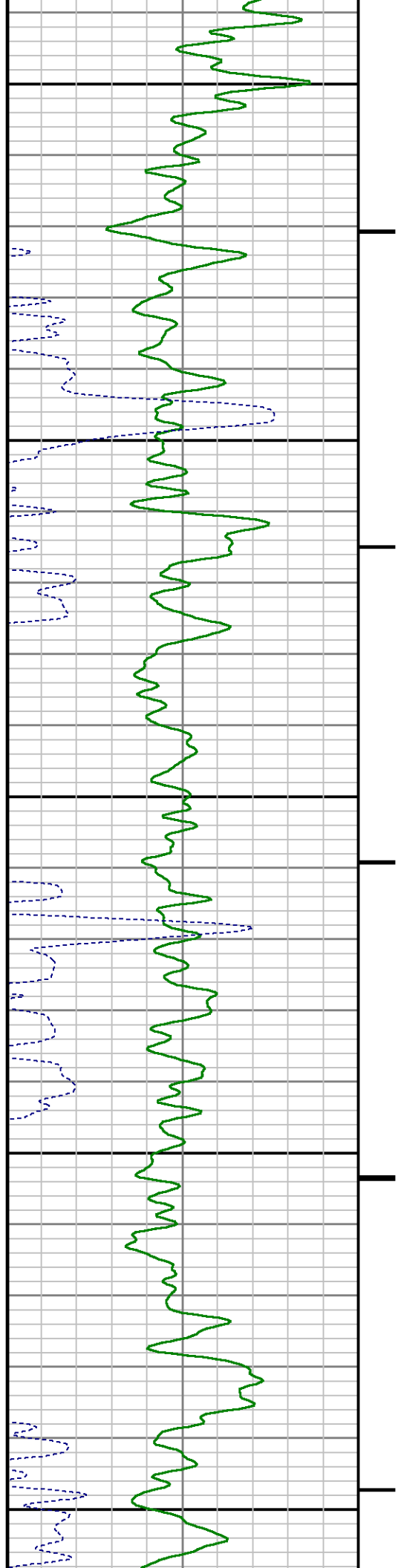


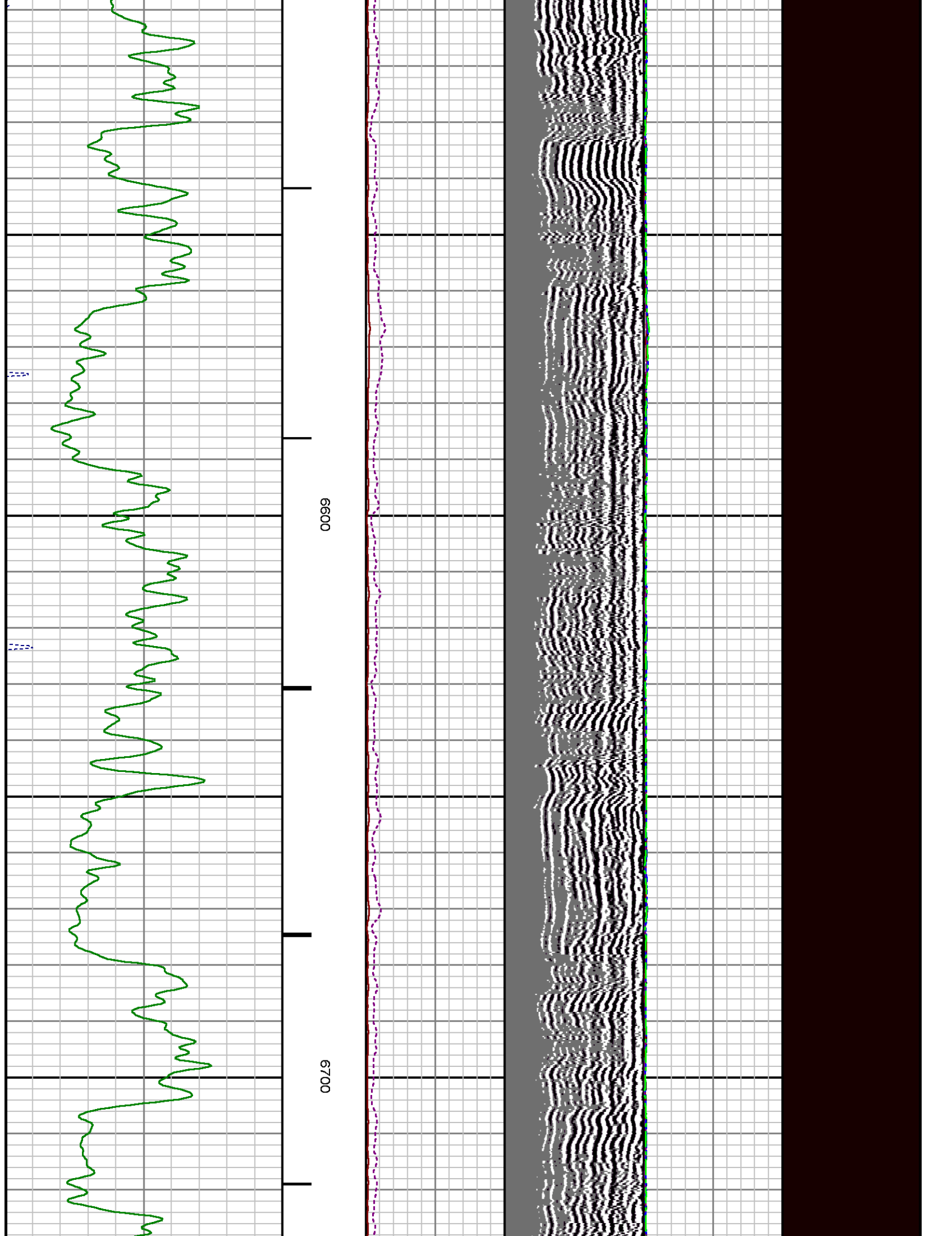


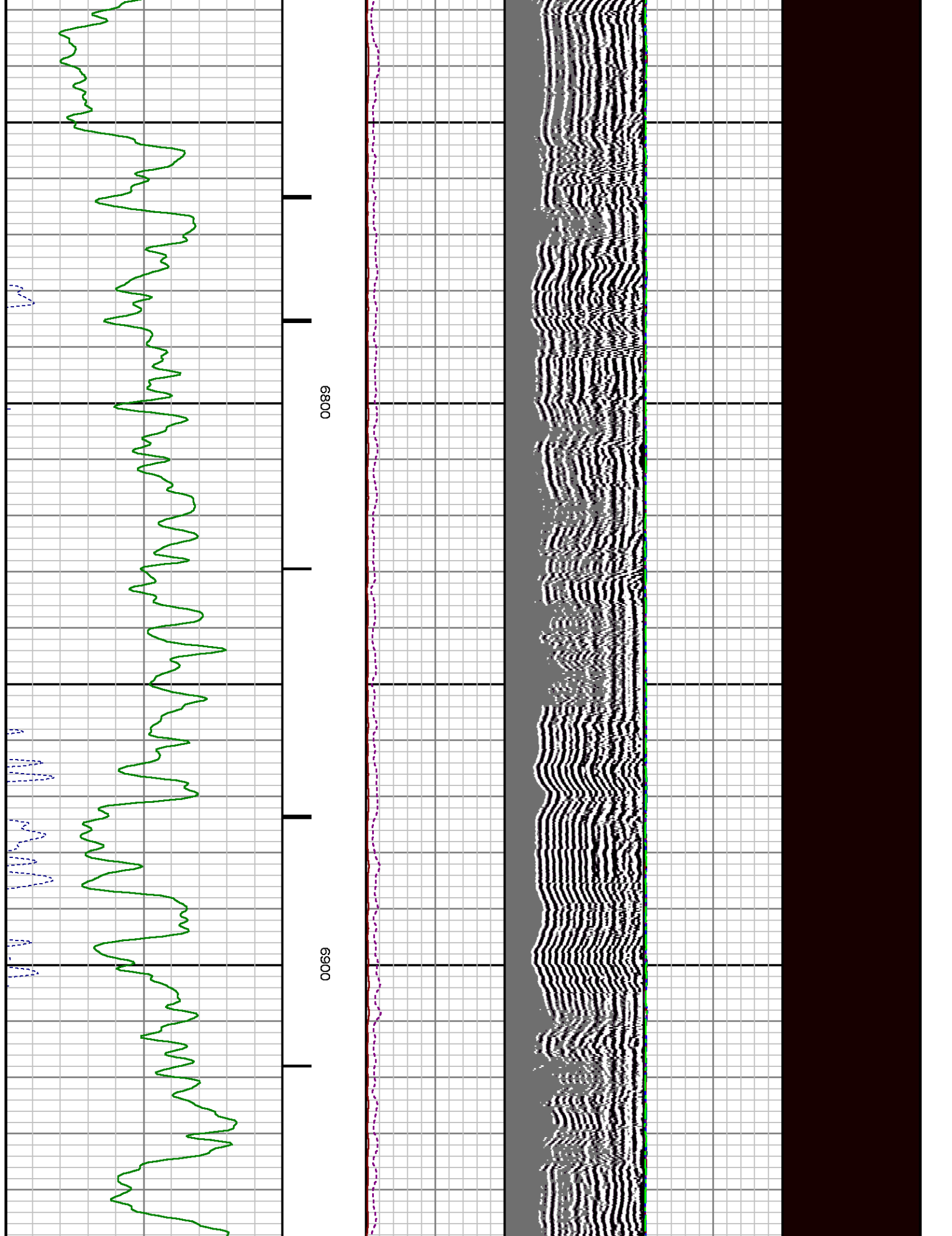
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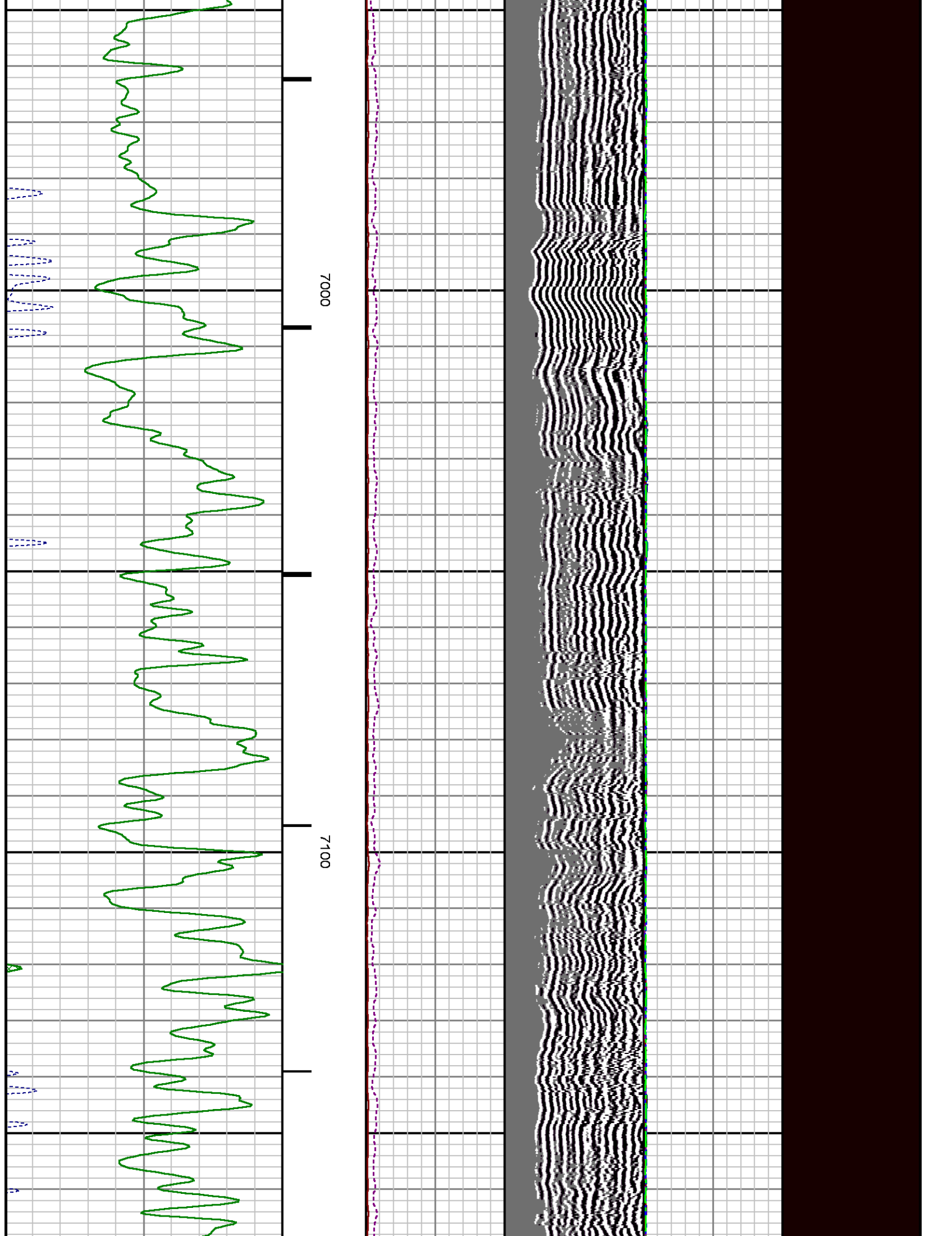
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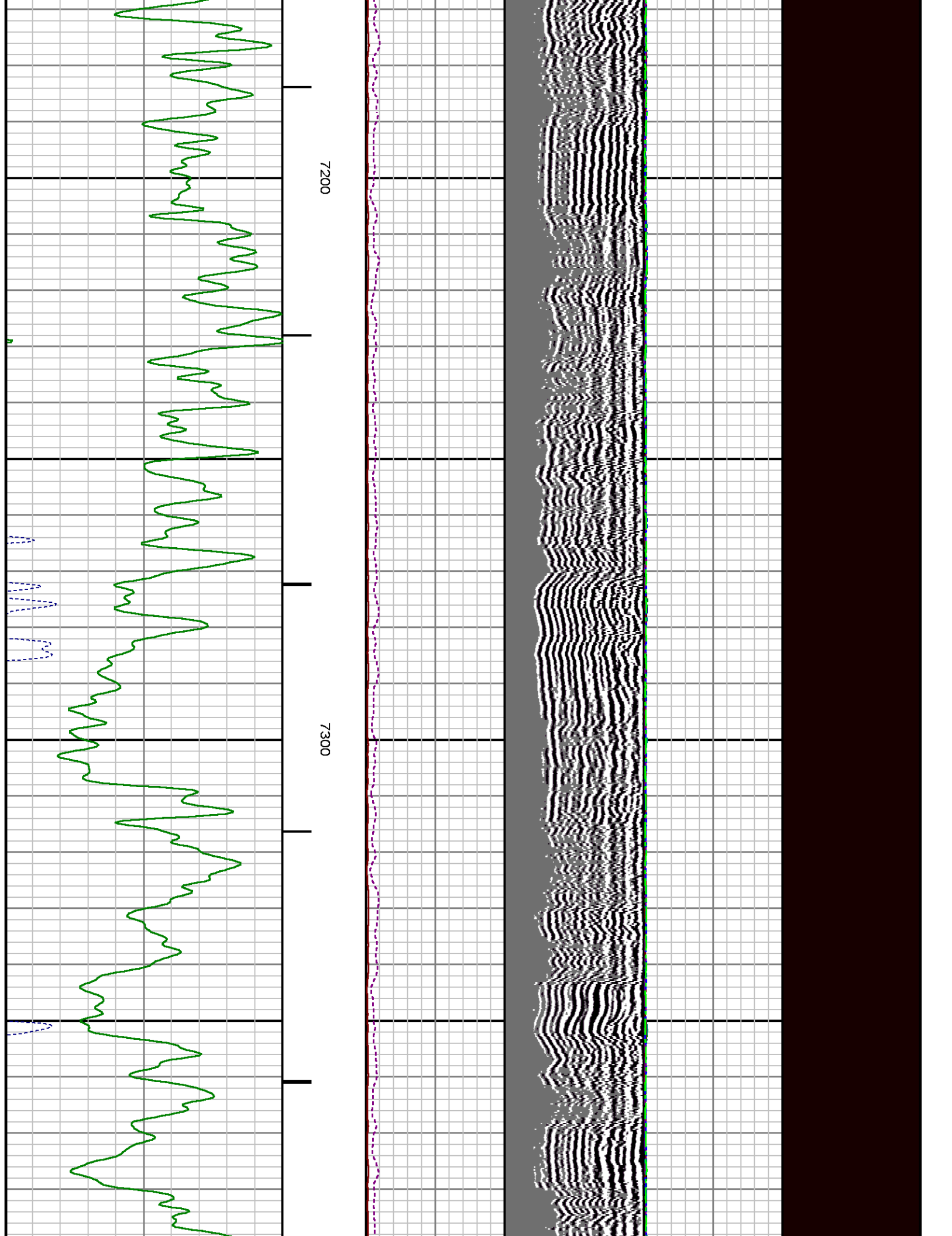
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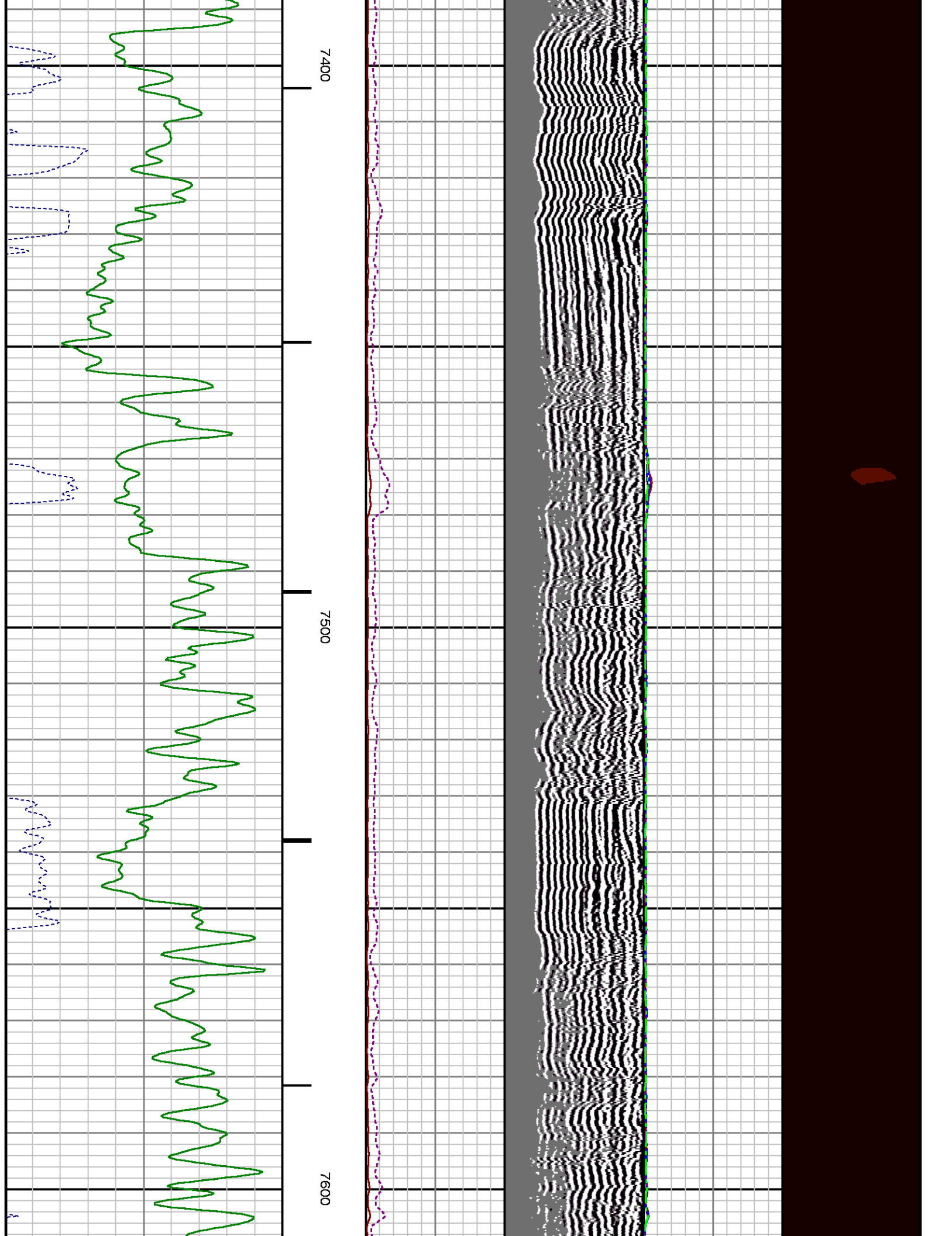


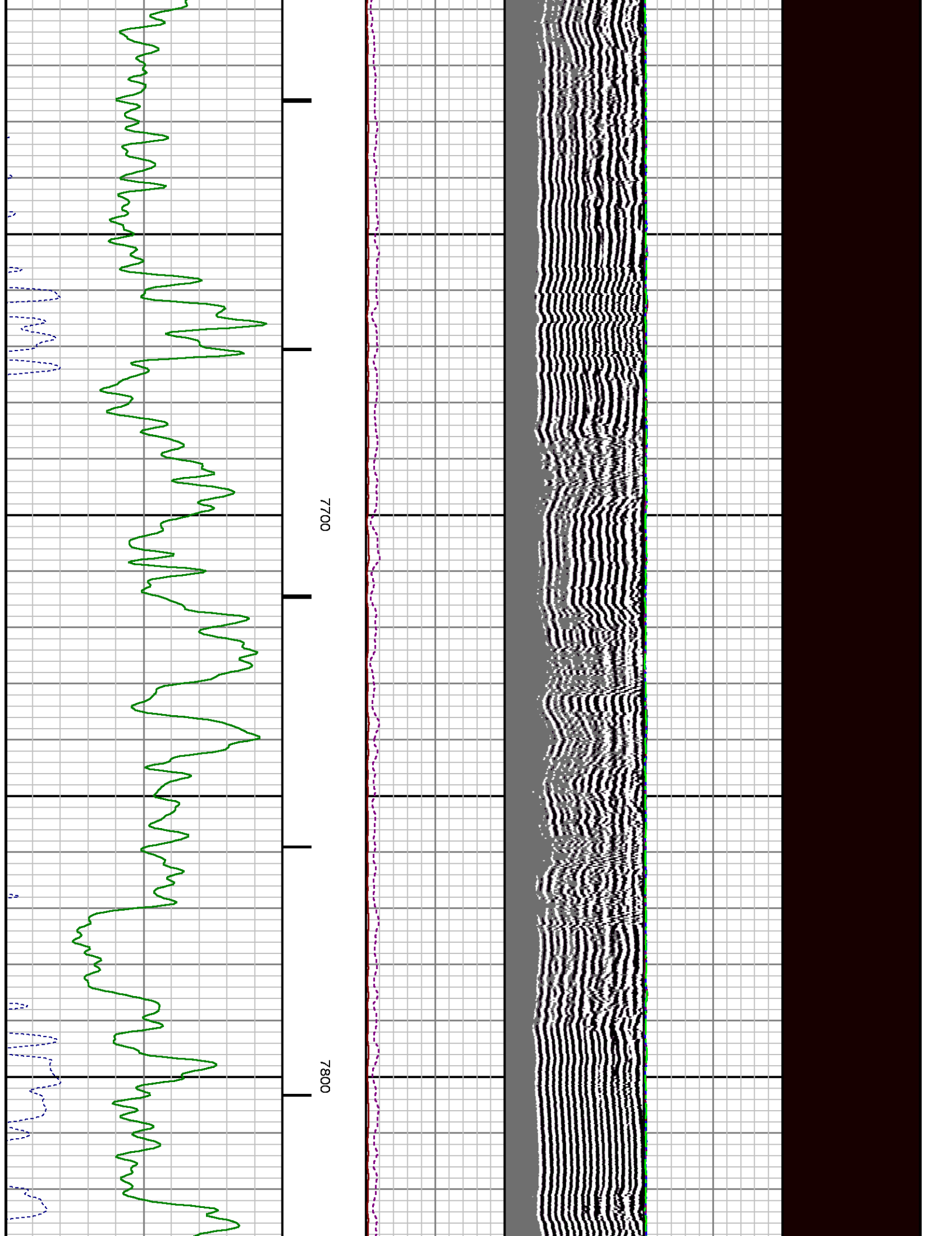


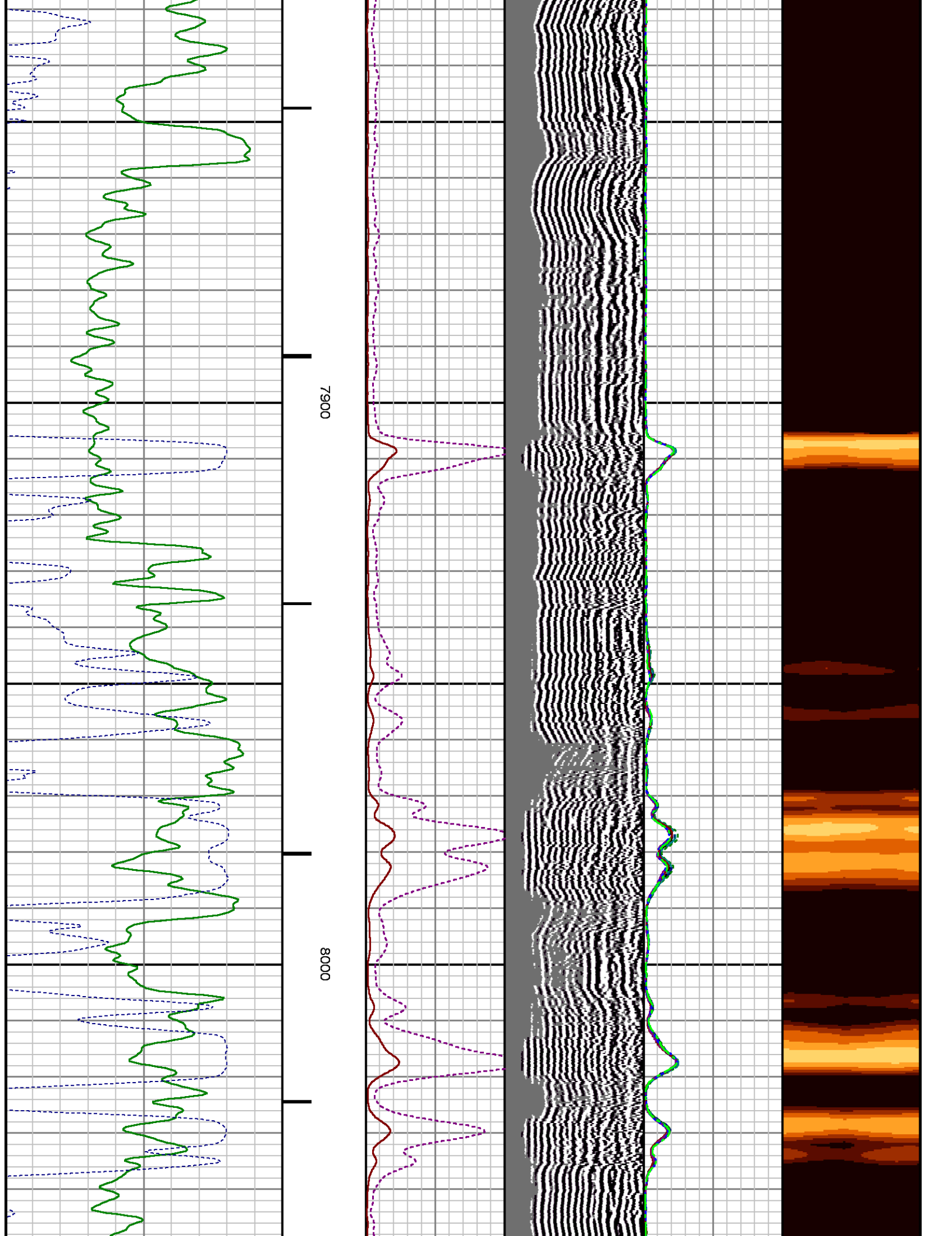


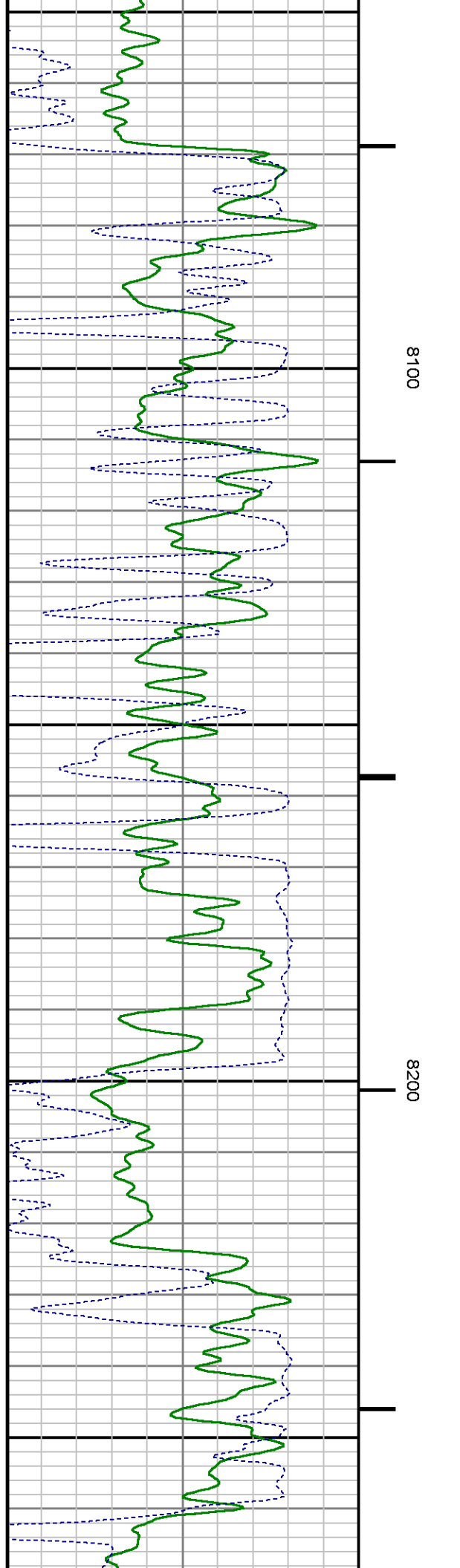
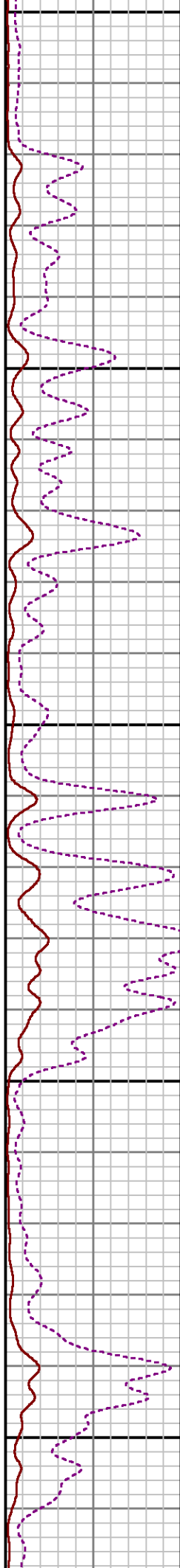
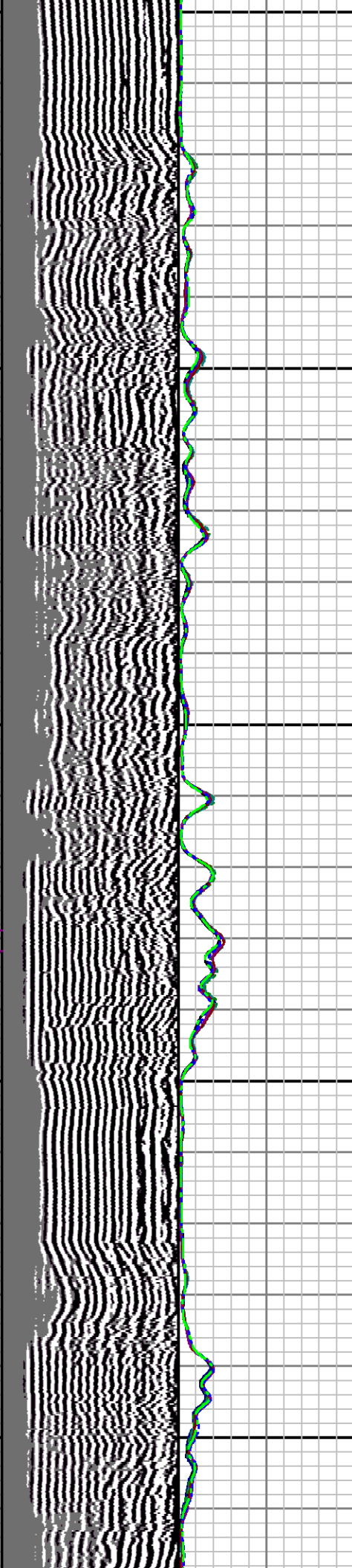


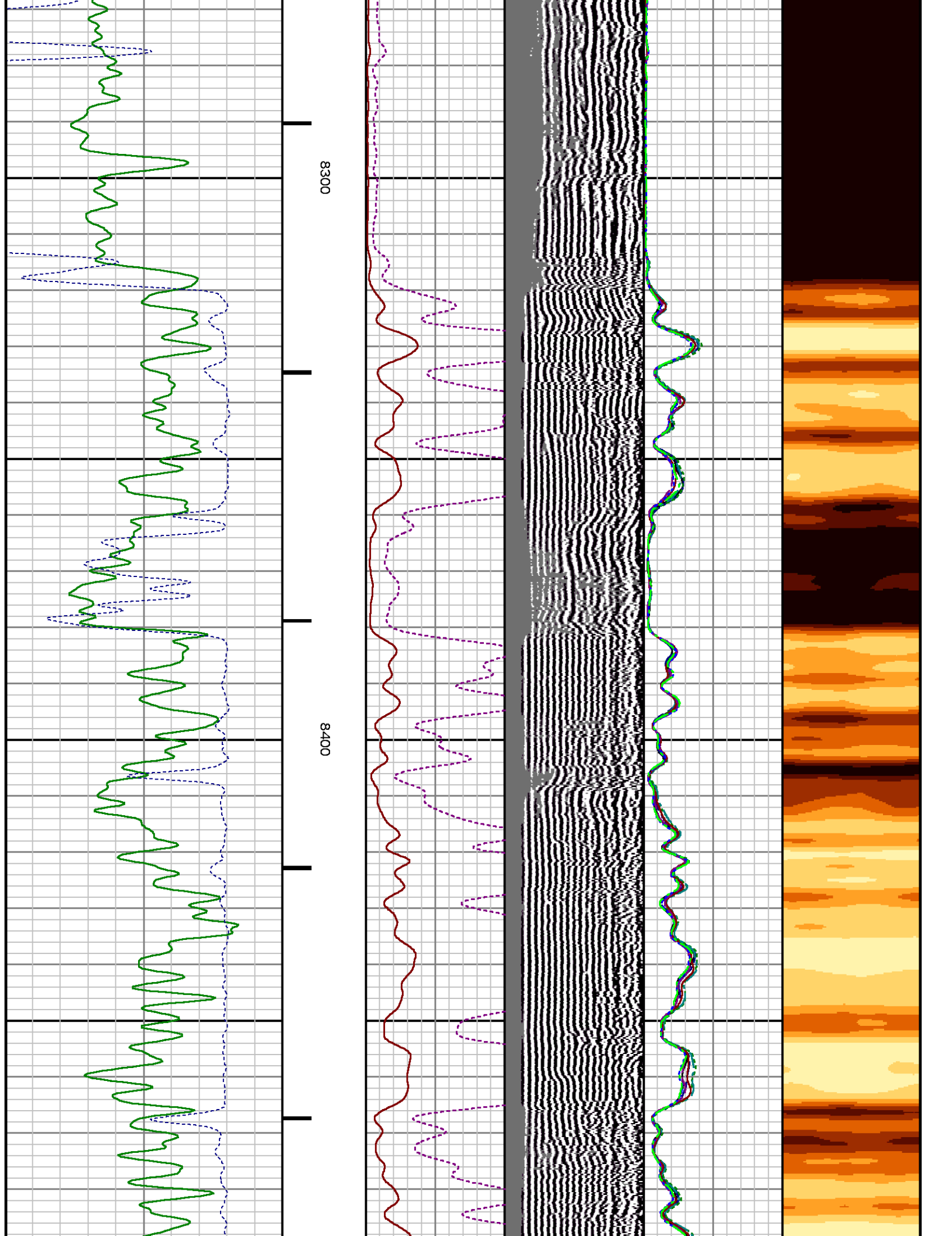


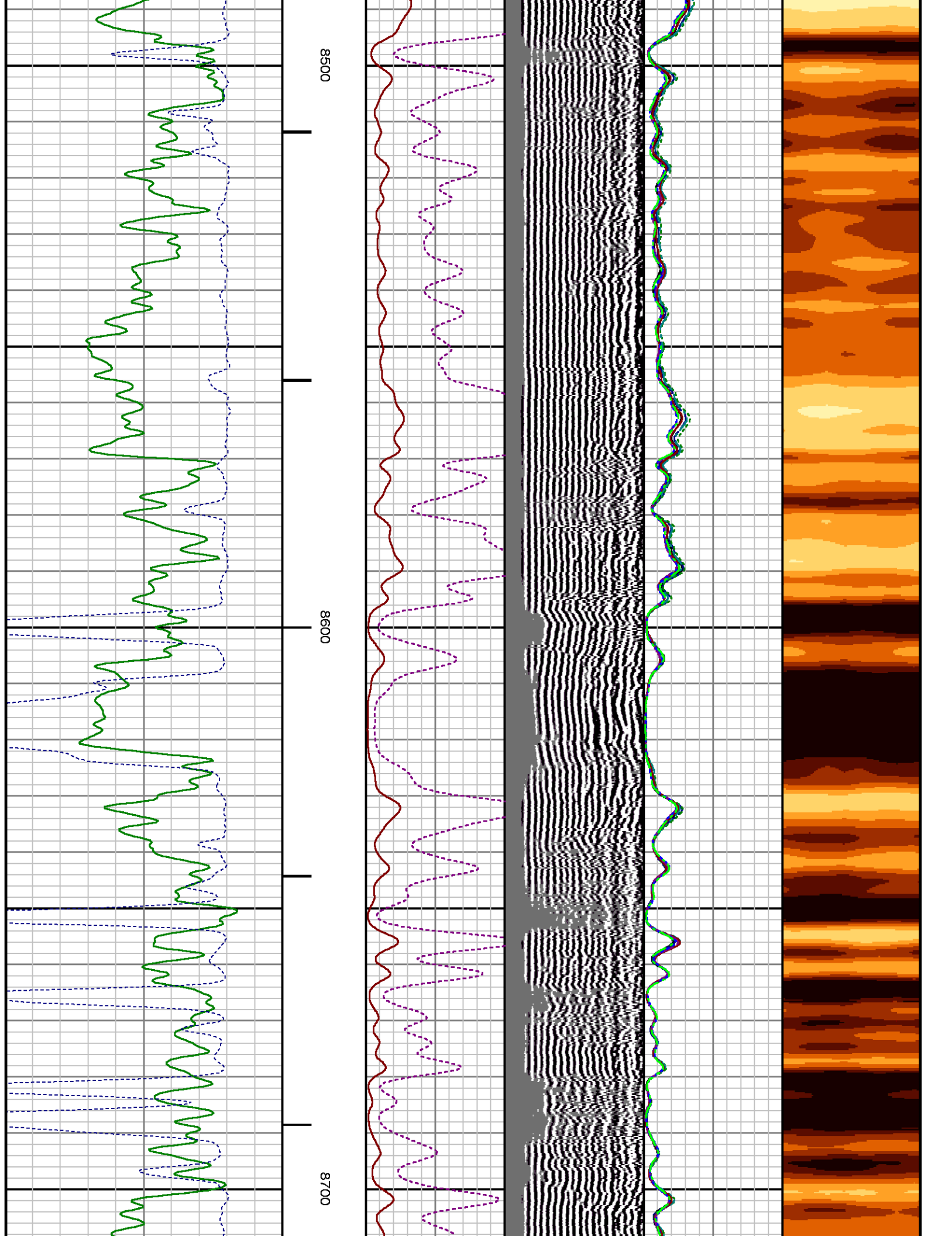


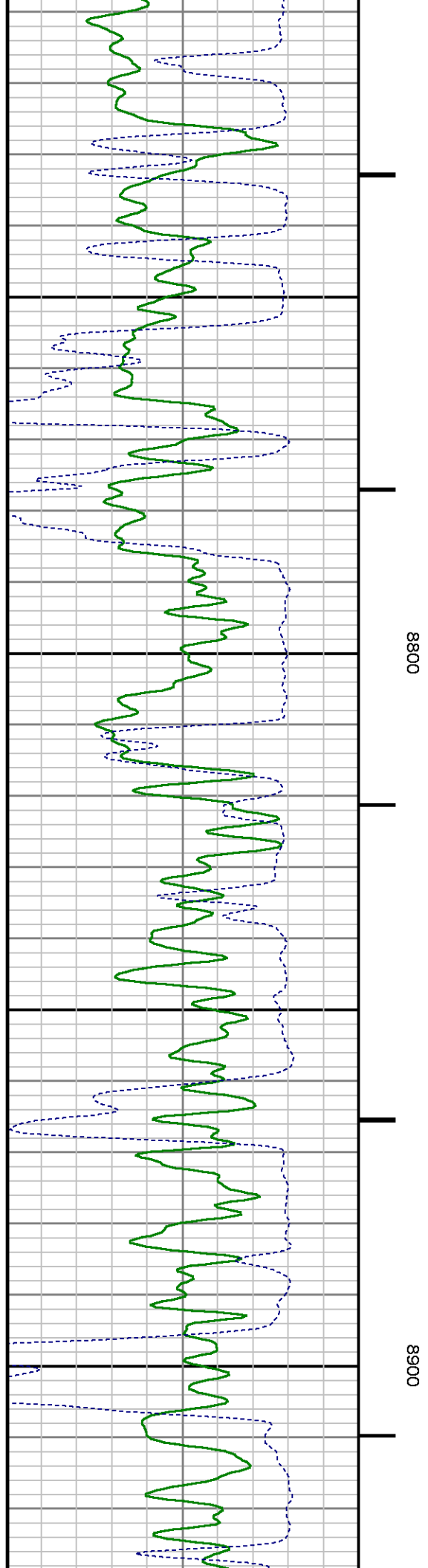
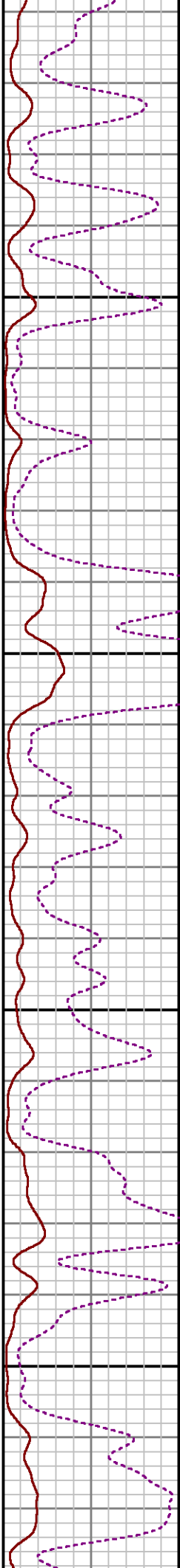
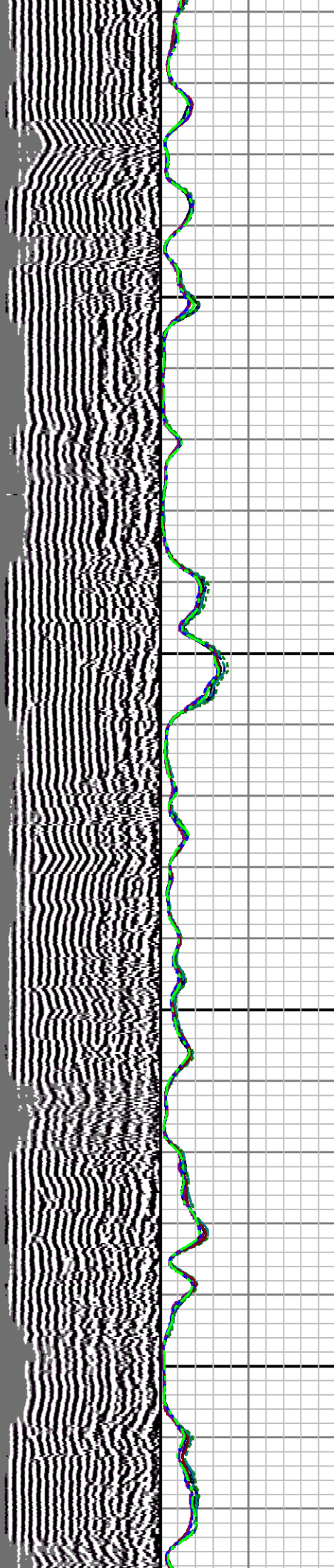
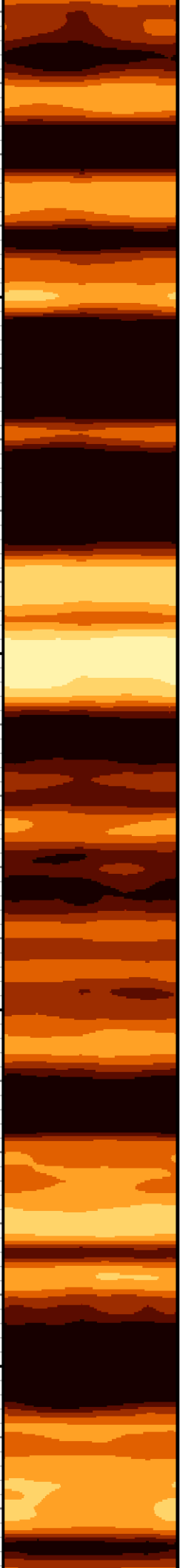


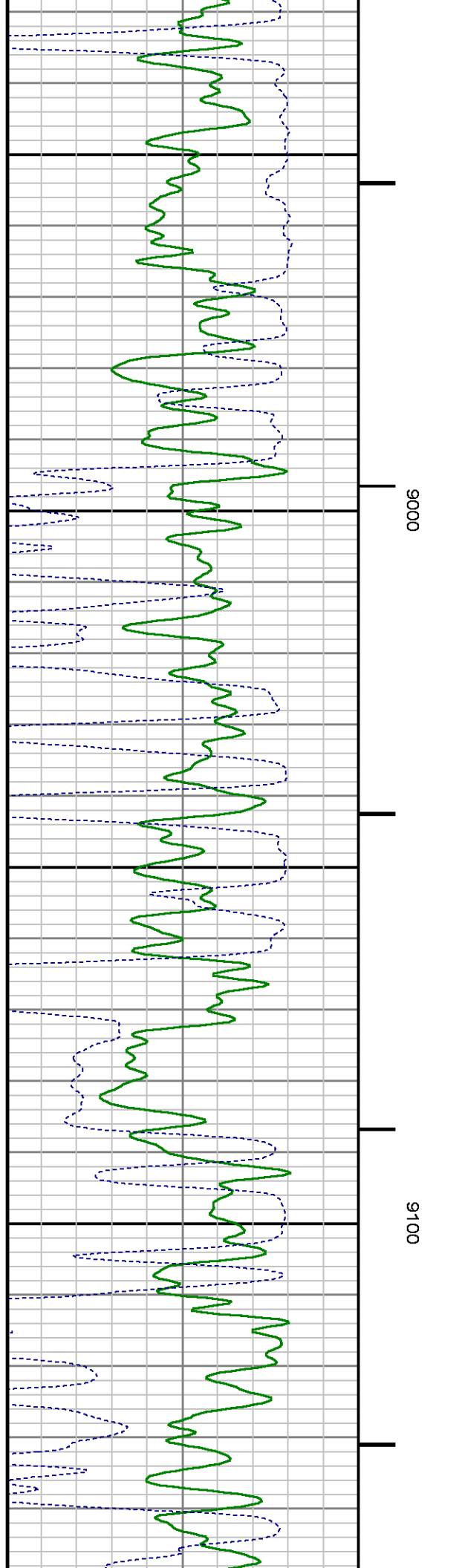
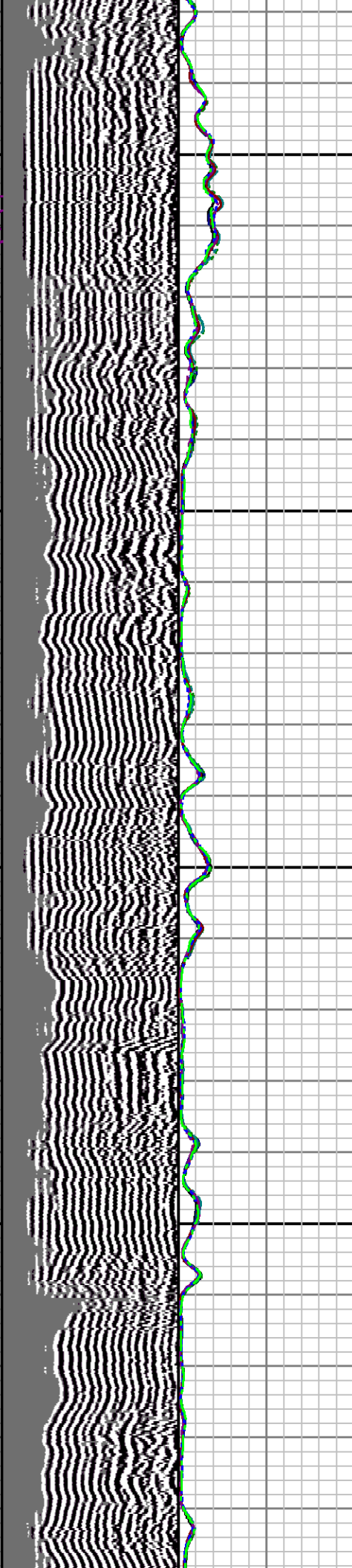
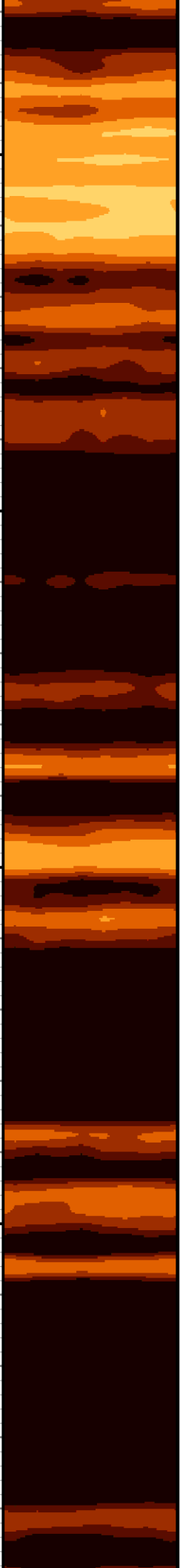


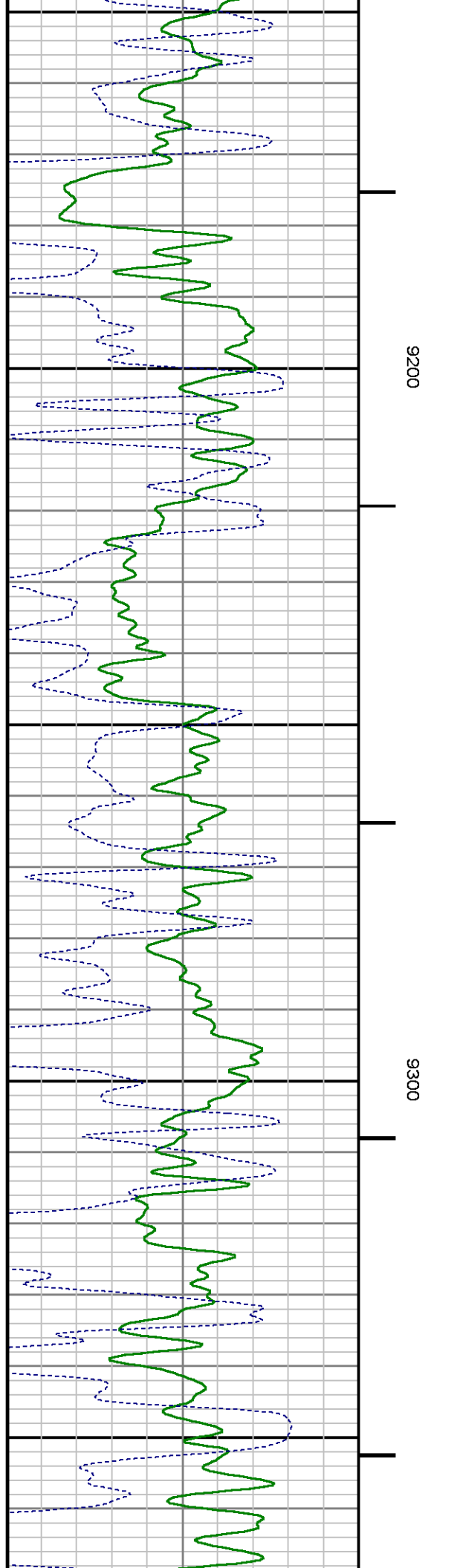
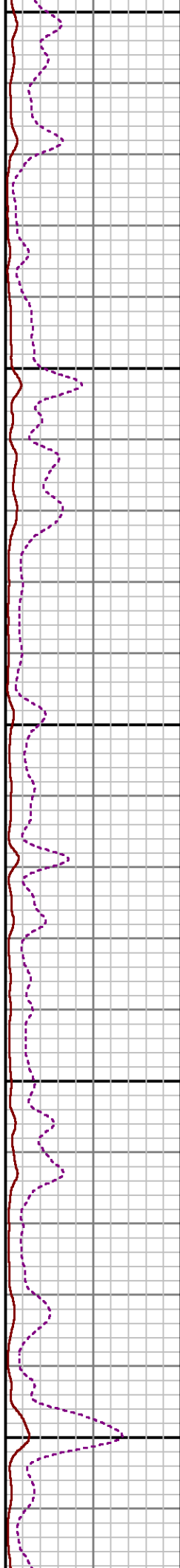
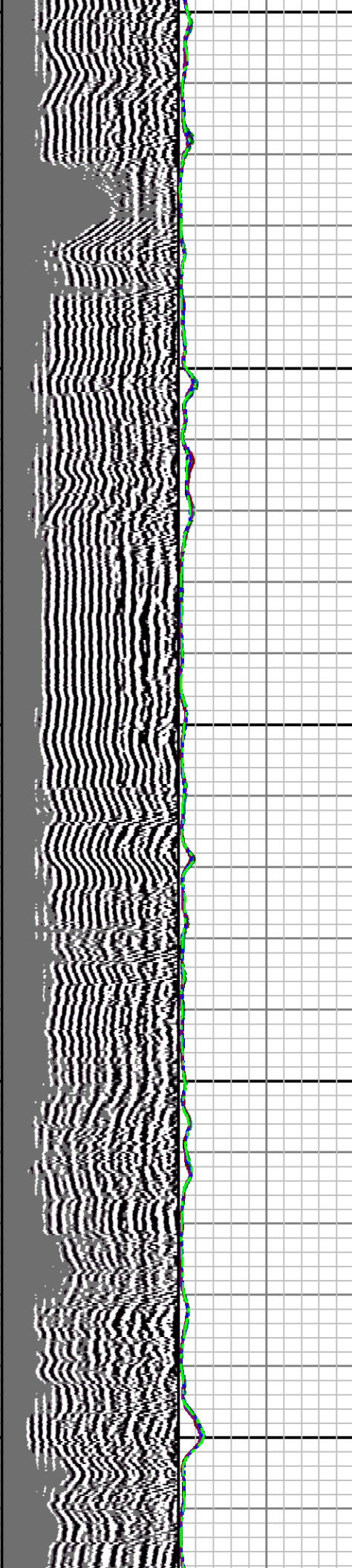


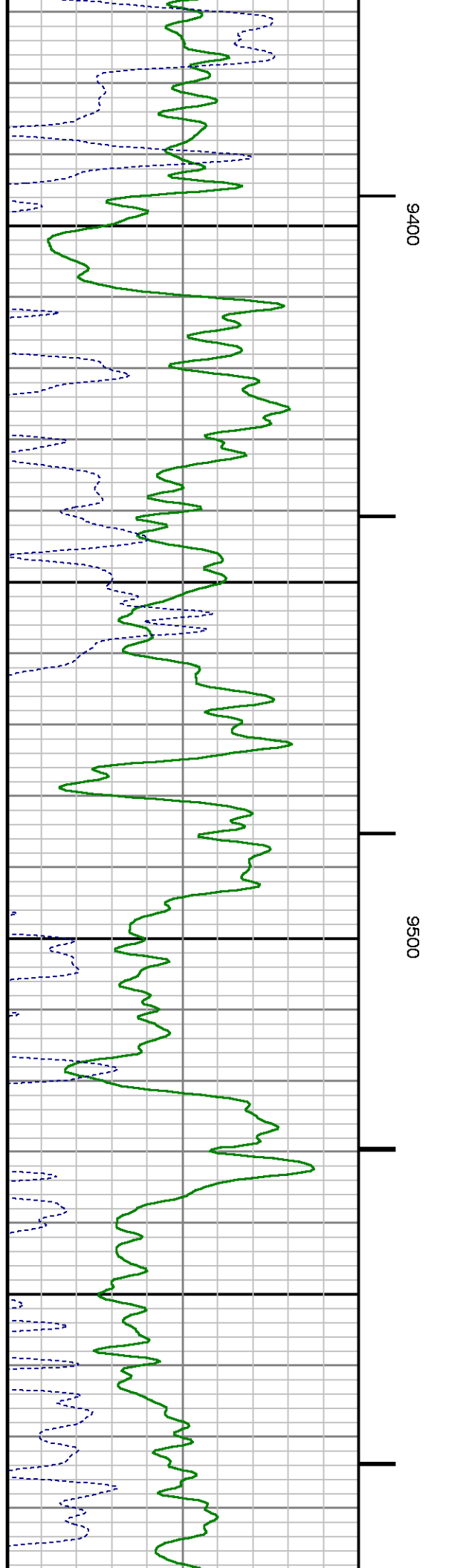
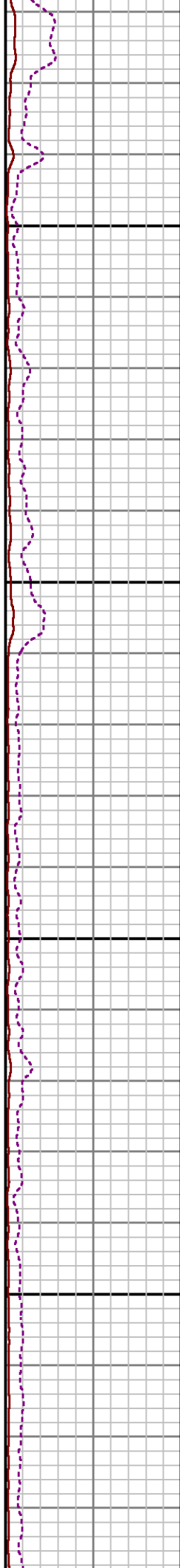
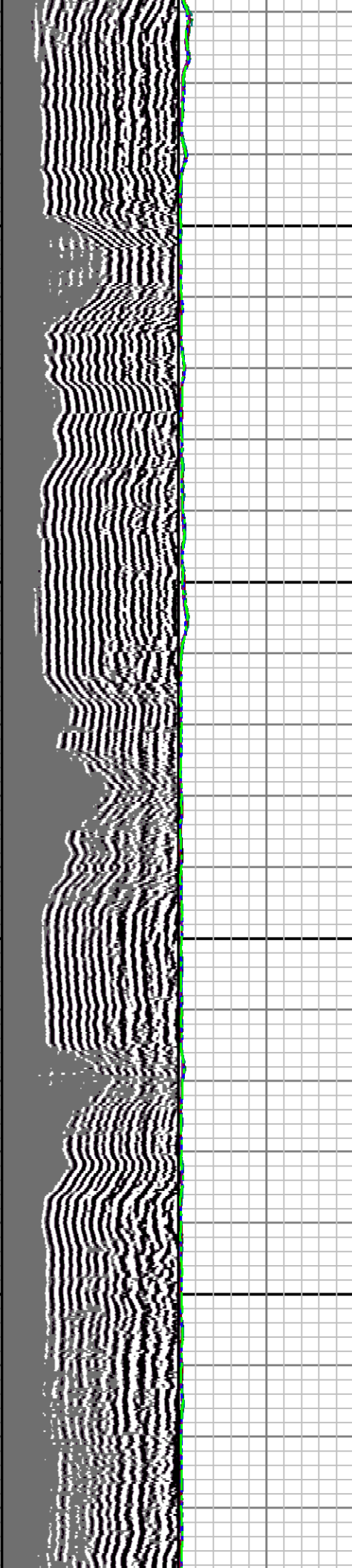


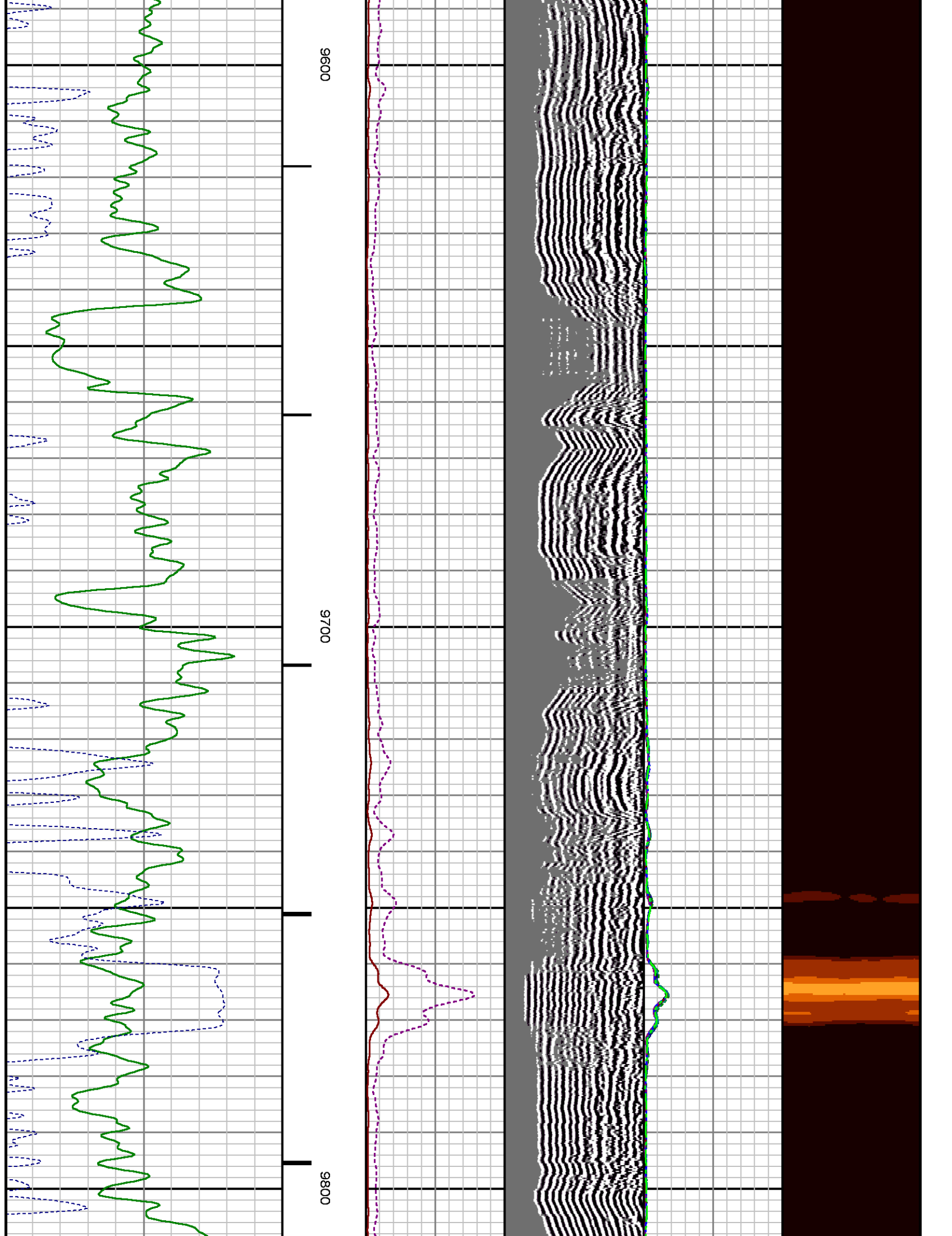


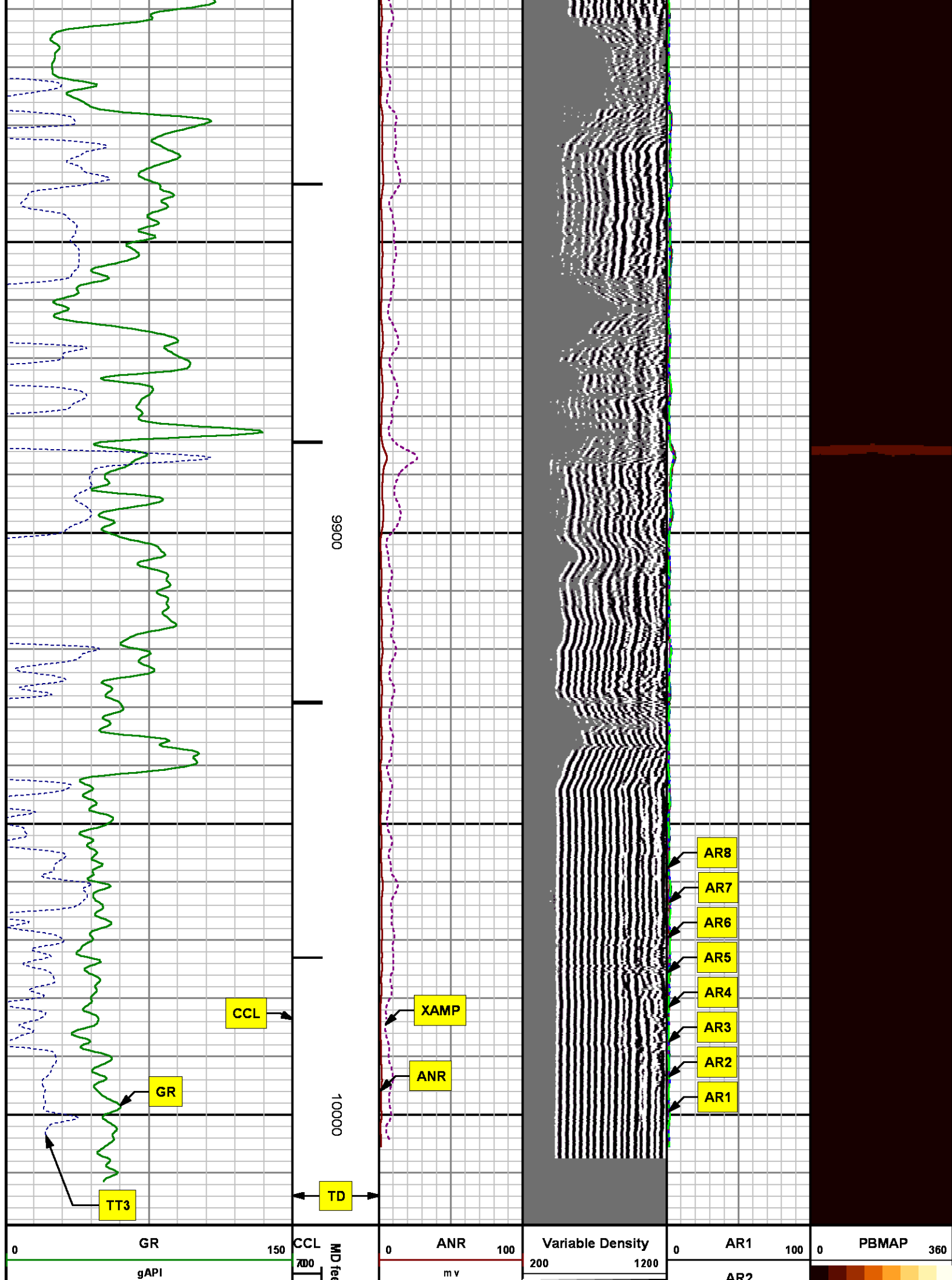


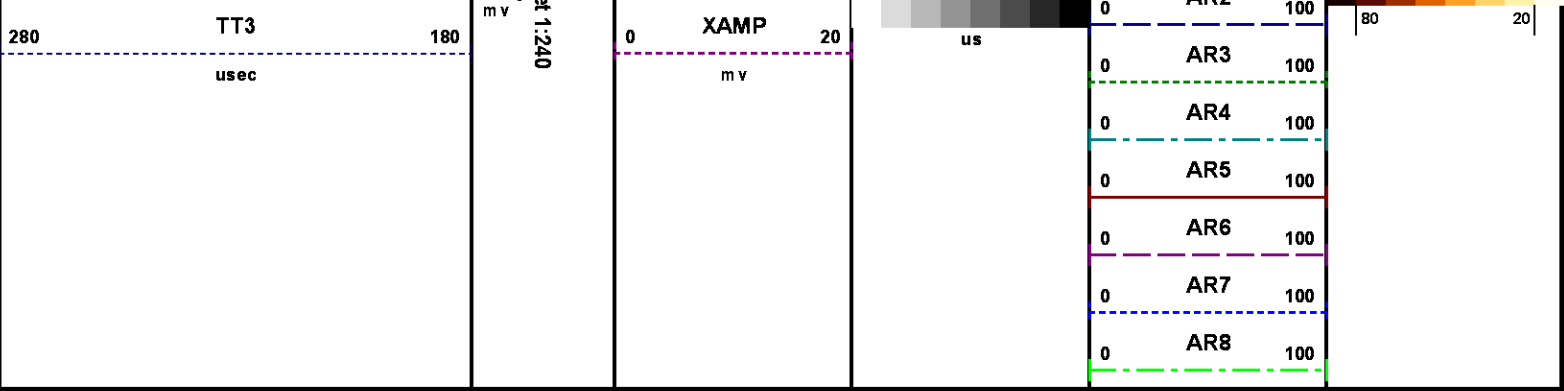












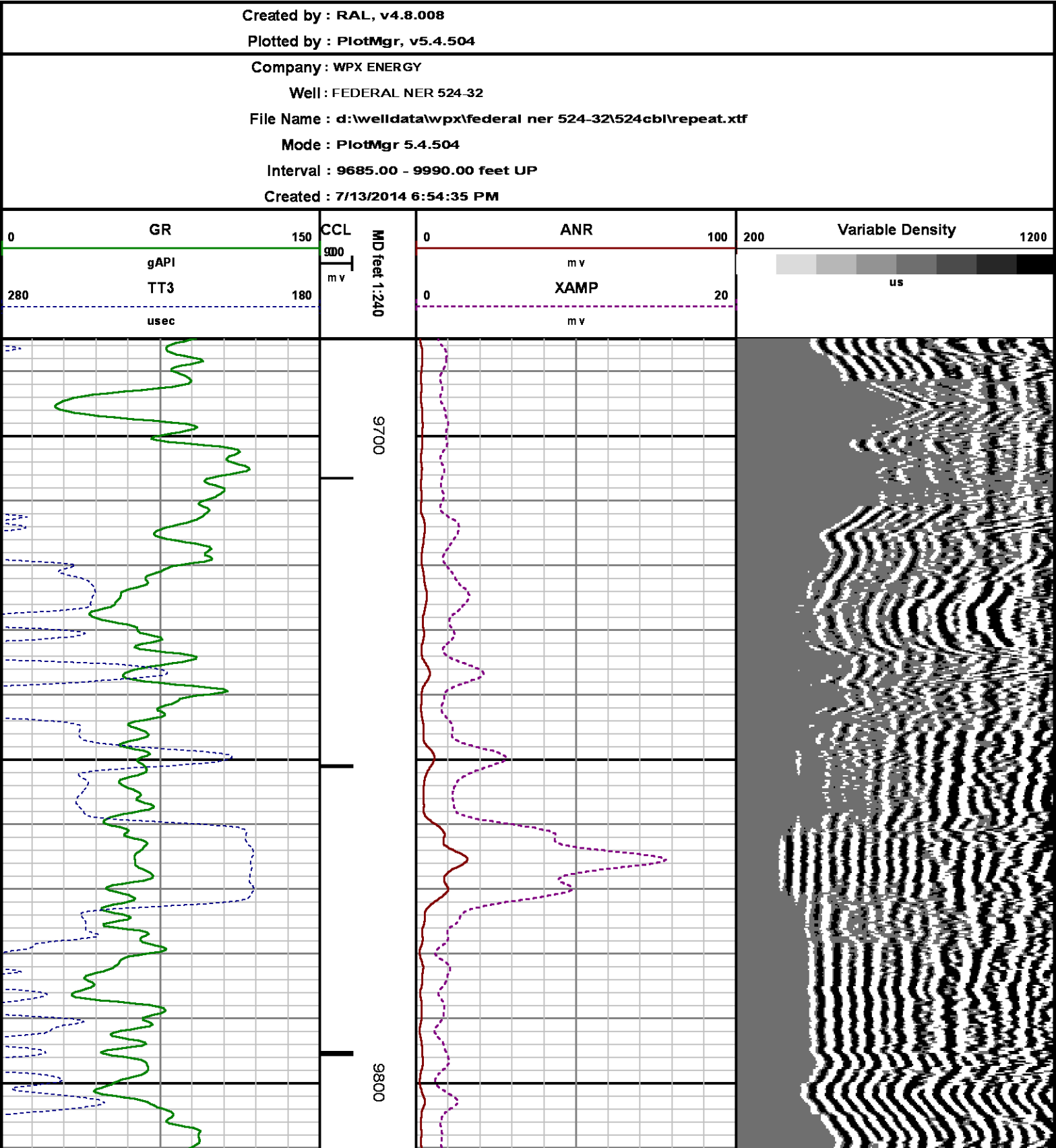
REPEAT SECTION
0 PSI

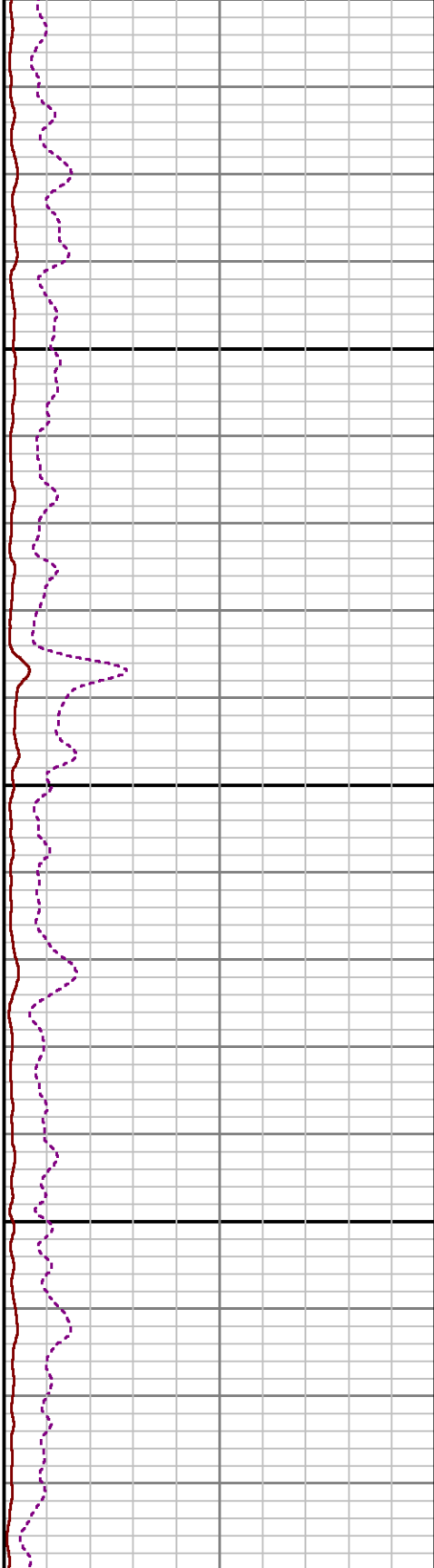
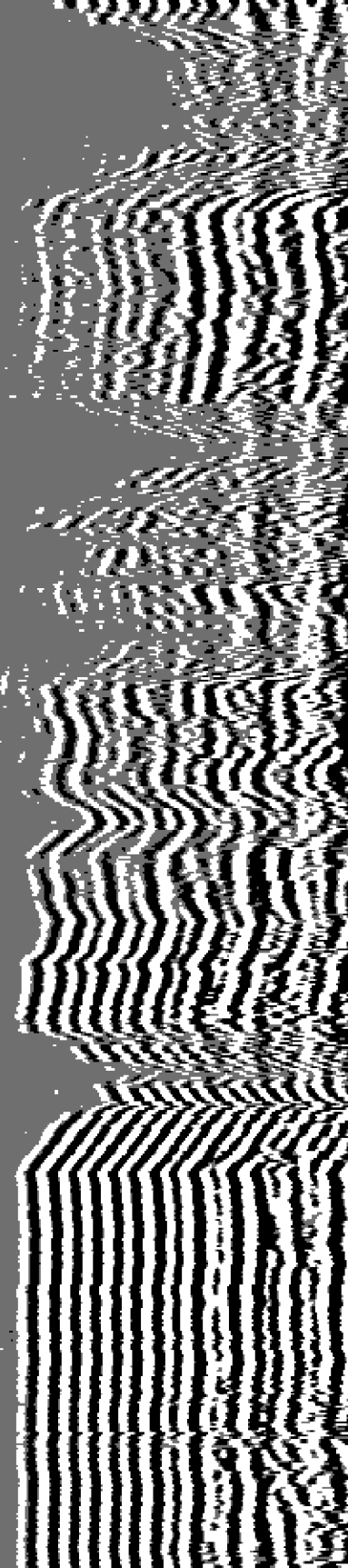
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	u sec	9681.940	10012.940
RAL	Amp Gate Start Near	195.000	u sec	9681.940	10012.940
RAL	Amp Gate Start Radial	195.000	u sec	9681.940	10012.940
RAL	Amp Gate Width Far	25.000	u sec	9681.940	10012.940
RAL	Amp Gate Width Near	25.000	u sec	9681.940	10012.940
RAL	Amp Gate Width Radial	25.000	u sec	9681.940	10012.940
RAL	casing od	4.500	inches	9681.940	10012.940
RAL	casing wt	11.600	lbm/ft	9681.940	10012.940
RAL	FB Start Far	291.900	u sec	9681.940	10012.940
RAL	FB Start Near	175.391	u sec	9681.940	10012.940
RAL	FB Start Radial	175.391	u sec	9681.940	10012.940
RAL	FB Thresh Far	10.000	m v	9681.940	10012.940
RAL	FB Thresh Near	4.000	m v	9681.940	10012.940
RAL	FB Thresh Radial	4.000	m v	9681.940	10012.940
RAL	Fluid Travel Time	200.000	u sec/ft	9681.940	10013.644

DEPTH OFFSETS
(for Acquired Curves)

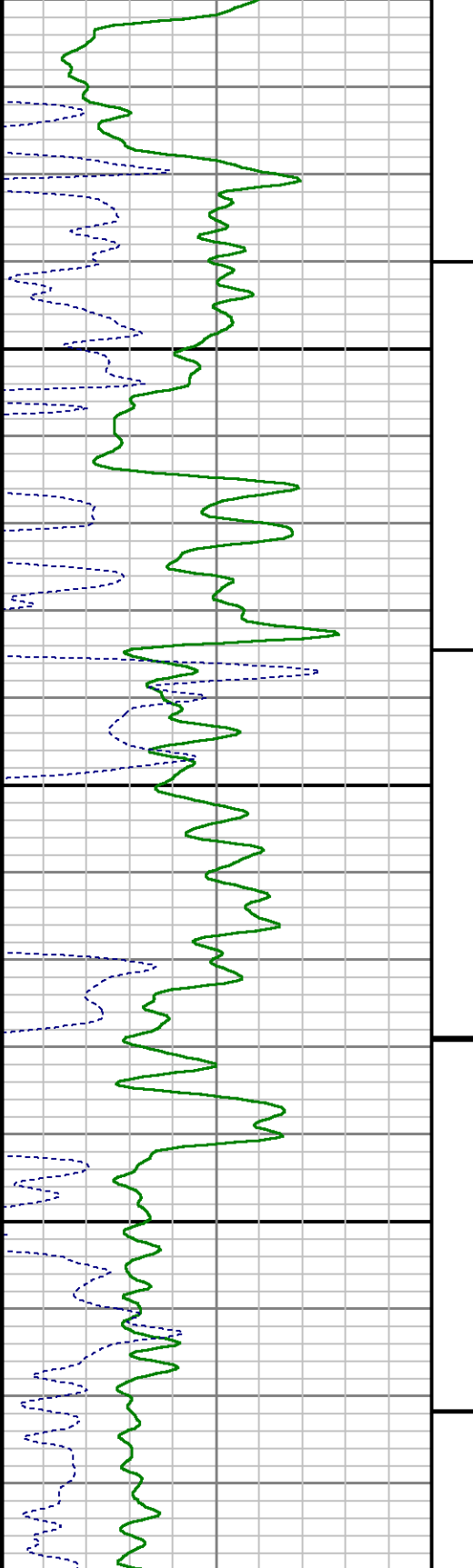
SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-12.360	ACAL	ANR	AR1	AR2	AR3	AR4

		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					





9900



0 GR 150		CCL 900 m v	MD feet 1:240	0 ANR 100		200 Variable Density 1200	
gAPI				m v			
280 TT3 180				0 XAMP 20		us	
u sec				m v			

CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\49613_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Jul 13 14:03:36 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 13

Tool Delay [usec]	-53.00	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	0.130	100.00	0.32
3 Ft. Receiver	218	216	30	166	12	0.490	100.00	0.32
5 Ft. Receiver	326	325	30	248	25	0.432	150.00	0.36
Radial #1	217	216	30	166	14	0.525	100.00	0.32
Radial #2	216	216	30	166	14	0.389	100.00	0.31
Radial #3	216	216	30	166	14	0.513	100.00	0.31
Radial #4	216	216	30	166	14	0.733	100.00	0.31
Radial #5	216	216	30	166	14	0.575	100.00	0.31
Radial #6	217	216	30	166	14	0.486	100.00	0.32
Radial #7	217	216	30	166	14	0.371	100.00	0.32
Radial #8	219	216	30	166	14	0.271	100.00	0.32

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\49613 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Jul 13 14:12:36 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 13

Tool Delay [usec]	-53.00	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	-0.063	0.000	1.00	100.000		
3 Ft. Receiver	195	25	2.368					
5 Ft. Receiver	305	25	3.164					
Radial #1	195	25	1.605					
Radial #2	195	25	1.729					
Radial #3	195	25	2.091					
Radial #4	195	25	2.099					
Radial #5	195	25	2.176					

Radial #6	195	25	2.200
Radial #7	195	25	1.646
Radial #8	195	25	1.639

GAMMA RAY

Verification File: C:\case\calver\GR\45612.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Sat Jul 12 17:18:50 2014 TOOL SERIES: 2459XA ASSET: 456 SEQ: 12

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA-612	77.73	340.34	0.711	55.24	241.88	186.63

TOOL DIAGRAM

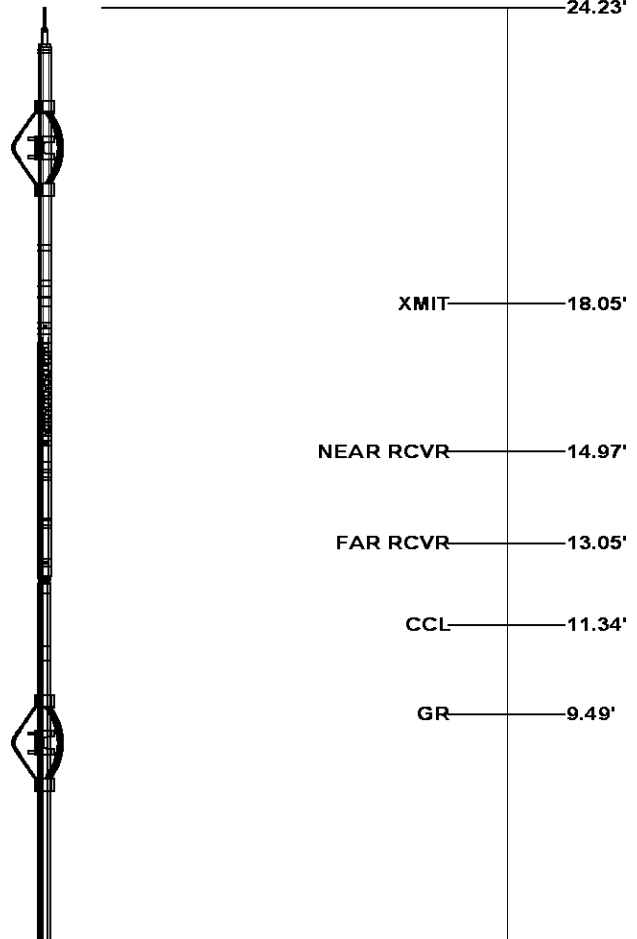
OTA SHORT CABLE HEAD

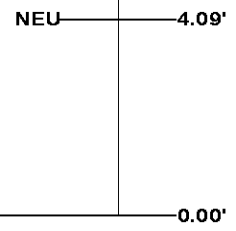
PROBE 2 3/4 DUAL RECEIVER RADII

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

Probe GR/CCL/NEU

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







CENTRALIZER	
Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb



Total Length: 24.23'
Total Weight: Not Available
Max Diameter: 0' 3.12"

<div> Baker Atlas</div> <div></div>	<div>Company</div> <div>Well</div> <div>Field</div> <div>County</div>	<div>WPX ENERGY</div> <div>FEDERAL NER 524-32</div> <div>RULISON</div> <div>GARFIELD</div> <div>State</div> <div>CO</div>	<div>File No:</div> <div>CH087677</div> <div>API No:</div> <div>05045217980000</div>
	<div>Location</div> <div>SHL: 146' FNL & 2592' FWL (5 7S 93W)</div> <div>BHL: 495' FSL & 1875' FWL (32 6S 93W)</div>	<div>Elevations</div> <div>KB 7629</div> <div>DF</div> <div>GL 7603</div>	<div>32 6S 93W</div> <div>RU 23-5 PAD</div> <div>NABORS 576</div>
	<div>SEC 32</div> <div>TWP 6S</div> <div>RGE 93W</div>		