



RADIAL ANALYSIS BOND LOG

Baker Atlas

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

CH085751 **Well** **SAVAGE RWF 323-25**

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

05045219900000 **County** **GARFIELD** **State** **CO**

25 6S 94W **Location** **SHL: 1662' FSL & 2304' FWL**

RWF 23-25 PAD **BHL: 2174' FSL & 2259' FWL**

NABORS 677 **SEC** **25** **TWP** **6S** **RGE** **94W**

Other Services

NONE

Permanent Datum **GL** **Elevation** **6096 ft**

Log Measured From **KB** **26 ft** **Above P. D.**

Drill Measured From **KB** **Elevations** **KB 6122 ft** **DF** **GL 6096 ft**

Date	09/MAY/14	
Run	ONE	
Service Order	085751	
Depth Driller	8688 ft	
Depth Logger	8656 ft	
Bottom Logged Interval	8646 ft	
Top Logged Interval	26 ft	
Time Started	11:30	
Time Finished	14:30	
Operator Rig Time	3 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	76 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	66 fpm	
Maximum Recorded Temperature	237 degF	
Reference Log	BAKER HUGHES OPEN HOLE	
Reference Log Date	23/APR/2014	
Equipment No.	4271	GRAND JUNCTION
Recorded By	NEMELL	
Witnessed By	BOB CADY	

- 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	1104 ft
8.75 in	1104 ft	8624 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1104 ft
4.5 in	11.6 lbm/ft	1-80	0 ft	8624 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes HDIL/ZDL/CN/GR open hole log dated 4/23/2014 at the clients request.
The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference.

The amount of linear shift is 16 feet.

Logged with zero PSI at wellhead.

BHT = 237 °F

SJ = 5221'-5245'

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	22.984	8640.000
RAL	Amp Gate Start Near	195.000	usec	22.984	8640.000
RAL	Amp Gate Start Radial	195.000	usec	22.984	8640.000
RAL	Amp Gate Width Far	25.000	usec	22.984	8640.000
RAL	Amp Gate Width Near	25.000	usec	22.984	8640.000
RAL	Amp Gate Width Radial	25.000	usec	22.984	8640.000
RAL	casing od	4.500	inches	22.984	8640.000
RAL	casing wt	11.600	lbm/ft	22.984	8640.000
RAL	FB Start Far	291.900	usec	22.984	8640.000
RAL	FB Start Near	180.000	usec	22.984	8640.000
RAL	FB Start Radial	180.000	usec	22.984	8640.000
RAL	FB Thresh Far	10.000	mv	22.984	8640.000
RAL	FB Thresh Near	4.000	mv	22.984	8640.000
RAL	FB Thresh Radial	4.000	mv	22.984	8640.000
RAL	Fluid Travel Time	200.000	usec/ft	22.984	8639.766

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

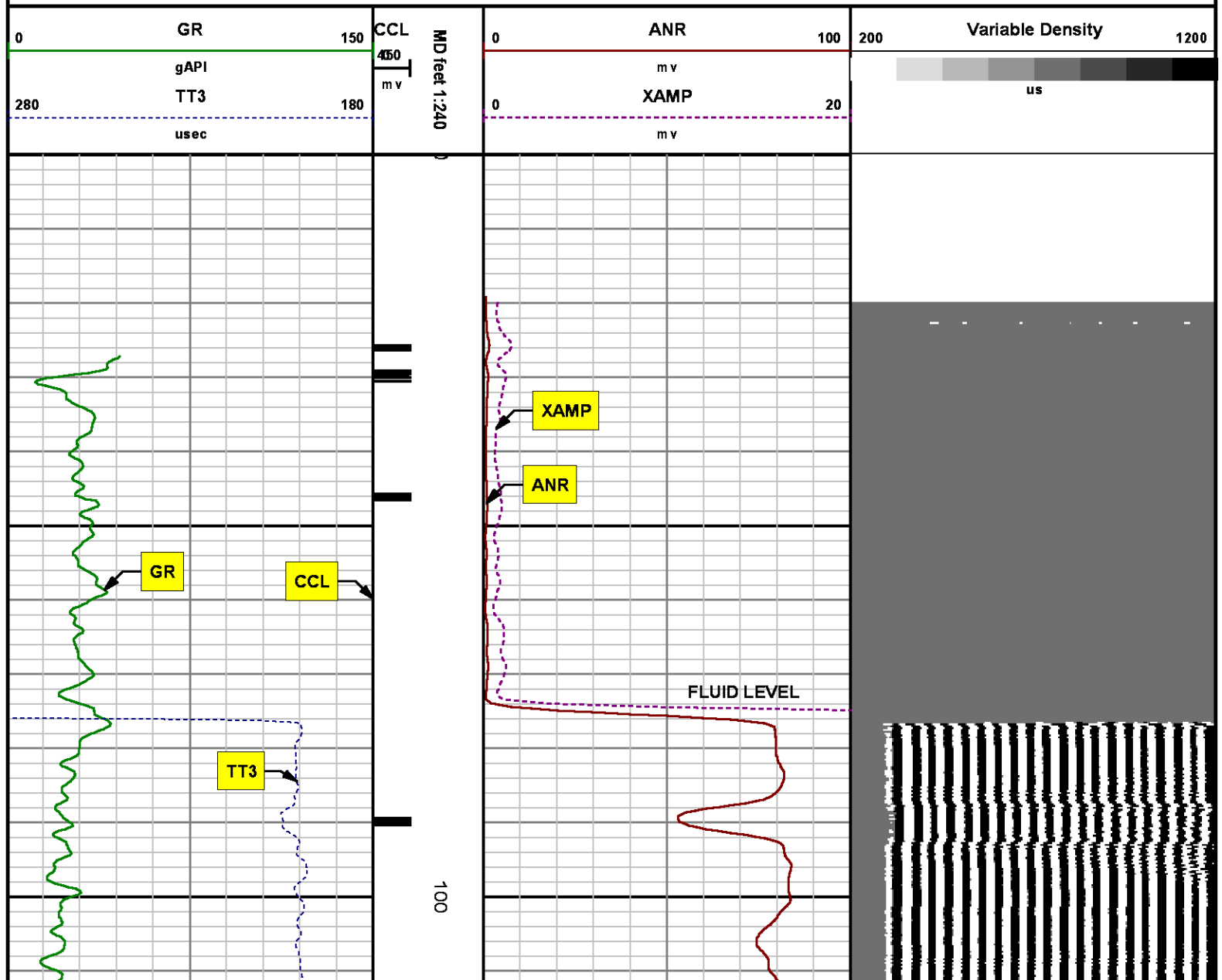
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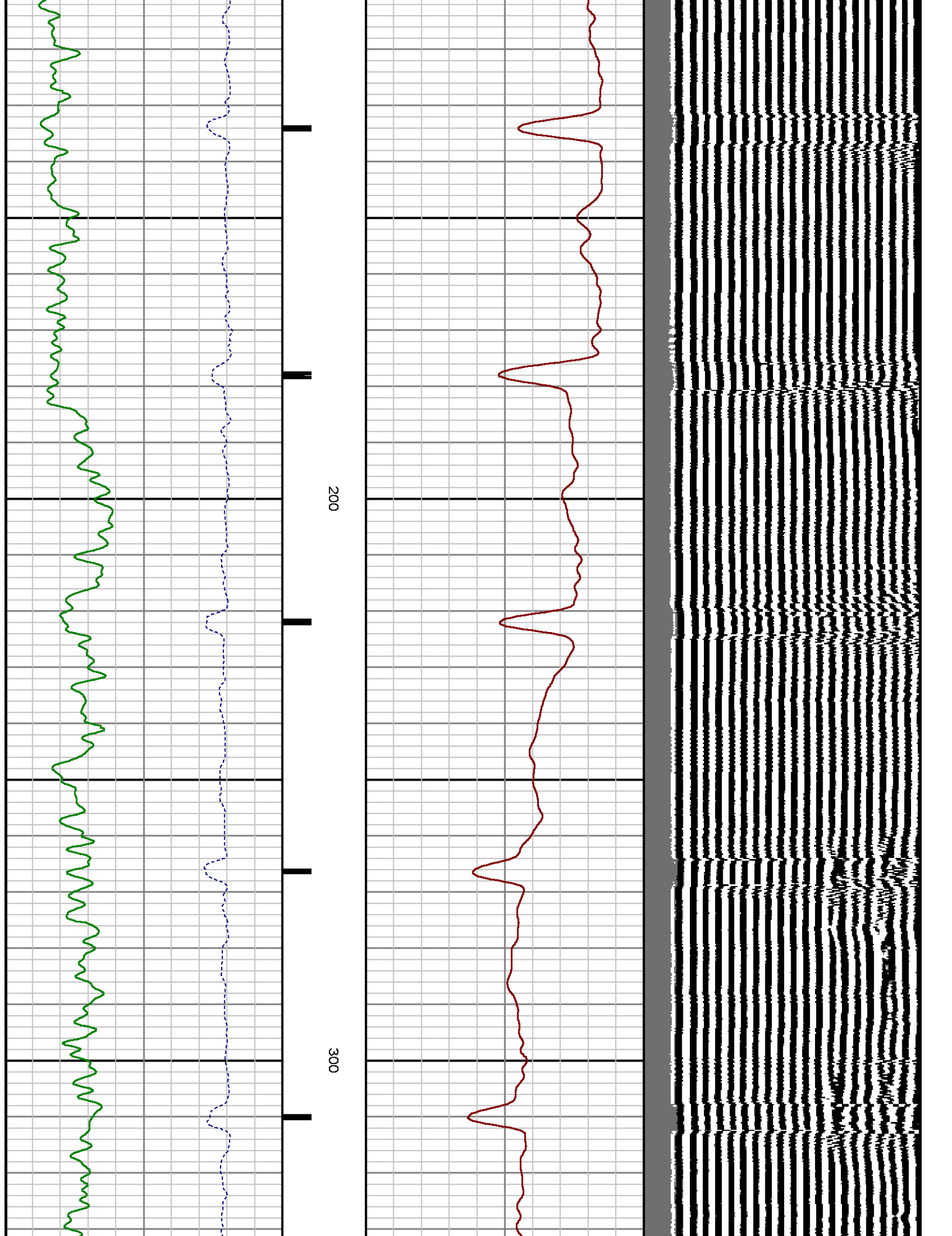
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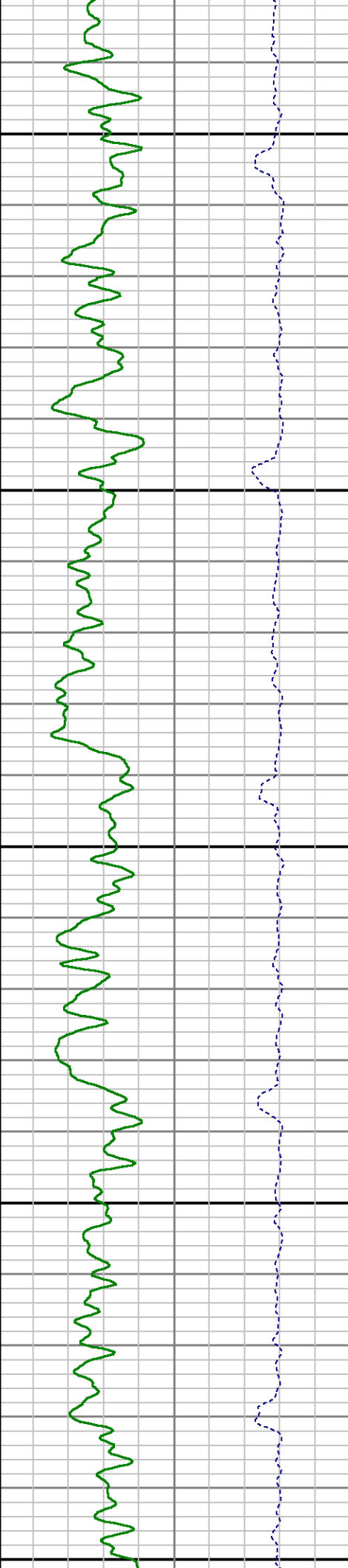
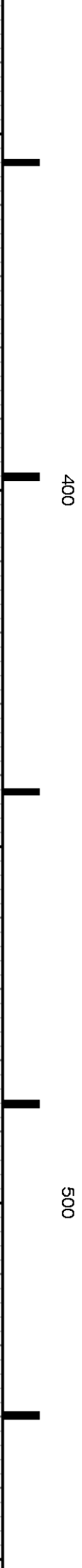
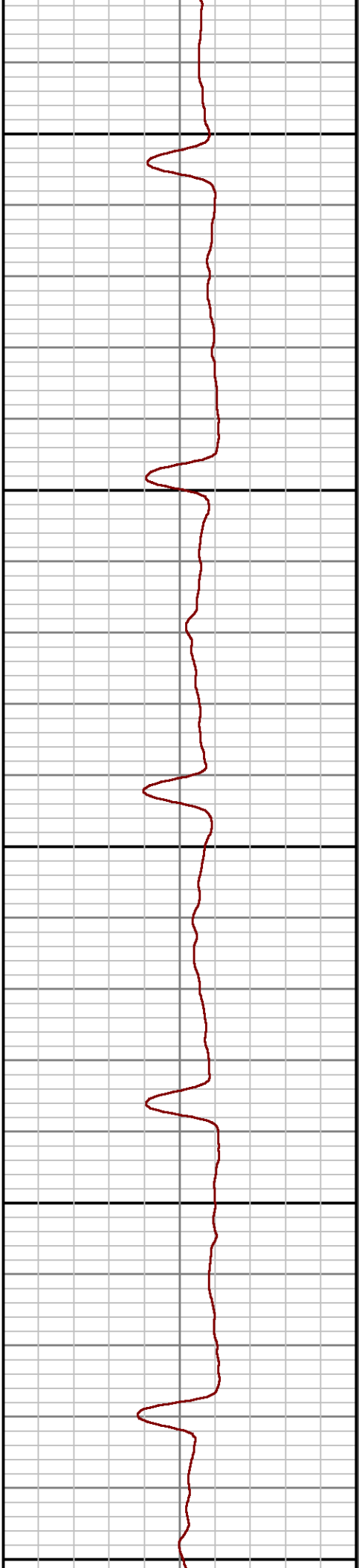
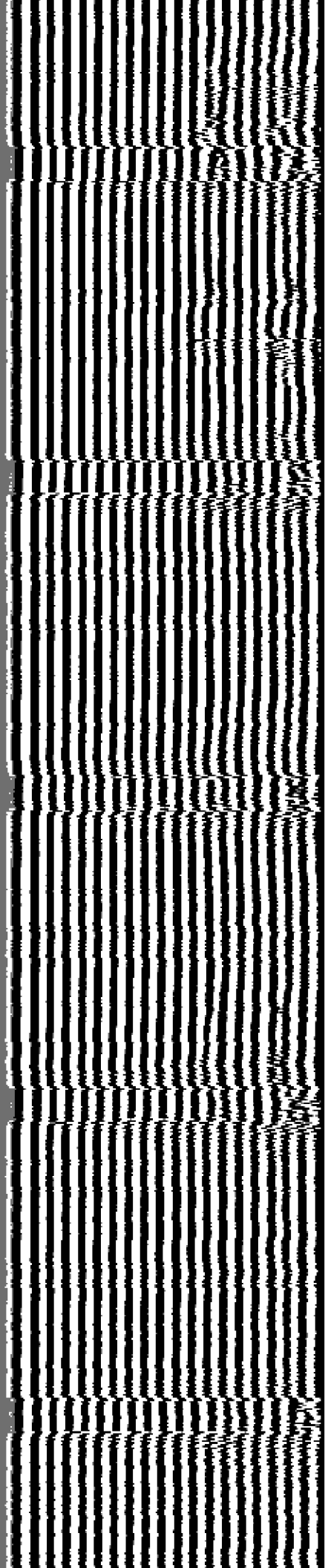
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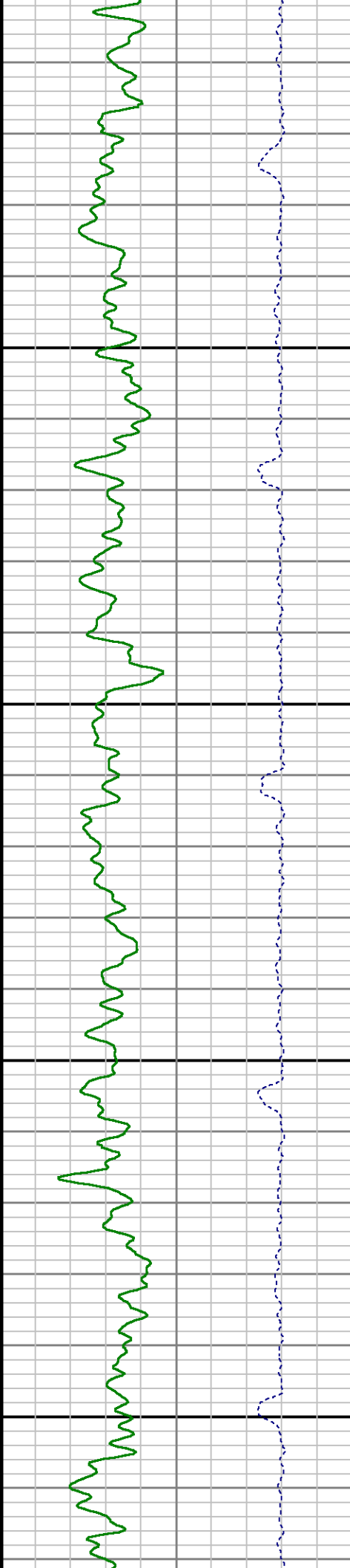
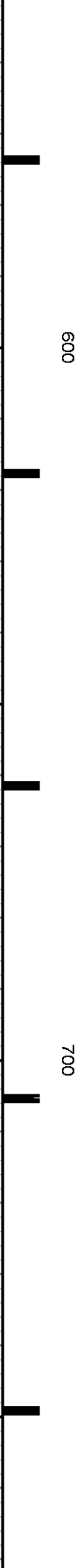
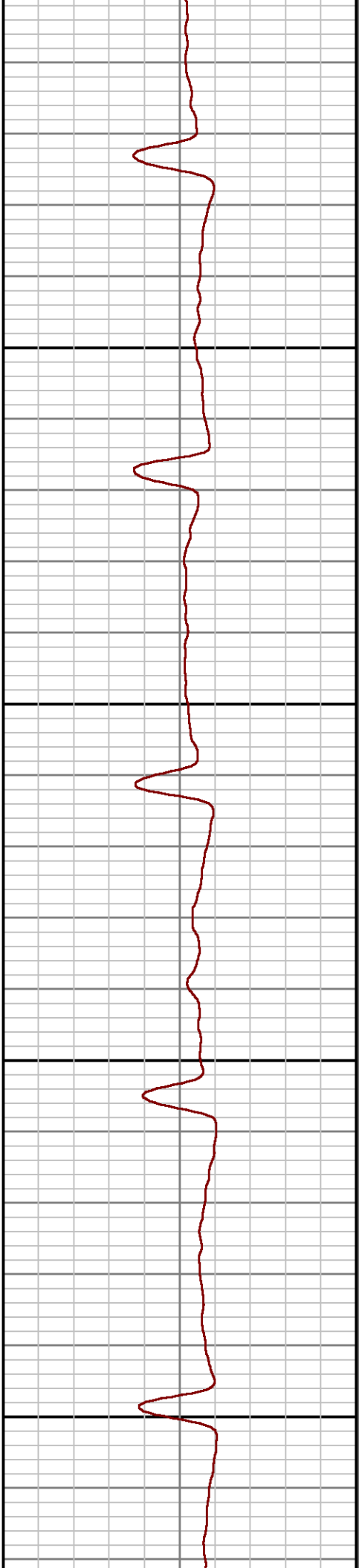
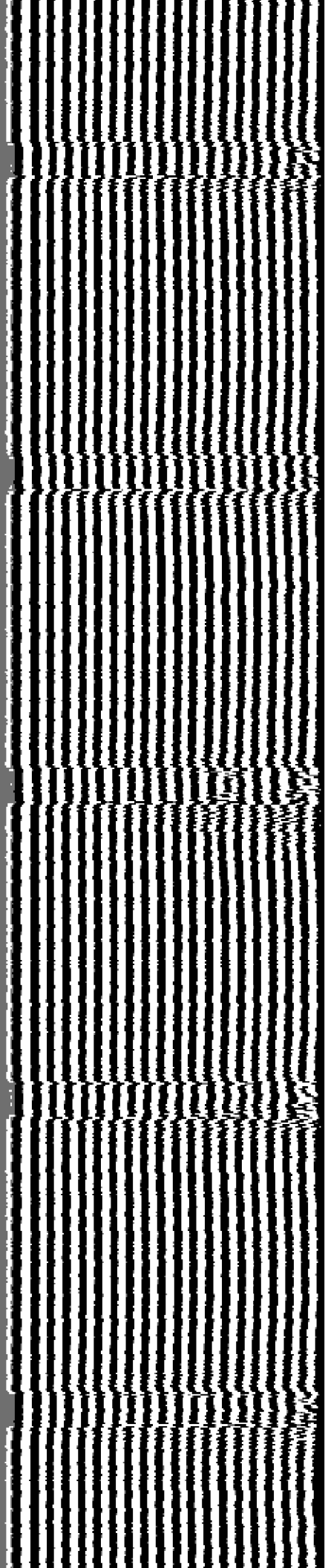
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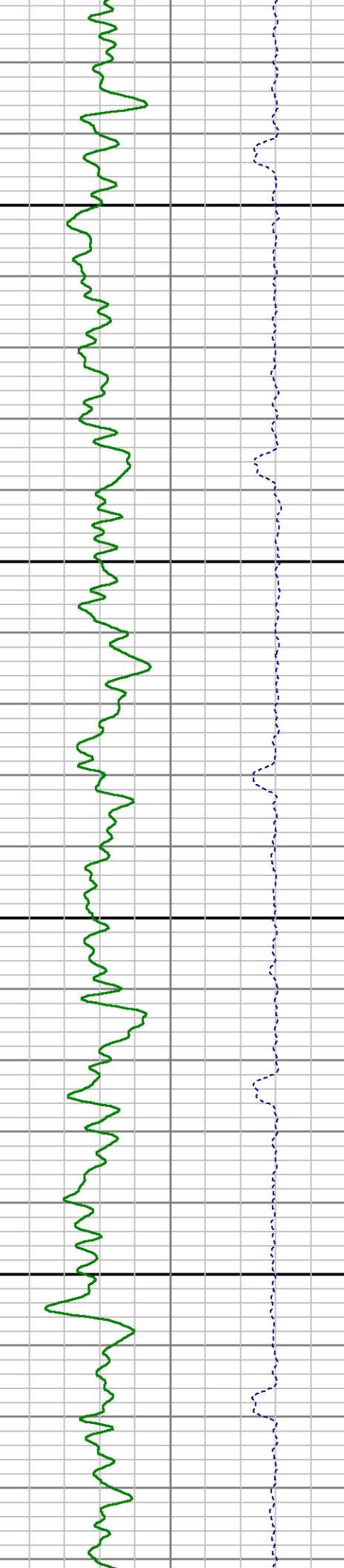
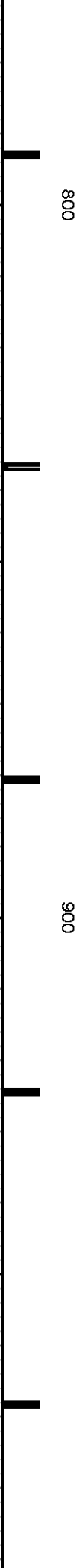
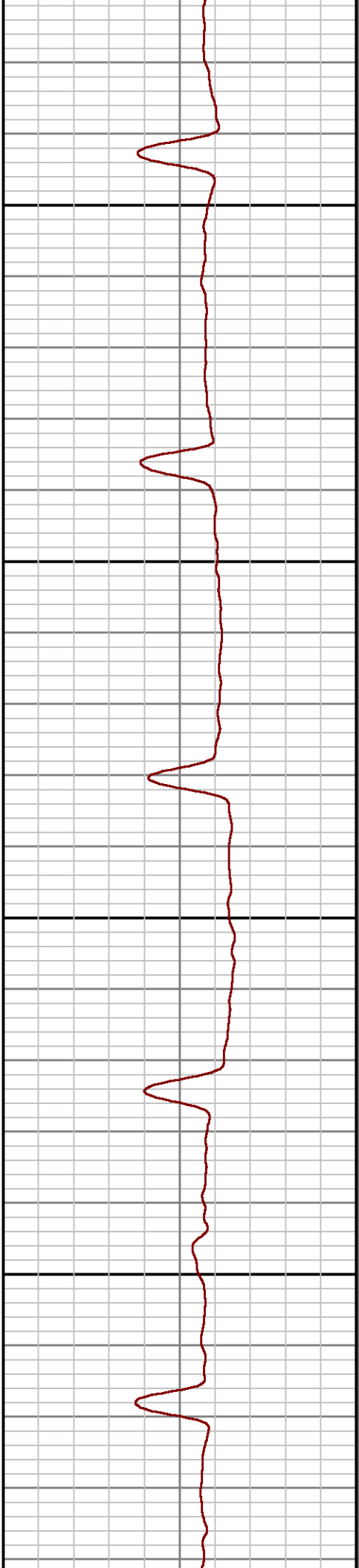
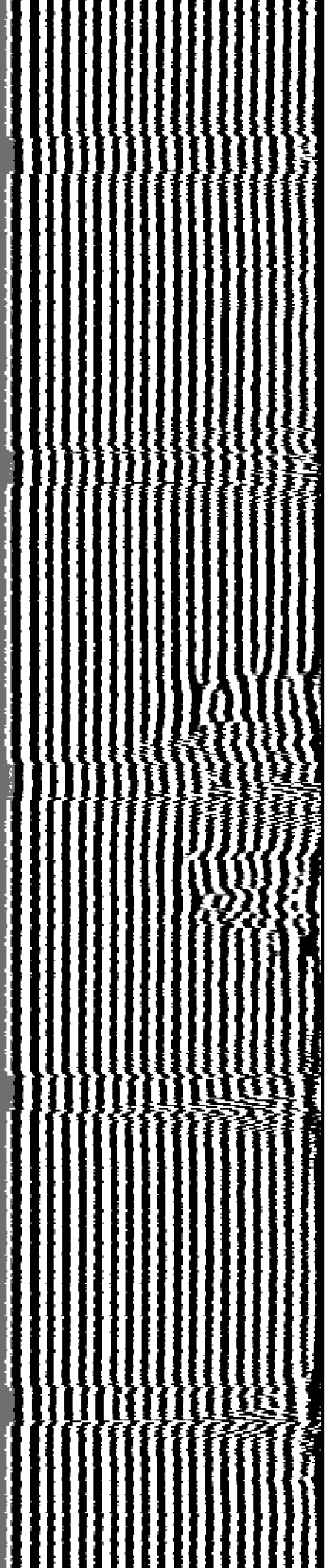
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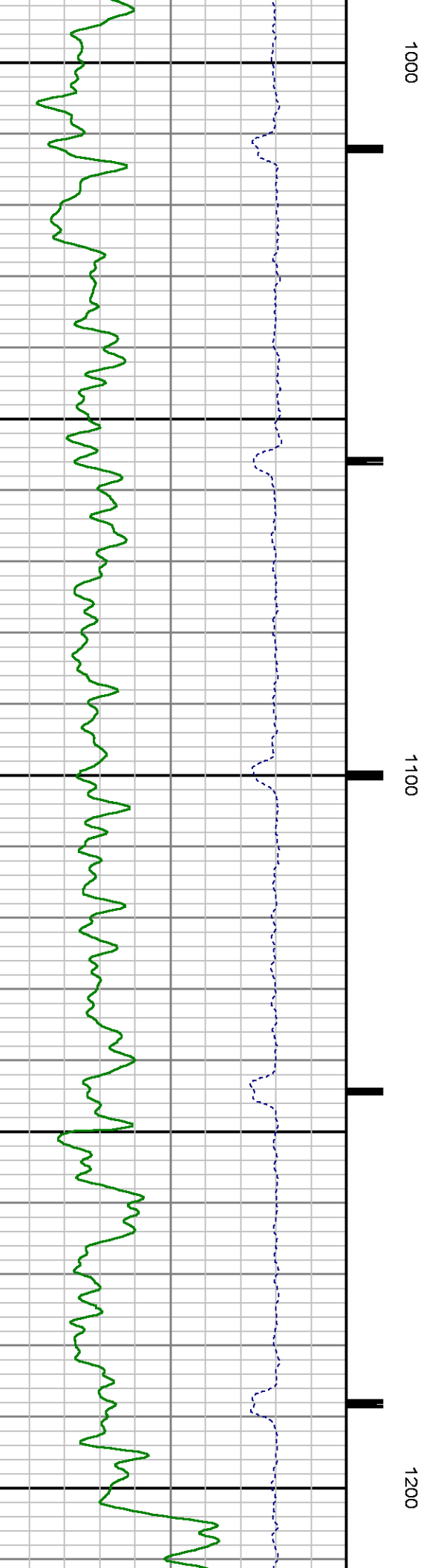
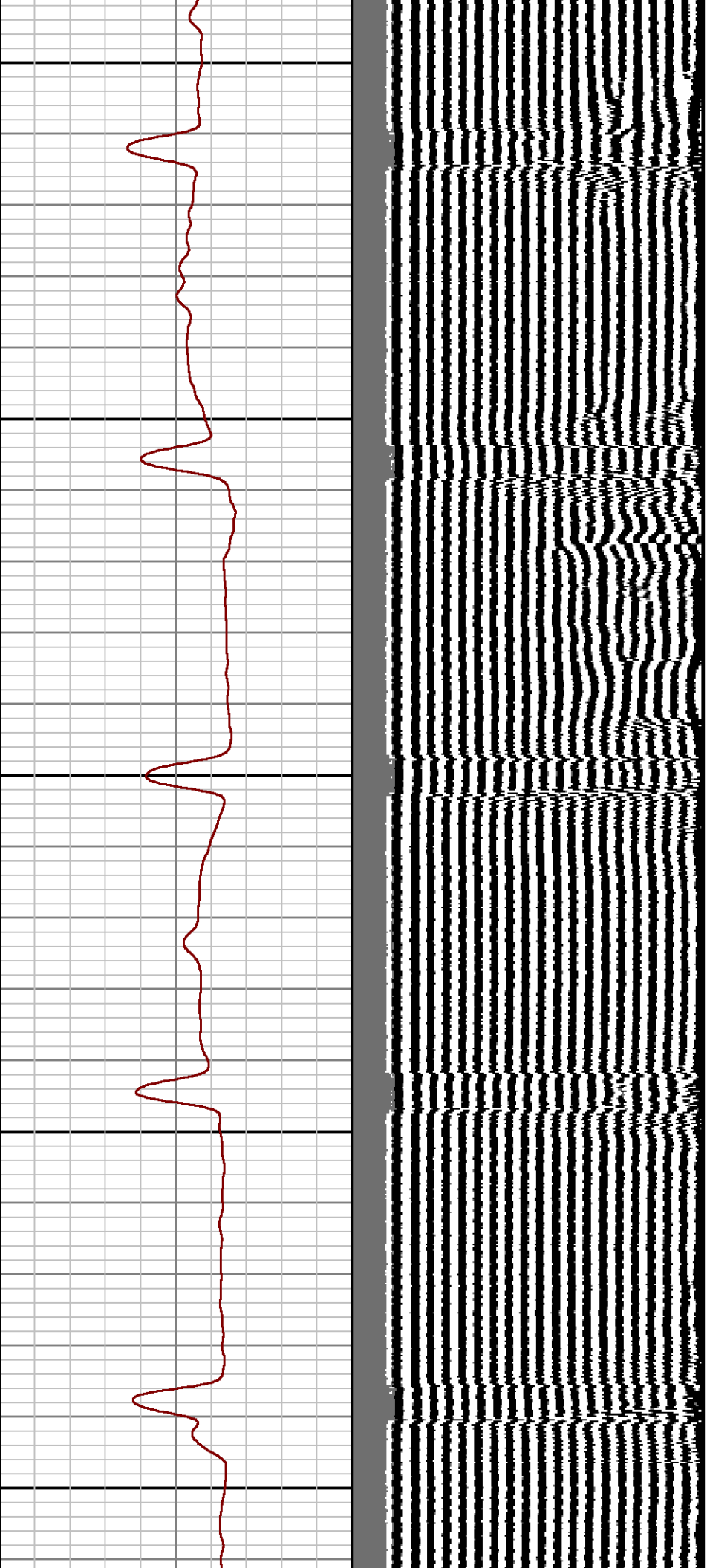


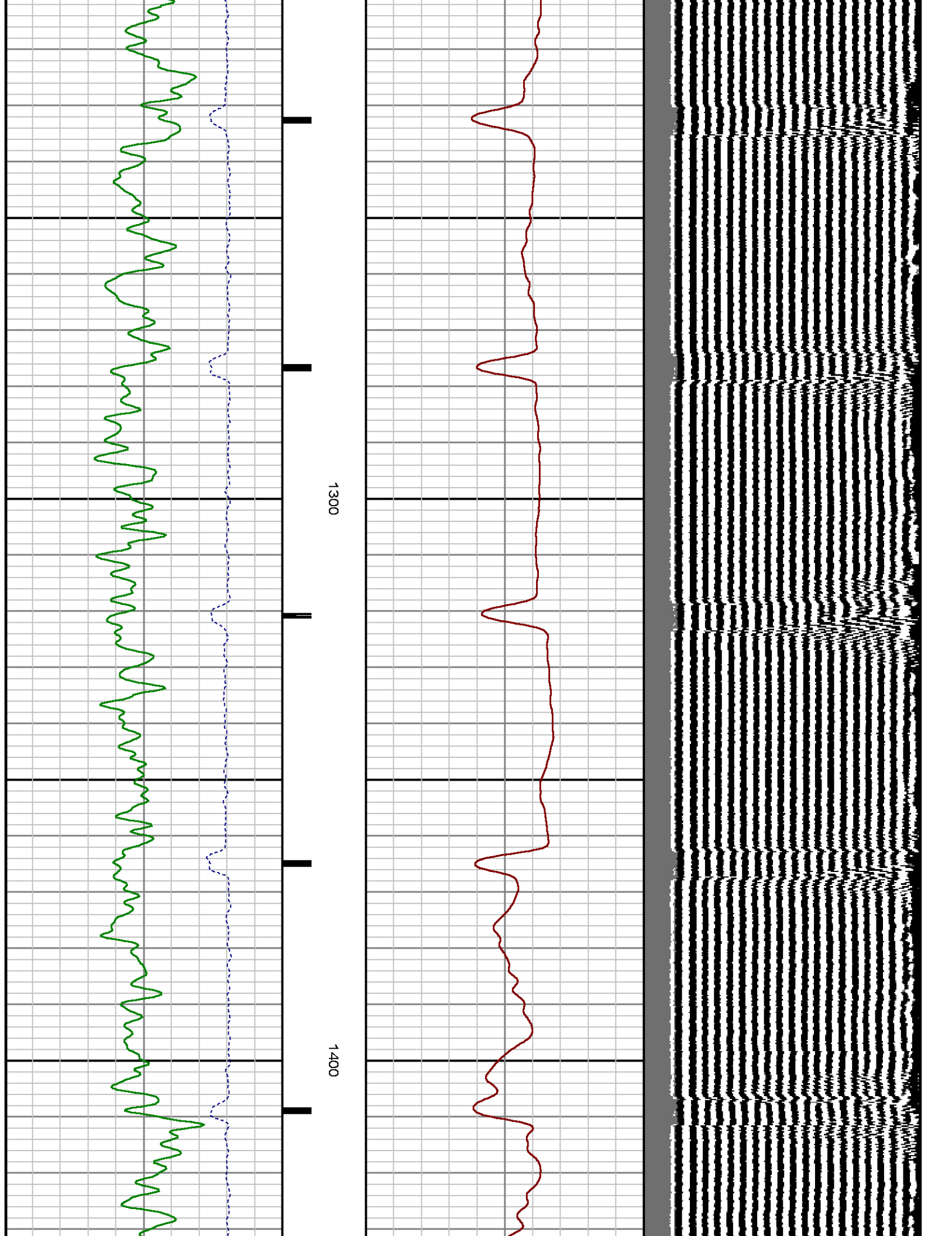


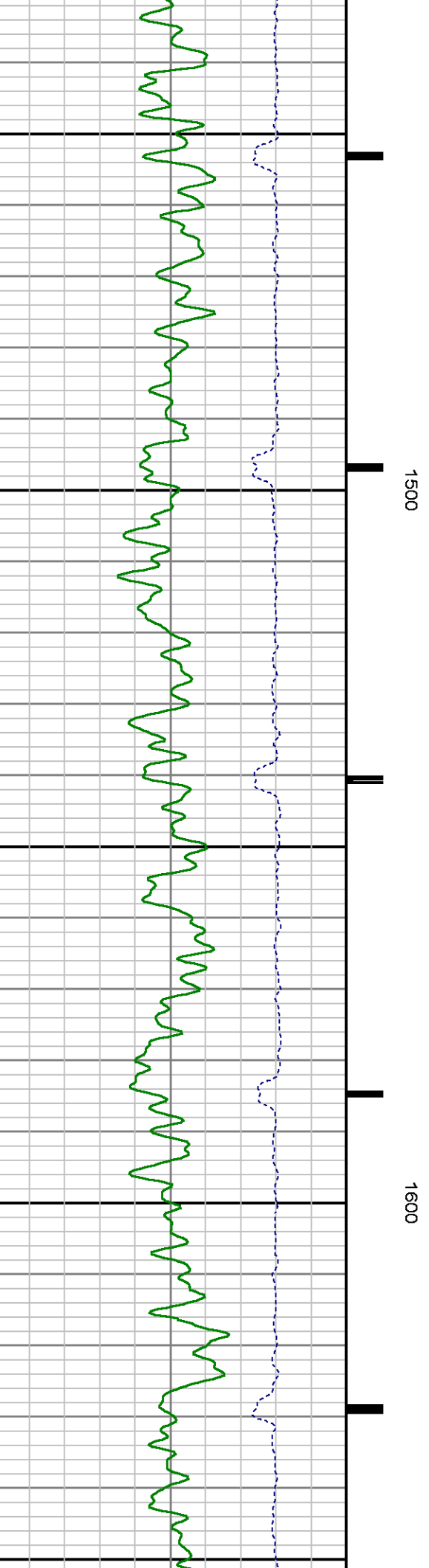
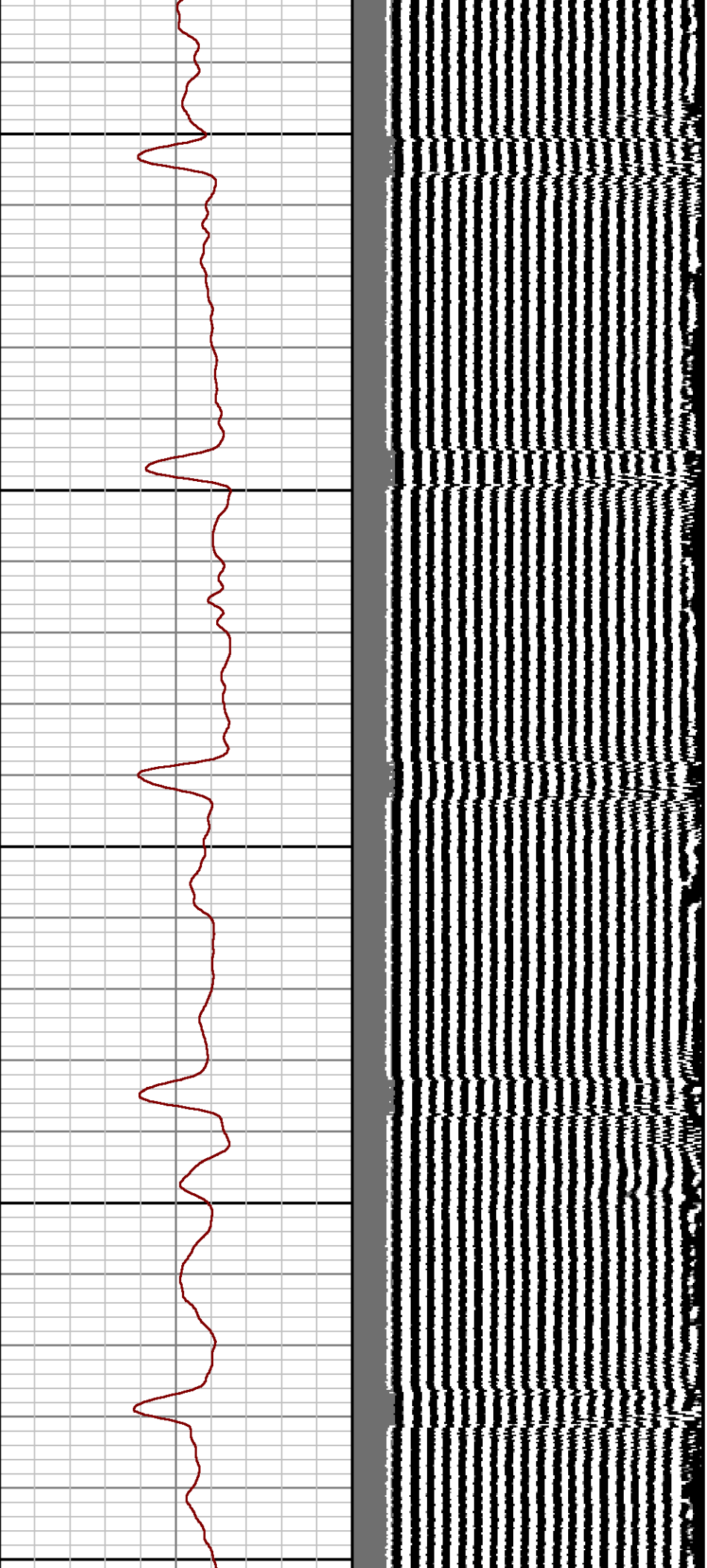


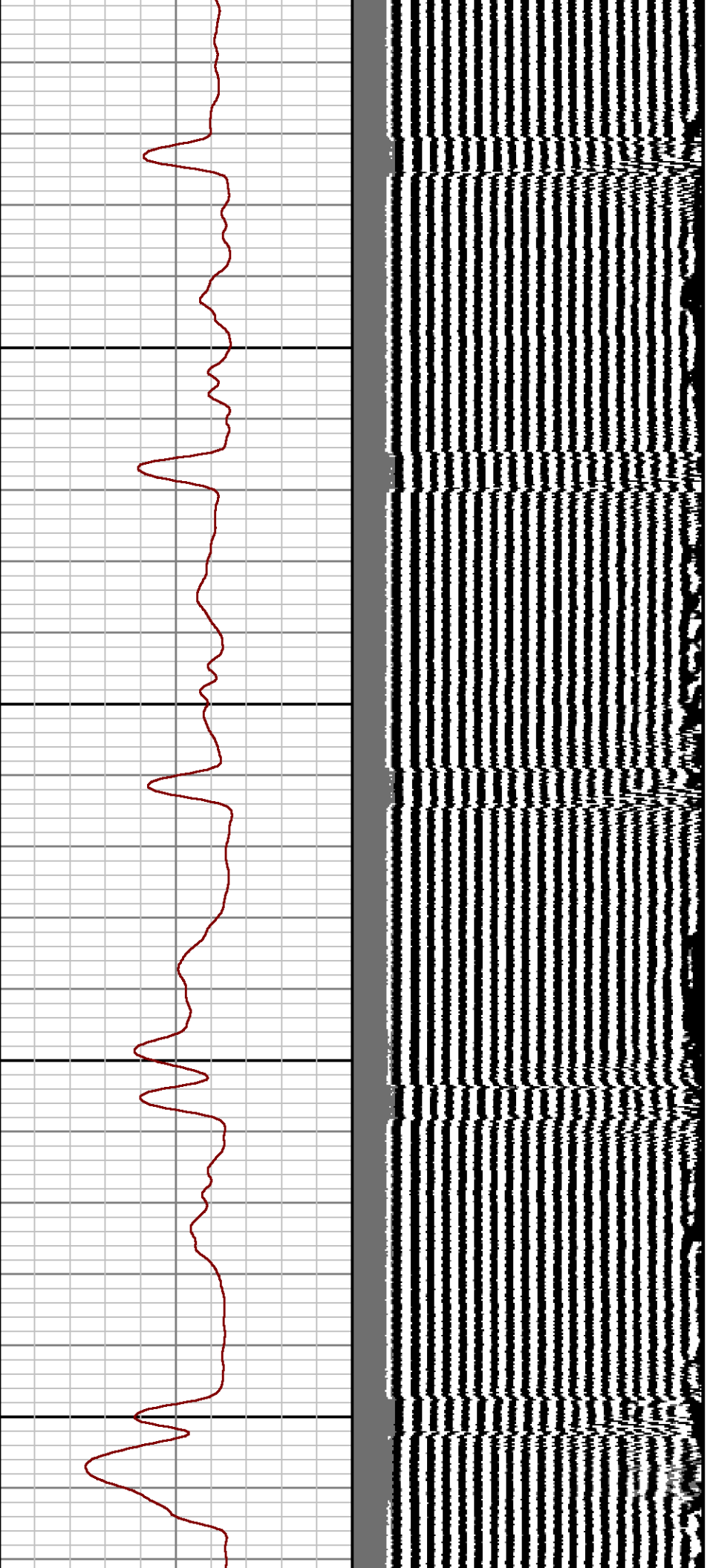






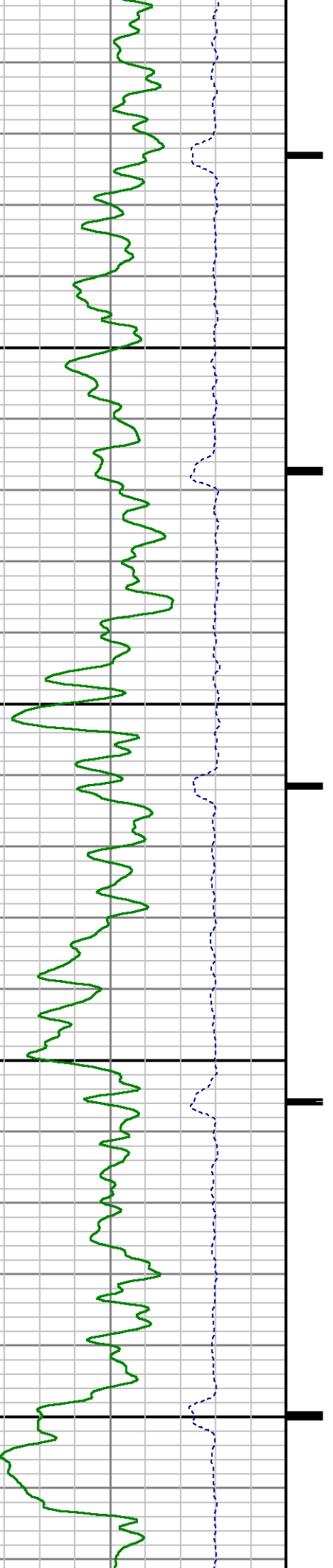


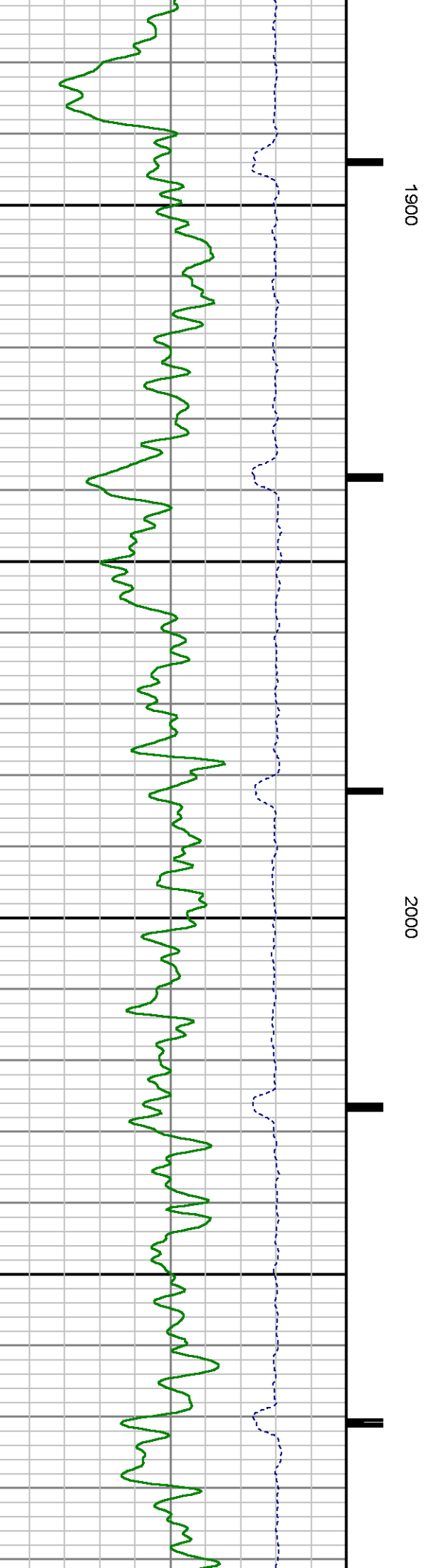
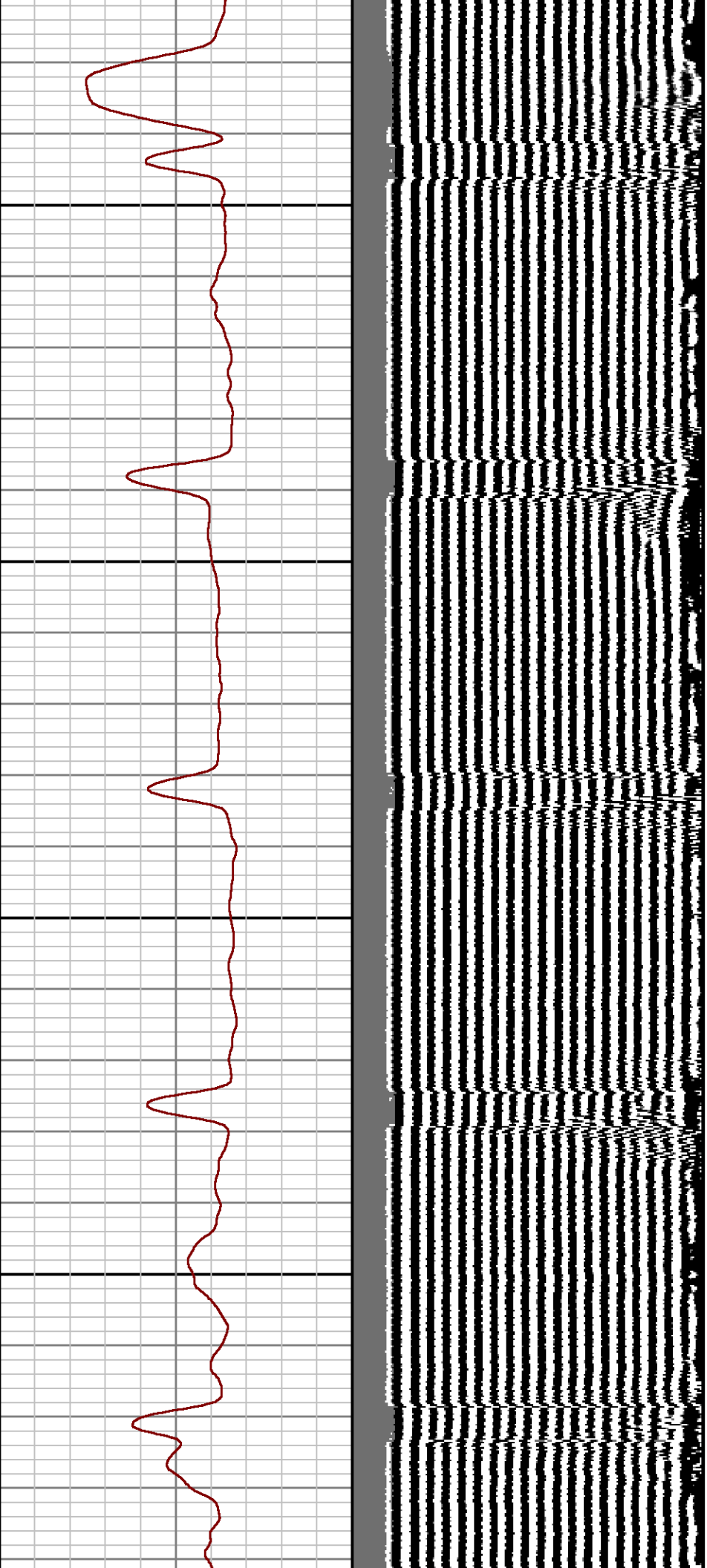


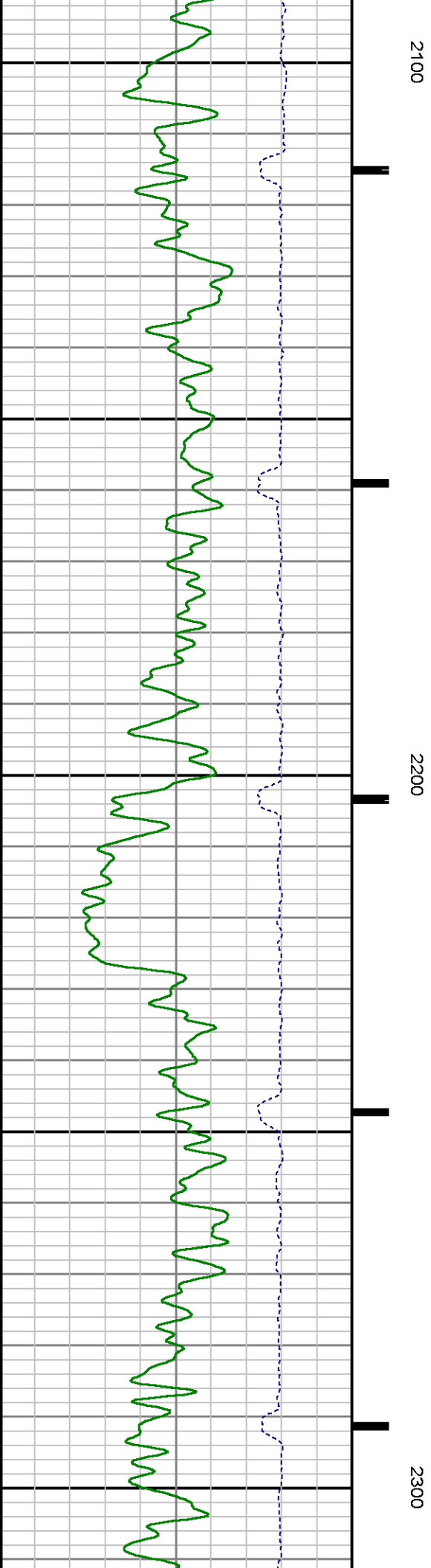
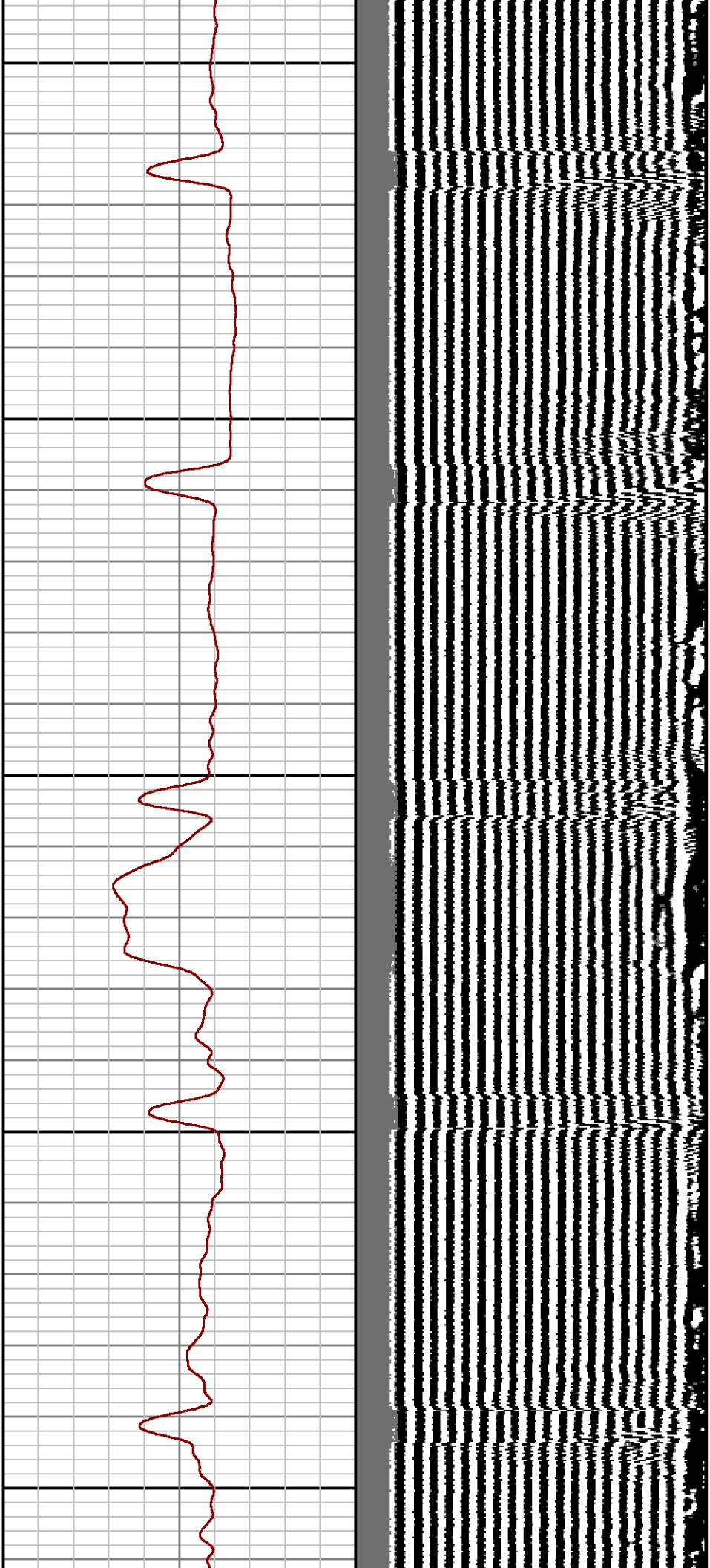


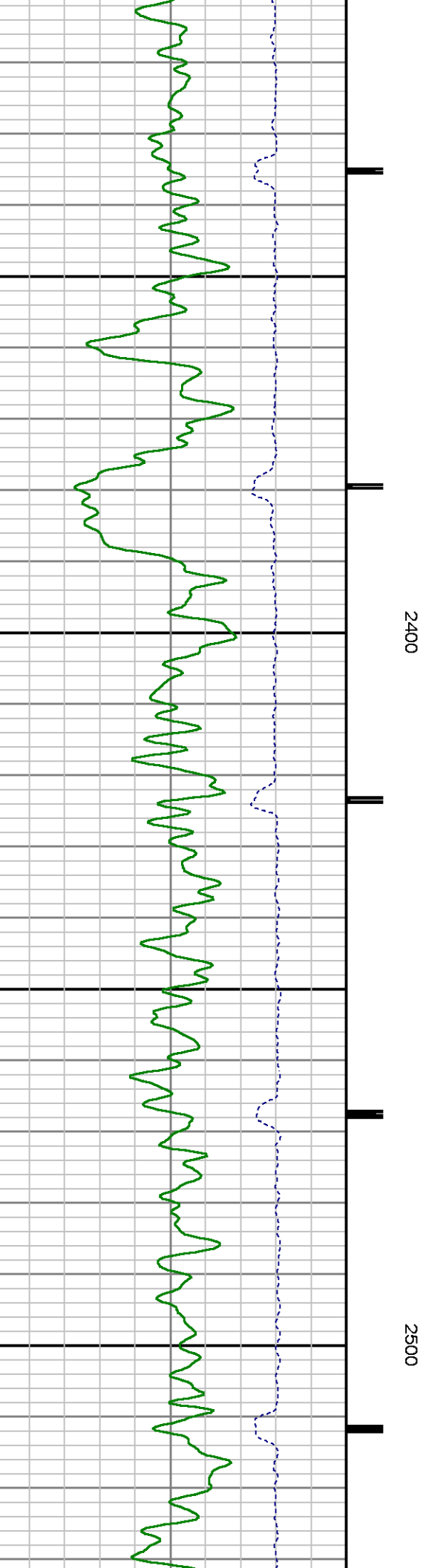
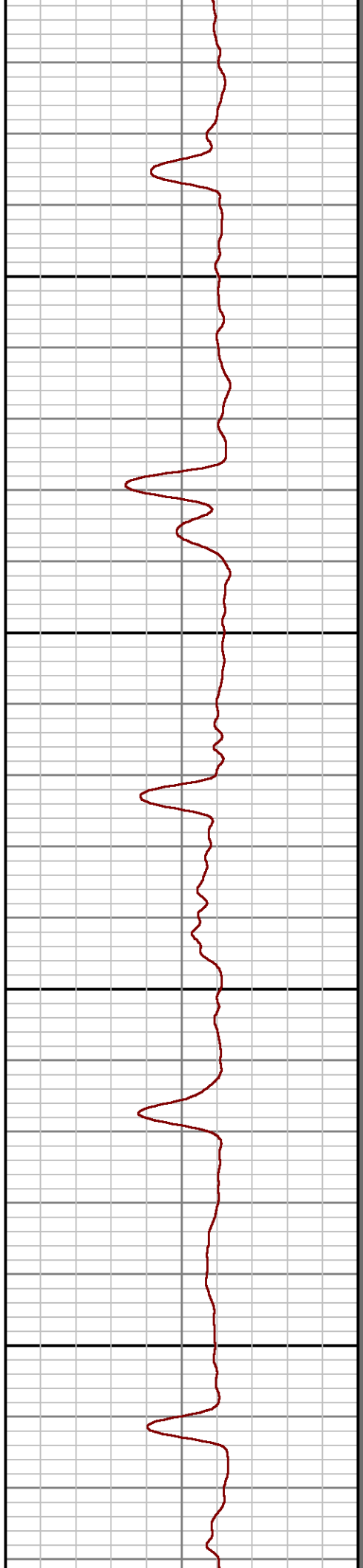
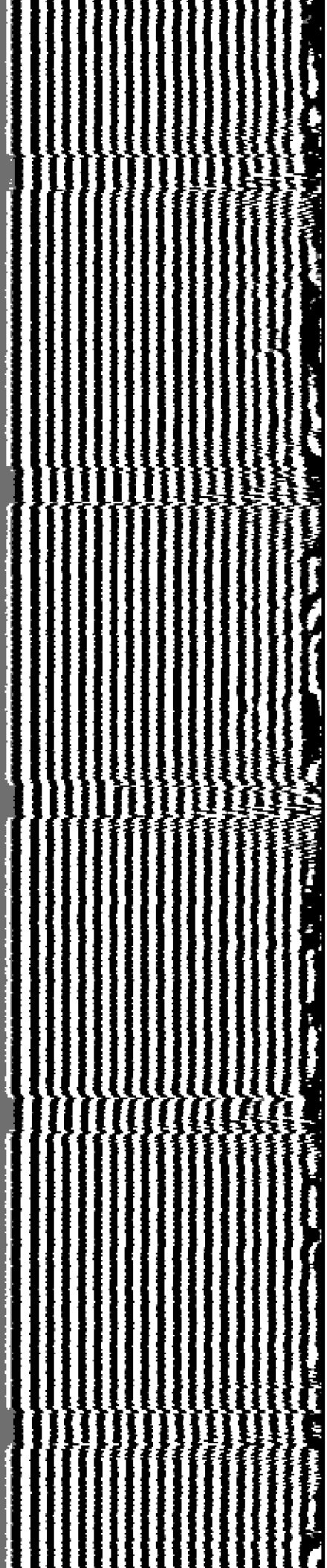
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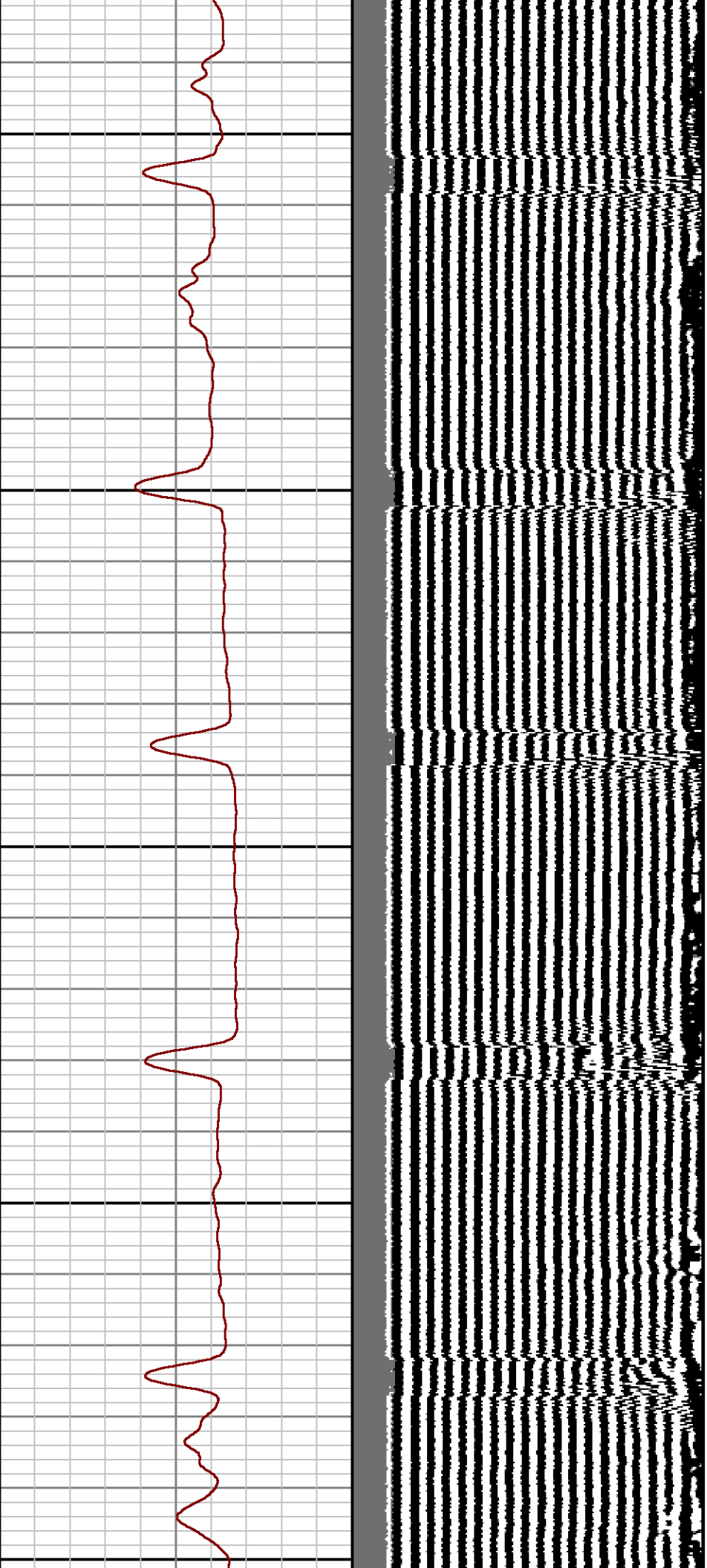
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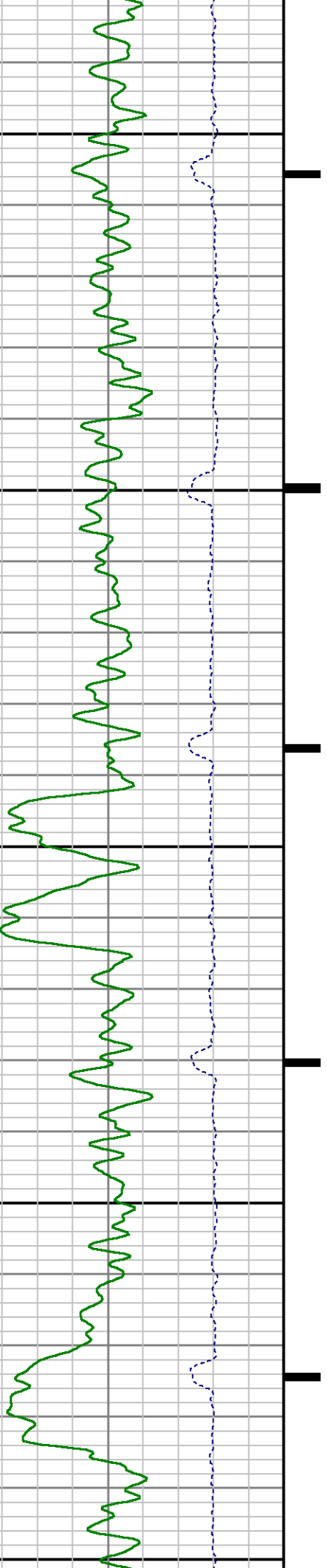


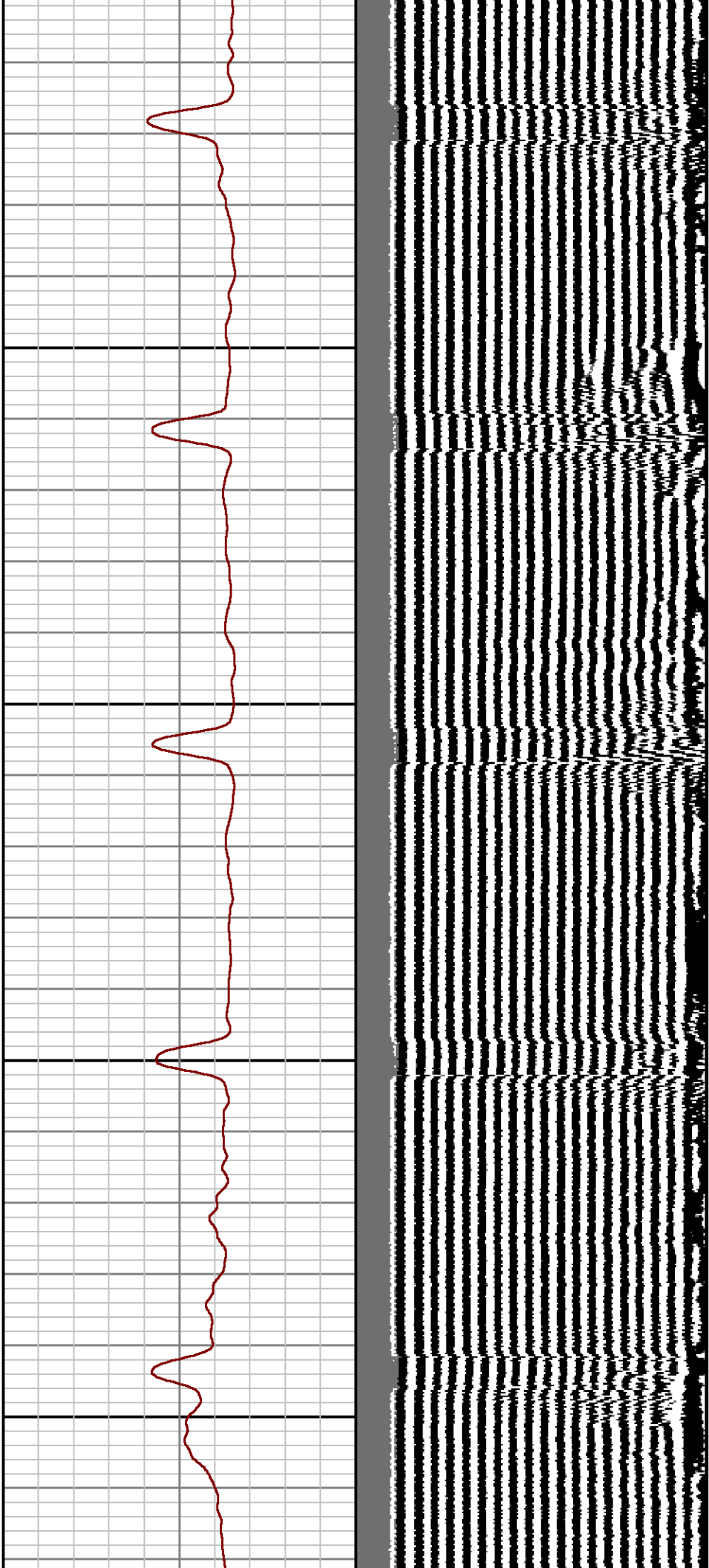




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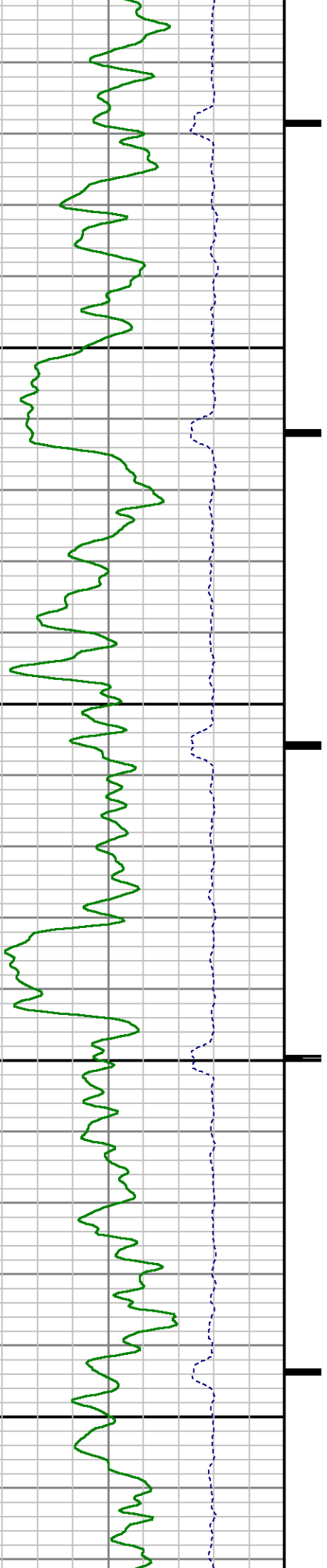
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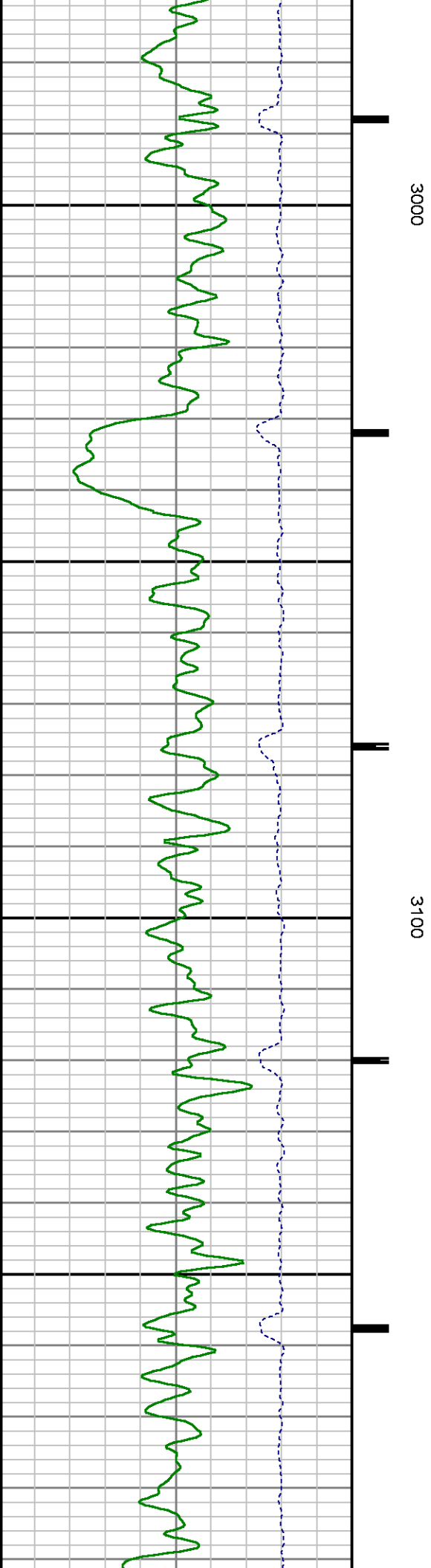
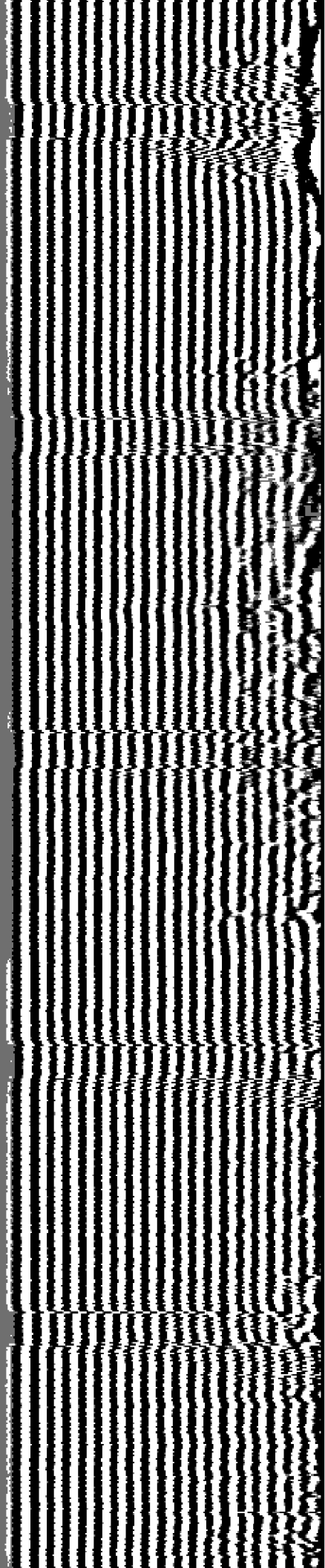


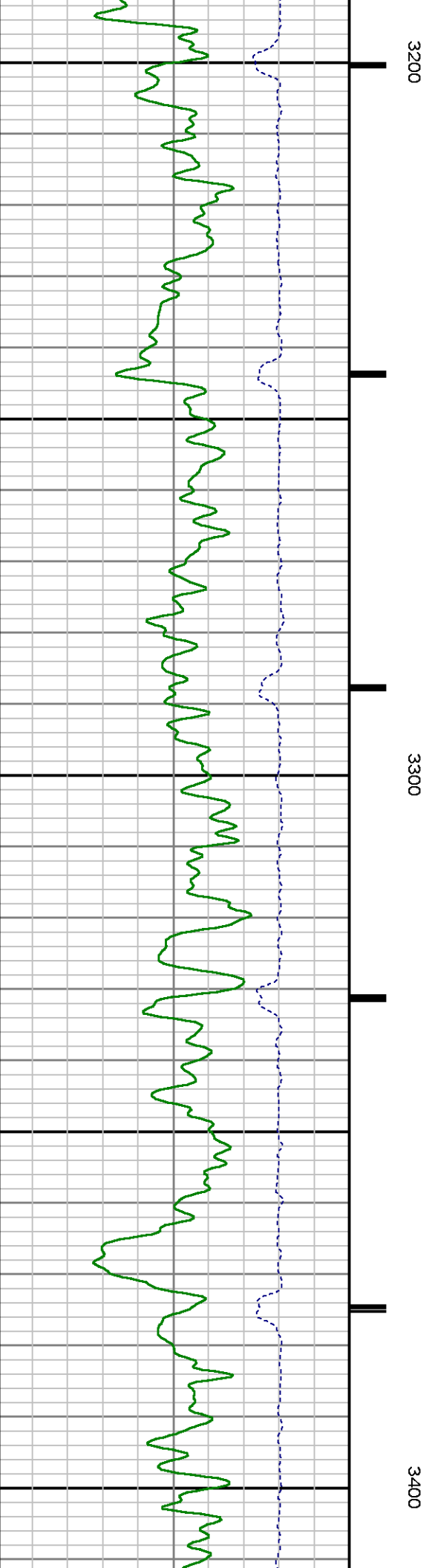
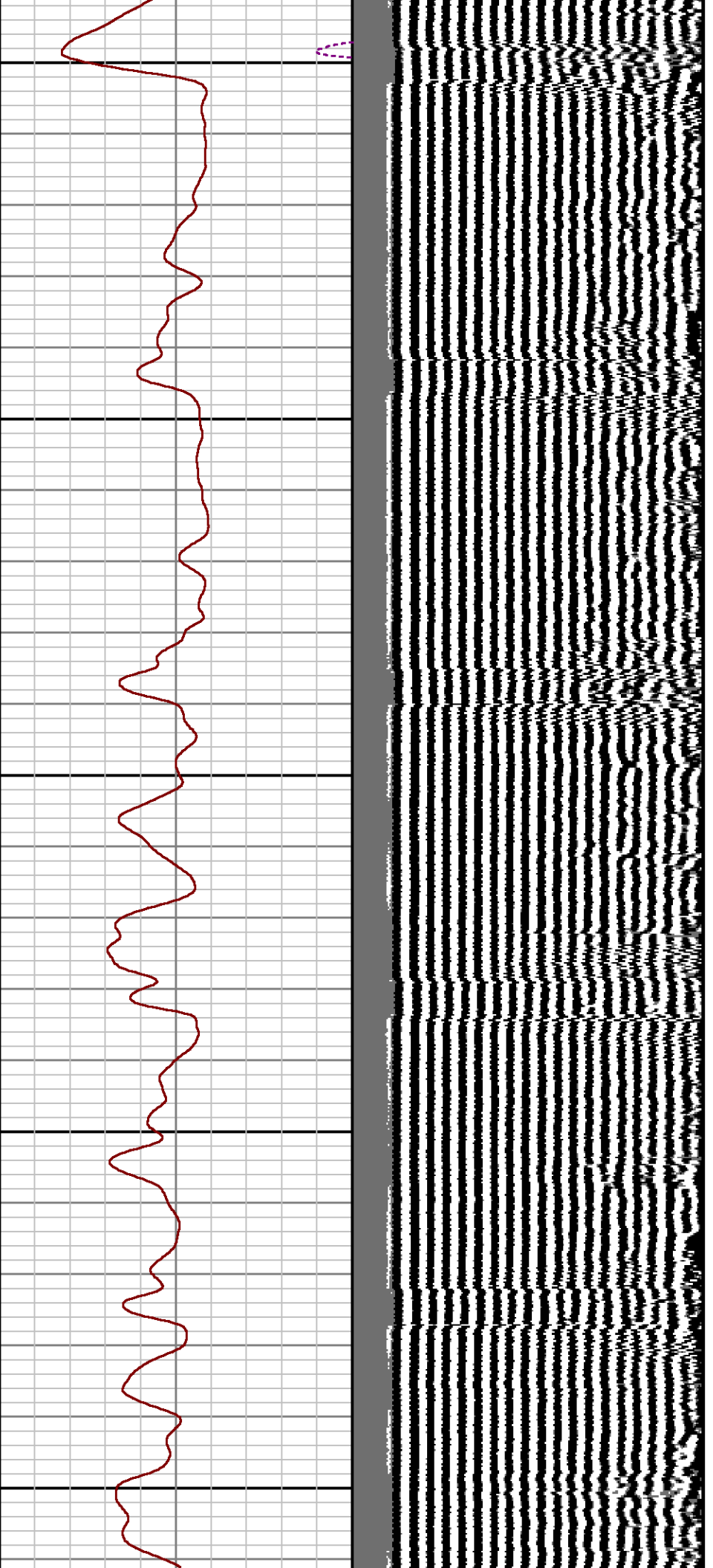


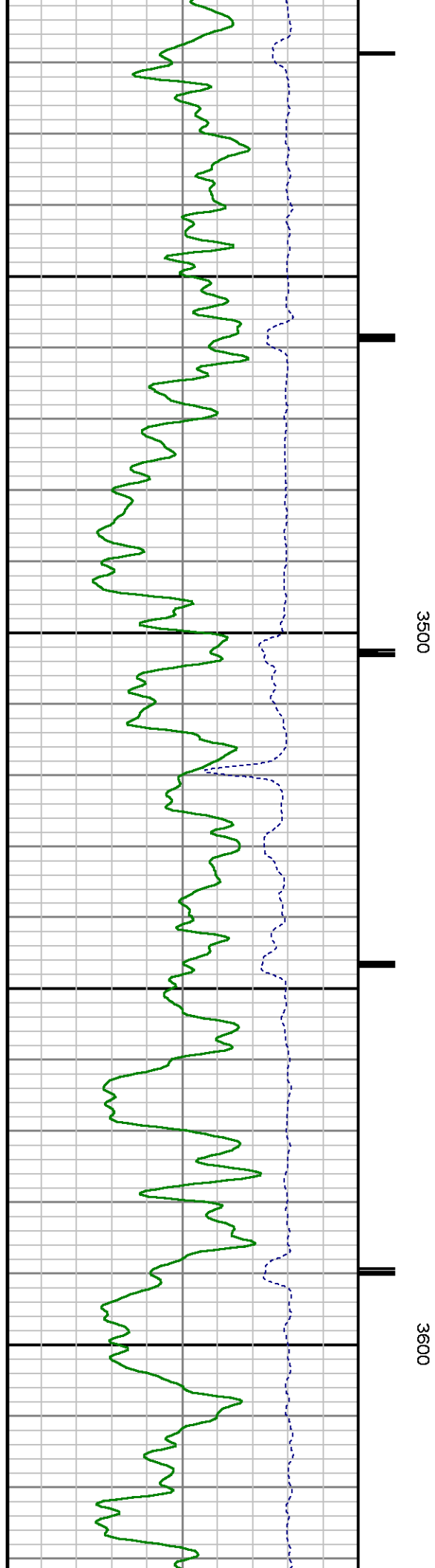
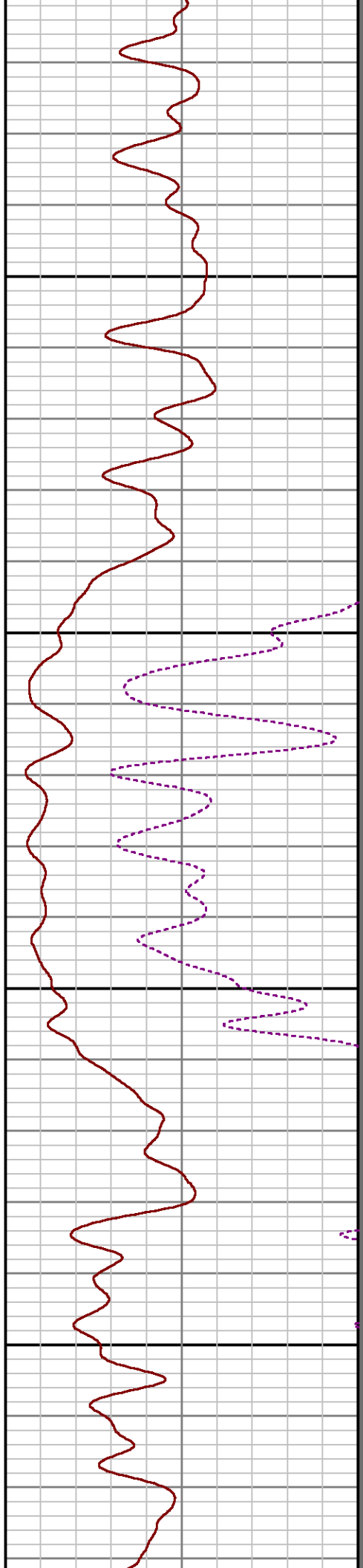
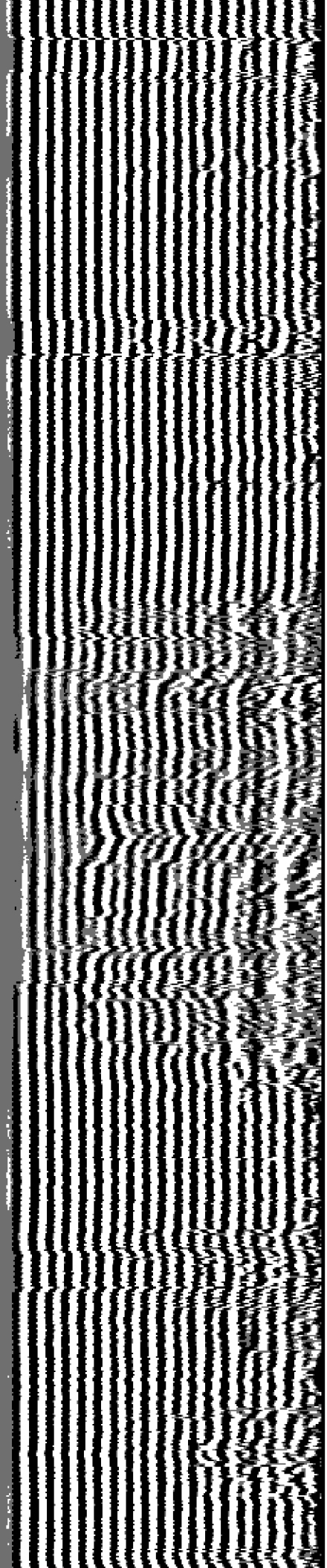
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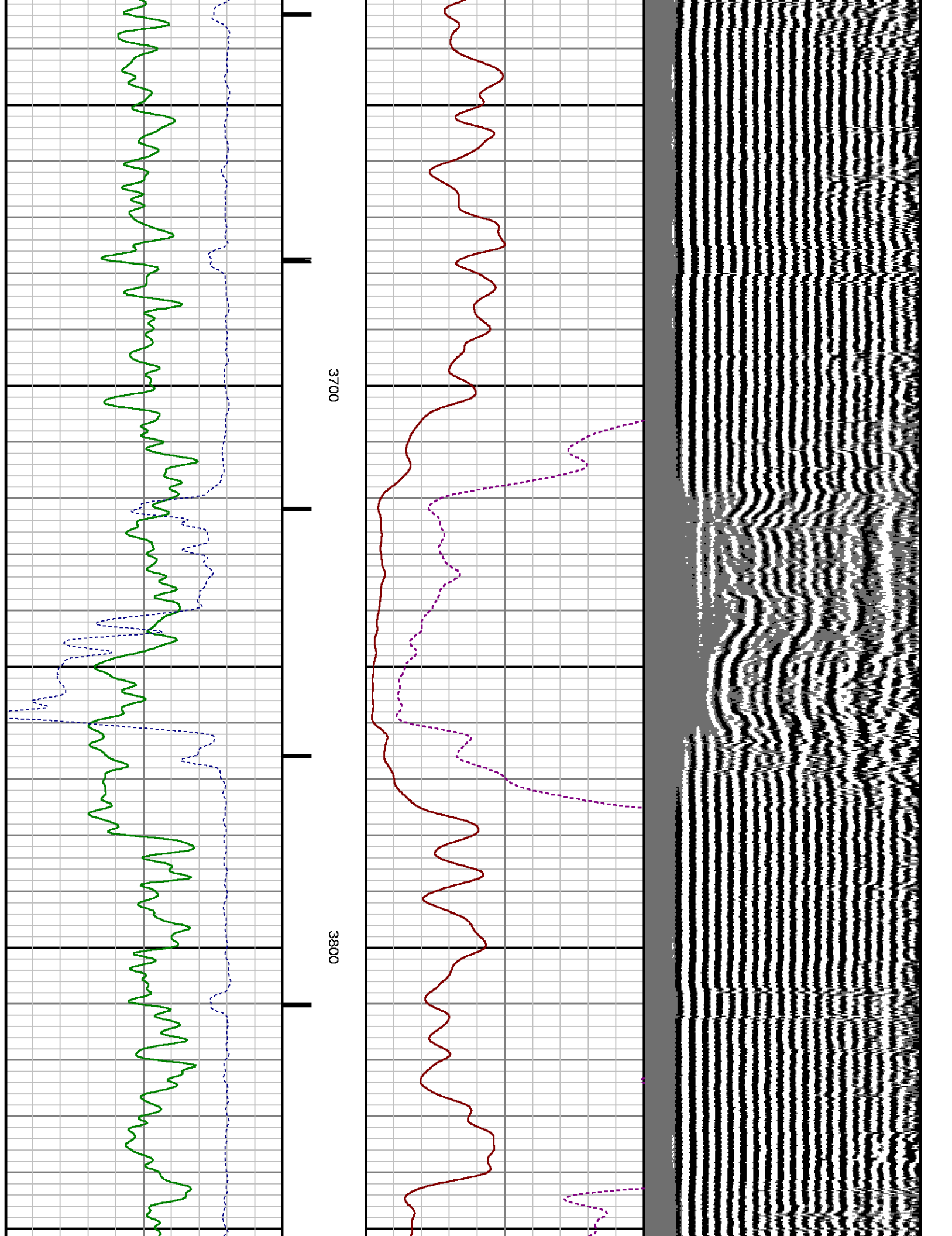
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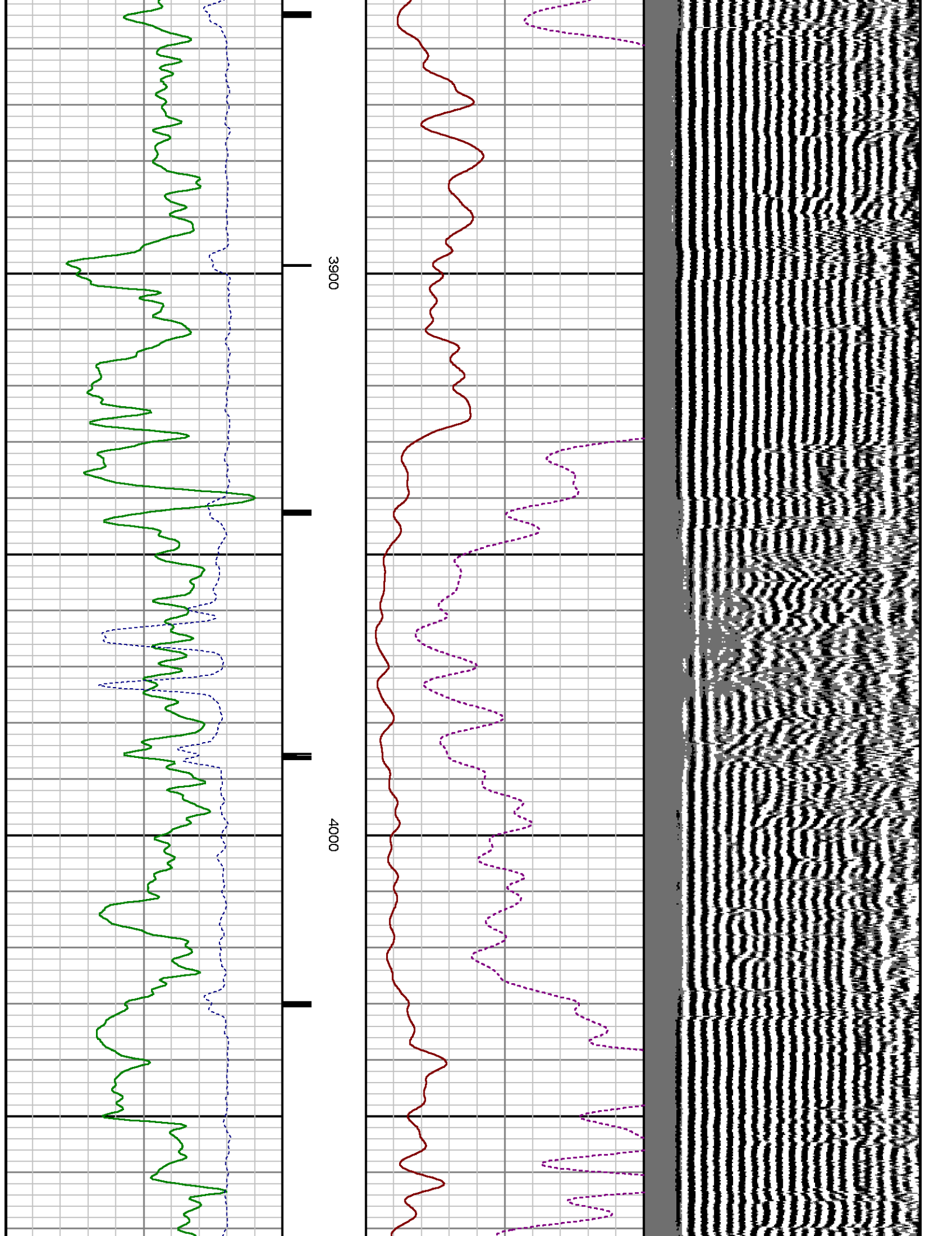


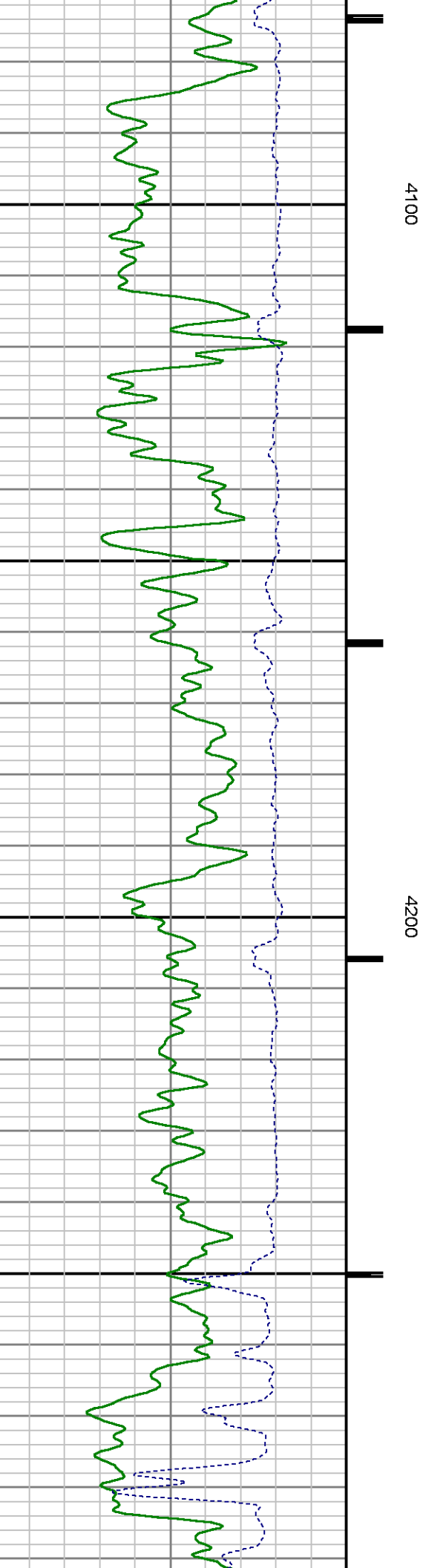
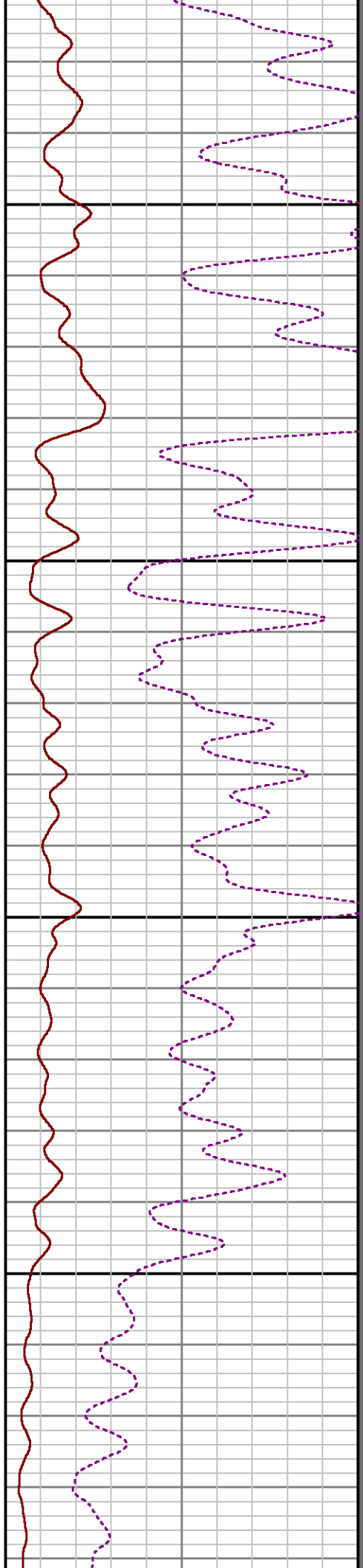
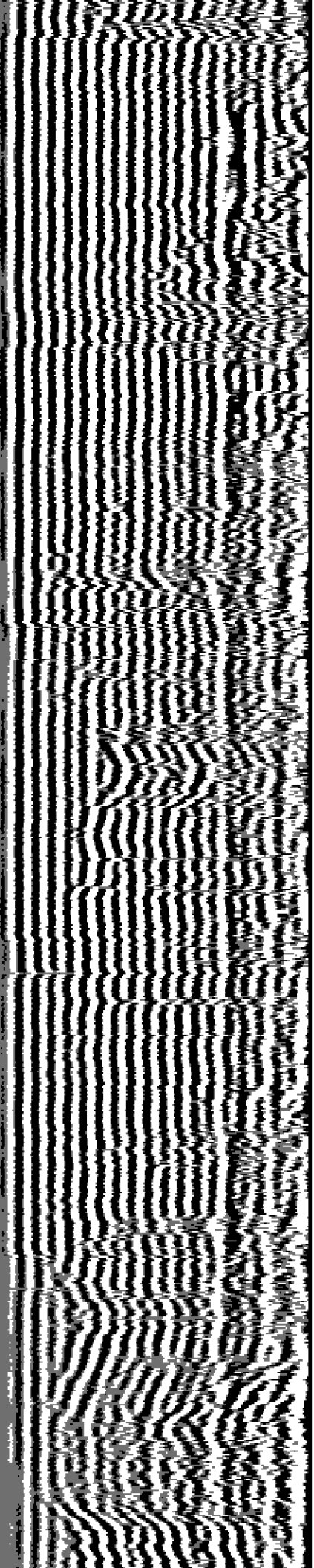


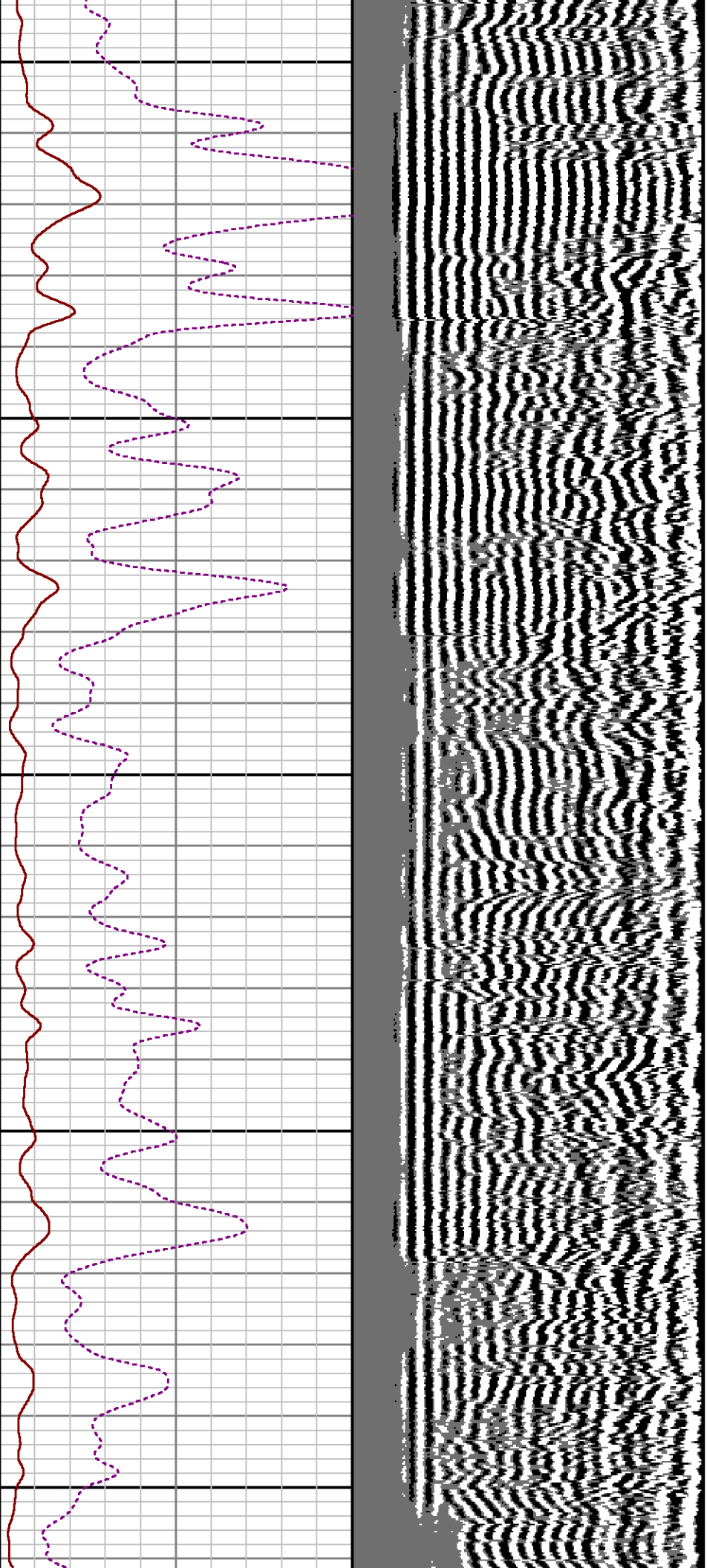








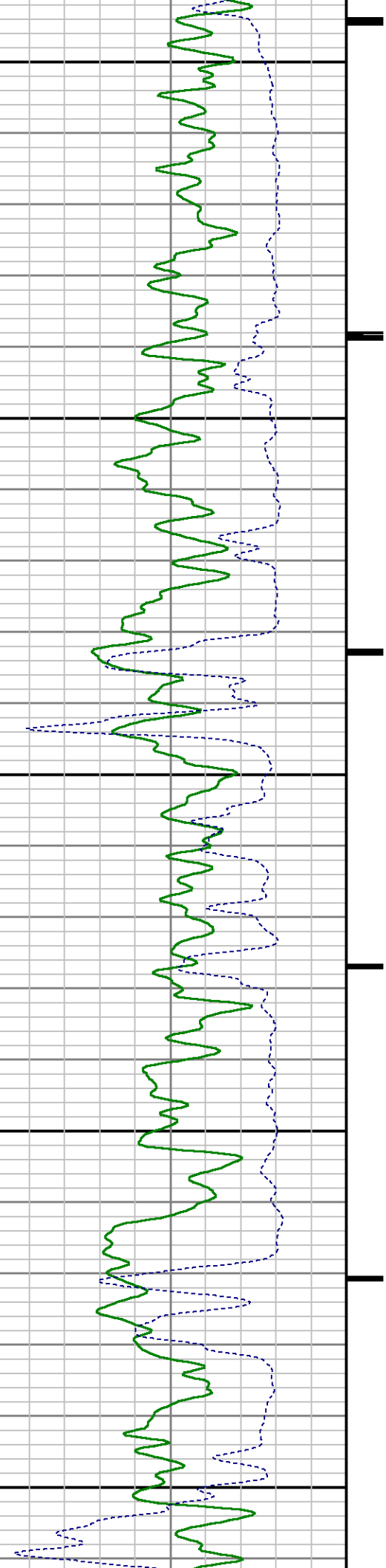


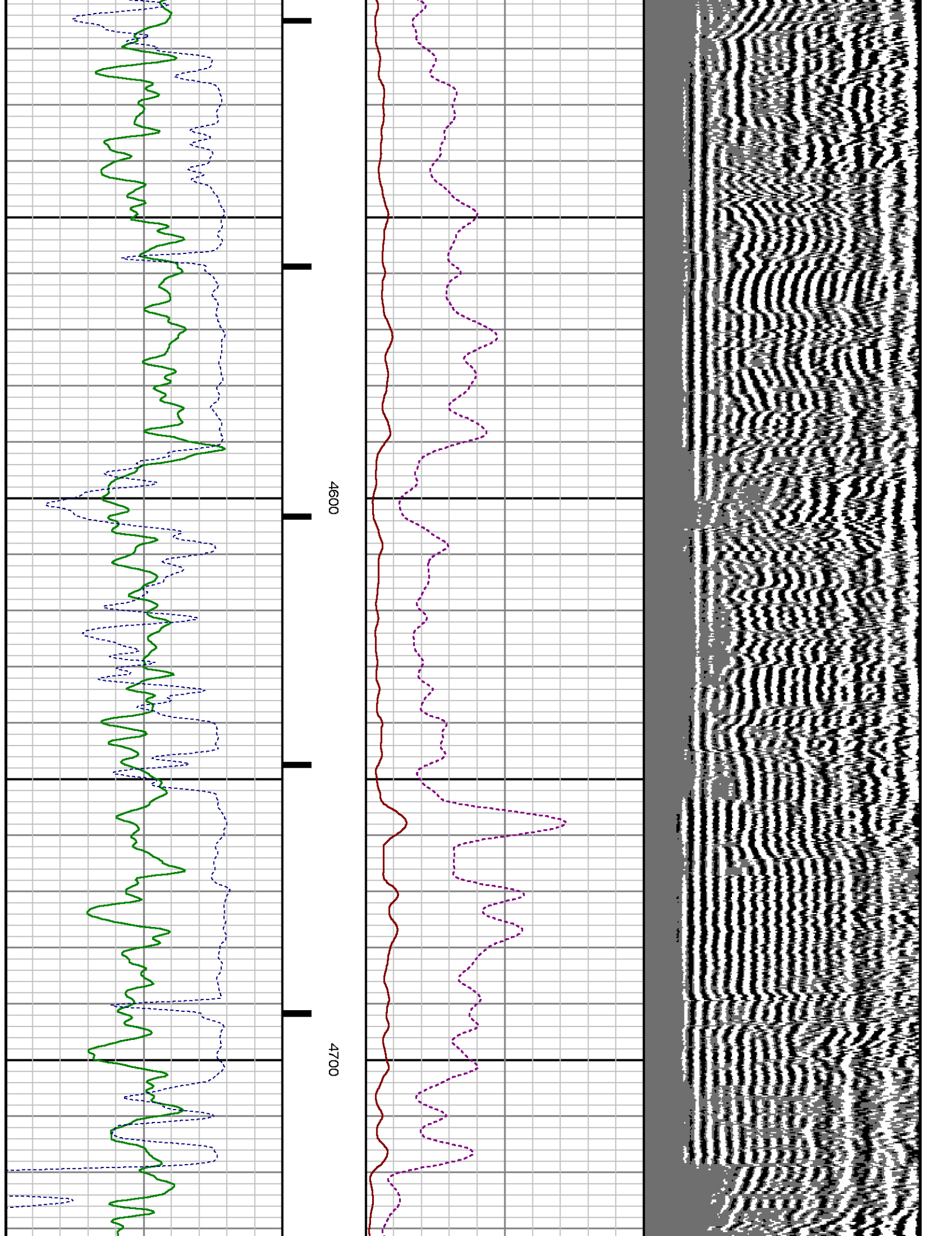


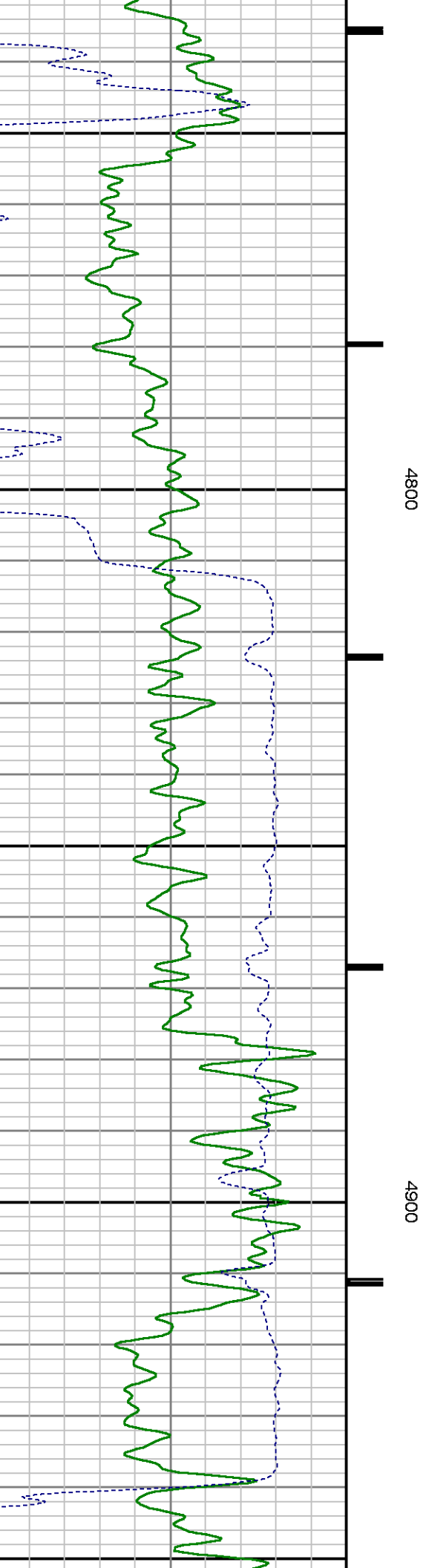
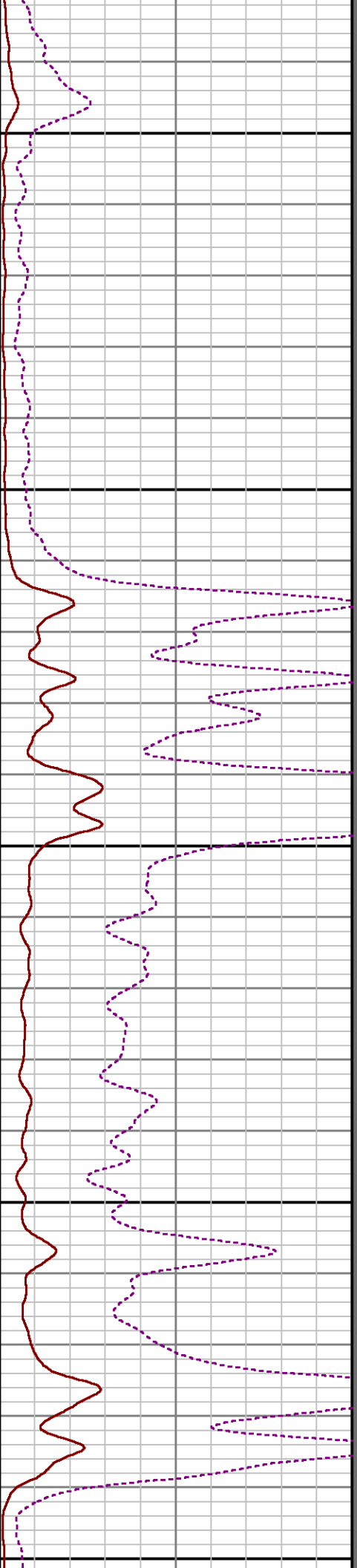
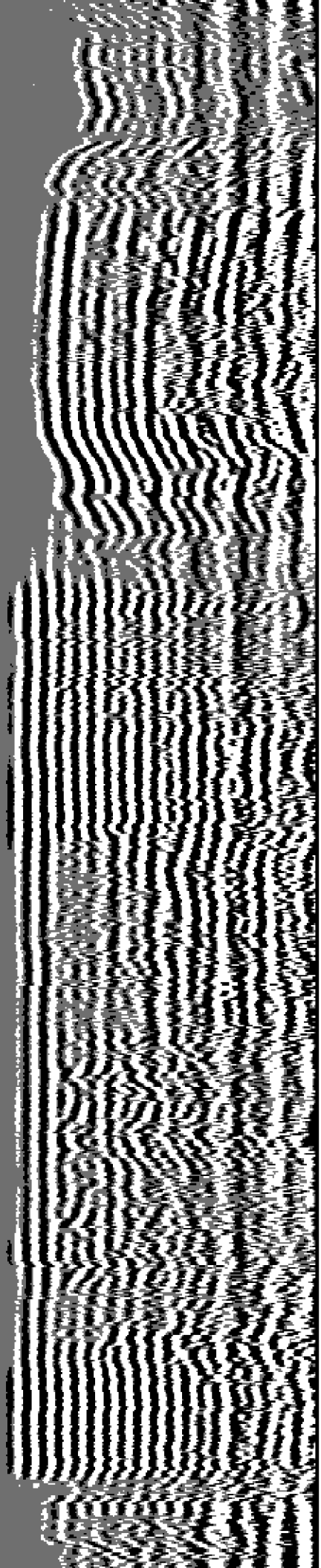
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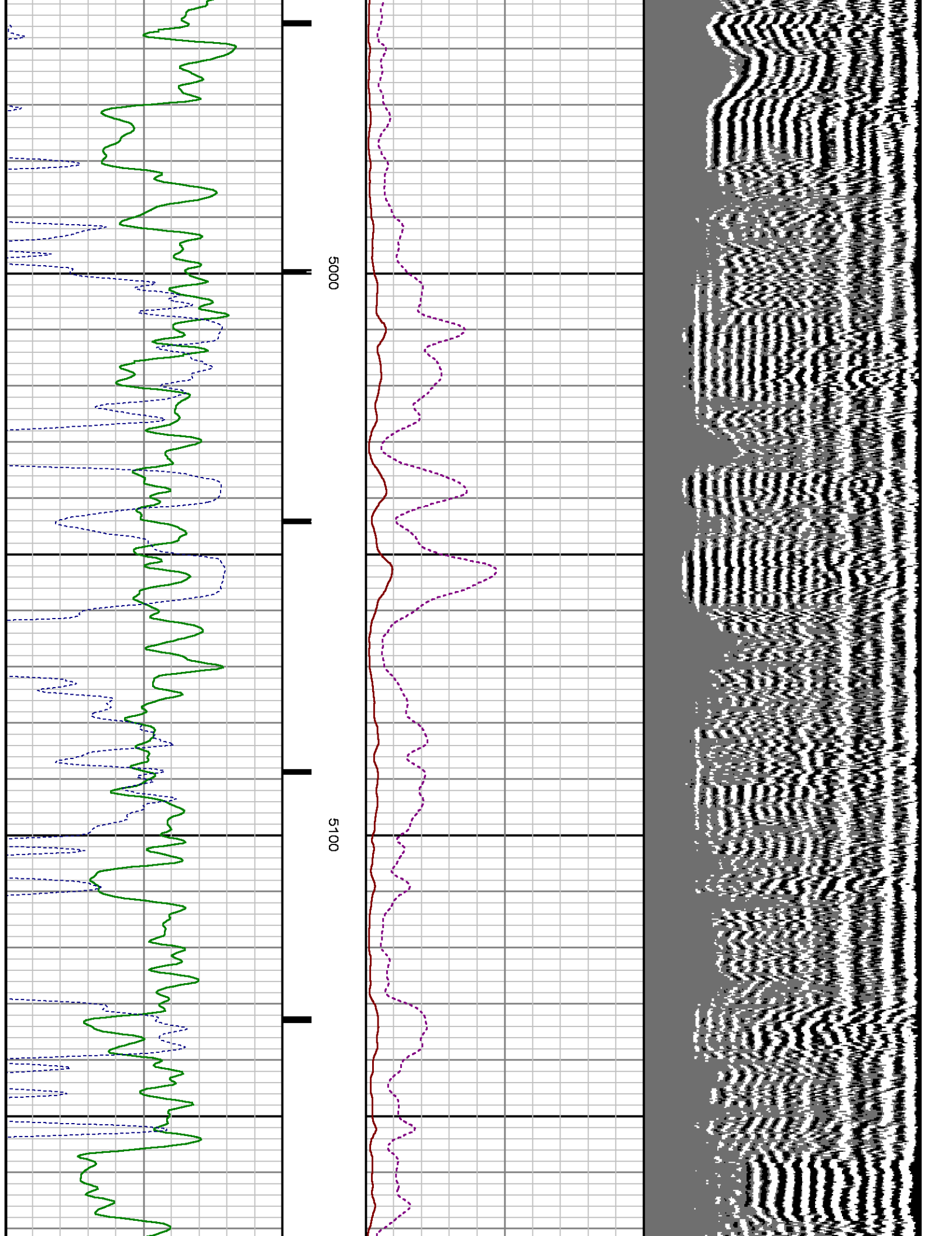
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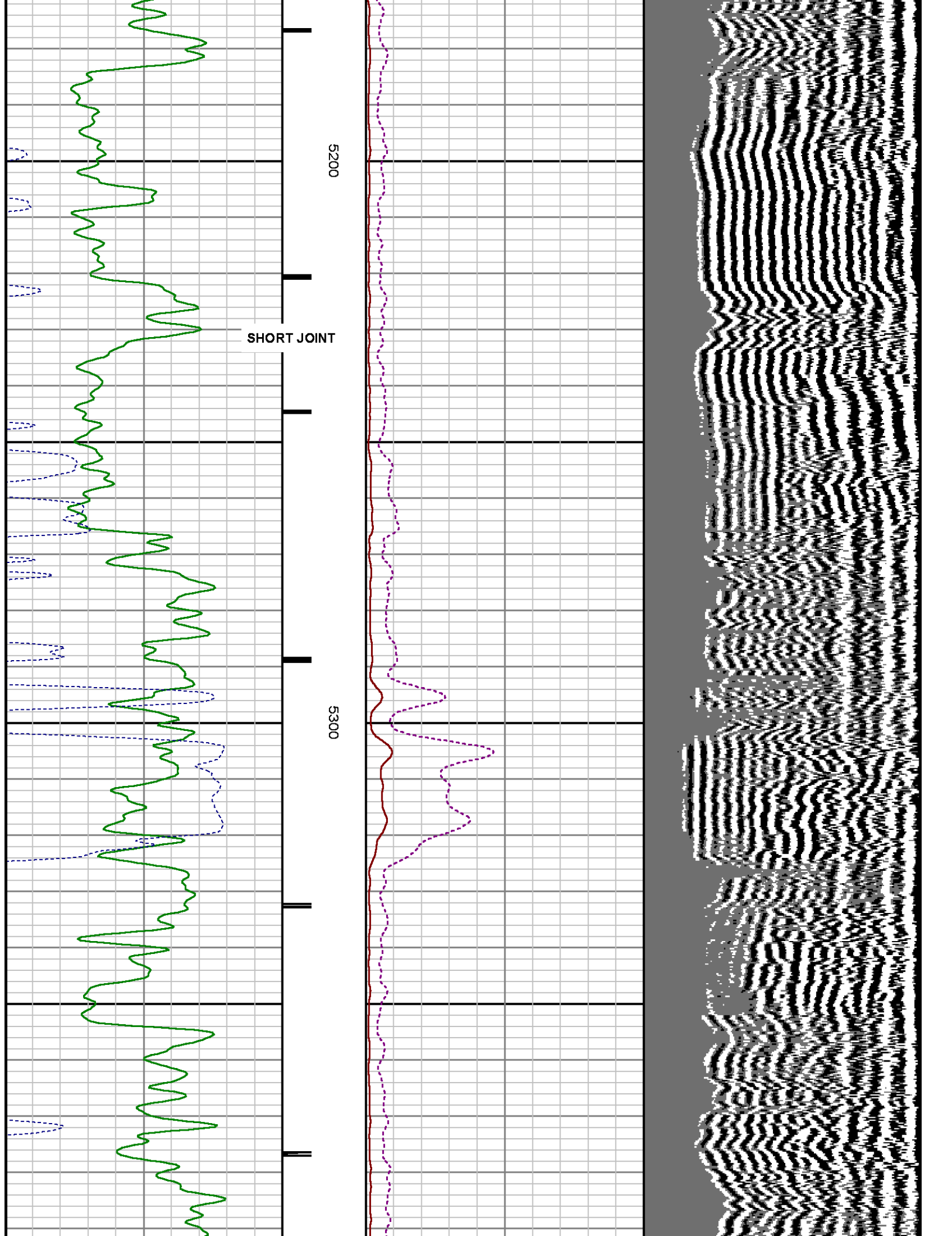
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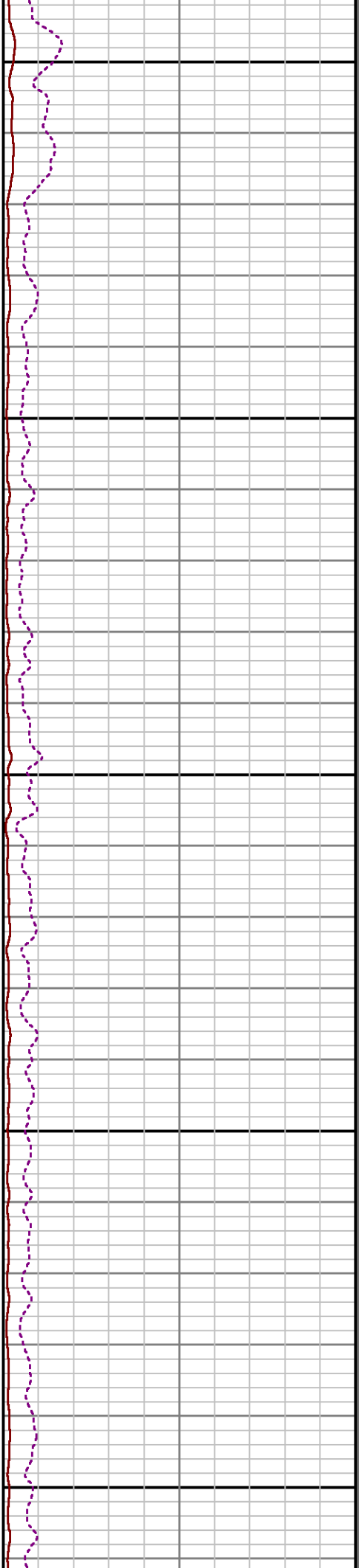
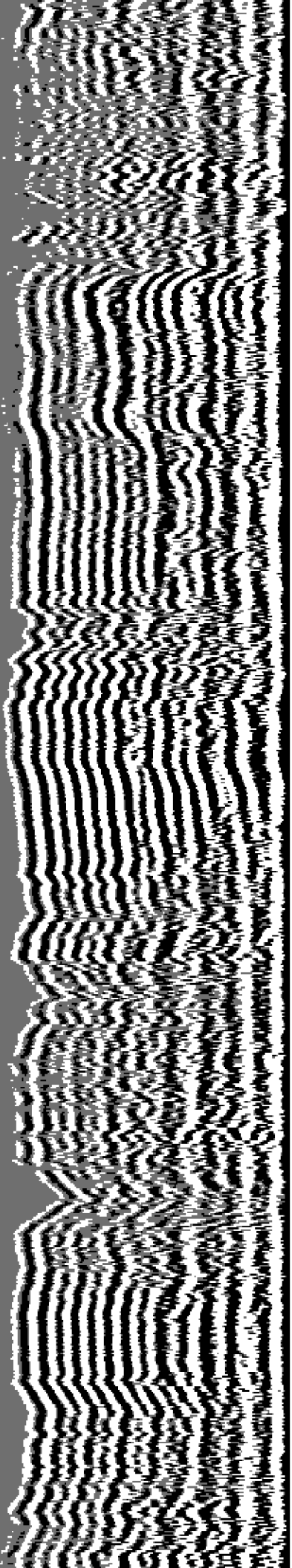








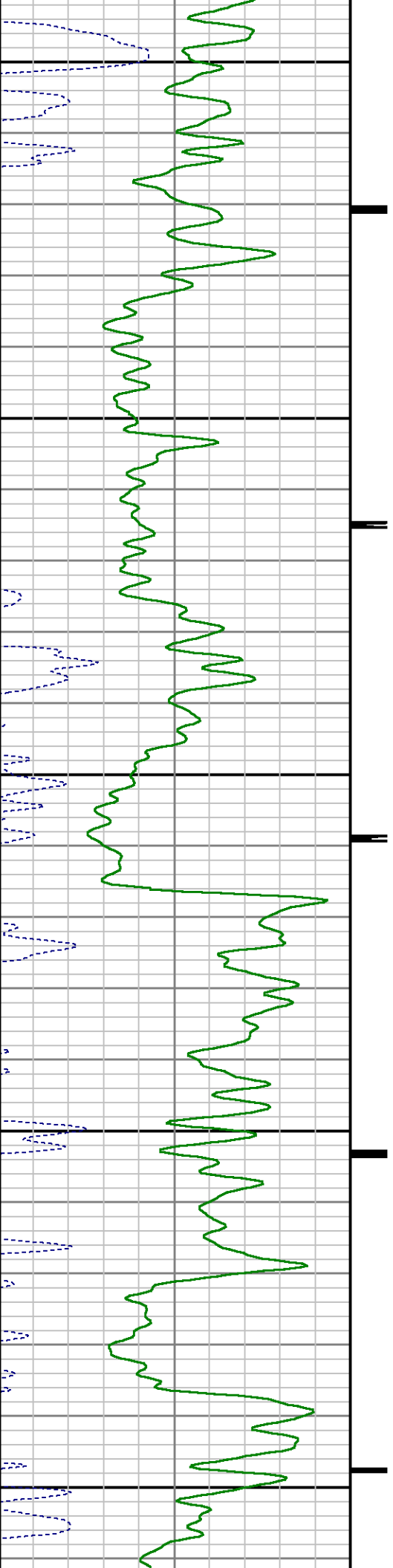


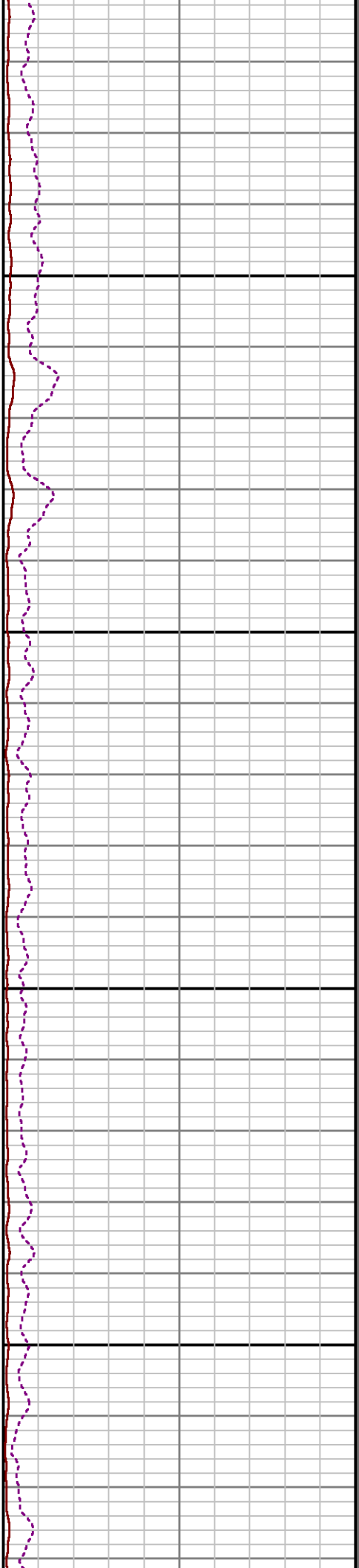
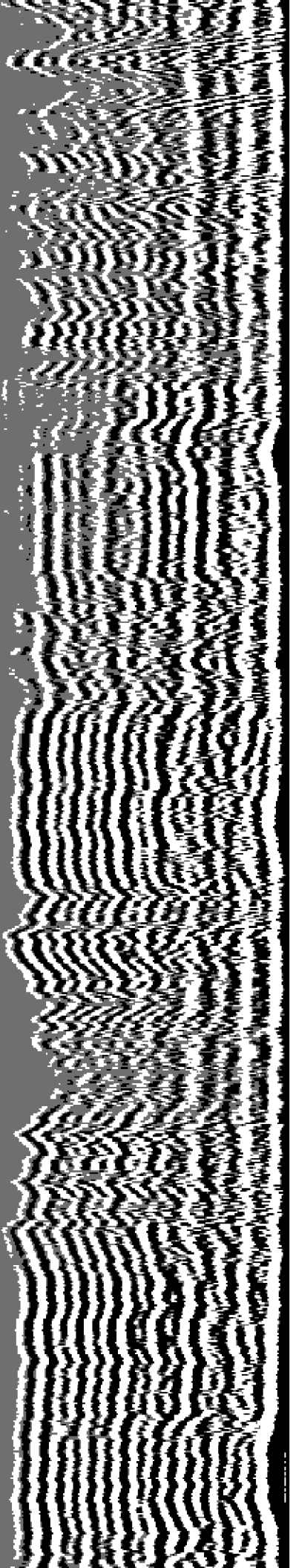


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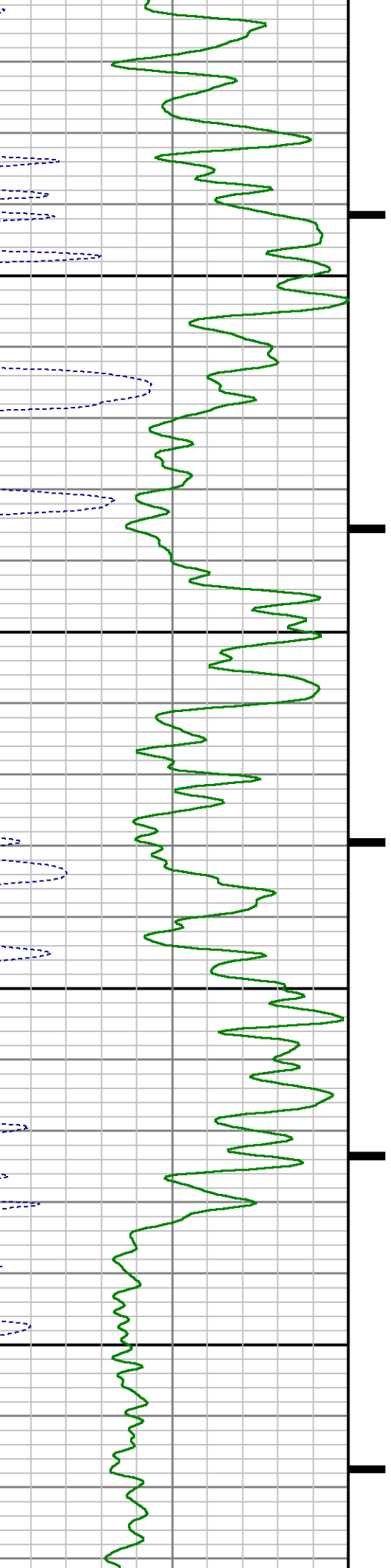
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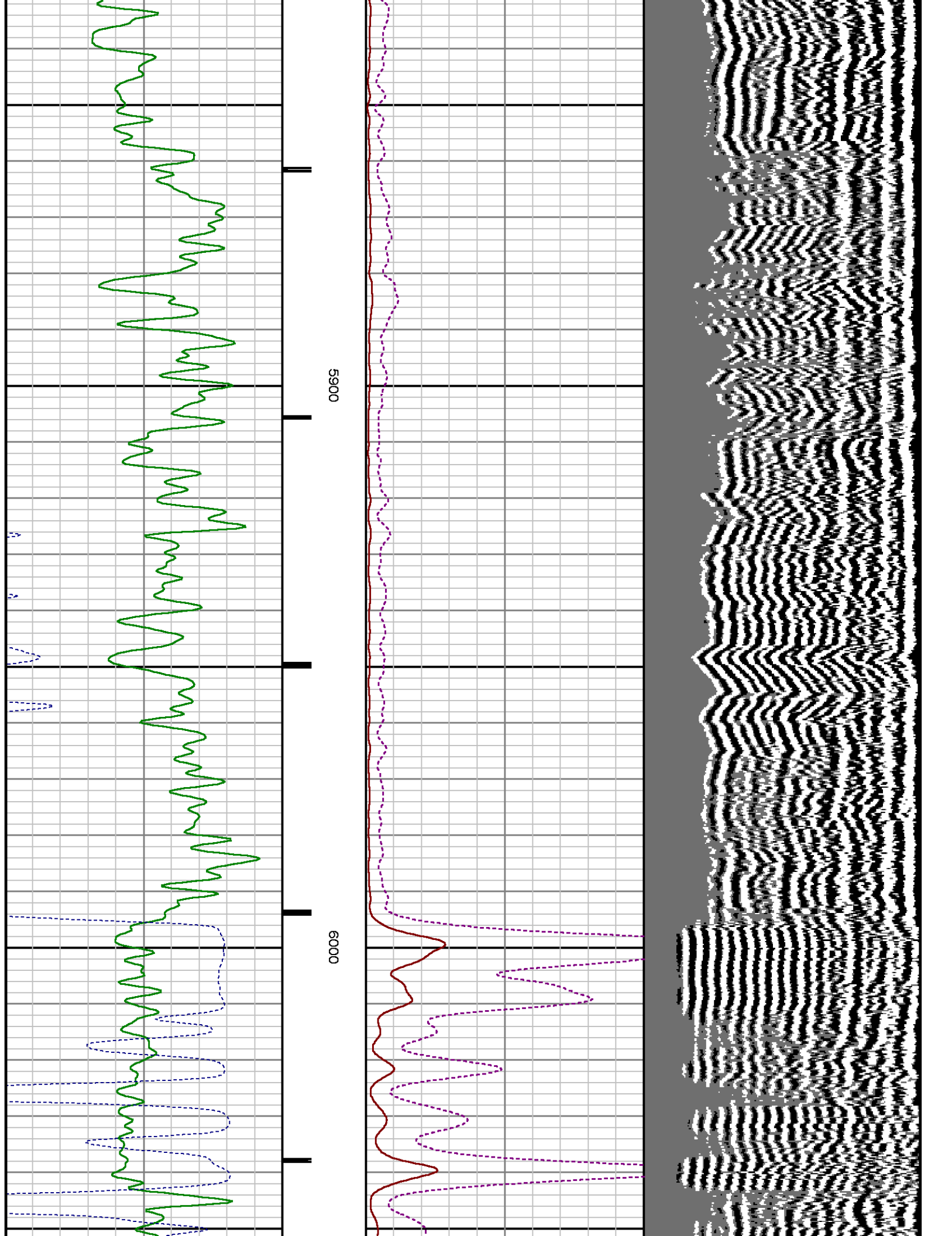


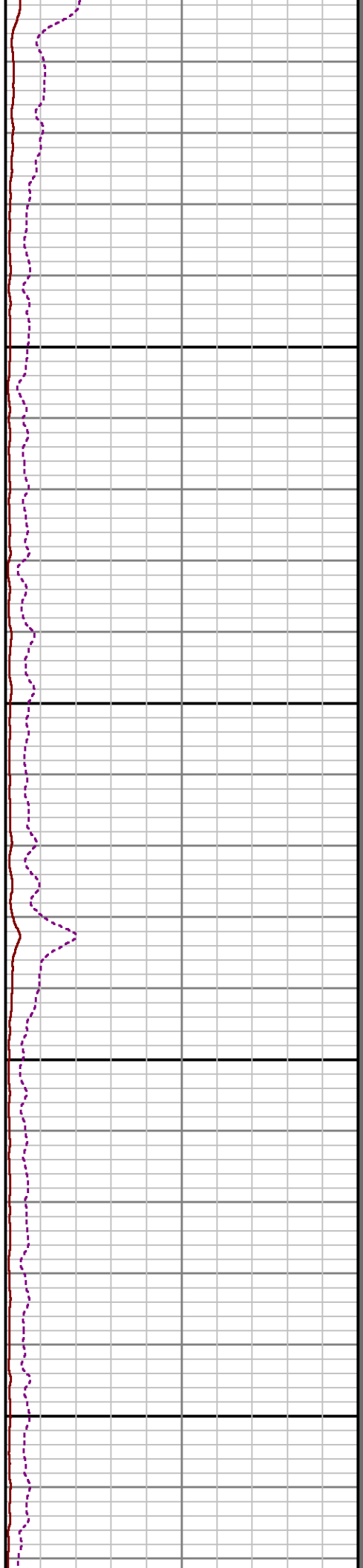
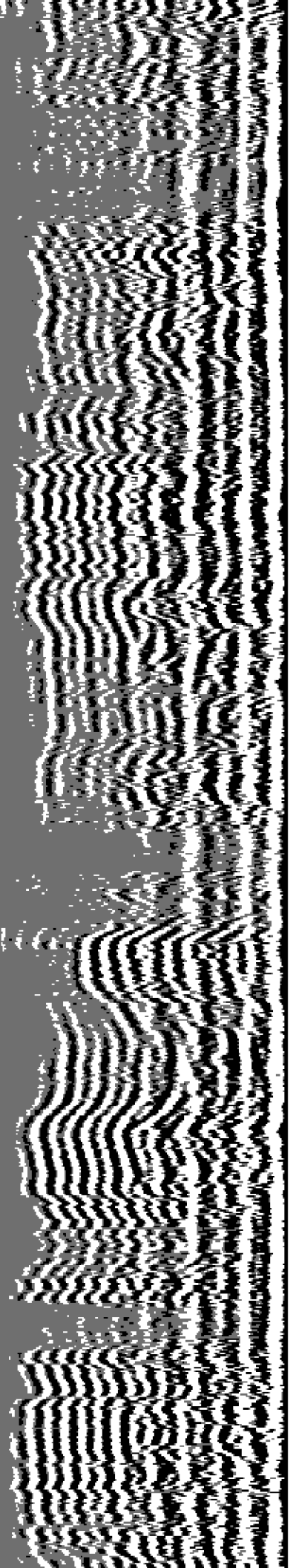


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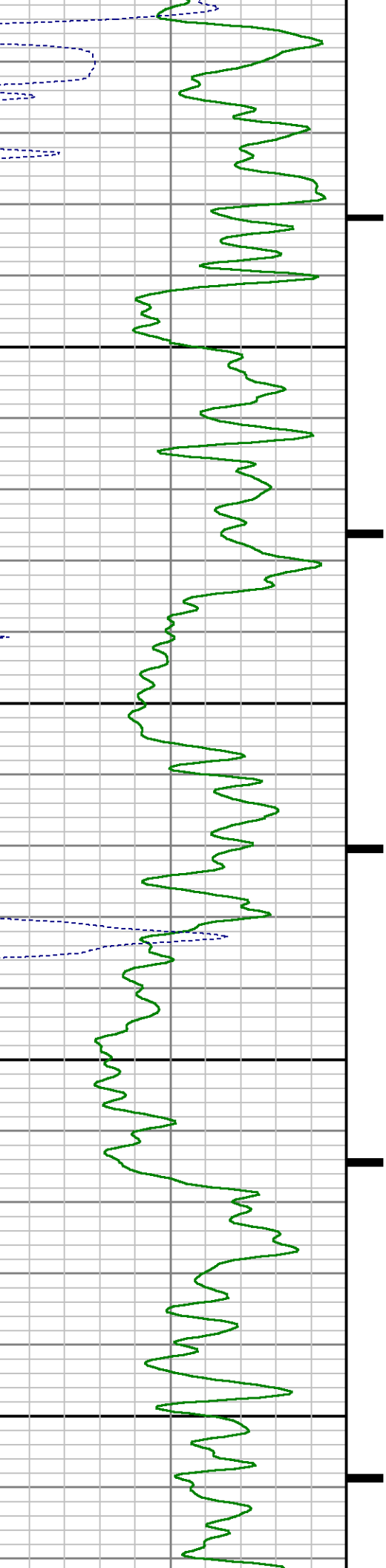


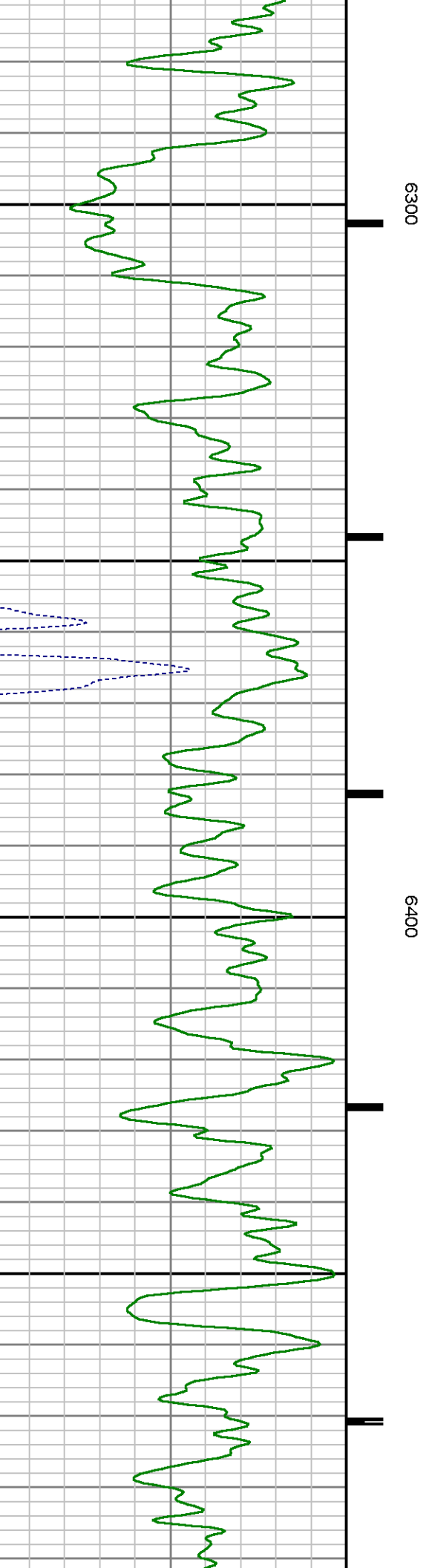
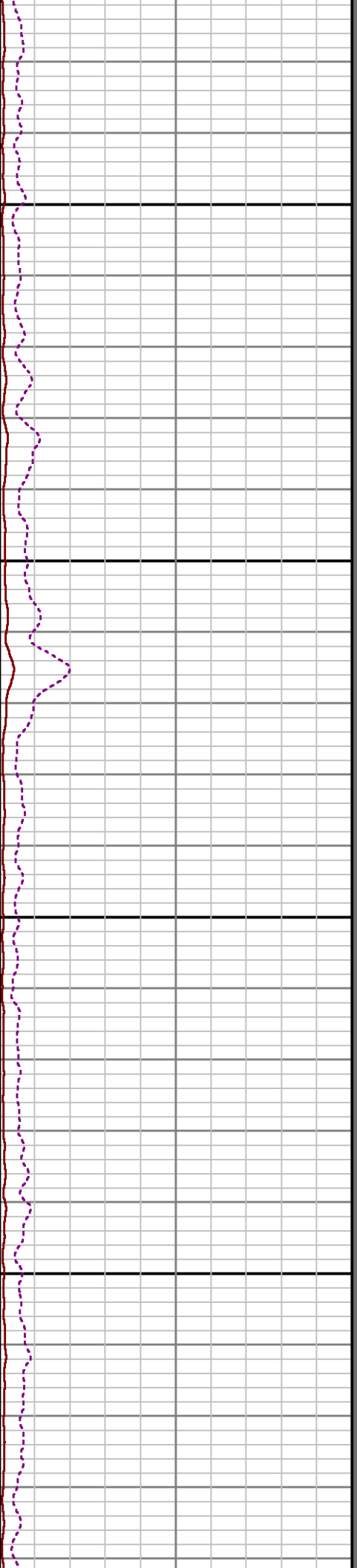
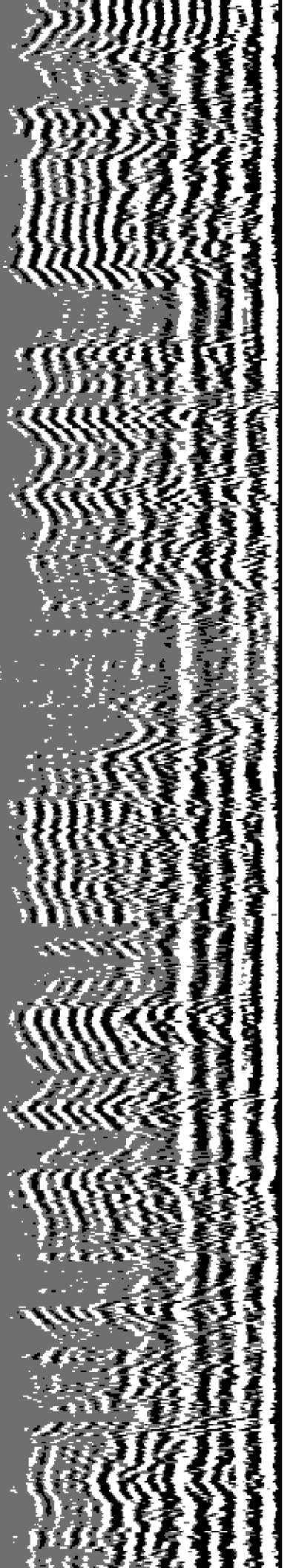


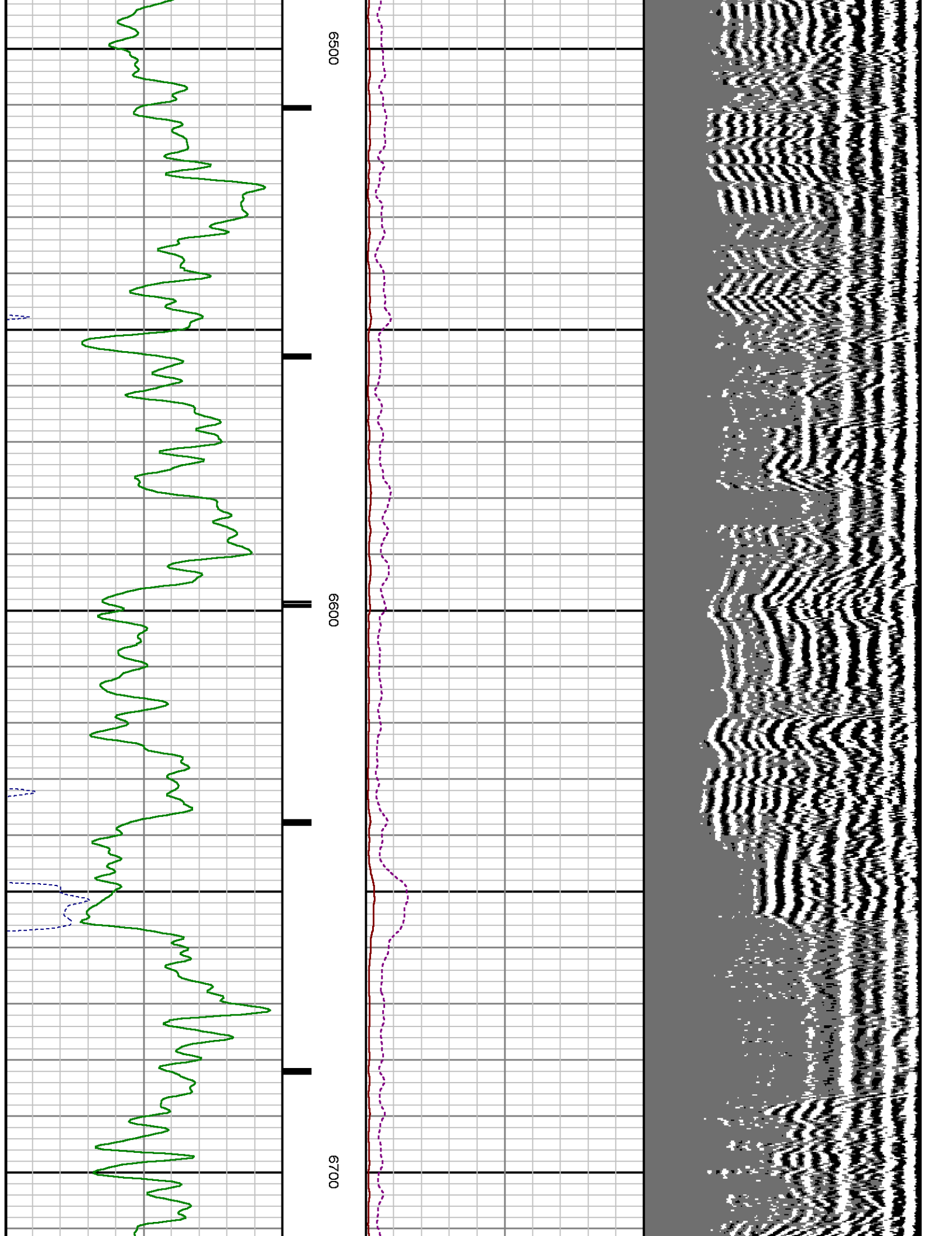


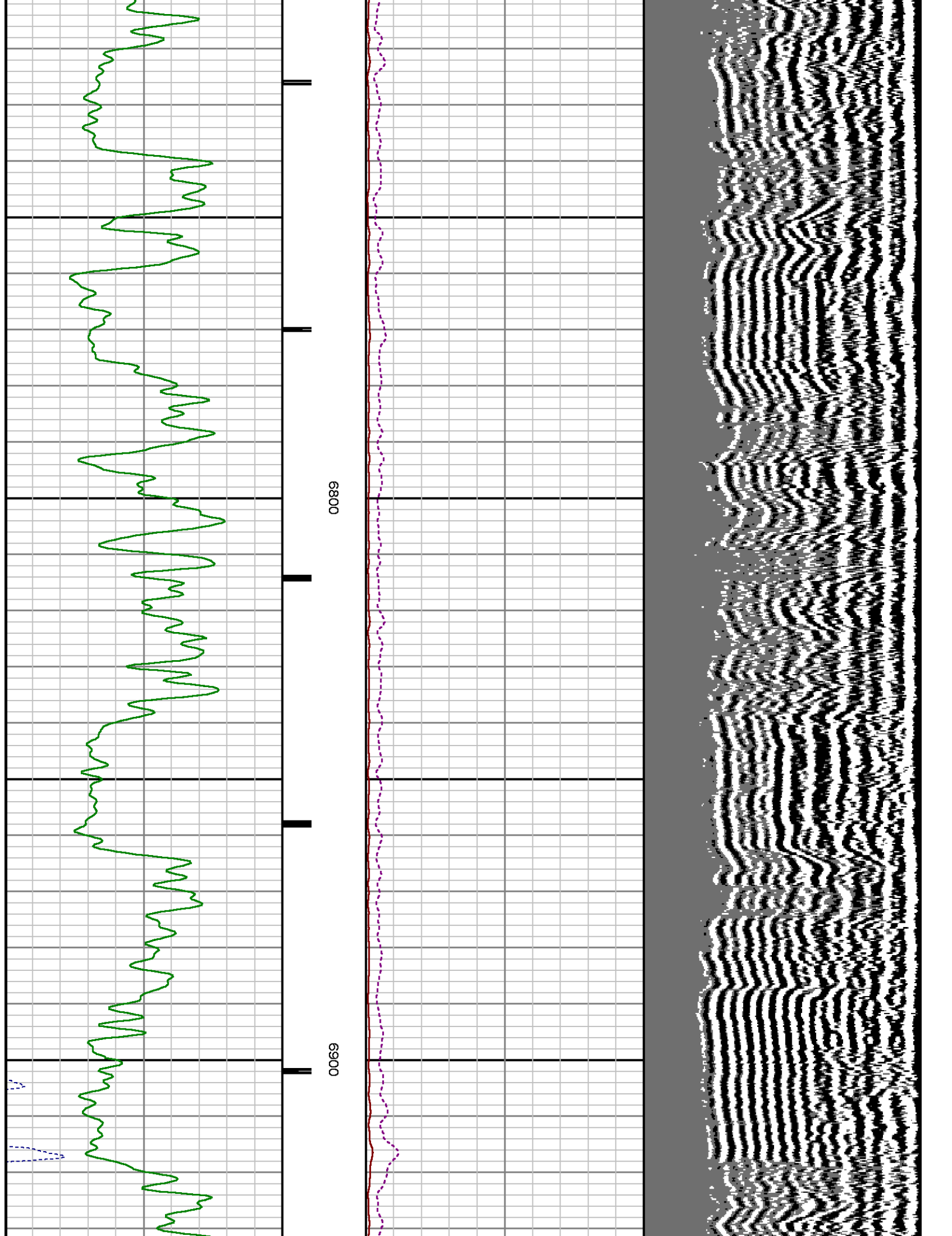
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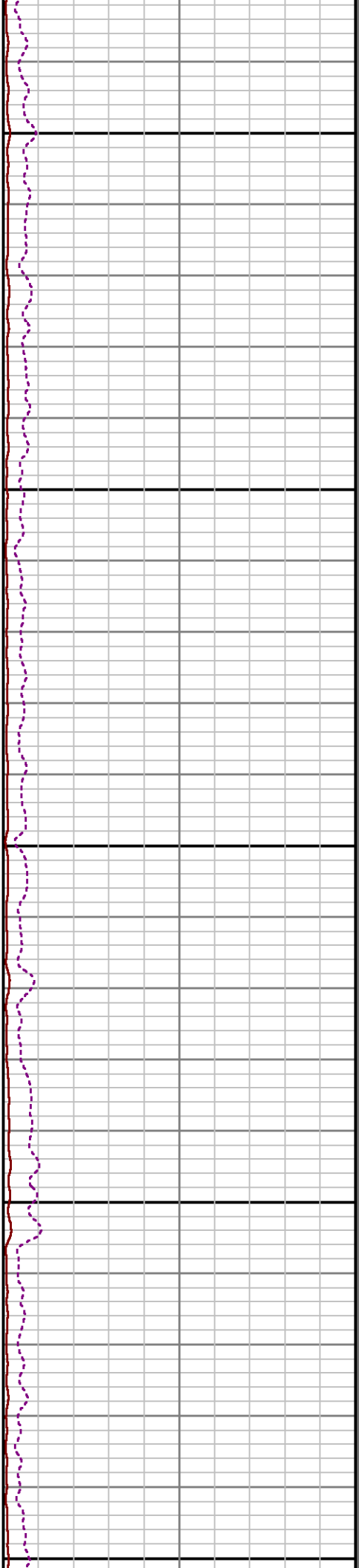
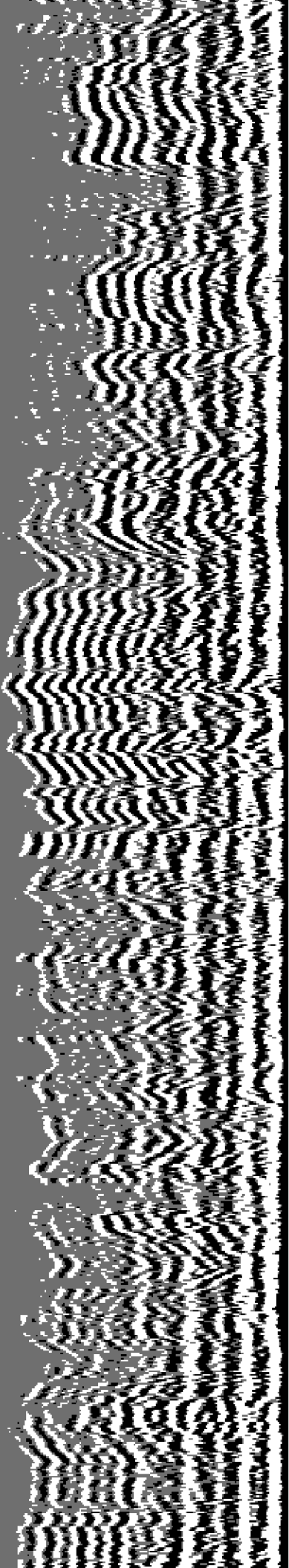
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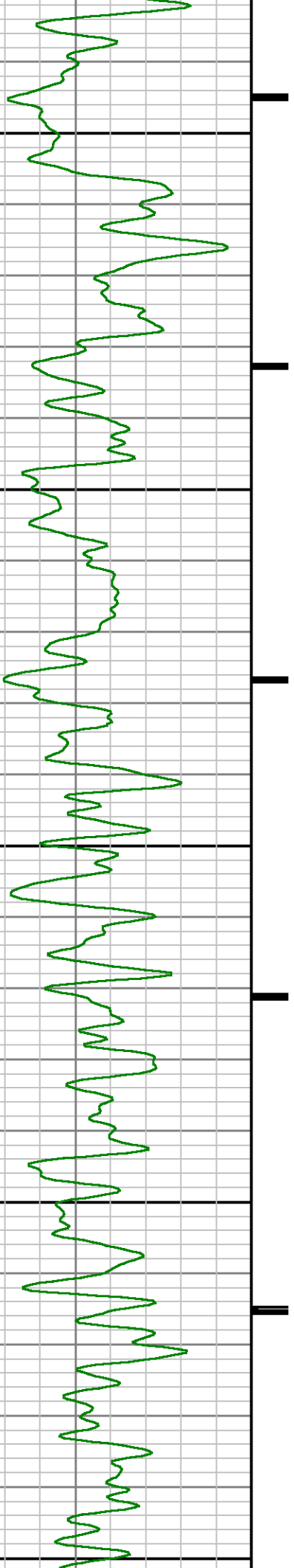


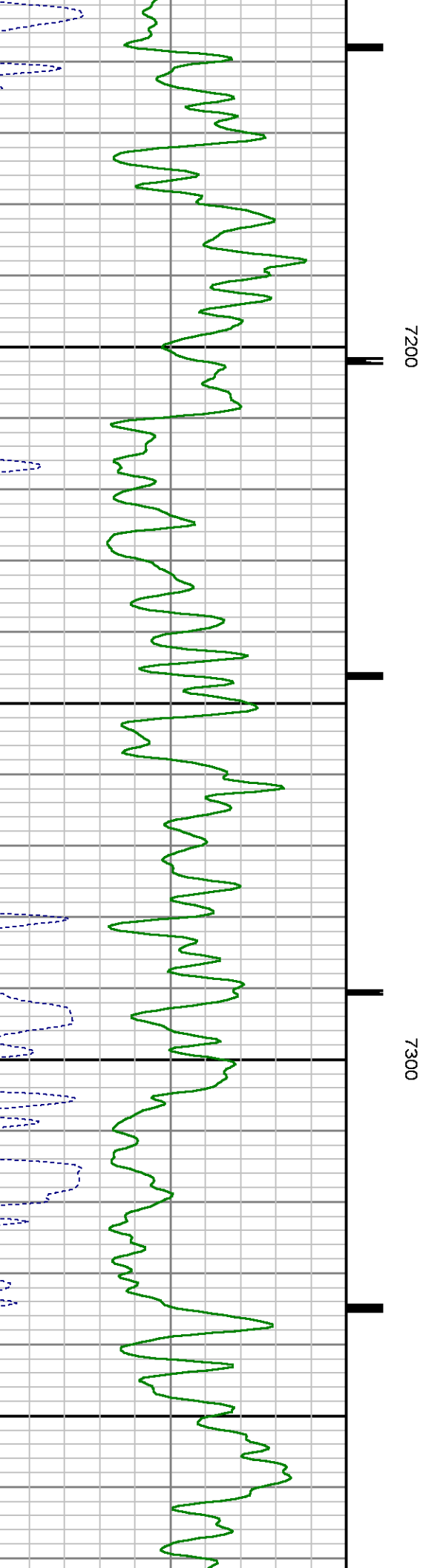
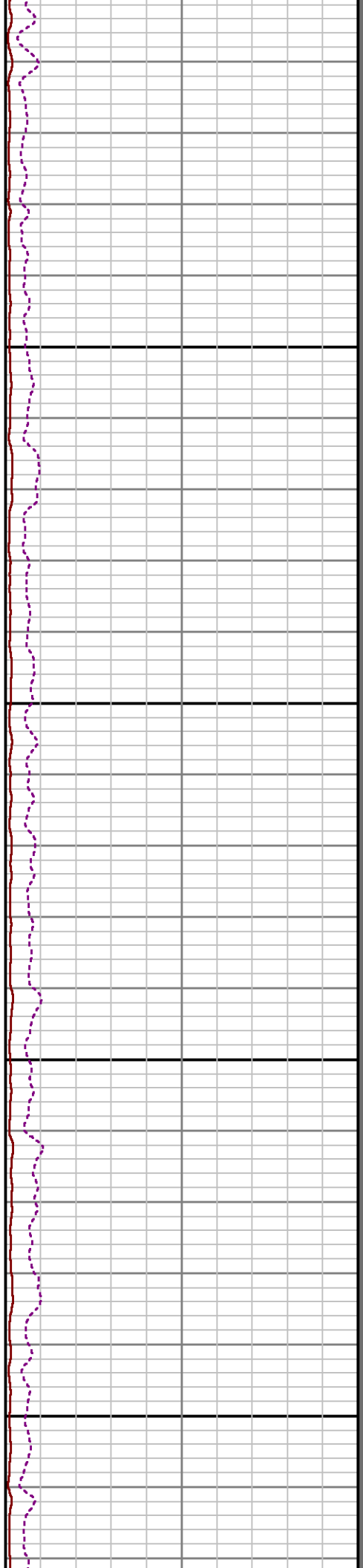
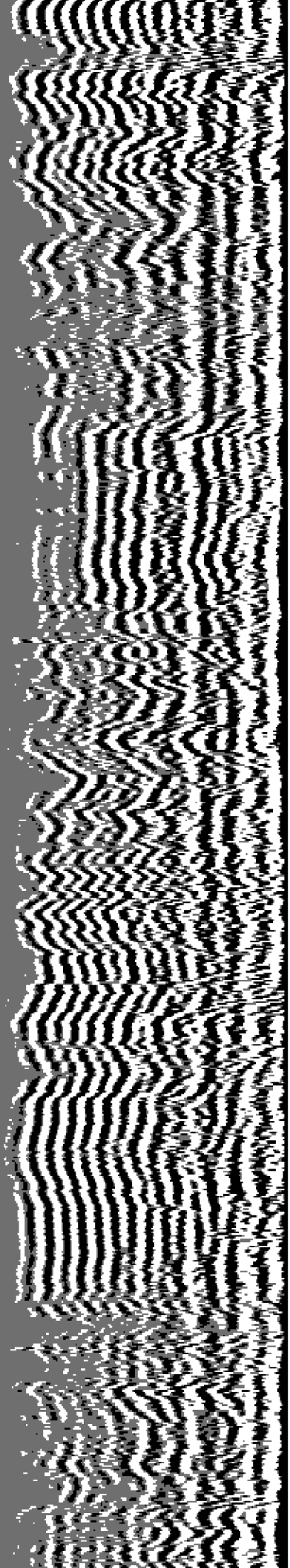


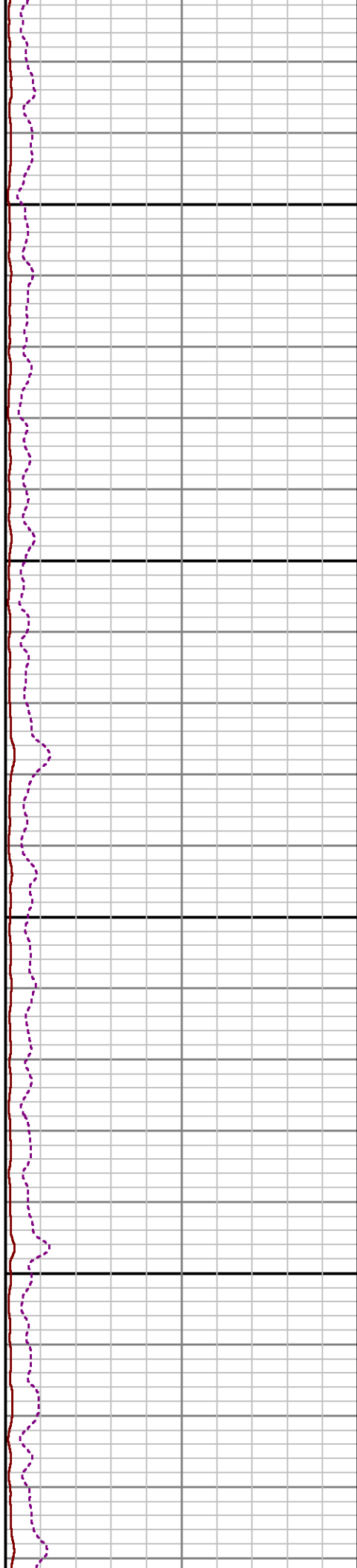
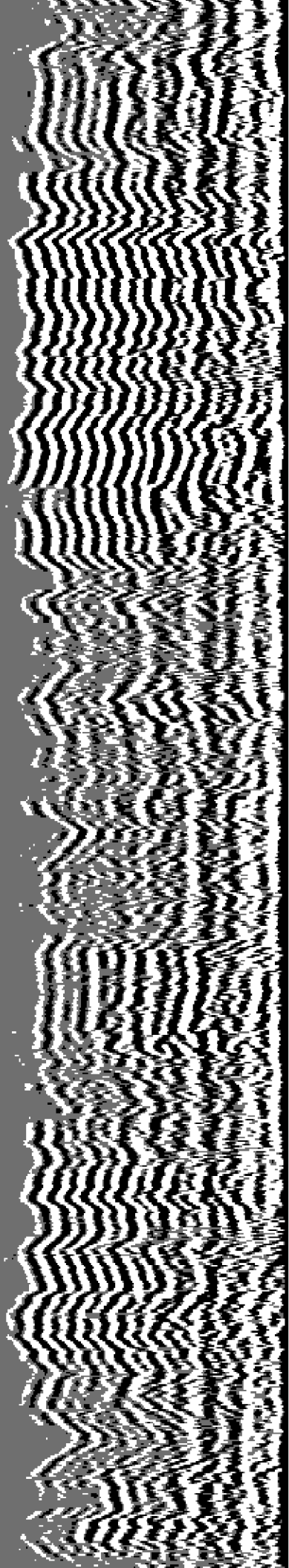


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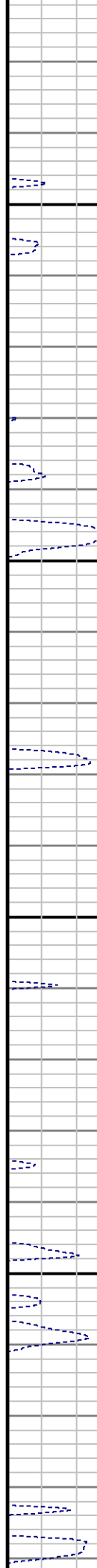
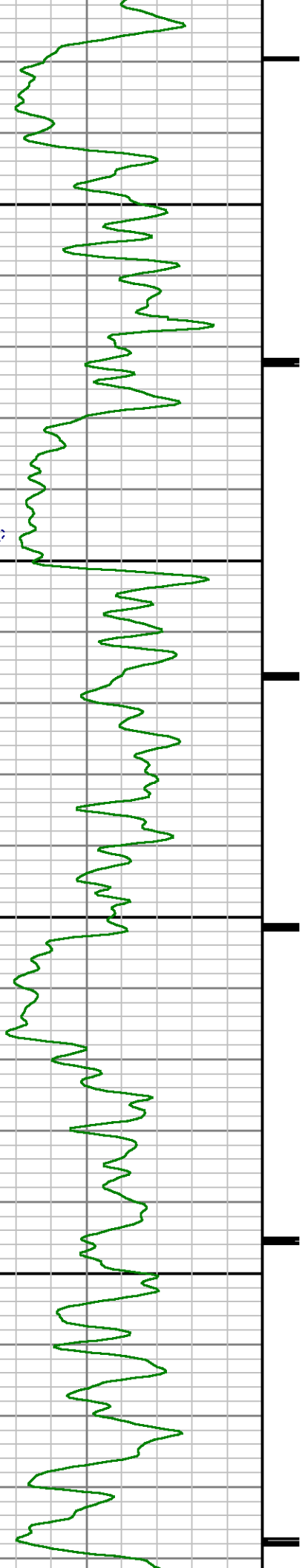


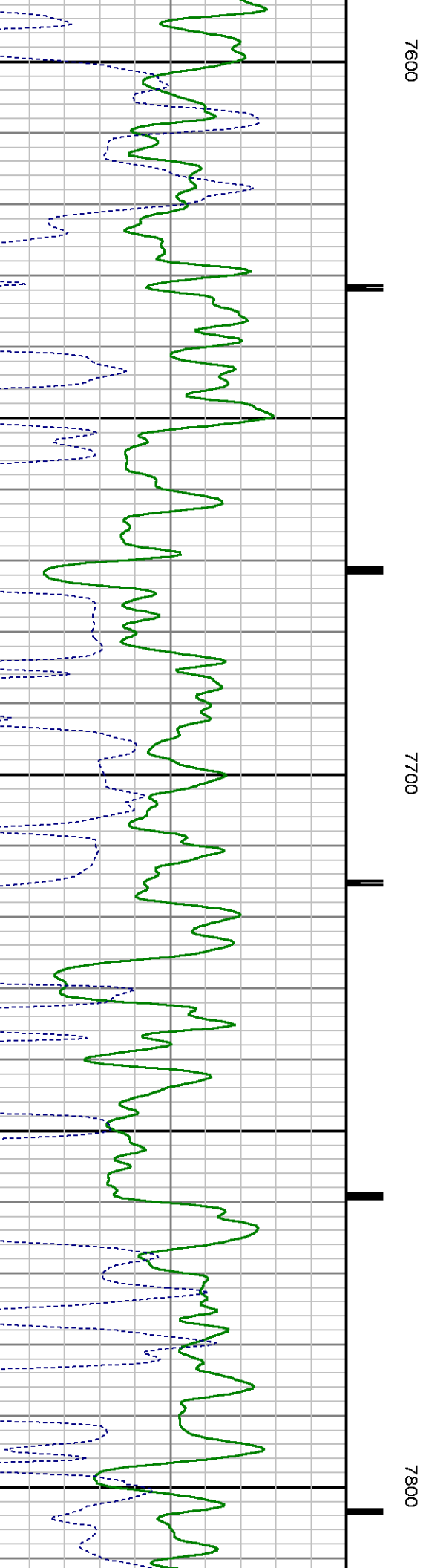
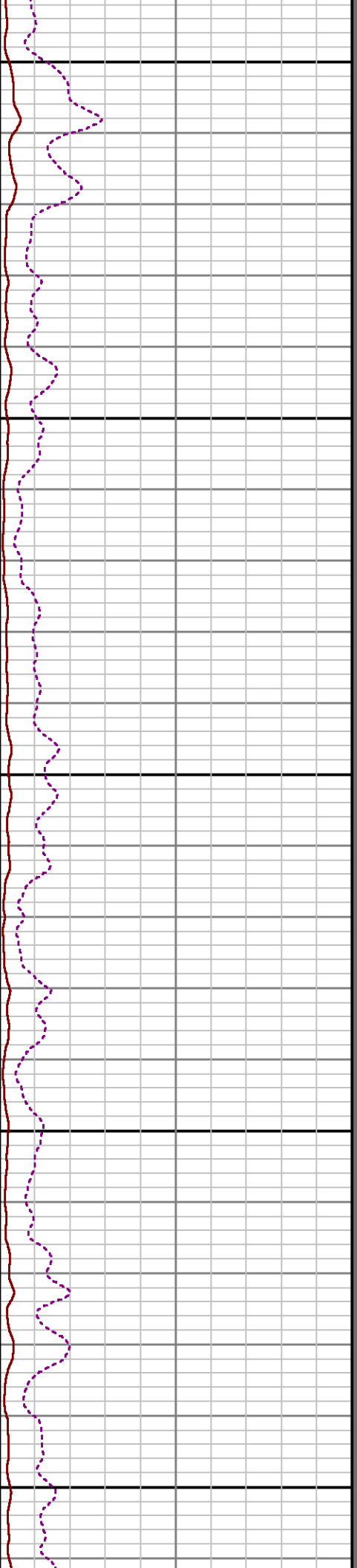
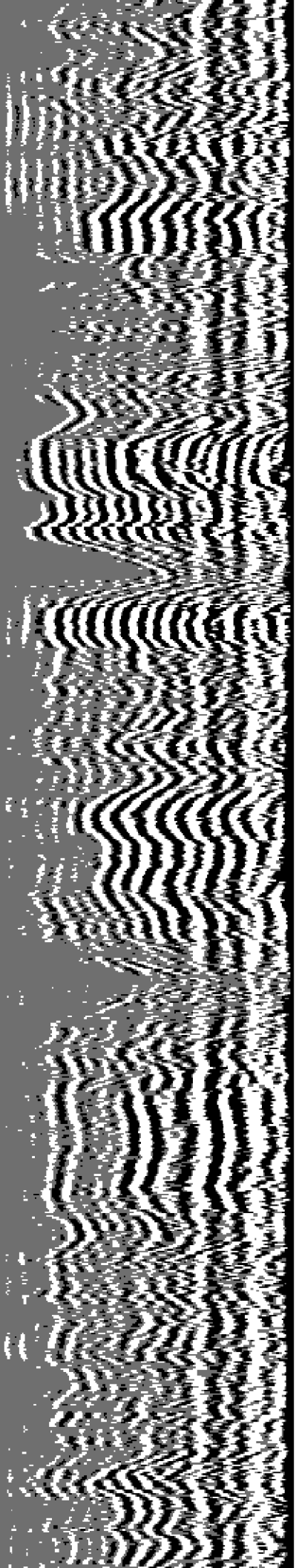


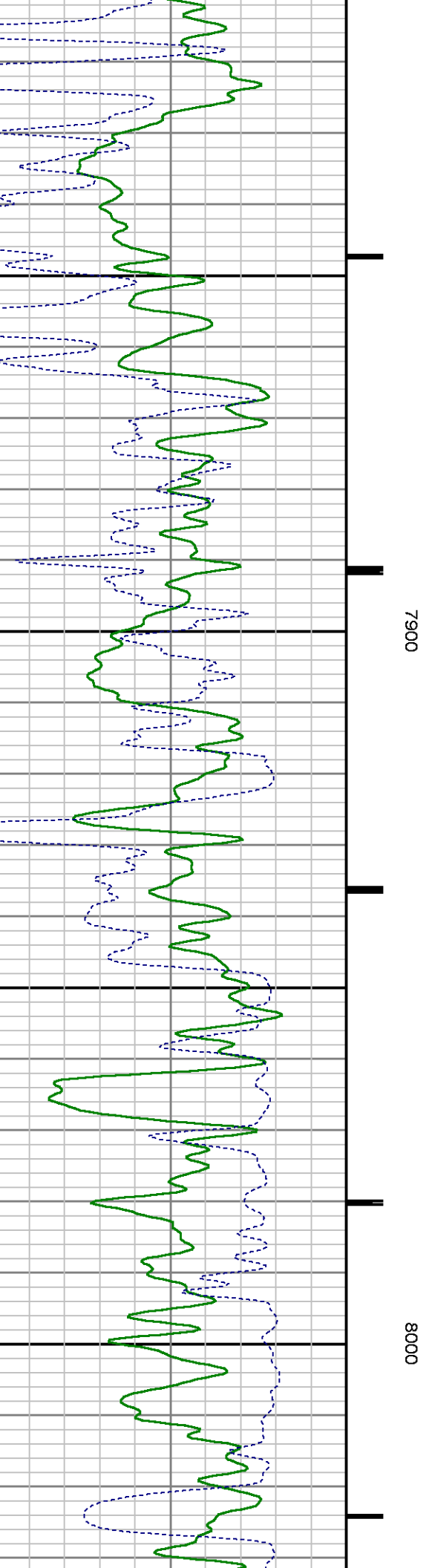
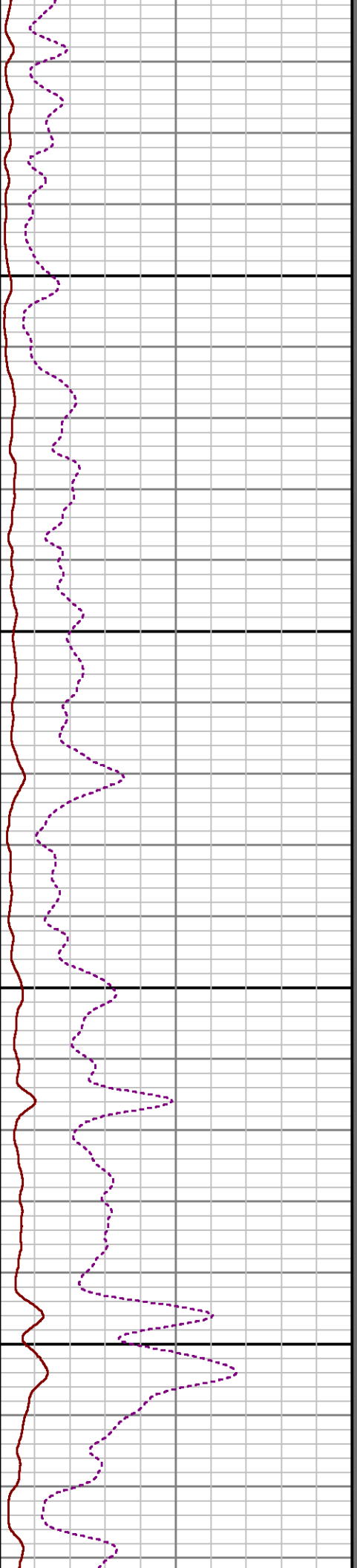
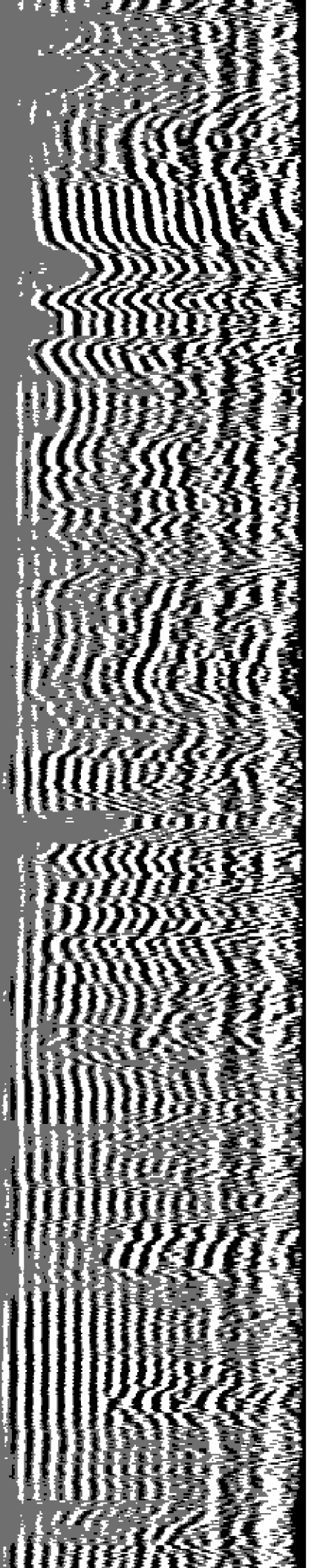


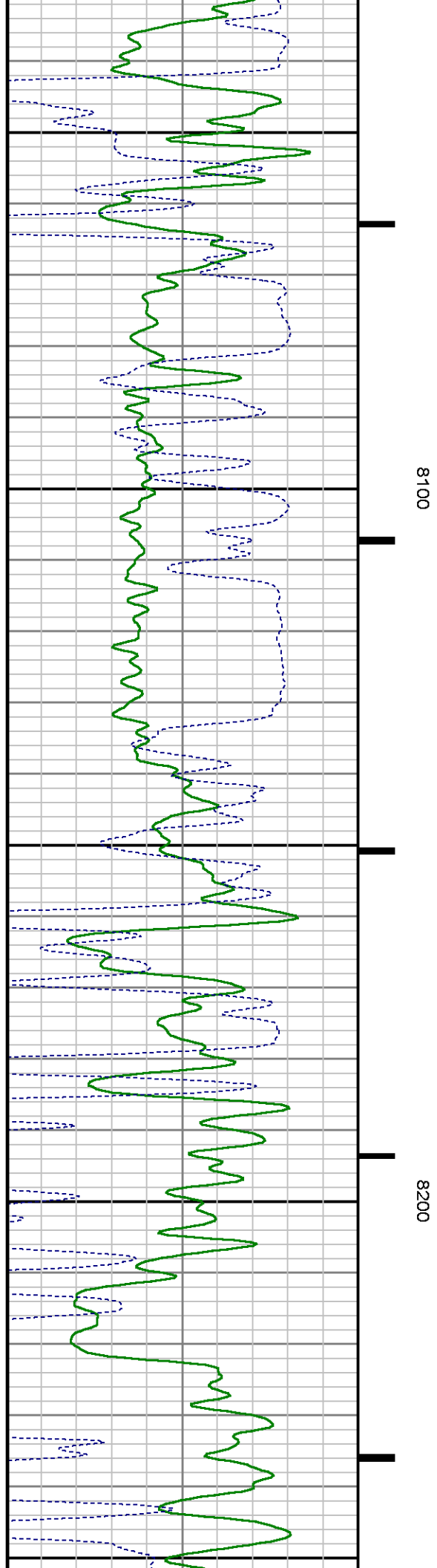
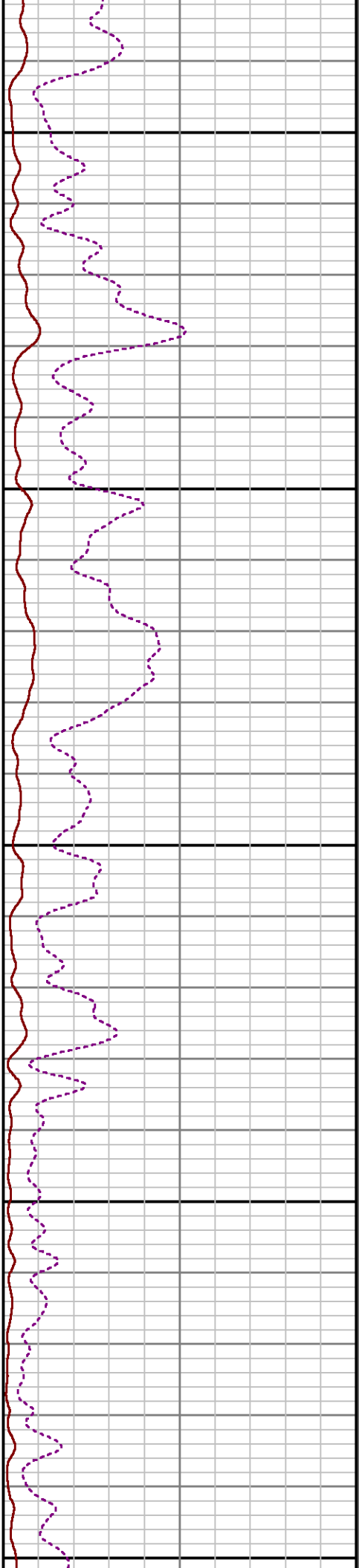
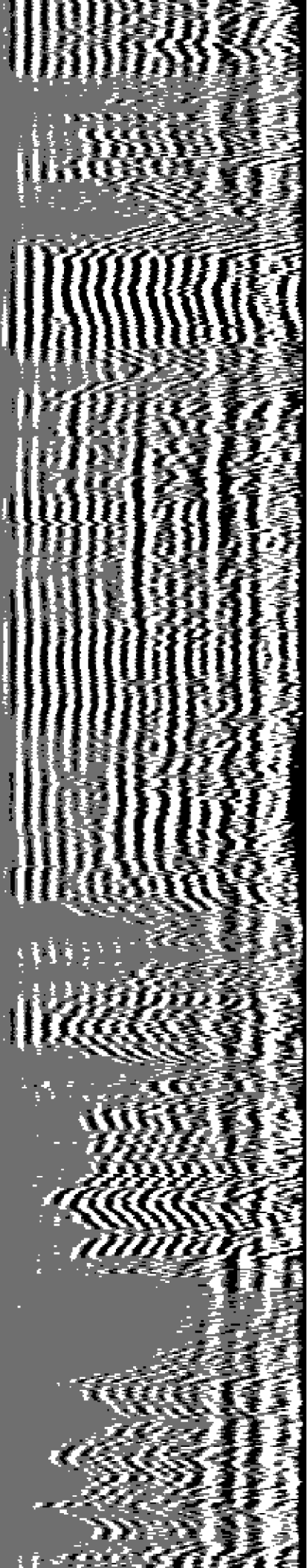
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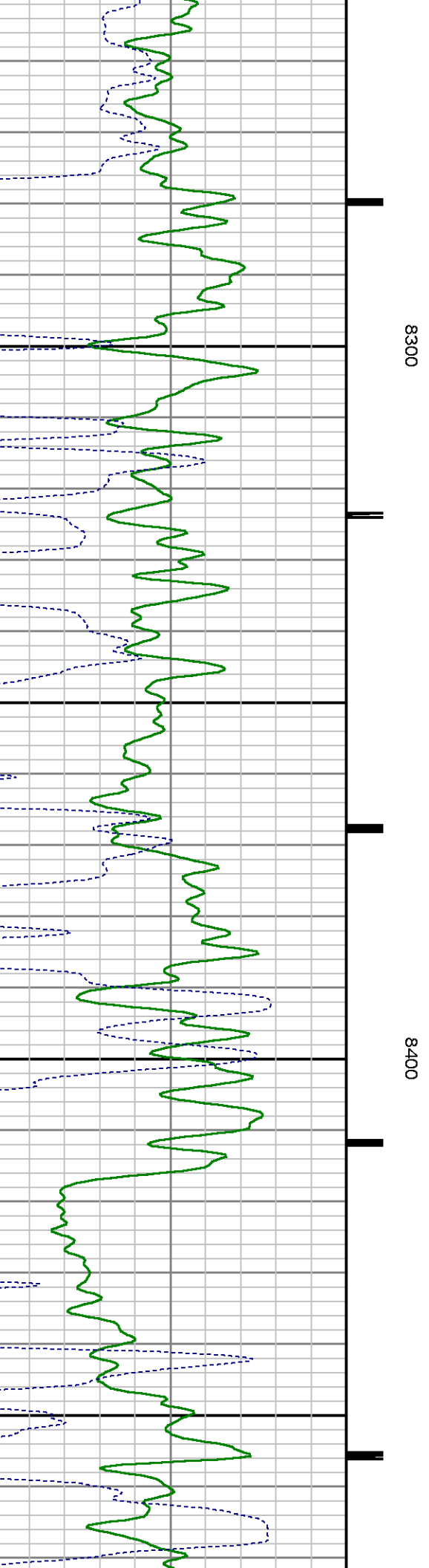
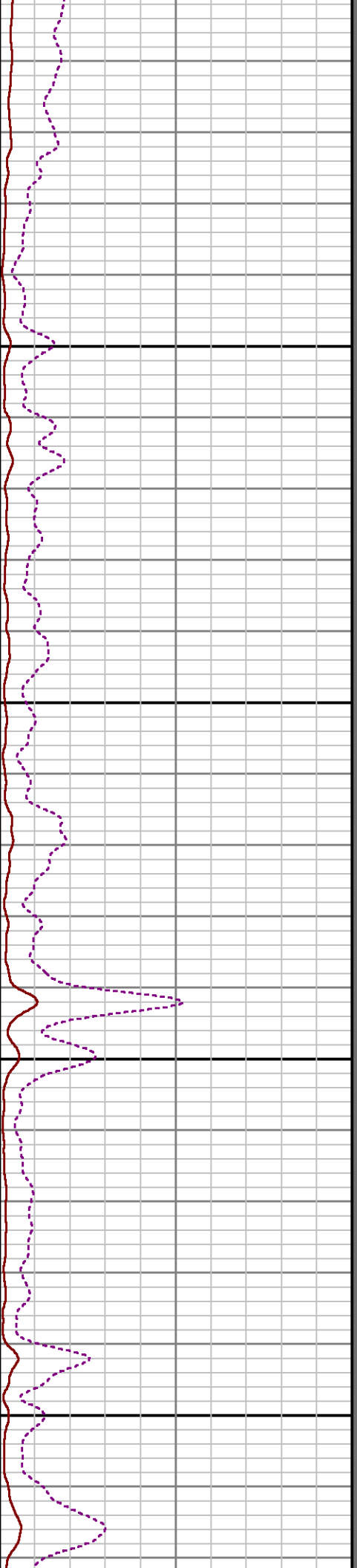
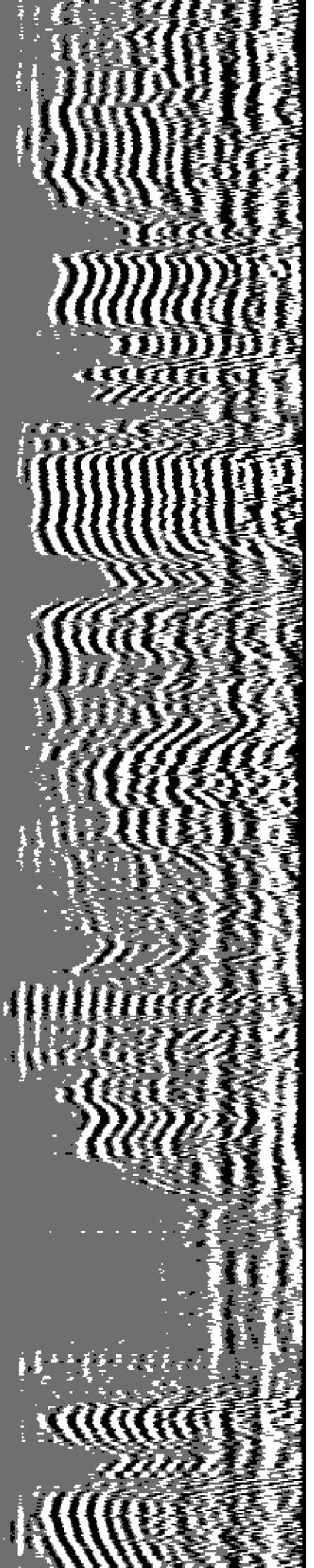
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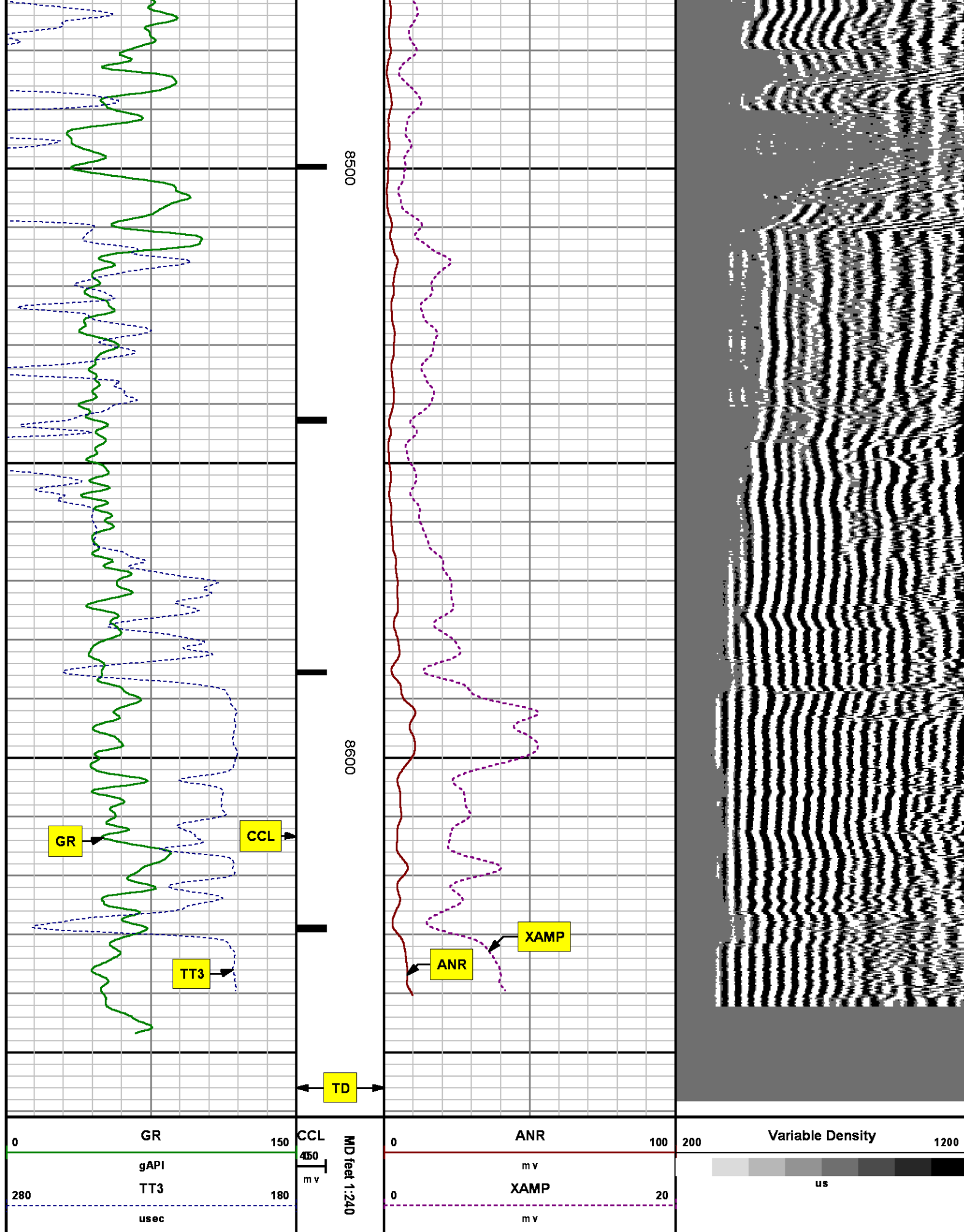












SECONDARY PRESENTATION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	22.984	8640.000
RAL	Amp Gate Start Near	195.000	usec	22.984	8640.000
RAL	Amp Gate Start Radial	195.000	usec	22.984	8640.000
RAL	Amp Gate Width Far	25.000	usec	22.984	8640.000
RAL	Amp Gate Width Near	25.000	usec	22.984	8640.000
RAL	Amp Gate Width Radial	25.000	usec	22.984	8640.000
RAL	casing od	4.500	inches	22.984	8640.000
RAL	casing wt	11.600	lbm/ft	22.984	8640.000
RAL	FB Start Far	291.900	usec	22.984	8640.000
RAL	FB Start Near	180.000	usec	22.984	8640.000
RAL	FB Start Radial	180.000	usec	22.984	8640.000
RAL	FB Thresh Far	10.000	mv	22.984	8640.000
RAL	FB Thresh Near	4.000	mv	22.984	8640.000
RAL	FB Thresh Radial	4.000	mv	22.984	8640.000
RAL	Fluid Travel Time	200.000	usec/ft	22.984	8639.766

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					

Company : WPX ENERGY

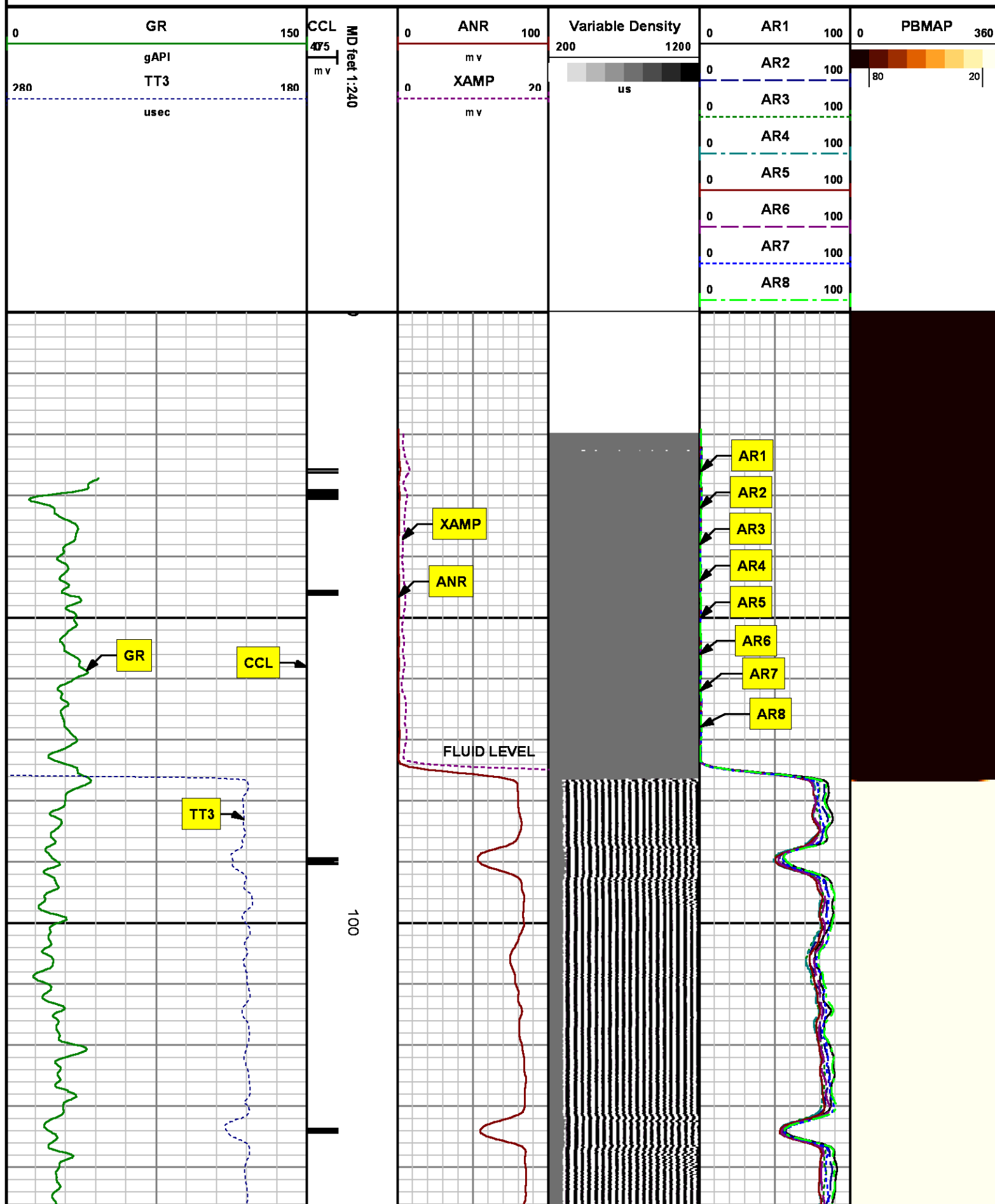
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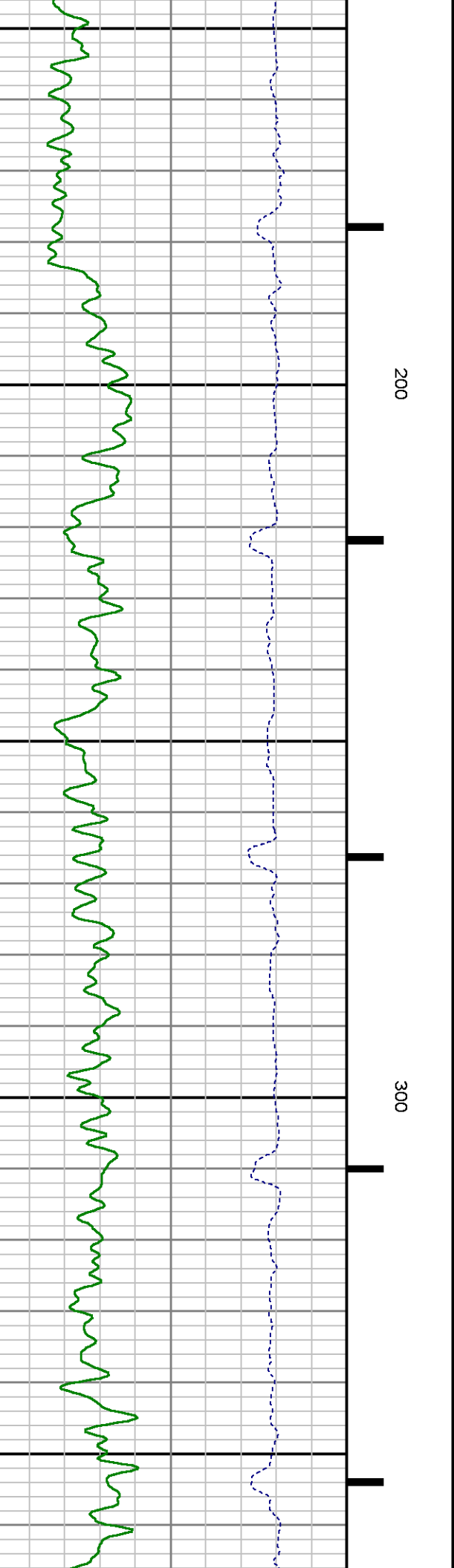
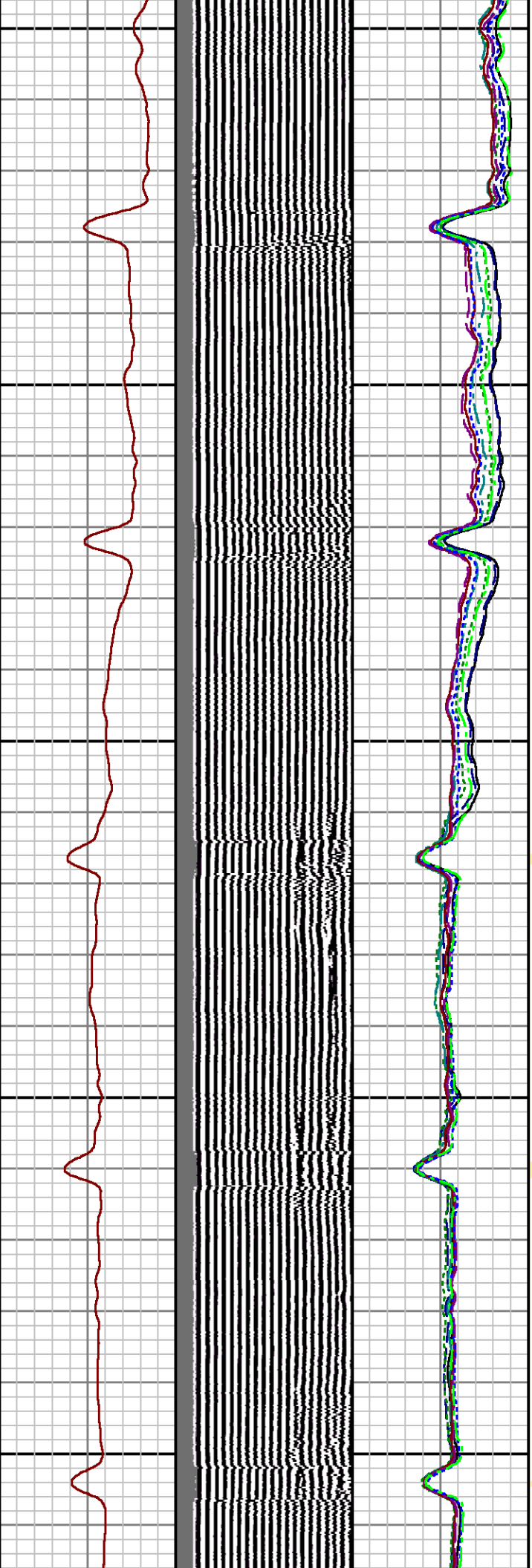
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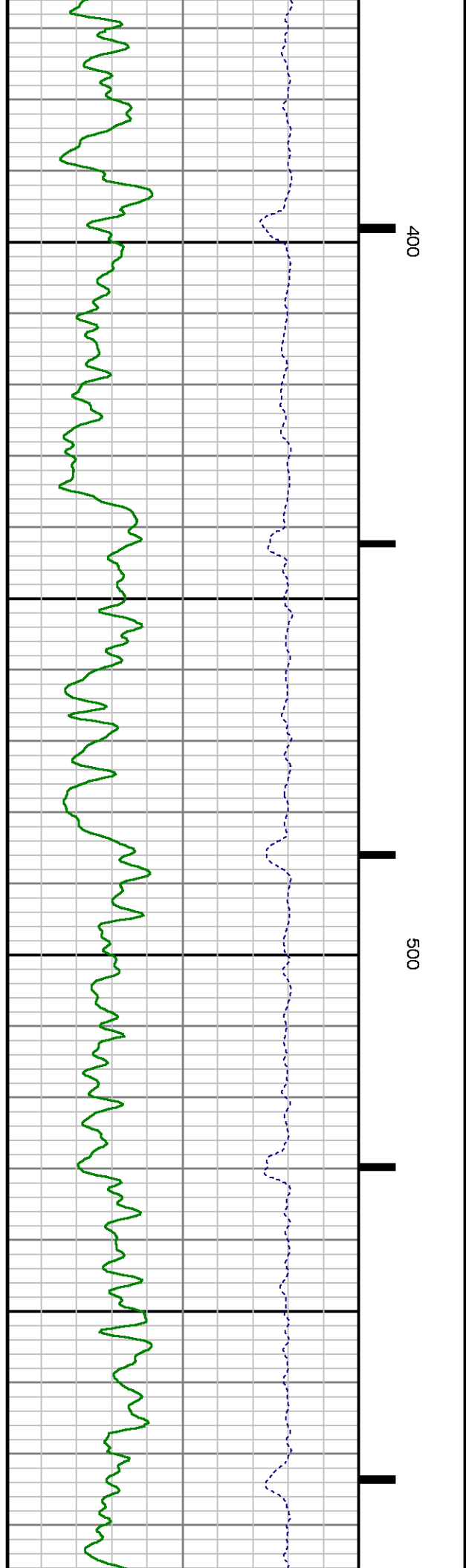
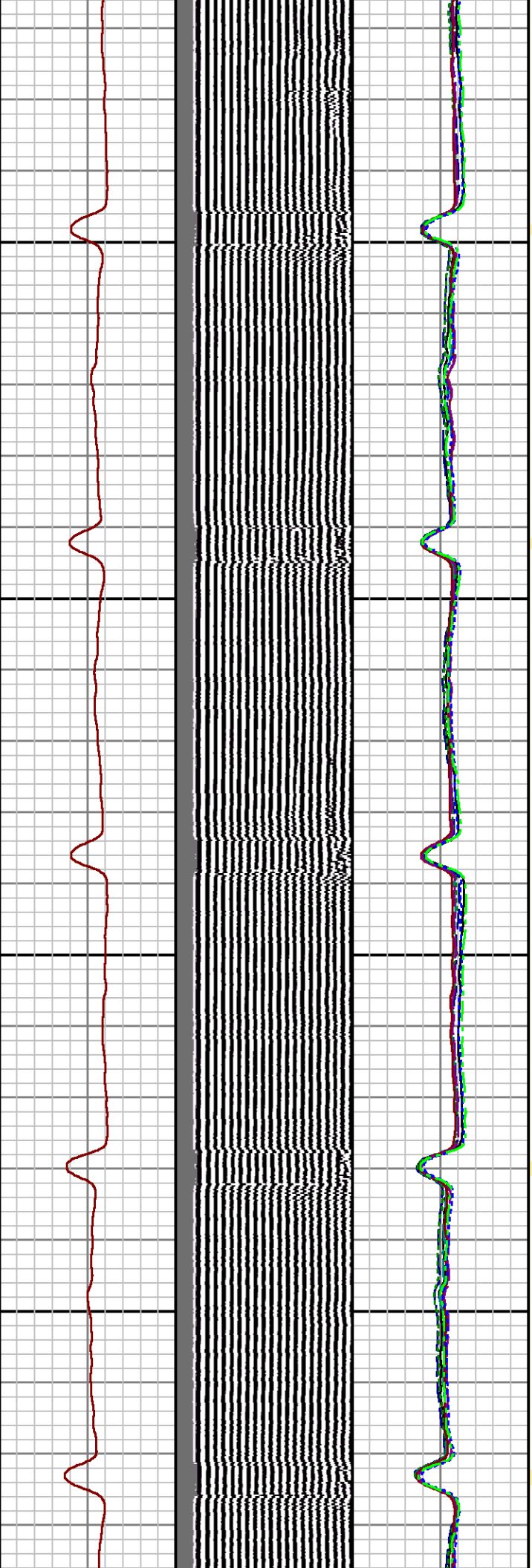
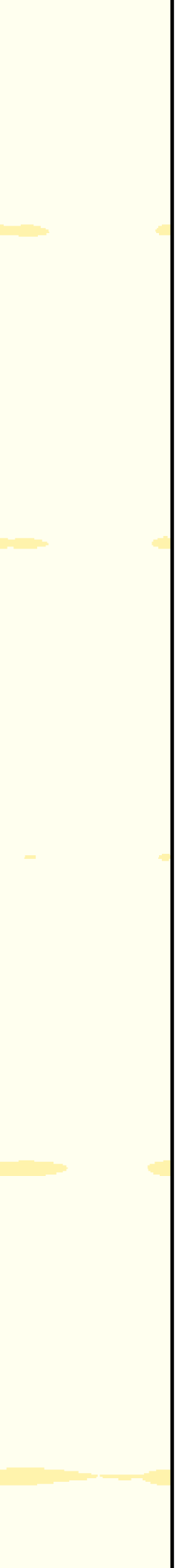
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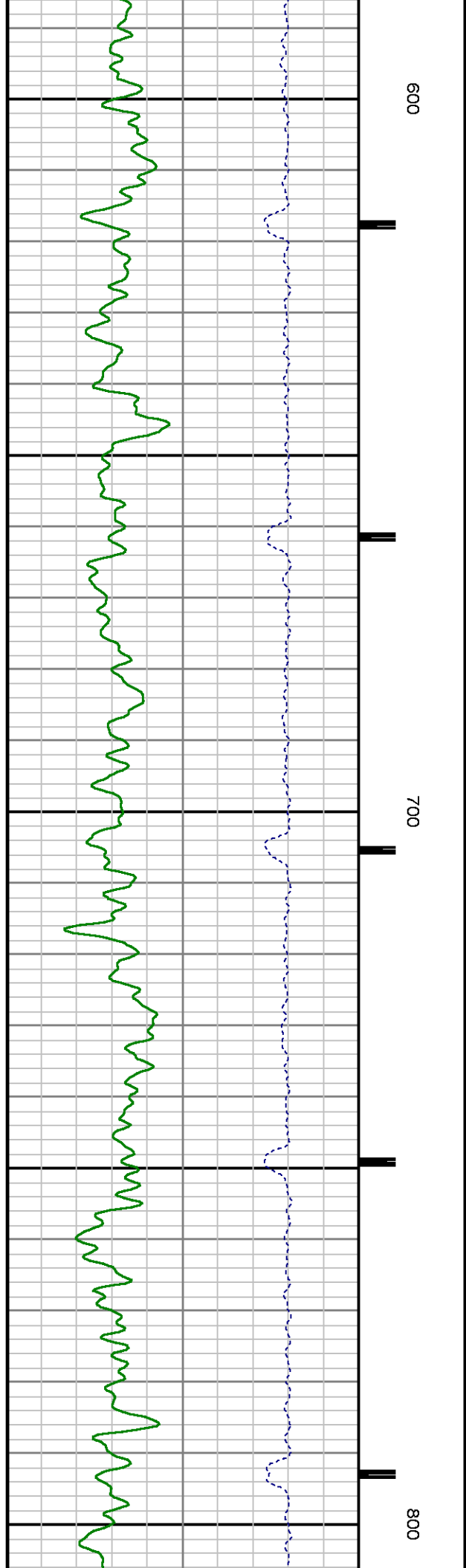
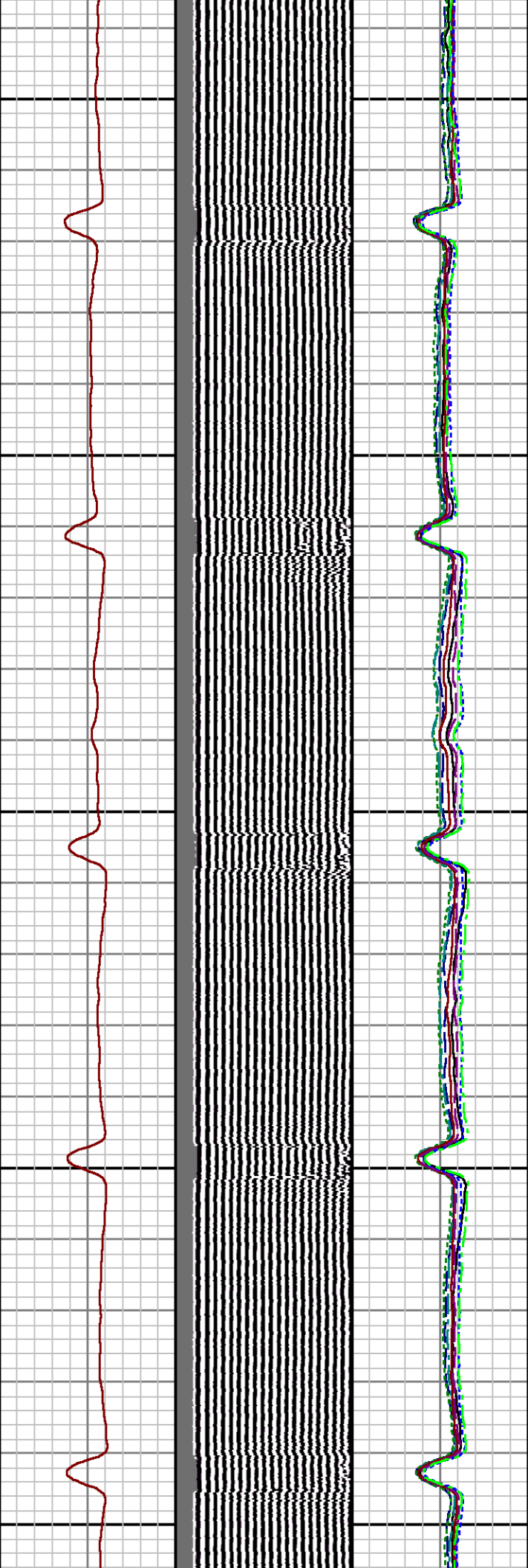
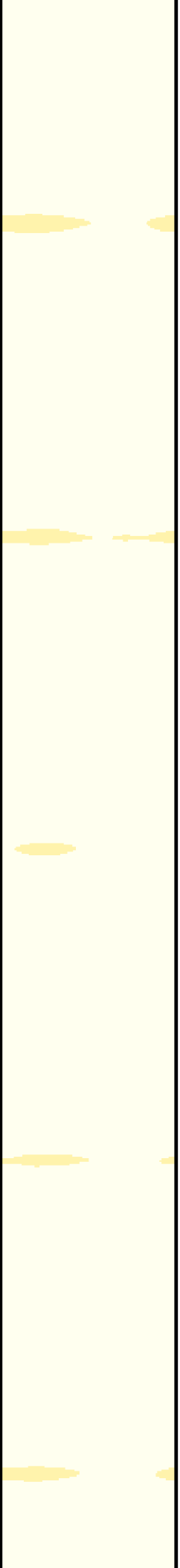
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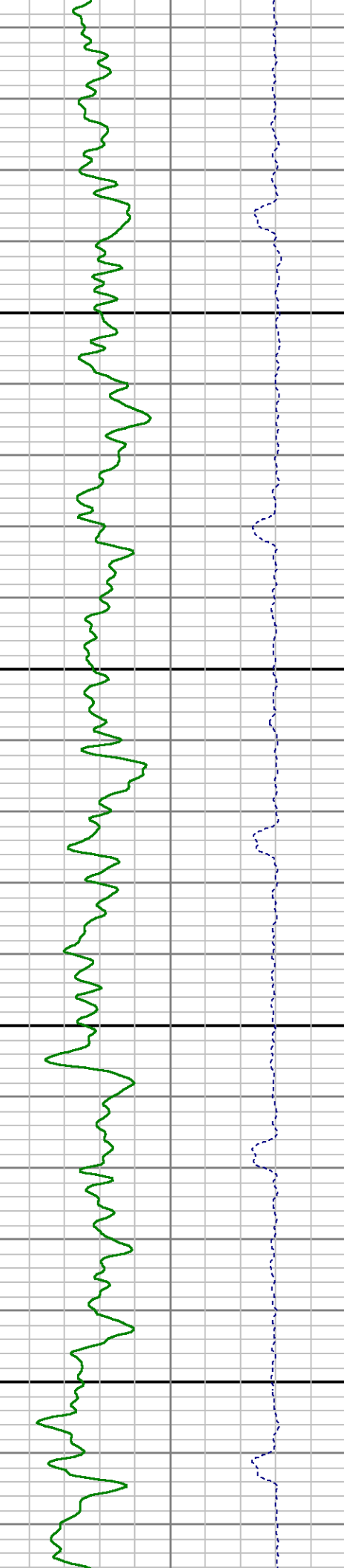
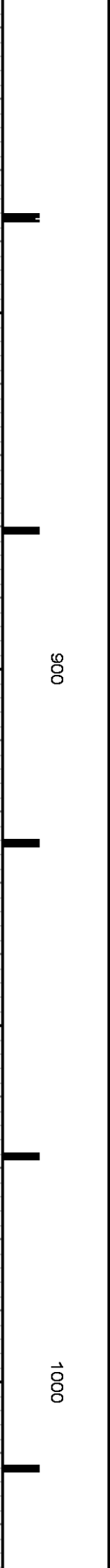
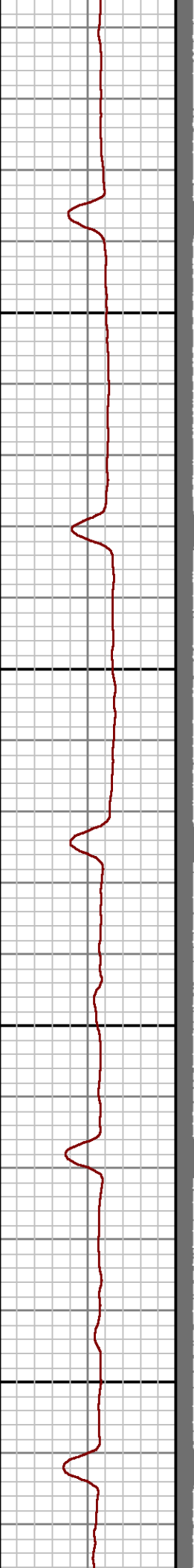
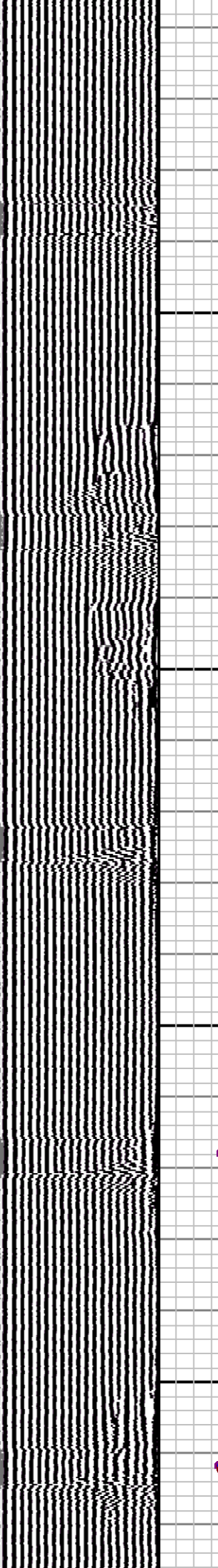
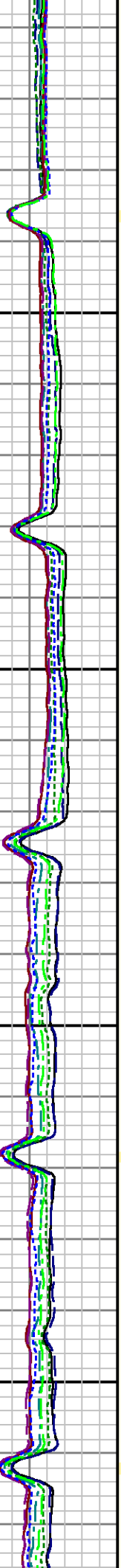
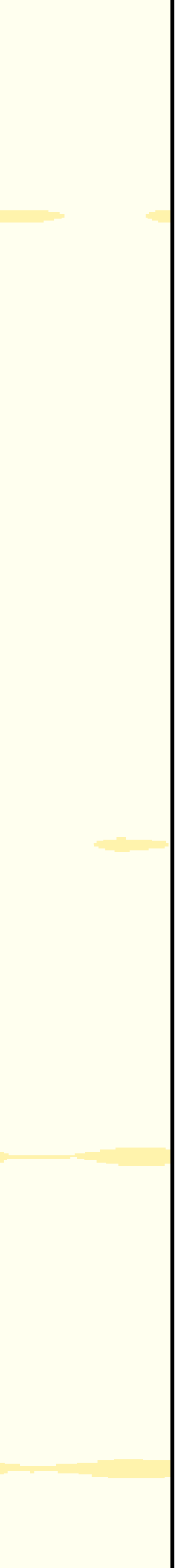
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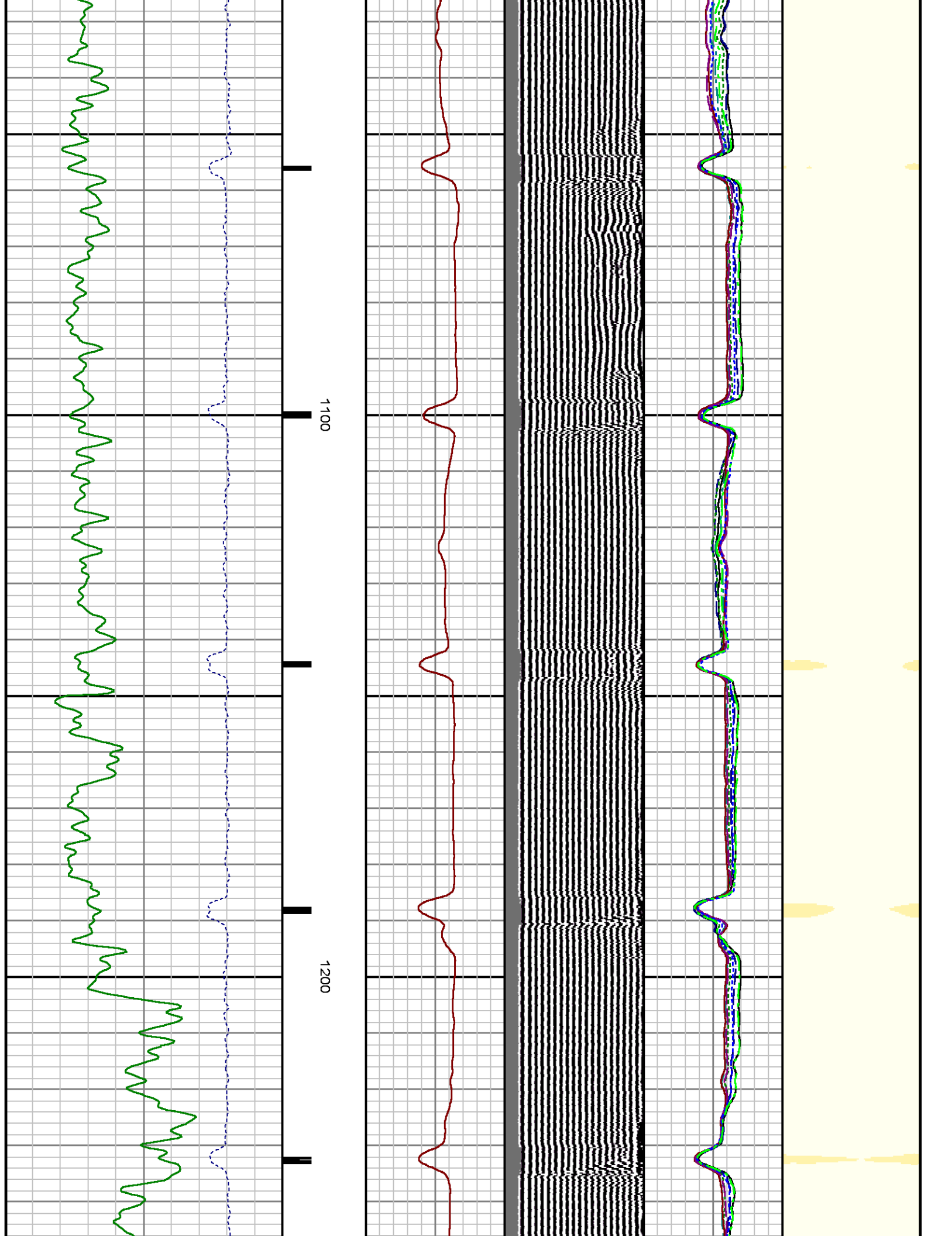


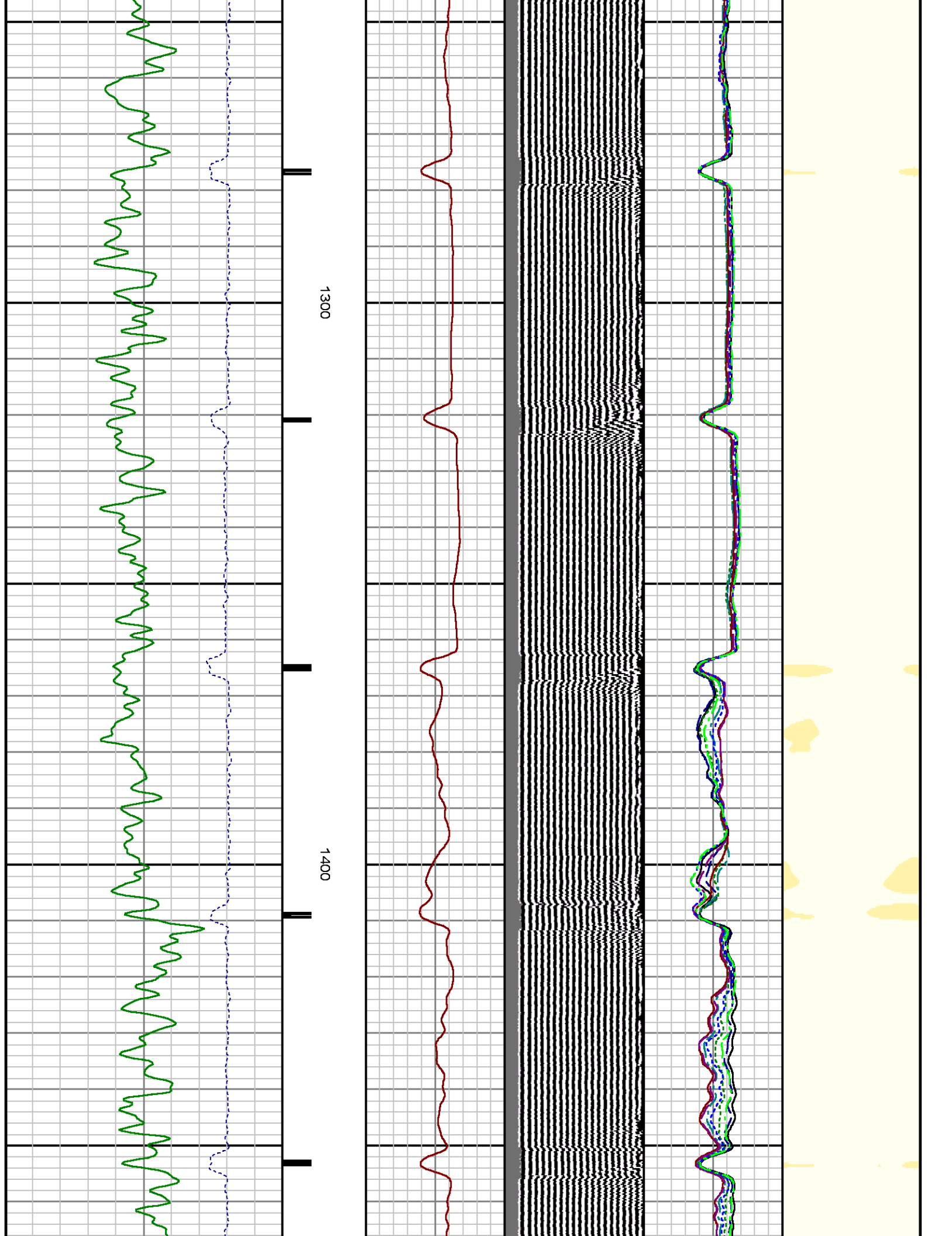


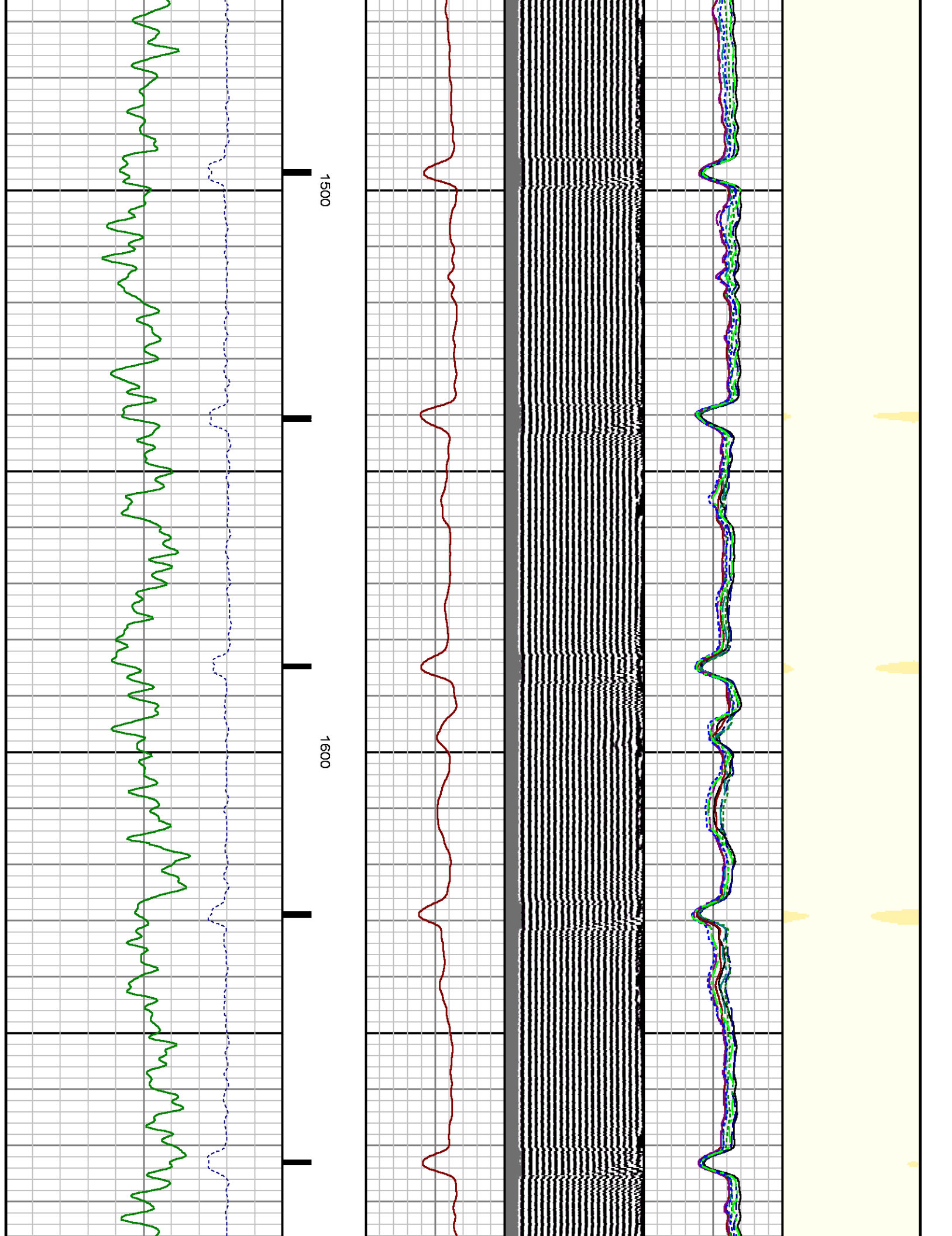


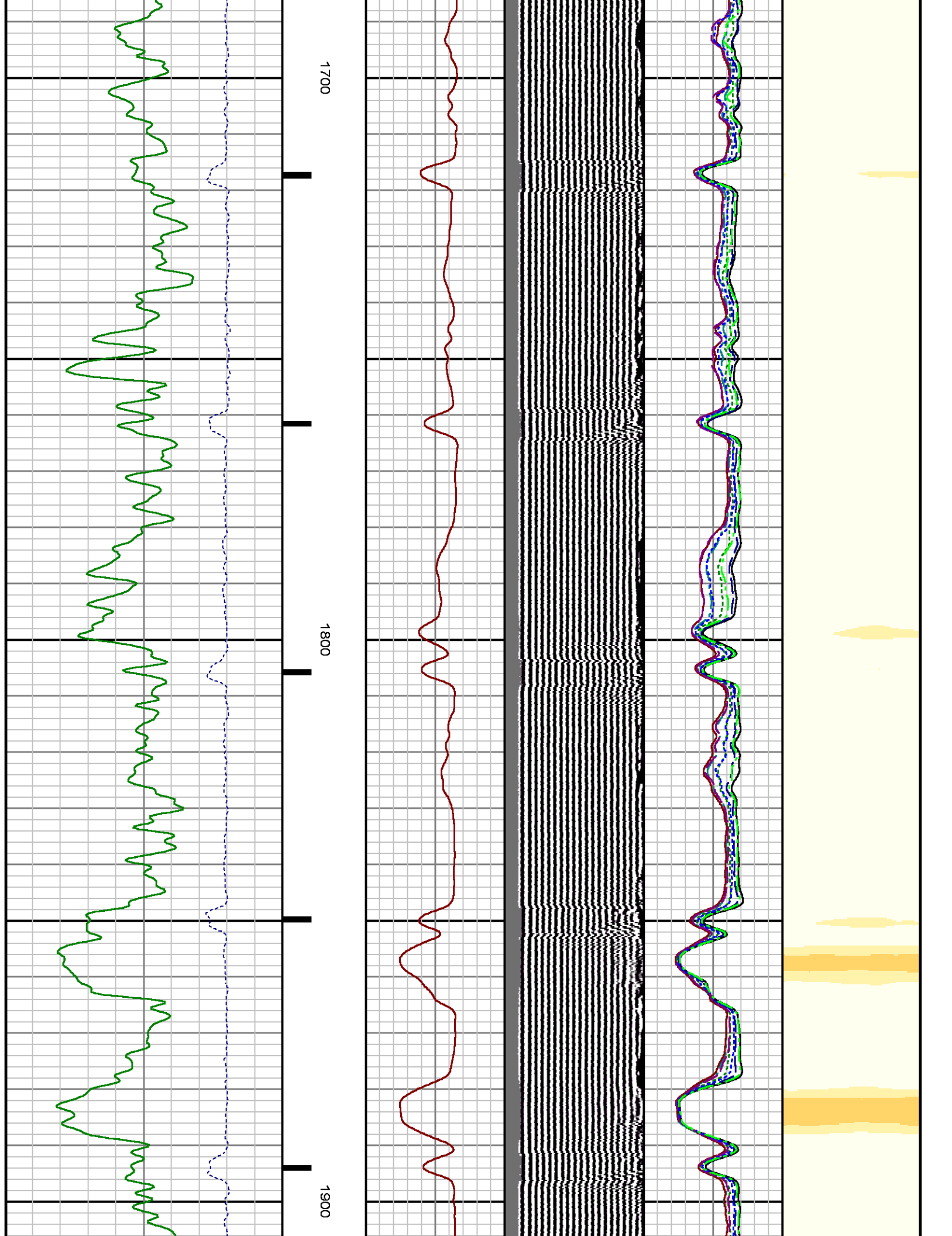


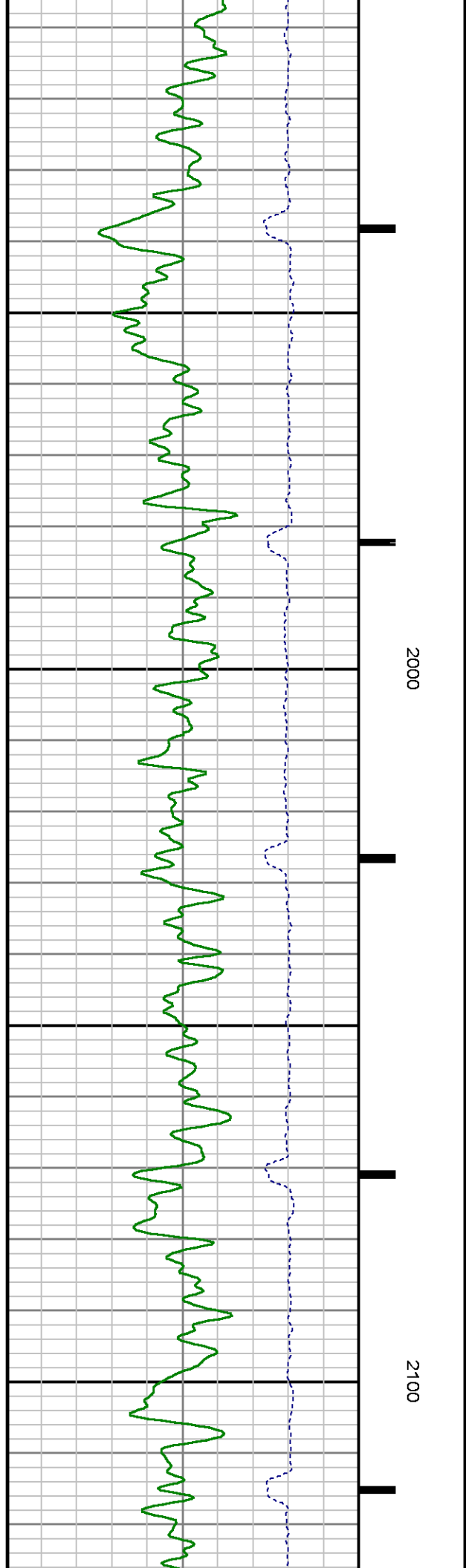
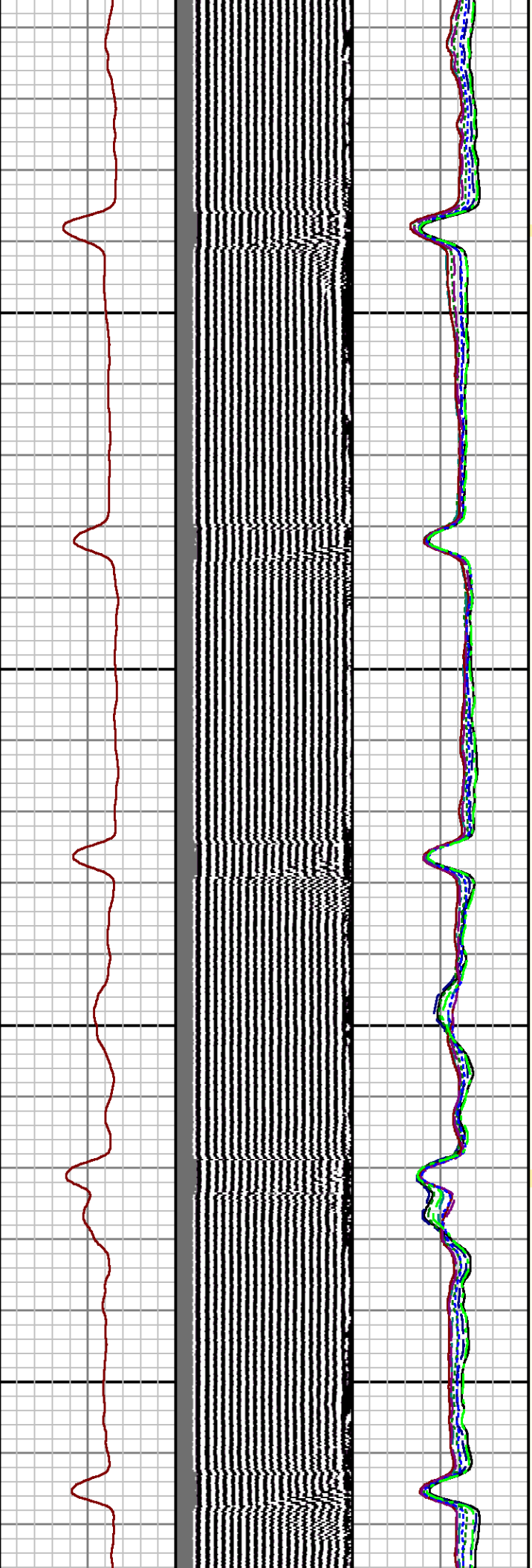
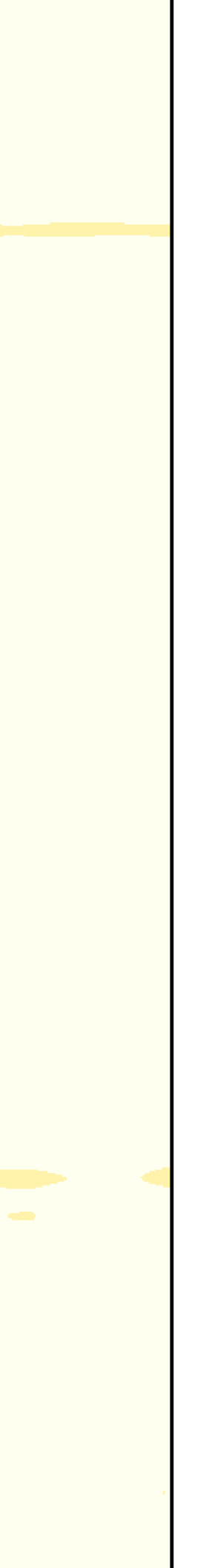


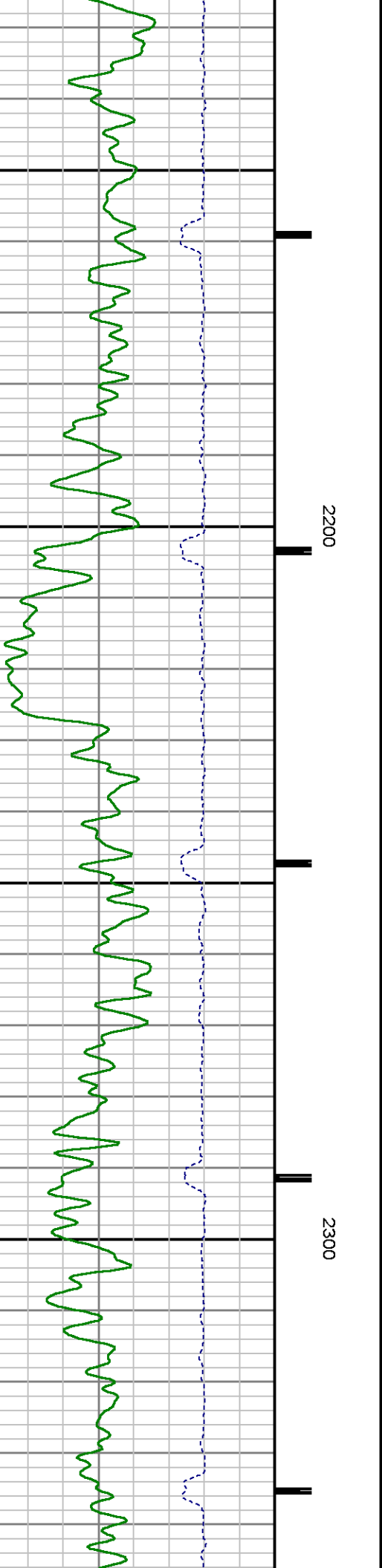
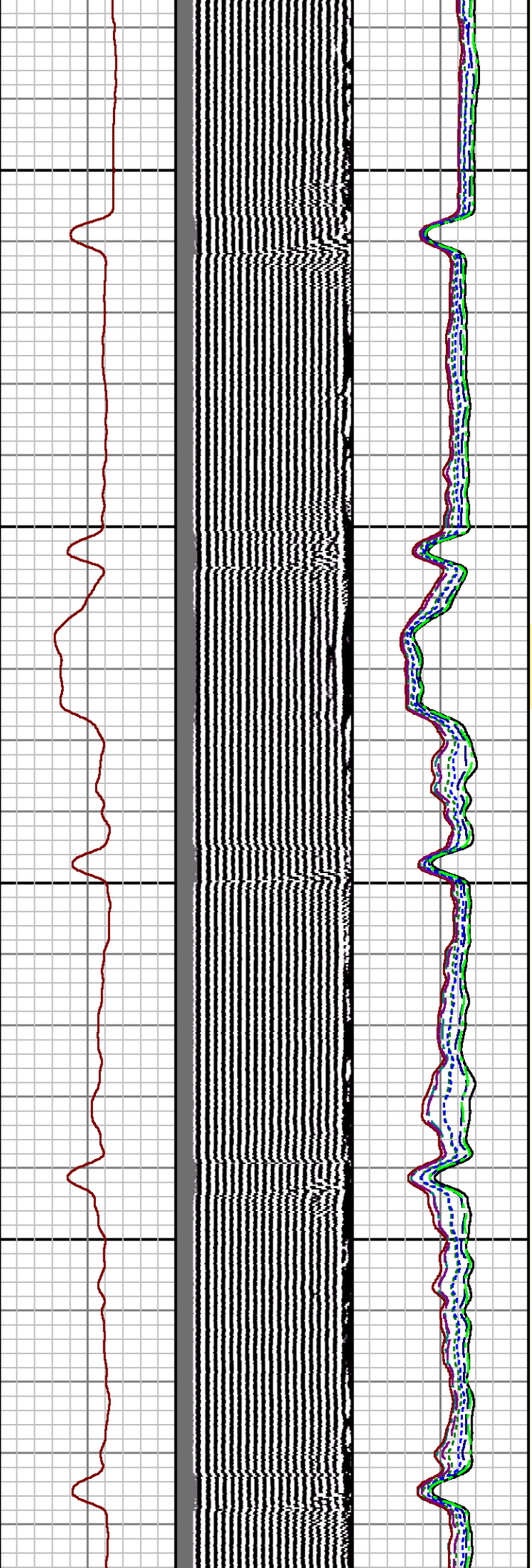


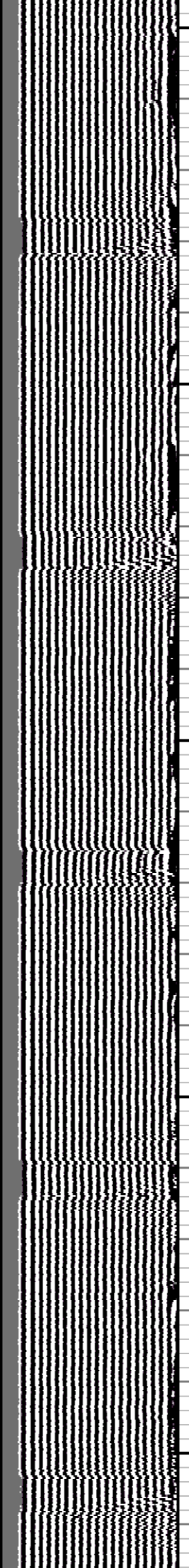
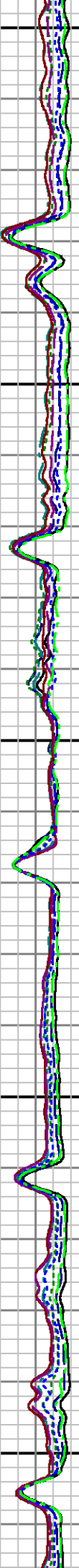
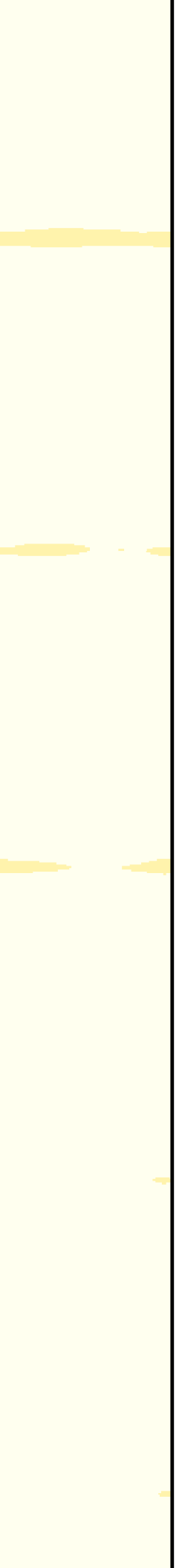






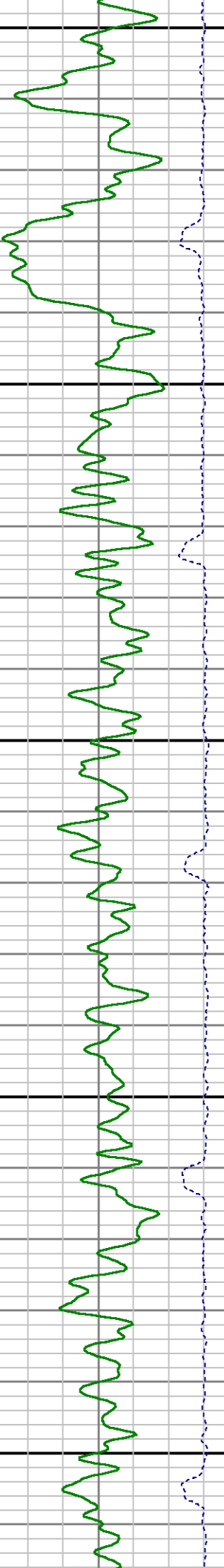


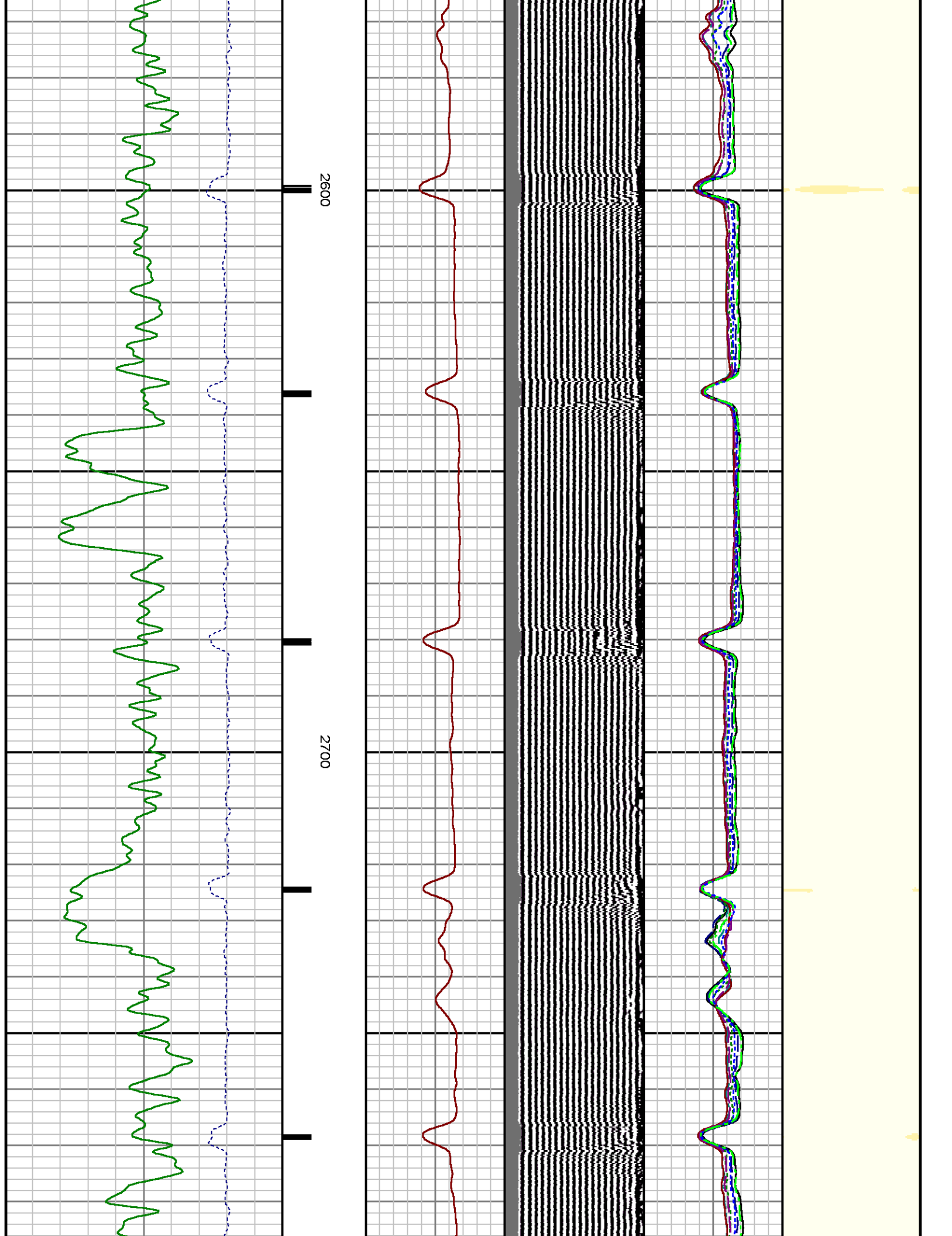


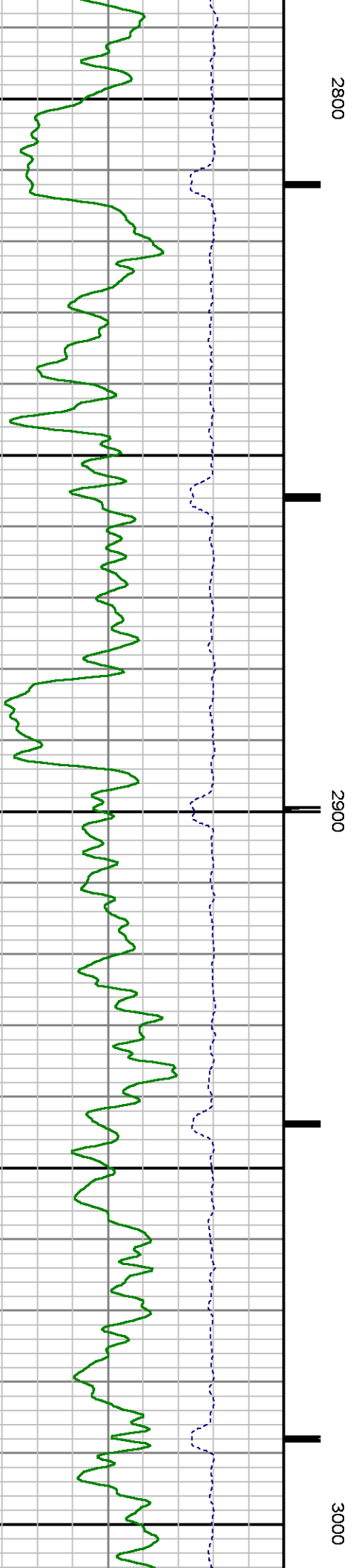
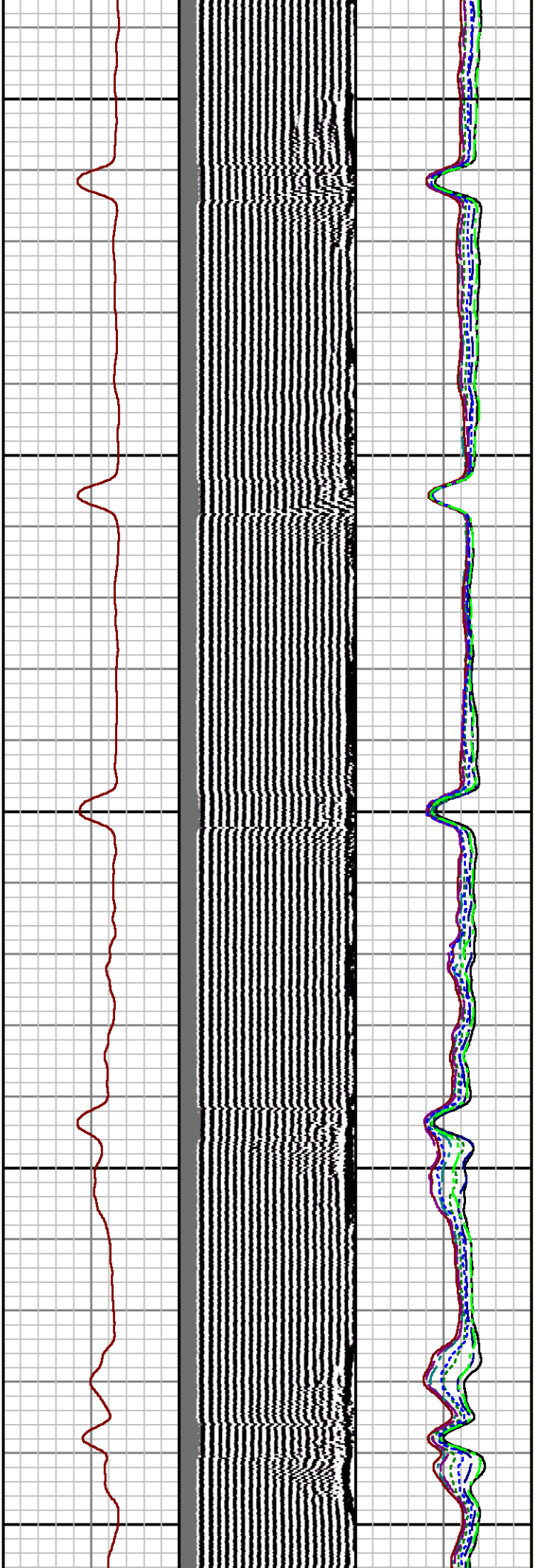


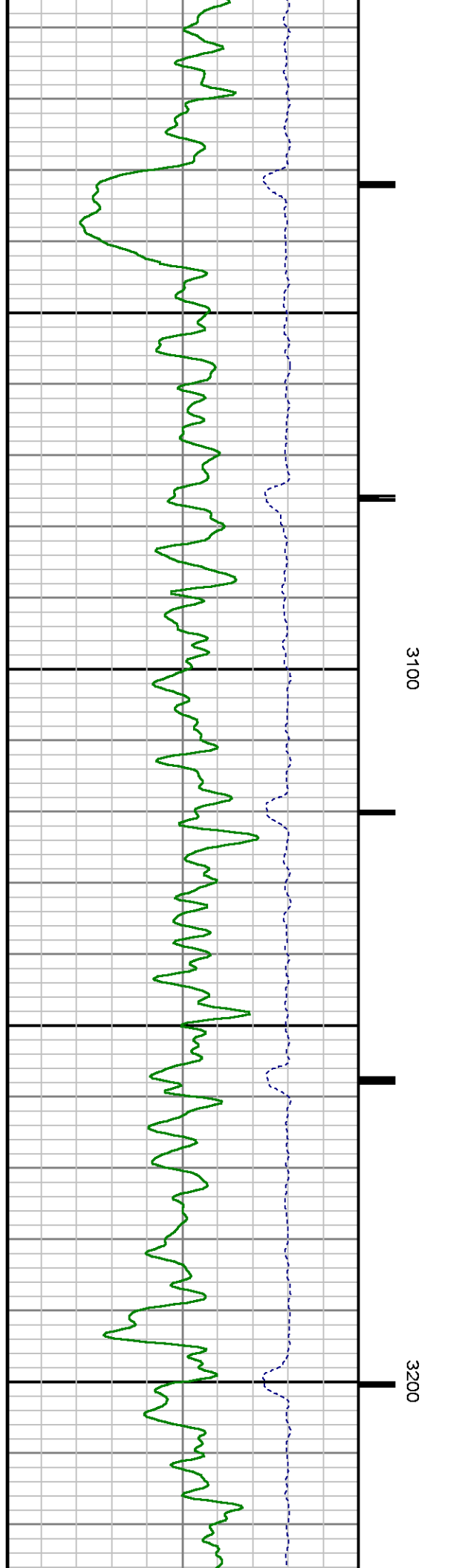
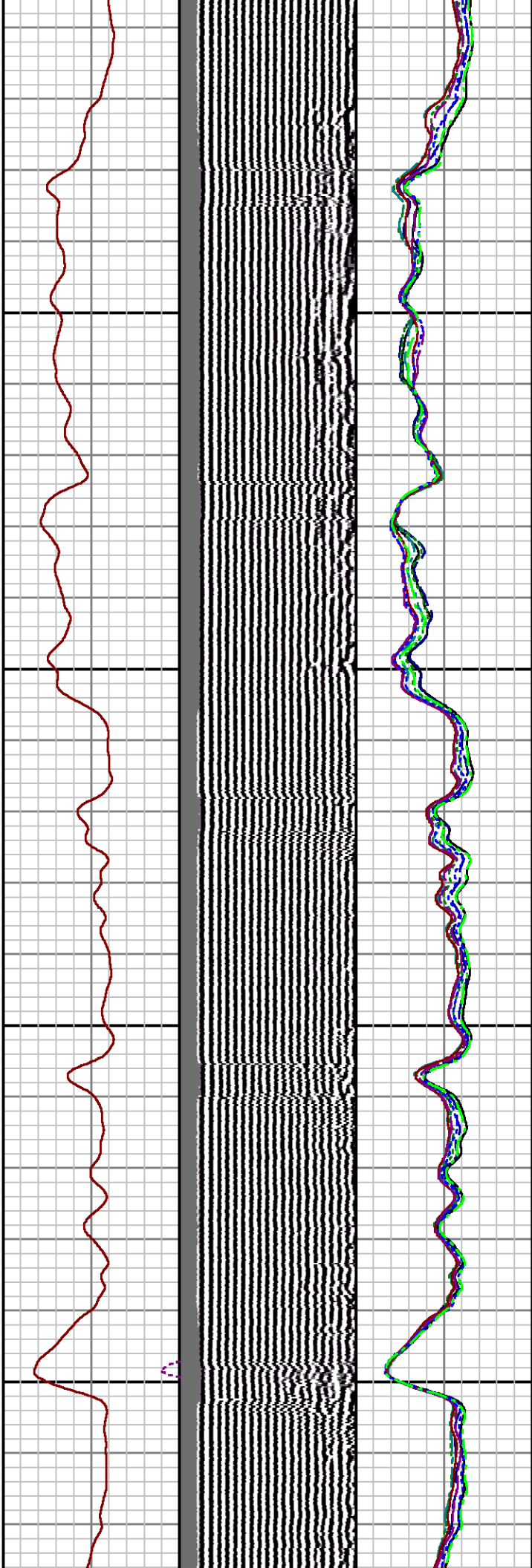
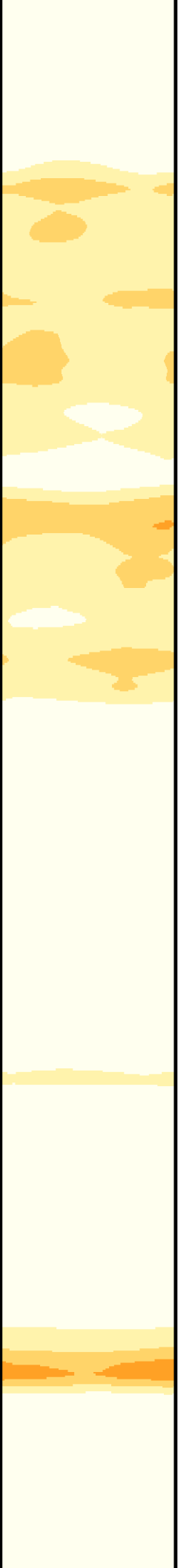
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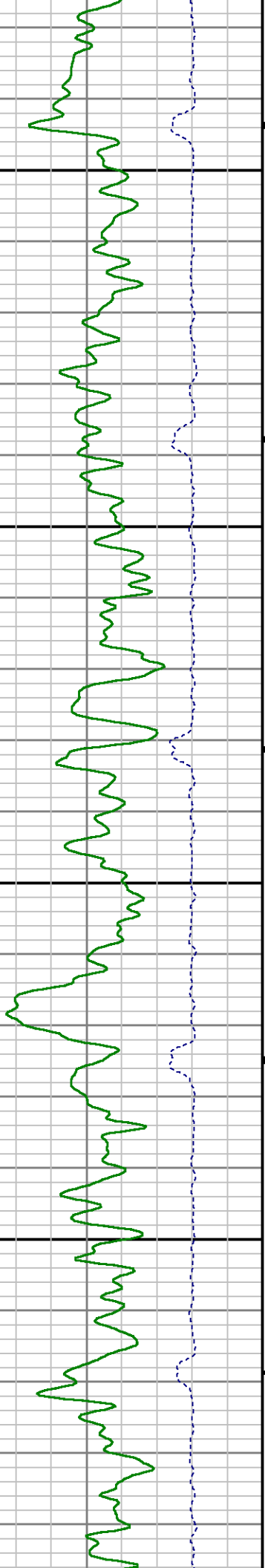
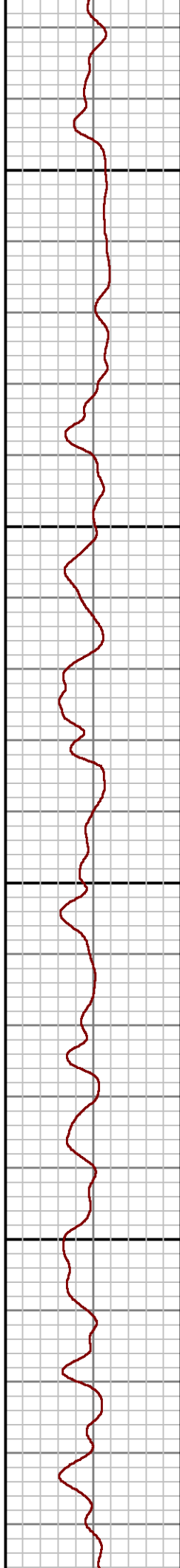
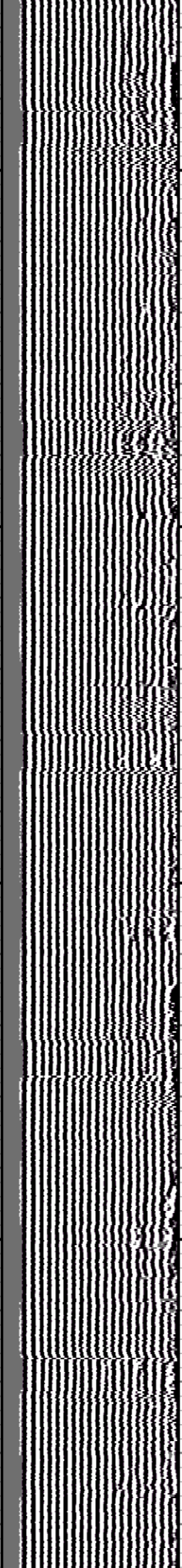
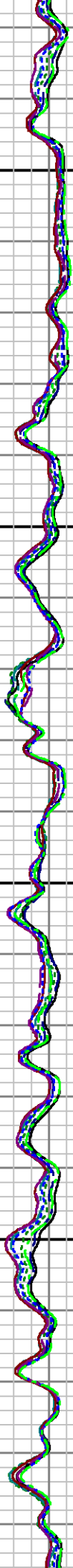
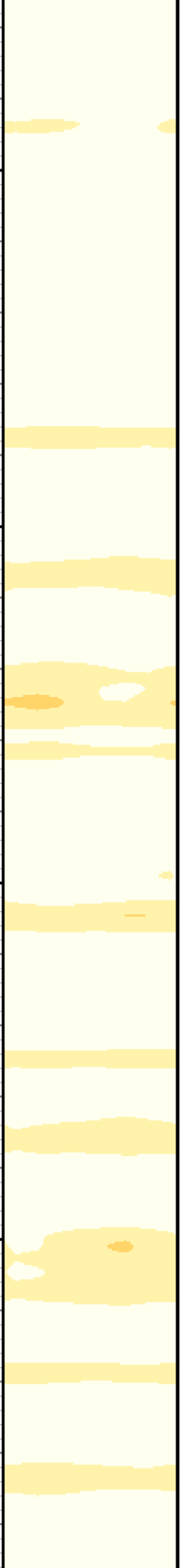
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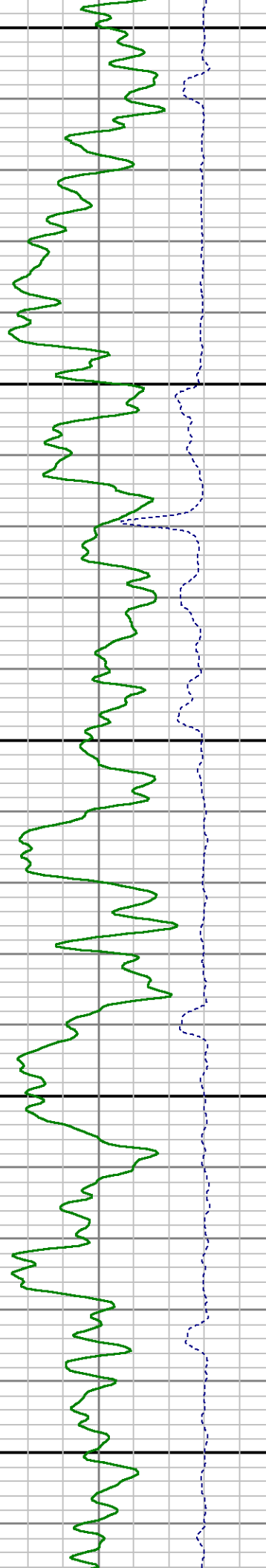
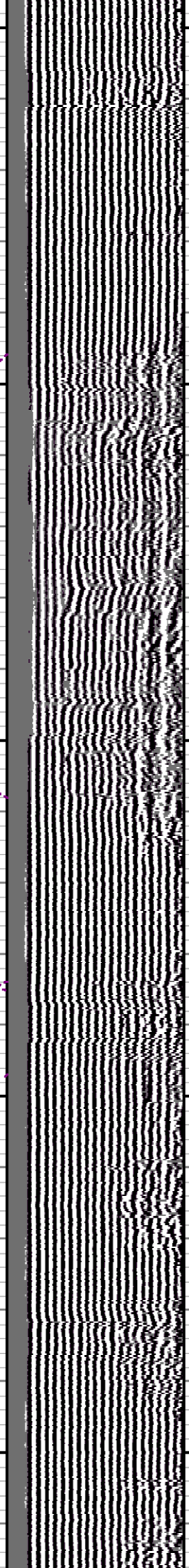
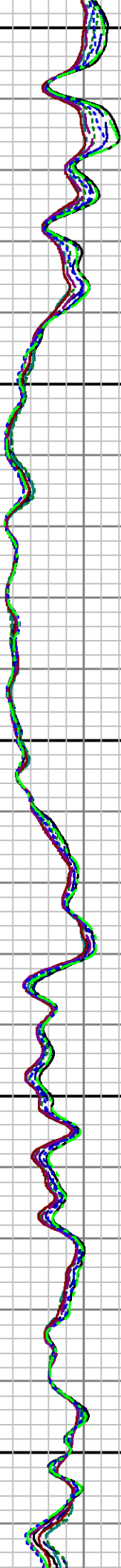


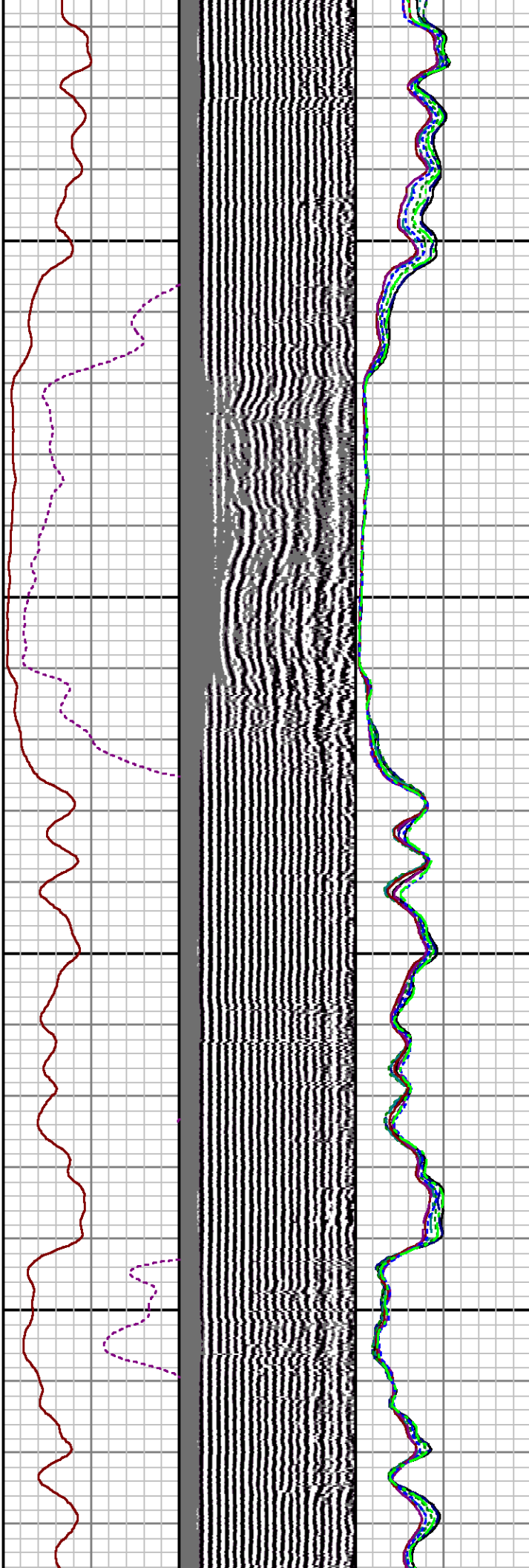




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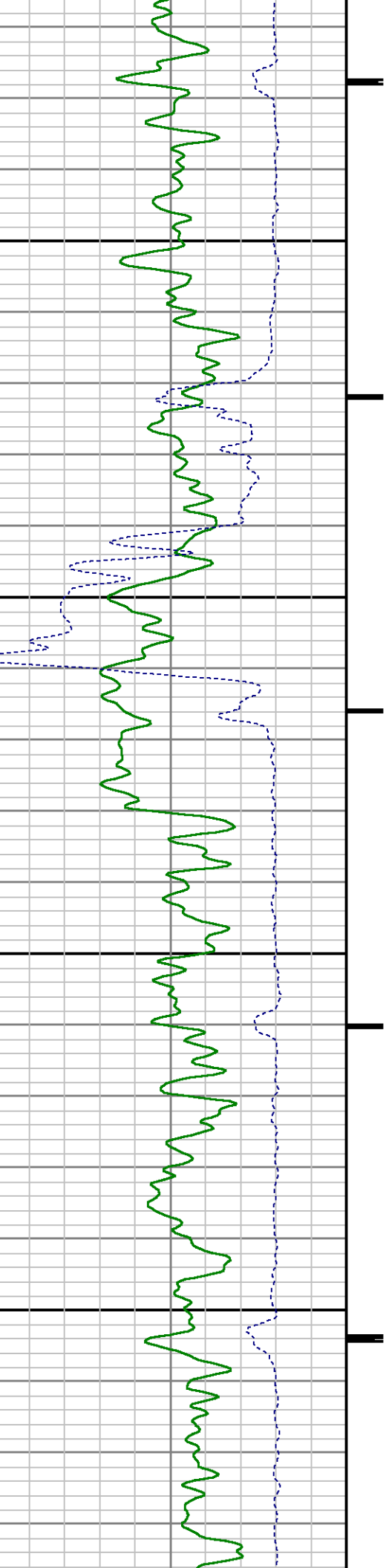
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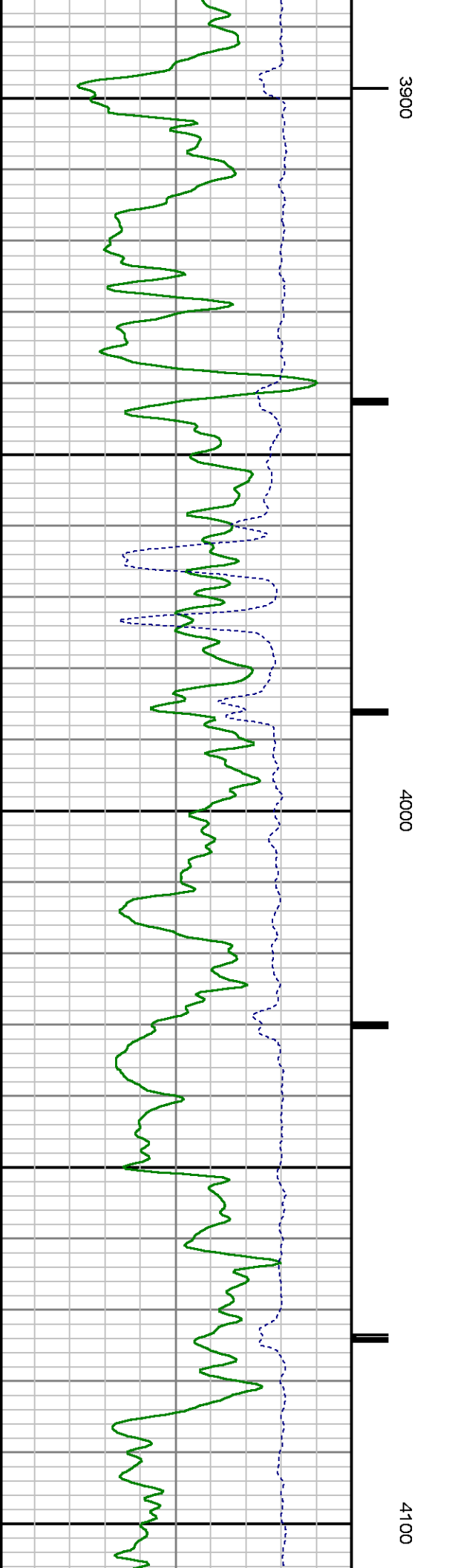
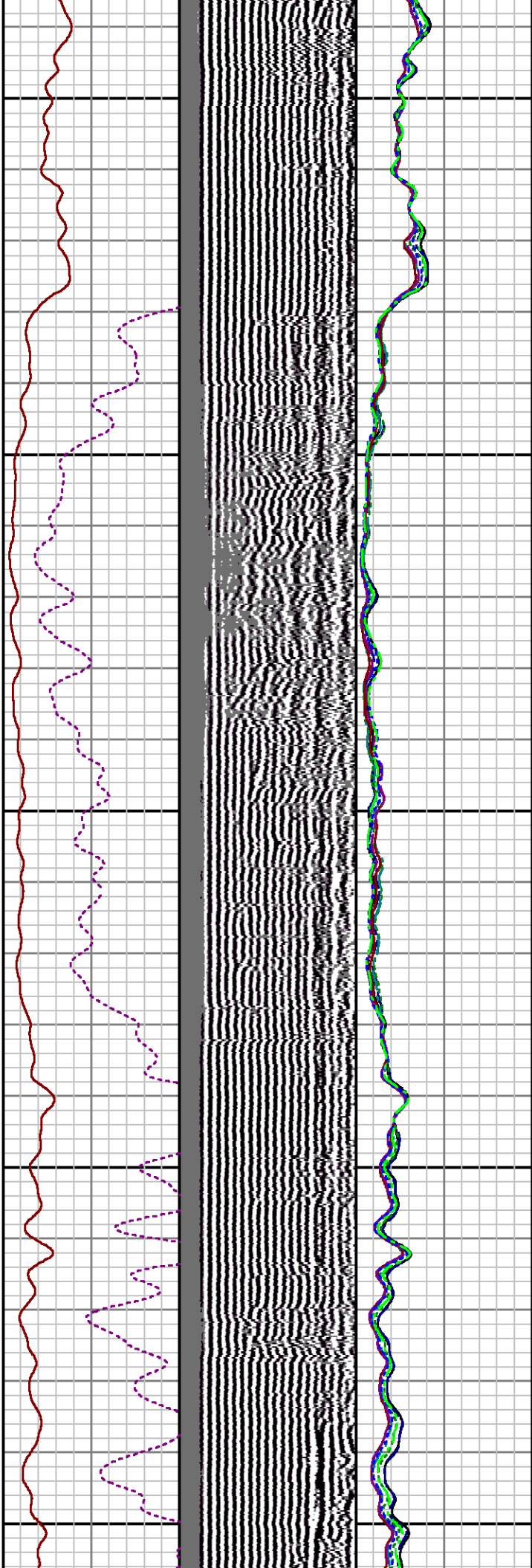
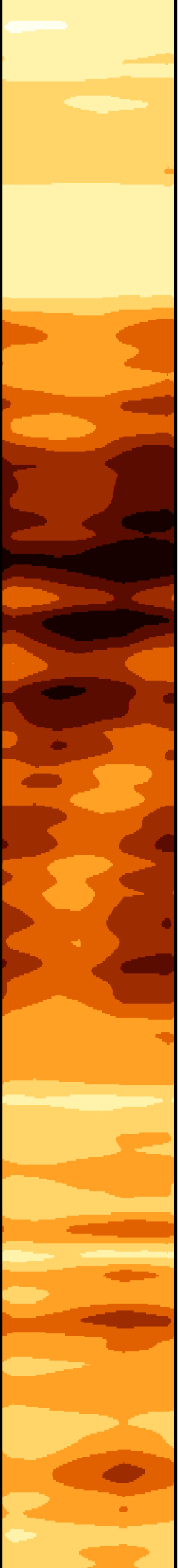


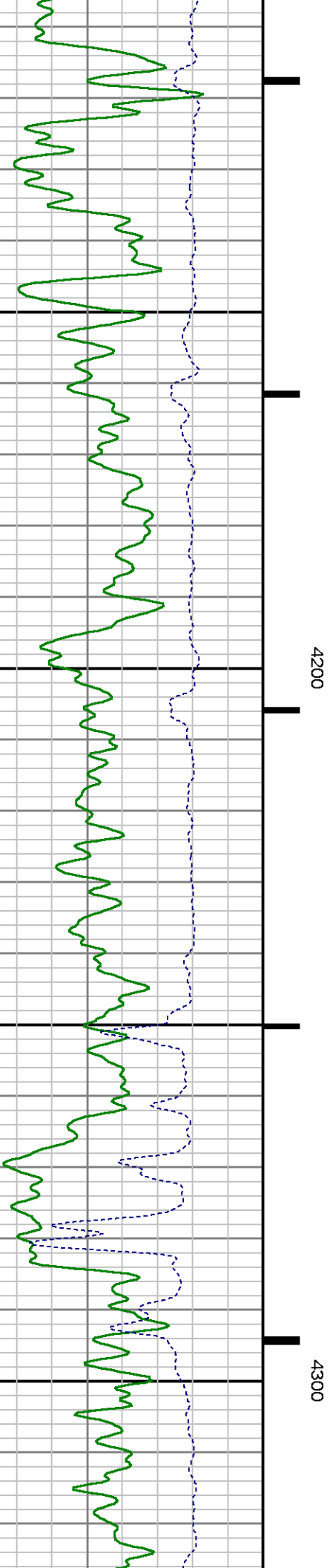
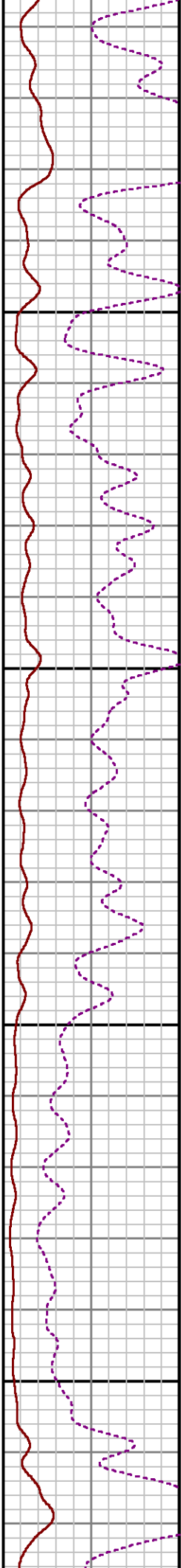
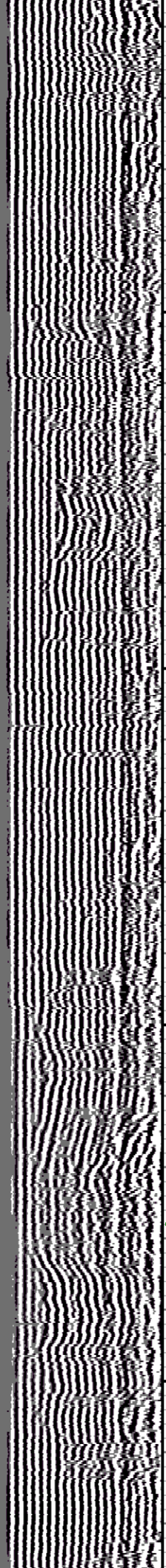
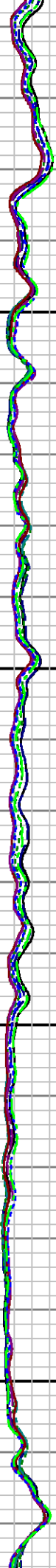
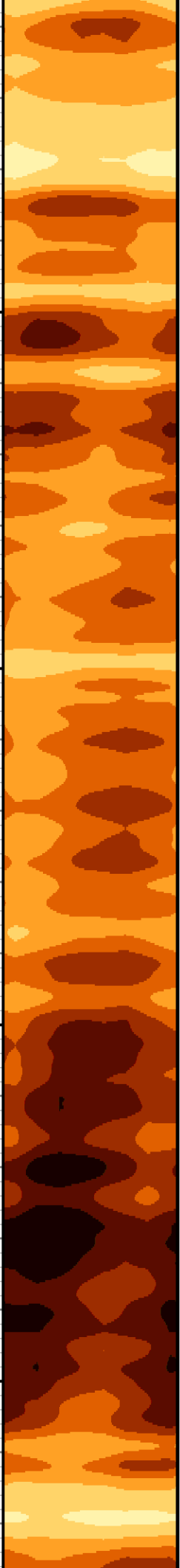


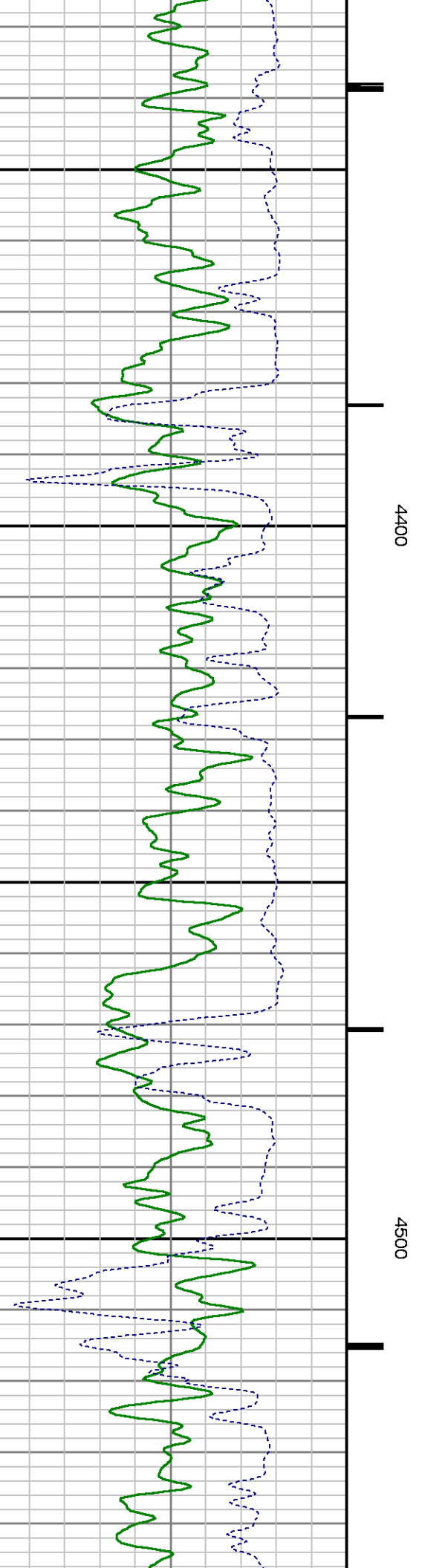
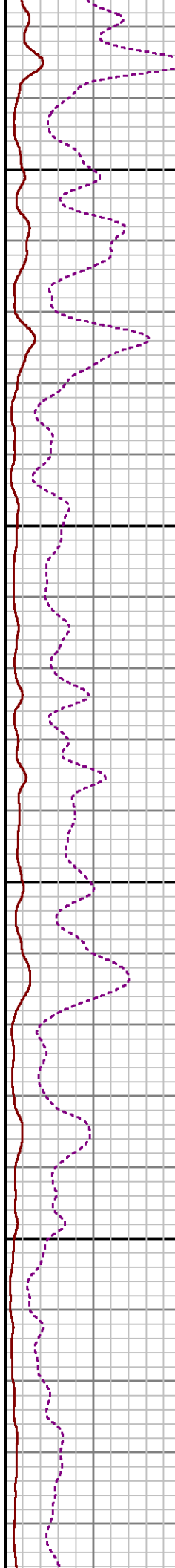
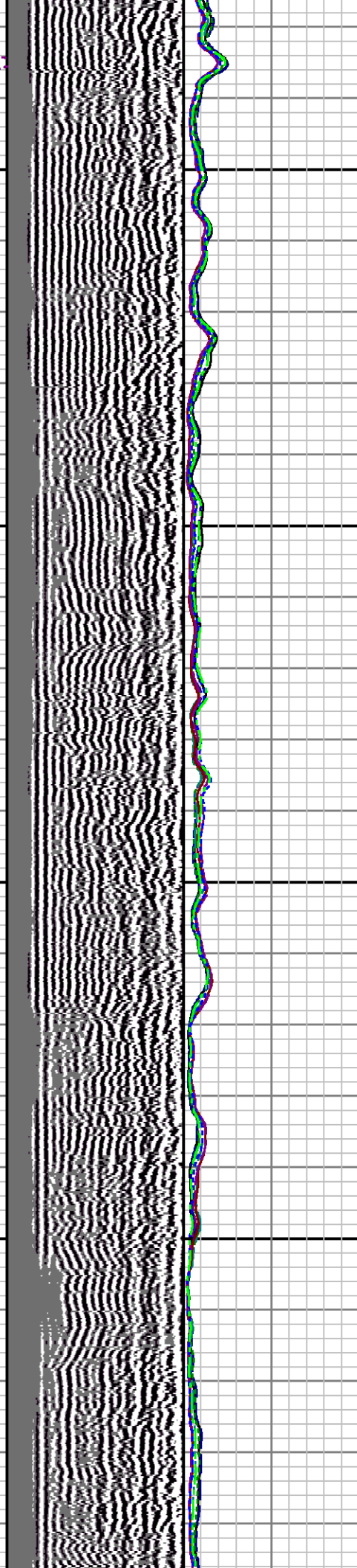
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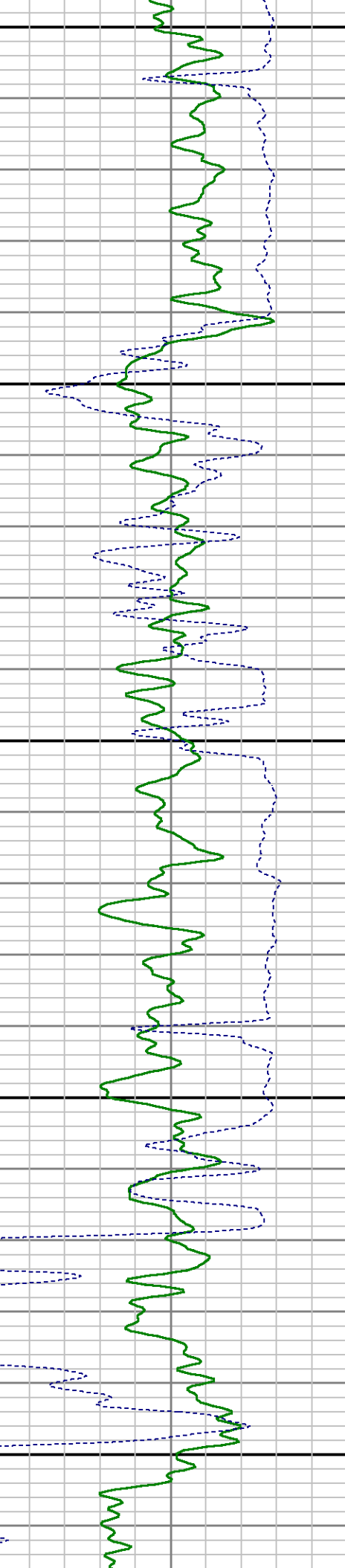
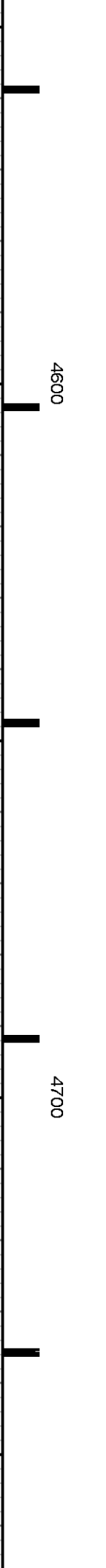
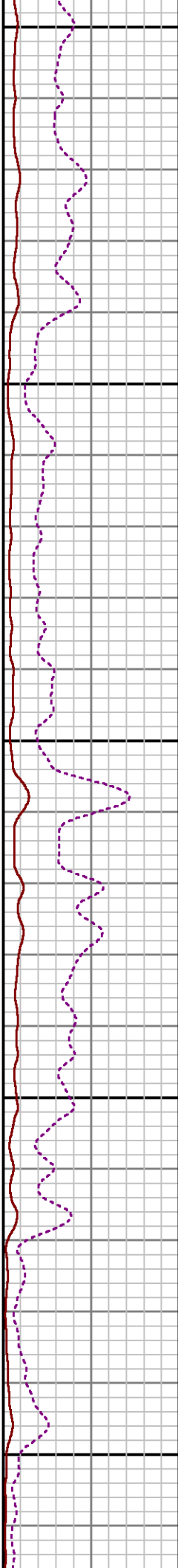
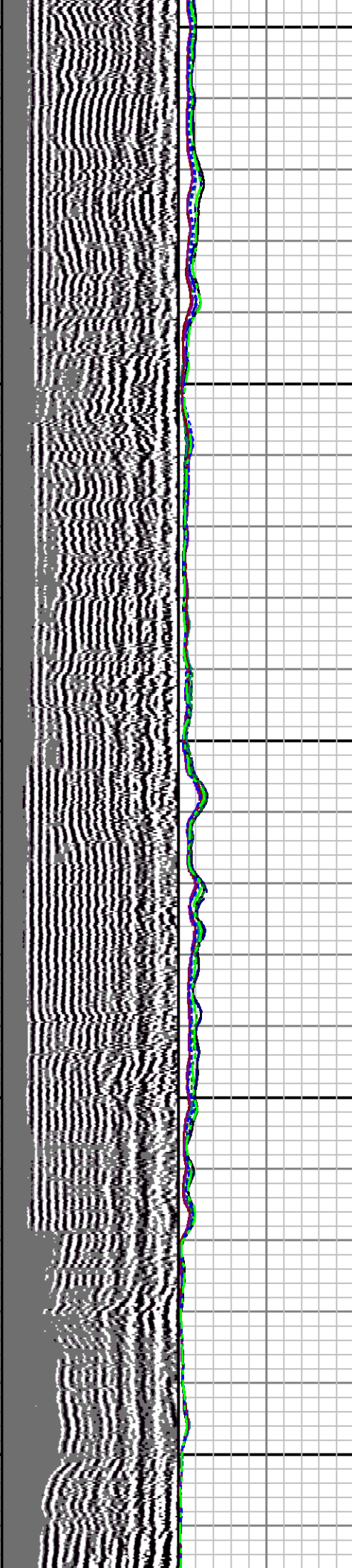
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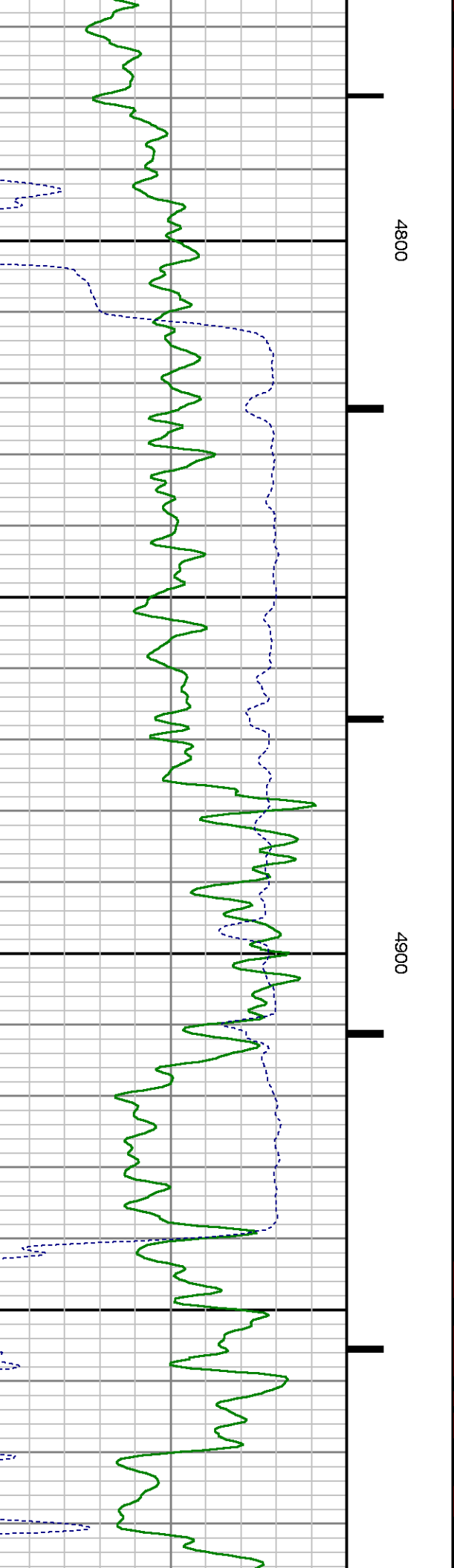
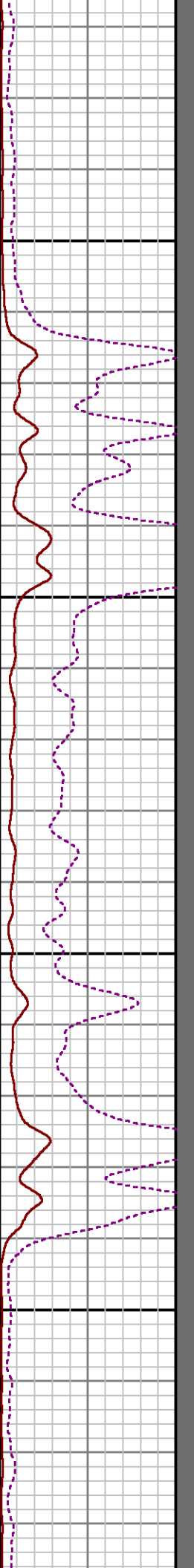
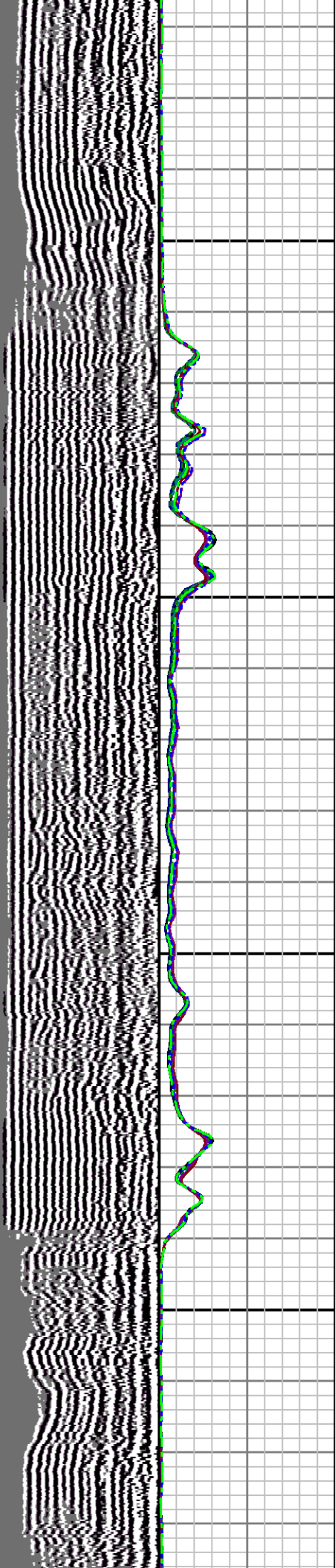


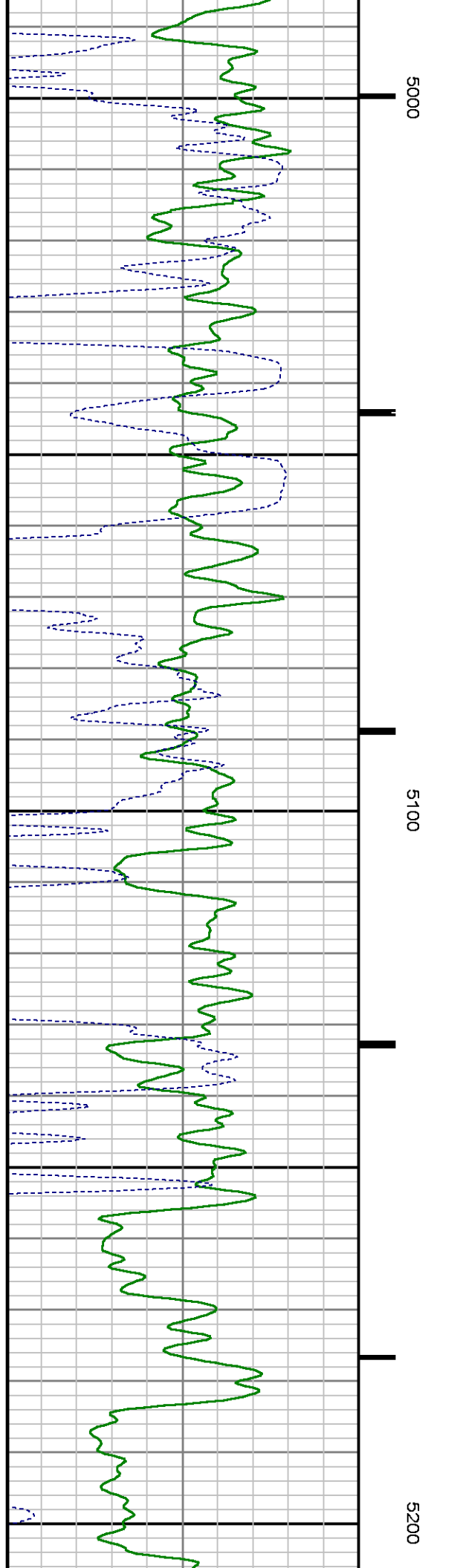
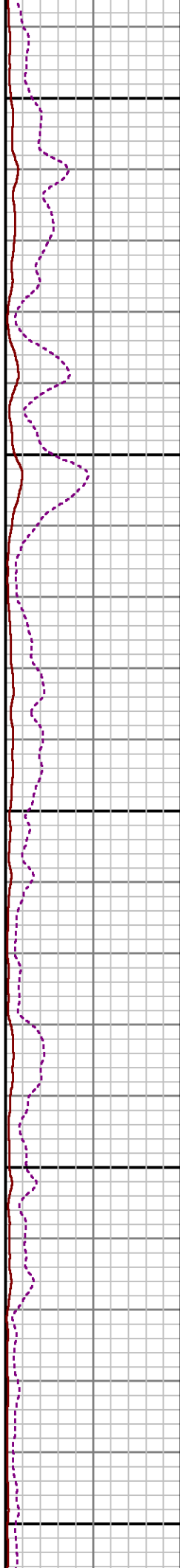
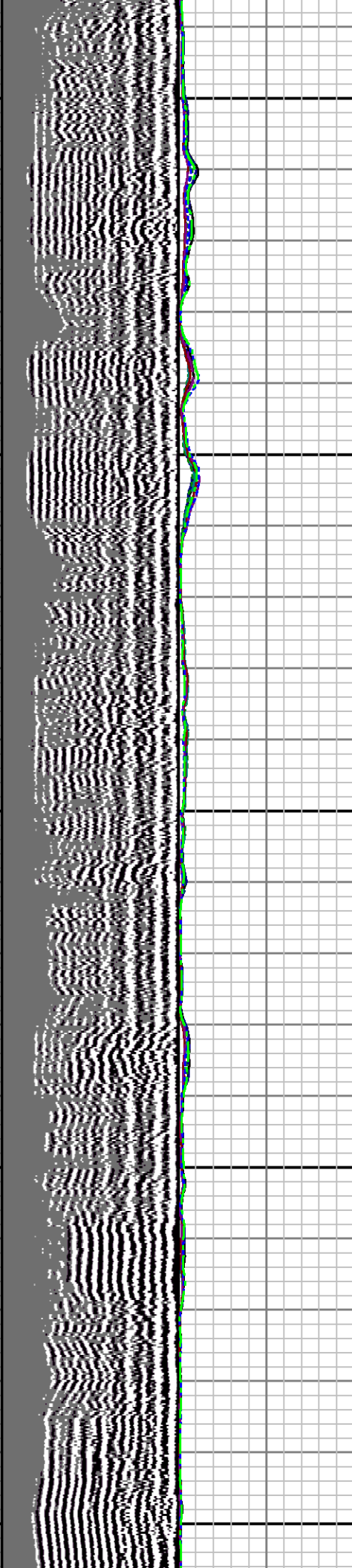


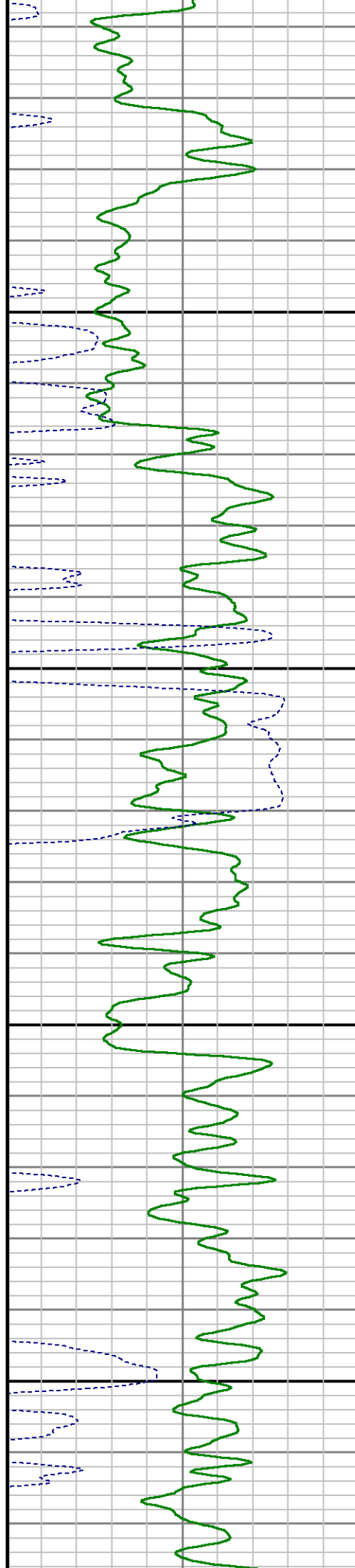
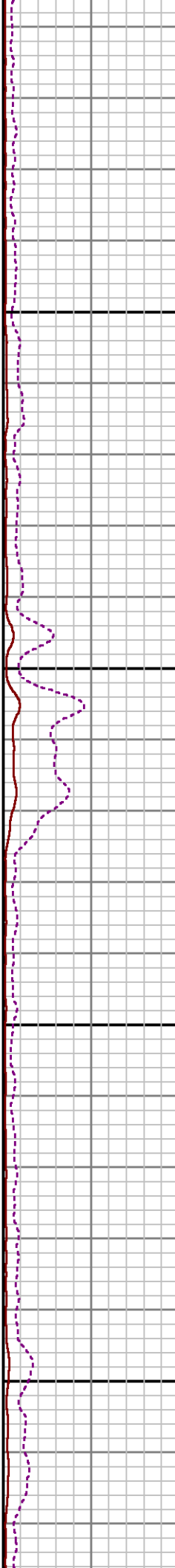
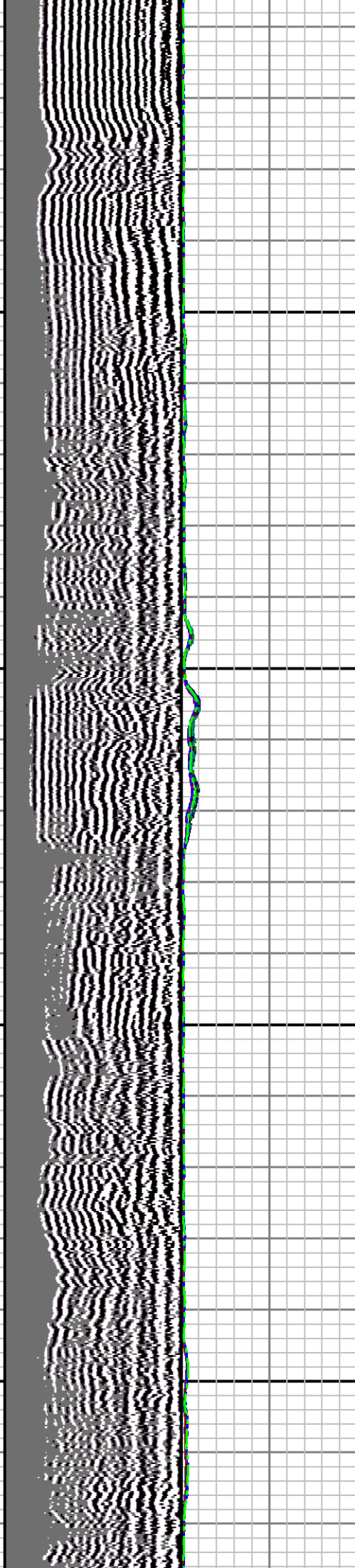
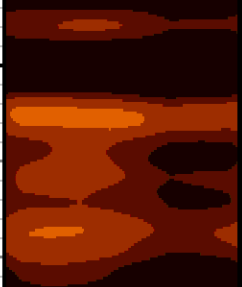


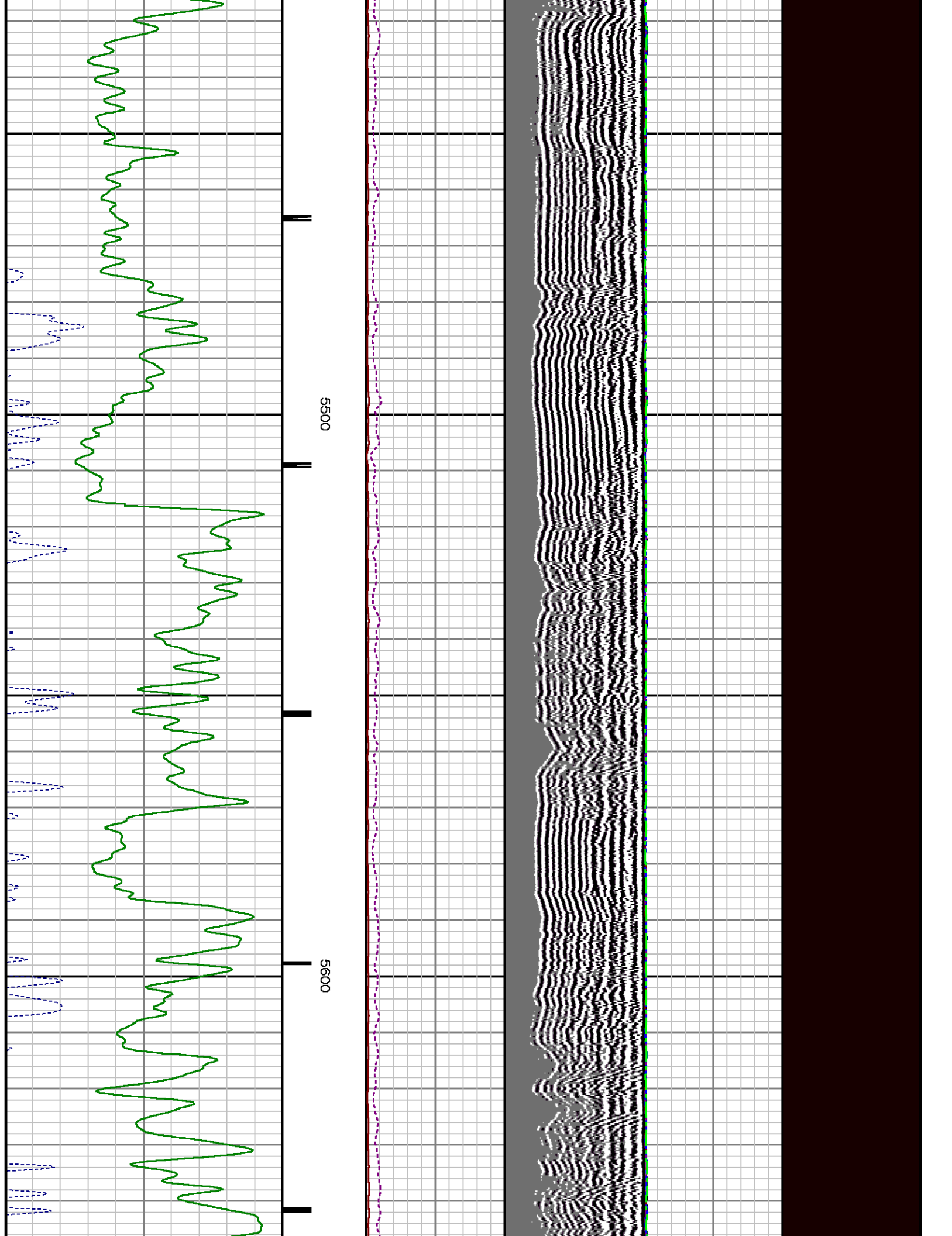


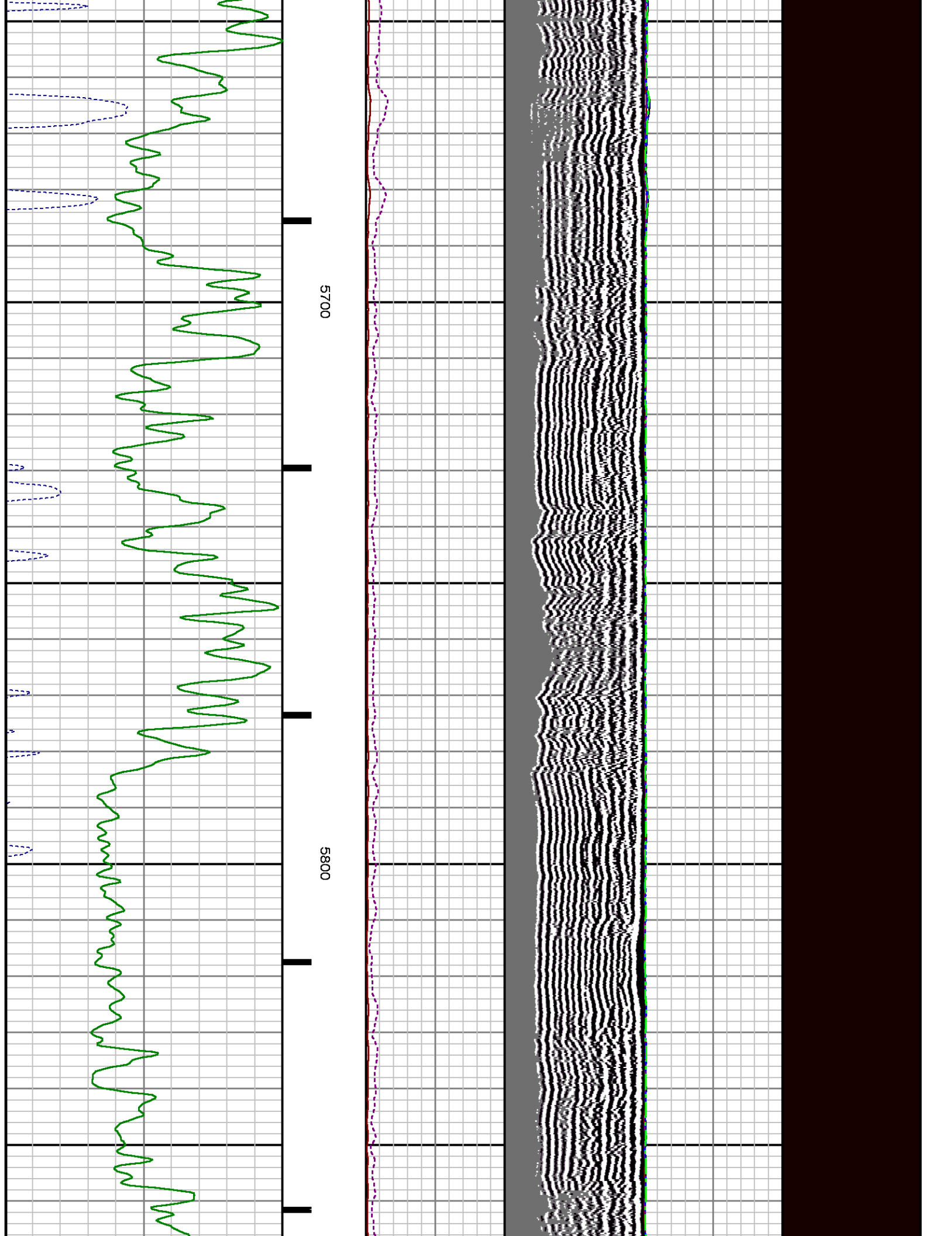


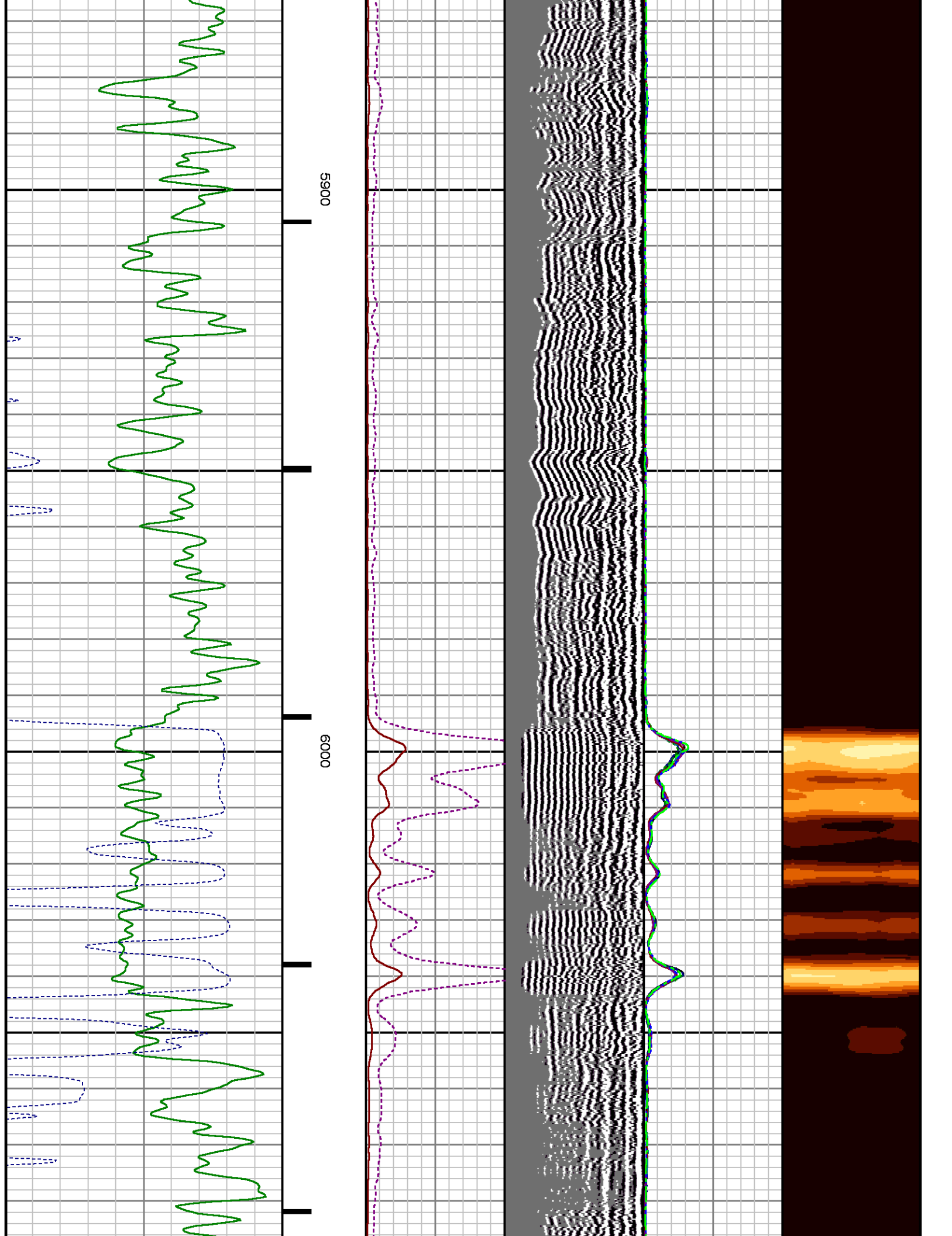


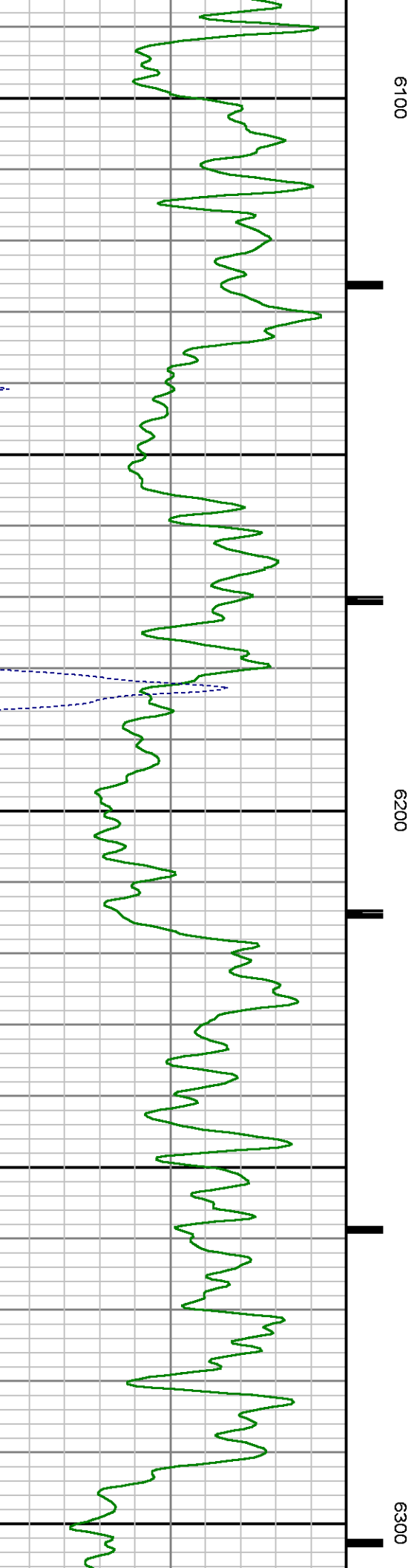
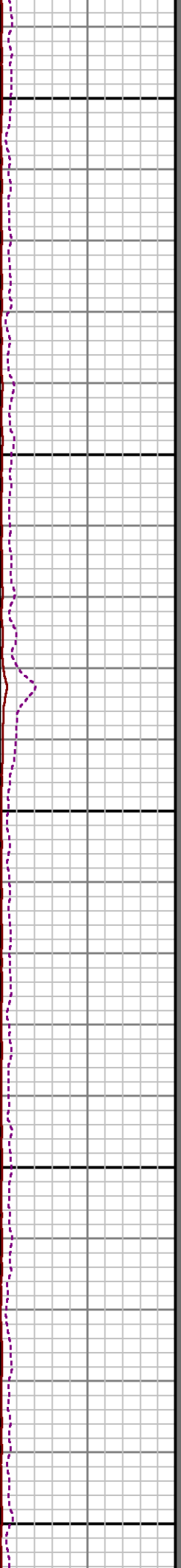
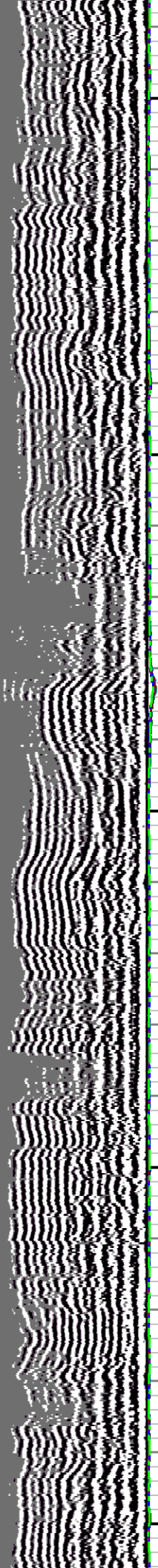


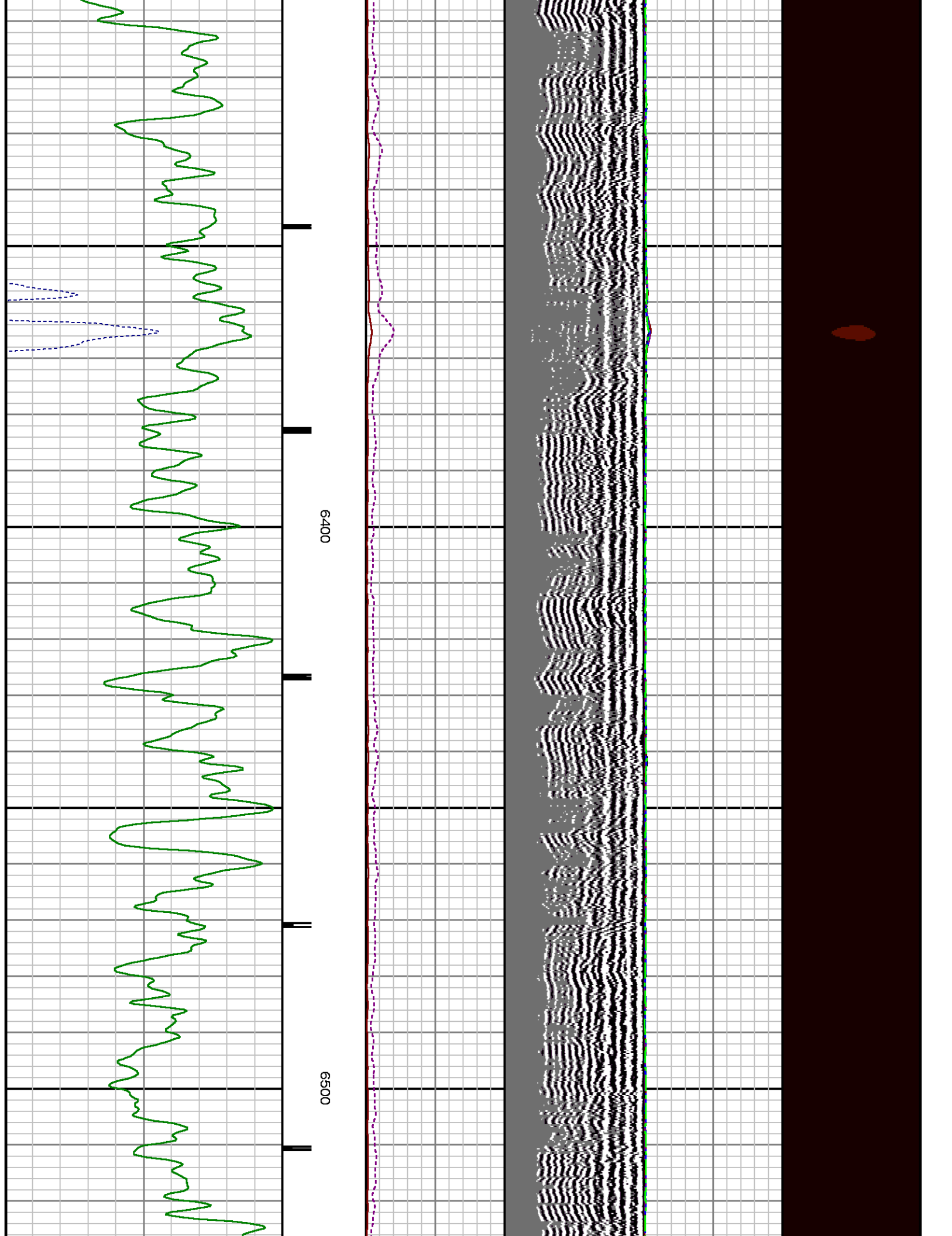


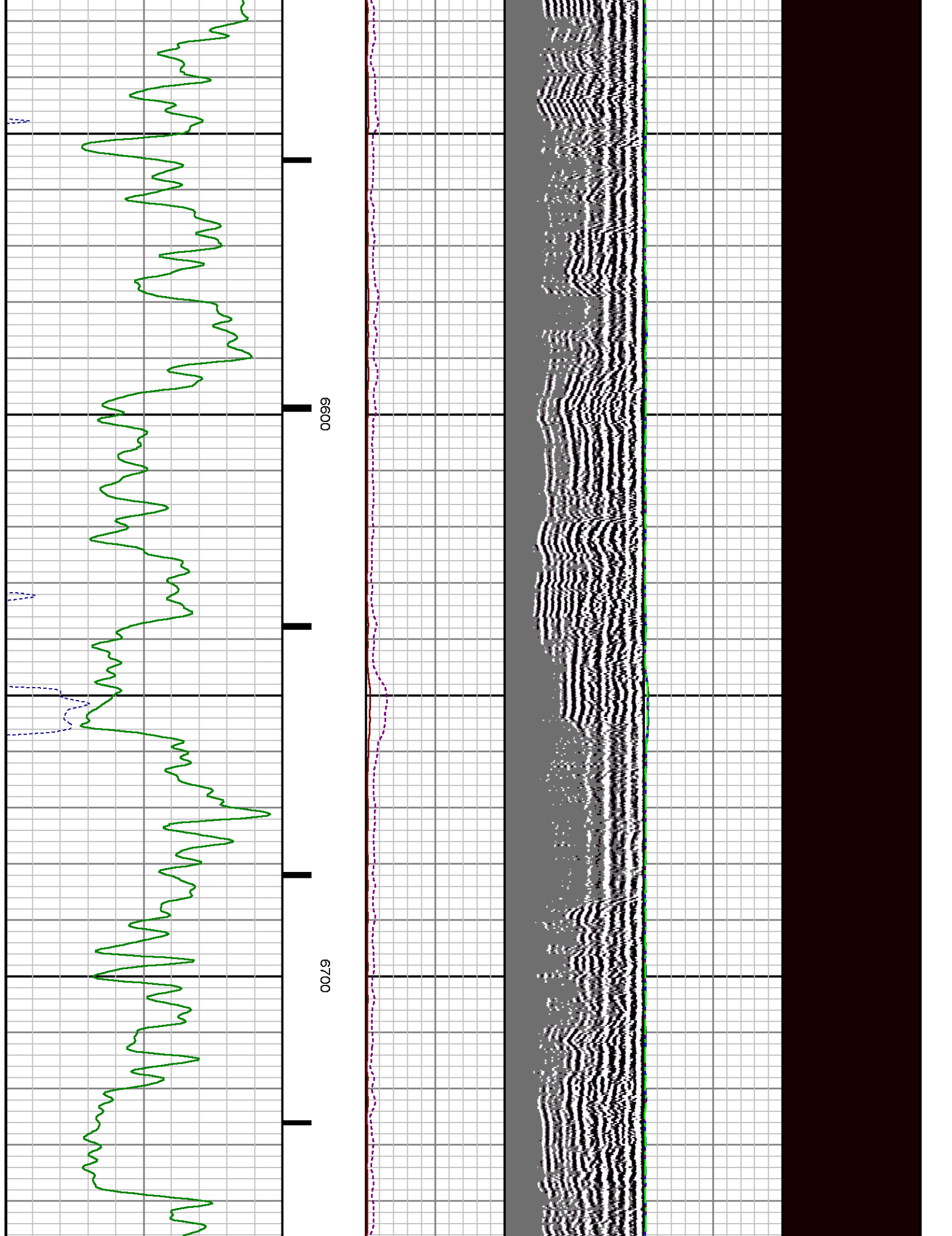


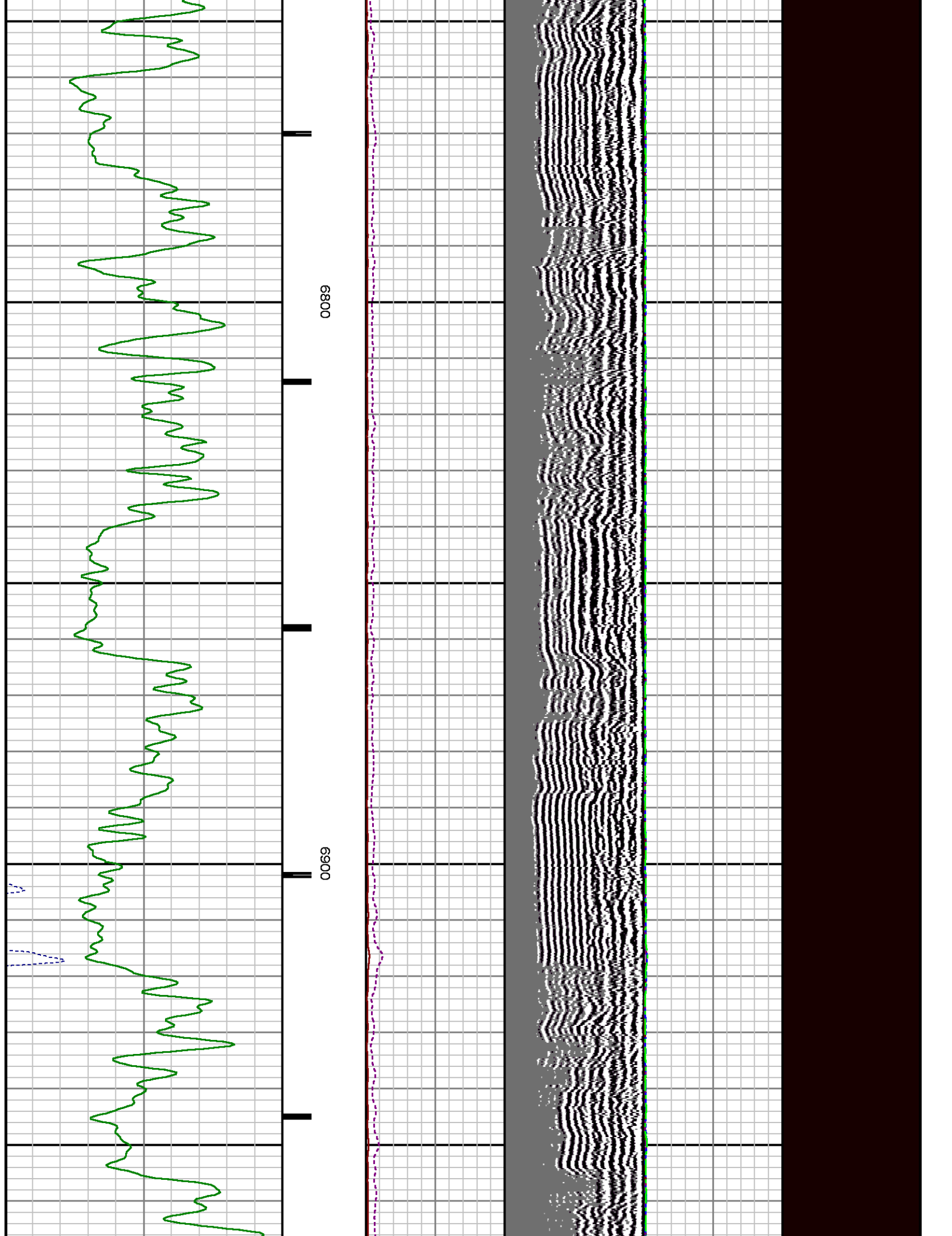


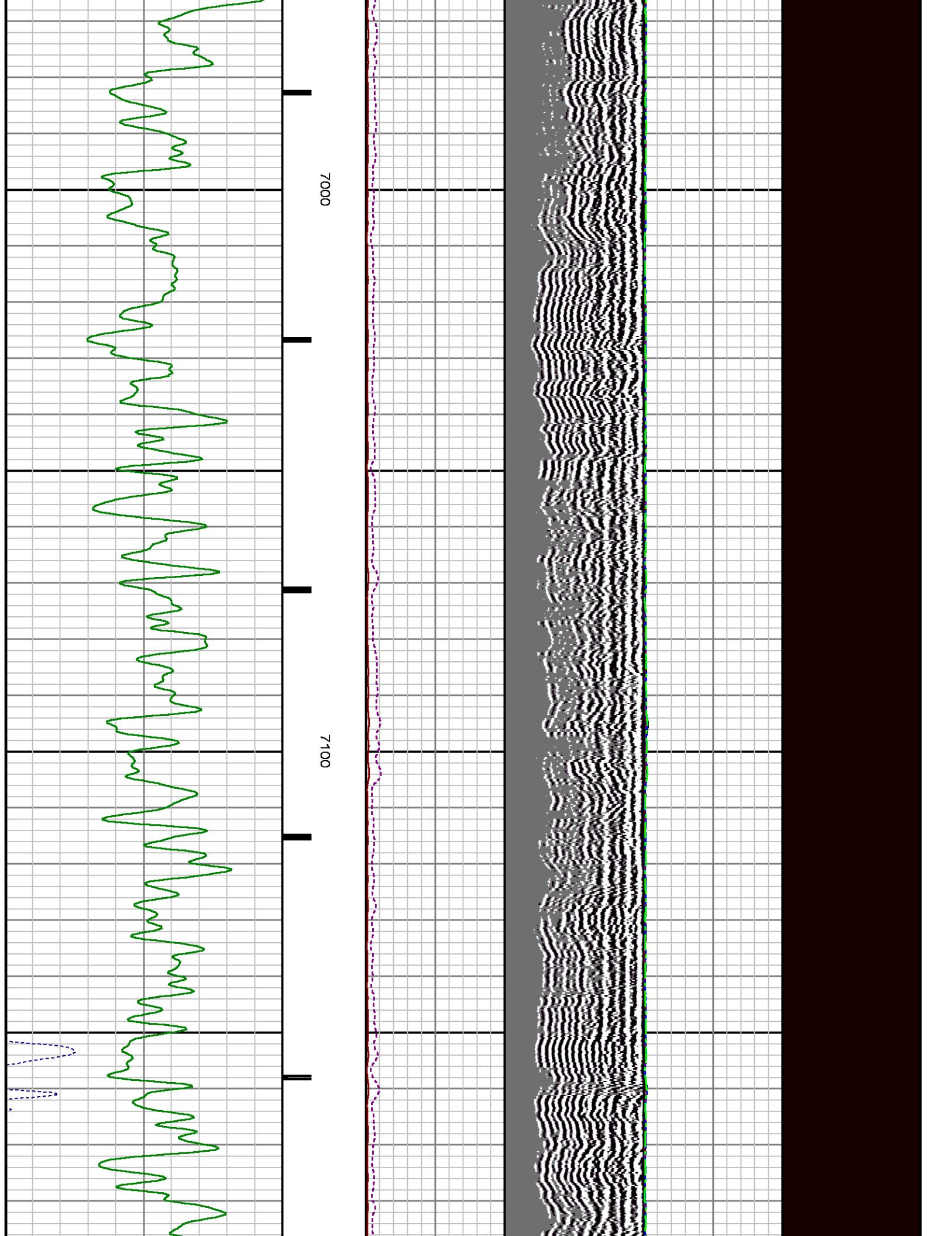


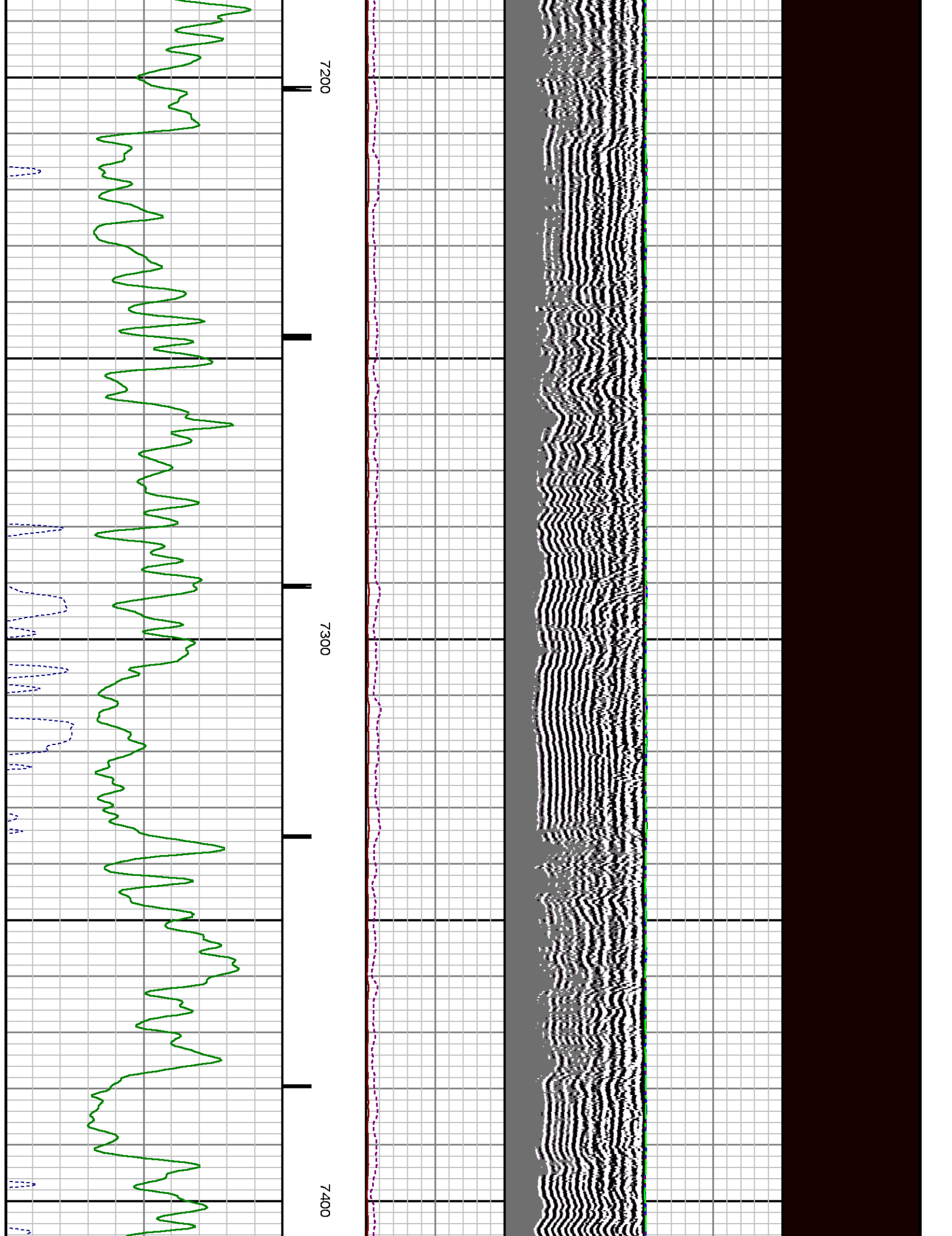


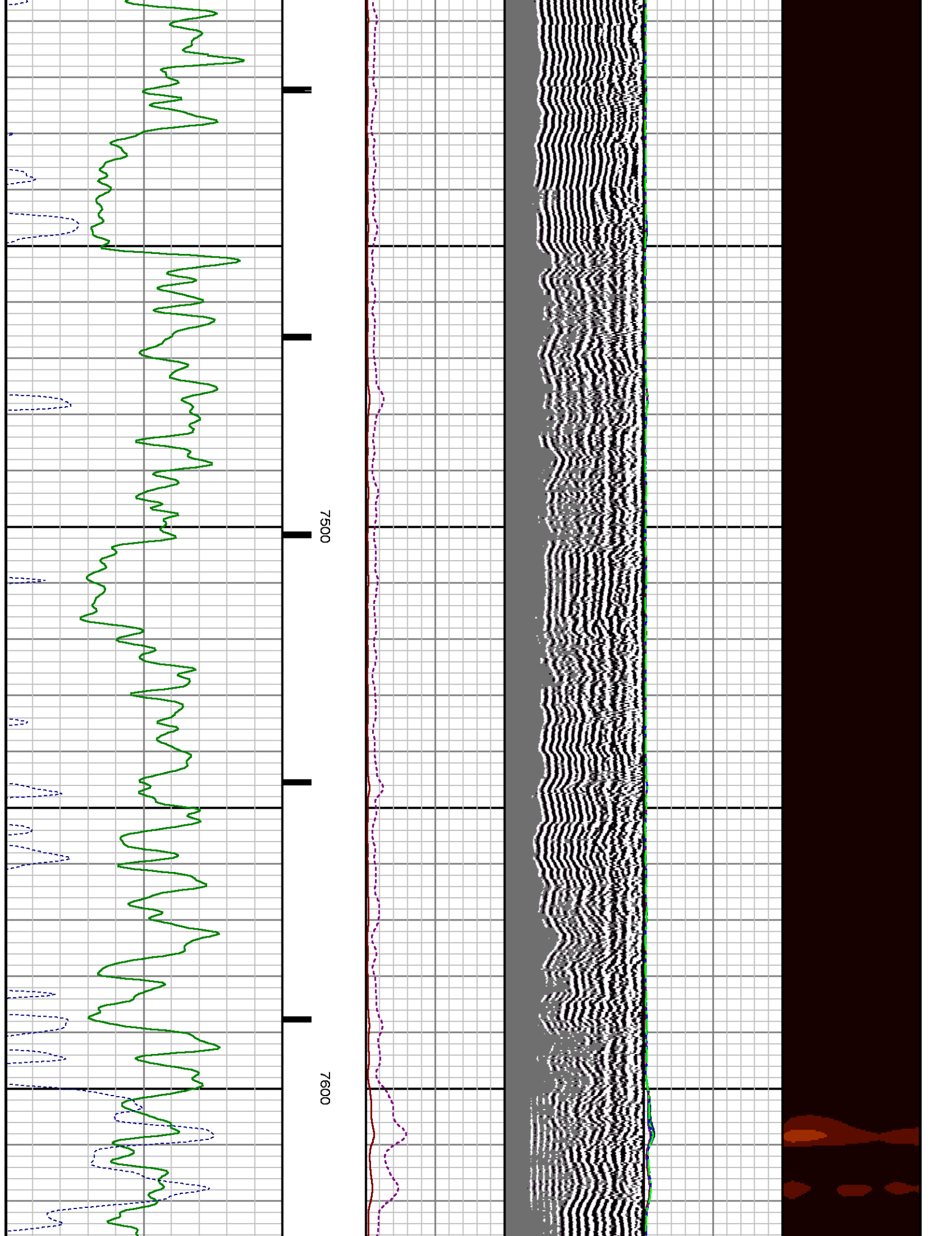


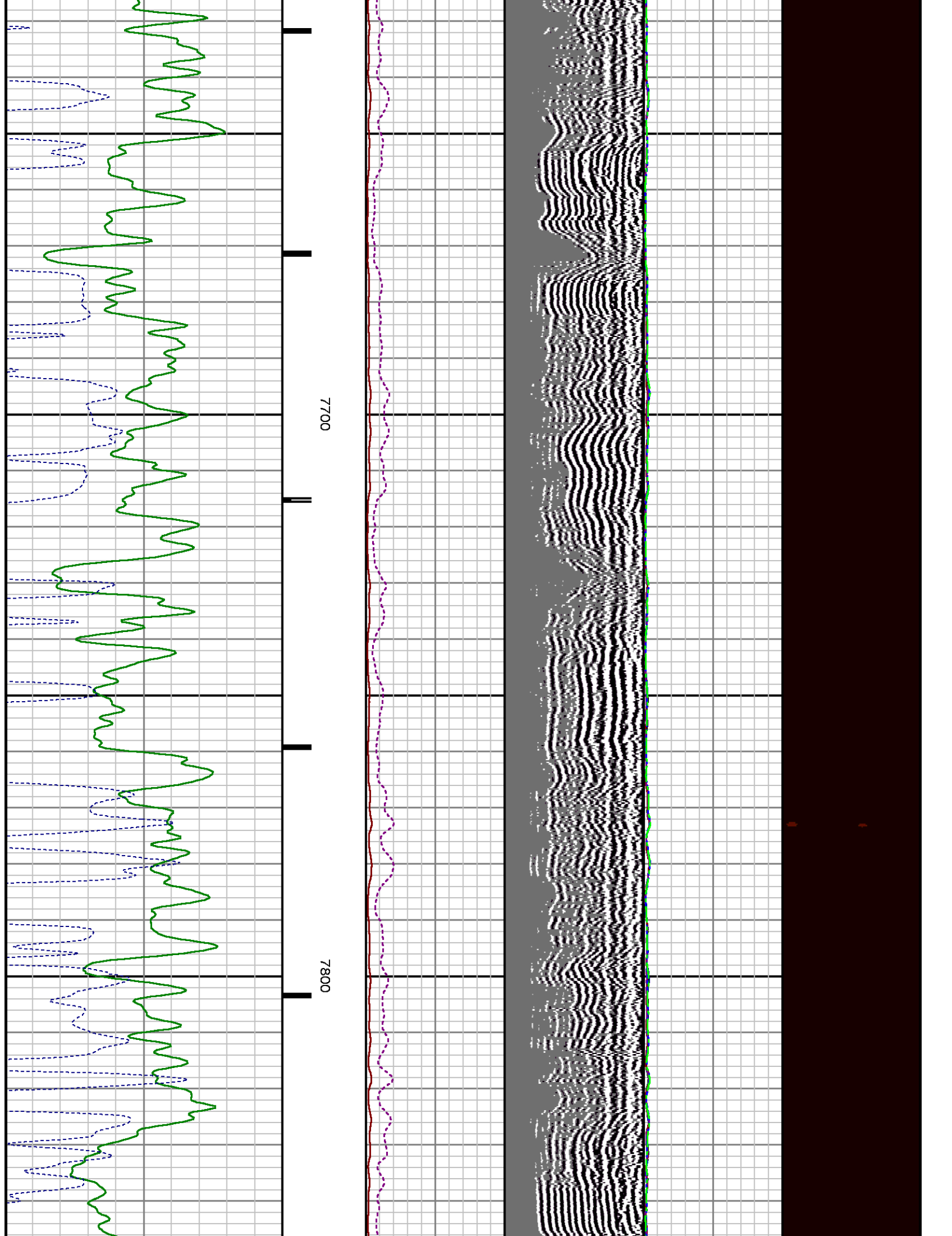


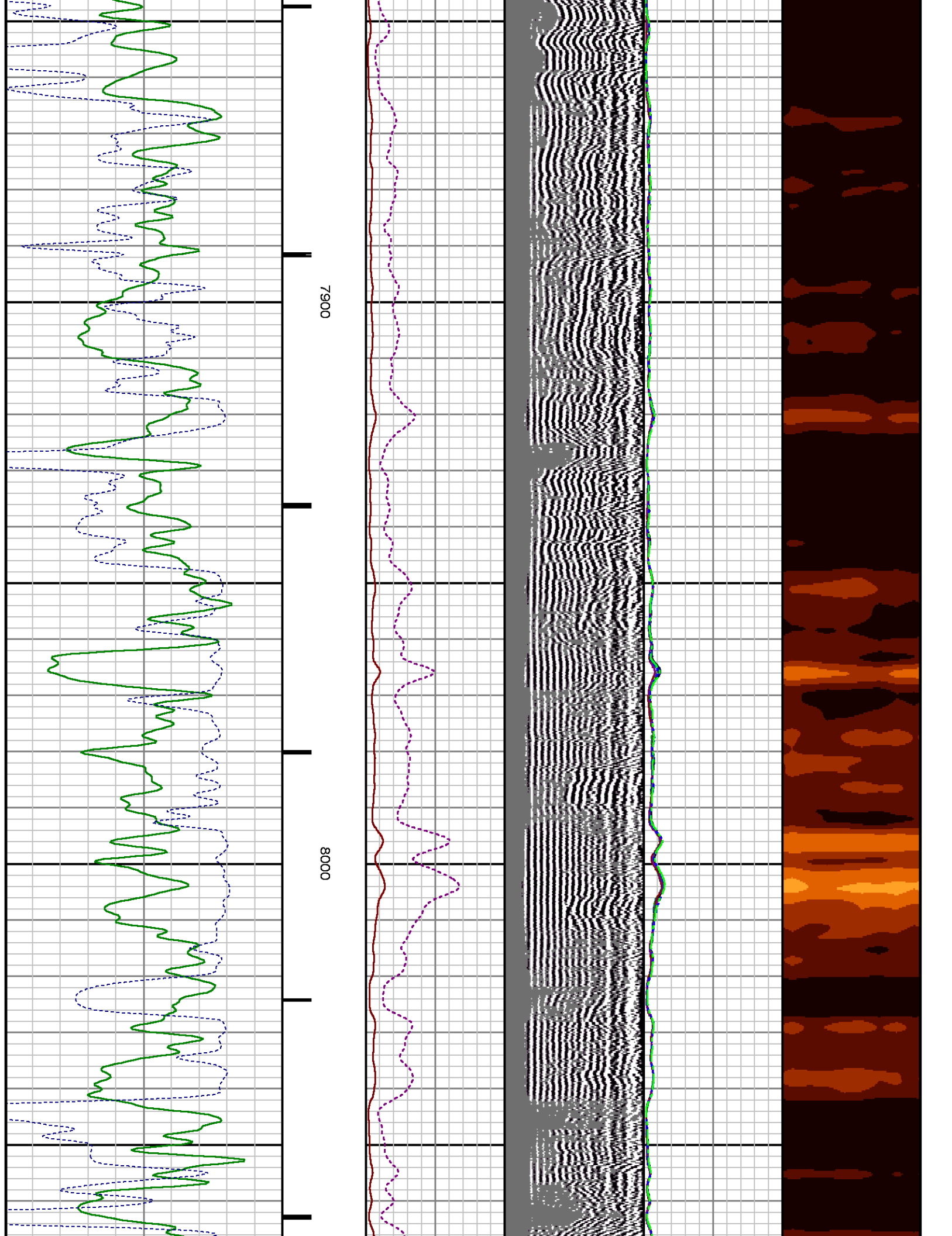


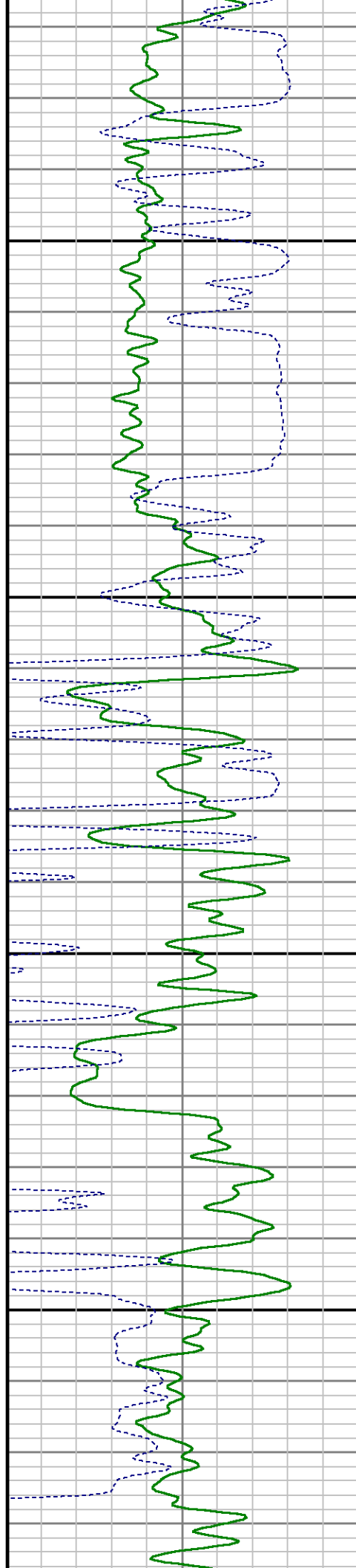
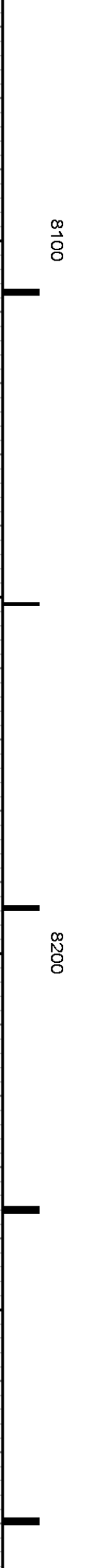
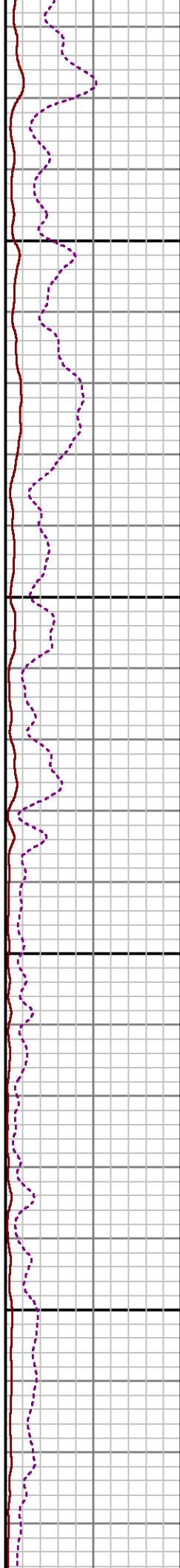
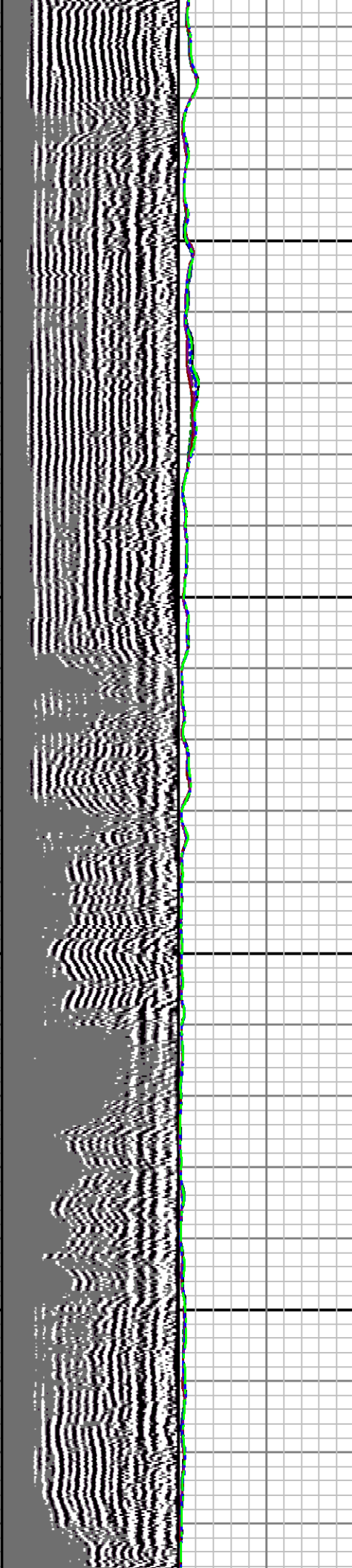


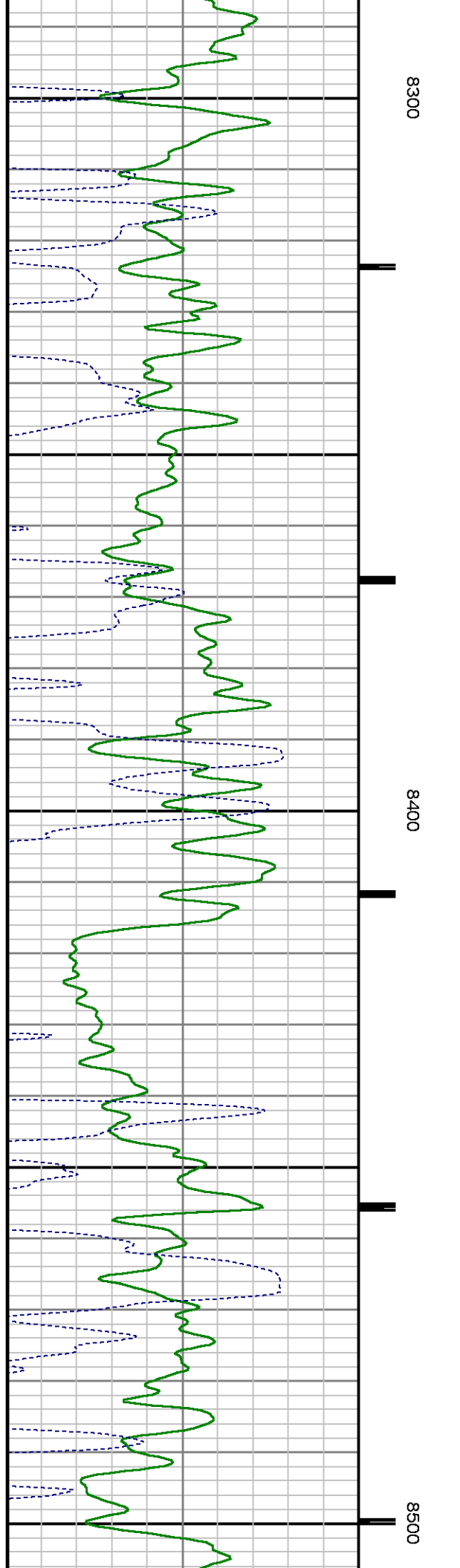
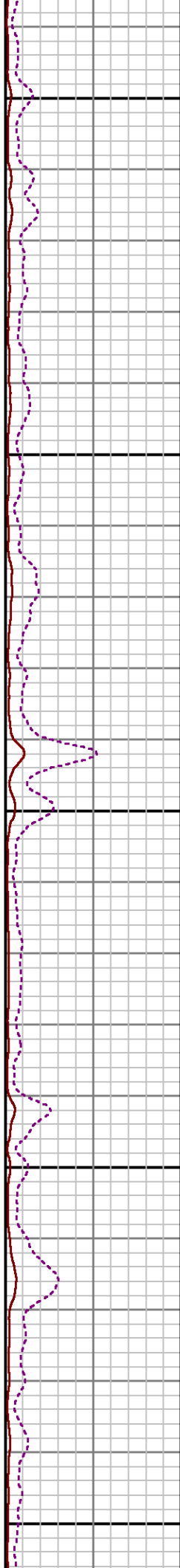
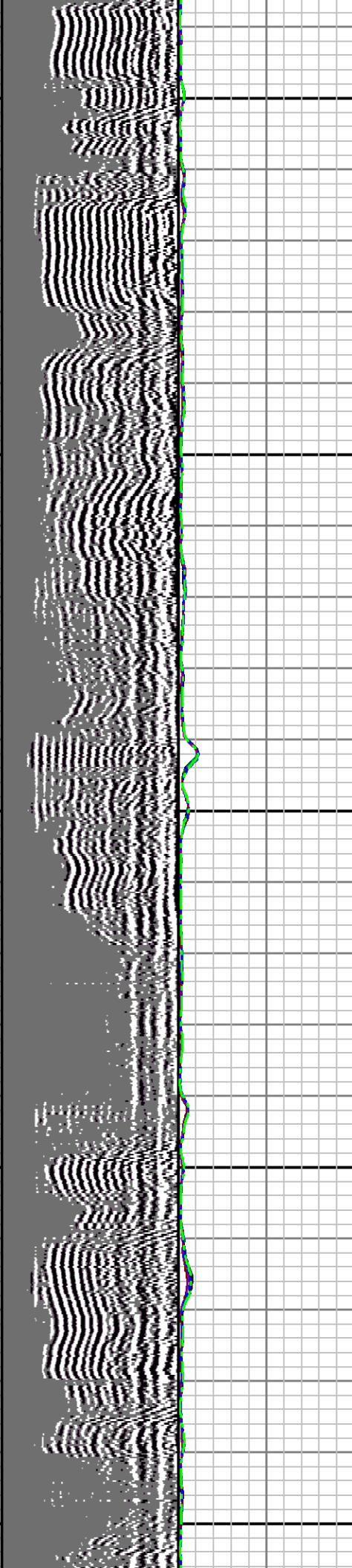
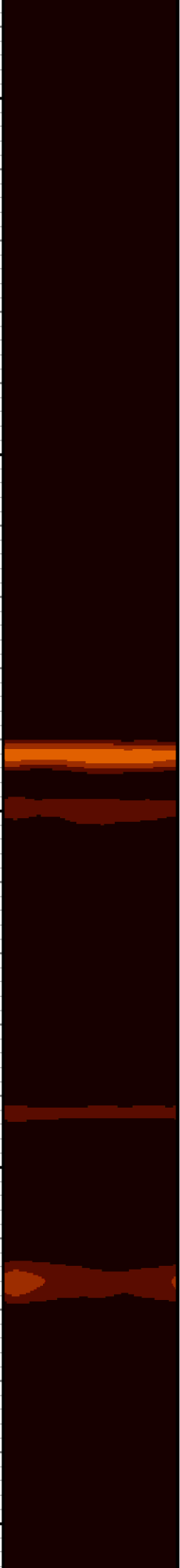


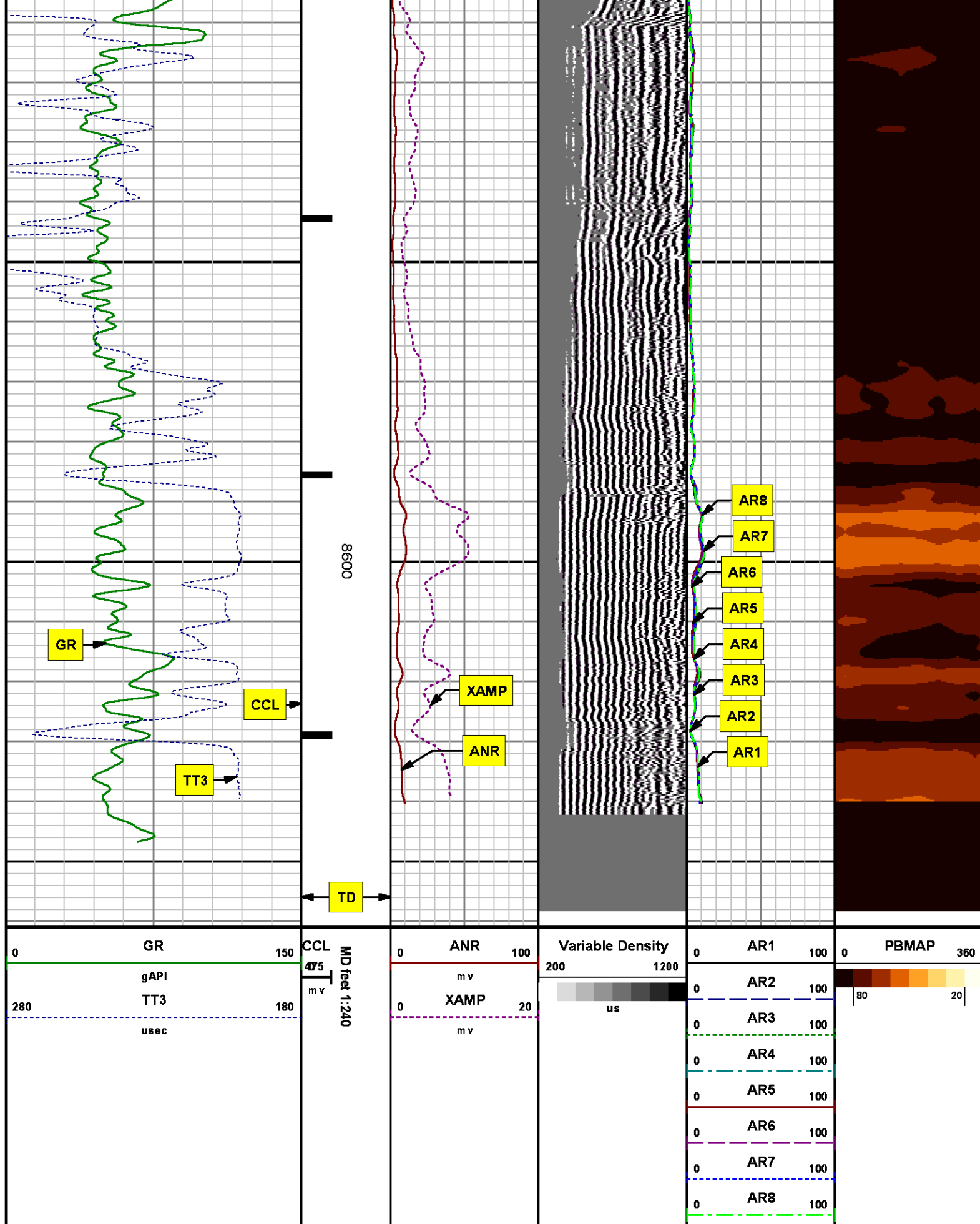












REPEAT SECTION

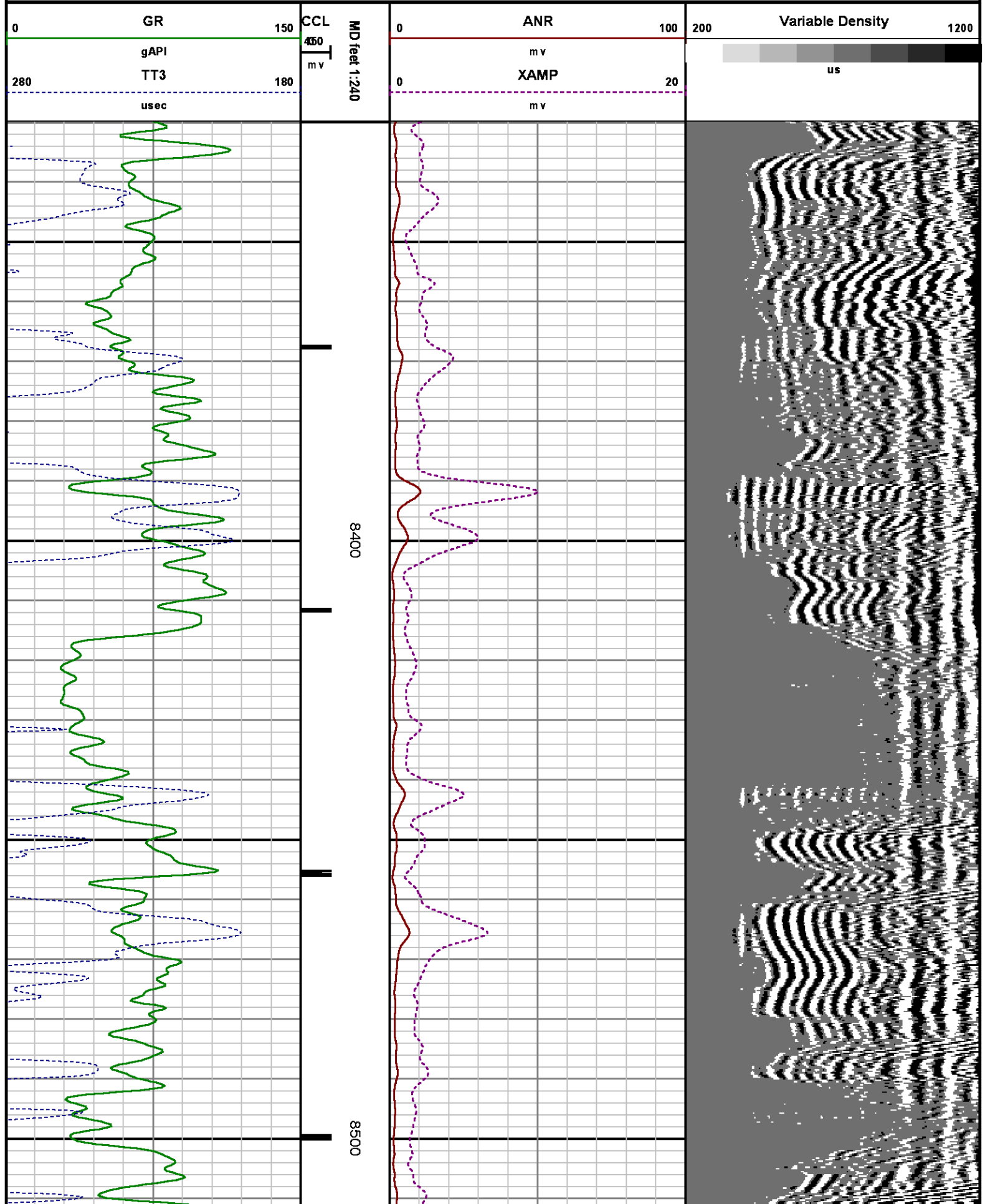
0 PSI

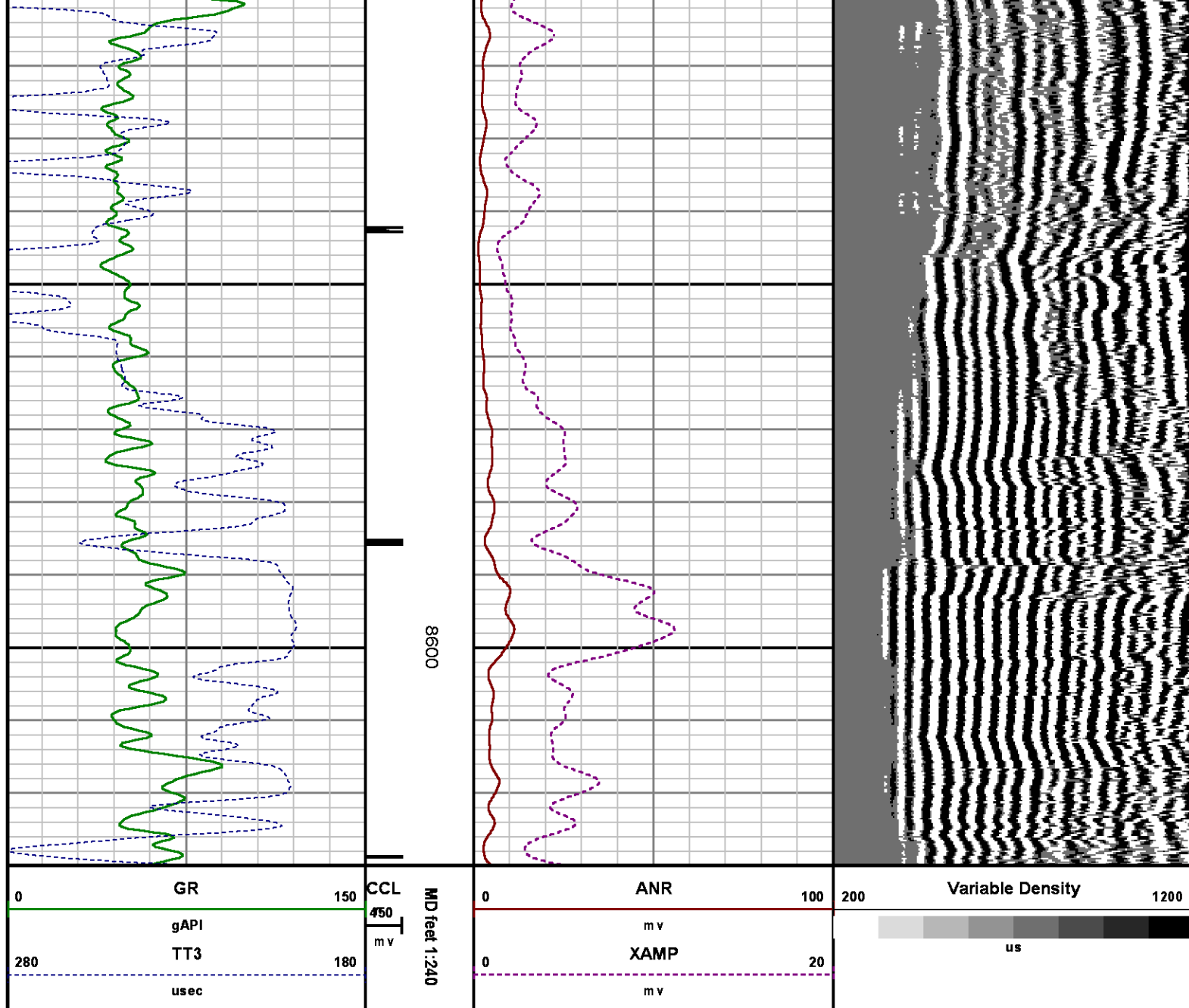
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	8327.310	8656.560
RAL	Amp Gate Start Near	195.000	usec	8327.310	8656.560
RAL	Amp Gate Start Radial	195.000	usec	8327.310	8656.560
RAL	Amp Gate Width Far	25.000	usec	8327.310	8656.560
RAL	Amp Gate Width Near	25.000	usec	8327.310	8656.560
RAL	Amp Gate Width Radial	25.000	usec	8327.310	8656.560
RAL	casing od	4.500	inches	8327.310	8656.560
RAL	casing wt	11.600	lbm/ft	8327.310	8656.560
RAL	FB Start Far	291.900	usec	8327.310	8656.560
RAL	FB Start Near	180.000	usec	8327.310	8656.560
RAL	FB Start Radial	180.000	usec	8327.310	8656.560
RAL	FB Thresh Far	10.000	mv	8327.310	8656.560
RAL	FB Thresh Near	4.000	mv	8327.310	8656.560
RAL	FB Thresh Radial	4.000	mv	8327.310	8656.560
RAL	Fluid Travel Time	200.000	usec/ft	8327.310	8656.260

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					





CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\496M9_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri May 09 11:11:13 2014

TOOL SERIES: 1426XA

ASSET:

496

SEQ:

M9

Tool Delay

Tank OD

Tank Wt

Tank ID

Tool Delay [usec]	-52.00	Casing OD in	5.50	Casing Wt lbm/ft	15.50	Casing ID in	4.95	
RECEIVER	Travel Time [usec]	Amp. Gate Start [usec]	Amp. Gate Width [usec]	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	217	216	30	166	25	-0.016	100.00	0.31
3 Ft. Receiver	217	216	30	166	25	1.426	100.00	0.31
5 Ft. Receiver	325	325	30	258	25	0.501	150.00	0.35
Radial #1	217	216	30	161	25	0.394	100.00	0.30
Radial #2	217	216	30	161	25	0.121	100.00	0.30
Radial #3	217	216	30	161	25	0.221	100.00	0.31
Radial #4	217	216	30	161	25	0.529	100.00	0.31
Radial #5	217	216	30	161	25	0.474	100.00	0.31
Radial #6	215	216	30	161	25	0.626	100.00	0.31
Radial #7	214	216	30	161	25	0.421	100.00	0.30
Radial #8	217	216	30	161	25	0.588	100.00	0.30

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\496M9_fid.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri May 09 11:12:26 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: M9

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	0.046	0.000	1.00	100.000
3 Ft. Receiver	200	30	2.248			
5 Ft. Receiver	317	30	2.165			
Radial #1	200	30	1.553			
Radial #2	200	30	1.659			
Radial #3	200	30	1.833			
Radial #4	200	30	1.852			
Radial #5	200	30	2.061			
Radial #6	200	30	2.196			
Radial #7	200	30	1.772			
Radial #8	200	30	1.711			

GAMMA RAY

Calibration File: C:\case\calver\GR\45608.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu May 08 09:48:12 2014 TOOL SERIES: 2459XA ASSET: 456 SEQ: 08

Calibrator #	Background	Calibrator On	Multiplicative	Background	Calibrator On	Differential
	[cps]	[cps]		[api]	[api]	[api]
S2K WA612	97.82	367.47	0.686	67.11	252.11	185.00

Verification File: C:\case\calver\GR\45608.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Thu May 08 09:49:43 2014 TOOL SERIES: 2459XA ASSET: 456 SEQ: 08

Calibrator #	Background	Calibrator On	Multiplicative	Background	Calibrator On	Differential
	[cps]	[cps]		[api]	[api]	[api]
S2K WA612	98.76	372.44	0.686	67.76	255.53	187.77

TOOL DIAGRAM

OTA SHORT CABLE HEAD

PROBE 2 3/4 DUAL RECEIVER RADII

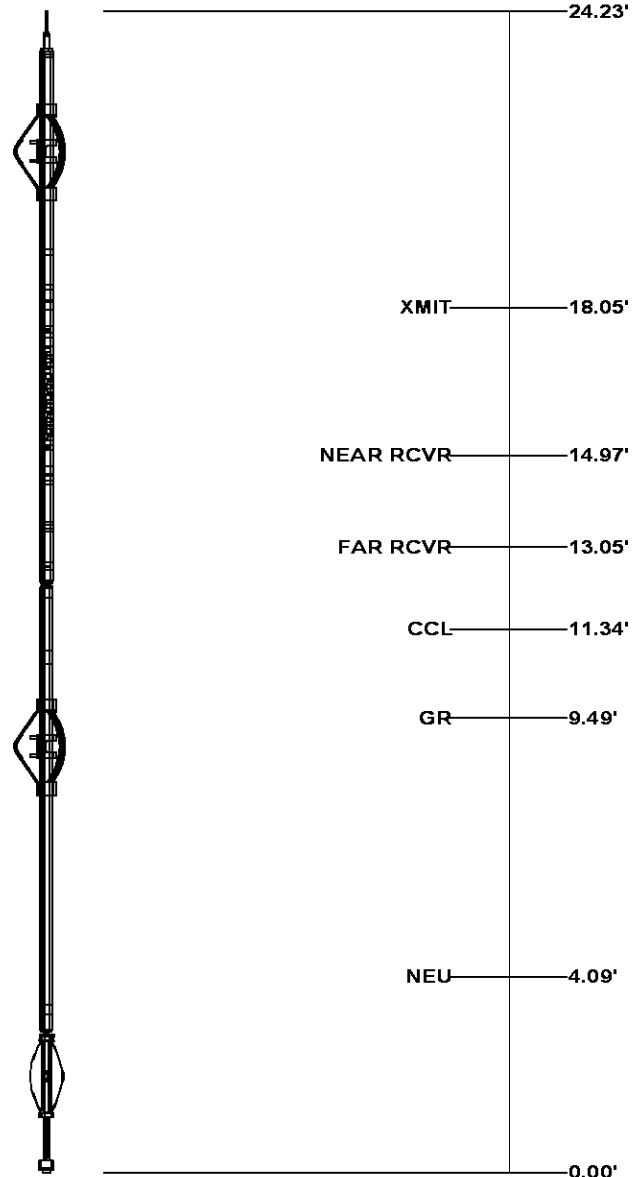
Series 1426XA
 Mnemonic PROB
 Diameter 2.75"
 Length 11.17'
 Measure Point 0.75' FAR RCVR
 Measure Point 2.67' NEAR RCVR
 Measure Point 5.75' XMIT
 Temp Rating 350.00 °F
 Press Rating 18000.00 PSI

Probe GR/CCL/NEU

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

CENTRALIZER

Series RALCENT
 Mnemonic CENT
 Diameter 3.12"
 Weight 20.00 lb



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



Baker Atlas

CASE

Company Well Field County	WPX ENERGY				File No:
	SAVAGE RWF 323-25				CH085751
	RULISON				API No:
	GARFIELD		State	CO	05045219900000
Location					Elevations
SHL: 1662' FSL & 2304' FWL					KB 6122 ft
BHL: 2174' FSL & 2259' FWL					DF
					GL 6096 ft
SEC	25	TWP	6S	RGE	94W
					25 6S 94W
					RWF 23-25 PAD
					NABORS 577