



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH084617 Company WPX ENERGY

Well FEDERAL NER 344-32

API No: RULISON

County GARFIELD State COLORADO

Location Other Services

32 6S 93W SHL: 189' FNL x 2609' FWL SEC 5 7S 93W

RU 23-5 PAD BHL: 424' FSL x 659' FWL SEC 32 6S 93W

NABORS 676 SEC 32 TWP 6S RGE 93W

Permanent Datum GL Elevation 7603 ft

Log Measured From KB 26 ft Above P. D.

Drill Measured From KELLY BUSHING KB 7629 ft DF GL 7603 ft

Date	04/APR/14	
Run	ONE	
Service Order	US628373	
Depth Driller	10307 ft	
Depth Logger	10278 ft	
Bottom Logged Interval	10268 ft	
Top Logged Interval	26 ft	
Time Started	0830	
Time Finished	1230	
Operator Rig Time	4 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	81 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	66 fpm	
Maximum Recorded Temperature	244 degF	
Reference Log	NONE	
Reference Log Date	NA	
Equipment No.	4271	GRAND UCT
Recorded By	FLYOD RENEAU	
Witnessed By	JEFF DUCY	

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

Borehole Record		
Bit Size	From	To
13.5 in	26 ft	1132 ft
8.75 in	1132 ft	10307 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			26 ft	1132 ft
4.5 in	11.6 lbm/ft	P-110	26 ft	10307 ft

Remarks
All data on this log is shifted using the CCL curve to put the wellhead (top CCL mark) on depth with ground level elevation at the client's request.
The amount of linear shift is 12 feet.
Logged with zero PSI at wellhead.
BHT = 244°F
SJ = 6924'- 6946'

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

PRIMARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	36.187	10282.000
RAL	Amp Gate Start Near	195.000	usec	36.187	10282.000
RAL	Amp Gate Start Radial	195.000	usec	36.187	10282.000
RAL	Amp Gate Width Far	25.000	usec	36.187	10282.000
RAL	Amp Gate Width Near	25.000	usec	36.187	10282.000
RAL	Amp Gate Width Radial	25.000	usec	36.187	10282.000
RAL	casing od	4.500	inches	36.187	10282.000
RAL	casing wt	11.600	lbm/ft	36.187	10282.000
RAL	FB Start Far	291.900	usec	36.187	10282.000
RAL	FB Start Near	180.000	usec	36.187	10282.000
RAL	FB Start Radial	180.000	usec	36.187	10282.000
RAL	FB Thresh Far	15.000	mv	36.187	10282.000
RAL	FB Thresh Near	10.000	mv	36.187	10282.000
RAL	FB Thresh Radial	10.000	mv	36.187	10282.000
RAL	Fluid Travel Time	200.000	usec/ft	36.187	10281.593

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
AFAR	SIG	TT5			
CCL					
GR					
NEU					

Plotted by : PlotMgr, v5.4.504

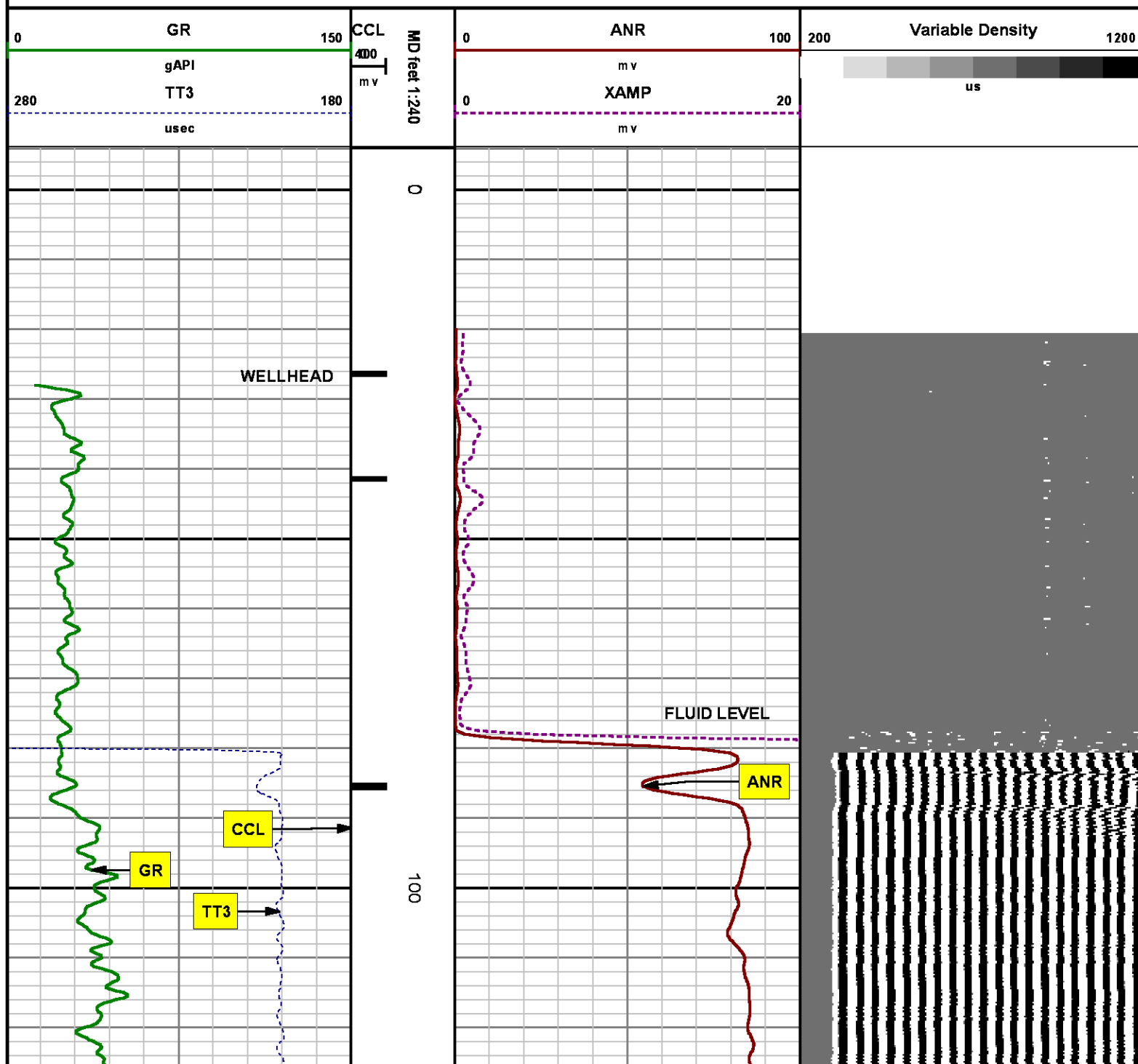
Well : FEDERAL NER 344-32

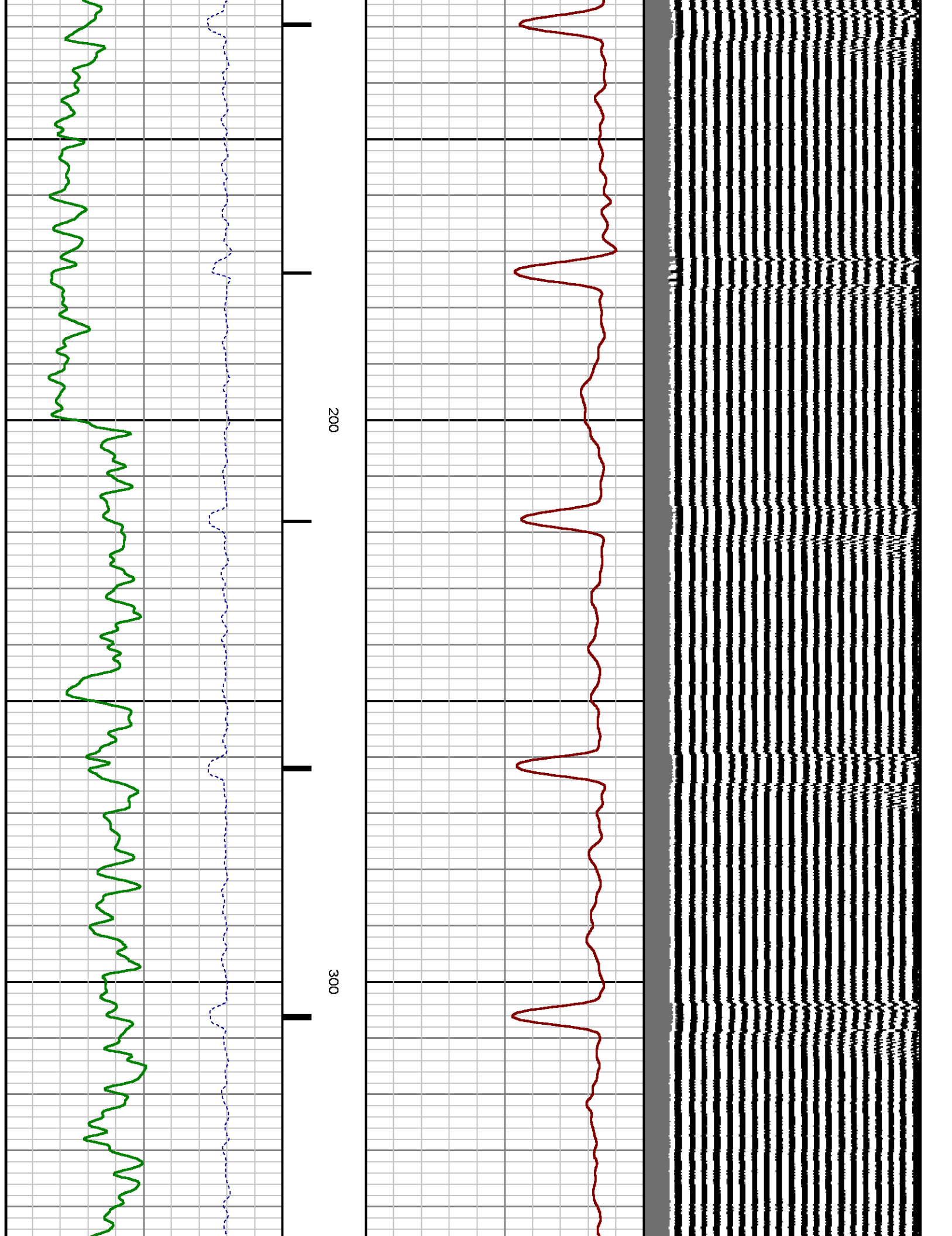
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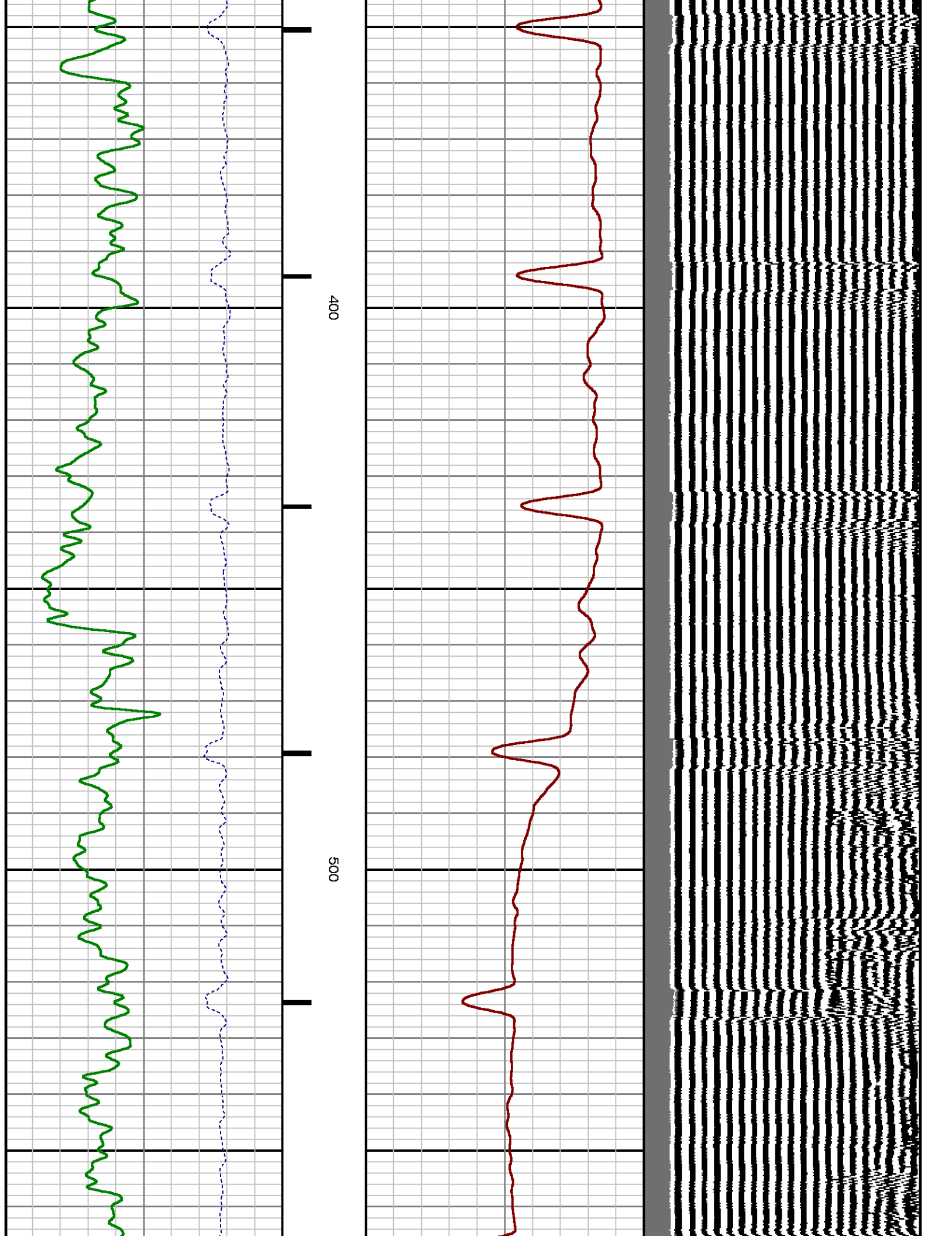
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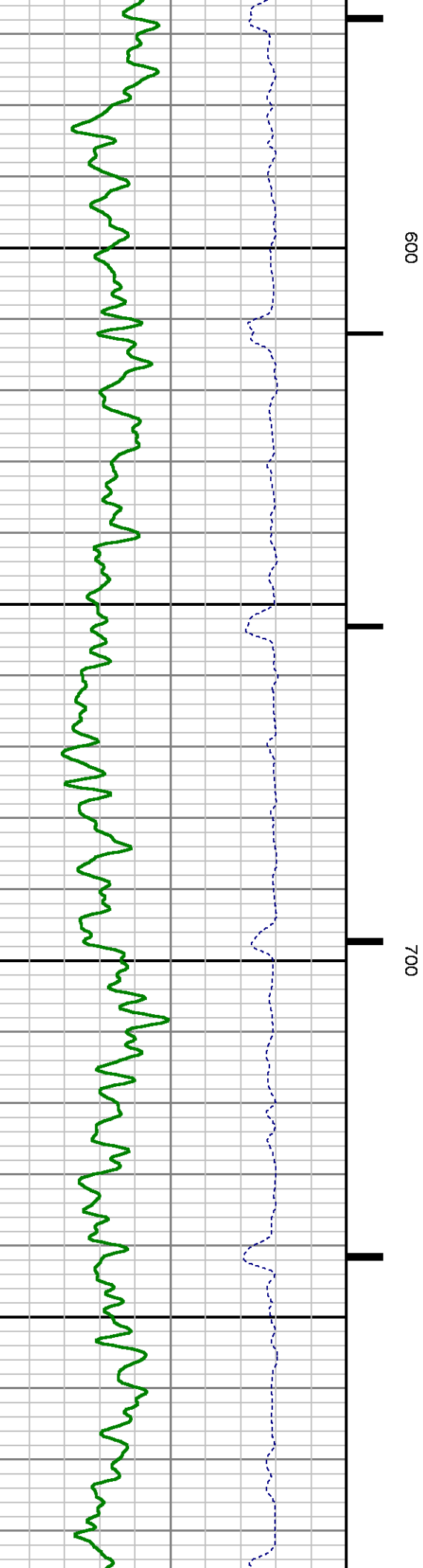
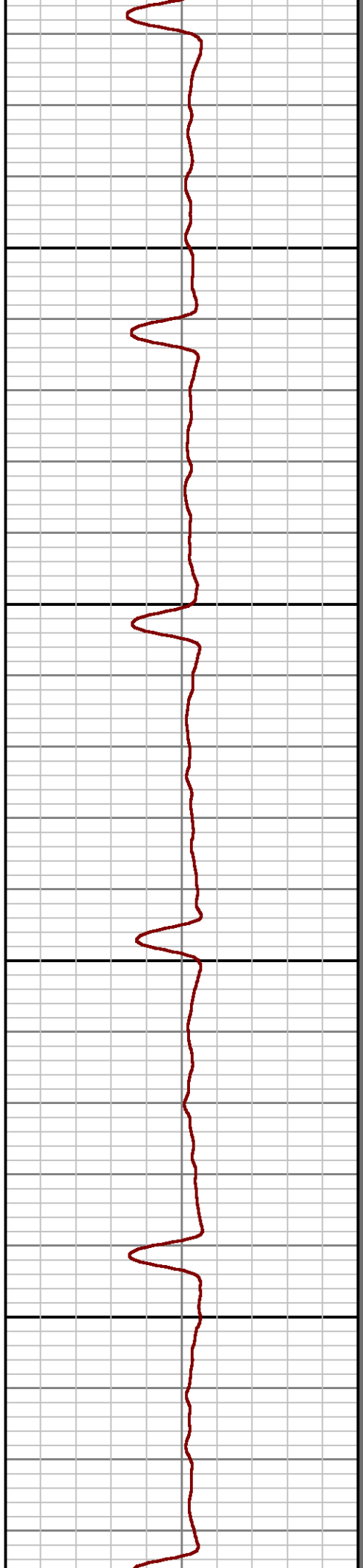
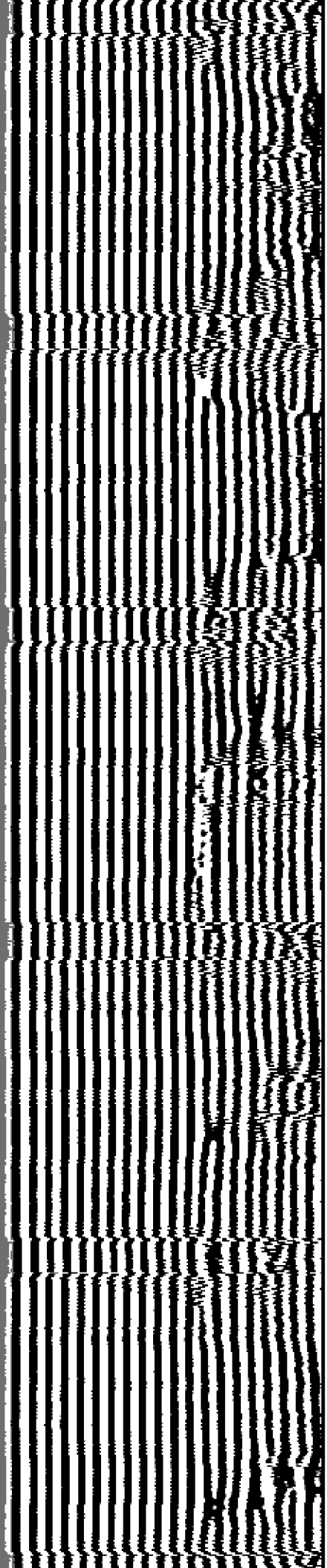
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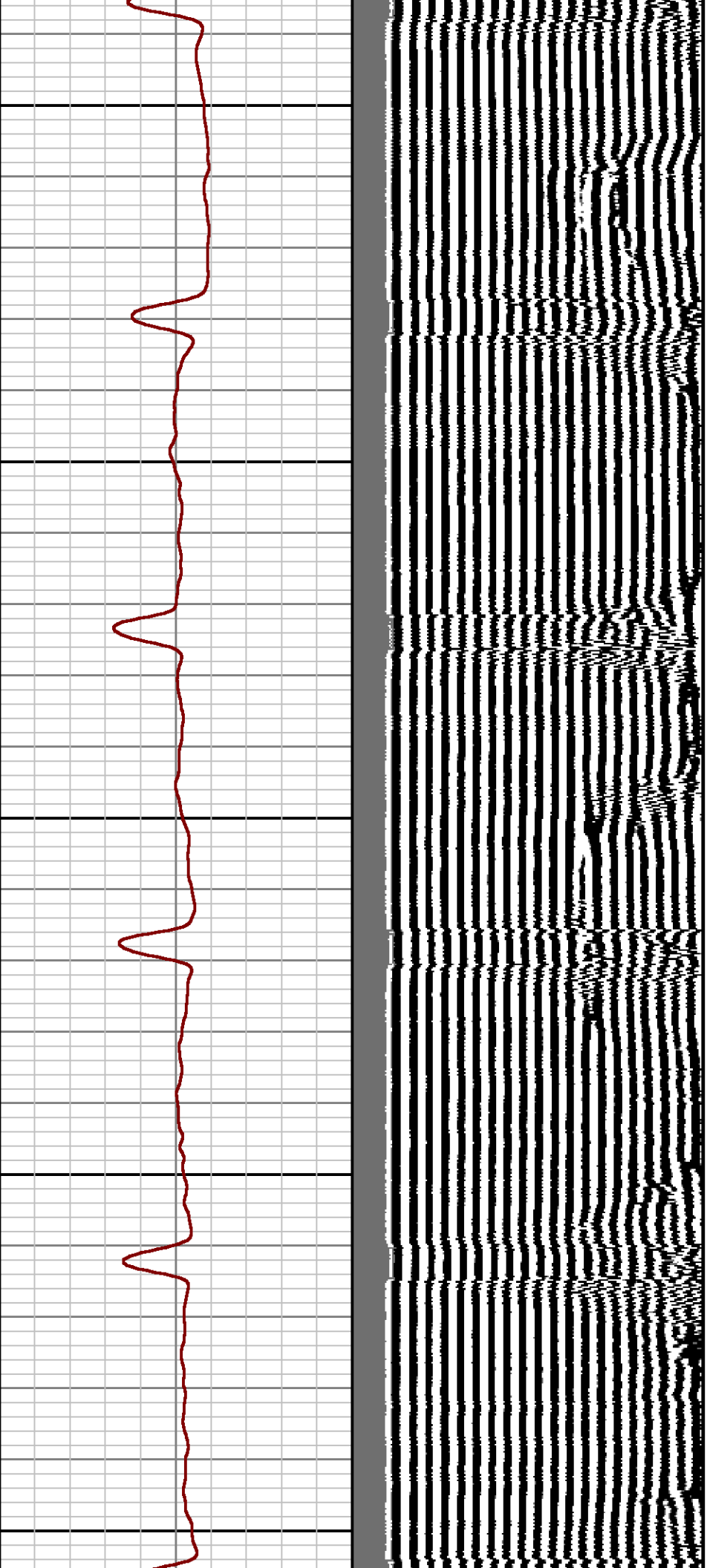
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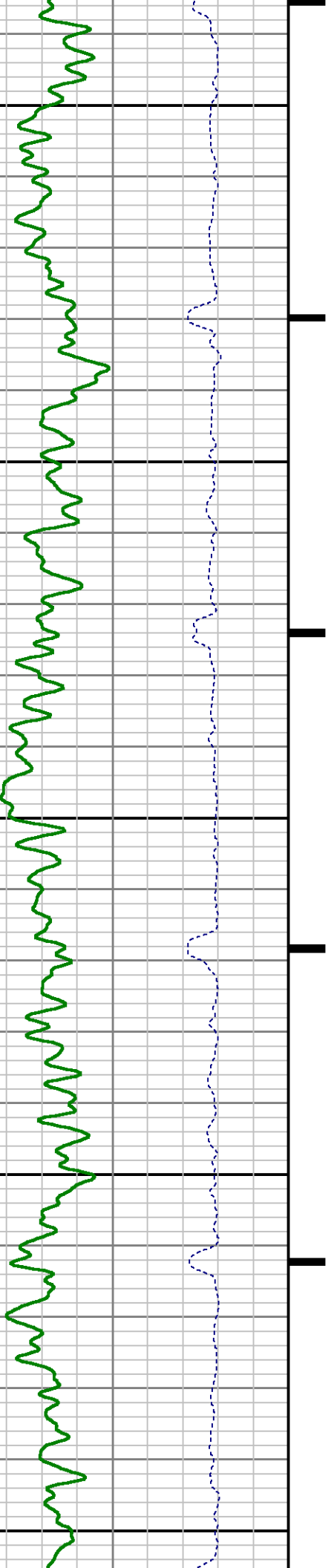


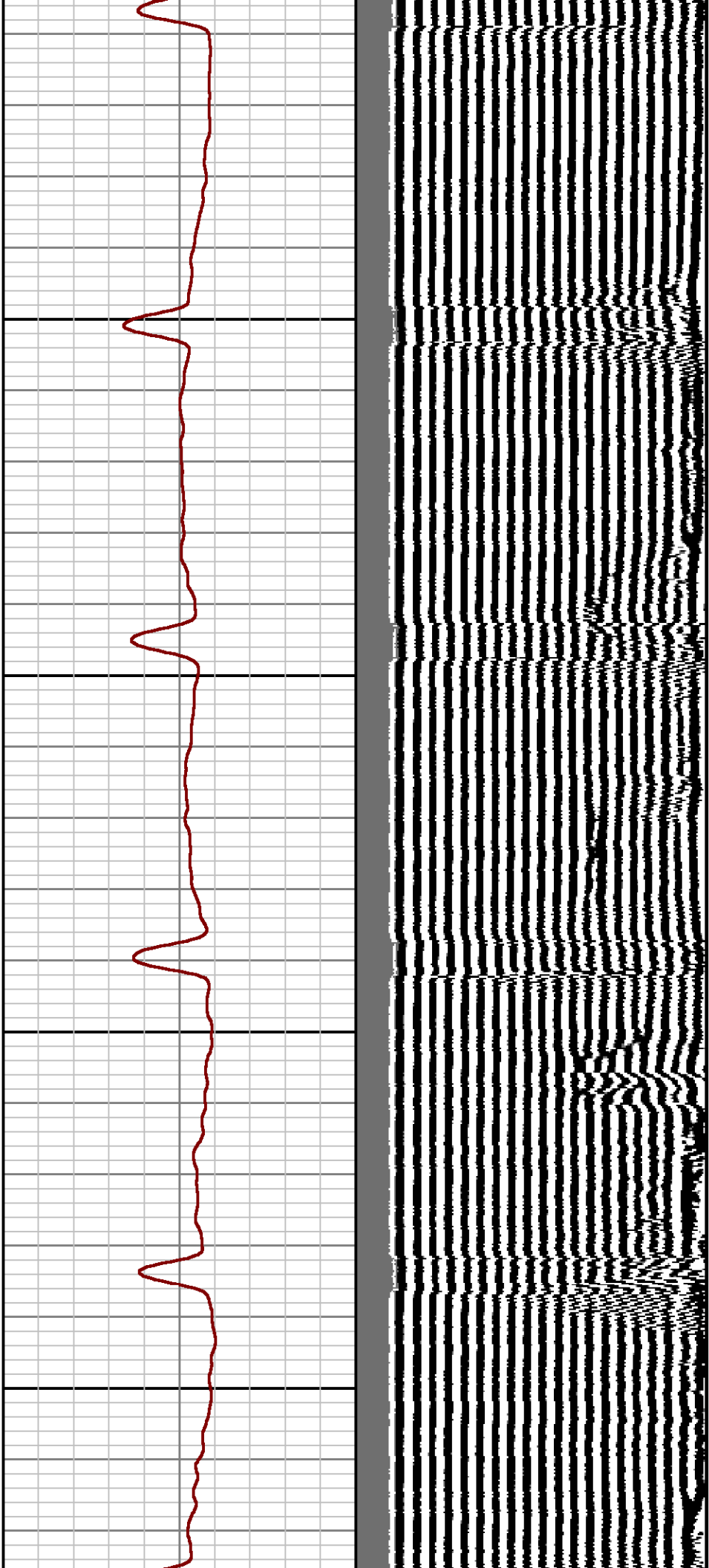


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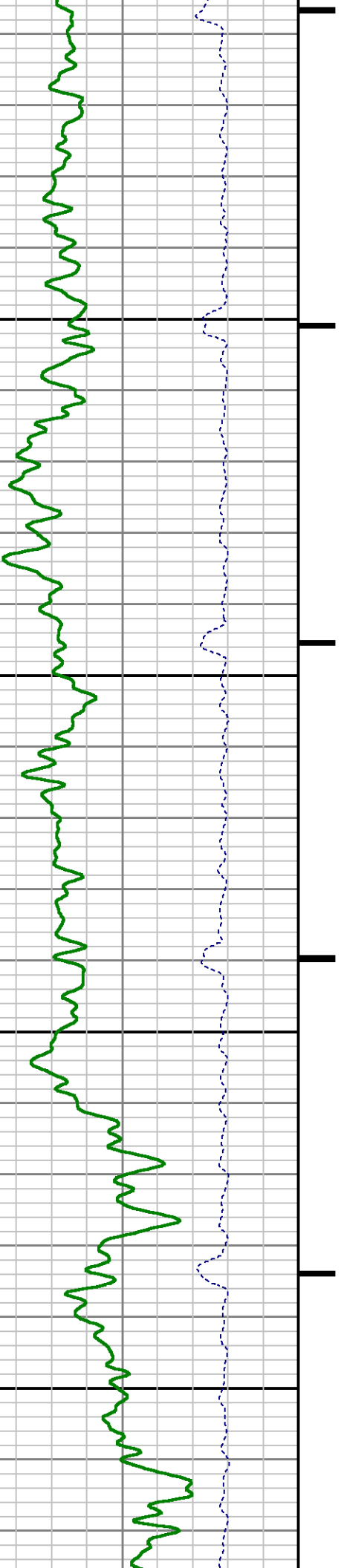
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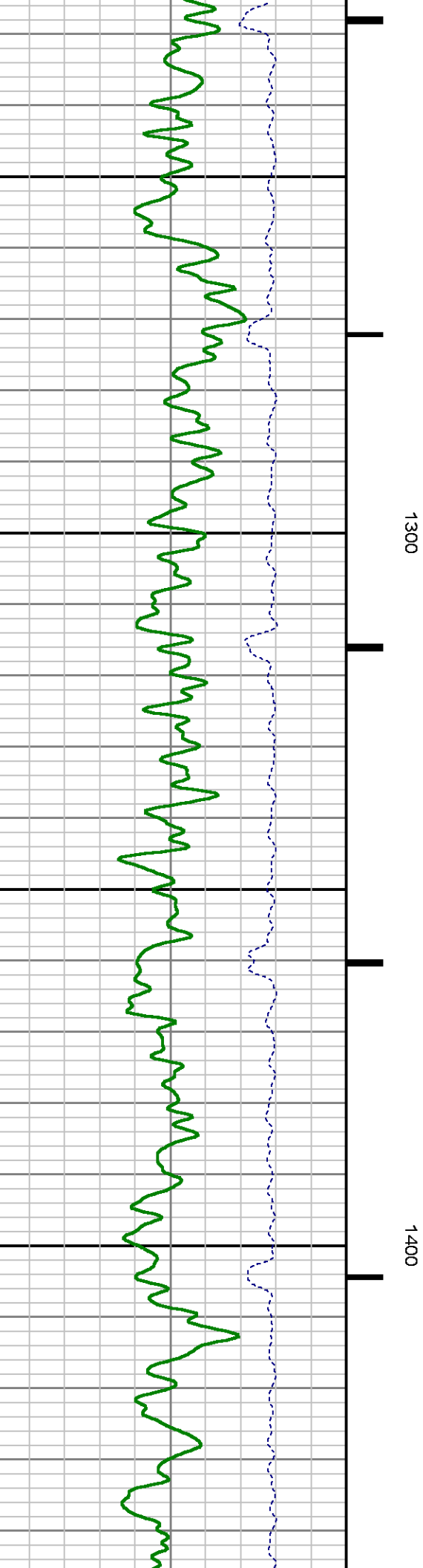
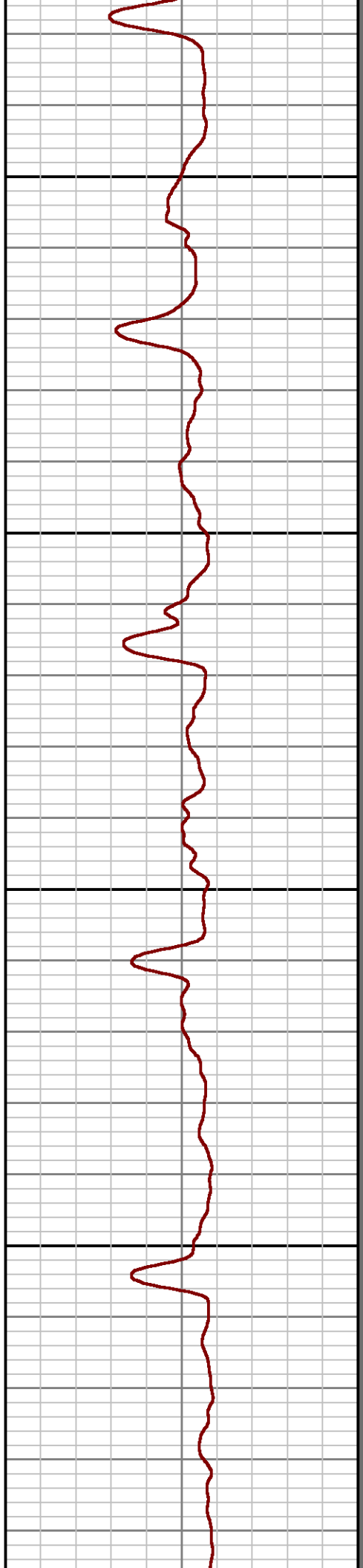
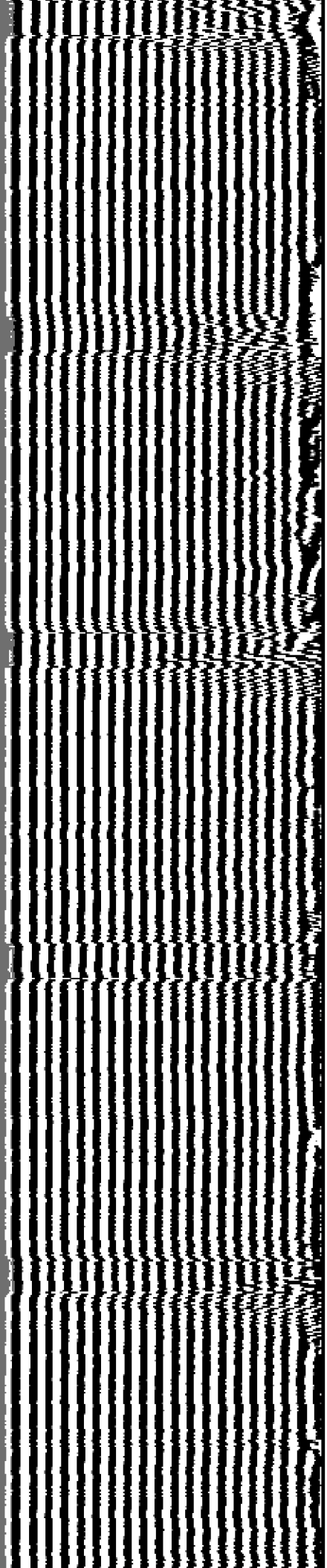


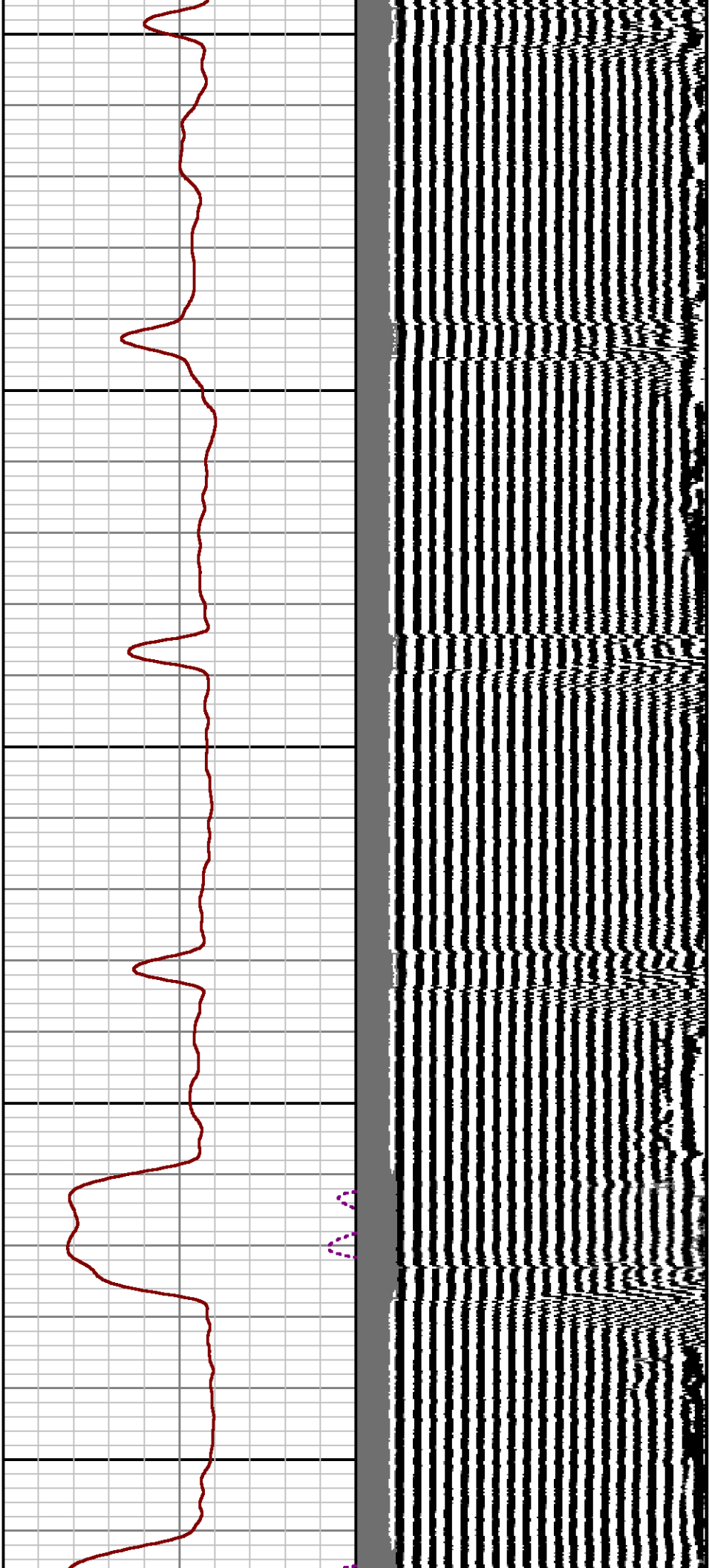


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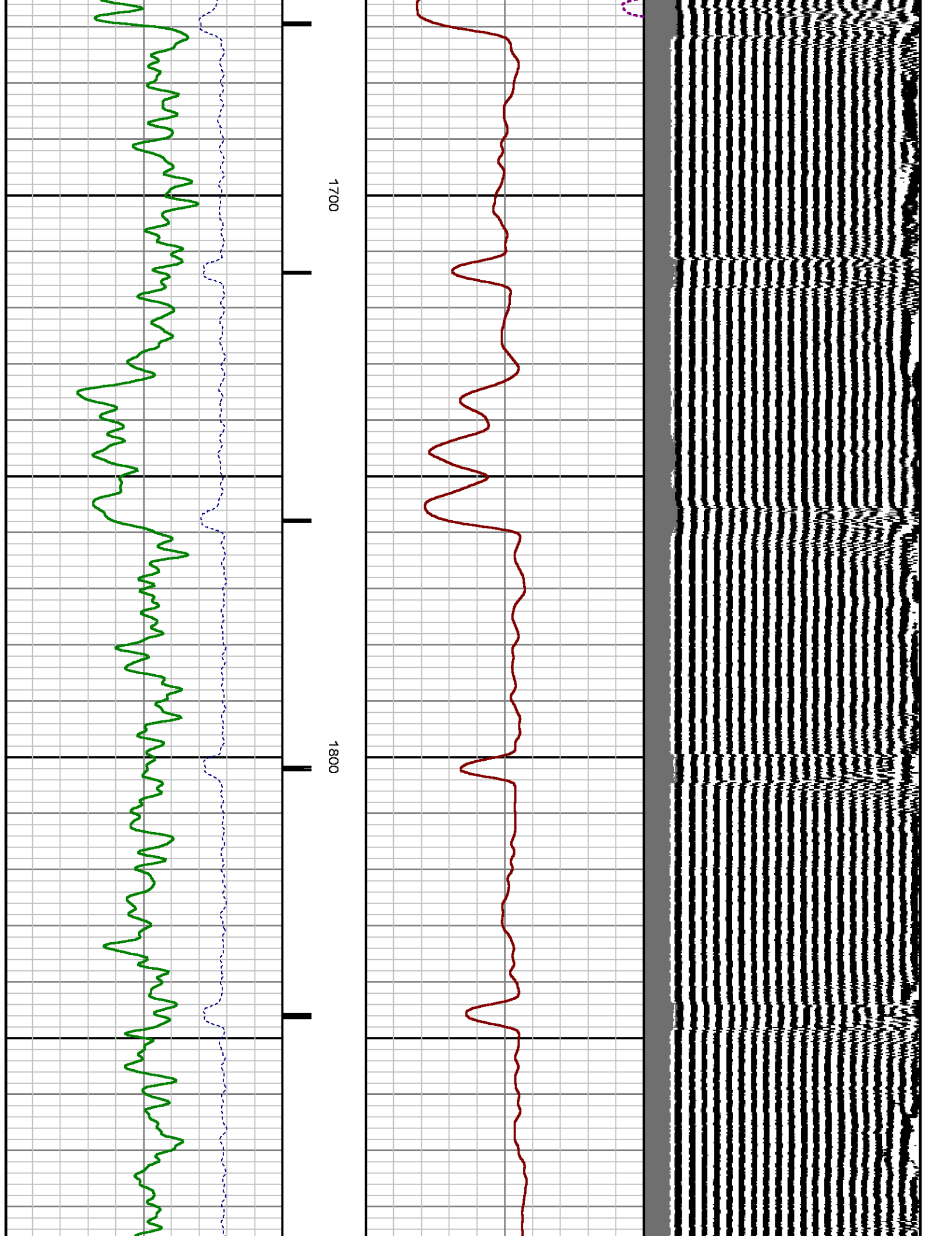


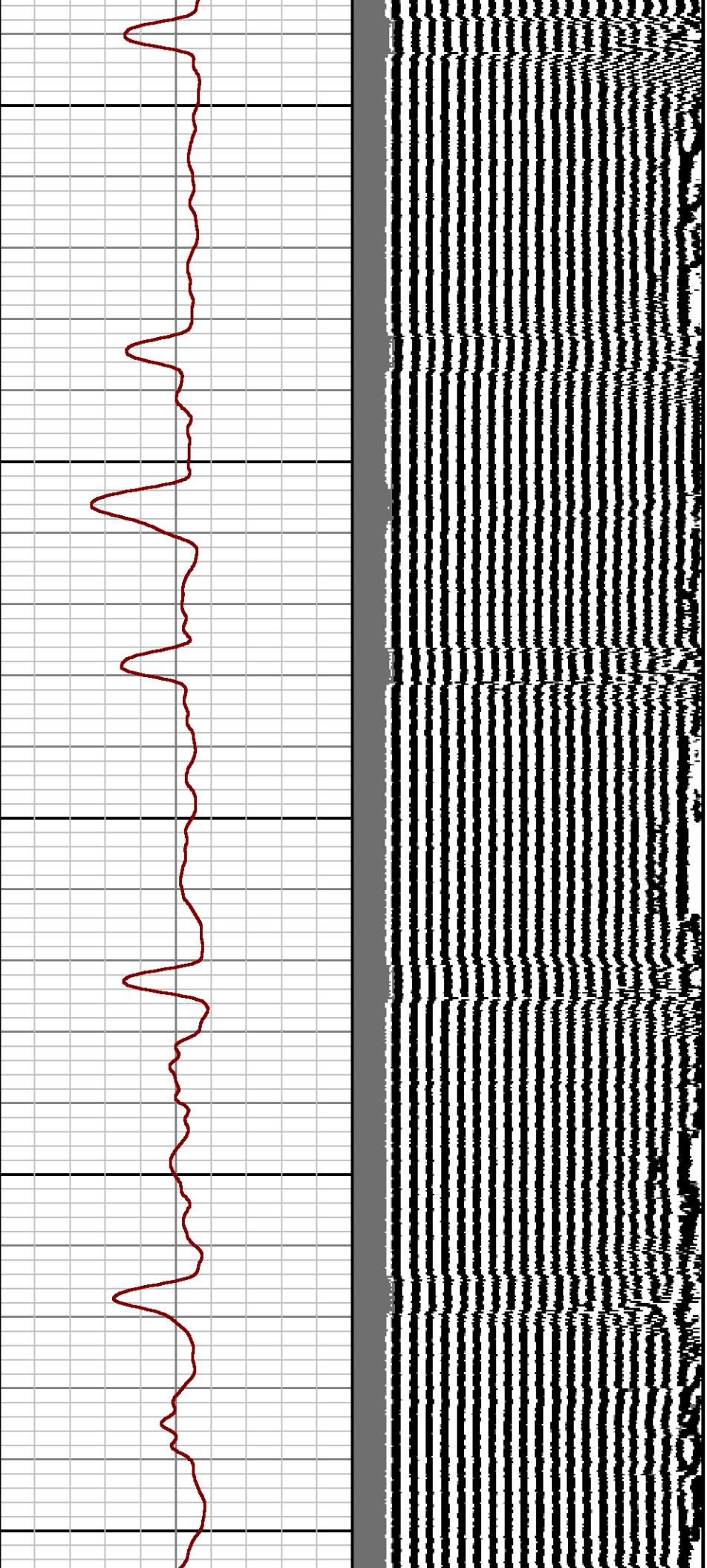




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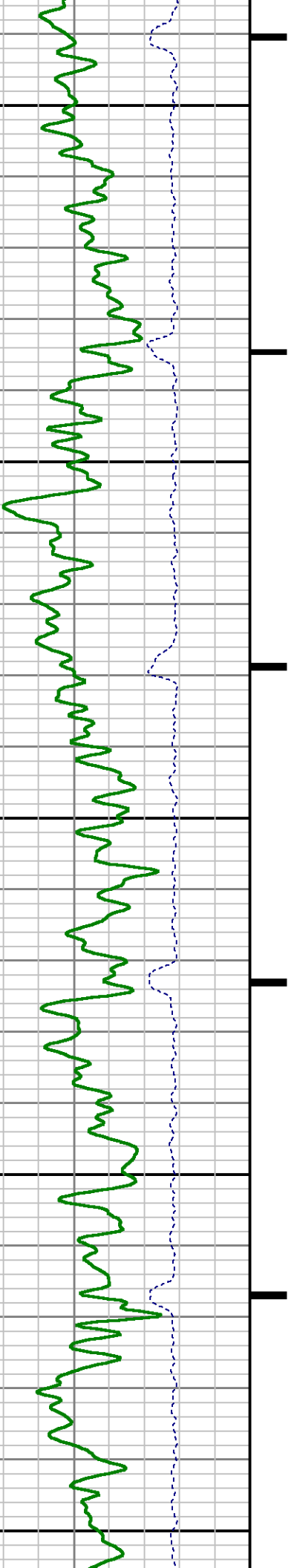


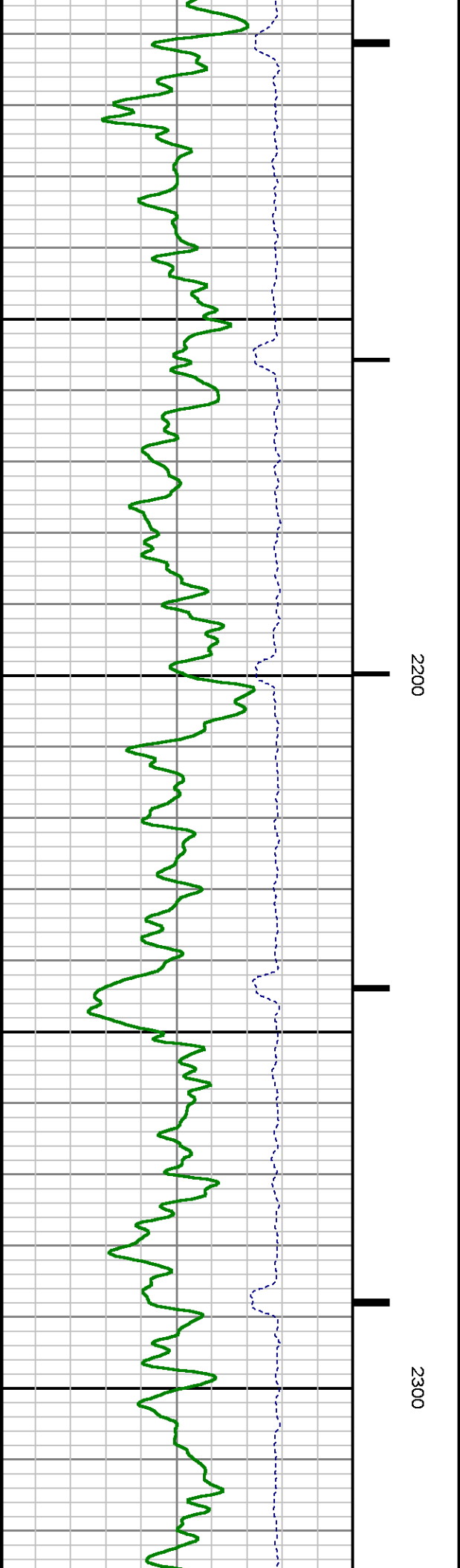
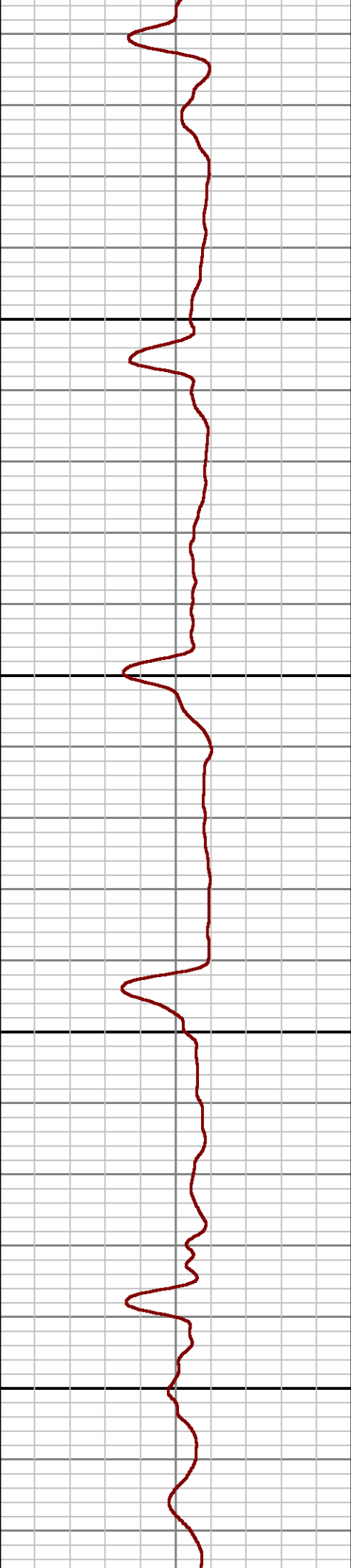
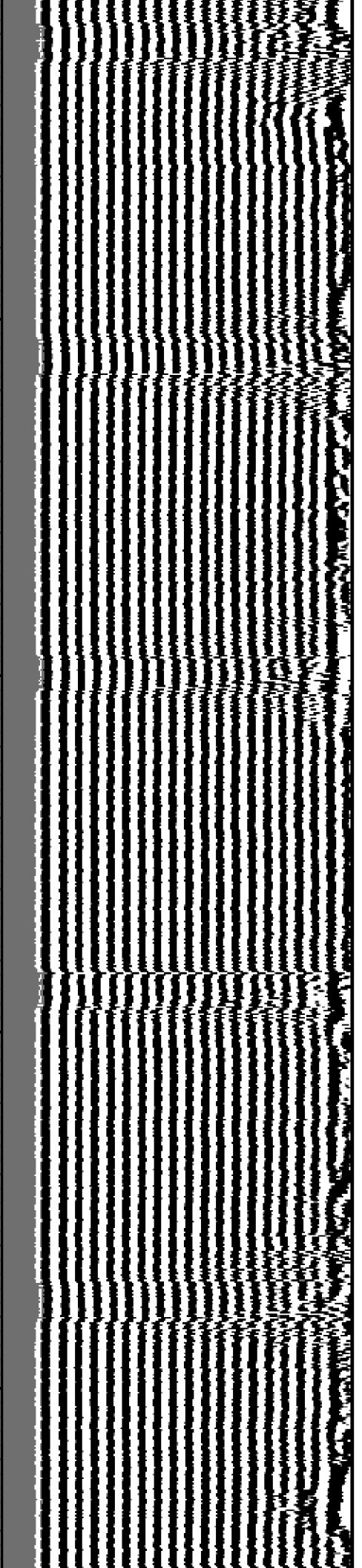


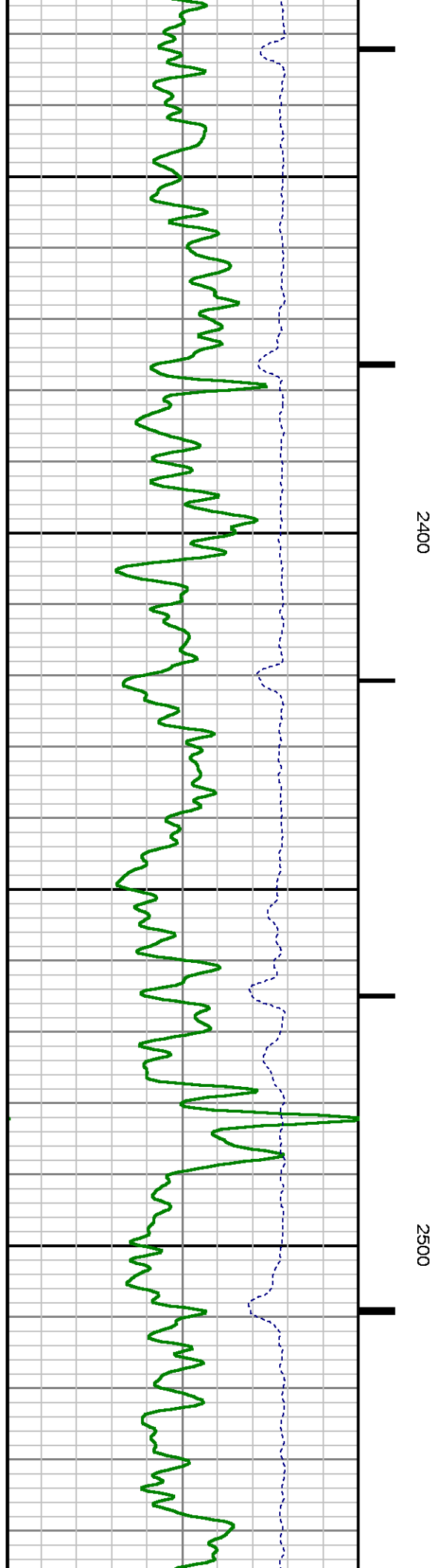
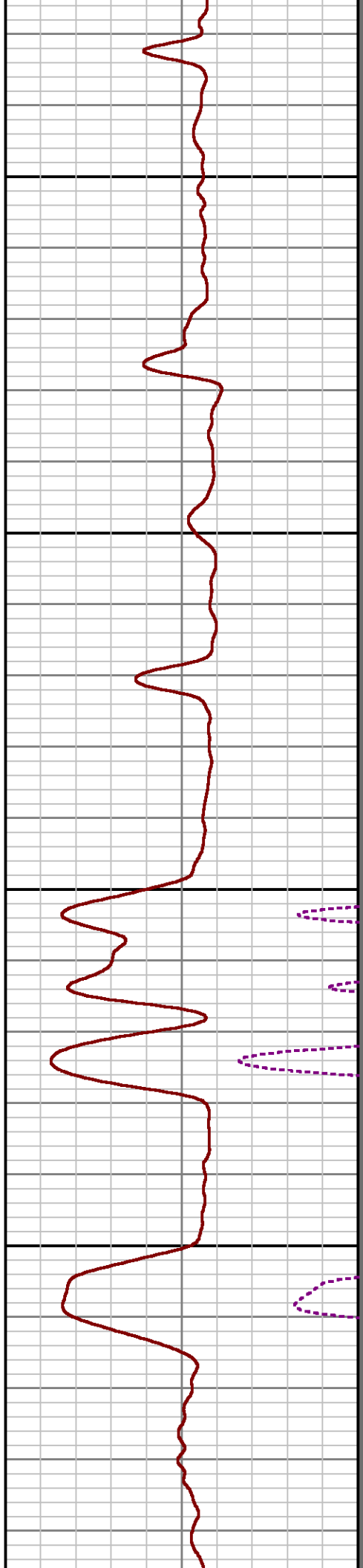
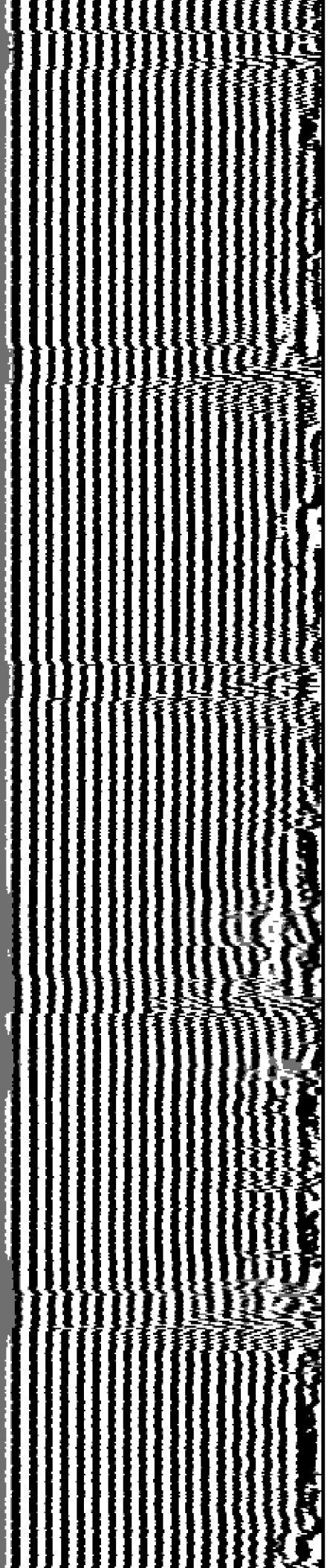
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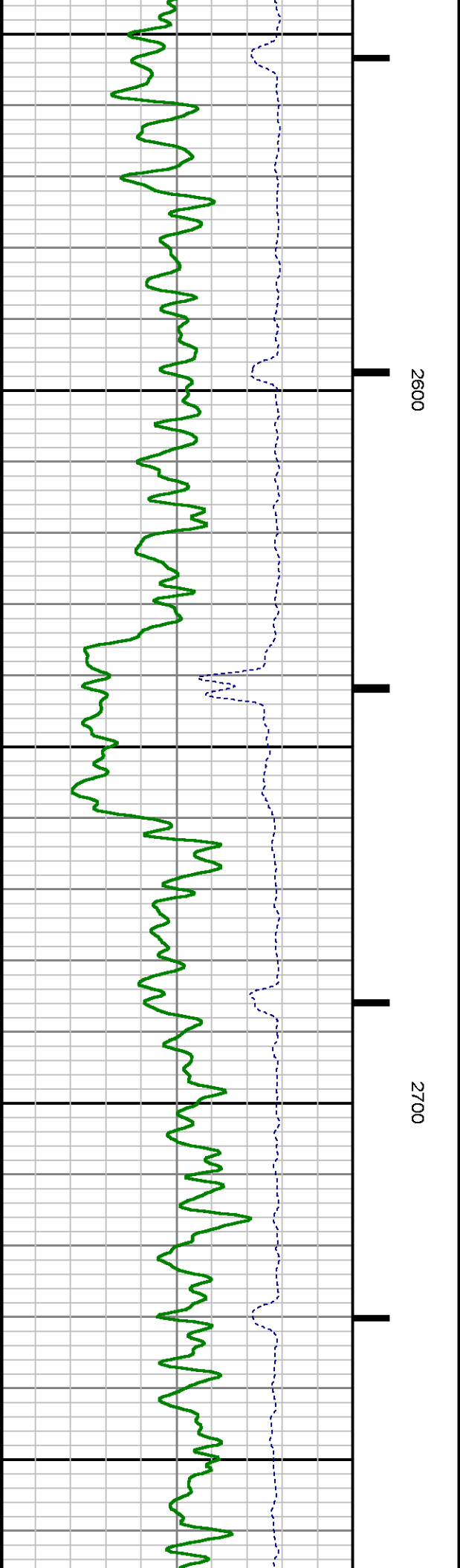
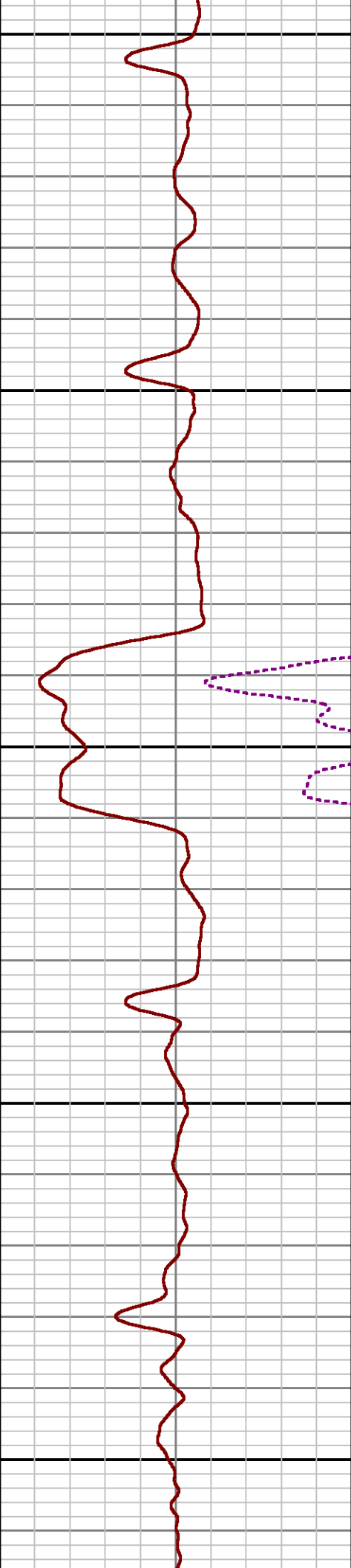
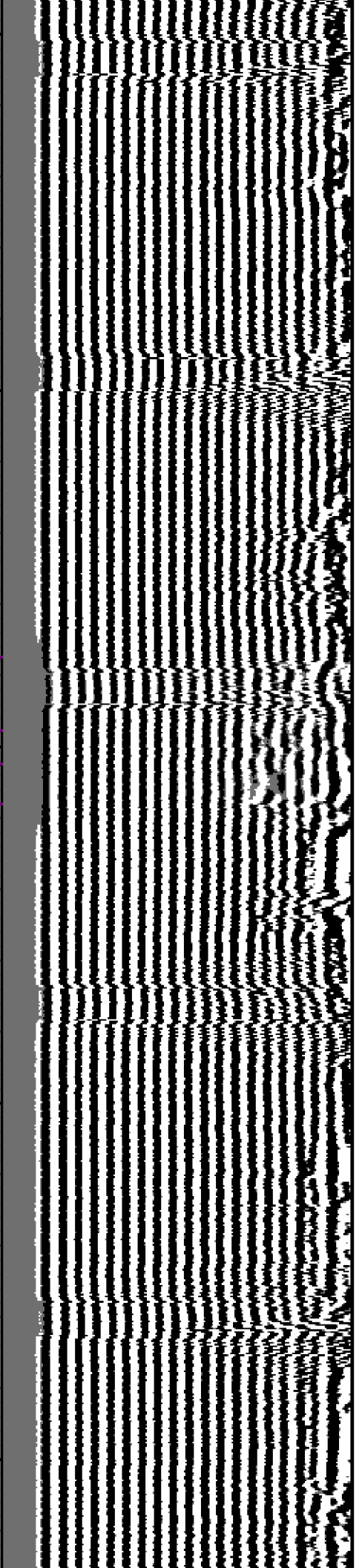
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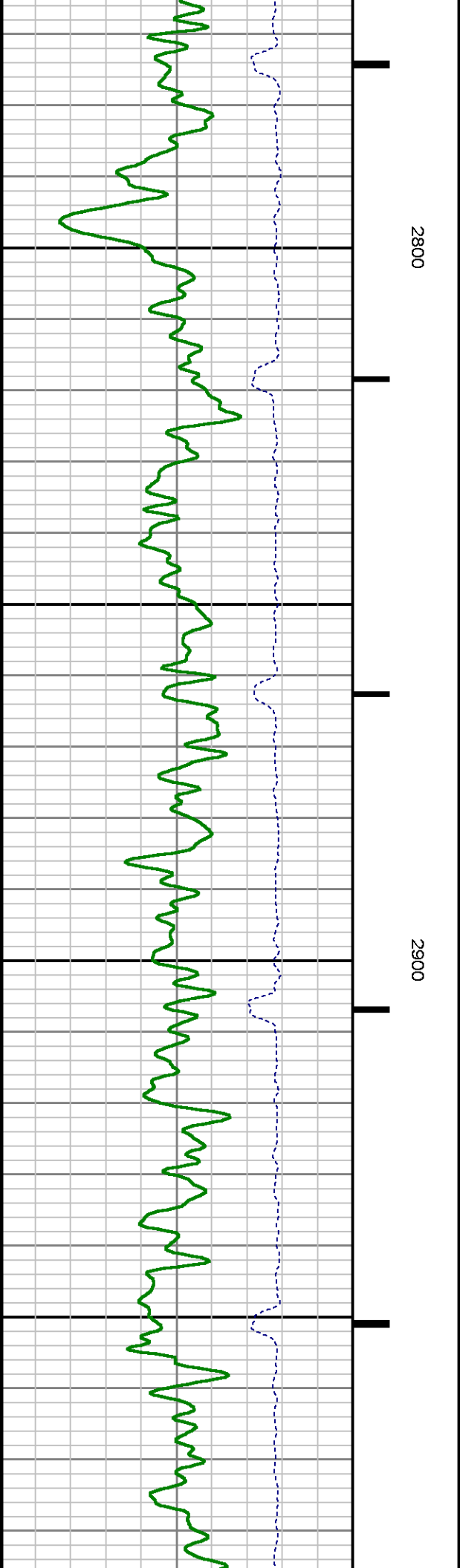
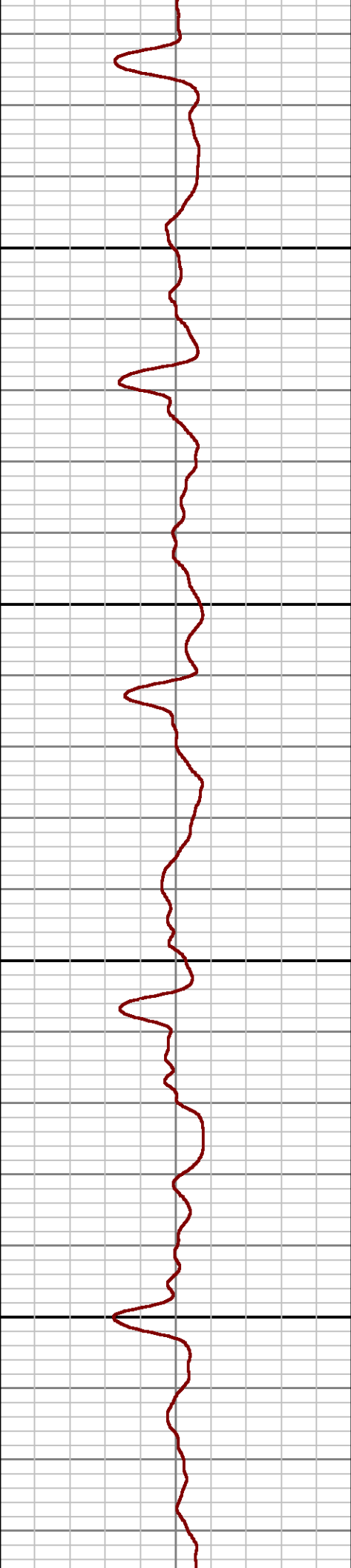
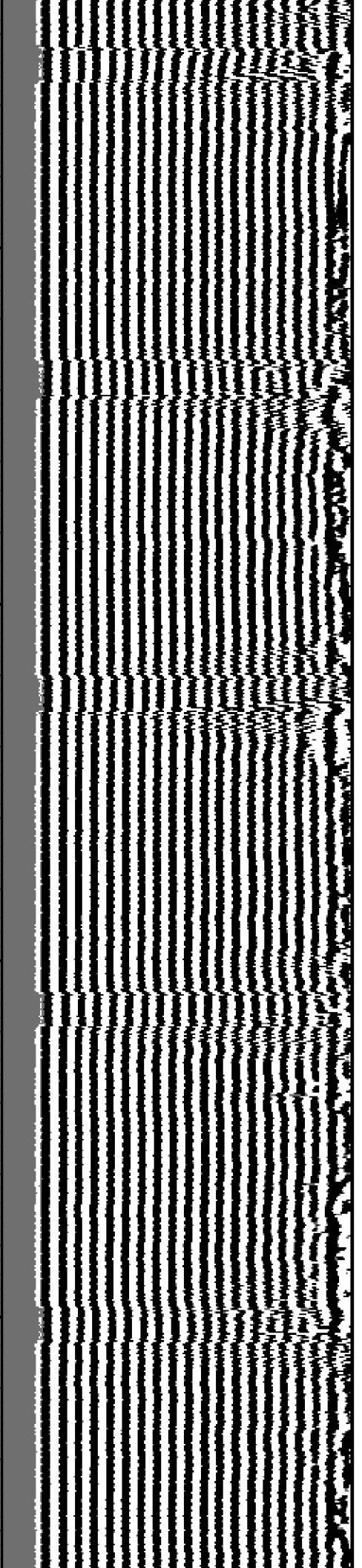
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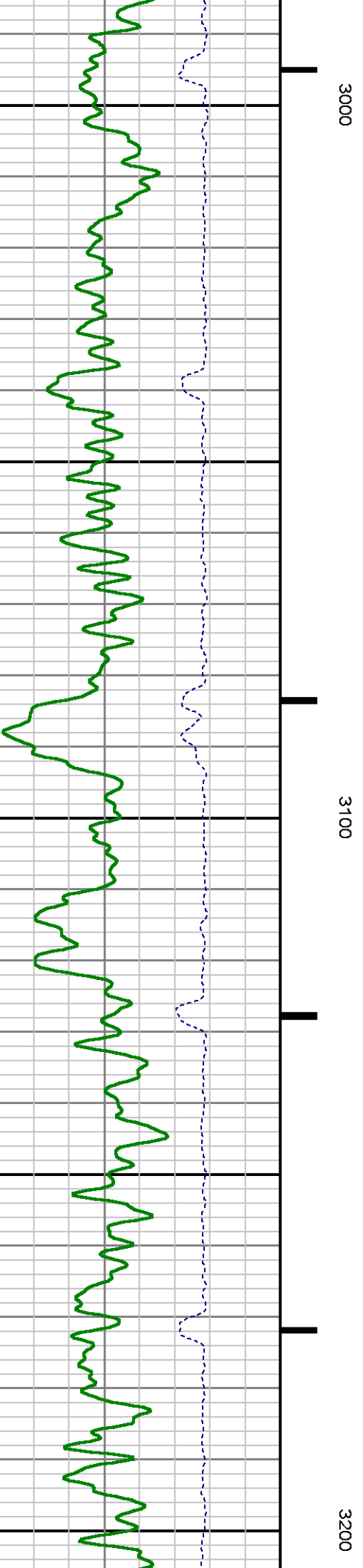
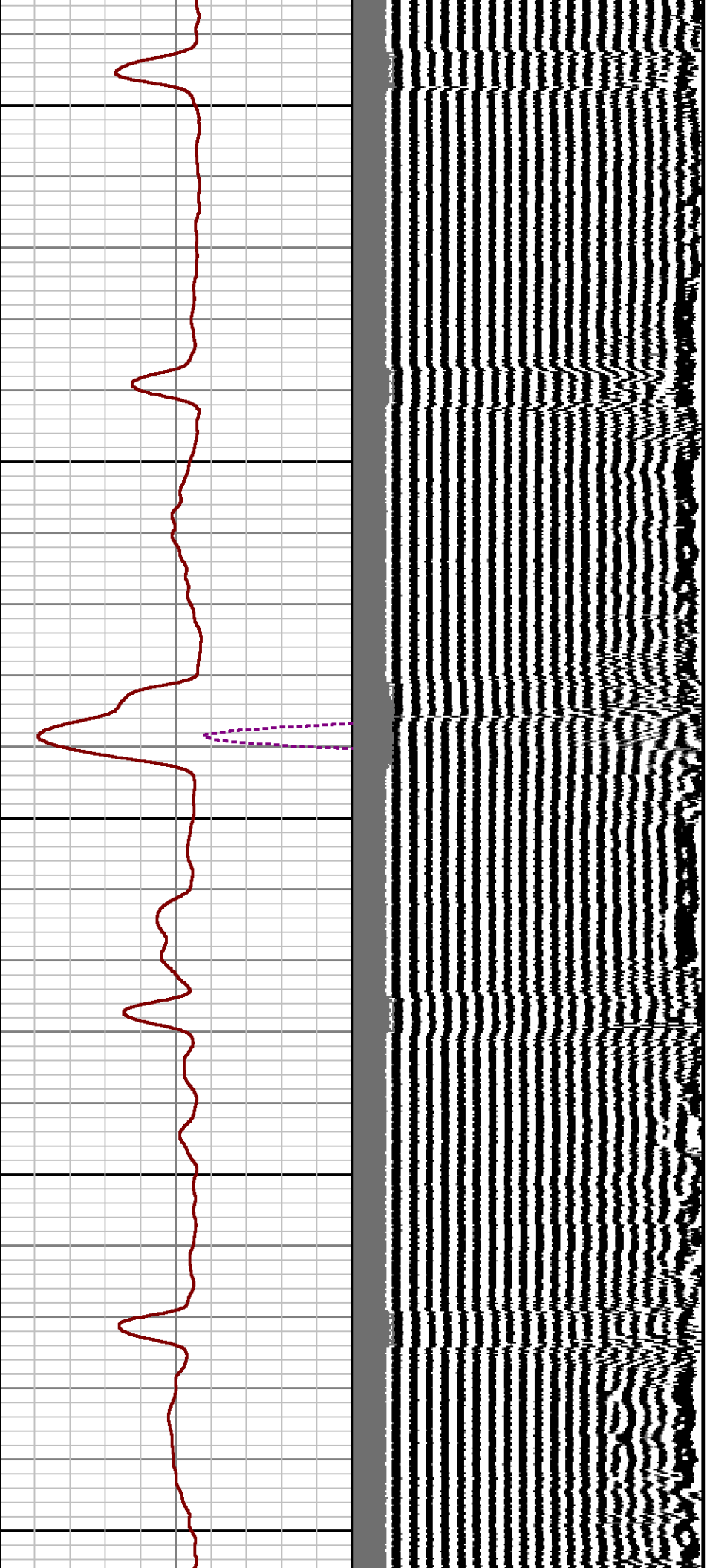


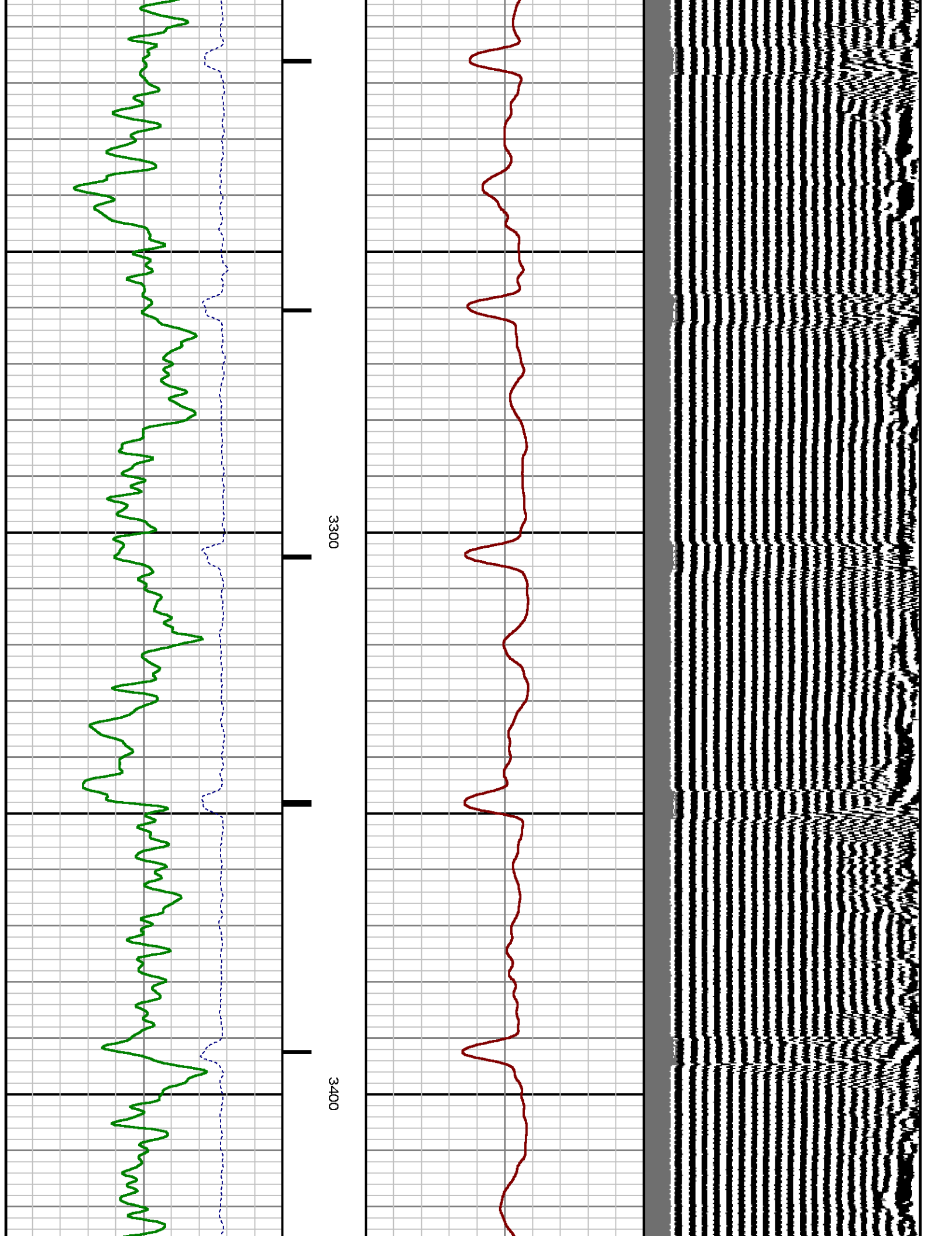


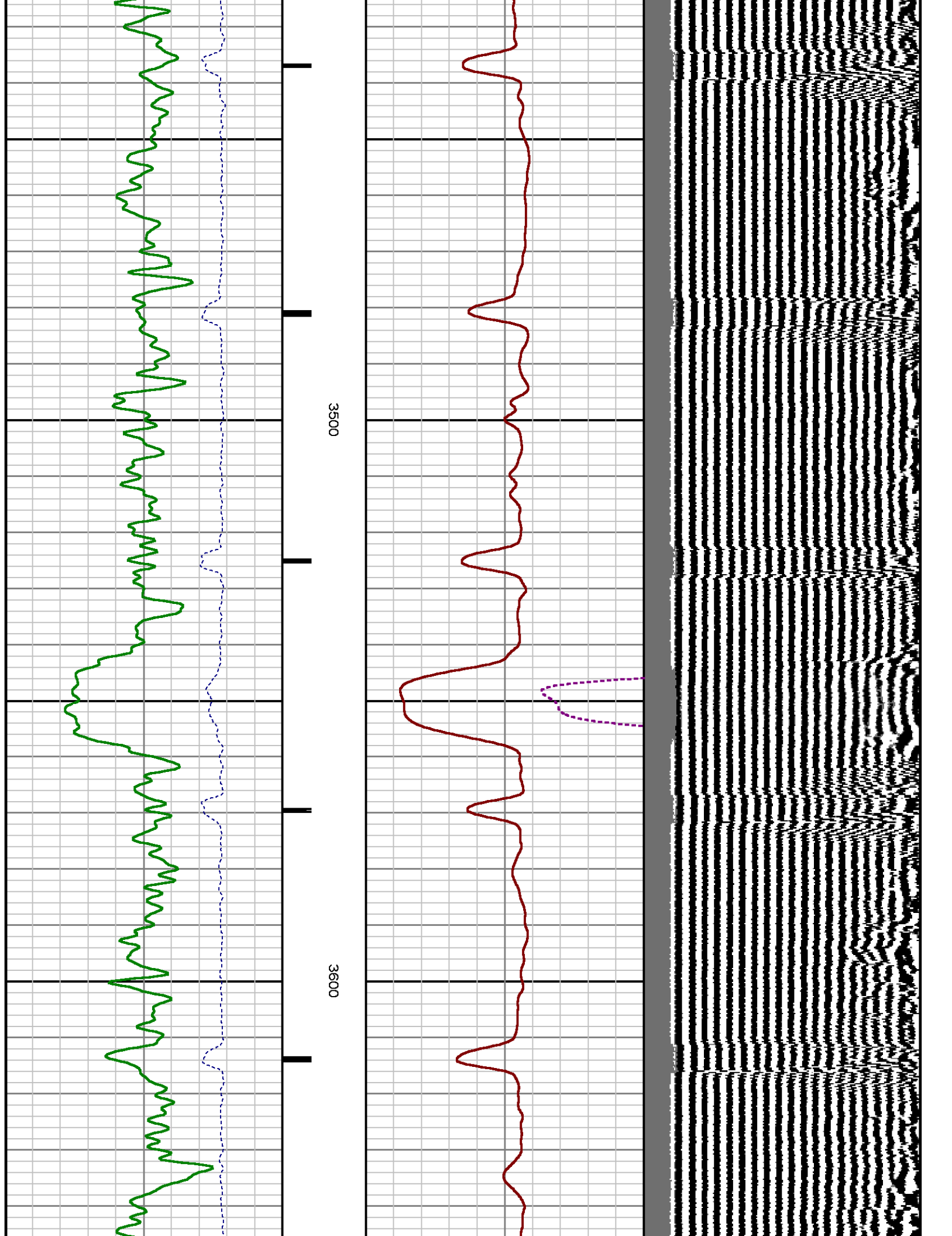


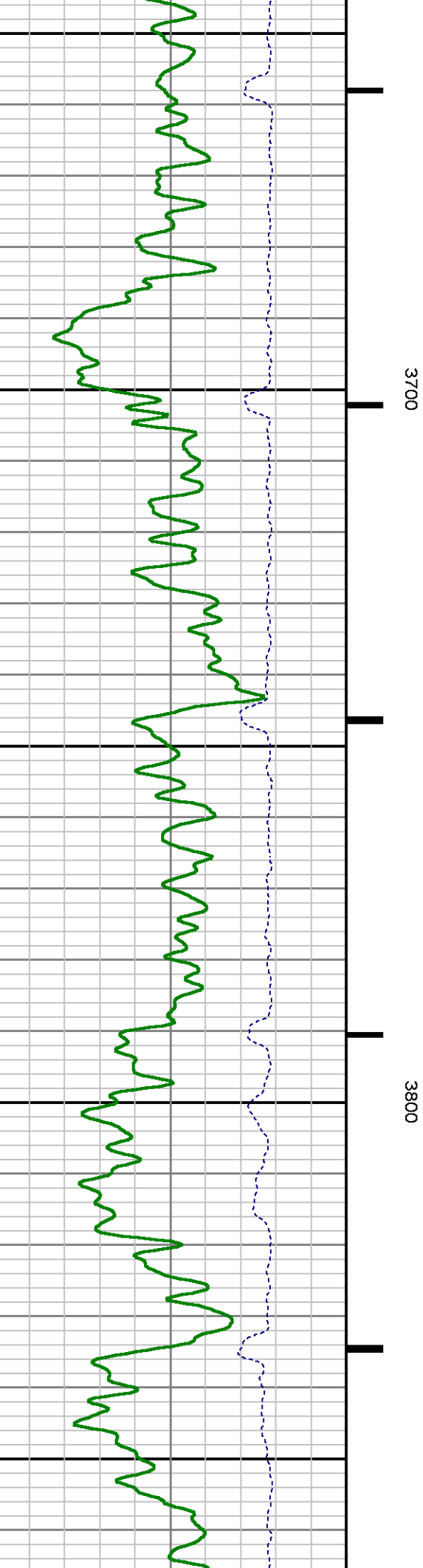
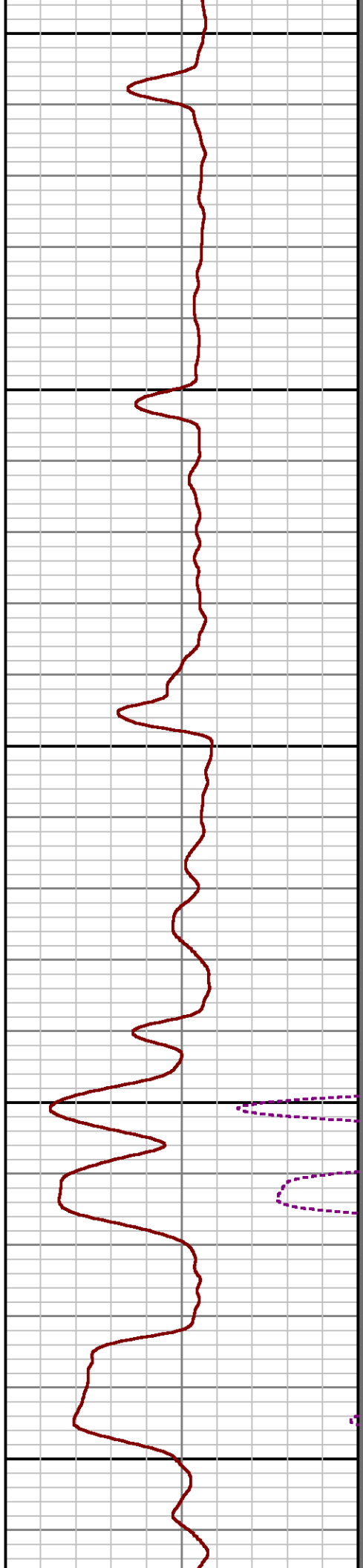
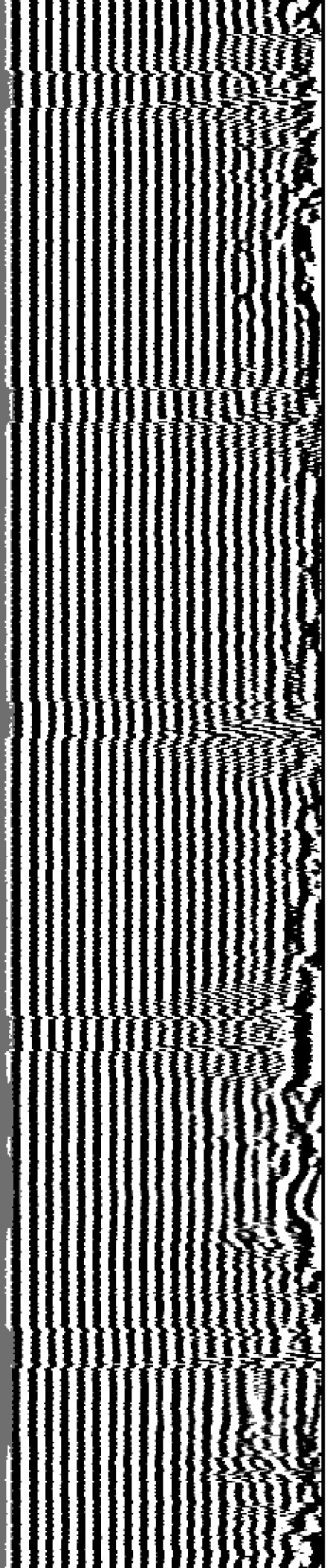


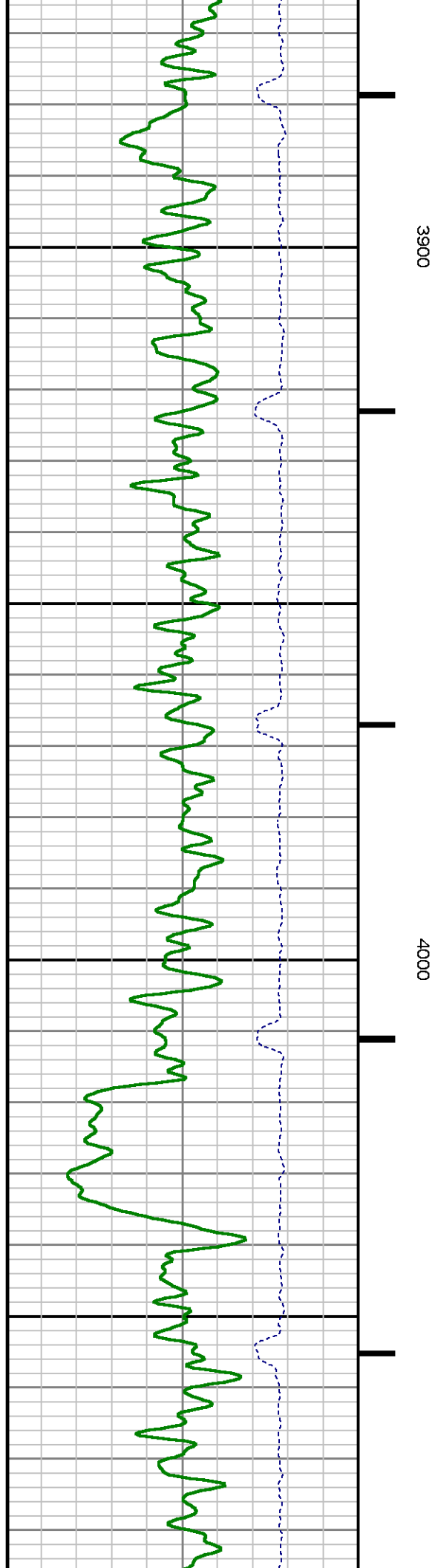
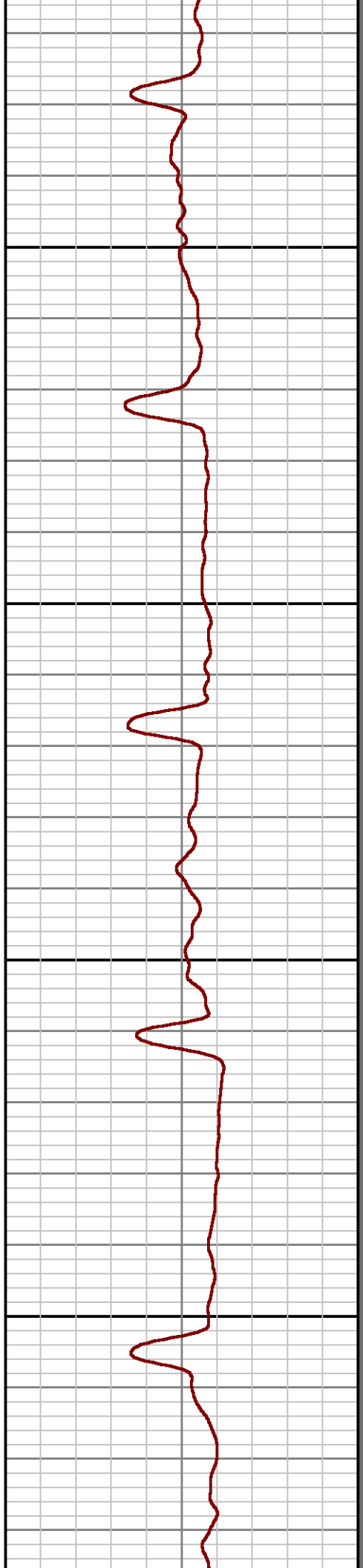
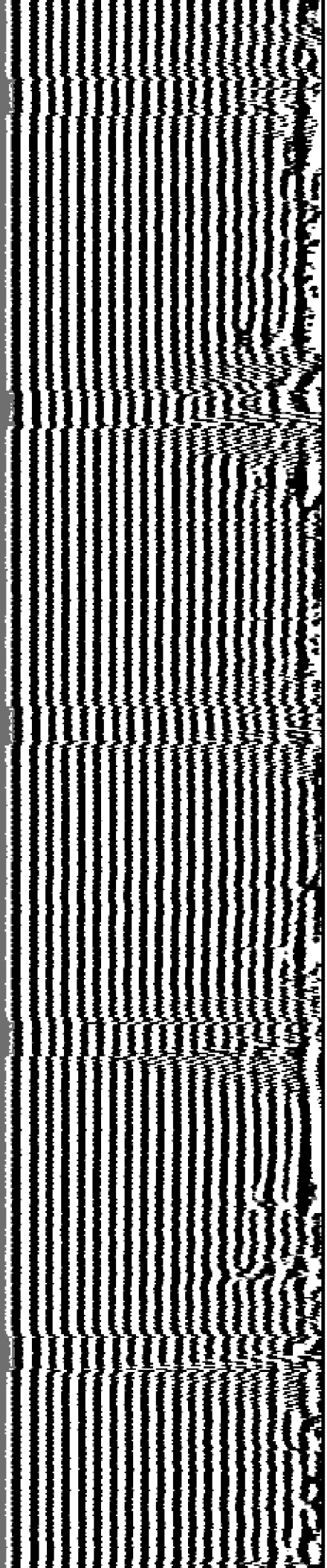


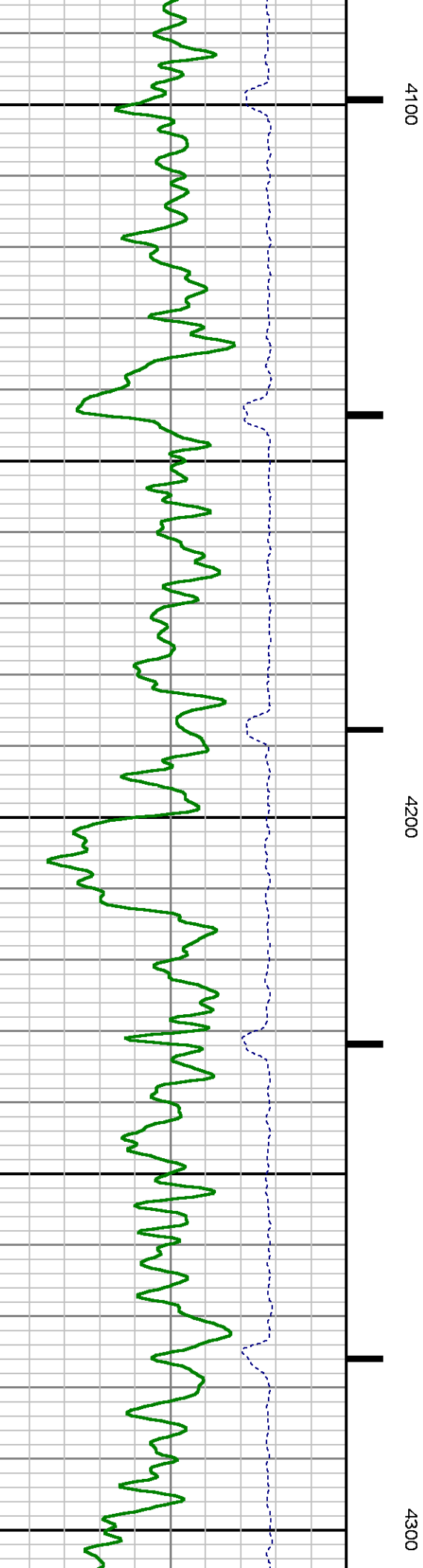
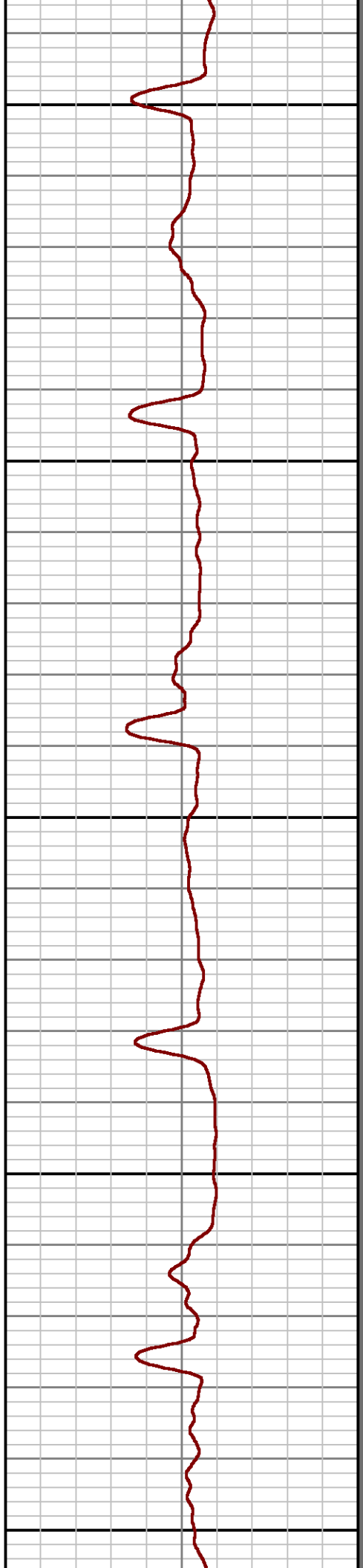
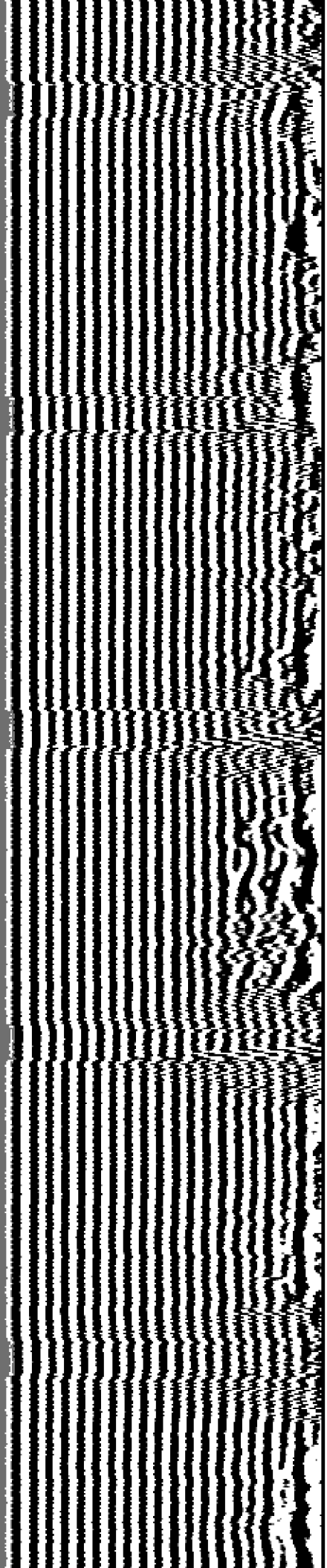


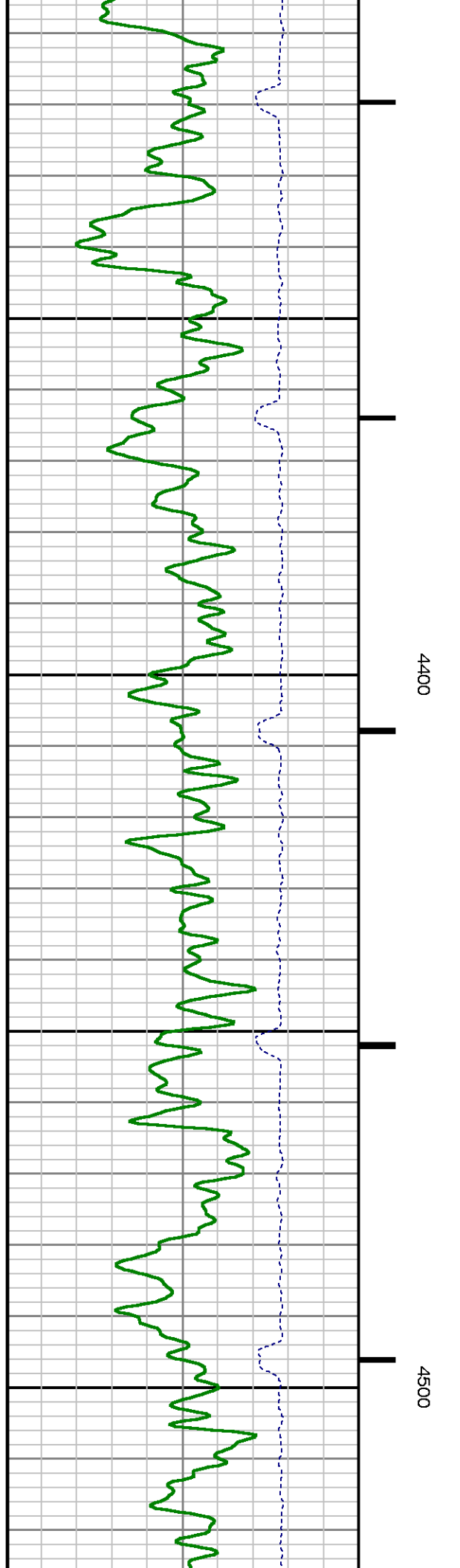
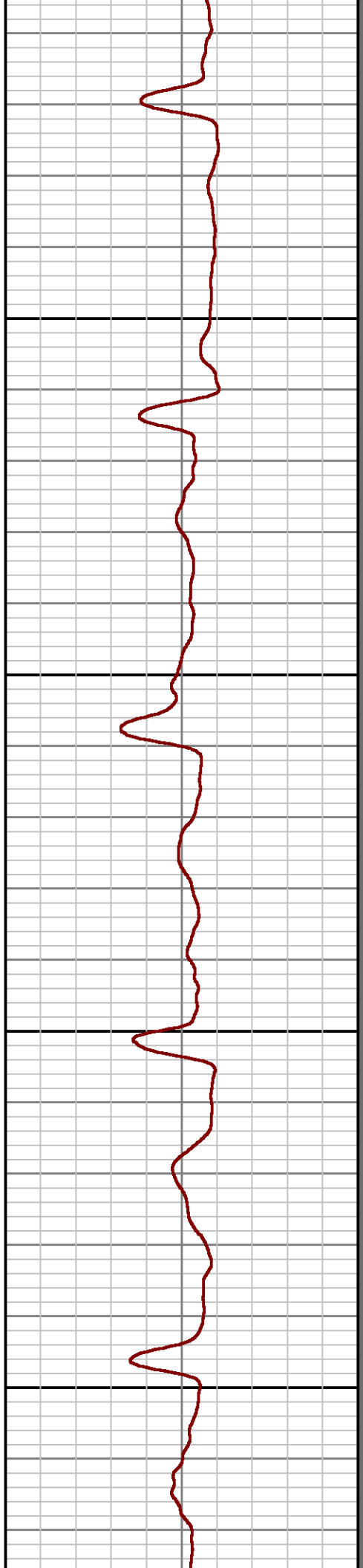
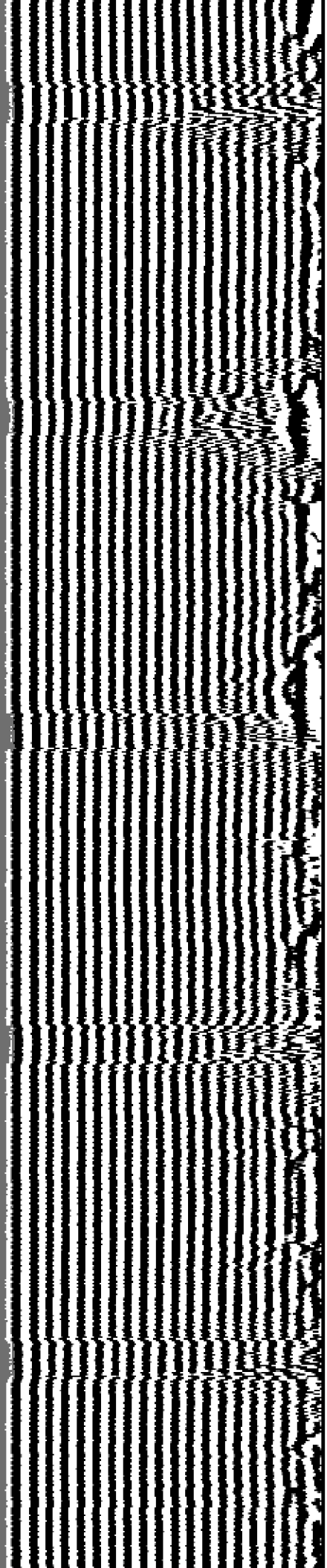


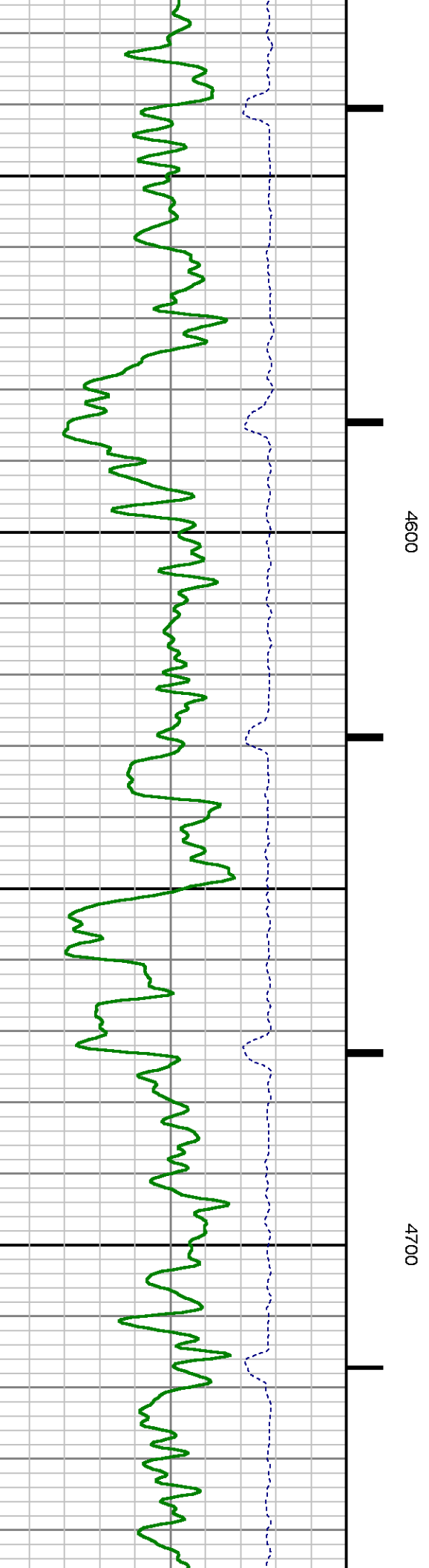
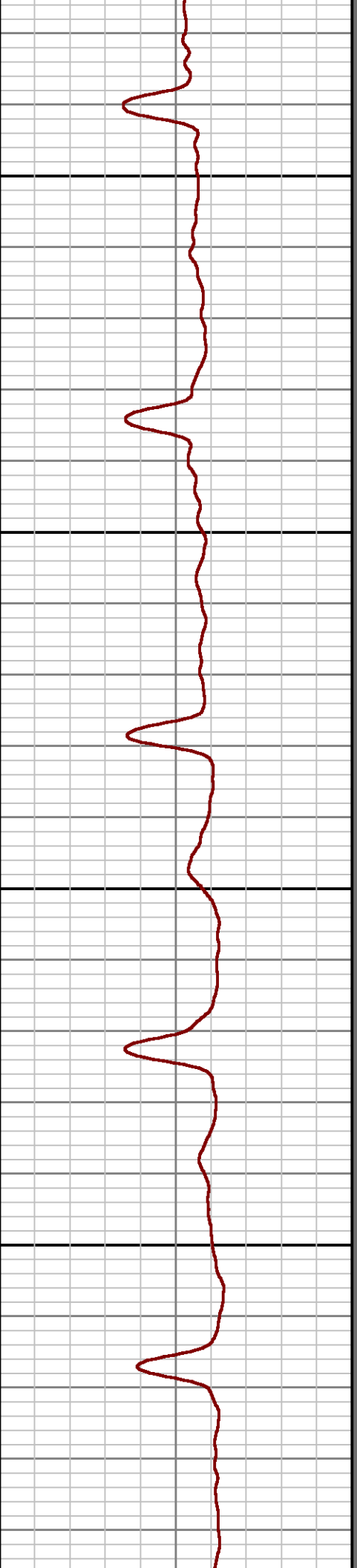
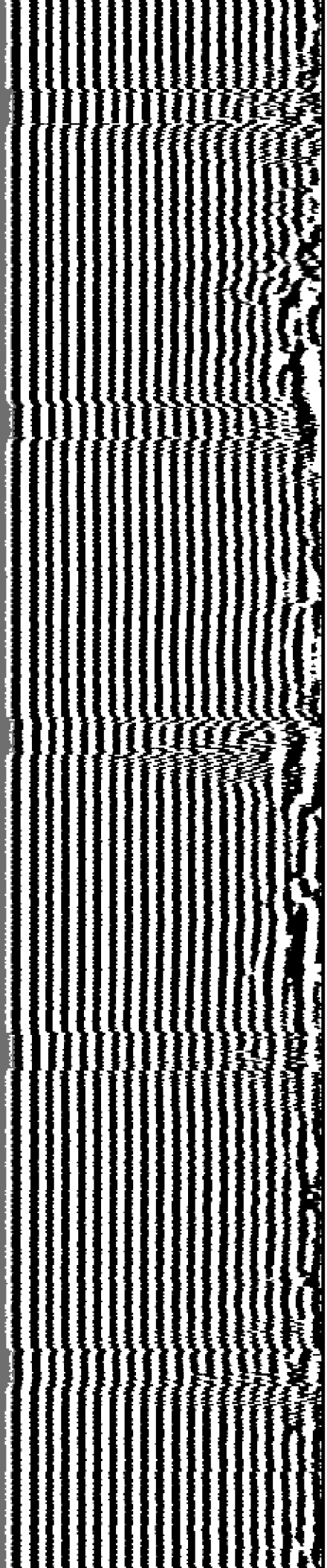


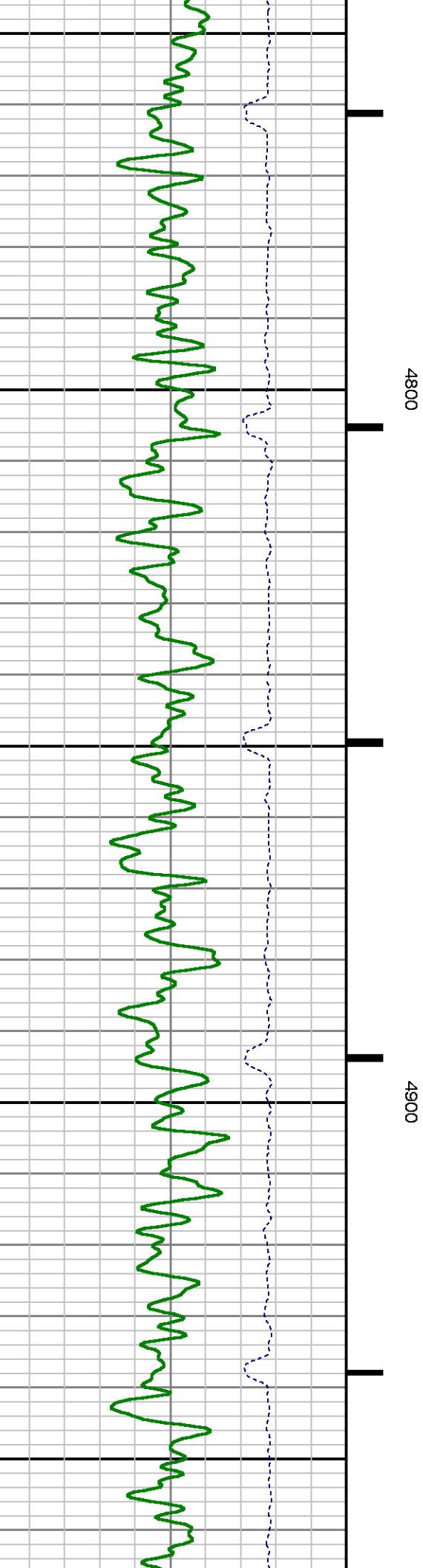
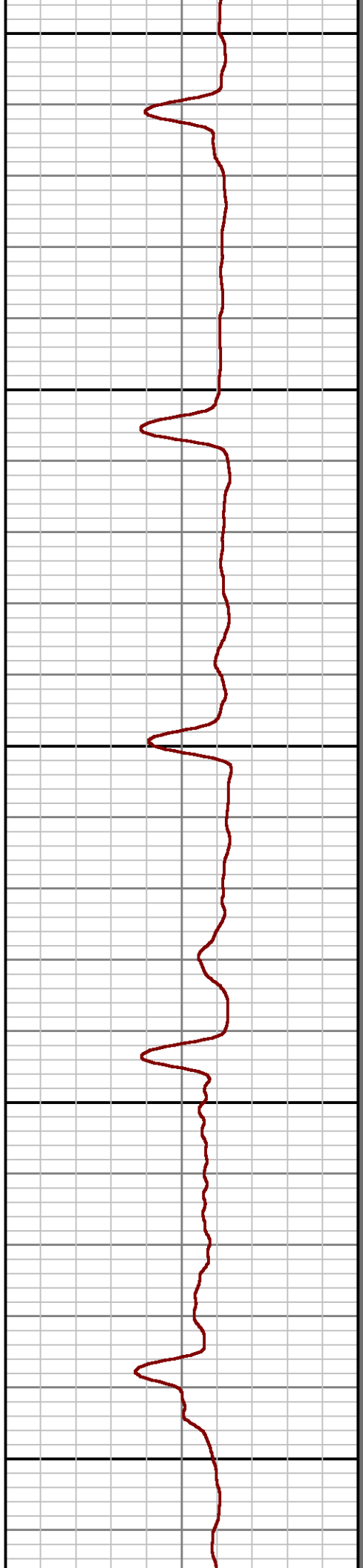
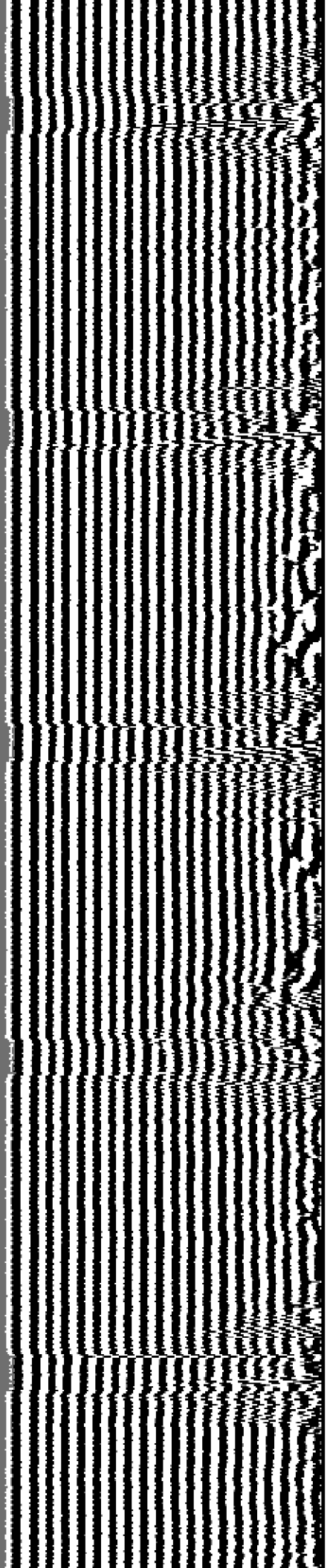


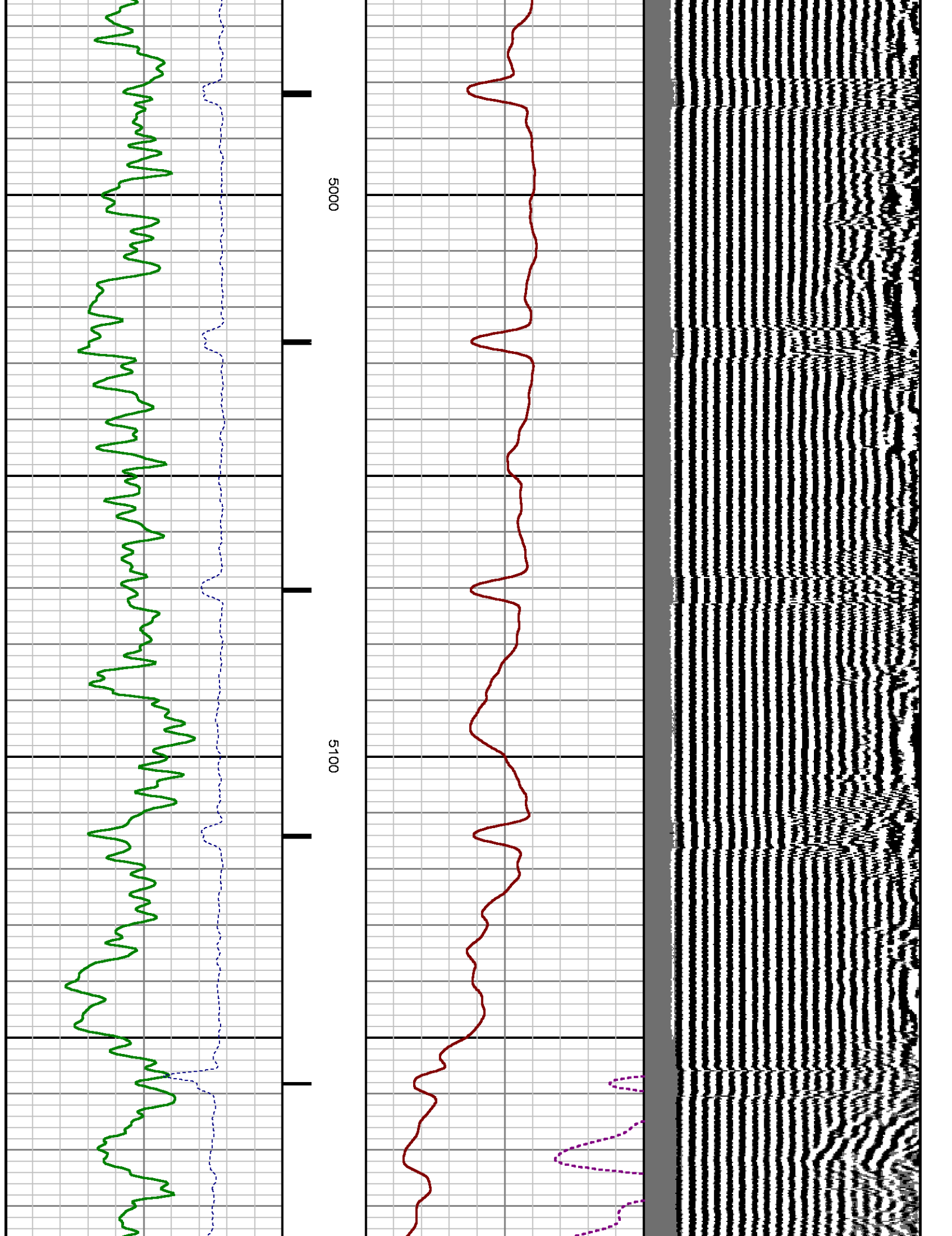


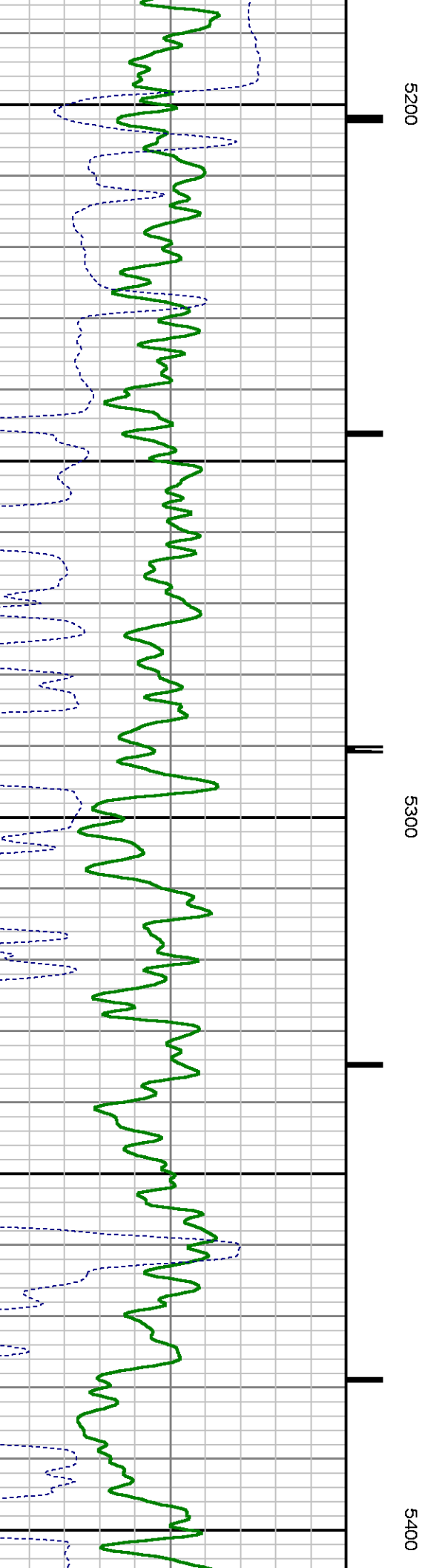
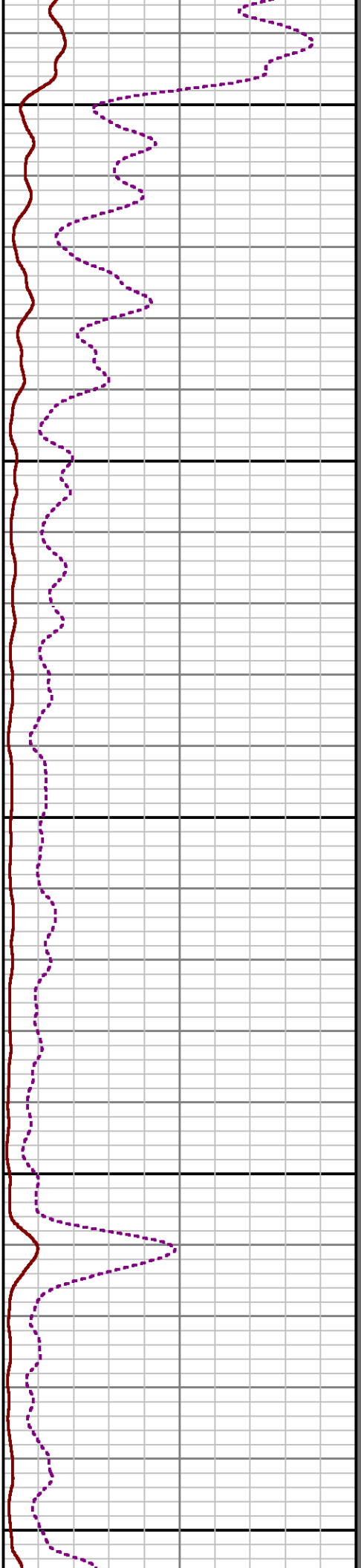
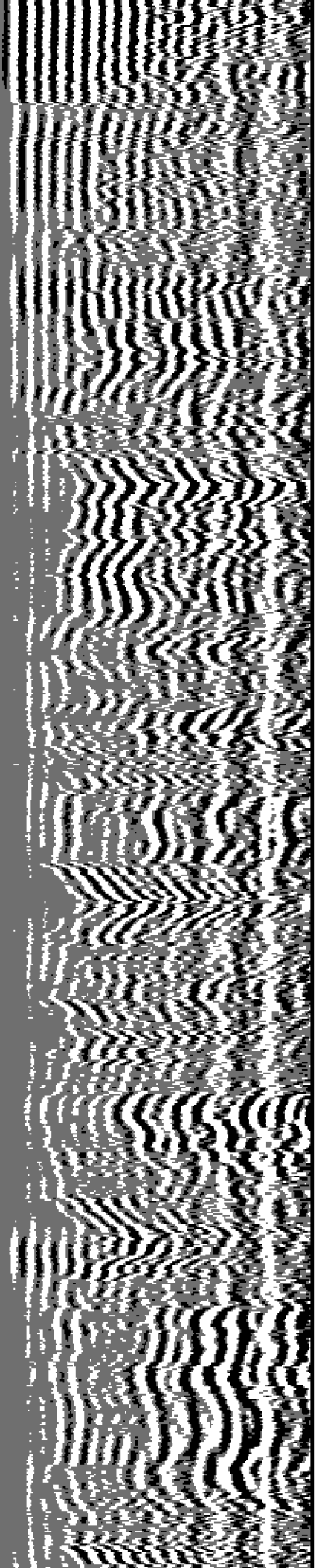


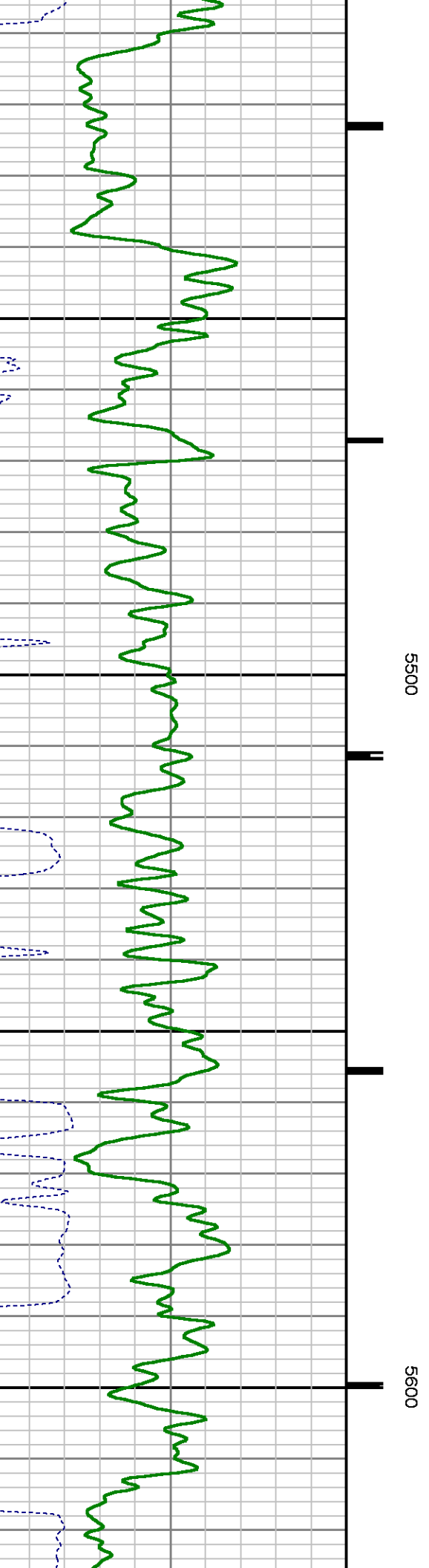
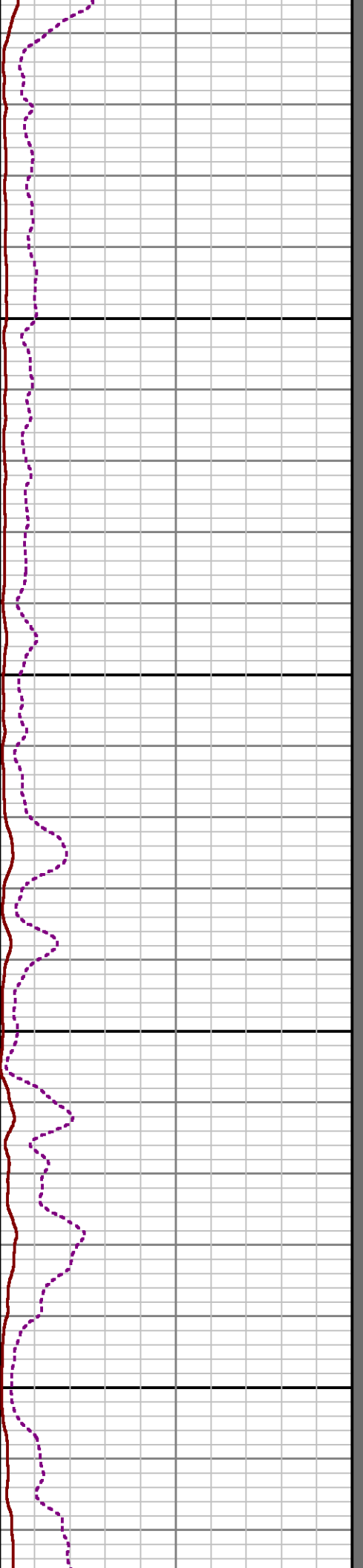
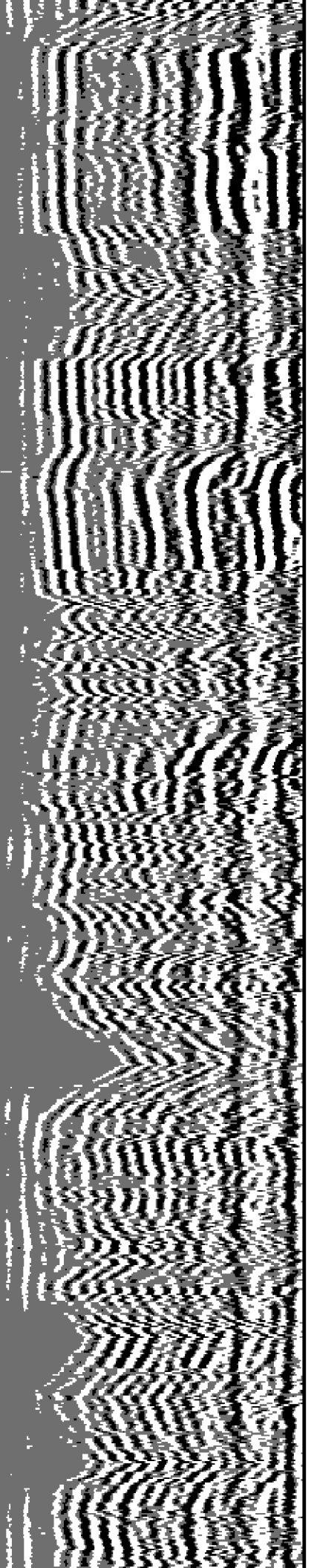


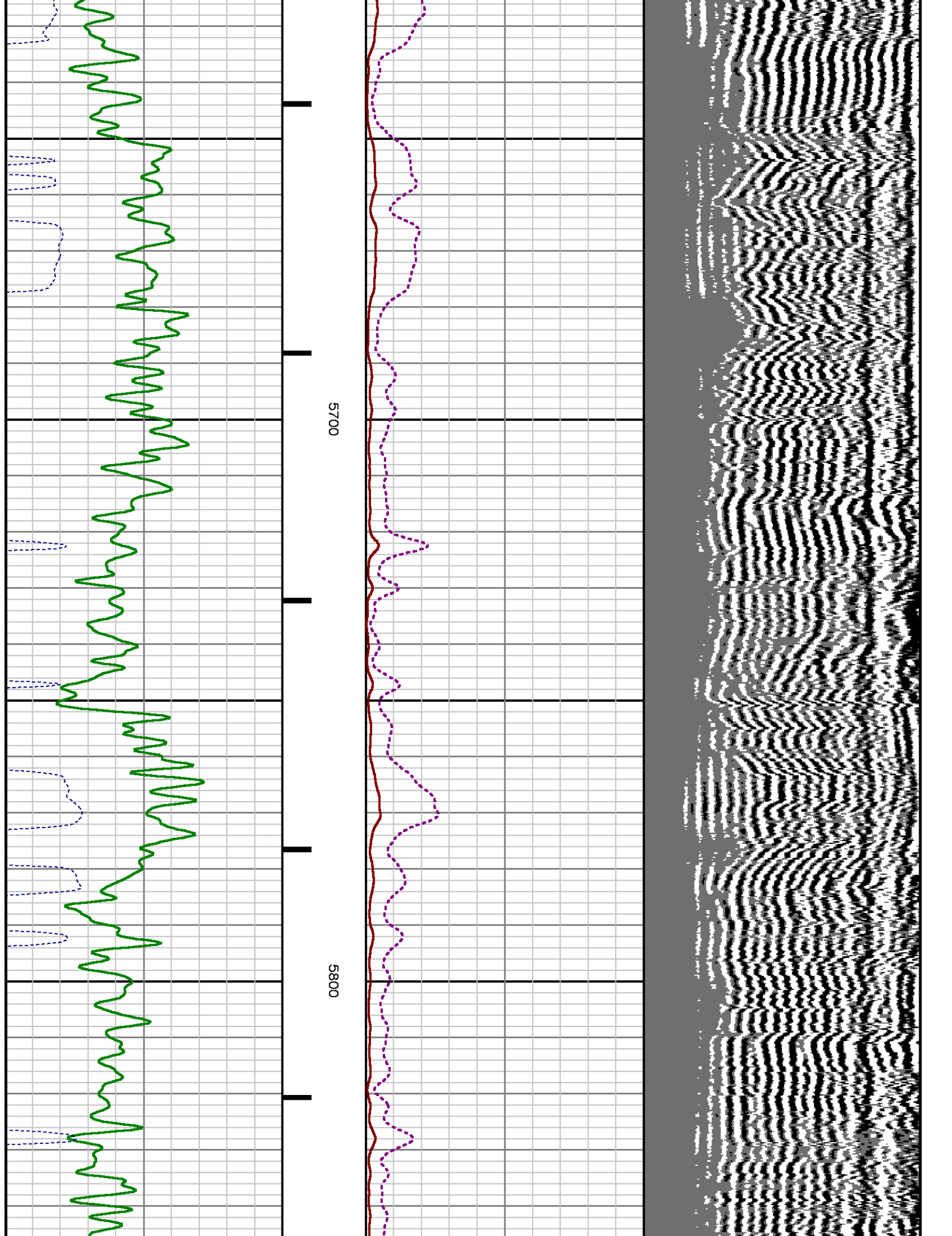


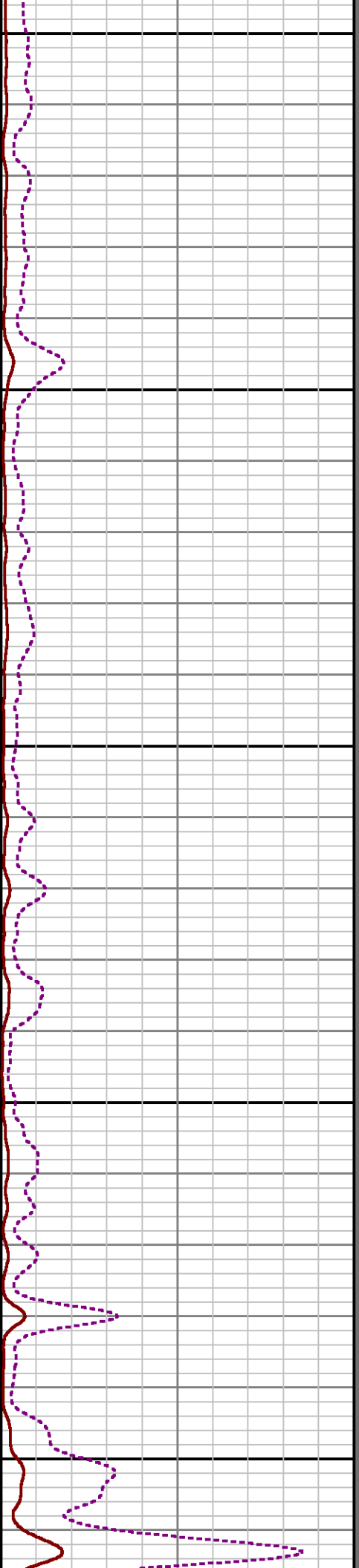
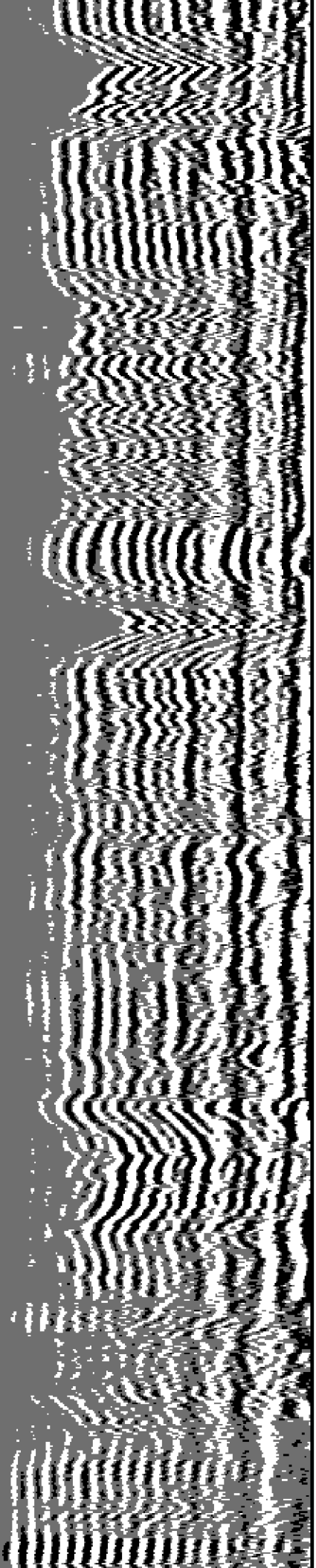






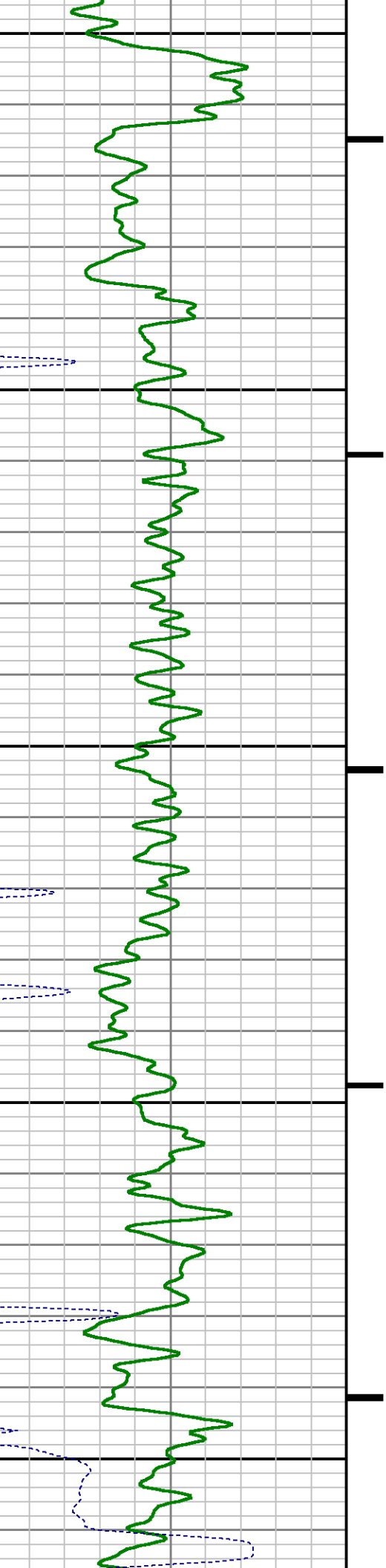


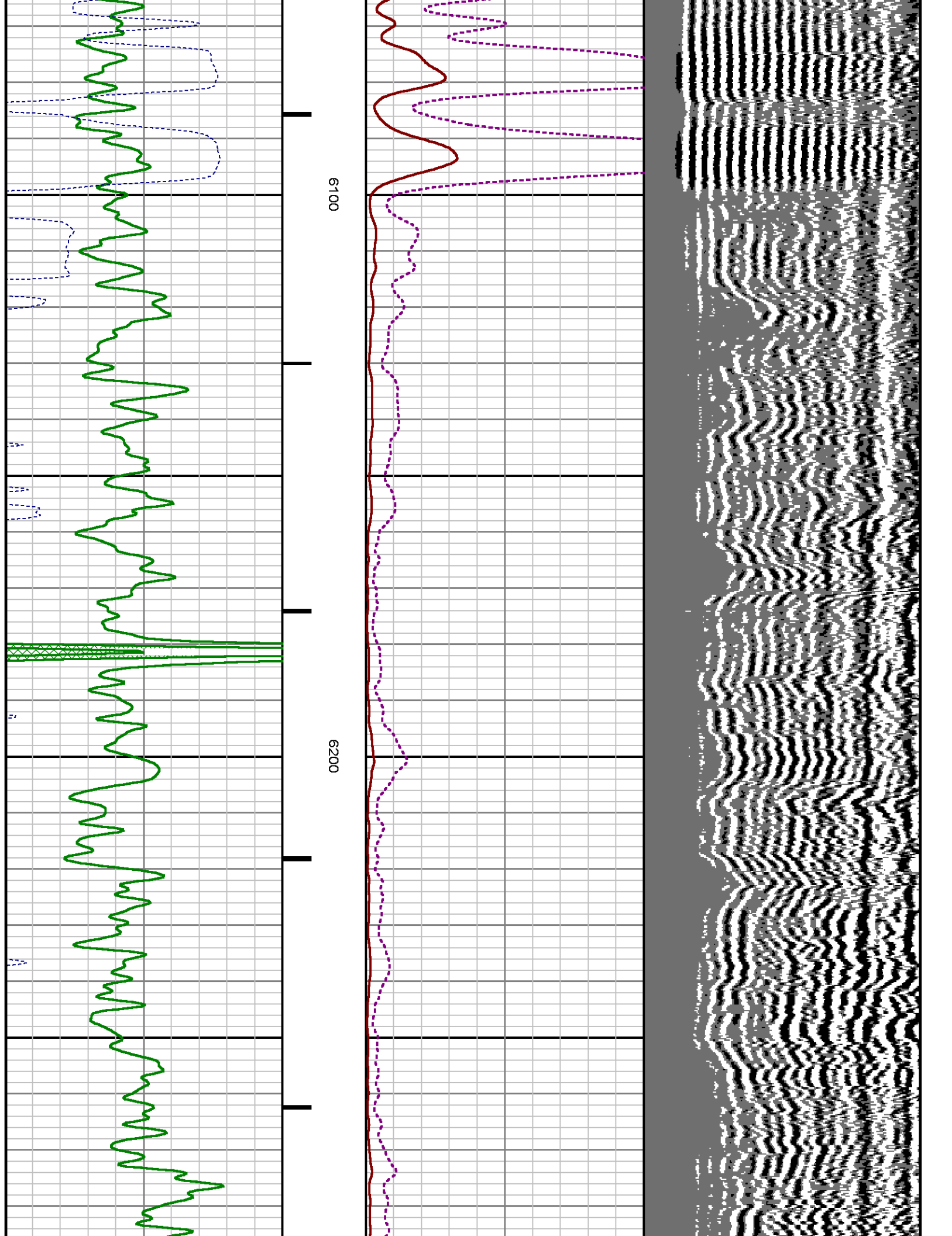


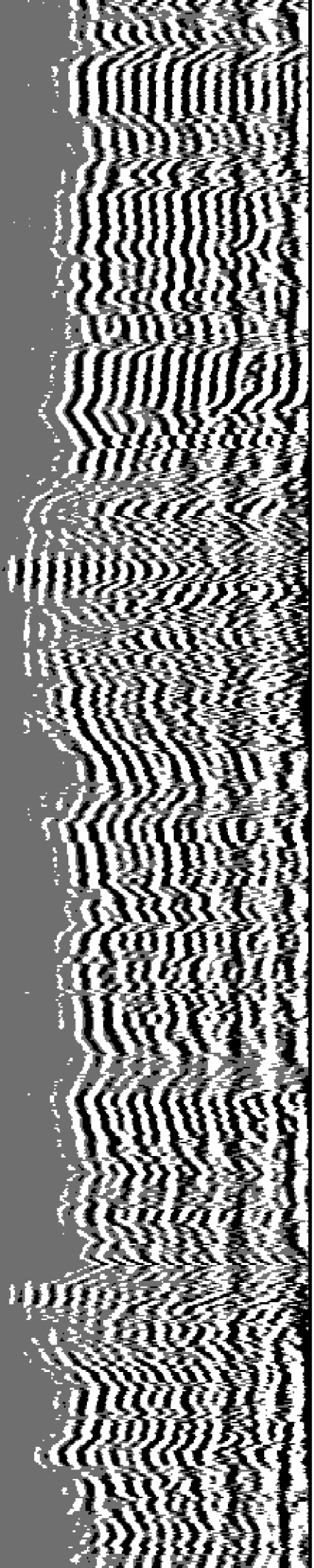


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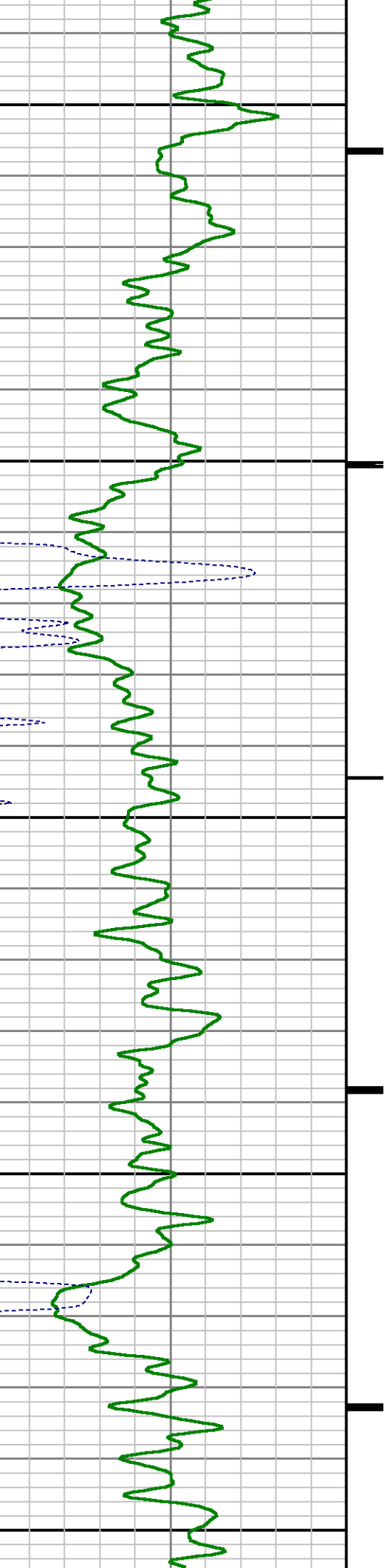
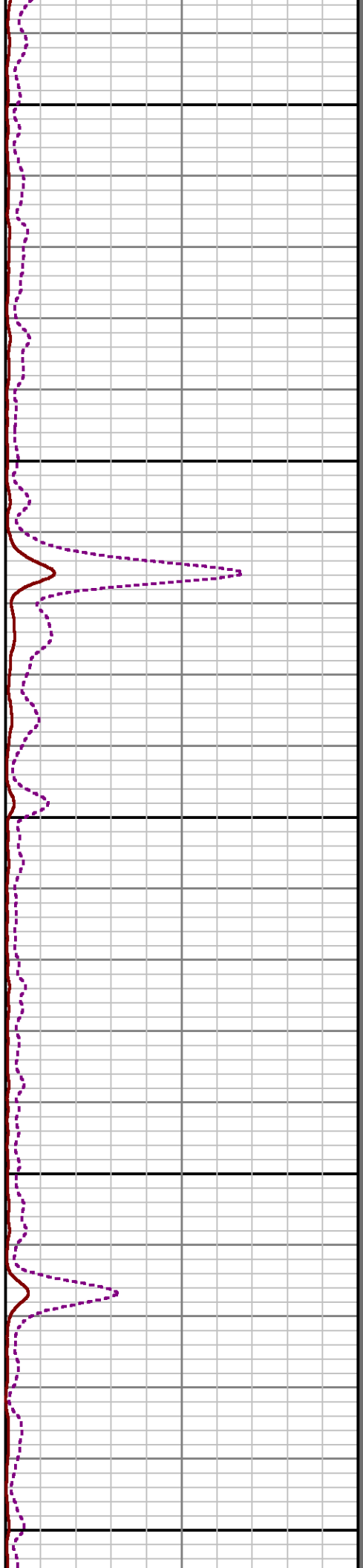


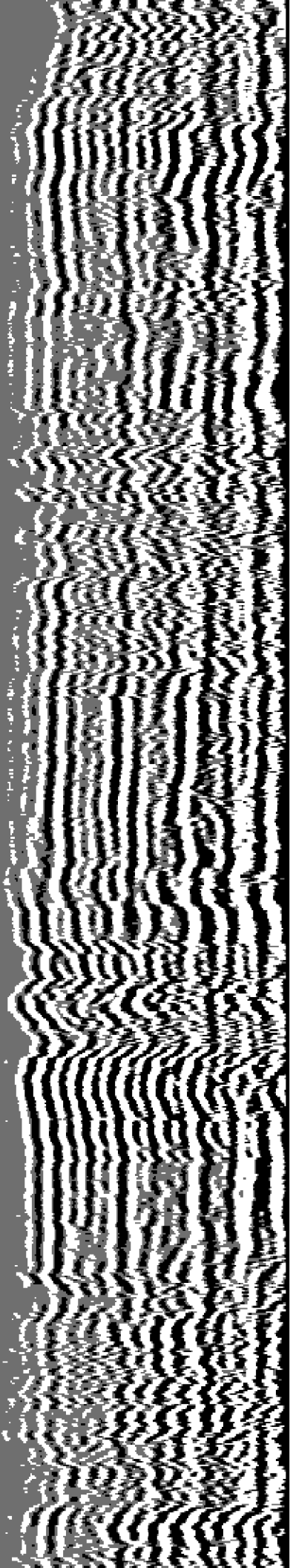


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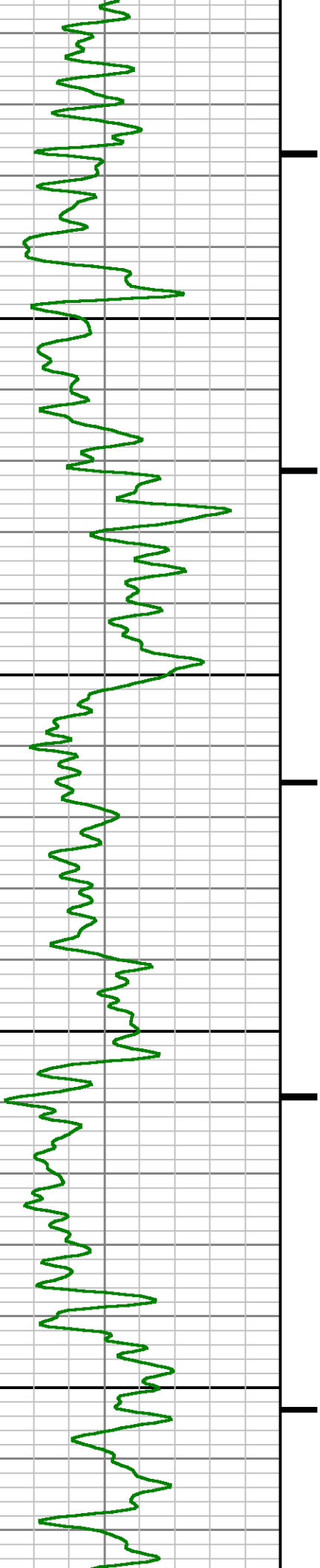
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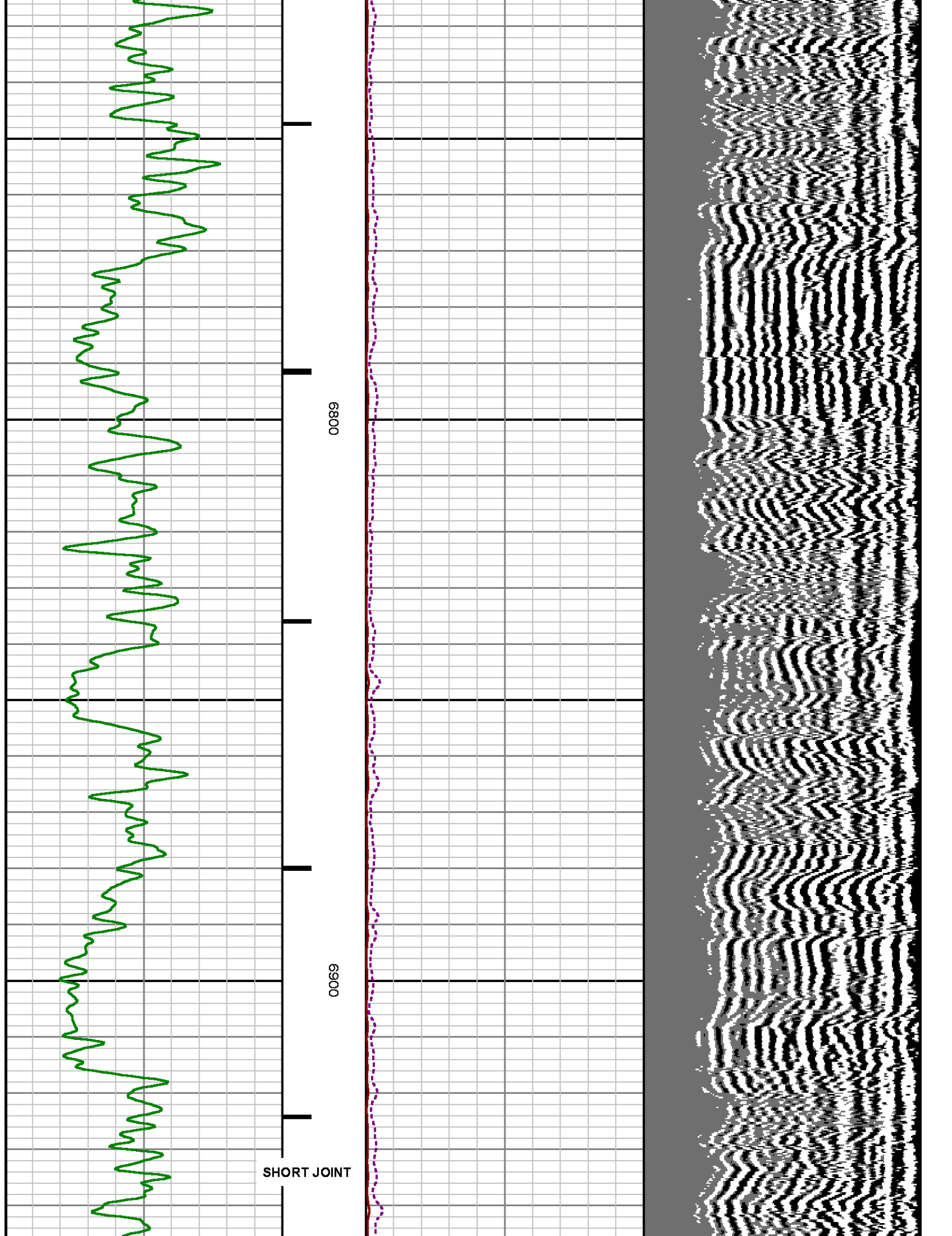


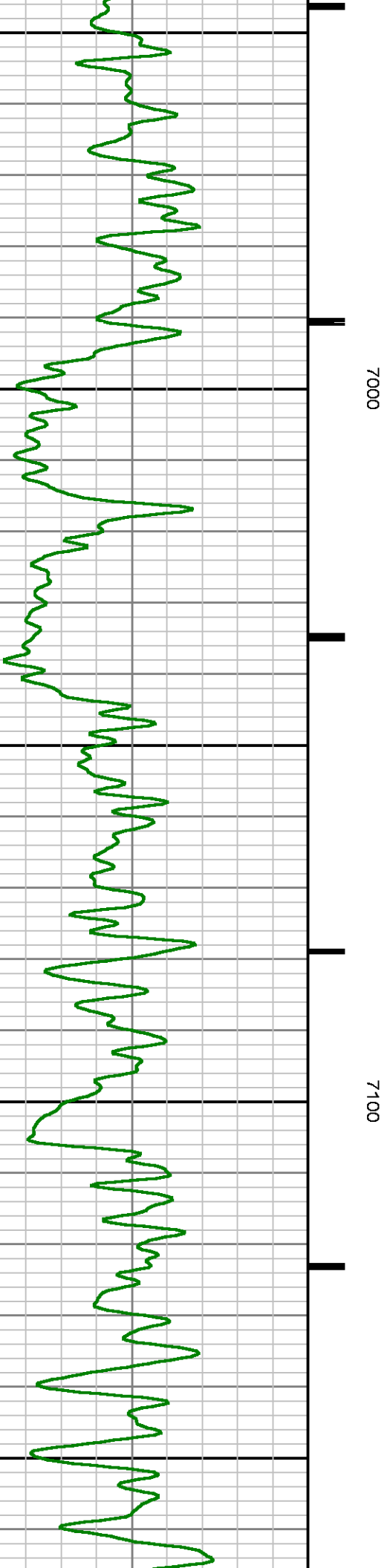
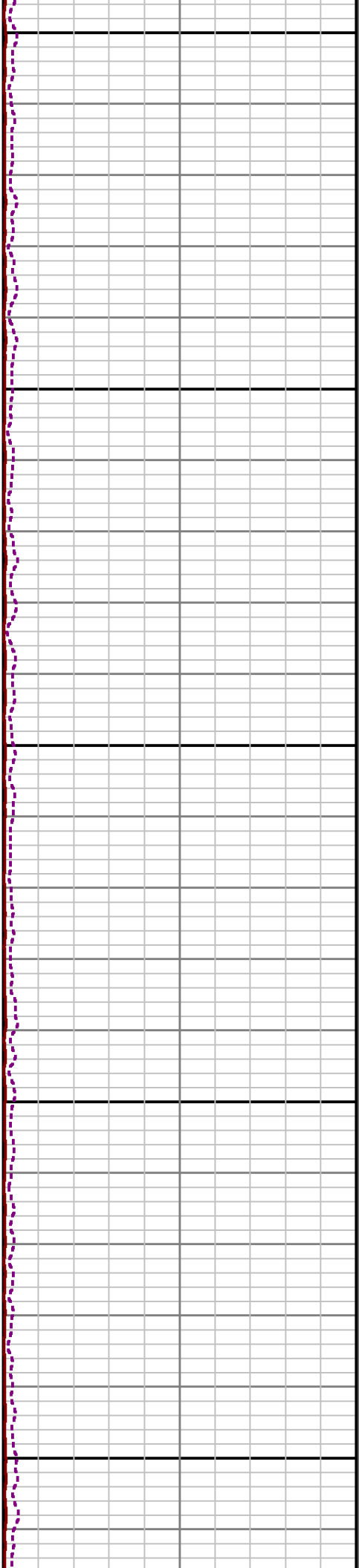
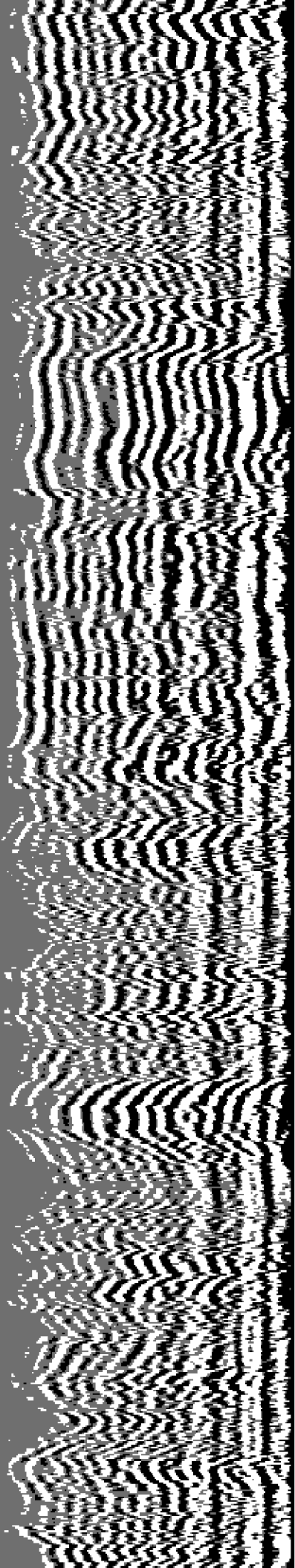


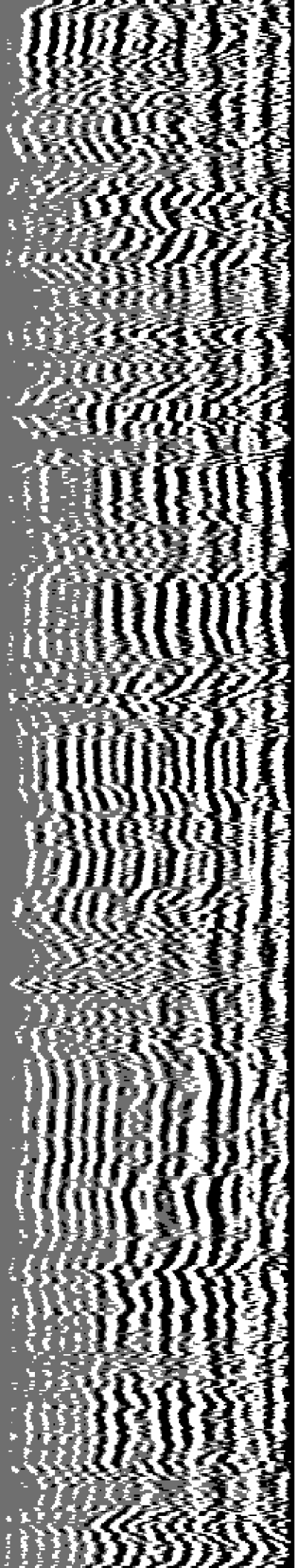
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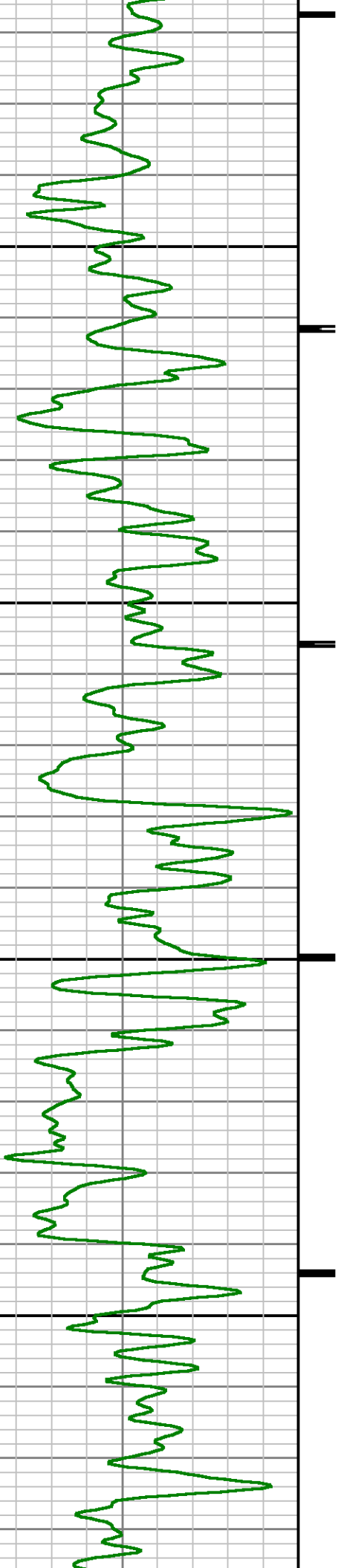


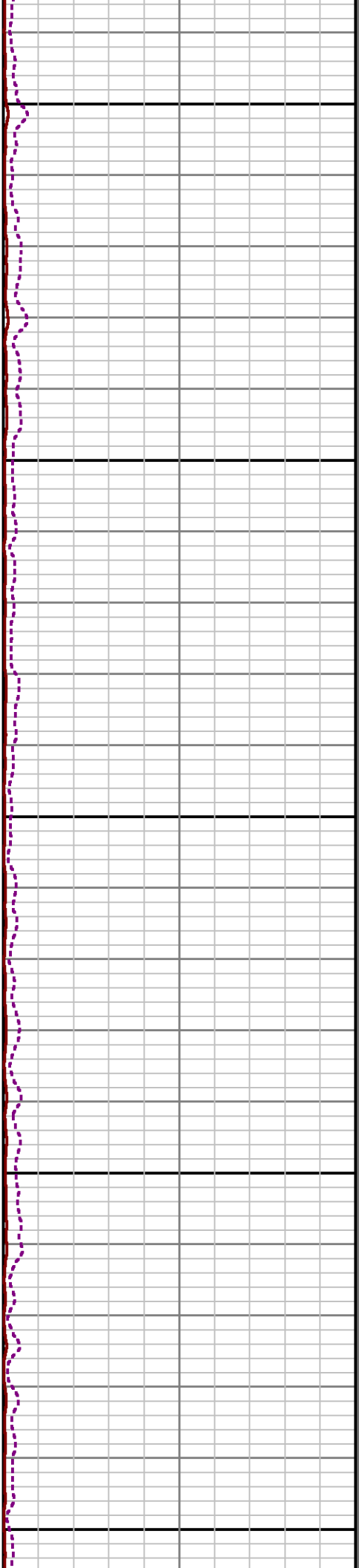
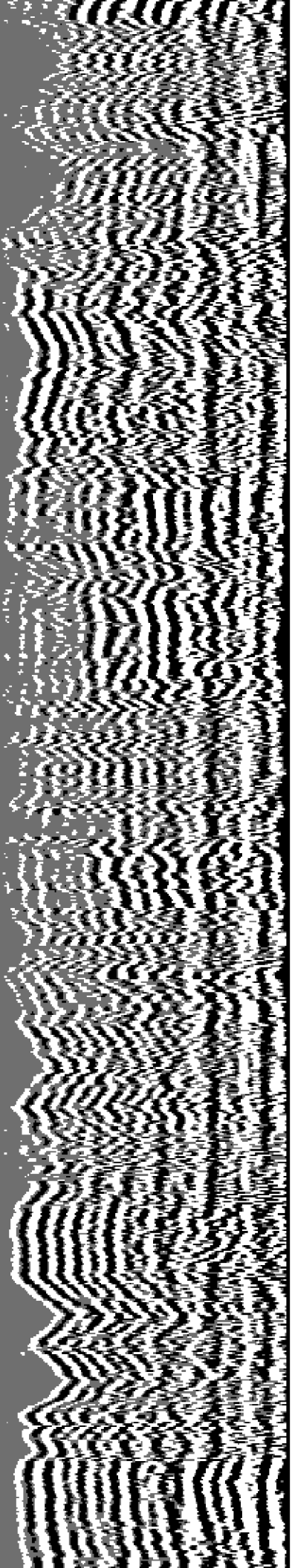




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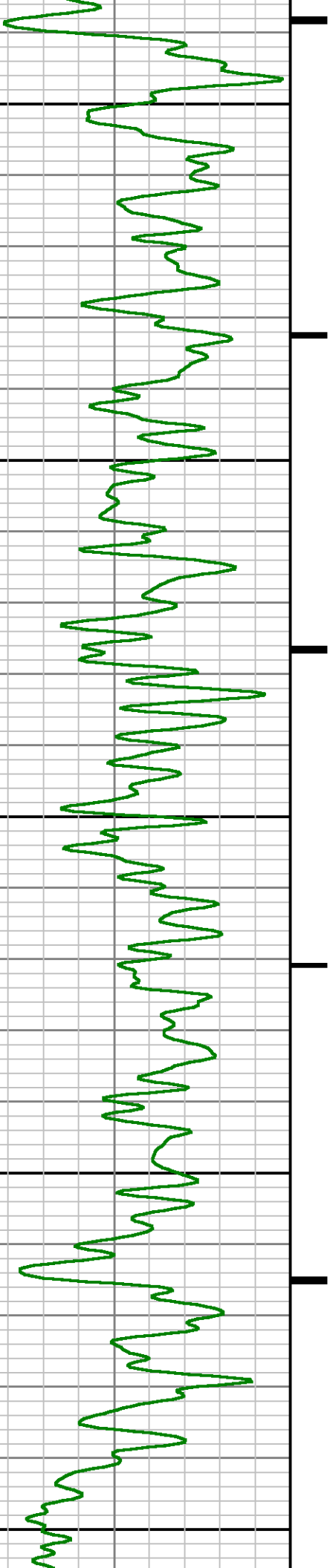


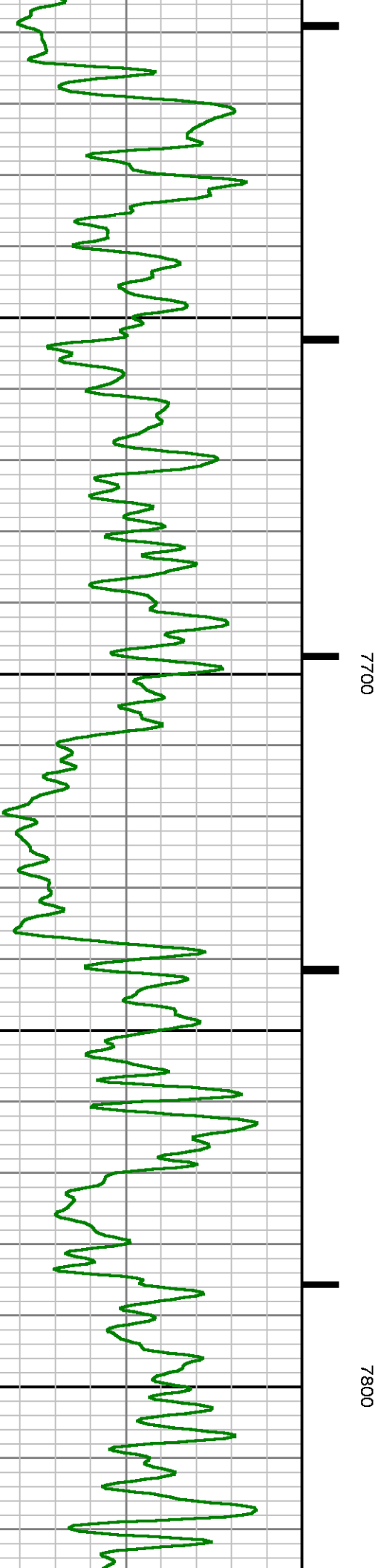
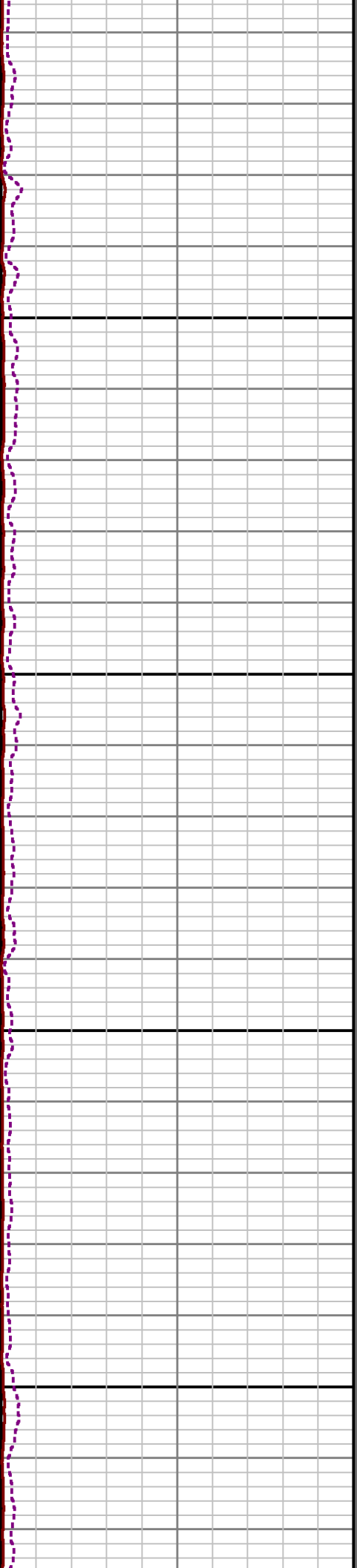
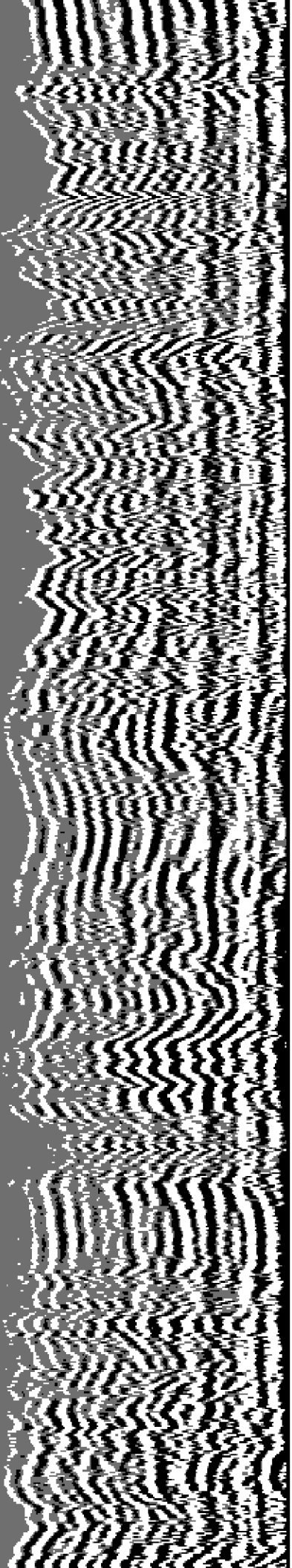


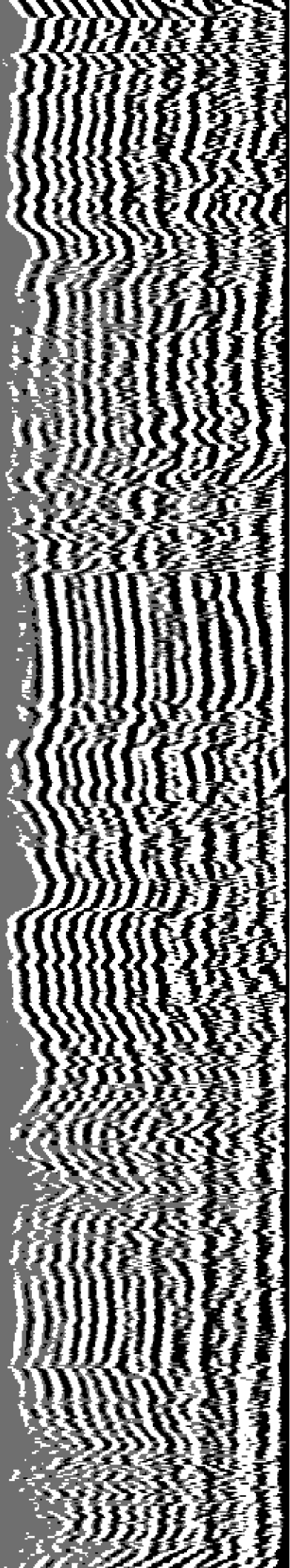
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7600



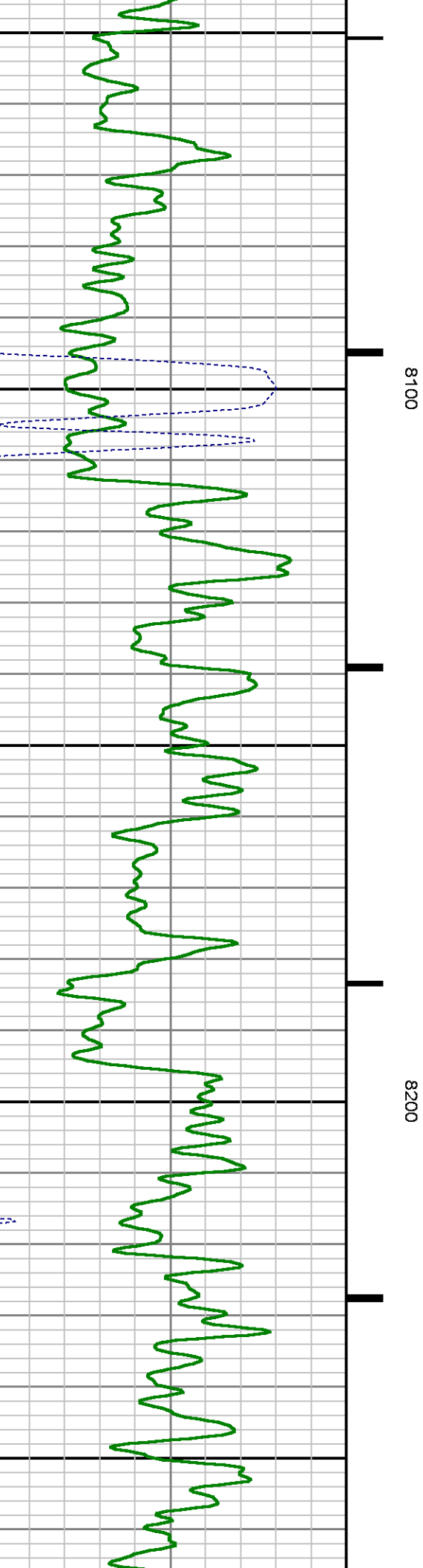
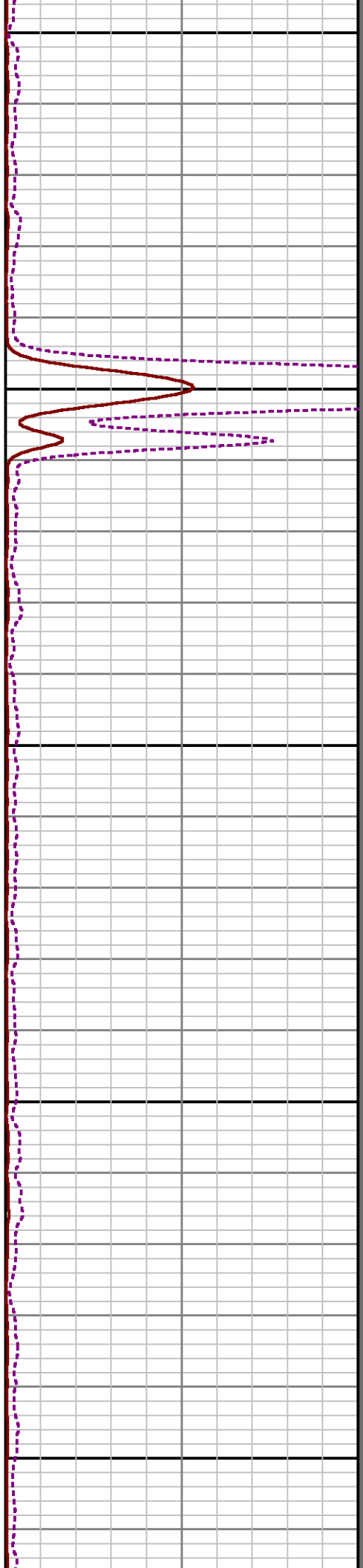
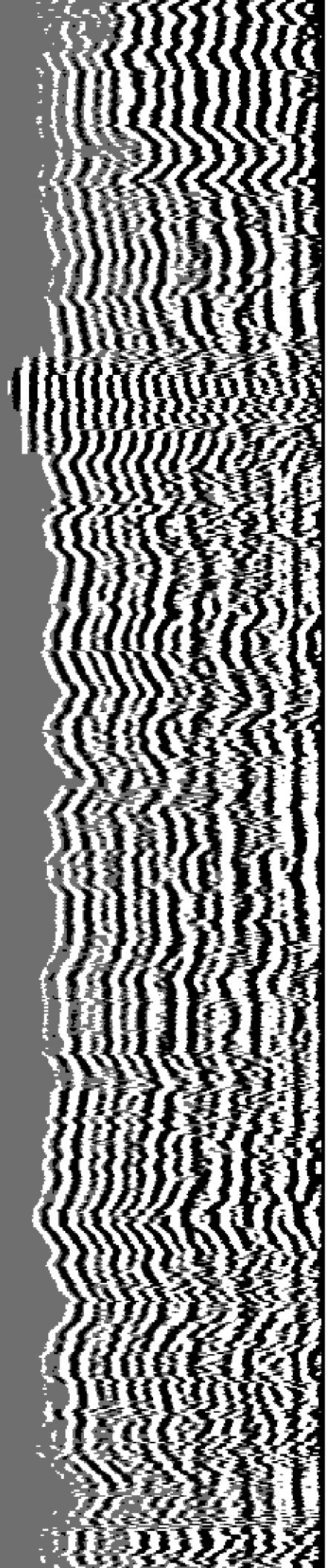


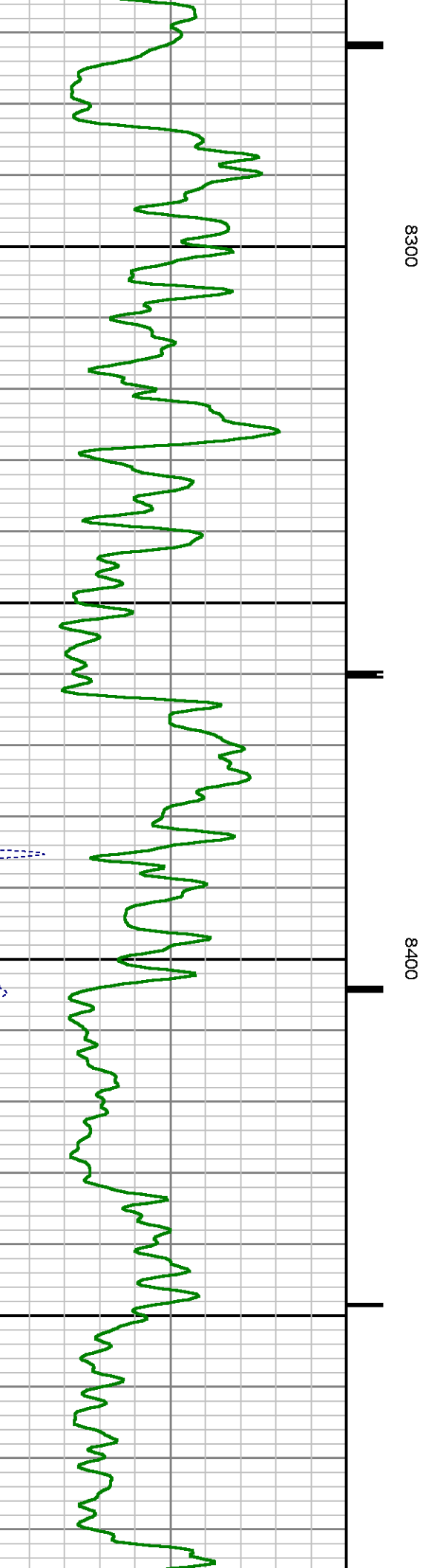
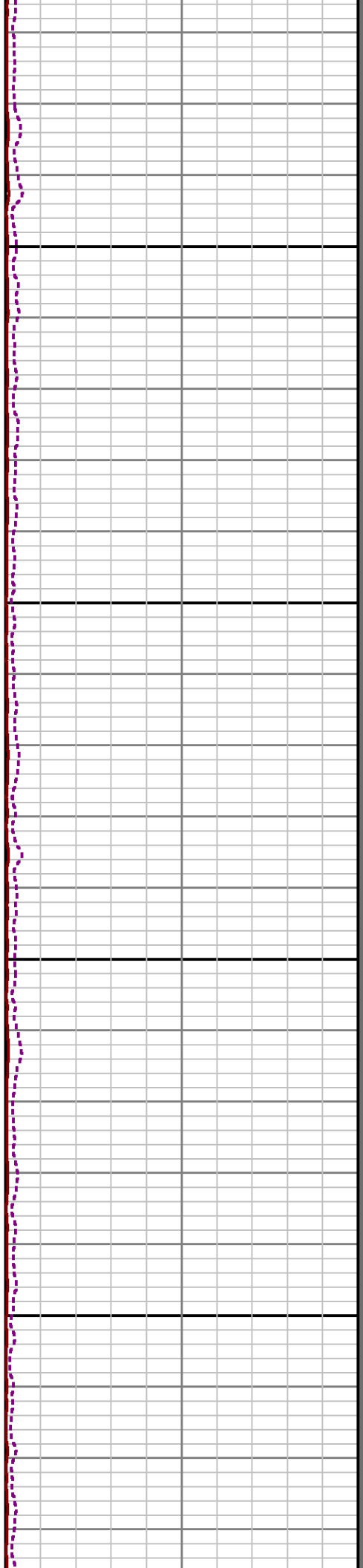
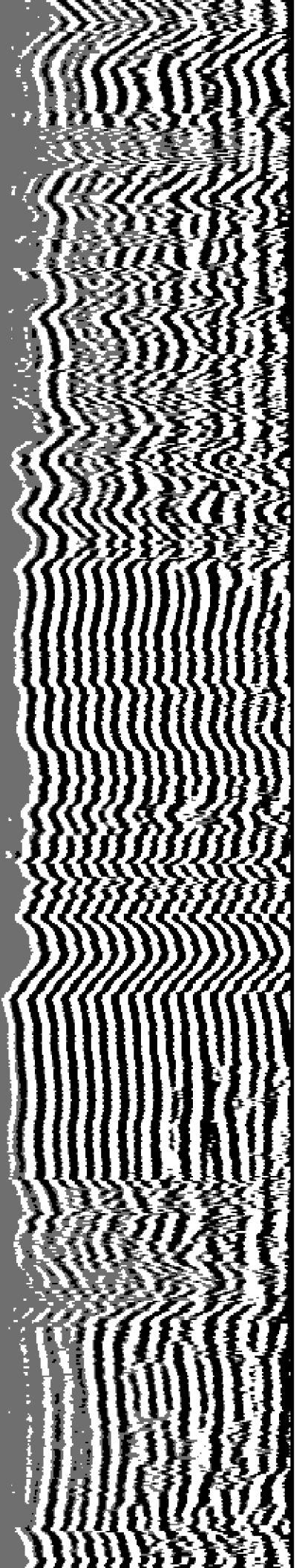


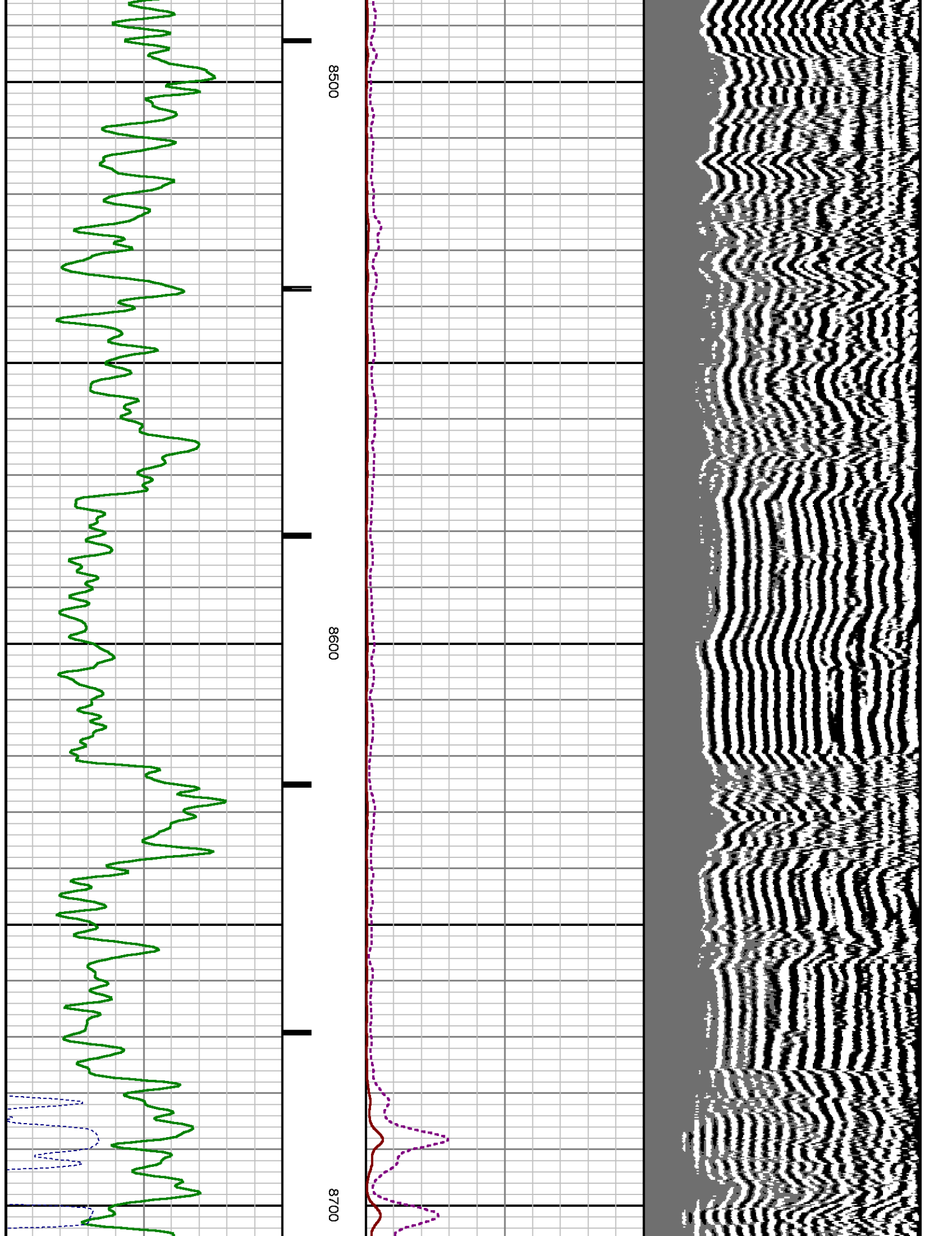
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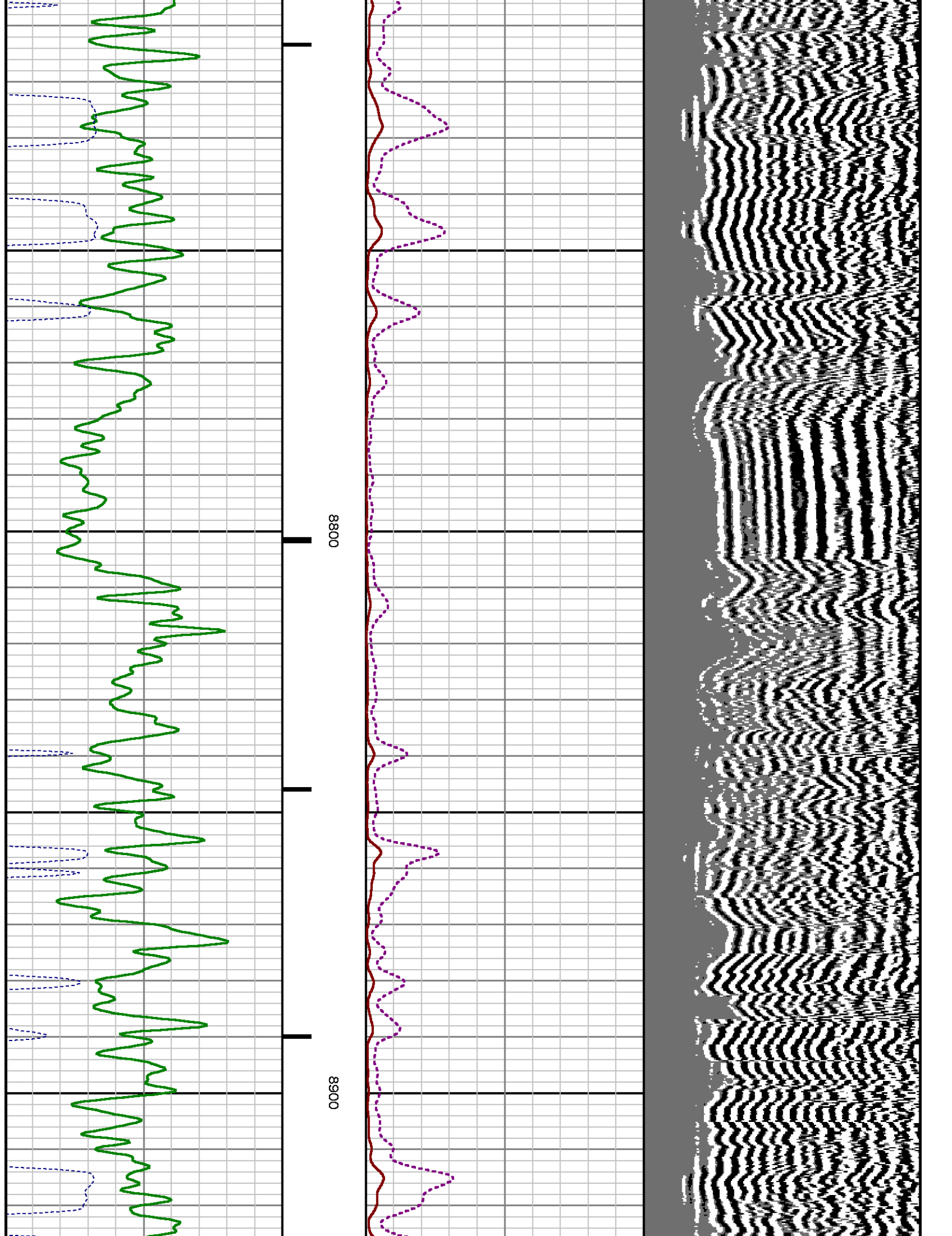
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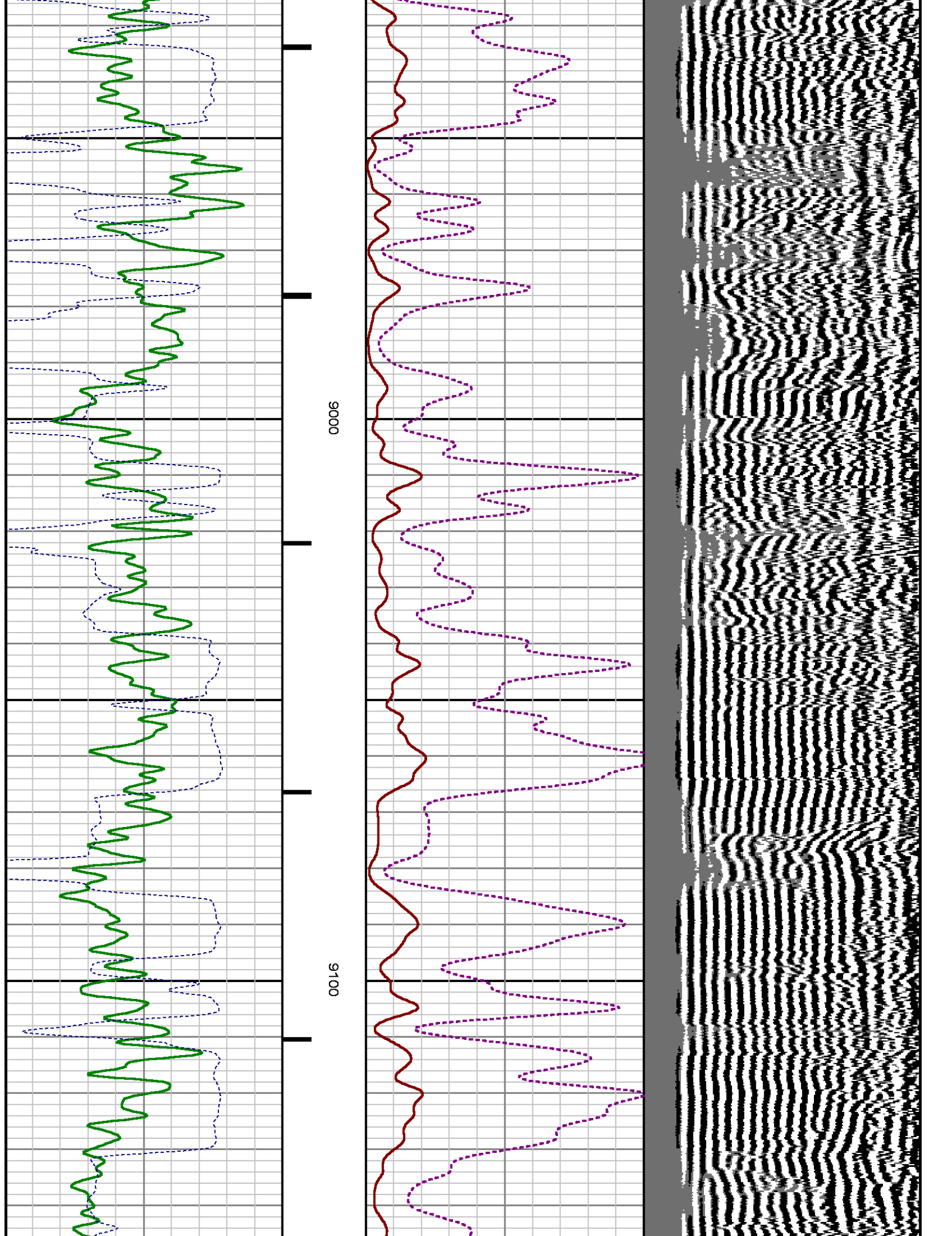


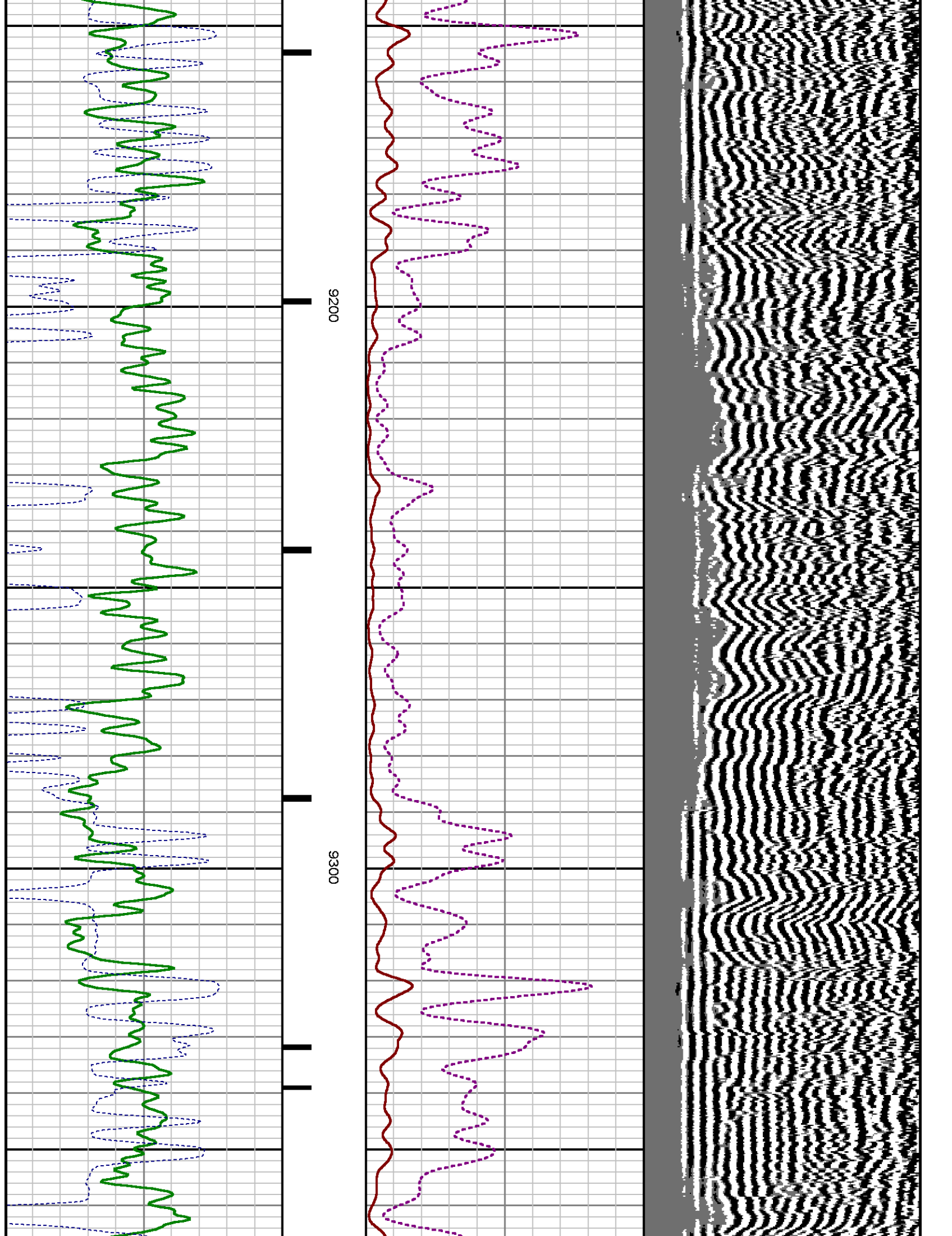


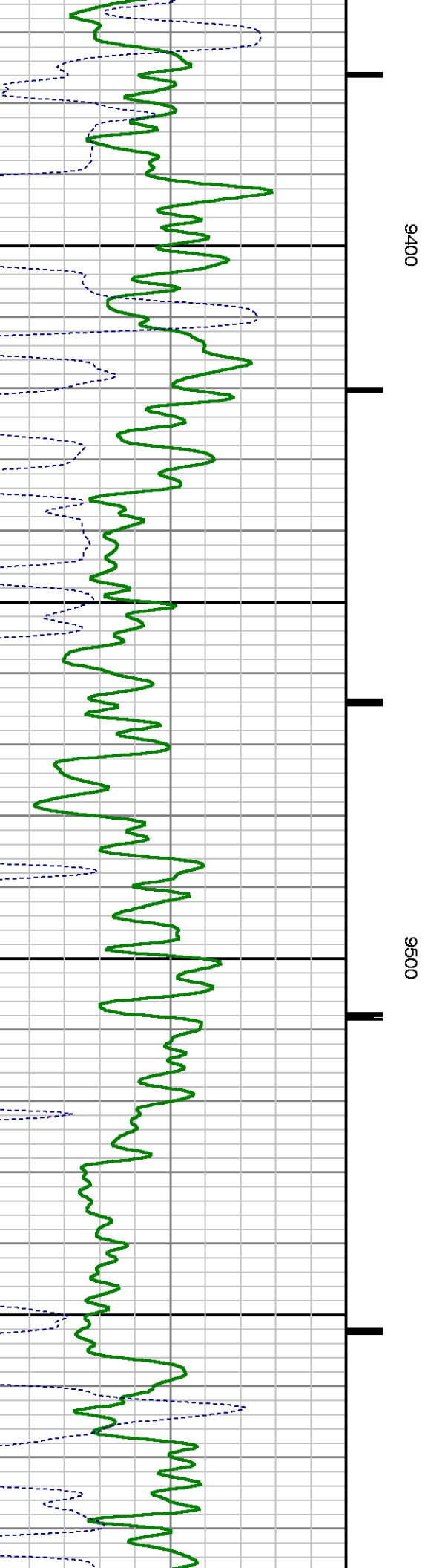
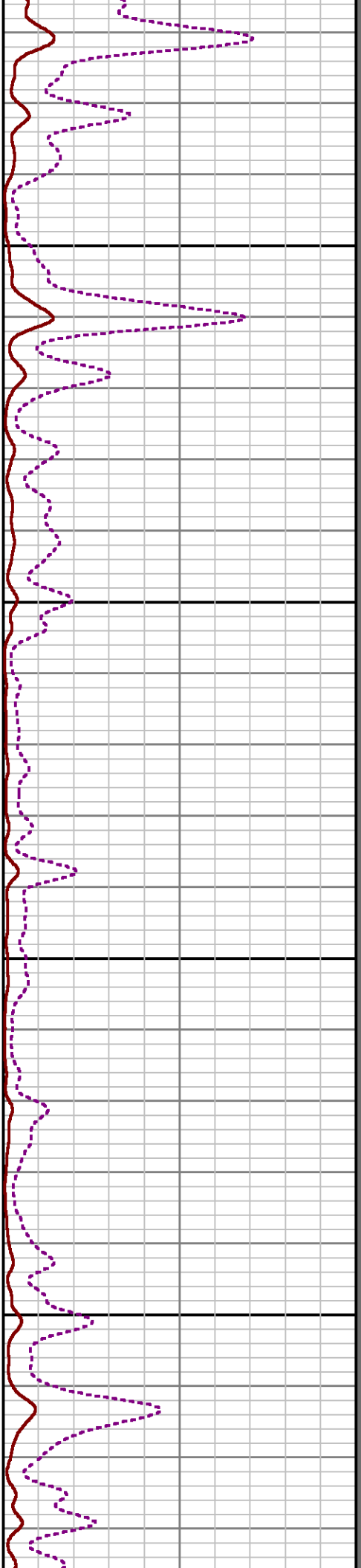
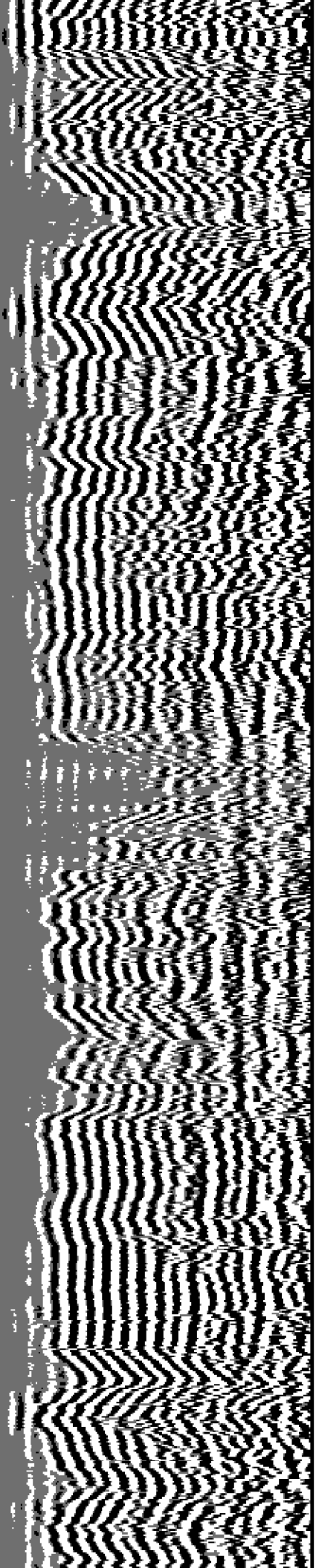


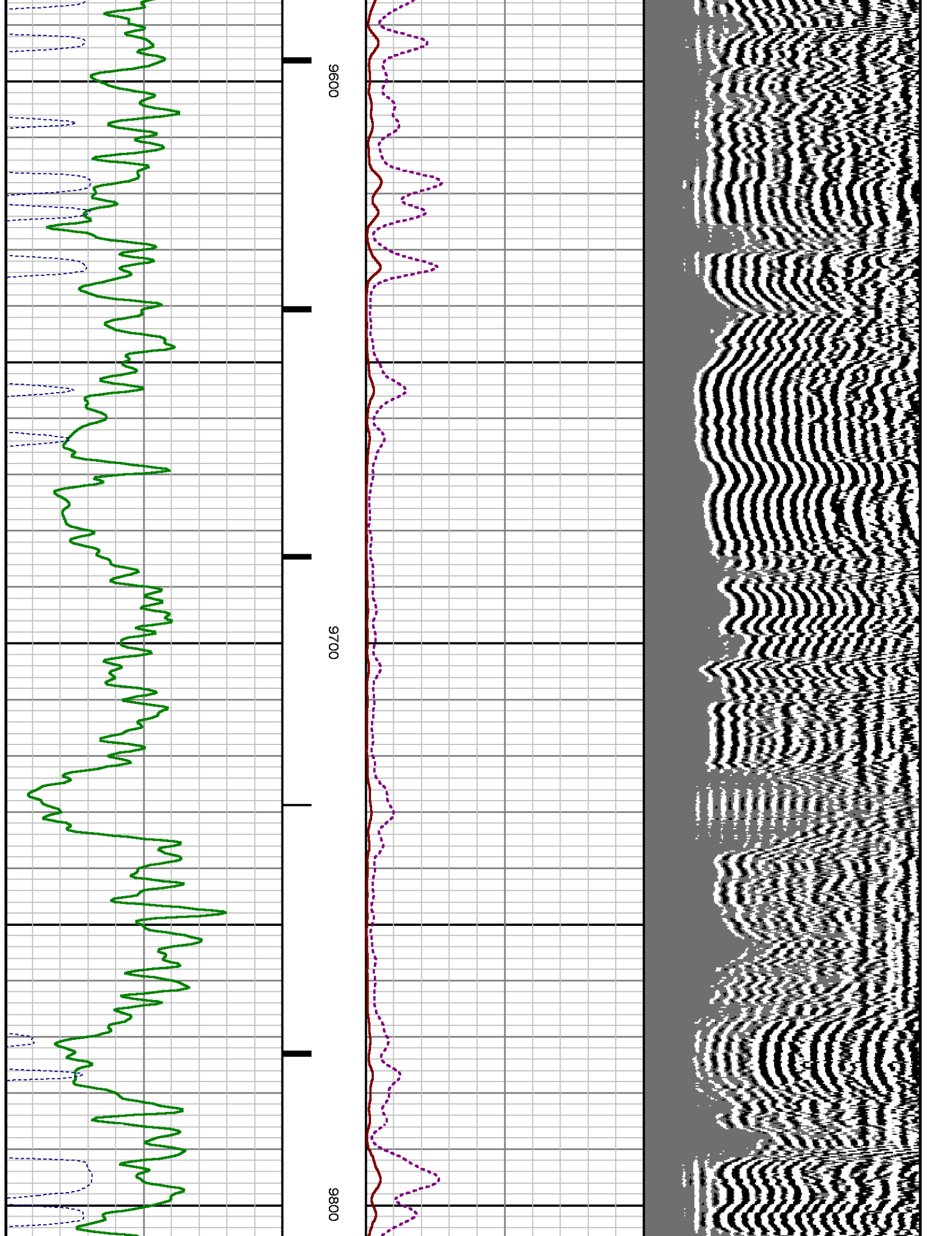


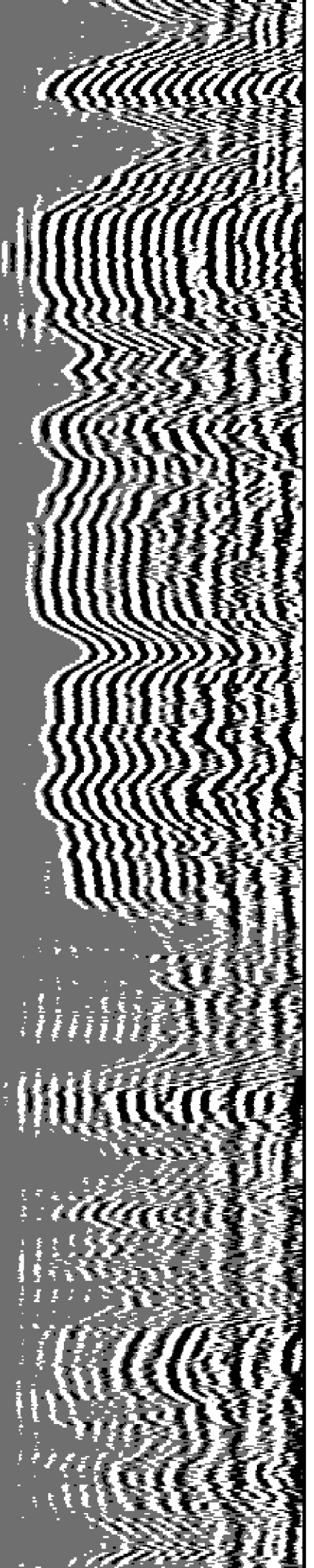






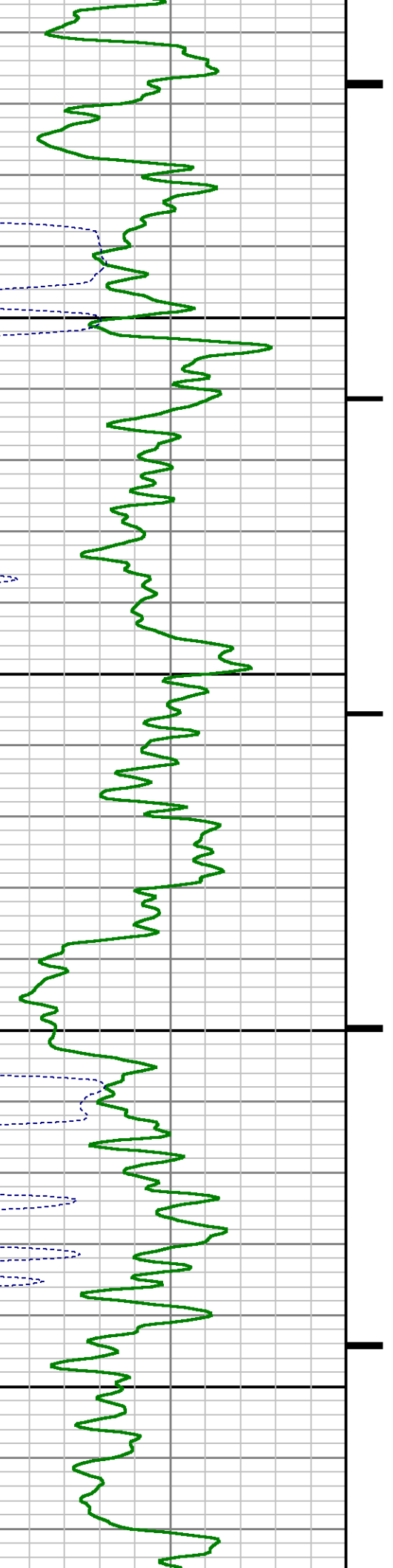


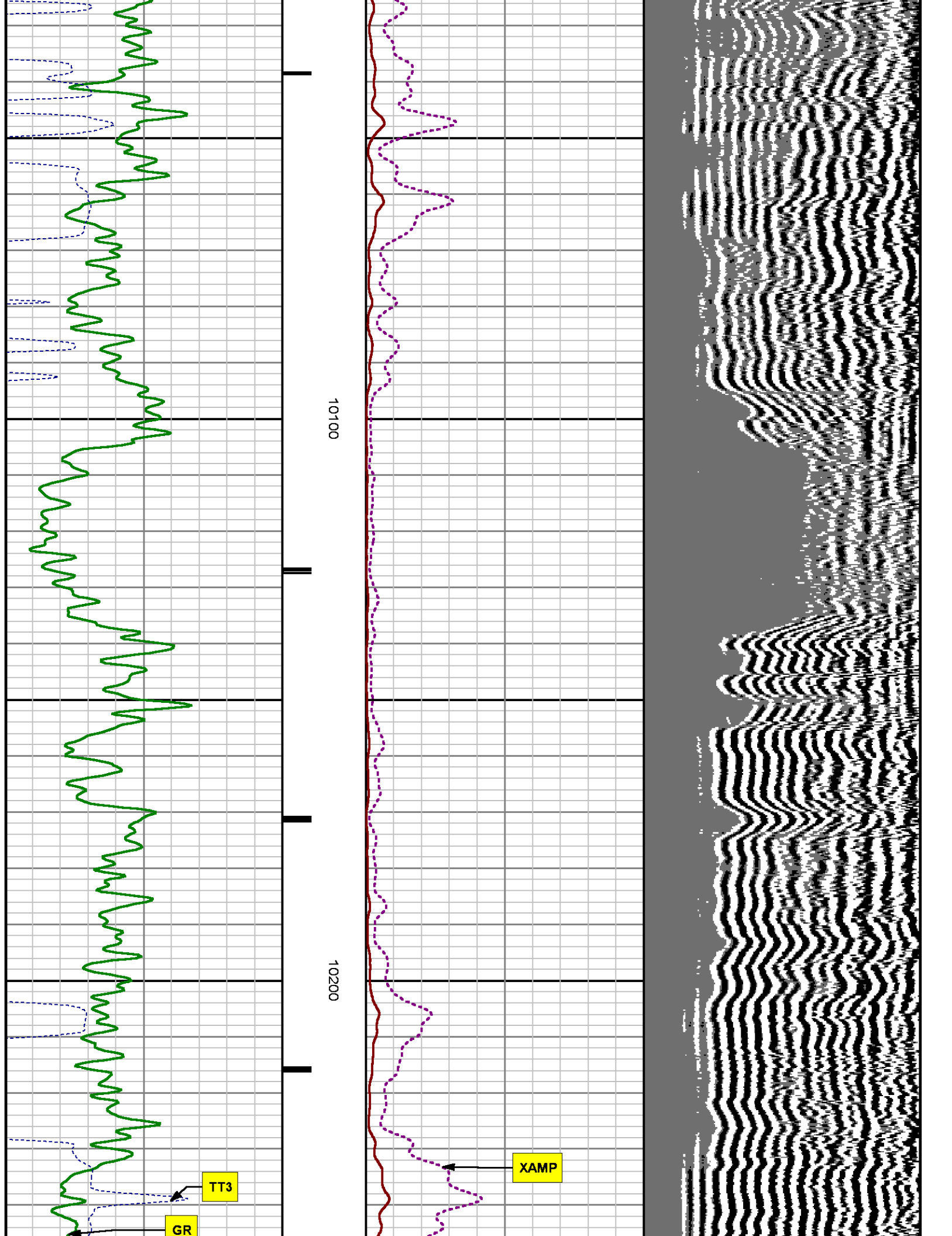


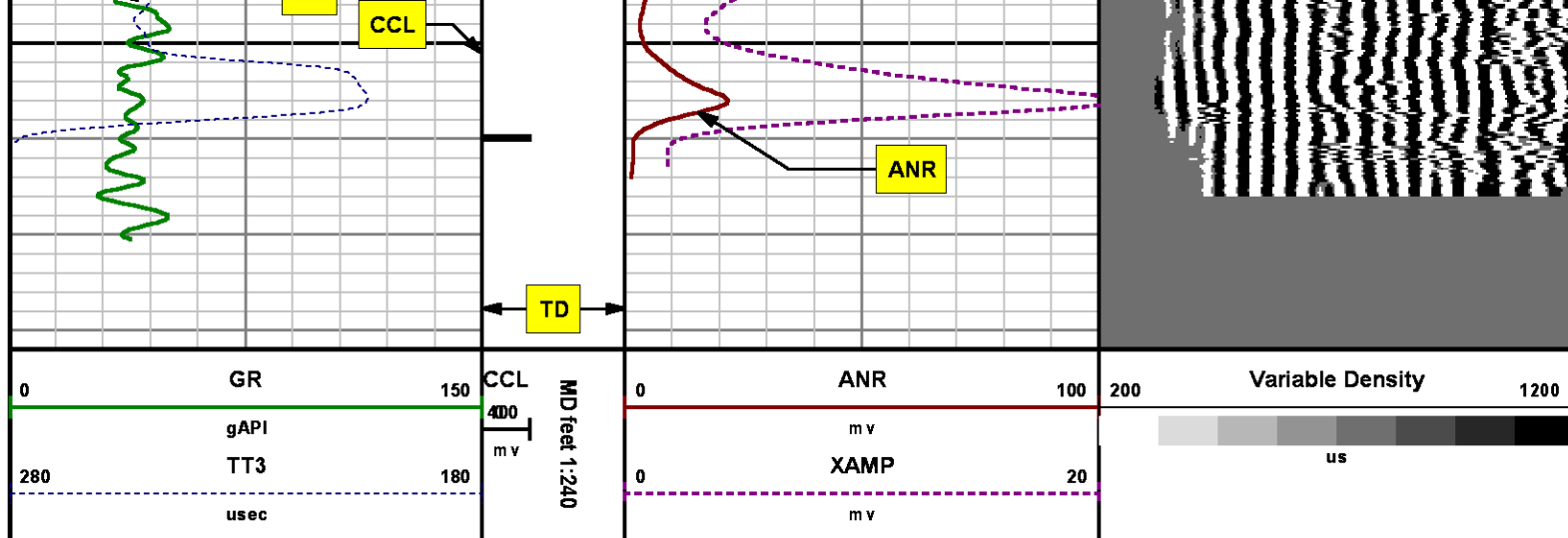


9900

10000







SECONDARY PRESENTATION 0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	u sec	36.187	10282.000
RAL	Amp Gate Start Near	195.000	u sec	36.187	10282.000
RAL	Amp Gate Start Radial	195.000	u sec	36.187	10282.000
RAL	Amp Gate Width Far	25.000	u sec	36.187	10282.000
RAL	Amp Gate Width Near	25.000	u sec	36.187	10282.000
RAL	Amp Gate Width Radial	25.000	u sec	36.187	10282.000
RAL	casing od	4.500	inches	36.187	10282.000
RAL	casing wt	11.600	lbm/ft	36.187	10282.000
RAL	FB Start Far	291.900	u sec	36.187	10282.000
RAL	FB Start Near	180.000	u sec	36.187	10282.000
RAL	FB Start Radial	180.000	u sec	36.187	10282.000
RAL	FB Thresh Far	15.000	m v	36.187	10282.000
RAL	FB Thresh Near	10.000	m v	36.187	10282.000
RAL	FB Thresh Radial	10.000	m v	36.187	10282.000
RAL	Fluid Travel Time	200.000	u sec/ft	36.187	10281.593

DEPTH OFFSETS

(for Acquired Curves)

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

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

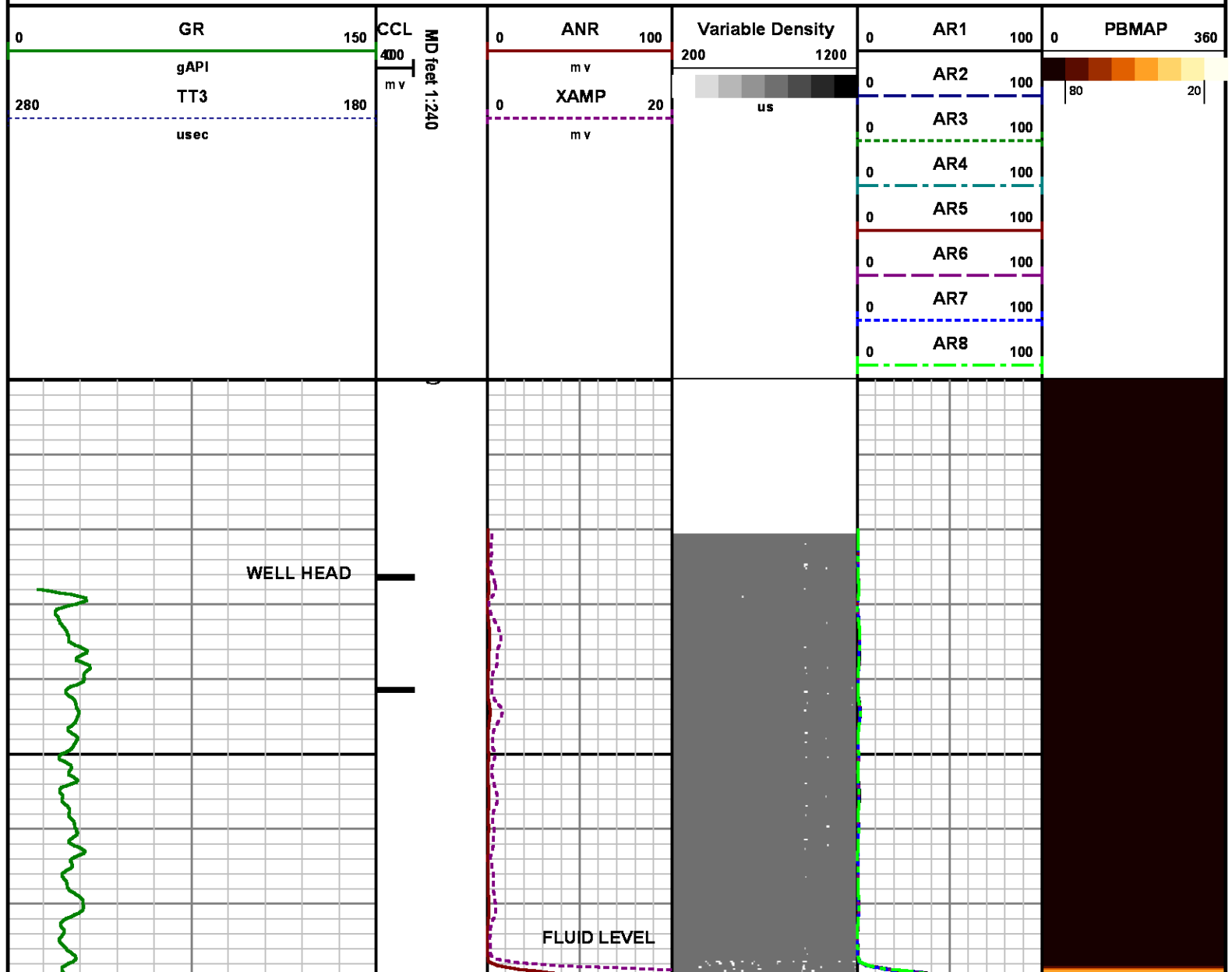
Well : FEDERAL NER 344-32

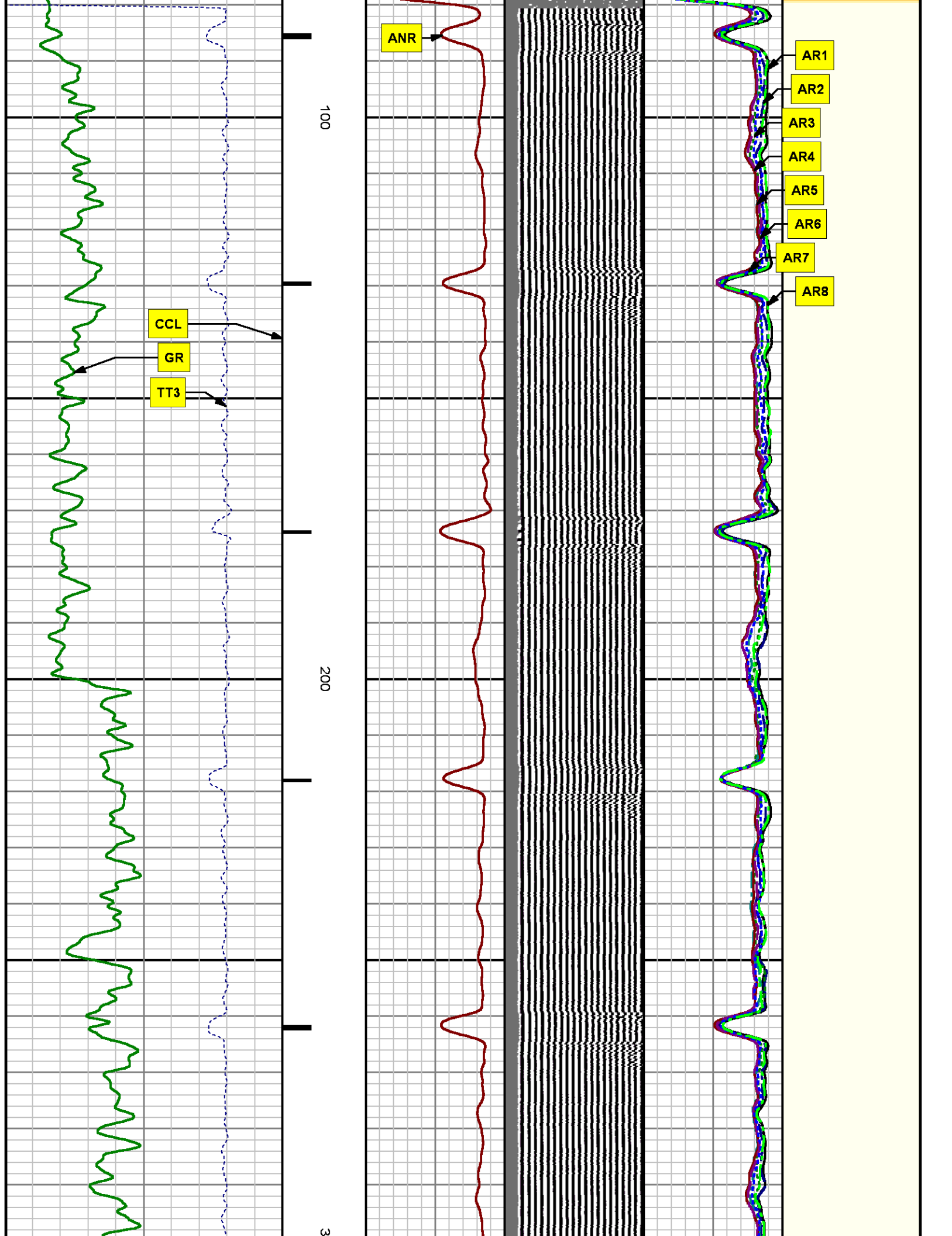
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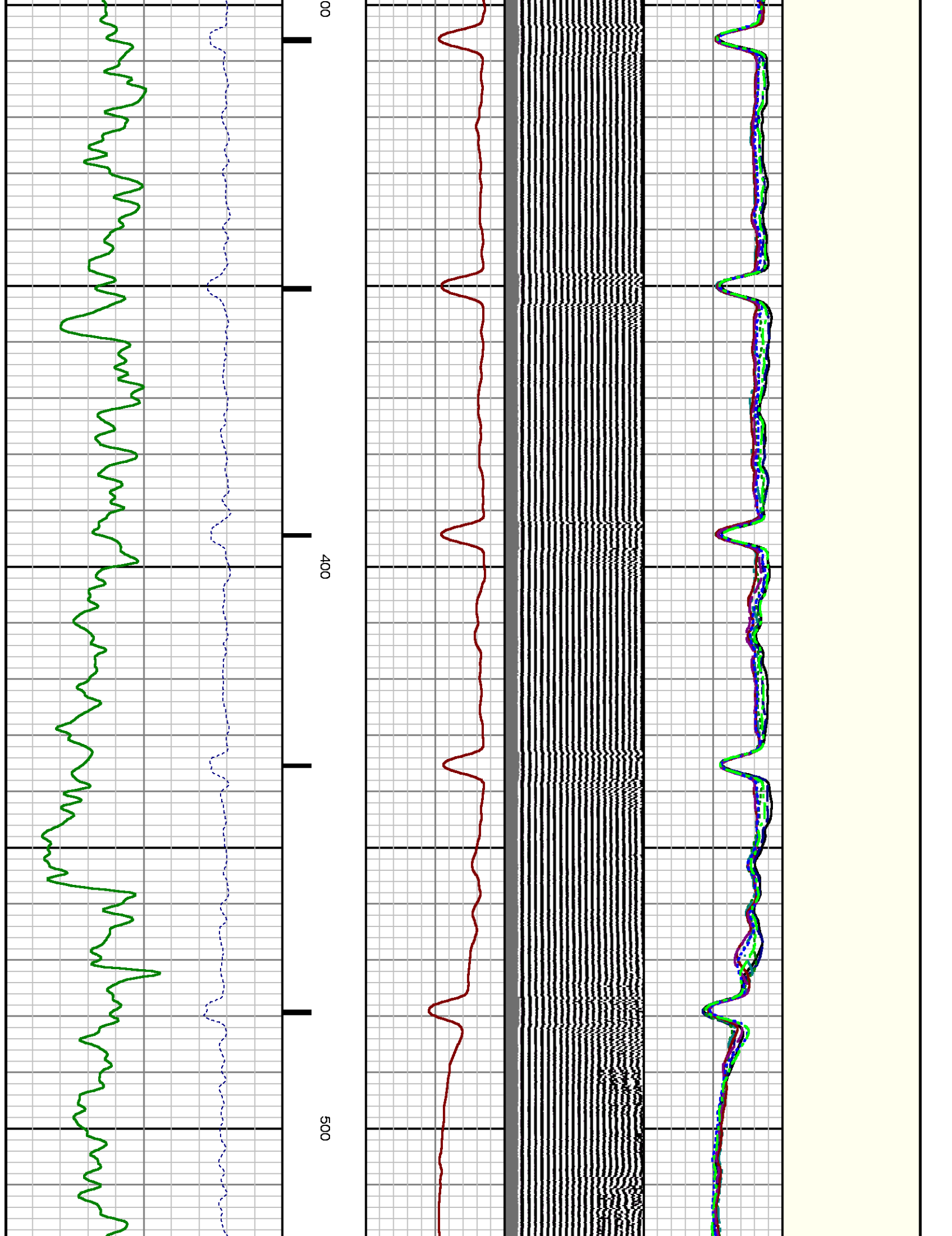
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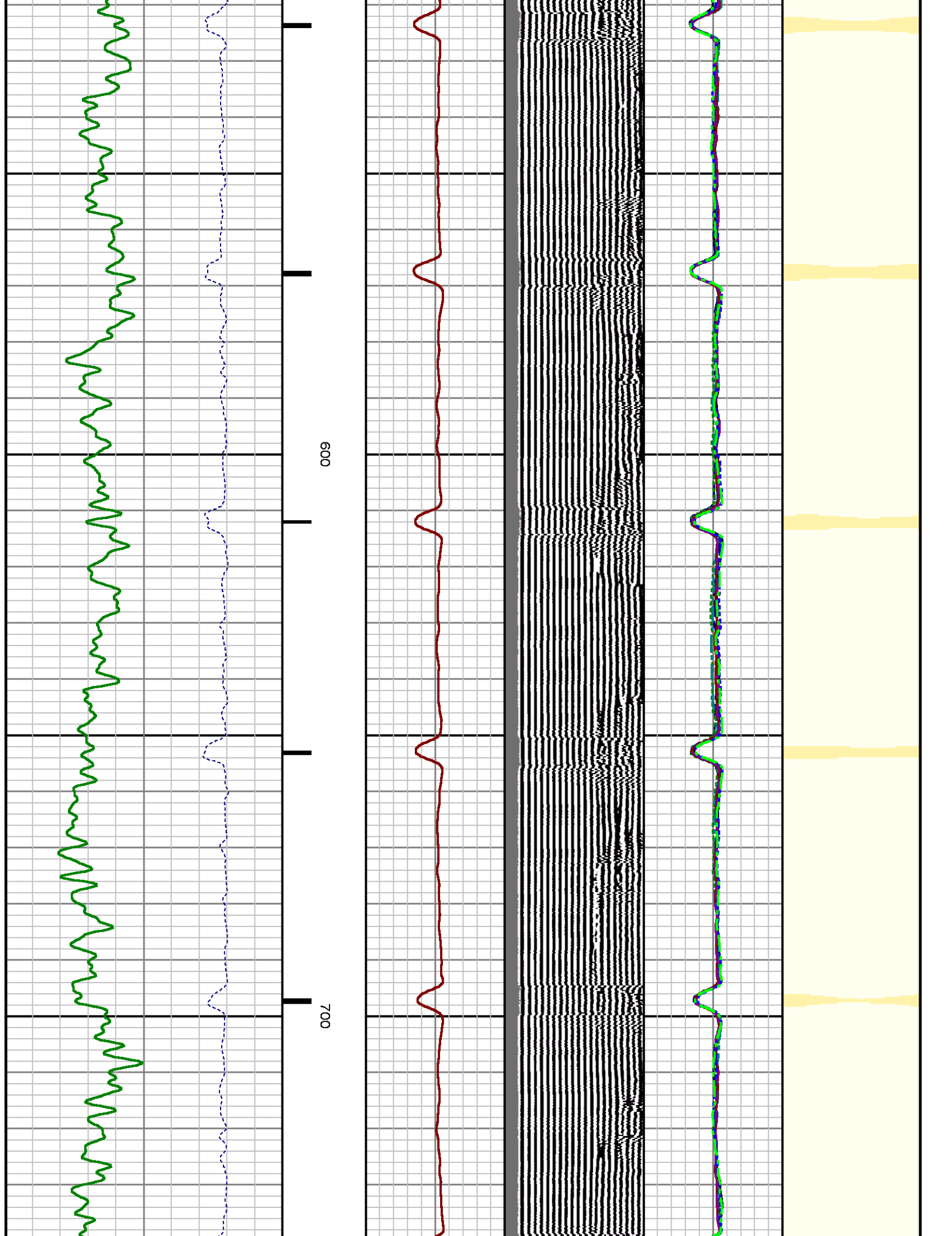
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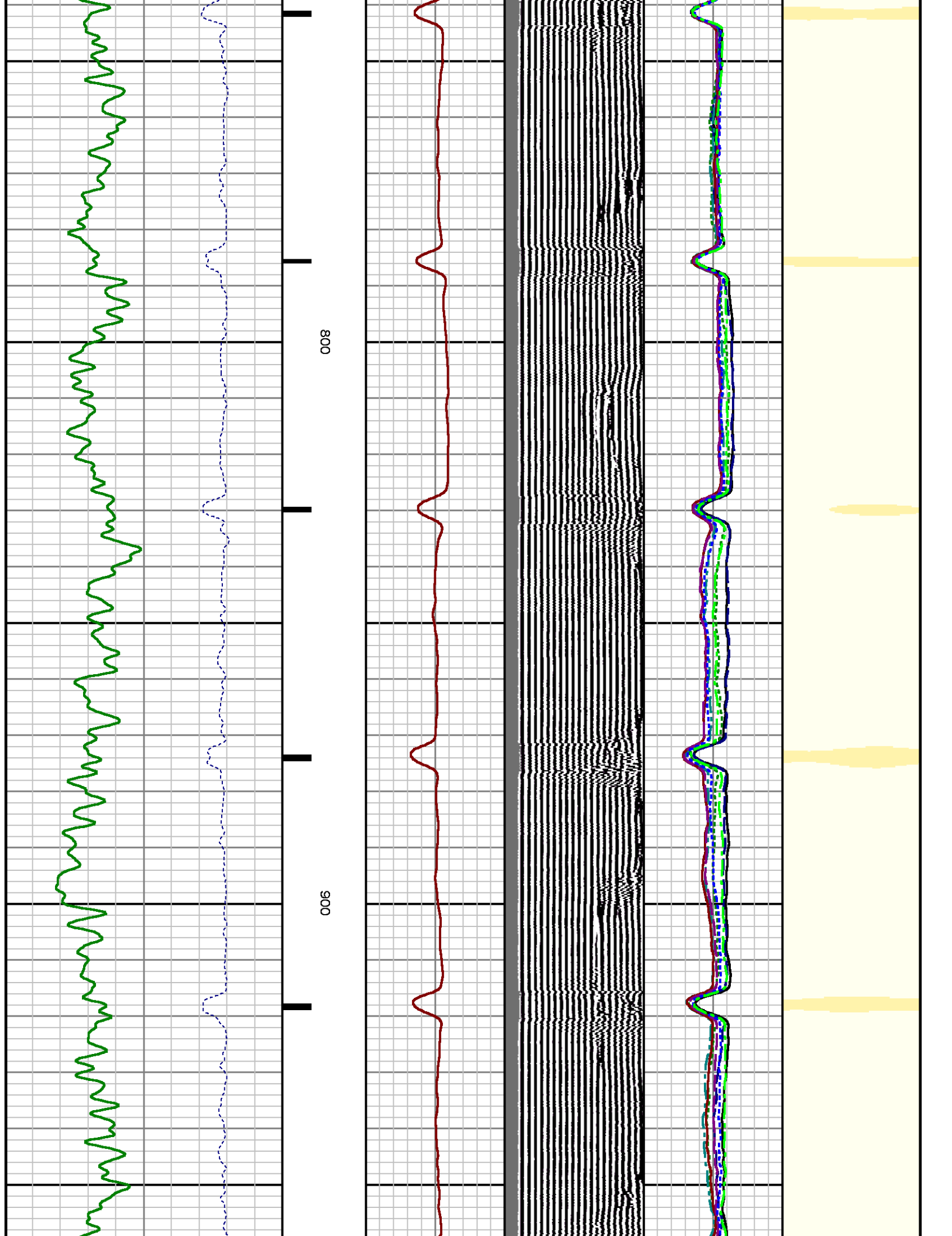
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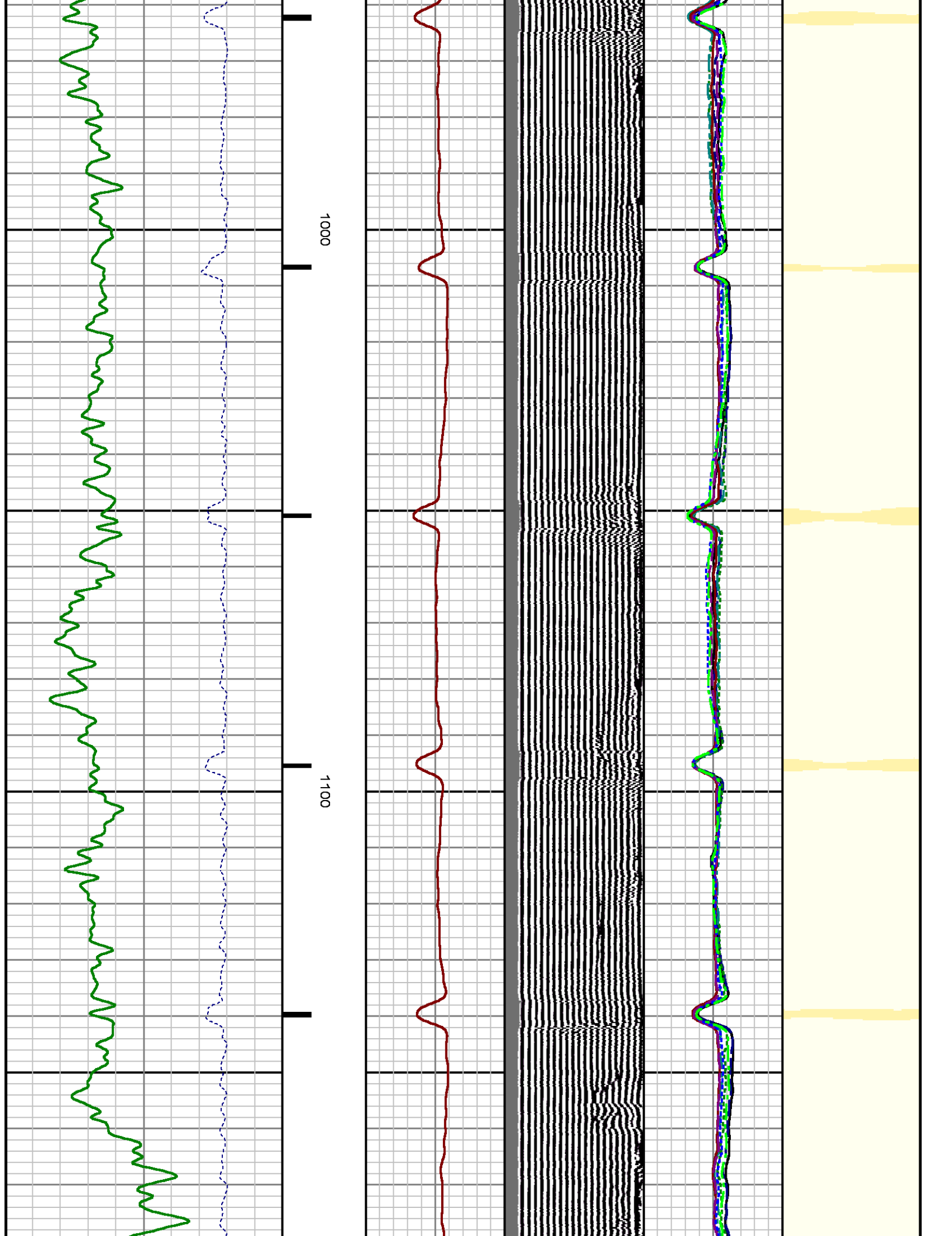


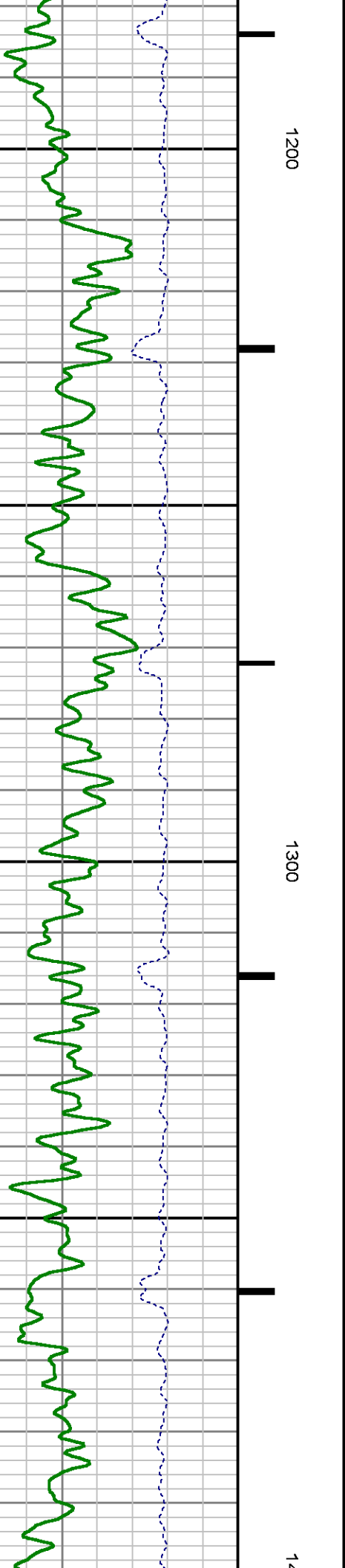
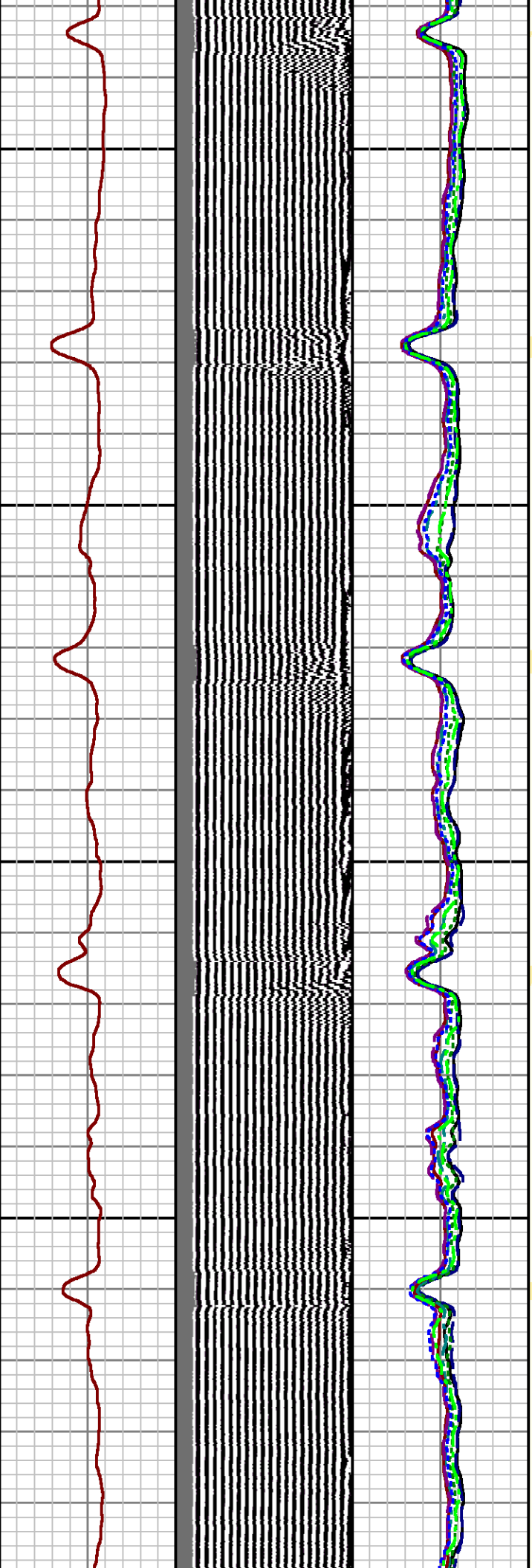


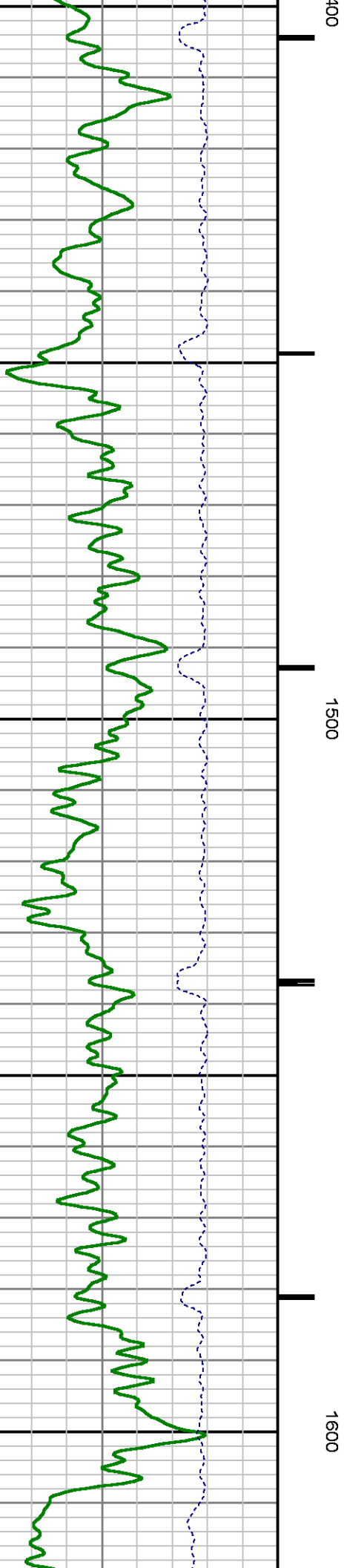
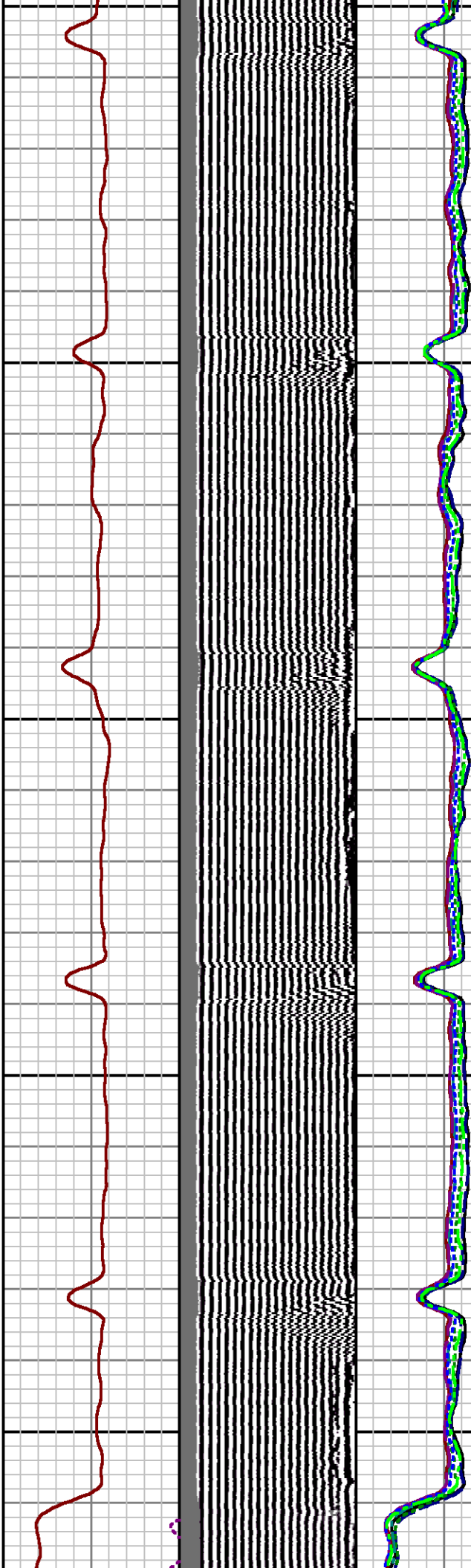
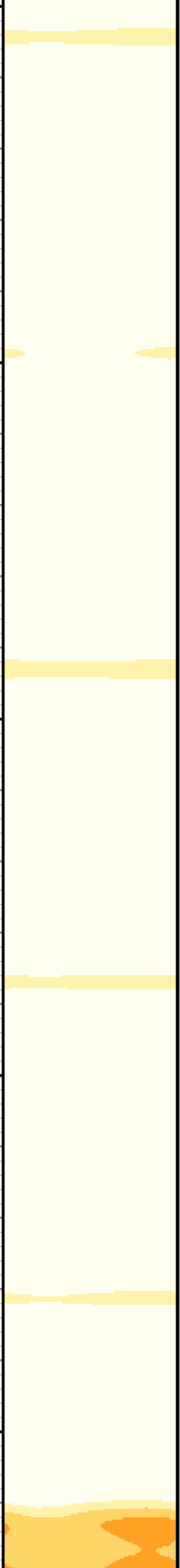


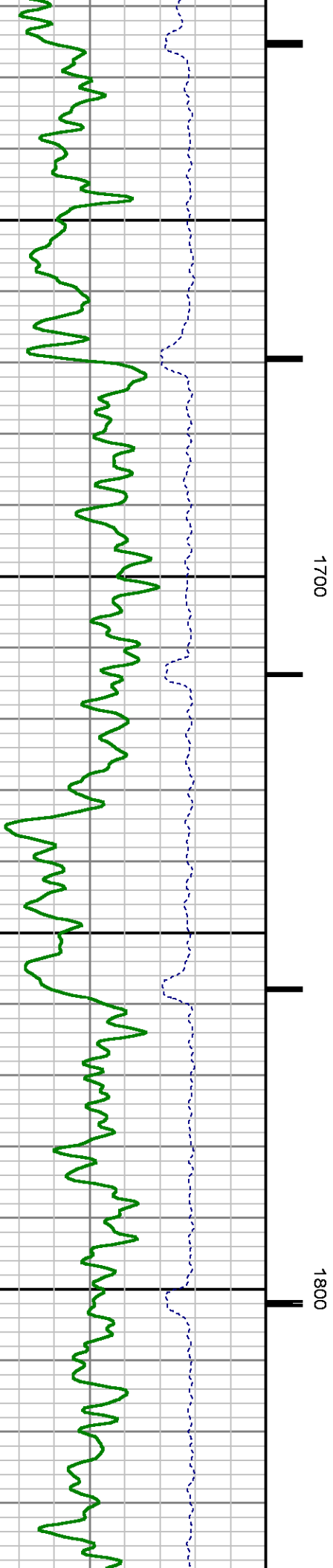
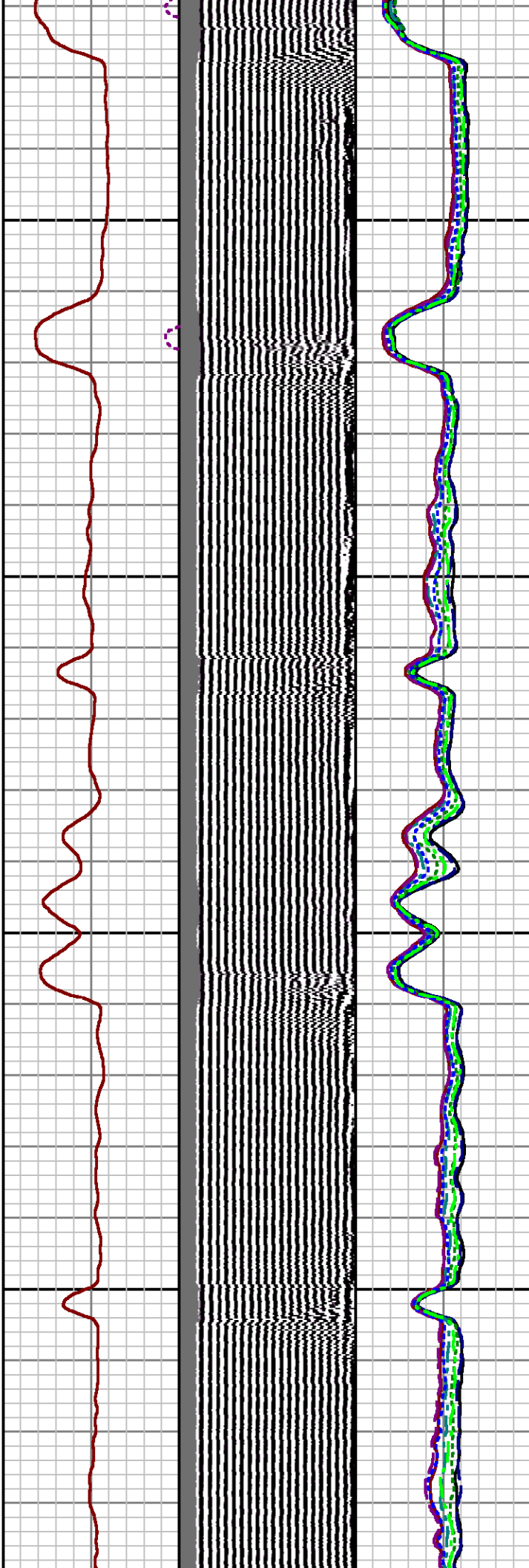
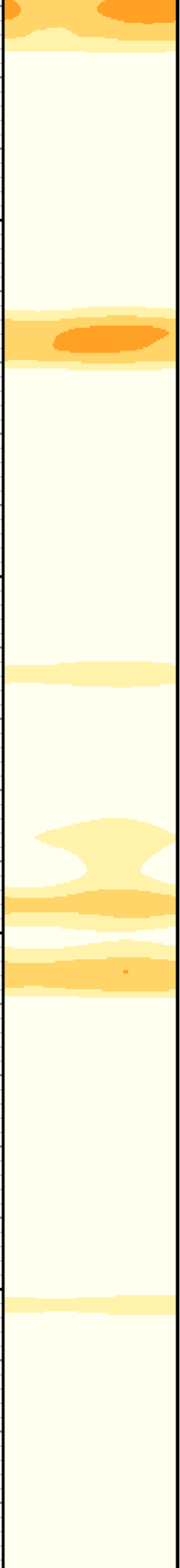


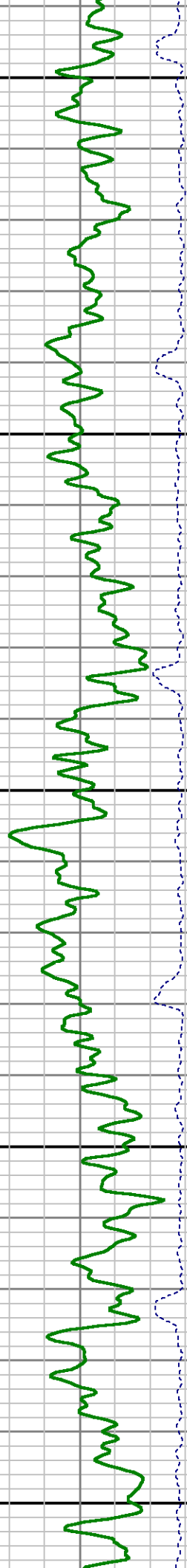
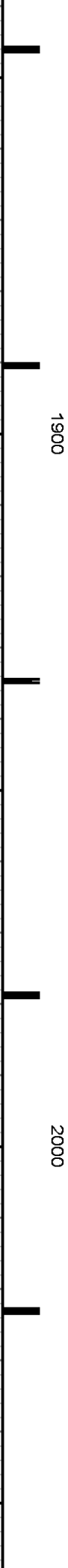
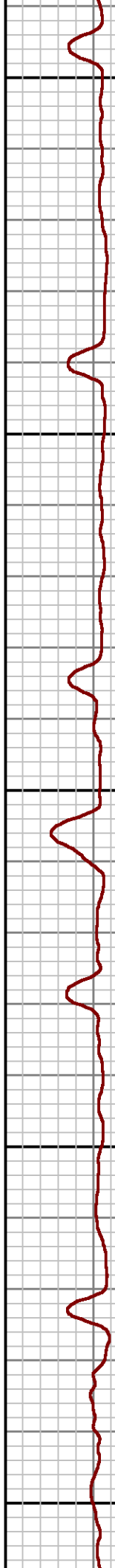
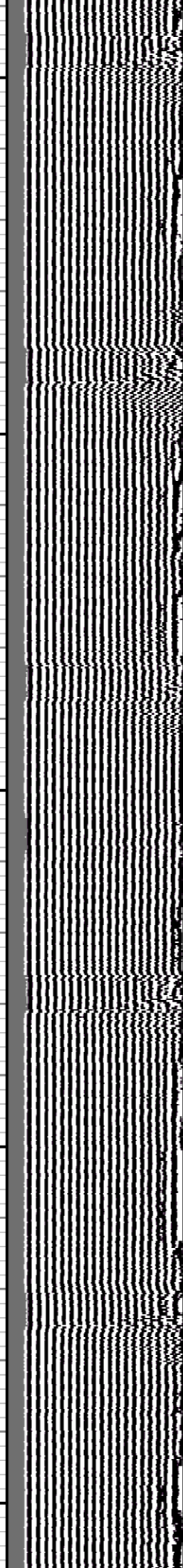
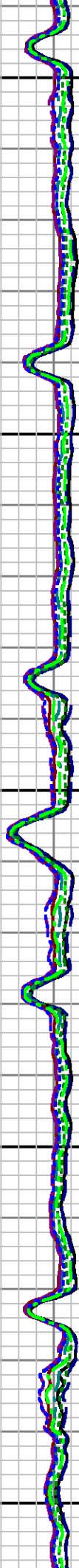
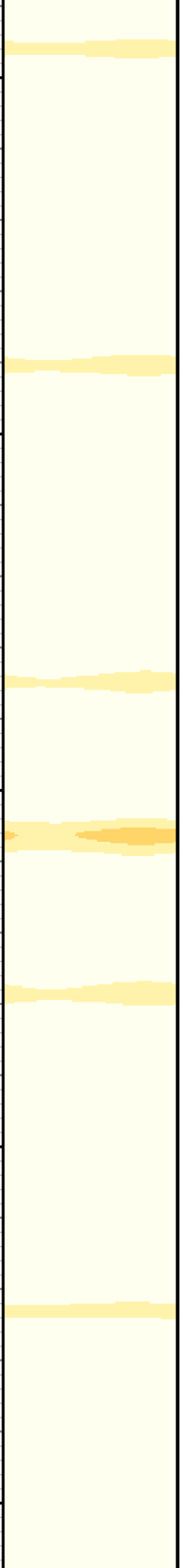


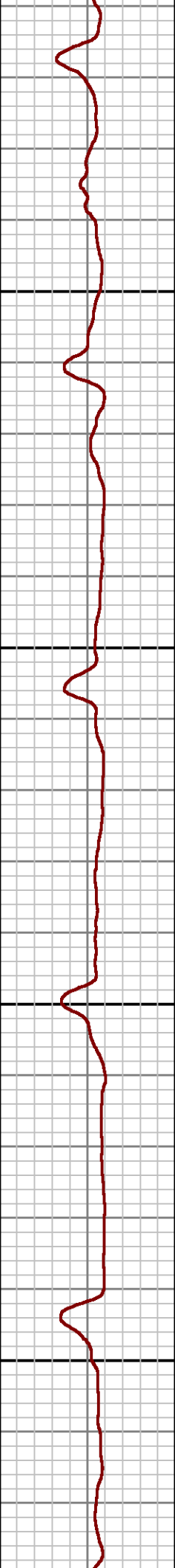
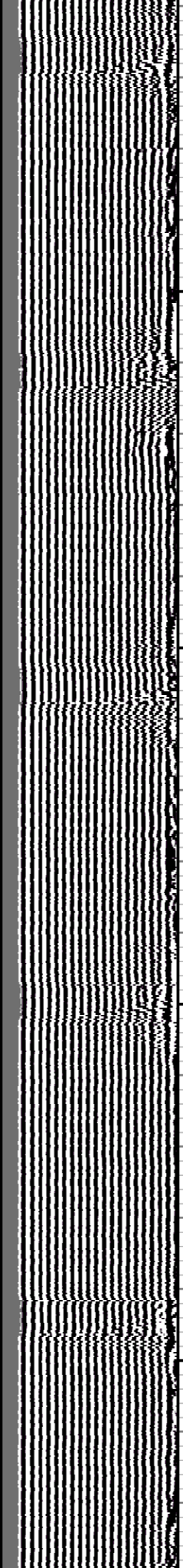
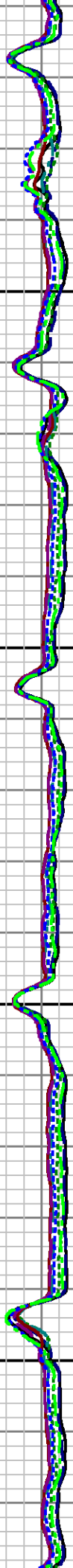
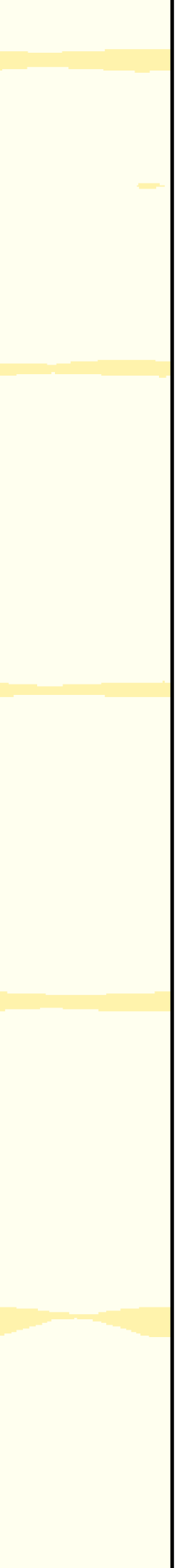






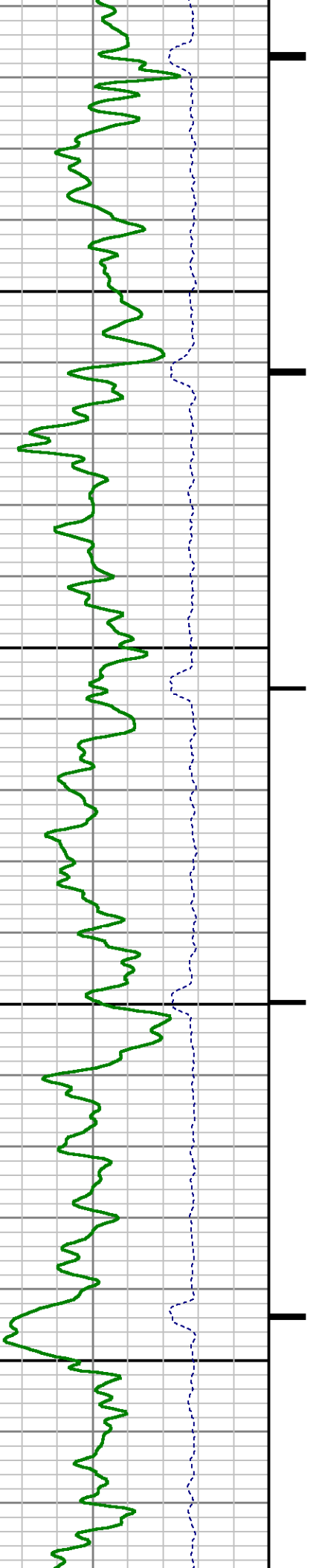


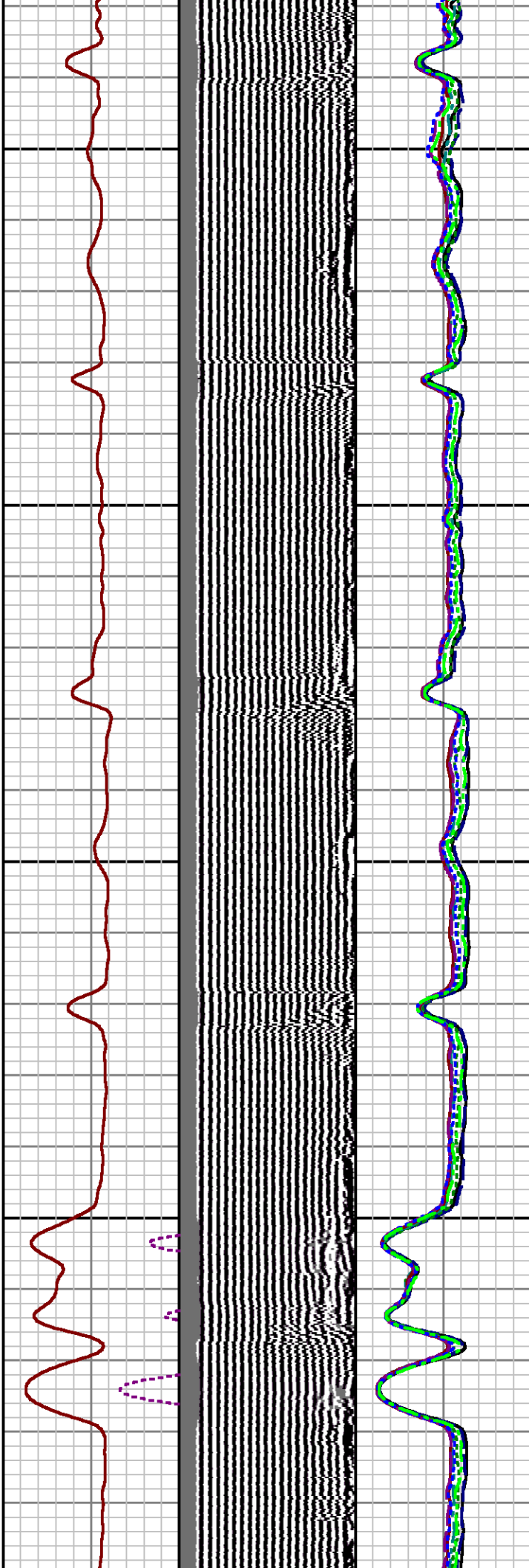
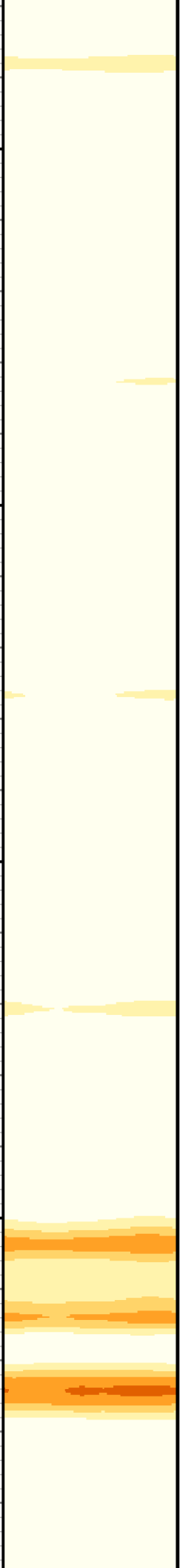




2100

2200

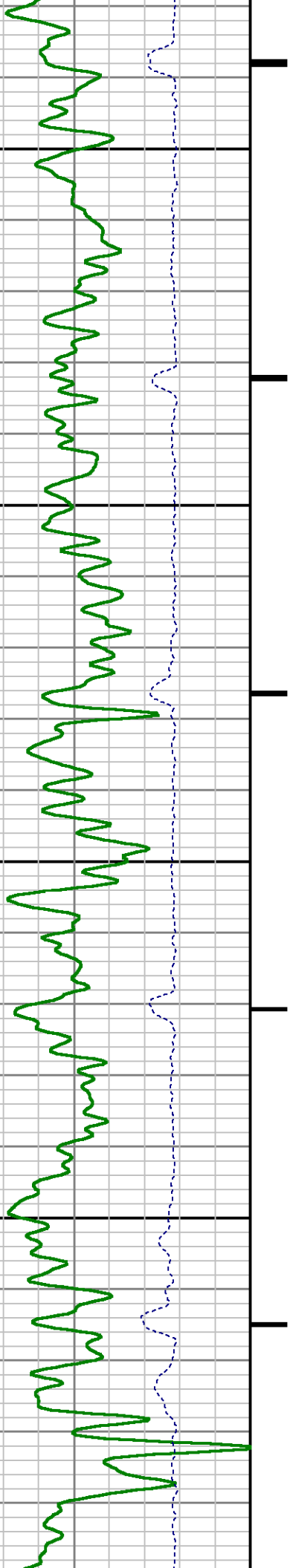


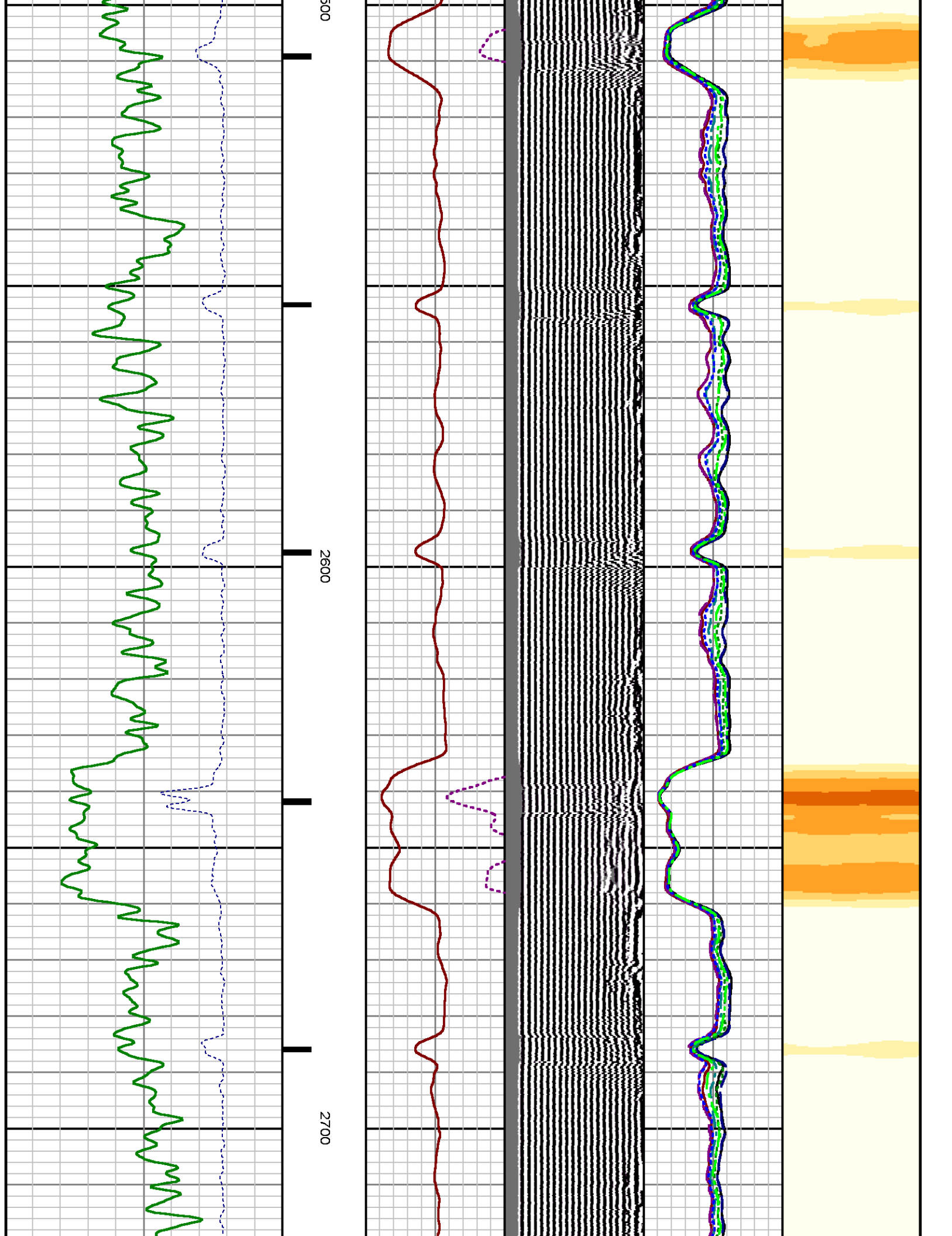


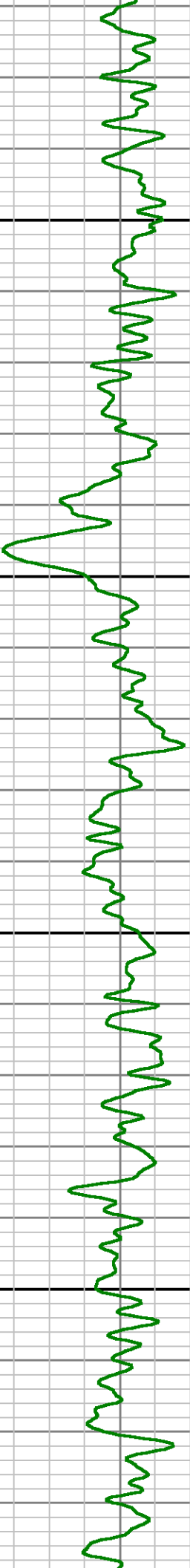
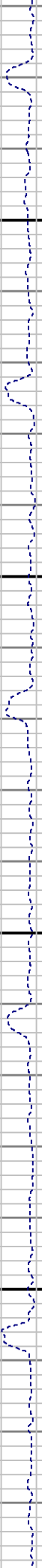
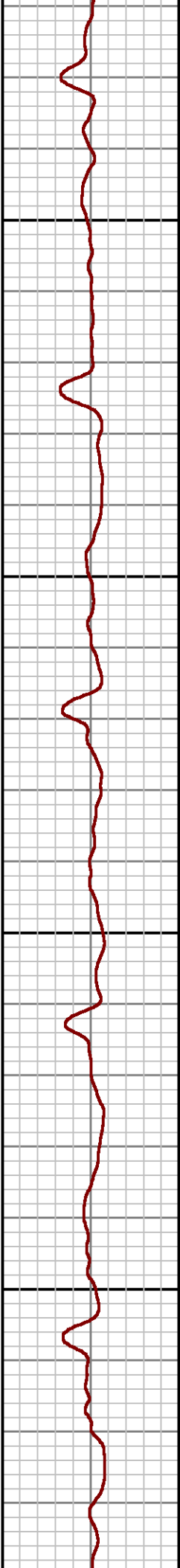
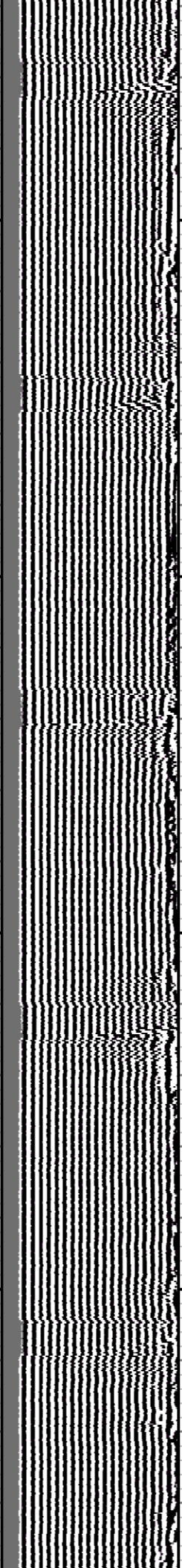
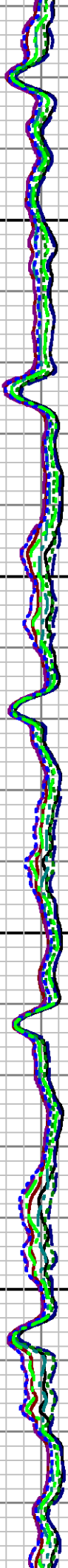
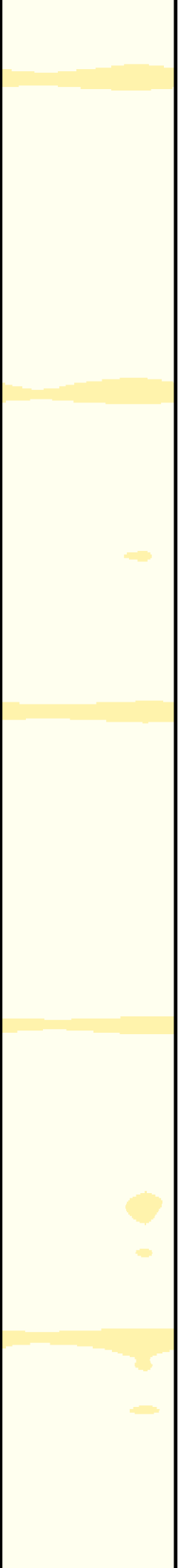
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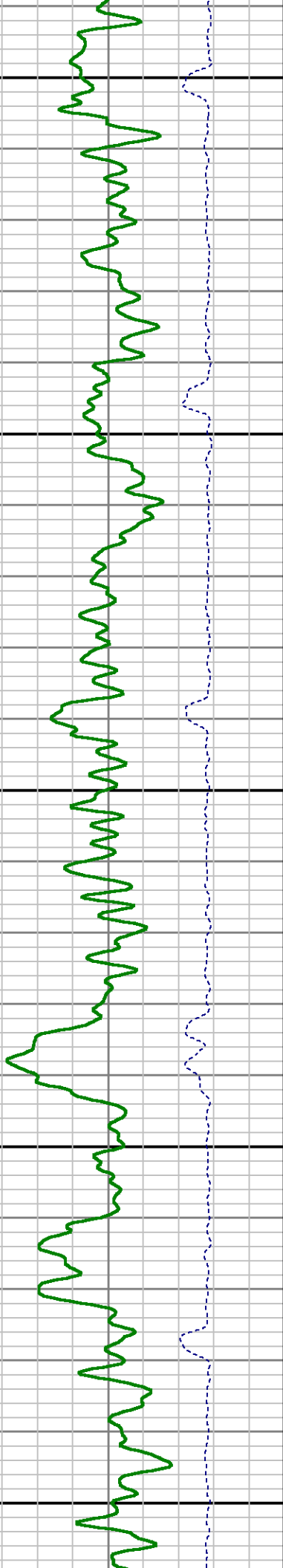
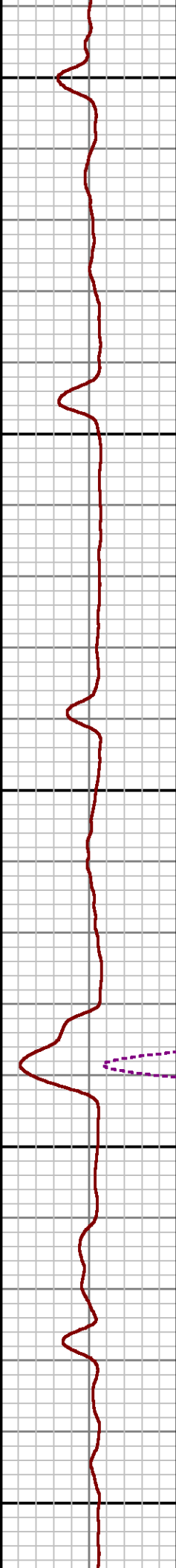
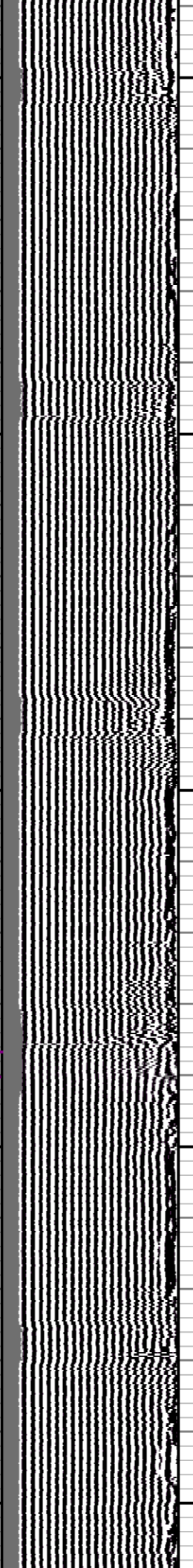
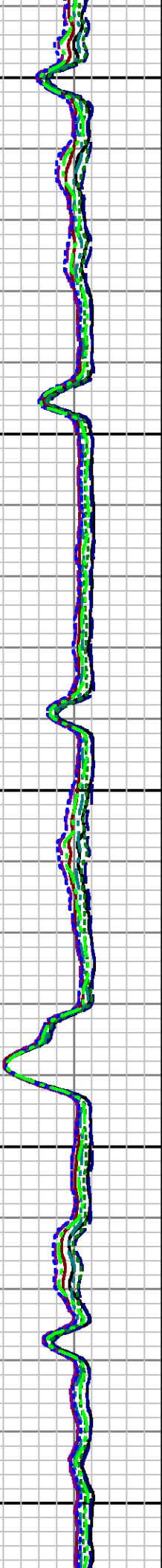
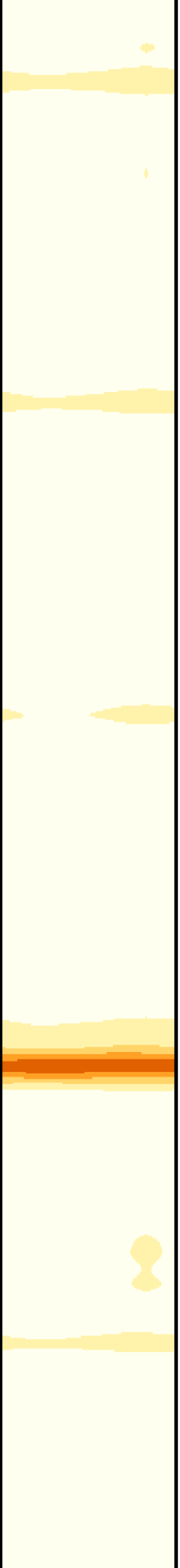
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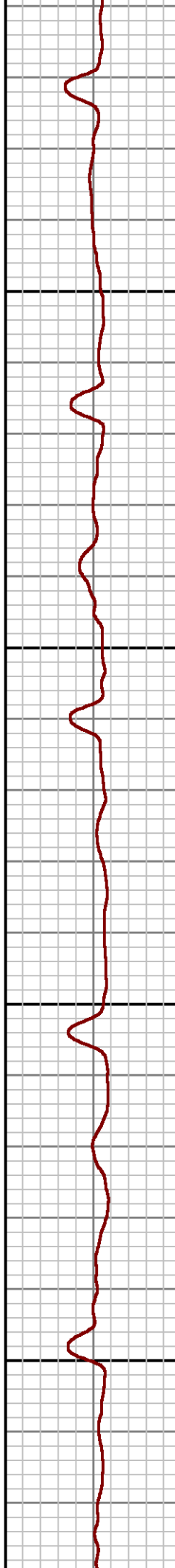
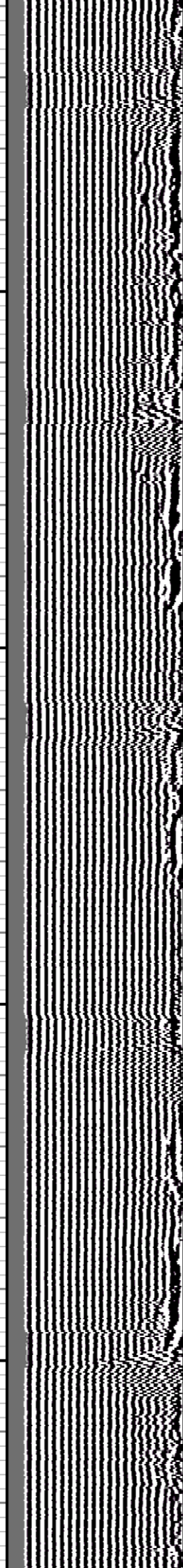
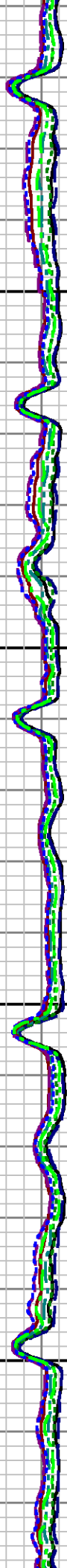
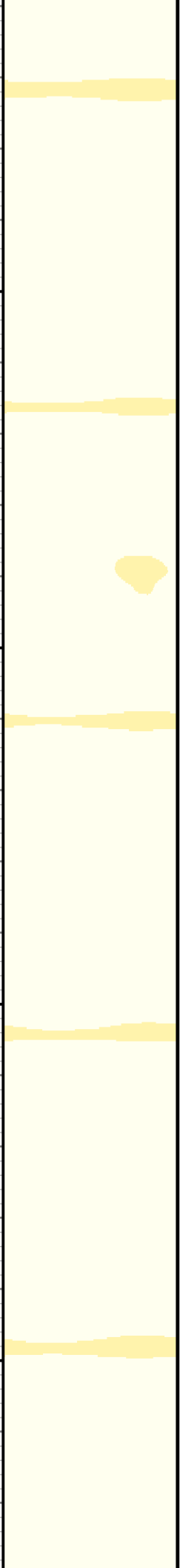
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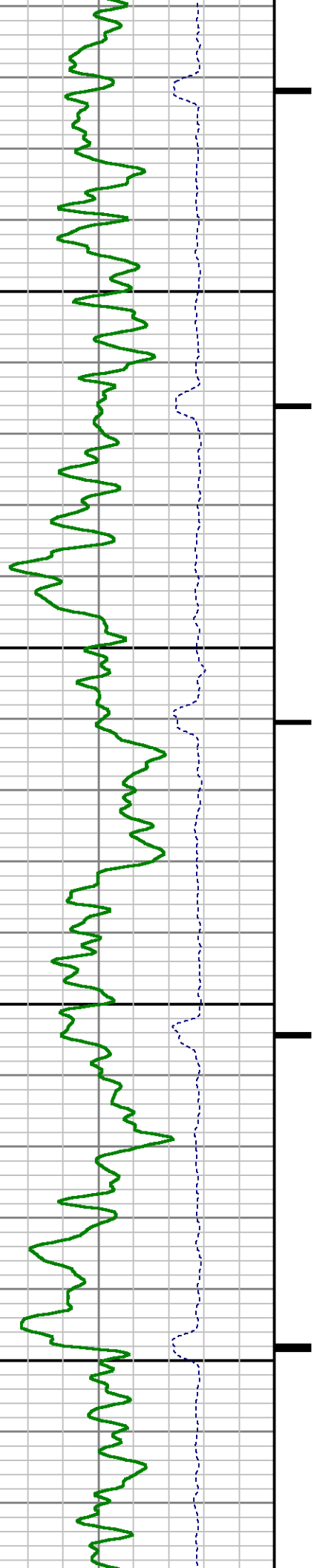


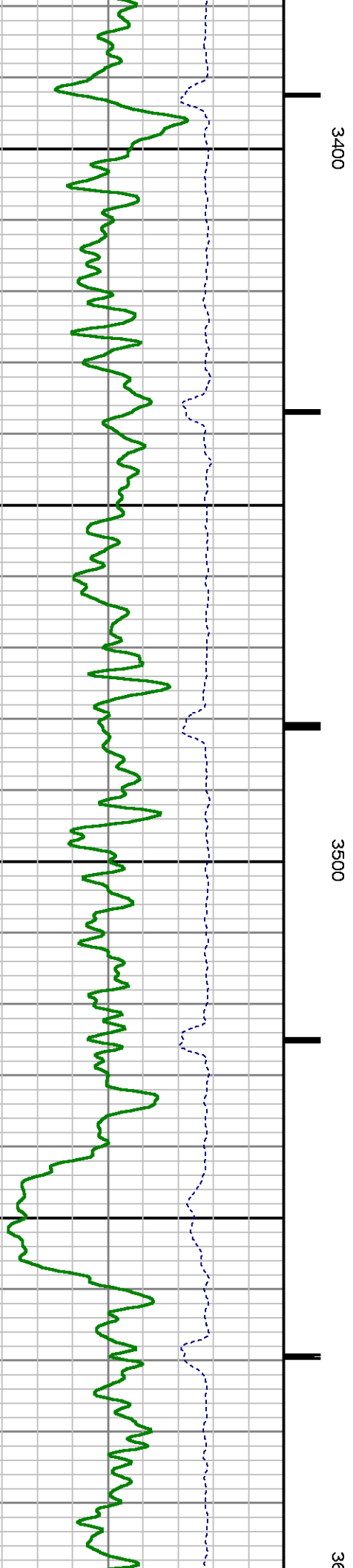
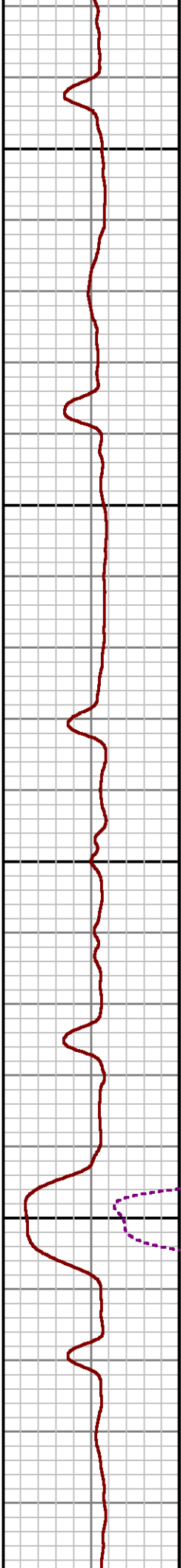
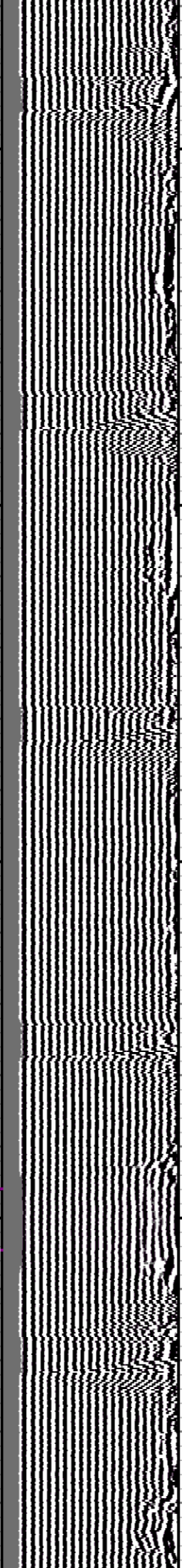
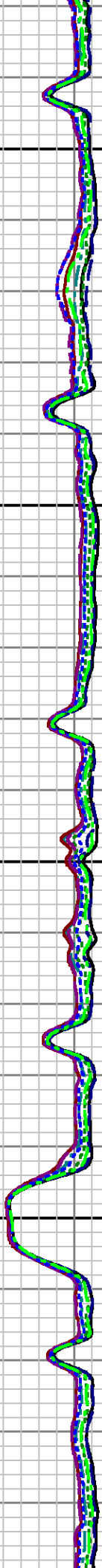
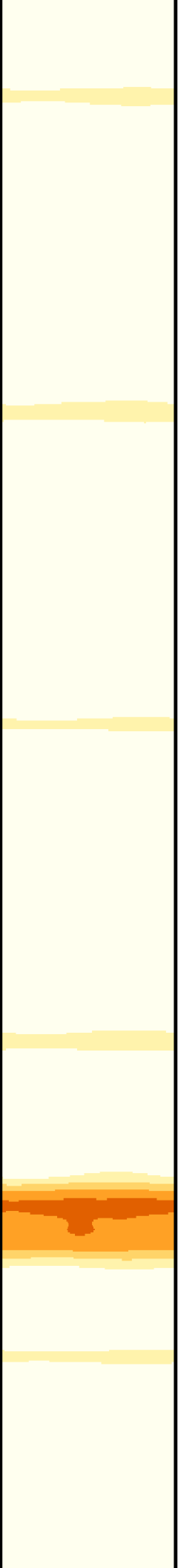


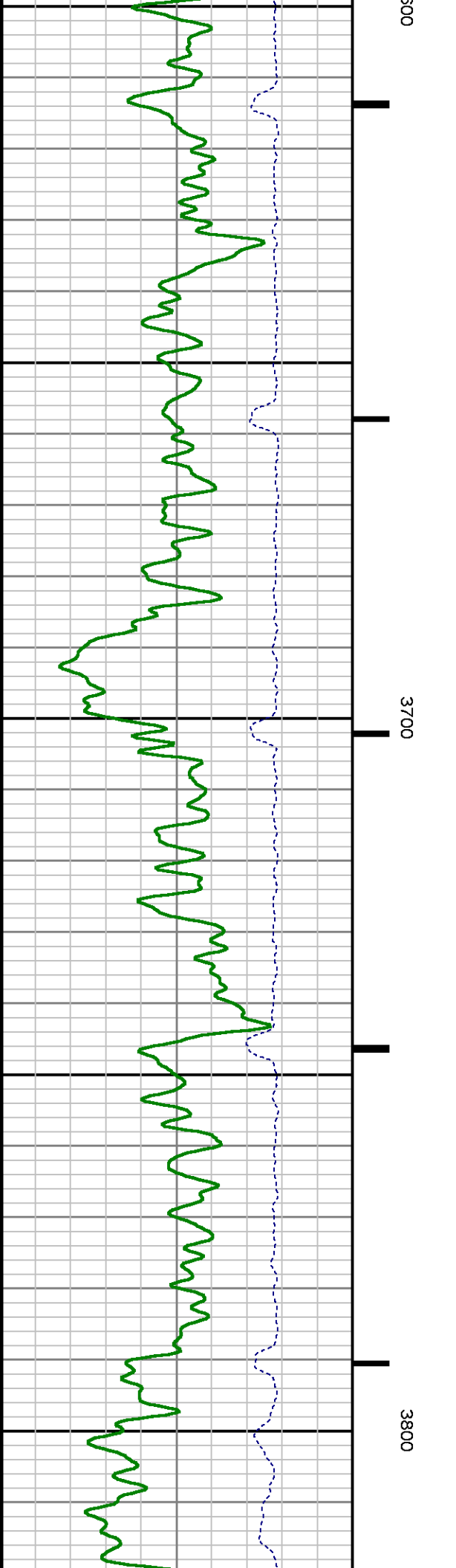
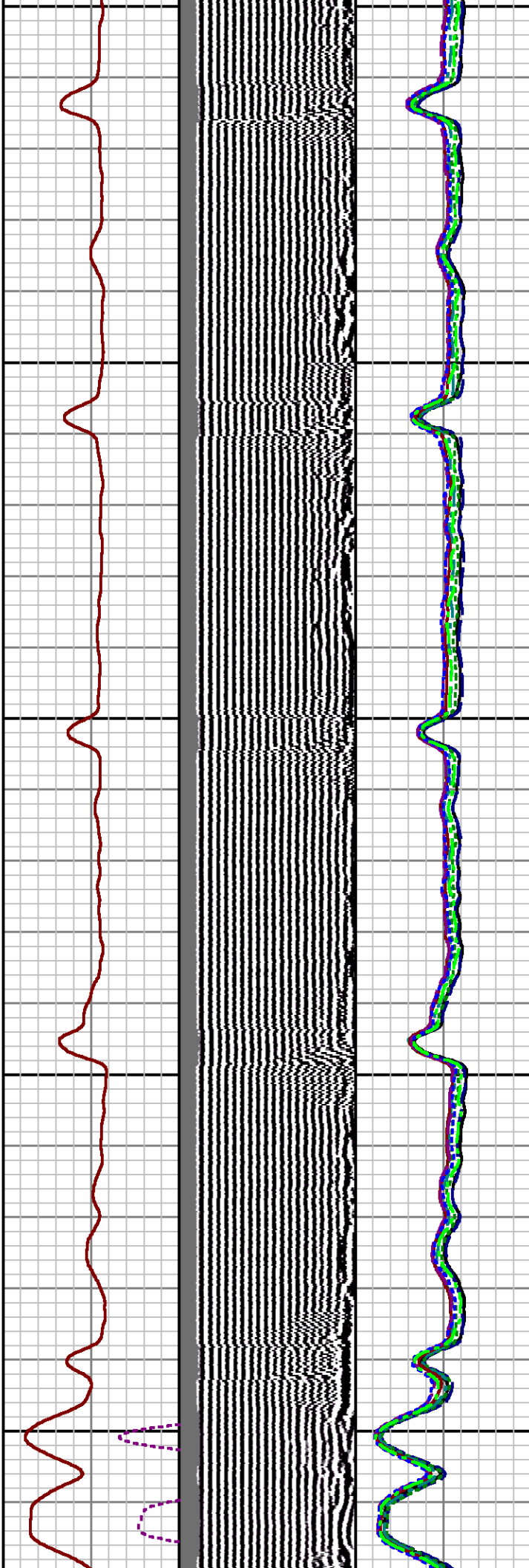
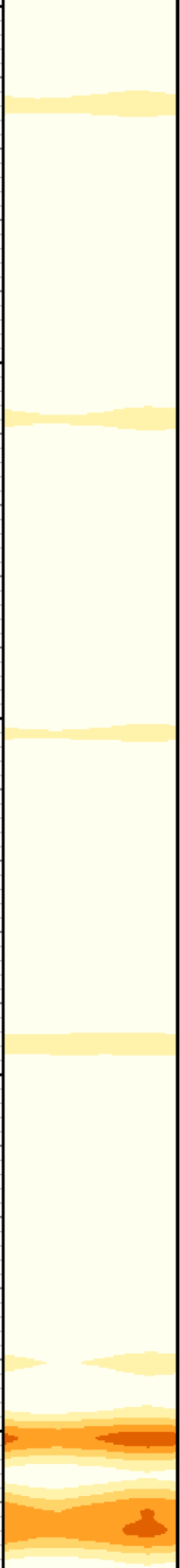


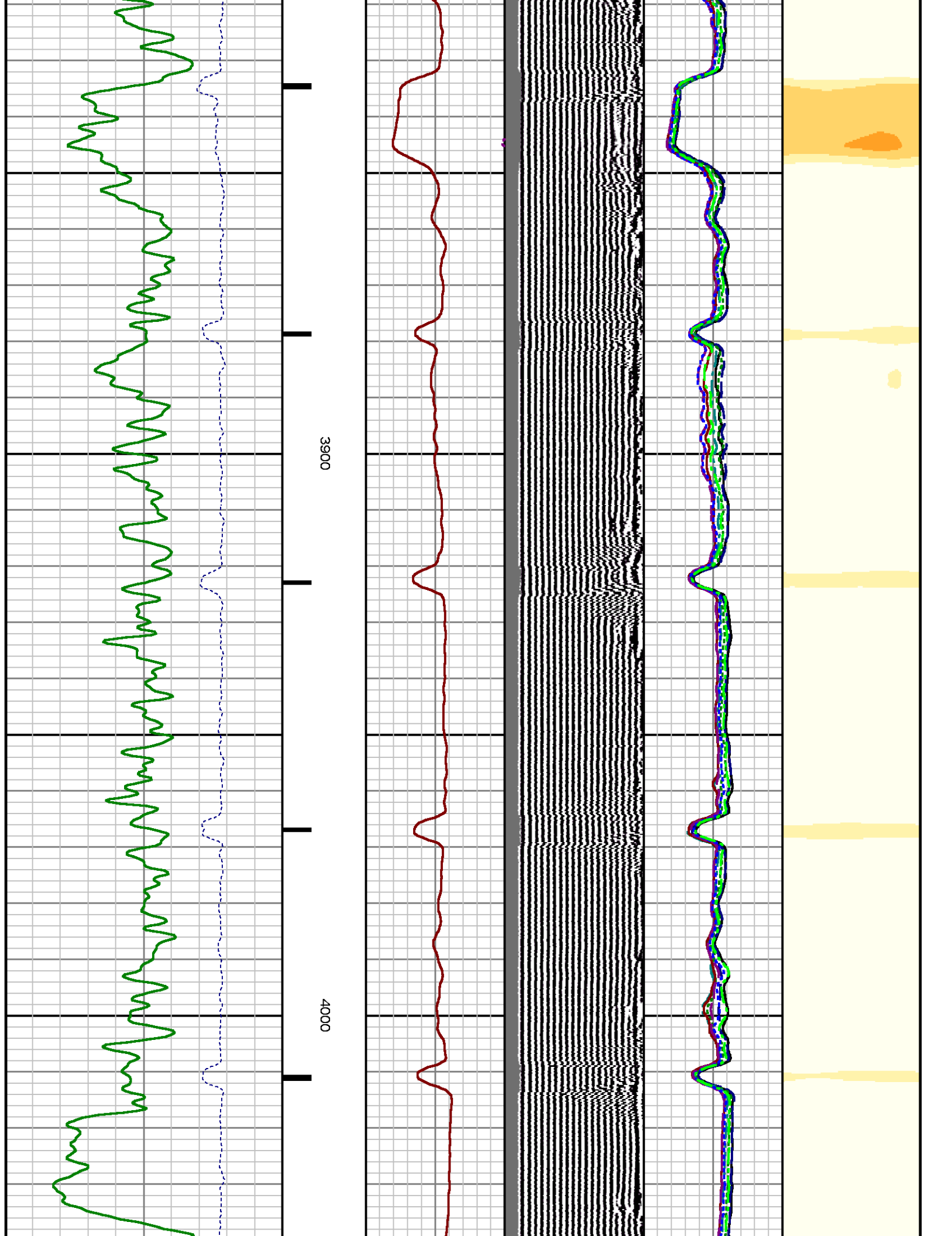
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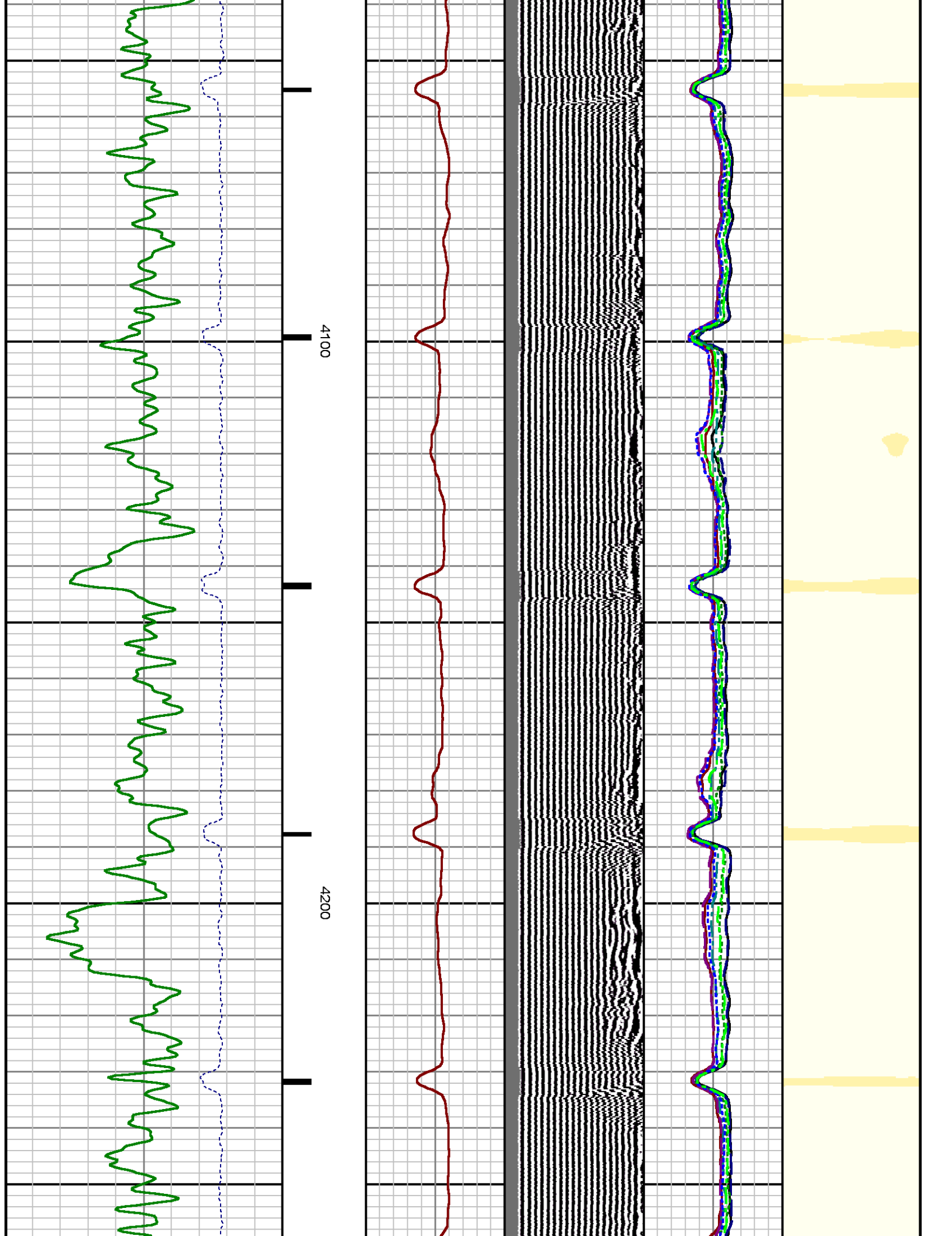
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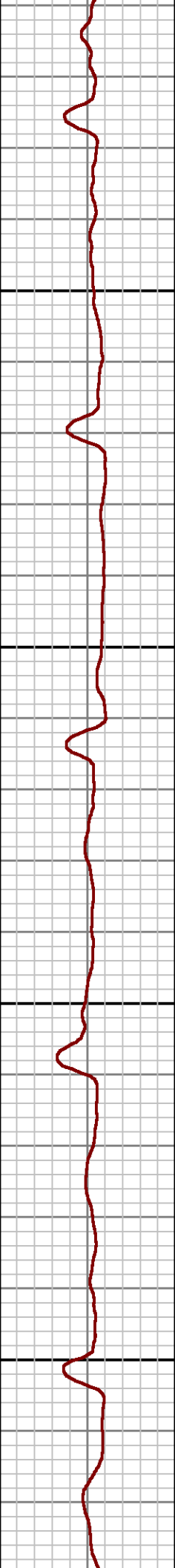
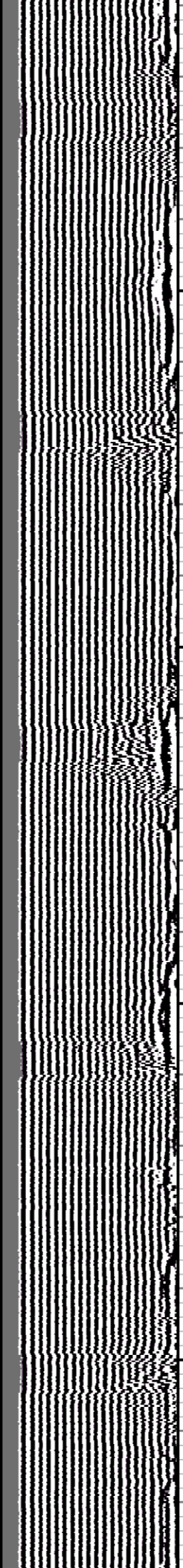
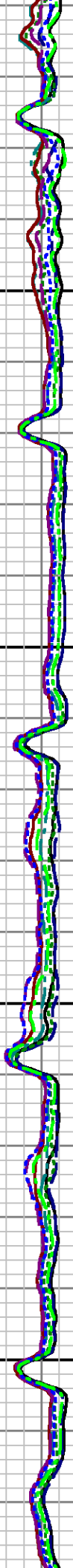






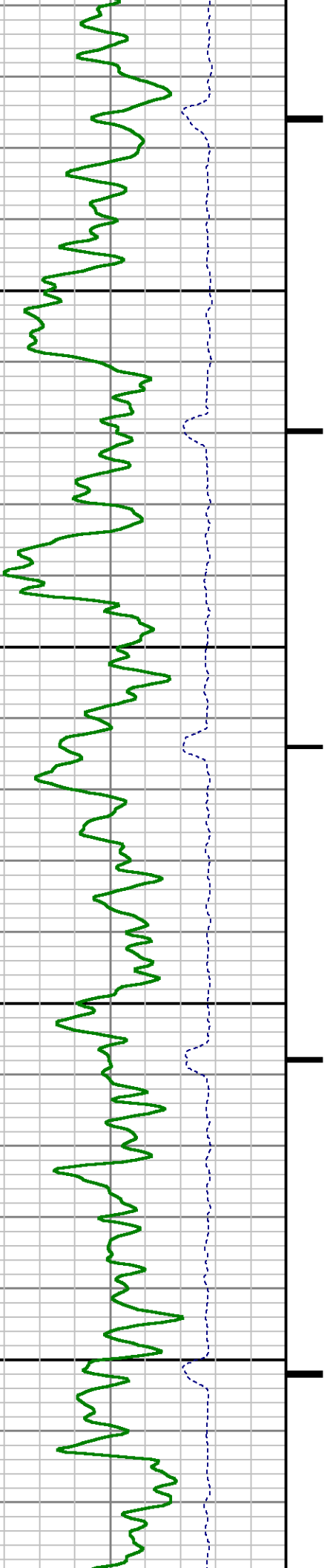


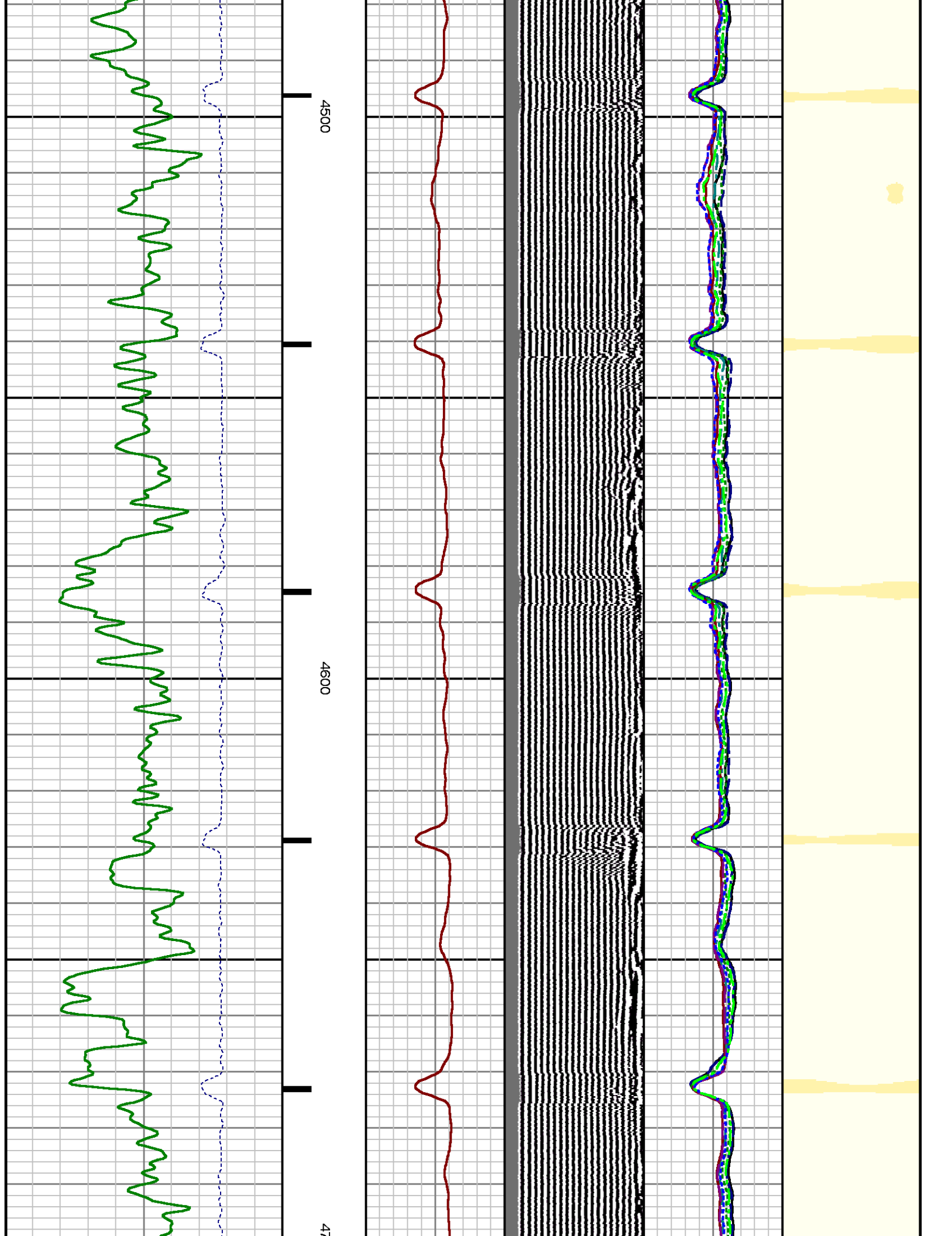


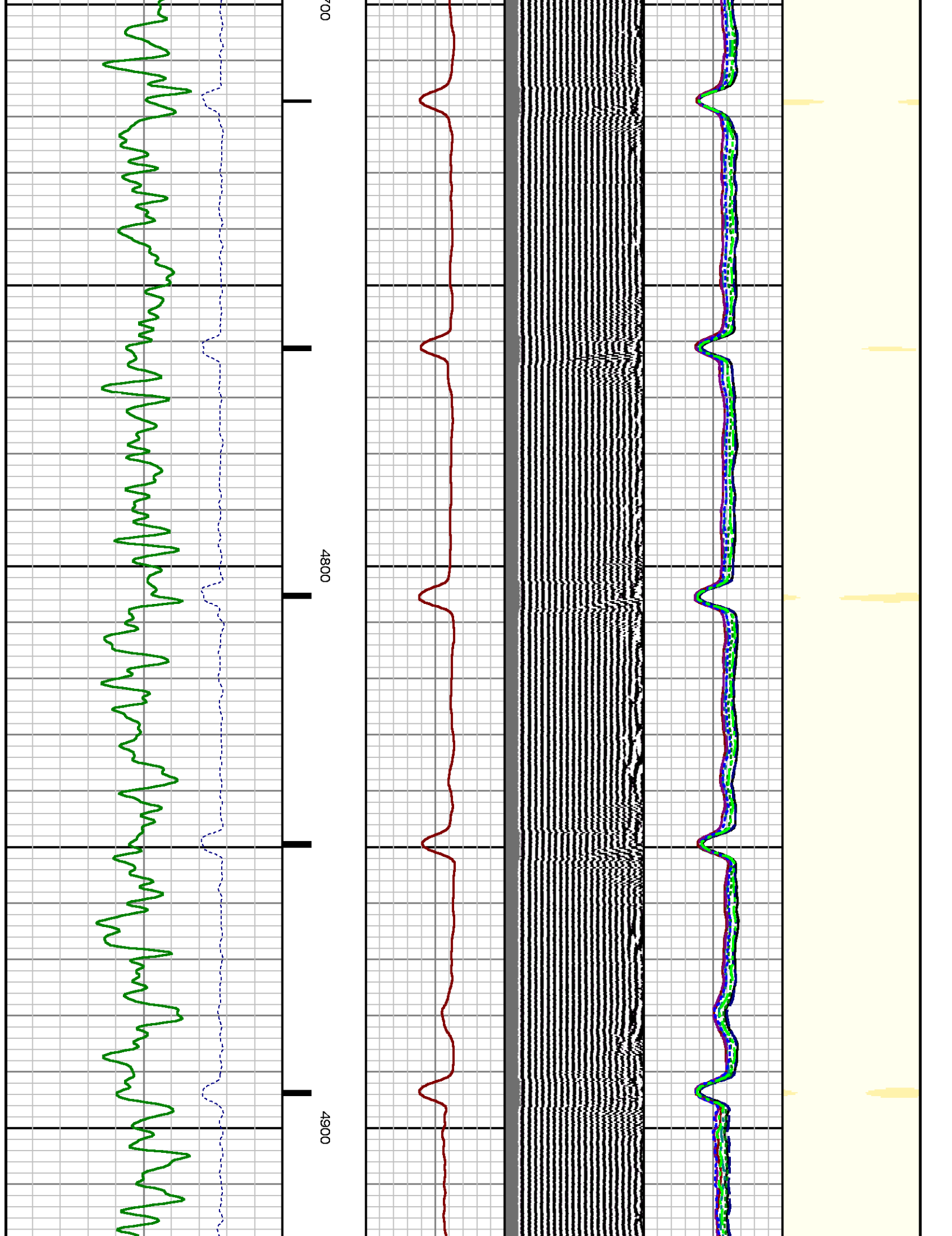


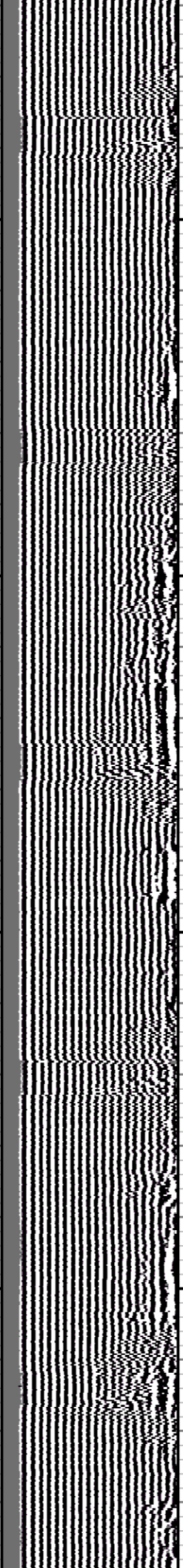
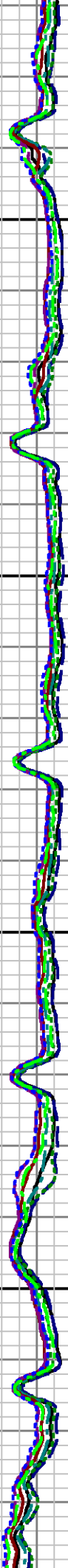
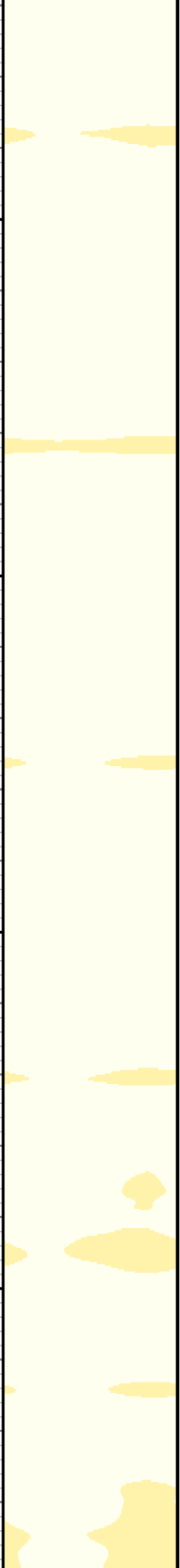
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4400



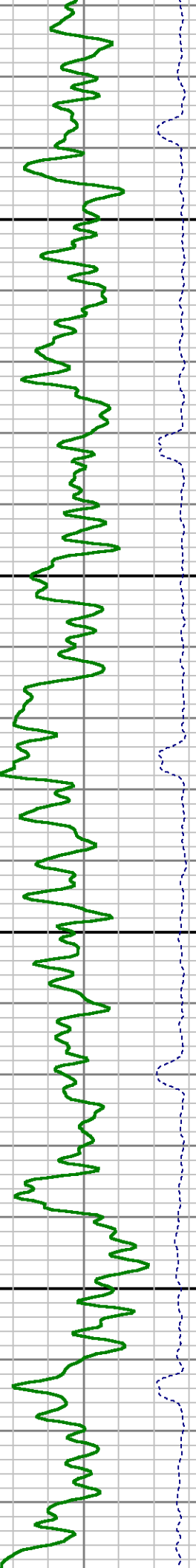


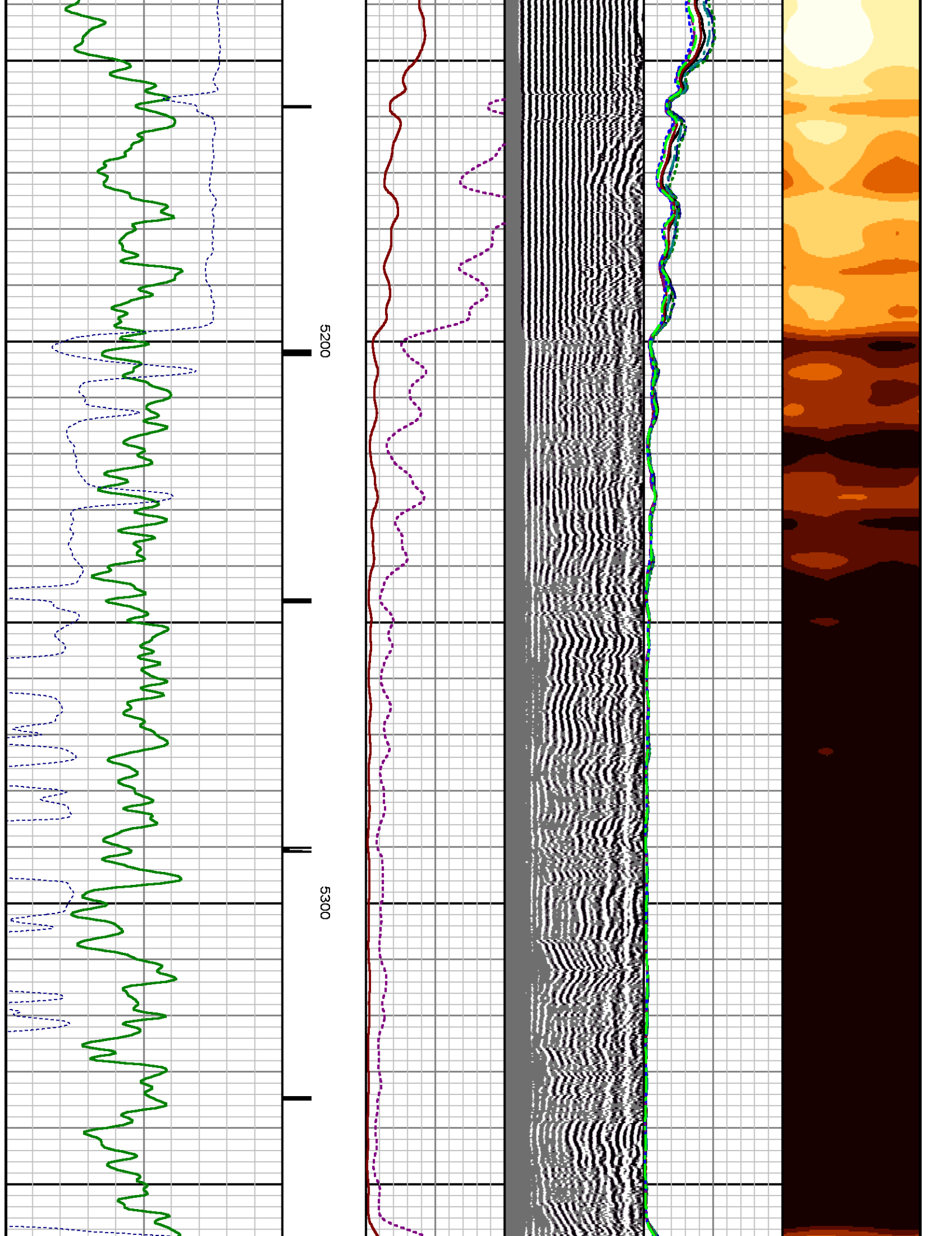


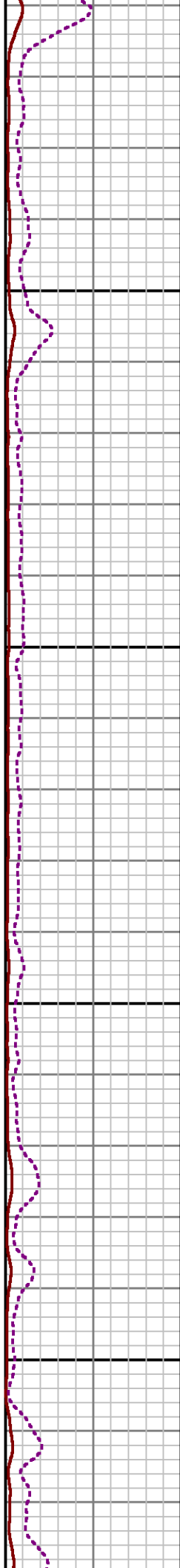
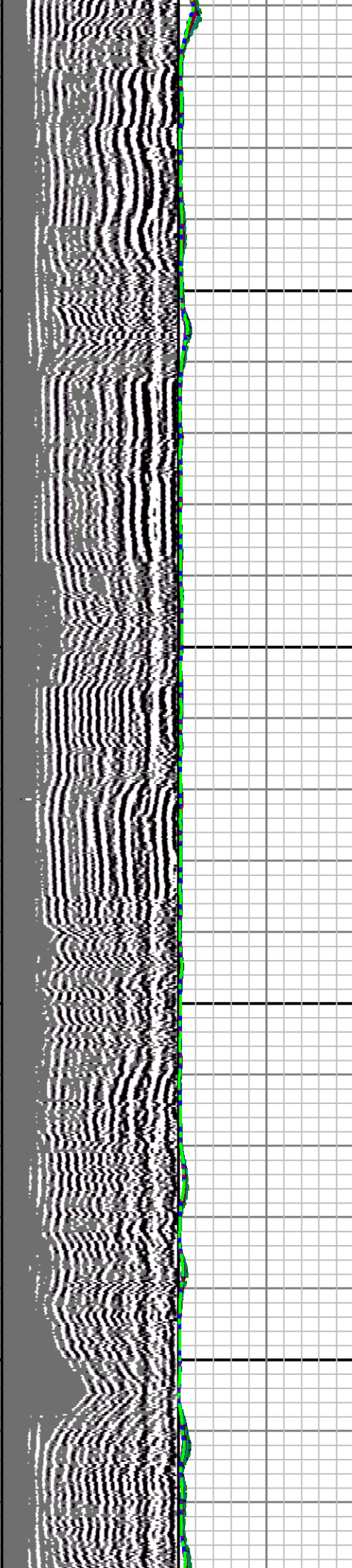


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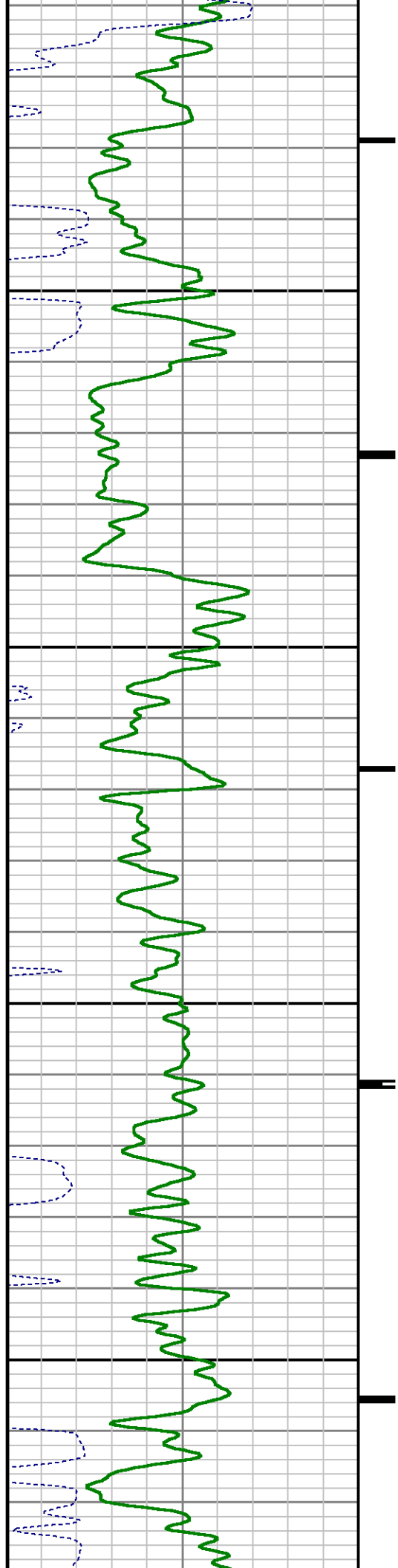


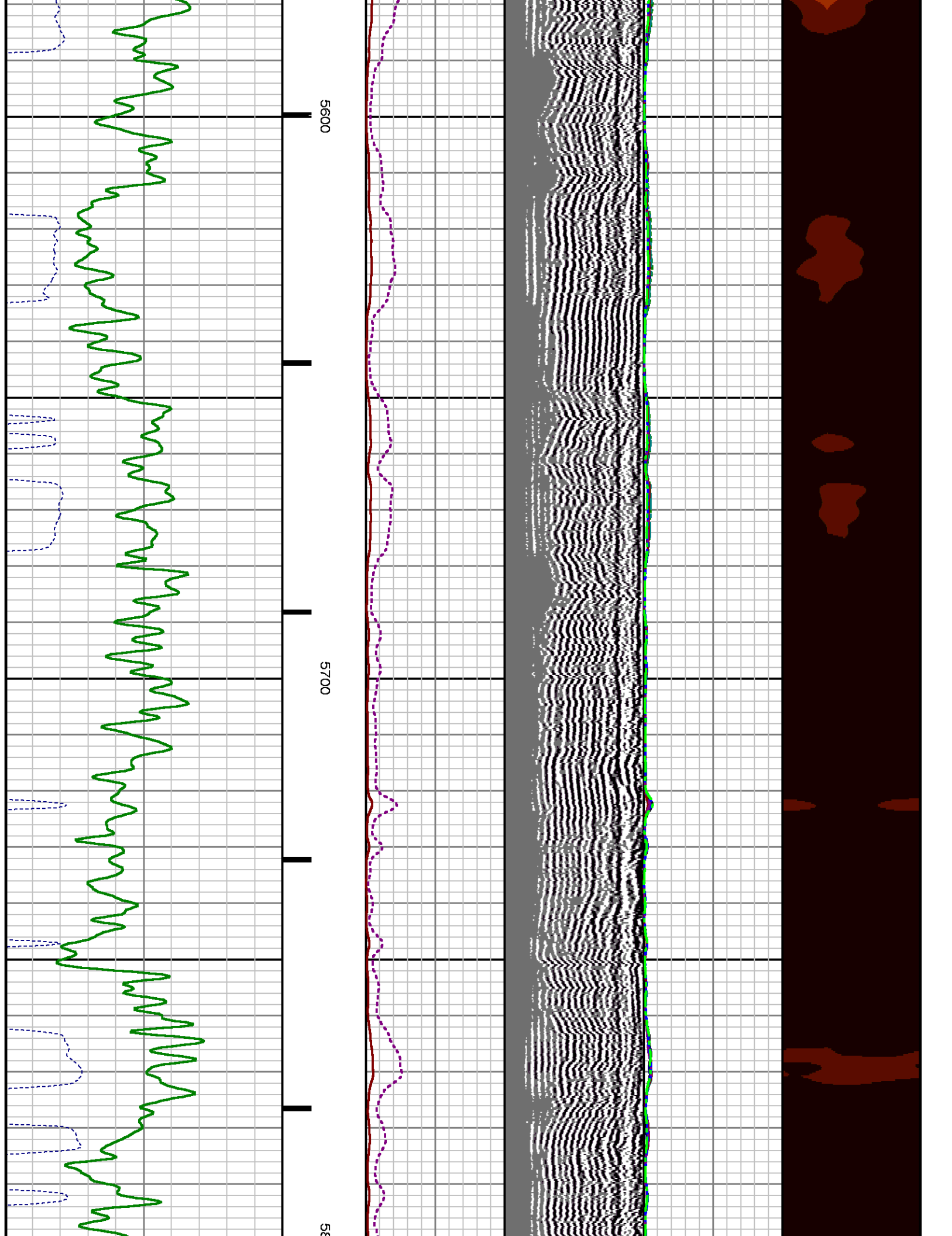


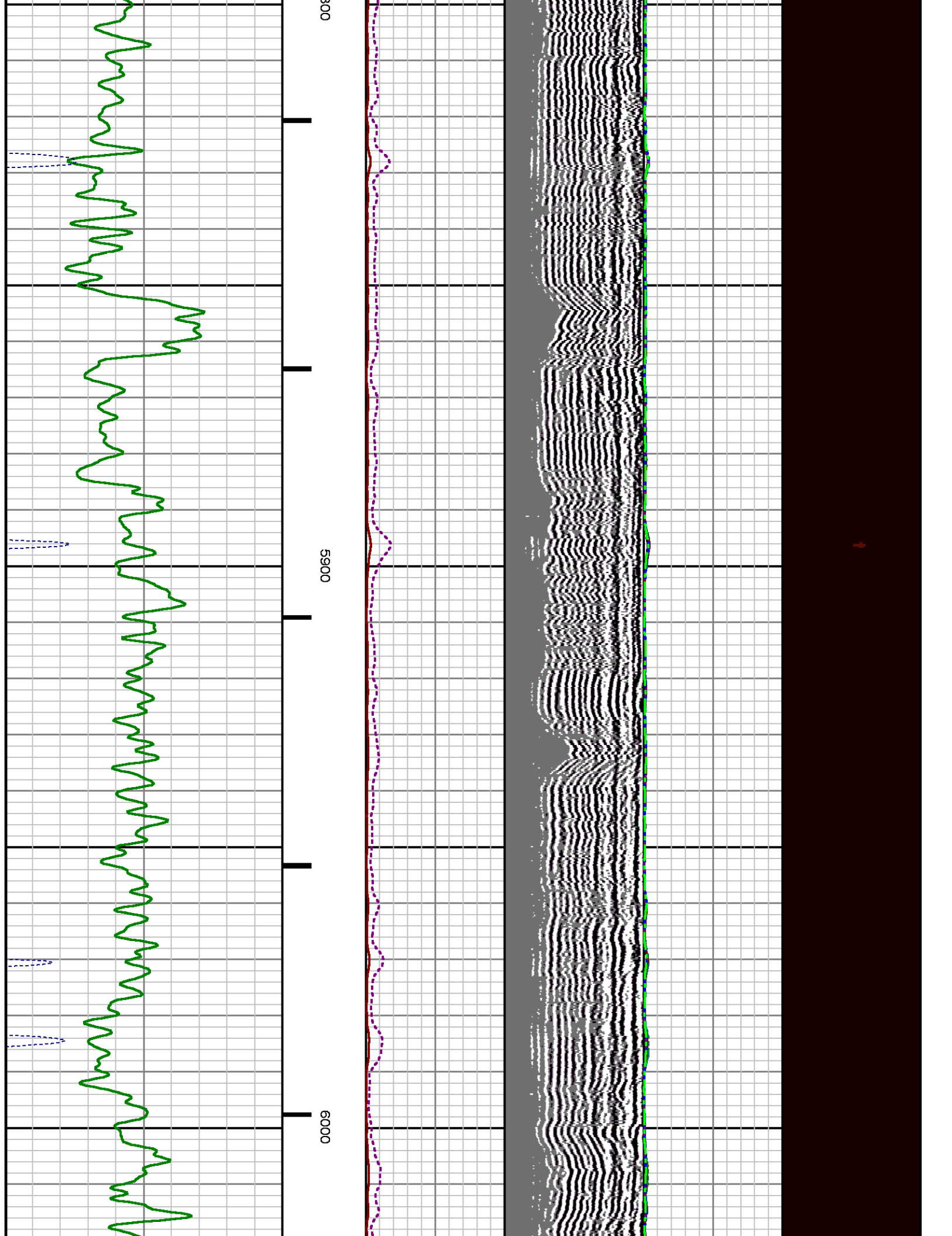


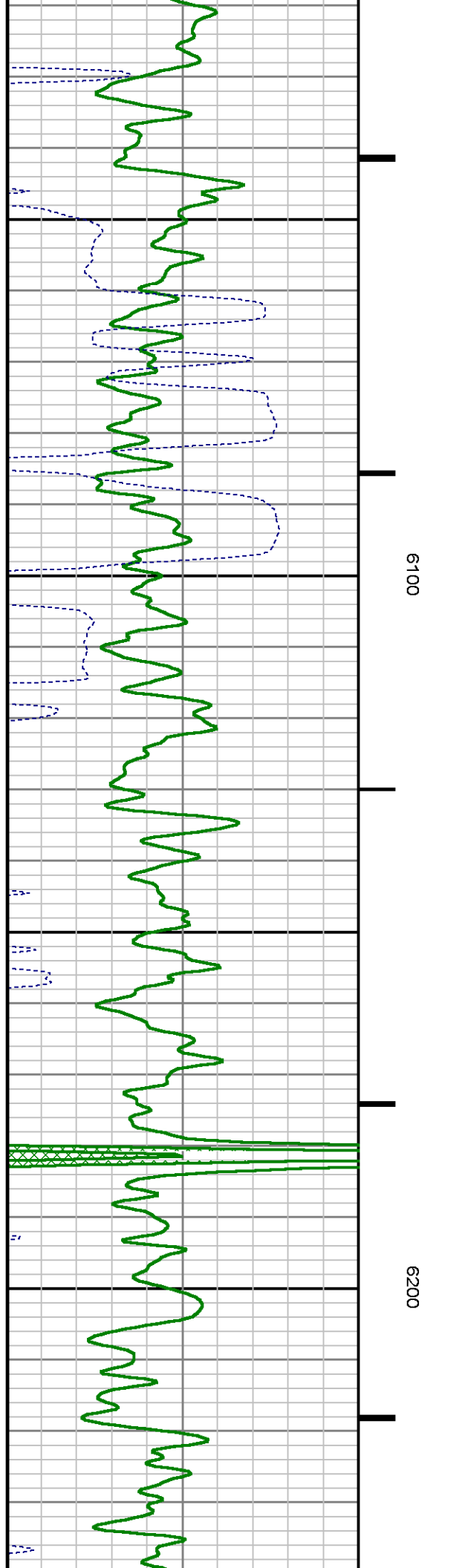
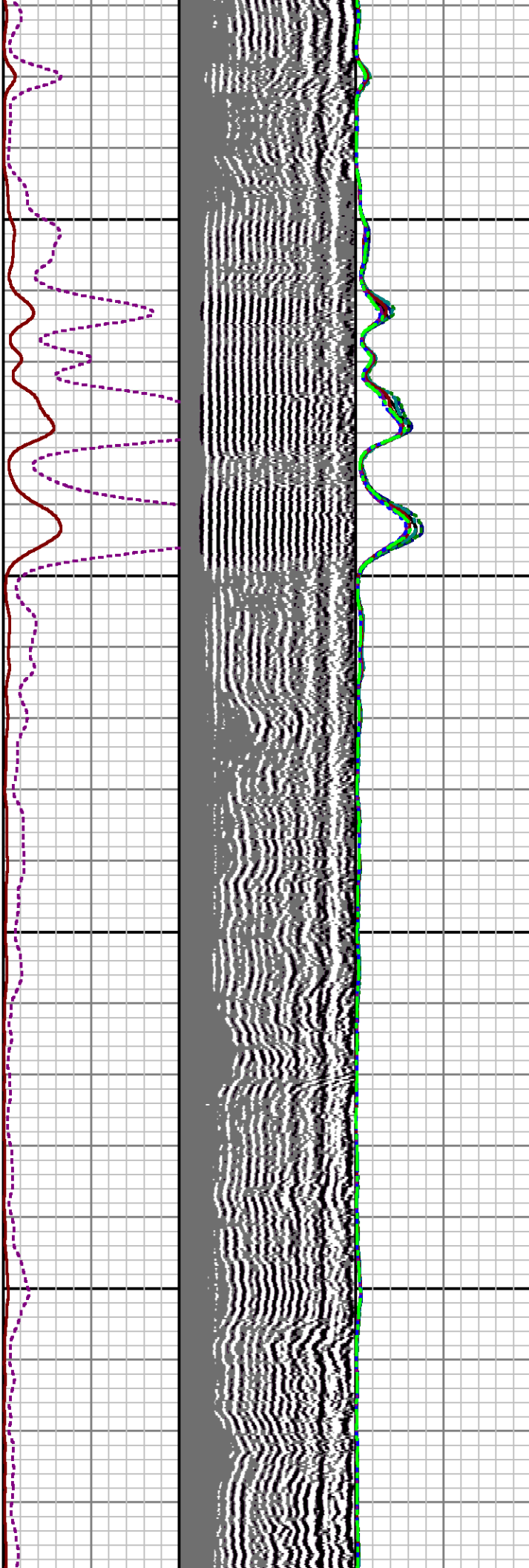
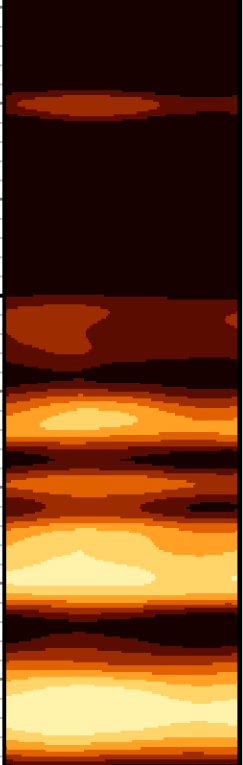
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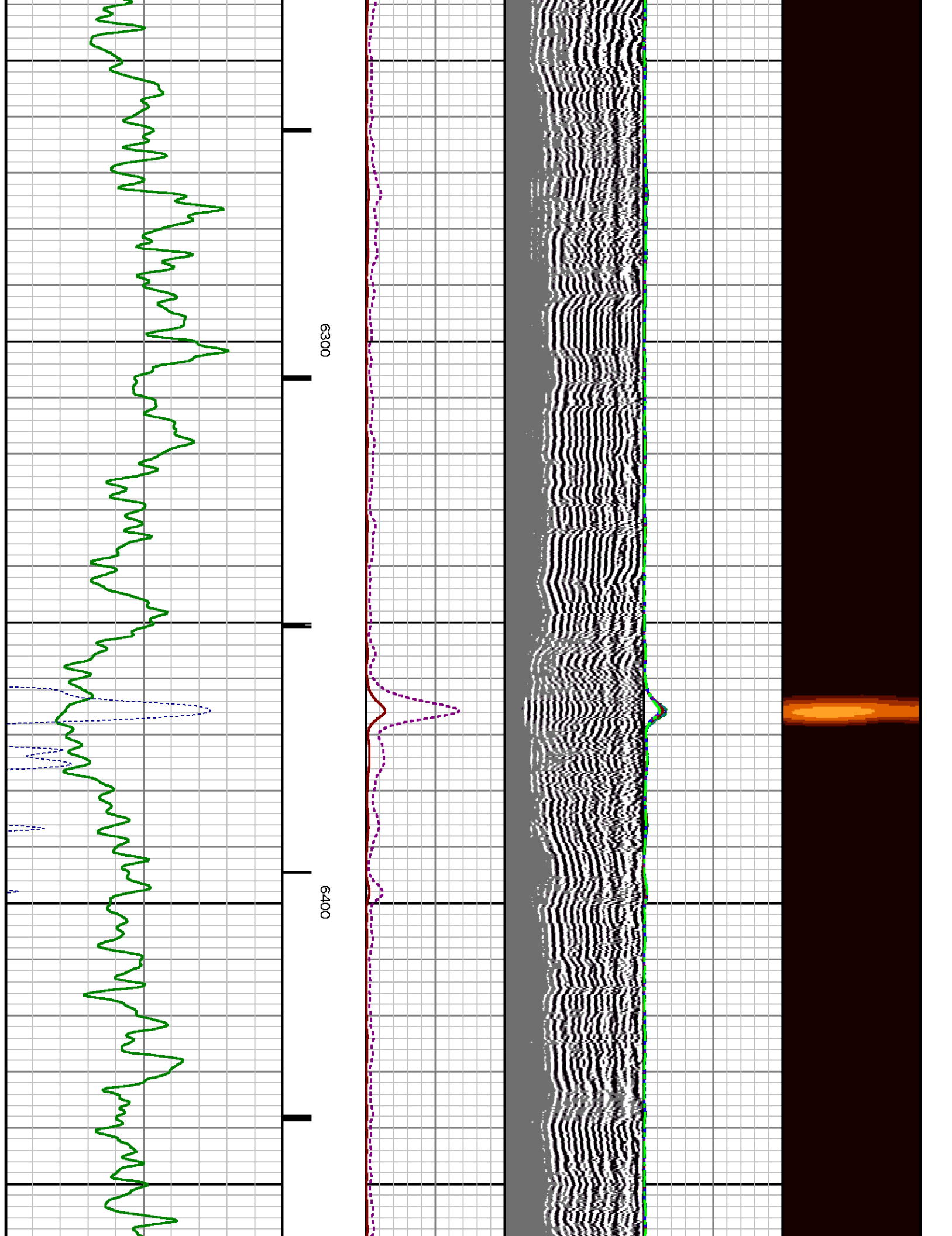
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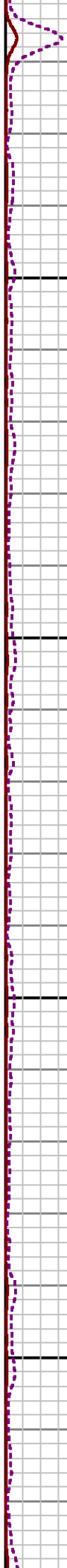
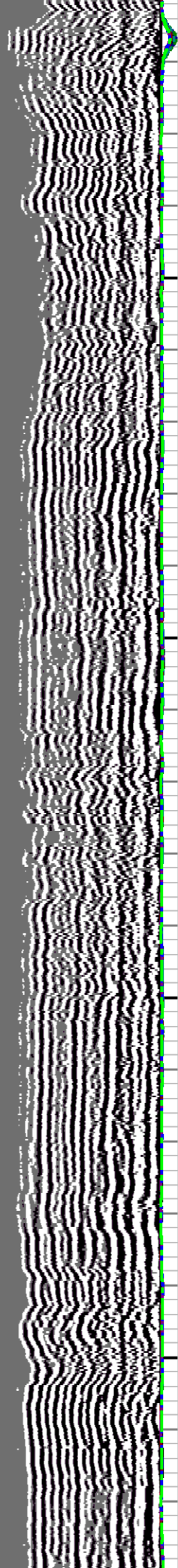








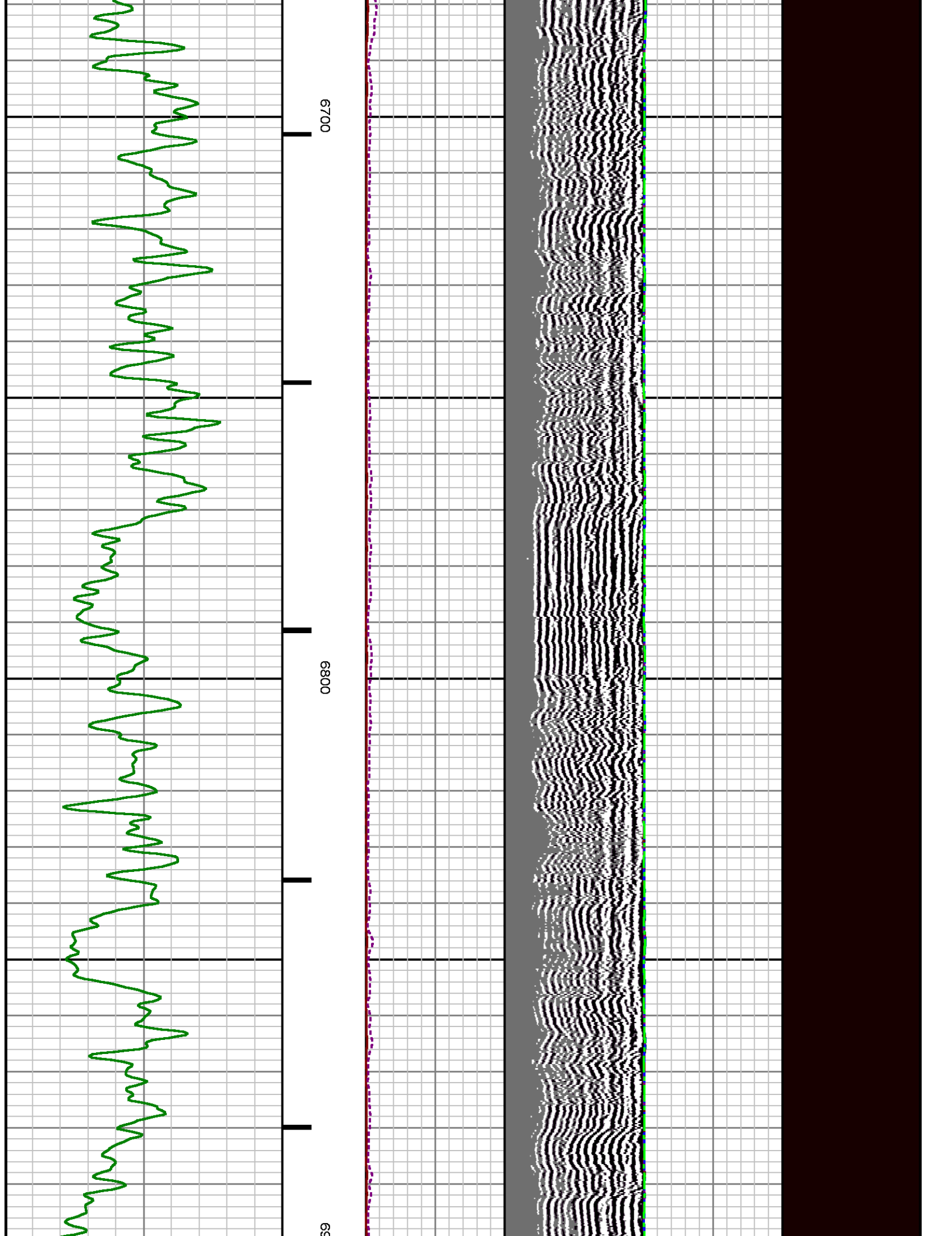


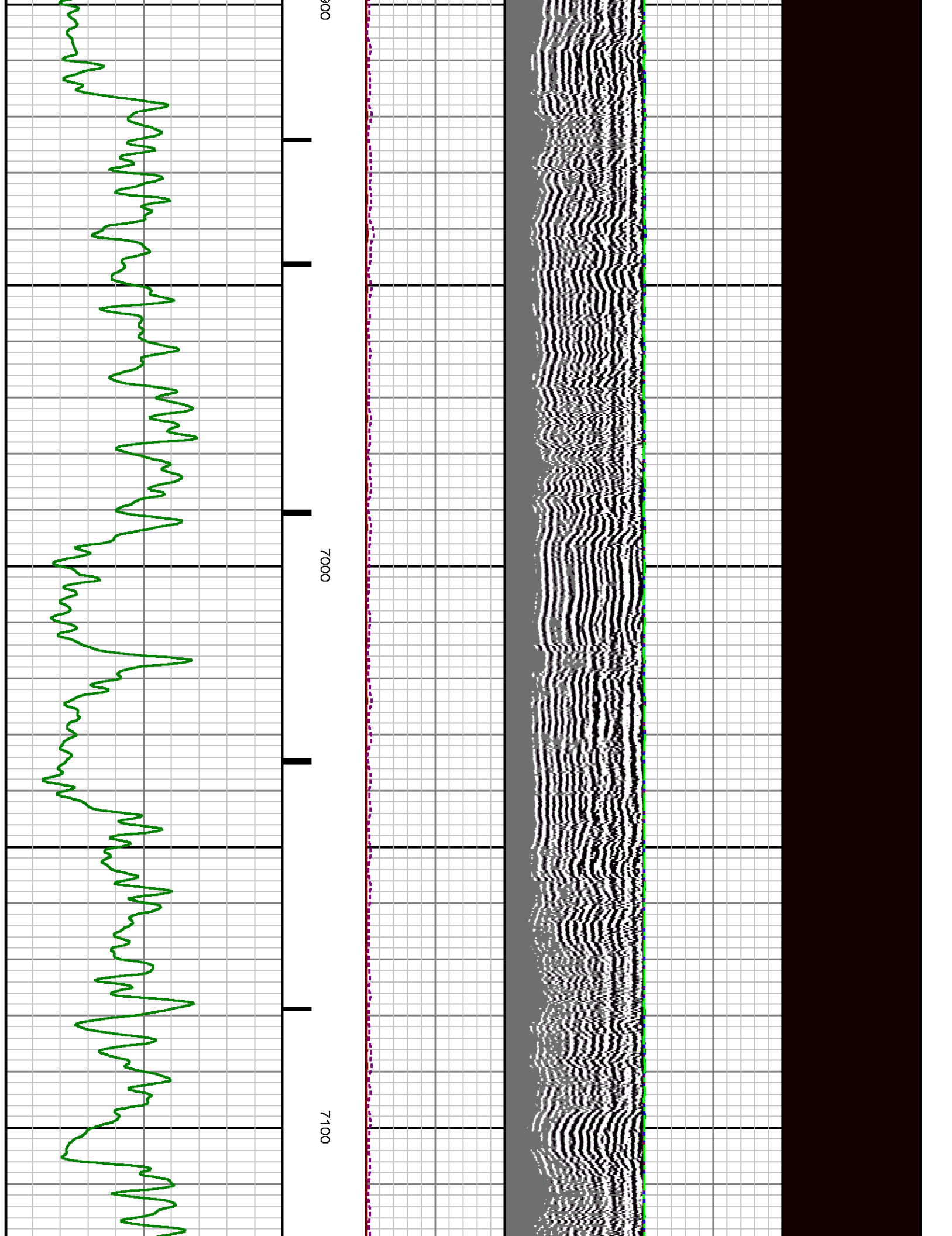


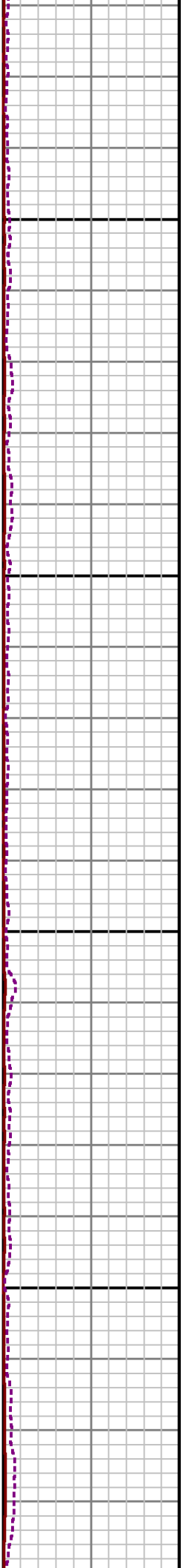
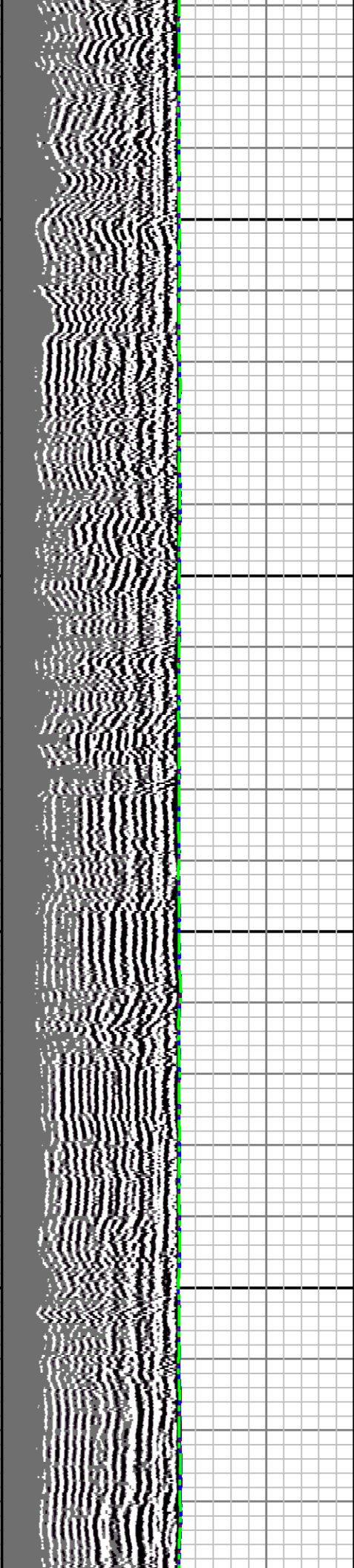
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6600



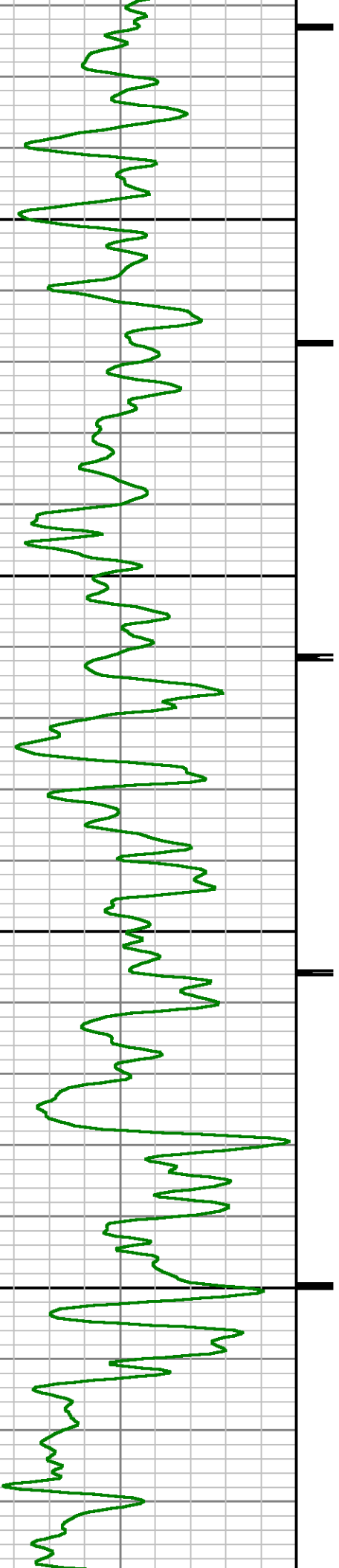


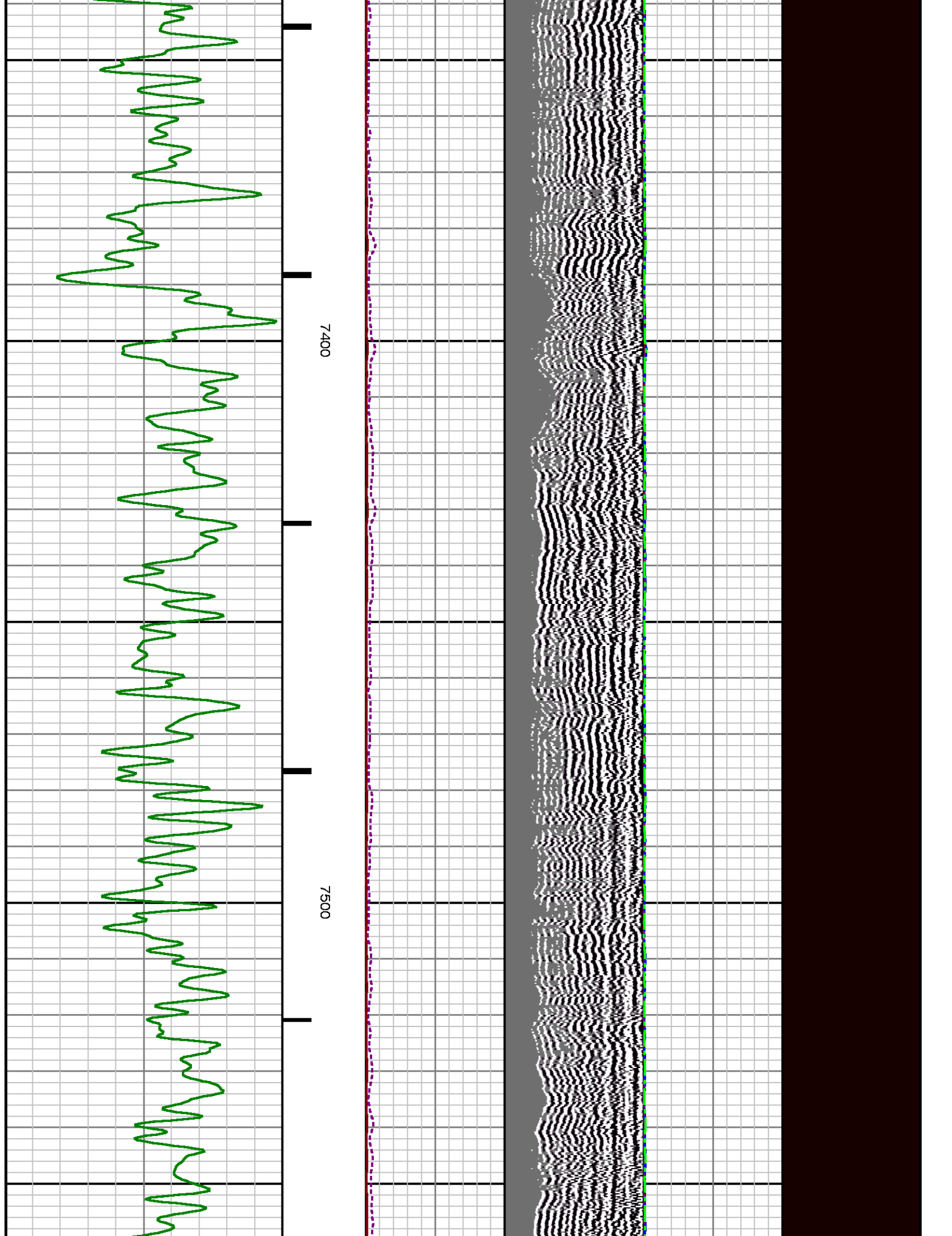


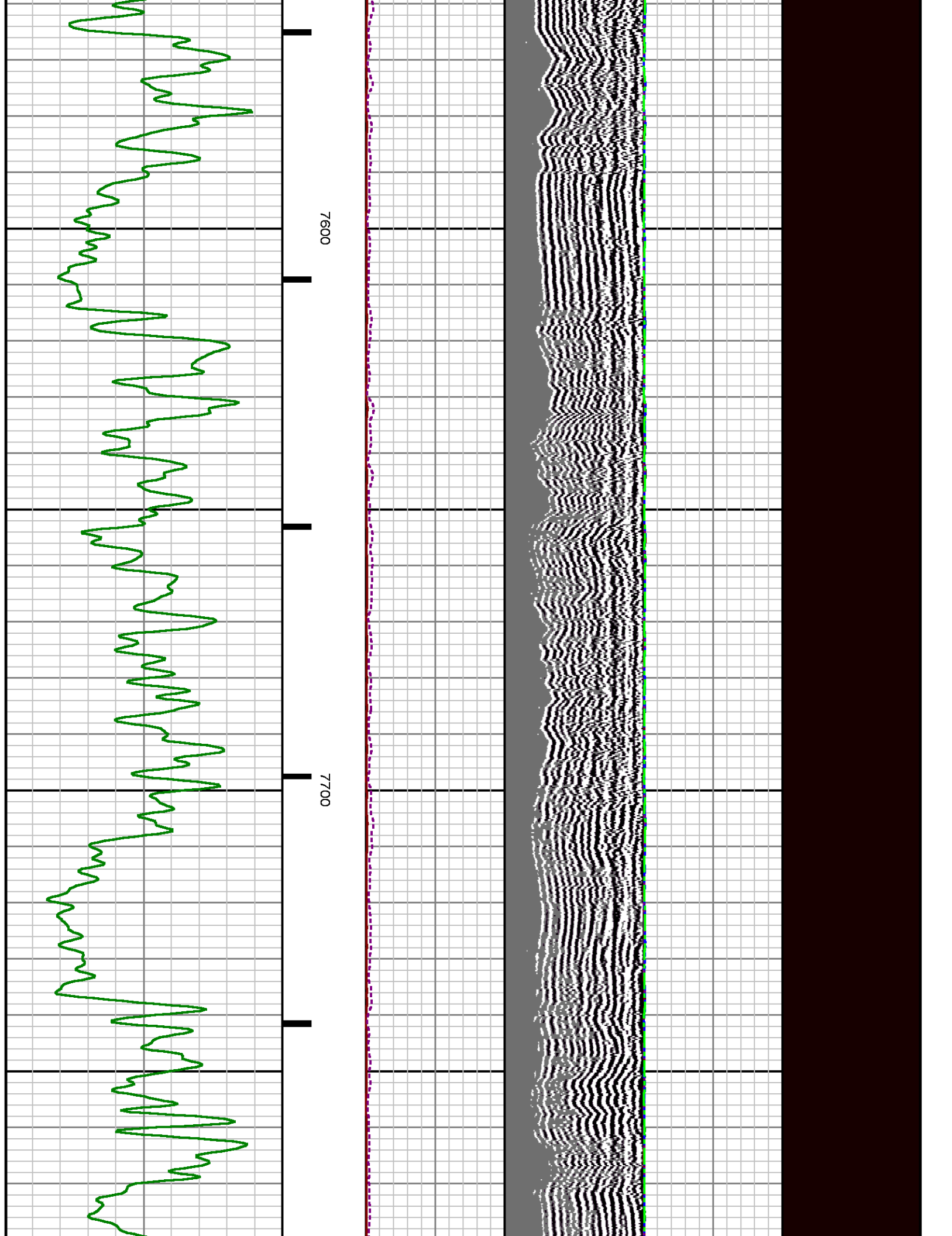


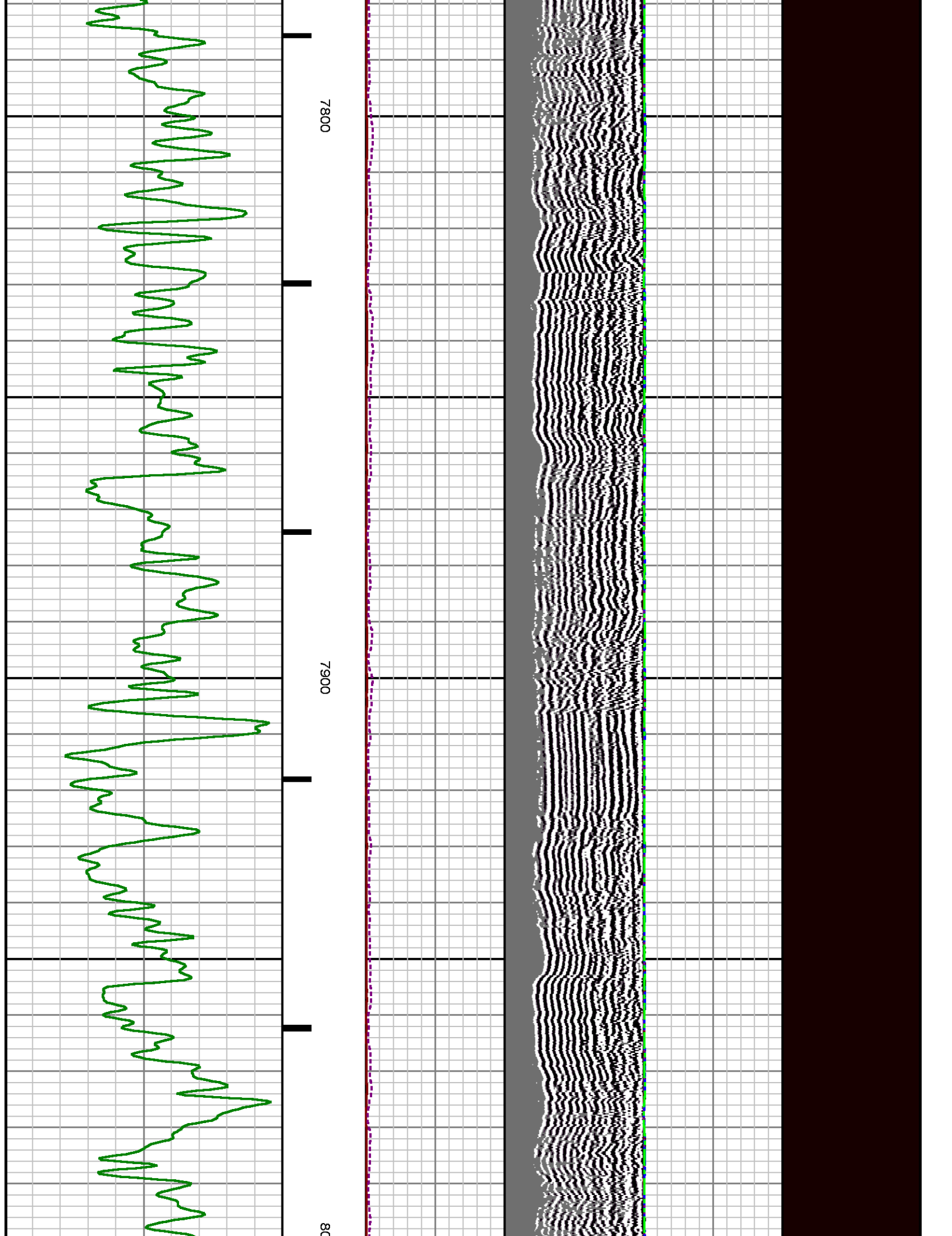
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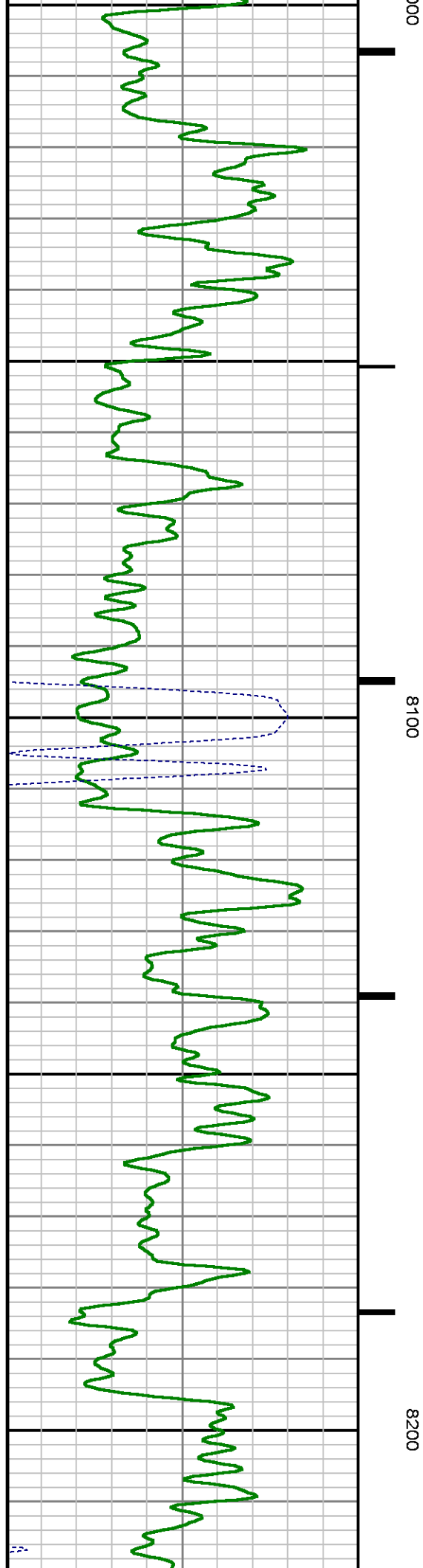
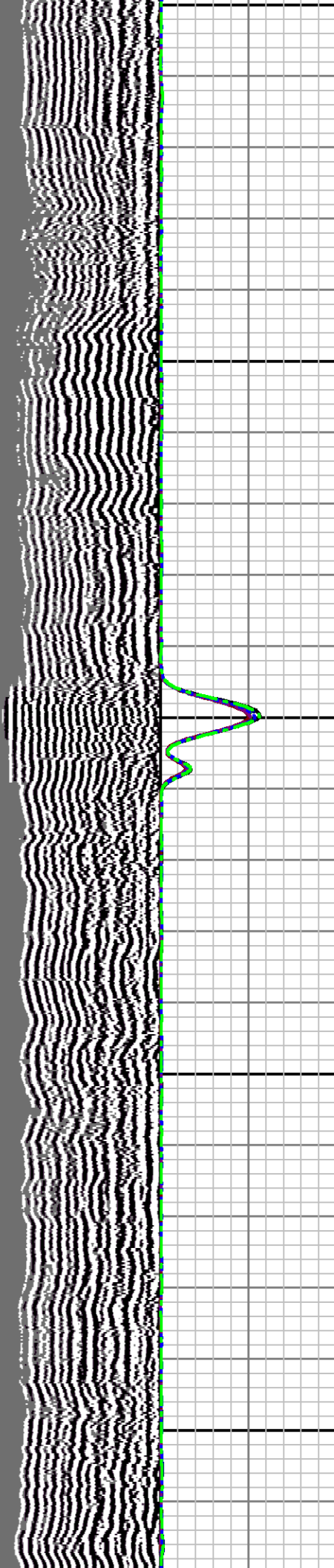
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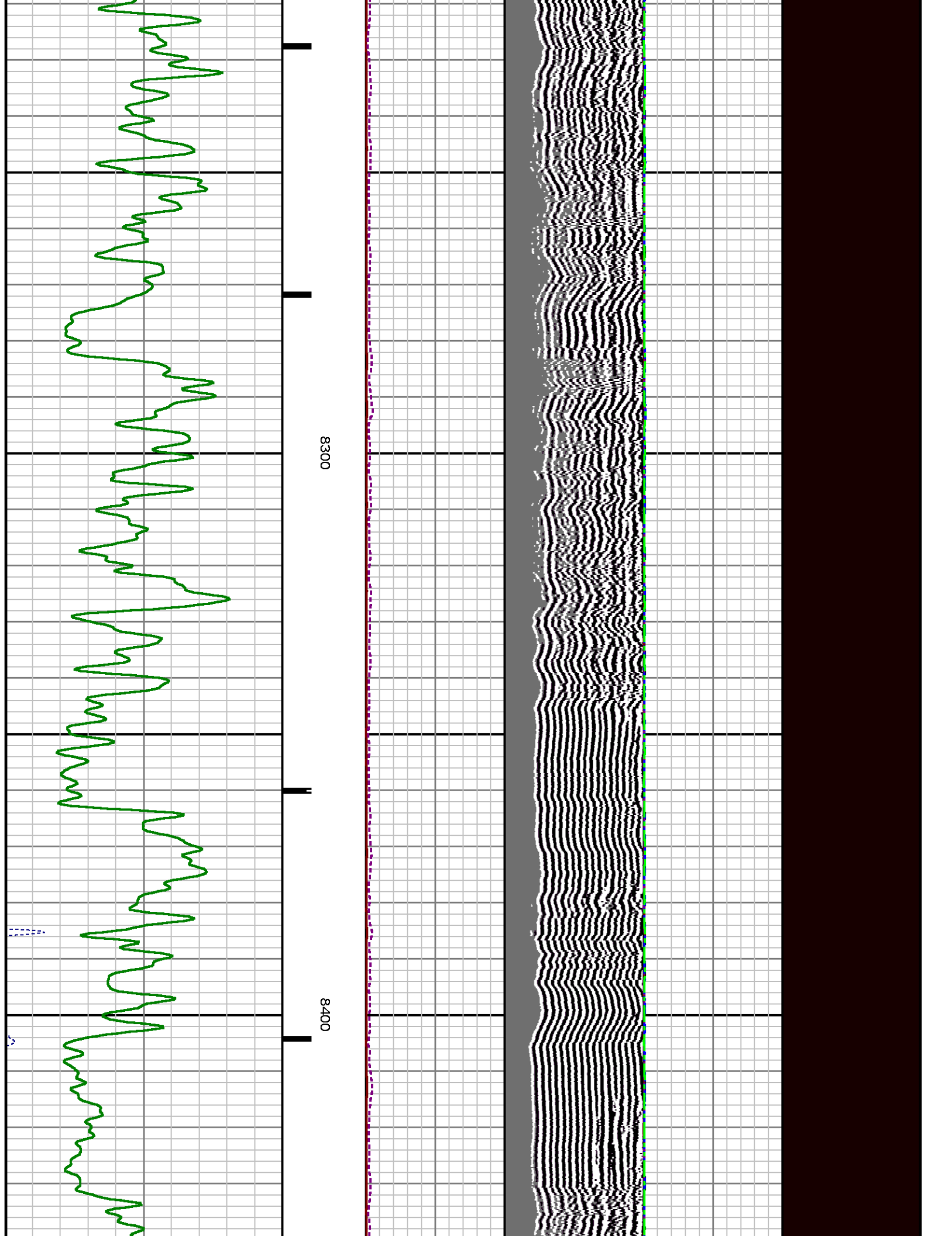


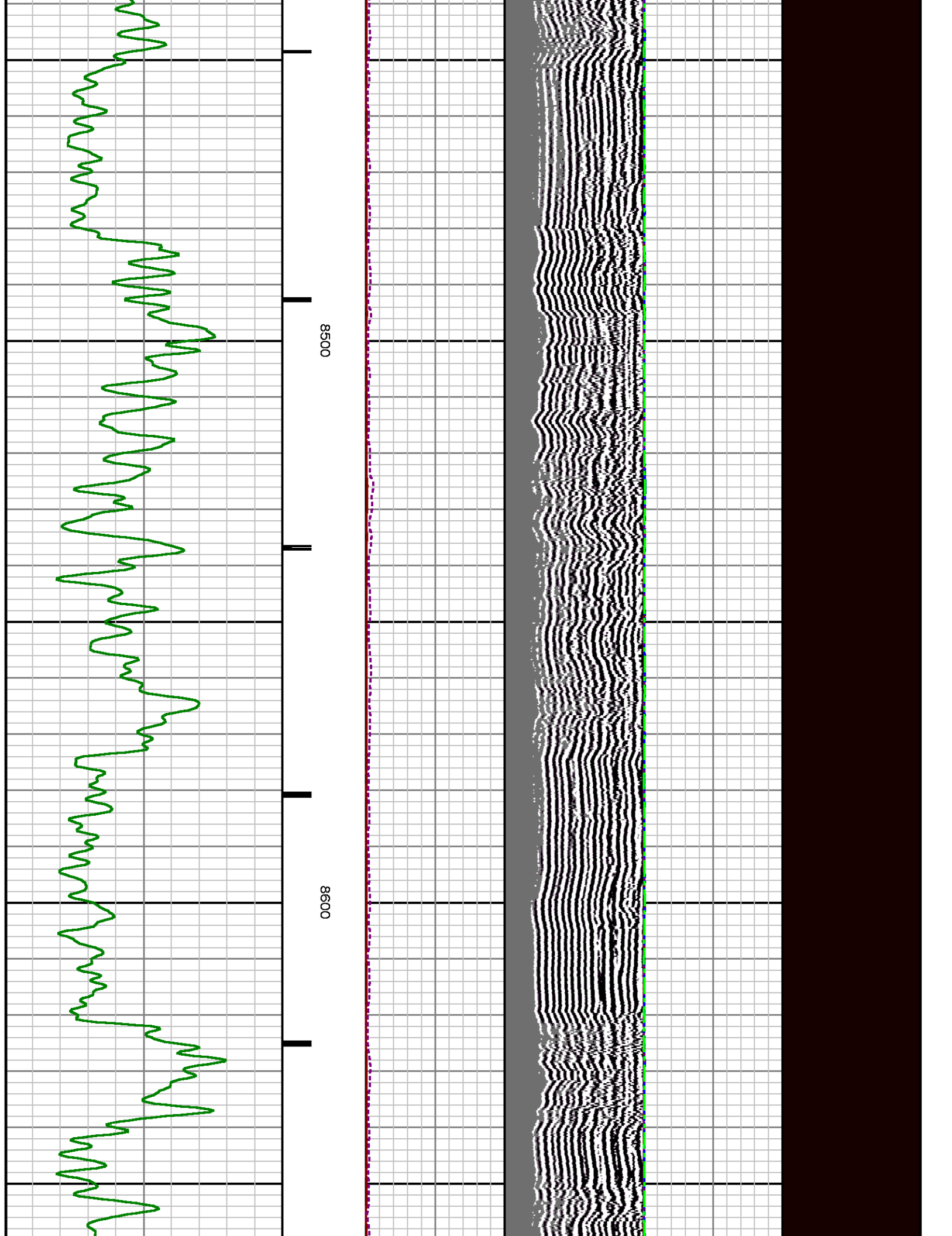


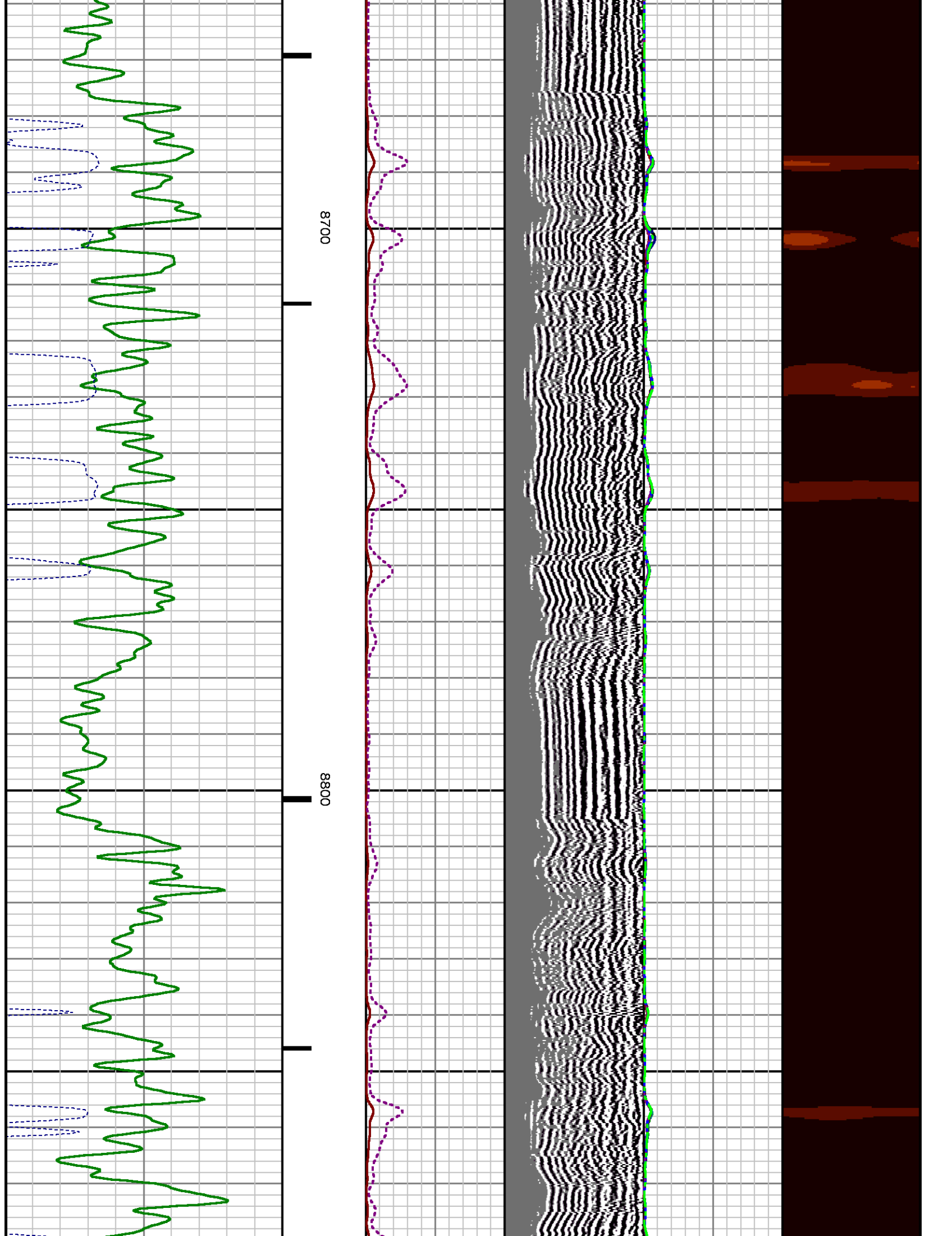


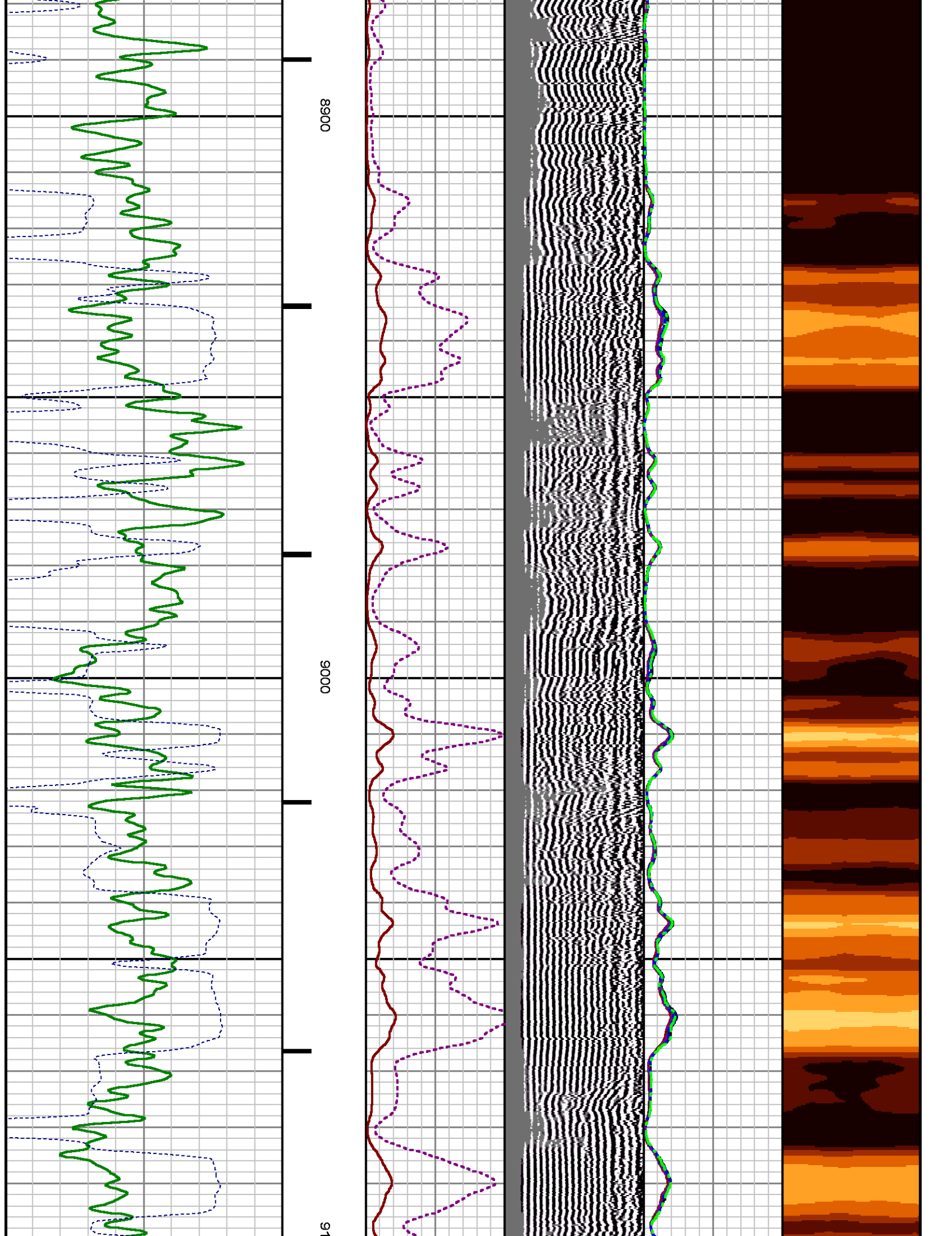


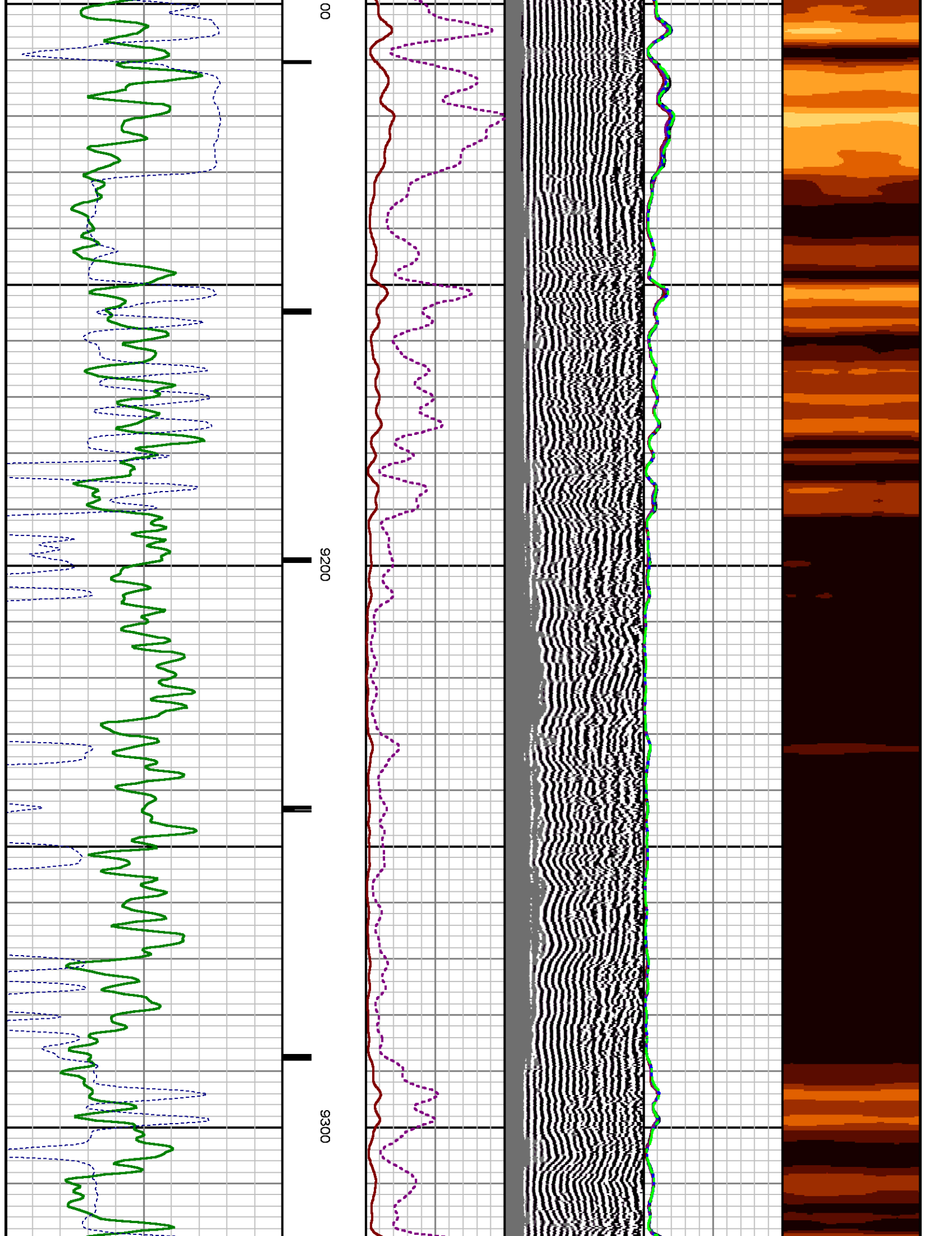


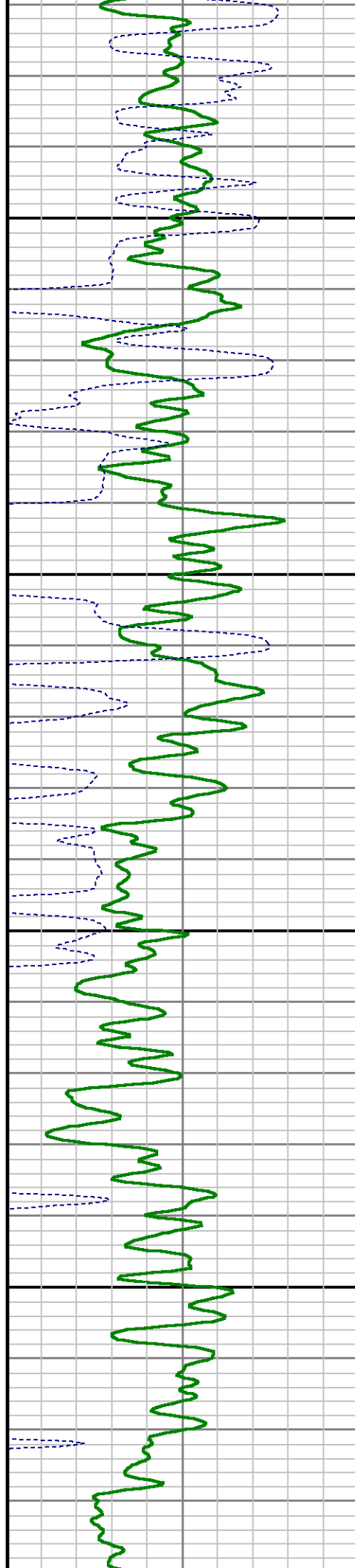
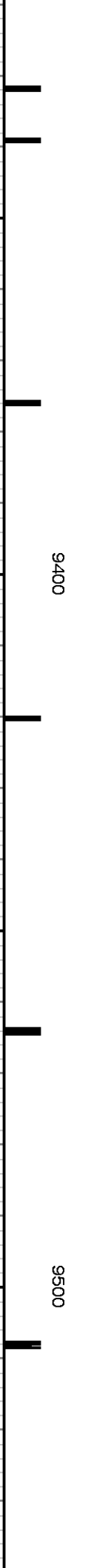
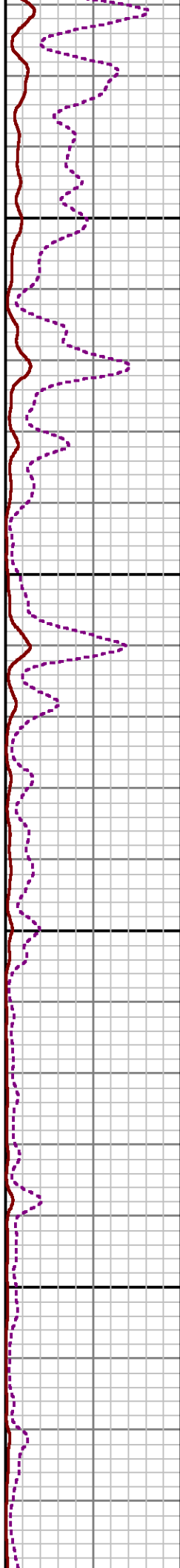
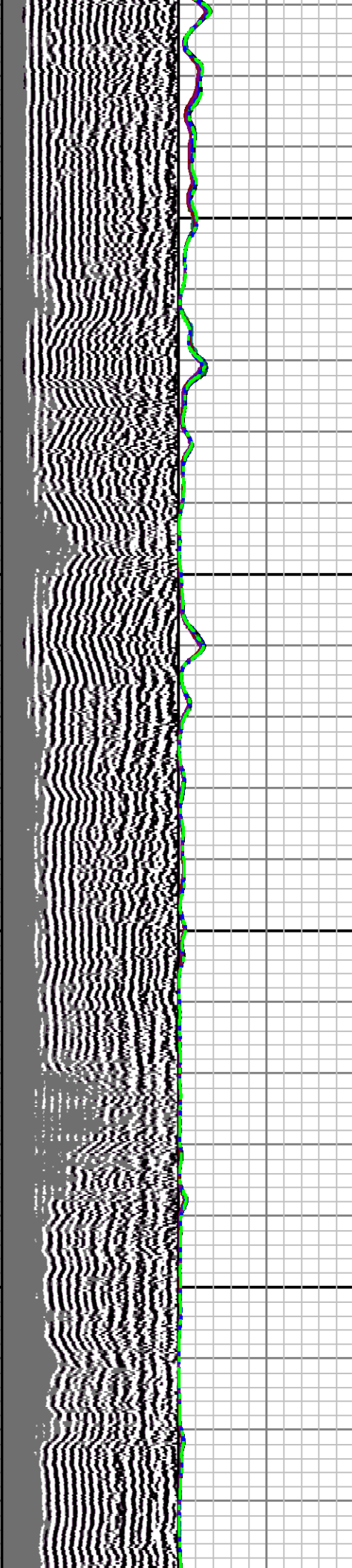
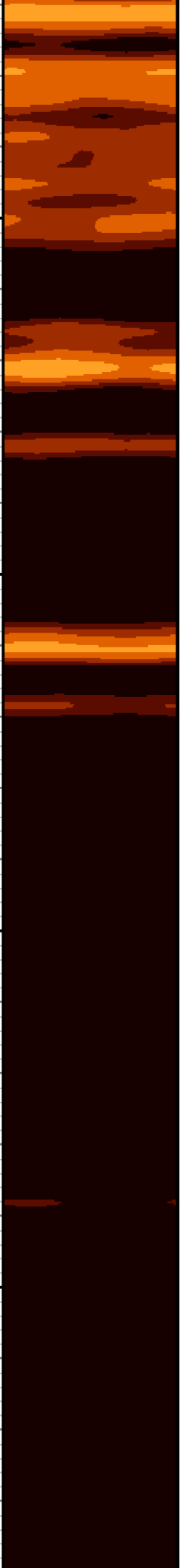


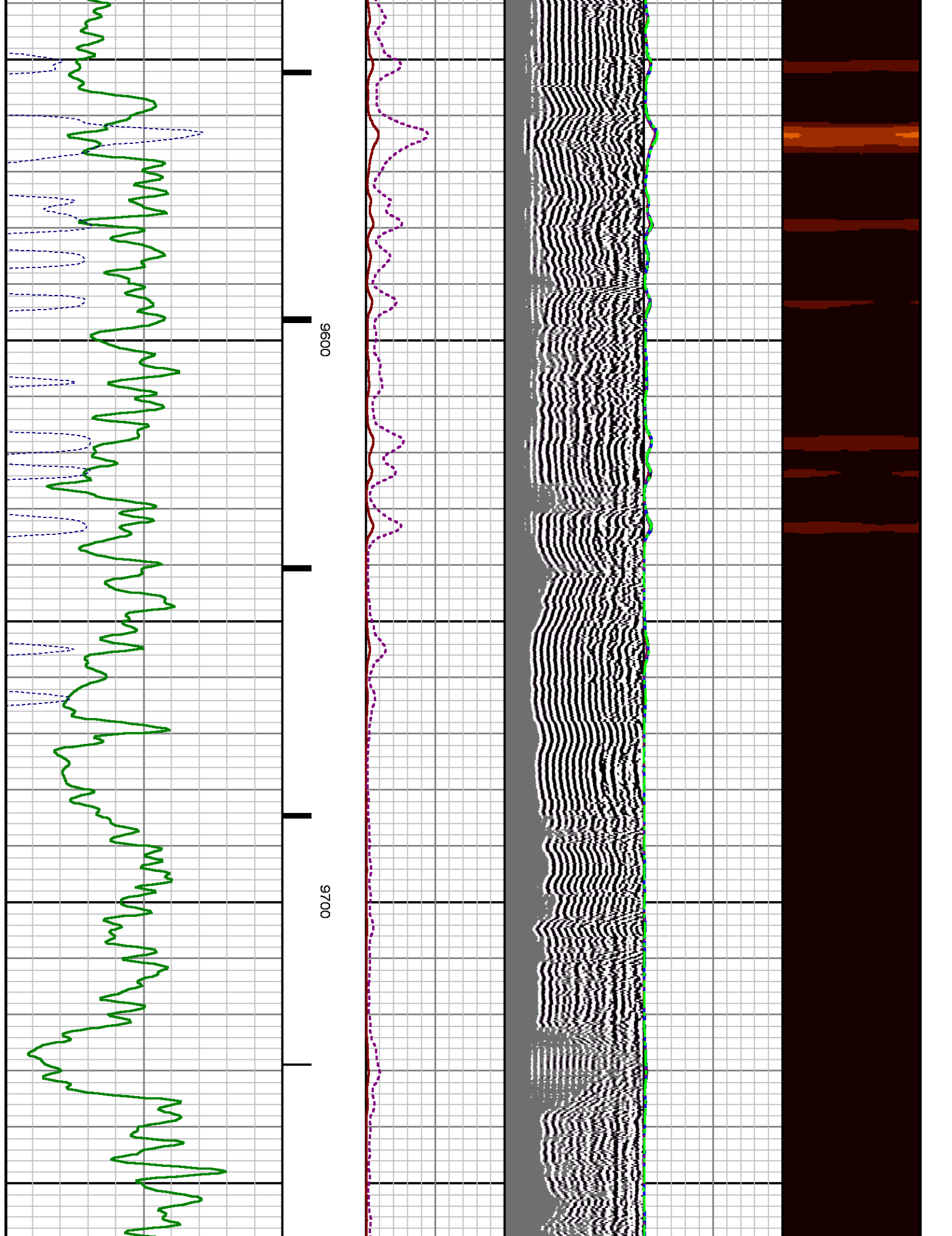


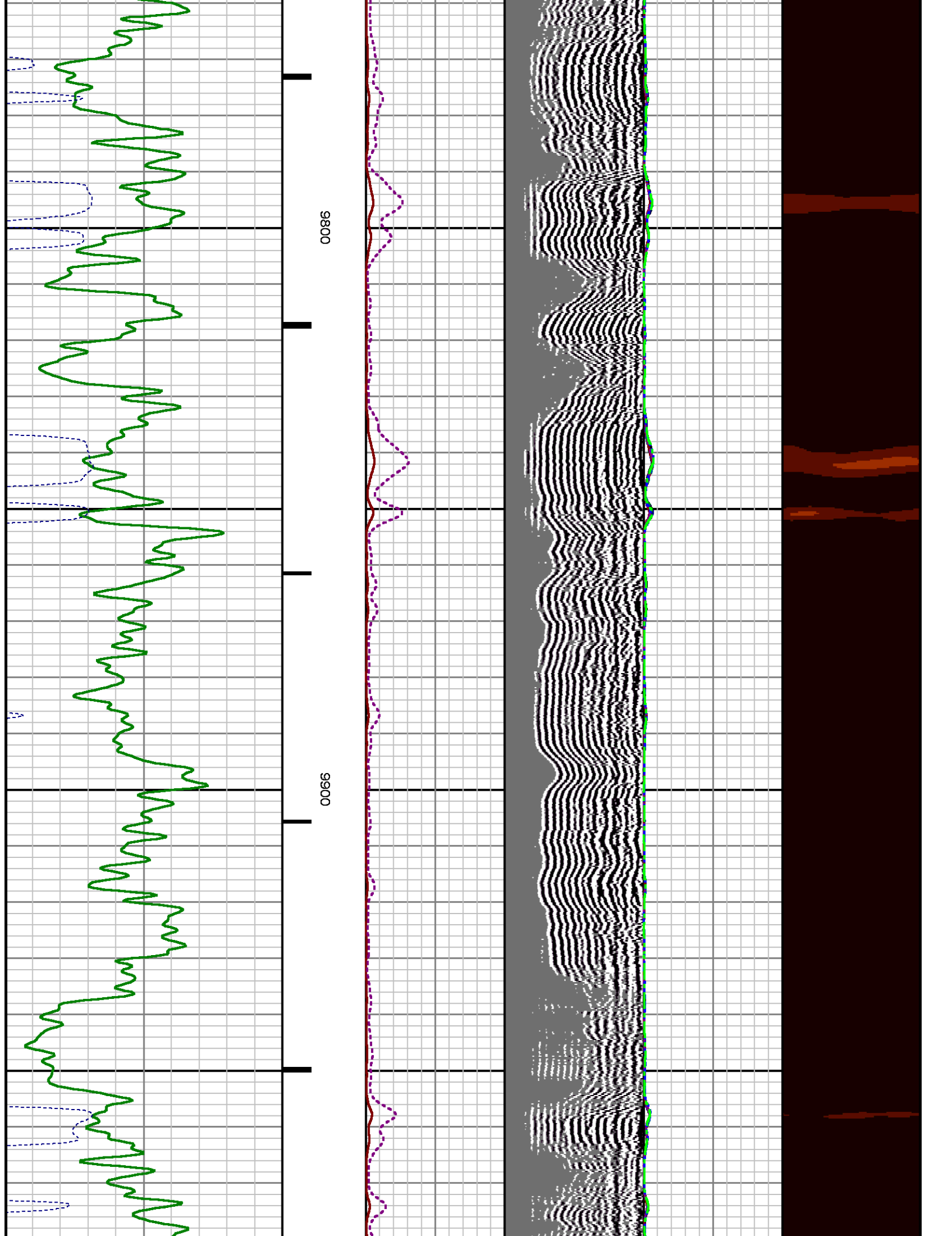


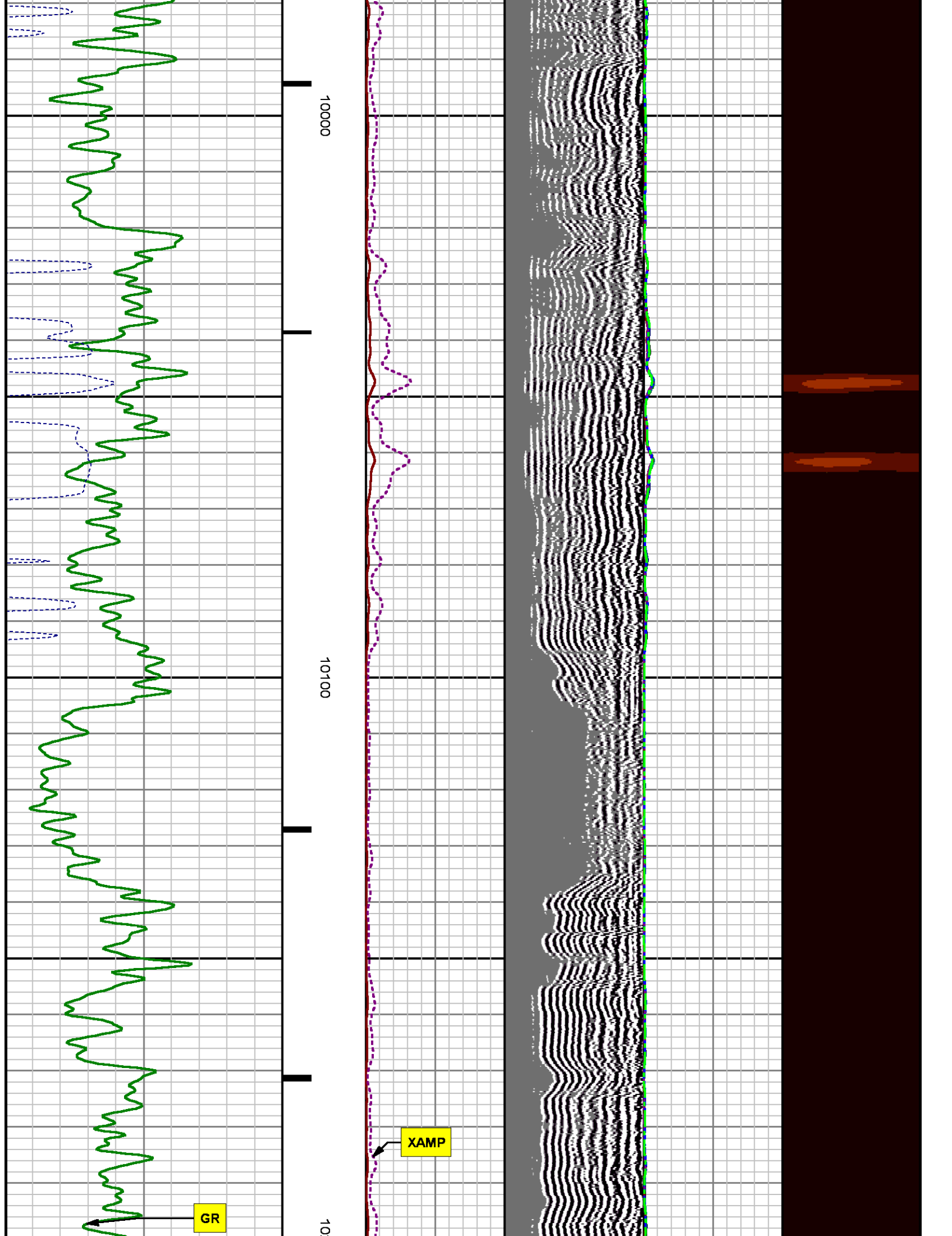


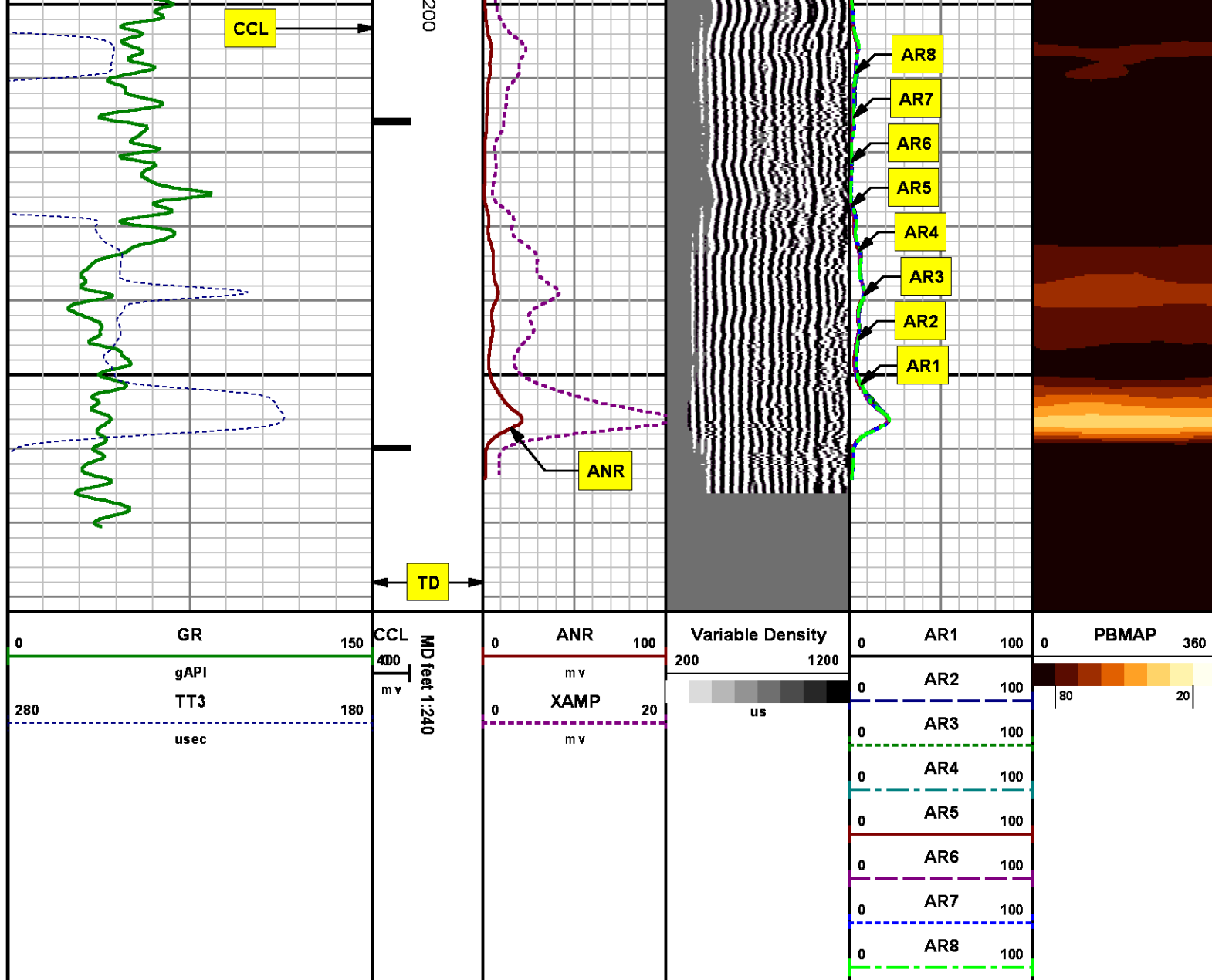












REPEAT SECTION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	9962.852	10285.040
RAL	Amp Gate Start Near	195.000	usec	9962.852	10285.040
RAL	Amp Gate Start Radial	195.000	usec	9962.852	10285.040

RAL	Amp Gate Width Far	25.000	usec	9962.852	10285.040
RAL	Amp Gate Width Near	25.000	usec	9962.852	10285.040
RAL	Amp Gate Width Radial	25.000	usec	9962.852	10285.040
RAL	casing od	4.500	inches	9962.852	10285.040
RAL	casing wt	11.600	lbm/ft	9962.852	10285.040
RAL	FB Start Far	291.900	usec	9962.852	10285.040
RAL	FB Start Near	180.000	usec	9962.852	10285.040
RAL	FB Start Radial	180.000	usec	9962.852	10285.040
RAL	FB Thresh Far	15.000	mv	9962.852	10285.040
RAL	FB Thresh Near	10.000	mv	9962.852	10285.040
RAL	FB Thresh Radial	10.000	mv	9962.852	10285.040
RAL	Fluid Travel Time	200.000	usec/ft	9962.852	10284.758

DEPTH OFFSETS

(for Acquired Curves)

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

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

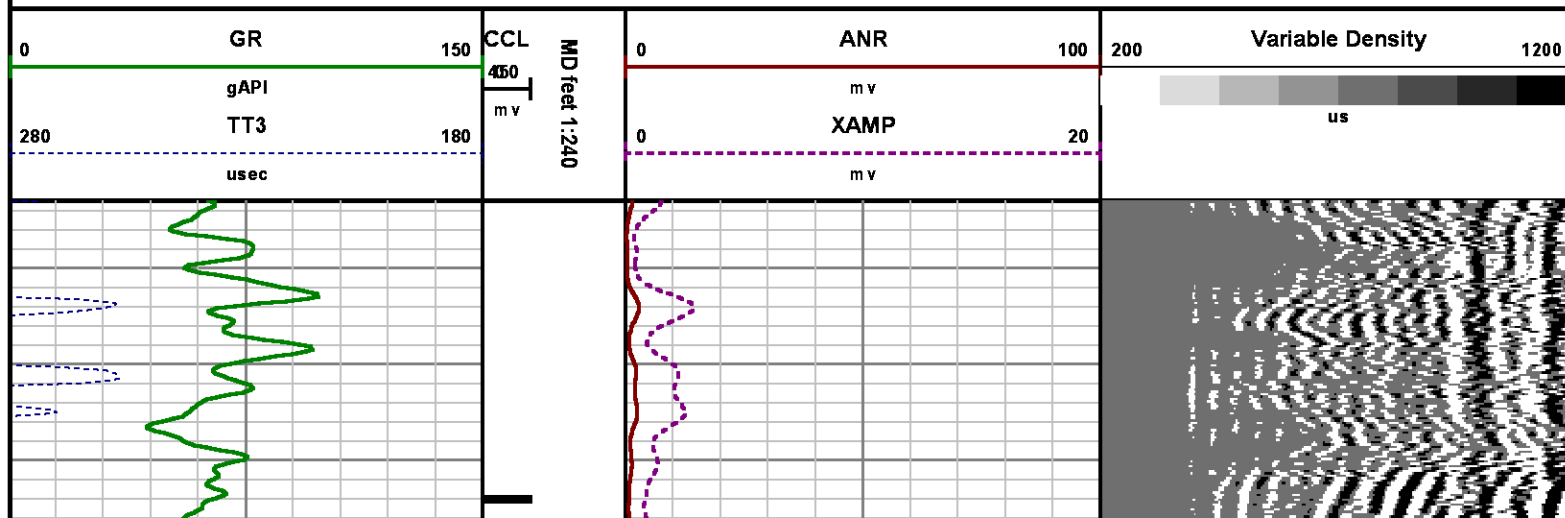
Well : FEDERAL NER 344-32

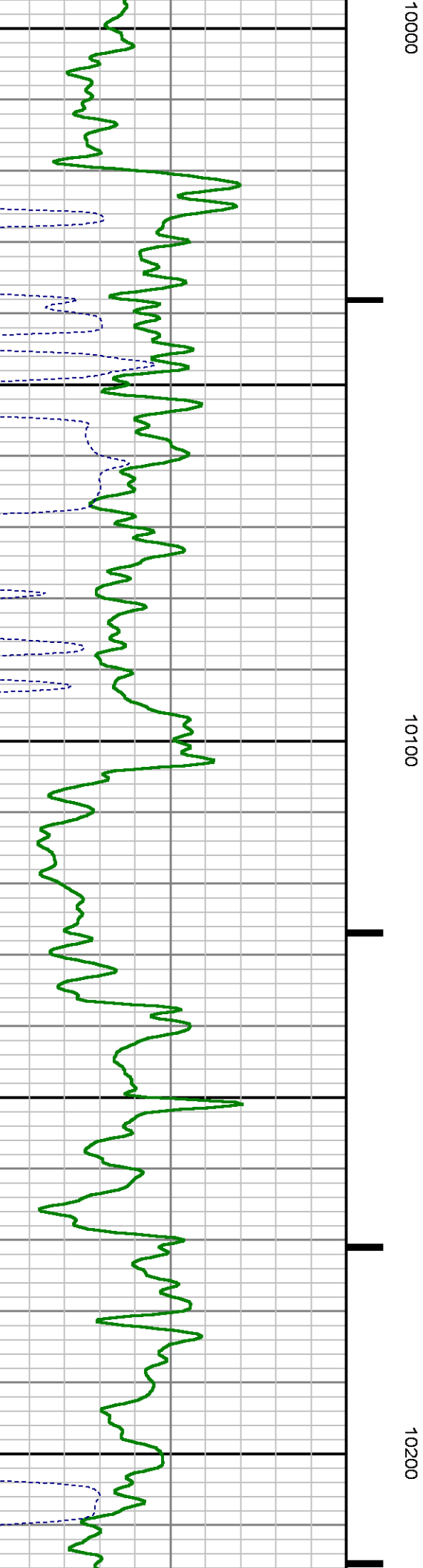
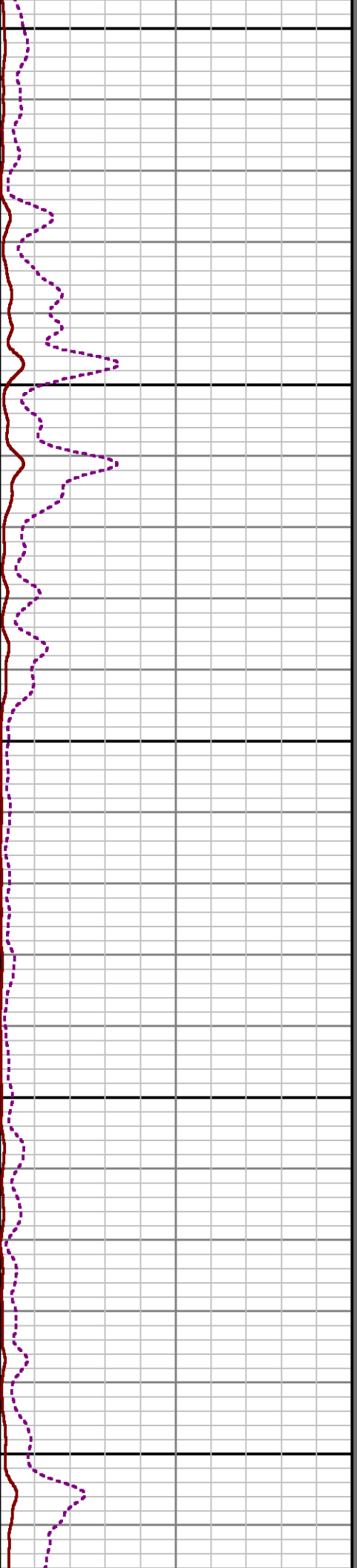
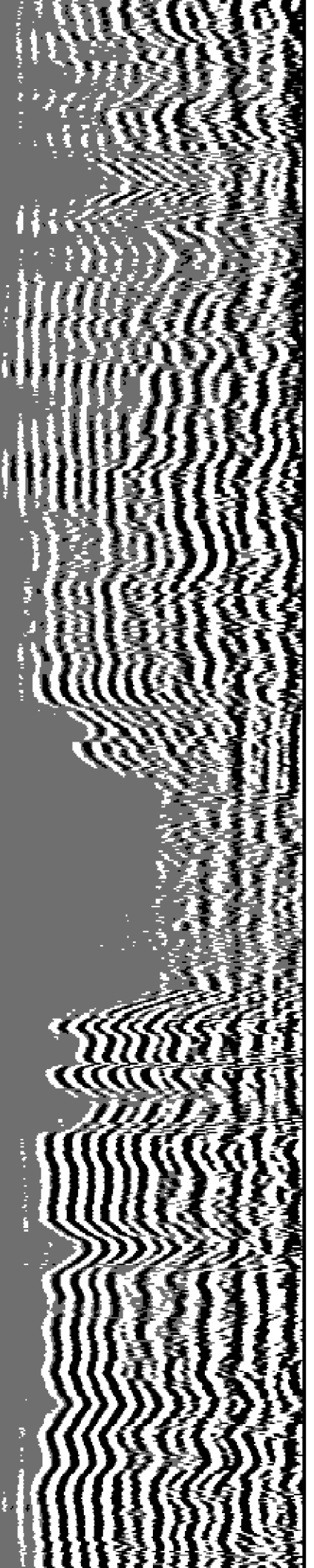
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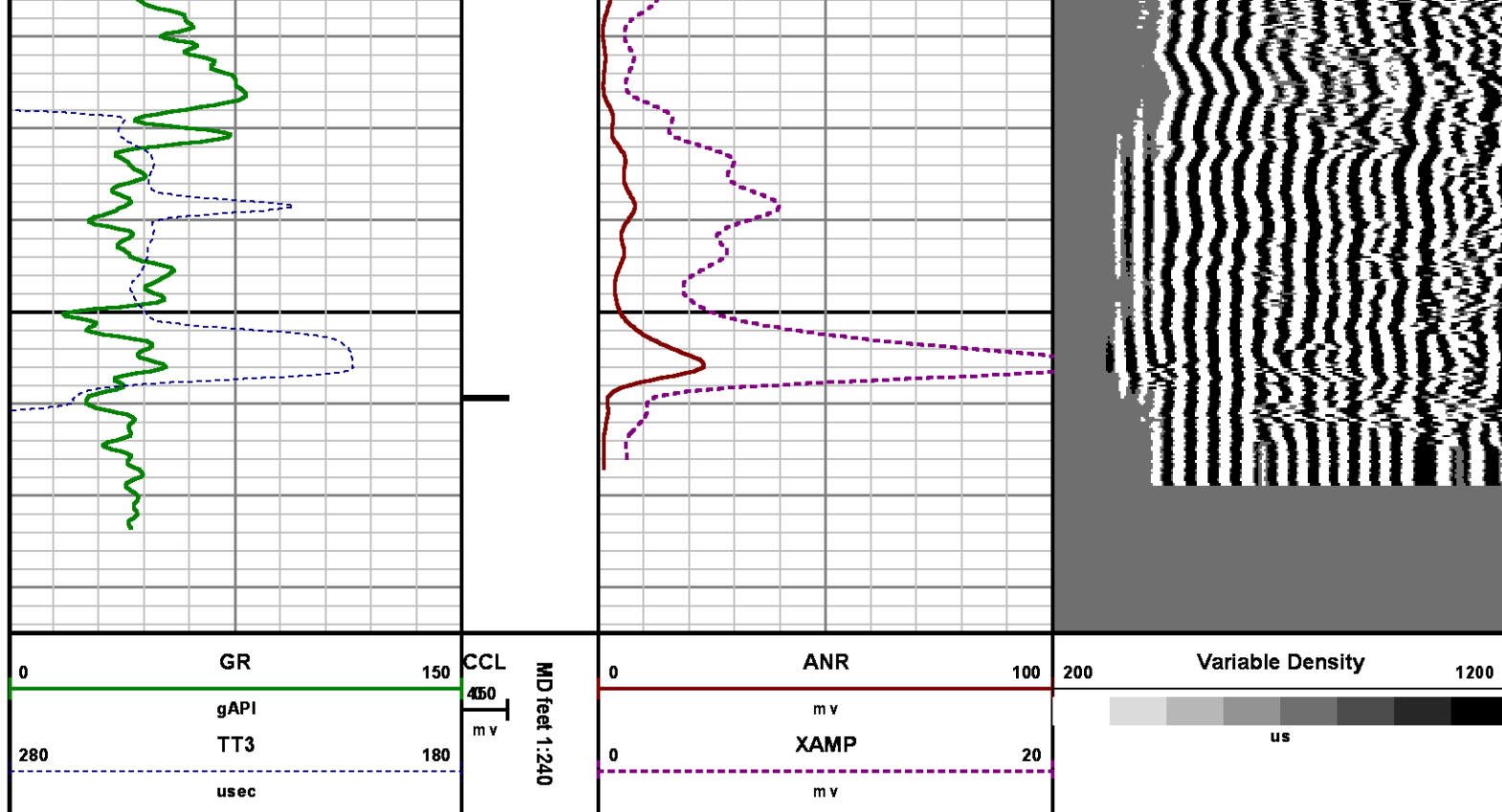
Mode : PlotMgr 5.4.504

Interval : 9963.04 - 10285.04 feet UP

Created : 4/4/2014 9:28:21 AM







CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\456A3_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Apr 03 13:31:13 2014 TOOL SERIES: 1426XA ASSET: 456 SEQ: A3

Tool Delay [u sec] -54.00 Tank OD in 5.50 Tank Wt lbm/ft 15.50 Tank ID in 4.95

RECEIVER	Travel Time [u sec]	Amp. Gate Start [u sec]	Amp. Gate Width [u sec]	Zero Gate Start [u sec]	Zero Gate Width [u sec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	217	216	30	166	25	-0.098	100.00	0.17
3 Ft. Receiver	217	216	30	166	25	2.268	100.00	0.16
5 Ft. Receiver	326	325	30	206	25	0.031	150.00	0.19
Radial #1	217	216	30	146	25	0.092	100.00	0.16
Radial #2	217	216	30	146	25	-0.488	100.00	0.16
Radial #3	217	216	30	146	25	-0.422	100.00	0.16
Radial #4	217	216	30	146	25	-0.177	100.00	0.16
Radial #5	217	216	30	146	25	-0.474	100.00	0.16
Radial #6	217	216	30	146	25	-0.240	100.00	0.16

Radial #7	215	216	30	146	25	0.045	100.00	0.16
Radial #8	217	216	30	146	25	-0.383	100.00	0.16

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\456A3 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Apr 03 13:33:15 2014 TOOL SERIES: 1426XA ASSET: 456 SEQ: A3

Tool Delay [usec] -54.00 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	0.037	0.000	1.02	100.000
3 Ft. Receiver	195	25	2.775			
5 Ft. Receiver	305	25	3.651			
Radial #1	195	25	2.663			
Radial #2	195	25	2.686			
Radial #3	195	25	2.808			
Radial #4	195	25	2.787			
Radial #5	195	25	3.062			
Radial #6	195	25	3.235			
Radial #7	195	25	2.588			
Radial #8	195	25	2.654			

GAMMA RAY

Calibration File: C:\case\calver\GR\456A3.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Apr 03 13:37:28 2014 TOOL SERIES: 2459XA ASSET: 456 SEQ: A3

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	76.84	356.71	0.661	50.80	235.80	185.00

Verification File: C:\case\calver\GR\456A3.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Thu Apr 03 13:38:35 2014 TOOL SERIES: 2459XA ASSET: 456 SEQ: A3

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	80.98	351.78	0.661	53.53	232.54	179.01

TOOL DIAGRAM

OTA SHORT CABLE HEAD

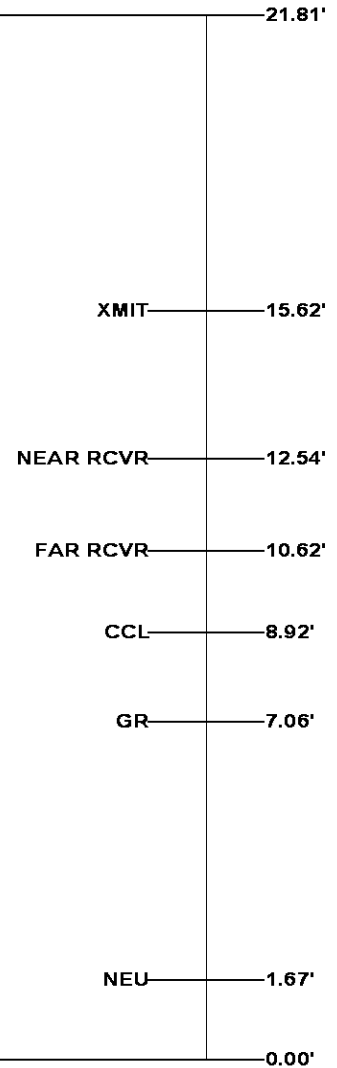
PROBE 2 3/4 DUAL RECEIVER RADII

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

Probe GR/CCL/NEU

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

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



Baker Atlas



Company

WPX ENERGY

Well

FEDERAL NER 344-32

Field

RULISON

County

GARFIELD

State

COLORADO

Location

SHL: 189' FNL x 2605' FWL SEC 5 7S 93W

BHL: 424' FSL x 659' FWL SEC 32 6S 93W

Elevations

KB 7629 ft

DF

File No:

CH084517

API No:

05045217790000

32 6S 93W

RU 23-5 PAD

00000000

SEC 32 TWP 6S RGE 93W

GL 7603 ft

NABORS 576