BAKER HUGHES

Baker Atlas

RADIAL ANALYSIS BOND LOG

File No:	CH073166
API No:	05103117840000
Company	WPX ENERGY
Well	FEDERAL RGU 513-23-198
Field	SULPHUR CREEK
County	RIO BLANCO
State	COLORADO

23 1S 98W
RGU 23-23-198
CYCLONE 29

Location

SHL: 1782' FSL & 1911' FWL SEC:23
BHL: 1516' FSL & 632' FWL SEC:23

SEC 23 TWP 1S RGE 98W

Other Services

N/A

Permanent Datum	G.L.	Elevation	6545 ft
Log Measured From	K.B.	21 ft	Above P. D.
Drill Measured From	KELLY BUSHING		

Elevations

KB 6566 ft
DF
GL 6545 ft

Date		11/JUN/13		
Run		ONE		
Service Order		575098		
Depth Driller		12517 ft		
Depth Logger		12471 ft		
Bottom Logged Interval		12461 ft		
Top Logged Interval		21 ft		
Time Started		8:30		
Time Finished		14:30		
Operator Rig Time		6 HRS		
Type of Fluid in Hole		WATER		
Fluid Density		N/A		
Salinity		N/A		
Fluid Level		91 ft		
Logged Cement Top		N/A		
Wellhead Pressure		0 psi		
Maximum Hole Deviation		N/A		
Nominal Logging Speed		45 fpm		
Maximum Recorded Temperature		276 degF		
Reference Log		BAKER HUGHES HDIL LOG		
Reference Log Date		27/MAY/2013		
Equipment No.	Location	4271	GRAND JUNCTION	9721	GRAND JUNCTION
Recorded By		M. KINSEL		
Witnessed By		MR. TED RAGSDALE		

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.

Casing Record

Size	Weight	Grade	From	To
18 in	N/A	N/A	0 ft	80 ft
9.625 in	N/A	N/A	0 ft	3821 ft
4.5 in	11.6 lbm/ft	P-110	0 ft	12517 ft

Borehole Record

Bit Size	From	To
30 in	0 ft	80 ft
14.75/13.5	0 ft	3850 ft
8.75/7.875	0 ft	12517 ft

Remarks

ALL DATA IN THIS LOG WAS DEPTH SHIFTED TO MATCH A BAKER HUGHES HDIL LOG DATED 27 MAY 2013 AT THE CLIENT'S REQUEST. THE AMOUNT OF LINEAR SHIFT WAS 8 FEET DOWN. DEPTH SHIFTING PROCESS CREATES THE POTENTIAL FOR COLLAR LENGTHS TO VARY FROM OTHER CASED HOLE LOGS WITHOUT A GAMMA RAY REFERENCE.

SHORT JOINT: 7170' - 7190'

BHT: 276 degF

LOG DONE WITH 0 PSI ON WELLHEAD

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10124106	CENTRALIZED
1	1	GAMMA RAY/CCL	2459XA	10417457	CENTRALIZED

MAIN LOG PRIMARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	308.206	usec	18.530	12486.000
RAL	Amp Gate Start Near	199.015	usec	18.530	12486.000
RAL	Amp Gate Start Radial	199.599	usec	18.530	12486.000
RAL	Amp Gate Width Far	25.000	usec	18.530	12486.000
RAL	Amp Gate Width Near	25.000	usec	18.530	12486.000
RAL	Amp Gate Width Radial	25.000	usec	18.530	12486.000
RAL	casing od	4.500	inches	18.530	12486.000
RAL	casing wt	11.600	lbm/ft	18.530	12486.000
RAL	FB Start Far	291.900	usec	18.530	12486.000
RAL	FB Start Near	175.391	usec	18.530	12486.000
RAL	FB Start Radial	175.391	usec	18.530	12486.000
RAL	FB Thresh Far	10.000	mv	18.530	12486.000
RAL	FB Thresh Near	4.000	mv	18.530	12486.000
RAL	FB Thresh Radial	4.000	mv	18.530	12486.000
RAL	Fluid Travel Time	200.000	usec/ft	18.530	12485.874

DEPTH OFFSETS
(for Acquired Curves)

SERIES DEPTH OFFSET 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 RGU 513-23-198
File Name : d:\welldata\513cbl\main.xtf
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Interval : -20.00 - 12480.00 feet UP
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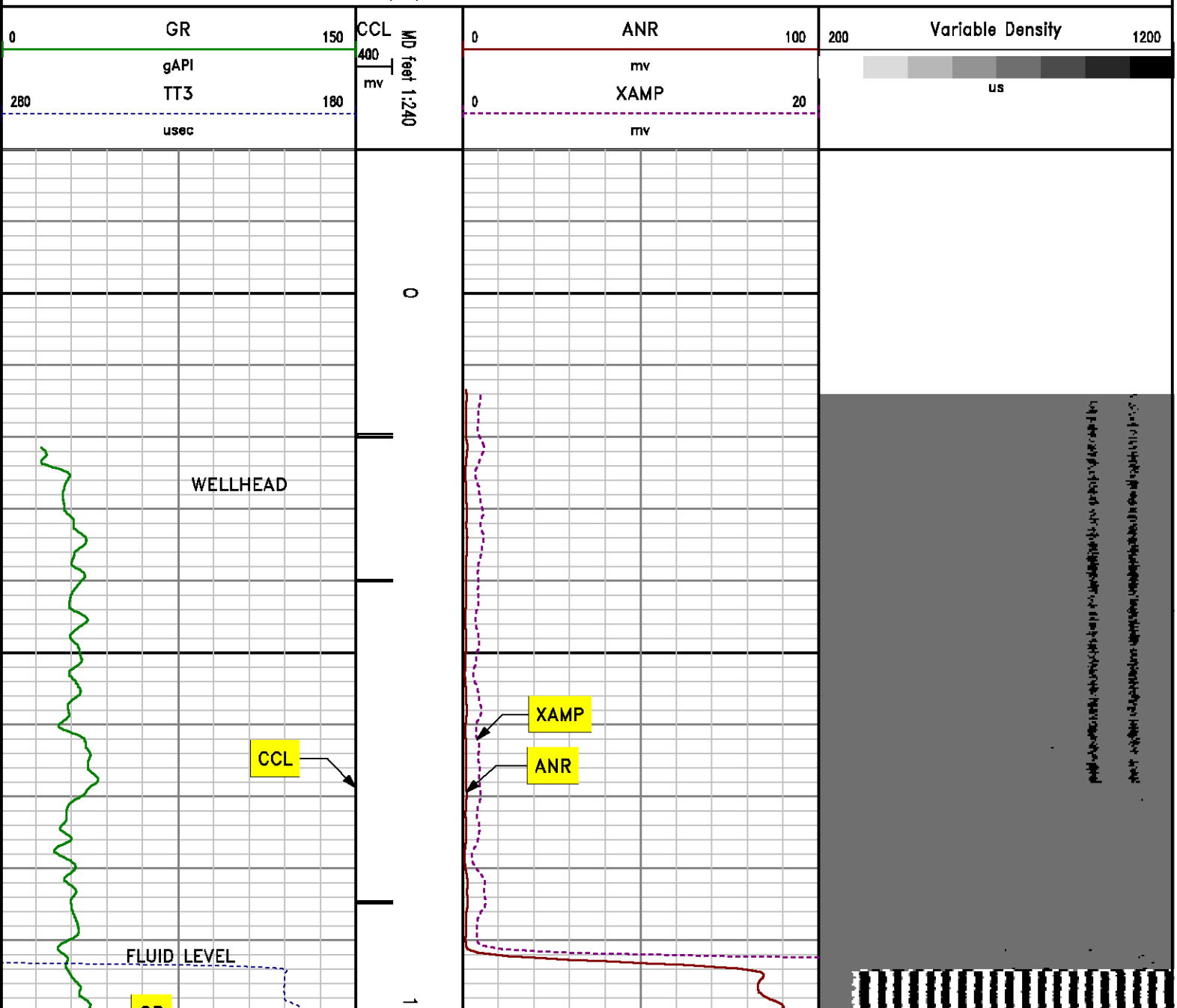

GR
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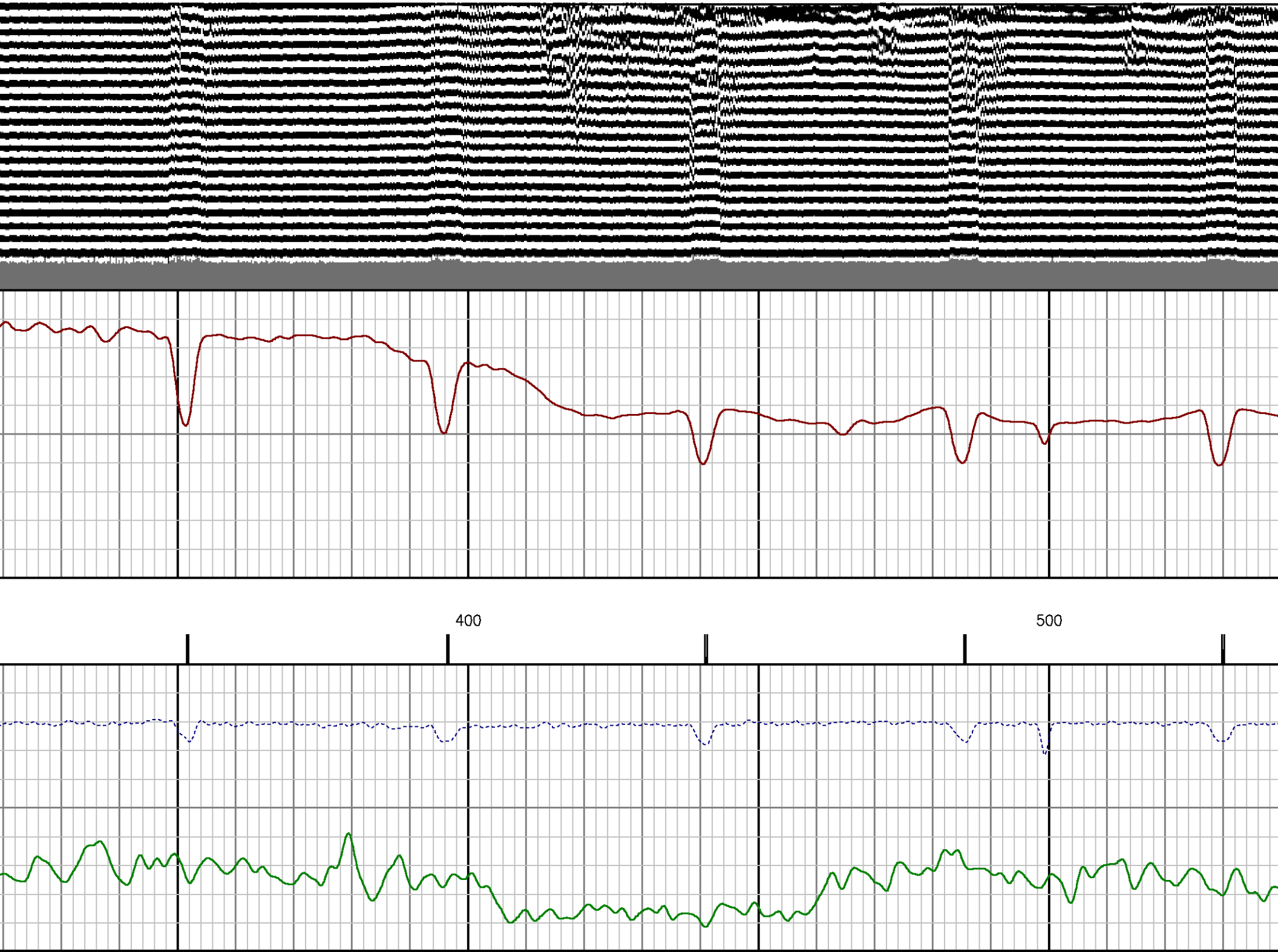
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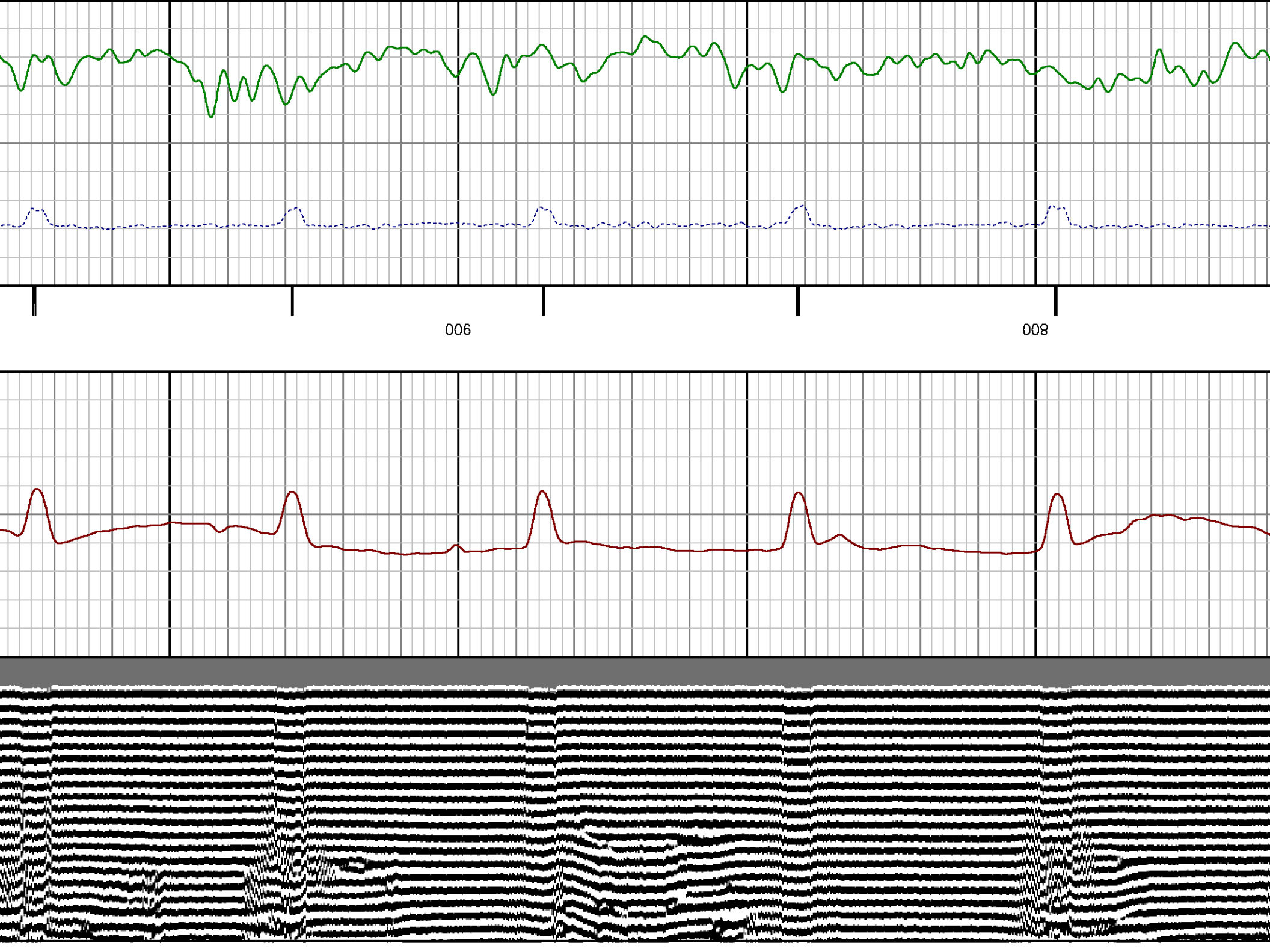
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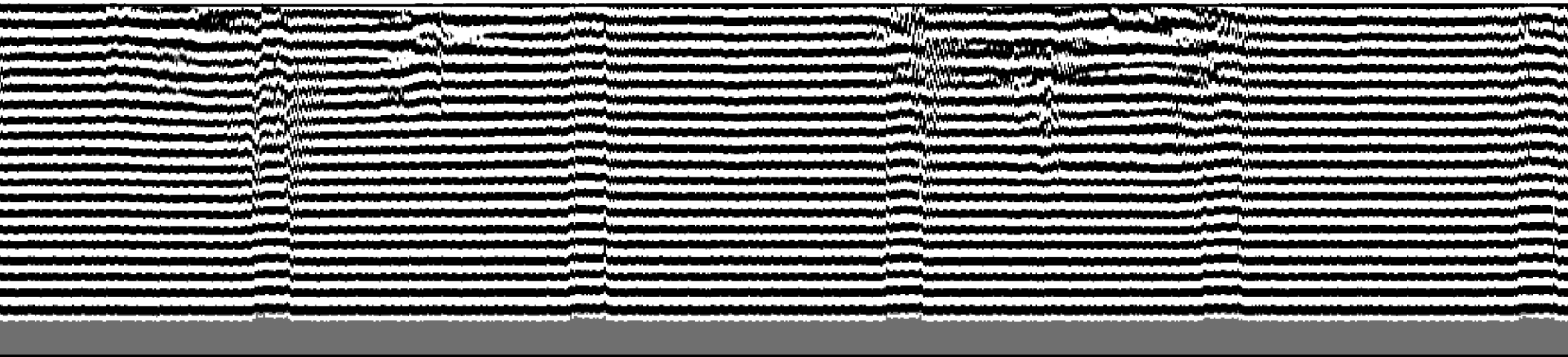

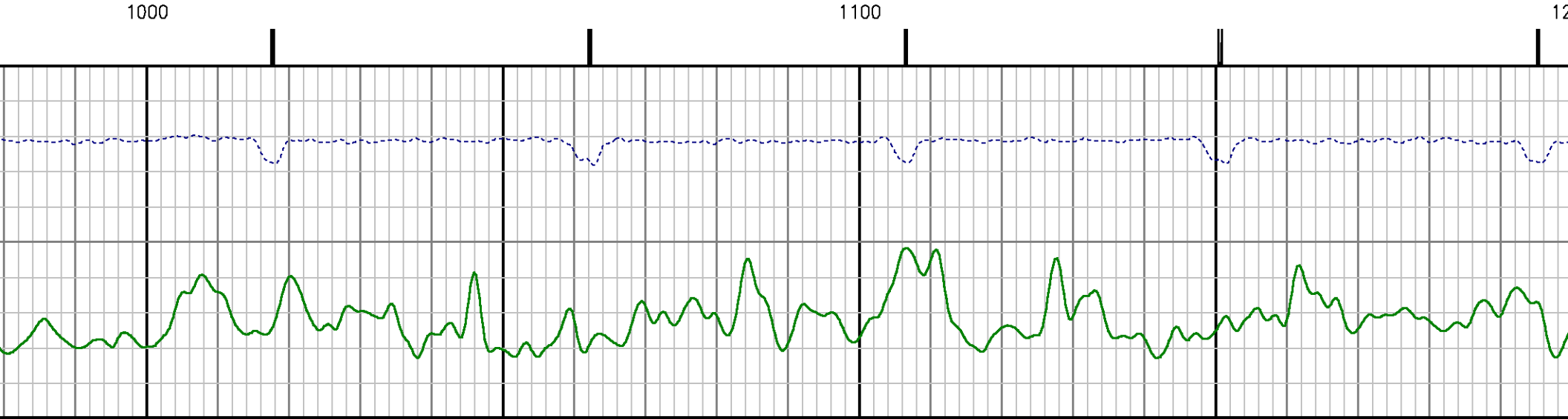
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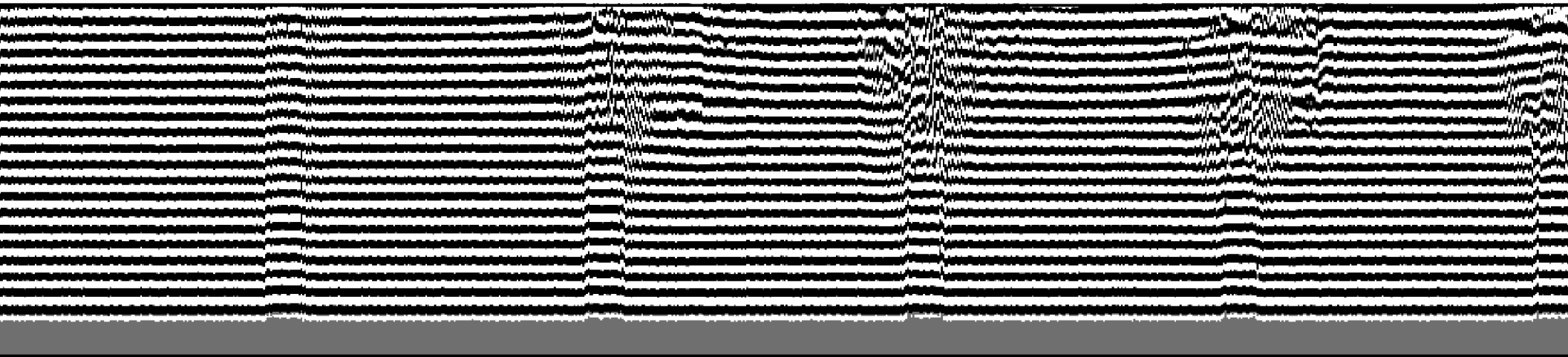

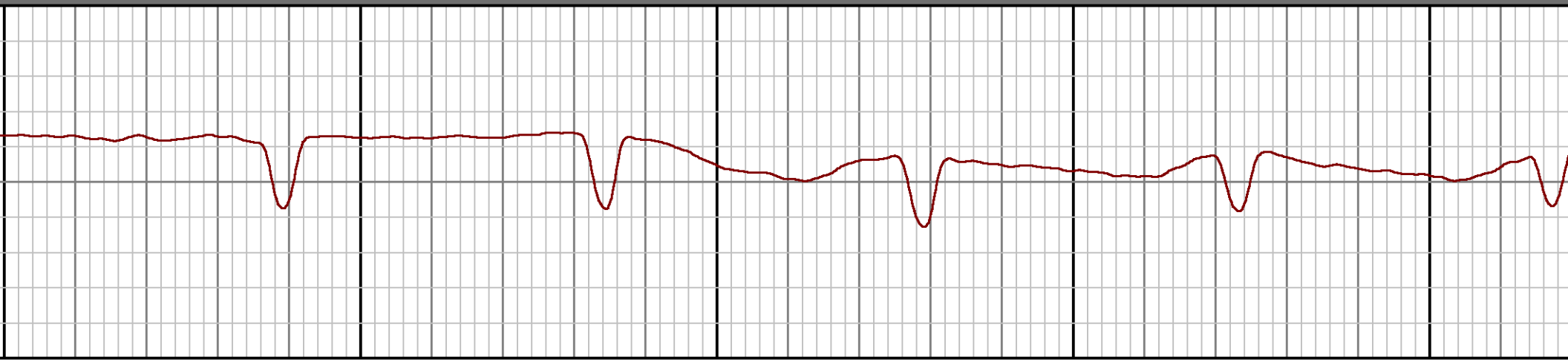

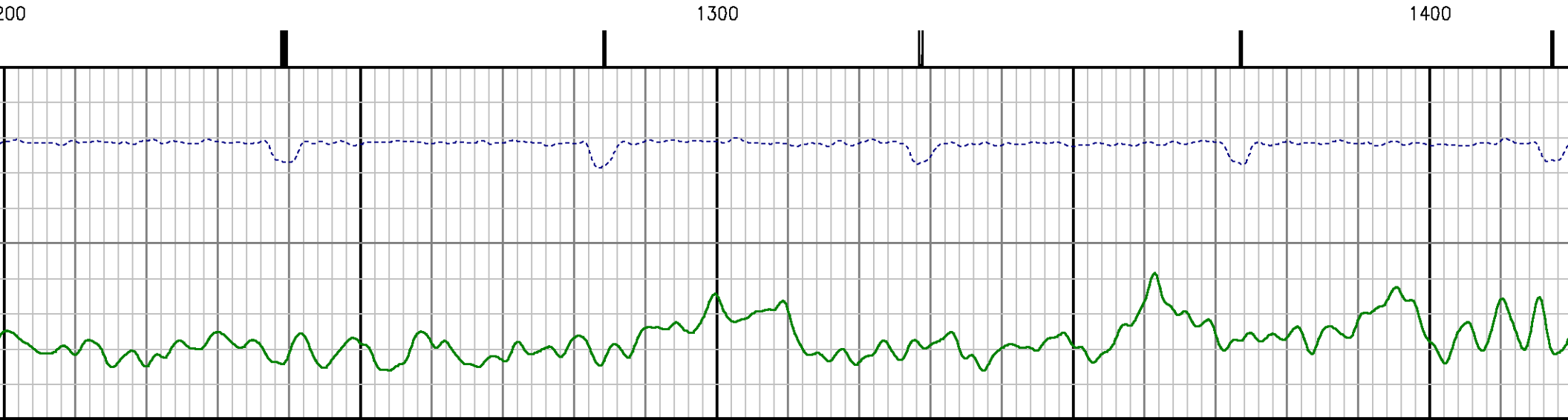
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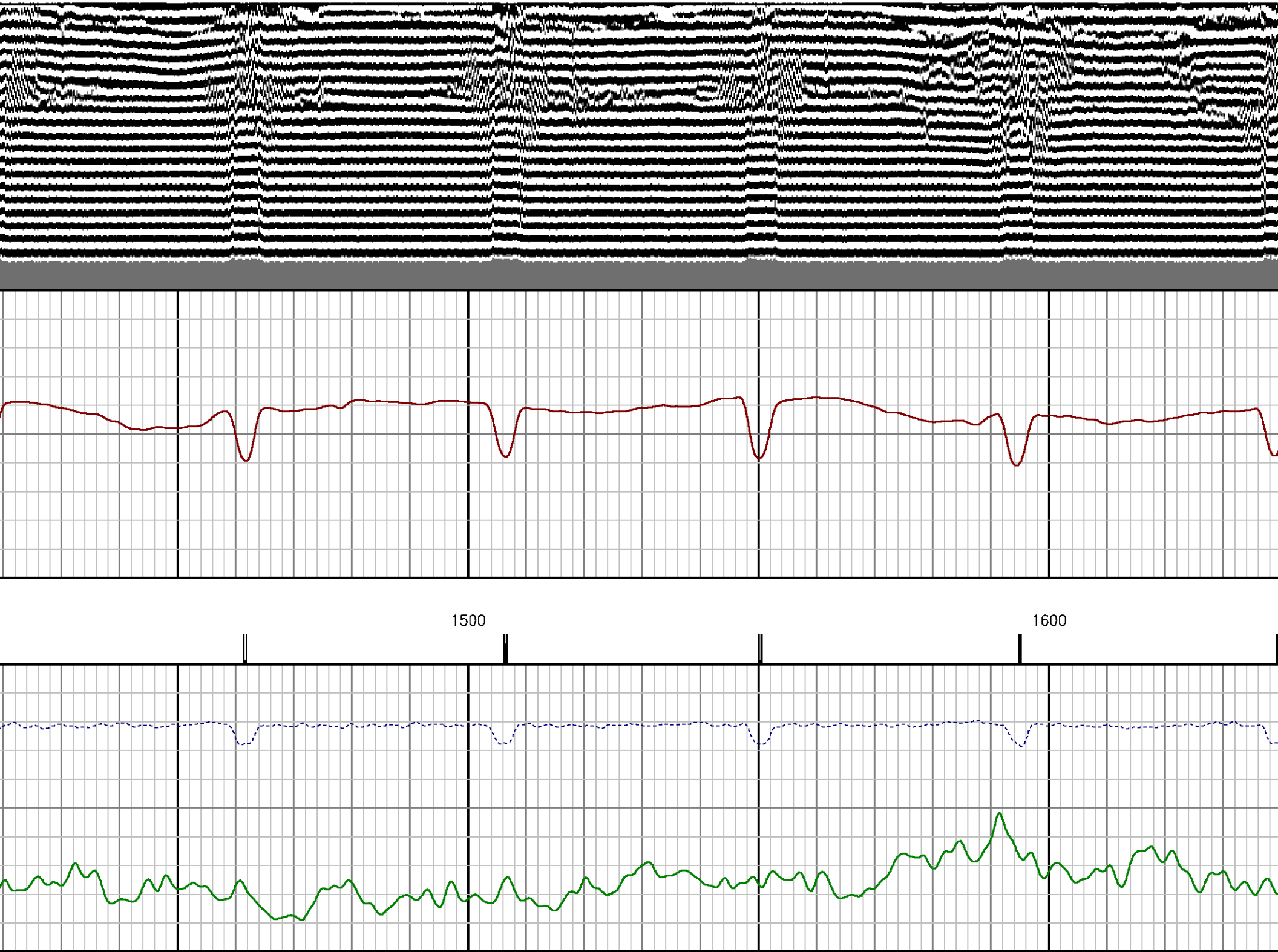
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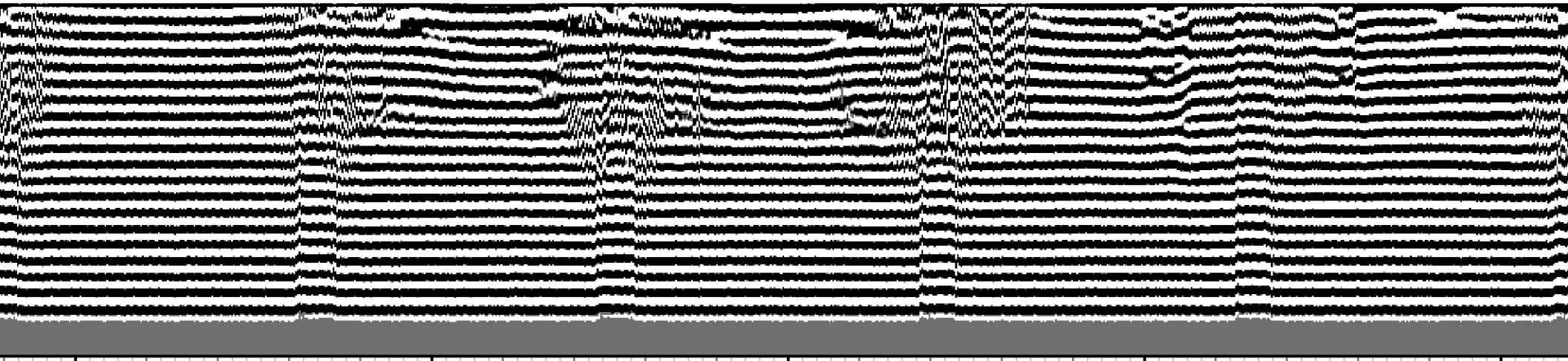

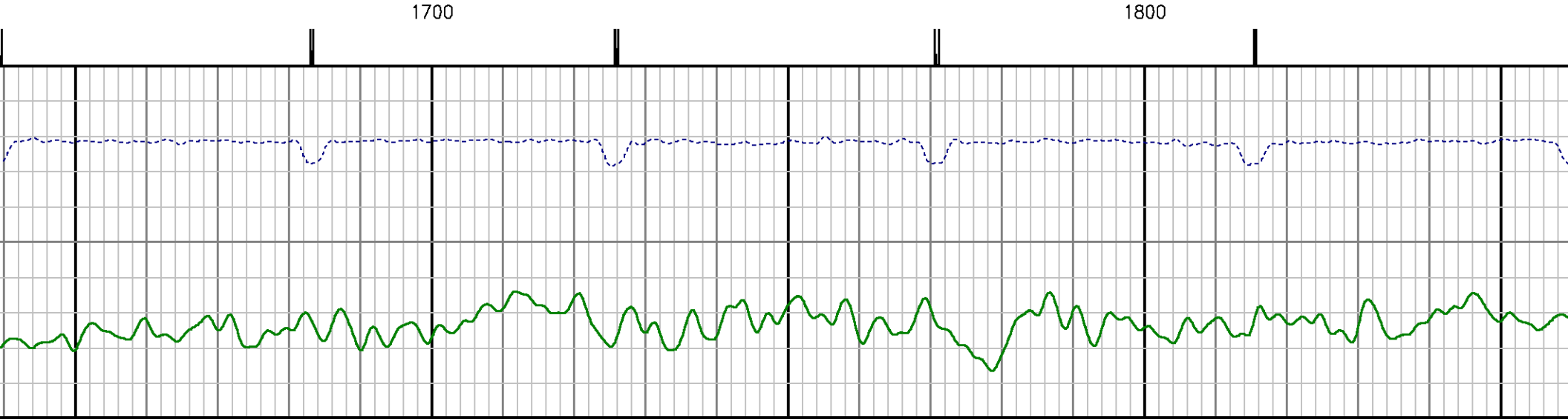
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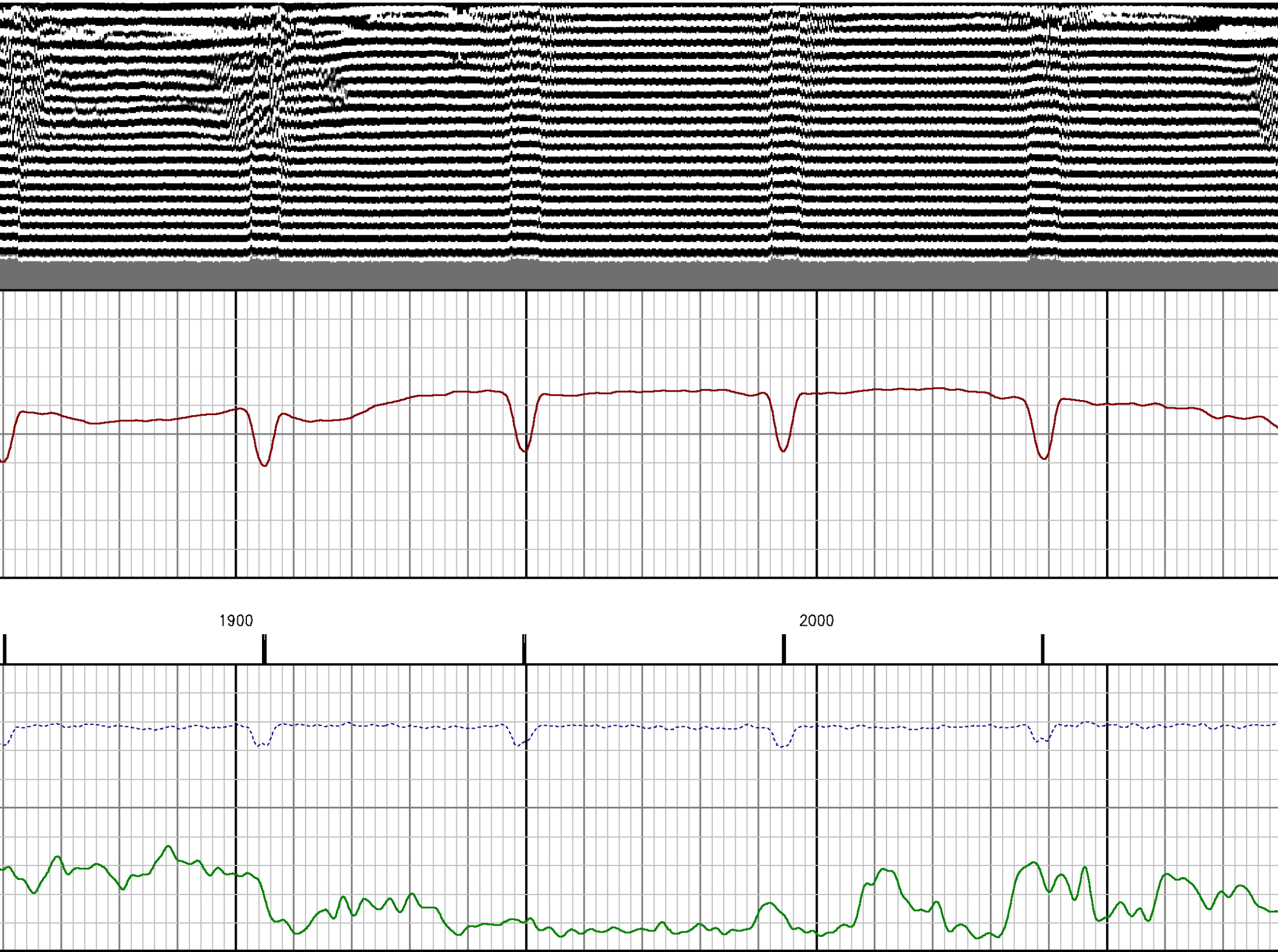
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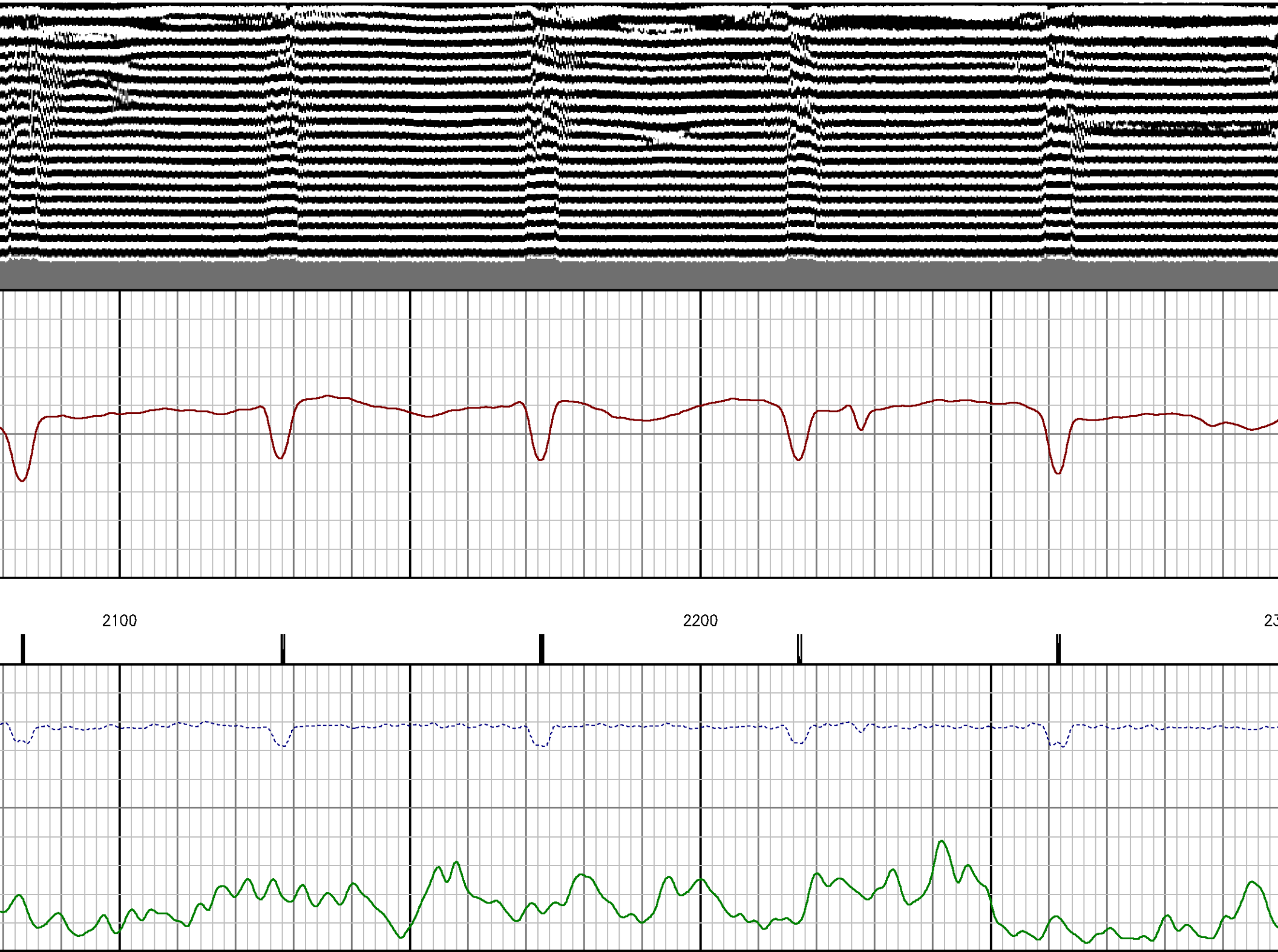
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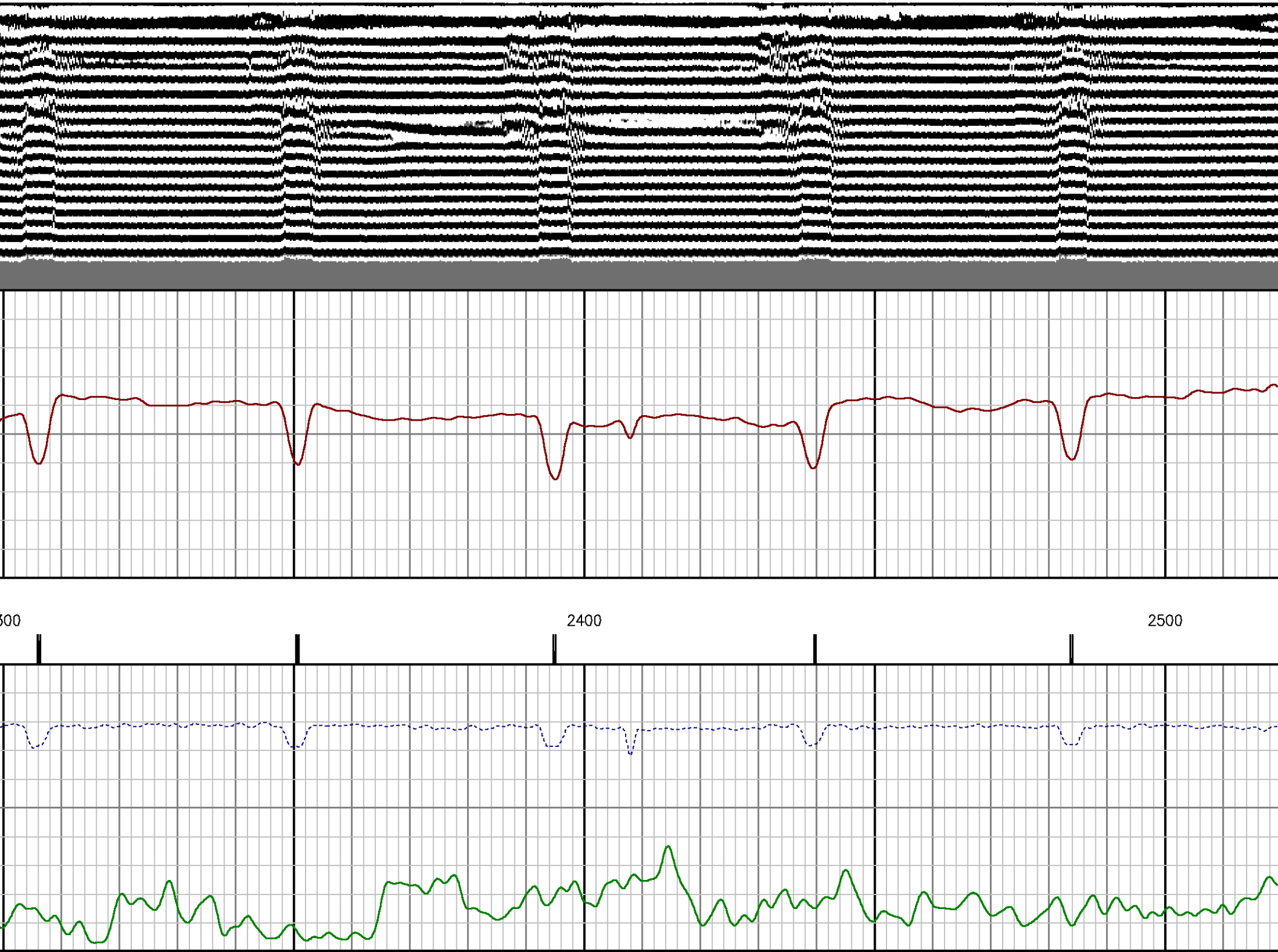
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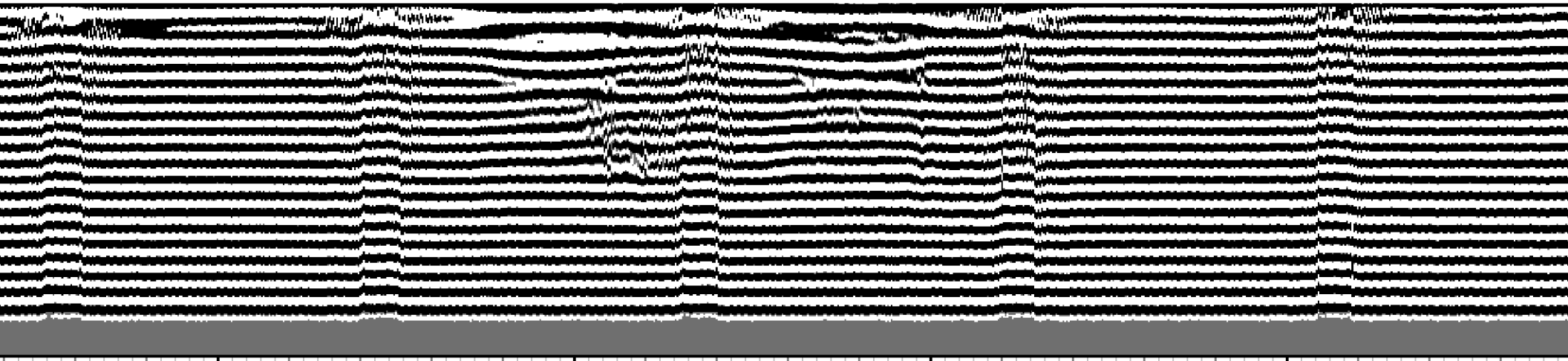

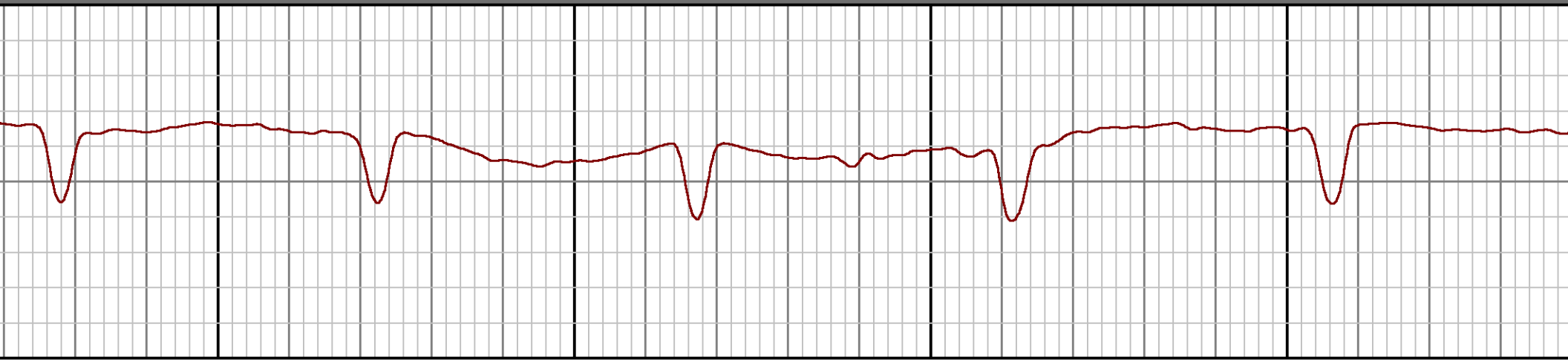

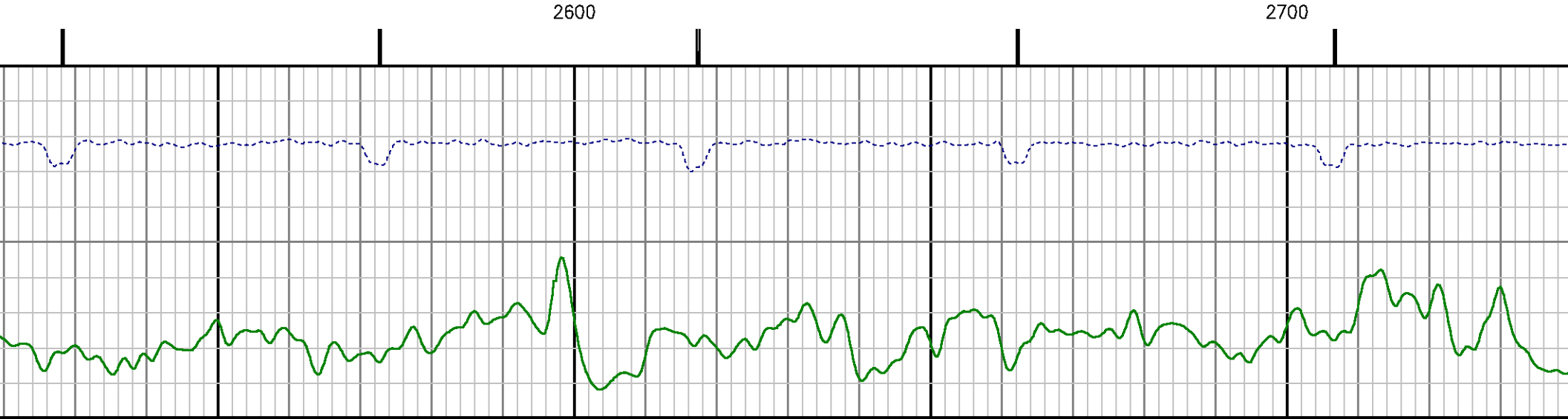
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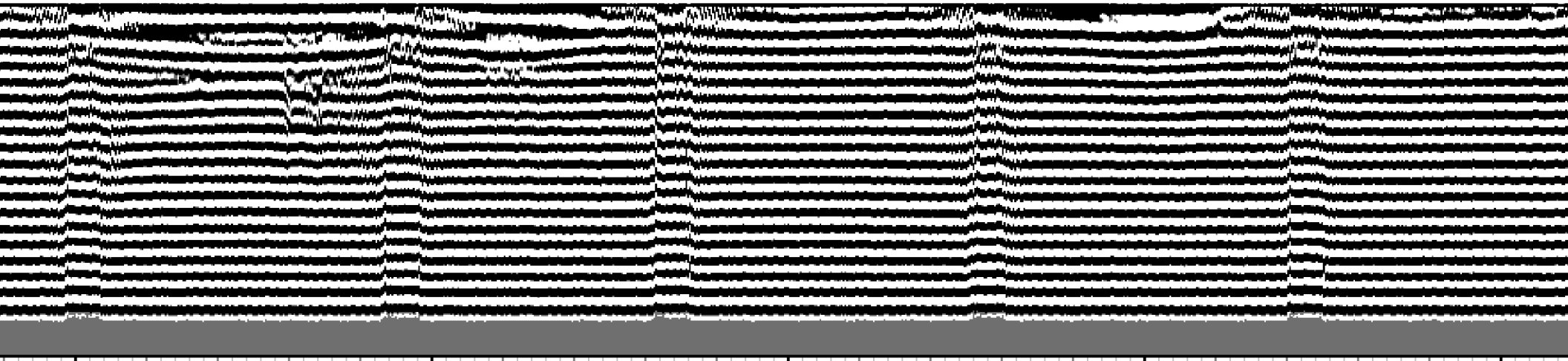

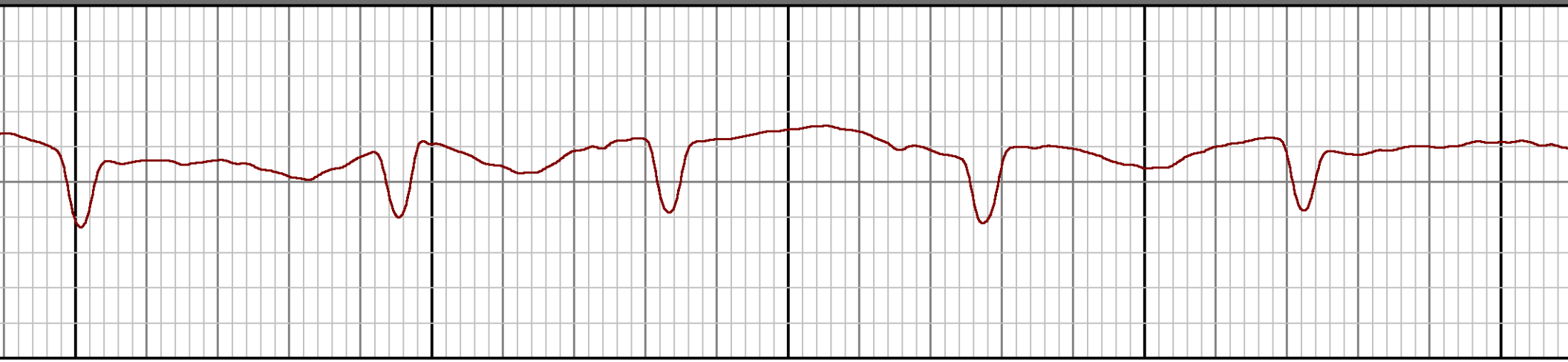

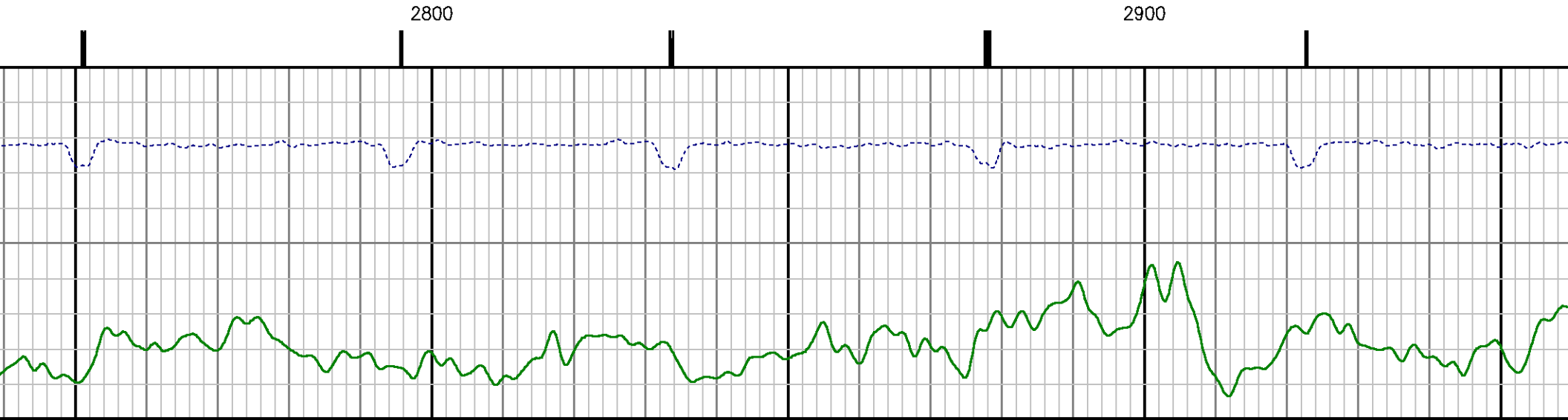
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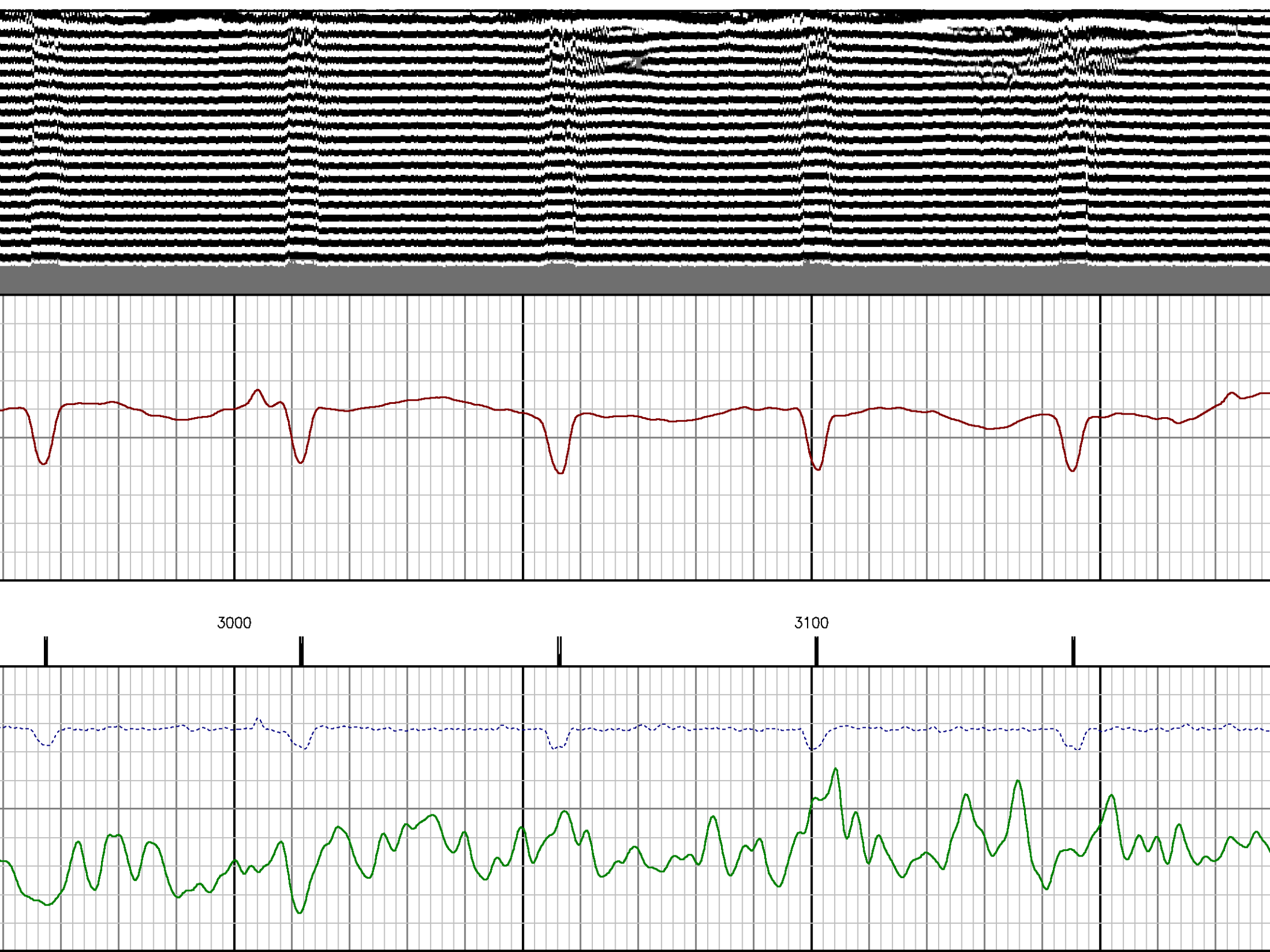
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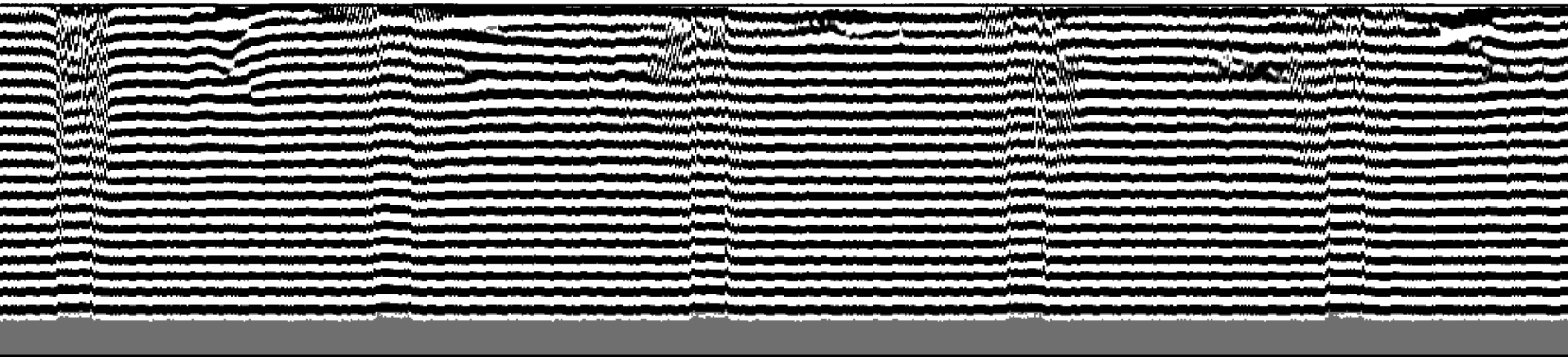

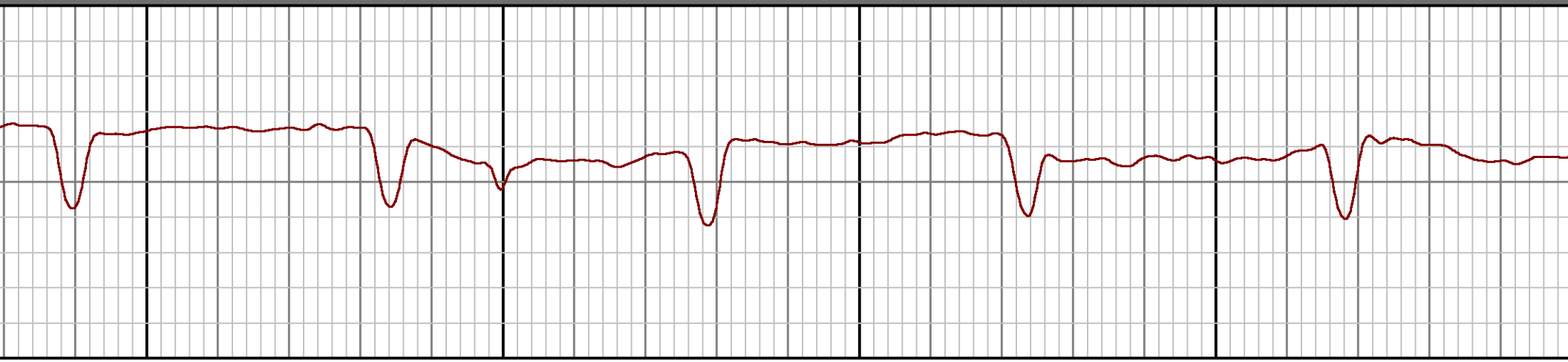

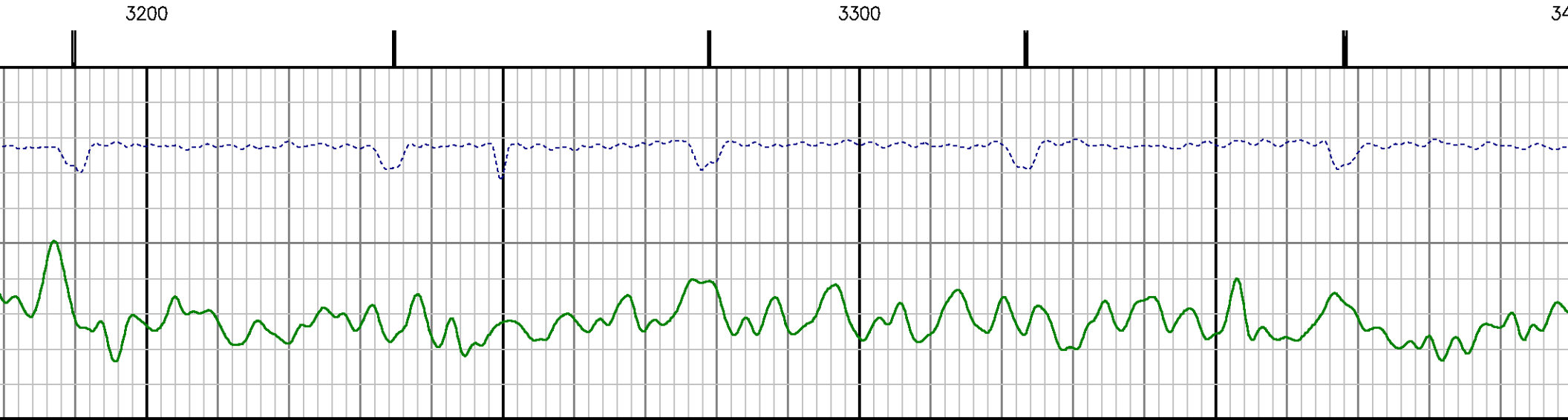
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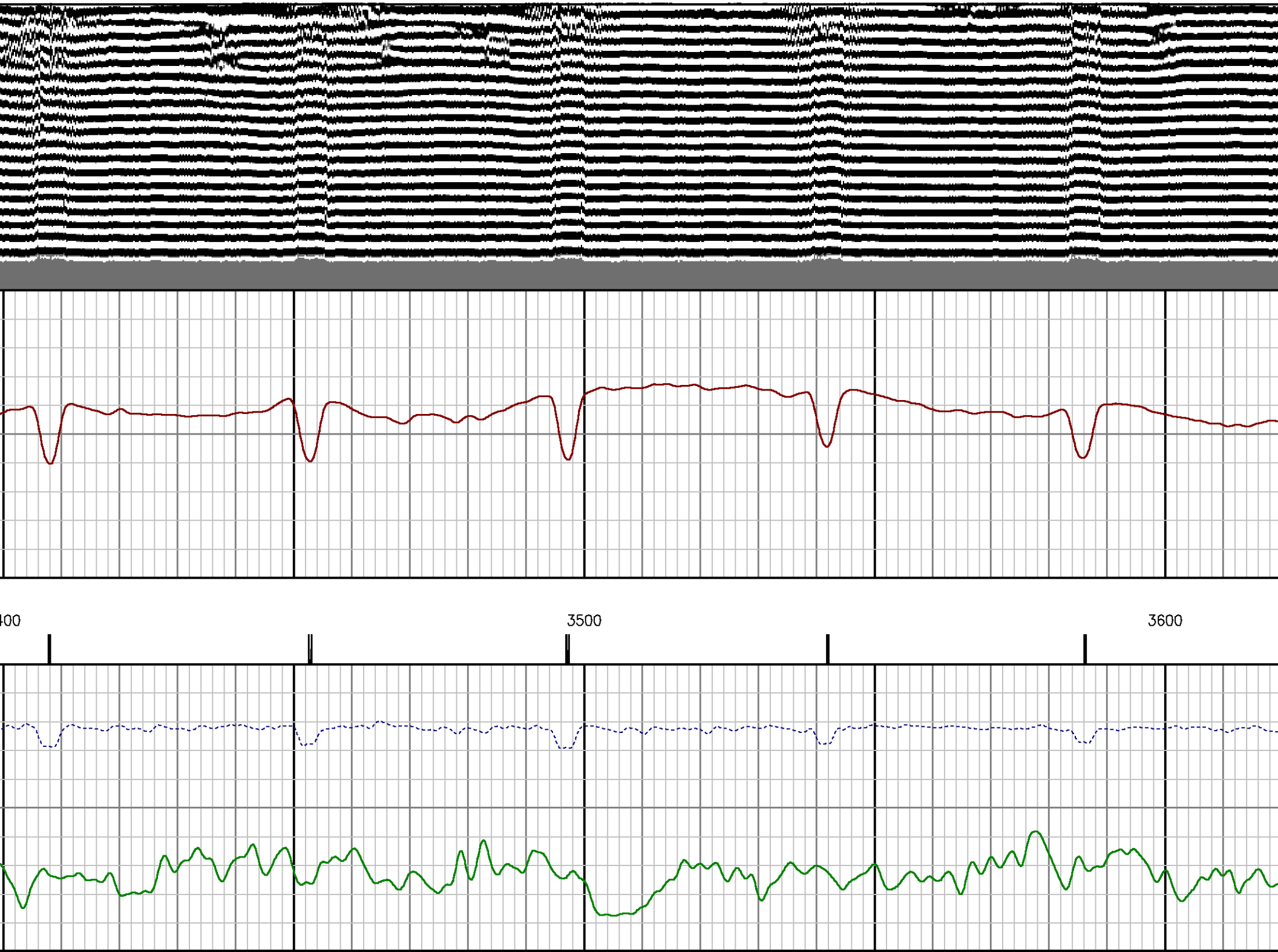
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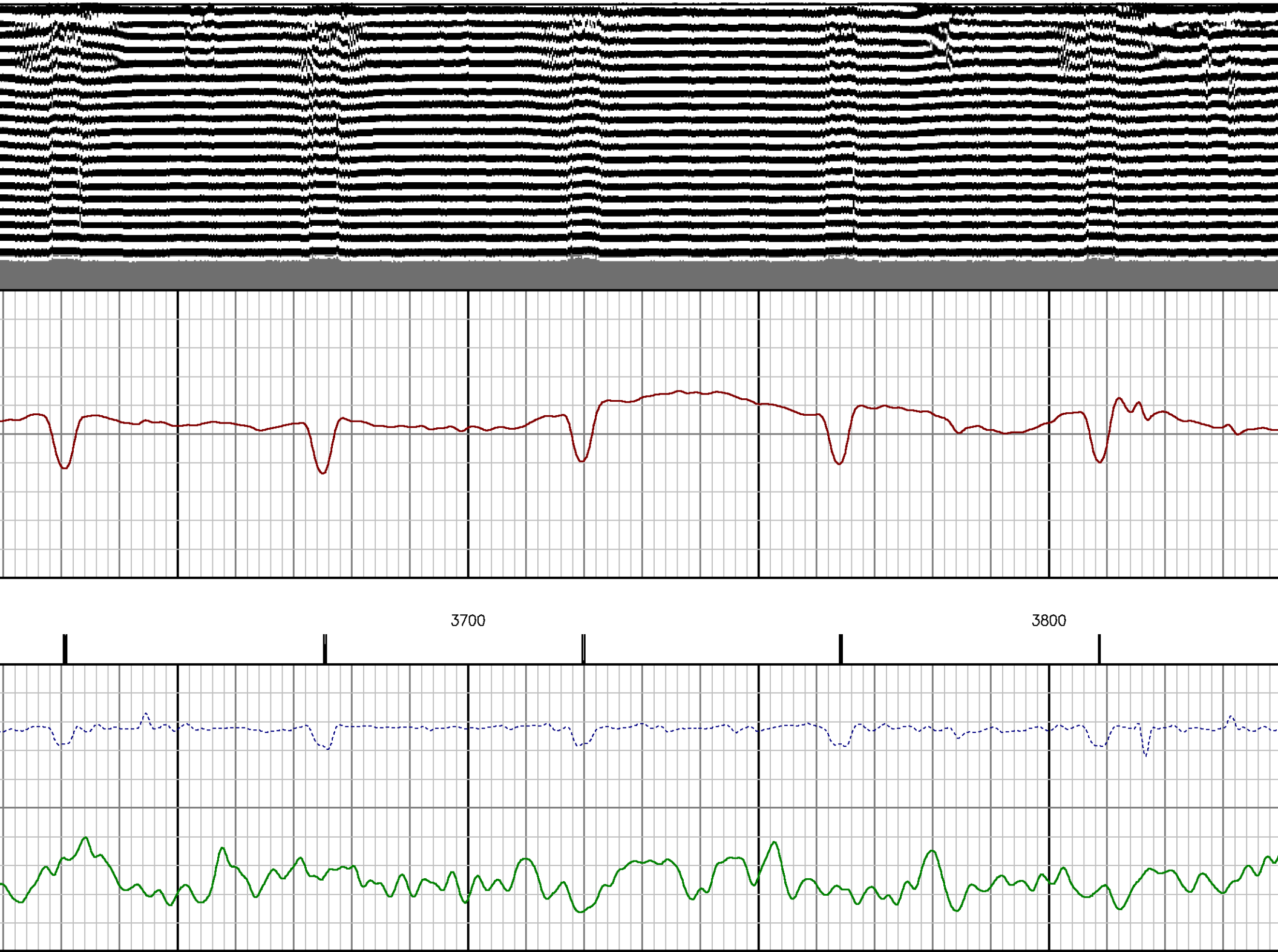
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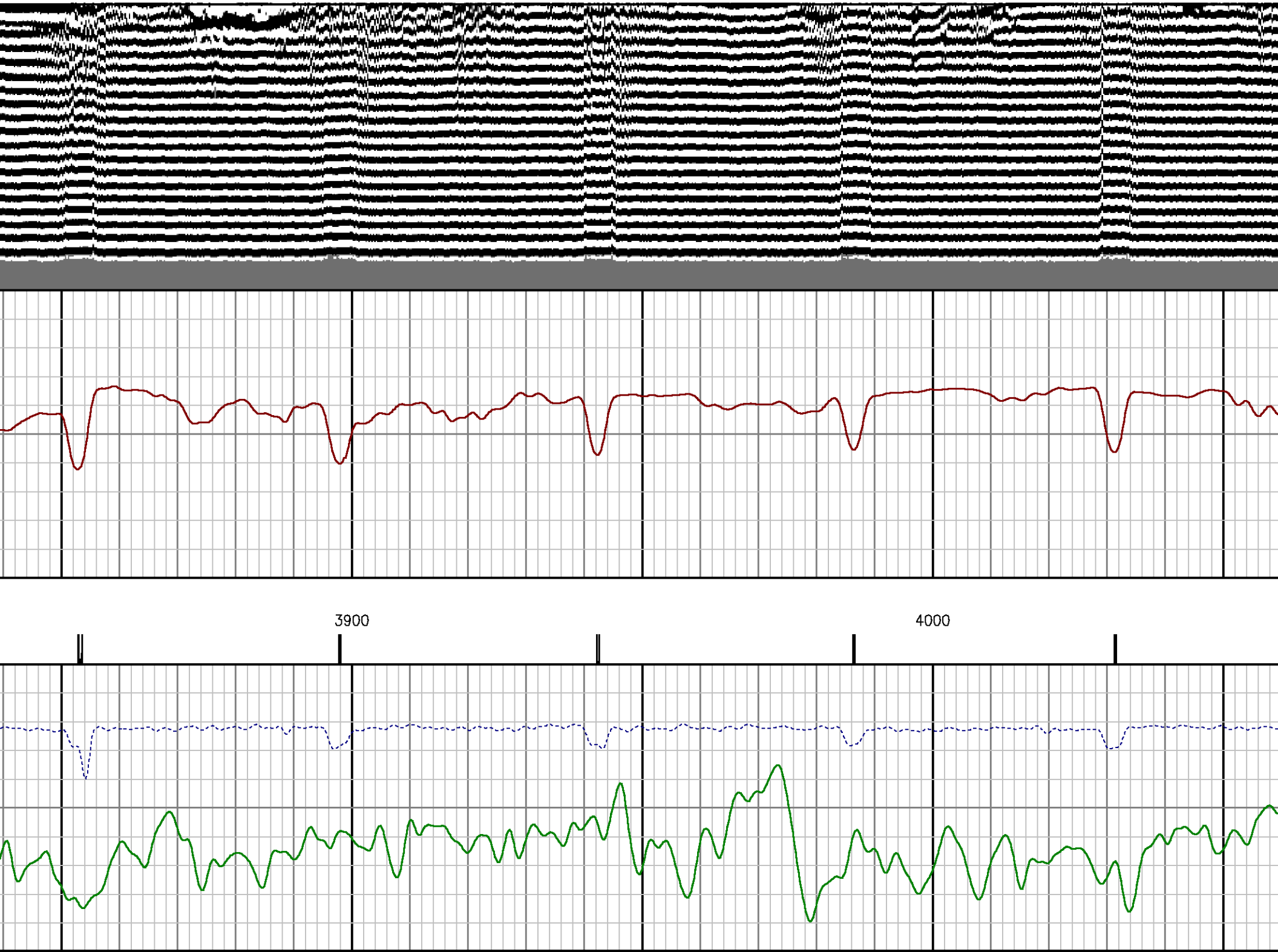
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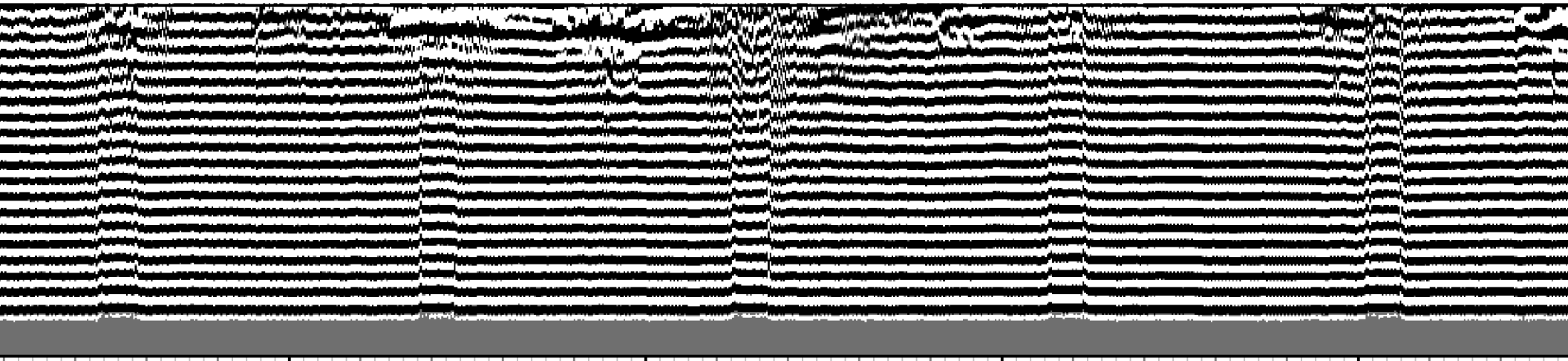

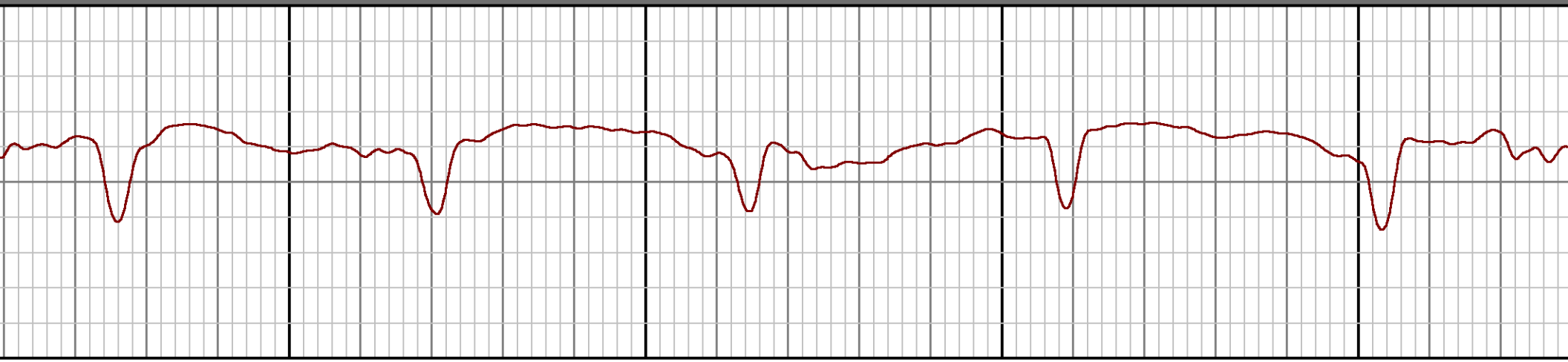

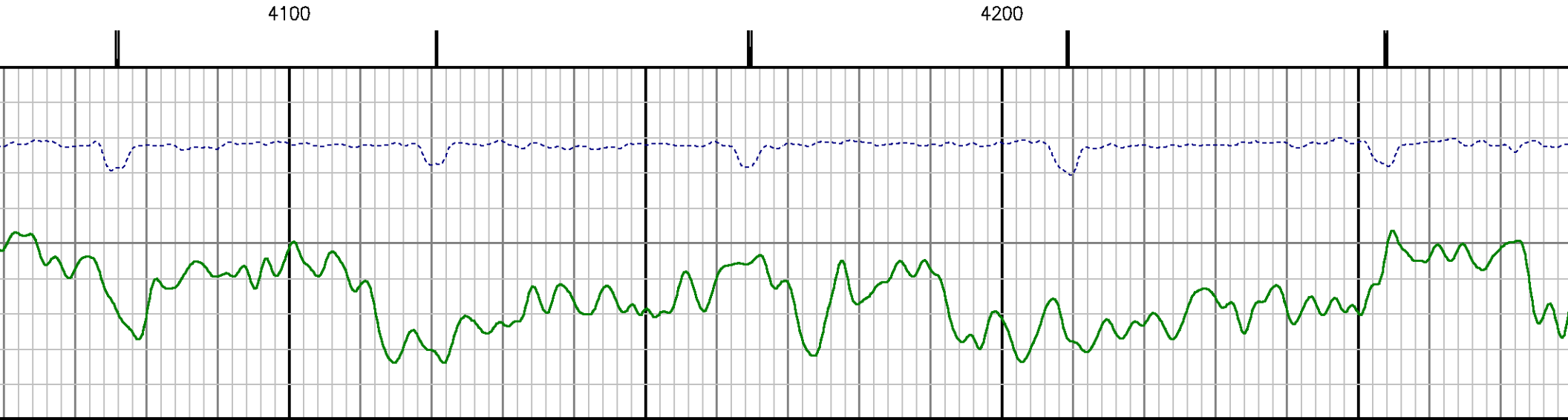
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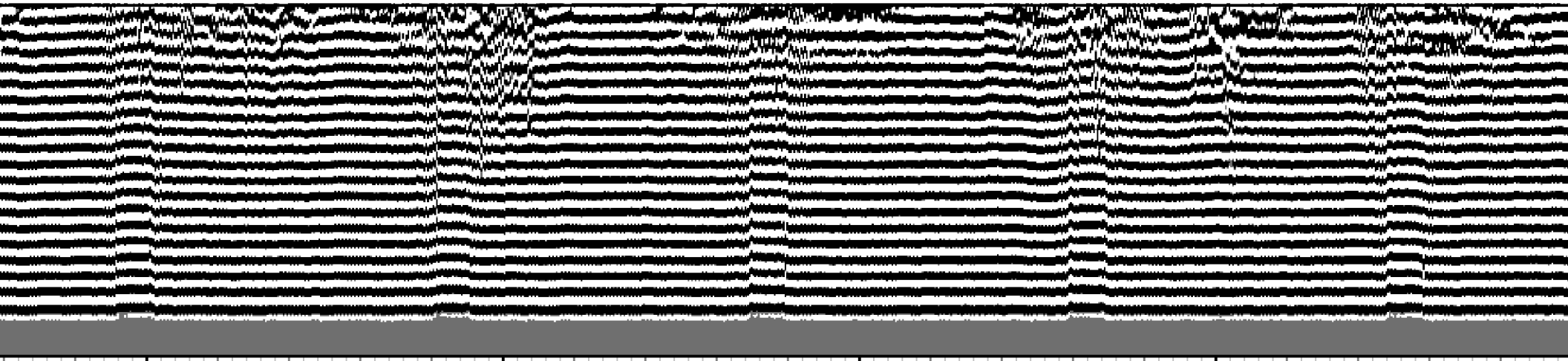

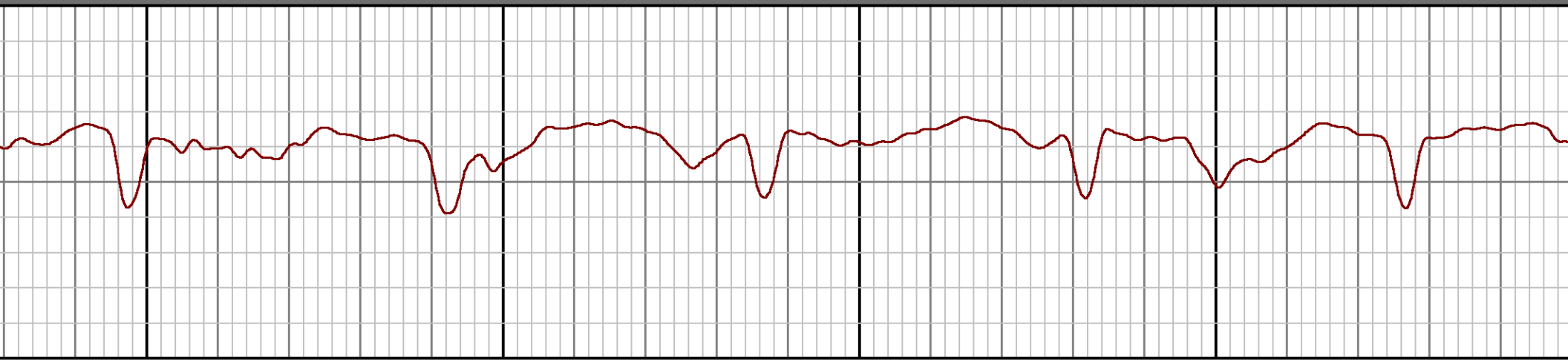

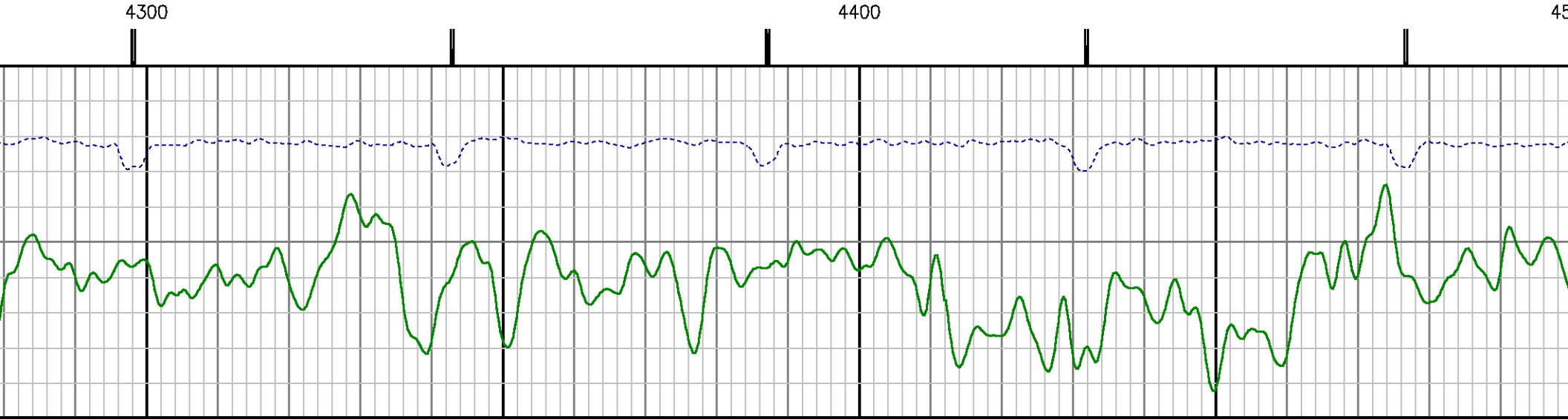
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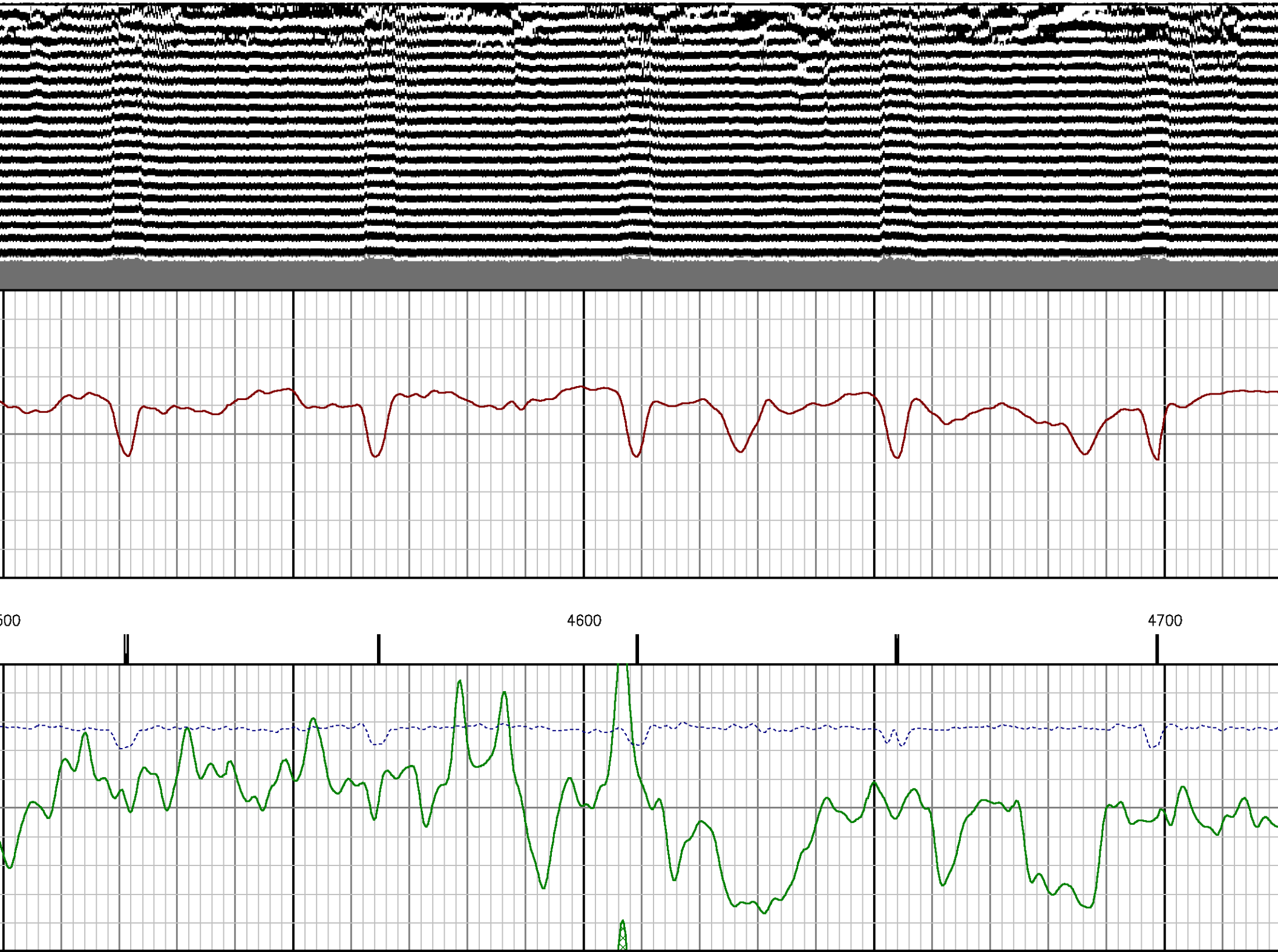
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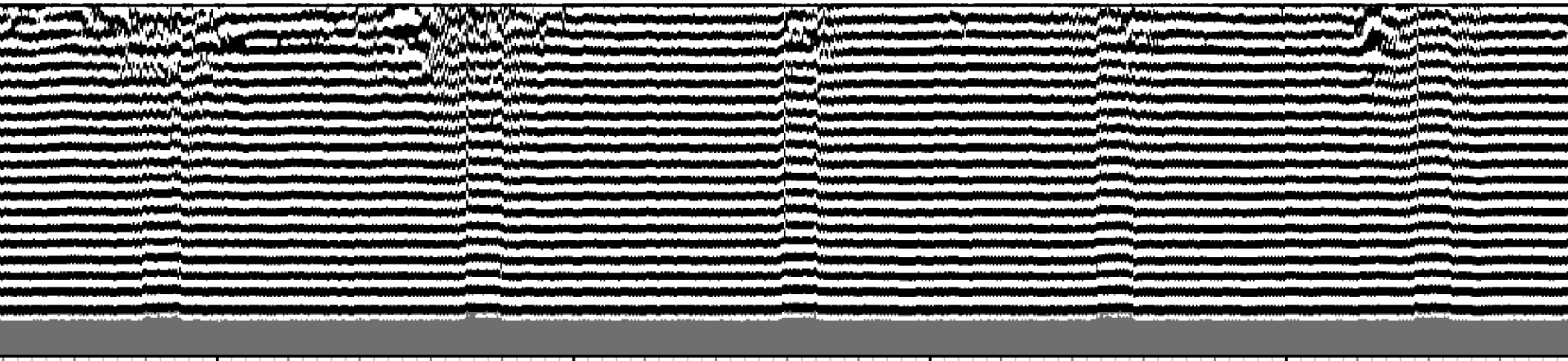

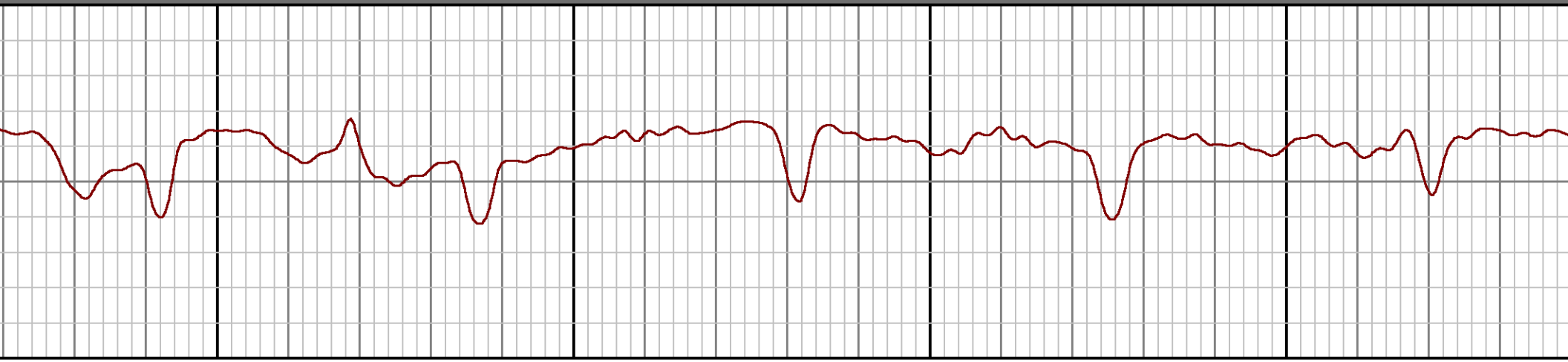

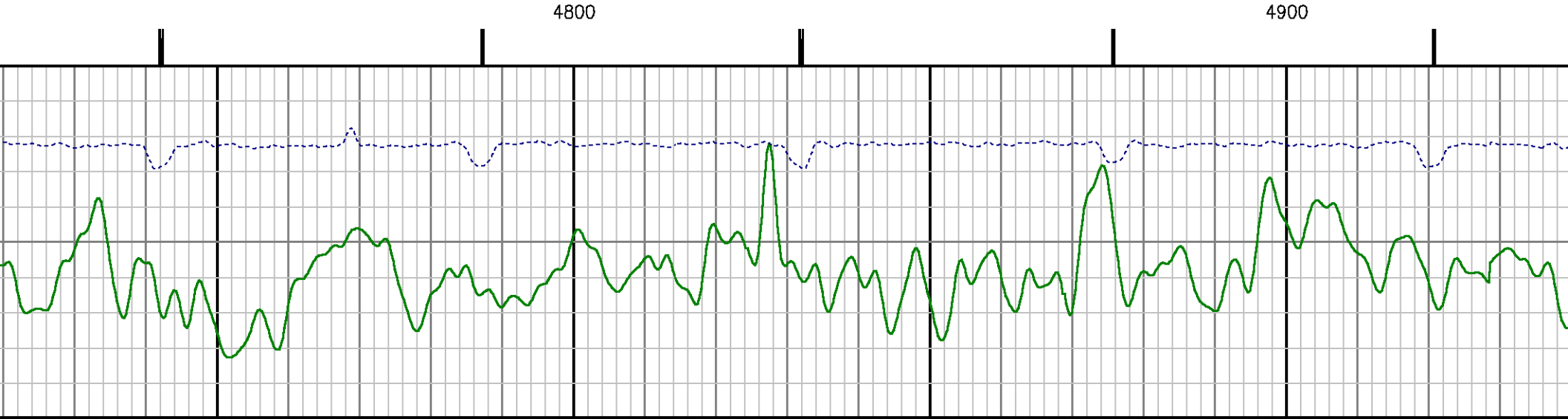
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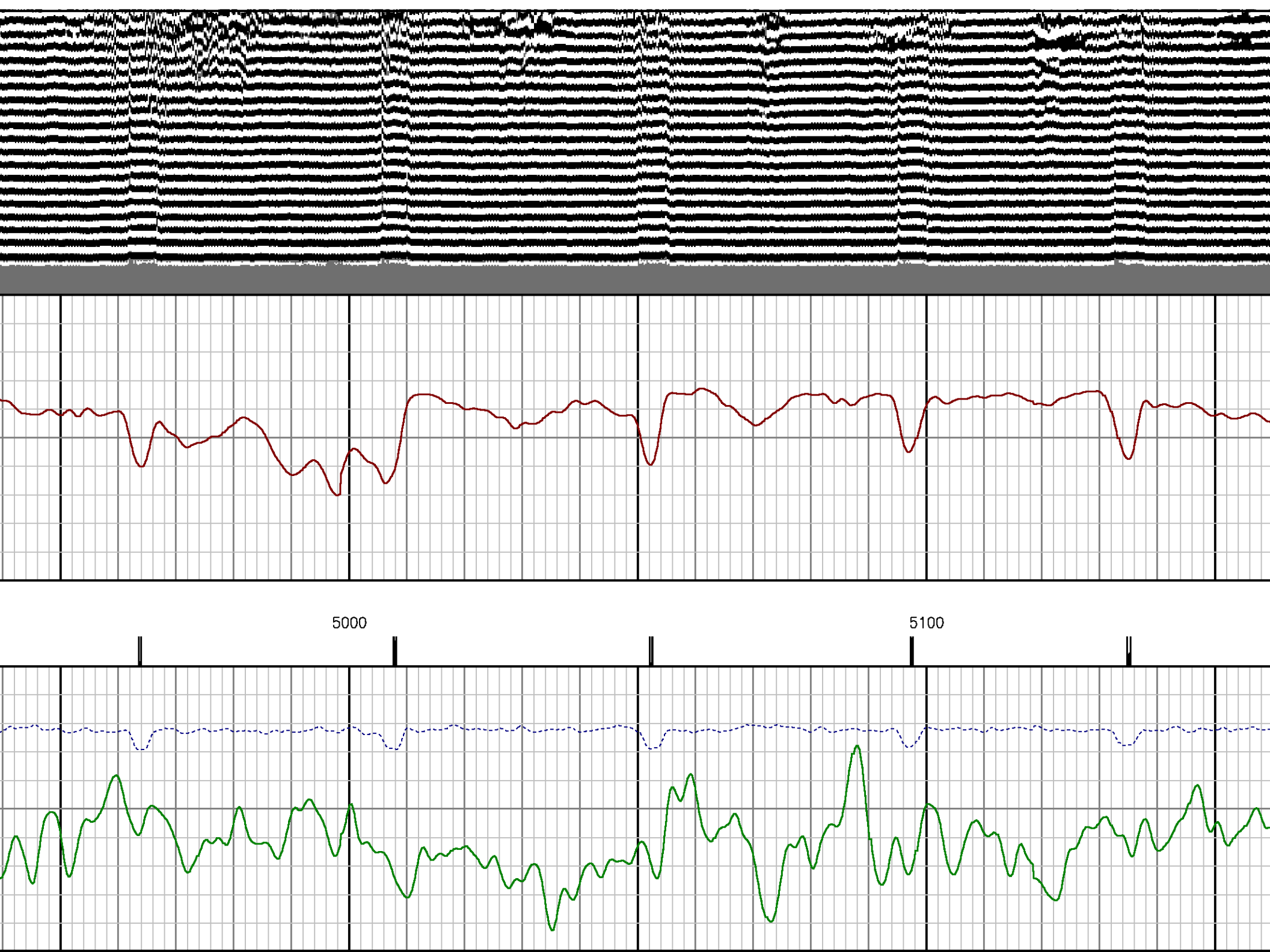
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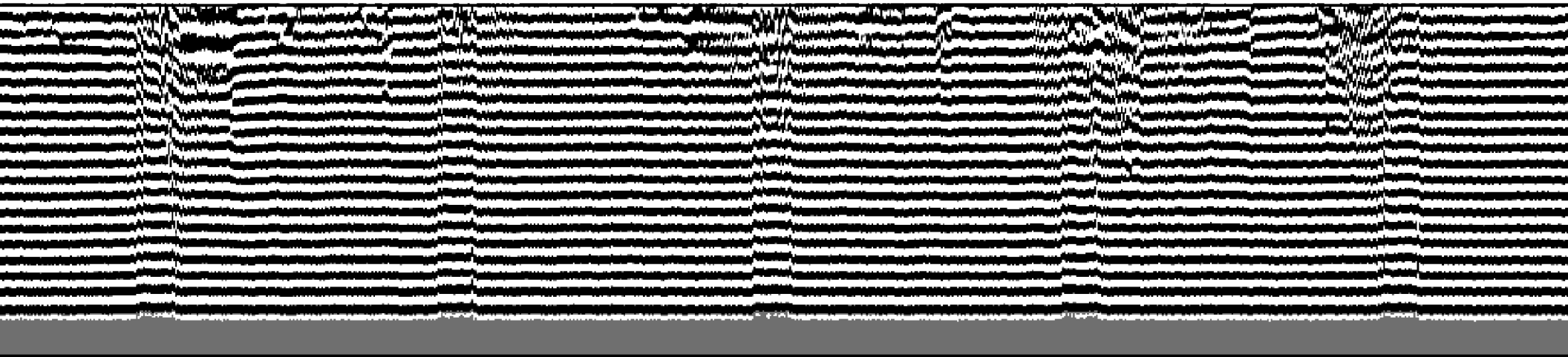

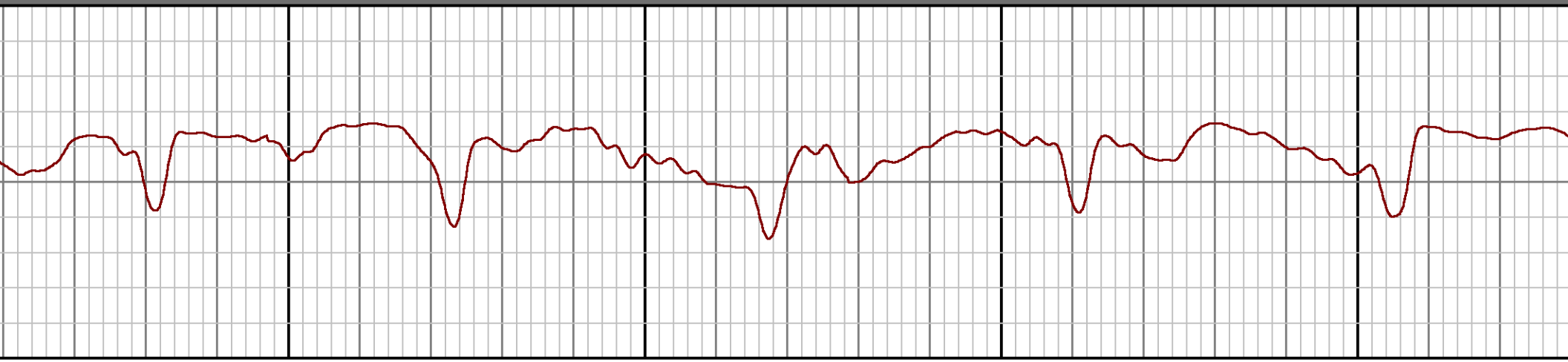

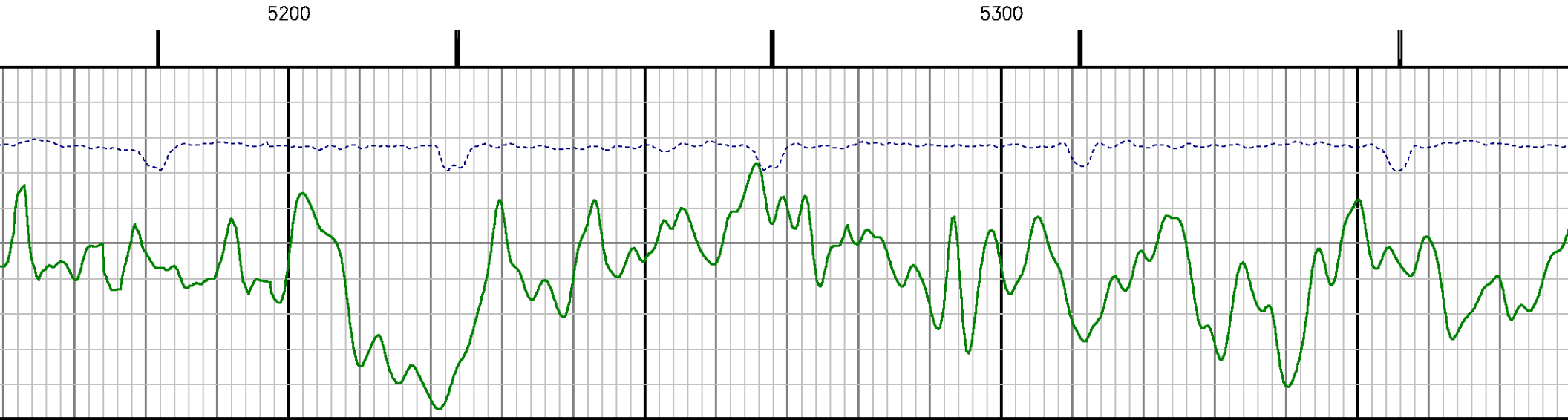
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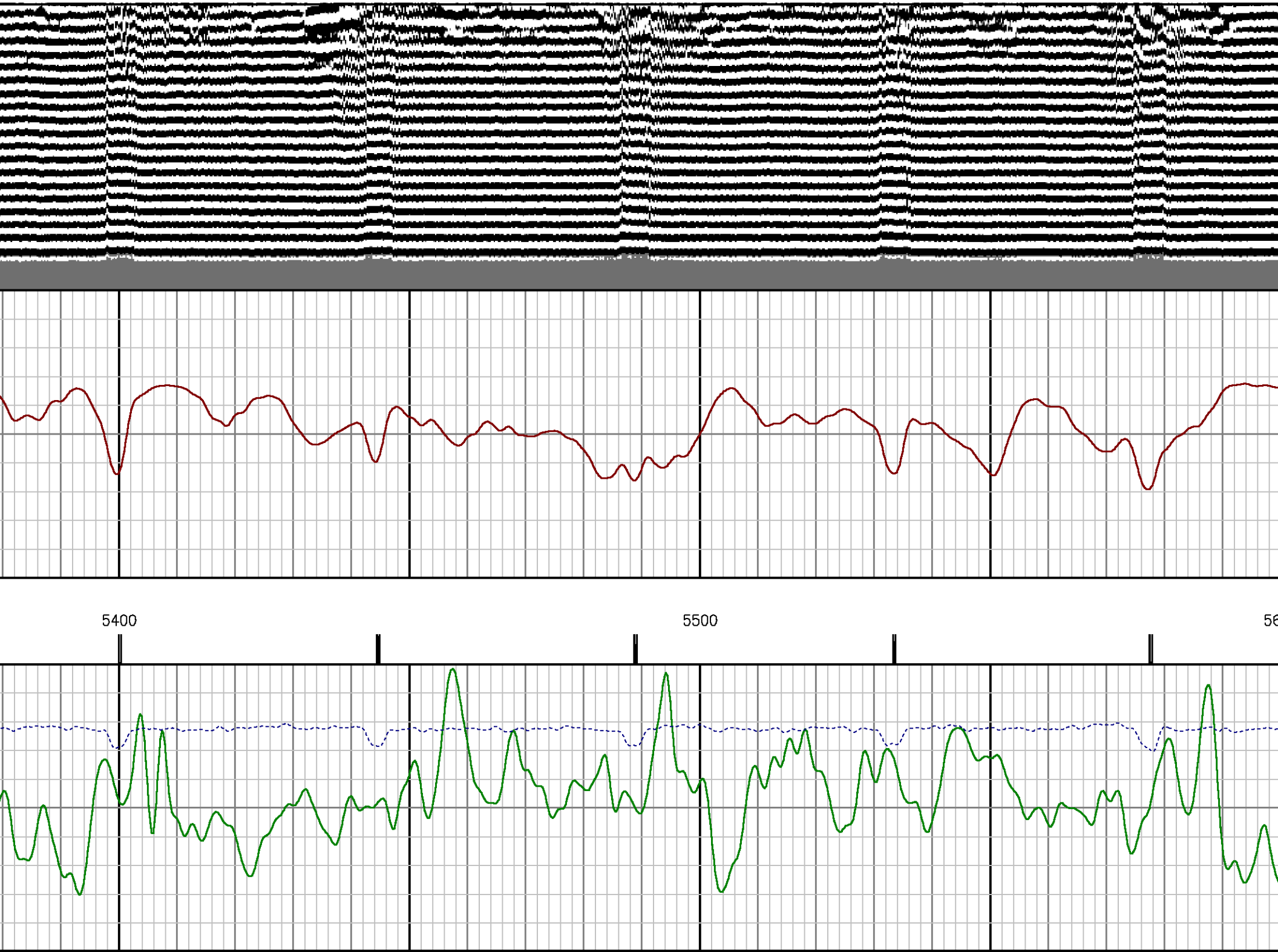
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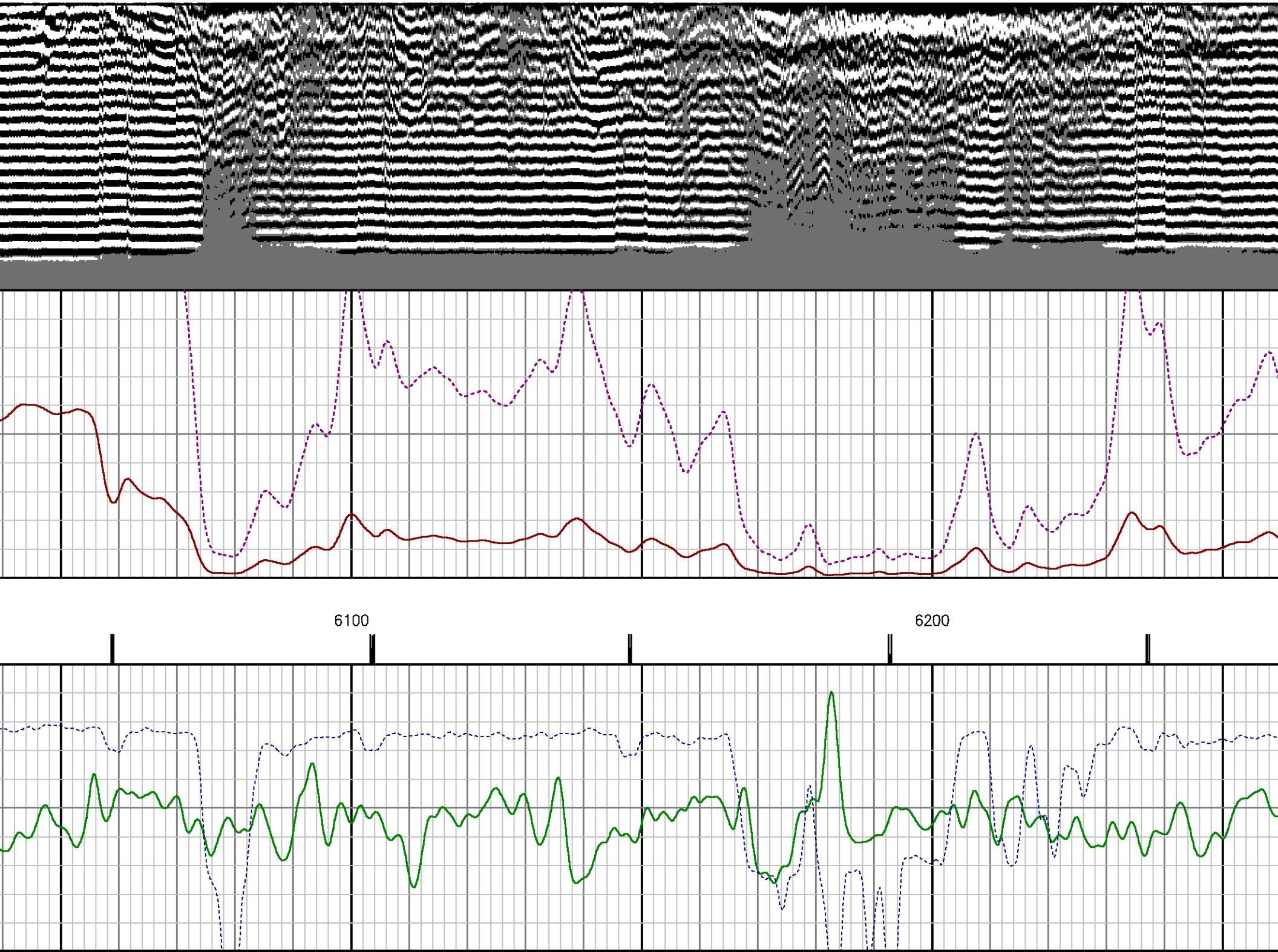
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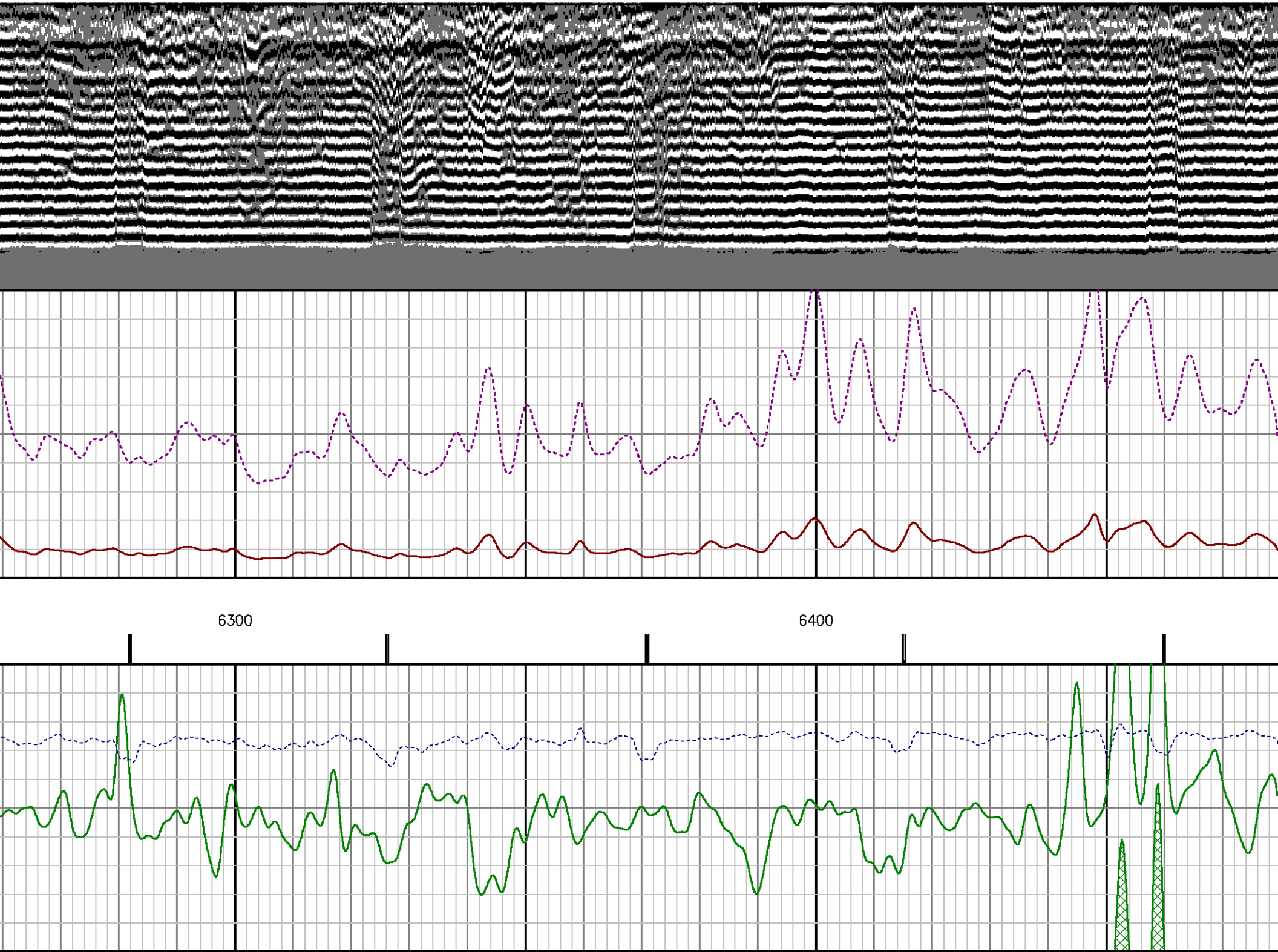
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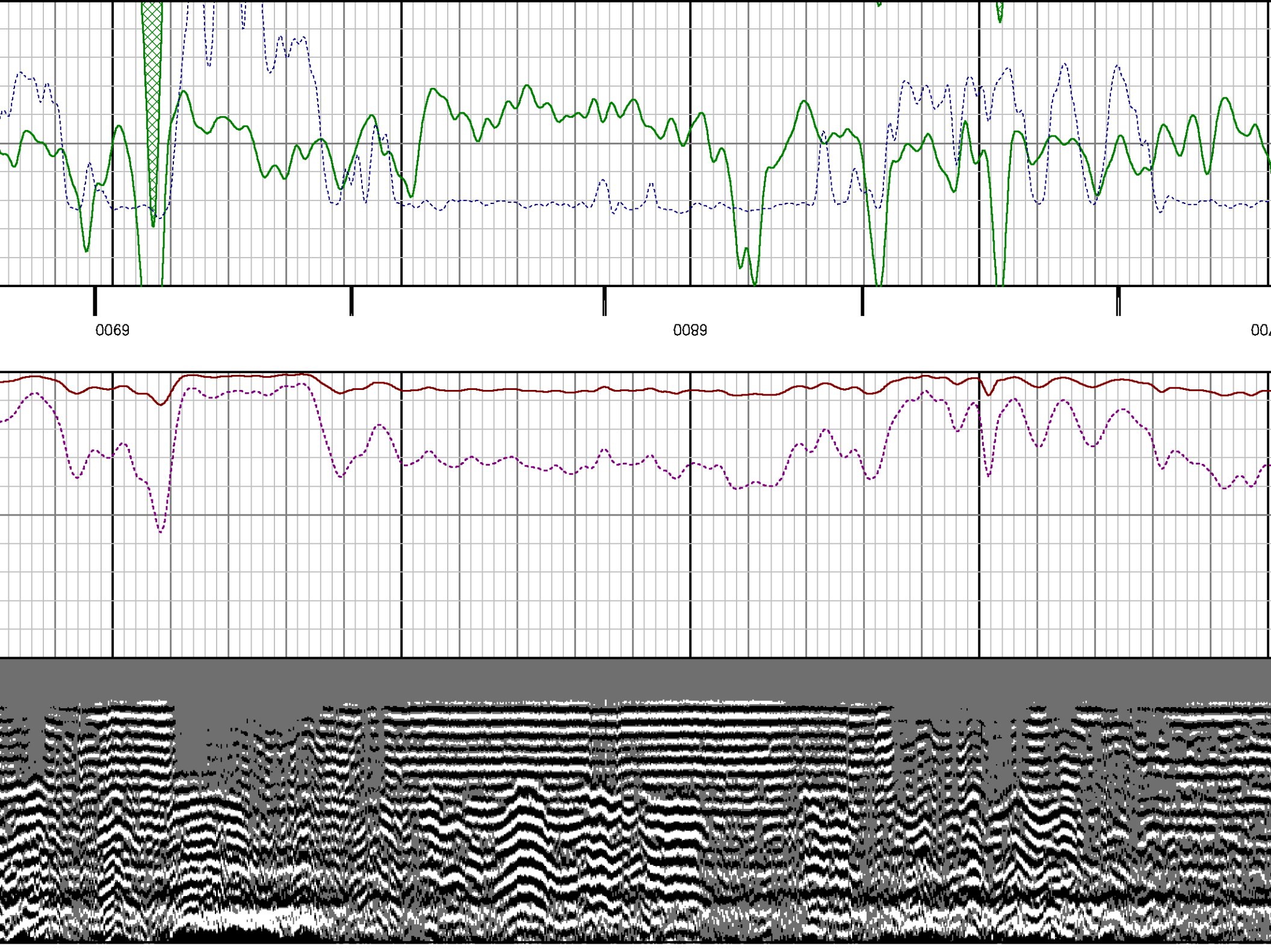
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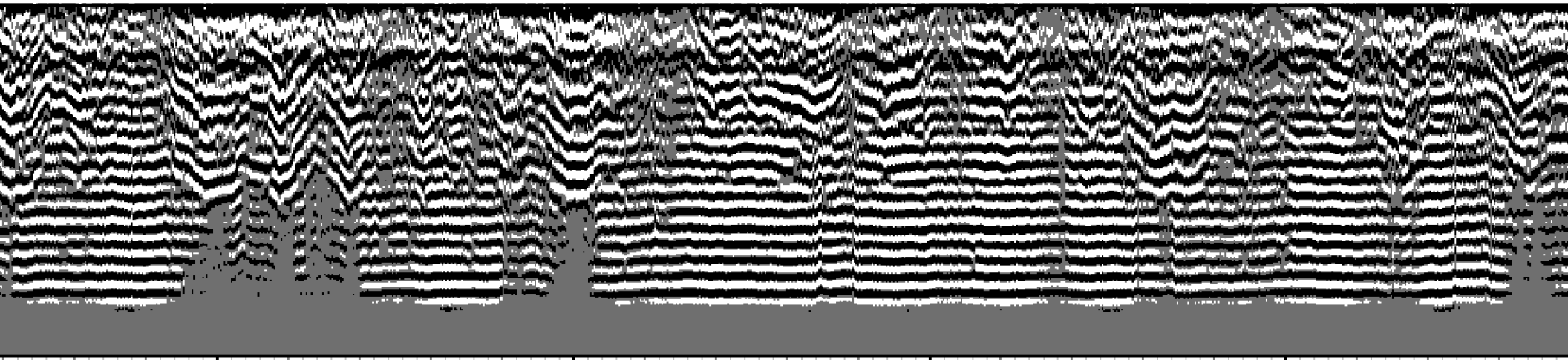

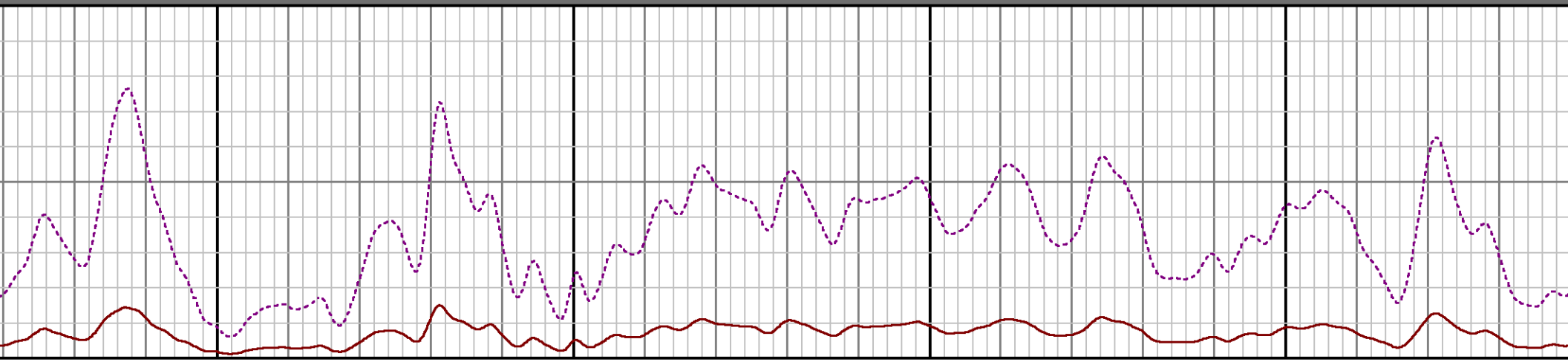

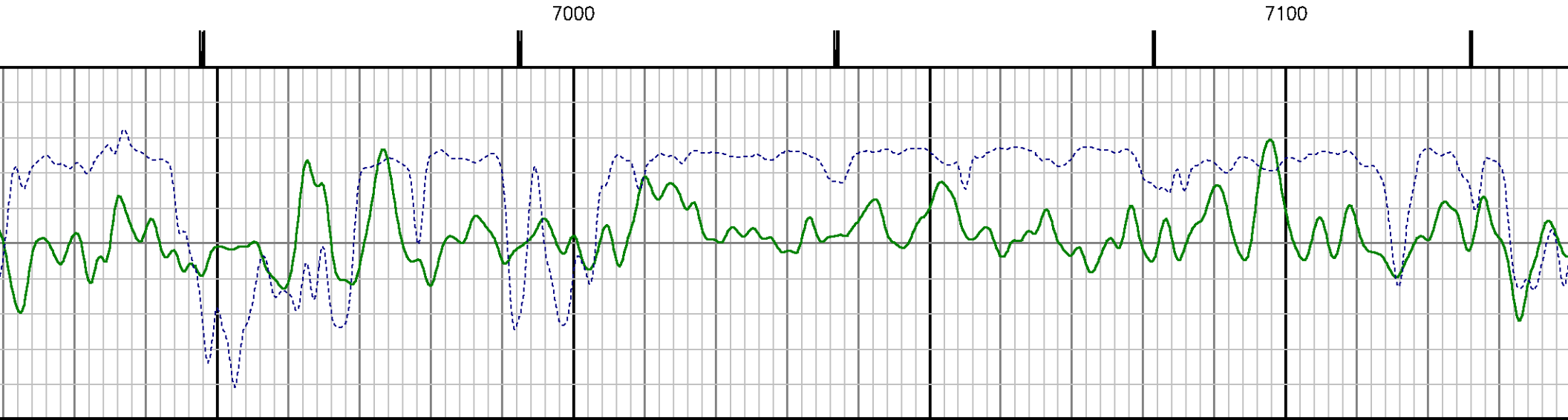
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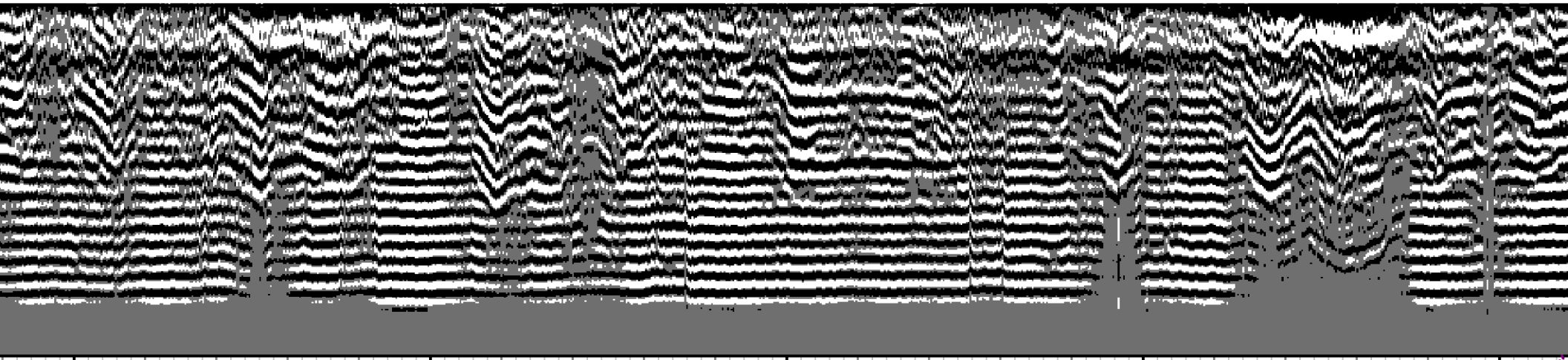

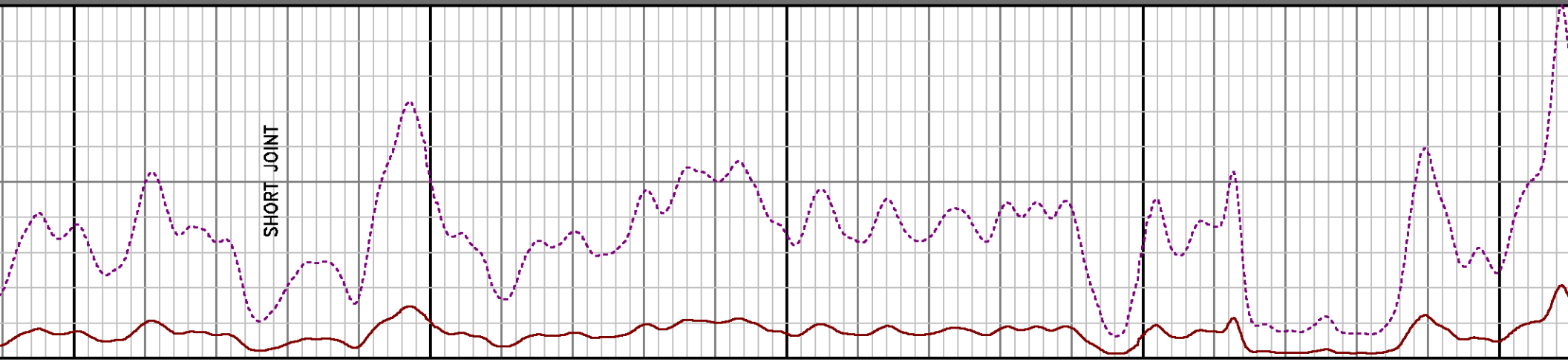
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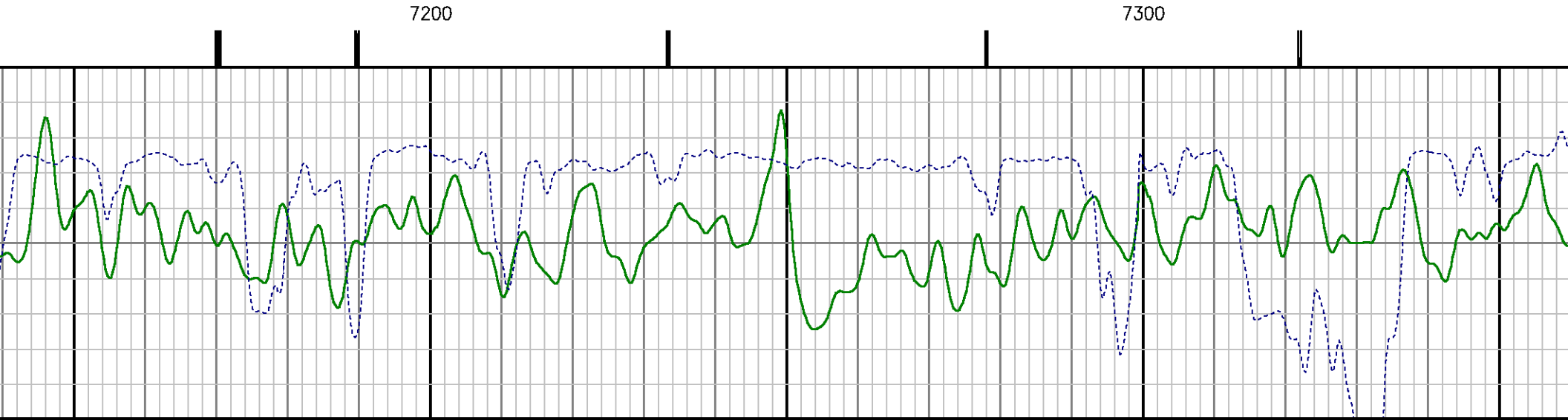
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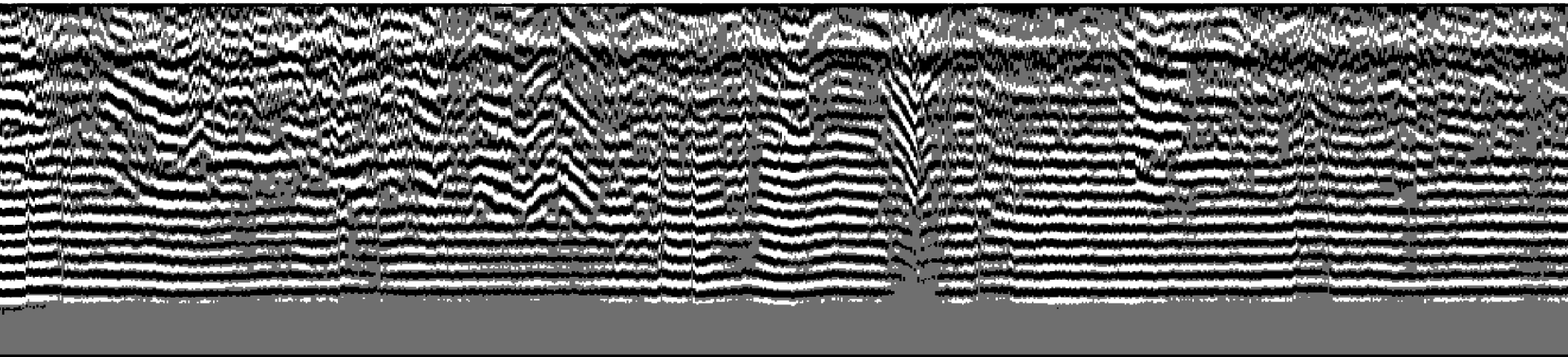

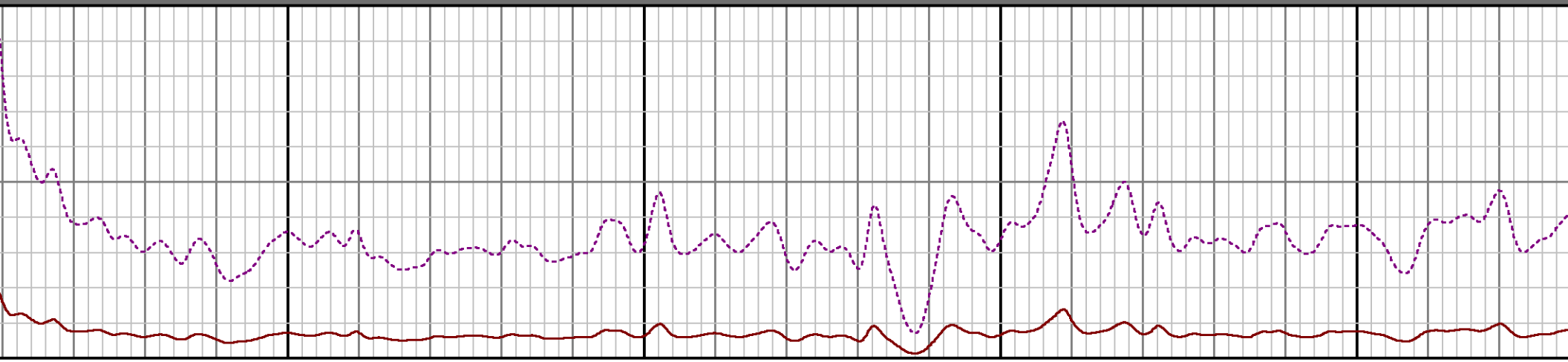

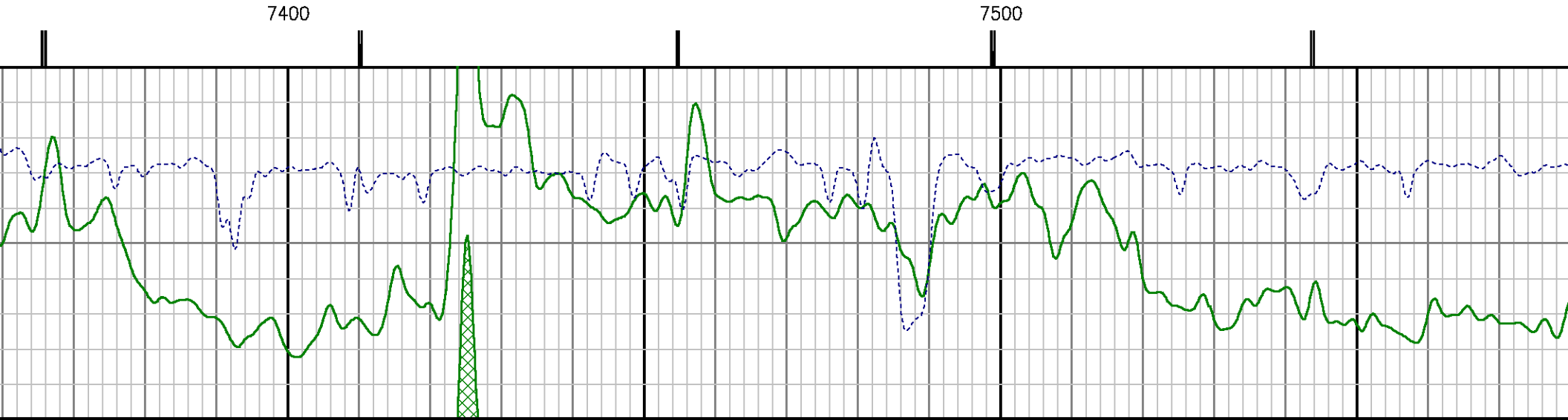
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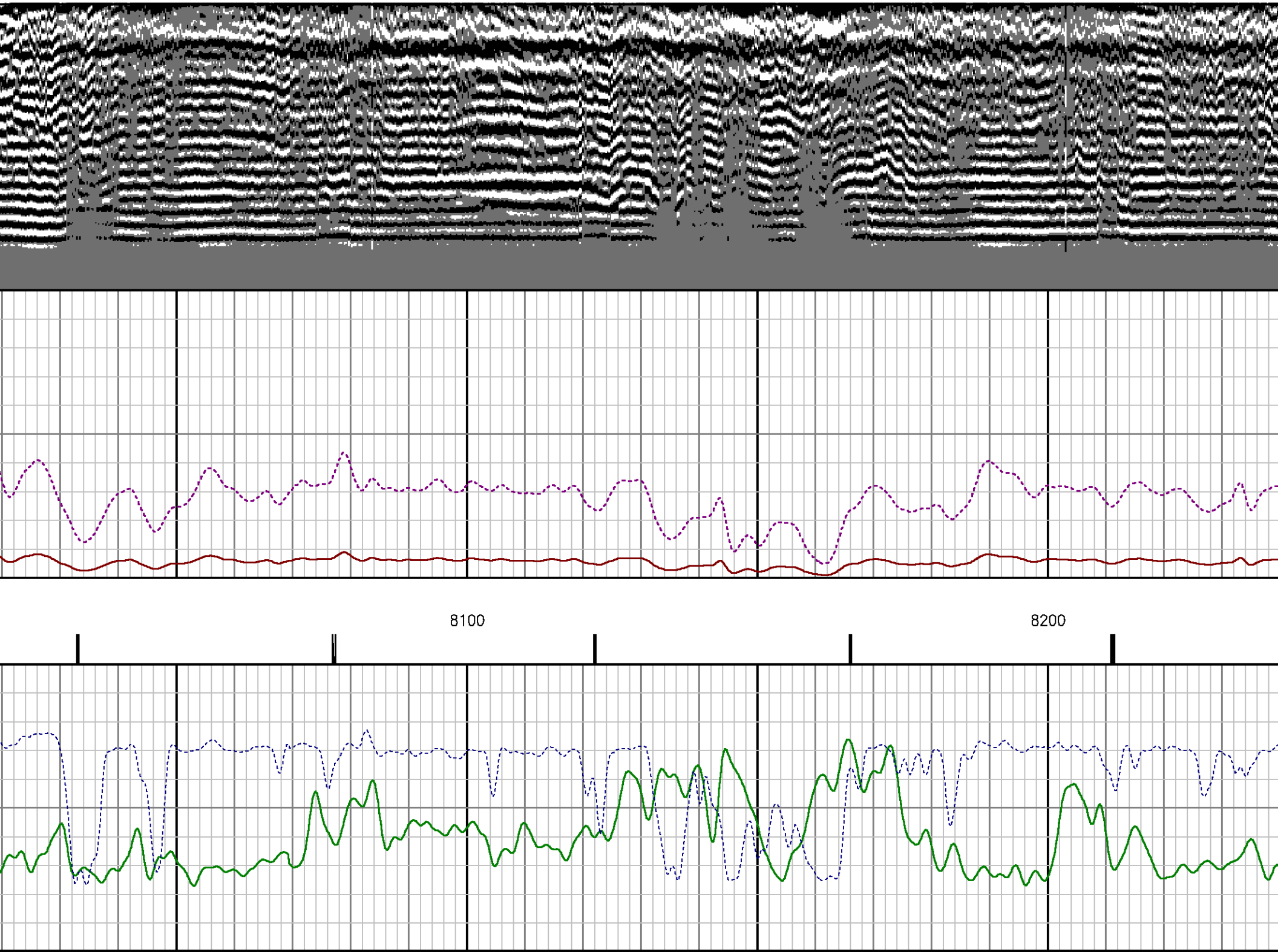
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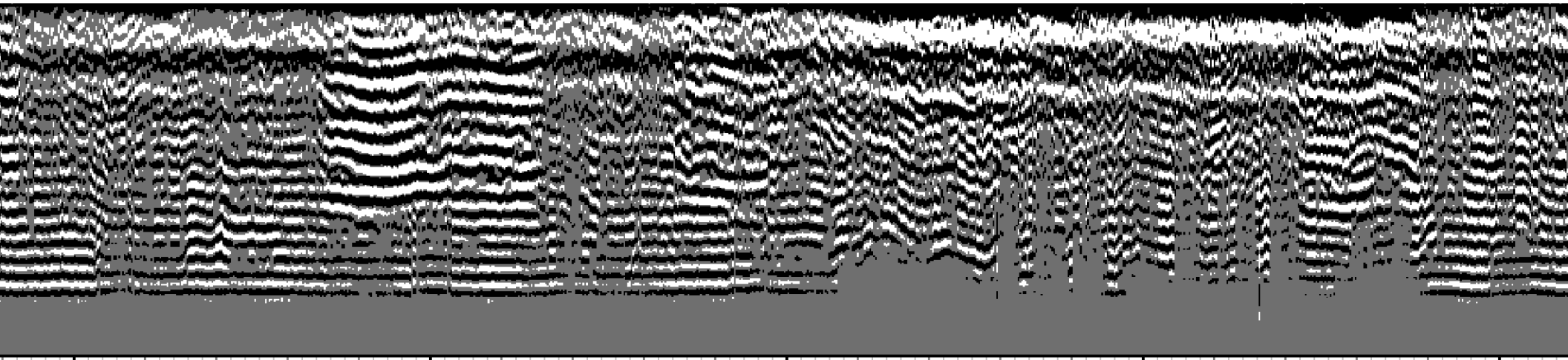

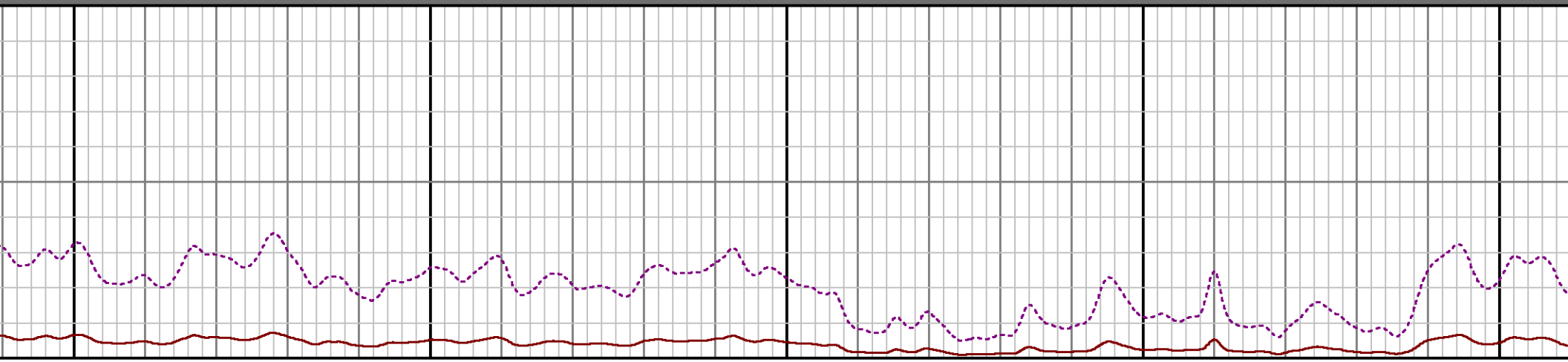

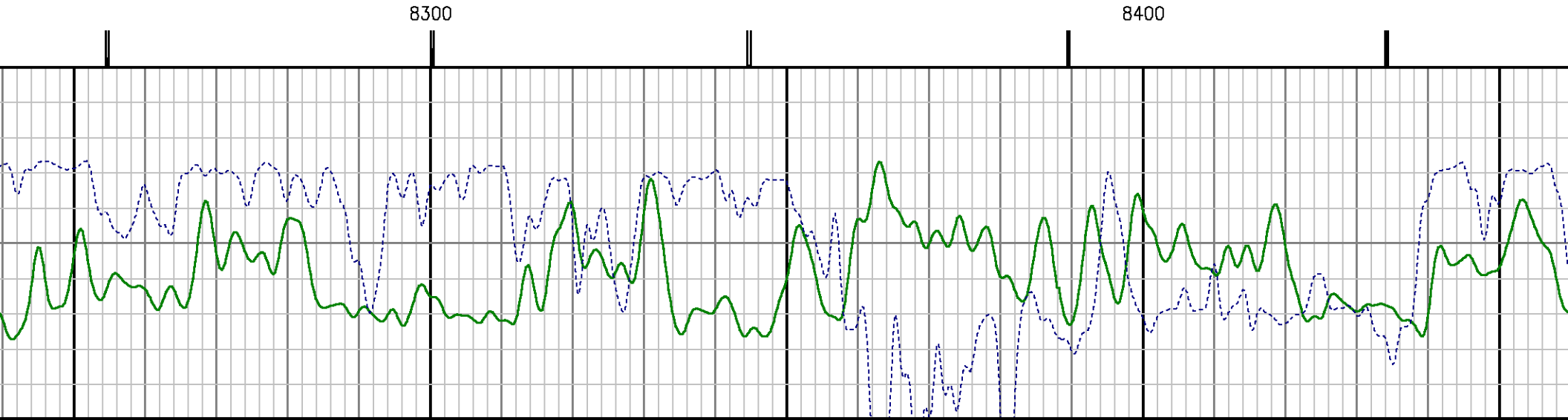
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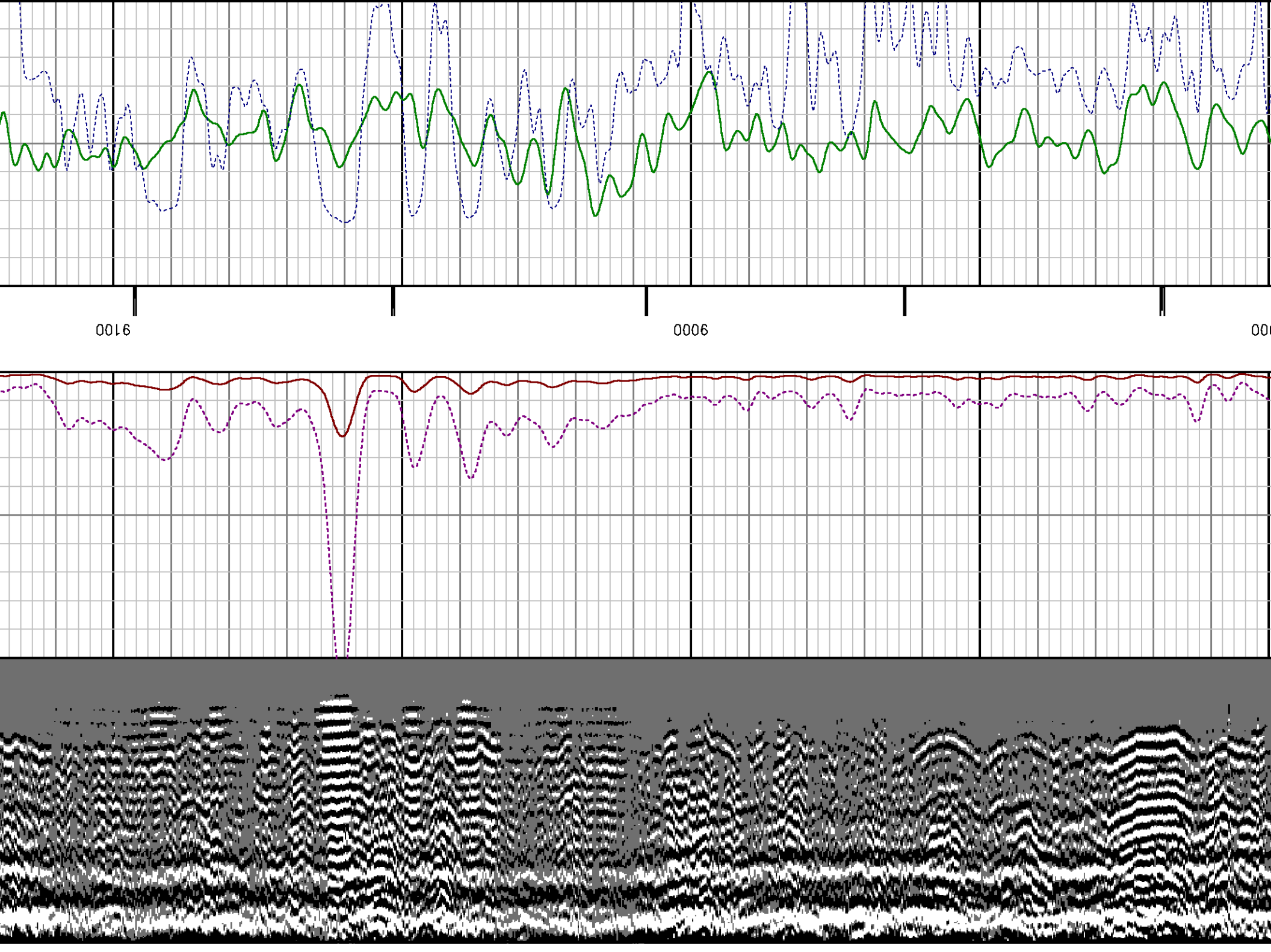
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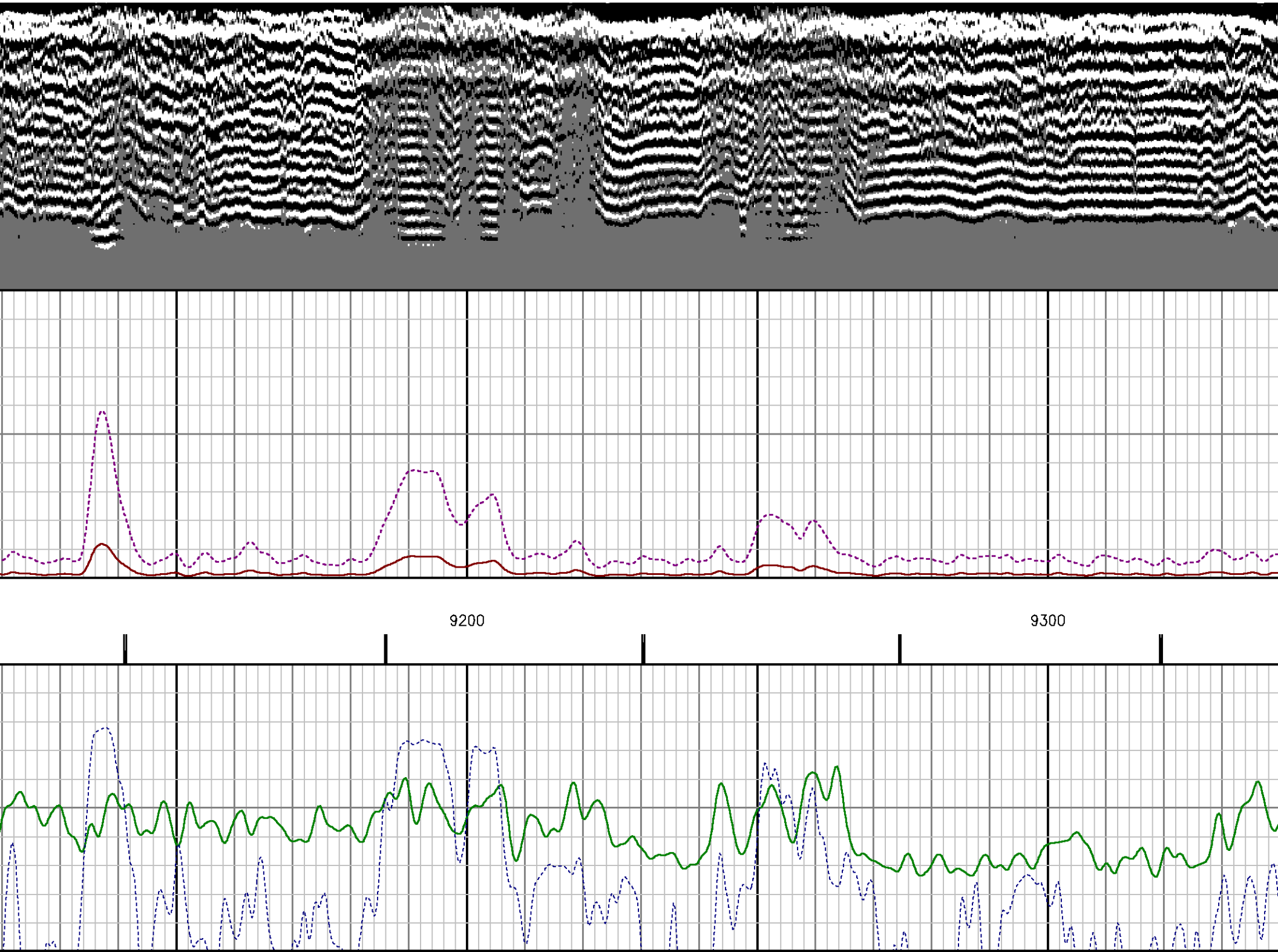
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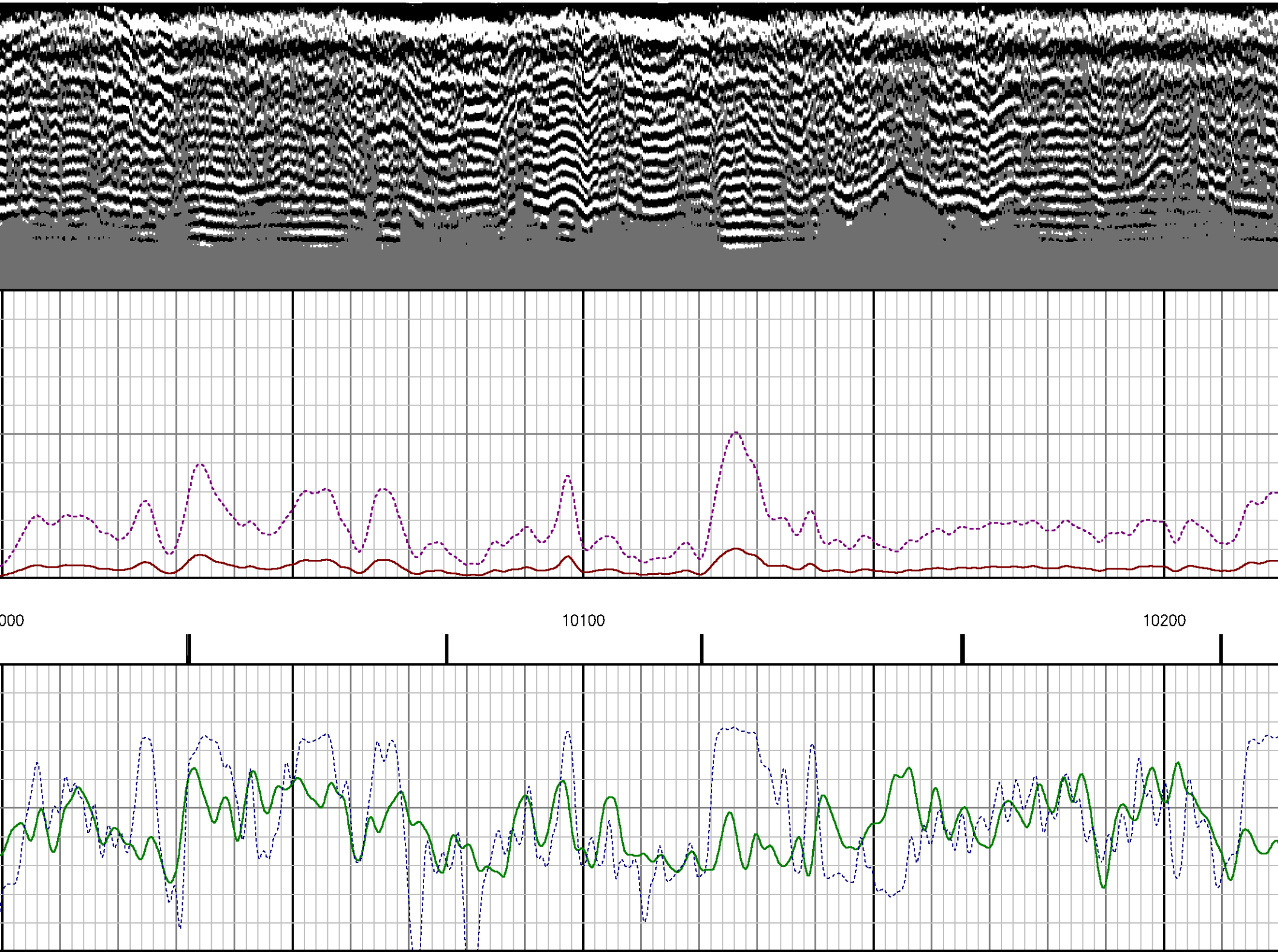
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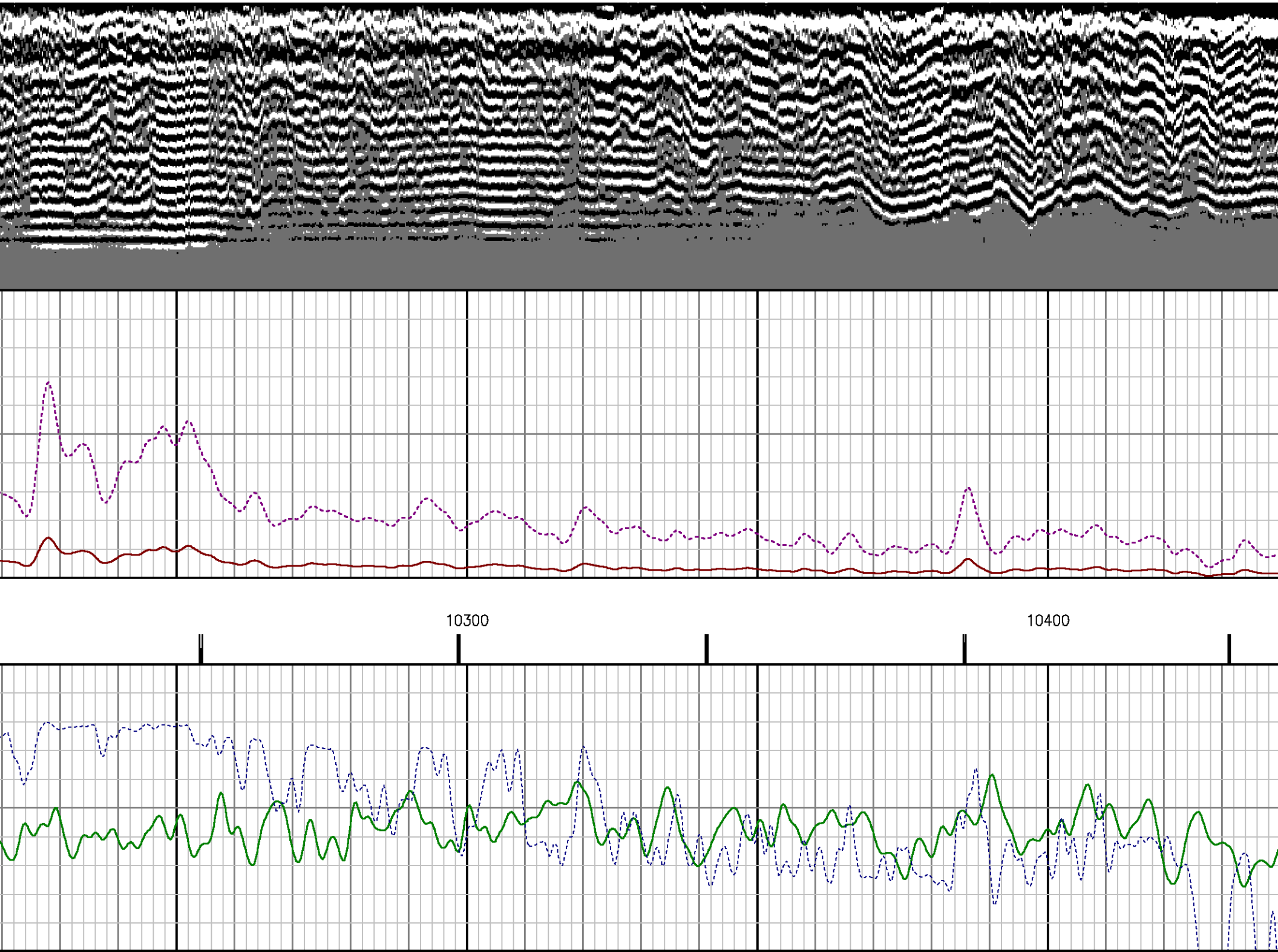
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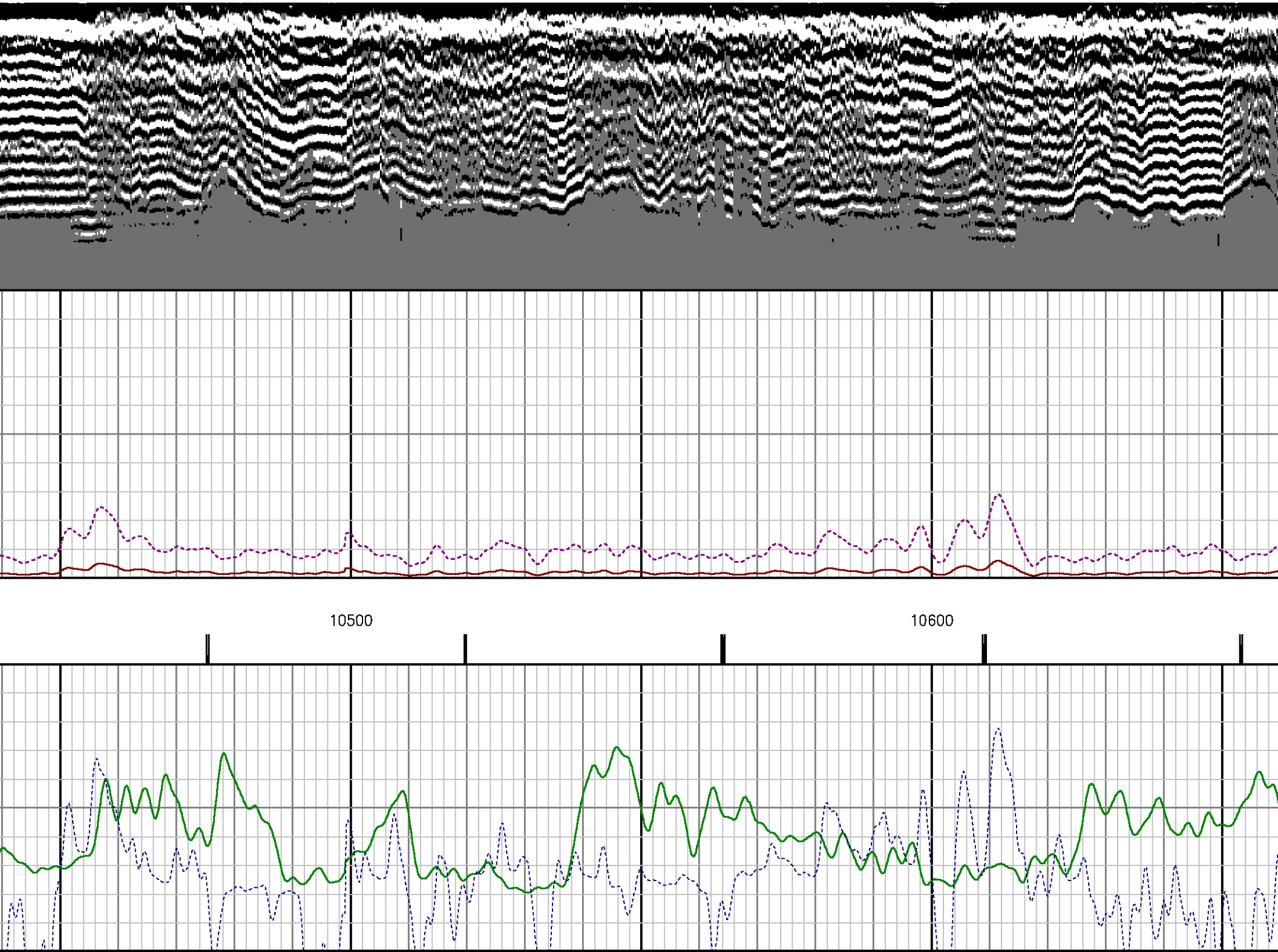
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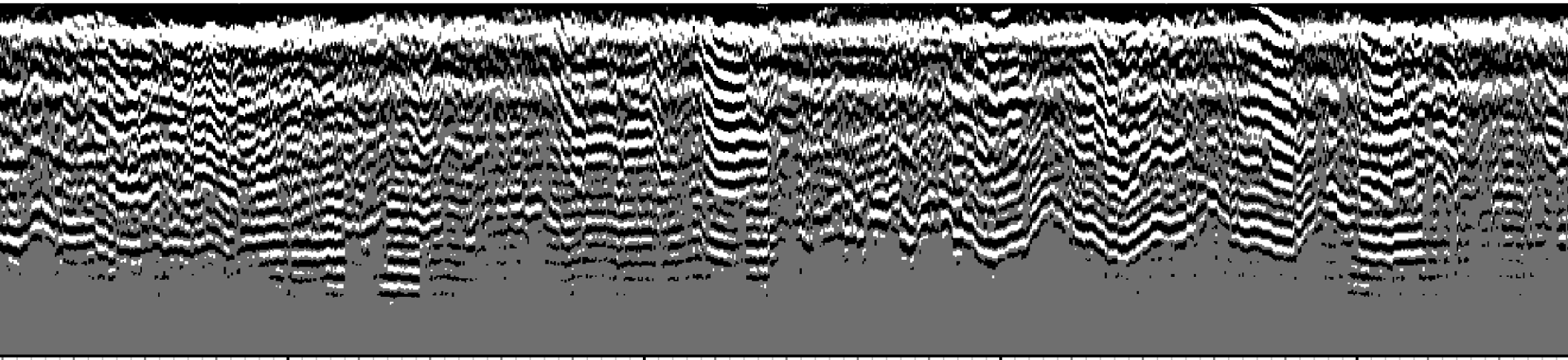

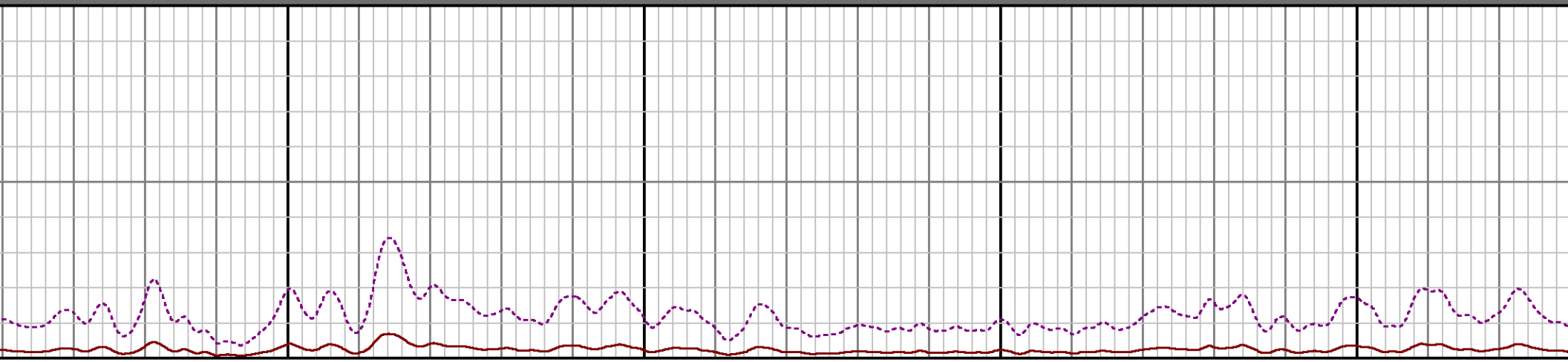

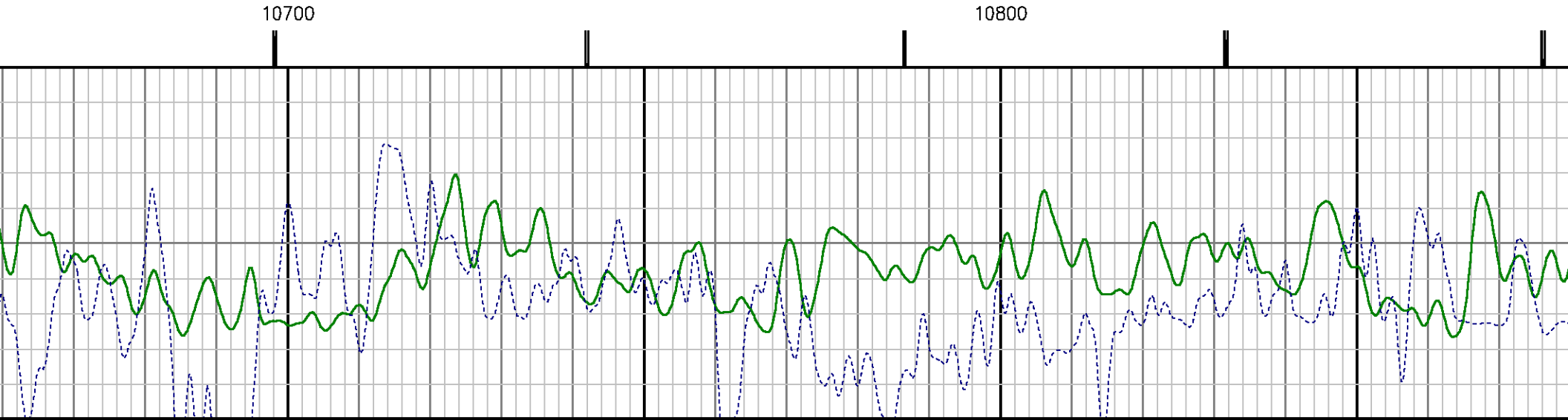
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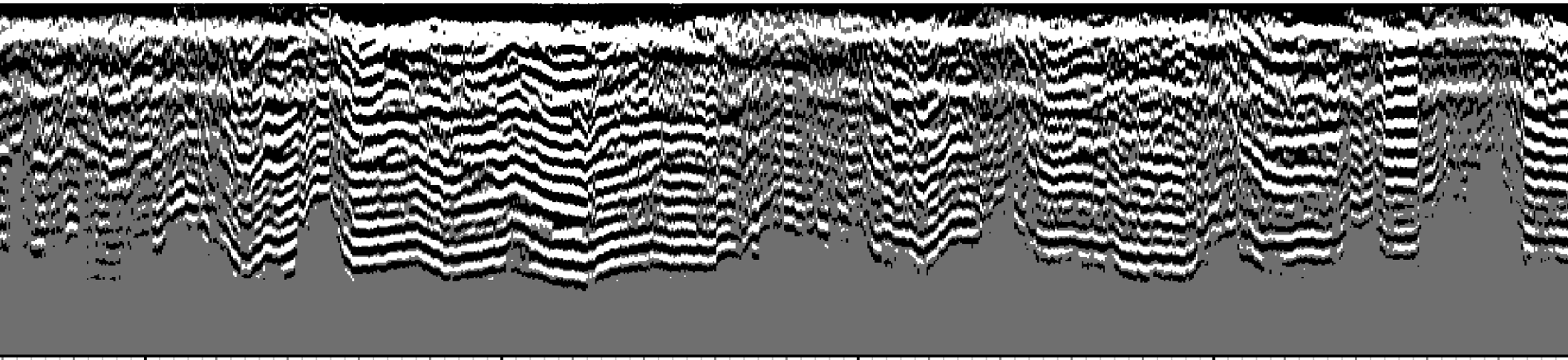

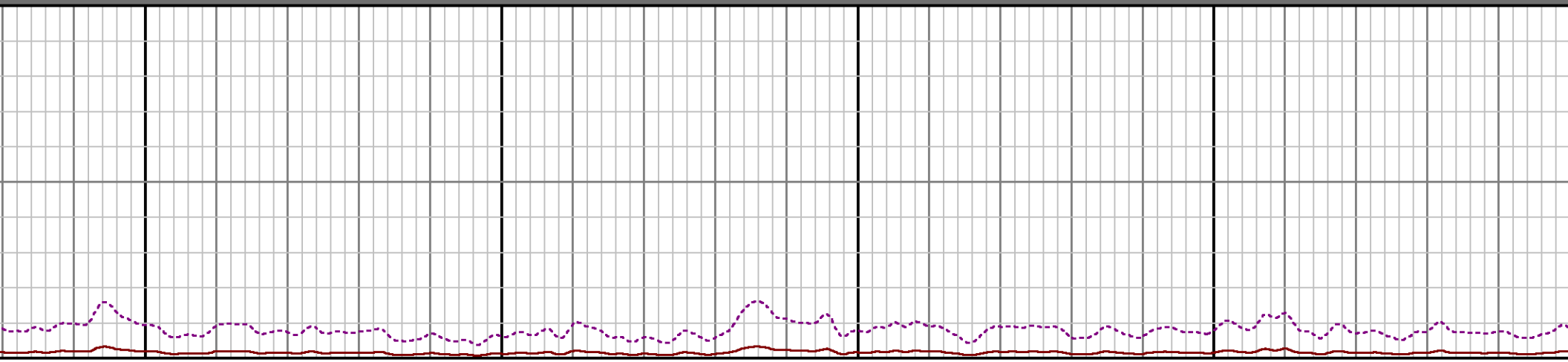

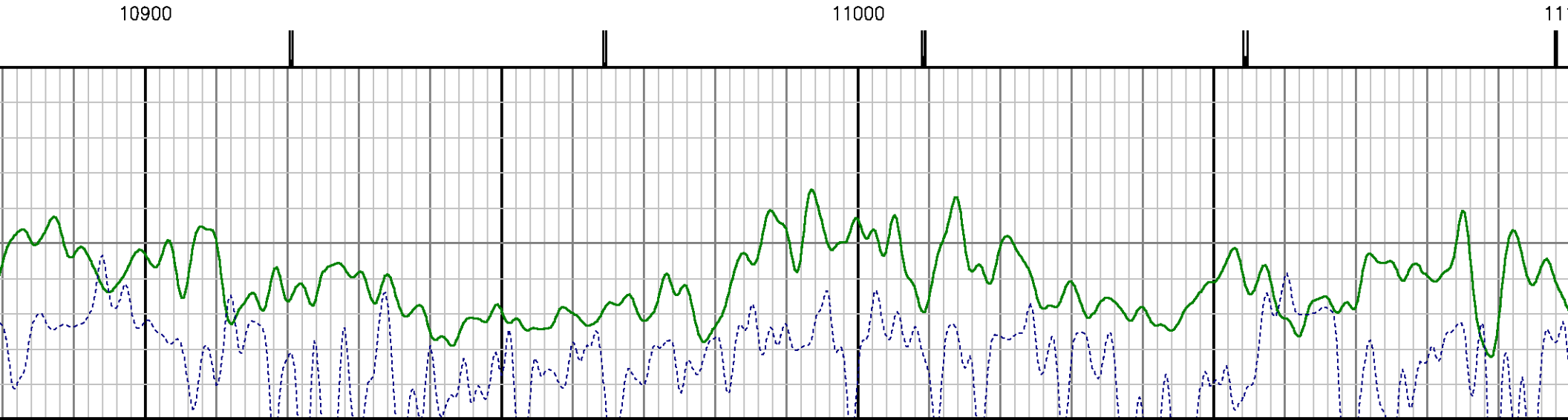
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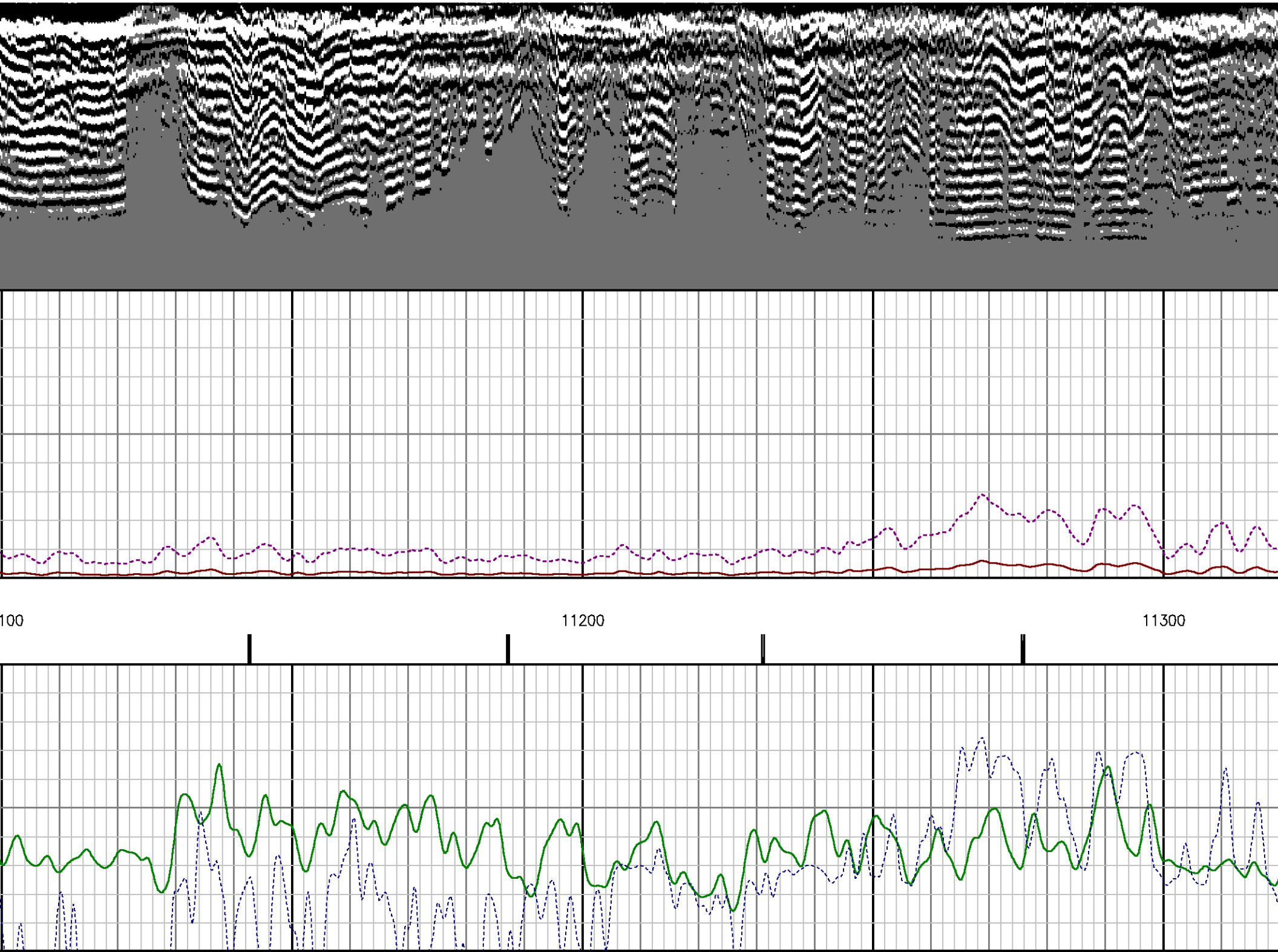
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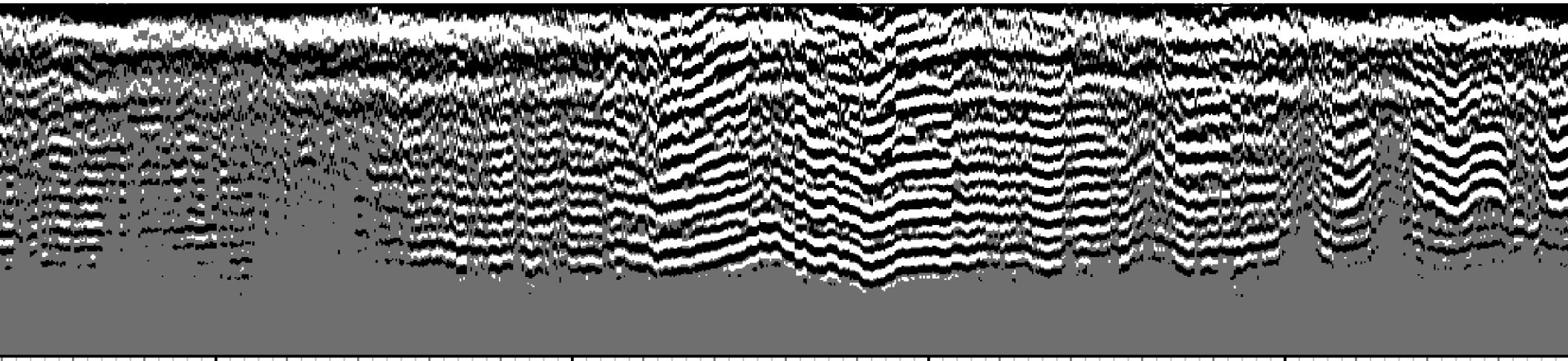

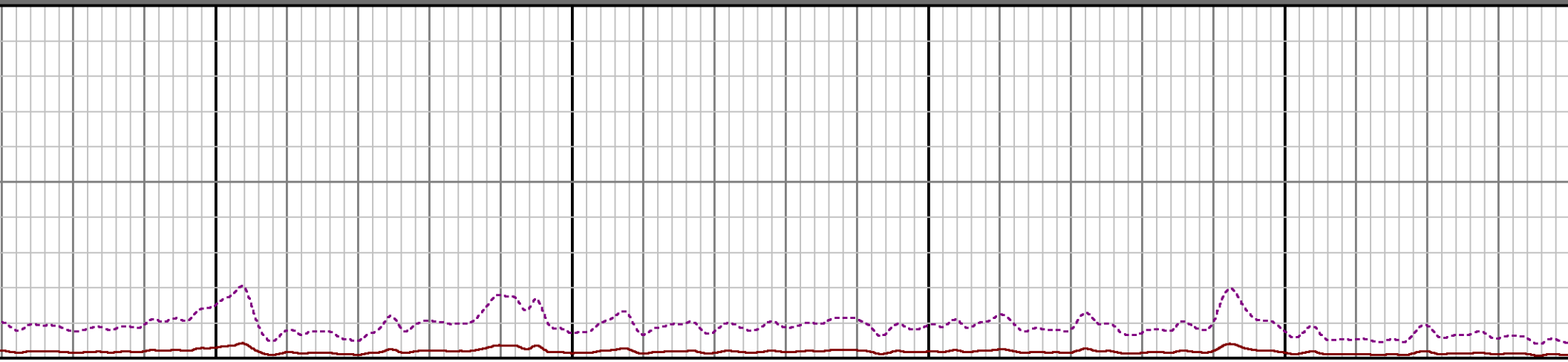

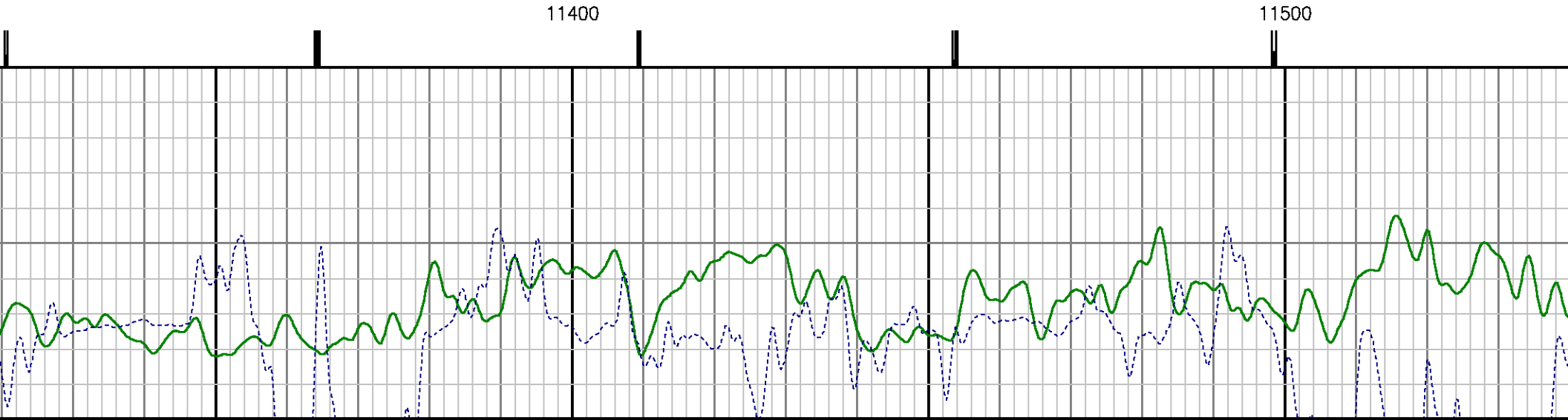
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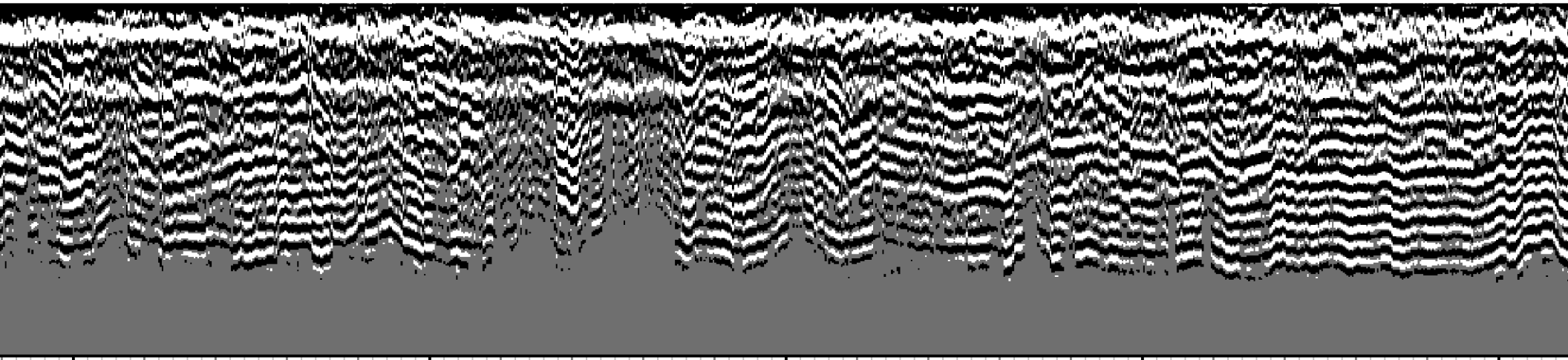

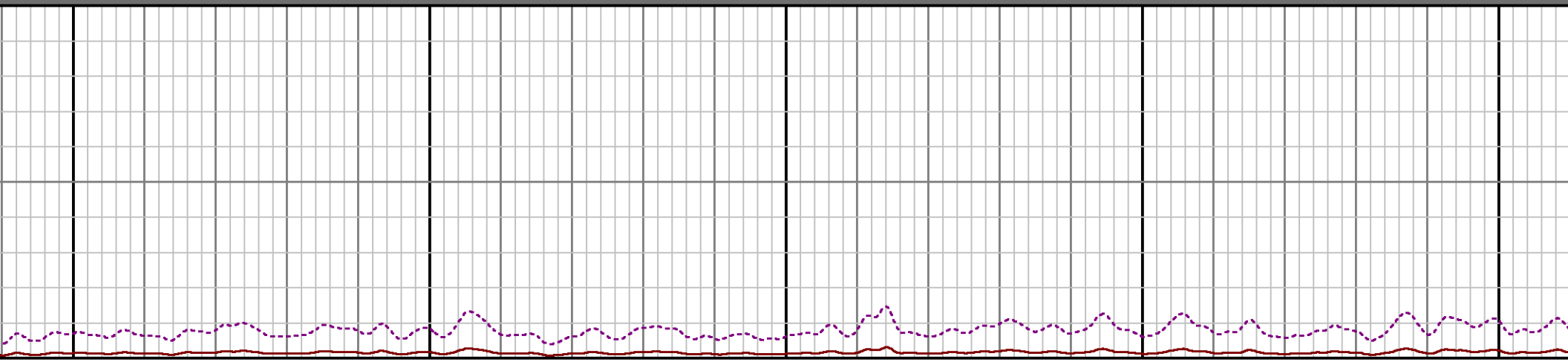

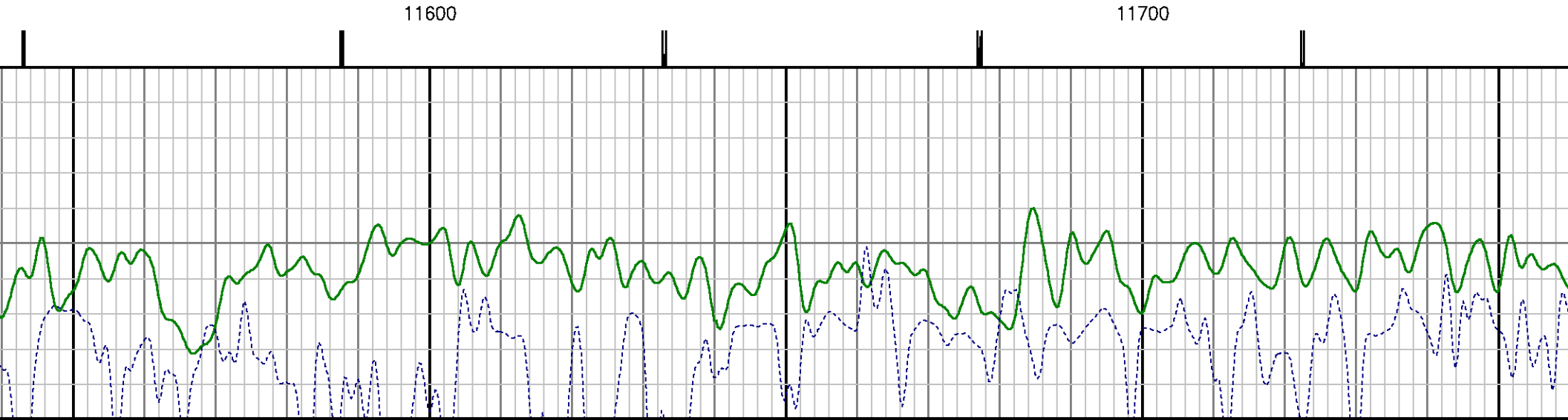
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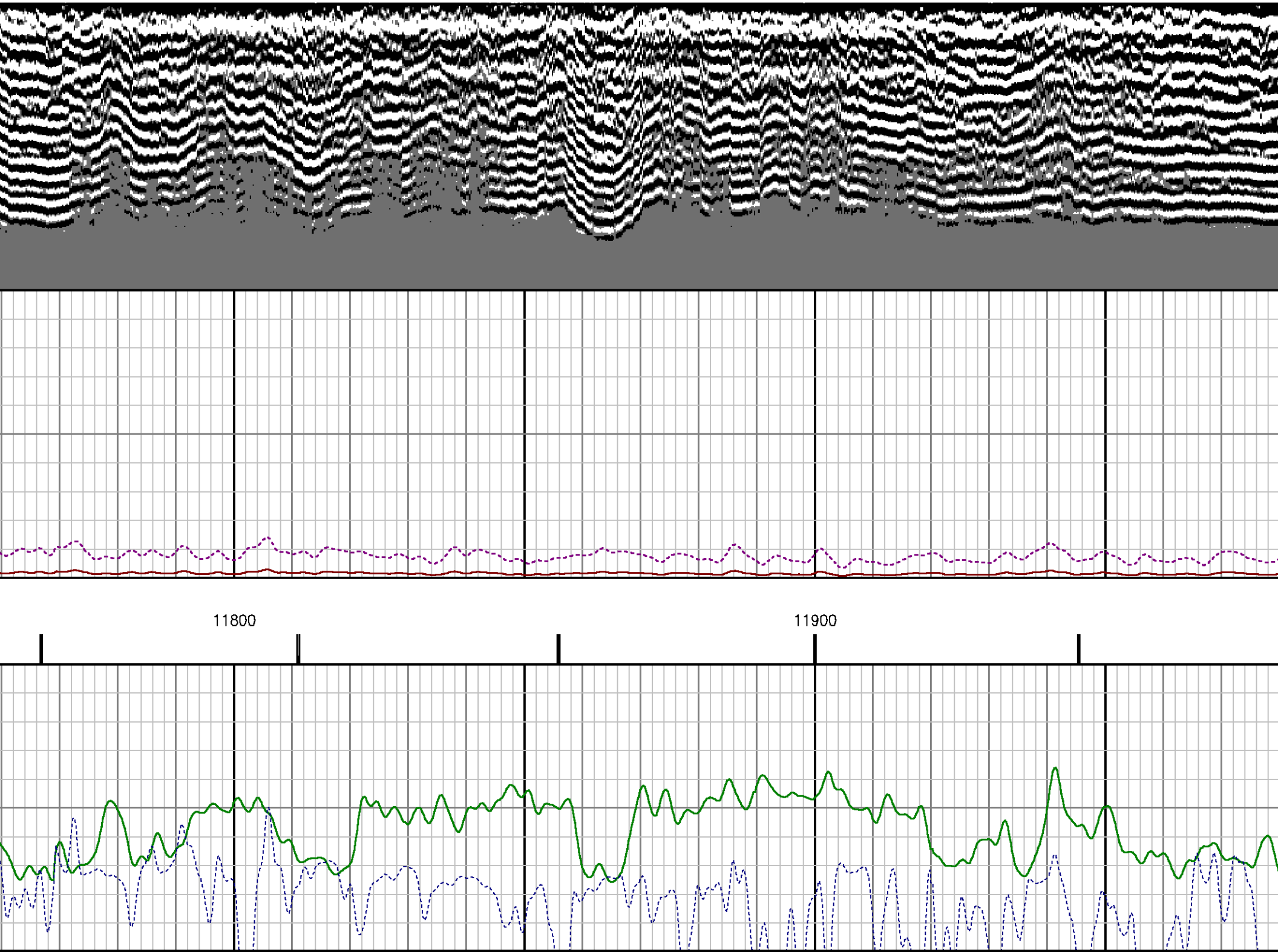
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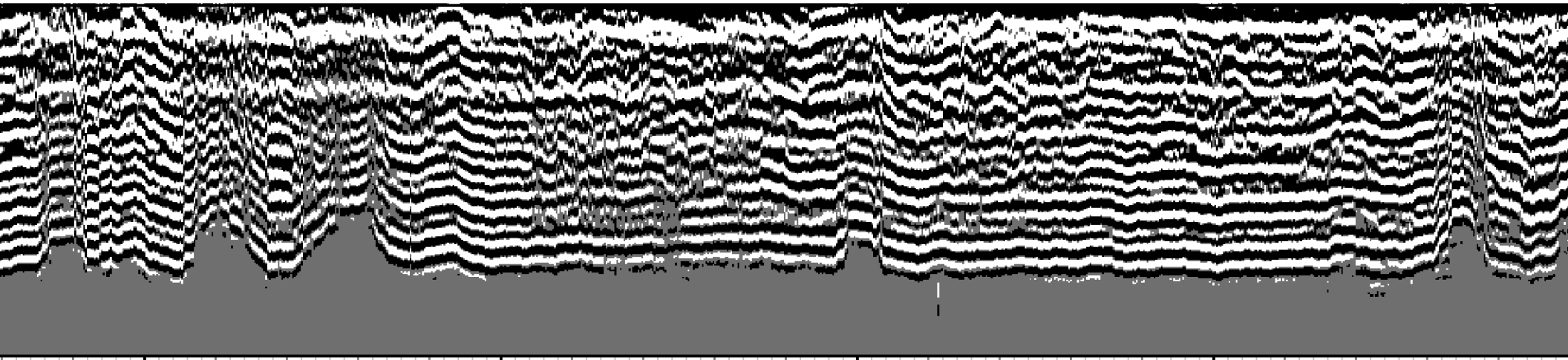

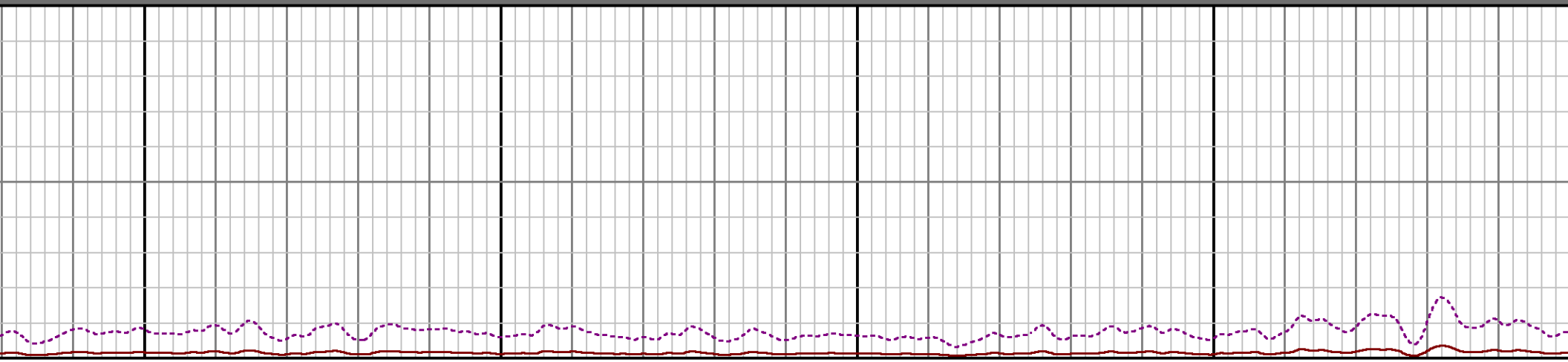

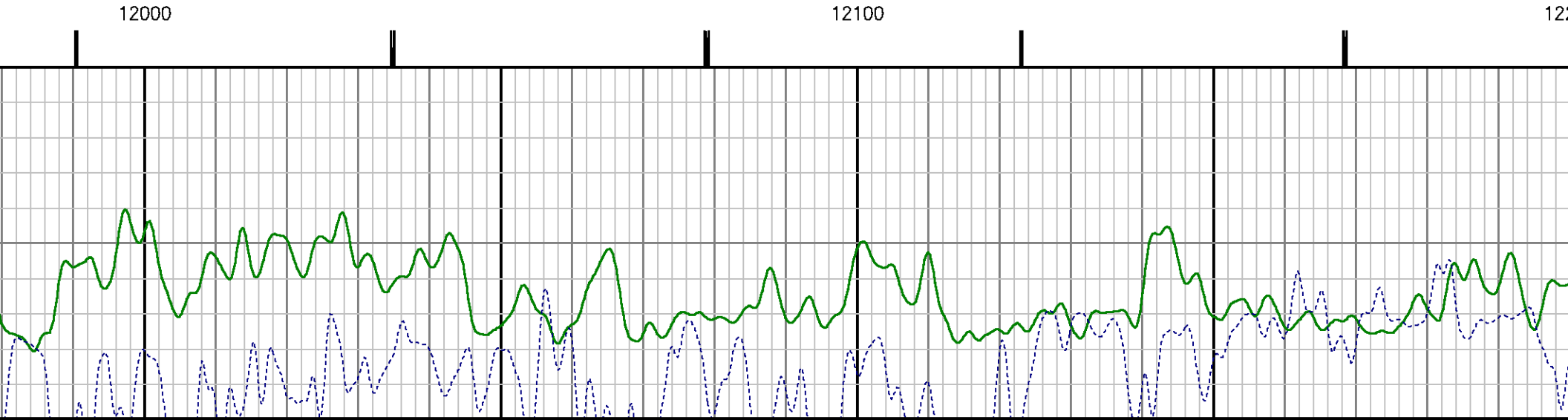
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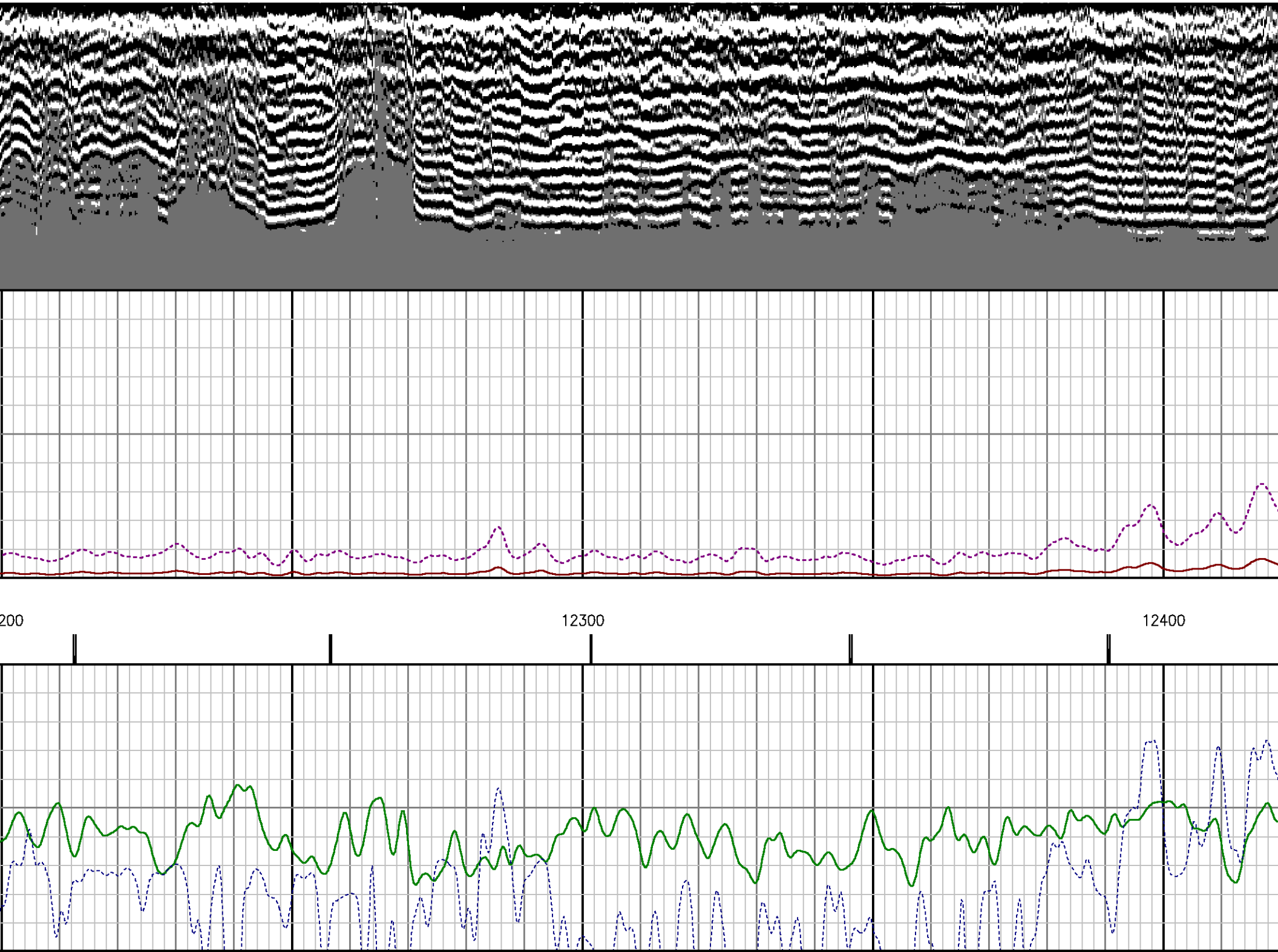
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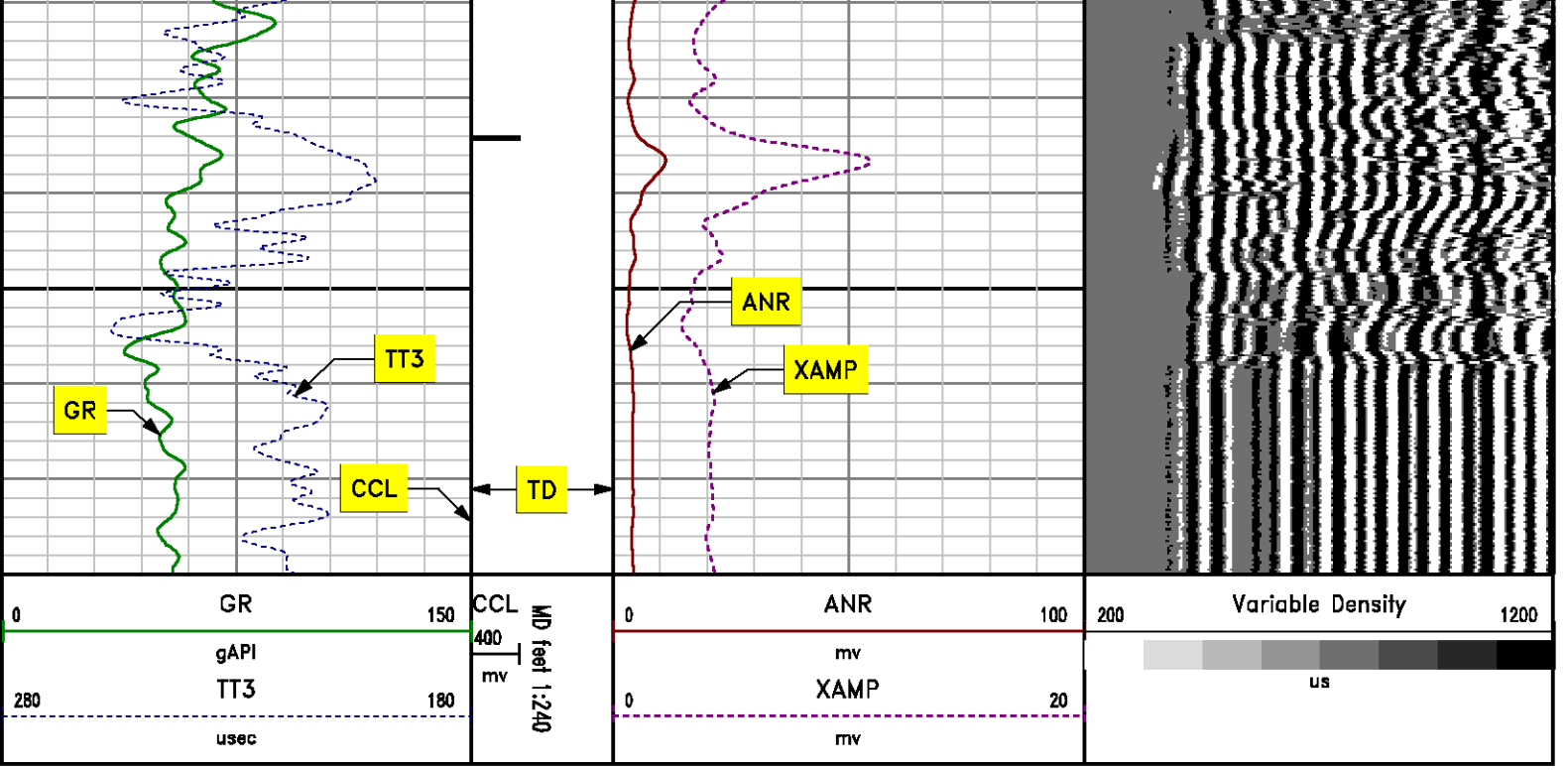


MAIN LOG SECONDARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	308.206	usec	18.530	12486.000
RAL	Amp Gate Start Near	199.015	usec	18.530	12486.000
RAL	Amp Gate Start Radial	199.599	usec	18.530	12486.000
RAL	Amp Gate Width Far	25.000	usec	18.530	12486.000
RAL	Amp Gate Width Near	25.000	usec	18.530	12486.000
RAL	Amp Gate Width Radial	25.000	usec	18.530	12486.000
RAL	casing od	4.500	inches	18.530	12486.000
RAL	casing wt	11.600	lbm/ft	18.530	12486.000
RAL	FB Start Far	291.900	usec	18.530	12486.000
RAL	FB Start Near	175.391	usec	18.530	12486.000
RAL	FB Start Radial	175.391	usec	18.530	12486.000
RAL	FB Thresh Far	10.000	mv	18.530	12486.000
RAL	FB Thresh Near	4.000	mv	18.530	12486.000
RAL	FB Thresh Radial	4.000	mv	18.530	12486.000
RAL	Fluid Travel Time	200.000	usec/ft	18.530	12485.874

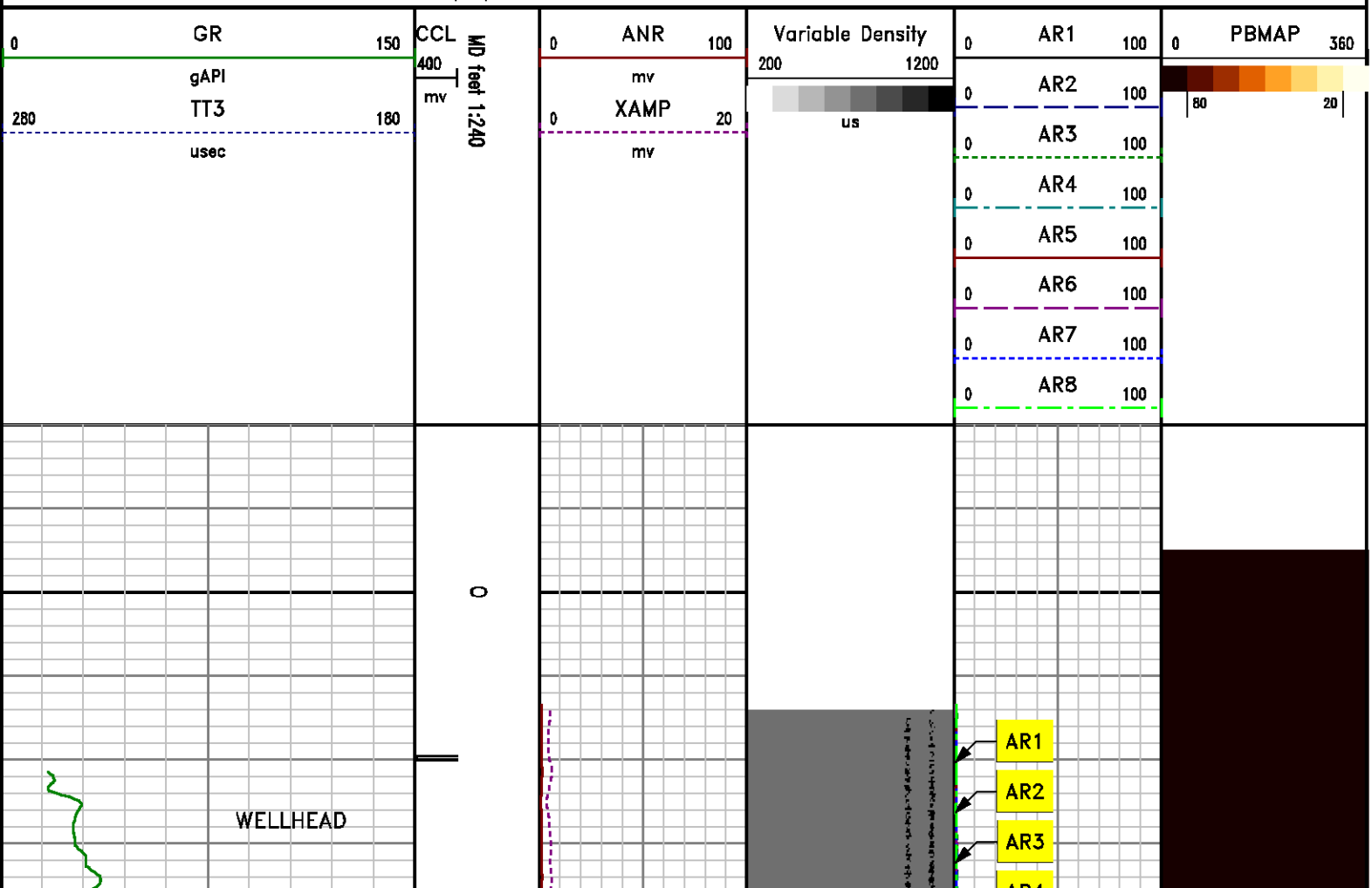
DEPTH OFFSETS

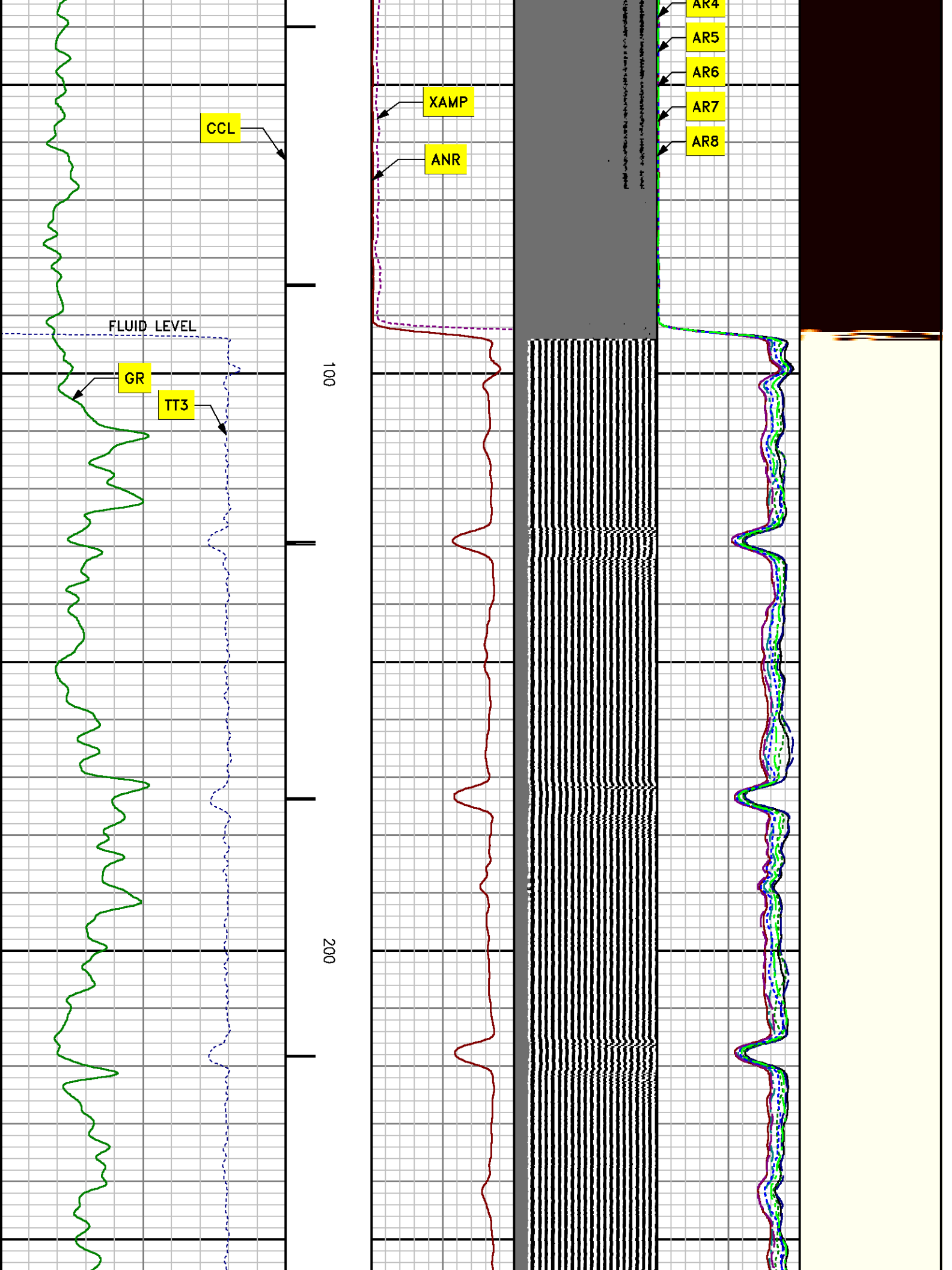
(for Acquired Curves)

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 RGU 513-23-198
File Name : d:\welldata\513cbl\main.xtf
Mode : PlotMgr 5.4.504
Interval : -20.00 - 12480.00 feet UP
Created : 6/11/2013 10:30:27 AM

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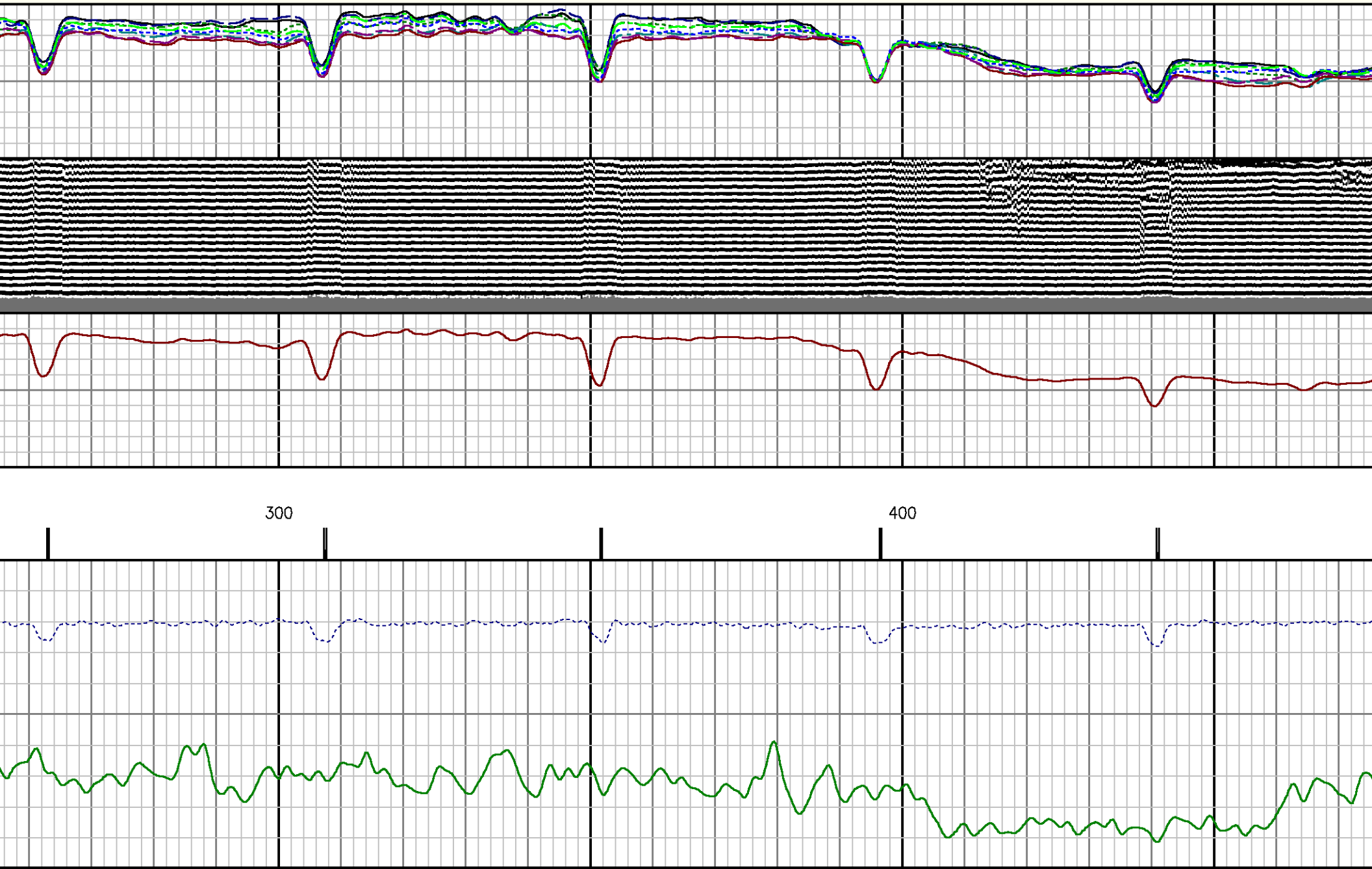
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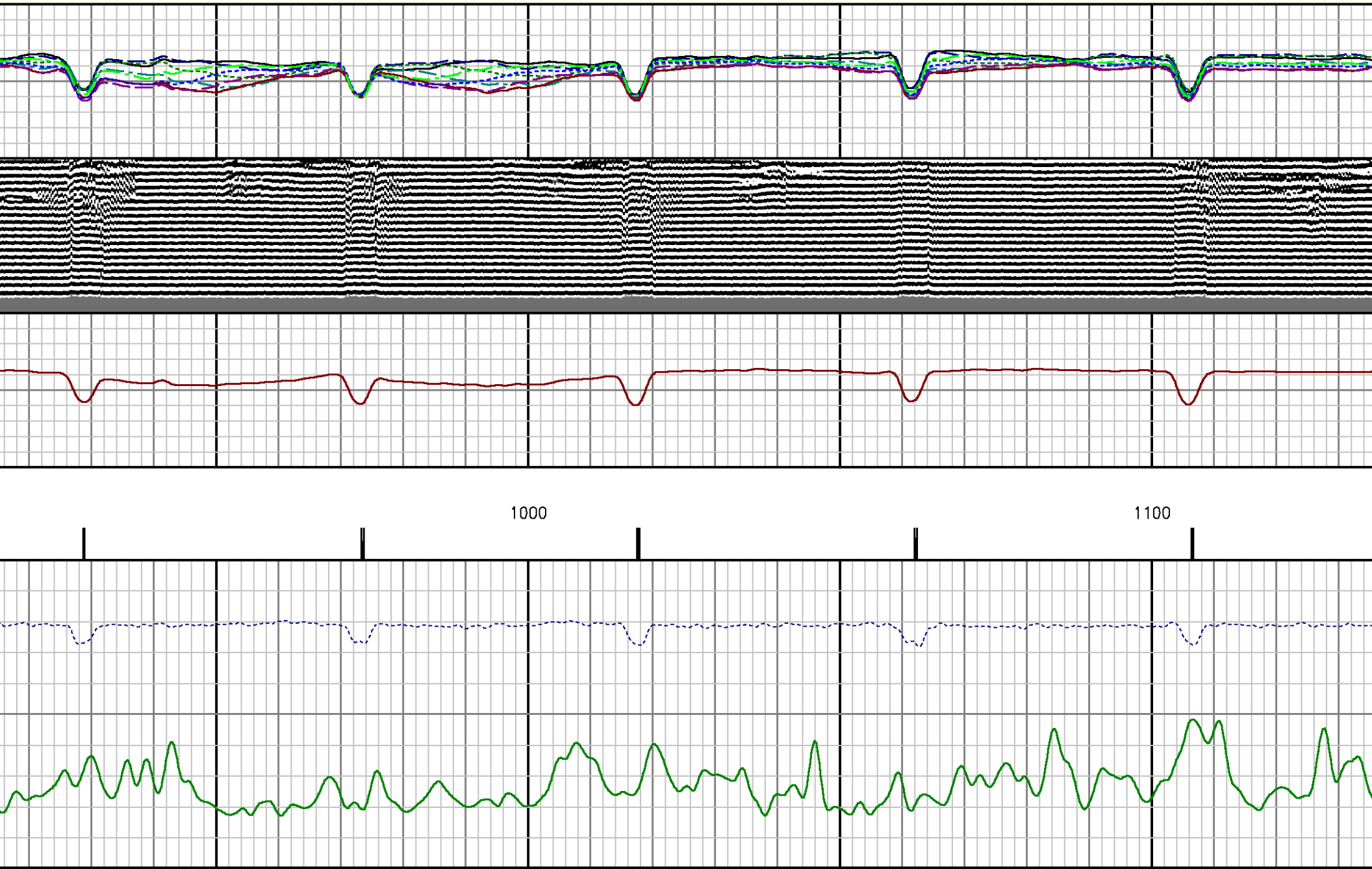
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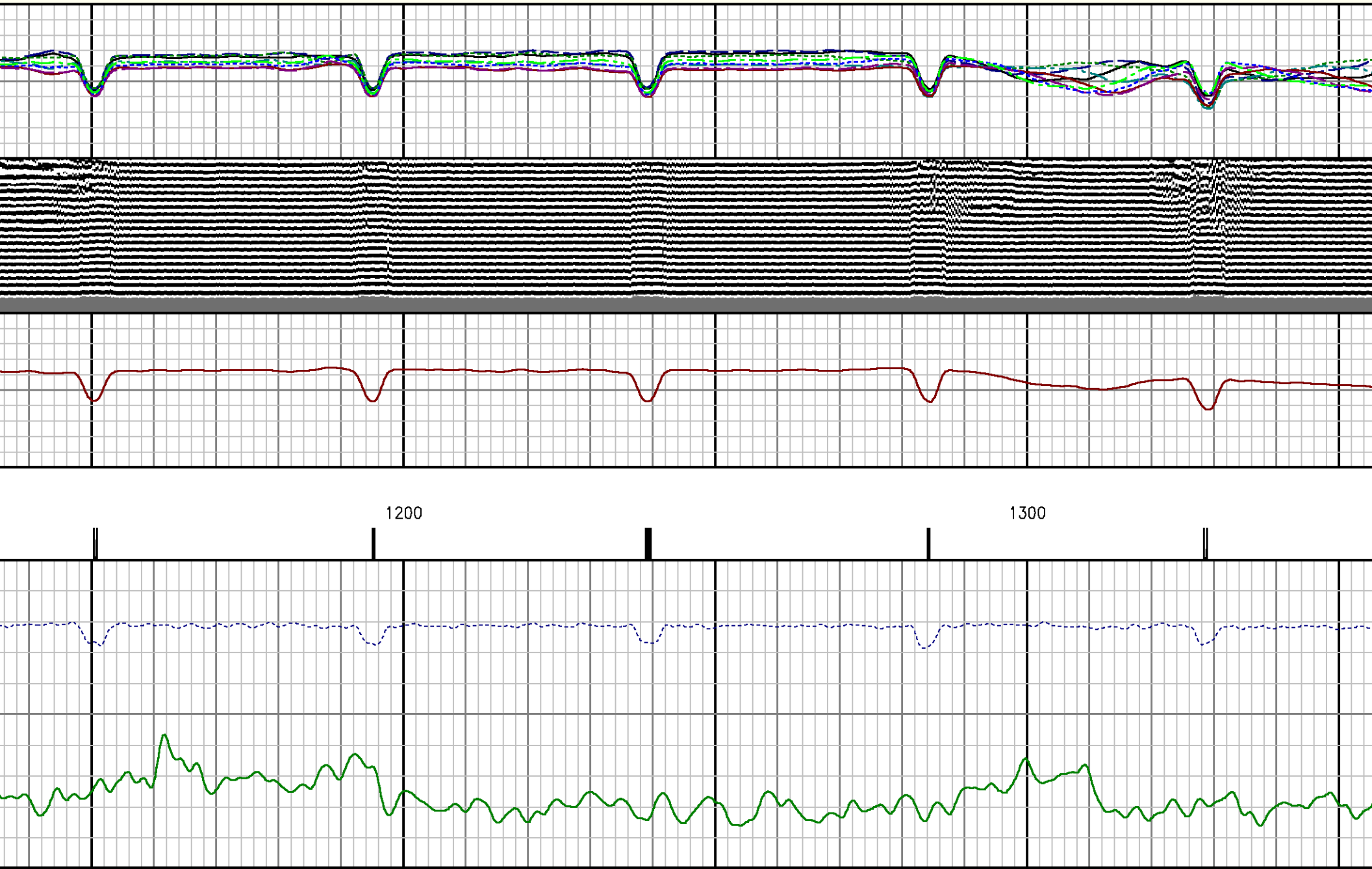
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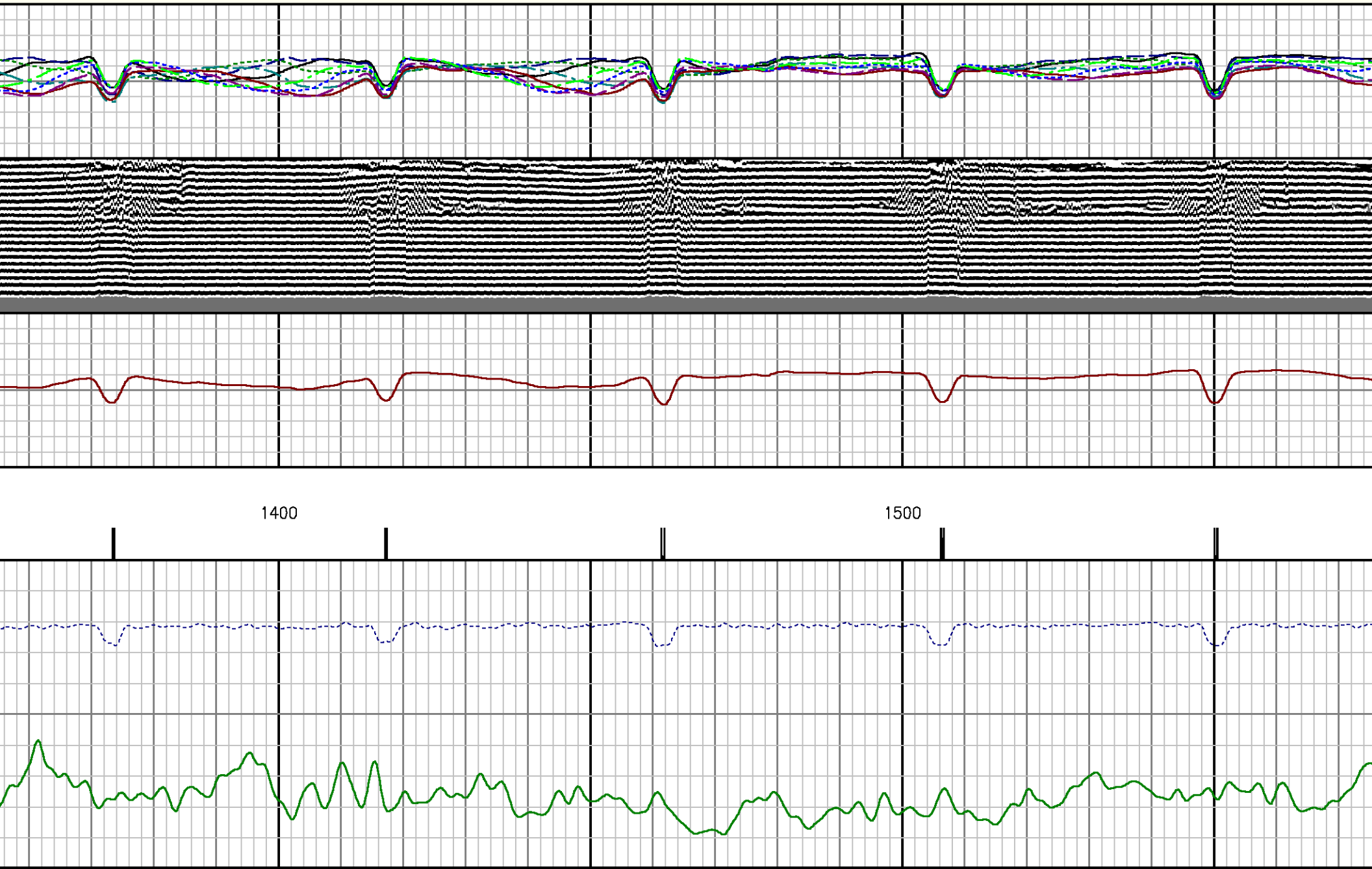
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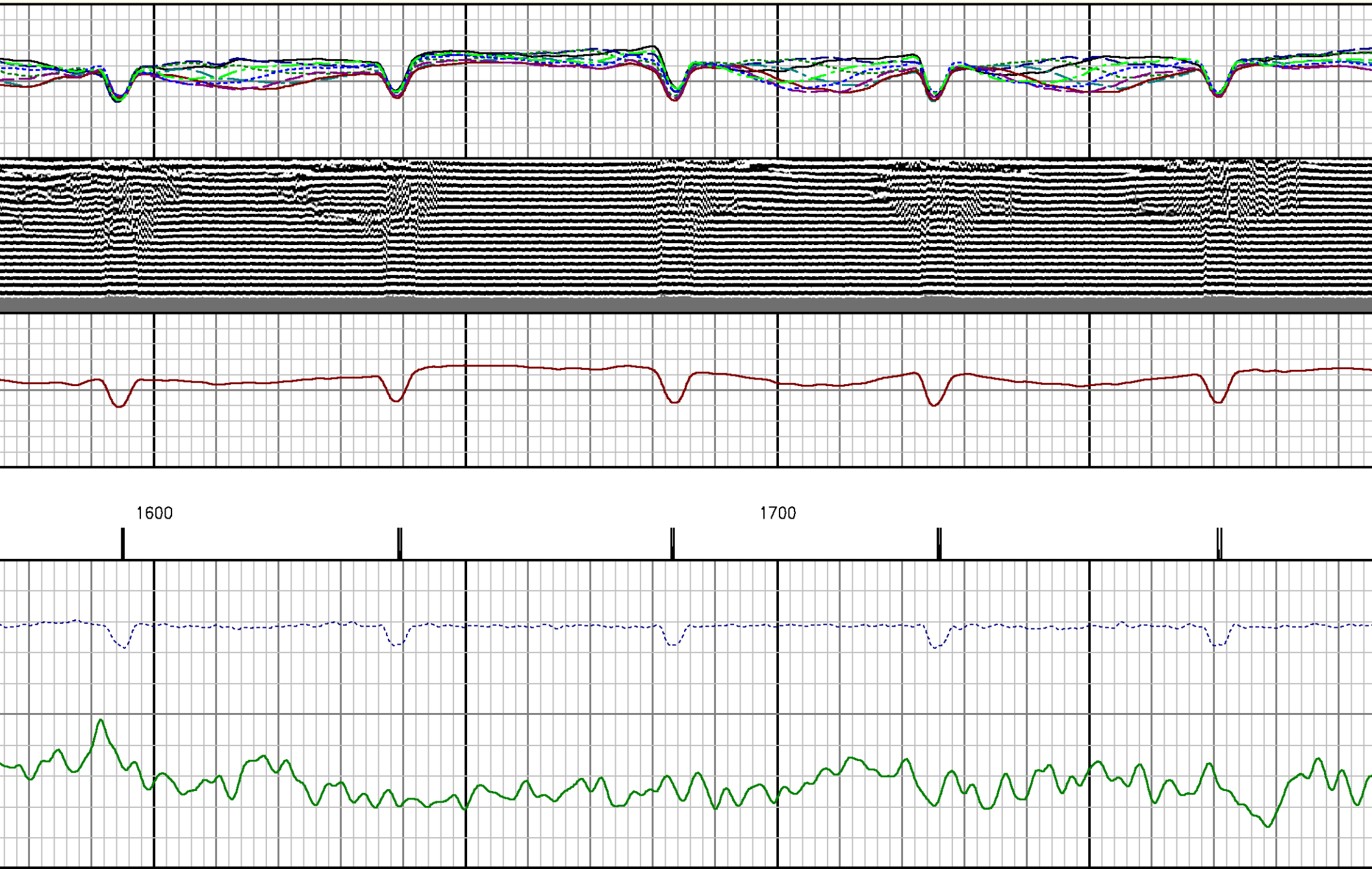
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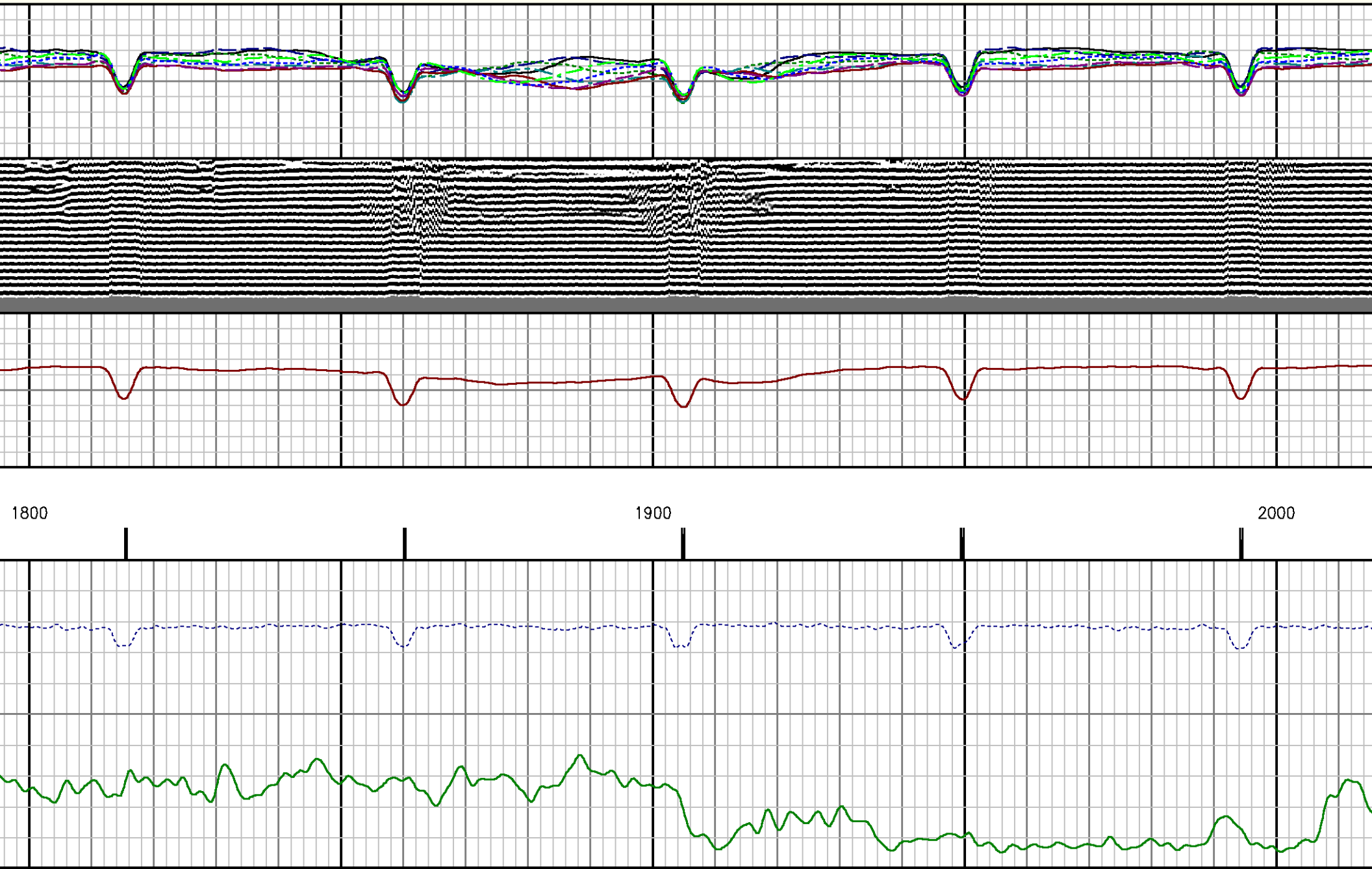
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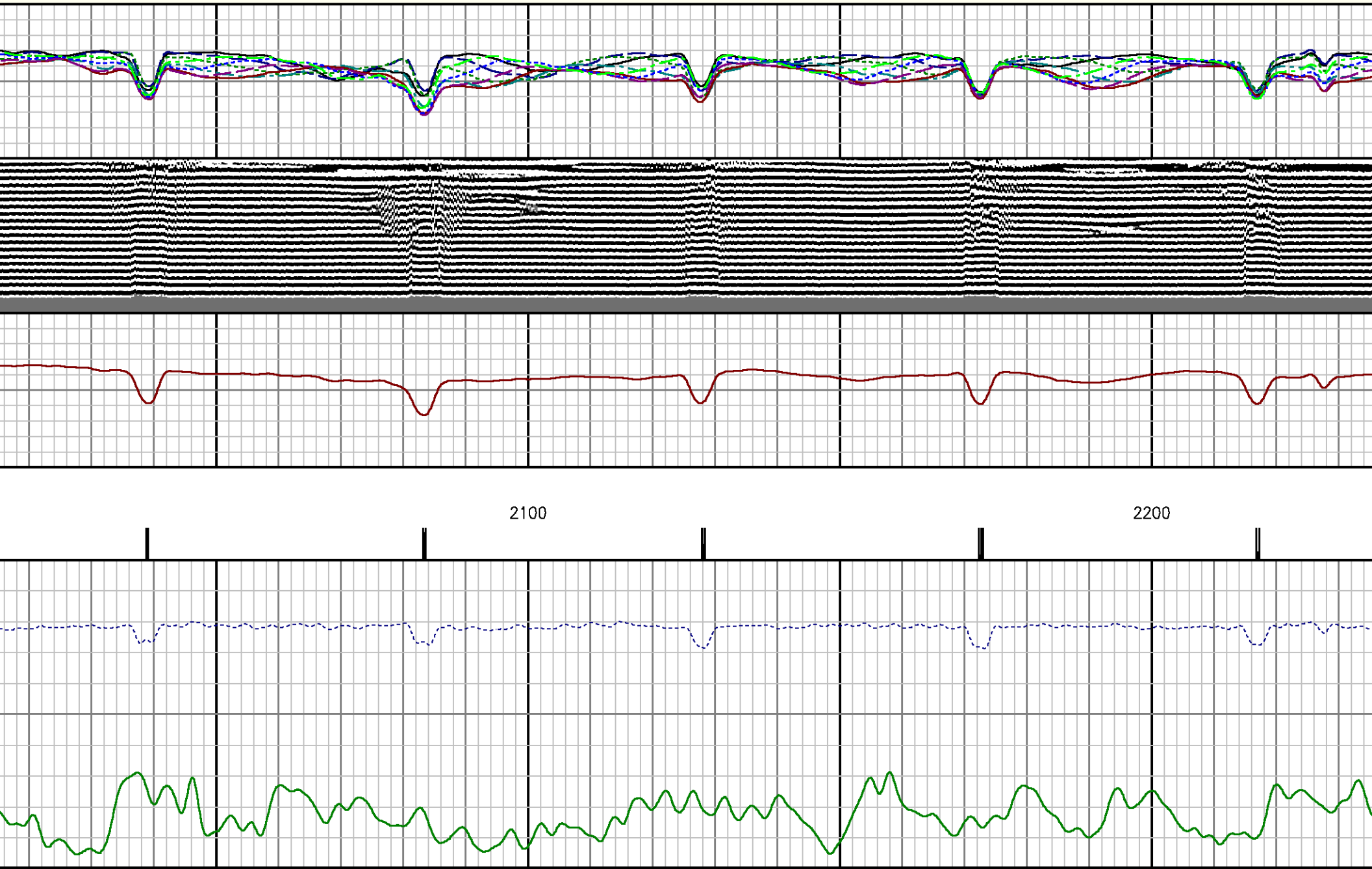
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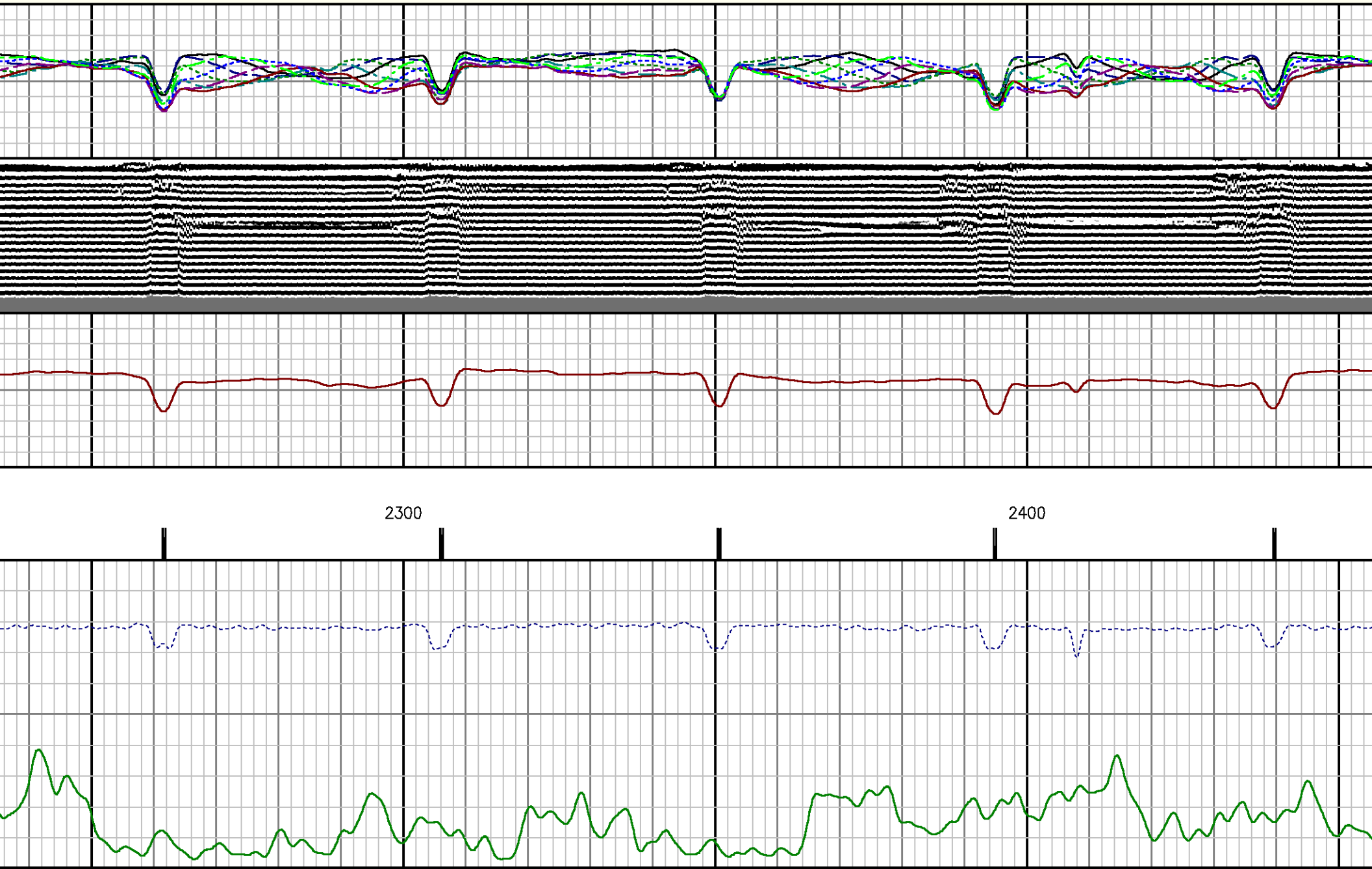
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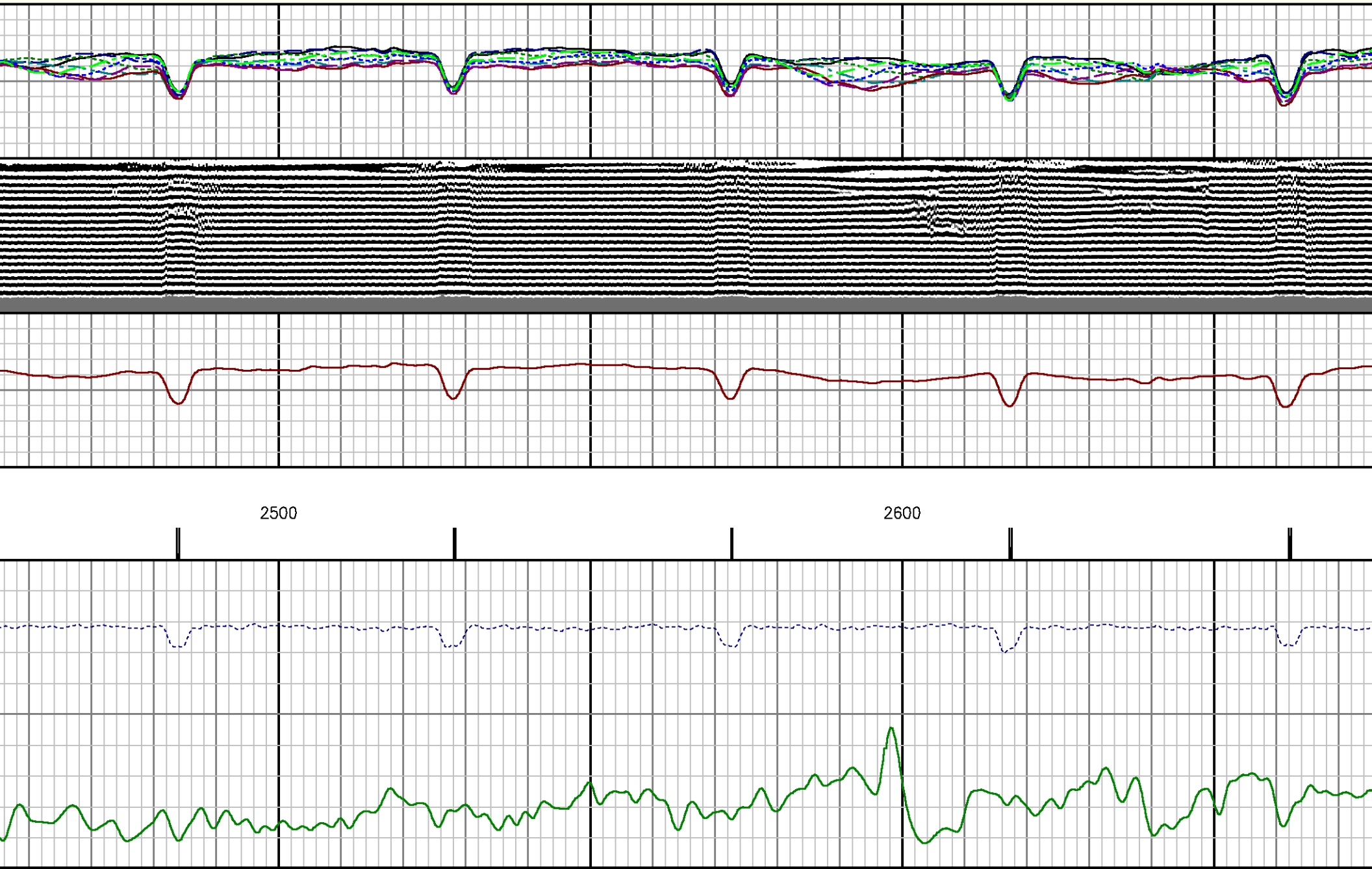
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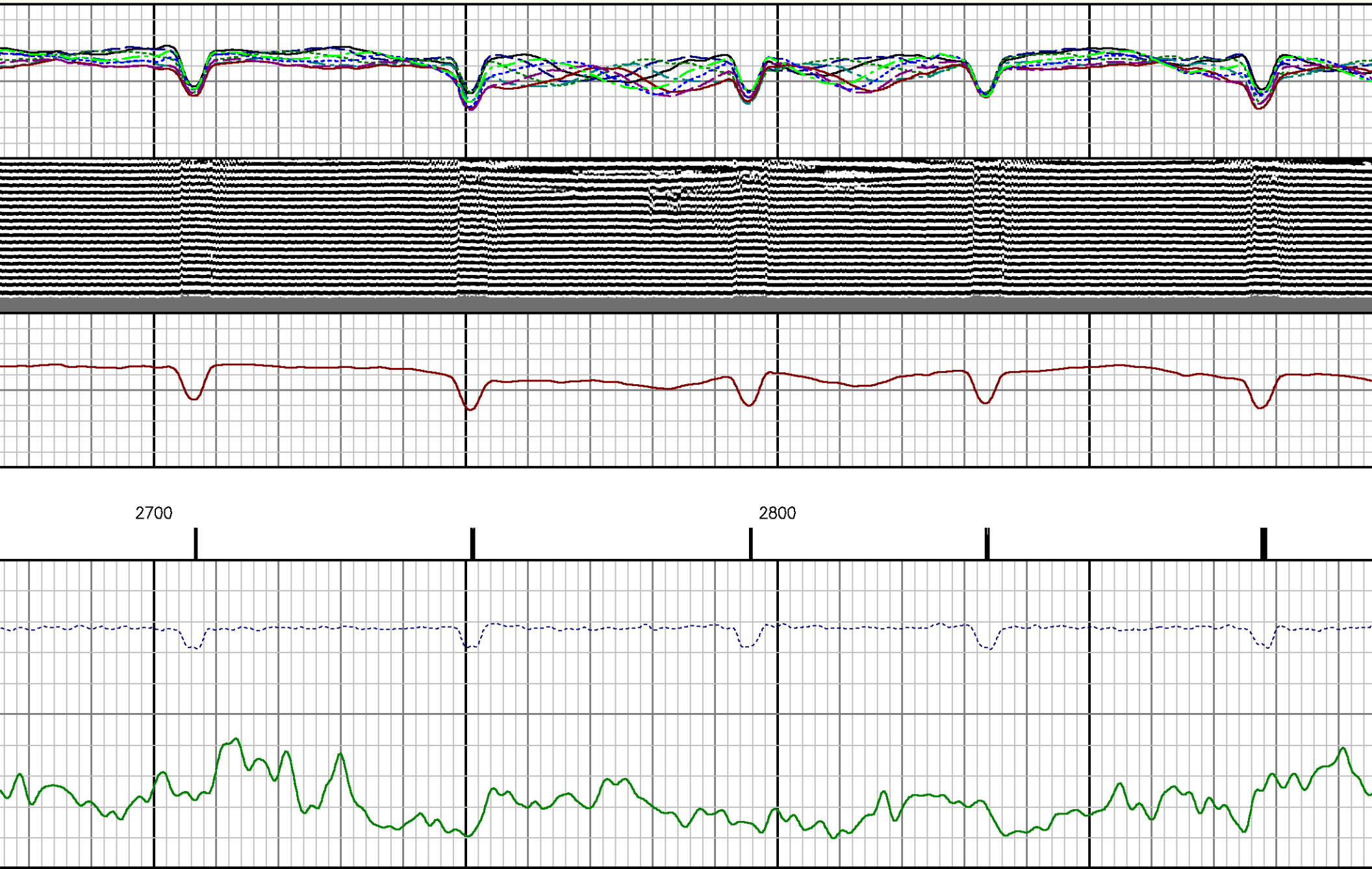
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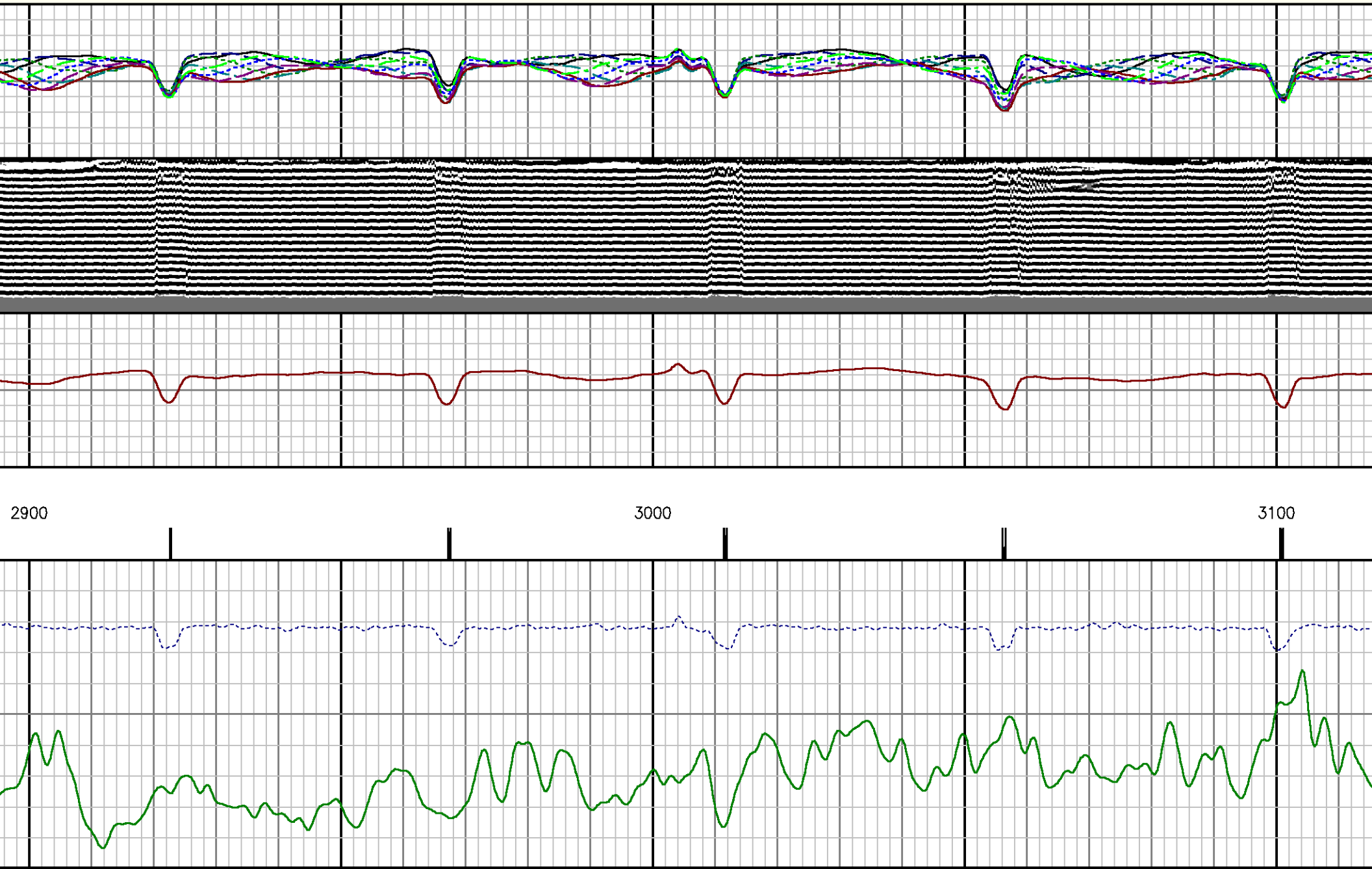
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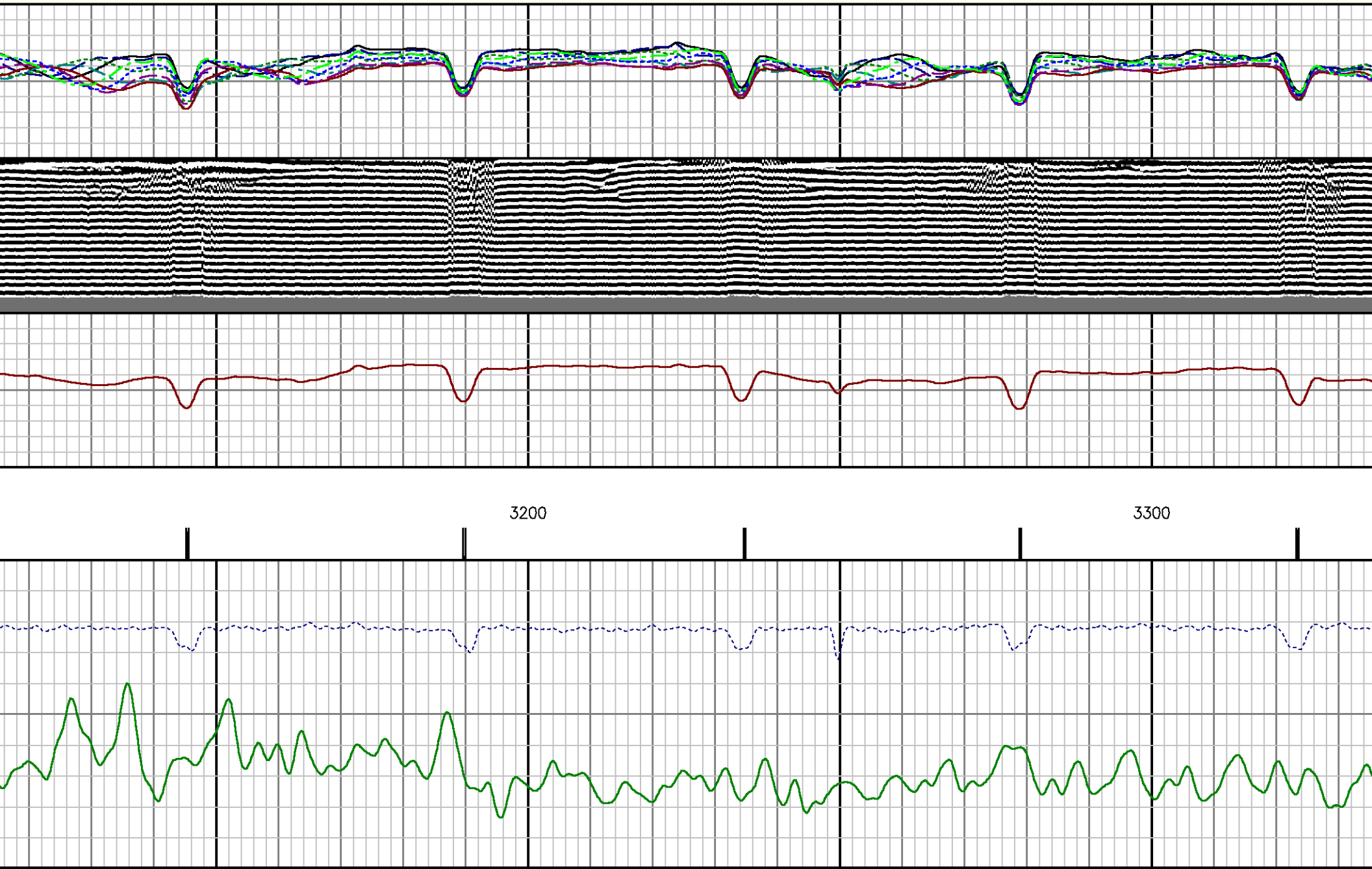
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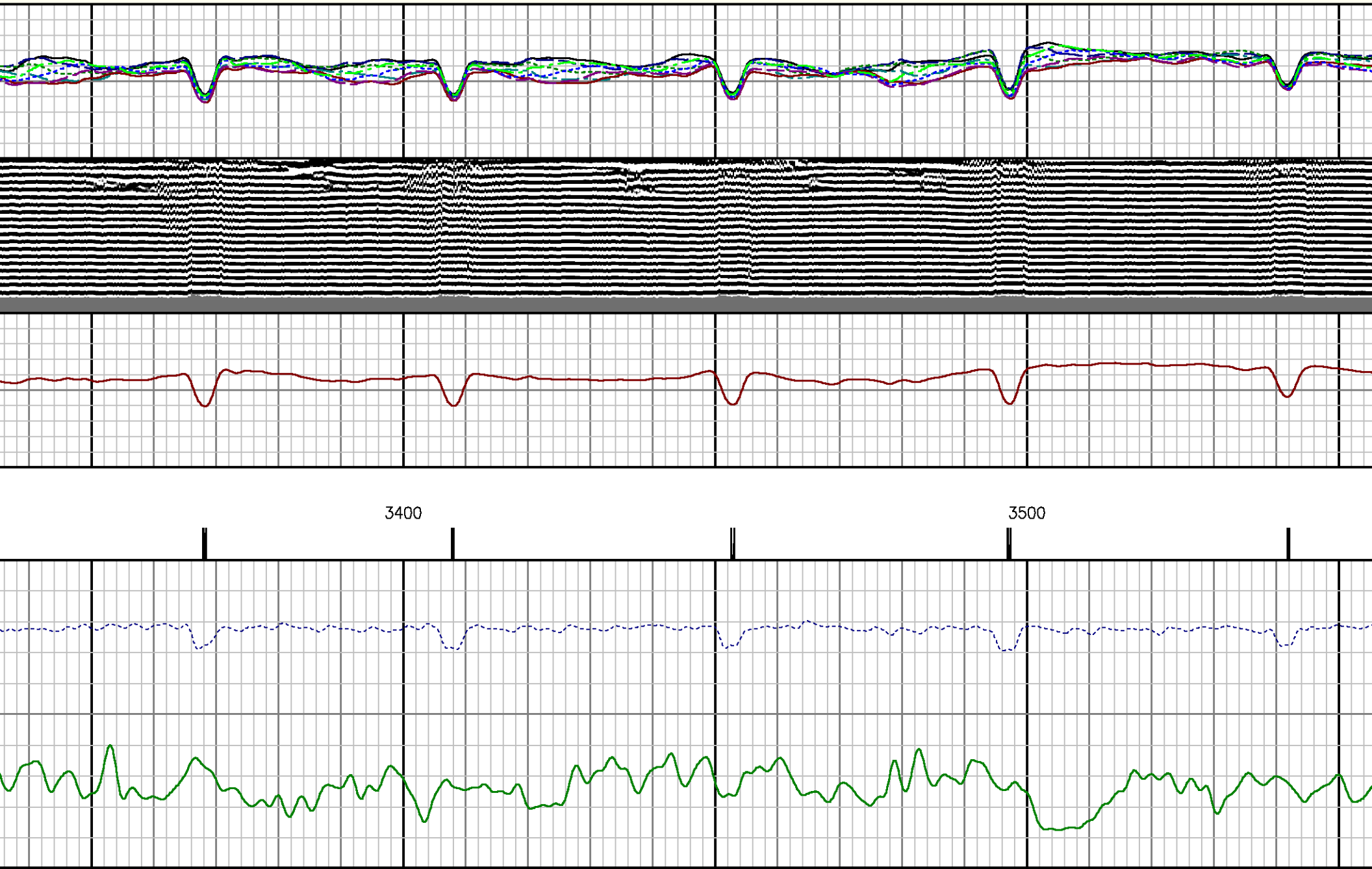
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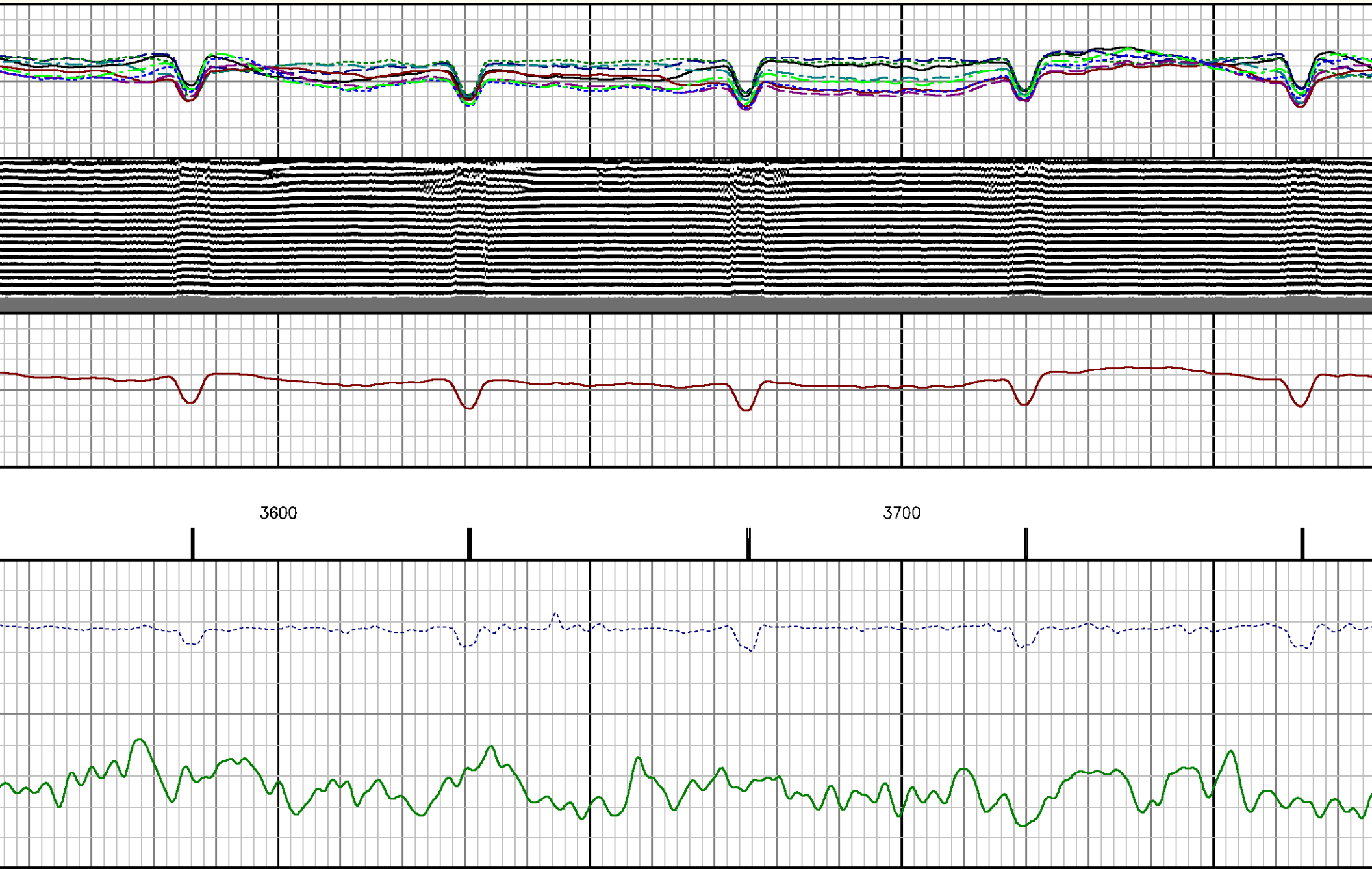
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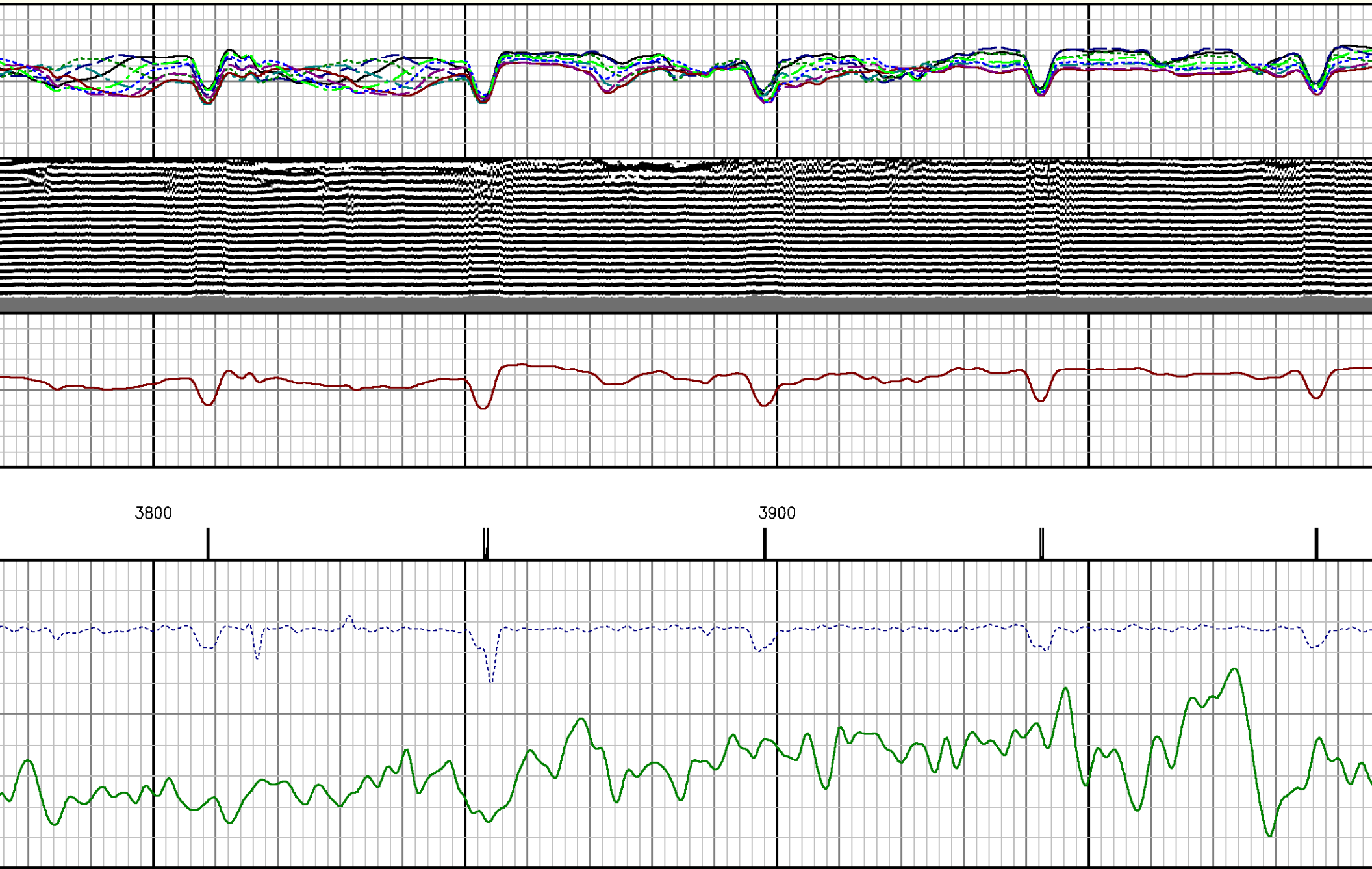
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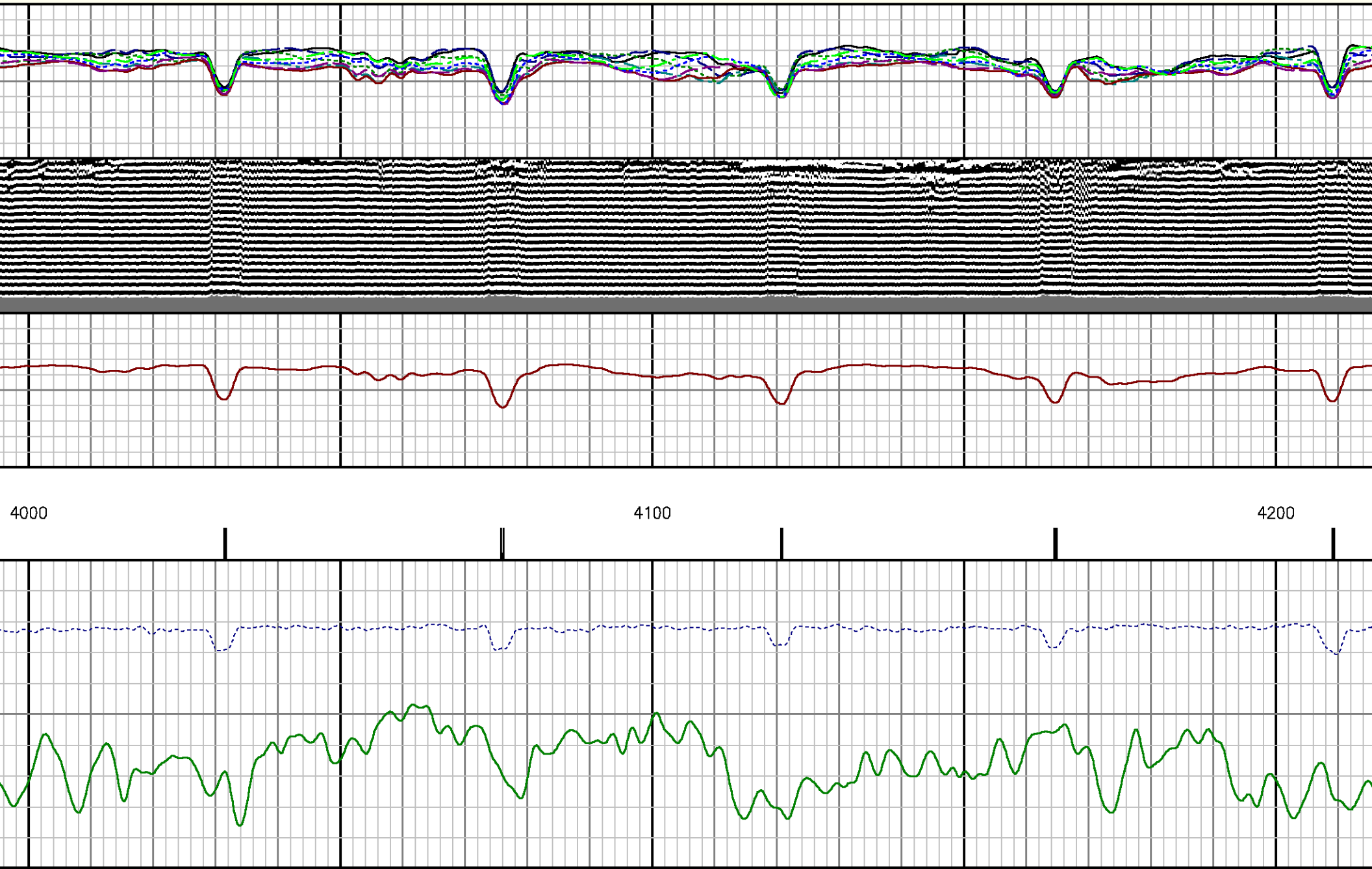
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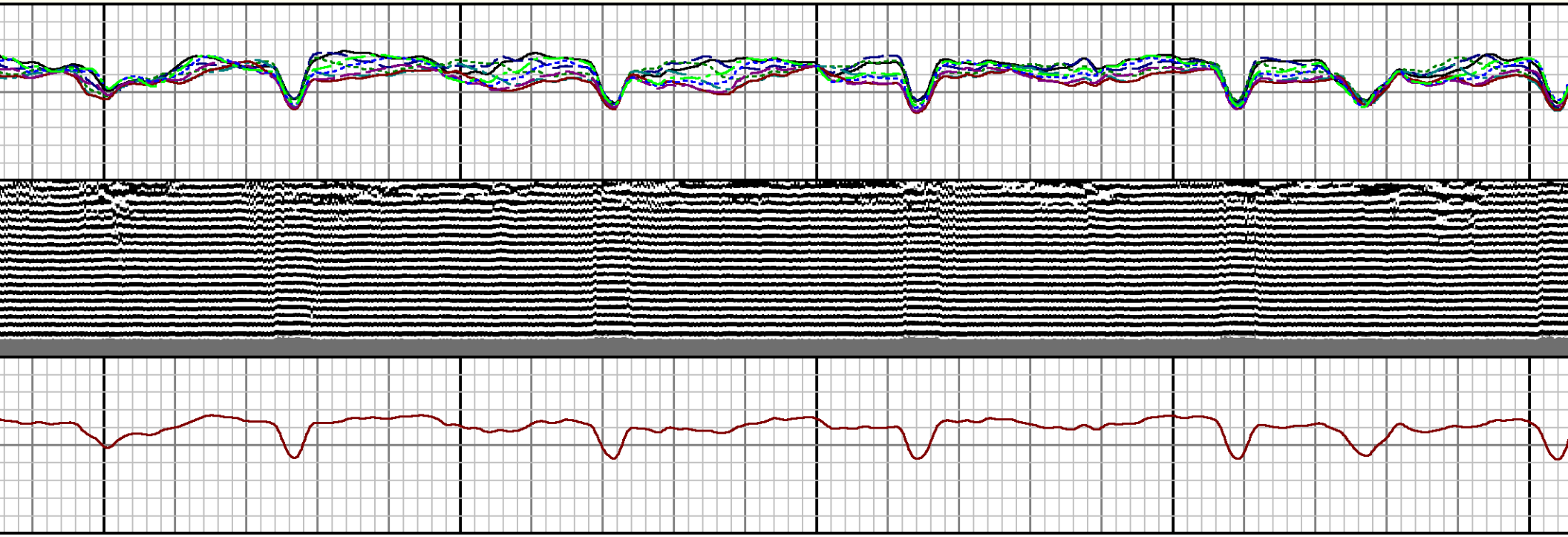

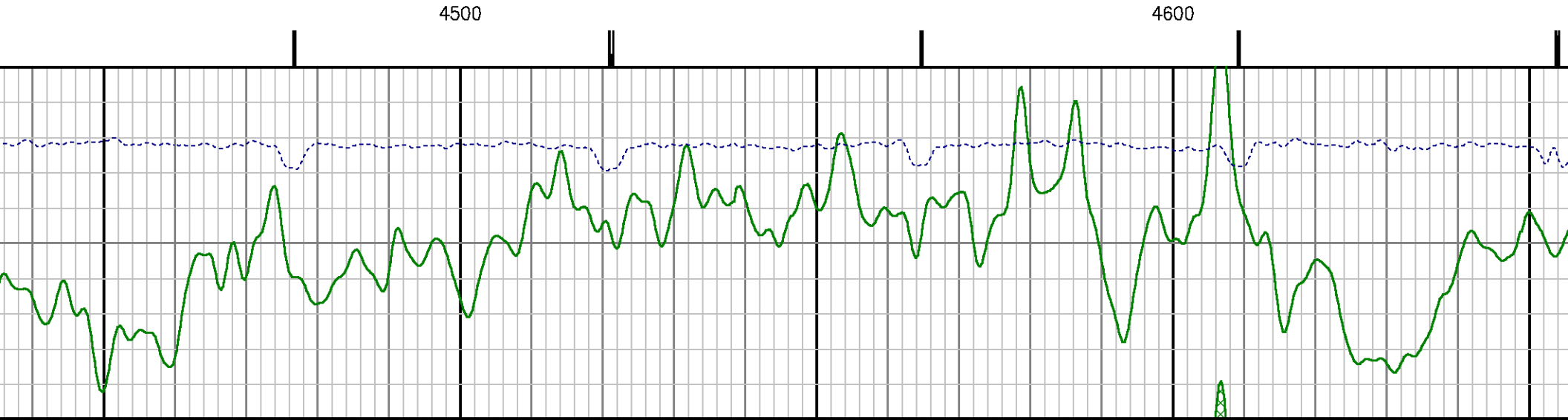
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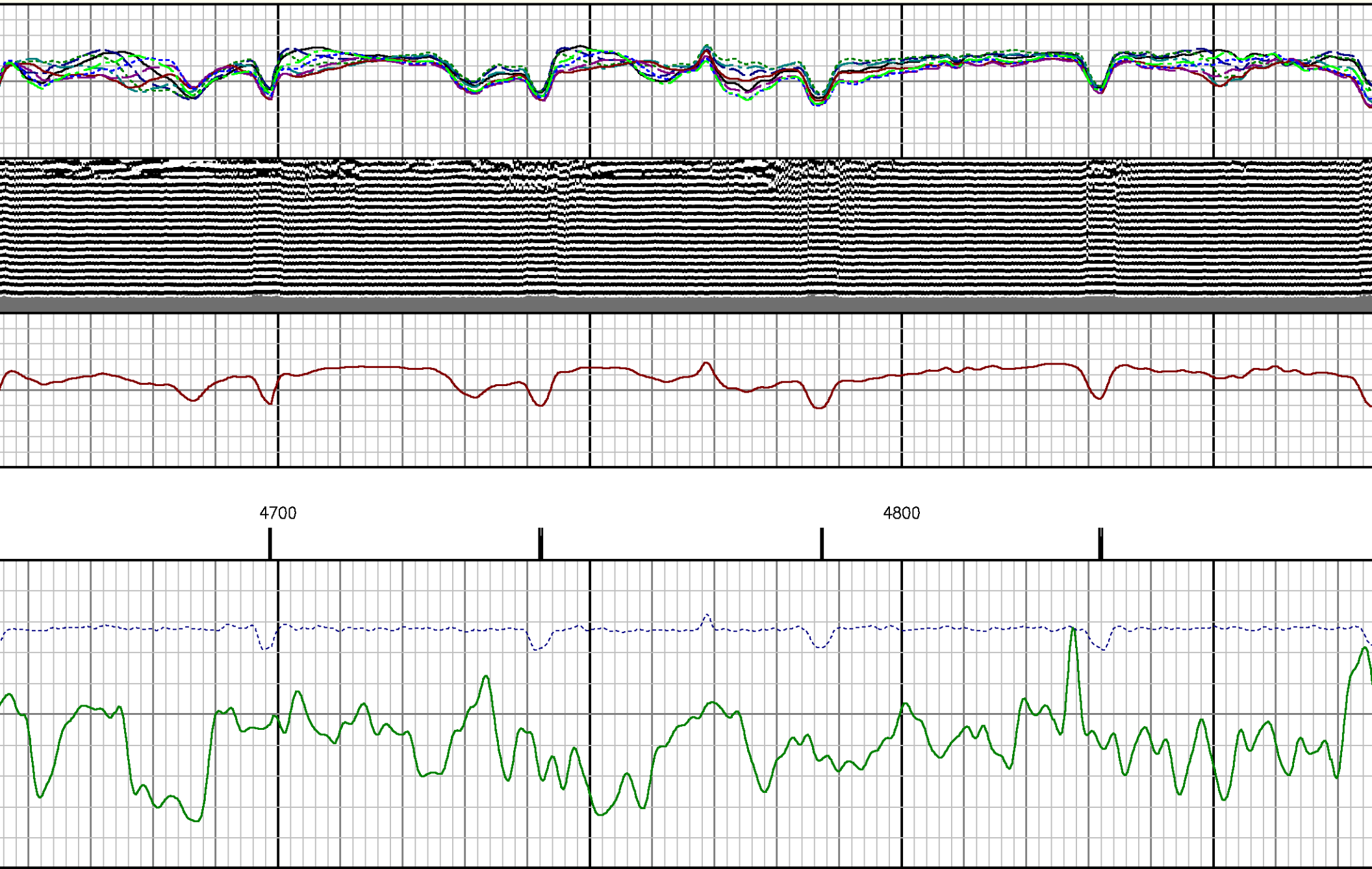
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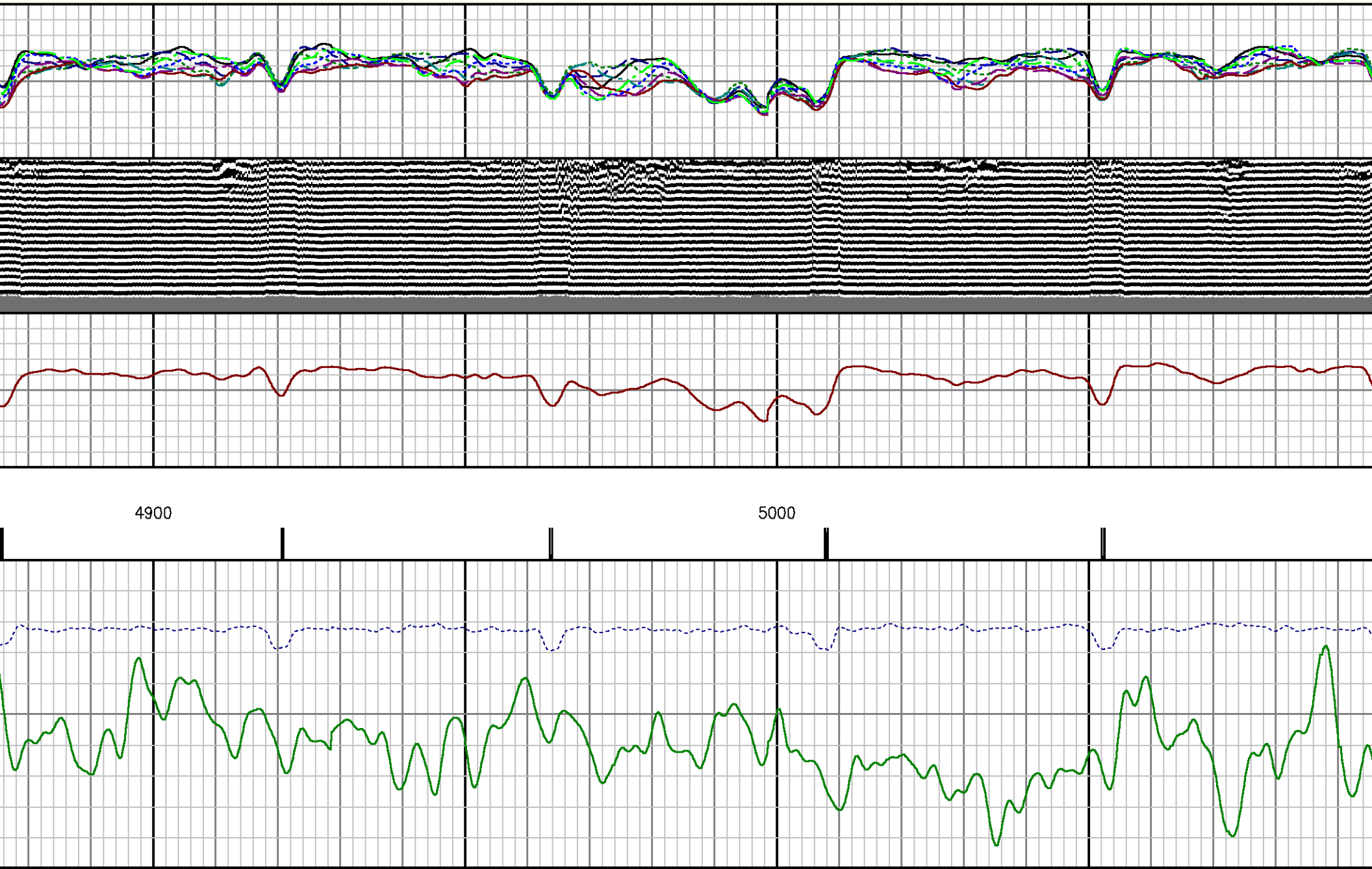
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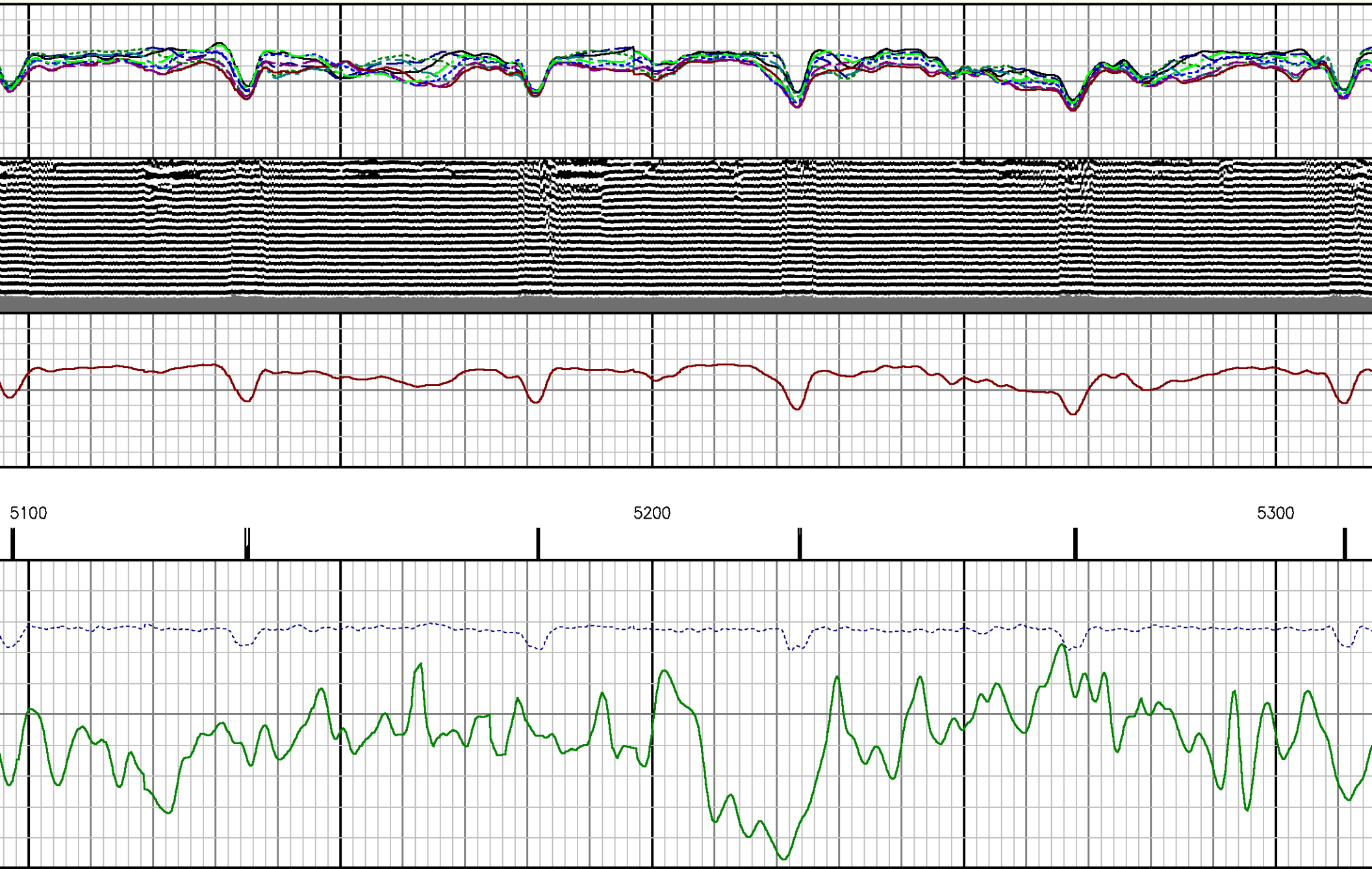
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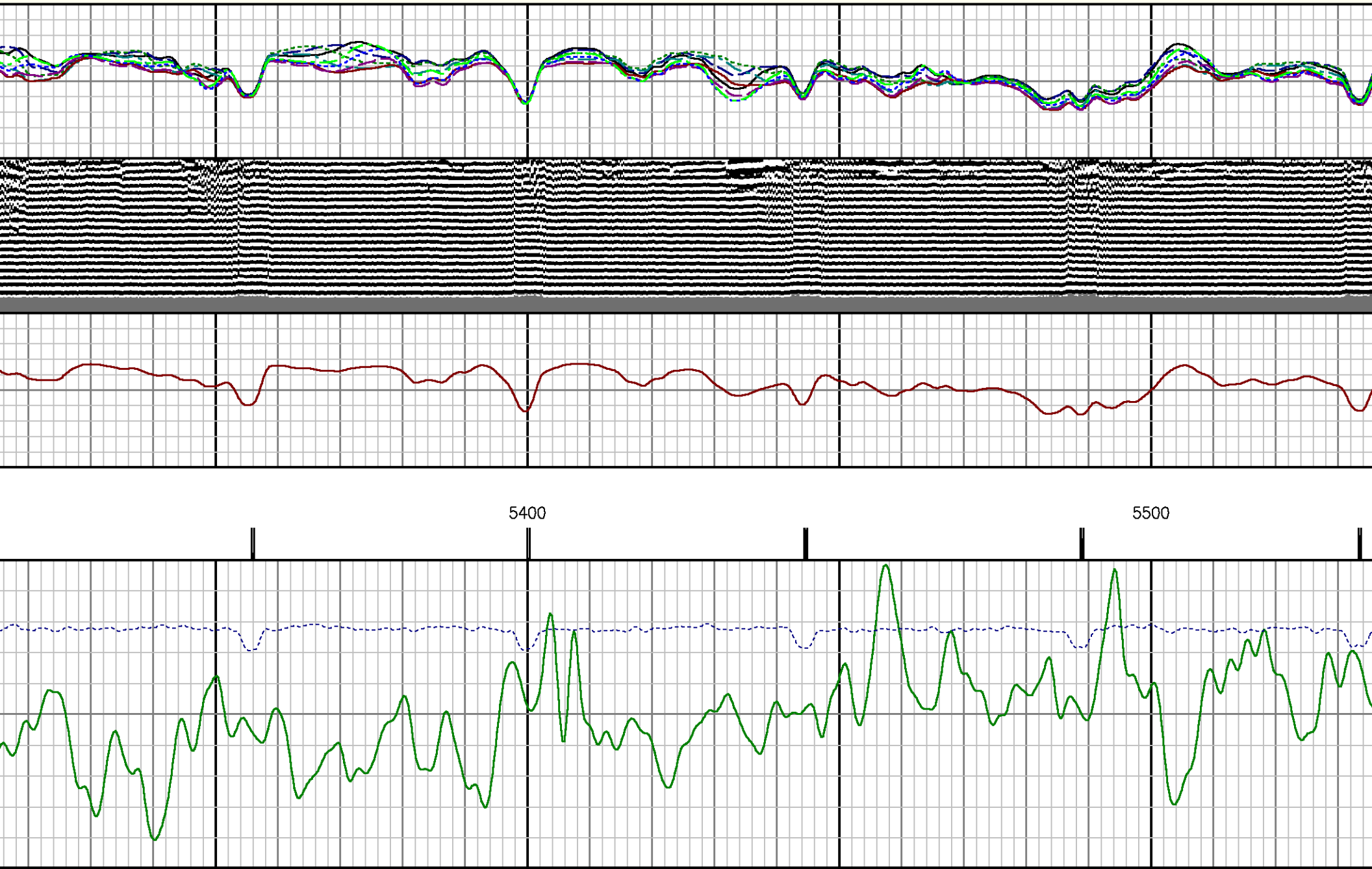
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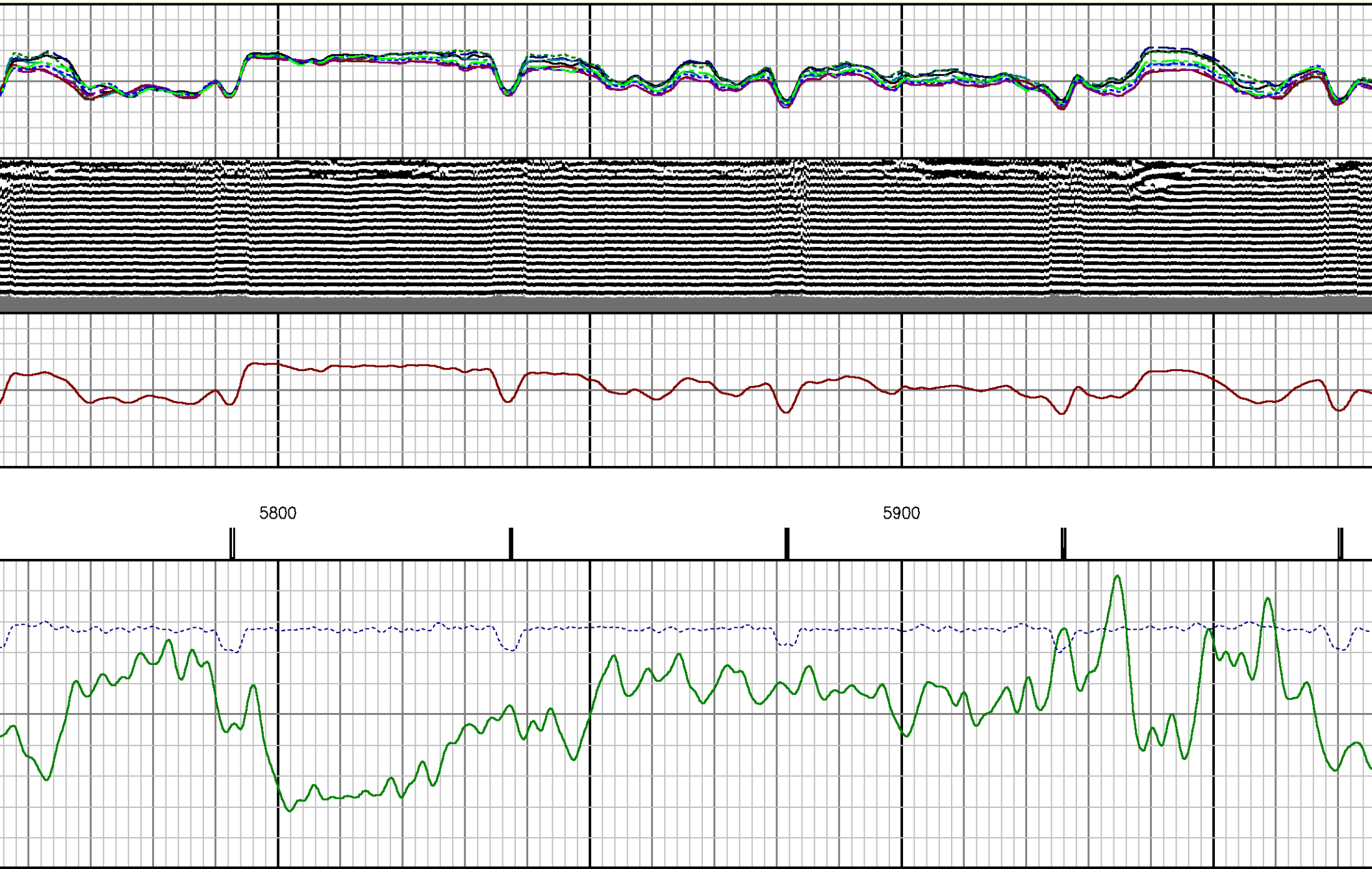
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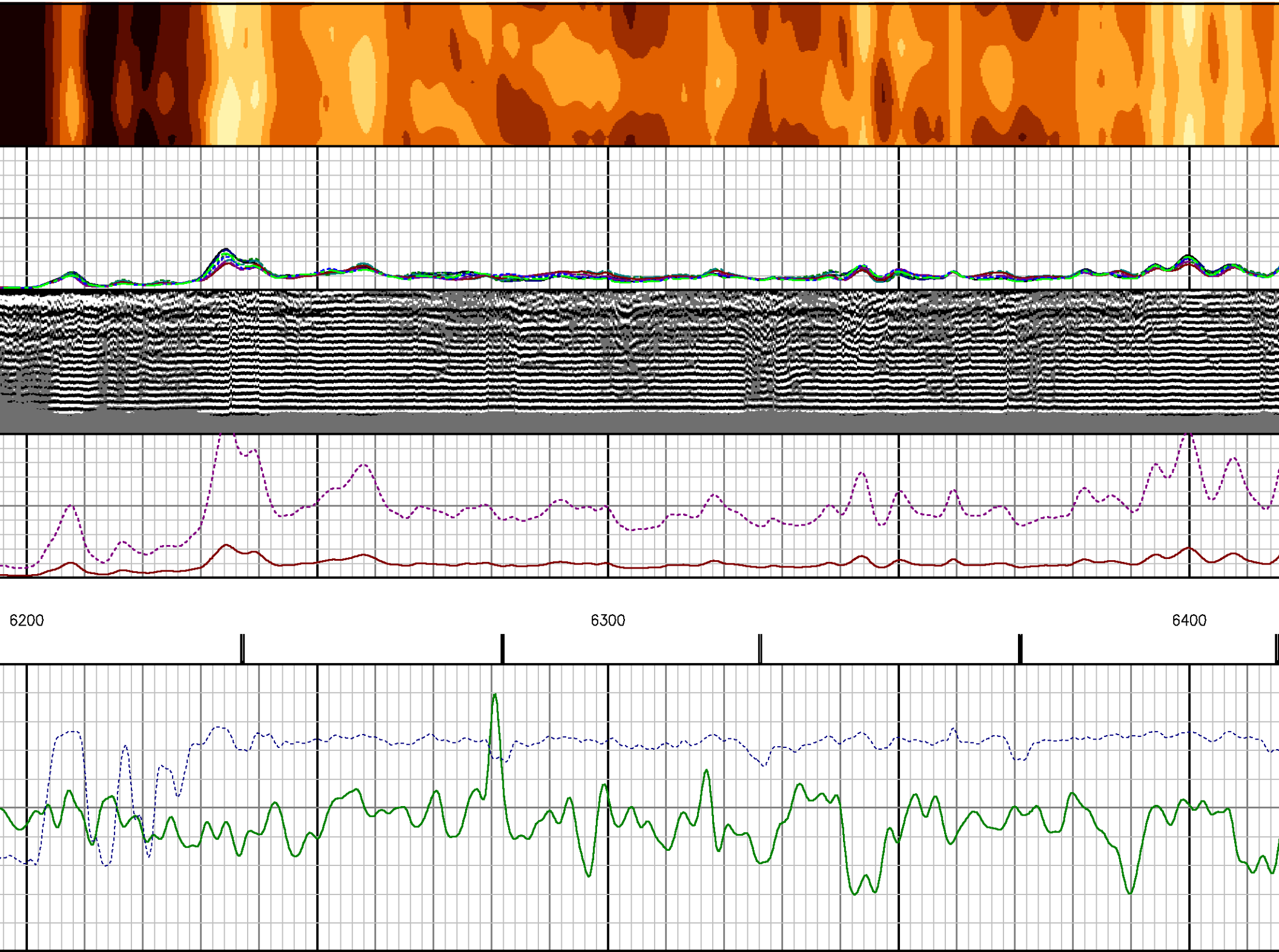
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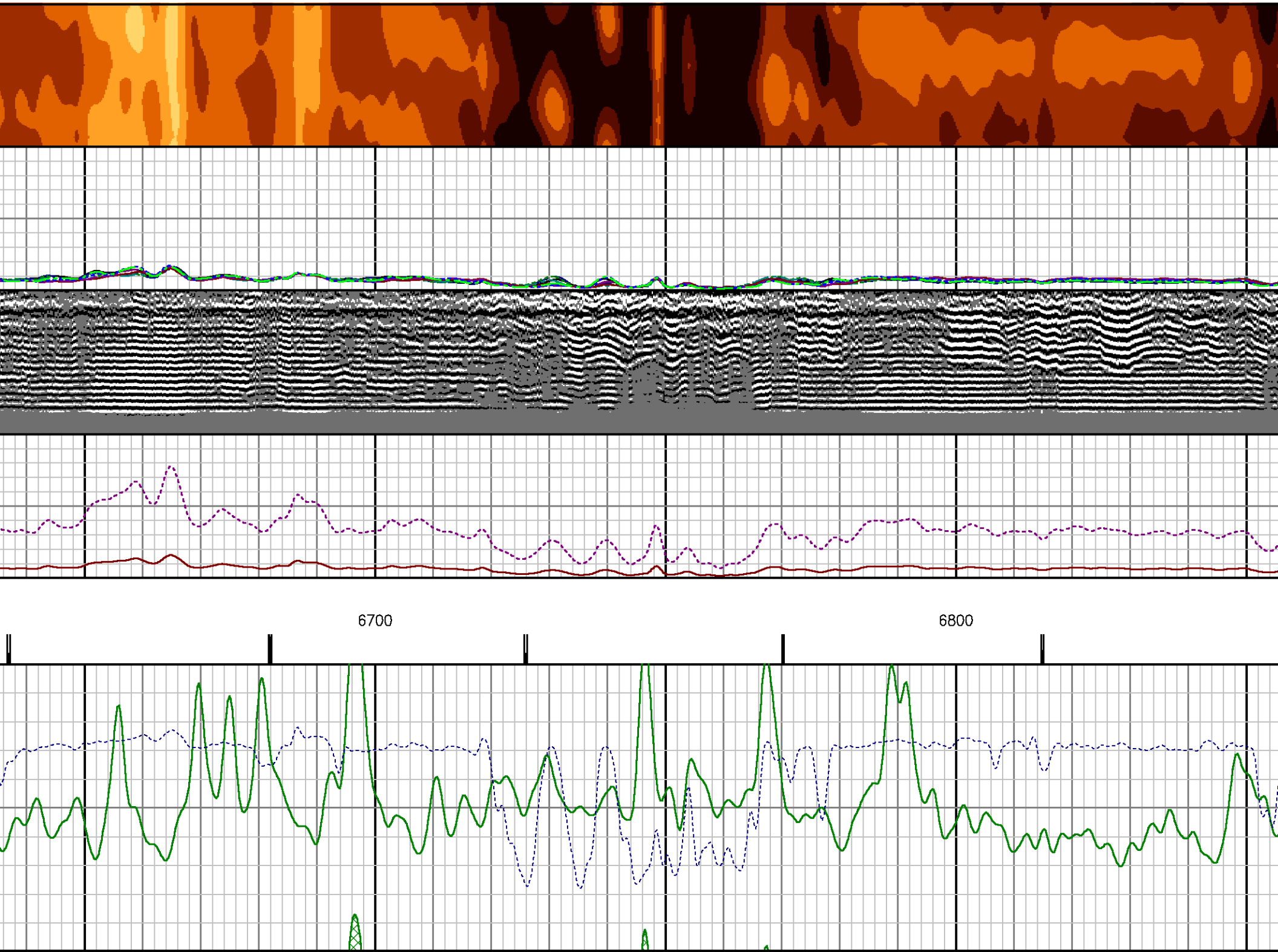
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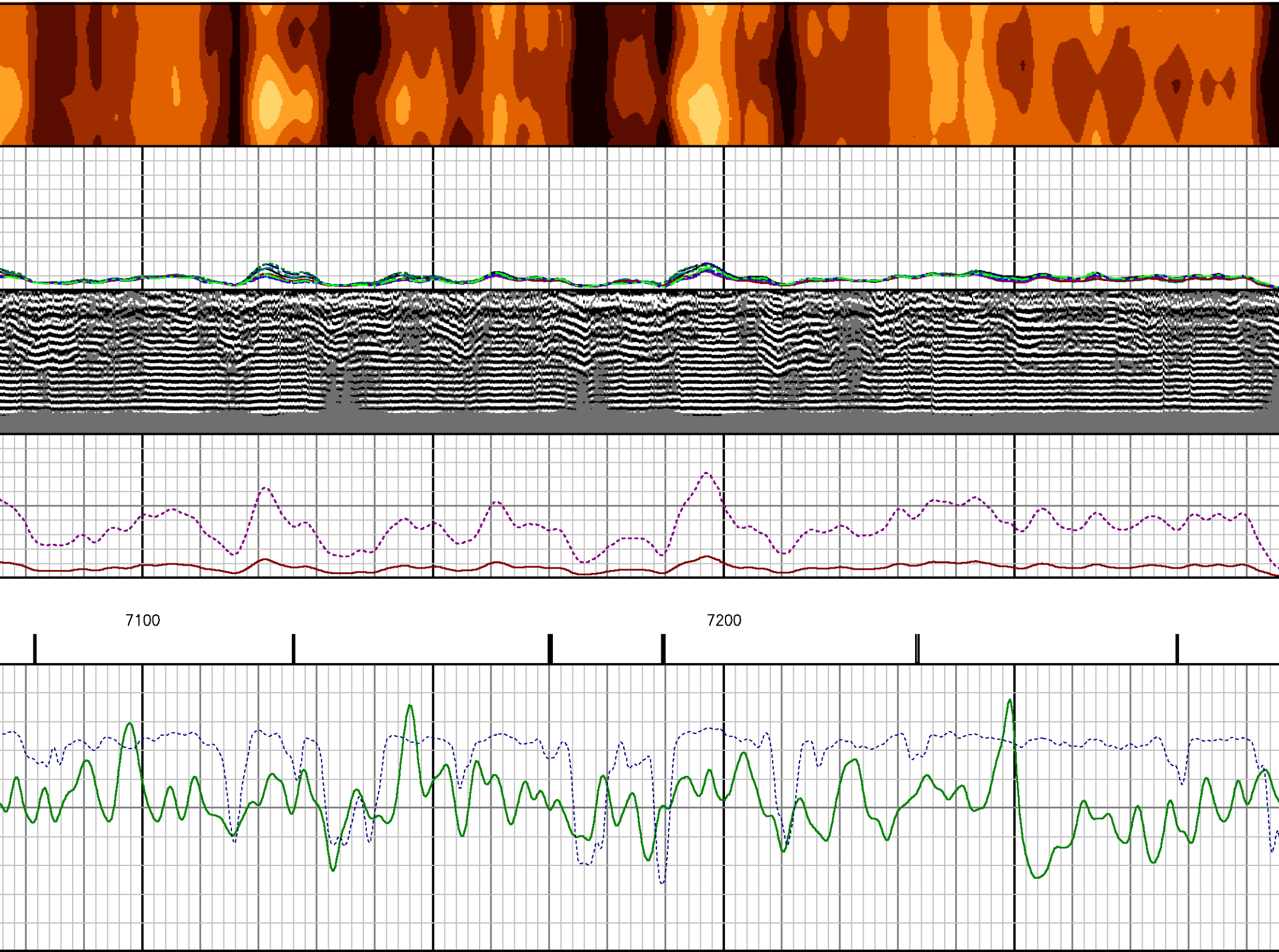
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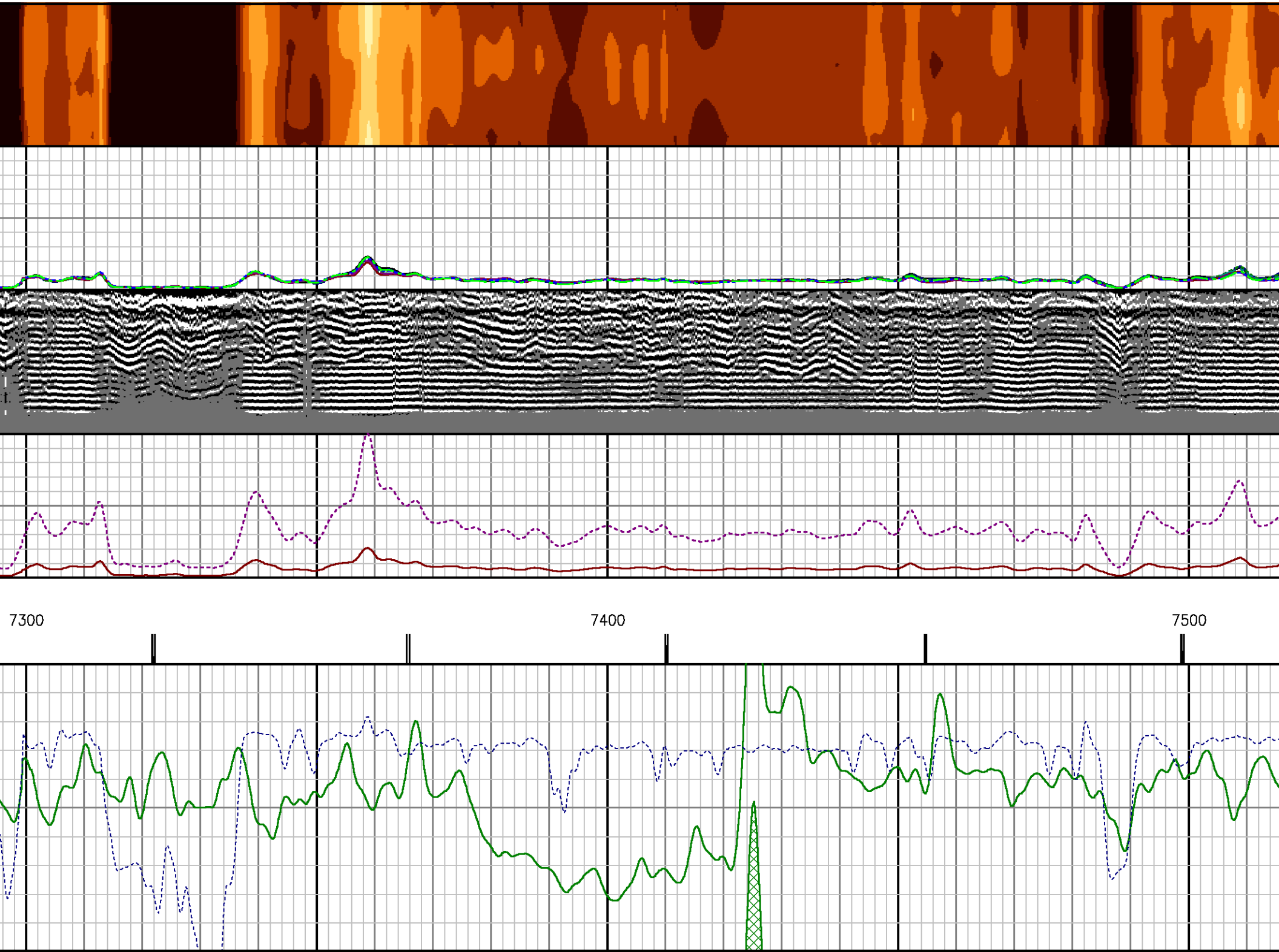
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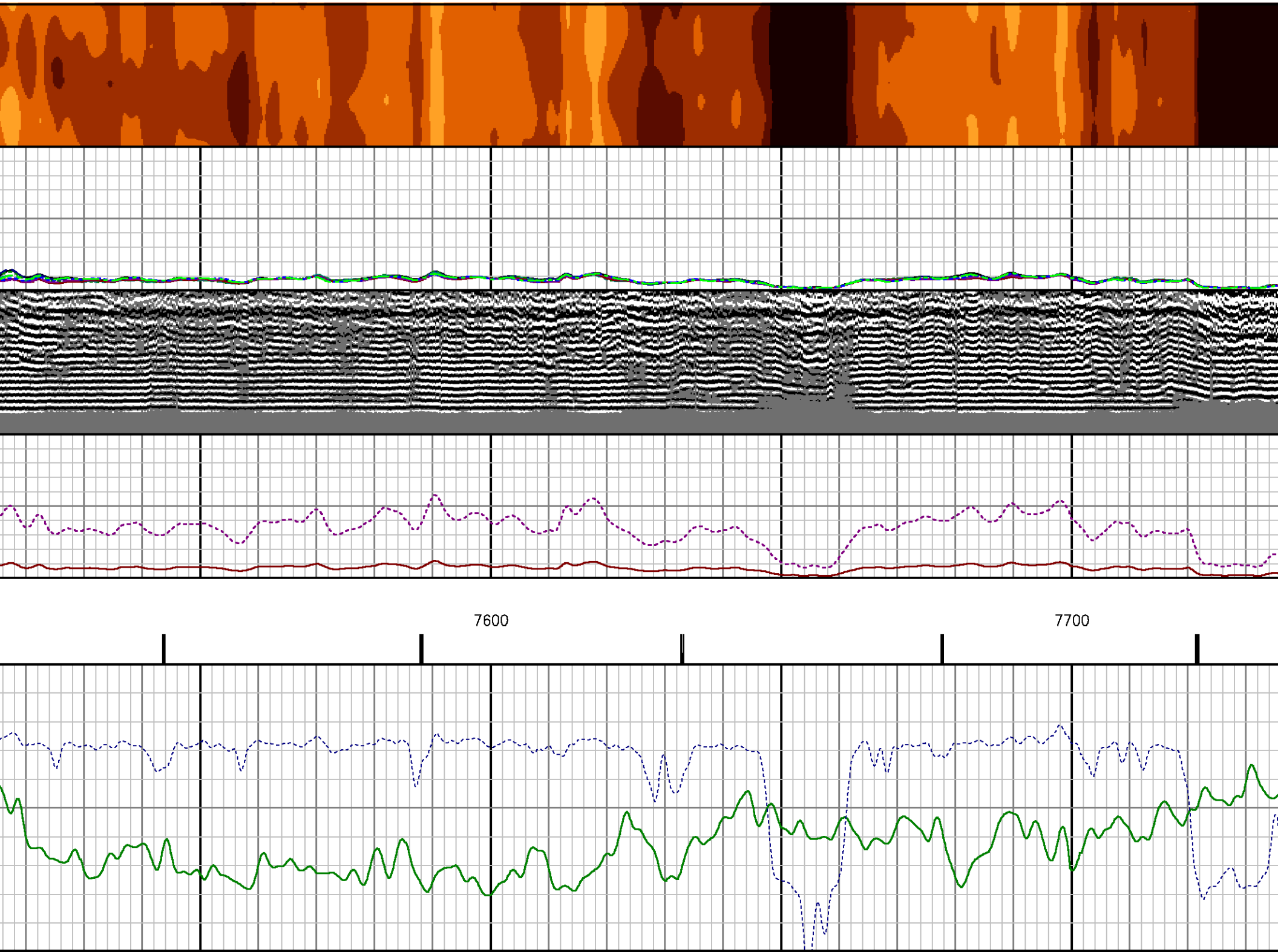
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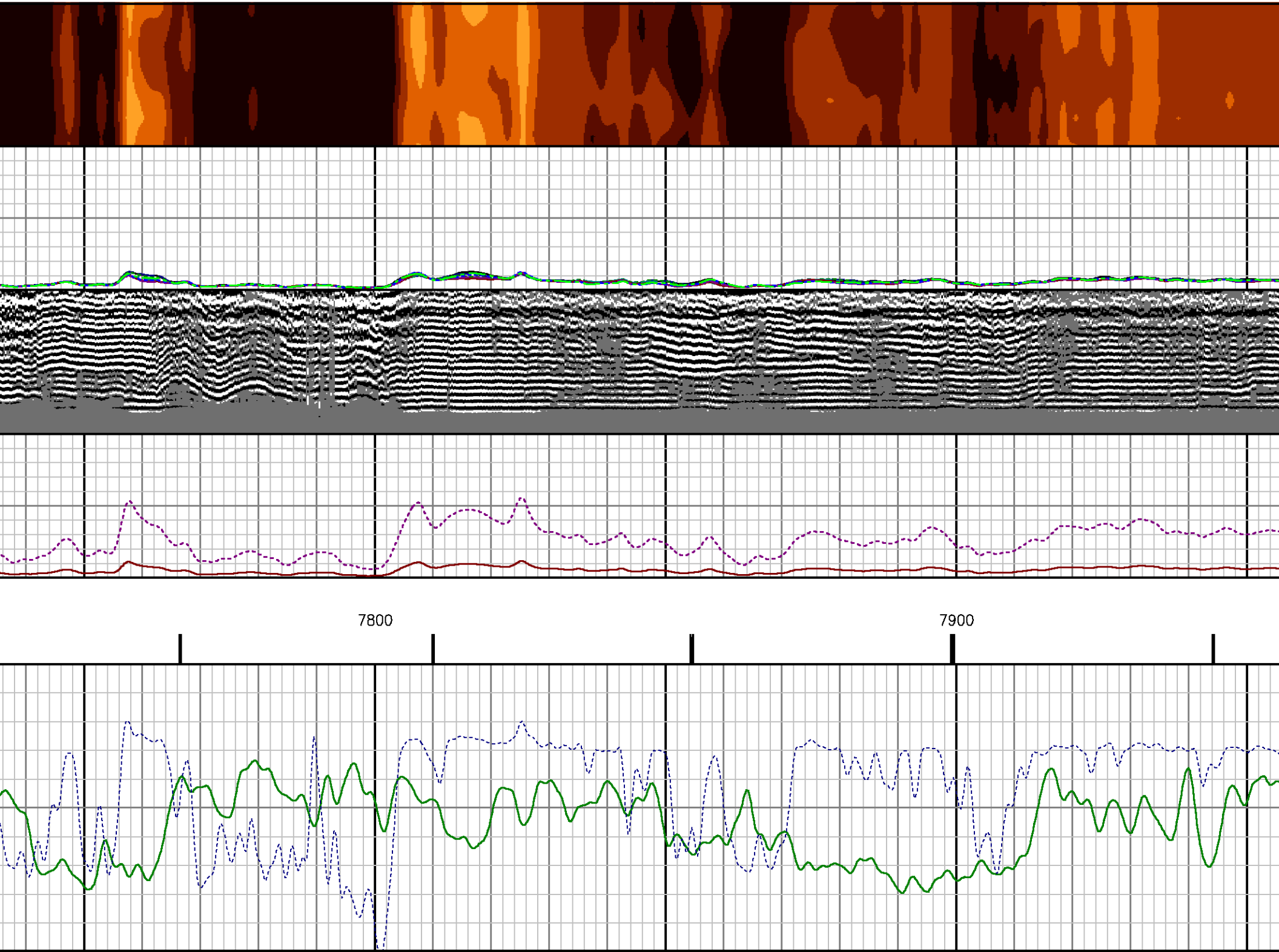
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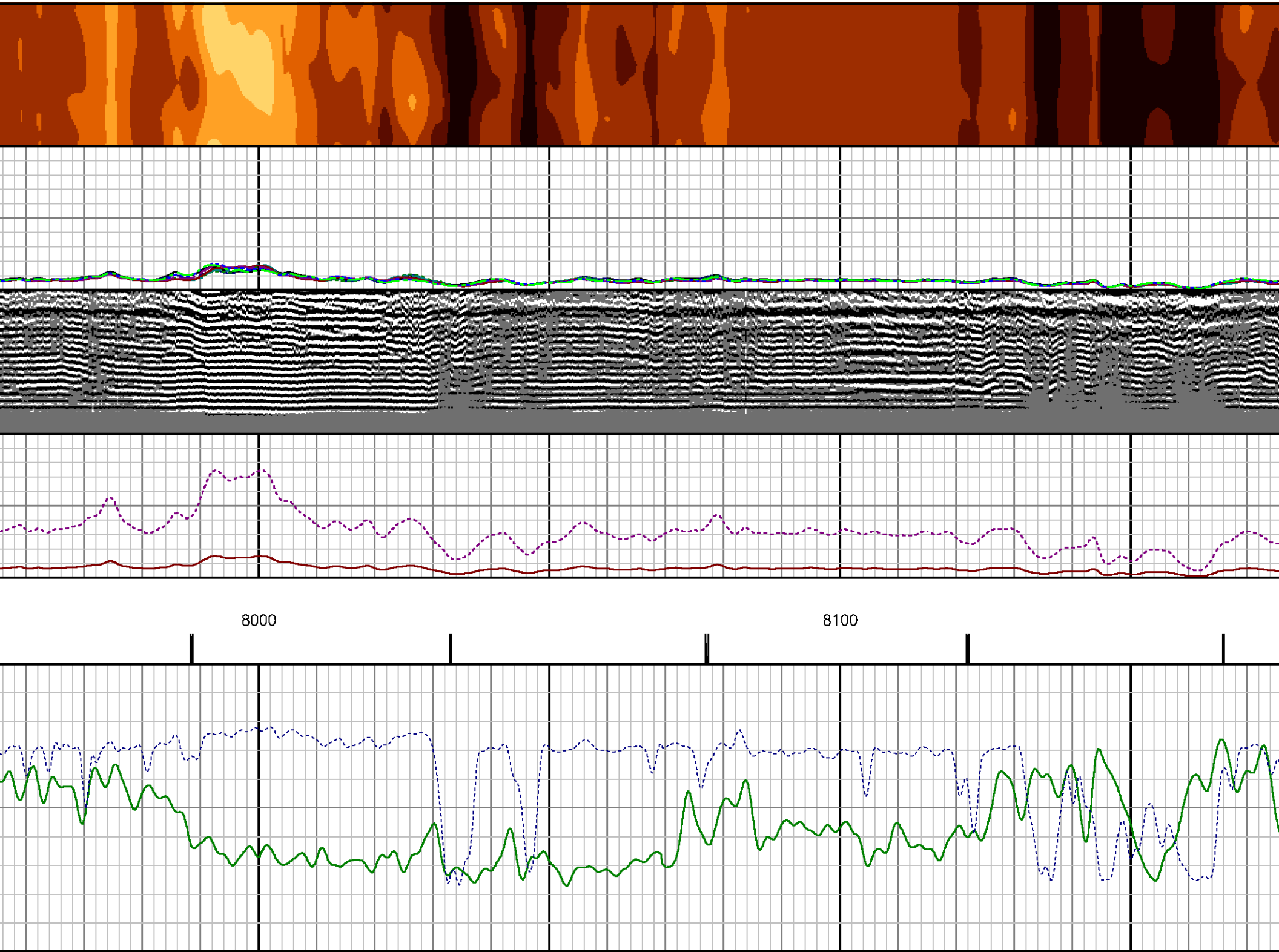
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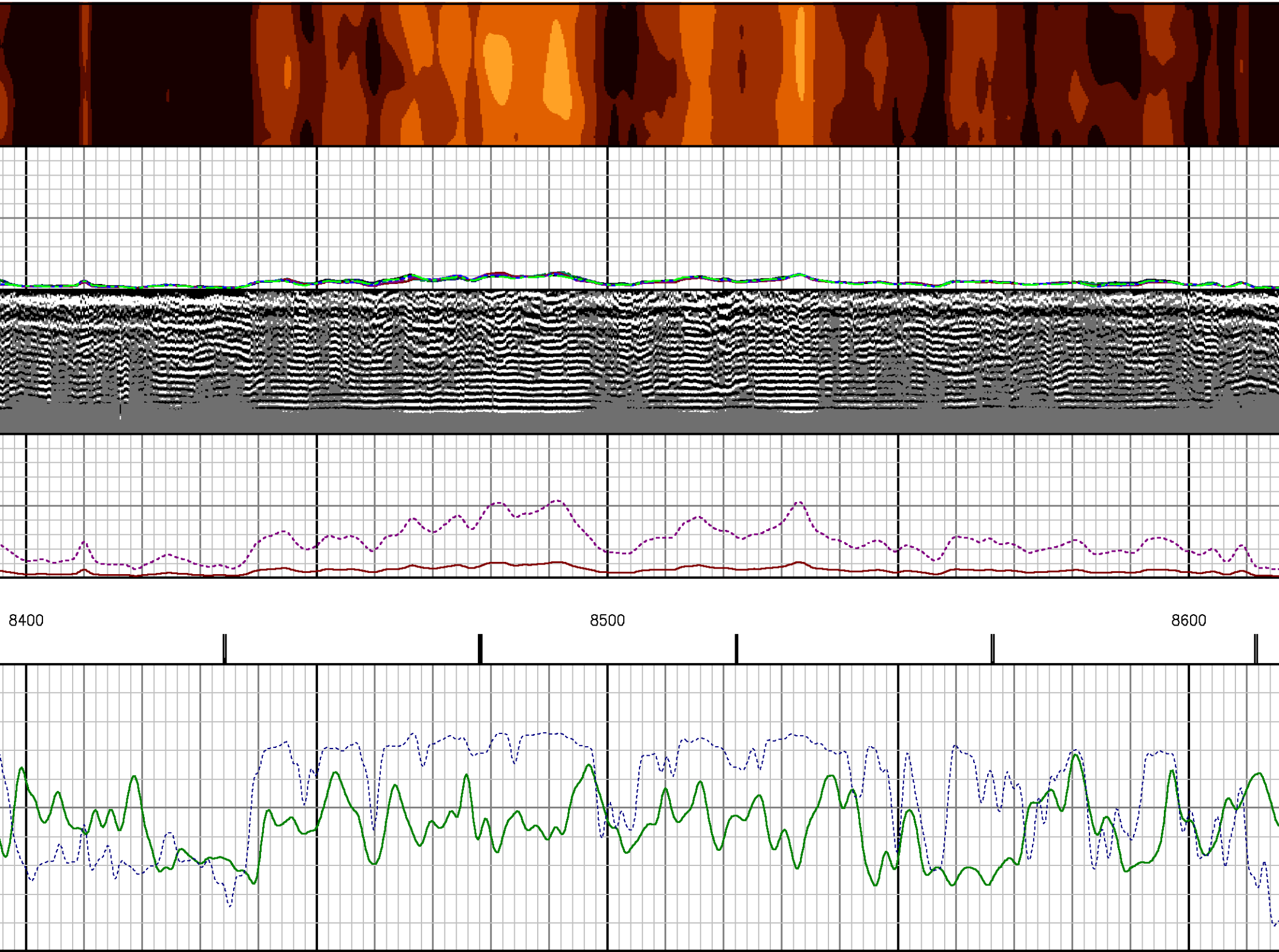
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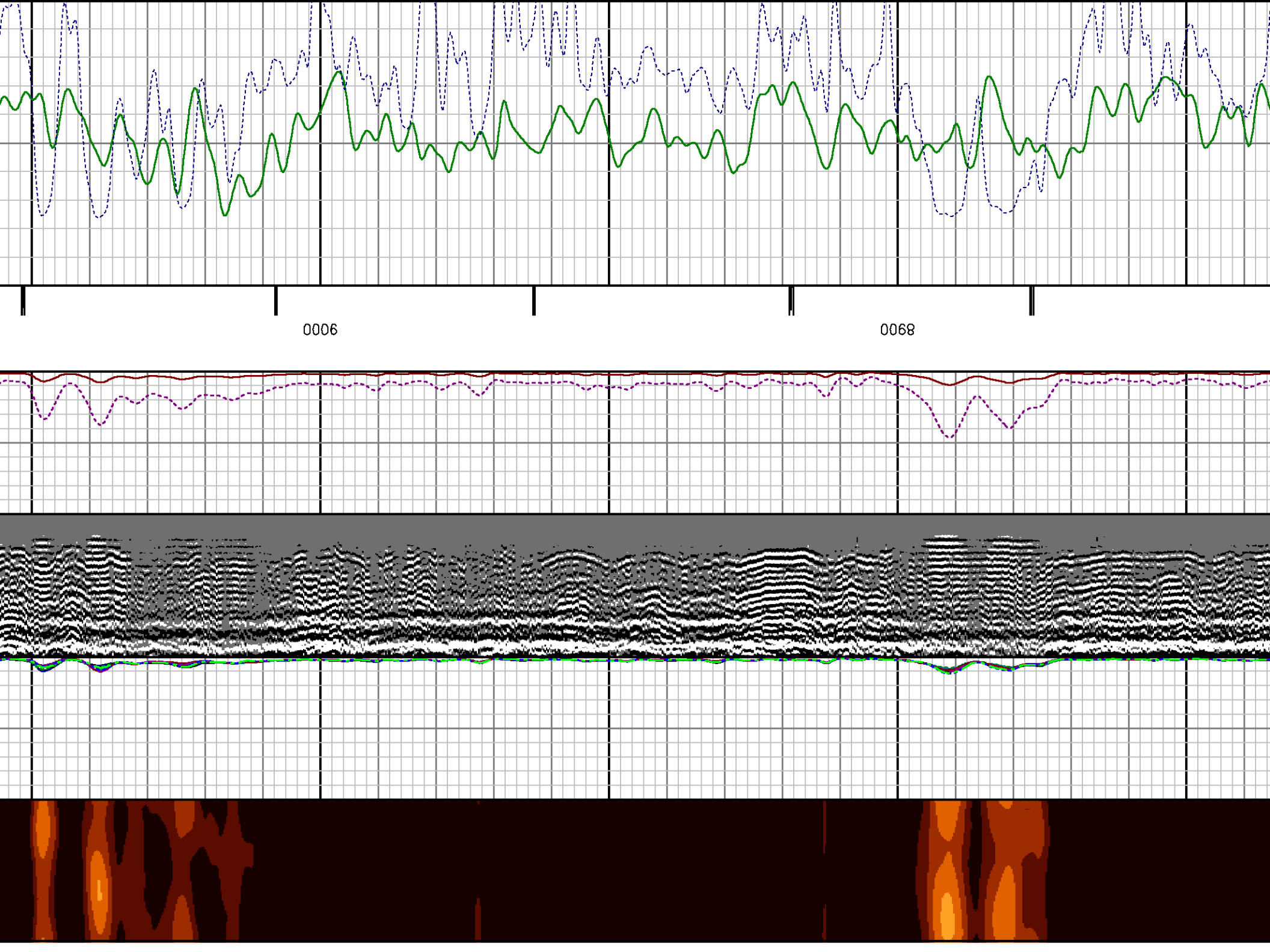
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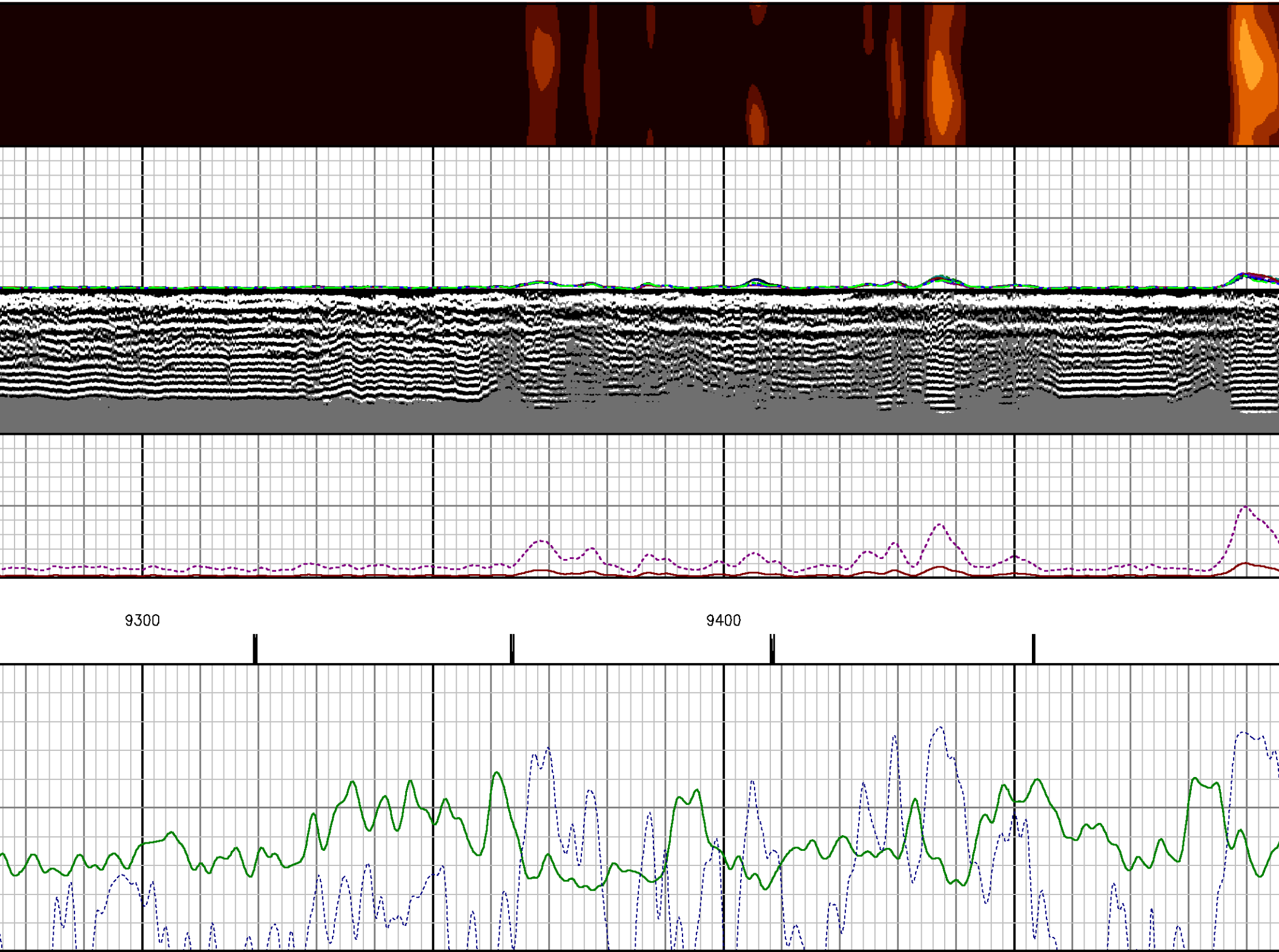
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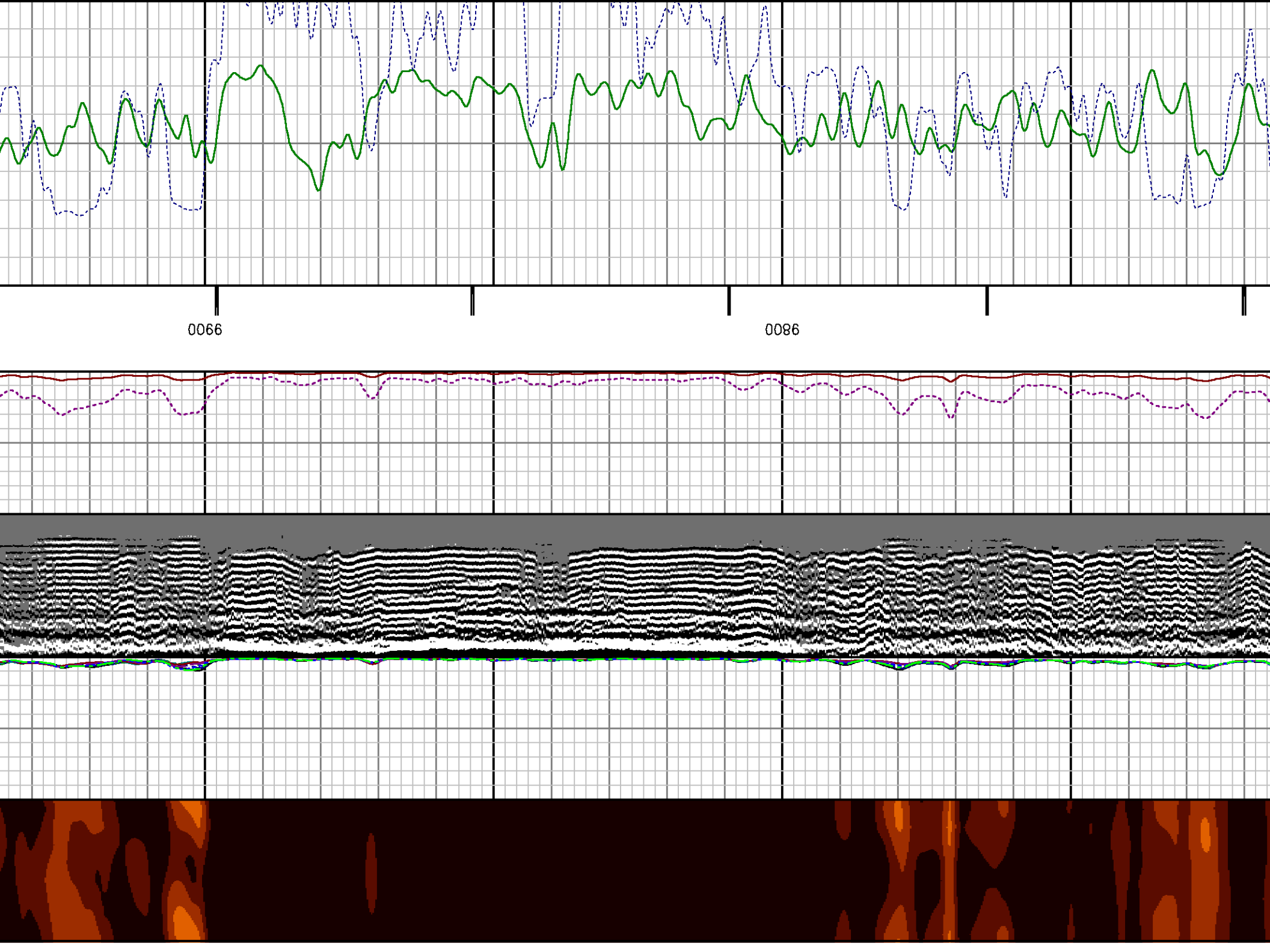
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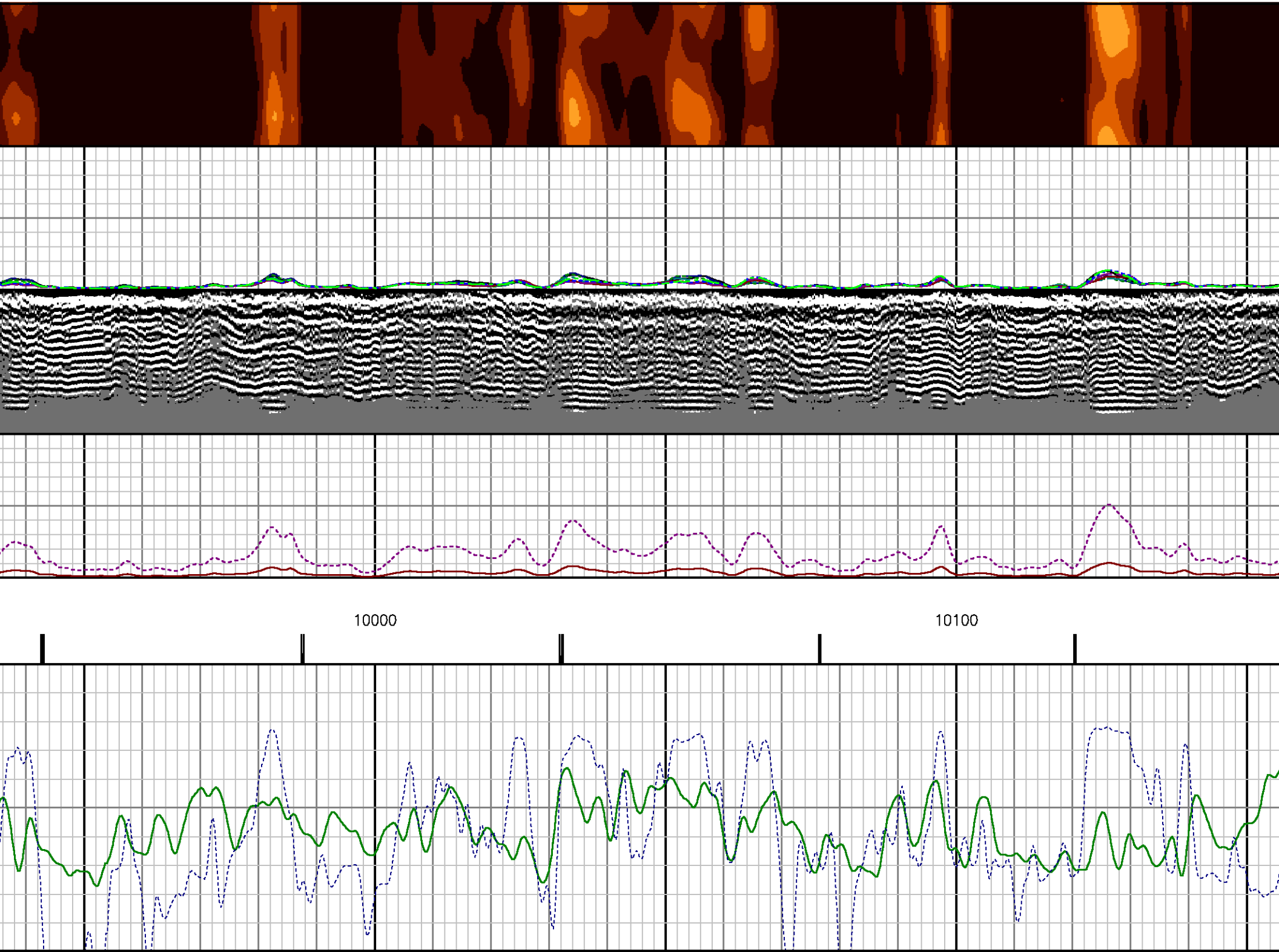
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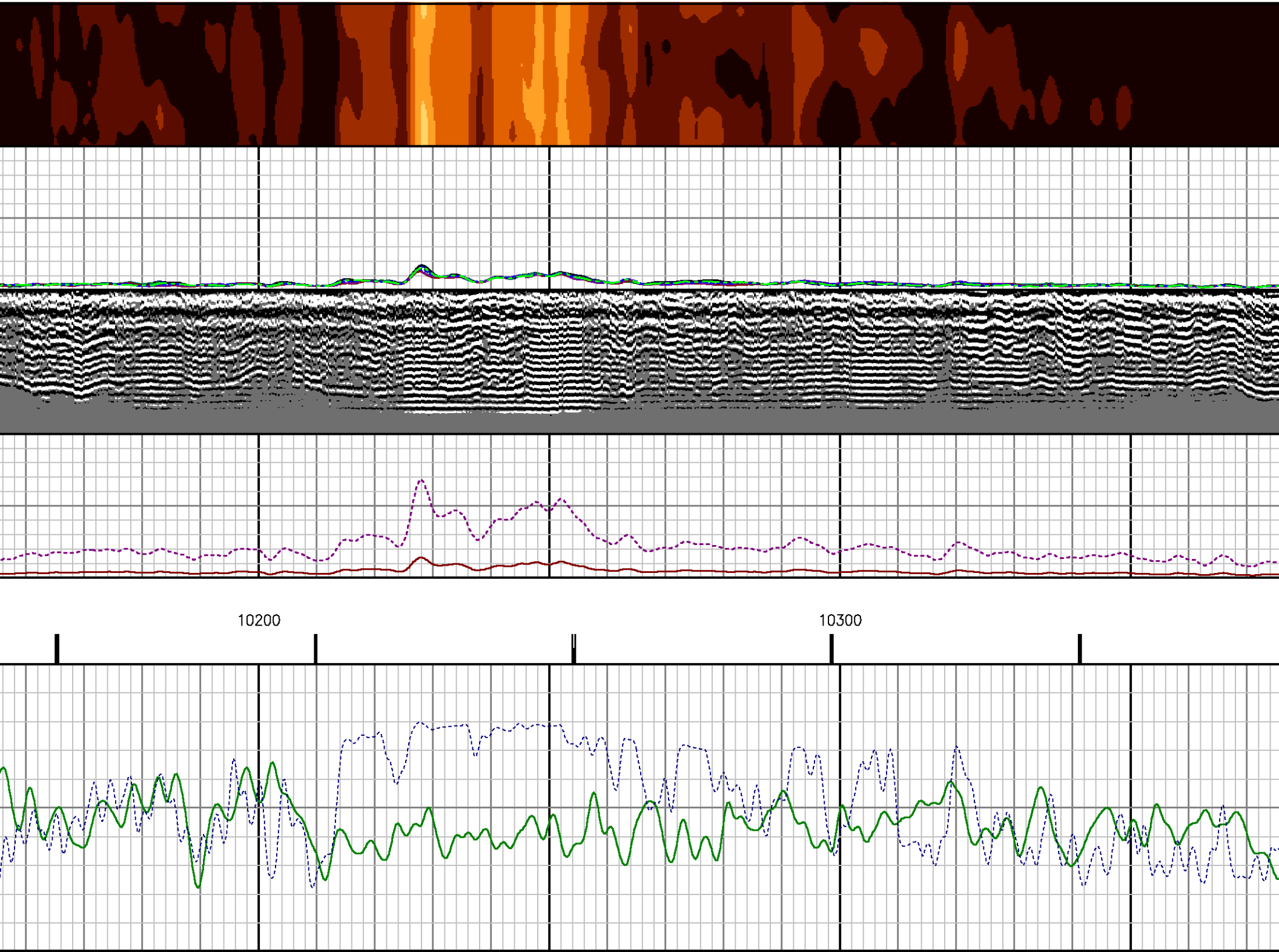
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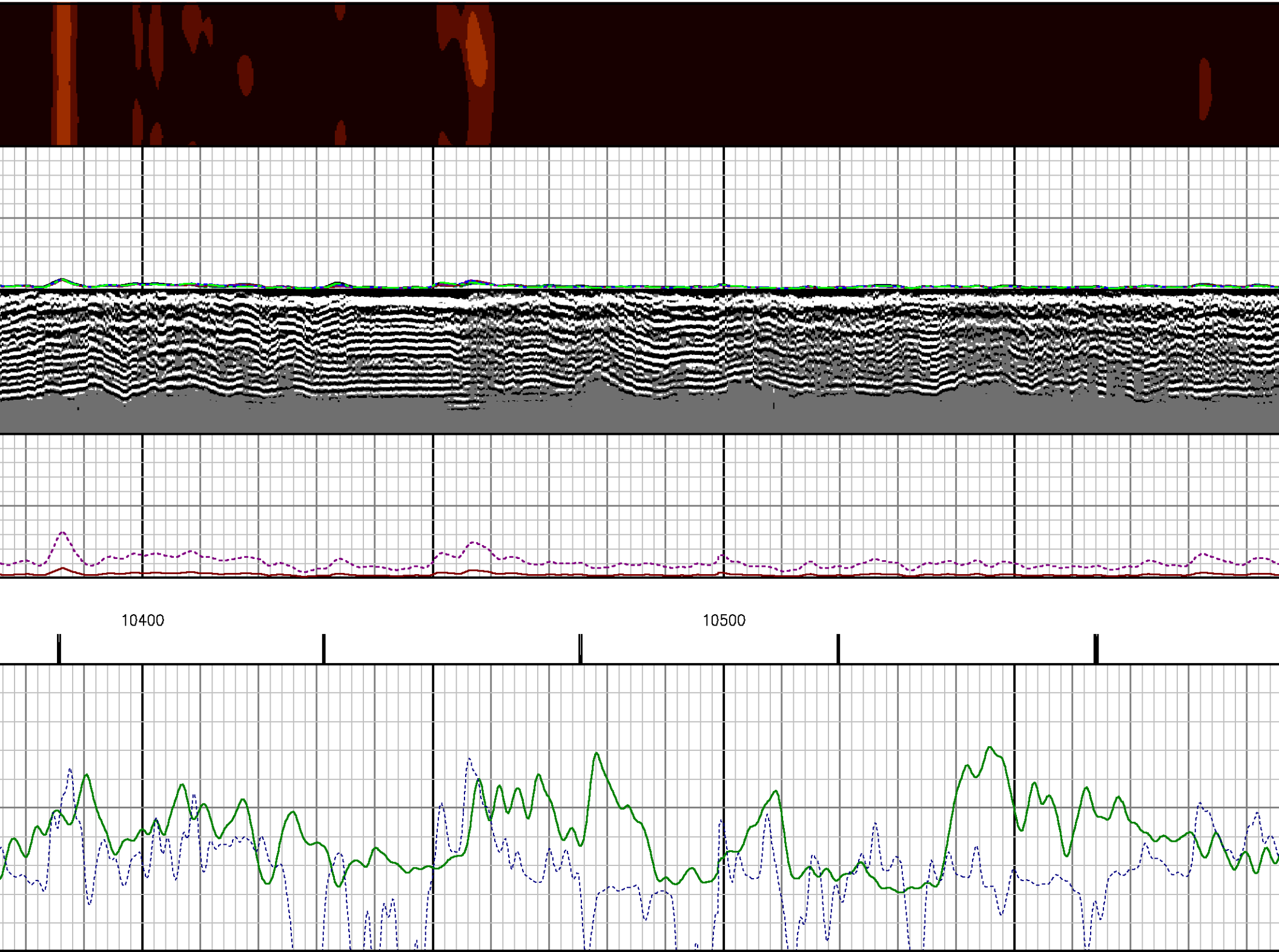
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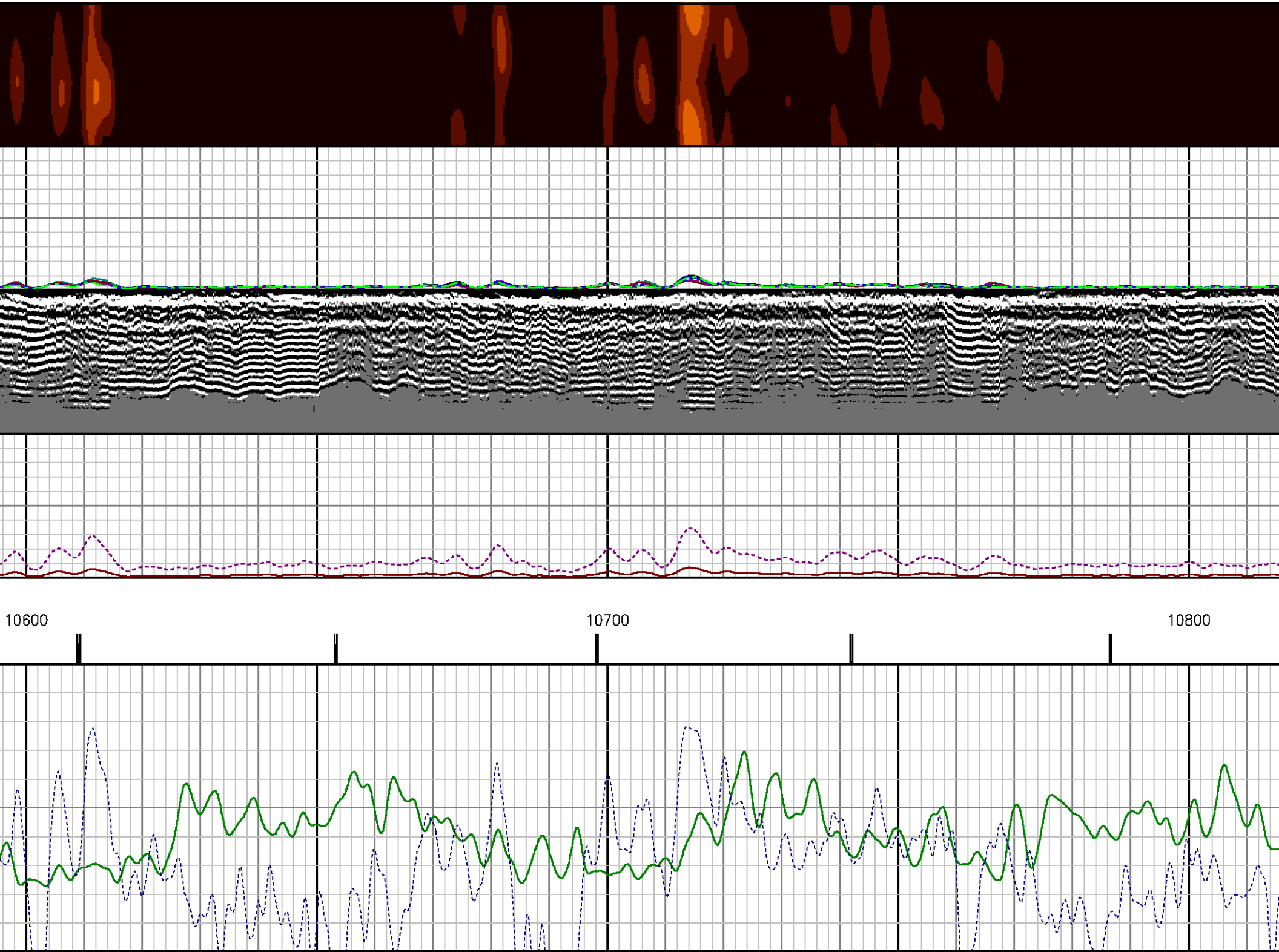
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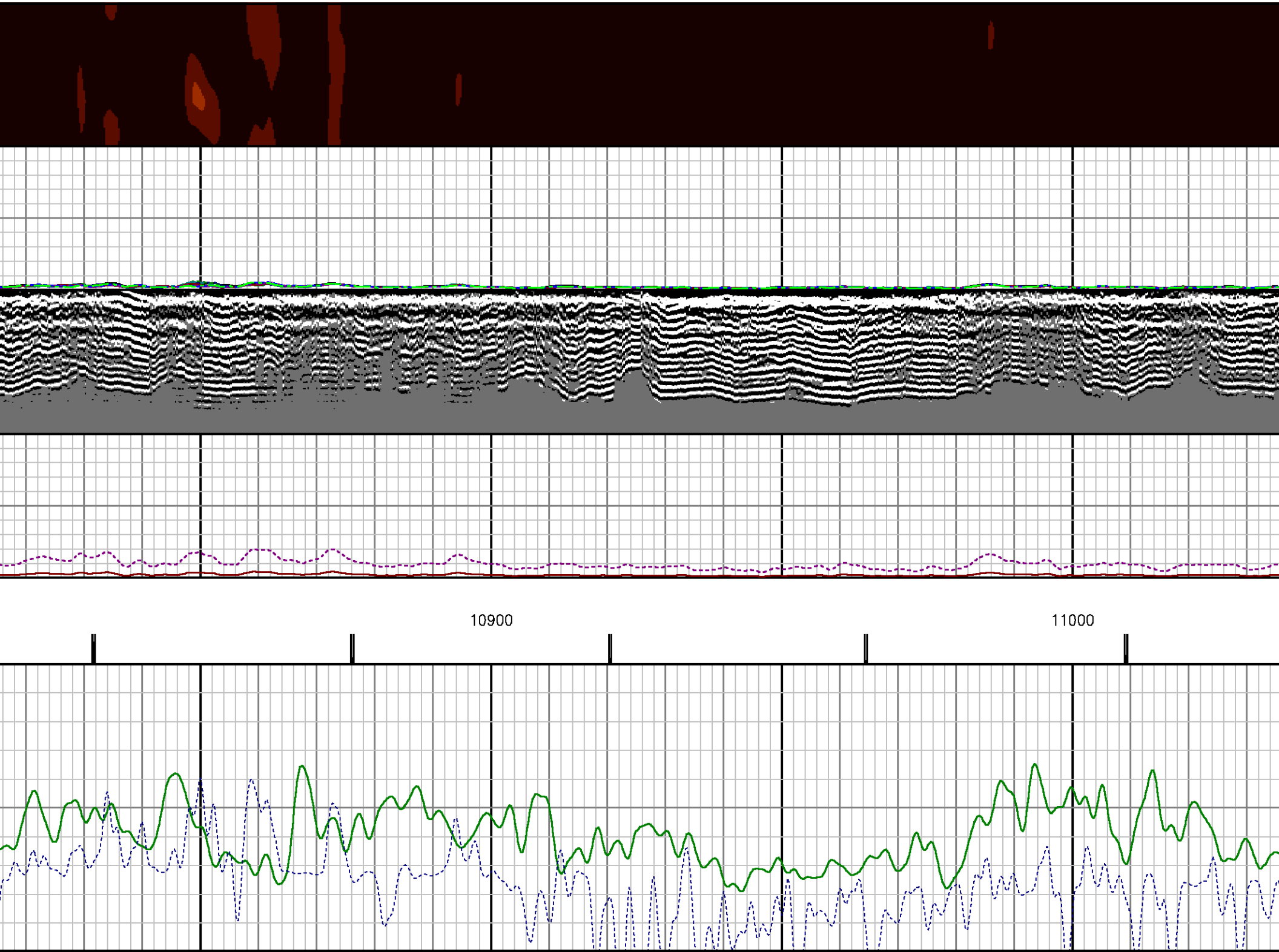
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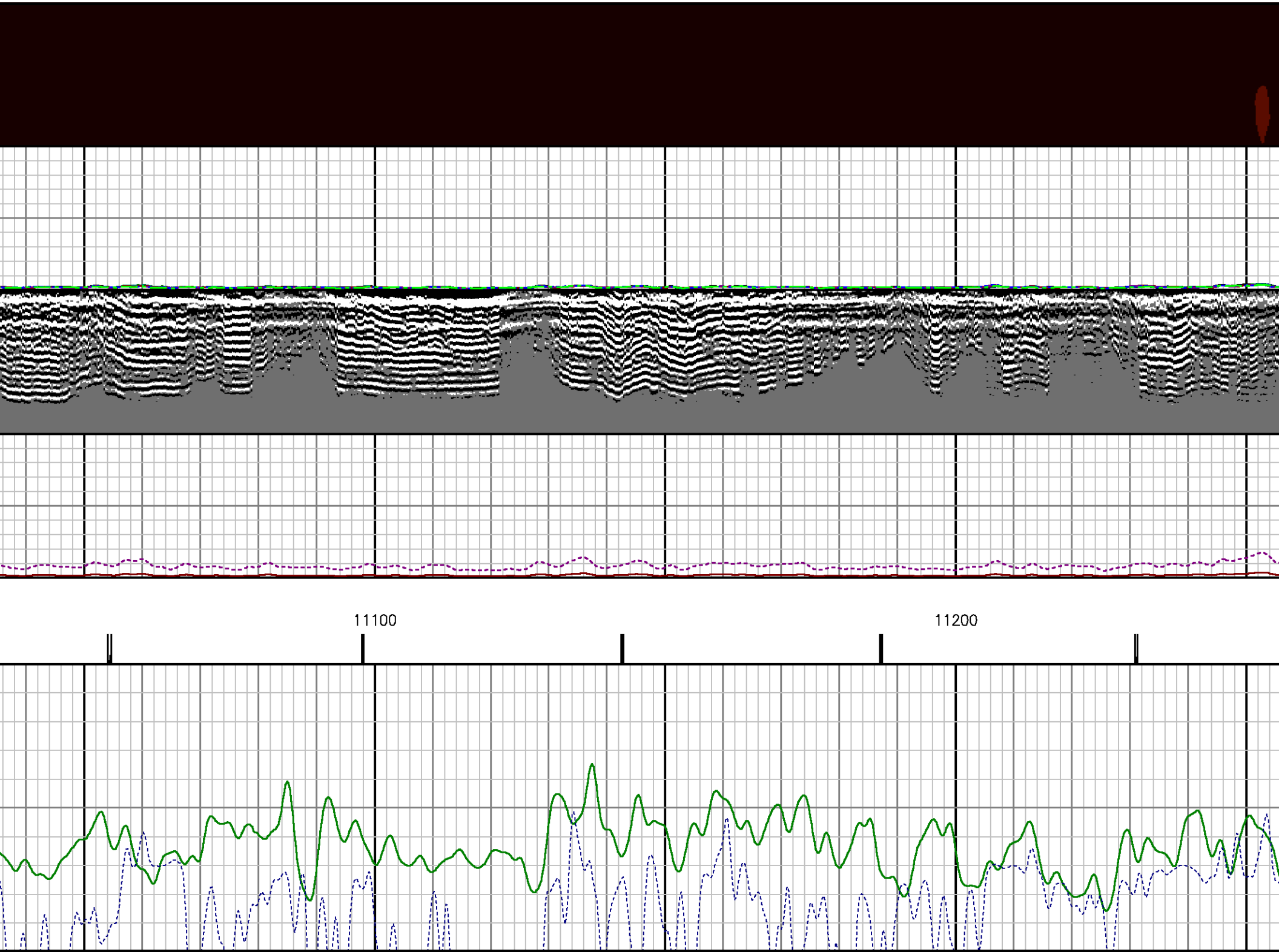
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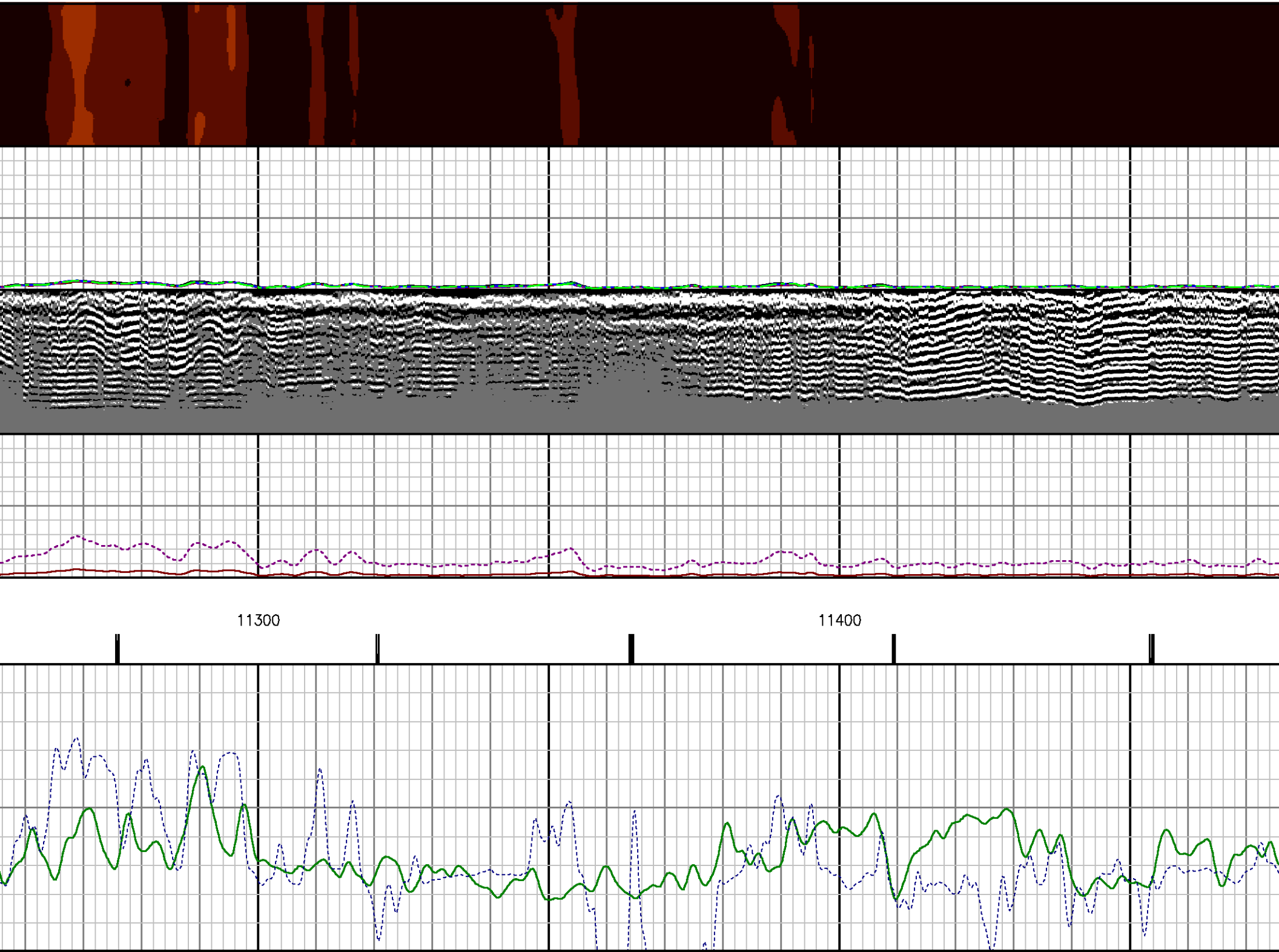
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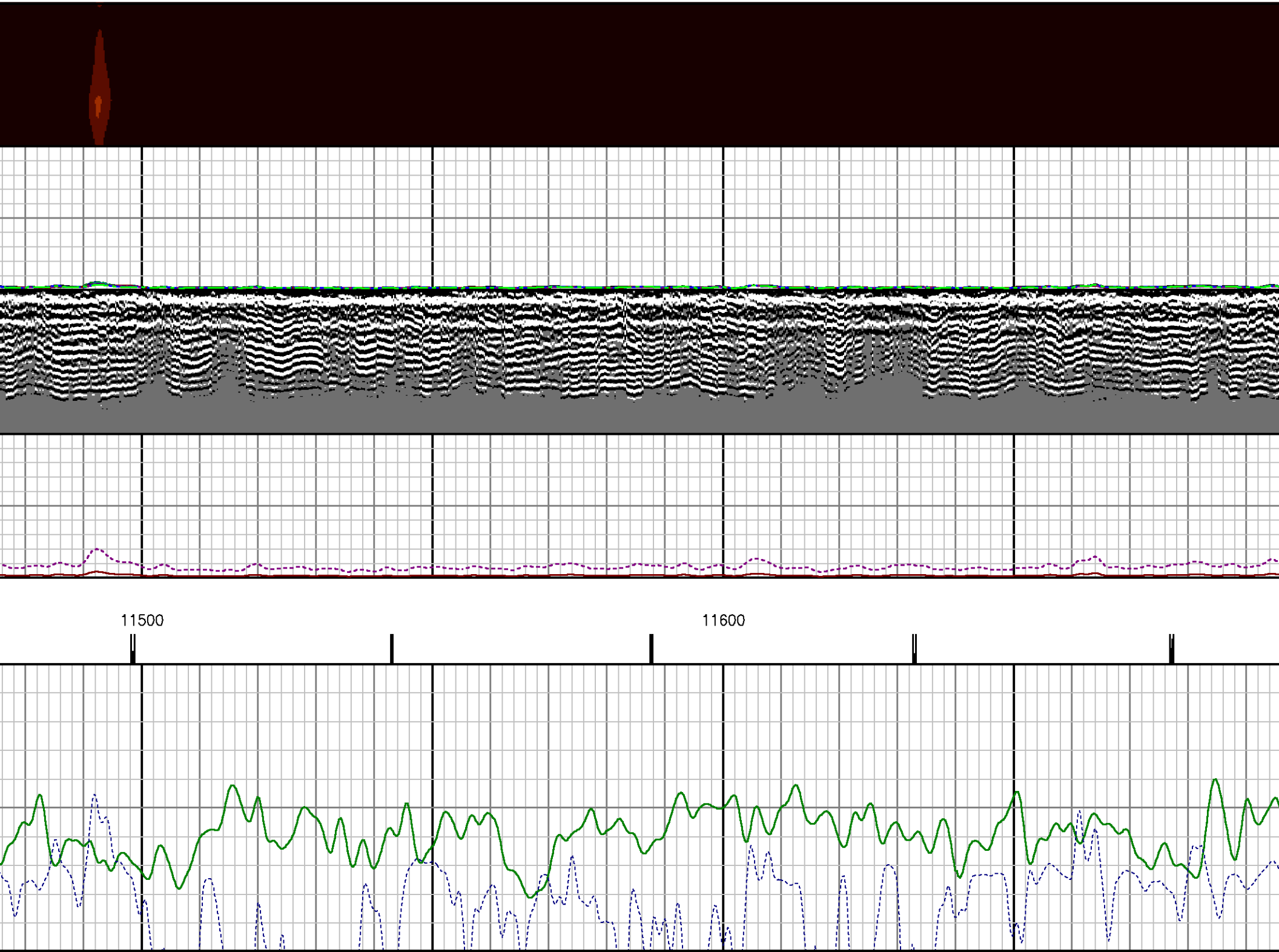
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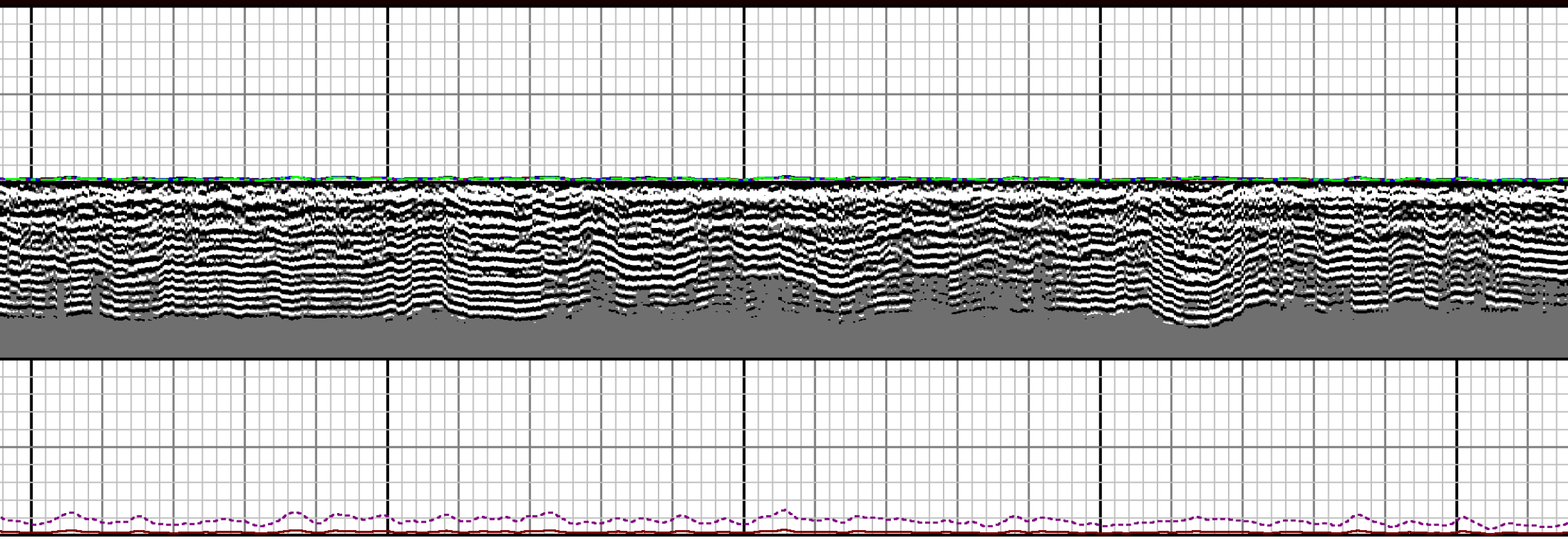

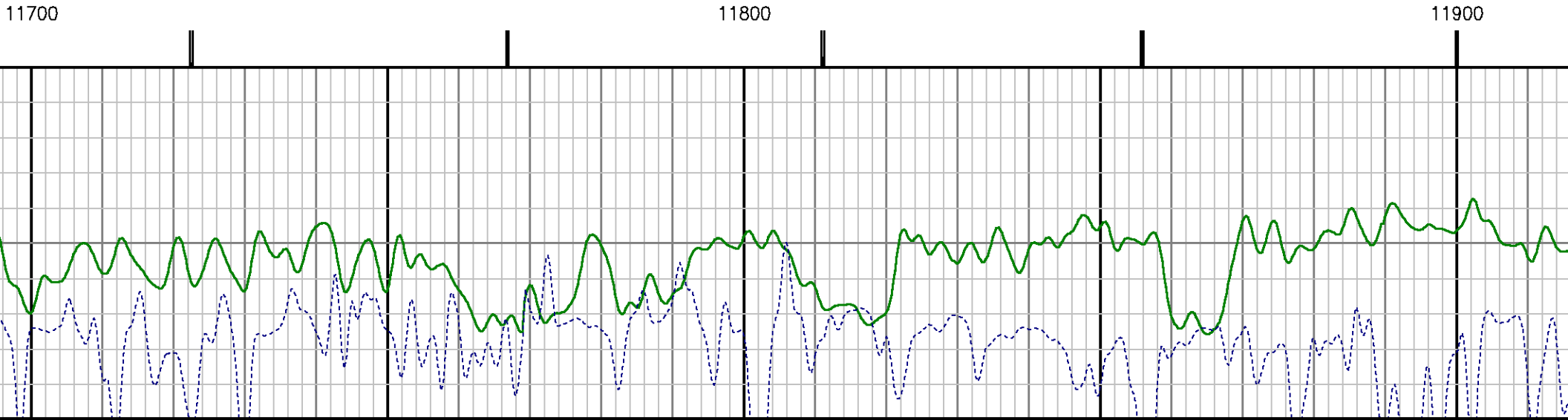
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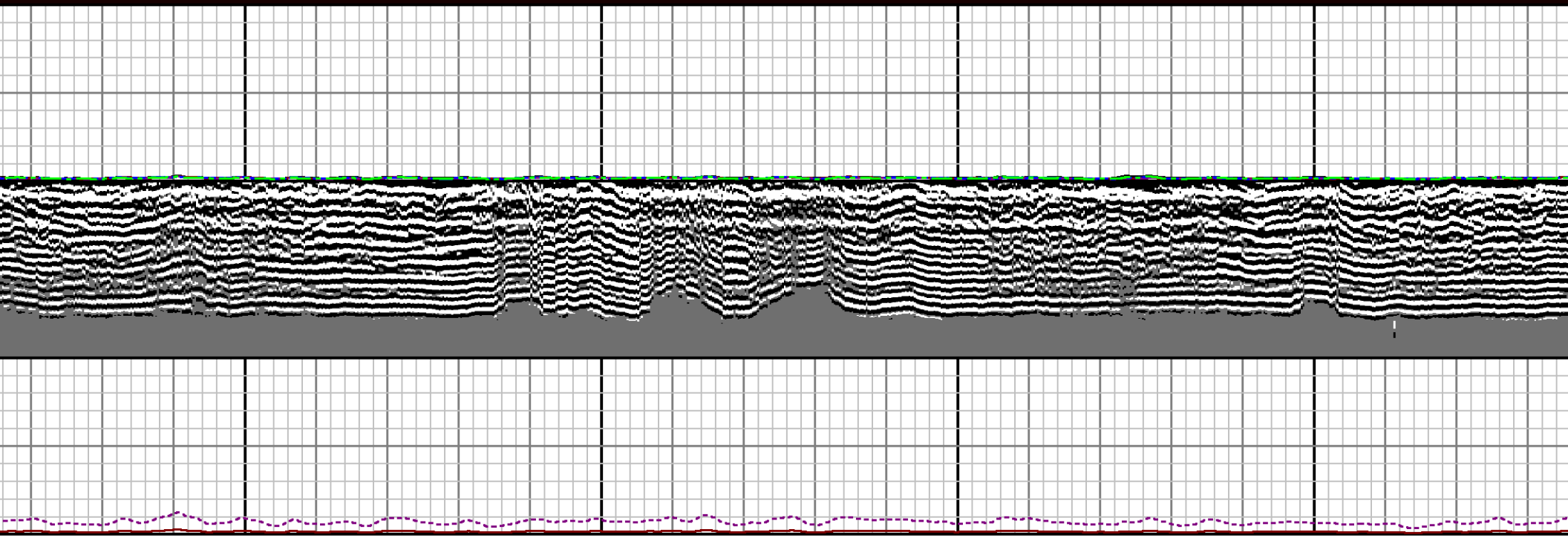

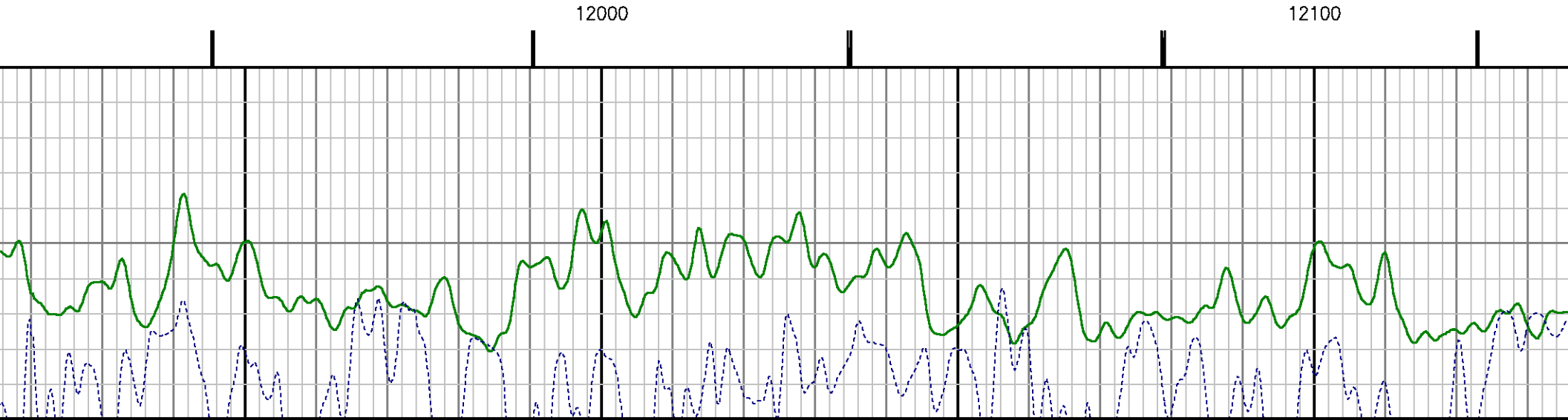
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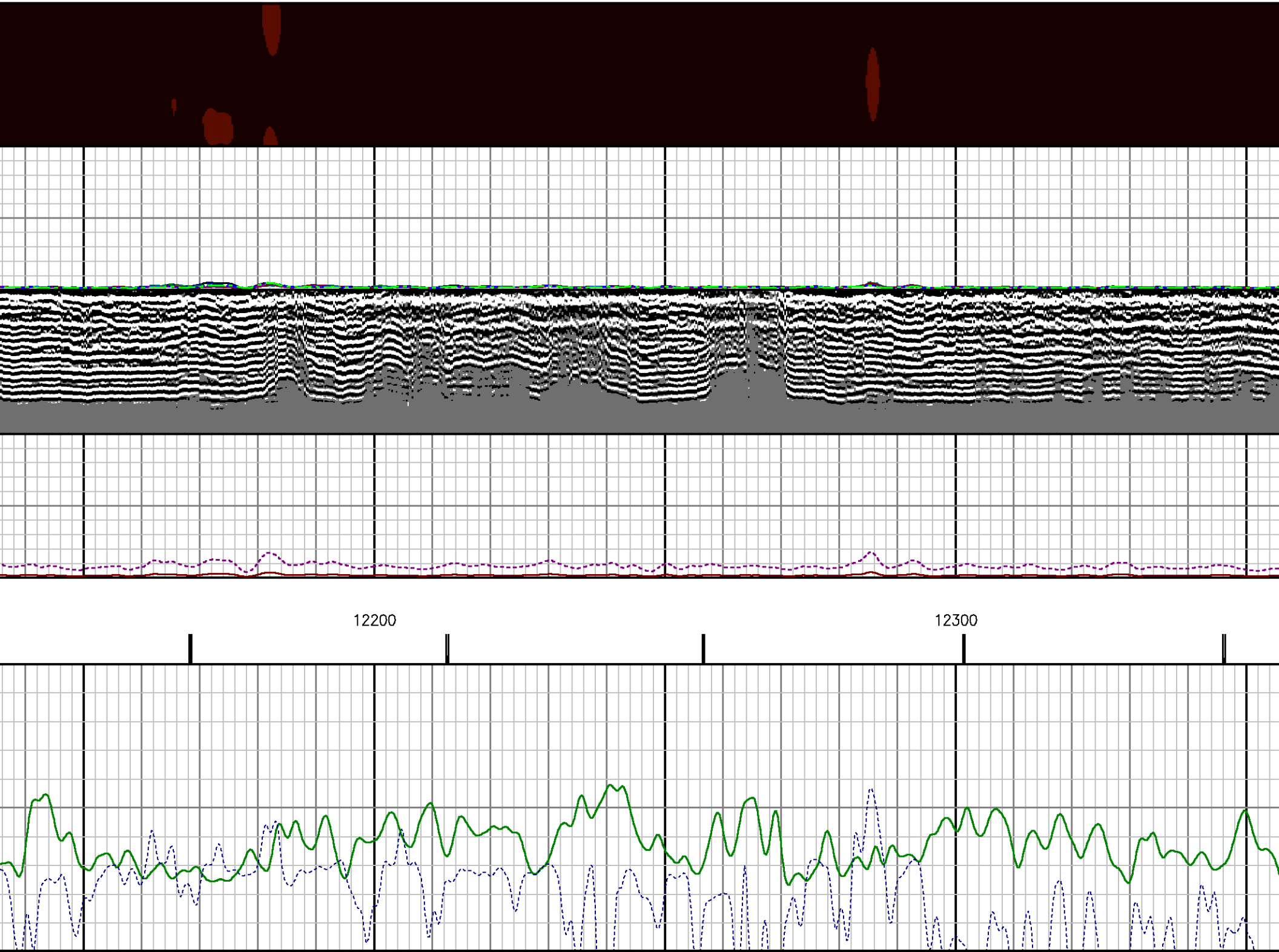
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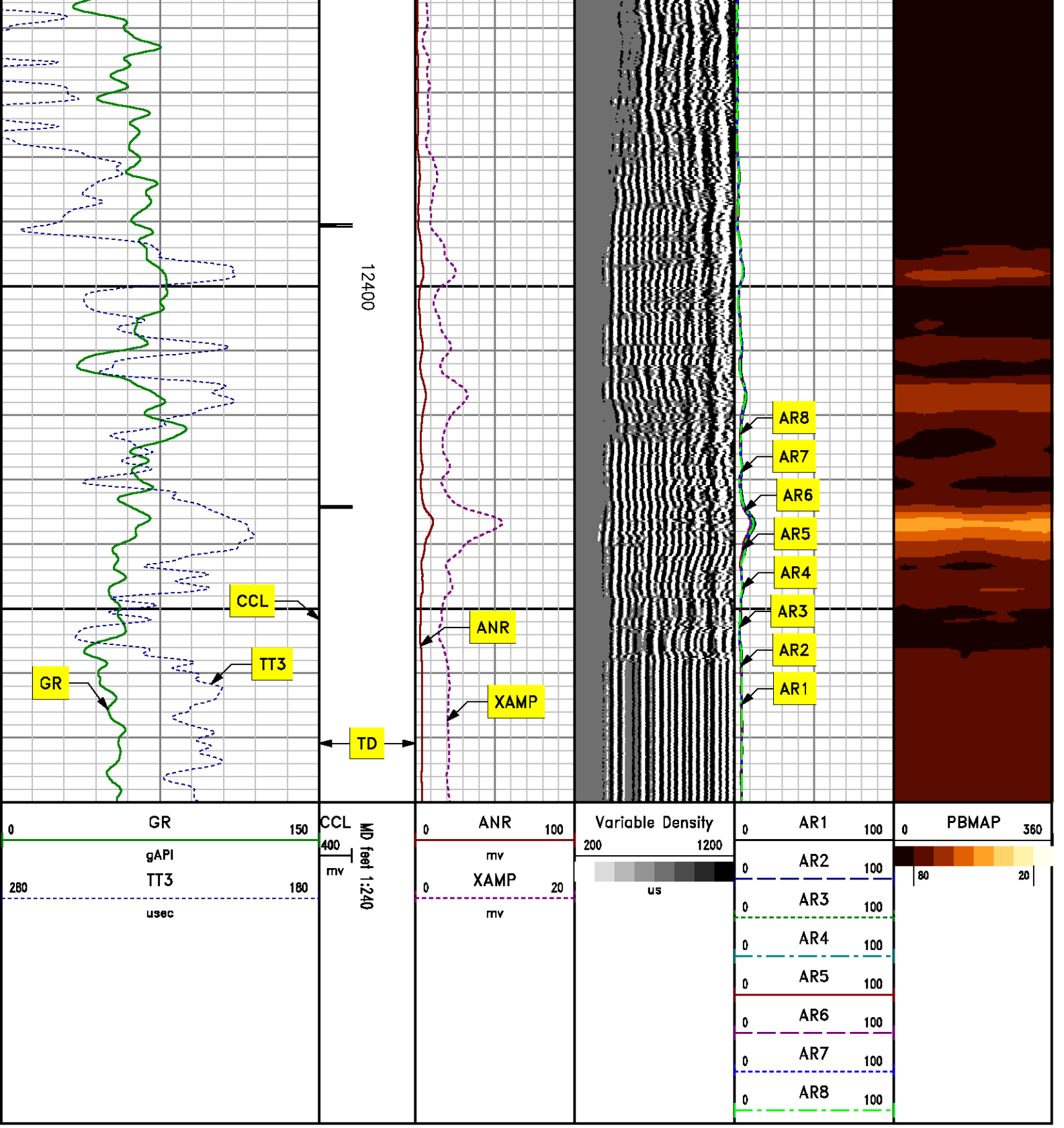

REPEAT PASS

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	308.206	usec	9679.905	10003.000
RAL	Amp Gate Start Near	199.015	usec	9679.905	10003.000
RAL	Amp Gate Start Radial	199.599	usec	9679.905	10003.000
RAL	Amp Gate Width Far	25.000	usec	9679.905	10003.000
RAL	Amp Gate Width Near	25.000	usec	9679.905	10003.000
RAL	Amp Gate Width Radial	25.000	usec	9679.905	10003.000
RAL	casing od	4.500	inches	9679.905	10003.000
RAL	casing wt	11.600	lbm/ft	9679.905	10003.000
RAL	FB Start Far	291.900	usec	9679.905	10003.000
RAL	FB Start Near	175.391	usec	9679.905	10003.000
RAL	FB Start Radial	175.391	usec	9679.905	10003.000
RAL	FB Thresh Far	10.000	mv	9679.905	10003.000
RAL	FB Thresh Near	4.000	mv	9679.905	10003.000
RAL	FB Thresh Radial	4.000	mv	9679.905	10003.000
RAL	Fluid Travel Time	200.000	usec/ft	9679.905	10002.874

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 RGU 513-23-198
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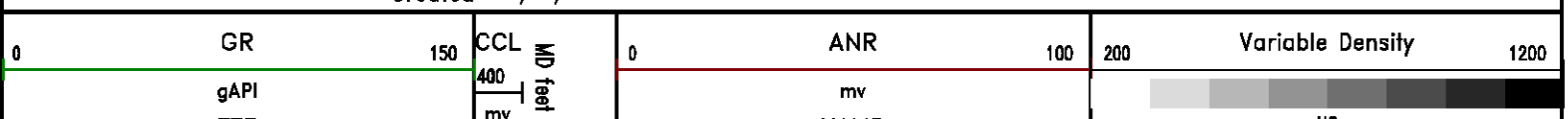

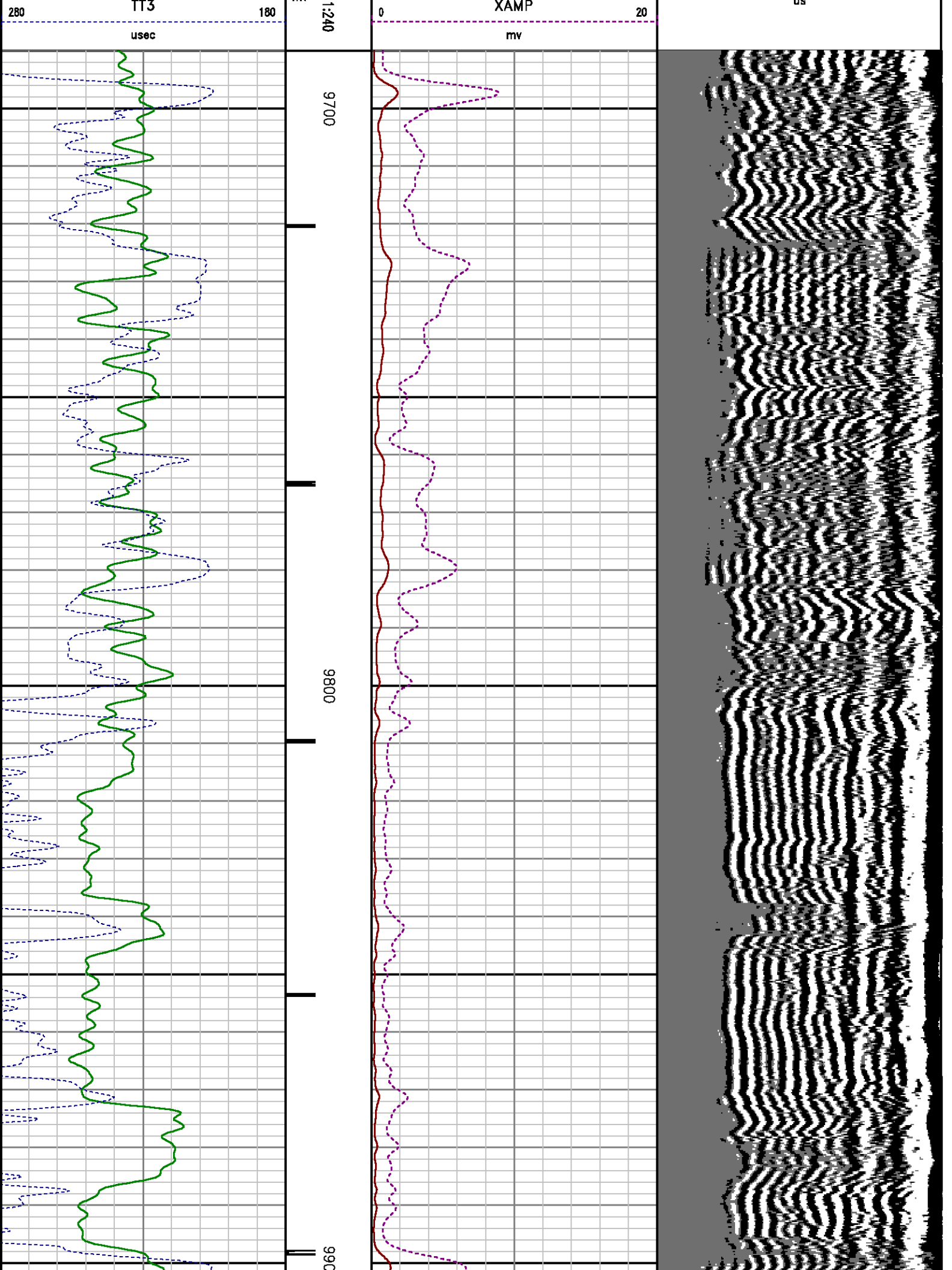
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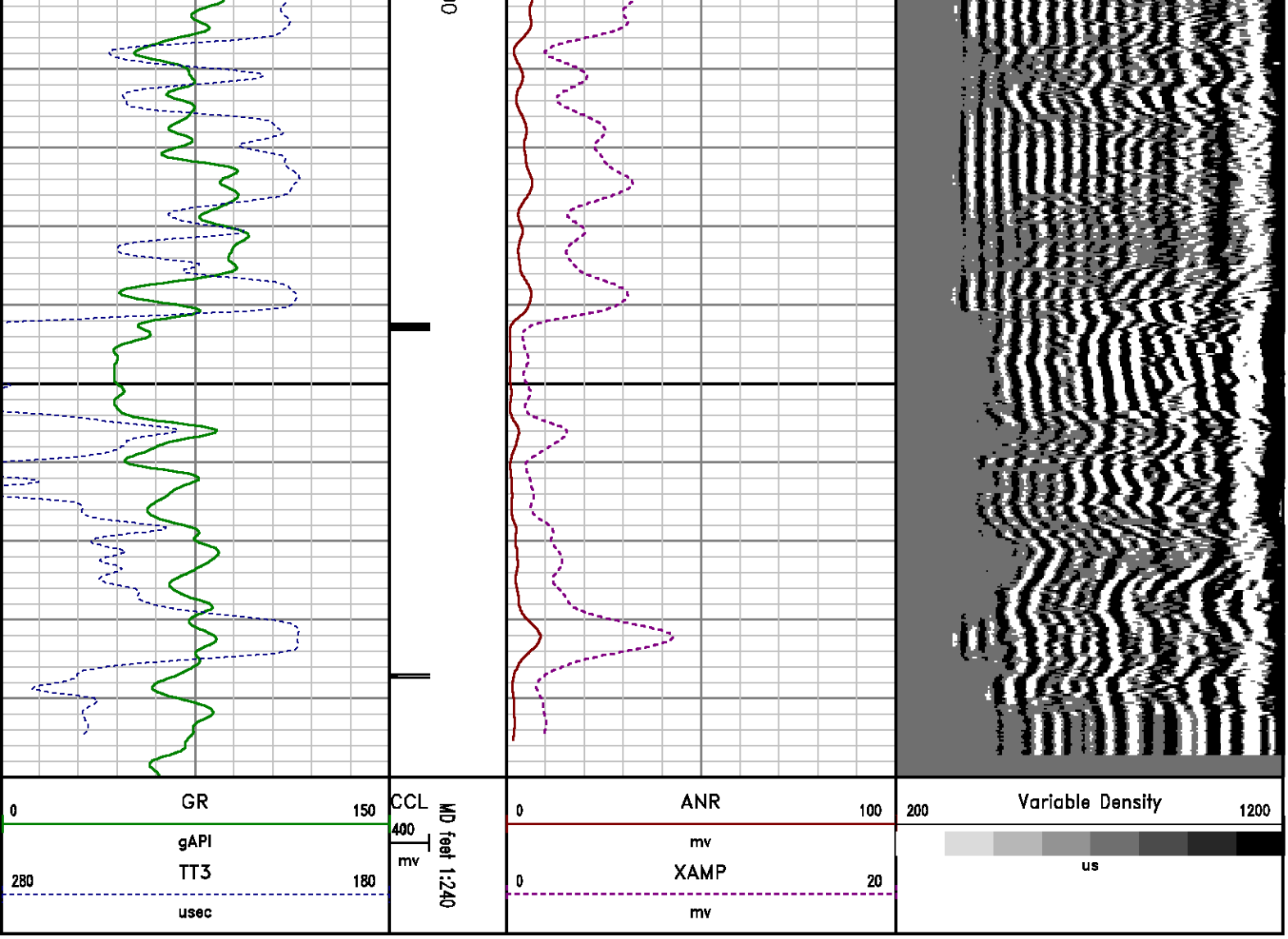


CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\457J3.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Jun 03 08:51:26 2013 TOOL SERIES: 2459XA ASSET: 457 SEQ: J3

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	70.93	307.47	0.782	55.48	240.48	185.00

Verification File: C:\case\calver\GR\457J3.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Mon Jun 03 08:52:47 2013 TOOL SERIES: 2459XA ASSET: 457 SEQ: J3

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	72.89	315.11	0.782	57.01	246.46	189.45

RALSHP

Shop Calibration: C:\case\calver\RALSHP\106JUN11_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jun 11 09:30:26 2013 TOOL SERIES: 1426XA ASSET: 106 SEQ: JUN11

Tool Delay [usec] -57.00 Tank OD in 5.50 Tank Wt lbm/ft 15.50 Tank ID in 4.95

RECEIVER	Travel Time [usec]	Amp. Gate Start [usec]	Amp. Gate Width [usec]	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	219	216	30	166	25	0.042	100.00	0.19
3 Ft. Receiver	219	216	30	166	25	-0.100	100.00	0.18
5 Ft. Receiver	327	326	30	261	25	0.374	150.00	0.20
Radial #1	219	216	30	166	25	-0.417	100.00	0.18
Radial #2	219	216	30	166	25	0.248	100.00	0.18
Radial #3	219	216	30	166	25	0.248	100.00	0.18
Radial #4	219	216	30	166	25	-0.565	100.00	0.18
Radial #5	219	216	30	166	25	-0.161	100.00	0.18
Radial #6	219	216	30	166	25	-0.413	100.00	0.18
Radial #7	219	216	30	166	25	-0.254	100.00	0.18
Radial #8	219	216	30	166	25	0.084	100.00	0.18

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\106JUN11_fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jun 11 09:32:10 2013 TOOL SERIES: 1426XA ASSET: 106 SEQ: JUN11

Tool Delay [usec] -57.00 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	-0.048	0.000	1.00	100.000
3 Ft. Receiver	200	30	-1.746			
5 Ft. Receiver	317	30	-2.269			
Radial #1	200	30	-2.785			
Radial #2	200	30	-2.373			
Radial #3	200	30	-2.128			
Radial #4	200	30	-2.251			

Radial #4	200	30	-2.251
Radial #5	200	30	-1.995
Radial #6	200	30	-2.026
Radial #7	200	30	-1.700
Radial #8	200	30	-1.914

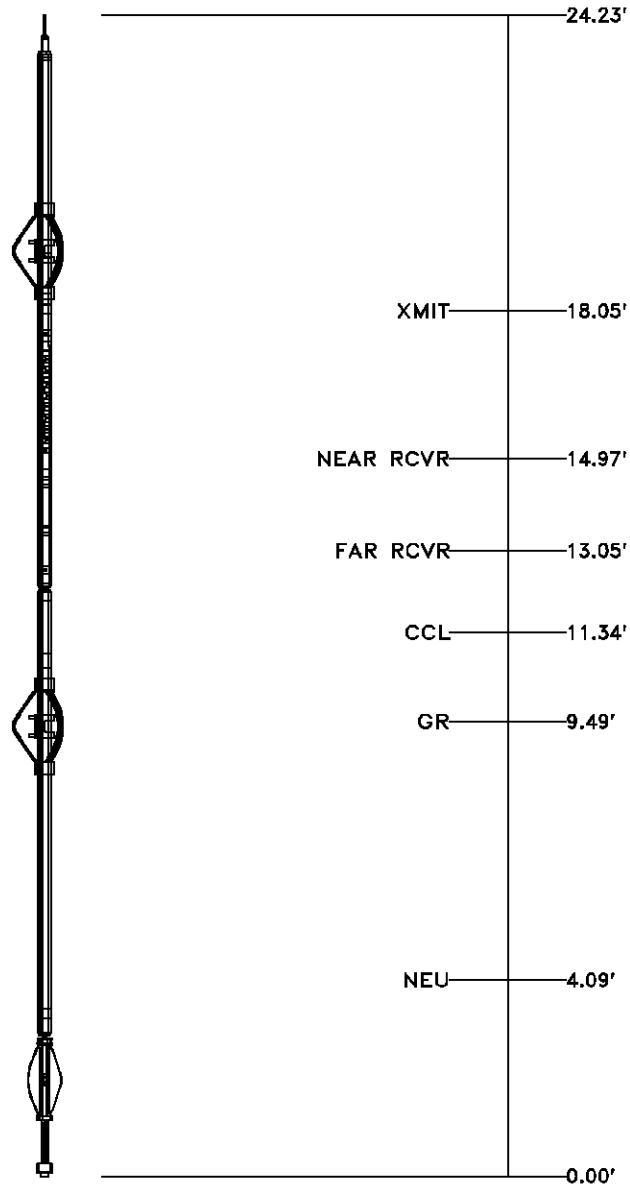
TOOL DIAGRAM

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 HUGHES

Baker Atlas

Company	WPX ENERGY		File No:
Well	FEDERAL RGU 513-23-198		CH073166
Field	SULPHUR CREEK		API No:
County	RIO BLANCO	State COLORADO	05103117840000

Location	Elevations	
SHL: 1782' FSL & 1911' FWL SEC:23	KB 6566 ft	23 1S 98W
BHL: 1516' FSL & 632' FWL SEC:23	DF	RGU 23-23-198
	GL 6545 ft	CYCLONE 29
SEC 23 TWP 1S RGE 98W		