RADIAL ANALYSIS BOND LOG

FILE NO:	CH093561
API NO:	05045200390000
COMPANY	WPX ENERGY
WELL	MEAD RWF 32-23
FIELD	RULISON
COUNTY	GARFIELD
STATE	CO

Version
23 6S 94W
RWF 43-23 PAD
NABORS 577

LOCATION:
SHL: 2303' FNL & 256' FEL
BHL: 1660' FNL & 1877' FEL

SEC 23 TWP 6S RGE 94W

OTHER SERVICES
RPM

PERMANENT DATUM	GL	ELEVATION	5599 FT
LOG MEASURED FROM	KB	26 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		

ELEVATIONS:
KB 5625 FT
DF
GL 5599 FT

DATE		19-Dec-2014	
RUN	TRIP	1	1
SERVICE ORDER		US093561	
DEPTH DRILLER		8702 FT	
DEPTH LOGGER		8676 FT	
BOTTOM LOGGED INTERVAL		7666 FT	
TOP LOGGED INTERVAL		26 FT	
TIME STARTED		14:00	
TIME FINISHED		18:00	
OPERATOR RIG TIME		4 HOURS	
TYPE OF FLUID IN HOLE		WATER	
FLUID DENSITY		NA	
FLUID SALINITY		NA	
FLUID LEVEL		71 FT	
LOGGED CEMENT TOP		NA	
WELLHEAD PRESSURE		0 PSI	
MAXIMUM HOLE DEVIATION		NA	
NOMINAL LOGGING SPEED		65 F/MN	
MAX. RECORDED TEMP.		241 DEGF	
REFERENCE LOG		NA	
REFERENCE LOG DATE		NA	
EQUIP. NO.	LOCATION	4271	GRAND JCT.
RECORDED BY		P. EDWARDS	
WITNESSED BY		BOB CADY	

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
9.625 IN			0 FT	1252 FT
4.5 IN	11.6 LB/F	I-80	0 FT	8729 FT

BOREHOLE RECORD

BIT SIZE	FROM	TO
13.5 IN	0 FT	1252 FT
8.75 IN	1252 FT	8729 FT

REMARKS

RUN 1 TRIP 1: All data on this log is shifted using the CCL curve to put the wellhead (top CCL mark) on depth with ground level elevation.

The amount of linear shift is 2 feet.

Logged with zero PSI at wellhead.

BHT = 241 degF
SJ = 5202' - 5226'

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO	SERIAL NO	POSITION

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	CBL	1426XA	10218495	CENTRALIZED
1	1	GR/CCL	1355XA	10580209	CENTRALIZED

PRIMARY PRESENTATION 0 PSI

ECLIPS 6.2wu1 PC-ECLIPS General Release Rel 6.2w Update 1 Fri Apr 25 10:54:53 Central Daylight Time 2014
Updates: 46 Patches: 5

Plotted: Sat Dec 20 10:45:20 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\093561\n012g02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 28.500 ft BOTTOM DEPTH: 8676.000 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ()	medium (1)		TOP	BOTTOM
AMPLITUDE	FILTER ()	medium (1)		"	"
TRAVEL TIME	FILTER ()	medium (1)		"	"

RAL CCL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CCL FLOOR	CCL FLOOR	0		TOP	BOTTOM

ANALOG RAL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
AMPLITUDE WINDOW (NEAR)	AMP WINDOW START (fgpn*)	187	us	TOP	BOTTOM
	AMP WINDOW LENGTH	25	us	"	"
TRAVEL TIME WINDOW (NEAR)	TT WINDOW START (ttn*)	160	us	"	"
	TT WINDOW LENGTH	500	us	"	"
	FIRST BRK THRESHOLD (ttn*)	4	mV	"	"
RAL CASING PARAMETERS	PPT NEAR	200.391	us	"	"
RAL TOOL DELAY	TOOL DELAY (strn*)	-67	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	125	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Dec 19 15:43:53 2014	CASING COLLAR LOCATOR
F1:FAMPN	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Dec 19 15:43:53 2014	FAR WAVE FORM
F1:GR	Dec 19 15:43:53 2014	GAMMA RAY
F1:TTN	Dec 19 15:43:53 2014	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

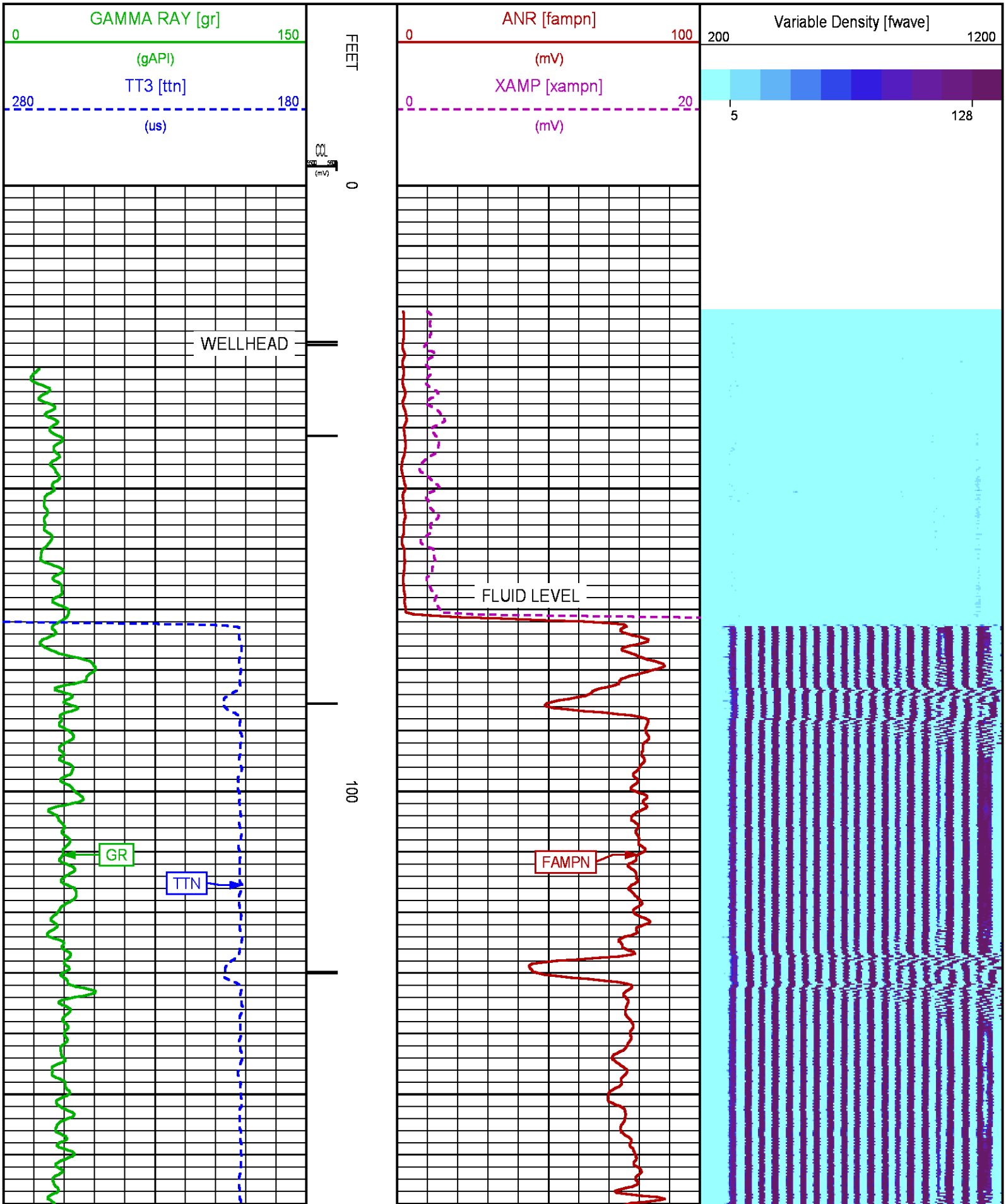
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	5.75	GR	1.75	XAMPN	11.25		
FAMPN	11.25	TTN	11.25				

Presentation : BHUGHES-06627:C:\dat1a\093561\32CBL_PRIMARY.fvpdf [5"/100' Scale]
Plot Interval : 0 - 8681 Feet

Data File 1 : F1 : BHUGHES-06627:C:\dat1a\093561\32_CBL_MAIN.xtf

Data File 1 : FT : BHUGHES-06627.C:\data\09556\52_CBL_MAIN.xtf
Created On : Dec 19 15:43:53 2014
Company : WPX ENERGY
Well : MEAD RWF 32-23
Field : RULISON
File Interval : 19.5 - 8678.25 Feet
OCT : n012g



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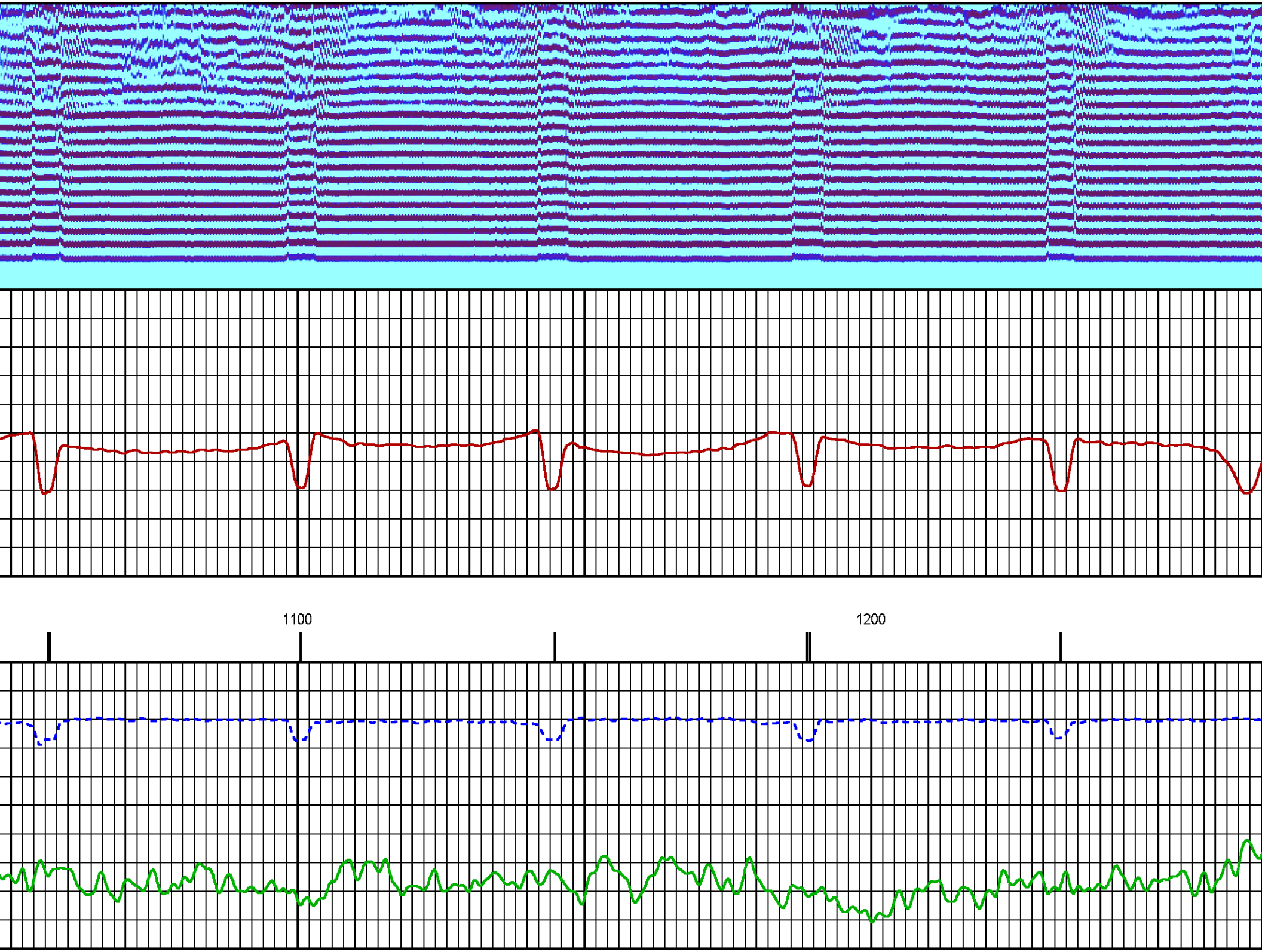
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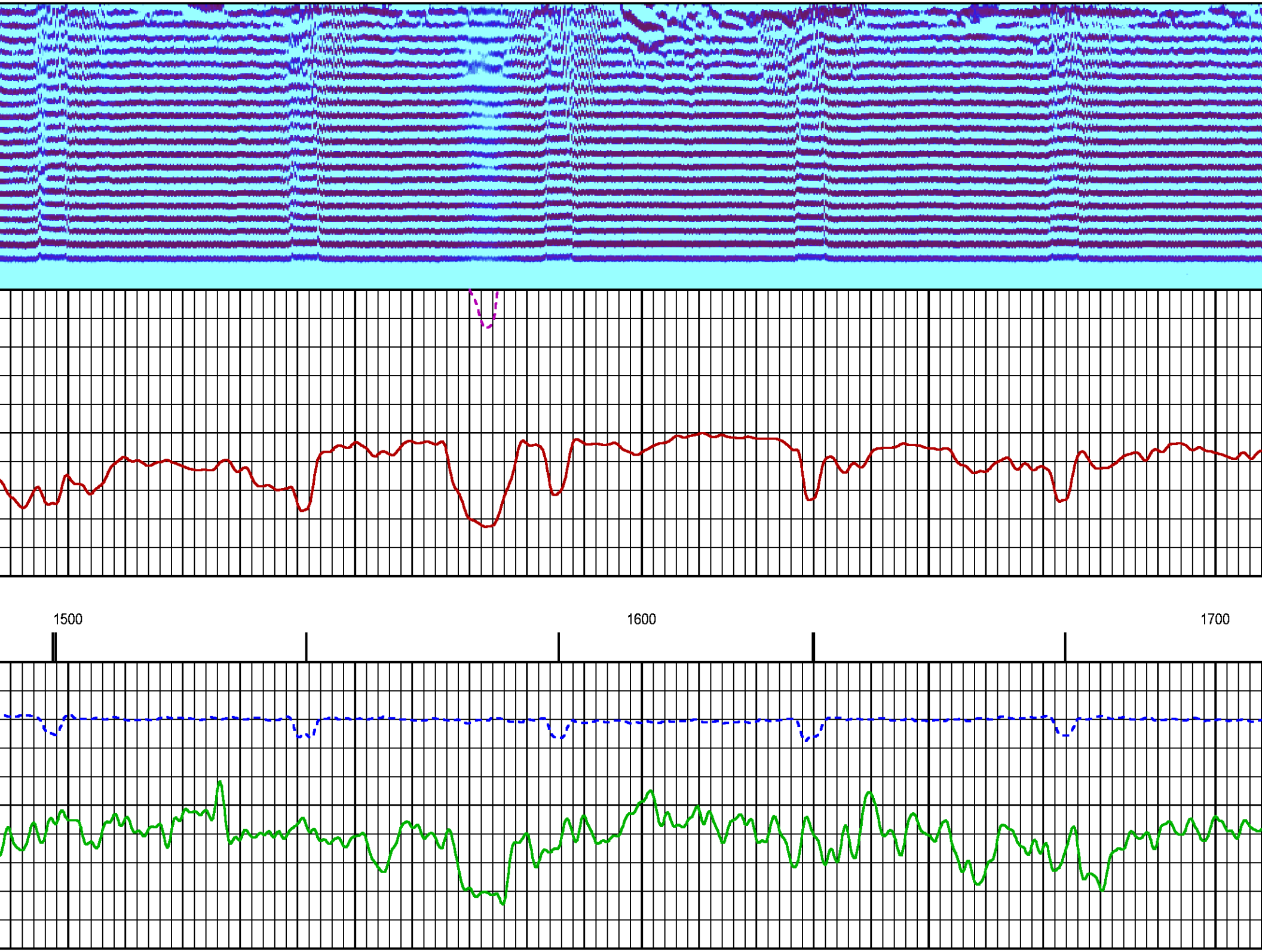
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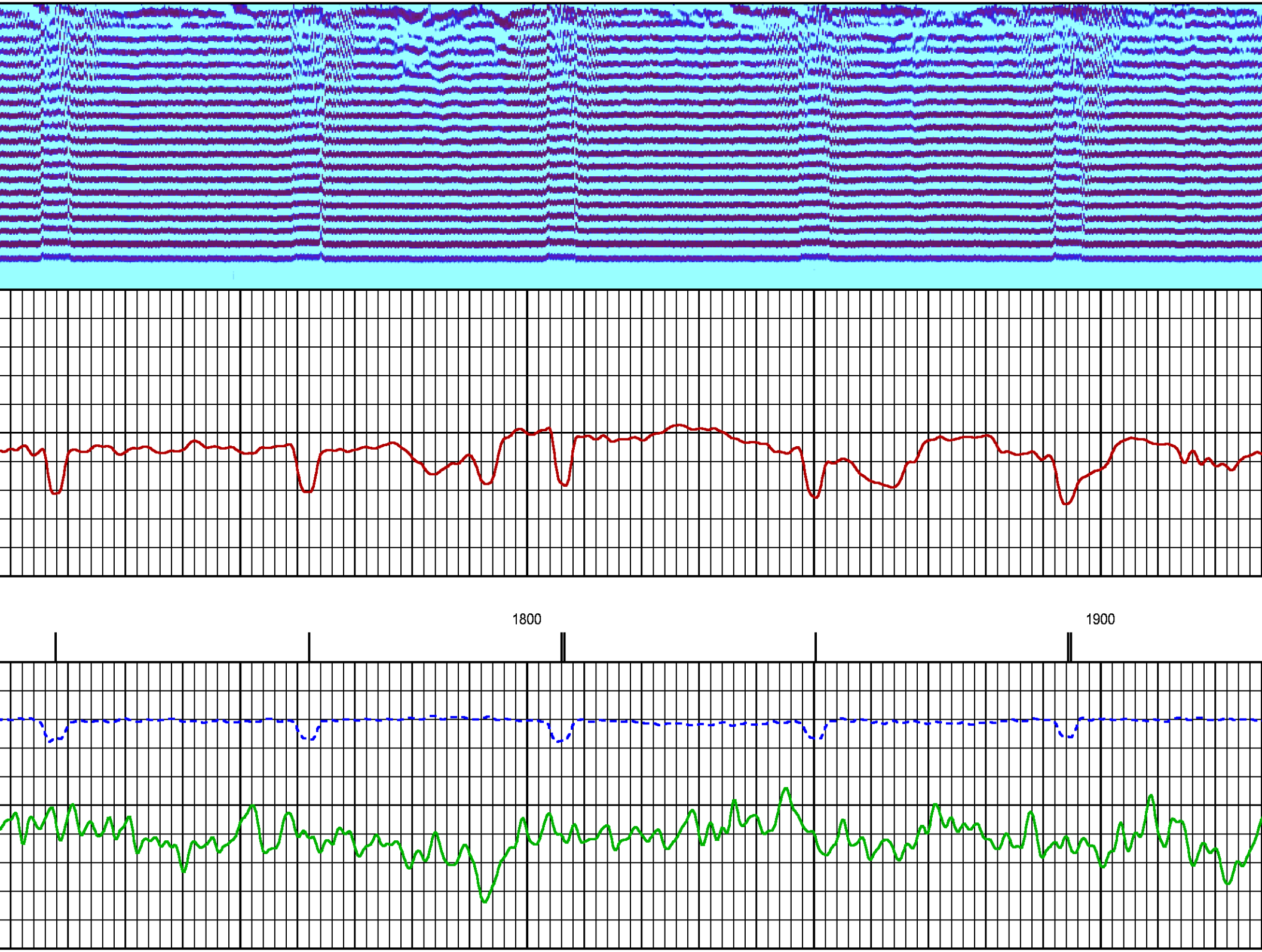
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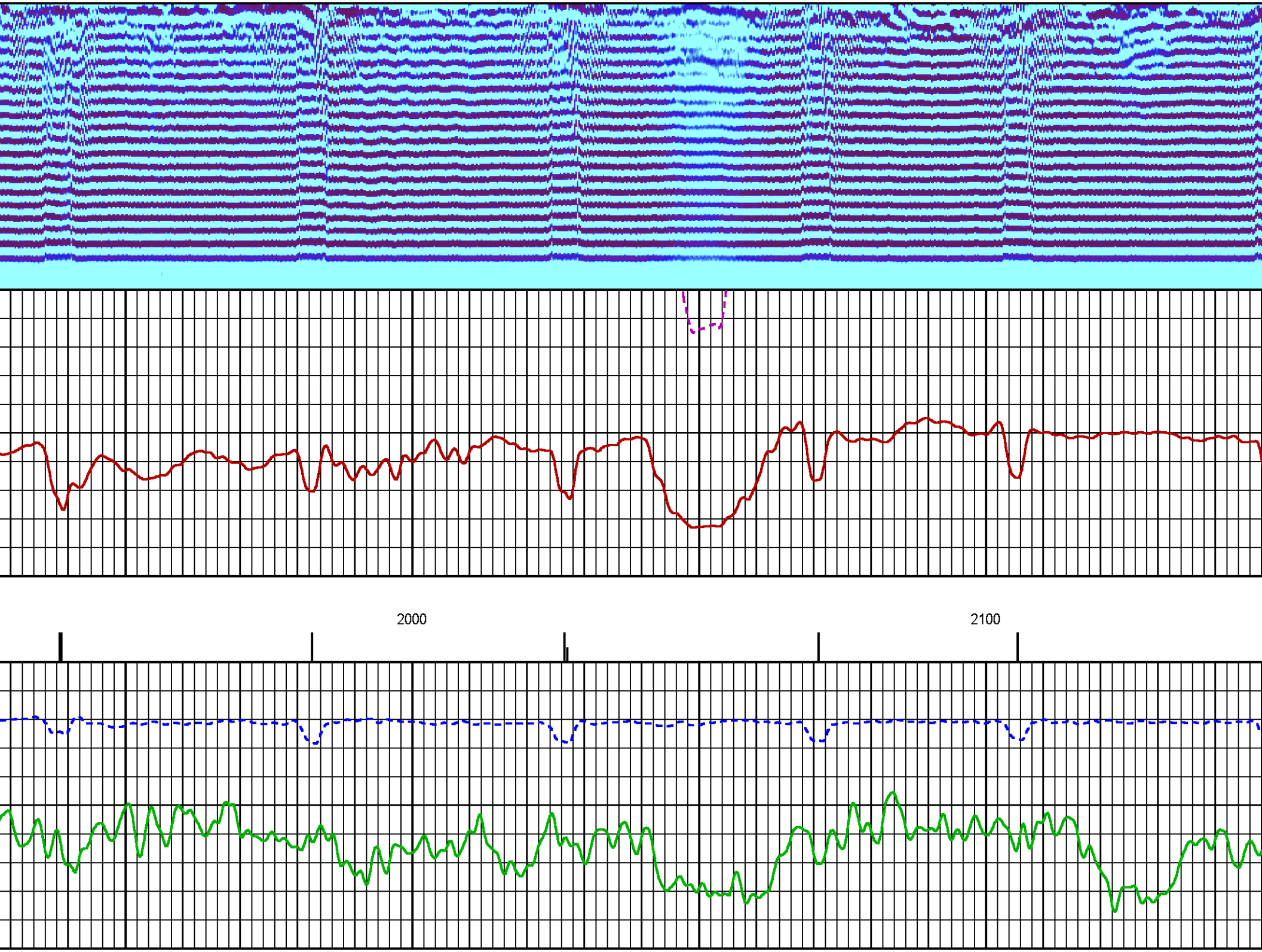
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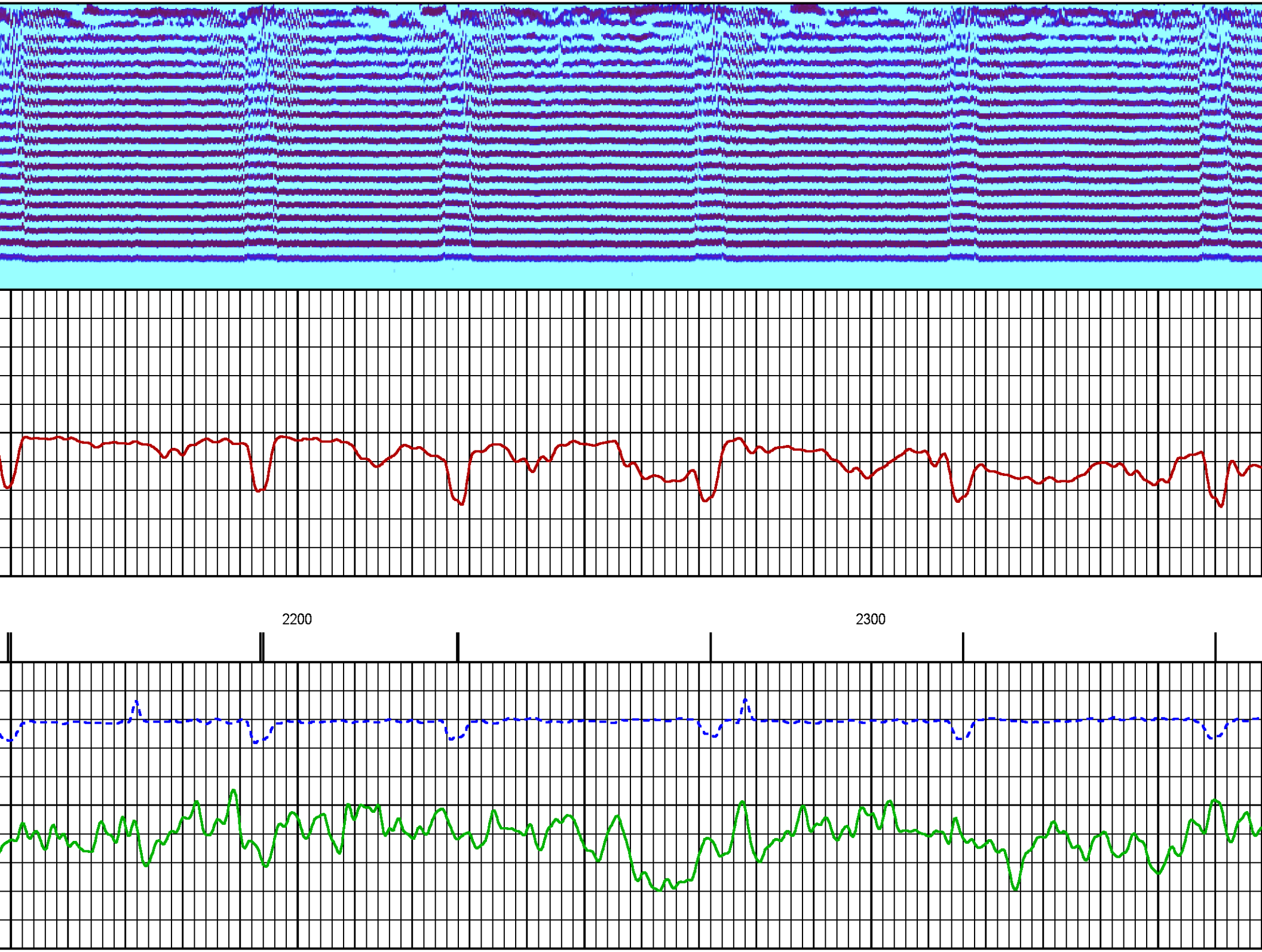
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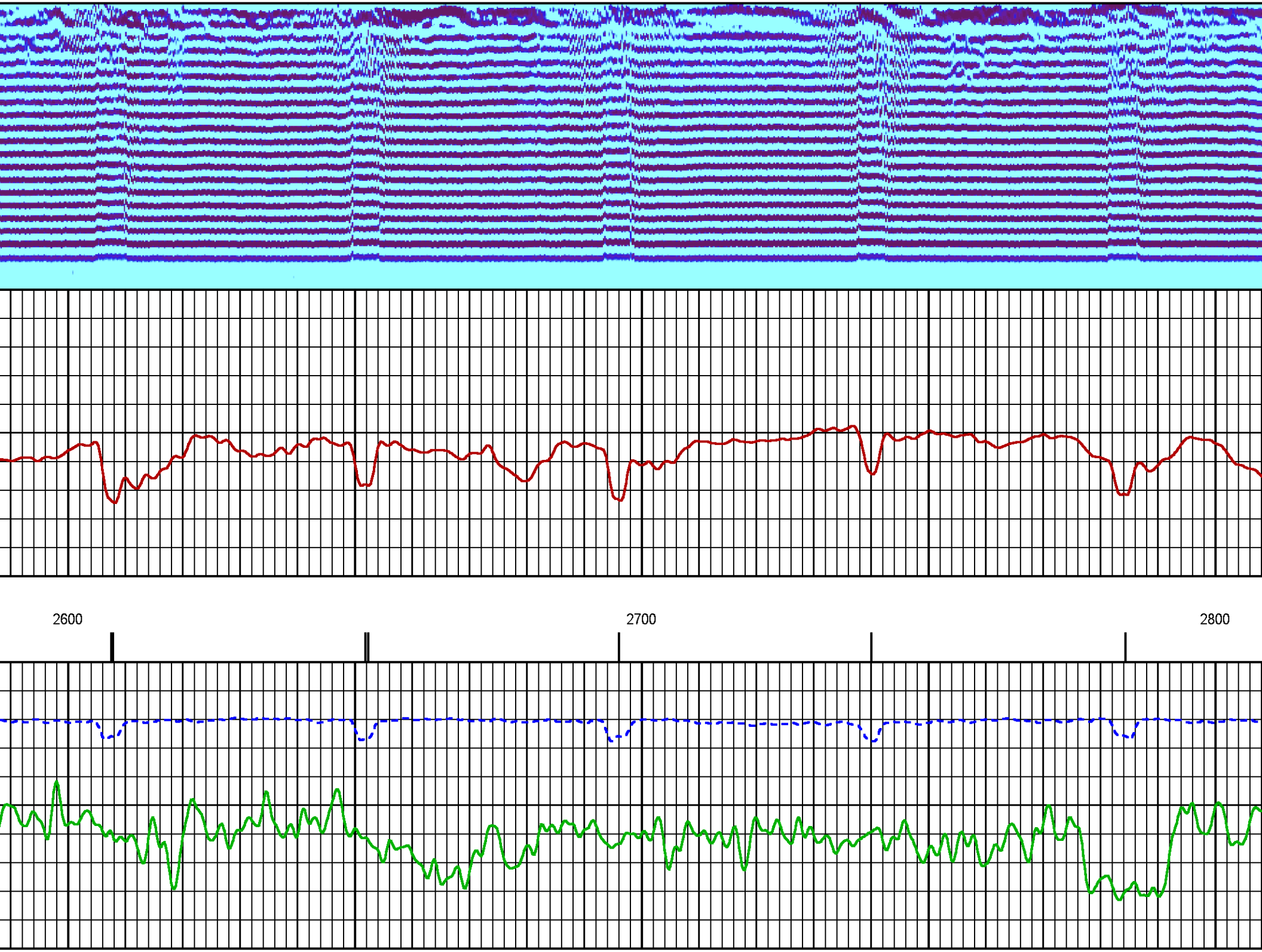
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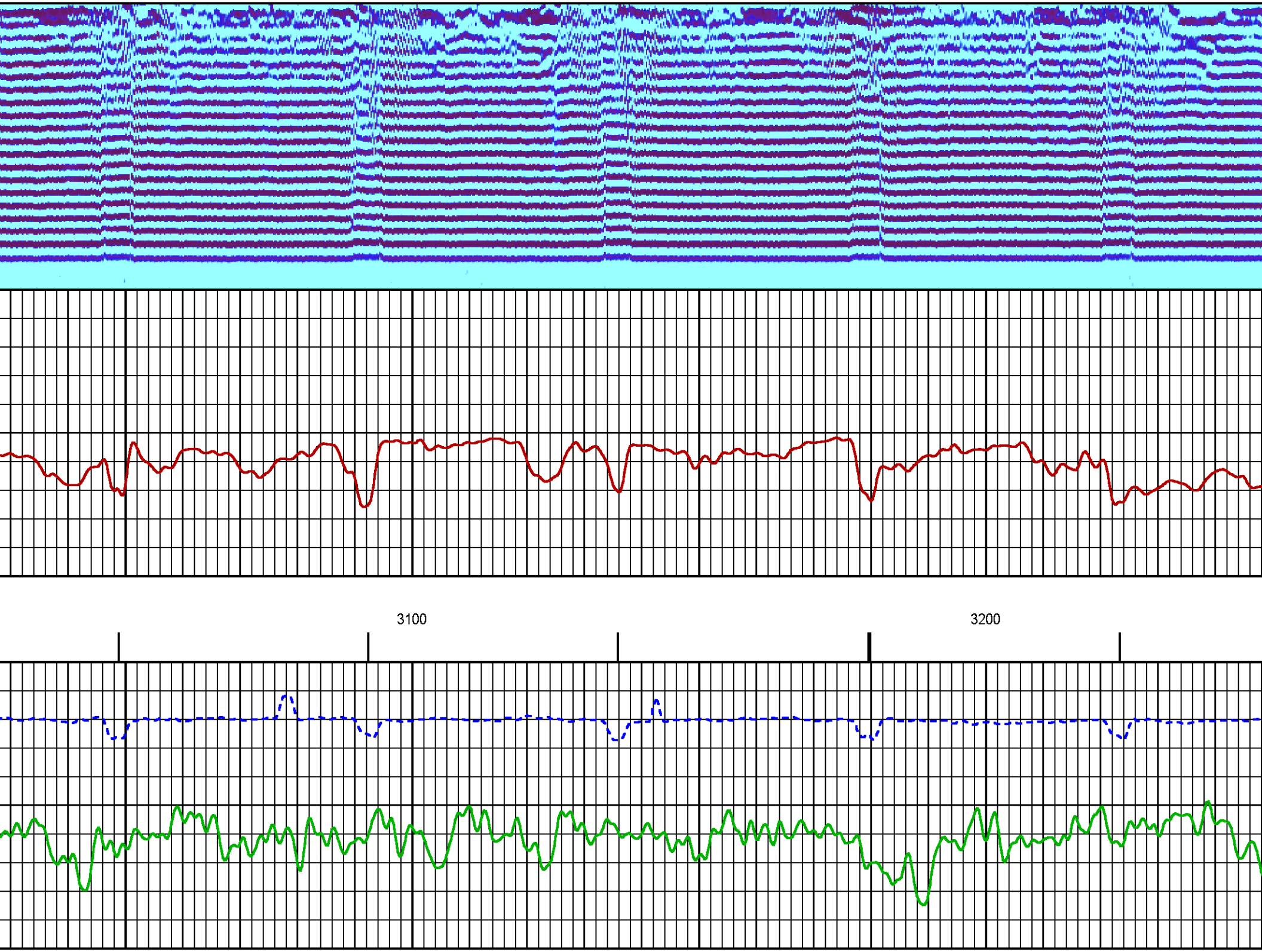
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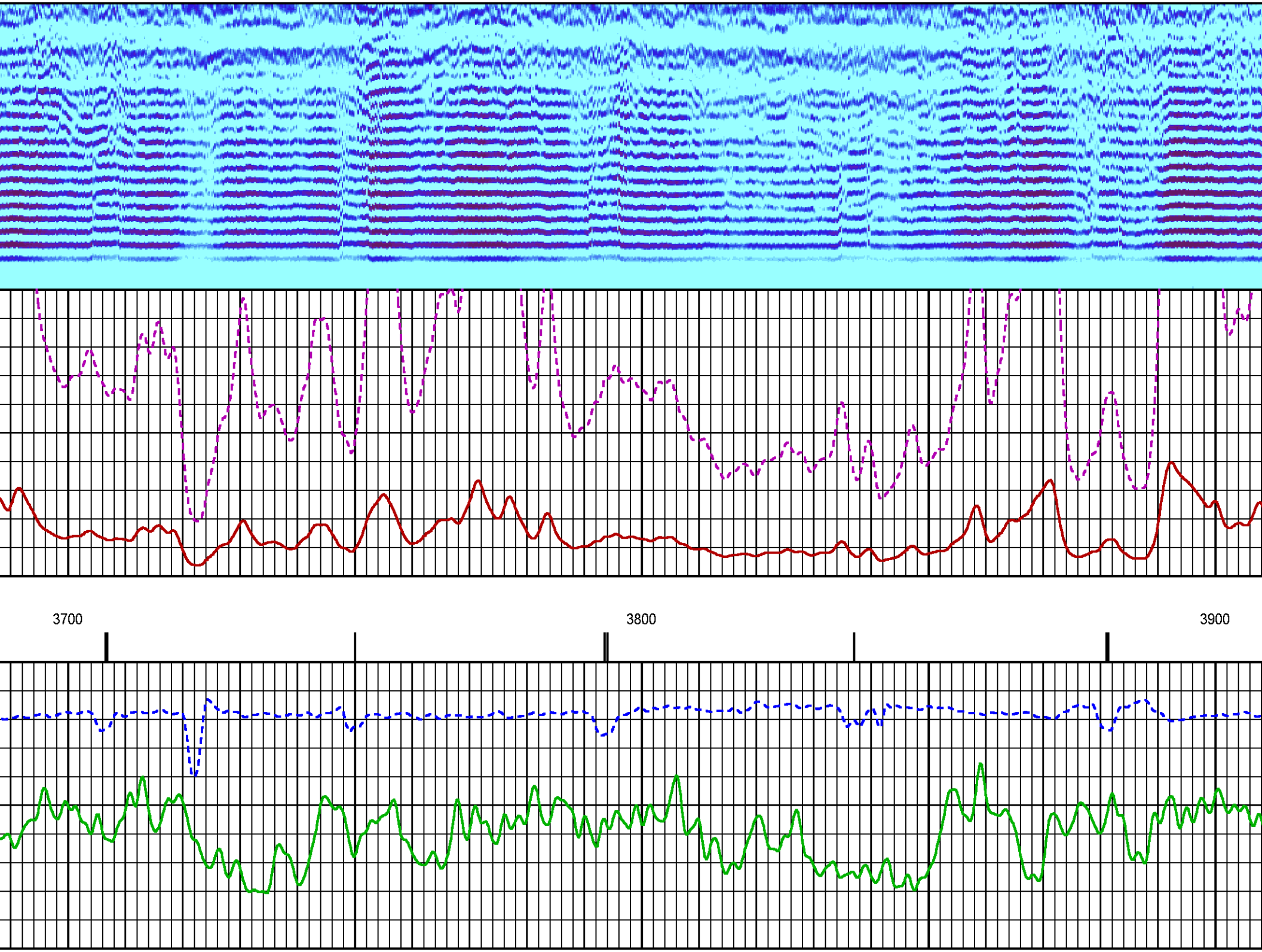
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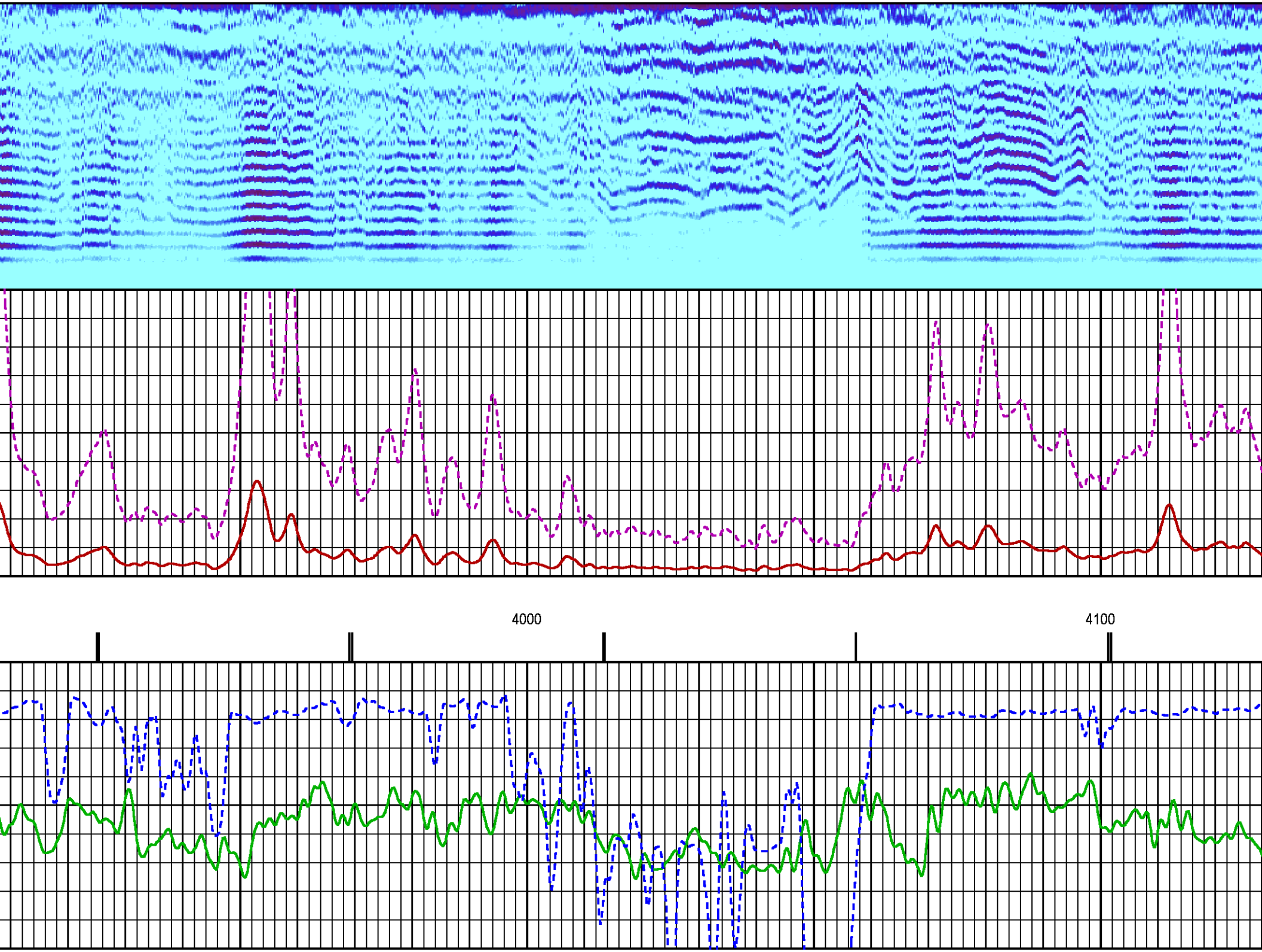
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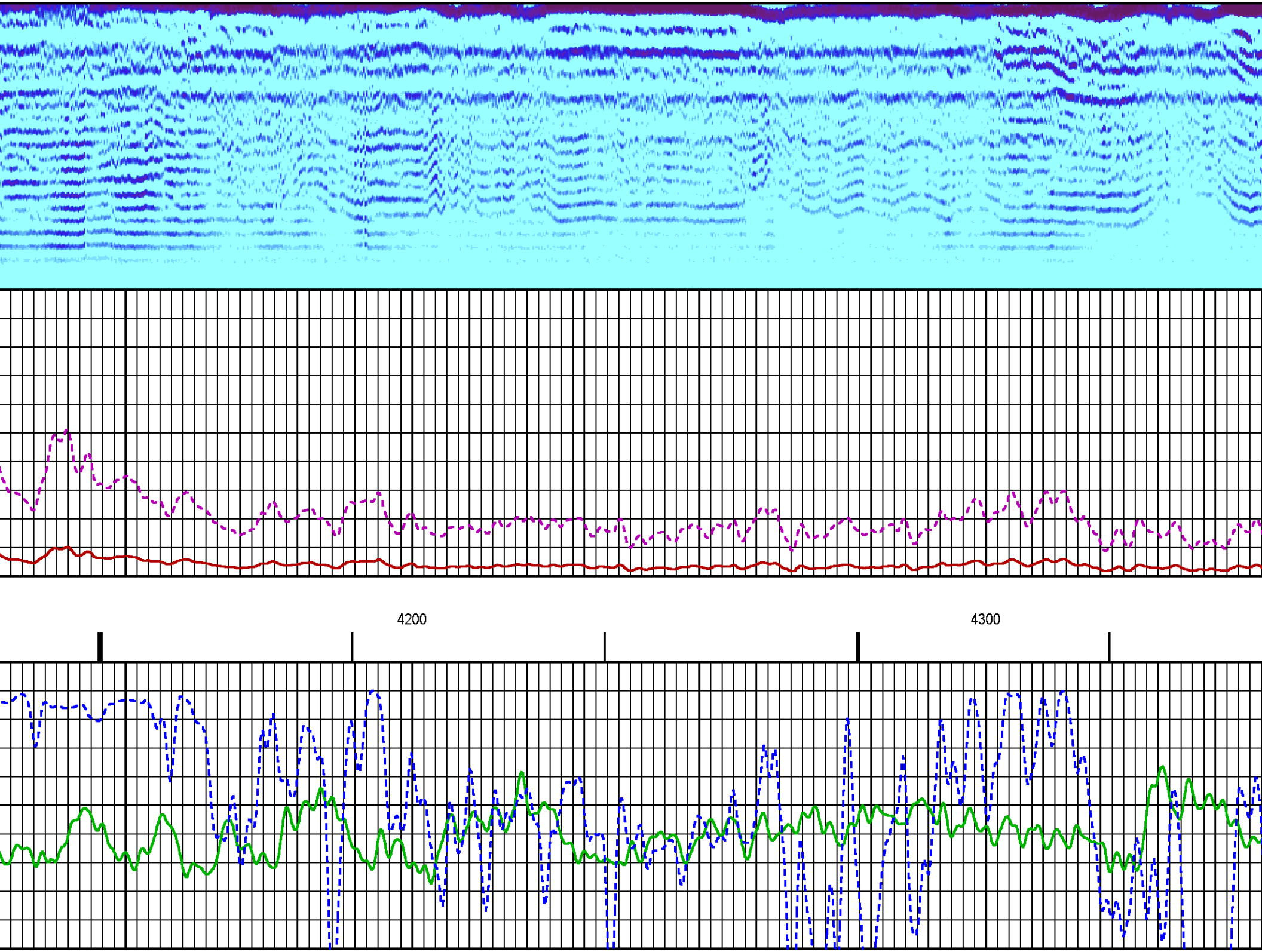
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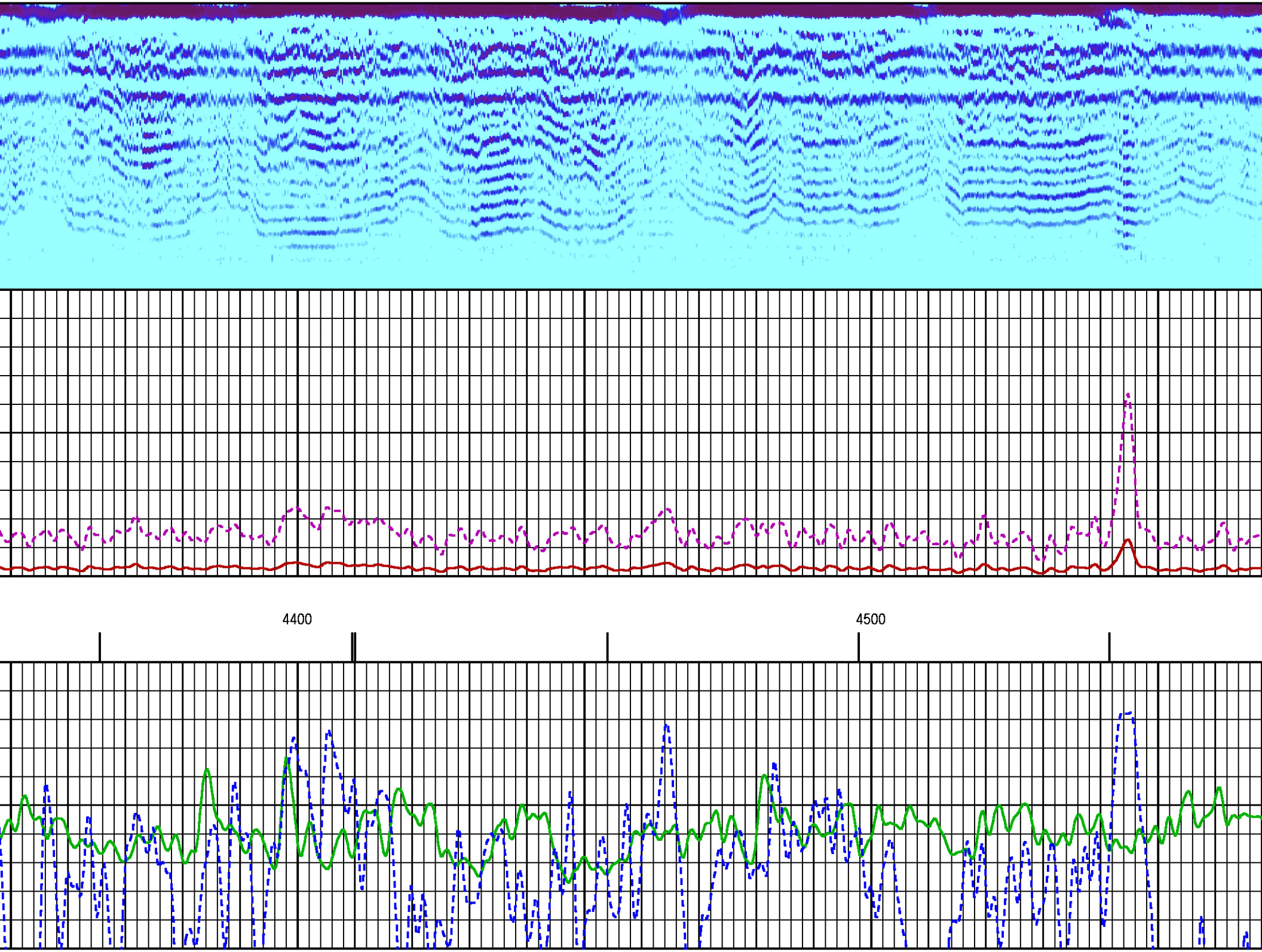
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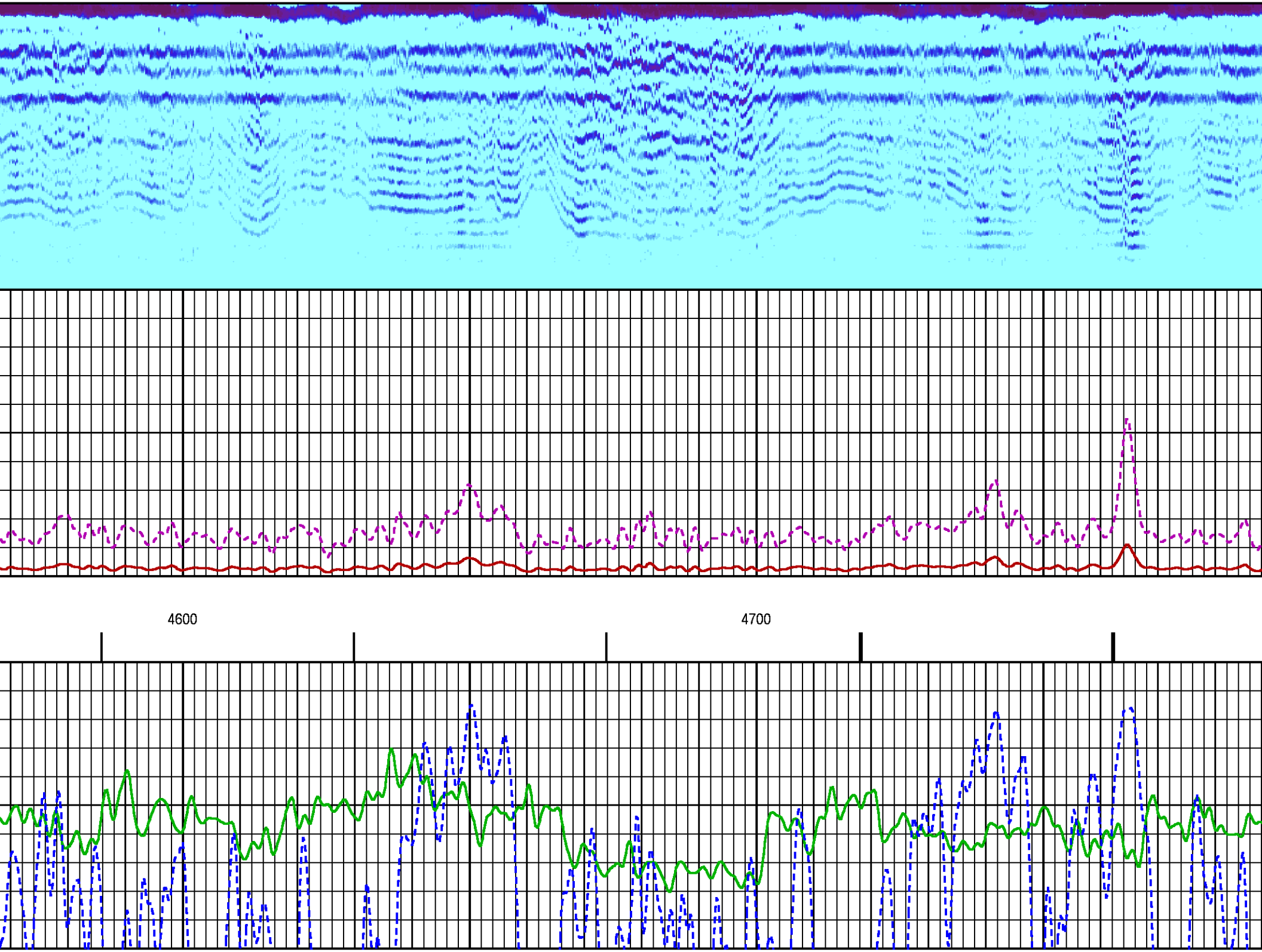
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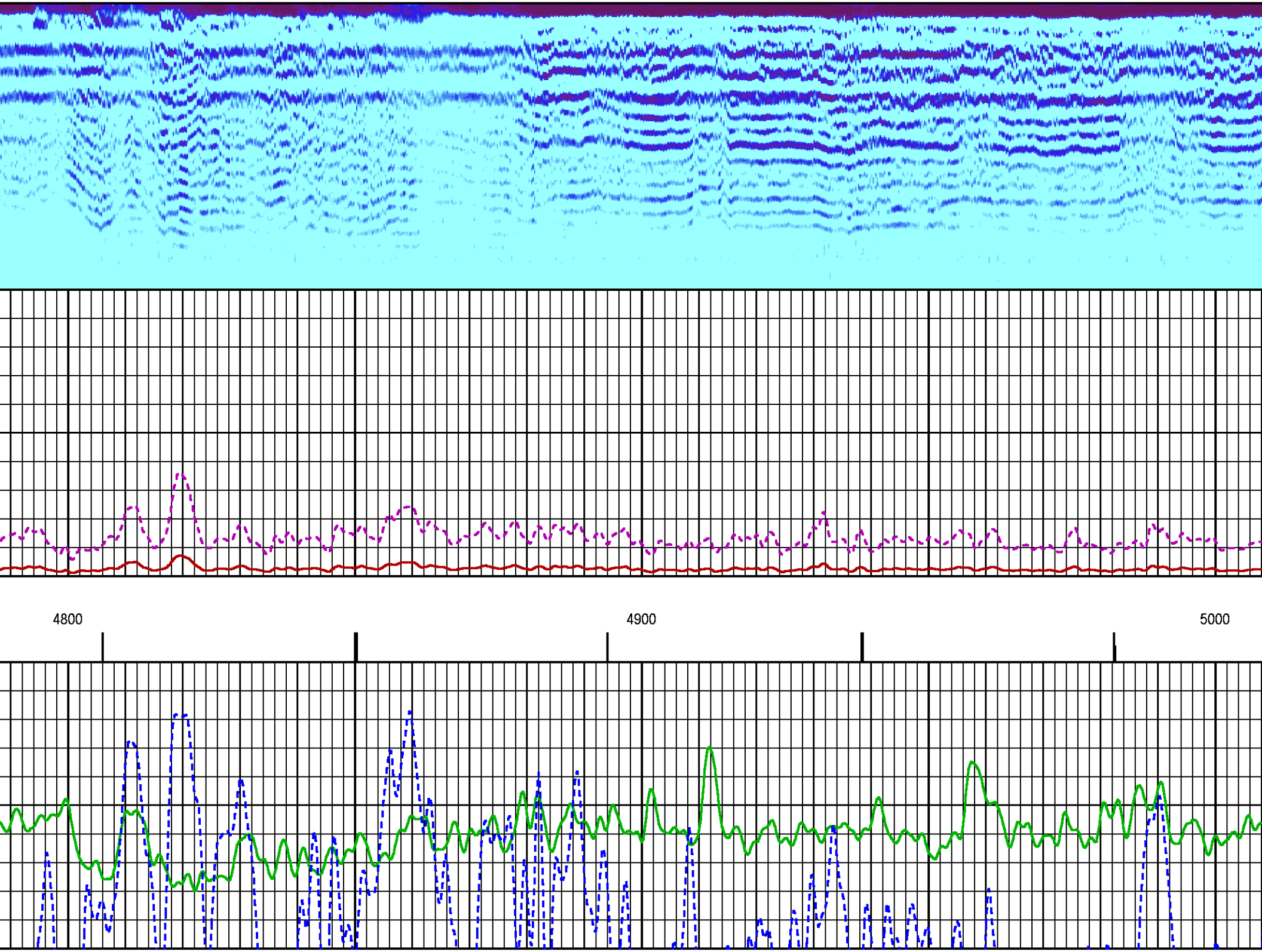
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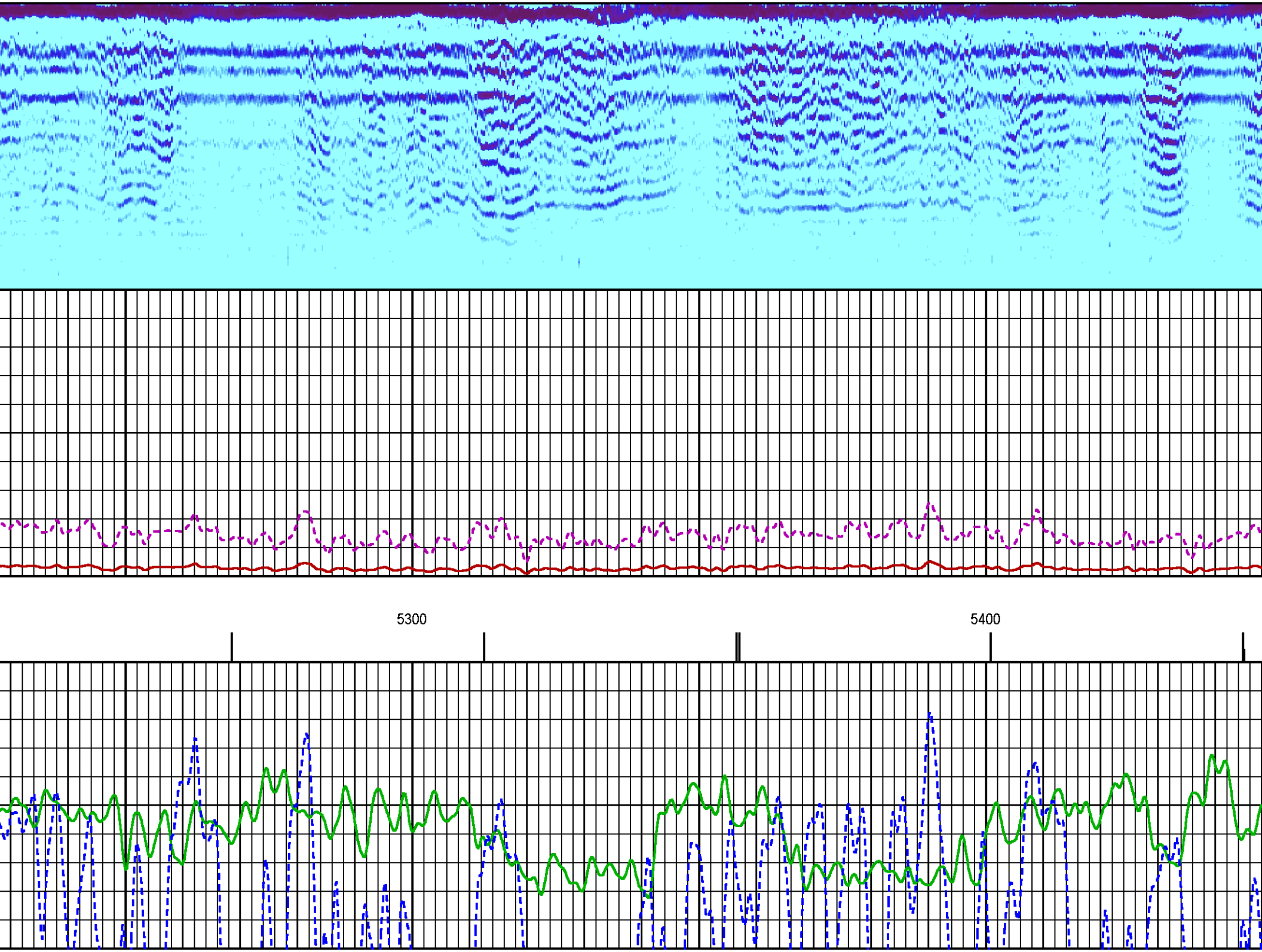
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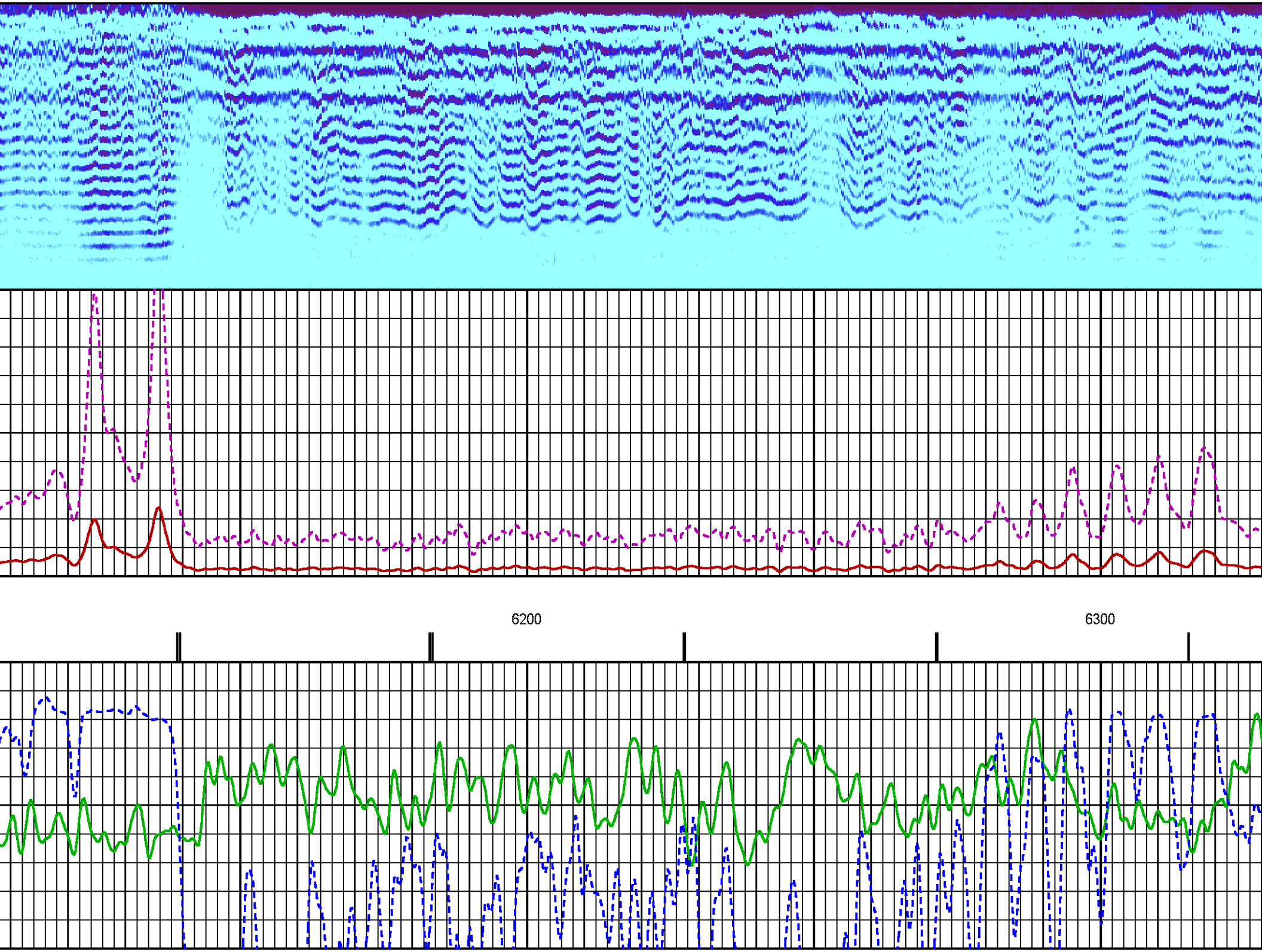
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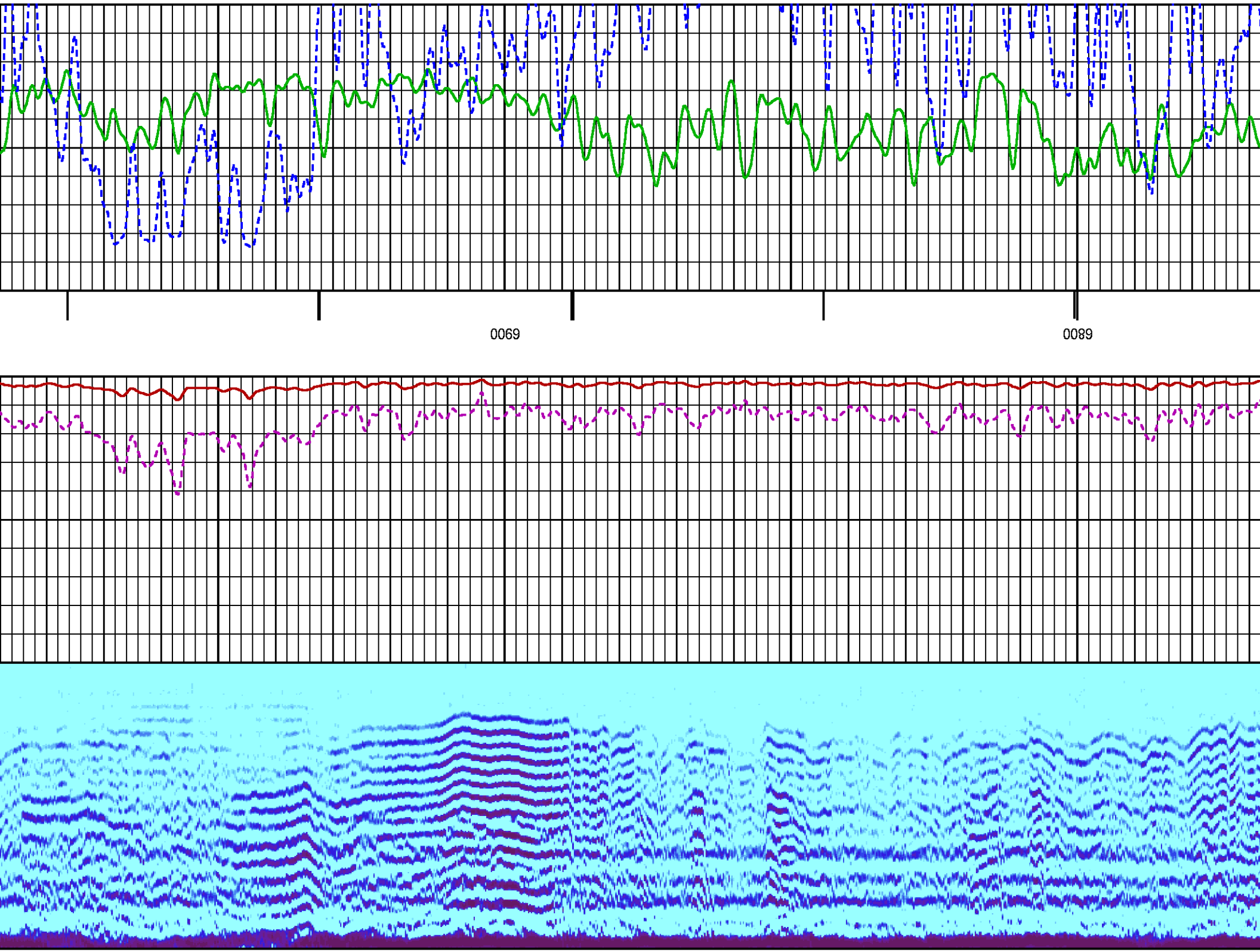
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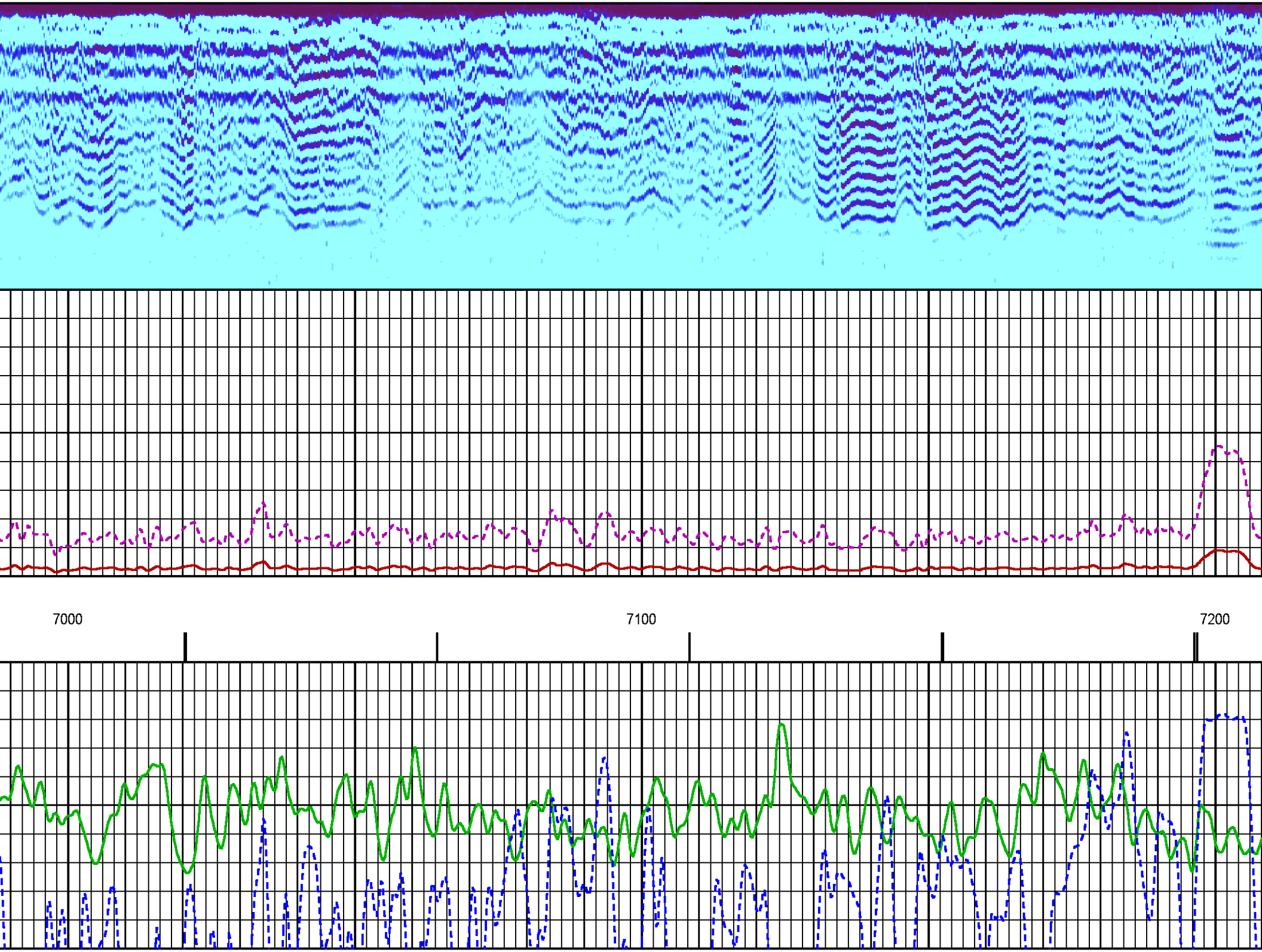
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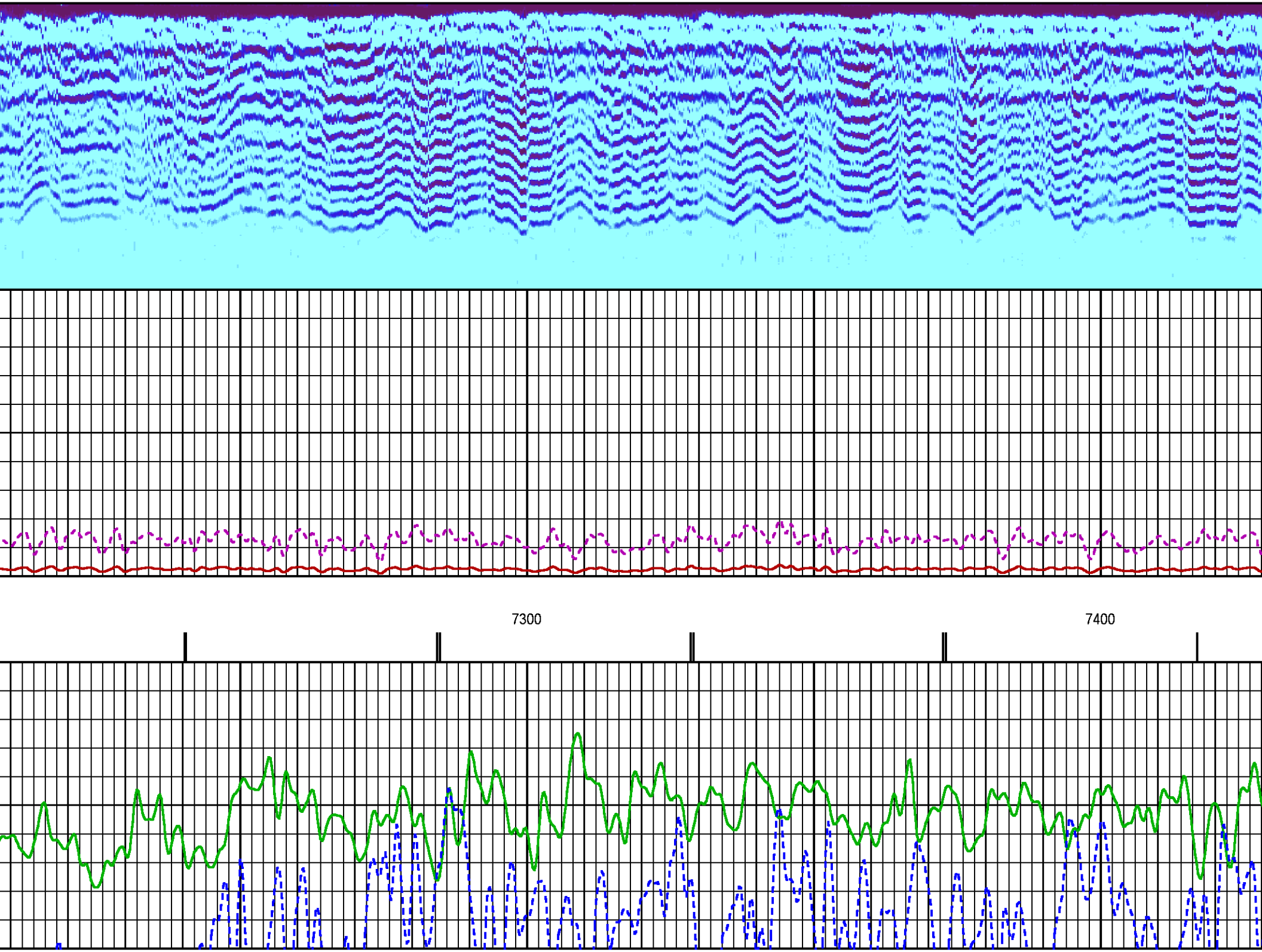
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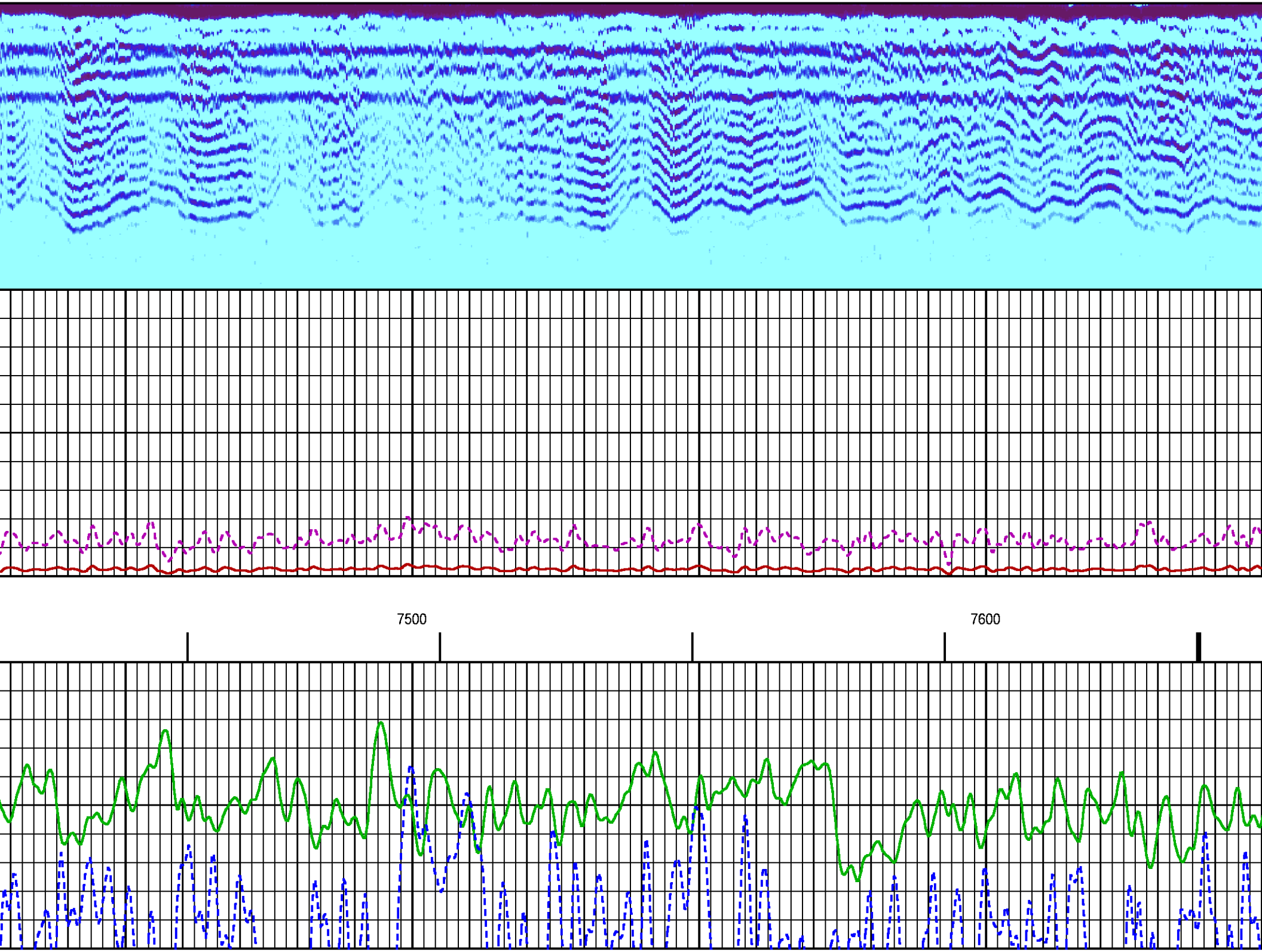
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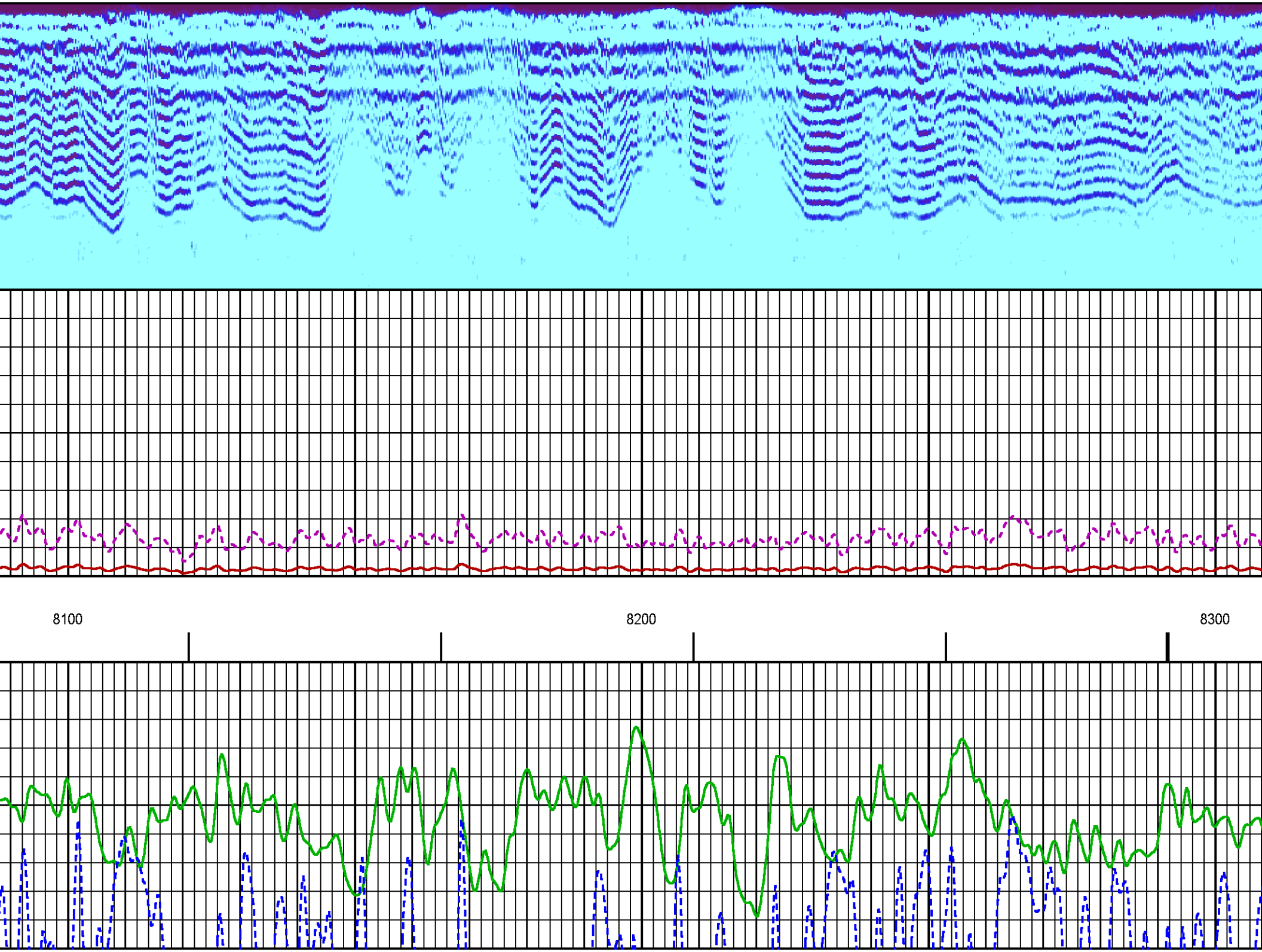
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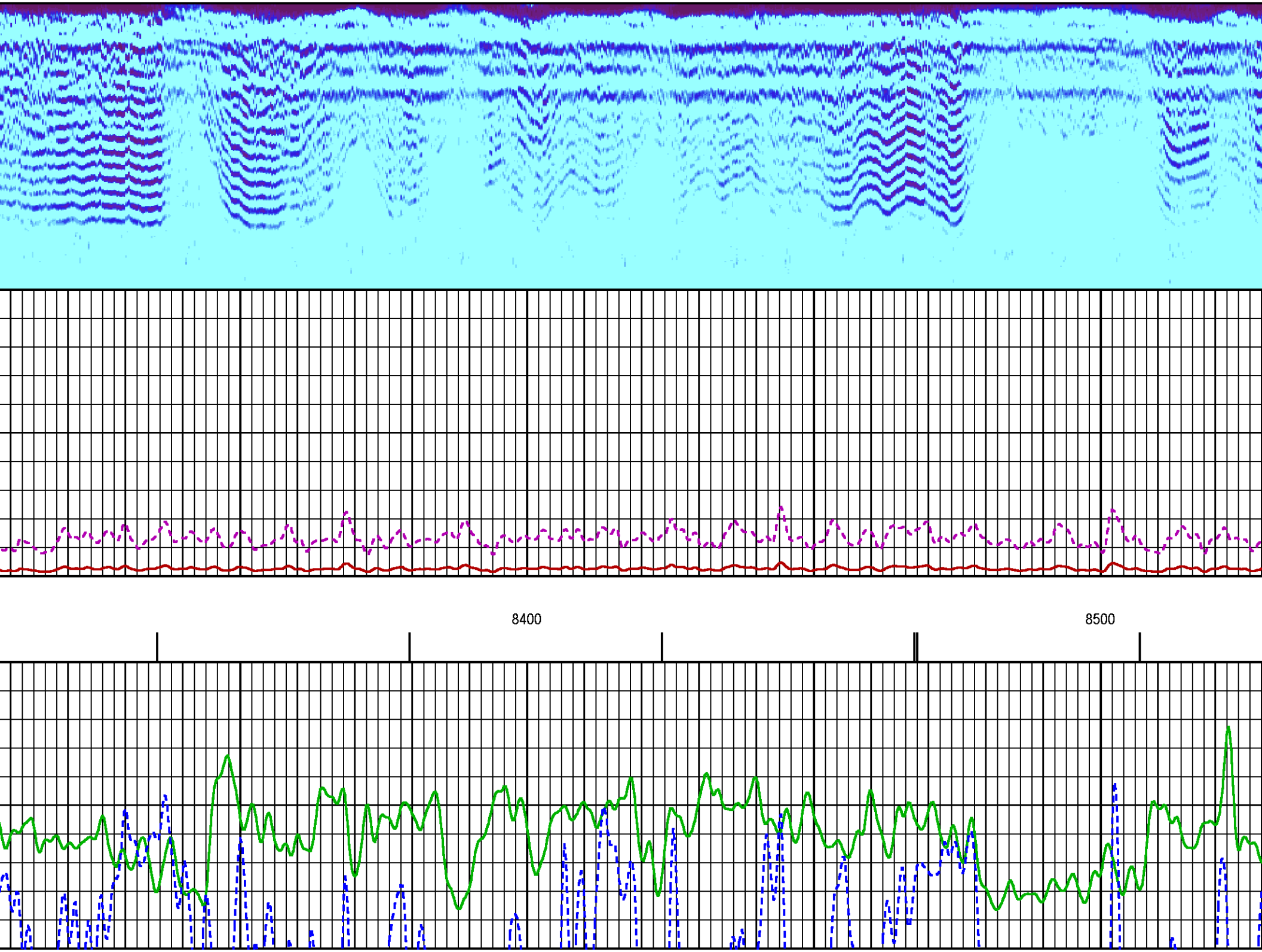
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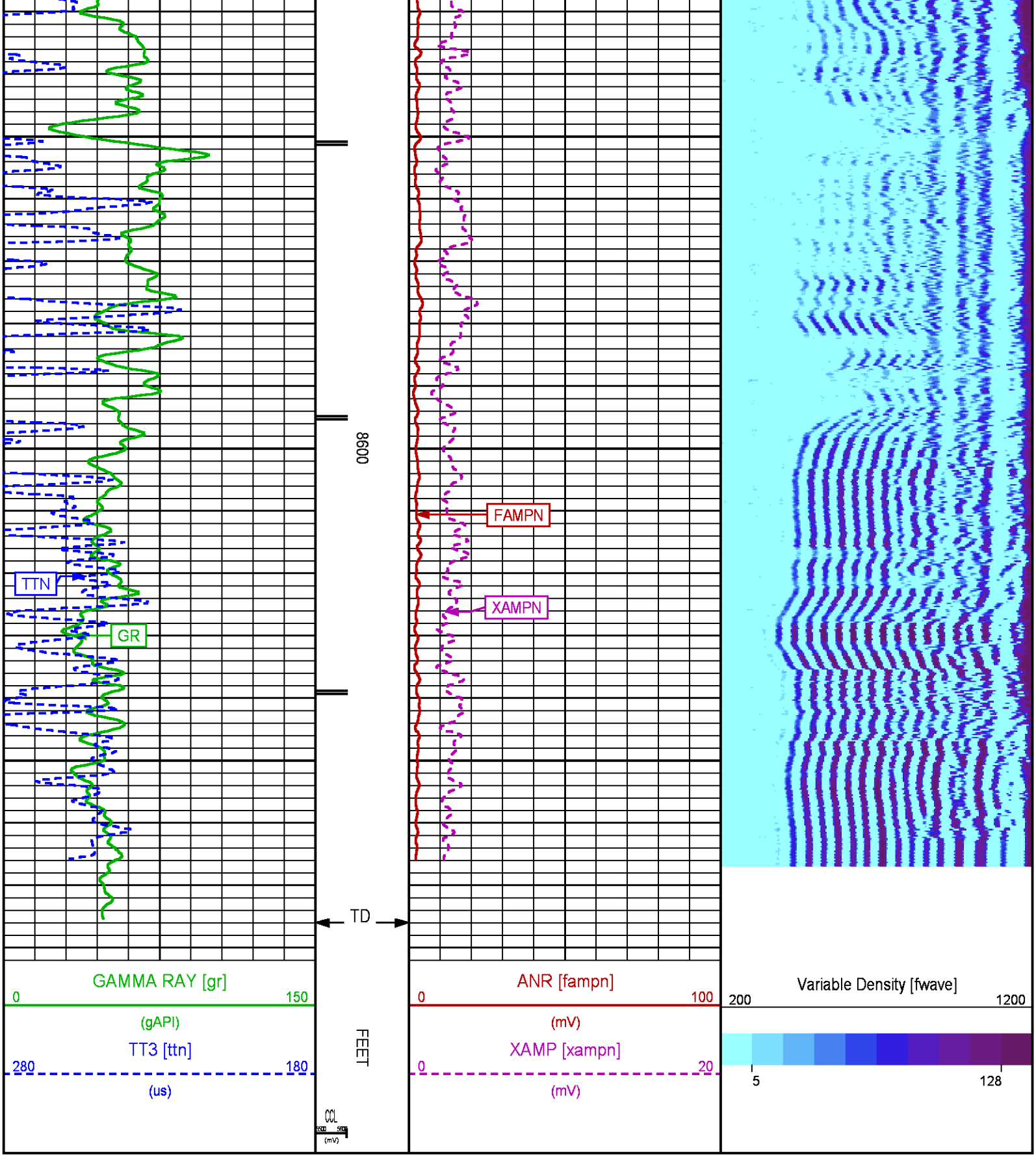


REPEAT LOG 0 PSI

ECLIPS 6.2wu1 PC-ECLIPS General Release Rel 6.2w Update 1 Fri Apr 25 10:54:53 Central Daylight Time 2014
Updates: 46 Patches: 5

Plotted: Sat Dec 20 14:18:39 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\093561\n012g01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 8310.750 ft BOTTOM DEPTH: 8676.883 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ()	medium (1)		TOP	BOTTOM
AMPLITUDE	FILTER ()	medium (1)		"	"
TRAVEL TIME	FILTER ()	medium (1)		"	"

RAL CCL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CCL FLOOR	CCL FLOOR	0		TOP	BOTTOM

ANALOG RAL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
AMPLITUDE WINDOW (NEAR)	AMP WINDOW START (fgpn*)	187	us	TOP	BOTTOM
	AMP WINDOW LENGTH	25	us	"	"
TRAVEL TIME WINDOW (NEAR)	TT WINDOW START (ttn*)	160	us	"	"
	TT WINDOW LENGTH	500	us	"	"
	FIRST BRK THRESHOLD (ttn*)	4	mV	"	"
RAL CASING PARAMETERS	PPT NEAR	200.391	us	"	"
RAL TOOL DELAY	TOOL DELAY (strn*)	-67	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	125	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"

CURVE DESCRIPTION REPORT

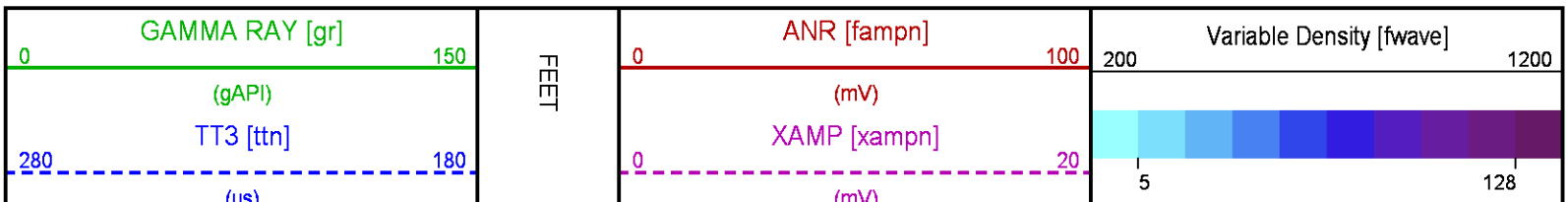
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Dec 19 15:34:37 2014	CASING COLLAR LOCATOR
F1:FAMPN	Dec 19 15:34:37 2014	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Dec 19 15:34:37 2014	FAR WAVE FORM
F1:GR	Dec 19 15:34:37 2014	GAMMA RAY
F1:TTN	Dec 19 15:34:37 2014	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Dec 19 15:34:37 2014	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

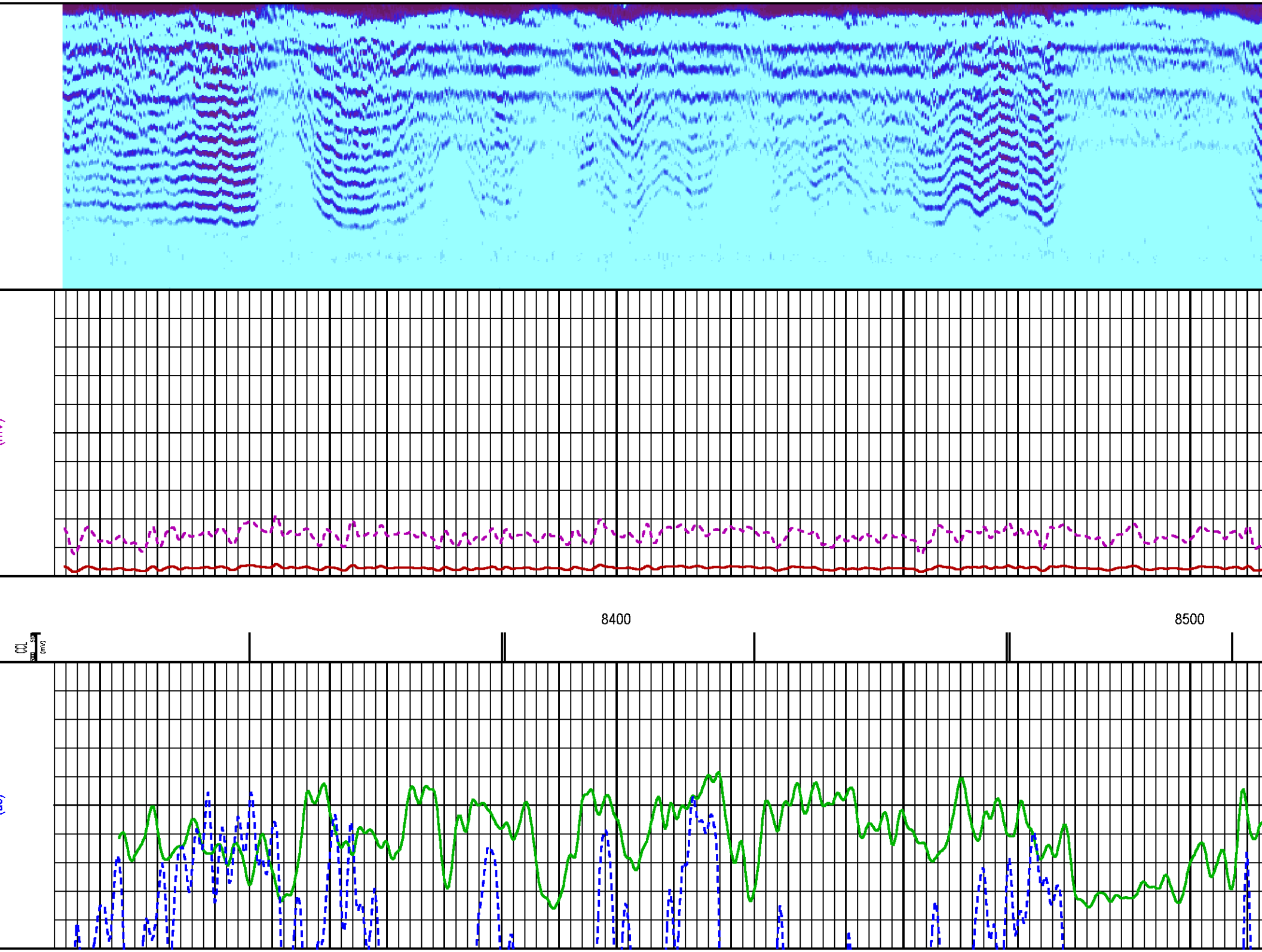
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	5.75	GR	1.75	XAMPN	11.25		
FAMPN	11.25	TTN	11.25				

Presentation : BHUGHES-06627:C:\dat1a\093561\32CBL_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 8303.5 - 8677.5 Feet

Data File 1 : F1 : BHUGHES-06627:C:\dat1a\093561\32_CBL_REPEAT.xtf
Created On : Dec 19 15:34:37 2014
Company : WPX ENERGY
Well : MEAD RWF 32-23
Field : RULISON
File Interval : 8302.5 - 8679 Feet
OCT : n012g

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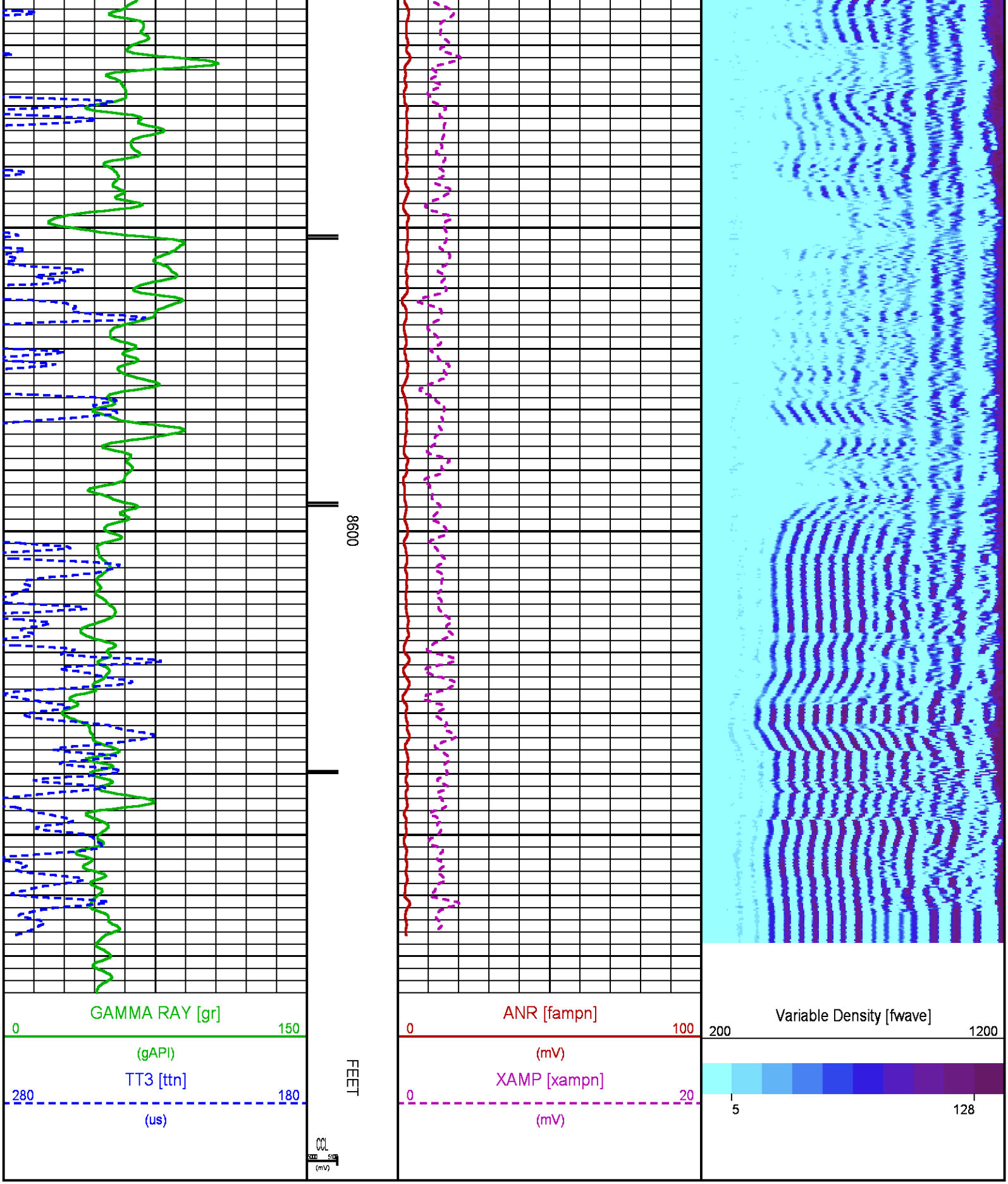


SECONDARY PRESENTATION 0 PSI

ECLIPS 6.2wu1 PC-ECLIPS General Release Rel 6.2w Update 1 Fri Apr 25 10:54:53 Central Daylight Time 2014
Updates: 46 Patches: 5

Plotted: Sat Dec 20 10:50:18 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\093561\n012g02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 28.500 ft BOTTOM DEPTH: 8676.000 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ()	medium (1)		TOP	BOTTOM
AMPLITUDE	FILTER ()	medium (1)		"	"
TRAVEL TIME	FILTER ()	medium (1)		"	"

RAL CCL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CCL FLOOR	CCL FLOOR	0		TOP	BOTTOM

ANALOG RAL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
AMPLITUDE WINDOW (NEAR)	AMP WINDOW START (fgp1*)	187	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	187	us	"	"
	AMP WINDOW START (fgp3*)	187	us	"	"
	AMP WINDOW START (fgp4*)	187	us	"	"
	AMP WINDOW START (fgp5*)	187	us	"	"
	AMP WINDOW START (fgp6*)	187	us	"	"
	AMP WINDOW START (fgp7*)	187	us	"	"
	AMP WINDOW START (fgp8*)	187	us	"	"
	AMP WINDOW START (fgpn*)	187	us	"	"
	AMP WINDOW LENGTH	25	us	"	"
TRAVEL TIME WINDOW (NEAR)	TT WINDOW START (ttn*)	160	us	"	"
	TT WINDOW LENGTH	500	us	"	"
	FIRST BRK THRESHOLD (ttn*)	4	mV	"	"
RAL CASING PARAMETERS	PPT NEAR	200.391	us	"	"
RAL TOOL DELAY	TOOL DELAY (str1*)	-67	us	"	"
	TOOL DELAY (str2*)	-67	us	"	"
	TOOL DELAY (str3*)	-67	us	"	"
	TOOL DELAY (str4*)	-67	us	"	"
	TOOL DELAY (str5*)	-67	us	"	"
	TOOL DELAY (str6*)	-67	us	"	"
	TOOL DELAY (str7*)	-67	us	"	"
	TOOL DELAY (str8*)	-67	us	"	"
	TOOL DELAY (strn*)	-67	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	125	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"

PERCENT BOND CEMENT MAP

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
RAL FREE PIPE AMPLITUDE	FREE AMP REC 1	80	mV	TOP	BOTTOM
	FREE AMP REC 2	80	mV	"	"
	FREE AMP REC 3	80	mV	"	"
	FREE AMP REC 4	80	mV	"	"
	FREE AMP REC 5	80	mV	"	"
	FREE AMP REC 6	80	mV	"	"
	FREE AMP REC 7	80	mV	"	"
	FREE AMP REC 8	80	mV	"	"
RAL FULL BOND AMPLITUDE	FULL BOND AMP REC 1	2	mV	"	"
	FULL BOND AMP REC 2	2	mV	"	"
	FULL BOND AMP REC 3	2	mV	"	"
	FULL BOND AMP REC 4	2	mV	"	"
	FULL BOND AMP REC 5	2	mV	"	"
	FULL BOND AMP REC 6	2	mV	"	"
	FULL BOND AMP REC 7	2	mV	"	"

FULL BOND AMP REC 8	2	mV	"	"	

CURVE DESCRIPTION REPORT

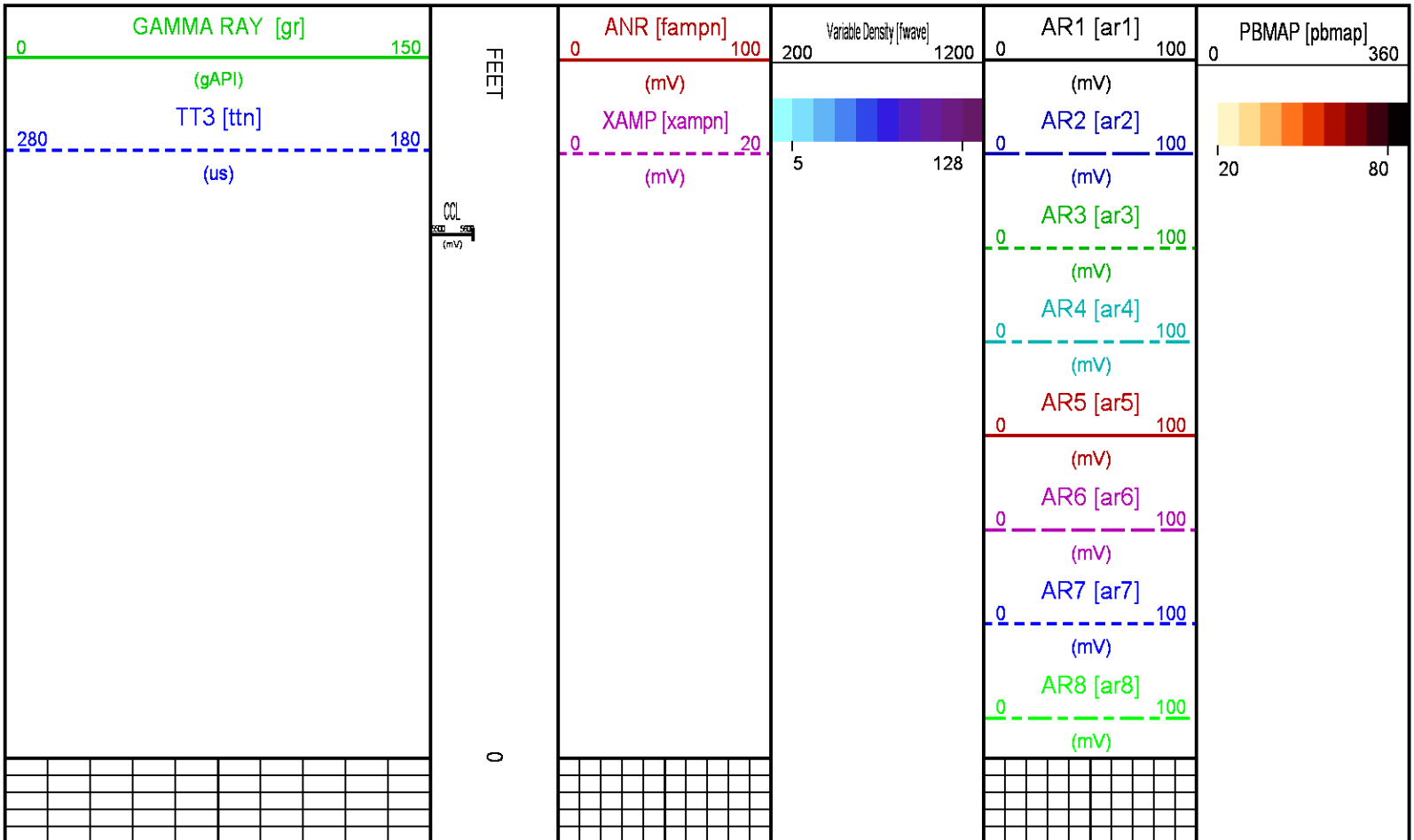
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:AR1	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE T-R1
F1:AR2	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE T-R2
F1:AR3	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE T-R3
F1:AR4	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE T-R4
F1:AR5	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE T-R5
F1:AR6	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE T-R6
F1:AR7	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE T-R7
F1:AR8	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE T-R8
F1:CCL	Dec 19 15:43:53 2014	CASING COLLAR LOCATOR
F1:FAMPN	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Dec 19 15:43:53 2014	FAR WAVE FORM
F1:GR	Dec 19 15:43:53 2014	GAMMA RAY
F1:PBMAP	Dec 19 15:43:53 2014	PERCENT BOND CEMENT MAP
F1:TTN	Dec 19 15:43:53 2014	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Dec 19 15:43:53 2014	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

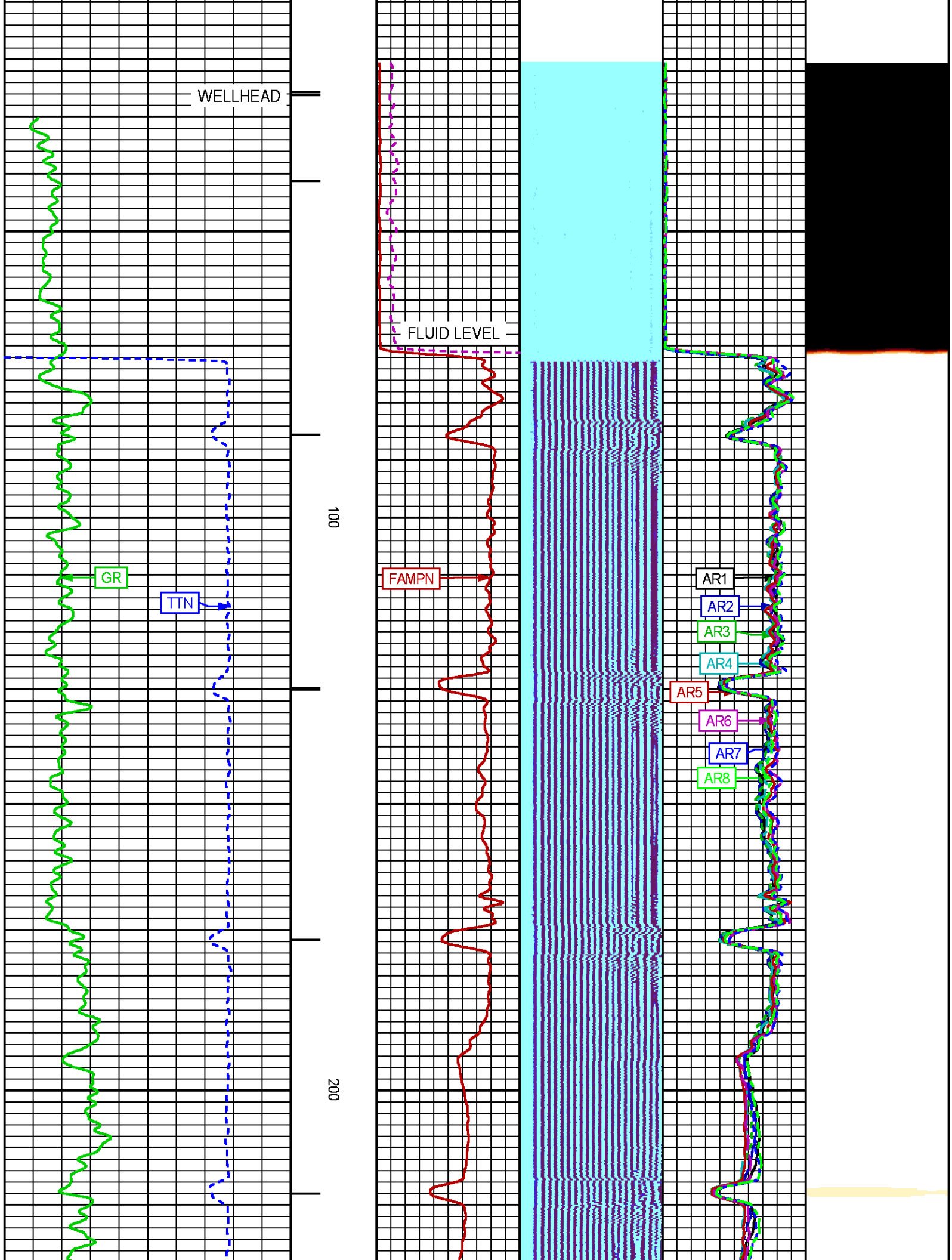
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
AR1	11.25	AR5	11.25	CCL	5.75	XAMPN	11.25
AR2	11.25	AR6	11.25	FAMPN	11.25		
AR3	11.25	AR7	11.25	GR	1.75		
AR4	11.25	AR8	11.25	TTN	11.25		

Presentation : BHUGHES-06627:C:\dat1a\093561\32CBL_SECONDARY.fvpdf [5"/100' Scale]
Plot Interval : 0 - 8681 Feet

Data File 1 : F1 : BHUGHES-06627:C:\dat1a\093561\32_CBL_MAIN.xtf
Created On : Dec 19 15:43:53 2014
Company : WPX ENERGY
Well : MEAD RWF 32-23
Field : RULISON
File Interval : 19.5 - 8678.25 Feet
OCT : n012g

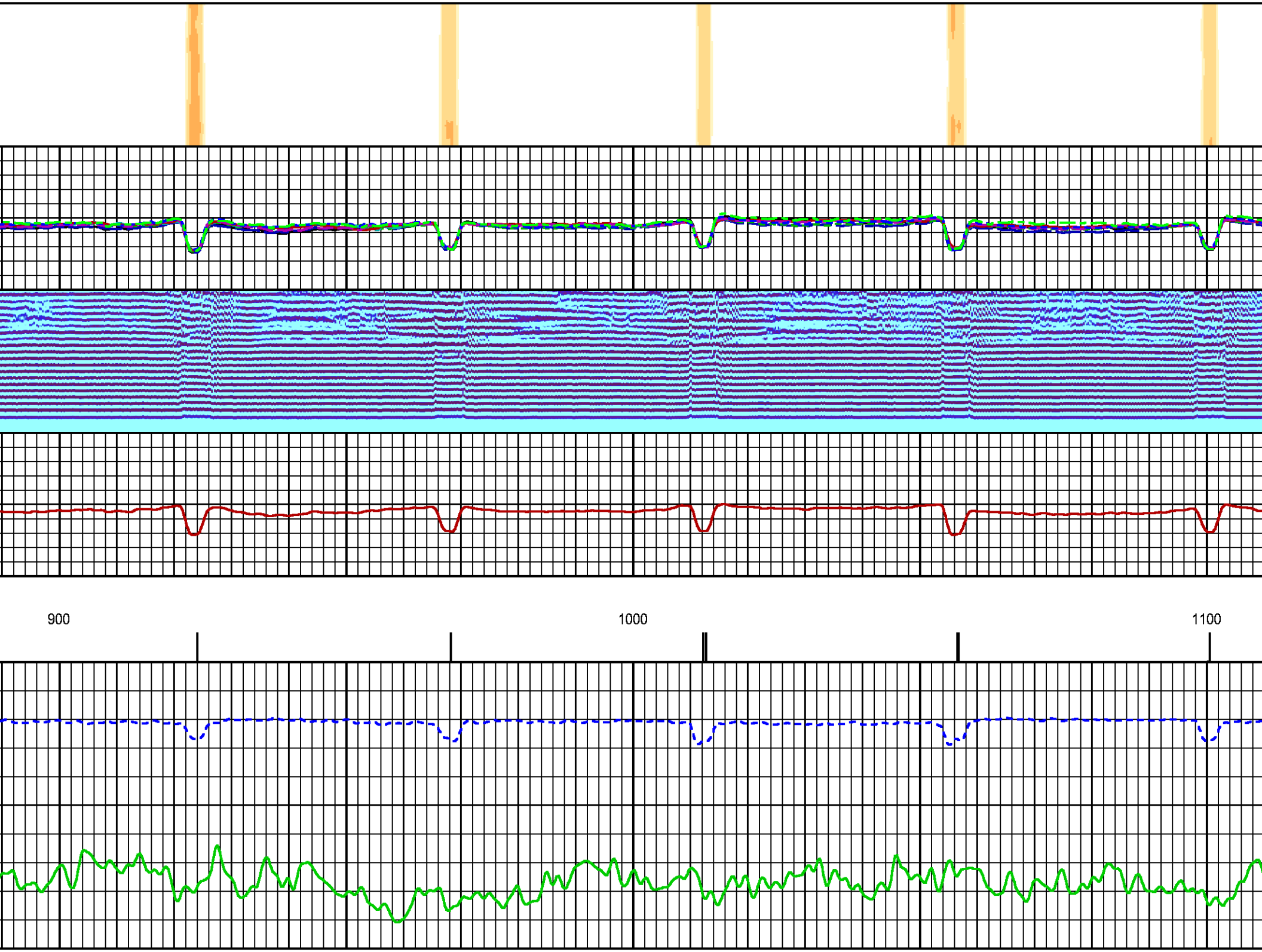



WELLHEAD
FLUID LEVEL
100
200
GR
TTN
FAMPN
AR1
AR2
AR3
AR4
AR5
AR6
AR7
AR8

300
400

500
600

700
800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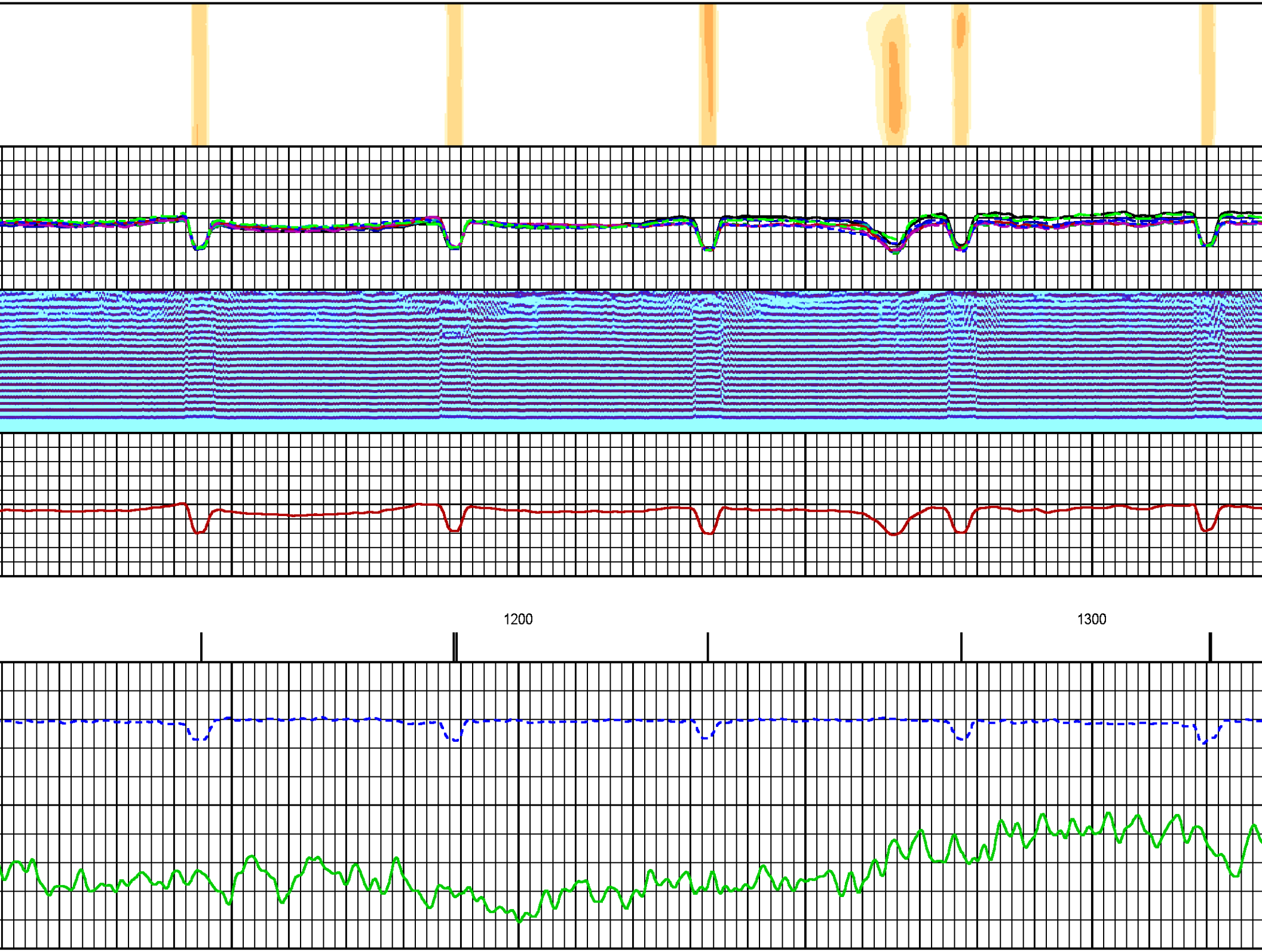
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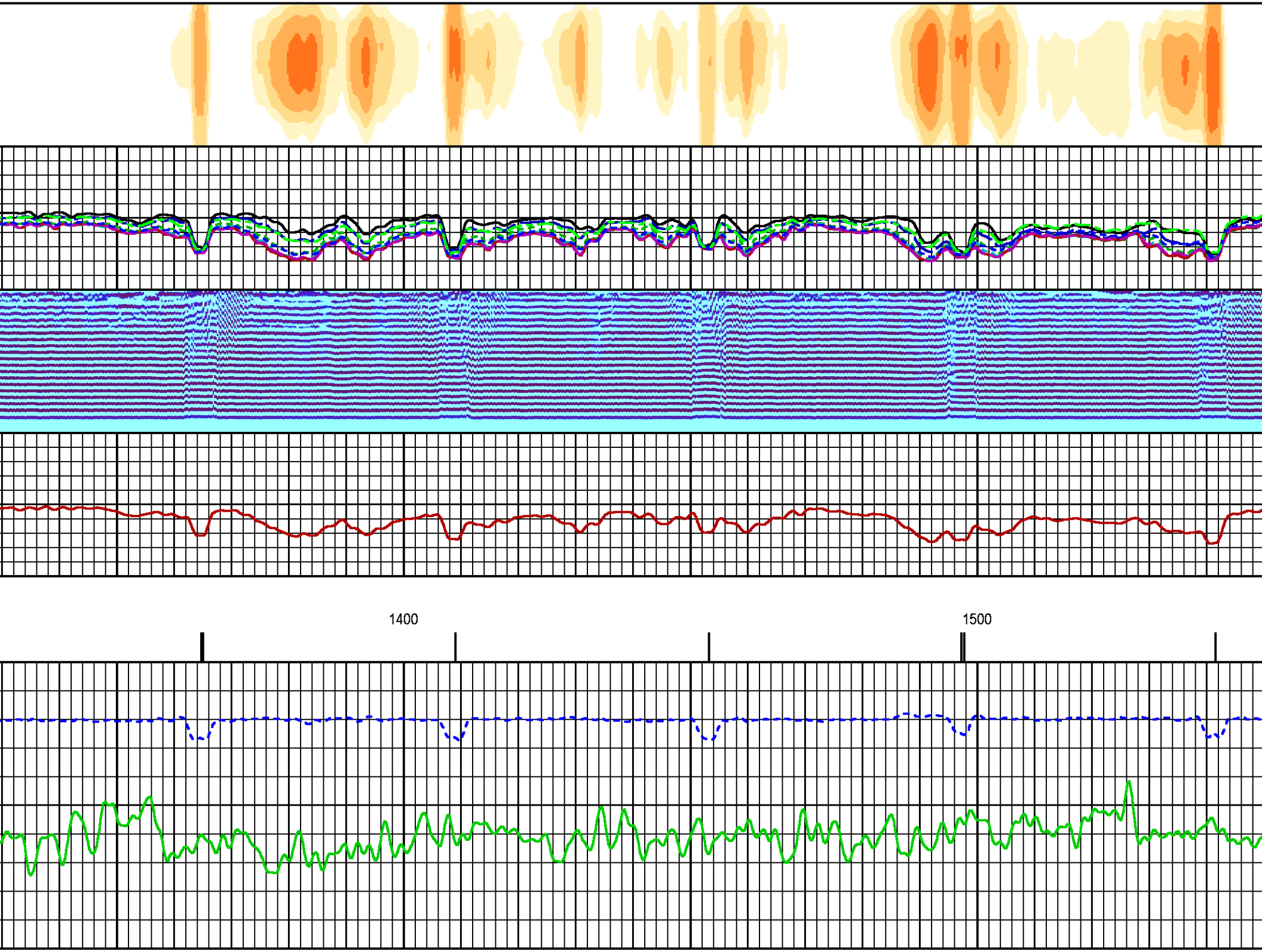
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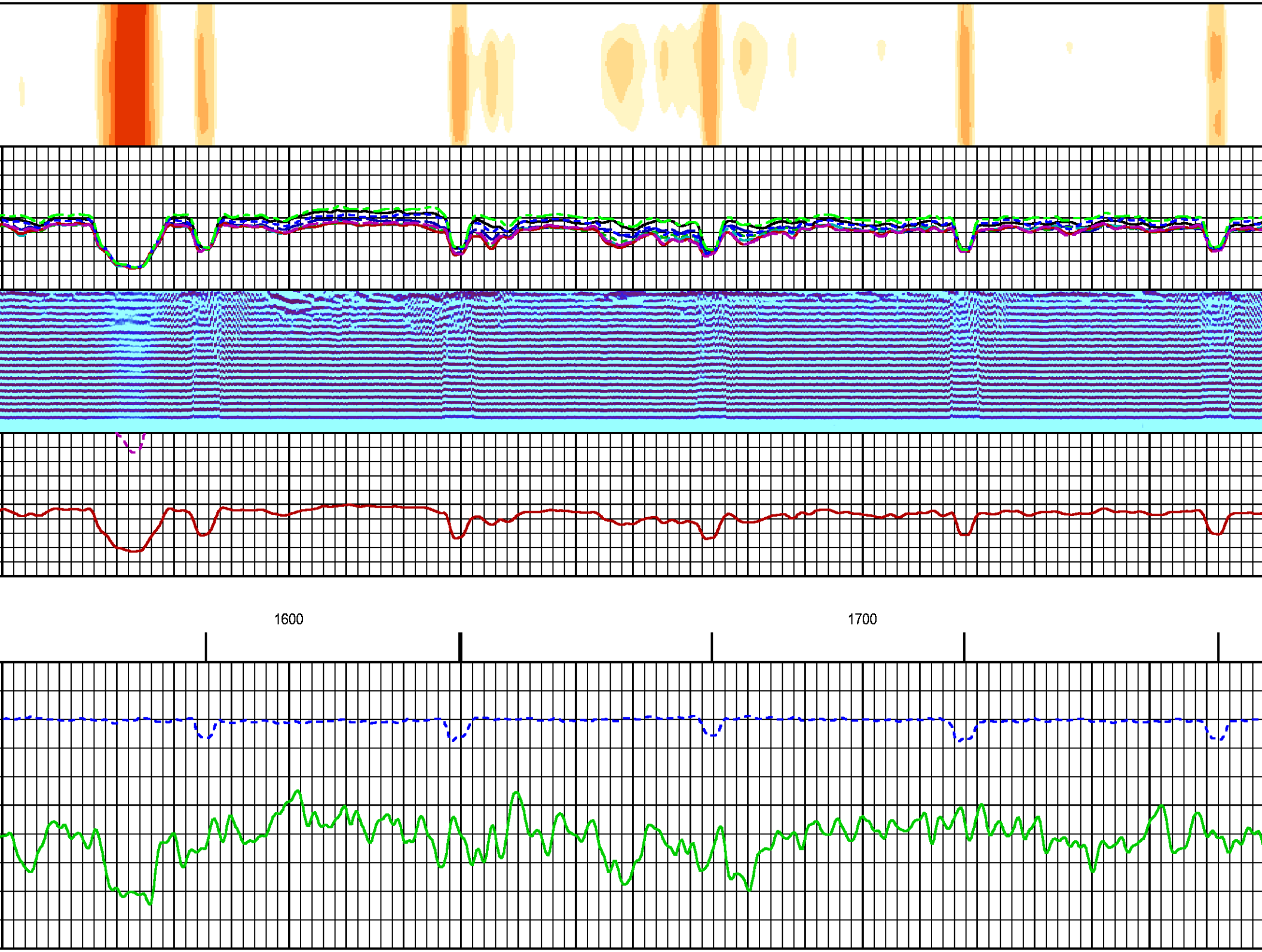
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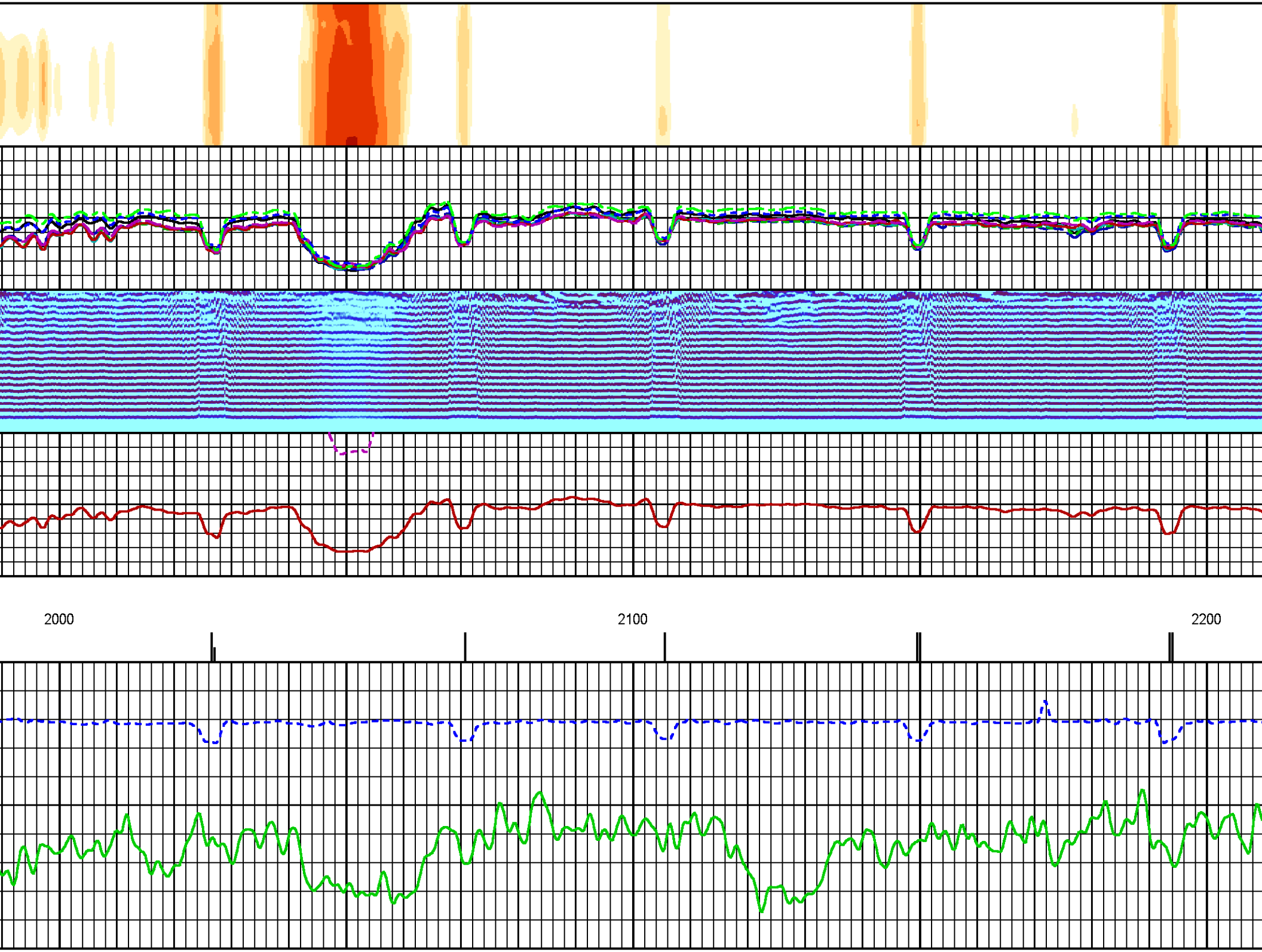
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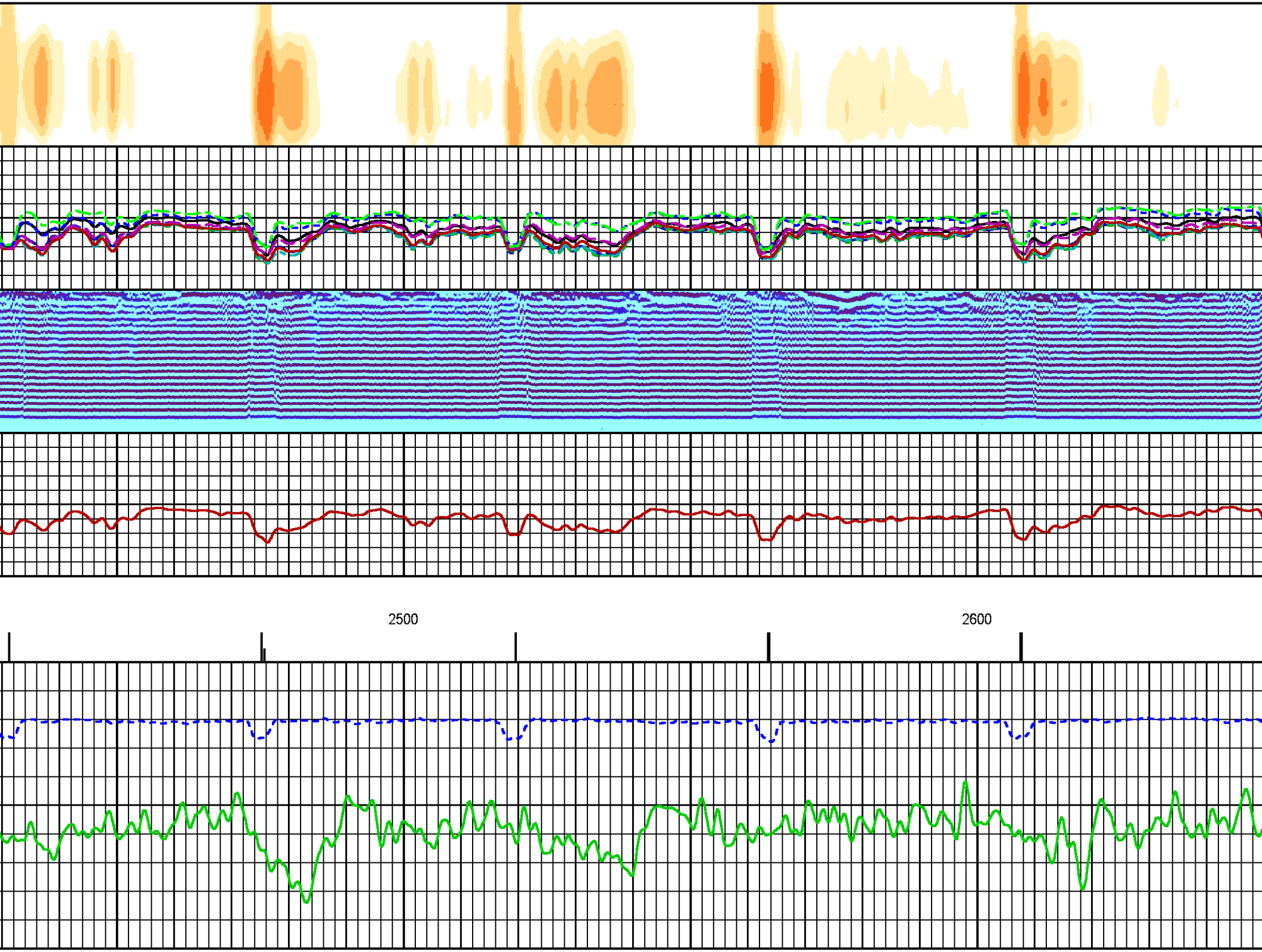
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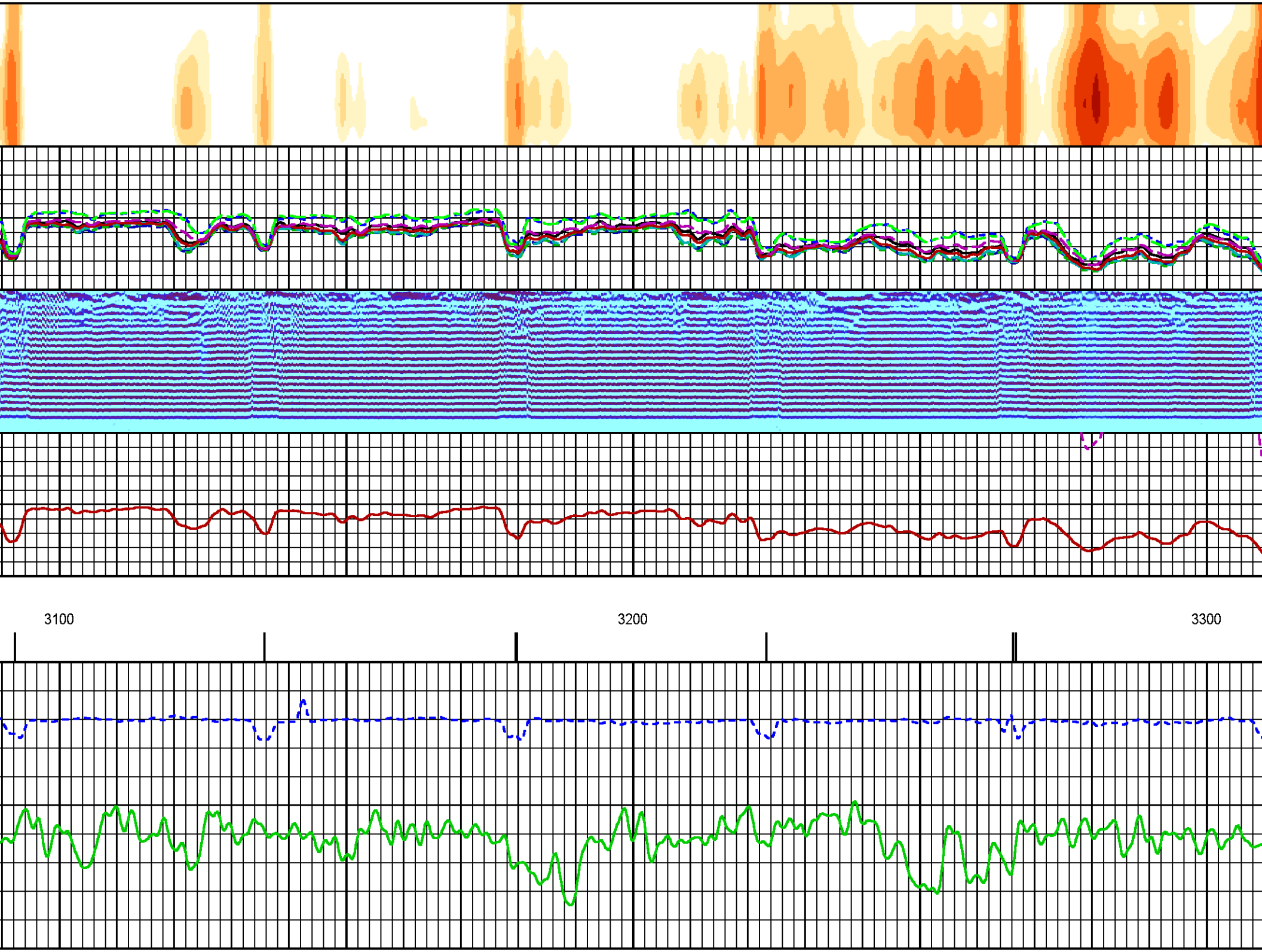
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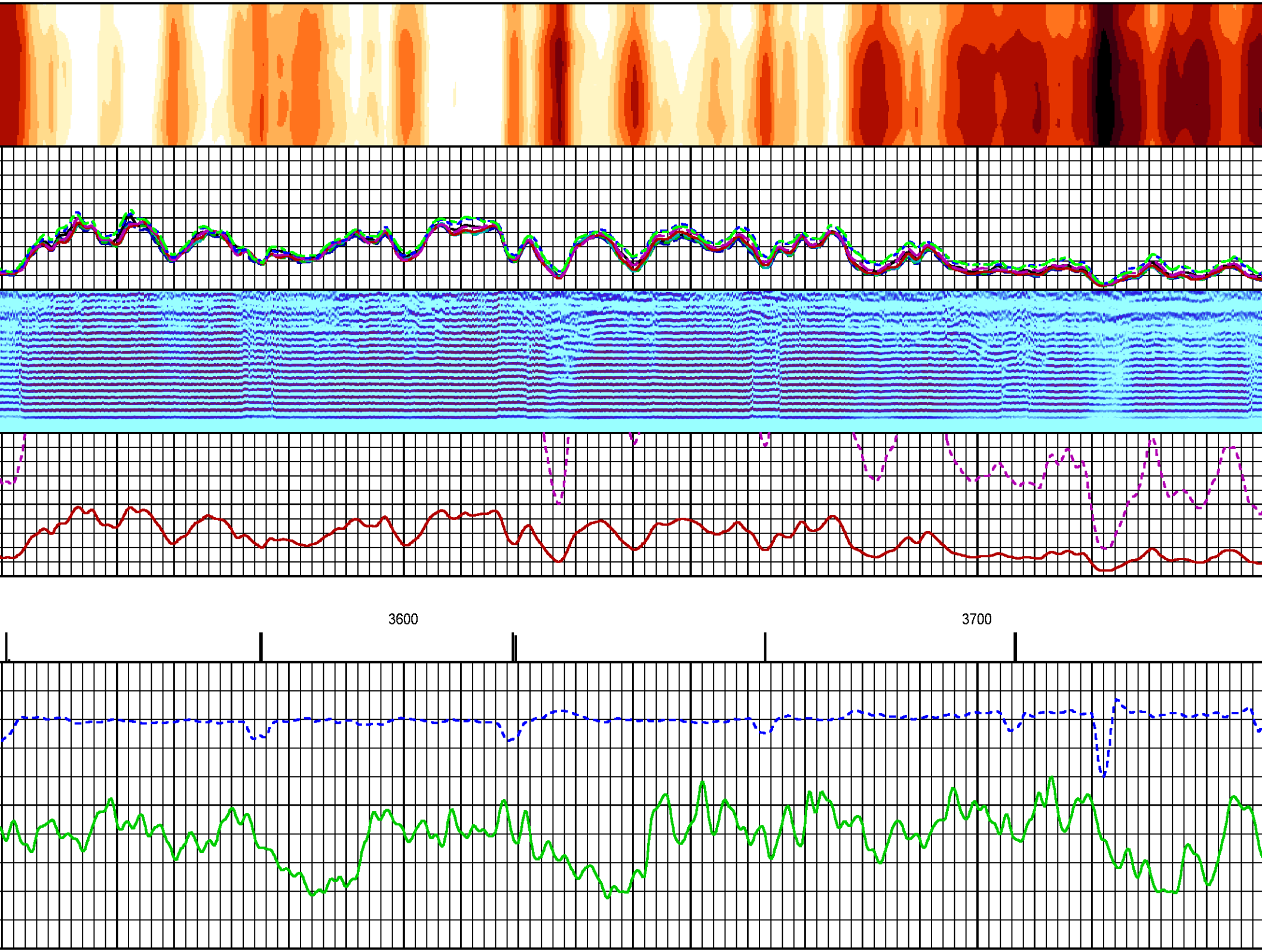
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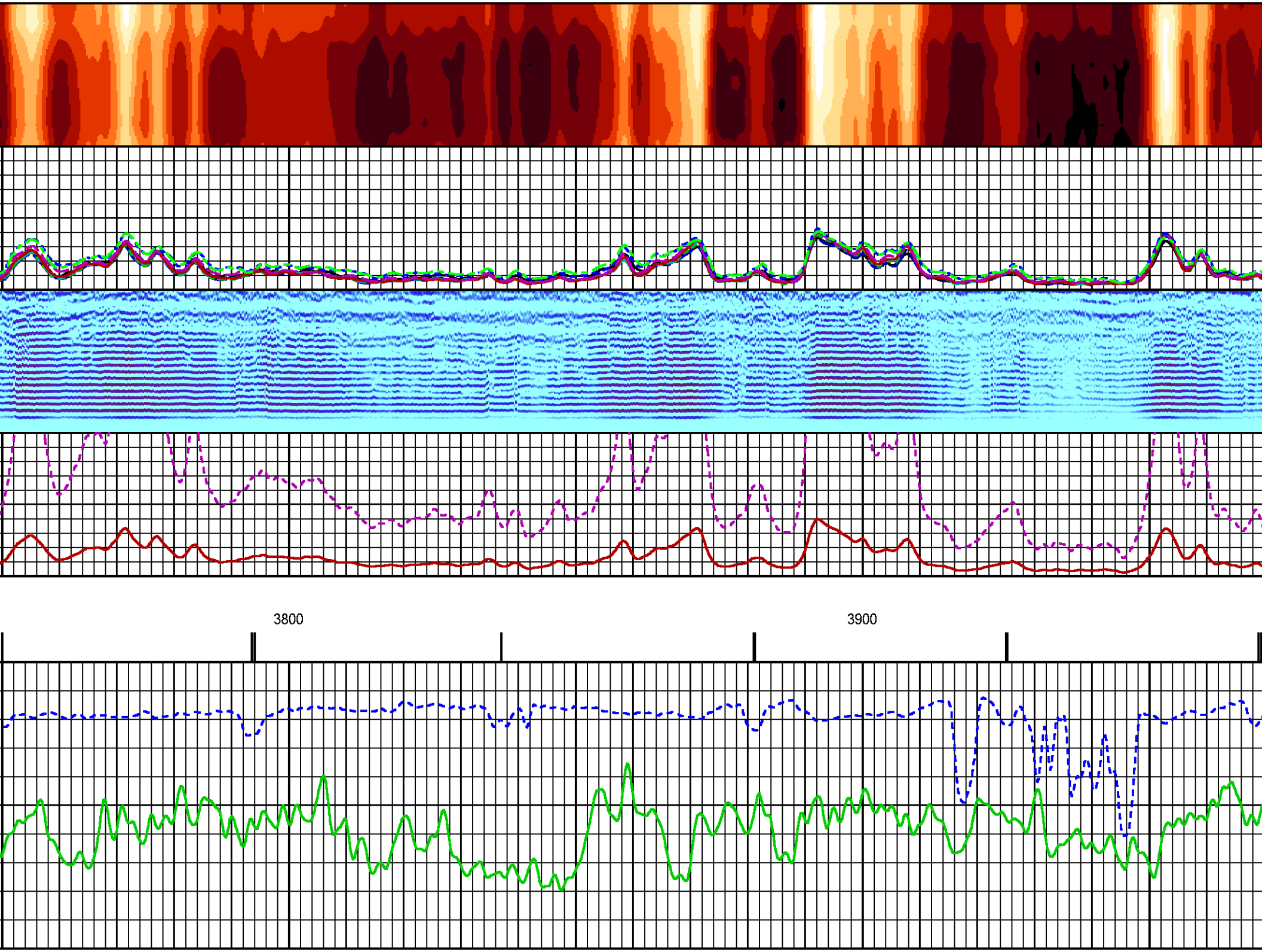
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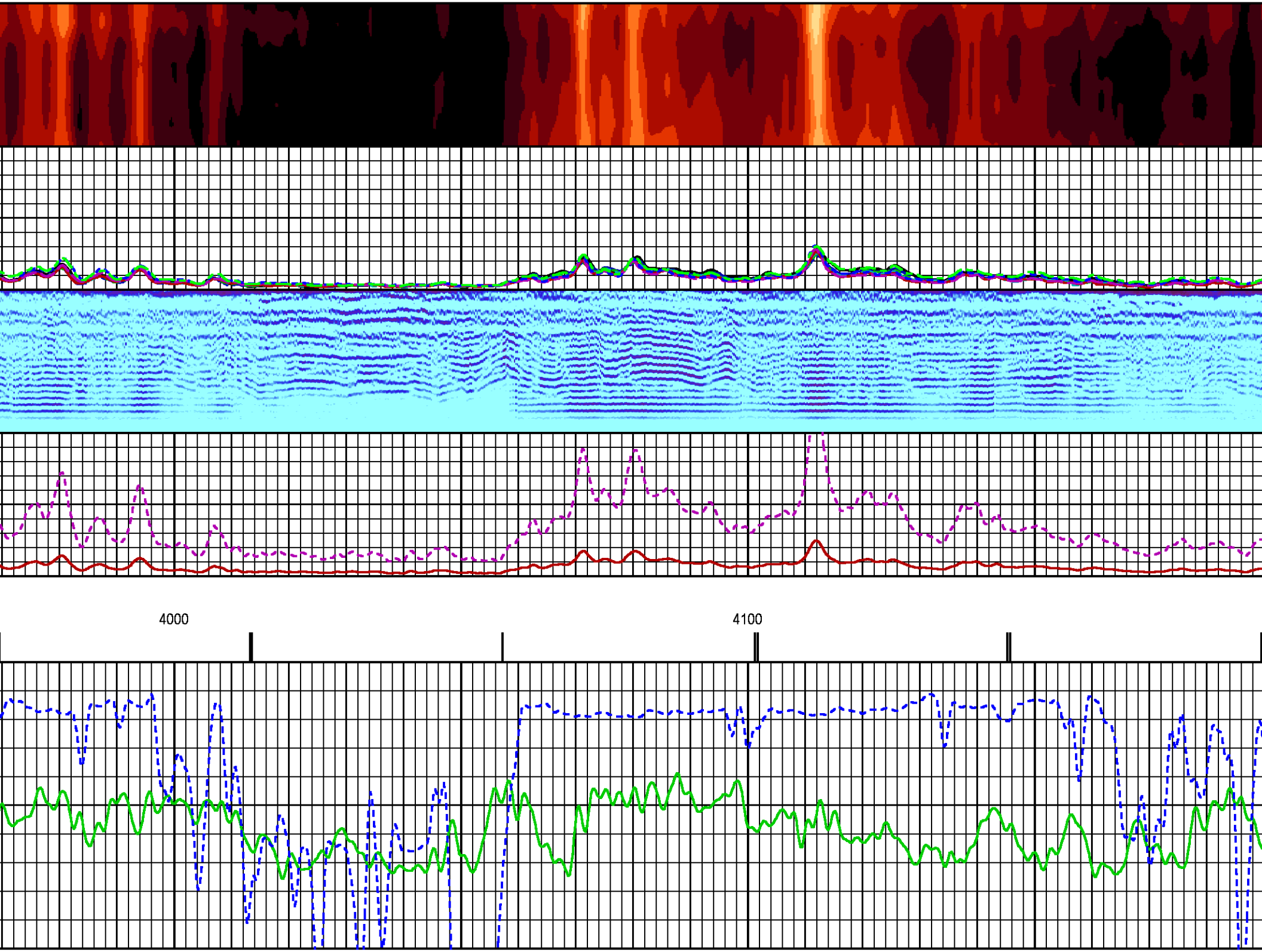
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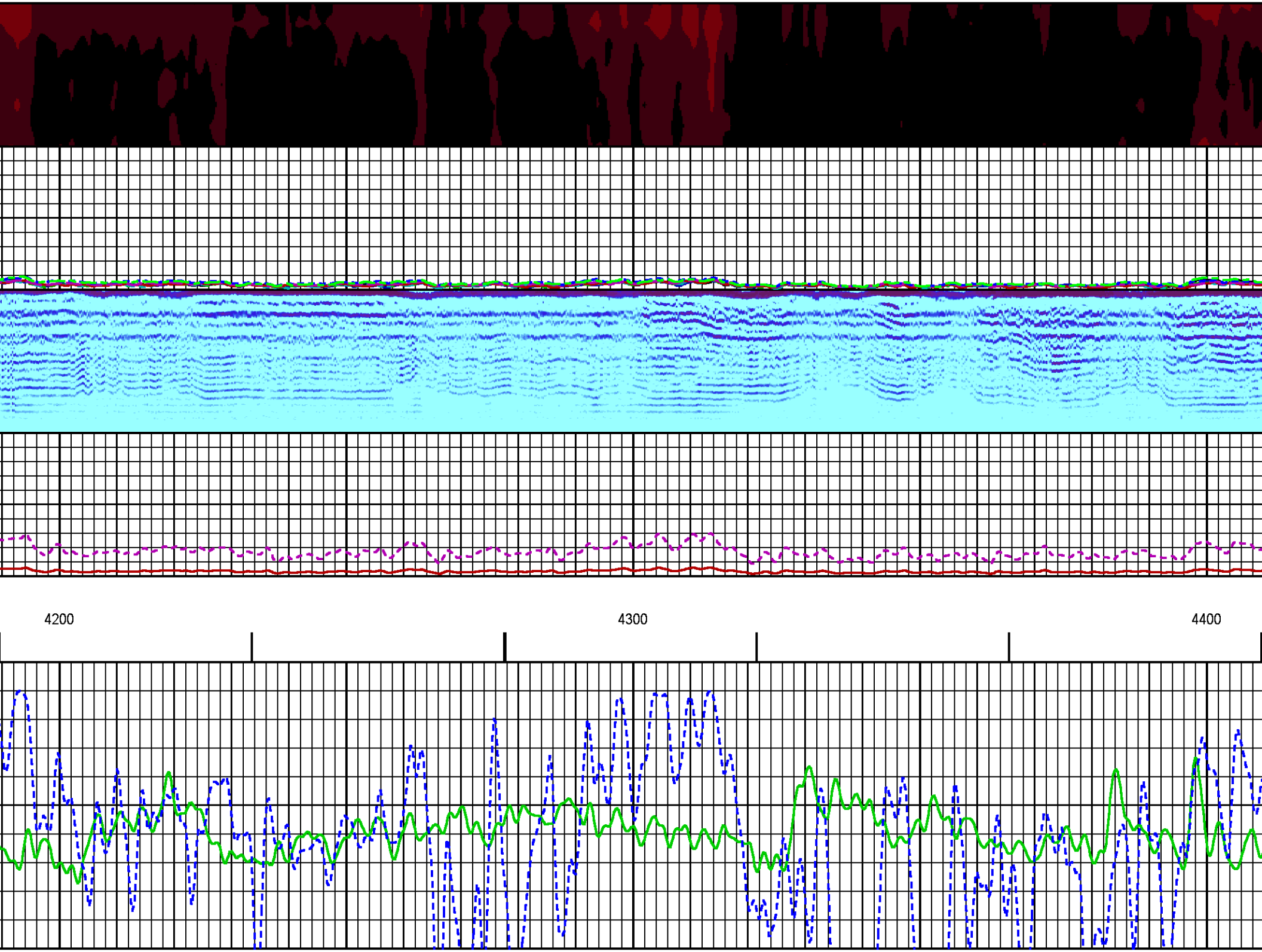
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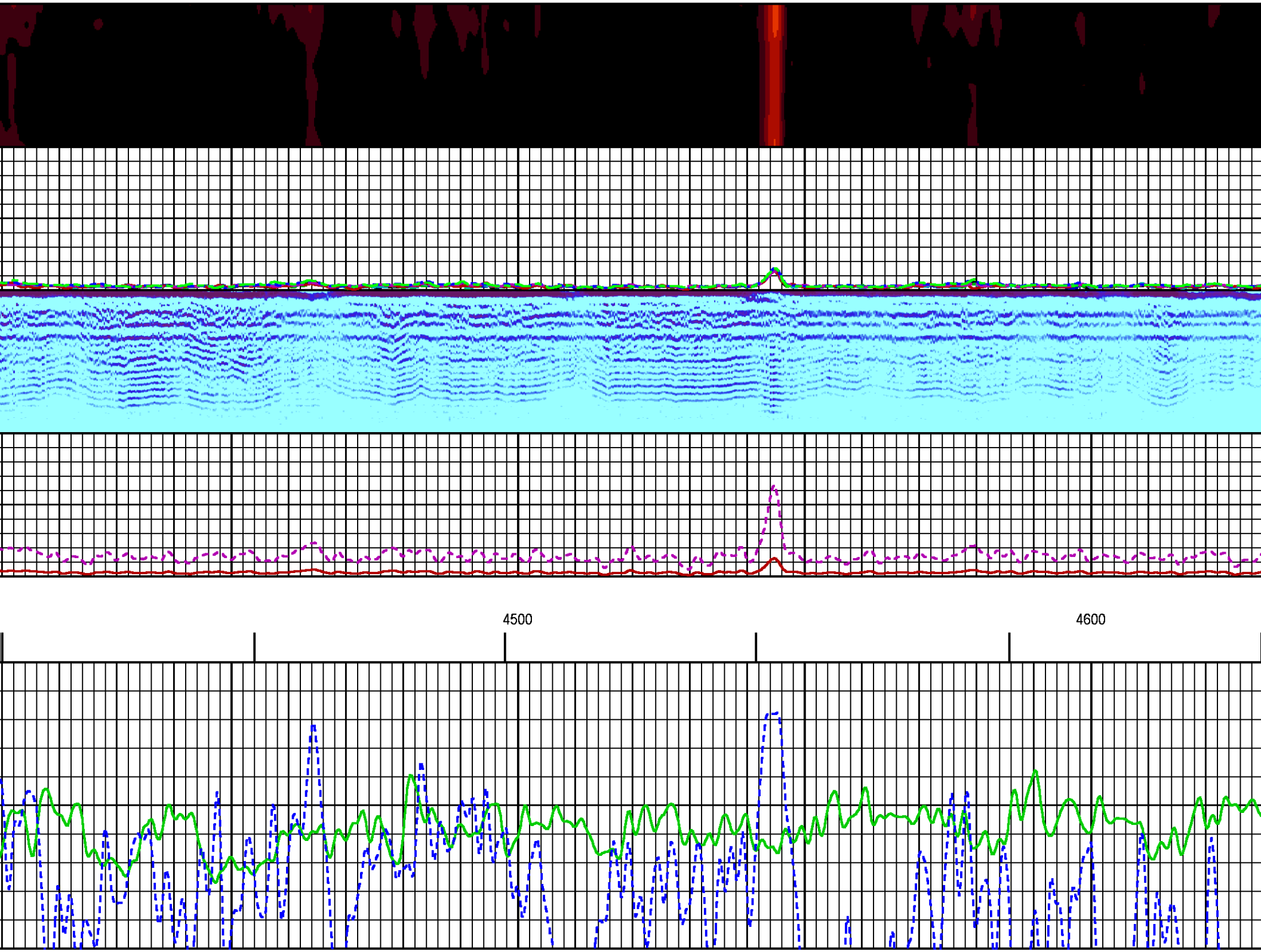
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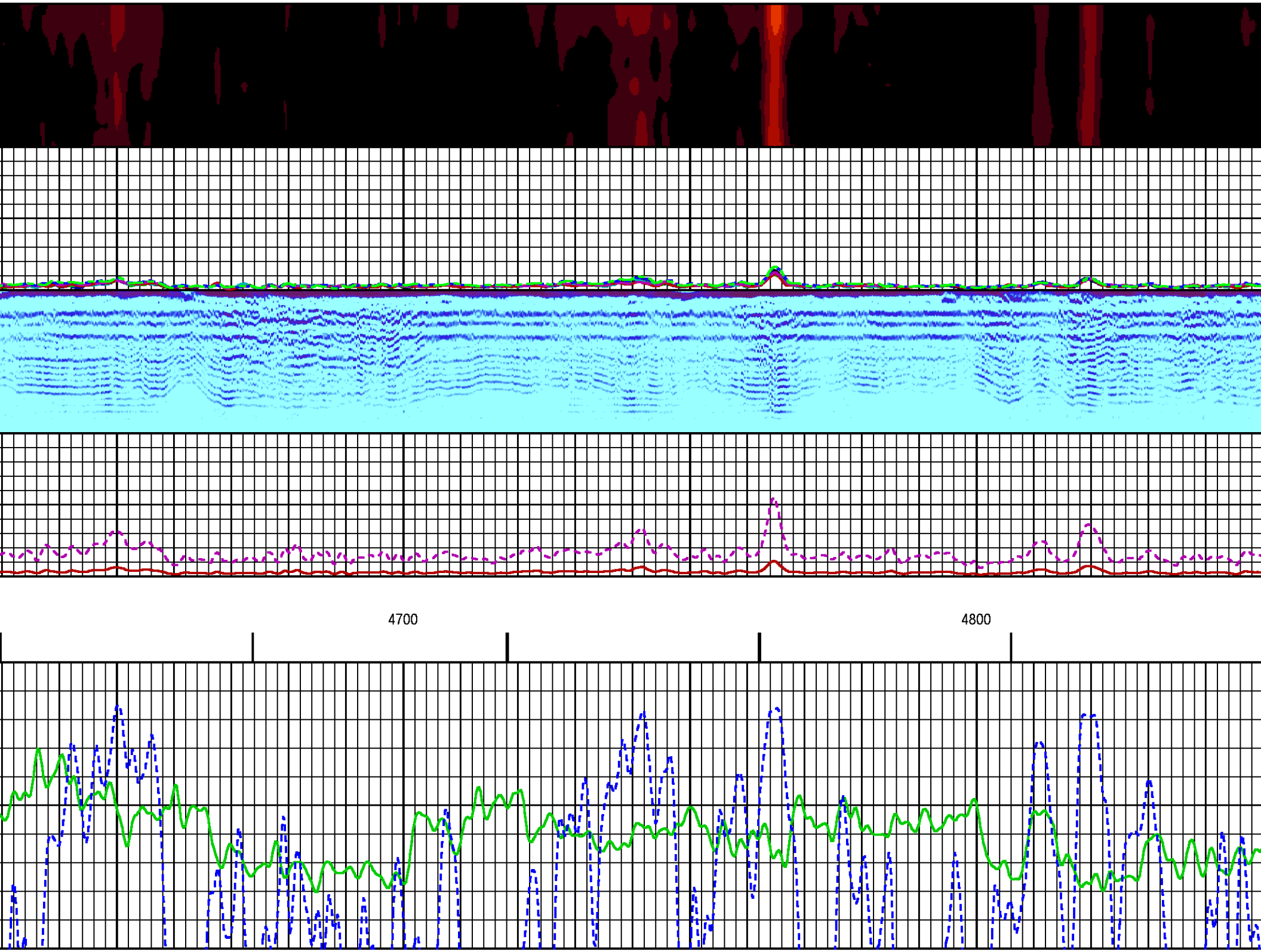
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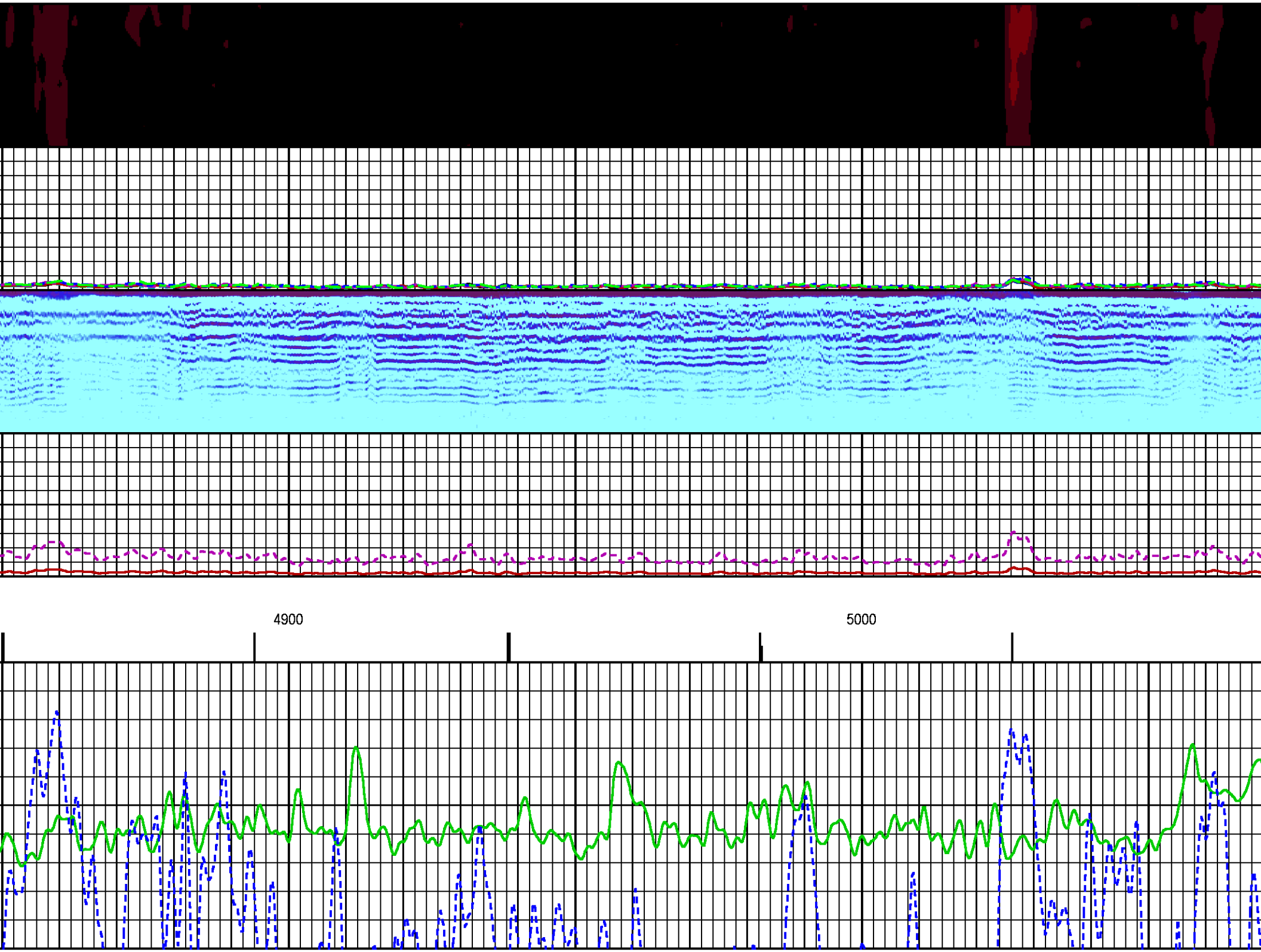
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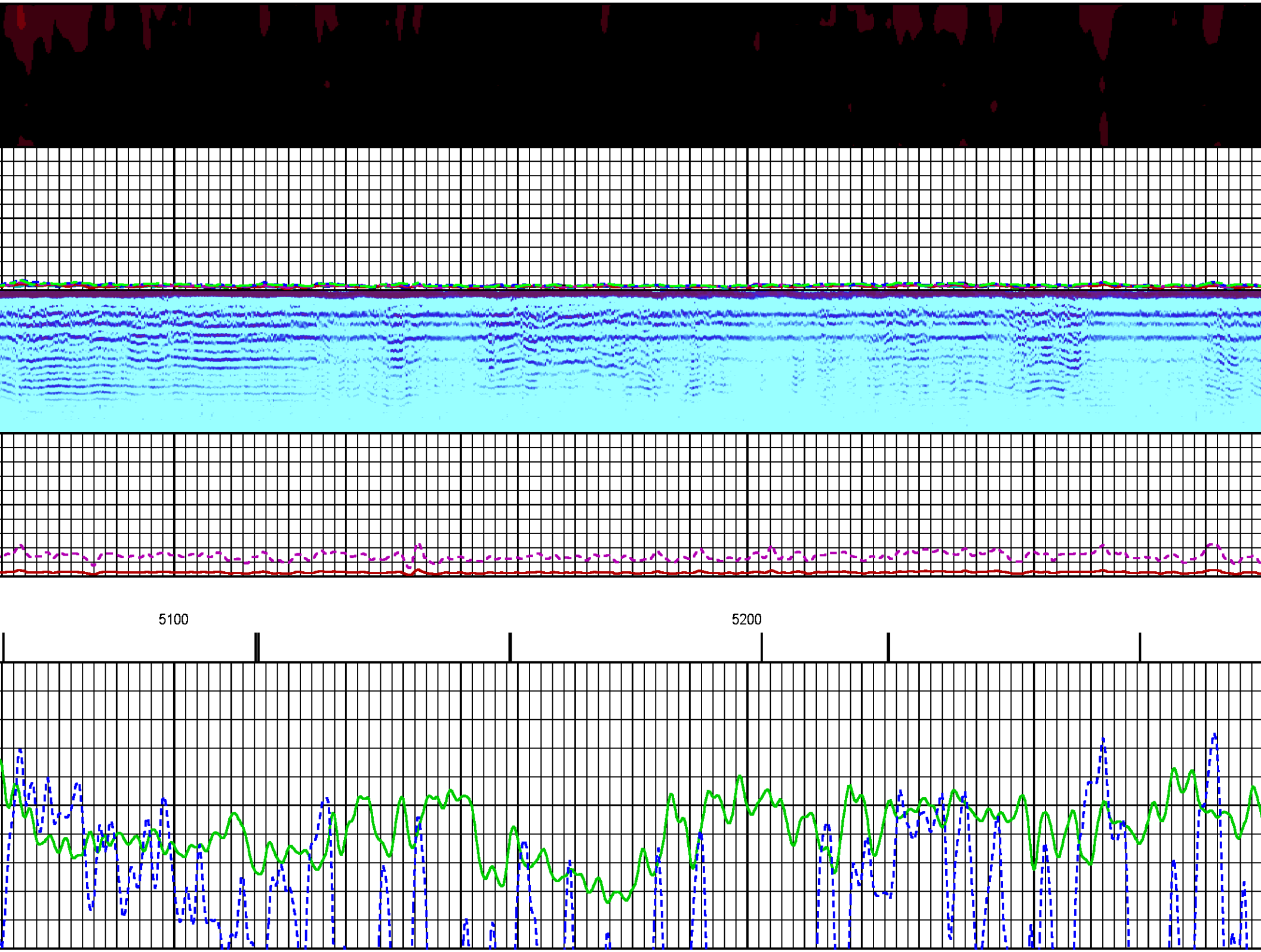
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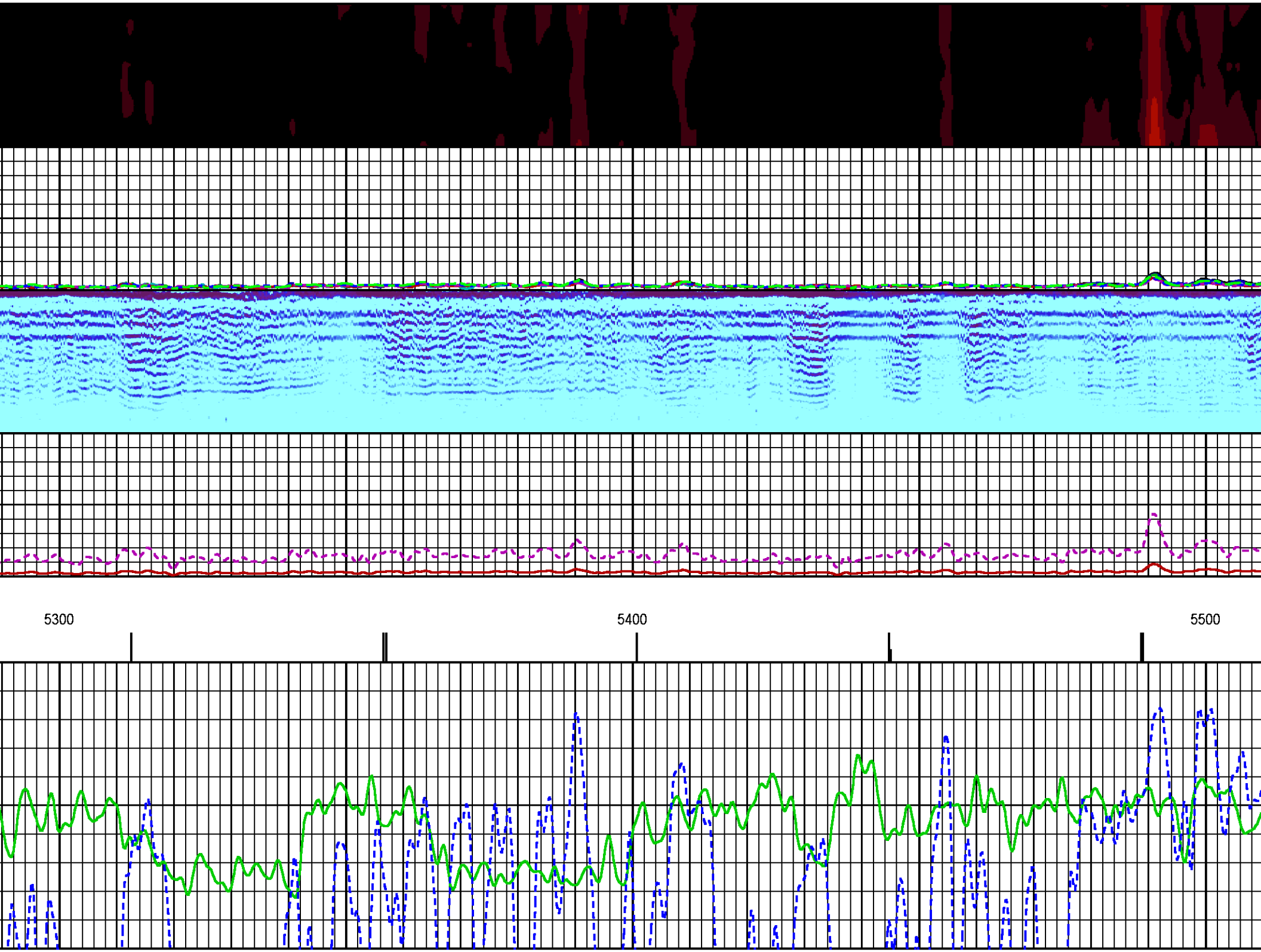
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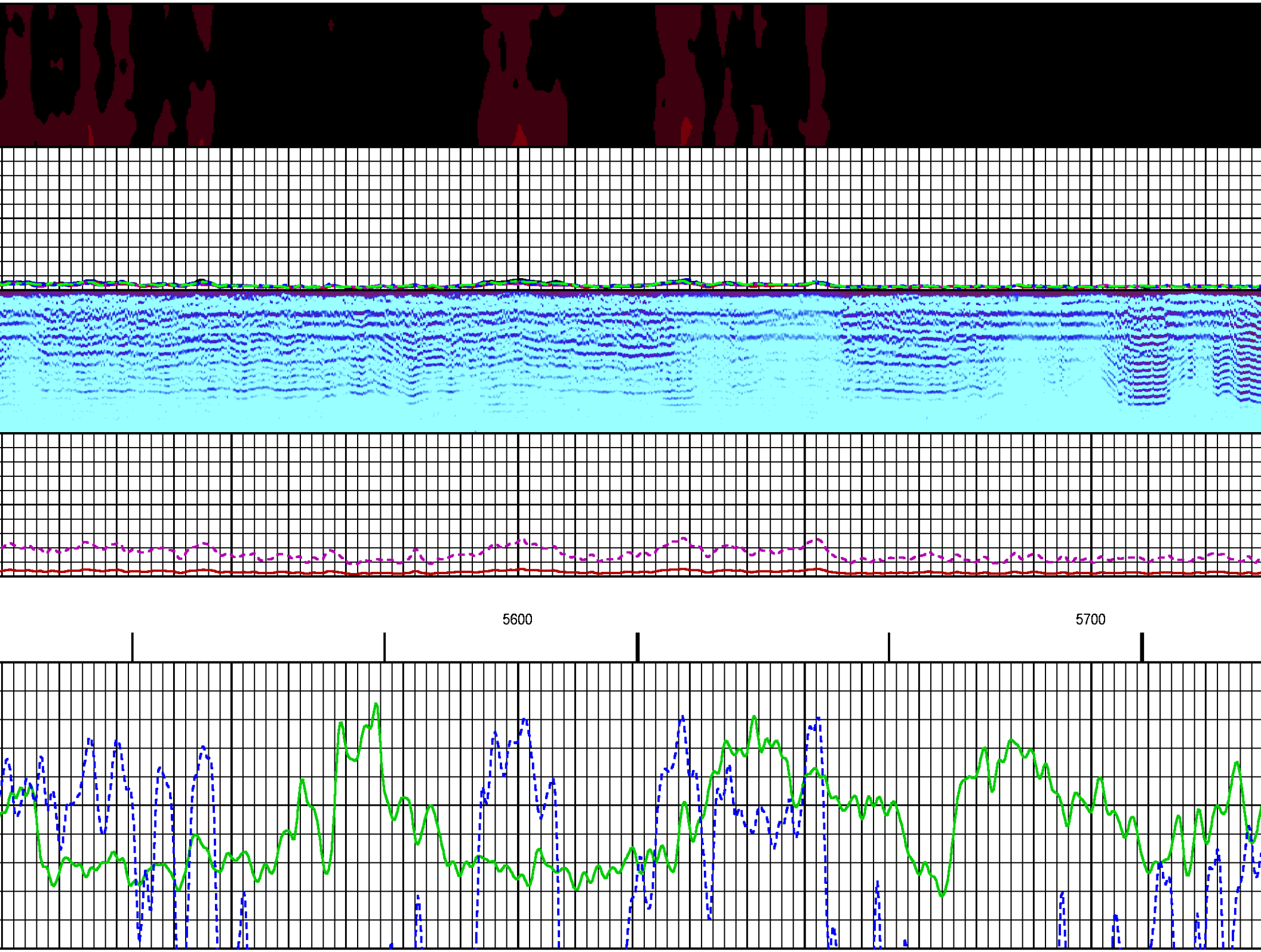
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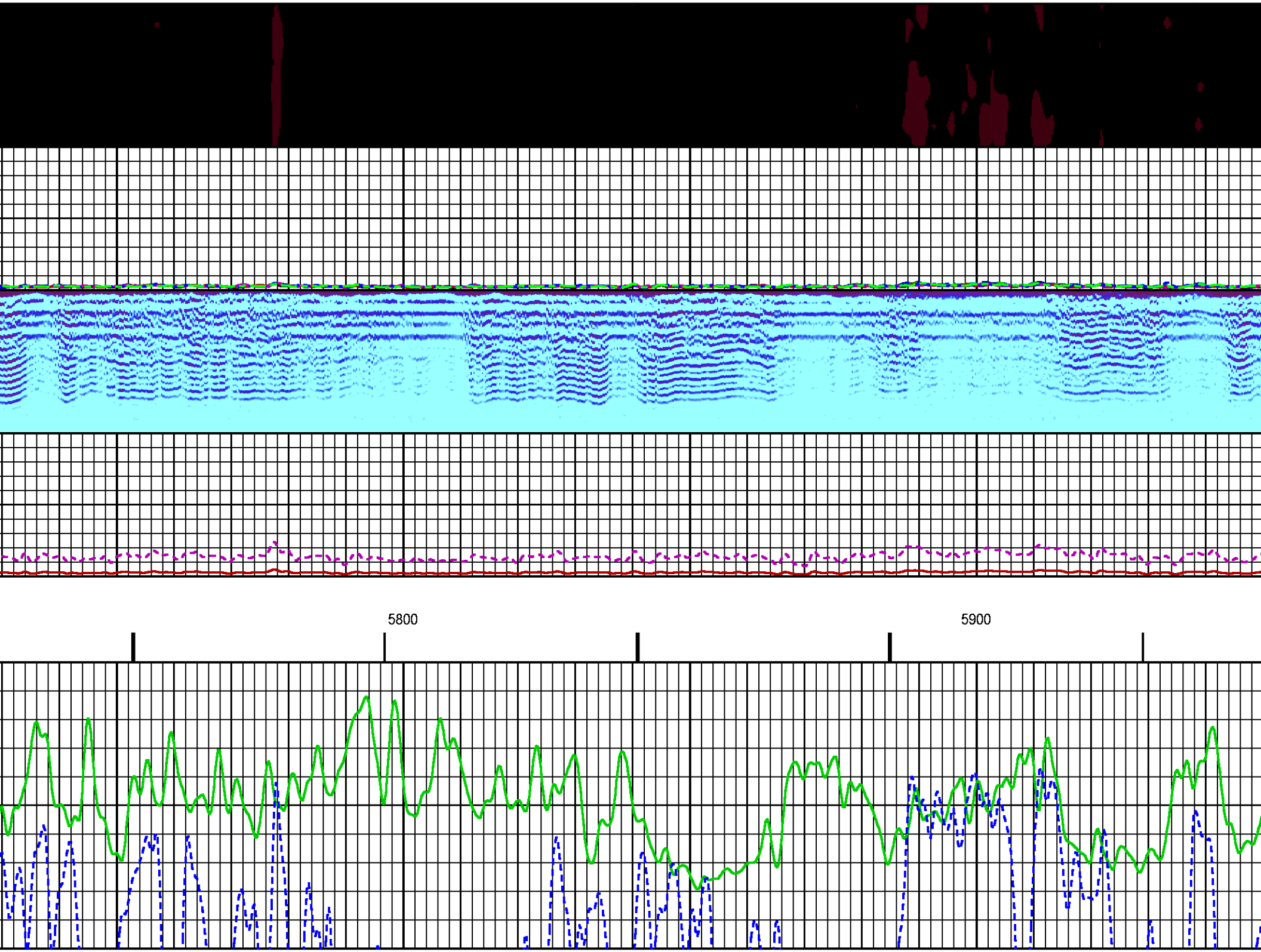
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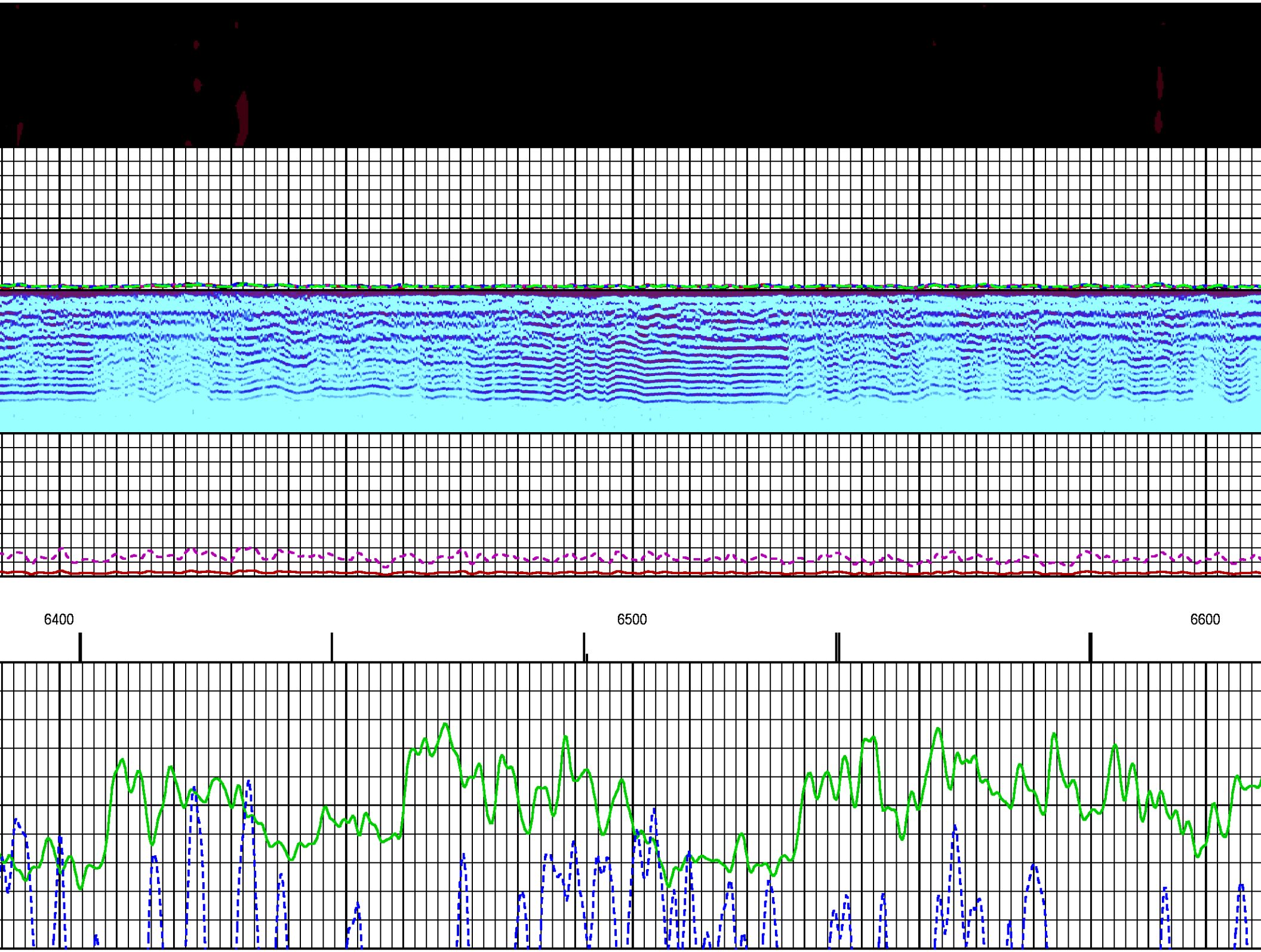
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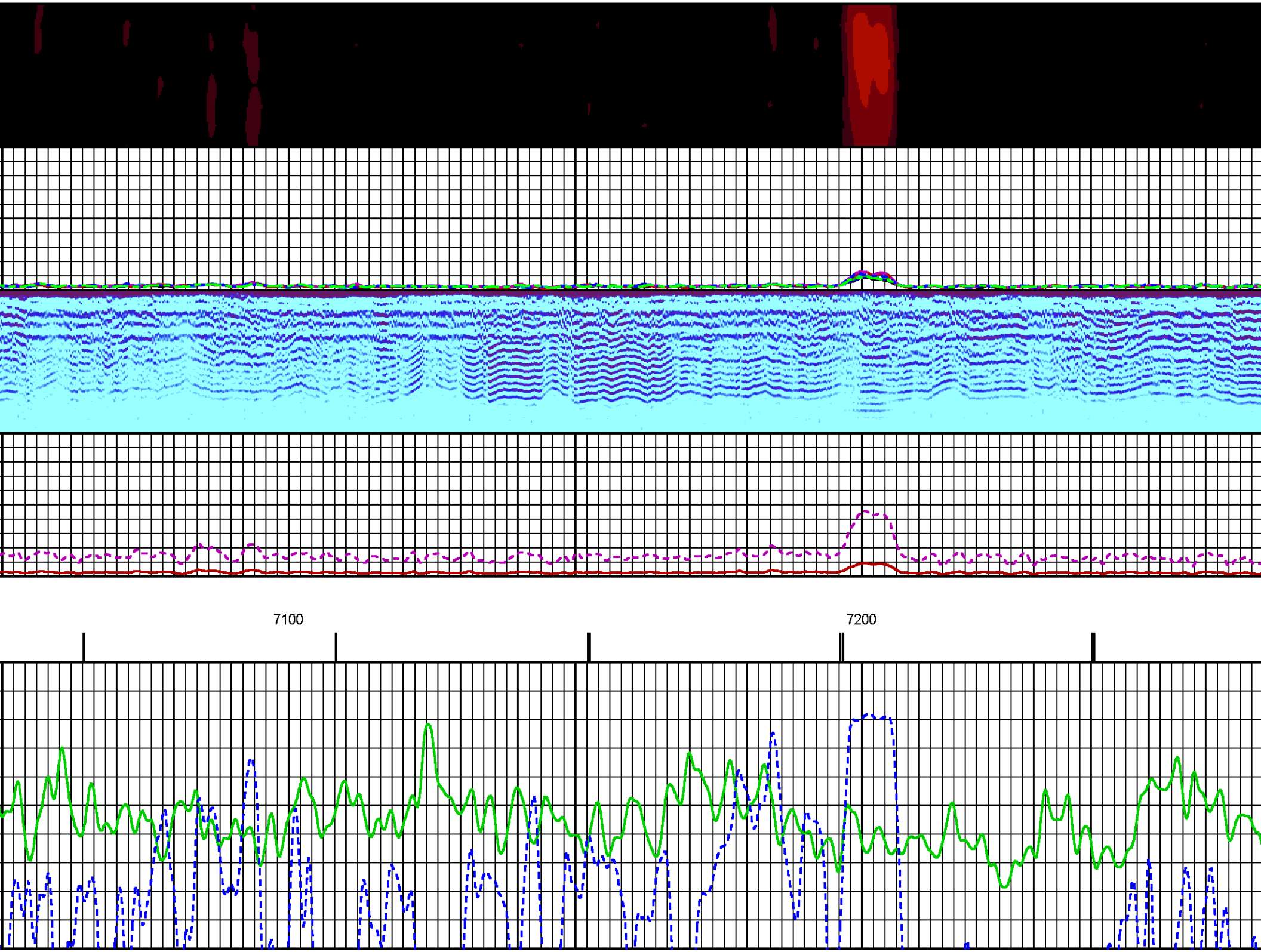
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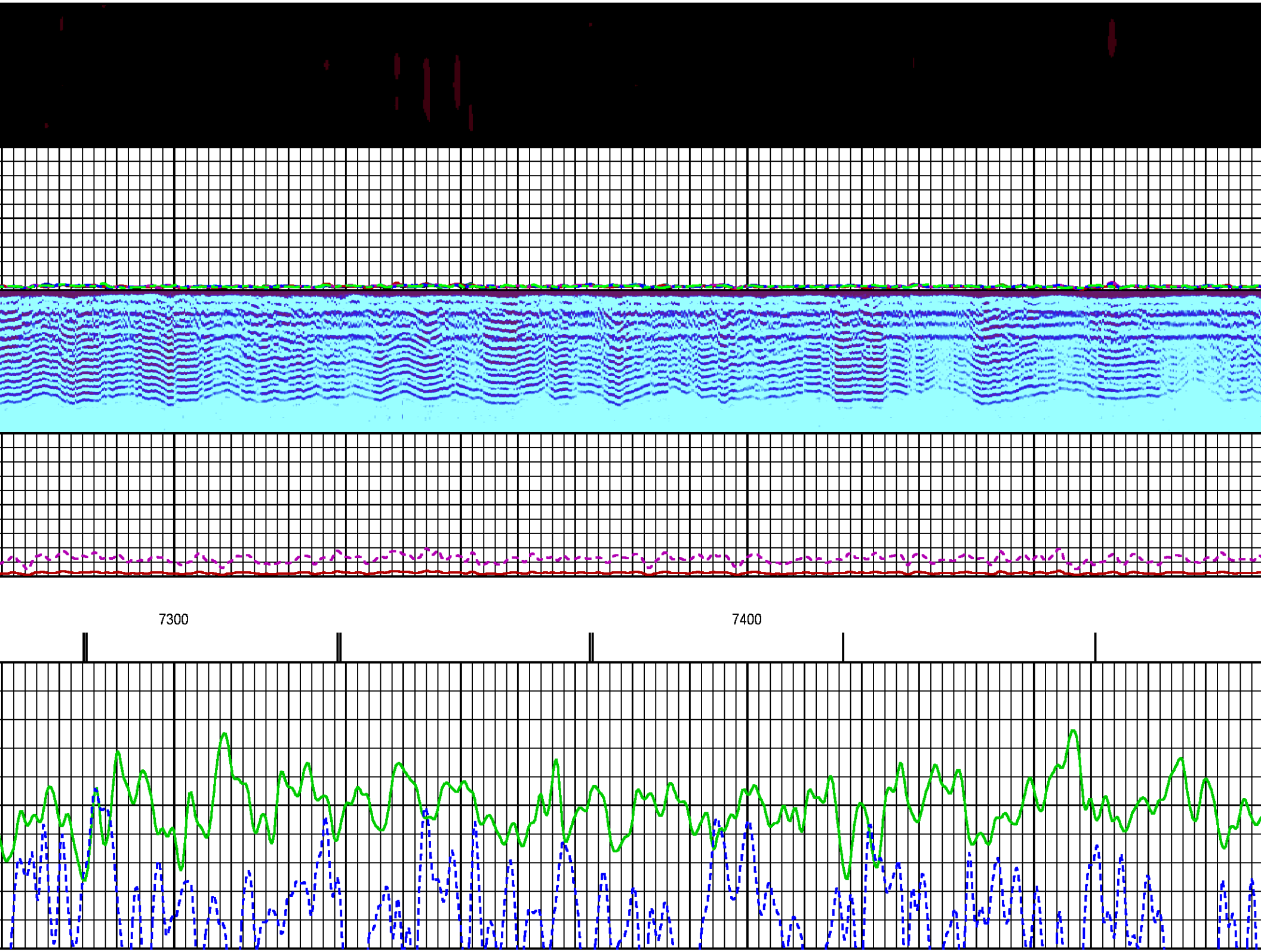
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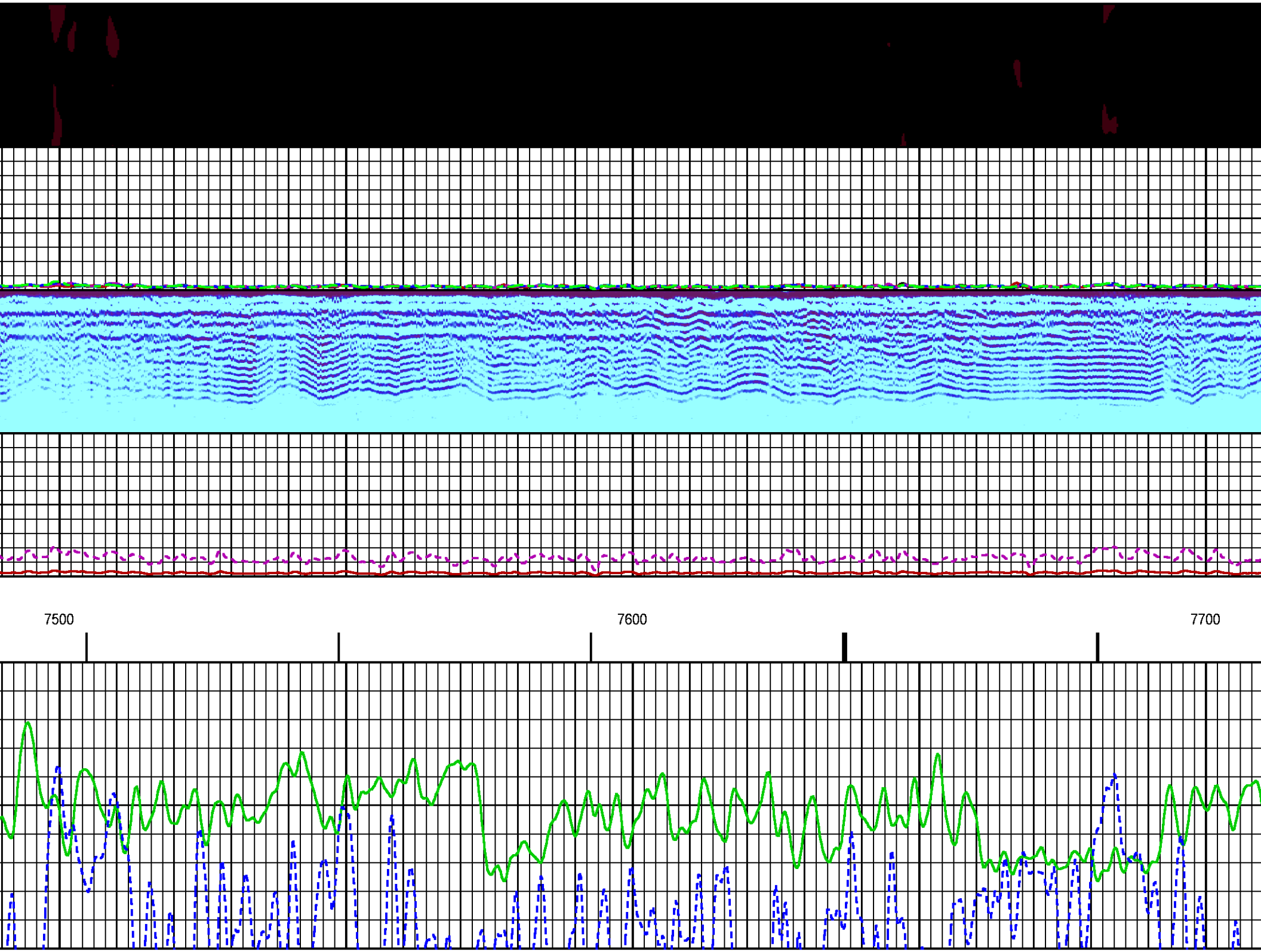
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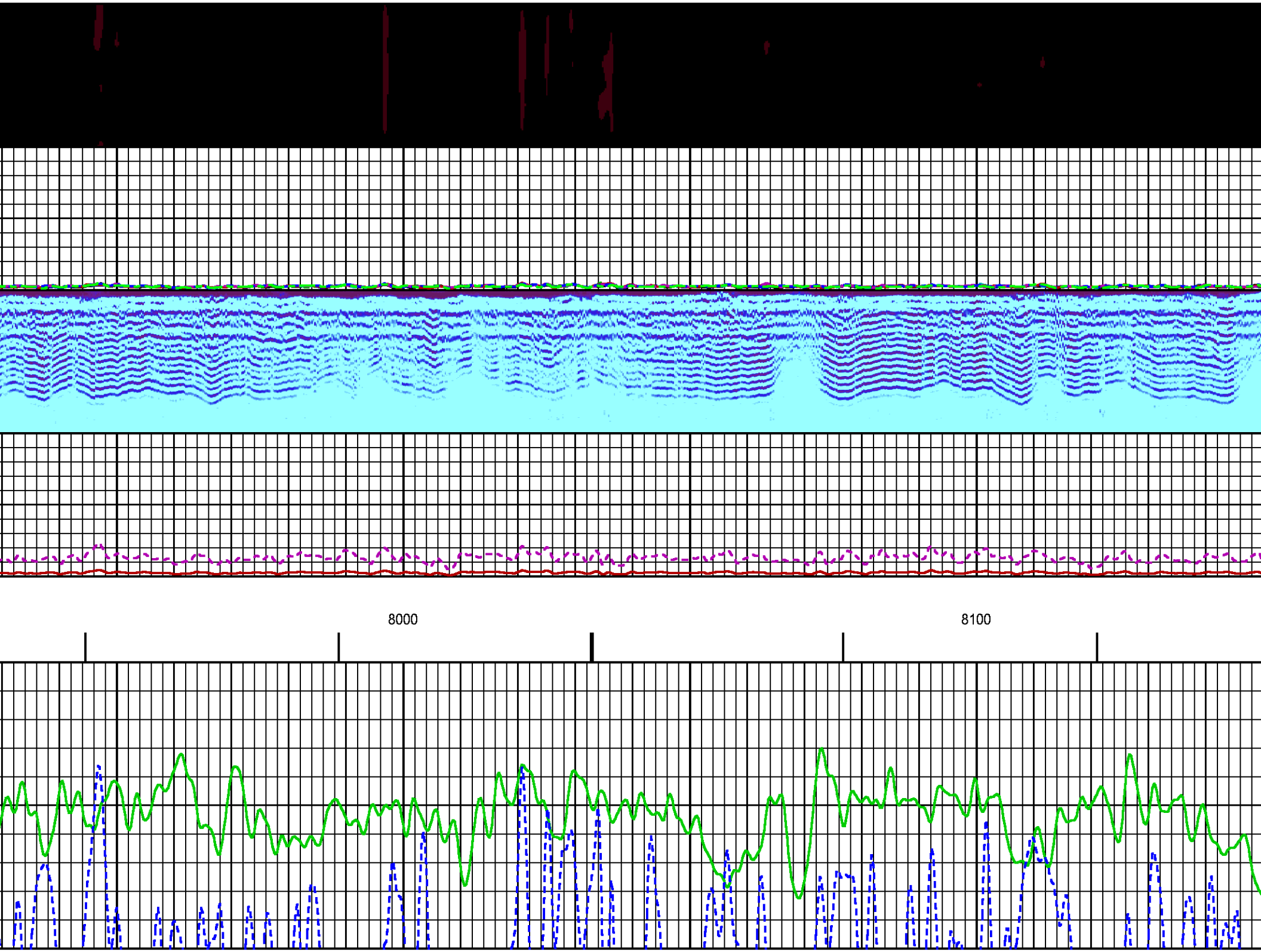
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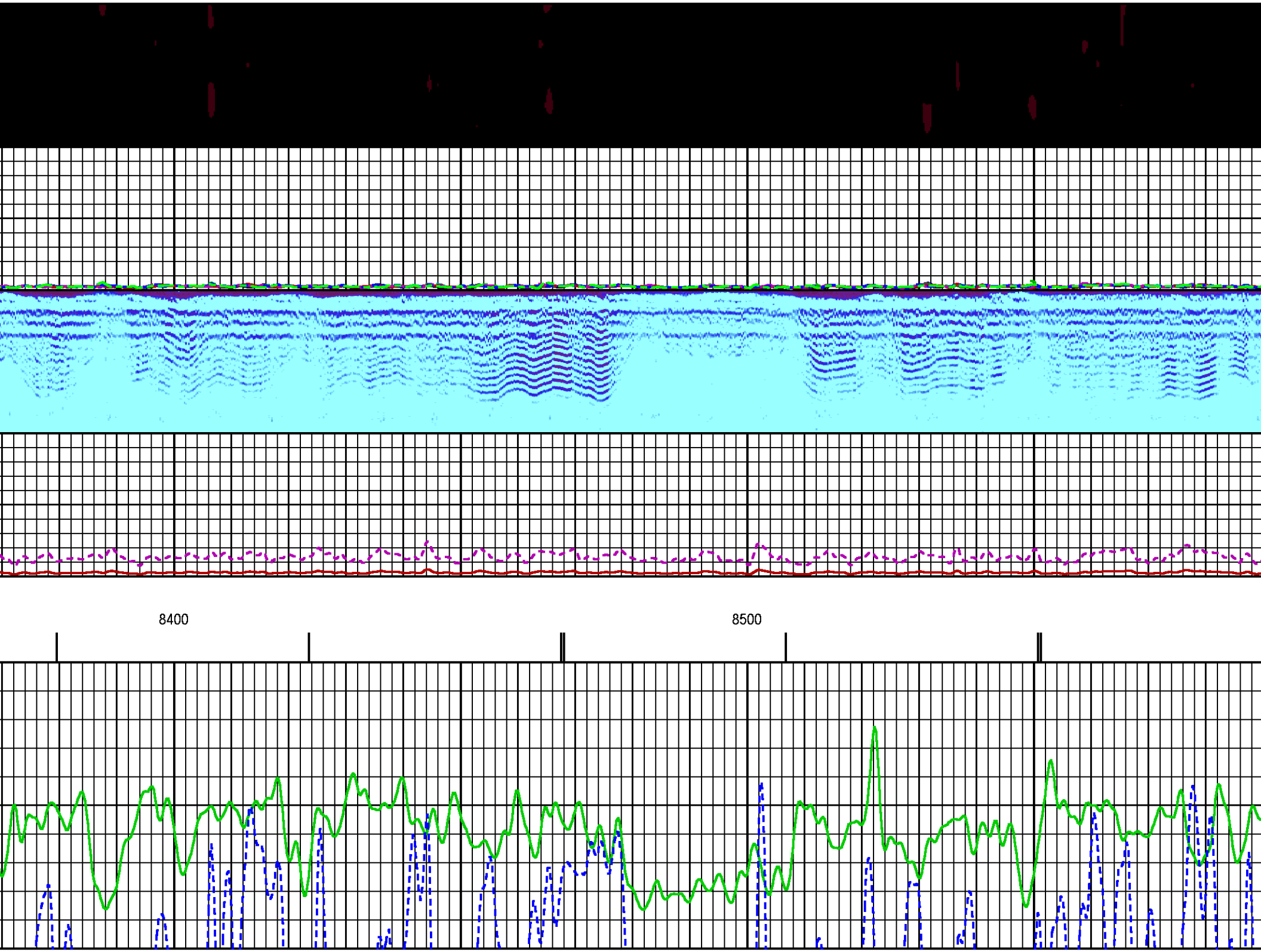
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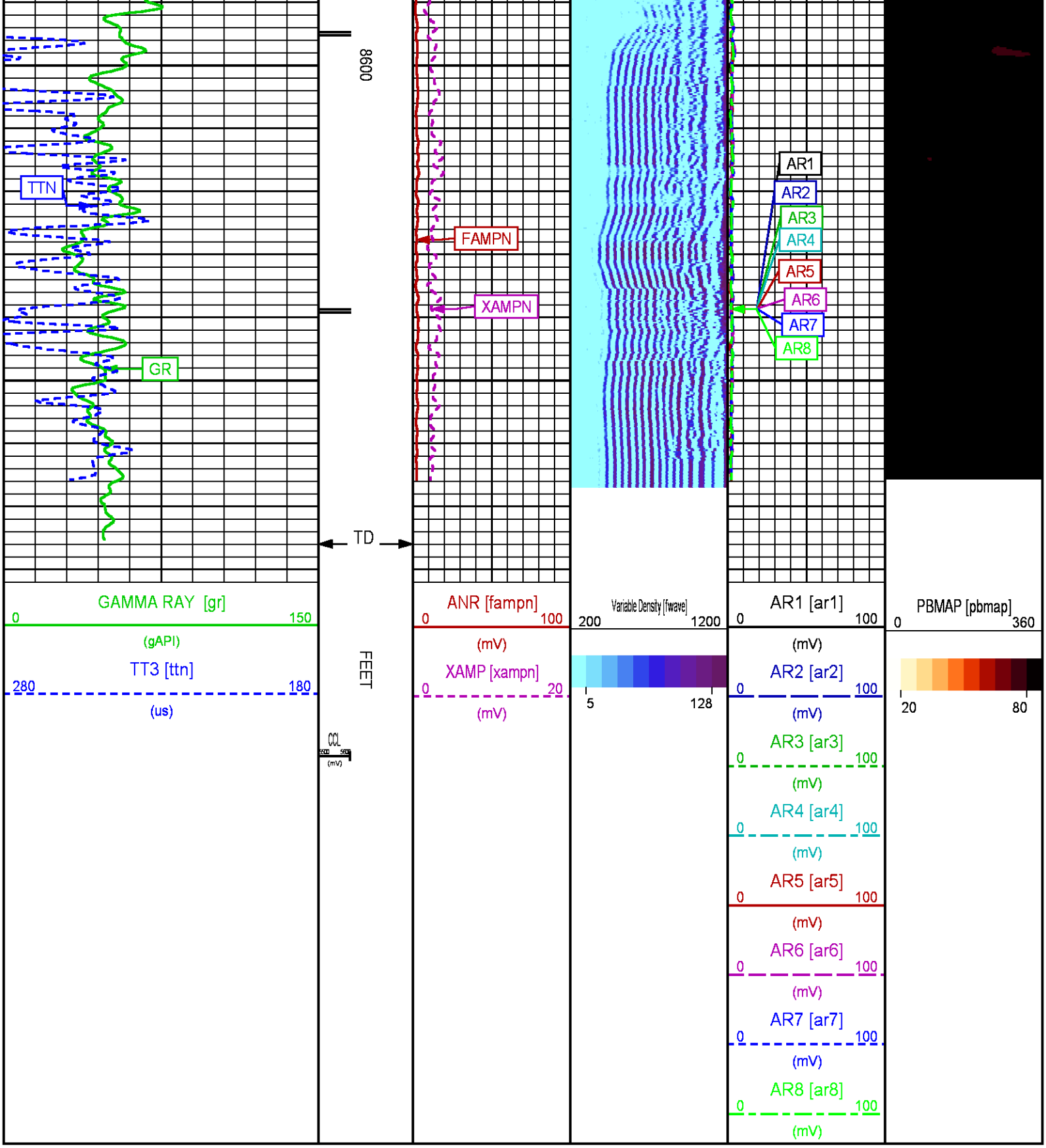


CALIBRATION / VERIFICATION SUMMARY

Source File: C:\dat1a\093561\n012g.tp1

RAL PRIMARY CALIBRATION SUMMARY

TOOL #: 1426XA 10218495 DATE/TIME PERFORMED: Fri Dec 19 14:59:53 2014

UNIT #: 3885TD Z004271

	NEAR (mV)	RADIAL (mV)	FAR (mV)
TARGETS	100.00	100.00	150.00

	NEAR	R1	R2	R3	R4	R5	R6	R7	R8	FAR	CAL
ZERO (mV)	0.07	0.12	0.11	0.08	0.13	0.11	0.07	0.09	0.05	0.89	0.04
AMP FLUID (mV)	85	84	84	84	84	84	85	85	85	113	84
TT (us)	217	219	218	217	216	216	216	217	219	326	219
M FACTOR	1.17	1.19	1.20	1.19	1.19	1.19	1.18	1.17	1.18	1.34	1.20

RAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1426XA 10218495 DATE/TIME PERFORMED: Fri Dec 19 15:03:39 2014 DAYS SINCE CAL: 0

UNIT #: 3885TD Z004271 CABLE #: 4271LG LARGE1

	NEAR (mV)	R1 (mV)	R2 (mV)	R3 (mV)	R4 (mV)	R5 (mV)	R6 (mV)	R7 (mV)	R8 (mV)	FAR (mV)	CAL (mV)
ZERO	0.11	0.06	0.05	0.09	0.06	0.01	0.07	0.01	0.07	0.15	0.11
AMP AIR	2.12	1.98	2.37	2.20	2.39	2.12	2.36	2.21	2.07	3.72	100.15

SHOP M FACTOR	SHOP A FACTOR	WIRELINE FACTOR
1.20	0.00	1.00

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1355XA 10580209 DATE/TIME PERFORMED: Fri Dec 12 13:50:38 2014

UNIT #: 3885TD Z004271 CALB JIG #: 4702NK WA612

	BACKGROUND (cts)	CALBRTR ON (cts)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	158.53	746.53	588.0	0.315	49.88	234.88	185

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1355XA 10580209 DATE/TIME PERFORMED: Fri Dec 12 13:55:38 2014

UNIT #: 3885TD Z004271 VERI JIG #: 4702NK WA612

	BACKGROUND (cts)	CALBRTR ON (cts)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	164.98	742.44	0.315	51.91	233.59	181.69 (175.00 – 195.00)

TEMP PRIMARY CALIBRATION SUMMARY

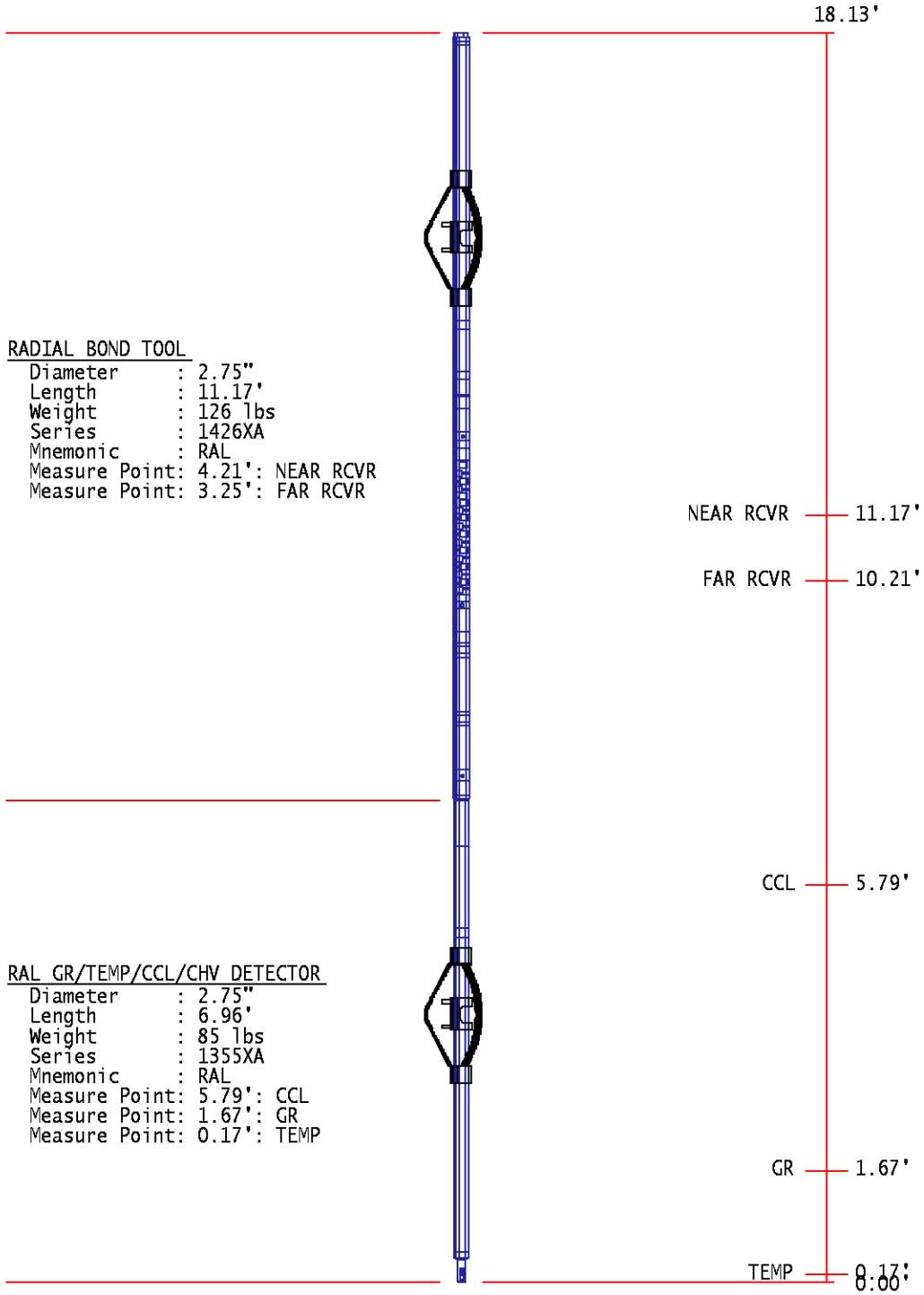
TOOL #: 1355XA 10580209 DATE/TIME PERFORMED: Fri Dec 12 13:58:01 2014

UNIT #: 3885TD Z004271

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Temp	0.000000E+00	1.000000E-01	0.000000E+00	0.000000E+00

INSTRUMENT CONFIGURATION

Source File: C:\dat1a\093561\CBL-tdg.meta



RADIAL BOND TOOL

Diameter : 2.75"
Length : 11.17'
Weight : 126 lbs
Series : 1426XA
Mnemonic : RAL
Measure Point: 4.21': NEAR RCVR
Measure Point: 3.25': FAR RCVR

RAL GR/TEMP/CCL/CHV DETECTOR

Diameter : 2.75"
Length : 6.96'
Weight : 85 lbs
Series : 1355XA
Mnemonic : RAL
Measure Point: 5.79': CCL
Measure Point: 1.67': GR
Measure Point: 0.17': TEMP

TOTAL LENGTH: 18.13'
TOTAL WEIGHT: 225 lbs
MAX DIAMETER: 0'4.00"

BAKER HUGHES EQUIPS	COMPANY: WPX ENERGY WELL: MEAD RWF 32-23 FIELD: RULISON COUNTY: GARFIELD STATE: CO	FILE NO: CH093561 API NO: 05045200390000
	LOCATION: SHL: 2303' FNL & 256' FEL BHL: 1660' FNL & 1877' FEL SEC 23 TWP 6S RGE 94W	ELEVATIONS: KB 5625 FT DF GL 5599 FT DATE 19-Dec-2014
		23 6S 94W RWF 43-23 PAD NABORS 577