RADIAL ANALYSIS BOND LOG

FILE NO:	CH101063
API NO:	05045227550000
COMPANY	WPX ENERGY
WELL	FEDERAL RU 642-8
FIELD	RUILISON
COUNTY	GARFIELD
STATE	COLORADO

Ver. 4.01

SEC 8 T7S R93W

RU 21-8 PAD

H&P 318

LOCATION:

SHL: 660'FNL & 1881' FWL

BHL: 1883' FSL & 951' FEL

SEC 8 TWP 7S RGE 93W

OTHER SERVICES

RPM

PERMANENT DATUM	GL	ELEVATION	7736 FT
LOG MEASURED FROM	KB	24 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		

ELEVATIONS:

KB	7760 FT
DF	
GL	7736 FT

DATE		07-DEC-2015			
RUN	TRIP	1	1		
SERVICE ORDER		US101063			
DEPTH DRILLER		10951 FT			
DEPTH LOGGER		10864 FT			
BOTTOM LOGGED INTERVAL		10854 FT			
TOP LOGGED INTERVAL		0 FT			
TIME STARTED		11:00			
TIME FINISHED		14:30			
OPERATOR RIG TIME		3.5 HOURS			
TYPE OF FLUID IN HOLE		WATER			
FLUID DENSITY		NA			
FLUID SALINITY		NA			
FLUID LEVEL		58 FT			
LOGGED CEMENT TOP		SEE LOG			
WELLHEAD PRESSURE		0 PSI			
MAXIMUM HOLE DEVIATION		NA			
NOMINAL LOGGING SPEED		100 F/MN			
MAX. RECORDED TEMP.		233 DEGF			
REFERENCE LOG		NONE			
REFERENCE LOG DATE		NA			
EQUIP. NO.	LOCATION	6670	GRAND JCT		
RECORDED BY		P. EDWARDS			
WITNESSED BY		T. RAGSDALE			

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			24 FT	1300 FT
4.5 IN	11.6 LB/F	P-110	24 FT	10951 FT

BOREHOLE RECORD

BIT SIZE	FROM	TO
13.53 IN	24 FT	1300 FT
8.75 IN	24 FT	10951 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 AT THE CLIENT'S REQUEST.

THE AMOUNT OF LINEAR SHIFT IS 12 FEET

LOGGED WITH ZERO PSI AT WELLHEAD.

BHT = 233 DEGF

SJ = 7287' - 7308'

THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE SERVICES

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	RAL	1426XA	10417452	CENTRALIZED
1	1	GR/CCL	1355XA	11871506	CENTRALIZED

PRIMARY PRESENTATION 0 PSI

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 6

Plotted: Mon Dec 7 15:18:41 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH101063/n012g02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 15.500 ft BOTTOM DEPTH: 10869.500 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*)	185	us	TOP	BOTTOM
	AMP WINDOW LENGTH	24	us	"	"
TRAVEL TIME WINDOW (NEAR)	TT WINDOW START (ttn*)	174	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*)	-73	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	125	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"

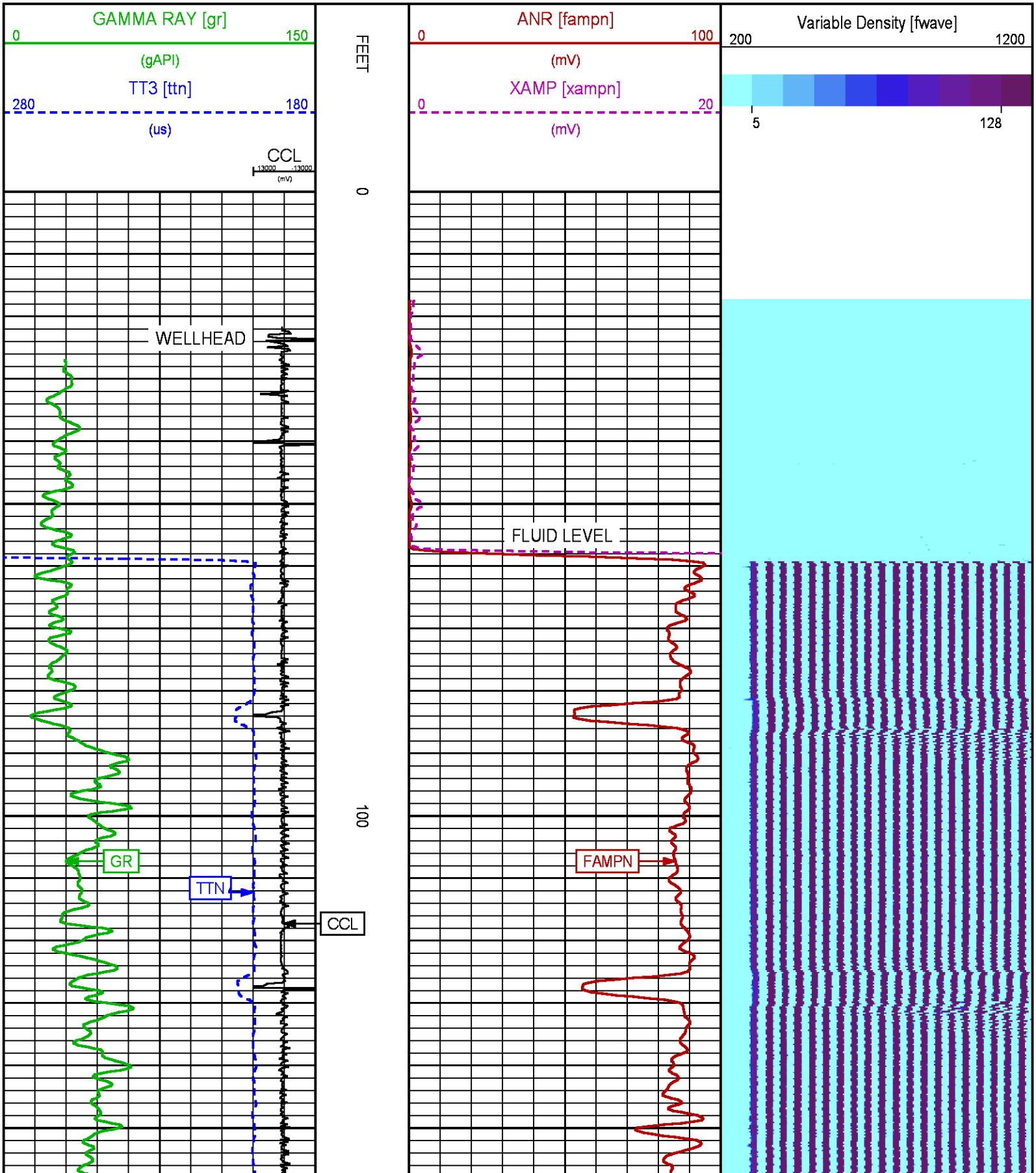
CURVE DESCRIPTION REPORT

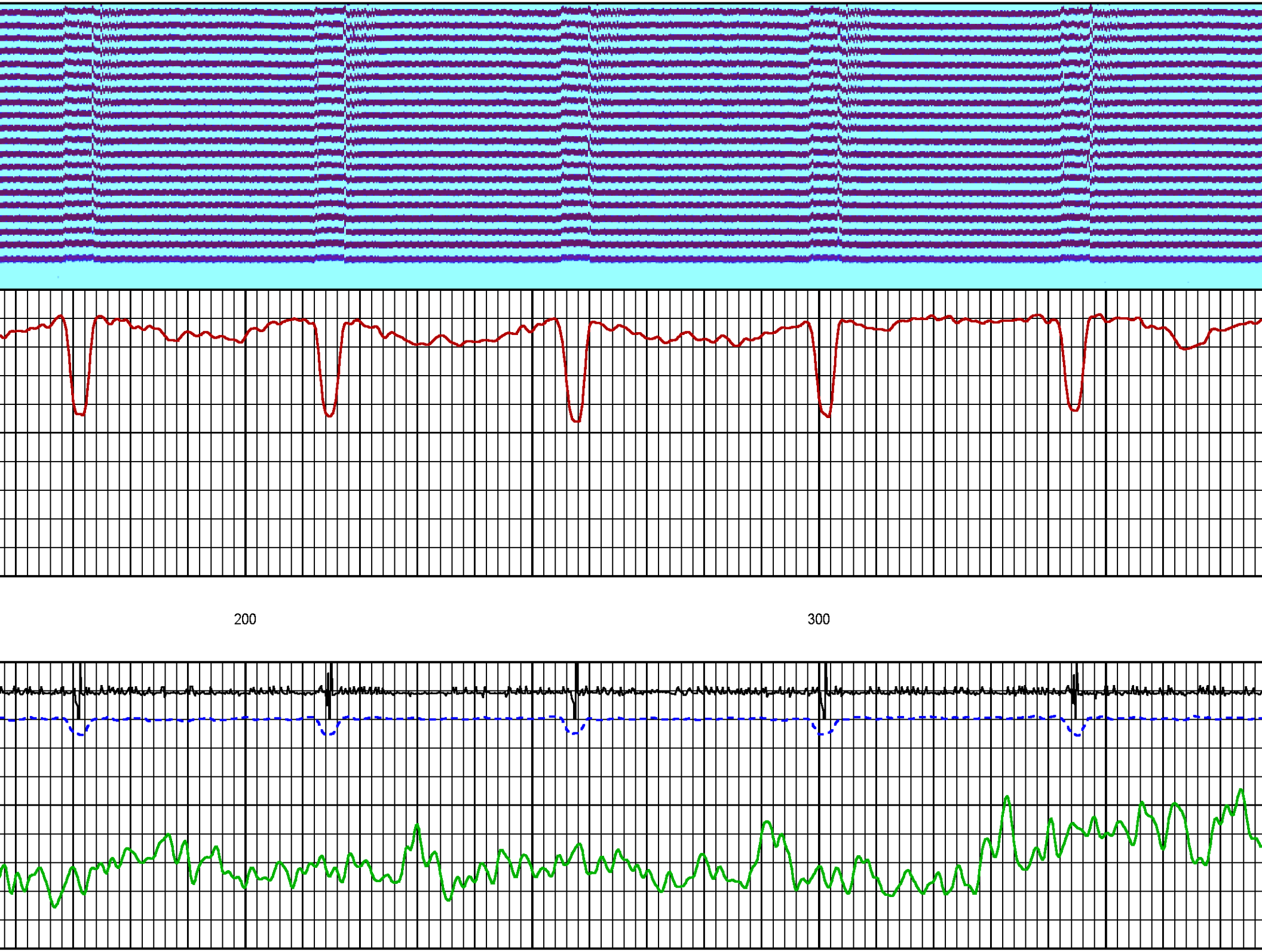
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Dec 7 12:17:07 2015	CASING COLLAR LOCATOR
F1:FAMPN	Dec 7 12:17:07 2015	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Dec 7 12:17:07 2015	FAR WAVE FORM
F1:GR	Dec 7 12:17:07 2015	GAMMA RAY
F1:TTN	Dec 7 12:17:07 2015	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Dec 7 12:17:07 2015	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

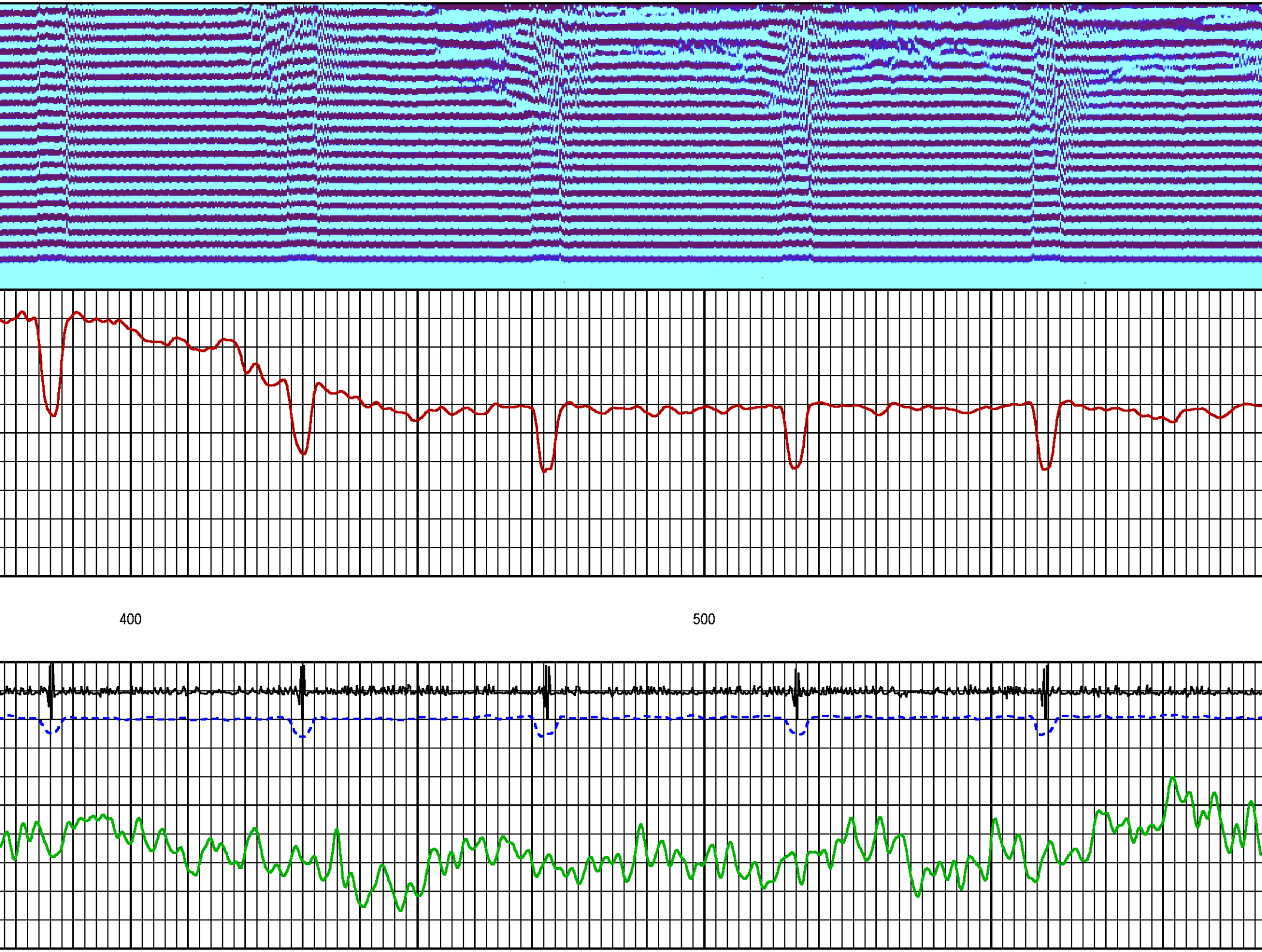
CURVE MEASURE POINT OFFSET

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	: HL6670:/dat1a/CH101063/WPX_CBL_PRIMARY_PRESENTATION.fvpdf [5"/100' Scale]
Plot Interval	: 0 - 10869 Feet
Data File 1	: F1 : HL6670:/dat1a/CH101063/n012g02MAIN642.xtf
Created On	: Dec 7 12:17:07 2015
Company	: WPX ENERGY
Well	: FEDERAL RU 642-8
Field	: RUILISON
File Interval	: 16.25 - 10881.5 Feet
OCT	: n012g

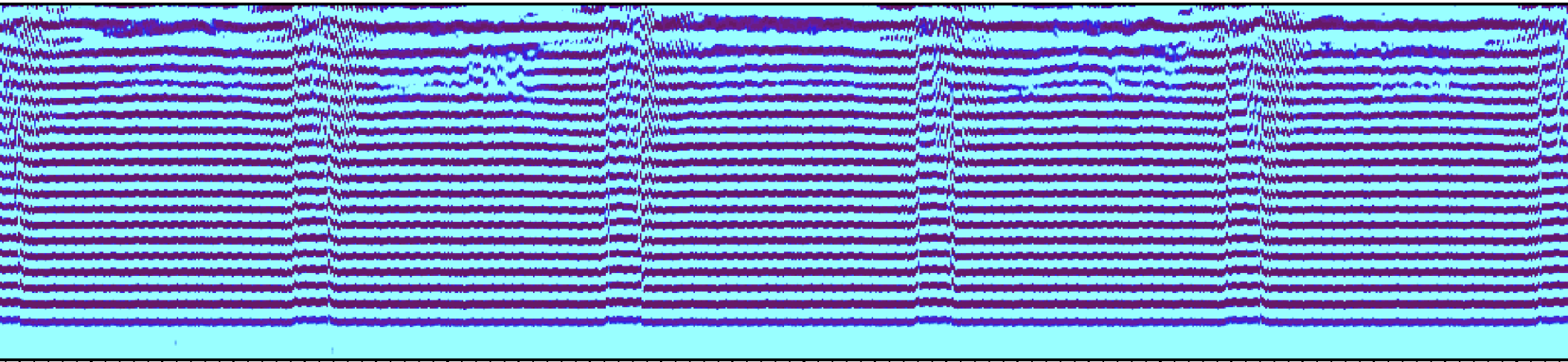


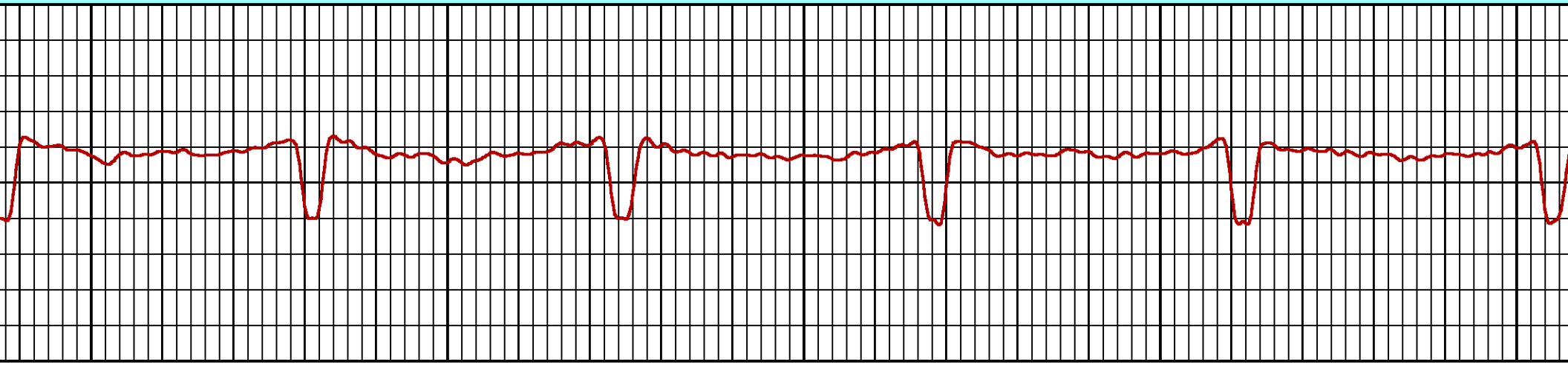

200
300


400
500

600
700
800

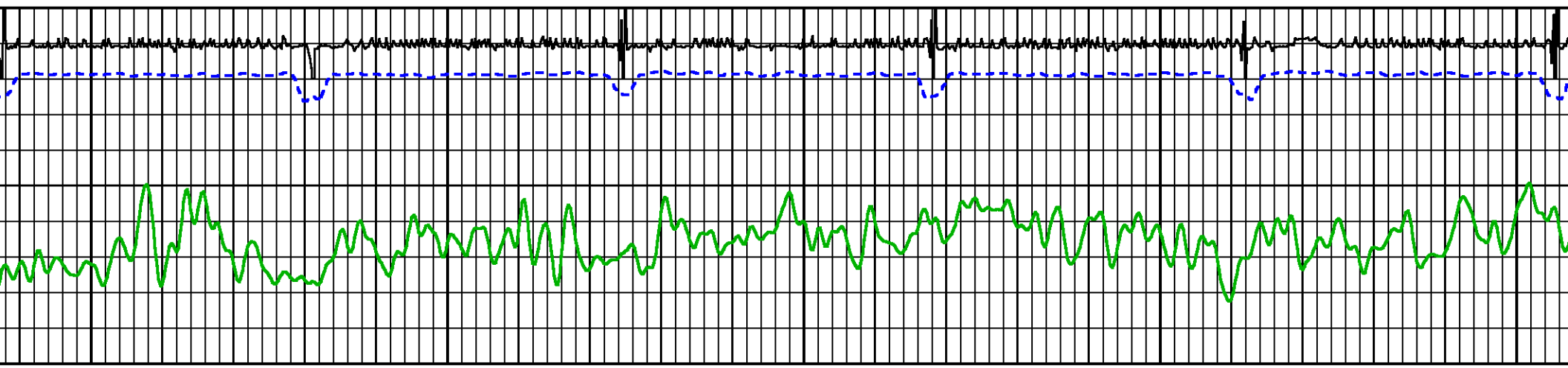
900
1000

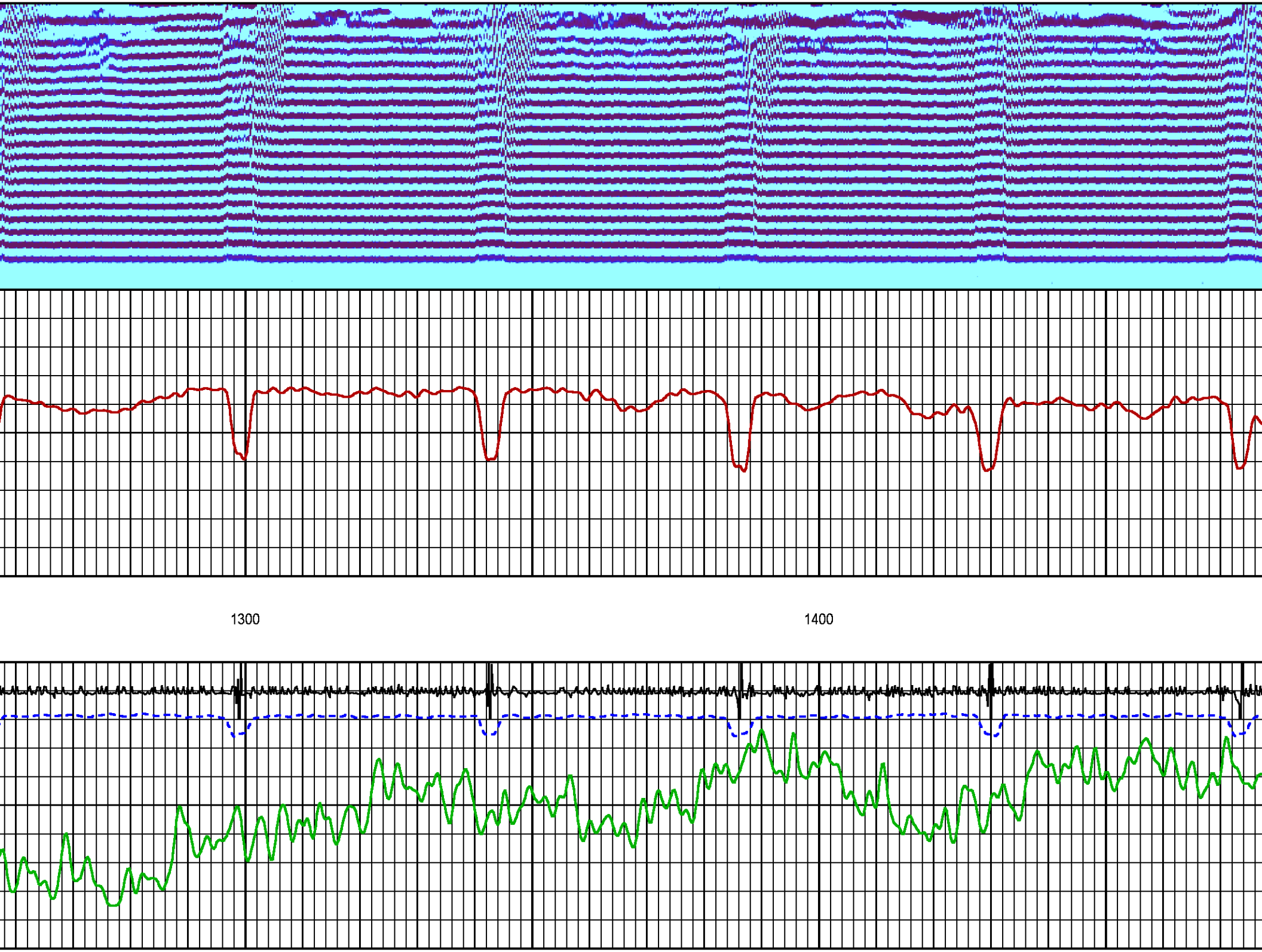


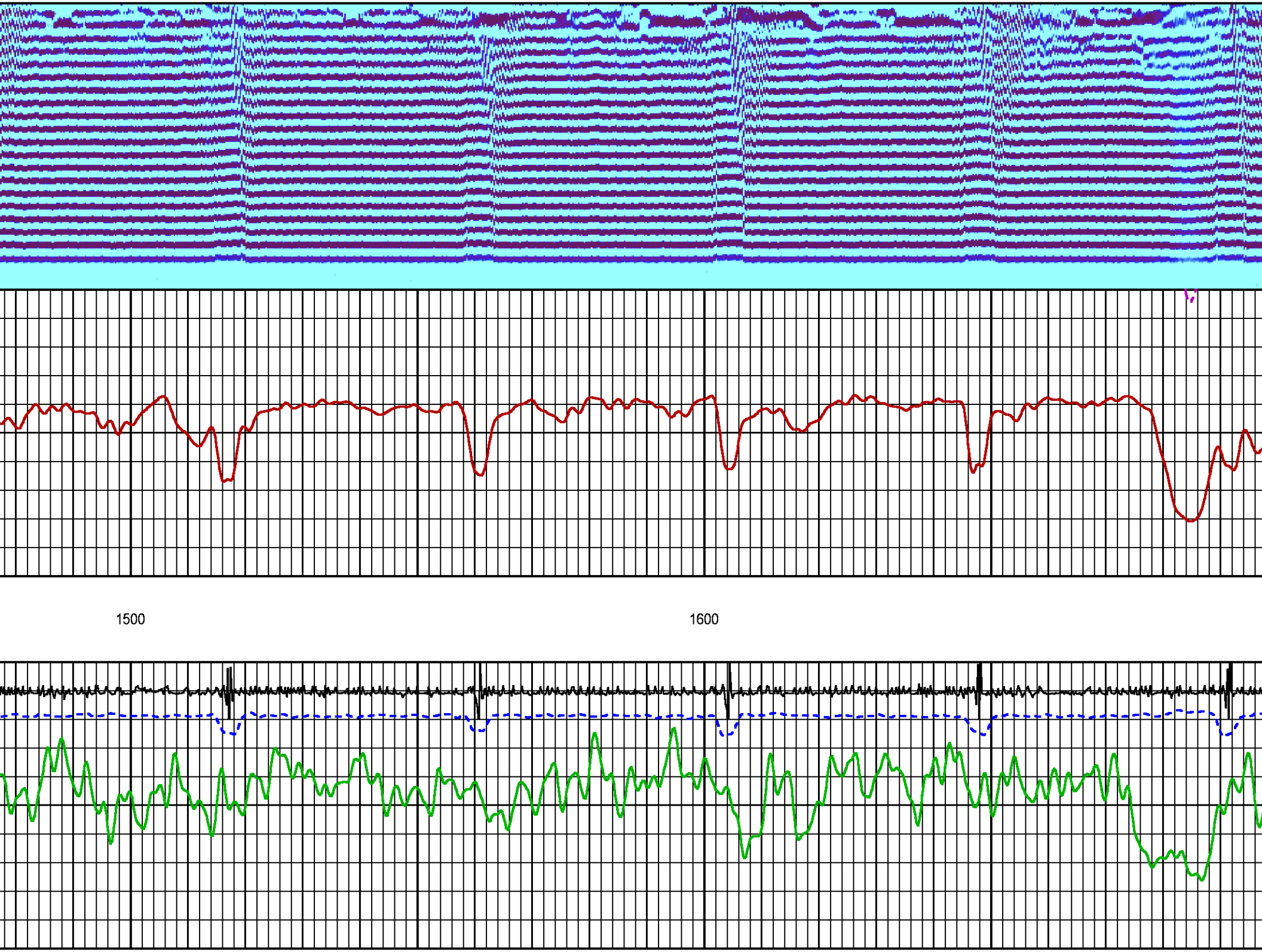


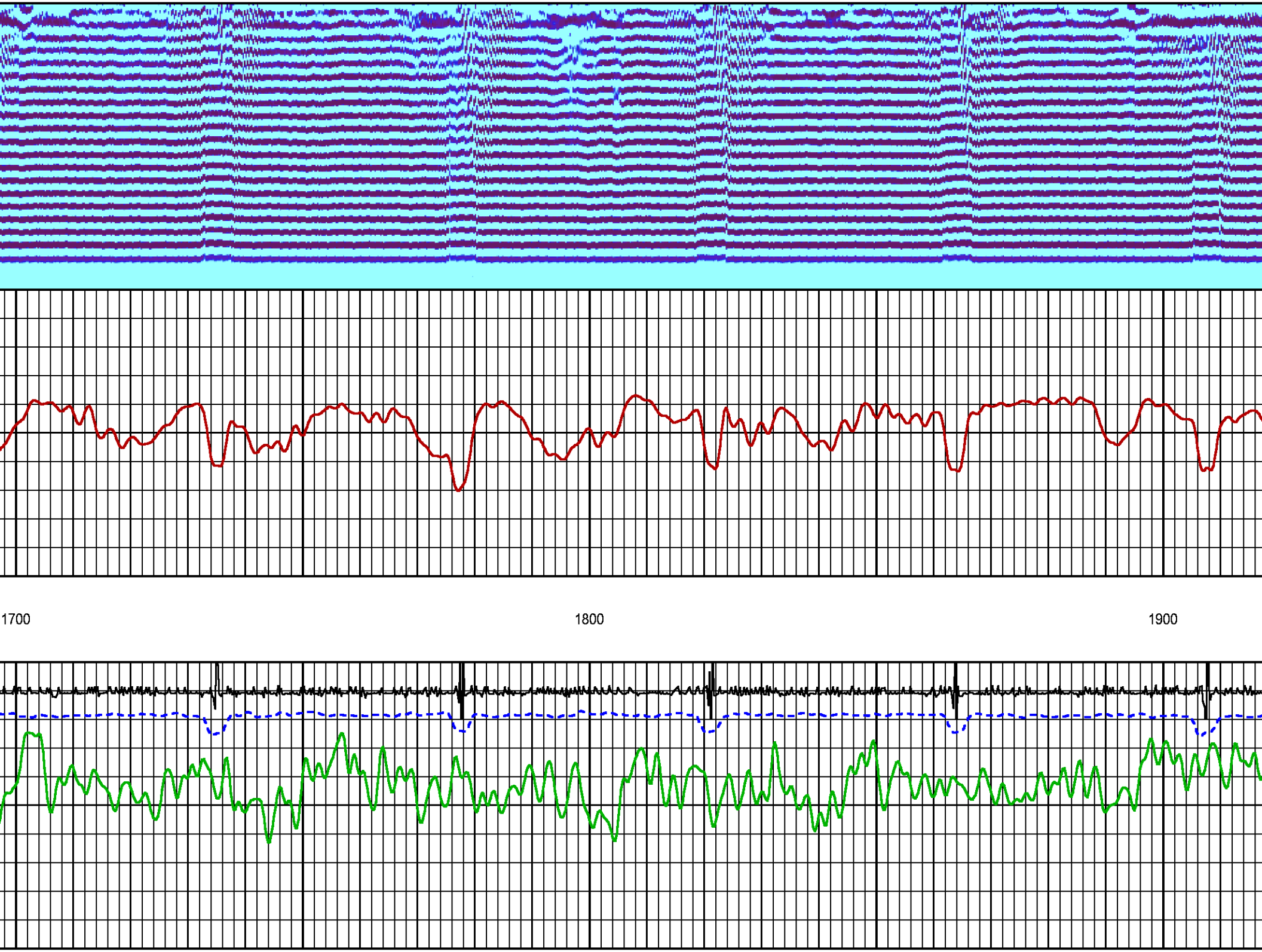
1100

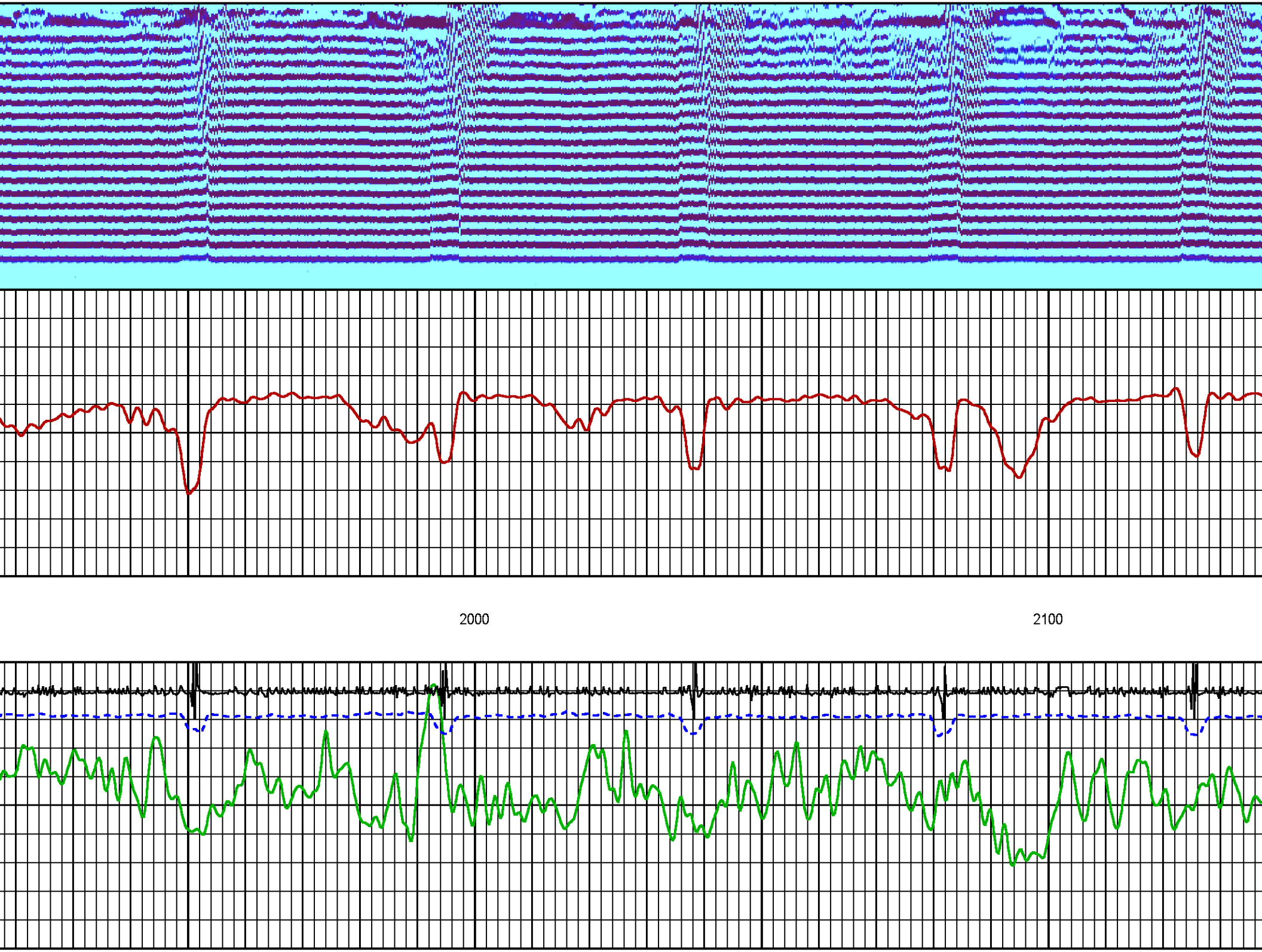
1200

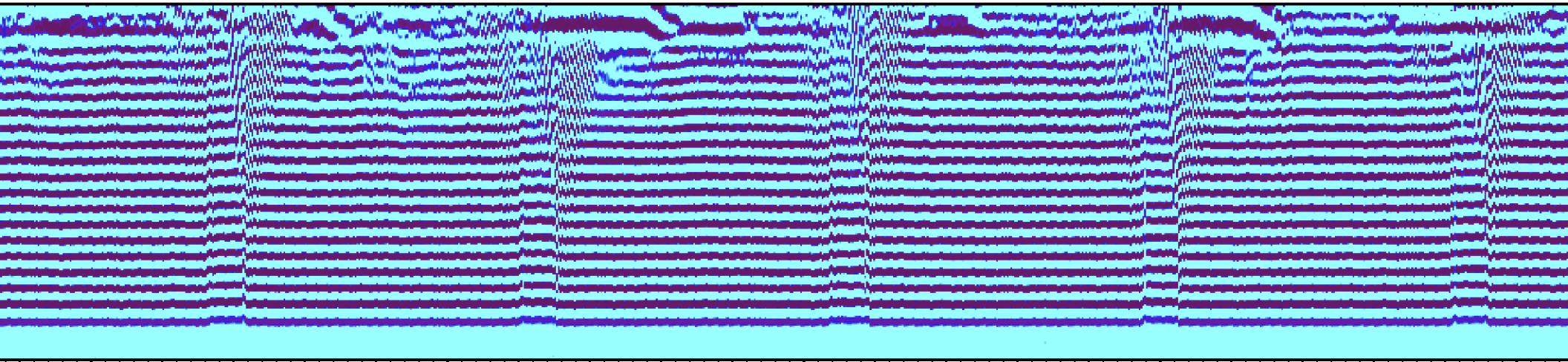


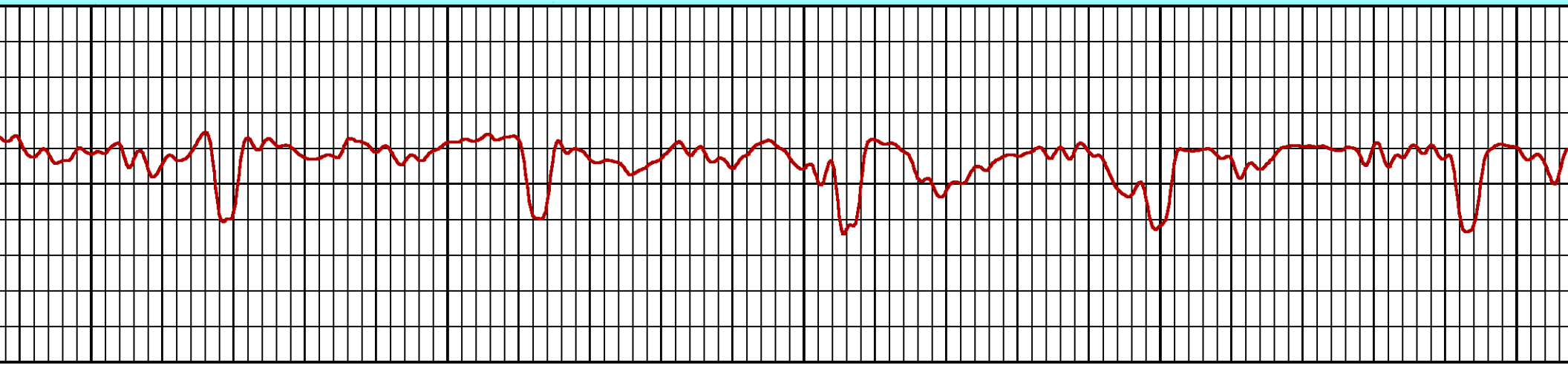

1300
1400


1500
1600


1700
1800
1900

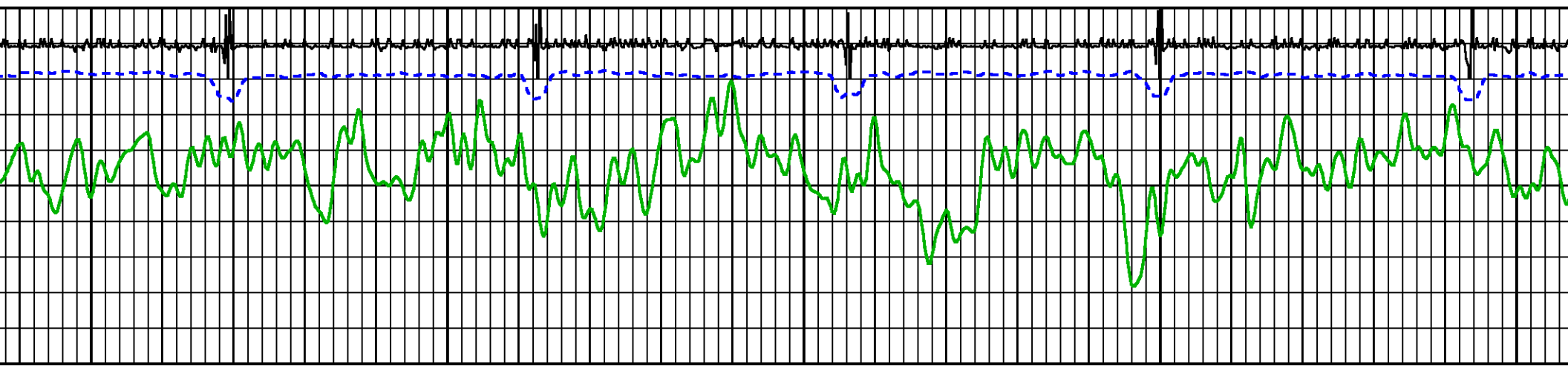

2000
2100

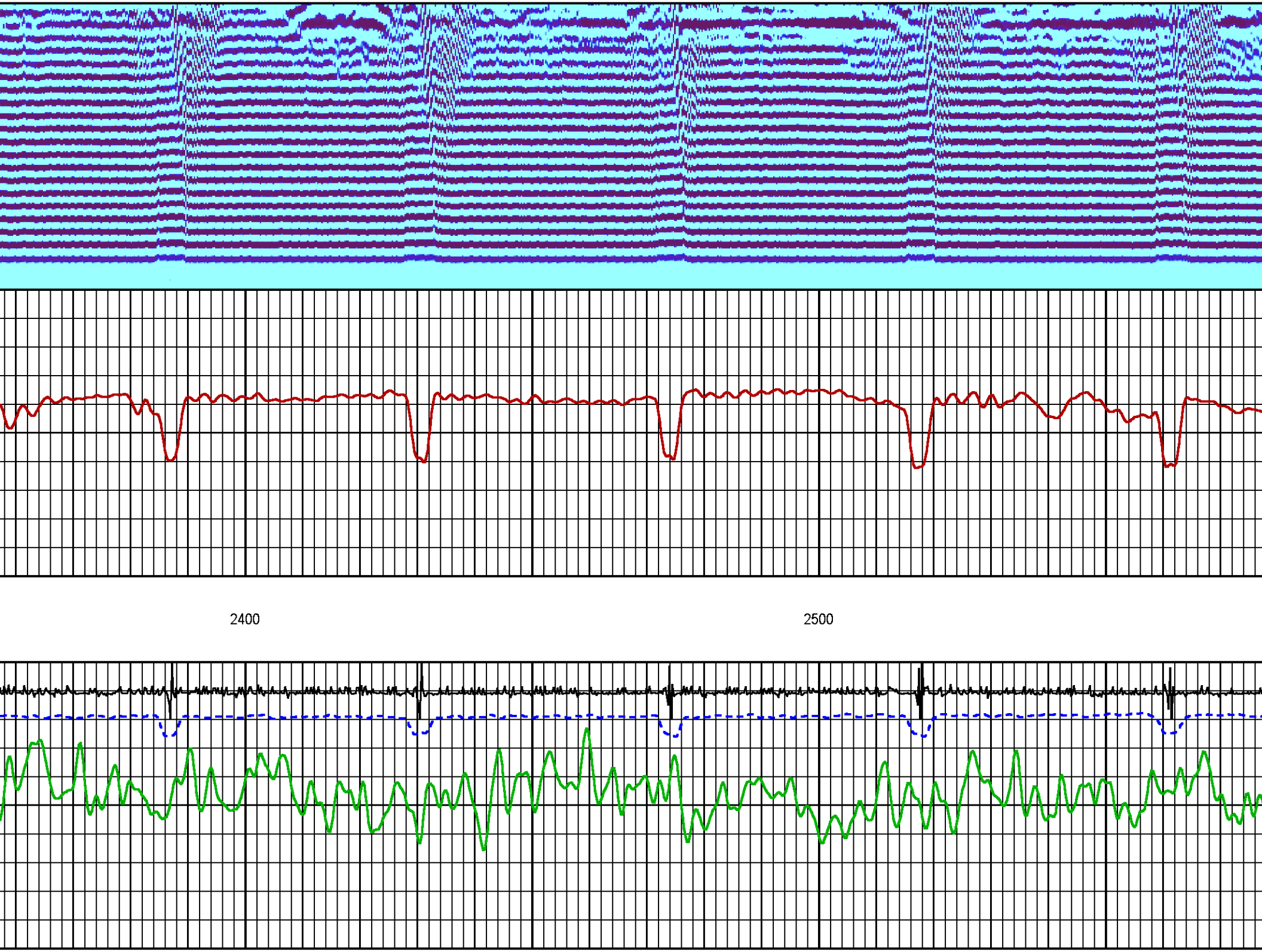


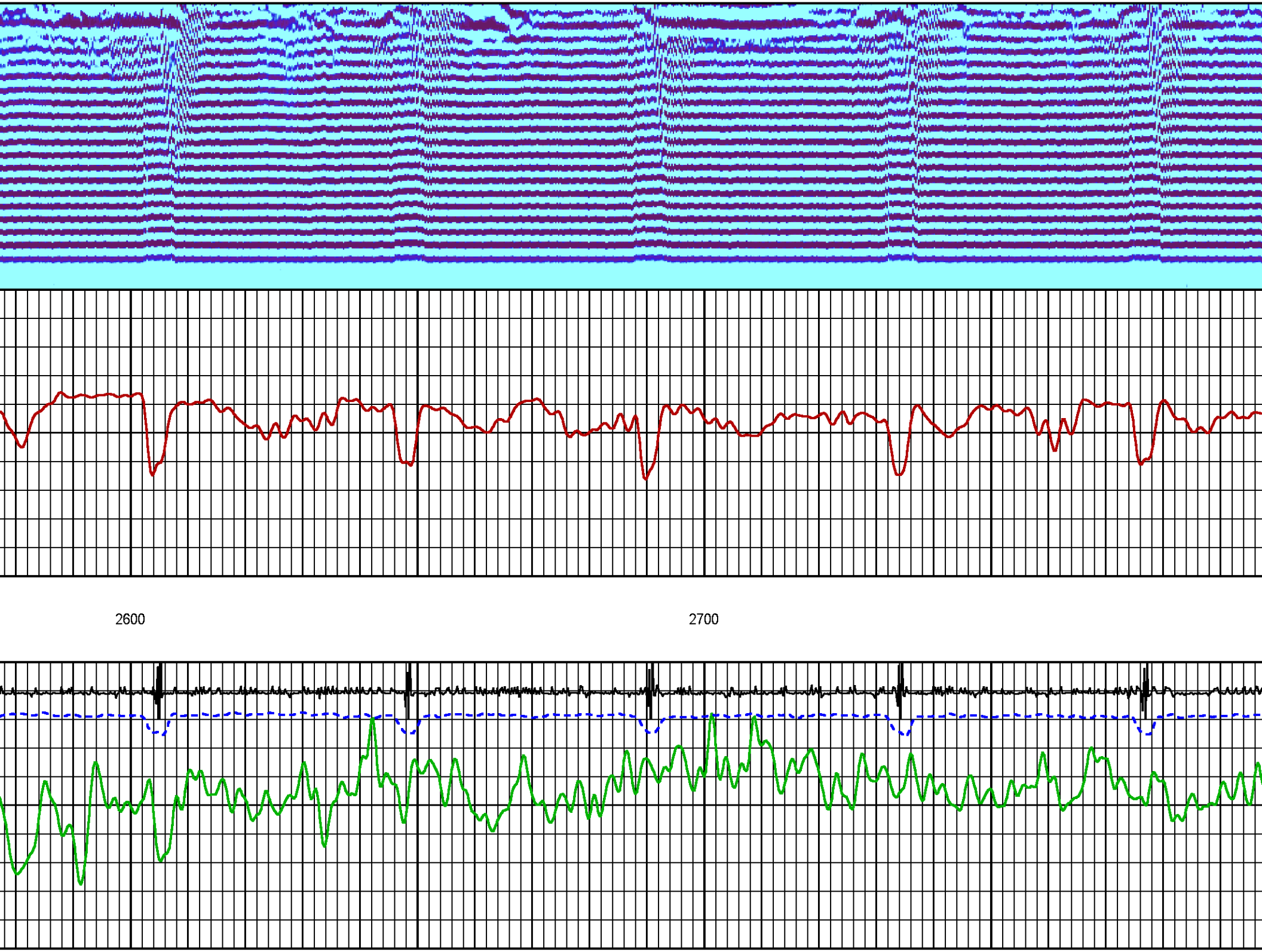


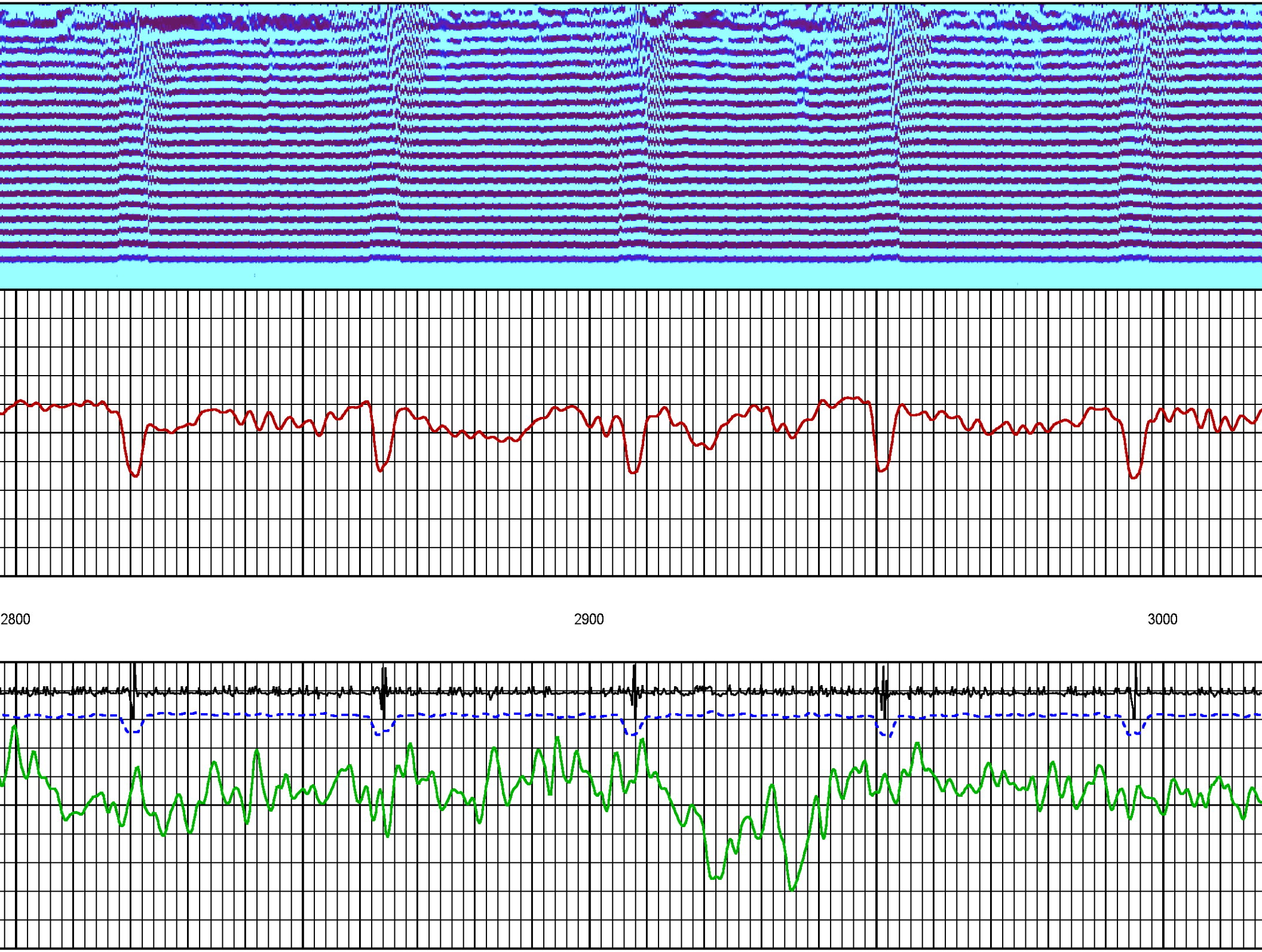
2200

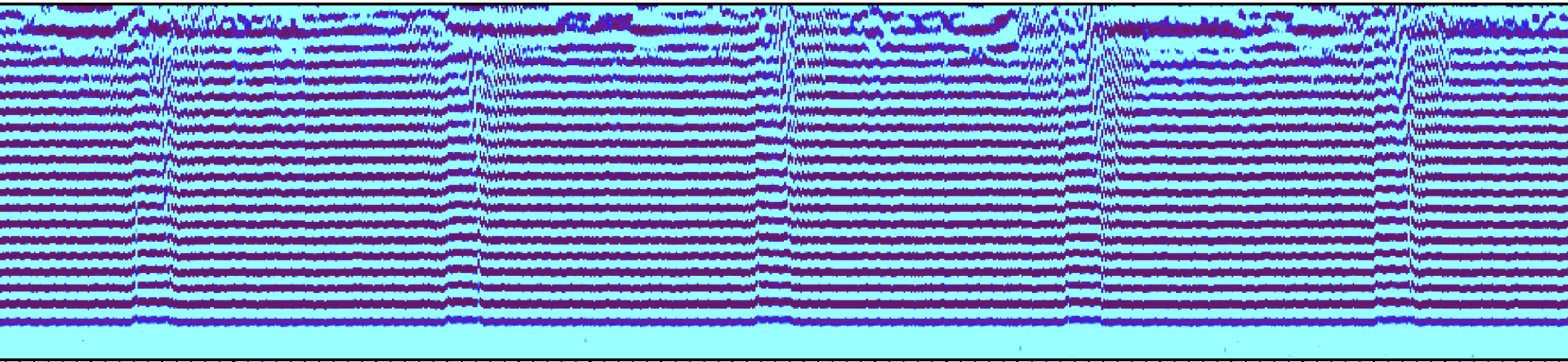
2300

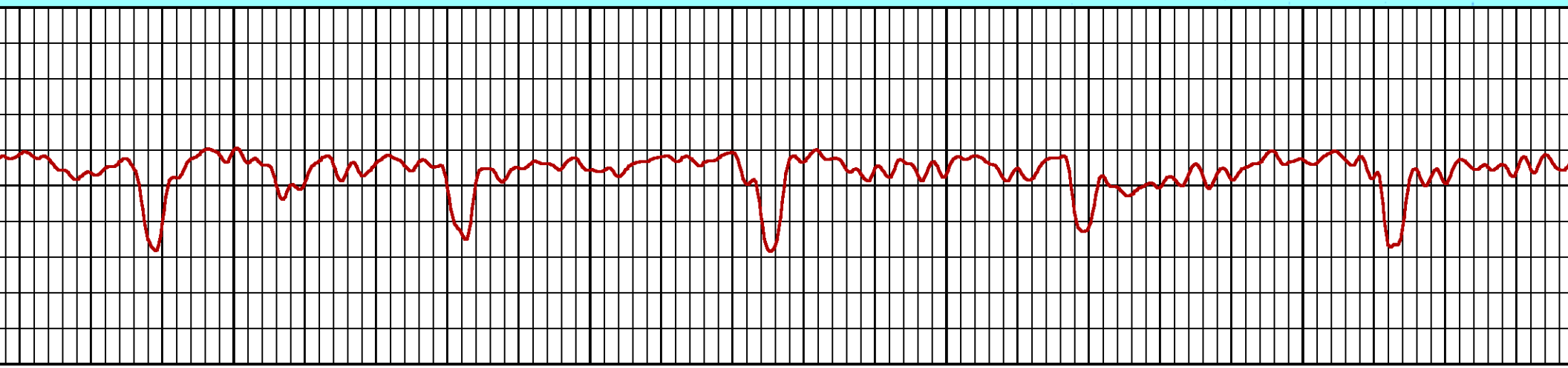



2400
2500


2600
2700

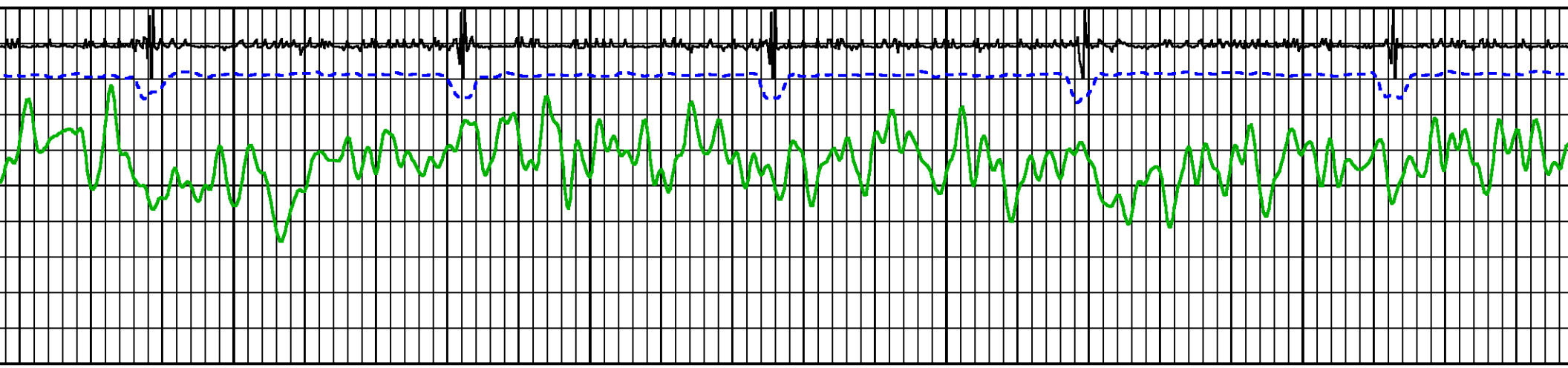

2800
2900
3000

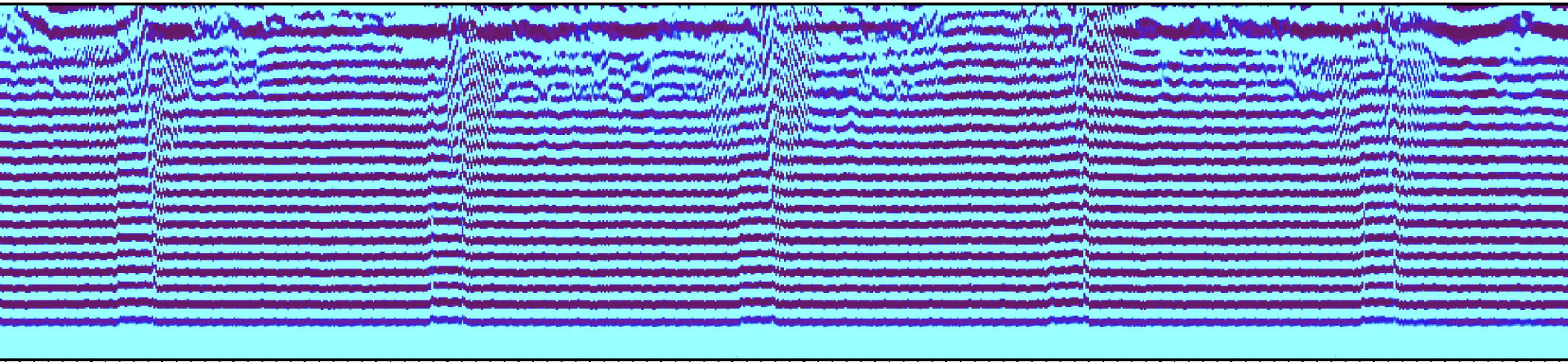


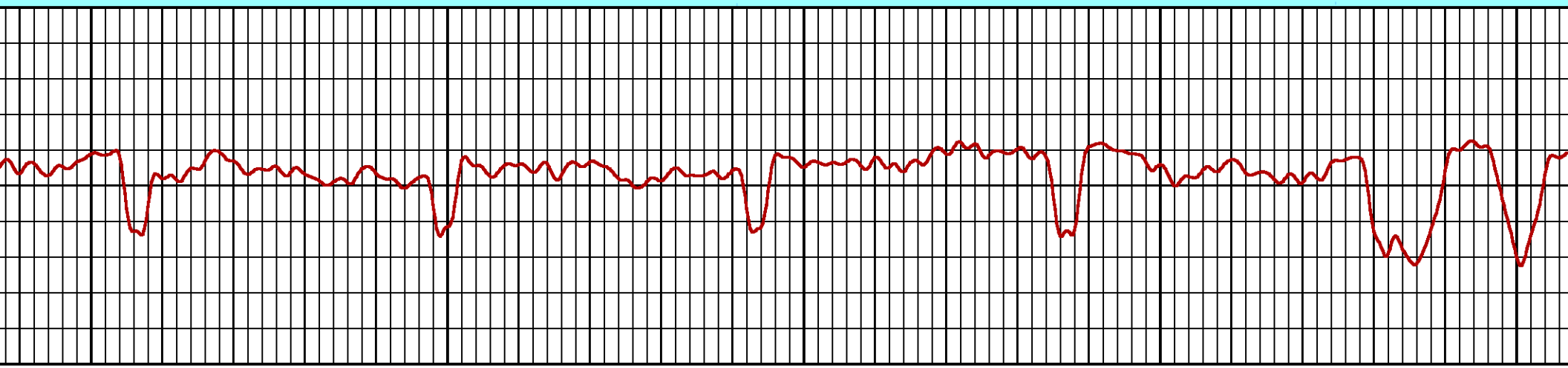


3100

3200

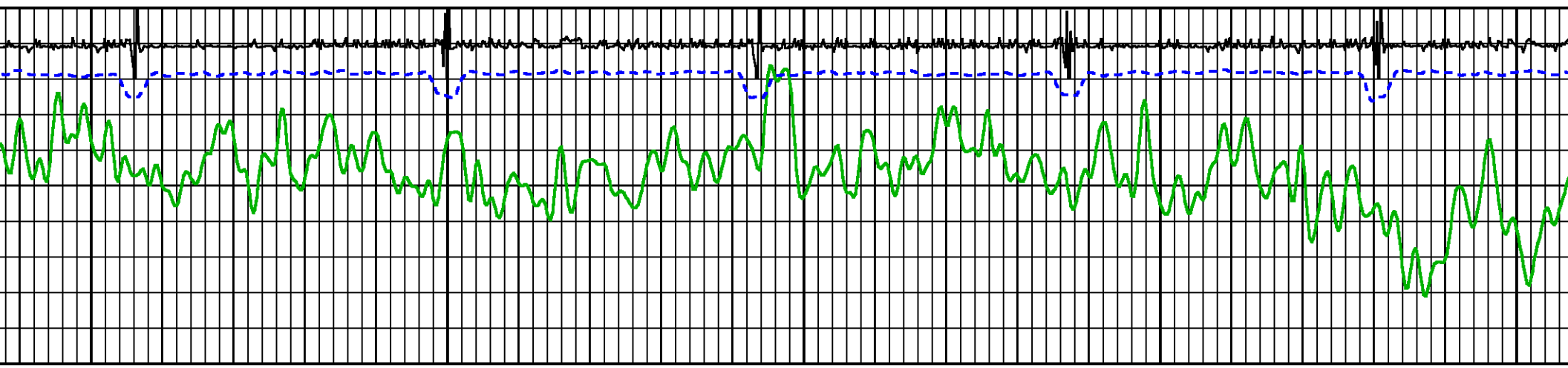


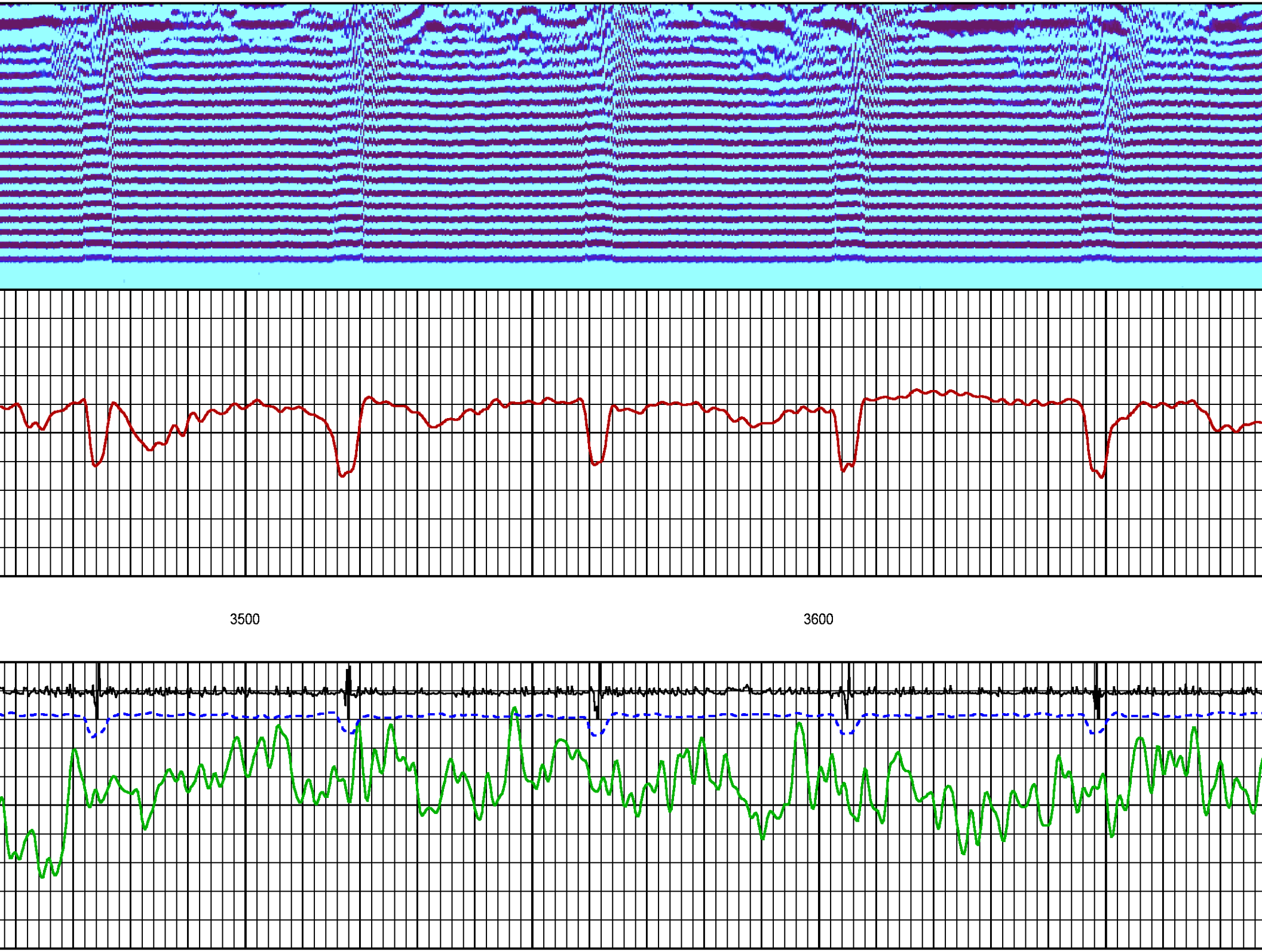


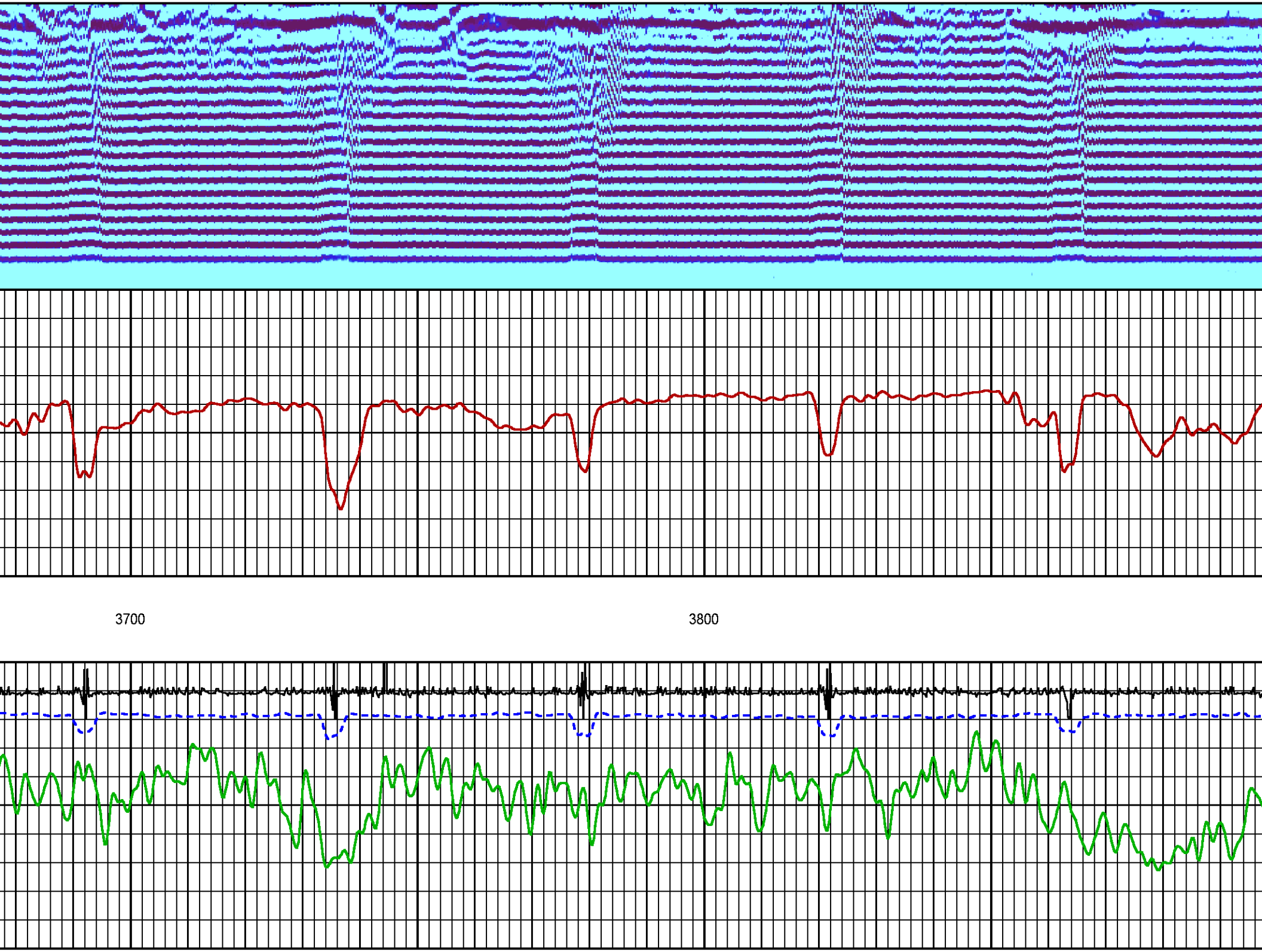


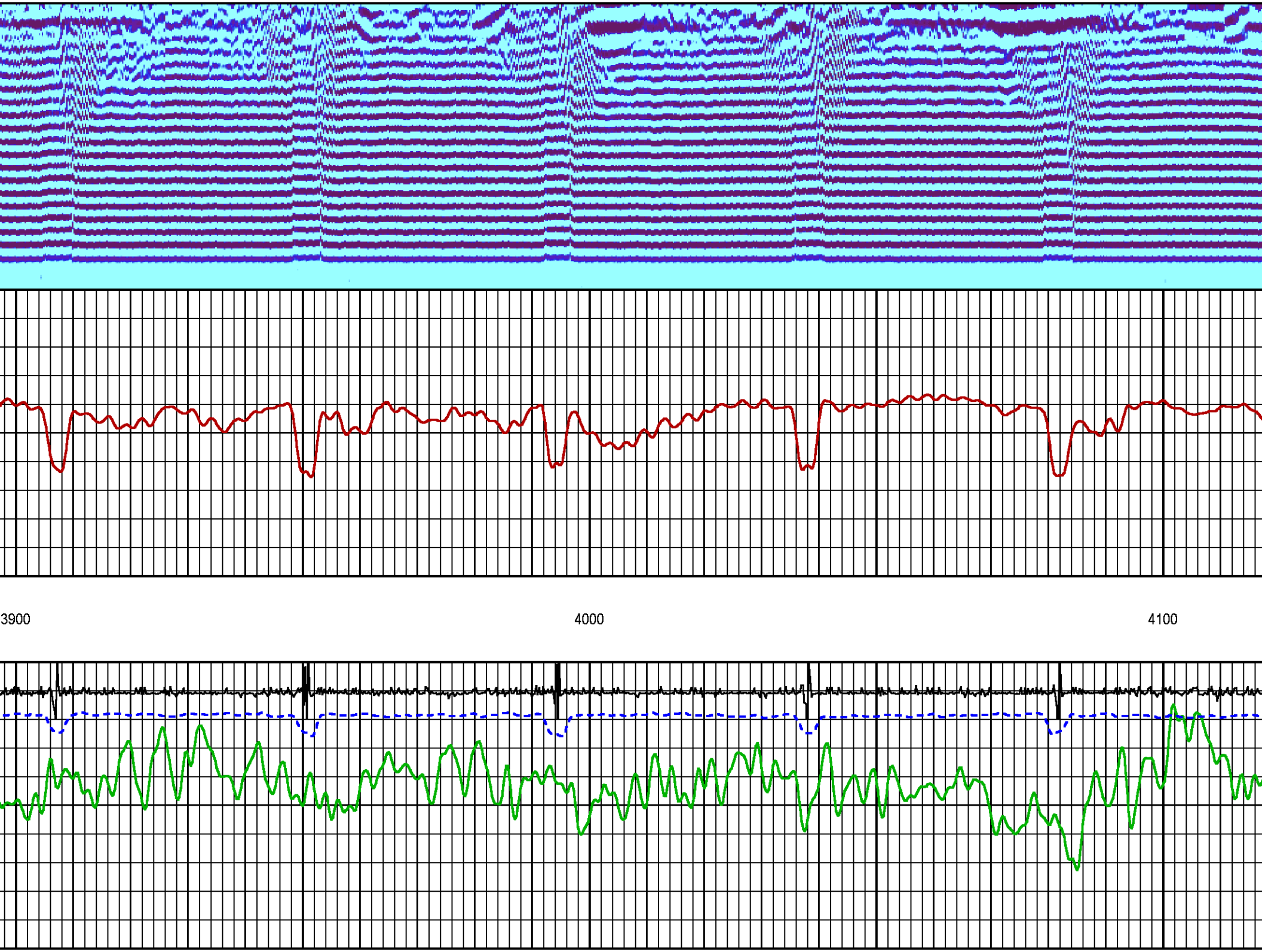
3300

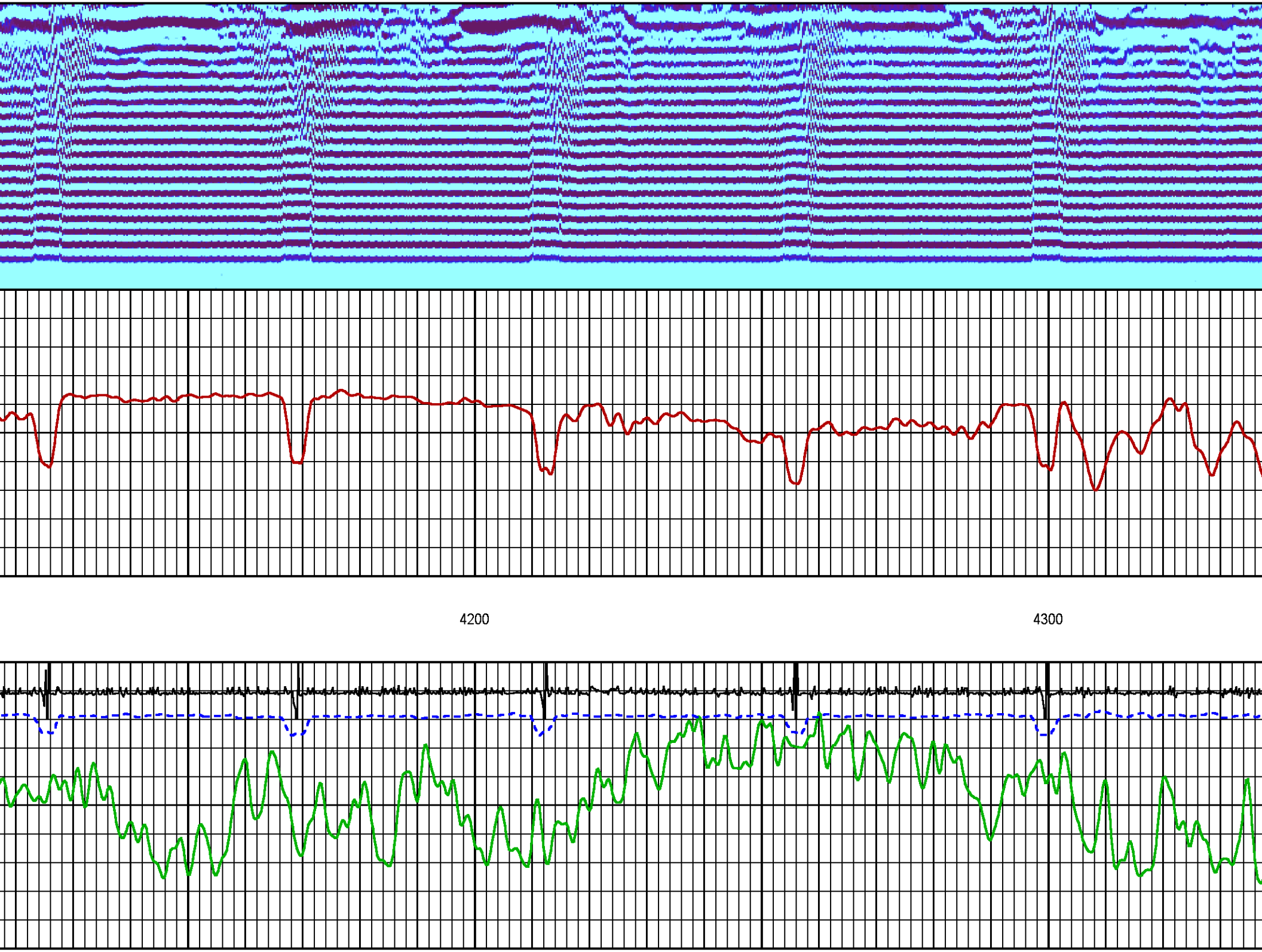
3400

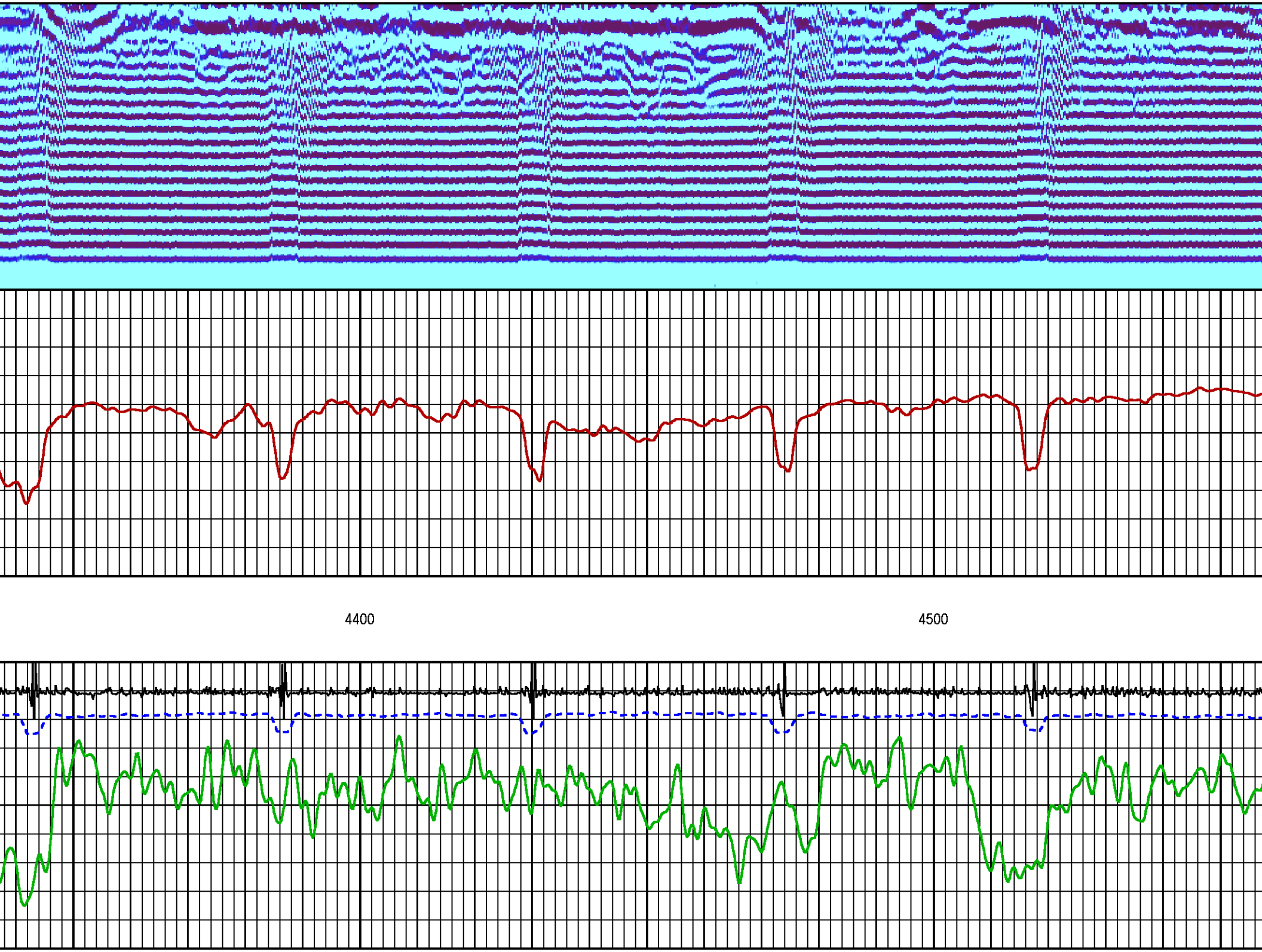


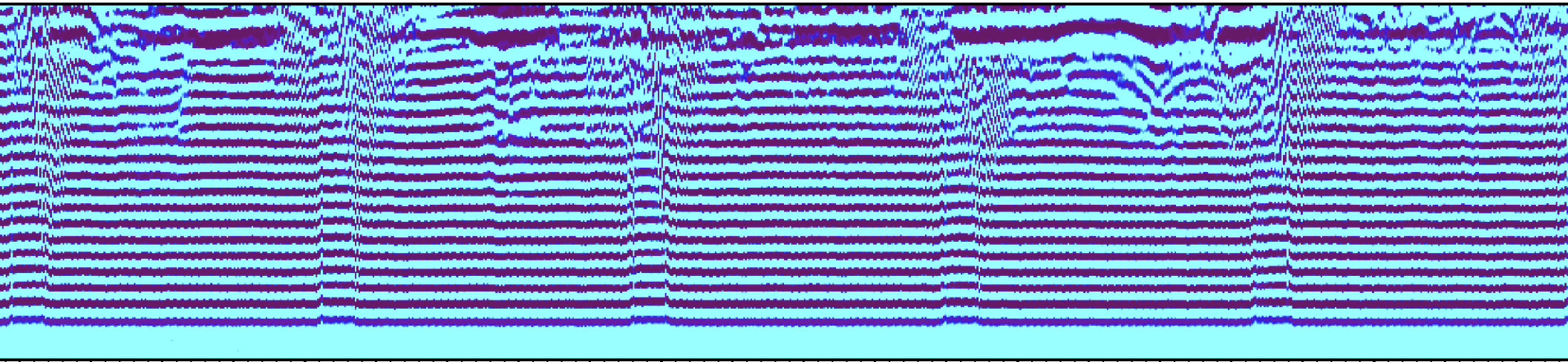

3500
3600

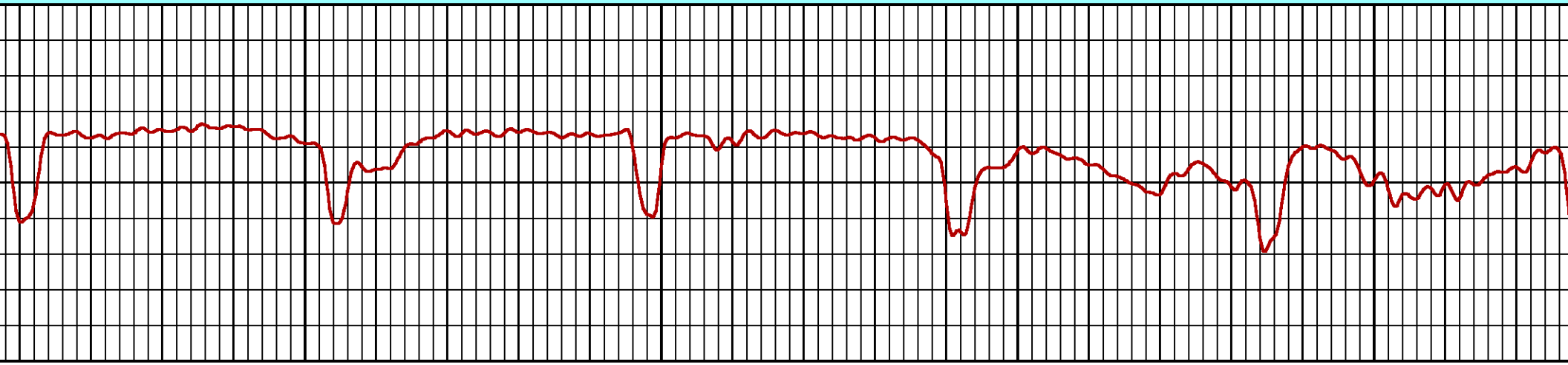

3700
3800


3900
4000
4100


4200
4300

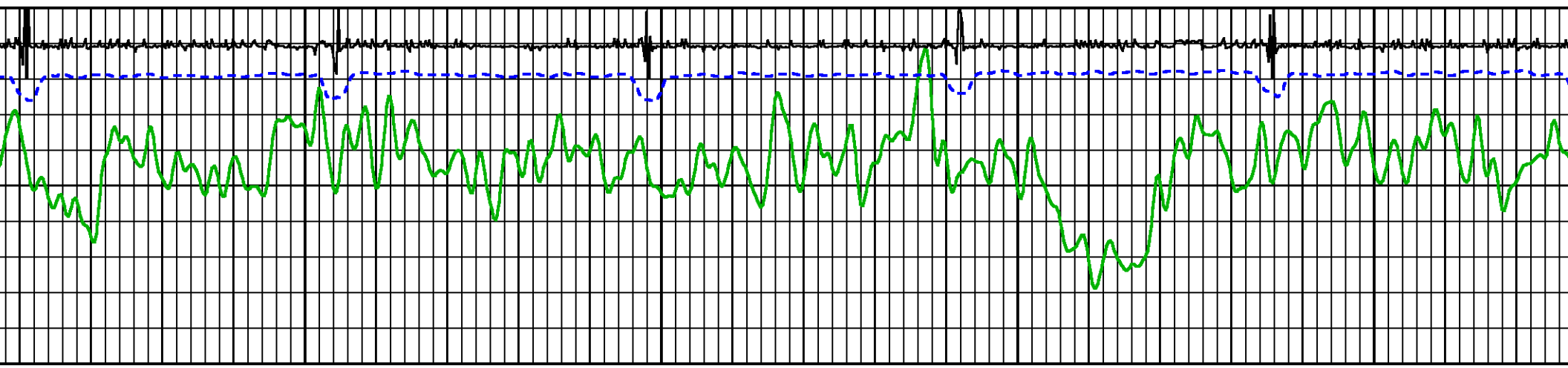

4400
4500

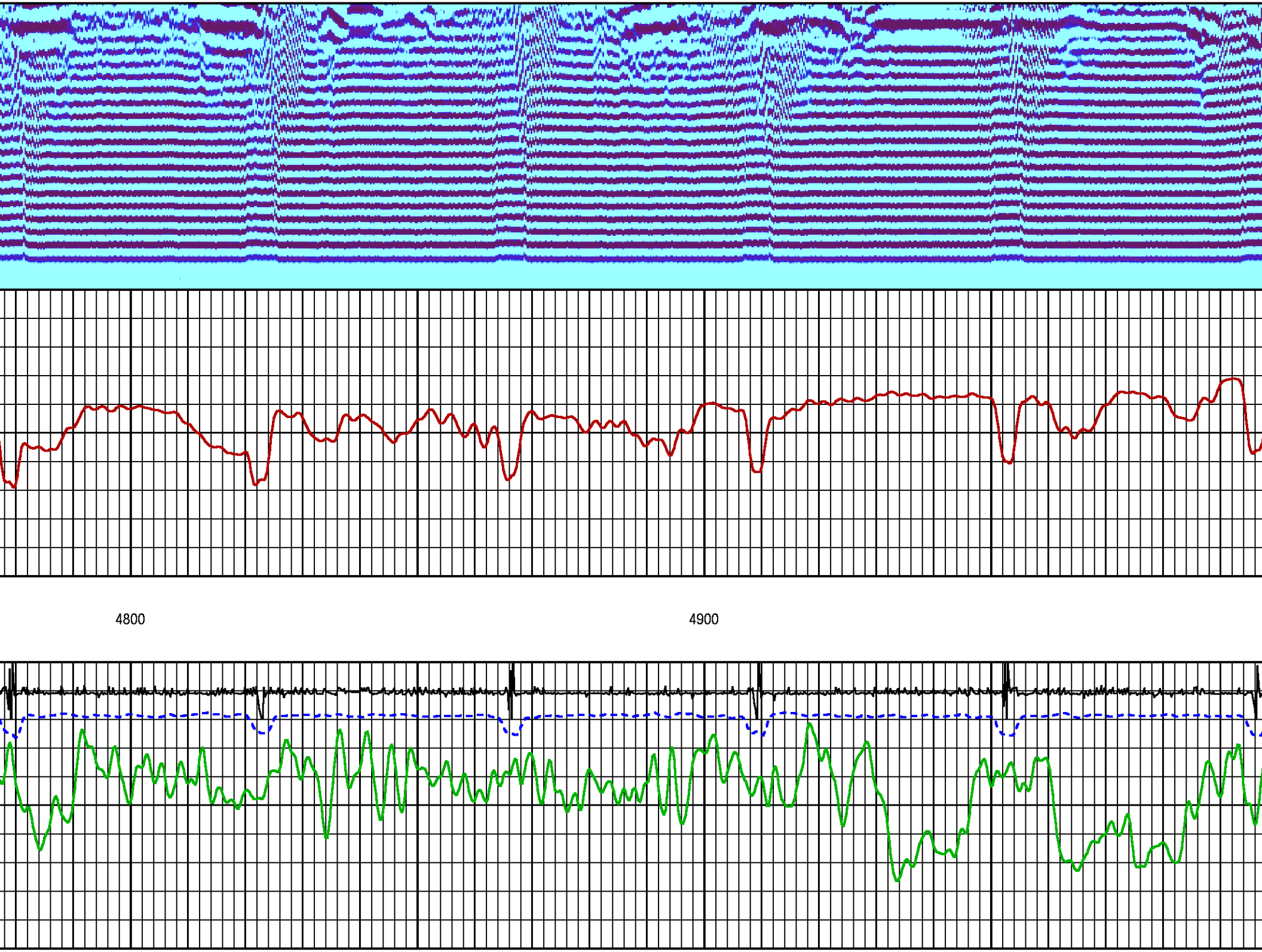


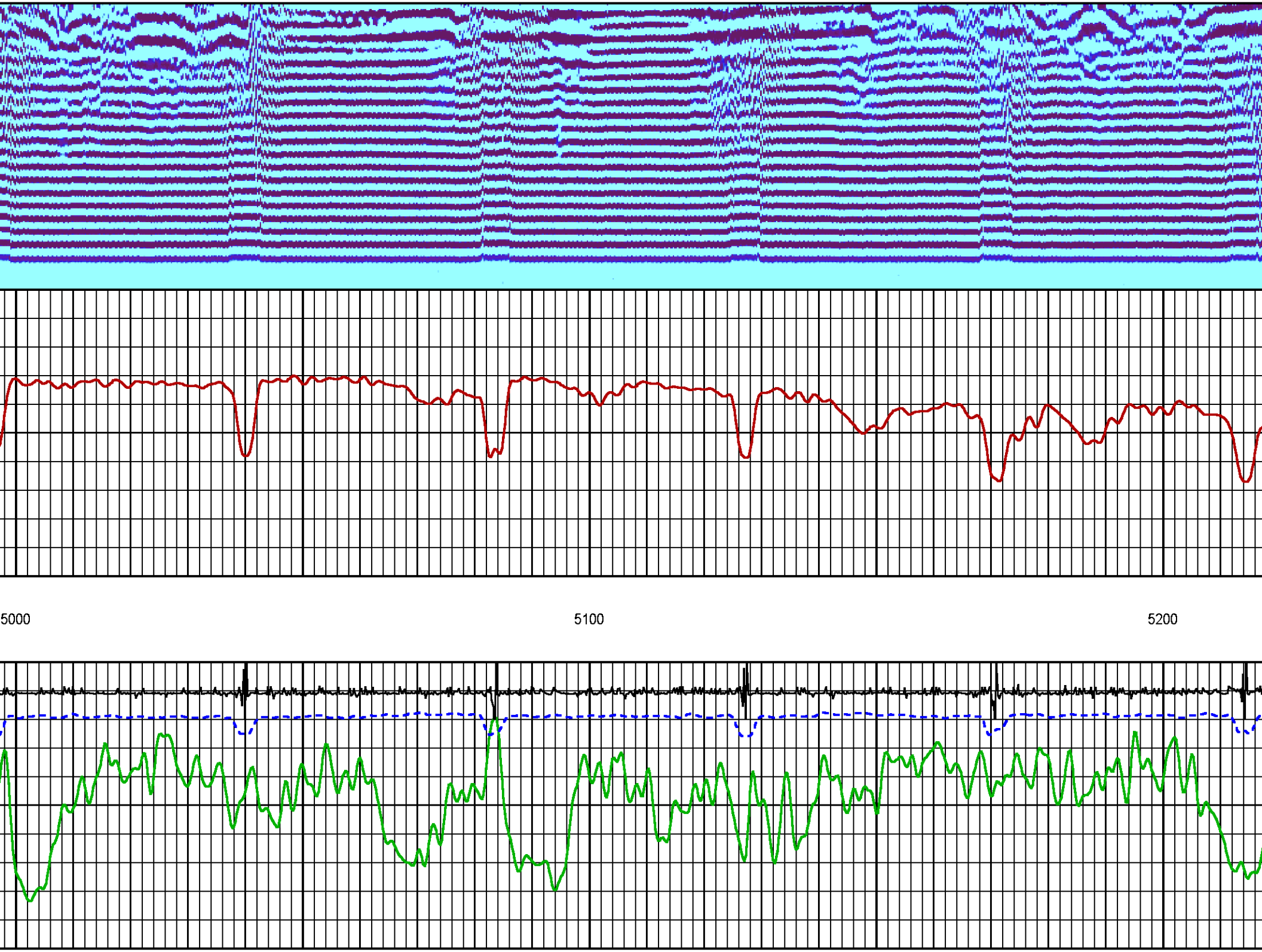


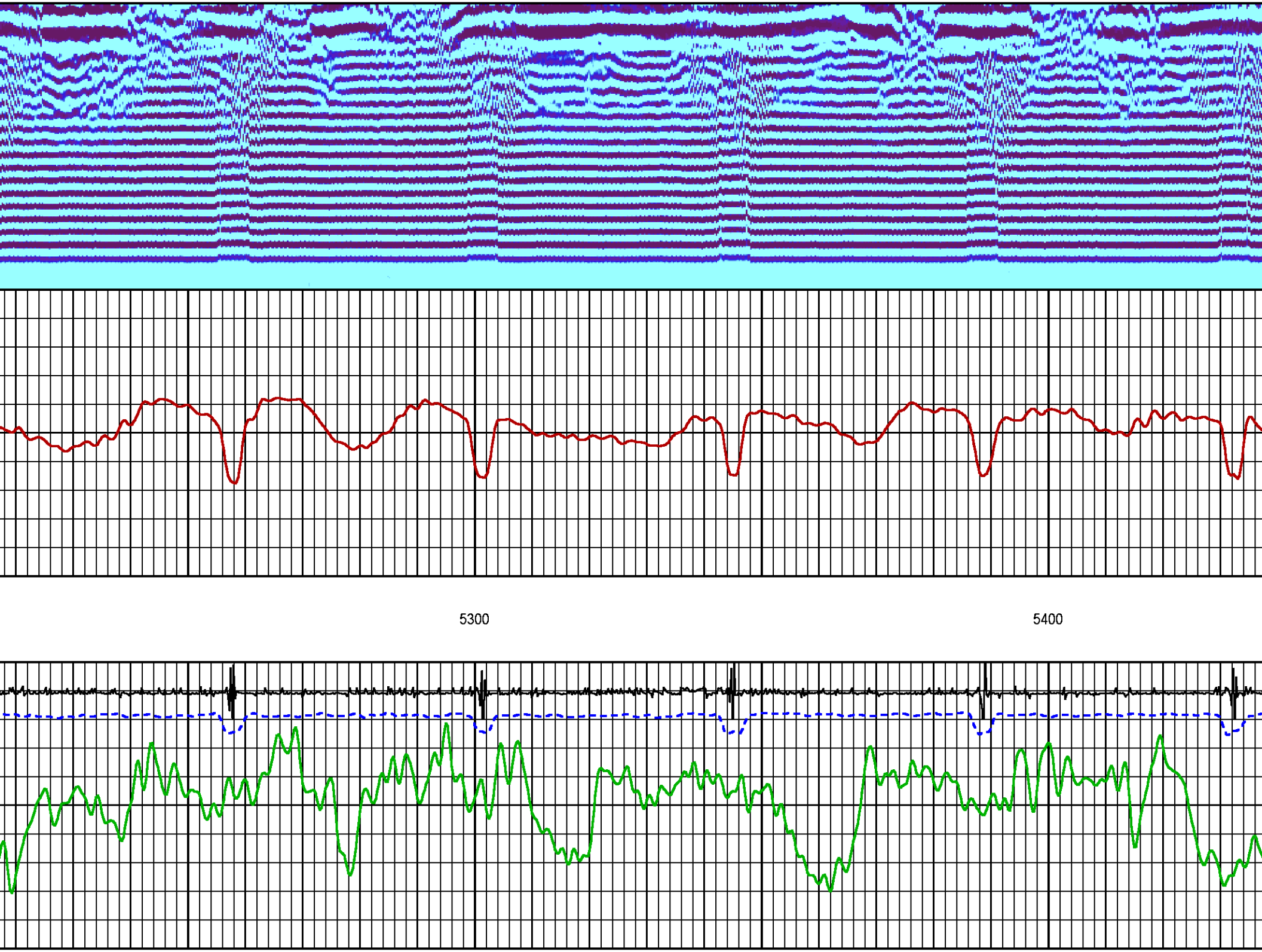
4600

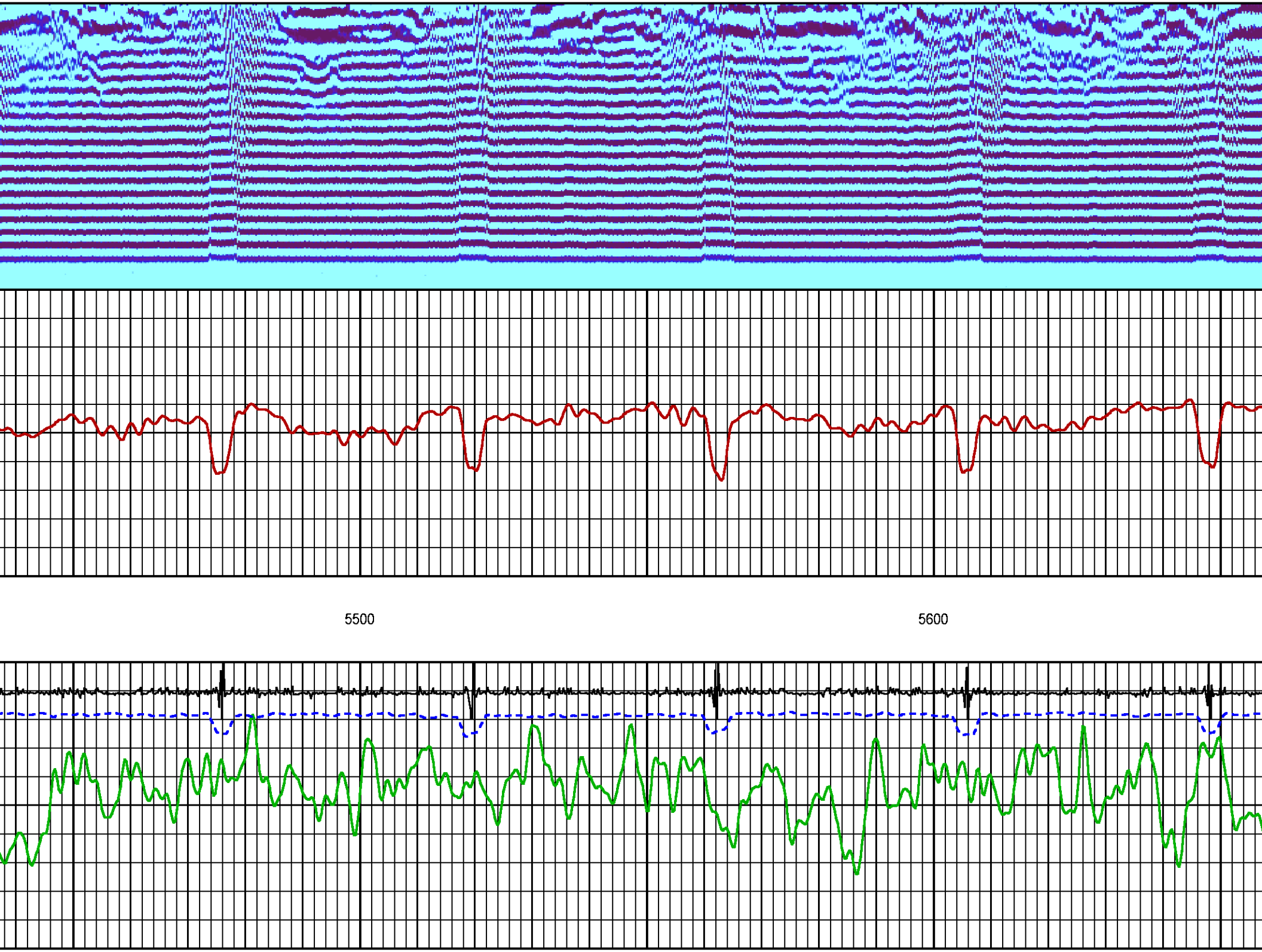
4700

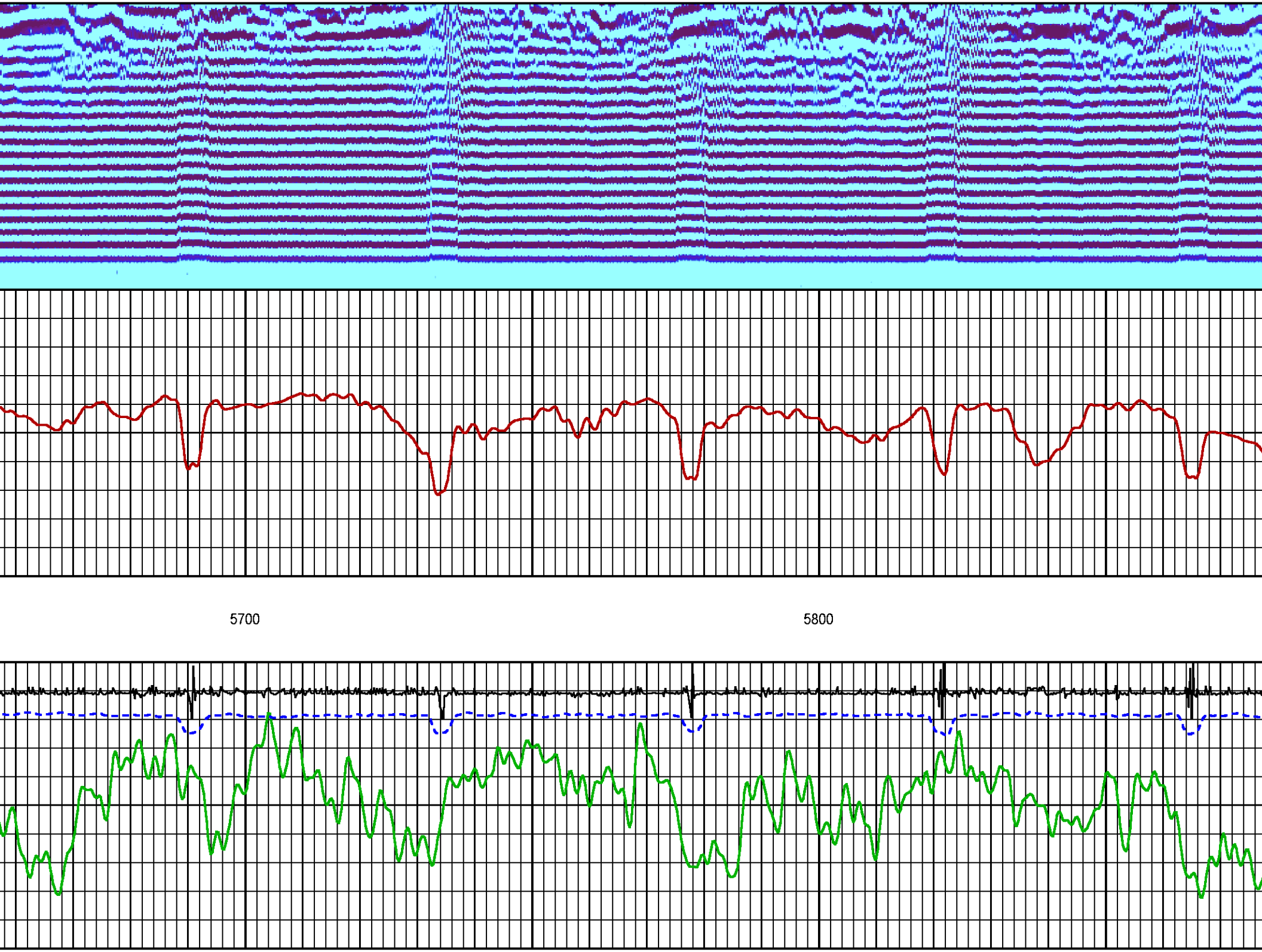



4800
4900

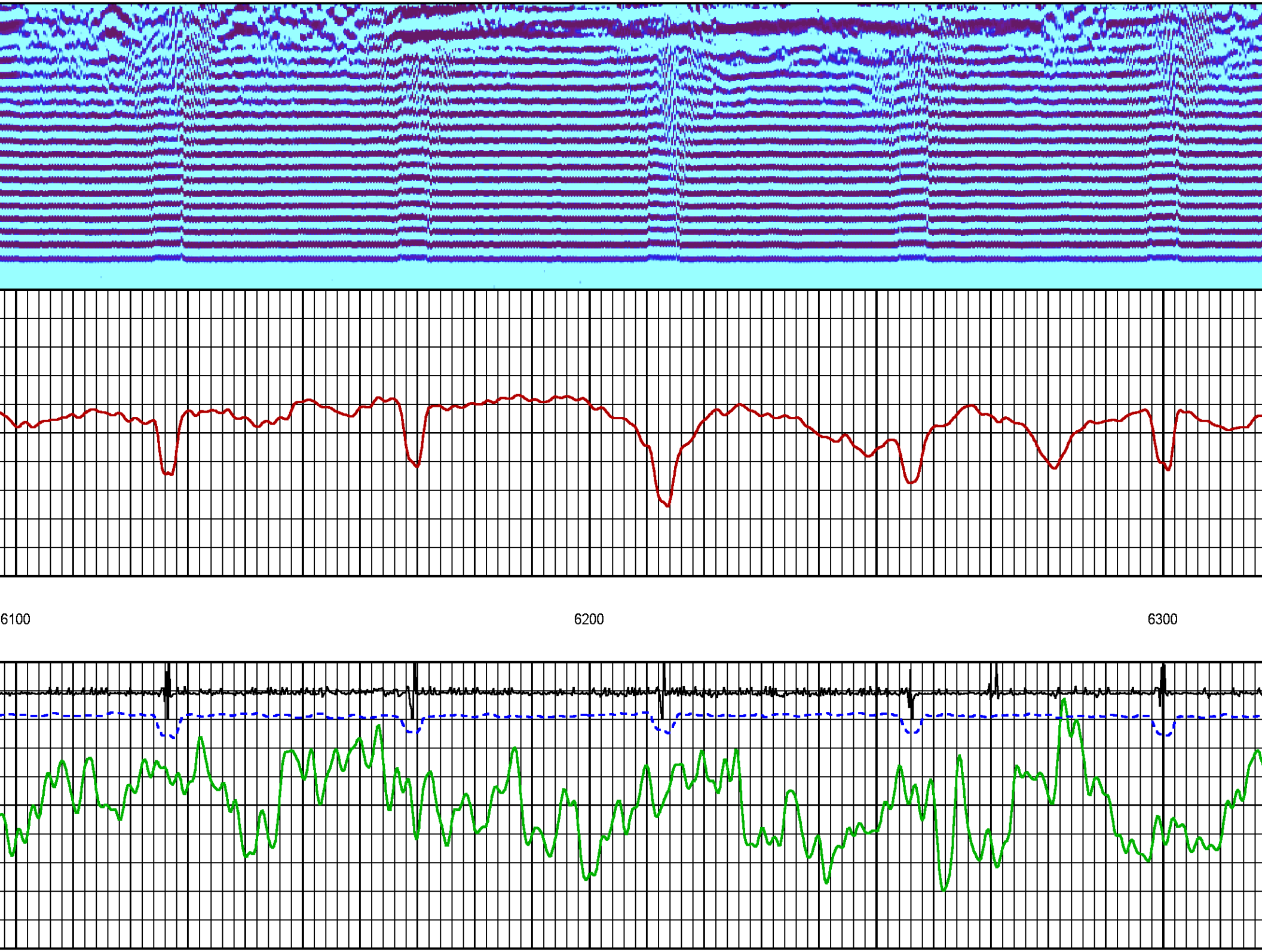

5000
5100
5200

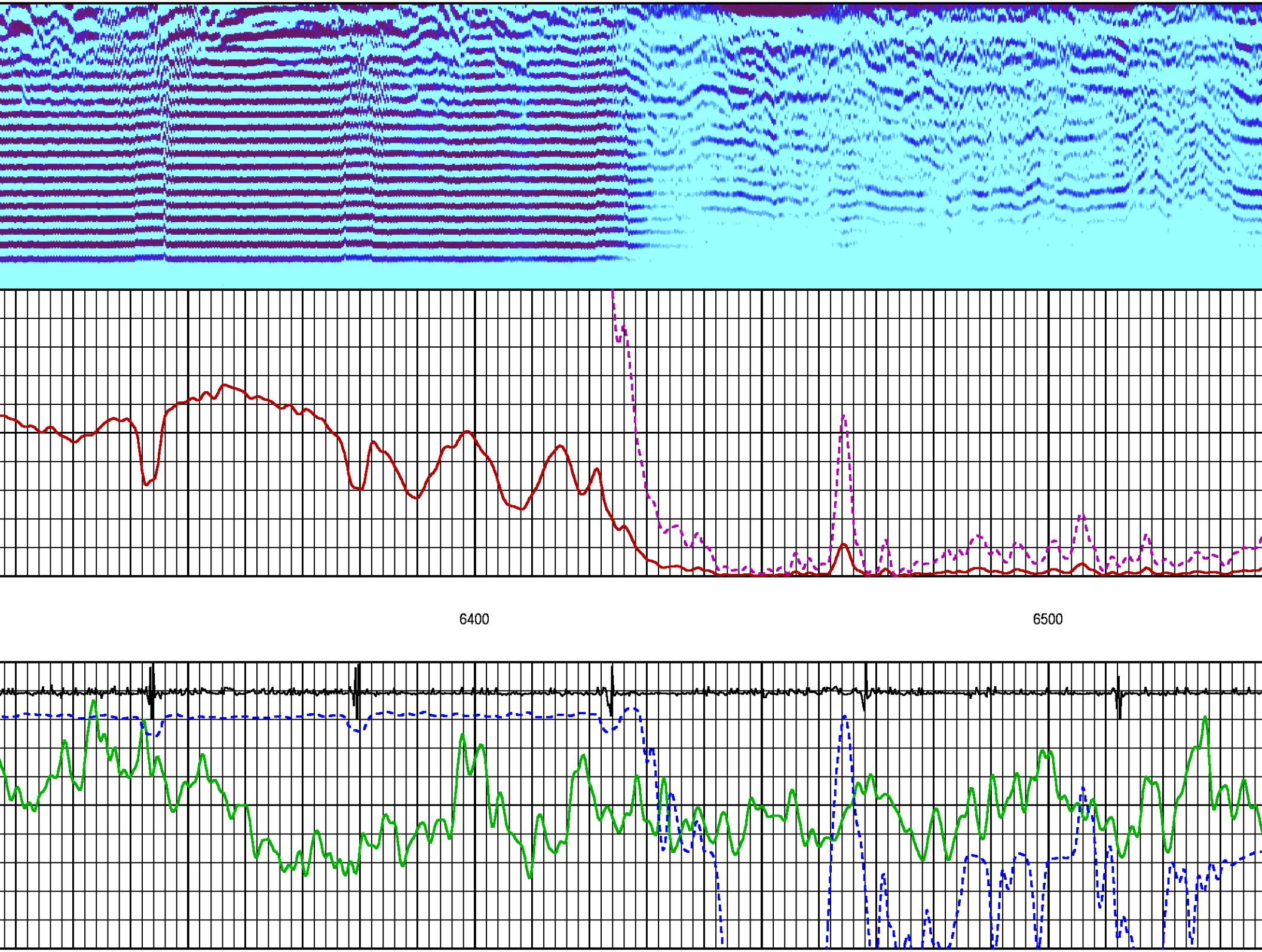

5300
5400


5500
5600

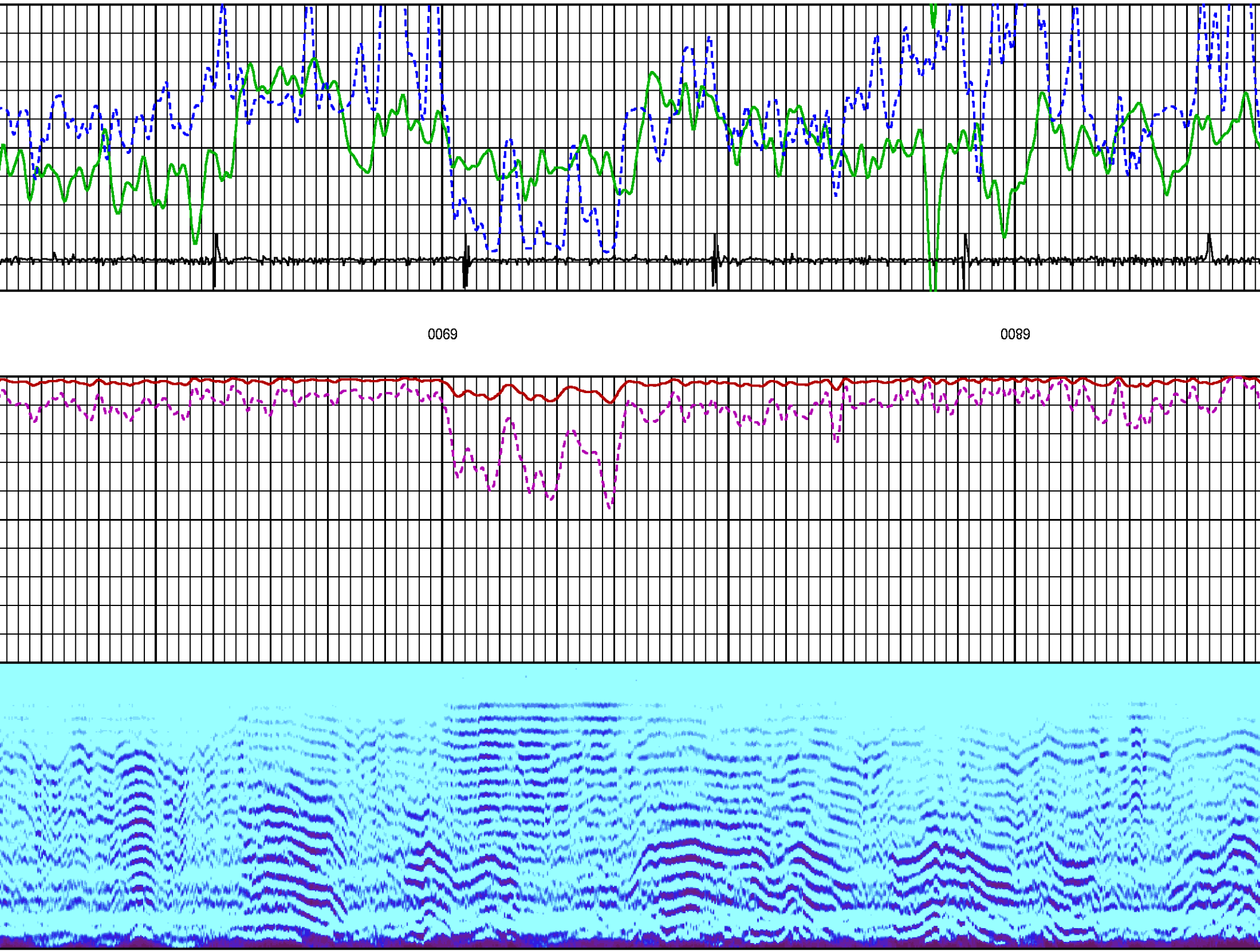

5700
5800

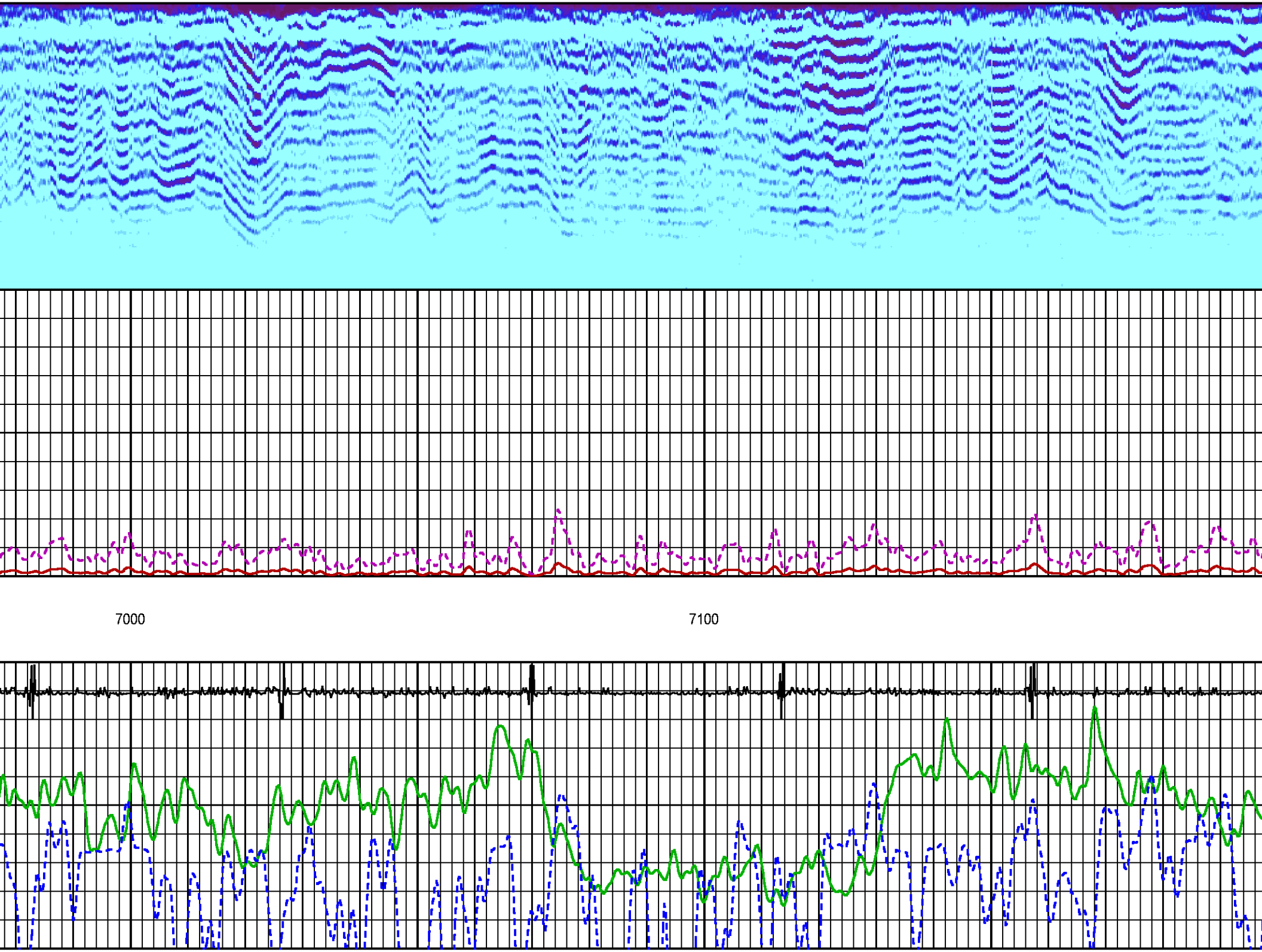
5900
6000


6100
6200
6300

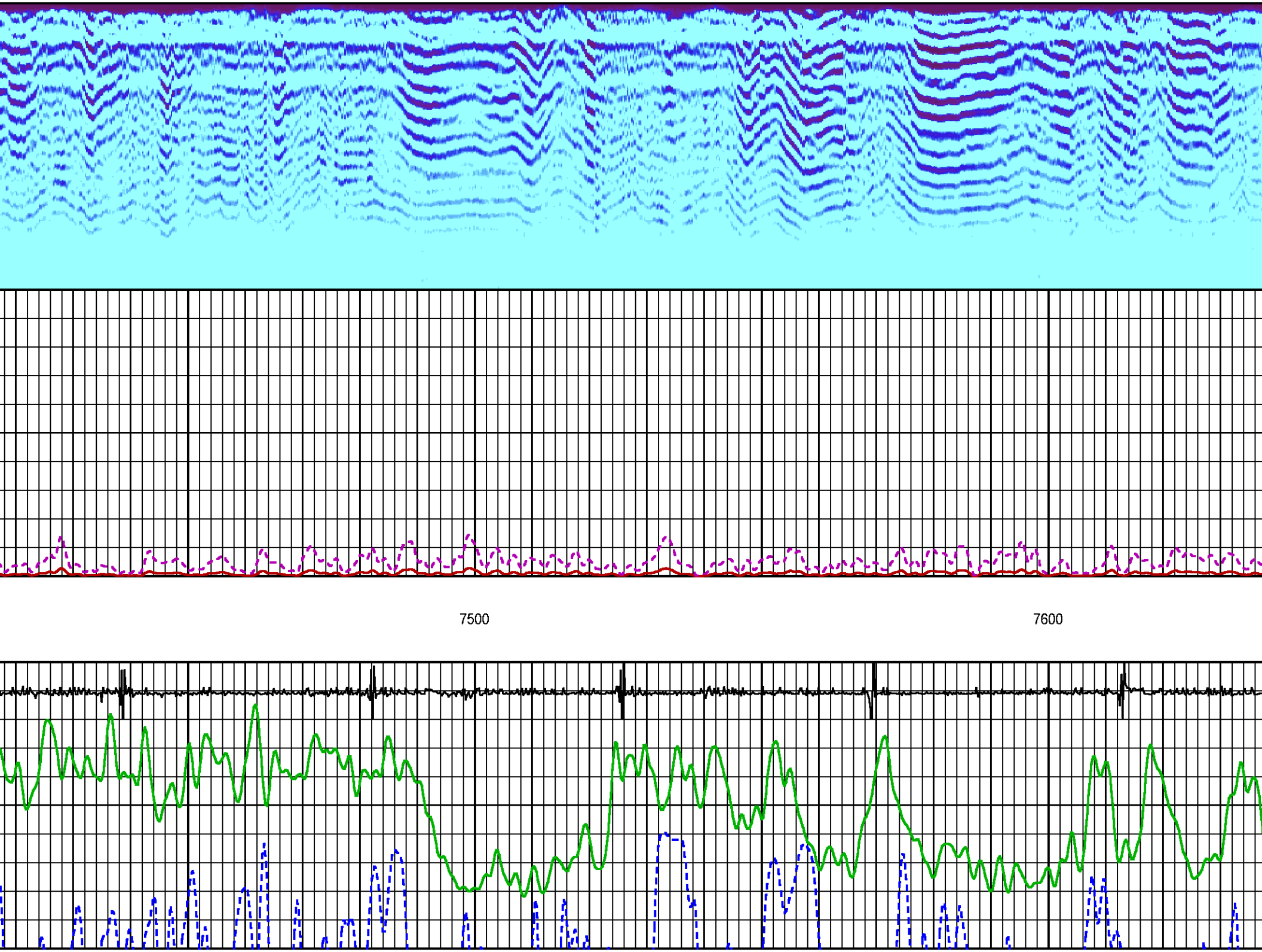

6400
6500

6600
6700


0069
0089

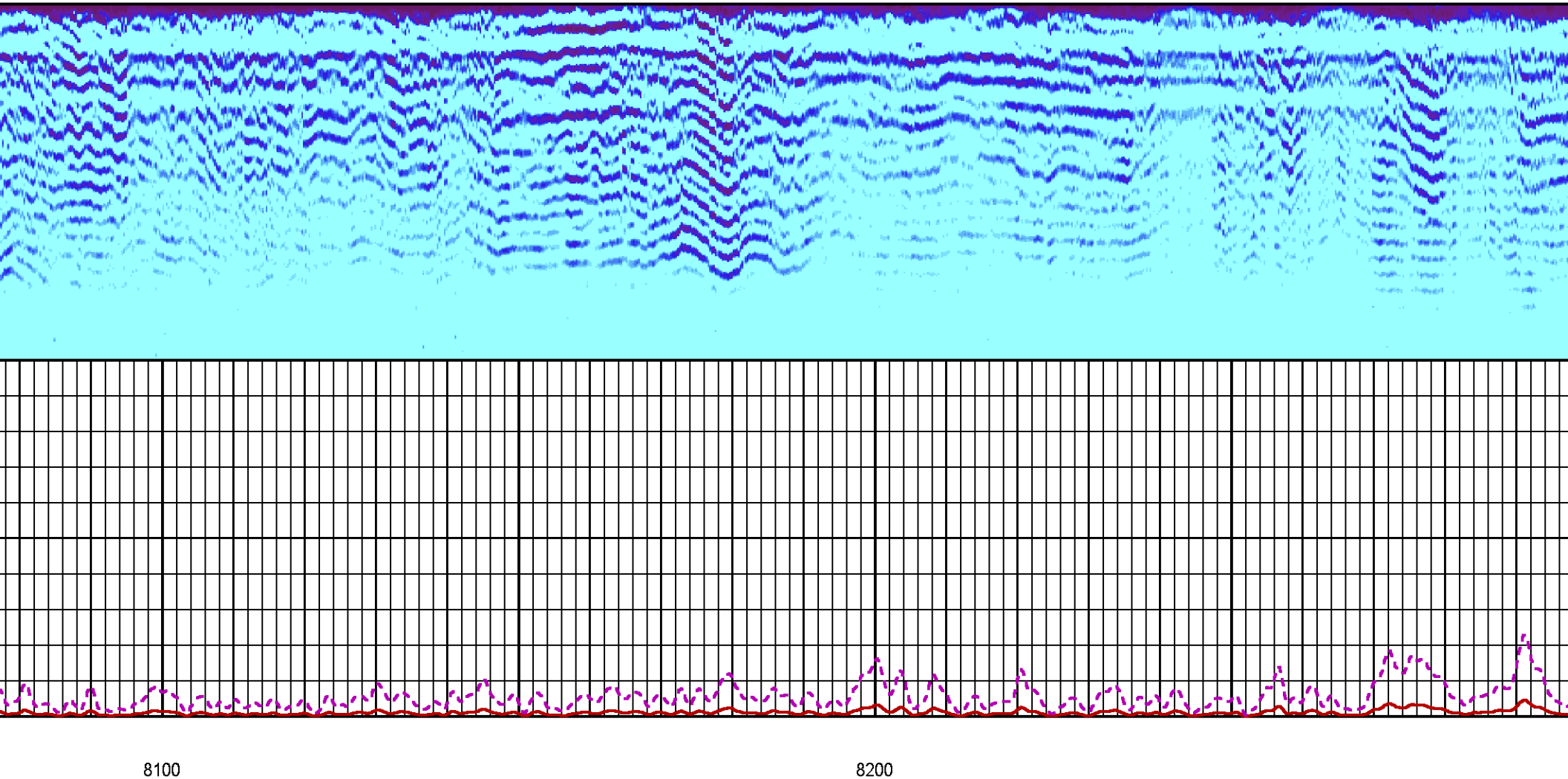

7000
7100

7200
SHORT JOINT
7300
7400


7500
7600

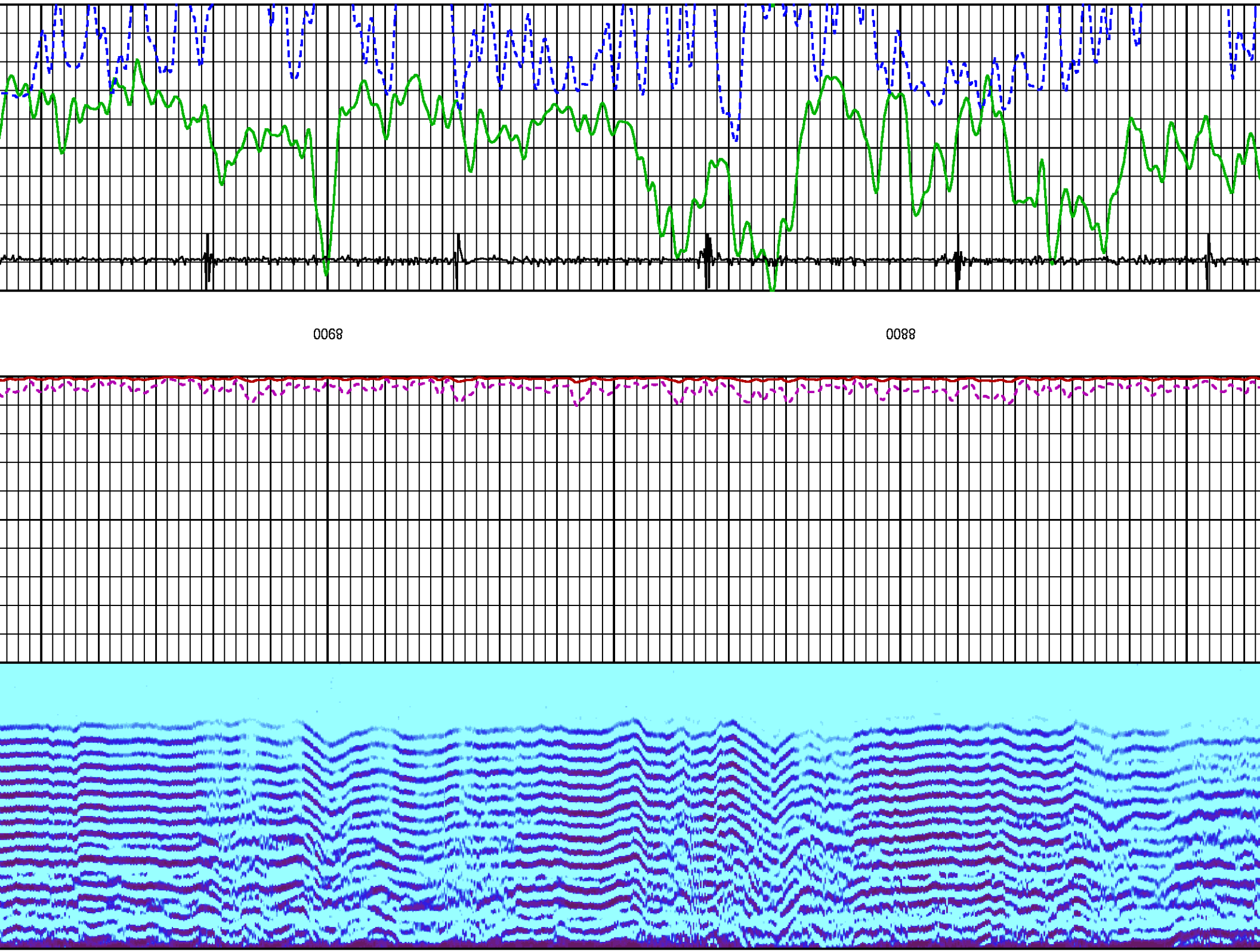
7700
7800

7900
8000


8100
8200

8300
8400
8500

8600
8700

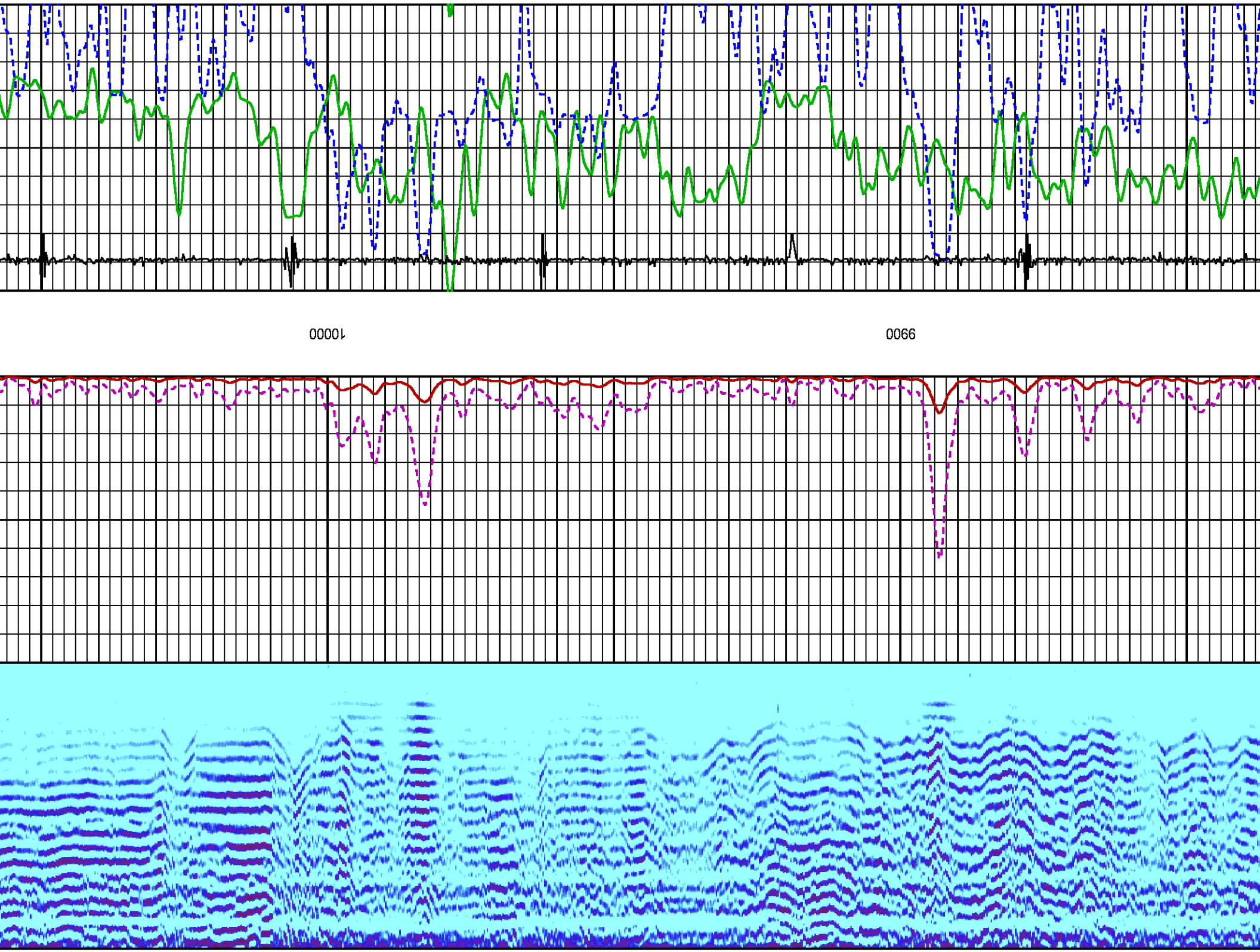

0068
0088

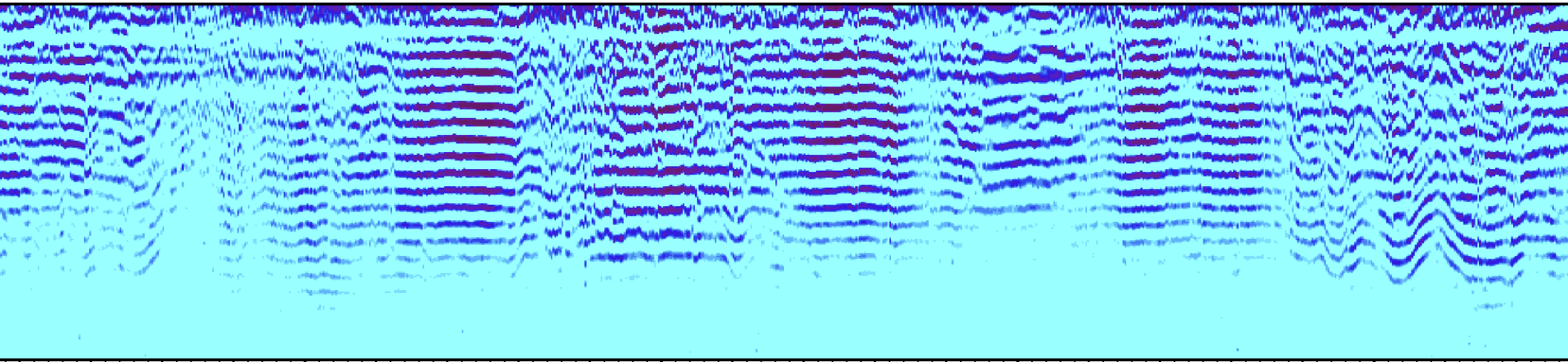
9000
9100

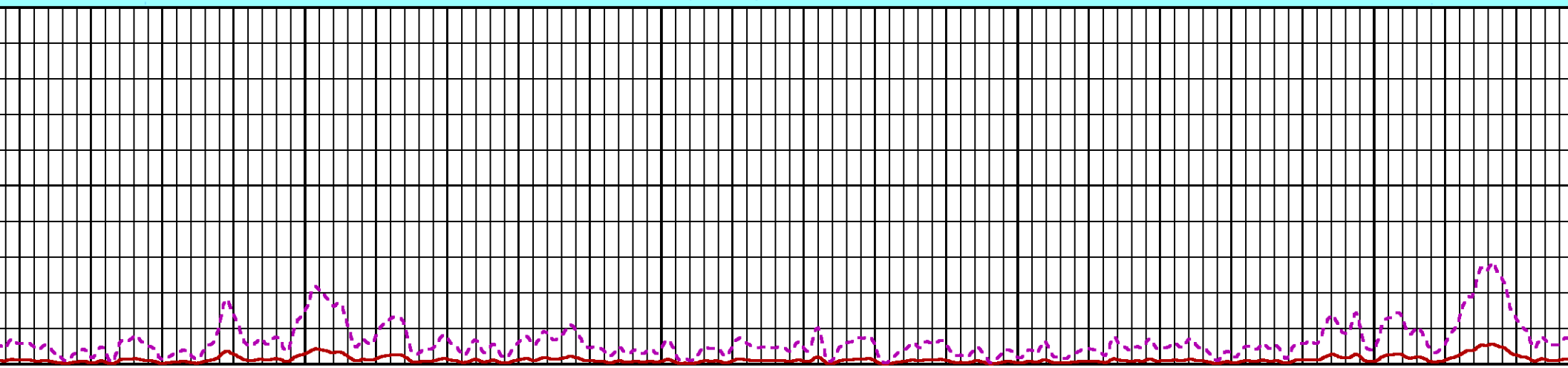
9200
9300

9400
9500
9600

9700
9800

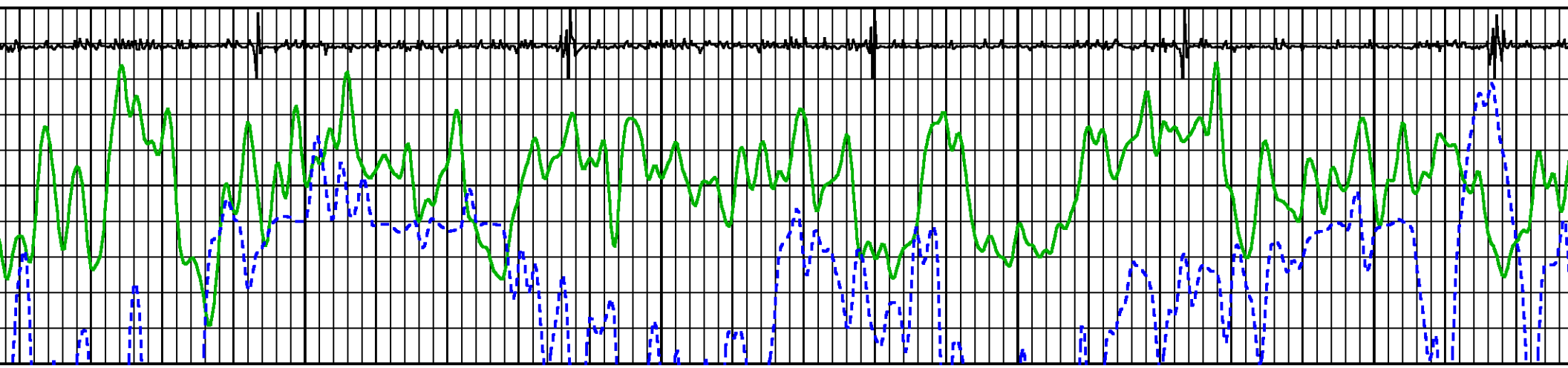

10000
0066

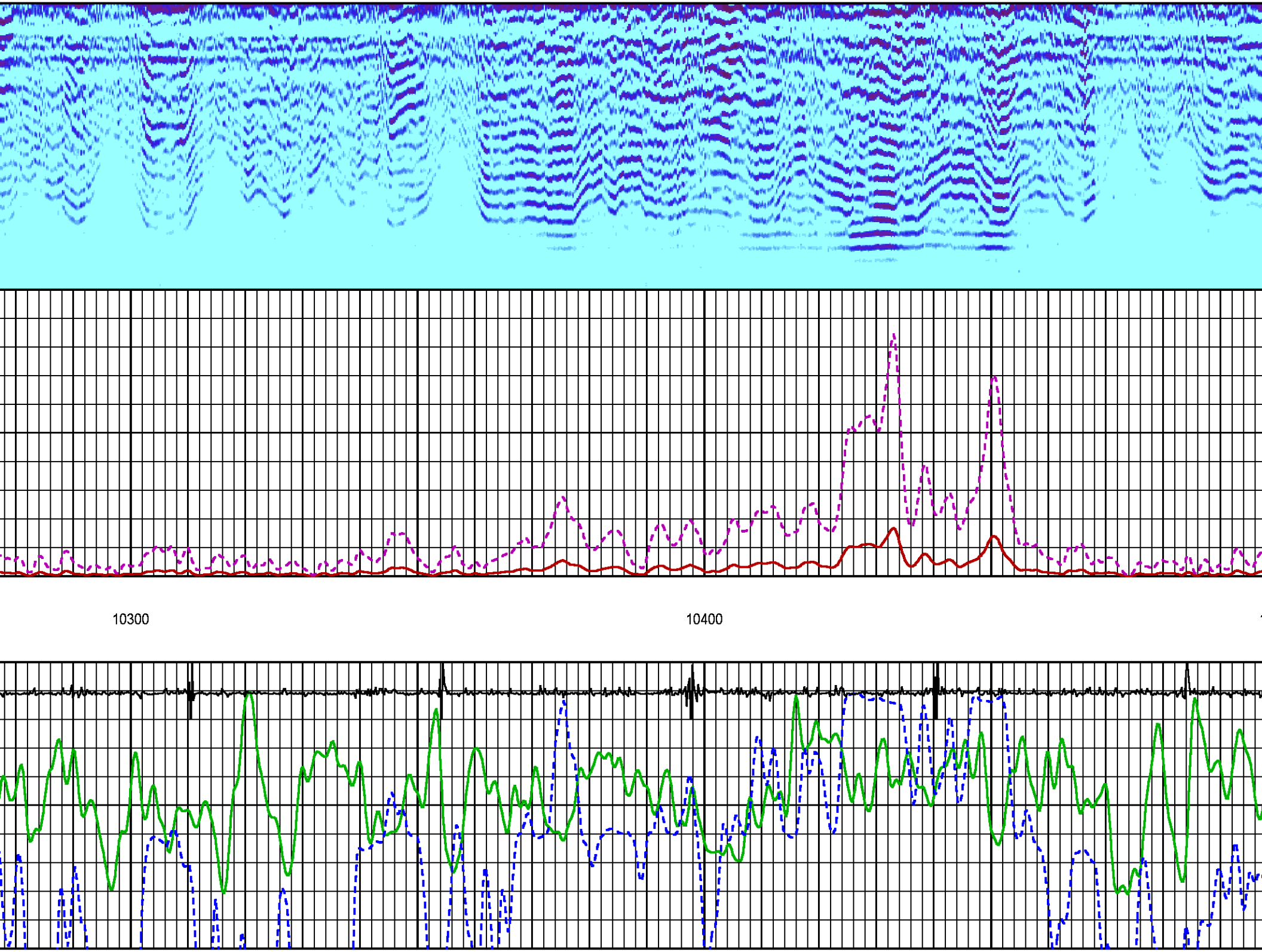


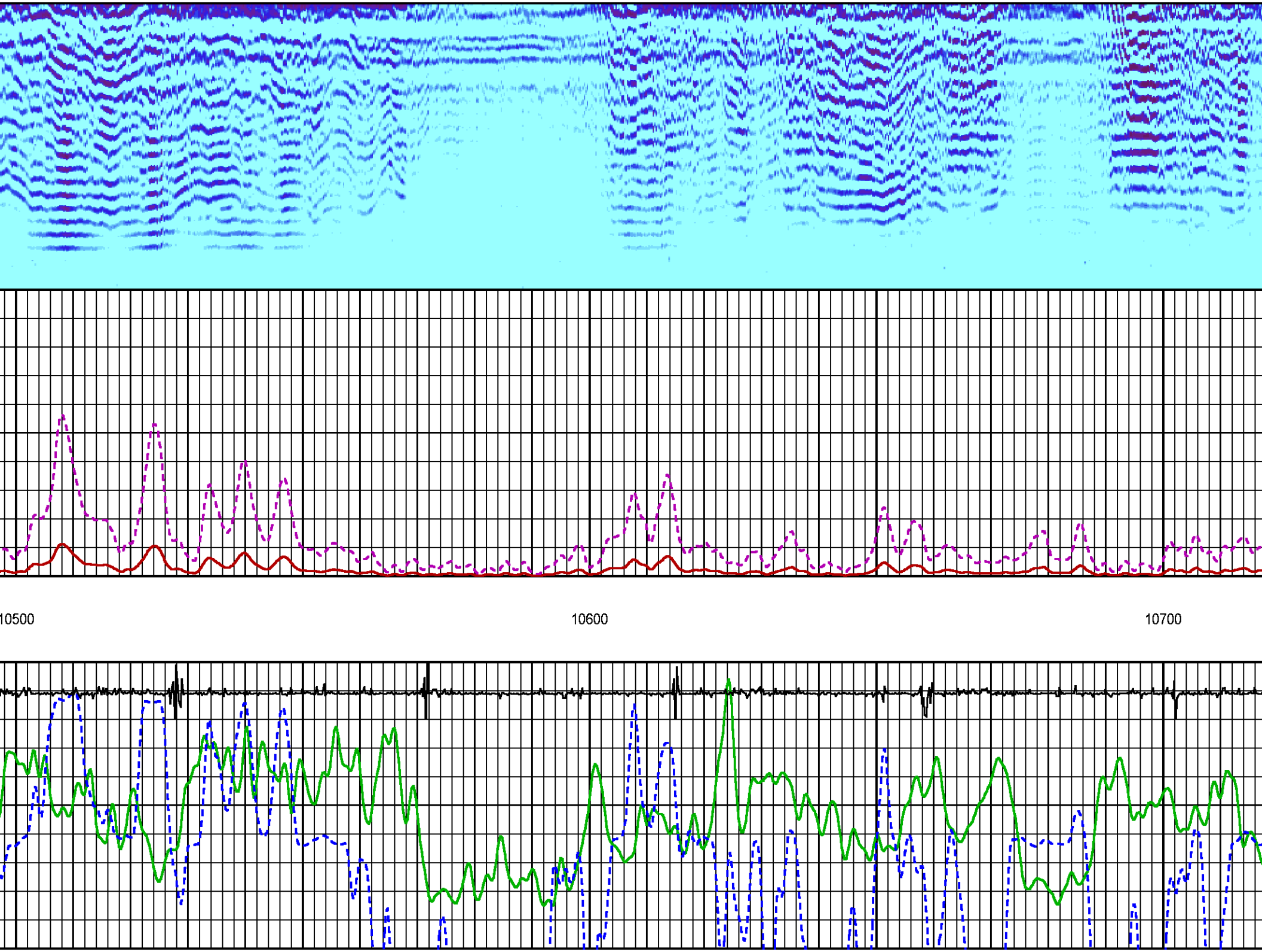


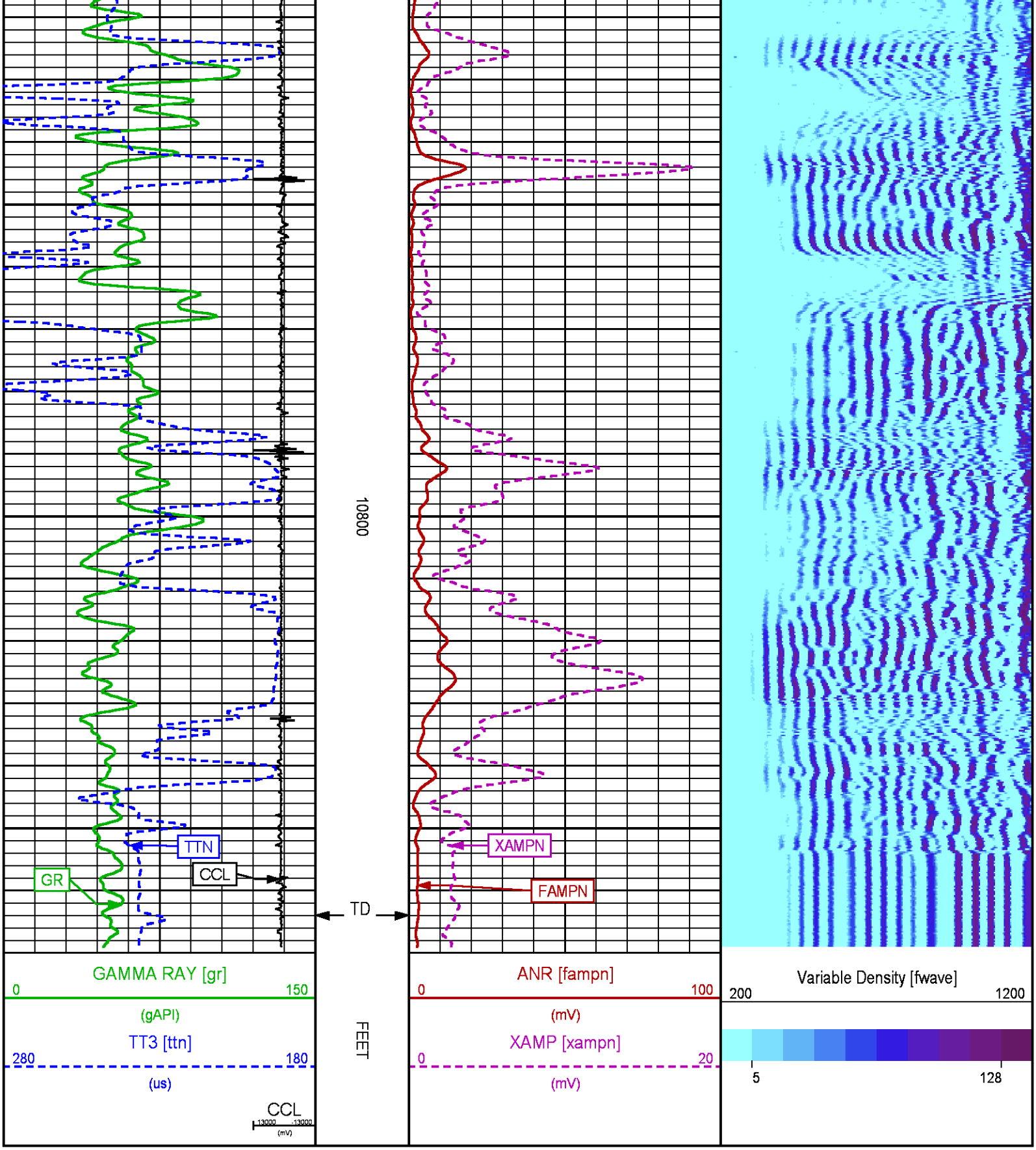
10100

10200




10300
10400


10500
10600
10700



REPEAT LOG 0 PSI

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 6

Plotted: Mon Dec 7 12:25:33 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH101063/n012g01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 10552.500 ft BOTTOM DEPTH: 10882.500 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*)	185	us	TOP	BOTTOM
	AMP WINDOW LENGTH	24	us	"	"
TRAVEL TIME WINDOW (NEAR)	TT WINDOW START (ttn*)	174	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*)	-73	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	125	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"

CURVE DESCRIPTION REPORT

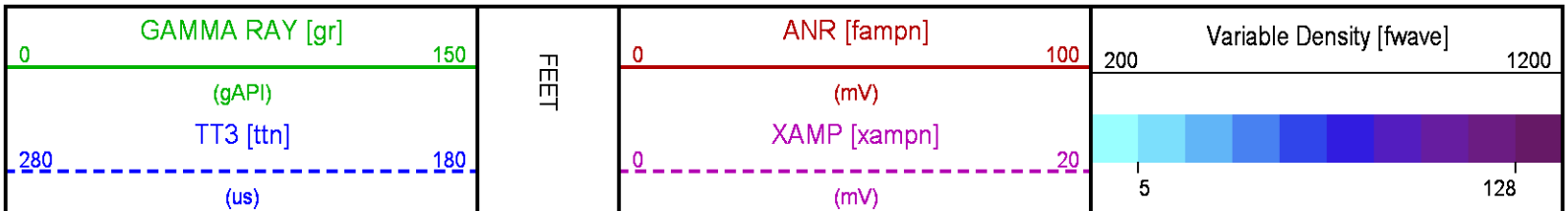
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Dec 7 12:06:06 2015	CASING COLLAR LOCATOR
F1:FAMPN	Dec 7 12:06:06 2015	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Dec 7 12:06:06 2015	FAR WAVE FORM
F1:GR	Dec 7 12:06:06 2015	GAMMA RAY
F1:TTN	Dec 7 12:06:06 2015	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Dec 7 12:06:06 2015	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

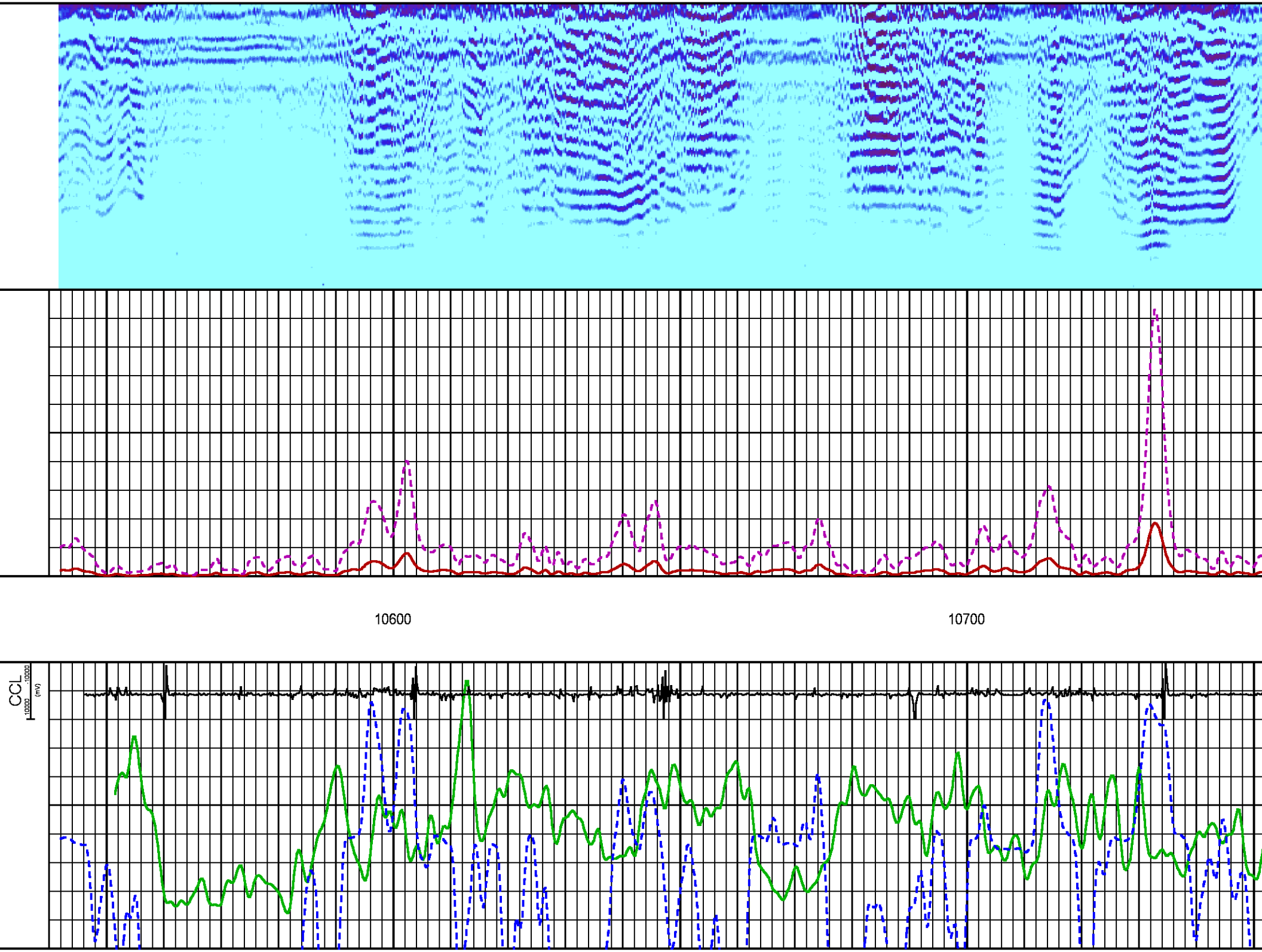
CURVE MEASURE POINT OFFSET

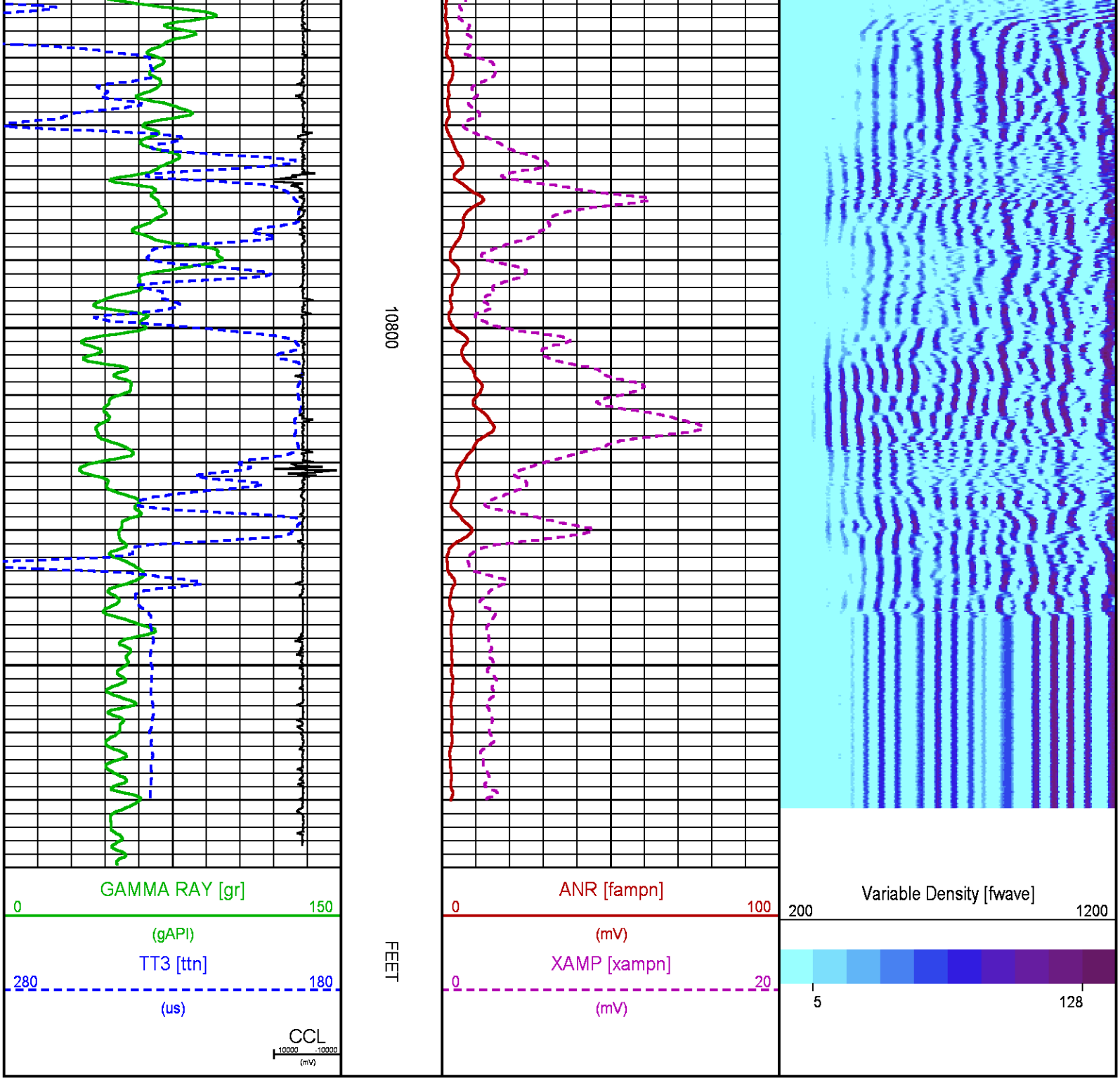
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	5.75	GR	1.75	XAMPN	11.25		
FAMPN	11.25	TTN	11.25				

Presentation : HL6670:/dat1a/CH101063/WPX_CBL_REPEAT_PRESENTATION.fvpdf [5"/100' Scale]
Plot Interval : 10541.8 - 10881 Feet

Data File 1 : F1 : HL6670:/dat1a/CH101063/n012g01REPEAT642.xtf
Created On : Dec 7 12:06:06 2015
Company : WPX ENERGY
Well : FEDERAL RU 642-8
Field : RUILISON
File Interval : 10540.8 - 10882.5 Feet
OCT : n012g




10600
10700
CCL
-10000
10000
(mV)



SECONDARY PRESENTATION 0 PSI

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 6

Plotted: Mon Dec 7 15:41:31 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH101063/n012g02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 15.500 ft BOTTOM DEPTH: 10869.500 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*)	185	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	185	us	"	"
	AMP WINDOW START (fgp3*)	185	us	"	"
	AMP WINDOW START (fgp4*)	185	us	"	"
	AMP WINDOW START (fgp5*)	185	us	"	"
	AMP WINDOW START (fgp6*)	185	us	"	"
	AMP WINDOW START (fgp7*)	185	us	"	"
	AMP WINDOW START (fgp8*)	185	us	"	"
	AMP WINDOW START (fgpn*)	185	us	"	"
	AMP WINDOW LENGTH	24	us	"	"
TRAVEL TIME WINDOW (NEAR)	TT WINDOW START (ttn*)	174	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*)	-73	us	"	"
	TOOL DELAY (str2*)	-73	us	"	"
	TOOL DELAY (str3*)	-73	us	"	"
	TOOL DELAY (str4*)	-73	us	"	"
	TOOL DELAY (str5*)	-73	us	"	"
	TOOL DELAY (str6*)	-73	us	"	"
	TOOL DELAY (str7*)	-73	us	"	"
	TOOL DELAY (str8*)	-73	us	"	"
	TOOL DELAY (strn*)	-73	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 7 12:17:07 2015	FIXED GATE AMPLITUDE T-R1
F1:AR2	Dec 7 12:17:07 2015	FIXED GATE AMPLITUDE T-R2
F1:AR3	Dec 7 12:17:07 2015	FIXED GATE AMPLITUDE T-R3
F1:AR4	Dec 7 12:17:07 2015	FIXED GATE AMPLITUDE T-R4
F1:AR5	Dec 7 12:17:07 2015	FIXED GATE AMPLITUDE T-R5
F1:AR6	Dec 7 12:17:07 2015	FIXED GATE AMPLITUDE T-R6

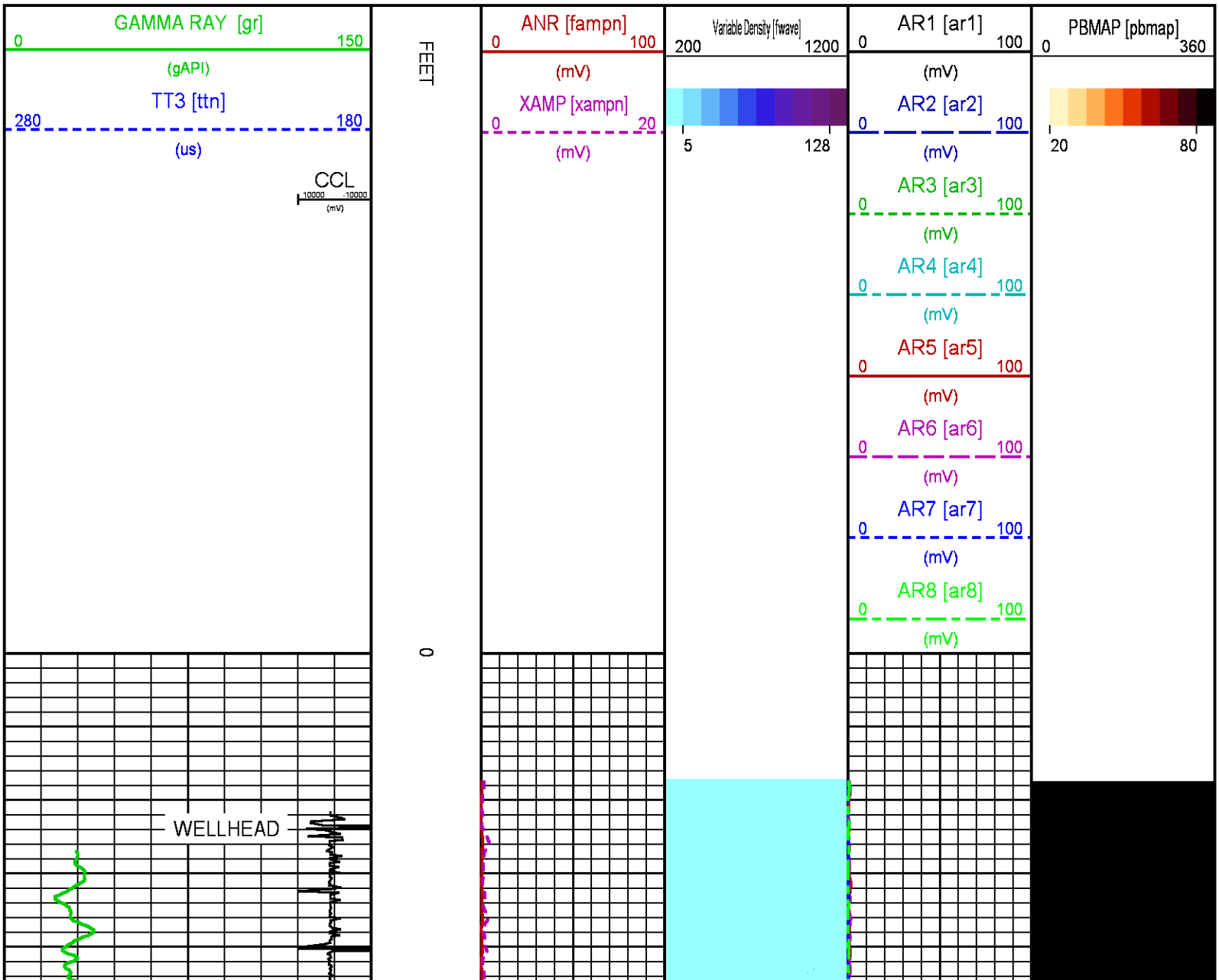
F1:AR7	Dec 7 12:17:07 2015	FIXED GATE AMPLITUDE T-R7
F1:AR8	Dec 7 12:17:07 2015	FIXED GATE AMPLITUDE T-R8
F1:CCL	Dec 7 12:17:07 2015	CASING COLLAR LOCATOR
F1:FAMPN	Dec 7 12:17:07 2015	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Dec 7 12:17:07 2015	FAR WAVE FORM
F1:GR	Dec 7 12:17:07 2015	GAMMA RAY
F1:PBMAP	Dec 7 12:17:07 2015	PERCENT BOND CEMENT MAP
F1:TTN	Dec 7 12:17:07 2015	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Dec 7 12:17:07 2015	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

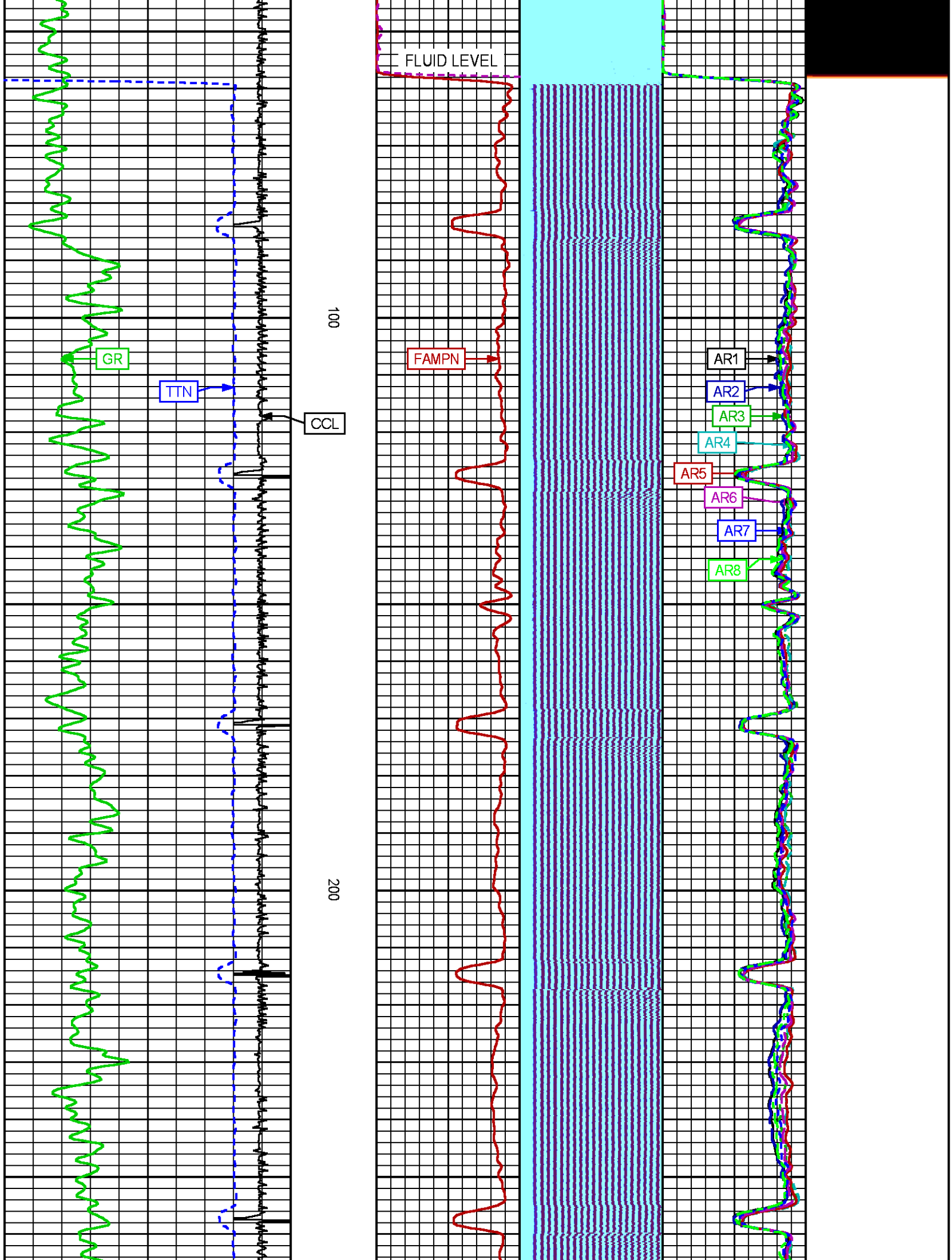
CURVE MEASURE POINT OFFSET

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 : HL6670:/dat1a/CH101063/WPX_CBL_SECONDARY_PRESENTATION.fvpdf [5"/100' Scale]
Plot Interval : 0 - 10869 Feet

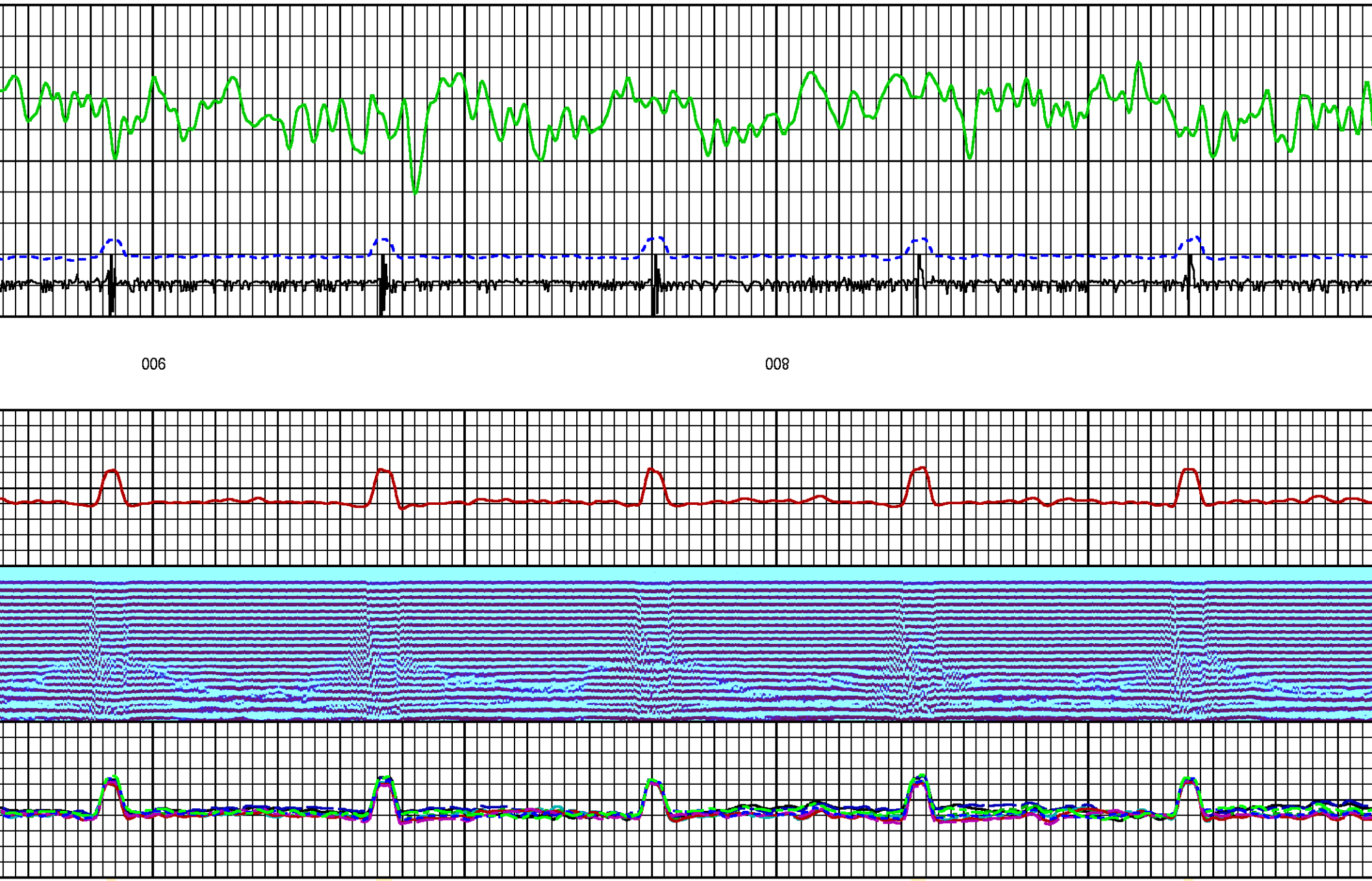
Data File 1 : F1 : HL6670:/dat1a/CH101063/n012g02MAIN642.xtf
Created On : Dec 7 12:17:07 2015
Company : WPX ENERGY
Well : FEDERAL RU 642-8
Field : RUILISON
File Interval : 16.25 - 10881.5 Feet
OCT : n012g




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

300
400

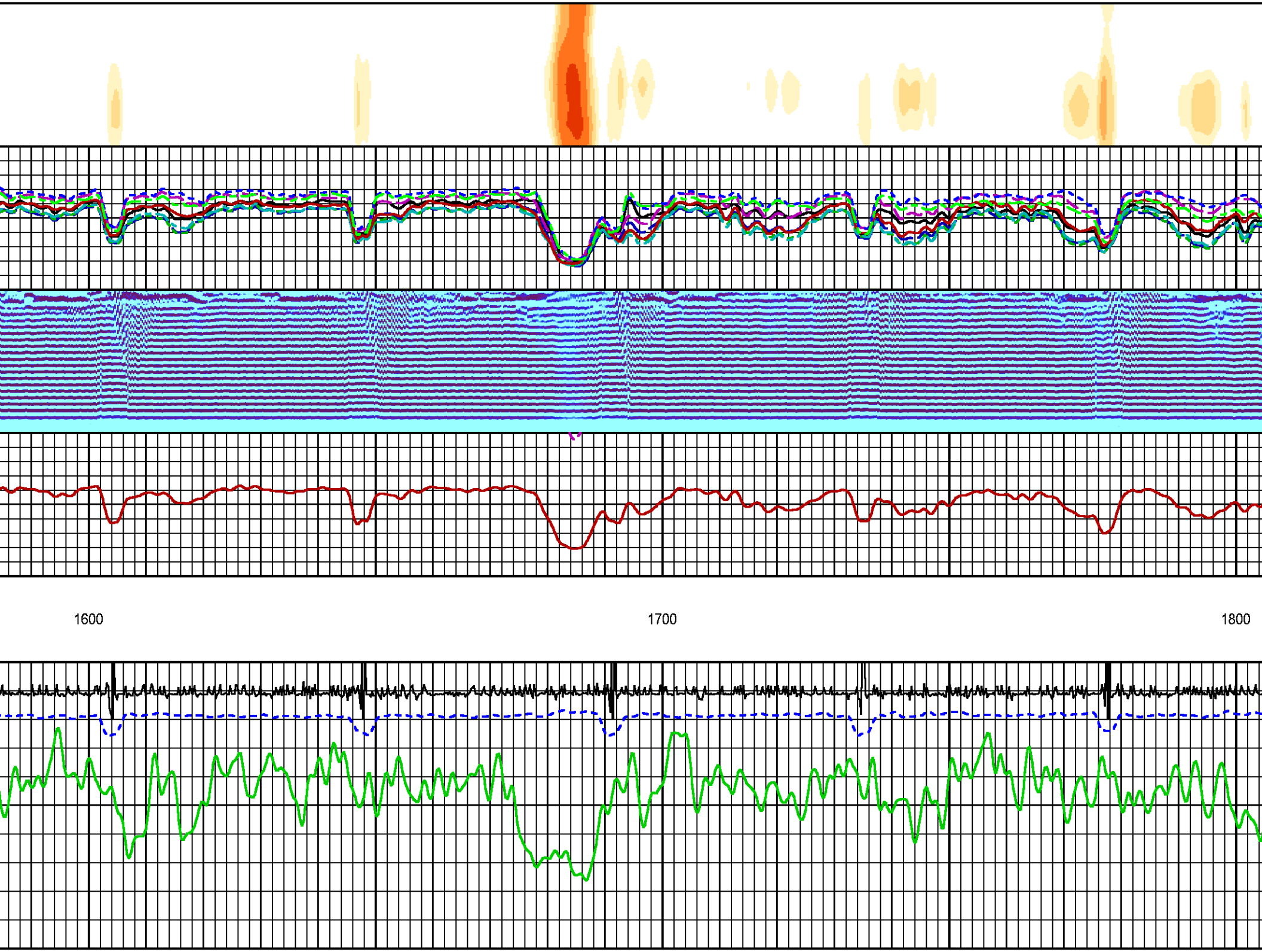
500
600
700

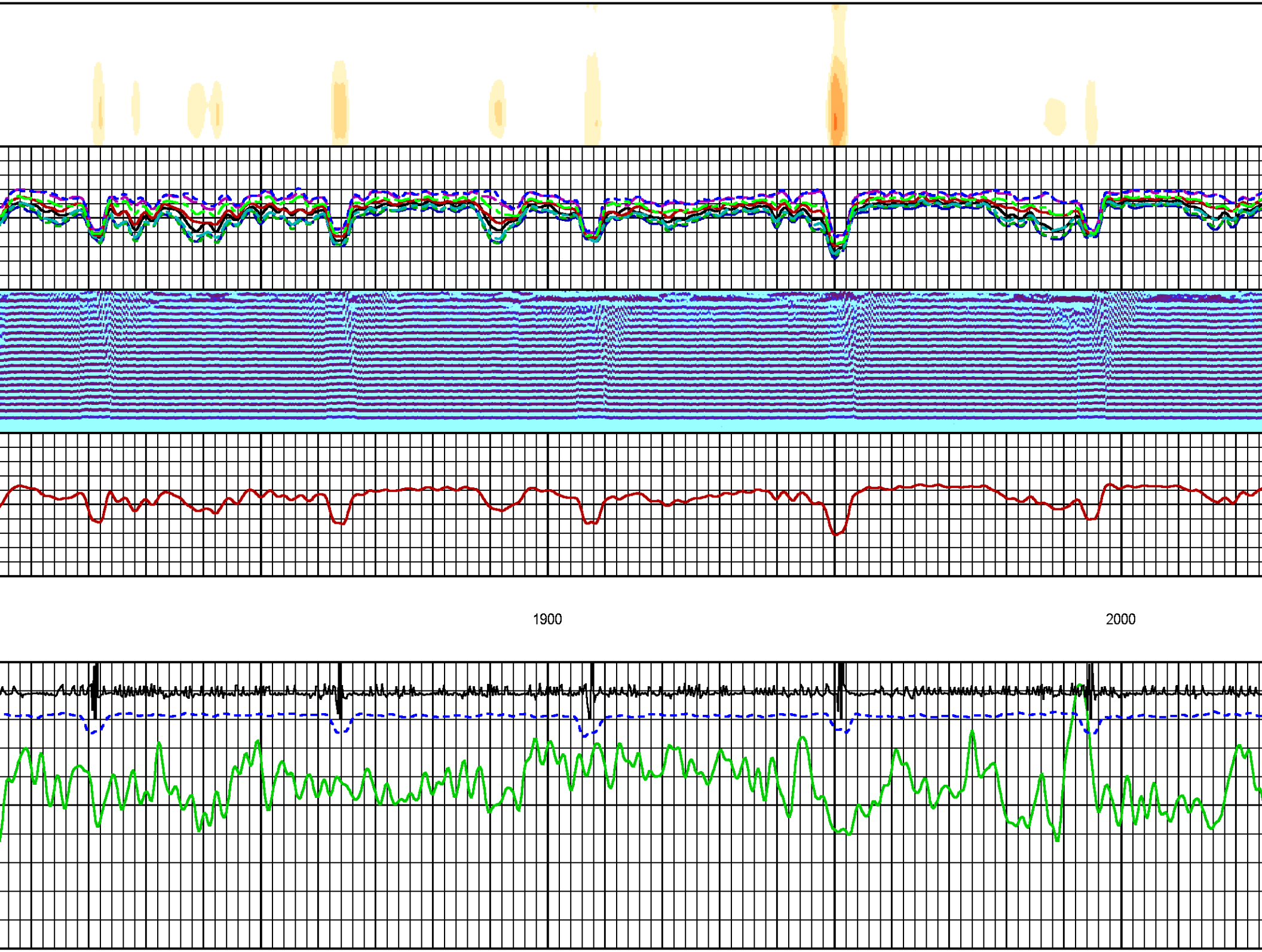

006
008

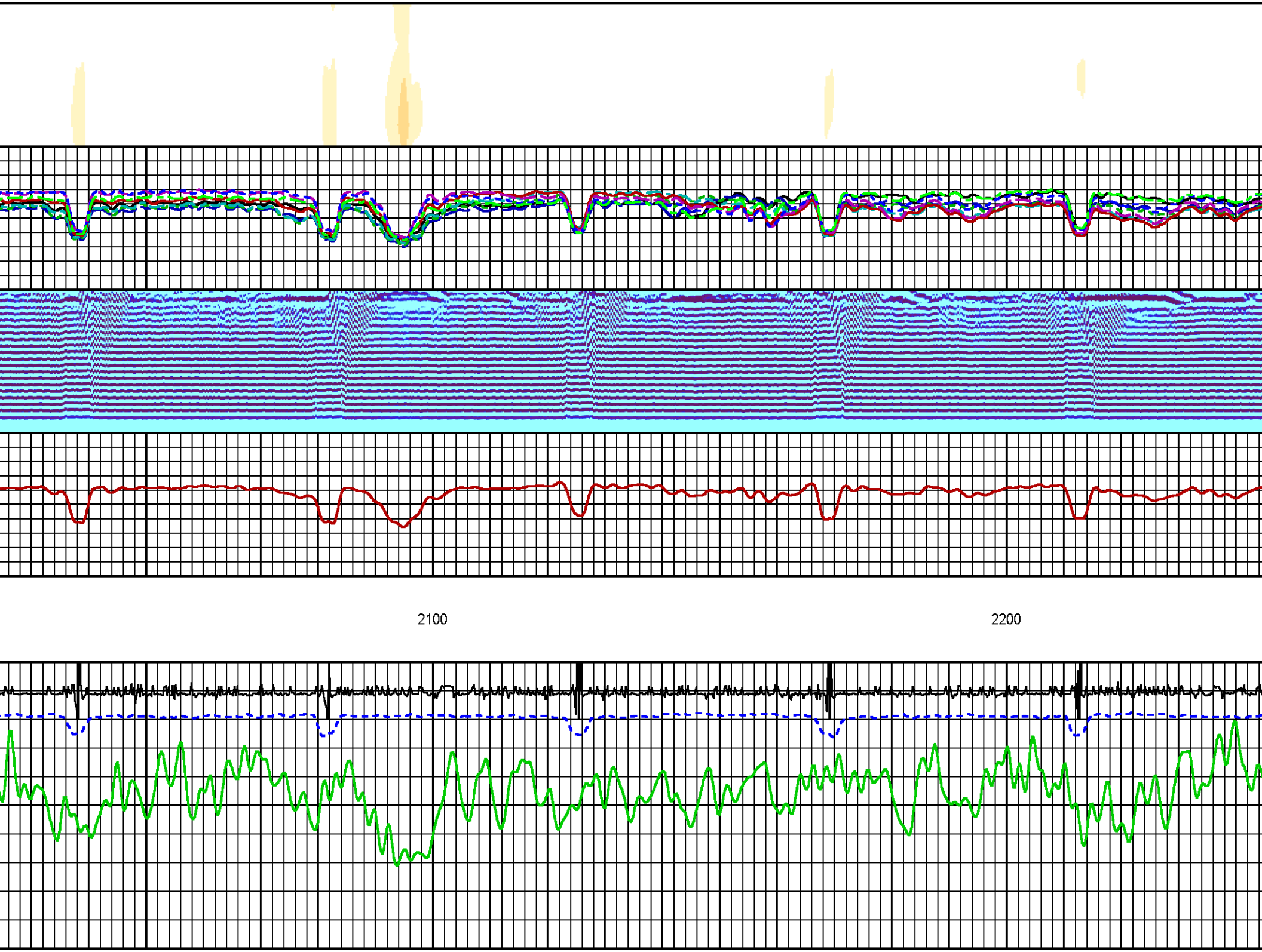
1000
1100

1200
1300

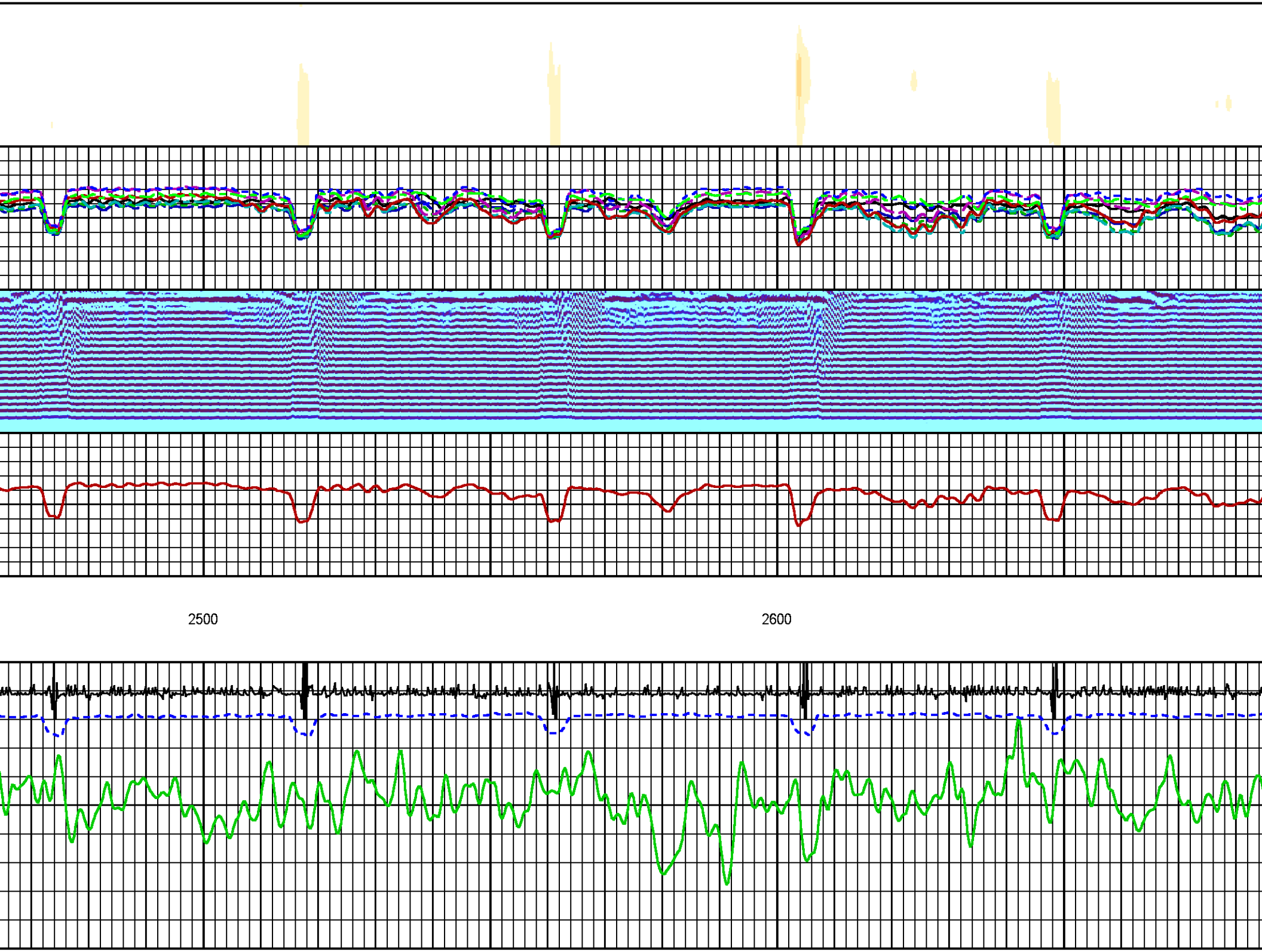
1400
1500

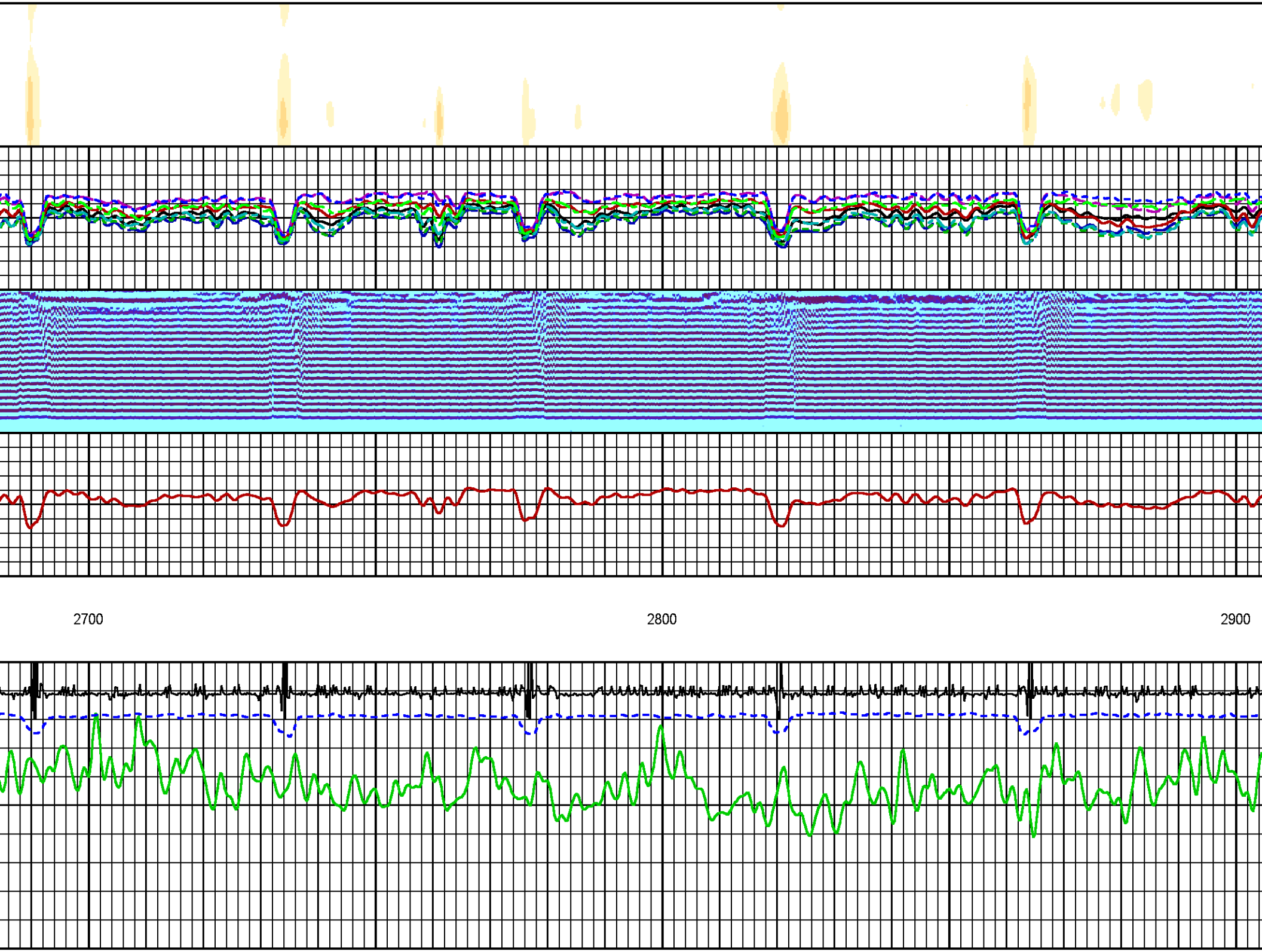

1600
1700
1800

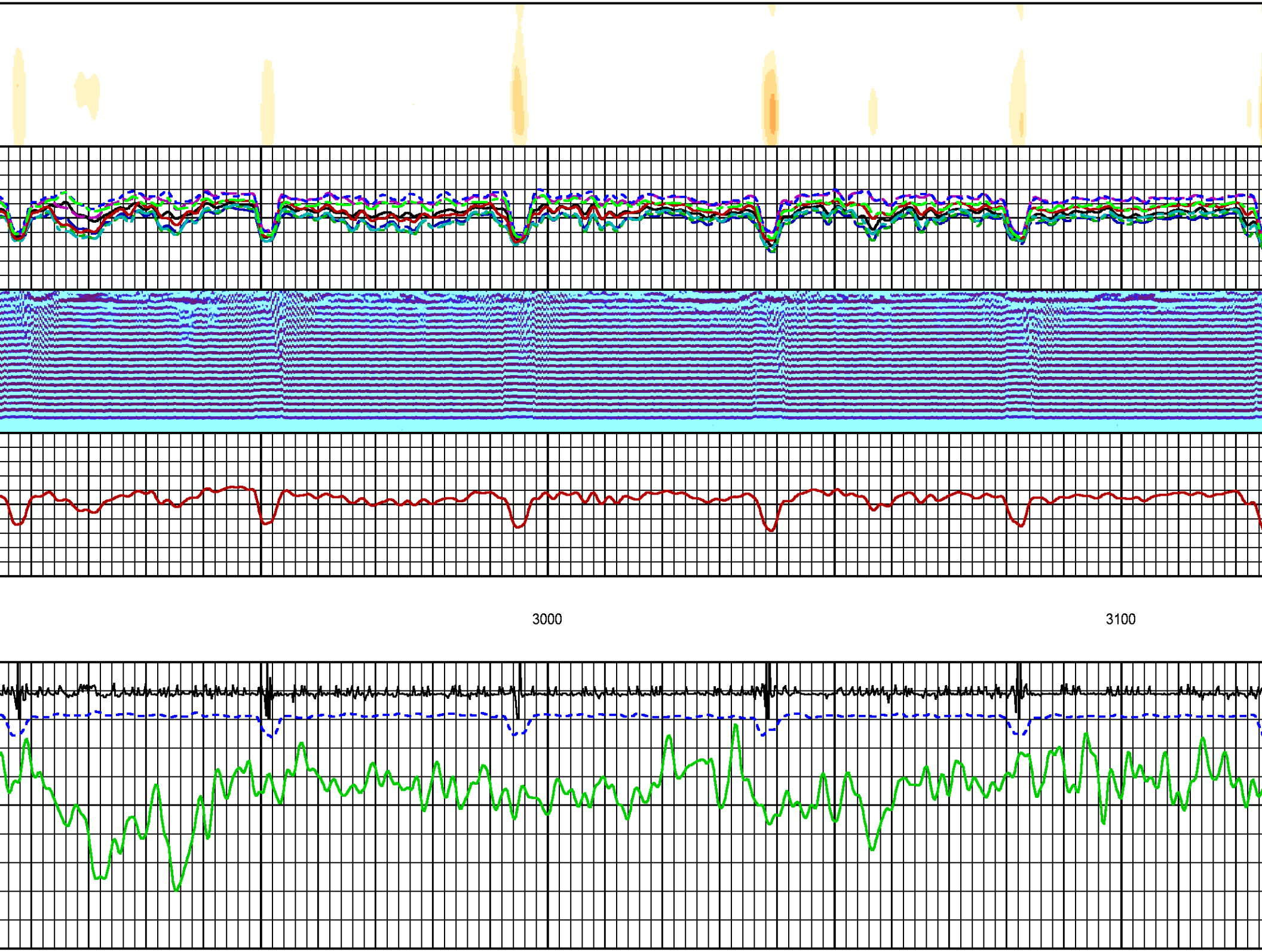

1900
2000

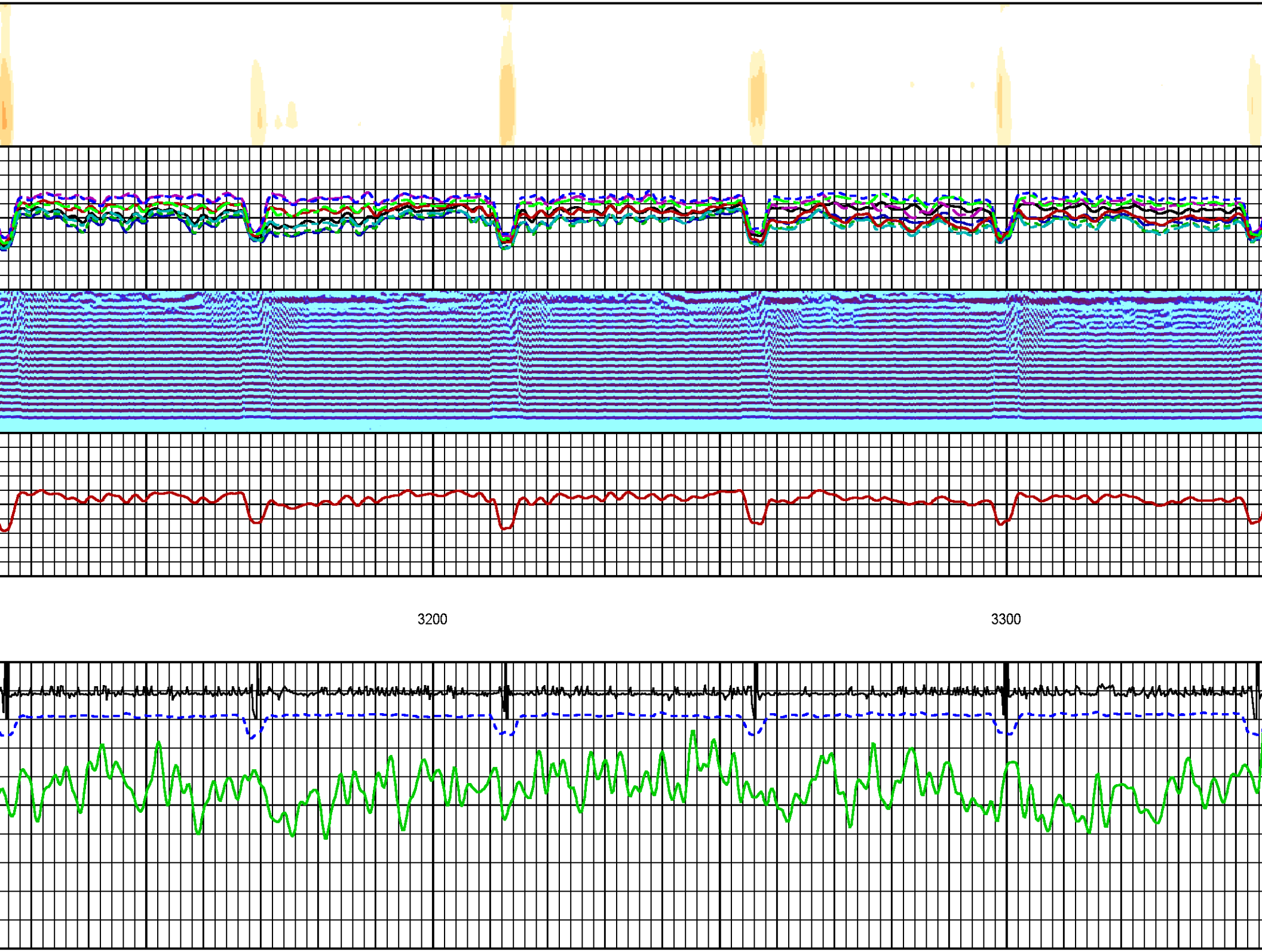

2100
2200

2300
2400

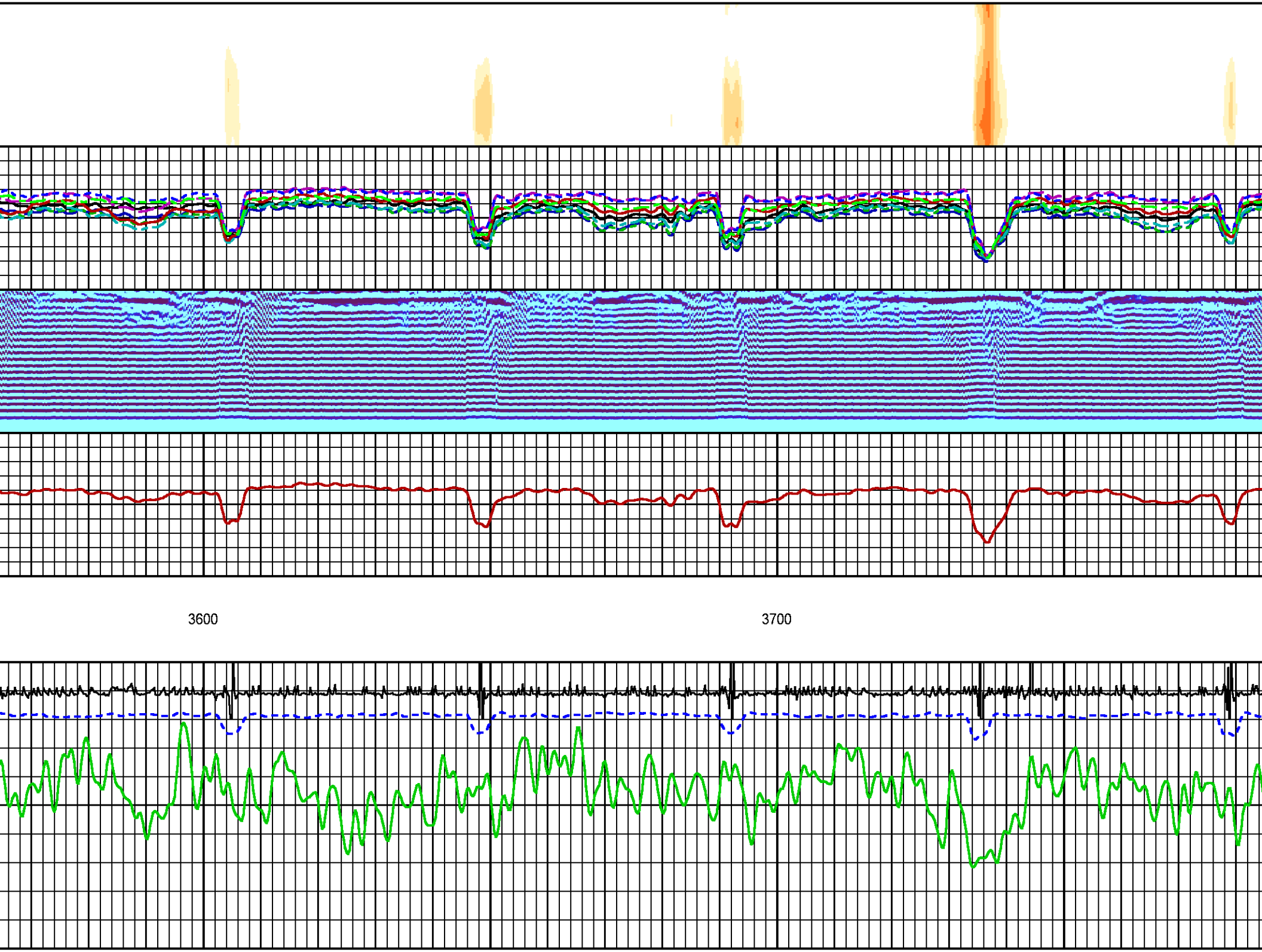

2500
2600


2700
2800
2900


3000
3100

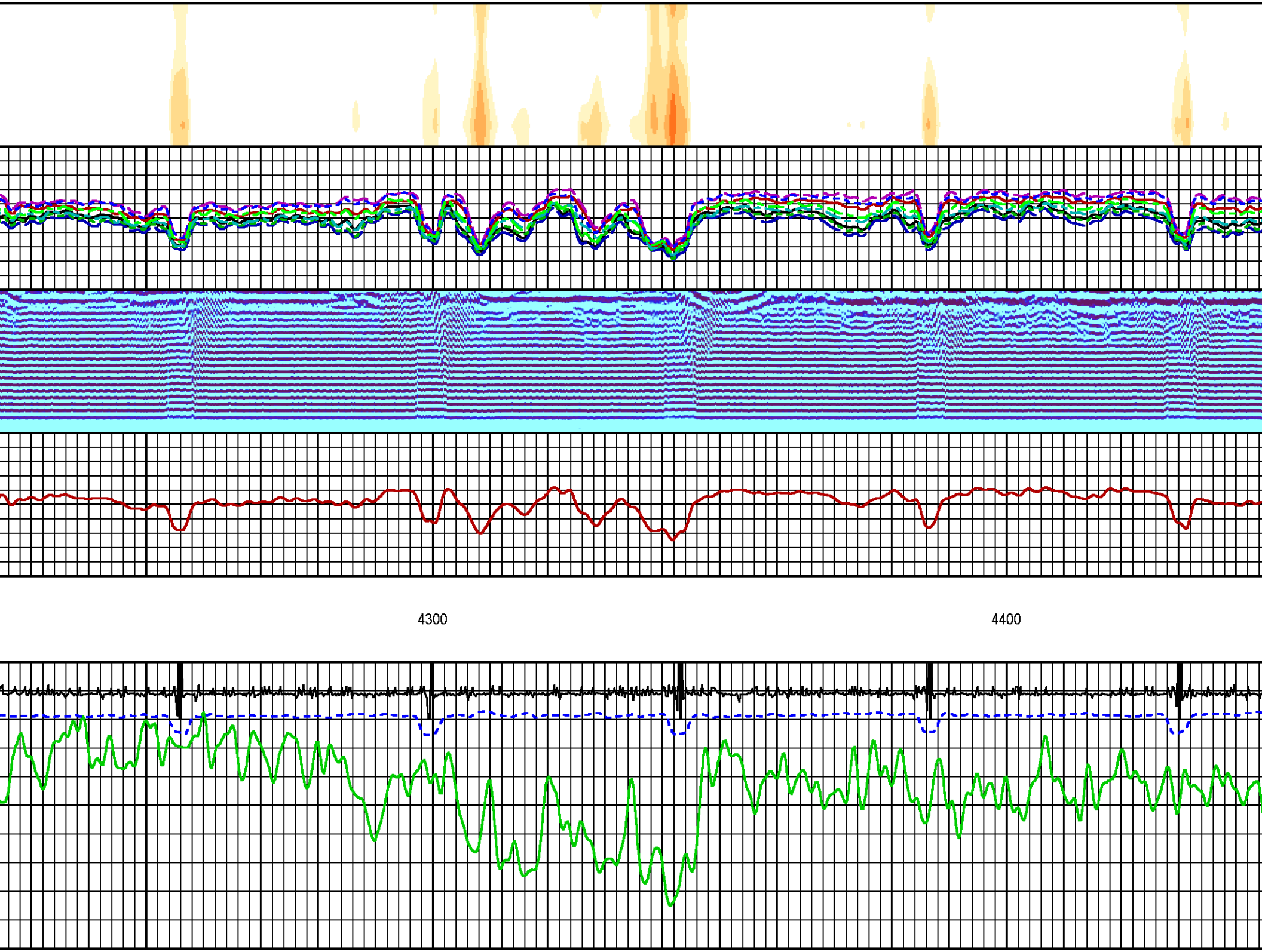

3200
3300

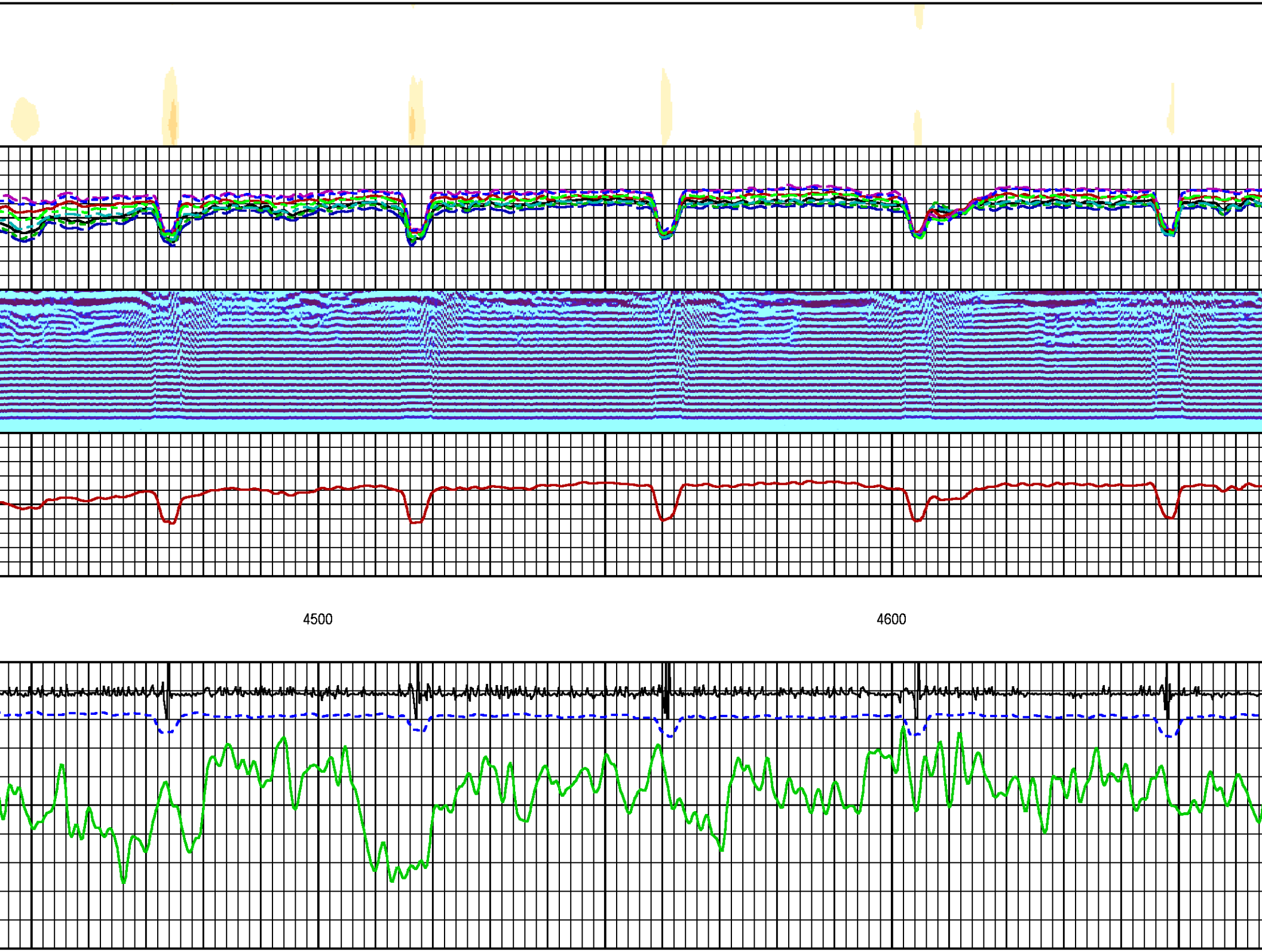
3400
3500

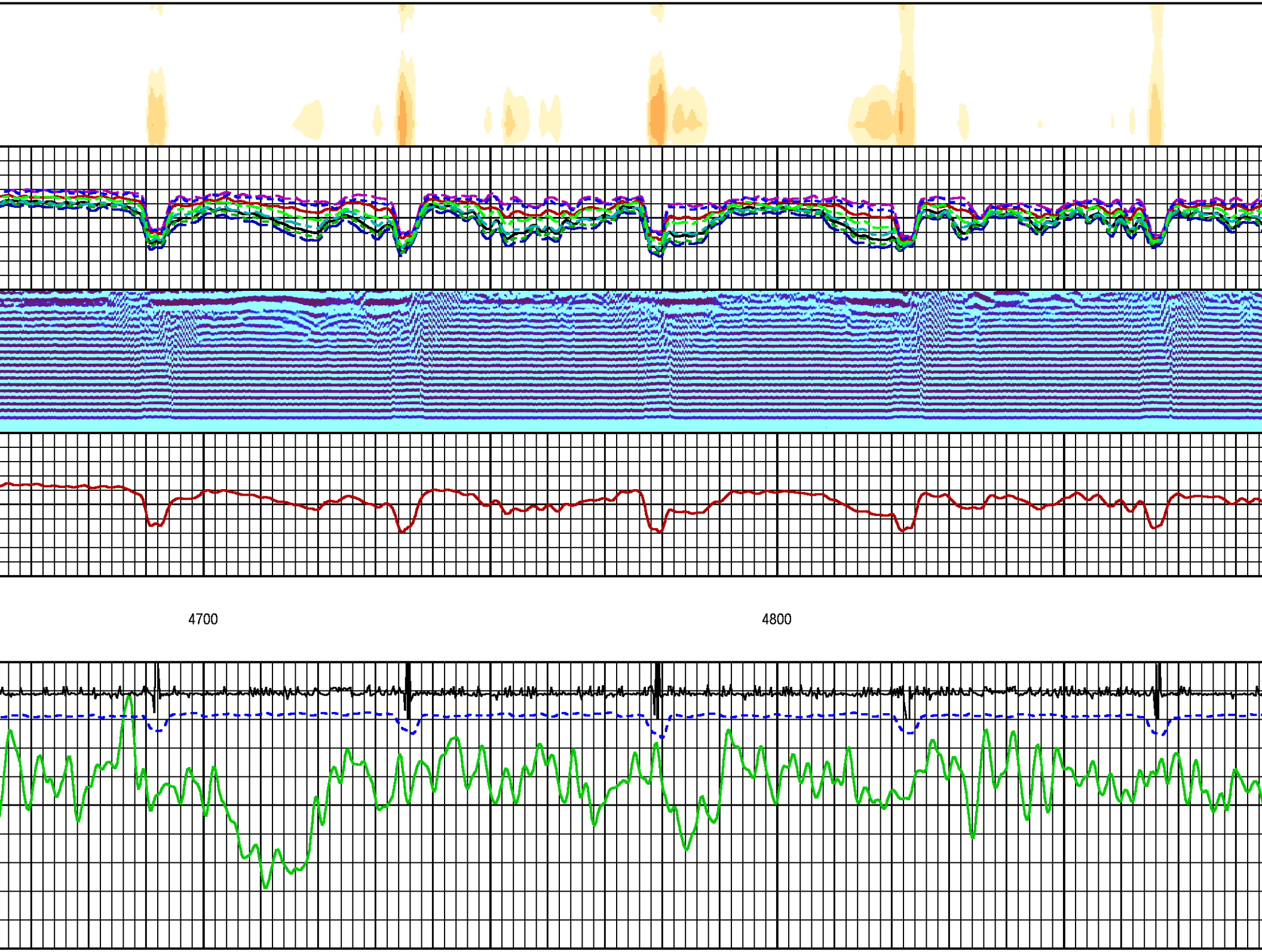

3600
3700

3800
3900
4000

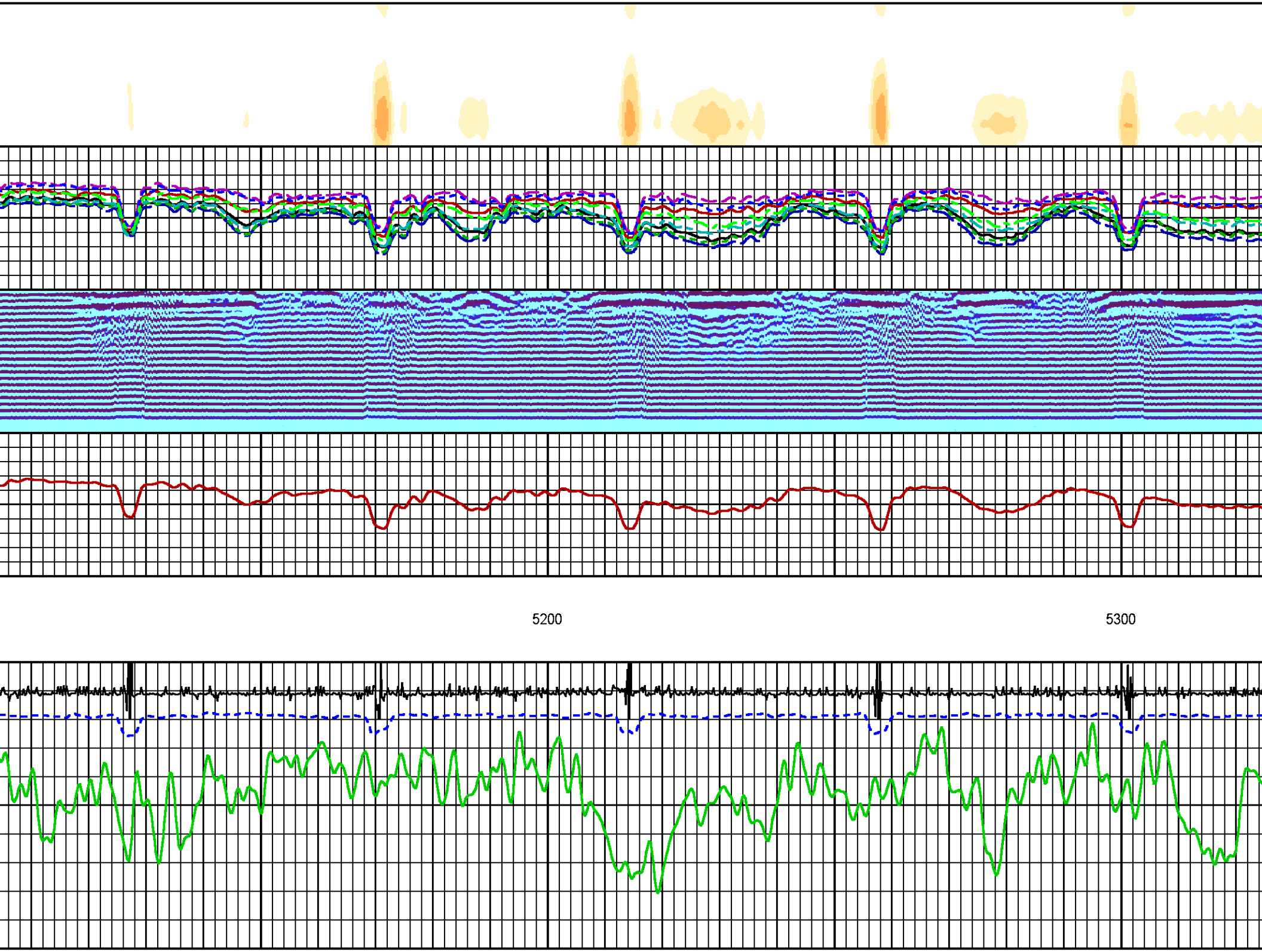
4100
4200

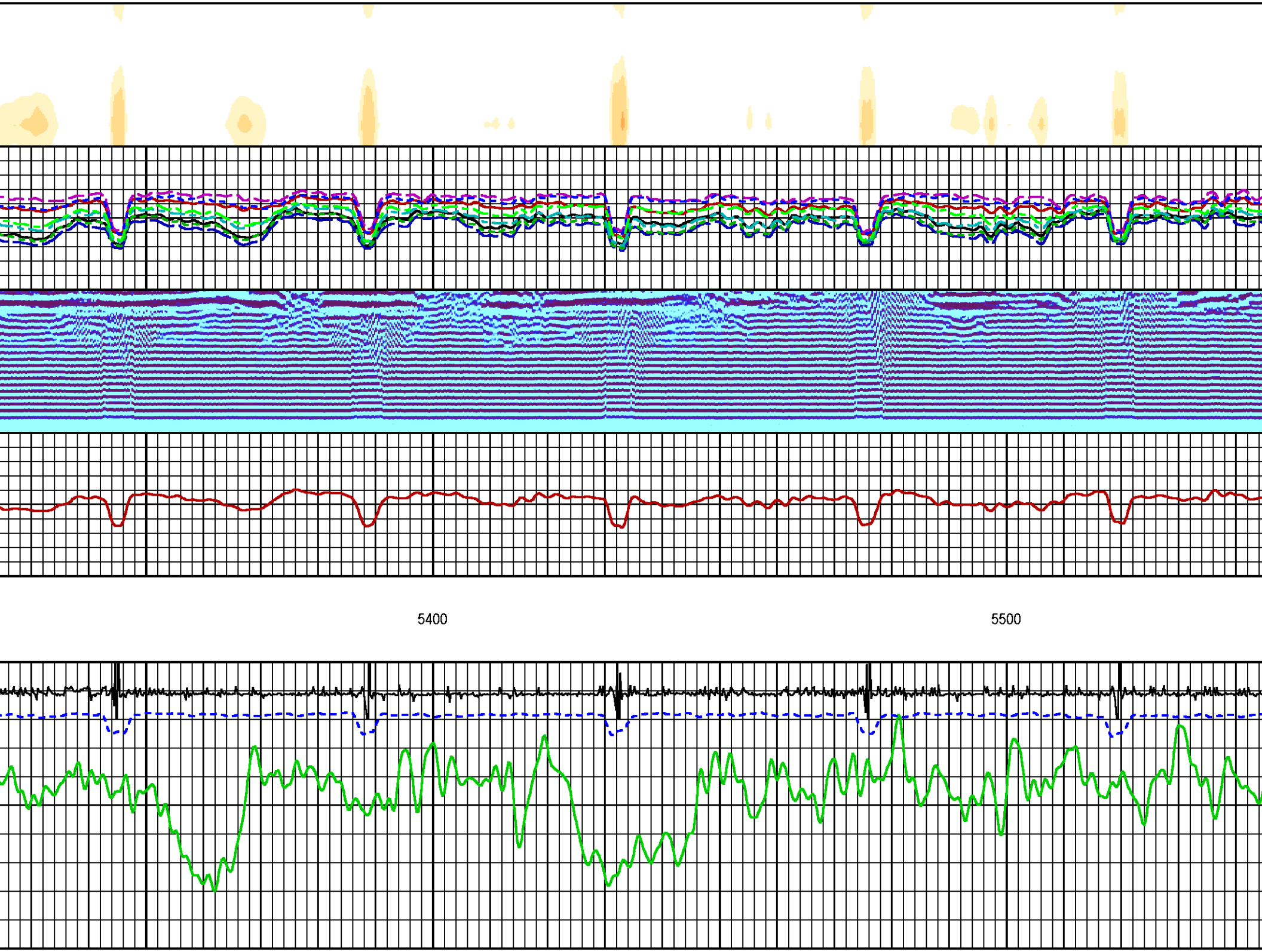

4300
4400


4500
4600


4700
4800

4900
5000
5100


5200
5300

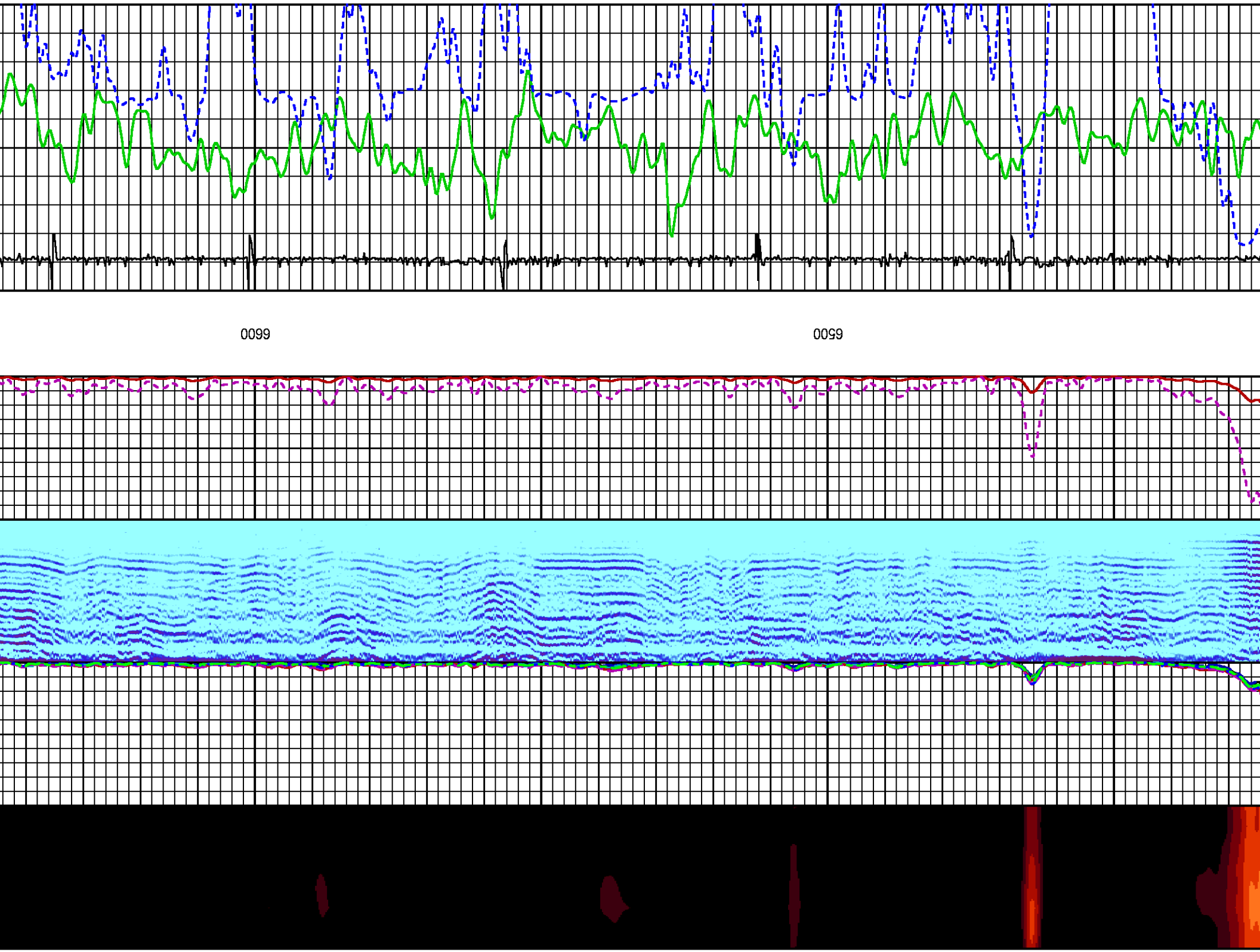

5400
5500

5600
5700

5800
5900

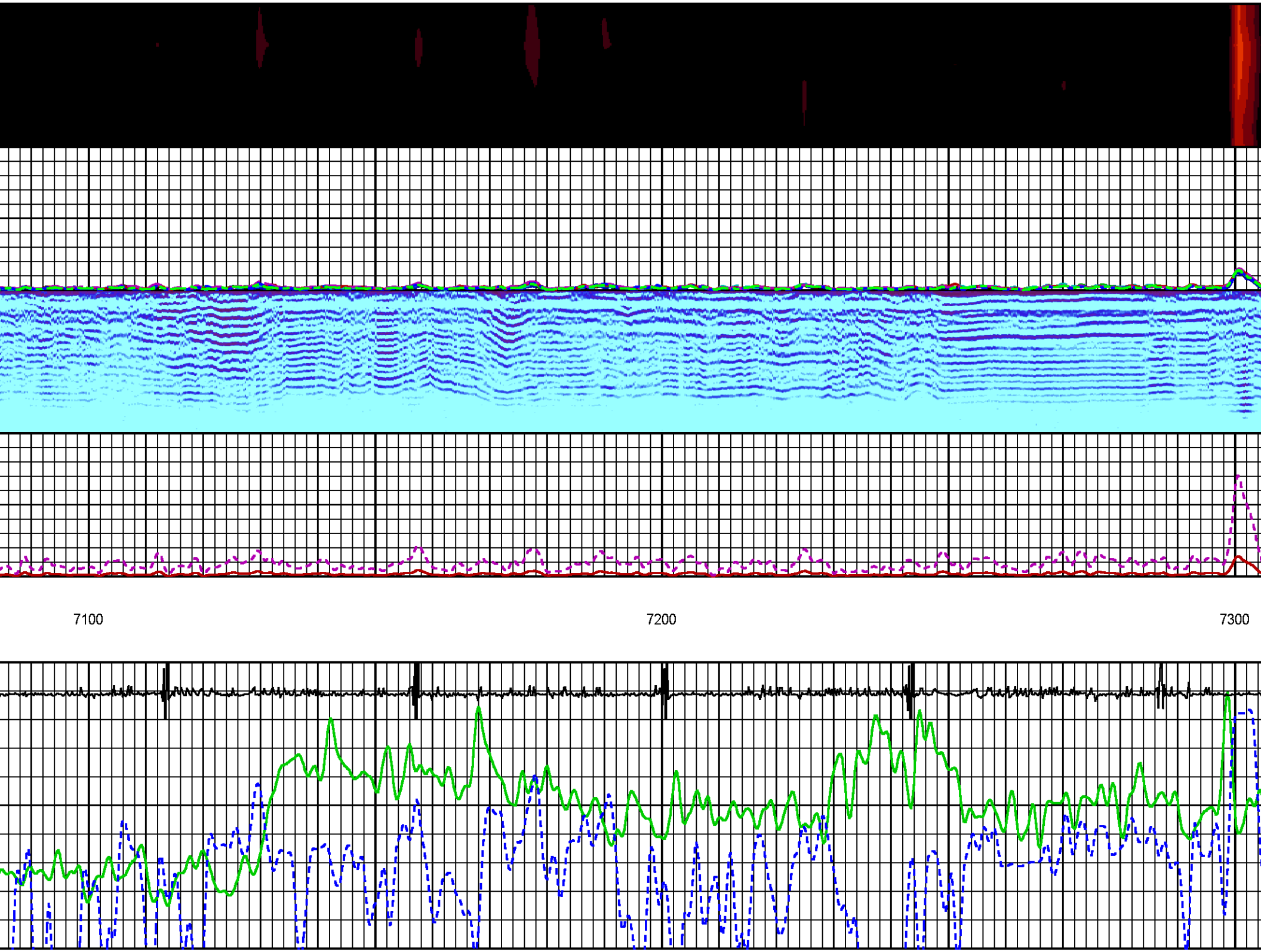
6000
6100
6200

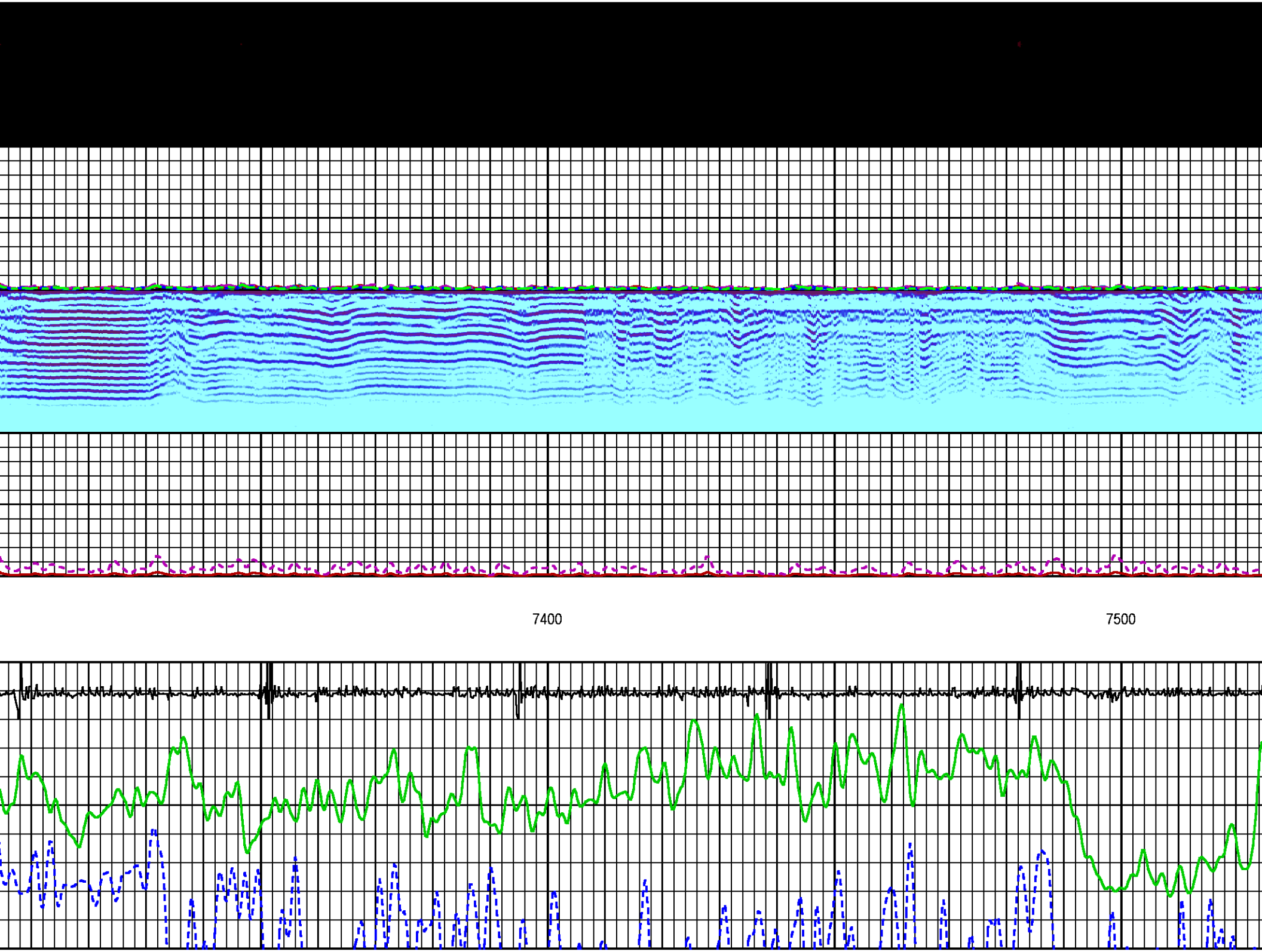
6300
6400


6600
6600

6700
6800

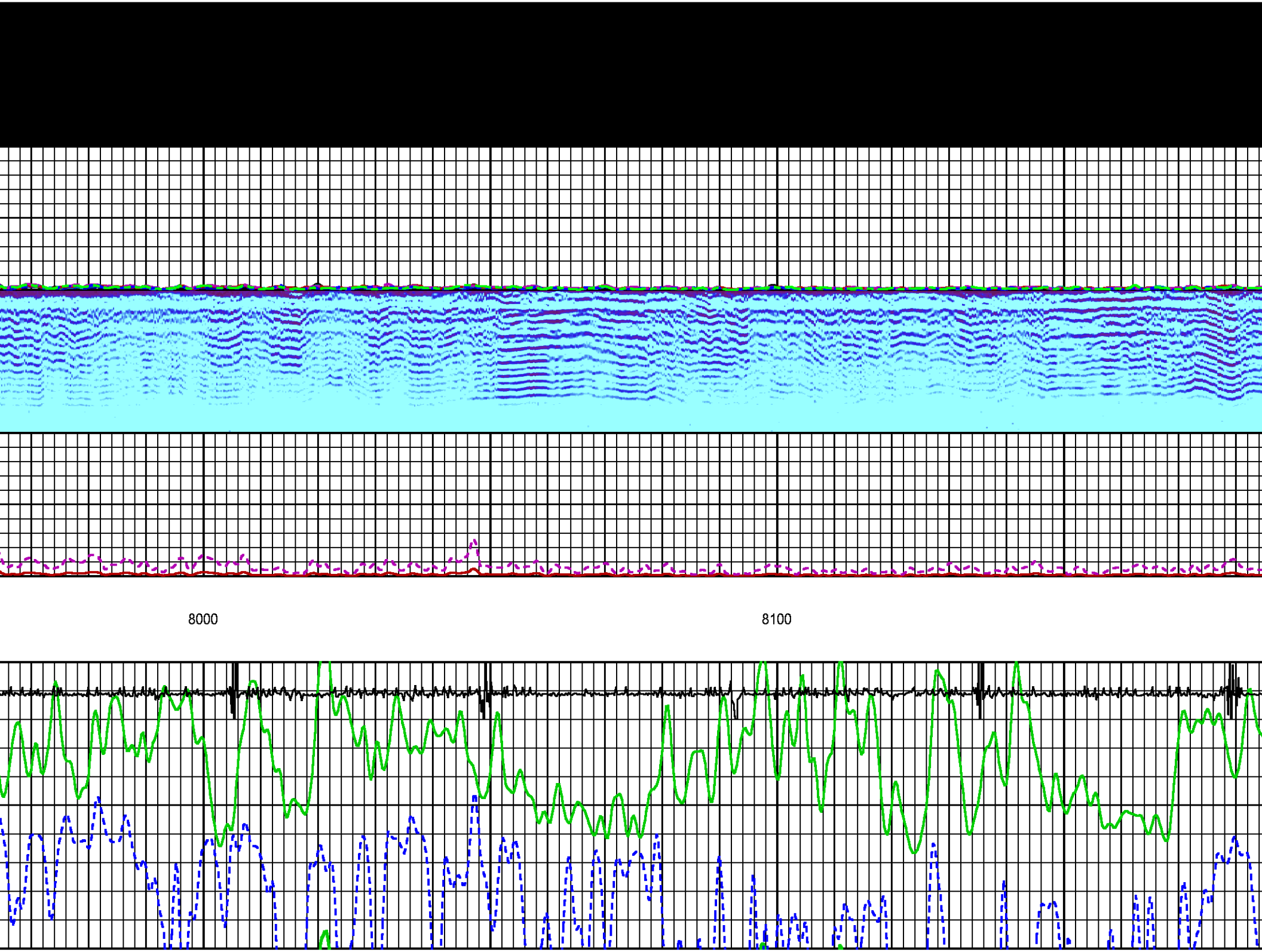
6900
7000


7100
7200
7300


7400
7500

7600
7700

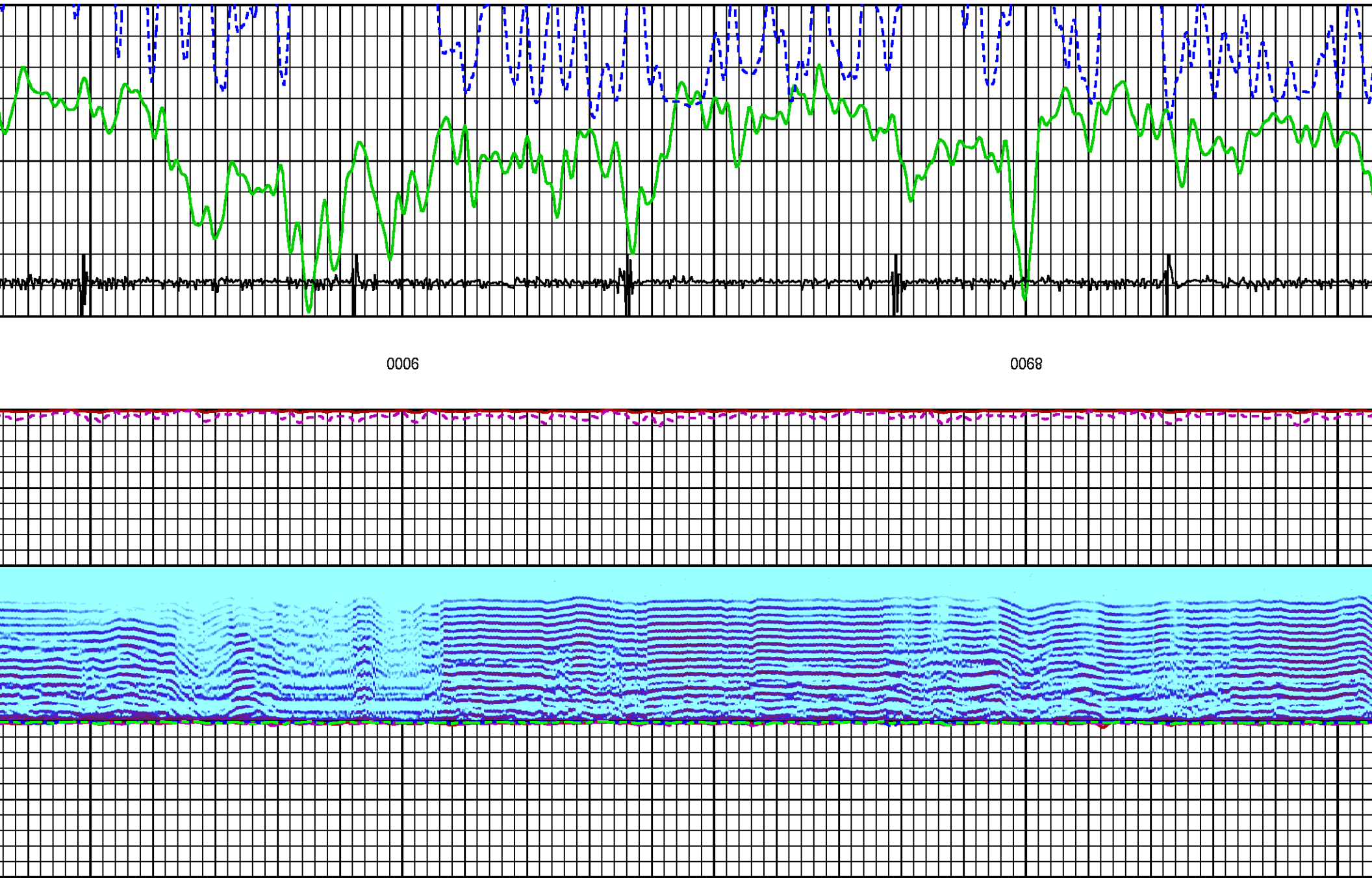
7800
7900

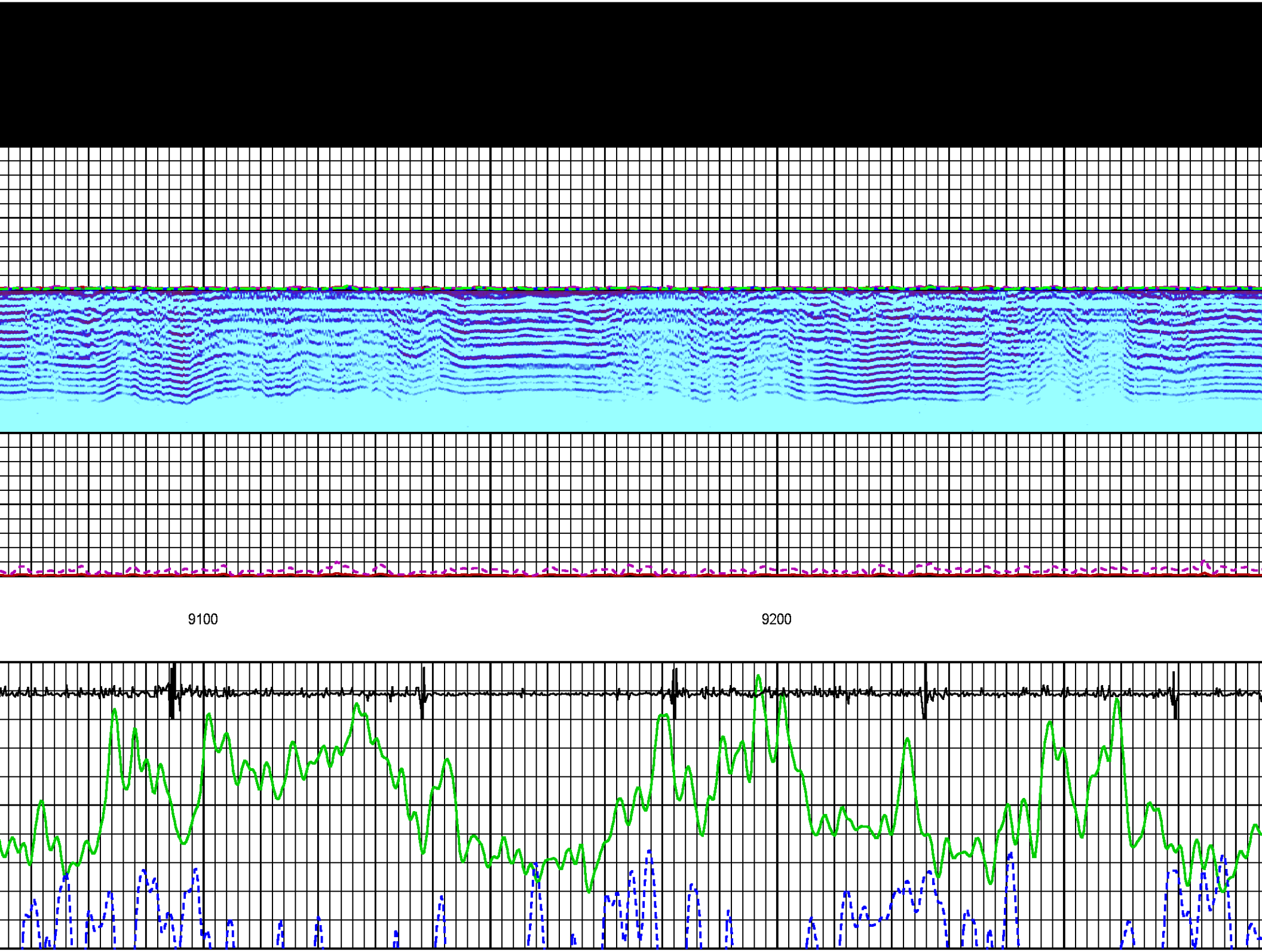

8000
8100

8200
8300
8400

8500
8600

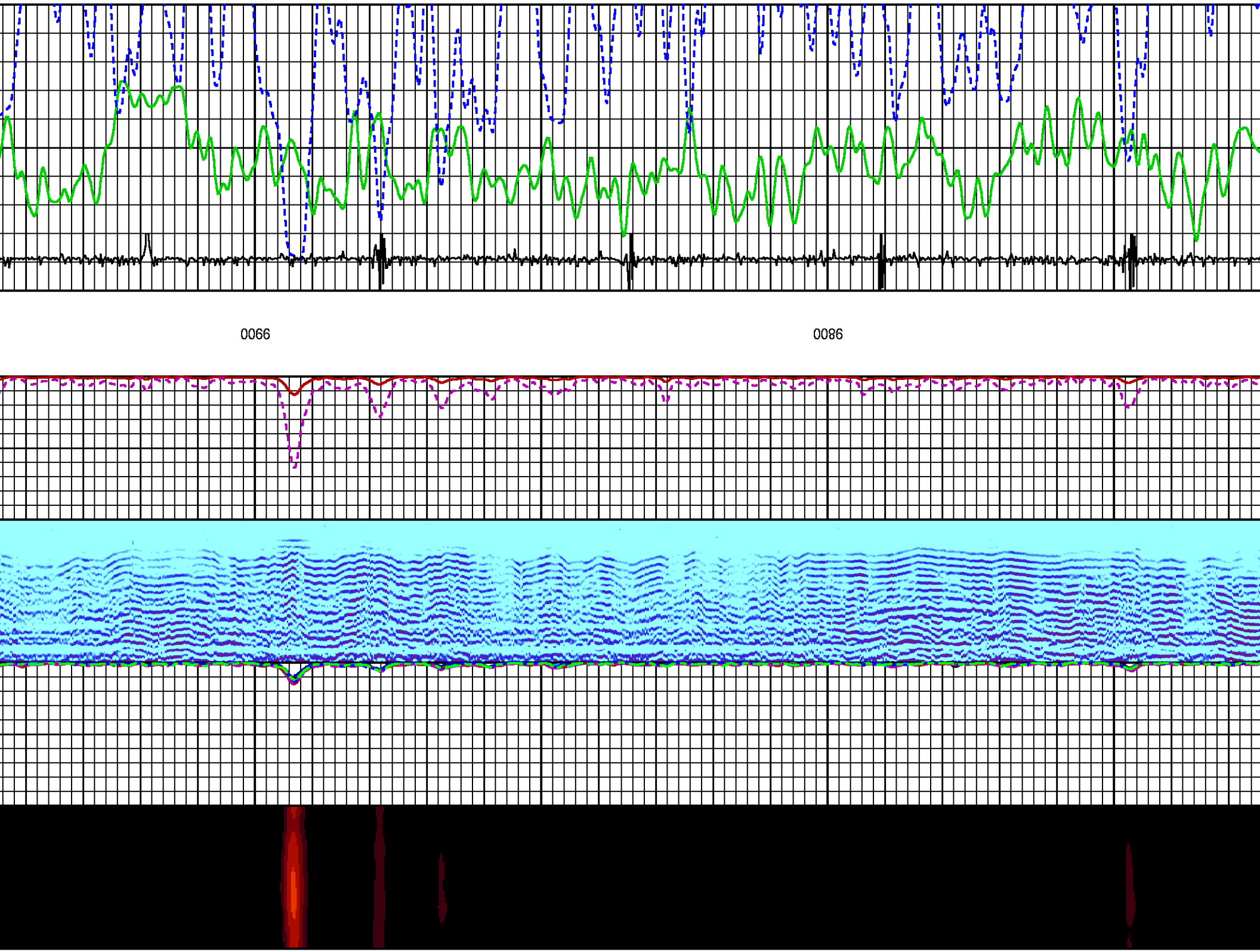
8700
8800

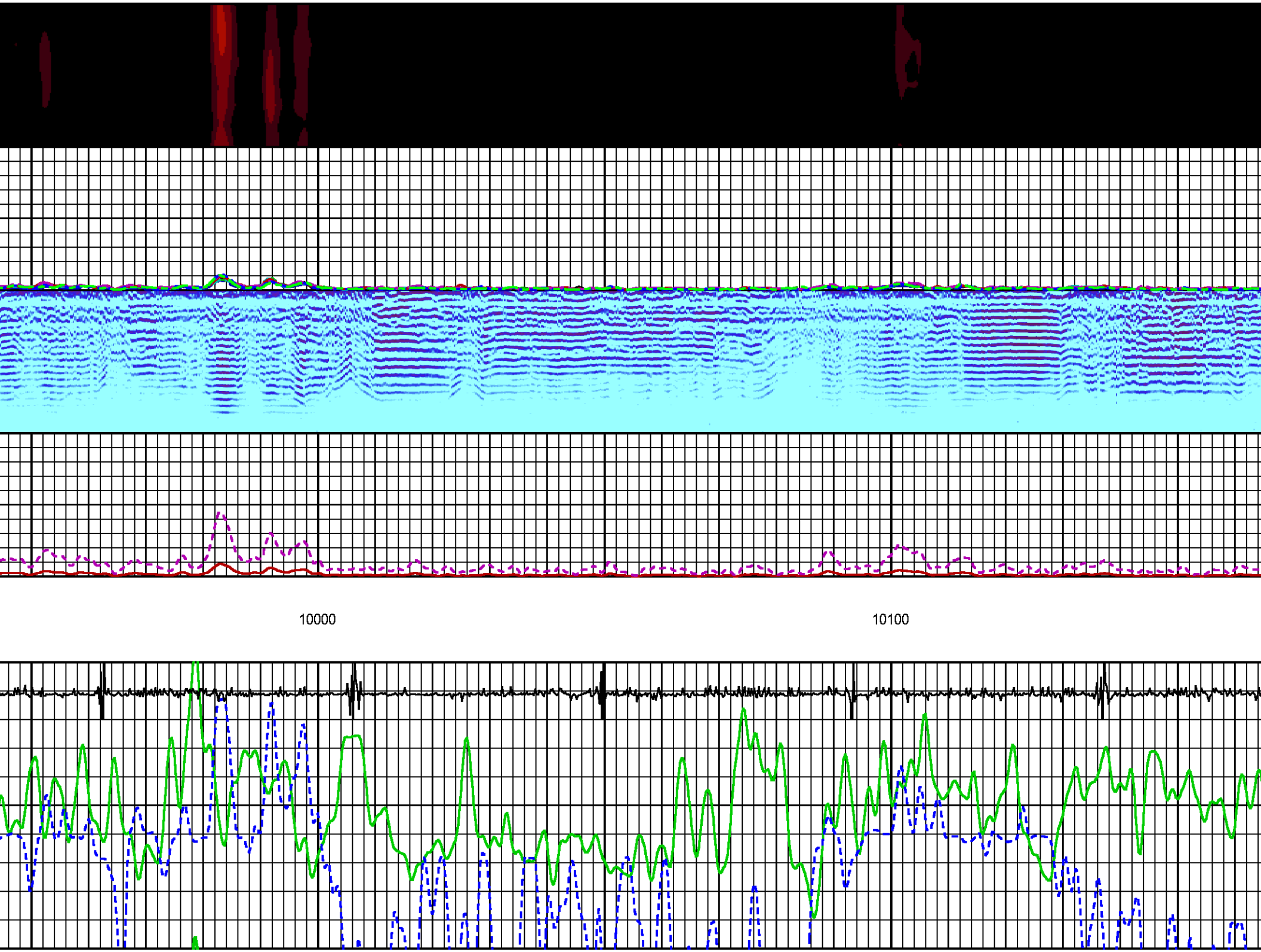

0006
0068

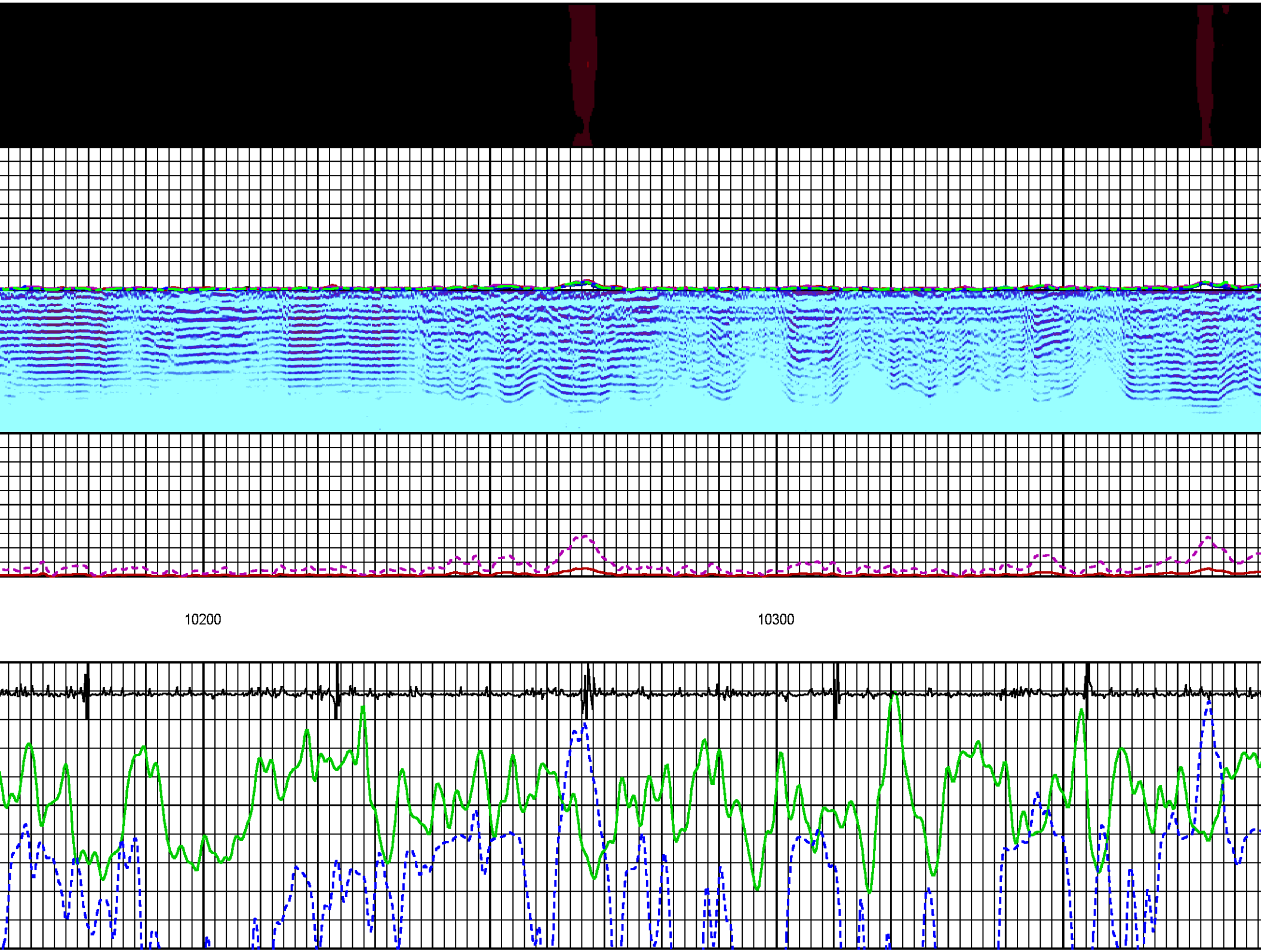

9100
9200

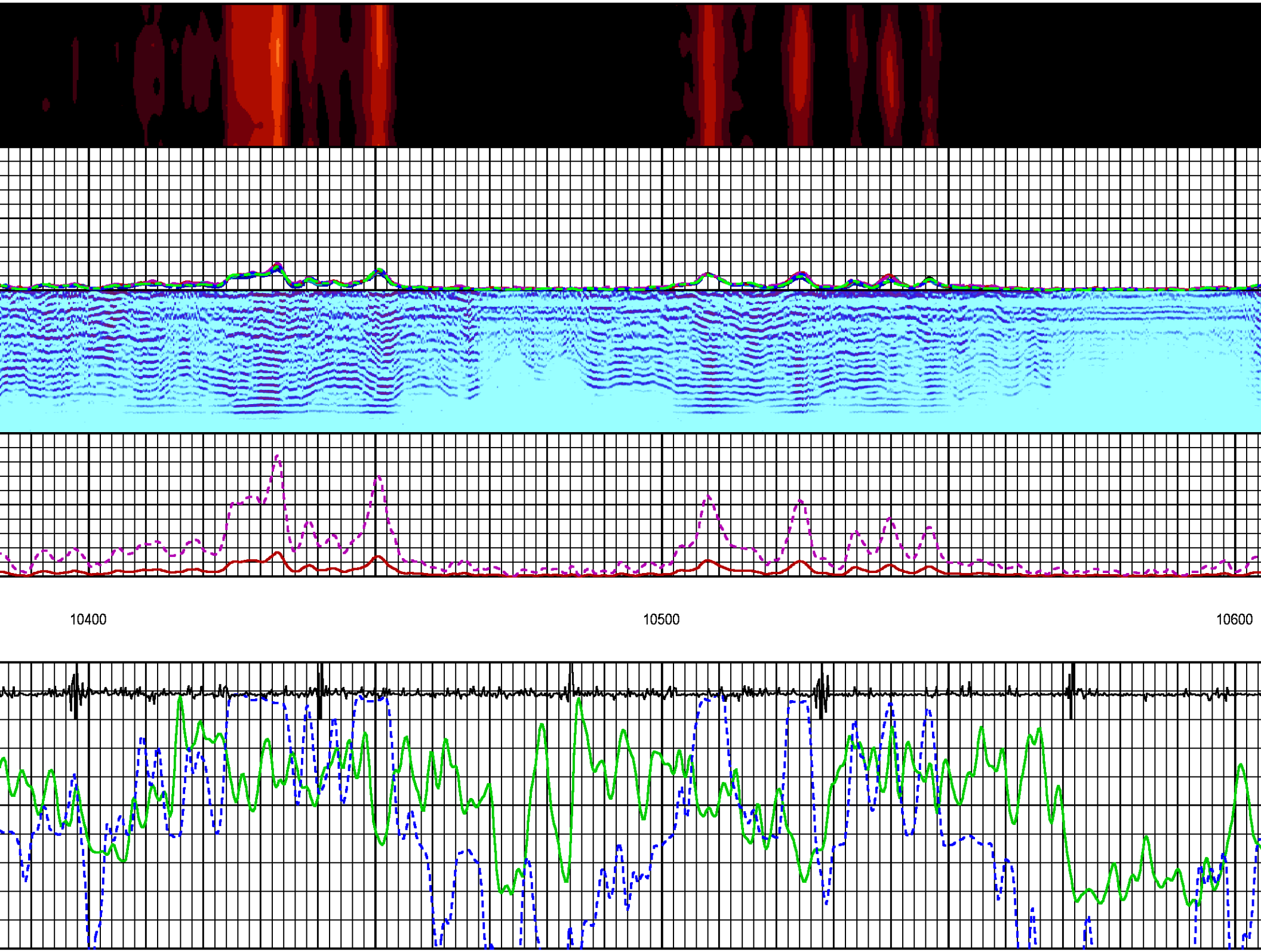
9300
9400
9500

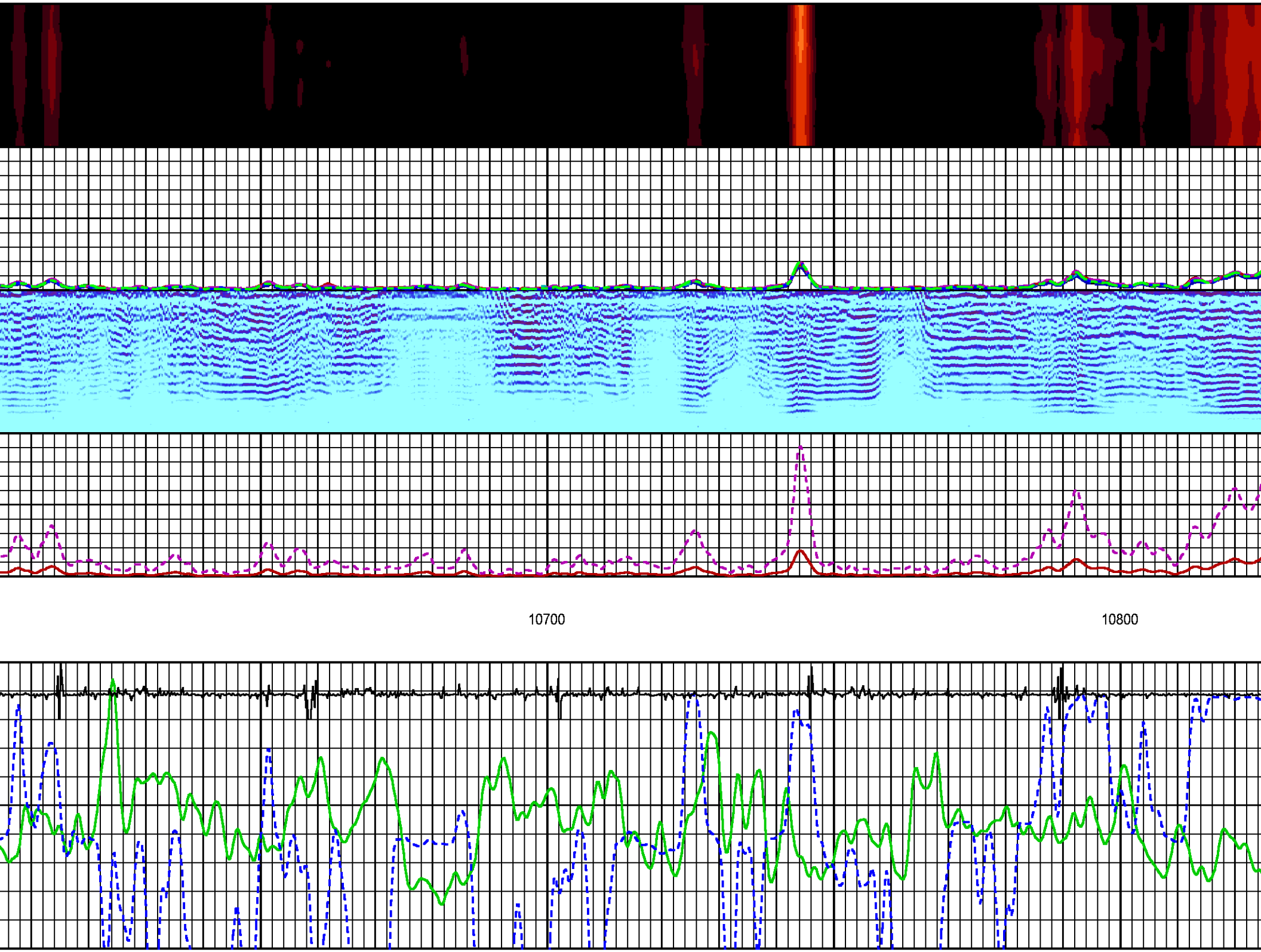
9600
9700

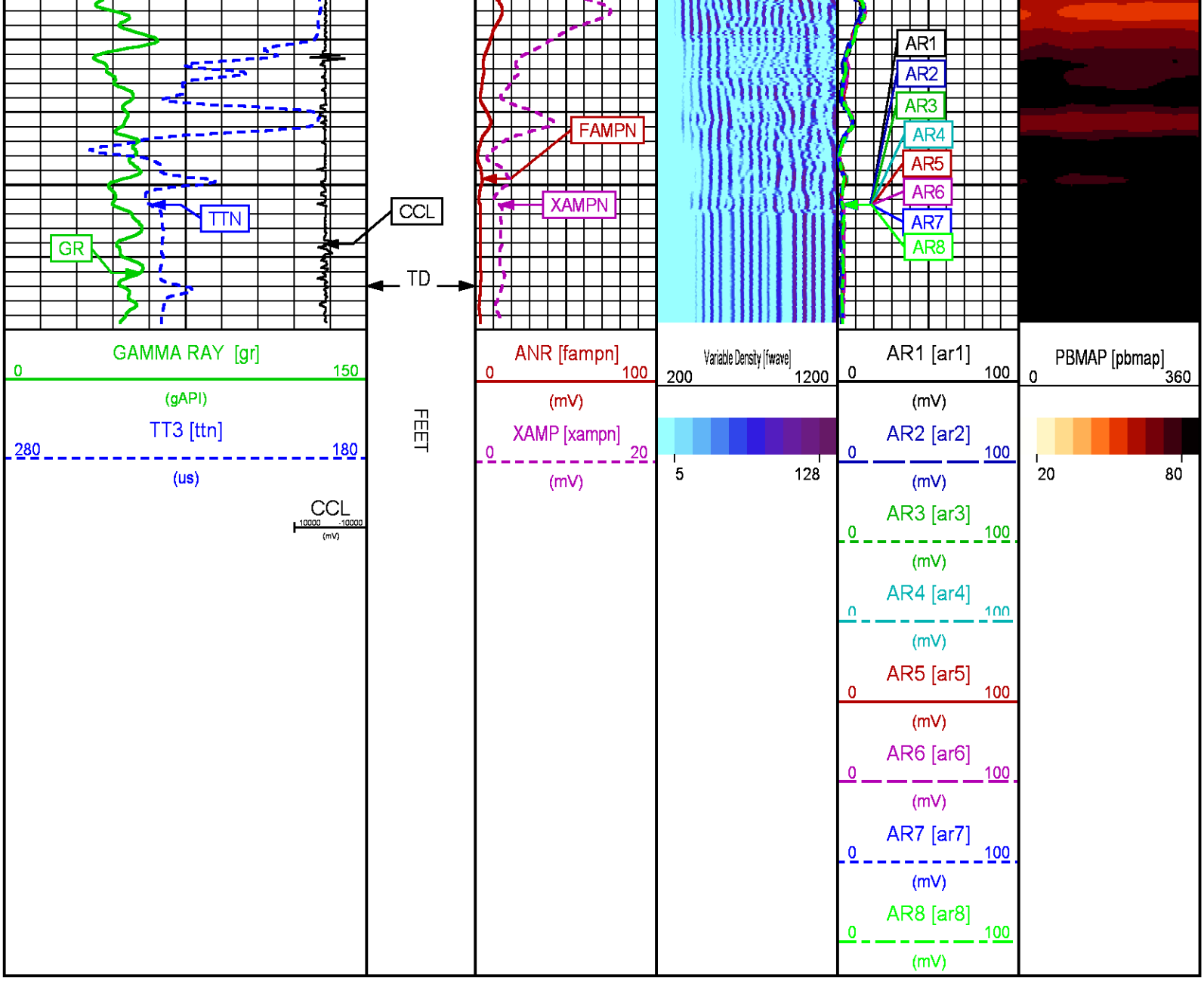

0066
0086


10000
10100


10200
10300


10400
10500
10600


10700
10800



CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/CH101063/n012g.tp1

RAL PRIMARY CALIBRATION SUMMARY

TOOL #: 1426XA 10417452

DATE/TIME PERFORMED: Mon Dec 7 07:46:52 2015

UNIT #: 3880TA HL6670

	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)	0.04	0.05	-0.04	0.10	0.07	-0.04	-0.04	-0.02	-0.02	0.45	-0.09
AMP FLUID (mV)	82	82	82	82	82	82	81	81	82	108	81
TT (us)	217	217	217	217	217	217	216	215	217	325	217

M FACTOR	1.22	1.22	1.22	1.22	1.22	1.22	1.23	1.24	1.21	1.39	1.23

RAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1426XA 10417452 DATE/TIME PERFORMED: Mon Dec 7 11:19:14 2015 DAYS SINCE CAL: 0

UNIT #: 3880TA HL6670 CABLE #: 6670SM SMALL1

	NEAR (mV)	R1 (mV)	R2 (mV)	R3 (mV)	R4 (mV)	R5 (mV)	R6 (mV)	R7 (mV)	R8 (mV)	FAR (mV)	CAL (mV)
ZERO	-0.01	-0.03	0.01	-0.09	-0.02	-0.10	-0.01	0.00	-0.03	0.11	0.00
AMP AIR	-0.01	-0.31	-0.64	0.05	0.01	0.36	0.39	-0.30	-0.21	-0.34	102.07

SHOP M FACTOR	SHOP A FACTOR	WIRELINE FACTOR
1.23	0.00	0.98

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1355XA 11871506 DATE/TIME PERFORMED: Sun Nov 15 13:54:27 2015

UNIT #: 3880TA HL6670 CALB JIG #: 4702NK WA-612

	BACKGROUND (cts)	CALBRTR ON (cts)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	79.69	233.20	153.5	0.977	77.87	227.87	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1355XA 11871506 DATE/TIME PERFORMED: Sun Nov 15 13:55:58 2015

UNIT #: 3880TA HL6670 VERI JIG #: 4702NK WA-612

	BACKGROUND (cts)	CALBRTR ON (cts)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	76.76	230.00	0.977	75.00	224.74	149.74 (140.00 – 160.00)

TEMP PRIMARY CALIBRATION SUMMARY

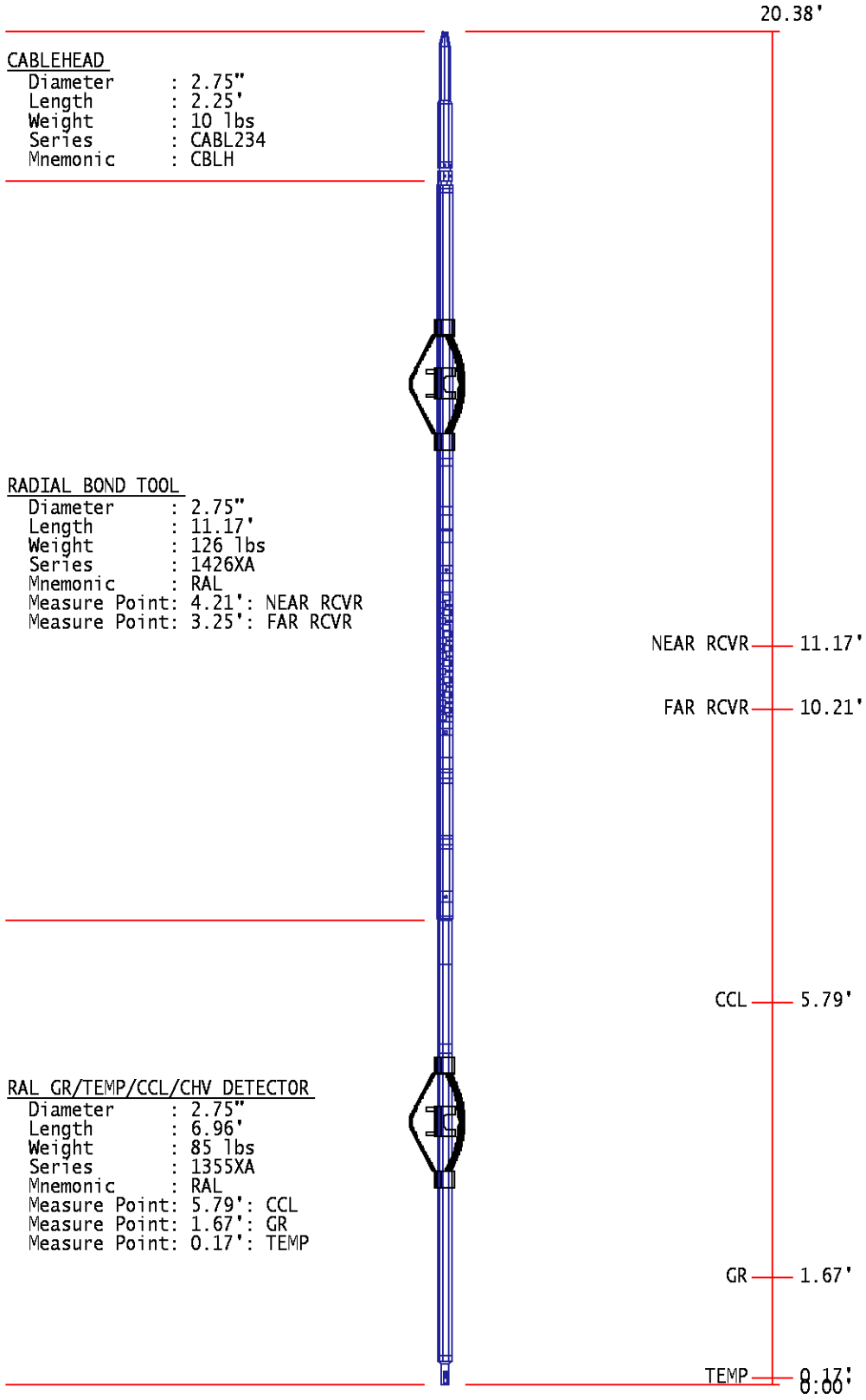
TOOL #: 1355XA 11871506 DATE/TIME PERFORMED: Sun Nov 15 14:02:37 2015

UNIT #: 3880TA HL6670

	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: /dat1a/CH101063/CBL-tdg



TOTAL LENGTH: 20.38'
TOTAL WEIGHT: 235 lbs
MAX DIAMETER: 0'4.00"

BAKER HUGHES	COMPANY	WPX ENERGY	FILE NO: CH101063
	WELL	FEDERAL RU 642-8	
	FIELD	RUILISON	API NO: 05045227550000
	COUNTY	GARFIELD STATE COLORADO	
	LOCATION: SHL: 660'FNL & 1881' FWL	ELEVATIONS: KB 7760 FT	SEC 8 T7S R93W RU 21-8 PAD

	BHL: 1883' FSL & 951' FEL	DF	H&P 318
		GL 7736 FT	
	SEC 8 TWP 7S RGE 93W	DATE 07-DEC-2015	