RADIAL ANALYSIS BOND LOG

FILE NO:	CH107928
API NO:	05045225310000
COMPANY	WPX ENERGY
WELL	FEDERAL GM 322-9
FIELD	GRAND VALLEY
COUNTY	GARFIELD
STATE	COLORADO

Ver. 4.06

SEC 9 T7S R96W

PAD MV 16-9

RIG: H&P 319

LOCATION:

SHL: 675' FNL & 558' FWL

BHL: 1668' FNL & 1930' FWL

SW/NW

SEC 9 TWP 7S RGE 96W

OTHER SERVICES

RPM

PERMANENT DATUM	G.L.	ELEVATION	6087 FT
LOG MEASURED FROM	K.B.	24 FT	ABOVE P.D.
DRILL. MEAS. FROM	K.B.		

ELEVATIONS:

KB	6111 FT
DF	
GL	6087 FT

DATE		18-Jun-2016			
RUN	TRIP	1	1		
SERVICE ORDER		US107928			
DEPTH DRILLER		6926 FT			
DEPTH LOGGER		6891 FT			
BOTTOM LOGGED INTERVAL		6889 FT			
TOP LOGGED INTERVAL		24 FT			
TIME STARTED		12:30			
TIME FINISHED		14:30			
OPERATOR RIG TIME		2 HOURS			
TYPE OF FLUID IN HOLE		WATER			
FLUID DENSITY		NA			
FLUID SALINITY		NA			
FLUID LEVEL		50 FT			
LOGGED CEMENT TOP		SEE LOG			
WELLHEAD PRESSURE		0 PSI			
MAXIMUM HOLE DEVIATION		NA			
NOMINAL LOGGING SPEED		100 F/MN			
MAX. RECORDED TEMP.		202 DEGF			
REFERENCE LOG		BAKER HUGHES HDILZDLCN			
REFERENCE LOG DATE		11-JUN-2016			
EQUIP. NO.	LOCATION	HL-6685	GRAND JCT.		
RECORDED BY		SPENCER			
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	1044 FT
4.5 IN	11.6 LB/F		24 FT	6965 FT

BOREHOLE RECORD

BIT SIZE	FROM	TO
13.5 IN	24 FT	1044 FT
8.75 IN	1044 FT	6965 FT

REMARKS

RUN 1 TRIP 1: ALL DATA ON THIS LOG HAS BEEN DEPTH MATCHED WITH THE BAKER HUGHES OPEN HOLE LOG DATED 11-JUN-2016. DEPTH MATCHING MAY AFFECT COLLAR LENGTHS

LOGGED WITH 0 PSI AT SURFACE

SJ = 3856' - 3877'

BHT = 202 DEGF

THANKS FOR CHOOSING BAKER HUGHES WIRELINE
CREW: QUIGLEY / COATE

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	RAL	1426XA	10417452	CENTRALIZED
1	1	GR / CCL	1355XA	11871510	CENTRALIZED

PRIMARY PRESENTATION 0 PSI

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1,36 Patches: 9

Plotted: Sat Jun 18 15:42:21 2016

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH107928/n012g02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 28.000 ft BOTTOM DEPTH: 6892.750 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*)	172	us	"	"
	TT WINDOW LENGTH	444	us	"	"
	FIRST BRK THRESHOLD (ttn*)	4	mV	"	"
RAL CASING PARAMETERS	PPT NEAR	200.391	us	"	"
RAL TOOL DELAY	TOOL DELAY (strn*)	-66	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	126	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"

CURVE DESCRIPTION REPORT

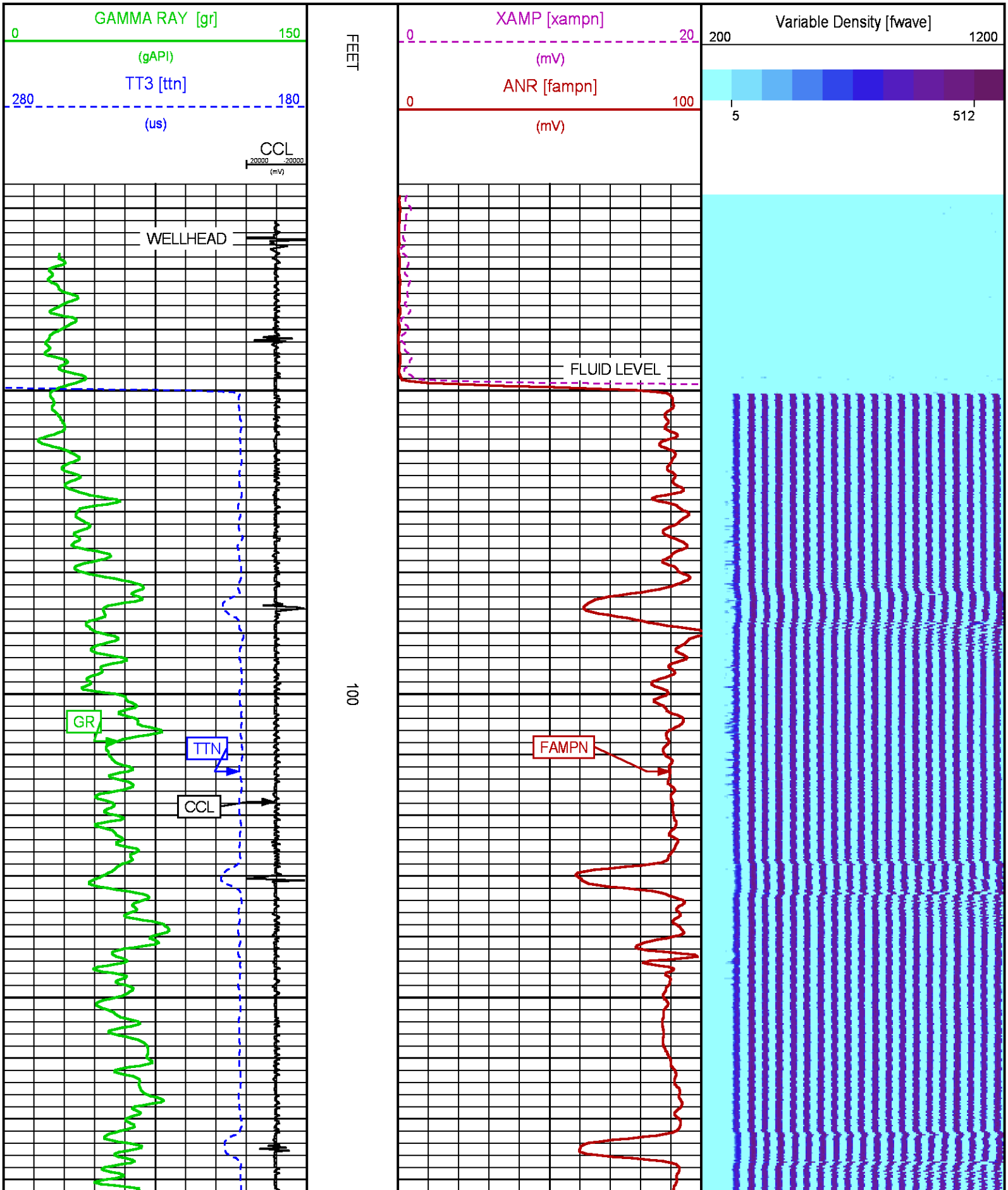
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jun 18 13:14:05 2016	CASING COLLAR LOCATOR
F1:FAMPN	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Jun 18 13:14:05 2016	FAR WAVE FORM
F1:GR	Jun 18 13:14:05 2016	GAMMA RAY
F1:TTN	Jun 18 13:14:05 2016	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

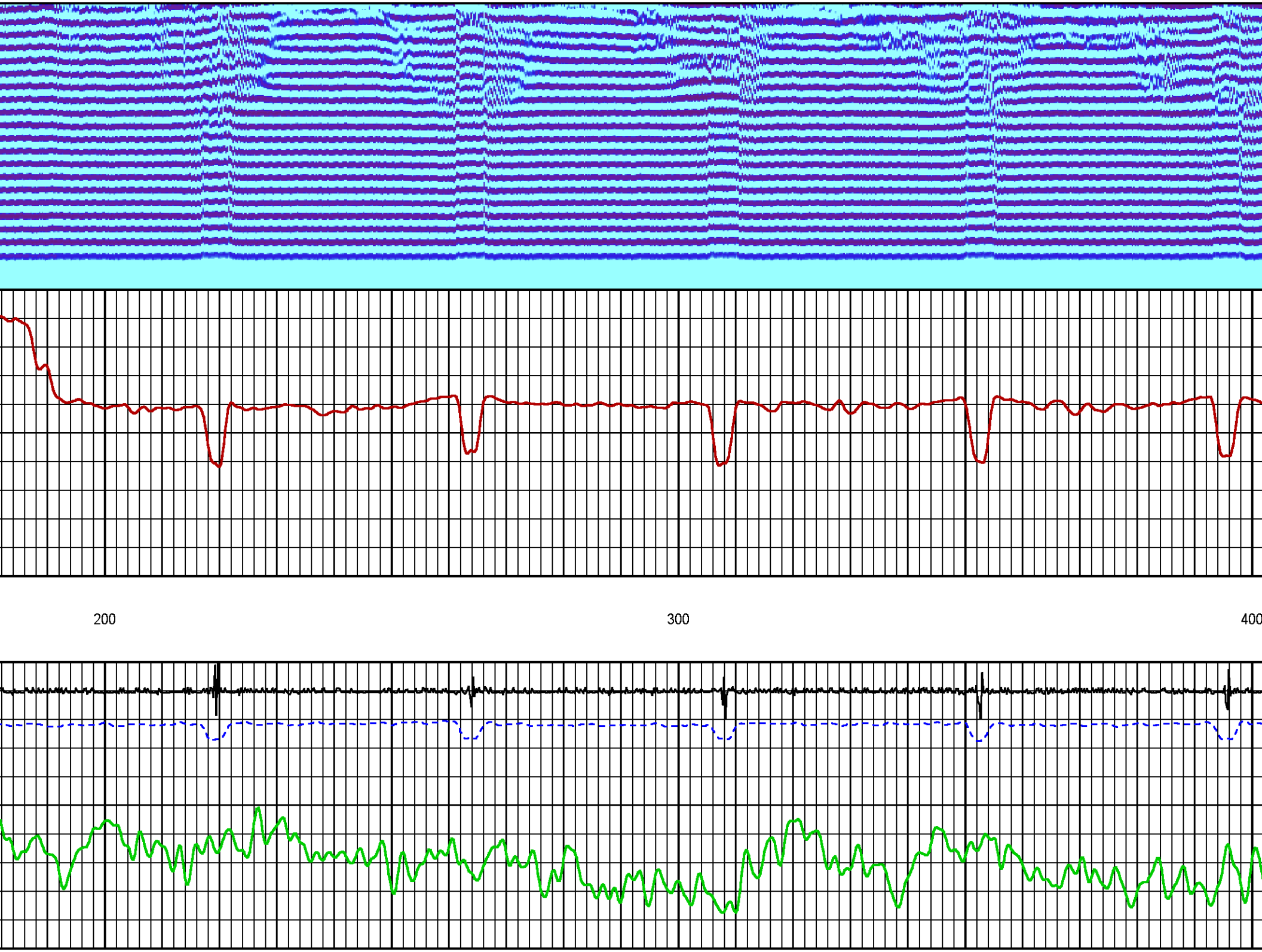
CURVE MEASURE POINT OFFSET

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 : cas6685:/dat1a/CH107928/WPX_ral_cbl-MAIN.fvpdf [5"/100' Scale]
Plot Interval : 17.75 - 6891.5 Feet

Data File 1 : F1 : cas6685:C:\Users\spenjosj\Documents\VDIS\Jobs\WPX\GM322-9\CH107928
Created On : Jun 18 13:14:05 2016
Company : WPX ENERGY
Well : FEDERAL GM 322-9
Field : GRAND VALLEY
File Interval : 16.75 - 6893 Feet
OCT : n012g

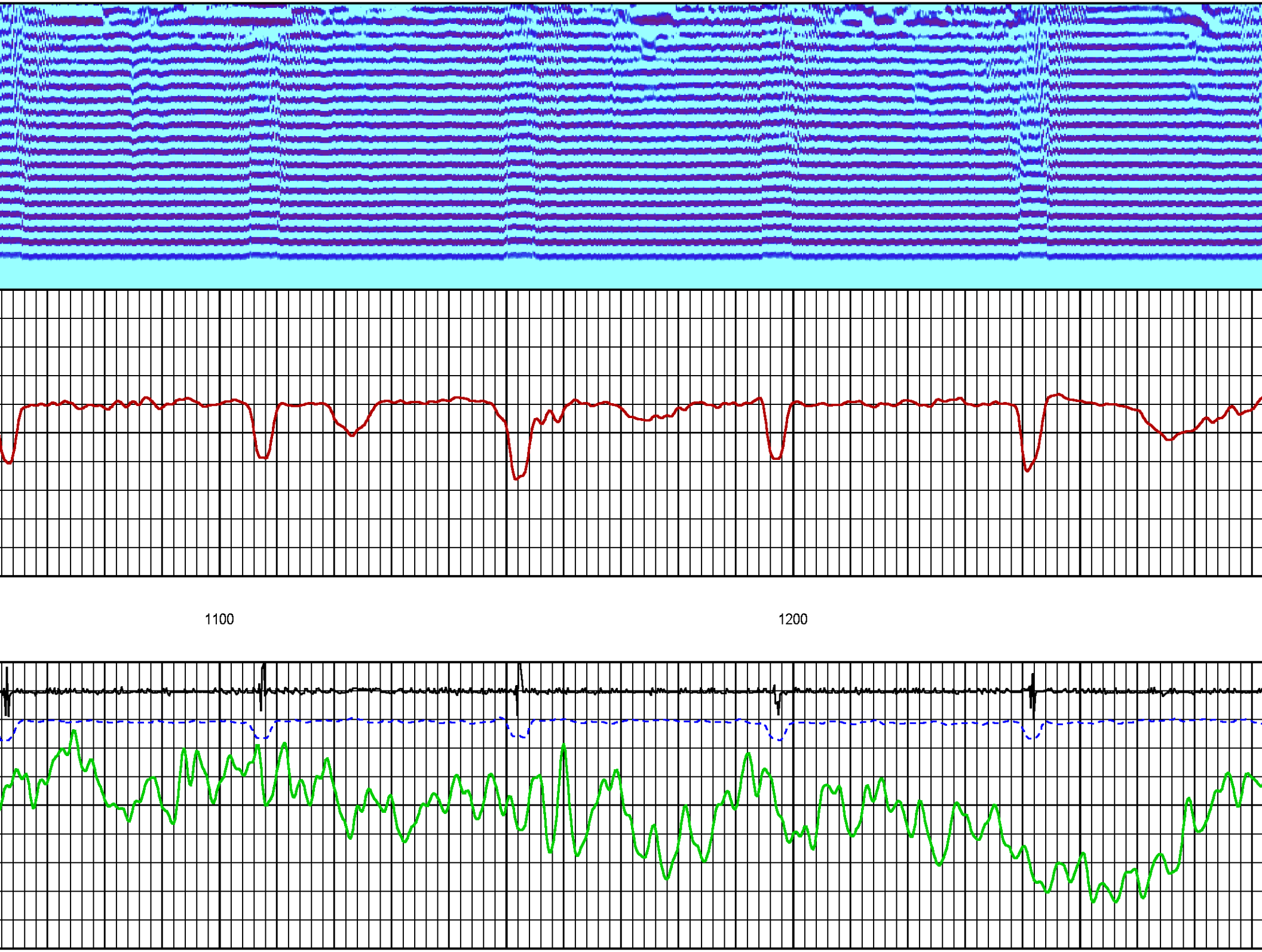


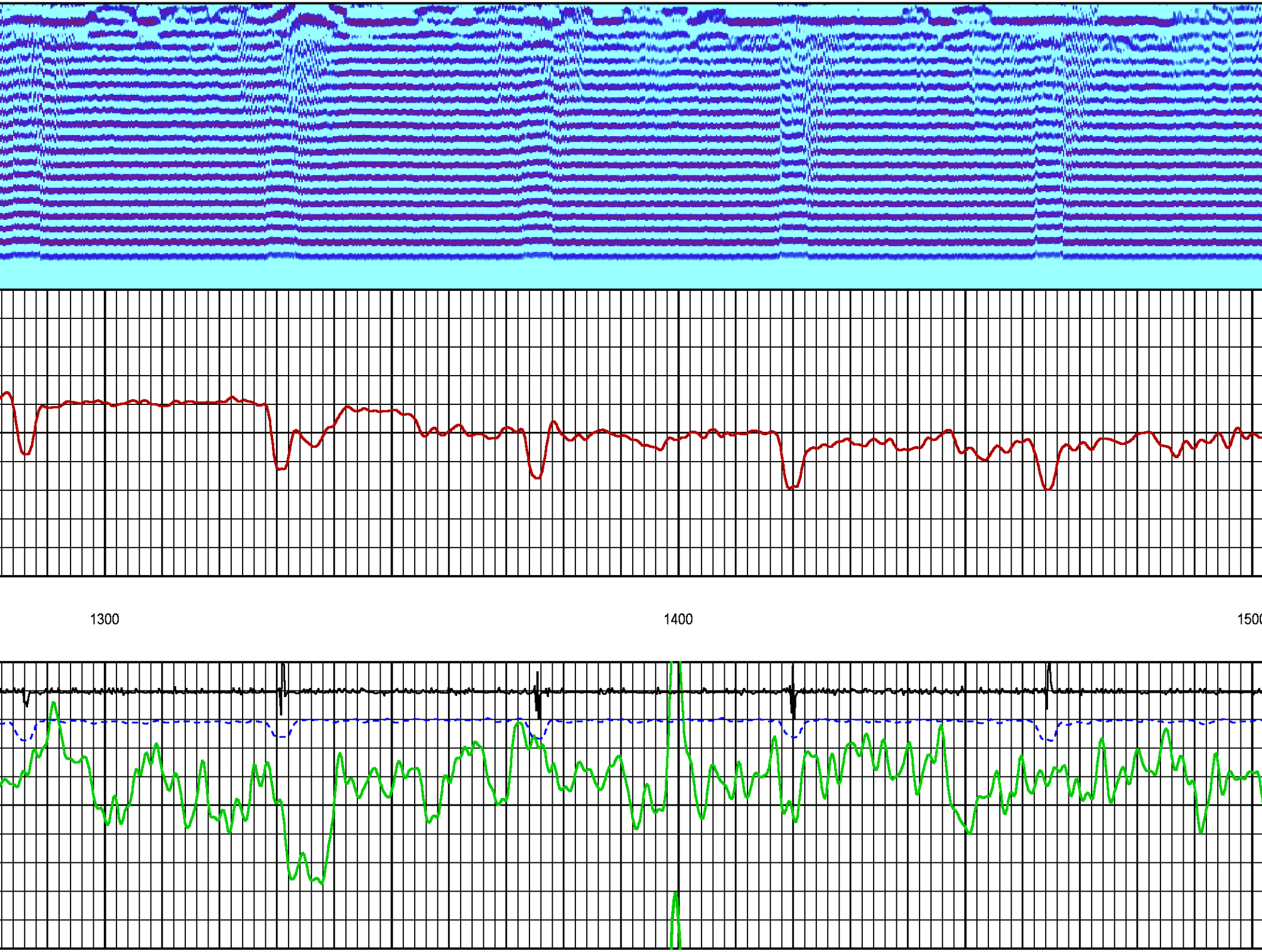

200
300
400

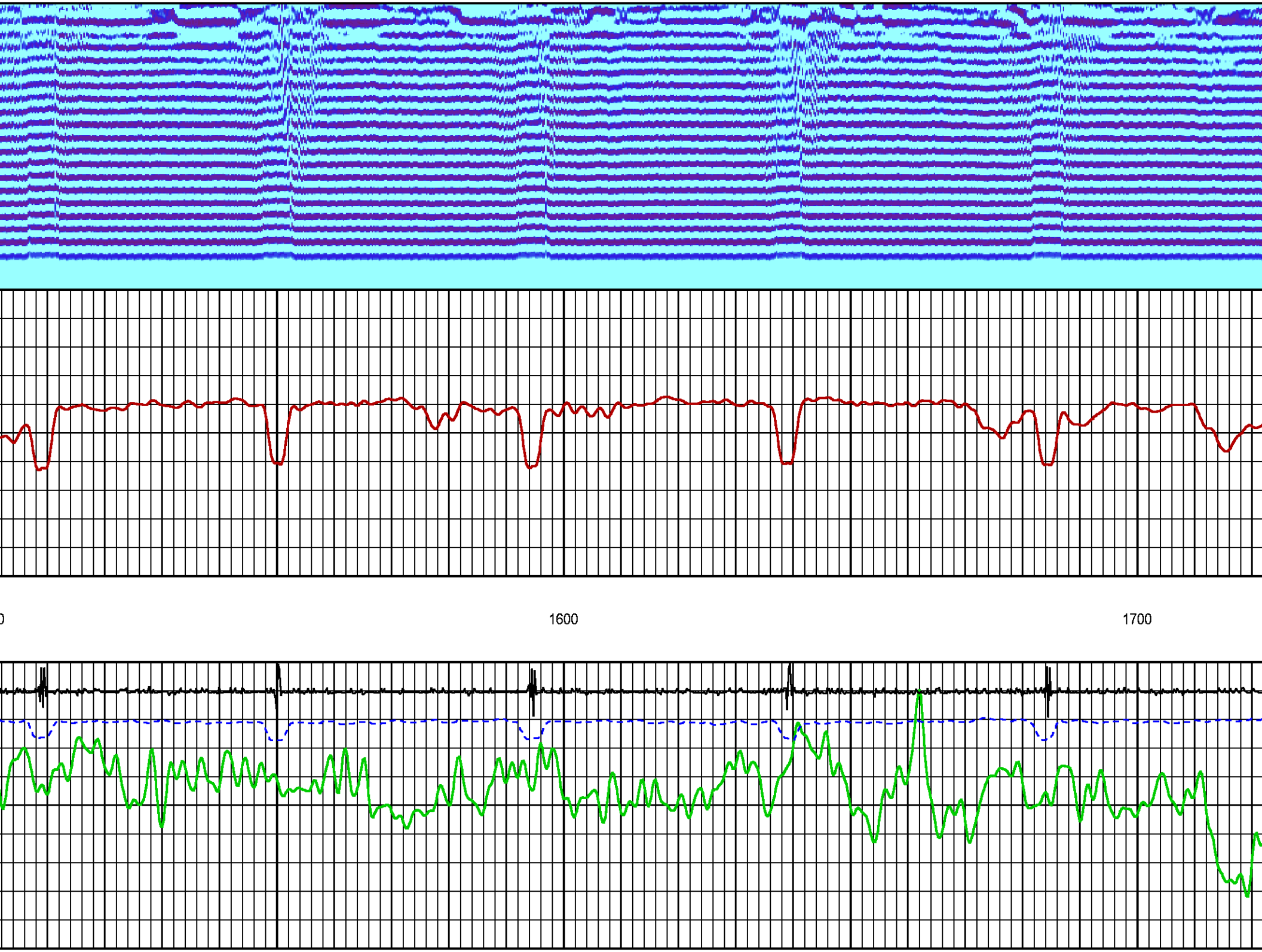
500
600

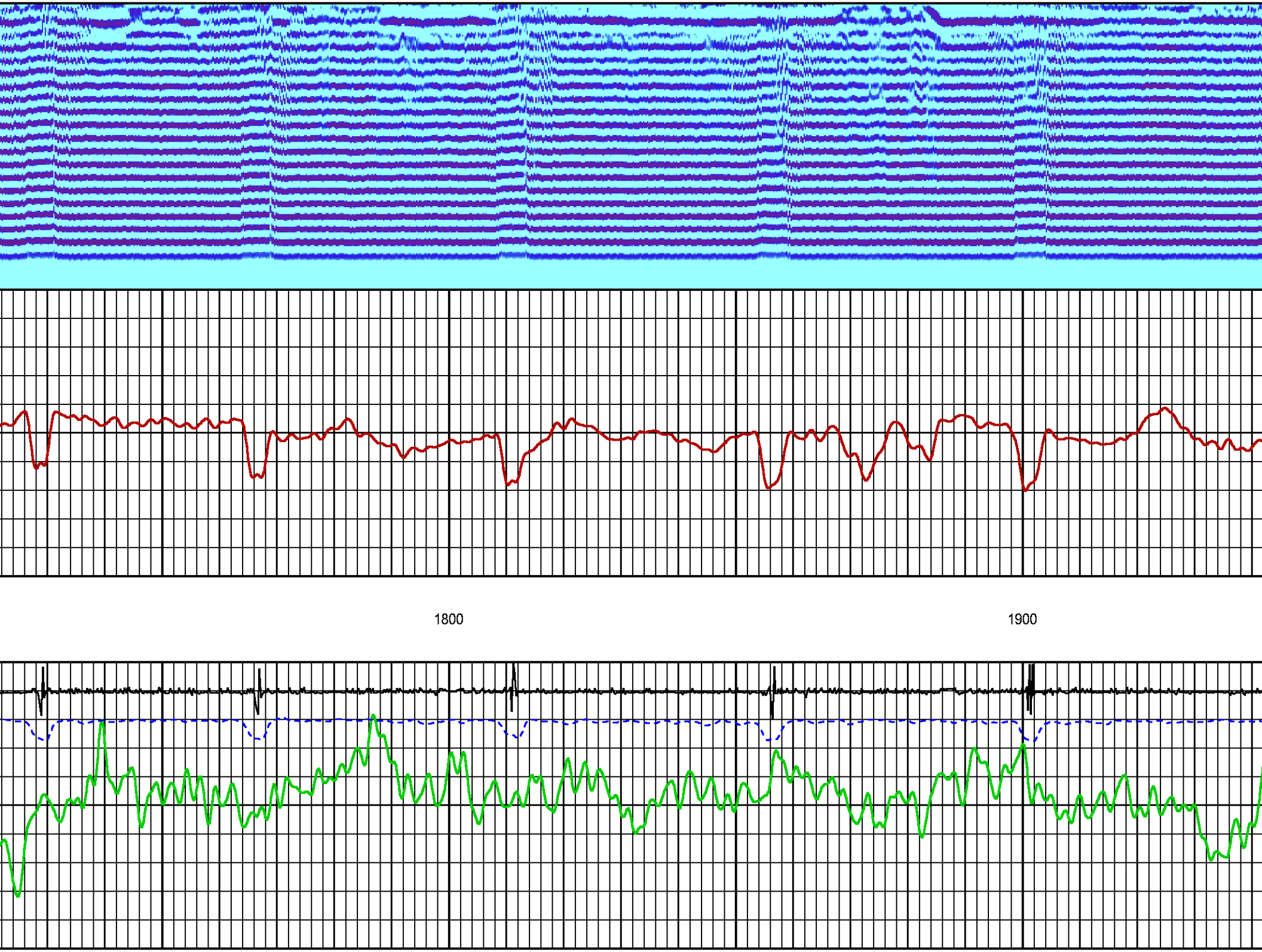
700
800

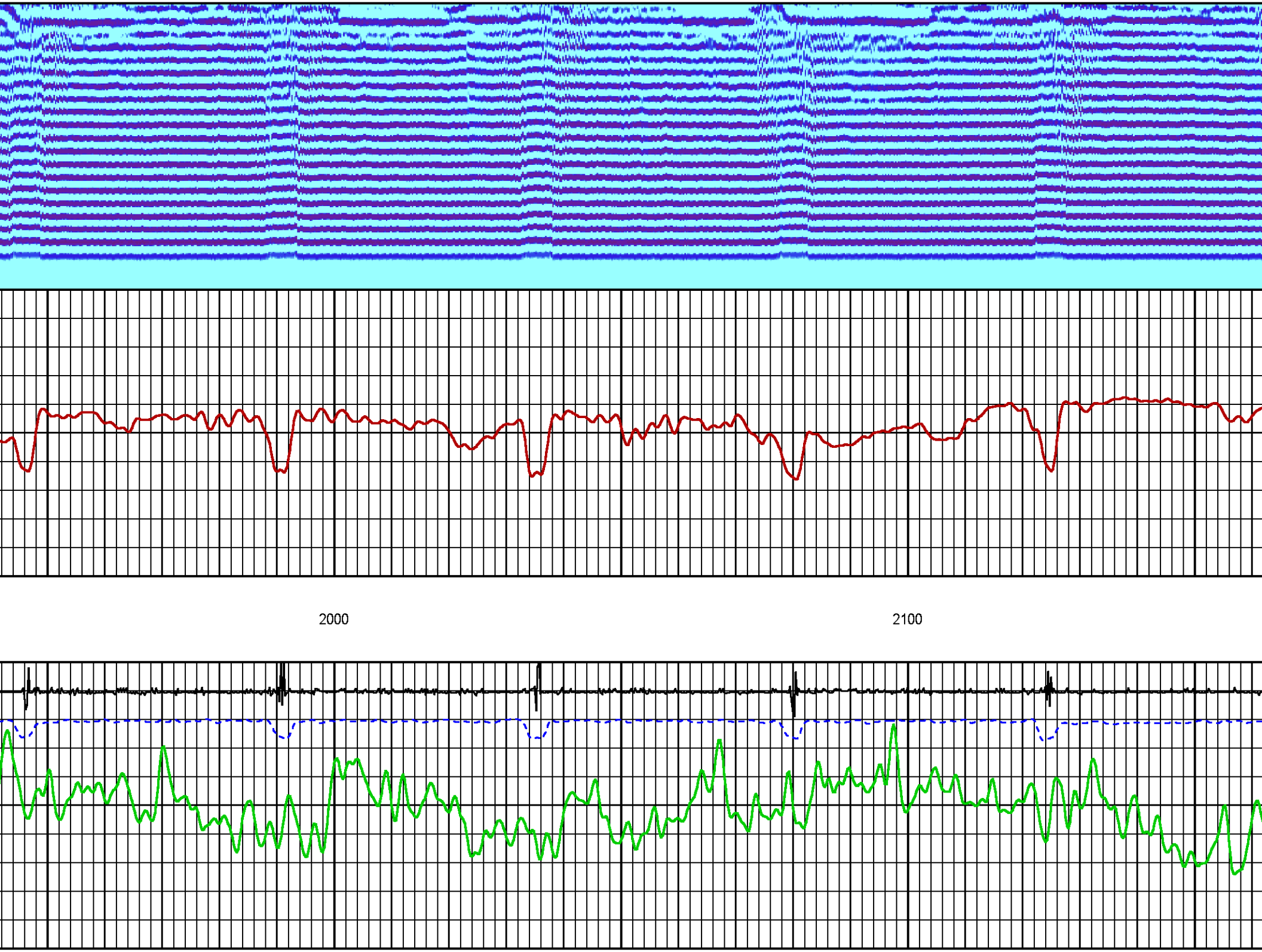
900
1000

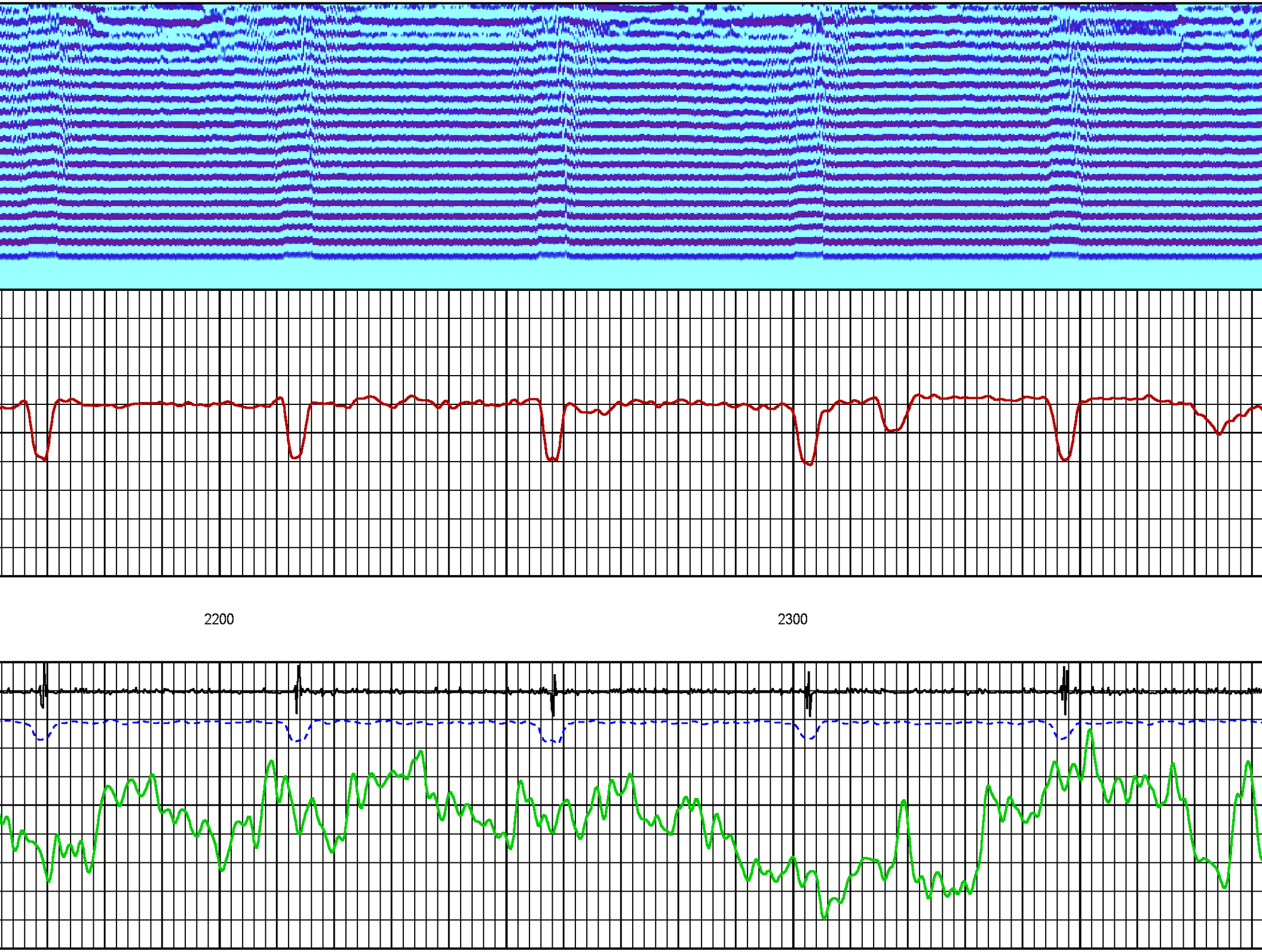

1100
1200

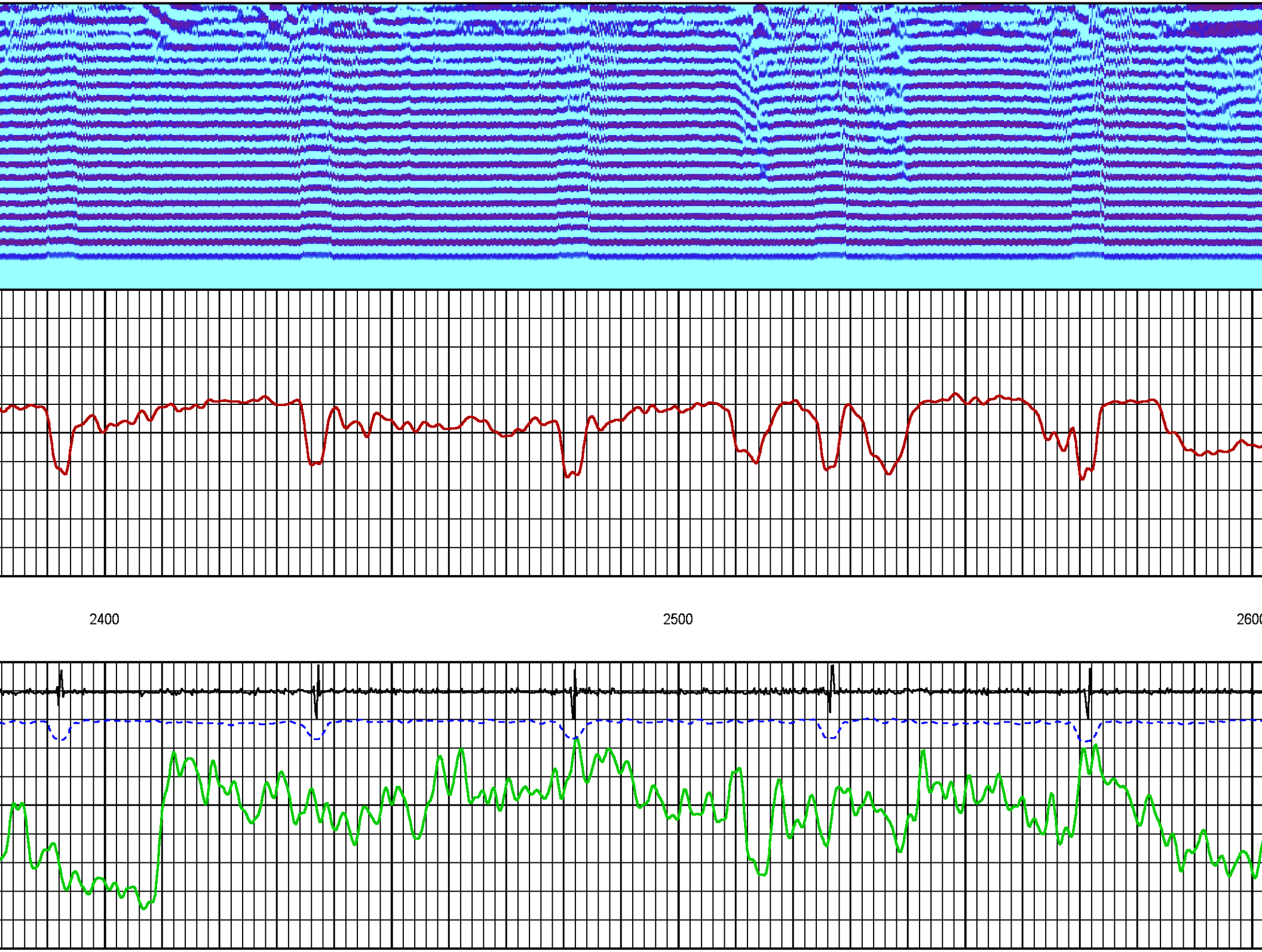

1300
1400
1500

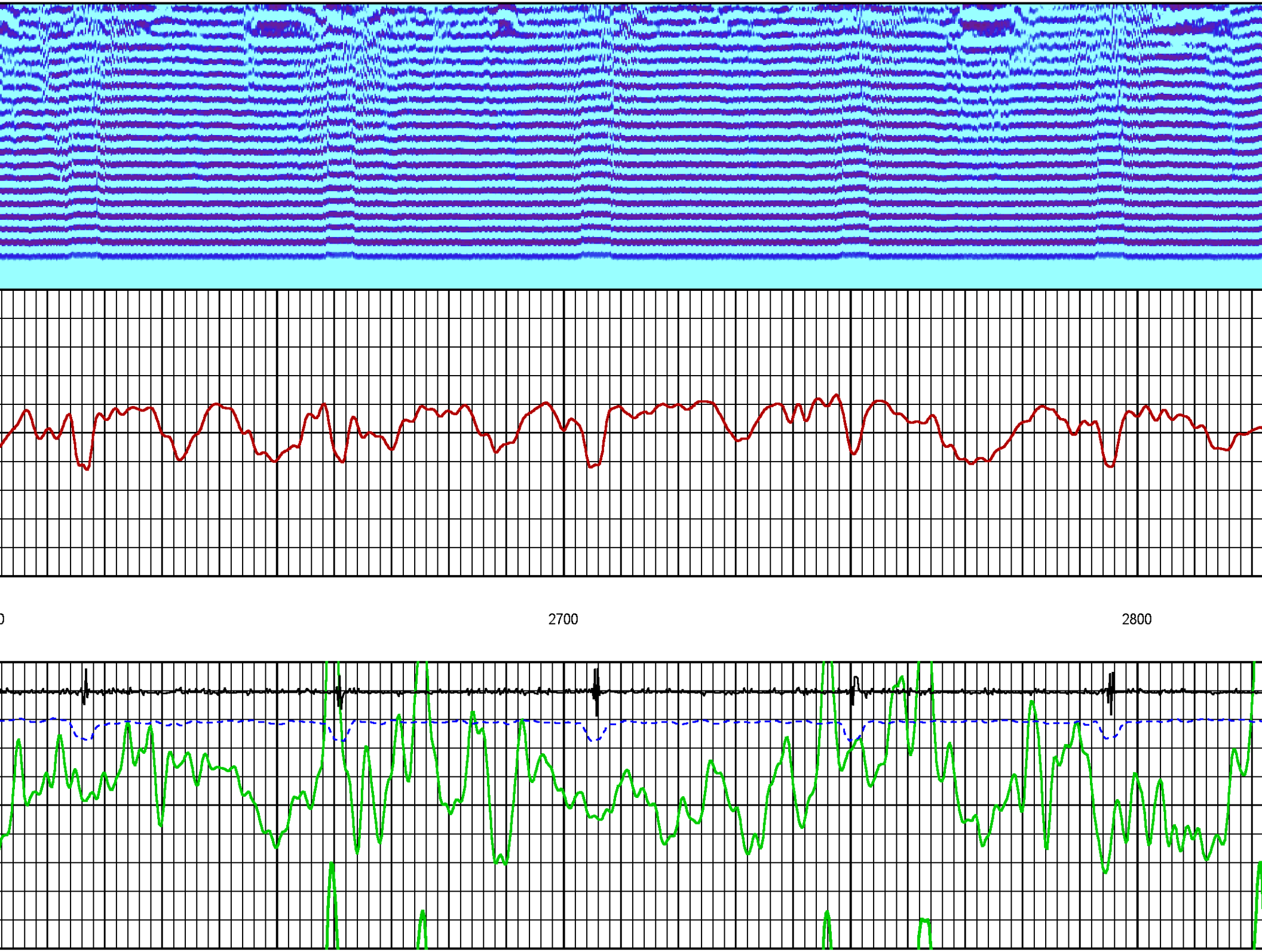

0
1600
1700

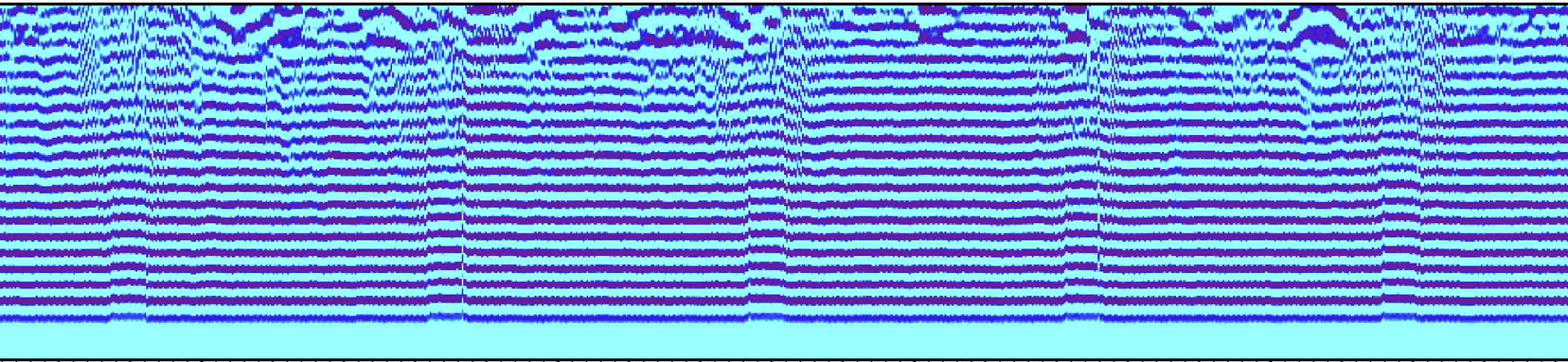

1800
1900

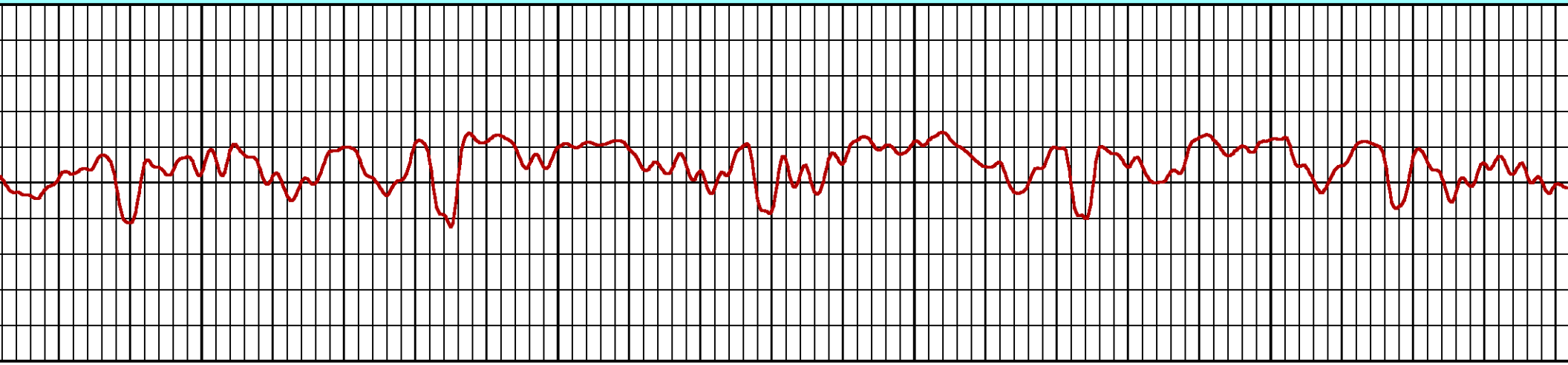

2000
2100


2200
2300


2400
2500
2600

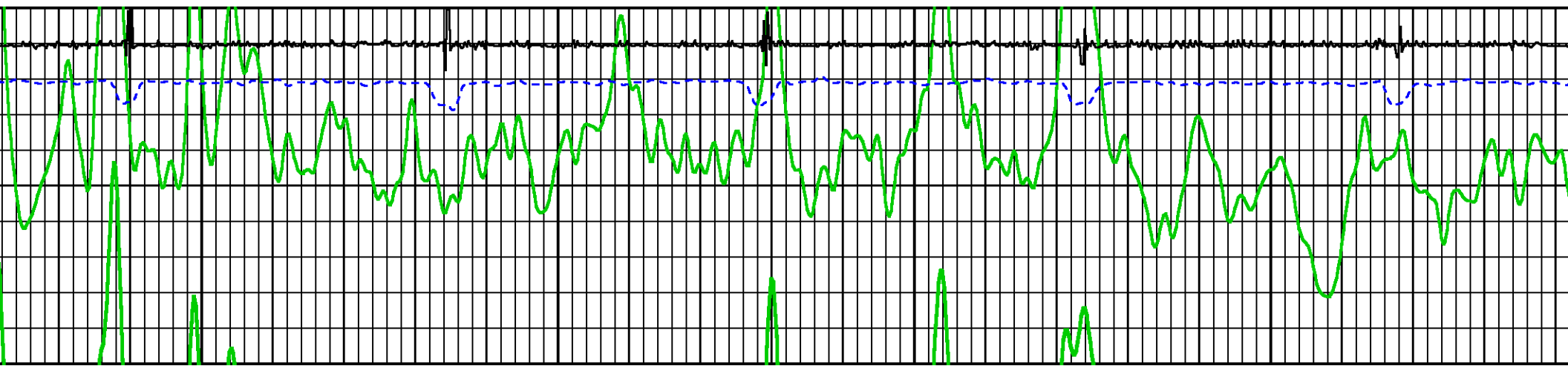

0
2700
2800

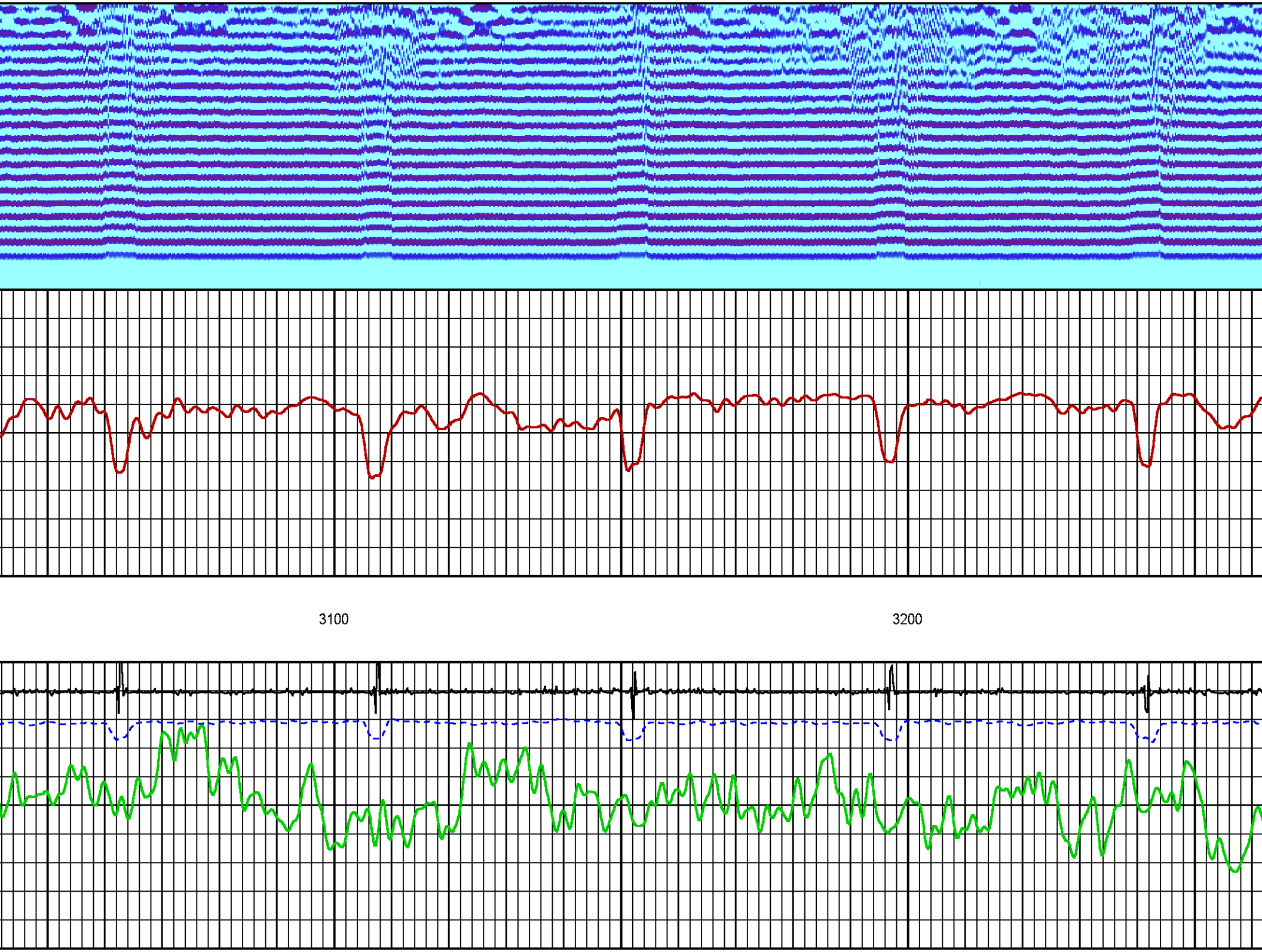


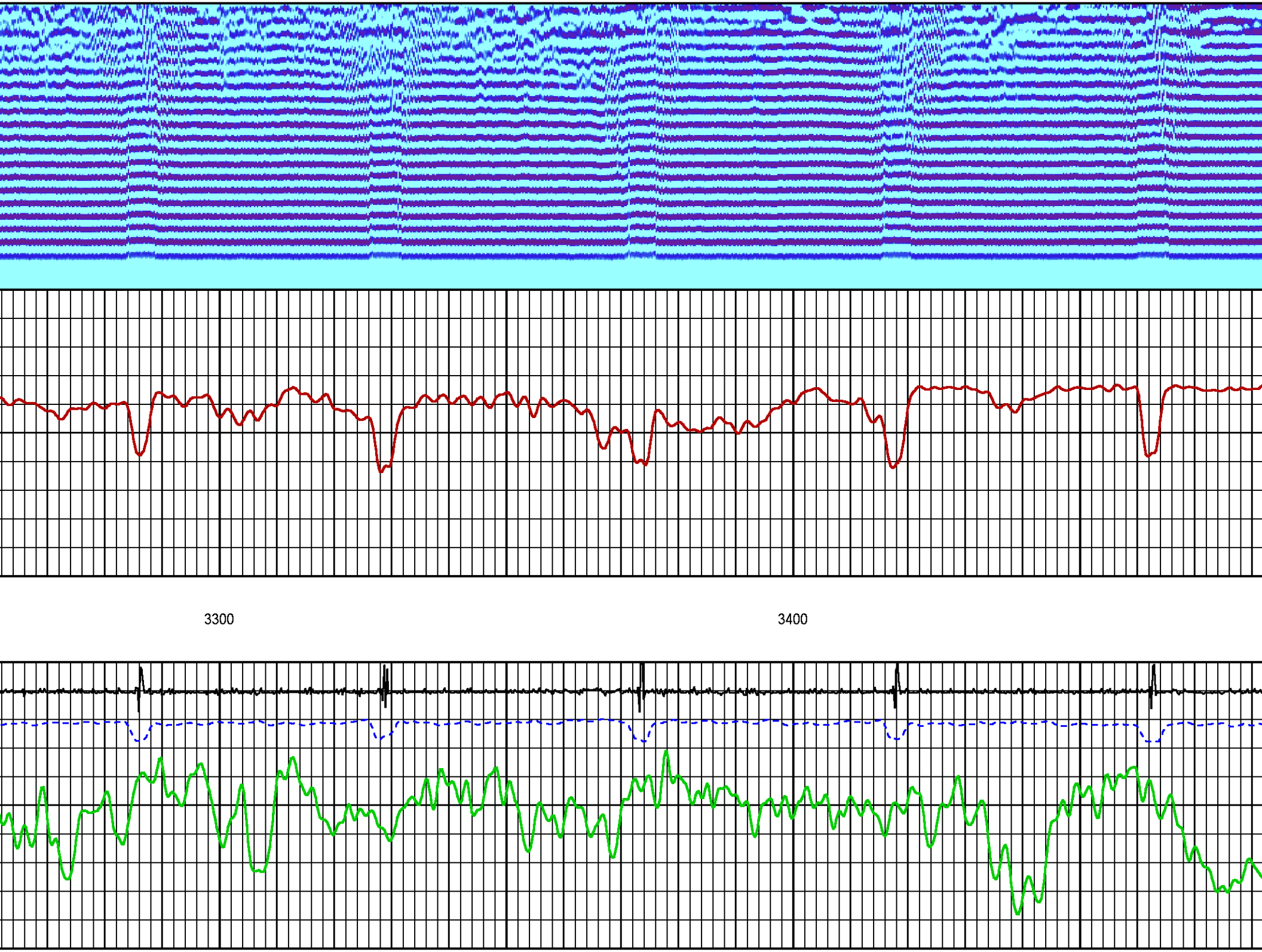


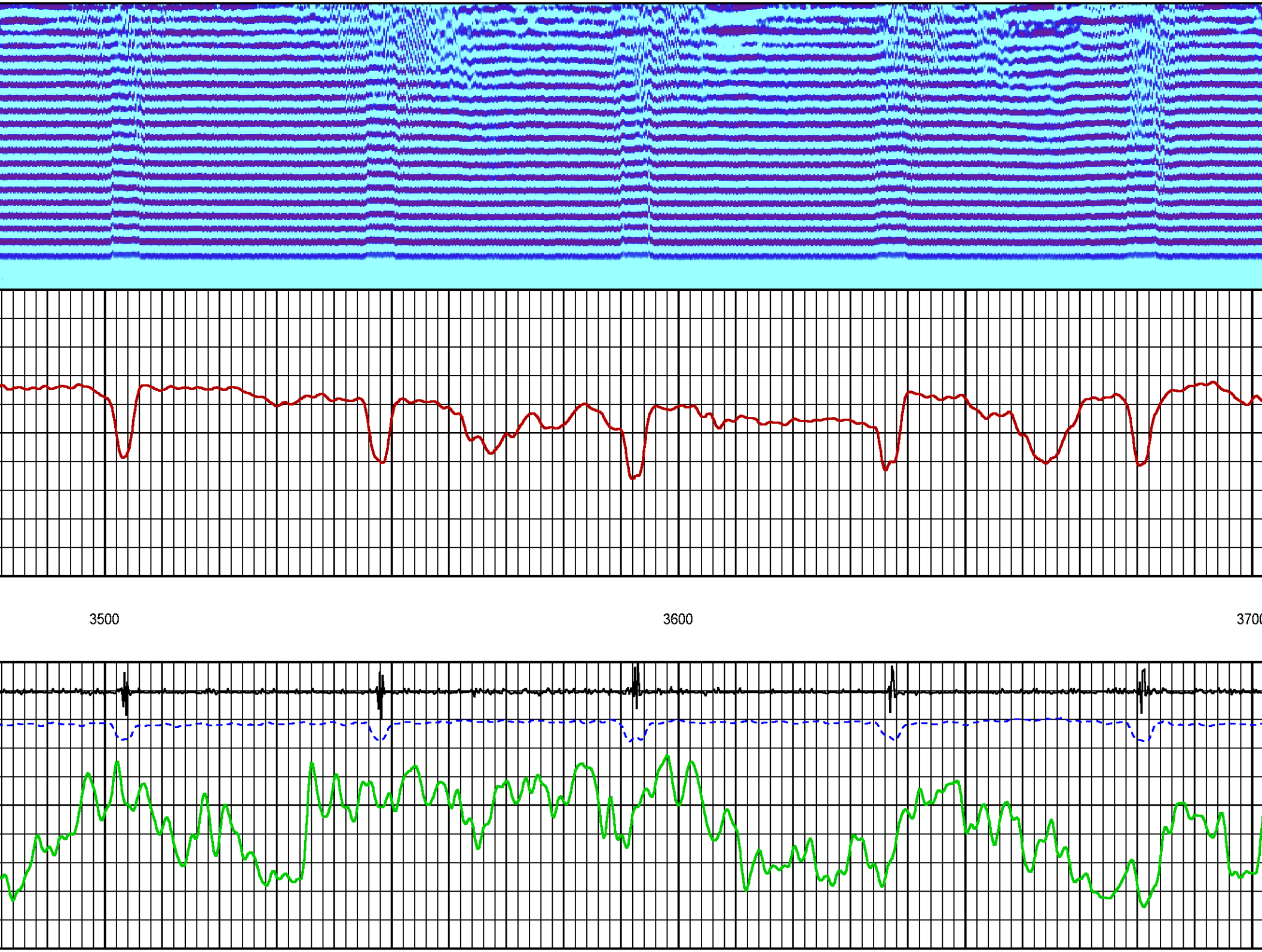
2900

3000

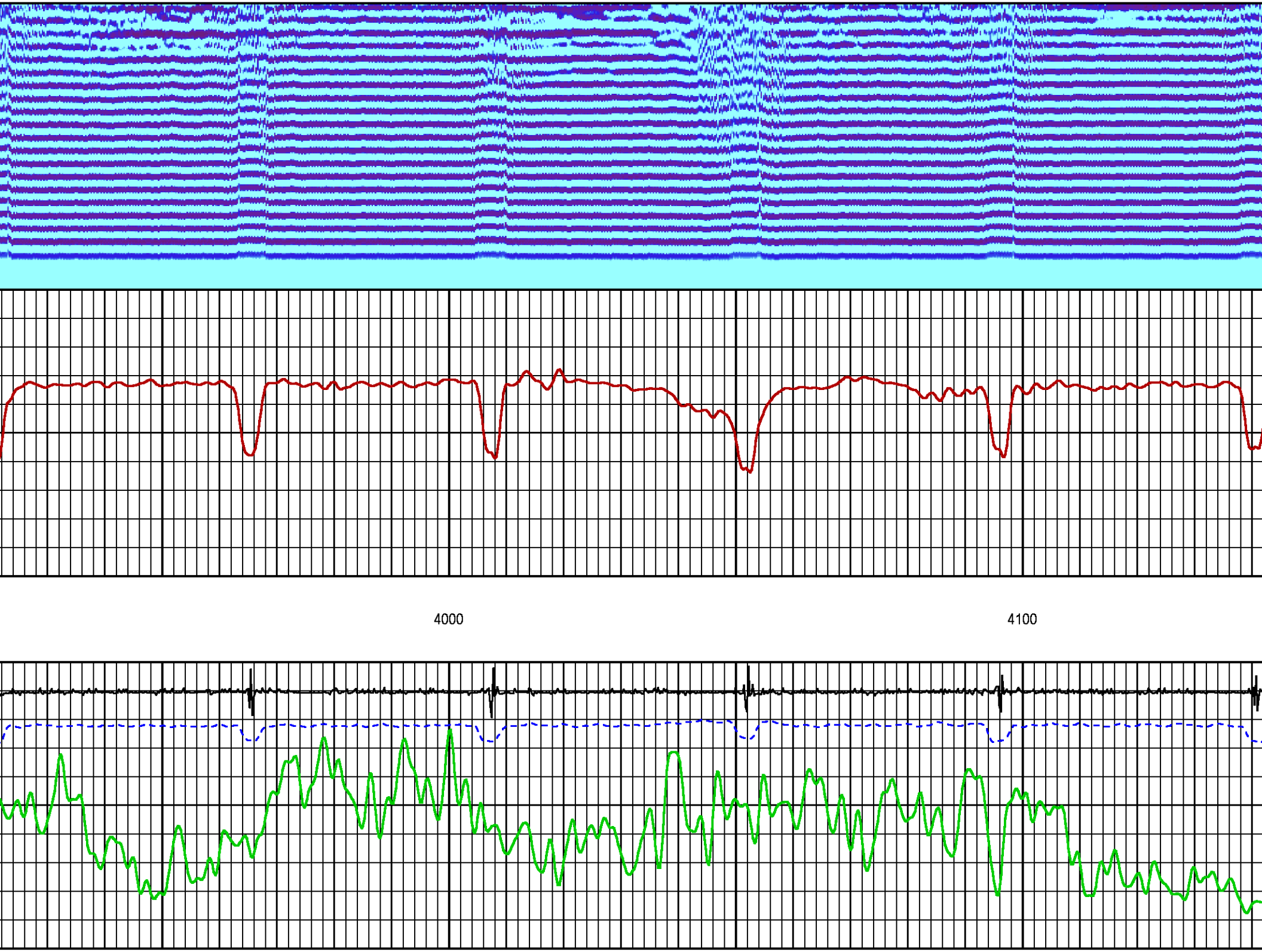


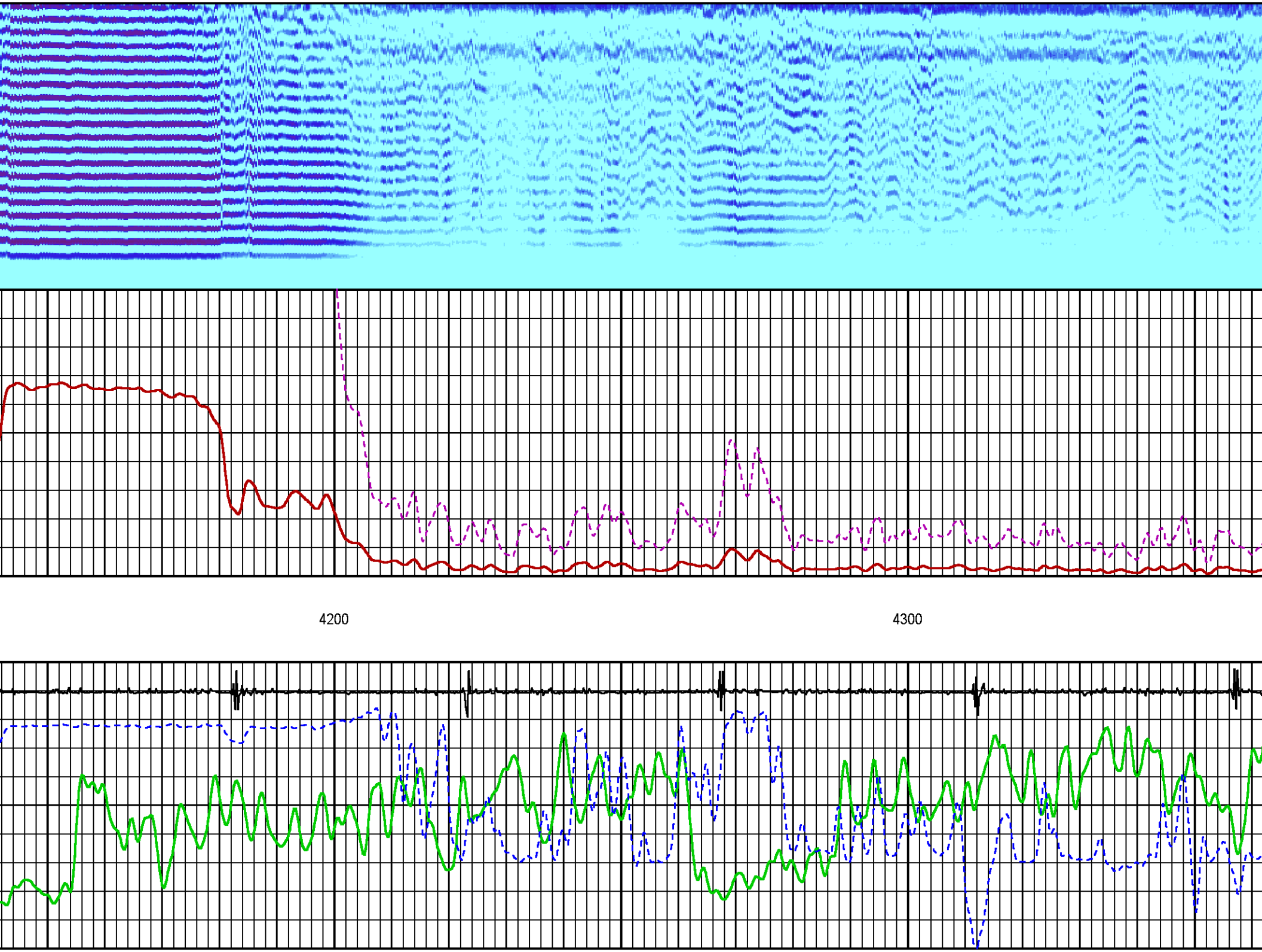

3100
3200

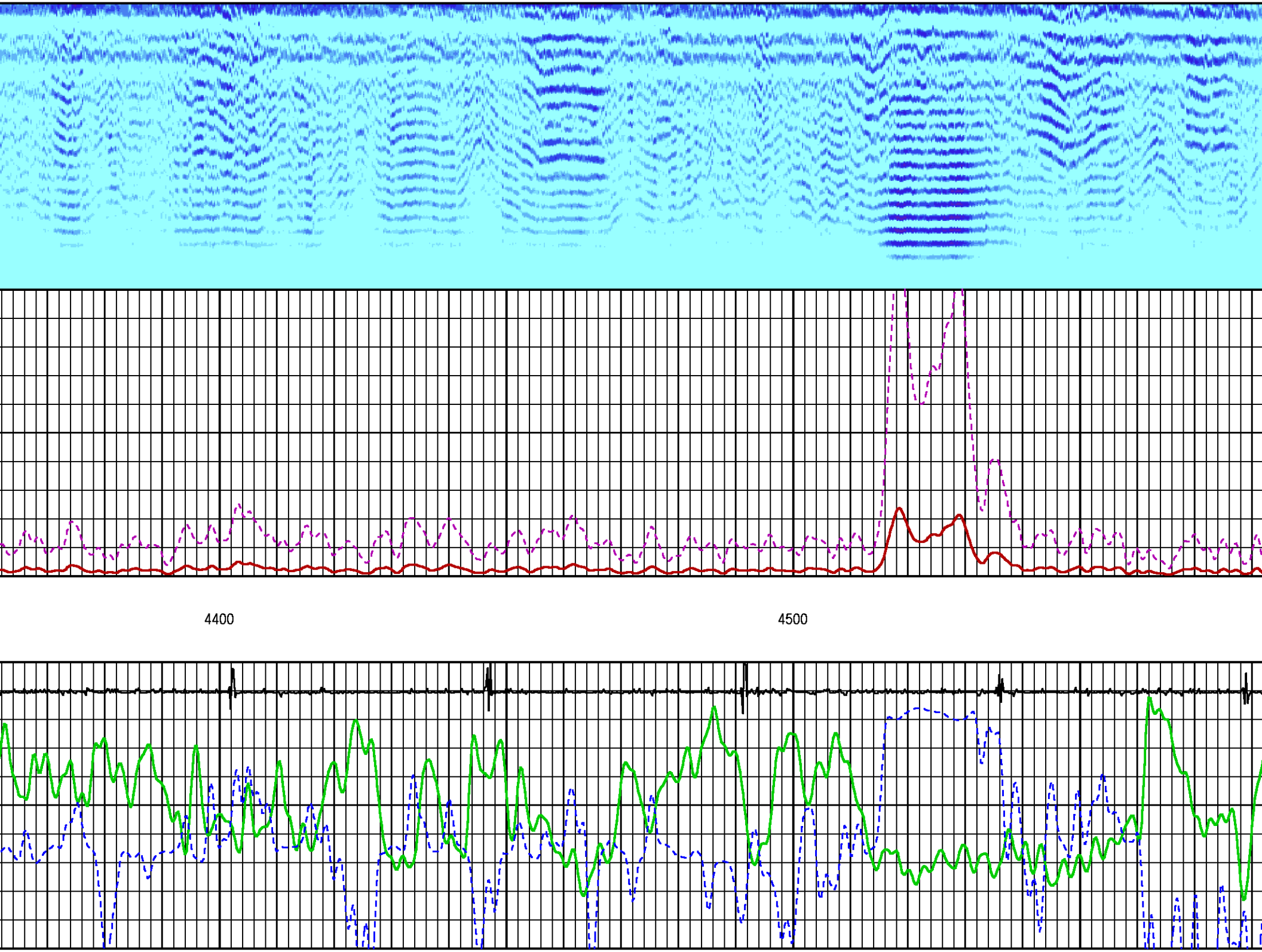

3300
3400

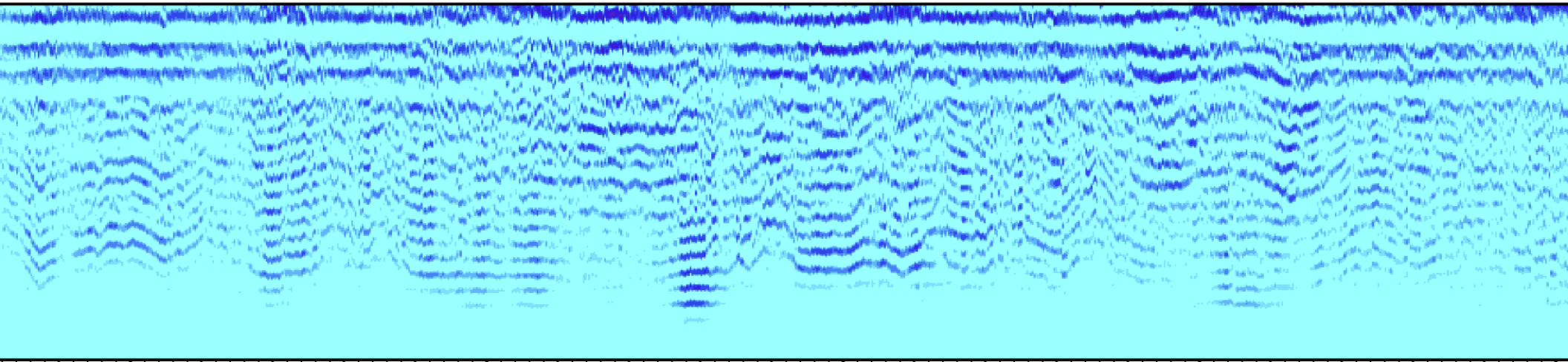

3500
3600
3700

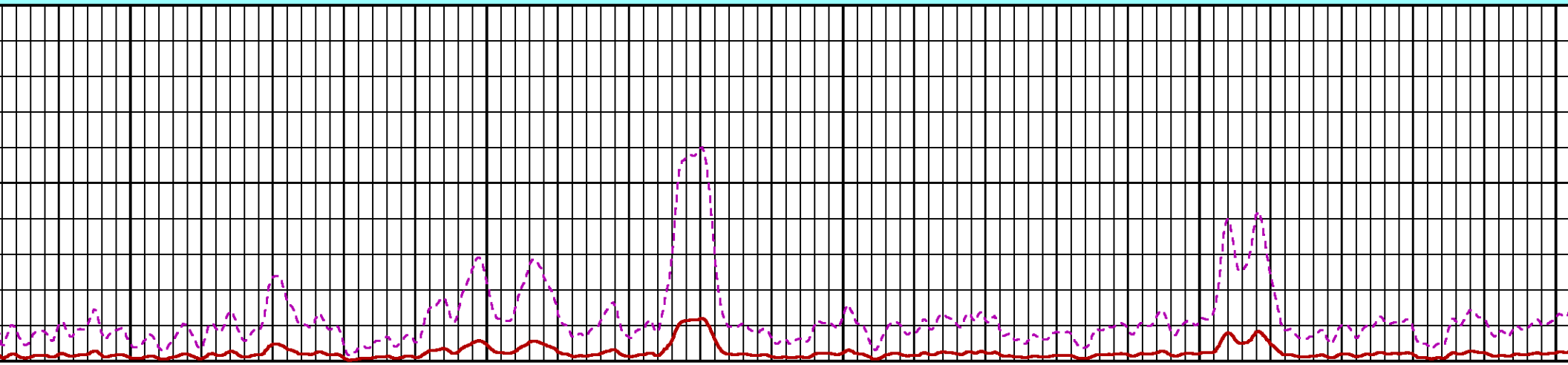
3800
SHORT JOINT
3900


4000
4100

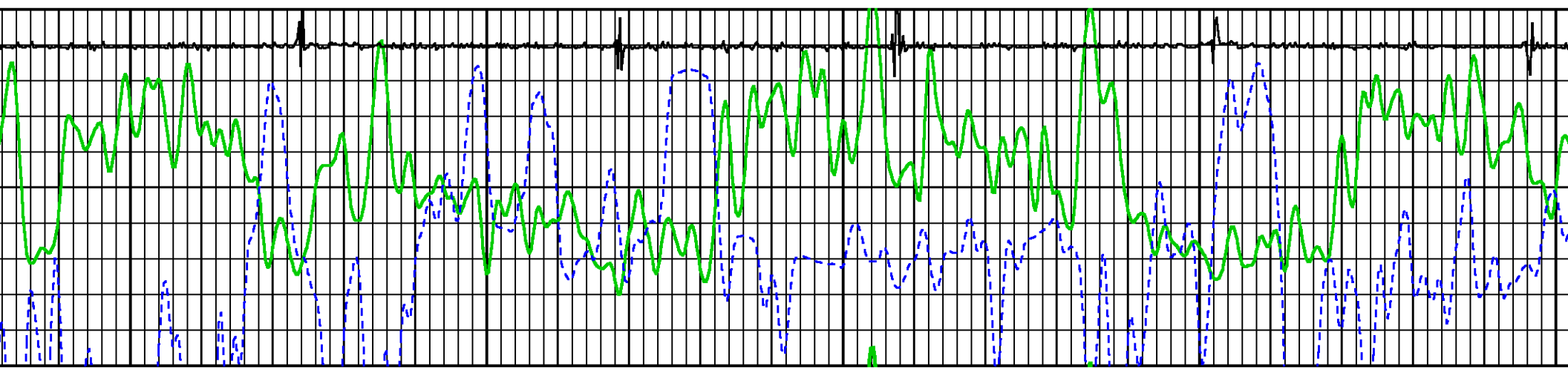

4200
4300


4400
4500

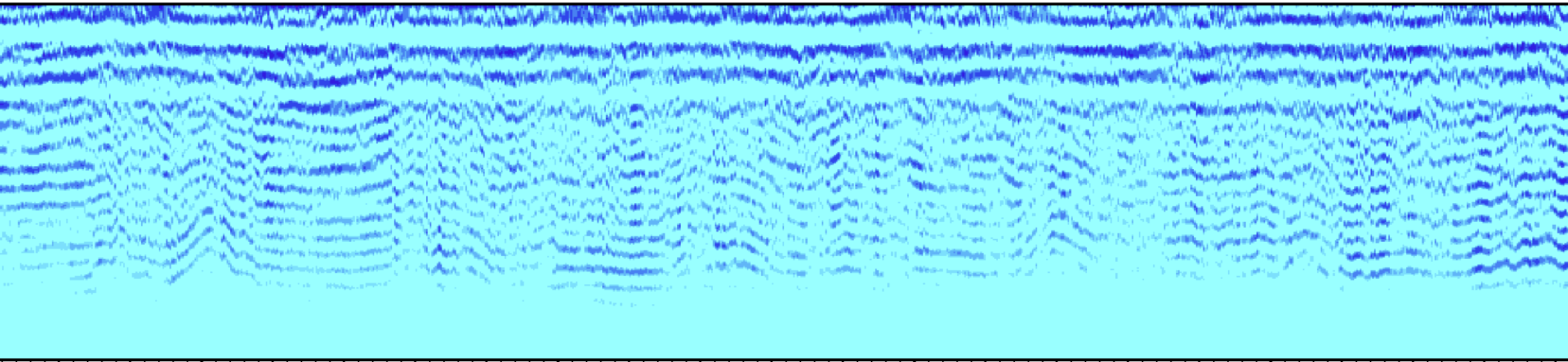


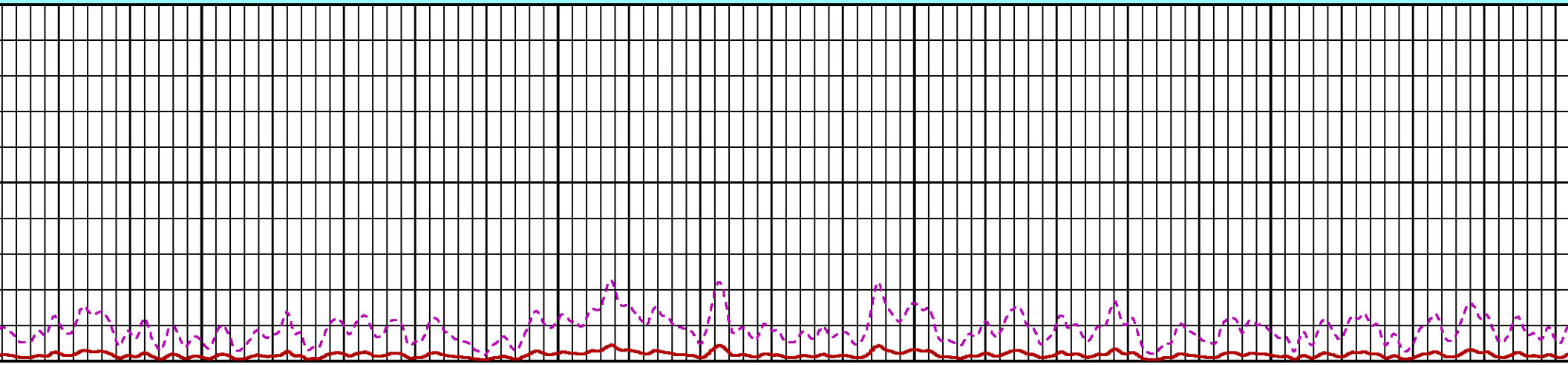


4600 4700 4800



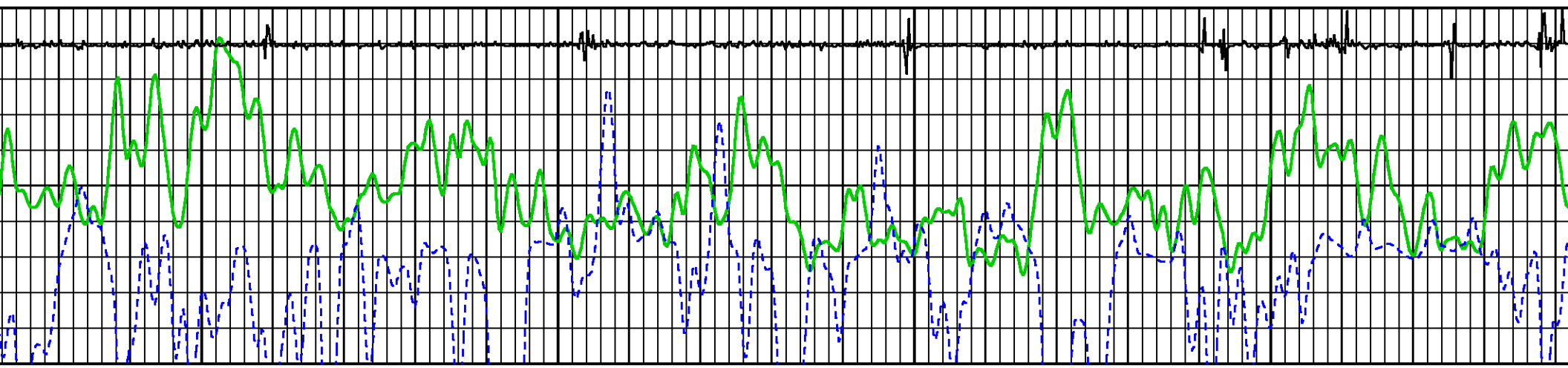
4900
5000

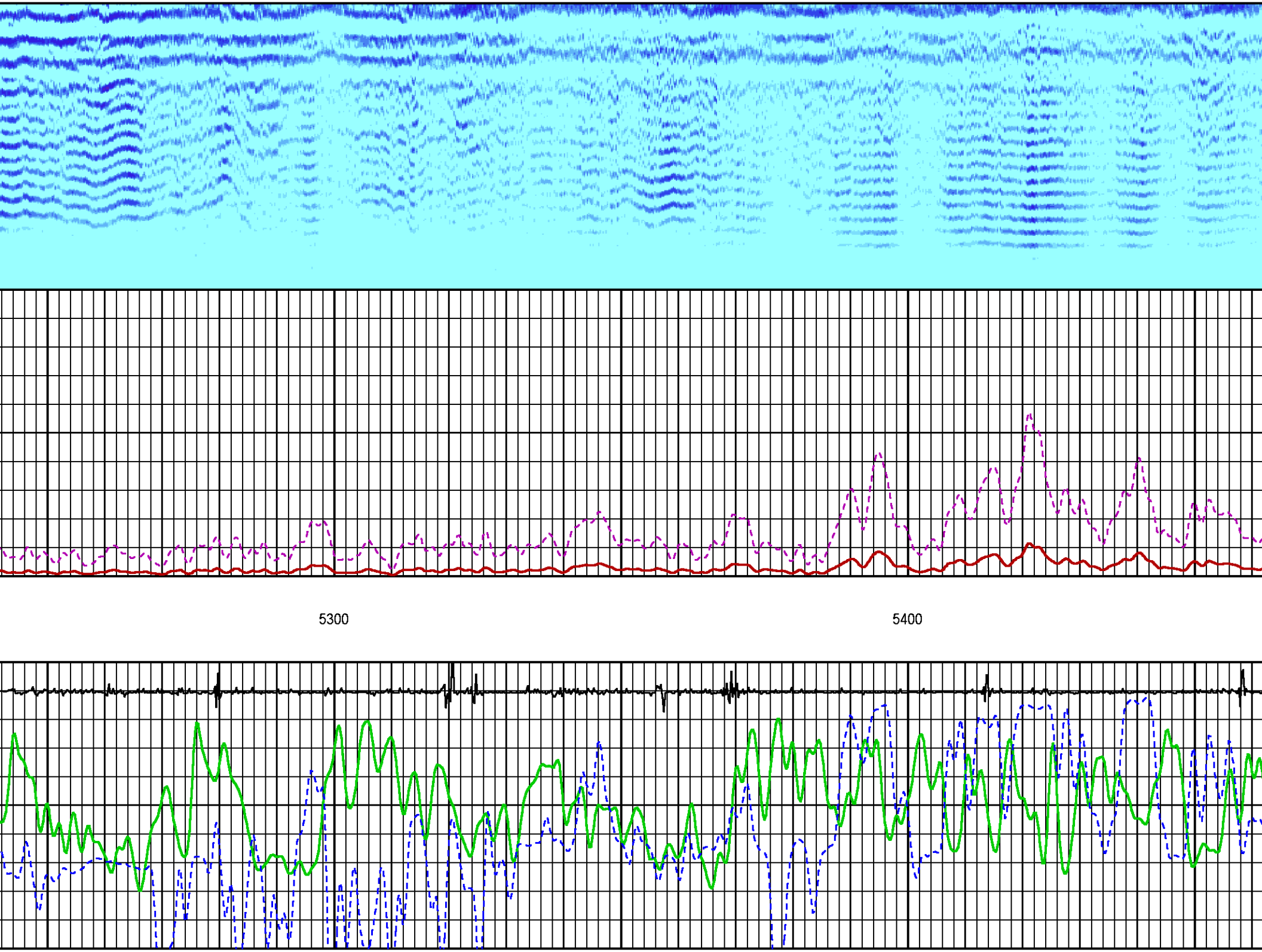


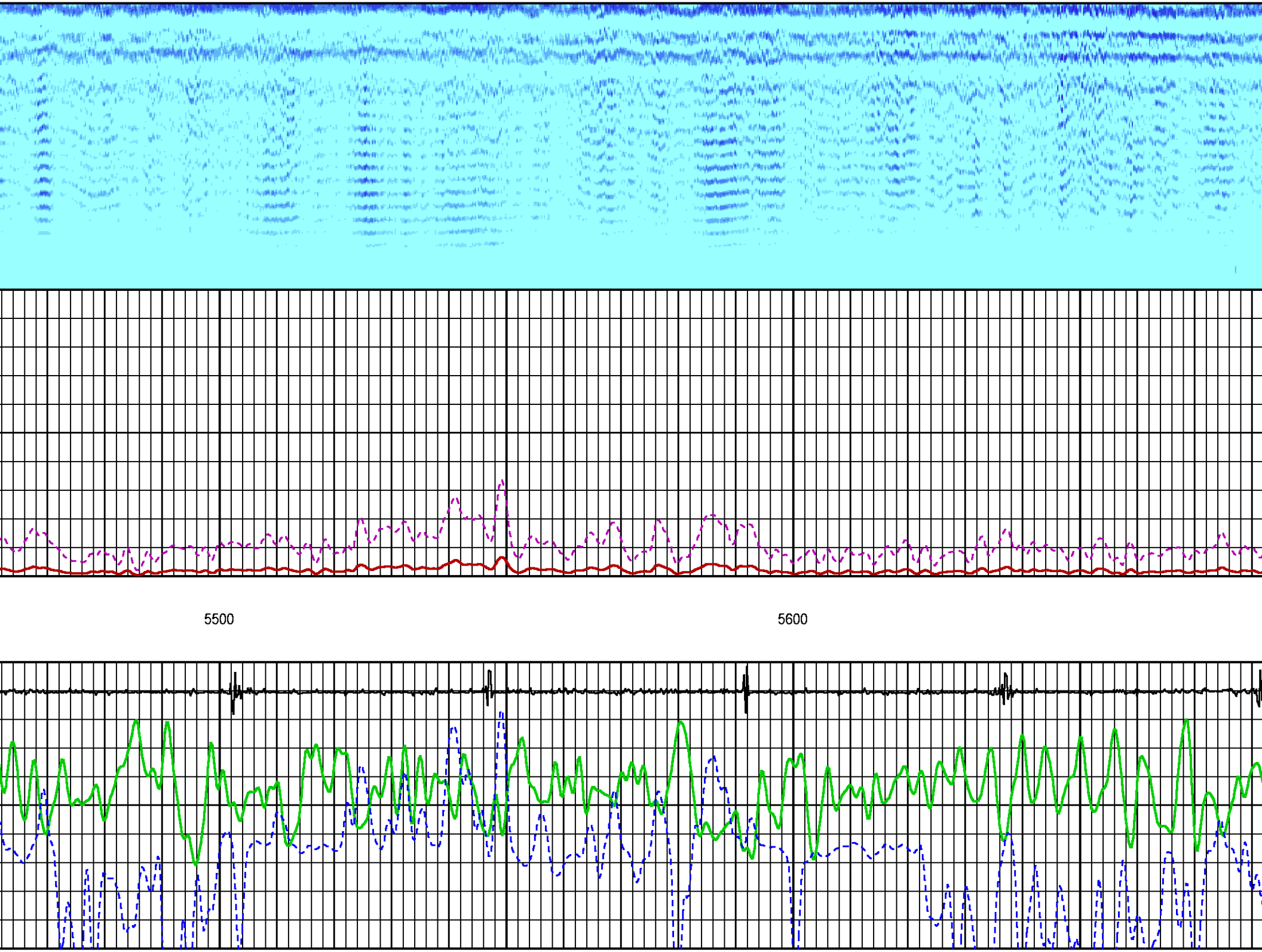


5100

5200



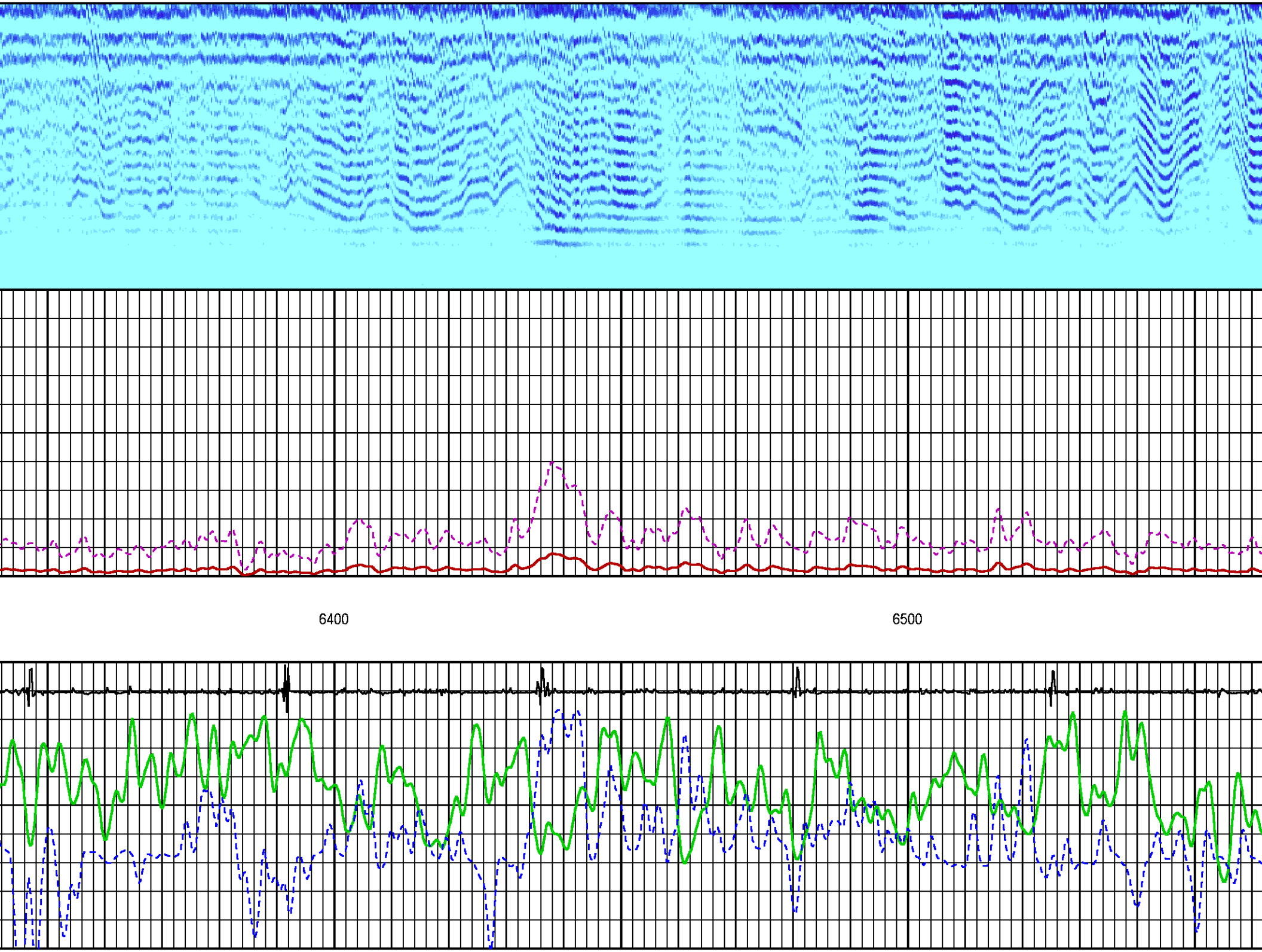

5300
5400


5500
5600

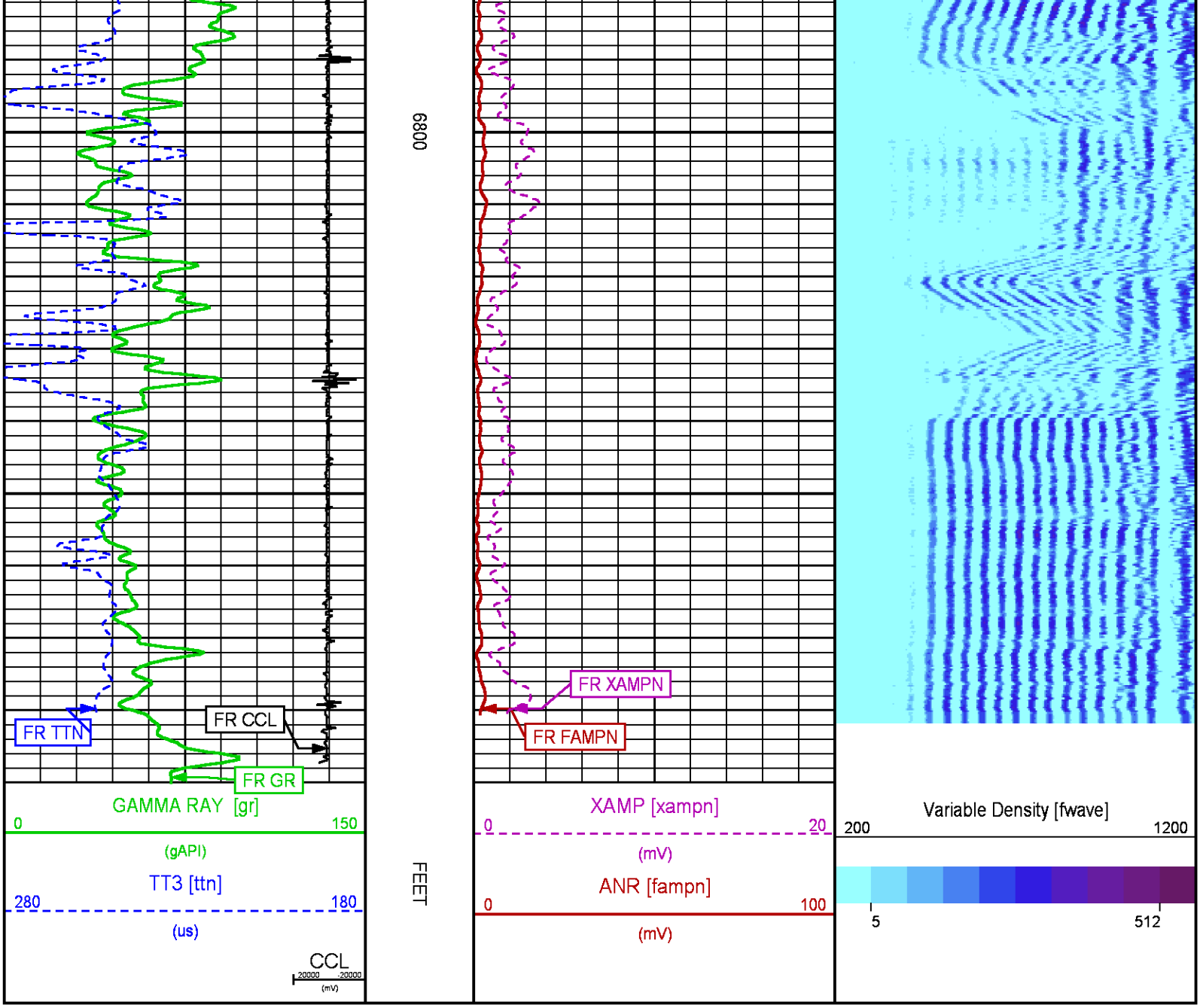
5700
5800
5900

6000
6100

6200
6300


6400
6500

6600
6700



REPEAT PRESENTATION 0 PSI

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1,36 Patches: 9

Plotted: Sat Jun 18 13:18:20 2016

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH107928/n012g01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 6550.000 ft BOTTOM DEPTH: 6936.882 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
GR	FILTER ()	[illegible] (1)		TOP BOTTOM

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*)	172	us	"	"
	TT WINDOW LENGTH	444	us	"	"
	FIRST BRK THRESHOLD (ttn*)	4	mV	"	"
RAL CASING PARAMETERS	PPT NEAR	200.391	us	"	"
RAL TOOL DELAY	TOOL DELAY (strn*)	-66	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	126	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"

CURVE DESCRIPTION REPORT

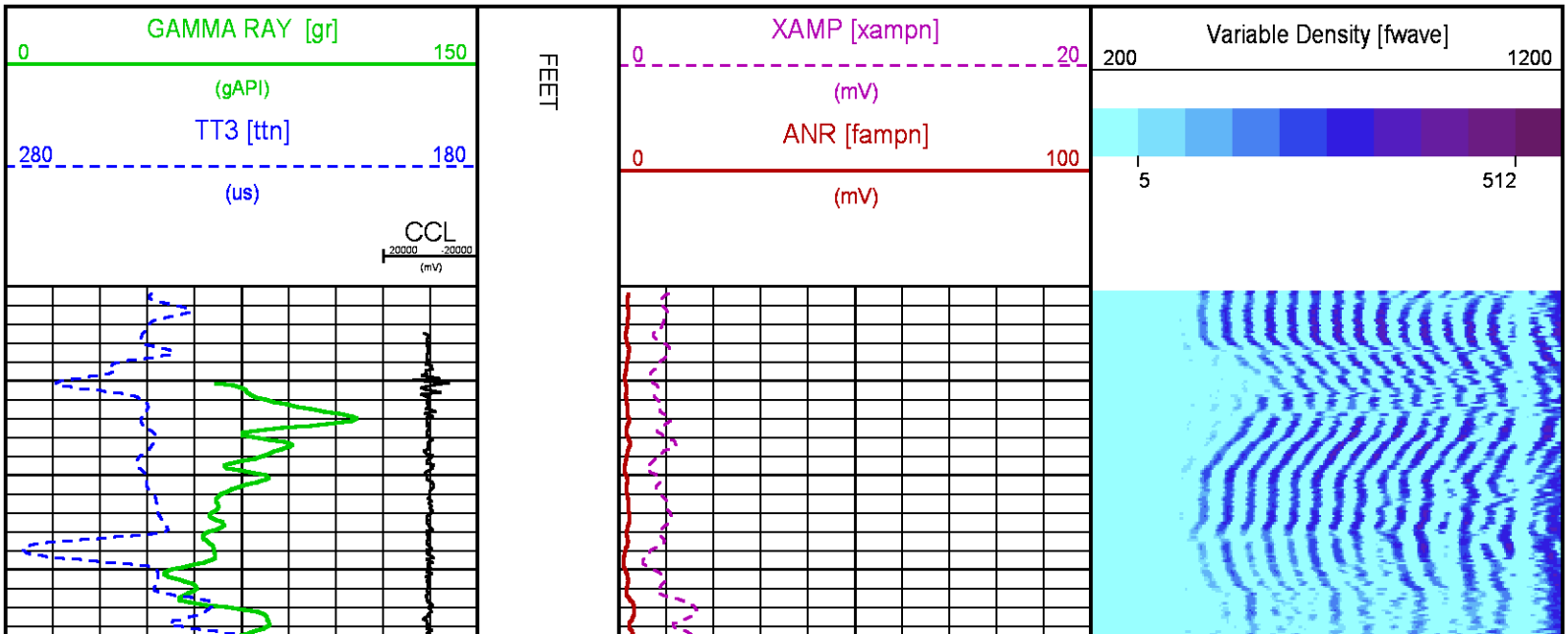
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jun 18 13:05:21 2016	CASING COLLAR LOCATOR
F1:FAMPN	Jun 18 13:05:21 2016	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Jun 18 13:05:21 2016	FAR WAVE FORM
F1:GR	Jun 18 13:05:21 2016	GAMMA RAY
F1:TTN	Jun 18 13:05:21 2016	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Jun 18 13:05:21 2016	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

CURVE MEASURE POINT OFFSET

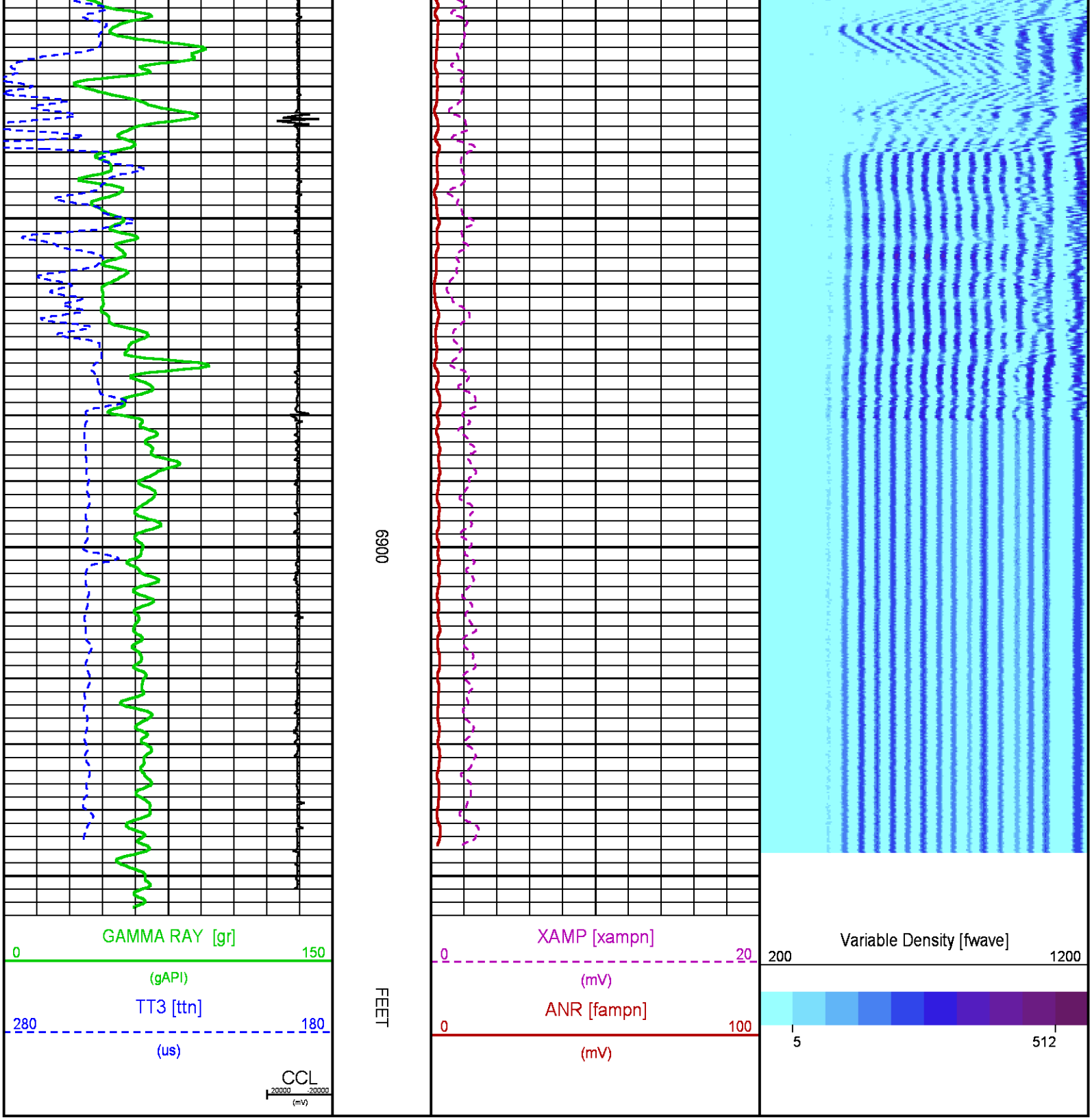
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	5.75	GR	1.75	XAMPN	11.25		
FAMPN	11.25	TTN	11.25				

Presentation : cas6685:/dat1a/CH107928/WPX_ral_cbl-RPT.fvpdf [5"/100' Scale]
Plot Interval : 6560.5 - 6956.25 Feet

Data File 1 : F1 : cas6685:C:\Users\spenjosj\Documents\VDIS\Jobs\WPX\GM322-9\CH107928
Created On : Jun 18 13:05:21 2016
Company : WPX ENERGY
Well : FEDERAL GM 322-9
Field : GRAND VALLEY
File Interval : 6538.5 - 6958.75 Feet
OCT : n012g



6600
6700
6800



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
Patches: 9

Plotted: Thu Jun 23 08:10:25 2016

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\Users\spenjosj\Documents\VDIS\Jobs\WPX\GM322-9\CH107928\n012g02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 28.000 ft BOTTOM DEPTH: 6892.750 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*)	185	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*)	172	us	"	"
	TT WINDOW LENGTH	444	us	"	"
	FIRST BRK THRESHOLD (ttn*)	4	mV	"	"
RAL CASING PARAMETERS	PPT NEAR	200.391	us	"	"
RAL TOOL DELAY	TOOL DELAY (str1*)	-66	us	"	"
	TOOL DELAY (str2*)	-66	us	"	"
	TOOL DELAY (str3*)	-66	us	"	"
	TOOL DELAY (str4*)	-66	us	"	"
	TOOL DELAY (str5*)	-66	us	"	"
	TOOL DELAY (str6*)	-66	us	"	"
	TOOL DELAY (str7*)	-66	us	"	"
	TOOL DELAY (str8*)	-66	us	"	"
	TOOL DELAY (strn*)	-66	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	126	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	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE T-R1
F1:AR2	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE T-R2

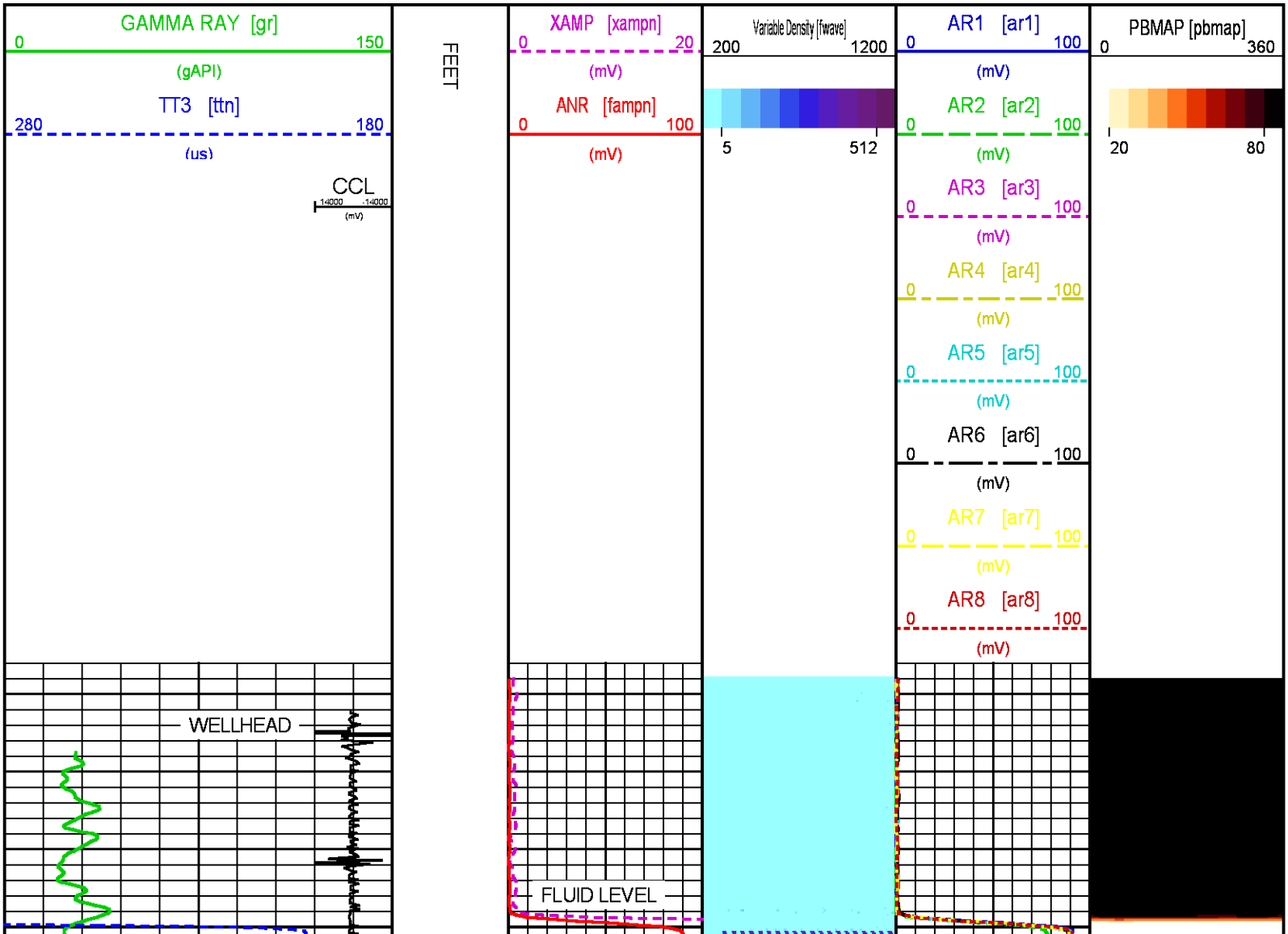
F1:AR3	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE T-R3
F1:AR4	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE T-R4
F1:AR5	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE T-R5
F1:AR6	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE T-R6
F1:AR7	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE T-R7
F1:AR8	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE T-R8
F1:CCL	Jun 18 13:14:05 2016	CASING COLLAR LOCATOR
F1:FAMPN	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Jun 18 13:14:05 2016	FAR WAVE FORM
F1:GR	Jun 18 13:14:05 2016	GAMMA RAY
F1:PBMAP	Jun 18 13:14:05 2016	PERCENT BOND CEMENT MAP
F1:TTN	Jun 18 13:14:05 2016	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Jun 18 13:14:05 2016	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

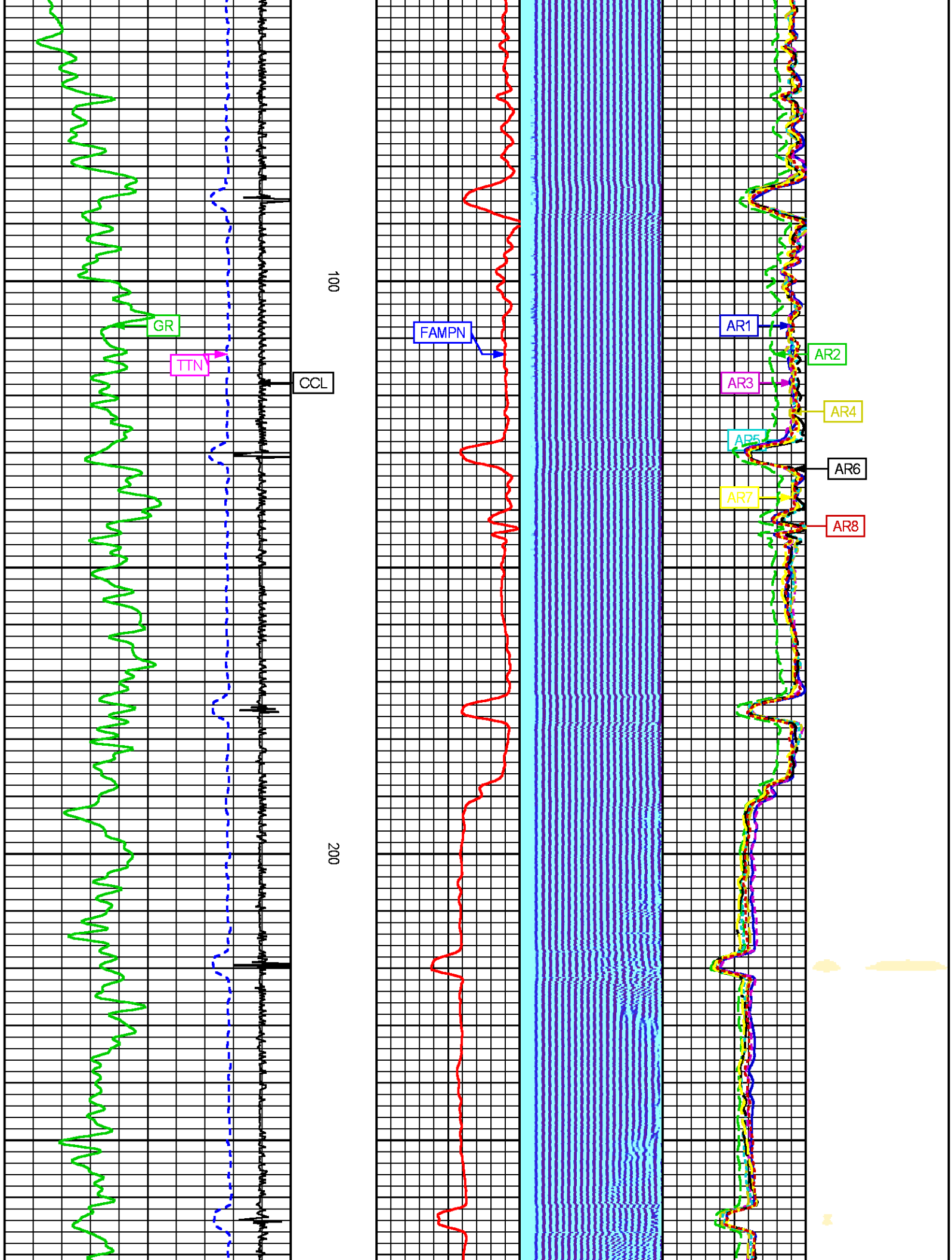
CURVE MEASURE POINT OFFSET

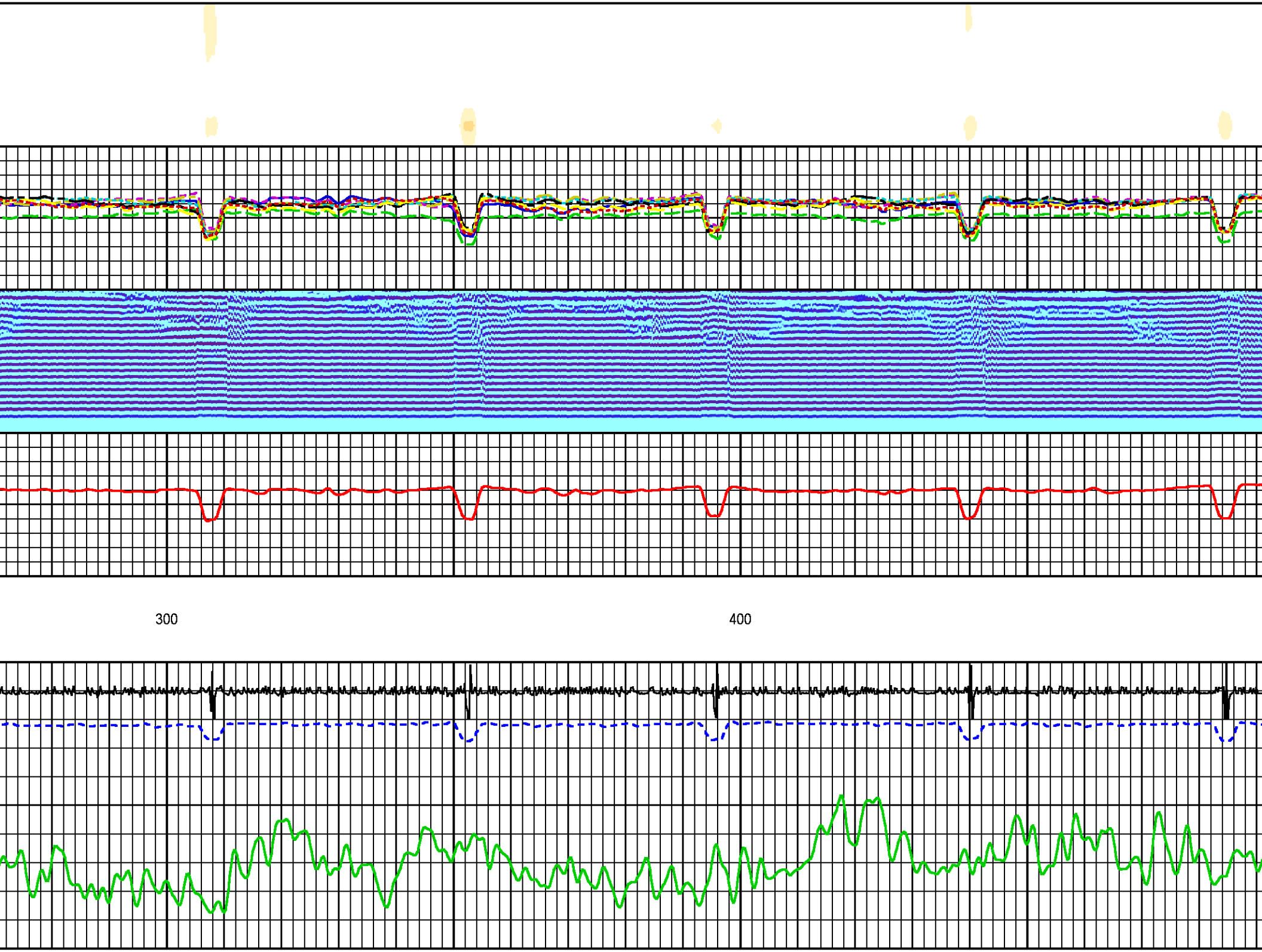
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
AR1	11.25	AR5	11.25	CCL	5.75	XAMPN	11.25
AR2	11.25	AR6	11.25	FAMPN	11.25		
AR3	11.25	AR7	11.25	GR	1.75		
AR4	11.25	AR8	11.25	TTN	11.25		

Presentation : BHI3XZN3R1:C:\Users\spenjosj\Documents\VDIS\Jobs\WPX\GM322-9\CH107928\secondary-ral.fvpdf [5"/100' Scale]
Plot Interval : 17.75 - 6891.75 Feet

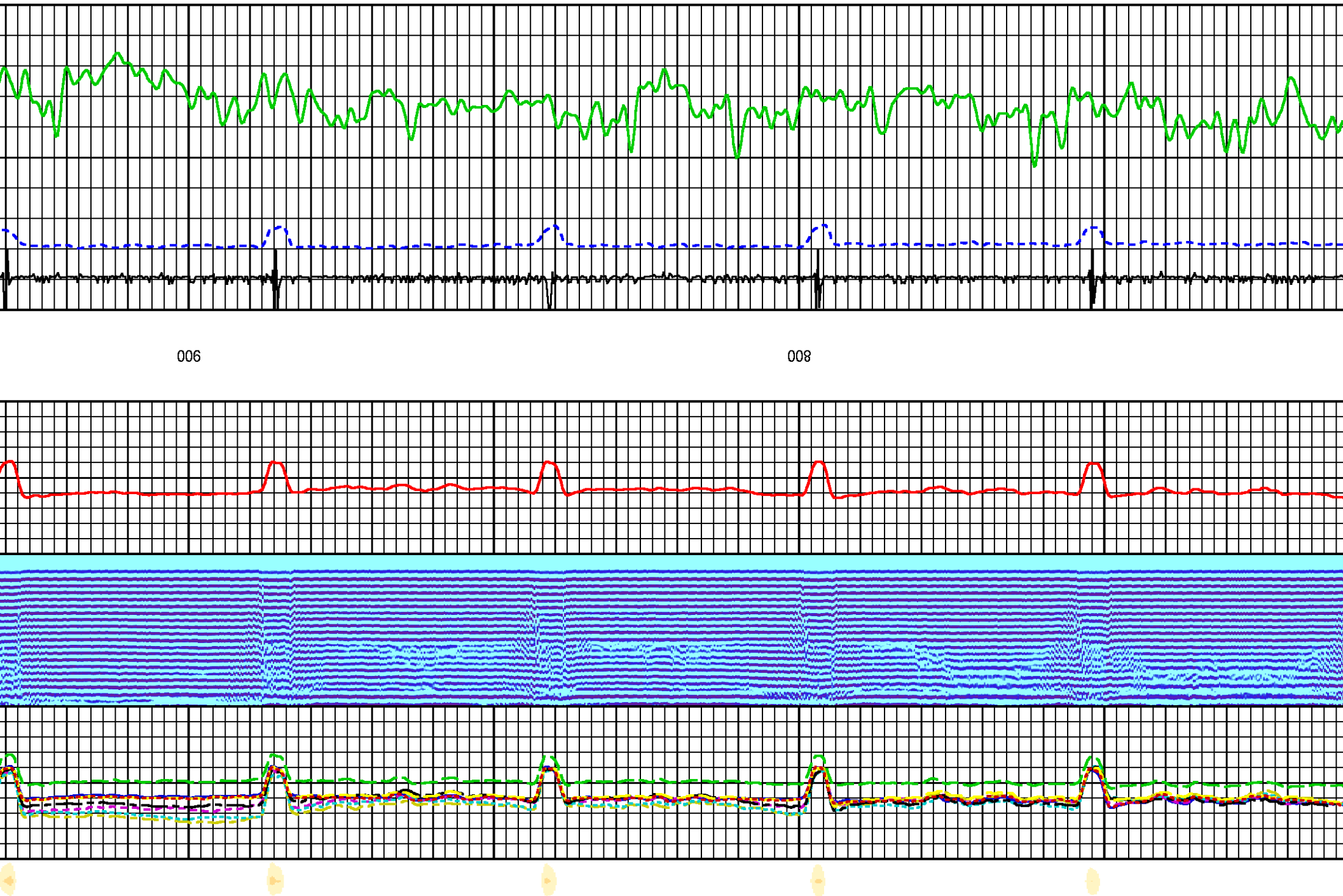
Data File 1 : F1 : BHI3XZN3R1:C:\Users\spenjosj\Documents\VDIS\Jobs\WPX\GM322-9\CH107928\n012g02.aff
Created On : Jun 18 13:14:05 2016
Company : WPX ENERGY
Well : FEDERAL GM 322-9
Field : GRAND VALLEY
File Interval : 16.75 - 6893 Feet
OCT : n012g



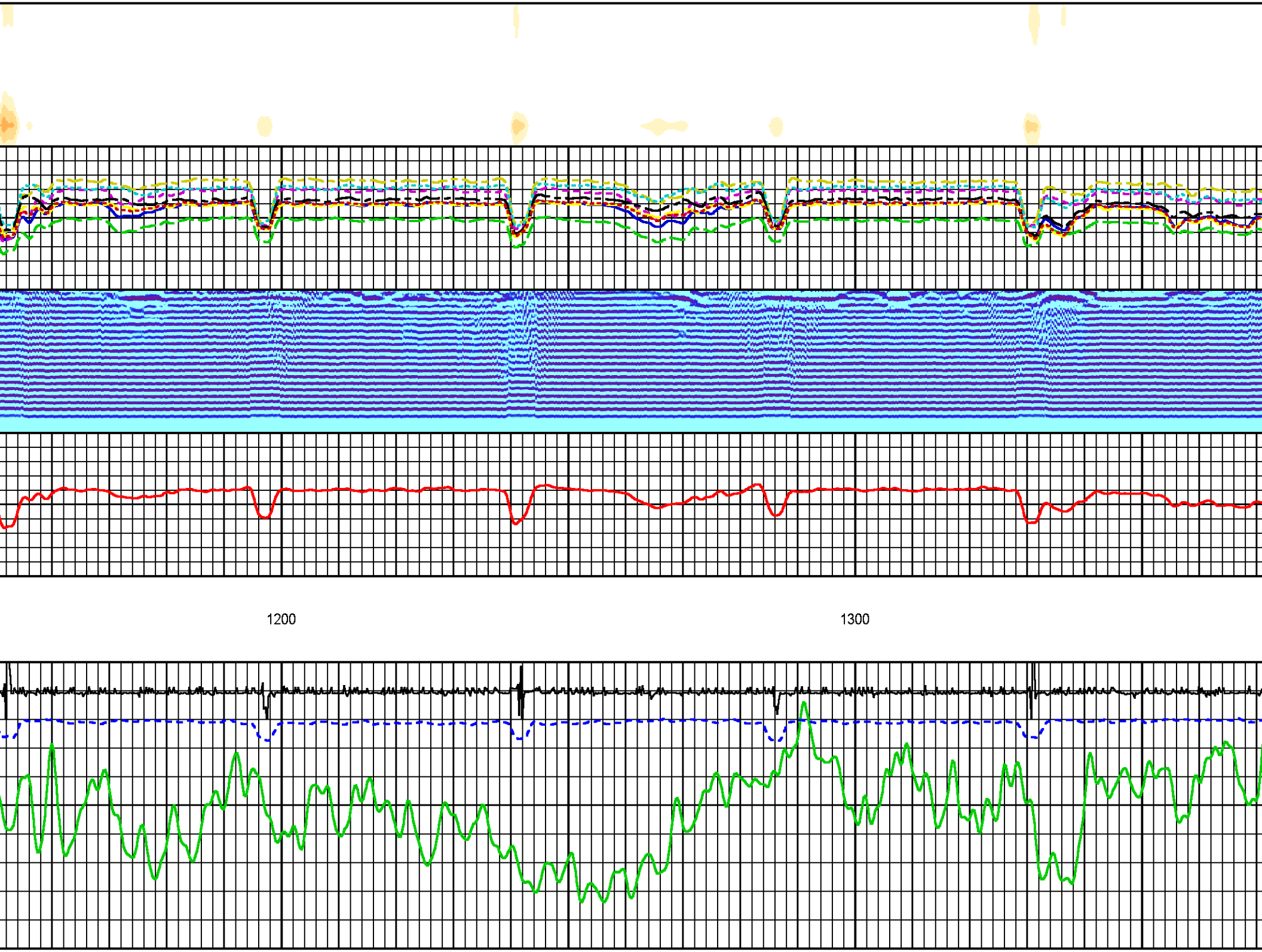

GR
TTN
CCL
FAMPN
AR1
AR2
AR3
AR4
AR5
AR6
AR7
AR8
100
200

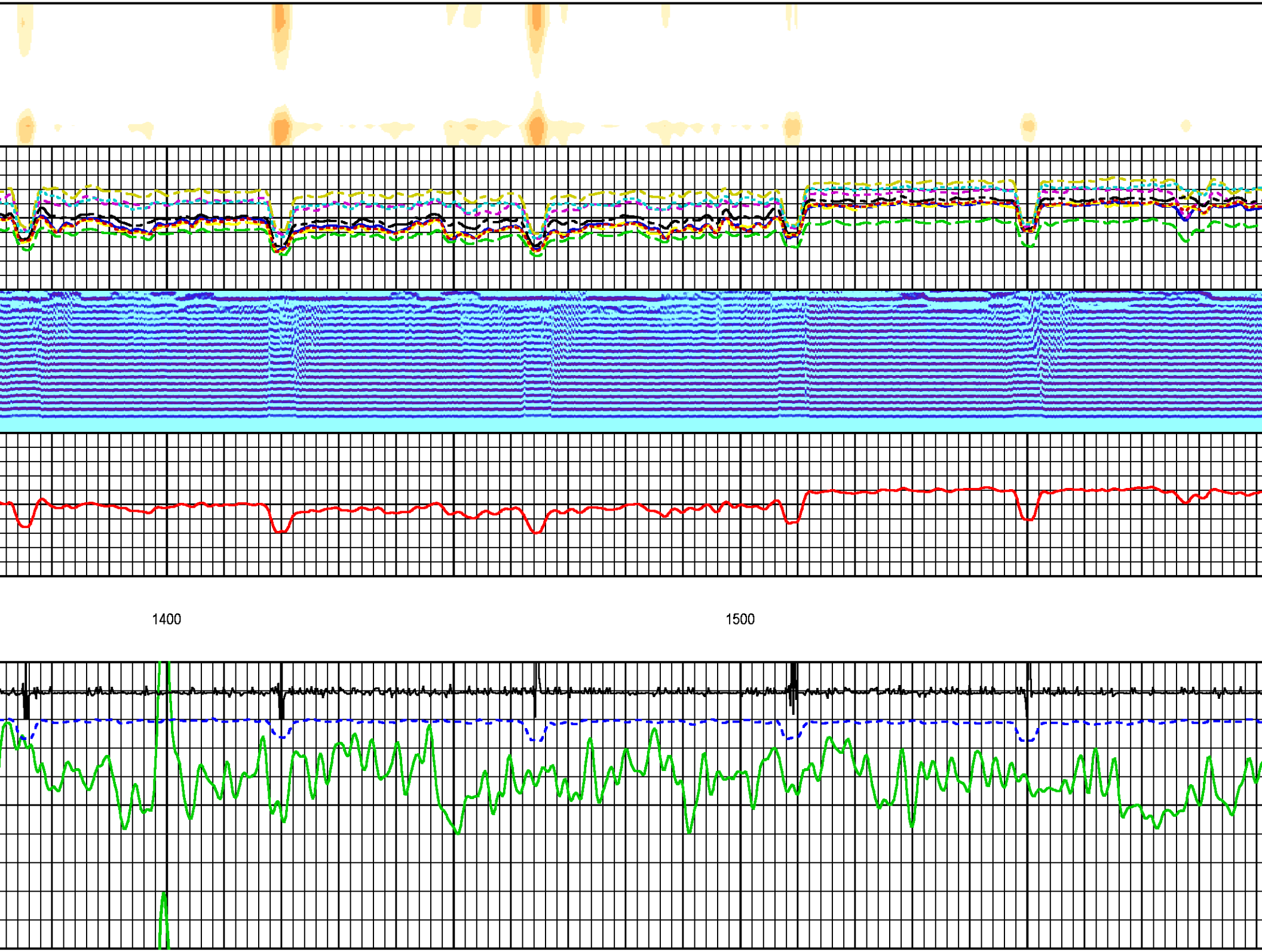

300
400

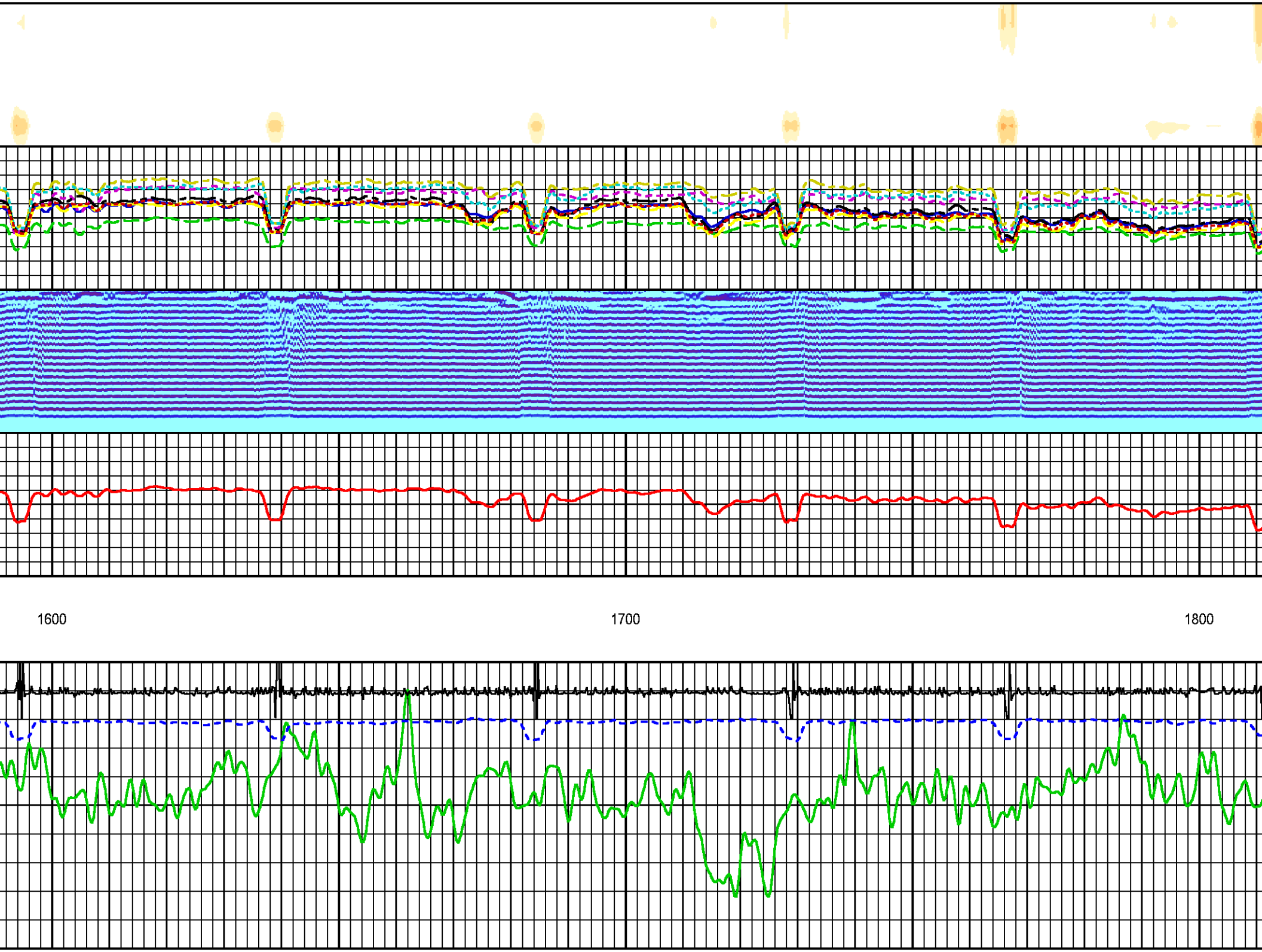
500
600
700


006
008

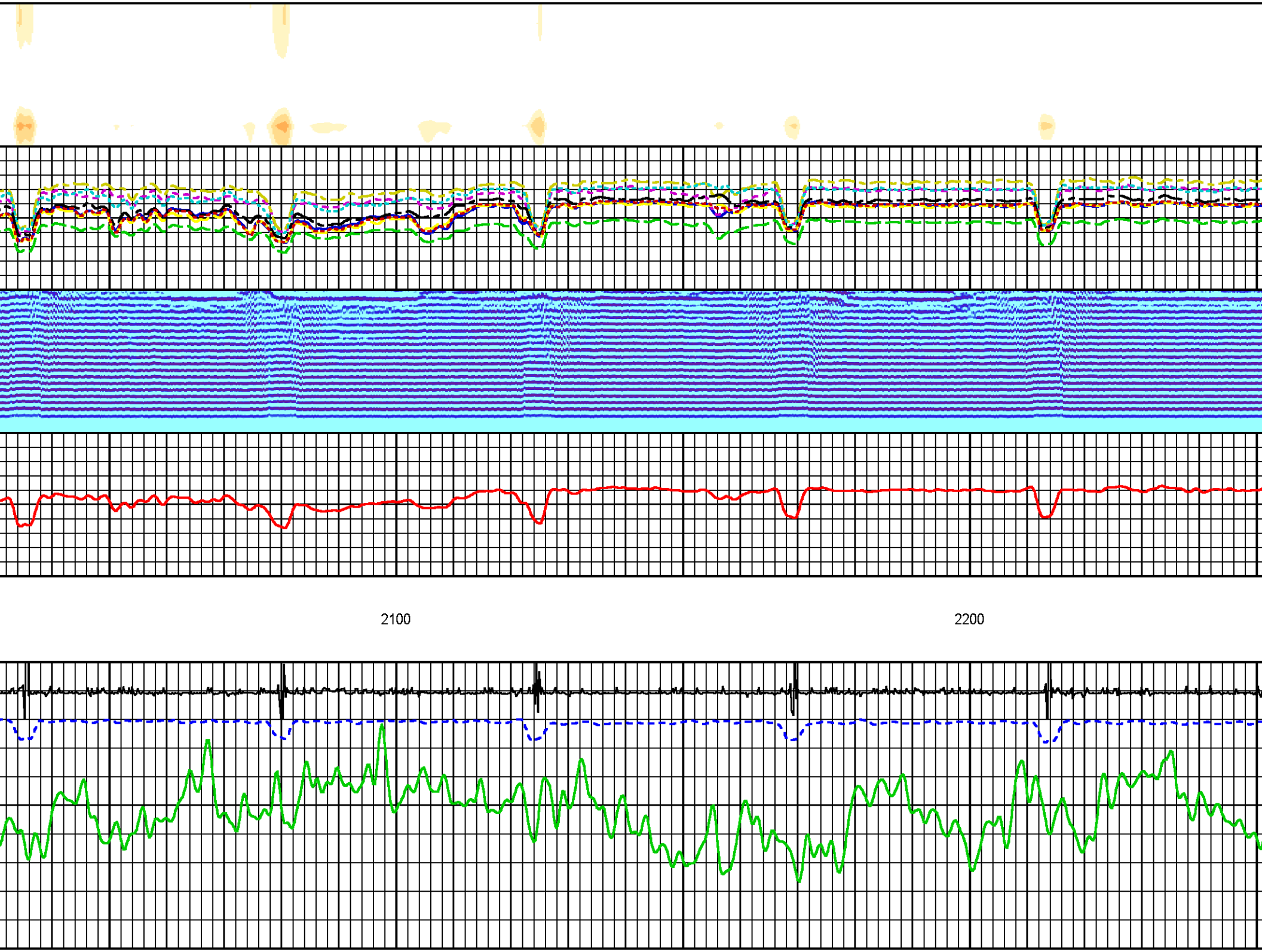
1000
1100

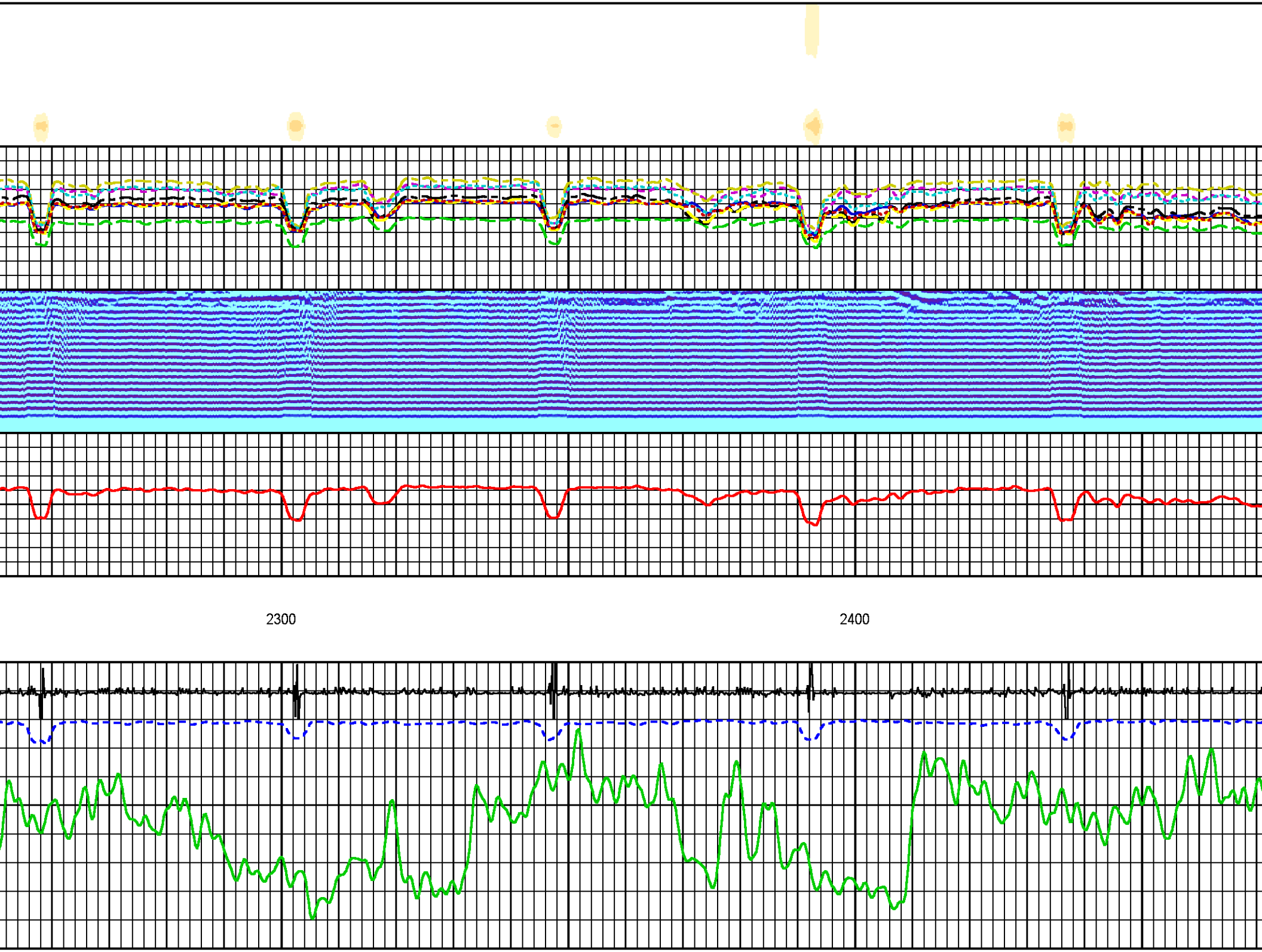

1200
1300

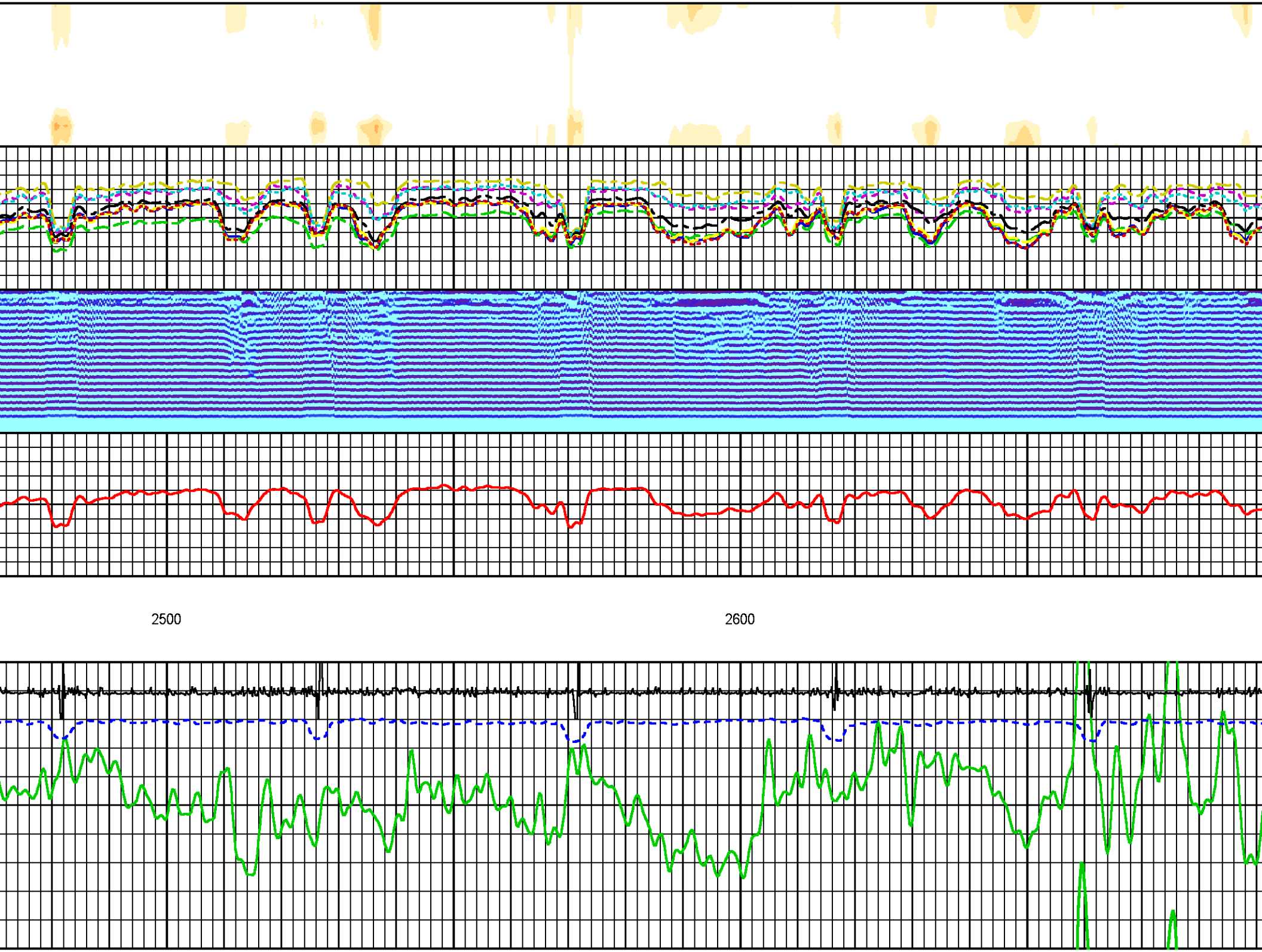

1400
1500


1600
1700
1800

1900
2000


2100
2200


2300
2400


2500
2600

2700
2800
2900

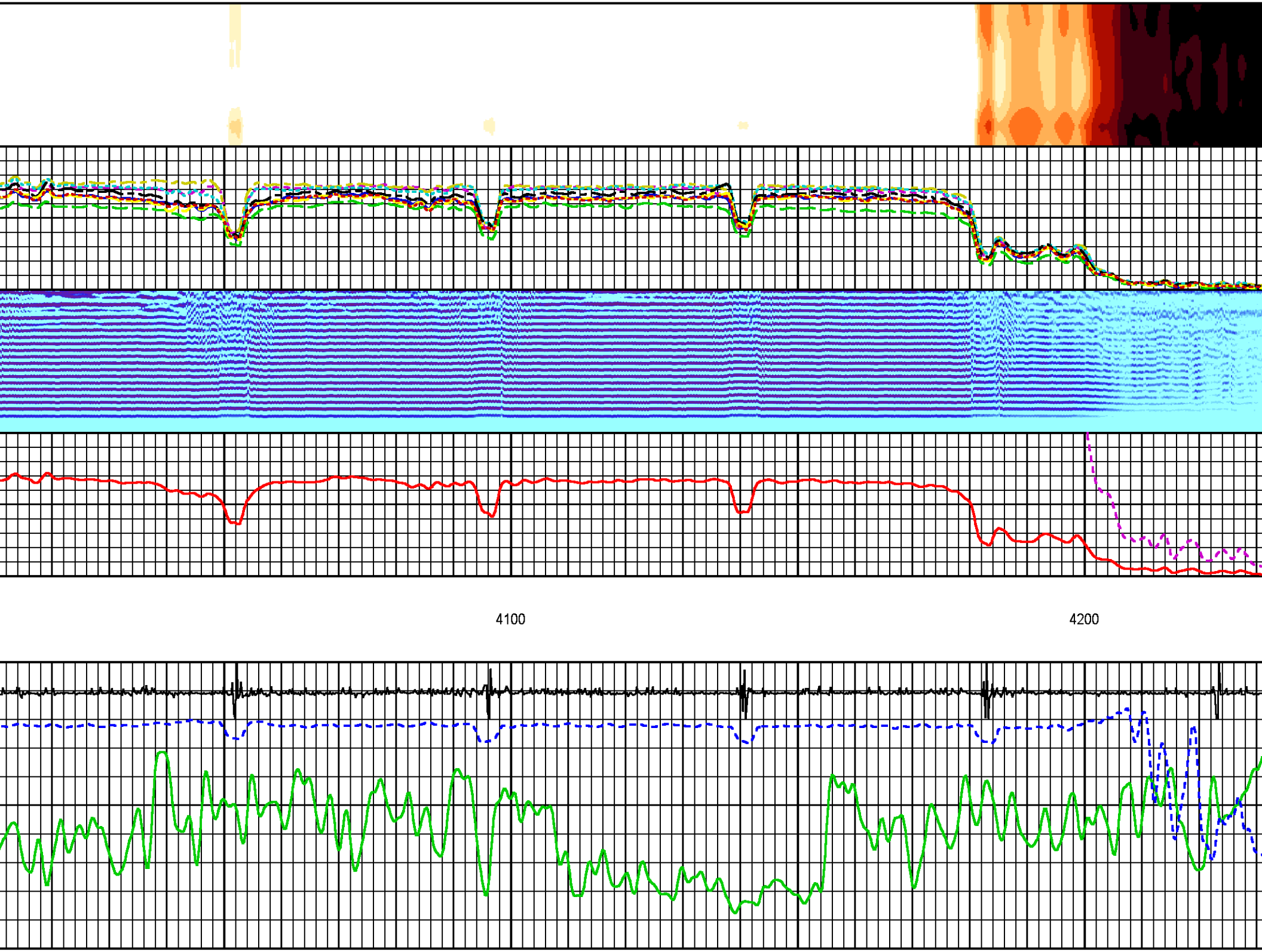
3000
3100

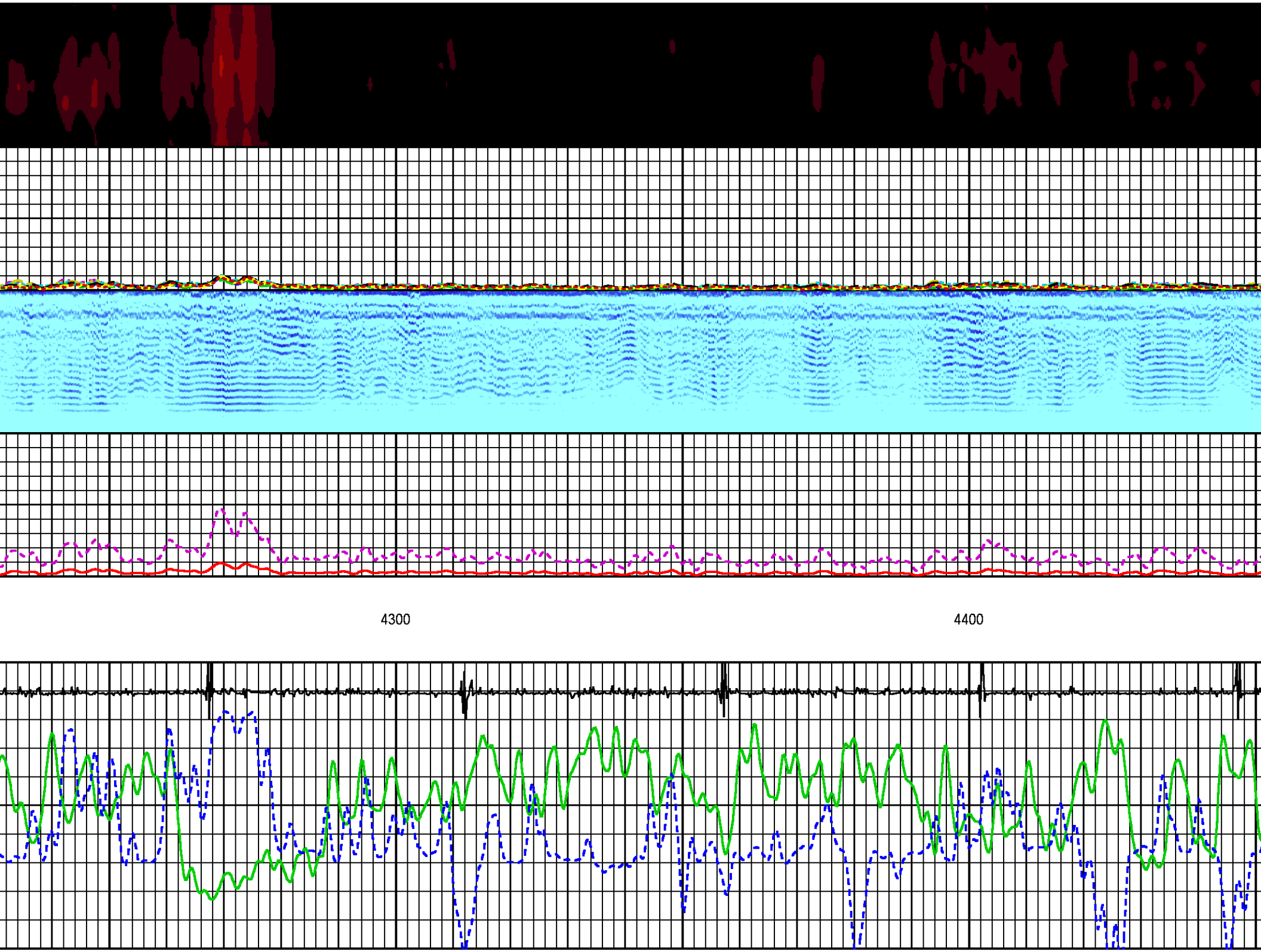
3200
3300

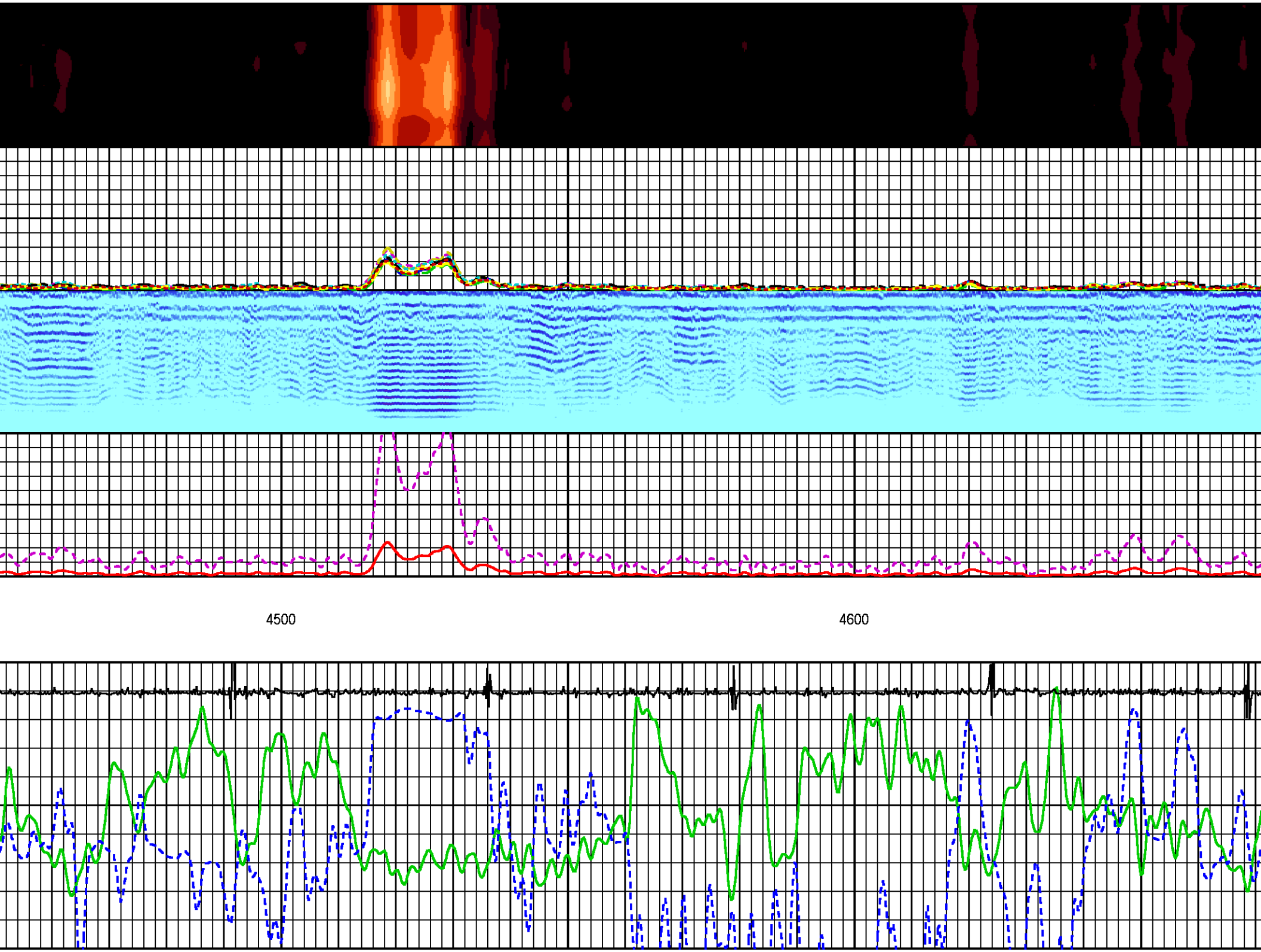
3400
3500

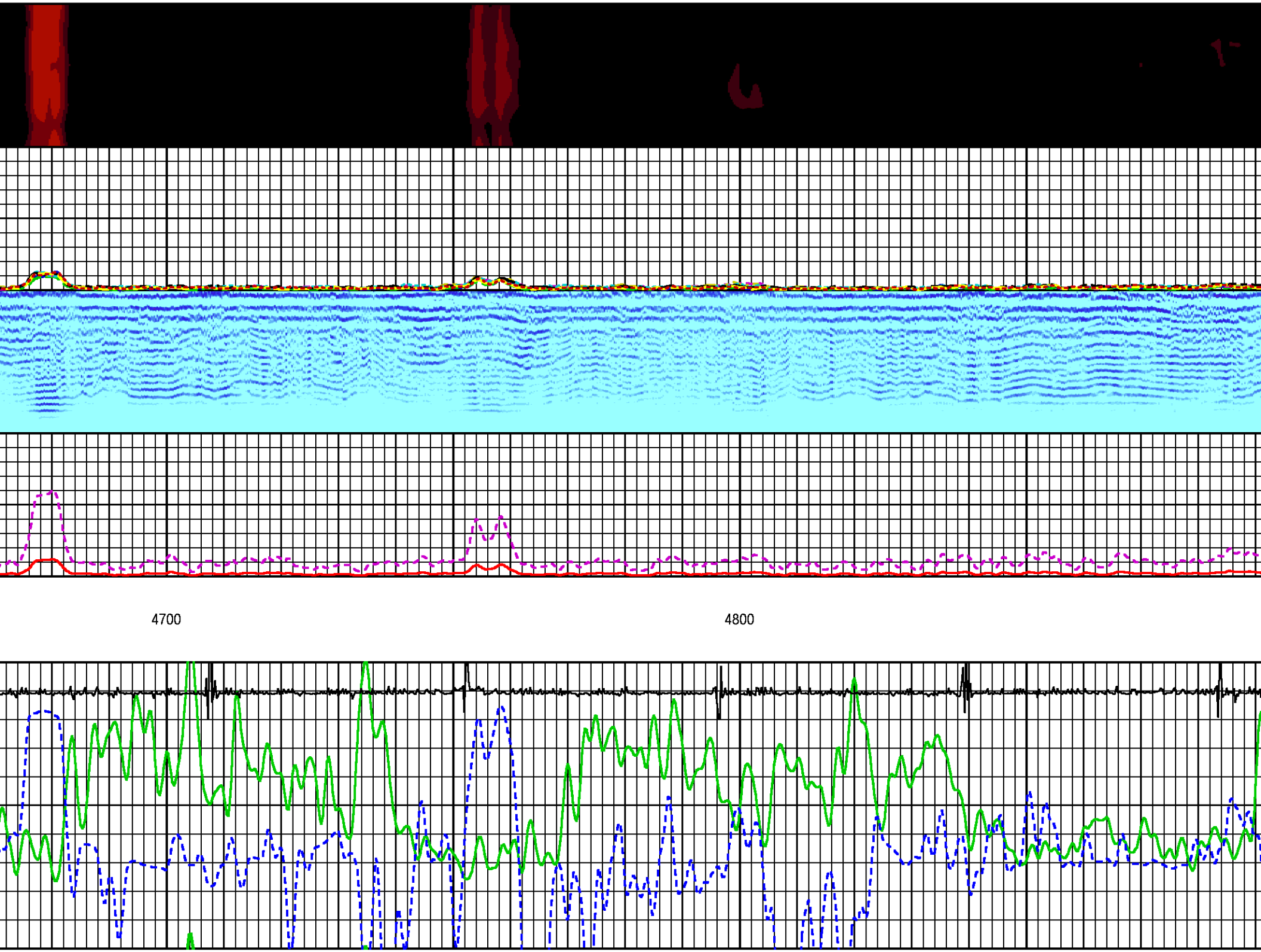
3600
3700

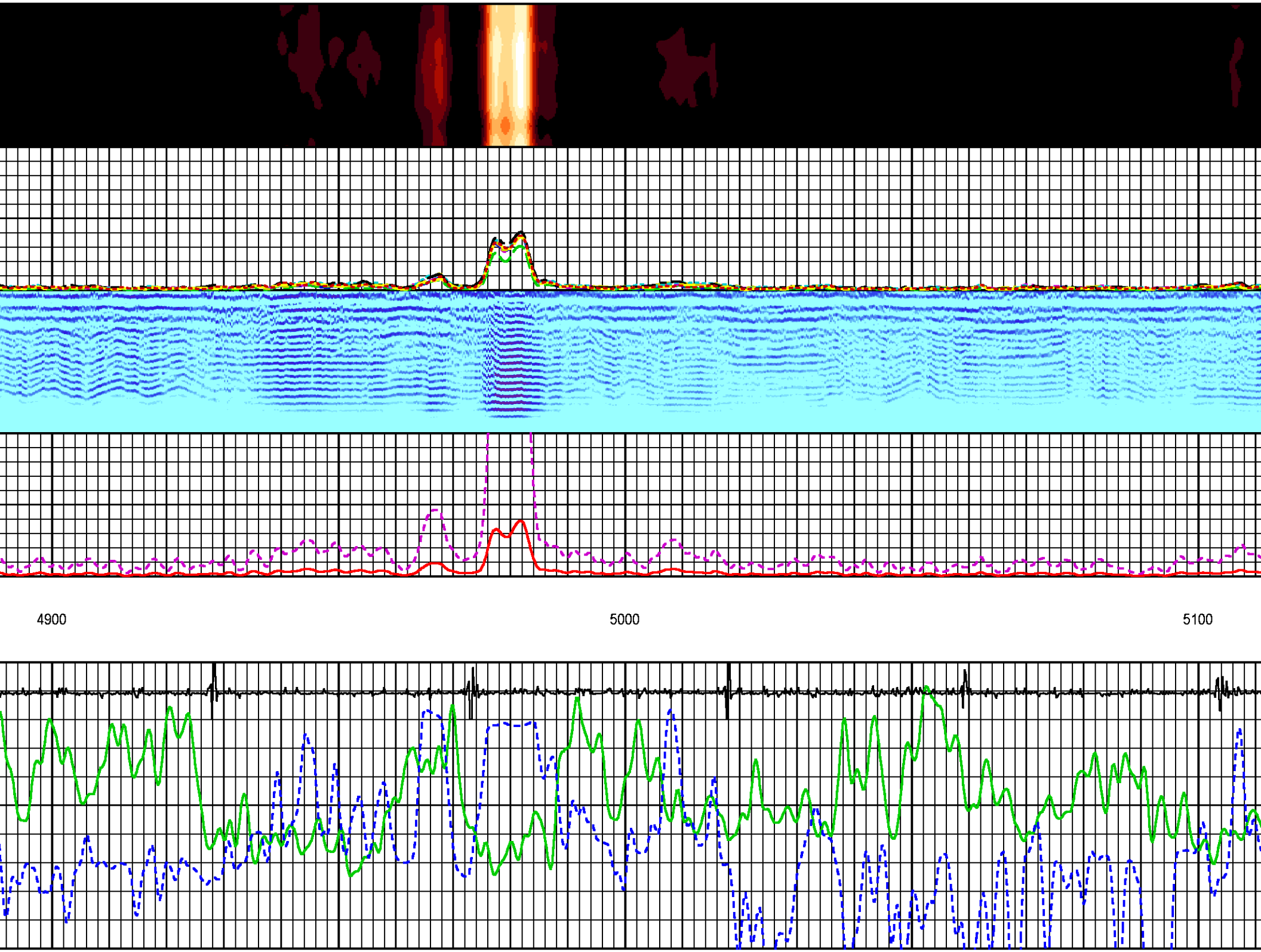
3800
SHORT JOINT
3900
4000

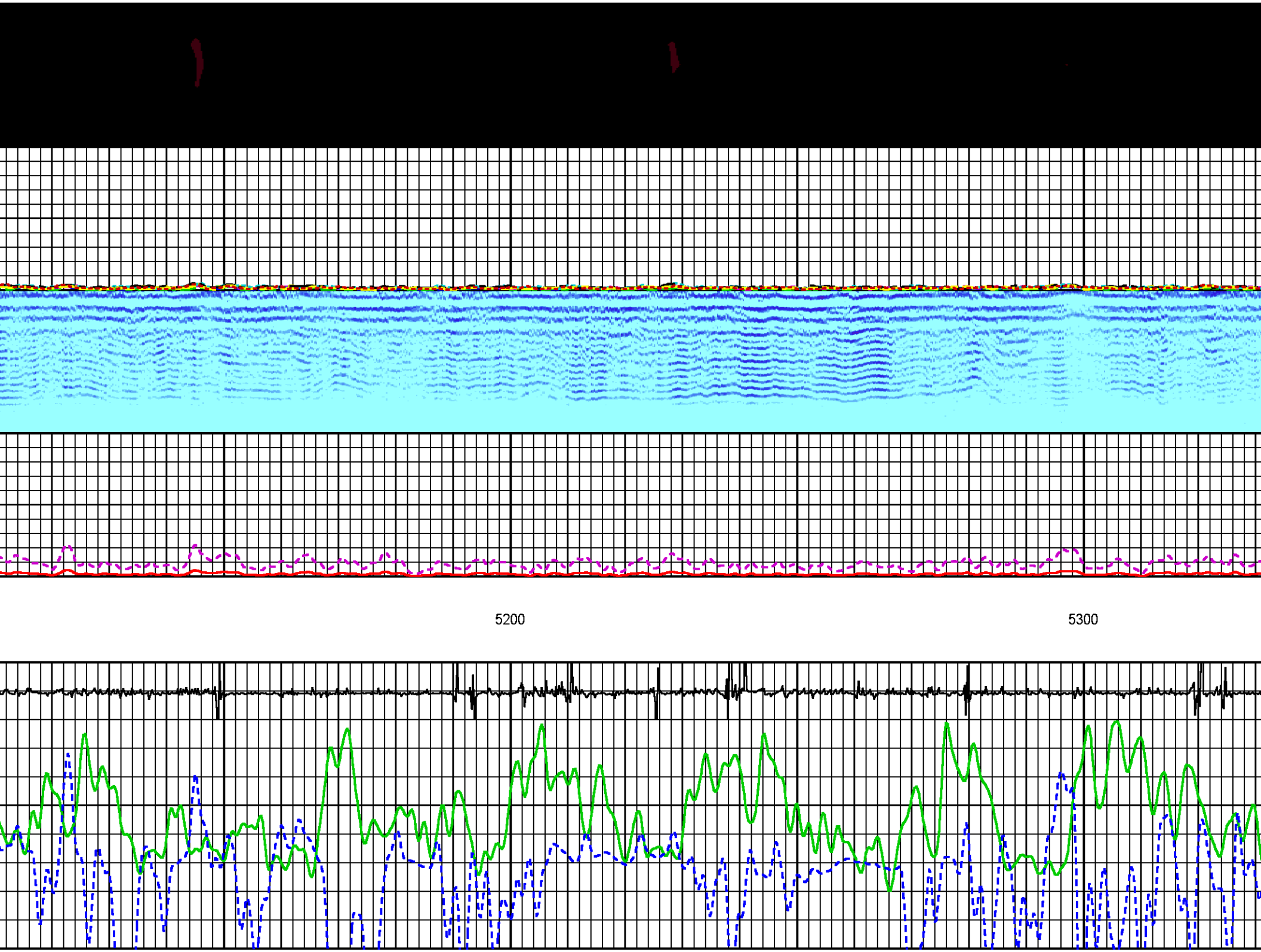

4100
4200

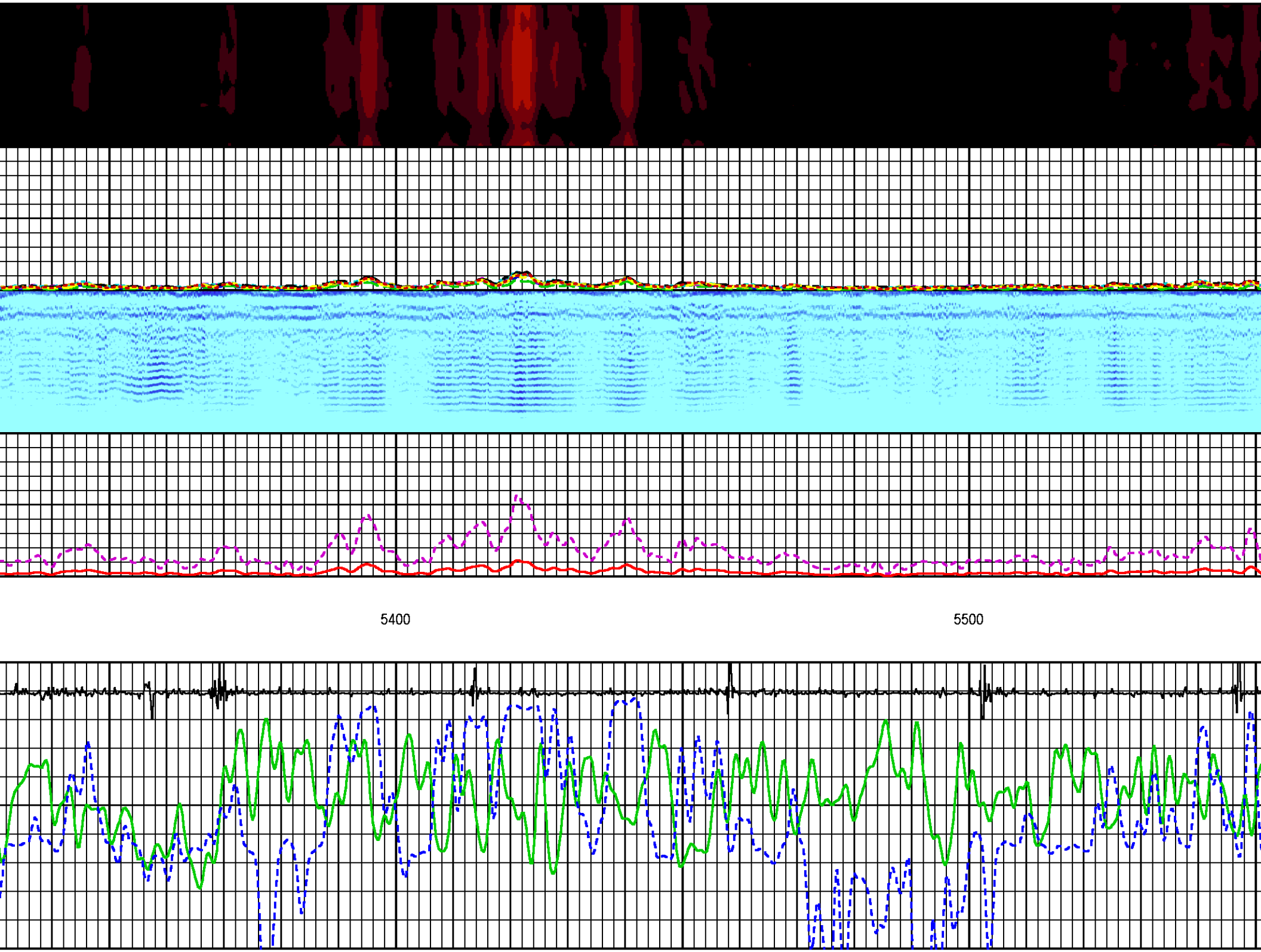

4300
4400

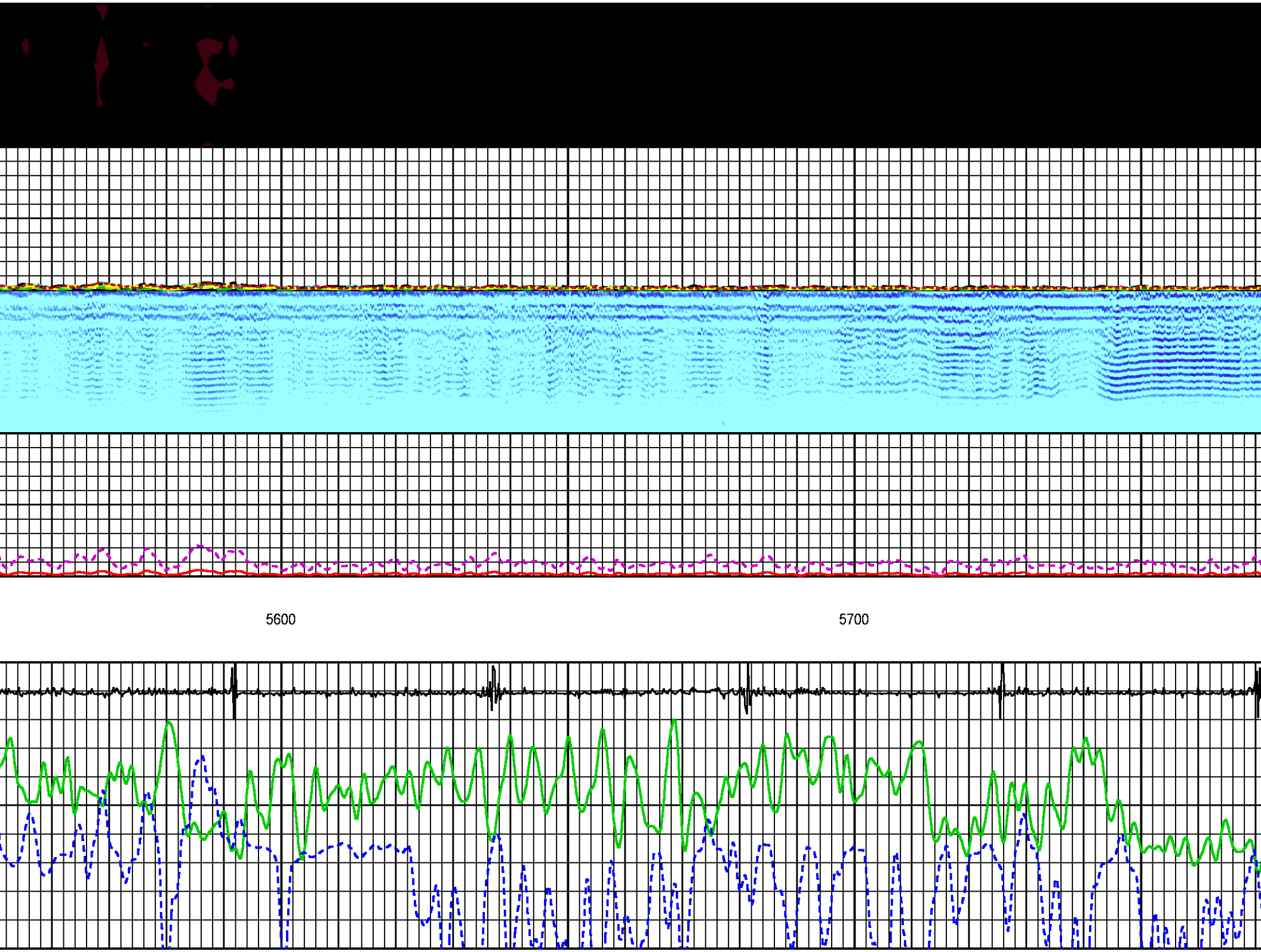

4500
4600


4700
4800

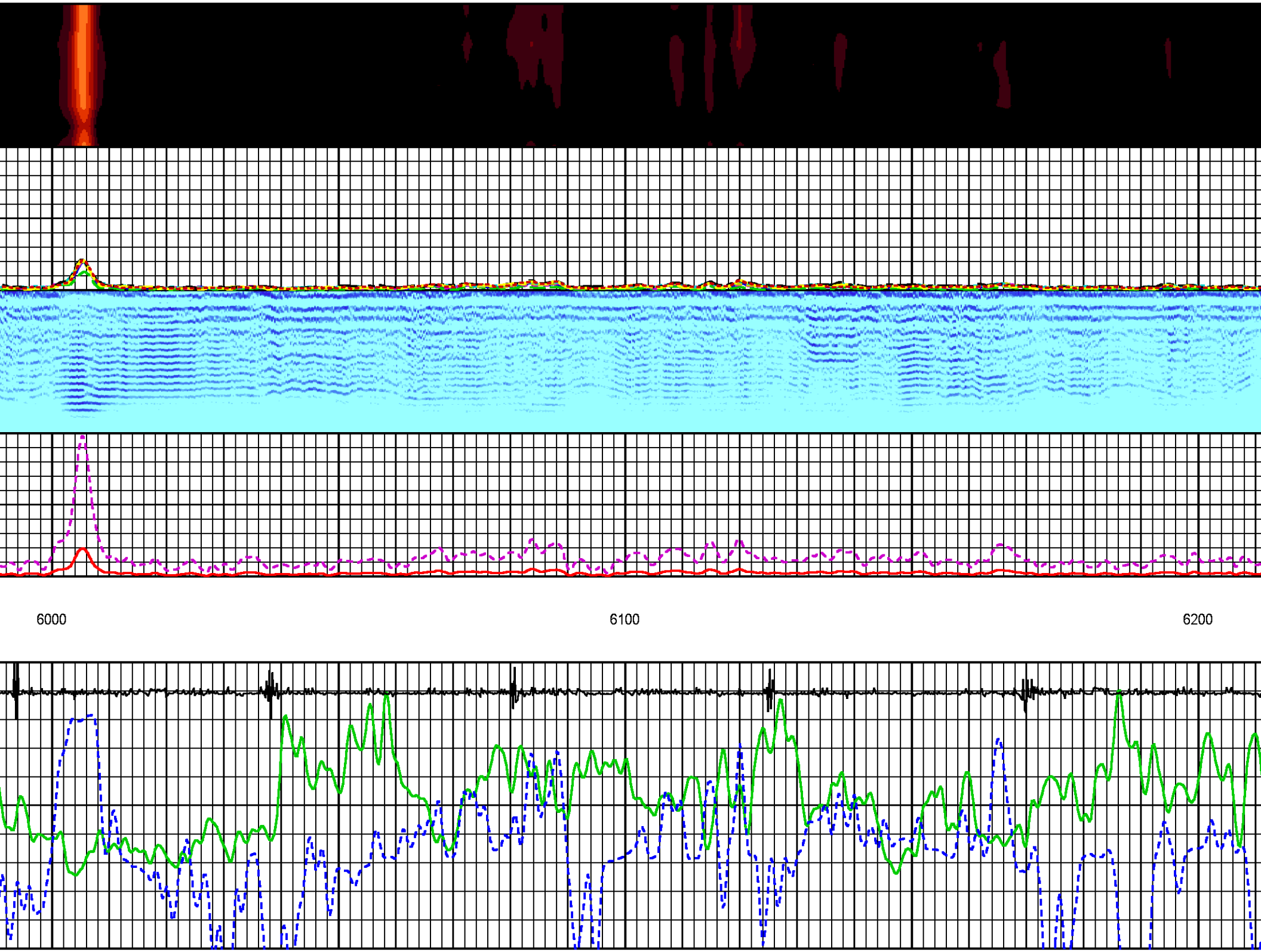

4900
5000
5100

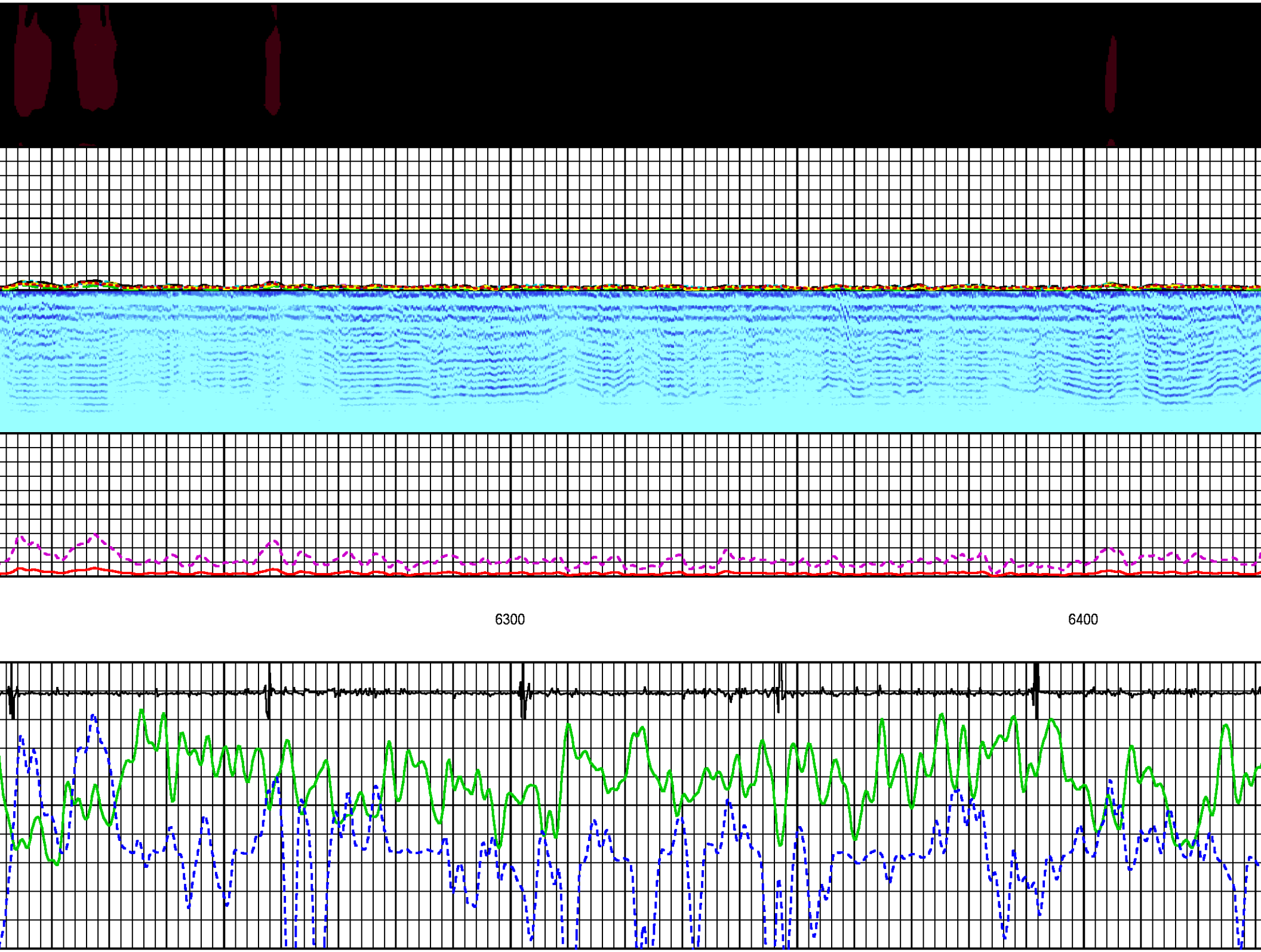

5200
5300

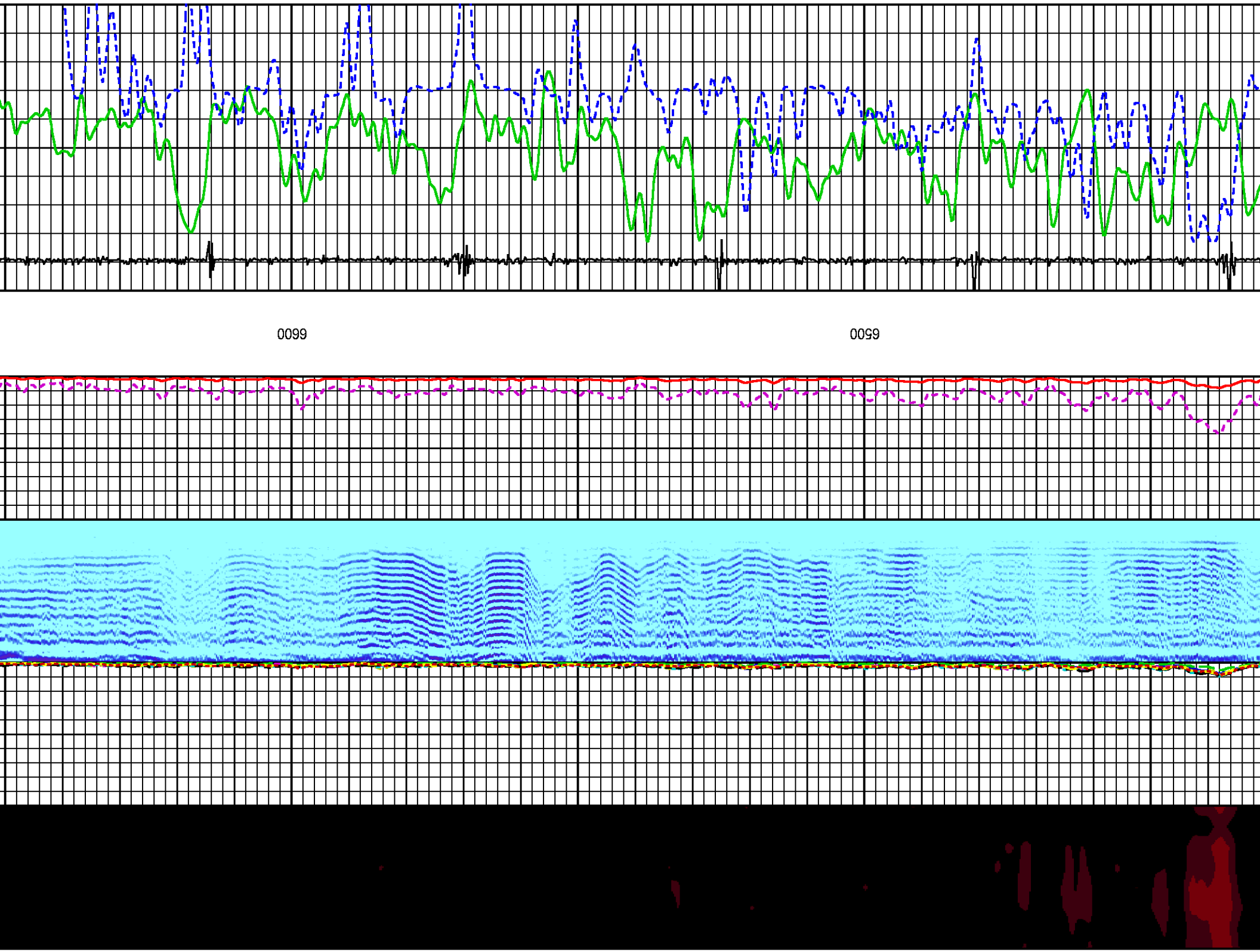

5400
5500

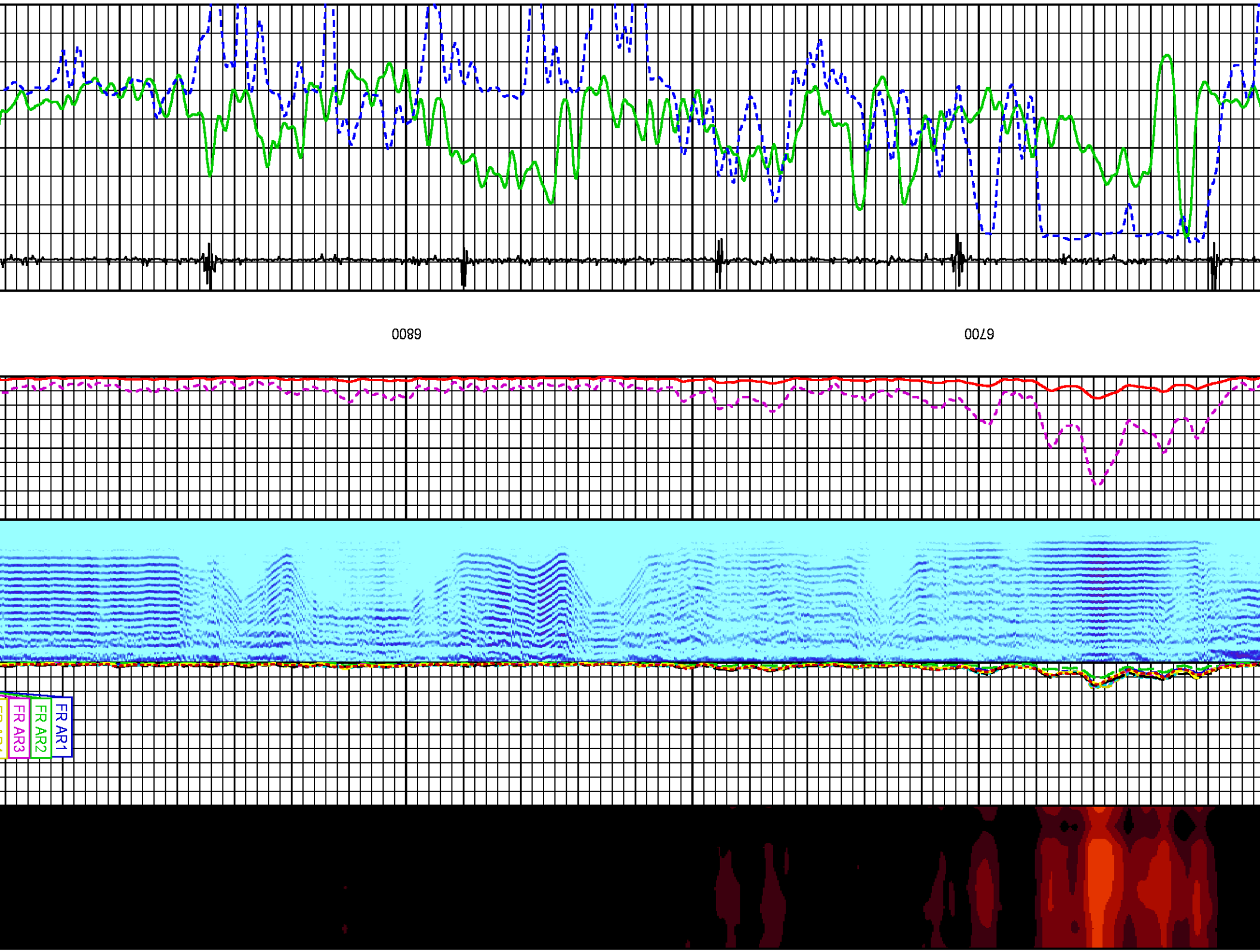

5600
5700

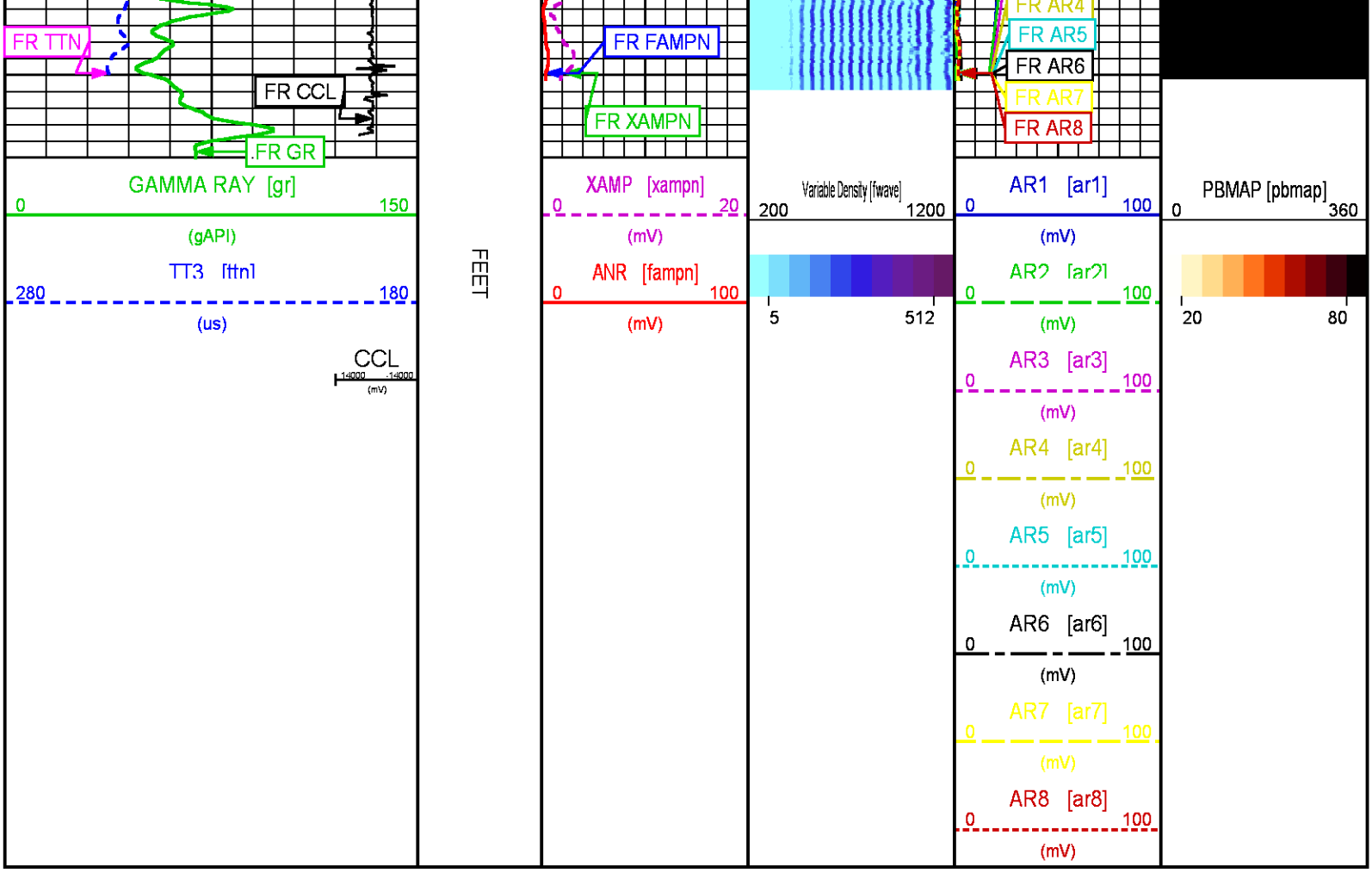
5800
5900


6000
6100
6200


6300
6400


0099
0099


6800
6700
FR AR1
FR AR2
FR AR3



CALIBRATION / VERIFICATION SUMMARY

Source File: C:\Users\spenjosj\Documents\VDIS\Jobs\WPX\GM322-9\CH107928\n012g.tp1

RAL PRIMARY CALIBRATION SUMMARY

TOOL #: 1426XA 10417452

DATE/TIME PERFORMED: Fri Jun 17 09:41:12 2016

UNIT #: 3885TC 6685

	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)	-0.03	0.13	0.01	0.11	0.03	-0.01	-0.02	-0.06	-0.02	0.20	-0.09
AMP FLUID (mV)	110	110	110	110	110	109	110	109	110	146	109
TT (us)	215	215	215	215	215	215	214	213	215	329	214
M FACTOR	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	1.03	0.92

RAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1426XA 10417452

DATE/TIME PERFORMED: Sat Jun 18 12:36:36 2016

DAYS SINCE CAL: 1

UNIT #: 3885TC 6685

CABLE #: HL6685 SMALL1

	NEAR (mV)	R1 (mV)	R2 (mV)	R3 (mV)	R4 (mV)	R5 (mV)	R6 (mV)	R7 (mV)	R8 (mV)	FAR (mV)	CAL (mV)
ZERO	0.02	0.05	-0.03	0.00	0.00	-0.08	0.01	-0.01	-0.02	0.11	-0.06
AMP AIR	0.51	-0.15	-0.12	0.34	0.42	0.86	0.99	0.06	0.30	0.37	100.15

SHOP M FACTOR	SHOP A FACTOR	WIRELINE FACTOR
0.92	0.00	1.00

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1355XA 11871510

DATE/TIME PERFORMED: Fri Jun 17 09:45:46 2016

UNIT #: 3885TC 6685

CALB JIG #: 4702NK BA-905

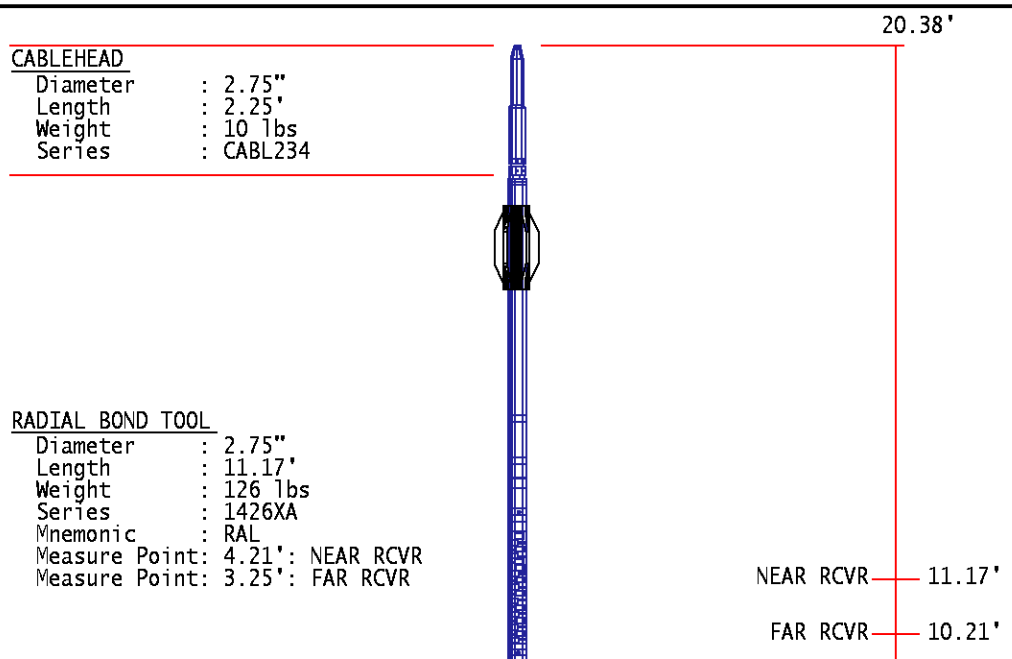
	BACKGROUND (cts)	CALBRTR ON (cts)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	54.71	230.84	176.1	0.852	46.59	196.59	150

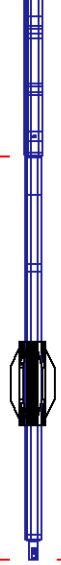
INSTRUMENT CONFIGURATION

Source File: C:\Users\spenjosj\Documents\VDIS\Jobs\WPX\GM322-9\CH107928\n012g~-tdg.meta

INSTRUMENT CONFIGURATION

Source File: /dat1a/CH107928/n012g~-tdg





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: 20.38'
TOTAL WEIGHT: 225 lbs
MAX DIAMETER: 0'4.25"

COMPANY	WPX ENERGY		FILE NO: CH107928
WELL	FEDERAL GM 322-9		API NO: 05045225310000
FIELD	GRAND VALLEY		
COUNTY	GARFIELD	STATE COLORADO	

LOCATION:

SHL: 675' FNL & 558' FWL
BHL: 1668' FNL & 1930' FWL
SW/NW

SEC 9 TWP 7S RGE 96W

ELEVATIONS:

KB 6111 FT
DF
GL 6087 FT

SEC 9 T7S R96W
PAD MV 16-9
RIG: H&P 319

DATE 18-Jun-2016