BAKER HUGHES

HIGH DEFINITION INDUCTION LOG SM
COMPENSATED Z-DENSILOG SM
COMPENSATED NEUTRON LOG
GAMMA RAY LOG
CALIPER LOG

LOGS

FILE NO:	OH082511
API NO:	05045221520000
COMPANY	WPX ENERGY INC.
WELL	WPX ENERGY PA 13-2
FIELD	PARACHUTE
COUNTY	GARFIELD
STATE	COLORADO

Ver. 3.87
2 7S 95W
GV 86-2
AZTEC 1000

LOCATION:
SHL: 2074' FSL & 1534' FWL
BHL: 2394' FSL & 581' FWL
SEC 2 TWP 7S RGE 95W

OTHER SERVICES

PERMANENT DATUM	GL	ELEVATION	5821 FT
LOG MEASURED FROM	KB	25 FT	ABOVE P.D.
DRILL. MEAS. FROM	KELLY BUSHING		

ELEVATIONS:

KB	5846 FT
DF	5845 FT
GL	5821 FT

DATE		9 FEB 2014			
RUN	TRIP	1	1		
SERVICE ORDER		617149			
DEPTH DRILLER		7595 FT			
DEPTH LOGGER		7575 FT			
BOTTOM LOGGED INTERVAL		7567 FT			
TOP LOGGED INTERVAL		0 FT			
CASING DRILLER		9.625 IN @ 898 FT		@	
CASING LOGGER		898 FT			
BIT SIZE		8.75 IN			
TYPE OF FLUID IN HOLE		WBM			
DENSITY	VISCOSITY	11.8 LB/G	49 S		
PH	FLUID LOSS	9.4	6 C3		
SOURCE OF SAMPLE		MUD TANK			
RM AT MEAS. TEMP.		2.59 OHMM @ 64.95 DEGF		@	
RMF AT MEAS. TEMP.		1.91 OHMM @ 63.75 DEGF		@	
RMC AT MEAS. TEMP.		3.16 OHMM @ 62.33 DEGF		@	
SOURCE OF RMF	RMC	MEASURED	MEASURED		
RM AT BHT		1.05 OHMM @ 169.50 DEGF		@	
TIME SINCE CIRCULATION		10.75 HOURS			
MAX. RECORDED TEMP.		169.50 DEGF			
EQUIP. NO.	LOCATION	HL-6690	CASPER		
RECORDED BY		J. OSTLER			
WITNESSED BY		MR. FRANK MOORE			

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN	32 LB/F	NA	0 FT	898 FT

BOREHOLE RECORD

BIT SIZE	FROM	TO
8.75 IN	0 FT	7595 FT

REMARKS

RUN 1 TRIP 1: HDIL/ZDL/CN/GR/CAL WAS RAN IN COMBINATION

CVOL COMPUTED USING FUTURE 4.5" CASING
BVOL & CVOL UNITS ARE IN CUBIC FEET
CALIPER WAS VERIFIED IN CASING

RHO M = 2.68 G/CC RHO F = 1.0 G/CC
MATRIX = SANDSTONE

TOOL STRING RAN WITH NEUTRON BOWSPRING DECENTRALIZER AND 1.5" HDIL STANDOFFS

THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE!
CREW: NATHAN OSTLER, BRYON COMPTON
RIG: AZTEC 1000

PAD: GV 86-2

EQUIPMENT DATA					
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3981XB	10195614	FREE
1	1	COMR	3514XB	10268508	FREE
1	1	GR	1329XB	10040864	DECENTRALIZED
1	1	CN	2446XA	10400611	DECENTRALIZED
1	1	ZDL	2234XA	120009	PAD DEVICE
1	1	KNCKL	3939XA	10159276	FREE
1	1	HDIL ELEC	1515EA	10192834	FREE
1	1	HDIL MANDRL	1515MA	10200533	1.5" STOOD OFF

MAIN LOG 2"/100FT SCALE

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

Plotted: Sun Feb 9 02:36:34 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/617149/mainR02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 800.250 ft BOTTOM DEPTH: 7614.750 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
Y AXIS CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
SP-SPDH	FILTER ()	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
BIT SIZE	BIT SIZE	8.750	in	TOP	BOTTOM
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	64.9	degF	"	"
	MUD SAMPLE RES	2.593	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	169.5	degF	"	"
	at BH REF DEPTH	7550.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	8.750	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	MUD CONDUCTIVITY		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"

RMUA MULTIPLIER 1.000

CURVE DESCRIPTION REPORT

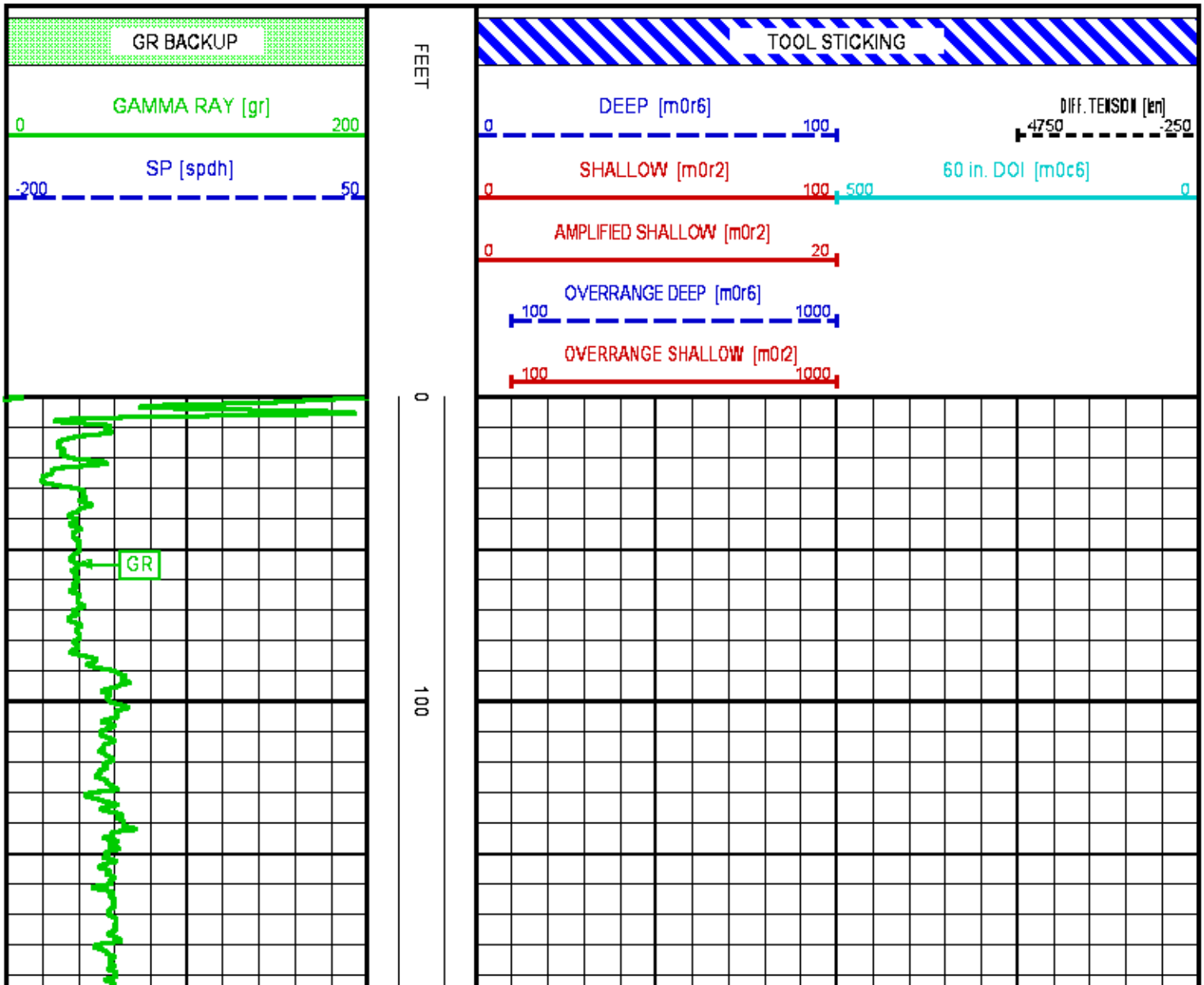
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:GR	Feb 9 01:26:52 2014	GAMMA RAY
F1:MOC6	Feb 9 01:26:52 2014	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:MOR2	Feb 9 01:26:52 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:MOR6	Feb 9 01:26:52 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SPDH	Feb 9 01:26:52 2014	SPONTANEOUS POTENTIAL PROCESSED IN COMMON REMOTE
F1:TEN	Feb 9 01:26:52 2014	DIFFERENTIAL TENSION

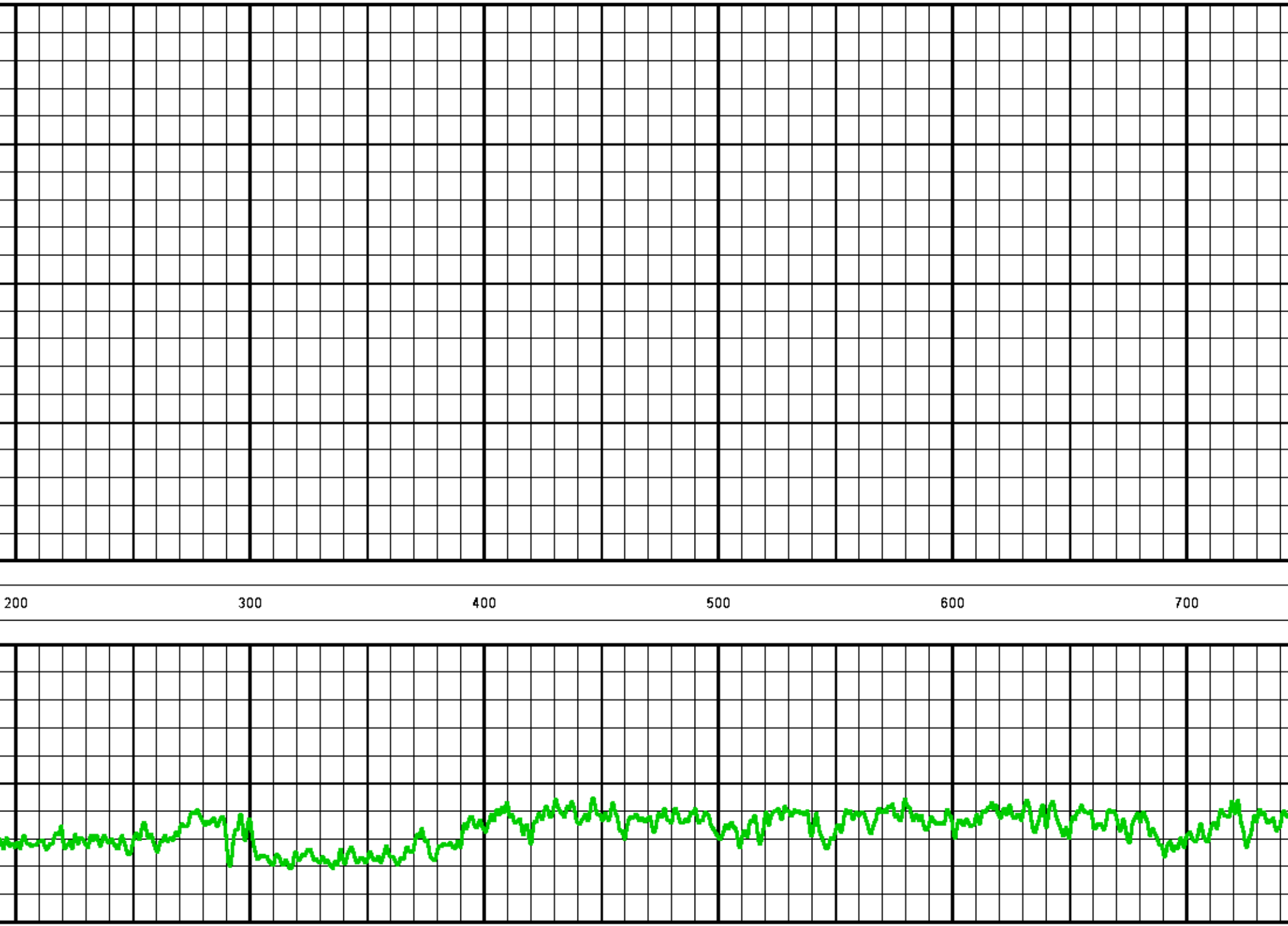
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	52.25	MOR2	8.00	SPDH	14.00		
MOC6	8.00	MOR6	8.00	TEN	0.00		

Presentation : cpu6690:/dat1a/617149/WPX_2IN.fvpdf [2"/100' Scale]
Plot Interval : 0 - 7614.75 Feet

Data File 1 : F1 : cpu6690:/dat1a/617149/main.xtf
Created On : Feb 9 01:26:52 2014
Company : WPX ENERGY INC
Well : PA 13-2
Field : PARACHUTE
File Interval : -18.75 - 7614.75 Feet
OCT : n87cb

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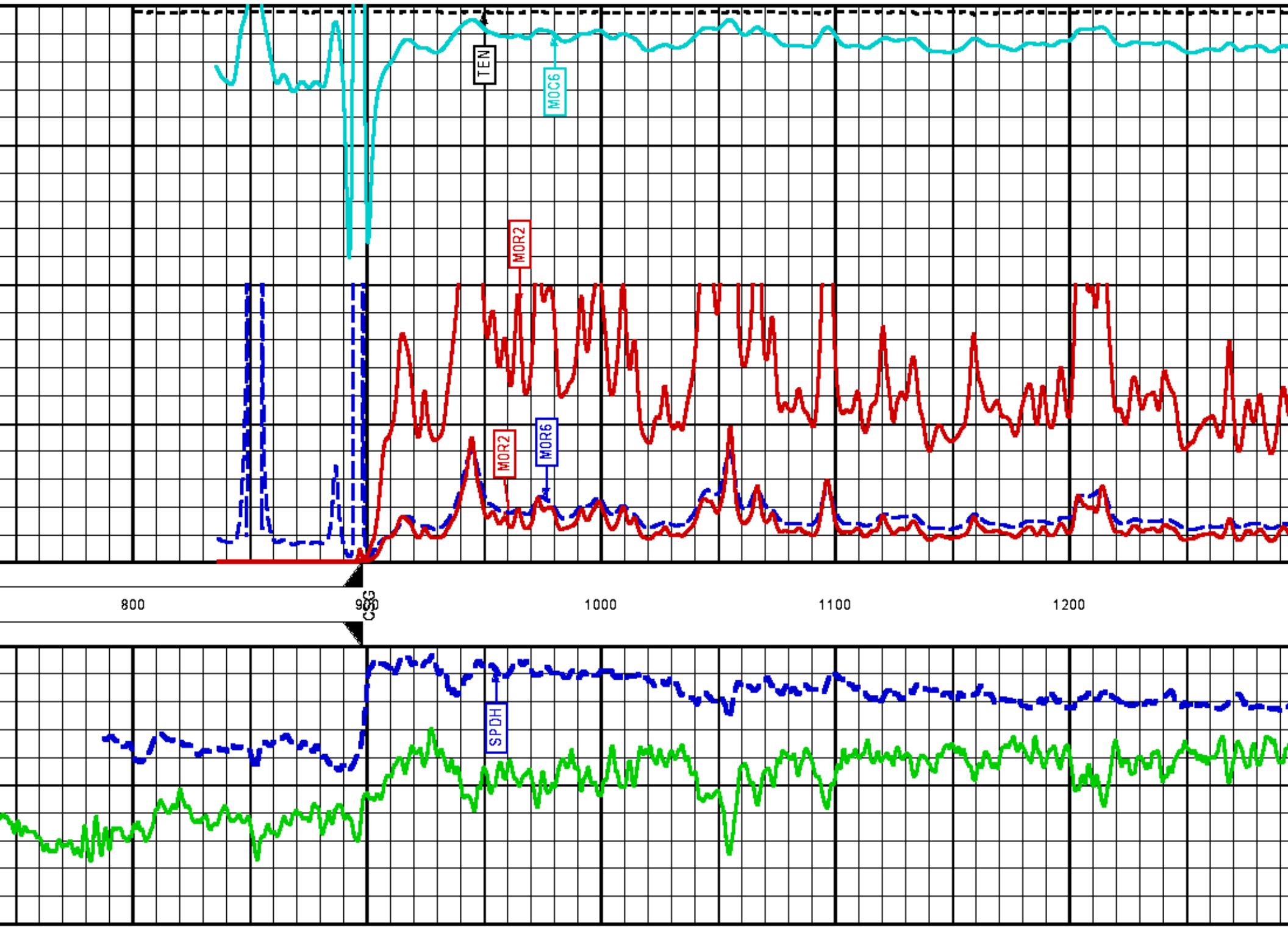
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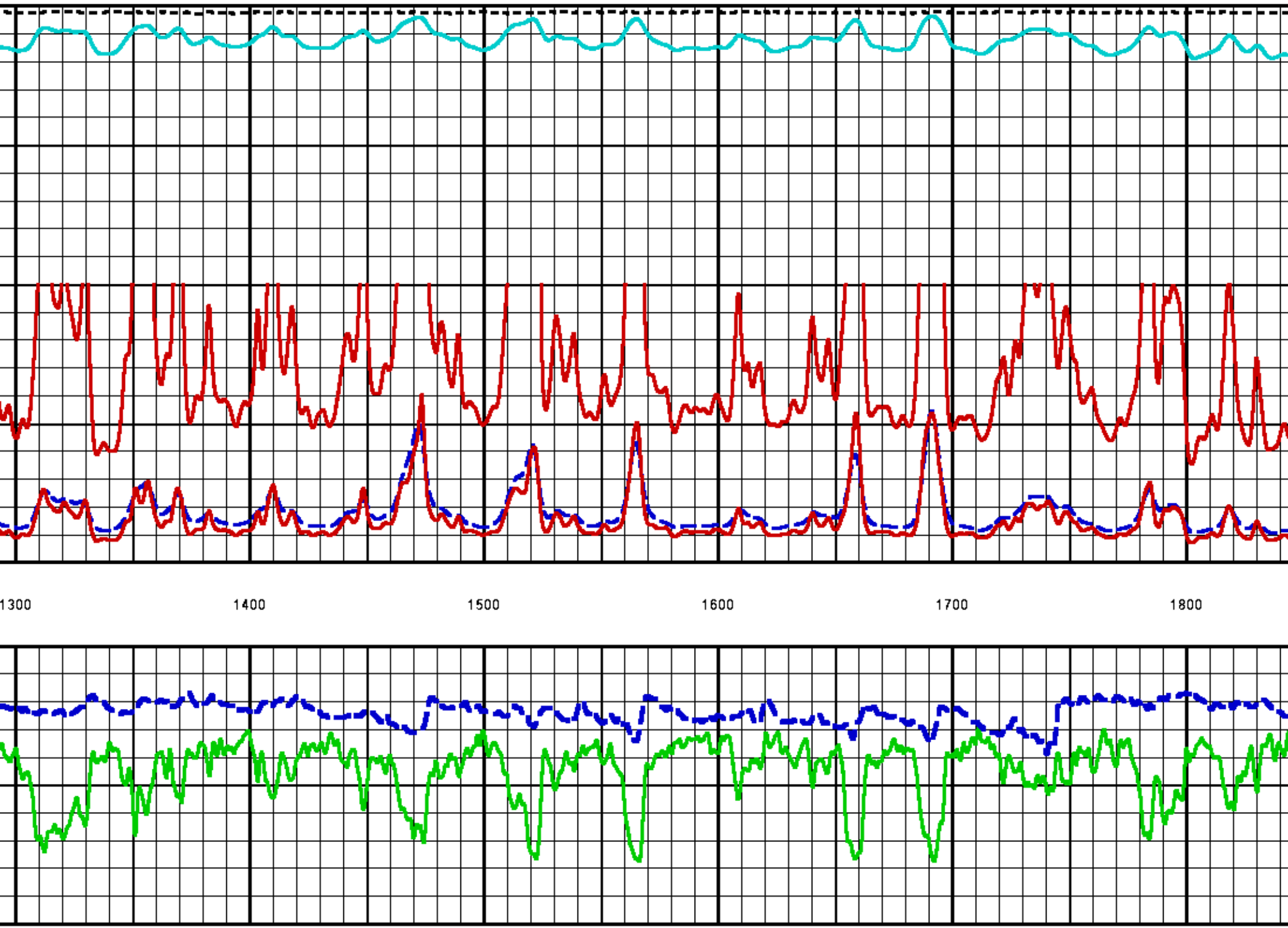
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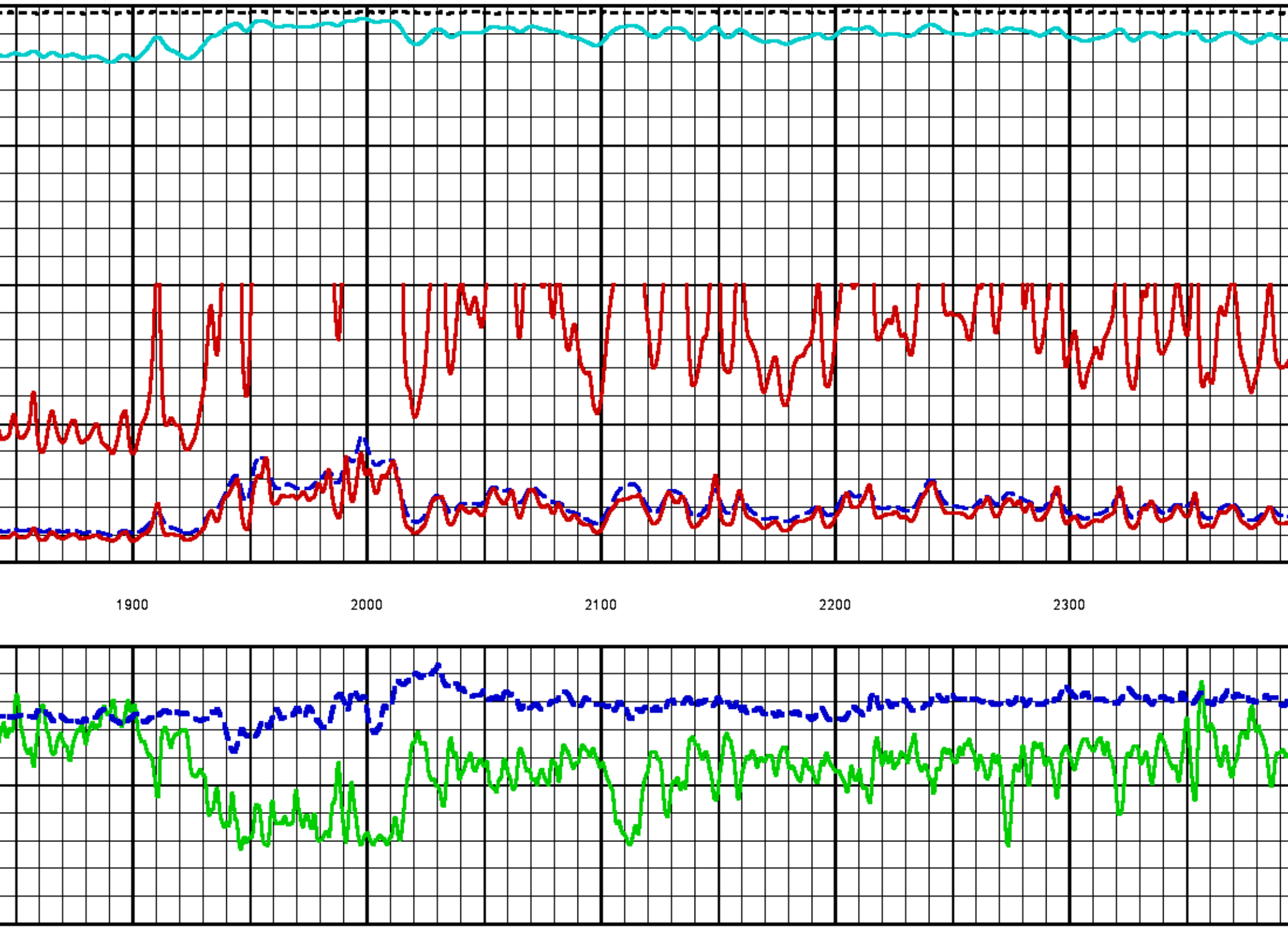
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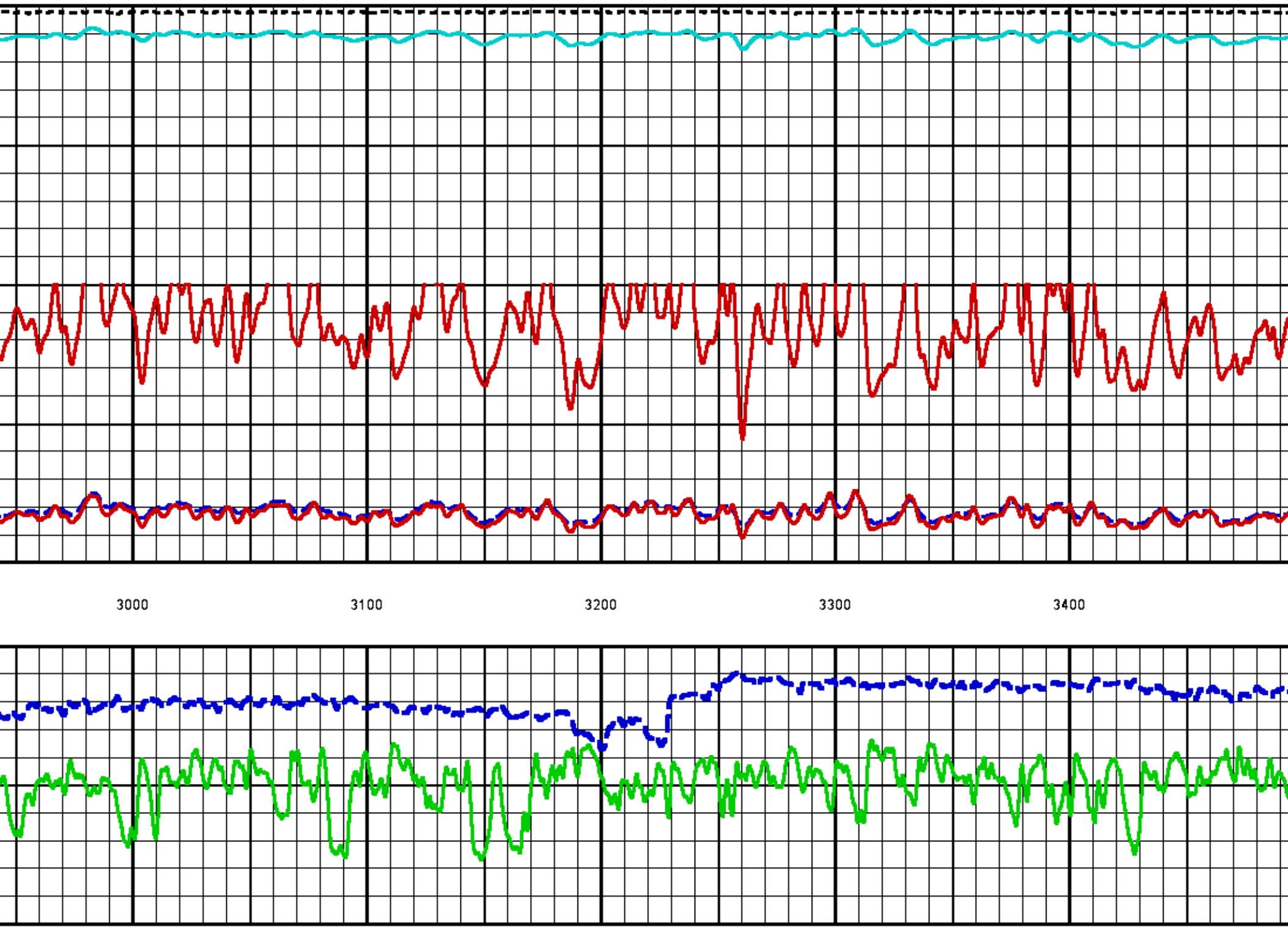
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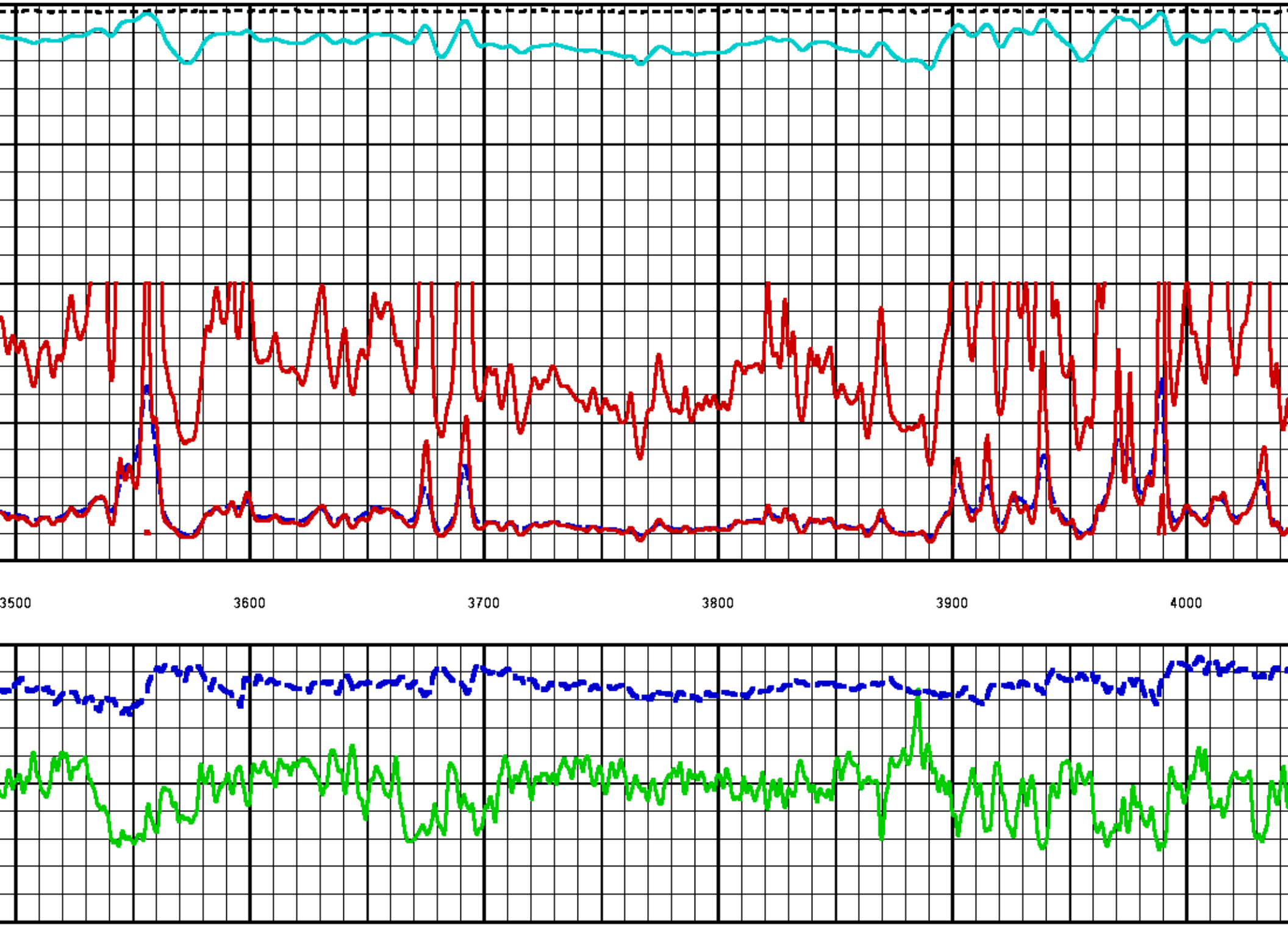
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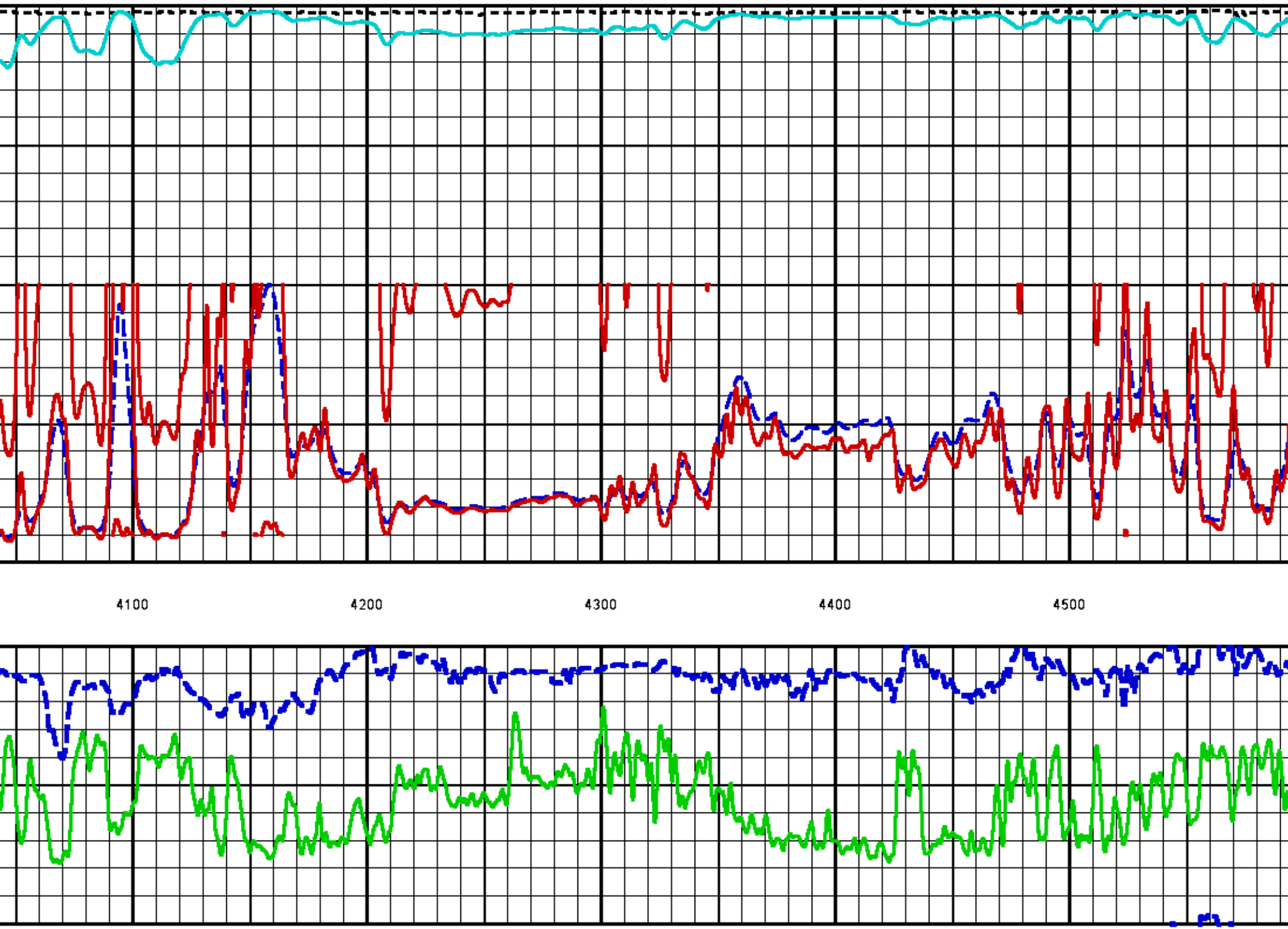
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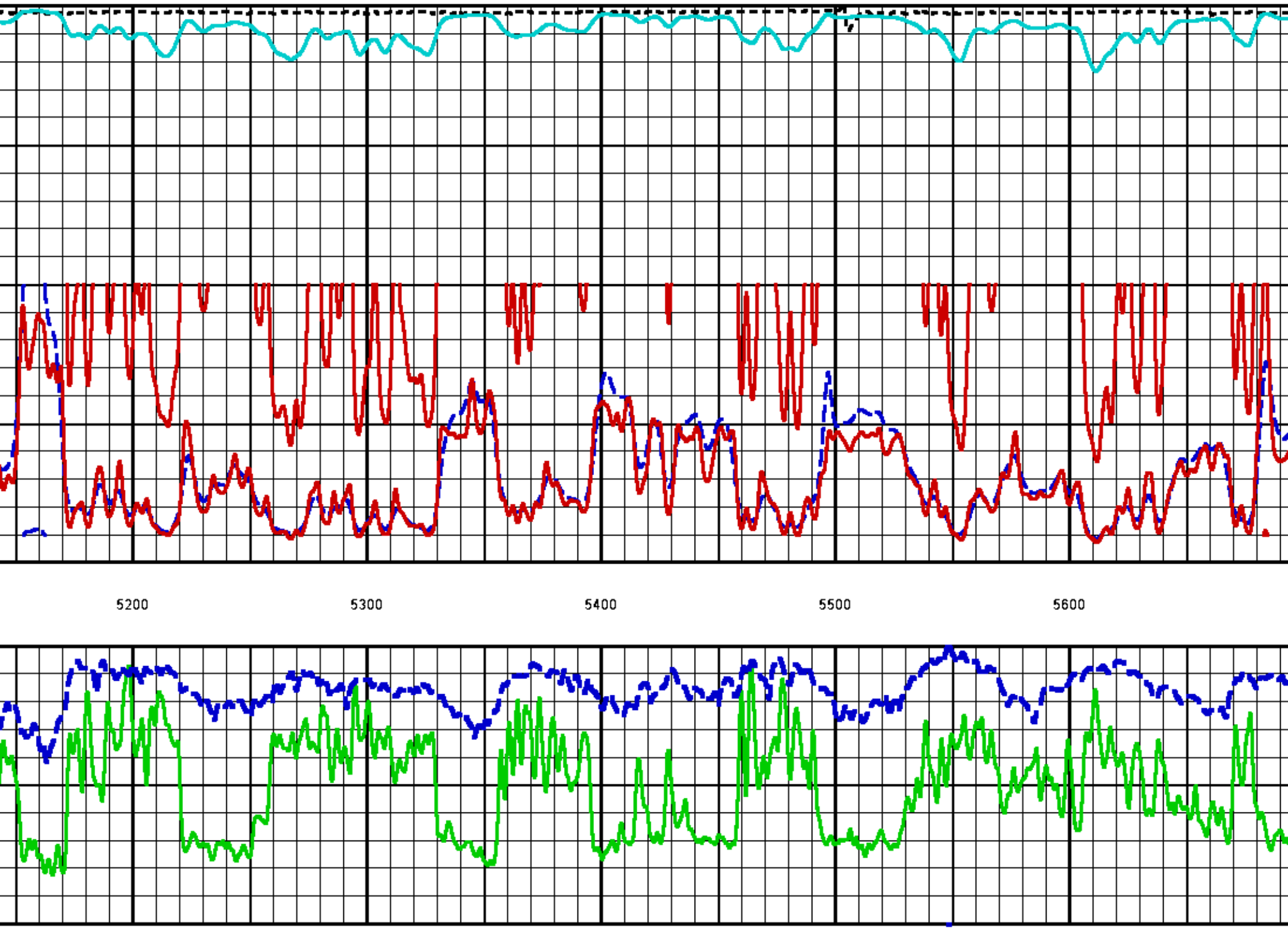
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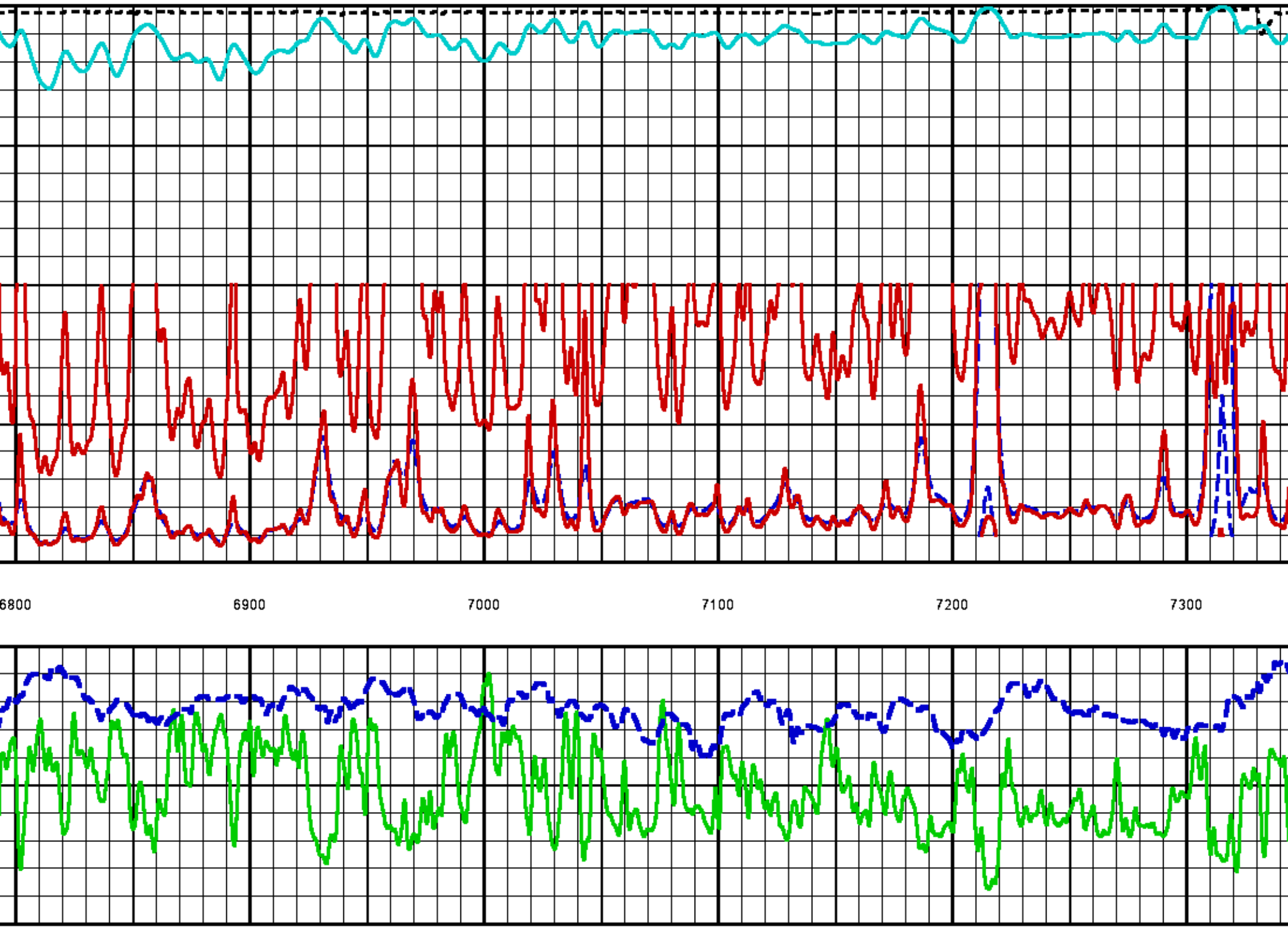
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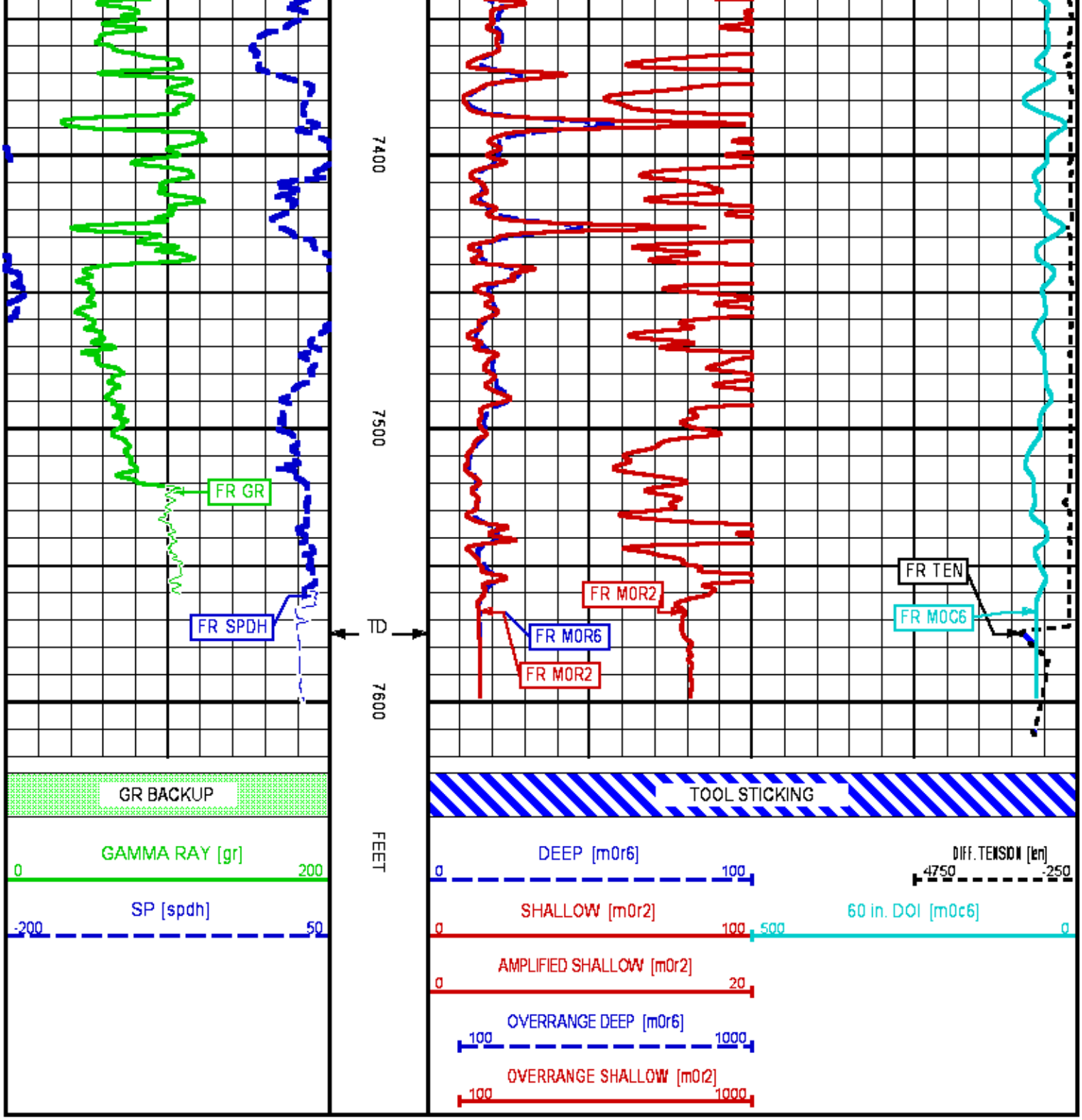


MAIN LOG 5"/100FT SCALE

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

Plotted: Sun Feb 9 01:51:24 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/617149/mainR02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 800.250 ft BOTTOM DEPTH: 7614.750 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
Y AXIS CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER ()	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	8.750	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	64.9	degF	"	"
	MUD SAMPLE RES	2.593	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	169.5	degF	"	"
	at BH REF DEPTH	7550.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	8.750	in	"	"
	FIXED DIAMETER (mbh*)	8.750	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	2284	ppm	"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	RHOmatrix	2.680	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	MUD CONDUCTIVITY		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION

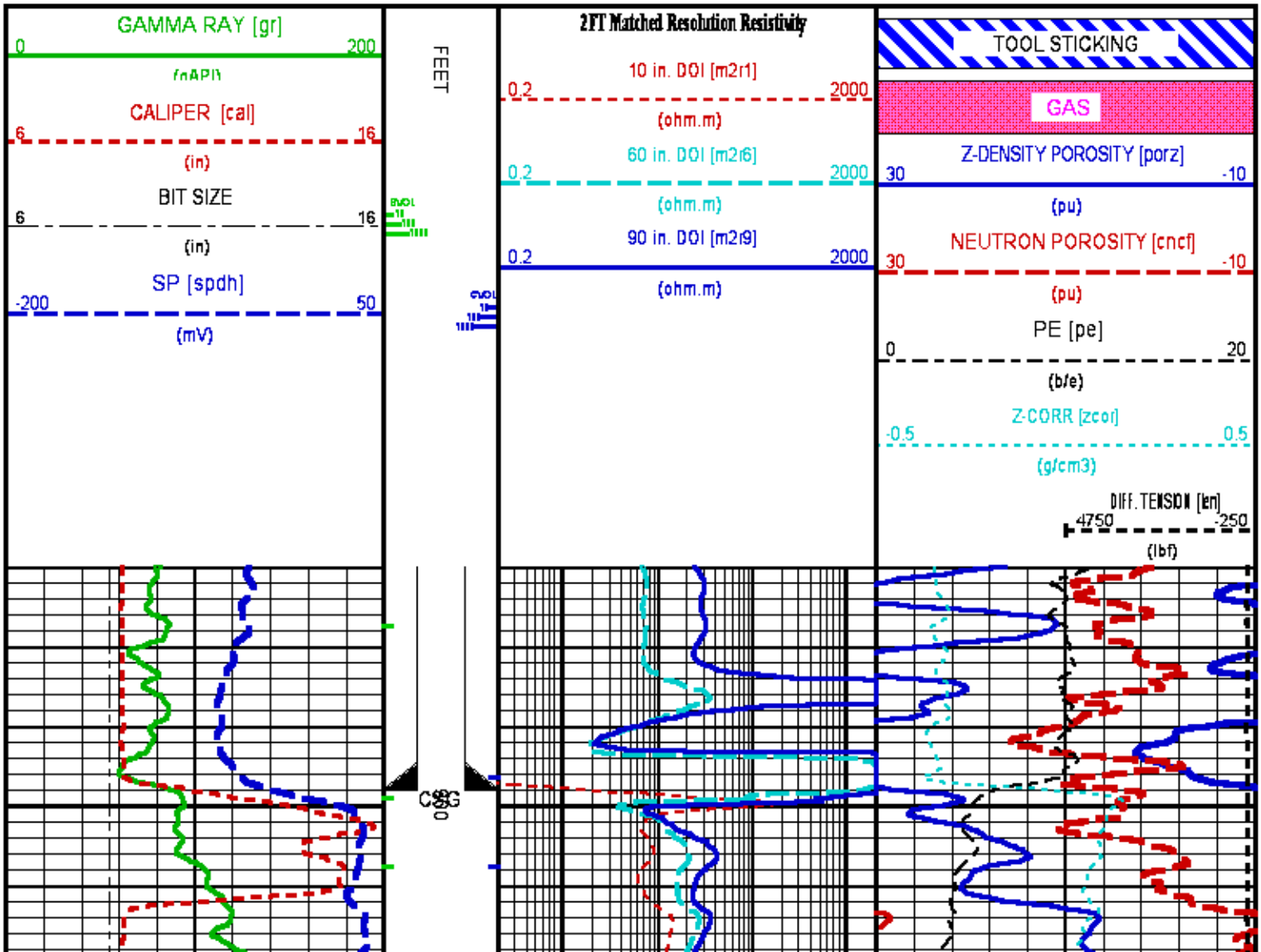
F1:BIT	Feb 9 01:26:52 2014	BIT SIZE
F1:BVOL	Feb 9 01:26:52 2014	BOREHOLE VOLUME
F1:CAL	Feb 9 01:26:52 2014	CALIPER
F1:CNCF	Feb 9 01:26:52 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Feb 9 01:26:52 2014	CEMENT VOLUME
F1:GR	Feb 9 01:26:52 2014	GAMMA RAY
F1:M2R1	Feb 9 01:26:52 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Feb 9 01:26:52 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Feb 9 01:26:52 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Feb 9 01:26:52 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Feb 9 01:26:52 2014	POROSITY FOR SELECTABLE MATRIX
F1:SPDH	Feb 9 01:26:52 2014	SPONTANEOUS POTENTIAL PROCESSED IN COMMON REMOTE
F1:TEN	Feb 9 01:26:52 2014	DIFFERENTIAL TENSION
F1:ZCOR	Feb 9 01:26:52 2014	DENSITY CORRECTION

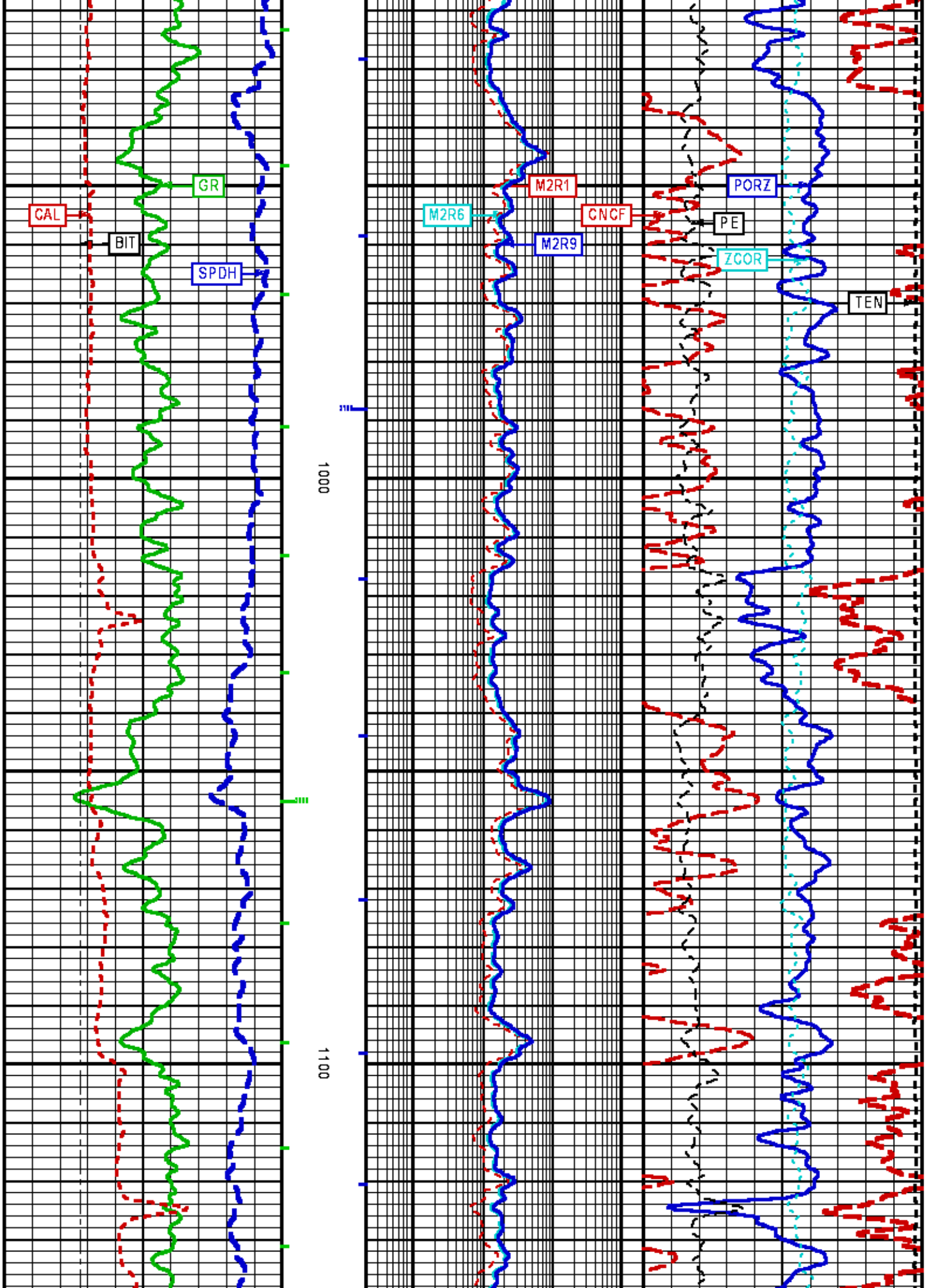
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	52.25	M2R9	8.00	SPDH	14.00
CAL	35.00	M2R1	8.00	PE	34.25	TEN	0.00
CNCF	45.25	M2R6	8.00	PORZ	34.25	ZCOR	34.25

Presentation : **cpu6690:/dat1a/617149/WPX_MAIN.fvpdf [5"/100' Scale]**
Plot Interval : **870 - 7614.75 Feet**

Data File 1 : **F1 : cpu6690:/dat1a/617149/main.xtf**
Created On : **Feb 9 01:26:52 2014**
Company : **WPX ENERGY INC**
Well : **PA 13-2**
Field : **PARACHUTE**
File Interval : **734.75 - 7614.75 Feet**
OCT : **n87cb**

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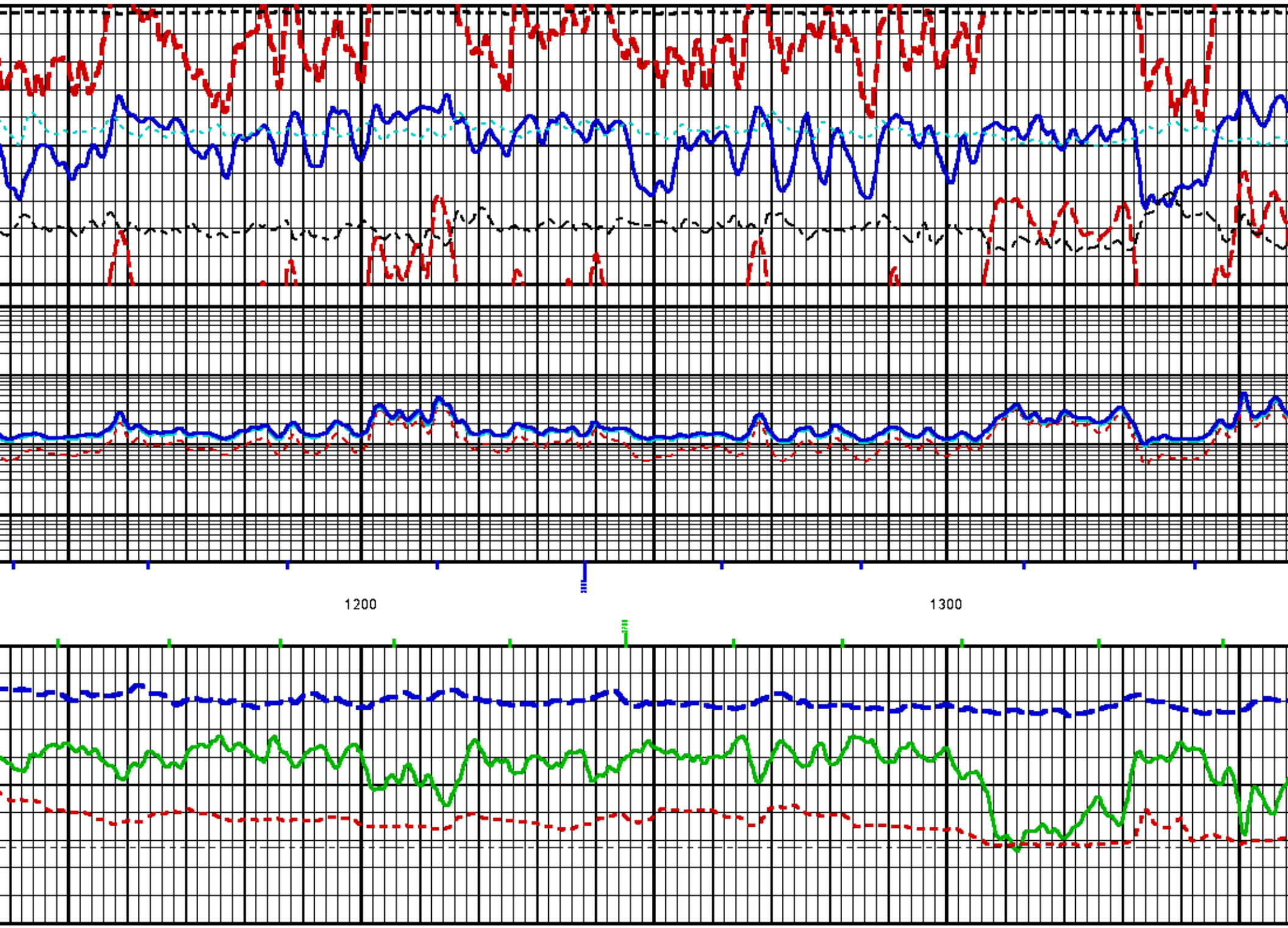
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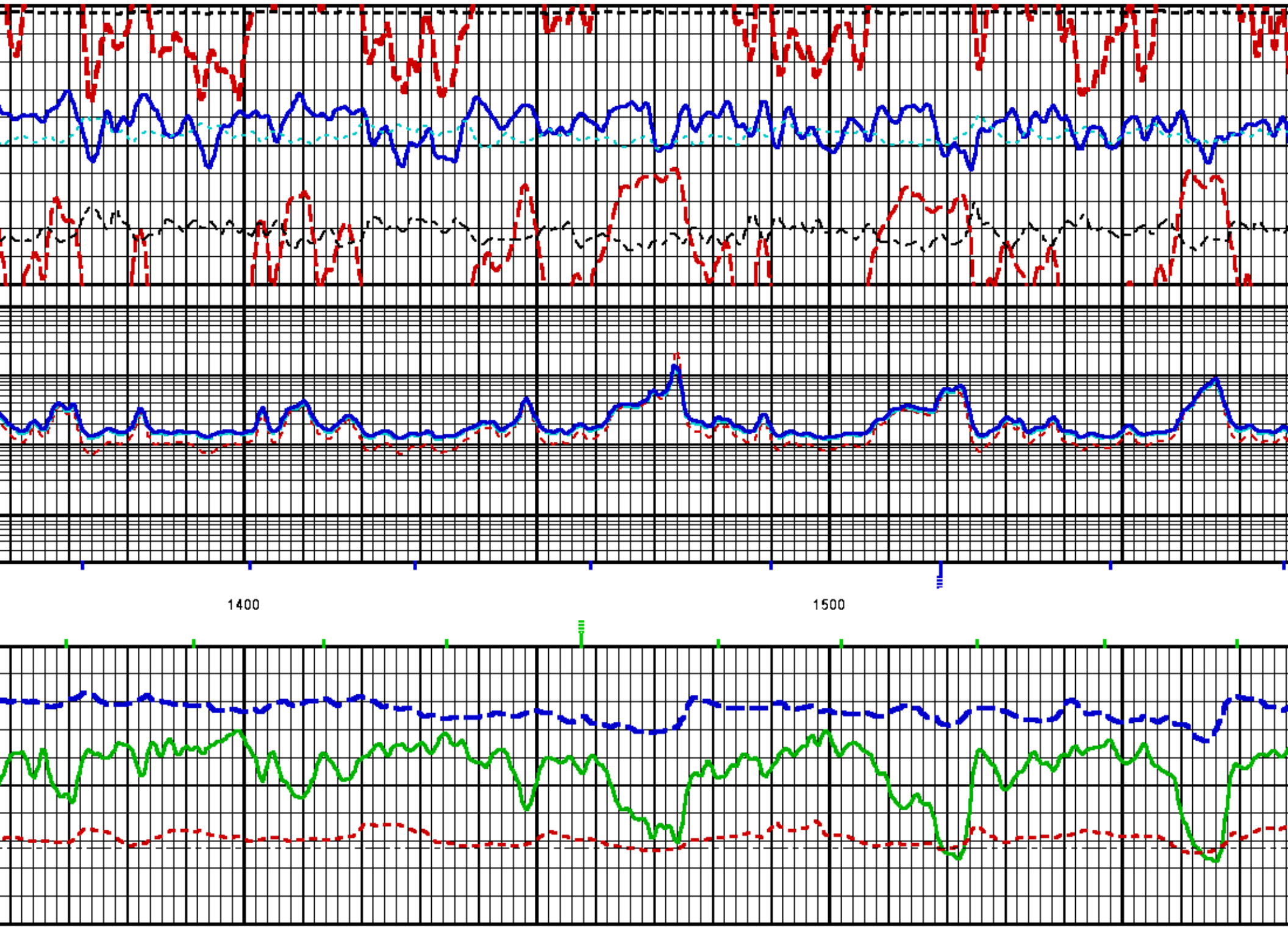
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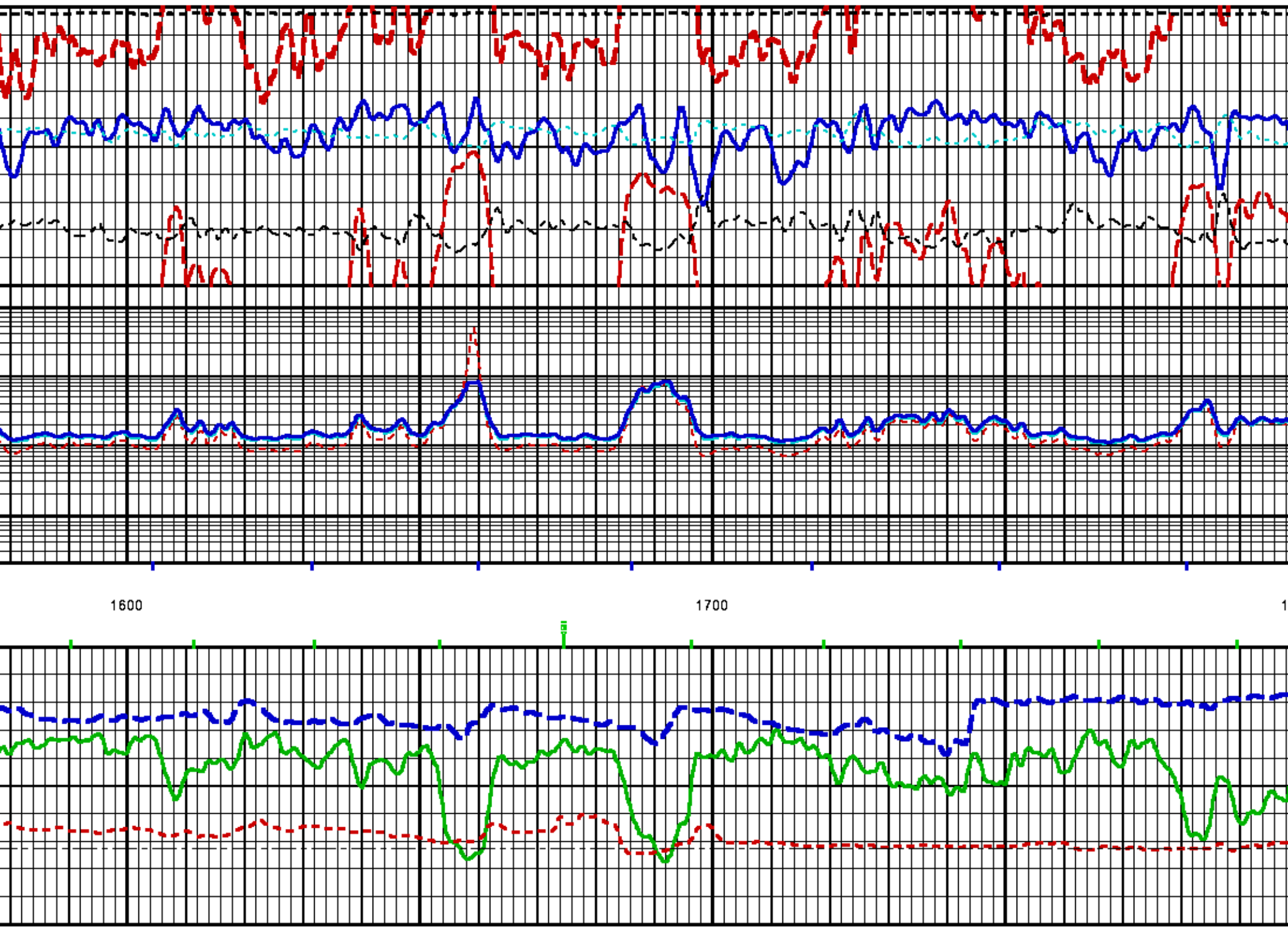
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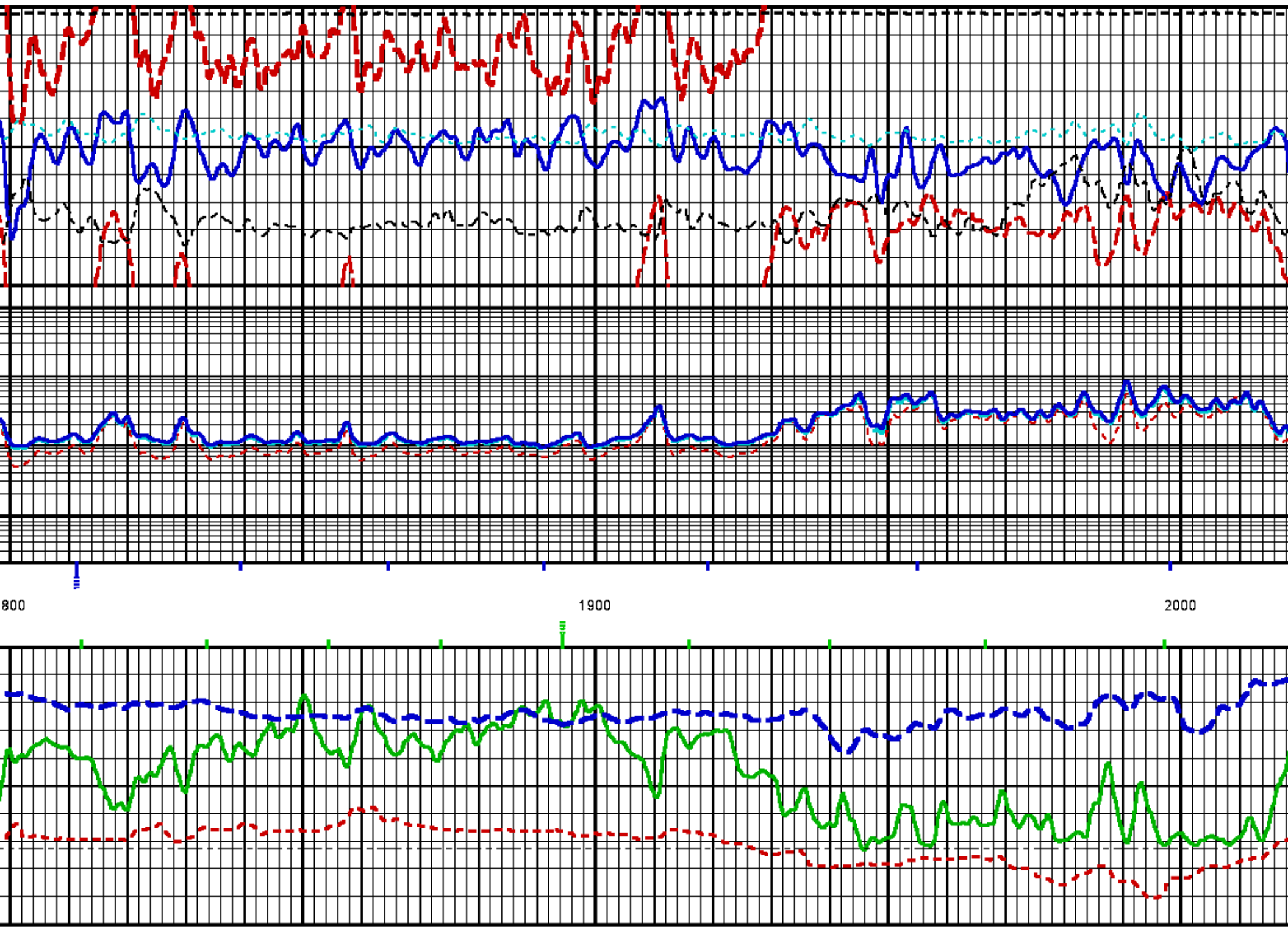
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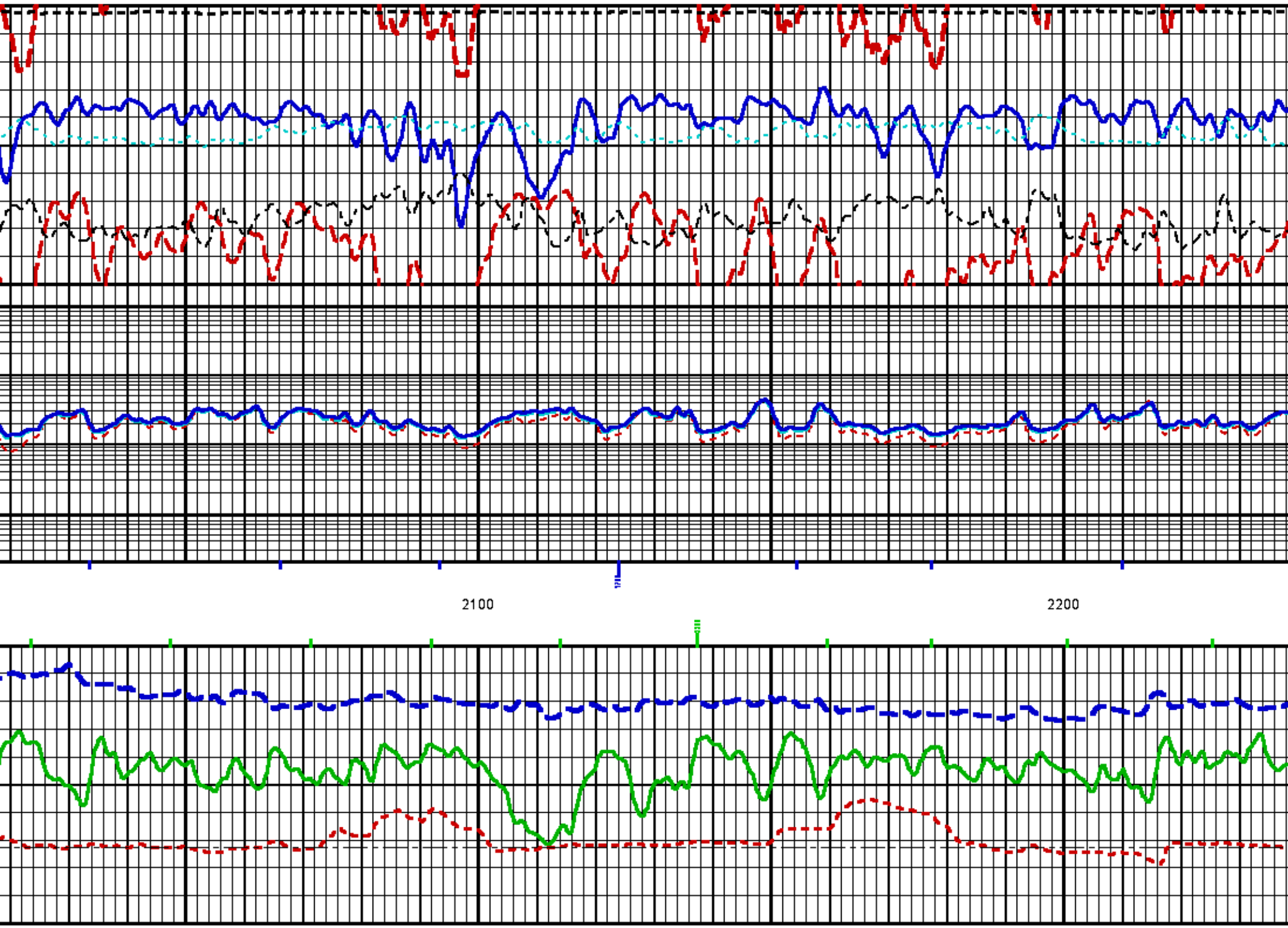
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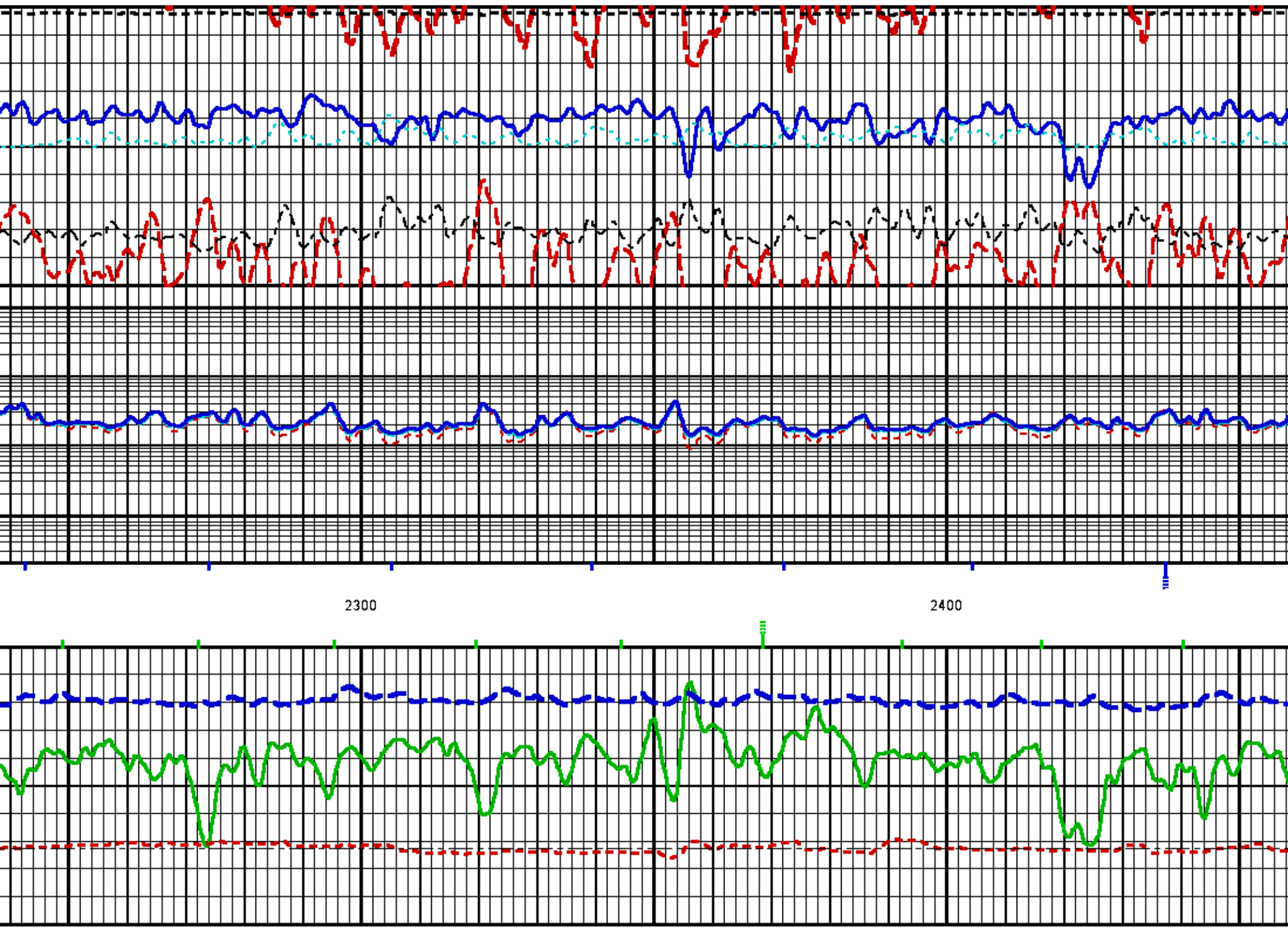
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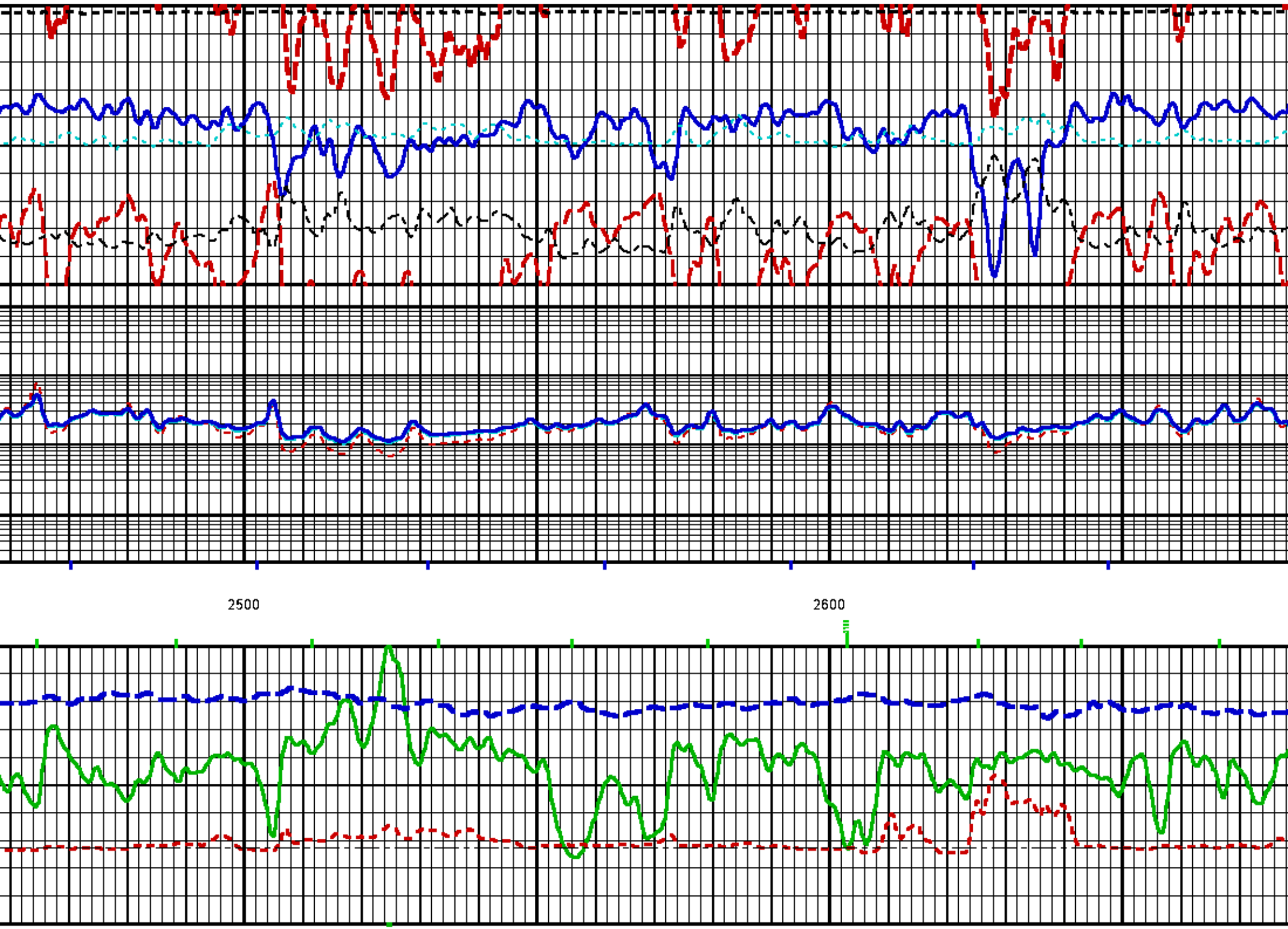
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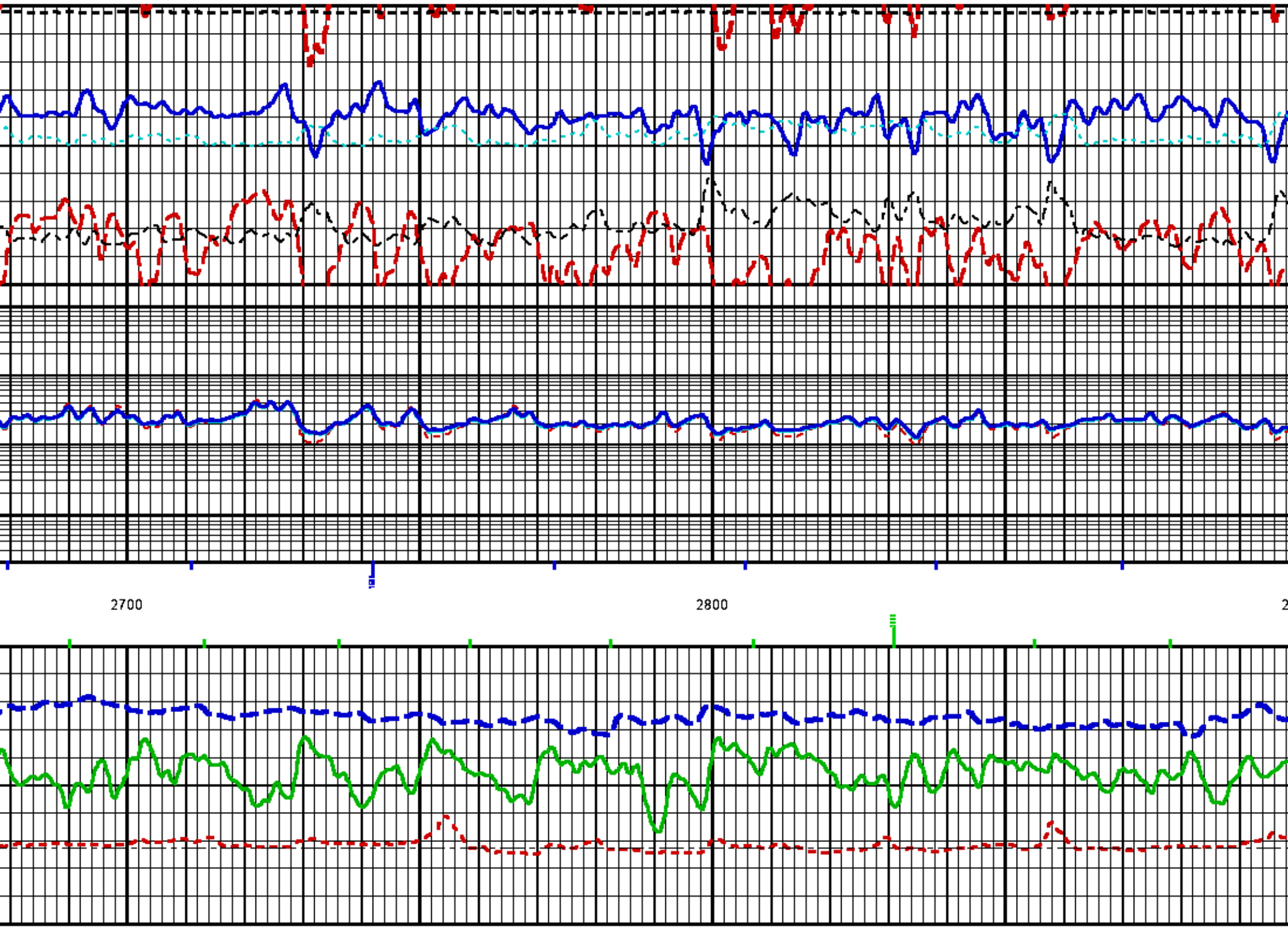
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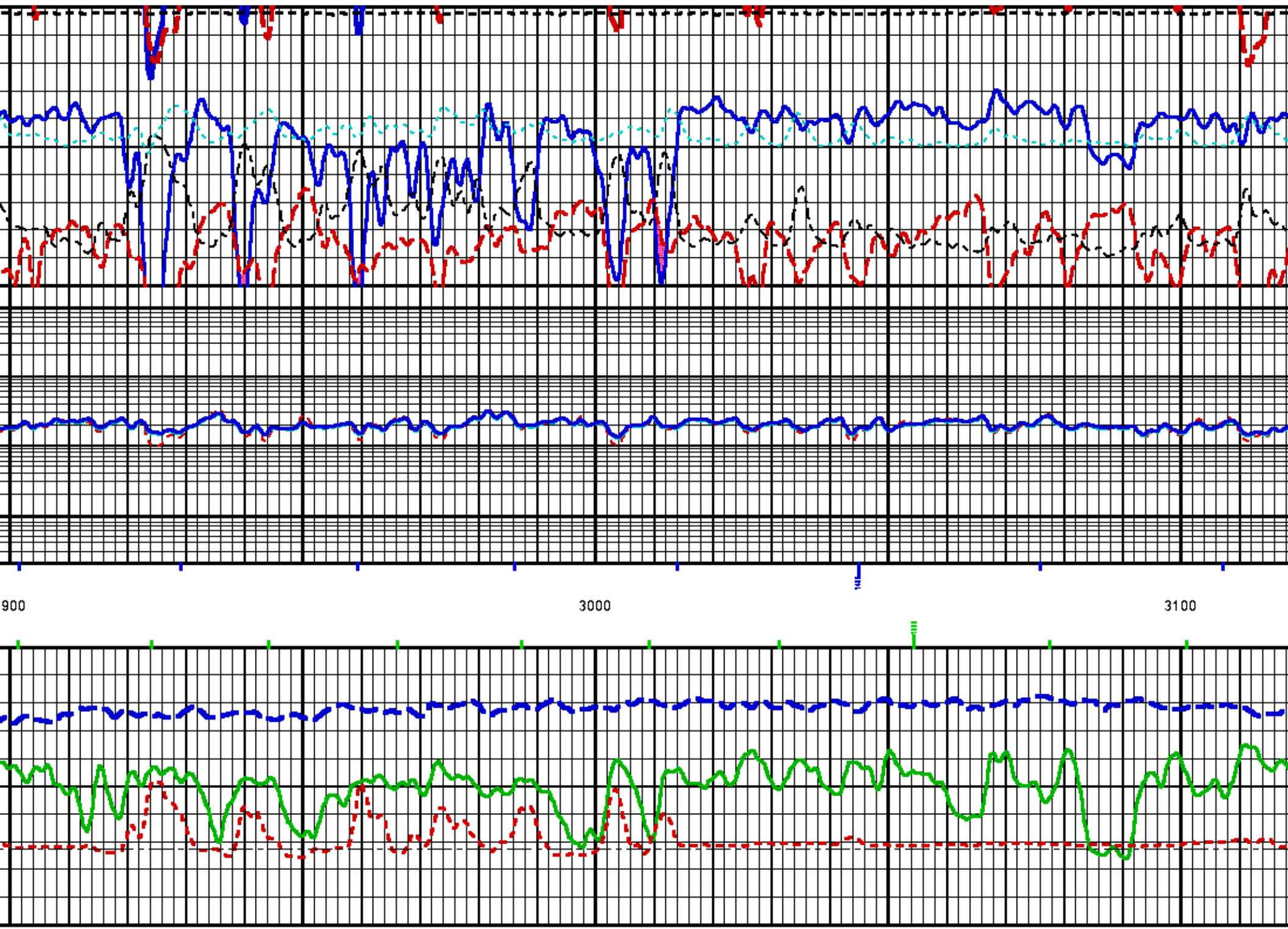
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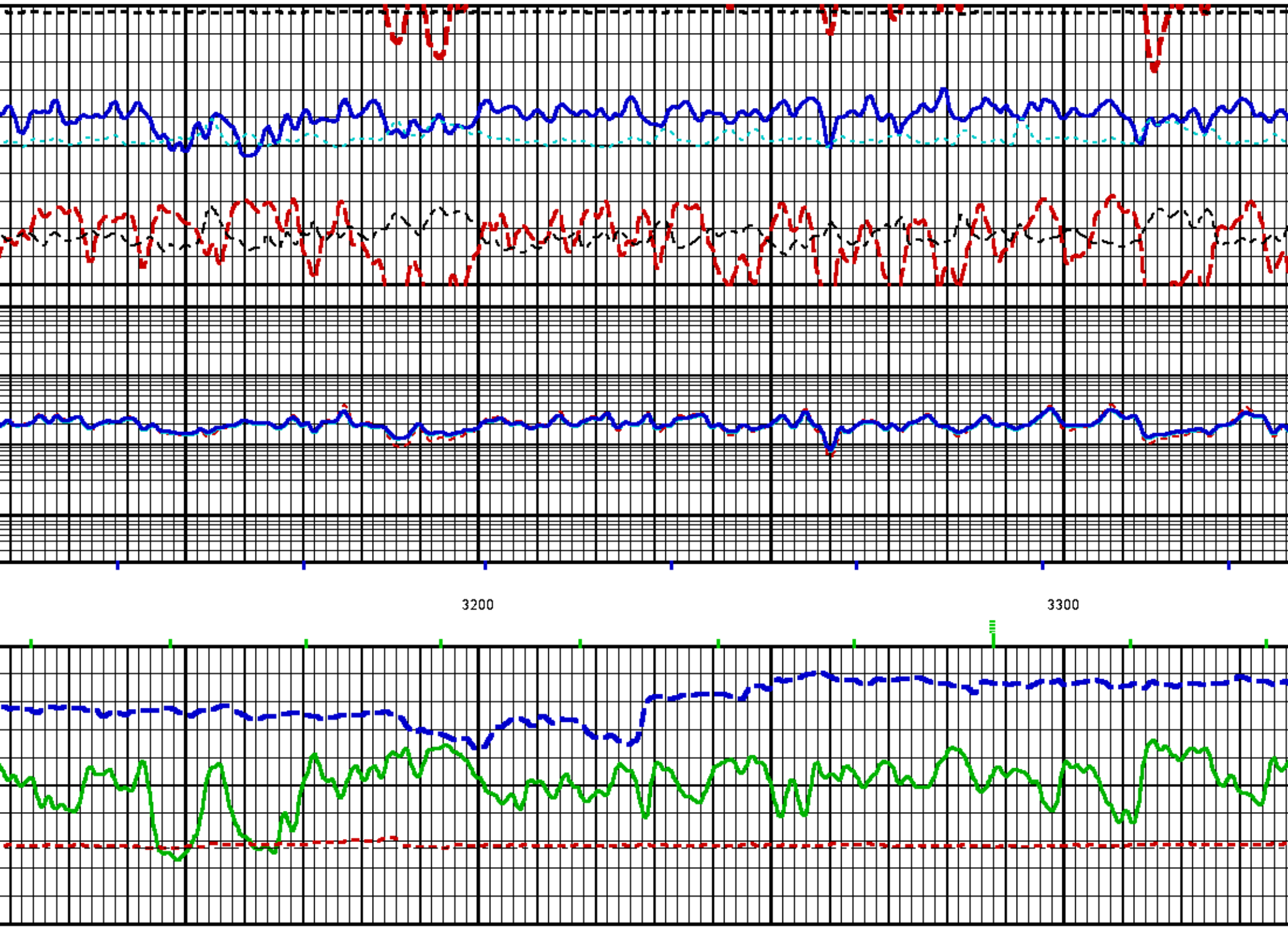
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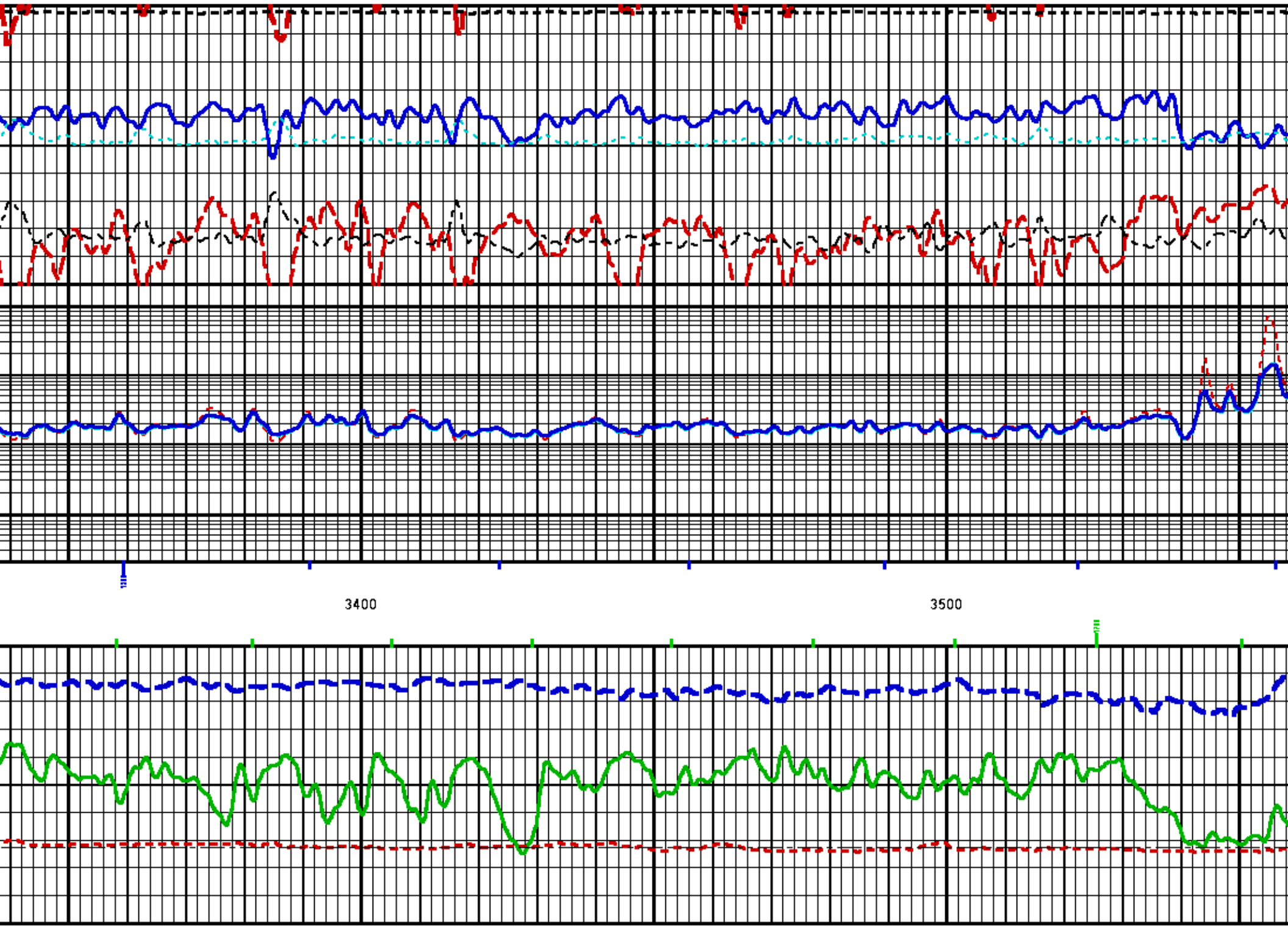
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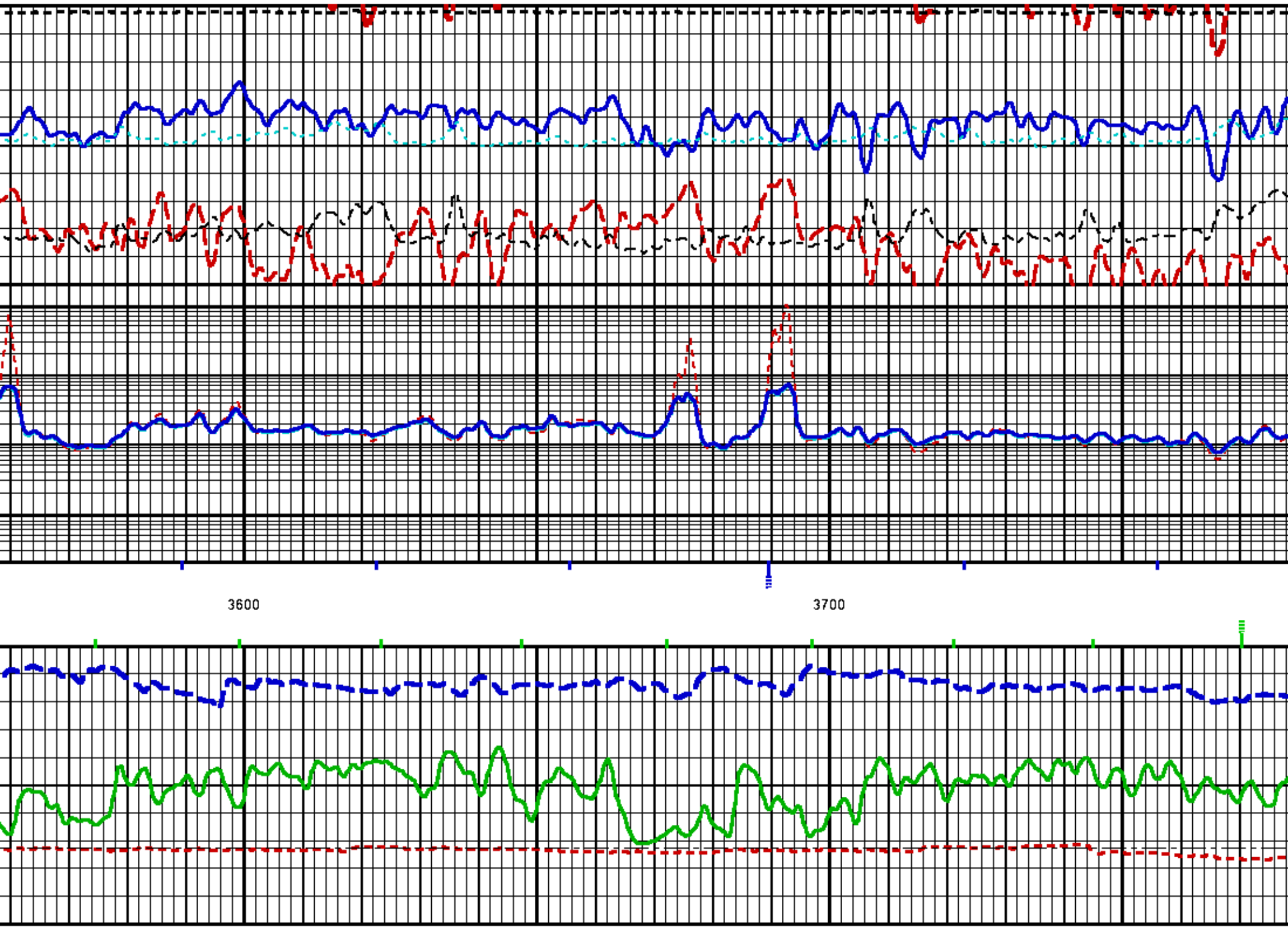
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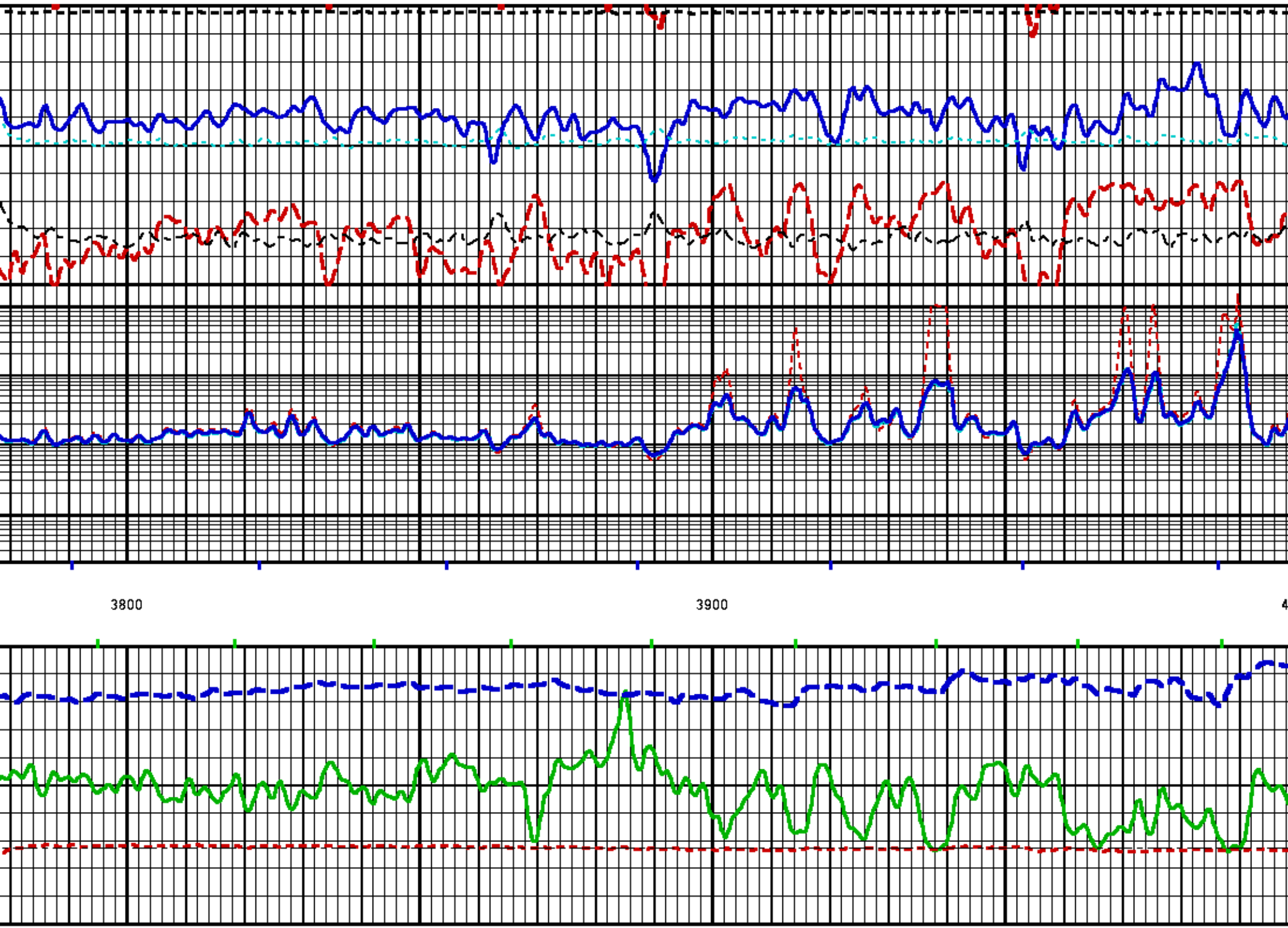
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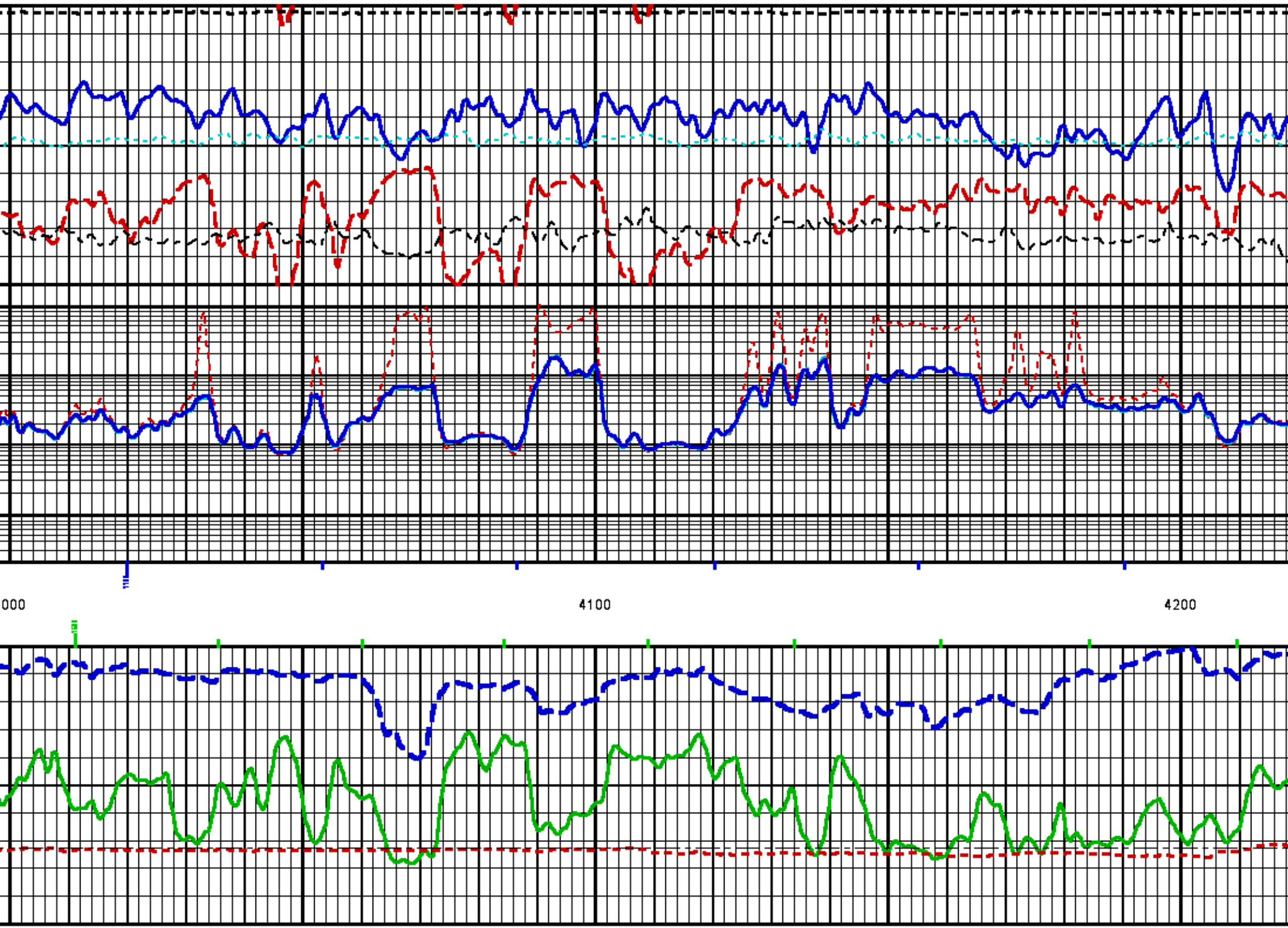
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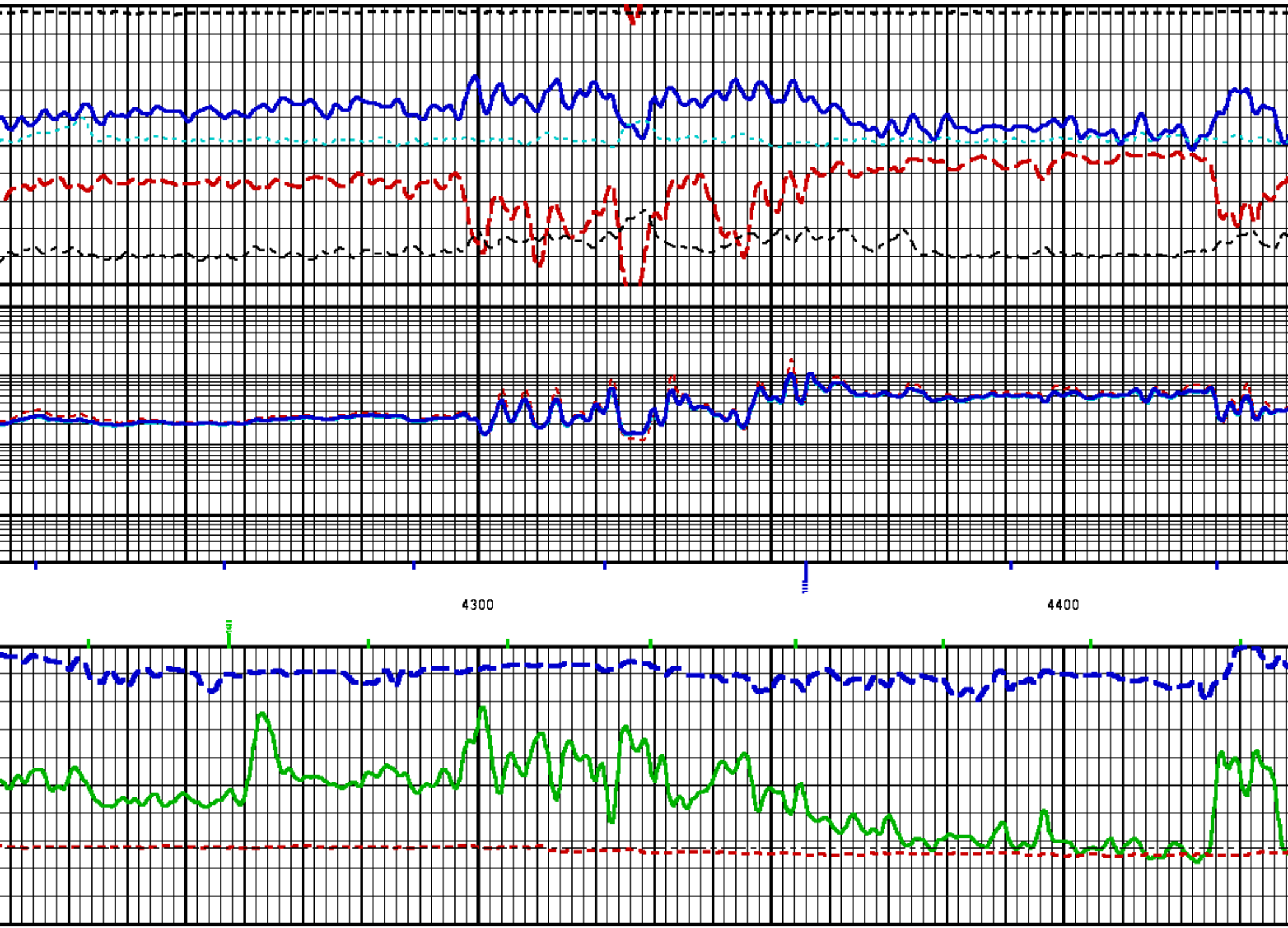
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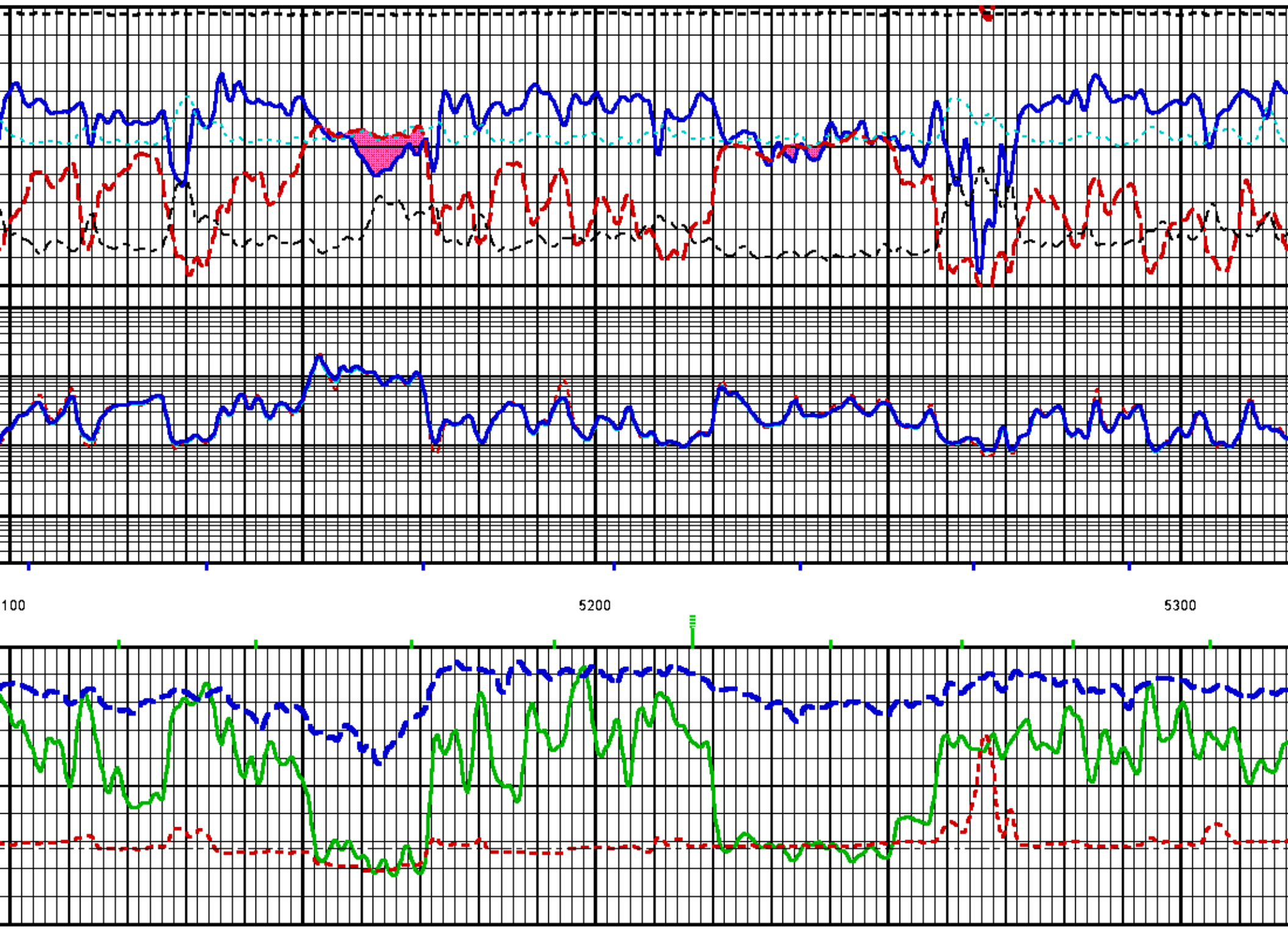
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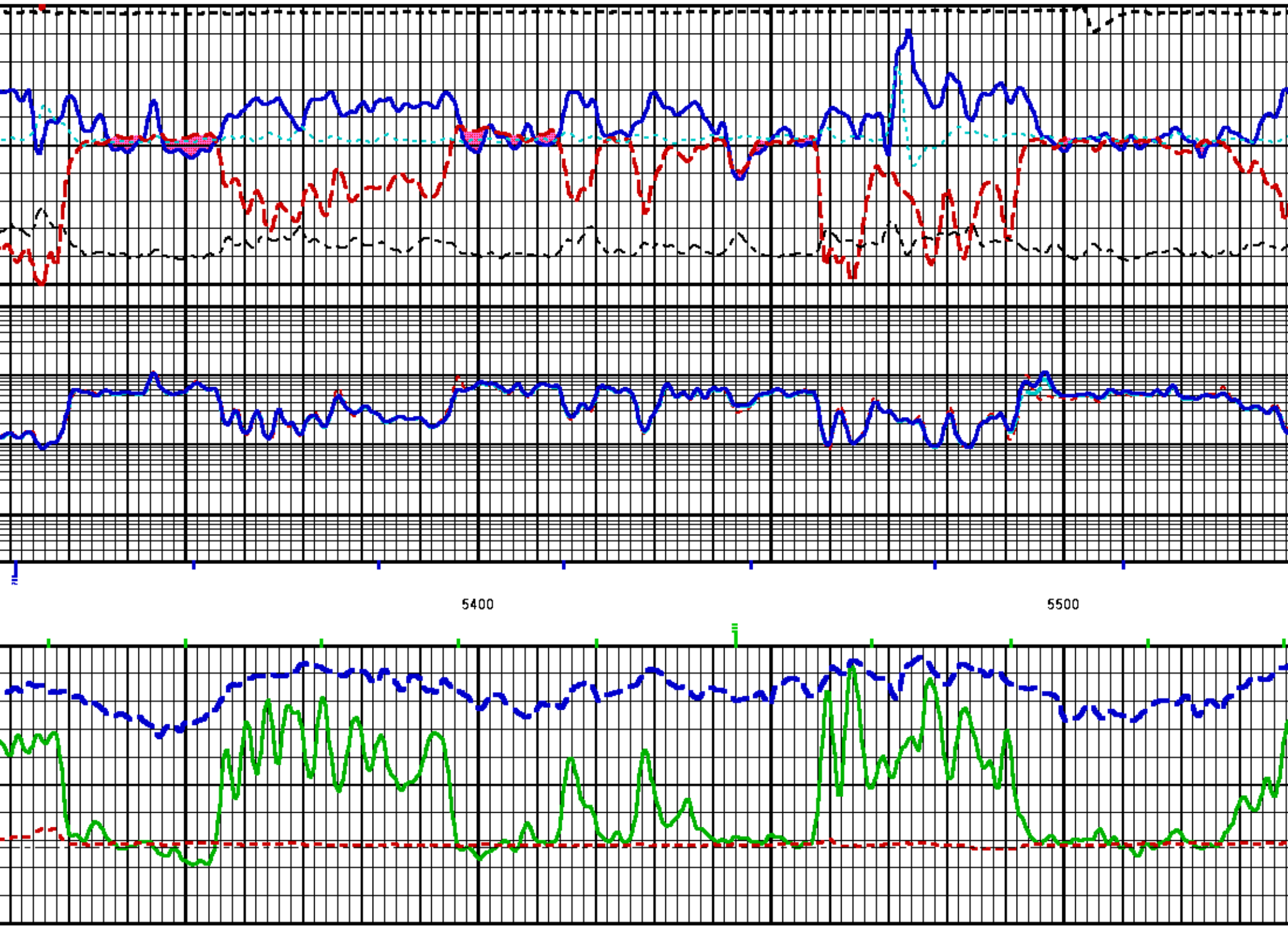
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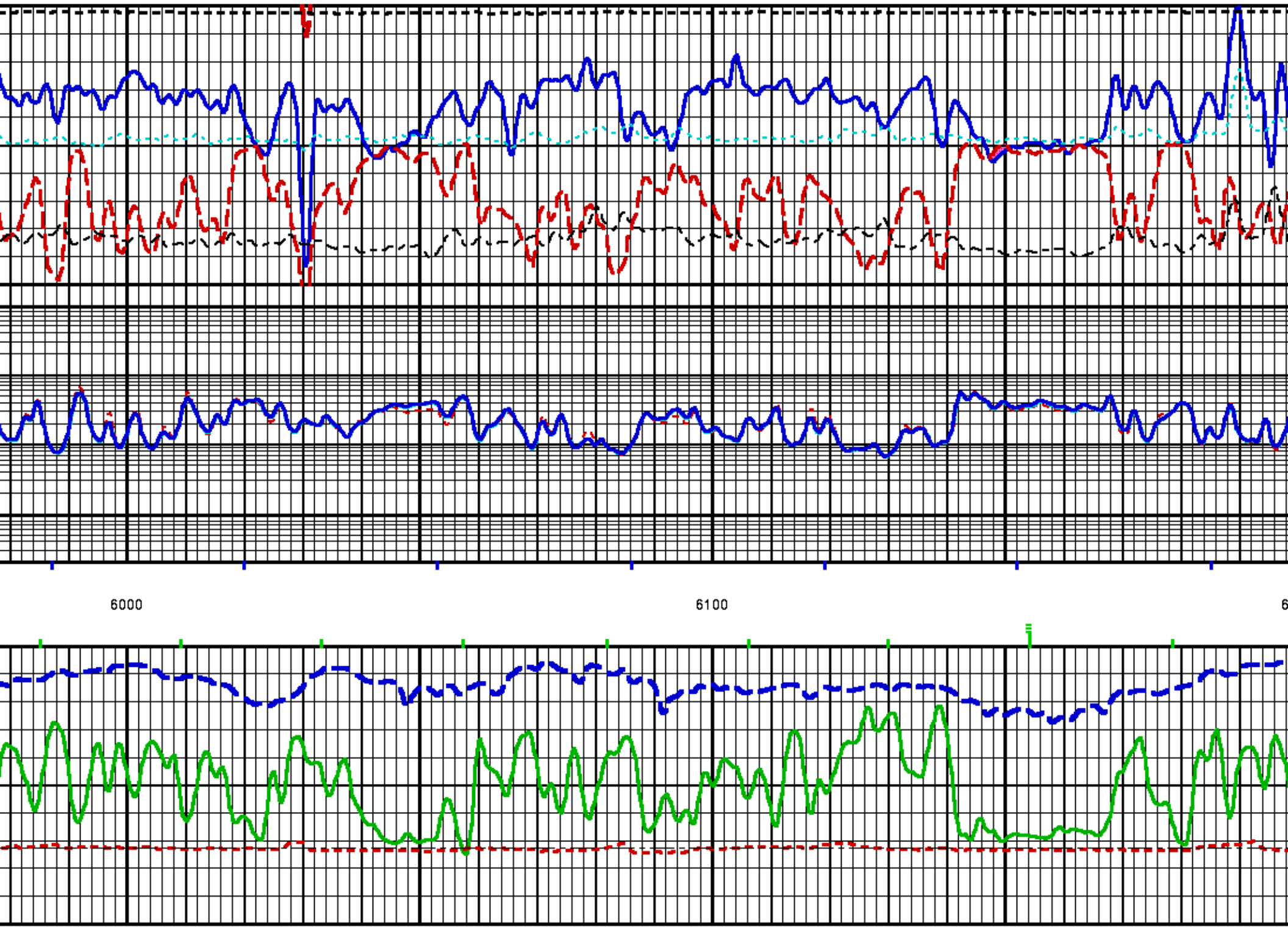
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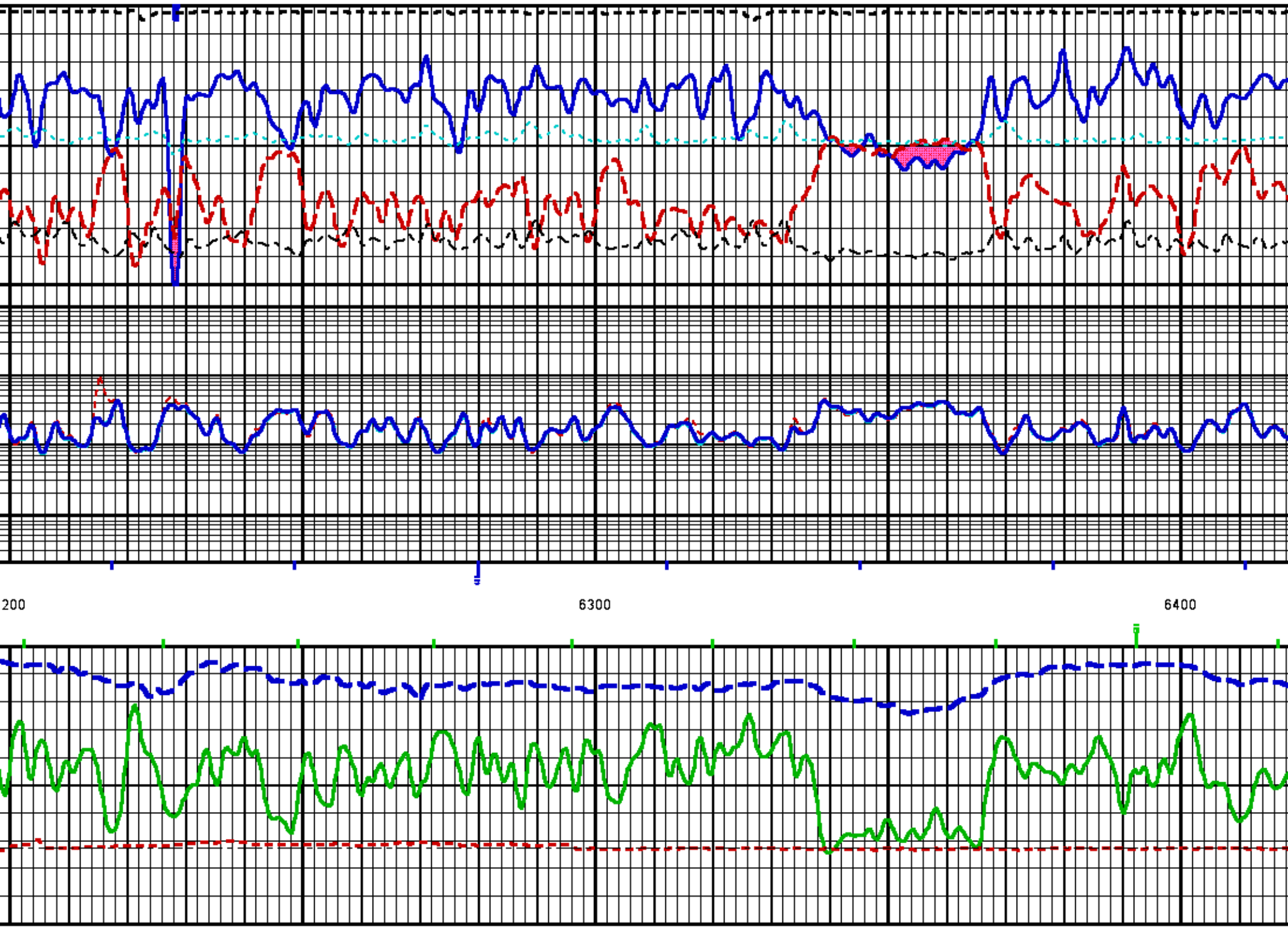
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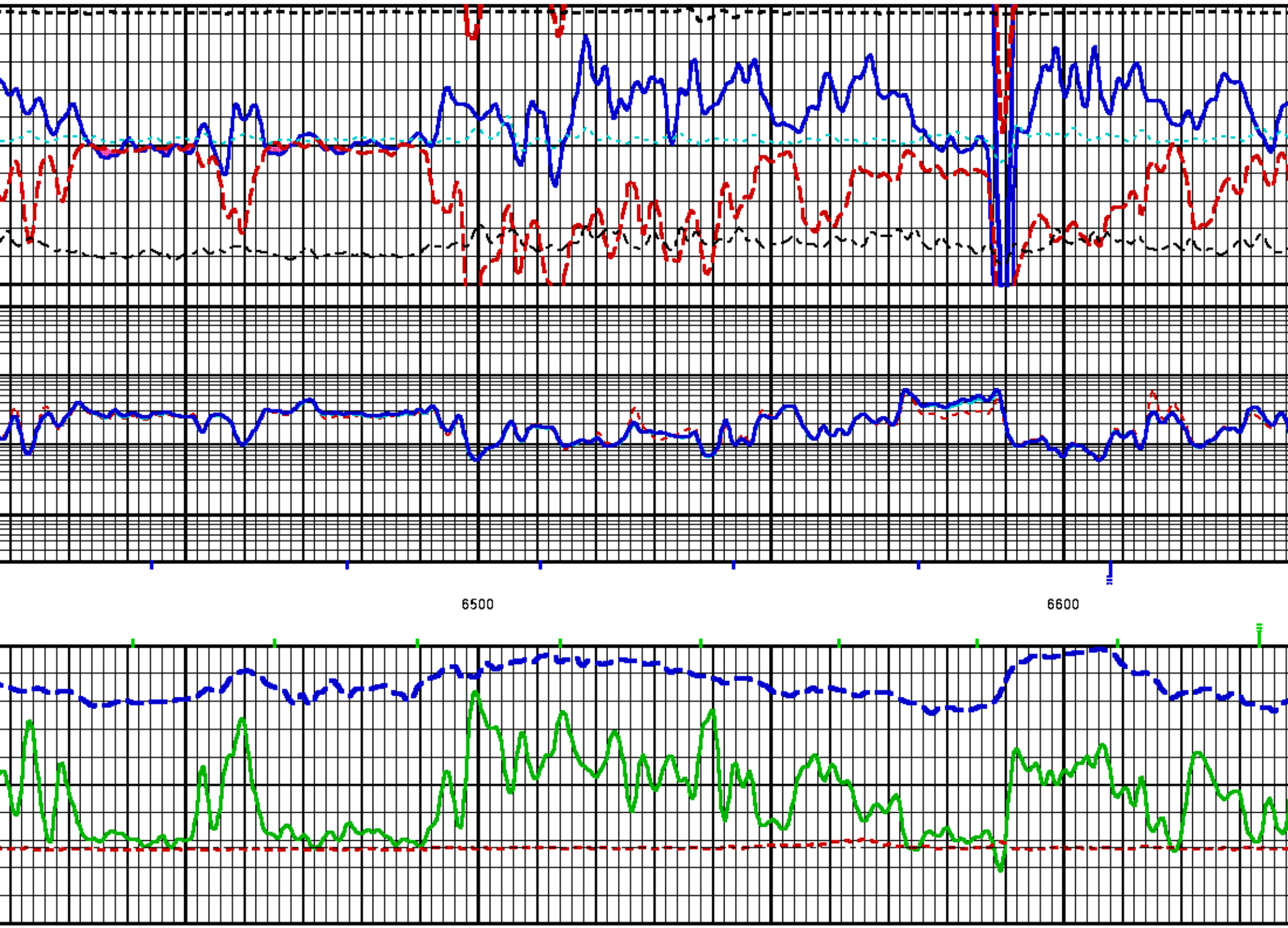
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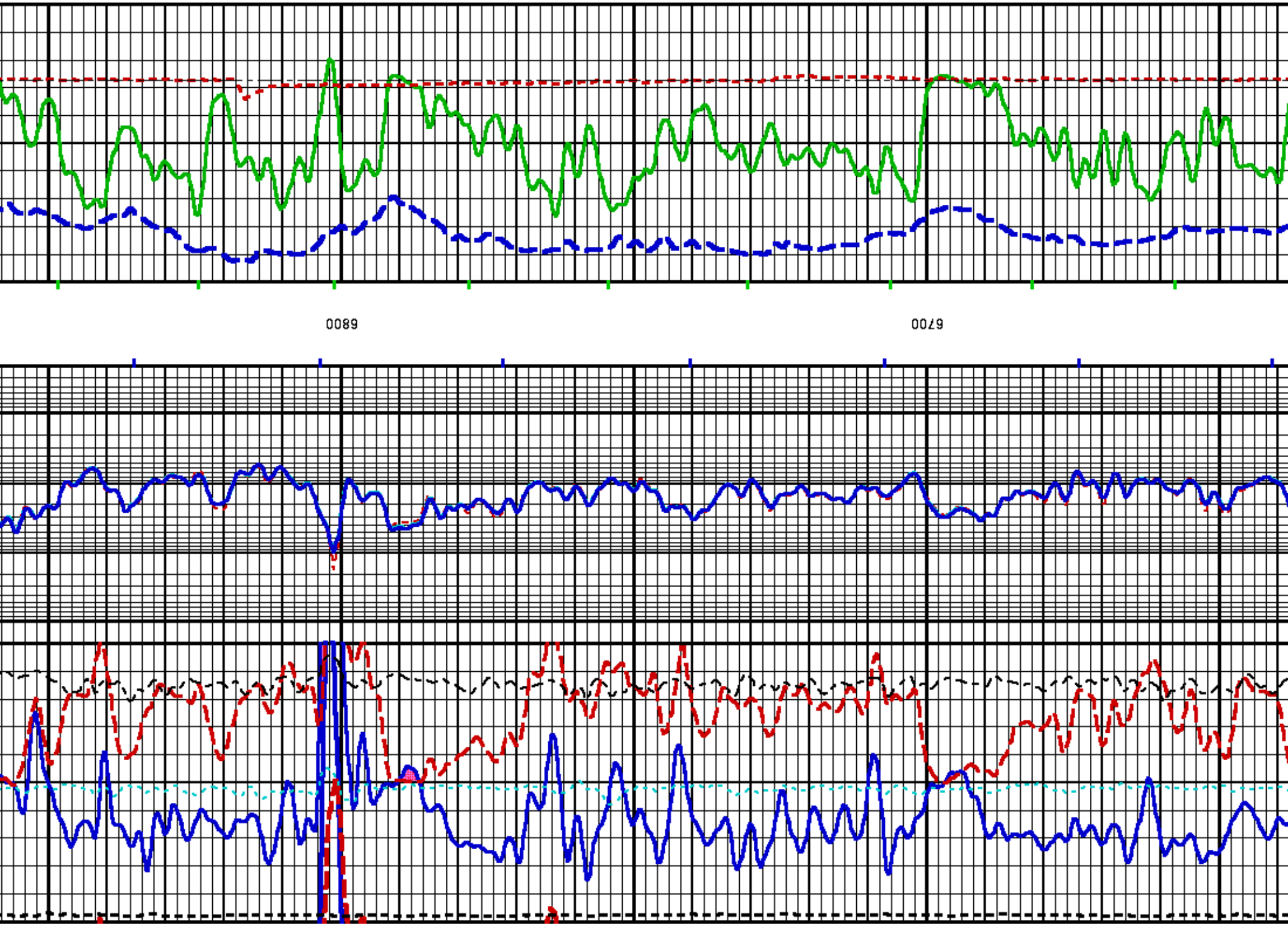
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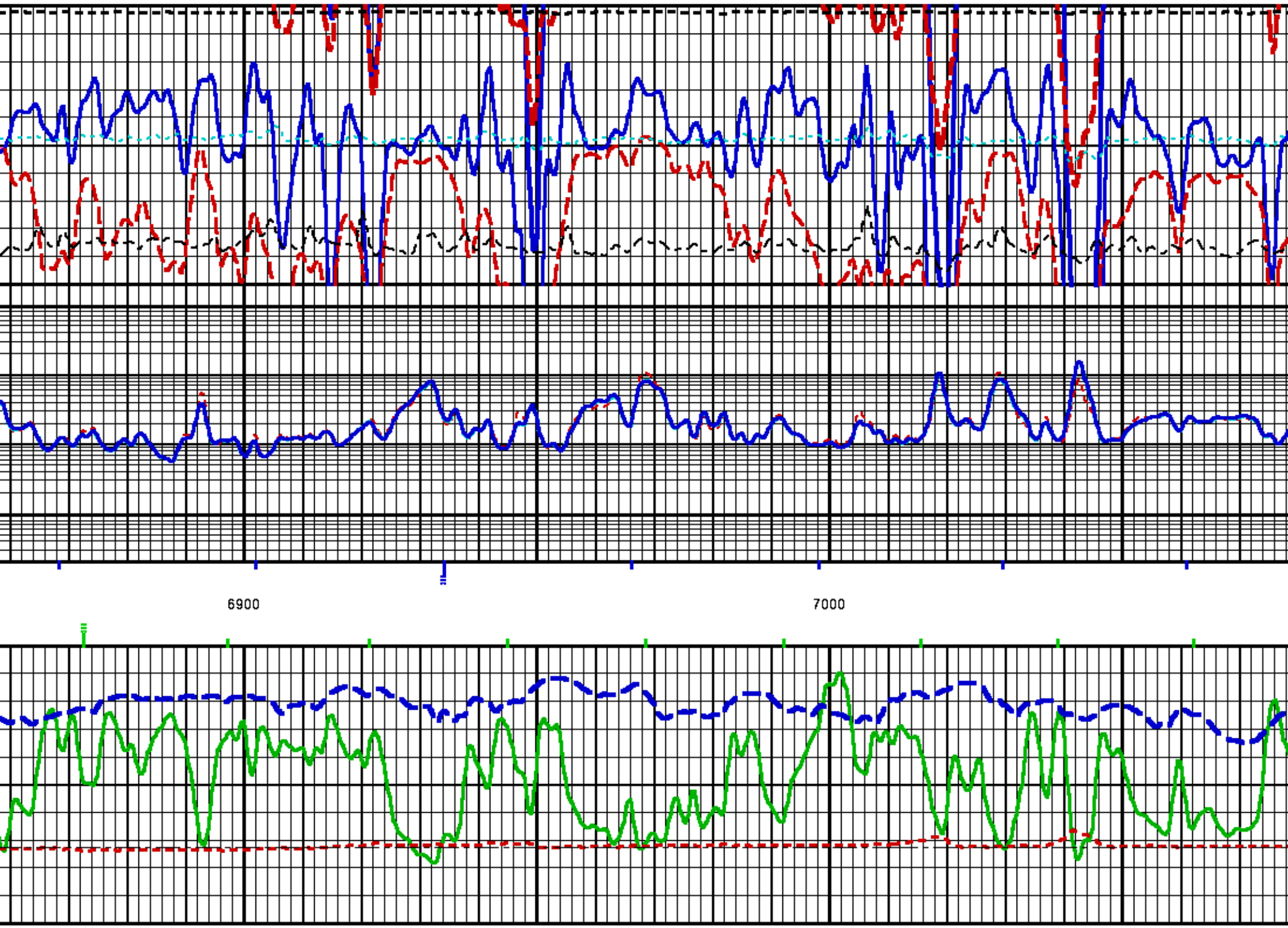
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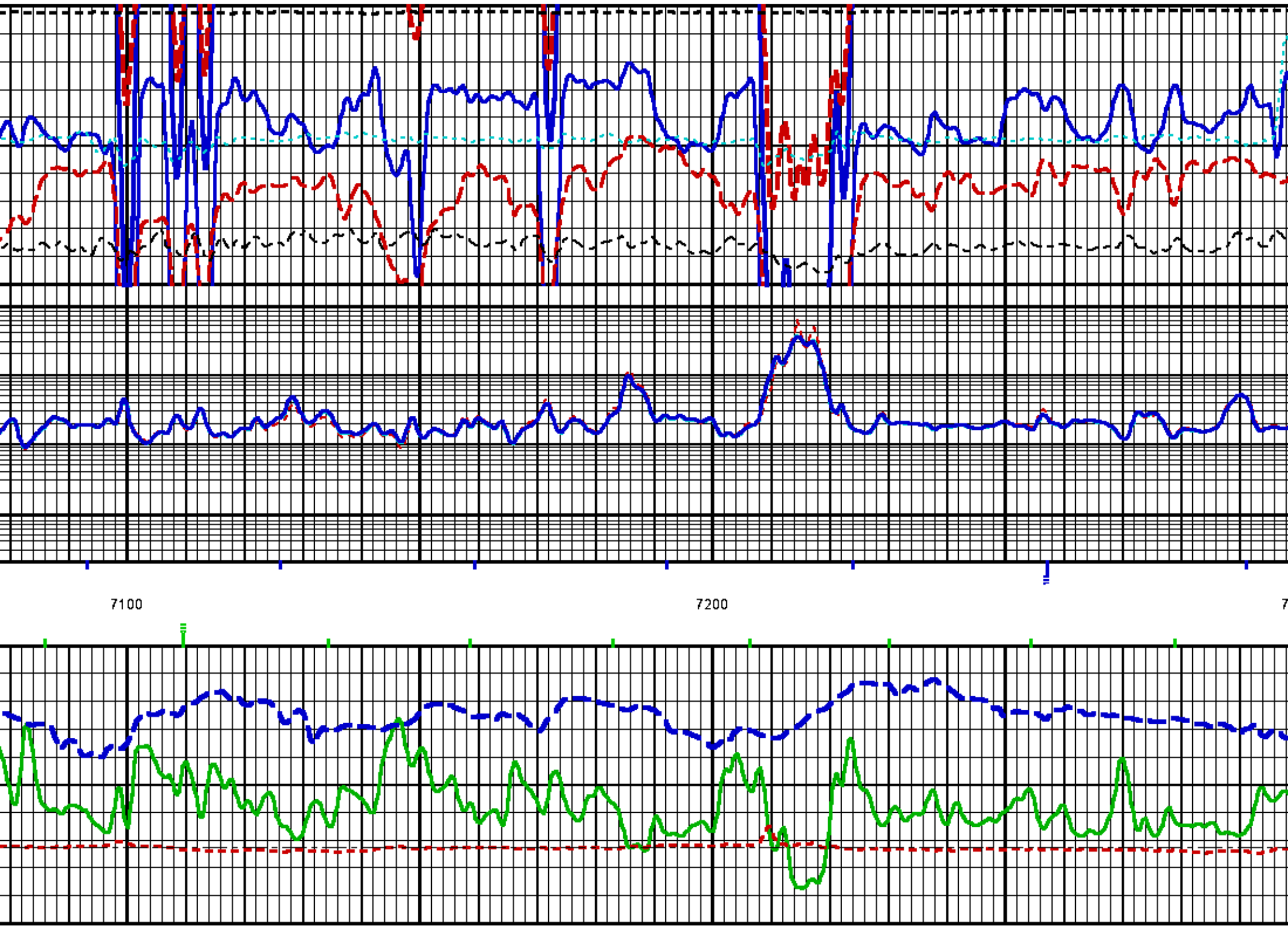
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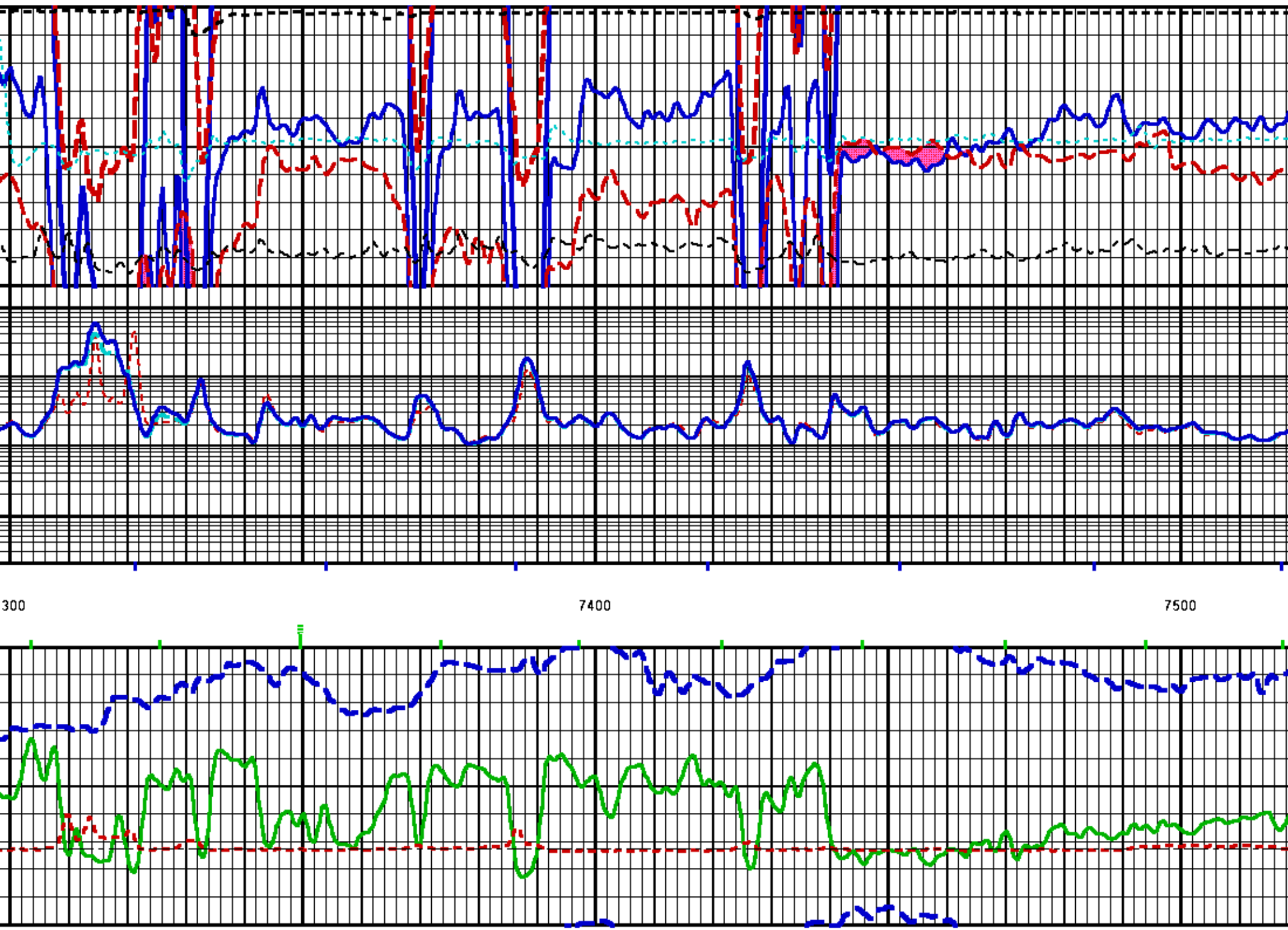
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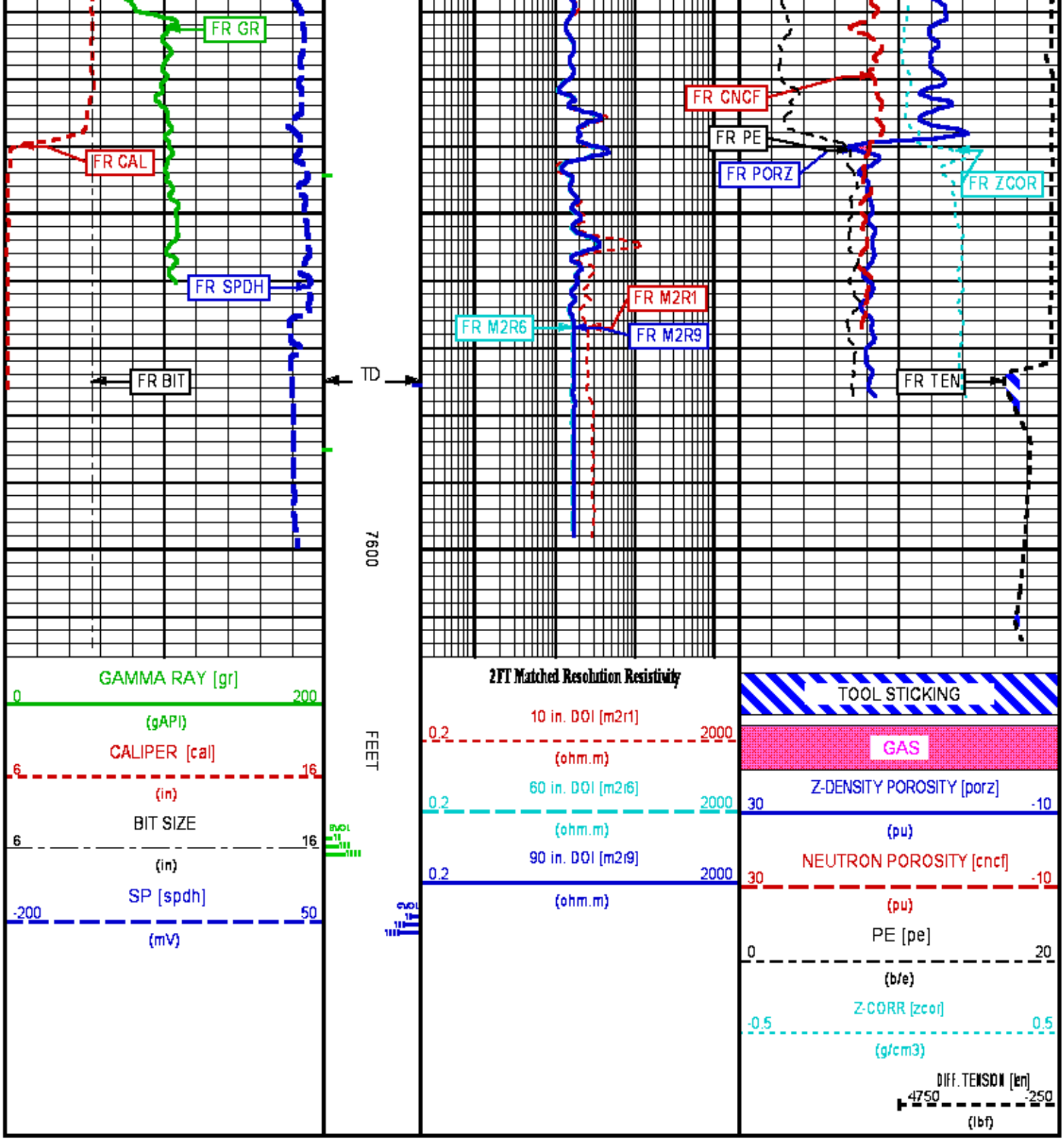


REPEAT LOG

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

Plotted: Sun Feb 9 01:49:27 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/617149/repeatR01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 806.750 ft BOTTOM DEPTH: 1204.000 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
Y AXIS CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER ()	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	8.750	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	64.9	degF	"	"
	MUD SAMPLE RES	2.593	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	169.5	degF	"	"
	at BH REF DEPTH	7550.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	8.750	in	"	"
	FIXED DIAMETER (mbh*)	8.750	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	2284	ppm	"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	RHOmatrix	2.680	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	MUD CONDUCTIVITY		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

CURVE DESCRIPTION REPORT

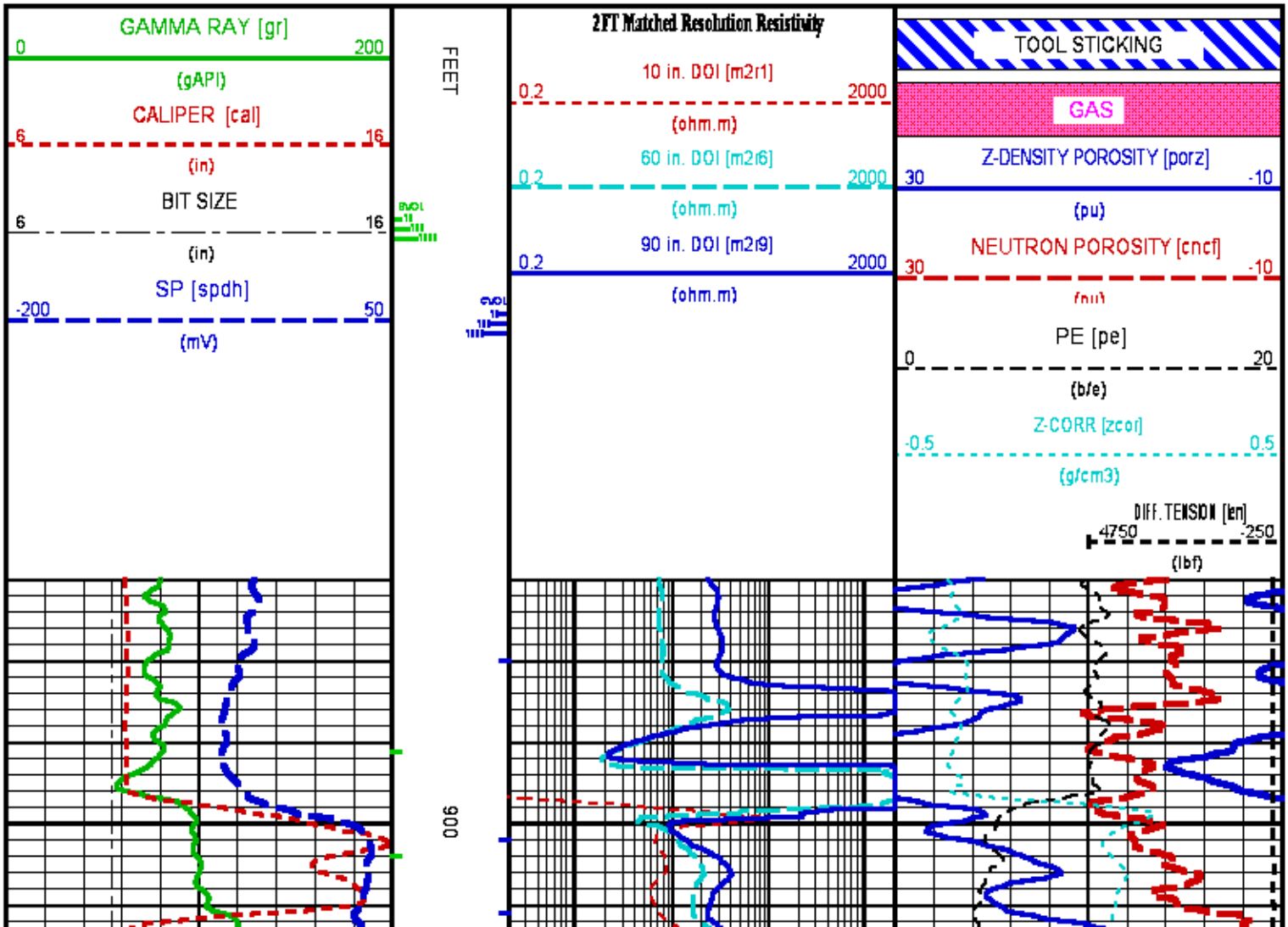
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Feb 9 01:25:51 2014	BIT SIZE
F1:BVOL	Feb 9 01:25:51 2014	BOREHOLE VOLUME
F1:CAL	Feb 9 01:25:51 2014	CALIPER
F1:CNCF	Feb 9 01:25:51 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Feb 9 01:25:51 2014	CEMENT VOLUME
F1:GR	Feb 9 01:25:51 2014	GAMMA RAY
F1:M2R1	Feb 9 01:25:51 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Feb 9 01:25:51 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Feb 9 01:25:51 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Feb 9 01:25:51 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Feb 9 01:25:51 2014	POROSITY FOR SELECTABLE MATRIX
F1:SPDH	Feb 9 01:25:51 2014	SPONTANEOUS POTENTIAL PROCESSED IN COMMON REMOTE
F1:TEN	Feb 9 01:25:51 2014	DIFFERENTIAL TENSION
F1:ZCOR	Feb 9 01:25:51 2014	DENSITY CORRECTION

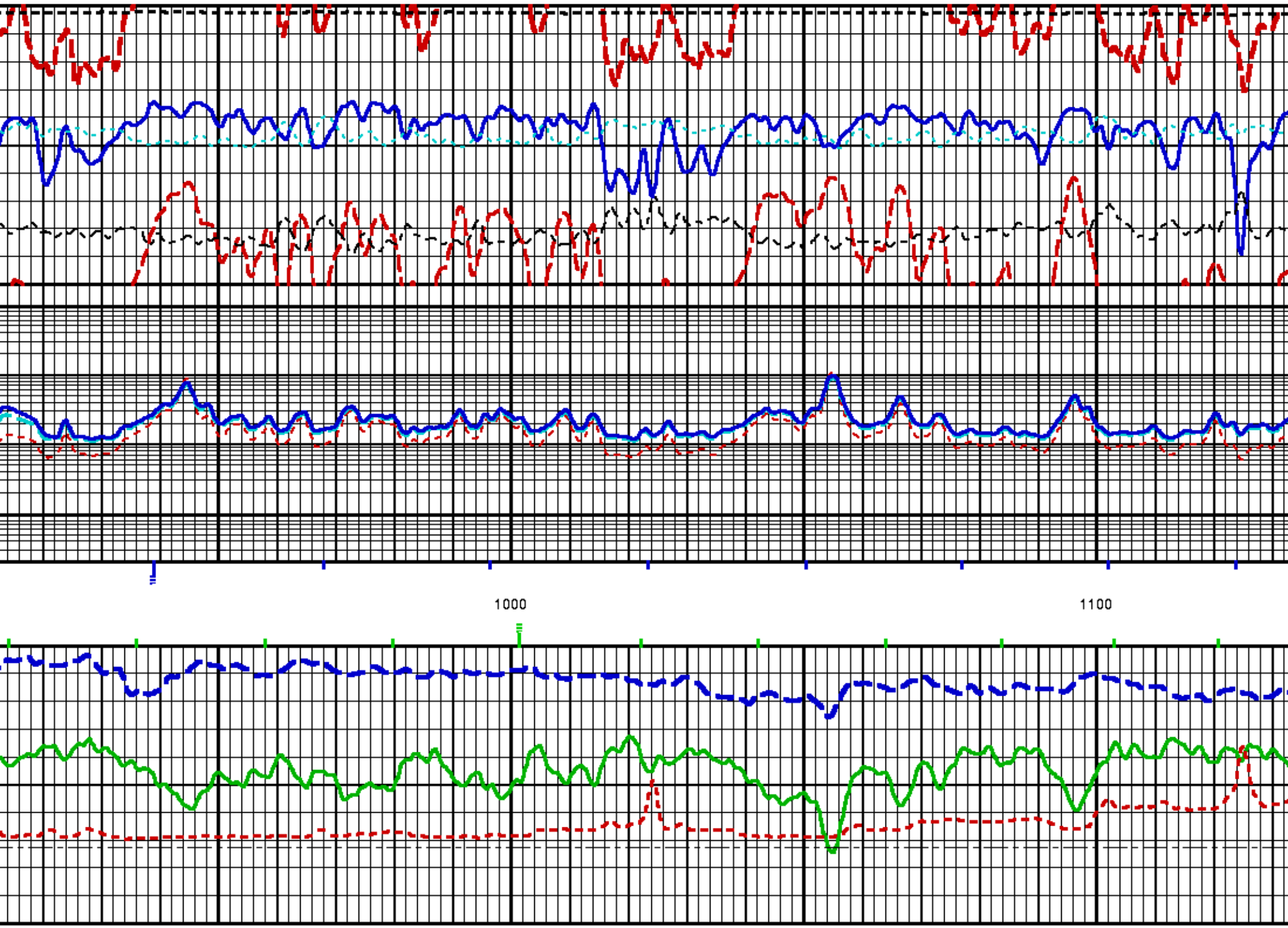
CURVE MEASURE POINT OFFSET

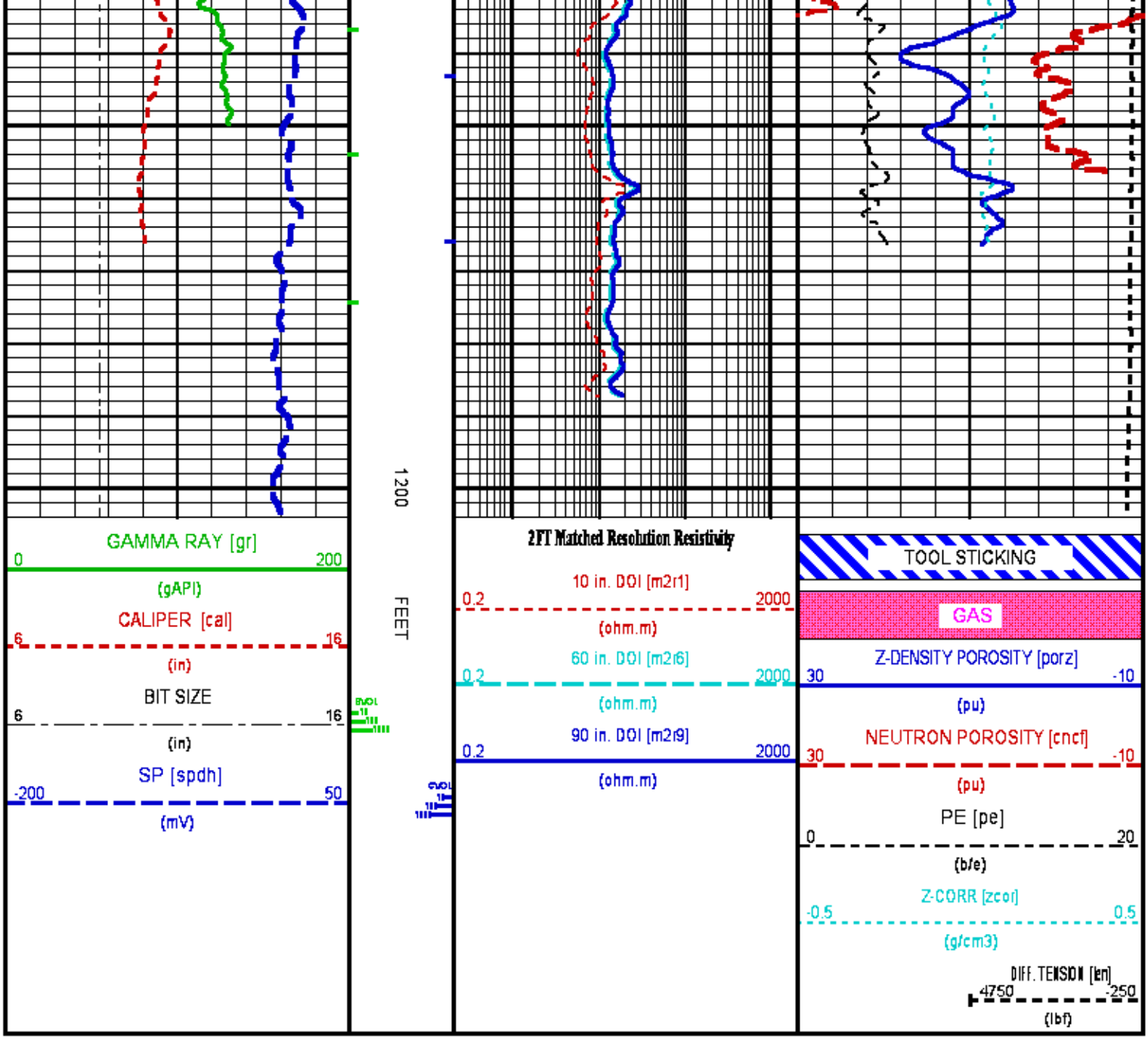
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	52.25	M2R9	8.00	SPDH	14.00
CAL	35.00	M2R1	8.00	PE	34.25	TEN	0.00
CNCF	45.25	M2R6	8.00	PORZ	34.25	ZCOR	34.25

Presentation : **cpu6690:/dat1a/617149/WPX_REPEAT.fvpdf [5"/100' Scale]**
Plot Interval : **870 - 1204 Feet**

Data File 1 : **F1 : cpu6690:/dat1a/617149/repeat.xtf**
Created On : **Feb 9 01:25:51 2014**
Company : **WPX ENERGY INC**
Well : **PA 13-2**
Field : **PARACHUTE**
File Interval : **741.25 - 1204 Feet**
OCT : **n87cb**




1000
1100



CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/617149/n87eb.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10040864 DATE/TIME PERFORMED: Thu Jan 23 13:40:32 2014

UNIT #: 3885TC HL6685 CALB JIG #: 4702NK WA-641

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	338.24	1217.82	879.6 (850.0 – 950.0)	0.171	57.68	207.68	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10040864 DATE/TIME PERFORMED: Thu Jan 23 13:42:38 2014

UNIT #: 3885TC HL6685 VERI JIG #: 4702NK WA-641

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	338.91	1225.07	0.171	57.80	208.92	151.12 (140.00 – 160.00)

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10040864 DATE/TIME PERFORMED: Sun Feb 9 03:57:32 2014 DAYS SINCE CAL: 16

UNIT #: 3882TD HL6690 VERI JIG #: 4702NK WA-641

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	408.60	1333.82	0.171	69.68	227.47	157.78 (141.12 – 161.12)

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10040864 DATE/TIME PERFORMED: Sun Feb 9 14:02:28 2014 DAYS SINCE CAL: 17

UNIT #: 3882TD HL6690 VERI JIG #: 4702NK WA-641

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	240.27	1136.38	0.171	40.97	193.79	152.82 (147.78 – 167.78)

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2446XA 10400611 DATE/TIME PERFORMED: Wed Jan 29 21:04:01 2014

UNIT #: 3882TD HL6690 CALIBRATOR #: 2437XB 1217D130 SOURCE #: 4717XS DN-943

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	NOMINAL SSN/LSN	CORRECTION FACTOR	POROSITY (frac)
LSN	589.31	597.76				
SSN	1508.55	1555.48				
RATIO			2.60218	2.75100	1.05719 (0.97000 – 1.07000)	
CN						0.214

CN PRIMARY VERIFICATION SUMMARY

TOOL #: 2446XA 10400611 DATE/TIME PERFORMED: Wed Jan 29 21:15:52 2014

UNIT #: 3882TD HL6690 ICE BLOCK #: 4717ND VD-023

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (frac)
LSN	1678.82	1749.35				
SSN	3960.09	4300.79				
RATIO			2.45851	1.05719	2.60082	
CN						0.192

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2446XA 10400611 DATE/TIME PERFORMED: Sun Feb 9 04:01:15 2014 DAYS SINCE CAL: 10

UNIT #: 3882TD HL6690 ICE BLOCK #: 4717ND VD-023

	MEASURED	DEADTM CORR	DTC	CORRECTION	DTC CORR	POROSITY

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	1750.63	1827.45				
SSN	3976.93	4320.68				
RATIO			2.36432	1.05719	2.50083	
CN						17.870 17.241 21.241

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2446XA 104000611 DATE/TIME PERFORMED: Sun Feb 9 14:08:51 2014 DAYS SINCE CAL: 10

UNIT #: 3882TD HL6690 ICE BLOCK #: 4717ND VD-023

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	1742.83	1818.96				
SSN	3950.44	4289.46				
RATIO			2.35819	1.05719	2.49464	
CN						17.789 15.870 19.870

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 120009 DATE/TIME PERFORMED: Wed Jan 29 20:18:35 2014

UNIT #: 3882TD HL6690

	SMALL RING	LARGE RING	MULT	ADD	SMALL RING (in)	LARGE RING (in)
CALIPER	1114.0	1826.8	0.00859	-1.69746	7.875	14.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 120009 DATE/TIME PERFORMED: Sat Feb 8 21:42:18 2014 DAYS SINCE CAL: 10

UNIT #: 3882TD HL6690

	I.D.	MULT	ADD	I.D. (in)
CALIPER	1304.0	0.00859	-2.20411	9.001

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 120009 DATE/TIME PERFORMED: Sun Feb 9 01:17:36 2014 DAYS SINCE CAL: 10

UNIT #: 3882TD HL6690

	I.D.	MULT	ADD	I.D. (in)
CALIPER	1298.4	0.00859	-2.20411	8.953 8.501 9.501

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2234XA 120009 DATE/TIME PERFORMED: Wed Jan 29 20:50:08 2014

UNIT: 3882TD HL6690 CALB BLKS: 2225XA 094299 CS SRC: 4703NT 14058B

SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
225.0	225.1	1225.4	1573.0

	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	22531.1	11601.3	0.643 (0.565 – 0.665)	1.699	0.003	2.150
AL	13050.6	1162.2		2.695	-0.009	
AL + SHIM	17977.2	2021.8		2.613	0.157	
MG + SHIM (HI PE)	10997.7	5533.2	0.260 (0.210 – 0.270)			8.700
RATIO AL + SHIM/AL	1.38 (1.32 – 1.42)	1.74 (1.64 – 1.84)				
RATIO MG/AL	1.73 (1.65 – 1.78)	9.98 (9.40 – 10.20)				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 120009 DATE/TIME PERFORMED: Sat Feb 8 21:24:45 2014 DAYS SINCE CAL: 10

UNIT #: 3882TD HL6690

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	1555.5 (1473.0 – 1673.0)	228.9 (220.0 – 230.0)	1266.0 (1100.0 – 1550.0)
SS	1220.2 (1125.4 – 1325.4)	228.3 (220.0 – 230.0)	1214.3 (1100.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
4.9 (4.8 – 5.2)	65.8 (50.0 – 120.0)

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 120009 DATE/TIME PERFORMED: Sun Feb 9 13:59:48 2014 DAYS SINCE CAL: 10

UNIT #: 3882TD HL6690

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	1567.8 (1473.0 – 1673.0)	224.4 (220.0 – 230.0)	1266.6 (1100.0 – 1550.0)
SS	1223.0 (1125.4 – 1325.4)	226.2 (220.0 – 230.0)	1222.8 (1100.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
4.9 (4.8 – 5.2)	70.4 (50.0 – 120.0)

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1515MA 10200533 DATE/TIME PERFORMED: Fri Apr 12 16:57:03 2013

UNIT #: 3885TC HL6685 GRCOND ID & DATE: 126 082996

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.012 (-0.200 – 0.200)	0.023 (-0.100 – 0.100)	0.019 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	-0.006 (-0.100 – 0.100)	-0.004 (-0.100 – 0.100)	-0.007 (-0.100 – 0.100)	-0.007 (-0.100 – 0.100)
Coil 0 Q	0.020 (-1.000 – 1.000)	0.032 (-0.200 – 0.200)	0.025 (-0.100 – 0.100)	0.019 (-0.100 – 0.100)	0.017 (-0.100 – 0.100)	0.010 (-0.100 – 0.100)	-0.001 (-0.100 – 0.100)	-0.006 (-0.100 – 0.100)
Coil 1 R	0.053 (-0.200 – 0.200)	0.041 (-0.100 – 0.100)	0.027 (-0.100 – 0.100)	0.020 (-0.100 – 0.100)	0.012 (-0.100 – 0.100)	0.004 (-0.100 – 0.100)	0.004 (-0.100 – 0.100)	0.009 (-0.100 – 0.100)
Coil 1 Q	-0.003 (-1.000 – 1.000)	0.009 (-0.200 – 0.200)	0.018 (-0.100 – 0.100)	0.020 (-0.100 – 0.100)	0.013 (-0.100 – 0.100)	0.007 (-0.100 – 0.100)	-0.002 (-0.100 – 0.100)	-0.011 (-0.100 – 0.100)
Coil 2 R	0.042 (-0.200 – 0.200)	0.049 (-0.100 – 0.100)	0.044 (-0.100 – 0.100)	0.035 (-0.100 – 0.100)	0.031 (-0.100 – 0.100)	0.032 (-0.100 – 0.100)	0.035 (-0.100 – 0.100)	0.042 (-0.100 – 0.100)
Coil 2 Q	0.005 (-1.000 – 1.000)	0.008 (-0.200 – 0.200)	0.015 (-0.100 – 0.100)	0.010 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	-0.003 (-0.100 – 0.100)	-0.008 (-0.100 – 0.100)	-0.014 (-0.100 – 0.100)
Coil 3 R	0.064	0.035	0.018	0.020	0.009	0.003	0.004	0.010

	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 3 Q	-0.015 -0.500 0.500	-0.005 -0.200 0.200	0.010 -0.100 0.100	0.015 -0.100 0.100	0.010 -0.100 0.100	-0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.008 -0.100 0.100
Coil 4 R	-0.027 -0.200 0.200	-0.015 -0.200 0.200	-0.017 -0.200 0.200	-0.026 -0.200 0.200	-0.032 -0.200 0.200	-0.029 -0.200 0.200	-0.025 -0.200 0.200	-0.028 -0.200 0.200
Coil 4 Q	-0.001 -1.000 1.000	0.016 -0.400 0.400	0.014 -0.200 0.200	0.011 -0.200 0.200	0.002 -0.200 0.200	-0.000 -0.200 0.200	-0.009 -0.200 0.200	-0.009 -0.200 0.200
Coil 5 R	0.038 -0.400 0.400	0.032 -0.400 0.400	0.035 -0.400 0.400	0.031 -0.400 0.400	0.037 -0.400 0.400	0.018 -0.400 0.400	0.024 -0.400 0.400	0.031 -0.400 0.400
Coil 5 Q	-0.011 -2.000 2.000	-0.002 -0.800 0.800	-0.003 -0.400 0.400	0.003 -0.400 0.400	-0.005 -0.400 0.400	-0.001 -0.400 0.400	-0.000 -0.400 0.400	0.000 -0.400 0.400
Coil 6 R	0.007 -1.000 1.000	0.009 -1.000 1.000	0.014 -1.000 1.000	-0.006 -1.000 1.000	-0.009 -1.000 1.000	-0.010 -1.000 1.000	0.018 -1.000 1.000	0.027 -1.000 1.000
Coil 6 Q	-0.008 -5.000 5.000	0.027 -2.000 2.000	0.007 -1.000 1.000	-0.024 -1.000 1.000	-0.002 -1.000 1.000	-0.027 -1.000 1.000	-0.016 -1.000 1.000	-0.026 -1.000 1.000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	124.79 100.00 150.00	123.31 100.00 150.00	120.63 98.00 150.00	116.76 96.00 140.00	111.76 92.00 140.00	105.81 87.00 130.00	98.87 82.00 120.00	91.01 76.00 110.00
Coil 0 P	7.520 6.000 9.000	23.637 19.000 28.000	39.421 32.000 47.000	55.105 44.000 66.000	70.757 57.000 85.000	86.315 70.000 100.000	101.796 82.000 120.000	117.199 95.000 140.000
Coil 1 M	221.06 180.00 270.00	218.09 180.00 270.00	212.61 170.00 260.00	204.86 170.00 250.00	195.10 160.00 250.00	183.81 160.00 230.00	170.88 150.00 220.00	156.59 140.00 200.00
Coil 1 P	7.887 6.000 9.000	24.761 19.000 28.000	41.249 32.000 48.000	57.575 45.000 67.000	73.778 57.000 86.000	89.830 70.000 110.000	105.682 83.000 120.000	121.499 96.000 140.000
Coil 2 M	437.66 360.00 540.00	432.36 360.00 540.00	422.63 350.00 530.00	408.60 340.00 510.00	390.82 330.00 500.00	369.80 310.00 470.00	345.16 300.00 440.00	317.77 270.00 410.00
Coil 2 P	7.809 6.000 9.000	24.533 19.000 29.000	40.931 32.000 48.000	57.199 45.000 67.000	73.392 58.000 87.000	89.477 71.000 110.000	105.504 84.000 130.000	121.455 96.000 140.000
Coil 3 M	717.20 580.00 880.00	712.39 580.00 870.00	703.18 570.00 860.00	689.90 560.00 830.00	671.70 540.00 800.00	648.32 500.00 760.00	619.20 470.00 710.00	583.27 440.00 660.00
Coil 3 P	6.902 6.000 10.000	21.869 20.000 29.000	36.629 33.000 49.000	51.401 46.000 69.000	66.325 59.000 89.000	81.366 72.000 110.000	96.524 85.000 130.000	111.905 98.000 150.000
Coil 4 M	1144.2 900.0 1400.0	1135.4 900.0 1300.0	1118.9 900.0 1300.0	1094.0 850.0 1300.0	1059.9 800.0 1200.0	1017.5 800.0 1200.0	965.0 750.0 1100.0	902.5 700.0 1000.0
Coil 4 P	7.117 6.000 10.000	22.525 20.000 30.000	37.704 33.000 50.000	52.886 46.000 70.000	68.170 60.000 90.000	83.496 73.000 110.000	98.866 86.000 130.000	114.350 99.000 150.000
Coil 5 M	2285.9 1900.0 2800.0	2264.9 1800.0 2800.0	2224.2 1800.0 2700.0	2162.2 1800.0 2600.0	2079.7 1700.0 2500.0	1976.2 1600.0 2400.0	1851.3 1500.0 2200.0	1705.1 1400.0 2100.0
Coil 5 P	7.931 6.000 10.000	24.915 20.000 31.000	41.680 34.000 51.000	58.444 48.000 72.000	75.289 62.000 93.000	92.148 76.000 110.000	108.985 89.000 130.000	125.802 100.000 150.000
Coil 6 M	5969.9 4700.0 7100.0	5895.2 4700.0 7000.0	5755.9 4600.0 6900.0	5555.8 4400.0 6600.0	5303.1 4200.0 6400.0	5002.1 4000.0 6000.0	4659.3 3700.0 5600.0	4275.7 3400.0 5100.0
Coil 6 P	8.050 7.000 10.000	25.572 22.000 32.000	42.686 36.000 54.000	59.648 51.000 76.000	76.534 65.000 98.000	93.280 80.000 120.000	109.851 94.000 140.000	126.394 110.000 160.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	591 -300 800	23 -500 200	-49 -600 100	-75 -600 50	-90 -500 20	-100 -500 20	-109 -500 20	-115 -500 20
Coil 0 Q	1490 -3000 6000	575 -1000 2000	339 -1000 1200	224 -500 900	150 -400 700	97 -400 600	52 -400 500	14 -400 400
Coil 1 R	562 450 650	86 20 130	25 -30 60	4 -50 40	-7 -55 30	-13 -60 20	-17 -60 10	-20 -60 10
Coil 1 Q	121 0 2500	121 0 900	84 0 600	62 0 450	47 0 350	36 0 300	27 0 250	19 0 250
Coil 2 R	193.8 140.0 240.0	31.5 0.0 51.0	11.4 -10.0 25.0	4.3 -15.0 15.0	0.8 -16.0 10.0	-1.3 -16.0 7.0	-2.6 -16.0 5.0	-3.8 -16.0 3.0
Coil 2 Q	310.9 -200.0 1000.0	131.8 0.0 350.0	86.4 0.0 220.0	65.9 0.0 160.0	54.4 0.0 130.0	47.2 0.0 110.0	42.7 0.0 100.0	39.1 0.0 90.0
Coil 3 R	46.9 37.0 62.0	5.8 0.0 12.0	0.9 -3.0 6.0	-0.6 -4.0 4.0	-1.4 -5.0 2.0	-1.8 -5.0 1.0	-2.3 -5.0 1.0	-2.4 -5.0 1.0
Coil 3 Q	82.8 -140.0 380.0	37.0 -40.0 100.0	26.6 -20.0 70.0	23.1 -10.0 60.0	22.1 -10.0 50.0	22.0 -10.0 50.0	22.7 -10.0 50.0	23.1 -10.0 50.0
Coil 4 R	8.87 2.00 18.00	0.06 -3.00 6.00	-0.89 -3.50 3.00	-1.11 -3.50 2.00	-1.24 -4.20 2.00	-1.31 -4.50 2.00	-1.40 -4.70 2.00	-1.41 -5.00 2.00
Coil 4 Q	1.60 -100.00 100.00	4.97 -30.00 50.00	6.99 -20.00 40.00	9.26 -10.00 40.00	11.48 -10.00 40.00	13.80 -10.00 45.00	16.05 -10.00 50.00	18.40 -10.00 60.00
Coil 5 R	-0.09 -2.00 5.80	-0.94 -3.20 2.40	-0.94 -4.50 3.10	-0.86 -4.70 3.20	-0.79 -4.80 3.20	-0.90 -5.00 3.30	-0.88 -5.20 3.40	-0.82 -5.40 3.50
Coil 5 Q	1.04 -60.00 70.00	3.29 -20.00 30.00	5.60 -20.00 30.00	7.98 -20.00 35.00	10.32 -20.00 45.00	12.63 -20.00 50.00	15.09 -20.00 60.00	17.38 -30.00 70.00
Coil 6 R	-3.65 -4.80 1.00	-1.16 -5.70 3.80	-0.72 -6.50 4.90	-0.61 -6.50 5.40	-0.65 -7.30 5.80	-0.64 -7.50 6.00	-0.64 -7.70 6.10	-0.69 -7.50 6.30
Coil 6 Q	1.04 -30.00 30.00	2.63 -20.00 25.00	5.11 -20.00 35.00	7.33 -30.00 50.00	9.66 -35.00 60.00	11.83 -40.00 70.00	14.17 -50.00 80.00	16.40 -60.00 100.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	0.007 -0.100 0.100	0.005 -0.100 0.100	0.003 -0.100 0.100	0.001 -0.100 0.100	0.000 -0.100 0.100	0.000 -0.100 0.100	0.000 -0.100 0.100	0.000 -0.100 0.100

Coil 0 M	0.997 (0.500 – 1.100)	0.995 (0.500 – 1.100)	0.992 (0.500 – 1.100)	0.991 (0.500 – 1.100)	0.989 (0.500 – 1.100)	0.989 (0.500 – 1.100)	0.988 (0.500 – 1.100)	0.990 (0.500 – 1.100)
Coil 0 P	0.106 (-2.000 – 2.000)	0.198 (-2.000 – 2.000)	0.325 (-2.000 – 2.000)	0.296 (-2.000 – 2.000)	0.246 (-2.000 – 2.000)	0.153 (-2.000 – 2.000)	0.131 (-2.000 – 2.000)	0.036 (-2.000 – 2.000)
Coil 1 M	0.996 (0.500 – 1.100)	0.993 (0.500 – 1.100)	0.989 (0.500 – 1.100)	0.988 (0.500 – 1.100)	0.985 (0.500 – 1.100)	0.984 (0.500 – 1.100)	0.982 (0.500 – 1.100)	0.982 (0.500 – 1.100)
Coil 1 P	0.138 (-2.000 – 2.000)	0.290 (-2.000 – 2.000)	0.368 (-2.000 – 2.000)	0.389 (-2.000 – 2.000)	0.361 (-2.000 – 2.000)	0.295 (-2.000 – 2.000)	0.211 (-2.000 – 2.000)	0.157 (-2.000 – 2.000)
Coil 2 M	0.997 (0.500 – 1.100)	0.994 (0.500 – 1.100)	0.993 (0.500 – 1.100)	0.992 (0.500 – 1.100)	0.990 (0.500 – 1.100)	0.989 (0.500 – 1.100)	0.987 (0.500 – 1.100)	0.987 (0.500 – 1.100)
Coil 2 P	0.095 (-2.000 – 2.000)	0.135 (-2.000 – 2.000)	0.167 (-2.000 – 2.000)	0.248 (-2.000 – 2.000)	0.257 (-2.000 – 2.000)	0.246 (-2.000 – 2.000)	0.237 (-2.000 – 2.000)	0.216 (-2.000 – 2.000)
Coil 3 M	1.014 (0.500 – 1.100)	1.013 (0.500 – 1.100)	1.012 (0.500 – 1.100)	1.012 (0.500 – 1.100)	1.010 (0.500 – 1.100)	1.009 (0.500 – 1.100)	1.009 (0.500 – 1.100)	1.008 (0.500 – 1.100)
Coil 3 P	0.109 (-2.000 – 2.000)	0.042 (-2.000 – 2.000)	0.081 (-2.000 – 2.000)	0.098 (-2.000 – 2.000)	0.094 (-2.000 – 2.000)	0.039 (-2.000 – 2.000)	0.008 (-2.000 – 2.000)	0.053 (-2.000 – 2.000)
Coil 4 M	1.034 (0.500 – 1.100)	1.033 (0.500 – 1.100)	1.032 (0.500 – 1.100)	1.031 (0.500 – 1.100)	1.030 (0.500 – 1.100)	1.029 (0.500 – 1.100)	1.028 (0.500 – 1.100)	1.027 (0.500 – 1.100)
Coil 4 P	0.052 (-2.000 – 2.000)	0.109 (-2.000 – 2.000)	0.142 (-2.000 – 2.000)	0.202 (-2.000 – 2.000)	0.199 (-2.000 – 2.000)	0.185 (-2.000 – 2.000)	0.162 (-2.000 – 2.000)	0.135 (-2.000 – 2.000)
Coil 5 M	1.036 (0.500 – 1.100)	1.035 (0.500 – 1.100)	1.035 (0.500 – 1.100)	1.034 (0.500 – 1.100)	1.032 (0.500 – 1.100)	1.033 (0.500 – 1.100)	1.032 (0.500 – 1.100)	1.031 (0.500 – 1.100)
Coil 5 P	0.026 (-2.000 – 2.000)	-0.088 (-2.000 – 2.000)	-0.066 (-2.000 – 2.000)	-0.107 (-2.000 – 2.000)	-0.188 (-2.000 – 2.000)	-0.309 (-2.000 – 2.000)	-0.326 (-2.000 – 2.000)	-0.431 (-2.000 – 2.000)
Coil 6 M	1.014 (0.500 – 1.100)	1.015 (0.500 – 1.100)	1.014 (0.500 – 1.100)	1.012 (0.500 – 1.100)	1.012 (0.500 – 1.100)	1.017 (0.500 – 1.100)	1.017 (0.500 – 1.100)	1.016 (0.500 – 1.100)
Coil 6 P	0.002 (-2.000 – 2.000)	0.132 (-2.000 – 2.000)	0.088 (-2.000 – 2.000)	0.164 (-2.000 – 2.000)	0.065 (-2.000 – 2.000)	-0.029 (-2.000 – 2.000)	-0.041 (-2.000 – 2.000)	-0.130 (-2.000 – 2.000)

PARMS	TCID 0	TCID 1	Cal Temp (degF)	T Factor
IDs	1.722	0.918	68.0	1.04

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1515MA 10200533 DATE/TIME PERFORMED: Sat Feb 8 21:26:10 2014 DAYS SINCE CAL: 302

UNIT #: 3882TD HL669D

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.004 (-0.200 – 0.200)	0.004 (-0.100 – 0.100)	0.004 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	-0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	-0.001 (-0.100 – 0.100)
Coil 0 Q	0.003 (-1.000 – 1.000)	0.007 (-0.200 – 0.200)	0.003 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.000 (-0.100 – 0.100)	-0.001 (-0.100 – 0.100)
Coil 1 R	-0.003 (-0.200 – 0.200)	0.005 (-0.100 – 0.100)	0.007 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	-0.000 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	-0.002 (-0.100 – 0.100)	-0.003 (-0.100 – 0.100)
Coil 1 Q	0.006 (-1.000 – 1.000)	0.007 (-0.200 – 0.200)	0.004 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	-0.001 (-0.100 – 0.100)
Coil 2 R	0.015 (-0.200 – 0.200)	0.008 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	0.005 (-0.100 – 0.100)	0.008 (-0.100 – 0.100)
Coil 2 Q	-0.005 (-1.000 – 1.000)	-0.002 (-0.200 – 0.200)	0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	-0.002 (-0.100 – 0.100)	-0.005 (-0.100 – 0.100)	-0.003 (-0.100 – 0.100)	-0.003 (-0.100 – 0.100)
Coil 3 R	0.012 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.005 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	0.006 (-0.100 – 0.100)
Coil 3 Q	-0.004 (-0.500 – 0.500)	-0.004 (-0.200 – 0.200)	0.003 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	-0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)
Coil 4 R	-0.007 (-0.200 – 0.200)	-0.004 (-0.200 – 0.200)	-0.001 (-0.200 – 0.200)	-0.006 (-0.200 – 0.200)	0.000 (-0.200 – 0.200)	0.003 (-0.200 – 0.200)	-0.002 (-0.200 – 0.200)	0.006 (-0.200 – 0.200)
Coil 4 Q	-0.003 (-1.000 – 1.000)	0.002 (-0.400 – 0.400)	0.005 (-0.200 – 0.200)	0.001 (-0.200 – 0.200)	-0.007 (-0.200 – 0.200)	-0.004 (-0.200 – 0.200)	-0.004 (-0.200 – 0.200)	-0.002 (-0.200 – 0.200)
Coil 5 R	0.002 (-0.400 – 0.400)	0.007 (-0.400 – 0.400)	0.009 (-0.400 – 0.400)	0.006 (-0.400 – 0.400)	-0.001 (-0.400 – 0.400)	-0.001 (-0.400 – 0.400)	-0.002 (-0.400 – 0.400)	-0.004 (-0.400 – 0.400)
Coil 5 Q	-0.008 (-2.000 – 2.000)	0.003 (-0.800 – 0.800)	0.006 (-0.400 – 0.400)	-0.000 (-0.400 – 0.400)	0.002 (-0.400 – 0.400)	0.004 (-0.400 – 0.400)	-0.006 (-0.400 – 0.400)	0.003 (-0.400 – 0.400)
Coil 6 R	0.012 (-1.000 – 1.000)	-0.001 (-1.000 – 1.000)	-0.017 (-1.000 – 1.000)	-0.027 (-1.000 – 1.000)	-0.019 (-1.000 – 1.000)	-0.015 (-1.000 – 1.000)	-0.008 (-1.000 – 1.000)	0.024 (-1.000 – 1.000)
Coil 6 Q	-0.005 (-5.000 – 5.000)	-0.000 (-2.000 – 2.000)	0.023 (-1.000 – 1.000)	-0.013 (-1.000 – 1.000)	-0.025 (-1.000 – 1.000)	-0.012 (-1.000 – 1.000)	-0.014 (-1.000 – 1.000)	-0.011 (-1.000 – 1.000)

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	124.86 (100.00 – 150.00)	123.38 (100.00 – 150.00)	120.57 (98.00 – 150.00)	116.52 (96.00 – 140.00)	111.50 (92.00 – 140.00)	105.17 (87.00 – 130.00)	98.16 (82.00 – 120.00)	90.09 (76.00 – 110.00)
Coil 0 P	7.887 (6.000 – 9.000)	24.754 (19.000 – 28.000)	41.273 (32.000 – 47.000)	57.720 (44.000 – 66.000)	74.077 (57.000 – 85.000)	90.379 (70.000 – 100.000)	106.492 (82.000 – 120.000)	122.626 (95.000 – 140.000)
Coil 1 M	221.58 (180.00 – 270.00)	218.60 (180.00 – 270.00)	212.93 (170.00 – 260.00)	204.91 (170.00 – 250.00)	195.13 (160.00 – 250.00)	183.29 (150.00 – 230.00)	170.25 (140.00 – 220.00)	155.64 (130.00 – 200.00)

Coil 1 P	7.565 6.000 9.000	25.345 19.000 28.000	42.426 32.000 48.000	59.286 45.000 67.000	75.983 57.000 86.000	92.530 70.000 110.000	108.880 83.000 120.000	125.120 96.000 140.000
Coil 2 M	439.04 360.00 540.00	433.58 360.00 540.00	423.37 350.00 530.00	408.86 340.00 510.00	390.86 330.00 500.00	368.61 310.00 470.00	343.94 300.00 440.00	315.25 270.00 410.00
Coil 2 P	8.079 6.000 9.000	25.322 19.000 29.000	42.210 32.000 48.000	58.982 45.000 67.000	75.669 58.000 87.000	92.269 71.000 110.000	108.723 84.000 130.000	125.063 96.000 140.000
Coil 3 M	711.58 550.00 880.00	706.43 580.00 870.00	696.76 570.00 850.00	682.57 560.00 830.00	664.31 530.00 800.00	639.49 500.00 760.00	610.50 470.00 710.00	573.27 440.00 650.00
Coil 3 P	7.286 6.000 10.000	23.034 20.000 29.000	38.526 33.000 49.000	54.042 46.000 69.000	69.656 59.000 89.000	85.412 72.000 110.000	101.263 86.000 130.000	117.290 98.000 150.000
Coil 4 M	1136.0 900.0 1400.0	1126.8 900.0 1300.0	1109.4 900.0 1300.0	1083.1 850.0 1300.0	1049.0 800.0 1200.0	1003.9 800.0 1200.0	951.7 750.0 1100.0	886.6 700.0 1000.0
Coil 4 P	7.521 6.000 10.000	23.714 20.000 30.000	39.644 33.000 50.000	55.595 46.000 70.000	71.634 60.000 90.000	87.710 73.000 110.000	103.818 86.000 130.000	119.916 99.000 150.000
Coil 5 M	2281.6 1900.0 2800.0	2259.2 1800.0 2800.0	2215.5 1800.0 2700.0	2151.1 1800.0 2600.0	2068.2 1700.0 2500.0	1959.0 1600.0 2400.0	1833.6 1500.0 2300.0	1683.3 1400.0 2100.0
Coil 5 P	8.183 6.000 10.000	25.676 20.000 31.000	42.923 34.000 51.000	60.170 48.000 72.000	77.451 62.000 93.000	94.789 76.000 110.000	112.059 89.000 130.000	129.276 100.000 150.000
Coil 6 M	6037.5 4700.0 7100.0	5959.7 4700.0 7000.0	5812.1 4600.0 6900.0	5603.2 4400.0 6600.0	5343.3 4200.0 6400.0	5025.7 4000.0 6000.0	4674.6 3700.0 5600.0	4273.0 3400.0 5100.0
Coil 6 P	8.330 7.000 10.000	26.356 22.000 32.000	43.982 36.000 54.000	61.441 51.000 76.000	78.784 65.000 98.000	96.031 80.000 120.000	113.056 94.000 140.000	129.946 110.000 160.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1515MA 10200533 DATE/TIME PERFORMED: Sun Feb 9 01:19:23 2014 DAYS SINCE CAL: 302

UNIT #: 3882TD HL6690

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil D R	0.007 -0.076 0.084	0.005 -0.056 0.064	0.003 -0.036 0.034	0.003 -0.029 0.031	-0.000 -0.031 0.029	0.000 -0.029 0.031	0.001 -0.029 0.031	-0.000 -0.031 0.029
Coil D Q	0.004 -0.037 0.043	0.008 -0.113 0.127	0.004 -0.027 0.033	0.004 -0.027 0.033	0.004 -0.027 0.033	0.002 -0.029 0.031	-0.000 -0.030 0.030	-0.000 -0.031 0.029
Coil 1 R	-0.000 -0.083 0.077	0.004 -0.045 0.055	0.005 -0.023 0.037	0.001 -0.028 0.032	-0.001 -0.030 0.030	-0.002 -0.029 0.031	-0.002 -0.032 0.028	-0.001 -0.033 0.027
Coil 1 Q	0.006 -0.394 0.406	0.008 -0.093 0.107	0.004 -0.026 0.034	0.004 -0.027 0.033	0.003 -0.027 0.033	0.003 -0.027 0.033	-0.000 -0.029 0.031	-0.002 -0.031 0.029
Coil 2 R	0.015 -0.055 0.085	0.008 -0.022 0.038	0.004 -0.029 0.031	0.003 -0.029 0.031	0.002 -0.027 0.033	0.003 -0.028 0.032	0.005 -0.025 0.035	0.007 -0.022 0.038
Coil 2 Q	-0.004 -0.365 0.345	-0.002 -0.102 0.098	0.003 -0.029 0.031	0.003 -0.029 0.031	-0.001 -0.032 0.028	-0.002 -0.025 0.025	-0.005 -0.033 0.027	-0.002 -0.033 0.027
Coil 3 R	0.011 -0.038 0.062	0.010 -0.037 0.043	0.007 -0.039 0.041	0.001 -0.039 0.041	0.004 -0.035 0.045	0.004 -0.038 0.042	0.003 -0.038 0.042	0.005 -0.034 0.046
Coil 3 Q	-0.005 -0.204 0.196	-0.003 -0.084 0.076	0.007 -0.037 0.043	0.003 -0.038 0.042	0.001 -0.041 0.039	-0.003 -0.039 0.041	-0.002 -0.037 0.043	-0.003 -0.038 0.042
Coil 4 R	-0.008 -0.067 0.053	0.002 -0.054 0.056	0.003 -0.051 0.059	-0.005 -0.056 0.054	-0.003 -0.050 0.050	-0.003 -0.057 0.053	0.005 -0.052 0.058	0.003 -0.054 0.056
Coil 4 Q	-0.004 -0.303 0.297	0.003 -0.098 0.102	0.006 -0.055 0.065	0.004 -0.059 0.061	-0.002 -0.057 0.053	-0.003 -0.054 0.056	-0.005 -0.054 0.056	-0.002 -0.052 0.058
Coil 5 R	0.000 -0.118 0.122	0.011 -0.113 0.127	-0.001 -0.111 0.129	0.004 -0.114 0.126	-0.000 -0.121 0.119	0.002 -0.121 0.119	0.005 -0.122 0.118	0.002 -0.124 0.116
Coil 5 Q	-0.005 -0.608 0.592	0.001 -0.247 0.253	0.008 -0.114 0.126	0.009 -0.120 0.120	0.000 -0.118 0.122	-0.000 -0.116 0.124	0.003 -0.126 0.114	-0.000 -0.117 0.123
Coil 6 R	-0.017 -0.288 0.312	-0.003 -0.301 0.295	-0.006 -0.317 0.283	-0.025 -0.327 0.273	-0.024 -0.319 0.281	-0.003 -0.315 0.285	0.008 -0.308 0.292	0.007 -0.276 0.324
Coil 6 Q	0.006 -1.505 1.495	-0.000 -0.600 0.600	0.010 -0.277 0.323	0.001 -0.313 0.287	-0.003 -0.325 0.275	-0.030 -0.312 0.288	-0.005 -0.314 0.286	0.012 -0.311 0.289

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil D M	125.06 122.36 127.36	123.72 120.52 125.85	120.81 118.15 122.98	116.80 114.19 118.85	111.53 109.27 113.73	105.26 103.07 107.27	97.96 96.20 100.12	89.84 88.29 91.89
Coil D P	7.893 4.887 10.887	24.796 21.754 27.754	41.432 38.273 44.273	57.924 54.720 60.720	74.400 71.077 77.077	90.690 87.379 93.379	106.971 103.452 109.452	122.936 119.626 125.626
Coil 1 M	221.54 217.15 226.01	218.80 214.23 222.98	212.99 208.67 217.19	205.02 200.81 209.00	194.85 191.23 199.03	183.01 179.62 186.96	169.60 166.84 173.65	154.89 152.53 158.76
Coil 1 P	7.581 4.566 10.566	25.393 22.345 28.345	42.587 39.426 45.426	59.506 56.286 62.286	76.324 72.983 78.983	92.851 89.530 95.530	109.336 105.880 111.880	125.428 122.120 128.120
Coil 2 M	438.96 430.25 447.82	433.97 424.91 442.26	423.50 414.91 431.84	409.11 400.68 417.03	390.31 383.04 398.68	368.17 361.24 375.59	342.55 337.07 350.82	313.92 308.95 321.56
Coil 2 P	8.086 5.079 11.079	25.368 22.322 28.322	42.372 39.210 45.210	59.189 55.962 61.962	76.003 72.669 78.669	92.585 89.269 95.269	109.162 105.723 111.723	125.439 122.063 128.063
Coil 3 M	712.01 697.36 725.81	707.58 692.30 720.56	697.51 682.82 710.89	683.51 668.91 696.22	663.61 651.02 677.60	638.87 626.70 652.28	607.92 598.29 622.71	570.68 561.80 584.73
Coil 3 P	7.297 4.286 10.286	23.090 20.034 26.034	38.707 35.526 41.526	54.281 51.042 57.042	70.039 66.696 72.696	85.772 82.412 88.412	101.754 98.263 104.263	117.640 114.250 120.250
Coil 4 M	1137.3 1113.3 1161.3	1129.2 1104.3 1154.1	1111.0 1087.3 1134.6	1084.8 1061.6 1107.9	1048.7 1026.0 1071.3	1003.5 982.8 1024.2	948.2 928.6 967.8	883.1 865.3 901.0

Coil 4 P	7.537 4.521 10.521	23.775 20.714 26.714	39.823 36.644 42.644	55.831 52.595 58.595	72.013 68.634 74.634	88.068 84.710 90.710	104.292 100.818 106.818	120.303 116.916 122.916
Coil 5 M	2286.4 2256.0 2327.2	2266.3 2214.0 2304.4	2221.2 2171.2 2269.8	2157.4 2108.1 2194.1	2069.8 2026.8 2109.5	1960.7 1919.8 1998.1	1830.0 1796.9 1870.2	1679.0 1649.6 1716.9
Coil 5 P	8.190 5.183 11.183	25.717 22.676 28.676	43.076 39.923 45.923	60.371 57.170 63.170	77.783 74.451 80.451	95.090 91.788 97.788	112.473 109.059 115.059	129.573 126.276 132.276
Coil 6 M	6052.4 5916.8 6158.3	5980.7 5840.5 6078.9	5829.0 5695.9 5938.4	5619.6 5491.2 5715.3	5348.1 5226.5 5450.2	5028.7 4925.2 5126.2	4666.7 4581.2 4768.1	4266.5 4187.6 4358.5
Coil 6 P	8.340 5.330 11.330	26.402 23.356 29.356	44.134 40.982 46.982	61.648 58.441 64.441	79.128 75.784 81.784	96.315 93.031 99.031	113.496 110.096 116.096	130.265 126.946 132.946

INSTRUMENT CONFIGURATION

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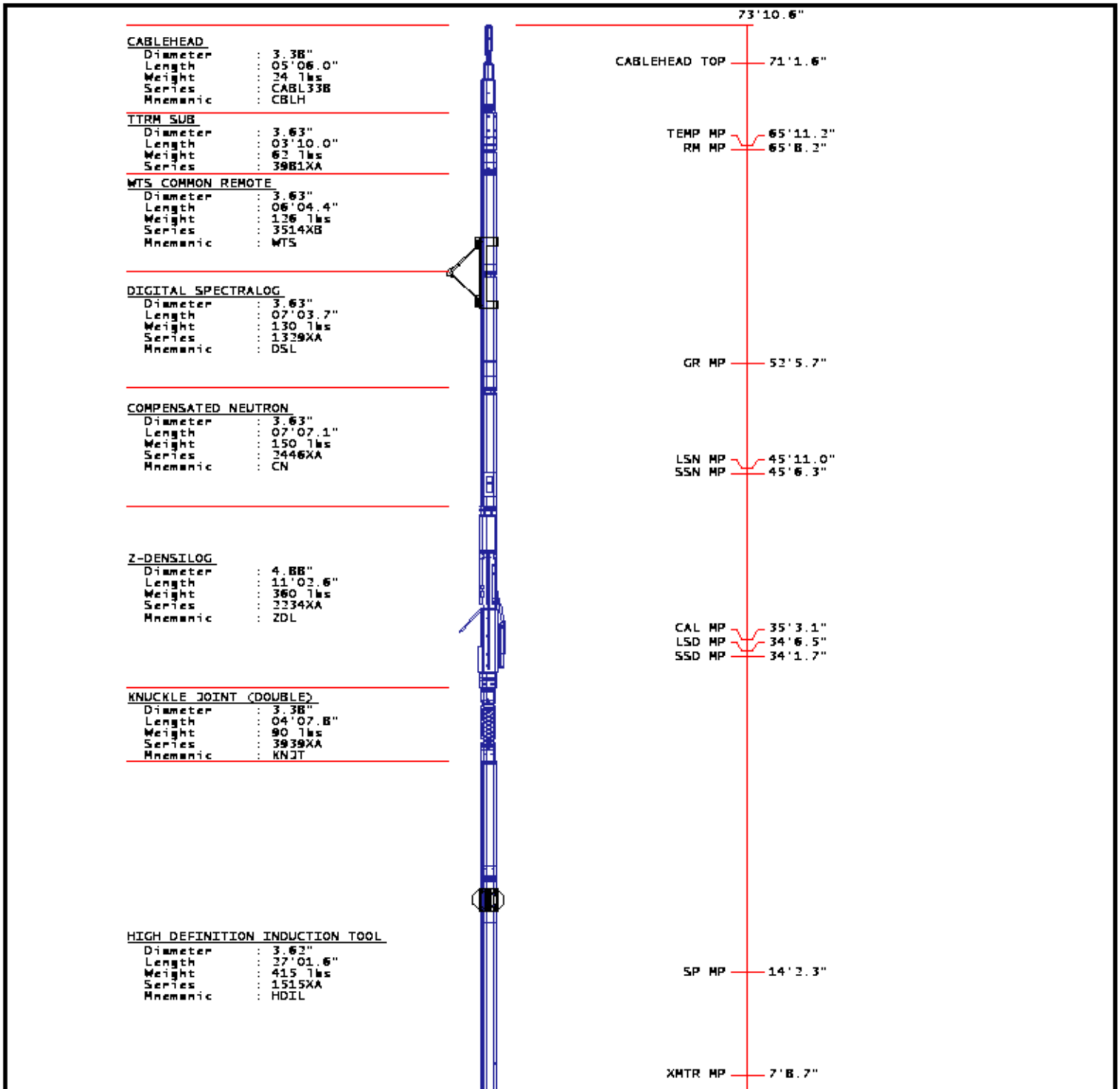

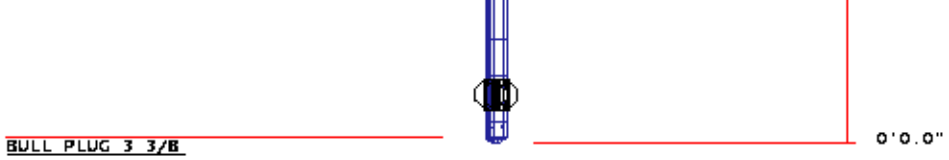

BULL PLUG 3 3/8

TOTAL LENGTH: 73'10.6"
TOTAL WEIGHT: 1378 lbs
MAX DIAMETER: 0'4.88"

BAKER HUGHES

ECLIPS

COMPANY	WPX ENERGY INC.		FILE NO: OH082511
WELL	WPX ENERGY PA 13-2		API NO: 05045221520000
FIELD	PARACHUTE		
COUNTY	GARFIELD	STATE COLORADO	

LOCATION:

SHL: 2074' FSL & 1534' FWL
BHL: 2394' FSL & 581' FWL

SEC 2 TWP 7S RGE 95W

ELEVATIONS:

KB 5846 FT
DF 5845 FT
GL 5821 FT

2 7S 95W
GV 86-2
AZTEC 1000

DATE 9 FEB 2014