BAKER HUGHES

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

FILE NO:	US625070
API NO:	05045221380000
COMPANY	WPX ENERGY INC
WELL	WPX ENERGY PA 513-2
FIELD	PARACHUTE
COUNTY	GARFIELD
STATE	CO

Ver. 3.87
S2 T7S 95W
GV 86-2
AZTEC 1000

LOCATION:
SHL: 2028' FSL; 1560' FWL
BHL: 1509' FSL; 664' FWL

SEC 2 TWP 7S RGE 95W

OTHER SERVICES
NONE

PERMANENT DATUM	GL	ELEVATION	5821 FT
LOG MEASURED FROM	KB	26 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		

ELEVATIONS:
KB 5847 FT
DF
GL 5821 FT

DATE		21-Mar-2014			
RUN	TRIP	1	1		
SERVICE ORDER		US625070			
DEPTH DRILLER		7572 FT			
DEPTH LOGGER		7570 FT			
BOTTOM LOGGED INTERVAL		7558 FT			
TOP LOGGED INTERVAL		0 FT			
CASING DRILLER		9.625 IN @ 946 FT		@	
CASING LOGGER		945 FT			
BIT SIZE		8.75 IN			
TYPE OF FLUID IN HOLE		LSND			
DENSITY	VISCOSITY	12 LB/G	60 CP		
PH	FLUID LOSS	9.1			
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		1.35 OHMM @ 56 DEGF		@	
RMF AT MEAS. TEMP.		1.01 OHMM @ 56 DEGF		@	
RMC AT MEAS. TEMP.		1.68 OHMM @ 56 DEGF		@	
SOURCE OF RMF	RMC	CALCULATED	CALCULATED		
RM AT BHT		1.36 OHMM @ 179 DEGF		@	
TIME SINCE CIRCULATION		5 HRS			
MAX. RECORDED TEMP.		182.7 DEGF			
EQUIP. NO.	LOCATION	6670	GRAND JCT		
RECORDED BY		PATTON			
WITNESSED BY		B. HAIRE			

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN	32 LB/F		0 FT	946 FT

BOREHOLE RECORD

BIT SIZE	FROM	TO
8.75 IN	0 FT	7572 FT

REMARKS

RUN 1 TRIP 1: HDIL ZDL CN GR RUN IN COMBINATION

BVOL CVOL CALCULATED IN CUBIC FEET
CVOL CALCULATED USING PROPOSED 4.5" CASING
CALIPER VERIFIED INSIDE CASING

RHO MATRIX: 2.68 G/CC
RHO FLUID: 1.00 G/CC

CN MATRIX: SANDSTONE
CN RAN DECENTRALIZED

HDIL RAN WITH 1.5" STANDOFFS
ARC TO CALCULATE MUD CONDUCTIVITY

ABC TO CALCULATE: MUD CONDUCTIVITY

THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE SERVICES
CREW: PATTON/COATE/HOLLAR
RIG: AZTEC 1000

EQUIPMENT DATA					
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTMA	3980XA	10142233	FREE
1	1	TEL/GR	3518EB/3518EG	10127973/10137522	FREE
1	1	CN	2436XA	10137930	DECENTRALIZED
1	1	ZDL	2223XA	10102922	DECENTRALIZED
1	1	KNJT	3930XA	10139400/10087279	FREE
1	1	HDIL	1530XA	10121806	STOOD OFF

MAIN LOG 2"/100FT SCALE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 31 Patches: 5

Plotted: Fri Mar 21 17:59:30 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/625070/n970a02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 762.500 ft BOTTOM DEPTH: 7597.397 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER ()	medium (1)		TOP	BOTTOM
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	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
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	8.750	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	56.0	degF	"	"
	MUD SAMPLE RES	1.350	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	56.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION ON		TOP	BOTTOM

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		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

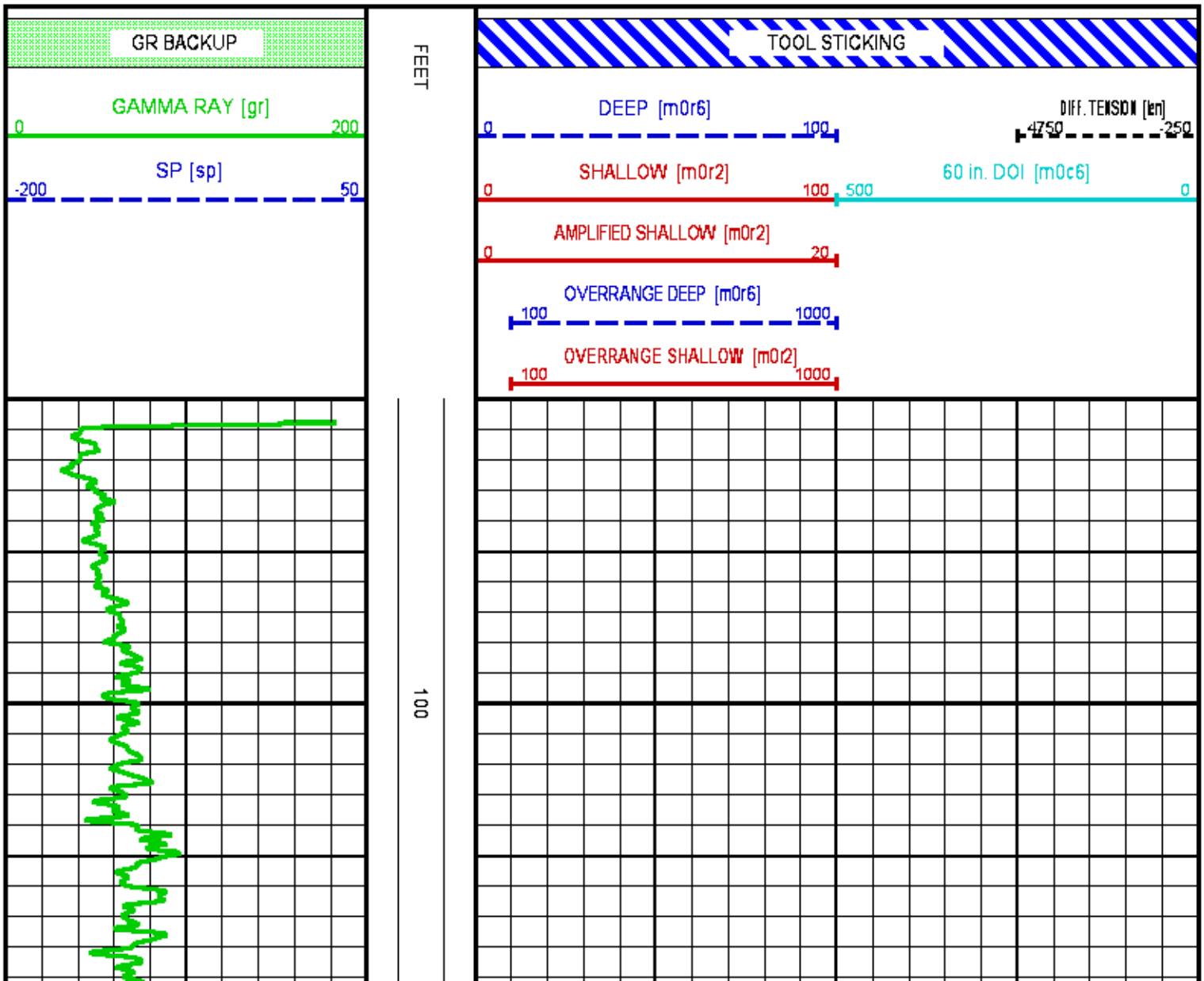
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:GR	Mar 21 15:35:14 2014	GAMMA RAY
F1:MOC6	Mar 21 15:35:14 2014	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:MOR2	Mar 21 15:35:14 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:MOR6	Mar 21 15:35:14 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	Mar 21 15:35:14 2014	SPONTANEOUS POTENTIAL
F1:TEN	Mar 21 15:35:14 2014	DIFFERENTIAL TENSION

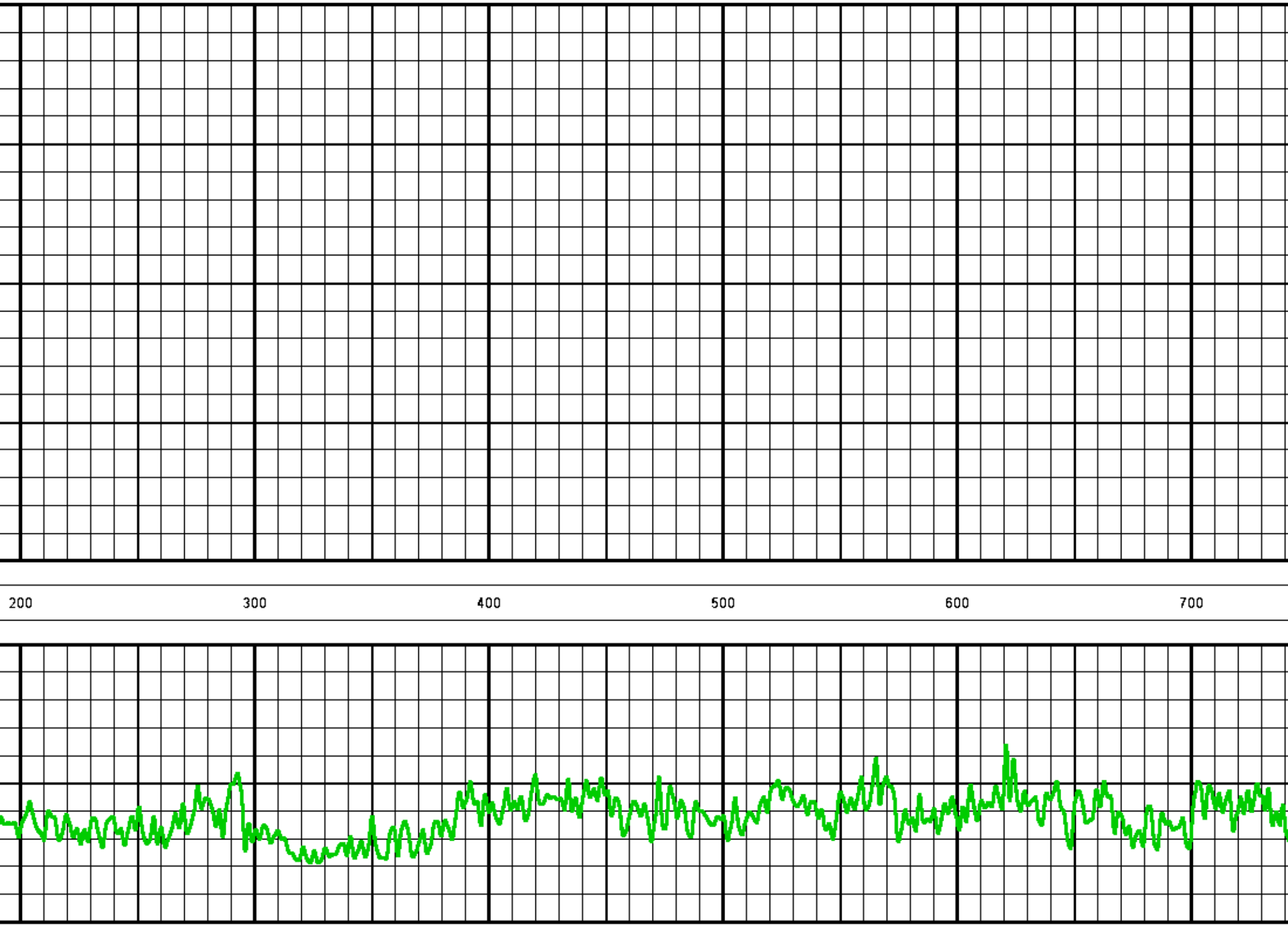
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	35.00	MOR2	2.75	SP	1.25		
MOC6	2.75	MOR6	2.75	TEN	0.00		

Presentation : HL6670:/dat1a/625070/WPX_2IN.fvpdf [2"/100' Scale]
Plot Interval : 7.25 - 7601 Feet

Data File 1 : F1 : HL6670:/dat1a/625070/n970a02-MAIN.xtf
Created On : Mar 21 15:35:14 2014
Company : WPX ENERGY INC
Well : WPX ENERGY PA 513-2
Field : PARACHUTE
File Interval : 7.25 - 7601 Feet
OCT : n970a

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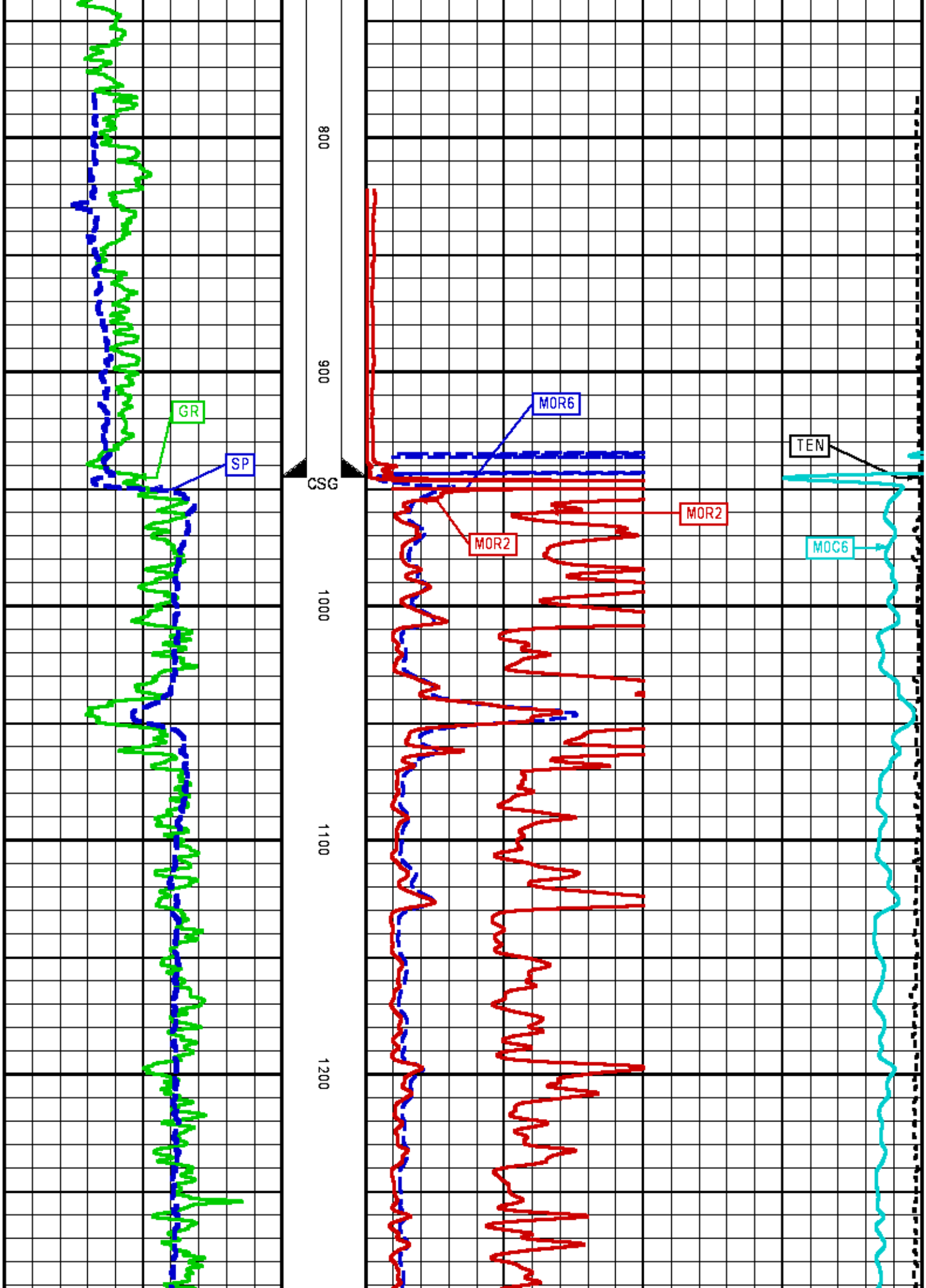
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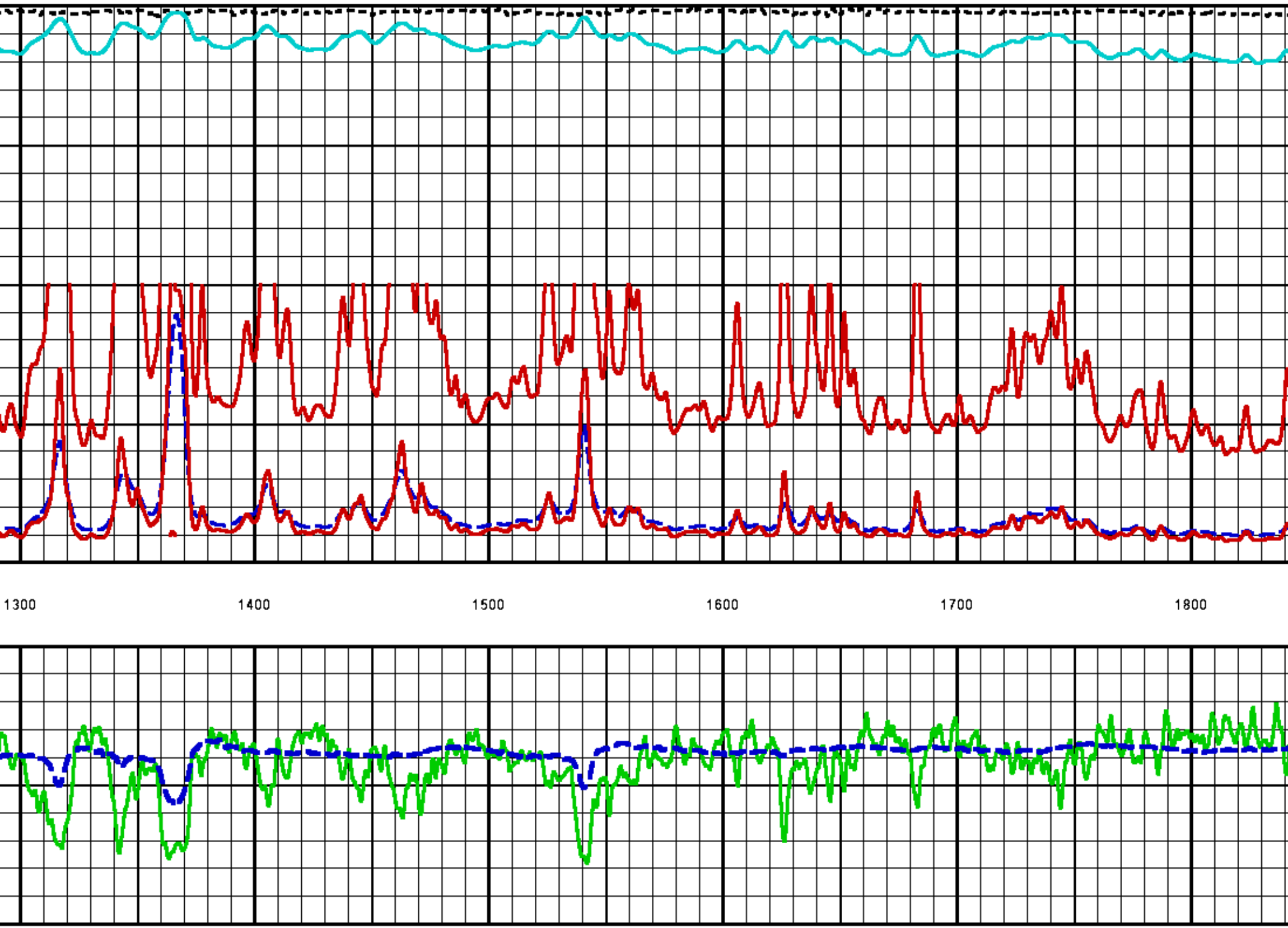
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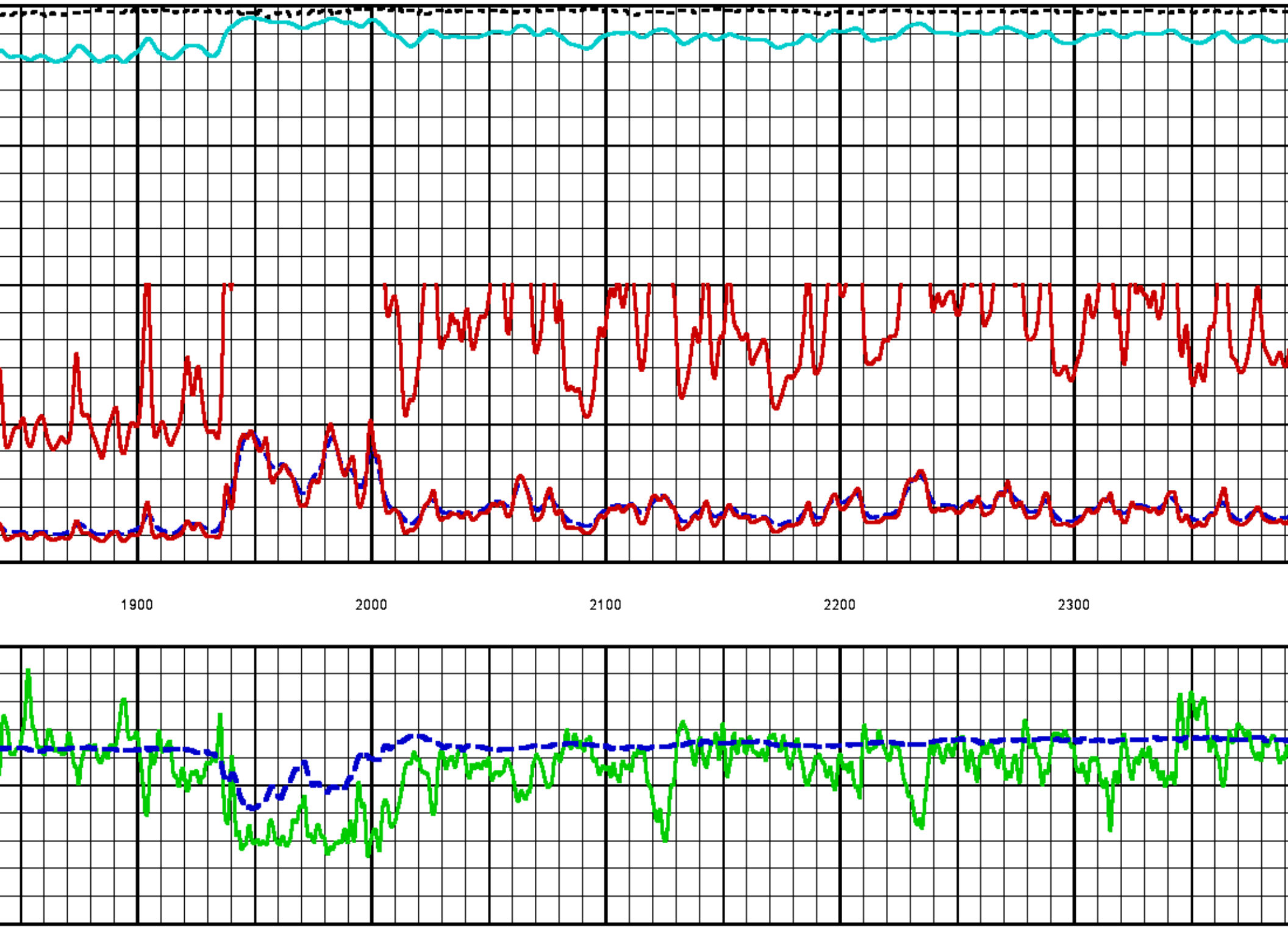
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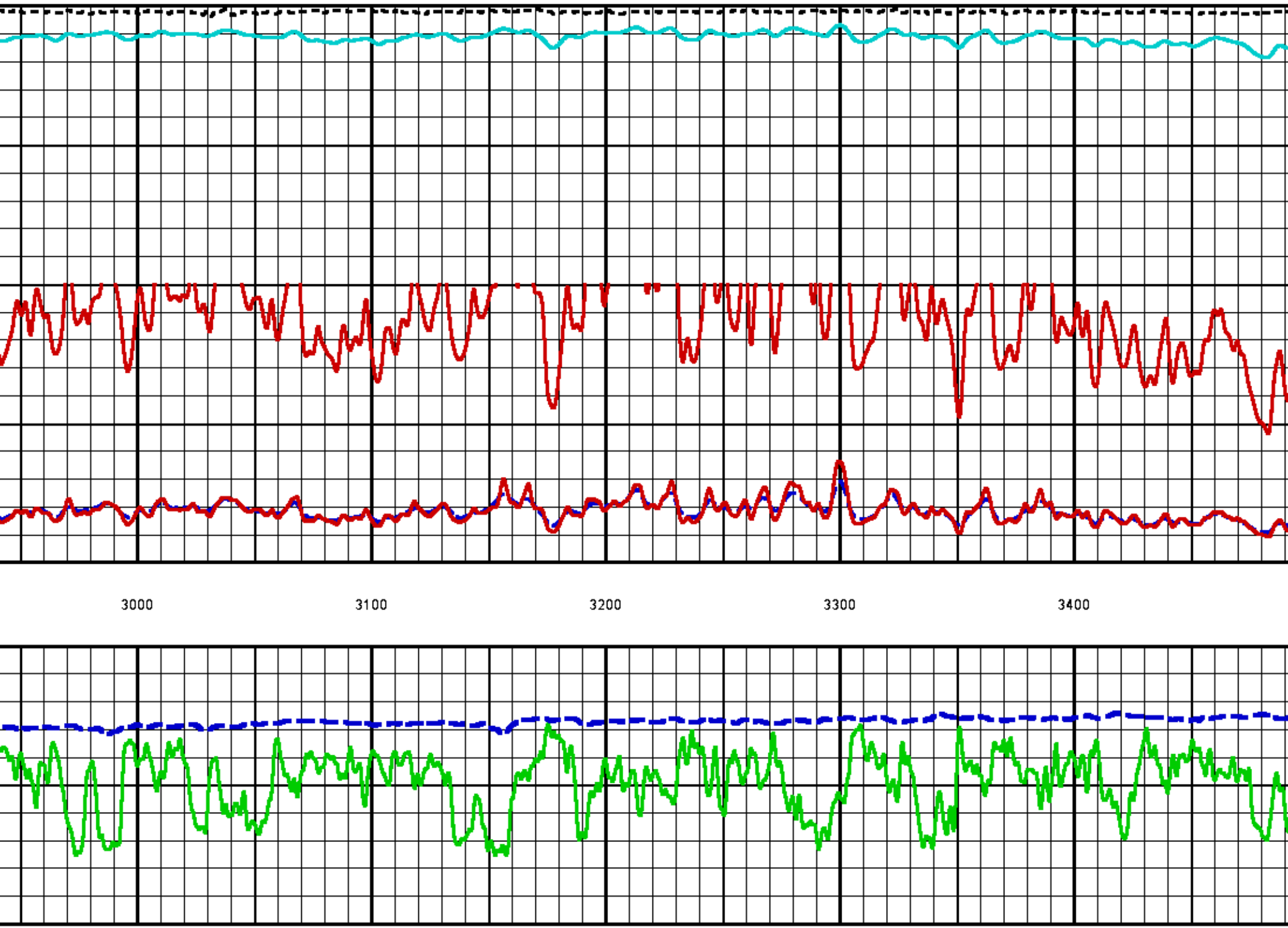
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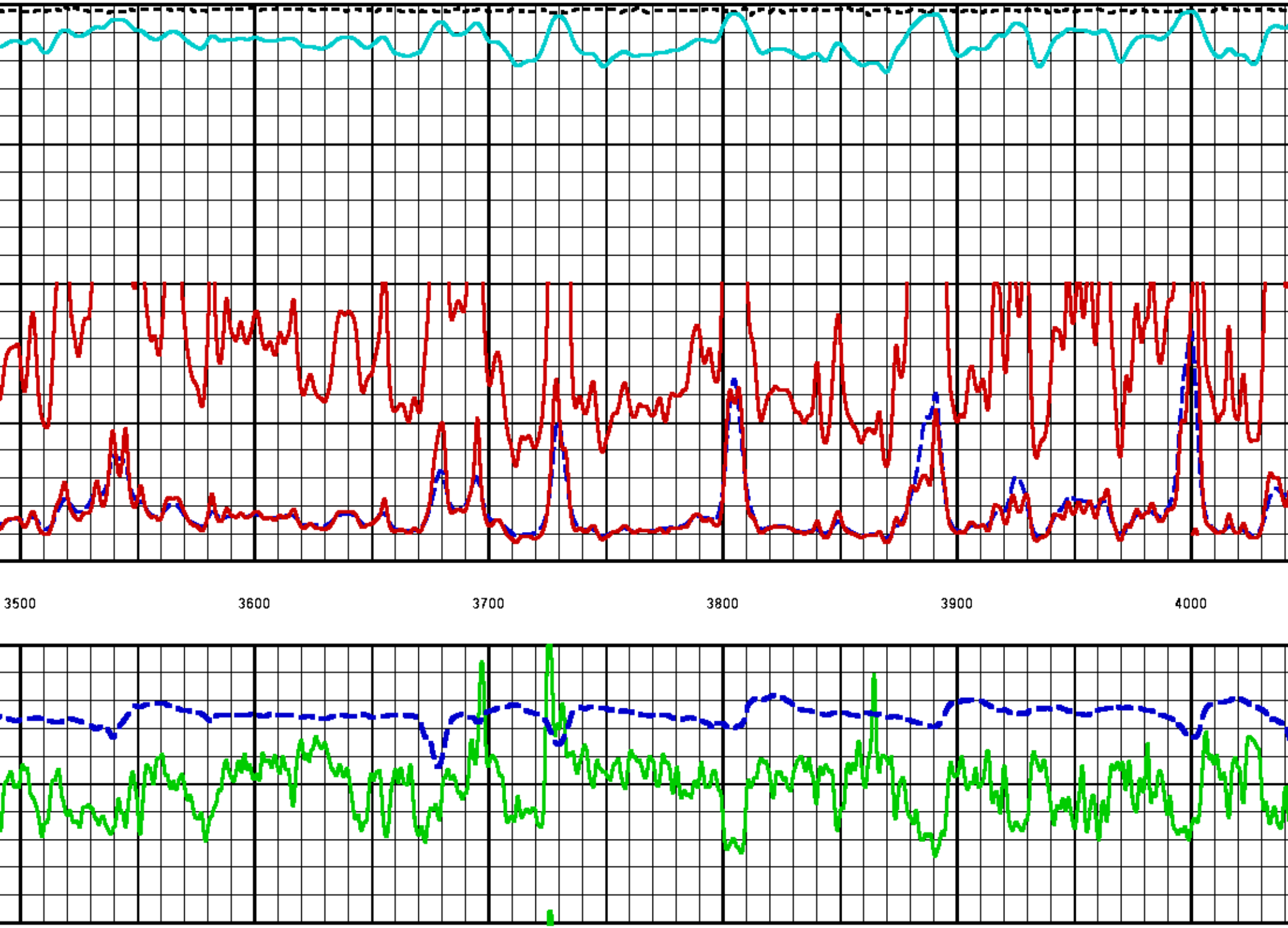
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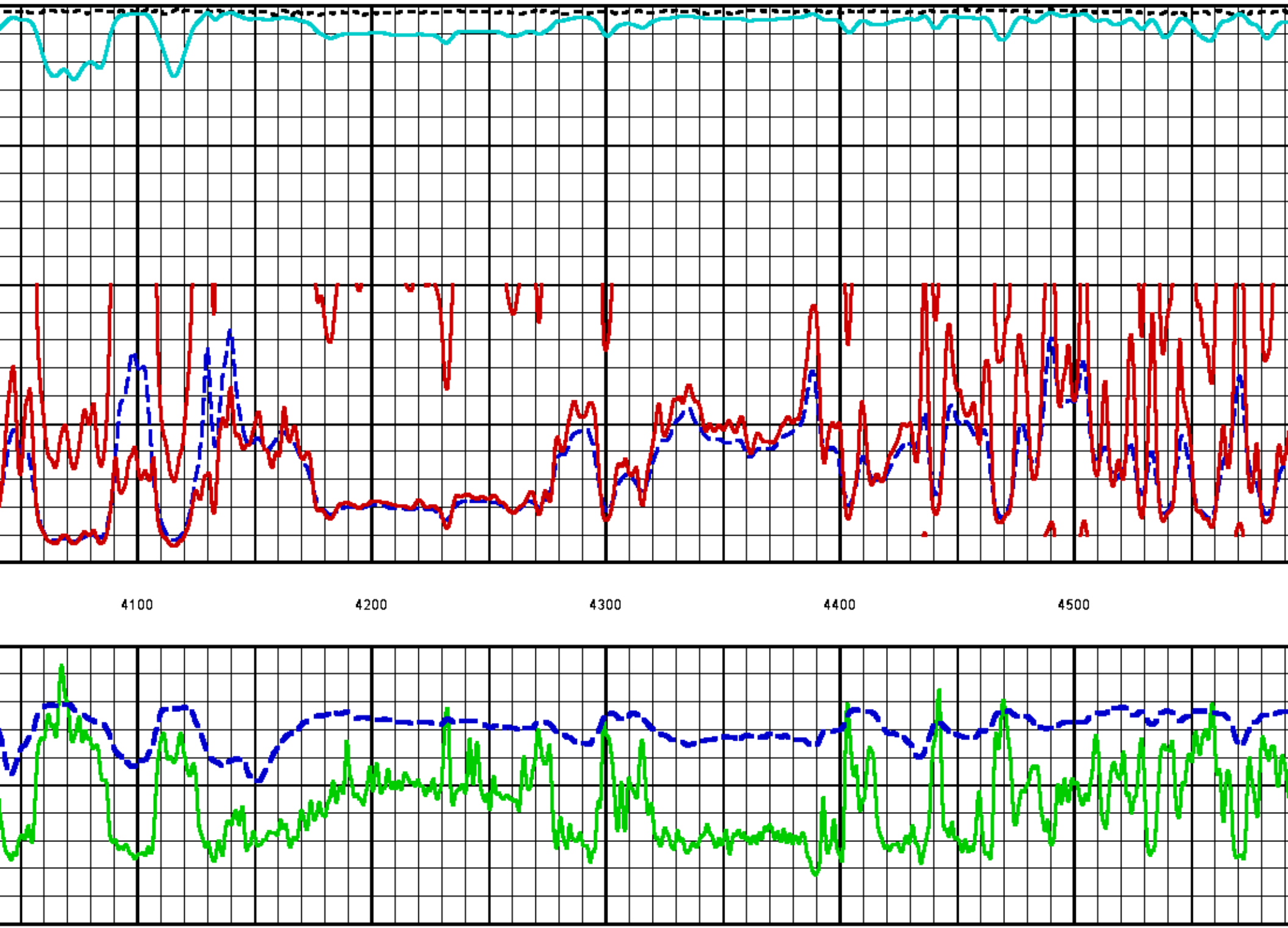
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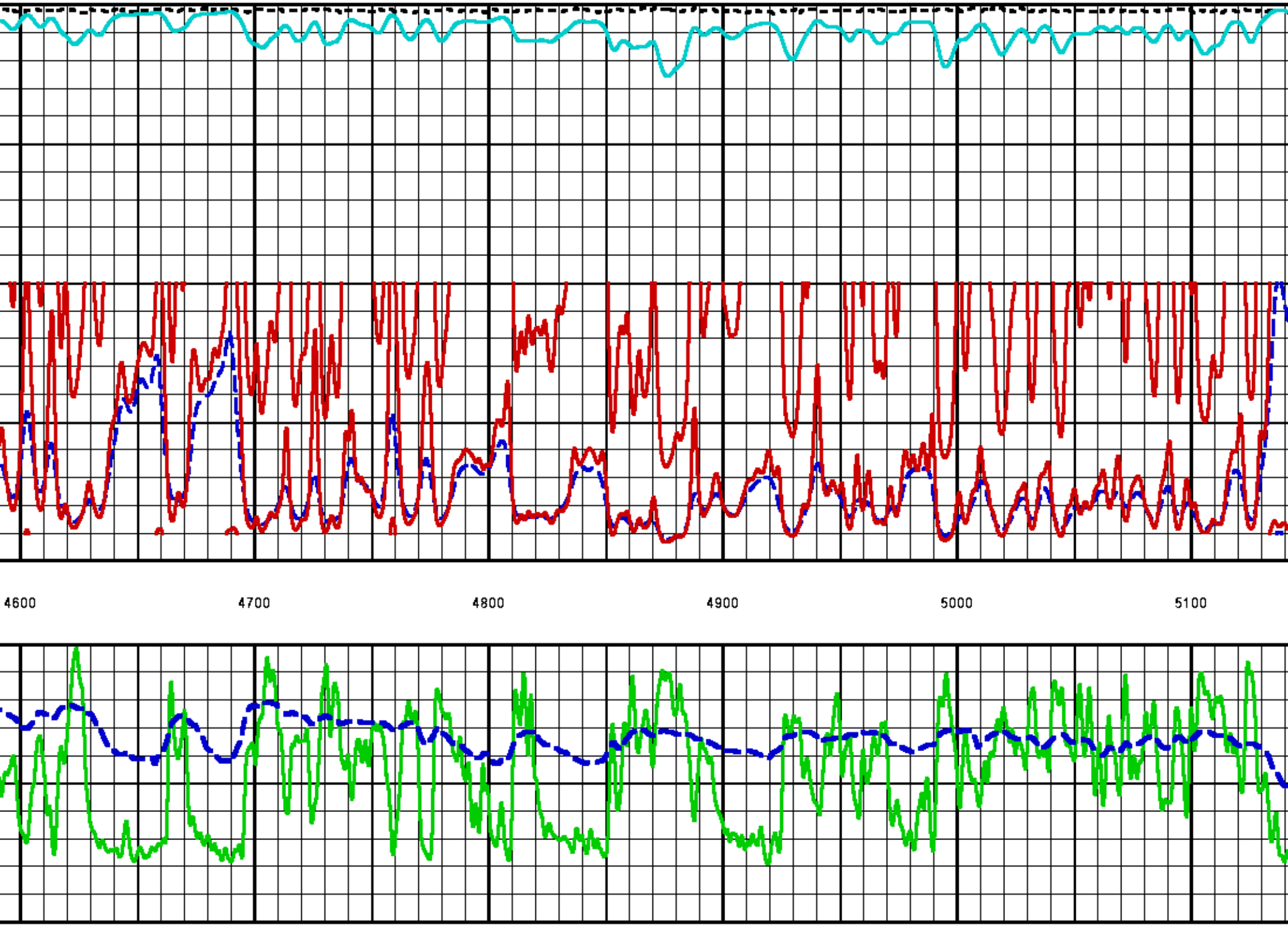
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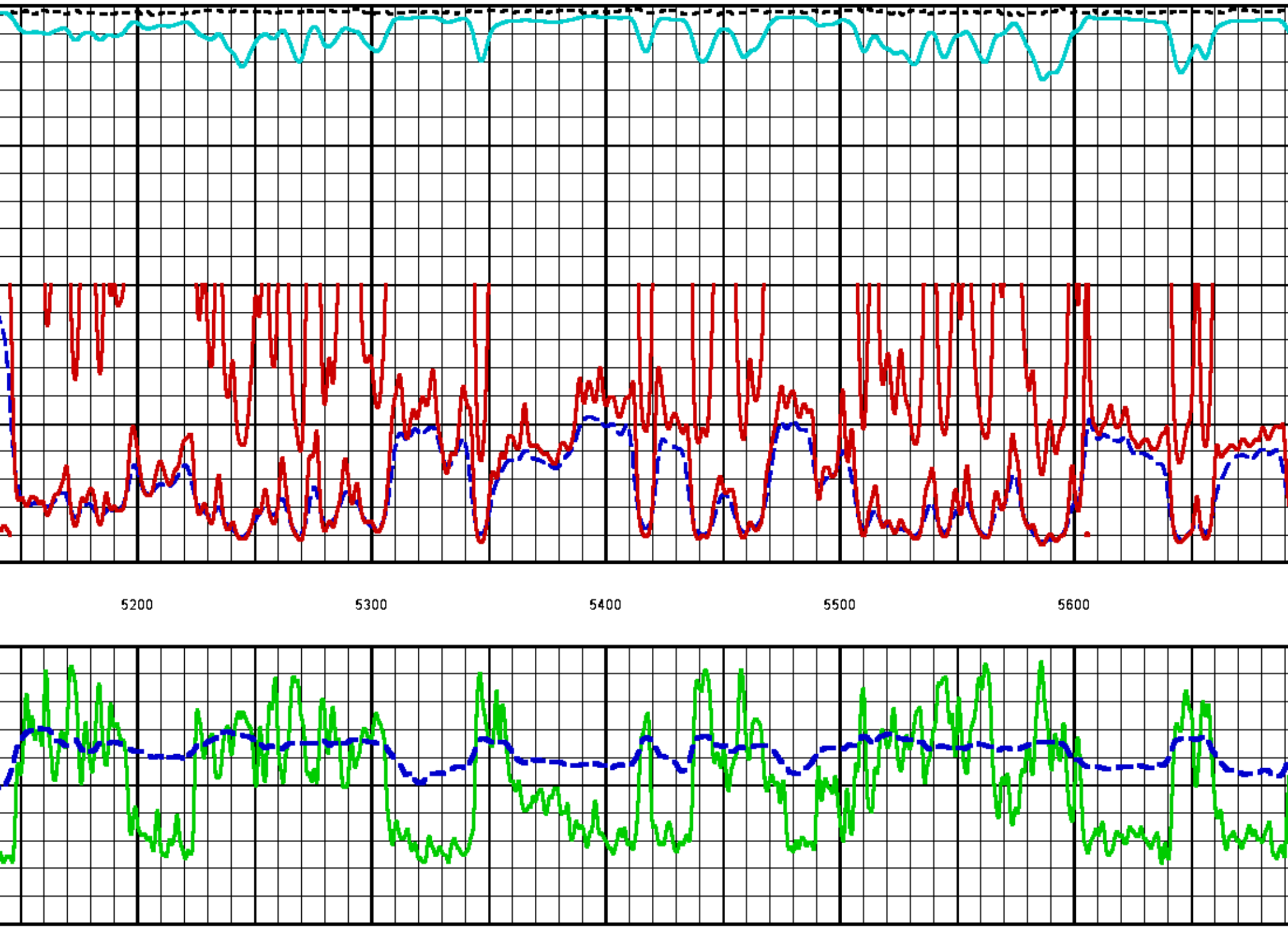
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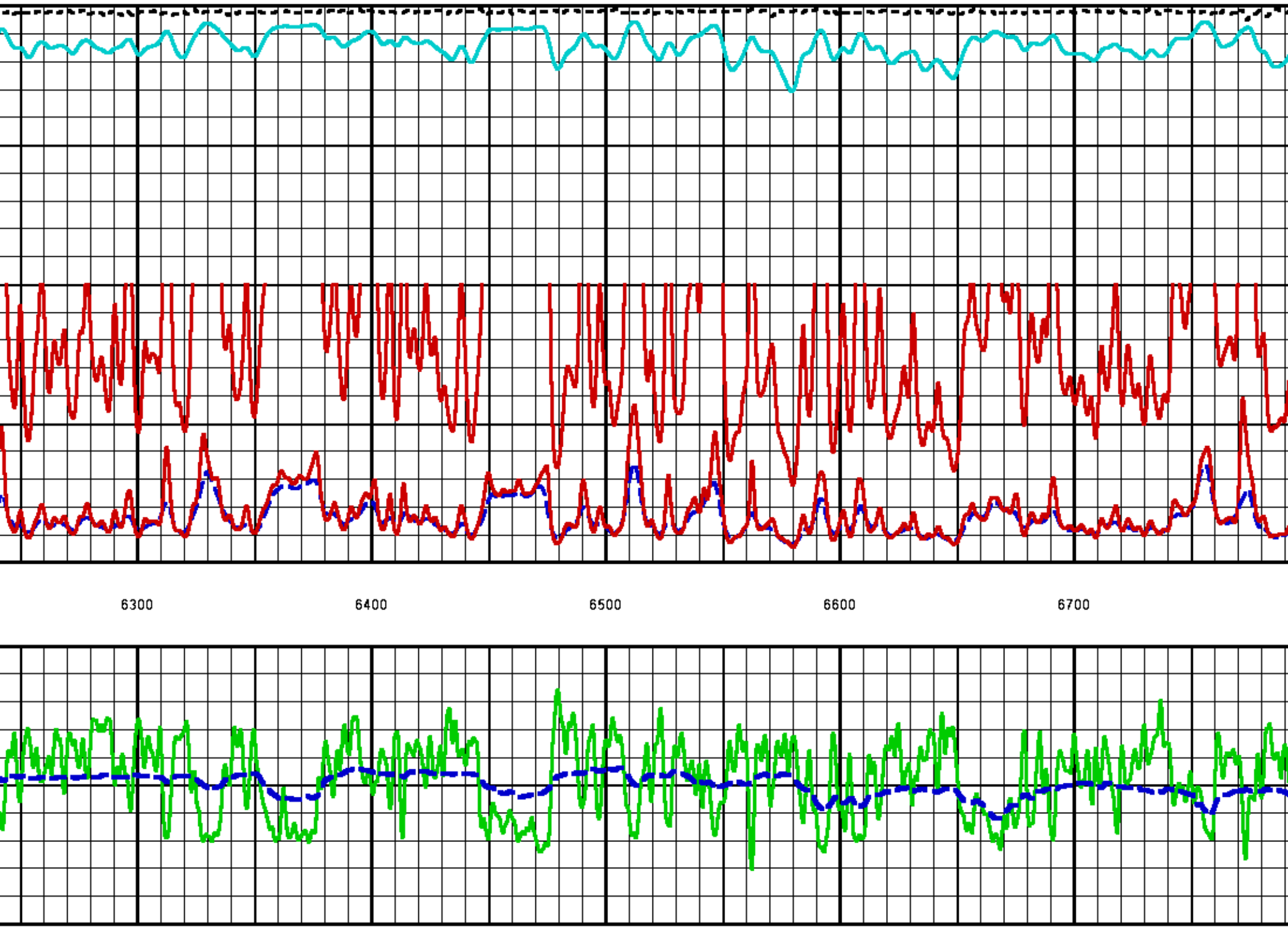
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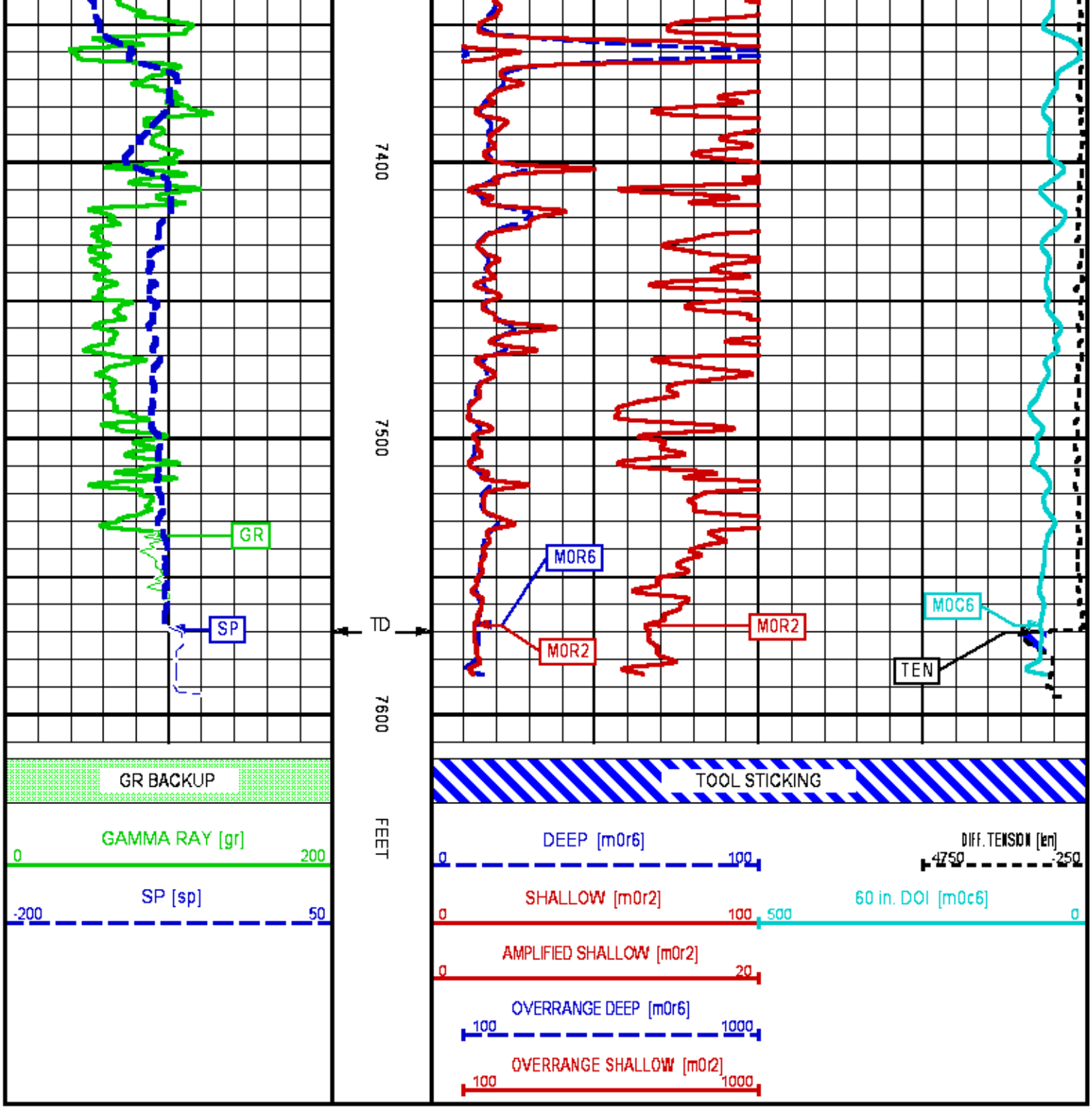


MAIN LOG 5"/100FT SCALE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 31 Patches: 5

Plotted: Fri Mar 21 17:57:28 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/625070/n970a02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 762.500 ft BOTTOM DEPTH: 7597.397 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER ()	medium (1)		TOP	BOTTOM
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN MED RES	FILTER ()	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	"	"
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	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	56.0	degF	"	"
	MUD SAMPLE RES	1.350	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	56.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION ON		TOP	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CN MATRIX	2436 MATRIX	SANDSTONE		TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	800	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
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	Air Filled Borehole	NO		TOP	BOTTOM
	RHOmatrix	2.680	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		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

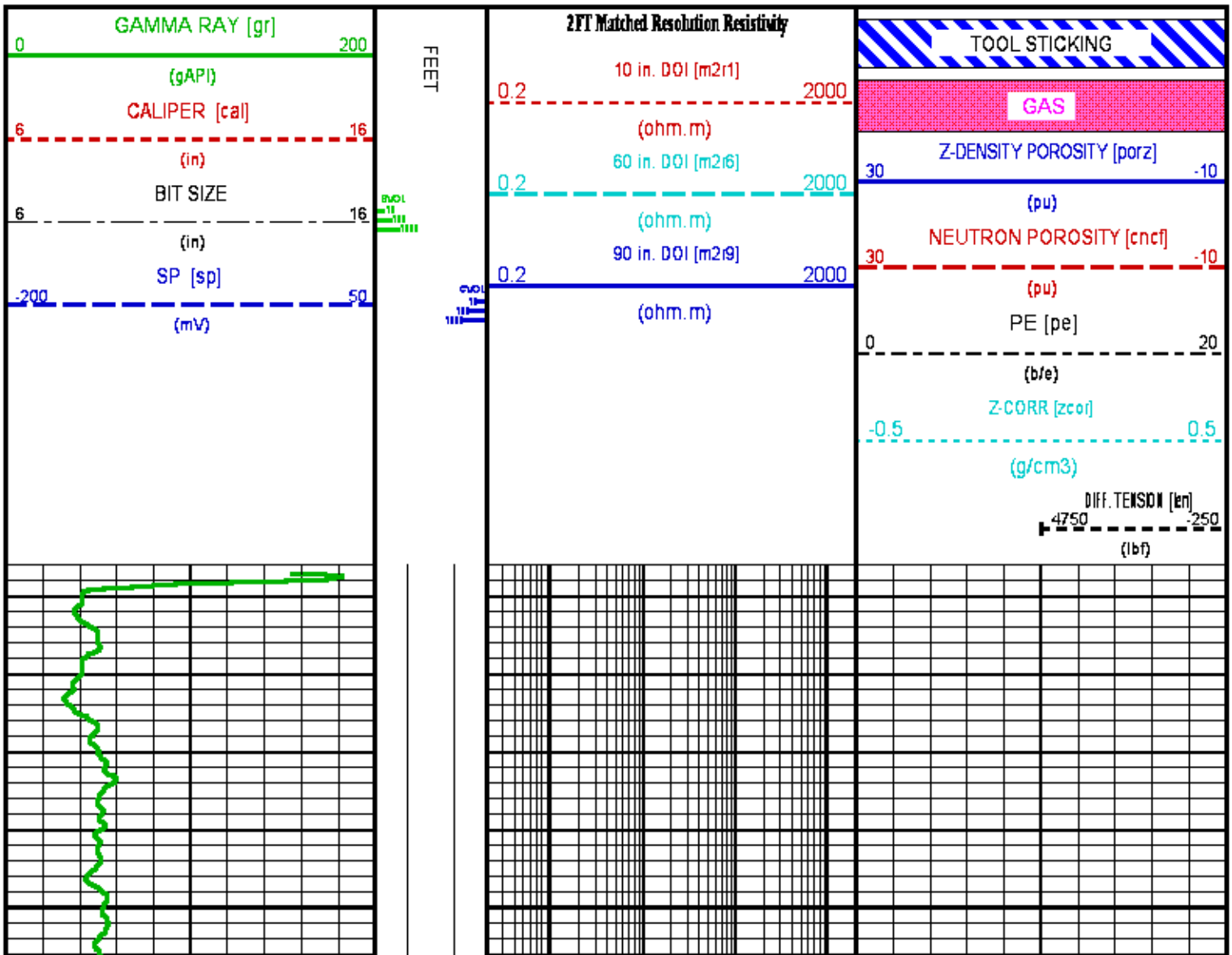
F1:BIT	Mar 21 15:35:14 2014	BIT SIZE
F1:BVOL	Mar 21 15:35:14 2014	BOREHOLE VOLUME
F1:CAL	Mar 21 15:35:14 2014	CALIPER
F1:CNCF	Mar 21 15:35:14 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Mar 21 15:35:14 2014	CEMENT VOLUME
F1:GR	Mar 21 15:35:14 2014	GAMMA RAY
F1:M2R1	Mar 21 15:35:14 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Mar 21 15:35:14 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Mar 21 15:35:14 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Mar 21 15:35:14 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Mar 21 15:35:14 2014	POROSITY FOR SELECTABLE MATRIX
F1:SP	Mar 21 15:35:14 2014	SPONTANEOUS POTENTIAL
F1:TEN	Mar 21 15:35:14 2014	DIFFERENTIAL TENSION
F1:ZCOR	Mar 21 15:35:14 2014	DENSITY CORRECTION

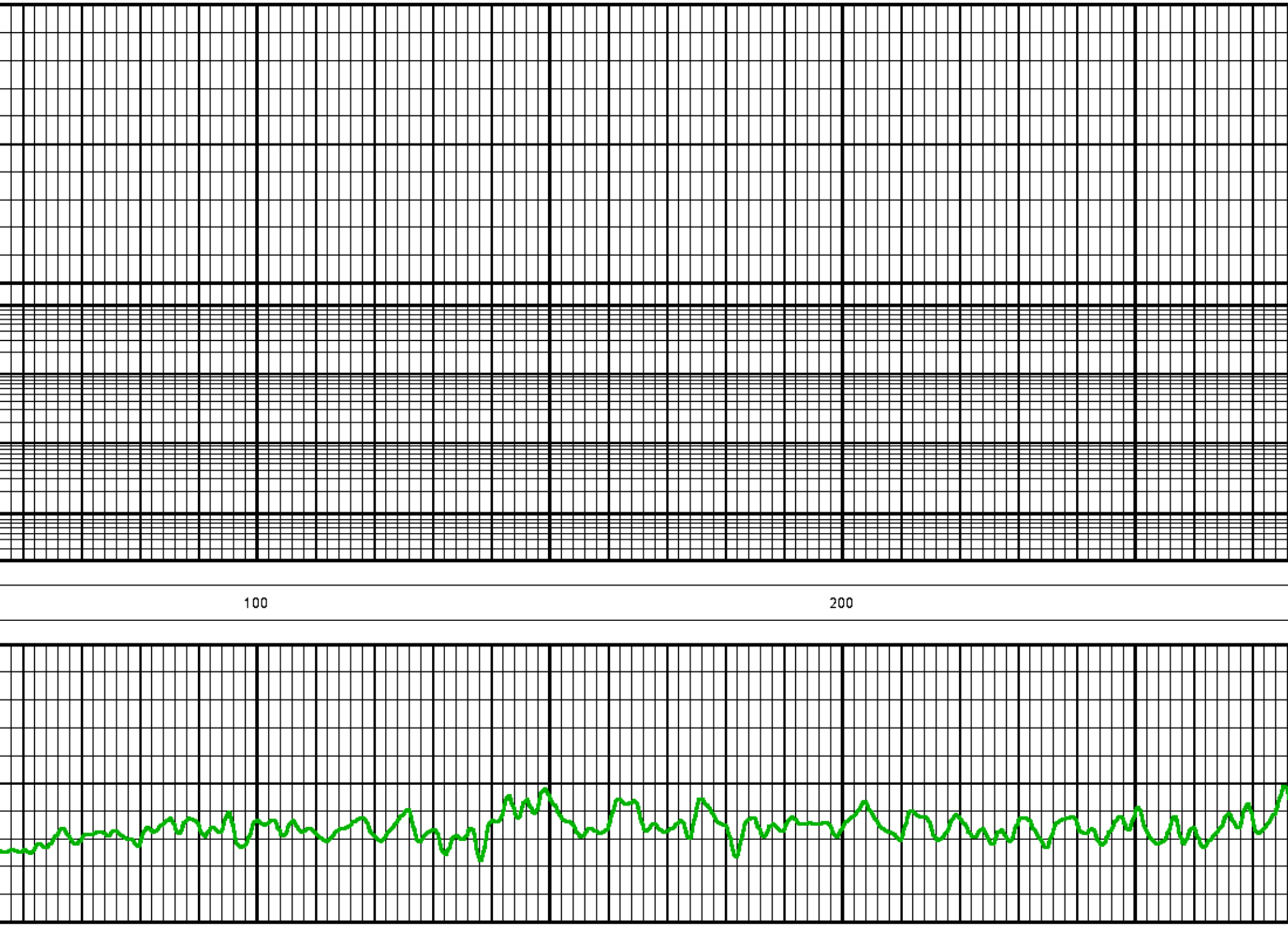
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	35.00	M2R9	2.75	SP	1.25
CAL	18.12	M2R1	2.75	PE	18.00	TEN	0.00
CNCF	27.38	M2R6	2.75	PORZ	18.00	ZCOR	18.00

Presentation : **HL6670:/dat1a/625070/WPX_5IN.fvpdf [5"/100' Scale]**
Plot Interval : **7.25 - 7601 Feet**

Data File 1 : **F1 : HL6670:/dat1a/625070/n970a02-MAIN.xtf**
Created On : **Mar 21 15:35:14 2014**
Company : **WPX ENERGY INC**
Well : **WPX ENERGY PA 513-2**
Field : **PARACHUTE**
File Interval : **7.25 - 7601 Feet**
OCT : **n970a**

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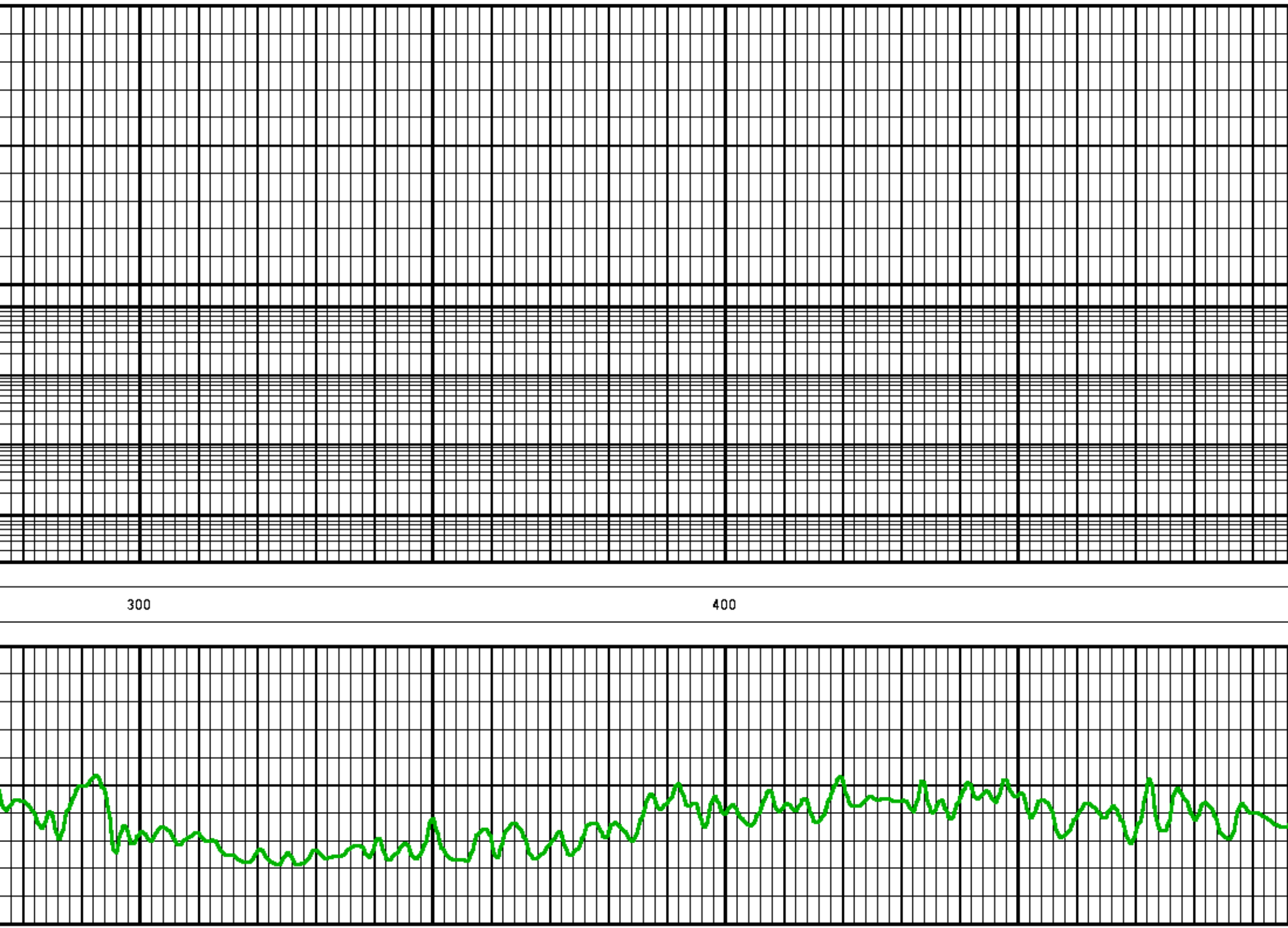
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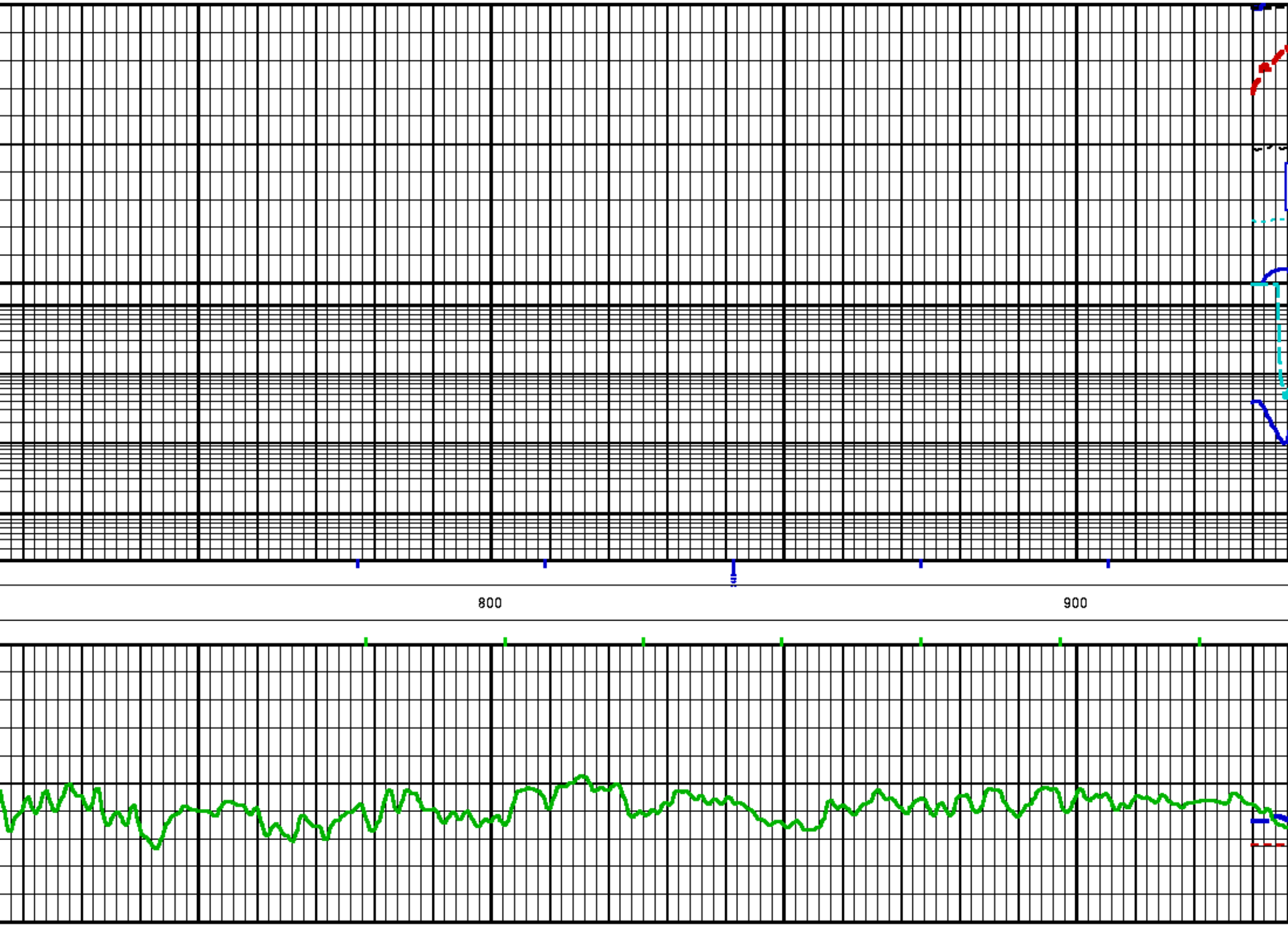
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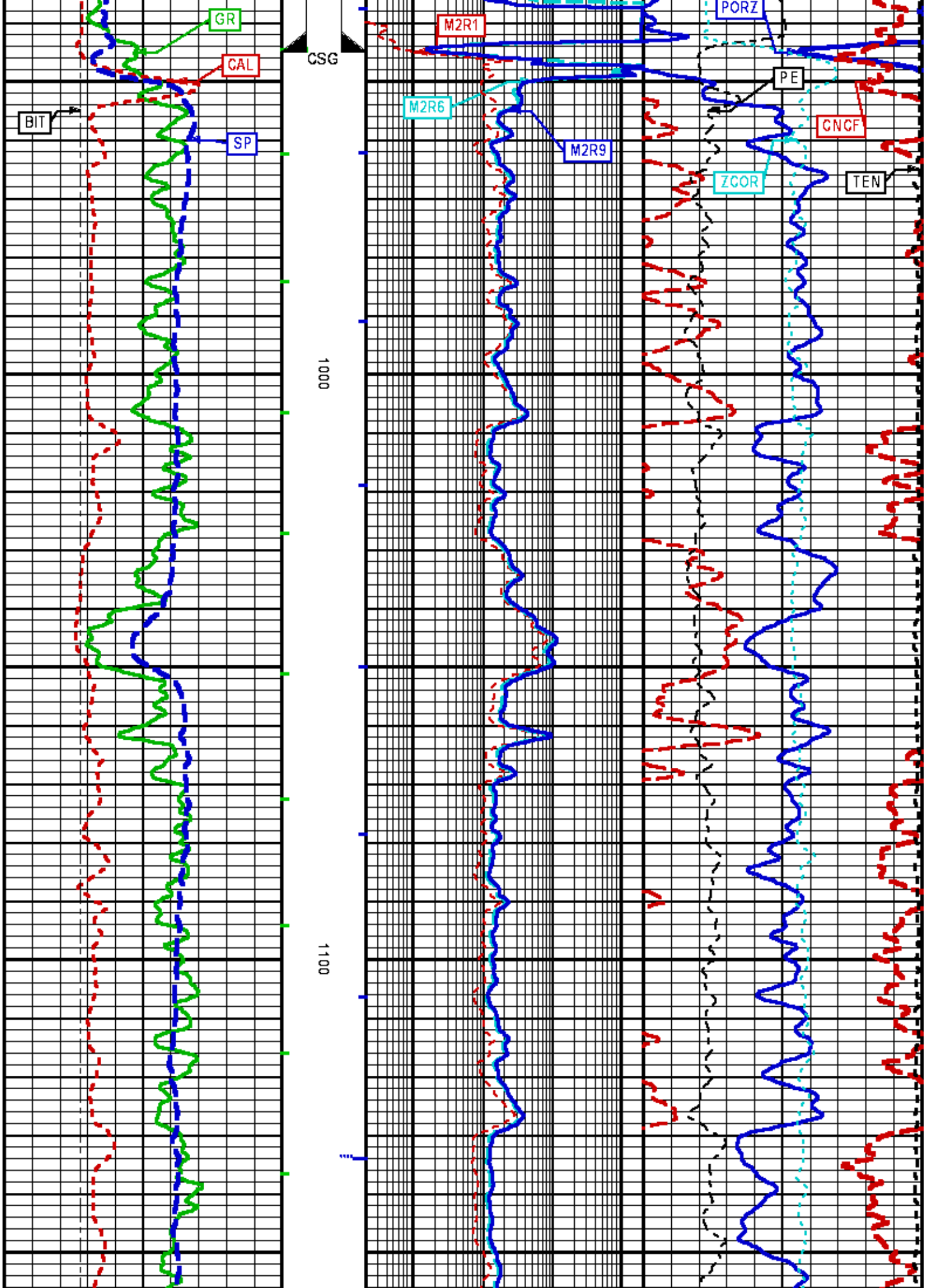
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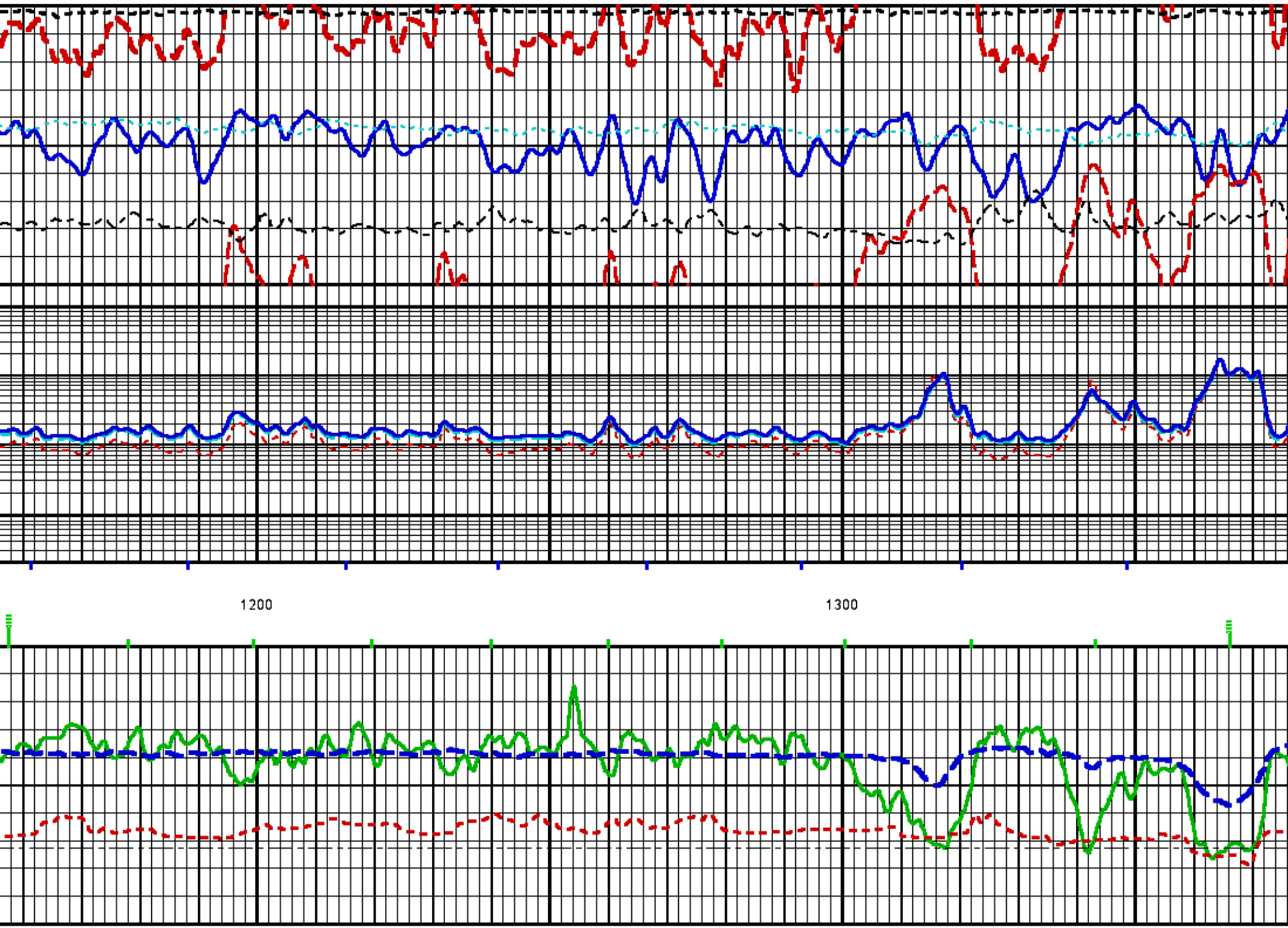
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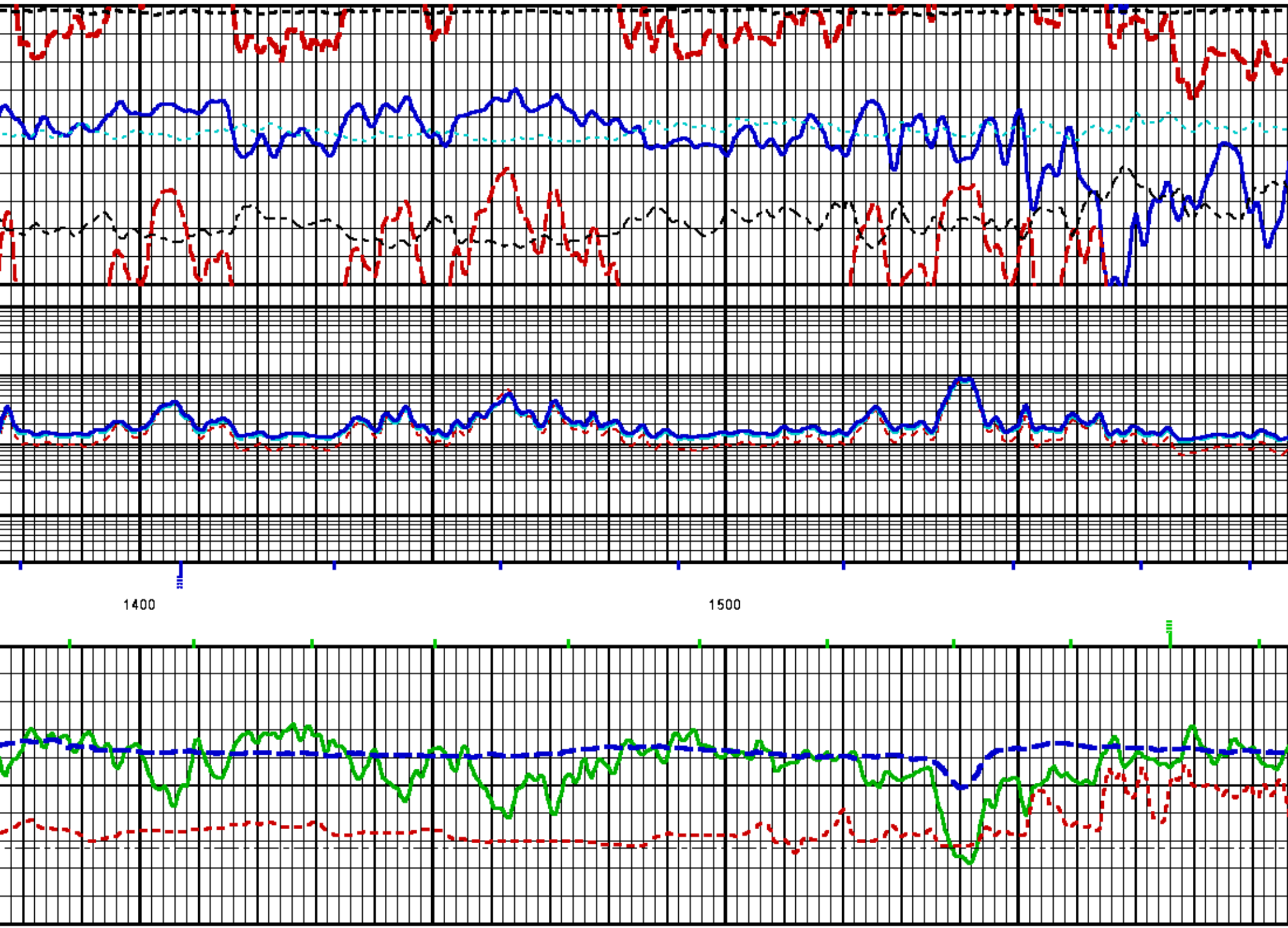
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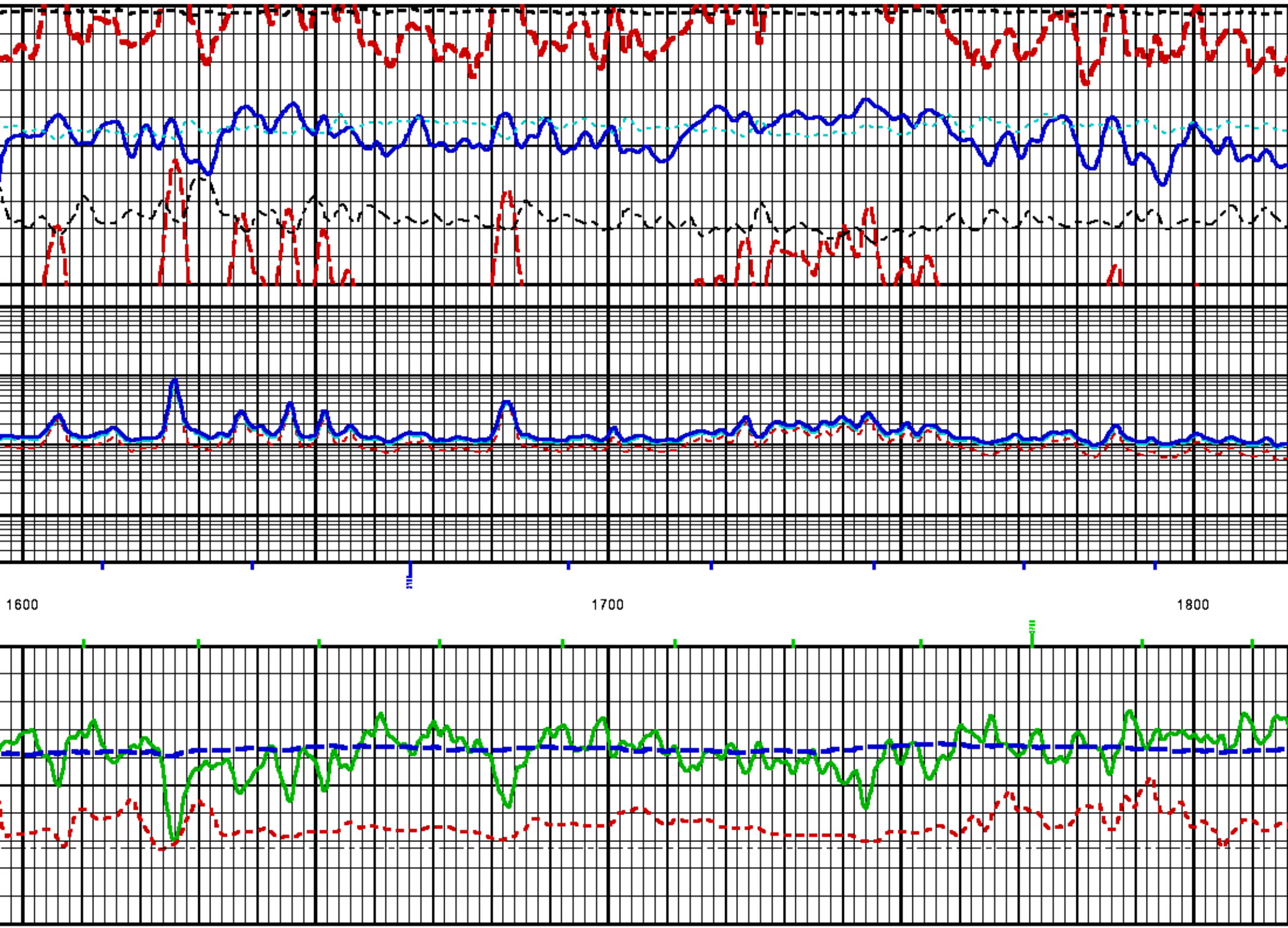
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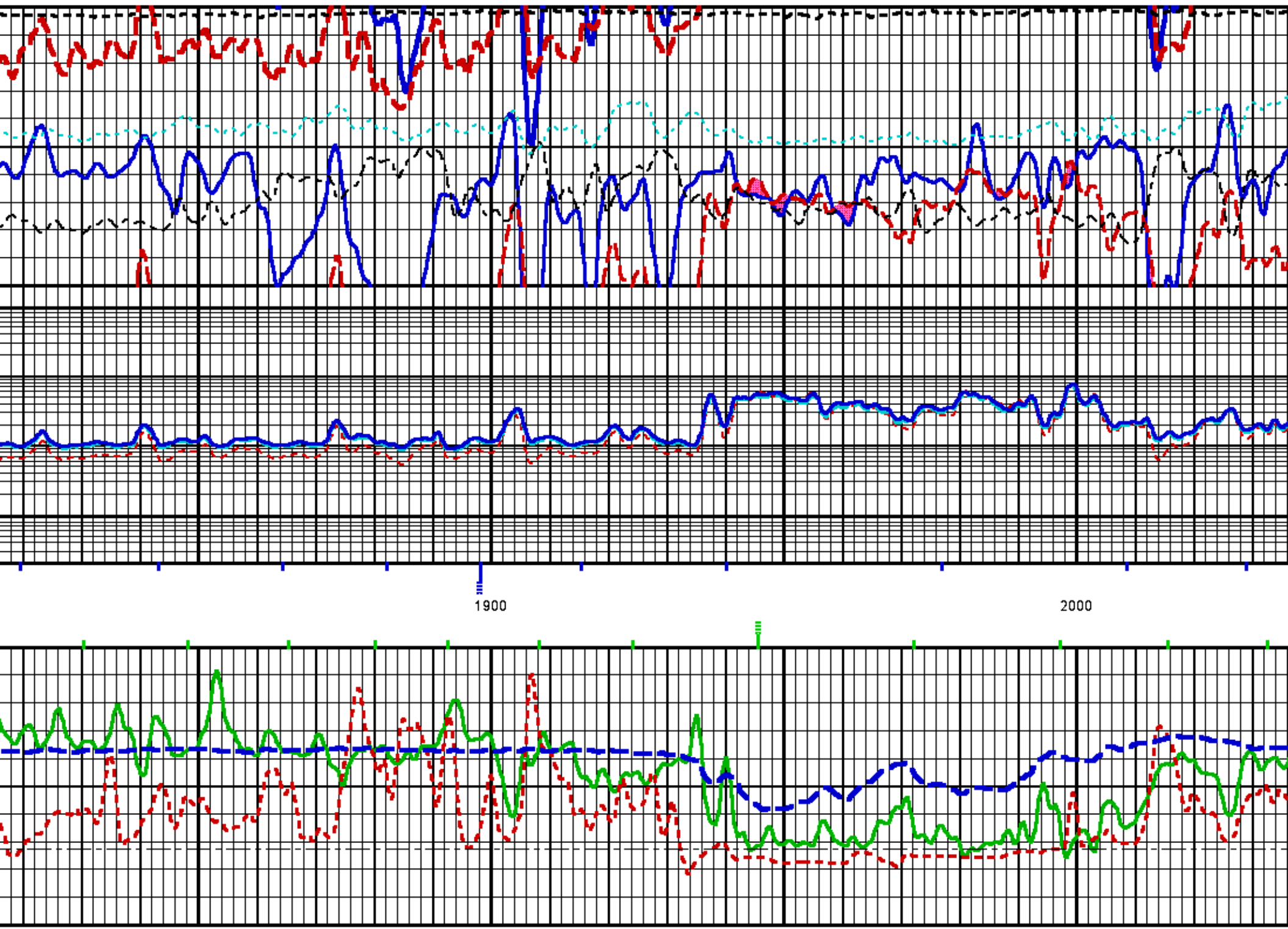
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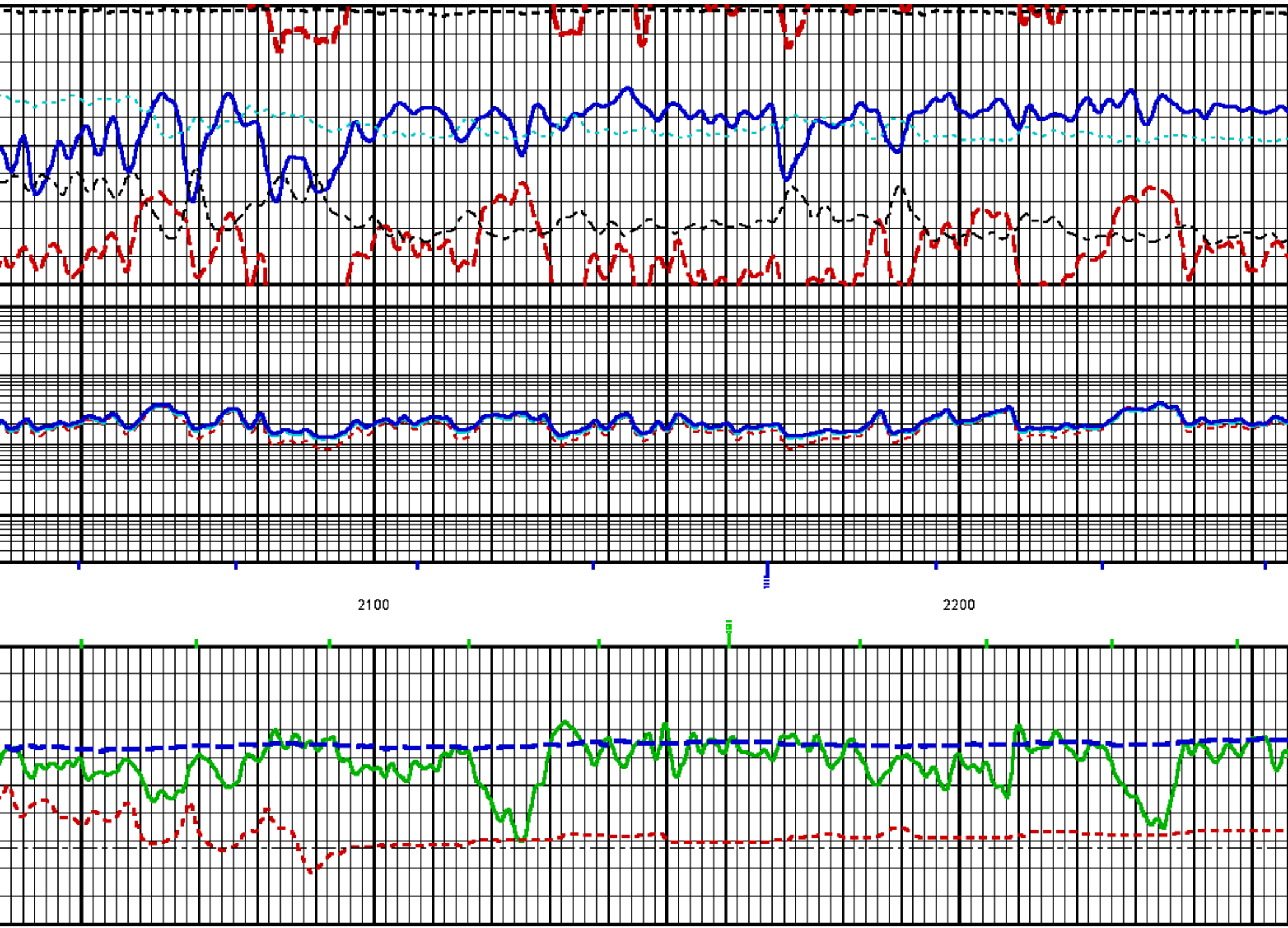
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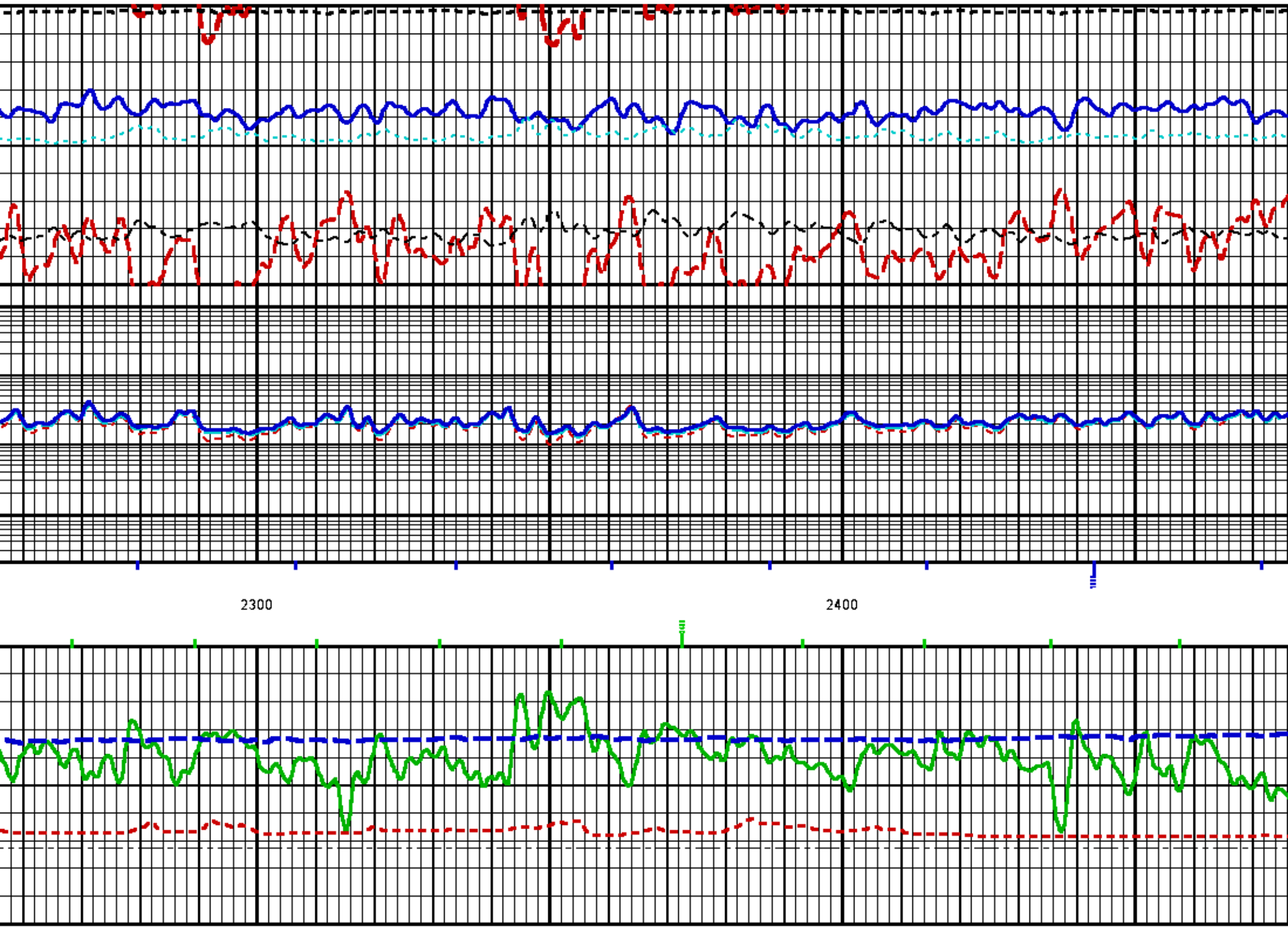
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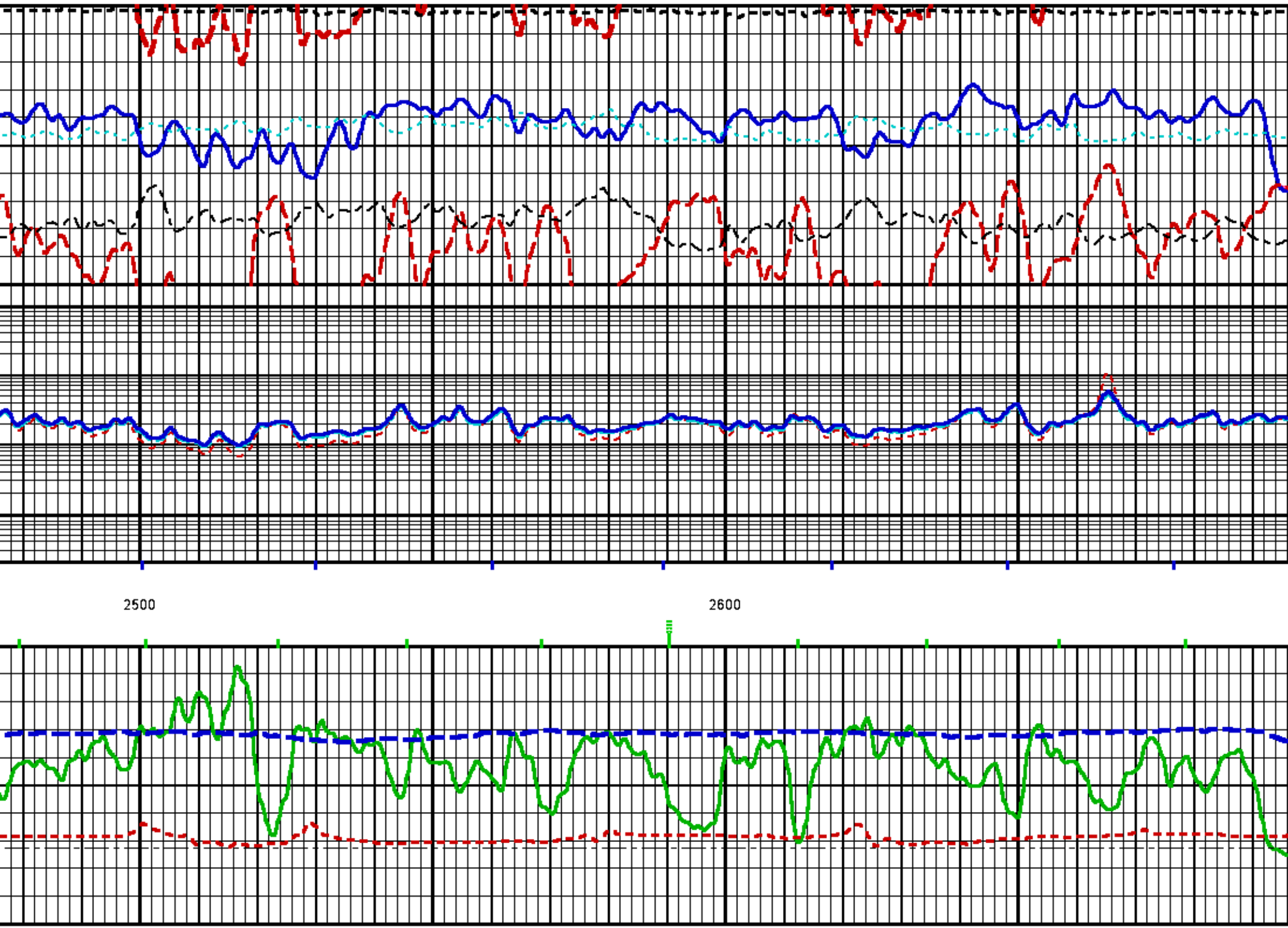
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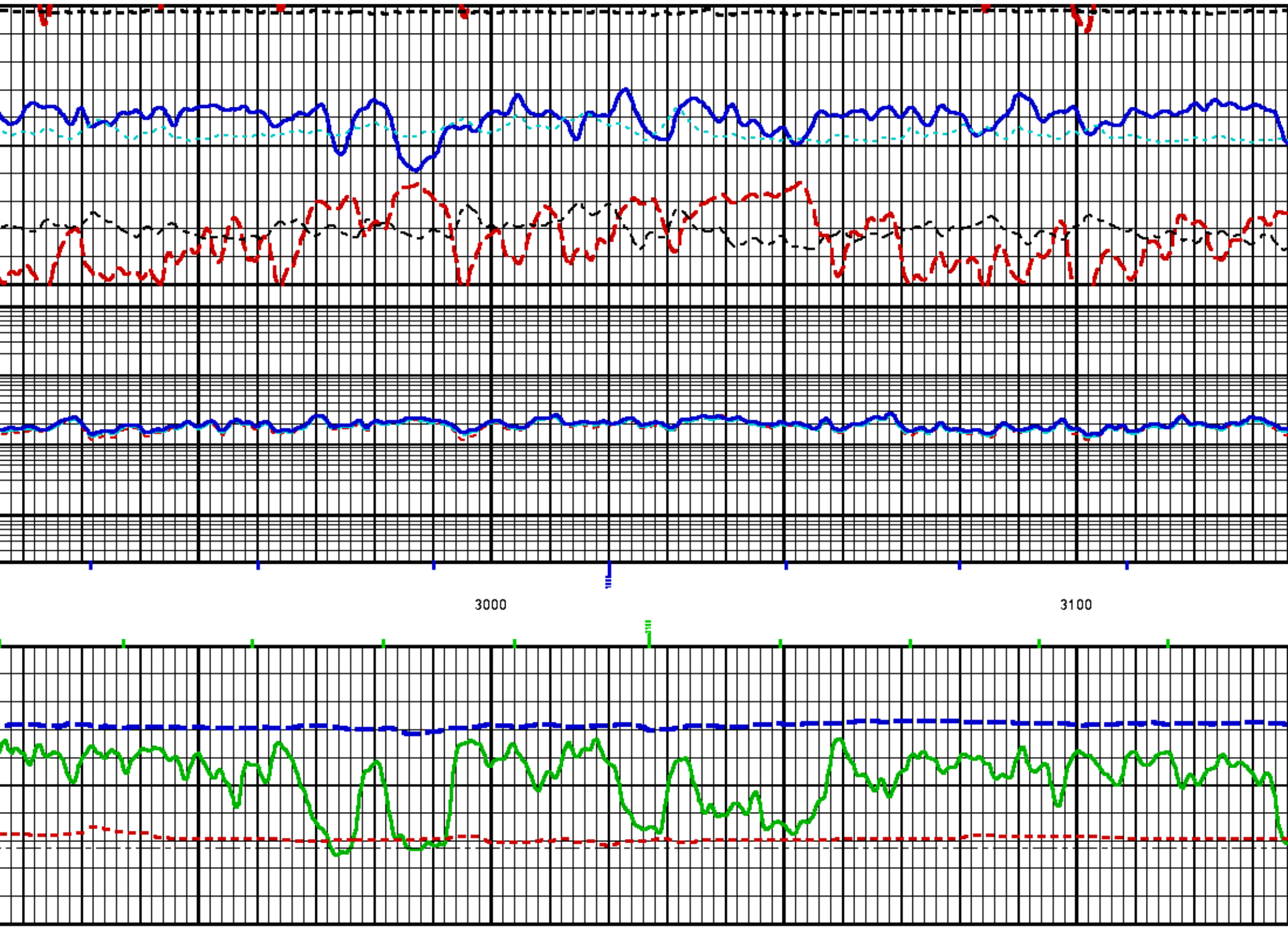
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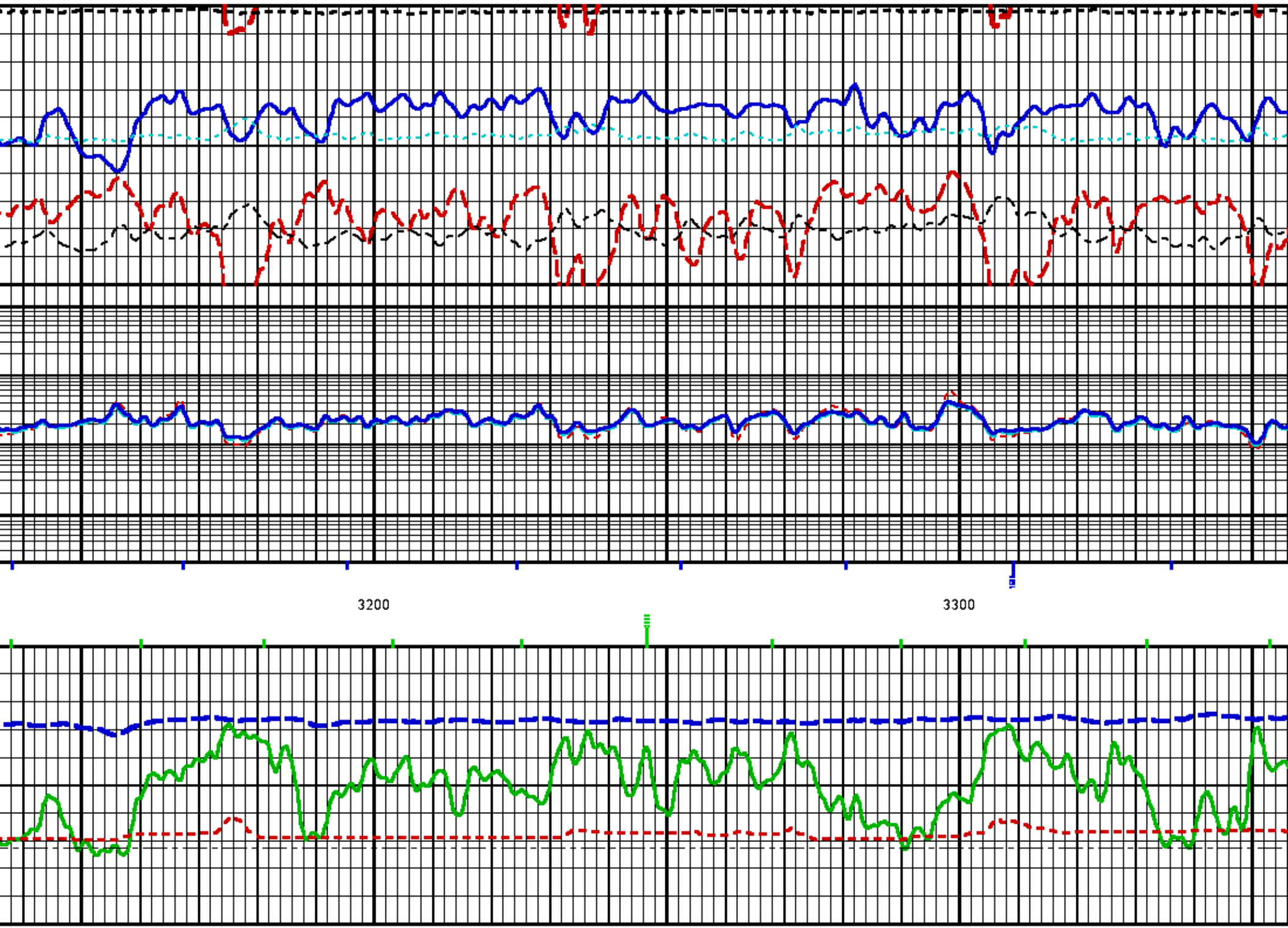
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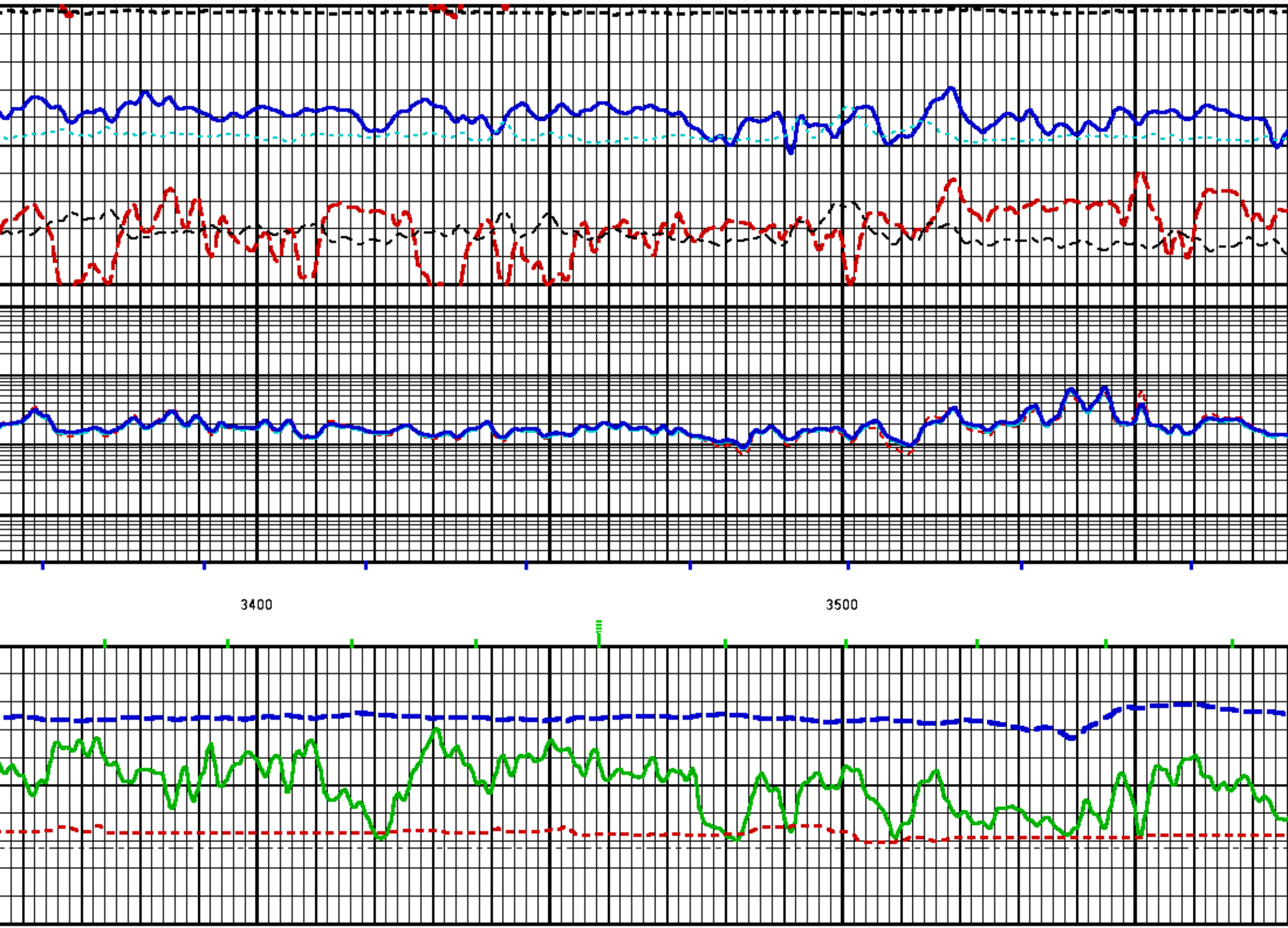
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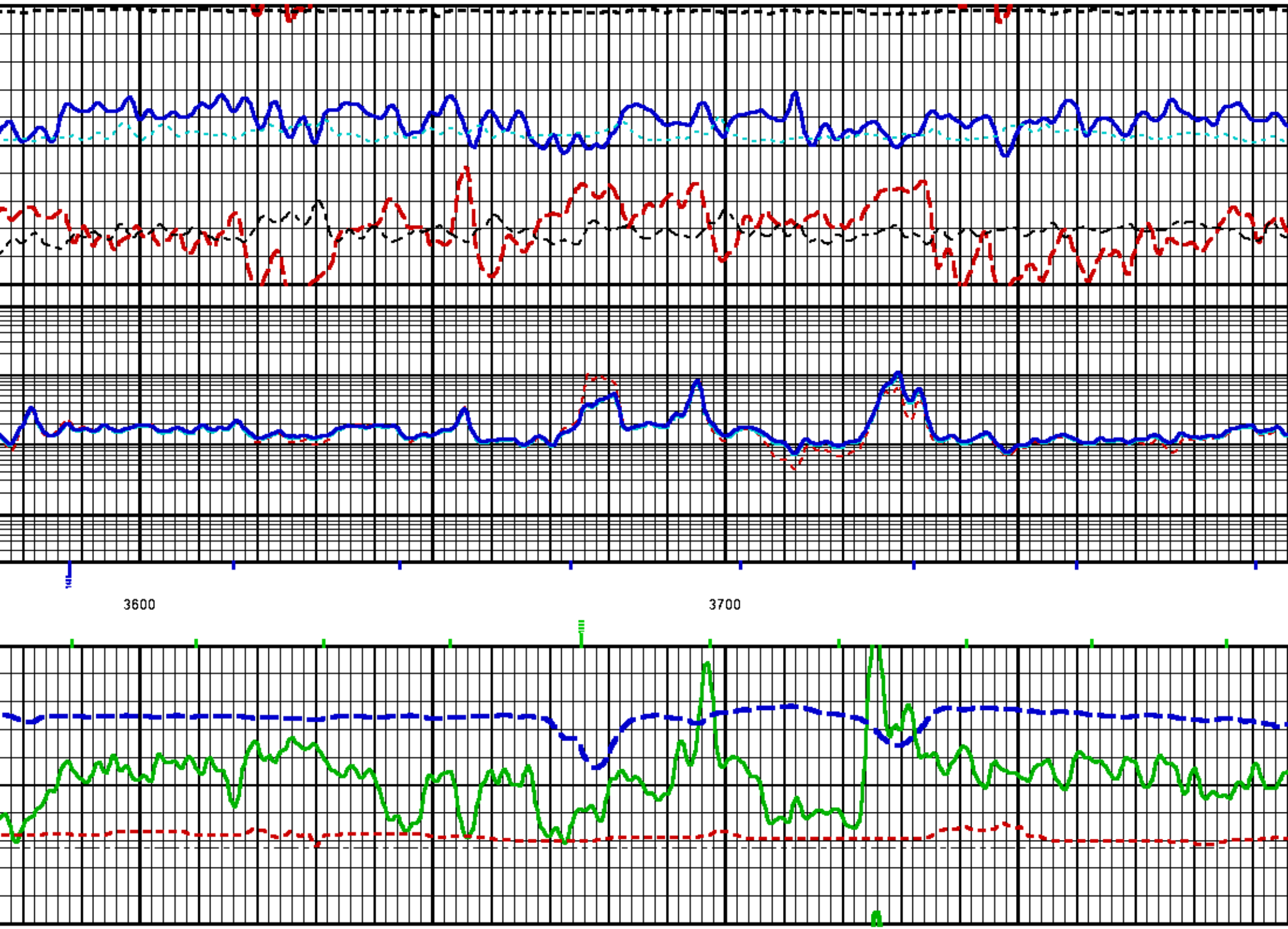
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3800
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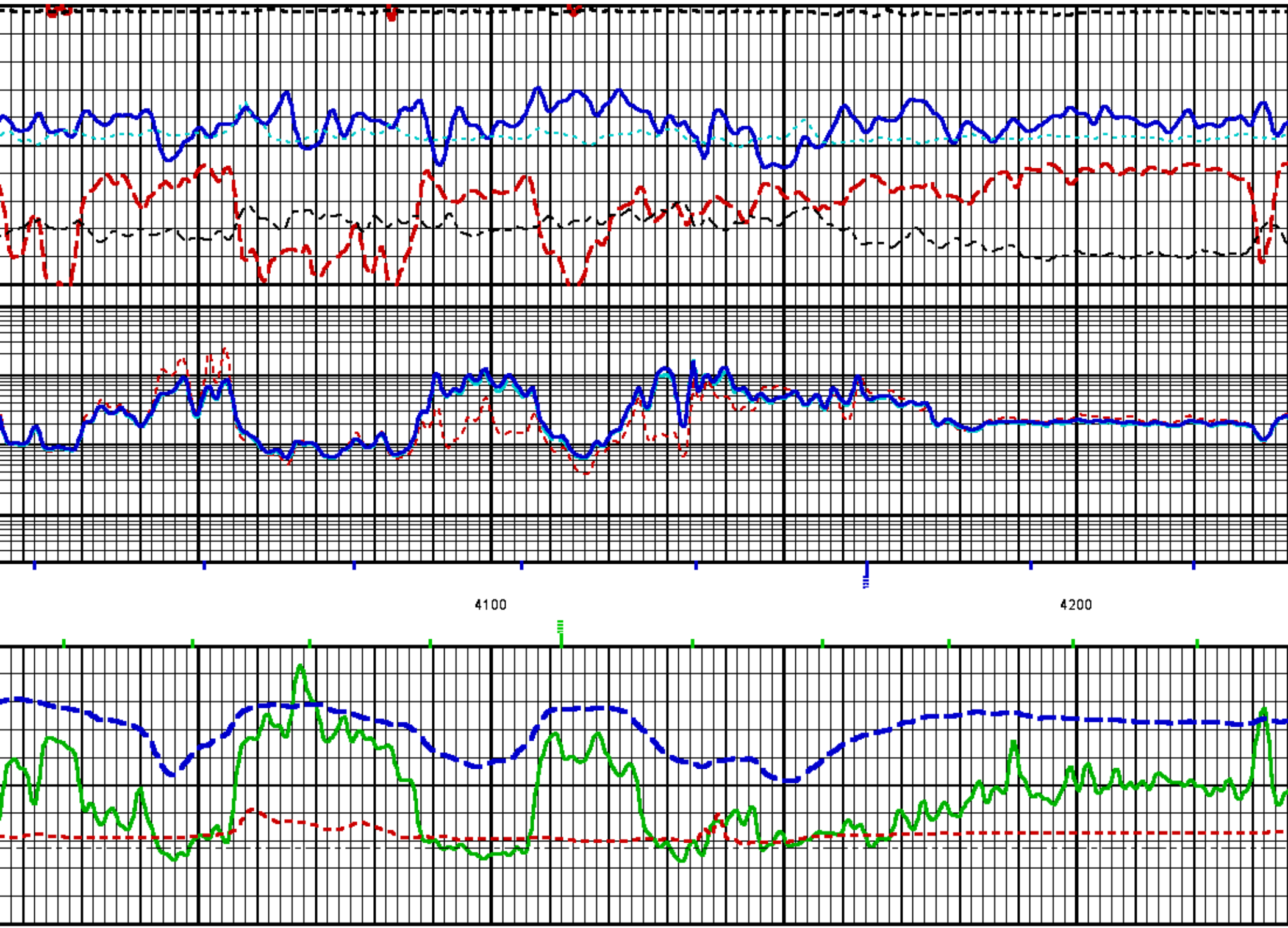
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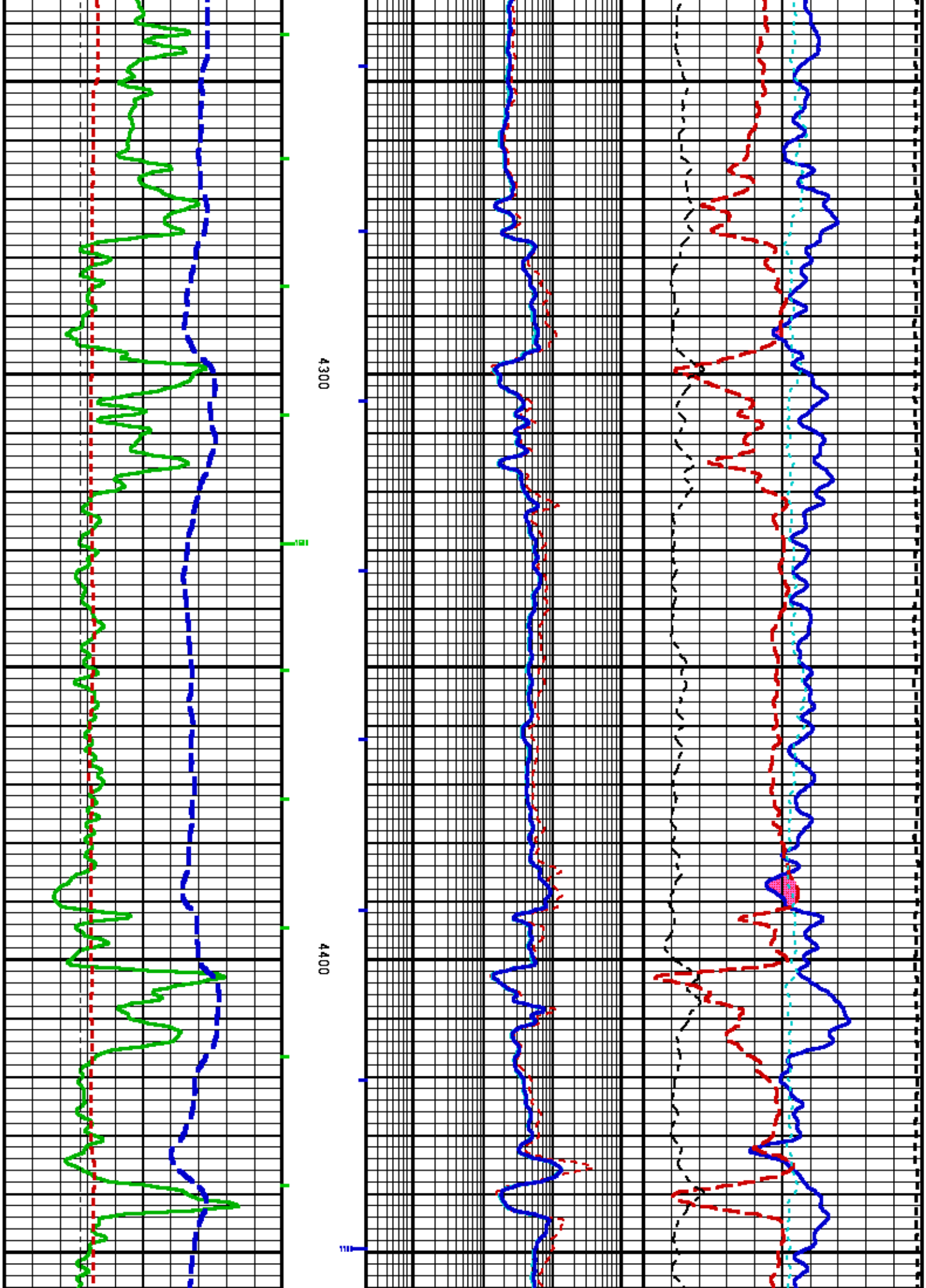
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4600

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4800

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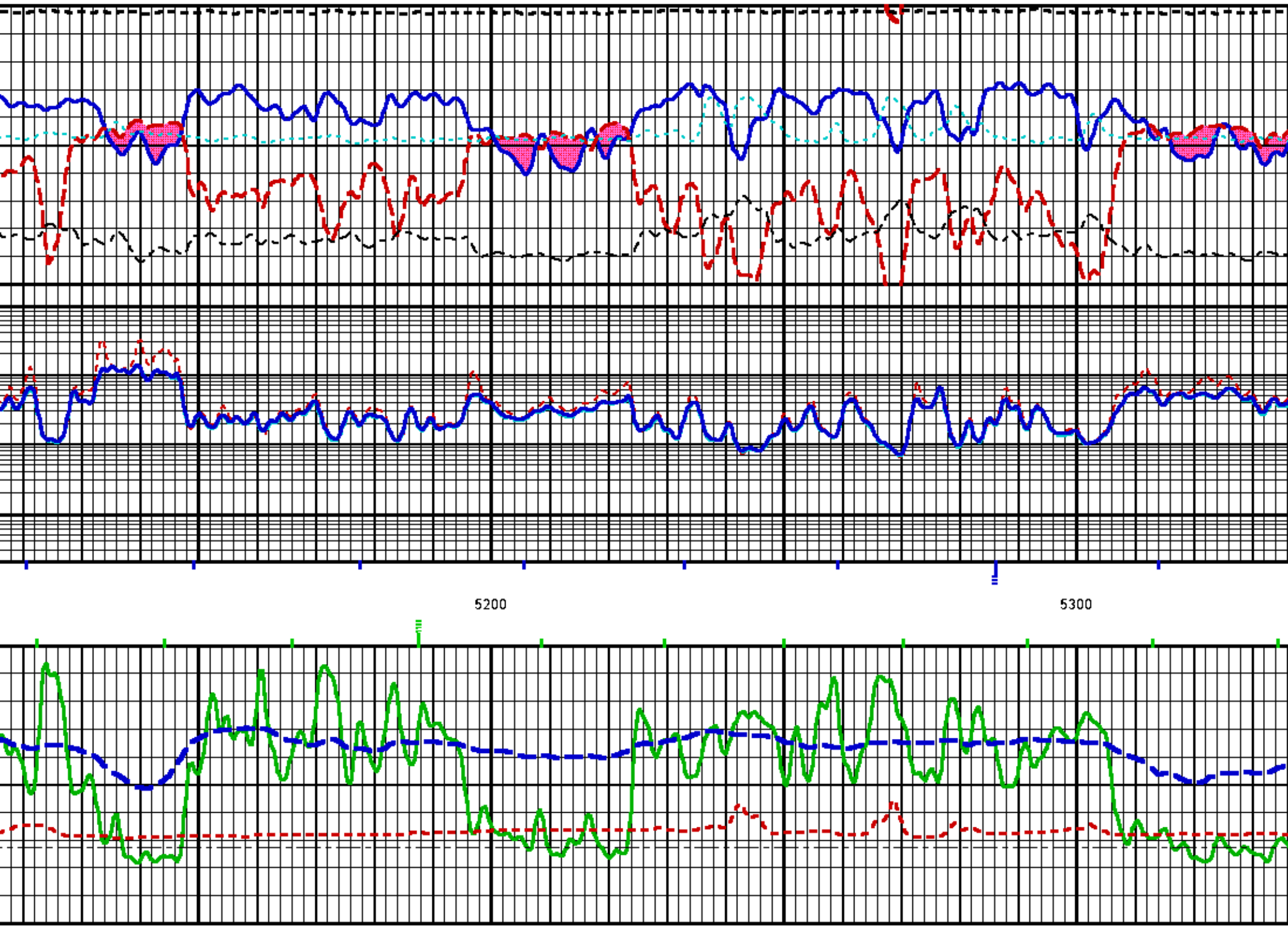
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5500

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5700

5800
5900

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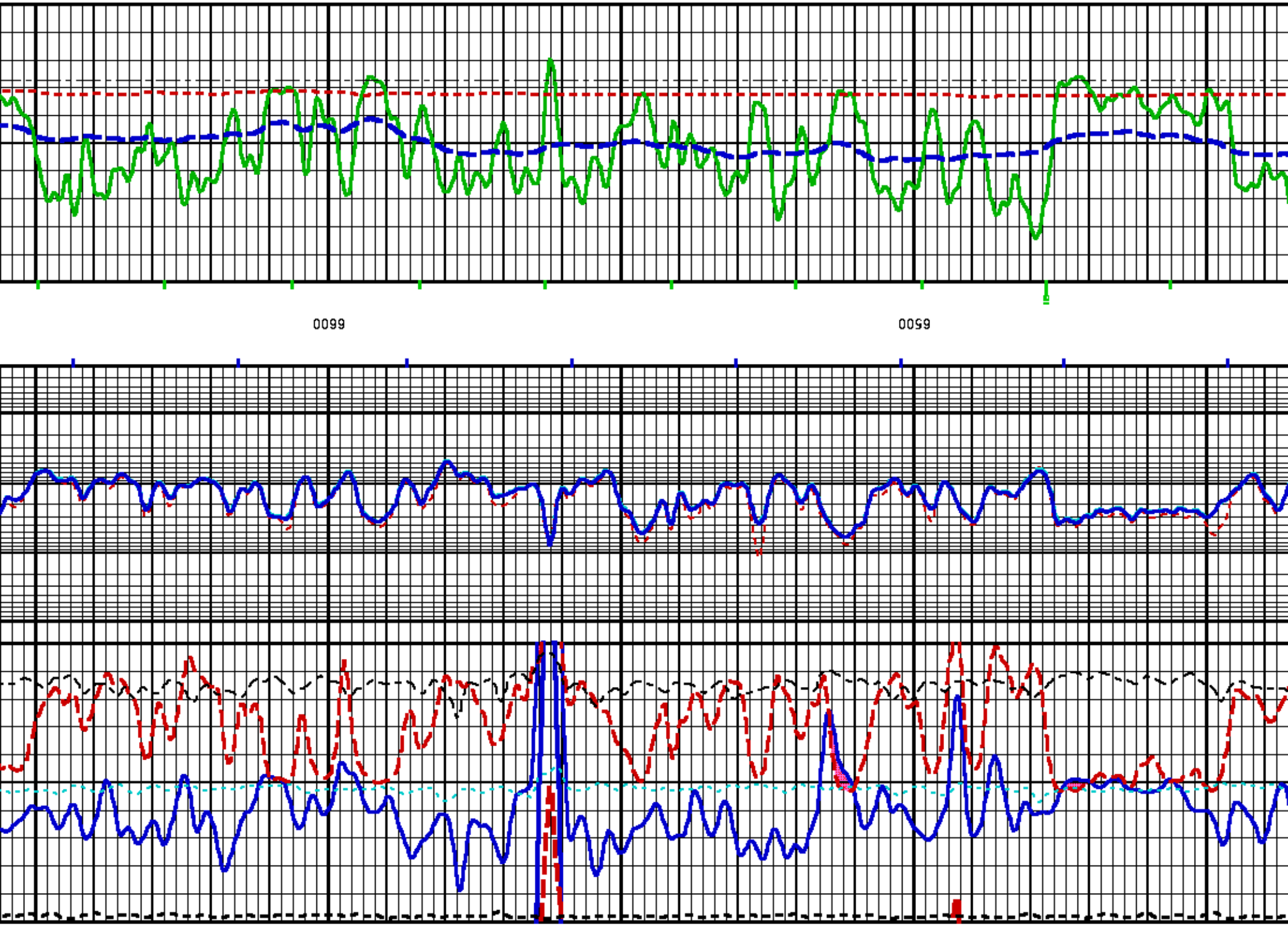
6200

6300
6400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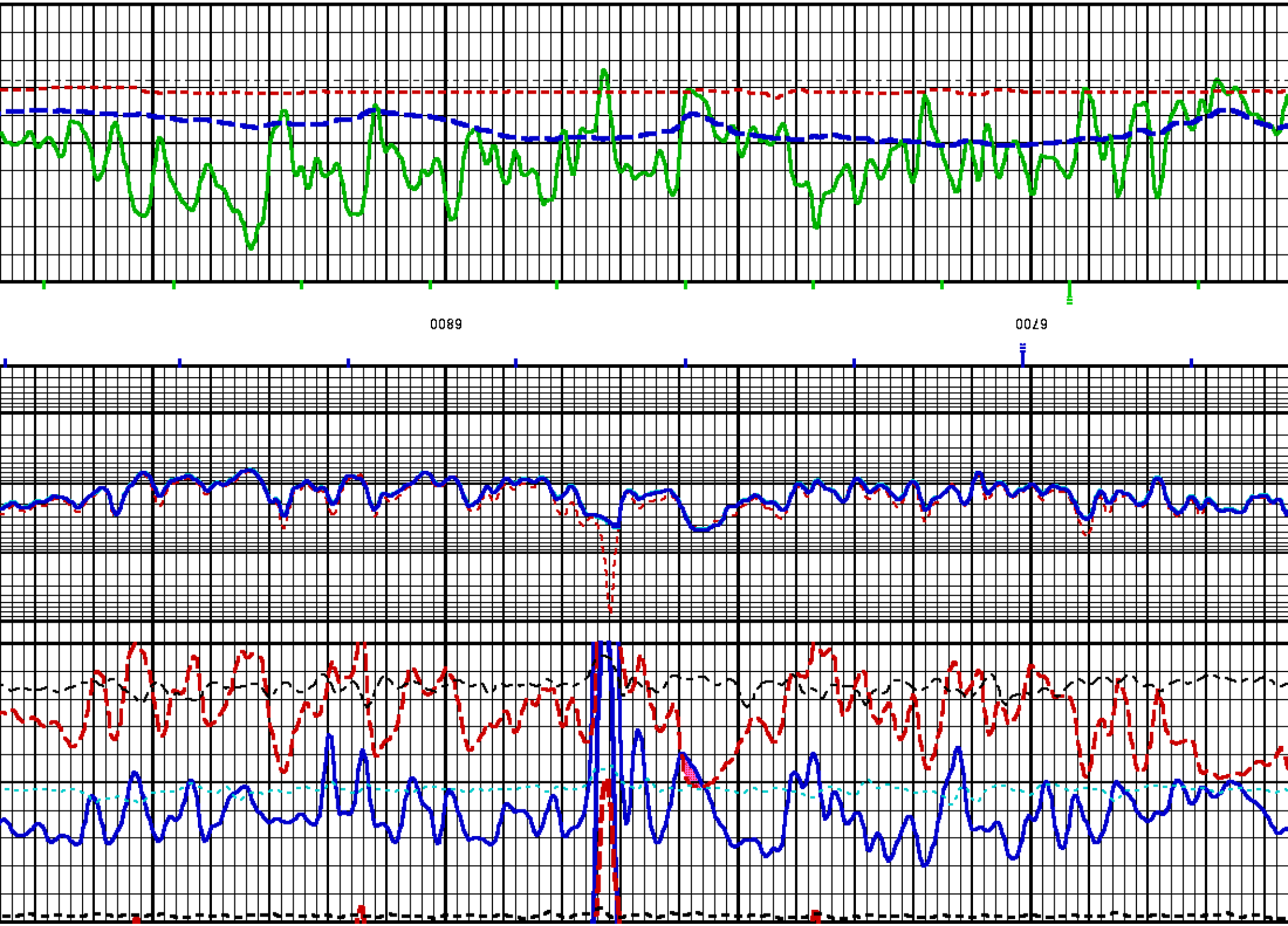
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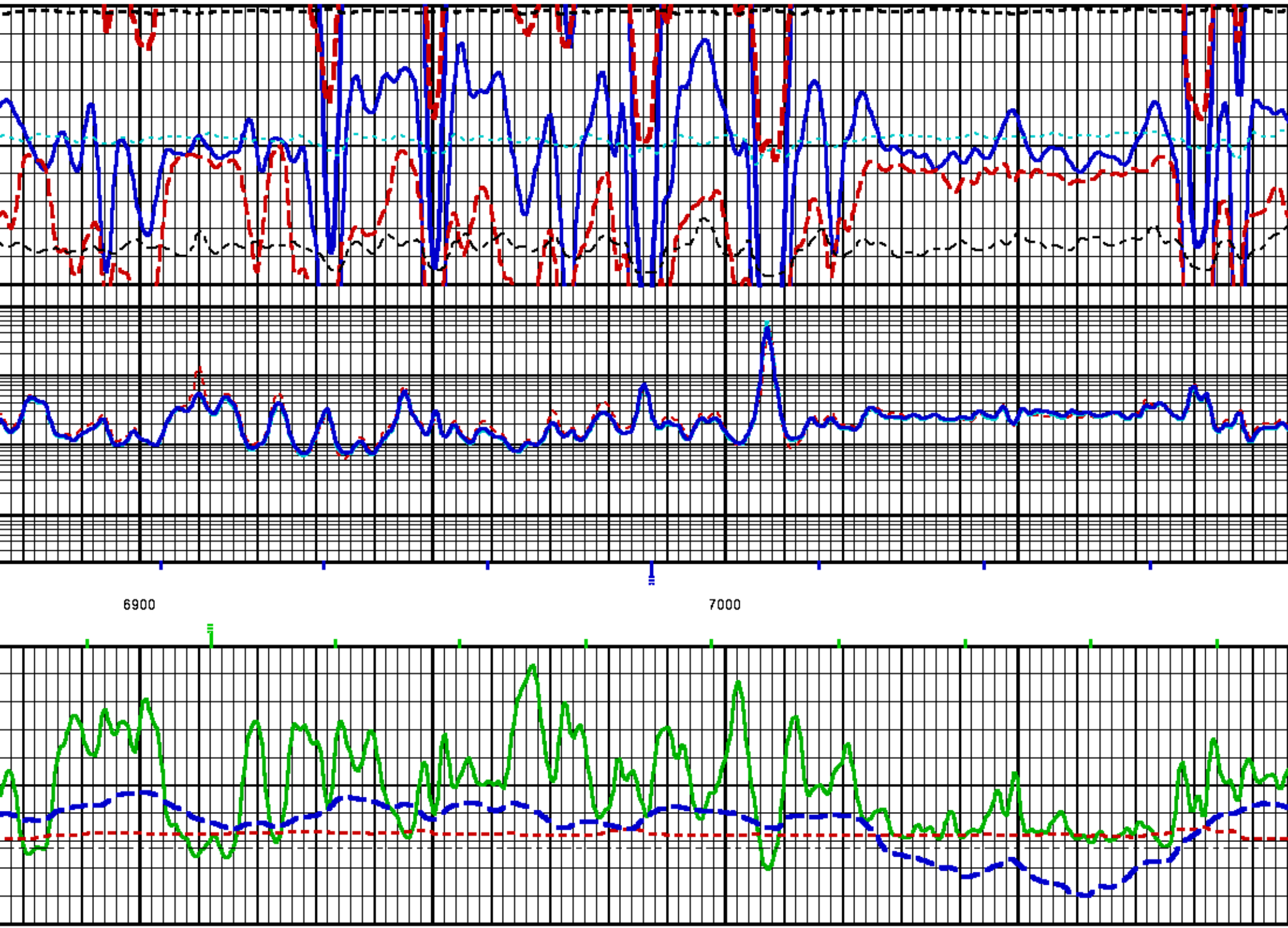
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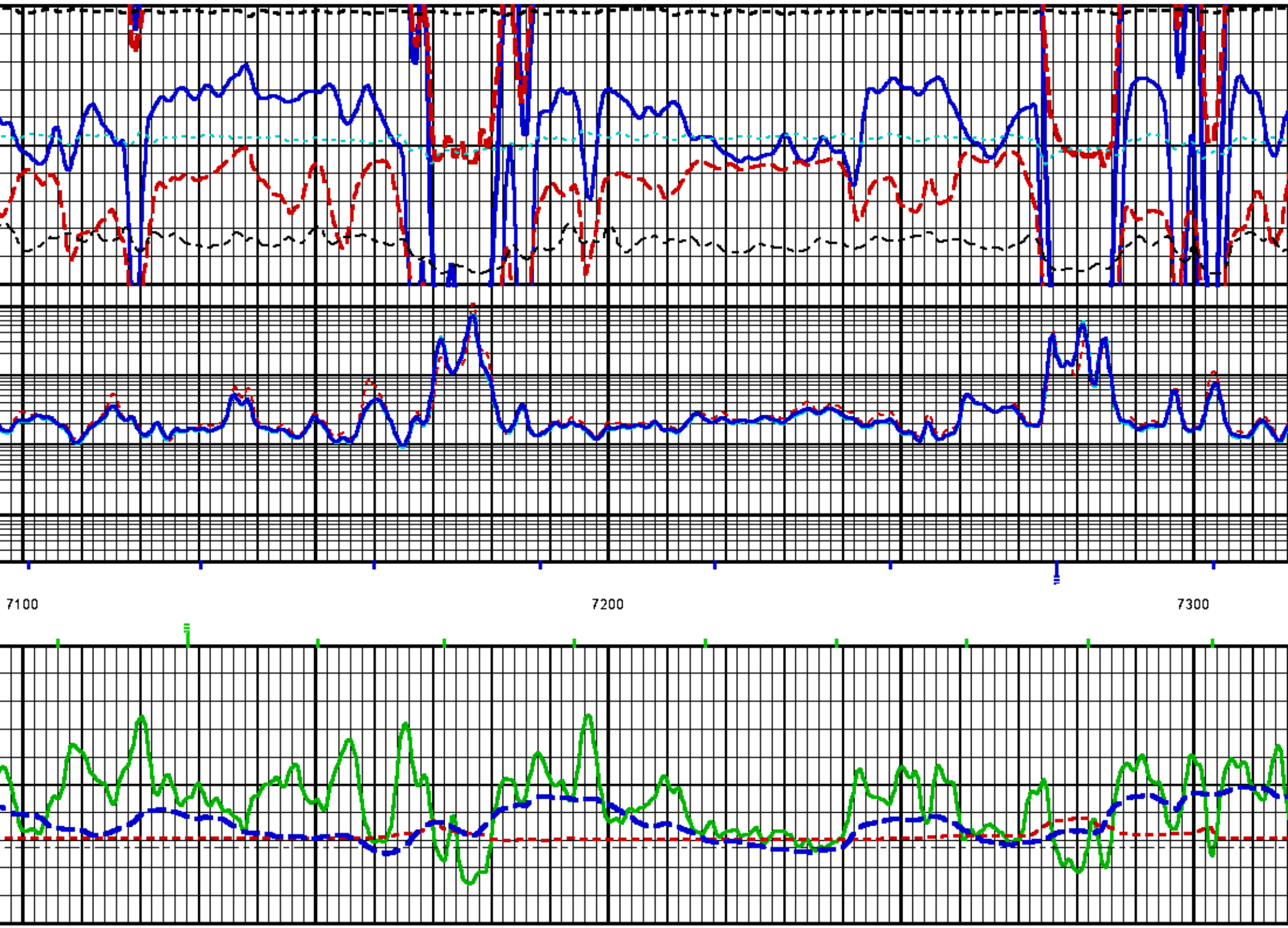
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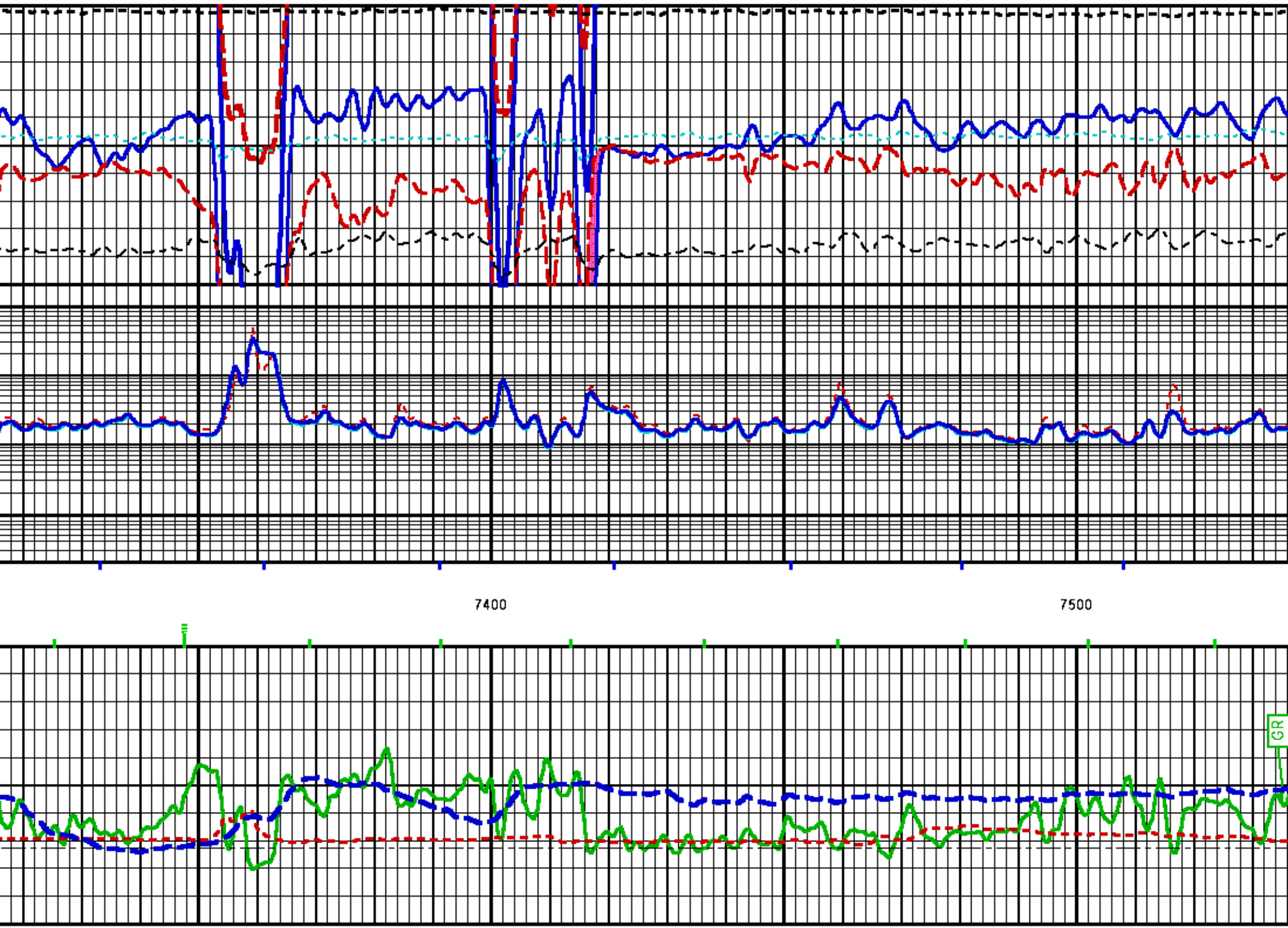
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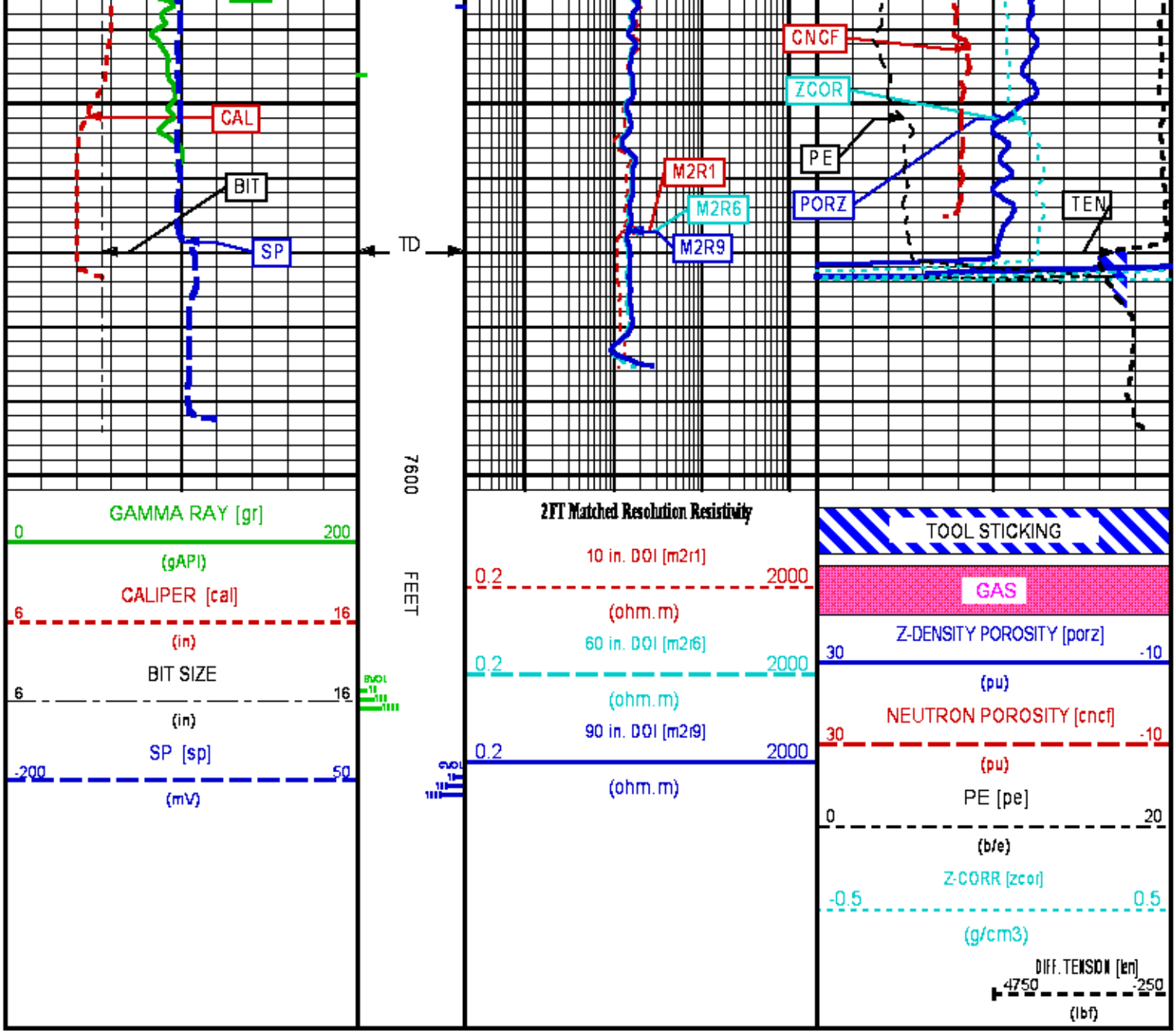


REPEAT LOG

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 31 Patches: 5

Plotted: Fri Mar 21 15:25:30 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/625070/n970aR01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 770.672 ft BOTTOM DEPTH: 1254.057 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
				TOP	BOTTOM
GR MED RES	FILTER	medium (1)			

CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN MED RES	FILTER ()	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	"	"
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	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	56.0	degF	"	"
	MUD SAMPLE RES	1.350	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	56.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION ON		TOP	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CN MATRIX	2436 MATRIX	SANDSTONE		TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	800	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
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	Air Filled Borehole	NO		TOP	BOTTOM
	RHOmatrix	2.680	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		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	Mar 21 15:22:46 2014	BIT SIZE
F1:BVOL	Mar 21 15:22:46 2014	BOREHOLE VOLUME
F1:CAL	Mar 21 15:22:46 2014	CALIPER
F1:CNCF	Mar 21 15:22:46 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Mar 21 15:22:46 2014	CEMENT VOLUME
F1:GR	Mar 21 15:22:46 2014	GAMMA RAY
F1:M2R1	Mar 21 15:22:46 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Mar 21 15:22:46 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI

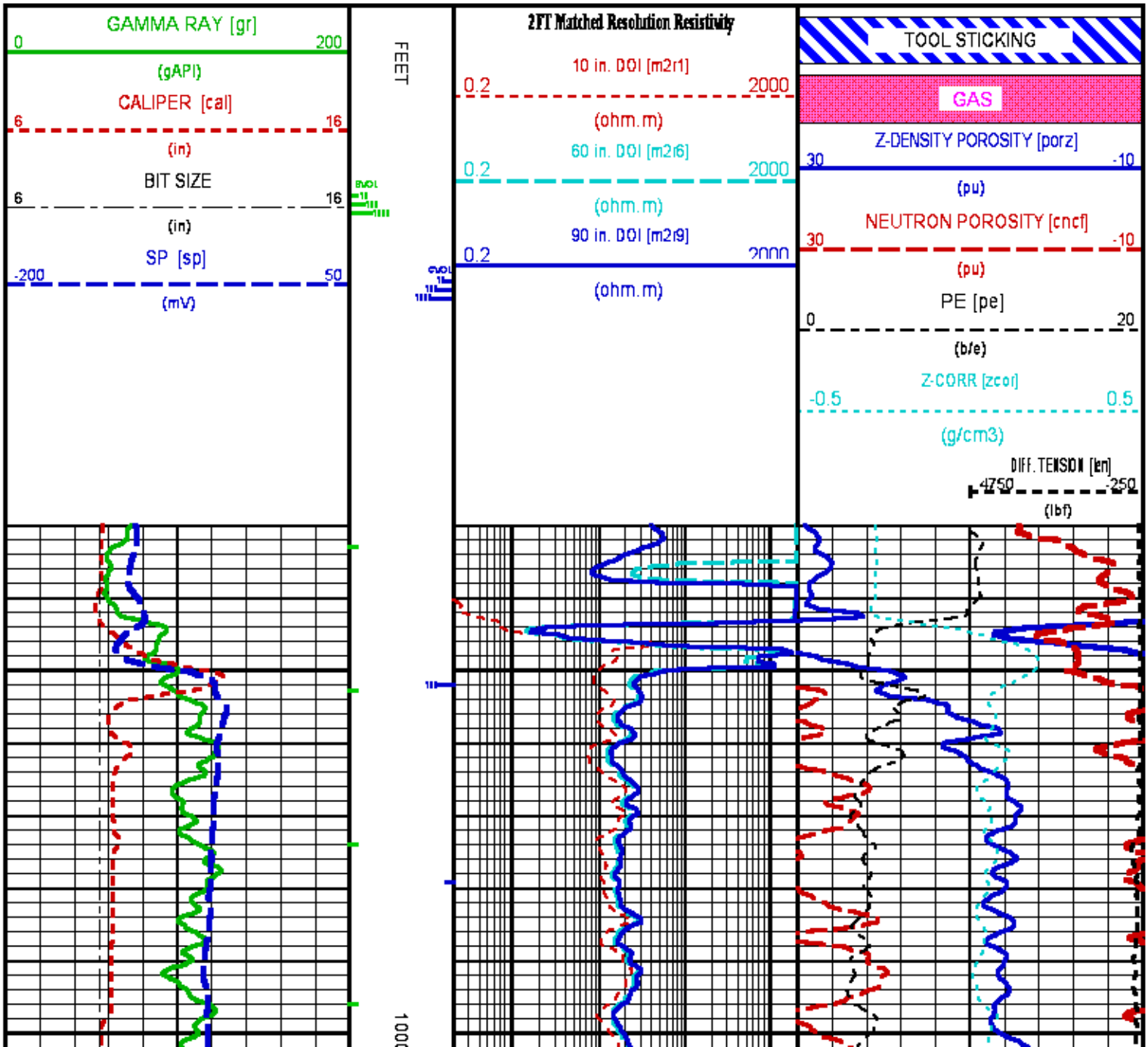
F1:M2R9	Mar 21 15:22:46 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Mar 21 15:22:46 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Mar 21 15:22:46 2014	POROSITY FOR SELECTABLE MATRIX
F1:SP	Mar 21 15:22:46 2014	SPONTANEOUS POTENTIAL
F1:TEN	Mar 21 15:22:46 2014	DIFFERENTIAL TENSION
F1:ZCOR	Mar 21 15:22:46 2014	DENSITY CORRECTION

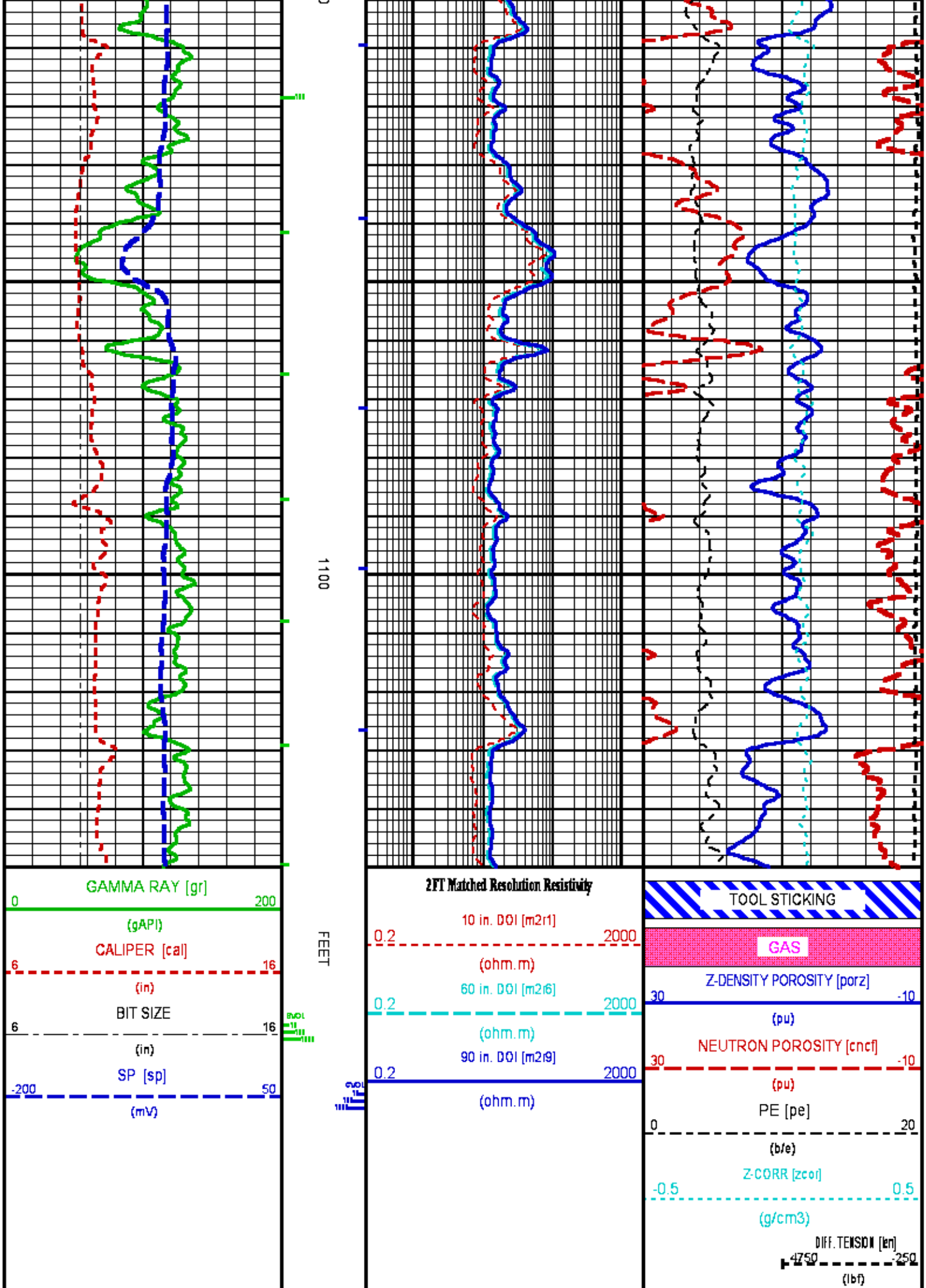
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	35.00	M2R9	2.75	SP	1.25
CAL	18.12	M2R1	2.75	PE	18.00	TEN	0.00
CNCF	27.38	M2R6	2.75	PORZ	18.00	ZCOR	18.00

Presentation : HL6670:/dat1a/625070/WPX_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 930 - 1150 Feet

Data File 1 : F1 : HL6670:/dat1a/625070/n970aR01-REPEAT.xtf
Created On : Mar 21 15:22:46 2014
Company : WPX ENERGY INC
Well : WPX ENERGY PA 513-2
Field : PARACHUTE
File Interval : 0 - 1256 Feet
OCT : n970a




1100
FEET
GAMMA RAY [gr]
0
200
(gAPI)
CALIPER [cal]
6
16
(in)
BIT SIZE
6
16
(in)
SP [sp]
-200
50
(mV)
2FT Matched Resolution Resistivity
10 in. DOI [m2r1]
0.2
2000
(ohm.m)
60 in. DOI [m2r6]
0.2
2000
(ohm.m)
90 in. DOI [m2r9]
0.2
2000
(ohm.m)
TOOL STICKING
GAS
Z-DENSITY POROSITY [porz]
30
-10
(pu)
NEUTRON POROSITY [cncf]
30
-10
(pu)
PE [pe]
0
20
(b/e)
Z-CORR [zcor]
-0.5
0.5
(g/cm3)
DIFF. TENSION [ten]
4250
-250
(lbf)

CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/625070/n970a.tp1

TTMA PRIMARY CALIBRATION SUMMARY

TOOL #: 398DXA 1D142233 DATE/TIME PERFORMED: Thu Aug 11 09:14:18 2011

UNIT #: 3885TD ML4230 ACCEL #: 398DXA 1D142233 ACCEL CAL DATE: 14:22 02/02/2005

	GAIN	OFFSET (ohm.m)
Rm K Factors	0.1457D	-0.01679

Rm Measurements	Sig Low (ohm)	Sig High (ohm)	Mult Factor	Add Factor	Engr Low (ohm)	Engr High (ohm)
	0.25	9.94	1.005530	0.000031	0.25	10.00

TTMA BEFORE LOG VERIFICATION SUMMARY

TOOL #: 398DXA 1D142233 DATE/TIME PERFORMED: Fri Mar 21 14:21:02 2014 DAYS SINCE CAL: 953

UNIT #: 388DTA HL667D

	CHT (lbf)	MUD TEMP (degF)	RES M Ω (ohm)	ACCEL Ω
CAL	19769	497.09	9.95	1001.30
	18575 20575	489.20 503.60	8.00 12.00	980.00 1020.00
ZERO	-24785	-436.02	0.248	1001.315
	-25585 -23985	-443.20 -428.80	0.200 0.300	980.000 1020.000

TTMA AFTER LOG VERIFICATION SUMMARY

TOOL #: 398DXA 1D142233 DATE/TIME PERFORMED: Fri Mar 21 17:37:05 2014 DAYS SINCE CAL: 953

UNIT #: 388DTA HL667D

	CHT (lbf)	MUD TEMP (degF)	RES M Ω (ohm)	ACCEL Ω
CAL	19752	498.33	9.95	1000.55
	18575 20575	489.20 503.60	8.00 12.00	980.00 1020.00
ZERO	-24785	-436.02	0.249	1001.804
	-25585 -23985	-443.20 -428.80	0.200 0.300	980.000 1020.000

GR PRIMARY CALIBRATION SUMMARY

Tool #: 3518EG 1D127973 DATE/TIME PERFORMED: Thu Feb 20 15:08:59 2014

Unit #: 388DTA HL667D Jig Series: 4702NK VBA-905

Background	Calibrator ON	Jig Value (gAPI)	Mult	Background (gAPI)	Calibrator ON (gAPI)
75.24	757.14	185	0.271	20.41	205.41
			0.230 0.280		

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3518EG 1D127973 DATE/TIME PERFORMED: Fri Mar 21 14:22:17 2014 DAYS SINCE CAL: 28

UNIT #: 388DTA HL667D Jig: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.67	75.14	1345.48
525.00 1027.00	536.00	1237.00 1512.00

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3518EG 1D127973 DATE/TIME PERFORMED: Fri Mar 21 17:36:48 2014 DAYS SINCE CAL: 29

UNIT #: 3880TA HL667D Jig: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.67	112.34	1363.96
525.00 1027.00	536.00	1237.00 1512.00

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 1D137930 DATE/TIME PERFORMED: Thu Mar 6 14:19:02 2014

UNIT #: 3880TA HL667D CALIBRATOR #: 2437XB 112674 SOURCE #: 4718XA N-0897

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4587.78	797.87	5.75004	0.99773	5.73700	25.241
			0.95000 1.05000		

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 1D137930 DATE/TIME PERFORMED: Fri Mar 21 14:22:30 2014 DAYS SINCE CAL: 14

UNIT #: 3880TA HL667D CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.41	993.42	0.99797	69.9	1357.6	4.612
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 1D137930 DATE/TIME PERFORMED: Fri Mar 21 17:36:34 2014 DAYS SINCE CAL: 15

UNIT #: 3880TA HL667D CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
946.53	948.40	0.99802	110.1	1363.0	4.612
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 1D102922 DATE/TIME PERFORMED: Thu Mar 6 11:29:00 2014

UNIT #: 3880TA HL667D

	SIZE (in)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	7.000	1592.0		
LARGE RING (Arm)	11.000	2832.0	0.00323	1.86452
PAD CLOSED		1383.6	0.00250	-3.45900

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 1D102922 DATE/TIME PERFORMED: Fri Mar 21 14:30:44 2014 DAYS SINCE CAL: 15

UNIT #: 388DTA HL667D

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	2224.D	D.DD323	1.86452	9.D
PAD	1435.2	D.DD25D	-3.45DDD	D.1

	ACTUAL (in)	MEASURED (in)
DIAMETER (arm+pad)	9.DD1	9.2 (8.6 – 9.4)

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 1D1D2922 DATE/TIME PERFORMED: Fri Mar 21 17:35:51 2014 DAYS SINCE CAL: 15

UNIT #: 388DTA HL667D

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	2112.D	D.DD323	1.86452	8.7
PAD	1432.D	D.DD25D	-3.45DDD	D.1

	ACTUAL (in)	MEASURED (in)
DIAMETER (arm+pad)	9.DD1	8.8 (8.6 – 9.4)

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 1D1D2922 DATE/TIME PERFORMED: Thu Mar 6 11:19:4D 2014

UNIT: 388DTA HL667D CALB BLKS: 2225XA D94292F CS SRC: 4705XA 16D68B PAD TYPE: PADTYP 7.5" PAD

SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
225.1 (220.D – 230.D)	224.6 (220.D – 230.D)	1252.6	14D1.3

	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	35945.D	12118.3	D.749 (D.72D – D.85D)	1.679	D.DDD	1.9DD
AL	22520.9	1355.3		2.667	-D.D16	
AL + SHIM	29948.2	2366.7		2.558	D.D98	
MG + SHIM (HI PE)	17800.4	5761.2	D.297 (D.28D – D.36D)			8.55D
RATIO AL + SHIM/AL	1.33 (1.3D – 1.4D)	1.75 (1.6D – 1.8D)				
RATIO MG/AL	1.6D (1.58 – 1.7D)	8.94 (8.55 – 9.55)				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 1D1D2922 DATE/TIME PERFORMED: Fri Mar 21 14:26:03 2014 DAYS SINCE CAL: 15

UNIT #: 388DTA HL667D

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 (3332.1 – 3352.1)	224.8 (220.D – 230.D)	1409.5 (1250.D – 1550.D)
SS	22355.D (22344.8 – 22364.8)	224.1 (220.D – 230.D)	1331.6 (1250.D – 1550.D)

LV (V)	PAD CURRENT (mA)
5.D	94.4

4.8	5.2	50.0	120.0

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102922 DATE/TIME PERFORMED: Fri Mar 21 17:36:18 2014 DAYS SINCE CAL: 15

UNIT #: 3880TA HL6670

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1	224.4	1428.5
	3332.1 3352.1	220.0 230.0	1250.0 1550.0
SS	22355.0	223.4	1333.6
	22344.8 22364.8	220.0 230.0	1250.0 1550.0

	LV (V)	PAD CURRENT (mA)
	5.0	97.6
	4.8 5.2	50.0 120.0

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1530XA 10121806 DATE/TIME PERFORMED: Tue Jan 7 14:33:41 2014

UNIT #: 3880TA HL6670 GRCOND ID & DATE: 94 1018D1

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.0037	-0.0008	-0.0003	0.0007	-0.0014	0.0002	-0.0004	-0.0000
	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 0 Q	-0.0039	-0.0008	0.0005	-0.0012	0.0004	0.0003	0.0000	-0.0004
	-0.5000 0.5000	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 1 R	0.0008	-0.0004	0.0018	-0.0009	-0.0004	-0.0003	-0.0002	0.0006
	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 1 Q	-0.0178	-0.0015	0.0010	-0.0012	0.0008	-0.0007	-0.0006	-0.0011
	-0.5000 0.5000	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 2 R	0.0055	-0.0012	0.0043	-0.0024	0.0006	-0.0000	-0.0000	0.0016
	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 2 Q	-0.0108	-0.0007	-0.0037	-0.0003	-0.0013	-0.0013	0.0006	-0.0012
	-0.5000 0.5000	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 3 R	0.0113	-0.0008	-0.0016	0.0012	0.0002	0.0008	0.0033	0.0012
	-0.3000 0.3000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 3 Q	-0.0126	0.0028	0.0037	-0.0006	-0.0010	-0.0014	0.0038	0.0020
	-0.5000 0.5000	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 4 R	0.0190	-0.0089	-0.0002	0.0046	0.0026	-0.0029	0.0066	0.0043
	-0.5000 0.5000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000
Coil 4 Q	-0.0187	-0.0122	0.0007	0.0041	0.0051	0.0076	-0.0023	0.0004
	-1.0000 1.0000	-0.4000 0.4000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000
Coil 5 R	0.0512	-0.0214	-0.0173	0.0092	0.0079	-0.0070	0.0171	0.0147
	-1.2000 1.2000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000
Coil 5 Q	-0.0400	-0.0261	0.0143	-0.0158	0.0060	-0.0097	0.0083	-0.0060
	-1.5000 1.5000	-0.8000 0.8000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	163.06	161.65	158.79	154.56	148.96	142.06	133.99	124.73
	136.00 186.00	134.00 184.00	131.00 181.00	126.00 176.00	122.00 170.00	118.00 161.00	112.00 150.00	105.00 139.00
Coil 0 P	7.674	25.240	42.370	59.458	76.552	93.666	110.821	127.954
	6.000 9.000	21.000 30.000	35.000 50.000	49.000 71.000	63.000 91.000	77.000 109.000	92.000 130.000	106.000 151.000
Coil 1 M	281.66	279.14	274.04	266.44	256.48	244.13	229.67	213.18
	238.00 328.00	236.00 325.00	230.00 320.00	225.00 312.00	218.00 302.00	208.00 288.00	196.00 266.00	184.00 244.00
Coil 1 P	7.844	25.720	43.167	60.580	77.996	95.415	112.883	130.299
	6.000 9.000	21.000 30.000	35.000 51.000	49.000 71.000	63.000 92.000	78.000 112.000	93.000 130.000	107.000 151.000
Coil 2 M	578.47	573.60	563.68	548.89	529.31	504.78	475.98	442.89
	479.00 669.00	474.00 664.00	463.00 643.00	450.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	369.00 499.00
Coil 2 P	7.964	26.114	43.846	61.558	79.291	97.067	114.892	132.704
	6.000 9.000	21.000 31.000	35.000 51.000	49.000 71.000	63.000 92.000	78.000 115.000	92.000 135.000	105.000 155.000
Coil 3 M	925.75	917.66	901.13	876.42	844.08	803.95	756.94	702.73
	772.00 1060.00	764.00 1050.00	752.00 1030.00	729.00 1010.00	700.00 970.00	665.00 925.00	628.00 868.00	588.00 799.00
Coil 3 P	7.767	25.546	42.898	60.208	77.518	94.862	112.225	129.553
	6.000 10.000	21.000 30.000	35.000 51.000	49.000 72.000	63.000 93.000	76.000 114.000	90.000 135.000	104.000 156.000
Coil 4 M	1453.6	1440.2	1412.5	1371.6	1318.0	1252.6	1176.7	1090.2
	1210.0 1700.0	1205.0 1680.0	1180.0 1650.0	1140.0 1590.0	1120.0 1530.0	1070.0 1450.0	1000.0 1350.0	942.0 1240.0
Coil 4 P	7.866	25.838	43.376	60.844	78.277	95.713	113.107	130.407
	6.000 10.000	21.000 31.000	35.000 52.000	49.000 73.000	63.000 93.000	77.000 114.000	91.000 135.000	105.000 156.000
Coil 5 M	2003.3	2060.7	2011.3	2038.2	2726.0	2611.5	2482.9	2303.2

Coil 5 M	2983.3 2450.0 3450.0	2960.7 2430.0 3400.0	2911.3 2410.0 3320.0	2836.3 2350.0 3200.0	2735.9 2280.0 3080.0	2611.5 2150.0 2950.0	2463.8 2020.0 2750.0	2292.2 1870.0 2570.0
Coil 5 P	7.916 6.000 10.000	26.013 20.000 31.000	43.723 35.000 52.000	61.396 49.000 73.000	79.117 63.000 94.000	96.902 79.000 113.000	114.759 93.000 134.000	132.605 106.000 156.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-1097 -3200 940	-658 -1400 -20	-537 -930 -150	-464 -760 -160	-412 -660 -130	-373 -600 -120	-342 -550 -110	-318 -520 -92
Coil 0 Q	-1163 -15000 11000	-686 -5800 3800	-547 -3700 2100	-490 -2700 1400	-460 -2300 1000	-442 -1800 750	-431 -1600 620	-425 -1500 450
Coil 1 R	-141 -750 460	-154 -360 83	-146 -280 9	-134 -230 -10	-123 -200 -35	-114 -180 -35	-106 -160 -46	-99 -150 -49
Coil 1 Q	-121 -3000 3000	-79 -1100 960	-75 -630 530	-77 -470 360	-78 -380 260	-79 -320 190	-79 -290 150	-80 -260 120
Coil 2 R	2.3 -85.0 76.0	-34.0 -64.0 -0.4	-36.0 -57.0 -12.0	-33.9 -51.0 -16.0	-31.1 -46.0 -17.0	-28.4 -42.0 -16.0	-25.6 -39.0 -15.0	-23.7 -37.0 -13.0
Coil 2 Q	422.6 -1500.0 1900.0	141.1 -500.0 610.0	80.2 -290.0 360.0	54.6 -220.0 260.0	40.6 -160.0 190.0	32.6 -140.0 160.0	27.9 -110.0 130.0	25.4 -99.0 120.0
Coil 3 R	1.3 -23.0 21.0	-7.5 -22.0 1.6	-8.9 -21.0 -1.3	-8.6 -20.0 -1.8	-9.0 -19.0 -2.0	-8.1 -19.0 -1.3	-7.8 -19.0 -0.8	-7.5 -19.0 -0.0
Coil 3 Q	124.6 -540.0 530.0	45.6 -180.0 180.0	31.0 -100.0 110.0	25.3 -71.0 81.0	23.3 -51.0 66.0	23.0 -37.0 58.0	23.2 -28.0 53.0	24.6 -21.0 51.0
Coil 4 R	0.46 -18.00 13.00	-1.57 -12.00 2.70	-1.66 -11.00 1.50	-1.72 -9.80 0.52	-3.24 -9.50 0.96	-1.70 -10.00 1.50	-1.38 -11.00 2.30	-1.38 -11.00 2.60
Coil 4 Q	1.20 -250.00 280.00	2.60 -79.00 98.00	3.65 -43.00 64.00	4.85 -27.00 51.00	7.87 -18.00 46.00	8.01 -11.00 42.00	9.87 -5.50 42.00	10.34 -1.00 42.00
Coil 5 R	1.03 -56.00 51.00	0.44 -8.40 3.60	-0.40 -6.50 1.10	-0.20 -6.50 1.20	-1.64 -9.30 2.90	-0.31 -14.00 6.30	-0.38 -19.00 9.60	0.29 -24.00 13.00
Coil 5 Q	0.20 -88.00 69.00	2.11 -26.00 27.00	3.66 -14.00 22.00	4.49 -7.00 22.00	3.78 -2.50 24.00	6.86 1.10 26.00	8.64 4.10 29.00	9.90 7.10 32.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	0.966 0.850 1.100	0.975 0.860 1.100	0.979 0.870 1.100	0.981 0.880 1.100	0.982 0.880 1.100	0.982 0.880 1.100	0.983 0.880 1.100	0.982 0.880 1.100
Coil 0 P	-0.316 -1.500 1.500	-0.485 -1.500 1.500	-0.379 -1.500 1.500	-0.260 -1.500 1.500	-0.175 -1.500 1.500	-0.101 -1.500 1.500	-0.026 -1.500 1.500	-0.005 -1.500 1.500
Coil 1 M	0.961 0.850 1.100	0.970 0.860 1.100	0.974 0.870 1.100	0.976 0.880 1.100	0.977 0.880 1.100	0.977 0.880 1.100	0.977 0.880 1.100	0.977 0.880 1.100
Coil 1 P	-0.296 -1.500 1.500	-0.476 -1.500 1.500	-0.360 -1.500 1.500	-0.238 -1.500 1.500	-0.134 -1.500 1.500	-0.087 -1.500 1.500	-0.032 -1.500 1.500	0.016 -1.500 1.500
Coil 2 M	0.986 0.850 1.100	0.987 0.860 1.100	0.987 0.870 1.100	0.986 0.880 1.100	0.986 0.880 1.100	0.985 0.880 1.100	0.985 0.880 1.100	0.985 0.880 1.100
Coil 2 P	0.044 -1.500 1.500	0.046 -1.500 1.500	0.090 -1.500 1.500	0.134 -1.500 1.500	0.151 -1.500 1.500	0.175 -1.500 1.500	0.211 -1.500 1.500	0.219 -1.500 1.500
Coil 3 M	0.994 0.900 1.100	0.994 0.900 1.100	0.994 0.900 1.100	0.994 0.900 1.100	0.993 0.900 1.100	0.992 0.900 1.100	0.992 0.900 1.100	0.990 0.900 1.100
Coil 3 P	0.048 -1.500 1.500	0.082 -1.500 1.500	0.138 -1.500 1.500	0.198 -1.500 1.500	0.236 -1.500 1.500	0.286 -1.500 1.500	0.334 -1.500 1.500	0.350 -1.500 1.500
Coil 4 M	0.999 0.900 1.100	0.999 0.900 1.100	1.000 0.900 1.100	0.999 0.900 1.100	1.000 0.900 1.100	1.000 0.900 1.100	1.000 0.900 1.100	0.999 0.900 1.100
Coil 4 P	0.116 -1.500 1.500	0.124 -1.500 1.500	0.210 -1.500 1.500	0.286 -1.500 1.500	0.396 -1.500 1.500	0.454 -1.500 1.500	0.525 -1.500 1.500	0.577 -1.500 1.500
Coil 5 M	1.003 0.900 1.100	1.002 0.900 1.100	1.003 0.900 1.100	1.003 0.900 1.100	1.002 0.900 1.100	1.005 0.900 1.100	1.007 0.900 1.100	1.007 0.900 1.100
Coil 5 P	0.040 -1.500 1.500	0.106 -1.500 1.500	0.264 -1.500 1.500	0.377 -1.500 1.500	0.561 -1.500 1.500	0.694 -1.500 1.500	0.775 -1.500 1.500	0.910 -1.500 1.500

PARMS	TCID 0	TCID 1	Cal Temp (degF)	T Factor
IDs	2.831	0.846	50.4	1.00

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10121806 DATE/TIME PERFORMED: Fri Mar 21 14:27:39 2014 DAYS SINCE CAL: 72

UNIT #: 3880TA HL6670

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.002 -0.200 0.200	0.000 -0.100 0.100	-0.000 -0.100 0.100	0.000 -0.100 0.100	-0.001 -0.100 0.100	0.001 -0.100 0.100	-0.000 -0.100 0.100	0.000 -0.100 0.100
Coil 0 Q	-0.005 -0.500 0.500	-0.001 -0.200 0.200	0.001 -0.100 0.100	0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.000 -0.100 0.100	-0.001 -0.100 0.100	0.001 -0.100 0.100
Coil 1 R	0.001 -0.200 0.200	-0.002 -0.100 0.100	-0.004 -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	-0.000 -0.100 0.100
Coil 1 Q	-0.020 -0.500 0.500	-0.003 -0.200 0.200	0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.002 -0.100 0.100	-0.001 -0.100 0.100	0.001 -0.100 0.100	-0.000 -0.100 0.100

Coil 2 R	0.003	0.004	-0.001	0.002	-0.001	0.000	-0.000	0.002
	-0.200 0.200	-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 2 Q	-0.015	0.001	0.001	-0.002	0.002	0.000	0.003	0.002
	-0.500 0.500	-0.200 0.200	-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 R	0.008	0.000	-0.001	-0.004	-0.011	0.001	-0.006	0.002
	-0.300 0.300	-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	-0.019	-0.011	0.002	0.000	-0.005	0.006	-0.003	0.003
	-0.500 0.500	-0.200 0.200	-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 4 R	0.018	-0.012	-0.002	0.011	-0.007	0.009	0.002	-0.002
	-0.500 0.500	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 4 Q	-0.026	-0.009	0.001	0.006	-0.004	0.010	0.003	0.004
	-1.000 1.000	-0.400 0.400	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 5 R	0.052	-0.010	-0.006	0.025	-0.007	0.003	-0.007	-0.004
	-1.200 1.200	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400
Coil 5 Q	-0.040	-0.048	0.021	-0.002	-0.008	0.018	0.001	-0.003
	-1.500 1.500	-0.800 0.800	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	162.71	161.28	158.41	154.16	148.59	141.72	133.62	124.40
	136.00 186.00	134.00 184.00	131.00 181.00	126.00 176.00	122.00 170.00	118.00 161.00	112.00 150.00	105.00 139.00
Coil 0 P	7.673	25.286	42.455	59.578	76.707	93.857	111.022	128.190
	-1.000 12.000	19.000 30.000	35.000 50.000	49.000 71.000	63.000 91.000	77.000 110.000	92.000 130.000	105.000 151.000
Coil 1 M	281.66	279.11	274.00	266.41	256.42	244.15	229.67	213.20
	237.00 327.00	235.00 325.00	230.00 320.00	225.00 312.00	218.00 302.00	208.00 288.00	196.00 266.00	184.00 244.00
Coil 1 P	7.843	25.757	43.239	60.676	78.125	95.583	113.055	130.502
	-1.000 12.000	19.000 30.000	35.000 51.000	49.000 71.000	63.000 92.000	77.000 112.000	92.000 132.000	105.000 153.000
Coil 2 M	577.83	572.91	563.04	548.21	528.57	504.23	475.36	442.17
	479.00 669.00	474.00 664.00	463.00 643.00	450.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	369.00 499.00
Coil 2 P	7.963	26.159	43.927	61.669	79.435	97.251	115.088	132.927
	-1.000 12.000	19.000 31.000	35.000 51.000	49.000 71.000	63.000 92.000	77.000 114.000	92.000 135.000	105.000 156.000
Coil 3 M	925.27	917.10	900.49	875.74	843.37	803.32	755.85	701.97
	772.00 1060.00	764.00 1050.00	752.00 1030.00	728.00 1010.00	700.00 970.00	666.00 925.00	628.00 868.00	588.00 799.00
Coil 3 P	7.745	25.588	42.981	60.323	77.677	95.048	112.428	129.797
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 72.000	63.000 93.000	77.000 114.000	92.000 135.000	105.000 156.000
Coil 4 M	1455.8	1442.2	1414.4	1373.5	1319.8	1254.3	1177.5	1091.6
	1210.0 1700.0	1205.0 1680.0	1180.0 1650.0	1140.0 1590.0	1120.0 1530.0	1070.0 1450.0	1000.0 1350.0	942.0 1240.0
Coil 4 P	7.868	25.888	43.459	60.959	78.433	95.884	113.329	130.660
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 73.000	63.000 93.000	78.000 114.000	92.000 135.000	105.000 156.000
Coil 5 M	2981.2	2958.1	2908.8	2834.0	2734.5	2610.1	2460.2	2289.9
	2450.0 3450.0	2430.0 3400.0	2410.0 3320.0	2350.0 3200.0	2280.0 3080.0	2150.0 2950.0	2020.0 2750.0	1870.0 2570.0
Coil 5 P	7.911	26.083	43.824	61.551	79.300	97.138	115.006	132.891
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 73.000	63.000 94.000	79.000 114.000	93.000 135.000	105.000 156.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 1D1218D6 DATE/TIME PERFORMED: Fri Mar 21 17:37:1D 2014 DAYS SINCE CAL: 73

UNIT #: 388DTA HL667D

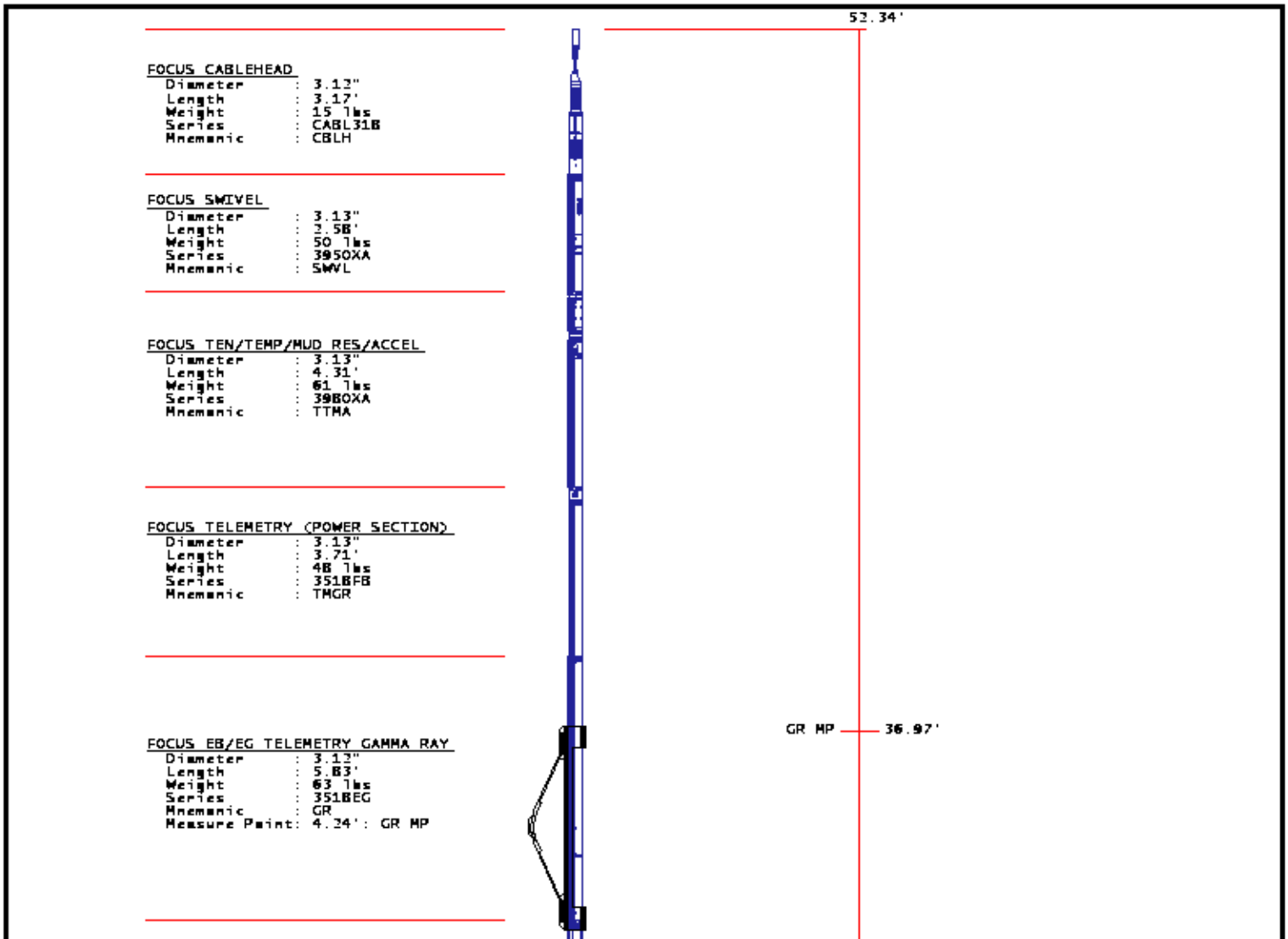
ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.003	-0.000	0.001	0.001	0.000	0.000	0.000	-0.000
	-0.078 0.082	-0.060 0.060	-0.030 0.030	-0.030 0.030	-0.031 0.029	-0.029 0.031	-0.030 0.030	-0.030 0.030
Coil 0 Q	-0.004	-0.001	0.001	0.001	0.001	0.001	-0.001	0.000
	-0.045 0.035	-0.121 0.119	-0.029 0.031	-0.029 0.031	-0.030 0.030	-0.030 0.030	-0.031 0.029	-0.029 0.031
Coil 1 R	0.004	-0.001	-0.001	-0.000	0.000	0.002	0.002	-0.001
	-0.079 0.081	-0.052 0.048	-0.034 0.026	-0.030 0.030	-0.030 0.030	-0.030 0.030	-0.030 0.030	-0.030 0.030
Coil 1 Q	-0.015	-0.001	0.002	0.001	0.001	0.001	0.000	-0.001
	-0.420 0.380	-0.103 0.097	-0.029 0.031	-0.030 0.030	-0.032 0.028	-0.031 0.029	-0.029 0.031	-0.030 0.030
Coil 2 R	0.005	0.000	0.002	-0.002	0.002	-0.000	-0.001	-0.004
	-0.067 0.073	-0.026 0.034	-0.031 0.029	-0.028 0.032	-0.031 0.029	-0.030 0.030	-0.030 0.030	-0.028 0.032
Coil 2 Q	-0.005	0.003	-0.002	0.001	-0.001	0.001	0.002	-0.003
	-0.365 0.335	-0.099 0.101	-0.029 0.031	-0.032 0.028	-0.028 0.032	-0.030 0.030	-0.027 0.033	-0.028 0.032
Coil 3 R	0.010	-0.001	0.000	0.003	-0.000	-0.002	-0.000	-0.005
	-0.032 0.048	-0.040 0.040	-0.041 0.039	-0.044 0.036	-0.051 0.029	-0.039 0.041	-0.046 0.034	-0.038 0.042
Coil 3 Q	-0.012	-0.004	0.004	0.002	-0.001	0.001	-0.004	0.003
	-0.219 0.181	-0.091 0.069	-0.038 0.042	-0.040 0.040	-0.045 0.035	-0.034 0.046	-0.043 0.037	-0.037 0.043
Coil 4 R	0.015	-0.006	0.004	-0.002	-0.007	0.003	-0.001	-0.004
	-0.042 0.078	-0.072 0.048	-0.052 0.058	-0.049 0.071	-0.057 0.053	-0.051 0.059	-0.058 0.052	-0.052 0.058
Coil 4 Q	-0.026	-0.013	0.008	-0.002	-0.002	0.003	0.002	0.001
	-0.326 0.274	-0.109 0.091	-0.059 0.061	-0.054 0.066	-0.054 0.066	-0.050 0.070	-0.057 0.063	-0.056 0.064
Coil 5 R	0.045	-0.016	-0.020	-0.009	0.015	-0.003	-0.005	-0.013
	-0.058 0.172	-0.130 0.110	-0.126 0.114	-0.095 0.145	-0.127 0.113	-0.117 0.123	-0.127 0.113	-0.124 0.116
Coil 5 Q	-0.040	-0.021	-0.001	-0.009	0.005	0.020	-0.014	-0.012
	-0.640 0.560	-0.298 0.202	-0.059 0.141	-0.122 0.118	-0.128 0.112	-0.102 0.138	-0.119 0.121	-0.123 0.117

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz

Coil D M	162.38 159.45 165.96	160.95 158.06 164.51	158.08 155.24 161.57	153.80 151.08 157.25	148.22 145.61 151.56	141.35 138.89 144.55	133.30 130.95 136.29	124.10 121.92 126.89
Coil D P	7.428 4.673 10.673	25.260 22.286 28.286	42.501 39.466 45.466	59.688 56.578 62.578	76.846 73.707 79.707	94.040 90.857 96.857	111.220 108.022 114.022	128.429 125.190 131.190
Coil 1 M	281.76 276.03 287.29	279.21 273.53 284.70	274.08 268.52 279.48	266.49 261.08 271.74	256.45 251.29 261.55	244.16 239.26 249.03	229.71 225.08 234.27	213.28 208.94 217.47
Coil 1 P	7.608 4.843 10.843	25.727 22.757 28.757	43.272 40.239 46.239	60.772 57.676 63.676	78.240 75.125 81.125	95.744 92.583 98.583	113.238 110.055 116.055	130.694 127.502 133.502
Coil 2 M	577.03 566.27 588.38	572.13 561.46 584.37	562.20 551.78 574.30	547.34 537.25 558.18	527.75 517.99 538.14	503.38 494.15 514.31	474.65 465.85 484.87	441.61 433.33 451.62
Coil 2 P	7.700 4.963 10.963	26.129 23.159 29.159	43.972 40.927 46.927	61.779 58.669 64.669	79.582 76.435 82.435	97.441 94.251 100.251	115.312 112.088 118.088	133.193 129.927 136.927
Coil 3 M	924.67 906.76 943.78	916.48 898.75 935.44	899.84 882.48 918.50	874.99 858.22 893.25	842.40 826.50 860.24	802.10 787.25 819.38	755.05 740.74 770.97	701.06 687.53 716.01
Coil 3 P	7.473 4.745 10.745	25.565 22.588 28.588	43.038 39.981 45.981	60.456 57.323 63.323	77.847 74.677 80.677	95.276 92.048 98.048	112.686 109.428 115.428	130.075 126.797 132.797
Coil 4 M	1457.3 1426.7 1484.9	1443.6 1413.4 1471.1	1415.8 1386.1 1442.7	1374.5 1346.0 1401.0	1321.0 1293.4 1346.2	1255.1 1229.2 1279.4	1178.9 1153.9 1201.0	1092.7 1069.8 1113.4
Coil 4 P	7.630 4.868 10.868	25.870 22.888 28.888	43.503 40.459 46.459	61.067 57.959 63.959	78.580 75.433 81.433	96.087 92.884 98.884	113.537 110.329 116.329	130.932 127.660 133.660
Coil 5 M	2979.2 2921.6 3040.8	2956.0 2899.0 3017.3	2906.2 2850.6 2967.0	2830.7 2777.4 2890.7	2730.3 2679.8 2789.2	2606.2 2557.9 2662.3	2457.7 2411.0 2509.5	2287.4 2244.1 2336.7
Coil 5 P	7.677 4.911 10.911	26.070 23.083 29.083	43.918 40.824 46.824	61.705 58.551 64.551	79.532 76.300 82.300	97.403 94.138 100.138	115.295 112.006 118.006	133.251 129.891 135.891

INSTRUMENT CONFIGURATION

Source File: /dat1a/625070/n970a~.tdg



FOCUS COMPENSATED NEUTRON
- Diameter : 3.13"
- Length : 4.81'
- Weight : 65 lbs
- Series : 2436XA
- Mnemonic : CN
- Measure Point: 1.92': LSN MP
- Measure Point: 1.46': SSN MP

FOCUS Z-DENSILOG
- Diameter : 3.75"
- Length : 9.58'
- Weight : 300 lbs
- Series : 2223XA
- Mnemonic : ZDL
- Measure Point: 4.33': CR1 MP
- Measure Point: 1.69': LSD / CR2 MP
- Measure Point: 1.29': SSD MP

FOCUS KNUCKLE JOINT
- Diameter : 3.13"
- Length : 1.50'
- Weight : 30 lbs
- Series : 3930XA

FOCUS KNUCKLE JOINT
- Diameter : 3.13"
- Length : 1.50'
- Weight : 30 lbs
- Series : 3930XA

FOCUS HIGH DEFINITION INDUCTION TOOL
- Diameter : 3.13"
- Length : 13.33'
- Weight : 115 lbs
- Series : 1530XA
- Mnemonic : HDIL
- Measure Point: 7.17': COIL 5 MP
- Measure Point: 5.67': COIL 4 MP
- Measure Point: 4.17': COIL 3 MP
- Measure Point: 3.67': COIL 2 MP
- Measure Point: 3.17': COIL 1 MP
- Measure Point: 2.67': COIL 0 MP
- Measure Point: 1.14': SP MP

FOCUS PINEAPPLE / CABBAGE

HOLE FINDER
- Diameter : 2.63"
- Length : 1.50'
- Weight : 7 lbs
- Series : HFND1B

LSN MP — 29.83'
SSN MP — 29.38'
CR1 MP — 22.67'
LSD / CR2 MP — 20.02'
SSD MP — 19.63'
COIL 5 MP — 9.17'
COIL 4 MP — 7.67'
COIL 3 MP — 6.17'
COIL 2 MP — 5.67'
COIL 1 MP — 5.17'
COIL 0 MP — 4.67'
SP MP — 3.14'
0.00'

TOTAL LENGTH: 52.34'
TOTAL WEIGHT: 703 lbs
MAX DIAMETER: 0'6.13"

COMPANY	WPX ENERGY INC
WELL	WPX ENERGY PA 513-2
FIELD	PARACHUTE
COUNTY	GARFIELD
STATE	CO

FILE NO: US625070

API NO: 05045221380000

LOCATION:

SHL: 2028' FSL; 1560' FWL
BHL: 1509' FSL; 664' FWL

SEC 2 TWP 7S RGE 95W

ELEVATIONS:

KB 5847 FT
DF
GL 5821 FT

S2 T7S 95W
GV 86-2
AZTEC 1000

DATE 21-Mar-2014