BAKER HUGHES

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

FILE NO: 624395	COMPANY	WPX ENERGY INC
API NO: 05045215510000	WELL	HOEPPLI RWF 433-36
	FIELD	RULISON
	COUNTY	GARFIELD STATE CO

Ver. 3.87
S36 T6S R94W
PAD: RWF 33-36
RIG: NABORS 576

LOCATION:
SHL: 2801' FNL, 2596' FEL
BHL: 1717' FSL, 1667' FEL
SEC 36 TWP 6S RGE 94W

OTHER SERVICES
NONE

PERMANENT DATUM GL ELEVATION 6526 FT
LOG MEASURED FROM KB 28 FT ABOVE P.D.
DRILL. MEAS. FROM KB

ELEVATIONS:
KB 6554 FT
DF 6554 FT
GL 6526 FT

DATE		31-May-2013			
RUN	TRIP	1	1		
SERVICE ORDER		624395			
DEPTH DRILLER		9015 FT			
DEPTH LOGGER		9006 FT			
BOTTOM LOGGED INTERVAL		9006 FT			
TOP LOGGED INTERVAL		6.5 FT			
CASING DRILLER		9.625 IN @ 1125 FT		@	
CASING LOGGER		1122 FT			
BIT SIZE		8.75 IN			
TYPE OF FLUID IN HOLE		LSND			
DENSITY	VISCOSITY	11.6 LB/G	60 S		
PH	FLUID LOSS	8.4	8.4 C3		
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		2.43 OHMM @ 77 DEGF		@	
RMF AT MEAS. TEMP.		1.82 OHMM @ 77 DEGF		@	
RMC AT MEAS. TEMP.		3.03 OHMM @ 77 DEGF		@	
SOURCE OF RMF	RMC	CALCULATED	CALCULATED		
RM AT BHT		1.349 OHMM @ 189.7 DEGF		@	
TIME SINCE CIRCULATION		8			
MAX. RECORDED TEMP.		189 DEGF			
EQUIP. NO.	LOCATION	6670	GRAND JUNC		
RECORDED BY		PATTON/SINICKI			
WITNESSED BY		RICK			

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN	32.3 LB/F		0 FT	1125 FT

BOREHOLE RECORD

BIT SIZE	FROM	TO
8.75 IN	1125 FT	9015 FT

REMARKS

RUN 1 TRIP 1 : HDIL ZDL CN GR RUN IN COMBINATION
BVOL CVOL MEASURED IN CUBIC FEET
CVOL CALCULATED USING PROPOSED 4.5" CASING
REPEAT RECORDED 200' BELOW CASING
HDIL RUN WITH 1.5" STANDOFFS
ABC TO CALCULATED MUD CONDUCTIVITY
RHO MATRIX: 2.68 G/CM3
RHO FLUID: 1.00 G/CM3
CN MATRIX: SANDSTONE

SALINITY: 900

THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE
CREW: PATTON/SINICKI/COATE/HOLLAR
RIG: NABORS 576

EQUIPMENT DATA					
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTMA	39809A	10120239	FREE
1	1	TEL/GR	3518EB	10411082	FREE
1	1	CN	24369A	10124386	DECENTRALIZED
1	1	ZDL	22239A	10080684	PAD DEVICE
1	1	HDIL	15309A	10120519	STANDOFF

MAIN LOG 2"/100FT SCALE

ECLIPS 6.11 Aug 06, 2010
Updates: 1,2 Patches: 3

Fri May 31 21:15:50 2013

Perpit /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/624395/m870c02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 984.000 ft BOTTOM DEPTH: 9031.288 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
GR MED RES	FILTER ()	medium (1)		TOP	BOTTOM
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
SP-SPDH	FILTER ()	heavy (3)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
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	77.0	degF	"	"
	MUD SAMPLE RES	2.450	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	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) TOP	BOTTOM
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION ON		TOP	BOTTOM

HDIL PROCESSING

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

CURVE DESCRIPTION REPORT

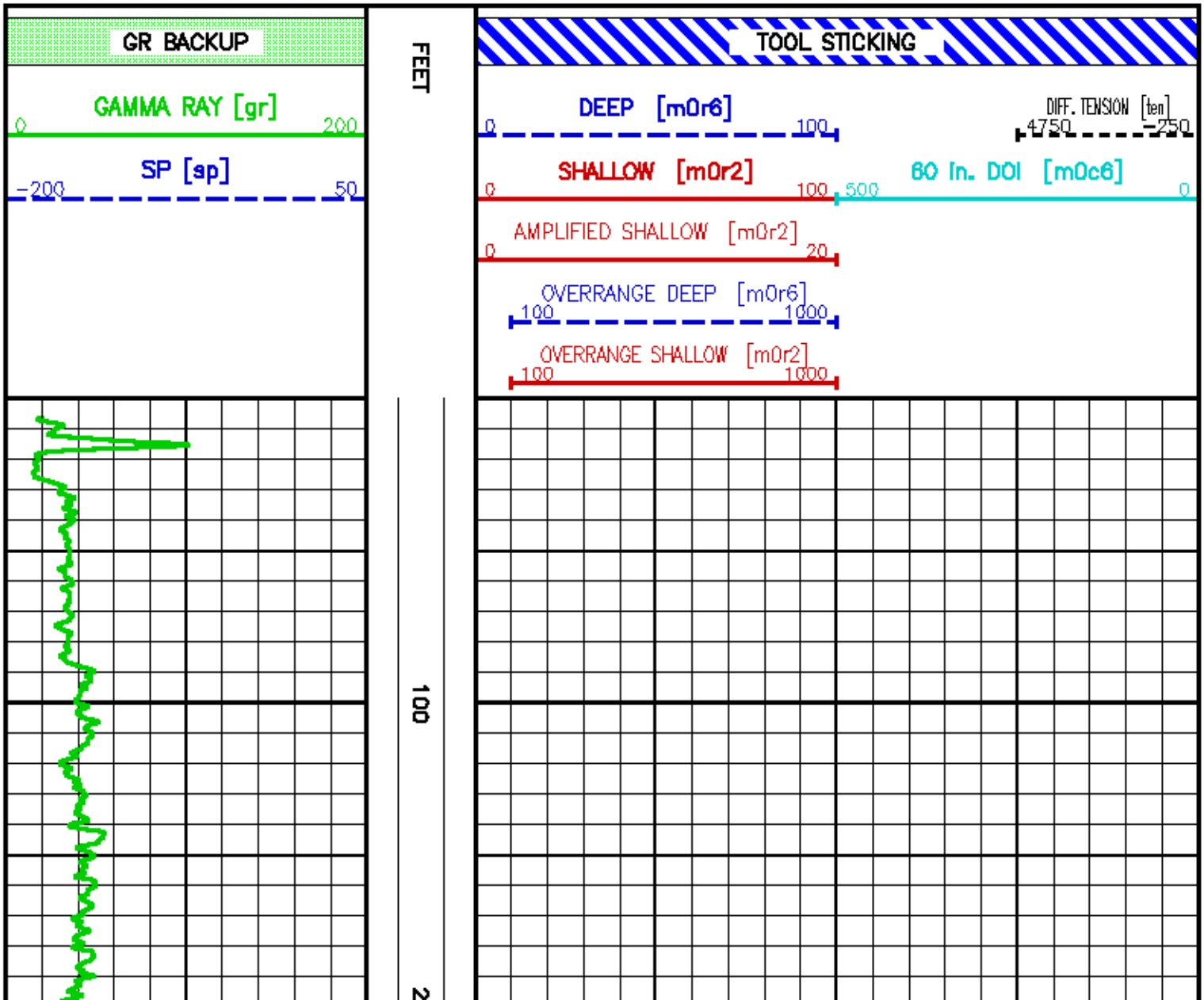
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:GR	May 31 18:35:22 2013	GAMMA RAY
F1:M0C6	May 31 18:35:22 2013	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:M0R2	May 31 18:35:22 2013	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:M0R6	May 31 18:35:22 2013	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	May 31 18:35:22 2013	SPONTANEOUS POTENTIAL
F1:TEN	May 31 18:35:22 2013	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	35.00	M0R2	2.75	SP	1.25		
M0C6	2.75	M0R6	2.75	TEN	0.00		

Presentation : HL9670s/dat1a/624395/WPX_2IN.pdf [2"/100' Scale]
Plot Interval : 999.25 - 9028.75 Feet

Data File 1 : F1 : HL9670s/dat1a/624395/m970a02-MAIN.dlis
Created On : May 31 18:35:22 2013
Company : WPX ENERGY INC
Well : HOEPPLI EMF 433-36
Field : BULISON
File Interval : 0 - 9034.75 Feet
Dct : m970a



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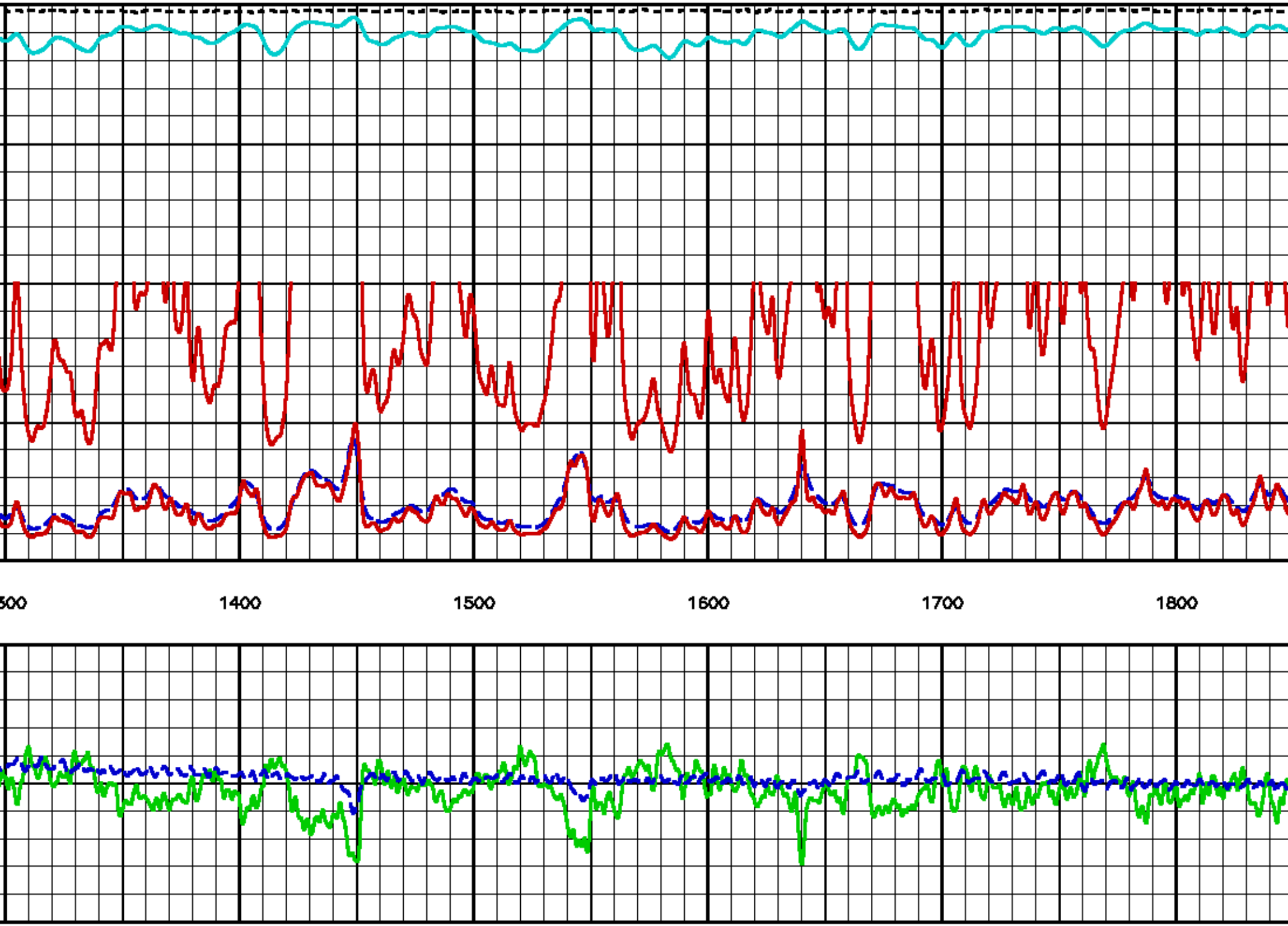
GR
SP
MOR2
MOR6
TEN
MOC6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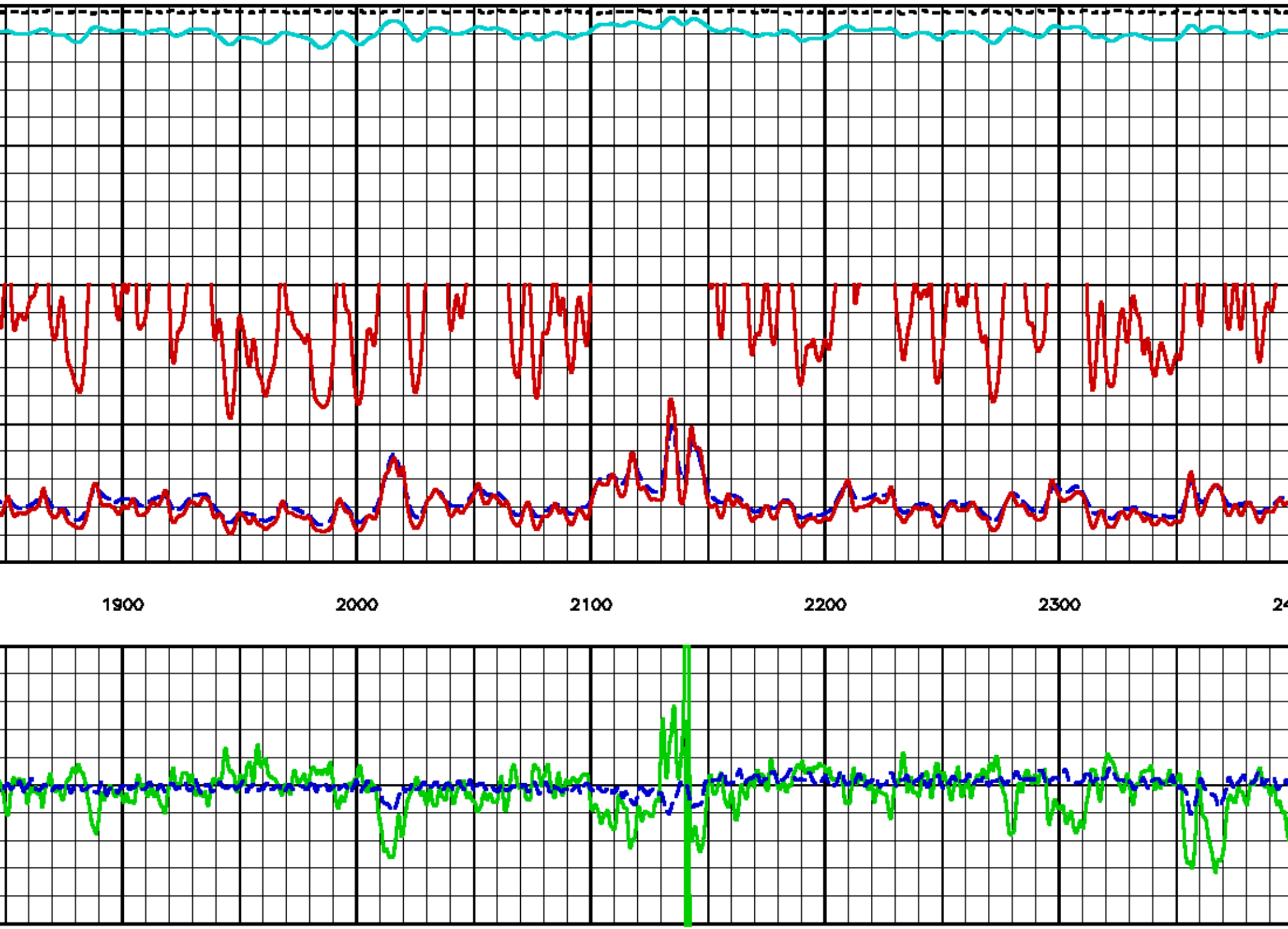
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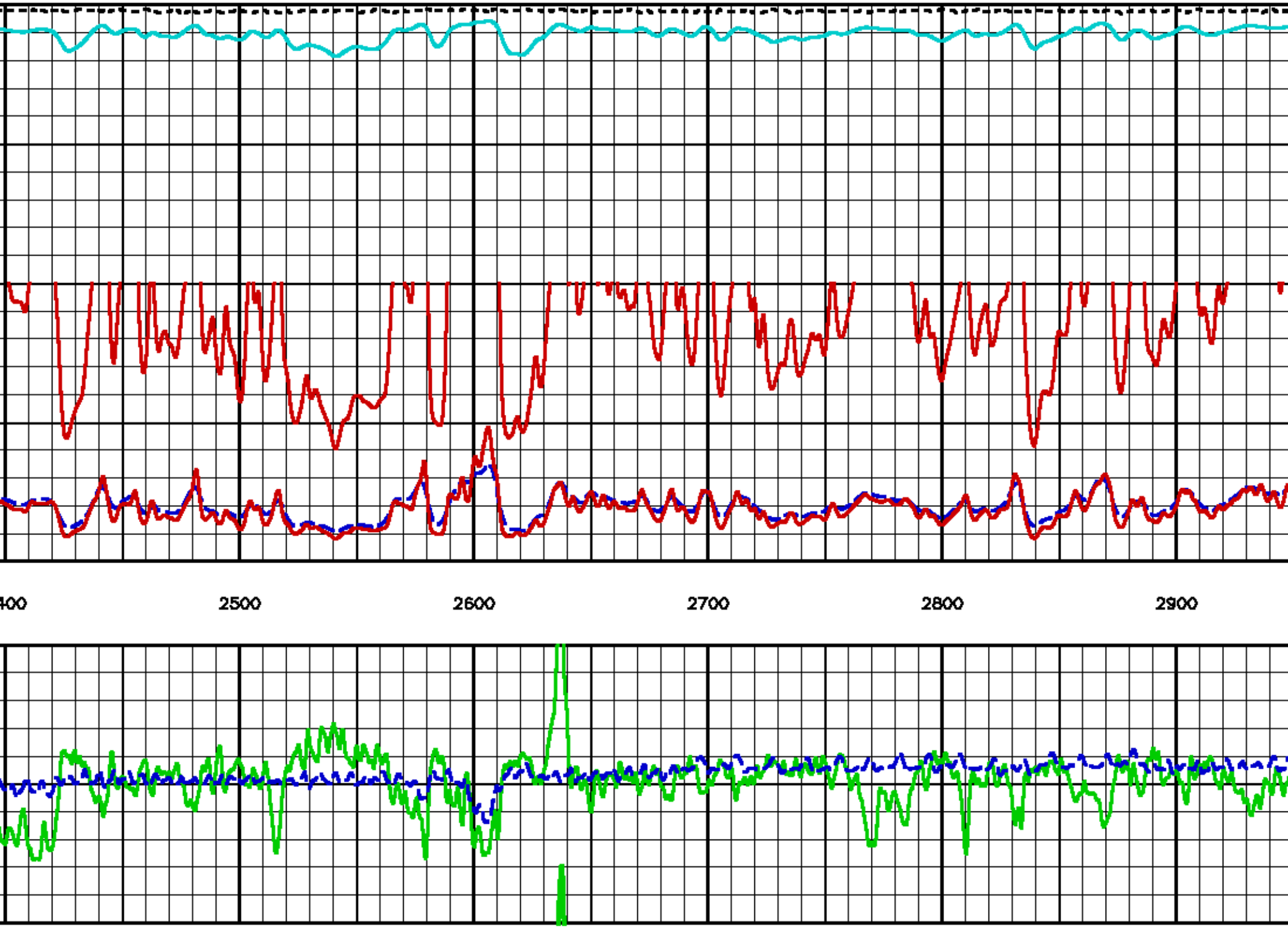
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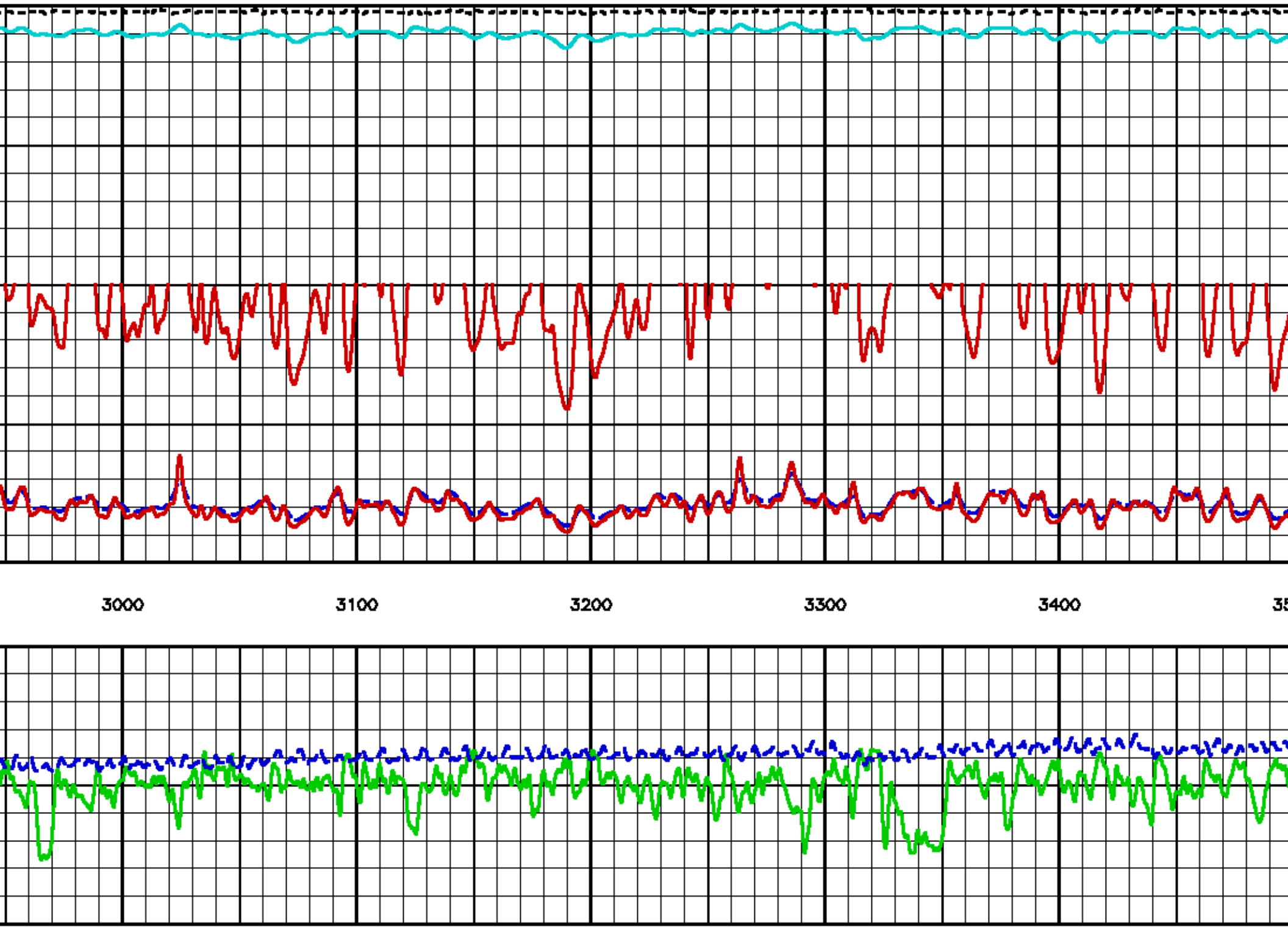
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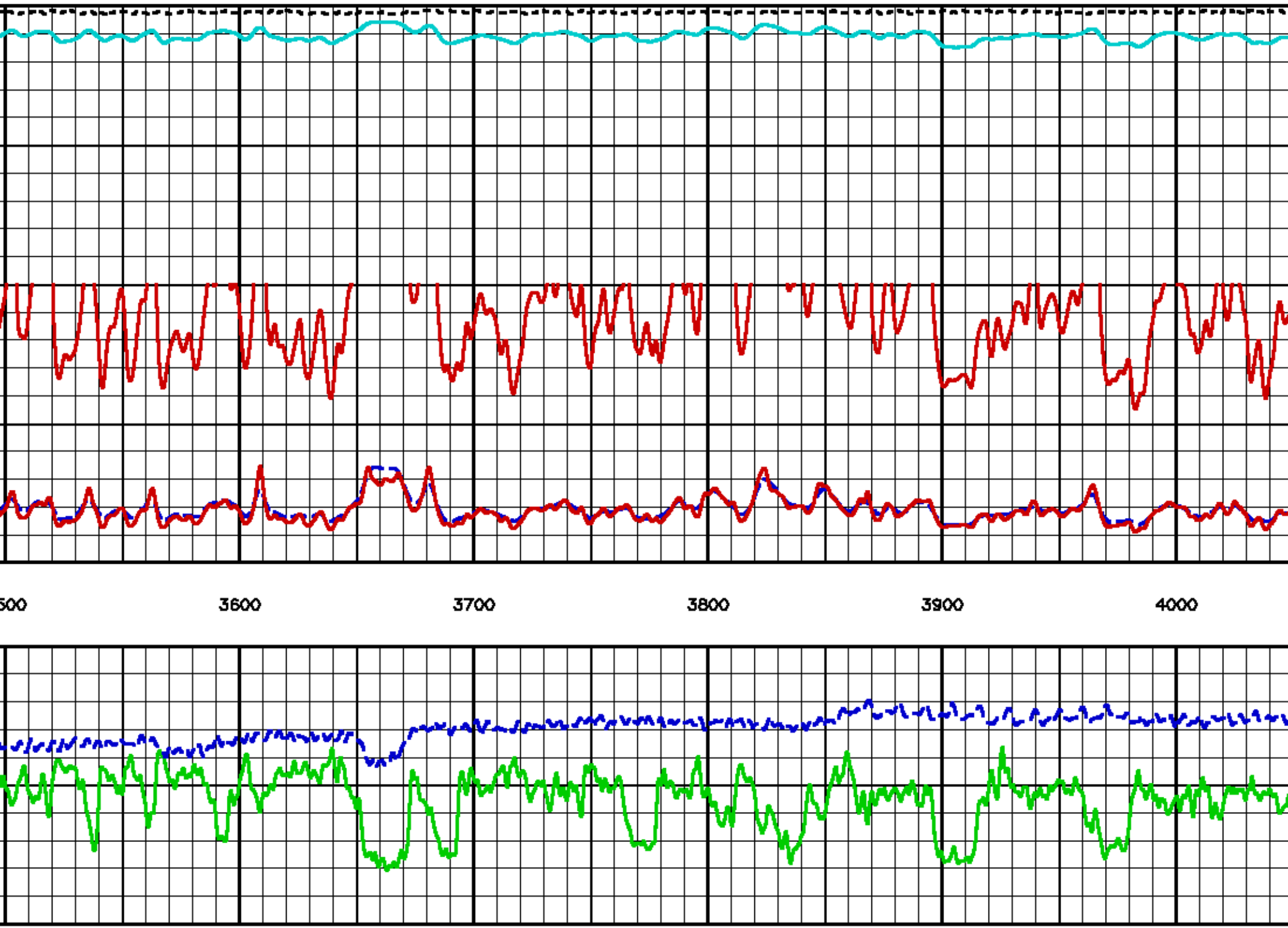
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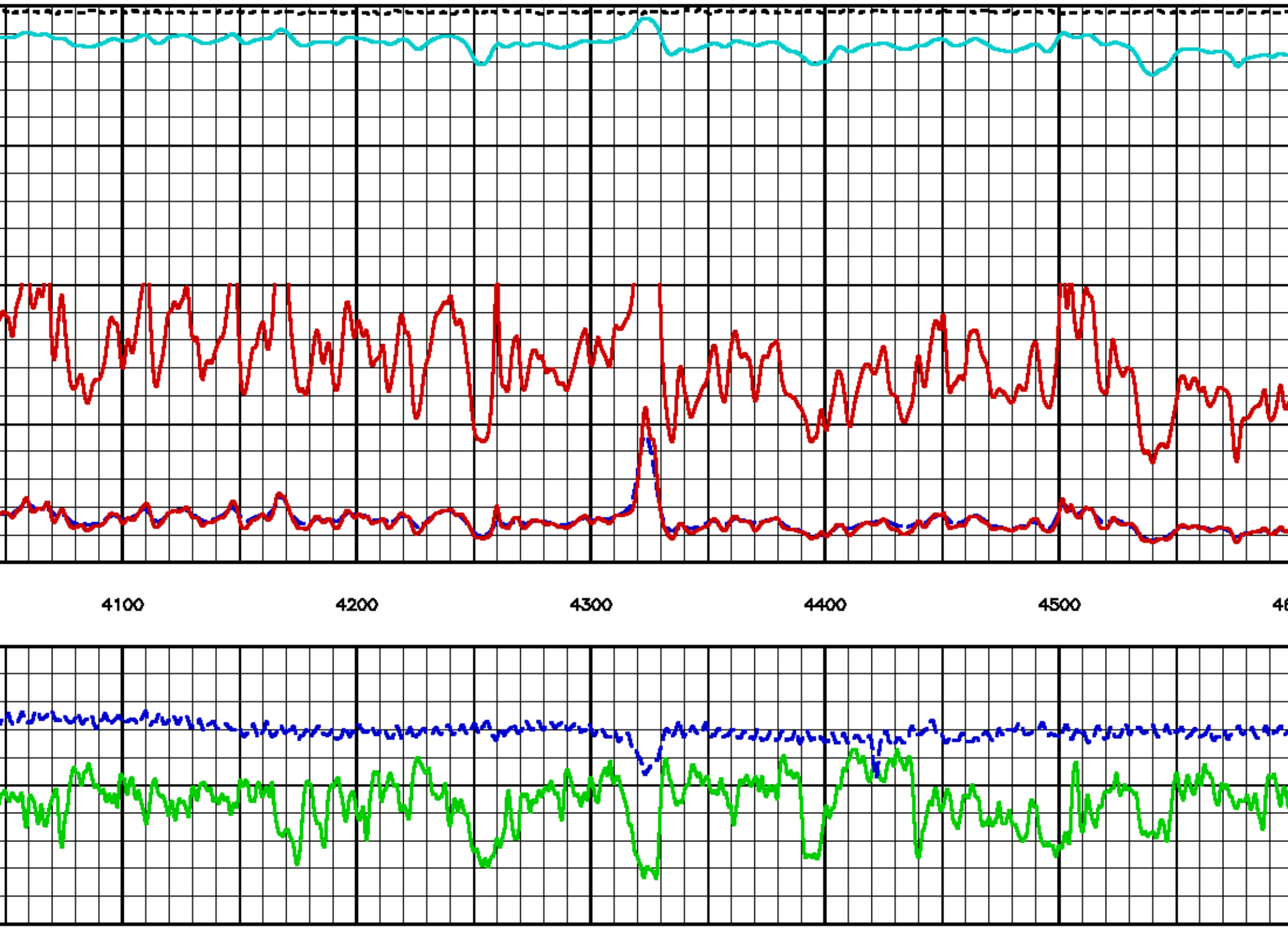
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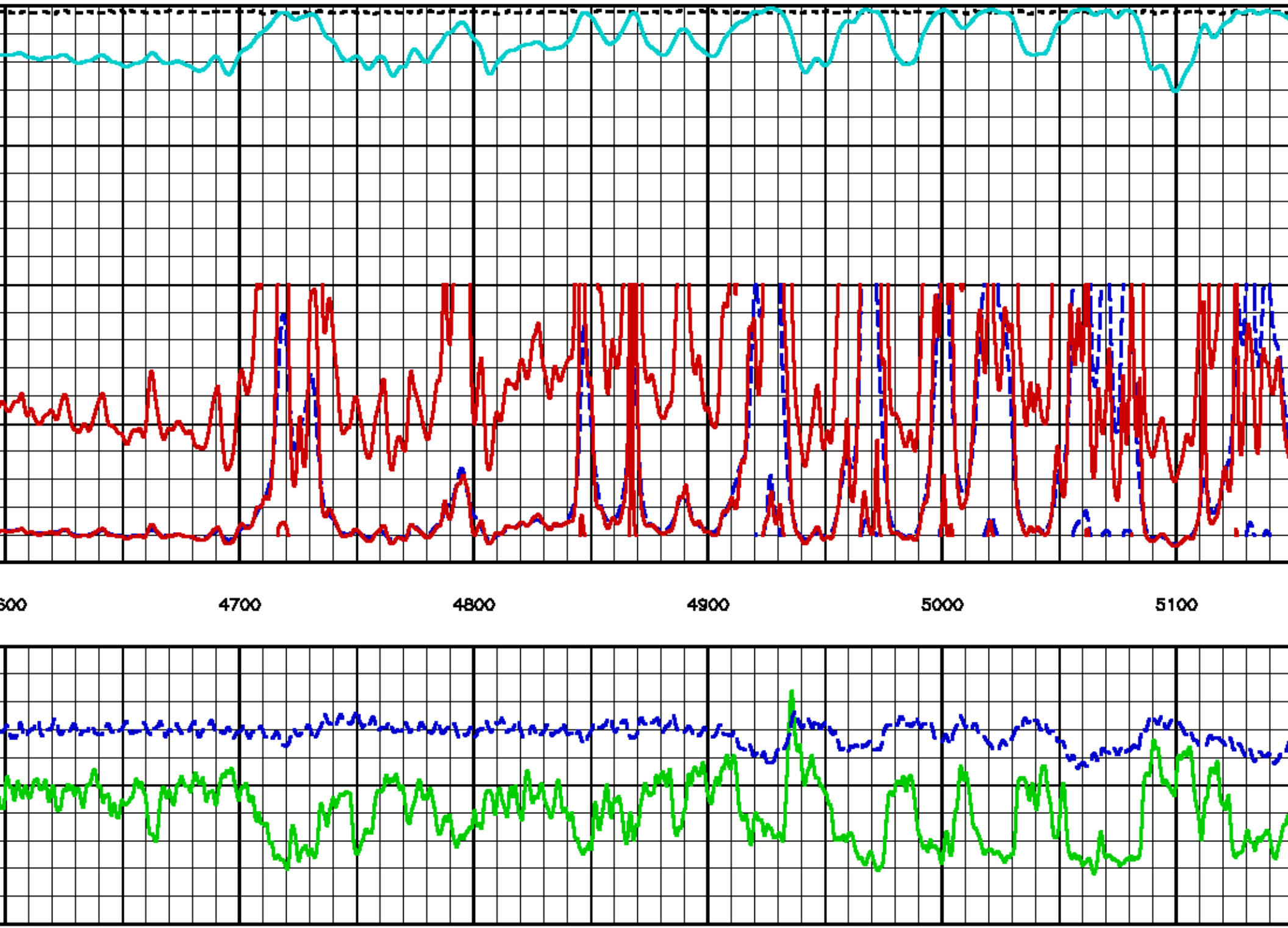
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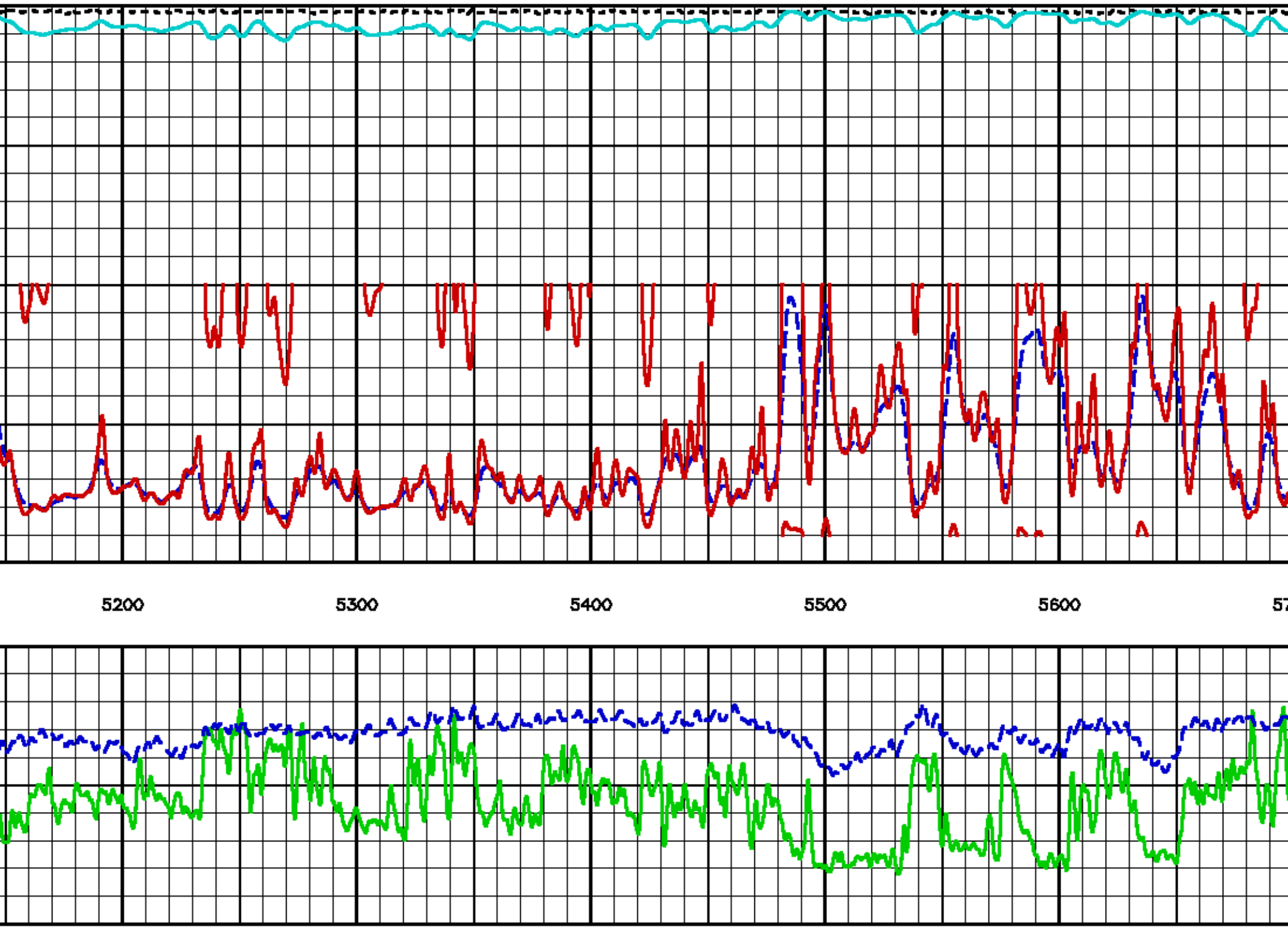
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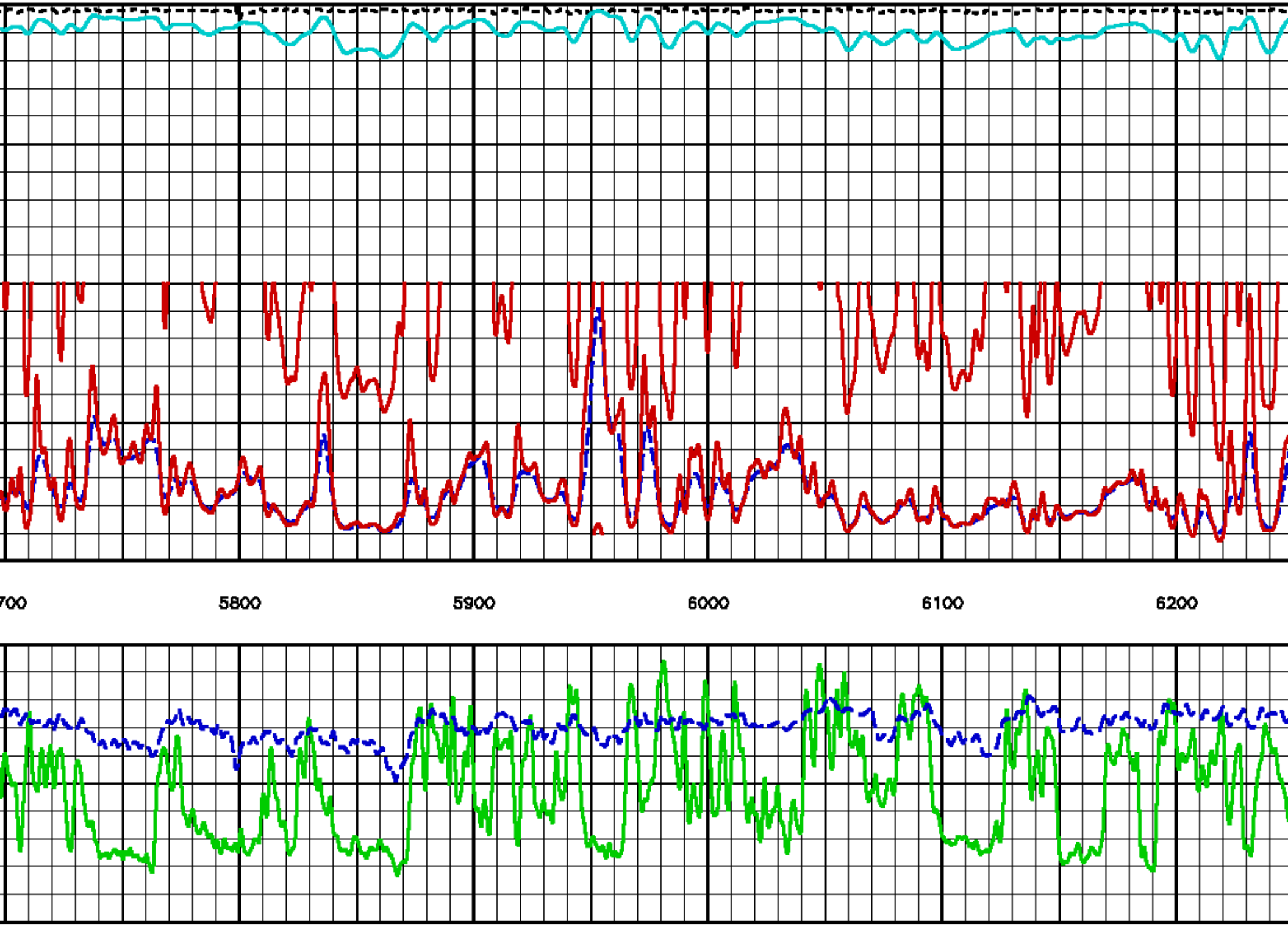
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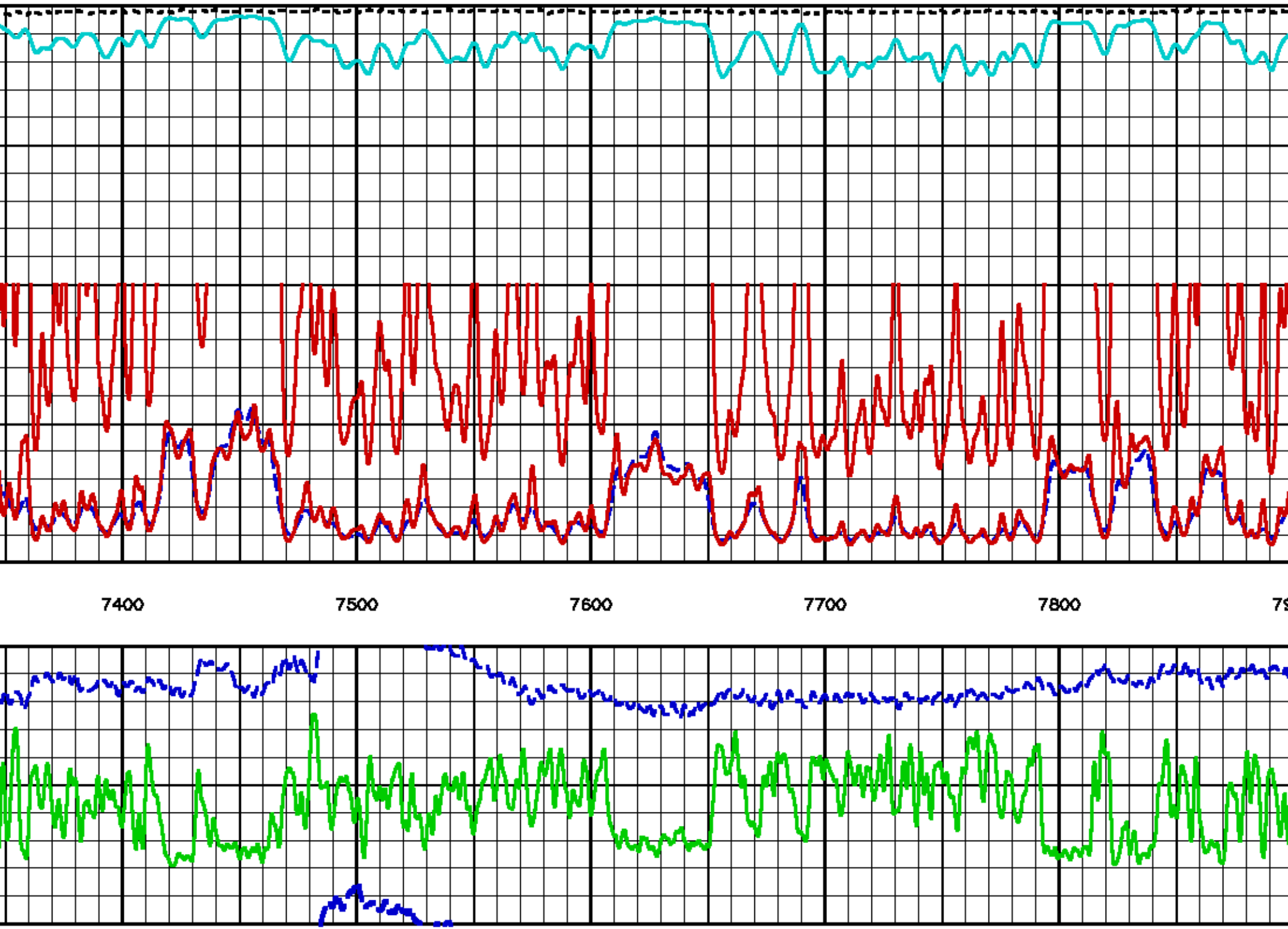
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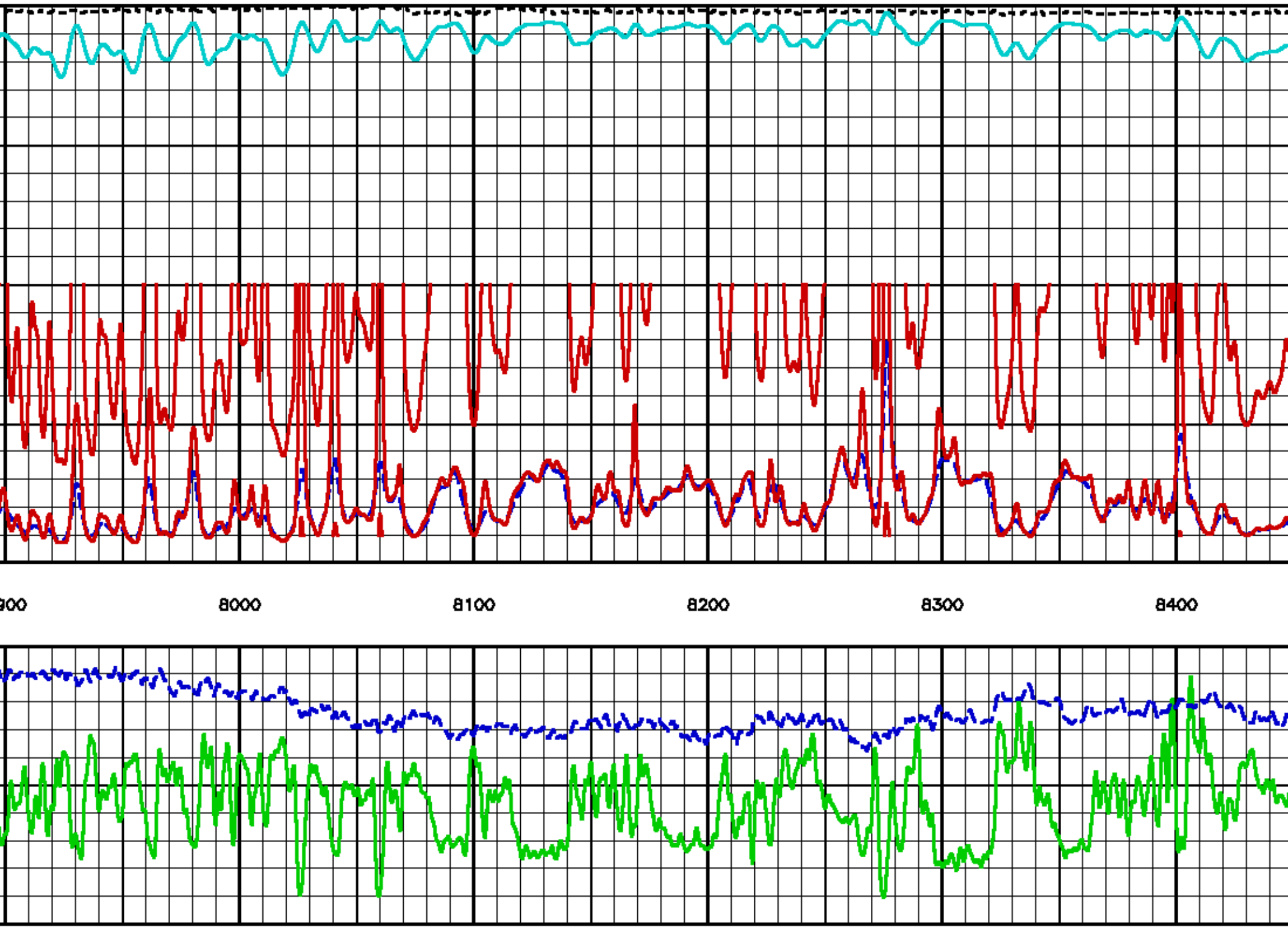
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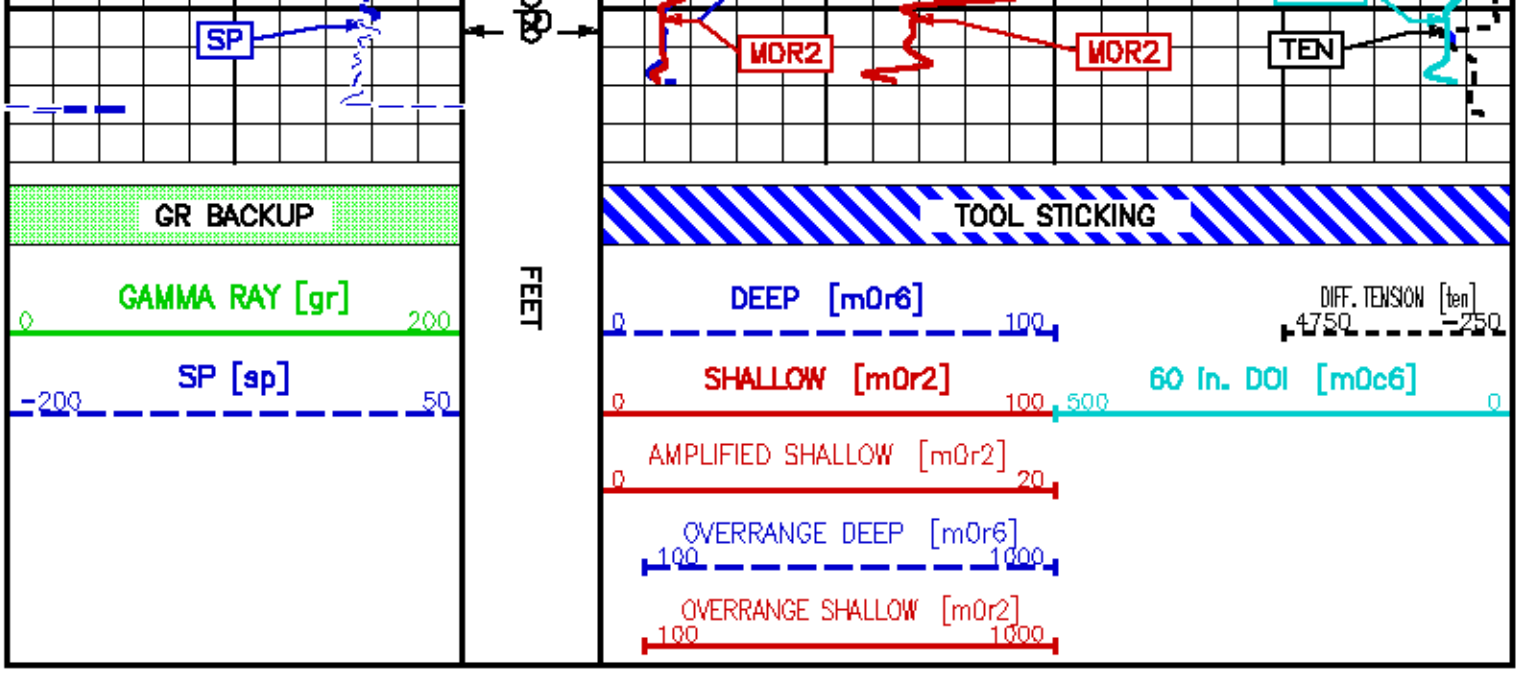
MOC6



MAIN LOG 5"/100FT SCALE

ECLIPS 6.1T Aug 06, 2010
Updates: 1,2 Patches: 3

Fri May 31 21:23:00 2013

Perpit /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/624595/m070c02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 984.000 ft BOTTOM DEPTH: 9031.288 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
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 ()	heavy (3)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
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	77.0	degF	"	"
	MUD SAMPLE RES	2.450	ohm.m	"	"

BH MUD RESISTIVITY SOURCE	Rmud SOURCE (MDIL)	TOOL MEASURED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	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	900	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	8.750	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	STANDOFF		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	May 31 18:35:22 2013	BIT SIZE
F1:BVOL	May 31 18:35:22 2013	BOREHOLE VOLUME
F1:CAL	May 31 18:35:22 2013	CALIPER
F1:CNCF	May 31 18:35:22 2013	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	May 31 18:35:22 2013	CEMENT VOLUME
F1:GR	May 31 18:35:22 2013	GAMMA RAY
F1:M2R1	May 31 18:35:22 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	May 31 18:35:22 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	May 31 18:35:22 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	May 31 18:35:22 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	May 31 18:35:22 2013	POROSITY FOR SELECTABLE MATRIX
F1:SP	May 31 18:35:22 2013	SPONTANEOUS POTENTIAL
F1:TEN	May 31 18:35:22 2013	DIFFERENTIAL TENSION
F1:ZCOR	May 31 18:35:22 2013	DENSITY CORRECTION

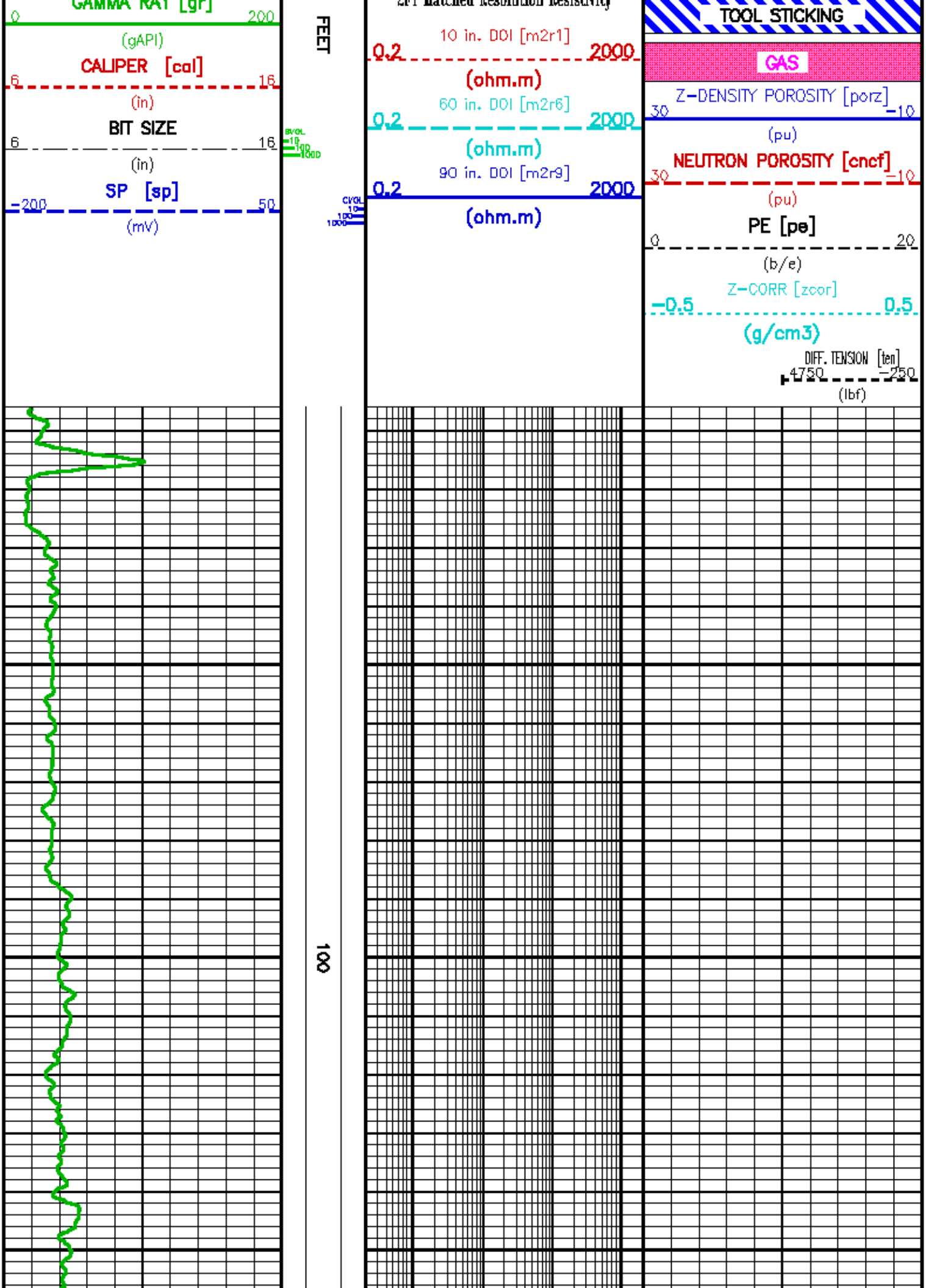
CURVE MEASURE POINT OFFSET

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 : HL8670:/dat1a/824395/WPX_SNL.pdf [5"/100' Scale]
Plot Interval : 8.5 - 9034.75 Feet

Data File 1 : F1 : HL8670:/dat1a/824395/m970a02-MAIN.dlis
Created On : May 31 18:35:22 2013
Company : WPX ENERGY INC
Well : HOEPPLI RWF 433-36
Field : RULISON
File Interval : 0 - 9034.75 Feet
Set : m970a

GAMMA RAY [gr]		2FT Matched Resolution Resistivity	


GAMMA RAY [gr]
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(gAPI)
CALIPER [cal]
6
16
(in)
BIT SIZE
6
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(in)
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(mV)
FEET
2FT Matched Resolution Resistivity
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(ohm.m)
60 in. DOI [m2r6]
0.2
2000
(ohm.m)
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(ohm.m)
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Z-DENSITY POROSITY [porz]
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NEUTRON POROSITY [cncf]
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(b/e)
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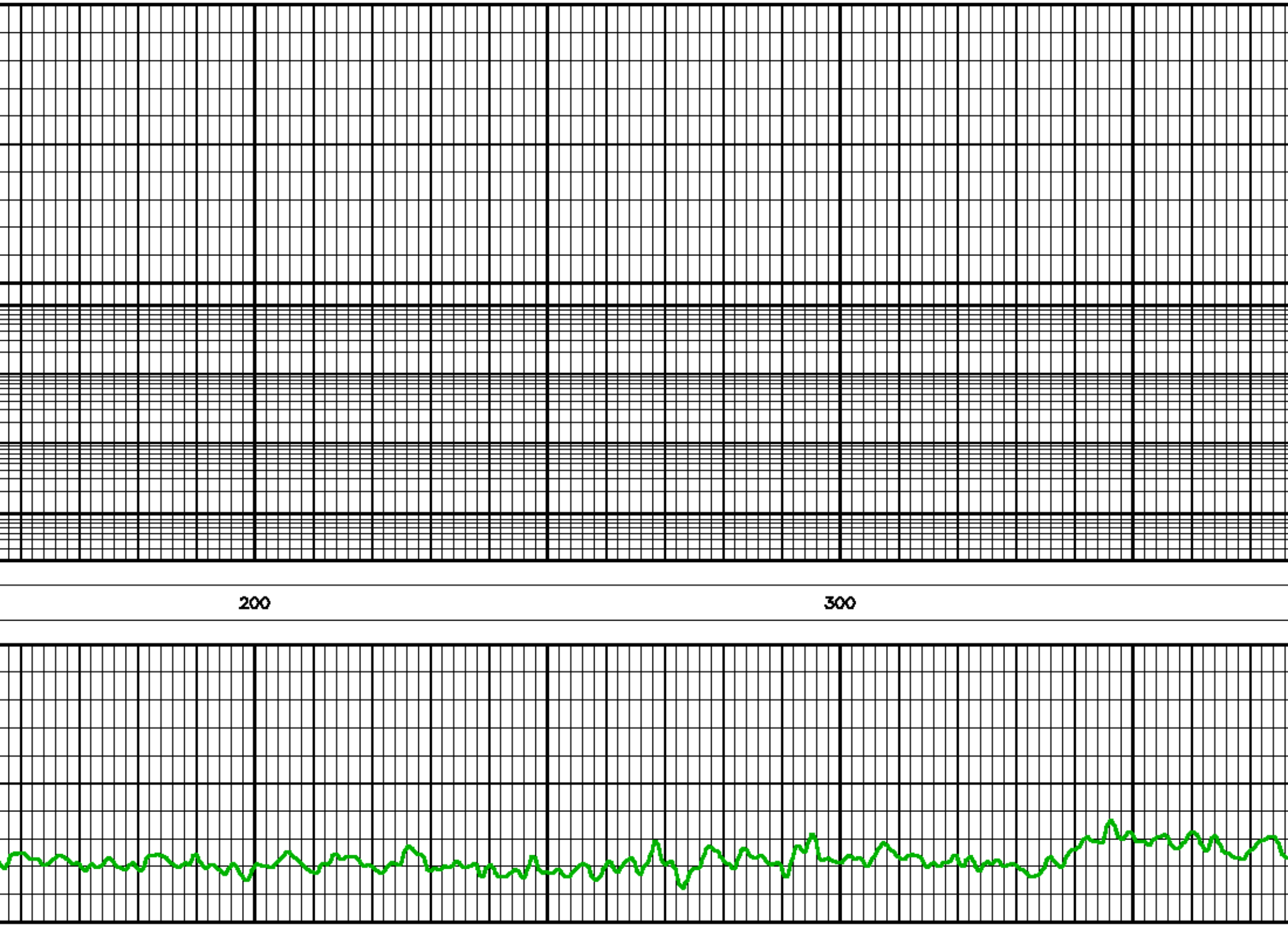
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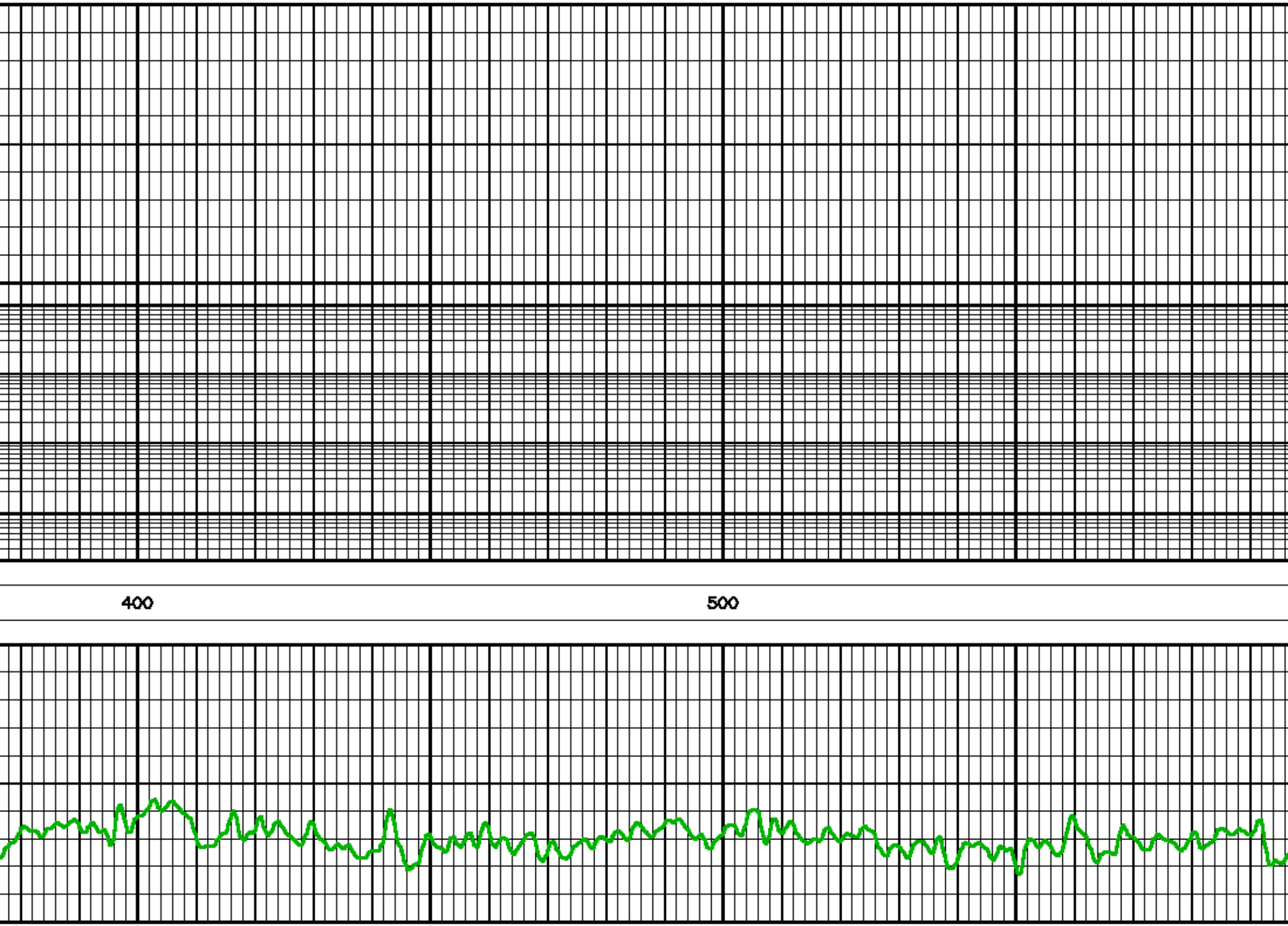
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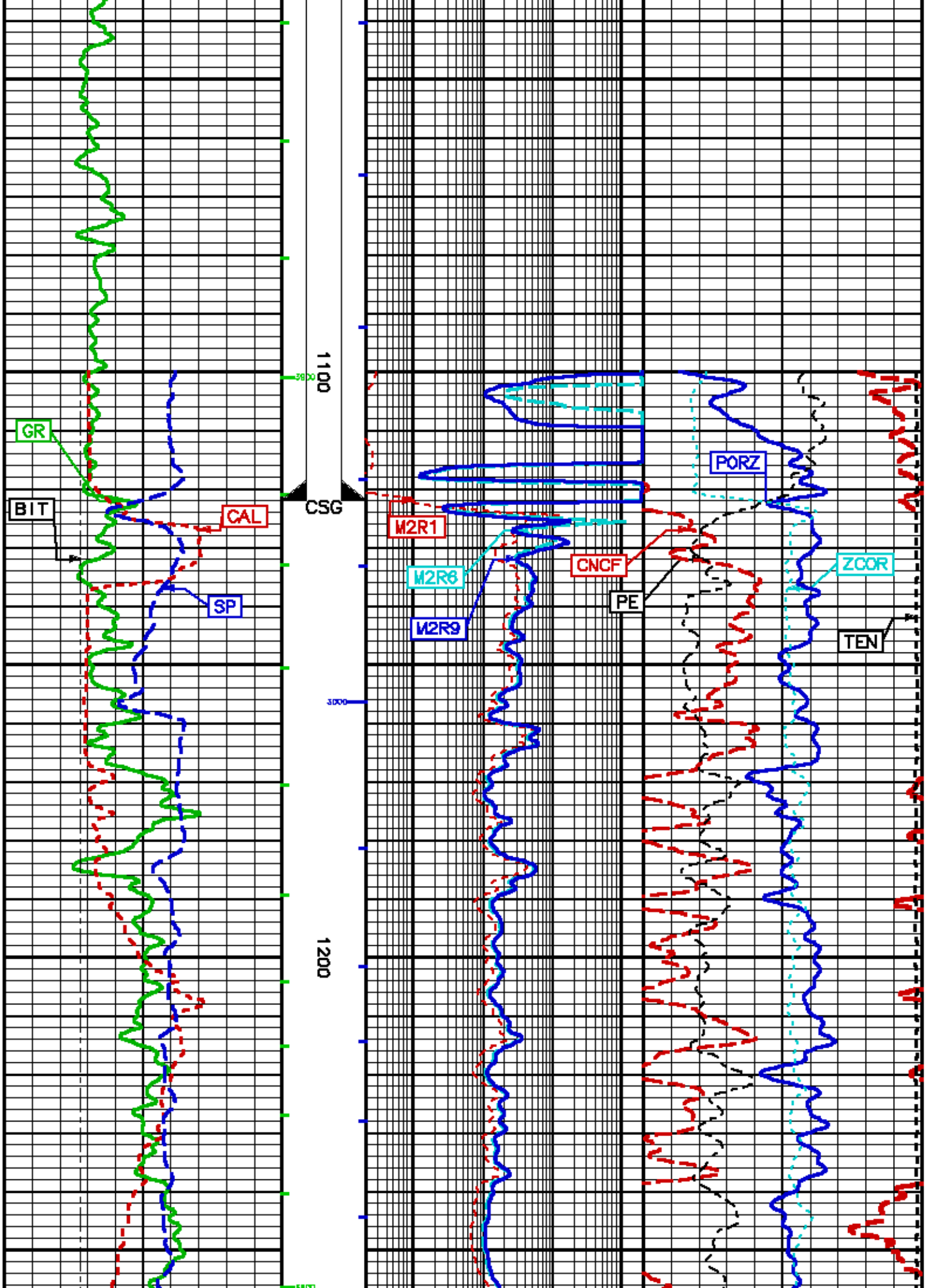
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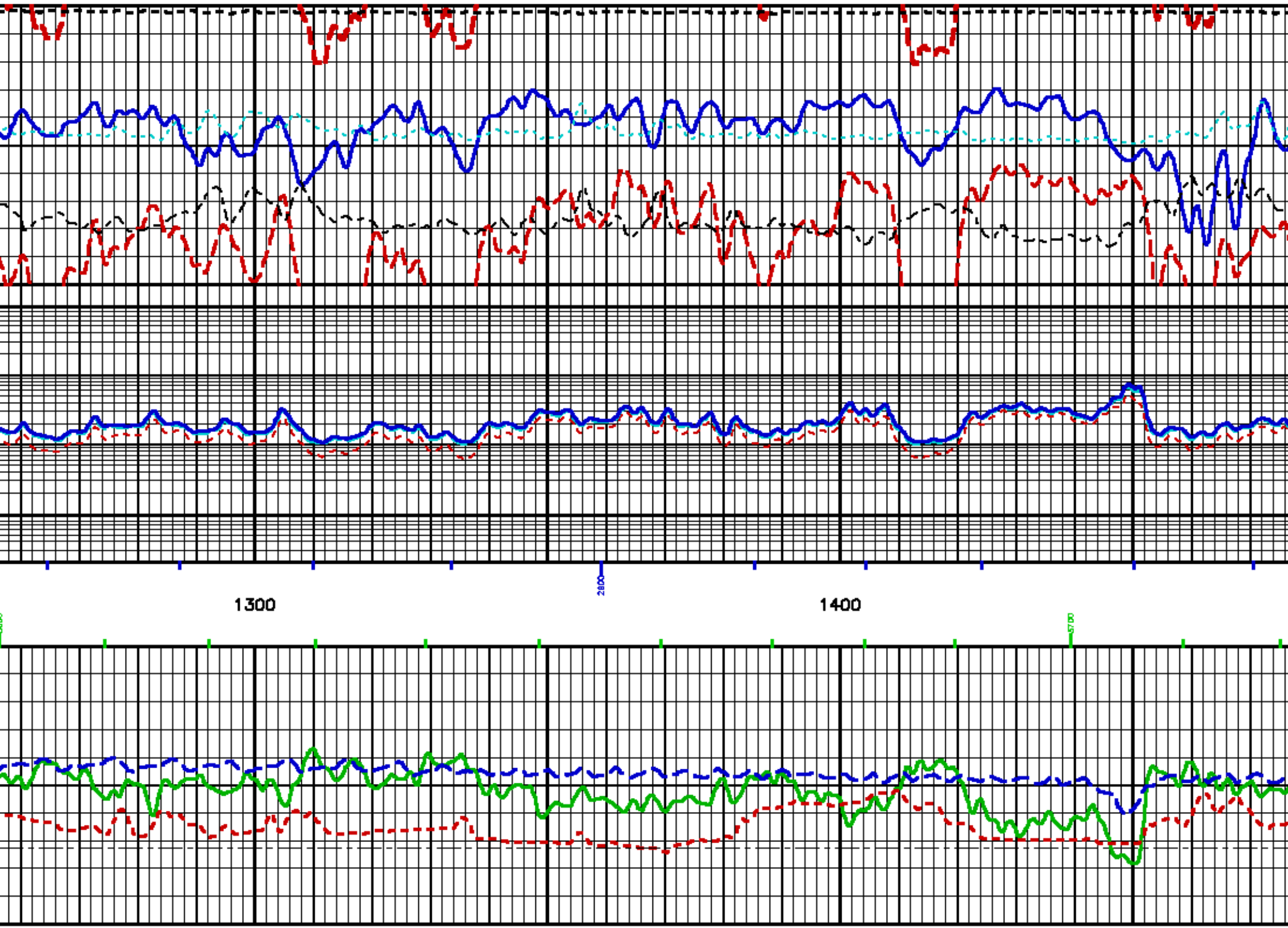
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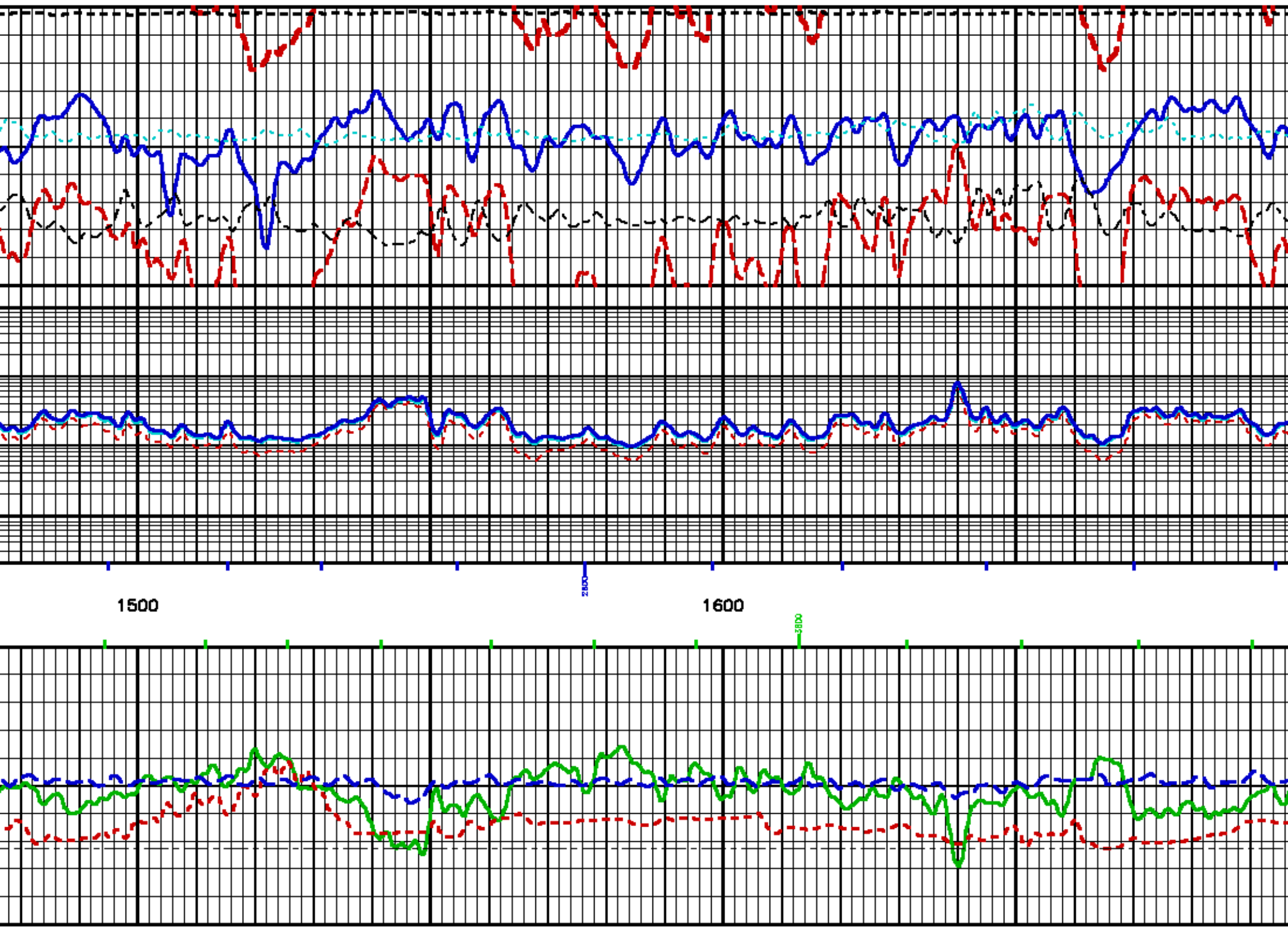
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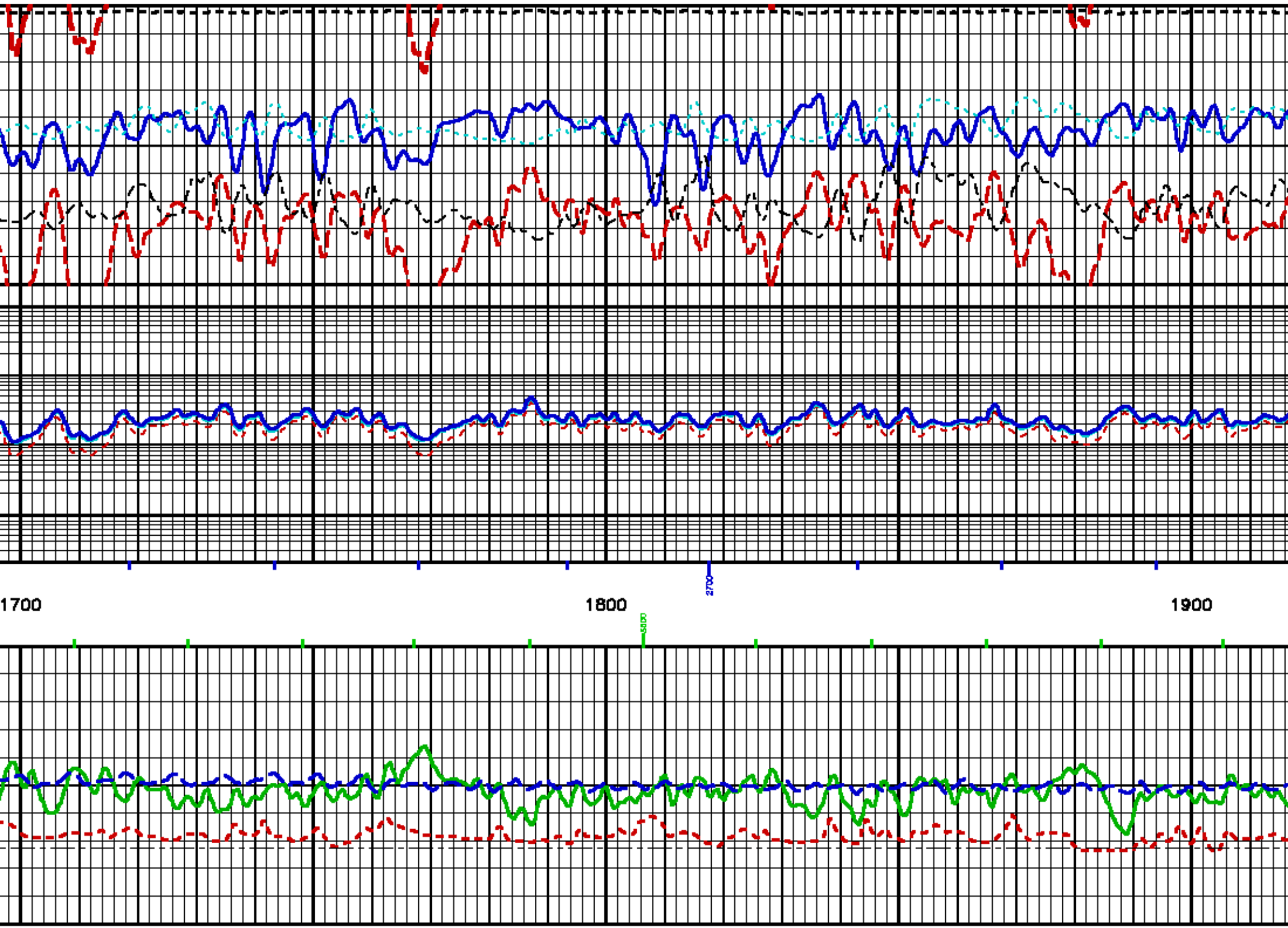
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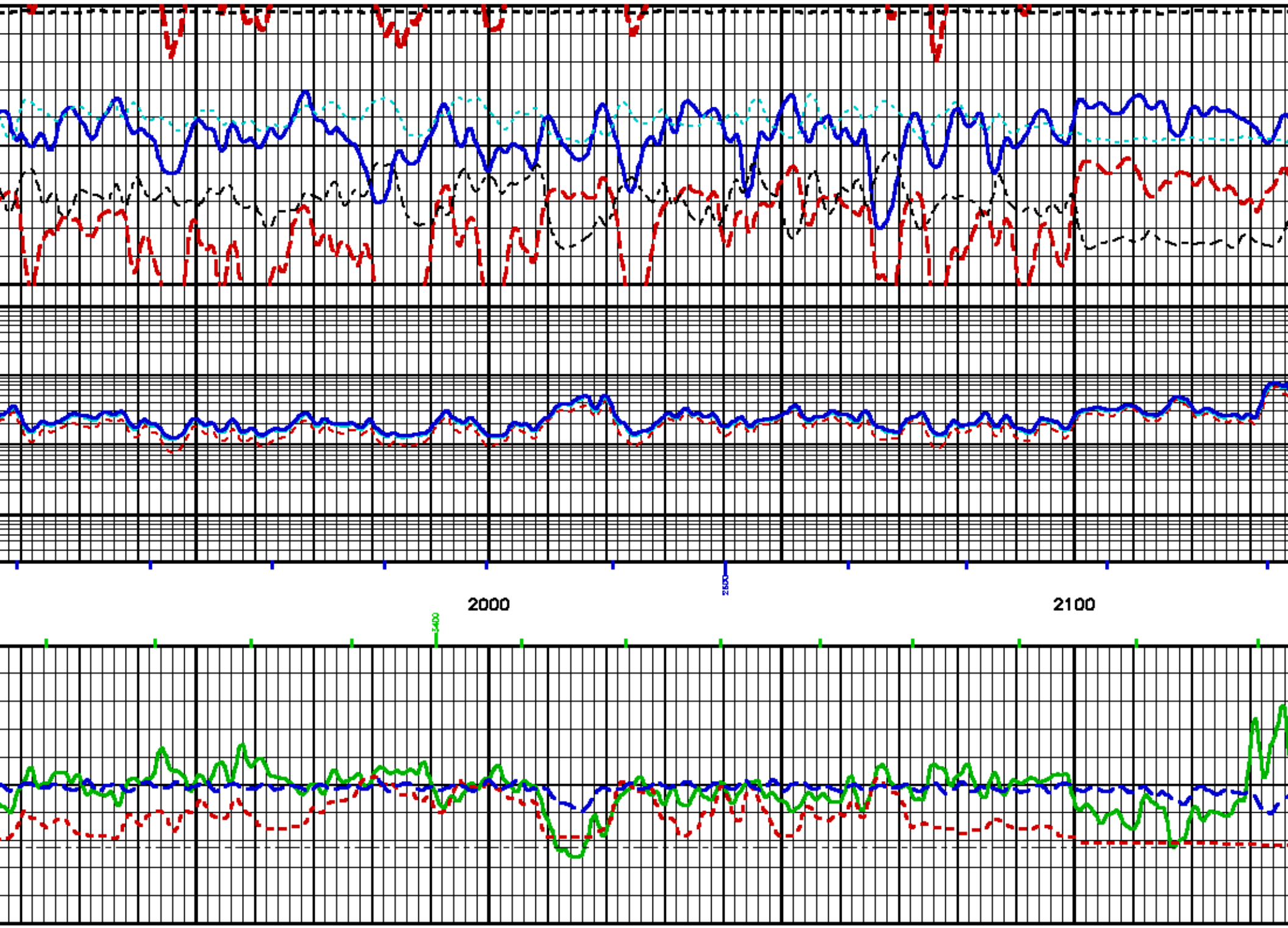
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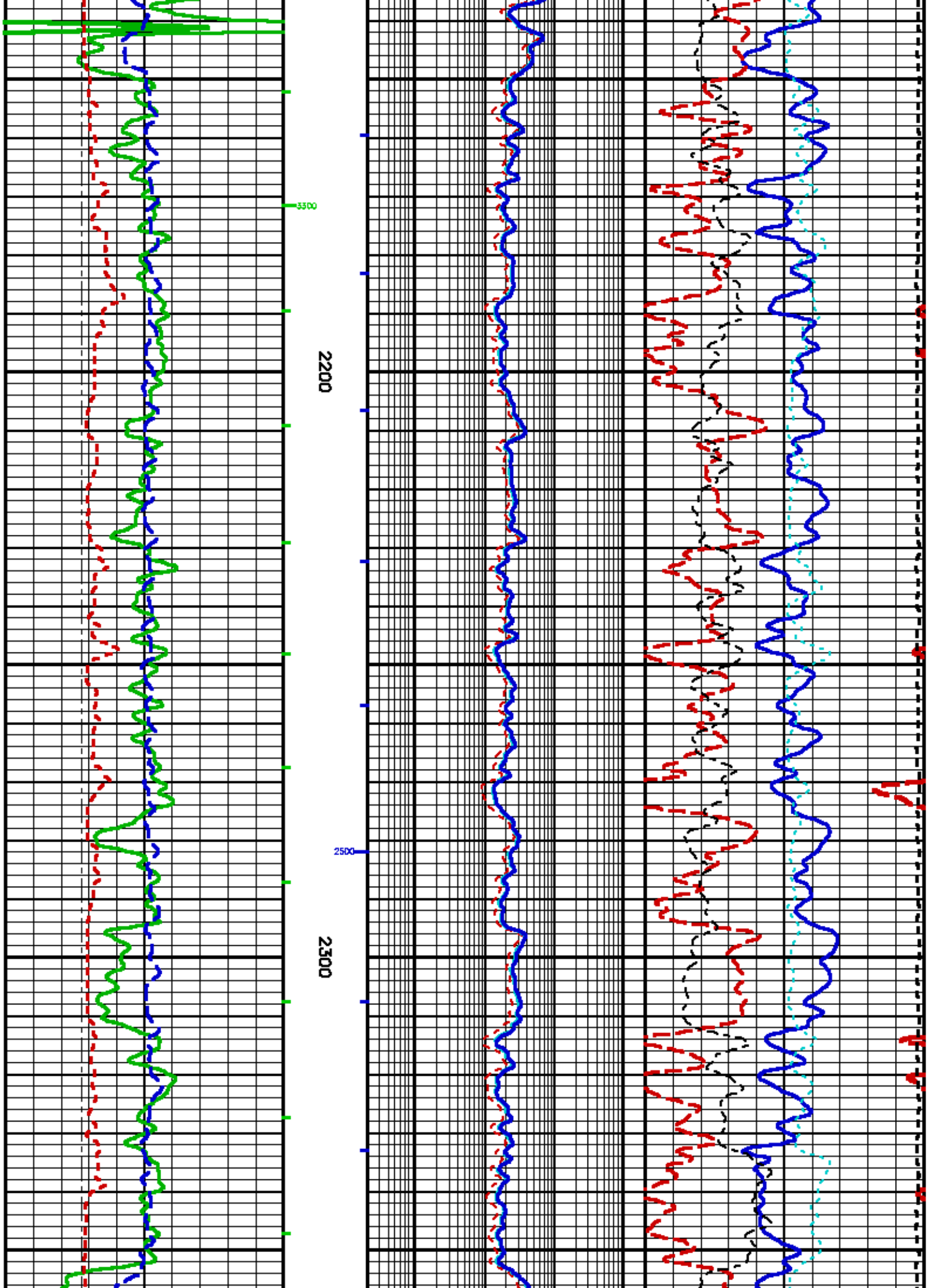
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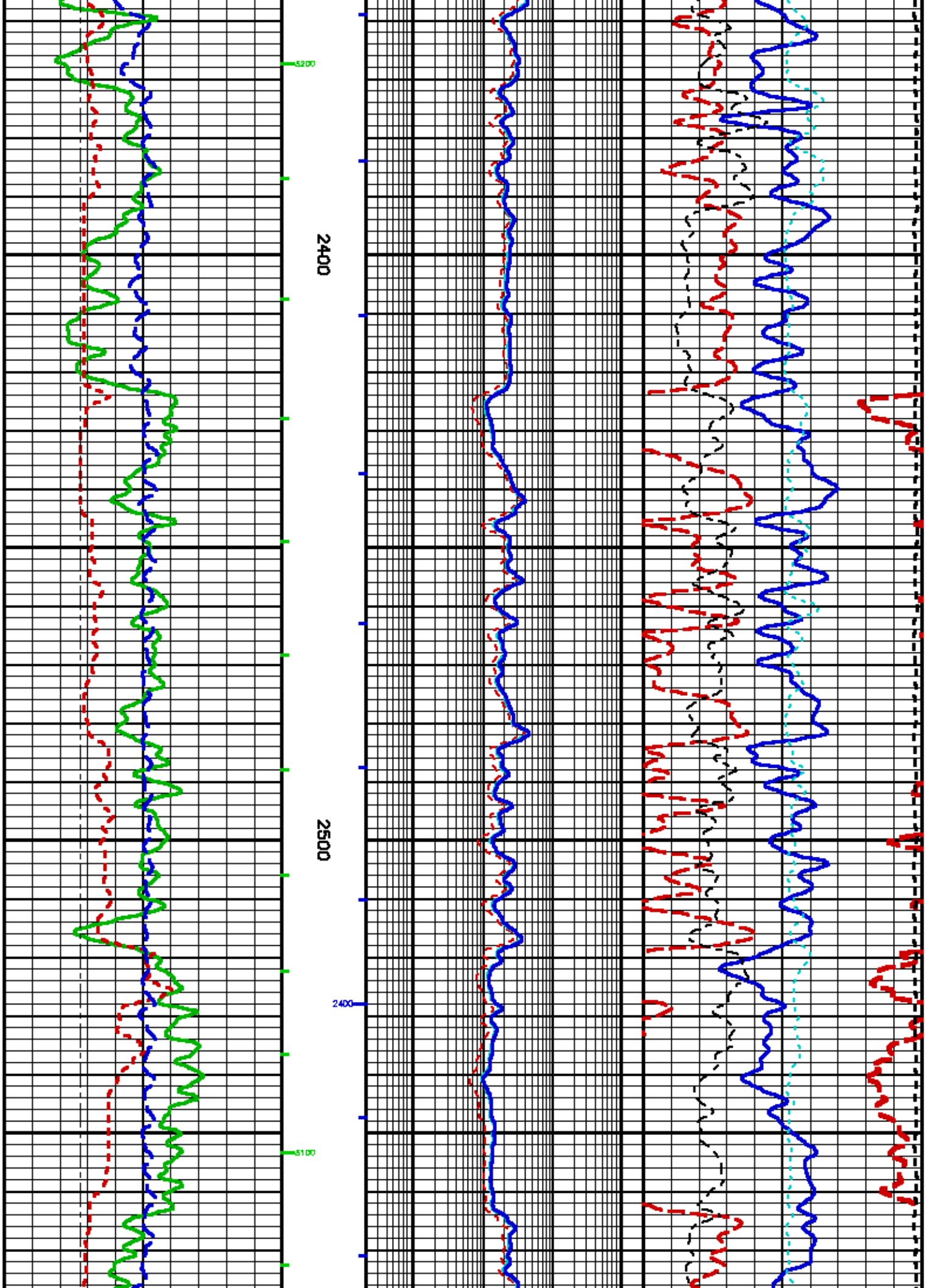
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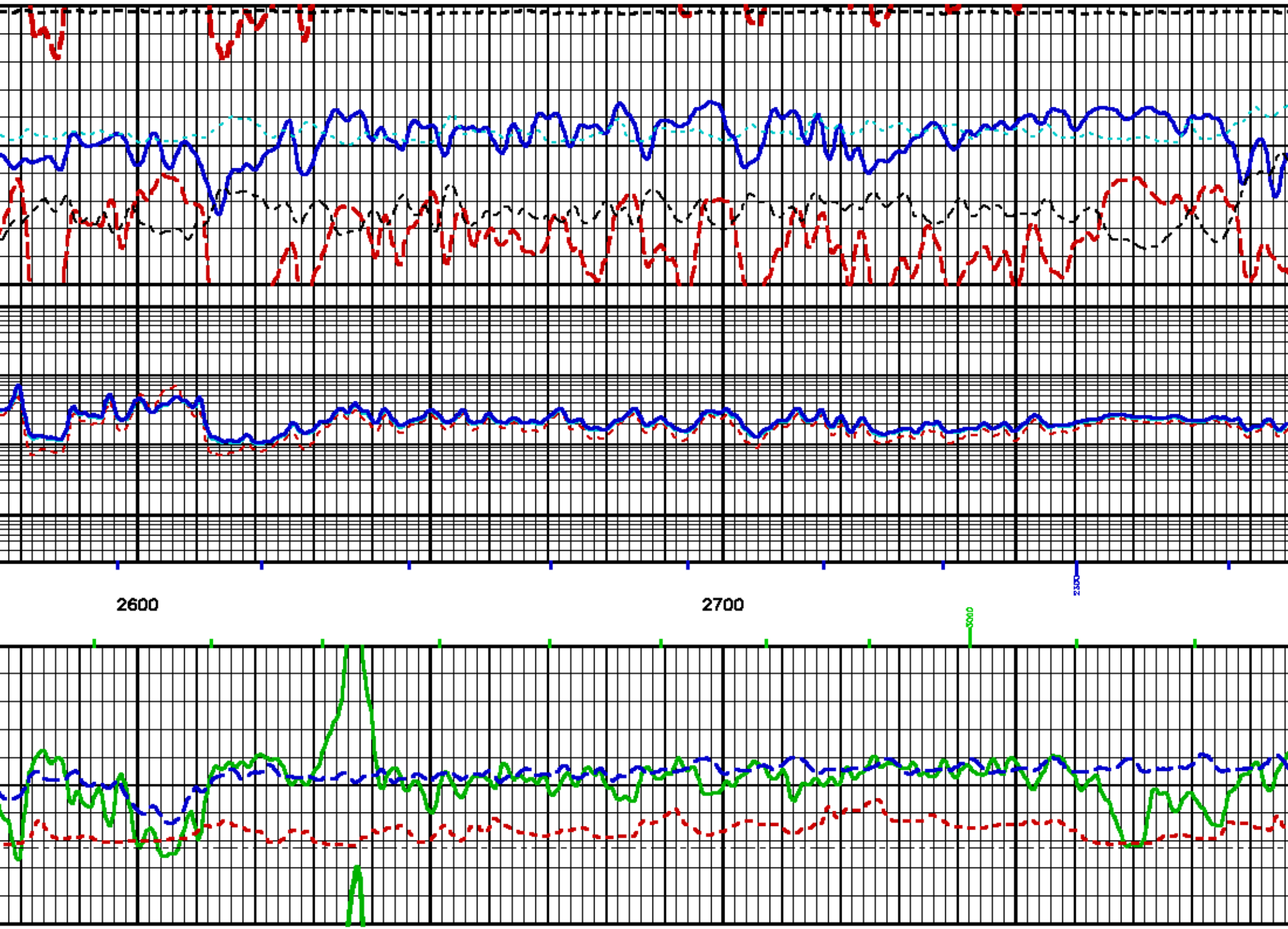
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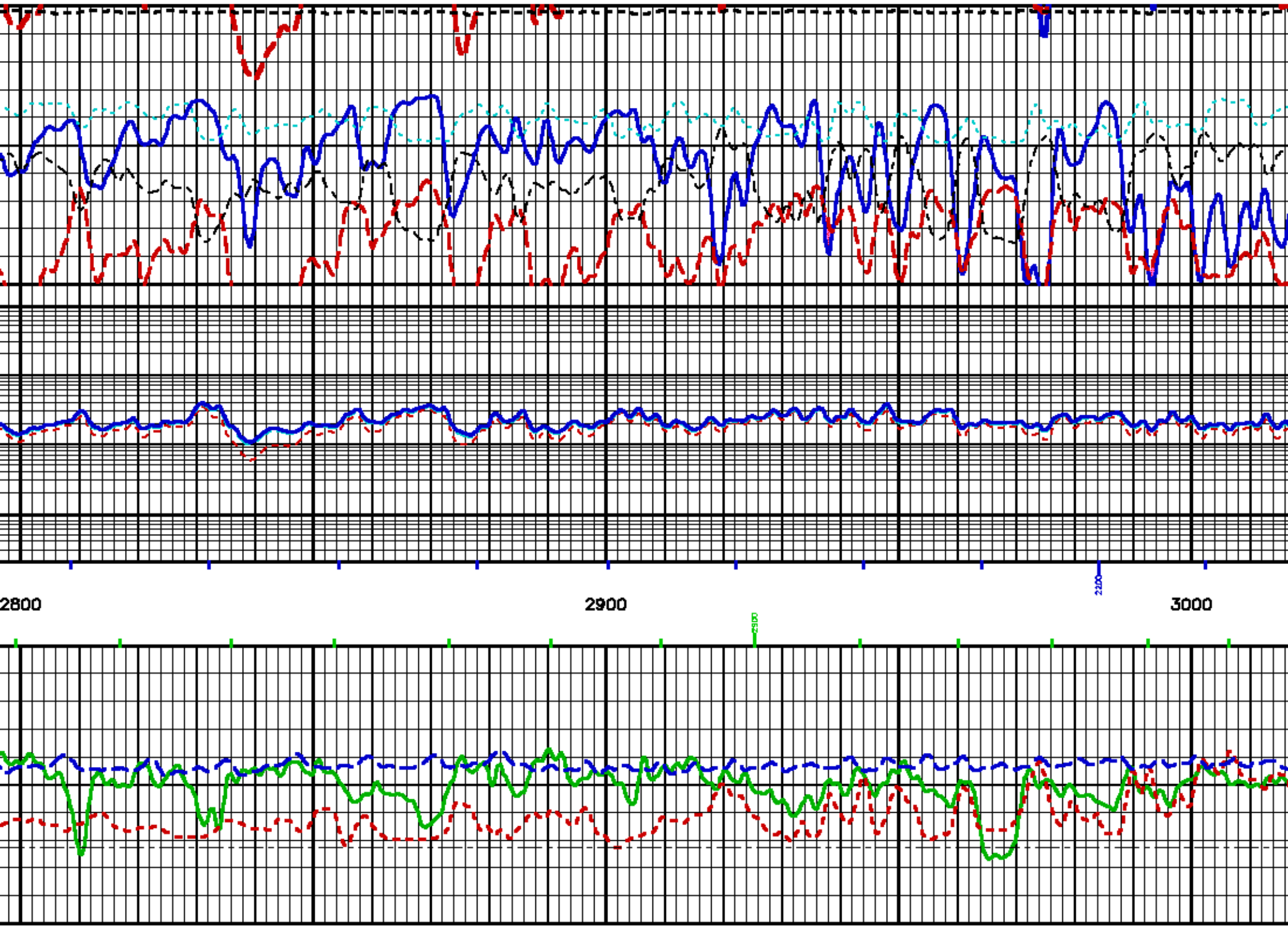
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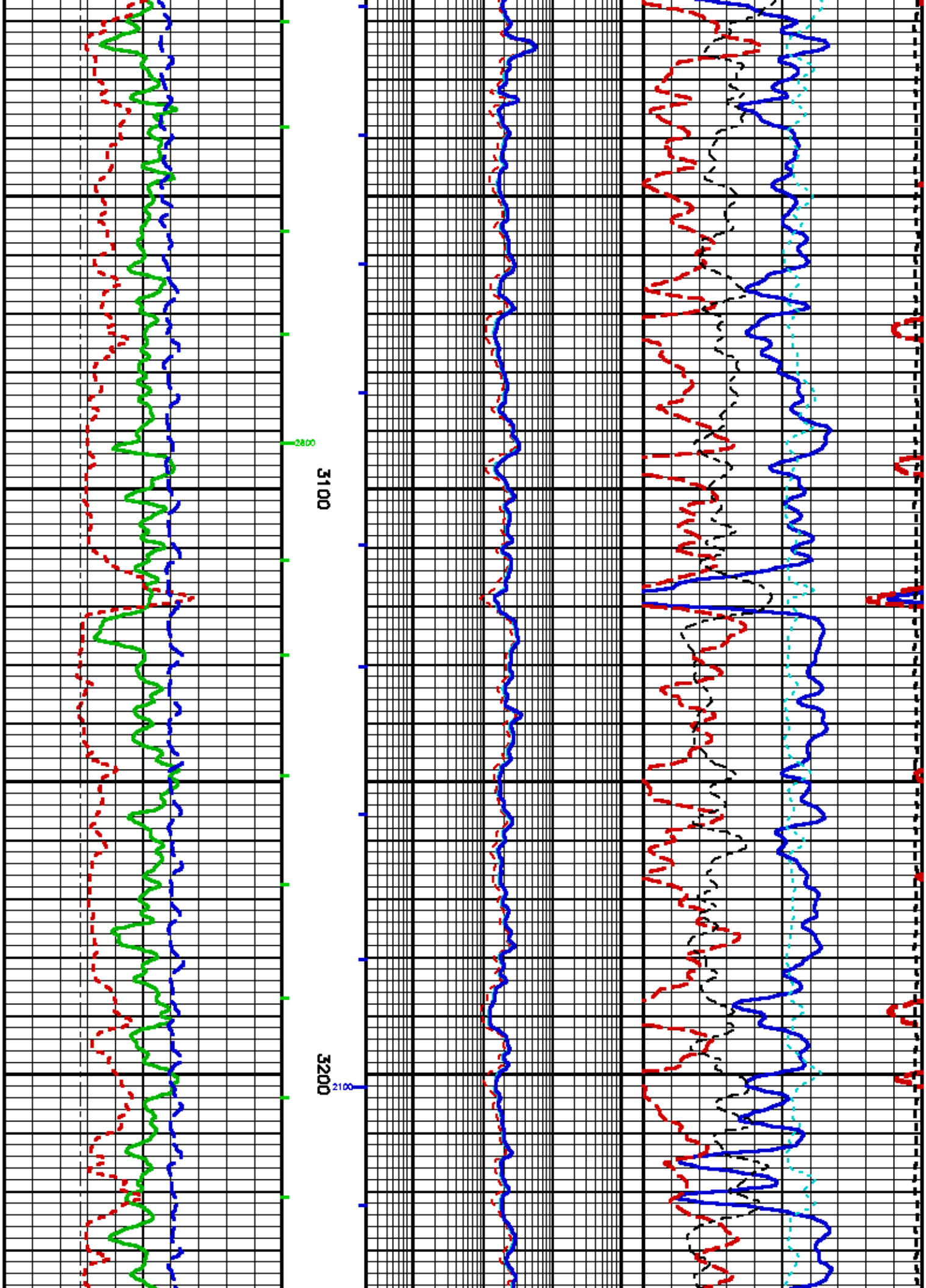
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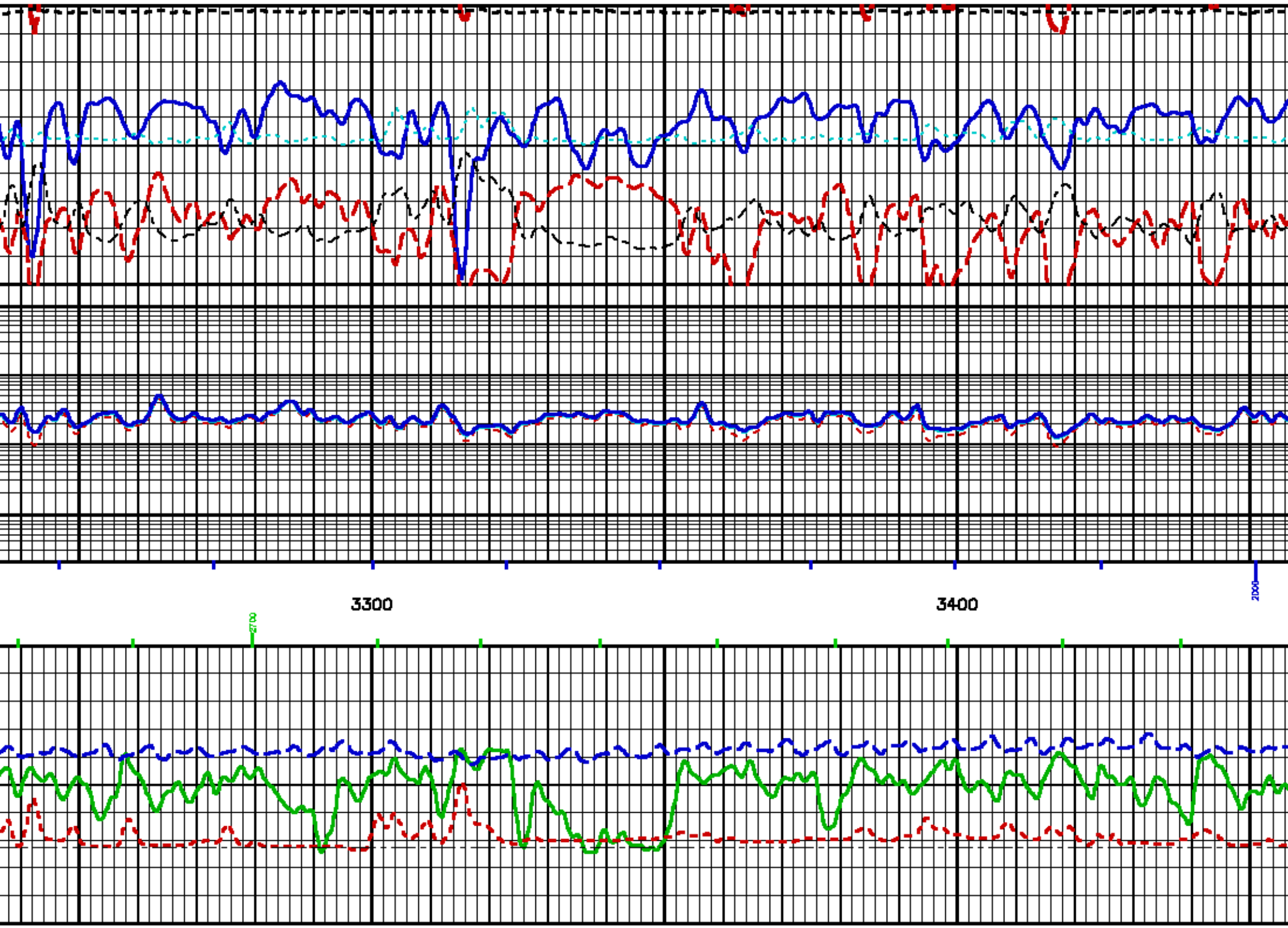
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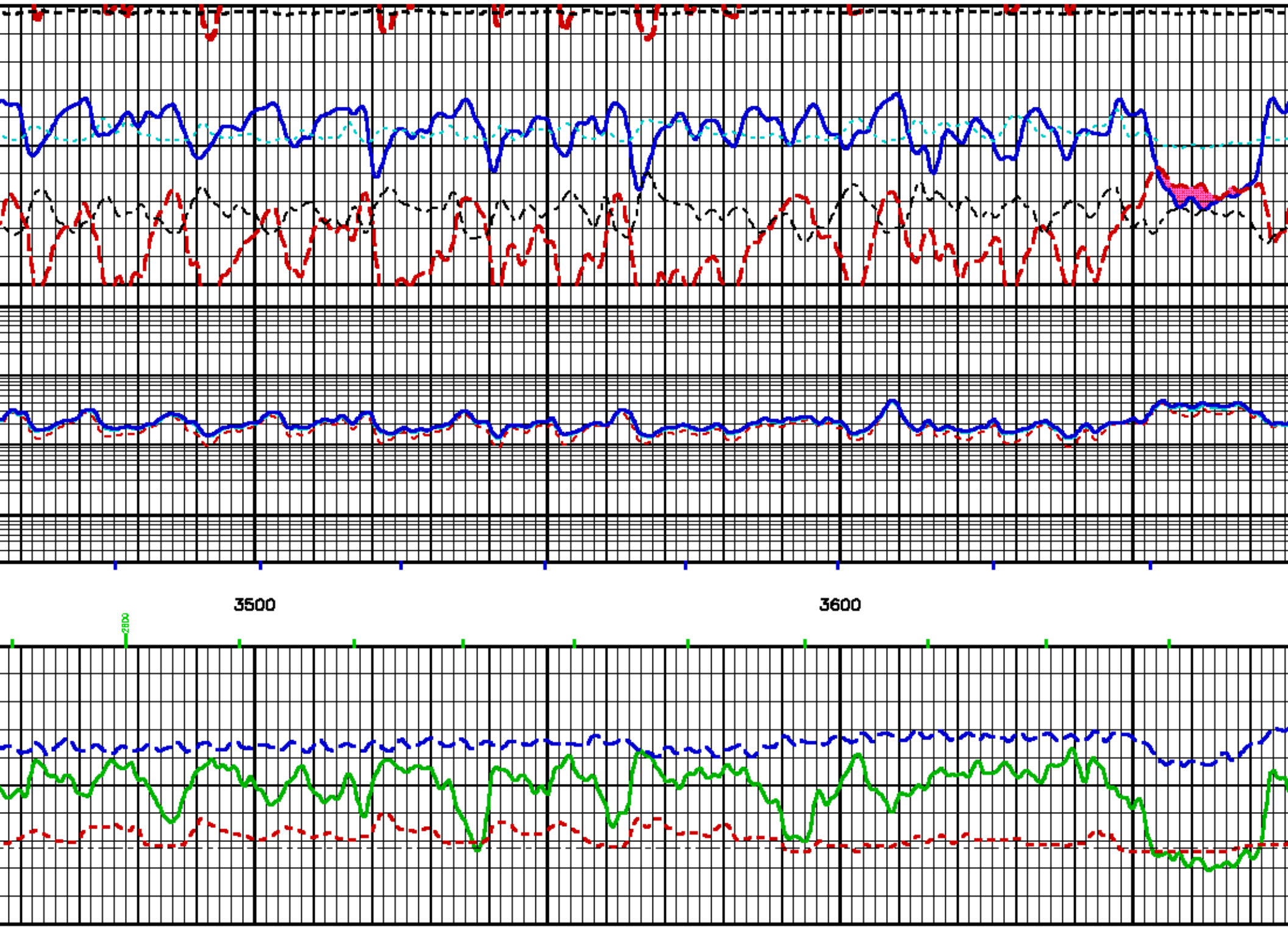
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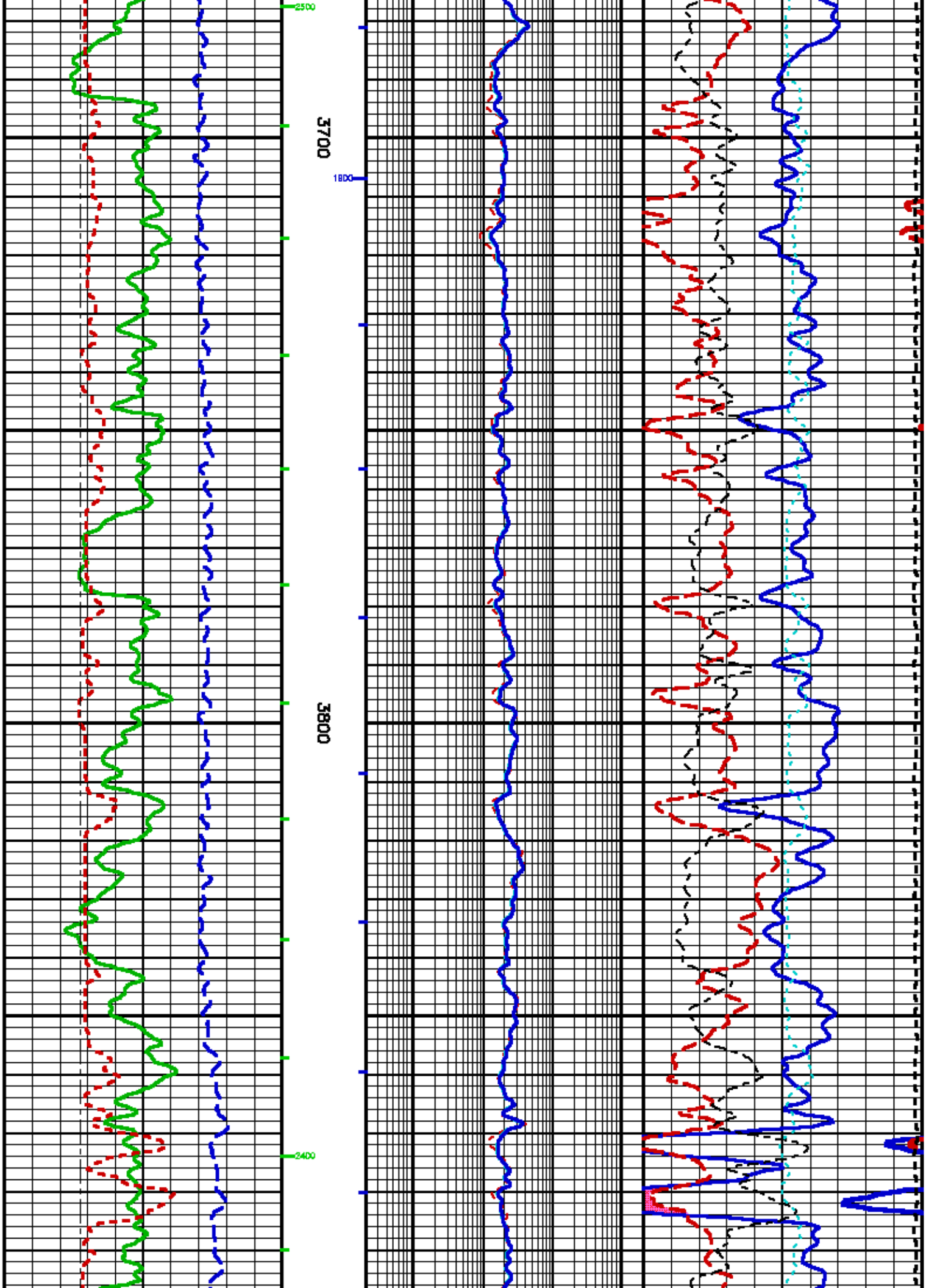
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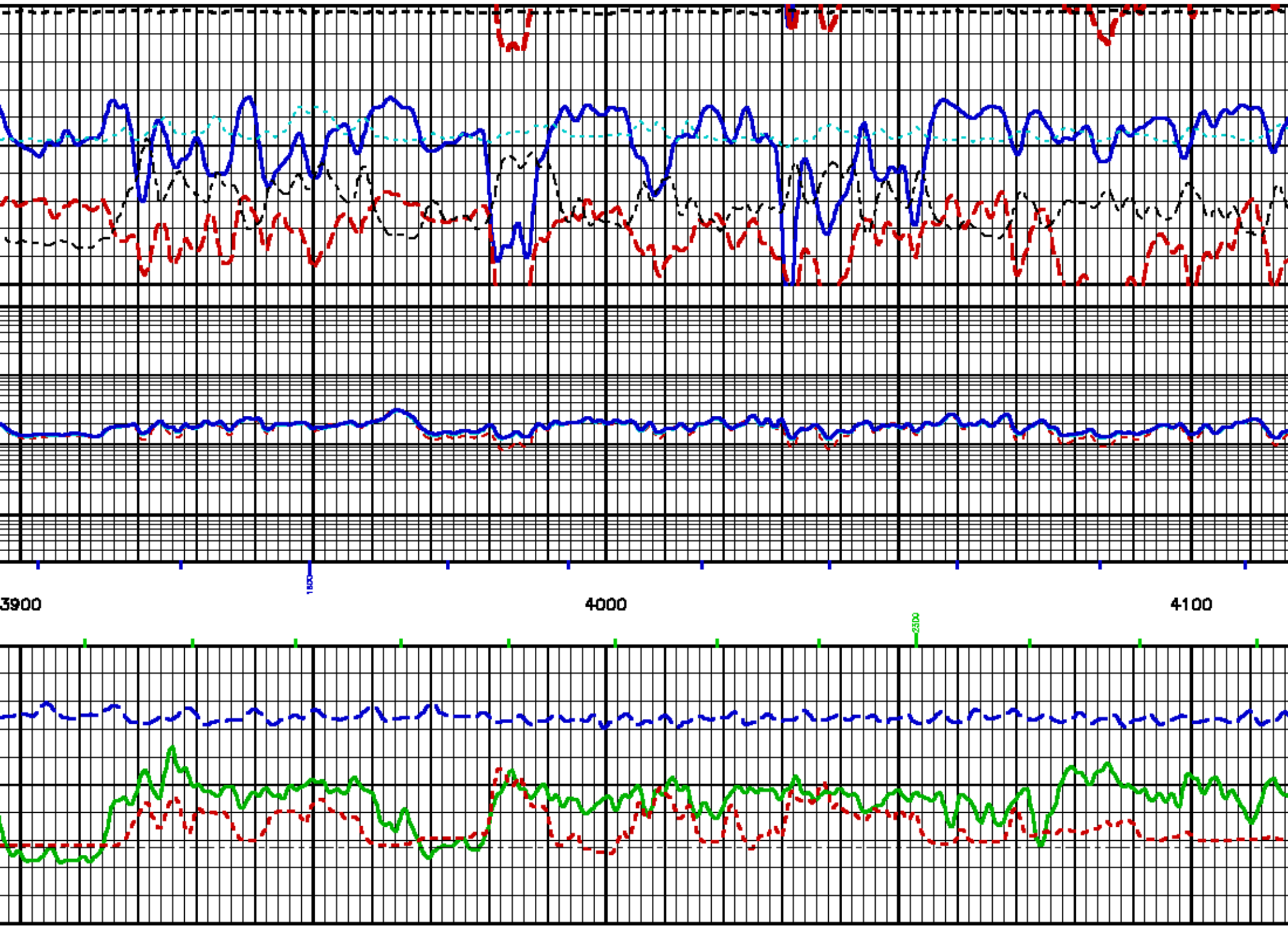
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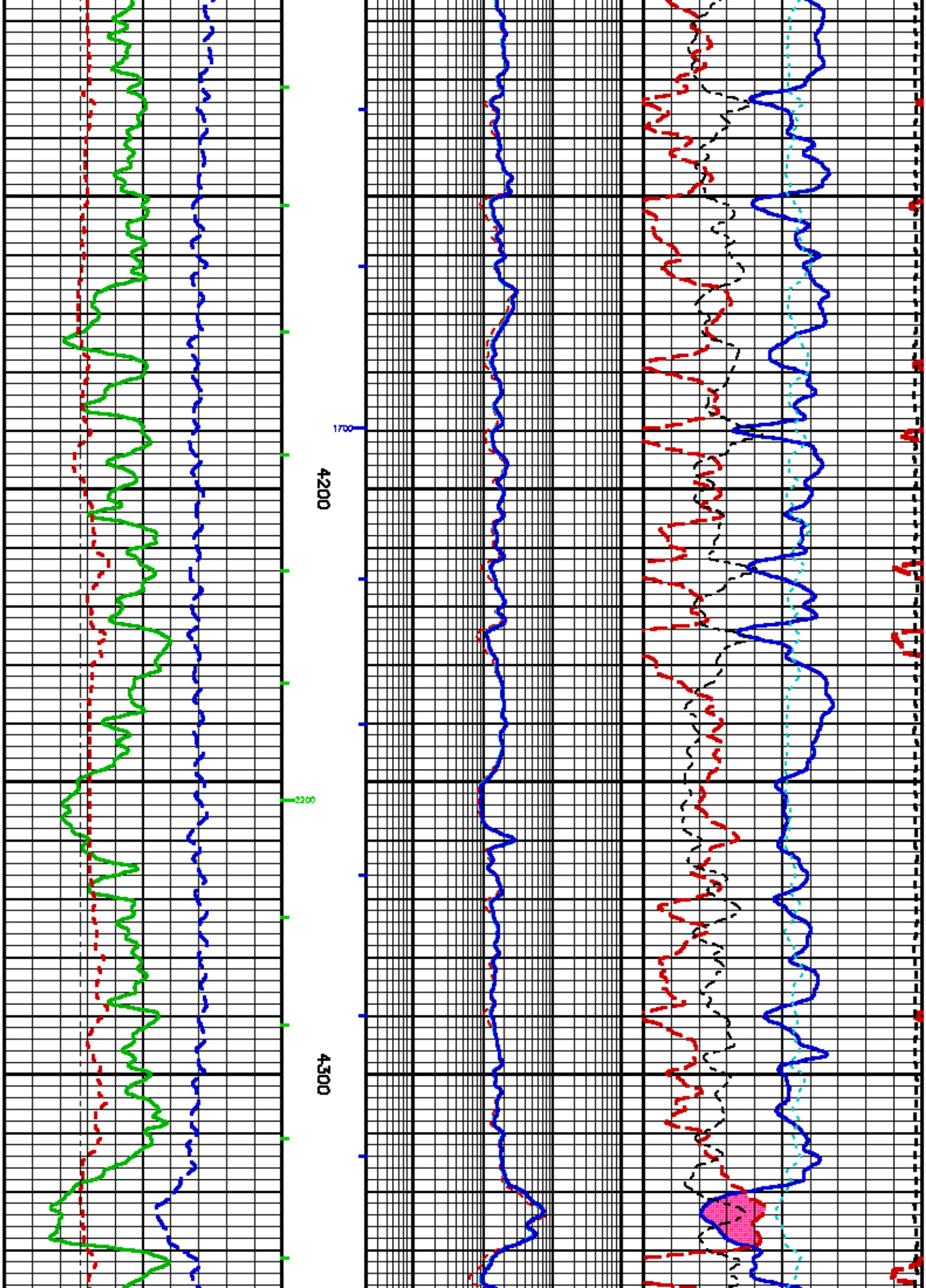
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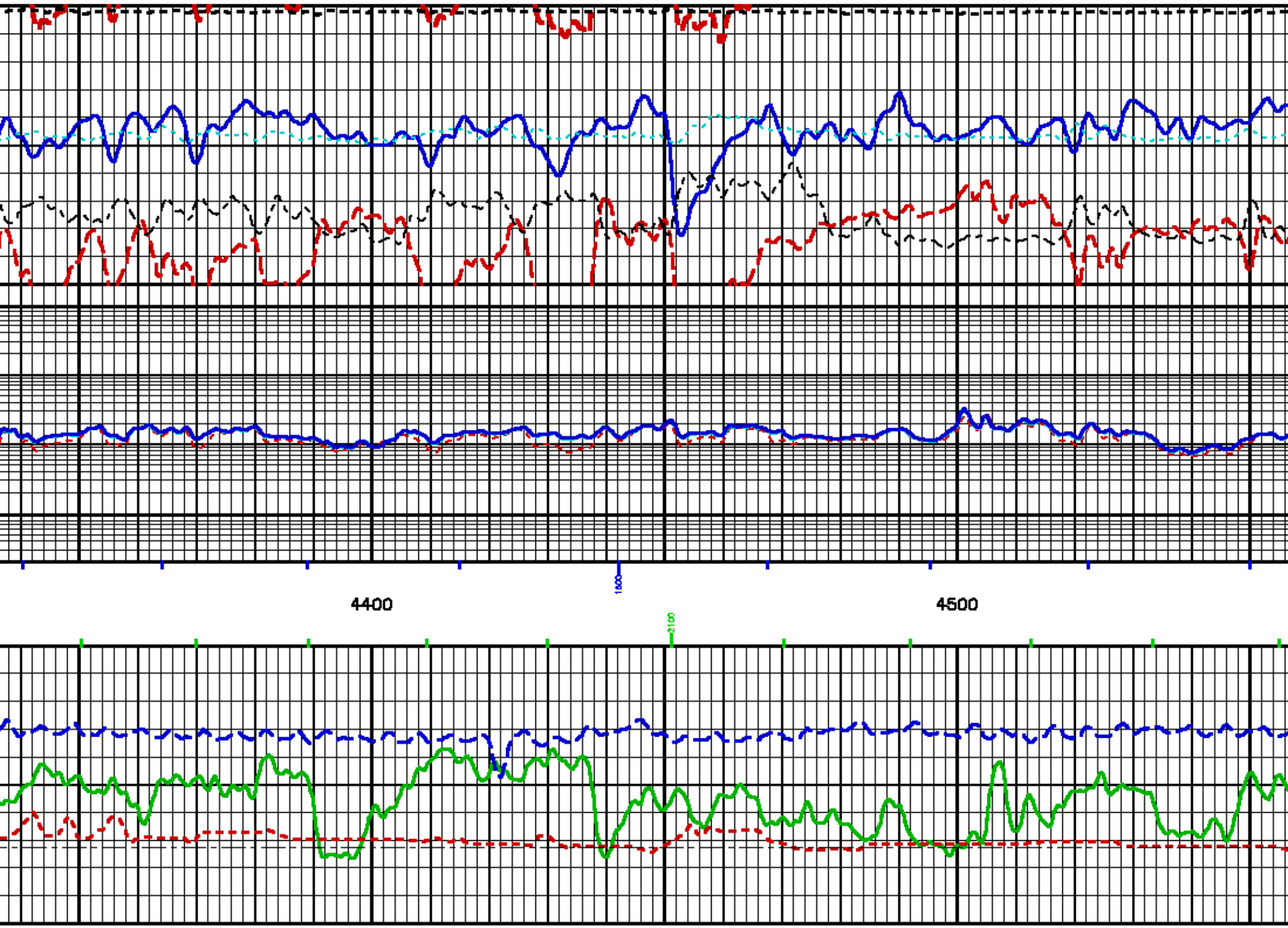
2200
4300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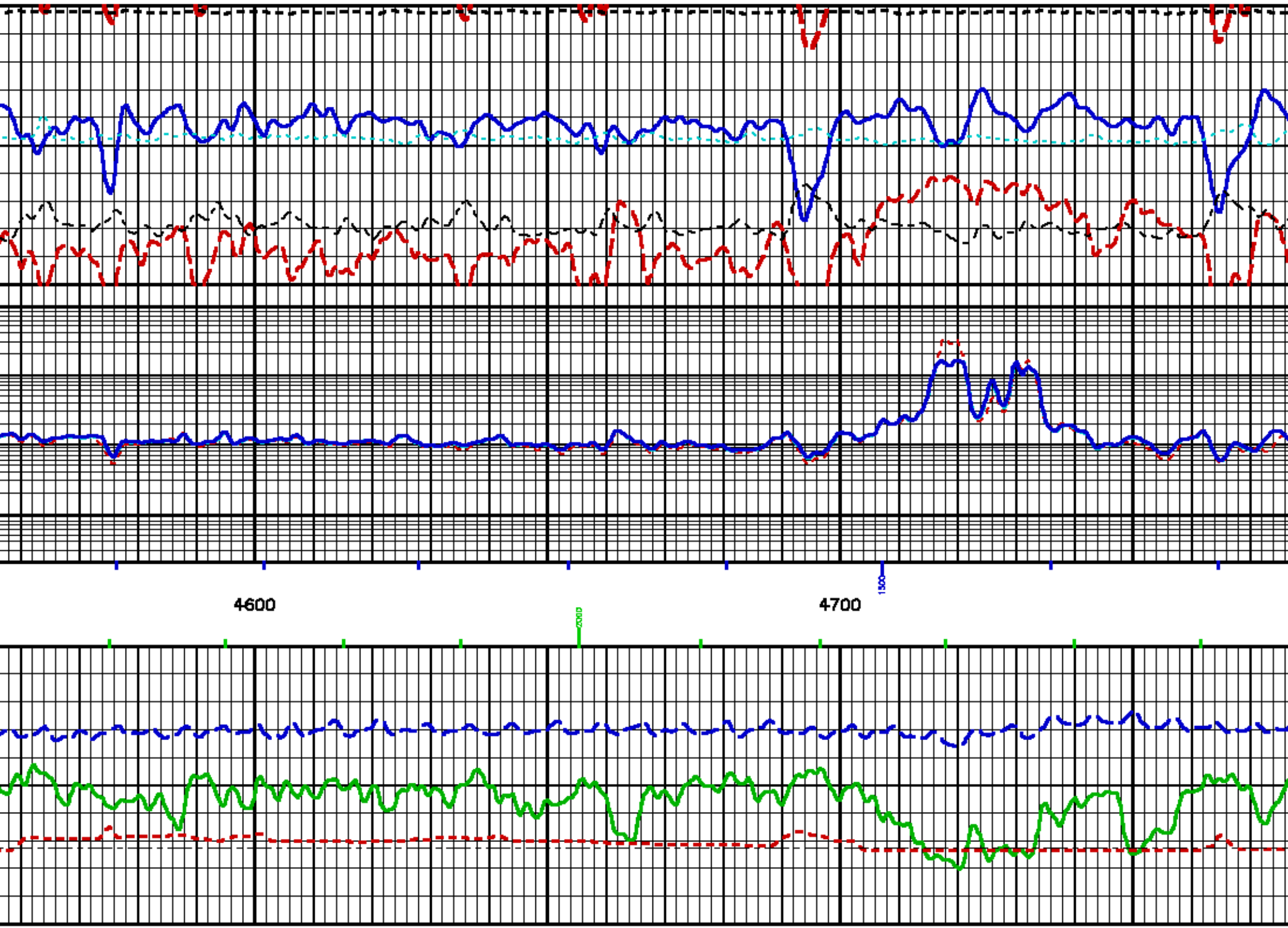
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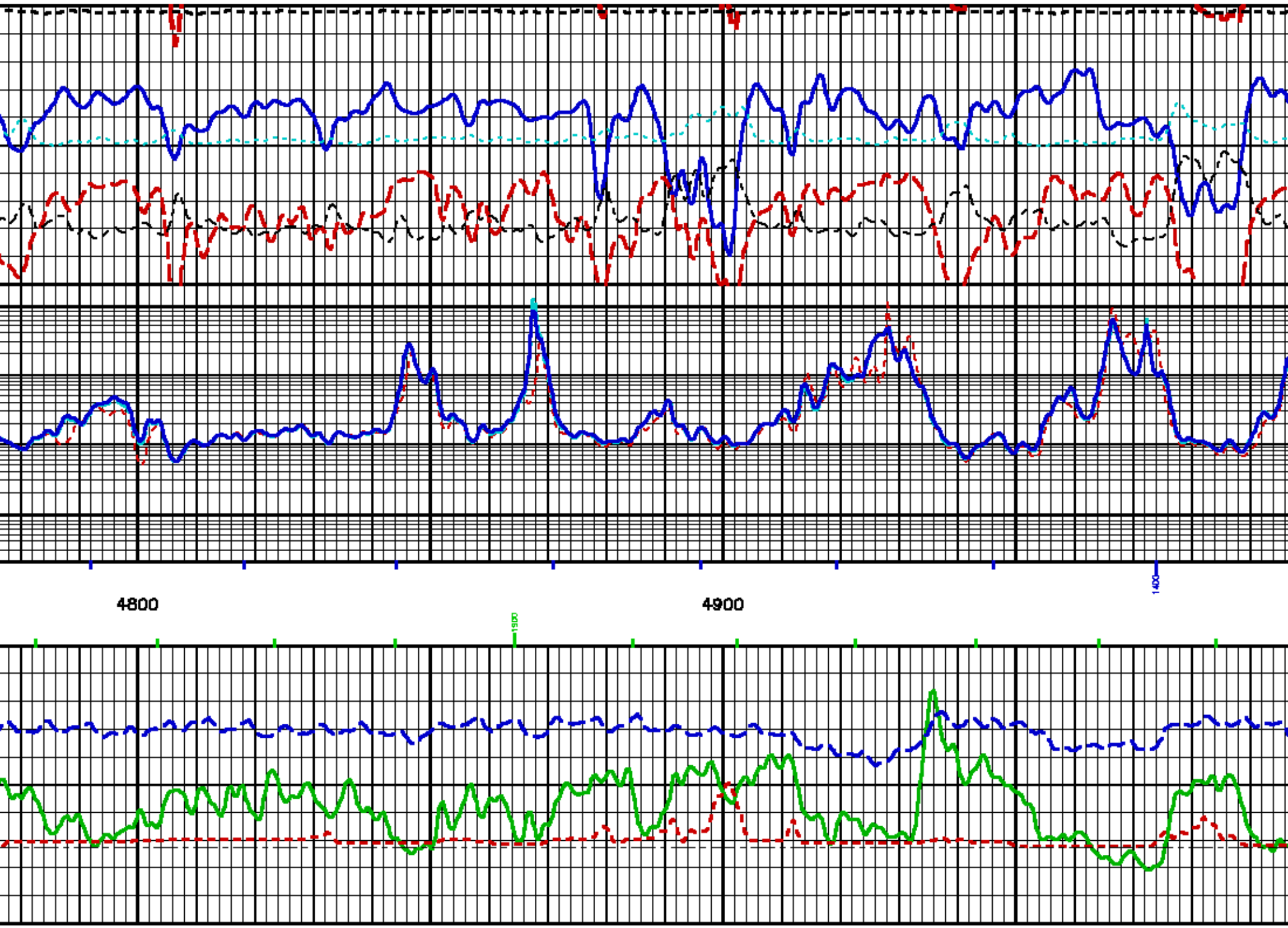
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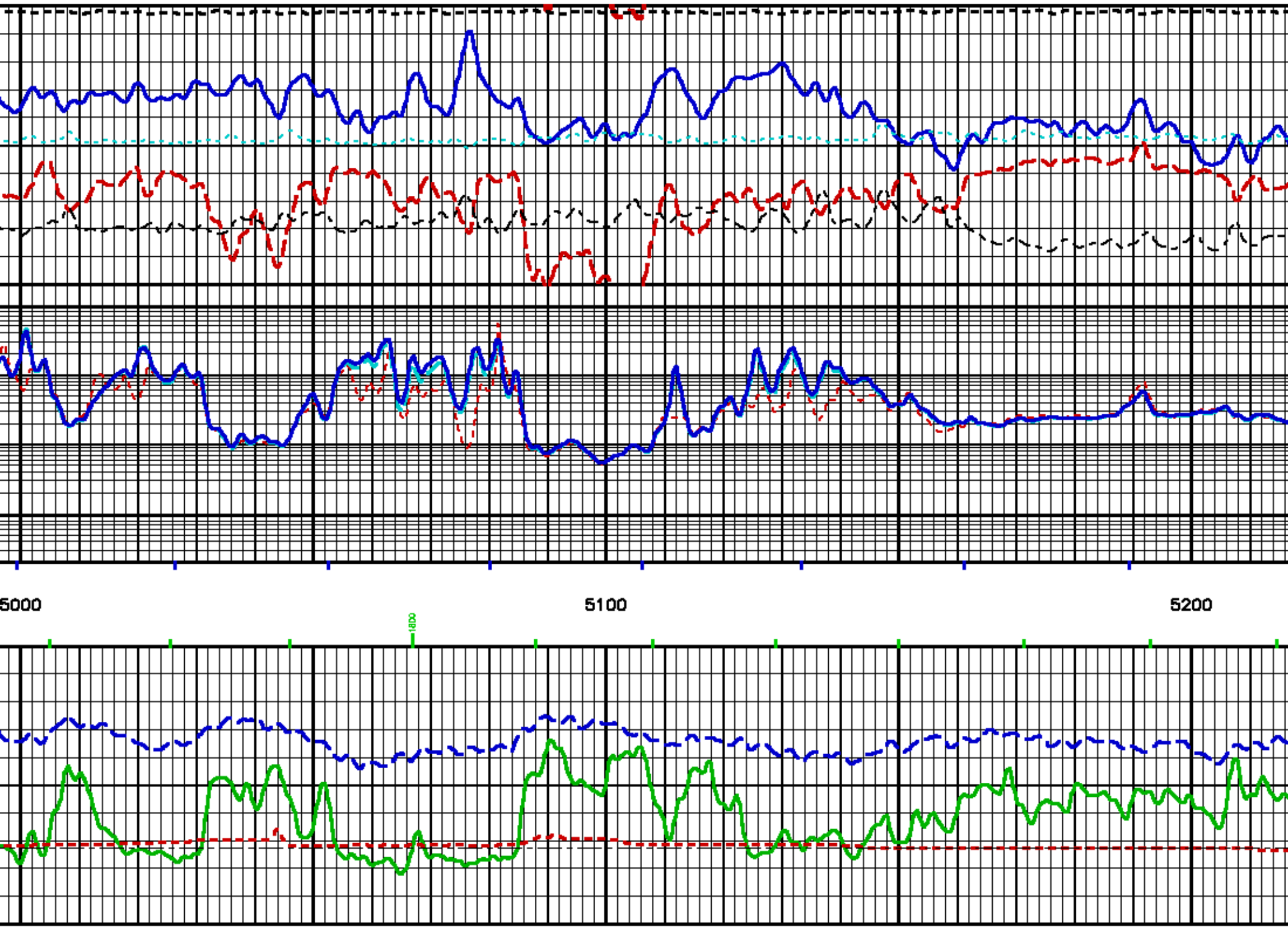
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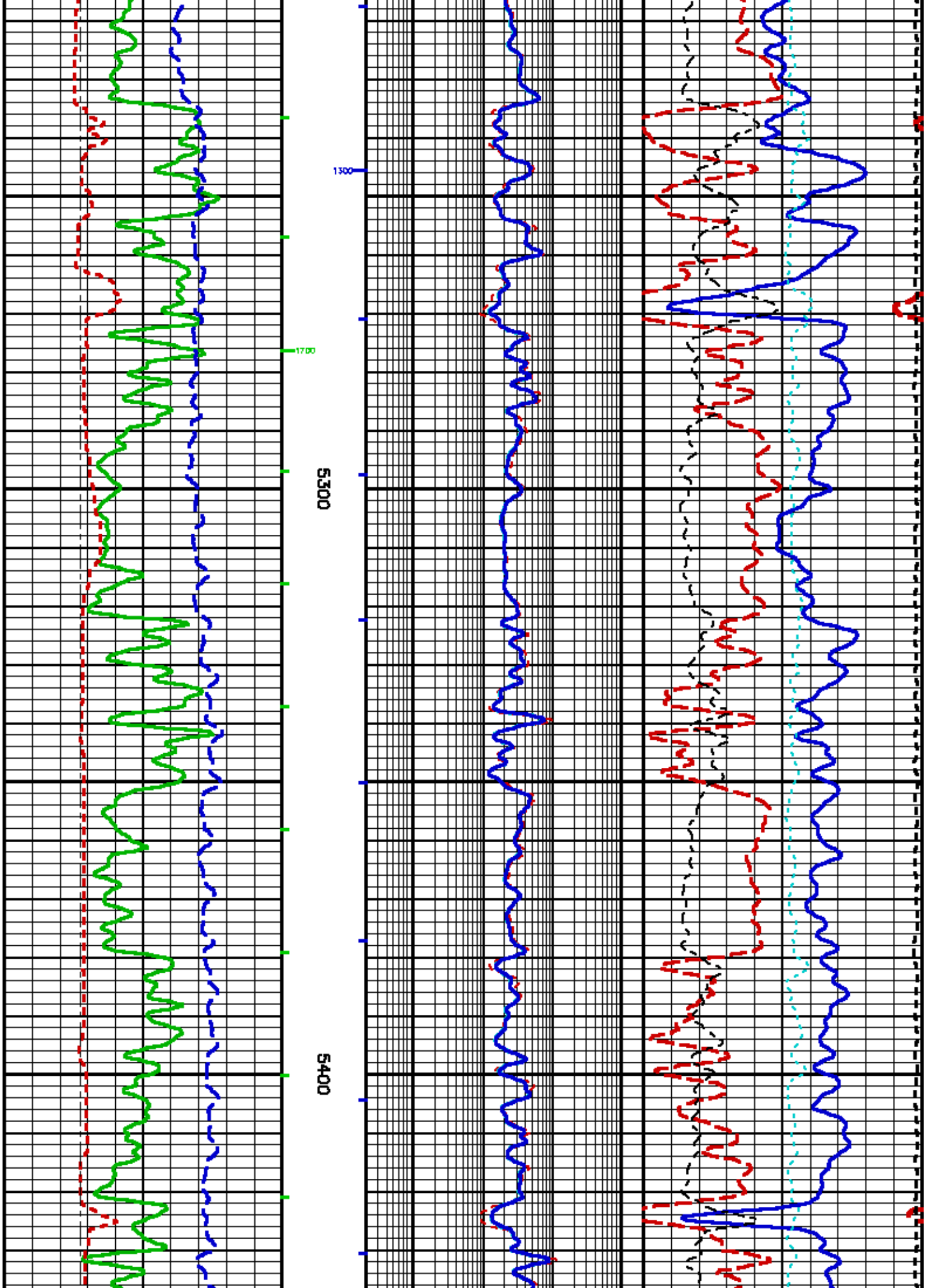
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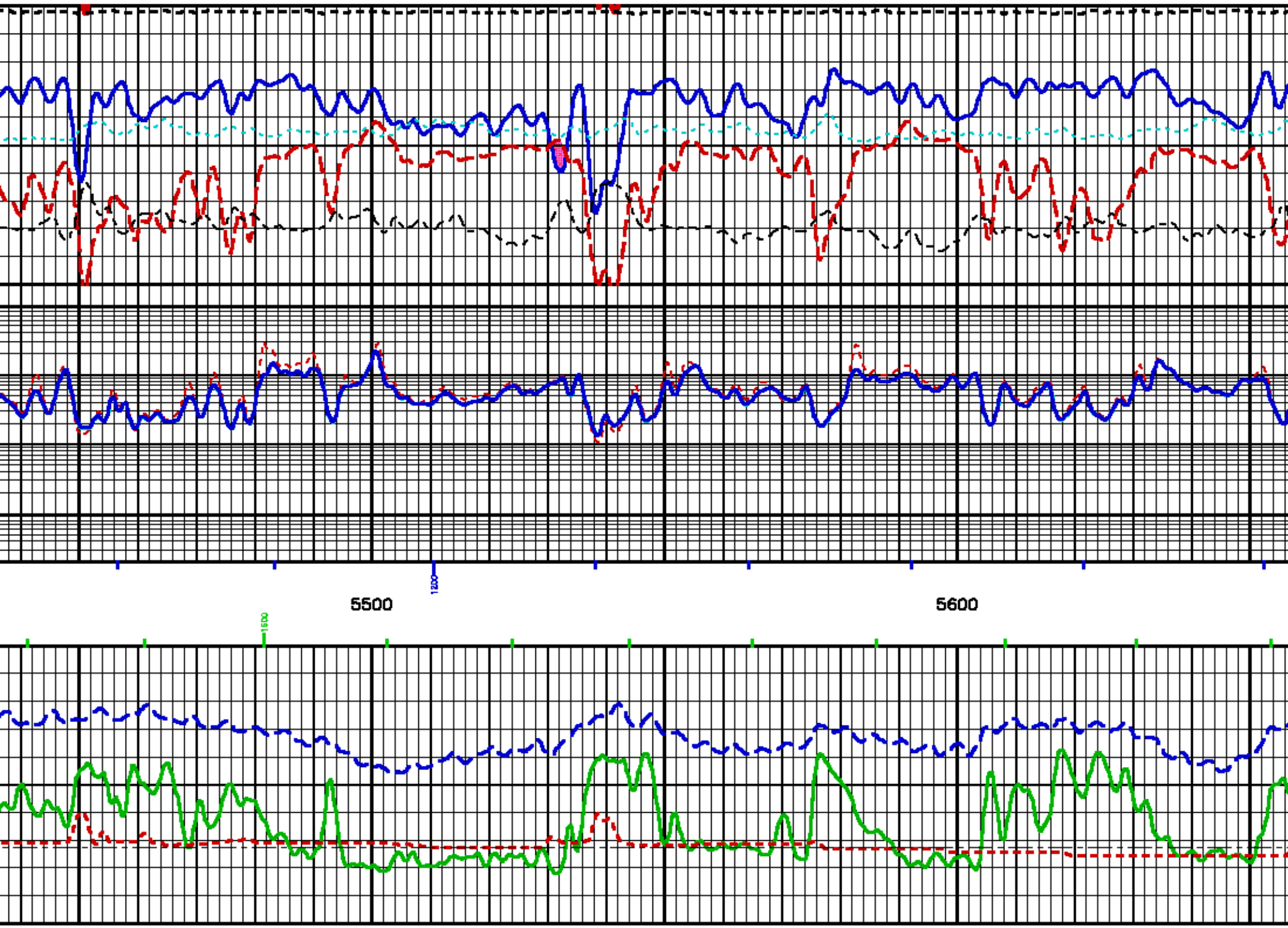
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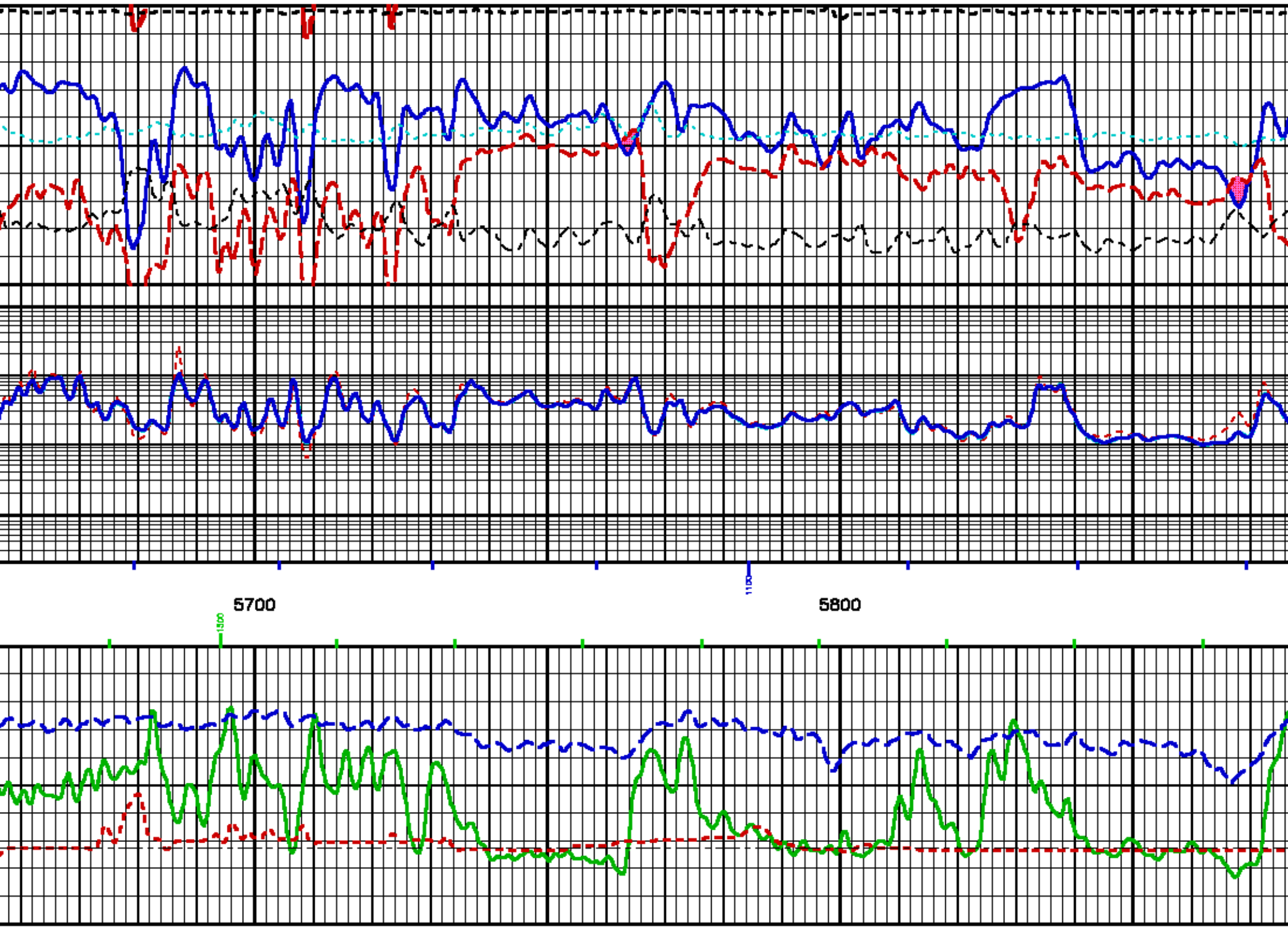
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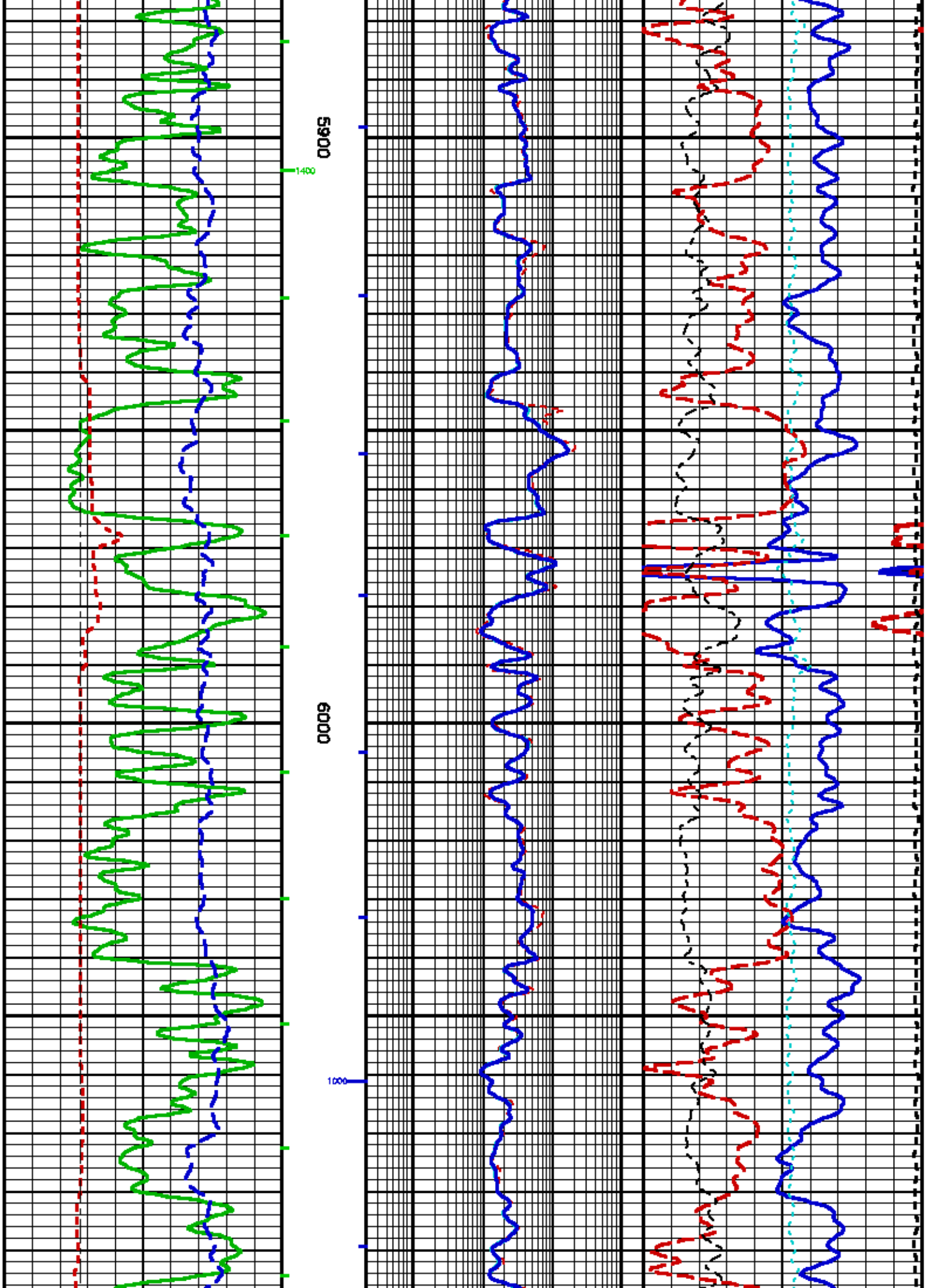
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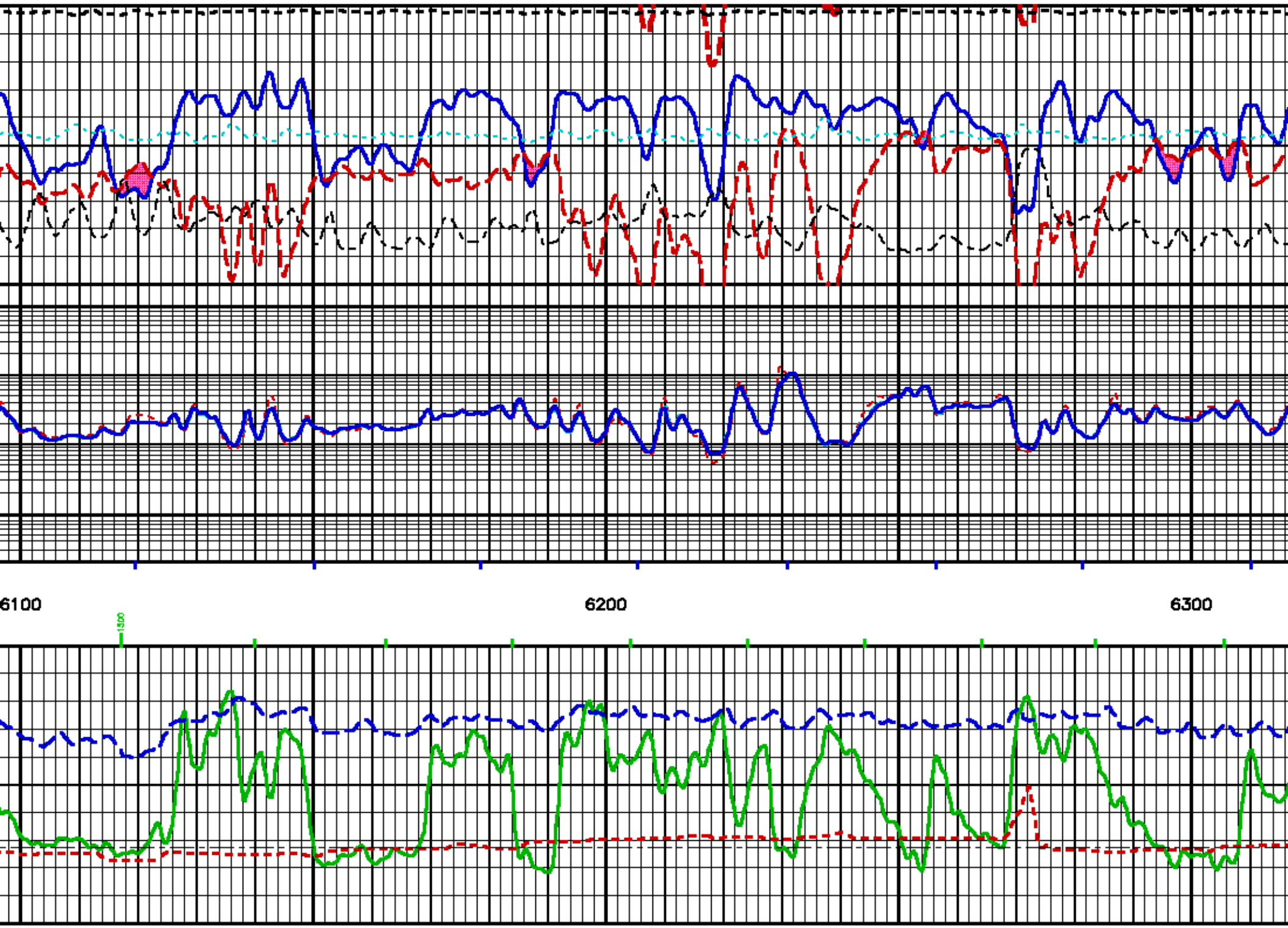
6000
1000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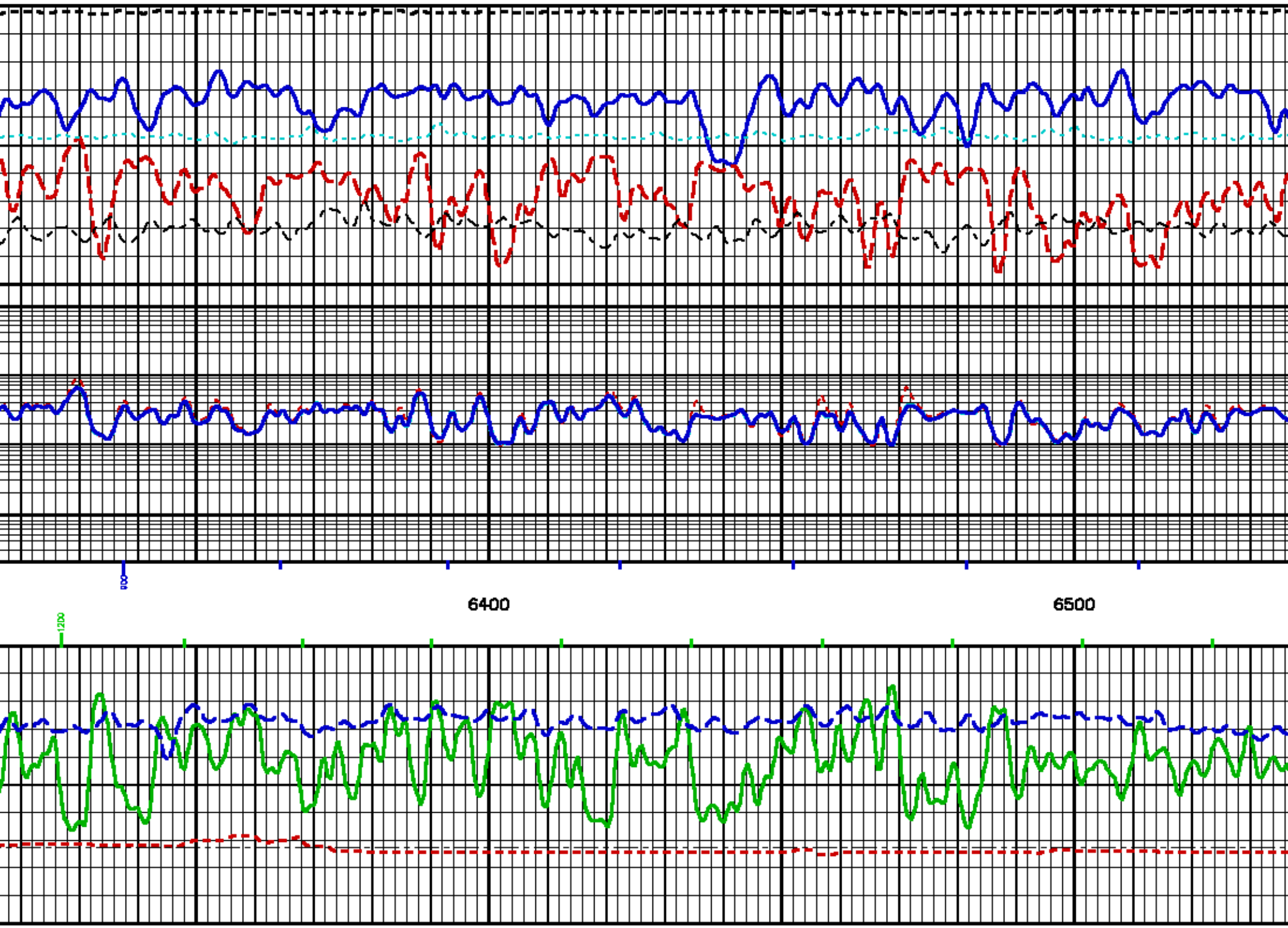
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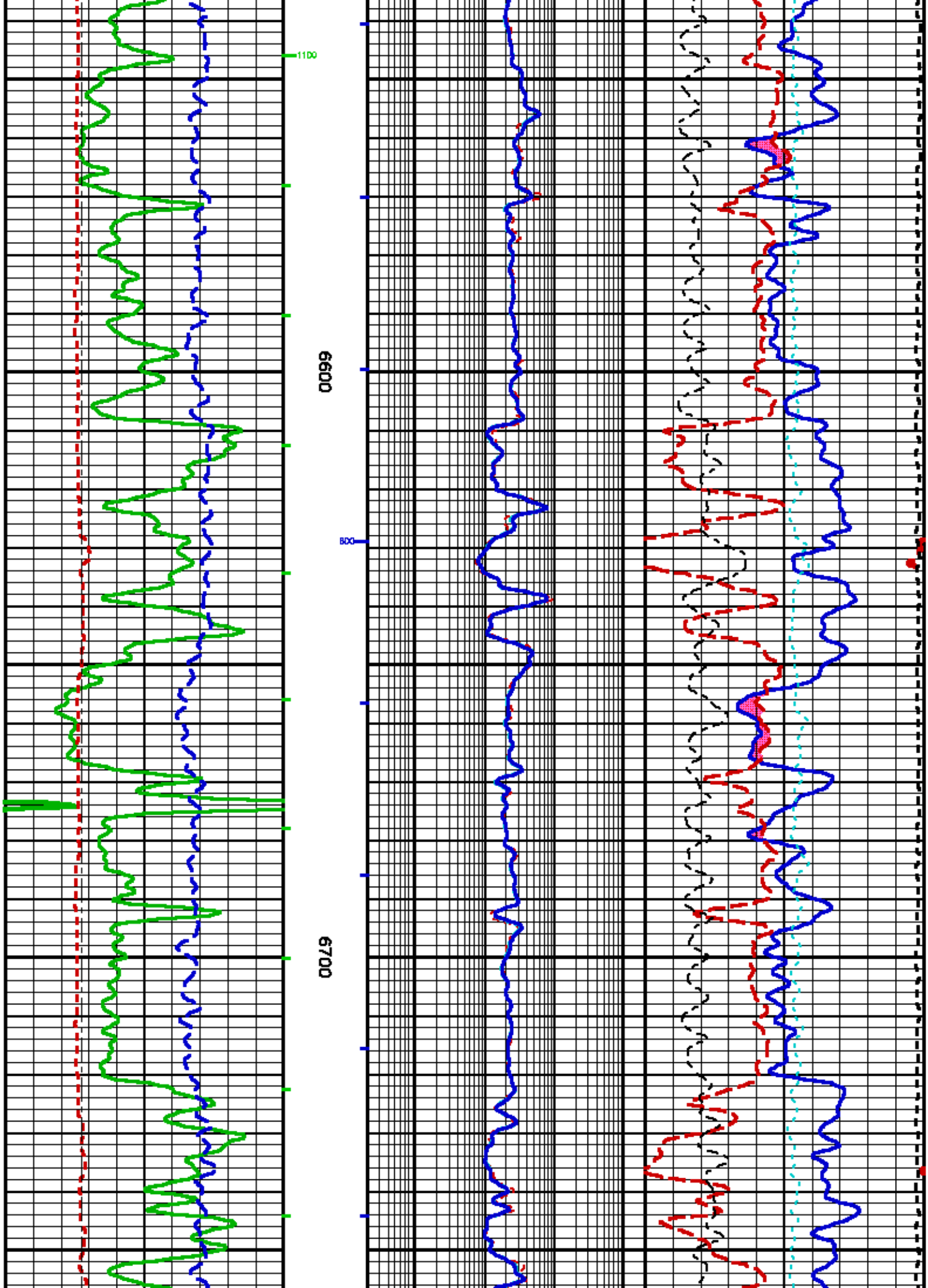
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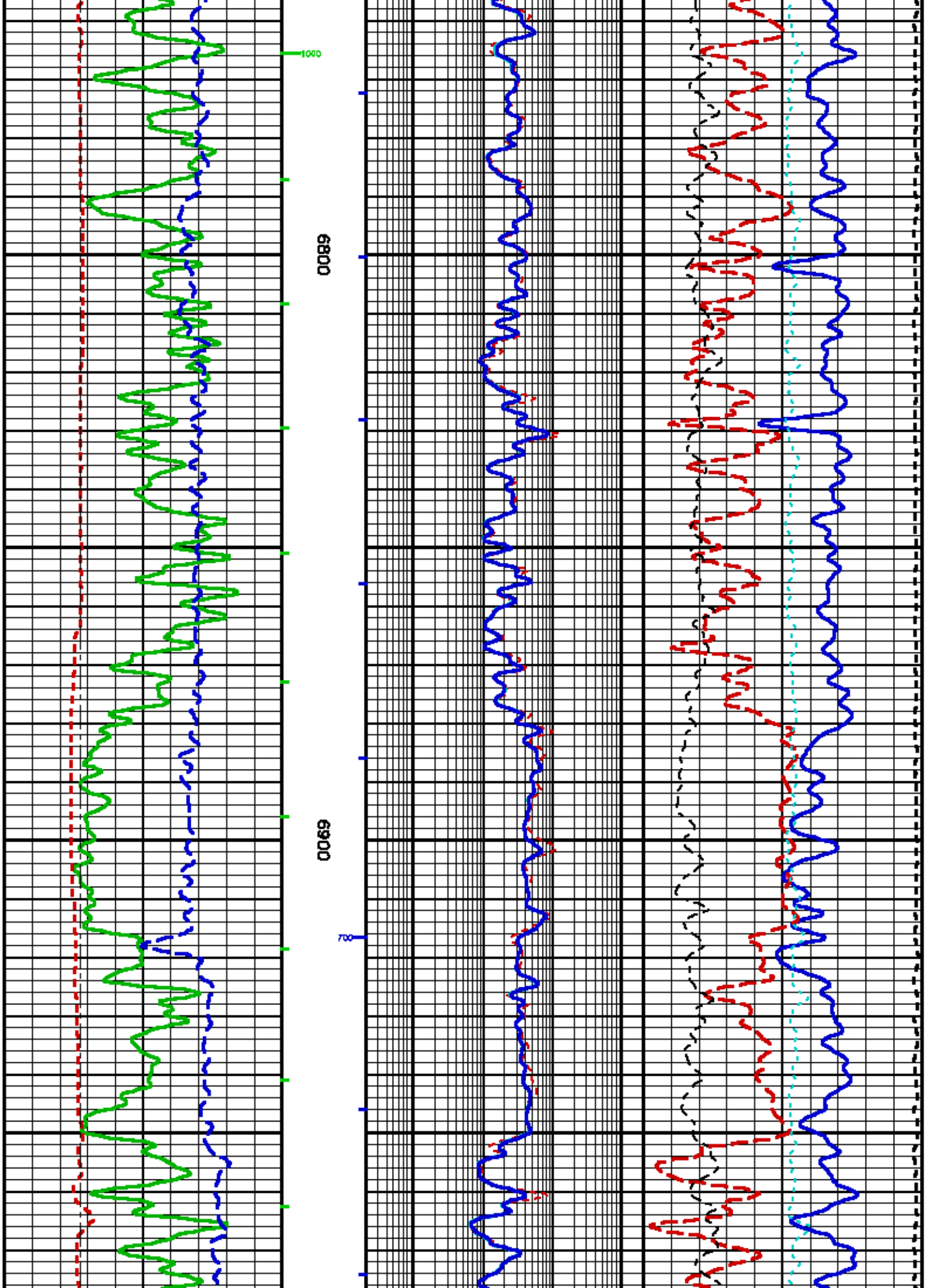
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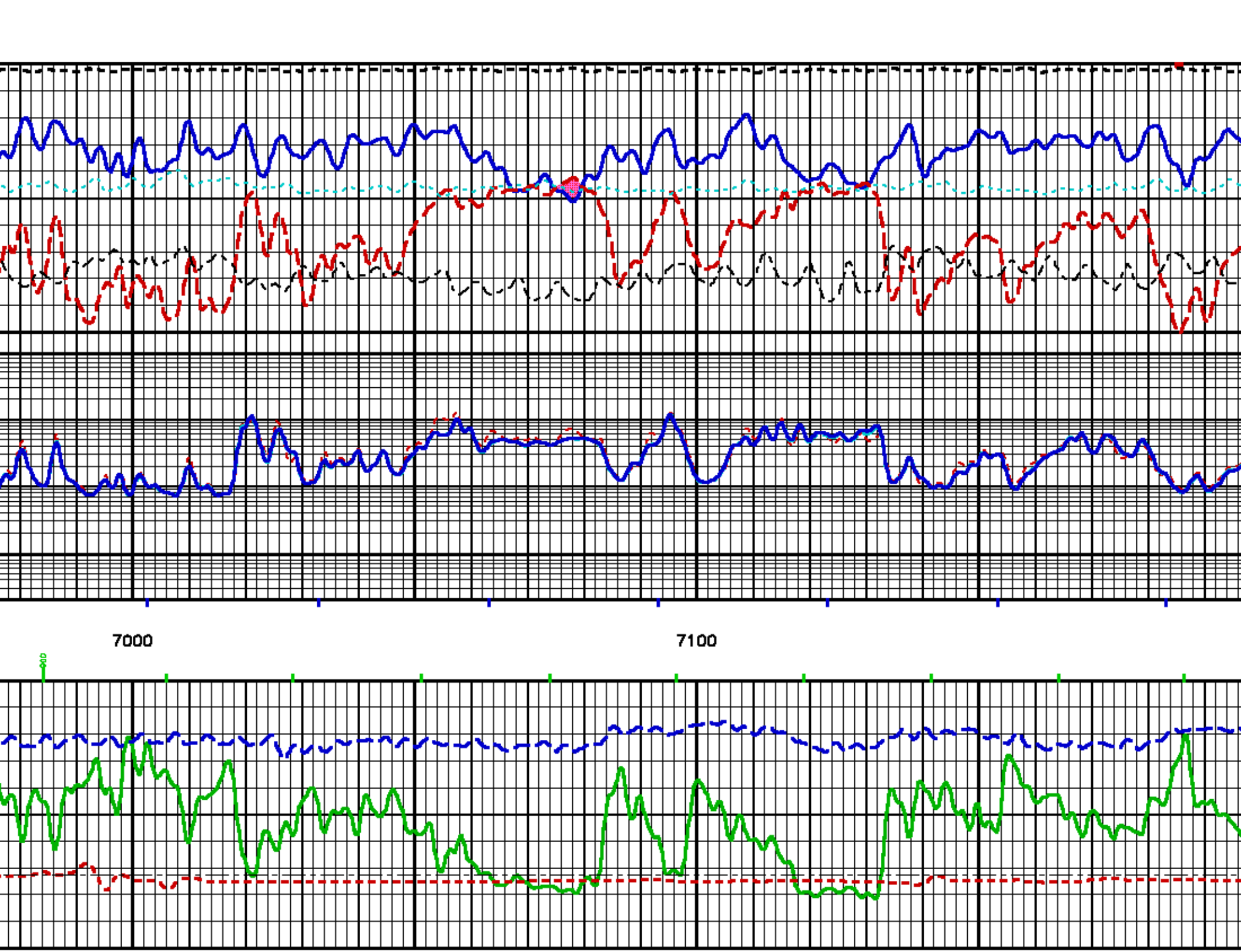
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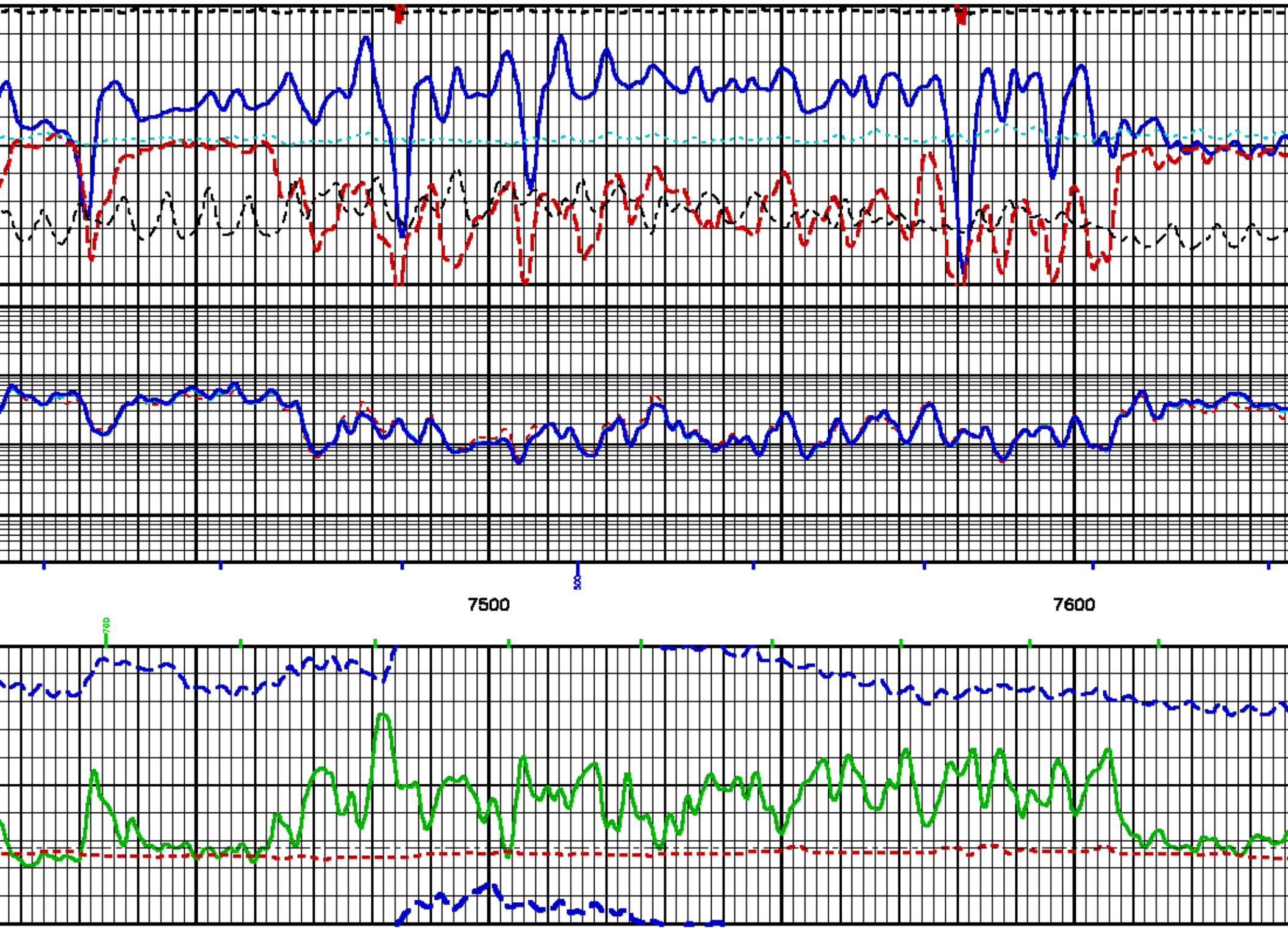
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7600

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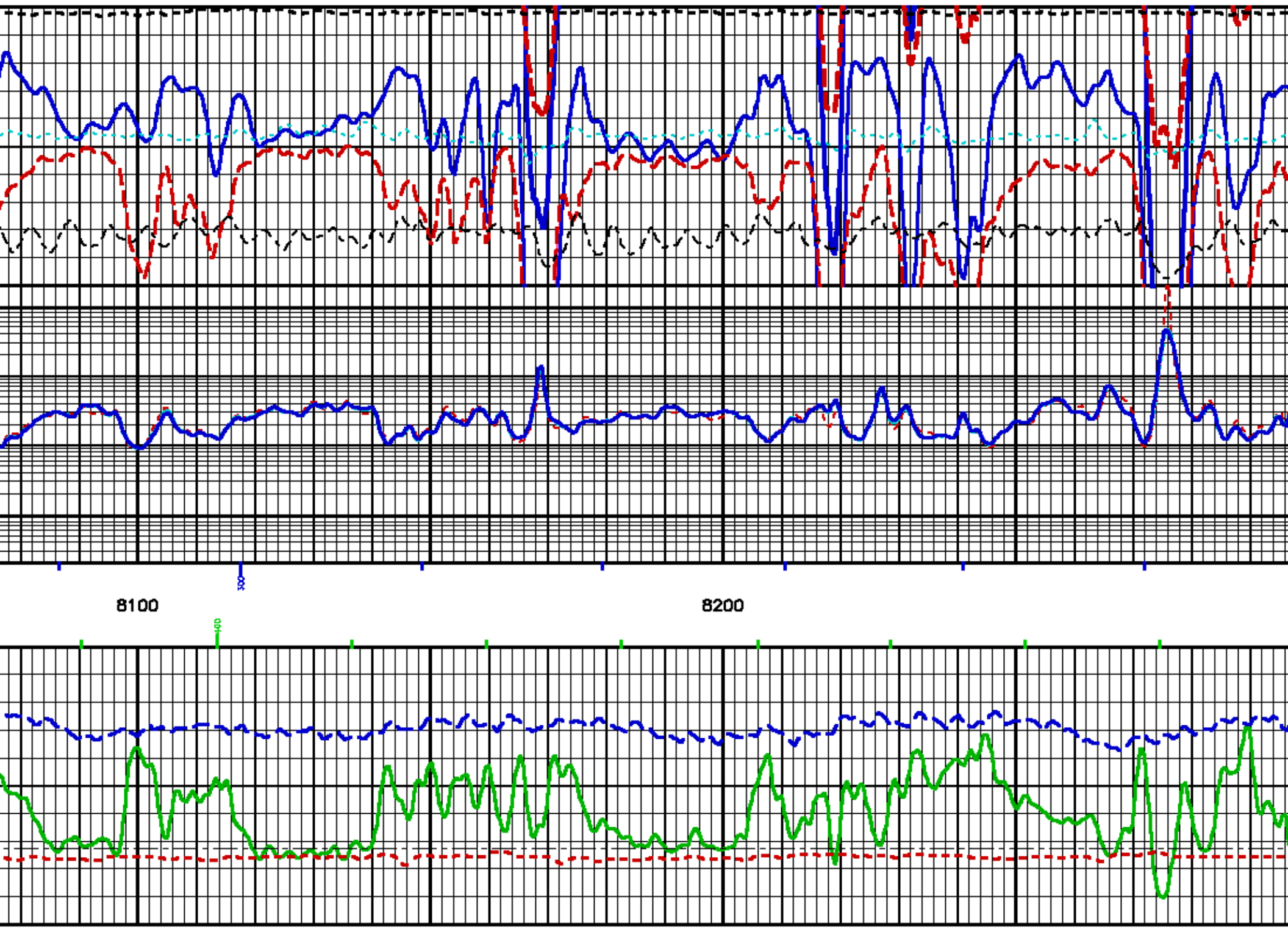
7700
7800
400

7900
8000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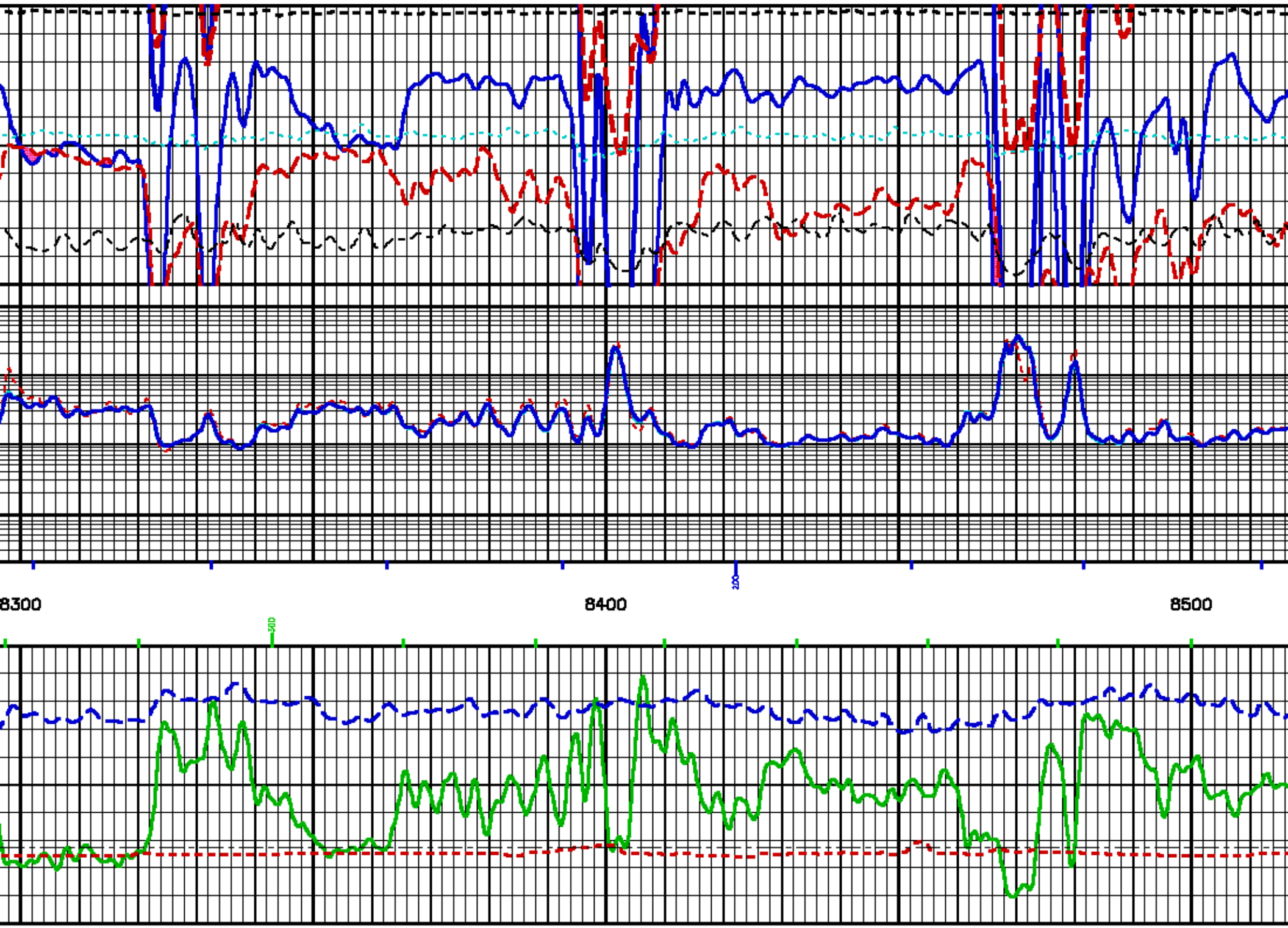
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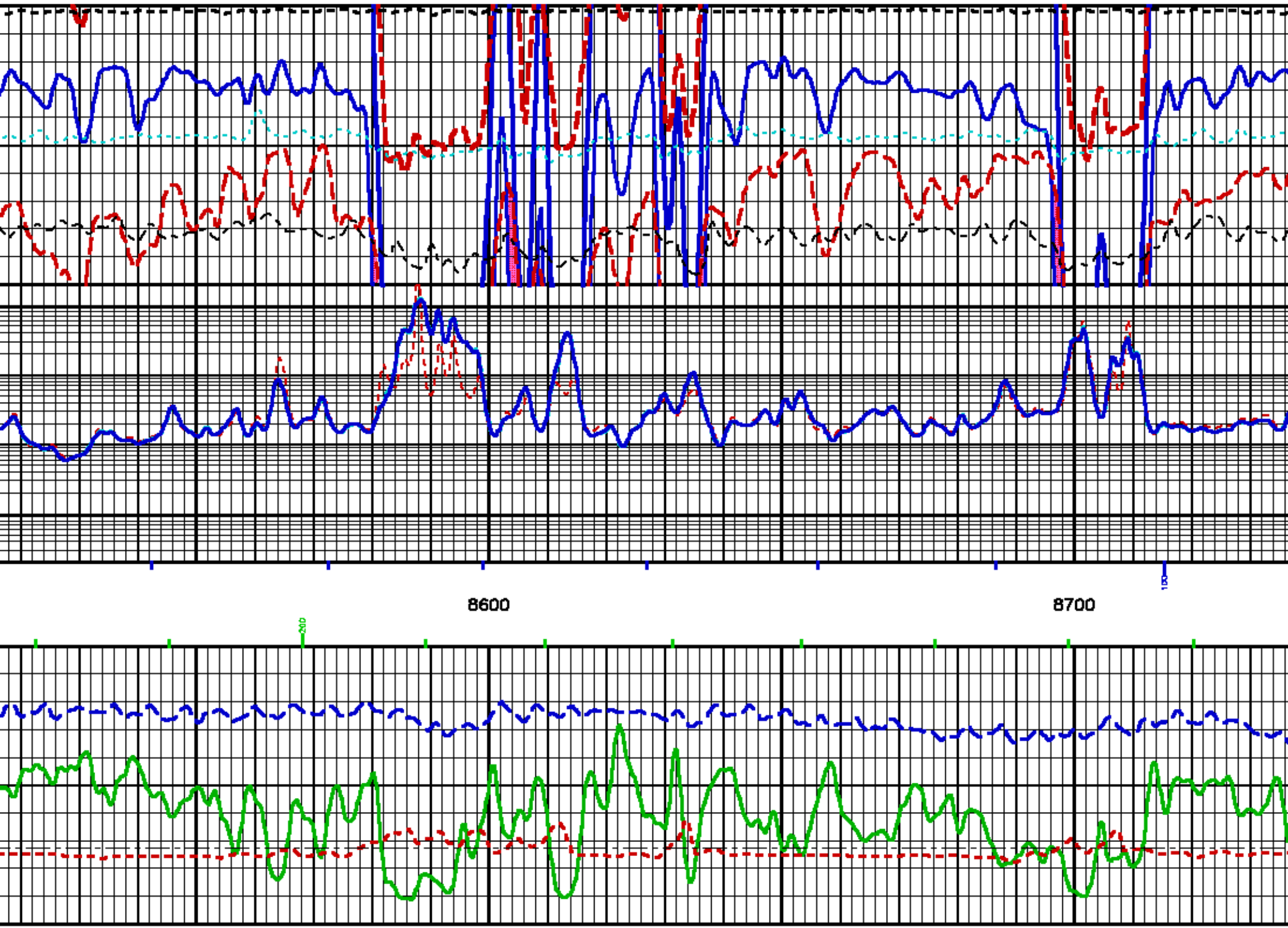
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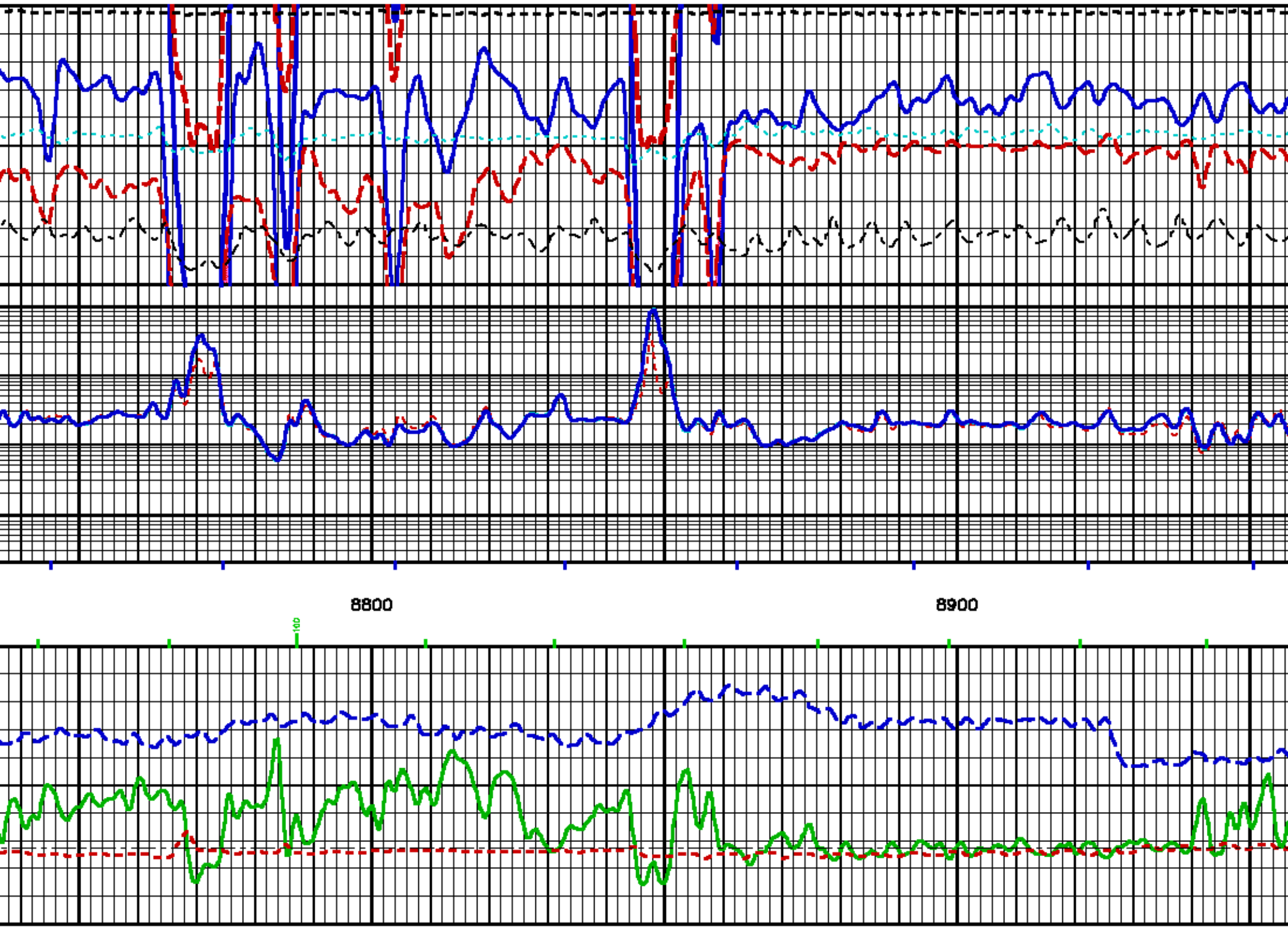
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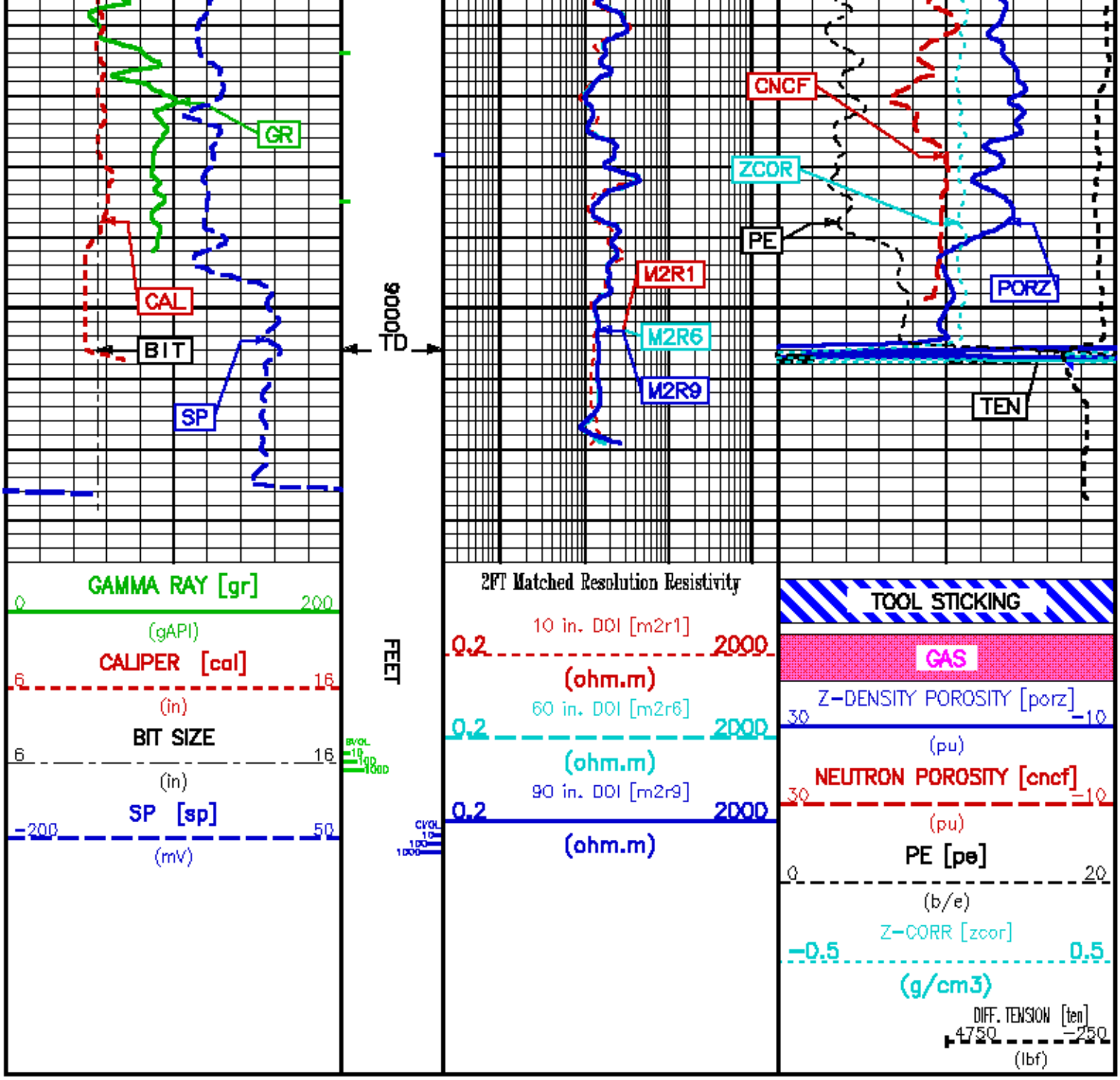
8900



REPEAT LOG 5"/100FT SCALE

ECLIPS 6.1f Aug 06, 2010
Updates: 1,2 Patches: 3

Fri May 31 21:09:04 2013

Perpit /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/624585/m870a01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 985.250 ft BOTTOM DEPTH: 1384.714 ft

SYMETRIC 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 (hrd1a*)	medium		''	''
	FILTER (hrd2*)	medium		''	''
	FILTER (hrd2a*)	medium		''	''
	FILTER (soft*)	medium		''	''
SP-SPDH	FILTER ()	heavy (3)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
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	77.0	degF	''	''
	MUD SAMPLE RES	2.450	ohm.m	''	''
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		''	''
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	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) TOP	BOTTOM
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION ON		TOP	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
CN MATRIX	2436 MATRIX	SANDSTONE		TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	900	ppm	''	''
	BOREHOLE CORRECTION	ON		''	''
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	8.750	in	''	''

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
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) TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	STANDOFF		''	''
	STANDOFF	1.50	in	''	''
	TOOL POSITION	ECCENTERED		''	''
	Rmud MULTIPLIER	1.000		''	''

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	May 31 17:42:58 2013	BIT SIZE
F1:BVOL	May 31 17:42:58 2013	BOREHOLE VOLUME
F1:CAL	May 31 17:42:58 2013	CALIPER
F1:CNCF	May 31 17:42:58 2013	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	May 31 17:42:58 2013	CEMENT VOLUME
F1:GR	May 31 17:42:58 2013	GAMMA RAY

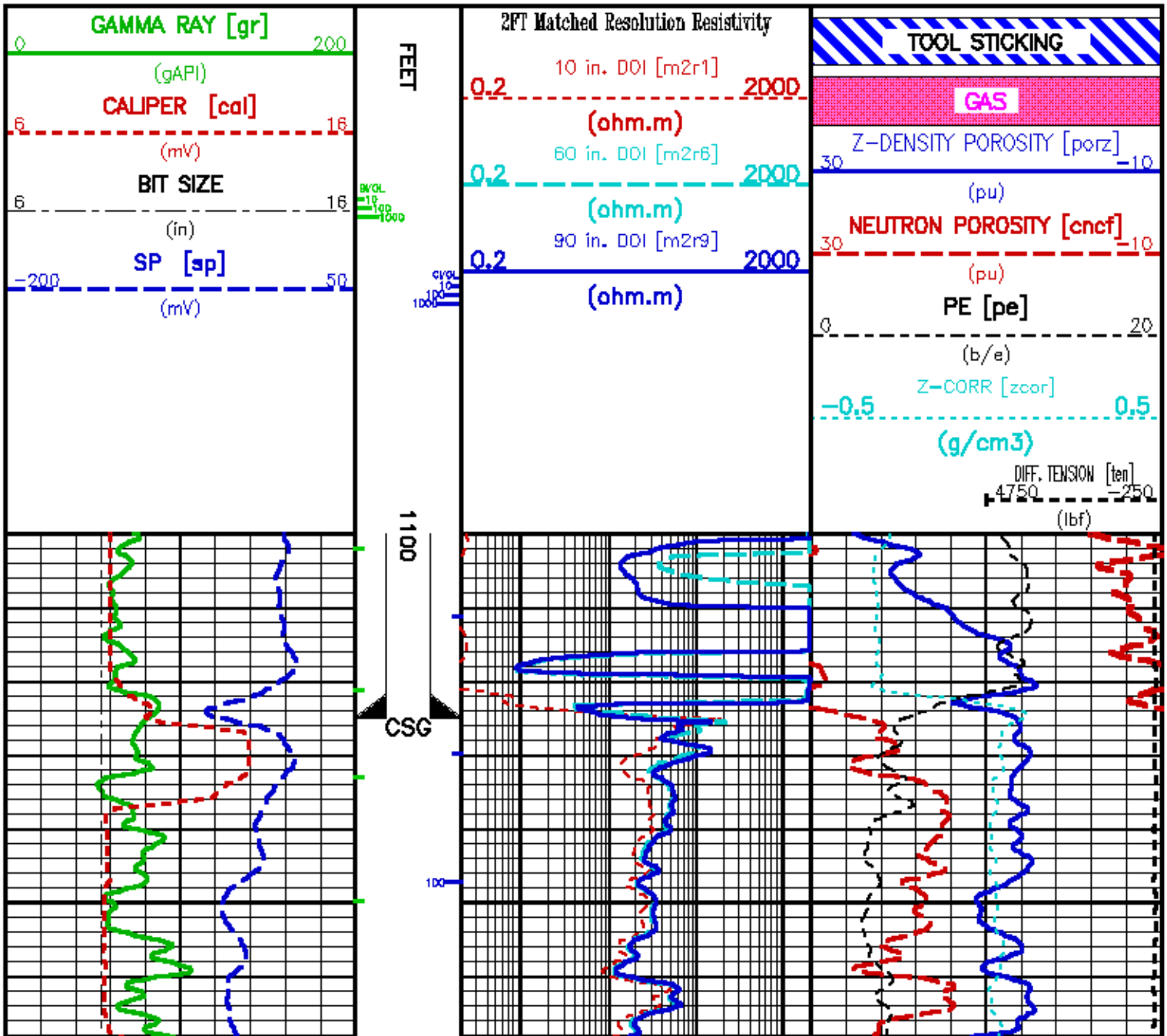
F1:M2R1	May 31 17:42:58 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	May 31 17:42:58 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	May 31 17:42:58 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	May 31 17:42:58 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	May 31 17:42:58 2013	POROSITY FOR SELECTABLE MATRIX
F1:SP	May 31 17:42:58 2013	SPONTANEOUS POTENTIAL
F1:TEN	May 31 17:42:58 2013	DIFFERENTIAL TENSION
F1:ZCOR	May 31 17:42:58 2013	DENSITY CORRECTION

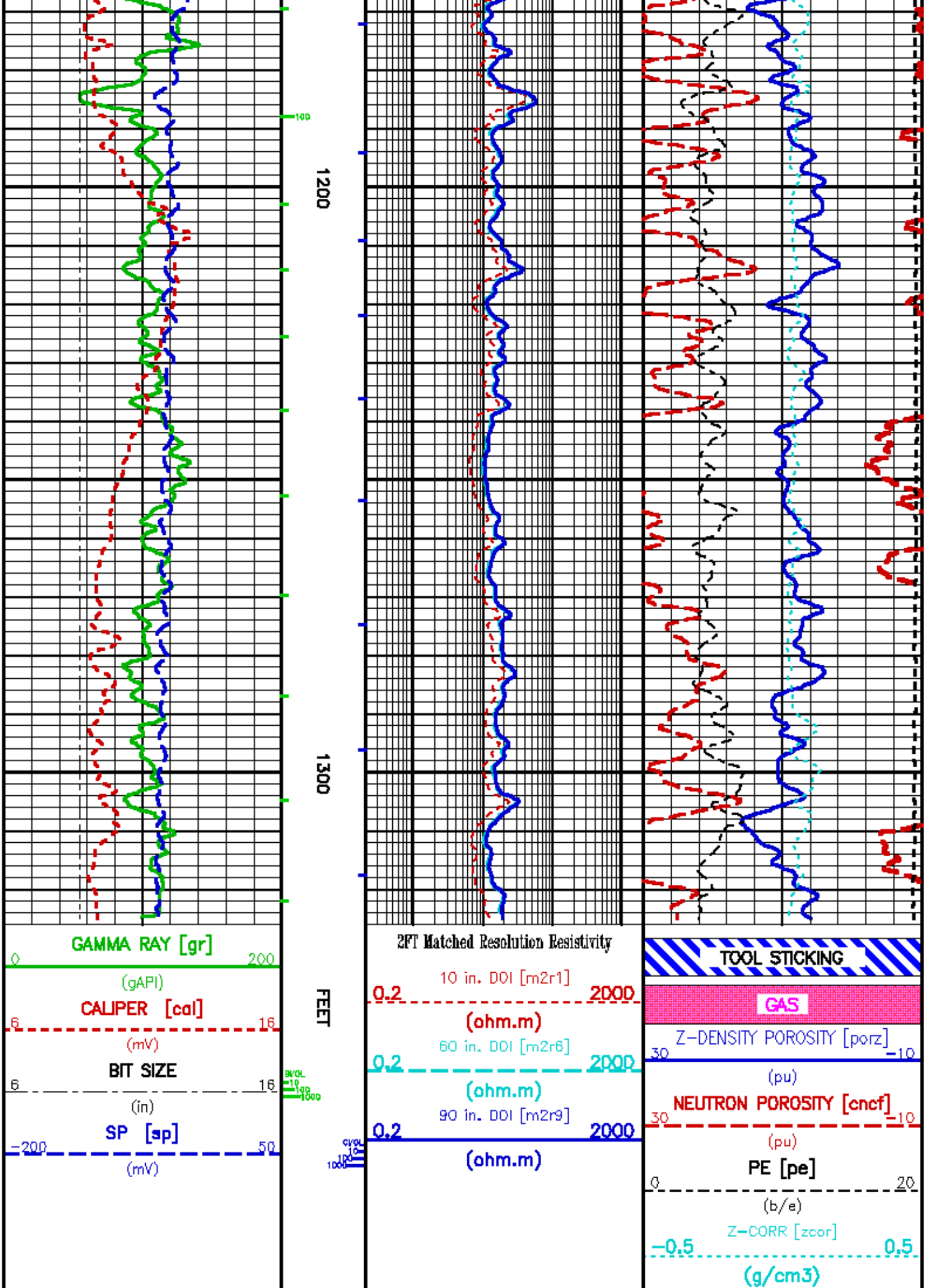
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	55.00	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/624395/WPX_REPEAT.pdf [5"/100' Scale]
Plot Interval : 1100 - 1325 Feet

Data File 1 : F1 : HL6670:/dat1a/624395/m970a01_REPEAT.dlis
Created On : May 31 17:42:58 2013
Company : WPX ENERGY INC
Well : HOEPPLI RWF 433-36
Field : RULISON
File Interval : 0 - 1367.5 Feet
Dat : m970a




1200
1300
FEET
GAMMA RAY [gr]
0
200
(gAPI)
CALIPER [cal]
6
16
(mV)
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]
4750 ---- -250
(lbf)

CALIBRATION / VERIFICATION SUMMARY

Source File /dolly/624385/m870a.tp1

TTMA PRIMARY CALIBRATION SUMMARY

TOOL #: 3980XA 10120299 DATE/TIME PERFORMED: Tue Feb 21 22:39:38 2012

UNIT #: 3862TD HL6670 ACCEL #: 3980XA 10120299 ACCEL CAL DATE: 14:43 05/21/2004

	GAIN	OFFSET (ohm.m)
RM K FACTORS	0.14570	-0.01679

TTMA BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10120299 DATE/TIME PERFORMED: Fri May 31 17:31:14 2013 DAYS SINCE CAL: 464

UNIT #: 3880TA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	18832 (18030 19630)	498.69 (491.38 505.78)	9.97 (8.00 14.00)	990.24 (980.00 1020.00)
ZERO	-23331 (-24131 -22531)	-436.02 (-443.80 -428.80)	0.249 (0.200 0.300)	993.578 (980.000 1020.000)

TTMA AFTER LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10120299 DATE/TIME PERFORMED: Fri May 31 20:57:29 2013 DAYS SINCE CAL: 464

UNIT #: 3880TA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	18837 (18030 19630)	499.49 (491.38 505.78)	9.98 (8.00 12.00)	997.61 (980.00 1020.00)
ZERO	-23331 (-24131 -22531)	-436.02 (-443.80 -428.80)	0.249 (0.200 0.300)	998.469 (980.000 1020.000)

GR PRIMARY CALIBRATION SUMMARY

Tool #: 3518EG 10411092 DATE/TIME PERFORMED: Fri May 31 17:25:12 2013

Unit #: 3880TA HL6670 Jig Series: 4702NK VBA-905

Background	Calibrator ON	Jig Value (gAPI)	Mult	Background (gAPI)	Calibrator ON (gAPI)
55.65	762.77	185	0.262 (0.230 0.280)	14.58	199.58

GR PRIMARY VERIFICATION SUMMARY

NOT DONE

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10411092 DATE/TIME PERFORMED: Fri May 31 17:29:55 2013 DAYS SINCE CAL: 0

UNIT #: 3880TA HL6670 Jig: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.67 (929.00 1027.00)	82.58 (535.00)	1361.74 (1237.00 1512.00)

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10411092 DATE/TIME PERFORMED: Fri May 31 20:57:42 2013 DAYS SINCE CAL: 0

UNIT #: 3680TA HL6870 Jig: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.33	108.57	1364.70
828.00 1027.00	536.00	1237.00 1512.00

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10124366 DATE/TIME PERFORMED: Thu Aug 2 10:04:15 2012

UNIT #: 3882TD HL6670 CALIBRATOR #: 2437XB 112674 SOURCE #: 4718XA N-0897

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4644.48	802.80	5.78533	0.99165	5.73700	25.241
			0.95000 1.05000		

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10124366 DATE/TIME PERFORMED: Fri May 31 17:31:26 2013 DAYS SINCE CAL: 302

UNIT #: 3680TA HL6670 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.74	994.10	0.99762	77.4	1367.4	4.599
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10124366 DATE/TIME PERFORMED: Fri May 31 20:58:11 2013 DAYS SINCE CAL: 302

UNIT #: 3680TA HL6670 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.06	993.42	0.99762	105.6	1368.5	4.599
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Mon Apr 22 14:48:37 2013

UNIT #: 3880TA HL6670

	SIZE (in)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	7.000	1220.0		
LARGE RING (Arm)	11.000	2482.5	0.00317	3.13557
PAD CLOSED		1588.0	0.00250	-3.97000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Fri May 31 17:36:47 2013 DAYS SINCE CAL: 39

UNIT #: 3880TA HL6670

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	1780.8	0.00317	3.13557	8.8
PAD	1648.0	0.00250	-3.97000	0.1

	ACTUAL (in)	MEASURED (in)
DIAMETER (arm+pad)	9.001	9.0
		8.6 9.4

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Fri May 31 20:57:20 2013 DAYS SINCE CAL: 39

UNIT #: 3680TA HL6670

VALUE MULTIPLIER ADD SIZE

				(in)
ARM	1938.0	0.00317	3.13557	9.3
PAD	1656.0	0.00250	-3.97000	0.2

	ACTUAL (in)	MEASURED (in)
DIAMETER (arm+pad)	9.001	9.0 (8.8 – 9.4)

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10090664 DATE/TIME PERFORMED: Mon Apr 22 14:41:33 2013

UNIT: 3680TA HL6670 CALB BLKS: 2225XA 094292F CS SRC: 4705XA 160668 PAD TYPE: PADTYP 7.5" PAD

SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
225.3 (220.0 – 230.0)	225.4 (220.0 – 230.0)	1296.2	1675.4

	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	32452.5	11612.2	0.774 (0.720 – 0.850)	1.679	0.000	1.900
AL	20352.1	1317.6		2.687	-0.016	
AL + SHIM	26995.3	2257.2		2.558	0.098	
MG + SHIM (HI PE)	16054.2	5568.9	0.304 (0.280 – 0.320)			8.550
RATIO AL + SHIM/AL	1.33 (1.30 – 1.40)	1.71 (1.60 – 1.80)				
RATIO MG/AL	1.59 (1.56 – 1.70)	8.81 (8.55 – 9.35)				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Fri May 31 17:31:50 2013 DAYS SINCE CAL: 39

UNIT #: 3680TA HL6670

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 (3332.1 – 3352.1)	224.8 (220.0 – 230.0)	1411.5 (1250.0 – 1550.0)
SS	22355.0 (22344.8 – 22364.8)	224.1 (220.0 – 230.0)	1358.9 (1250.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
5.0 (4.8 – 5.2)	73.6 (60.0 – 125.0)

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Fri May 31 20:58:09 2013 DAYS SINCE CAL: 39

UNIT #: 3680TA HL6670

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 (3332.1 – 3352.1)	224.8 (220.0 – 230.0)	1405.9 (1250.0 – 1550.0)
SS	22355.0 (22344.8 – 22364.8)	224.1 (220.0 – 230.0)	1368.5 (1250.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
5.0 (4.8 – 5.2)	74.1 (60.0 – 125.0)

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1530XA 10120519 DATE/TIME PERFORMED: Mon Apr 1 14:17:48 2013

UNIT #: 3880TA HL6670 GRCOND ID & DATE: 30 101801

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.0059 (-0.2000 – 0.2000)	0.0008 (-0.1000 – 0.1000)	-0.0004 (-0.1000 – 0.1000)	0.0009 (-0.1000 – 0.1000)	-0.0010 (-0.1000 – 0.1000)	-0.0005 (-0.1000 – 0.1000)	0.0002 (-0.1000 – 0.1000)	-0.0004 (-0.1000 – 0.1000)
Coil 0 Q	0.0004	-0.0008	-0.0002	0.0002	-0.0004	0.0003	-0.0007	-0.0001

Coil 1 R	0.0181	0.0002	-0.0022	0.0027	-0.0010	-0.0001	-0.0007	0.0002
	-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	0.0063	-0.0037	0.0016	0.0010	-0.0009	0.0001	-0.0002	0.0002
	-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	0.0154	-0.0029	-0.0032	-0.0019	0.0001	-0.0006	-0.0000	0.0003
	-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	0.0074	-0.0013	0.0001	0.0017	-0.0007	0.0020	0.0013	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 3 R	0.0530	-0.0041	-0.0044	0.0007	-0.0054	0.0017	-0.0007	0.0029
	-0.3500 0.3500	-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	0.0279	-0.0122	0.0058	0.0003	-0.0045	-0.0039	-0.0032	-0.0009
	-0.6000 0.6000	-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	0.1475	-0.0008	-0.0080	0.0108	-0.0023	-0.0011	0.0067	-0.0035
	-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	0.0589	-0.0353	0.0124	-0.0083	-0.0034	0.0050	-0.0037	-0.0009
	-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	0.3266	0.0059	-0.0383	0.0225	-0.0040	0.0029	0.0052	-0.0012
	-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	0.1601	-0.0830	0.0178	0.0045	-0.0157	0.0016	-0.0118	0.0048
	-1.6000 1.6000	-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	182.99	161.54	158.62	154.31	148.60	141.86	133.47	124.10
	138.00 188.00	134.00 184.00	131.00 181.00	128.00 176.00	122.00 170.00	118.00 161.00	112.00 150.00	105.00 139.00
Coil 0 P	7.699	25.434	42.706	59.926	77.141	94.399	111.623	128.875
	5.000 9.000	21.000 30.000	35.000 50.000	48.000 71.000	63.000 91.000	77.000 108.000	92.000 130.000	108.000 151.000
Coil 1 M	282.53	279.96	274.82	267.13	257.00	244.48	229.65	213.08
	238.00 328.00	235.00 325.00	230.00 320.00	225.00 312.00	216.00 302.00	208.00 288.00	198.00 268.00	184.00 244.00
Coil 1 P	7.759	25.635	43.056	60.433	77.803	95.188	112.549	129.862
	5.000 9.000	21.000 30.000	35.000 51.000	48.000 71.000	63.000 92.000	78.000 112.000	93.000 130.000	107.000 151.000
Coil 2 M	560.55	555.37	545.00	529.65	509.55	485.05	456.38	423.59
	478.00 669.00	474.00 664.00	465.00 643.00	452.00 632.00	434.00 602.00	412.00 572.00	390.00 540.00	366.00 489.00
Coil 2 P	7.665	25.383	42.631	59.814	78.981	94.154	111.311	128.470
	5.000 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	918.71	909.66	891.58	864.77	829.95	787.45	738.42	683.09
	774.00 1080.00	764.00 1050.00	752.001030.00	728.00 1010.00	700.00 970.00	665.00 885.00	625.00 855.00	586.00 799.00
Coil 3 P	7.969	26.189	43.952	61.635	79.282	96.905	114.464	131.962
	5.000 10.000	21.000 30.000	35.000 51.000	49.000 72.000	63.000 93.000	78.000 114.000	90.000 135.000	104.000 156.000
Coil 4 M	1422.5	1410.4	1385.9	1349.1	1300.3	1239.9	1168.4	1086.6
	1210.0 1700.0	1200.0 1690.0	1180.0 1660.0	1140.0 1600.0	1120.0 1530.0	1070.0 1480.0	1000.0 1380.0	942.0 1240.0
Coil 4 P	7.742	25.600	43.009	60.385	77.776	95.217	112.660	130.110
	5.000 10.000	21.000 31.000	35.000 52.000	48.000 73.000	63.000 93.000	77.000 114.000	91.000 135.000	105.000 156.000
Coil 5 M	2953.8	2930.0	2876.9	2802.3	2700.3	2574.4	2425.8	2255.2
	2450.0 3450.0	2420.0 3400.0	2410.0 3320.0	2350.0 3200.0	2260.0 3090.0	2150.0 2950.0	2020.0 2760.0	1870.0 2570.0
Coil 5 P	7.819	25.801	43.360	60.869	78.406	95.960	113.510	131.066
	5.000 10.000	20.000 31.000	35.000 52.000	48.000 73.000	63.000 94.000	79.000 113.000	93.000 134.000	108.000 156.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-916	-601	-486	-419	-373	-340	-314	-293
	-3200 840	-1400 -20	-830 -150	-780 -160	-680 -130	-650 -120	-600 -110	-520 -82
Coil 0 Q	282	-189	-241	-261	-273	-284	-292	-302
	-16000 17000	-5800 3600	-5700 2100	-2700 1400	-2200 1000	-1800 790	-1800 620	-1600 490
Coil 1 R	-111	-135	-132	-125	-117	-111	-104	-98
	-750 488	-380 83	-280 8	-230 -18	-200 -48	-180 -38	-160 -48	-160 -48
Coil 1 Q	329	79	28	2	-14	-25	-33	-38
	-3300 2300	-1100 980	-630 520	-470 360	-380 280	-320 190	-280 150	-280 120
Coil 2 R	-0.1	-29.4	-32.3	-31.2	-28.9	-26.8	-24.6	-22.9
	-85.0 75.0	-84.0 -0.4	-57.0 -12.0	-51.0 -15.0	-48.0 -17.0	-44.0 -16.0	-38.0 -15.0	-37.0 -13.0
Coil 2 Q	143.9	49.3	27.6	17.8	13.0	10.5	9.7	9.7
	-1600.0 1800.0	-600.0 810.0	-280.0 360.0	-220.0 280.0	-180.0 180.0	-140.0 160.0	-110.0 130.0	-96.0 120.0
Coil 3 R	-1.9	-8.7	-9.5	-9.3	-8.9	-8.2	-7.7	-7.5
	-25.0 21.0	-22.0 1.8	-21.0 -1.3	-20.0 -1.8	-19.0 -2.0	-18.0 -1.3	-18.0 -0.8	-19.0 -0.0
Coil 3 Q	84.3	31.7	22.2	19.0	18.8	19.1	20.6	21.8
	-840.0 630.0	-180.0 180.0	-130.0 110.0	-71.0 81.0	-51.0 68.0	-37.0 58.0	-28.0 53.0	-21.0 51.0
Coil 4 R	-2.50	-2.33	-2.20	-1.90	-3.15	-1.73	-2.07	-1.68
	-18.00 13.00	-12.00 2.70	-11.00 1.80	-9.80 0.62	-9.90 0.06	-10.00 1.80	-11.00 2.30	-11.00 2.80
Coil 4 Q	30.50	11.48	8.80	8.60	9.10	9.93	10.44	11.93
	-250.00 250.00	-79.00 96.00	-43.00 54.00	-27.00 51.00	-18.00 46.00	-11.00 42.00	-5.50 42.00	-1.00 44.00
Coil 5 R	2.27	-0.99	-0.95	-0.86	-0.38	-0.89	-1.12	-0.71
	-68.00 61.00	-8.40 3.80	-8.80 1.10	-8.80 1.20	-8.30 2.80	-14.00 8.30	-18.00 8.80	-24.00 13.00
Coil 5 Q	4.87	2.64	3.06	4.17	4.85	6.30	7.89	8.67
	-35.00 69.00	-25.00 27.00	-14.00 22.00	-7.00 22.00	-2.50 24.00	1.10 28.00	4.70 29.00	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	0.964	0.971	0.975	0.977	0.978	0.978	0.979	0.978
	0.860 1.100	0.860 1.100	0.870 1.100	0.860 1.100	0.880 1.100	0.880 1.100	0.860 1.100	0.880 1.100
Coil 0 P	-0.266	-0.417	-0.323	-0.221	-0.149	-0.071	-0.047	0.005
	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600
Coil 1 M	0.960	0.967	0.971	0.973	0.973	0.973	0.974	0.972
	0.860 1.100	0.860 1.100	0.870 1.100	0.860 1.100	0.880 1.100	0.880 1.100	0.860 1.100	0.880 1.100
Coil 1 P	-0.237	-0.409	-0.298	-0.196	-0.115	-0.048	-0.022	0.007
	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600
Coil 2 M	0.985	0.985	0.985	0.985	0.984	0.984	0.984	0.983
	0.860 1.100	0.860 1.100	0.860 1.100	0.860 1.100	0.880 1.100	0.880 1.100	0.860 1.100	0.880 1.100
Coil 2 P	0.065	0.049	0.090	0.125	0.144	0.170	0.159	0.176
	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600
Coil 3 M	0.991	0.991	0.991	0.990	0.990	0.989	0.989	0.987
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 3 P	0.076	0.085	0.124	0.168	0.204	0.250	0.267	0.300
	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500

Coil 4 M	1.000	1.001	1.001	1.001	1.003	1.002	1.003	1.004
	0.800 1.100	0.800 1.100	0.800 1.100	0.800 1.100	0.800 1.100	0.800 1.100	0.800 1.100	0.800 1.100
Coil 4 P	0.692	0.282	0.256	0.277	0.275	0.392	0.412	0.480
	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500
Coil 5 M	1.044	1.041	1.042	1.044	1.046	1.048	1.052	1.054
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 5 P	0.125	0.124	0.231	0.329	0.569	0.591	0.697	0.814
	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500

PARMS	TCID 0	TCID 1	Cal Temp (degF)	T Factor
IDs	2.733	0.716	78.2	1.00

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10120519 DATE/TIME PERFORMED: Fri May 31 16:28:26 2013 DAYS SINCE CAL: 60

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	0.004	-0.000	-0.001	0.000	-0.000	0.000	-0.000	-0.000
	-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 0 Q	-0.000	-0.000	0.000	0.000	-0.000	0.001	-0.000	-0.000
	-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 1 R	0.022	-0.001	-0.001	0.001	-0.000	-0.000	0.001	-0.000
	-0.200 0.400	-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 1 Q	0.009	-0.004	0.003	-0.001	-0.000	0.001	-0.000	0.001
	-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 2 R	0.018	-0.001	0.001	0.002	0.000	-0.002	-0.002	-0.000
	-0.200 0.400	-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	0.013	-0.000	0.003	0.002	-0.001	-0.001	-0.000	-0.000
	-0.600 0.600	-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	0.056	-0.006	-0.003	0.005	0.003	-0.004	-0.002	-0.001
	-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	0.040	-0.015	0.004	0.001	-0.003	-0.004	-0.002	0.002
	-0.800 0.800	-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	0.149	-0.005	-0.019	0.011	-0.002	-0.003	0.004	-0.003
	-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	0.056	-0.039	0.016	-0.001	-0.001	0.001	-0.006	-0.002
	-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	0.341	0.026	-0.021	0.021	-0.008	-0.010	0.004	0.001
	-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	0.123	-0.088	0.009	0.012	-0.014	0.005	-0.009	0.012
	-1.500 1.500	-0.500 0.500	-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	162.22	160.79	157.90	153.58	147.96	141.01	132.84	123.48
	138.00 188.00	134.00 184.00	131.50 181.00	128.00 178.00	122.00 170.00	118.00 161.00	112.00 150.00	106.00 139.00
Coil 0 P	6.716	25.196	42.686	60.040	77.372	94.707	112.071	129.414
	-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	106.000 151.000
Coil 1 M	282.68	280.17	275.05	267.39	257.33	244.84	230.14	213.34
	237.00 327.00	235.00 325.00	230.00 320.00	225.00 312.00	216.00 298.00	205.00 288.00	195.00 266.00	184.00 244.00
Coil 1 P	6.783	25.362	42.999	60.491	77.974	95.437	112.924	130.327
	-1.000 12.000	19.000 30.000	36.000 51.000	49.000 71.000	63.000 92.000	77.000 112.000	92.000 132.000	106.000 153.000
Coil 2 M	559.15	554.09	543.79	528.53	508.66	484.16	455.44	422.68
	479.00 659.00	474.00 654.00	465.00 643.00	452.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	359.00 498.00
Coil 2 P	6.644	25.116	42.561	59.860	77.134	94.391	111.669	128.900
	-1.000 12.000	19.000 31.000	36.000 51.000	49.000 71.000	63.000 92.000	77.000 114.000	92.000 135.000	106.000 156.000
Coil 3 M	917.33	908.51	890.45	863.85	829.27	786.86	737.89	682.54
	772.00 1060.00	764.00 1050.00	752.00 1030.00	728.00 1010.00	700.00 970.00	665.00 925.00	628.00 868.00	580.00 790.00
Coil 3 P	7.014	25.935	43.882	61.671	79.416	97.109	114.778	132.350
	-2.000 13.000	19.000 31.000	38.000 52.000	49.000 74.000	63.000 93.000	77.000 114.000	92.000 135.000	106.000 156.000
Coil 4 M	1425.7	1413.9	1389.3	1352.5	1303.9	1243.3	1171.9	1089.1
	1210.0 1700.0	1206.0 1680.0	1180.0 1660.0	1140.0 1620.0	1120.0 1530.0	1070.0 1460.0	1000.0 1350.0	942.0 1240.0
Coil 4 P	6.769	25.349	42.957	60.446	77.945	95.460	113.007	130.565
	-2.000 13.000	19.000 31.000	38.000 52.000	49.000 73.000	63.000 93.000	78.000 114.000	92.000 135.000	106.000 156.000
Coil 5 M	2944.0	2920.7	2869.7	2793.4	2692.9	2567.2	2419.5	2247.1
	2480.0 3480.0	2480.0 3400.0	2410.0 3380.0	2360.0 3300.0	2280.0 3080.0	2180.0 2980.0	2060.0 2760.0	1870.0 2570.0
Coil 5 P	6.672	25.556	43.288	60.924	78.539	96.181	113.828	131.457
	-2.000 13.000	19.000 31.000	36.000 52.000	49.000 73.000	63.000 94.000	78.000 114.000	93.000 135.000	106.000 156.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10120519 DATE/TIME PERFORMED: Fri May 31 20:58:55 2013 DAYS SINCE CAL: 60

UNIT #: 3880TA HL6670

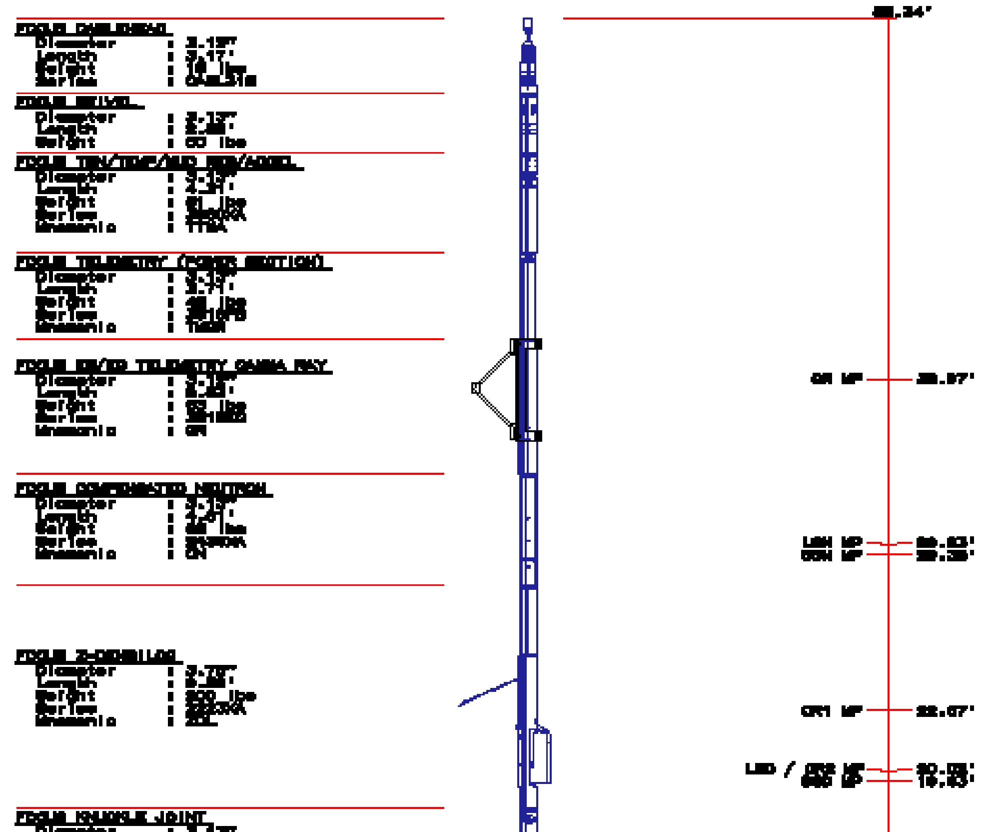
ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.005	0.001	-0.001	0.001	0.000	-0.001	0.000	0.000
	-0.076 0.064	-0.060 0.060	-0.031 0.029	-0.030 0.030	-0.030 0.030	-0.030 0.030	-0.030 0.030	-0.030 0.030
Coil 0 Q	0.001	-0.002	0.000	0.000	-0.000	0.000	-0.000	-0.000
	-0.040 0.040	-0.120 0.120	-0.030 0.030	-0.030 0.030	-0.030 0.030	-0.029 0.031	-0.030 0.030	-0.030 0.030
Coil 1 R	0.021	-0.001	-0.002	0.001	-0.001	0.000	0.000	0.000
	-0.062 0.102	-0.061 0.049	-0.031 0.029	-0.029 0.031	-0.030 0.030	-0.030 0.030	-0.029 0.031	-0.030 0.030
Coil 1 Q	0.009	-0.005	0.002	0.001	-0.002	0.000	0.000	-0.001
	-0.391 0.409	-0.104 0.094	-0.087 0.033	-0.031 0.029	-0.030 0.030	-0.029 0.031	-0.030 0.030	-0.029 0.031
Coil 2 R	0.016	-0.001	0.003	0.001	0.000	0.000	0.001	0.003

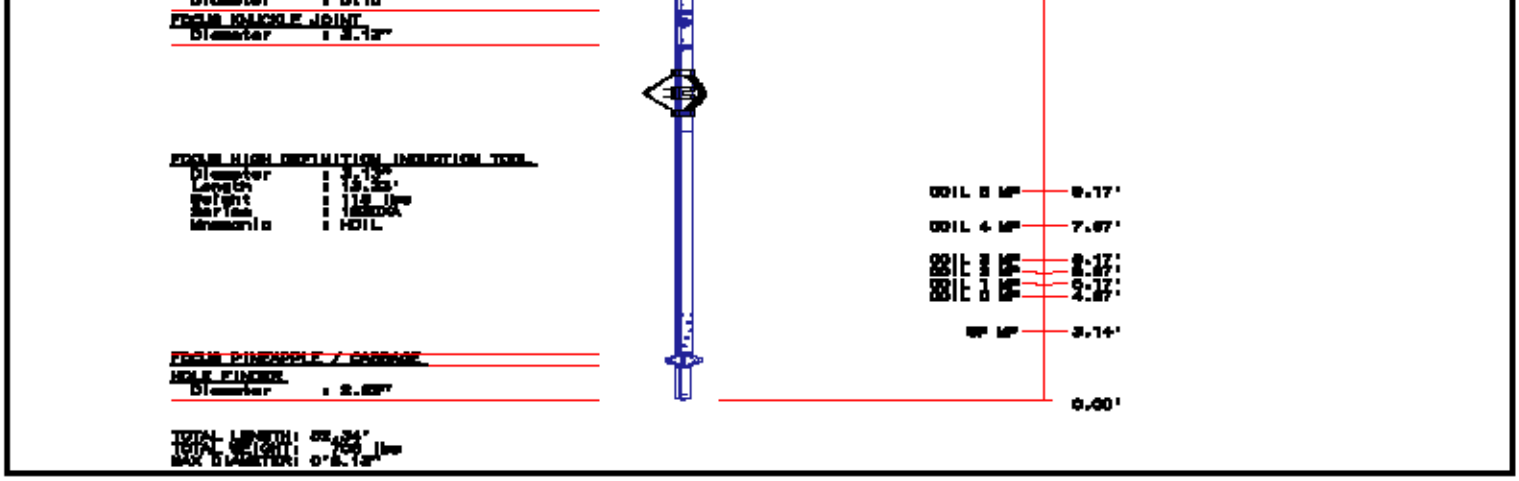
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	-0.052 0.088	-0.031 0.020	-0.029 0.031	-0.028 0.032	-0.030 0.030	-0.032 0.028	-0.032 0.028	-0.030 0.030
Coil 2 Q	0.010	-0.002	0.000	-0.001	-0.000	-0.000	-0.001	0.000
	-0.337 0.363	-0.100 0.100	-0.027 0.033	-0.025 0.032	-0.031 0.029	-0.031 0.029	-0.030 0.030	-0.030 0.030
Coil 3 R	0.055	-0.001	-0.004	0.002	0.002	-0.000	0.001	0.000
	0.018 0.088	-0.048 0.034	-0.043 0.037	-0.036 0.040	-0.037 0.043	-0.044 0.038	-0.042 0.038	-0.041 0.038
Coil 3 Q	0.038	-0.010	0.004	-0.001	-0.003	-0.001	-0.003	-0.002
	-0.160 0.240	-0.095 0.088	-0.036 0.044	-0.039 0.041	-0.043 0.037	-0.044 0.036	-0.042 0.036	-0.038 0.042
Coil 4 R	0.151	0.001	-0.009	0.010	0.001	-0.007	0.001	-0.000
	0.089 0.209	-0.085 0.086	-0.079 0.041	-0.049 0.071	-0.062 0.064	-0.063 0.057	-0.056 0.064	-0.063 0.087
Coil 4 Q	0.081	-0.037	0.016	0.002	-0.003	0.005	-0.003	0.001
	-0.244 0.358	-0.139 0.081	-0.044 0.076	-0.061 0.059	-0.061 0.060	-0.059 0.061	-0.066 0.054	-0.062 0.058
Coil 5 R	0.334	0.014	-0.018	0.013	-0.006	-0.002	0.009	-0.001
	0.221 0.461	-0.094 0.146	-0.141 0.099	-0.099 0.141	-0.128 0.112	-0.130 0.110	-0.116 0.124	-0.119 0.181
Coil 5 Q	0.145	-0.079	0.022	0.015	-0.014	0.004	-0.001	-0.008
	-0.477 0.723	-0.338 0.182	-0.111 0.129	-0.108 0.132	-0.134 0.106	-0.116 0.126	-0.128 0.111	-0.108 0.132

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	162.55	161.10	158.20	153.88	148.22	141.22	133.05	123.65
	165.97 168.46	157.86 164.01	164.74 161.06	160.60 156.88	148.00 150.92	138.19 143.63	130.16 136.49	121.01 126.98
Coil 0 P	7.453	25.391	42.737	60.008	77.274	94.540	111.846	129.112
	3.718 9.718	22.196 28.196	[illegible]	57.040 63.040	74.372 80.372	91.707 97.707	109.071 115.071	126.414 132.414
Coil 1 M	282.49	279.93	274.81	267.14	257.04	244.49	229.71	213.08
	277.02 288.33	274.67 285.78	269.55 280.66	262.06 272.74	252.19 262.48	239.94 249.74	225.64 234.74	209.08 217.81
Coil 1 P	7.522	25.586	43.070	60.486	77.902	95.328	112.749	130.091
	3.763 9.763	22.382 28.382	39.992 45.992	57.491 63.491	74.974 80.974	92.437 98.437	109.924 115.924	127.327 133.387
Coil 2 M	559.50	554.32	543.95	528.68	506.77	484.11	455.39	422.73
	547.87 570.35	543.00 565.17	532.81 554.98	517.88 539.13	496.48 516.83	474.48 493.84	446.35 464.55	414.22 431.13
Coil 2 P	7.394	25.327	42.638	59.863	77.072	94.283	111.508	128.702
	3.844 9.844	22.118 25.118	39.661 45.661	56.360 62.860	74.134 80.134	91.391 97.391	108.869 114.869	125.900 131.900
Coil 3 M	917.35	906.32	890.33	863.56	826.78	786.33	737.08	681.66
	[illegible] 936.87	880.34 928.88	872.84 909.28	846.67 881.18	812.89 848.06	771.16 802.92	723.13 752.05	[illegible]
Coil 3 P	7.730	26.142	43.964	61.687	79.373	97.026	114.643	132.173
	4.014 10.014	22.935 28.935	40.882 46.882	58.671 64.671	76.418 82.418	94.108 100.108	111.778 117.778	129.350 135.350
Coil 4 M	1422.9	1410.9	1386.4	1349.5	1300.8	1240.2	1168.6	1085.9
	1397.9 1454.4	1385.6 1442.2	1361.5 1417.1	1325.5 1379.8	1277.8 1330.0	1218.5 1268.2	1148.4 1195.3	1067.3 1110.8
Coil 4 P	7.516	25.555	43.022	60.434	77.873	95.345	112.837	130.303
	3.788 9.788	22.348 28.348	38.867 46.867	57.448 65.448	74.846 80.846	82.480 98.480	110.007 116.007	127.686 133.686
Coil 5 M	2948.5	2924.4	2873.8	2797.1	2696.3	2569.3	2420.0	2249.6
	2888.1 3002.9	2862.3 2979.2	2812.3 2927.1	2737.6 2849.3	2639.0 2746.7	2518.8 2618.6	2371.1 2467.9	2202.1 2292.0
Coil 5 P	7.605	25.762	43.369	60.926	78.468	96.083	113.700	131.299
	3.872 9.872	22.886 28.886	40.298 46.298	57.924 63.924	75.639 81.639	93.181 99.181	[illegible]	128.467 134.487

INSTRUMENT CONFIGURATION

Source File [illegible]





BAKER HUGHES	COMPANY	WPX ENERGY INC	FILE NO: 824395
	WELL	HOEPPLI RWF 433-36	
	FIELD	RULISON	API NO: 05045215510000
	COUNTY	GARFIELD STATE CO	
	LOCATION: SHL: 2801' FNL, 2596' FEL BHL: 1717' FSL, 1667' FEL	ELEVATIONS: KB 6554 FT DF 6554 FT	S36 T6S R94W PAD: RWF 33-36 RIG: NABORS 576

	GL 6528 FT	
SEC 36 TWP 6S RGE 94W	DATE 31-May-2013	