BAKER HUGHES

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

FILE NO:	625556
API NO:	05045174720000
COMPANY	WPX ENERGY INC
WELL	WPX ENERGY RMV 78-34
FIELD	RULISON
COUNTY	GARFIELD
STATE	CO

Ver. 3.87
S34 T6S R94W
PAD: RWF 342-33
RIG: NABORS 574

LOCATION:
SHL 1451' FNL 1017' FEL S33 T6S R94W
BHL: 1058' FNL 696' FWL S34 T6S R94W

SEC 34 TWP 6S RGE 94W

OTHER SERVICES
NONE

PERMANENT DATUM	GL	ELEVATION	5329.1 FT
LOG MEASURED FROM	KB	26 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		

ELEVATIONS:
KB 5355.1 FT
DF
GL 5329.1 FT

DATE		17-Jun-2013	
RUN	TRIP	1	1
SERVICE ORDER		625556	
DEPTH DRILLER		8040 FT	
DEPTH LOGGER		7780 FT	
BOTTOM LOGGED INTERVAL		7777 FT	
TOP LOGGED INTERVAL		0 FT	
CASING DRILLER		9.625 IN @ 1828 FT	@
CASING LOGGER		1823 FT	
BIT SIZE		8.75 IN	
TYPE OF FLUID IN HOLE		LSND	
DENSITY	VISCOSITY	14.0 LB/G	68 S
PH	FLUID LOSS	9.9	4.8 C3
SOURCE OF SAMPLE		FLOWLINE	
RM AT MEAS. TEMP.		2.35 OHMM @ 76 DEGF	@
RMF AT MEAS. TEMP.		1.76 OHMM @ 71 DEGF	@
RMC AT MEAS. TEMP.		2.94 OHMM @ 71 DEGF	@
SOURCE OF RMF	RMC	CALCULATED	CALCULATED
RM AT BHT		2.07 OHMM @ 183 DEGF	@
TIME SINCE CIRCULATION		8	
MAX. RECORDED TEMP.		183 DEGF	
EQUIP. NO.	LOCATION	6670	GRAND JUNC
RECORDED BY		SMITH	
WITNESSED BY		GARY	

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN	32.3 LB/F		0 FT	1828 FT

BOREHOLE RECORD

BIT SIZE	FROM	TO
8.75 IN	1828 FT	8040 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
CALIPER VERIFIED INSIDE CASING
REPEAT RECORDED 200' BELOW CASING
HDIL RUN WITH 1.5" STANDOFFS
ABC TO CALCULATE MUD CONDUCTIVITY
RHO MATRIX: 2.65 G/CM3
RHO FLUID: 1.00 G/CM3

CN MATRIX: SANDSTONE
SALINITY: CALC 1324 PPM

BRIDGED AT 7780 FT/LOGGED OUT PER COMPANY REPRESENTATIVE INSTRUCTIONS

THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE
CREW: OLSON/COATE/SMITH
RIG: NABORS 574

EQUIPMENT DATA					
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTMA	3980XA	10142233	FREE
1	1	TEL/GR	351BEB	10411082	FREE
1	1	CN	2436XA	10124366	DECENTRALIZED
1	1	ZDL	2223XA	10080864	PAD DEVICE
1	1	HDIL	1530XA	10120518	STANDOFF

MAIN LOG 2"/100FT SCALE

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

Mon Jun 17 15:41:16 2013

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

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/625558/m870a04.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1525.250 ft BOTTOM DEPTH: 5756.923 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	2.350	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	MUD CONDUCTIVITY		"	"

STANDOFF	1.50	in	"	"
TOOL POSITION	ECCENTERED		"	"
Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

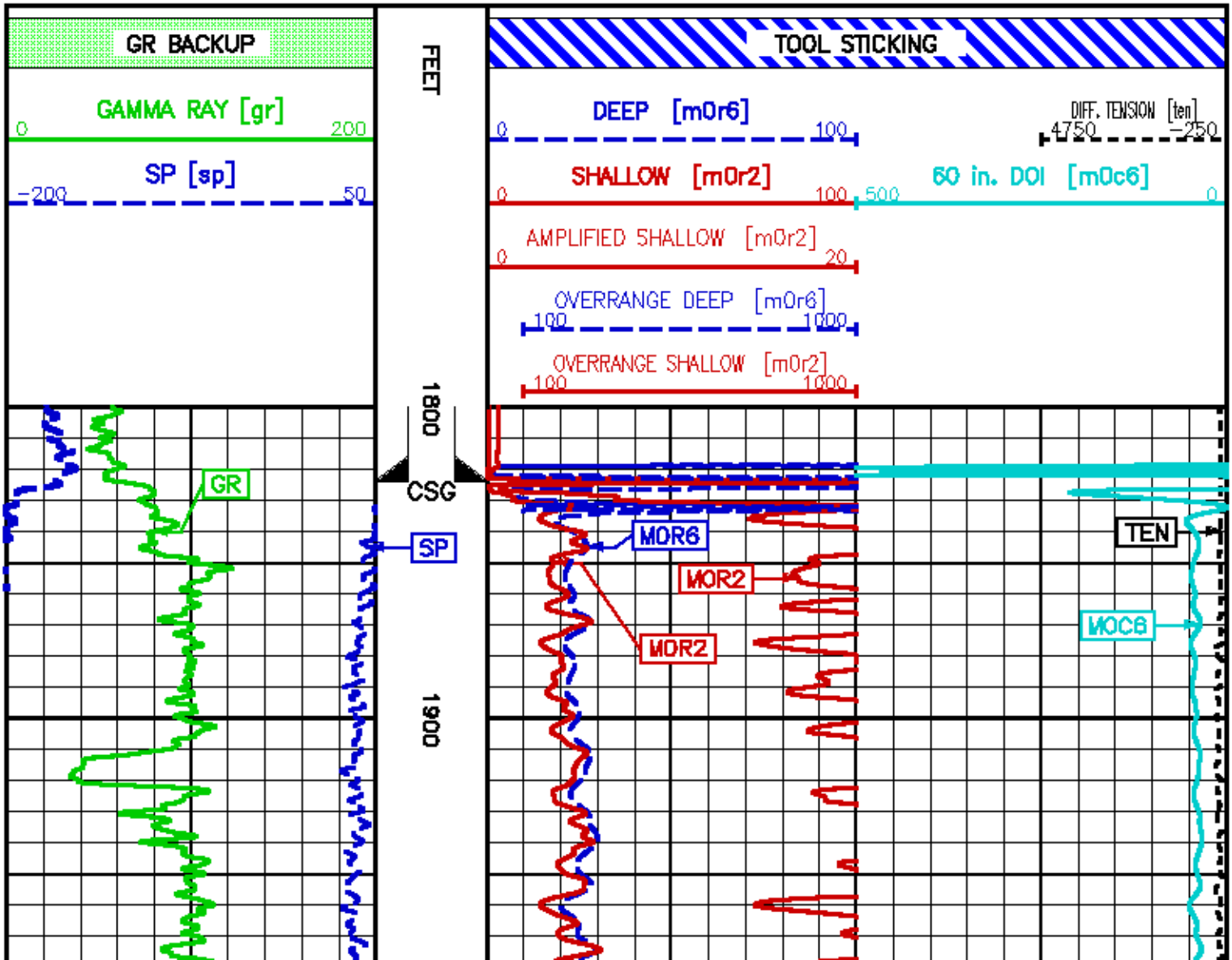
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:GR	Jun 17 15:06:41 2013	GAMMA RAY
F1:MOC6	Jun 17 15:06:41 2013	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:MOR2	Jun 17 15:06:41 2013	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:MOR6	Jun 17 15:06:41 2013	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	Jun 17 15:06:41 2013	SPONTANEOUS POTENTIAL
F1:TEN	Jun 17 15:06:41 2013	DIFFERENTIAL TENSION

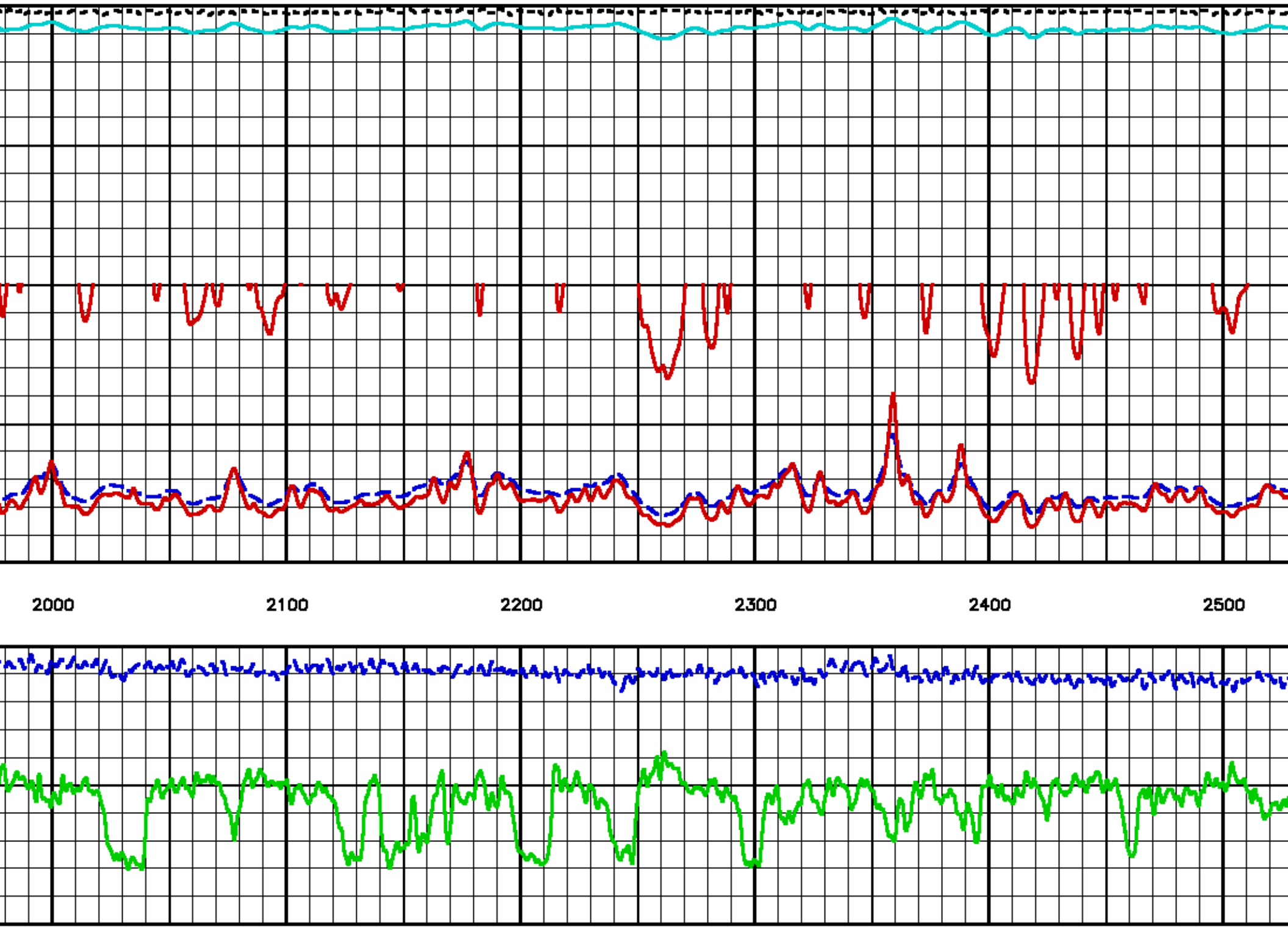
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	55.00	MOR2	2.75	SP	1.25		
MOC6	2.75	MOR6	2.75	TEN	0.00		

Presentation : HL8670:WPX_2IN.pdf [2"/100' Scale]
Plot Interval : 1800 - 7799.25 Feet

Data File 1 : F1 : HL8670:/dat1a/825558/SPLICE.xtf
Created On : Jun 17 15:06:41 2013
Company : WPX ENERGY ROCKY MOUNTAIN
Well : WPX ENERGY RMV 78-34
Field : RULISON
File Interval : -5 - 7799.25 Feet
Out : m970a

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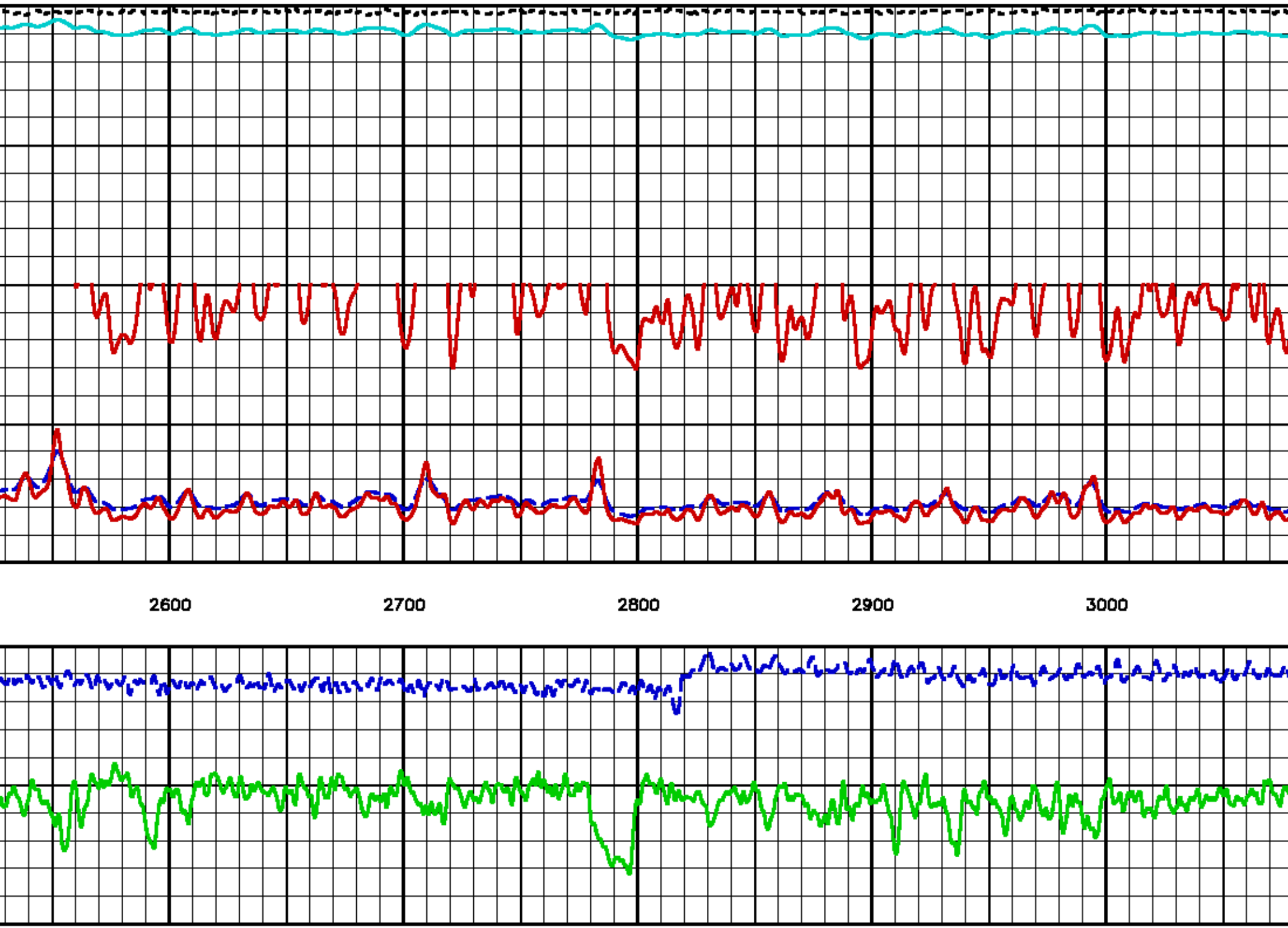
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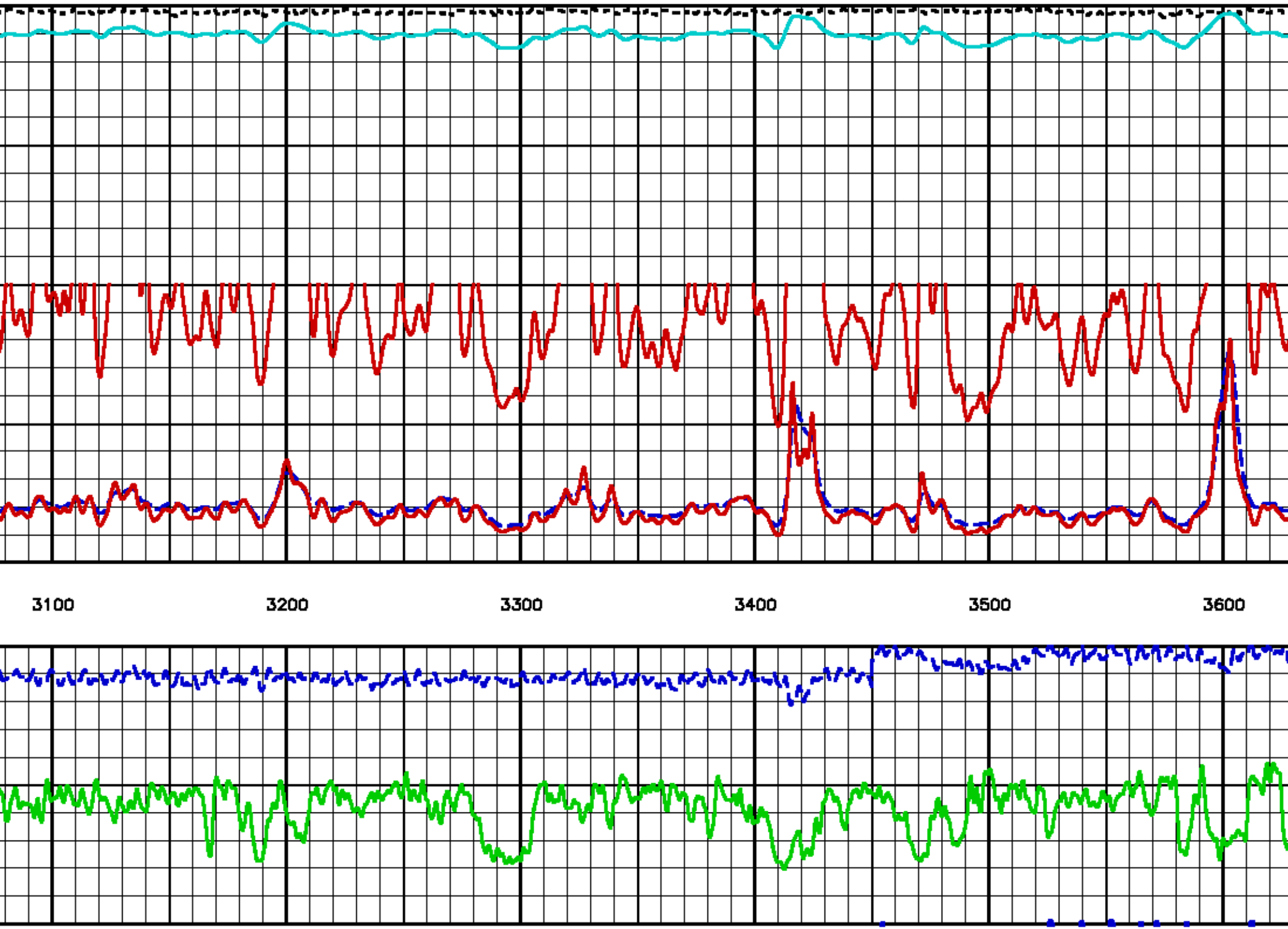
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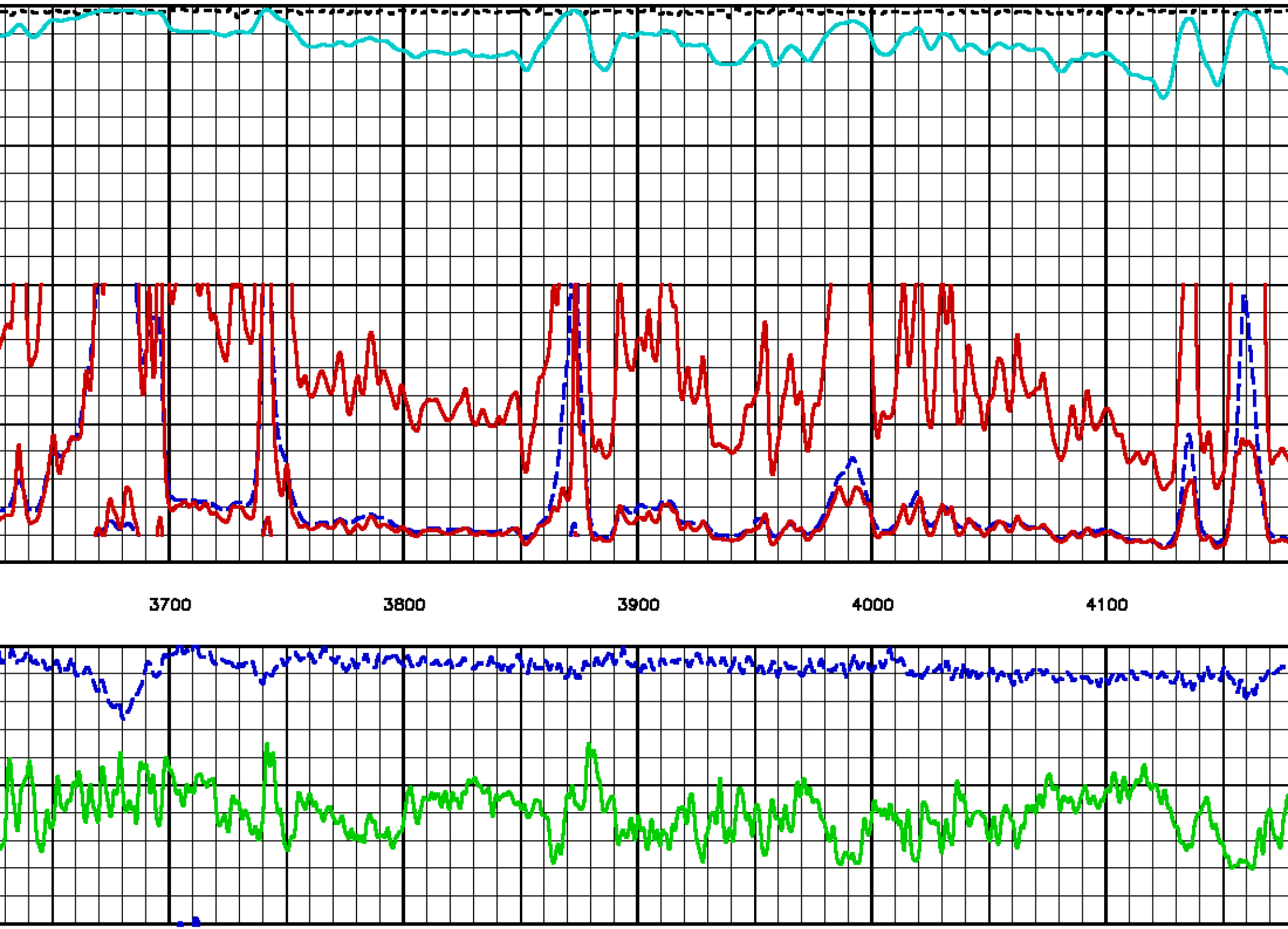
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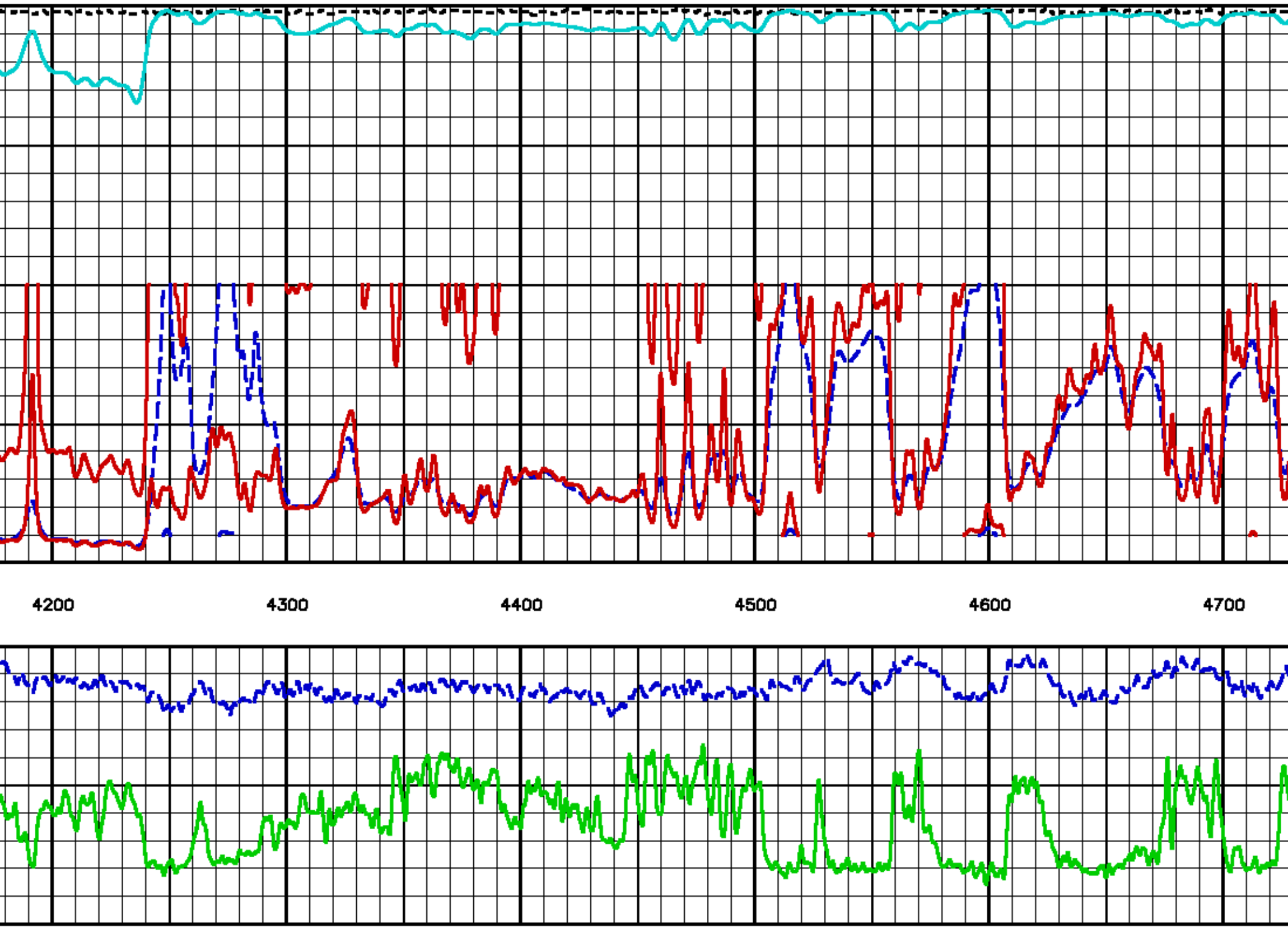
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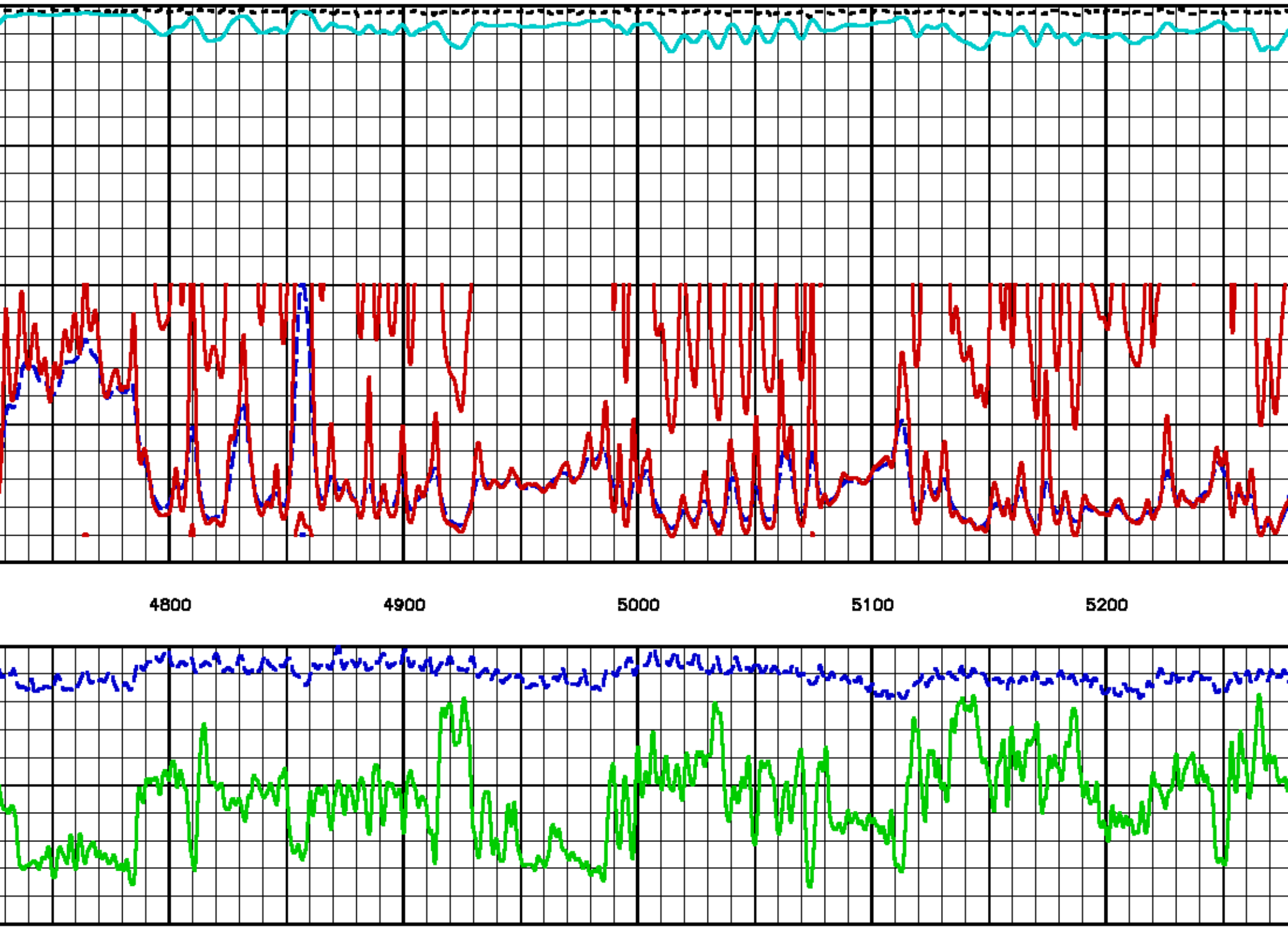
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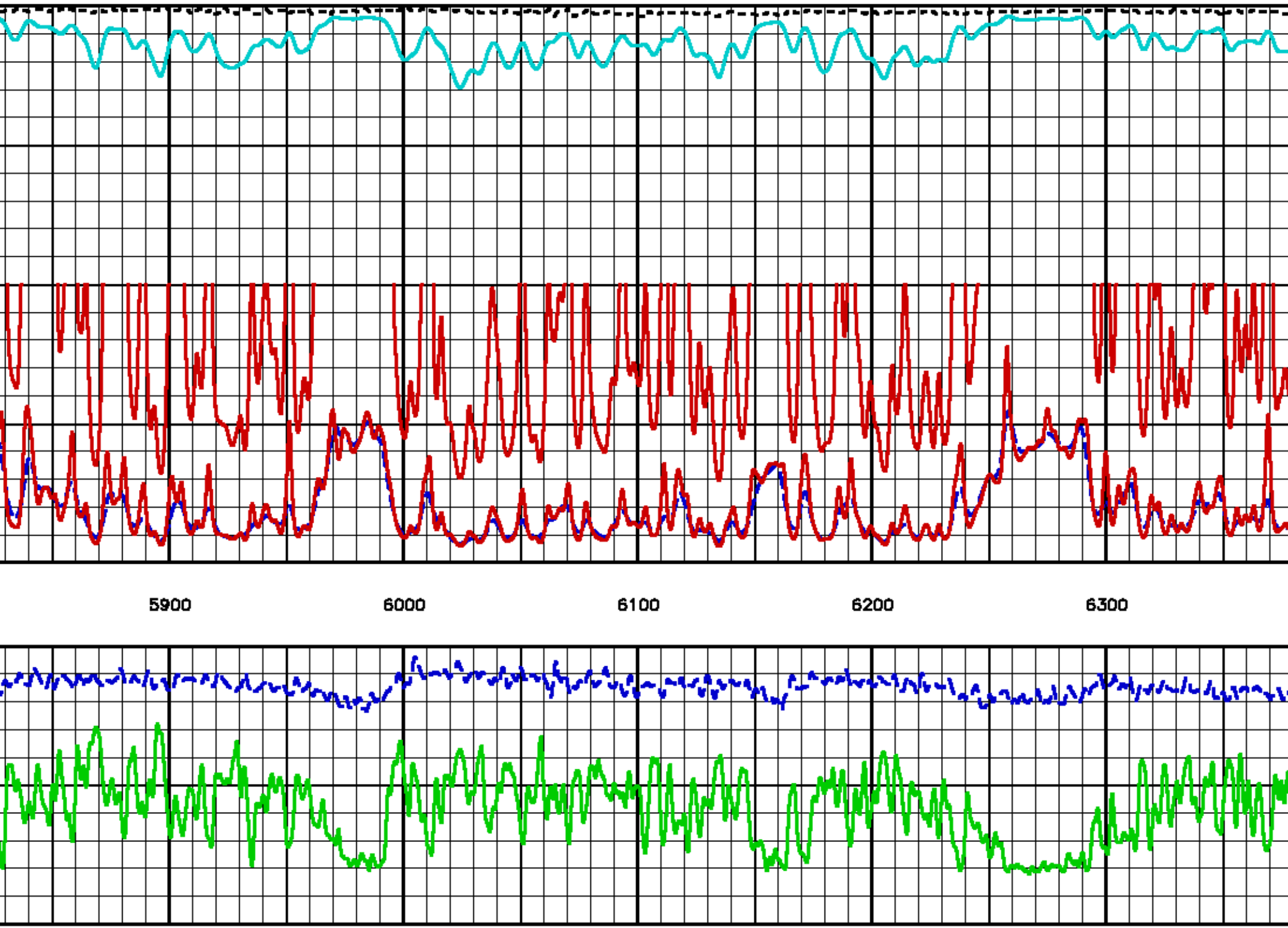
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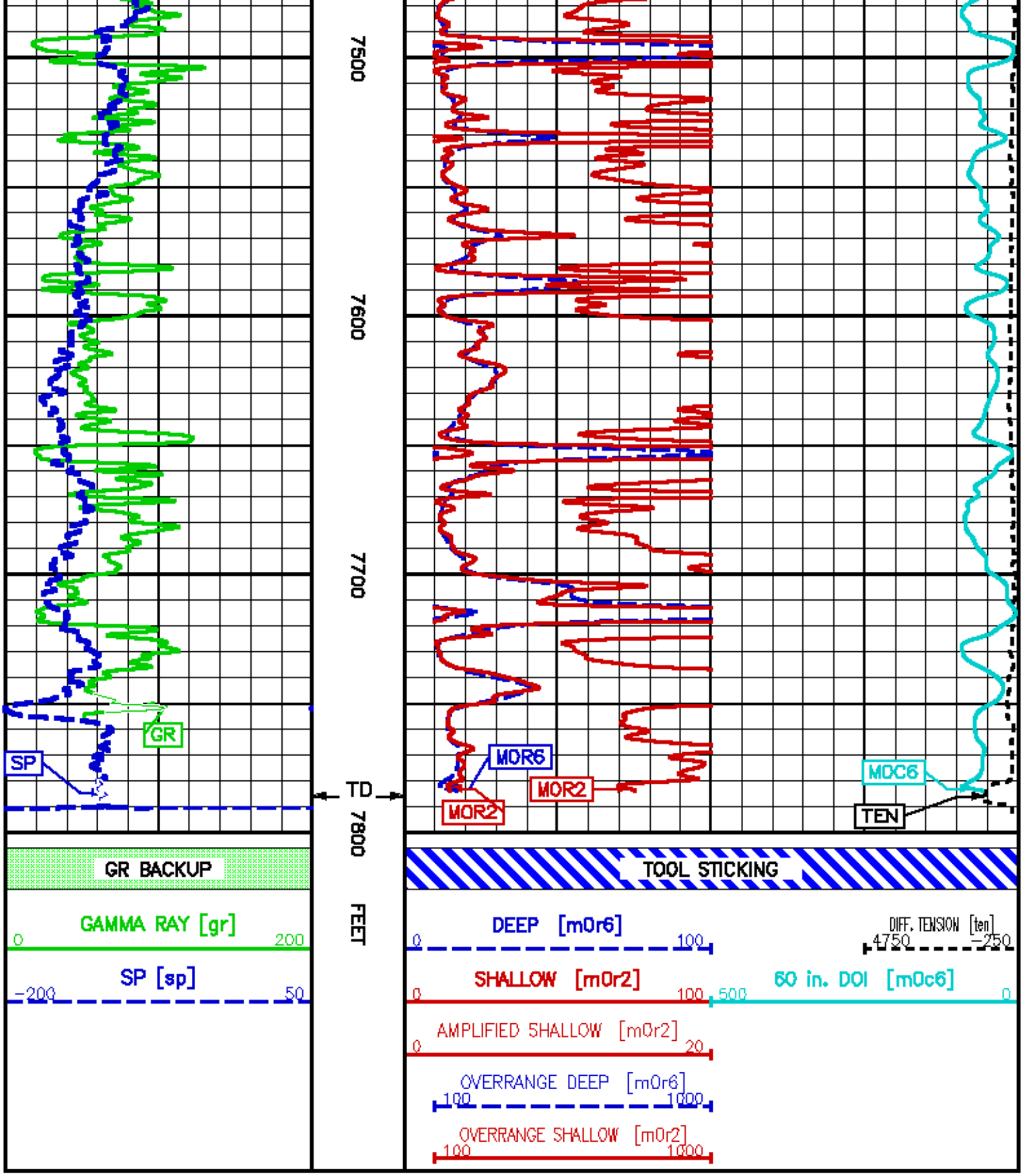

MAIN LOG 5"/100FT SCALE

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/825558/m070aR02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1525.000 ft BOTTOM DEPTH: 5756.923 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 (hrd1a*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2a*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPOH	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	6.750	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	6.750	in	"	"
	FIXED DIAMETER (mbh*)	6.750	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	"	"
	MUD SAMPLE RES	2.350	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	2435 MATRIX	SANDSTONE		TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	1324	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	9.625	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	MUD CONDUCTIVITY		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Jun 18 09:32:59 2013	BIT SIZE
F1:BVOL	Jun 18 09:32:59 2013	BOREHOLE VOLUME
F1:CAL	Jun 18 09:32:59 2013	CALIPER
F1:CNCF	Jun 18 09:32:59 2013	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Jun 18 09:32:59 2013	CEMENT VOLUME
F1:GR	Jun 18 09:32:59 2013	GAMMA RAY
F1:M2R1	Jun 18 09:32:59 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Jun 18 09:32:59 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Jun 18 09:32:59 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Jun 18 09:32:59 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Jun 18 09:32:59 2013	POROSITY FOR SELECTABLE MATRIX
F1:SP	Jun 18 09:32:59 2013	SPONTANEOUS POTENTIAL
F1:TEN	Jun 18 09:32:59 2013	DIFFERENTIAL TENSION
F1:ZCOR	Jun 18 09:32:59 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 : HL6670:RDR_WPX_MAIN.pdf [5"/100' Scale]
Plot Interval : -5 - 7799.25 Feet

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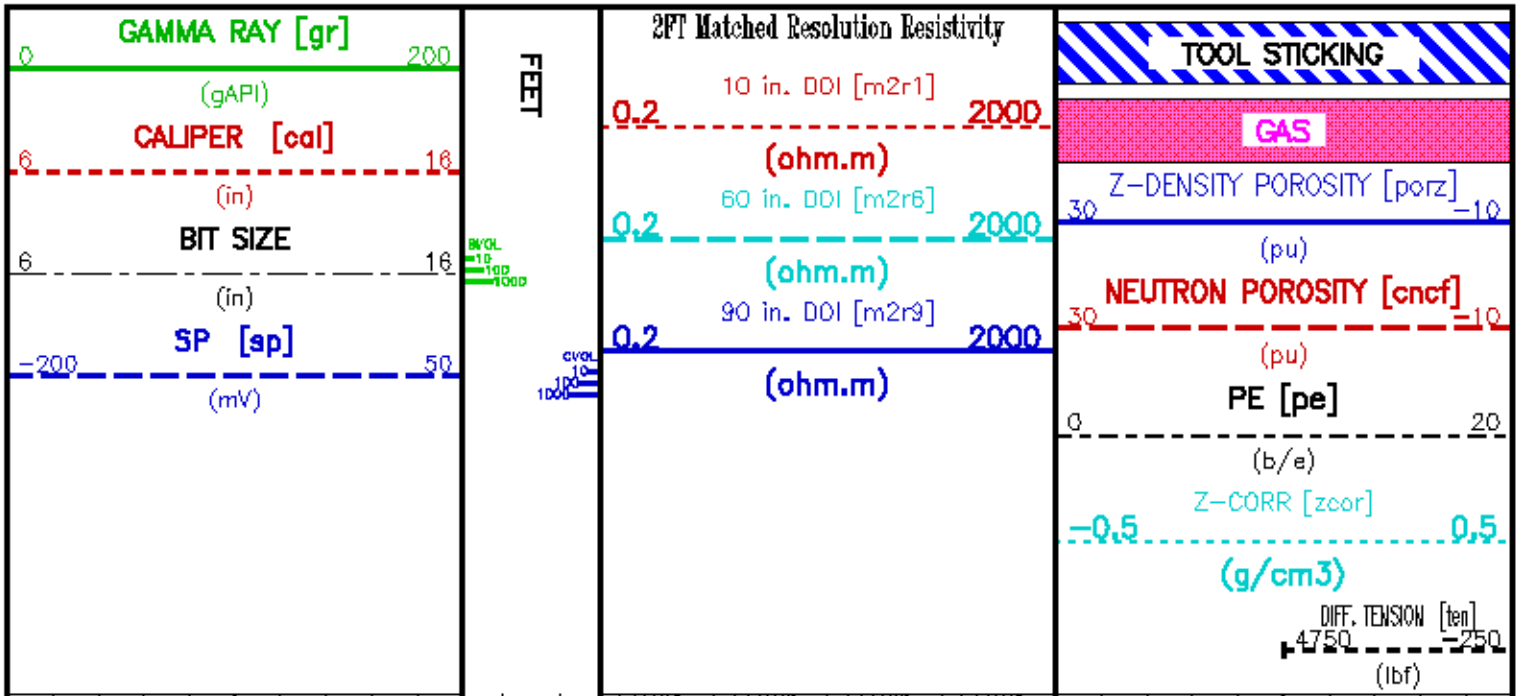
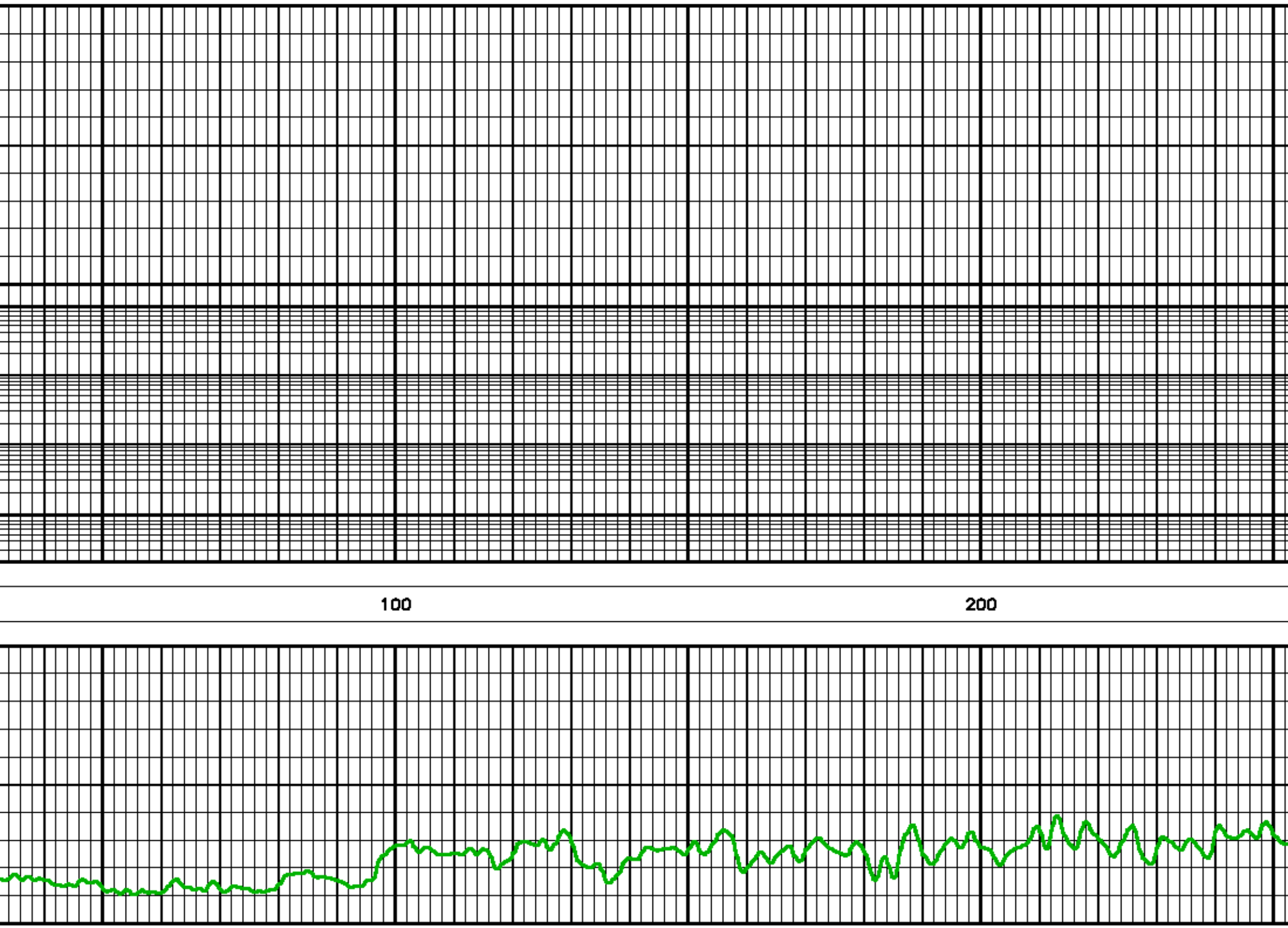
Created On : Jun 18 09:32:58 2013
Company : WPX ENERGY ROCKY MOUNTAIN
Well : WPX ENERGY RMV 78-34
Field : RULISON
File Interval : -5 - 7799.25 Feet
Out : m670a

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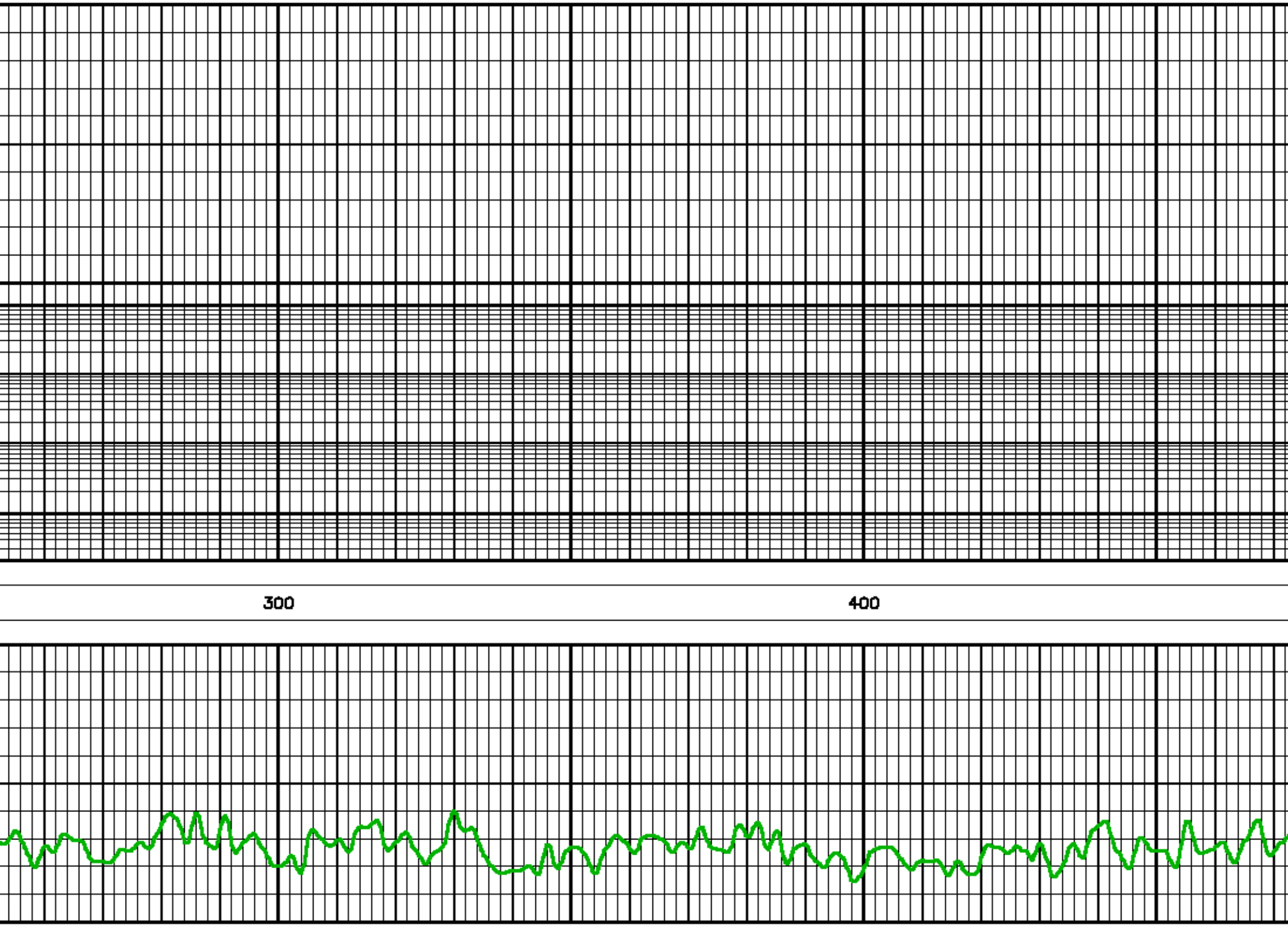
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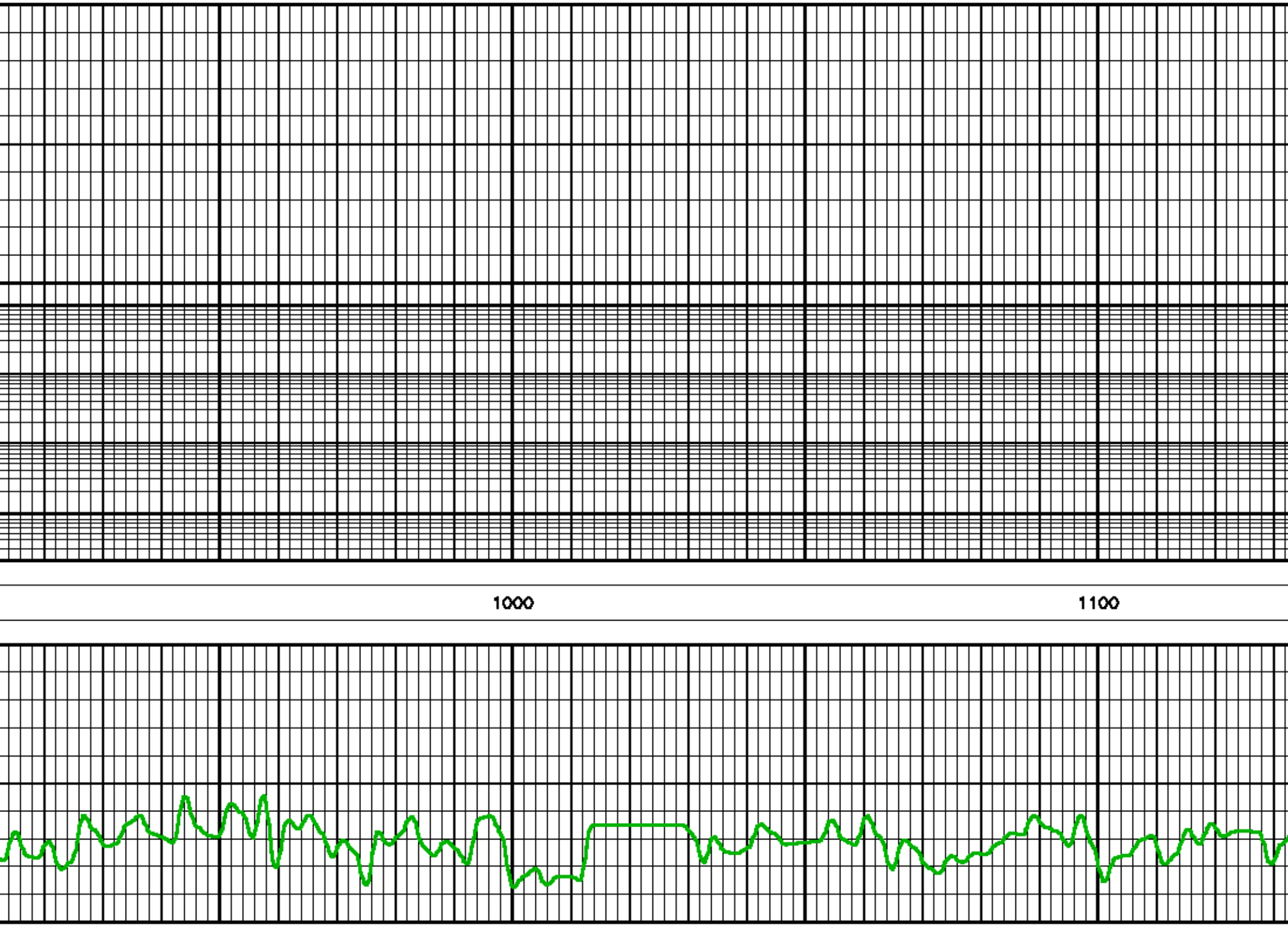
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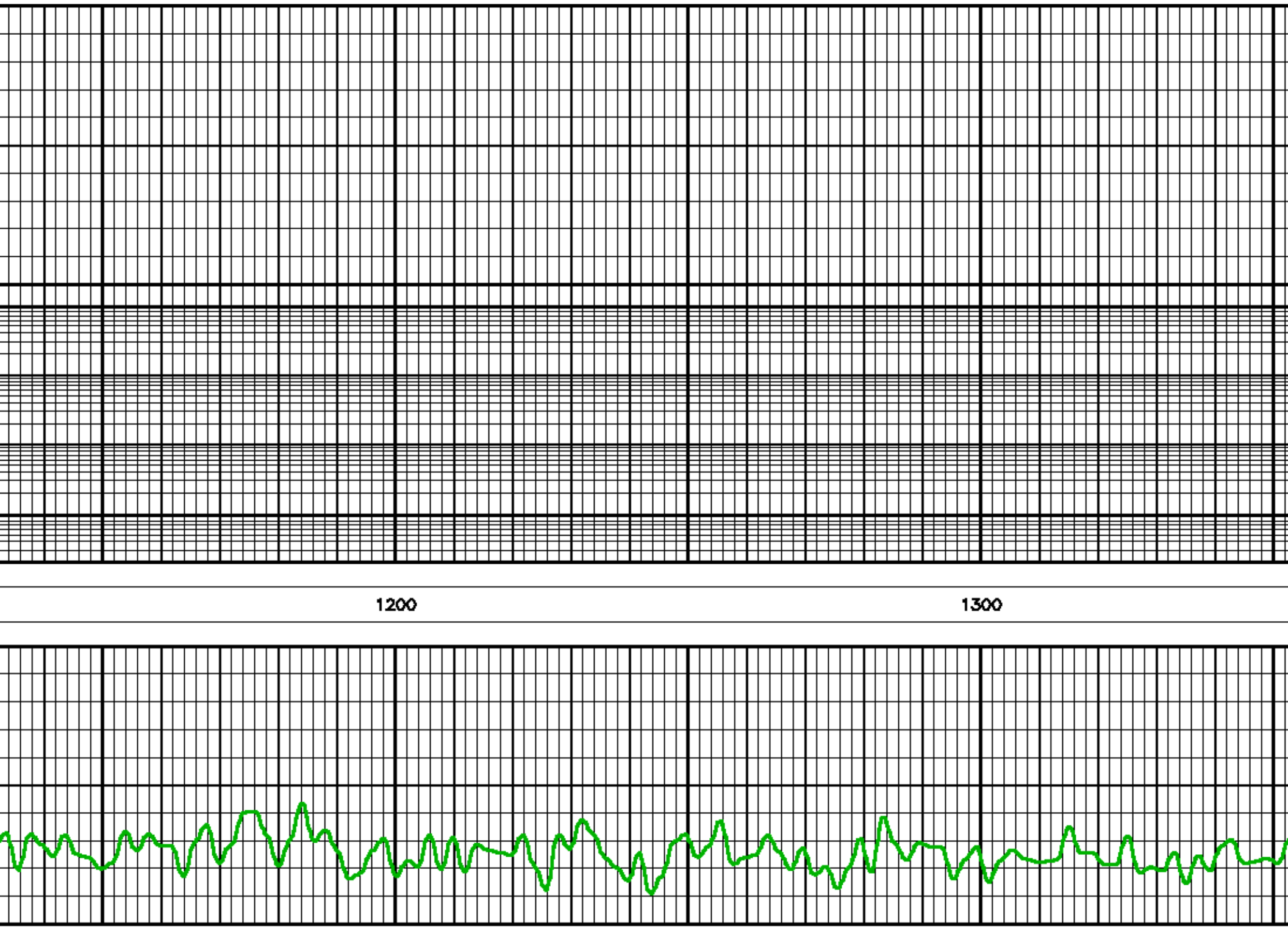
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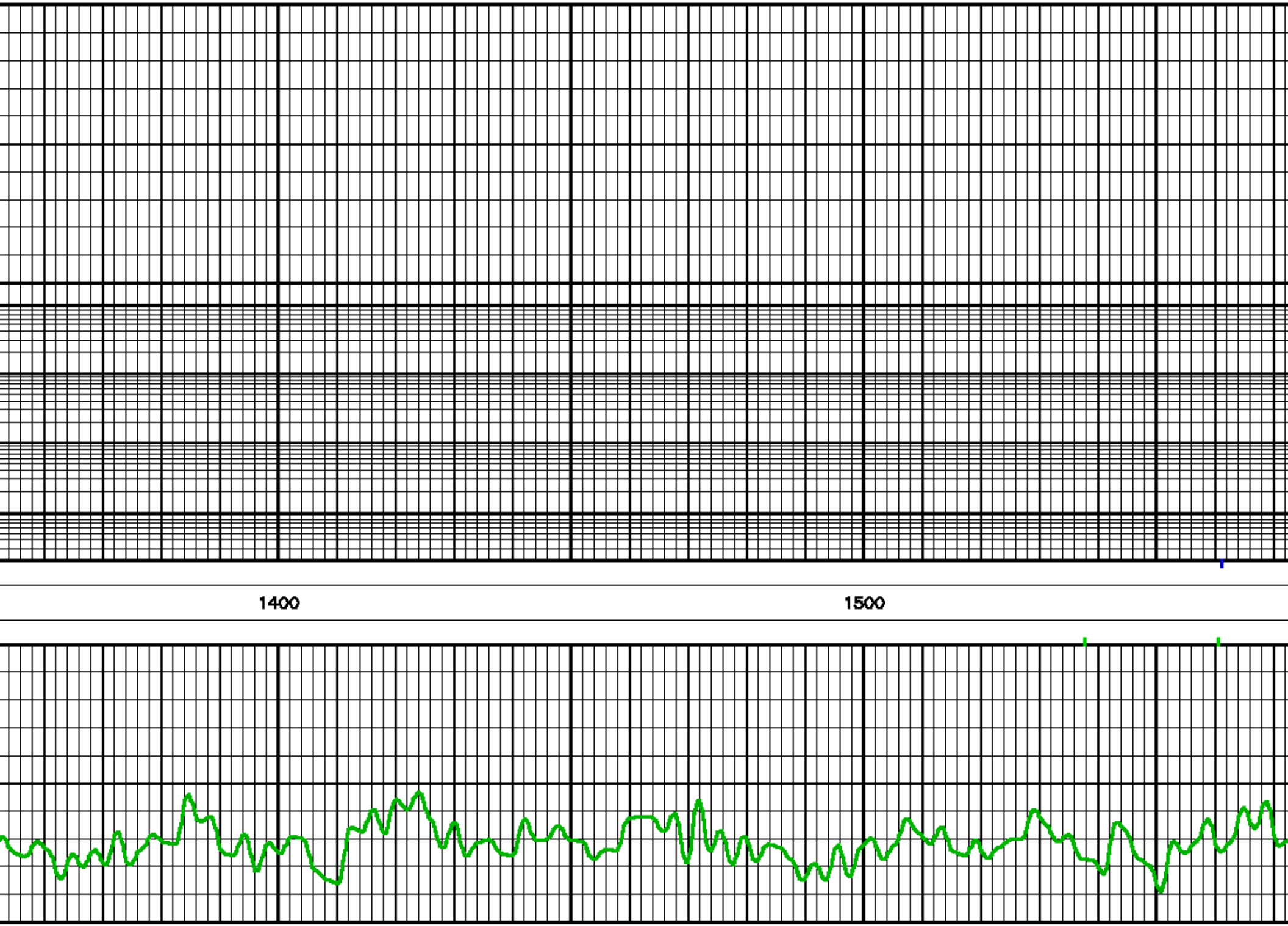
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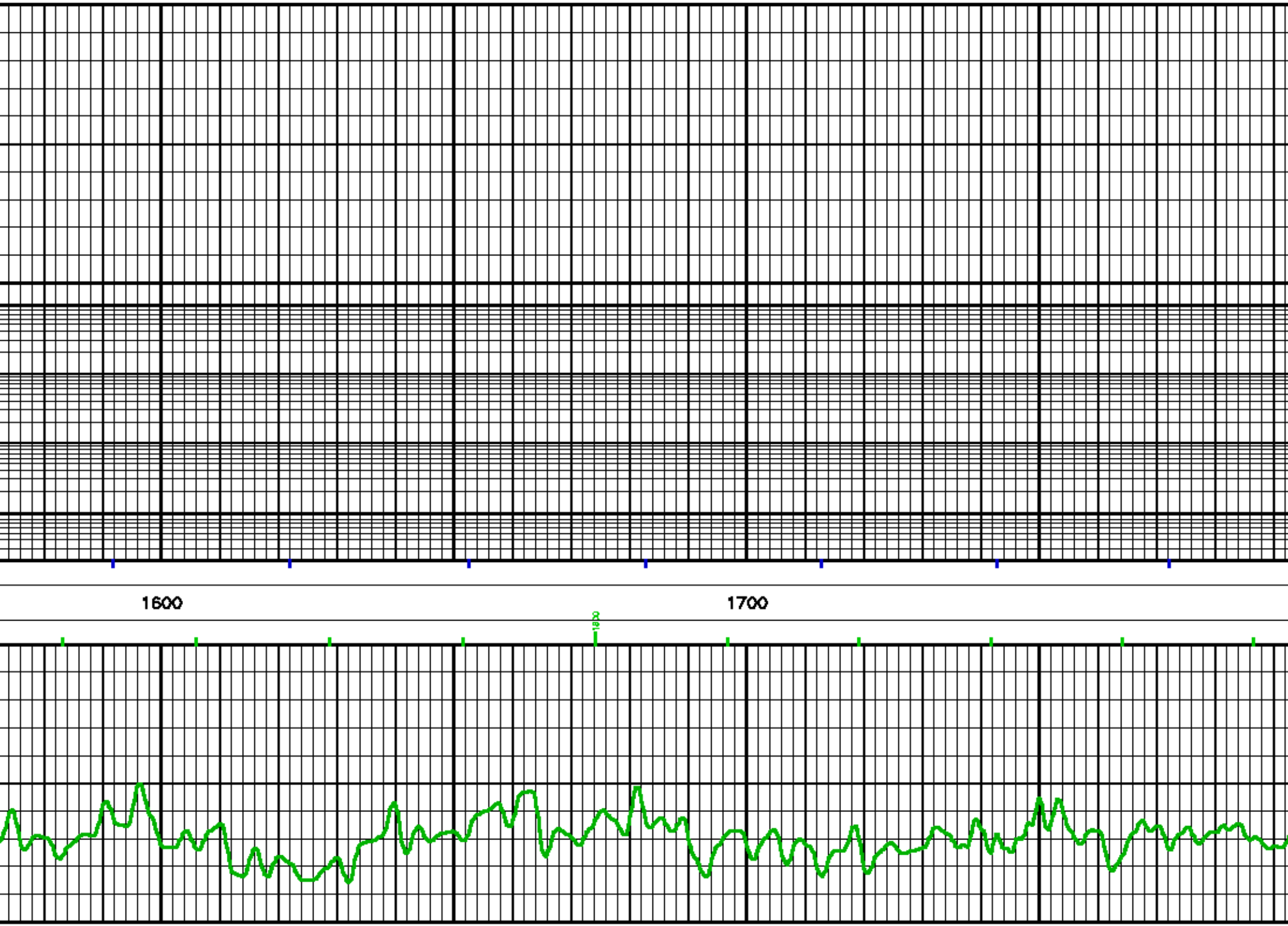
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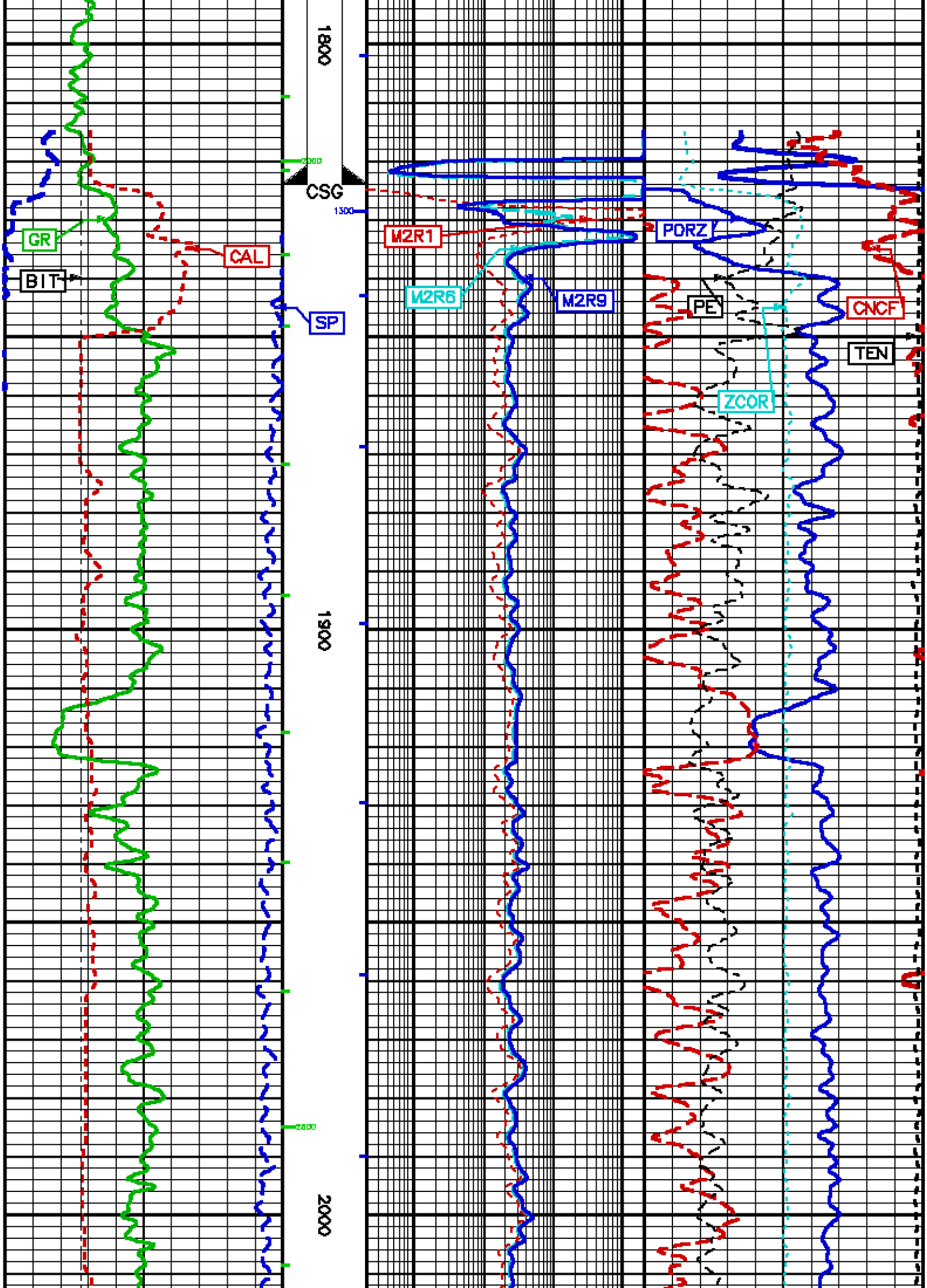
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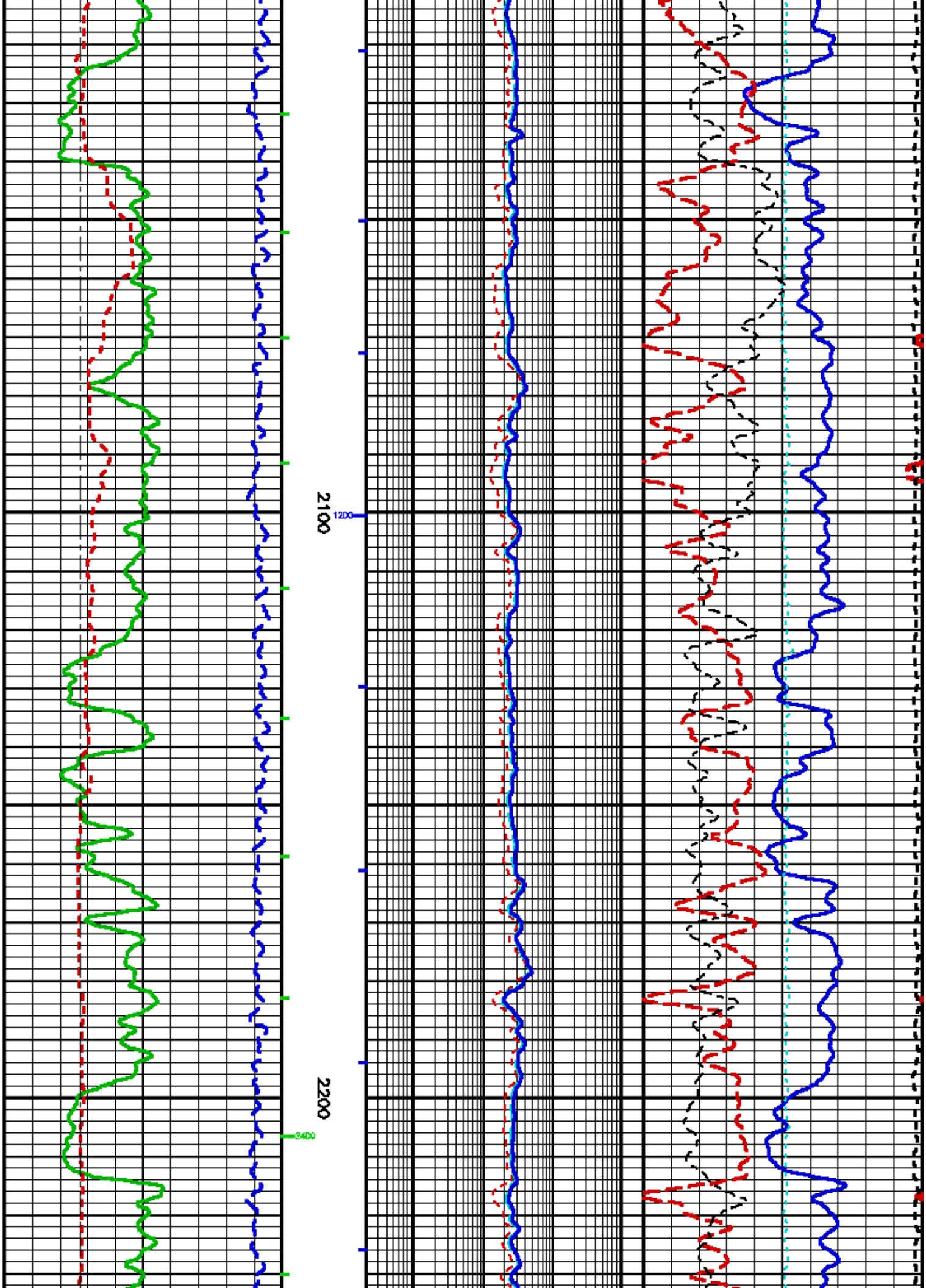
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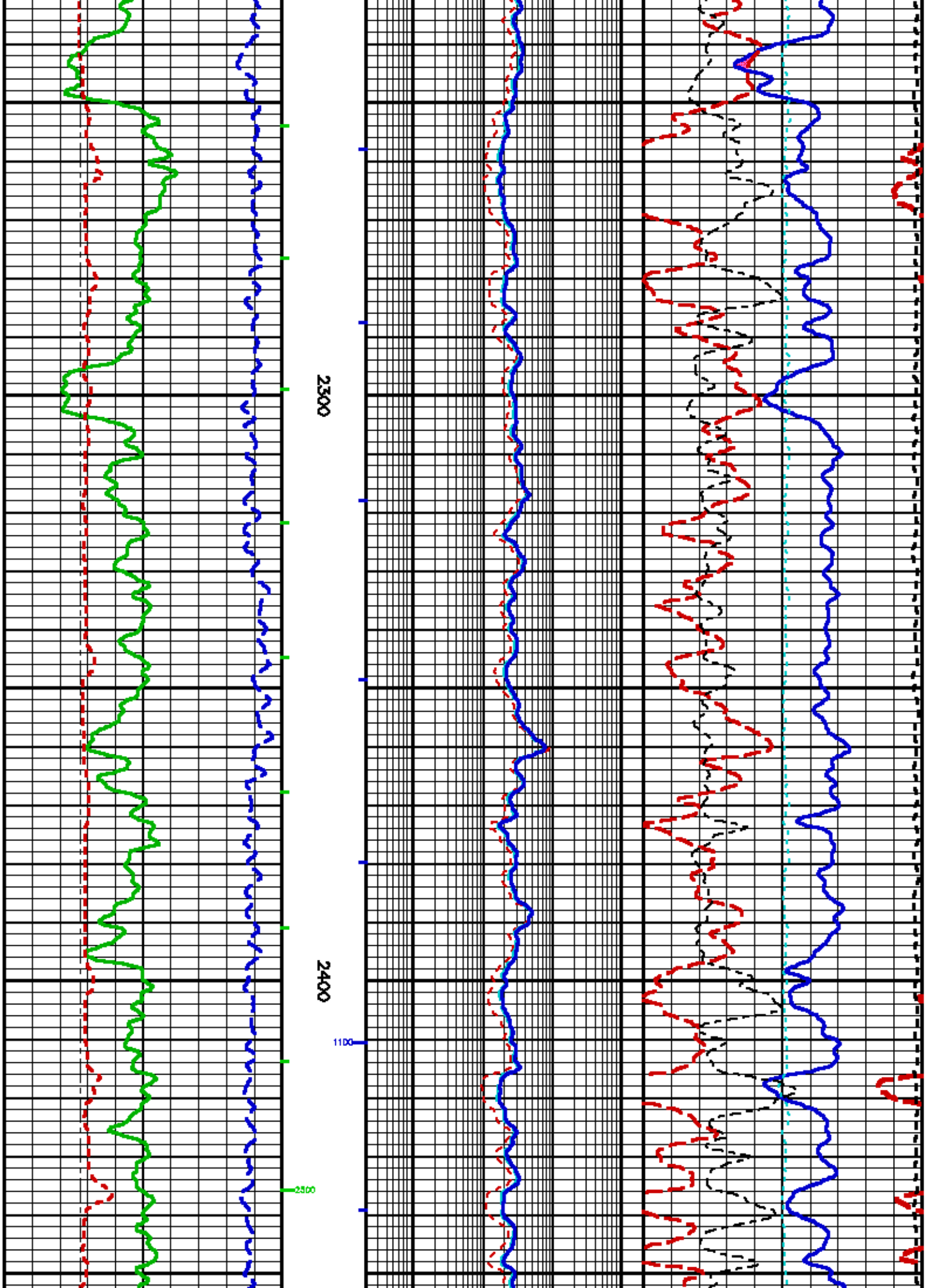
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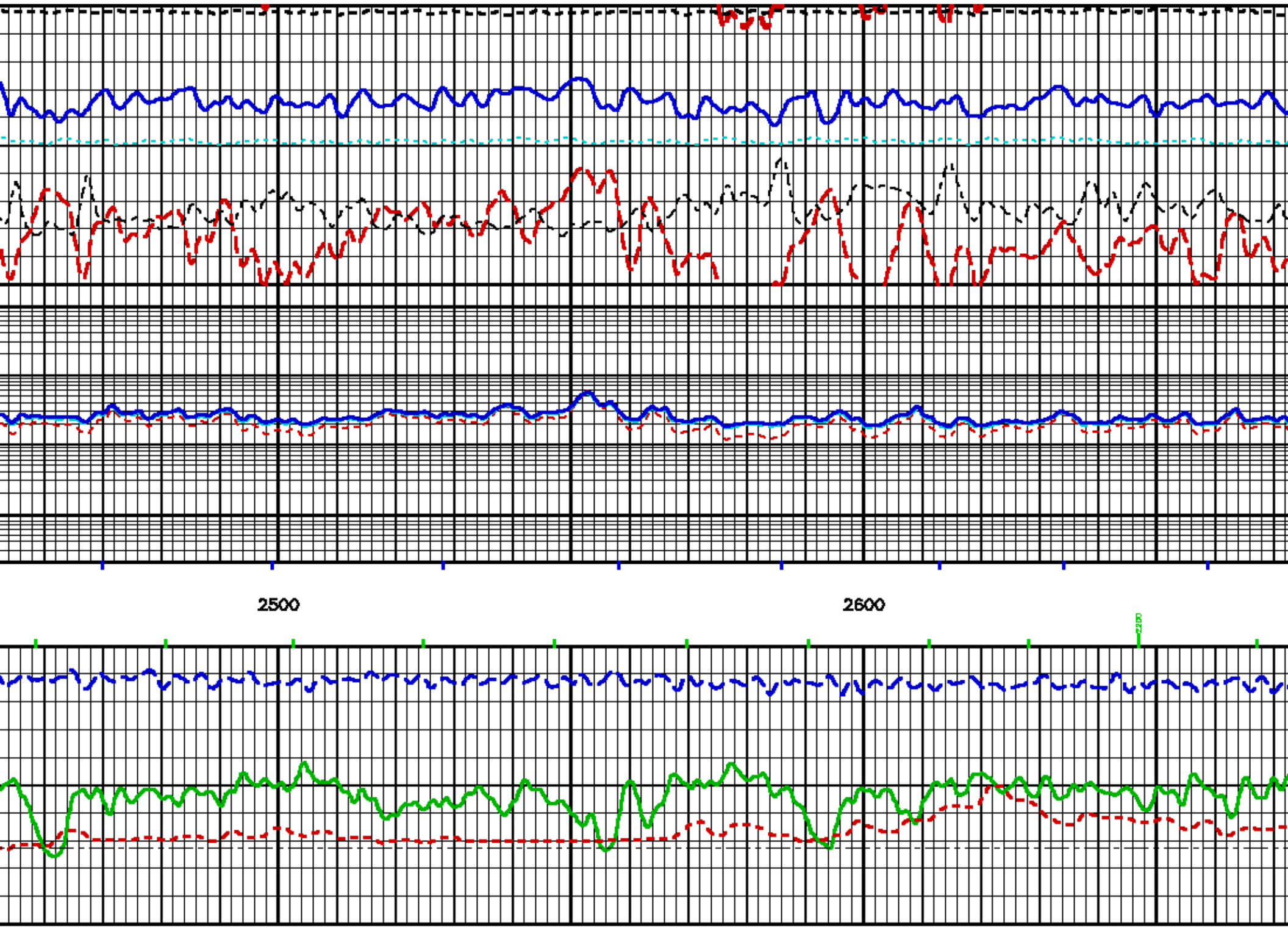
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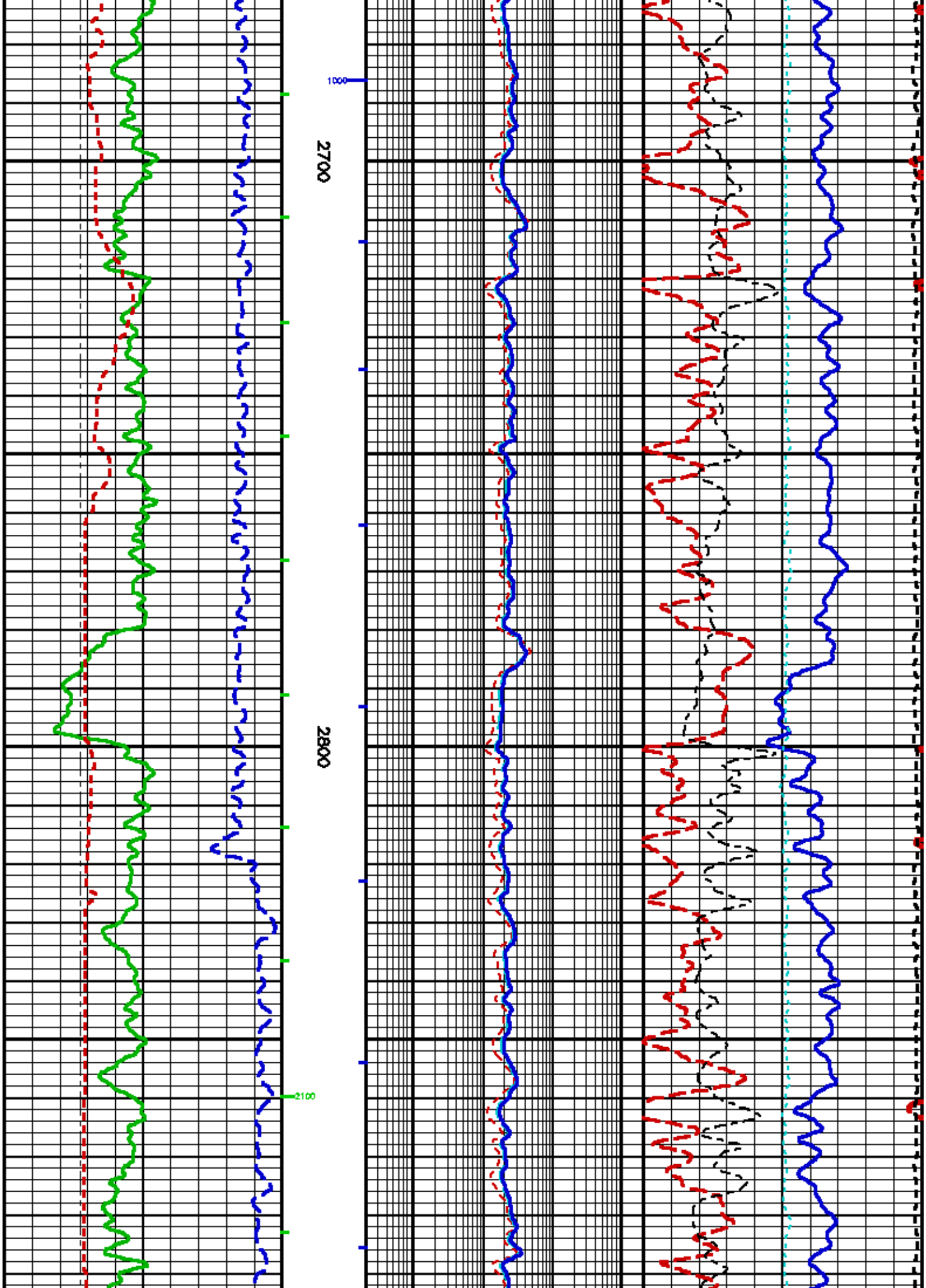
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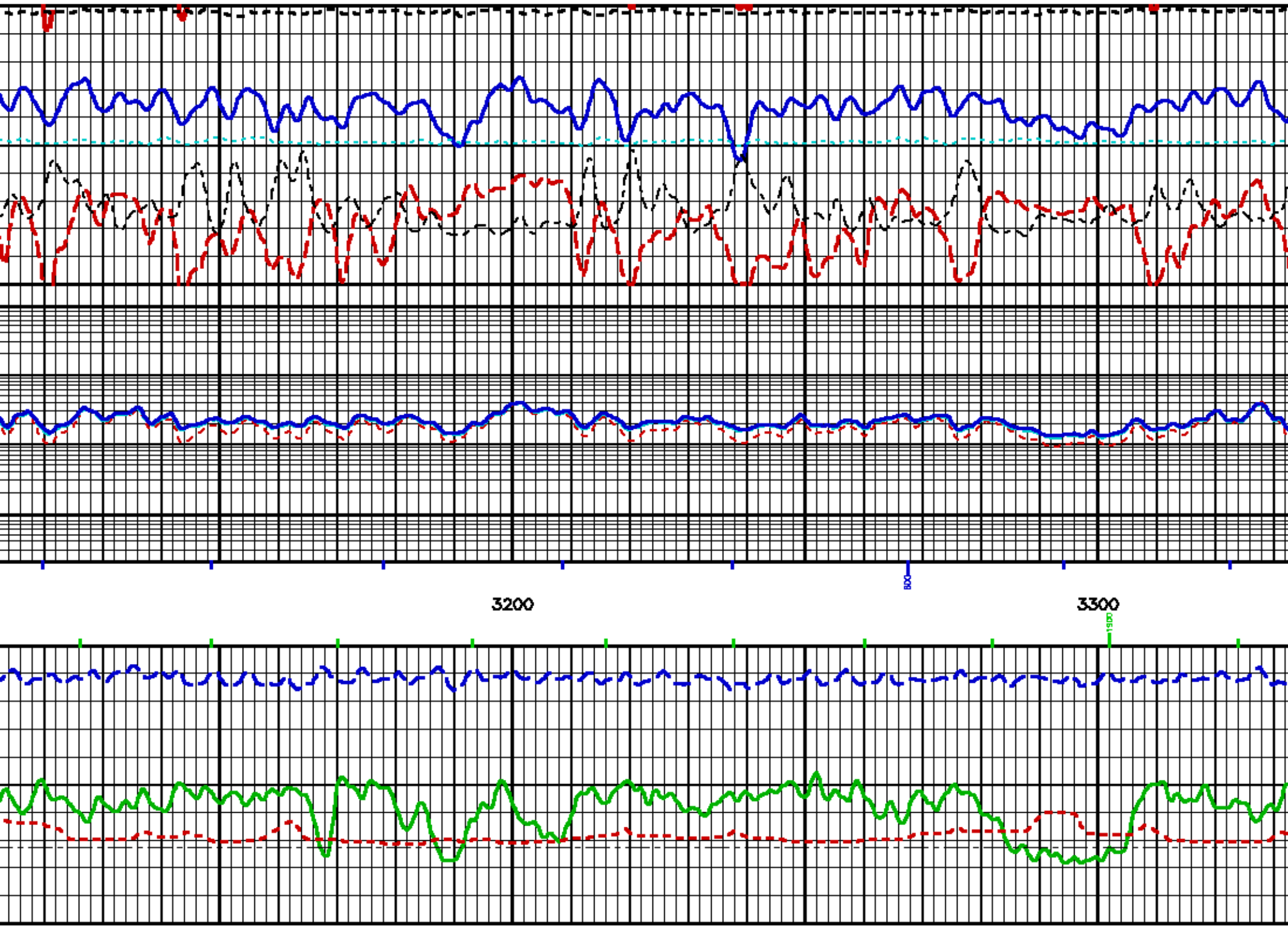
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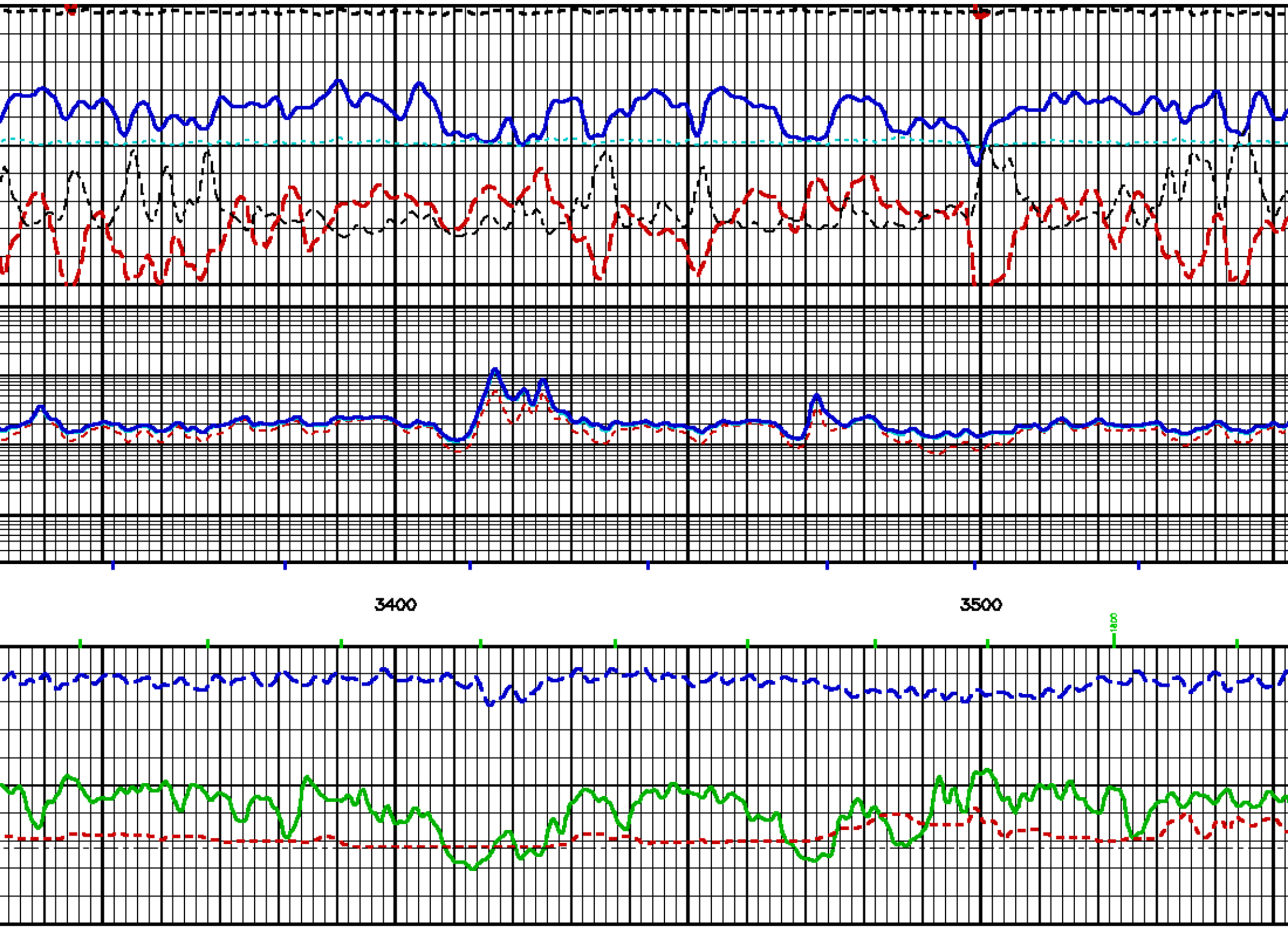
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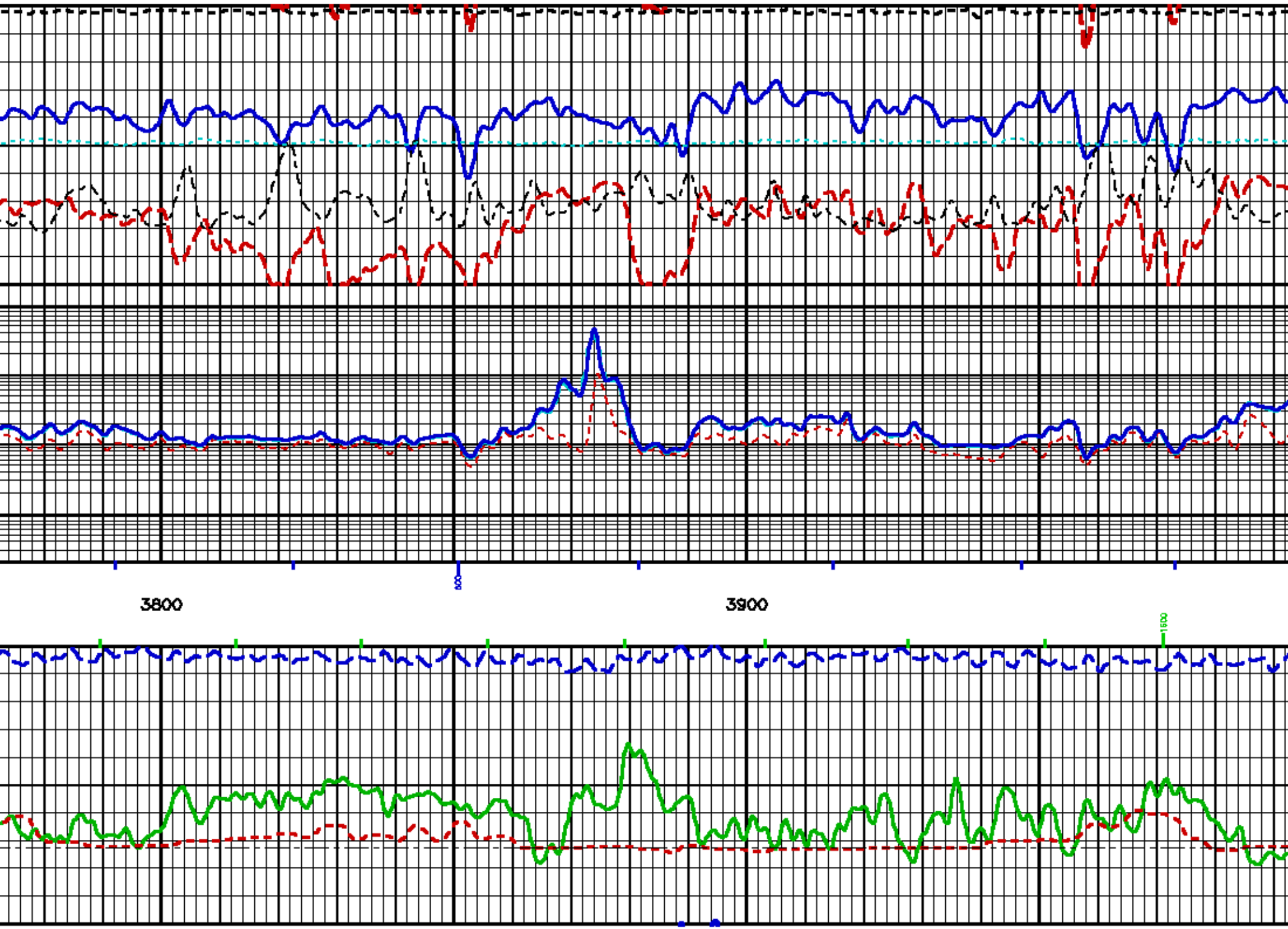
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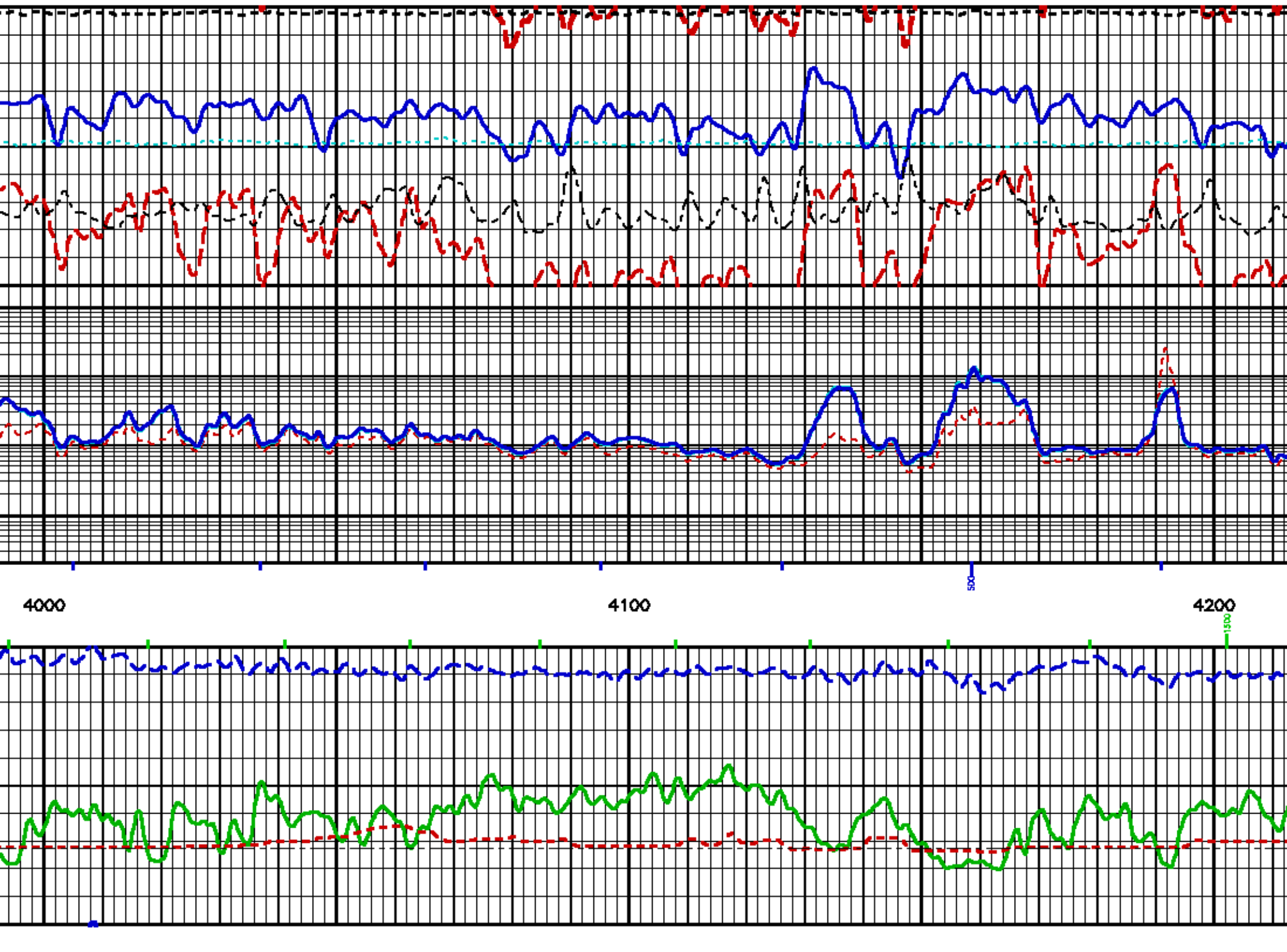
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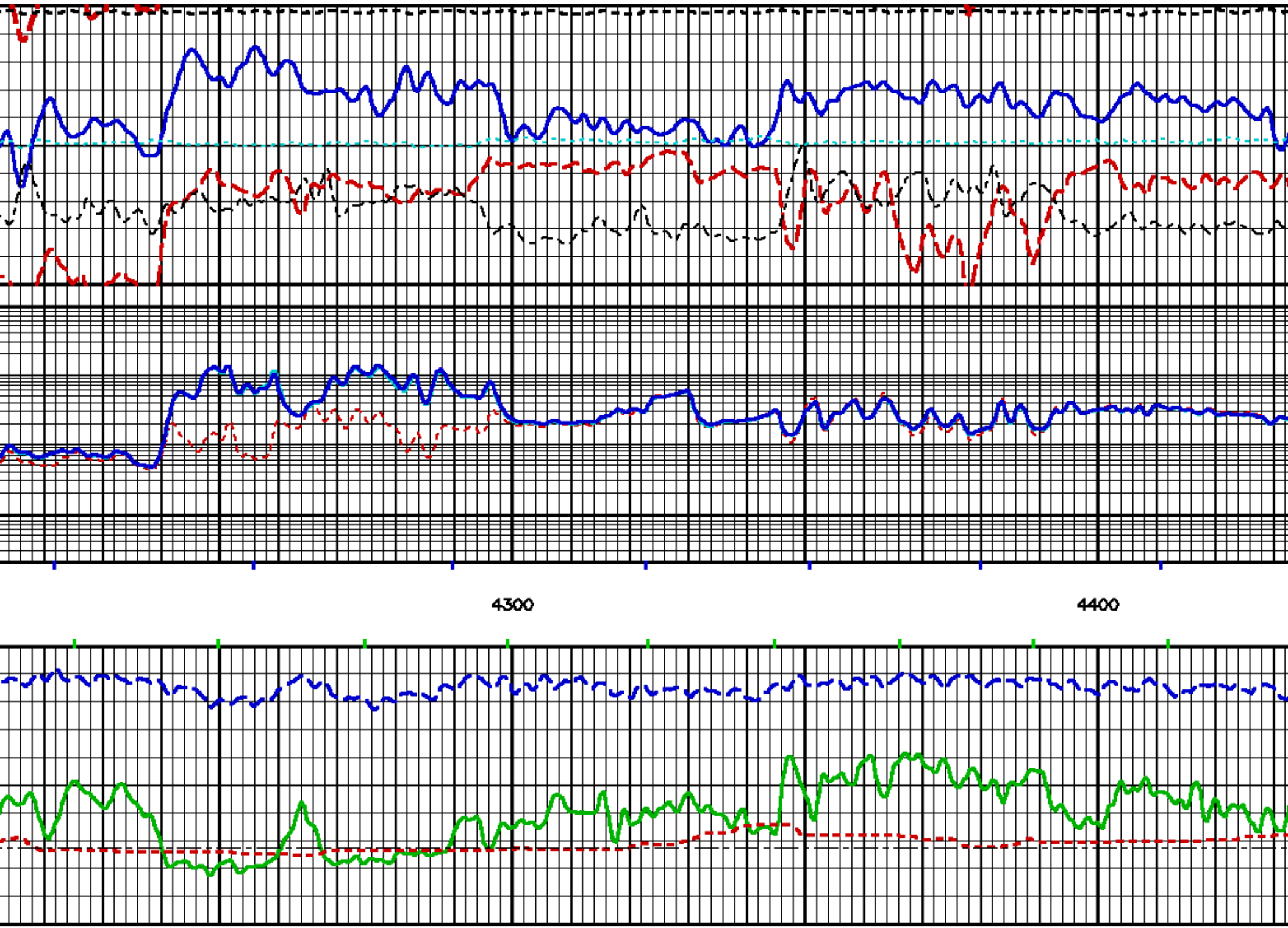
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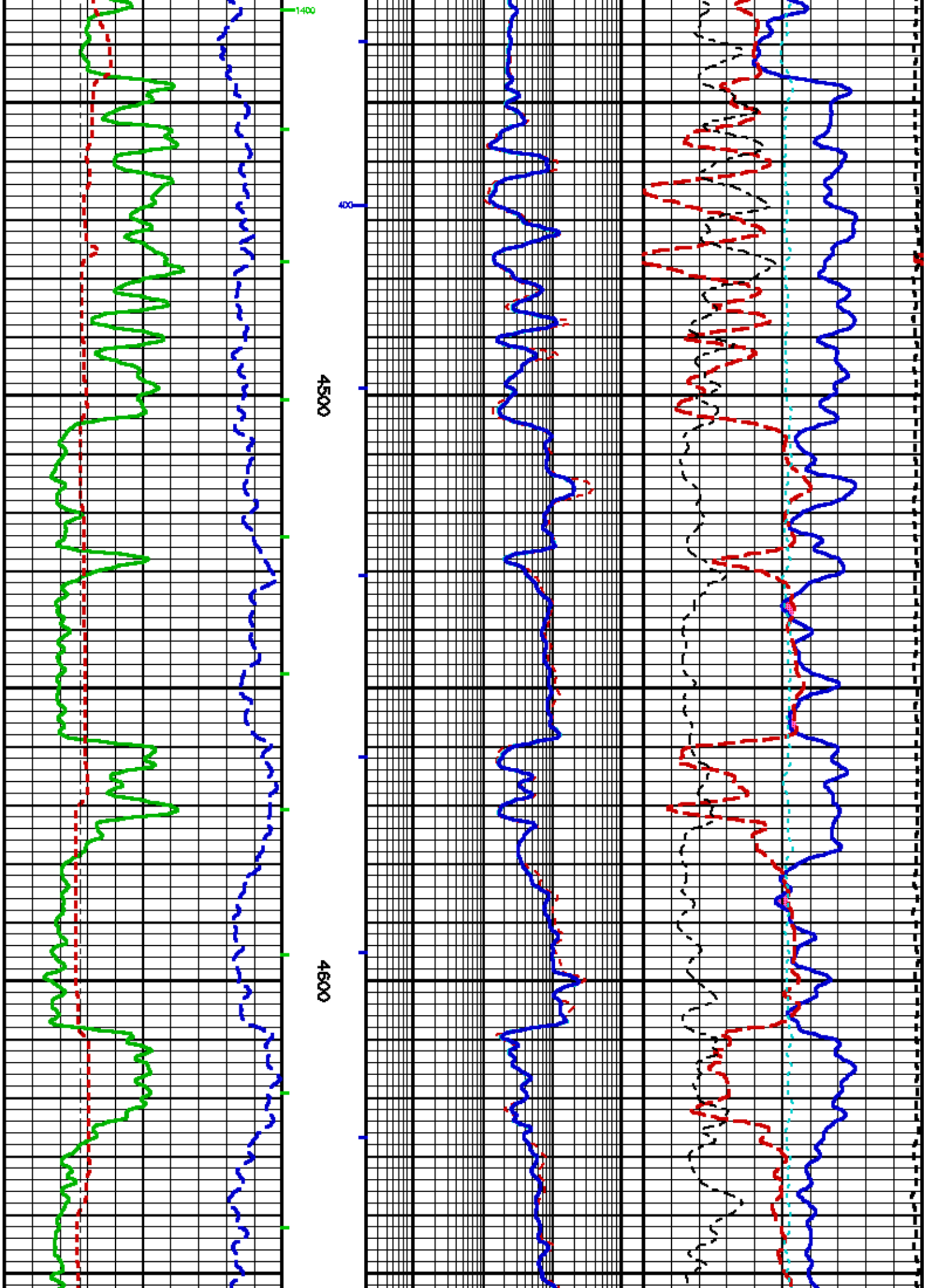
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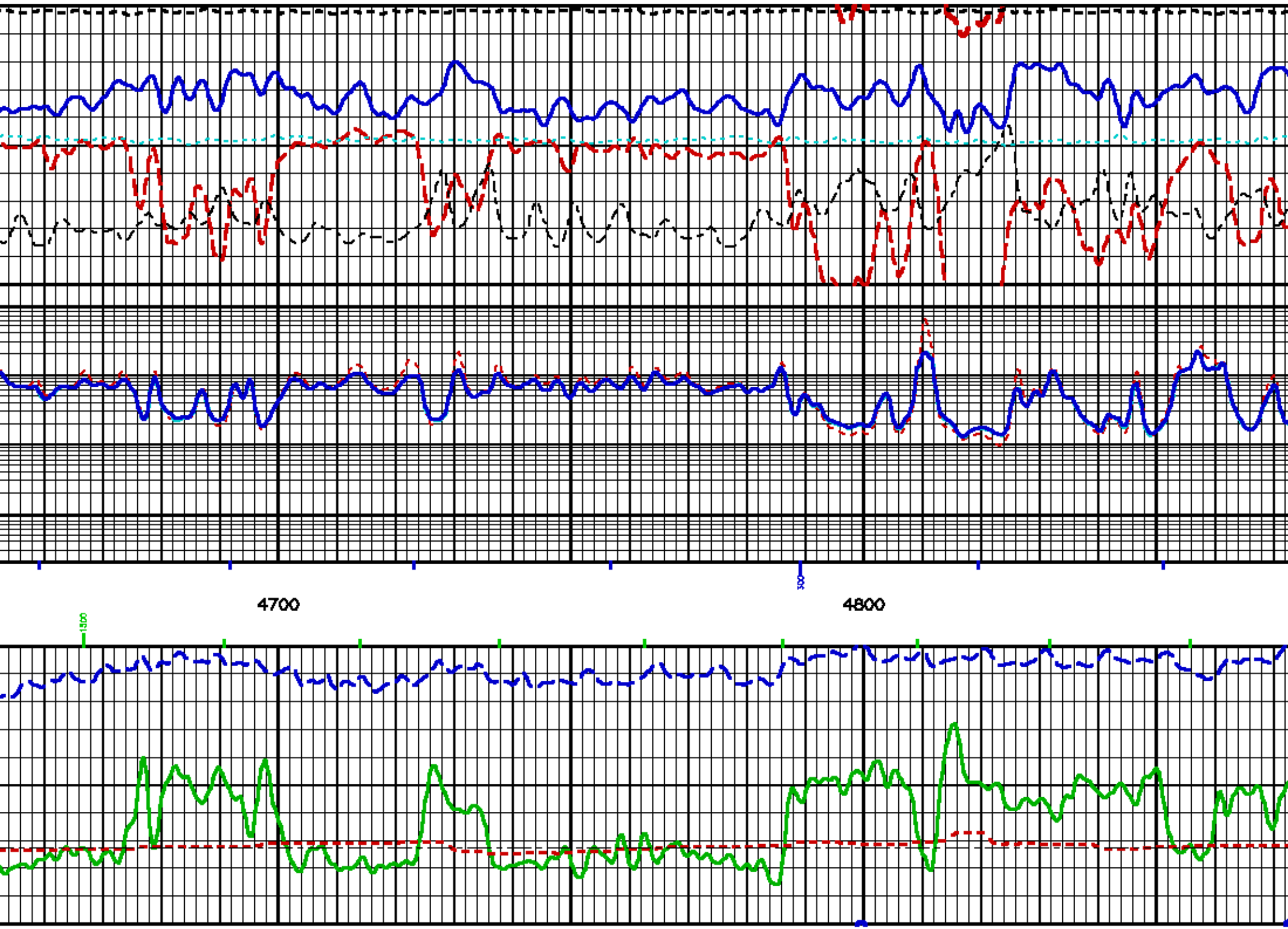
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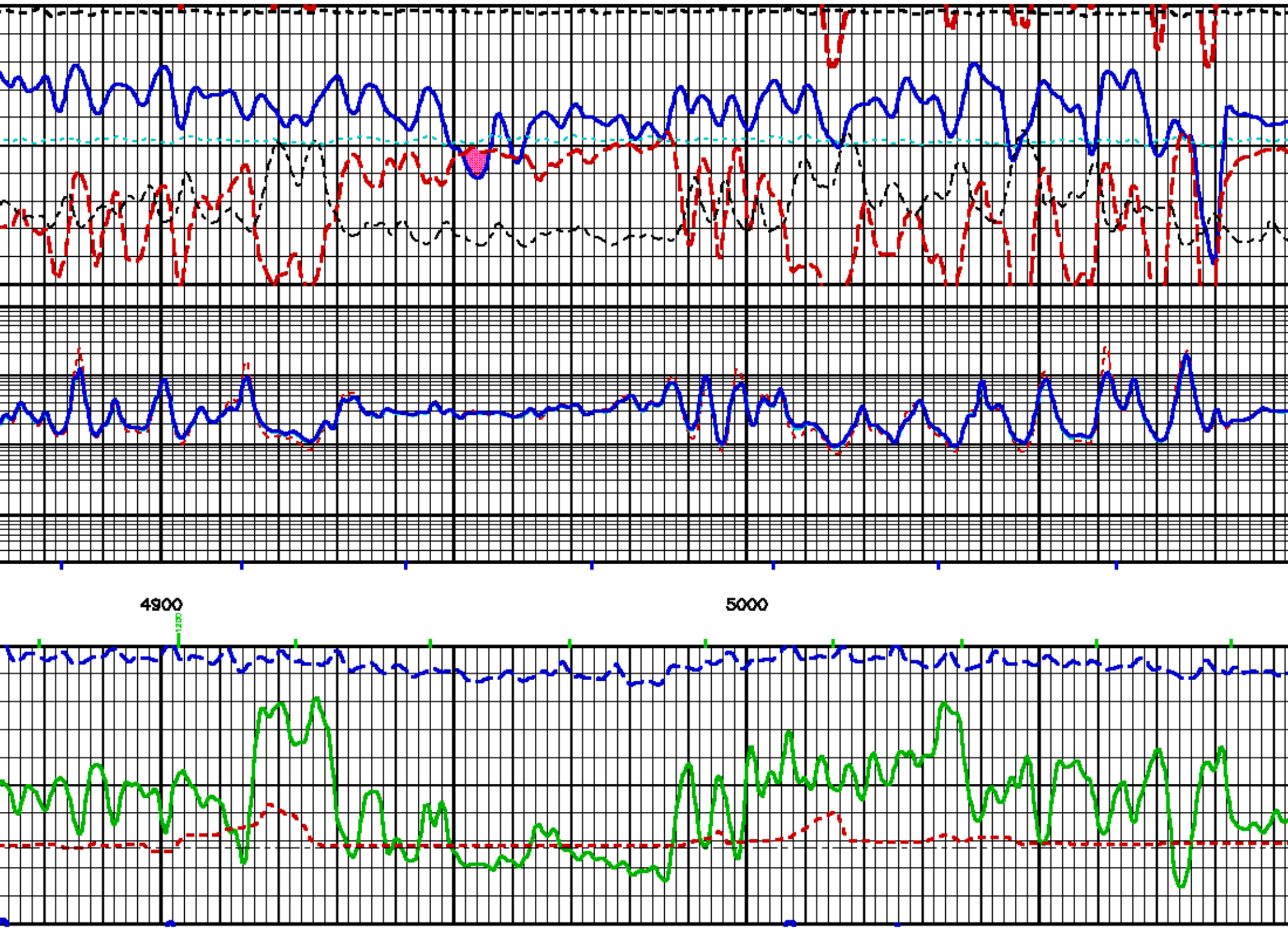
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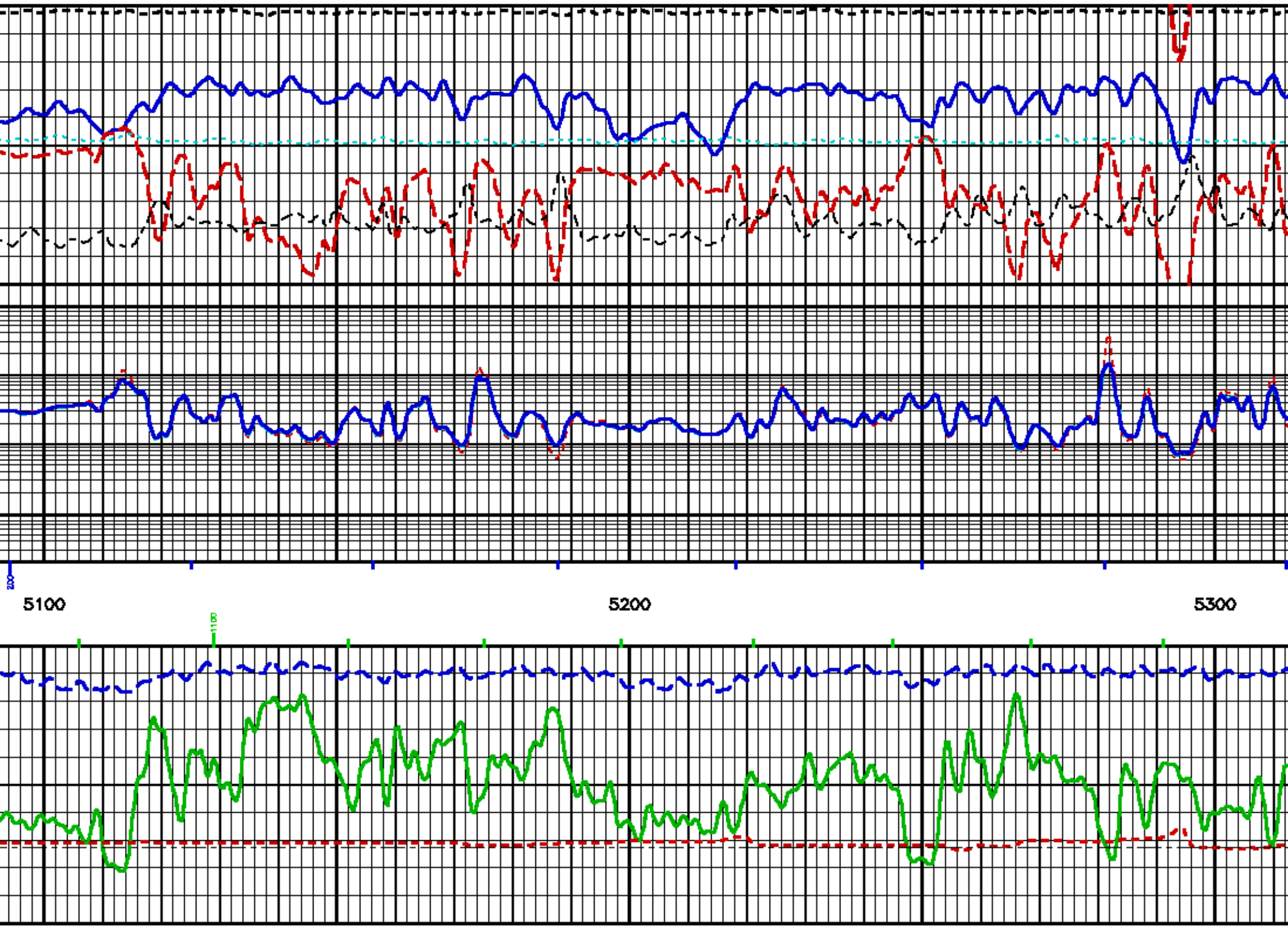
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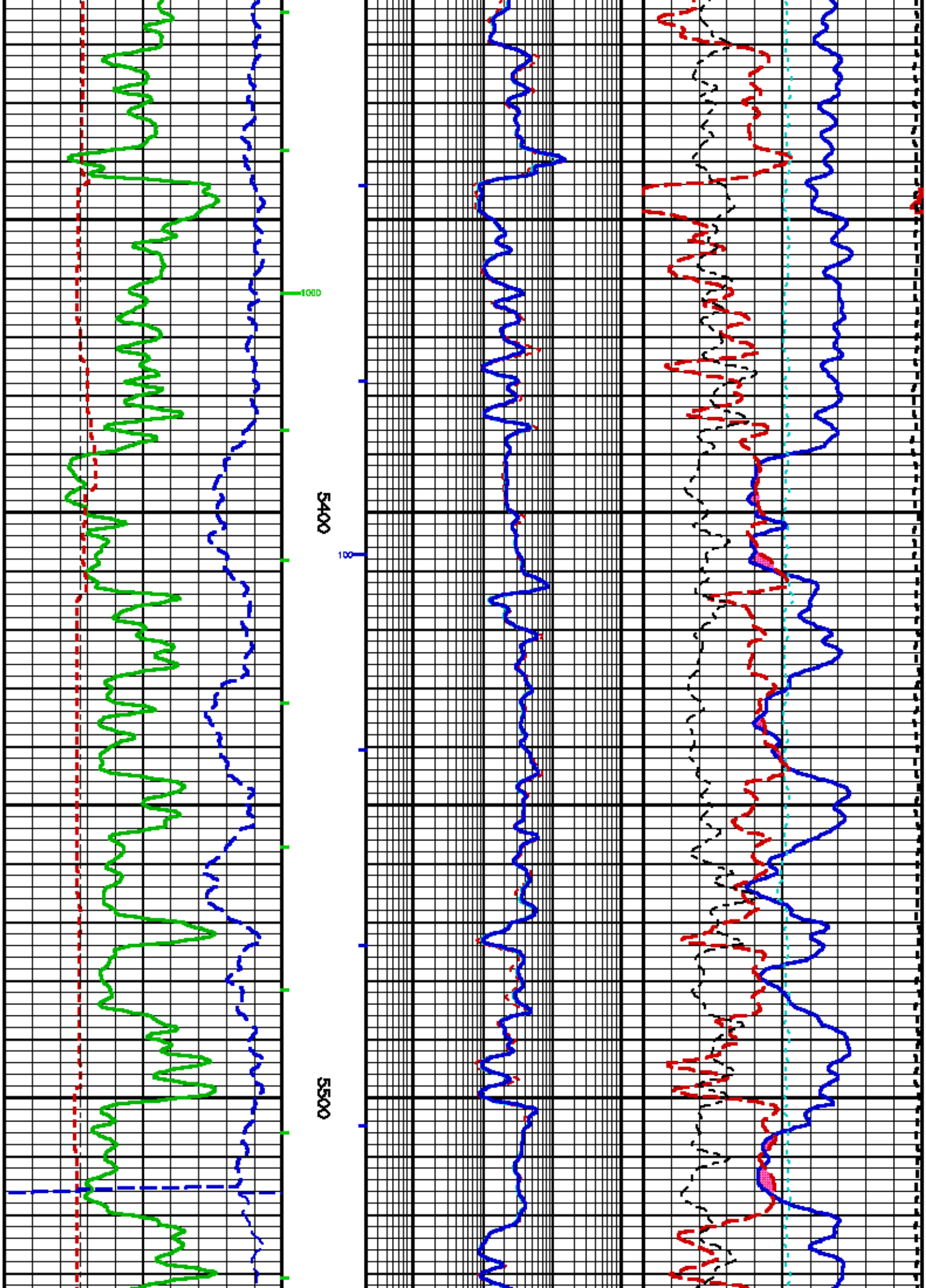
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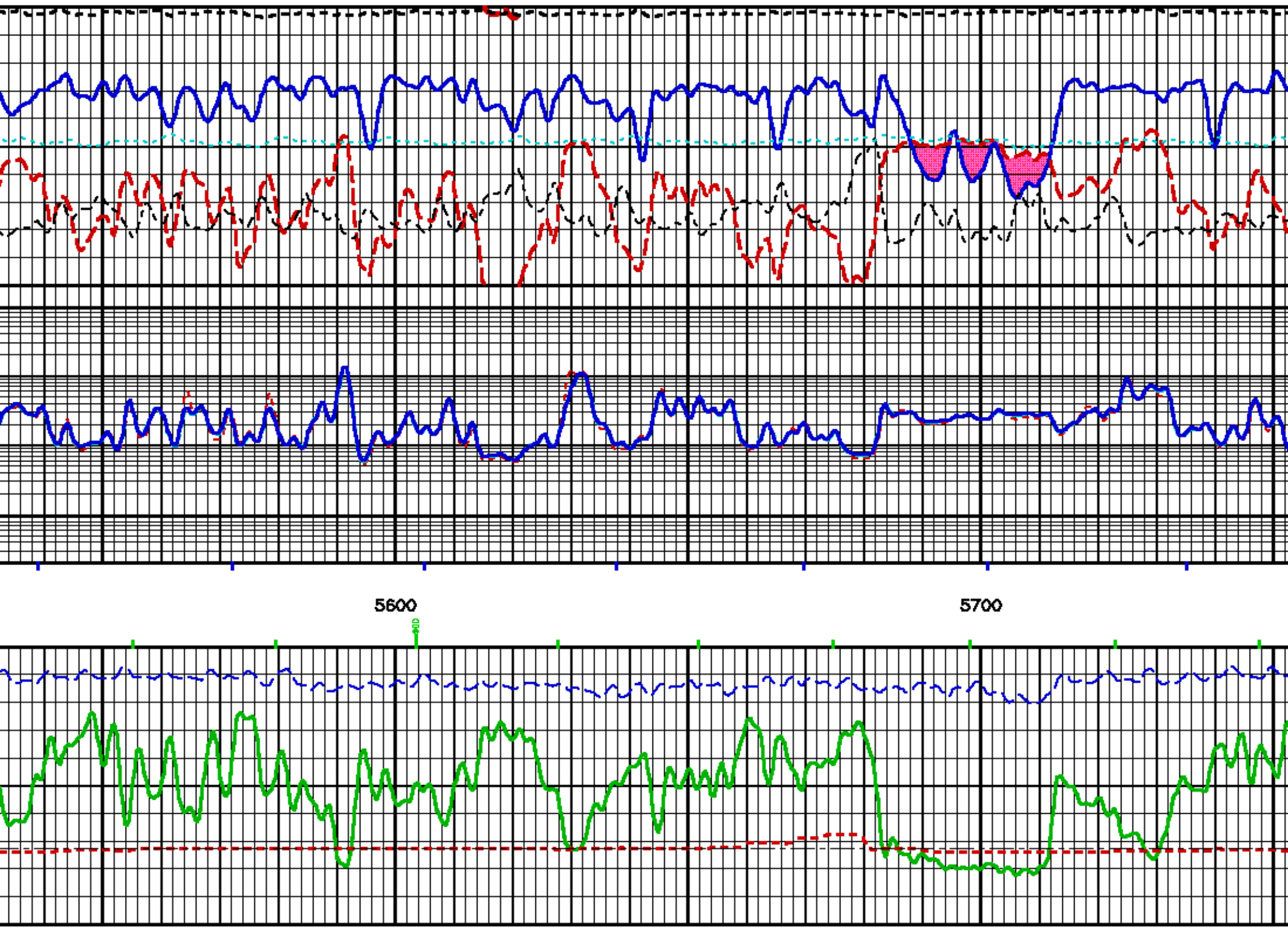
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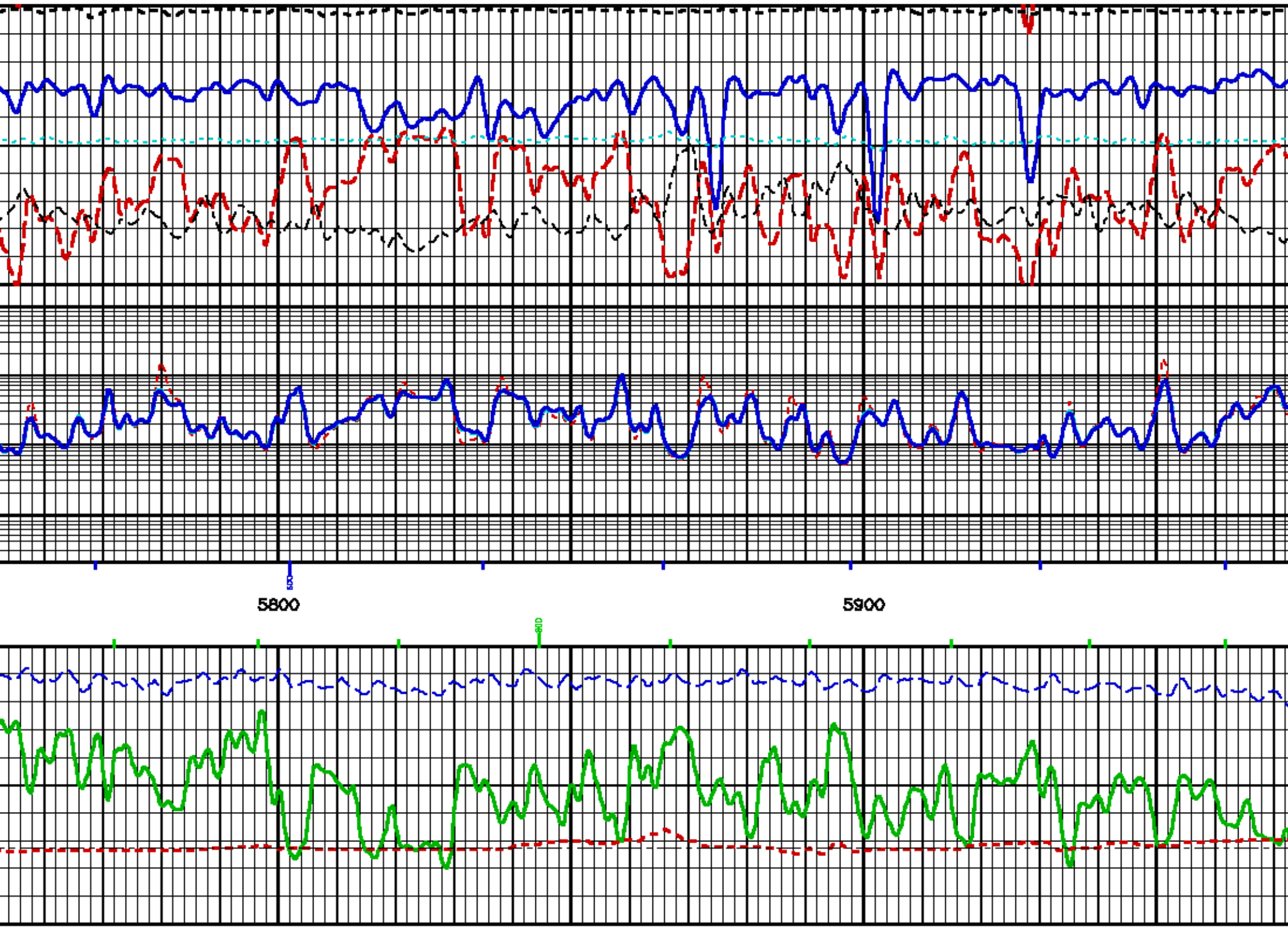
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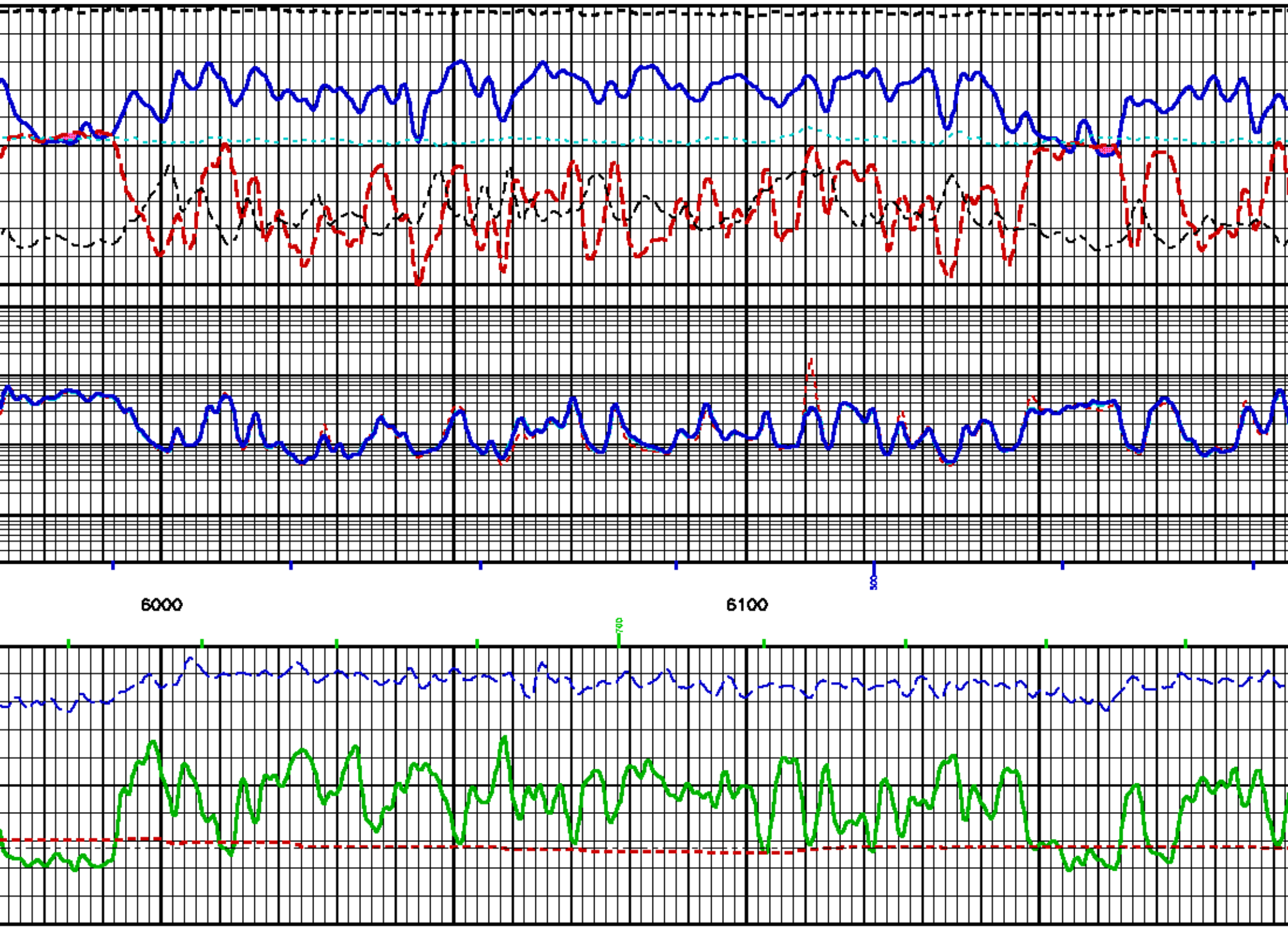
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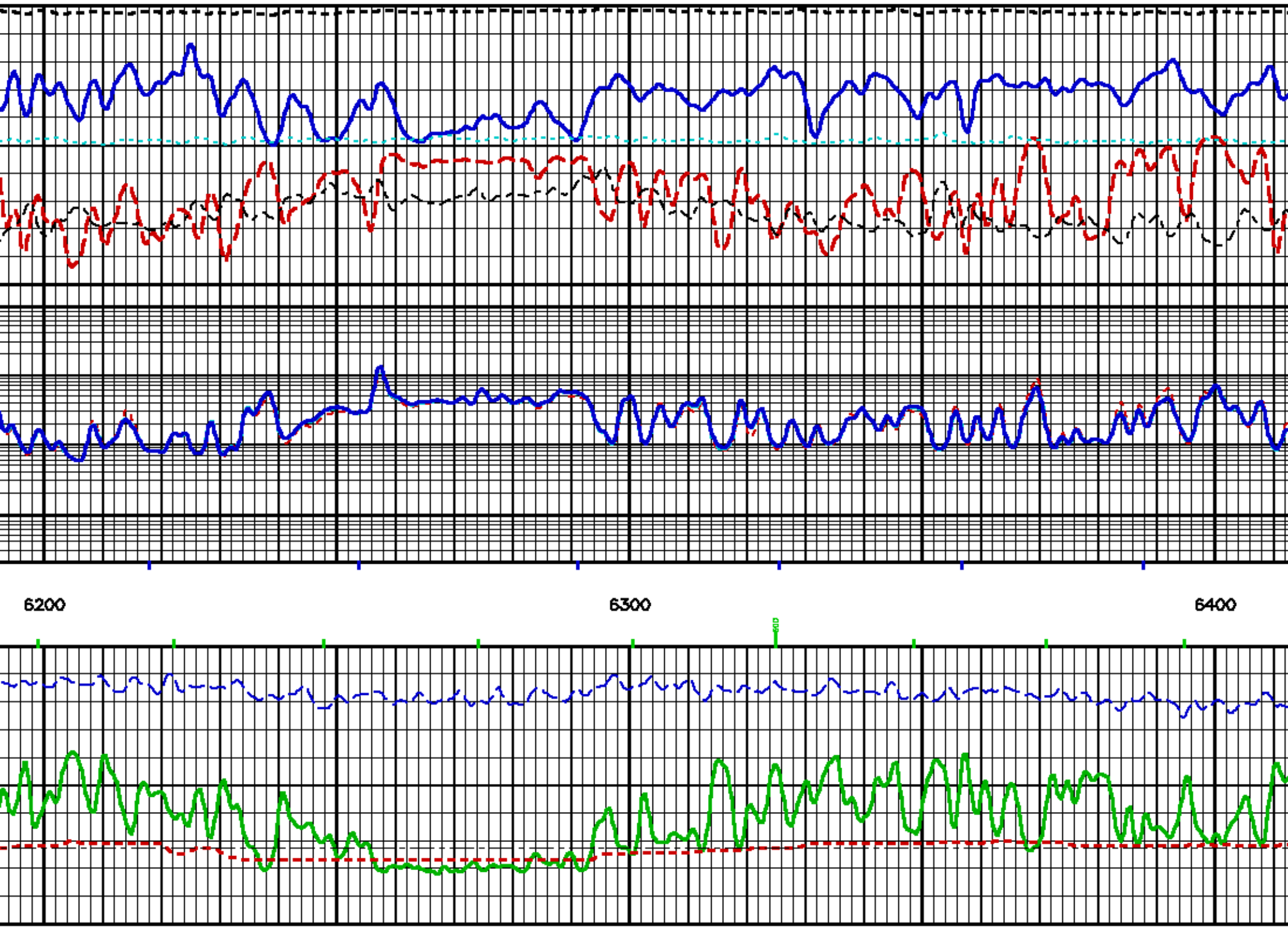
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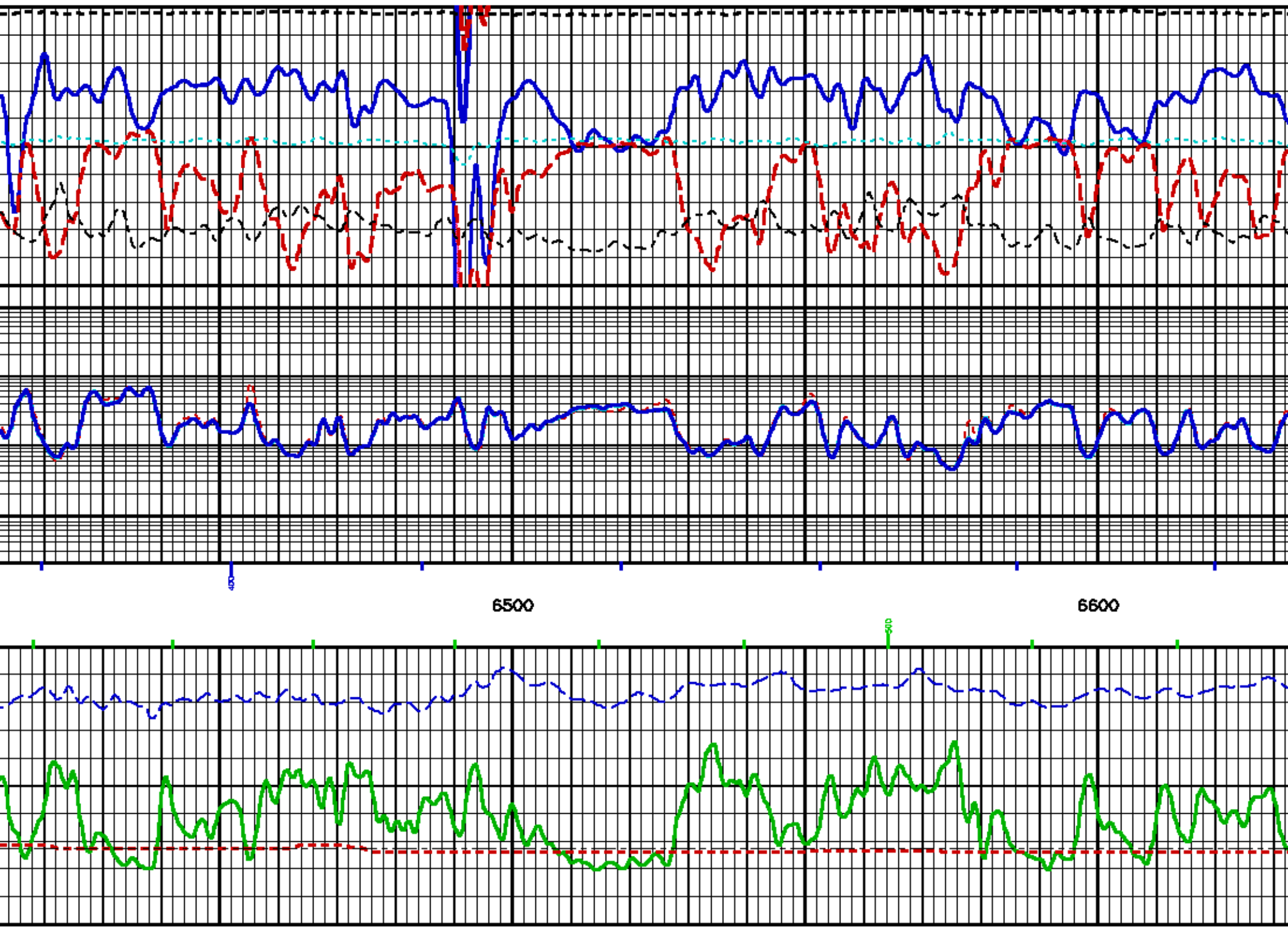
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6600

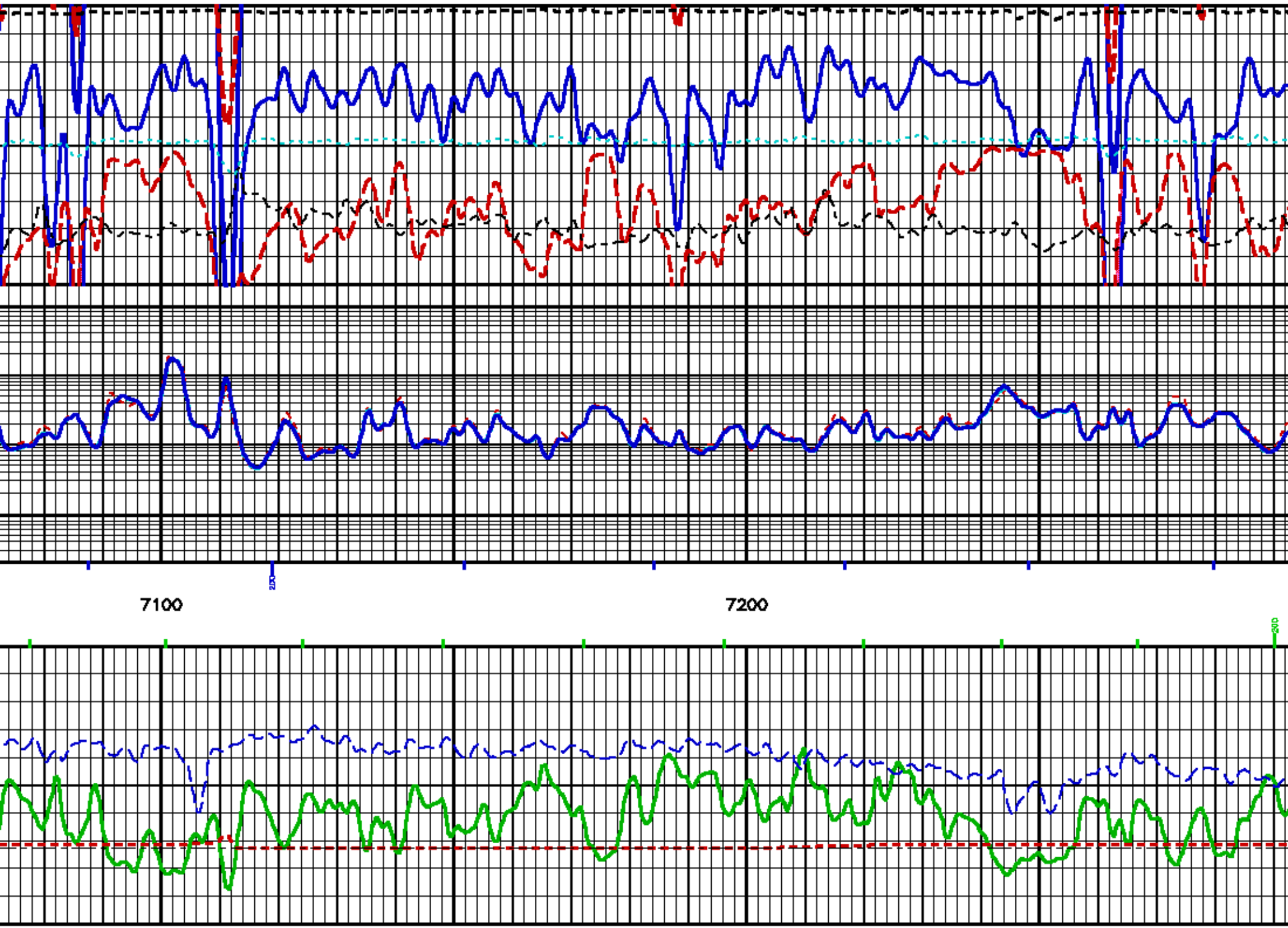
6700

6800

300

400

6900
7000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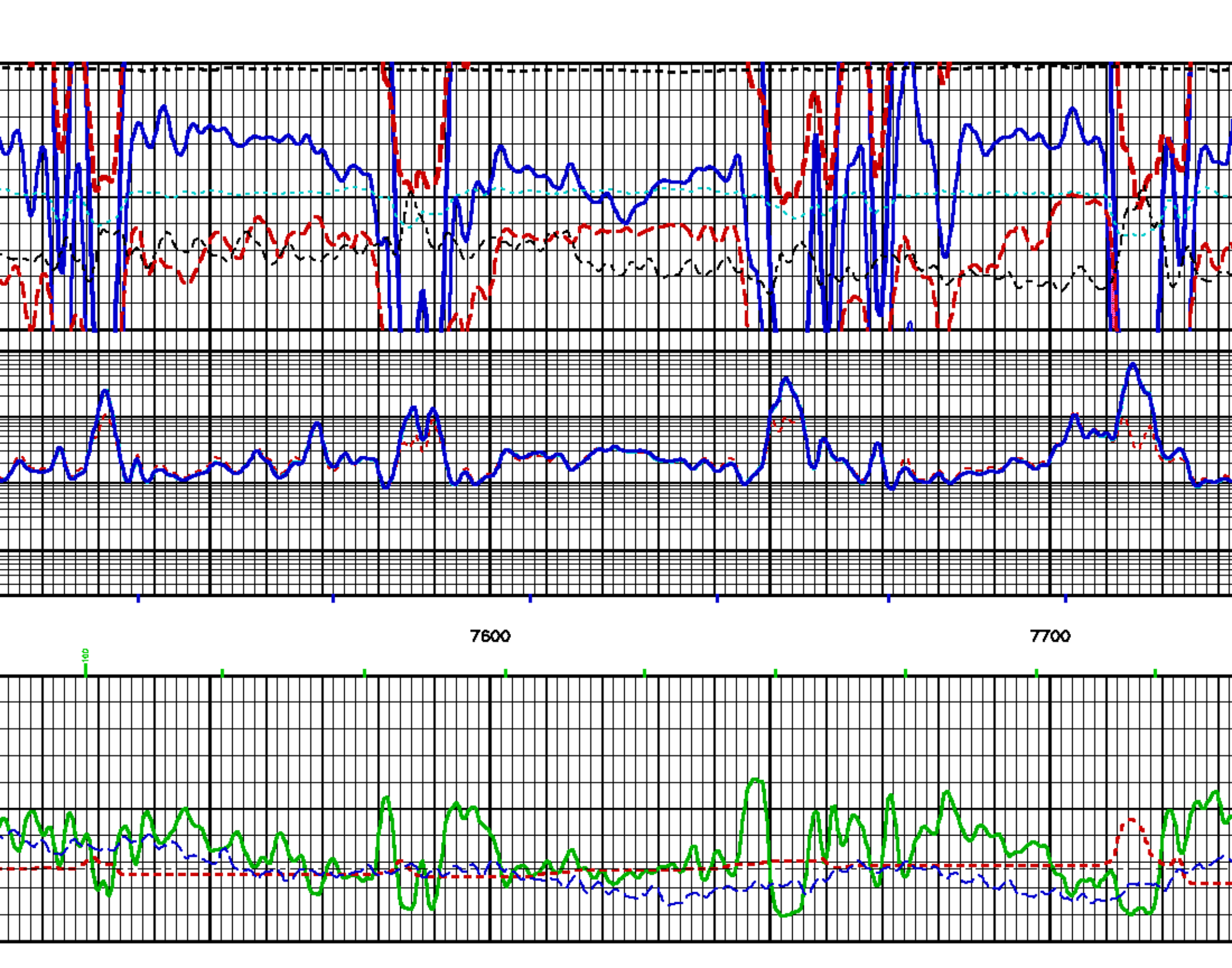
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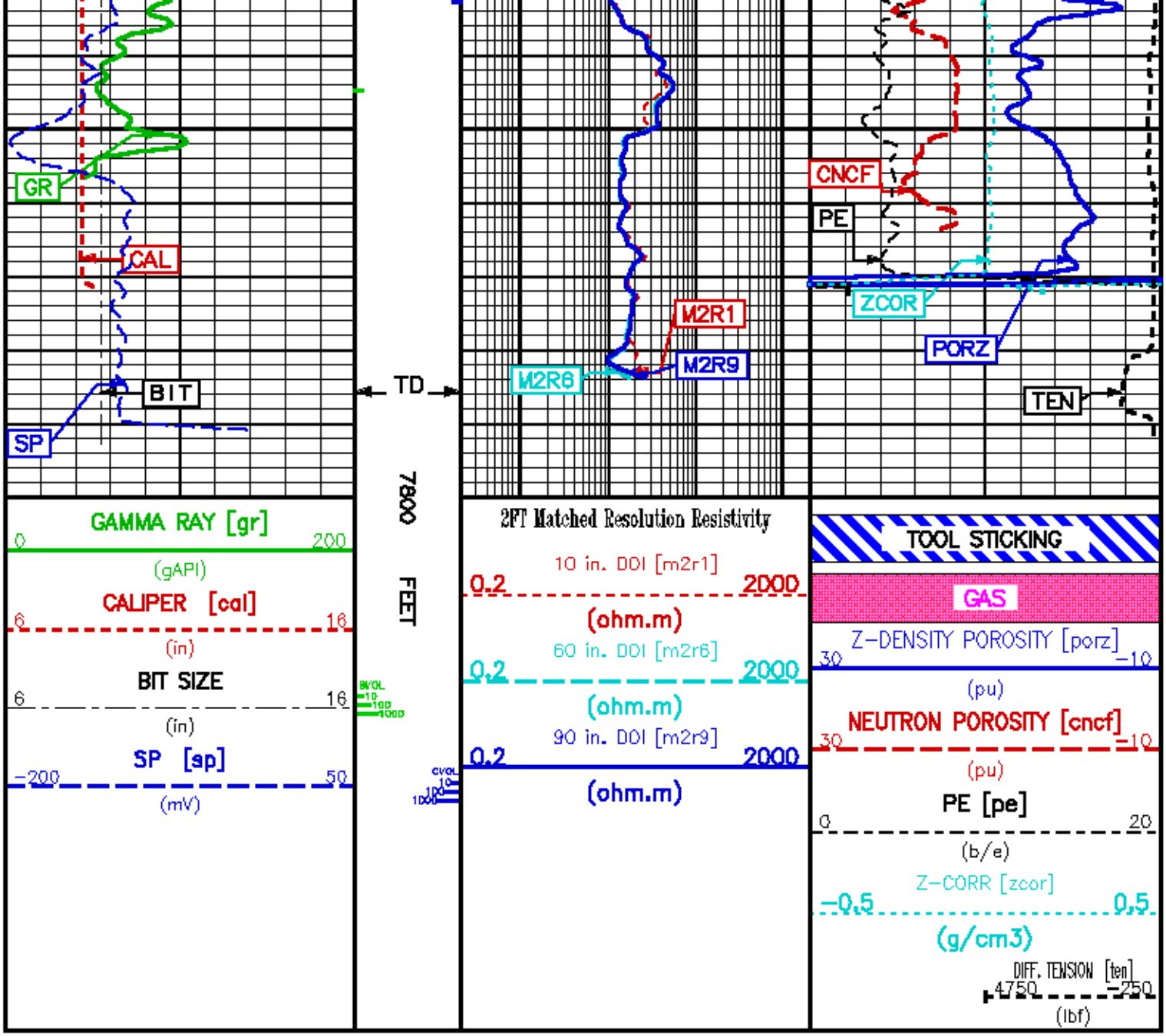


REPEAT LOG

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

Tue Jun 18 10:30:57 2013

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

PARAMETER AND FILTER SUMMARY REPORT

File: /data/a/625558/REPEAT03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1724.250 ft BOTTOM DEPTH: 2090.825 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 (hrd1e*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2e*)	medium		"	"
	FILTER (soff*)	medium		"	"
SP-SPDH	FILTER ()	heavy (3)		"	"

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	77.0	degF	"	"
	MUD SAMPLE RES	2.350	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)	
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	1324	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	9.625	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	Jun 18 10:26:20 2013	BIT SIZE
F1:BVOL	Jun 18 10:26:20 2013	BOREHOLE VOLUME
F1:CAL	Jun 18 10:26:20 2013	CALIPER
F1:CNCF	Jun 18 10:26:20 2013	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Jun 18 10:26:20 2013	CEMENT VOLUME
F1:GR	Jun 18 10:26:20 2013	GAMMA RAY
F1:M2R1	Jun 18 10:26:20 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Jun 18 10:26:20 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Jun 18 10:26:20 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Jun 18 10:26:20 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Jun 18 10:26:20 2013	POROSITY FOR SELECTABLE MATRIX

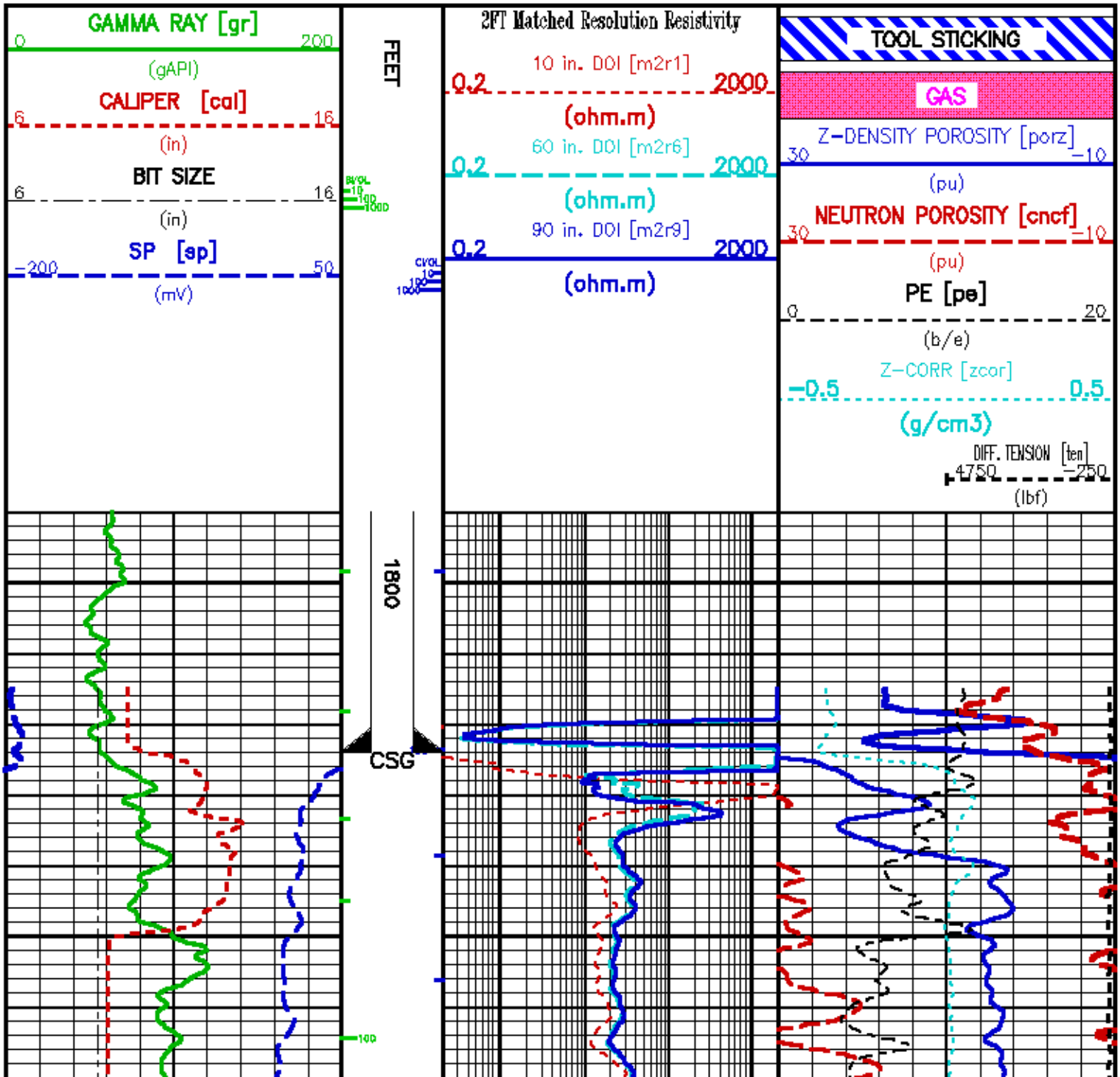
F1:SP	Jun 18 10:26:20 2013	SPONTANEOUS POTENTIAL
F1:TEN	Jun 18 10:26:20 2013	DIFFERENTIAL TENSION
F1:ZCOR	Jun 18 10:26:20 2013	DENSITY CORRECTION

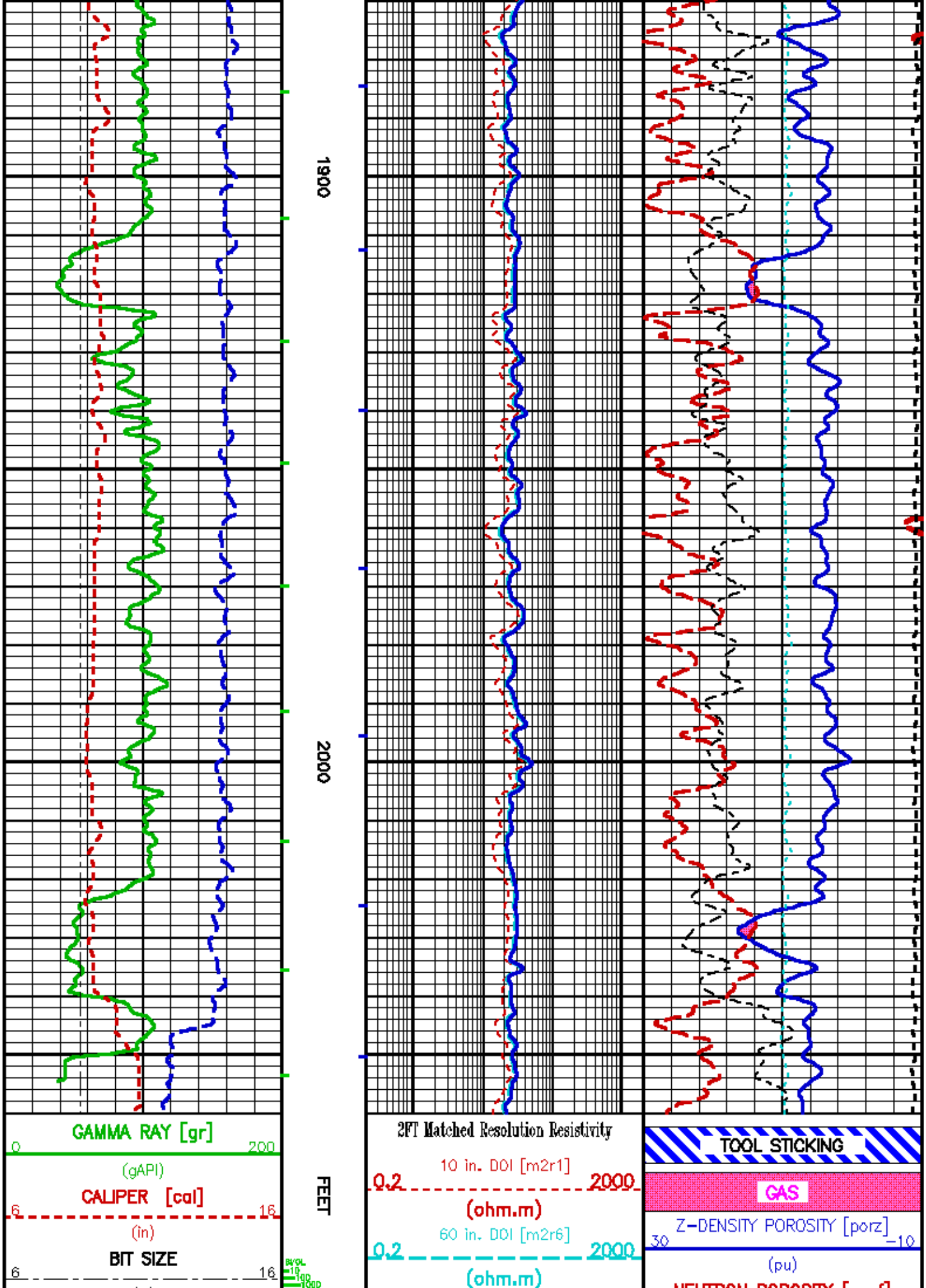
CURVE MEASURE POINT OFFSET

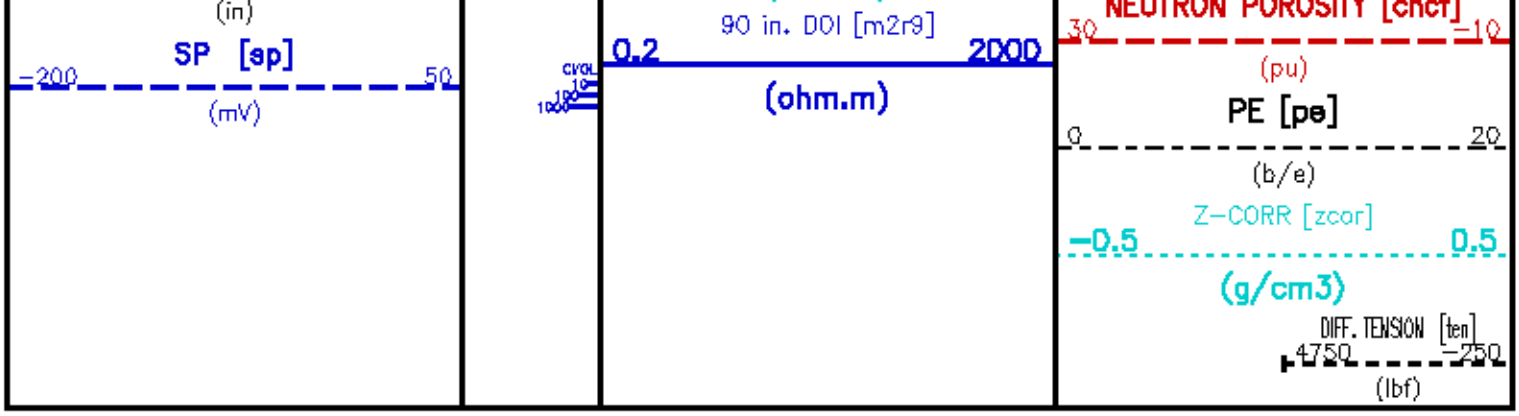
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	35.00	M2R9	2.75	SP	1.25
CAL	18.12	M2R1	2.75	PE	18.00	TEN	0.00
CNCF	27.38	M2R6	2.75	PORZ	18.00	ZCOR	18.00

Presentation : HL8670:RDR_WPX_REPEAT.pdf [5"/100' Scale]
Plot Interval : 1790 - 2060 Feet

Data File 1 : F1 : HL8670c/data/825558/REPEAT_RDR.xtf
Created On : Jun 18 10:26:20 2013
Company : WPX ENERGY ROCKY MOUNTAIN
Well : WPX ENERGY RWF 78-34
Field : RULISON
File Interval : 1699.5 - 2097.5 Feet
Ost : m870a




1900
2000
FEET
GAMMA RAY [gr]
0
200
(gAPI)
CALIPER [cal]
6
16
(in)
BIT SIZE
6
16
BAD HOLE
10
100
1000
2FT Matched Resolution Resistivity
10 in. DOI [m2r1]
0.2
2000
(ohm.m)
60 in. DOI [m2r6]
0.2
2000
(ohm.m)
TOOL STICKING
GAS
Z-DENSITY POROSITY [porz]
30
-10
(pu)



CALIBRATION / VERIFICATION SUMMARY

Source File /dell1/[illegible]/EDIT.tp1

TTMA PRIMARY CALIBRATION SUMMARY

TOOL #: 3980XA 10142253 DATE/TIME PERFORMED: Thu Aug 11 09:14:18 2011

UNIT #: 3885TD ML4250 ACCEL #: 3980XA 10142253 ACCEL CAL DATE: 14:22 02/02/2005

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

TTMA BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10142233 DATE/TIME PERFORMED: Mon Jun 17 11:01:26 2013 DAYS SINCE CAL: 676

UNIT #: 3680TA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	19757	497.38	9.97	1001.25
	18675 20675	498.20 503.80	8.00 12.00	980.00 1020.00
ZERO	-24785	-436.02	0.248	1000.559
	-25585 -23985	-443.80 -426.80	0.200 0.300	980.000 1020.000

TTMA AFTER LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10142233 DATE/TIME PERFORMED: Mon Jun 17 14:24:21 2013 DAYS SINCE CAL: 676

UNIT #: 3680TA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	19745	498.62	9.94	1000.69
	18675 20675	498.20 503.80	8.00 12.00	980.00 1020.00
ZERO	-24785	-436.02	0.247	1000.287
	-25585 -23985	-443.20 -426.80	0.200 0.300	980.000 1020.000

GR PRIMARY CALIBRATION SUMMARY

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

Unit #: 3680TA HL6670 Jig Series: 4702NK VBA-905

Background	Calibrator ON	Jig Value (gAPI)	Mult	Background (gAPI)	Calibrator ON (gAPI)
55.68	762.77	188	0.262	14.56	199.56
			0.235 0.280		

GR PRIMARY VERIFICATION SUMMARY

NOT DONE

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10411092 DATE/TIME PERFORMED: Mon Jun 17 10:58:56 2013 DAYS SINCE CAL: 18

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

Counts	TEMP (degF)	HV (V)
976.67	100.19	1363.22
928.00 1027.00	536.00	1237.00 1512.00

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10411092 DATE/TIME PERFORMED: Mon Jun 17 14:23:23 2013 DAYS SINCE CAL: 18

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

Counts	TEMP (degF)	HV (V)
976.67	127.72	1366.18
928.00 1027.00	536.00	1237.00 1512.00

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2458XA 10124368 DATE/TIME PERFORMED: Fri Jun 14 11:00:22 2013

UNIT #: 3880TA HL6670 CALIBRATOR #: 2437XB 112874 SOURCE #: 4718XA N-0697

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4873.28	809.30	5.77451	0.99350	5.73700	25.241
			0.80000 1.05000		

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10124366 DATE/TIME PERFORMED: Mon Jun 17 10:59:13 2013 DAYS SINCE CAL: 2

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

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
990.73	993.09	0.99762	96.0	1367.4	4.599
		0.95000 1.05000	250.4	1250.0 1450.0	4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10124366 DATE/TIME PERFORMED: Mon Jun 17 14:23:42 2013 DAYS SINCE CAL: 3

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

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.41	993.42	0.99797	125.0	1368.8	4.598
		0.95000 1.05000	250.4	1250.0 1450.0	4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Thu May 23 16:29:27 2013

UNIT #: 3880TA HL6670

	SIZE (in)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	7.000	1200.0		
LARGE RING (Arm)	11.000	2452.0	0.00319	3.16613
PAD CLOSED		1552.0	0.00250	-3.88000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Mon Jun 17 11:08:01 2013 DAYS SINCE CAL: 24

UNIT #: 3880TA HL6670

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	1890.8	0.00319	3.16613	9.2
PAD	1592.0	0.00250	-3.88000	0.1

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

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Mon Jun 17 14:22:00 2013 DAYS SINCE CAL: 24

UNIT #: 3880TA HL6670

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	1944.0	0.00319	3.16613	9.4
PAD	1567.2	0.00250	-3.86000	0.1

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

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2225XA 10090664 DATE/TIME PERFORMED: Mon Apr 22 14:41:35 2013

UNIT: 3880TA HL6670 CALB BLKS: 2225XA 084292F CS SRC: 4705XA 160686 PAD TYPE: PADTYP 7.5" PAD

	SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
	225.3	225.4	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	1.679	0.000	1.900
AL	20352.1	1317.6		2.667	-0.016	
AL + SHIM	26995.3	2257.2		2.558	0.098	
MG + SHIM (HI PE)	16054.2	5568.9	0.304			8.550
RATIO AL + SHIM/AL	1.33	1.71				
RATIO MG/AL	1.59	8.81				

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1530XA 10120518 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	0.0008	-0.0004	0.0009	-0.0010	-0.0005	0.0002	-0.0004
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
Coil 1 Q	0.0063	-0.0037	0.0016	0.0010	-0.0008	0.0001	-0.0002	0.0002
Coil 2 R	0.0154	-0.0029	-0.0032	-0.0019	0.0001	-0.0006	-0.0000	0.0003
Coil 2 Q	0.0074	-0.0013	0.0001	0.0017	-0.0007	0.0020	0.0013	0.0004
Coil 3 R	0.0530	-0.0041	-0.0044	0.0007	-0.0054	0.0017	-0.0007	0.0029
Coil 3 Q	0.0279	-0.0122	0.0058	0.0003	-0.0045	-0.0039	-0.0032	-0.0009
Coil 4 R	0.1475	-0.0008	-0.0080	0.0108	-0.0023	-0.0011	0.0067	-0.0035
Coil 4 Q	0.0589	-0.0353	0.0124	-0.0083	-0.0034	0.0050	-0.0037	-0.0009
Coil 5 R	0.3266	0.0059	-0.0383	0.0225	-0.0040	0.0029	0.0052	-0.0012
Coil 5 Q	0.1601	-0.0830	0.0178	0.0045	-0.0157	0.0016	-0.0118	0.0048

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	162.99	161.54	158.62	154.31	148.60	141.66	133.47	124.10

Coil 0 P	7.699	25.434	42.706	59.926	77.141	94.389	111.623	128.875
	5.000 9.000	21.000 30.000	35.000 50.000	49.000 71.000	63.000 91.000	77.000 102.000	92.000 130.000	108.000 151.000
Coil 1 M	282.53	279.96	274.82	267.13	257.00	244.46	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	196.00 266.00	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	49.000 71.000	63.000 92.000	78.000 118.000	93.000 130.000	107.000 151.000
Coil 2 M	580.55	555.37	545.00	529.65	509.55	485.05	456.38	423.59
	478.00 668.00	474.00 634.00	463.00 643.00	450.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	358.00 498.00
Coil 2 P	7.665	25.383	42.631	59.814	76.981	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	78.000 118.000	92.000 130.000	105.000 156.000
Coil 3 M	918.71	908.66	891.58	864.77	829.95	787.45	738.42	683.09
	778.00 1060.00	764.00 1050.00	752.001030.00	728.00 1010.00	700.00 970.00	665.00 885.00	628.00 828.00	582.00 769.00
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	80.000 135.000	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	1205.0 1690.0	1180.0 1650.0	1140.0 1590.0	1120.0 1530.0	1070.0 1450.0	1000.0 1350.0	948.0 1240.0
Coil 4 P	7.742	25.600	43.009	60.365	77.778	95.217	112.660	130.110
	5.000 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	2953.8	2930.0	2878.9	2802.3	2700.3	2574.4	2425.8	2255.2
	2450.0 3460.0	2420.0 3400.0	2410.0 3320.0	2360.0 3200.0	2280.0 3060.0	2180.0 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	49.000 73.000	63.000 94.000	78.000 113.000	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 940	-1400 -20	-830 -150	-760 -160	-680 -130	-600 -120	-550 -110	-520 -92
Coil 0 Q	282	-189	-241	-261	-273	-284	-292	-302
	-15000 17000	-5600 3800	-3700 2100	-2700 1400	-2200 1000	-1800 790	-1500 620	-1300 490
Coil 1 R	-111	-135	-132	-125	-117	-111	-104	-98
	-750 490	-300 60	-280 0	-230 -10	-200 -28	-180 -30	-160 -40	-150 -49
Coil 1 Q	329	79	28	2	-14	-25	-33	-38
	-3200 3300	-1100 960	-630 630	-470 360	-360 260	-320 190	-290 150	-260 120
Coil 2 R	-0.1	-29.4	-32.3	-31.2	-28.9	-26.8	-24.6	-22.9
	-85.0 78.0	-64.0 -0.4	-57.0 -12.0	-51.0 -16.0	-46.0 -17.0	-42.0 -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 1600.0	-600.0 610.0	-280.0 360.0	-220.0 260.0	-180.0 180.0	-140.0 160.0	-110.0 130.0	-98.0 120.0
Coil 3 R	-1.9	-8.7	-9.5	-9.3	-8.9	-8.2	-7.7	-7.5
	-23.0 21.0	-82.0 7.5	-81.0 -1.3	-80.0 -1.8	-19.0 -2.0	-19.0 -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
	-640.0 630.0	-180.0 160.0	-130.0 110.0	-71.0 61.0	-61.0 48.0	-37.0 56.0	-28.0 53.0	-21.0 61.0
Coil 4 R	-2.50	-2.33	-2.20	-1.90	-3.15	-1.73	-2.07	-1.66
	-15.00 13.00	-12.00 2.70	-11.00 1.80	-9.30 0.82	-9.90 0.95	-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
	-250.00 280.00	-78.00 68.00	-43.00 64.00	-27.00 51.00	-18.00 46.00	-11.00 42.00	-5.50 42.00	-1.00 48.00
Coil 5 R	2.27	-0.99	-0.95	-0.86	-0.38	-0.89	-1.12	-0.71
	-66.00 61.00	-8.40 3.40	-6.80 1.10	-6.60 1.20	-6.30 2.80	-14.00 6.30	-16.00 8.60	-24.00 13.00
Coil 5 Q	4.87	2.64	3.06	4.17	4.85	6.30	7.89	8.67
	-88.00 68.00	-88.00 97.00	-14.00 22.00	-7.00 32.00	-2.50 34.00	1.10 25.00	4.10 33.00	7.10 38.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	0.984	0.971	0.975	0.977	0.978	0.978	0.979	0.978
	0.900 1.100	0.850 1.100	0.870 1.100	0.900 1.100	0.880 1.100	0.880 1.100	0.880 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
	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800
Coil 1 M	0.960	0.967	0.971	0.973	0.973	0.973	0.974	0.972
	0.850 1.100	0.850 1.100	0.870 1.100	0.880 1.100	0.880 1.100	0.880 1.100	0.880 1.100	0.880 1.100
Coil 1 P	-0.237	-0.409	-0.298	-0.196	-0.115	-0.045	-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
	0.890 1.100	0.890 1.100	0.890 1.100	0.890 1.100	0.890 1.100	0.890 1.100	0.890 1.100	0.890 1.100
Coil 2 P	0.085	0.049	0.090	0.125	0.144	0.170	0.159	0.178
	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800
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	1.048	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	0.589	0.591	0.697	0.814
	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800	-1.800 1.800

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: Mon Jun 17 11:00:43 2013 DAYS SINCE CAL: 78

UNIT #: 3680TA 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	0.000	-0.001	0.001	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	0.003	-0.001	0.001	0.000	0.000	-0.000	0.000	-0.001
	-0.500 0.500	-0.800 0.800	-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	0.018	0.000	-0.002	0.001	-0.001	-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 1 Q	0.010	-0.005	0.002	0.001	-0.001	0.000	0.000	-0.000
	-0.500 0.500	-0.250 0.250	-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	0.017	-0.001	0.001	0.000	-0.002	-0.002	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	0.011	0.003	-0.000	-0.003	0.001	-0.001	0.001	-0.001
	-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	0.044	-0.003	-0.004	-0.001	0.002	0.001	0.000	-0.003
	-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	0.033	-0.009	0.002	0.002	-0.000	0.001	-0.001	-0.004
	-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	0.141	0.000	-0.012	0.003	-0.008	-0.009	0.001	-0.003
	-0.500 0.500	-0.250 0.250	-0.250 0.250	-0.250 0.250	-0.250 0.250	-0.250 0.250	-0.250 0.250	-0.250 0.250
Coil 4 Q	0.060	-0.052	0.008	0.002	-0.005	0.003	-0.005	-0.005
	-1.000 1.000	-0.400 0.400	-0.250 0.250	-0.250 0.250	-0.250 0.250	-0.250 0.250	-0.250 0.250	-0.250 0.250
Coil 5 R	0.292	0.006	-0.026	0.035	0.001	-0.000	0.012	-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	0.131	-0.083	0.005	-0.013	-0.019	-0.002	-0.003	-0.013
	-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	162.76	161.31	158.40	154.09	148.41	141.47	133.28	123.94
	138.00 188.00	134.00 184.00	131.00 181.00	128.00 178.00	122.00 170.00	118.00 161.00	112.00 150.00	106.00 138.00
Coil 0 P	7.558	25.404	42.717	59.966	77.214	94.477	111.757	129.018
	-1.000 12.000	18.000 30.000	36.000 50.000	48.000 71.000	63.000 91.000	77.000 110.000	92.000 130.000	108.000 151.000
Coil 1 M	282.54	279.99	274.87	267.19	257.05	244.58	229.83	213.18
	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	7.622	25.606	43.059	60.458	77.851	95.250	112.649	129.967
	-1.000 12.000	18.000 30.000	36.000 51.000	48.000 71.000	63.000 92.000	77.000 112.000	92.000 132.000	106.000 153.000
Coil 2 M	560.21	555.03	544.70	529.38	509.36	484.91	456.19	423.44
	479.00 659.00	474.00 654.00	465.00 643.00	450.00 622.00	432.00 603.00	413.00 572.00	390.00 540.00	359.00 499.00
Coil 2 P	7.510	25.347	42.628	59.836	77.028	94.224	111.415	128.593
	-1.000 12.000	18.000 31.000	36.000 51.000	48.000 71.000	63.000 92.000	77.000 114.000	92.000 135.000	106.000 154.000
Coil 3 M	918.26	909.25	891.15	864.46	829.65	787.40	738.27	682.98
	772.00 1060.00	764.00 1050.00	752.00 1030.00	725.00 1010.00	700.00 970.00	665.00 926.00	628.00 868.00	569.00 796.00
Coil 3 P	7.833	26.159	43.948	61.656	79.321	96.956	114.549	132.071
	-2.000 13.000	19.000 31.000	36.000 52.000	48.000 73.000	63.000 93.000	77.000 114.000	92.000 135.000	105.000 156.000
Coil 4 M	1423.4	1411.4	1386.5	1350.1	1301.4	1240.9	1169.5	1087.0
	1210.0 1700.0	1205.0 1680.0	1180.0 1650.0	1140.0 1560.0	1120.0 1530.0	1070.0 1450.0	1000.0 1350.0	942.0 1240.0
Coil 4 P	7.610	25.671	43.013	60.408	77.825	95.280	112.753	130.226
	-2.000 13.000	19.000 31.000	36.000 52.000	48.000 73.000	63.000 93.000	78.000 114.000	92.000 135.000	108.000 156.000
Coil 5 M	2951.4	2927.7	2878.8	2800.7	2698.4	2572.1	2423.9	2252.7
	2450.0 3450.0	2420.0 3400.0	2410.0 3320.0	2350.0 3200.0	2280.0 3060.0	2150.0 2950.0	2020.0 2750.0	1870.0 2570.0
Coil 5 P	7.695	25.776	43.363	60.887	78.442	96.011	113.609	131.178
	-2.000 13.000	19.000 31.000	36.000 52.000	48.000 73.000	63.000 94.000	78.000 114.000	93.000 135.000	108.000 156.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10120518 DATE/TIME PERFORMED: Mon Jun 17 14:23:07 2013 DAYS SINCE CAL: 77

UNIT #: 3880TA HL6670

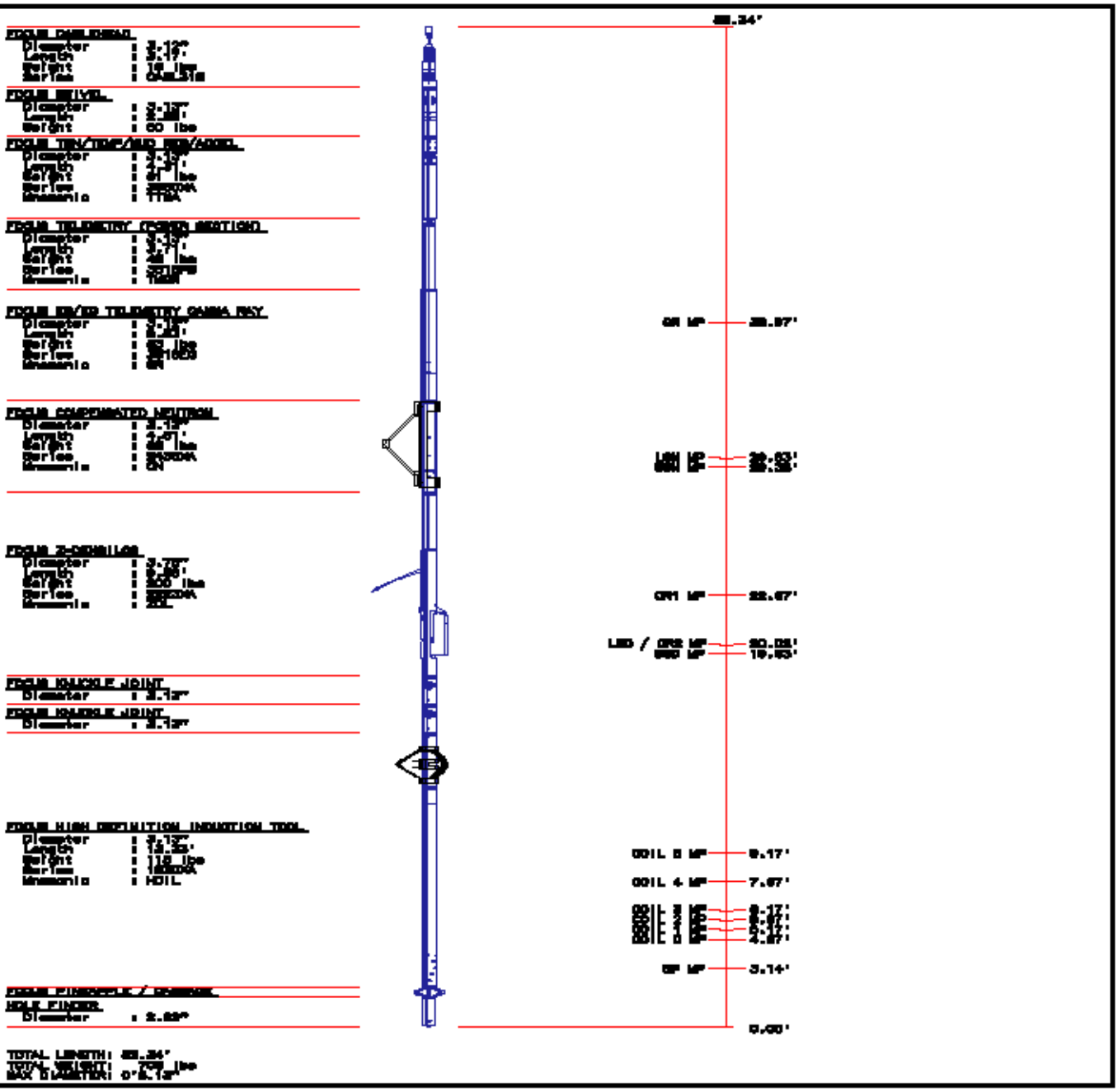
ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.005	-0.000	-0.001	0.001	-0.000	0.000	0.001	-0.000
	-0.075 0.085	-0.080 0.080	-0.031 0.029	-0.028 0.031	-0.030 0.030	-0.030 0.030	-0.030 0.030	-0.030 0.030
Coil 0 Q	0.001	-0.001	0.001	0.000	-0.001	0.000	0.001	-0.000
	-0.037 0.043	-0.121 0.118	-0.025 0.031	-0.030 0.030	-0.030 0.030	-0.030 0.030	-0.030 0.030	-0.031 0.028
Coil 1 R	0.021	0.000	-0.003	0.003	-0.001	0.000	0.001	0.000
	-0.050 0.098	-0.050 0.050	-0.032 0.025	-0.029 0.031	-0.031 0.028	-0.030 0.030	-0.030 0.030	-0.030 0.030
Coil 1 Q	0.009	-0.006	0.002	0.000	-0.001	0.002	-0.000	0.000
	-0.390 0.410	-0.105 0.085	-0.028 0.032	-0.028 0.031	-0.031 0.028	-0.030 0.030	-0.030 0.030	-0.030 0.030
Coil 2 R	0.020	0.001	0.001	0.003	0.000	-0.000	0.000	0.002
	-0.083 0.087	-0.031 0.029	-0.028 0.031	-0.030 0.030	-0.032 0.028	-0.032 0.028	-0.030 0.030	-0.032 0.028
Coil 2 Q	0.016	-0.004	-0.001	0.000	-0.001	-0.001	0.001	-0.003
	-0.358 0.361	-0.087 0.103	-0.030 0.030	-0.033 0.027	-0.029 0.031	-0.031 0.028	-0.029 0.031	-0.031 0.028
Coil 3 R	0.056	-0.001	-0.001	0.005	0.001	0.000	0.002	0.000
	0.004 0.084	-0.043 0.037	-0.044 0.029	-0.041 0.038	-0.038 0.042	-0.036 0.041	-0.040 0.040	-0.043 0.037
Coil 3 Q	0.035	-0.012	0.005	0.000	0.002	0.002	-0.003	0.001
	-0.157 0.833	-0.089 0.071	-0.038 0.048	-0.035 0.048	-0.040 0.040	-0.039 0.041	-0.041 0.039	-0.044 0.036
Coil 4 R	0.158	-0.002	-0.012	0.007	-0.004	-0.003	-0.003	-0.003
	0.081 0.201	-0.080 0.080	-0.072 0.048	-0.057 0.043	-0.069 0.062	-0.069 0.061	-0.068 0.061	-0.063 0.057
Coil 4 Q	0.061	-0.042	0.009	0.000	-0.006	0.004	-0.001	0.001
	-0.240 0.360	-0.132 0.068	-0.052 0.069	-0.065 0.062	-0.068 0.068	-0.057 0.063	-0.065 0.065	-0.068 0.056
Coil 5 R	0.353	0.023	-0.035	0.043	-0.007	-0.007	0.010	0.003
	0.172 0.418	-0.114 0.166	-0.146 0.064	-0.085 0.153	-0.119 0.161	-0.160 0.120	-0.108 0.138	-0.121 0.118
Coil 5 Q	0.156	-0.069	0.013	0.012	-0.002	0.022	-0.003	0.002
	-0.469 0.731	-0.333 0.167	-0.115 0.129	-0.135 0.107	-0.139 0.101	-0.122 0.119	-0.125 0.117	-0.133 0.107

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	162.39	160.94	158.04	153.72	148.09	141.13	132.90	123.51
	139.30 185.01	135.08 184.34	135.84 181.37	131.00 157.17	148.45 151.38	136.54 144.30	130.61 139.93	121.46 125.42
Coil 0 P	7.147	25.317	42.717	60.020	77.328	94.623	111.952	129.283
	4.569 10.058	23.404 28.404	38.717 46.717	56.865 62.865	74.214 80.214	91.477 97.477	108.787 114.787	126.016 132.018
Coil 1 M	282.56	280.00	274.89	267.22	257.15	244.58	229.83	213.12
	276.89 288.19	274.39 285.69	269.37 280.36	261.85 272.54	251.91 262.19	239.69 249.47	225.24 234.43	208.92 217.44
Coil 1 P	7.220	25.511	43.042	60.482	77.948	95.394	112.820	130.222

	4.622 10.622	28.606 28.606	40.058 45.058	57.458 63.458	74.851 80.851	92.250 98.250	108.648 113.648	126.887 132.887
Coil 2 M	559.32 540.01 571.41	554.16 543.63 564.13	543.92 533.60 555.56	528.59 518.92 538.87	506.54 496.17 516.68	484.06 476.22 494.81	455.42 447.07 465.32	422.48 414.67 431.81
Coil 2 P	7.072 4.510 10.510	25.244 28.347 28.347	42.608 38.588 45.825	59.864 56.836 58.836	77.116 74.026 80.026	94.338 91.224 97.224	111.600 108.415 114.415	128.814 125.593 131.593
Coil 3 M	917.04 898.80 936.82	908.06 881.09 927.45	890.11 873.33 909.98	863.44 847.17 881.78	828.58 813.09 845.24	786.30 771.65 803.10	737.09 723.61 753.04	681.83 669.30 695.81
Coil 3 P	7.428 4.535 10.853	26.062 23.189 29.189	43.928 40.949 46.949	61.690 58.686 64.868	79.406 76.821 82.821	97.066 93.956 99.956	114.711 111.648 117.648	132.283 129.071 136.071
Coil 4 M	1424.2 1394.8 1451.9	1412.1 1385.2 1438.7	1387.7 1359.0 1414.3	1350.8 1323.1 1377.1	1302.1 1275.3 1327.4	1241.7 1216.1 1265.7	1169.8 1146.1 1192.9	1087.2 1065.2 1108.7
Coil 4 P	7.217 4.610 10.810	25.479 22.671 28.671	42.994 40.013 46.013	60.446 57.406 63.408	77.915 74.825 80.825	95.395 92.280 98.280	112.916 109.763 115.763	130.449 127.226 133.228
Coil 5 M	2946.2 2892.4 3010.4	2922.3 2869.1 2985.2	2871.8 2812.1 2934.1	2795.6 2744.7 2855.7	2694.0 2644.4 2752.4	2567.6 2520.7 2623.6	2418.3 2375.4 2472.4	2246.6 2207.7 2297.8
Coil 5 P	7.313 4.695 10.869	25.884 22.776 28.776	43.340 40.362 46.362	60.934 57.857 63.857	78.525 75.442 81.442	96.136 93.011 99.011	113.782 110.636 116.909	131.371 128.176 134.176

INSTRUMENT CONFIGURATION

Source File /dell1/625508/m870a"-4da



COMPANY	WPX ENERGY INC		FILE NO: 825558
WELL	WPX ENERGY RMV 78-34		
FIELD	RULISON		API NO: 05045174720000
COUNTY	GARFIELD	STATE CO	

LOCATION:

SHL 1451' FNL 1017' FEL S33 T6S R94W
BHL: 1058' FNL 896' FWL S34 T6S R94W

SEC 34 TWP 6S RGE 94W

ELEVATIONS:

KB 5355.1 FT
DF
GL 5329.1 FT

S34 T6S R94W
PAD: RWF 342-33
RIG: NABORS 574

DATE 17-Jun-2013

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