BAKER HUGHES

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

FILE NO:	OH090087
API NO:	05045219950000
COMPANY	WPX ENERGY ROCKY MOUNTAIN
WELL	SAVAGE RWF 34-25
FIELD	RULISON
COUNTY	GARFIELD
STATE	CO

Ver. 3.87
S25 T6S R94W
PAD: RWF 43-25
RIG: NABORS 577

LOCATION:
SHL: 1124' FSL 1391' FEL
BHL: 918' FSL 2196' FEL (SWSE)
SEC 25 TWP 6S RGE 94W

OTHER SERVICES
NONE

PERMANENT DATUM	GL	ELEVATION	6234 FT
LOG MEASURED FROM	KB	26 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		

ELEVATIONS:
KB 6260 FT
DF
GL 6234 FT

DATE		15-Sep-2014			
RUN	TRIP	1	1		
SERVICE ORDER		OH090087			
DEPTH DRILLER		8908 FT			
DEPTH LOGGER		8905 FT			
BOTTOM LOGGED INTERVAL		8900 FT			
TOP LOGGED INTERVAL		0 FT			
CASING DRILLER		9.625 IN @ 1123 FT		@	
CASING LOGGER		1130 FT			
BIT SIZE		8.75 IN			
TYPE OF FLUID IN HOLE		LSND			
DENSITY	VISCOSITY	11.9 LB/G	75 CP		
PH	FLUID LOSS	10	6.2 C3		
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		1.3 OHMM @ 79 DEGF		@	
RMF AT MEAS. TEMP.		.98 OHMM @ 74 DEGF		@	
RMC AT MEAS. TEMP.		1.63 OHMM @ 74 DEGF		@	
SOURCE OF RMF	RMC	CALCULATED	CALCULATED		
RM AT BHT		.614 OHMM @ 201 DEGF		@	
TIME SINCE CIRCULATION		8 HR			
MAX. RECORDED TEMP.		201 DEGF			
EQUIP. NO.	LOCATION	6670	GRAND JCT		
RECORDED BY		D SMITH			
WITNESSED BY		L HUBBARD			

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE THE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN	32 LB/F		0 FT	1123 FT

BOREHOLE RECORD

BIT SIZE	FROM	TO
13.5 IN	0 FT	1109 FT
8.75 IN	1123 FT	8908 FT

REMARKS

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

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

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

CN MATRIX: SANDSTONE
CN DECENTRALIZER/BOW SPRING REMOVED AS INSTRUCTED BY COMPANY REPRESENTATIVE

HDIL RAN WITH 1.5" STANDOFFS

ABC TO CALCULATE: MUD CONDUCTIVITY

TOOLS PULLED THROUGH TIGHT SPOT AT 7345'

THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE SERVICES
CREW: SMITH/COATE/SANTUCCI

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIVEL	3950XA	10102176	FREE
1	1	TTMA	3980XA	10120299	FREE
1	1	TEL/GR	3518EB/3518EB	10125499/10139870	DECENTRALIZED
1	1	NEUTRON	2436XA	10137930	DECENTRALIZED
1	1	DENSITY	2223XA	10123024	DECENTRALIZED
1	1	KNUCKLE	3930XA	10139400/10087279	FREE
1	1	HDIL	1530XA	10118612	OFFSET

MAIN LOG 2"/100FT SCALE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 2

Plotted: Tue Sep 16 11:38:15 2014

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/OH090087/n970a02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1009.000 ft BOTTOM DEPTH: 8929.139 ft

SYMMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
BIT SIZE	BIT SIZE	8.750	in	TOP	BOTTOM
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	8.750	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	79.0	degF	"	"
	MUD SAMPLE RES	1.300	ohm.m	"	"
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

HDIL PROCESSING

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

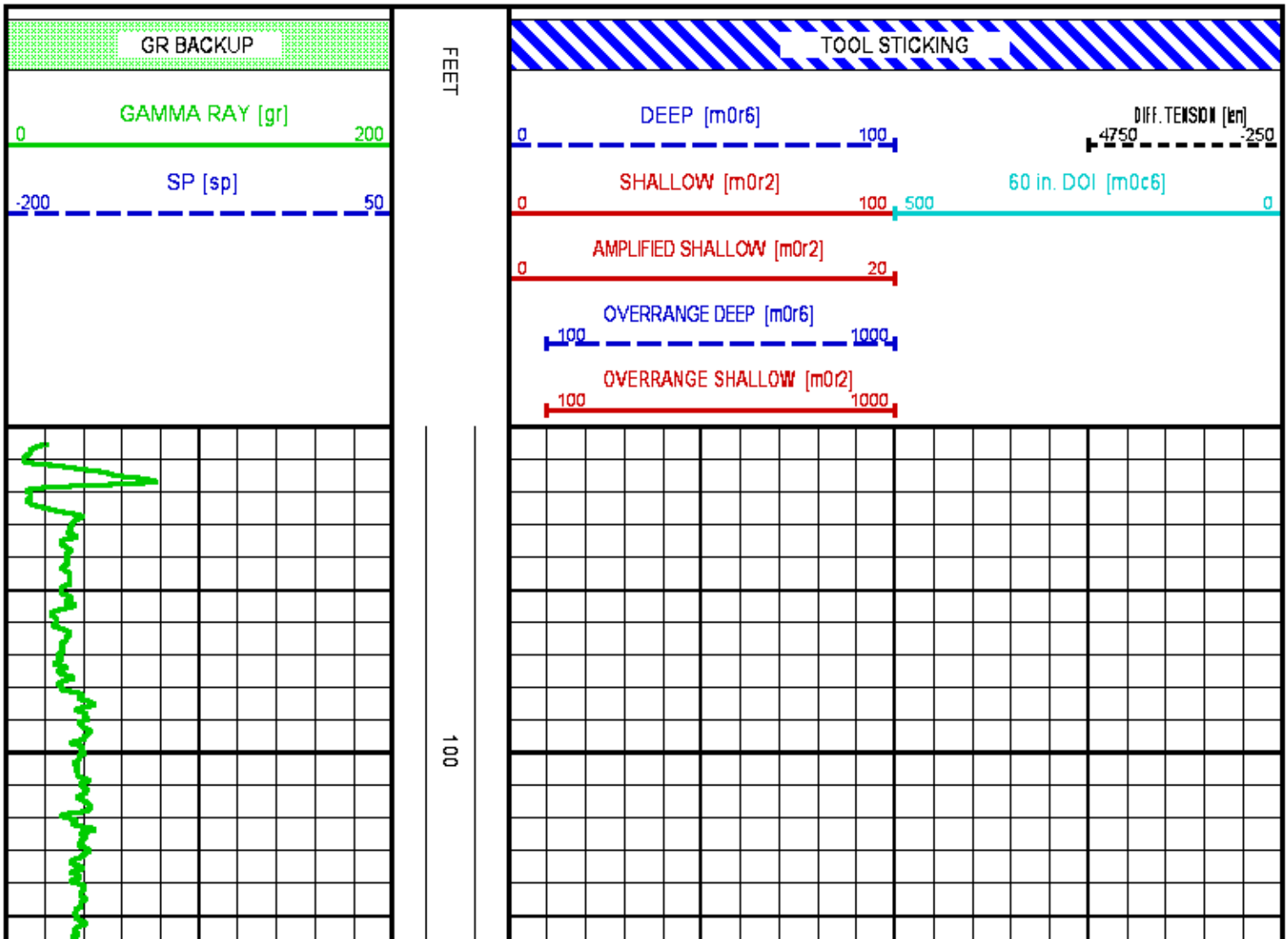
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:GR	Sep 16 07:59:23 2014	GAMMA RAY
F1:MOC6	Sep 16 07:59:23 2014	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:MOR2	Sep 16 07:59:23 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:MOR6	Sep 16 07:59:23 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	Sep 16 07:59:23 2014	SPONTANEOUS POTENTIAL
F1:TEN	Sep 16 07:59:23 2014	DIFFERENTIAL TENSION

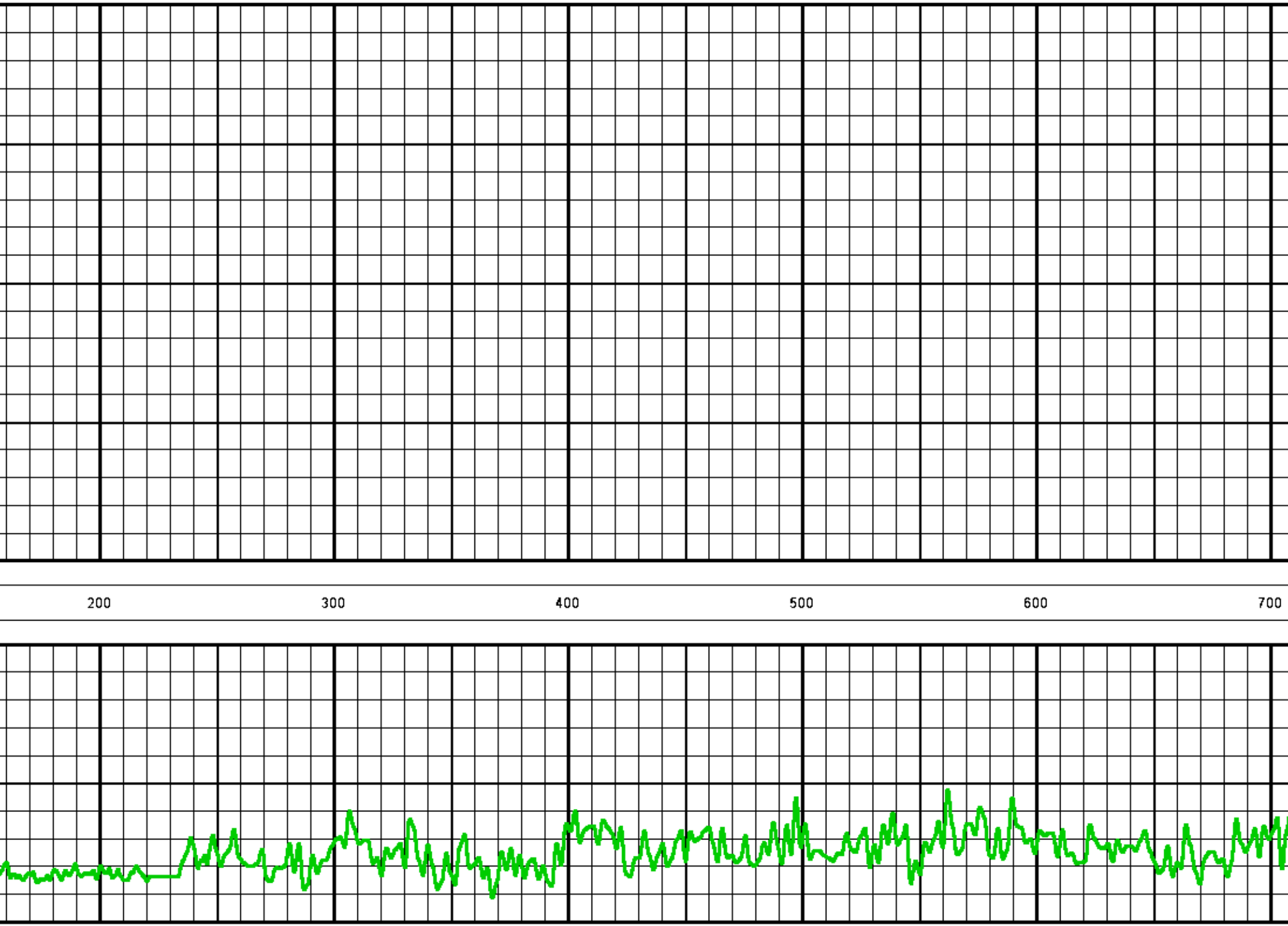
CURVE MEASURE POINT OFFSET

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

Presentation : **HL6670:WPX_2IN.fvpdf [2"/100' Scale]**
Plot Interval : **5.75 - 8933 Feet**

Data File 1 : **F1 : HL6670:/dat1a/OH090087/n970a02.xtf**
Created On : **Sep 16 07:59:23 2014**
Company : **WPX ENERGY ROCKY MOUNTAIN**
Well : **SAVAGE RWF 34-25**
Field : **RULISON**
File Interval : **0 - 8933 Feet**
OCT : **n970a**

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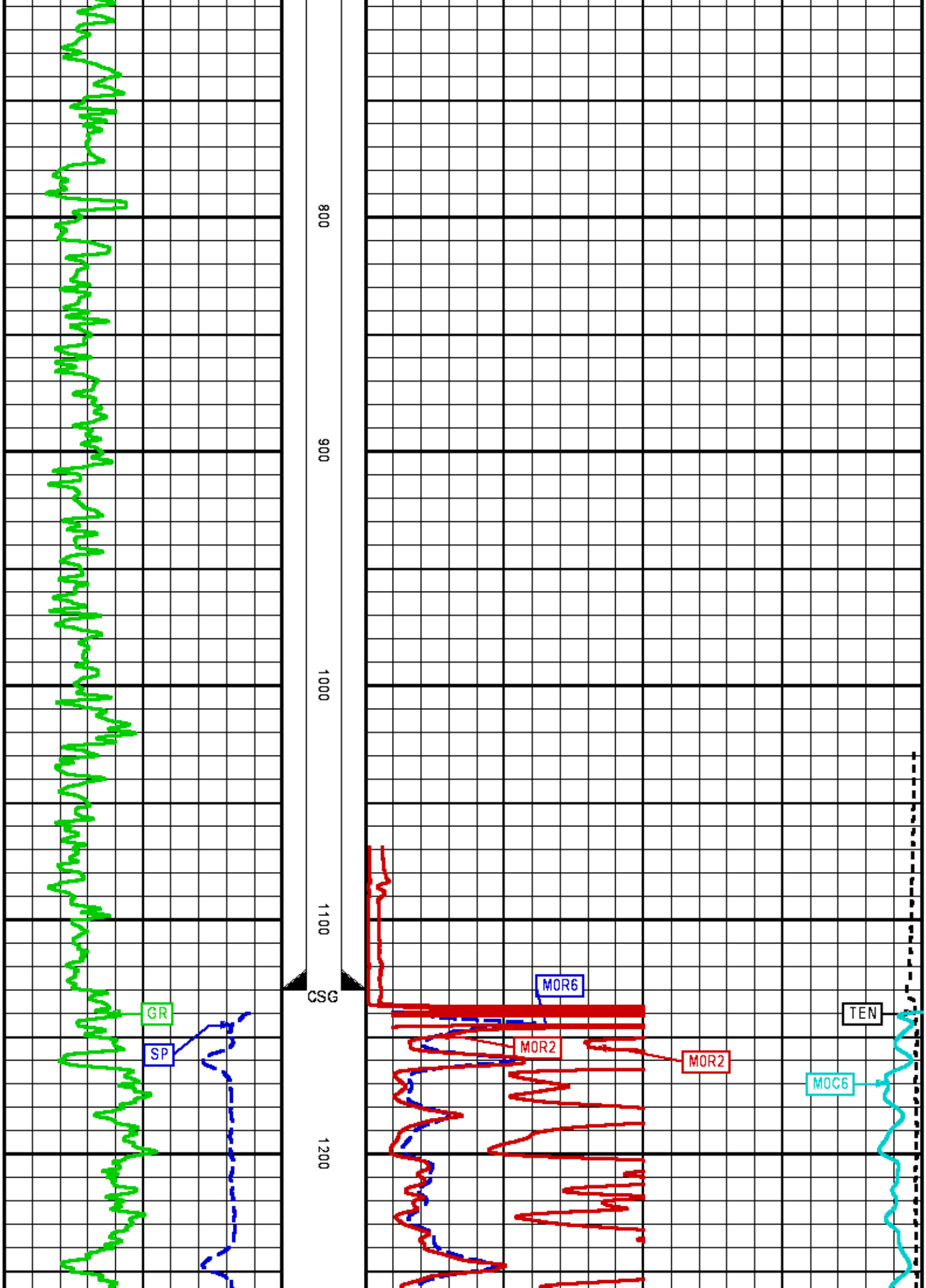
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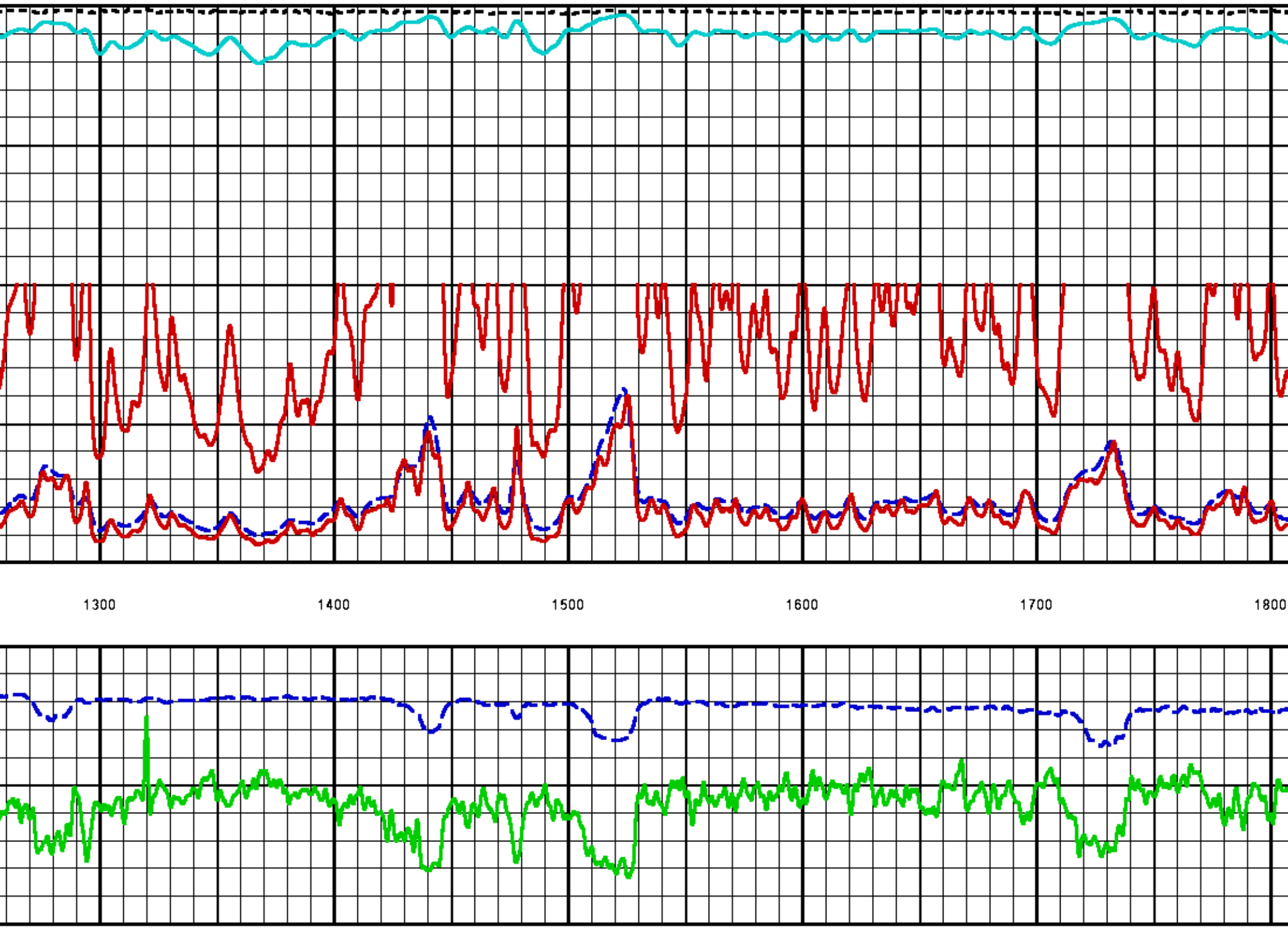
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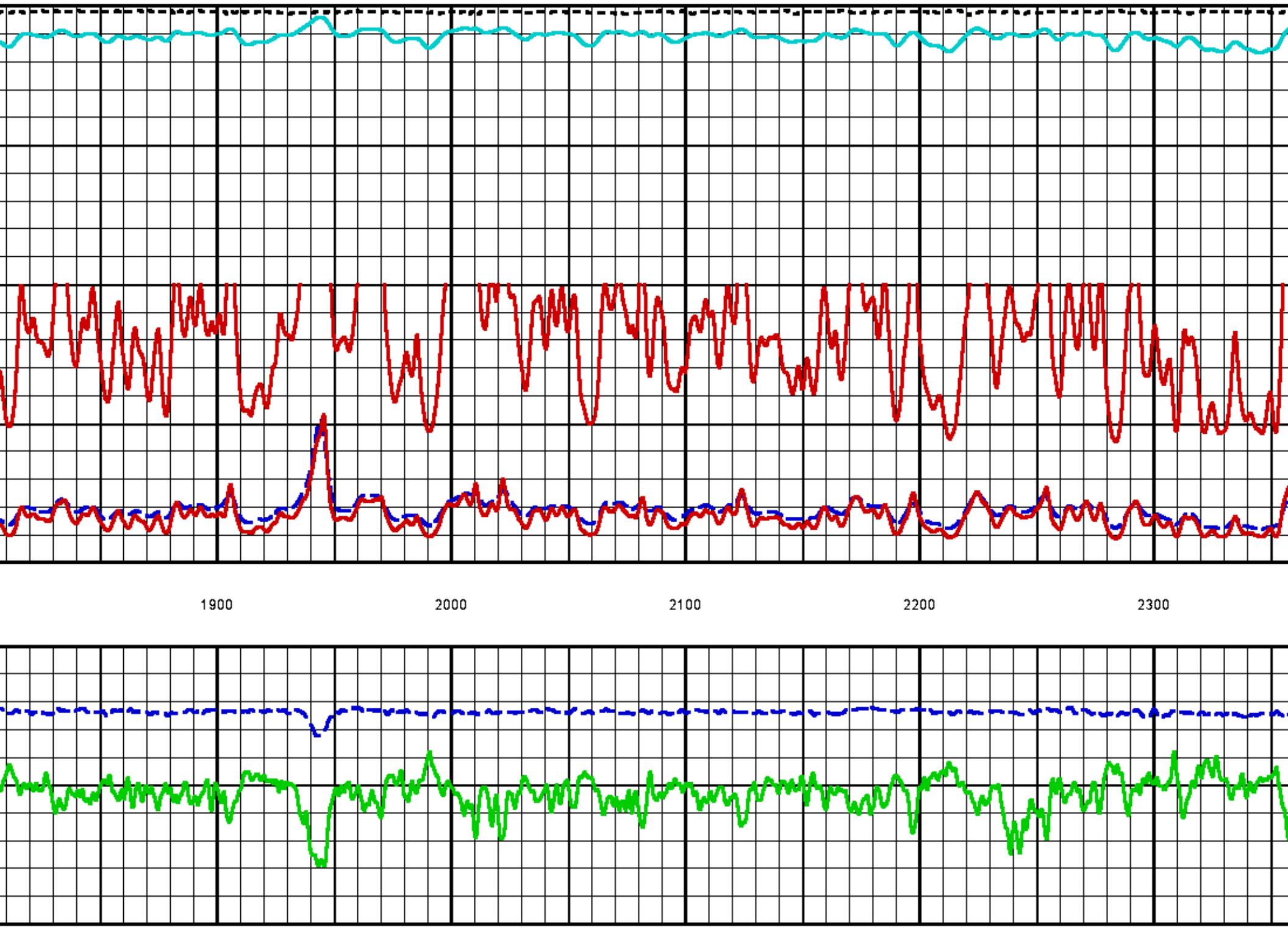
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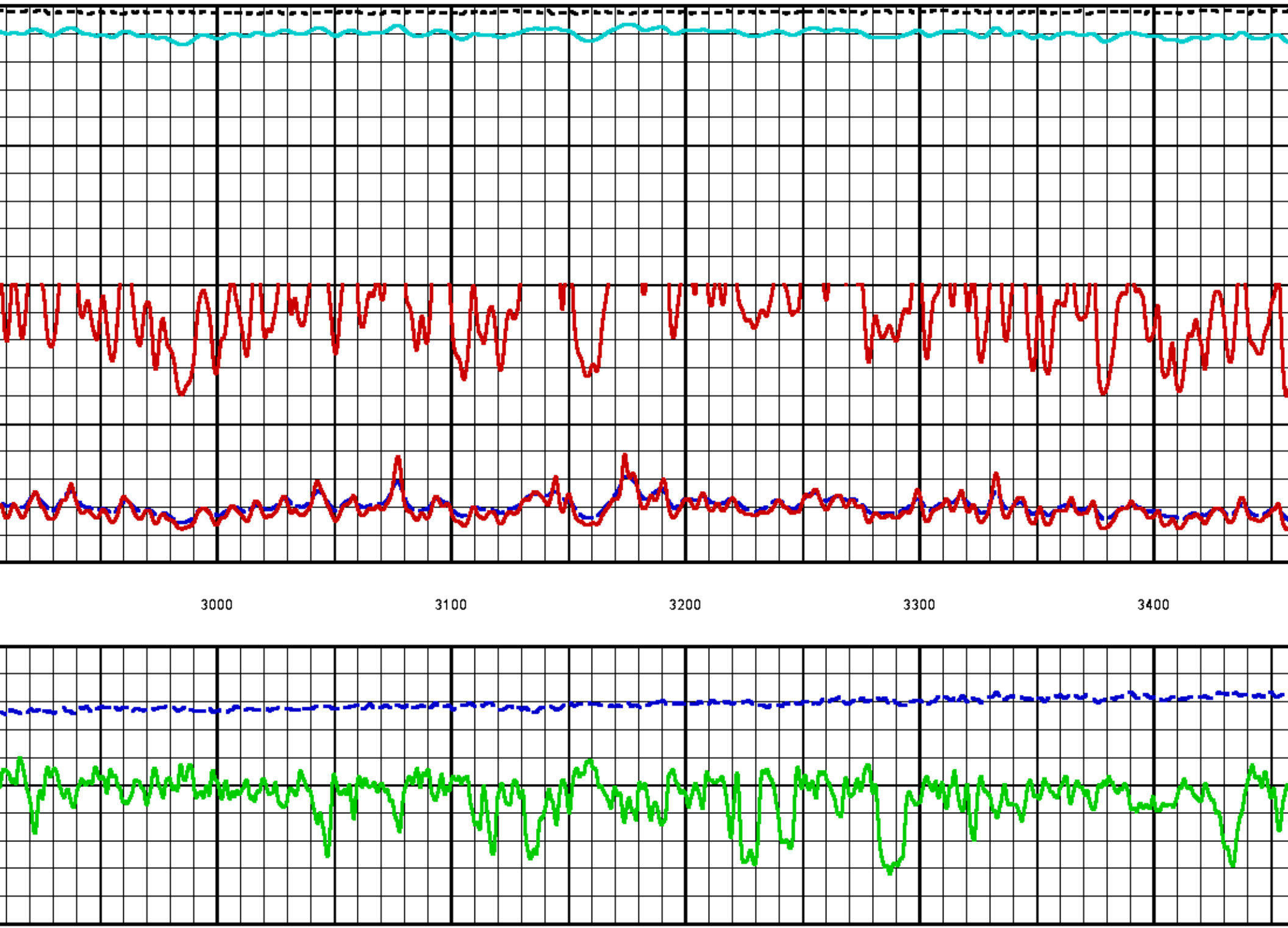
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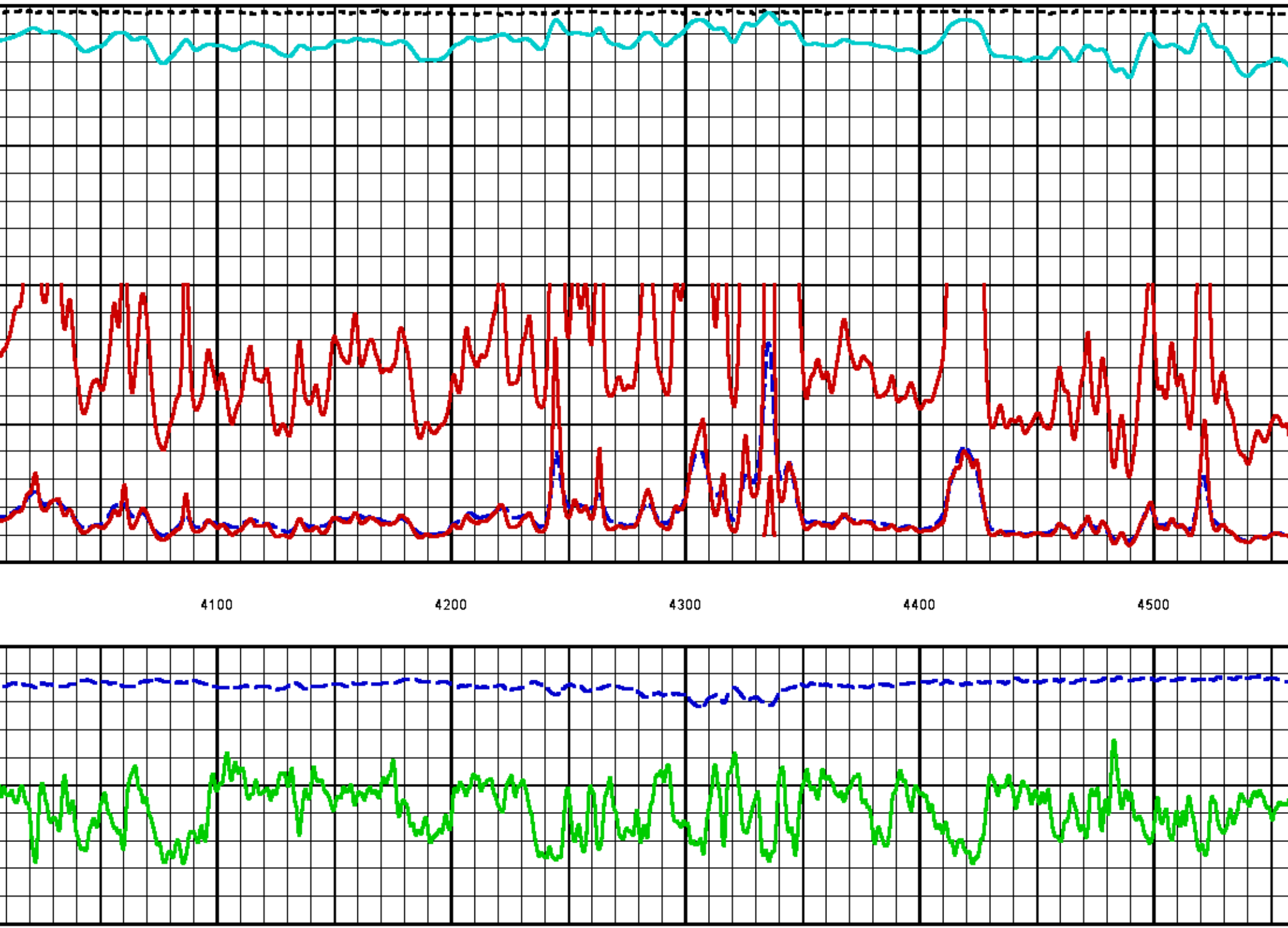
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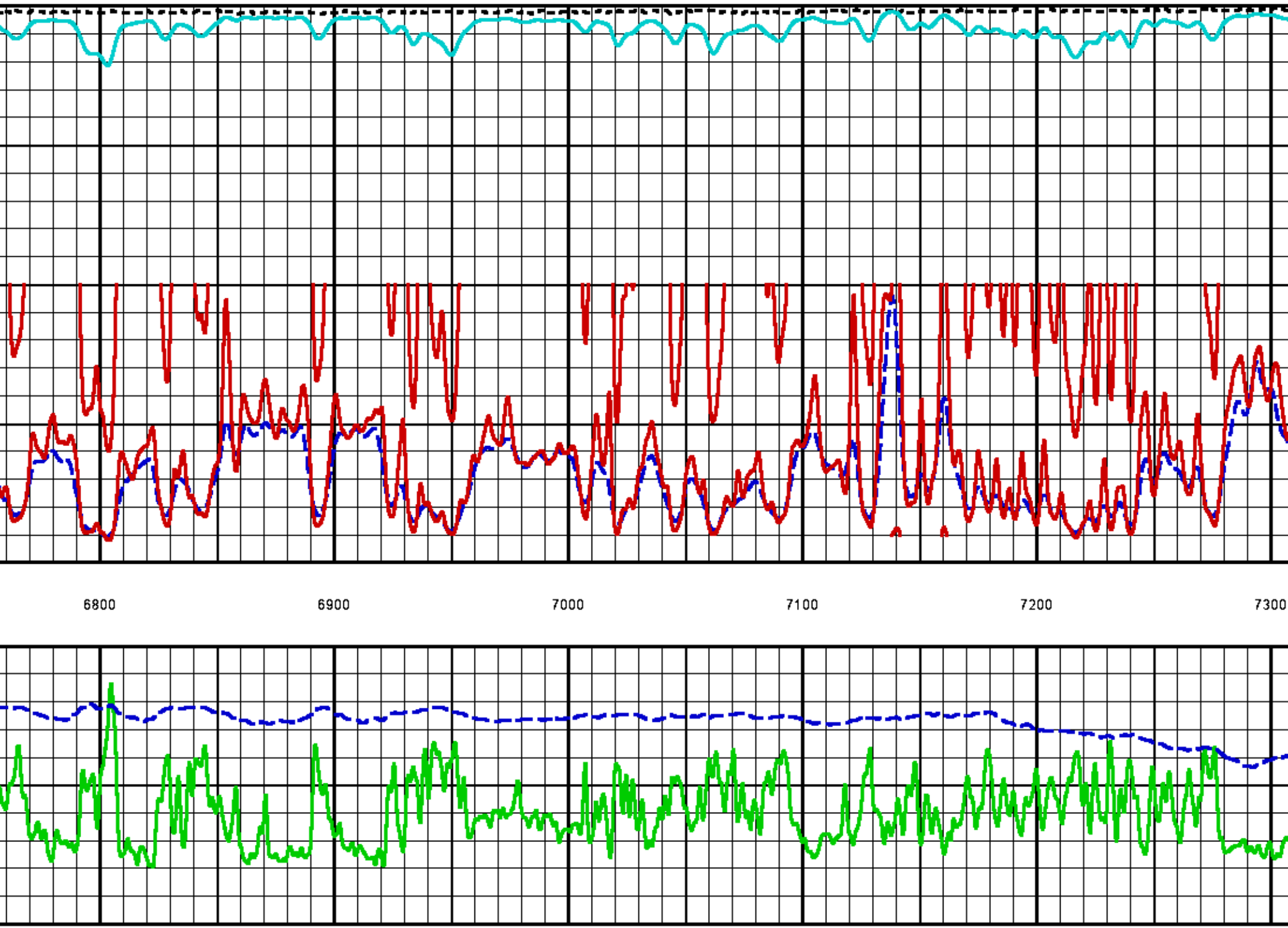
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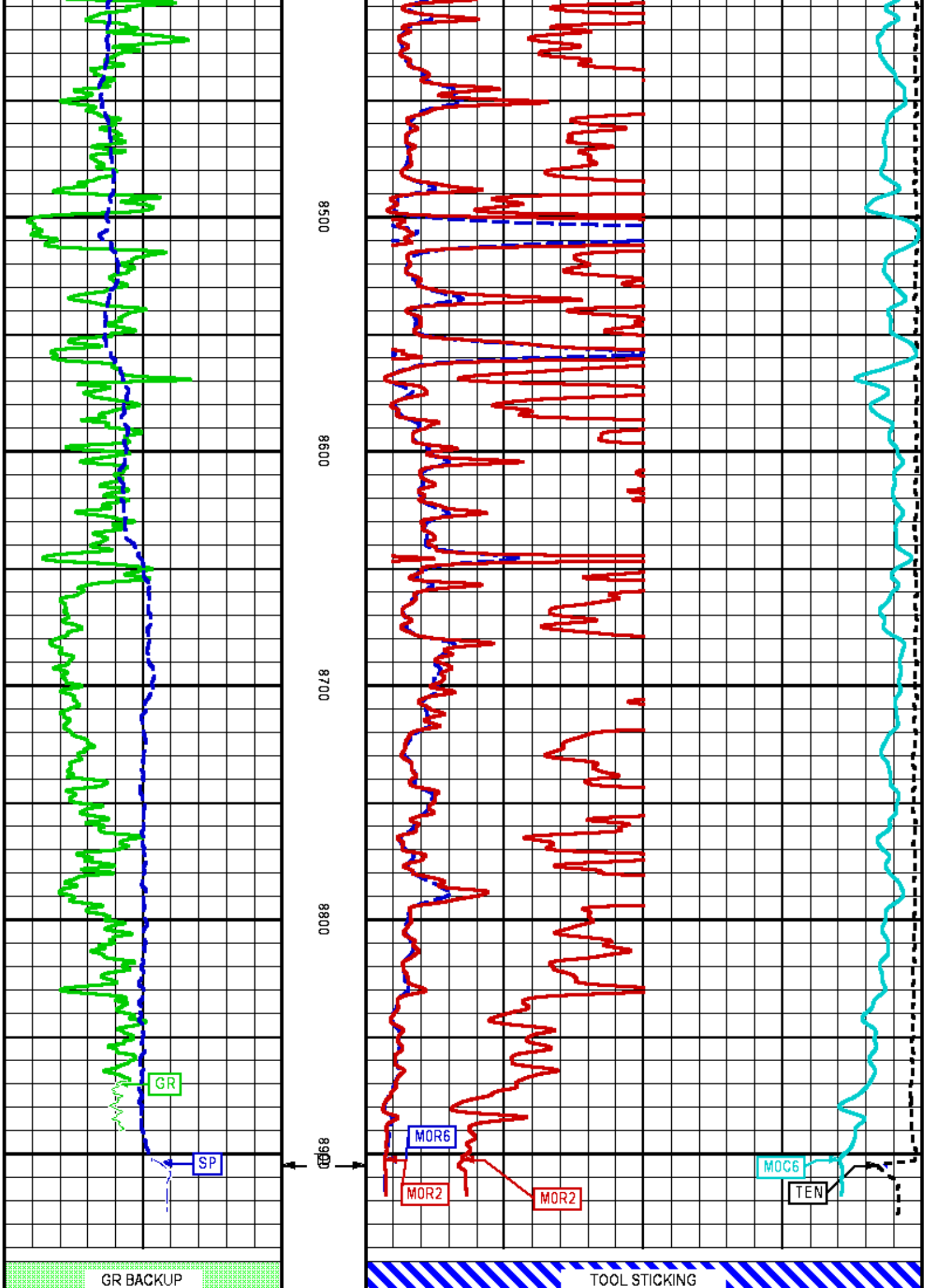
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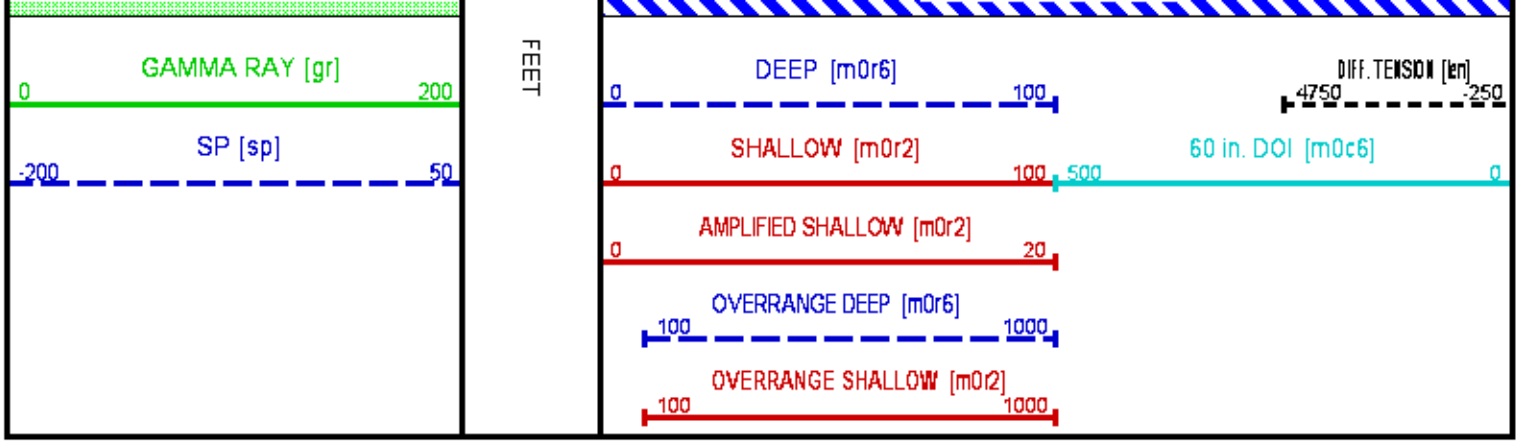
GR BACKUP
TOOL STICKING



MAIN LOG 5"/100FT SCALE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 2

Plotted: Tue Sep 16 11:33:14 2014

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/OH090087/n970a02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1009.000 ft BOTTOM DEPTH: 8929.139 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER ()	medium (1)		TOP	BOTTOM
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN MED RES	FILTER ()	medium (1)		"	"
ZDL MED RES	FILTER (hrd1^)	medium		"	"
	FILTER (hrd1s^)	medium		"	"
	FILTER (hrd2^)	medium		"	"
	FILTER (hrd2s^)	medium		"	"
	FILTER (soft^)	medium		"	"
SP-SPDH	FILTER ()	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	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	79.0	degF	"	"
	MUD SAMPLE RES	1.300	ohm.m	"	"
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	1332	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	13.500	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

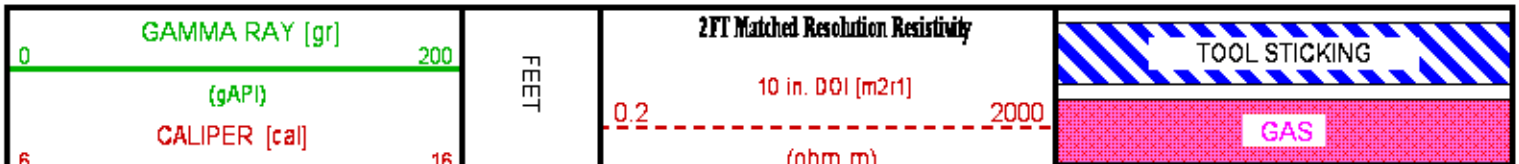
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Sep 16 07:59:23 2014	BIT SIZE
F1:BVOL	Sep 16 07:59:23 2014	BOREHOLE VOLUME
F1:CAL	Sep 16 07:59:23 2014	CALIPER
F1:CNCF	Sep 16 07:59:23 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Sep 16 07:59:23 2014	CEMENT VOLUME
F1:GR	Sep 16 07:59:23 2014	GAMMA RAY
F1:M2R1	Sep 16 07:59:23 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Sep 16 07:59:23 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Sep 16 07:59:23 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Sep 16 07:59:23 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Sep 16 07:59:23 2014	POROSITY FOR SELECTABLE MATRIX
F1:SP	Sep 16 07:59:23 2014	SPONTANEOUS POTENTIAL
F1:TEN	Sep 16 07:59:23 2014	DIFFERENTIAL TENSION
F1:ZCOR	Sep 16 07:59:23 2014	DENSITY CORRECTION

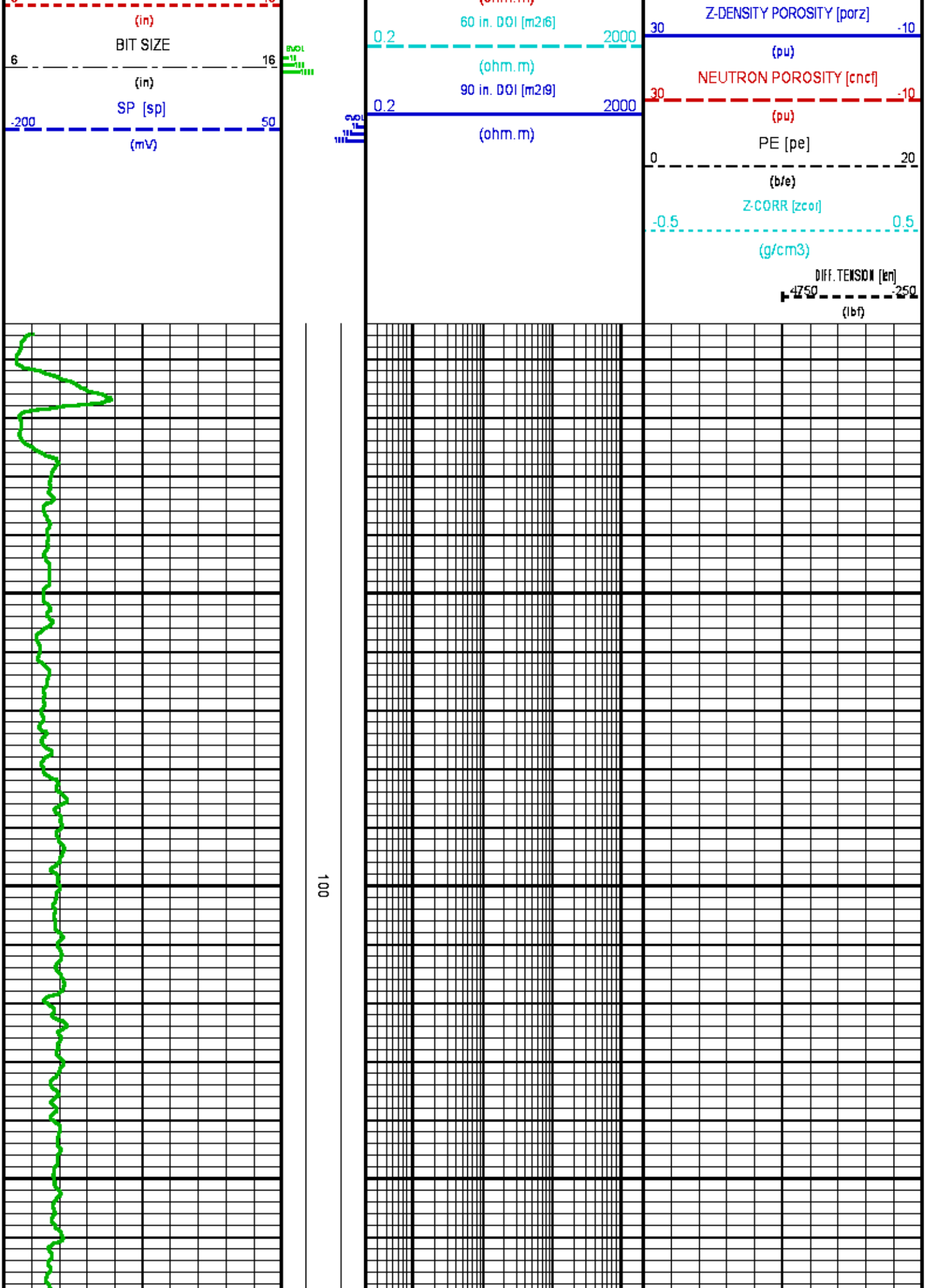
CURVE MEASURE POINT OFFSET

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

Presentation : **HL6670:MAIN_5IN.fvpdf [5"/100' Scale]**
Plot Interval : **5.75 - 8933 Feet**

Data File 1 : **F1 : HL6670:/dat1a/OH090087/n970a02.xtf**
Created On : **Sep 16 07:59:23 2014**
Company : **WPX ENERGY ROCKY MOUNTAIN**
Well : **SAVAGE RWF 34-25**
Field : **RULISON**
File Interval : **0 - 8933 Feet**
OCT : **n970a**

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(in)
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(mV)
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(ohm.m)
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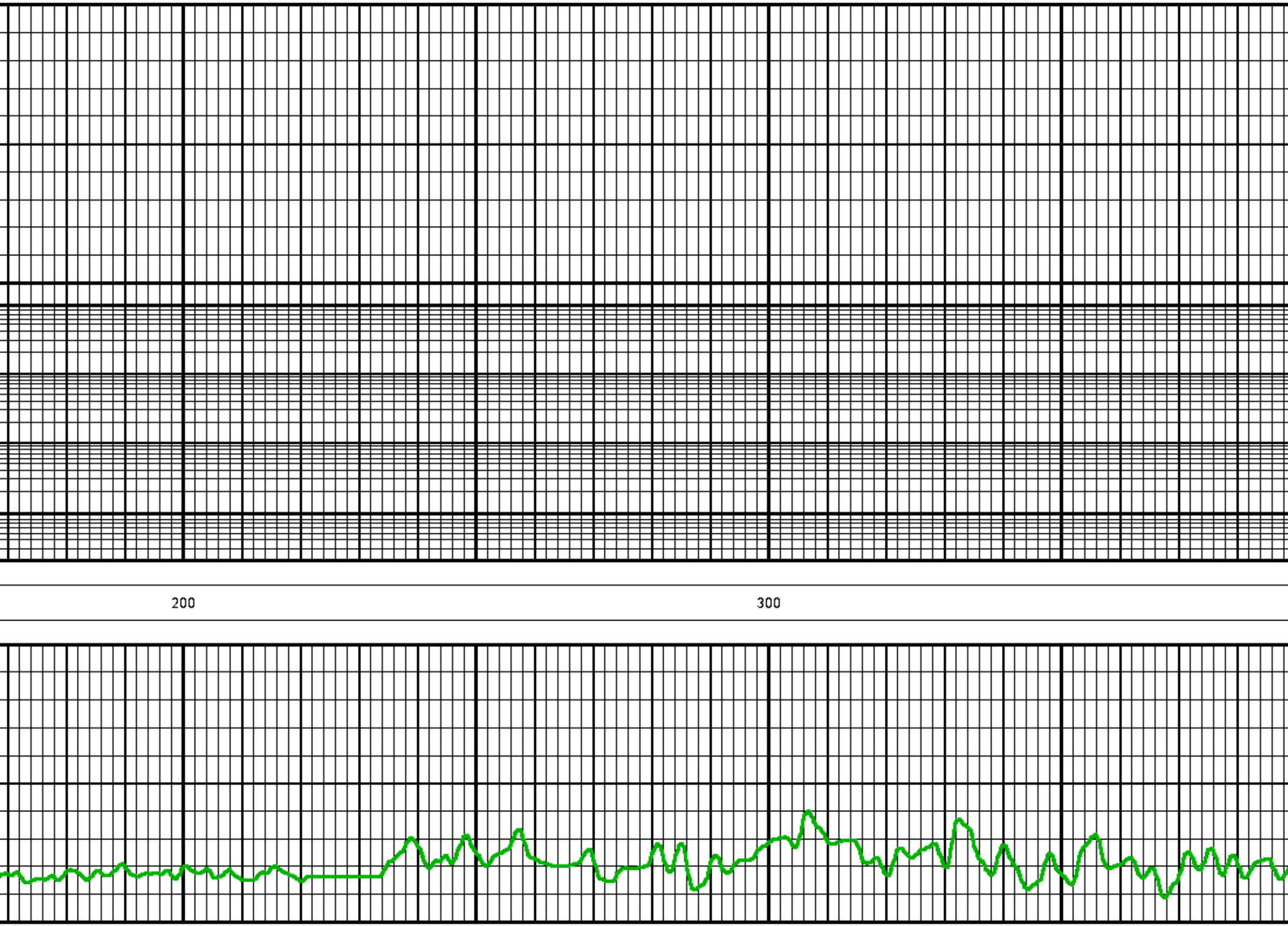
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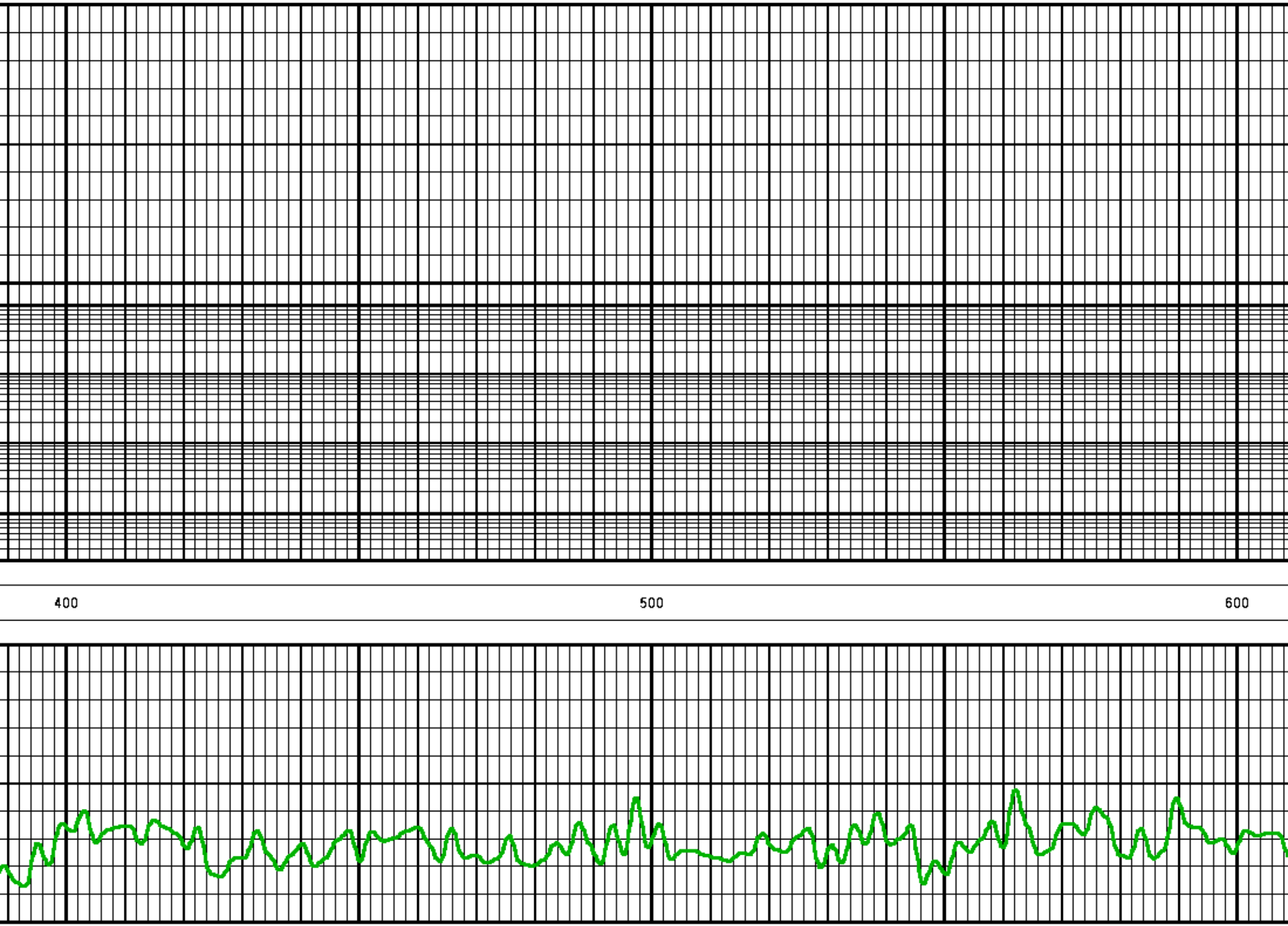
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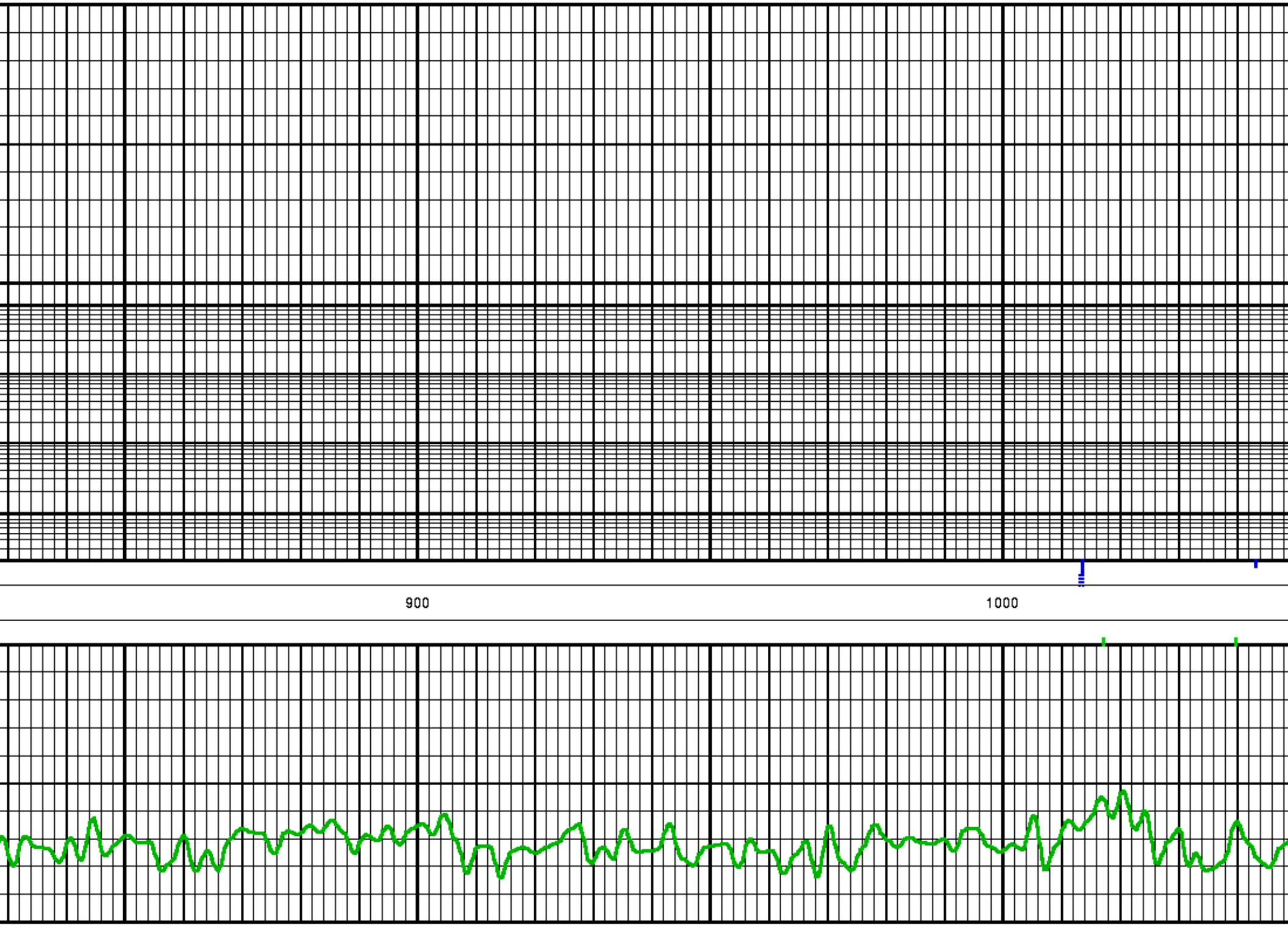
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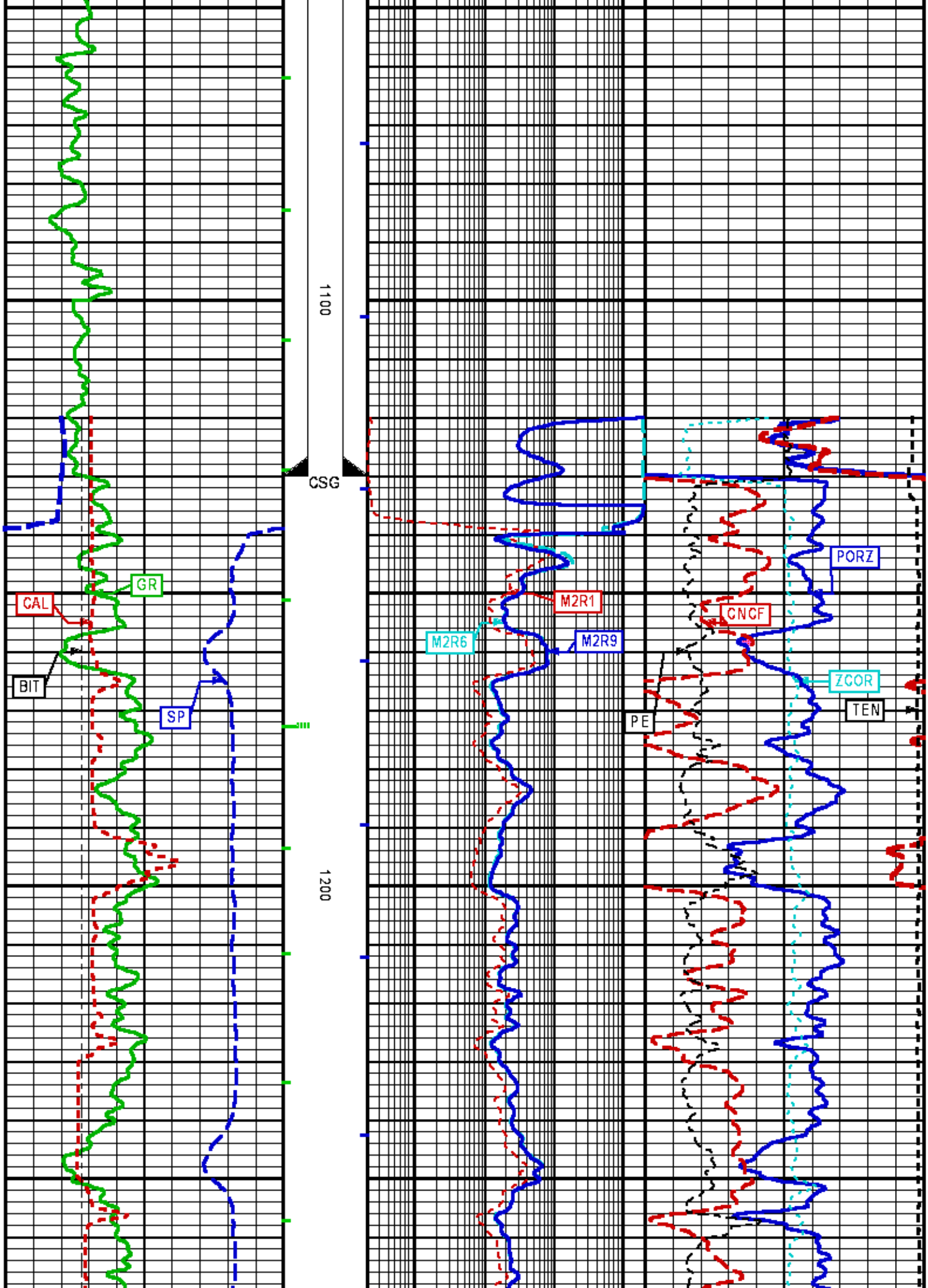
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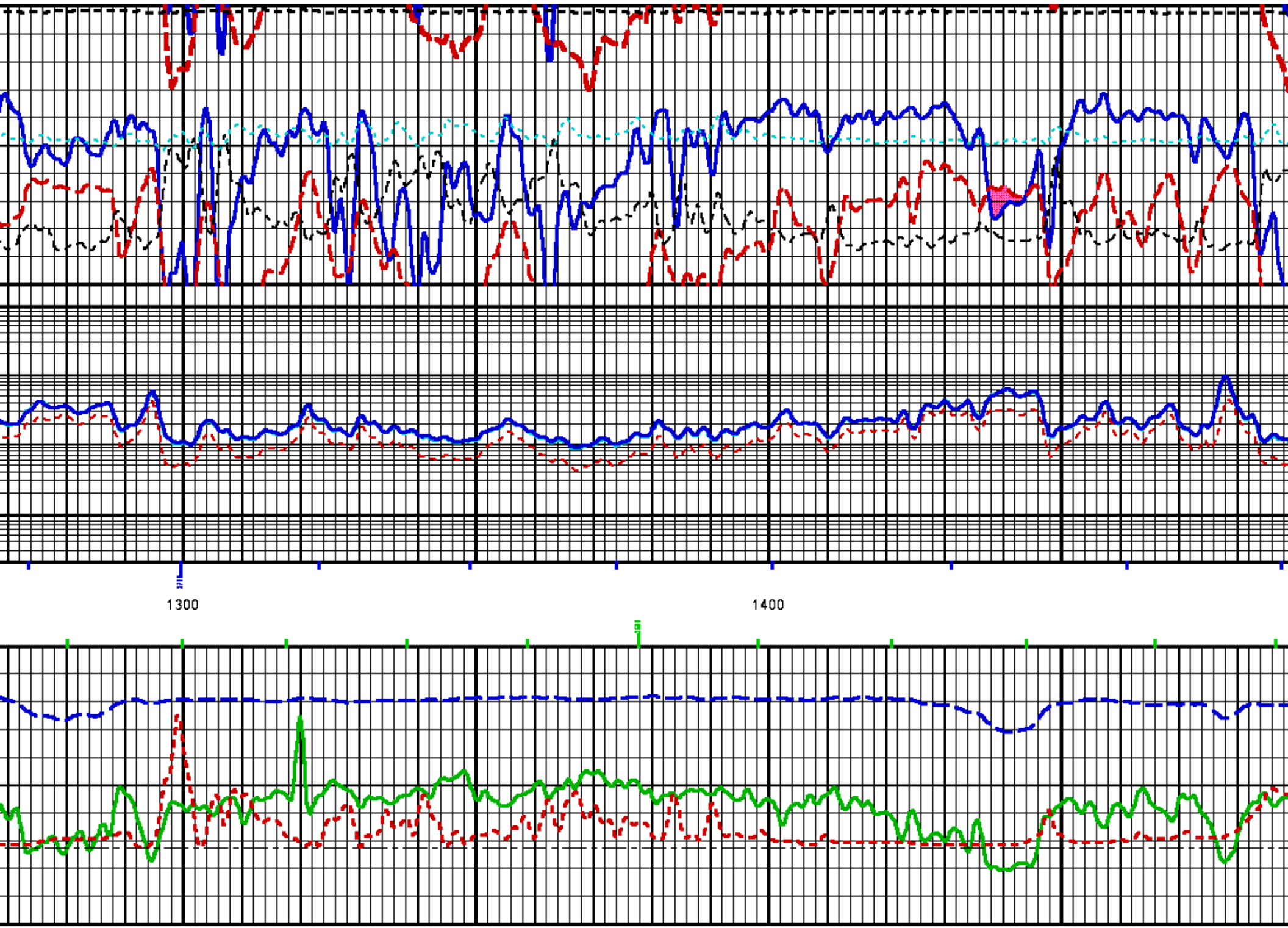
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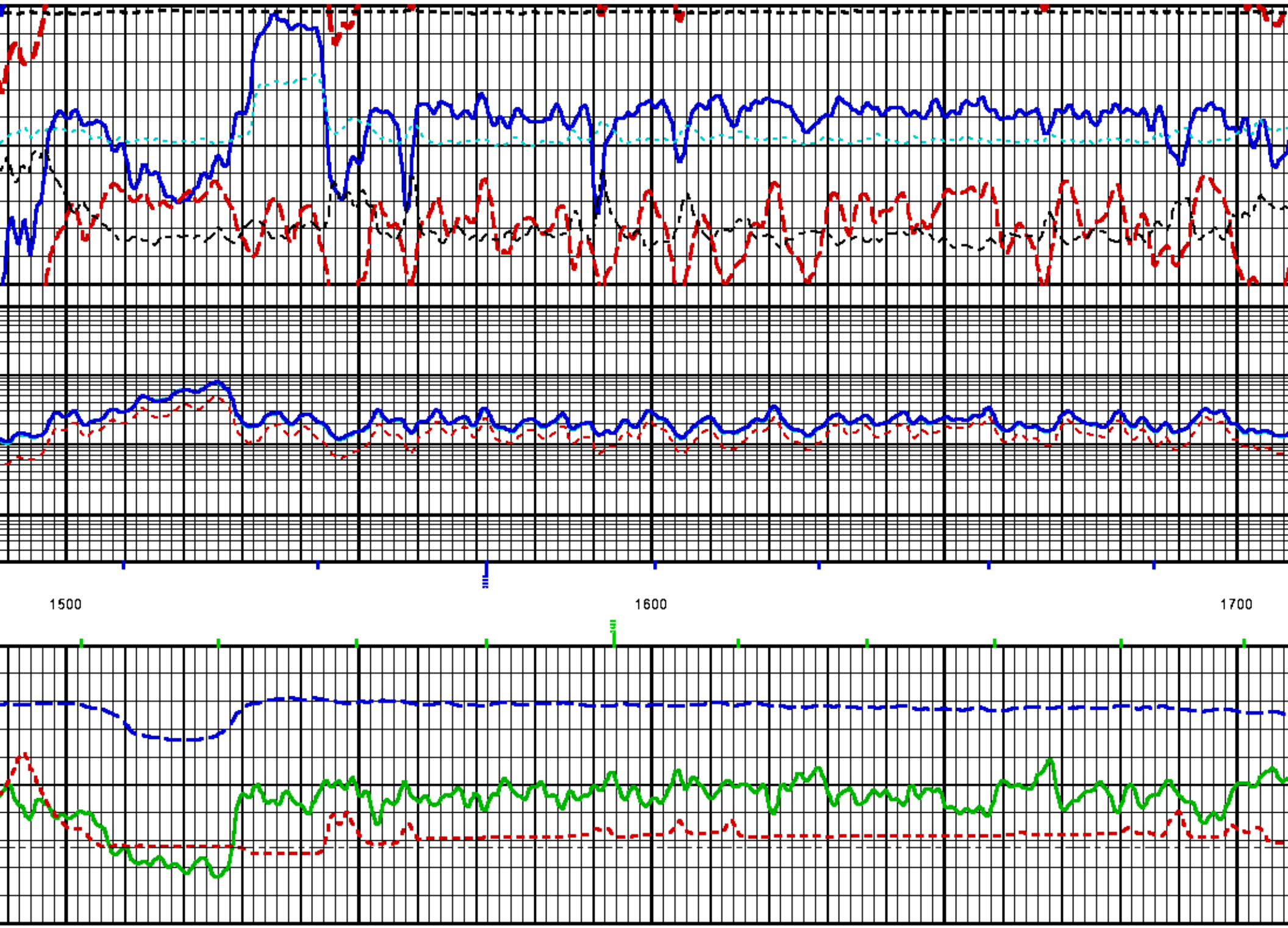
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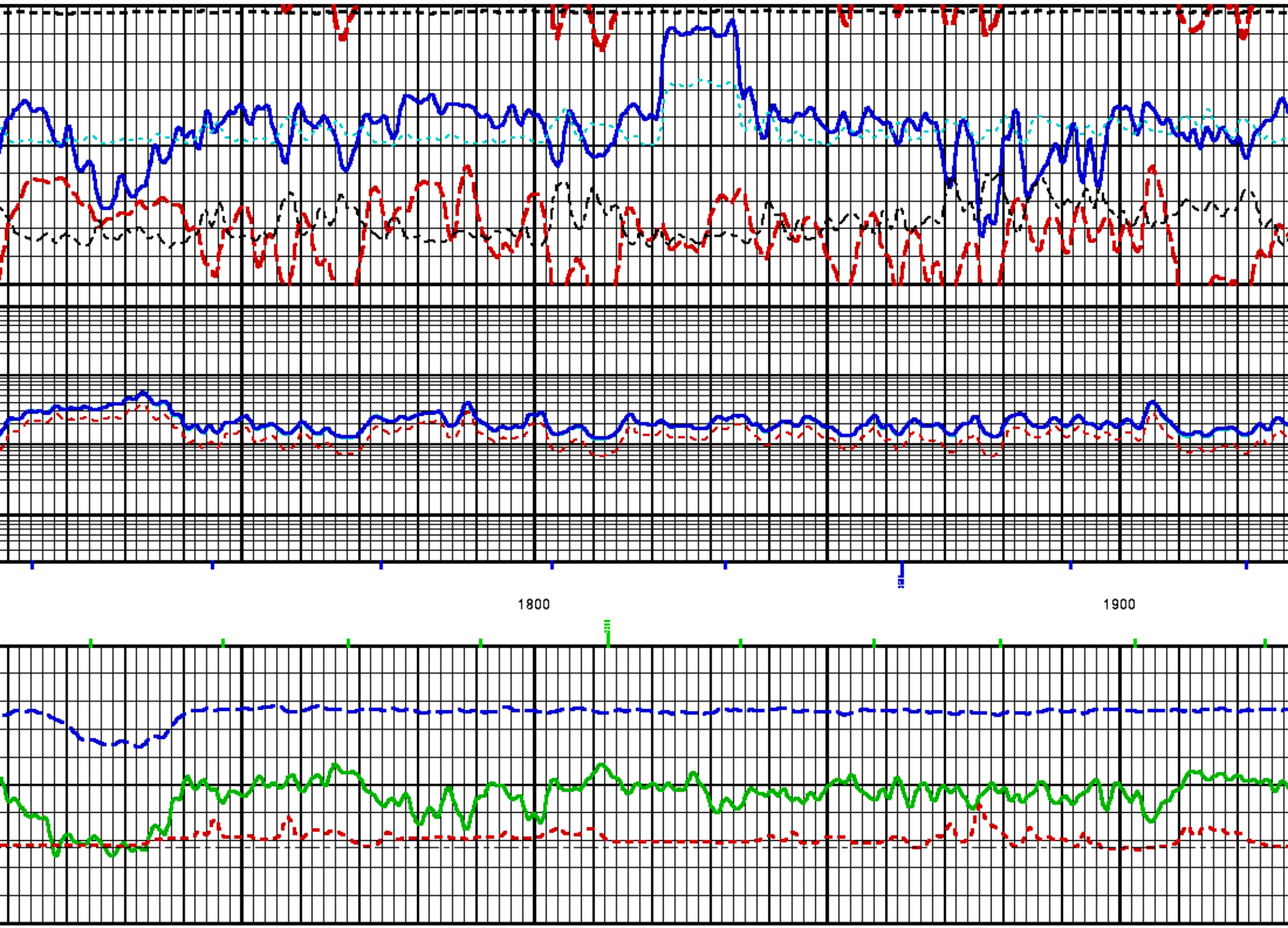
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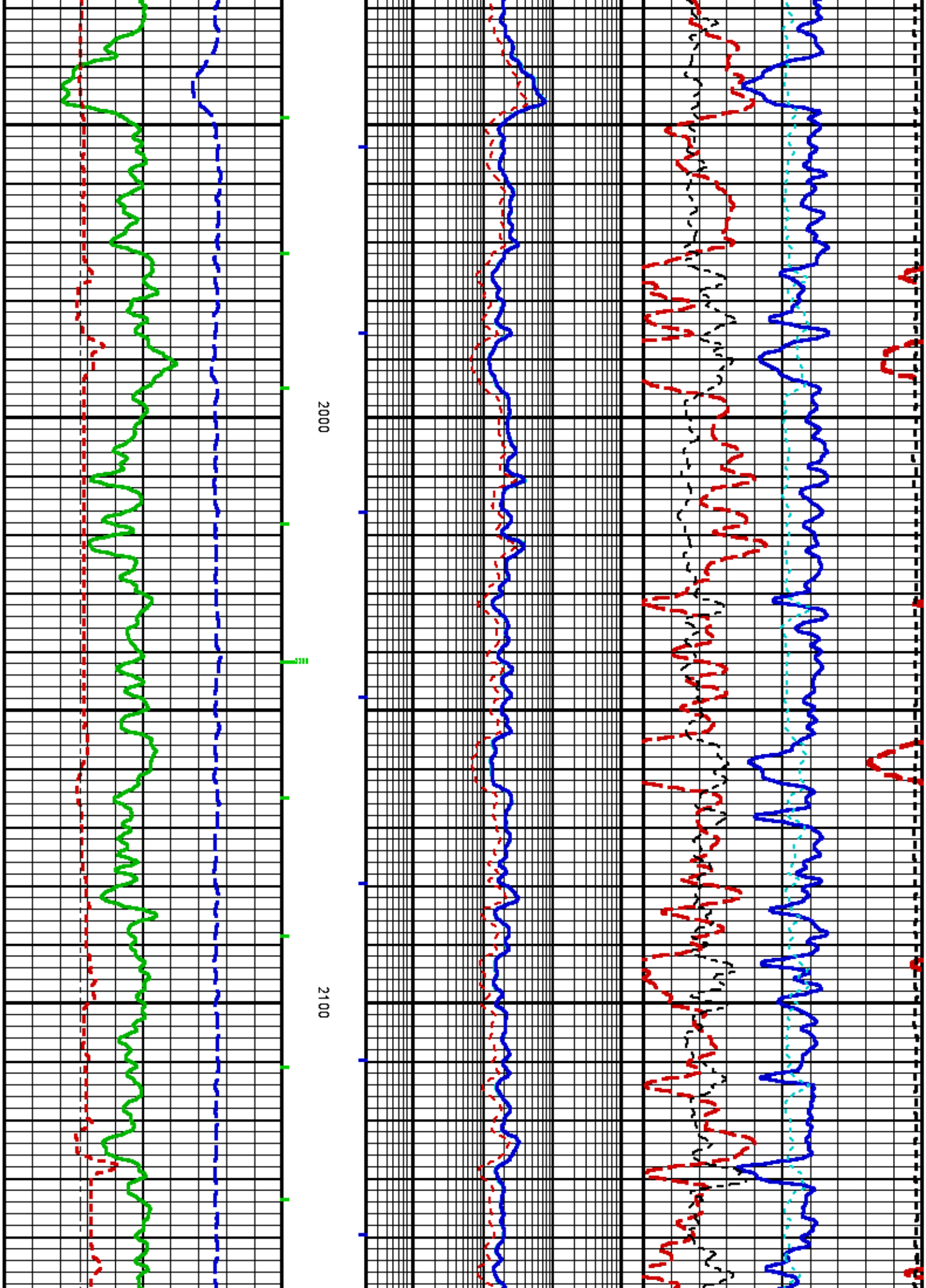
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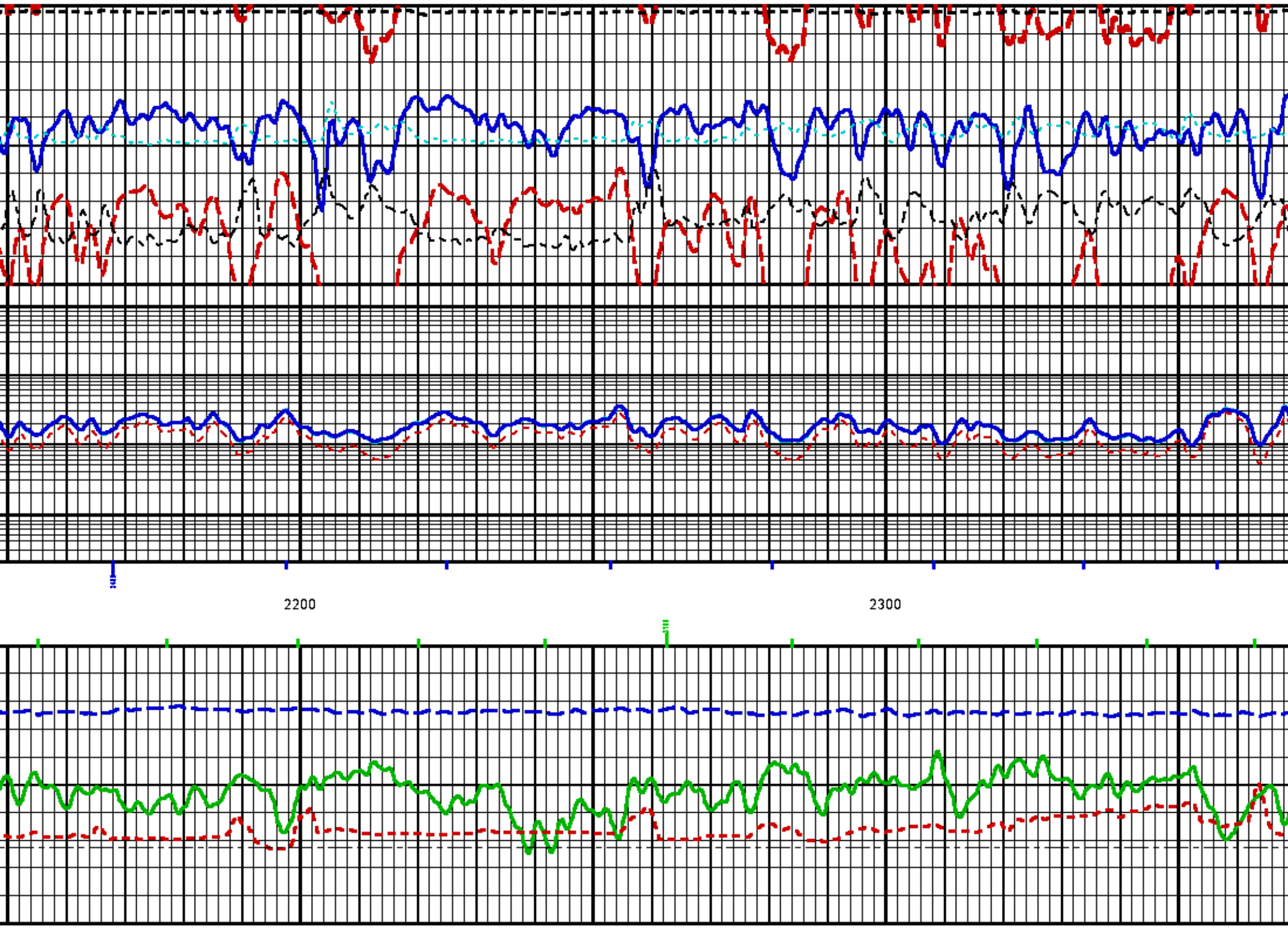
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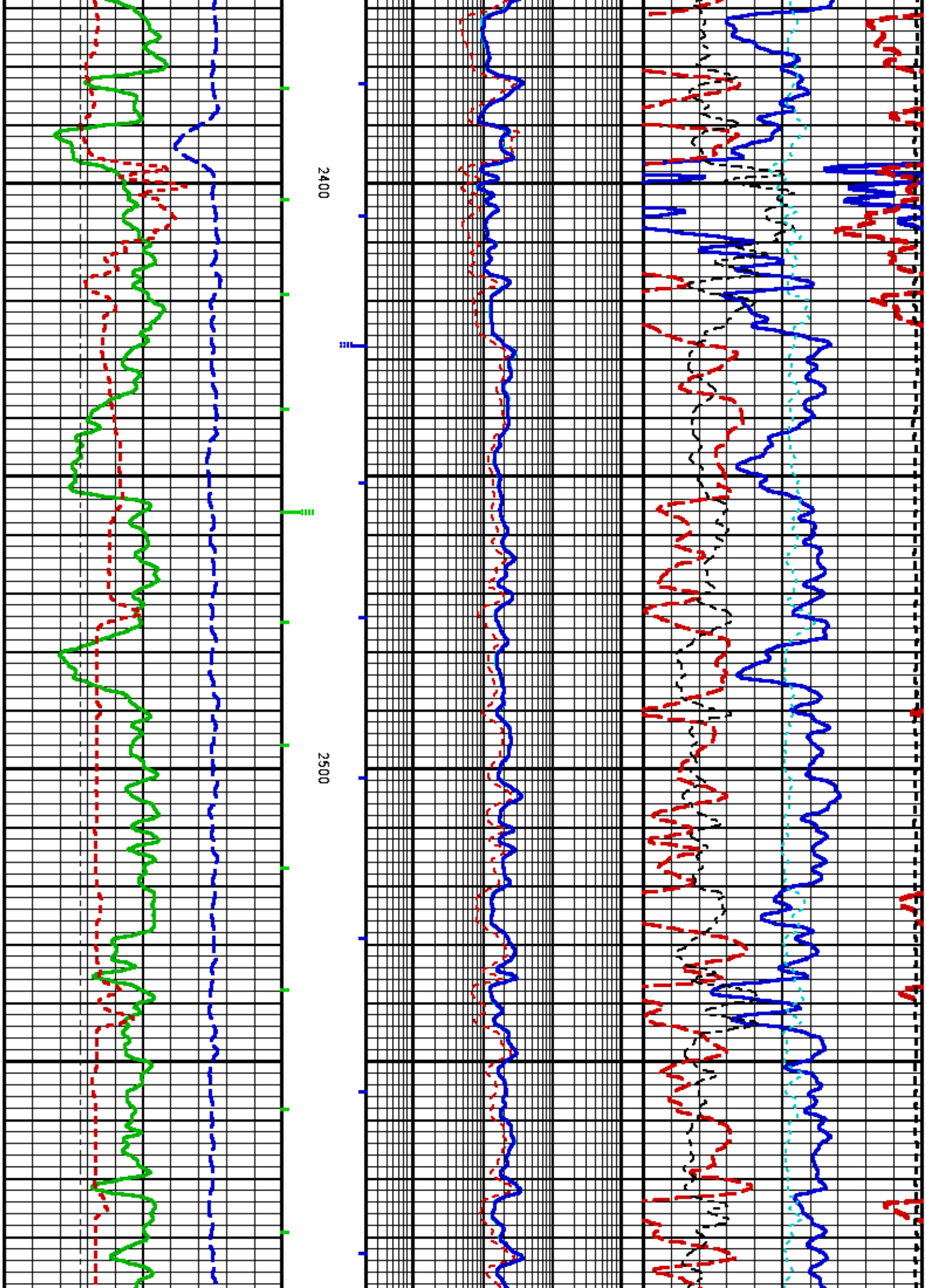
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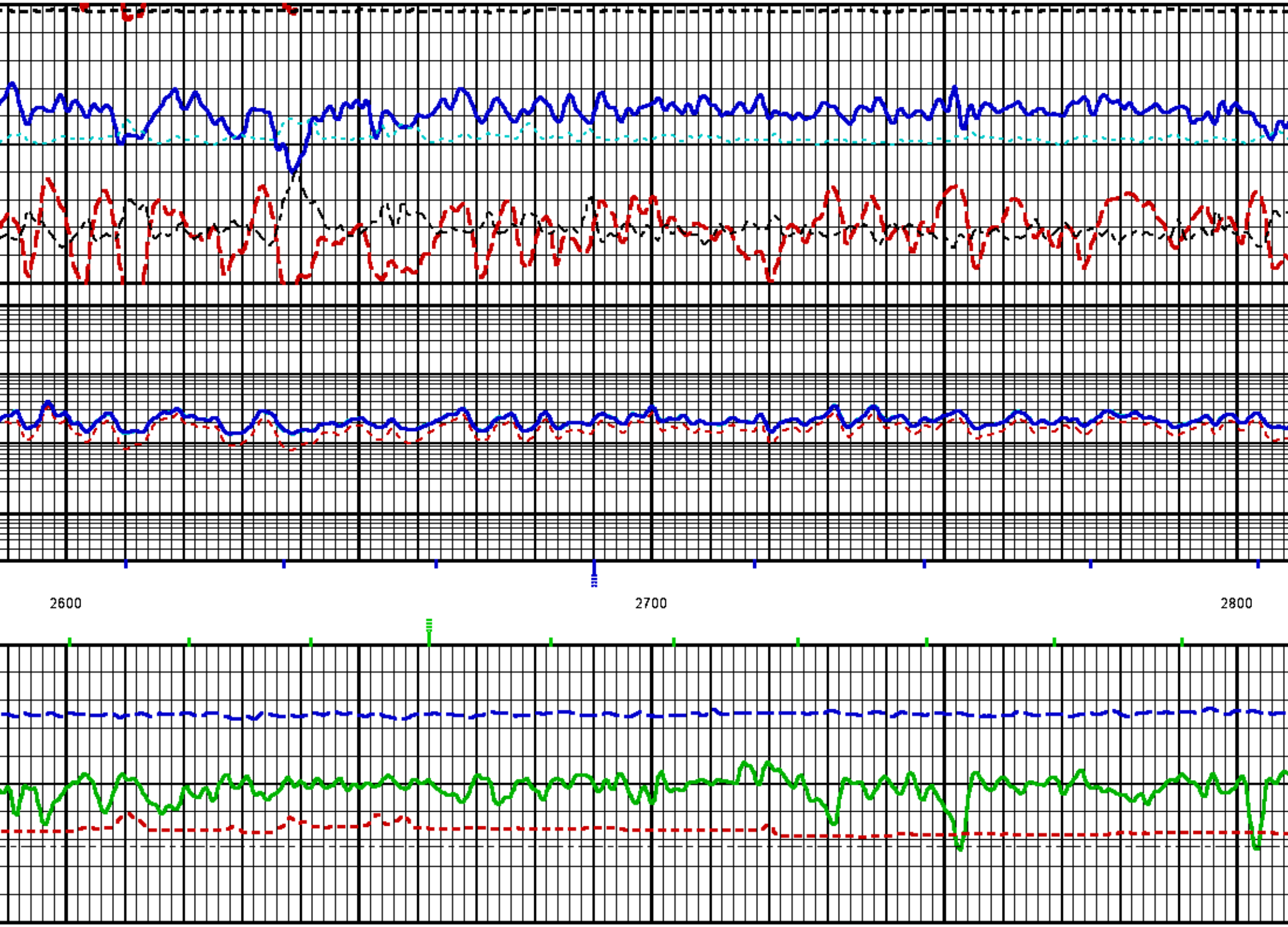
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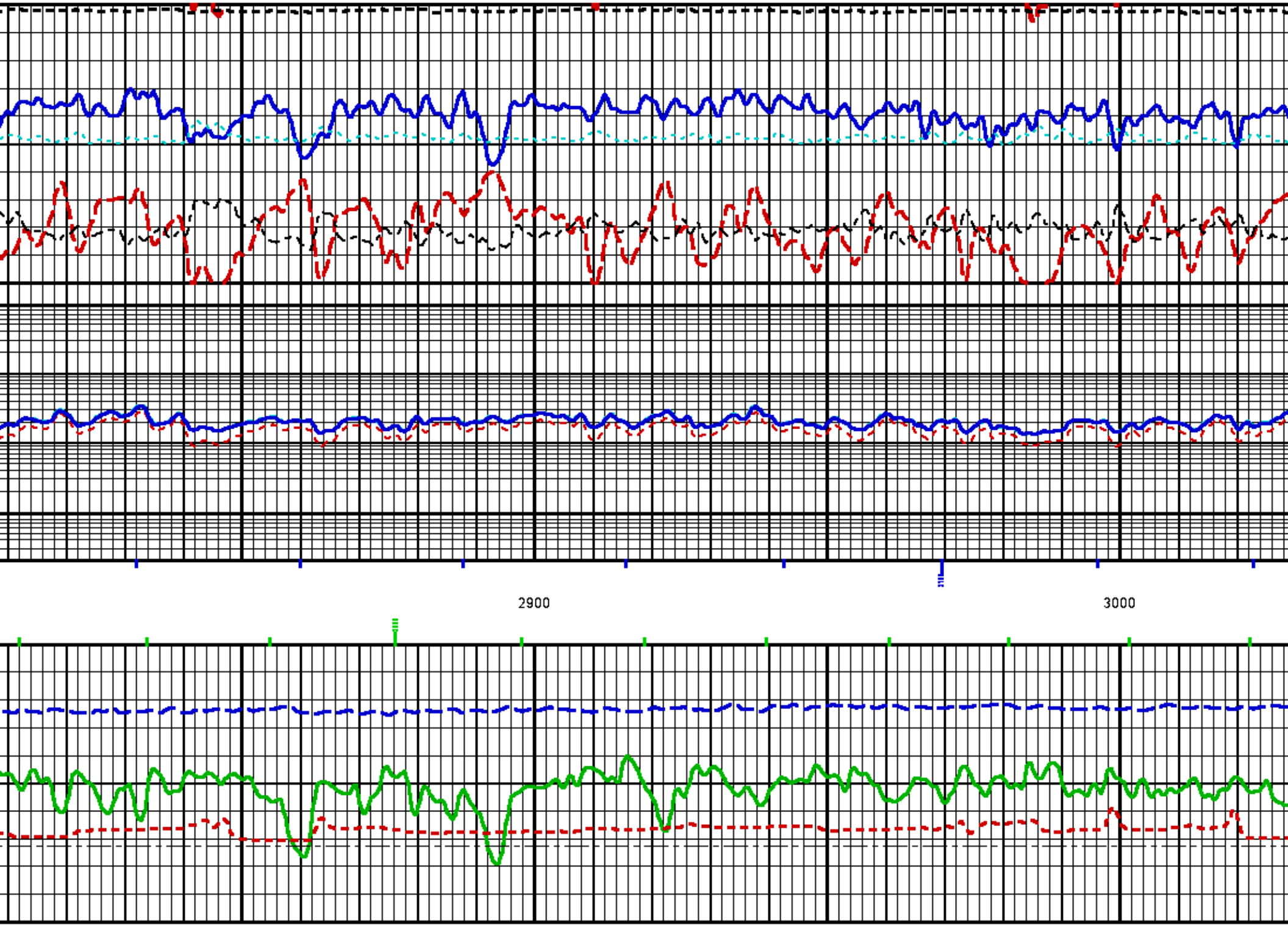
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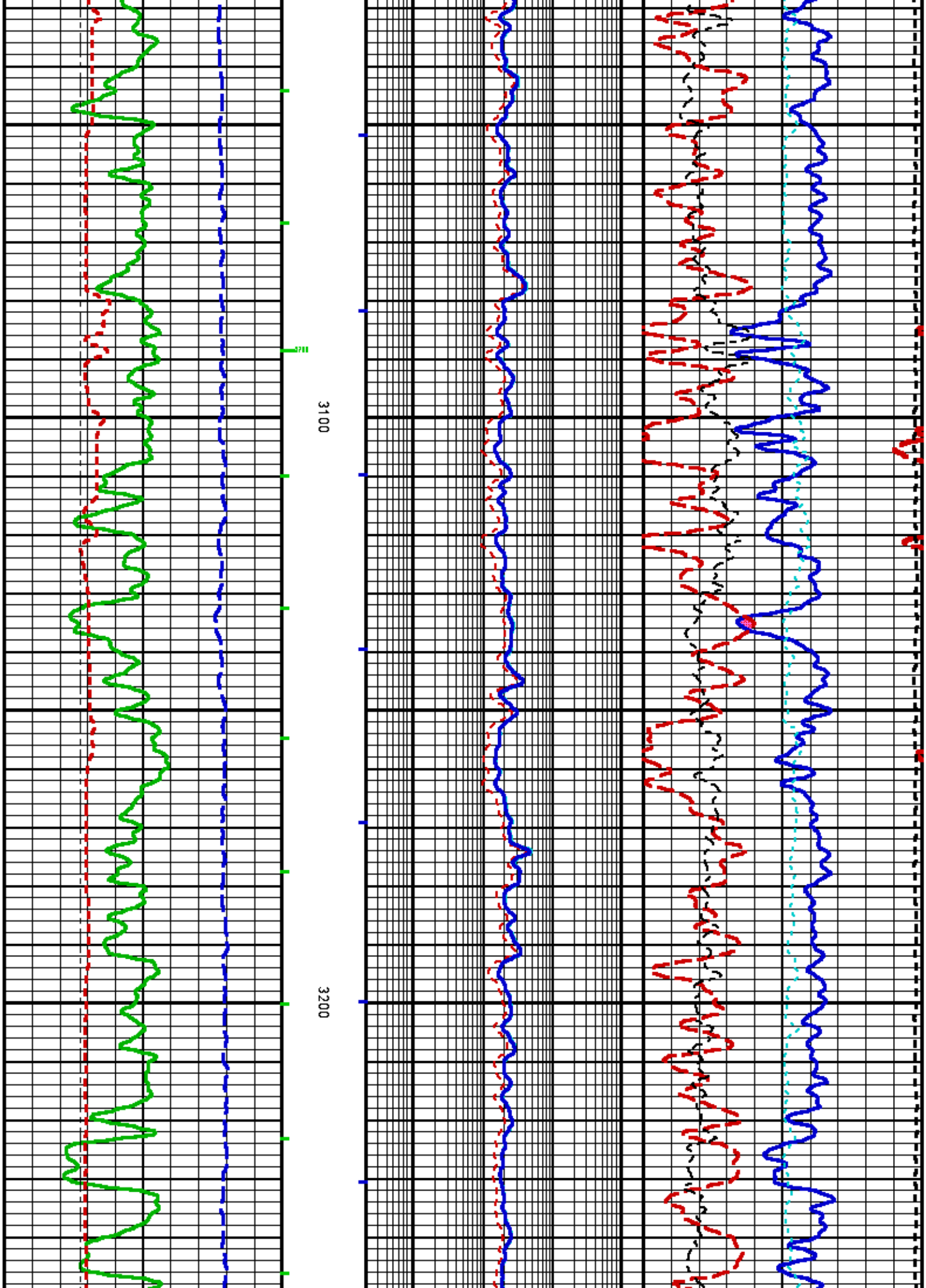
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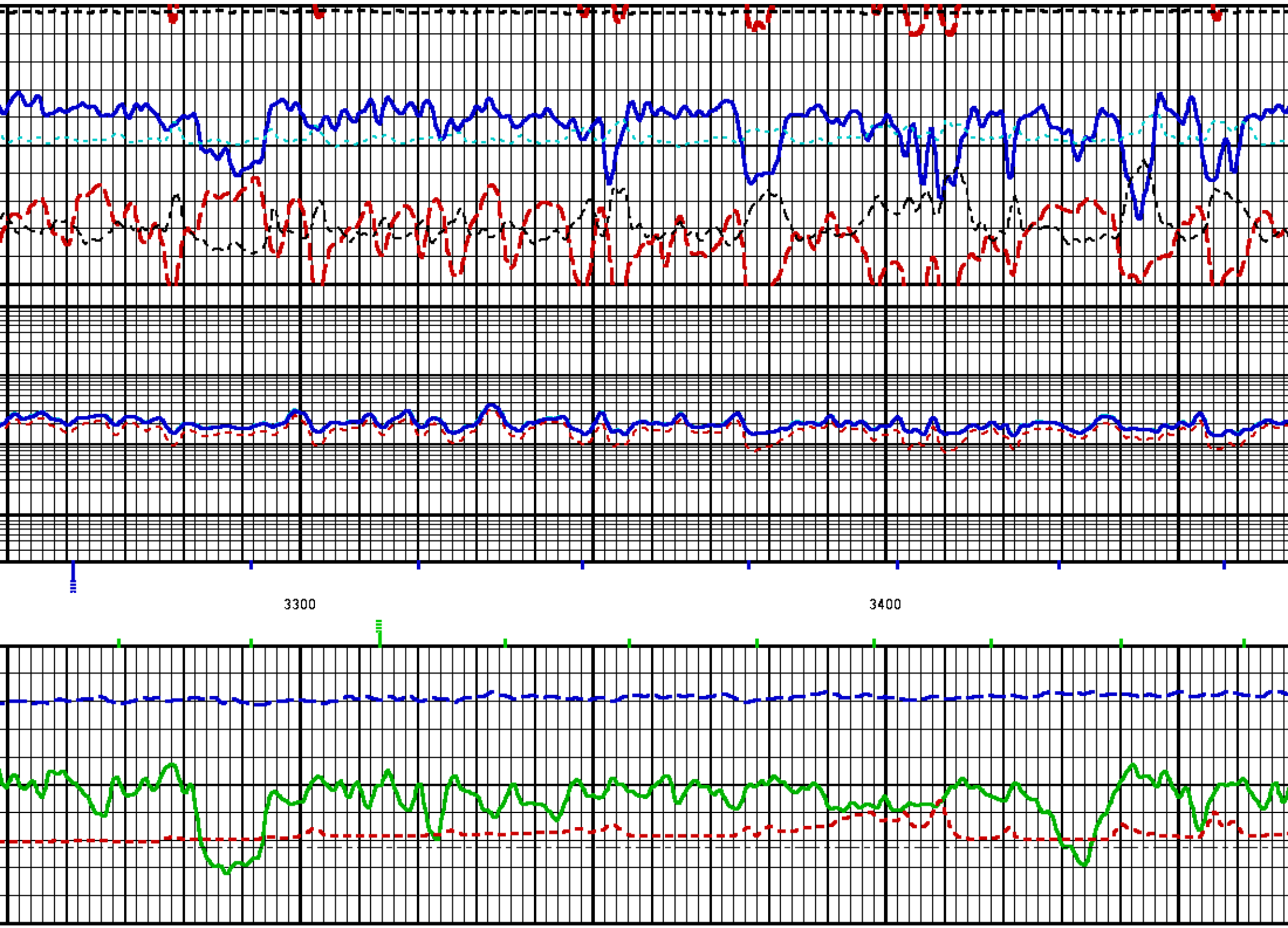
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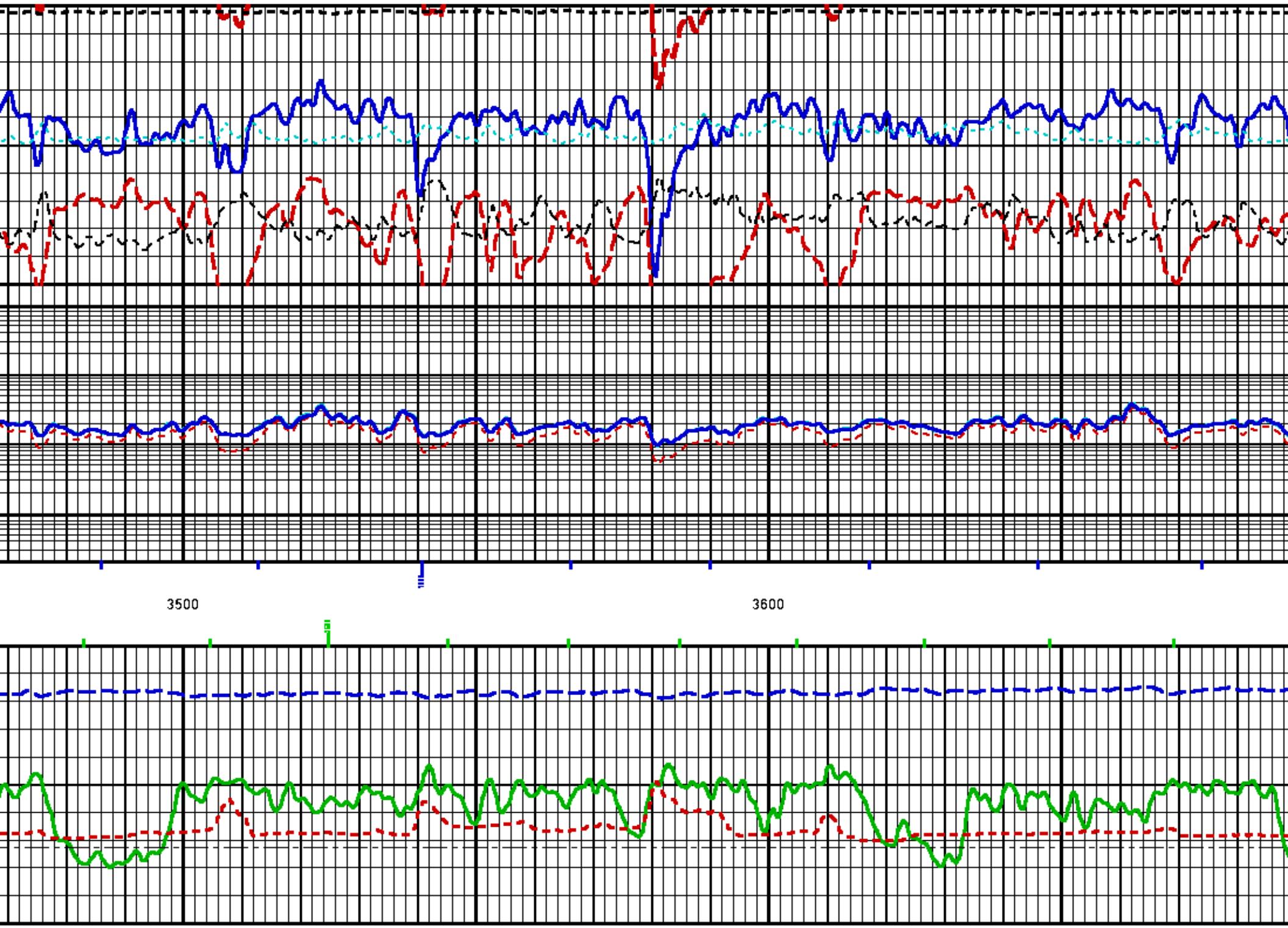
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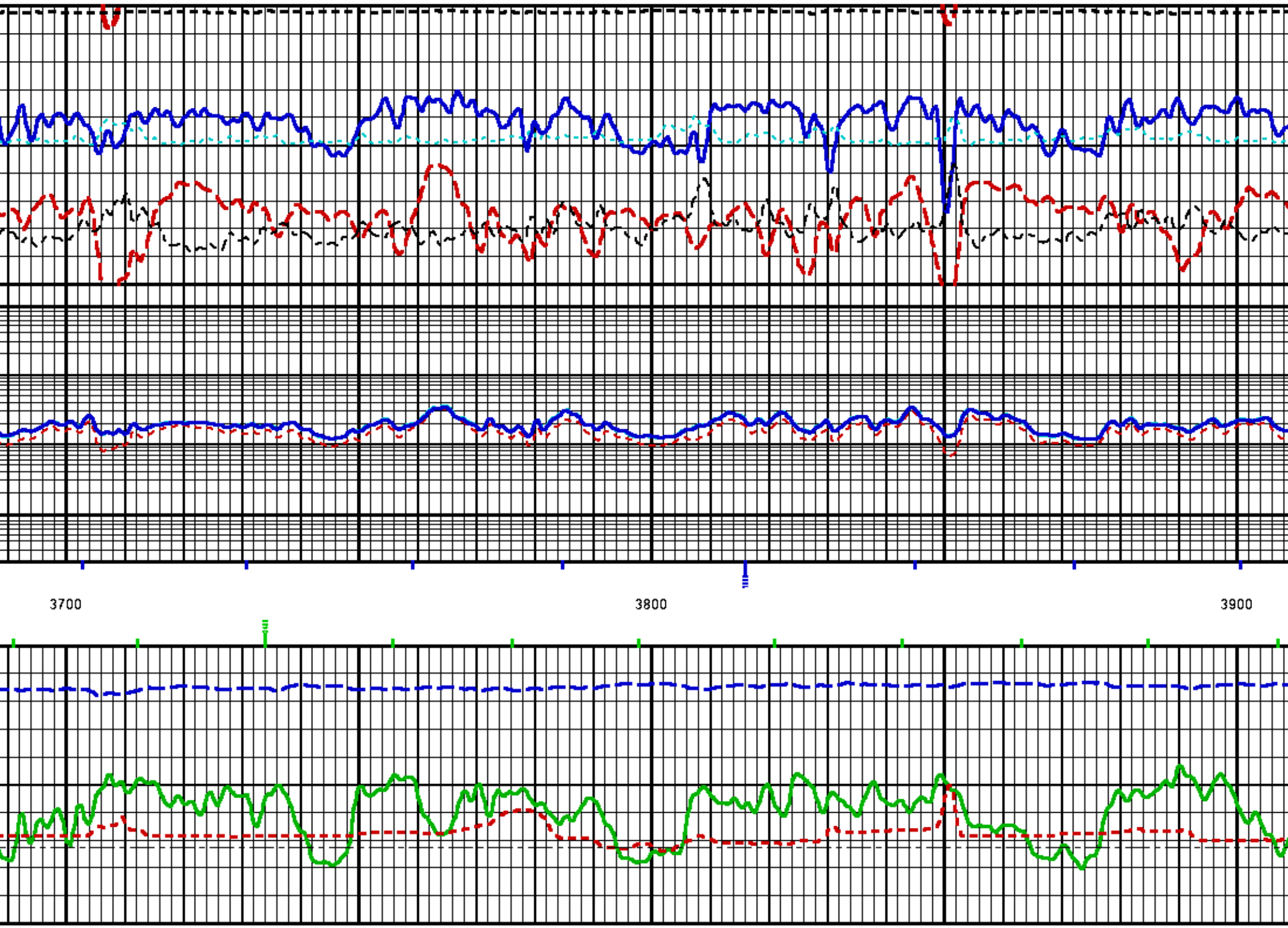
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3800
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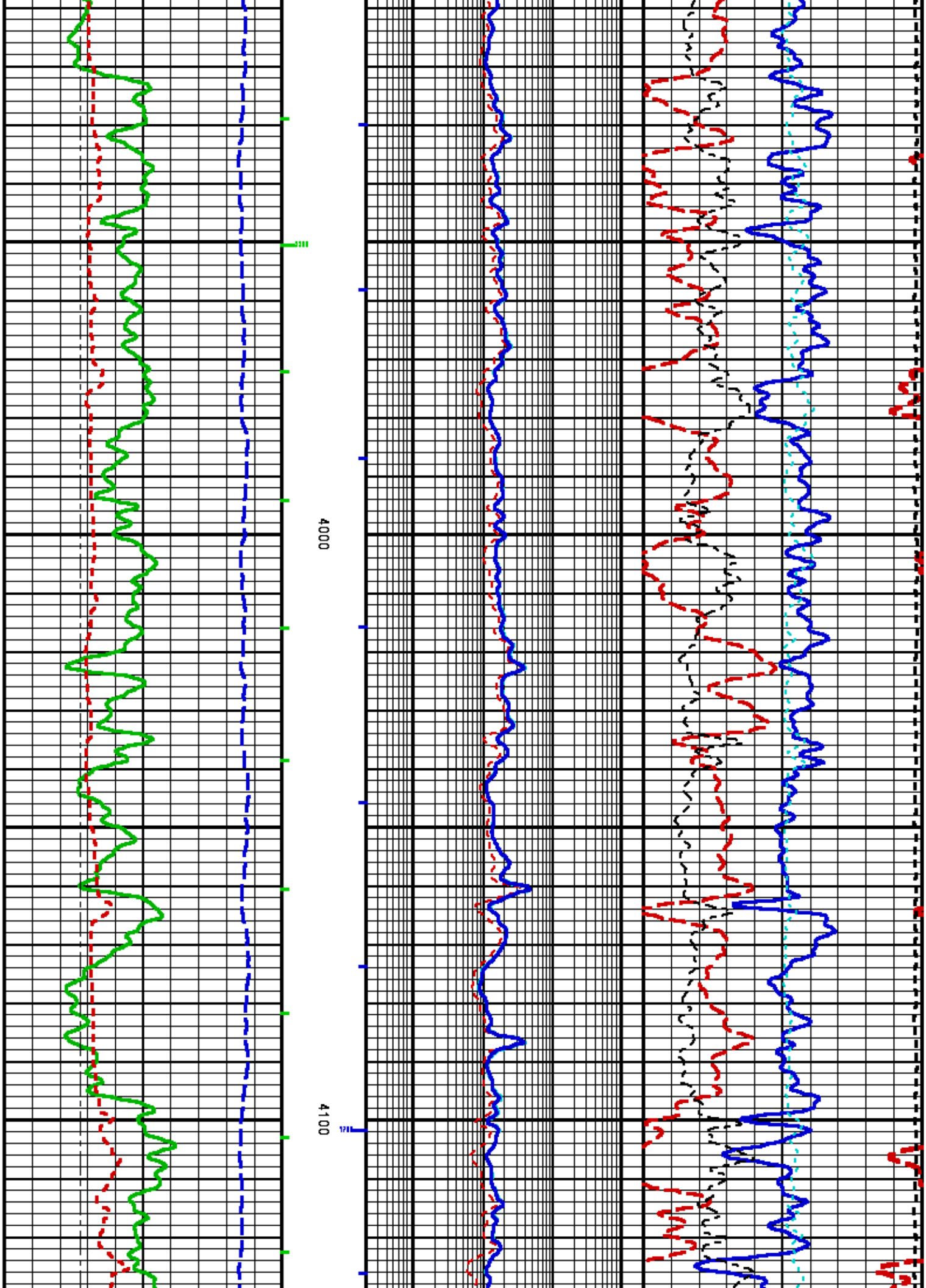
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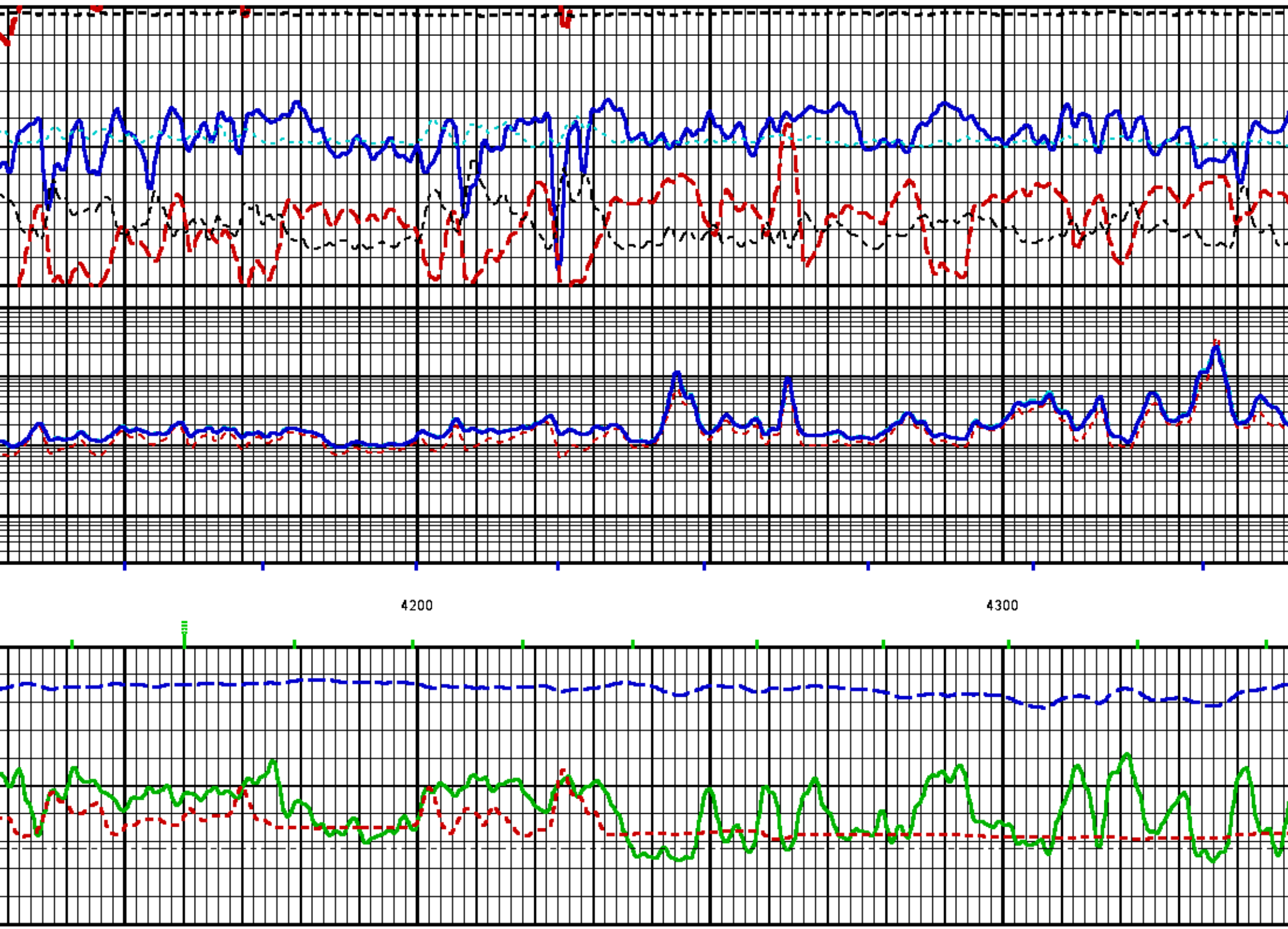
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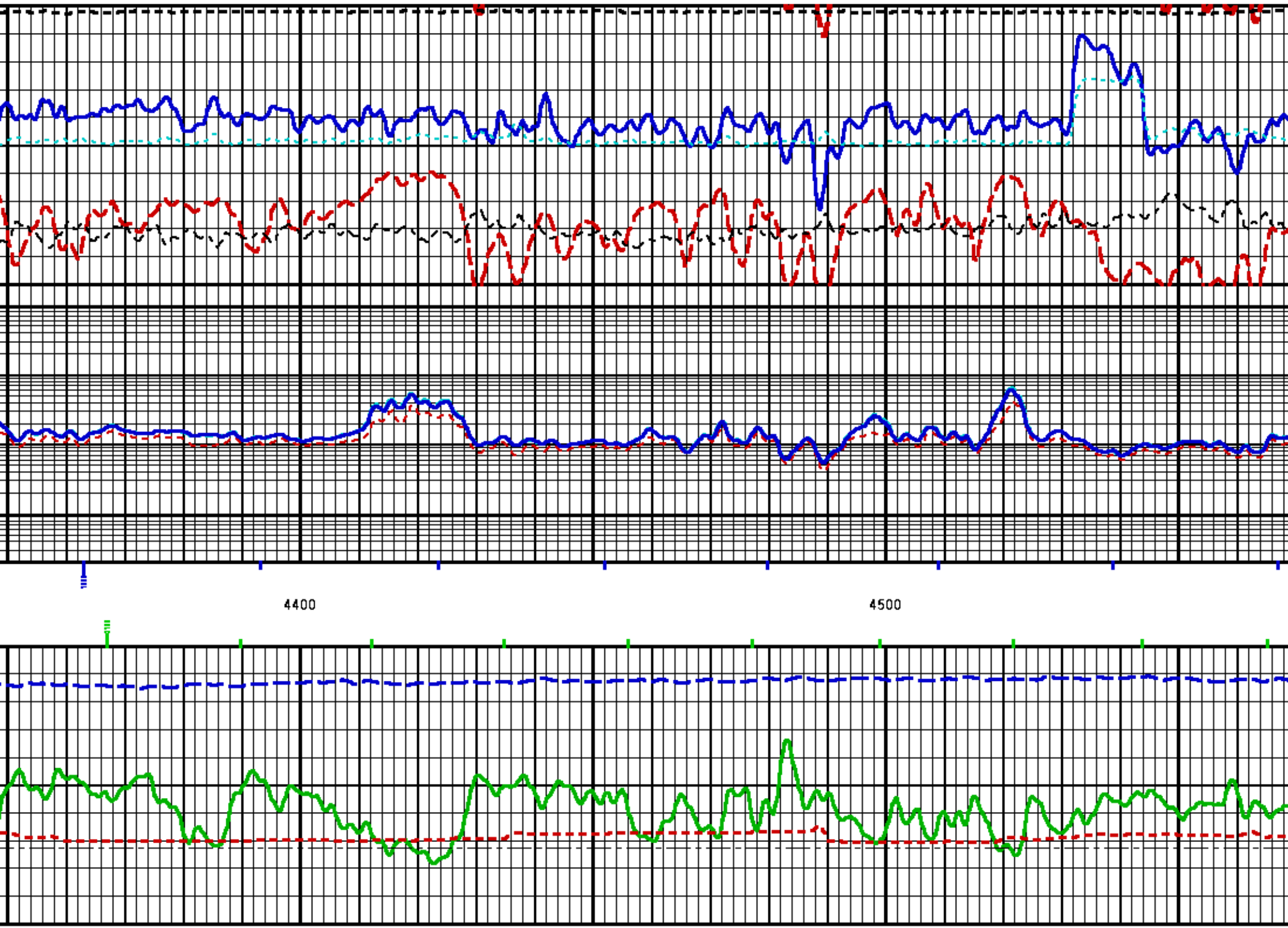
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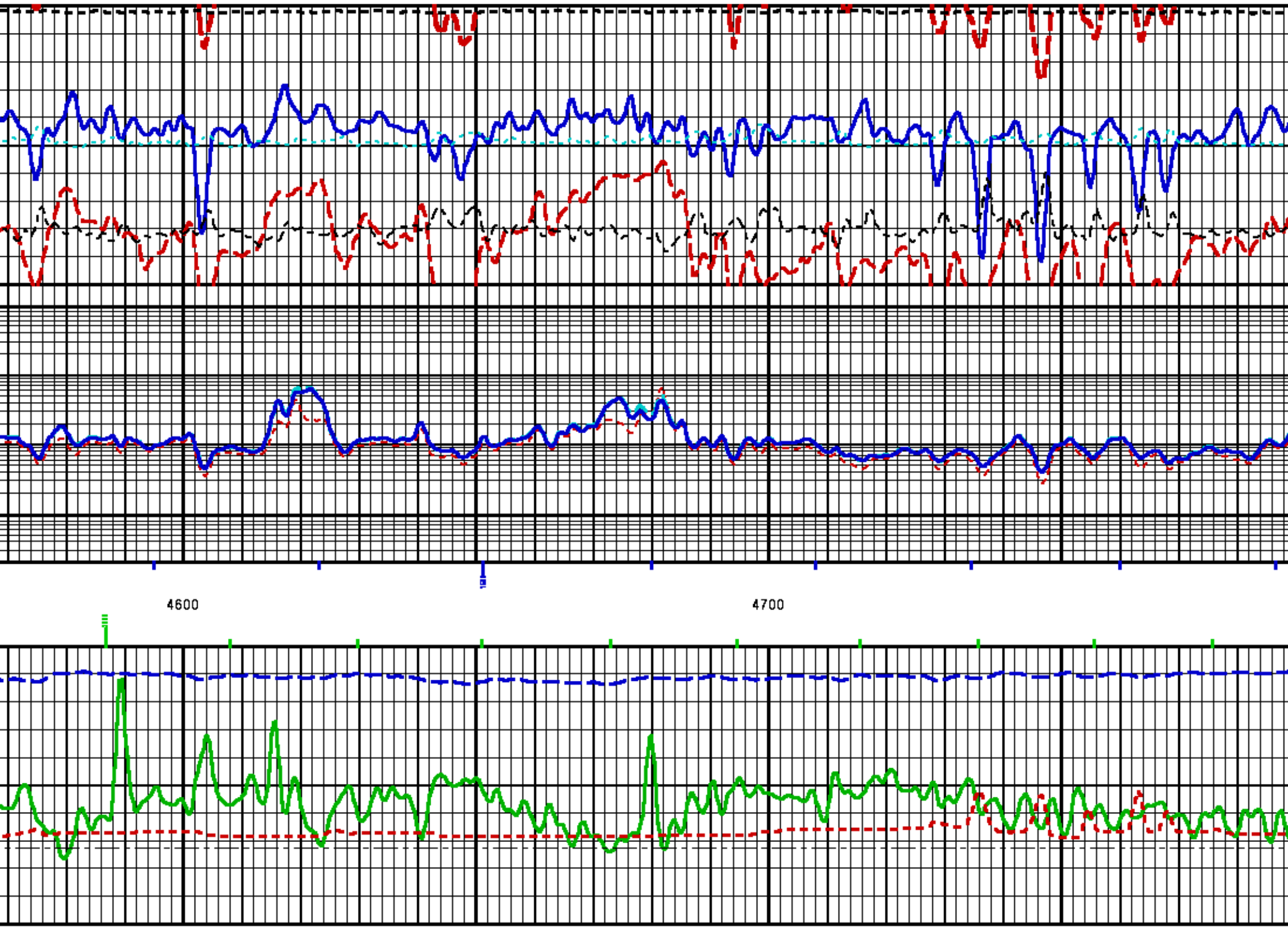
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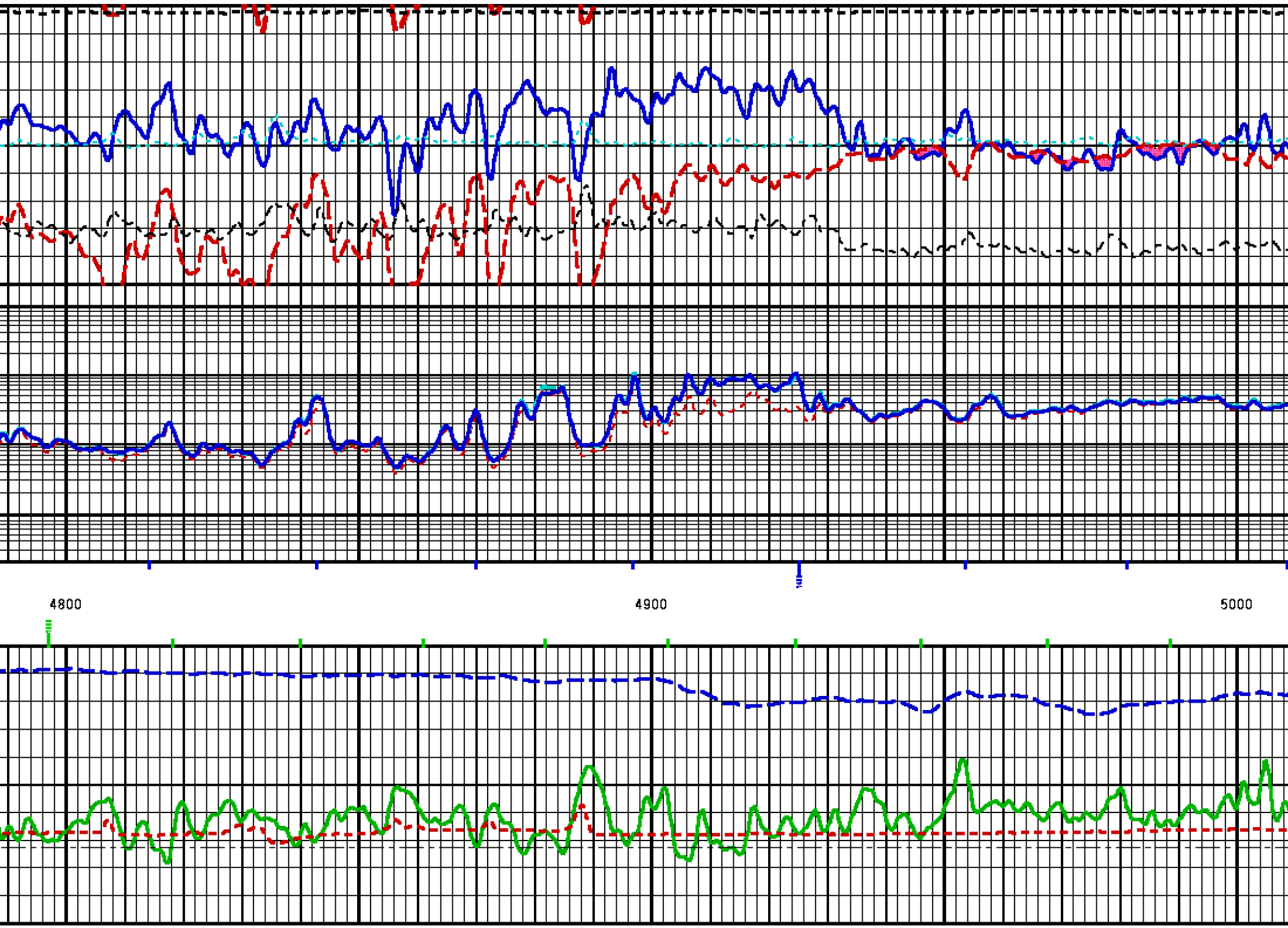
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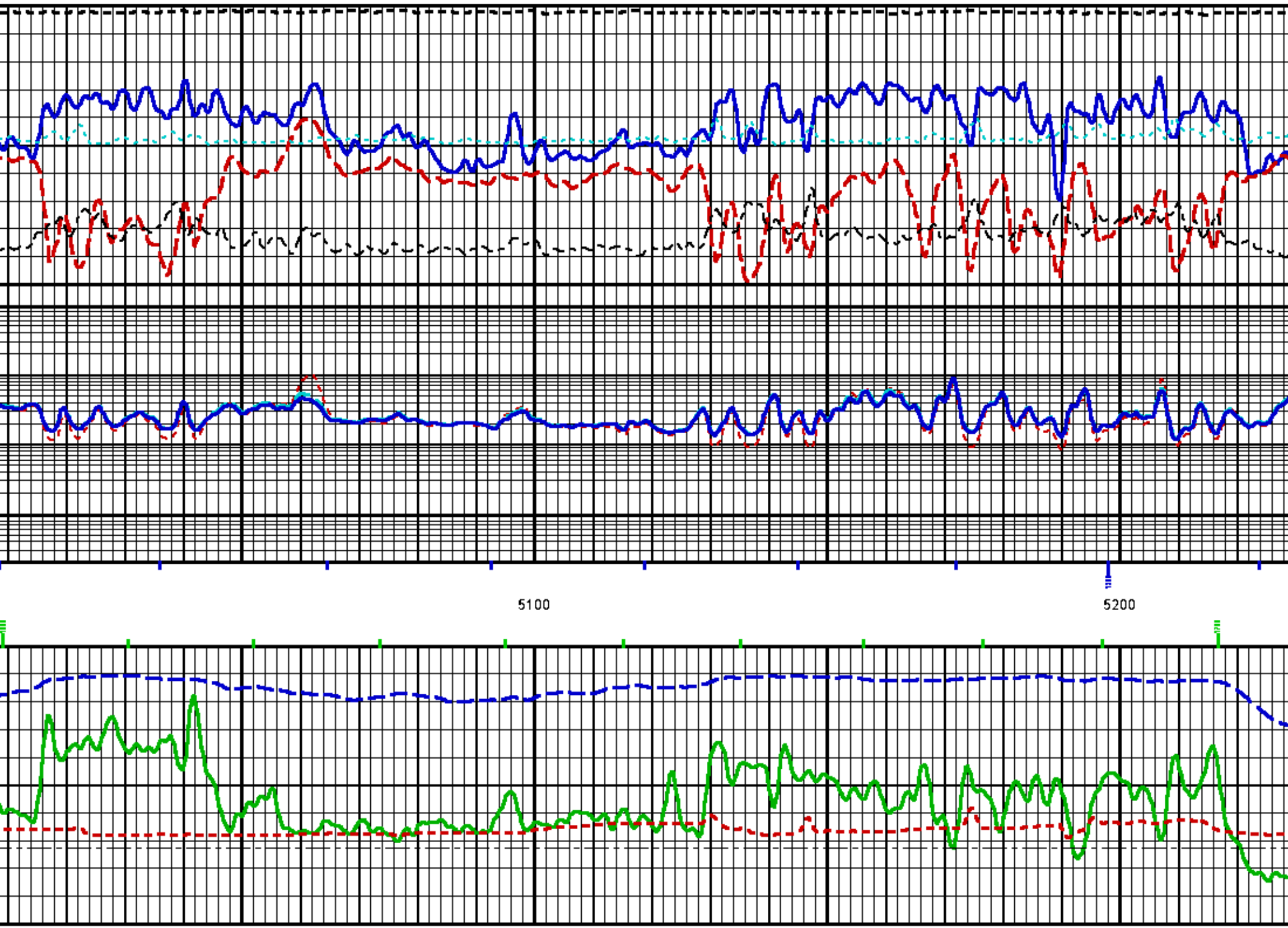
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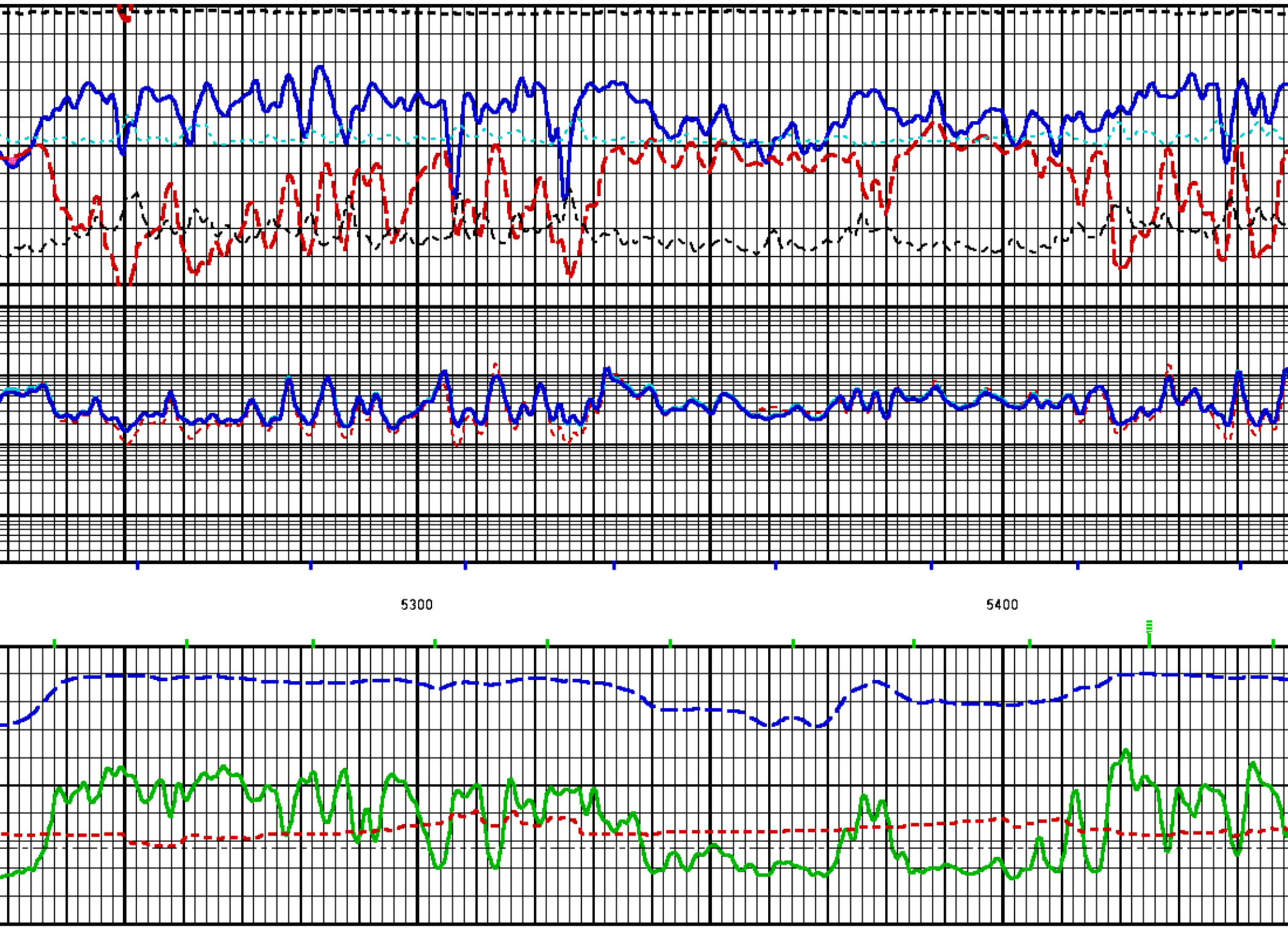
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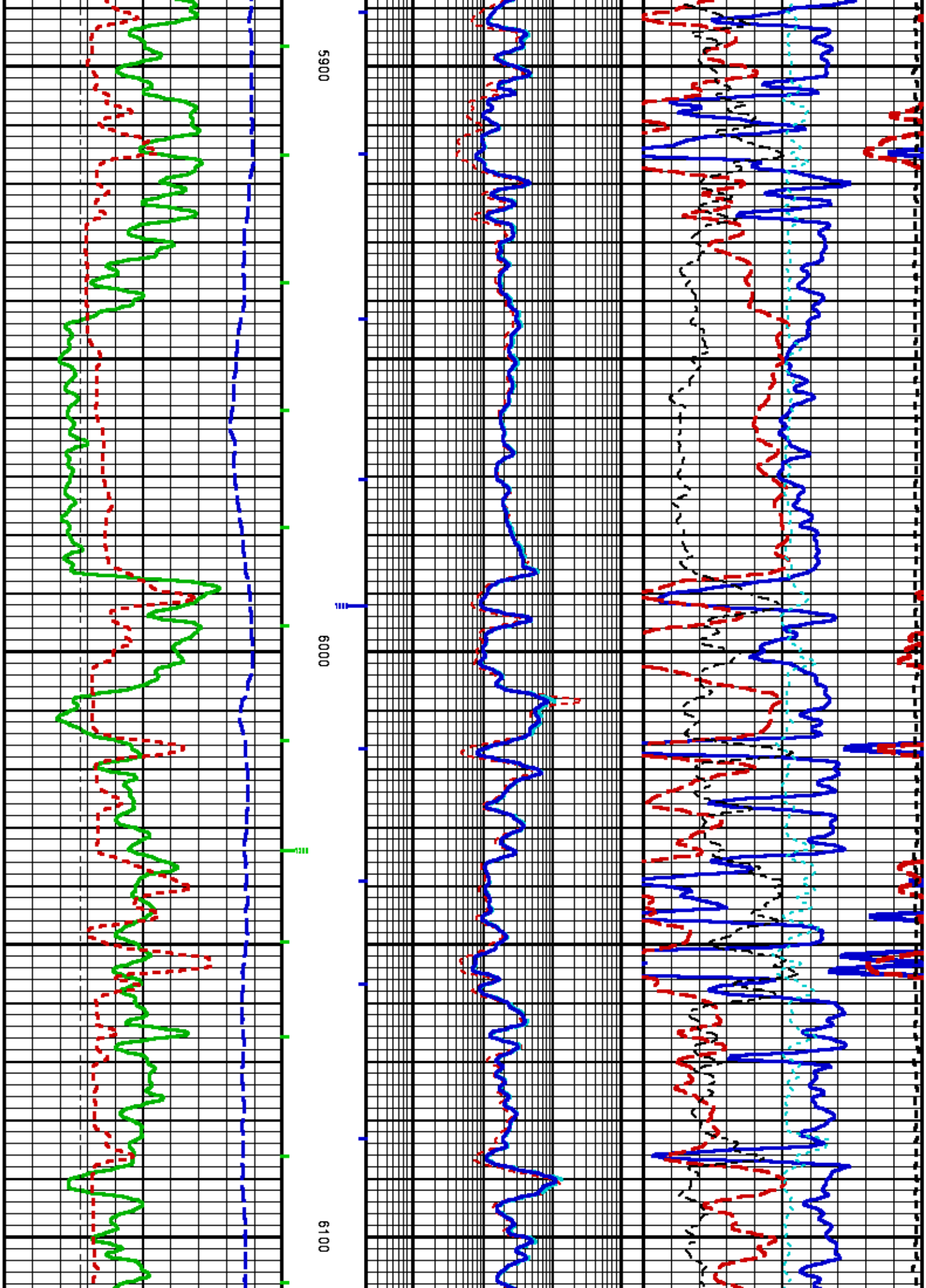
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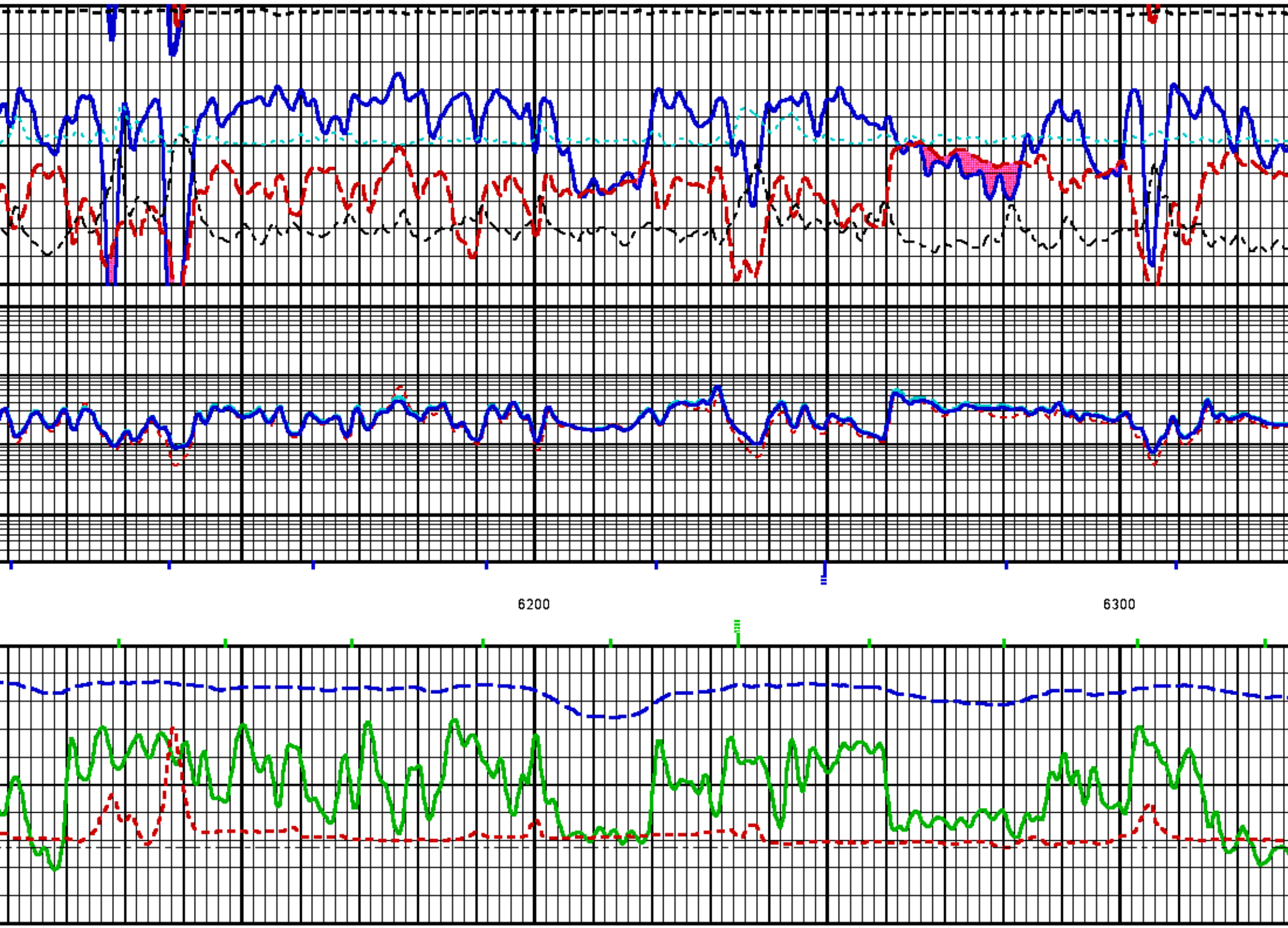
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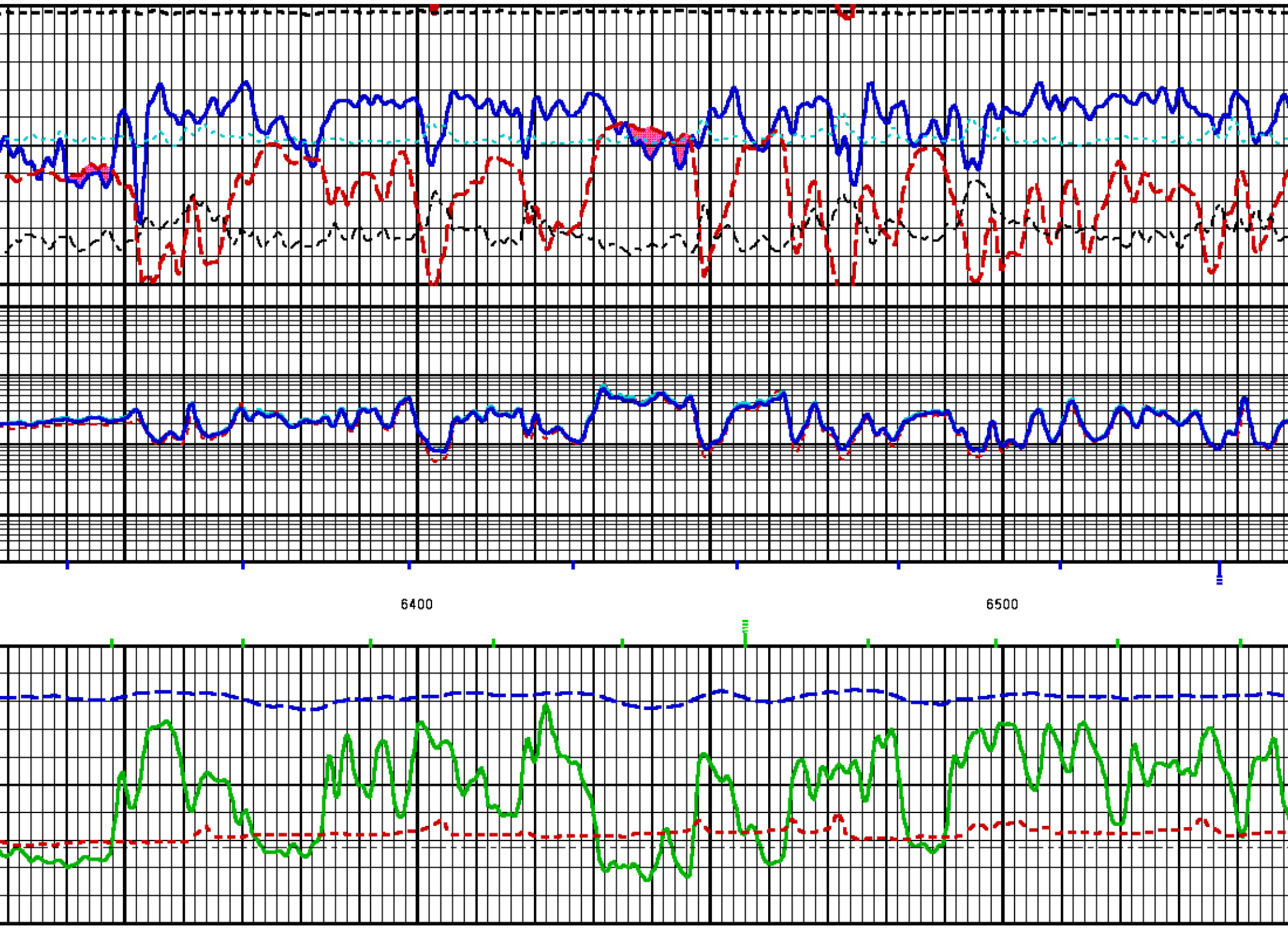
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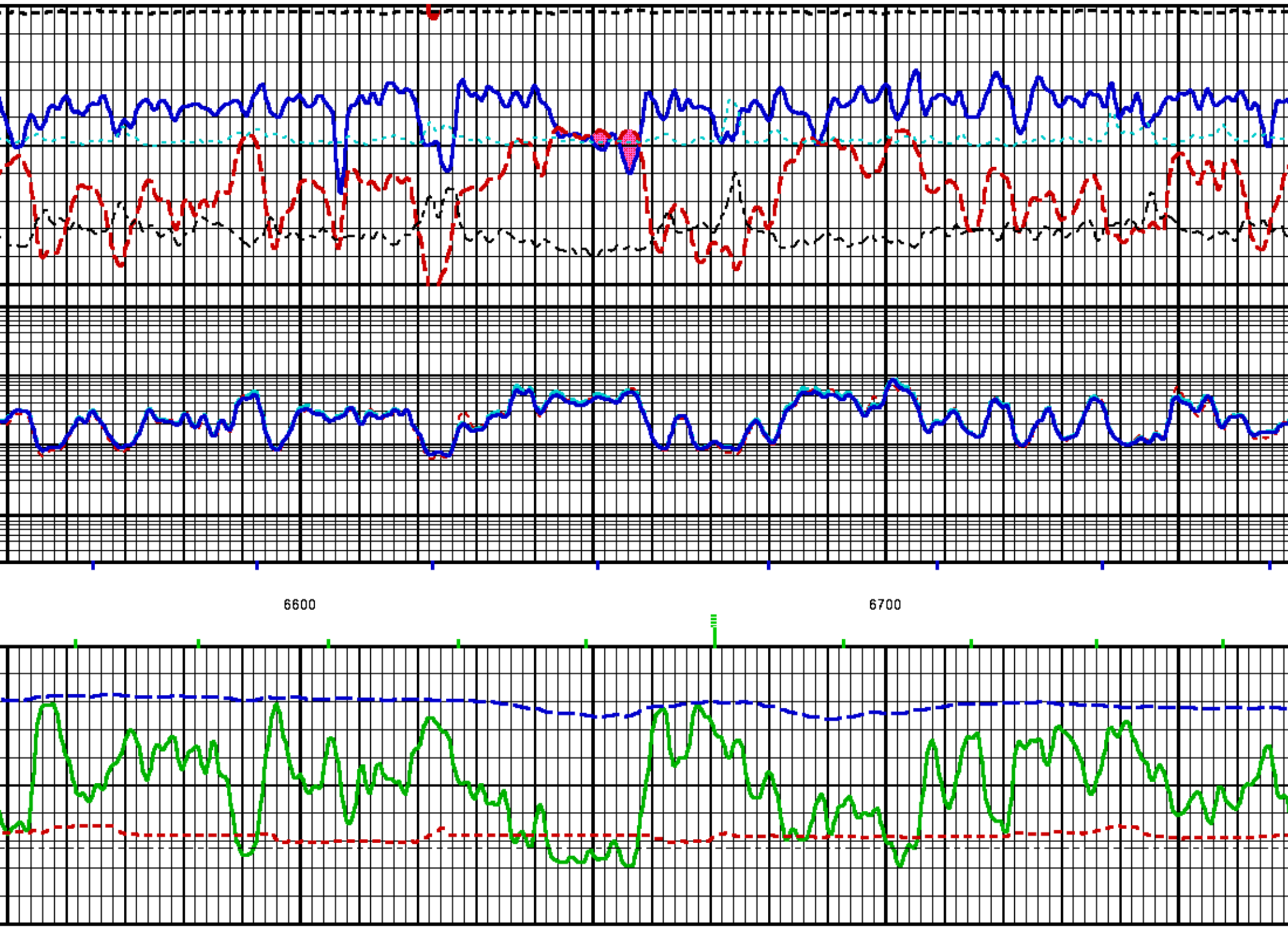
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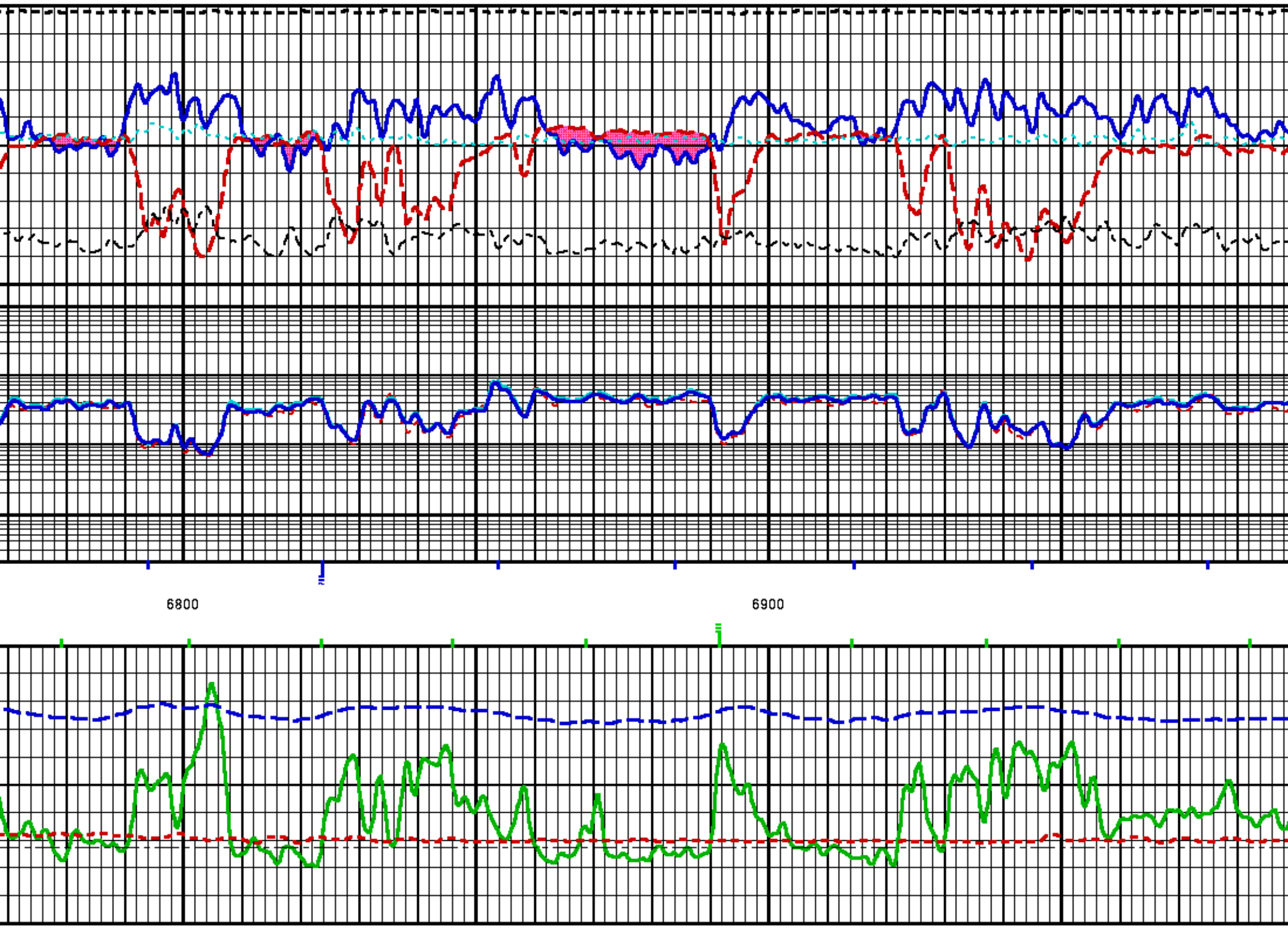
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6900

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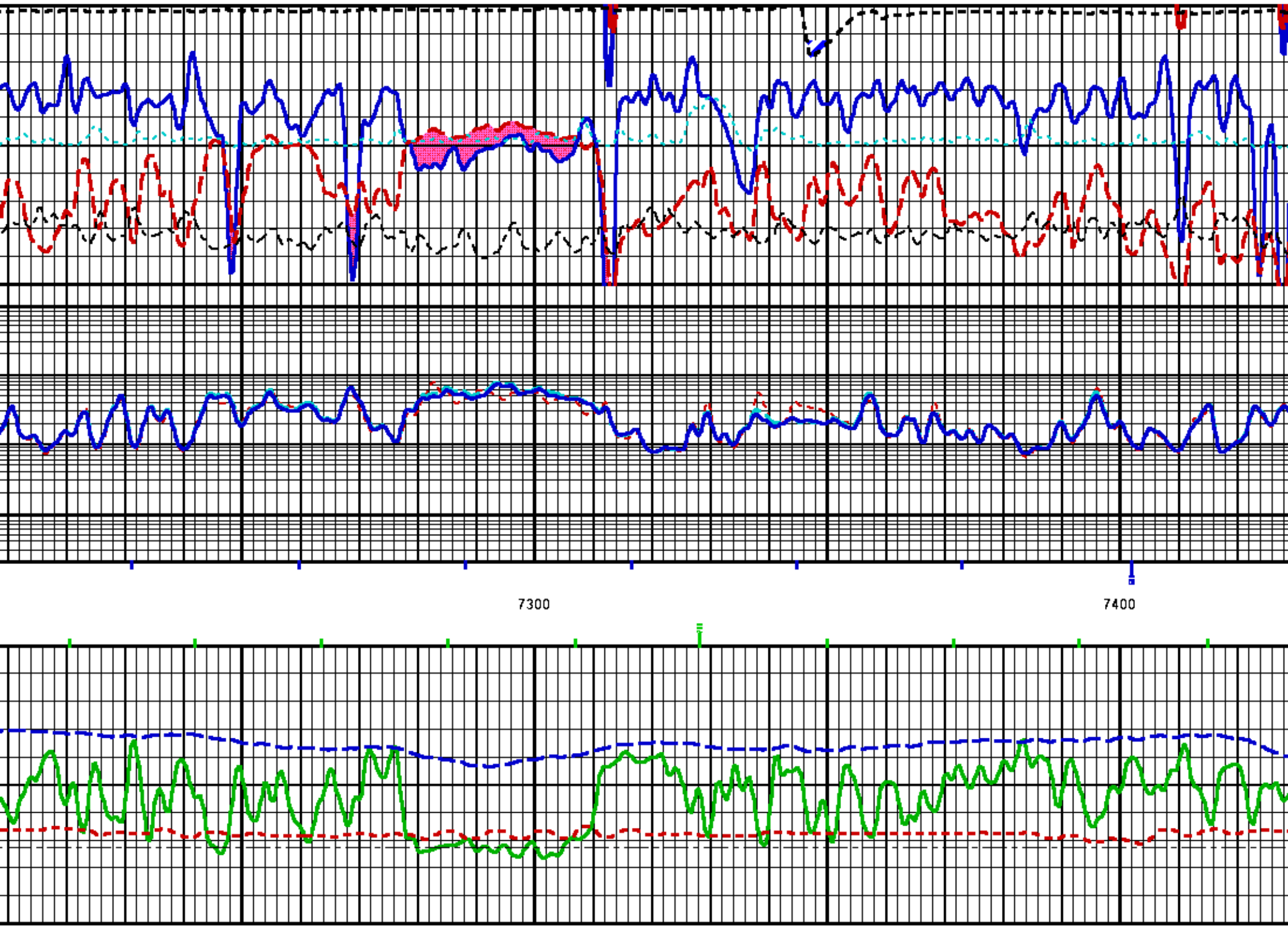
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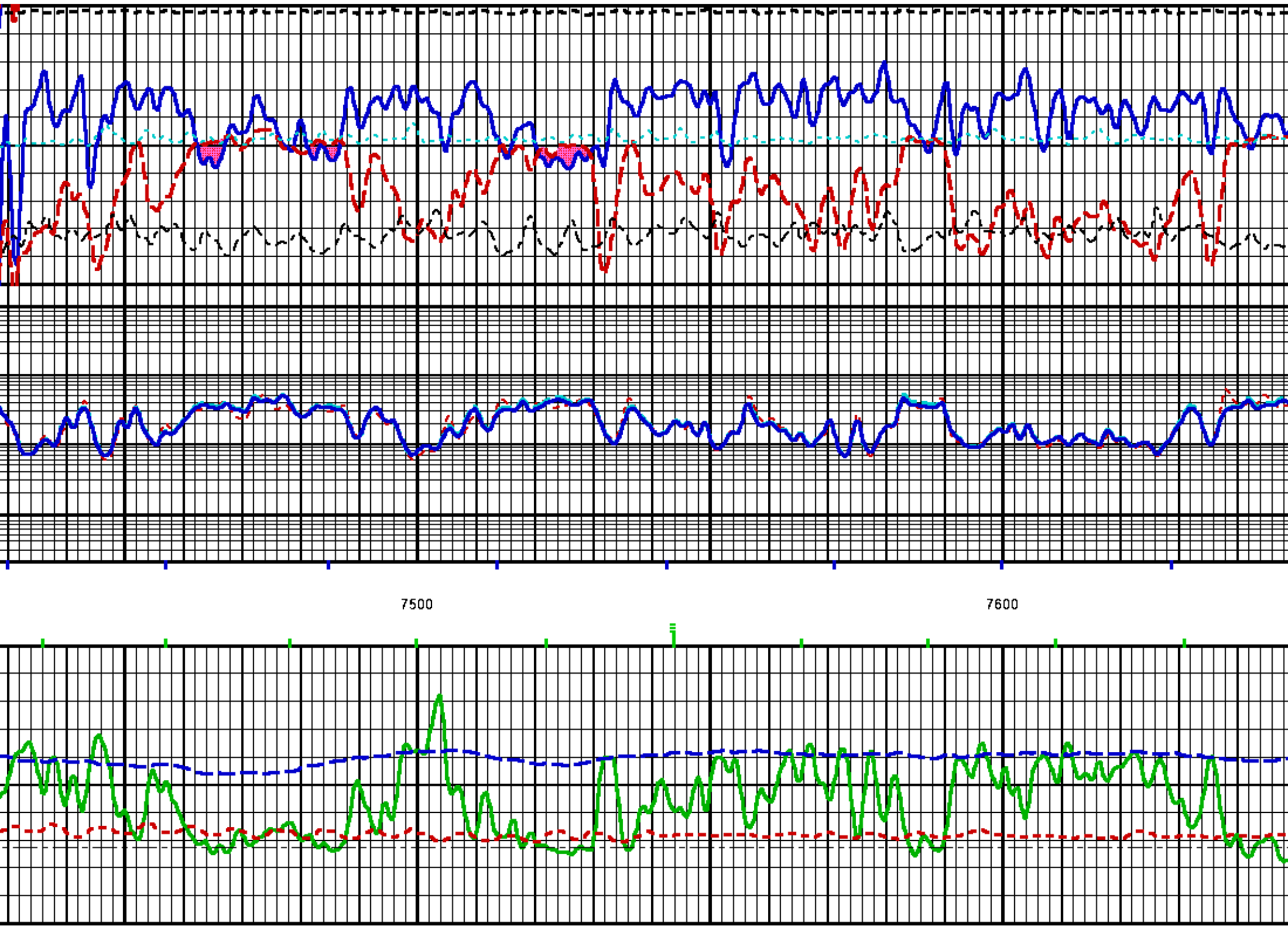
7400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7600

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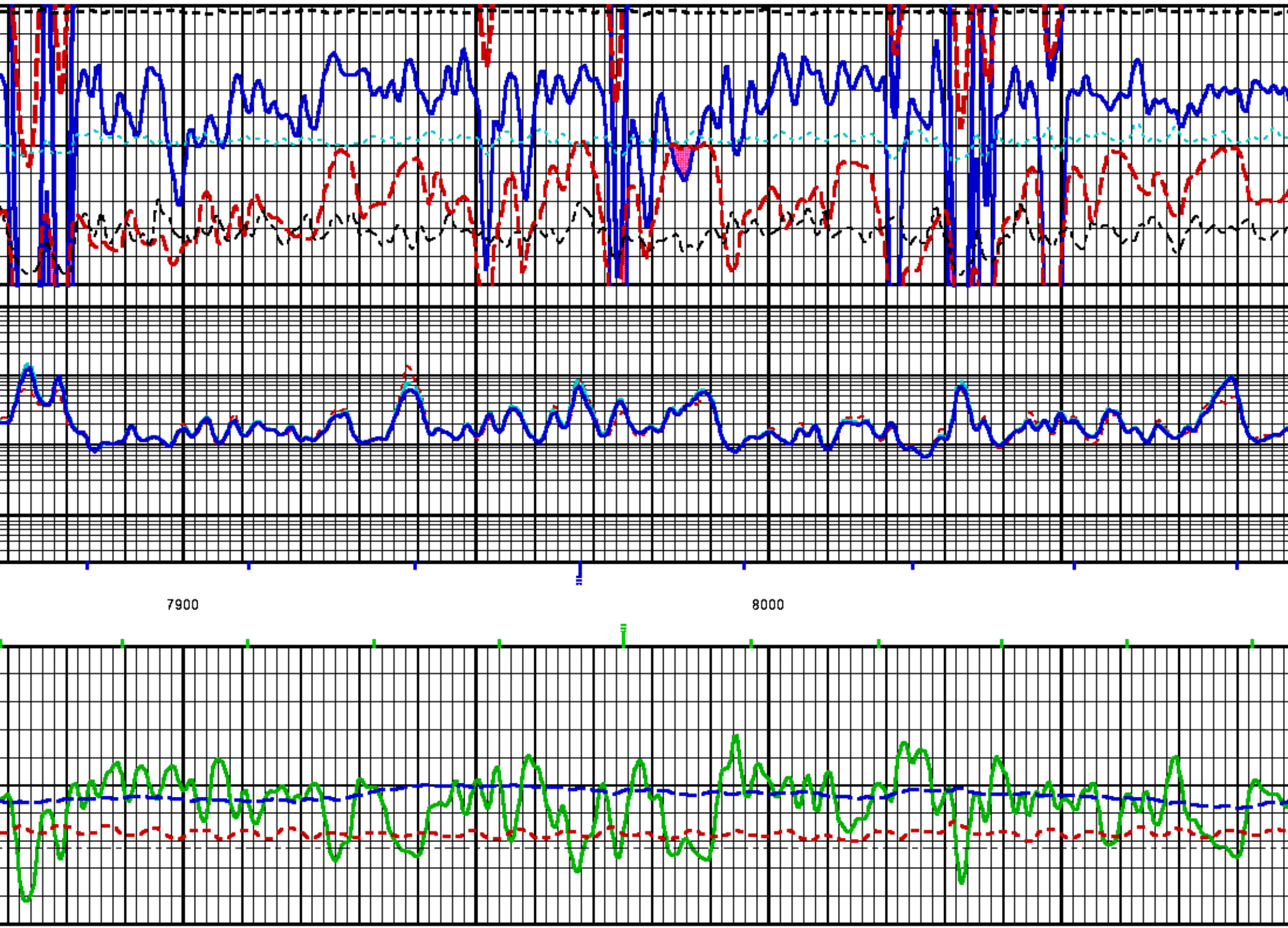
7800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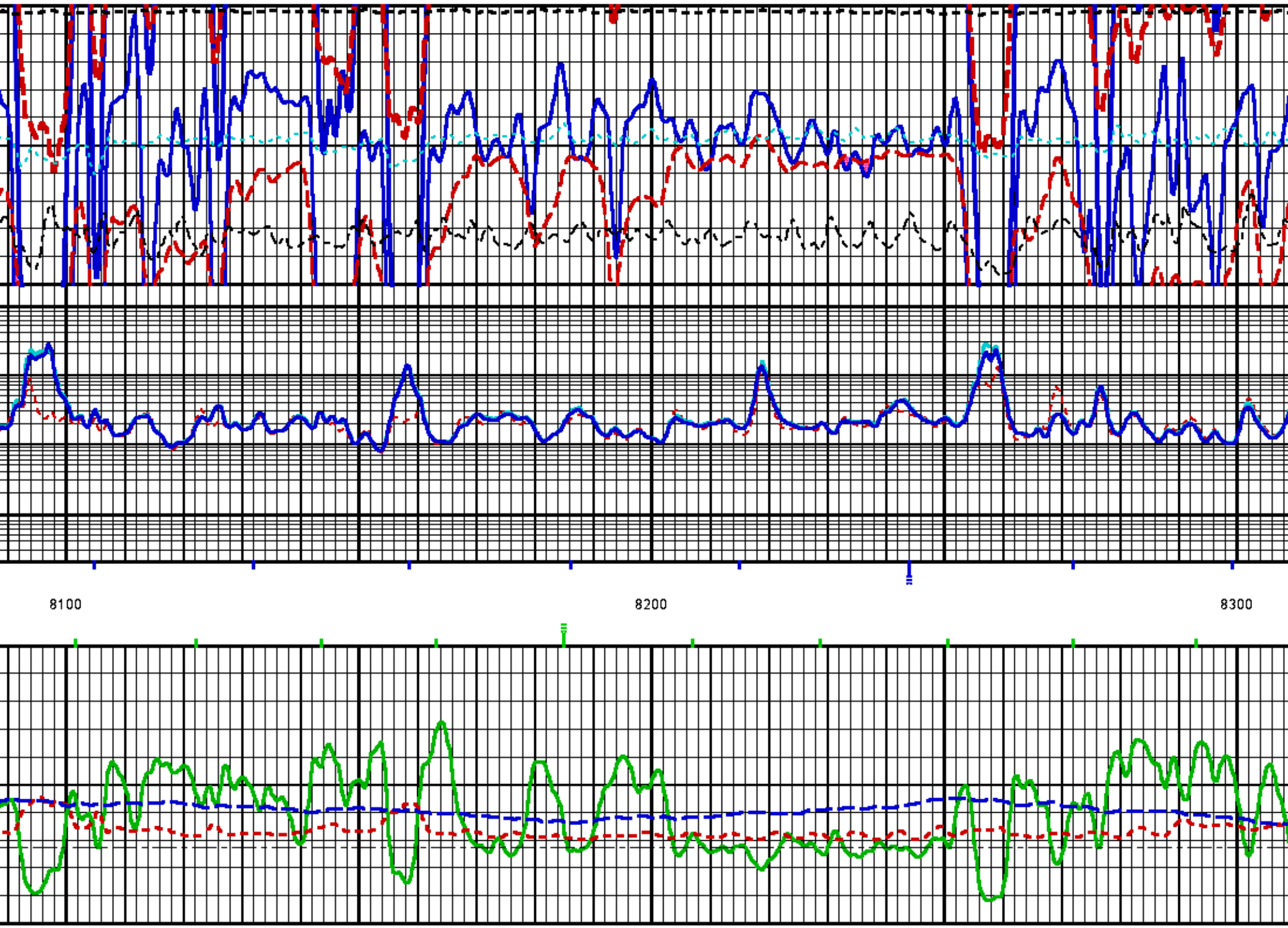
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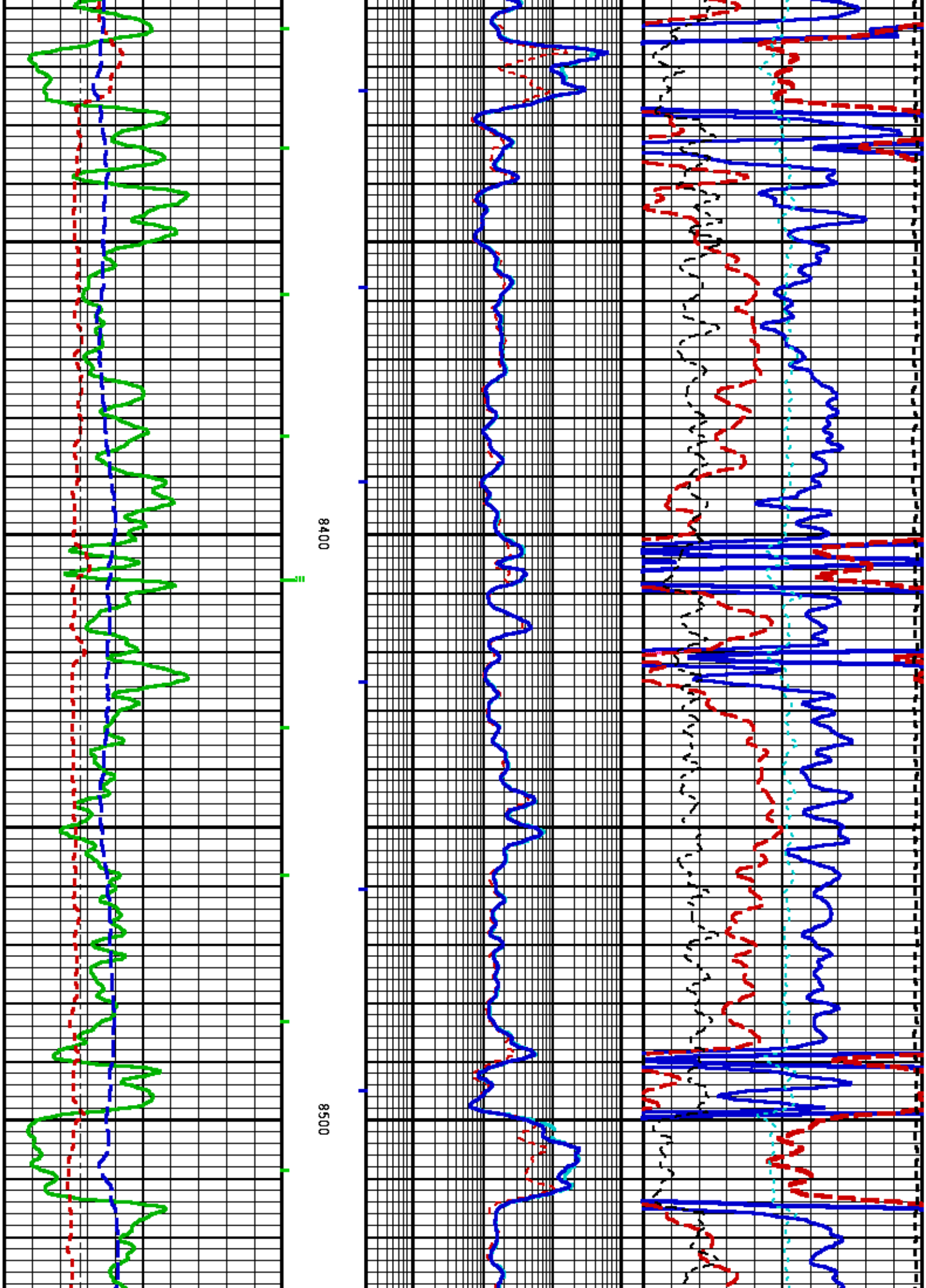
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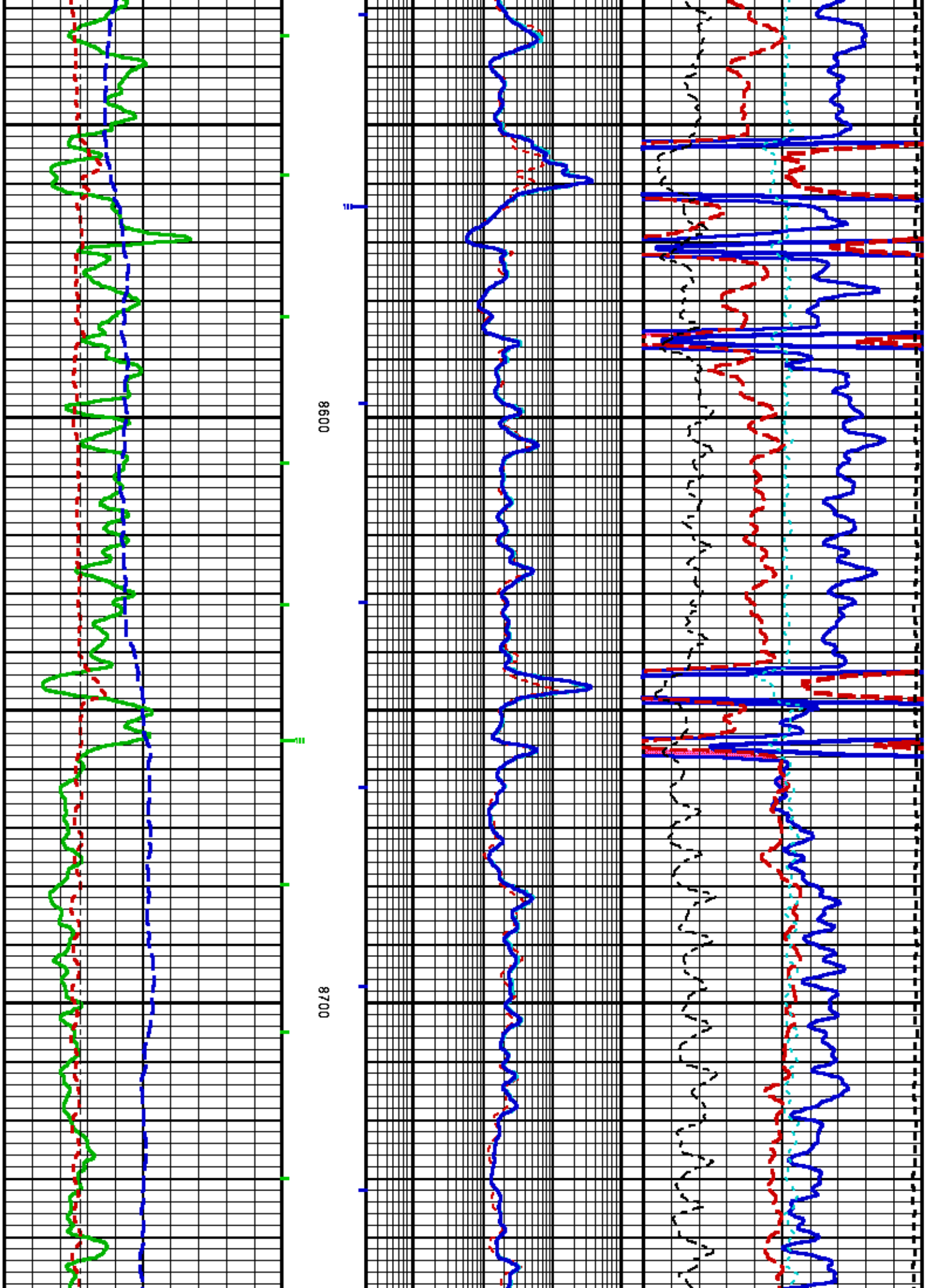
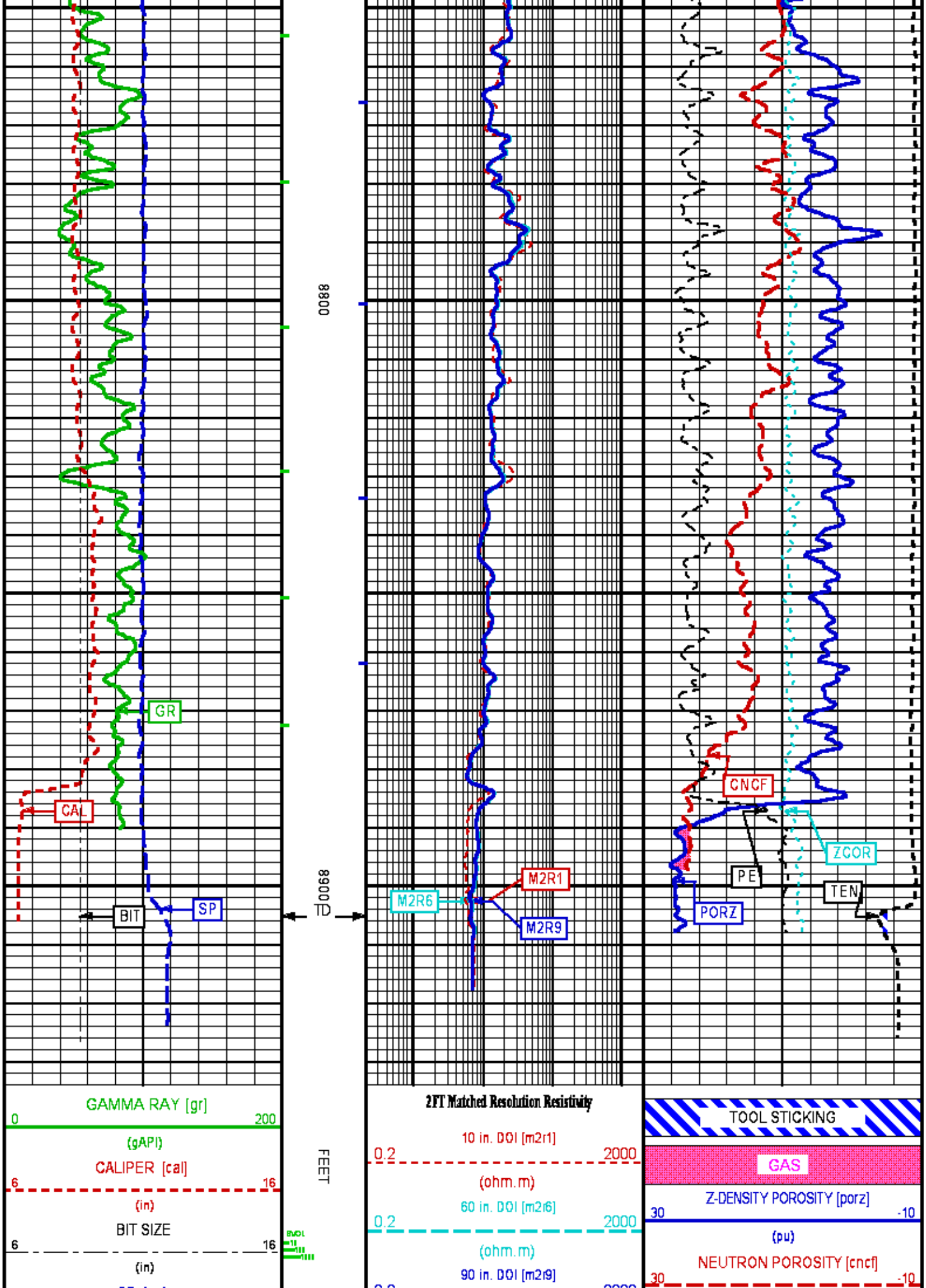
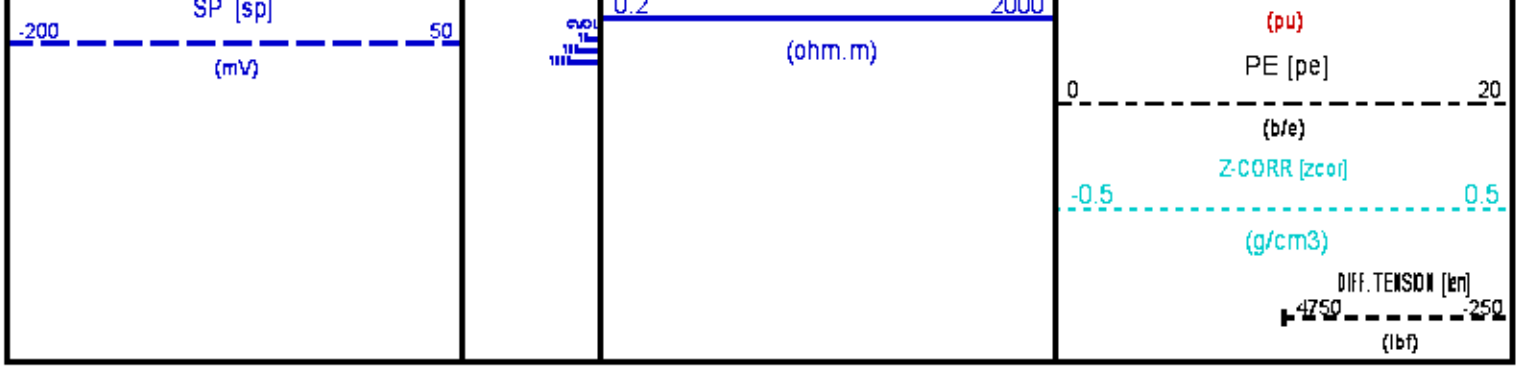
8500


8600
8700


8900
TD 8968
FEET
GR
CAL
BIT
SP
M2R6
M2R1
M2R9
CNCF
ZCOR
PE
TEN
PORZ
GAMMA RAY [gr]
0
200
(gAPI)
CALIPER [cal]
6
16
(in)
BIT SIZE
6
16
(in)
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]
TOOL STICKING
GAS
Z-DENSITY POROSITY [porz]
30
-10
(pu)
NEUTRON POROSITY [cncf]
30
-10



REPEAT LOG

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 2

Plotted: Tue Sep 16 11:34:58 2014

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/OH090087/n970a01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1007.000 ft BOTTOM DEPTH: 1405.881 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER ()	medium (1)		TOP	BOTTOM
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN MED RES	FILTER ()	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER ()	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	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	79.0	degF	"	"
	MUD SAMPLE RES	1.300	ohm.m	"	"
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	1332	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	13.500	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

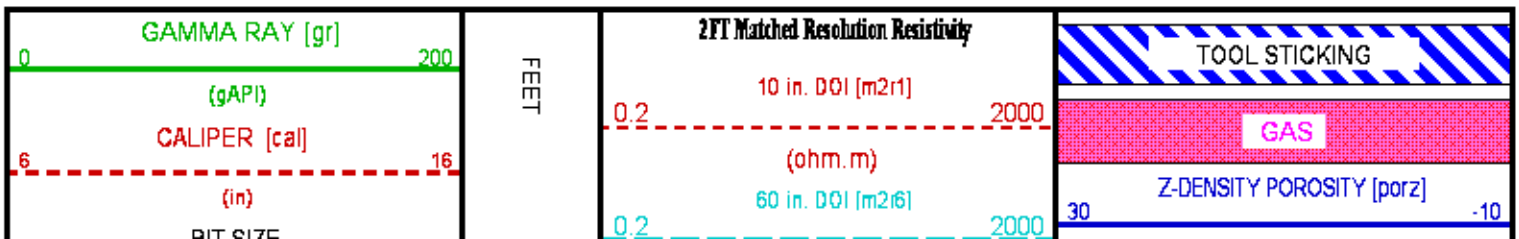
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Sep 16 07:12:02 2014	BIT SIZE
F1:BVOL	Sep 16 07:12:02 2014	BOREHOLE VOLUME
F1:CAL	Sep 16 07:12:02 2014	CALIPER
F1:CNCF	Sep 16 07:12:02 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Sep 16 07:12:02 2014	CEMENT VOLUME
F1:GR	Sep 16 07:12:02 2014	GAMMA RAY
F1:M2R1	Sep 16 07:12:02 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Sep 16 07:12:02 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Sep 16 07:12:02 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Sep 16 07:12:02 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Sep 16 07:12:02 2014	POROSITY FOR SELECTABLE MATRIX
F1:SP	Sep 16 07:12:02 2014	SPONTANEOUS POTENTIAL
F1:TEN	Sep 16 07:12:02 2014	DIFFERENTIAL TENSION
F1:ZCOR	Sep 16 07:12:02 2014	DENSITY CORRECTION

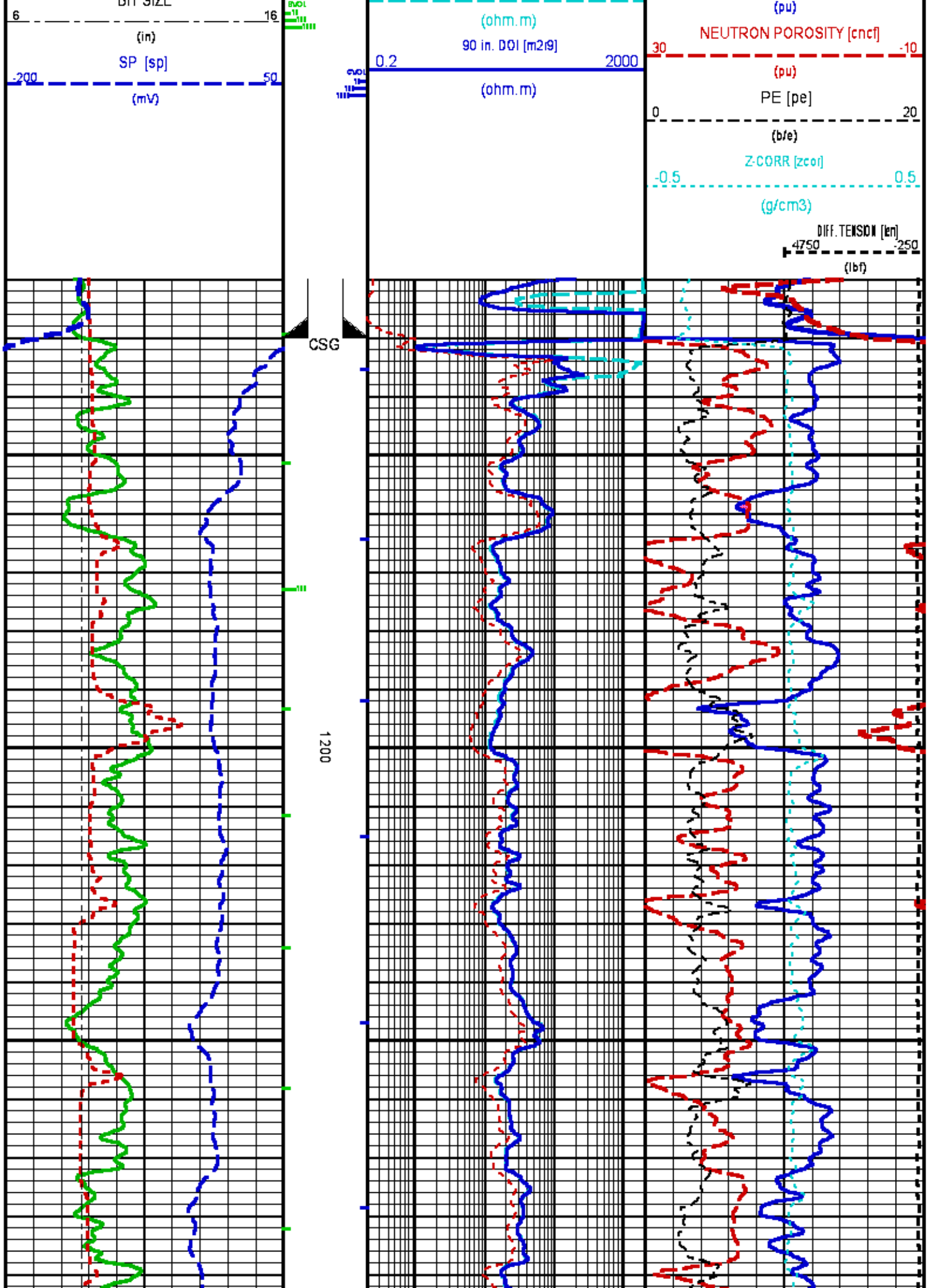
CURVE MEASURE POINT OFFSET

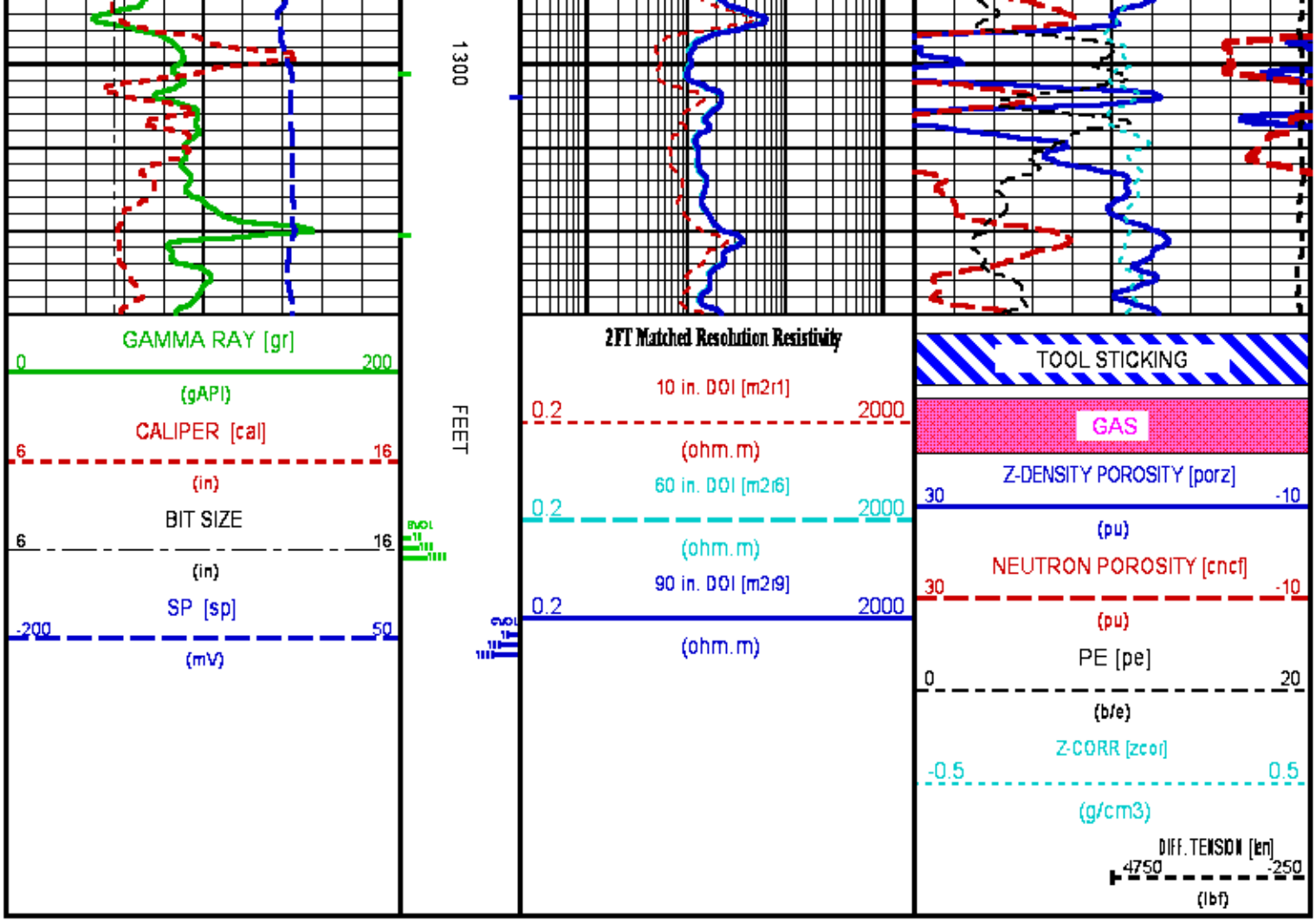
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	35.00	M2R9	2.75	SP	1.25
CAL	18.12	M2R1	2.75	PE	18.00	TEN	0.00
CNCF	27.38	M2R6	2.75	PORZ	18.00	ZCOR	18.00

Presentation : **HL6670:REPEAT_5IN.fvpdf [5"/100' Scale]**
Plot Interval : **1120 - 1330 Feet**

Data File 1 : **F1 : HL6670:/dat1a/OH090087/n970a01.xtf**
Created On : **Sep 16 07:12:02 2014**
Company : **WPX ENERGY ROCKY MOUNTAIN**
Well : **SAVAGE RWF 34-25**
Field : **RULISON**
File Interval : **0 - 1410 Feet**
OCT : **n970a**




BIT SIZE
6
16
(in)
SP [sp]
-200
50
(mV)
(ohm.m)
90 in. DOI [m2rg]
0.2
2000
(ohm.m)
(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)
CSG
1200



CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/OH090087/CALS.tp1

TTMA PRIMARY CALIBRATION SUMMARY

TOOL #: 398DXA 1D12D299 DATE/TIME PERFORMED: Wed Jul 31 10:29:42 2013

UNIT #: 388DTA HL6670 ACCEL #: 398DXA 1D12D299 ACCEL CAL DATE: 14:43 05/21/2004

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

Rm Measurements	Sig Low (ohm)	Sig High (ohm)	Mult Factor	Add Factor	Engr Low (ohm)	Engr High (ohm)
	0.25	9.97	1.003059	0.000362	0.25	10.00
	0.20 0.30	8.00 12.00				

TTMA BEFORE LOG VERIFICATION SUMMARY

TOOL #: 398DXA 1D12D299 DATE/TIME PERFORMED: Tue Sep 16 06:50:54 2014 DAYS SINCE CAL: 411

UNIT #: 388DTA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Ω (ohm)	ACCEL Ω
CAL	18822	498.40	9.97	997.82

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
ZERO	-23331 (-24131 -22531)	-436.02 (-443.20 -428.80)	0.249 (0.200 0.300)	997.632 (980.000 1020.000)

TTMA AFTER LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10120299 DATE/TIME PERFORMED: Tue Sep 16 10:24:20 2014 DAYS SINCE CAL: 411

UNIT #: 3880TA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	18837 (18000 19680)	499.79 (491.36 505.76)	9.95 (8.00 12.00)	996.87 (980.00 1020.00)
ZERO	-23331 (-24131 -22531)	-436.02 (-443.20 -428.80)	0.249 (0.200 0.300)	998.179 (980.000 1020.000)

GR PRIMARY CALIBRATION SUMMARY

Tool #: 3518EG 10139870 DATE/TIME PERFORMED: Fri Aug 29 10:17:37 2014

Unit #: 3880TA HL6670 Jig Series: 4702NK DA-041

Background	Calibrator ON	Jig Value (gAPI)	Mult	Background (gAPI)	Calibrator ON (gAPI)
210.68	843.08	150	0.237 (0.230 0.280)	49.97	199.97

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870 DATE/TIME PERFORMED: Tue Sep 16 06:51:35 2014 DAYS SINCE CAL: 17

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

Counts	TEMP (degF)	HV (V)
976.67 (525.00 1027.00)	65.96 (536.00)	1361.74 (1237.00 1512.00)

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870 DATE/TIME PERFORMED: Tue Sep 16 10:23:59 2014 DAYS SINCE CAL: 18

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

Counts	TEMP (degF)	HV (V)
976.67 (525.00 1027.00)	119.04 (536.00)	1366.17 (1237.00 1512.00)

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10137930 DATE/TIME PERFORMED: Tue Jul 1 11:37:32 2014

UNIT #: 3885TC 6685 CALIBRATOR #: 2437XB 112674 SOURCE #: 4718XA N-0897

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4694.62	793.23	5.91832	0.96936 (0.95000 1.05000)	5.73700	25.241

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10137930 DATE/TIME PERFORMED: Tue Sep 16 06:51:10 2014 DAYS SINCE CAL: 76

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

SSN	LSN	SSN/LSN	TEMP	HV	LV

DT CPS	DT CPS		(degF)	(V)	(V)
991.41	993.42	0.99797	56.5	1355.7	4.612
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10137930 DATE/TIME PERFORMED: Tue Sep 16 10:23:41 2014 DAYS SINCE CAL: 76

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	111.1	1363.0	4.618
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10123024 DATE/TIME PERFORMED: Mon Sep 8 12:47:58 2014

UNIT #: 3880TA HL6670

	SIZE (in)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	7.000	1412.4		
LARGE RING (Arm)	11.000	2641.2	0.00326	2.40234
PAD CLOSED		1352.0	0.00250	-3.38000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10123024 DATE/TIME PERFORMED: Tue Sep 16 07:06:46 2014 DAYS SINCE CAL: 7

UNIT #: 3880TA HL6670

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	2025.6	0.00326	2.40234	9.0
PAD	1504.0	0.00250	-3.38000	0.4

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

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10123024 DATE/TIME PERFORMED: Tue Sep 16 10:20:32 2014 DAYS SINCE CAL: 7

UNIT #: 3880TA HL6670

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	2119.2	0.00326	2.40234	9.3
PAD	1415.6	0.00250	-3.38000	0.2

	ACTUAL (in)	MEASURED (in)
DIAMETER (arm+pad)	9.001	9.1
		8.6 9.4

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10123024 DATE/TIME PERFORMED: Mon Sep 8 12:29:18 2014

UNIT: 388DTA HL667D | CALB BLKS: 2225XA D94292F | CS SRC: 4705XA PP16D68B | PAD TYPE: PADTYP 7.5" PAD

	SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
	227.4 (220.0 – 230.0)	222.2 (220.0 – 230.0)	1340.3	1354.8

	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	31207.4	11456.8	0.742 (0.720 – 0.850)	1.679	0.000	1.900
AL	19399.8	1276.9		2.667	-0.016	
AL + SHIM	25830.1	2206.5		2.558	0.098	
MG + SHIM (HI PE)	15215.0	5470.7	0.292 (0.280 – 0.360)			8.550
RATIO AL + SHIM/AL	1.33 (1.30 – 1.40)	1.73 (1.60 – 1.80)				
RATIO MG/AL	1.61 (1.58 – 1.70)	8.97 (8.55 – 9.55)				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10123024 | DATE/TIME PERFORMED: Tue Sep 16 06:52:06 2014 | DAYS SINCE CAL: 7

UNIT #: 388DTA HL667D

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 (3332.1 – 3352.1)	226.0 (220.0 – 230.0)	1441.3 (1250.0 – 1550.0)
SS	22354.8 (22344.8 – 22364.8)	224.2 (220.0 – 230.0)	1323.0 (1250.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
5.0 (4.8 – 5.2)	99.2 (90.0 – 120.0)

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10123024 | DATE/TIME PERFORMED: Tue Sep 16 10:23:23 2014 | DAYS SINCE CAL: 7

UNIT #: 388DTA HL667D

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 (3332.1 – 3352.1)	223.9 (220.0 – 230.0)	1446.0 (1250.0 – 1550.0)
SS	22354.8 (22344.8 – 22364.8)	224.7 (220.0 – 230.0)	1322.3 (1250.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
5.0 (4.8 – 5.2)	102.4 (90.0 – 120.0)

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1530XA 10118612 | DATE/TIME PERFORMED: Tue Jan 7 13:59:50 2014

UNIT #: 388DTA HL667D | GRCOND ID & DATE: 110 101801

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.0011 (-0.2000 – 0.2000)	0.0008 (-0.1000 – 0.1000)	-0.0007 (-0.1000 – 0.1000)	-0.0002 (-0.1000 – 0.1000)	-0.0002 (-0.1000 – 0.1000)	-0.0002 (-0.1000 – 0.1000)	0.0009 (-0.1000 – 0.1000)	0.0002 (-0.1000 – 0.1000)
Coil 0 Q	0.0004 (-0.5000 – 0.5000)	-0.0001 (-0.2000 – 0.2000)	-0.0003 (-0.1000 – 0.1000)	0.0002 (-0.1000 – 0.1000)	0.0002 (-0.1000 – 0.1000)	-0.0000 (-0.1000 – 0.1000)	0.0001 (-0.1000 – 0.1000)	-0.0006 (-0.1000 – 0.1000)
Coil 1 R	0.0082 (-0.2000 – 0.2000)	0.0019 (-0.1000 – 0.1000)	-0.0010 (-0.1000 – 0.1000)	0.0013 (-0.1000 – 0.1000)	-0.0016 (-0.1000 – 0.1000)	0.0011 (-0.1000 – 0.1000)	-0.0007 (-0.1000 – 0.1000)	0.0006 (-0.1000 – 0.1000)
Coil 1 Q	0.0032 (-0.5000 – 0.5000)	-0.0019 (-0.2000 – 0.2000)	0.0007 (-0.1000 – 0.1000)	0.0020 (-0.1000 – 0.1000)	-0.0006 (-0.1000 – 0.1000)	0.0004 (-0.1000 – 0.1000)	-0.0002 (-0.1000 – 0.1000)	0.0006 (-0.1000 – 0.1000)

Coil 2 R	0.0036	-0.0014	0.0009	-0.0004	0.0006	0.0005	-0.0008	-0.0023
	-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	-0.0006	0.0020	0.0017	0.0012	0.0002	-0.0029	-0.0011	-0.0014
	-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	0.0267	-0.0072	0.0035	0.0022	0.0019	0.0003	-0.0004	0.0038
	-0.3000 0.3000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 3 Q	0.0107	-0.0026	0.0015	-0.0009	0.0001	0.0026	-0.0002	-0.0020
	-0.5000 0.5000	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 4 R	0.0672	-0.0023	-0.0060	0.0036	-0.0064	-0.0030	0.0016	-0.0012
	-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	0.0182	-0.0158	-0.0009	-0.0024	0.0023	0.0017	0.0060	-0.0105
	-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	0.1609	0.0008	-0.0374	0.0079	0.0037	-0.0040	0.0039	0.0089
	-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	0.0881	-0.0472	-0.0025	-0.0083	0.0025	-0.0156	0.0062	-0.0095
	-1.5000 1.5000	-0.8000 0.8000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil D M	161.55	160.12	157.25	152.96	147.31	140.33	132.13	122.75
	136.00 186.00	134.00 184.00	131.00 181.00	126.00 176.00	122.00 170.00	118.00 161.00	112.00 150.00	105.00 139.00
Coil D P	7.692	25.312	42.497	59.645	76.792	93.942	111.112	128.223
	6.000 9.000	21.000 30.000	35.000 50.000	49.000 71.000	63.000 91.000	77.000 109.000	92.000 130.000	106.000 151.000
Coil 1 M	281.61	279.28	274.54	267.48	258.14	246.57	232.86	217.14
	238.00 328.00	236.00 325.00	230.00 320.00	225.00 312.00	218.00 302.00	208.00 288.00	196.00 266.00	184.00 244.00
Coil 1 P	7.582	25.040	42.056	59.044	76.043	93.075	110.151	127.218
	6.000 9.000	21.000 30.000	35.000 51.000	49.000 71.000	63.000 92.000	78.000 112.000	93.000 130.000	107.000 151.000
Coil 2 M	568.98	564.17	554.44	539.80	520.50	496.50	468.12	435.51
	479.00 669.00	474.00 664.00	463.00 643.00	450.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	368.00 499.00
Coil 2 P	7.769	25.508	42.830	60.121	77.437	94.775	112.170	129.548
	6.000 9.000	21.000 31.000	35.000 51.000	49.000 71.000	63.000 92.000	76.000 115.000	92.000 135.000	105.000 155.000
Coil 3 M	921.55	913.14	896.22	871.27	838.32	797.74	749.97	695.43
	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	588.00 798.00
Coil 3 P	7.878	25.828	43.358	60.833	78.288	95.758	113.213	130.598
	6.000 10.000	21.000 30.000	35.000 51.000	49.000 72.000	63.000 93.000	76.000 114.000	90.000 135.000	104.000 156.000
Coil 4 M	1447.2	1433.8	1406.9	1366.8	1314.3	1249.3	1173.7	1088.7
	1210.0 1700.0	1205.0 1680.0	1180.0 1650.0	1140.0 1590.0	1120.0 1530.0	1070.0 1450.0	1000.0 1360.0	942.0 1240.0
Coil 4 P	7.843	25.758	43.249	60.684	78.112	95.552	112.960	130.298
	6.000 10.000	21.000 31.000	35.000 52.000	49.000 73.000	63.000 93.000	77.000 114.000	91.000 135.000	105.000 156.000
Coil 5 M	2940.6	2919.1	2873.2	2804.6	2711.8	2596.3	2459.1	2301.3
	2450.0 3450.0	2430.0 3400.0	2410.0 3320.0	2350.0 3200.0	2280.0 3080.0	2150.0 2950.0	2020.0 2750.0	1870.0 2570.0
Coil 5 P	7.588	25.060	42.133	59.180	76.279	93.467	110.713	127.975
	6.000 10.000	20.000 31.000	35.000 52.000	49.000 73.000	63.000 94.000	79.000 113.000	93.000 134.000	106.000 156.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil D R	-1078	-604	-481	-419	-378	-347	-322	-302
	-3300 940	-1400 -20	-990 -150	-760 -160	-660 -130	-600 -120	-550 -110	-520 -92
Coil D Q	402	-174	-222	-244	-260	-273	-285	-295
	-15000 11000	-5800 3800	-3700 2100	-2700 1400	-2300 1000	-1800 750	-1600 620	-1500 490
Coil 1 R	-162	-154	-139	-129	-119	-111	-105	-99
	-750 460	-360 83	-280 9	-230 -10	-200 -35	-180 -35	-160 -46	-150 -49
Coil 1 Q	411	85	26	-2	-17	-28	-35	-40
	-3000 3300	-1100 960	-630 530	-470 360	-380 260	-320 190	-280 150	-260 120
Coil 2 R	6.2	-30.3	-34.2	-34.0	-31.7	-29.5	-27.5	-26.2
	-85.0 76.0	-64.0 -0.4	-57.0 -12.0	-51.0 -16.0	-46.0 -17.0	-42.0 -16.0	-39.0 -15.0	-37.0 -13.0
Coil 2 Q	379.1	130.3	75.8	51.6	38.3	30.4	26.0	23.4
	-1500.0 1900.0	-500.0 610.0	-290.0 360.0	-220.0 260.0	-160.0 190.0	-140.0 160.0	-110.0 130.0	-99.0 120.0
Coil 3 R	1.9	-7.4	-9.0	-9.0	-8.8	-8.2	-7.9	-7.9
	-23.0 21.0	-22.0 1.6	-21.0 -1.3	-20.0 -1.8	-19.0 -2.0	-19.0 -1.3	-19.0 -0.8	-19.0 -0.0
Coil 3 Q	103.0	39.1	26.3	21.9	20.3	20.2	20.9	21.9
	-540.0 530.0	-180.0 180.0	-100.0 110.0	-71.0 81.0	-51.0 66.0	-37.0 58.0	-28.0 53.0	-21.0 51.0
Coil 4 R	-0.70	-1.42	-1.59	-1.56	-2.43	-1.59	-1.79	-2.05
	-18.00 13.00	-12.00 2.70	-11.00 1.50	-9.80 0.52	-9.90 0.96	-10.00 1.50	-11.00 2.30	-11.00 2.60
Coil 4 Q	5.07	3.70	4.36	5.61	8.03	8.73	9.49	11.43
	-250.00 280.00	-79.00 98.00	-43.00 64.00	-27.00 51.00	-18.00 46.00	-11.00 42.00	-5.50 42.00	-1.00 42.00
Coil 5 R	1.19	0.37	-0.06	0.06	-2.12	-0.45	-0.46	-0.72
	-56.00 51.00	-8.40 3.60	-6.50 1.10	-6.50 1.20	-9.30 2.90	-14.00 6.30	-19.00 9.60	-24.00 13.00
Coil 5 Q	-0.39	1.71	3.02	4.27	1.68	6.59	7.89	9.12
	-88.00 69.00	-26.00 27.00	-14.00 22.00	-7.00 22.00	-2.50 24.00	1.10 26.00	4.10 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 D M	0.976	0.980	0.981	0.981	0.981	0.980	0.980	0.978
	0.850 1.100	0.860 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 D P	-0.096	-0.096	-0.020	0.030	0.078	0.069	0.113	0.109
	-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 1 M	0.970	0.973	0.974	0.975	0.974	0.973	0.973	0.972
	0.850 1.100	0.860 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	-0.085	-0.095	-0.012	0.043	0.095	0.098	0.115	0.127

	-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 2 M	0.987 0.850 1.100	0.987 0.850 1.100	0.987 0.850 1.100	0.987 0.850 1.100	0.986 0.850 1.100	0.985 0.850 1.100	0.984 0.850 1.100	0.984 0.850 1.100
Coil 2 P	0.033 -1.500 1.500	0.049 -1.500 1.500	0.097 -1.500 1.500	0.124 -1.500 1.500	0.150 -1.500 1.500	0.154 -1.500 1.500	0.172 -1.500 1.500	0.170 -1.500 1.500
Coil 3 M	0.995 0.500 1.100	0.995 0.500 1.100	0.995 0.500 1.100	0.994 0.500 1.100	0.993 0.500 1.100	0.993 0.500 1.100	0.991 0.500 1.100	0.989 0.500 1.100
Coil 3 P	0.046 -1.500 1.500	0.080 -1.500 1.500	0.140 -1.500 1.500	0.194 -1.500 1.500	0.226 -1.500 1.500	0.270 -1.500 1.500	0.314 -1.500 1.500	0.300 -1.500 1.500
Coil 4 M	0.998 0.500 1.100	0.999 0.500 1.100	0.999 0.500 1.100	0.999 0.500 1.100	1.000 0.500 1.100	0.999 0.500 1.100	1.000 0.500 1.100	1.001 0.500 1.100
Coil 4 P	0.087 -1.500 1.500	0.100 -1.500 1.500	0.178 -1.500 1.500	0.247 -1.500 1.500	0.313 -1.500 1.500	0.408 -1.500 1.500	0.481 -1.500 1.500	0.553 -1.500 1.500
Coil 5 M	1.002 0.500 1.100	1.002 0.500 1.100	1.003 0.500 1.100	1.004 0.500 1.100	1.006 0.500 1.100	1.007 0.500 1.100	1.010 0.500 1.100	1.013 0.500 1.100
Coil 5 P	-0.239 -1.500 1.500	0.068 -1.500 1.500	0.253 -1.500 1.500	0.386 -1.500 1.500	0.534 -1.500 1.500	0.734 -1.500 1.500	0.857 -1.500 1.500	0.990 -1.500 1.500

PARMS	TCID 0	TCID 1	Cal Temp (degF)	T Factor
IDs	2.563	0.840	60.0	1.00

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10118612 DATE/TIME PERFORMED: Tue Sep 16 07:37:19 2014 DAYS SINCE CAL: 251

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	0.001 -0.200 0.200	0.000 -0.100 0.100	0.000 -0.100 0.100	-0.000 -0.100 0.100	-0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.000 -0.100 0.100	0.000 -0.100 0.100
Coil 0 Q	0.002 -0.500 0.500	-0.001 -0.200 0.200	0.000 -0.100 0.100	-0.000 -0.100 0.100	-0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.001 -0.100 0.100	-0.000 -0.100 0.100
Coil 1 R	0.004 -0.200 0.200	0.001 -0.100 0.100	-0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.000 -0.100 0.100	0.000 -0.100 0.100	-0.003 -0.100 0.100	0.002 -0.100 0.100
Coil 1 Q	0.005 -0.500 0.500	0.001 -0.200 0.200	-0.002 -0.100 0.100	-0.001 -0.100 0.100	0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.000 -0.100 0.100	0.002 -0.100 0.100
Coil 2 R	0.000 -0.200 0.200	-0.001 -0.100 0.100	-0.000 -0.100 0.100	0.003 -0.100 0.100	0.001 -0.100 0.100	0.001 -0.100 0.100	0.001 -0.100 0.100	0.000 -0.100 0.100
Coil 2 Q	-0.006 -0.500 0.500	0.006 -0.200 0.200	0.002 -0.100 0.100	0.001 -0.100 0.100	-0.001 -0.100 0.100	0.003 -0.100 0.100	0.000 -0.100 0.100	-0.002 -0.100 0.100
Coil 3 R	0.022 -0.300 0.300	-0.006 -0.100 0.100	0.002 -0.100 0.100	-0.003 -0.100 0.100	0.002 -0.100 0.100	0.001 -0.100 0.100	0.001 -0.100 0.100	-0.001 -0.100 0.100
Coil 3 Q	0.002 -0.500 0.500	0.004 -0.200 0.200	0.008 -0.100 0.100	0.001 -0.100 0.100	0.002 -0.100 0.100	-0.001 -0.100 0.100	0.001 -0.100 0.100	-0.001 -0.100 0.100
Coil 4 R	0.061 -0.500 0.500	-0.003 -0.200 0.200	-0.001 -0.200 0.200	0.007 -0.200 0.200	0.002 -0.200 0.200	-0.007 -0.200 0.200	0.002 -0.200 0.200	0.004 -0.200 0.200
Coil 4 Q	-0.002 -1.000 1.000	-0.020 -0.400 0.400	-0.001 -0.200 0.200	0.004 -0.200 0.200	0.003 -0.200 0.200	0.005 -0.200 0.200	0.013 -0.200 0.200	-0.000 -0.200 0.200
Coil 5 R	0.123 -1.200 1.200	-0.009 -0.400 0.400	-0.010 -0.400 0.400	-0.012 -0.400 0.400	-0.005 -0.400 0.400	0.006 -0.400 0.400	0.007 -0.400 0.400	-0.005 -0.400 0.400
Coil 5 Q	-0.007 -1.500 1.500	-0.041 -0.800 0.800	0.017 -0.400 0.400	0.005 -0.400 0.400	-0.005 -0.400 0.400	-0.005 -0.400 0.400	0.002 -0.400 0.400	-0.009 -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	161.02 136.00 186.00	159.59 134.00 184.00	156.71 131.00 181.00	152.42 126.00 176.00	146.74 122.00 170.00	139.75 118.00 161.00	131.58 112.00 150.00	122.19 105.00 139.00
Coil 0 P	7.228 -1.000 12.000	25.243 19.000 30.000	42.557 35.000 50.000	59.793 49.000 71.000	77.021 63.000 91.000	94.248 77.000 110.000	111.464 92.000 130.000	128.651 105.000 151.000
Coil 1 M	281.30 237.00 327.00	278.95 235.00 325.00	274.19 230.00 320.00	267.10 225.00 312.00	257.69 218.00 302.00	246.11 208.00 288.00	232.36 196.00 266.00	216.53 184.00 244.00
Coil 1 P	7.143 -1.000 12.000	24.980 19.000 30.000	42.123 35.000 51.000	59.187 49.000 71.000	76.279 63.000 92.000	93.374 77.000 112.000	110.507 92.000 132.000	127.644 105.000 153.000
Coil 2 M	566.32 479.00 669.00	561.49 474.00 664.00	551.79 463.00 643.00	537.18 450.00 622.00	517.87 432.00 602.00	493.92 412.00 572.00	465.76 390.00 540.00	433.03 359.00 499.00
Coil 2 P	7.268 -1.000 12.000	25.417 19.000 31.000	42.866 35.000 51.000	60.240 49.000 71.000	77.633 63.000 92.000	95.044 77.000 114.000	112.496 92.000 135.000	129.929 105.000 156.000
Coil 3 M	920.91 772.00 1060.00	912.54 764.00 1050.00	895.65 752.00 1030.00	870.50 728.00 1010.00	837.37 700.00 970.00	796.65 665.00 925.00	748.96 628.00 868.00	694.68 589.00 799.00
Coil 3 P	7.385 -2.000 13.000	25.742 19.000 31.000	43.388 35.000 52.000	60.951 49.000 72.000	78.490 63.000 93.000	96.012 77.000 114.000	113.527 92.000 135.000	130.987 105.000 156.000
Coil 4 M	1450.0 1210.0 1700.0	1436.5 1205.0 1680.0	1409.4 1180.0 1650.0	1369.1 1140.0 1590.0	1315.8 1120.0 1530.0	1250.7 1070.0 1450.0	1174.2 1000.0 1350.0	1089.0 942.0 1240.0
Coil 4 P	7.348 -2.000 13.000	25.671 19.000 31.000	43.278 35.000 52.000	60.797 49.000 73.000	78.302 63.000 93.000	95.806 78.000 114.000	113.263 92.000 135.000	130.626 105.000 156.000
Coil 5 M	2931.5	2909.7	2863.9	2794.4	2701.6	2585.4	2447.6	2289.6

Coil 5 P	7.140 -2.000 13.000	24.983 19.000 31.000	42.172 35.000 52.000	59.304 49.000 73.000	76.482 63.000 94.000	93.723 79.000 114.000	111.033 93.000 135.000	128.326 106.000 156.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10118612 DATE/TIME PERFORMED: Tue Sep 16 10:23:05 2014 DAYS SINCE CAL: 251

UNIT #: 388DTA HL6670

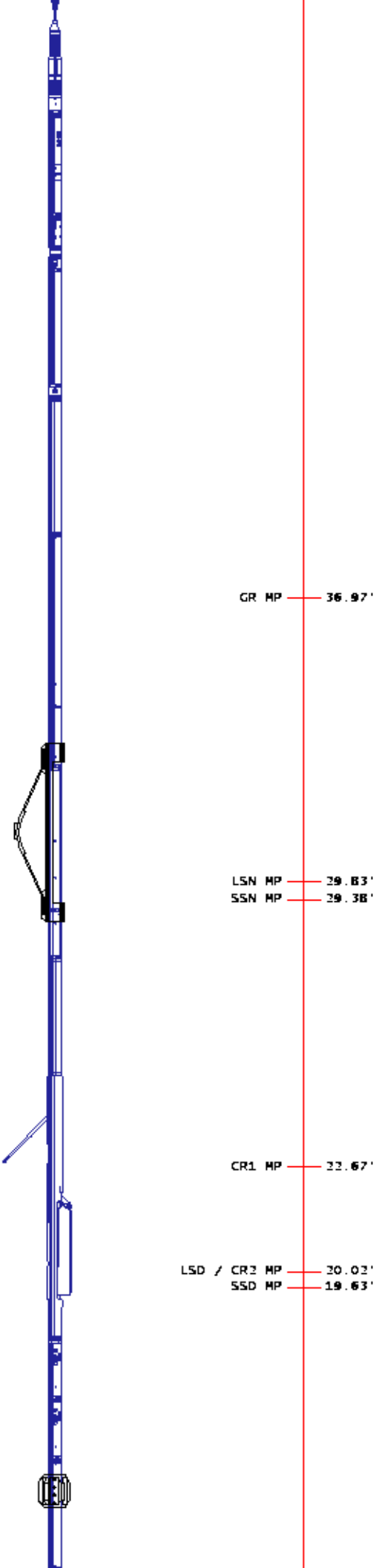
ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil D R	0.001 -0.079 0.081	0.000 -0.060 0.060	0.000 -0.030 0.030	-0.001 -0.030 0.030	-0.000 -0.031 0.029	0.000 -0.030 0.030	0.000 -0.030 0.030	-0.000 -0.030 0.030
Coil D Q	0.002 -0.038 0.042	0.001 -0.121 0.119	-0.000 -0.030 0.030	0.001 -0.030 0.030	0.000 -0.031 0.029	-0.000 -0.030 0.030	-0.000 -0.031 0.029	-0.000 -0.030 0.030
Coil 1 R	0.005 -0.076 0.084	0.001 -0.049 0.051	-0.000 -0.031 0.029	-0.001 -0.030 0.030	-0.002 -0.030 0.030	0.001 -0.030 0.030	0.000 -0.033 0.027	0.002 -0.028 0.032
Coil 1 Q	0.005 -0.395 0.405	-0.000 -0.099 0.101	-0.000 -0.032 0.029	-0.001 -0.031 0.029	-0.001 -0.029 0.031	0.000 -0.030 0.030	-0.001 -0.030 0.030	0.000 -0.028 0.032
Coil 2 R	-0.000 -0.070 0.070	-0.001 -0.031 0.029	0.001 -0.030 0.030	0.001 -0.027 0.033	0.000 -0.029 0.031	-0.000 -0.029 0.031	0.001 -0.029 0.031	0.000 -0.030 0.030
Coil 2 Q	-0.006 -0.366 0.344	0.003 -0.094 0.106	-0.001 -0.028 0.032	-0.001 -0.029 0.031	-0.001 -0.031 0.029	0.001 -0.027 0.033	0.001 -0.030 0.030	-0.000 -0.032 0.028
Coil 3 R	0.023 -0.018 0.062	-0.002 -0.046 0.034	0.003 -0.038 0.042	-0.001 -0.043 0.037	0.001 -0.038 0.042	-0.003 -0.039 0.033	0.003 -0.039 0.033	-0.000 -0.041 0.039
Coil 3 Q	-0.005 -0.198 0.202	0.001 -0.076 0.084	-0.005 -0.032 0.048	-0.000 -0.039 0.041	0.003 -0.038 0.042	-0.004 -0.041 0.039	0.005 -0.039 0.041	0.002 -0.041 0.039
Coil 4 R	0.059 0.001 0.121	-0.001 -0.063 0.057	-0.003 -0.061 0.059	0.010 -0.053 0.057	-0.004 -0.058 0.052	-0.000 -0.057 0.053	-0.001 -0.058 0.052	-0.006 -0.056 0.064
Coil 4 Q	0.003 -0.302 0.298	-0.013 -0.120 0.080	0.002 -0.061 0.059	0.000 -0.056 0.064	-0.006 -0.057 0.053	0.002 -0.056 0.065	0.001 -0.047 0.073	-0.005 -0.060 0.050
Coil 5 R	0.118 0.033 0.243	0.003 -0.129 0.111	-0.016 -0.130 0.110	0.005 -0.132 0.108	-0.009 -0.125 0.115	0.005 -0.114 0.126	0.000 -0.113 0.127	0.010 -0.125 0.115
Coil 5 Q	0.026 -0.607 0.659	-0.026 -0.291 0.239	0.018 -0.103 0.137	0.004 -0.115 0.125	-0.003 -0.125 0.115	0.008 -0.125 0.115	0.006 -0.118 0.122	-0.008 -0.129 0.111

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil D M	161.03 157.80 164.24	159.61 156.40 162.78	156.74 153.58 159.86	152.45 149.37 155.46	146.80 143.81 149.68	139.85 136.95 142.64	131.63 128.95 134.22	122.29 119.75 124.64
Coil D P	7.319 4.238 10.238	25.261 22.243 28.243	42.559 39.557 45.557	59.783 56.793 62.793	76.994 74.021 80.021	94.214 91.248 97.248	111.432 108.464 114.464	128.611 125.651 131.651
Coil 1 M	281.24 275.67 286.52	278.89 273.37 284.53	274.15 268.71 279.67	267.10 261.76 272.44	257.75 252.54 262.85	246.17 241.19 251.04	232.46 227.71 237.01	216.63 212.20 220.86
Coil 1 P	7.239 4.143 10.143	24.999 21.980 27.980	42.121 39.123 45.123	59.178 56.187 62.187	76.245 73.279 79.279	93.335 90.374 96.374	110.469 107.507 113.507	127.610 124.644 130.644
Coil 2 M	566.67 555.00 577.65	561.87 550.26 573.72	552.14 540.75 563.82	537.58 526.44 547.93	518.39 507.51 528.22	494.50 484.05 503.80	466.16 456.44 475.07	433.61 424.37 441.69
Coil 2 P	7.349 4.268 10.268	25.437 22.417 28.417	42.871 39.866 45.866	60.234 57.240 63.240	77.618 74.633 80.633	95.027 92.044 98.044	112.471 109.496 115.496	129.911 126.929 132.929
Coil 3 M	920.70 902.49 939.33	912.28 894.28 930.79	895.44 877.74 913.57	870.39 853.09 887.91	837.33 820.63 854.12	796.70 780.72 812.99	749.08 733.98 763.94	694.54 680.79 708.57
Coil 3 P	7.473 4.385 10.385	25.755 22.742 28.742	43.387 40.388 46.388	60.940 57.951 63.951	78.469 75.490 81.490	95.988 93.012 99.012	113.509 110.527 116.527	130.971 127.987 133.987
Coil 4 M	1450.0 1421.0 1479.0	1436.5 1407.8 1465.3	1409.5 1381.2 1437.8	1369.3 1341.7 1396.5	1316.4 1289.5 1342.1	1251.3 1225.7 1275.7	1175.1 1150.7 1197.7	1089.7 1067.2 1110.8
Coil 4 P	7.442 4.348 10.348	25.687 22.671 28.671	43.282 40.278 46.278	60.797 57.797 63.797	78.284 75.302 81.302	95.764 92.805 98.805	113.222 110.263 116.263	130.640 127.636 133.626
Coil 5 M	2931.0 2872.9 2990.1	2909.2 2851.5 2967.9	2863.9 2806.6 2921.2	2794.6 2738.5 2850.3	2702.6 2647.6 2755.6	2587.1 2533.7 2637.1	2449.2 2398.6 2496.5	2291.2 2243.9 2335.4
Coil 5 P	7.232 4.140 10.140	25.010 21.983 27.983	42.176 39.172 45.172	59.310 56.304 62.304	76.464 73.482 79.482	93.701 90.723 96.723	110.992 108.033 114.033	128.332 125.326 131.326

INSTRUMENT CONFIGURATION

Source File: /dat1a/OH090067/TOOLS-tdg

52.34'



FOCUS CABLEHEAD
- Diameter : 3.13"
- Length : 3.17'
- Weight : 15 lbs
- Series : CABL31B
- Mnemonic : CBLH

FOCUS SWIVEL
- Diameter : 3.13"
- Length : 2.58'
- Weight : 50 lbs
- Series : 3950XA
- Mnemonic : SWVL

FOCUS TEN/TEMP/MUD RES/ACCEL
- Diameter : 3.13"
- Length : 4.31'
- Weight : 61 lbs
- Series : 39B0XA
- Mnemonic : TTMA

FOCUS TELEMETRY (POWER SECTION)
- Diameter : 3.13"
- Length : 3.71'
- Weight : 48 lbs
- Series : 351BFB
- Mnemonic : TMGR

FOCUS EB/EG TELEMETRY GAMMA RAY
- Diameter : 3.13"
- Length : 5.83'
- Weight : 63 lbs
- Series : 351BEG
- Mnemonic : GR
- Measure Point: 4.24': GR MP

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

FOCUS Z-DENSILOG
- Diameter : 3.75"
- Length : 9.58'
- Weight : 200 lbs
- Series : 2223XA
- Mnemonic : ZDL
- Measure Point: 4.33': CR1 MP
- Measure Point: 1.69': LSD / CR2 MP
- Measure Point: 1.29': SSD MP

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

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

FOCUS HIGH DEFINITION INDUCTION TOOL

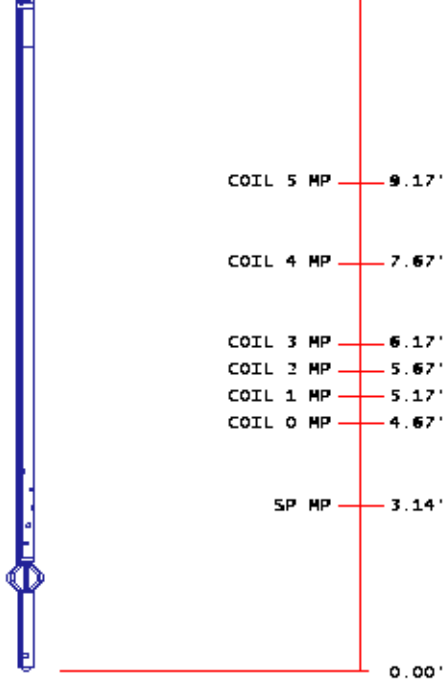
Diameter	:	3.13"
Length	:	13.33'
Weight	:	115 lbs
Series	:	1530XA
Mnemonic	:	HDIL
Measure Point	:	7.17' : COIL 5 MP
Measure Point	:	5.67' : COIL 4 MP
Measure Point	:	4.17' : COIL 3 MP
Measure Point	:	3.67' : COIL 2 MP
Measure Point	:	3.17' : COIL 1 MP
Measure Point	:	2.67' : COIL 0 MP
Measure Point	: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

FOCUS PINEAPPLE / CABBAGE

HOLE FINDER

Diameter	:	2.62"
Length	:	1.50'
Weight	:	7 lbs
Series	:	HFND1B

TOTAL LENGTH: 53.34'
TOTAL WEIGHT: 703 lbs
MAX DIAMETER: 0'6.13"



BAKER HUGHES

ECLIPS

COMPANY	WPX ENERGY ROCKY MOUNTAIN		FILE NO:
WELL	SAVAGE RWF 34-25		OH090087
FIELD	RULISON		API NO:
COUNTY	GARFIELD	STATE CO	05045219950000

LOCATION:

SHL: 1124' FSL 1391' FEL
BHL: 918' FSL 2196' FEL (SWSE)

SEC 25 TWP 6S RGE 94W

ELEVATIONS:

KB 6260 FT
DF
GL 6234 FT

S25 T6S R94W
PAD: RWF 43-25
RIG: NABORS 577

DATE 15-Sep-2014