BAKER HUGHES

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

LOGS

FILE NO: US089692J

API NO: 05045219980000

COMPANY WPX ENERGY INC

WELL SAVAGE RWF 344-25

FIELD RULISON

COUNTY GARFIELD STATE COLORADO

Version

SEC 25 T6S R94W

PAD: RWF 43-25

RIG: NABORS 577

LOCATION:

SHL: 1147' FSL 1381' FEL

BHL: 840' FSL 917' FEL

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 3264 FT

DATE		25-AUG-2014			
RUN	TRIP	1	1		
SERVICE ORDER		US089692J			
DEPTH DRILLER		8846 FT			
DEPTH LOGGER		8846 FT			
BOTTOM LOGGED INTERVAL		8814 FT			
TOP LOGGED INTERVAL		0 FT			
CASING DRILLER		9.625 IN @ 1133 FT		@	
CASING LOGGER		1133 FT			
BIT SIZE		8.75 IN			
TYPE OF FLUID IN HOLE		LSND			
DENSITY	VISCOSITY	11.7 LB/G	69 S		
PH	FLUID LOSS	10.1	4.4 C3		
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		1.56 OHMM @ 73 DEGF		@	
RMF AT MEAS. TEMP.		1.17 OHMM @ 73 DEGF		@	
RMC AT MEAS. TEMP.		1.95 OHMM @ 73 DEGF		@	
SOURCE OF RMF	RMC	CALCULATED	CALCULATED		
RM AT BHT		0.7 OHMM @ 190 DEGF		@	
TIME SINCE CIRCULATION		12 HRS			
MAX. RECORDED TEMP.		190 DEGF			
EQUIP. NO.	LOCATION	6685	GRAND JCT		
RECORDED BY		W. QUIGLEY			
WITNESSED BY		MR. LUKE HUBBARD			

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN	32.3 LB/F		0 FT	1133 FT

BOREHOLE RECORD

BIT SIZE	FROM	TO
13.5 IN	0 FT	1133 FT
8.75 IN	1133 FT	8846 FT

REMARKS

RUN 1 TRIP 1: HDIL ZDL CN RAN IN COMBINATION

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

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

CN MATRIX: SANDSTONE
CN RAN DECENTRALIZED

HDIL RAN WITH 1.5" STANDOFFS
ABC TO CALCULATE MUD CONDUCTIVITY

THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE SERVICES
CREW: OLSON/COATE/QUIGLEY
RIG: NABORS 577

COULD NOT GET PAST 4959' ON FIRST ATTEMPT.
MAIN LOG RECORDED AFTER EXTRA WIPER TRIP

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIVEL	3950XA	10102176	FREE
1	1	TTMA	3980XA	10120299	FREE
1	1	3518FB/EG	TELEMETRY/GAMMA RAY	10126400/10139870	FREE
1	1	2436XA	NEUTRON	10137930	FREE
1	1	2223XA	DENSITY	10123024	DECENTRALIZED
1	1	3930XA	KNUCKLE	10139400/10087279	FREE
1	1	1530XA	HDIL	10118612	STOOD OFF

MAIN LOG 2"/100FT SCALE

ECLIPS 6.2wu1 PC-ECLIPS General Release Rel 6.2w Update 1 Fri Apr 25 10:54:53 Central Daylight Time 2014
Patches: 2

Plotted: Tue Aug 26 10:27:32 2014

PARAMETER AND FILTER SUMMARY REPORT

File: C:\dat1a\89692J\n970aR02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 3633.000 ft BOTTOM DEPTH: 8856.471 ft

SYMMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
BIT SIZE	BIT SIZE	8.750	in	TOP	BOTTOM
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	8.750	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	73.0	degF	"	"
	MUD SAMPLE RES	1.560	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	73.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"

ACCELERATION PROCESSING

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

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	MUD CONDUCTIVITY		"	"

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	Aug 26 10:02:55 2014	GAMMA RAY
F1:M0C6	Aug 26 10:02:55 2014	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:M0R2	Aug 26 10:02:55 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:M0R6	Aug 26 10:02:55 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	Aug 26 10:02:55 2014	SPONTANEOUS POTENTIAL
F1:TEN	Aug 26 10:02:55 2014	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

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

Presentation : BHID26LKX1:C:\dat1a\89692J\WPX_R2IN.fvpdf [2"/100' Scale]
Plot Interval : -1.75 - 8861 Feet

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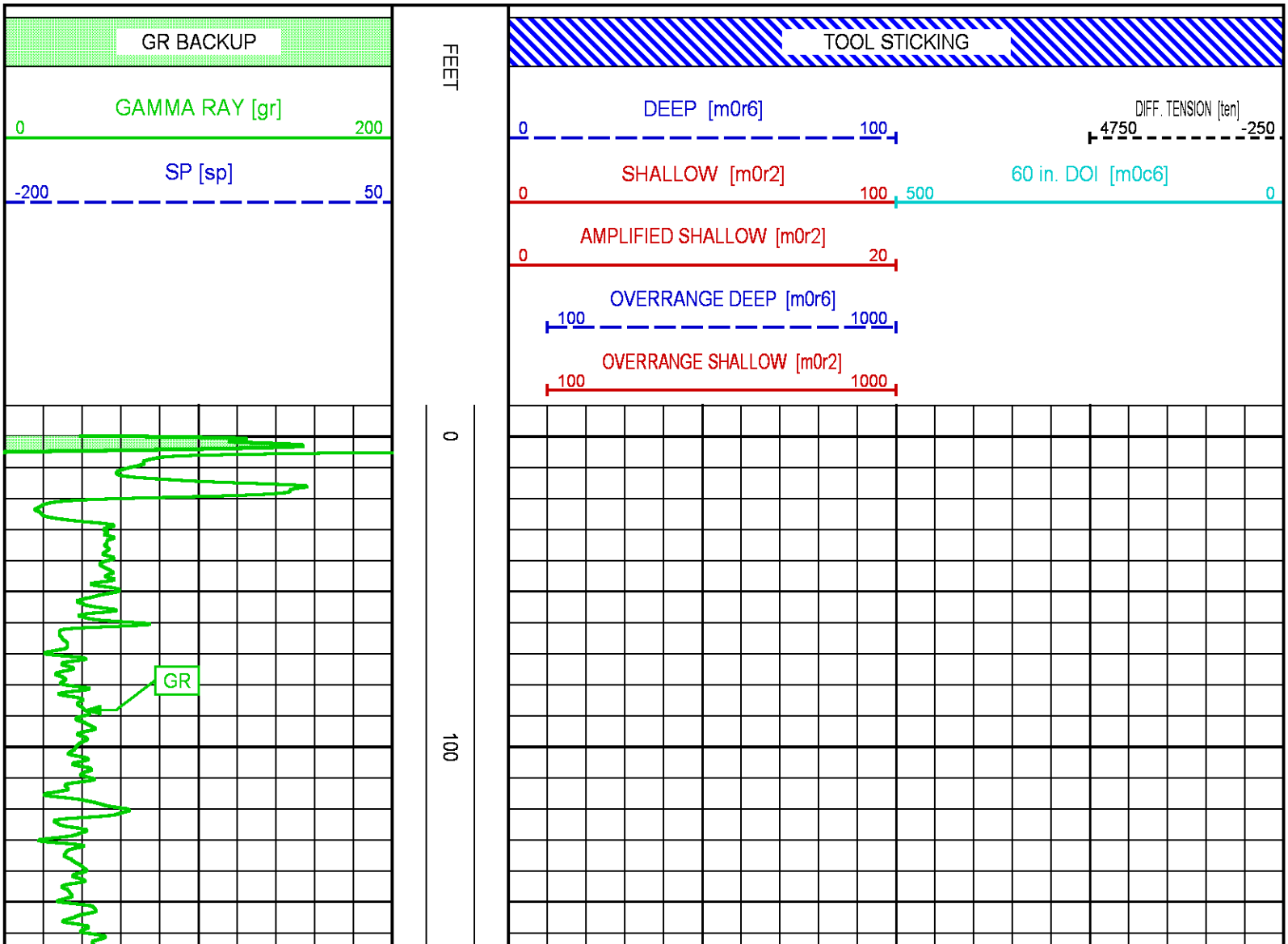
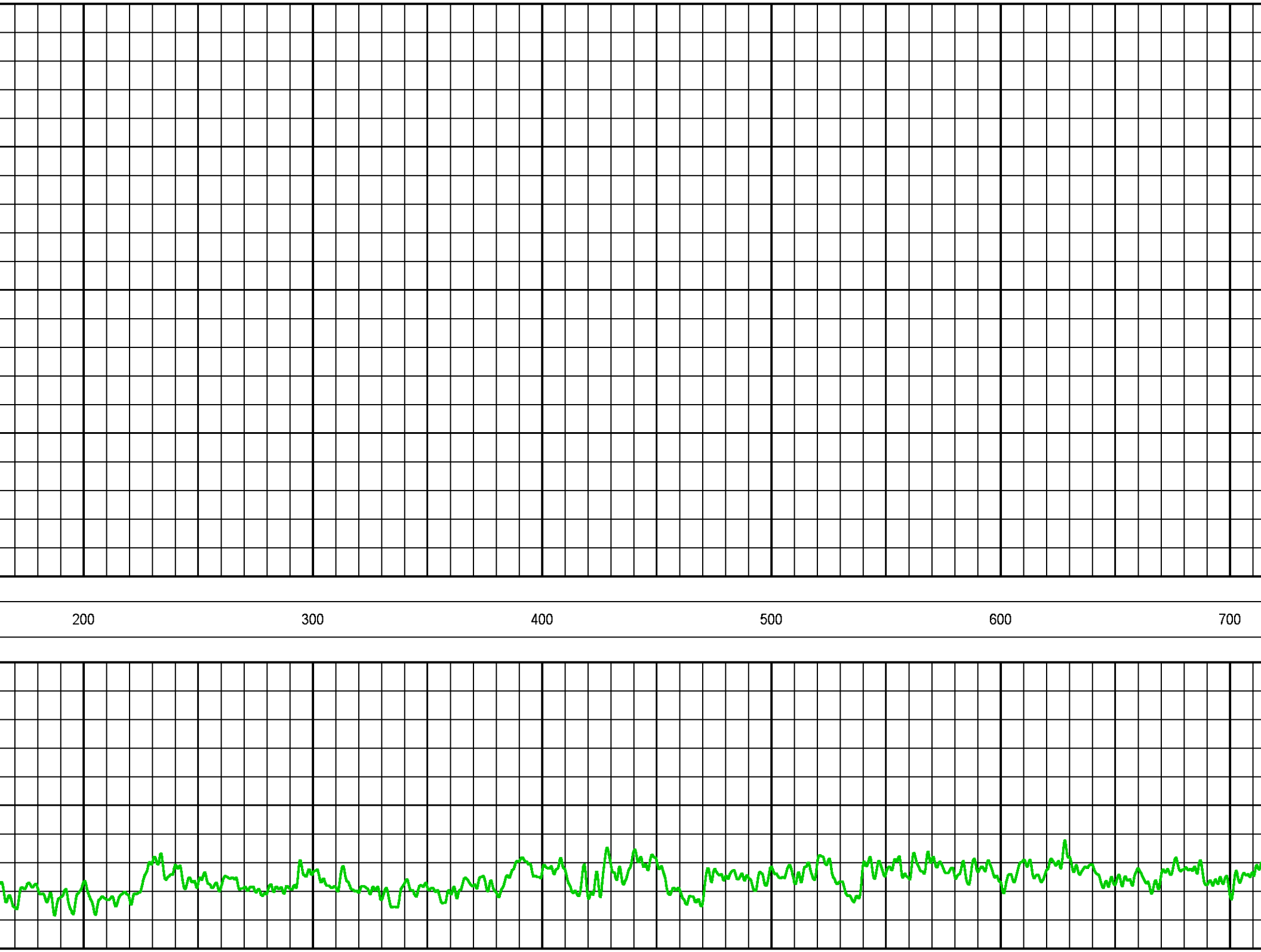
Created On : Aug 26 09:53:55 2014
Company : Baker Hughes Wireline
Well : Marcus Gist No. 11
Field : Headlee, North Clearfork
File Interval : -1.75 - 8861 Feet
OCT : n970a

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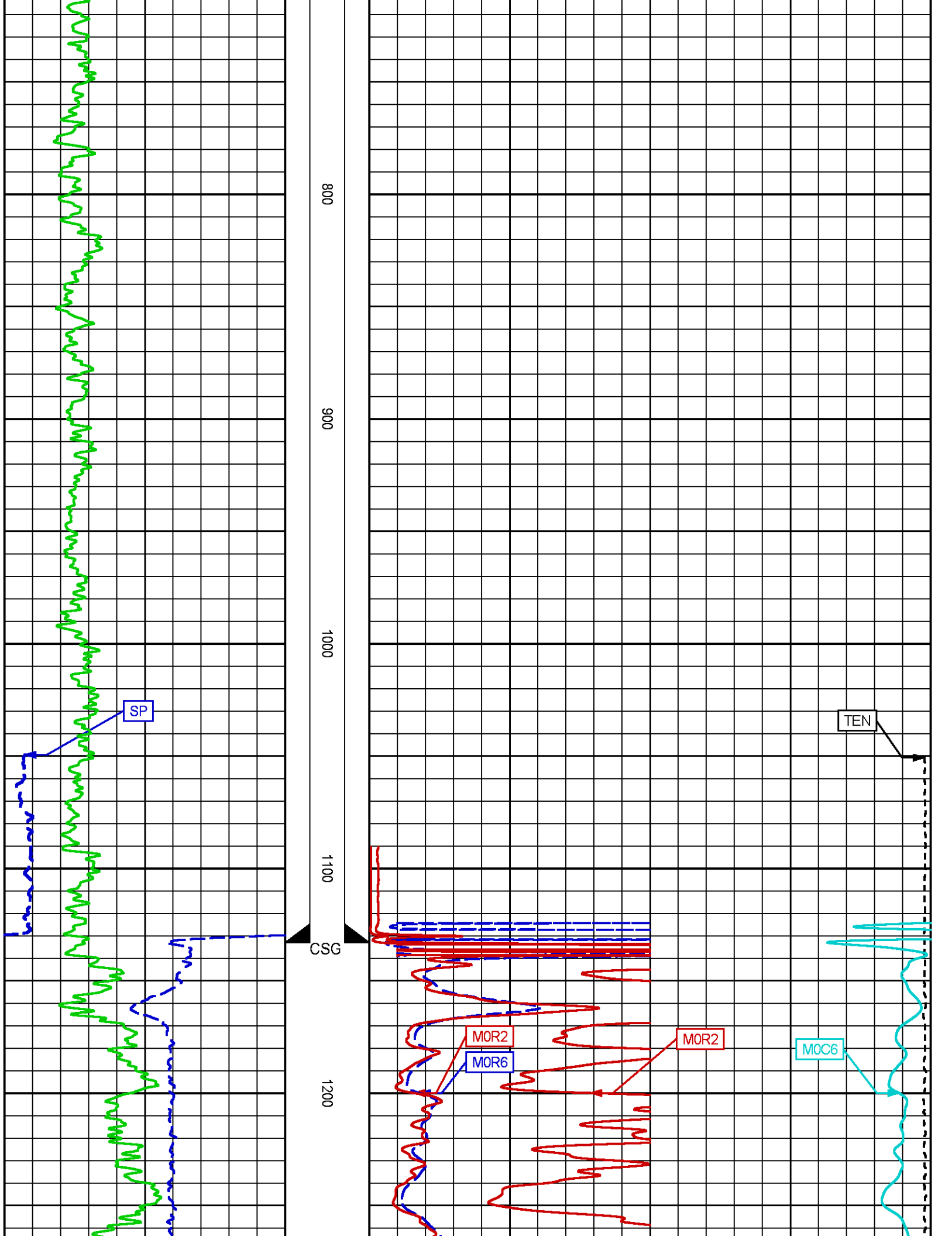
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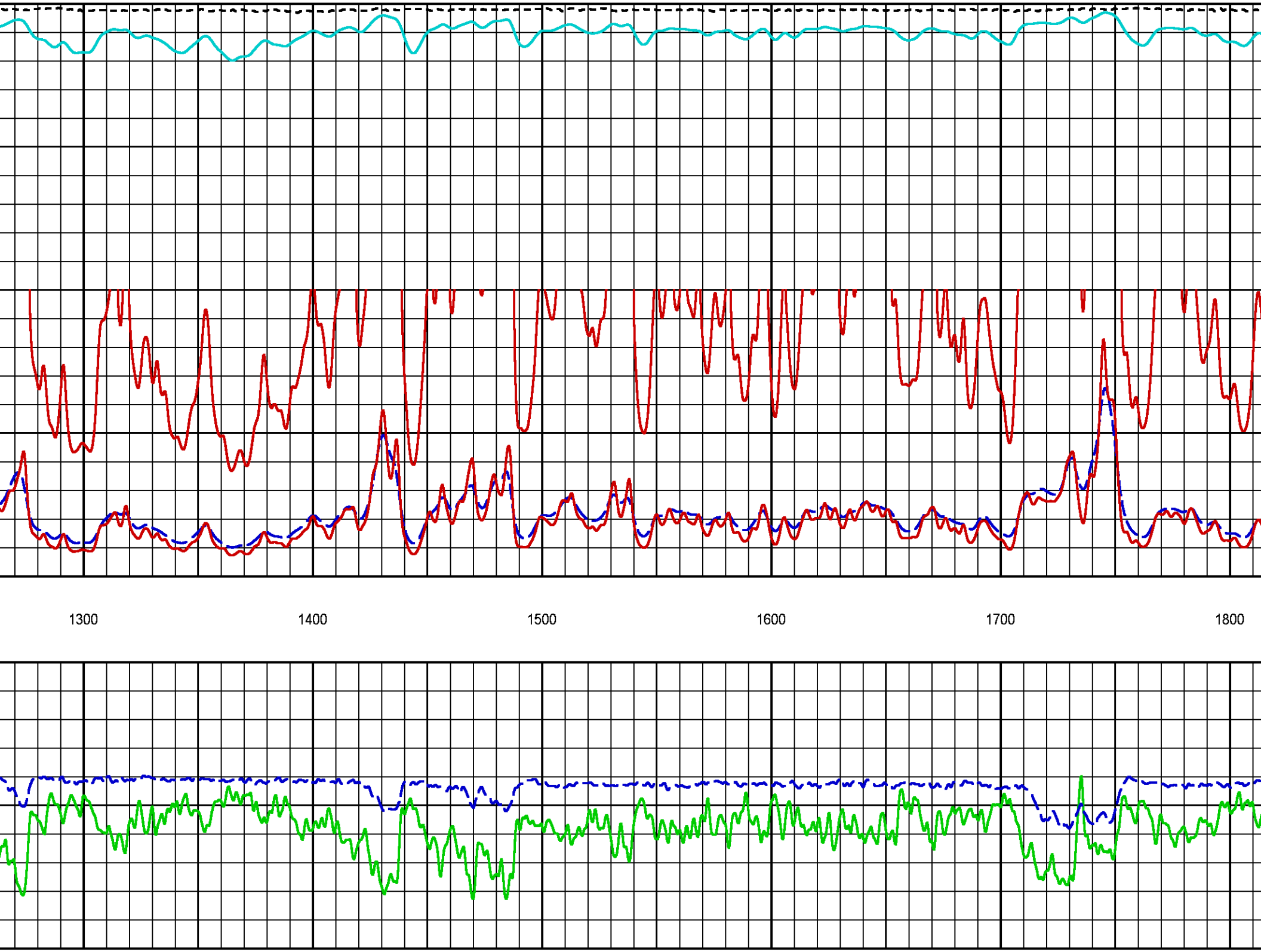
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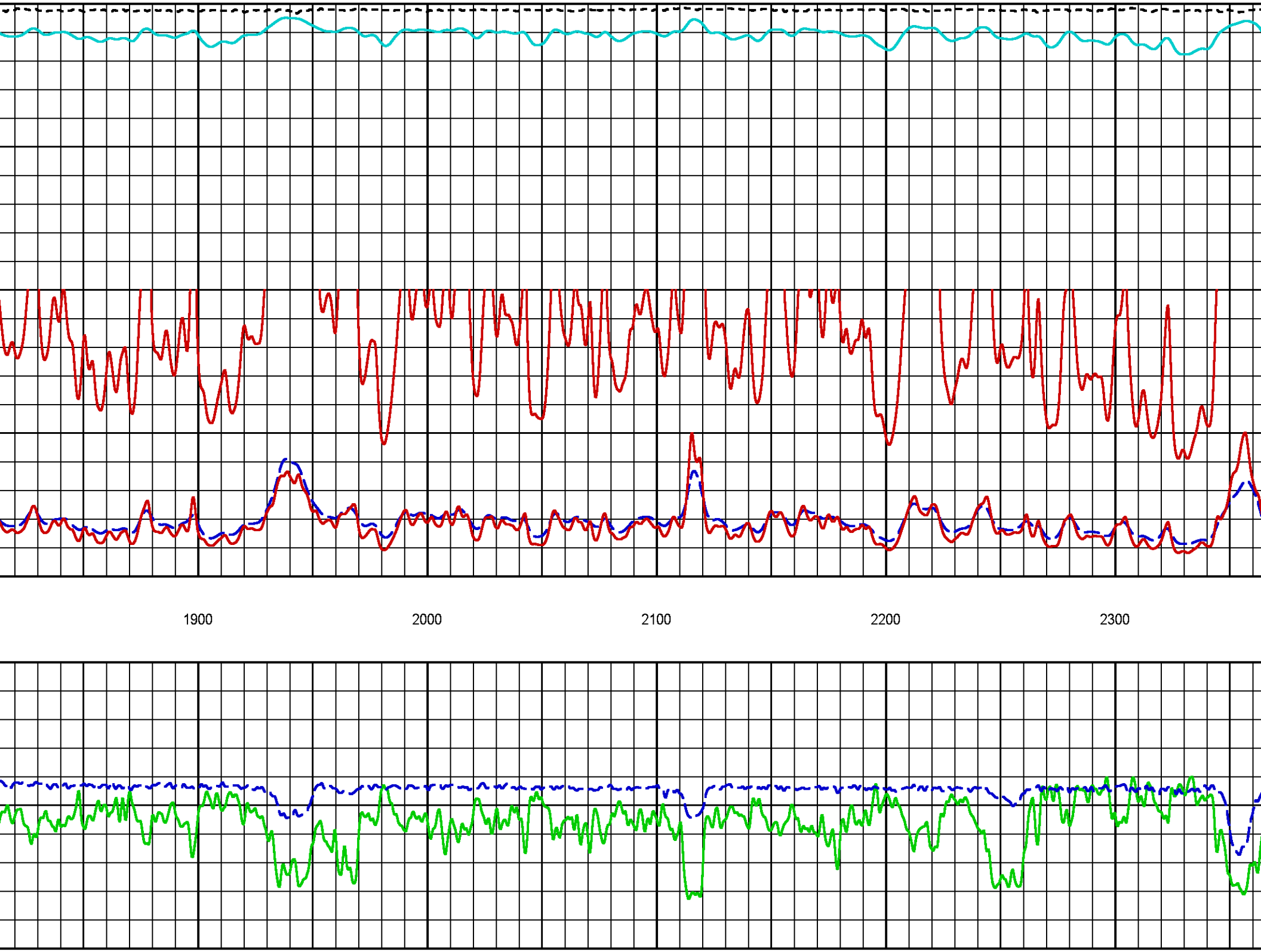
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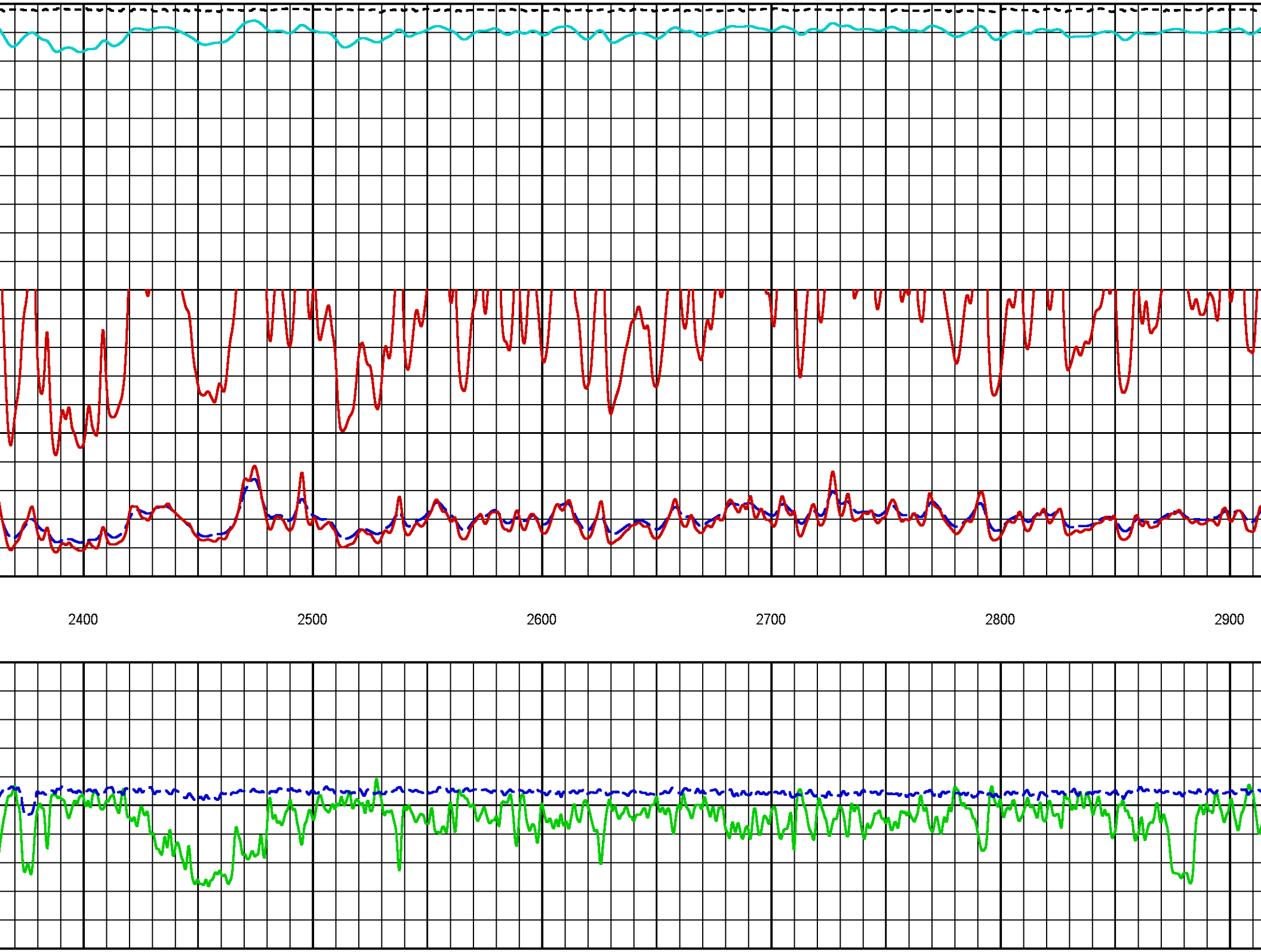
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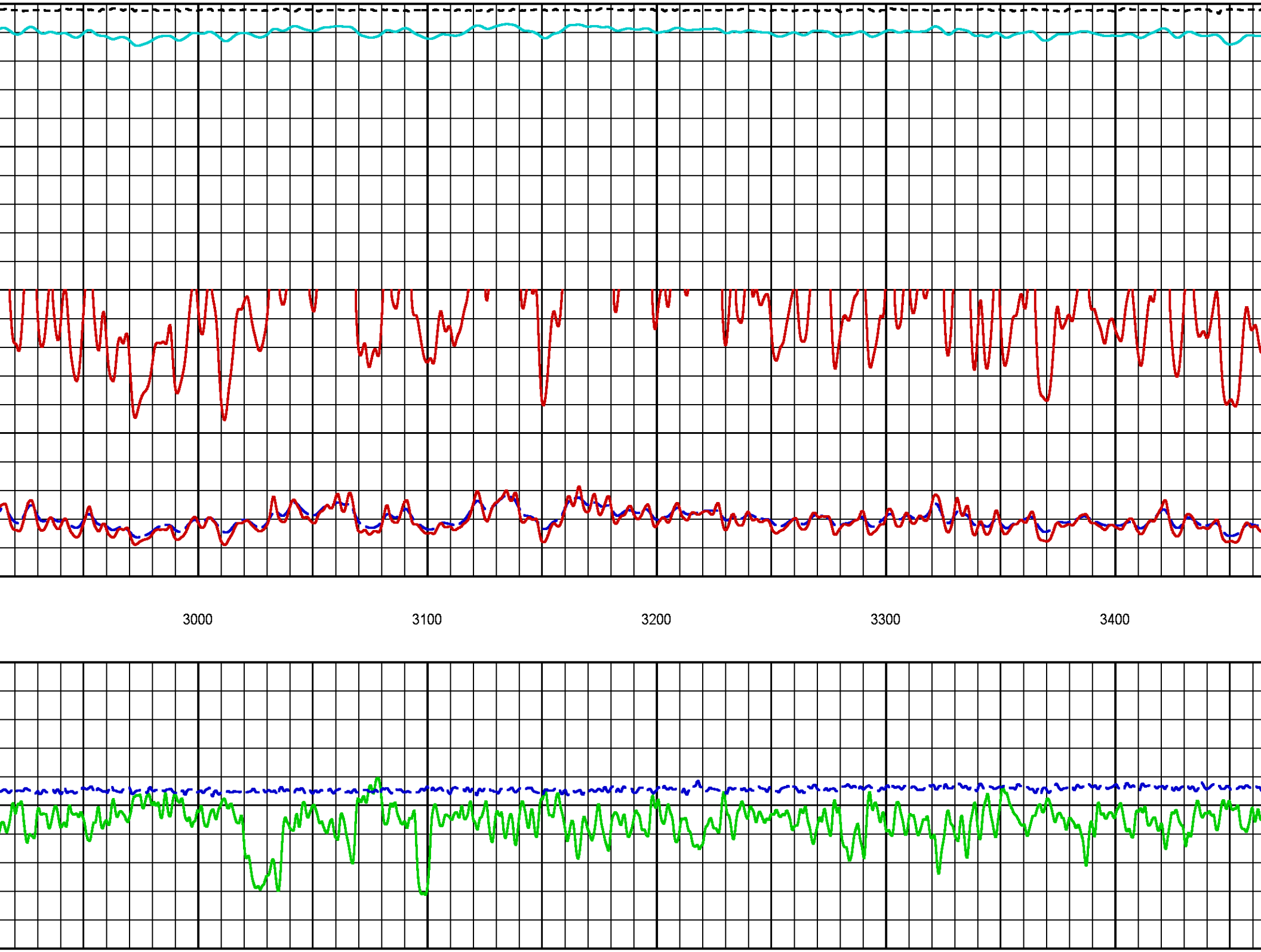
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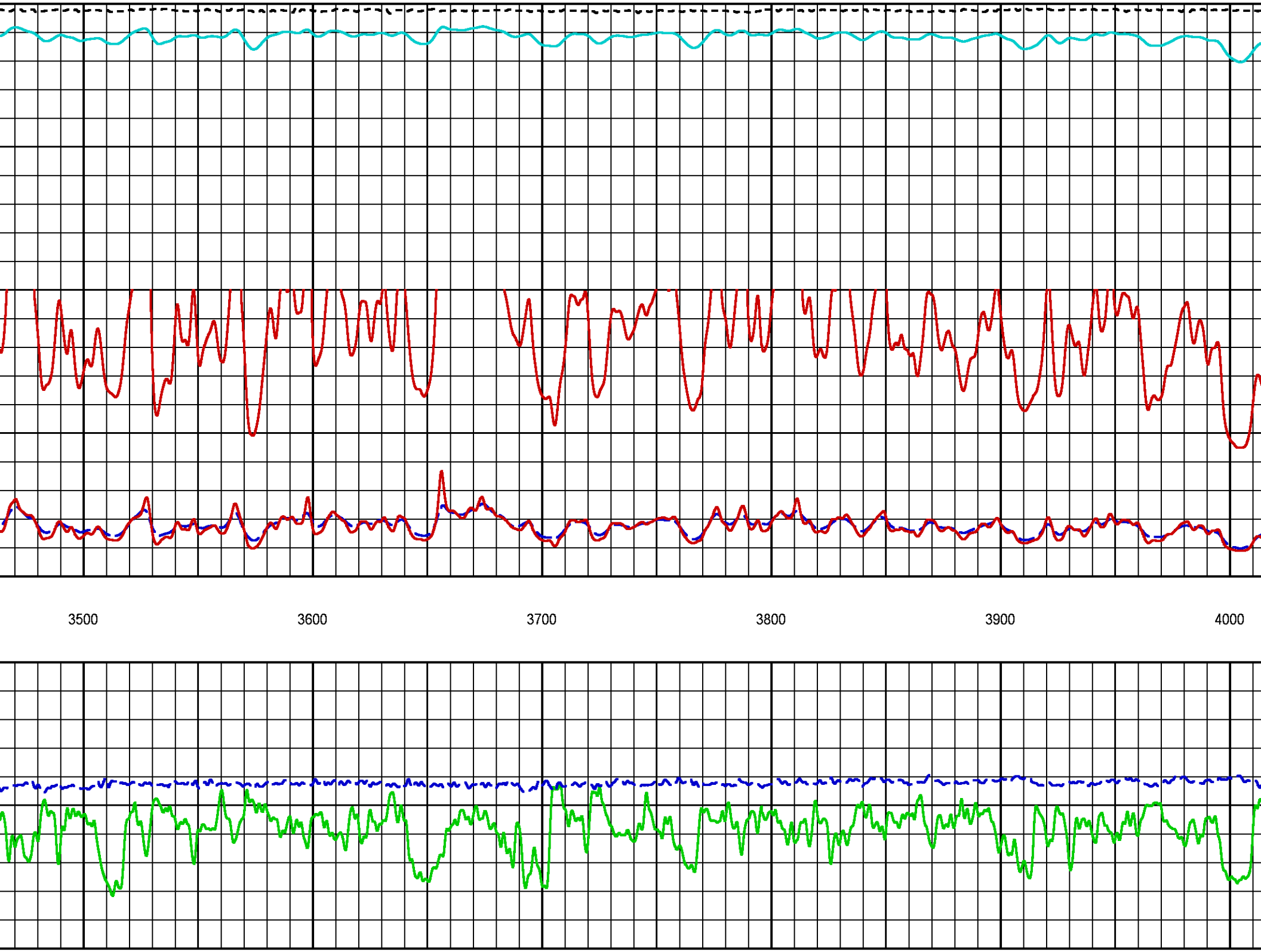
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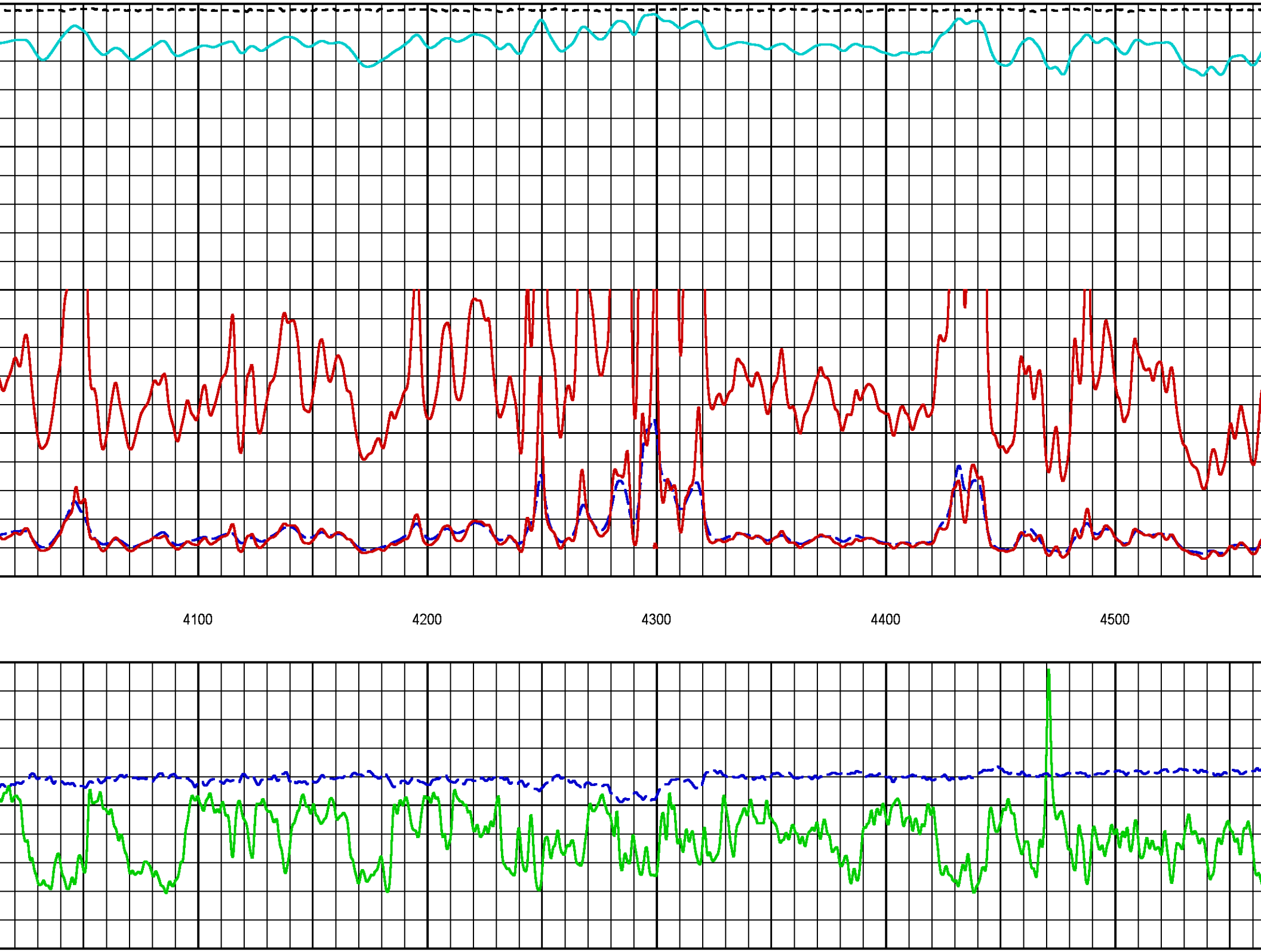
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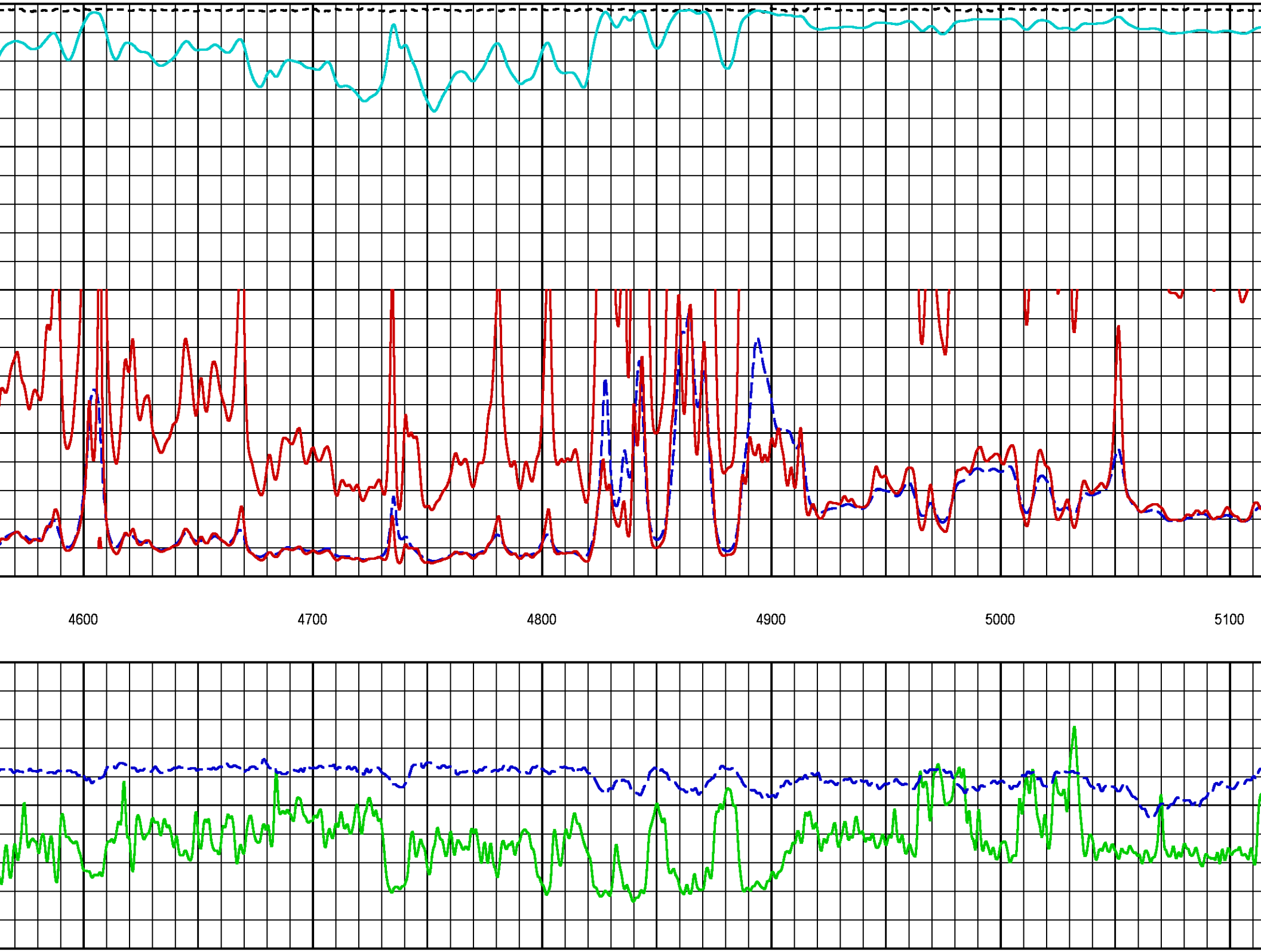
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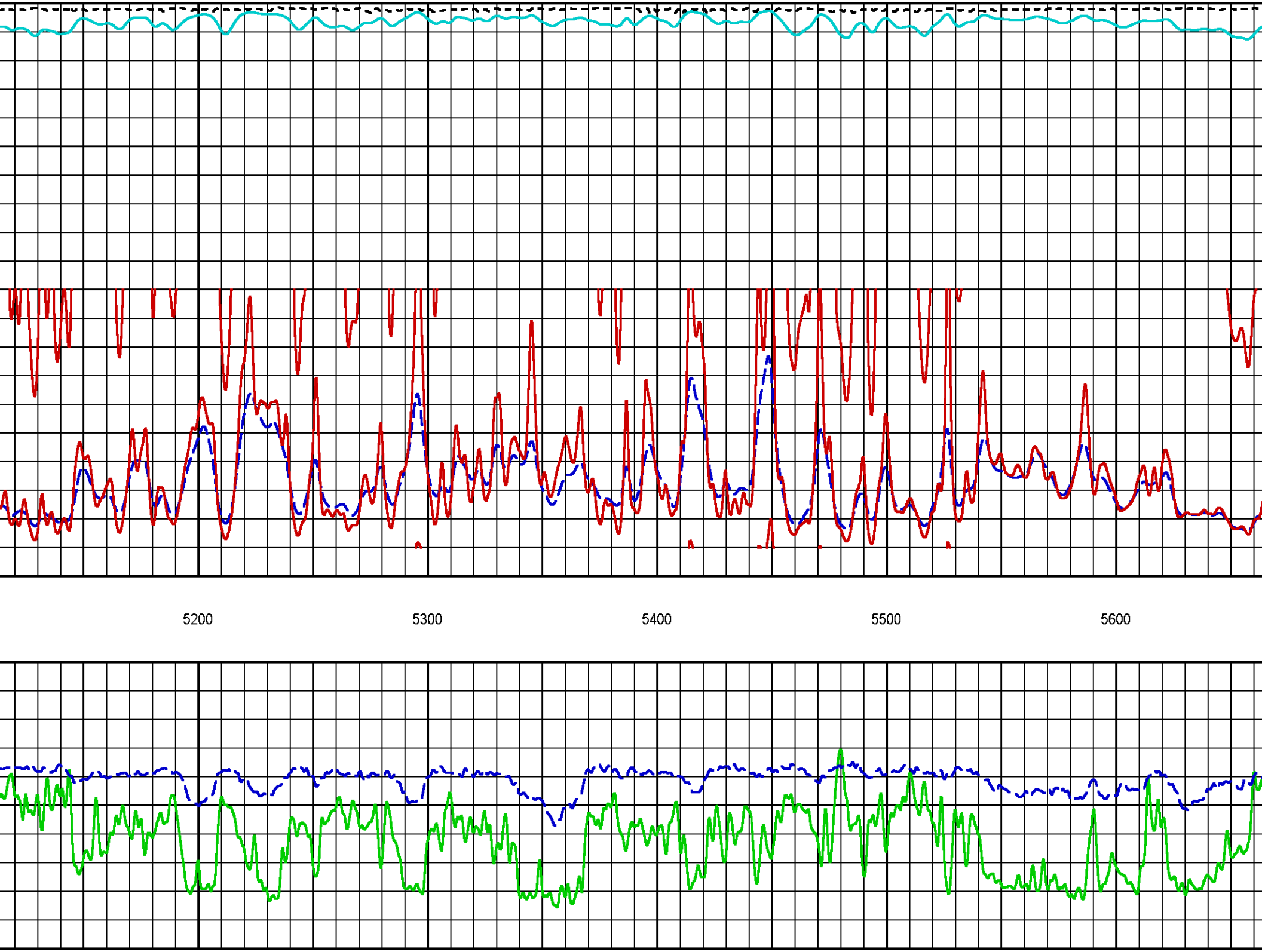
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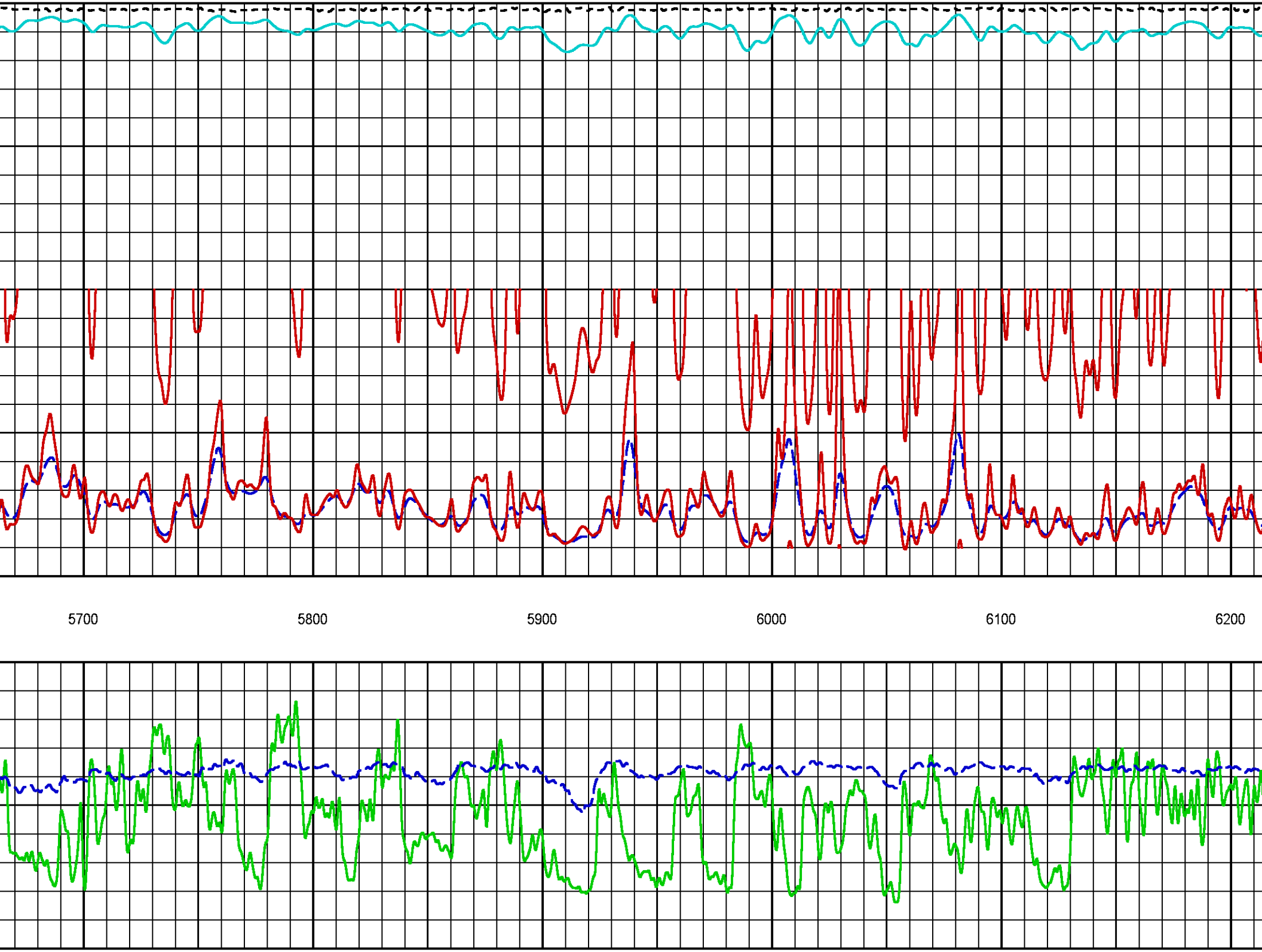
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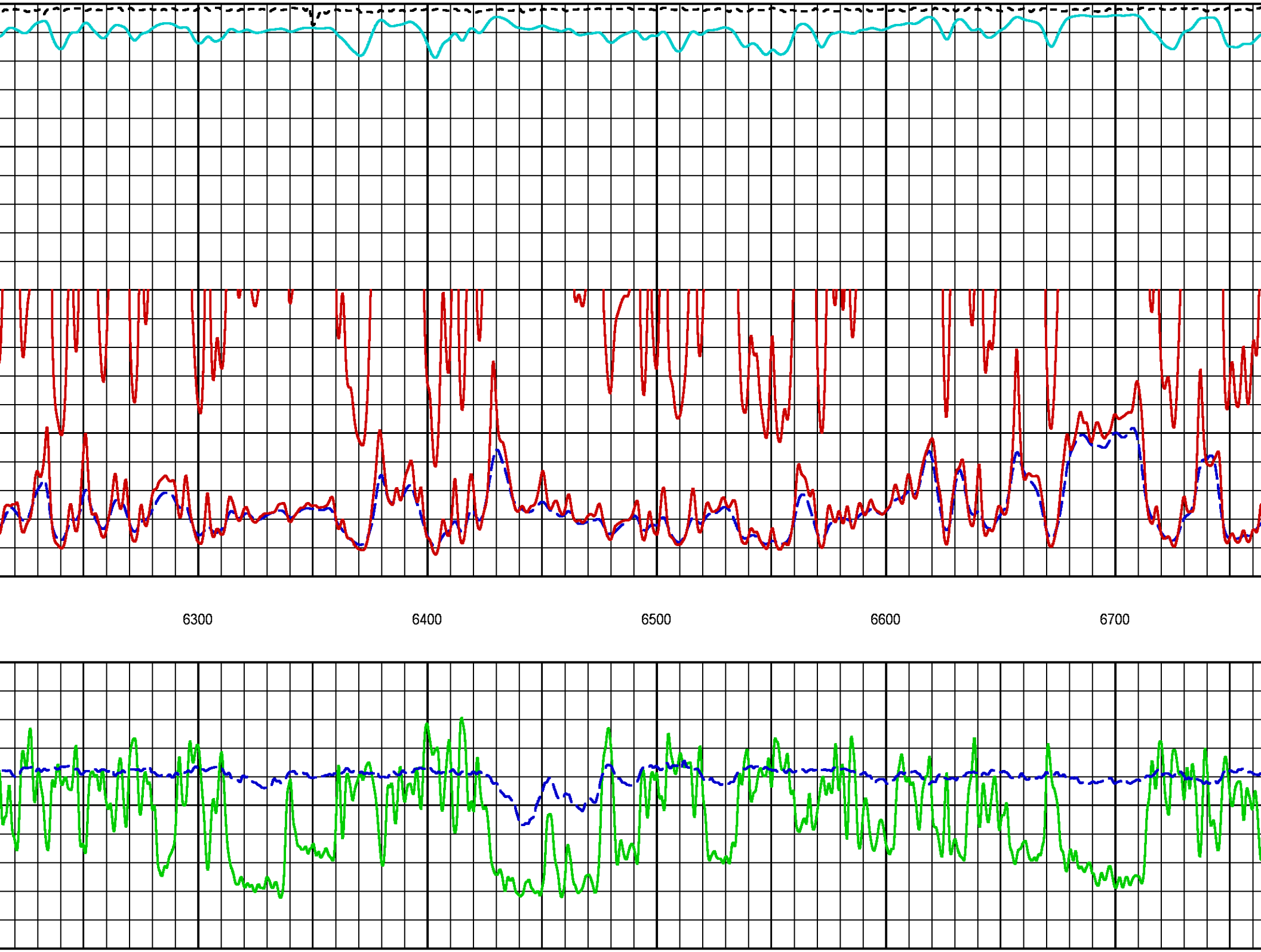
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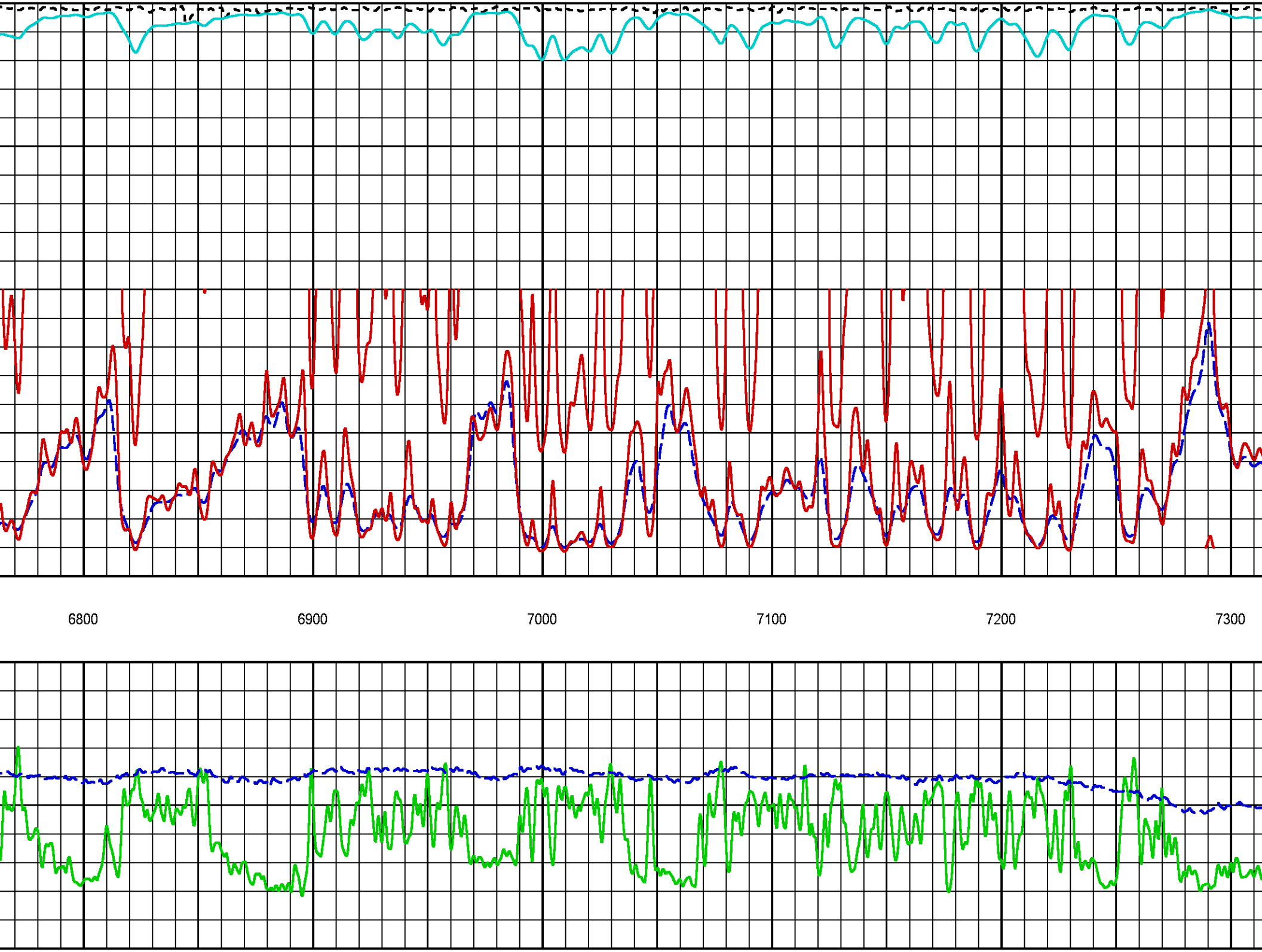
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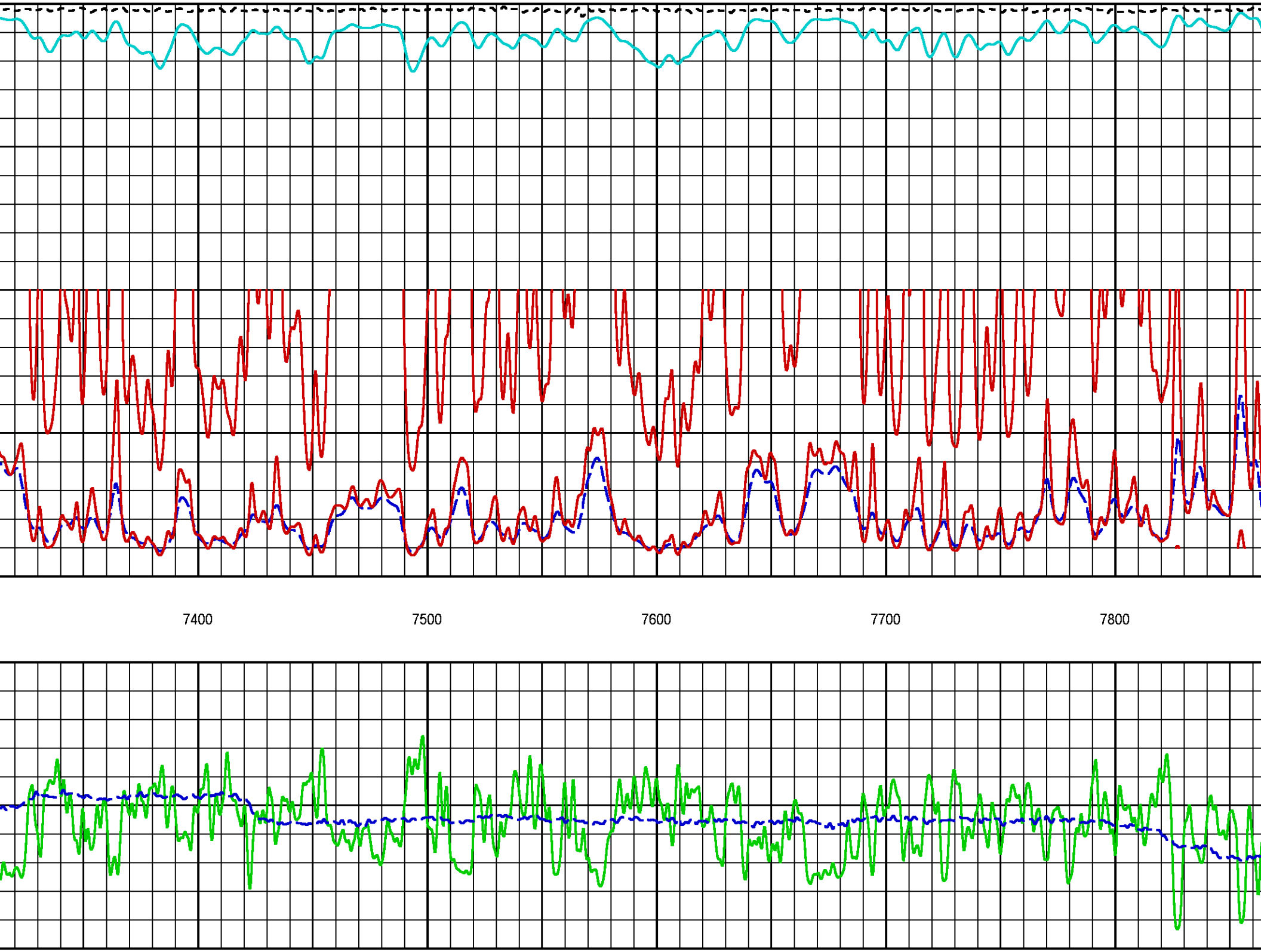
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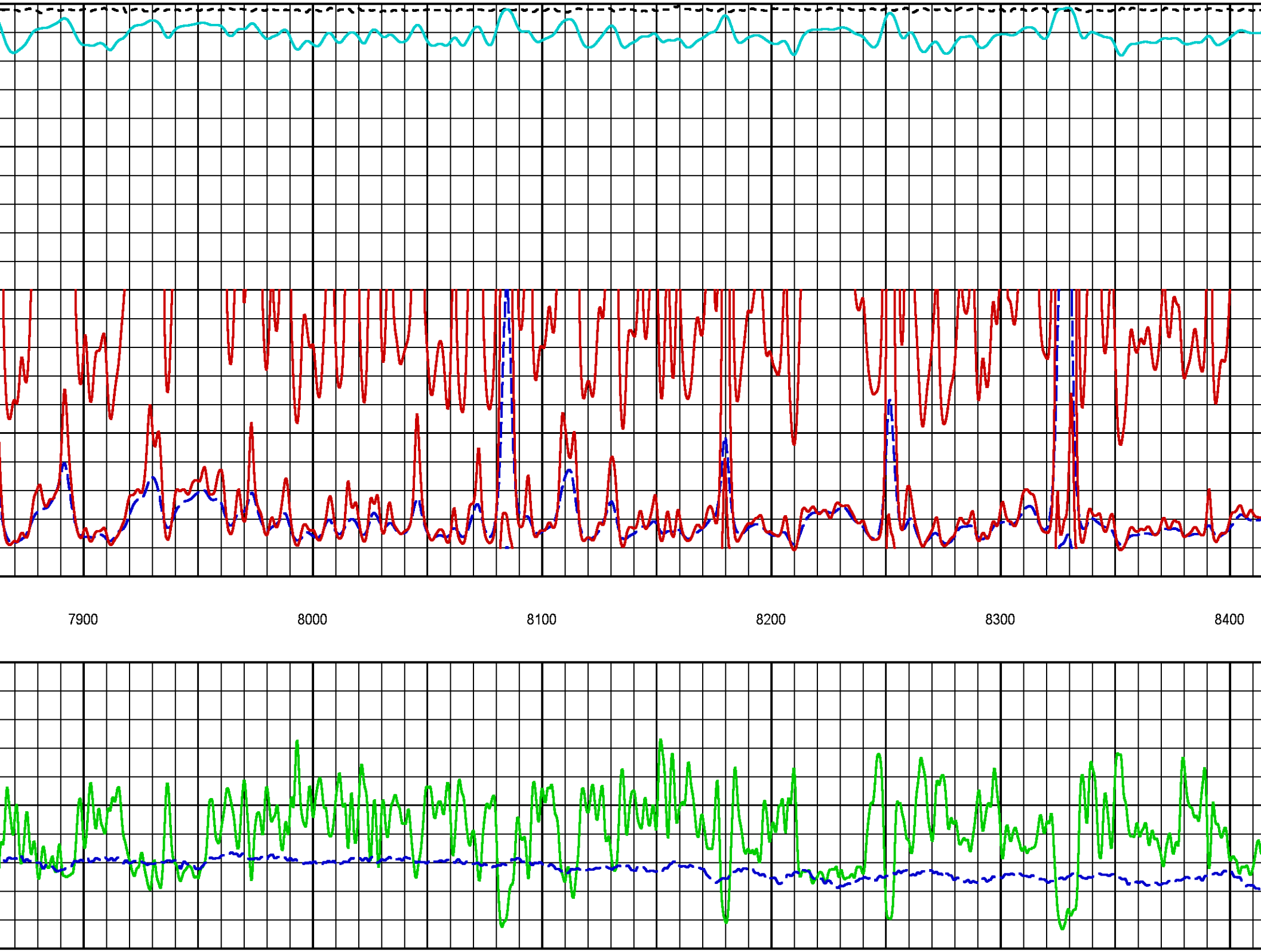
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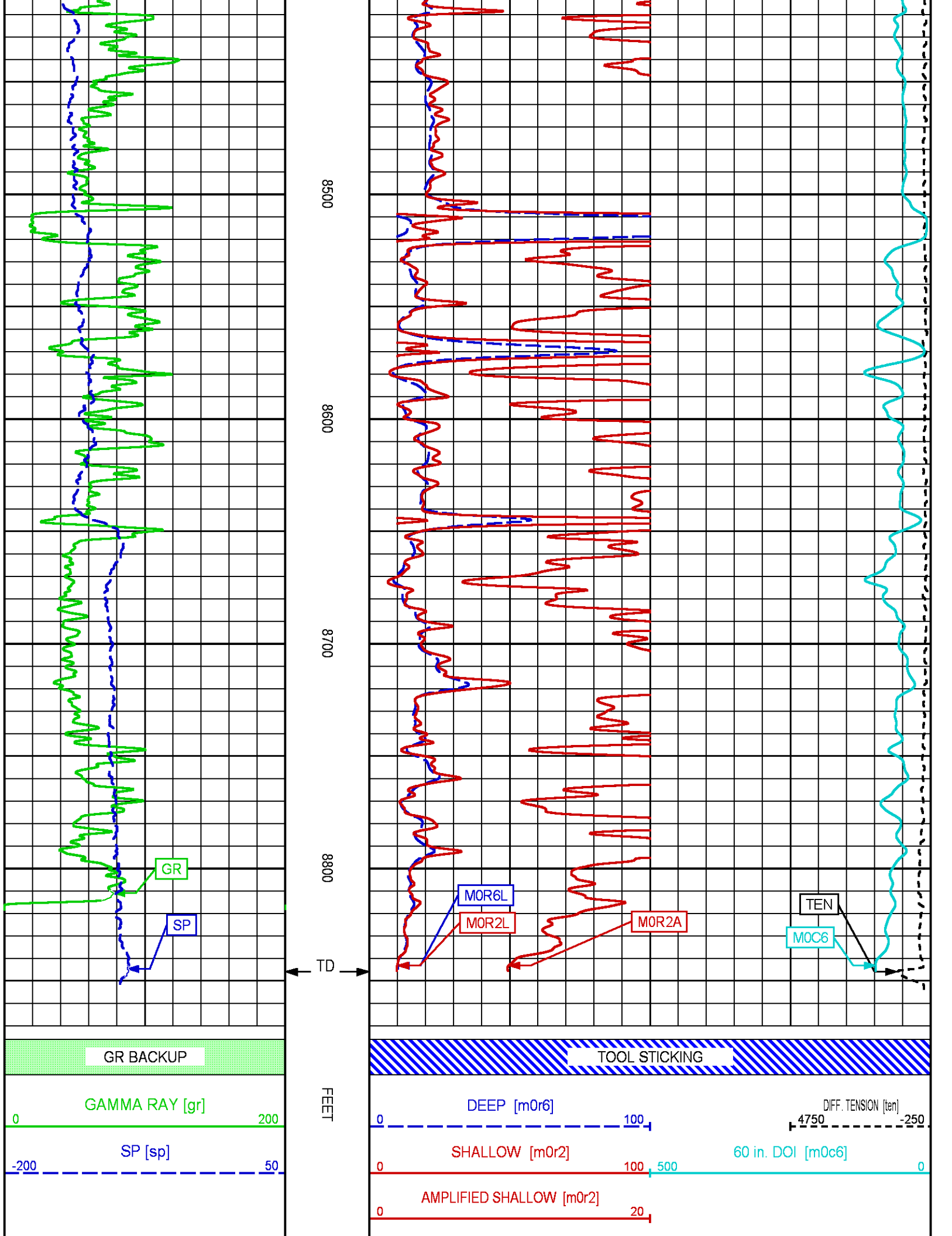
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M0R2L
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M0C6
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TOOL STICKING
GAMMA RAY [gr]
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SP [sp]
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50
FEET
DEEP [m0r6]
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100
DIFF. TENSION [ten]
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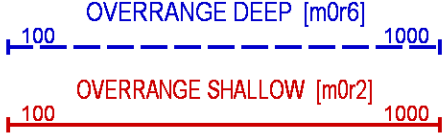


MAIN LOG 5"/100FT SCALE

ECLIPS 6.2wu1 PC-ECLIPS General Release Rel 6.2w Update 1 Fri Apr 25 10:54:53 Central Daylight Time 2014
Patches: 2

Plotted: Tue Aug 26 10:16:40 2014

PARAMETER AND FILTER SUMMARY REPORT

File: C:\dat1a\89692J\n970aR02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 3633.000 ft BOTTOM DEPTH: 8856.471 ft

SYMMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	8.750	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	8.750	in	"	"
	FIXED DIAMETER (mbh*)	8.750	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	73.0	degF	"	"
	MUD SAMPLE RES	1.560	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	73.0	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	600	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"

	STANDOFF AMOUNT	0.00	in		
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	8.750	in	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	Air Filled Borehole	NO		TOP	BOTTOM
	RHOmatrix	2.680	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"

HDIL PROCESSING

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

CURVE DESCRIPTION REPORT

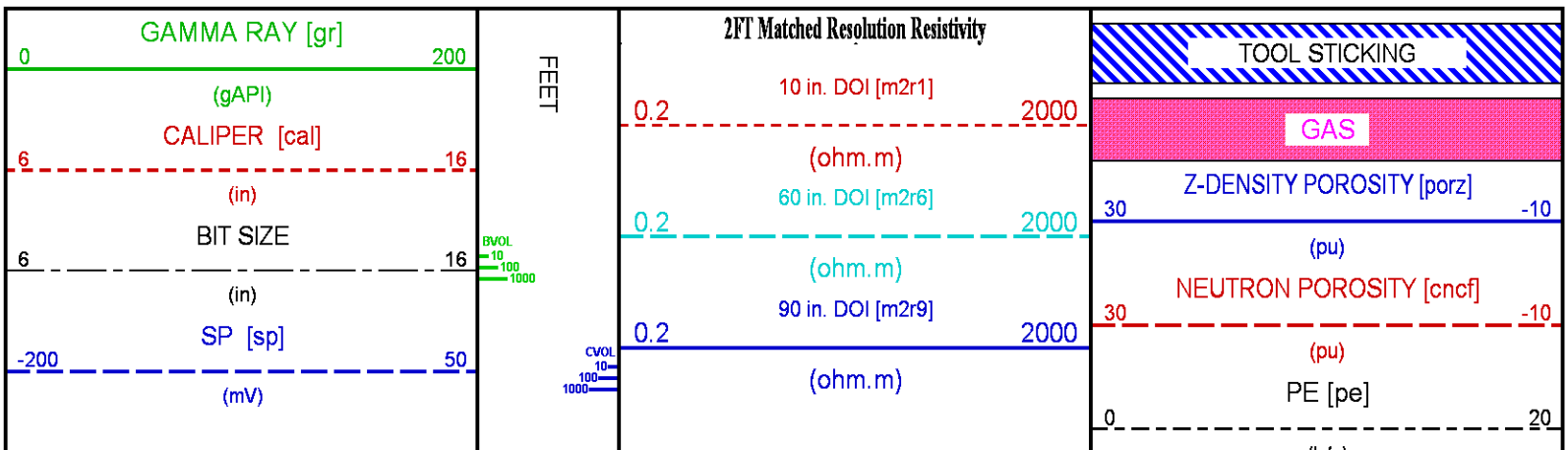
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Aug 26 10:02:55 2014	BIT SIZE
F1:BVOL	Aug 26 10:02:55 2014	BOREHOLE VOLUME
F1:CAL	Aug 26 10:02:55 2014	CALIPER
F1:CNCF	Aug 26 10:02:55 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Aug 26 10:02:55 2014	CEMENT VOLUME
F1:GR	Aug 26 10:02:55 2014	GAMMA RAY
F1:M2R1	Aug 26 10:02:55 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Aug 26 10:02:55 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Aug 26 10:02:55 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Aug 26 10:02:55 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Aug 26 10:02:55 2014	POROSITY FOR SELECTABLE MATRIX
F1:SP	Aug 26 10:02:55 2014	SPONTANEOUS POTENTIAL
F1:TEN	Aug 26 10:02:55 2014	DIFFERENTIAL TENSION
F1:ZCOR	Aug 26 10:02:55 2014	DENSITY CORRECTION

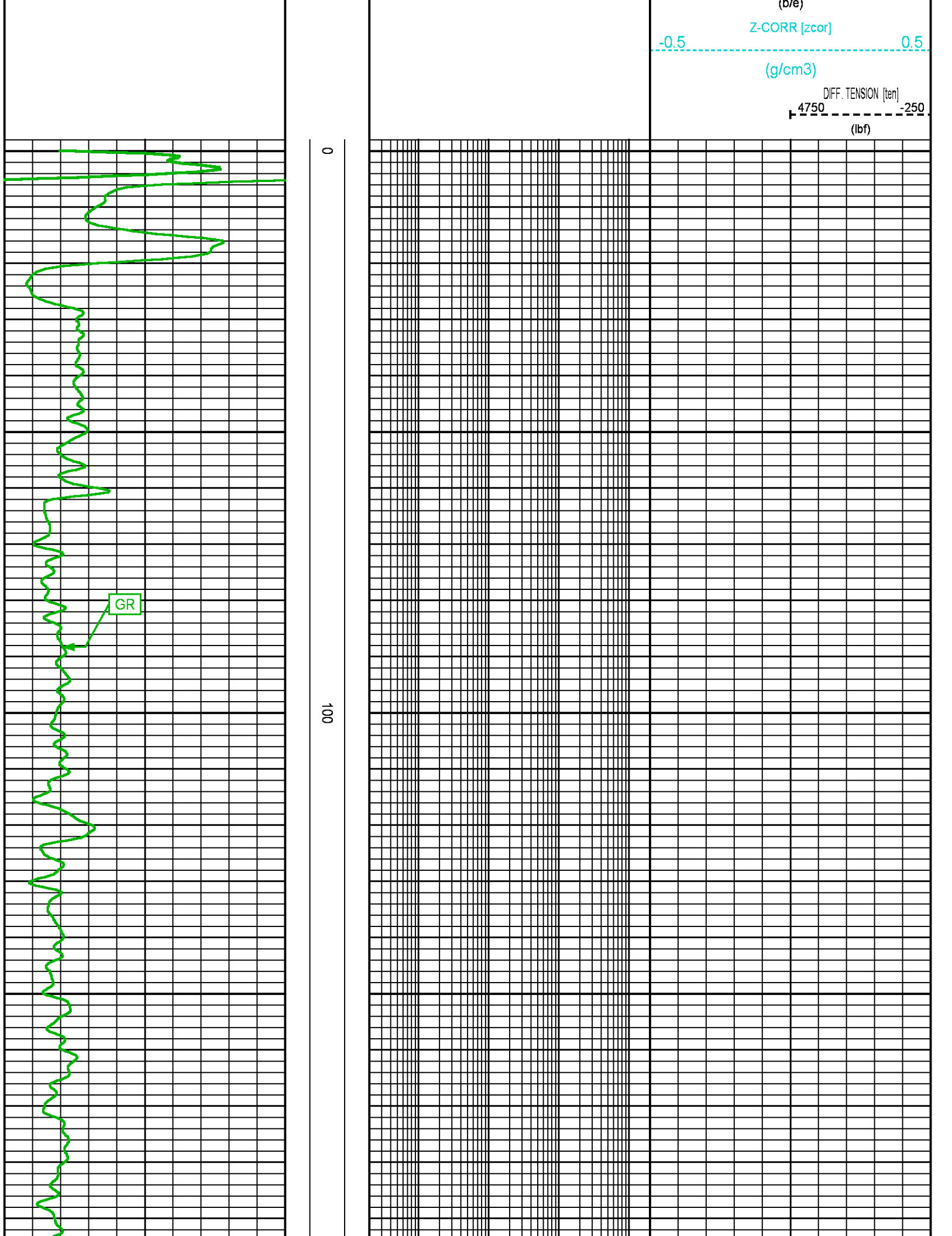
CURVE MEASURE POINT OFFSET

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	18.13	M2R1	2.75	PE	18.00	TEN	0.00
CNCF	27.38	M2R6	2.75	PORZ	18.00	ZCOR	18.00

Presentation : BHID26LKX1:C:\dat1a\89692J\WPX_RMAIN.fvpdf [5"/100' Scale]
Plot Interval : -1.75 - 8861 Feet

Data File 1 : F1 : BHID26LKX1:C:\dat1a\89692J\n970asRMAIN.xtf
Created On : Aug 26 09:53:55 2014
Company : Baker Hughes Wireline
Well : Marcus Gist No. 11
Field : Headlee, North Clearfork
File Interval : -1.75 - 8861 Feet
OCT : n970a

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(g/cm3)
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(lbf)
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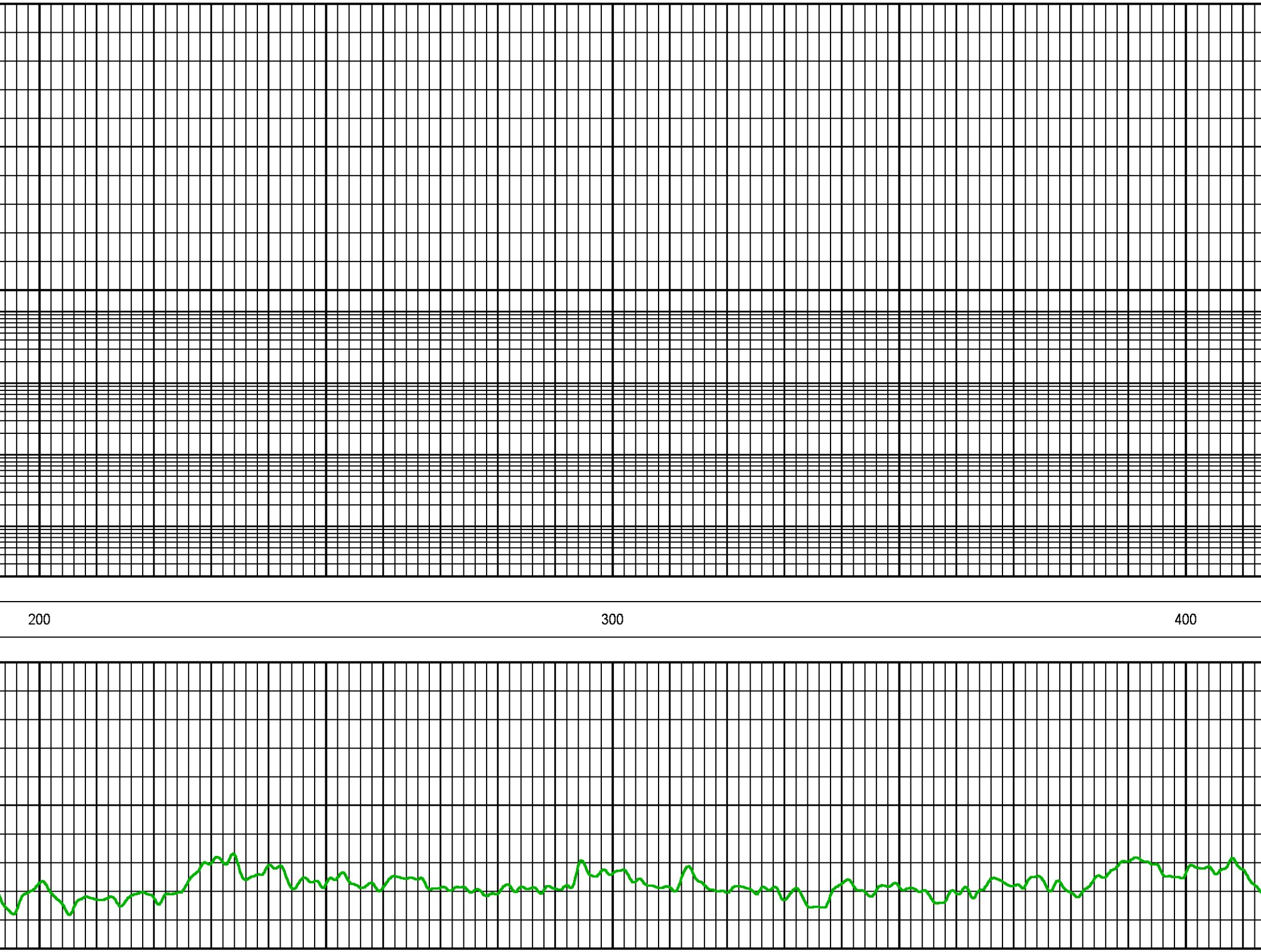
GR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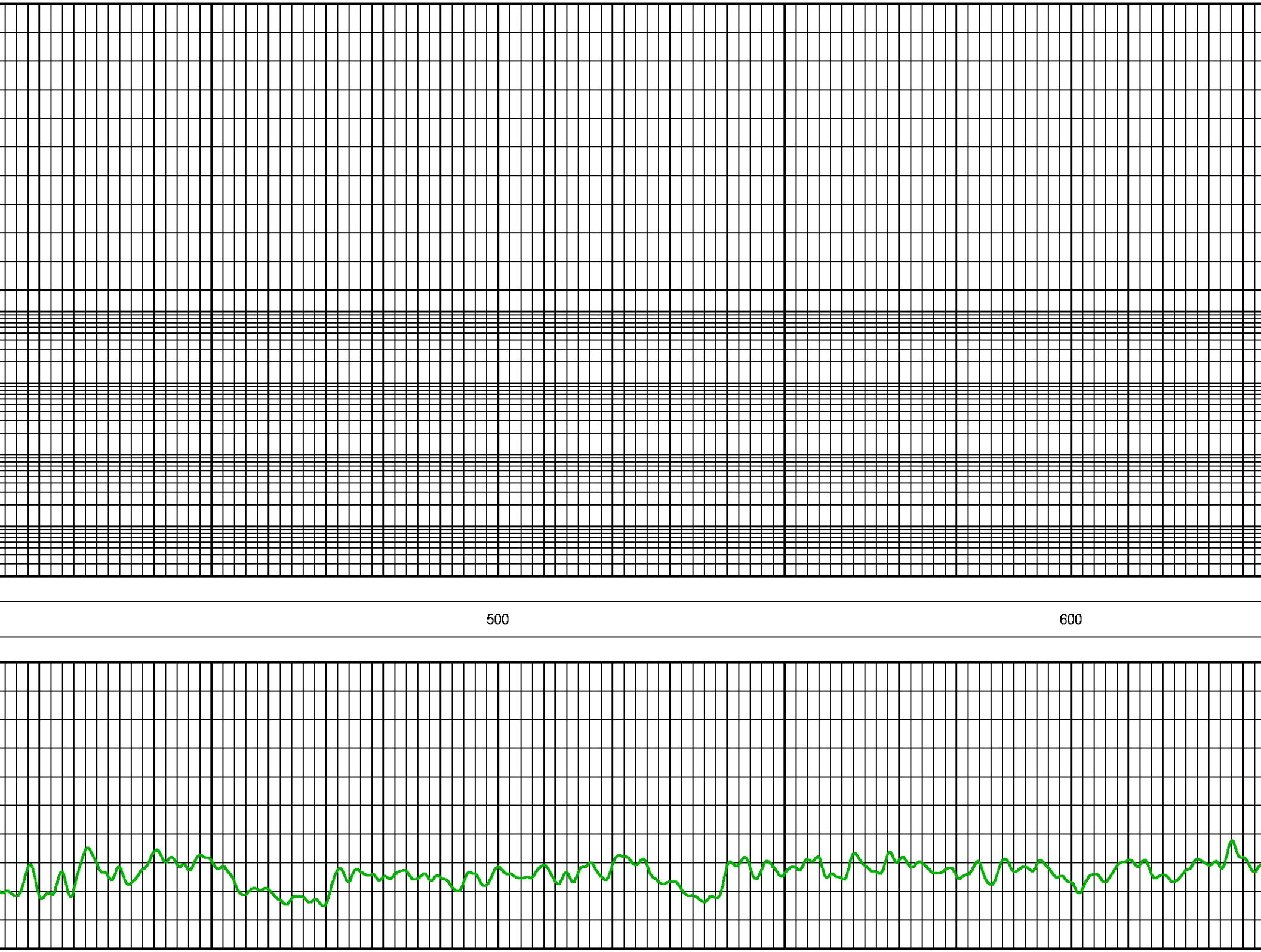
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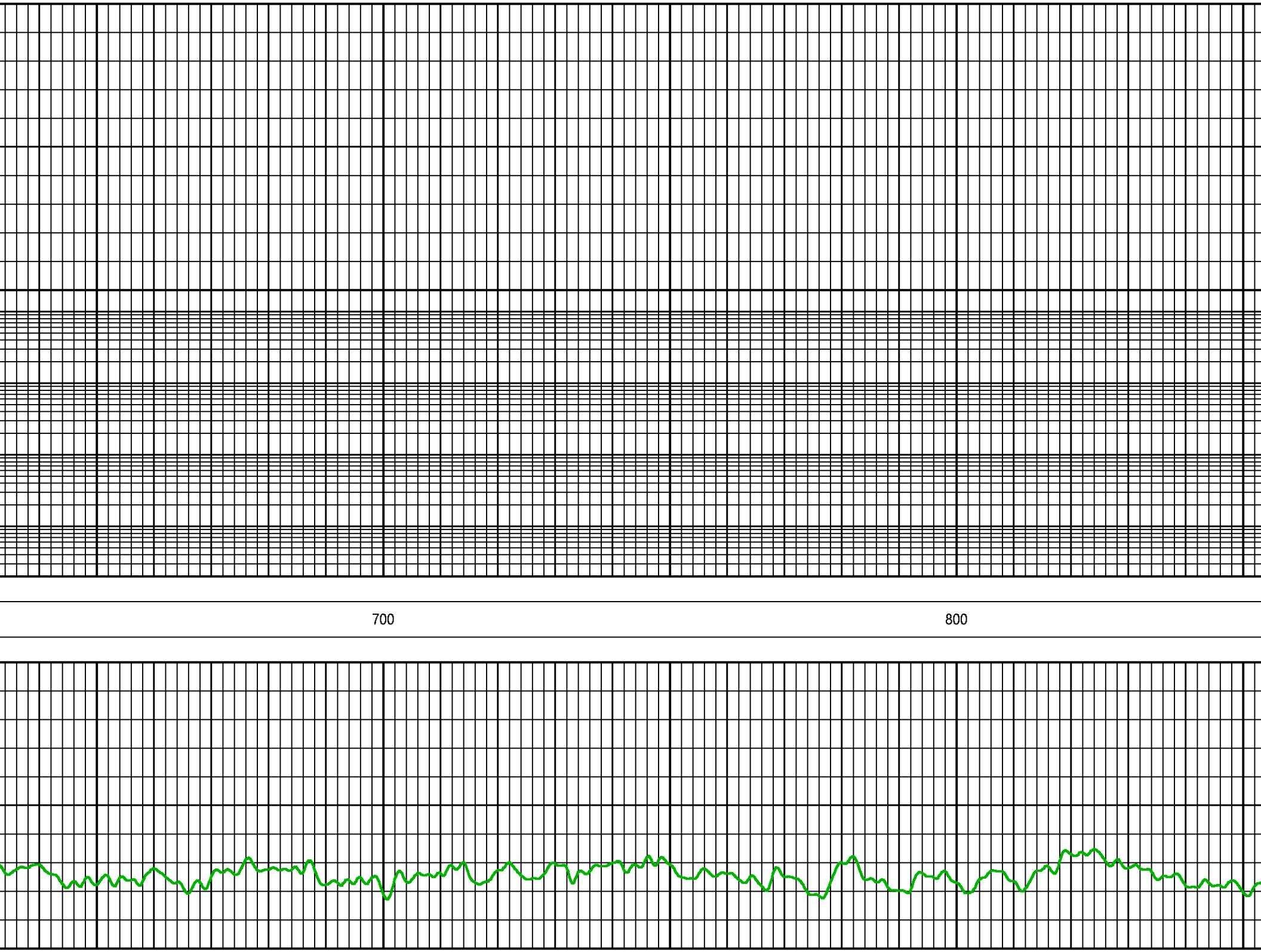
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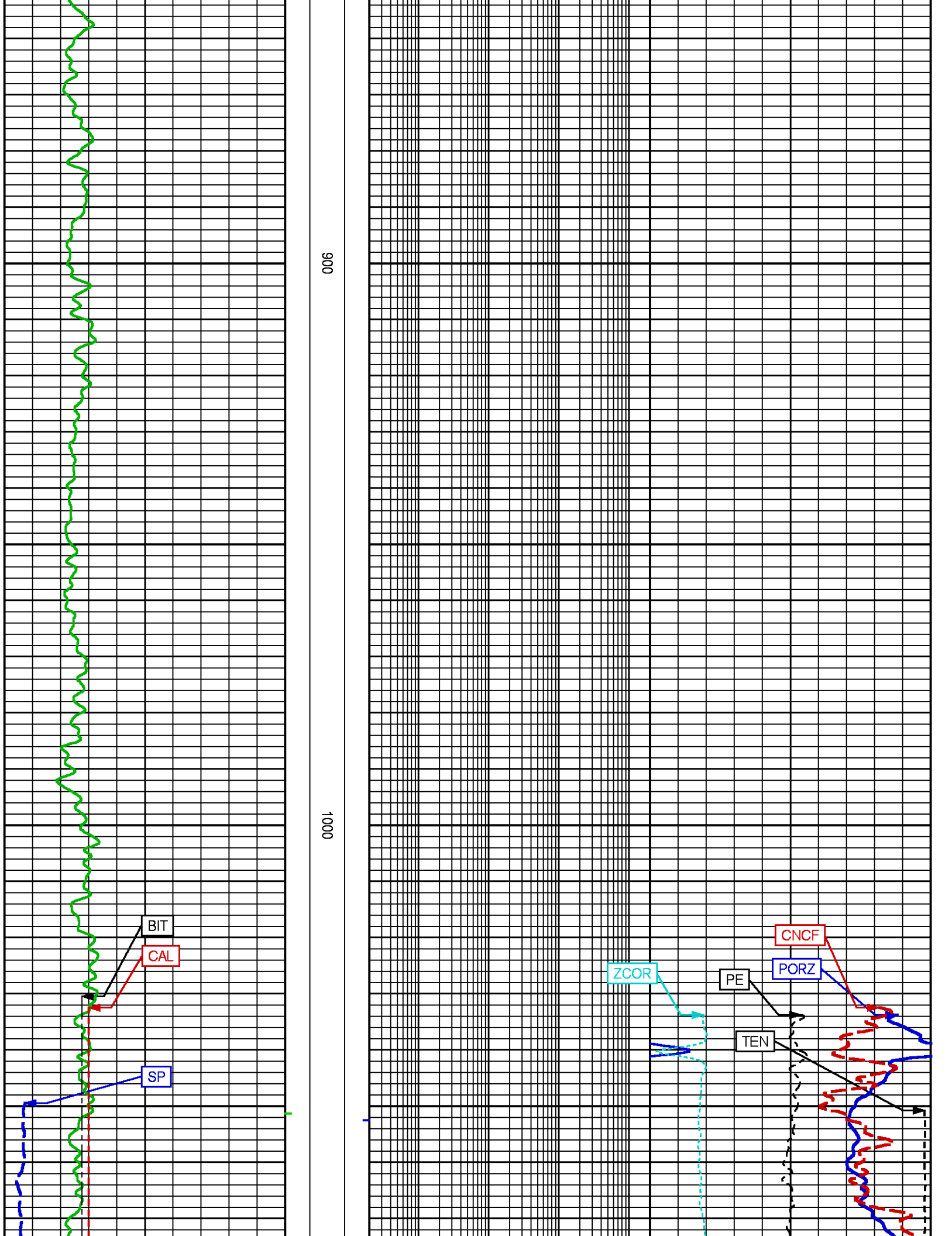
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CNCF
PORZ
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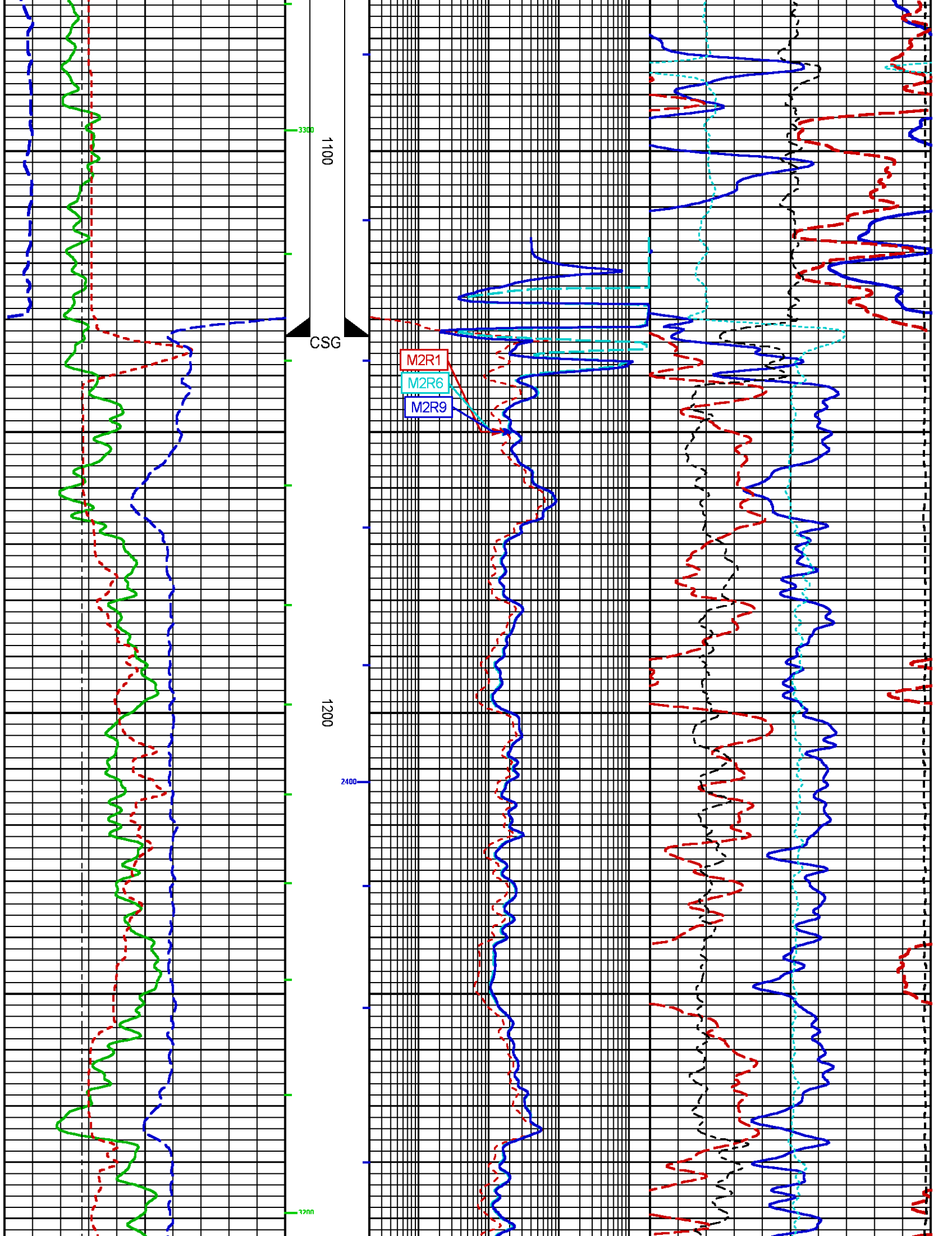
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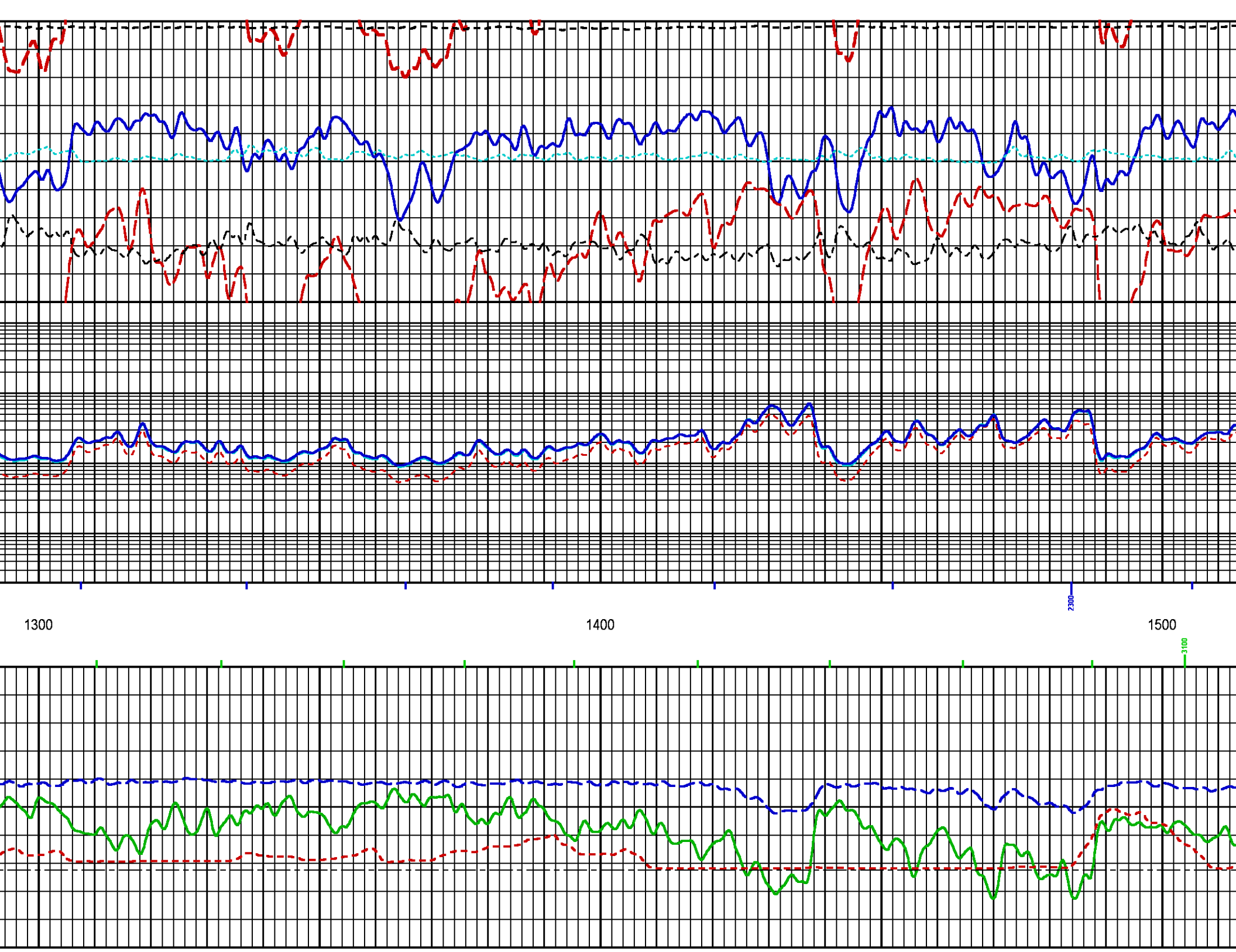
M2R1
M2R6
M2R9
1200
2400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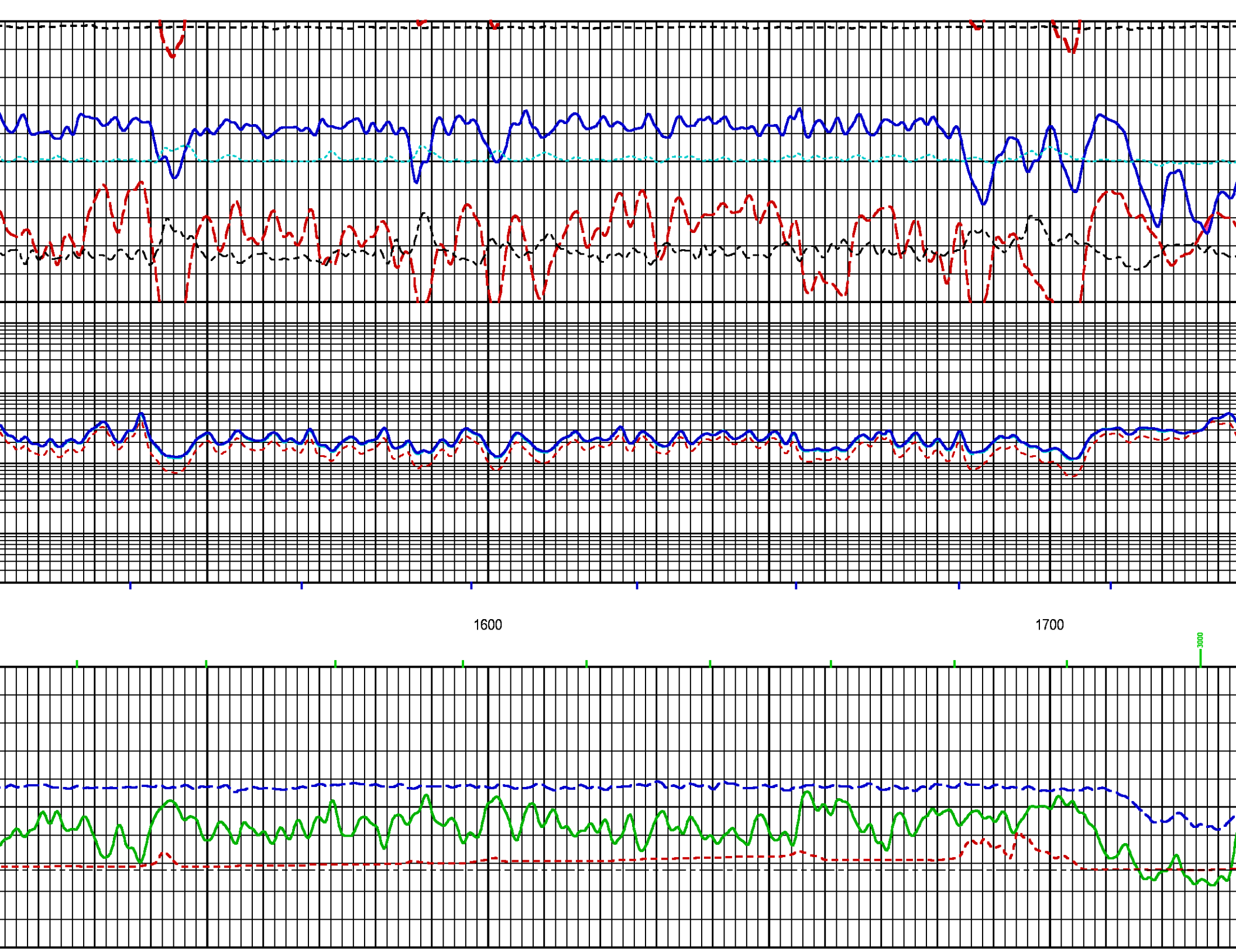
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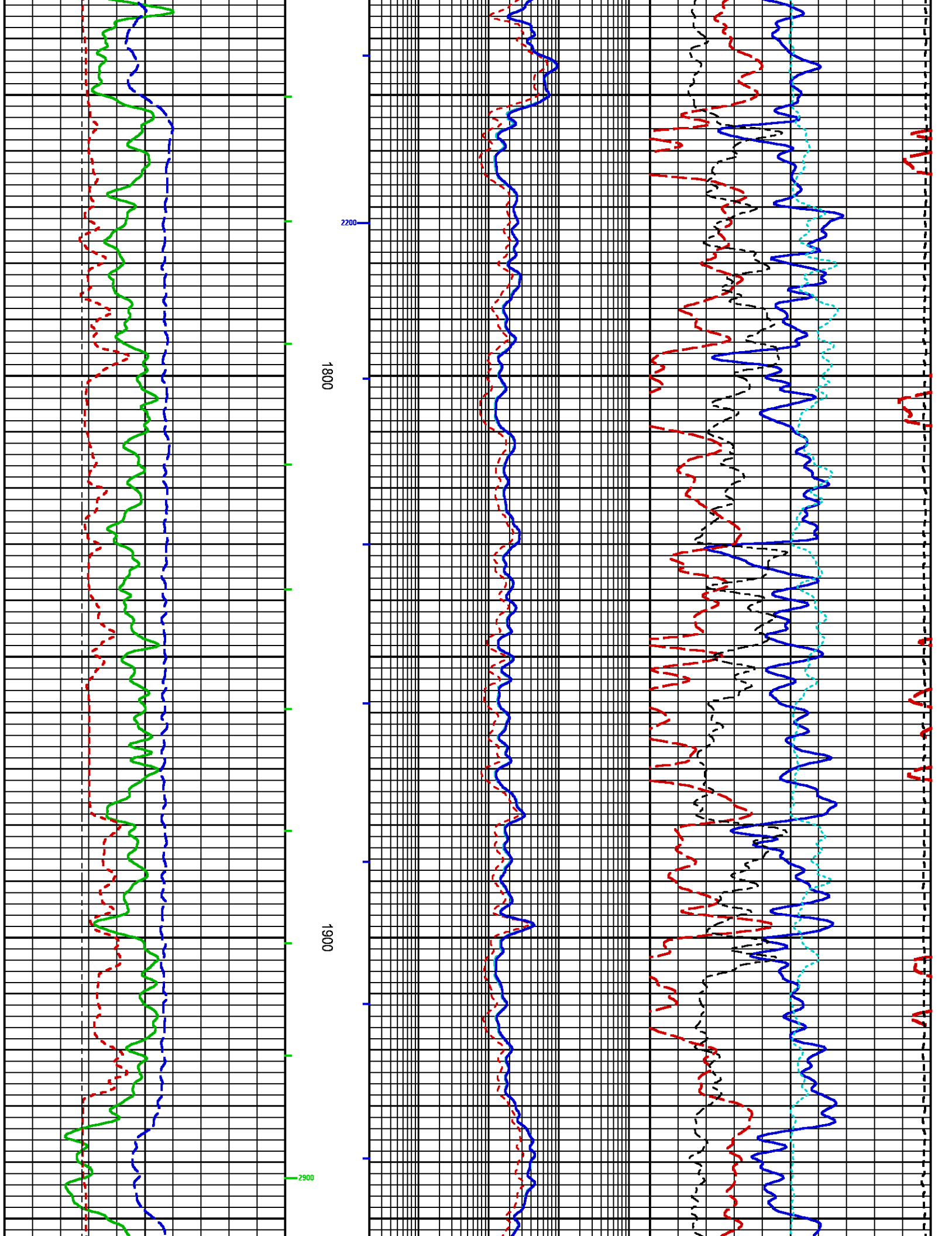
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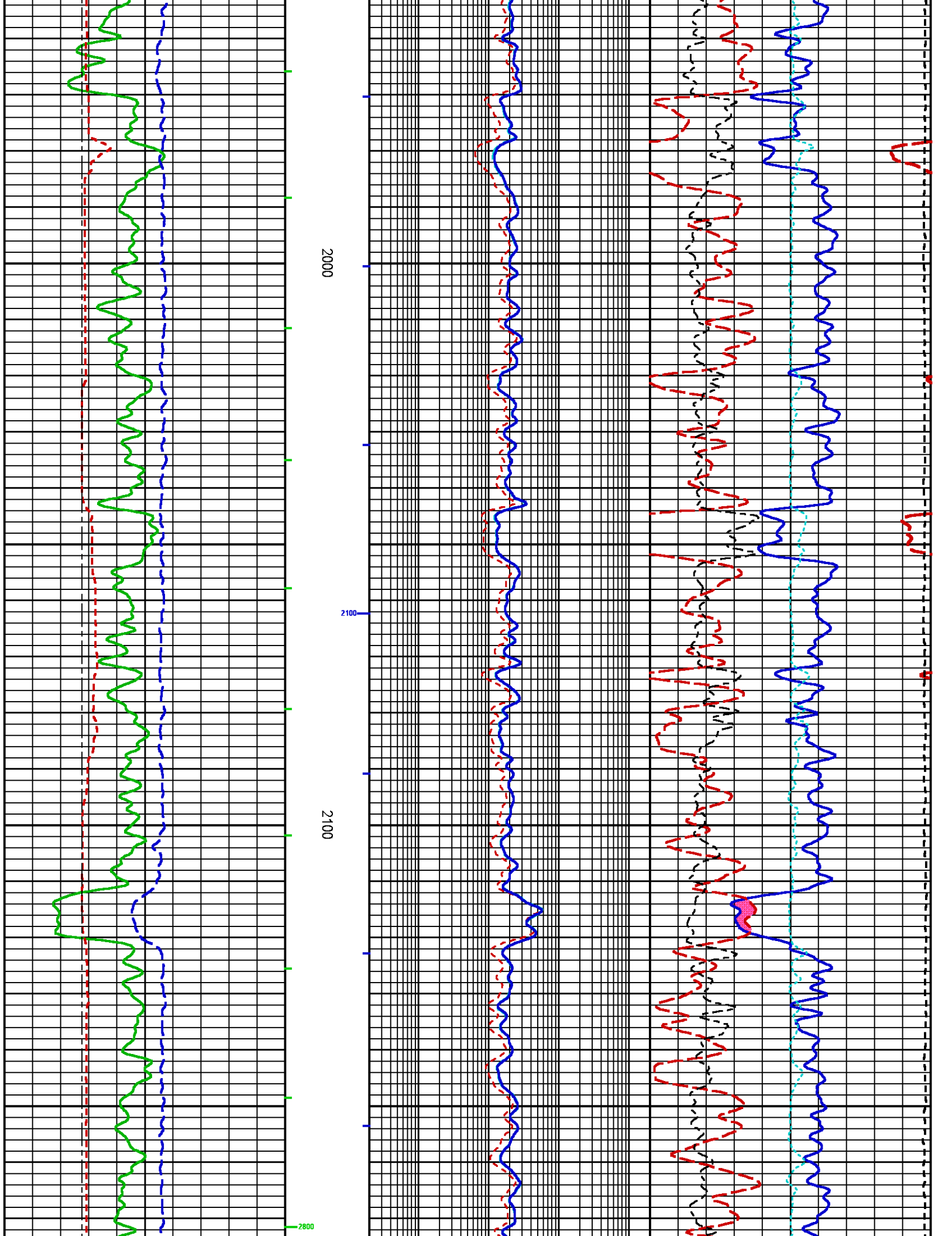
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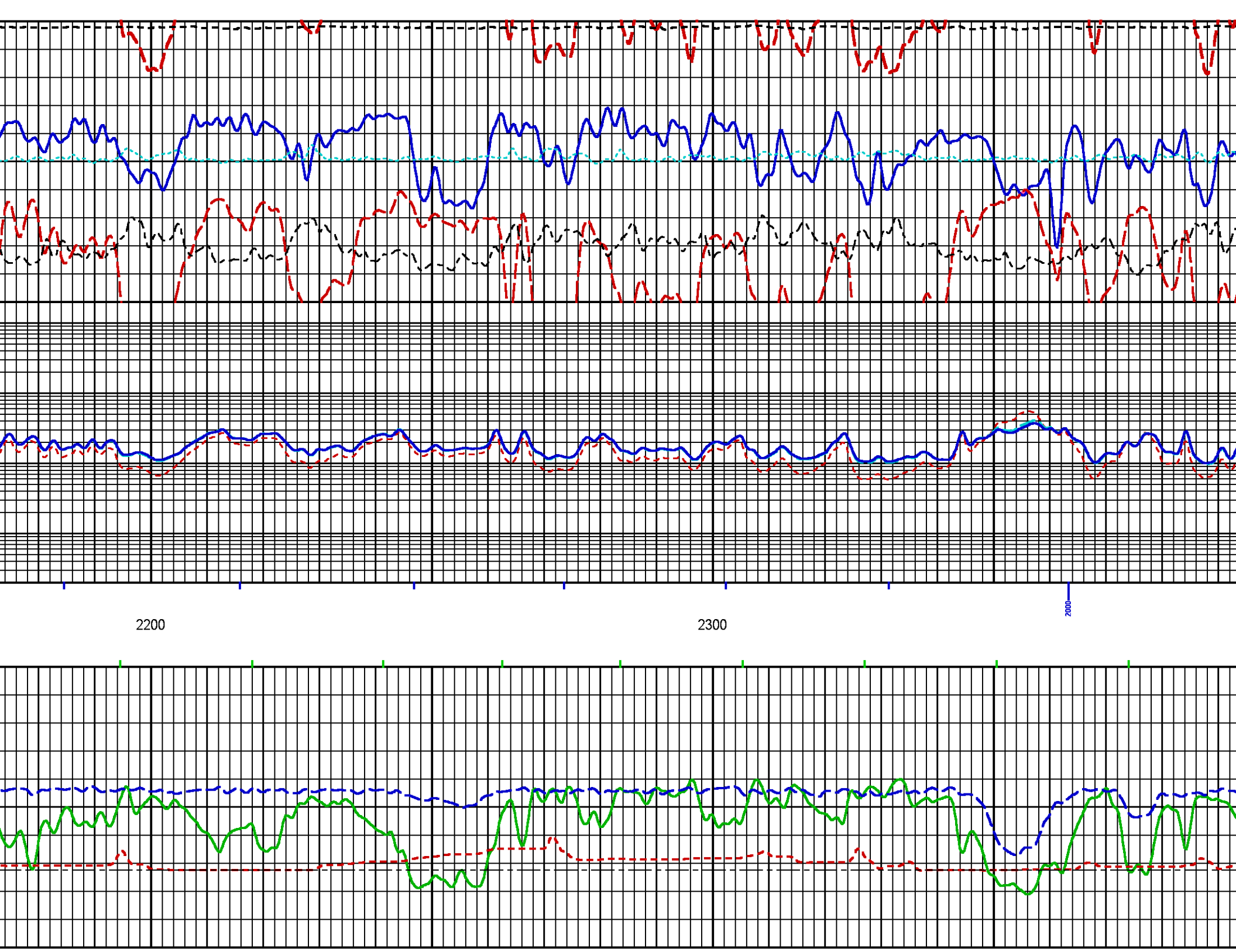
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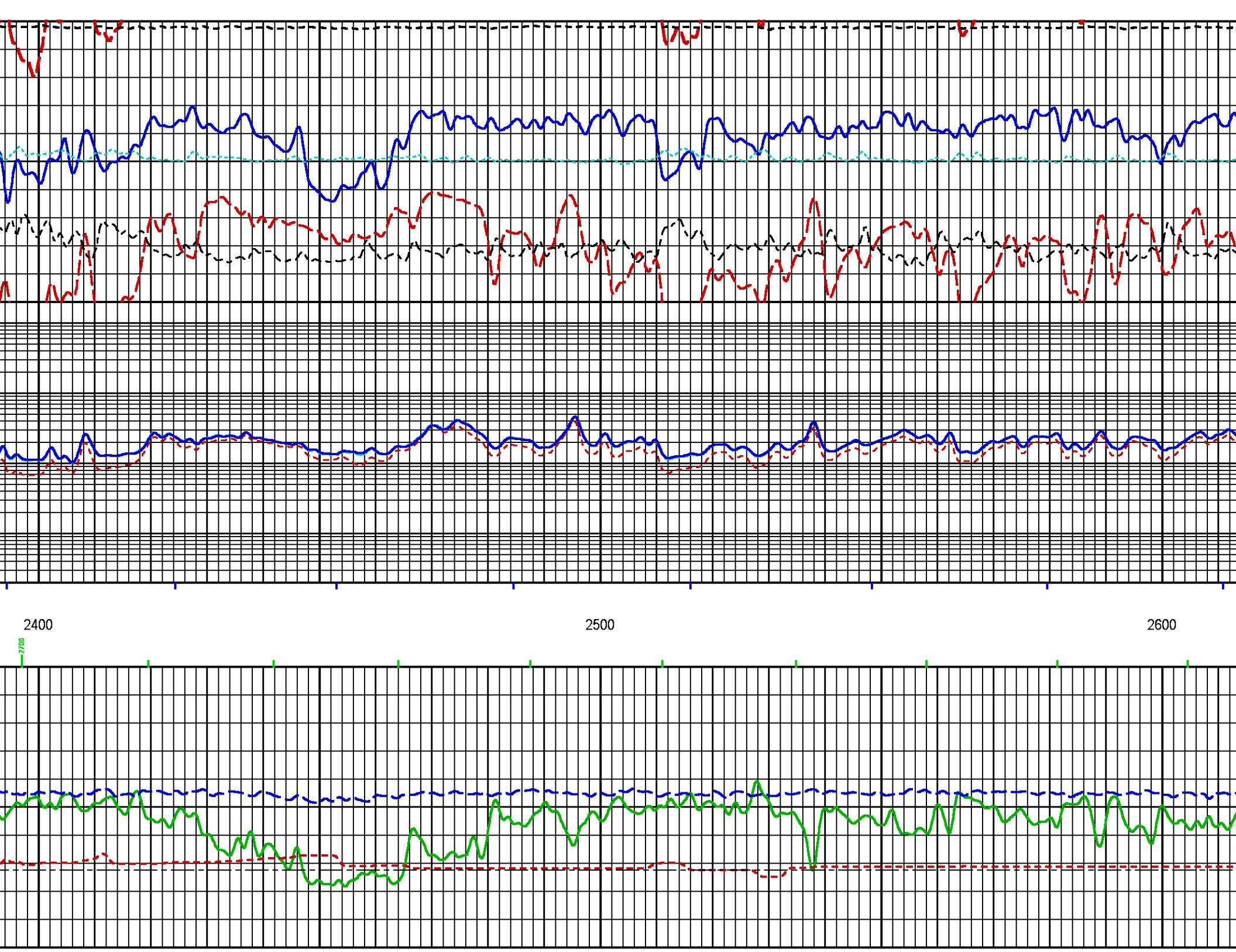
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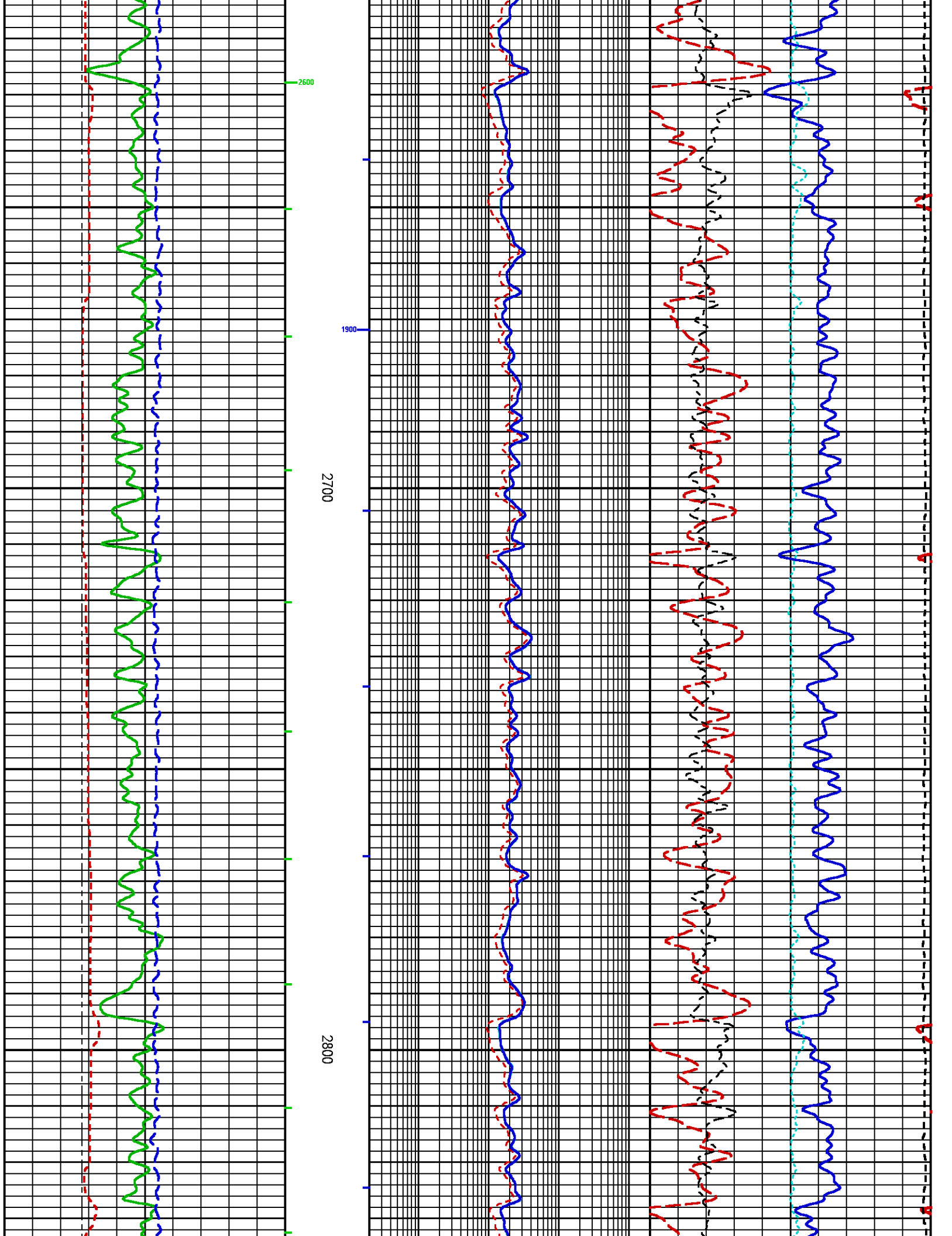
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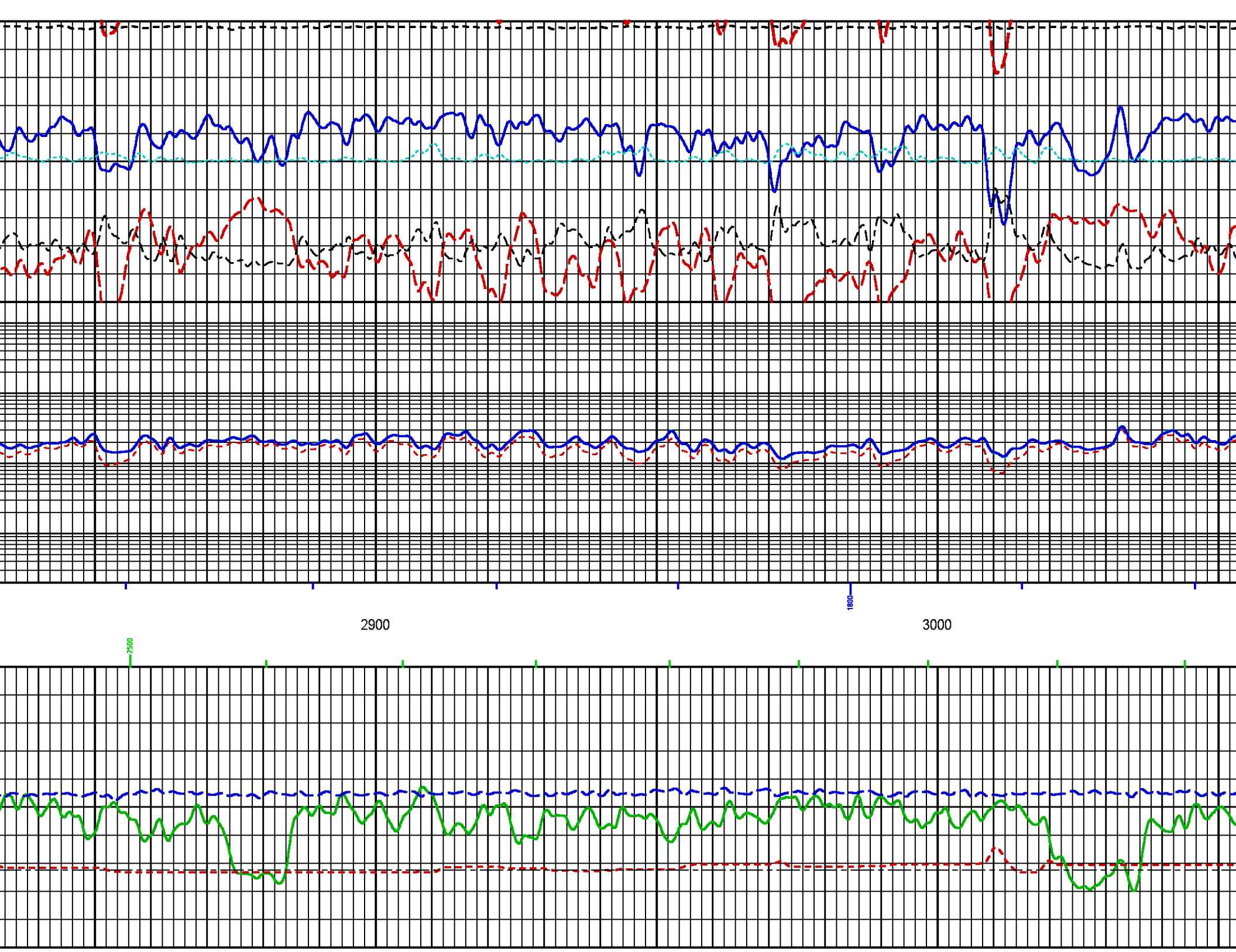
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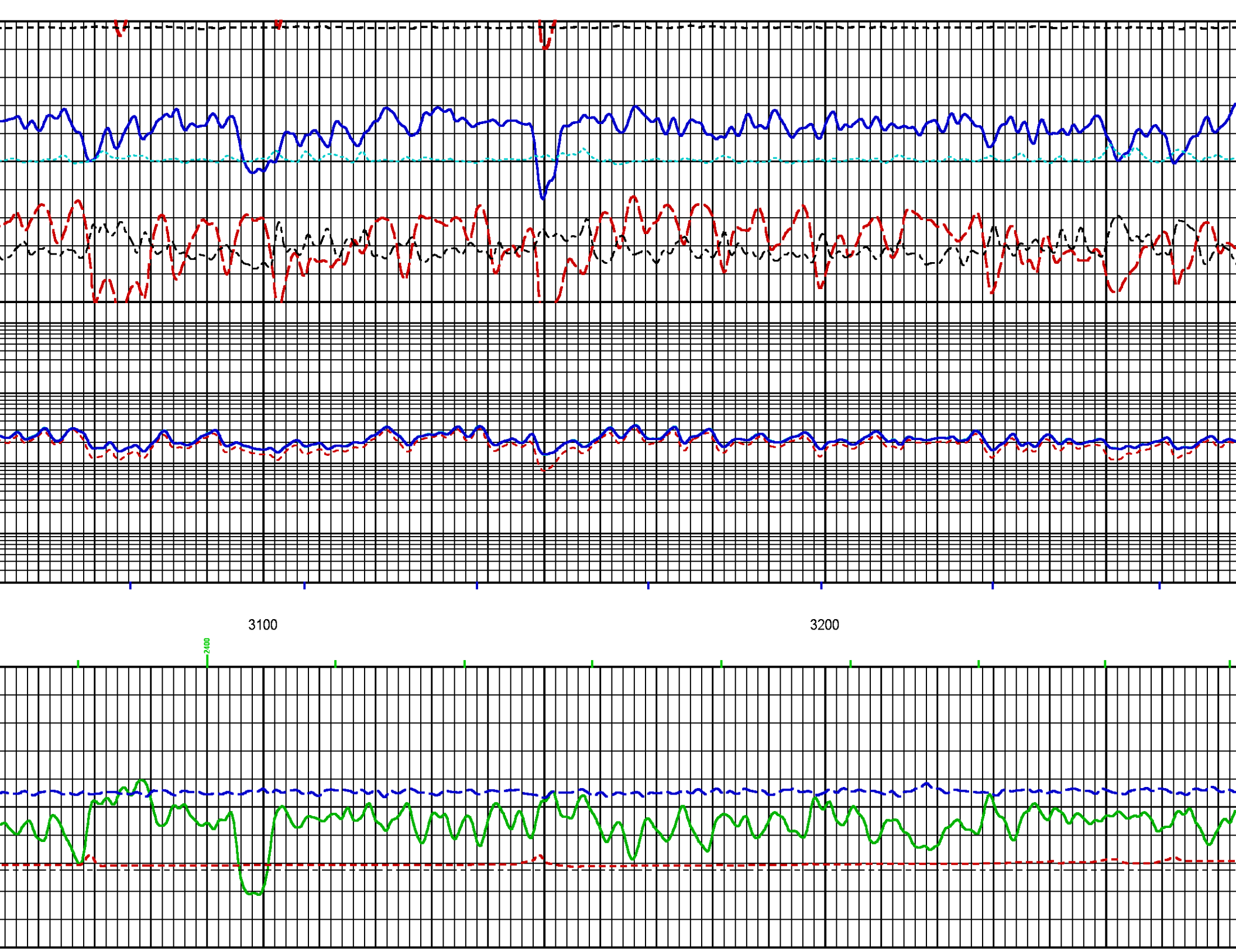
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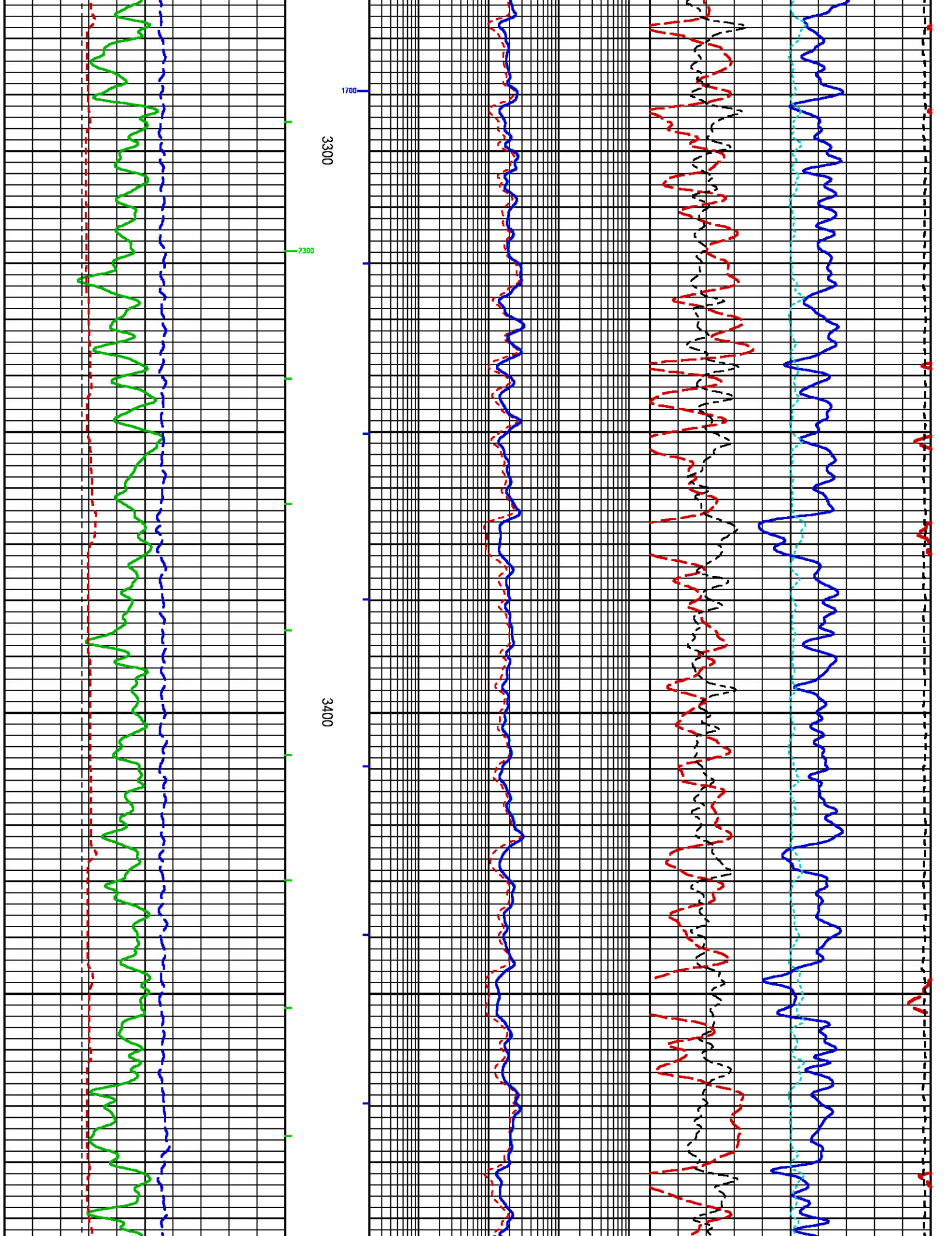
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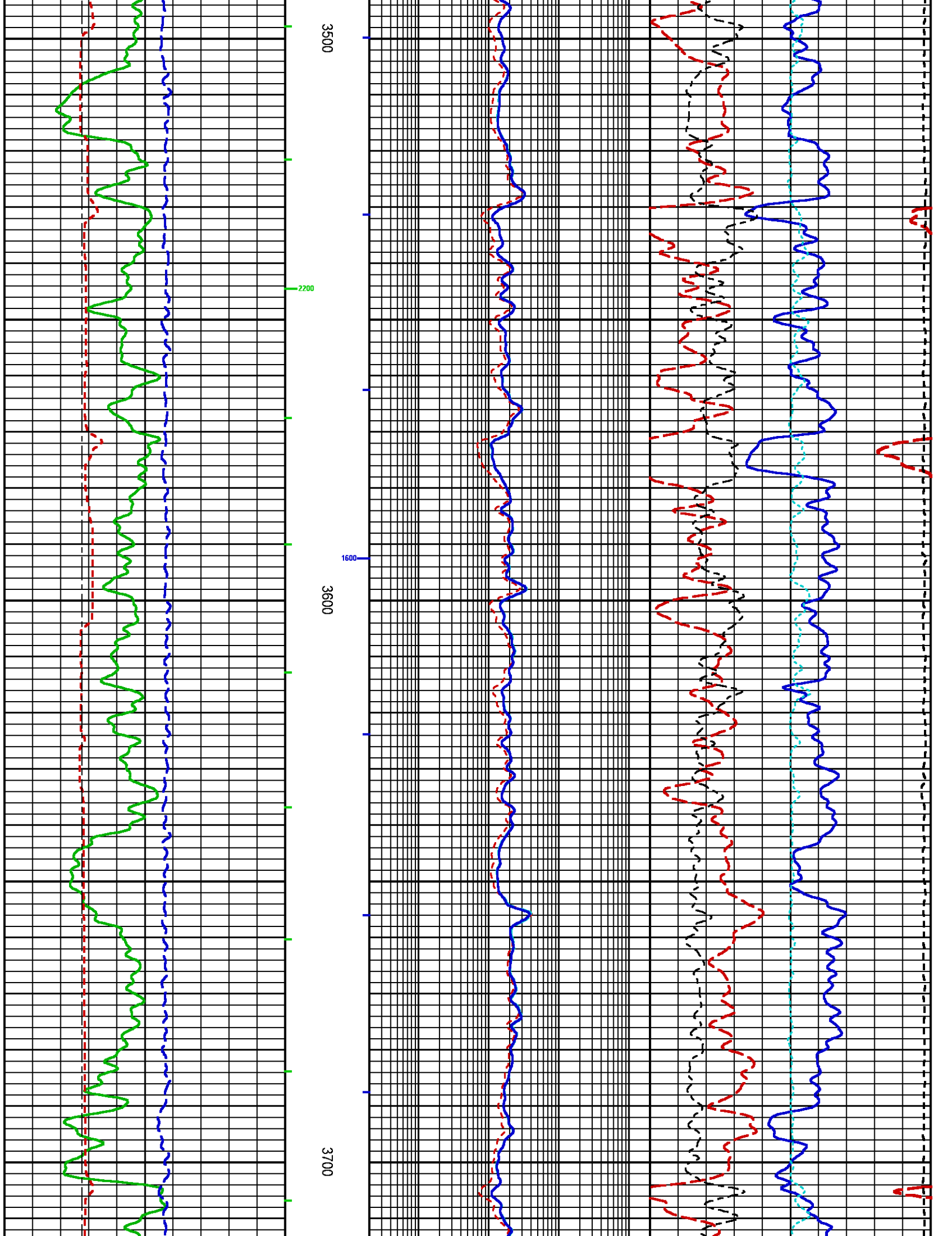
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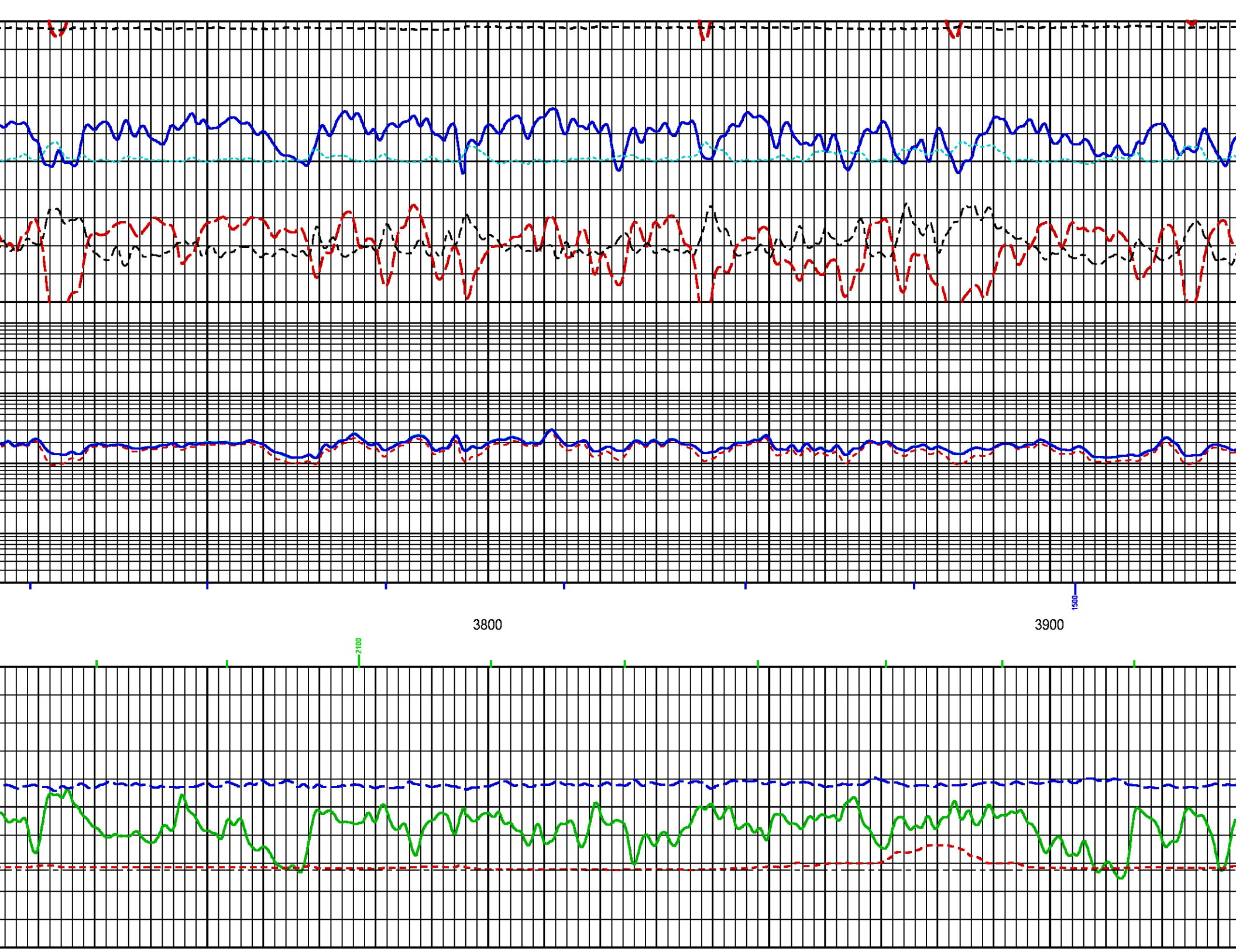
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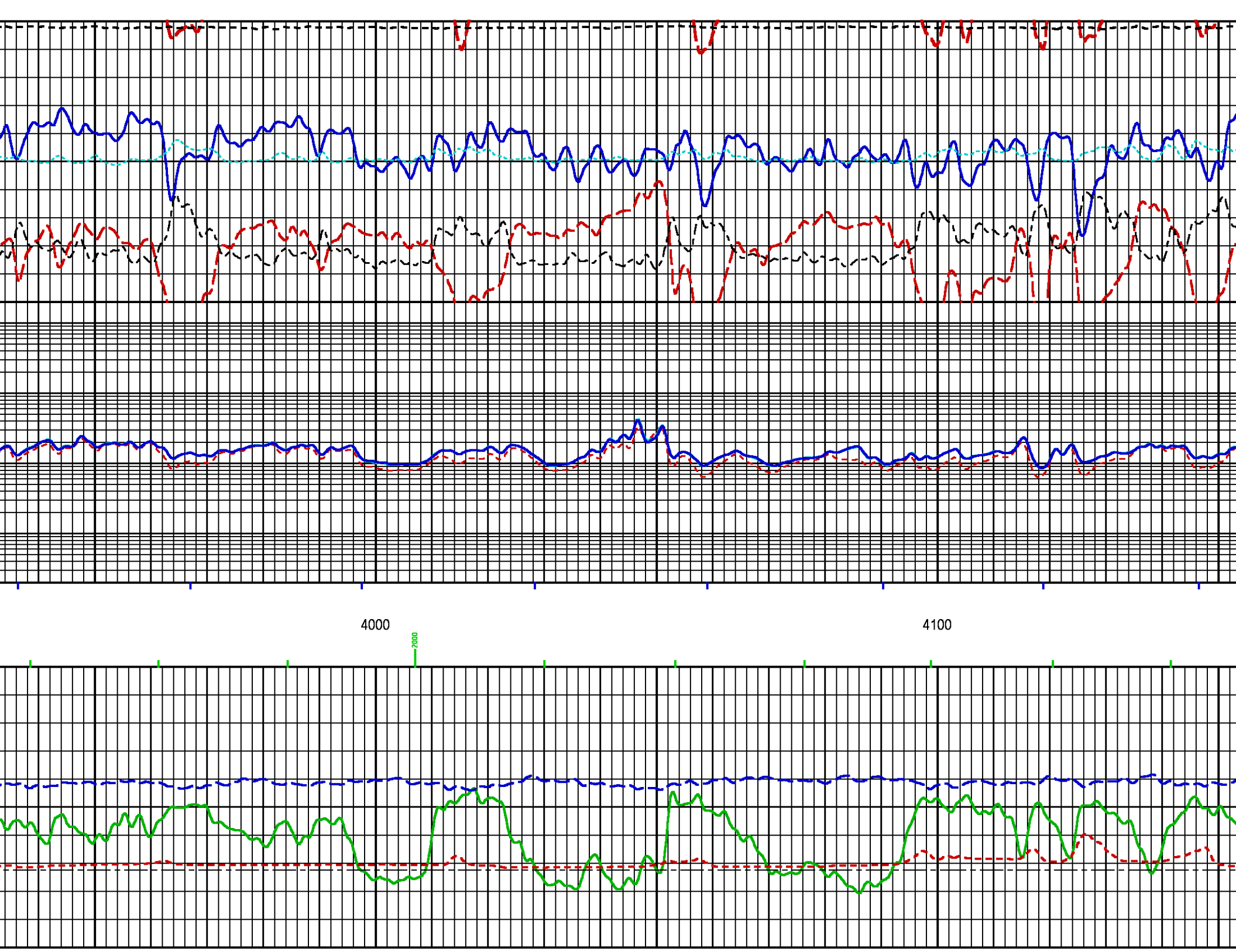
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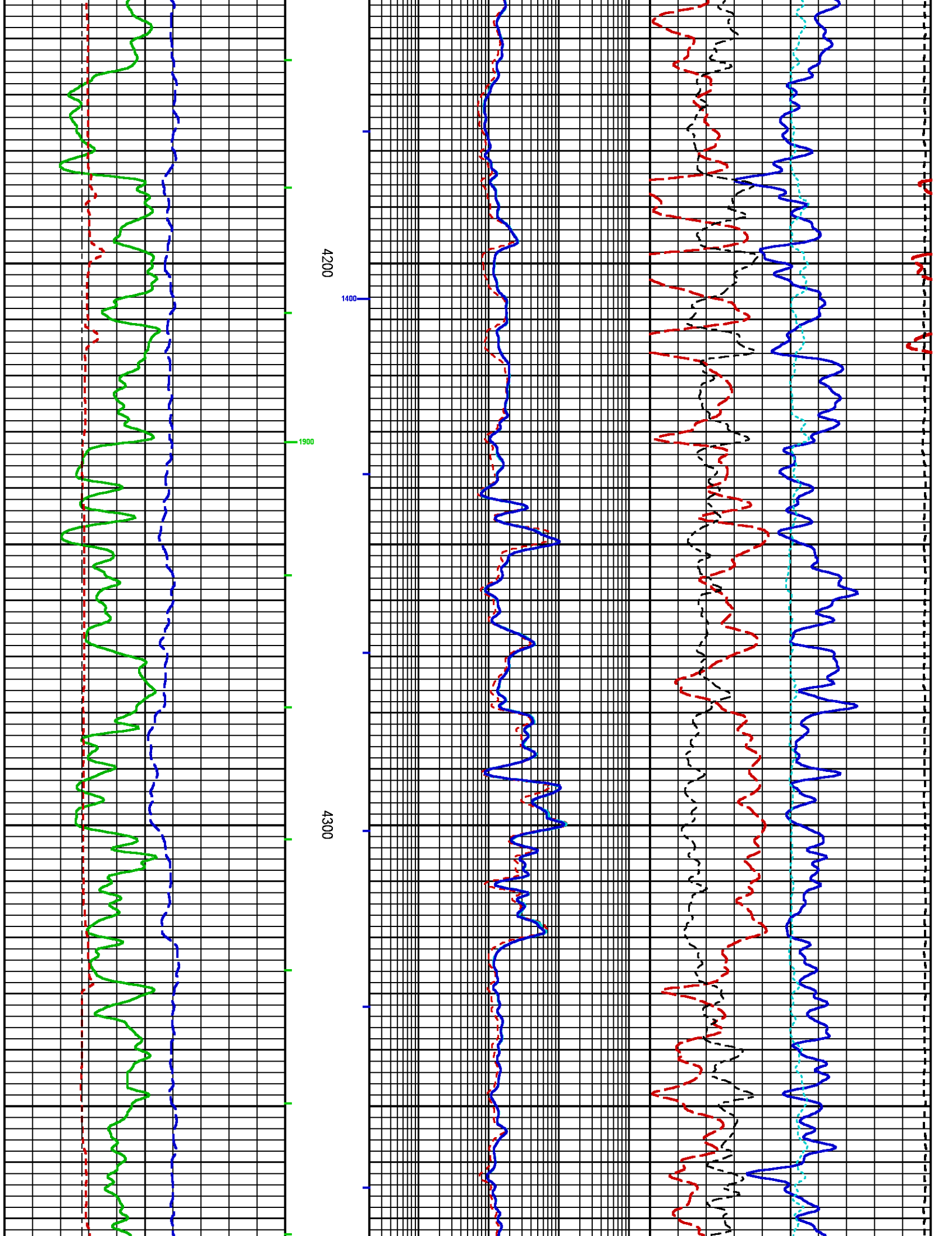
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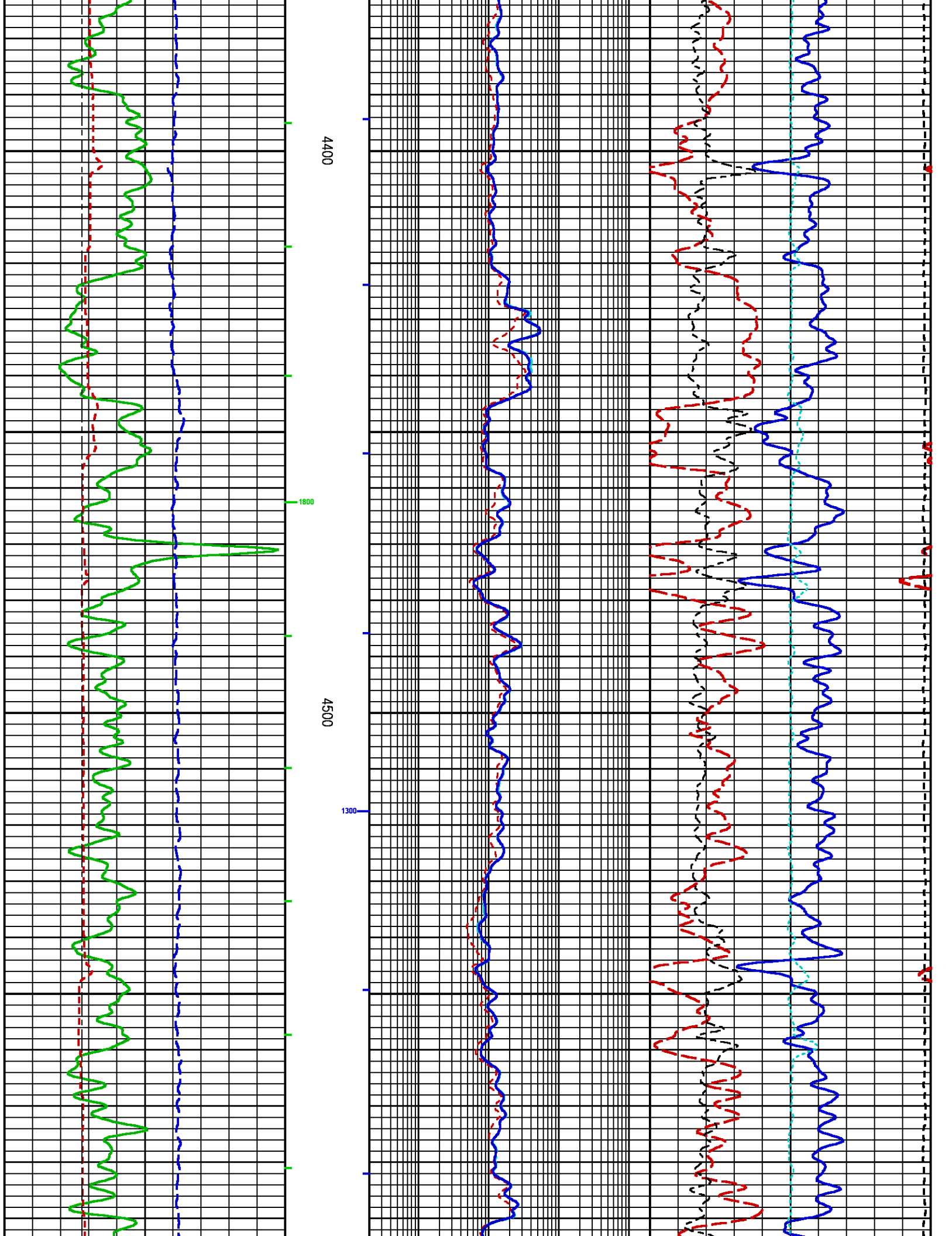
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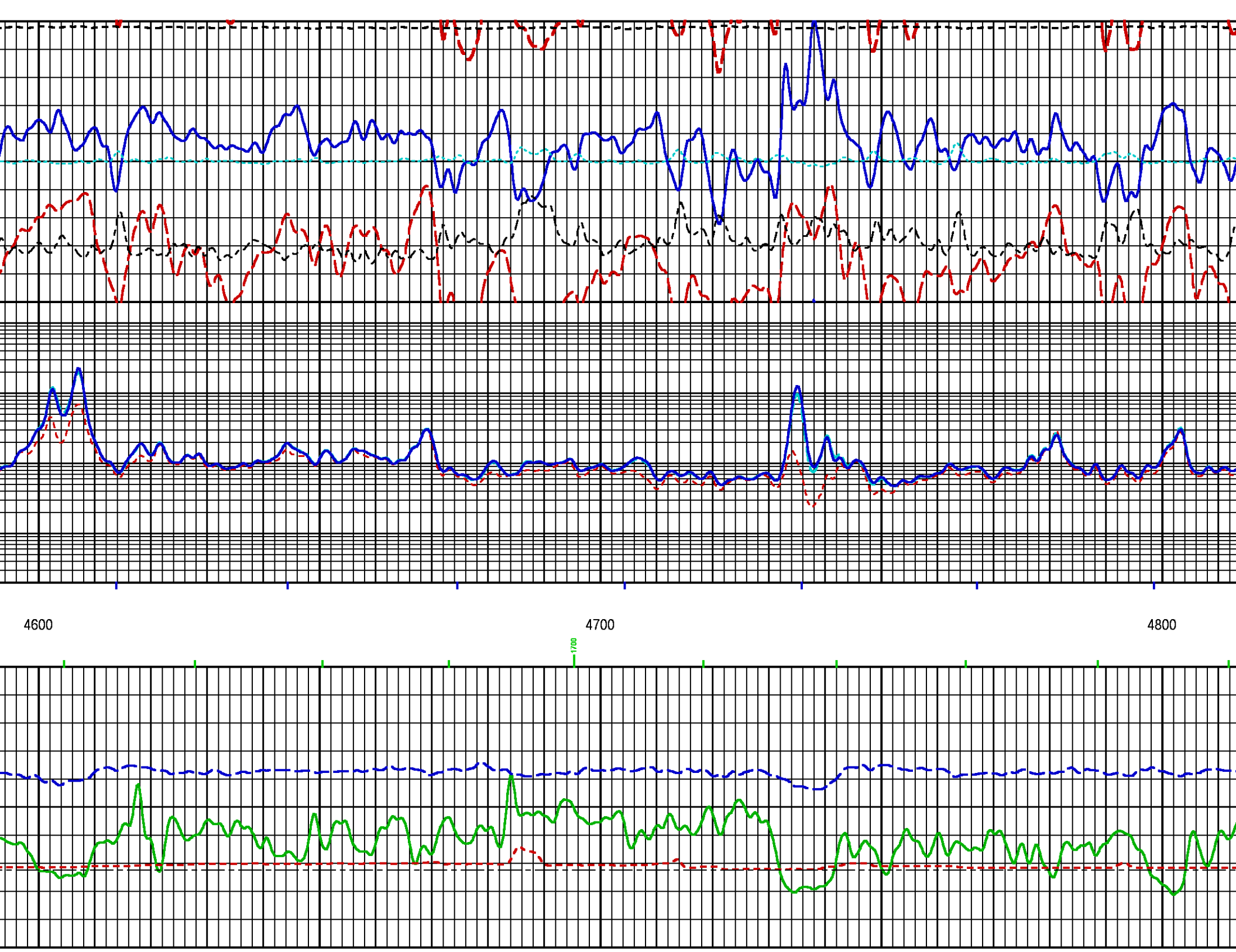
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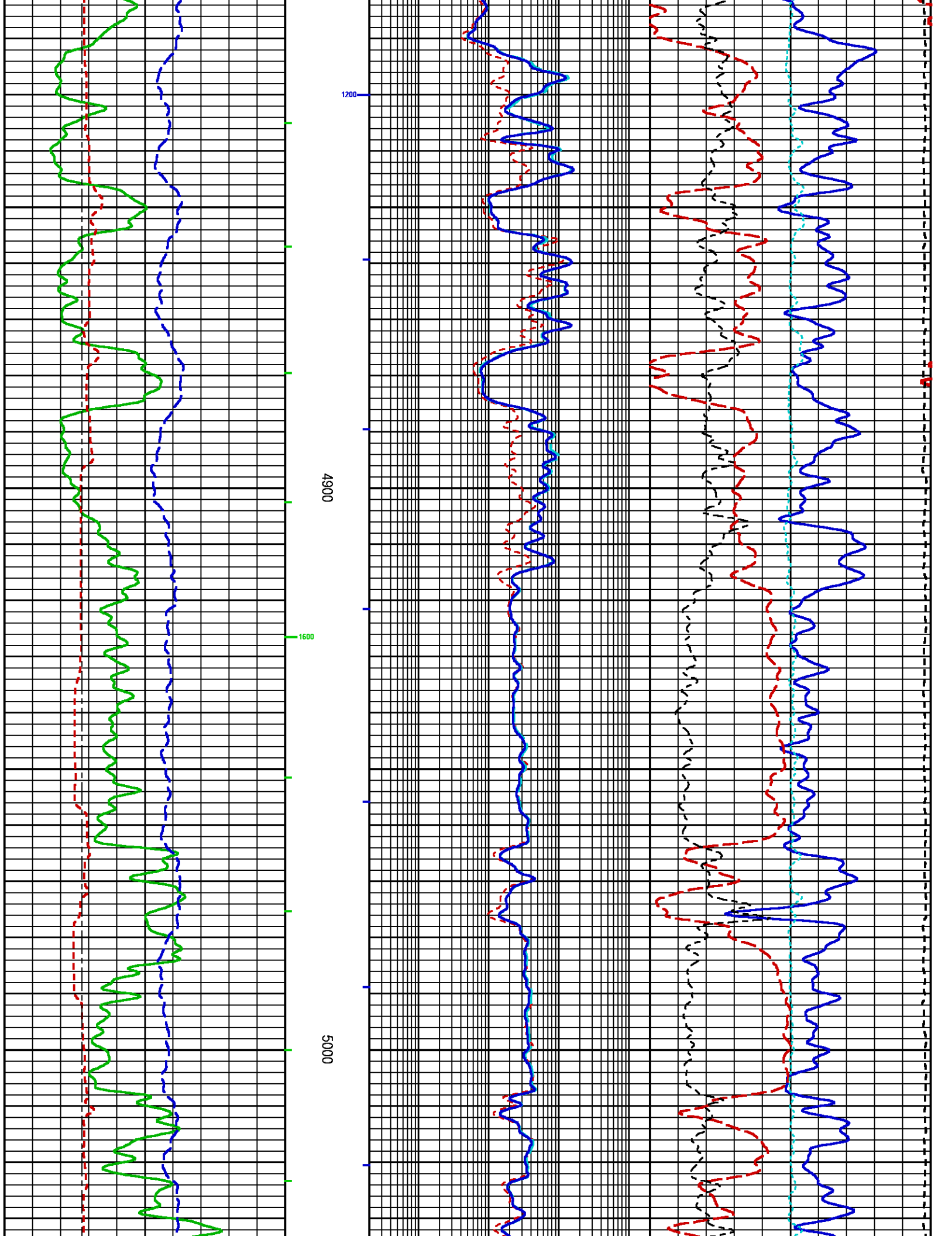
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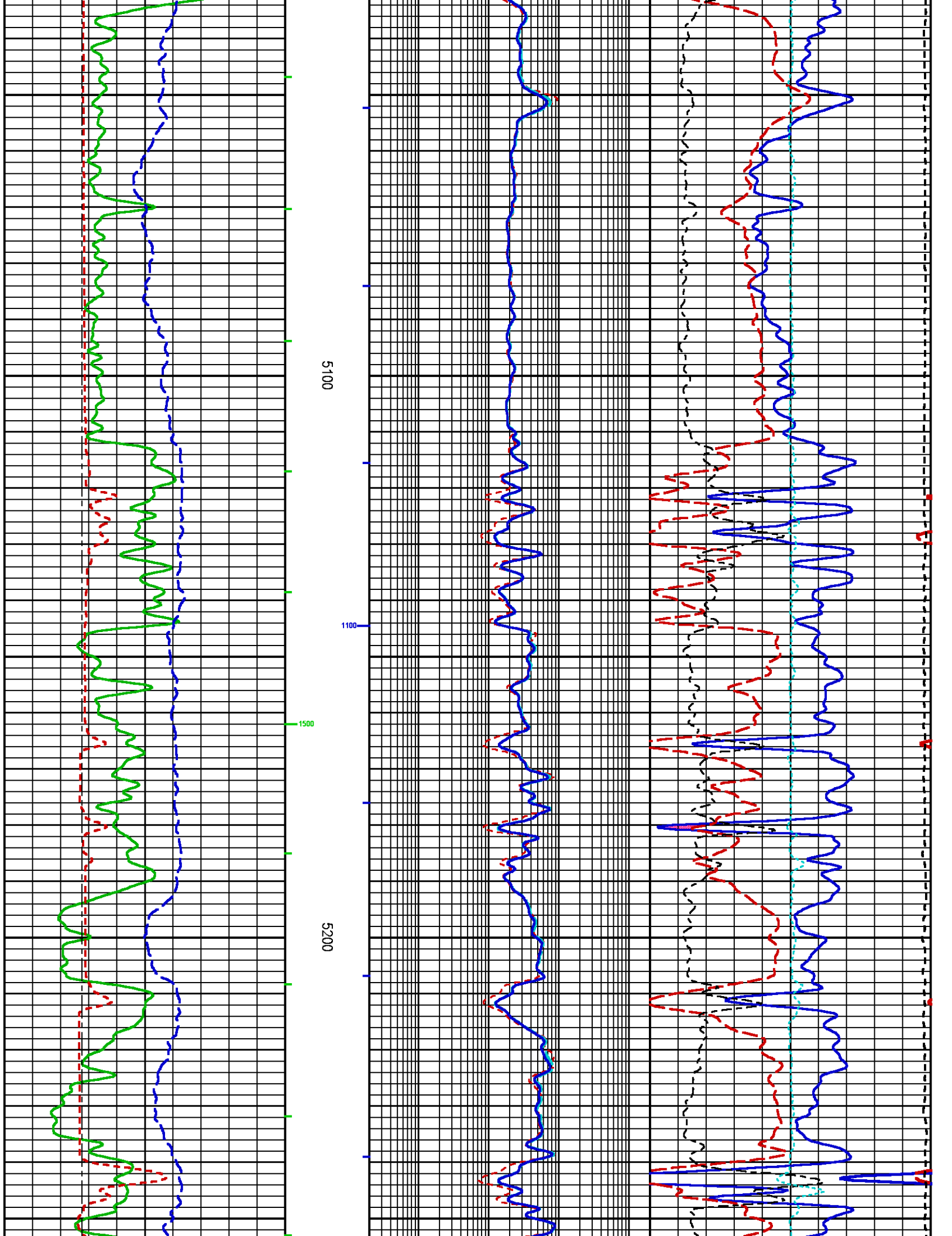
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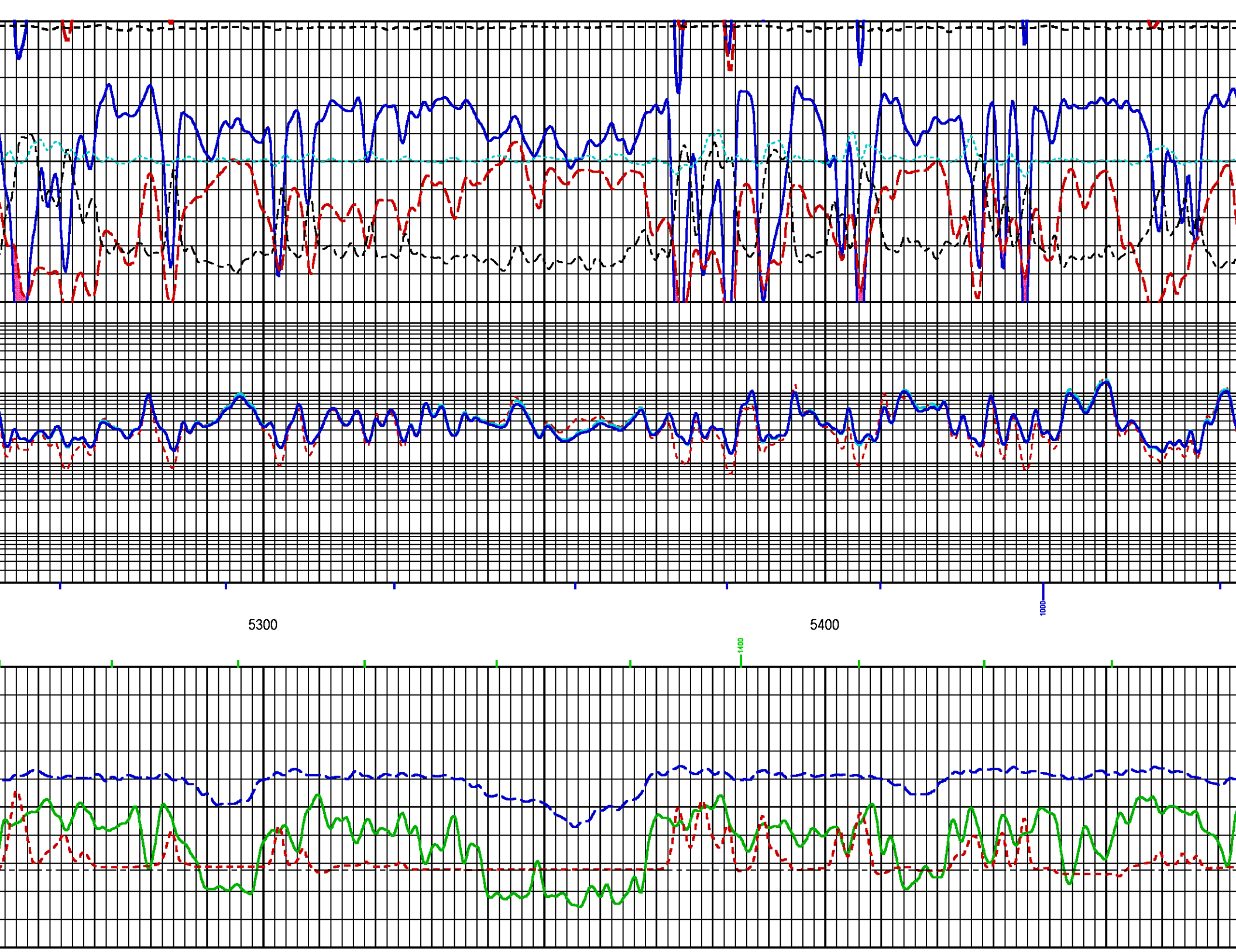
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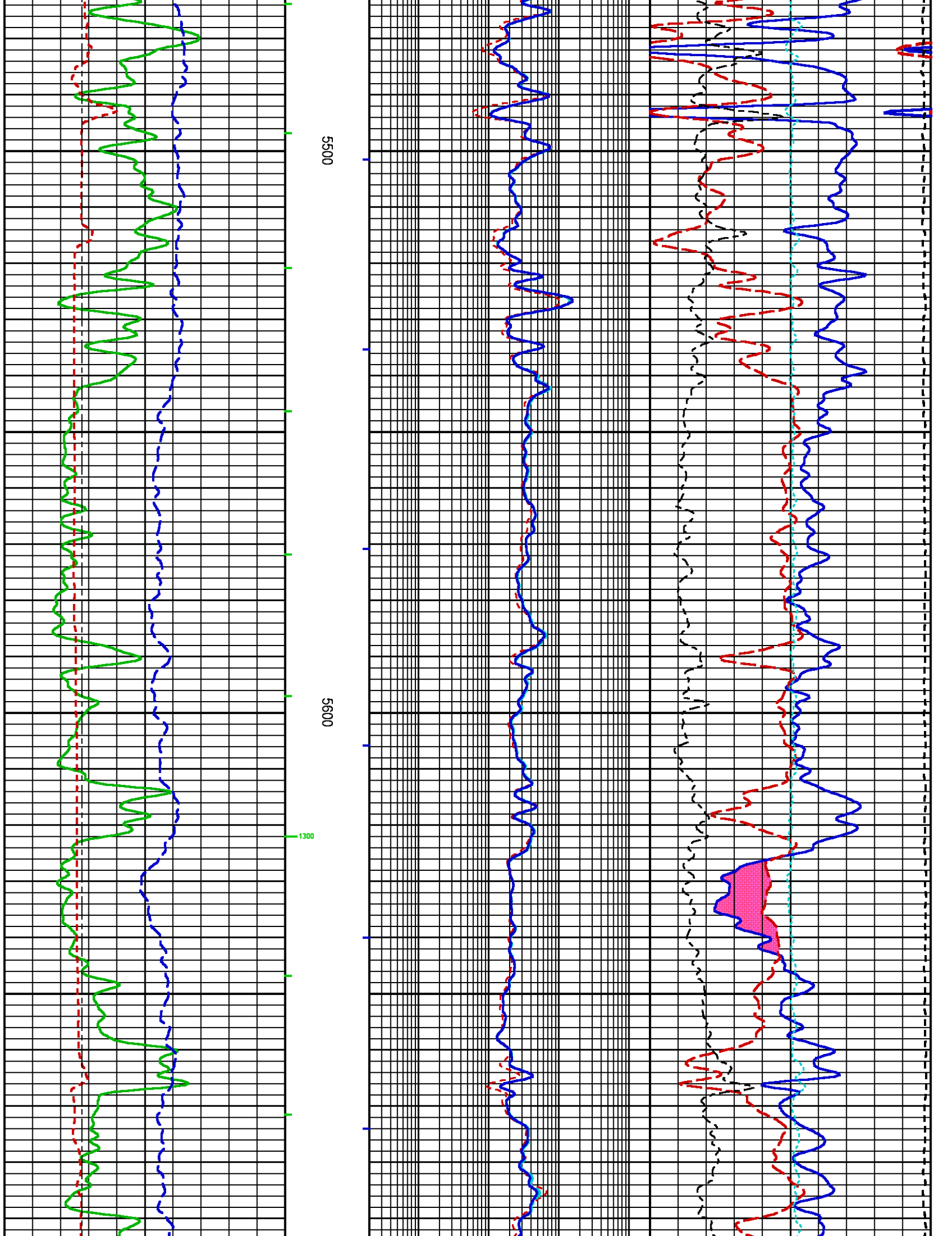
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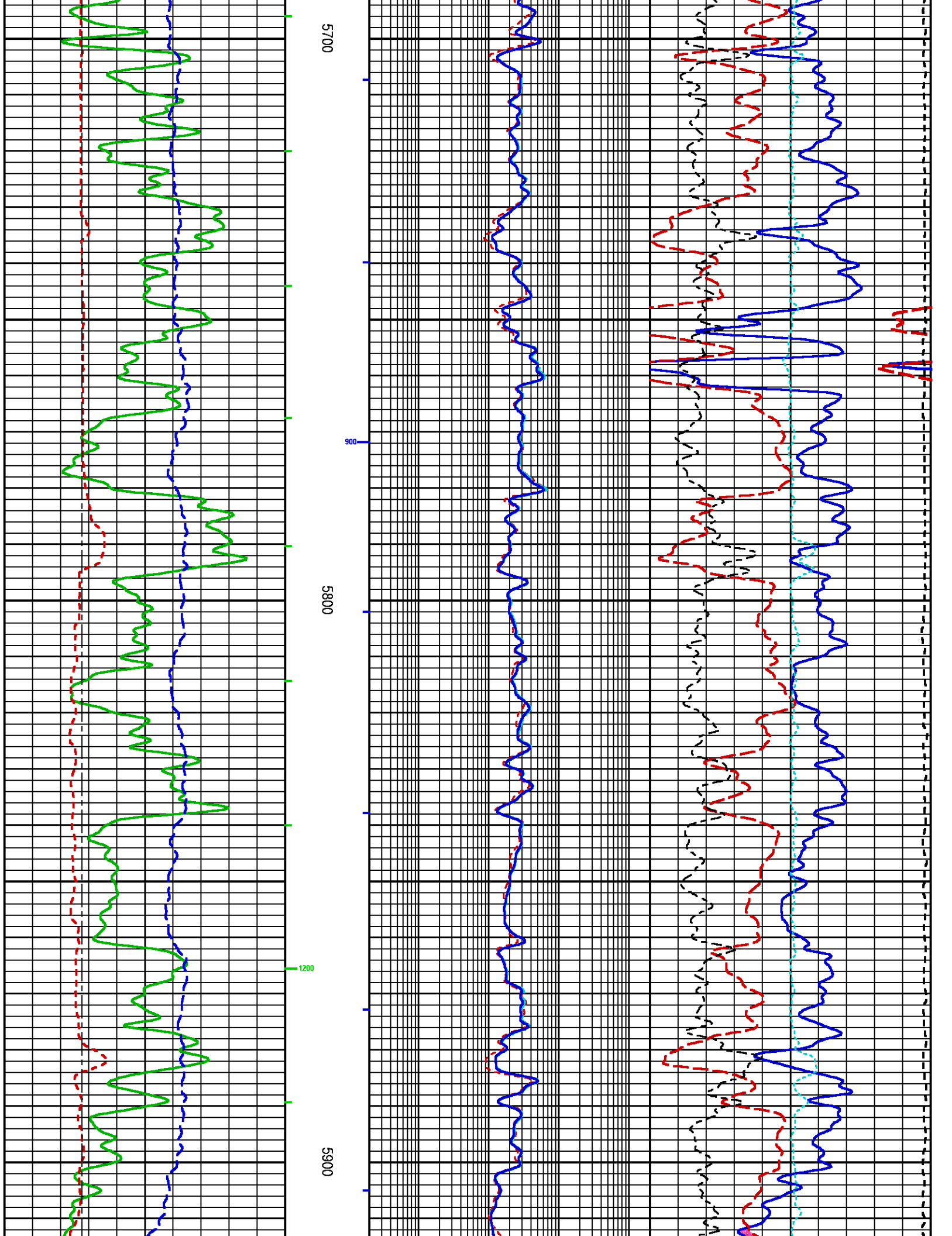
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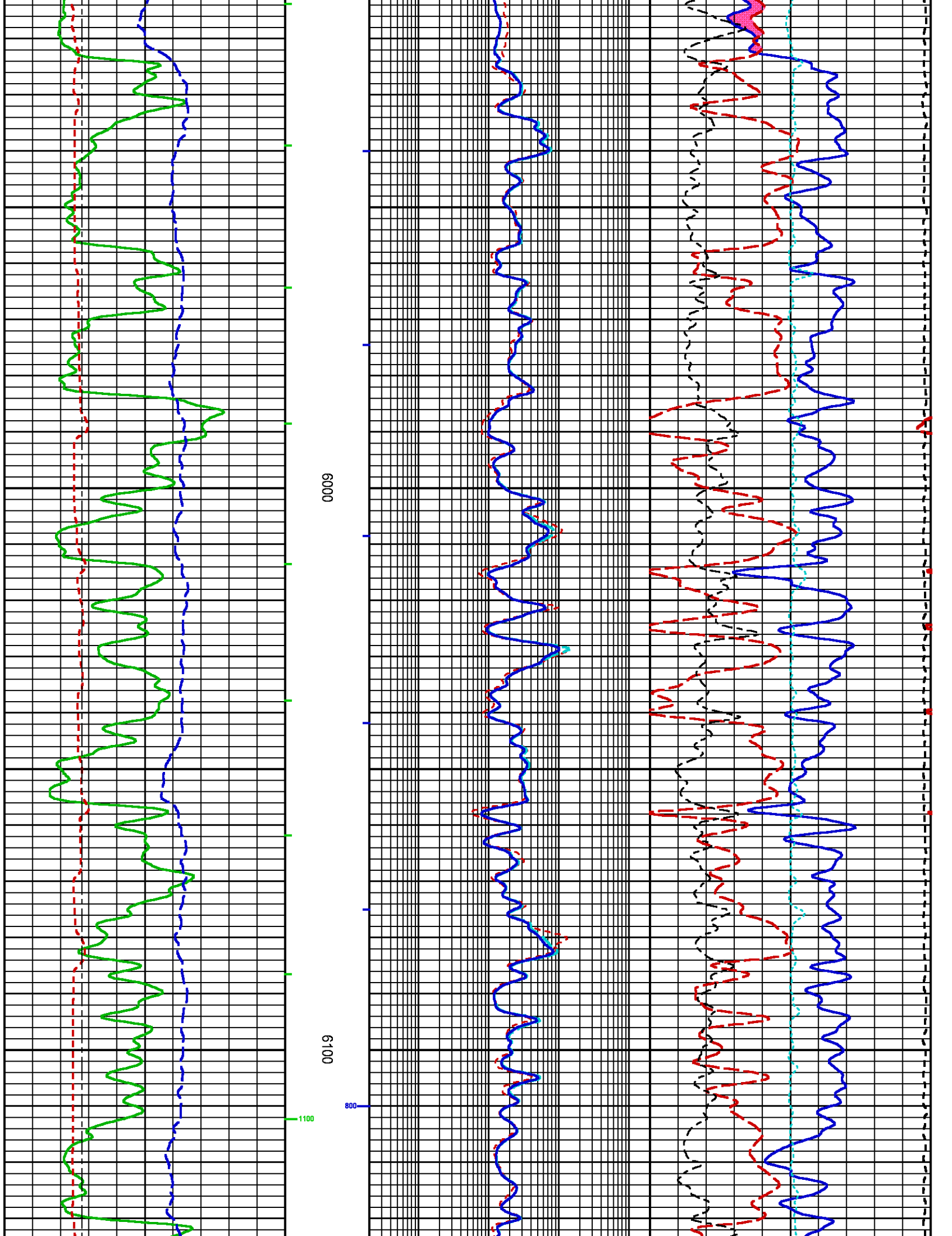
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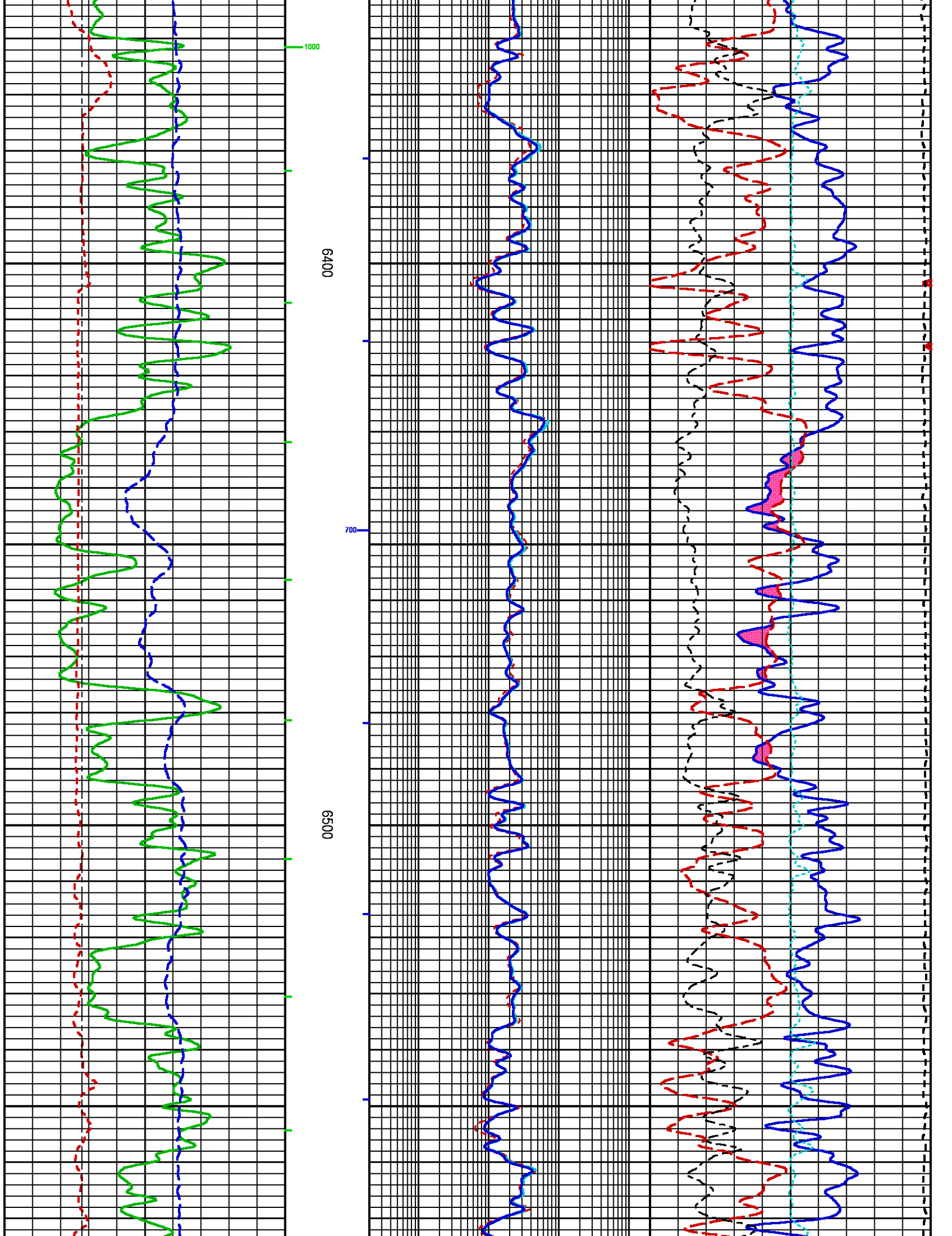
6100
1100
800

6200
6300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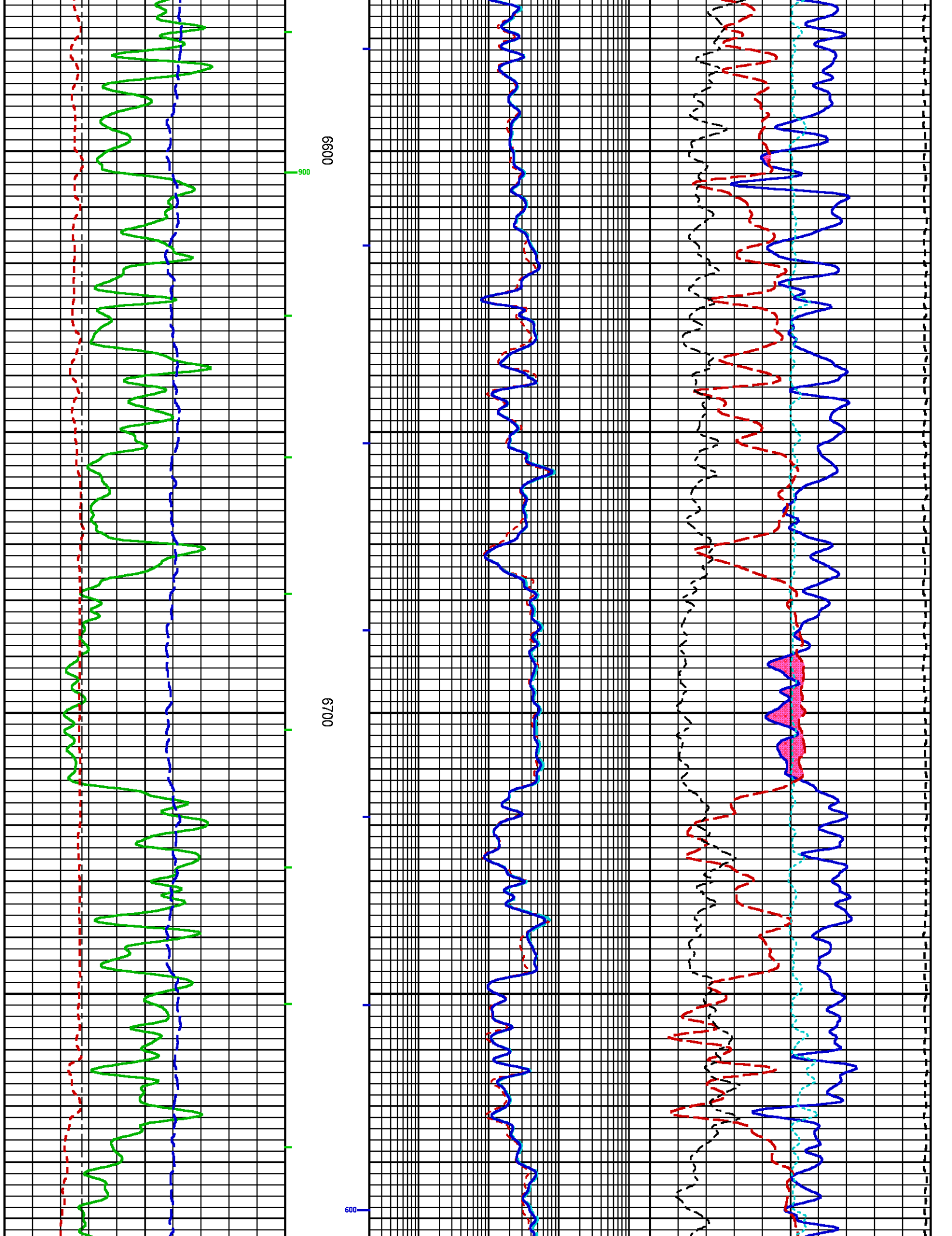
6500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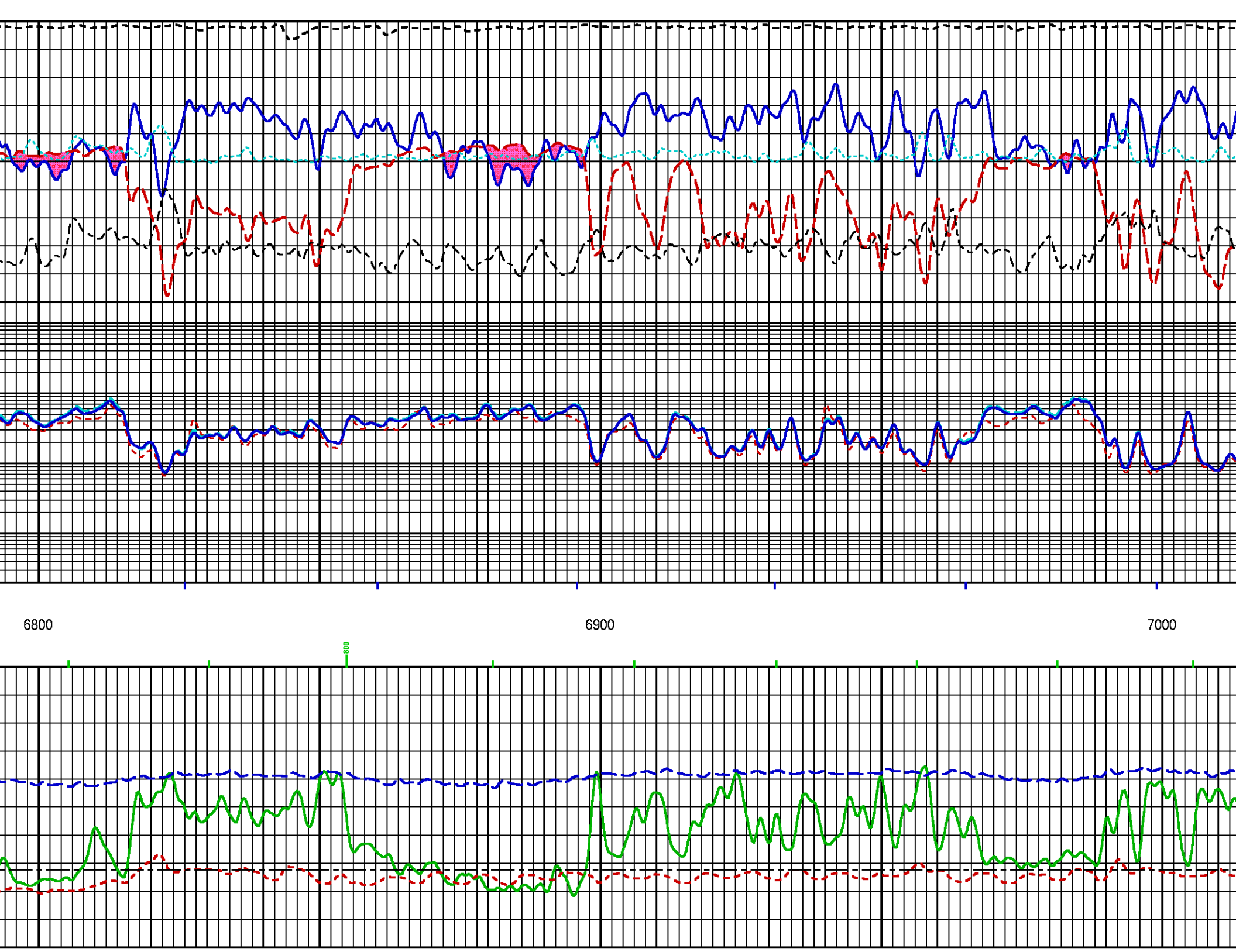
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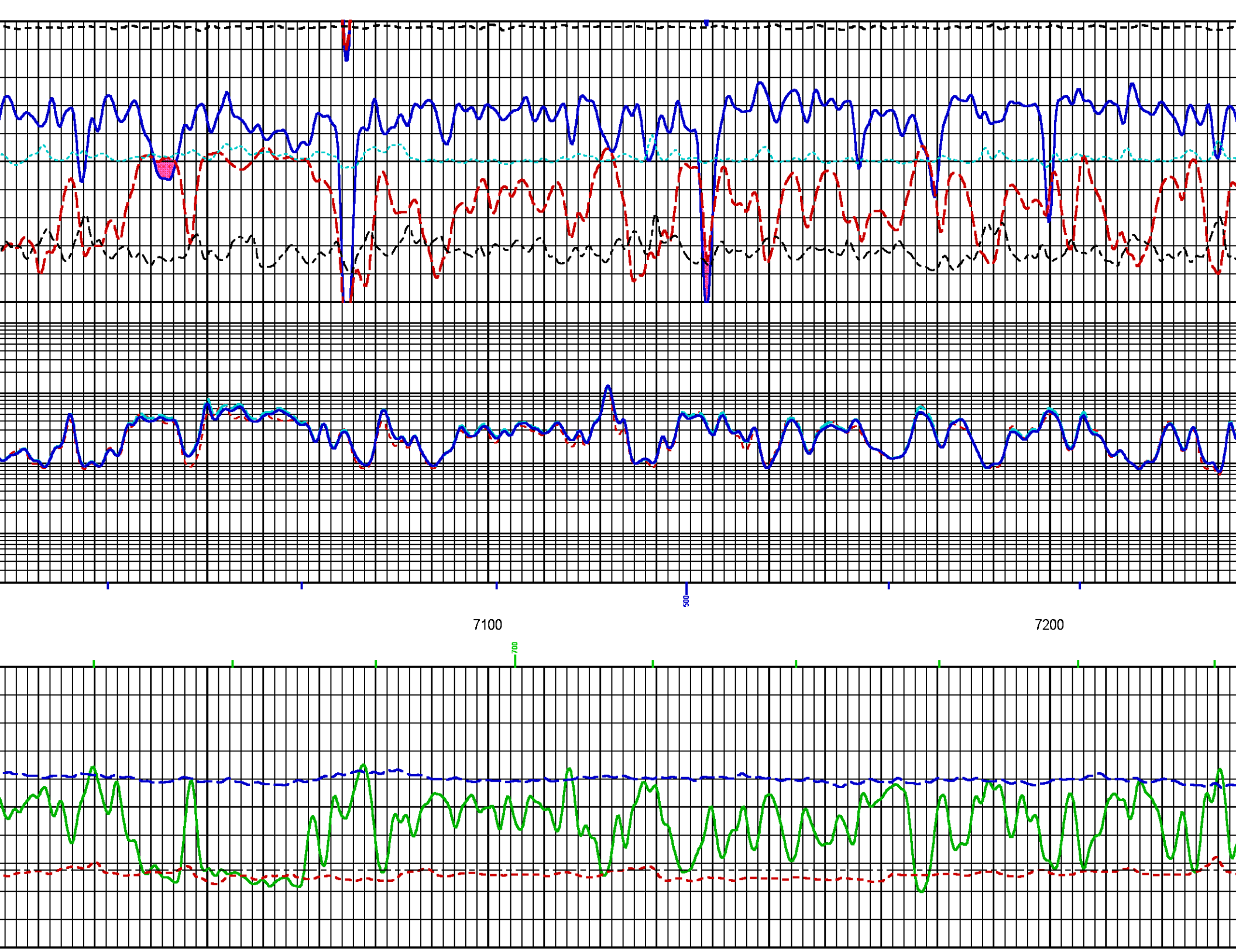
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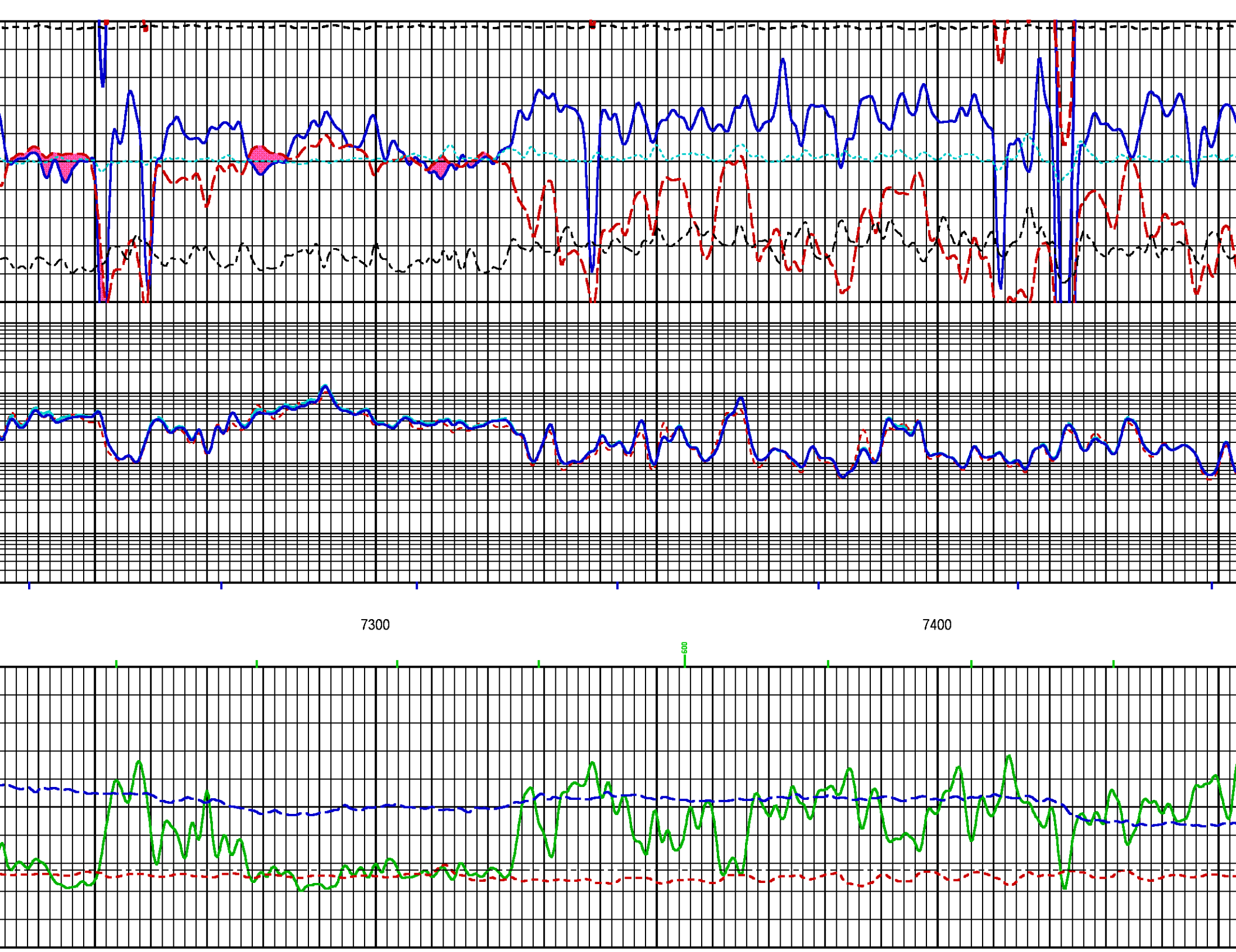
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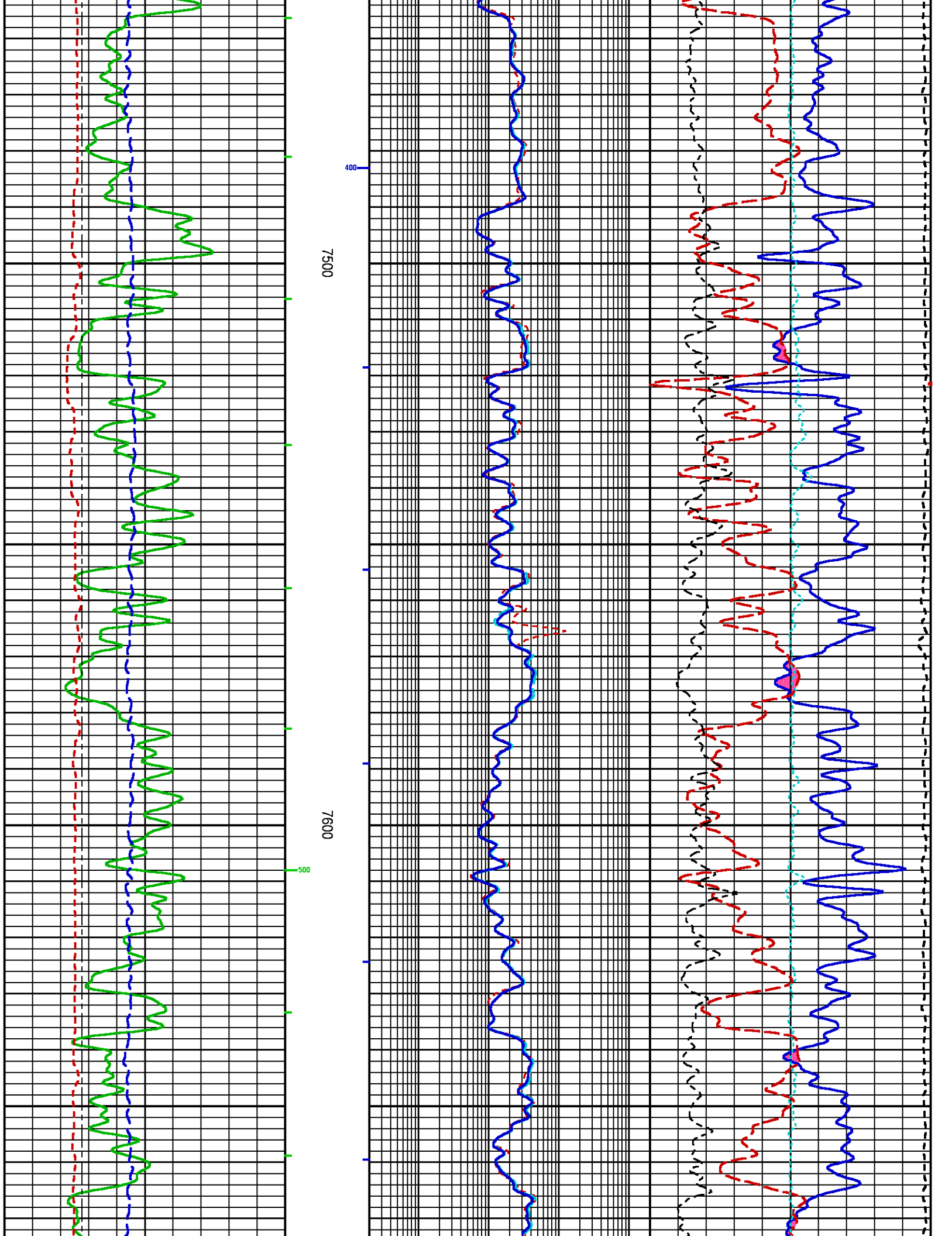
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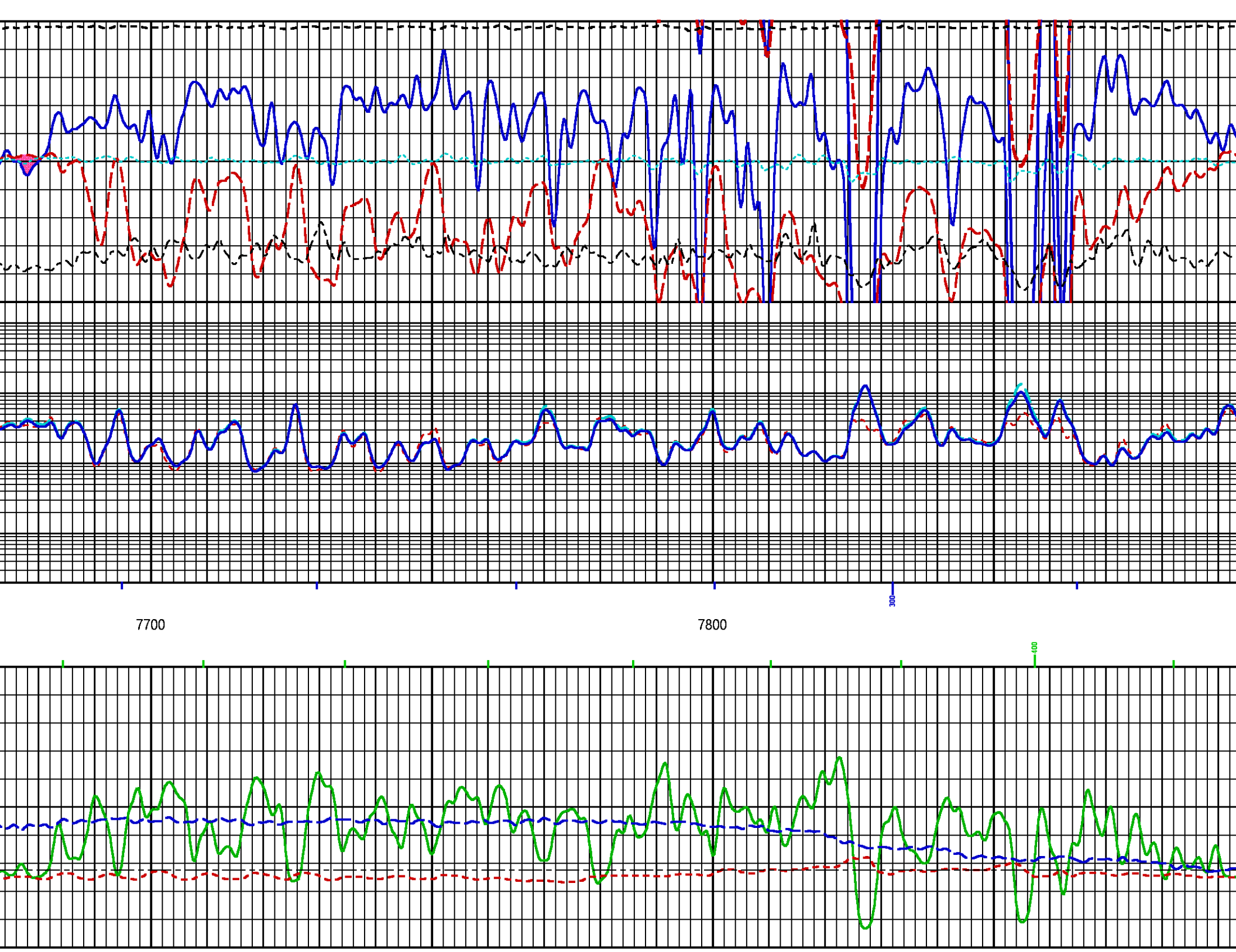
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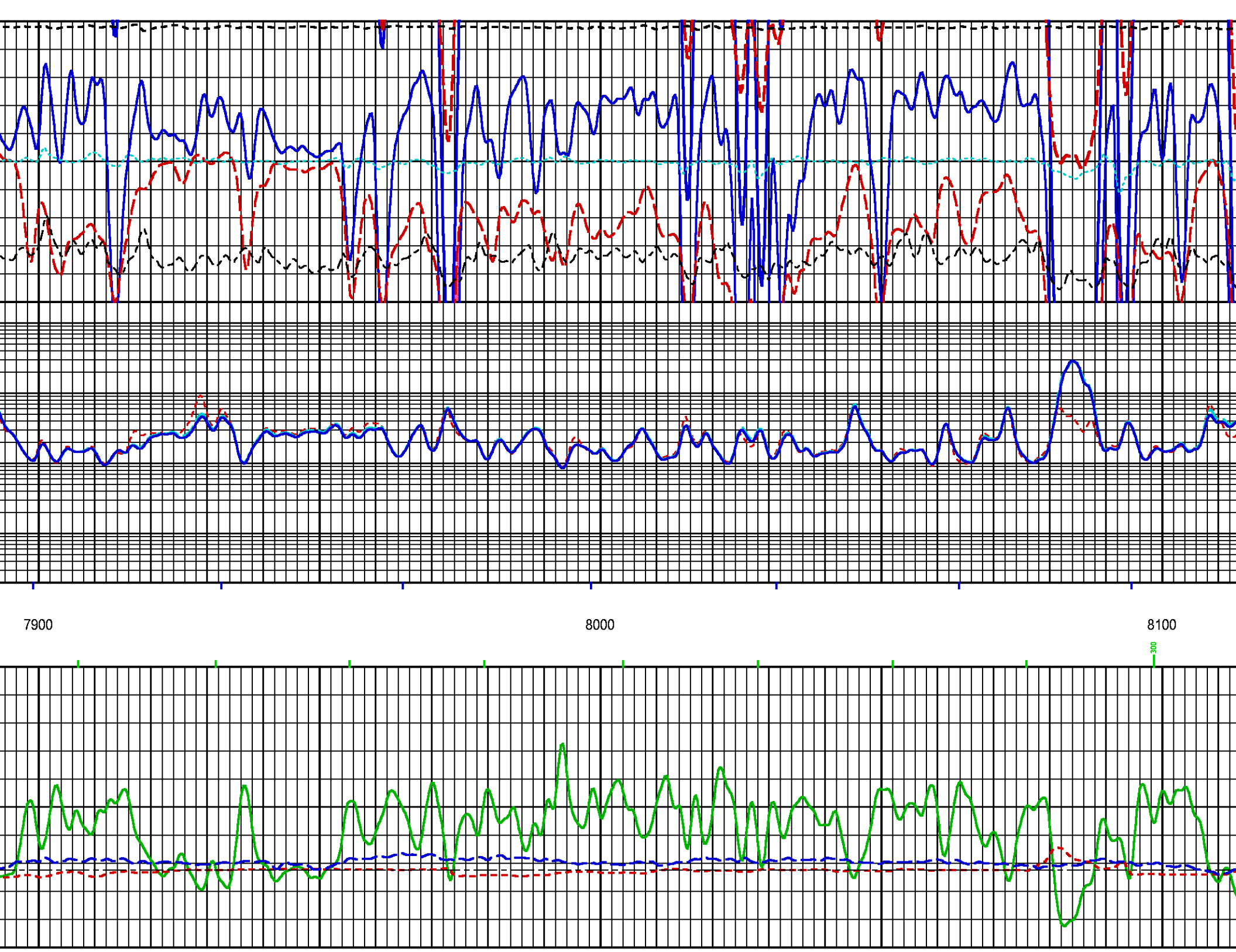
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8000
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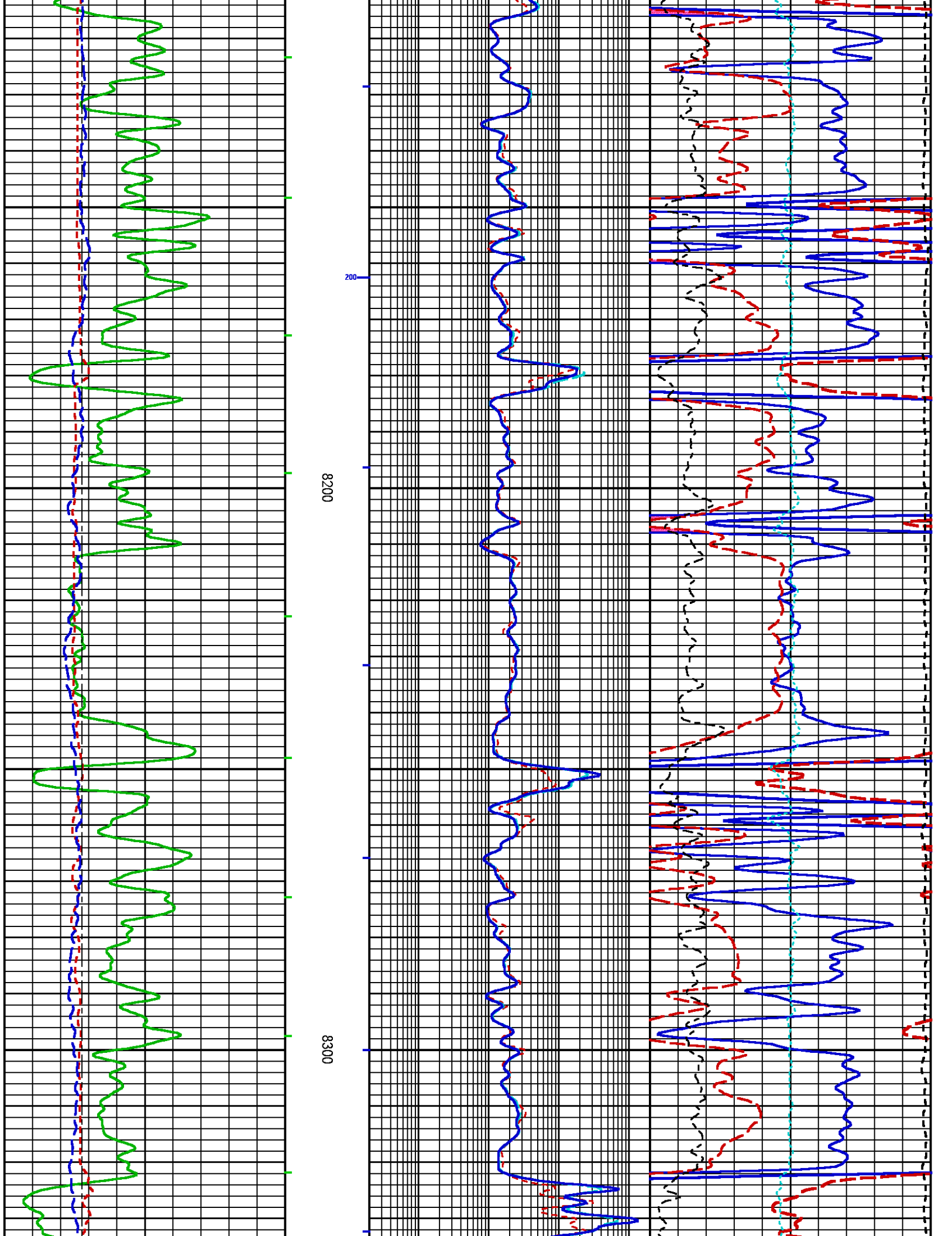
300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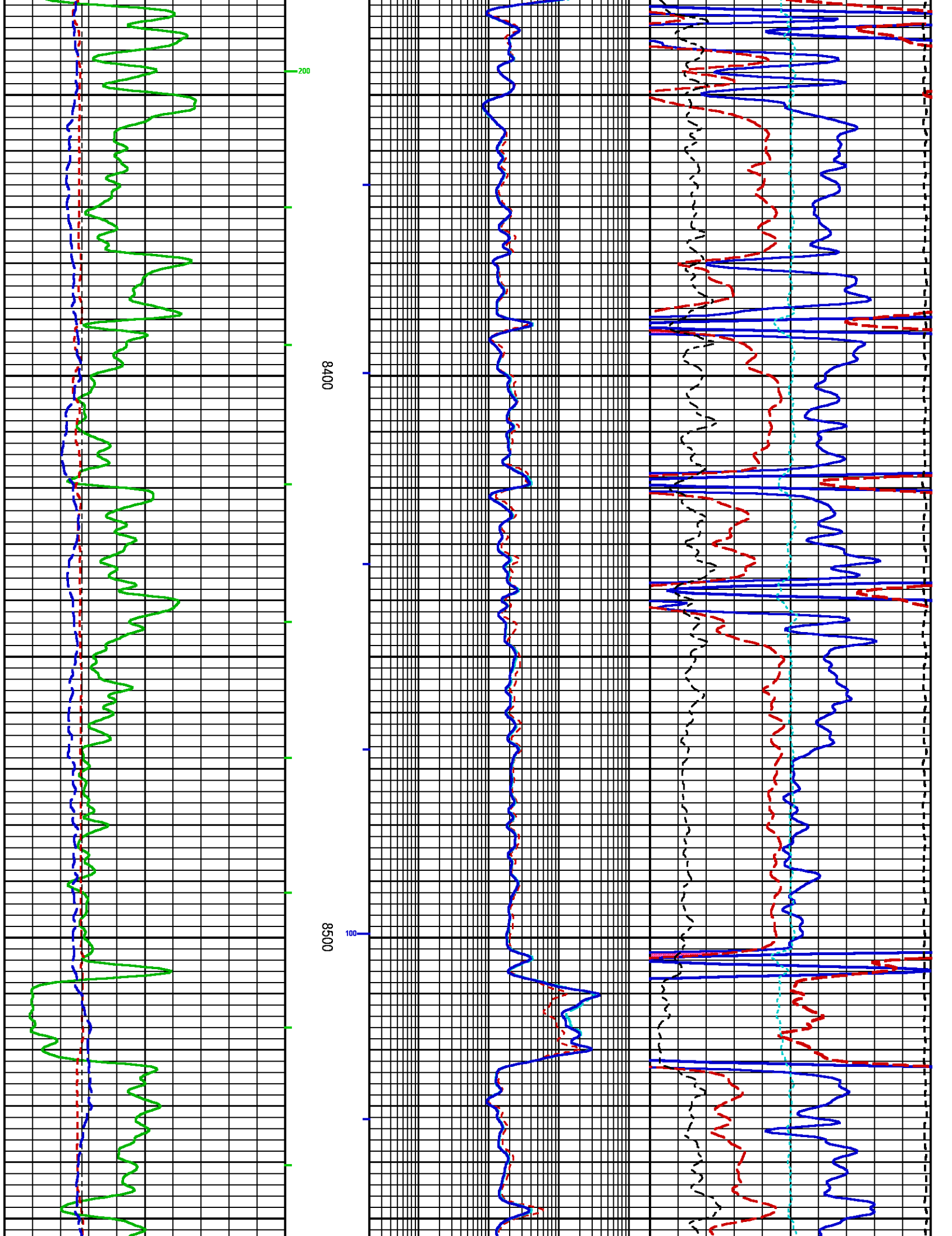
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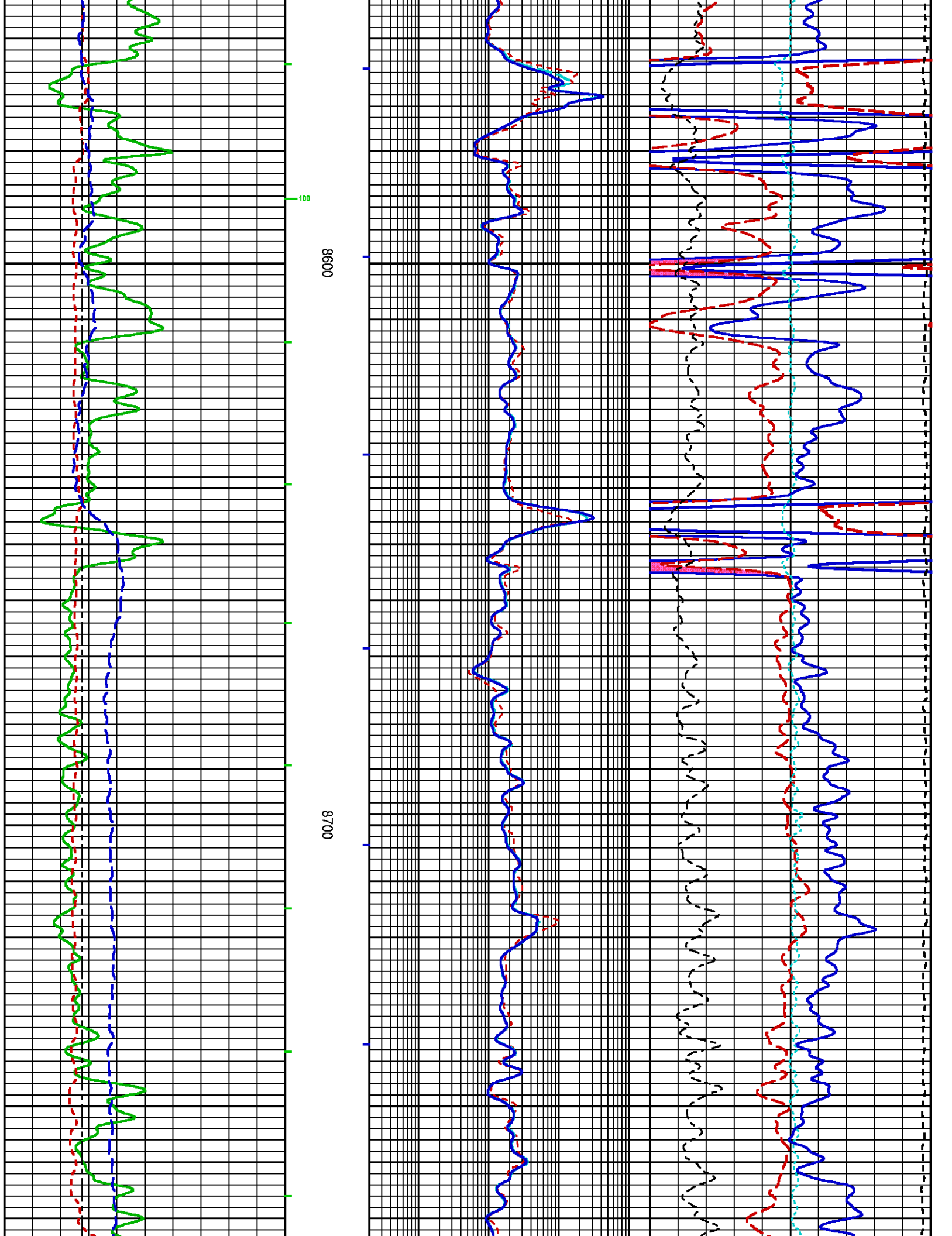
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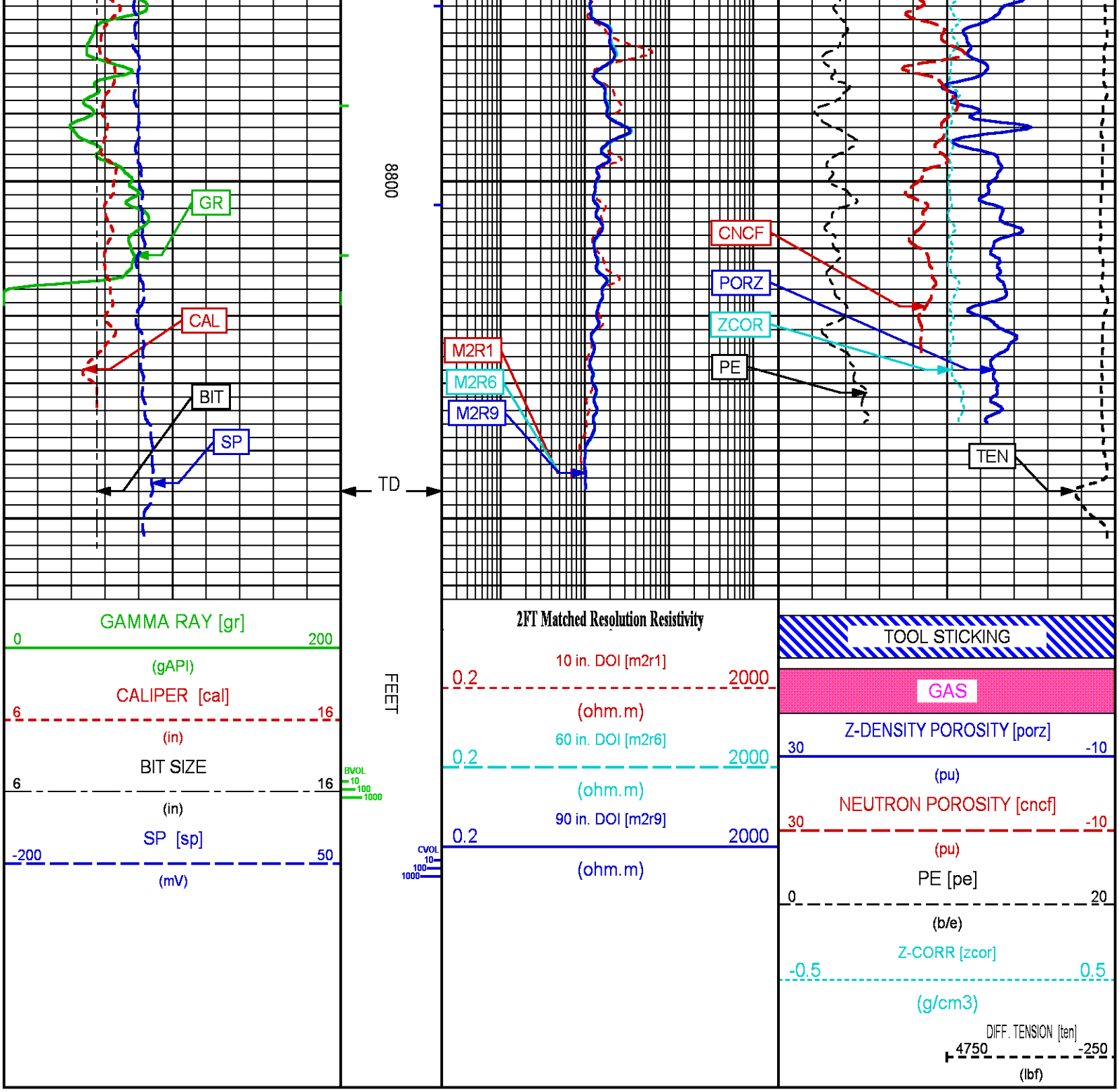


REPEAT LOG 5"/100FT SCALE

ECLIPS 6.2wu1 PC-ECLIPS General Release Rel 6.2w Update 1 Fri Apr 25 10:54:53 Central Daylight Time 2014
Patches: 2

Plotted: Tue Aug 26 10:31:28 2014

PARAMETER AND FILTER SUMMARY REPORT

File: C:\dat1a\89692J\n970aR01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1018.000 ft BOTTOM DEPTH: 1390.061 ft

SYMMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	8.750	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	8.750	in	"	"
	FIXED DIAMETER (mbh*)	8.750	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	73.0	degF	"	"
	MUD SAMPLE RES	1.560	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	73.0	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	600	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	8.750	in	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	Air Filled Borehole	NO		TOP	BOTTOM
	RHOmatrix	2.680	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"

HDIL PROCESSING

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

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION

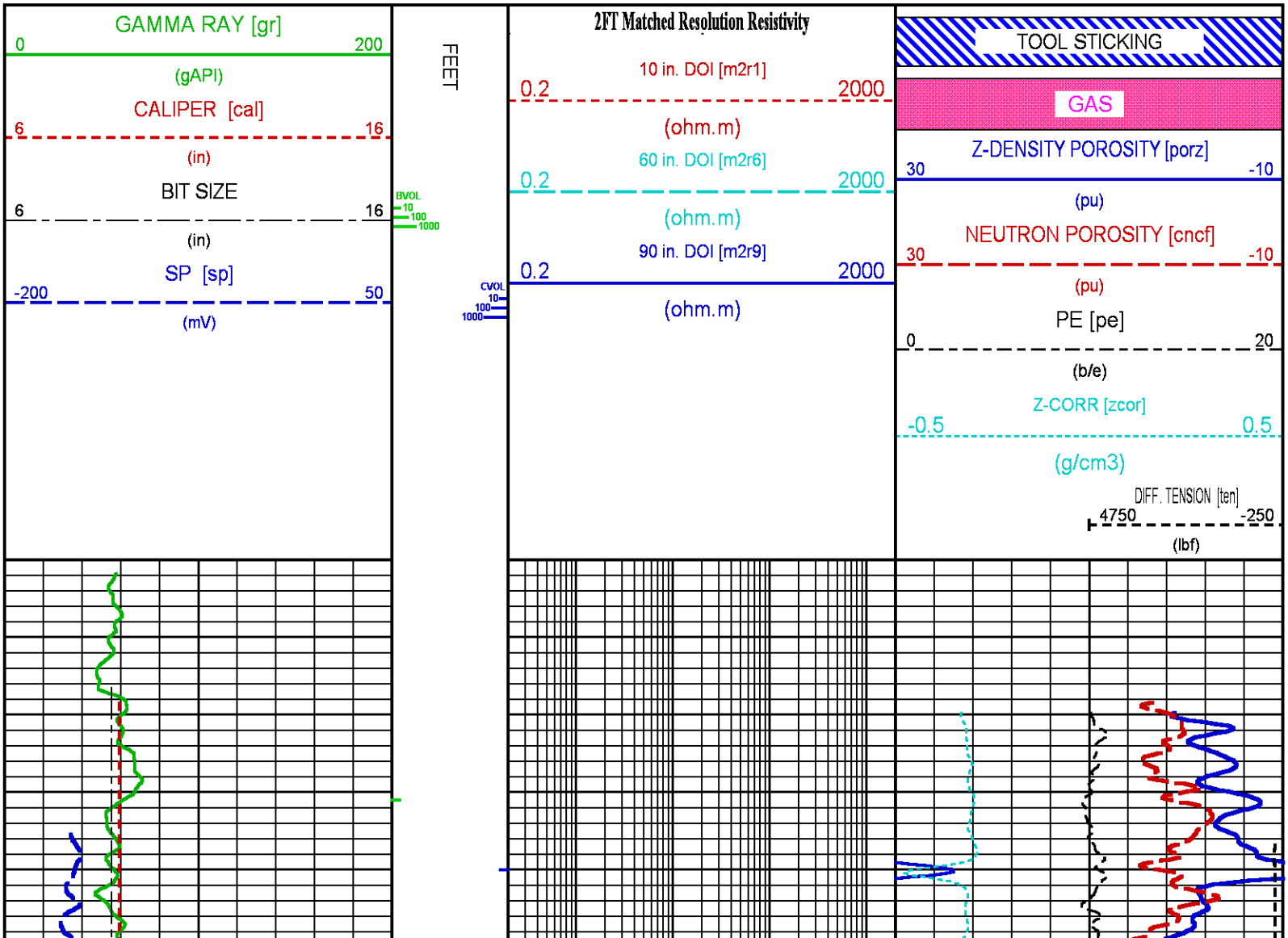
F1:BIT	Aug 26 10:29:11 2014	BIT SIZE
F1:BVOL	Aug 26 10:29:11 2014	BOREHOLE VOLUME
F1:CAL	Aug 26 10:29:11 2014	CALIPER
F1:CNCF	Aug 26 10:29:11 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Aug 26 10:29:11 2014	CEMENT VOLUME
F1:GR	Aug 26 10:29:11 2014	GAMMA RAY
F1:M2R1	Aug 26 10:29:11 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Aug 26 10:29:11 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Aug 26 10:29:11 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Aug 26 10:29:11 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Aug 26 10:29:11 2014	POROSITY FOR SELECTABLE MATRIX
F1:SP	Aug 26 10:29:11 2014	SPONTANEOUS POTENTIAL
F1:TEN	Aug 26 10:29:11 2014	DIFFERENTIAL TENSION
F1:ZCOR	Aug 26 10:29:11 2014	DENSITY CORRECTION

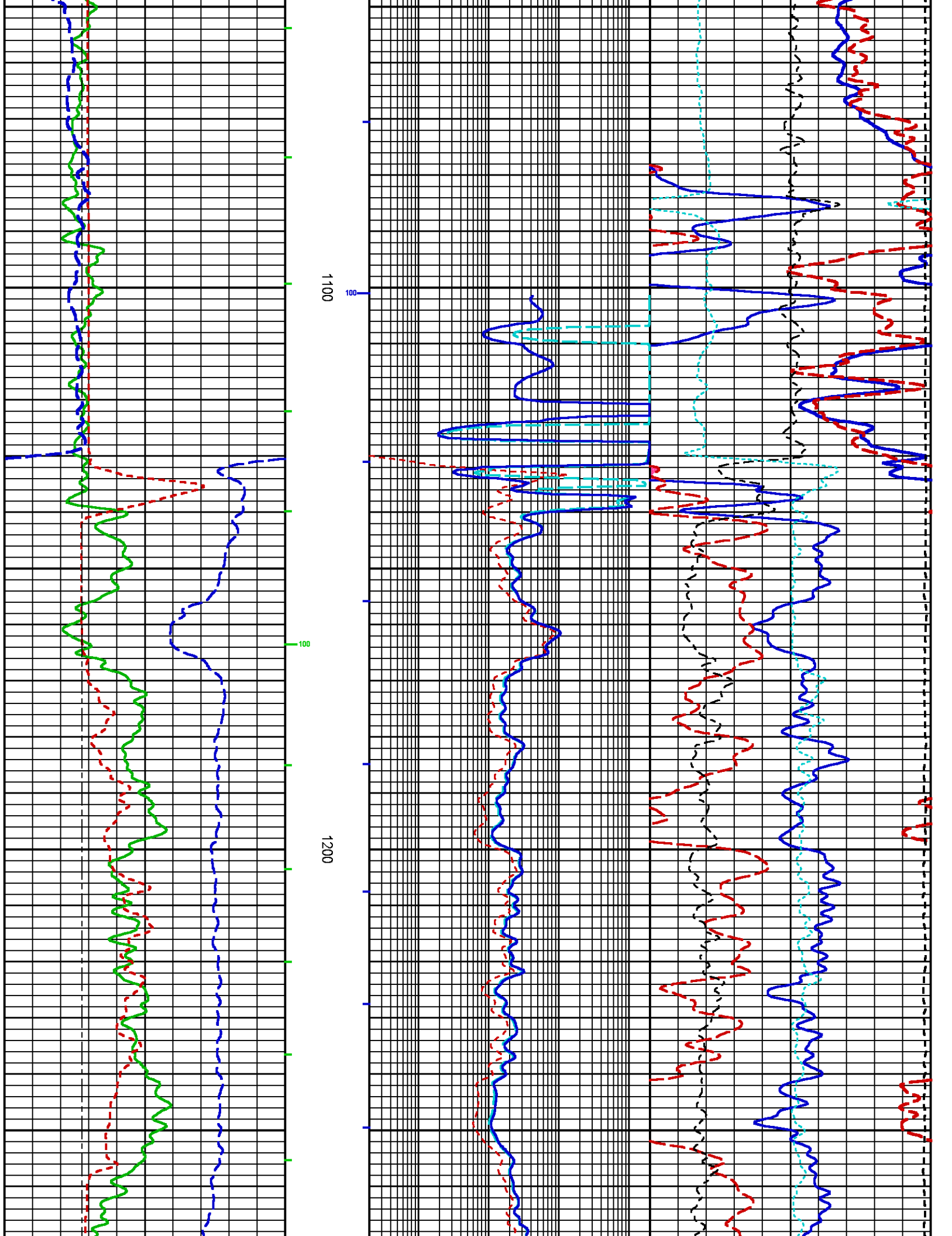
CURVE MEASURE POINT OFFSET

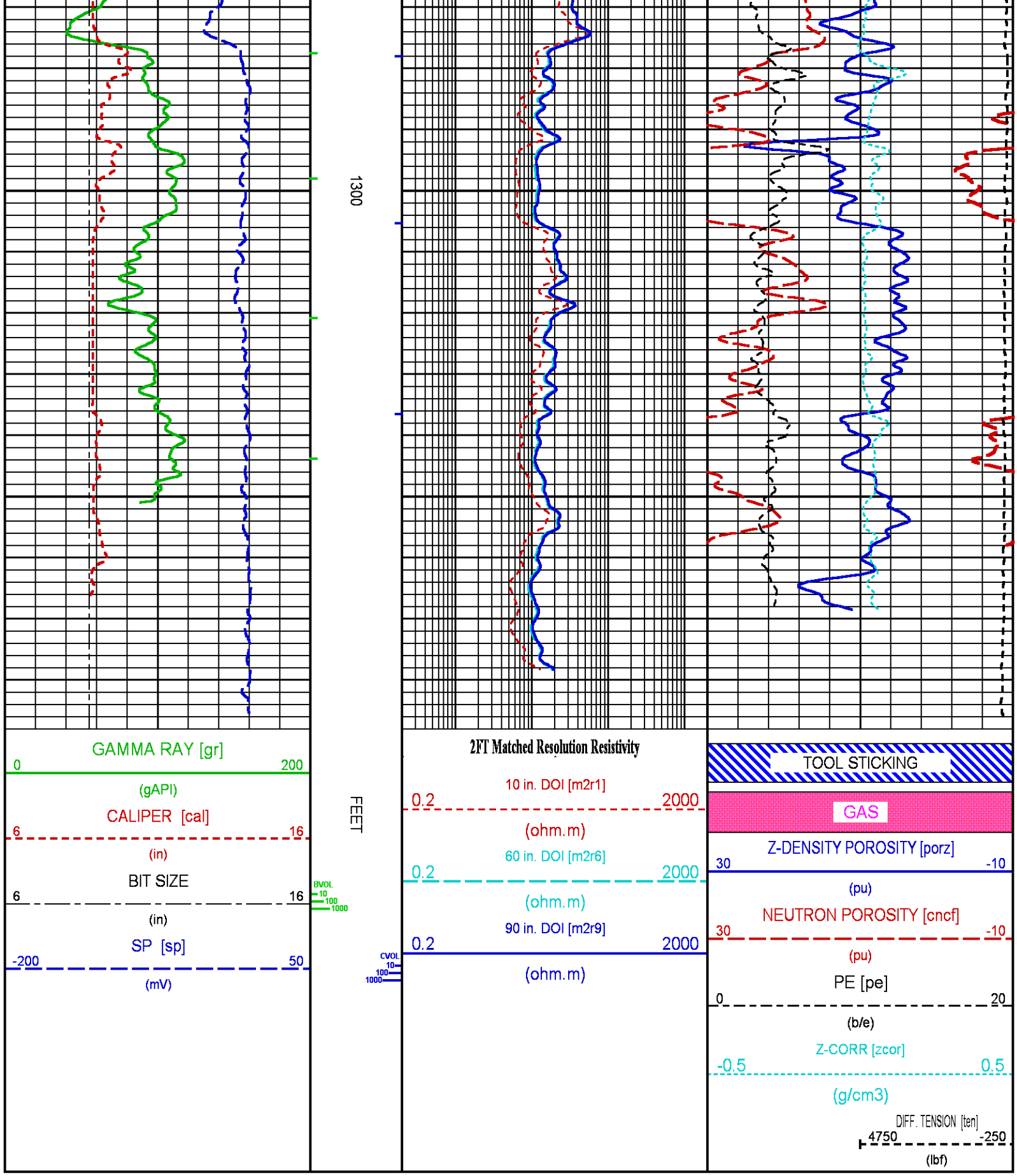
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	35.00	M2R9	2.75	SP	1.25
CAL	18.13	M2R1	2.75	PE	18.00	TEN	0.00
CNCF	27.38	M2R6	2.75	PORZ	18.00	ZCOR	18.00

Presentation : **BHID26LKX1:C:\dat1a\89692J\WPX_RREPEAT.fvpdf [5"/100' Scale]**
Plot Interval : **1001.75 - 1392.5 Feet**

Data File 1 : **F1 : BHID26LKX1:C:\dat1a\89692J\n970aR01_REPEAT.xtf**
Created On : **Aug 26 10:29:11 2014**
Company : **Baker Hughes Wireline**
Well : **Marcus Gist No. 11**
Field : **Headlee, North Clearfork**
File Interval : **0 - 1393.75 Feet**
OCT : **n970a**




1100
100
100
1200



CALIBRATION / VERIFICATION SUMMARY

Source File: C:\dat1a\89692J\n970a.tp1

TTMA PRIMARY CALIBRATION SUMMARY

TOOL #: 3980XA 10120299 DATE/TIME PERFORMED: Wed Jul 31 10:29:42 2013

UNIT #: 3880TA HL6670 ACCEL #: 3980XA 10120299 ACCEL CAL DATE: 14:43 05/21/2004

	GAIN	OFFSET (ohm.m)
Rm K Factors	0.14570	-0.01679

	Sig Low (ohm)	Sig High (ohm)	Mult Factor	Add Factor	Engr Low (ohm)	Engr High (ohm)
Rm Measurements	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 #: 3980XA 10120299 DATE/TIME PERFORMED: Sun Aug 24 12:12:13 2014 DAYS SINCE CAL: 389

UNIT #: 3885TC 6685

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	18835	499.35	9.96	997.79
	18030 19630	491.36 505.76	8.00 12.00	980.00 1020.00
ZERO	-23331	-436.02	0.249	997.983
	-24131 -22531	-443.20 -428.80	0.200 0.300	980.000 1020.000

TTMA AFTER LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10120299 DATE/TIME PERFORMED: Mon Aug 25 12:41:28 2014 DAYS SINCE CAL: 390

UNIT #: 3885TC 6685

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	18838	499.64	9.96	998.54
	18030 19630	491.36 505.76	8.00 12.00	980.00 1020.00
ZERO	-23331	-436.02	0.249	997.810
	-24131 -22531	-443.20 -428.80	0.200 0.300	980.000 1020.000

GR PRIMARY CALIBRATION SUMMARY

Tool #: 3518EG 10139870 DATE/TIME PERFORMED: Fri Aug 22 15:39:25 2014

Unit #: 3885TC 6685 Jig Series: 4702NK VBA-905

Background	Calibrator ON	Jig Value (gAPI)	Mult	Background (gAPI)	Calibrator ON (gAPI)
18.03	800.21	185	0.237 (0.230 – 0.280)	4.26	189.26

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870 DATE/TIME PERFORMED: Sun Aug 24 12:14:20 2014 DAYS SINCE CAL: 1

UNIT #: 3885TC 6685 Jig: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.67 (929.00 – 1027.00)	97.46 (536.00)	1363.96 (1237.00 – 1512.00)

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870 DATE/TIME PERFORMED: Mon Aug 25 12:41:32 2014 DAYS SINCE CAL: 2

UNIT #: 3885TC 6685 Jig: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.67 (929.00 – 1027.00)	117.80 (536.00)	1363.96 (1237.00 – 1512.00)

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10137930 DATE/TIME PERFORMED: Tue Jul 01 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: Sun Aug 24 12:14:34 2014 DAYS SINCE CAL: 54

UNIT #: 3885TC 6685 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)

DT CPS	DT CPS		(degF)	(V)	(V)
992.07	994.44	0.99762	89.3	1360.1	4.614
		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: Mon Aug 25 12:40:57 2014 DAYS SINCE CAL: 55

UNIT #: 3885TC 6685 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.74	994.10	0.99762	110.1	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: Tue Aug 05 09:45:04 2014

UNIT #: 3885TC 6685

	SIZE (in)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	7.000	1481.6		
LARGE RING (Arm)	11.000	2738.0	0.00318	2.28303
PAD CLOSED		1320.0	0.00250	-3.30000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10123024 DATE/TIME PERFORMED: Sun Aug 24 12:22:20 2014 DAYS SINCE CAL: 19

UNIT #: 3885TC 6685

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	2082.0	0.00318	2.28303	8.9
PAD	1666.8	0.00250	-3.30000	0.9

	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: Mon Aug 25 12:40:15 2014 DAYS SINCE CAL: 20

UNIT #: 3885TC 6685

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	2234.4	0.00318	2.28303	9.4
PAD	1484.0	0.00250	-3.30000	0.4

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

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10123024 DATE/TIME PERFORMED: Tue Aug 05 10:25:19 2014

UNIT: 3885TC 6685 CALB BLKS: 2225XA 094292F CS SRC: 4705XA 16068B PAD TYPE: PADTYP 7.5" PAD

SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
223.7 (220.0 – 230.0)	223.9 (220.0 – 230.0)	1348.7	1362.2

	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	31746.7	11803.3	0.732 (0.720 – 0.890)	1.679	0.000	1.900
AL	19832.5	1318.8		2.667	-0.016	
AL + SHIM	27179.5	2291.6		2.558	0.098	
MG + SHIM (HI PE)	15604.0	5633.1	0.289 (0.280 – 0.360)			8.550
RATIO AL + SHIM/AL	1.37 (1.30 – 1.40)	1.74 (1.60 – 1.80)				
RATIO MG/AL	1.60 (1.58 – 1.70)	8.95 (8.55 – 9.55)				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10123024 DATE/TIME PERFORMED: Sun Aug 24 12:14:58 2014 DAYS SINCE CAL: 19

UNIT #: 3885TC 6685

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	[illegible]	[illegible]	[illegible]

LS	3342.1 (3332.1 – 3352.1)	224.9 (220.0 – 230.0)	1365.7 (1250.0 – 1550.0)
SS	22354.8 (22344.8 – 22364.8)	224.2 (220.0 – 230.0)	1326.0 (1250.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
5.0 (4.8 – 5.3)	100.8 (50.0 – 120.0)

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10123024 DATE/TIME PERFORMED: Mon Aug 25 12:40:49 2014 DAYS SINCE CAL: 20

UNIT #: 3885TC 6685

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 (3332.1 – 3352.1)	223.6 (220.0 – 230.0)	1450.7 (1250.0 – 1550.0)
SS	22354.8 (22344.8 – 22364.8)	225.1 (220.0 – 230.0)	1326.7 (1250.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
5.0 (4.8 – 5.3)	103.5 (50.0 – 120.0)

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1530XA 10118612 DATE/TIME PERFORMED: Tue Jan 07 13:59:50 2014

UNIT #: 3880TA HL6670 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 (-0.2000 0.2000)	-0.0014 (-0.1000 0.1000)	0.0009 (-0.1000 0.1000)	-0.0004 (-0.1000 0.1000)	0.0006 (-0.1000 0.1000)	0.0005 (-0.1000 0.1000)	-0.0008 (-0.1000 0.1000)	-0.0023 (-0.1000 0.1000)
Coil 2 Q	-0.0006 (-0.5000 0.5000)	0.0020 (-0.2000 0.2000)	0.0017 (-0.1000 0.1000)	0.0012 (-0.1000 0.1000)	0.0002 (-0.1000 0.1000)	-0.0029 (-0.1000 0.1000)	-0.0011 (-0.1000 0.1000)	-0.0014 (-0.1000 0.1000)
Coil 3 R	0.0267 (-0.3000 0.3000)	-0.0072 (-0.1000 0.1000)	0.0035 (-0.1000 0.1000)	0.0022 (-0.1000 0.1000)	0.0019 (-0.1000 0.1000)	0.0003 (-0.1000 0.1000)	-0.0004 (-0.1000 0.1000)	0.0038 (-0.1000 0.1000)
Coil 3 Q	0.0107 (-0.5000 0.5000)	-0.0026 (-0.2000 0.2000)	0.0015 (-0.1000 0.1000)	-0.0009 (-0.1000 0.1000)	0.0001 (-0.1000 0.1000)	0.0026 (-0.1000 0.1000)	-0.0002 (-0.1000 0.1000)	-0.0020 (-0.1000 0.1000)

Coil 4 R	0.0672 -0.5000 0.5000	-0.0023 -0.2000 0.2000	-0.0060 -0.2000 0.2000	0.0036 -0.2000 0.2000	-0.0064 -0.2000 0.2000	-0.0030 -0.2000 0.2000	0.0016 -0.2000 0.2000	-0.0012 -0.2000 0.2000
Coil 4 Q	0.0182 -1.0000 1.0000	-0.0158 -0.4000 0.4000	-0.0009 -0.2000 0.2000	-0.0024 -0.2000 0.2000	0.0023 -0.2000 0.2000	0.0017 -0.2000 0.2000	0.0060 -0.2000 0.2000	-0.0105 -0.2000 0.2000
Coil 5 R	0.1609 -1.2000 1.2000	0.0008 -0.4000 0.4000	-0.0374 -0.4000 0.4000	0.0079 -0.4000 0.4000	0.0037 -0.4000 0.4000	-0.0040 -0.4000 0.4000	0.0039 -0.4000 0.4000	0.0089 -0.4000 0.4000
Coil 5 Q	0.0881 -1.5000 1.5000	-0.0472 -0.8000 0.8000	-0.0025 -0.4000 0.4000	-0.0083 -0.4000 0.4000	0.0025 -0.4000 0.4000	-0.0156 -0.4000 0.4000	0.0062 -0.4000 0.4000	-0.0095 -0.4000 0.4000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	161.55 136.00 186.00	160.12 134.00 184.00	157.25 131.00 181.00	152.96 126.00 176.00	147.31 122.00 170.00	140.33 118.00 161.00	132.13 112.00 150.00	122.75 105.00 139.00
Coil 0 P	7.692 6.000 9.000	25.312 21.000 30.000	42.497 35.000 50.000	59.645 49.000 71.000	76.792 63.000 91.000	93.942 77.000 109.000	111.112 92.000 130.000	128.223 106.000 151.000
Coil 1 M	281.61 238.00 328.00	279.28 235.00 325.00	274.54 230.00 320.00	267.48 225.00 312.00	258.14 218.00 302.00	246.57 208.00 288.00	232.86 196.00 266.00	217.14 184.00 244.00
Coil 1 P	7.582 6.000 9.000	25.040 21.000 30.000	42.056 35.000 51.000	59.044 49.000 71.000	76.043 63.000 92.000	93.075 78.000 112.000	110.151 93.000 130.000	127.218 107.000 151.000
Coil 2 M	568.98 479.00 659.00	564.17 474.00 654.00	554.44 463.00 643.00	539.80 450.00 622.00	520.50 432.00 602.00	496.50 412.00 572.00	468.12 390.00 540.00	435.51 359.00 499.00
Coil 2 P	7.769 6.000 9.000	25.508 21.000 31.000	42.830 35.000 51.000	60.121 49.000 71.000	77.437 63.000 92.000	94.775 76.000 115.000	112.170 92.000 135.000	129.548 105.000 155.000
Coil 3 M	921.55 772.00 1060.00	913.14 764.00 1050.00	896.22 752.00 1030.00	871.27 728.00 1010.00	838.32 700.00 970.00	797.74 665.00 925.00	749.97 628.00 868.00	695.43 589.00 799.00
Coil 3 P	7.878 6.000 10.000	25.828 21.000 30.000	43.358 35.000 51.000	60.833 49.000 72.000	78.288 63.000 93.000	95.758 76.000 114.000	113.213 90.000 135.000	130.598 104.000 156.000
Coil 4 M	1447.2 1210.0 1700.0	1433.8 1205.0 1690.0	1406.9 1180.0 1650.0	1366.8 1140.0 1590.0	1314.3 1120.0 1530.0	1249.3 1070.0 1450.0	1173.7 1000.0 1350.0	1088.7 942.0 1240.0
Coil 4 P	7.843 6.000 10.000	25.758 21.000 31.000	43.249 35.000 52.000	60.684 49.000 73.000	78.112 63.000 93.000	95.552 77.000 114.000	112.960 91.000 135.000	130.298 105.000 156.000
Coil 5 M	2940.6 2450.0 3450.0	2919.1 2420.0 3400.0	2873.2 2410.0 3320.0	2804.6 2350.0 3200.0	2711.8 2280.0 3080.0	2596.3 2150.0 2950.0	2459.1 2020.0 2750.0	2301.3 1870.0 2570.0
Coil 5 P	7.588 6.000 10.000	25.060 20.000 31.000	42.133 35.000 52.000	59.180 49.000 73.000	76.279 63.000 94.000	93.467 79.000 113.000	110.713 93.000 134.000	127.975 106.000 156.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-1078 -3200 940	-604 -1400 -20	-481 -930 -150	-419 -760 -160	-378 -660 -130	-347 -600 -120	-322 -550 -110	-302 -520 -92
Coil 0 Q	402 -15000 11000	-174 -5800 3800	-222 -3700 2100	-244 -2700 1400	-260 -2200 1000	-273 -1800 790	-285 -1600 620	-295 -1500 490
Coil 1 R	-162 -750 460	-154 -360 83	-139 -280 9	-129 -230 -10	-119 -200 -26	-111 -180 -35	-105 -160 -46	-99 -150 -49
Coil 1 Q	411 -3300 3300	85 -1100 960	26 -630 530	-2 -470 360	-17 -380 260	-28 -320 190	-35 -290 150	-40 -260 120
Coil 2 R	6.2 -85.0 76.0	-30.3 -64.0 -0.4	-34.2 -57.0 -12.0	-34.0 -51.0 -16.0	-31.7 -46.0 -17.0	-29.5 -42.0 -16.0	-27.5 -39.0 -15.0	-26.2 -37.0 -13.0
Coil 2 Q	379.1 -1500.0 1900.0	130.3 -500.0 610.0	75.8 -290.0 350.0	51.6 -220.0 260.0	38.3 -160.0 190.0	30.4 -140.0 160.0	26.0 -110.0 130.0	23.4 -99.0 120.0
Coil 3 R	1.9 -23.0 21.0	-7.4 -22.0 1.6	-9.0 -21.0 -1.3	-9.0 -20.0 -1.8	-8.8 -19.0 -2.0	-8.2 -19.0 -1.3	-7.9 -19.0 -0.8	-7.9 -19.0 -0.0
Coil 3 Q	103.0 -540.0 530.0	39.1 -180.0 180.0	26.3 -100.0 110.0	21.9 -71.0 81.0	20.3 -51.0 66.0	20.2 -37.0 58.0	20.9 -28.0 53.0	21.9 -21.0 51.0
Coil 4 R	-0.70 -18.00 13.00	-1.42 -12.00 2.70	-1.59 -11.00 1.50	-1.56 -9.80 0.52	-2.43 -9.90 0.96	-1.59 -10.00 1.50	-1.79 -11.00 2.30	-2.05 -11.00 2.60

Coil 4 Q	5.07 -250.00 280.00	3.70 -79.00 98.00	4.36 -43.00 64.00	5.61 -27.00 51.00	8.03 -18.00 46.00	8.73 -11.00 42.00	9.49 -5.50 42.00	11.43 -1.00 42.00
Coil 5 R	1.19 -56.00 51.00	0.37 -8.40 3.60	-0.06 -6.90 1.10	0.06 -6.90 1.20	-2.12 -9.30 2.90	-0.45 -14.00 6.30	-0.46 -19.00 9.60	-0.72 -24.00 13.00
Coil 5 Q	-0.39 -88.00 69.00	1.71 -26.00 27.00	3.02 -14.00 22.00	4.27 -7.00 22.00	1.68 -2.50 24.00	6.59 1.10 26.00	7.89 4.10 29.00	9.12 7.10 32.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	0.976 0.850 1.100	0.980 0.860 1.100	0.981 0.870 1.100	0.981 0.880 1.100	0.981 0.880 1.100	0.980 0.880 1.100	0.980 0.880 1.100	0.978 0.880 1.100
Coil 0 P	-0.096 -1.500 1.500	-0.096 -1.500 1.500	-0.020 -1.500 1.500	0.030 -1.500 1.500	0.078 -1.500 1.500	0.069 -1.500 1.500	0.113 -1.500 1.500	0.109 -1.500 1.500
Coil 1 M	0.970 0.850 1.100	0.973 0.860 1.100	0.974 0.870 1.100	0.975 0.880 1.100	0.974 0.880 1.100	0.973 0.880 1.100	0.973 0.880 1.100	0.972 0.880 1.100
Coil 1 P	-0.085 -1.500 1.500	-0.095 -1.500 1.500	-0.012 -1.500 1.500	0.043 -1.500 1.500	0.095 -1.500 1.500	0.098 -1.500 1.500	0.115 -1.500 1.500	0.127 -1.500 1.500
Coil 2 M	0.987 0.890 1.100	0.987 0.890 1.100	0.987 0.890 1.100	0.987 0.890 1.100	0.986 0.890 1.100	0.985 0.890 1.100	0.984 0.890 1.100	0.984 0.890 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 0.900 1.100	0.995 0.900 1.100	0.995 0.900 1.100	0.994 0.900 1.100	0.993 0.900 1.100	0.993 0.900 1.100	0.991 0.900 1.100	0.989 0.900 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 0.900 1.100	0.999 0.900 1.100	0.999 0.900 1.100	0.999 0.900 1.100	1.000 0.900 1.100	0.999 0.900 1.100	1.000 0.900 1.100	1.001 0.900 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 0.900 1.100	1.002 0.900 1.100	1.003 0.900 1.100	1.004 0.900 1.100	1.006 0.900 1.100	1.007 0.900 1.100	1.010 0.900 1.100	1.013 0.900 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: Sun Aug 24 12:14:32 2014 DAYS SINCE CAL: 228

UNIT #: 3885TC 6685

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.000 -0.200 0.200	0.000 -0.100 0.100	0.000 -0.100 0.100	-0.000 -0.100 0.100	0.000 -0.100 0.100	-0.000 -0.100 0.100	-0.000 -0.100 0.100	-0.001 -0.100 0.100
Coil 0 Q	0.001 -0.500 0.500	0.001 -0.200 0.200	0.001 -0.100 0.100	0.000 -0.100 0.100	0.001 -0.100 0.100	-0.001 -0.100 0.100	-0.001 -0.100 0.100	0.001 -0.100 0.100
Coil 1 R	0.006 -0.200 0.200	0.002 -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	-0.001 -0.100 0.100	0.001 -0.100 0.100
Coil 1 Q	0.004 -0.500 0.500	-0.001 -0.200 0.200	-0.001 -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	0.001 -0.100 0.100

Coil 2 R	0.002 -0.200 0.200	-0.003 -0.100 0.100	-0.000 -0.100 0.100	0.002 -0.100 0.100	0.002 -0.100 0.100	-0.003 -0.100 0.100	-0.001 -0.100 0.100	-0.003 -0.100 0.100
Coil 2 Q	-0.006 -0.500 0.500	0.001 -0.200 0.200	-0.001 -0.100 0.100	-0.001 -0.100 0.100	0.000 -0.100 0.100	-0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.004 -0.100 0.100
Coil 3 R	0.018 -0.300 0.300	-0.009 -0.100 0.100	0.001 -0.100 0.100	0.002 -0.100 0.100	-0.002 -0.100 0.100	-0.004 -0.100 0.100	0.001 -0.100 0.100	-0.000 -0.100 0.100
Coil 3 Q	0.004 -0.500 0.500	-0.003 -0.200 0.200	0.001 -0.100 0.100	0.000 -0.100 0.100	-0.002 -0.100 0.100	-0.001 -0.100 0.100	0.002 -0.100 0.100	-0.000 -0.100 0.100
Coil 4 R	0.065 -0.500 0.500	0.001 -0.200 0.200	-0.002 -0.200 0.200	0.004 -0.200 0.200	0.002 -0.200 0.200	0.006 -0.200 0.200	-0.003 -0.200 0.200	-0.007 -0.200 0.200
Coil 4 Q	0.003 -1.000 1.000	-0.011 -0.400 0.400	-0.001 -0.200 0.200	-0.002 -0.200 0.200	-0.007 -0.200 0.200	0.003 -0.200 0.200	0.001 -0.200 0.200	0.000 -0.200 0.200
Coil 5 R	0.137 -1.200 1.200	0.005 -0.400 0.400	-0.012 -0.400 0.400	0.004 -0.400 0.400	-0.003 -0.400 0.400	0.000 -0.400 0.400	0.010 -0.400 0.400	0.001 -0.400 0.400
Coil 5 Q	0.051 -1.500 1.500	-0.017 -0.800 0.800	0.017 -0.400 0.400	0.007 -0.400 0.400	0.002 -0.400 0.400	0.001 -0.400 0.400	0.009 -0.400 0.400	-0.011 -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	161.26 136.00 186.00	159.84 134.00 184.00	156.96 131.00 181.00	152.68 126.00 176.00	147.02 122.00 170.00	140.06 118.00 161.00	131.86 112.00 150.00	122.50 105.00 139.00
Coil 0 P	7.632 -1.000 12.000	25.327 19.000 30.000	42.549 35.000 50.000	59.728 49.000 71.000	76.909 63.000 91.000	94.093 77.000 110.000	111.284 92.000 130.000	128.427 105.000 151.000
Coil 1 M	281.36 237.00 327.00	279.01 235.00 325.00	274.27 230.00 320.00	267.20 225.00 312.00	257.87 218.00 302.00	246.32 208.00 288.00	232.60 196.00 266.00	216.78 184.00 244.00
Coil 1 P	7.538 -1.000 12.000	25.061 19.000 30.000	42.111 35.000 51.000	59.128 49.000 71.000	76.162 63.000 92.000	93.218 77.000 112.000	110.317 92.000 132.000	127.415 105.000 153.000
Coil 2 M	567.52 479.00 659.00	562.69 474.00 654.00	552.95 463.00 643.00	538.38 450.00 622.00	519.15 432.00 602.00	495.23 412.00 572.00	466.90 390.00 540.00	434.30 359.00 499.00
Coil 2 P	7.685 -1.000 12.000	25.509 19.000 31.000	42.866 35.000 51.000	60.189 49.000 71.000	77.536 63.000 92.000	94.911 77.000 114.000	112.315 92.000 135.000	129.740 105.000 156.000
Coil 3 M	921.19 772.00 1060.00	912.84 764.00 1050.00	895.97 752.00 1030.00	870.90 728.00 1010.00	837.92 700.00 970.00	797.35 665.00 925.00	749.67 628.00 868.00	695.28 589.00 799.00
Coil 3 P	7.798 -2.000 13.000	25.834 19.000 31.000	43.393 35.000 52.000	60.901 49.000 72.000	78.385 63.000 93.000	95.878 77.000 114.000	113.352 92.000 135.000	130.785 105.000 156.000
Coil 4 M	1449.0 1210.0 1700.0	1435.5 1205.0 1690.0	1408.4 1180.0 1650.0	1368.4 1140.0 1590.0	1315.5 1120.0 1530.0	1250.8 1070.0 1450.0	1174.6 1000.0 1350.0	1089.8 942.0 1240.0
Coil 4 P	7.766 -2.000 13.000	25.764 19.000 31.000	43.283 35.000 52.000	60.750 49.000 73.000	78.211 63.000 93.000	95.659 78.000 114.000	113.086 92.000 135.000	130.455 105.000 156.000
Coil 5 M	2936.8 2450.0 3450.0	2914.9 2420.0 3400.0	2869.7 2410.0 3320.0	2800.0 2350.0 3200.0	2707.7 2280.0 3080.0	2592.8 2150.0 2950.0	2454.4 2020.0 2750.0	2296.5 1870.0 2570.0
Coil 5 P	7.535 -2.000 13.000	25.068 19.000 31.000	42.168 35.000 52.000	59.265 49.000 73.000	76.383 63.000 94.000	93.583 79.000 114.000	110.860 93.000 135.000	128.156 106.000 156.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10118612 DATE/TIME PERFORMED: Mon Aug 25 12:41:23 2014 DAYS SINCE CAL: 229

UNIT #: 3885TC 6685

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.001 -0.080 0.080	0.000 -0.060 0.060	0.000 -0.030 0.030	-0.000 -0.030 0.030	0.000 -0.030 0.030	-0.000 -0.030 0.030	0.000 -0.030 0.030	-0.000 -0.031 0.029
Coil 0 Q	0.003	0.001	-0.001	-0.001	0.000	0.000	0.000	-0.000

	-0.039 0.041	-0.119 0.121	-0.029 0.031	-0.030 0.030	-0.029 0.031	-0.031 0.029	-0.031 0.029	-0.029 0.031
Coil 1 R	0.006 -0.074 0.086	0.002 -0.048 0.052	-0.002 -0.032 0.028	0.001 -0.029 0.031	0.001 -0.031 0.029	0.001 -0.029 0.031	0.000 -0.031 0.029	0.001 -0.029 0.031
Coil 1 Q	0.005 -0.396 0.404	0.000 -0.101 0.099	-0.000 -0.031 0.029	0.000 -0.030 0.030	-0.000 -0.031 0.029	-0.001 -0.030 0.030	-0.000 -0.029 0.031	-0.000 -0.029 0.031
Coil 2 R	0.003 -0.068 0.072	-0.001 -0.033 0.027	0.002 -0.030 0.030	-0.001 -0.028 0.032	-0.001 -0.028 0.032	0.000 -0.033 0.027	0.001 -0.031 0.029	-0.003 -0.033 0.027
Coil 2 Q	-0.004 -0.356 0.344	0.002 -0.099 0.101	0.001 -0.031 0.029	-0.001 -0.031 0.029	-0.001 -0.030 0.030	-0.001 -0.031 0.029	-0.002 -0.030 0.030	-0.002 -0.034 0.026
Coil 3 R	0.021 -0.022 0.058	-0.003 -0.049 0.031	0.004 -0.039 0.041	-0.002 -0.038 0.042	-0.002 -0.042 0.038	0.000 -0.044 0.036	0.001 -0.039 0.041	-0.000 -0.040 0.040
Coil 3 Q	0.004 -0.196 0.204	-0.004 -0.083 0.077	-0.002 -0.039 0.041	0.003 -0.040 0.040	-0.004 -0.042 0.038	-0.005 -0.041 0.039	0.001 -0.038 0.042	0.000 -0.040 0.040
Coil 4 R	0.059 0.005 0.125	-0.007 -0.059 0.061	-0.004 -0.062 0.058	0.011 -0.056 0.064	0.001 -0.058 0.062	-0.004 -0.054 0.066	0.005 -0.063 0.057	0.002 -0.067 0.053
Coil 4 Q	0.002 -0.297 0.303	-0.010 -0.111 0.089	0.005 -0.061 0.059	0.002 -0.062 0.058	-0.012 -0.067 0.053	0.005 -0.057 0.063	0.003 -0.059 0.061	-0.002 -0.060 0.060
Coil 5 R	0.144 0.017 0.257	-0.009 -0.115 0.125	-0.021 -0.132 0.108	0.010 -0.116 0.124	0.002 -0.123 0.117	0.004 -0.120 0.120	-0.004 -0.110 0.130	-0.006 -0.119 0.121
Coil 5 Q	0.026 -0.549 0.651	-0.019 -0.267 0.233	0.007 -0.103 0.137	-0.001 -0.113 0.127	-0.011 -0.118 0.122	-0.004 -0.119 0.121	-0.004 -0.111 0.129	-0.002 -0.131 0.109

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	161.07 158.04 164.49	159.64 156.64 163.03	156.76 153.82 160.10	152.51 149.62 155.73	146.83 144.08 149.96	139.89 137.26 142.87	131.67 129.22 134.50	122.33 120.05 124.95
Coil 0 P	7.349 4.632 10.632	25.266 22.327 28.327	42.556 39.549 45.549	59.776 56.728 62.728	76.983 73.909 79.909	94.211 91.093 97.093	111.410 108.284 114.284	128.618 125.427 131.427
Coil 1 M	281.31 275.73 286.98	278.96 273.43 284.59	274.23 268.79 279.76	267.19 261.86 272.54	257.83 252.71 263.03	246.27 241.40 251.25	232.54 227.95 237.26	216.76 212.45 221.12
Coil 1 P	7.269 4.538 10.538	25.002 22.061 28.061	42.122 39.111 45.111	59.180 56.128 62.128	76.245 73.162 79.162	93.323 90.218 96.218	110.447 107.317 113.317	127.600 124.415 130.415
Coil 2 M	566.84 556.17 578.87	561.99 551.43 573.94	552.29 541.89 564.00	537.82 527.61 549.15	518.44 508.77 529.53	494.60 485.32 505.13	466.38 457.56 476.24	433.91 425.61 442.98
Coil 2 P	7.382 4.685 10.685	25.439 22.509 28.509	42.868 39.866 45.866	60.234 57.189 63.189	77.608 74.536 80.536	95.021 91.911 97.911	112.456 109.315 115.315	129.895 126.740 132.740
Coil 3 M	920.61 902.76 939.61	912.17 894.58 931.09	895.36 878.05 913.89	870.45 853.48 888.32	837.42 821.16 854.68	796.66 781.41 813.30	749.18 734.67 764.66	694.67 681.38 709.19
Coil 3 P	7.501 4.798 10.798	25.763 22.834 28.834	43.393 40.393 46.393	60.936 57.901 63.901	78.462 75.385 81.385	95.974 92.878 98.878	113.494 110.352 116.352	130.974 127.785 133.785
Coil 4 M	1450.1 1420.0 1477.9	1436.6 1406.8 1464.2	1409.5 1380.3 1436.6	1369.6 1341.0 1395.7	1316.4 1289.2 1341.9	1251.6 1225.7 1275.8	1175.4 1151.1 1198.1	1090.2 1068.0 1111.6
Coil 4 P	7.472 4.766 10.766	25.694 22.764 28.764	43.285 40.283 46.283	60.793 57.750 63.750	78.288 75.211 81.211	95.766 92.659 98.659	113.230 110.086 116.086	130.620 127.455 133.455
Coil 5 M	2931.7 2878.1 2995.6	2909.6 2856.6 2973.2	2864.1 2812.3 2927.1	2795.4 2744.0 2856.0	2702.9 2653.6 2761.9	2587.2 2540.9 2644.7	2450.1 2405.3 2503.5	2292.3 2250.5 2342.4
Coil 5 P	7.261 4.535 10.535	25.011 22.068 28.068	42.185 39.168 45.168	59.300 56.265 62.265	76.468 73.383 79.383	93.678 90.583 96.583	110.963 107.860 113.860	128.324 125.156 131.156

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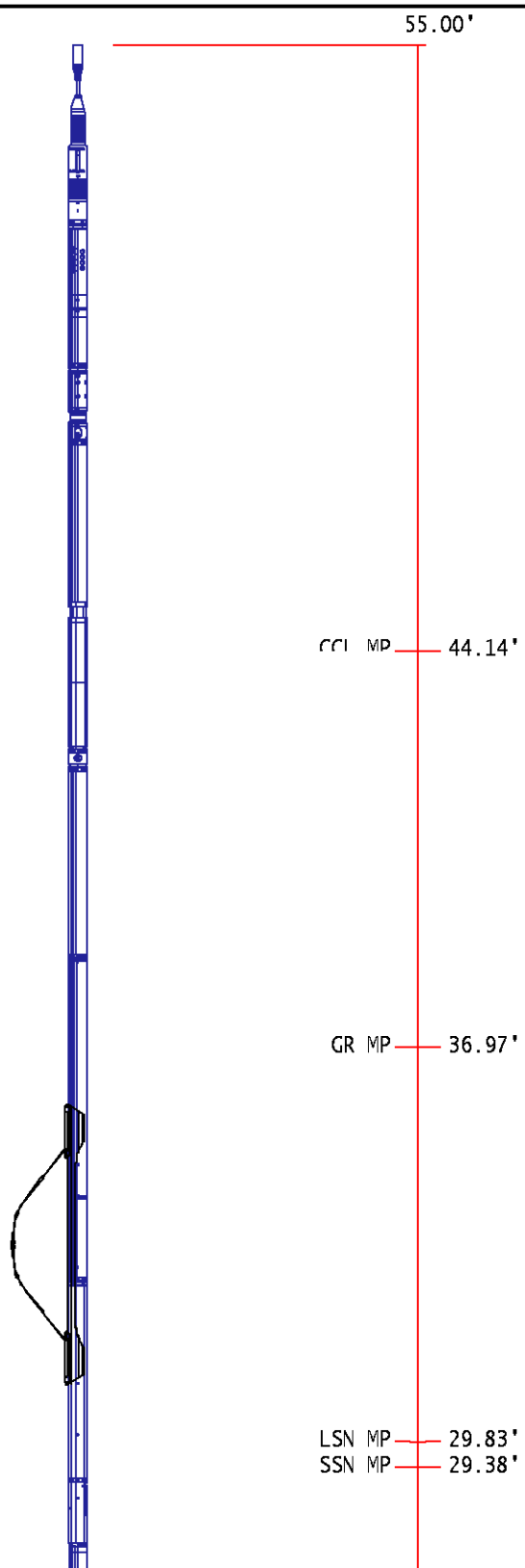


FOCUS CABLEHEAD
- Diameter : 3.12"
- Length : 3.17'
- Weight : 15 lbs
- Series : CABL318
- Mnemonic : CBLH

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

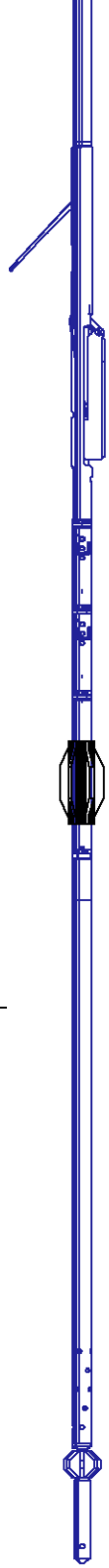
FOCUS TEN/TEMP/MUD RES/ACCEL
- Diameter : 3.13"
- Length : 4.31'
- Weight : 61 lbs
- Series : 3980XA
- Mnemonic : TTMA

COLLAR LOCATOR
- Diameter : 3.12"
- Length : 2.67'
- Weight : 14 lbs
- Series : 2334XA
- Mnemonic : CCL

FOCUS TELEMETRY (POWER SECTION)
- Diameter : 3.13"
- Length : 3.71'
- Weight : 48 lbs
- Series : 3518FB
- Mnemonic : TMGR

FOCUS EB/EG TELEMETRY GAMMA RAY
- Diameter : 3.12"
- Length : 5.83'
- Weight : 63 lbs
- Series : 3518EG
- 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

CR1 MP — 22.67'
LSD / CR2 MP — 20.02'
SSD MP — 19.63'

FOCUS KNUCKLE JOINT
Diameter : 3.13"
Length : 1.50'

FOCUS KNUCKLE JOINT
Diameter : 3.13"
Length : 1.50'

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

COIL 5 MP — 9.17'
COIL 4 MP — 7.67'
COIL 3 MP — 6.17'
COIL 2 MP — 5.67'
COIL 1 MP — 5.17'
COIL 0 MP — 4.67'
SP MP — 3.14'

FOCUS PINEAPPLE / CABBAGE
HOLE FINDER
Diameter : 2.62"
Length : 1.50'

0.00'

TOTAL LENGTH: 55.00'
TOTAL WEIGHT: 770 lbs
MAX DIAMETER: 0'6.13"

BAKER HUGHES

COMPANY WPX ENERGY INC
WELL SAVAGE RWF 344-25
FIELD RULISON
COUNTY GARFIELD STATE COLORADO

FILE NO: US089692J
API NO: 05045219980000

LOCATION:
SHL: 1147' FSL 1381' FEL
BHL: 840' FSL 917' FEL

ELEVATIONS:
KB 6260 FT
DF
GL 3264 FT

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

	SEC 25 TWP 6S RGE 94W	DATE 25-AUG-2014