BAKER HUGHES

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

FILE NO:	625565
API NO:	05045193090000
COMPANY	WPX ENERGY INC
WELL	WPX ENERGY GM 423-34
FIELD	GRAND VALLEY
COUNTY	GARFIELD
STATE	CO

Ver. 3.87

LOCATION:
SHL: 1958' FSL 2182' FWL
BHL: 1534' FSL 2405' FEL
SEC 34 TWP 6S RGE 96W

S34 T6S R96W
PAD GM 23-34
RIG: NABORS 574

OTHER SERVICES

PERMANENT DATUM	GL	ELEVATION	5357 FT
LOG MEASURED FROM	KB	26 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		

ELEVATIONS:
KB 5383 FT
DF 5383 FT
GL 5357 FT

DATE		29-Jul-2013			
RUN	TRIP	1	1		
SERVICE ORDER		625565			
DEPTH DRILLER		6630 FT			
DEPTH LOGGER		6617 FT			
BOTTOM LOGGED INTERVAL		6615 FT			
TOP LOGGED INTERVAL		30 FT			
CASING DRILLER		9.625 IN @ 699 FT		@	
CASING LOGGER		698 FT			
BIT SIZE		8.75 IN			
TYPE OF FLUID IN HOLE		LSND			
DENSITY	VISCOSITY	11.5 LB/G	63 CP		
PH	FLUID LOSS	8.8	4.0 C3		
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		.64 OHMM @ 78 DEGF		@	
RMF AT MEAS. TEMP.		.48 OHMM @ 73 DEGF		@	
RMC AT MEAS. TEMP.		.80 OHMM @ 73 DEGF		@	
SOURCE OF RMF	RMC	CALCULATED	CALCULATED		
RM AT BHT		1.4 OHMM @ 177 DEGF		@	
TIME SINCE CIRCULATION		8 HR			
MAX. RECORDED TEMP.		179 DEGF			
EQUIP. NO.	LOCATION	6670	GRAND JCT		
RECORDED BY		D. SMITH			
WITNESSED BY		G. VALLAD			

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN	32 LB/F		0 FT	699 FT

BOREHOLE RECORD

BIT SIZE	FROM	TO
8.75 IN	699 FT	6630 FT

REMARKS

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

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

REPEAT SECTION RECORDED FROM 200 FT BELOW SURFACE CASING

CN MATRIX = SANDSTONE

RHO MATRIX = 2.68 GM/CC
RHO FLUID = 1.00

TTMA MEASURED RMUD VALUES DRIFT WITH MEASUREMENT ERRORS

RM CALCULATED

HDIL RAN AT 1.5 INCH STANDOFF

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

EQUIPMENT DATA					
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3980	10120299	FREE
1	1	TELE/GR	3518EB	10139870	FREE
1	1	CN	2436XA	10124366	DECENTRALIZED
1	1	ZDL	2223XA	10090664	PAD DEVICE
1	1	HDIL	1530	10120519	STANDOFF

MAIN LOG 2"/100FT SCALE

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

Plotted: Tue Jul 30 12:09:29 2013

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/625565/MUD_SAMPLE01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 586.771 ft BOTTOM DEPTH: 6629.245 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	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	78.0	degF	"	"
	MUD SAMPLE RES	0.640	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	MUD SAMP DERIVED		"	"
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
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

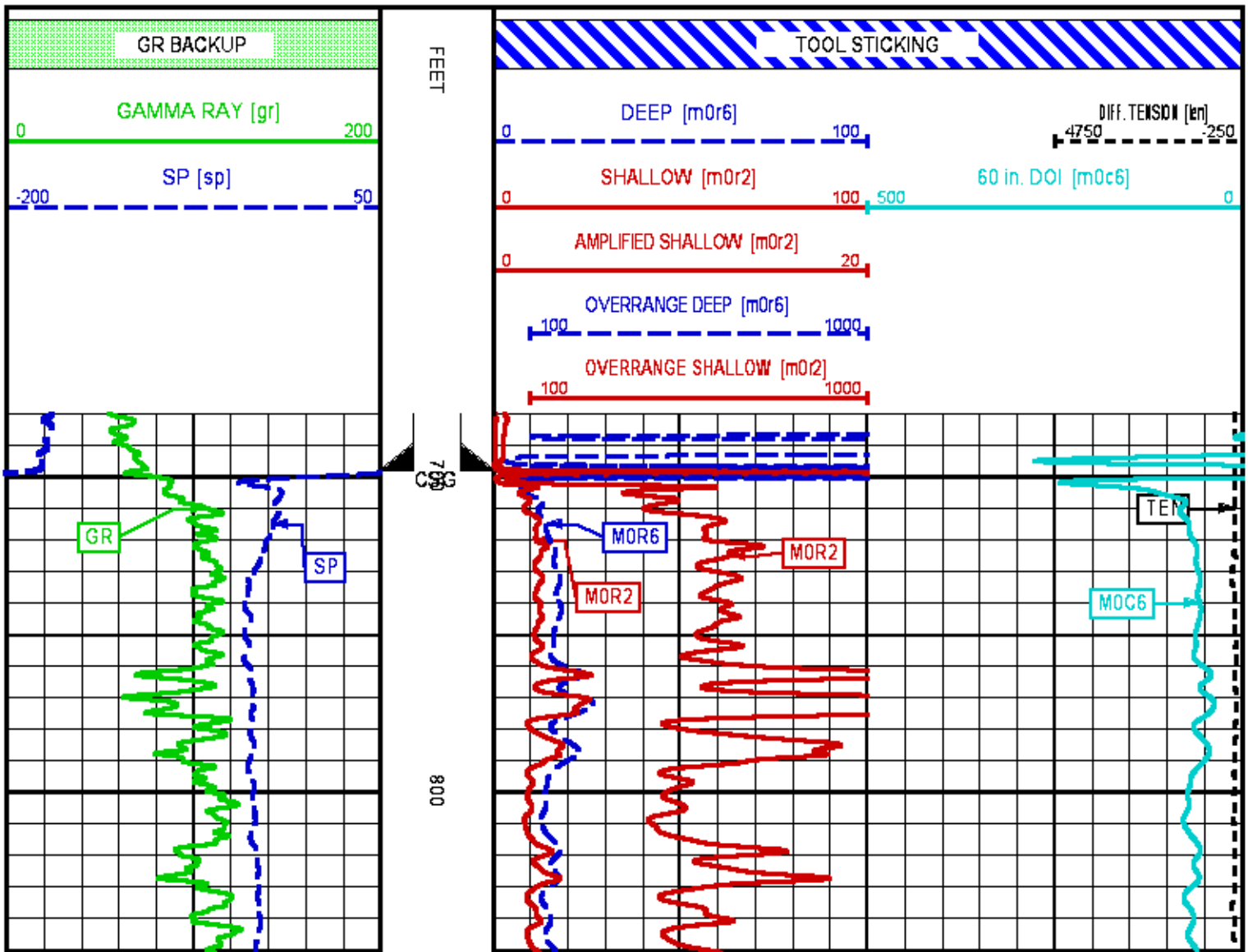
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:GR	Jul 30 03:19:48 2013	GAMMA RAY
F1:M0C6	Jul 30 03:19:48 2013	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:M0R2	Jul 30 03:19:48 2013	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:M0R6	Jul 30 03:19:48 2013	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	Jul 30 03:19:48 2013	SPONTANEOUS POTENTIAL
F1:TEN	Jul 30 03:19:48 2013	DIFFERENTIAL TENSION

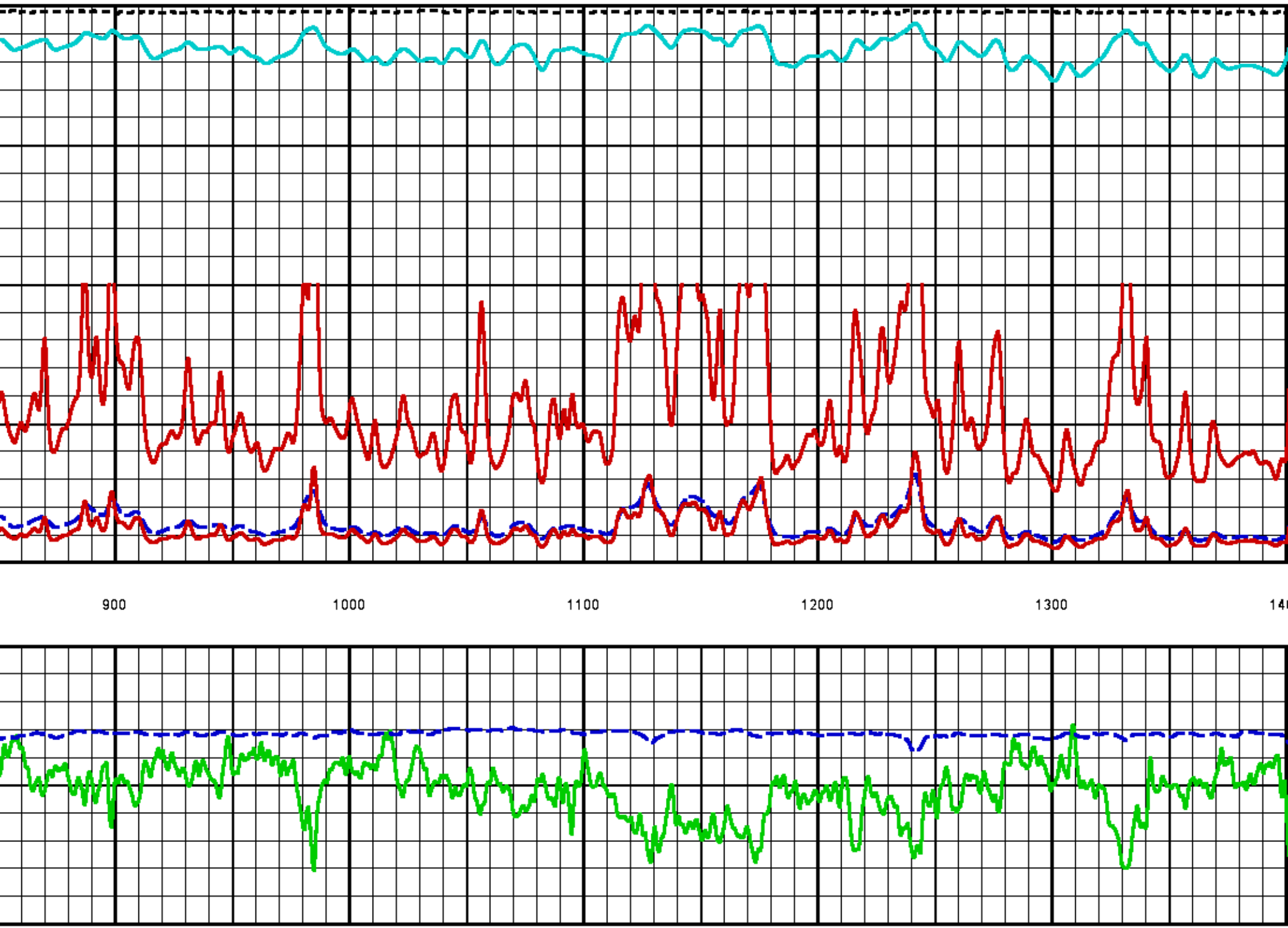
CURVE MEASURE POINT OFFSET

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

Presentation : HL6670:WPX_2IN_RDR.fvpdf [2"/100' Scale]
Plot Interval : 680 - 6639.75 Feet

Data File 1 : F1 : HL6670:/dat1a/625565/MUD_SAMPLE_RDR.xtf
Created On : Jul 30 03:19:48 2013
Company : WPX ENERGY
Well : WPX ENERGY GM 423-34
Field : GRAND VALLEY
File Interval : 30 - 6639.75 Feet
OCT : n970a

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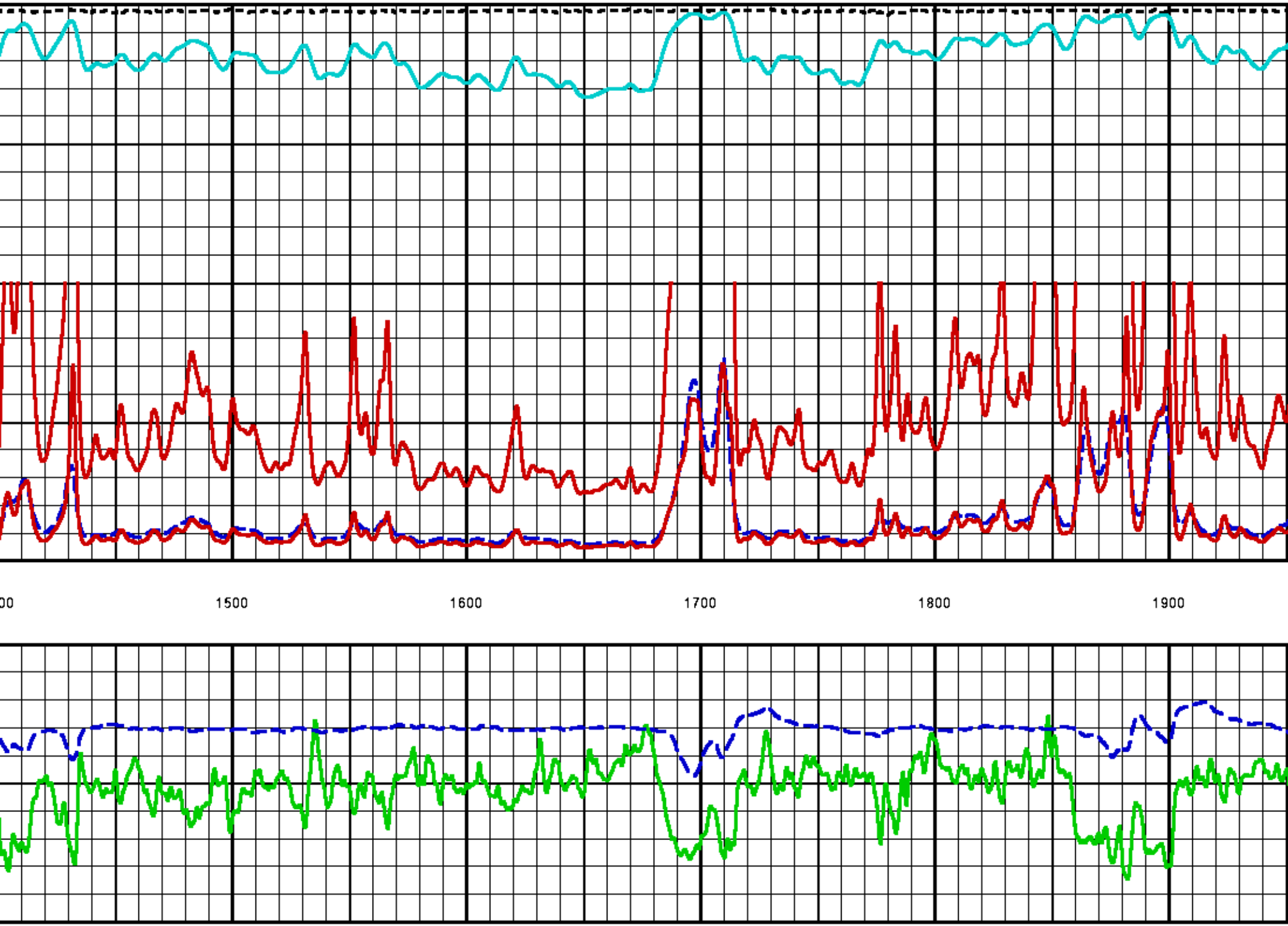
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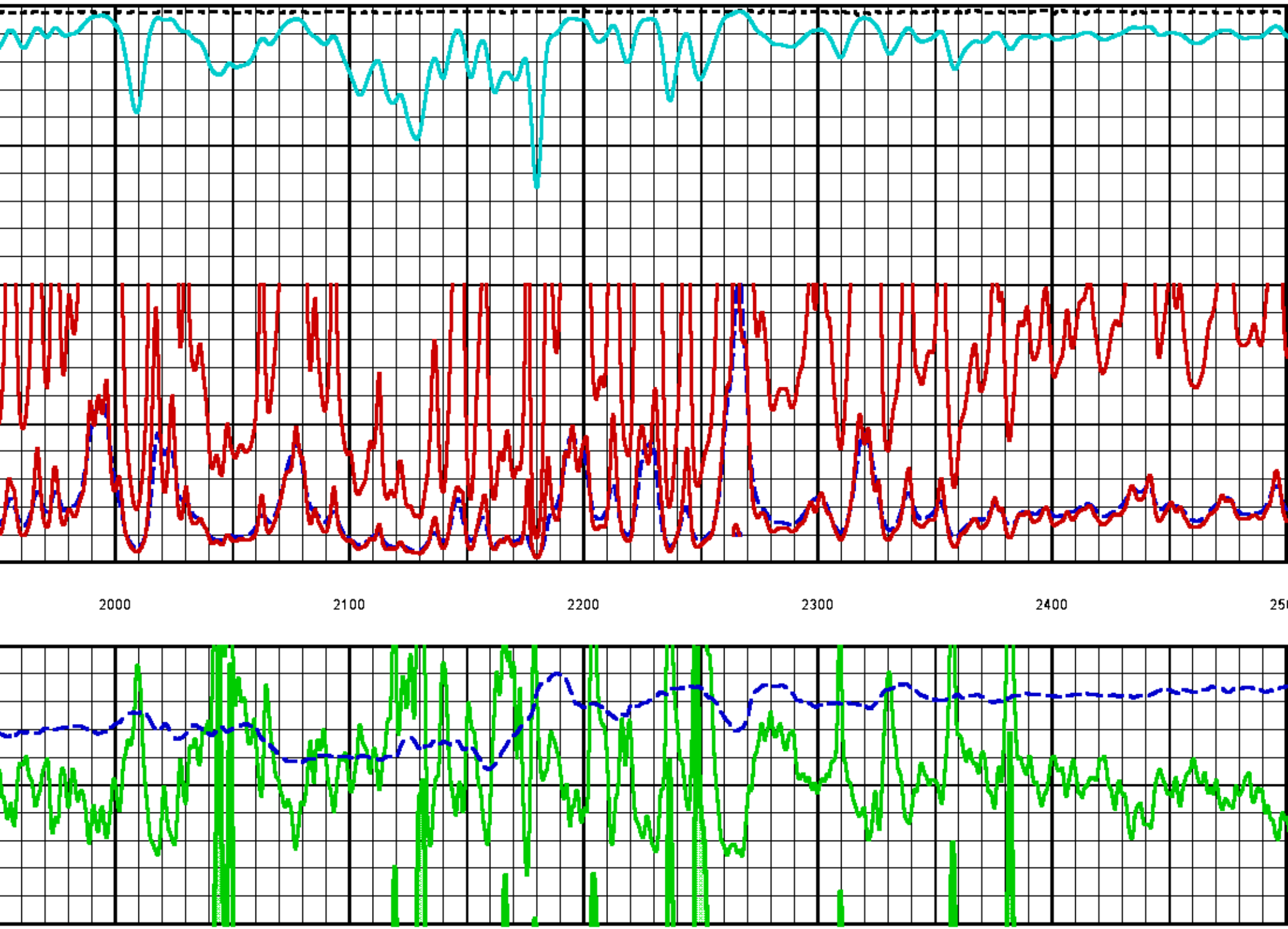
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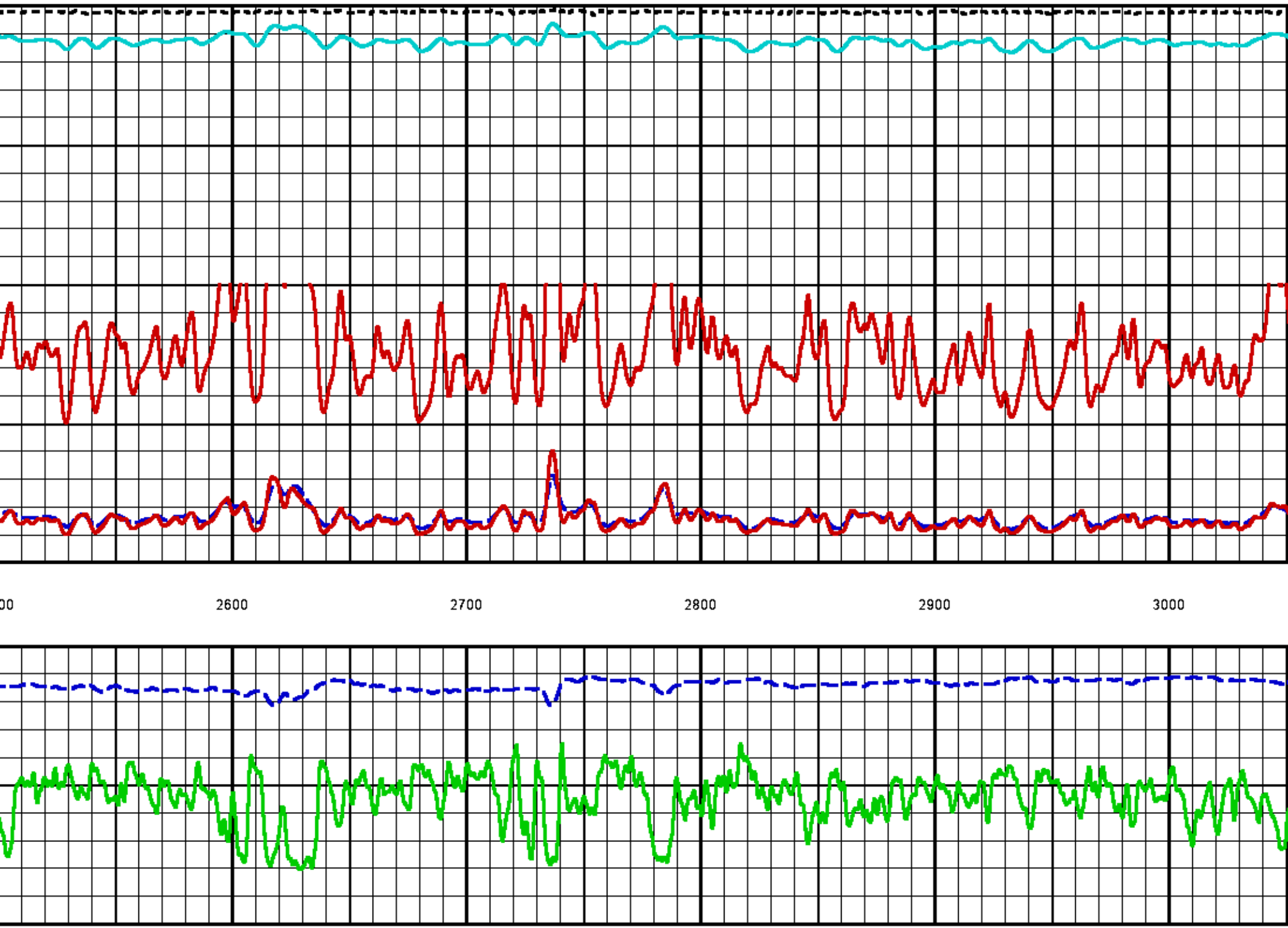
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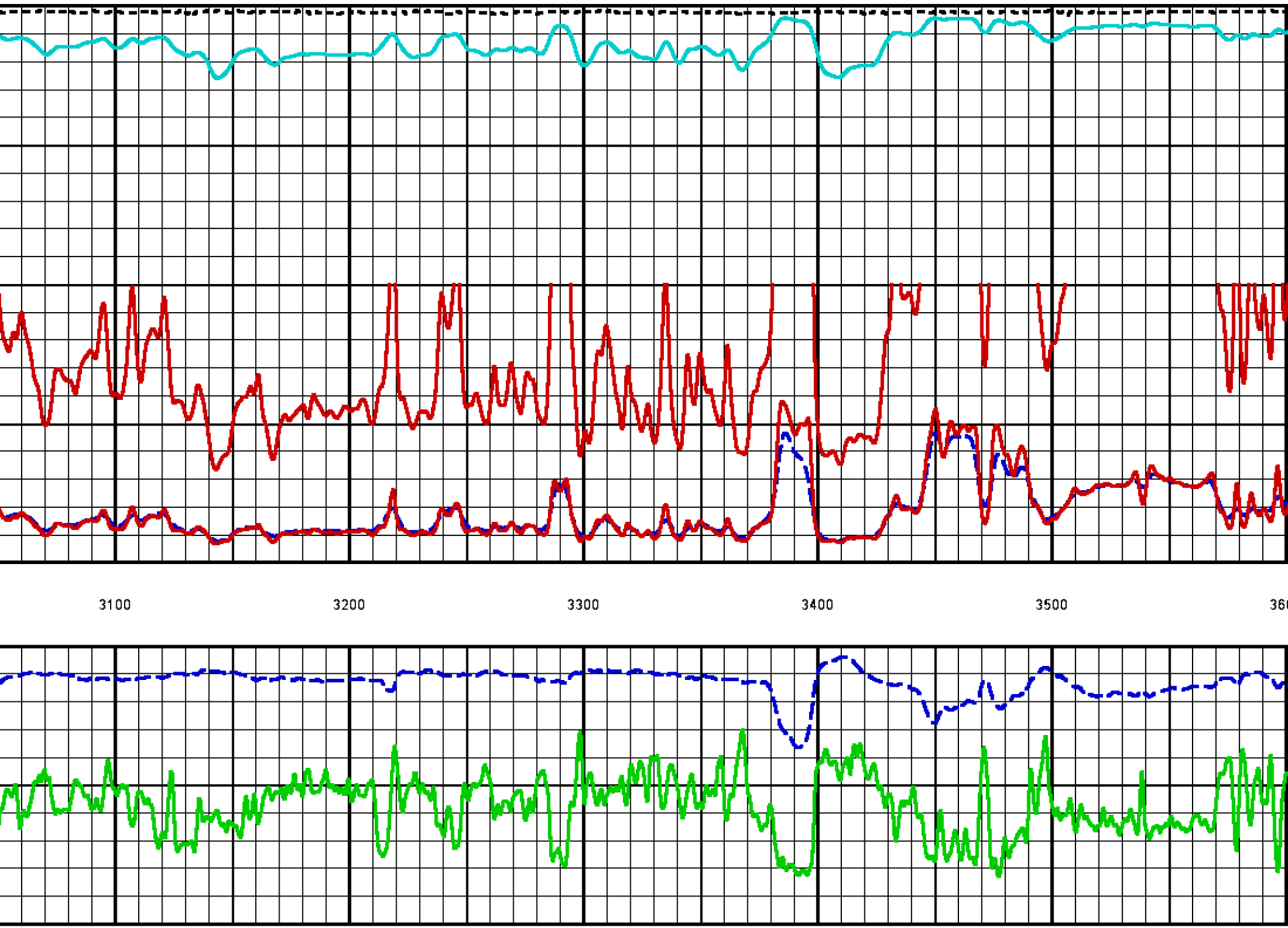
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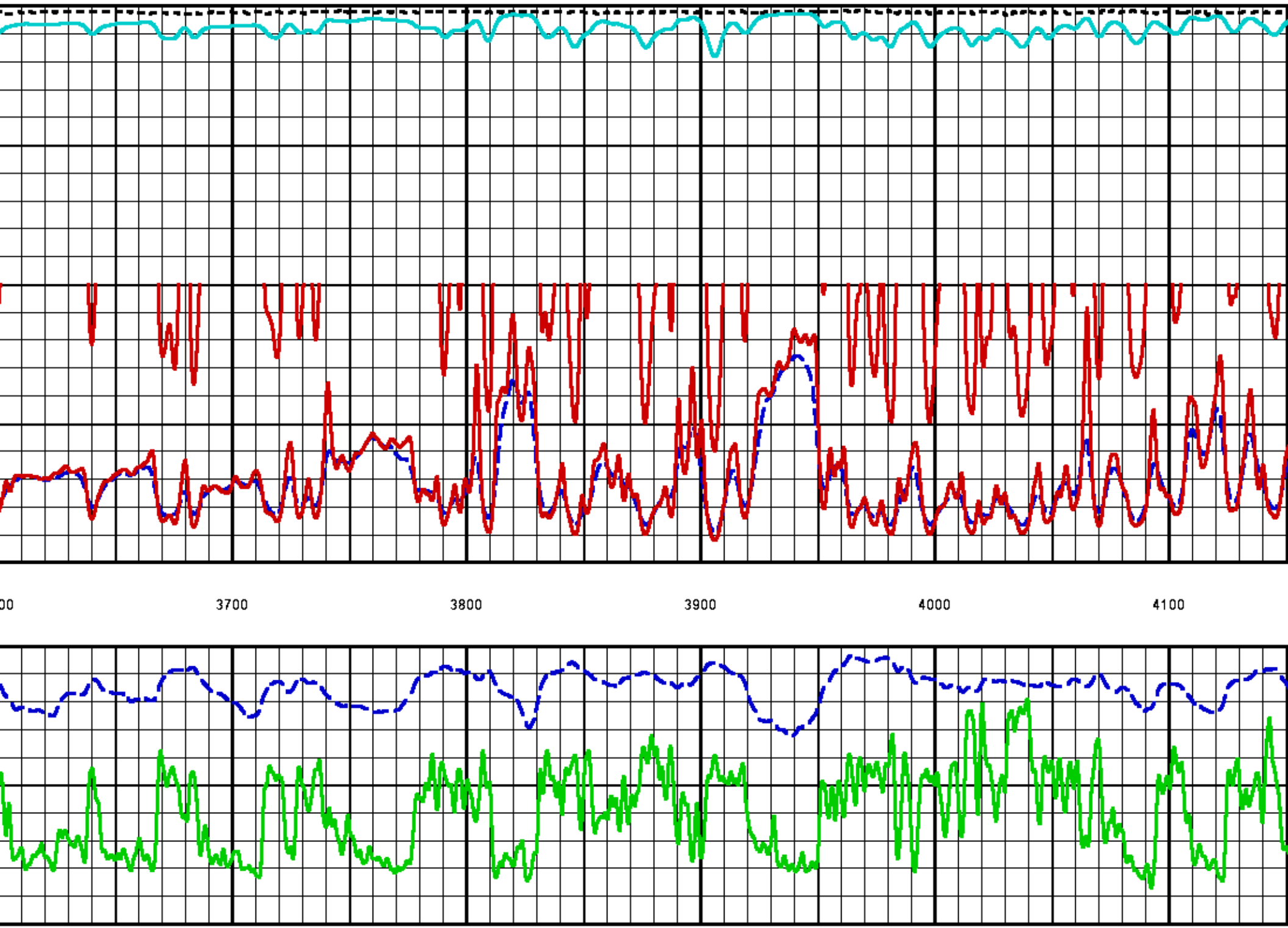
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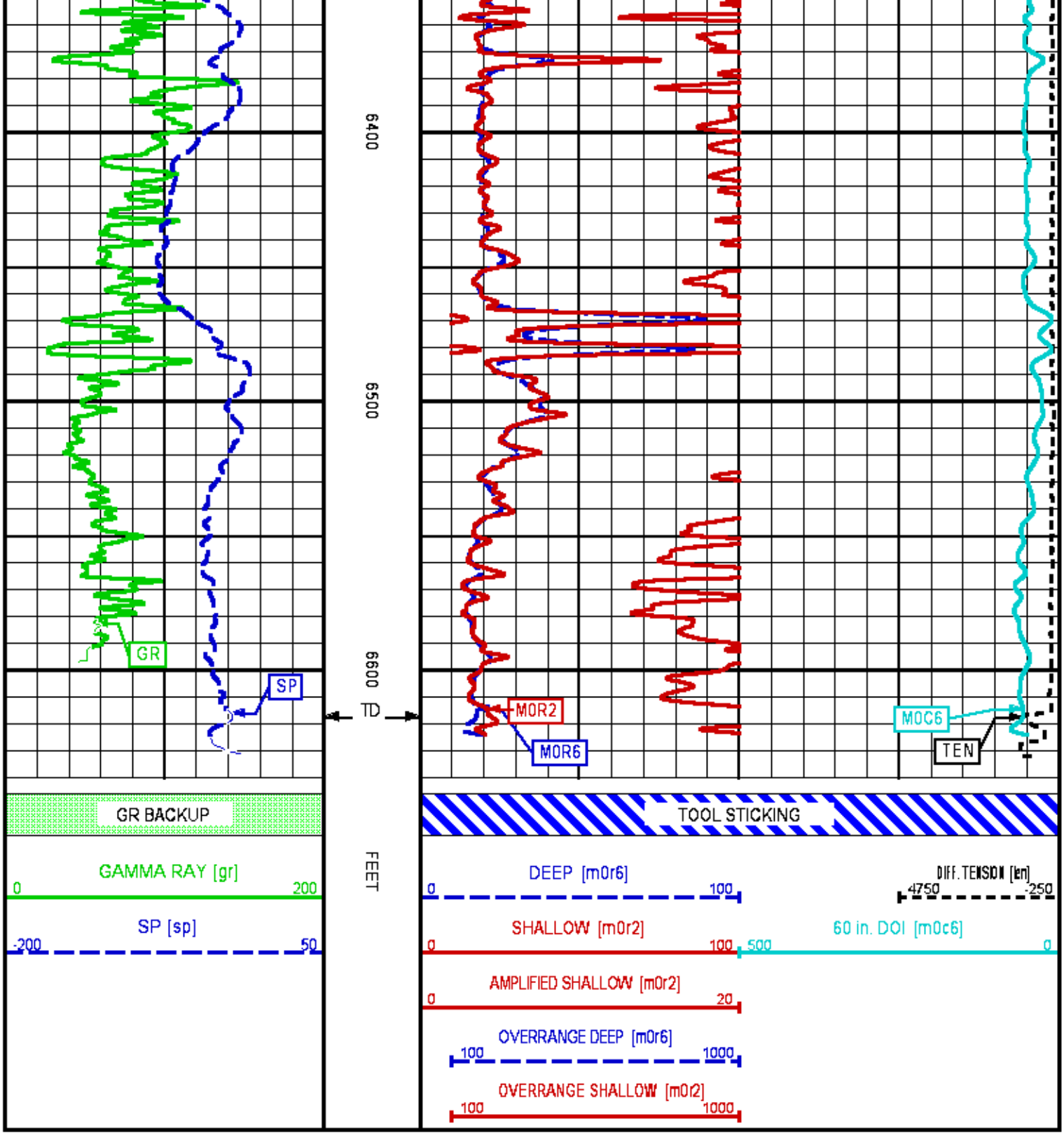


MAIN LOG 5"/100FT SCALE

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

Plotted: Tue Jul 30 04:04:26 2013

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/625565/MUD_SAMPLE01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 586.771 ft BOTTOM DEPTH: 6629.245 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	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	78.0	degF	"	"
	MUD SAMPLE RES	0.640	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	MUD SAMP DERIVED		"	"
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	5114	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	9.625	in	"	"

ZDL PROCESSING

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

HDIL PROCESSING

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

CURVE DESCRIPTION REPORT

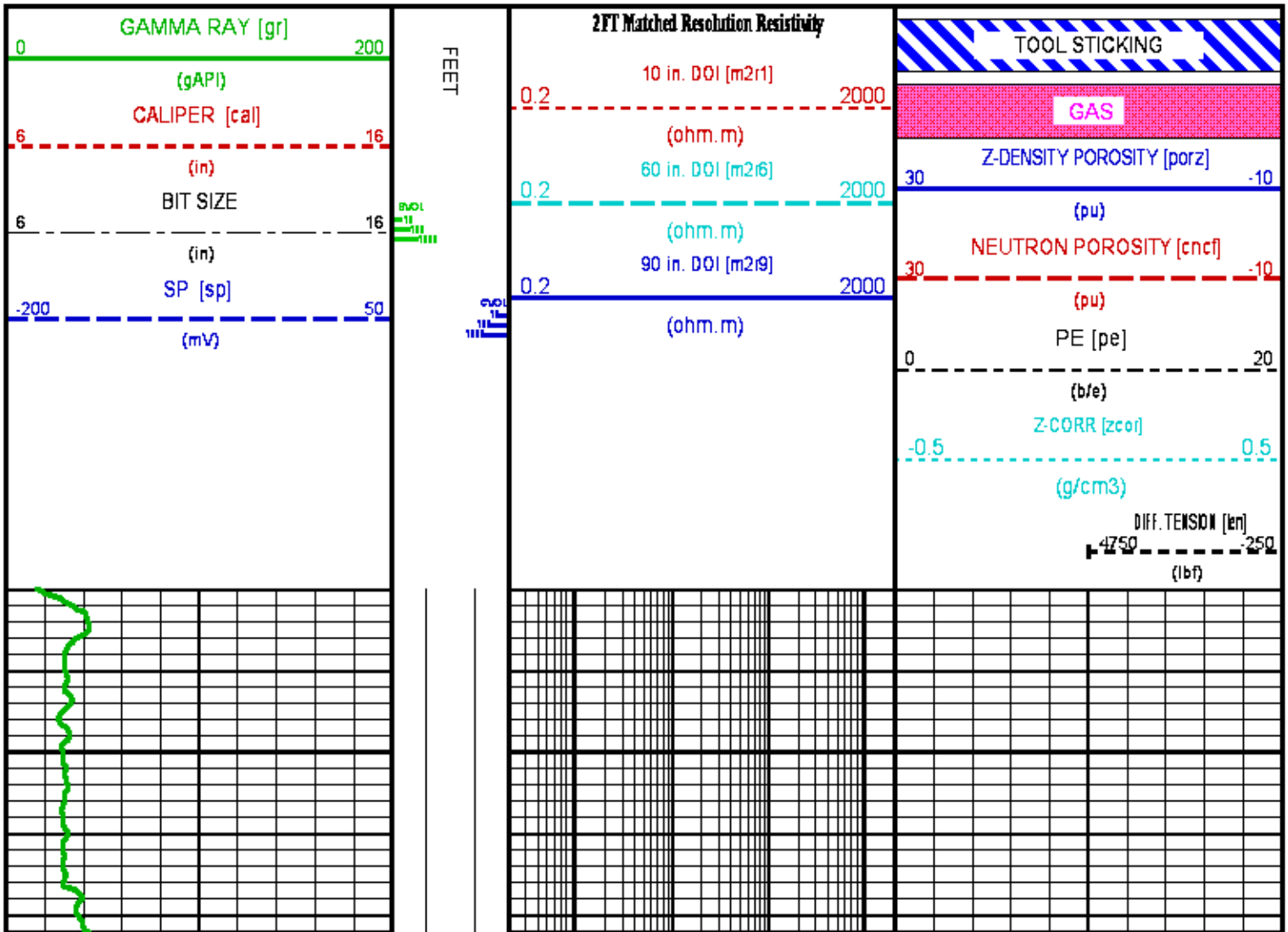
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Jul 30 03:19:48 2013	BIT SIZE
F1:BVOL	Jul 30 03:19:48 2013	BOREHOLE VOLUME
F1:CAL	Jul 30 03:19:48 2013	CALIPER
F1:CNCF	Jul 30 03:19:48 2013	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Jul 30 03:19:48 2013	CEMENT VOLUME
F1:GR	Jul 30 03:19:48 2013	GAMMA RAY
F1:M2R1	Jul 30 03:19:48 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Jul 30 03:19:48 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Jul 30 03:19:48 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Jul 30 03:19:48 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Jul 30 03:19:48 2013	POROSITY FOR SELECTABLE MATRIX
F1:SP	Jul 30 03:19:48 2013	SPONTANEOUS POTENTIAL
F1:TEN	Jul 30 03:19:48 2013	DIFFERENTIAL TENSION
F1:ZCOR	Jul 30 03:19:48 2013	DENSITY CORRECTION

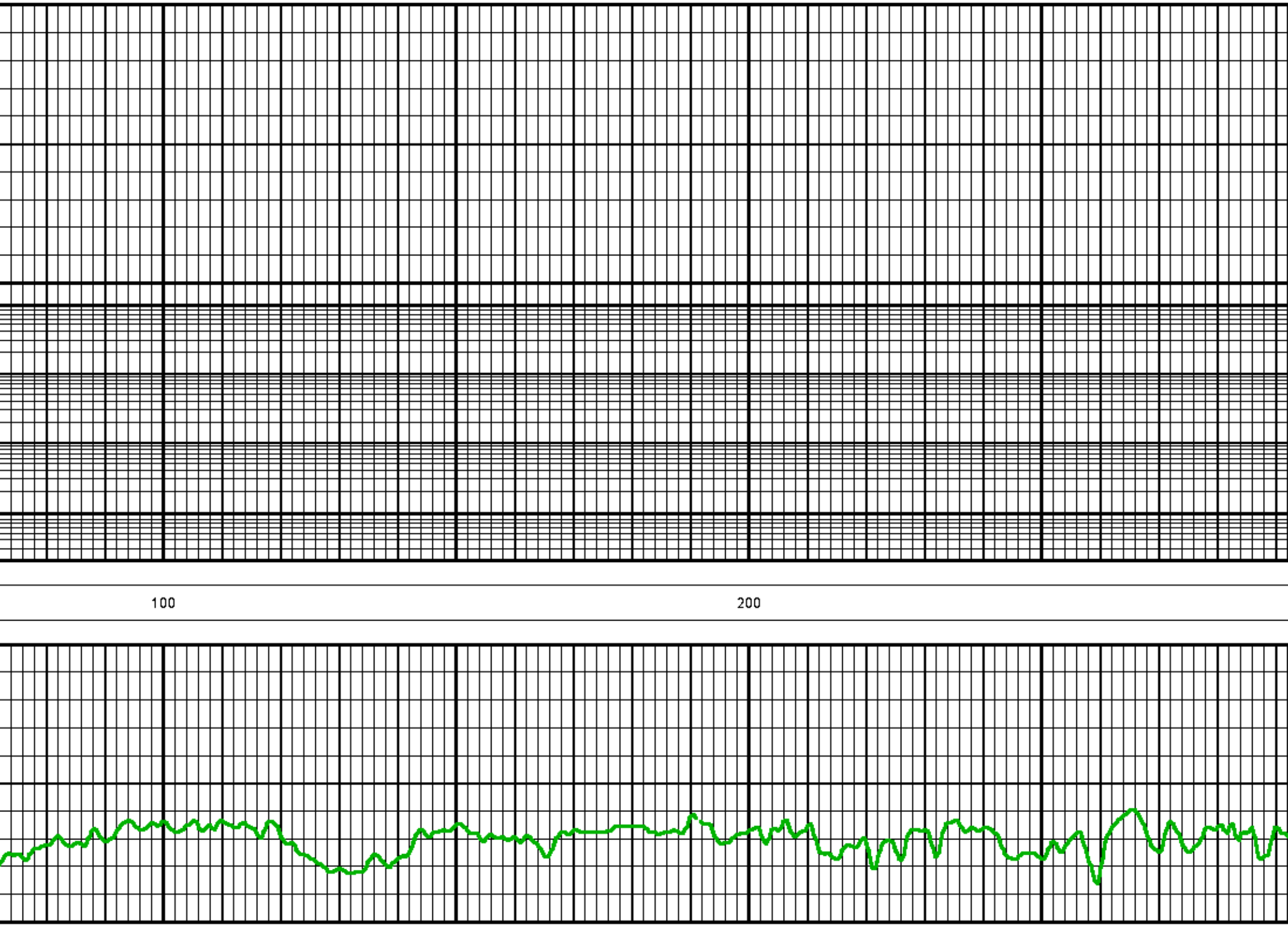
CURVE MEASURE POINT OFFSET

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

Presentation : HL6670:WPX_MAIN_RDR_1.fvpdf [5"/100' Scale]
Plot Interval : 30 - 6639.75 Feet

Data File 1 : F1 : HL6670:/dat1a/625565/MUD_SAMPLE_RDR.xtf
Created On : Jul 30 03:19:48 2013
Company : WPX ENERGY
Well : WPX ENERGY GM 423-34
Field : GRAND VALLEY
File Interval : 30 - 6639.75 Feet
OCT : n970a

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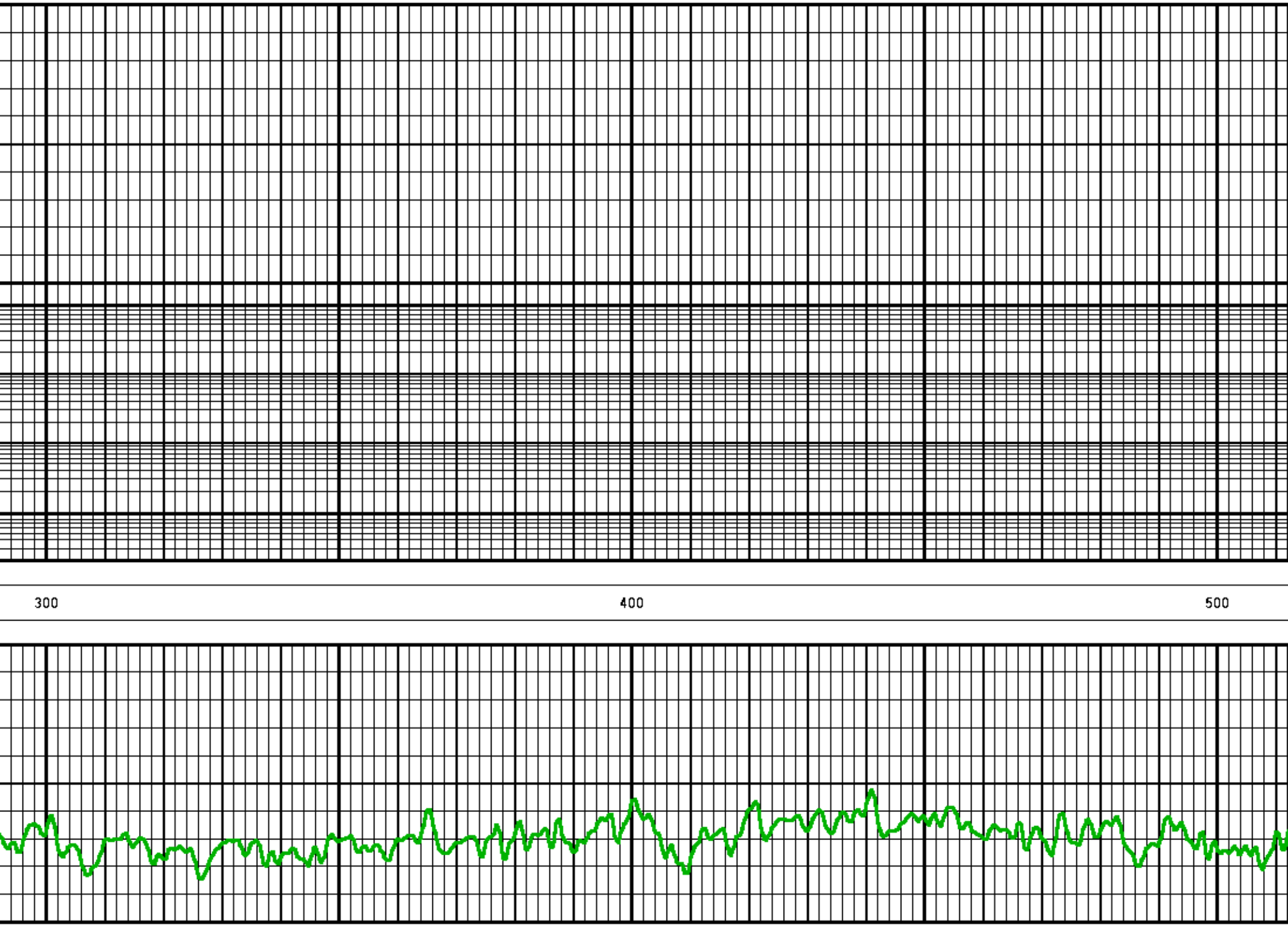
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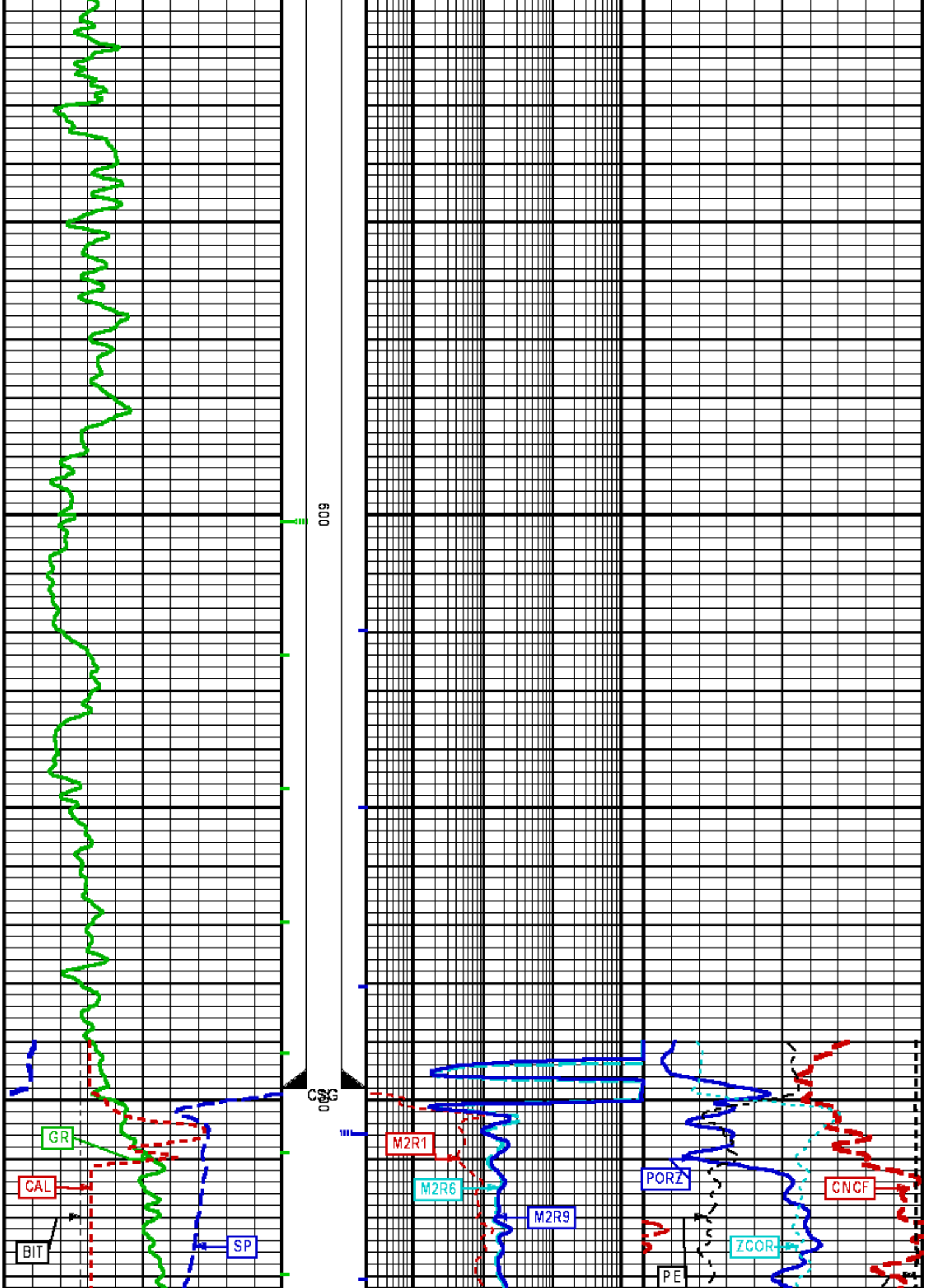
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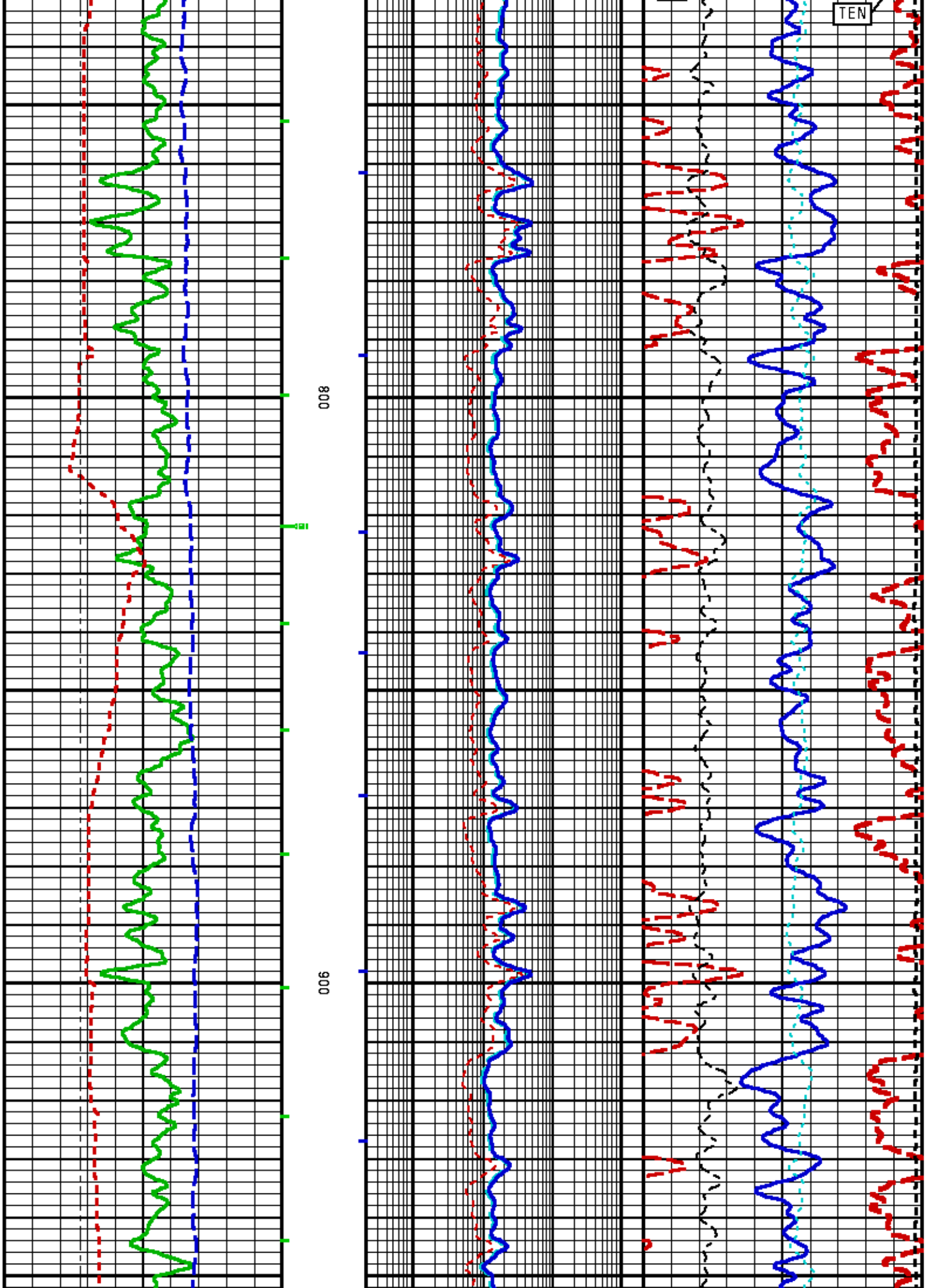
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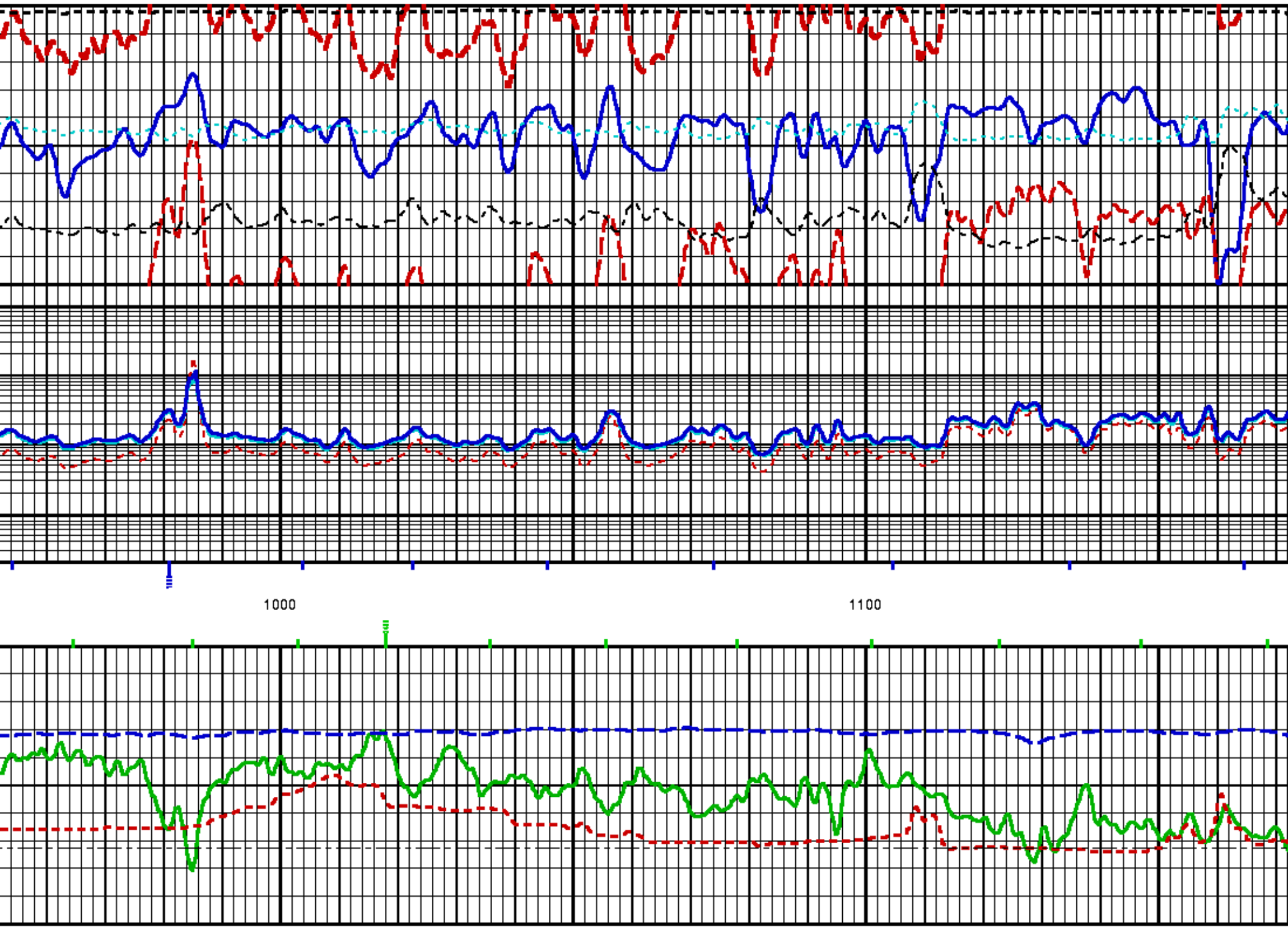
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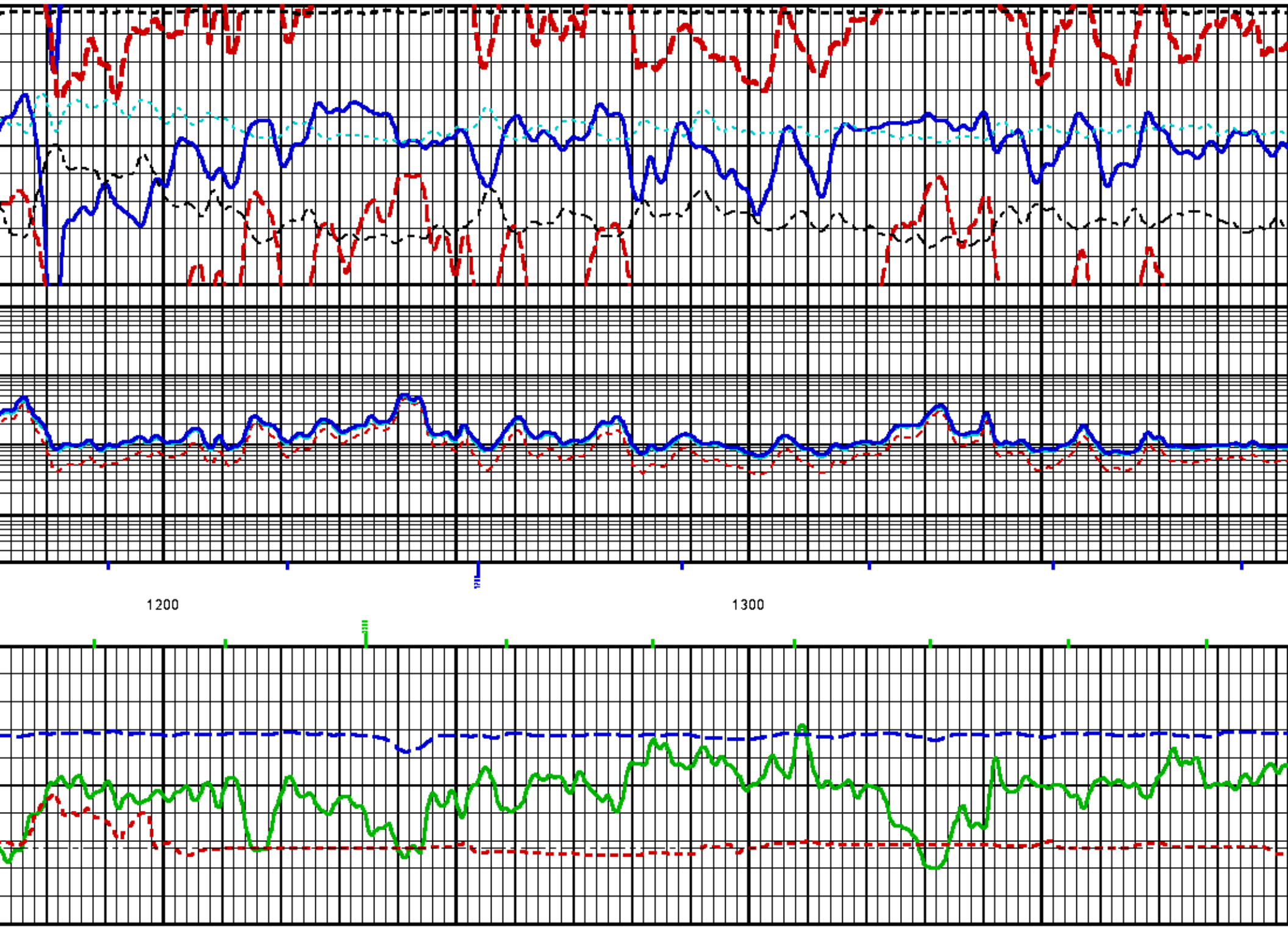
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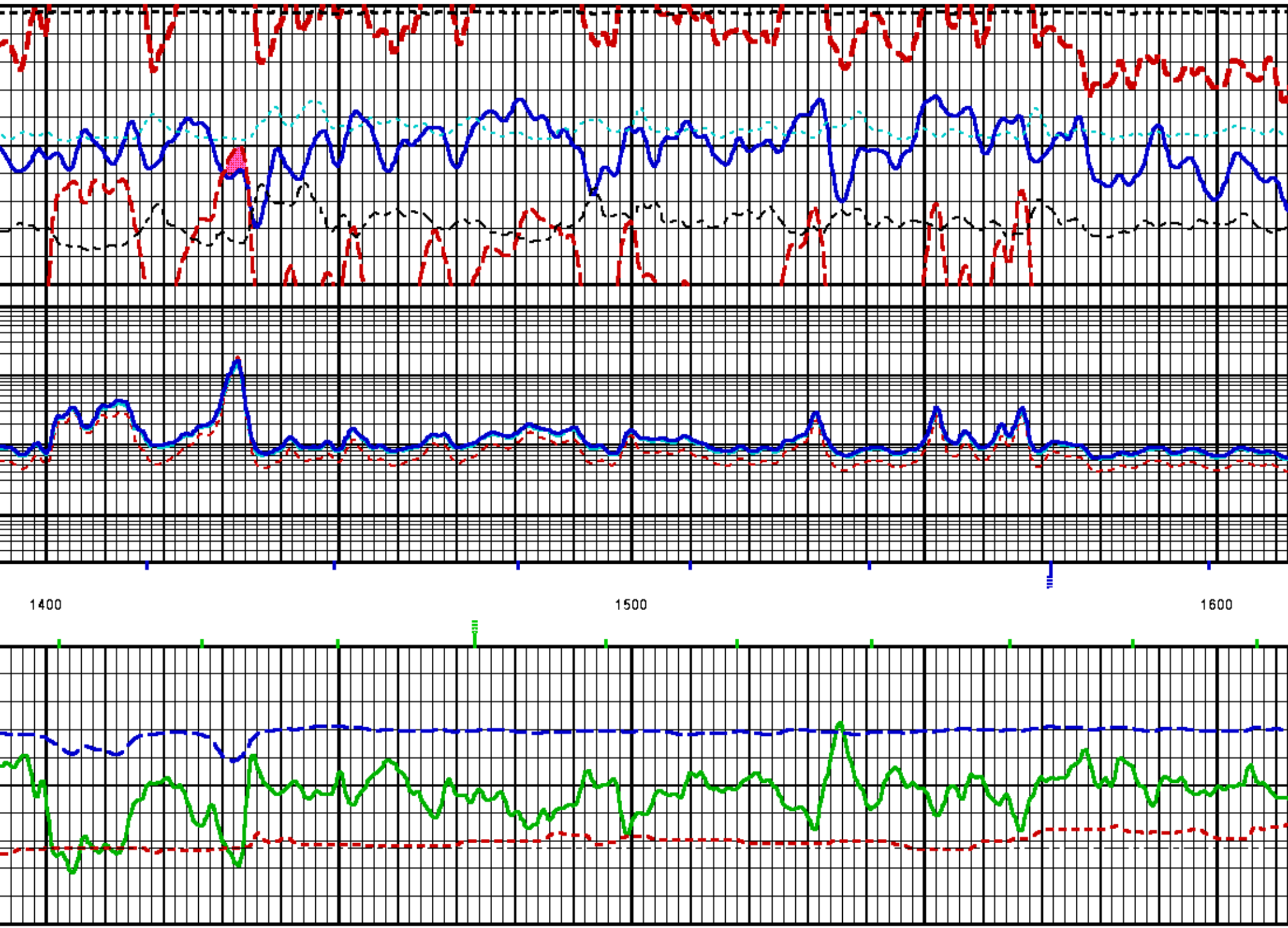
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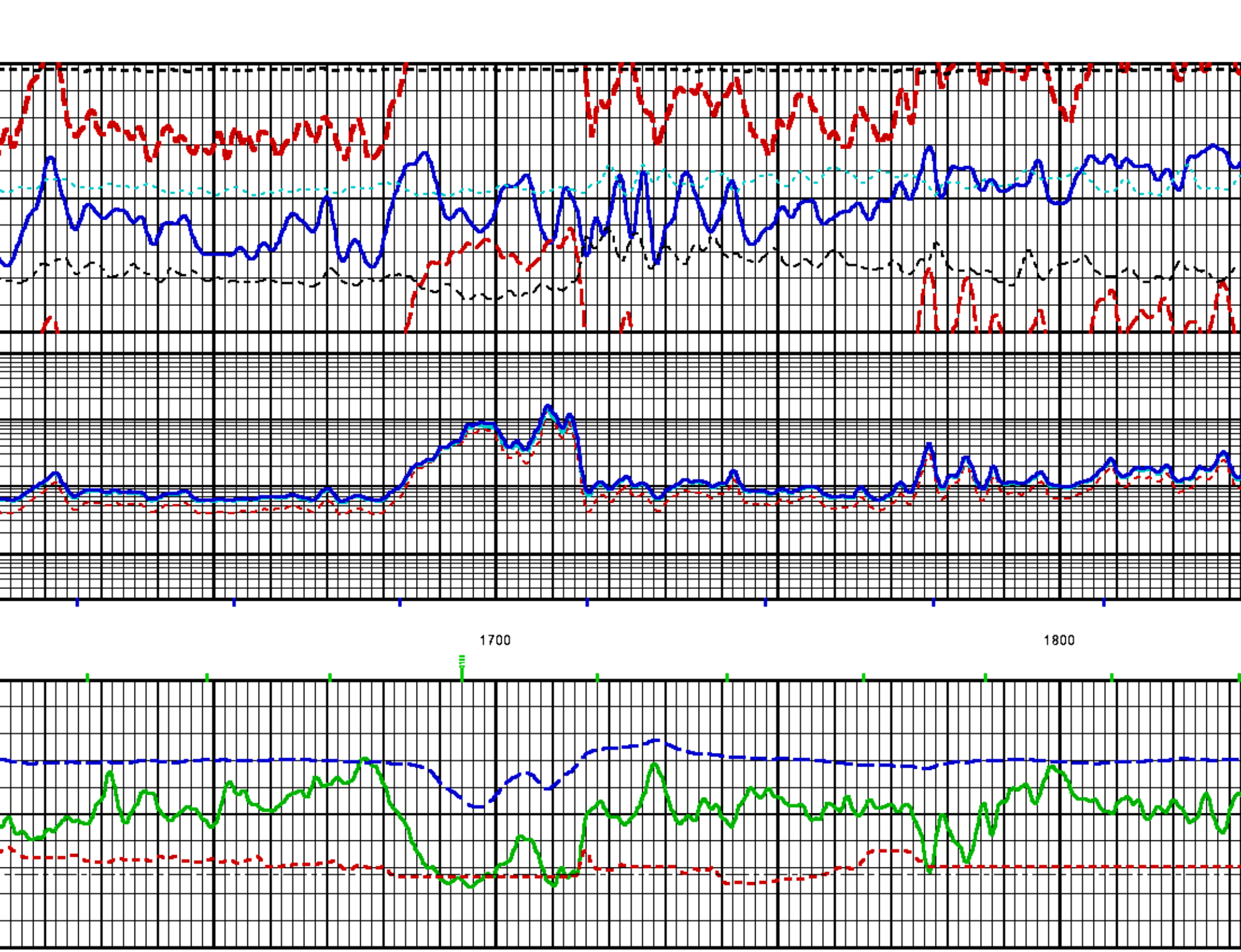
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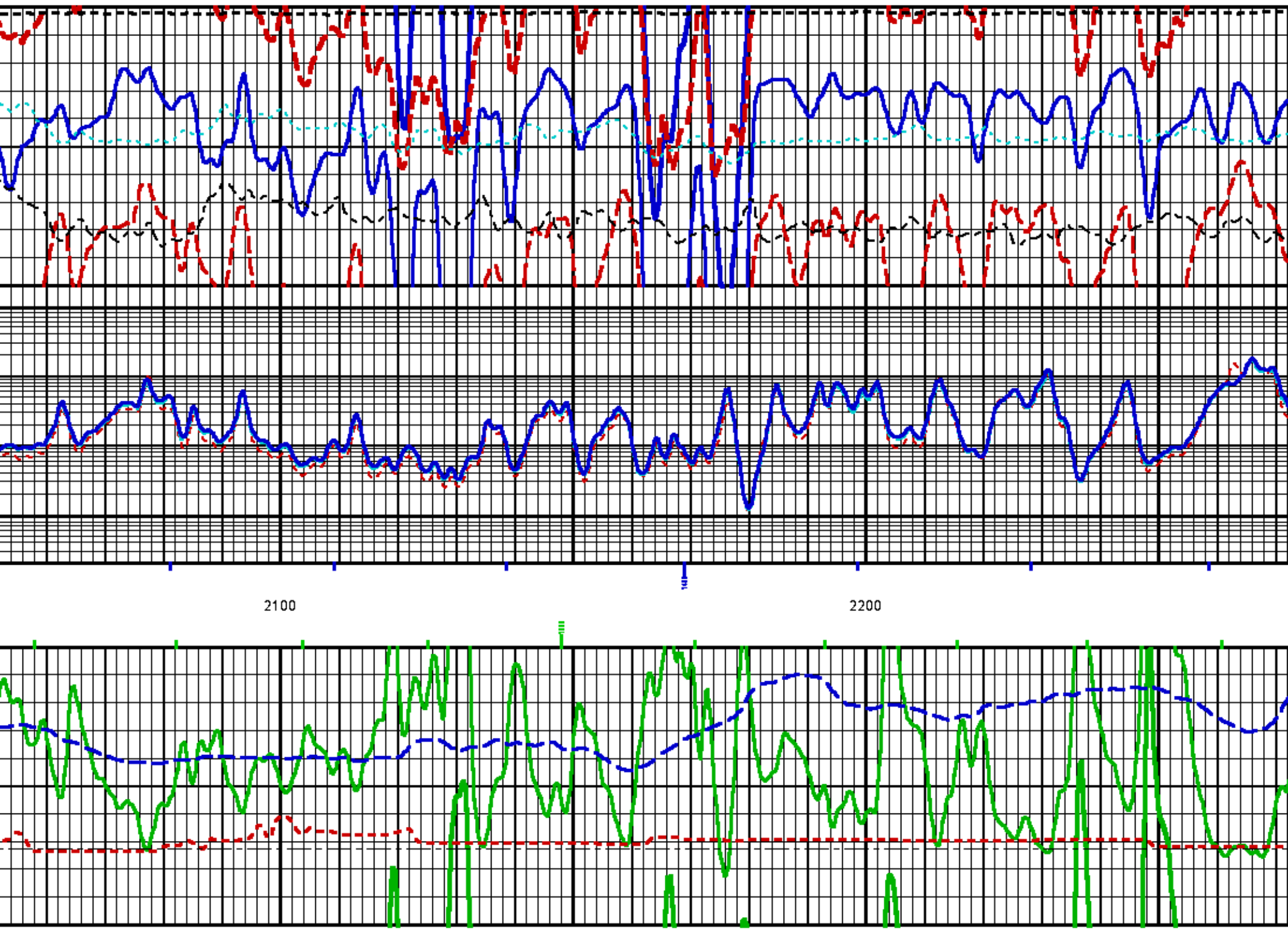
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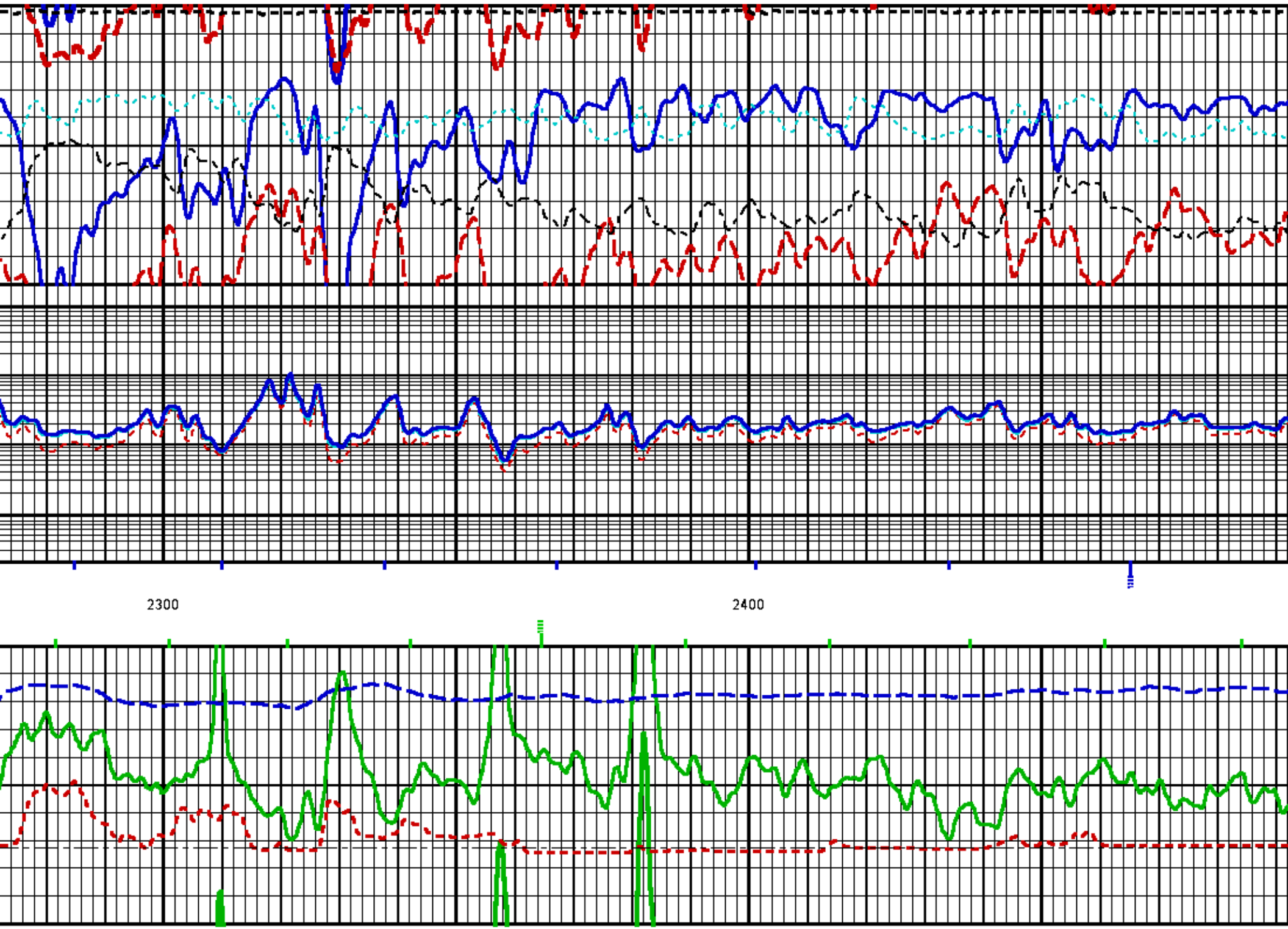
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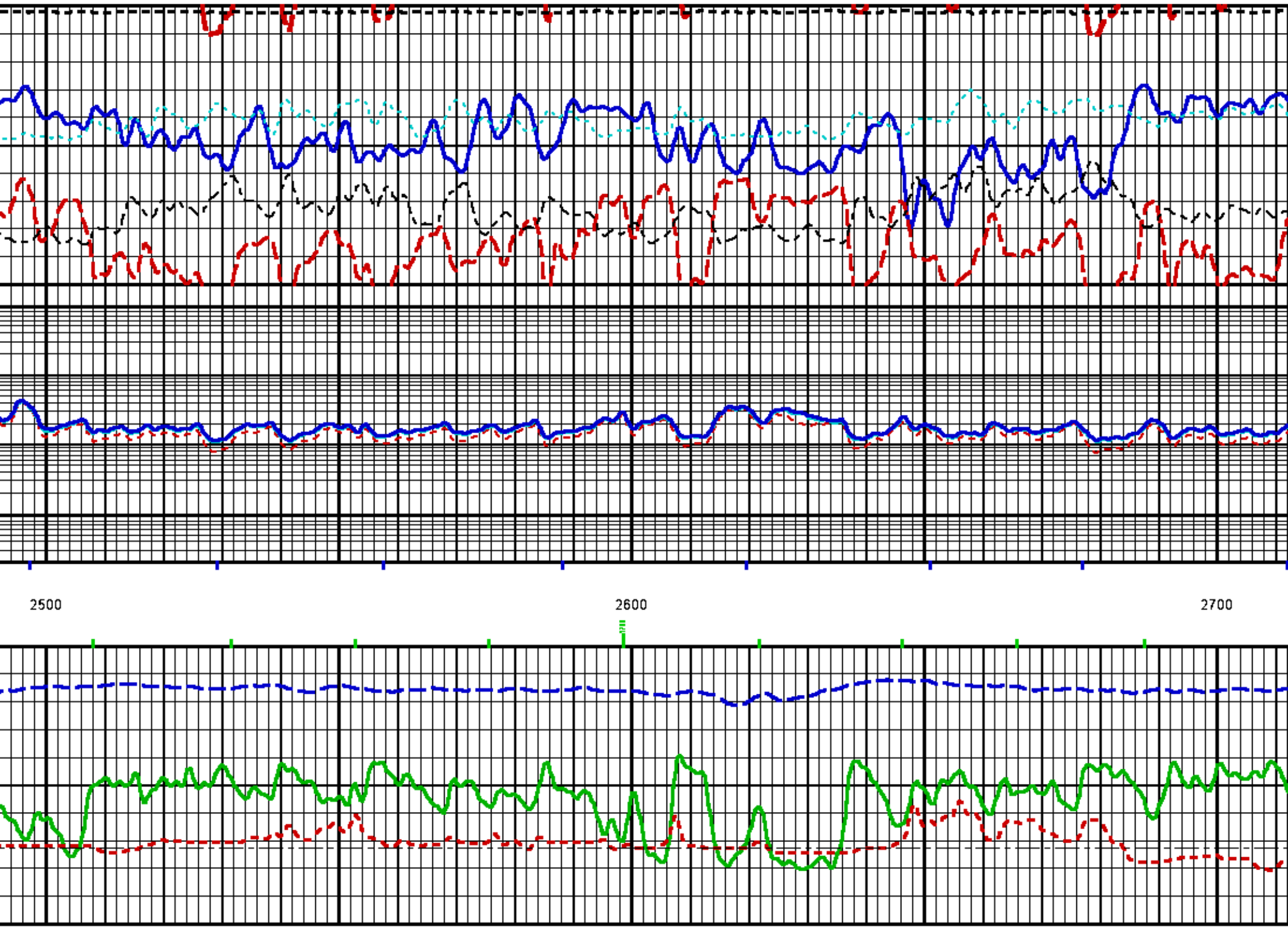
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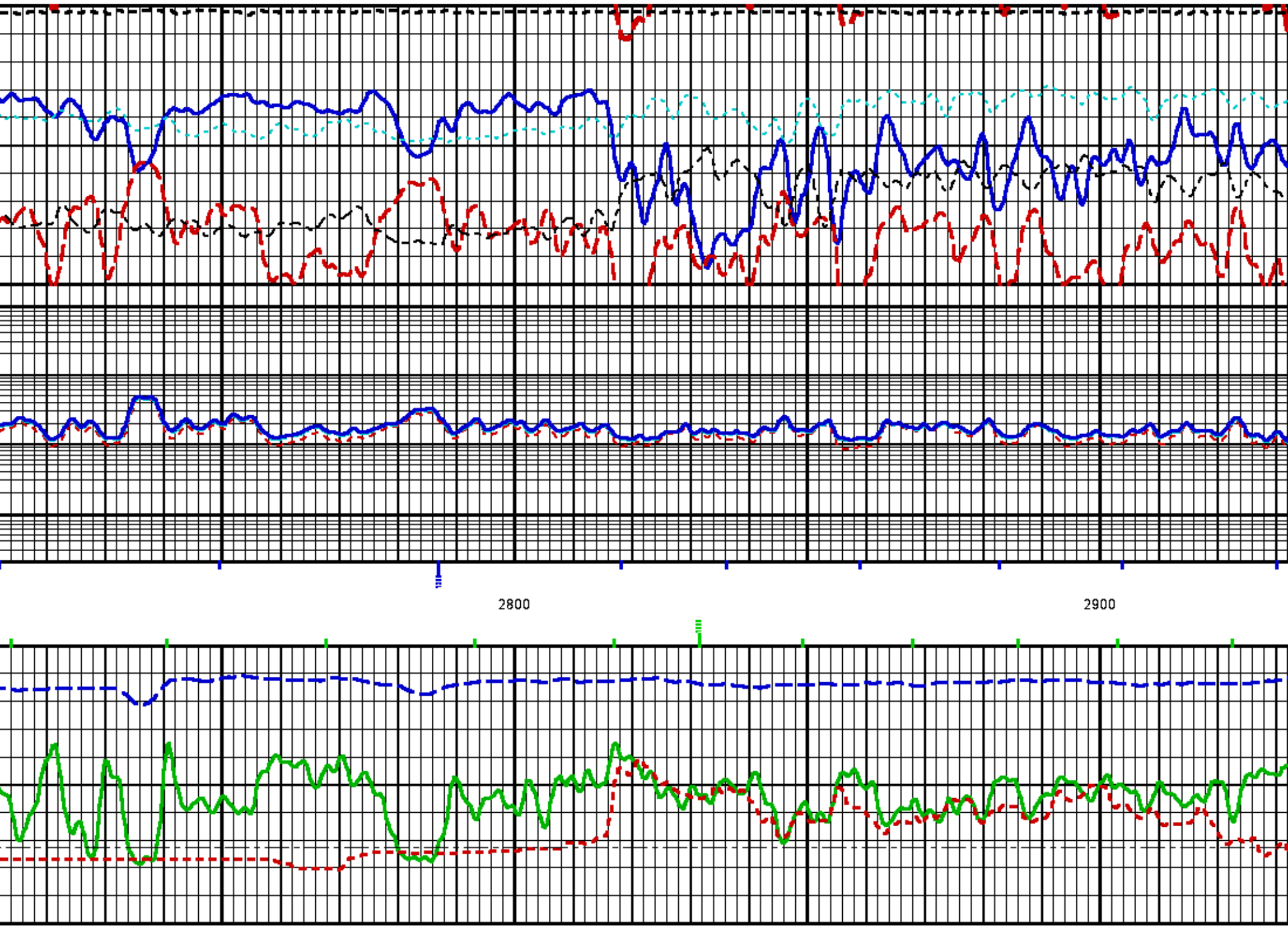
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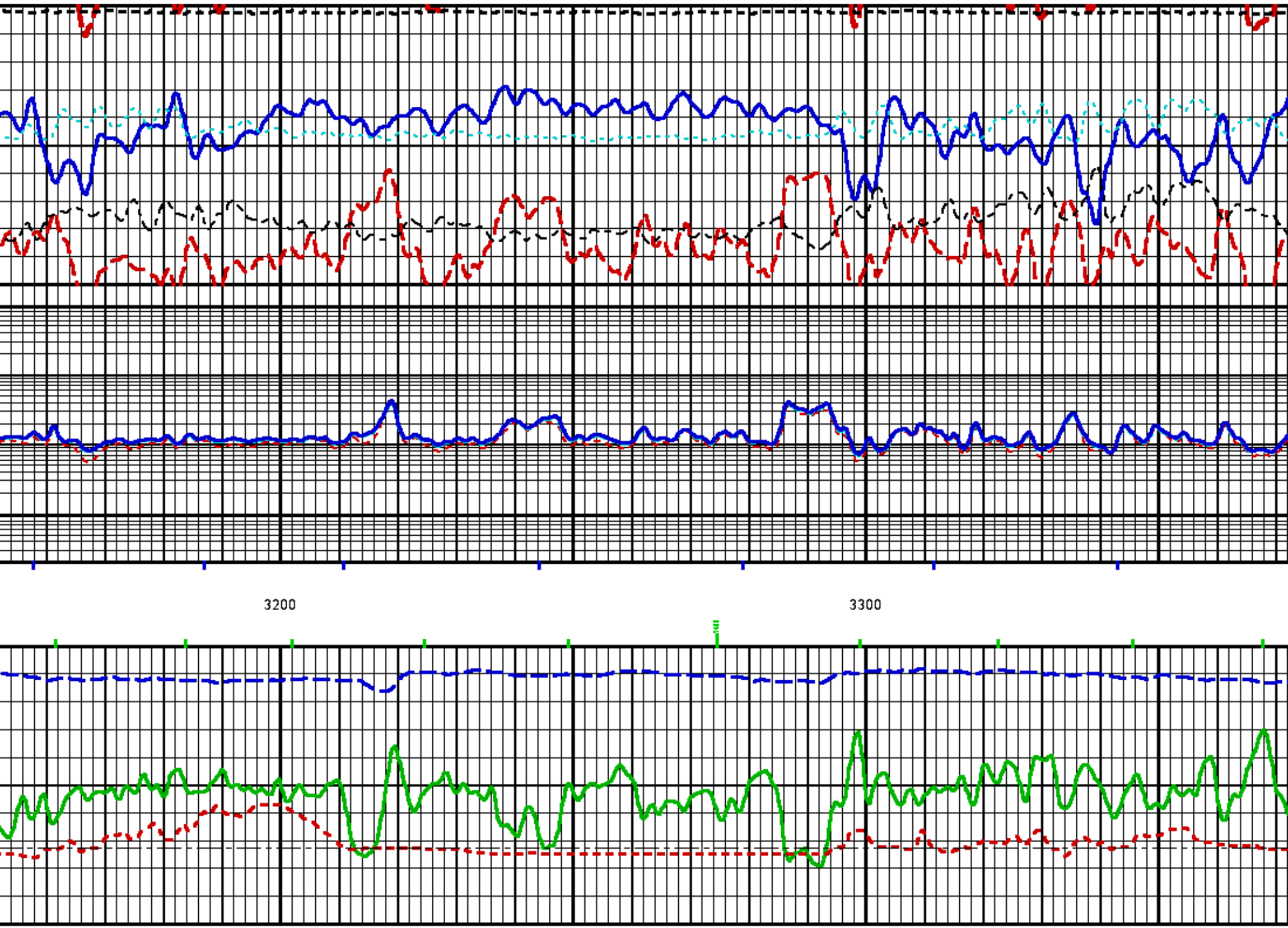
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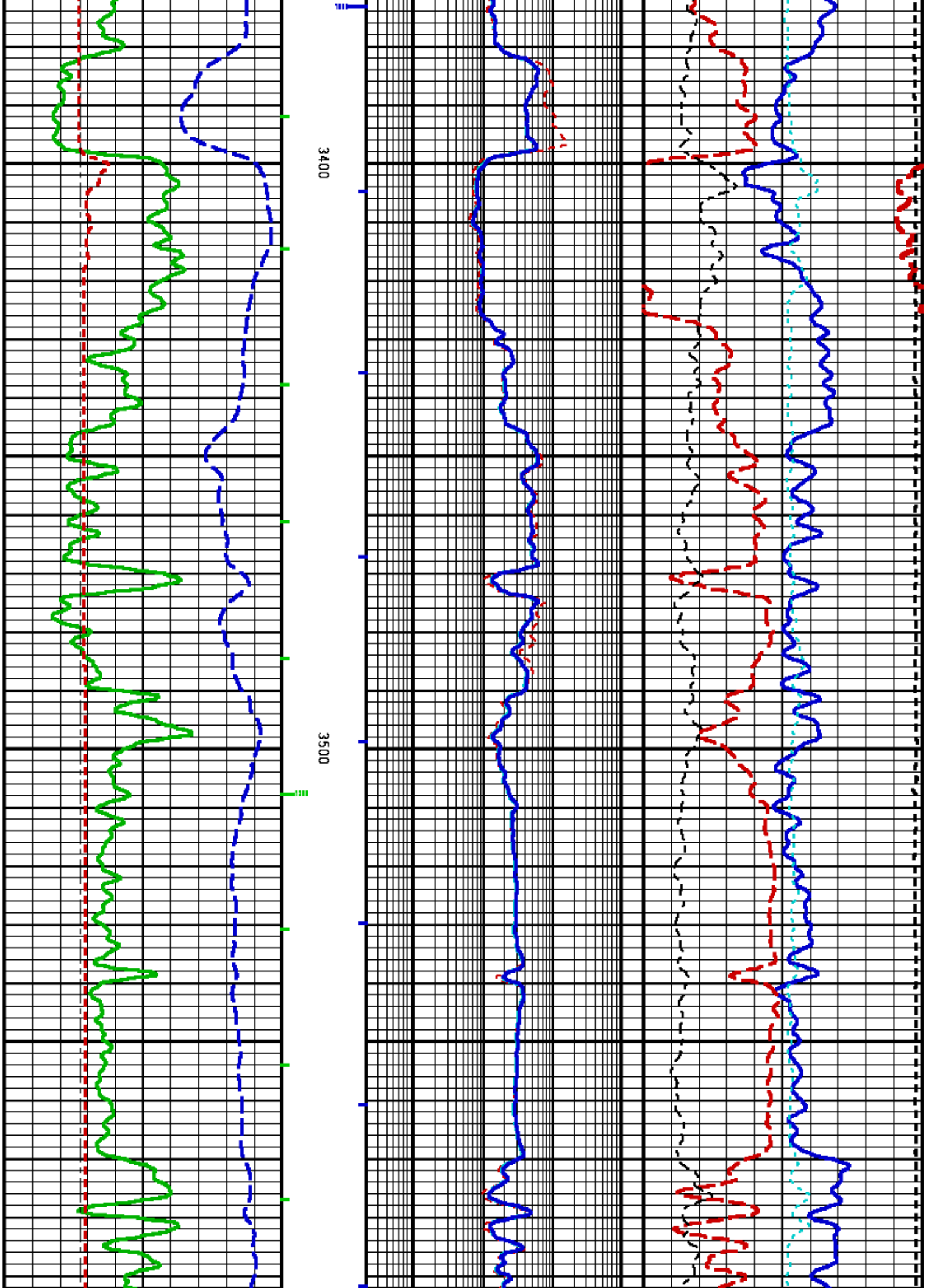
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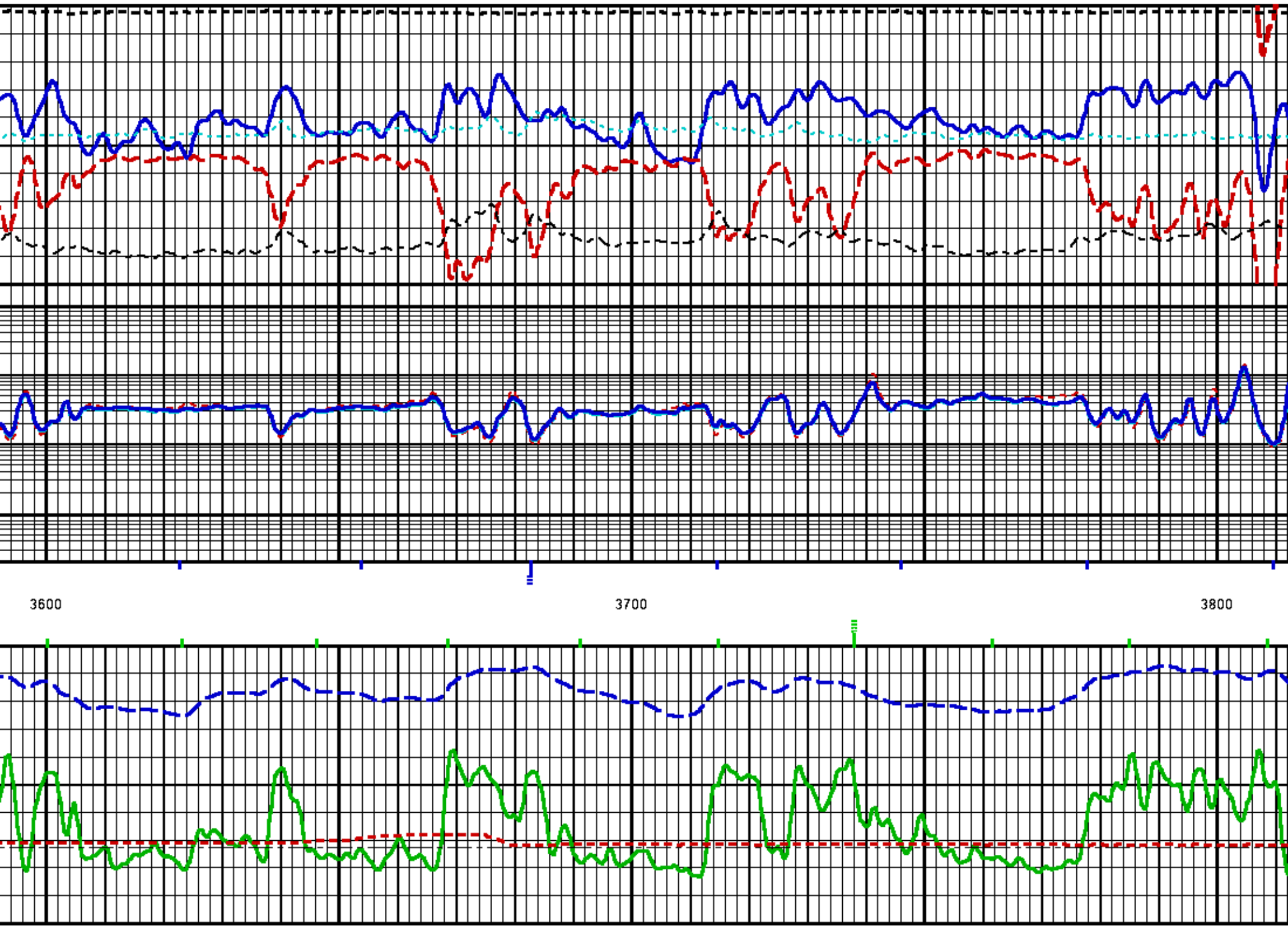
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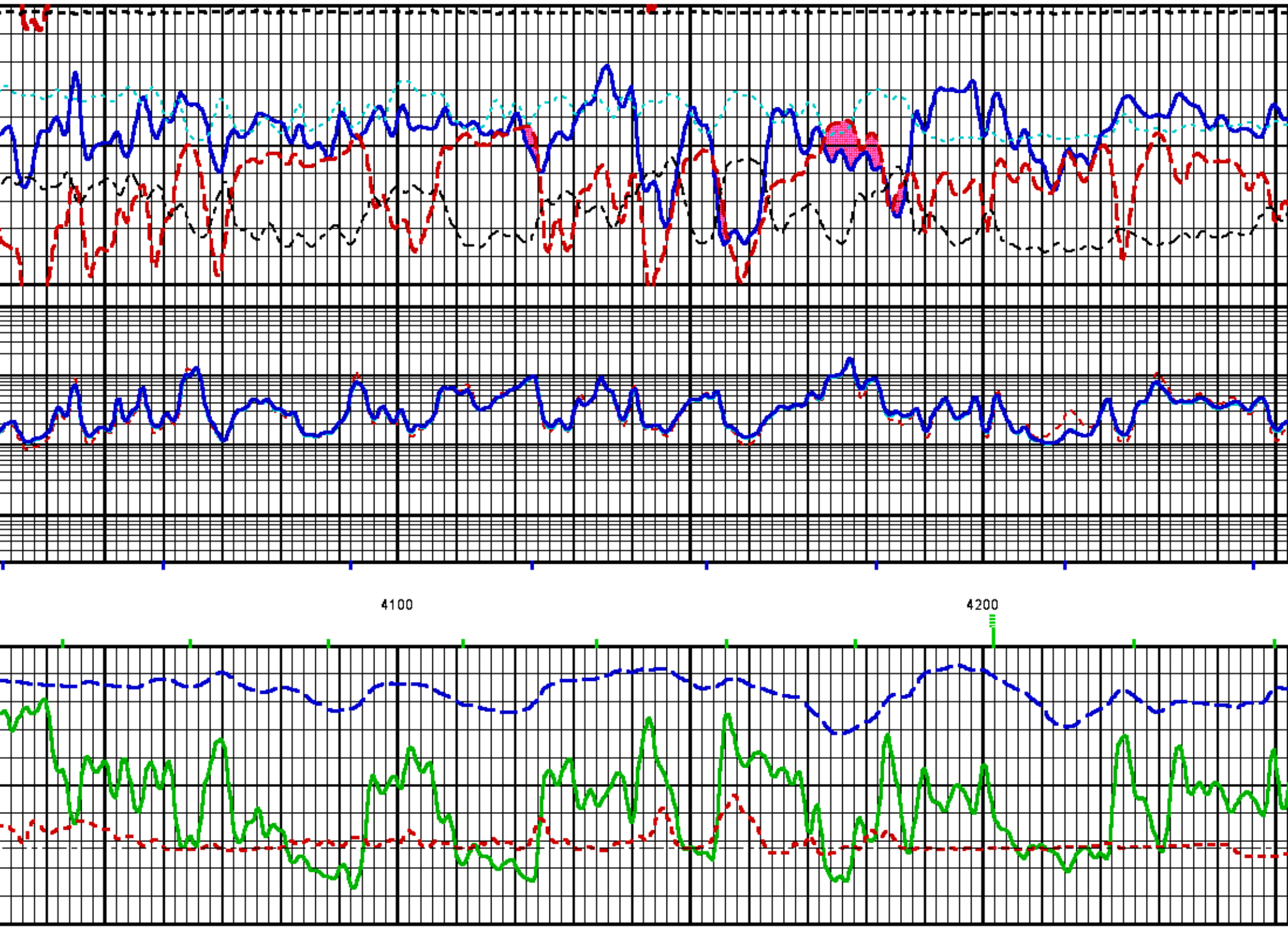
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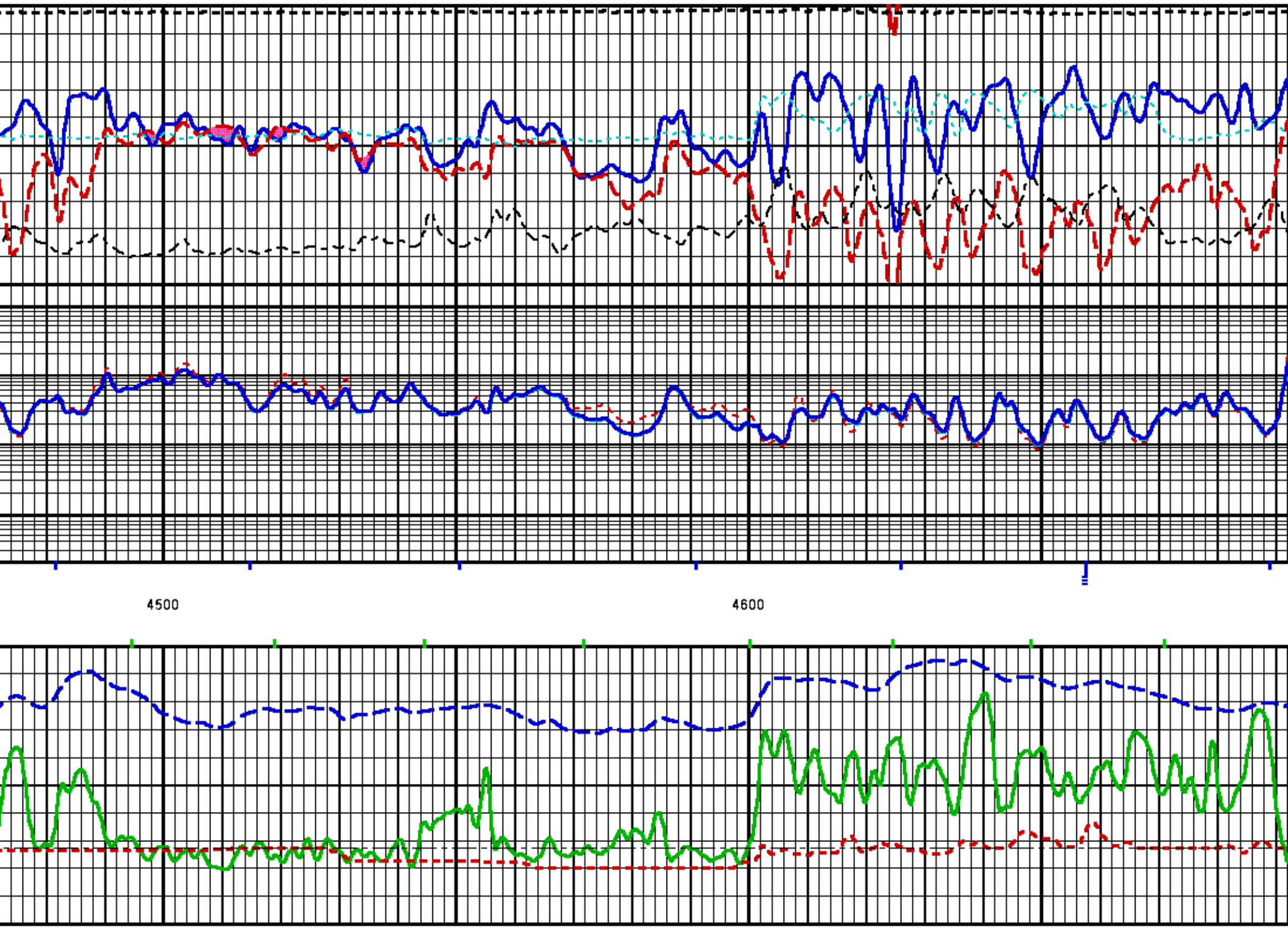
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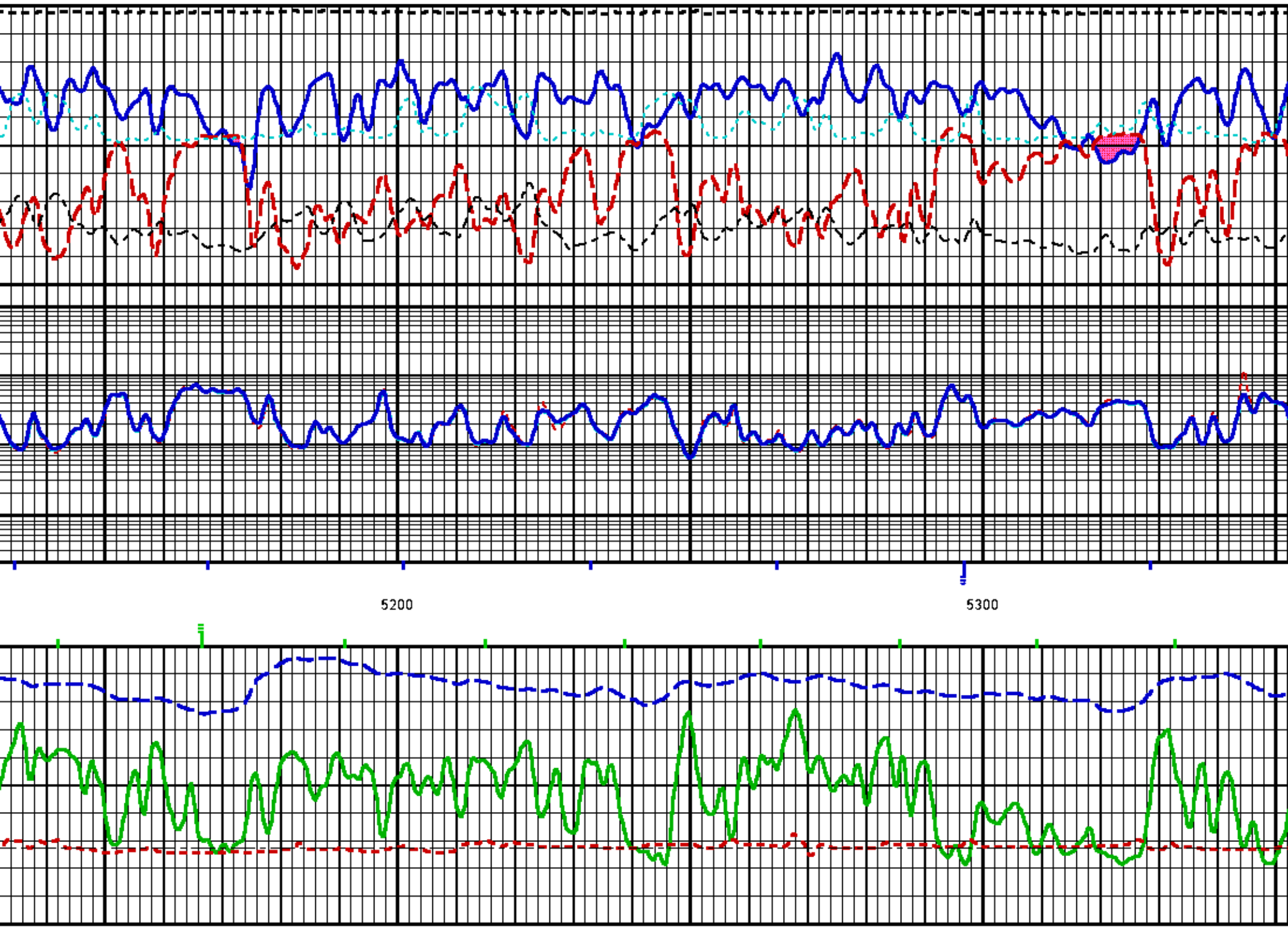
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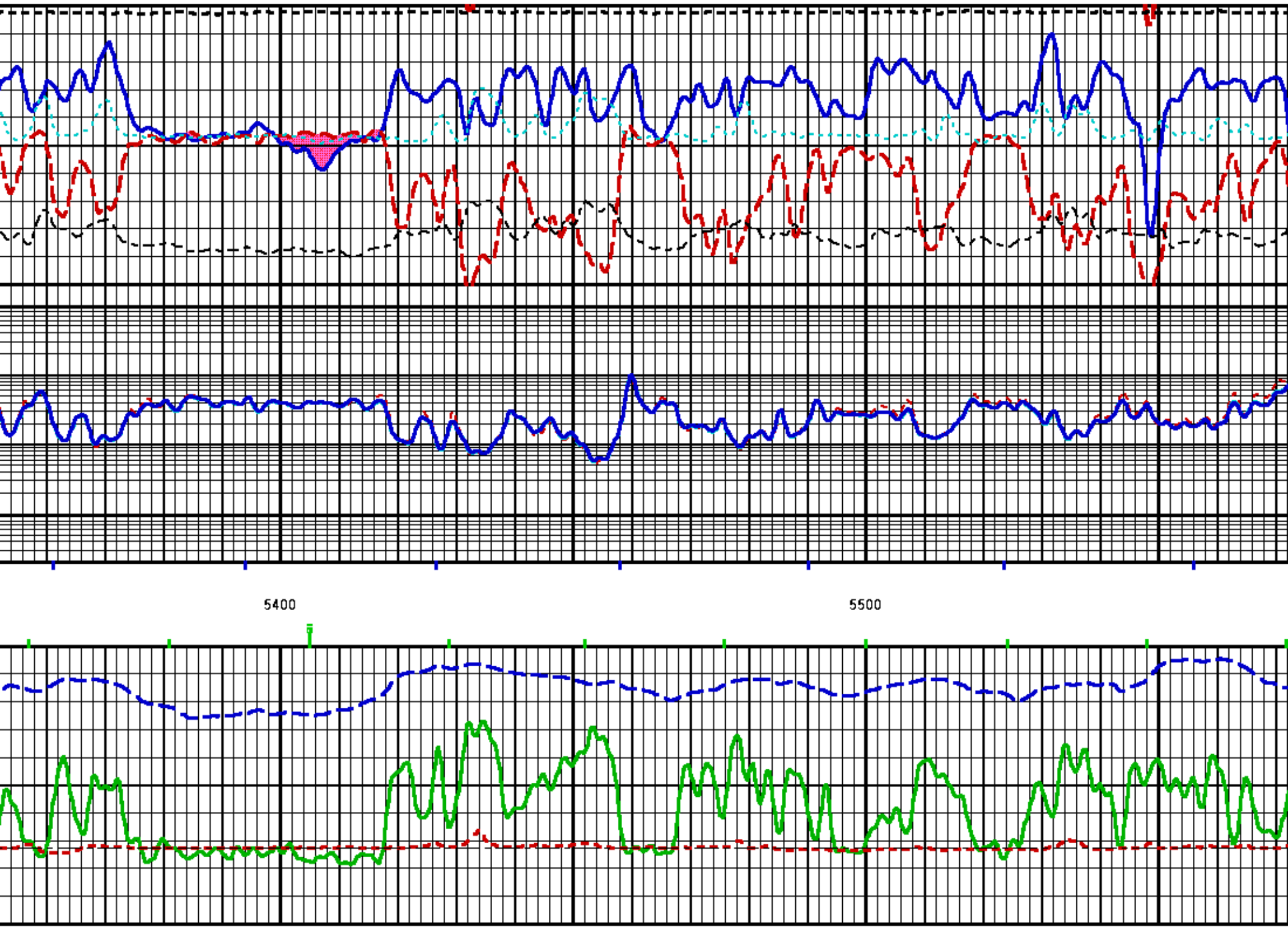
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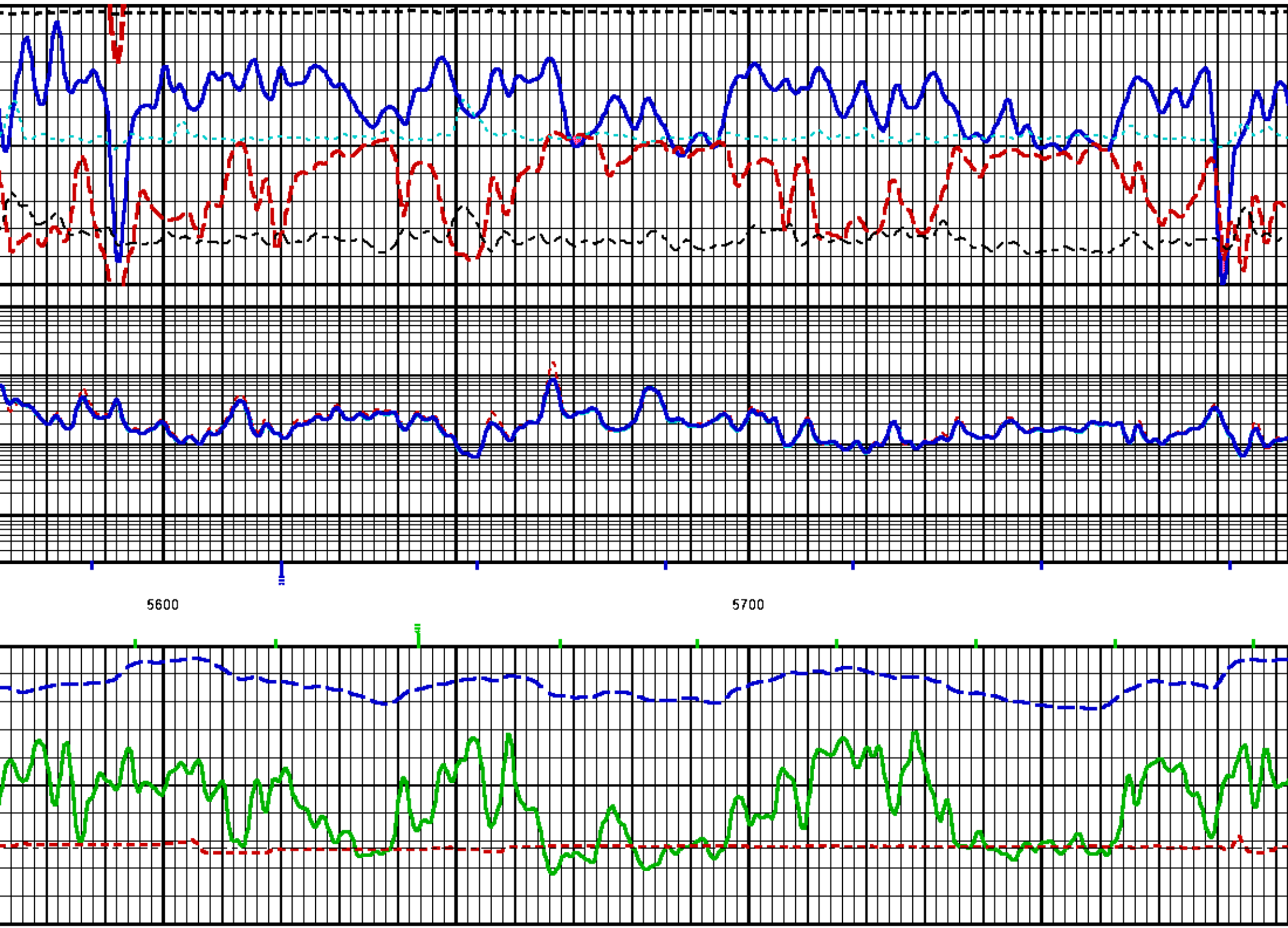
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5800
5900
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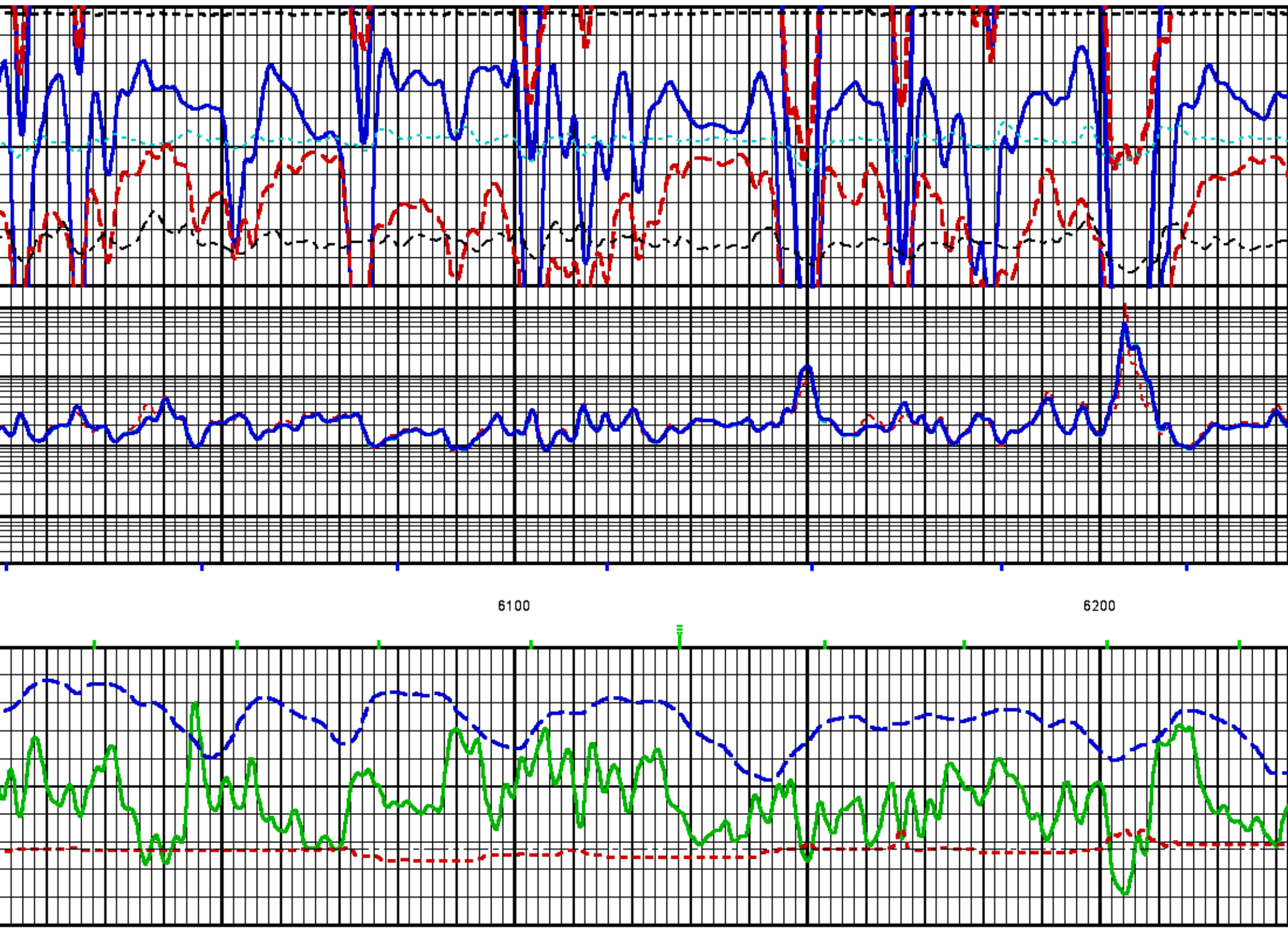
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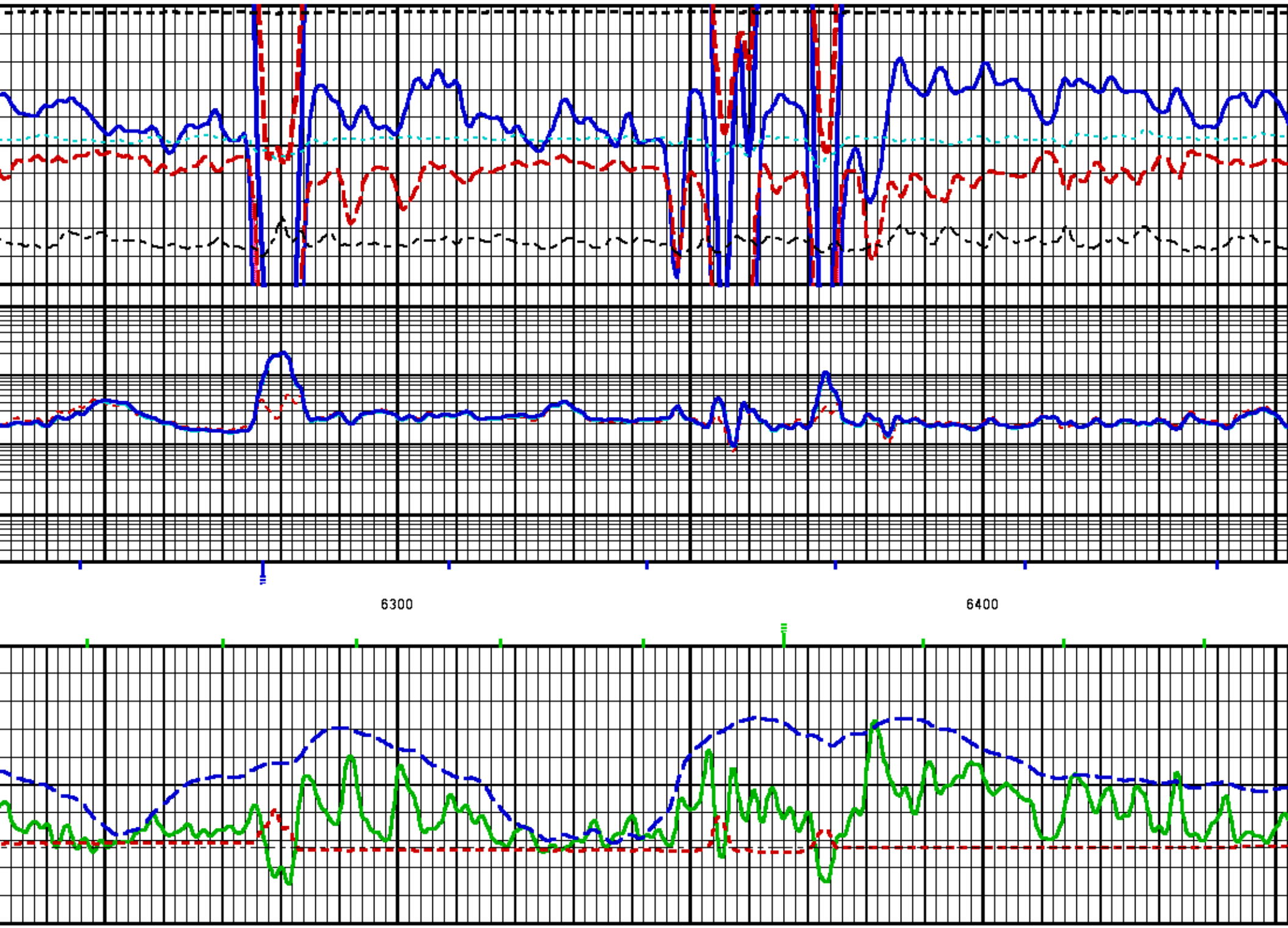
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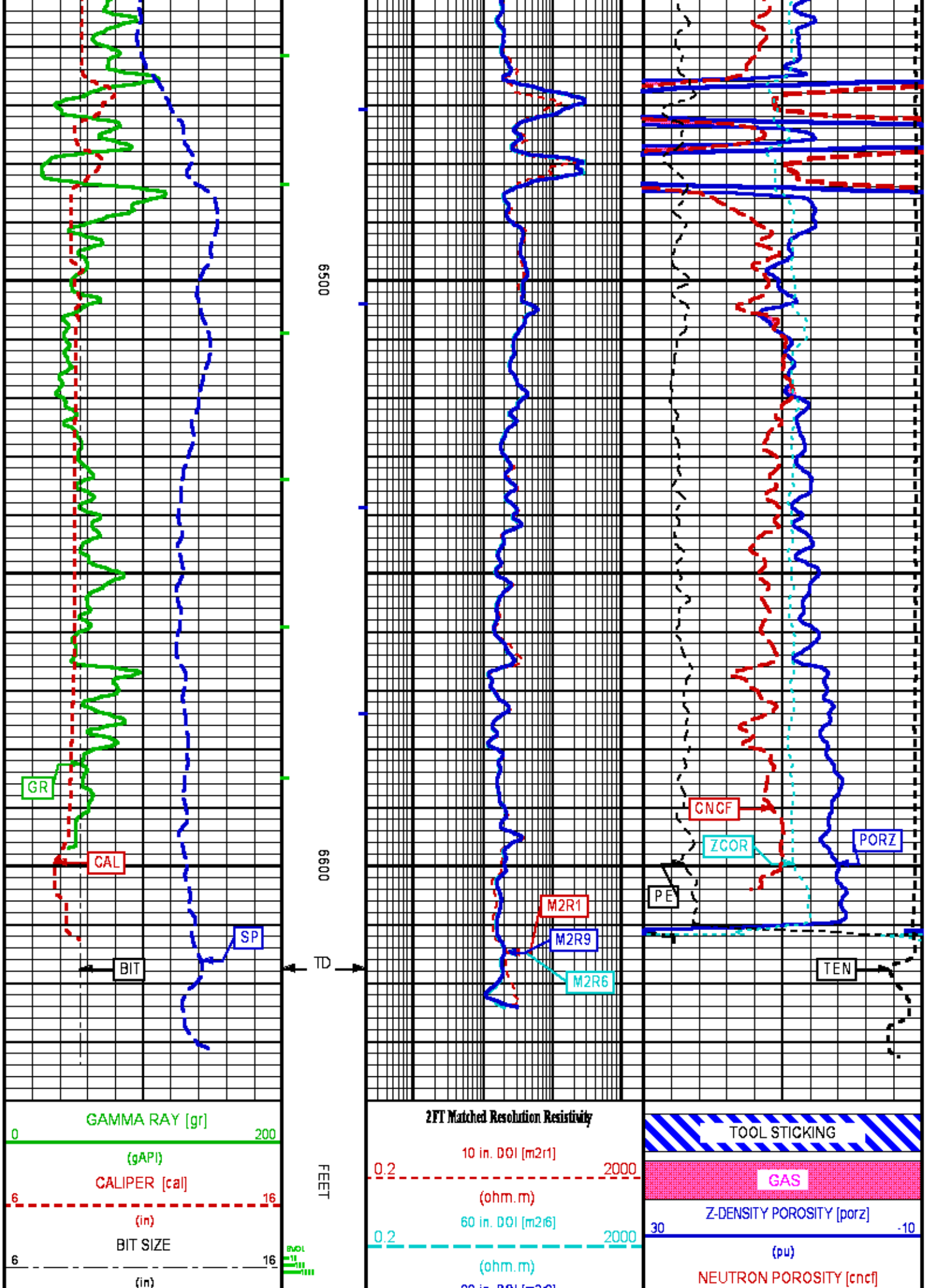
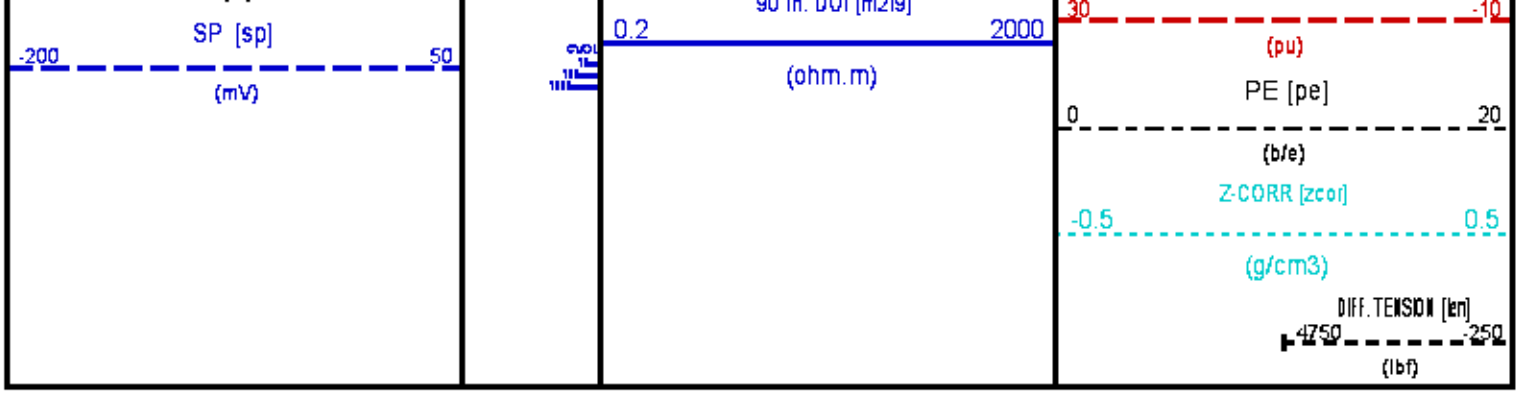

6500
6600
FEET
GR
CAL
SP
BIT
TD
M2R1
M2R9
M2R6
CNCF
ZCOR
PORZ
PE
TEN
GAMMA RAY [gr]
0
200
(gAPI)
CALIPER [cal]
6
16
(in)
BIT SIZE
6
16
(in)
2FT Matched Resolution Resistivity
10 in. DOI [m2r1]
0.2
2000
(ohm.m)
60 in. DOI [m2r6]
0.2
2000
(ohm.m)
TOOL STICKING
GAS
Z-DENSITY POROSITY [porz]
30
-10
(pu)
NEUTRON POROSITY [cncf]



REPEAT LOG

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

Plotted: Tue Jul 30 04:20:59 2013

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/625565/MUD_SAMPLE_DER_02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 584.750 ft BOTTOM DEPTH: 966.846 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
				TOP	BOTTOM
GR MED RES	FILTER ()	medium (1)			
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN MED RES	FILTER ()	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER ()	heavy (3)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
				TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in		
	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	78.0	degF	"	"
	MUD SAMPLE RES	0.640	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	MUD SAMP DERIVED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	78.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"

ACCELERATION PROCESSING

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

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CN MATRIX	2436 MATRIX	SANDSTONE		TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	5114	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	9.625	in	"	"

ZDL PROCESSING

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

HDIL PROCESSING

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

CURVE DESCRIPTION REPORT

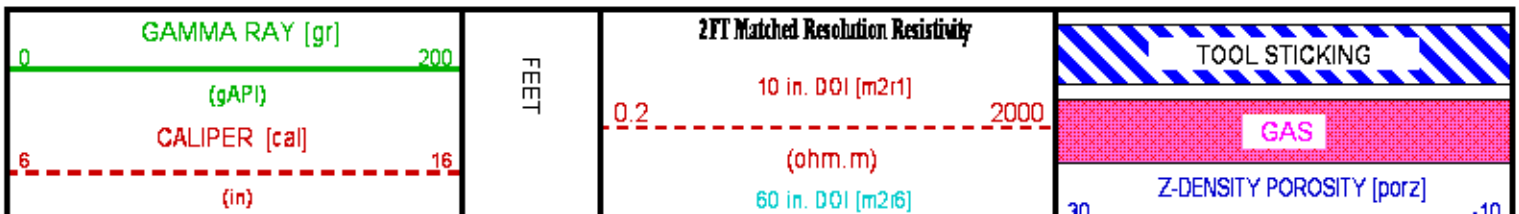
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Jul 30 03:50:54 2013	BIT SIZE
F1:BVOL	Jul 30 03:50:54 2013	BOREHOLE VOLUME
F1:CAL	Jul 30 03:50:54 2013	CALIPER
F1:CNCF	Jul 30 03:50:54 2013	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Jul 30 03:50:54 2013	CEMENT VOLUME
F1:GR	Jul 30 03:50:54 2013	GAMMA RAY
F1:M2R1	Jul 30 03:50:54 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Jul 30 03:50:54 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Jul 30 03:50:54 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Jul 30 03:50:54 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Jul 30 03:50:54 2013	POROSITY FOR SELECTABLE MATRIX
F1:SP	Jul 30 03:50:54 2013	SPONTANEOUS POTENTIAL
F1:TEN	Jul 30 03:50:54 2013	DIFFERENTIAL TENSION
F1:ZCOR	Jul 30 03:50:54 2013	DENSITY CORRECTION

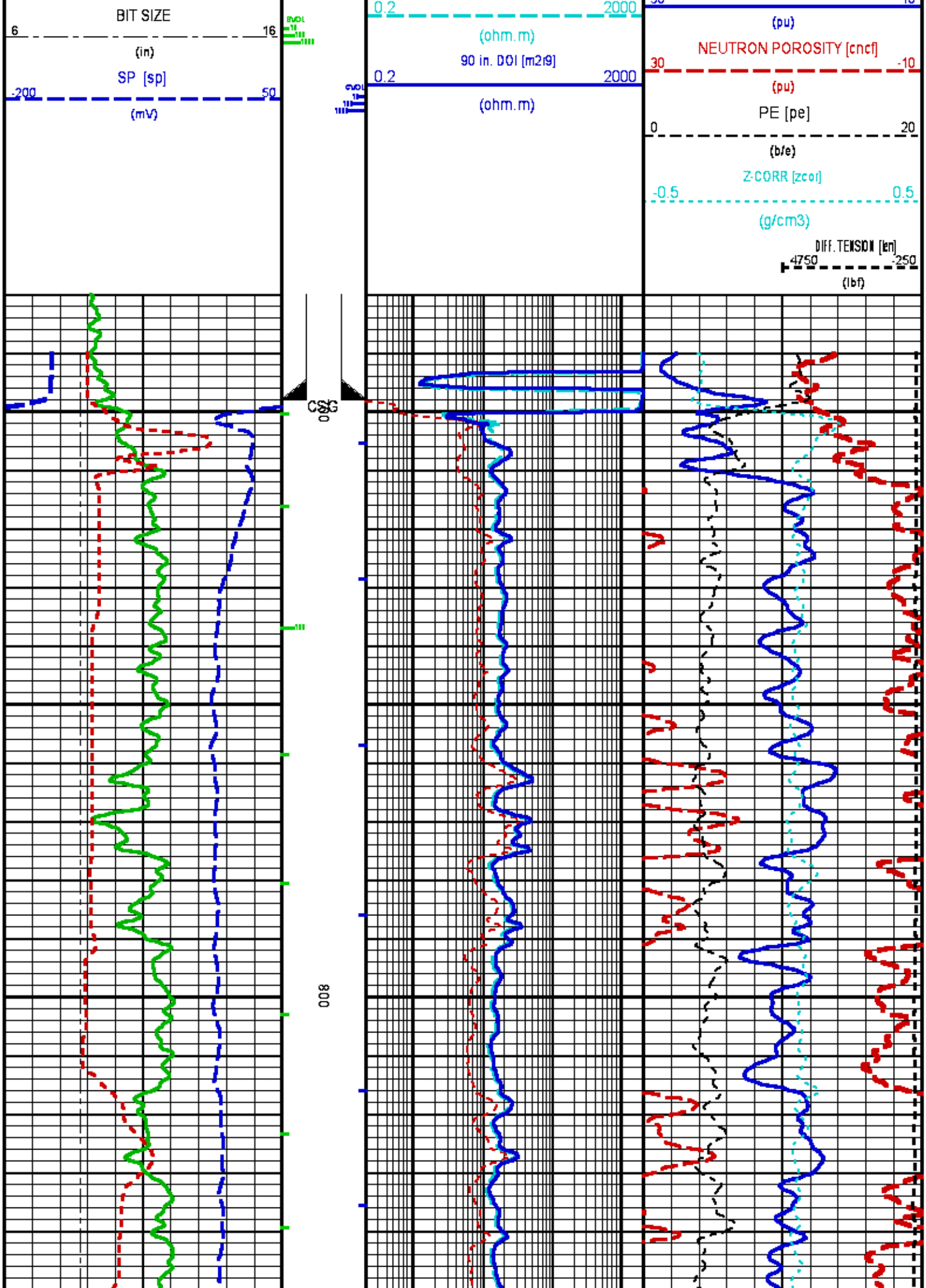
CURVE MEASURE POINT OFFSET

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

Presentation : **HL6670:WPX_REPEAT_RDR_1.fvpdf [5"/100' Scale]**
Plot Interval : **680 - 972.5 Feet**

Data File 1 : **F1 : HL6670:/dat1a/625565/MUD_SAMPLE_DER_02.xtf**
Created On : **Jul 30 03:50:54 2013**
Company : **WPX ENERGY**
Well : **WPX ENERGY GM 423-34**
Field : **GRAND VALLEY**
File Interval : **550.25 - 972.5 Feet**
OCT : **n970a**

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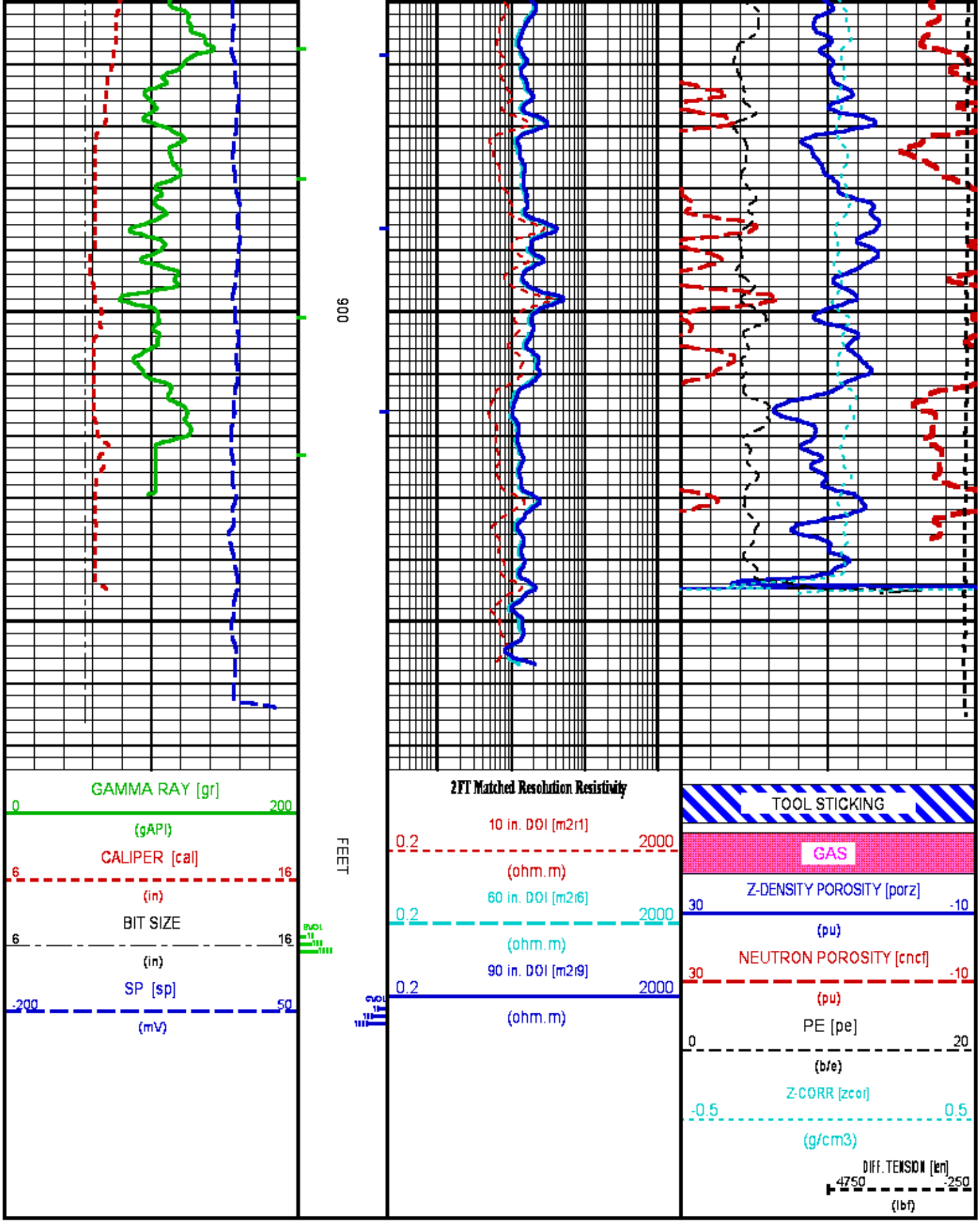
6
16
(in)
SP [sp]
-200
50
(mV)
0.2
2000
(ohm.m)
90 in. DOI [m2f9]
0.2
2000
(ohm.m)
(pu)
NEUTRON POROSITY [cncf]
30
-10
(pu)
PE [pe]
0
20
(b/e)
Z-CORR [zcor]
-0.5
0.5
(g/cm3)
DIFF. TENSION [ten]
4750
-250
(lbf)
CSG
800



CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/625565/FINAL.tp1

TTMA PRIMARY CALIBRATION SUMMARY

TOOL #: 3980XA 10120299 DATE/TIME PERFORMED: Mon Jul 29 08:58:21 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	1.003036	0.000361	0.25	10.00
	0.20 0.30	8.00 12.00				

TTMA BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10120299 DATE/TIME PERFORMED: Mon Jul 29 20:45:37 2013 DAYS SINCE CAL: 0

UNIT #: 3880TA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	18833	498.77	9.96	997.10
	18030 19630	491.36 505.76	8.00 12.00	960.00 1020.00
ZERO	-23331	-436.02	0.249	997.743
	-24131 -22531	-443.20 -428.80	0.200 0.300	960.000 1020.000

TTMA AFTER LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10120299 DATE/TIME PERFORMED: Mon Jul 29 23:25:56 2013 DAYS SINCE CAL: 0

UNIT #: 3880TA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	18838	500.00	9.95	998.10
	18030 19630	491.36 505.76	8.00 12.00	960.00 1020.00
ZERO	-23331	-436.02	0.249	997.702
	-24131 -22531	-443.20 -428.80	0.200 0.300	960.000 1020.000

GR PRIMARY CALIBRATION SUMMARY

Tool #: 3518EG 10139870 DATE/TIME PERFORMED: Fri Jul 12 09:13:20 2013

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

Background	Calibrator ON	Jig Value (gAPI)	Mult	Background (gAPI)	Calibrator ON (gAPI)
157.61	917.88	185	0.243	38.35	223.35
			0.230 0.260		

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870 DATE/TIME PERFORMED: Mon Jul 29 20:46:27 2013 DAYS SINCE CAL: 17

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

Counts	TEMP (degF)	HV (V)
976.67	100.44	1362.48
929.000 1027.000	536.000	1239.000 1512.000

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870 DATE/TIME PERFORMED: Mon Jul 29 23:26:12 2013 DAYS SINCE CAL: 17

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

Counts	TEMP (degF)	HV (V)
976.67	129.71	1367.65
929.000 1027.000	536.000	1239.000 1512.000

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10124366 DATE/TIME PERFORMED: Fri Jun 14 11:00:22 2013

UNIT #: 3880TA HL6670 CALIBRATOR #: 2437XB 112674 SOURCE #: 4718XA N-0897

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4673.28	809.30	5.77451	0.99350	5.73700	25.241
			0.95000 1.05000		

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10124366 DATE/TIME PERFORMED: Mon Jul 29 20:45:53 2013 DAYS SINCE CAL: 45

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

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.06	993.42	0.99762	90.0	1367.4	4.599
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10124366 DATE/TIME PERFORMED: Mon Jul 29 23:26:27 2013 DAYS SINCE CAL: 45

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

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.06	993.08	0.99797	124.7	1368.4	4.599
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Fri Jul 26 09:18:38 2013

UNIT #: 3880TA HL6670

	SIZE (in)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	7.000	1160.0		
LARGE RING (Arm)	11.000	2408.0	0.00321	3.28205
PAD CLOSED		1739.6	0.00250	-4.34900

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Mon Jul 29 20:45:09 2013 DAYS SINCE CAL: 3

UNIT #: 3880TA HL6670

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	1744.0	0.00321	3.28205	8.9
PAD	1860.4	0.00250	-4.34900	0.3

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

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Mon Jul 29 23:25:33 2013 DAYS SINCE CAL: 3

UNIT #: 3880TA HL6670

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	1936.0	0.00321	3.28205	9.5
PAD	1772.0	0.00250	-4.34900	0.1

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

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10090664 DATE/TIME PERFORMED: Fri Jul 26 09:09:14 2013

UNIT: 3880TA HL6670 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)
225.2 (220.0 – 230.0)	225.8 (220.0 – 230.0)	1283.4	1661.8

	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	32382.1	11403.4	0.766 (0.720 – 0.850)	1.679	0.000	1.900
AL	20216.3	1293.5		2.667	-0.016	
AL + SHIM	27340.7	2268.7		2.558	0.098	
MG + SHIM (HI PE)	16019.5	5477.7	0.302 (0.260 – 0.360)			8.550
RATIO AL + SHIM/AL	1.35 (1.30 – 1.40)	1.75 (1.60 – 1.80)				
RATIO MG/AL	1.60 (1.58 – 1.70)	8.82 (8.55 – 9.55)				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Mon Jul 29 20:46:10 2013 DAYS SINCE CAL: 3

UNIT #: 3880TA HL6670

	TOTAL	CSPK	HV

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 (3332.1 – 3352.1)	226.6 (220.0 – 230.0)	1405.0 (1250.0 – 1550.0)
SS	22354.8 (22344.8 – 22364.8)	224.2 (220.0 – 230.0)	1364.7 (1250.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
5.0 (4.8 – 5.2)	73.6 (50.0 – 120.0)

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Mon Jul 29 23:26:44 2013 DAYS SINCE CAL: 3

UNIT #: 3880TA HL6670

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 (3332.1 – 3352.1)	226.1 (220.0 – 230.0)	1403.9 (1250.0 – 1550.0)
SS	22355.0 (22344.8 – 22364.8)	224.5 (220.0 – 230.0)	1368.5 (1250.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
5.0 (4.8 – 5.2)	76.8 (50.0 – 120.0)

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1530XA 10120519 DATE/TIME PERFORMED: Fri Jul 5 11:37:29 2013

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

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.0063 (-0.2000 – 0.2000)	-0.0002 (-0.1000 – 0.1000)	-0.0008 (-0.1000 – 0.1000)	0.0002 (-0.1000 – 0.1000)	0.0000 (-0.1000 – 0.1000)	0.0001 (-0.1000 – 0.1000)	-0.0002 (-0.1000 – 0.1000)	-0.0002 (-0.1000 – 0.1000)
Coil 0 Q	0.0018 (-0.5000 – 0.5000)	-0.0014 (-0.2000 – 0.2000)	0.0003 (-0.1000 – 0.1000)	0.0005 (-0.1000 – 0.1000)	-0.0002 (-0.1000 – 0.1000)	0.0006 (-0.1000 – 0.1000)	0.0005 (-0.1000 – 0.1000)	-0.0003 (-0.1000 – 0.1000)
Coil 1 R	0.0172 (-0.2000 – 0.2000)	0.0020 (-0.1000 – 0.1000)	-0.0012 (-0.1000 – 0.1000)	0.0025 (-0.1000 – 0.1000)	0.0002 (-0.1000 – 0.1000)	-0.0004 (-0.1000 – 0.1000)	-0.0003 (-0.1000 – 0.1000)	-0.0005 (-0.1000 – 0.1000)
Coil 1 Q	0.0084 (-0.5000 – 0.5000)	-0.0040 (-0.2000 – 0.2000)	0.0006 (-0.1000 – 0.1000)	0.0011 (-0.1000 – 0.1000)	-0.0007 (-0.1000 – 0.1000)	0.0012 (-0.1000 – 0.1000)	-0.0002 (-0.1000 – 0.1000)	-0.0005 (-0.1000 – 0.1000)
Coil 2 R	0.0119 (-0.2000 – 0.2000)	0.0016 (-0.1000 – 0.1000)	-0.0016 (-0.1000 – 0.1000)	0.0007 (-0.1000 – 0.1000)	-0.0028 (-0.1000 – 0.1000)	-0.0009 (-0.1000 – 0.1000)	0.0010 (-0.1000 – 0.1000)	0.0005 (-0.1000 – 0.1000)
Coil 2 Q	0.0122 (-0.5000 – 0.5000)	-0.0003 (-0.2000 – 0.2000)	0.0023 (-0.1000 – 0.1000)	-0.0001 (-0.1000 – 0.1000)	-0.0003 (-0.1000 – 0.1000)	-0.0027 (-0.1000 – 0.1000)	-0.0002 (-0.1000 – 0.1000)	-0.0003 (-0.1000 – 0.1000)
Coil 3 R	0.0517 (-0.3000 – 0.3000)	-0.0044 (-0.1000 – 0.1000)	-0.0019 (-0.1000 – 0.1000)	0.0055 (-0.1000 – 0.1000)	-0.0017 (-0.1000 – 0.1000)	-0.0028 (-0.1000 – 0.1000)	0.0016 (-0.1000 – 0.1000)	0.0020 (-0.1000 – 0.1000)
Coil 3 Q	0.0256 (-0.5000 – 0.5000)	0.0147 (-0.2000 – 0.2000)	0.0002 (-0.1000 – 0.1000)	0.0009 (-0.1000 – 0.1000)	0.0023 (-0.1000 – 0.1000)	0.0008 (-0.1000 – 0.1000)	0.0005 (-0.1000 – 0.1000)	0.0002 (-0.1000 – 0.1000)

Coil 3 Q	0.0356	-0.0147	-0.0002	0.0005	-0.0033	0.0006	-0.0005	0.0003
	-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	0.1383	-0.0025	-0.0063	0.0064	-0.0060	-0.0019	0.0021	-0.0001
	-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	0.0634	-0.0354	0.0149	0.0007	-0.0065	0.0107	0.0038	-0.0070
	-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	0.3048	0.0114	-0.0393	0.0226	-0.0156	-0.0041	0.0032	-0.0005
	-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	0.1837	-0.0772	0.0049	-0.0076	-0.0079	0.0068	-0.0067	-0.0017
	-1.5000 1.5000	-0.6000 0.6000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	163.01	161.55	158.64	154.30	148.62	141.64	133.46	124.09
	136.00 186.00	134.00 184.00	131.00 181.00	126.00 176.00	122.00 170.00	116.00 161.00	112.00 150.00	105.00 139.00
Coil 0 P	7.735	25.443	42.708	59.923	77.144	94.373	111.621	128.851
	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	282.41	279.84	274.69	266.99	256.84	244.34	229.70	212.90
	236.00 328.00	235.00 325.00	230.00 320.00	225.00 312.00	218.00 302.00	208.00 288.00	196.00 266.00	184.00 244.00
Coil 1 P	7.793	25.646	43.061	60.434	77.806	95.182	112.541	129.846
	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	560.30	555.10	544.74	529.36	509.30	484.72	456.09	423.35
	479.00 659.00	474.00 654.00	463.00 643.00	450.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	359.00 499.00
Coil 2 P	7.706	25.401	42.640	59.819	76.985	94.153	111.322	128.449
	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	918.18	909.15	891.03	864.23	829.32	786.95	737.70	682.41
	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	589.00 799.00
Coil 3 P	8.004	26.204	43.959	61.648	79.292	96.908	114.475	131.947
	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	1421.1	1409.0	1384.5	1347.5	1298.9	1238.6	1167.0	1085.1
	1210.0 1700.0	1205.0 1690.0	1180.0 1650.0	1140.0 1590.0	1120.0 1530.0	1070.0 1450.0	1000.0 1360.0	942.0 1240.0
Coil 4 P	7.777	25.610	43.008	60.385	77.776	95.199	112.639	130.098
	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	2952.6	2928.6	2877.3	2800.6	2699.2	2573.1	2424.6	2253.2
	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	7.853	25.815	43.370	60.874	78.404	95.967	113.517	131.059
	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 0 R	-928	-610	-492	-424	-377	-343	-316	-295
	-3200 940	-1400 -20	-930 -150	-760 -160	-660 -130	-600 -120	-550 -110	-520 -92
Coil 0 Q	429	-143	-216	-245	-261	-274	-285	-295
	-15000 11000	-5800 3800	-3700 2100	-2700 1400	-2200 1000	-1800 790	-1600 620	-1500 490
Coil 1 R	-114	-137	-133	-126	-119	-111	-105	-99
	-750 460	-360 83	-280 9	-230 -10	-200 -26	-180 -35	-160 -46	-150 -49
Coil 1 Q	356	87	33	5	-12	-23	-31	-36
	-3300 3300	-1100 960	-630 530	-470 360	-380 260	-320 190	-290 150	-260 120
Coil 2 R	-2.3	-30.6	-32.8	-31.5	-29.1	-26.7	-24.8	-22.8
	-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	143.3	48.7	26.9	17.2	12.7	9.7	9.3	9.2
	-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	-2.2	-9.1	-9.8	-9.7	-8.9	-8.4	-7.8	-7.2
	-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	84.0	31.3	21.6	18.9	18.2	18.9	20.3	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	-0.93	-2.31	-2.11	-2.36	-2.60	-1.54	-1.65	-1.67

	-18.00 13.00	-12.00 2.70	-11.00 1.50	-9.80 0.52	-9.50 0.96	-10.00 1.50	-11.00 2.30	-11.00 2.60
Coil 4 Q	27.85 -250.00 280.00	11.03 -79.00 96.00	8.54 -43.00 64.00	7.96 -27.00 51.00	11.51 -18.00 46.00	9.69 -11.00 42.00	11.03 -5.50 42.00	11.69 -1.00 42.00
Coil 5 R	0.41 -56.00 51.00	-0.81 -8.40 3.60	-1.25 -6.50 1.10	-0.89 -6.50 1.20	-4.53 -9.30 2.90	-1.16 -14.00 6.30	-0.44 -19.00 9.60	-0.73 -24.00 13.00
Coil 5 Q	3.44 -88.00 69.00	2.06 -26.00 27.00	2.86 -14.00 22.00	3.88 -7.00 22.00	3.06 -2.50 24.00	6.47 1.10 26.00	7.26 4.10 29.00	8.48 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	0.965 0.850 1.100	0.973 0.860 1.100	0.977 0.870 1.100	0.979 0.880 1.100	0.981 0.880 1.100	0.981 0.880 1.100	0.981 0.880 1.100	0.981 0.880 1.100
Coil 0 P	-0.305 -1.500 1.500	-0.468 -1.500 1.500	-0.374 -1.500 1.500	-0.258 -1.500 1.500	-0.175 -1.500 1.500	-0.121 -1.500 1.500	-0.057 -1.500 1.500	-0.021 -1.500 1.500
Coil 1 M	0.959 0.850 1.100	0.967 0.860 1.100	0.971 0.870 1.100	0.973 0.880 1.100	0.974 0.880 1.100	0.974 0.880 1.100	0.975 0.880 1.100	0.973 0.880 1.100
Coil 1 P	-0.259 -1.500 1.500	-0.449 -1.500 1.500	-0.344 -1.500 1.500	-0.231 -1.500 1.500	-0.141 -1.500 1.500	-0.087 -1.500 1.500	-0.051 -1.500 1.500	-0.012 -1.500 1.500
Coil 2 M	0.984 0.850 1.100	0.984 0.860 1.100	0.984 0.870 1.100	0.984 0.880 1.100	0.983 0.880 1.100	0.983 0.880 1.100	0.983 0.880 1.100	0.982 0.880 1.100
Coil 2 P	0.059 -1.500 1.500	0.045 -1.500 1.500	0.075 -1.500 1.500	0.099 -1.500 1.500	0.116 -1.500 1.500	0.138 -1.500 1.500	0.157 -1.500 1.500	0.133 -1.500 1.500
Coil 3 M	0.989 0.900 1.100	0.990 0.900 1.100	0.990 0.900 1.100	0.989 0.900 1.100	0.989 0.900 1.100	0.989 0.900 1.100	0.988 0.900 1.100	0.987 0.900 1.100
Coil 3 P	0.057 -1.500 1.500	0.075 -1.500 1.500	0.105 -1.500 1.500	0.157 -1.500 1.500	0.185 -1.500 1.500	0.228 -1.500 1.500	0.252 -1.500 1.500	0.249 -1.500 1.500
Coil 4 M	0.995 0.900 1.100	0.995 0.900 1.100	0.996 0.900 1.100	0.996 0.900 1.100	0.997 0.900 1.100	0.997 0.900 1.100	0.997 0.900 1.100	0.998 0.900 1.100
Coil 4 P	0.685 -1.500 1.500	0.273 -1.500 1.500	0.238 -1.500 1.500	0.259 -1.500 1.500	0.251 -1.500 1.500	0.340 -1.500 1.500	0.367 -1.500 1.500	0.467 -1.500 1.500
Coil 5 M	1.040 0.900 1.100	1.038 0.900 1.100	1.039 0.900 1.100	1.040 0.900 1.100	1.046 0.900 1.100	1.045 0.900 1.100	1.048 0.900 1.100	1.050 0.900 1.100
Coil 5 P	0.097 -1.500 1.500	0.099 -1.500 1.500	0.220 -1.500 1.500	0.288 -1.500 1.500	0.469 -1.500 1.500	0.559 -1.500 1.500	0.620 -1.500 1.500	0.736 -1.500 1.500

PARMS	TCID 0	TCID 1	Cal Temp (degF)	T Factor
IDs	2.733	0.716	85.1	1.00

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10120519 DATE/TIME PERFORMED: Mon Jul 29 21:23:10 2013 DAYS SINCE CAL: 24

UNIT #: 3880TA HL6670

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.005 -0.200 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	0.000 -0.100 0.100	0.000 -0.100 0.100	0.000 -0.100 0.100
Coil 0 Q	0.001 -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	0.022 -0.200 0.200	0.000 -0.100 0.100	-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	0.000 -0.100 0.100
Coil 1 Q	0.010 -0.500 0.500	0.004 -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 1 Q	0.010	-0.004	0.001	0.000	-0.001	-0.000	-0.001	0.001
	-0.500 0.500	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 2 R	0.018	0.000	0.001	-0.000	-0.001	-0.001	-0.002	-0.000
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 2 Q	0.014	-0.003	0.001	0.002	-0.001	-0.001	0.003	-0.001
	-0.500 0.500	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 3 R	0.055	-0.003	-0.009	0.003	-0.001	-0.001	0.001	0.001
	-0.300 0.300	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 3 Q	0.040	-0.013	0.007	-0.001	0.001	0.003	-0.005	0.000
	-0.500 0.500	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 4 R	0.150	-0.002	-0.010	0.007	-0.002	-0.006	0.003	-0.001
	-0.500 0.500	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 4 Q	0.056	-0.038	0.011	0.009	-0.012	-0.000	0.002	0.005
	-1.000 1.000	-0.400 0.400	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 5 R	0.347	0.014	-0.036	0.031	-0.020	0.001	0.000	-0.008
	-1.200 1.200	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400
Coil 5 Q	0.157	-0.082	0.027	0.009	-0.018	-0.003	0.006	-0.016
	-1.500 1.500	-0.800 0.800	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	162.36	160.92	158.03	153.75	148.11	141.15	132.94	123.63
	136.00 186.00	134.00 184.00	131.00 181.00	126.00 176.00	122.00 170.00	116.00 161.00	112.00 150.00	105.00 139.00
Coil 0 P	6.985	25.268	42.693	60.024	77.333	94.660	111.995	129.307
	-1.000 12.000	19.000 30.000	35.000 50.000	49.000 71.000	63.000 91.000	77.000 110.000	92.000 130.000	105.000 151.000
Coil 1 M	282.64	280.10	275.03	267.38	257.30	244.81	230.03	213.41
	237.00 327.00	235.00 325.00	230.00 320.00	225.00 312.00	216.00 302.00	206.00 288.00	196.00 266.00	184.00 244.00
Coil 1 P	7.056	25.458	43.014	60.489	77.943	95.408	112.836	130.249
	-1.000 12.000	19.000 30.000	35.000 51.000	49.000 71.000	63.000 92.000	77.000 112.000	92.000 132.000	105.000 153.000
Coil 2 M	559.45	554.31	544.09	528.86	509.01	484.39	455.64	422.93
	479.00 659.00	474.00 654.00	463.00 643.00	450.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	359.00 499.00
Coil 2 P	6.912	25.191	42.579	59.860	77.111	94.358	111.613	128.820
	-1.000 12.000	19.000 31.000	35.000 51.000	49.000 71.000	63.000 92.000	77.000 114.000	92.000 135.000	105.000 156.000
Coil 3 M	917.57	908.65	890.73	864.11	829.54	787.22	738.16	682.52
	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	589.00 799.00
Coil 3 P	7.273	26.007	43.902	61.679	79.393	97.080	114.724	132.285
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 72.000	63.000 93.000	77.000 114.000	92.000 135.000	105.000 156.000
Coil 4 M	1425.3	1413.4	1388.9	1352.1	1303.8	1243.2	1171.0	1088.8
	1210.0 1700.0	1205.0 1680.0	1180.0 1650.0	1140.0 1590.0	1120.0 1530.0	1070.0 1450.0	1000.0 1350.0	942.0 1240.0
Coil 4 P	7.047	25.424	42.973	60.445	77.914	95.424	112.964	130.448
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 73.000	63.000 93.000	78.000 114.000	92.000 135.000	105.000 156.000
Coil 5 M	2946.1	2922.5	2872.2	2796.1	2695.7	2568.1	2419.4	2249.1
	2450.0 3450.0	2420.0 3400.0	2410.0 3320.0	2350.0 3200.0	2260.0 3080.0	2150.0 2960.0	2020.0 2750.0	1870.0 2570.0
Coil 5 P	7.149	25.629	43.310	60.919	78.526	96.140	113.777	131.397
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 73.000	63.000 94.000	79.000 114.000	93.000 135.000	106.000 156.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10120519 DATE/TIME PERFORMED: Mon Jul 29 23:27:51 2013 DAYS SINCE CAL: 24

UNIT #: 3880TA HL6670

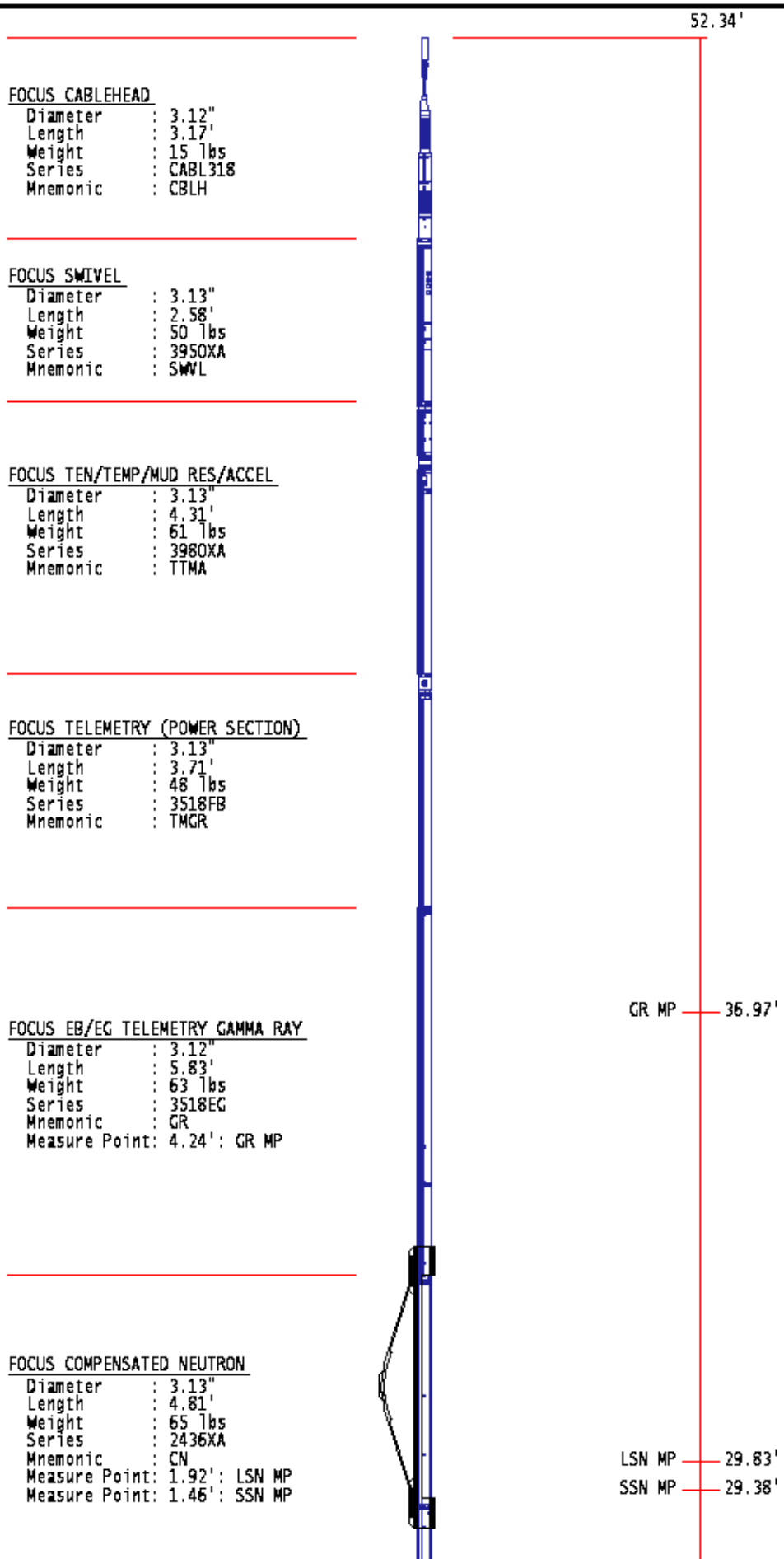
ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.005	0.000	-0.001	0.000	0.001	0.000	0.001	0.000

Coil 0 Q	0.001	-0.001	0.000	0.000	0.000	-0.000	0.000	-0.001
	-0.039 0.041	-0.121 0.119	-0.030 0.030	-0.030 0.030	-0.031 0.029	-0.030 0.030	-0.029 0.031	-0.030 0.030
Coil 1 R	0.021	0.001	-0.003	0.003	-0.002	0.001	0.001	-0.001
	-0.058 0.102	-0.050 0.050	-0.032 0.028	-0.028 0.032	-0.031 0.029	-0.031 0.029	-0.029 0.031	-0.030 0.030
Coil 1 Q	0.010	-0.003	0.002	0.000	-0.000	0.001	-0.000	-0.001
	-0.390 0.410	-0.104 0.096	-0.029 0.031	-0.030 0.030	-0.031 0.029	-0.030 0.030	-0.031 0.029	-0.029 0.031
Coil 2 R	0.018	0.002	0.000	-0.002	0.000	-0.000	0.002	0.002
	-0.052 0.088	-0.030 0.030	-0.029 0.031	-0.030 0.030	-0.031 0.029	-0.031 0.029	-0.032 0.028	-0.030 0.030
Coil 2 Q	0.017	-0.002	0.002	-0.000	0.001	-0.001	0.001	-0.001
	-0.336 0.364	-0.103 0.097	-0.029 0.031	-0.028 0.032	-0.031 0.029	-0.031 0.029	-0.027 0.033	-0.031 0.029
Coil 3 R	0.052	0.002	-0.004	0.001	-0.001	0.001	-0.002	-0.001
	0.015 0.095	-0.043 0.037	-0.049 0.031	-0.037 0.043	-0.041 0.039	-0.041 0.039	-0.039 0.041	-0.039 0.041
Coil 3 Q	0.035	-0.015	0.002	-0.003	-0.003	-0.001	0.001	-0.001
	-0.160 0.240	-0.093 0.067	-0.033 0.047	-0.041 0.039	-0.039 0.041	-0.037 0.043	-0.045 0.035	-0.040 0.040
Coil 4 R	0.163	0.001	-0.022	0.013	-0.003	-0.002	-0.002	-0.001
	0.090 0.210	-0.062 0.058	-0.070 0.050	-0.053 0.067	-0.062 0.058	-0.066 0.054	-0.057 0.063	-0.061 0.059
Coil 4 Q	0.061	-0.037	0.010	0.003	-0.006	0.010	-0.004	-0.002
	-0.244 0.366	-0.138 0.062	-0.049 0.071	-0.051 0.069	-0.072 0.048	-0.060 0.060	-0.058 0.062	-0.065 0.065
Coil 5 R	0.338	0.014	-0.013	0.021	-0.010	-0.000	0.004	0.003
	0.227 0.467	-0.106 0.134	-0.156 0.084	-0.089 0.151	-0.140 0.100	-0.119 0.121	-0.120 0.120	-0.128 0.112
Coil 5 Q	0.144	-0.073	0.033	0.008	-0.016	-0.001	-0.003	-0.011
	-0.443 0.757	-0.332 0.186	-0.093 0.147	-0.111 0.129	-0.138 0.102	-0.123 0.117	-0.114 0.126	-0.136 0.104

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	162.41	160.98	158.07	153.77	148.07	141.16	132.89	123.55
	159.12 165.61	157.70 164.14	154.87 161.19	150.68 156.83	145.14 151.07	138.33 143.97	130.29 135.60	121.16 126.10
Coil 0 P	7.167	25.320	42.725	60.015	77.331	94.625	111.934	129.238
	3.965 9.965	22.268 28.268	39.693 45.693	57.024 63.024	74.333 80.333	91.660 97.660	108.995 114.995	126.307 132.307
Coil 1 M	282.55	280.02	274.91	267.23	257.09	244.58	229.85	213.04
	276.99 288.30	274.50 285.70	269.53 280.53	262.03 272.73	252.15 262.44	239.91 249.70	225.43 234.63	209.14 217.68
Coil 1 P	7.241	25.516	43.048	60.498	77.947	95.382	112.817	130.194
	4.056 10.056	22.456 28.456	40.014 46.014	57.489 63.489	74.943 80.943	92.408 98.408	109.836 115.836	127.249 133.249
Coil 2 M	559.34	554.24	543.95	528.62	508.59	484.17	455.41	422.42
	548.26 570.64	543.23 565.40	533.21 554.97	518.28 539.43	498.83 519.19	474.70 494.07	446.52 464.75	414.47 431.39
Coil 2 P	7.093	25.247	42.612	59.866	77.119	94.336	111.589	128.792
	3.912 9.912	22.191 28.191	39.579 45.579	56.860 62.860	74.111 80.111	91.358 97.358	108.613 114.613	125.820 131.820
Coil 3 M	917.14	908.25	890.28	863.53	828.62	786.49	737.03	681.77
	899.21 935.92	890.47 926.82	872.92 908.55	846.83 881.40	812.96 846.13	771.47 802.96	723.39 752.92	668.87 696.17
Coil 3 P	7.449	26.065	43.934	61.689	79.401	97.065	114.706	132.240
	4.273 10.273	23.007 29.007	40.902 46.902	58.679 64.679	76.393 82.393	94.060 100.060	111.724 117.724	129.285 135.285
Coil 4 M	1424.1	1412.2	1387.8	1350.9	1302.1	1241.5	1169.5	1086.9
	1396.8 1453.8	1385.1 1441.6	1361.1 1416.7	1325.1 1379.2	1277.7 1329.8	1218.3 1268.1	1147.6 1194.5	1067.0 1110.6
Coil 4 P	7.235	25.481	43.006	60.453	77.914	95.399	112.914	130.425
	4.047 10.047	22.424 28.424	39.973 45.973	57.445 63.445	74.914 80.914	92.424 98.424	109.964 115.964	127.448 133.448
Coil 5 M	2946.2	2922.5	2872.4	2795.7	2693.6	2567.7	2418.5	2247.3
	2887.2 3005.1	2864.0 2980.9	2814.8 2929.7	2740.2 2852.0	2641.8 2749.6	2516.8 2619.5	2371.0 2467.8	2204.1 2294.1
Coil 5 P	7.333	25.688	43.336	60.925	78.526	96.128	113.759	131.355
	4.149 10.149	22.629 28.629	40.310 46.310	57.919 63.919	75.526 81.526	93.140 99.140	110.777 116.777	128.397 134.397

INSTRUMENT CONFIGURATION

Source File: /dat1a/625565/625565-tdg



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

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'
- 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

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'

Weight : 7 lbs
Series : HFND18

0.00'

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

BAKER HUGHES

ECLIPS

COMPANY	WPX ENERGY INC		FILE NO: 625565
WELL	WPX ENERGY GM 423-34		API NO: 05045193090000
FIELD	GRAND VALLEY		
COUNTY	GARFIELD	STATE CO	

LOCATION:

SHL: 1958' FSL 2182' FWL
BHL: 1534' FSL 2405' FEL

SEC 34 TWP 6S RGE 96W

ELEVATIONS:

KB 5383 FT
DF 5383 FT
GL 5357 FT

S34 T6S R96W
PAD GM 23-34
RIG: NABORS 574

DATE 29-Jul-2013