Schlumberger

Company: DUKE ENERGY INDIANA-EDWARDSPORT

Well: WDW #1
Field: WILDCAT
County: KNOX
State: INDIANA

County: KNOX
Field: WILDCAT
Location: LAT. 845 FNL
Well: WDW #1
Company: DUKE ENERGY INDIANA-EDW

PLATFORM EXPRESS
LITHOLOGY DENSITY
COMPENSATED NEUTRON

LOCATION

LAT. 845 FNL
LON. 232 FWL

Elev.: K.B. 486.44 ft
G.L. 471.35 ft
D.F. 485.33 ft

Permanent Datum: GROUND LEVEL — Elev.: 471.35 ft
Log Measured From: KELLY BUSHING — 15.09 ft above Perm. Datum
Drilling Measured From: KELLY BUSHING

API Serial No.	Section	Township	Range
53471	12	4N	8W

Logging Date			20-Oct-2008				
Run Number			TWO				
Depth Driller			10050 ft				
Schlumberger Depth			10064 ft				
Bottom Log Interval			10051 ft				
Top Log Interval			3740 ft				
Casing Driller Size @ Depth			9.625 in @ 3700 ft				
Casing Schlumberger			3735 ft			@	
Bit Size			8.750 in				
Type Fluid In Hole			FRESH MUD				
MUD Density	Viscosity		9.25 lbm/gal	120 s			
MUD Fluid Loss	PH		12 cm3				
MUD Source Of Sample			MUD PIT				
RM @ Measured Temperature			0.340 ohm.m @ 74 degF				
RMF @ Measured Temperature			0.255 ohm.m @ 74 degF			@	
RMC @ Measured Temperature			0.510 ohm.m @ 74 degF			@	
Source RMF	RMC		CALCULATED	CALCULATED		@	
RM @ MRT	RMF @ MRT		0.176 @ 150	0.132 @ 150			
Maximum Recorded Temperatures			150 degF			@	@
Circulation Stopped	Time		20-Oct-2008				
Logger On Bottom	Time		20-Oct-2008		14:15		
Unit Number	Location		2330	LAUREL			
Recorded By			CHARLES BURKE				
Witnessed By			BRAD				

Logging Date			
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth	@	@	
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
MUD Density / Viscosity			
MUD Fluid Loss / PH			
Source Of Sample			
RM @ Measured Temperature	@	@	
RMF @ Measured Temperature	@	@	
RMC @ Measured Temperature	@	@	
Source RMF / RMC			
RM @ MRT	@	@	
RMF @ MRT	@	@	
Maximum Recorded Temperatures			
Circulation Stopped / Time			
Logger On Bottom / Time			
Unit Number / Location			
Recorded By			
Witnessed By			

DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1	OTHER SERVICES2
OS1: MSIP	OS1:
OS2: FMI	OS2:
OS3: MSCT	OS3:
OS4: MDT	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
FIRST RUN IN WELL	
ALL SCHLUMBERGER DEPTH PROCEDURES FOLLOWED	
TWO 1" STANDOFFS RUN ON INDUCTION TOOL	
BOWSPRING RUN ON NEUTRON FOR ECCENTRALIZATION	
MATRIX =LIMESTONE 2.71 G/CC	
CHLORIDES= 6000PPM	
CREW: PARRISH, EAVENSON	
THANK YOU FOR USING SCHLUMBERGER	

RUN 1			RUN 2		
SERVICE ORDER #:	AOSP-00038		SERVICE ORDER #:		
PROGRAM VERSION:	16C0-147		PROGRAM VERSION:		
FLUID LEVEL:	192 ft		FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1 | RUN 2

SURFACE EQUIPMENT

GSR-U/Y
NCT-B
CNB-AB
NCS-VB

WITM (DTS)-A

DOWNHOLE EQUIPMENT

LEH-QT — 43.6
LEH-QT

DTC-H — 40.6
ECH-KC
DTCH0-A
DTCH1-A

CTEM — 39.7
TelStatus
ToolStatu
HGNS HTEM — 37.6
HMCA — 37.6

HILTB-FTB — 37.6
HGNSD-B
HMCA
HGNH
NLS-KL
NSR-F
HACCZ
HCNT
HGR
HRCC-B
HRMS-B
HRGD-B
GLS-VJ
MCFL Device
HILT Nucl. LS
HILT Nucl. SS
HILT Nucl. BS
BOW-SPR
NPV-N

HGNS Gamm — 36.9
HGNS Neut — 31.1
HGNS Neut — 30.6
HGNS sens — 28.2
HRCC cart — 24.2
MCFL — 18.8
HILT cali — 18.3
HRDD-LS
HRDD-SS
HRDD-BS — 17.9

AIT-M — 16.0
AMIS-A
AMRM-A

1.0 IN Standoff

Induction
Temperatu
Power Sup — 7.9

SP SENSOR — 0.1
DF
HTEN HMAS HV
Accelerom
Mud Resis
Tension — 0.0
TOOL ZERO

1.0 IN Standoff

MAXIMUM STRING DIAMETER 5.88 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_017LUP	FN:16	PRODUCER	20-Oct-2008 12:19	10074.0 FT	3696.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_021PUP	FN:20	PRODUCER	20-Oct-2008 14:41	10079.0 FT	3701.5 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 3135.91 F3

Cement Volume = 1445.74 F3 (assuming 7.00 IN casing O.D.)

Computed from 10059.0 FT to 3735.0 FT using data channel(s) HCAL

OP System Version: 16C0-147

MCM

AIT-M	16C0-147	HILTB-FTB	16C0-147
DTC-H	16C0-147		

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 10 F3
- Integrated Hole Volume Major Pip Every 100 F3
- Integrated Cement Volume Minor Pip Every 10 F3
- Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

2" MAIN PASS

Tension (TENS) 10000 (LBF) 0

HILT Caliper (HCAL) 5 (IN) 15

Gamma Ray (GR) 0 (GAPI) 200

Stuck Stretch (STIT) 0 (F) 50

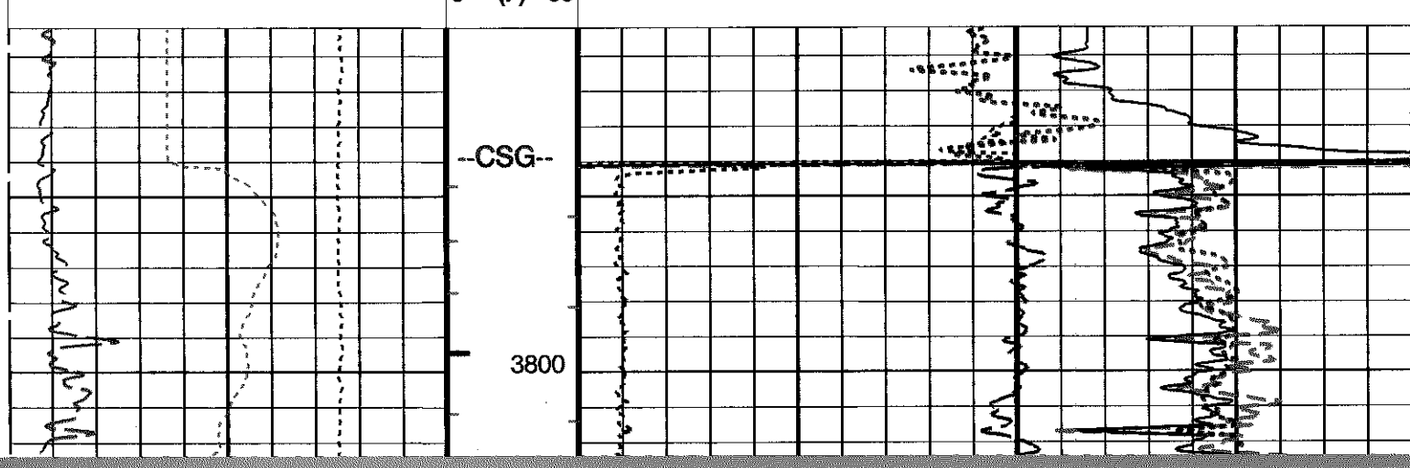
Std. Res. Formation Pe (PEFZ) 0 (----)

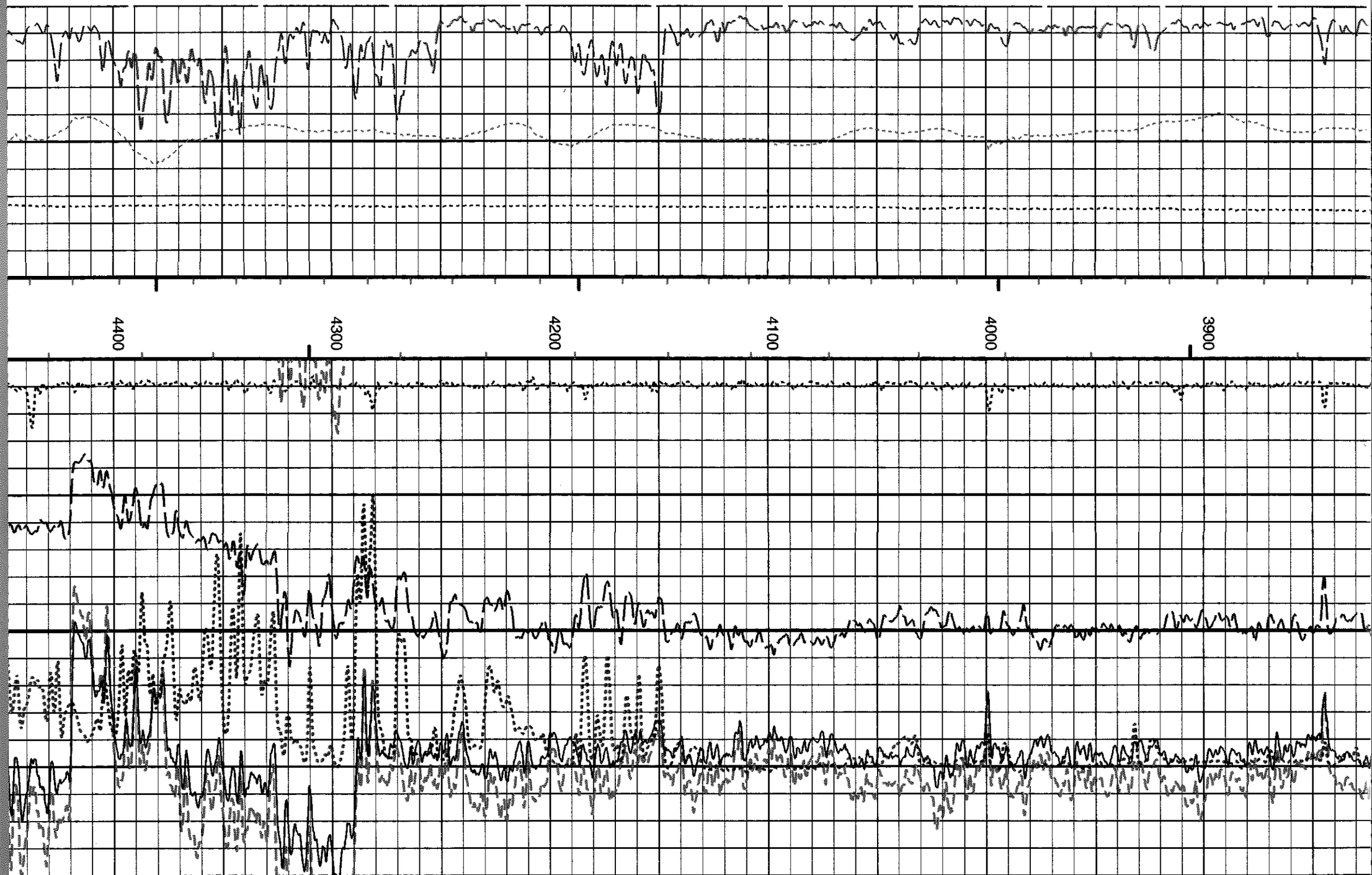
Std. Res. Formation Density (RHOZ) 2 (G/C3)

Neutron Porosity (NPHI) 0.3 (V/V)

Density Correction (HDRA) -0.05 (G/C3) 0.45

Std. Res. Density Porosity (DPHZ) 0.3 (V/V)

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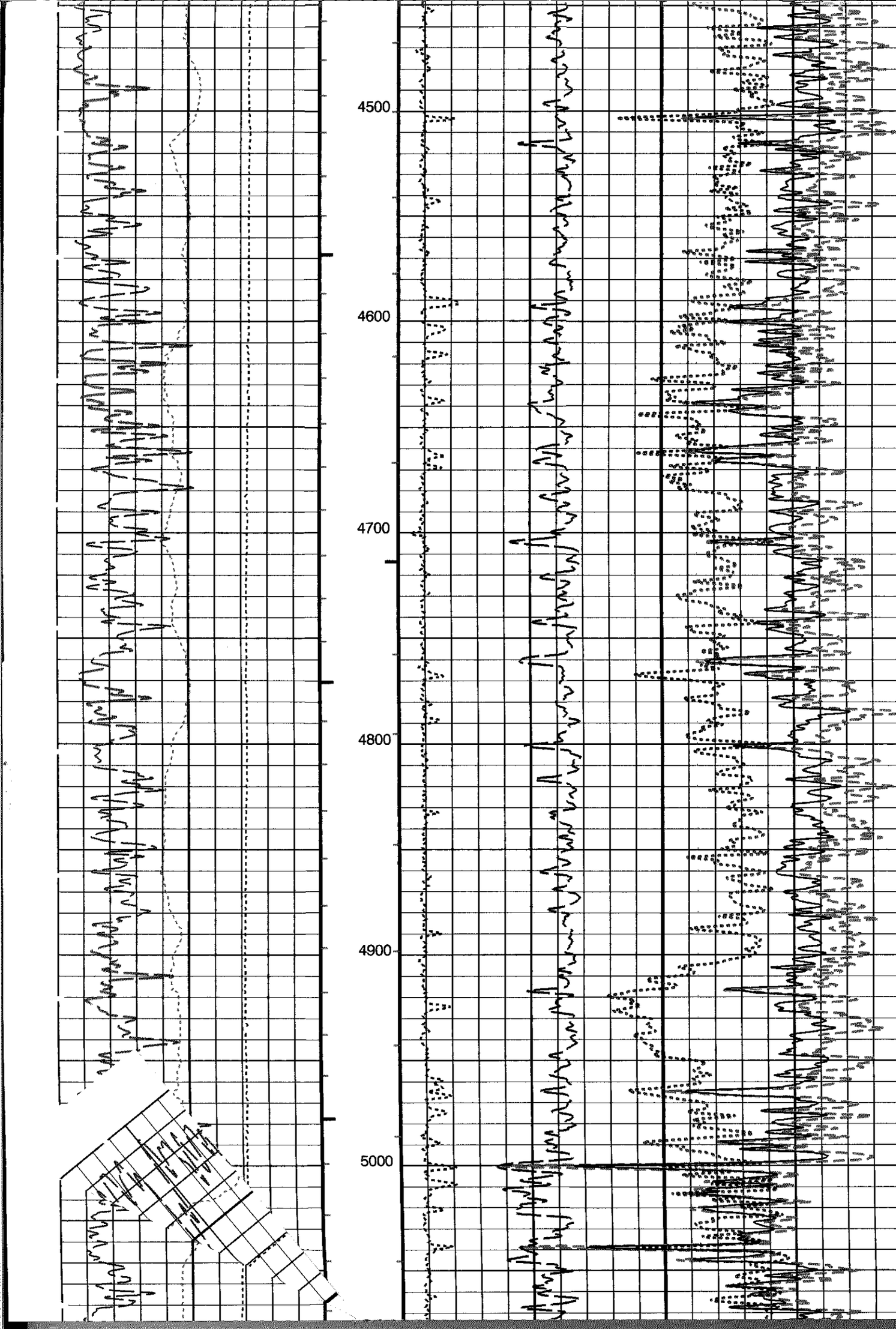
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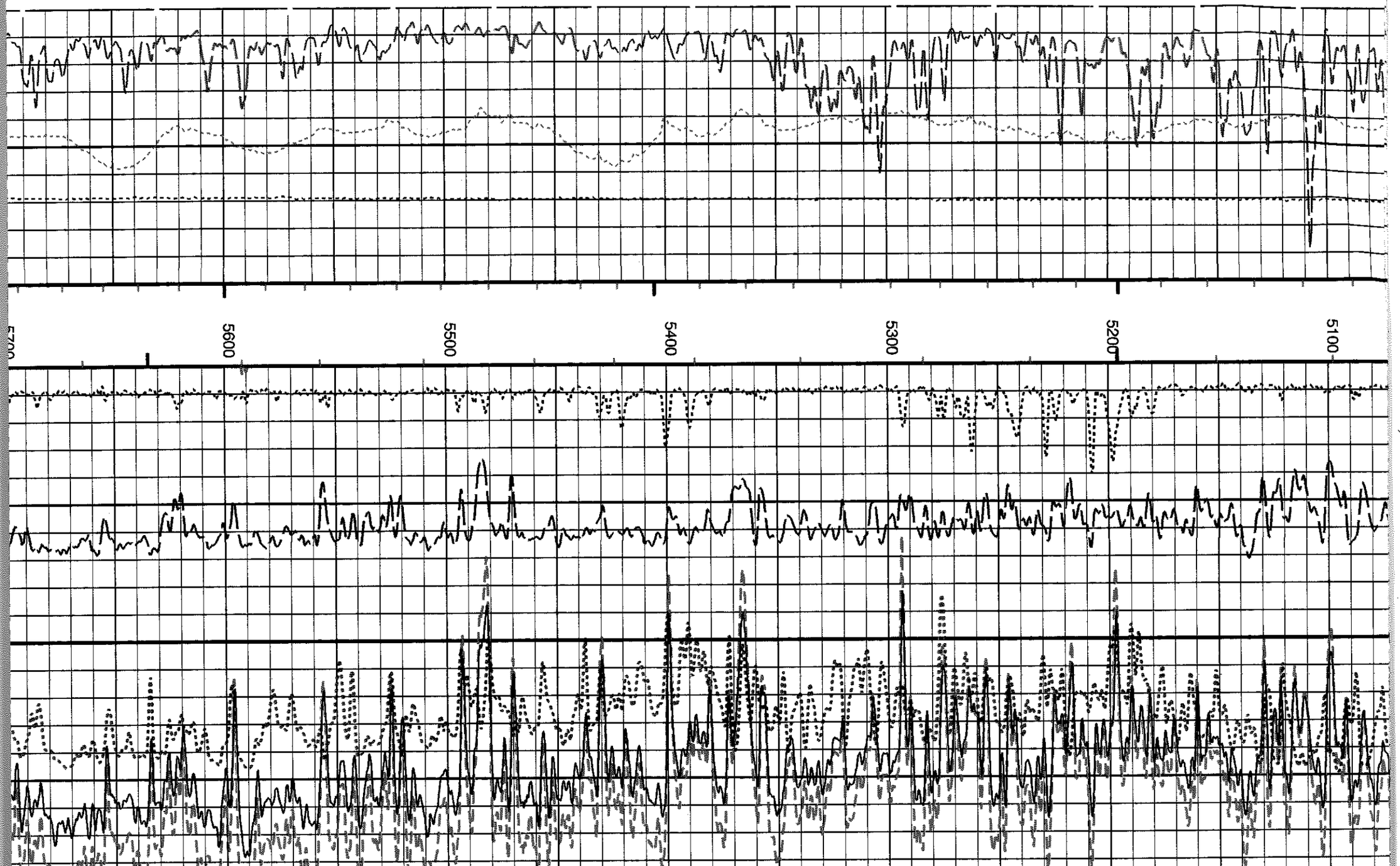
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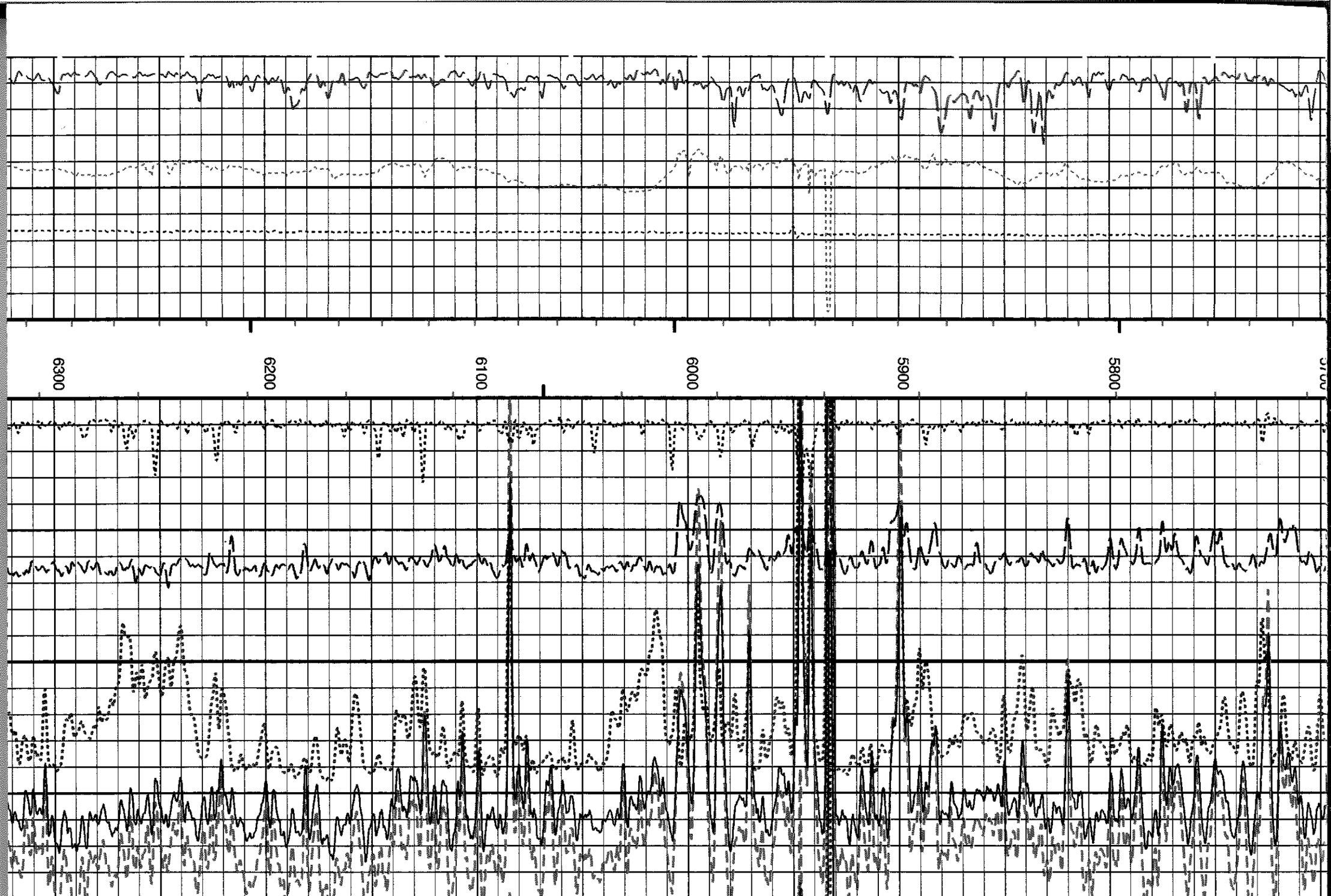
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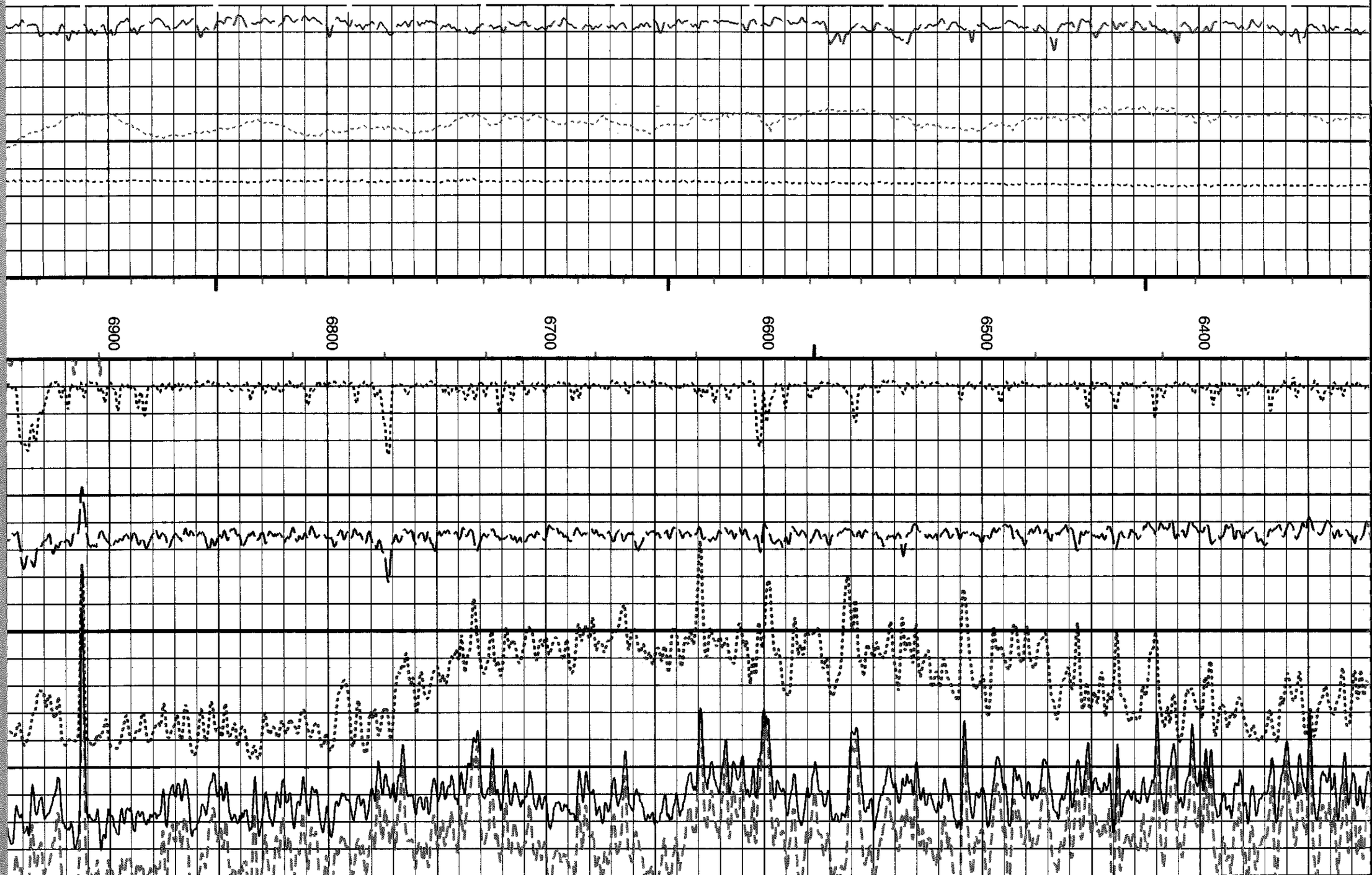
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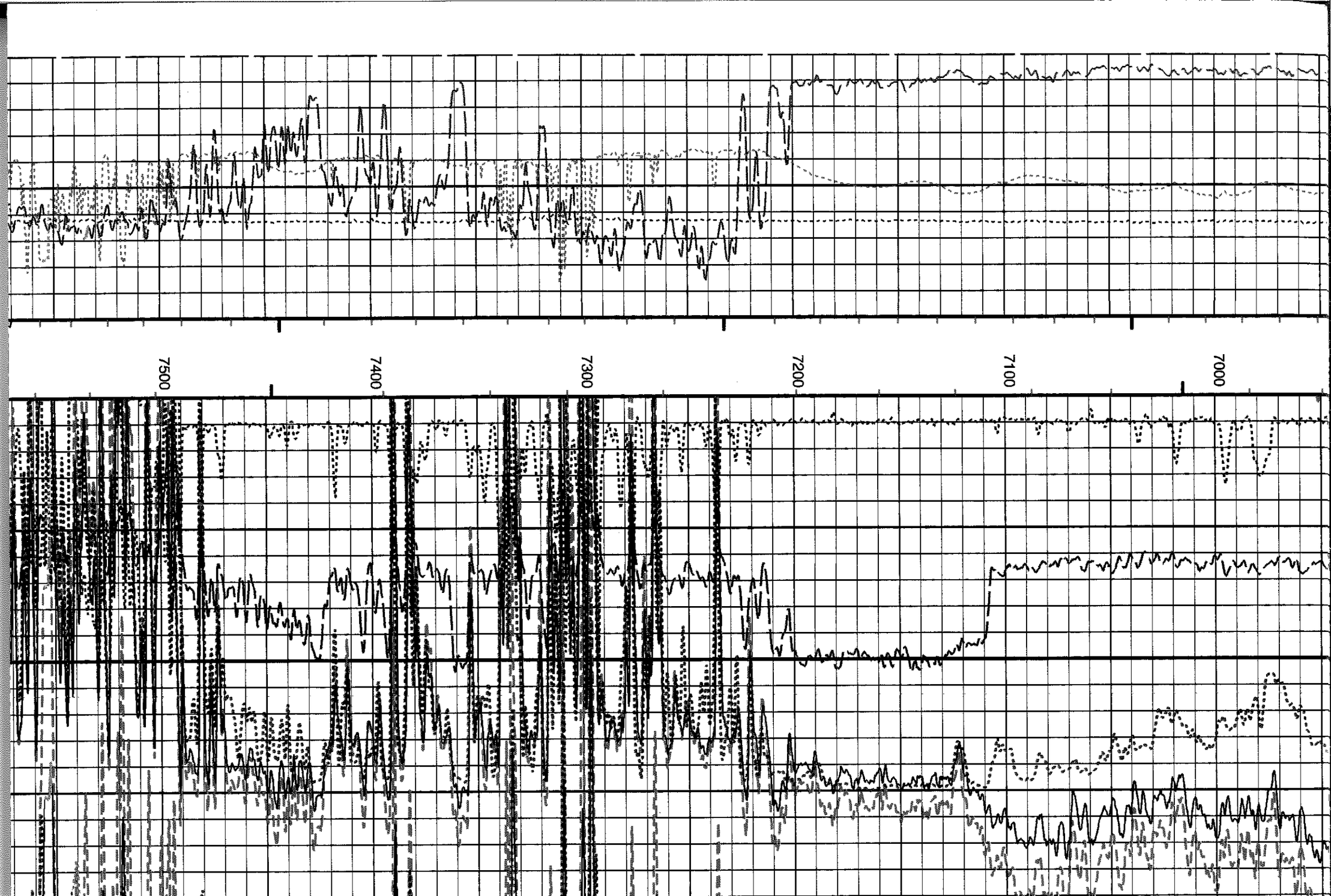
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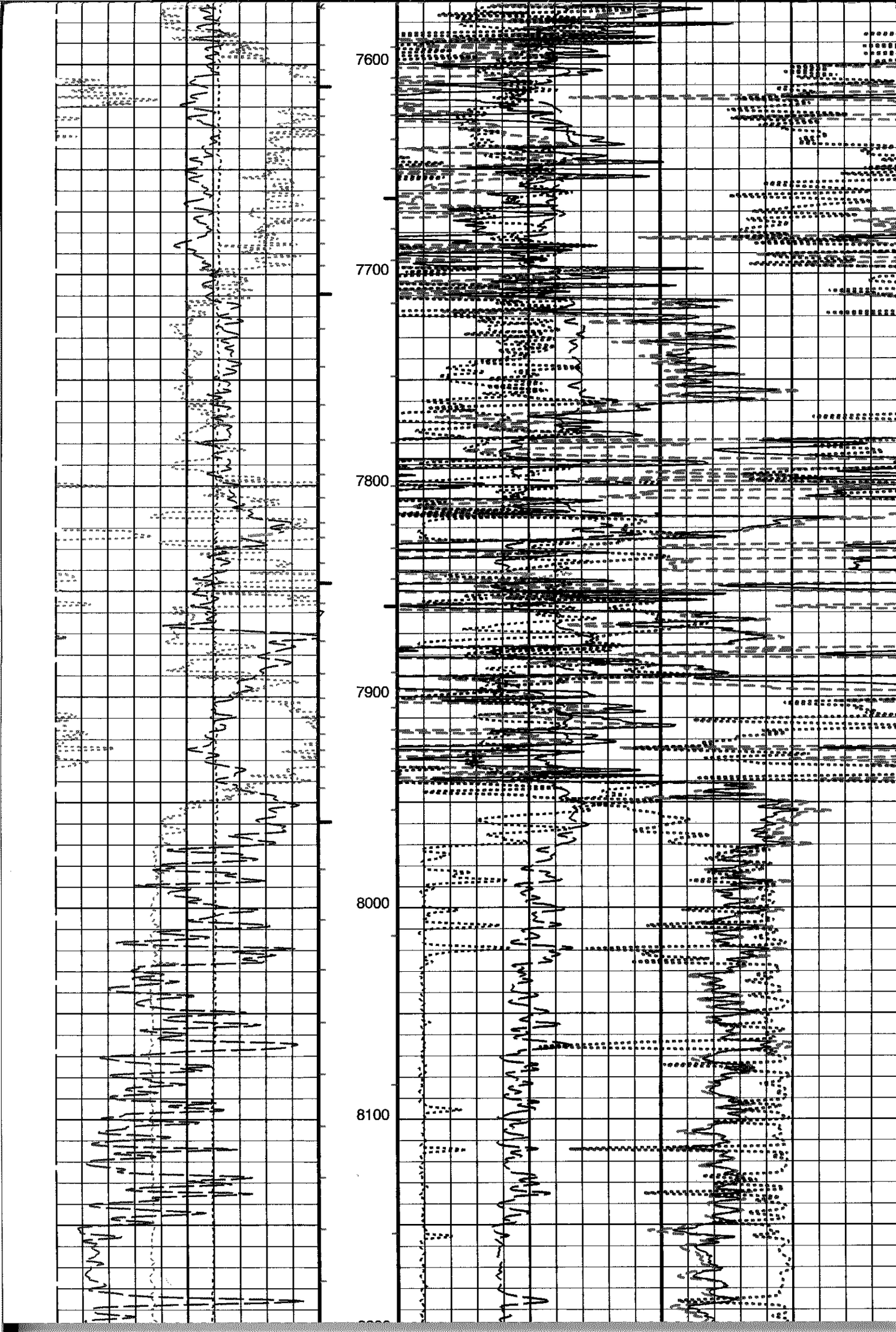
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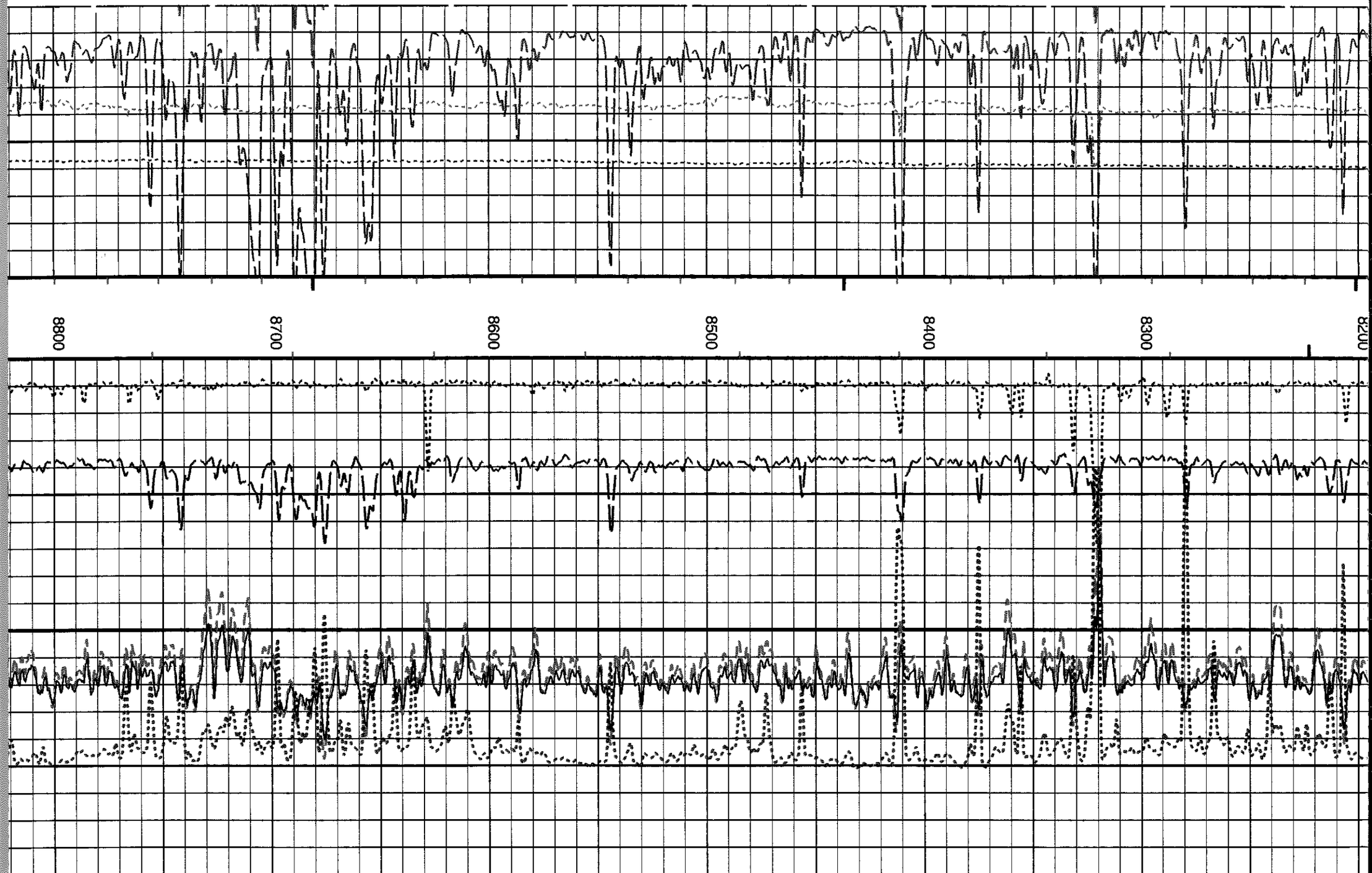
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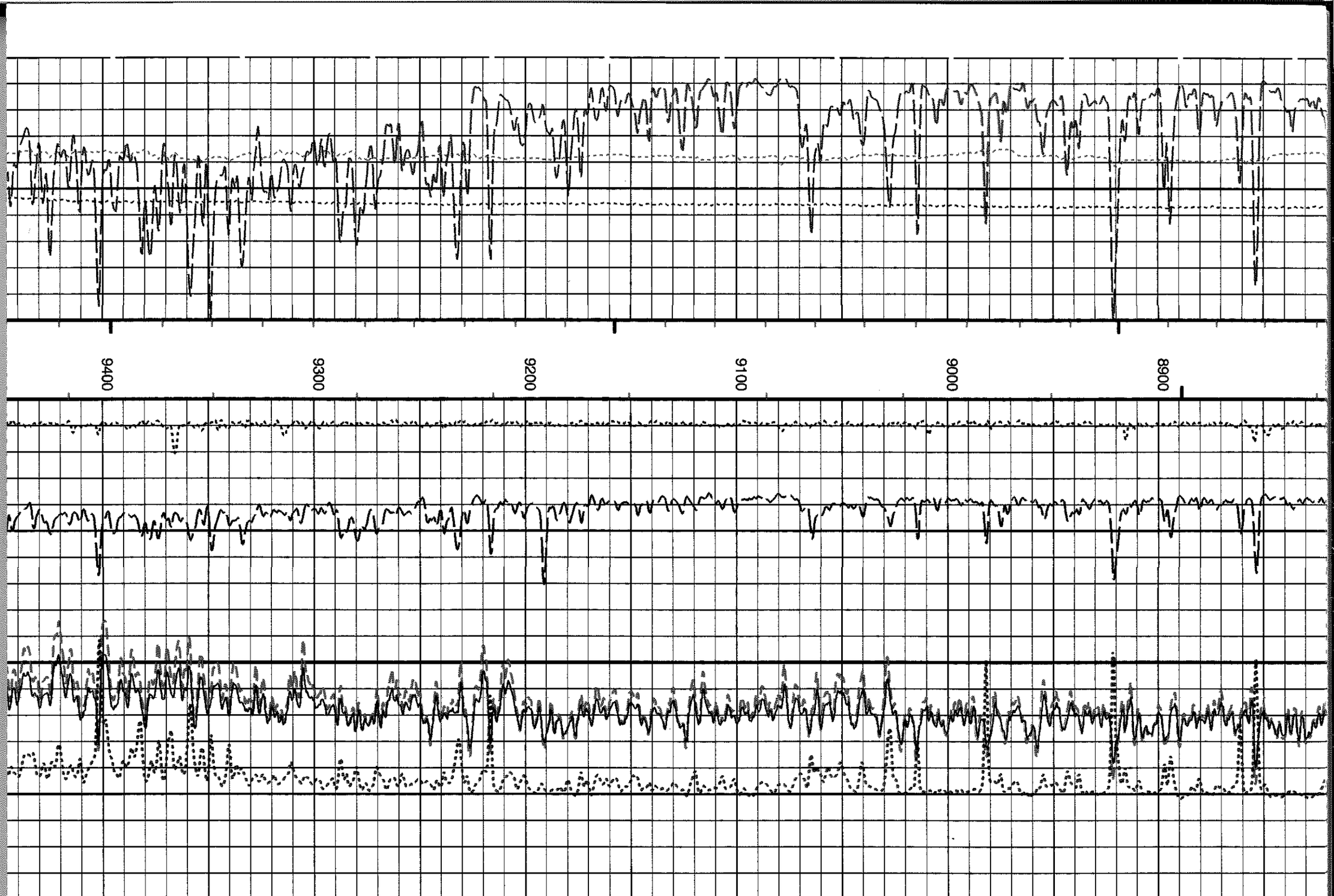
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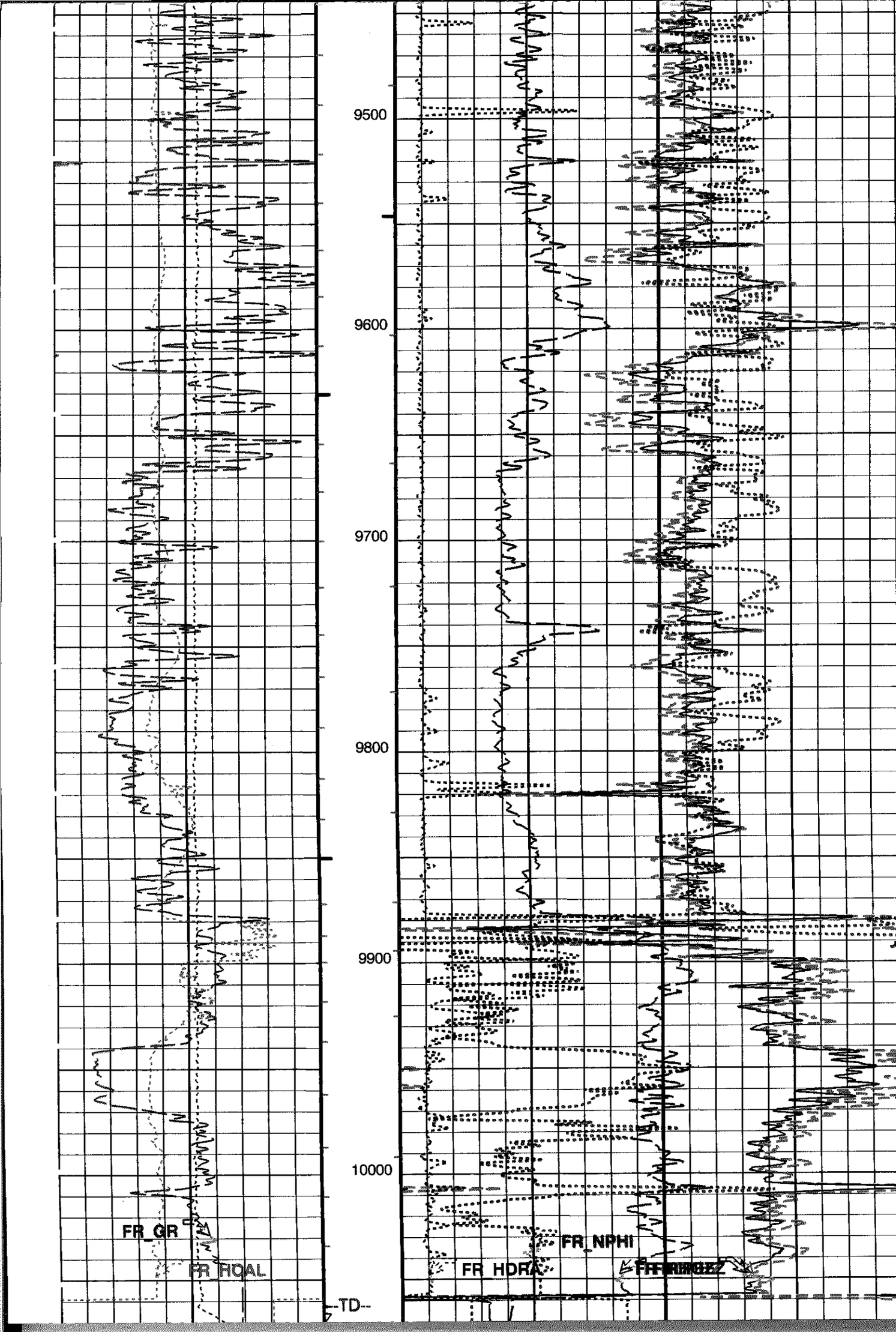
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FR_GR
FR_HCAL
FR_NPHI
FR_HDRA
FR_RHOBZ
TD

Gamma Ray (GR)	Stuck Stretch (STIT)	Std. Res. Density Porosity (DPHZ)
0 (GAPI) 200	0 (F) 50	0.3 (V/V)

HILT Caliper (HCAL)	Density Correction (HDRA)
5 (IN) 15	-0.05 (G/C3) 0.45

Tension (TENS)	Neutron Porosity (NPHI)
10000 (LBF) 0	0.3 (V/V)

Std. Res. Formation Density (RHOZ)
2 (G/C3)

Std. Res. Formation Pe (PEFZ)
0 (----)

2" MAIN PASS

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 10 F3
- Integrated Hole Volume Major Pip Every 100 F3
- Integrated Cement Volume Minor Pip Every 10 F3
- Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
AIT-M: Array Induction Tool - M			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
HILTB-FTB: High resolution Integrated Logging Tool-DTS			
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
GCLF	Germany Coal-like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MDEN	Matrix Density	2.71	G/C3
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	10050.00	FT
TDL	Total Depth - Logger	10059.00	FT
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
FCD	Future Casing (Outer) Diameter	7	IN
GCSE	Generalized Caliper Selection	HCAL	
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
System and Miscellaneous			
BS	Bit Size	8.750	IN
DFD	Drilling Fluid Density	9.25	LB/G
DO	Depth Offset for Playback	5.0	FT
PP	Playback Processing	NORMAL	
TD	Total Depth	10059	FT

Format: 2" NUC Vertical Scale: 2" per 100' Graphics File Created: 20-Oct-2008 14:41

OP System Version: 16C0-147

MCM

AIT-M	16C0-147	HILTB-FTB	16C0-147
DTC-H	16C0-147		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_017LUP	FN:16	PRODUCER	20-Oct-2008 12:19	10074.0 FT	3696.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_021PUP	FN:20	PRODUCER	20-Oct-2008 14:41

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_017LUP	FN:16	PRODUCER	20-Oct-2008 12:19	10074.0 FT	3696.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_021PUP	FN:20	PRODUCER	20-Oct-2008 14:41	10079.0 FT	3701.5 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 3135.91 F3

Cement Volume = 1445.74 F3 (assuming 7.00 IN casing O.D.)

Computed from 10059.0 FT to 3735.0 FT using data channel(s) HCAL

OP System Version: 16C0-147

MCM

AIT-M	16C0-147	HILTB-FTB	16C0-147
DTC-H	16C0-147		

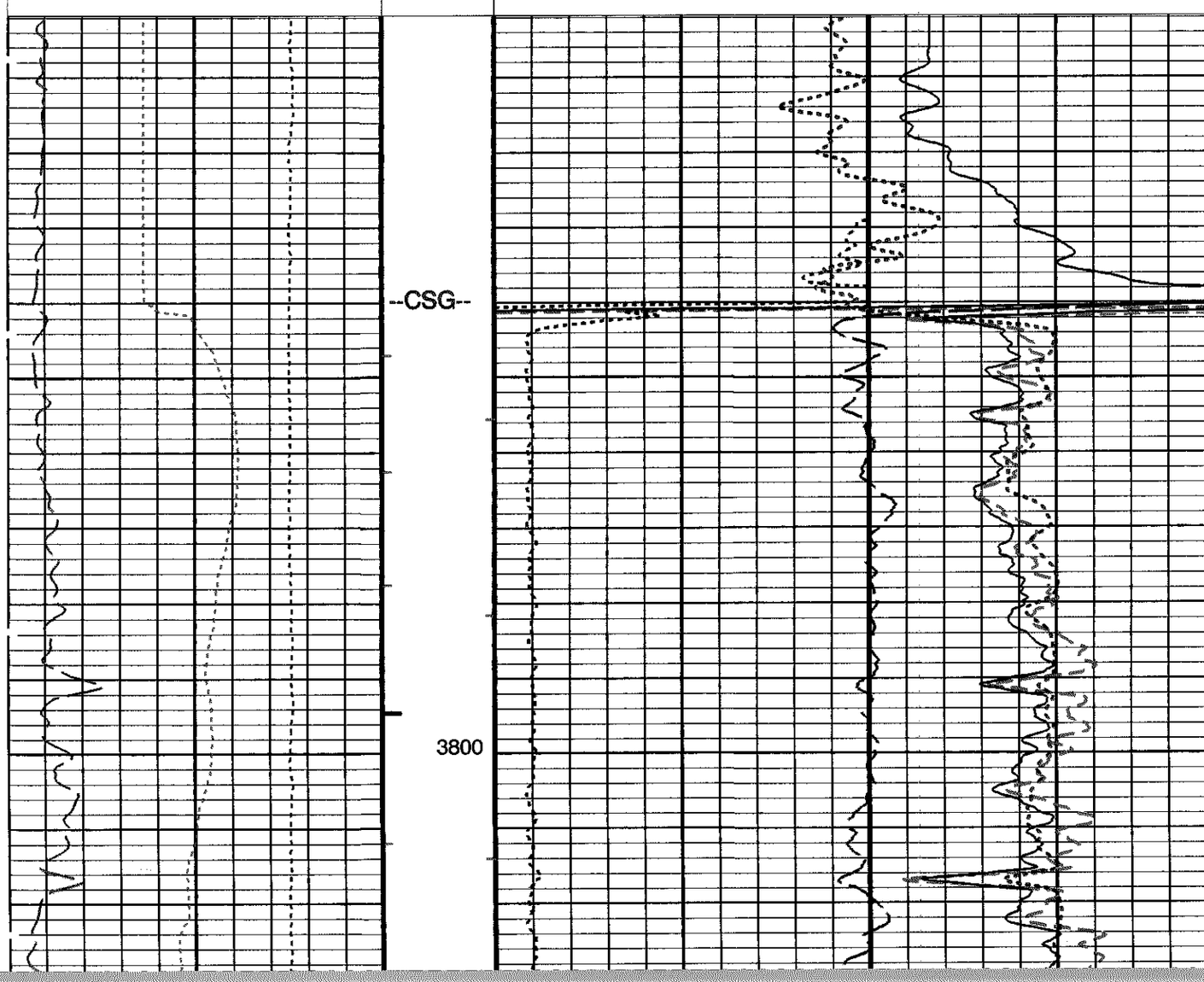
PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 10 F3
- Integrated Hole Volume Major Pip Every 100 F3
- Integrated Cement Volume Minor Pip Every 10 F3
- Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

5" MAIN PASS

Tension (TENS)	10000 (LBF)	0
HILT Caliper (HCAL)	5 (IN)	15
Gamma Ray (GR)	0 (GAPI)	200
Stuck Stretch (STIT)	0 (F)	50
Std. Res. Formation Pe (PEFZ)	0 (----)	
Std. Res. Formation Density (RHOZ)	2 (G/C3)	
Neutron Porosity (NPHI)	0.3 (V/V)	
Density Correction (HDRA)	-0.05 (G/C3)	0.45
Std. Res. Density Porosity (DPHZ)	0.3 (V/V)	



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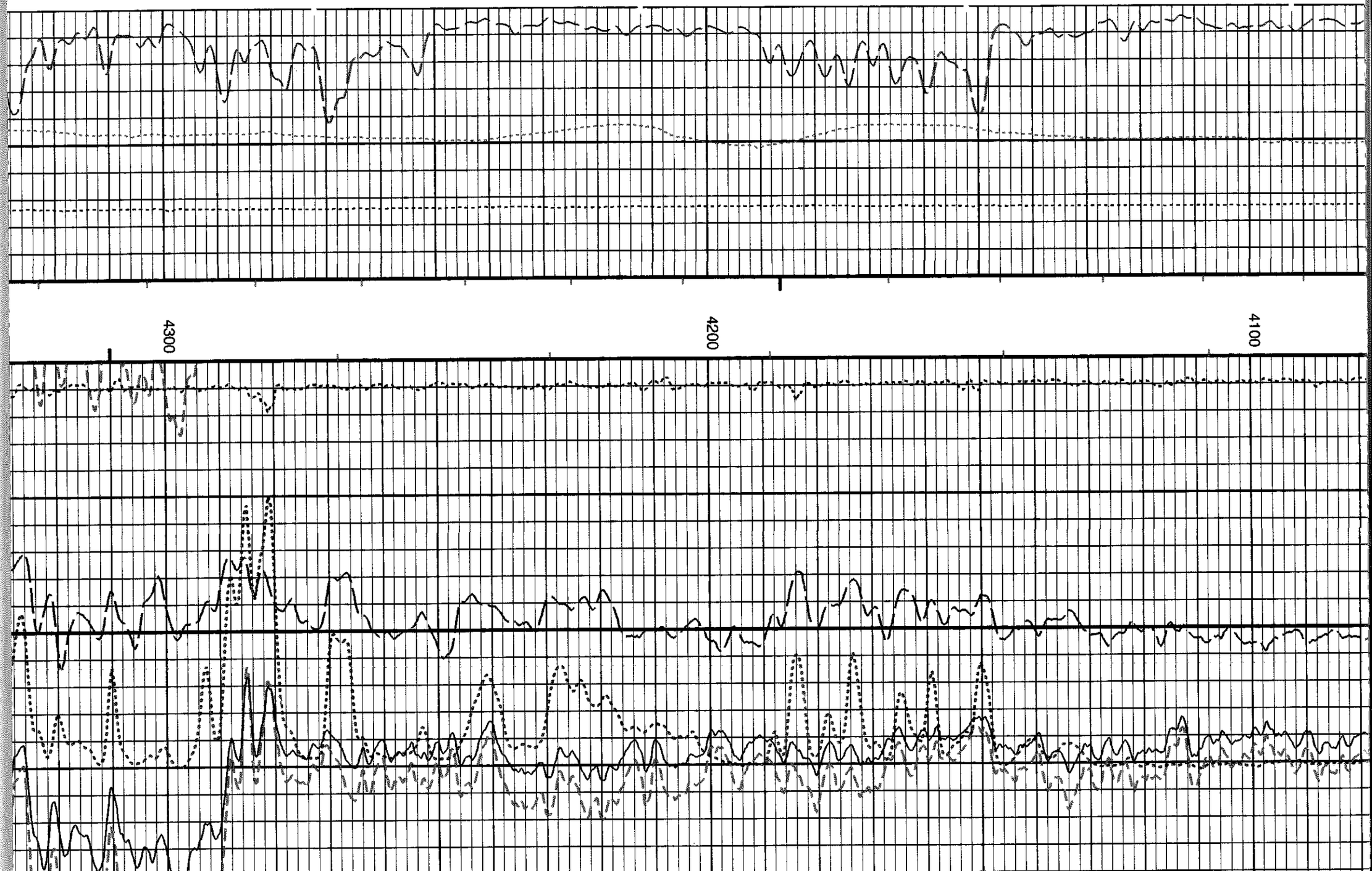
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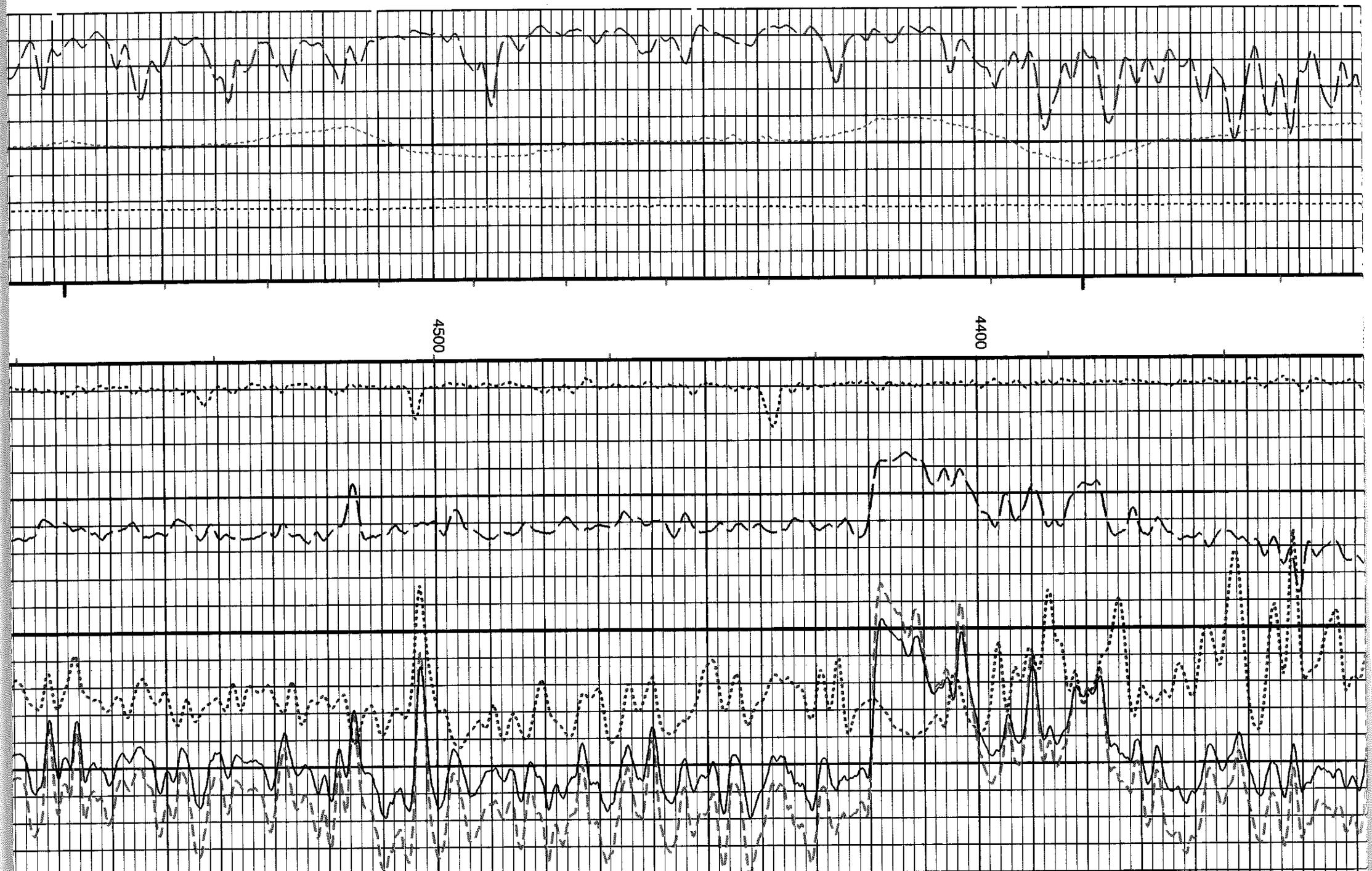
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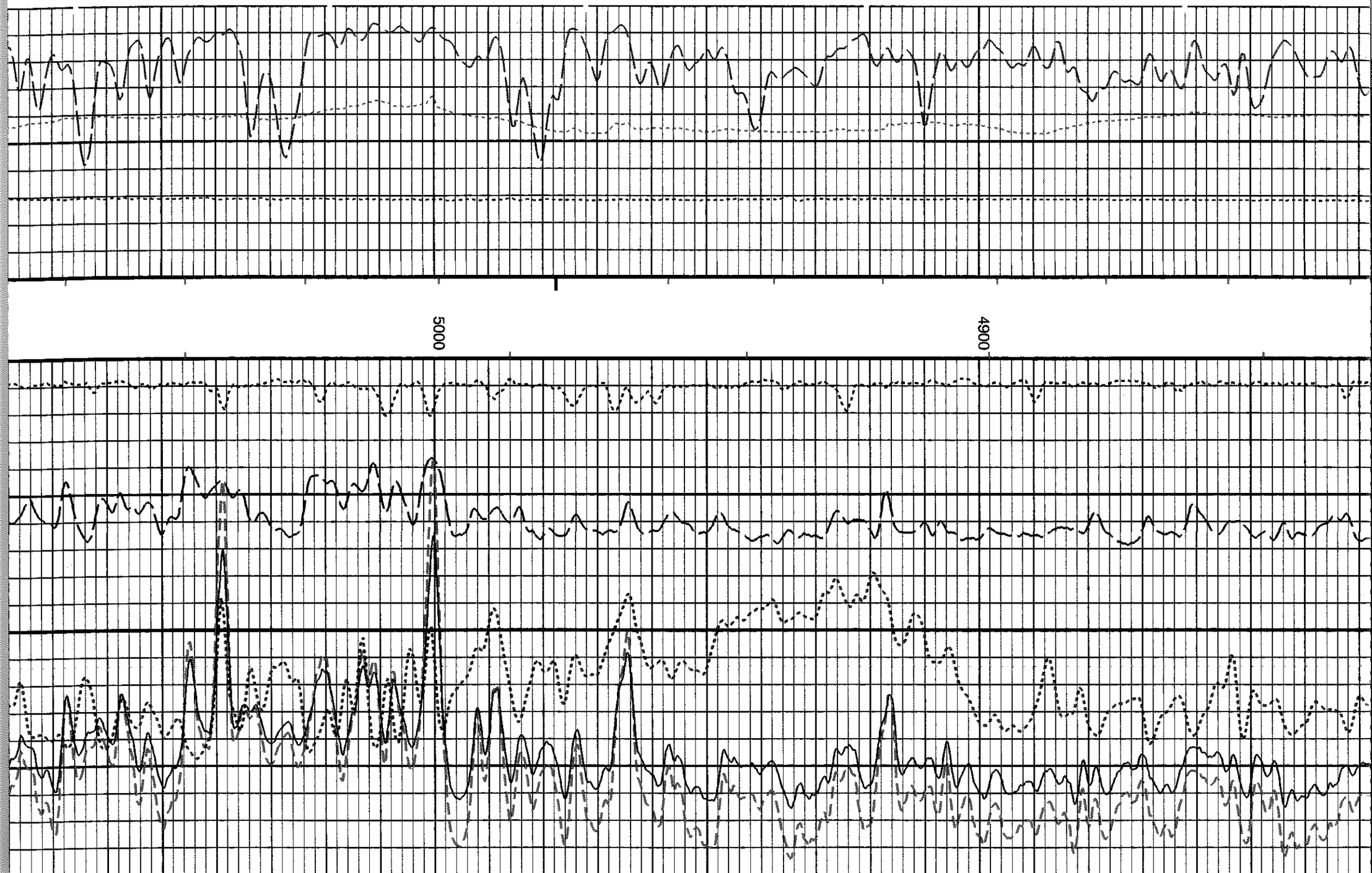
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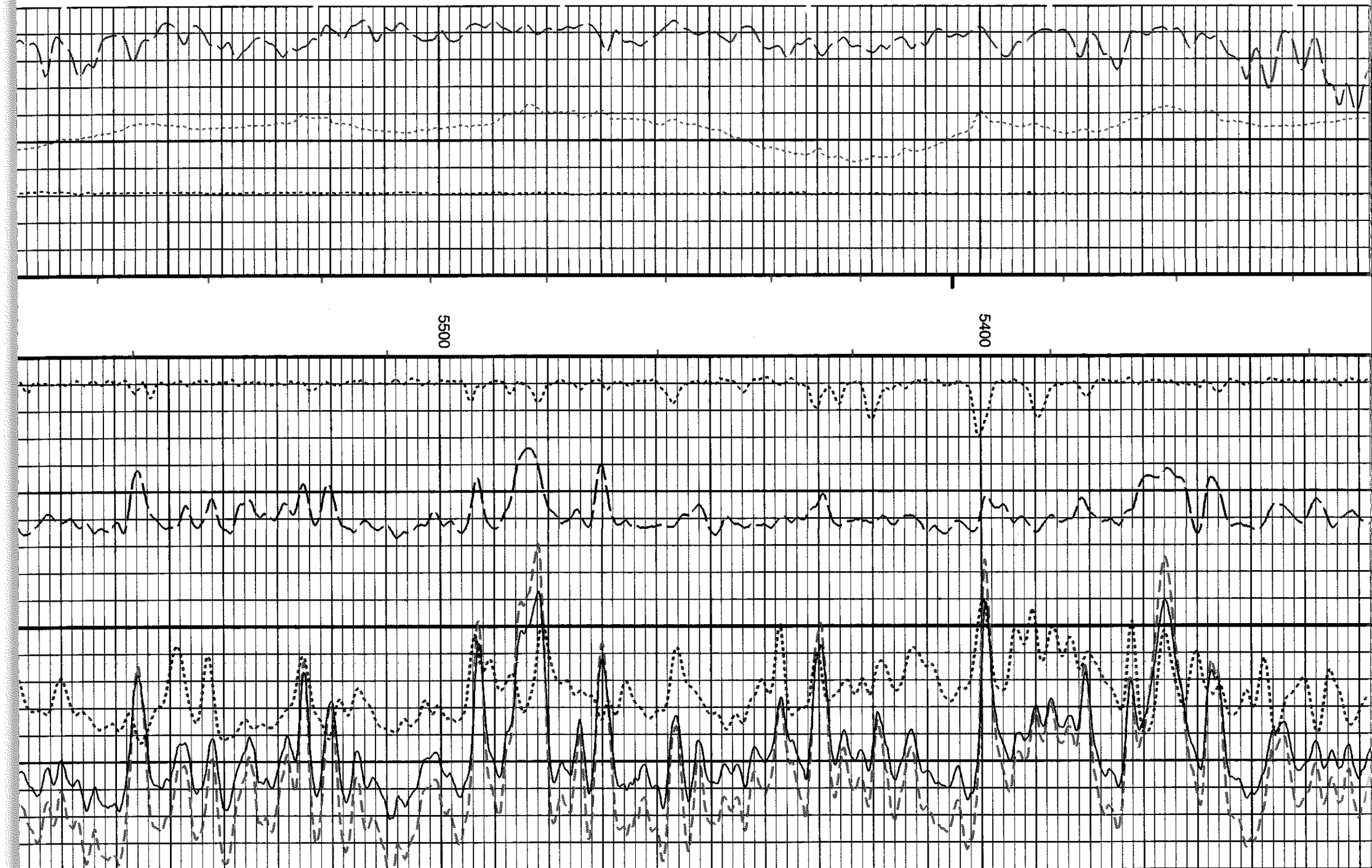
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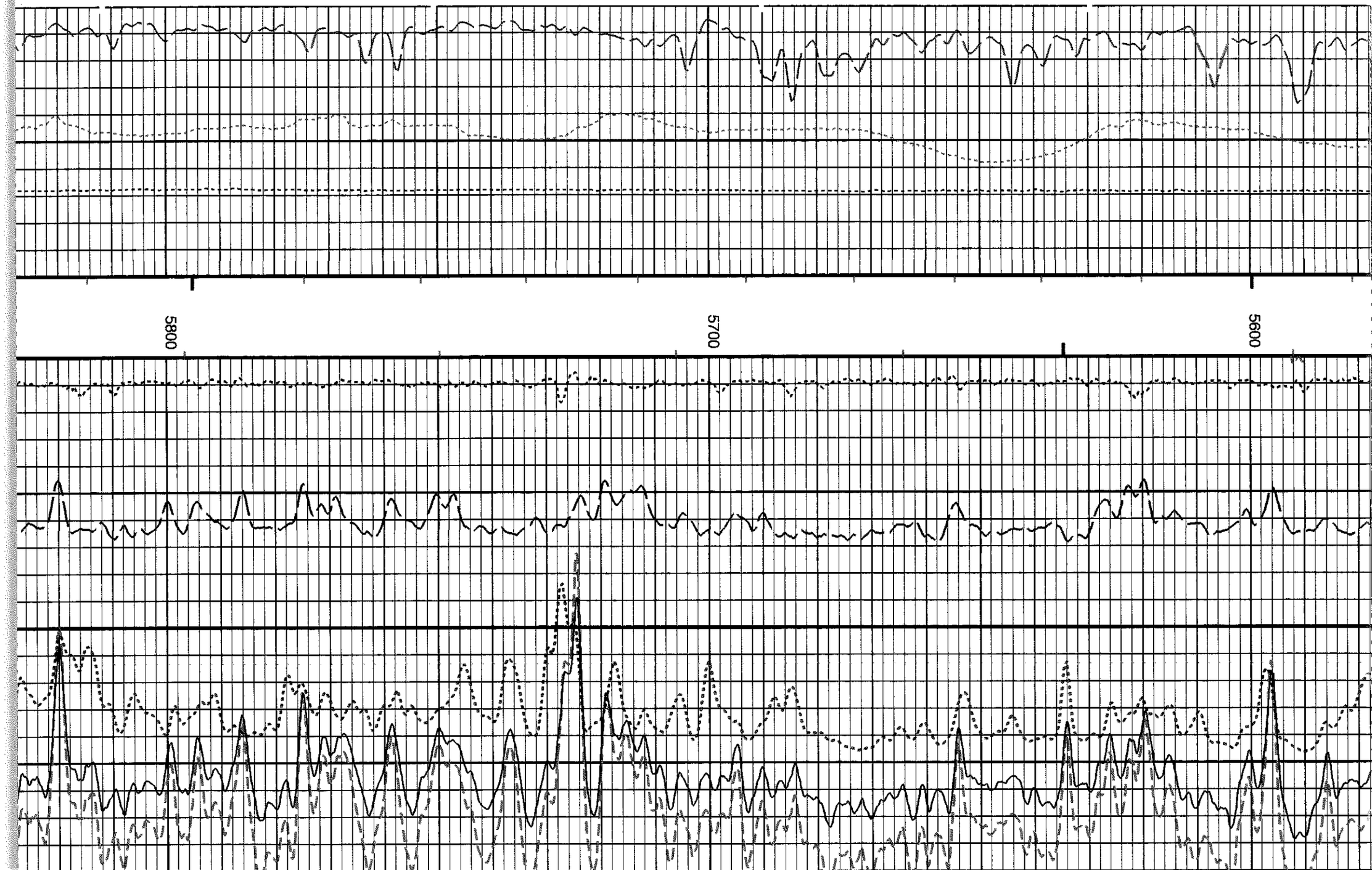
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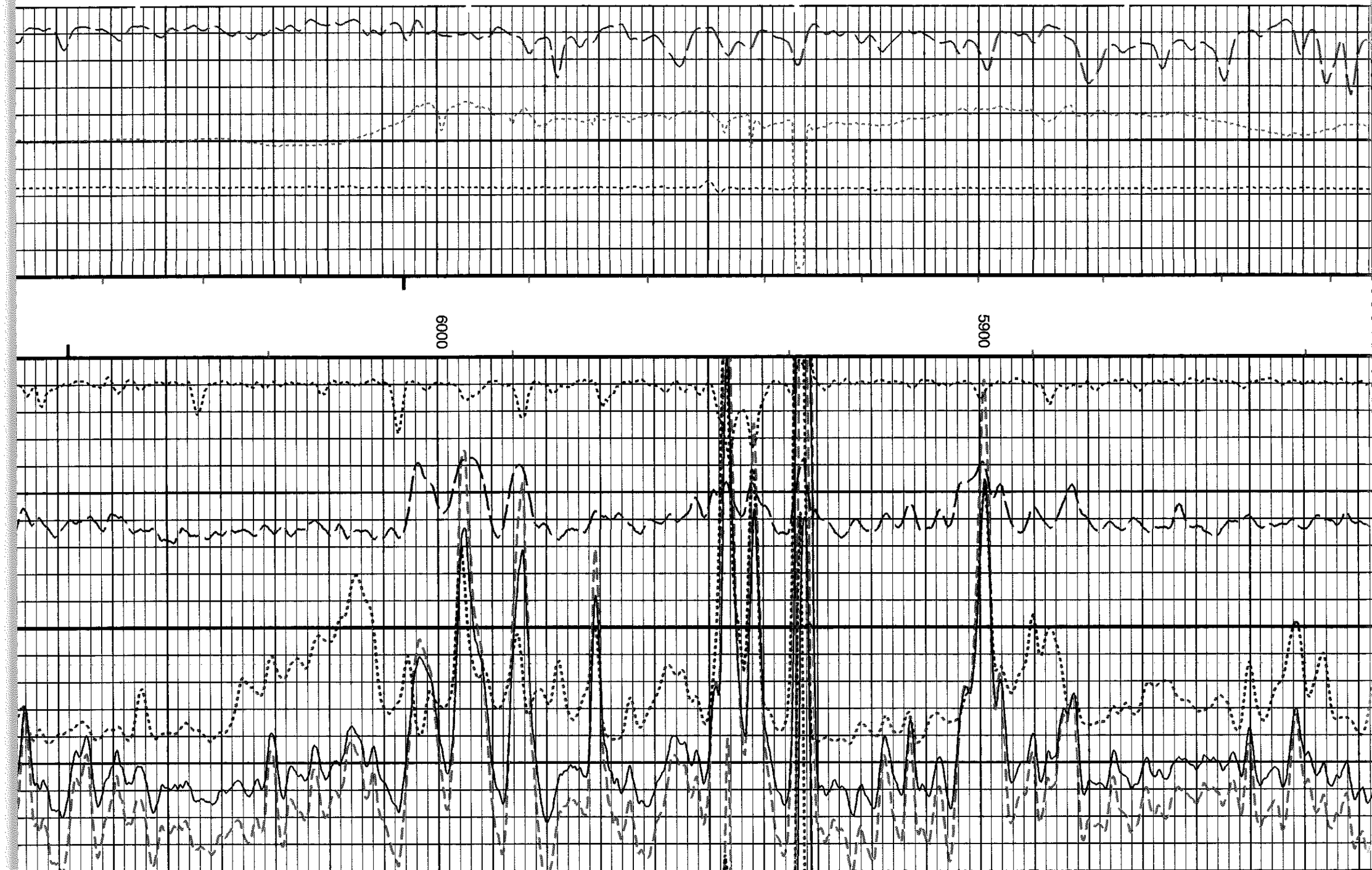
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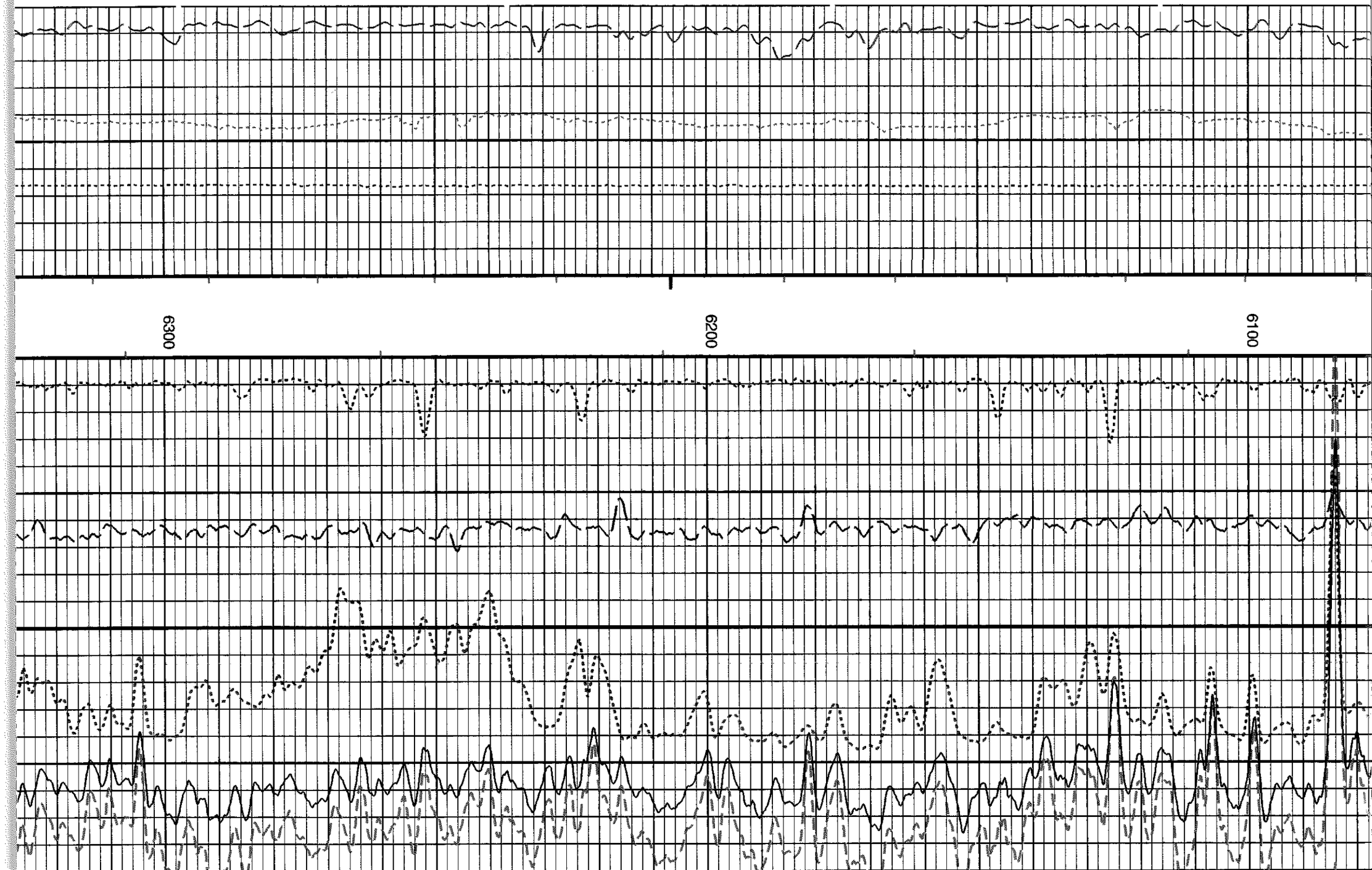
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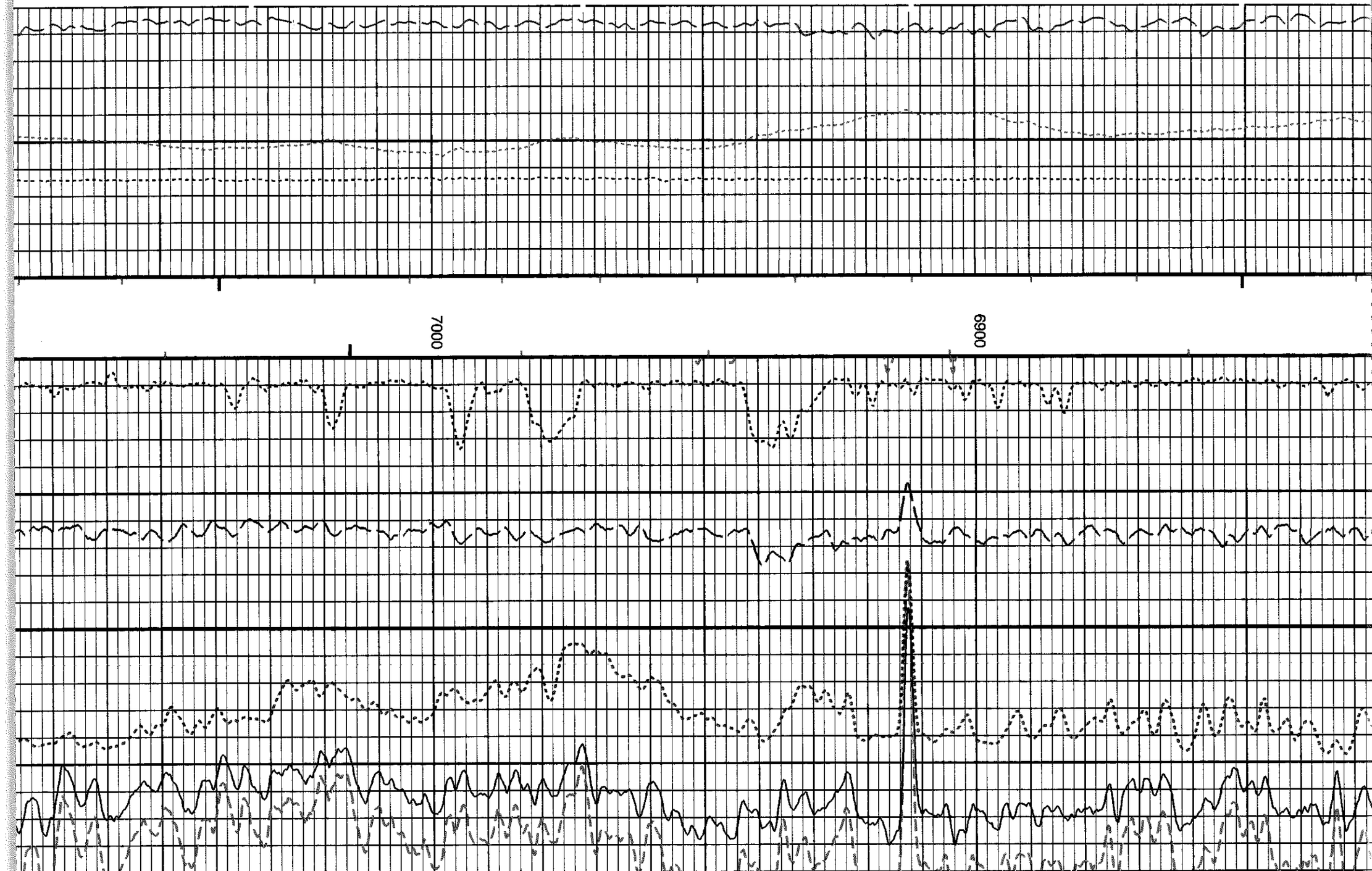
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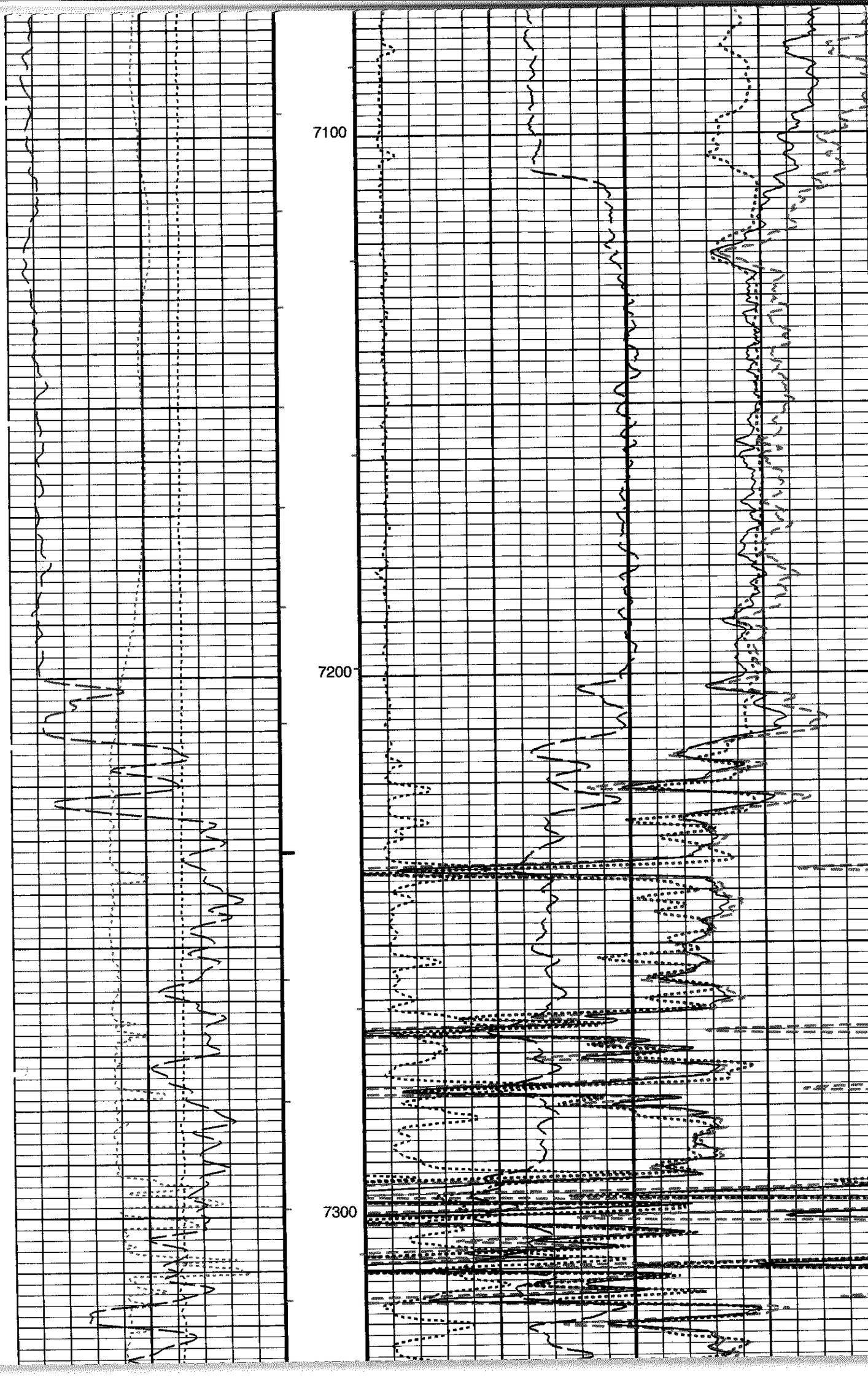
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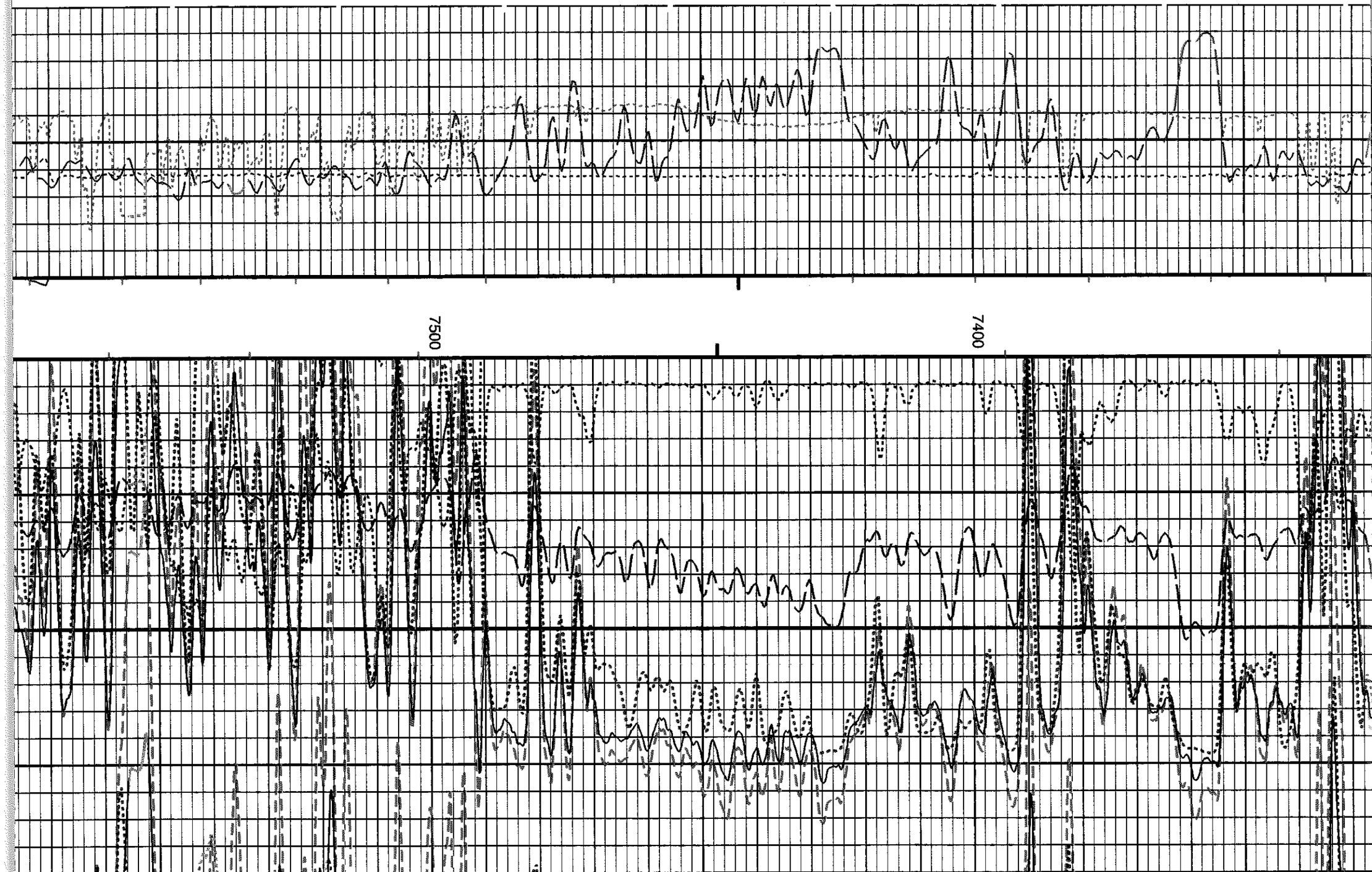
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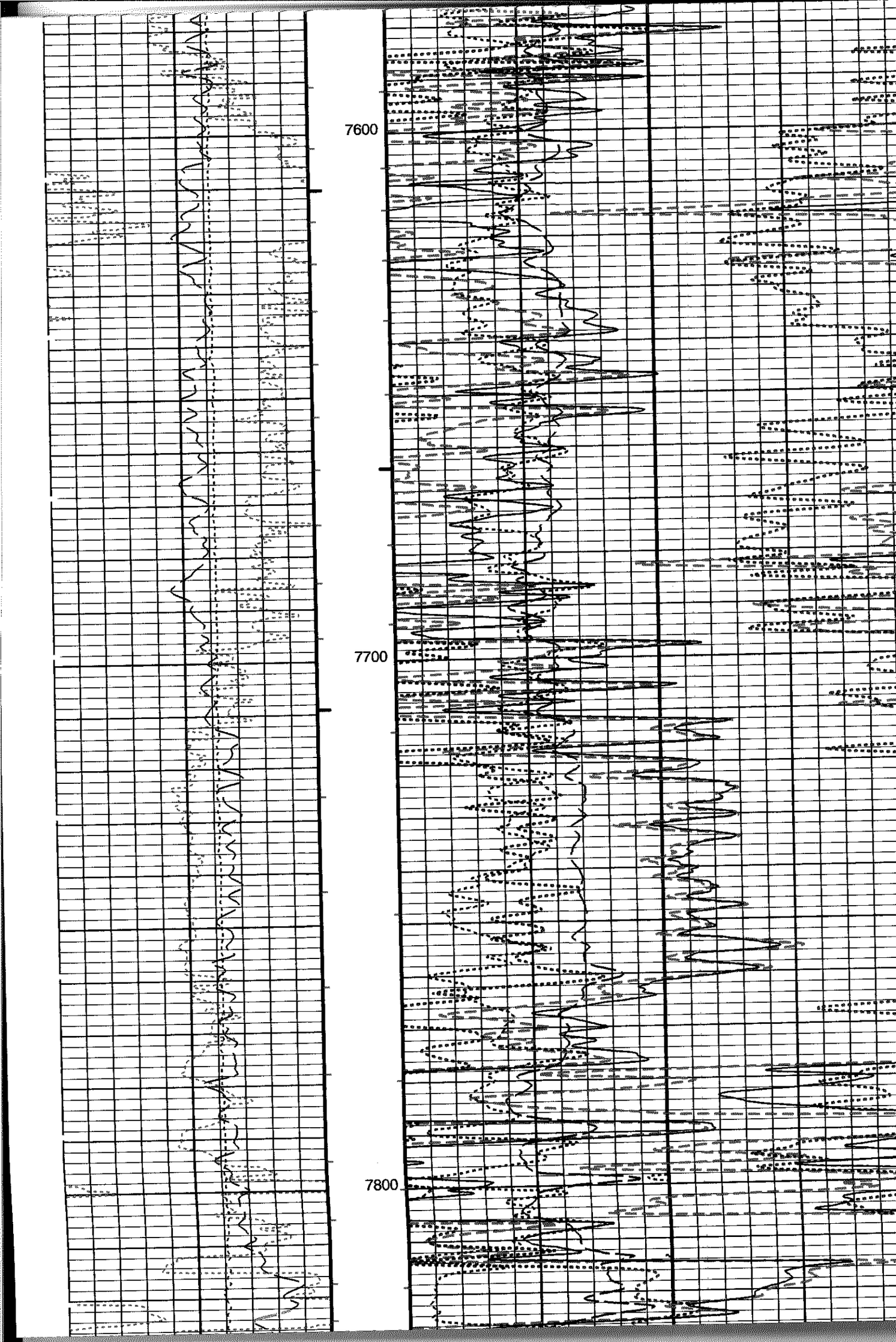
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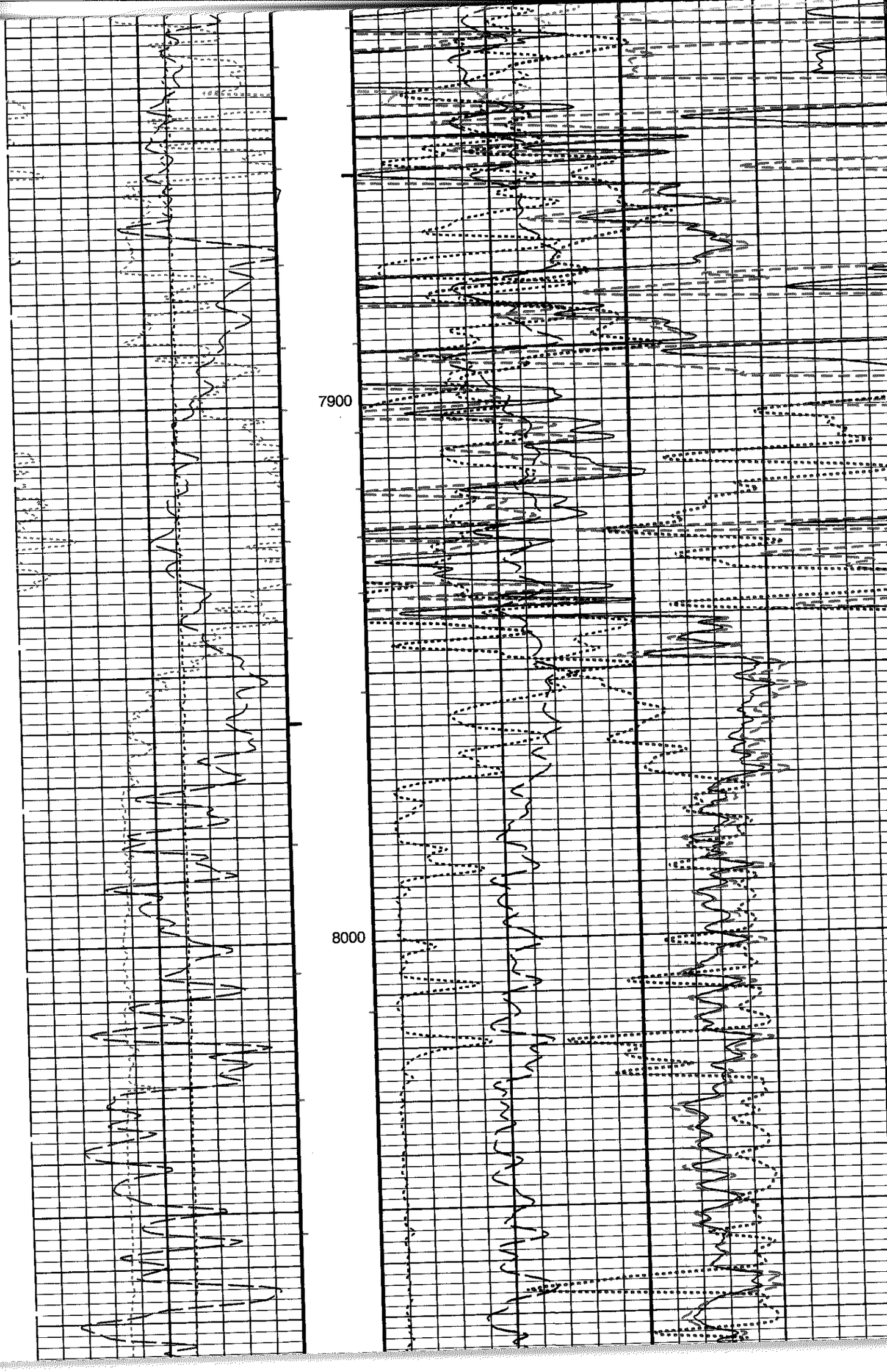
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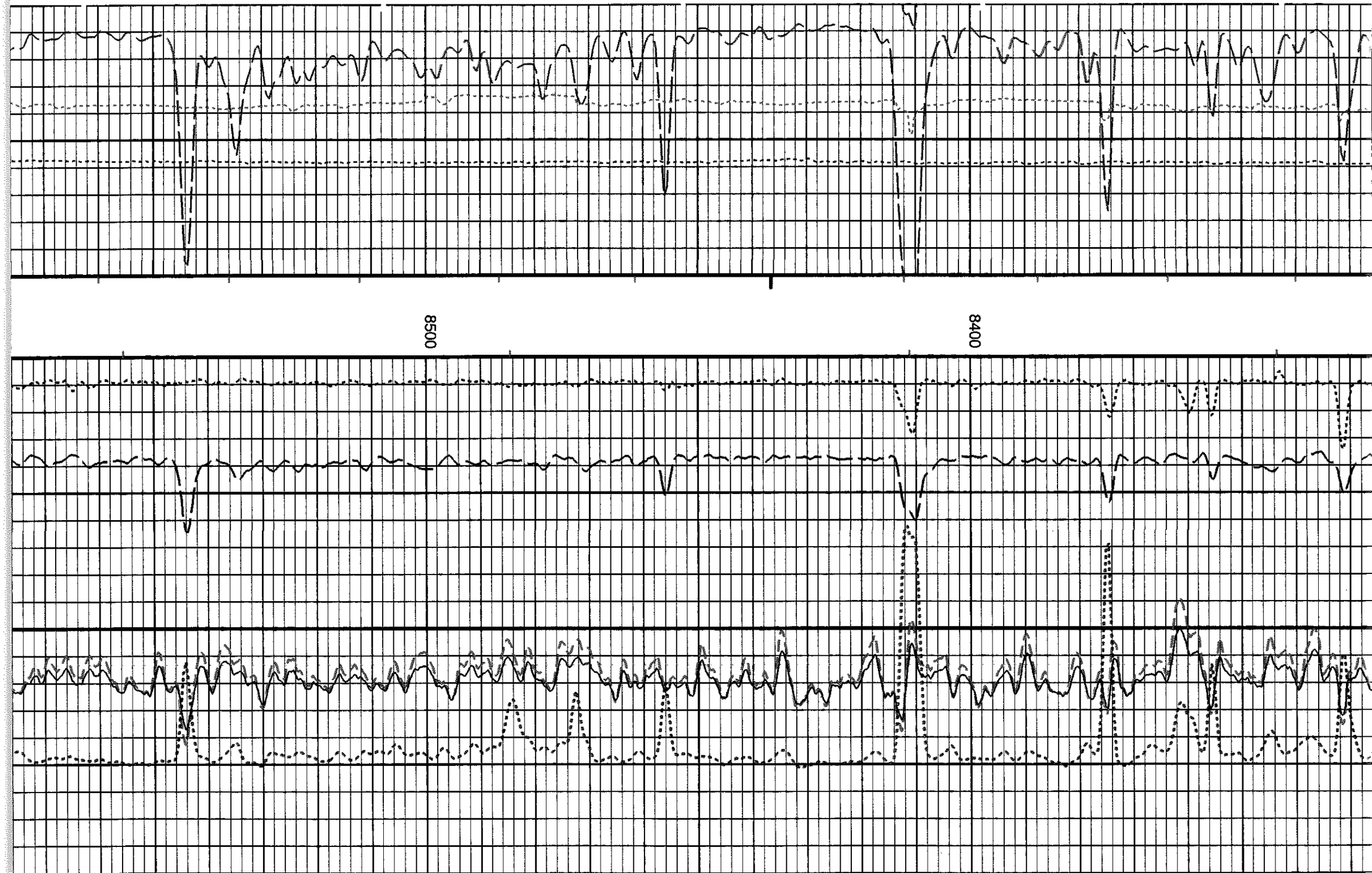
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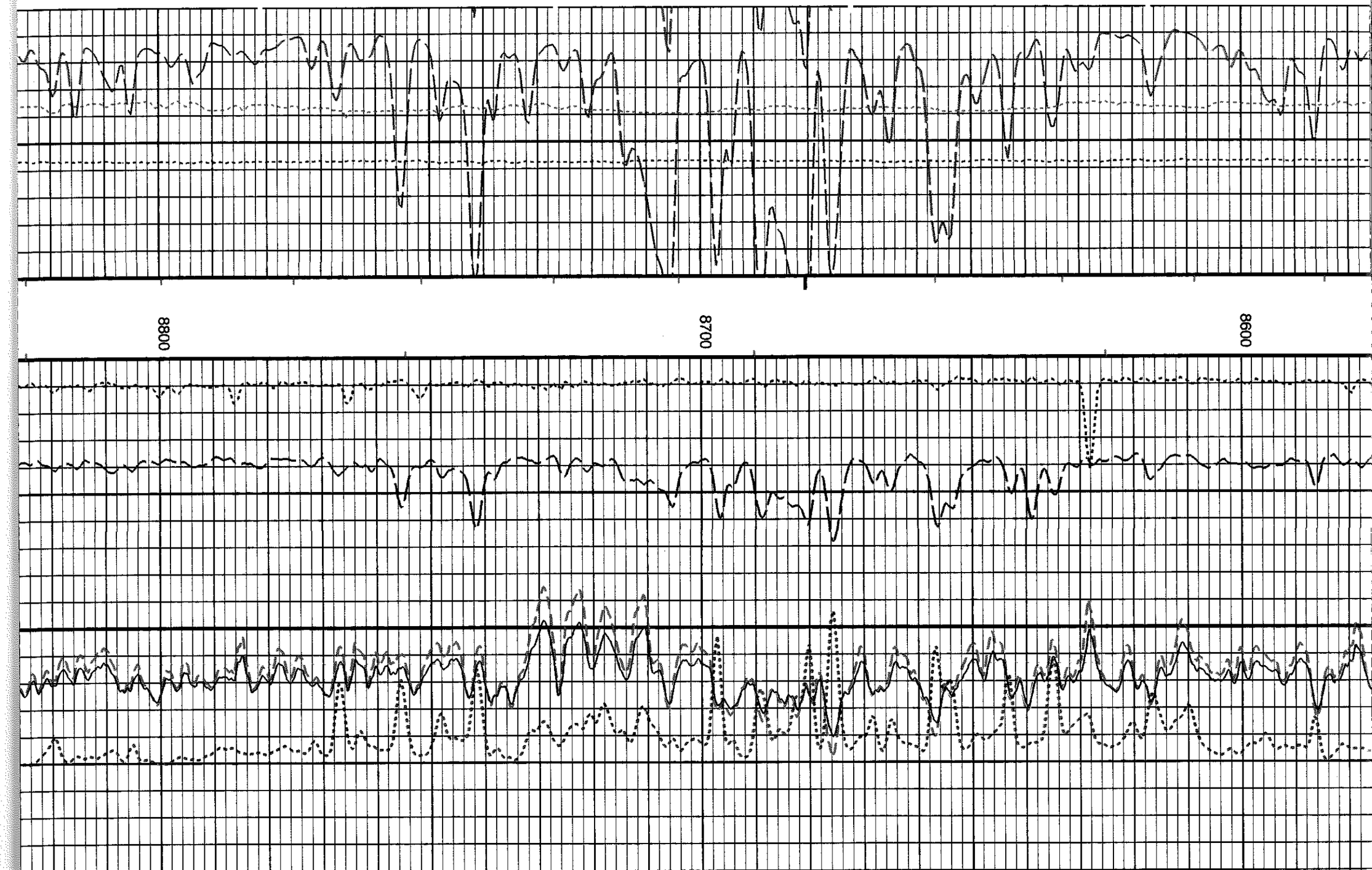
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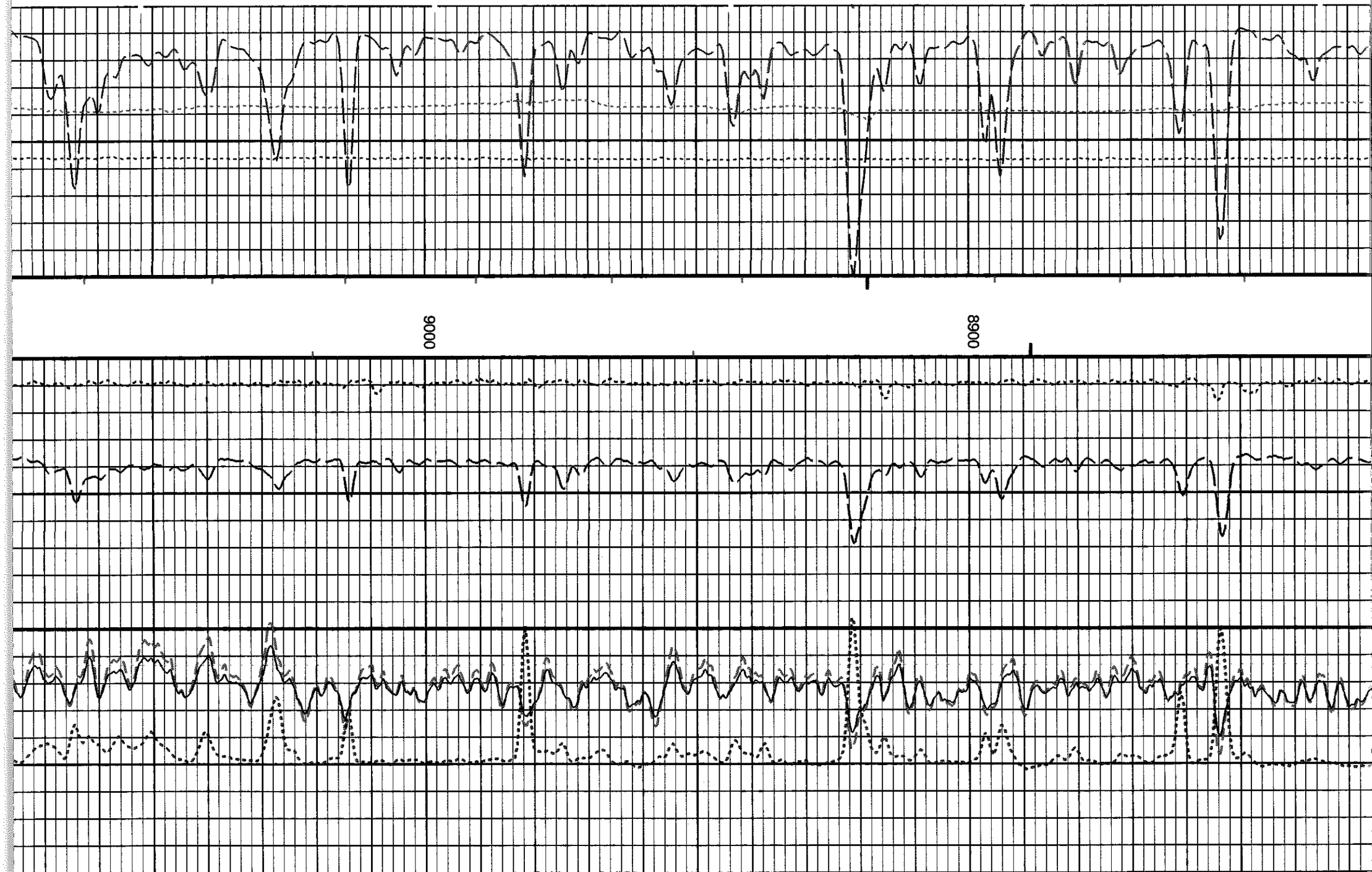
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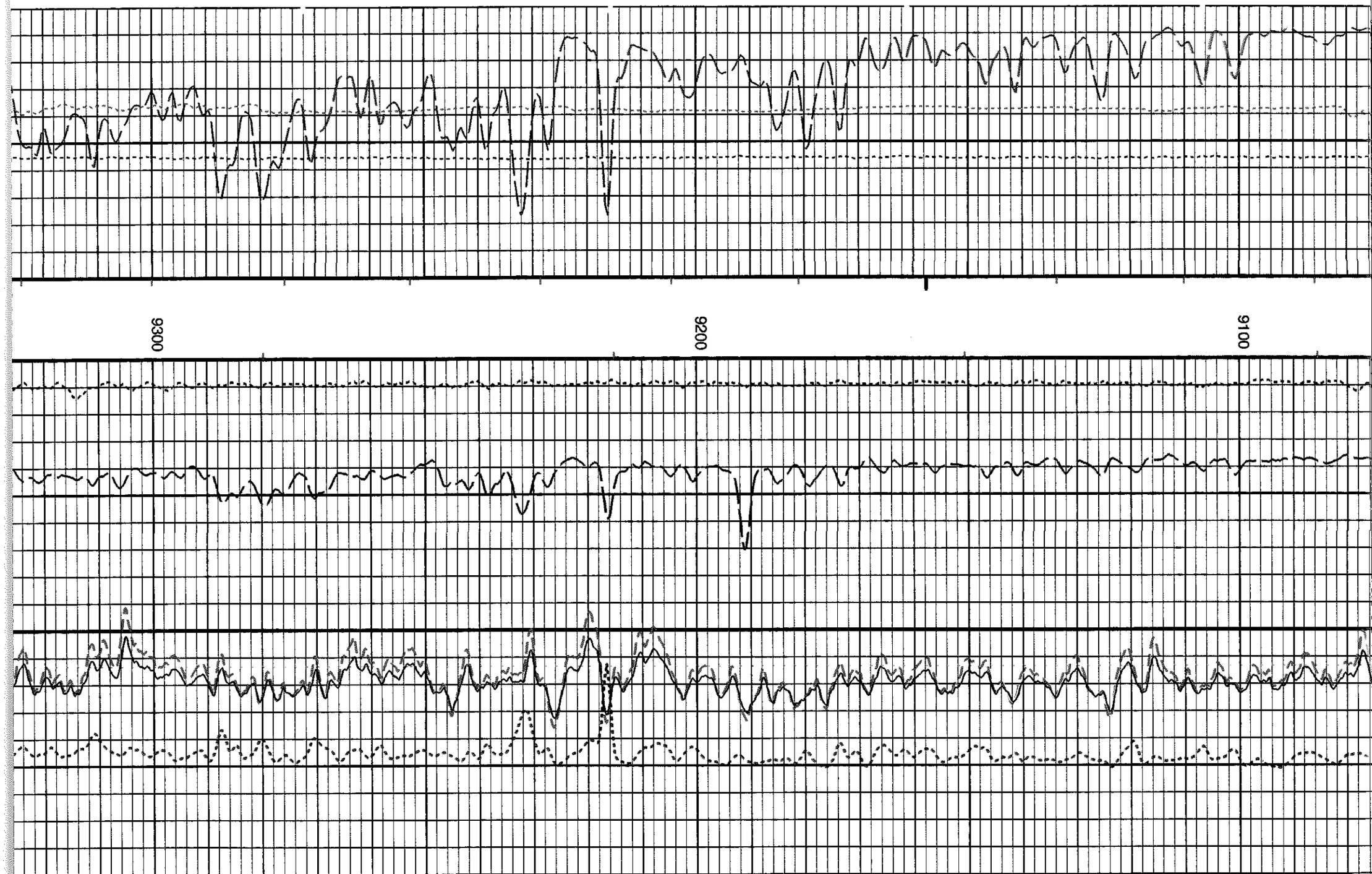
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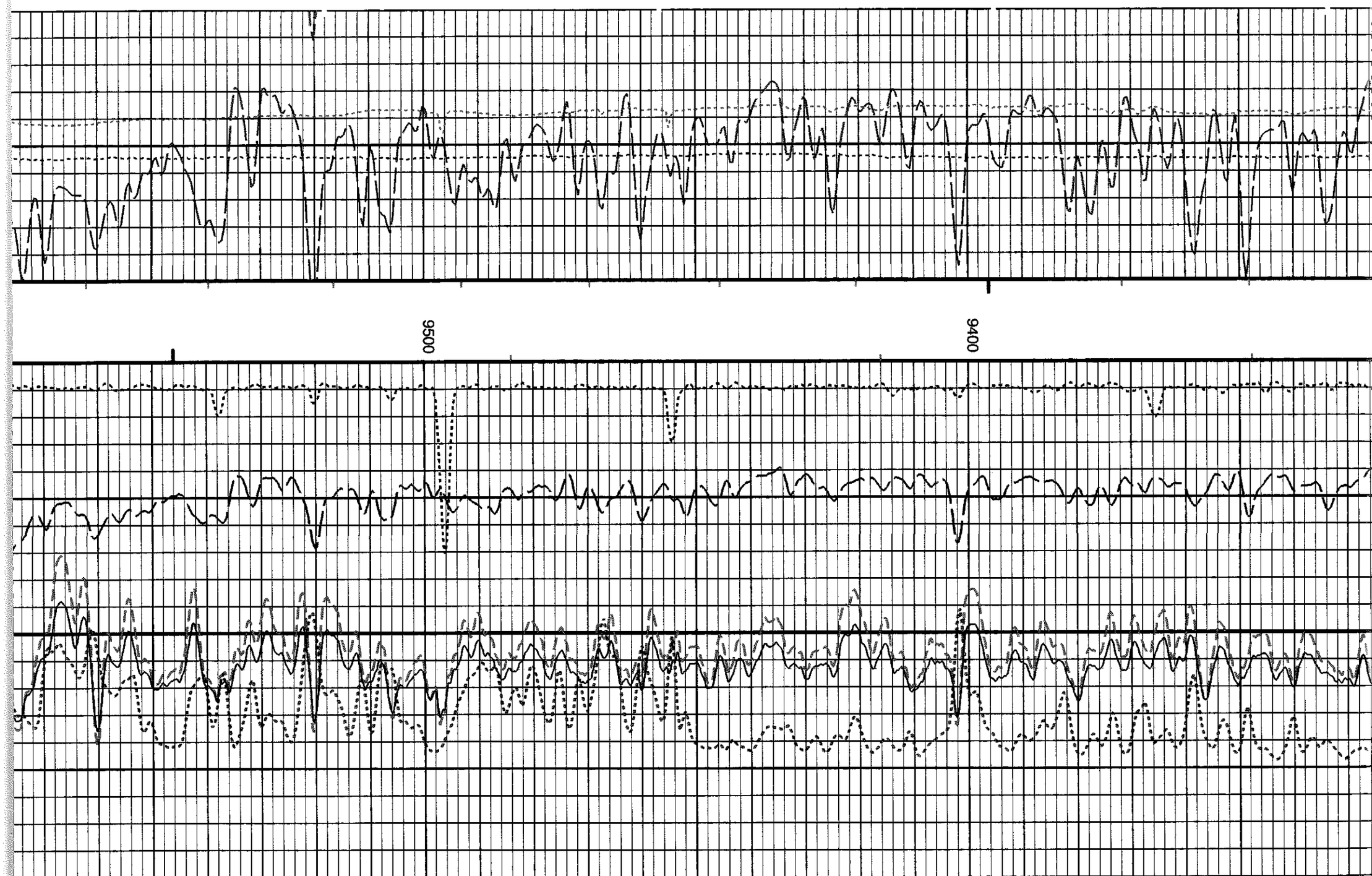
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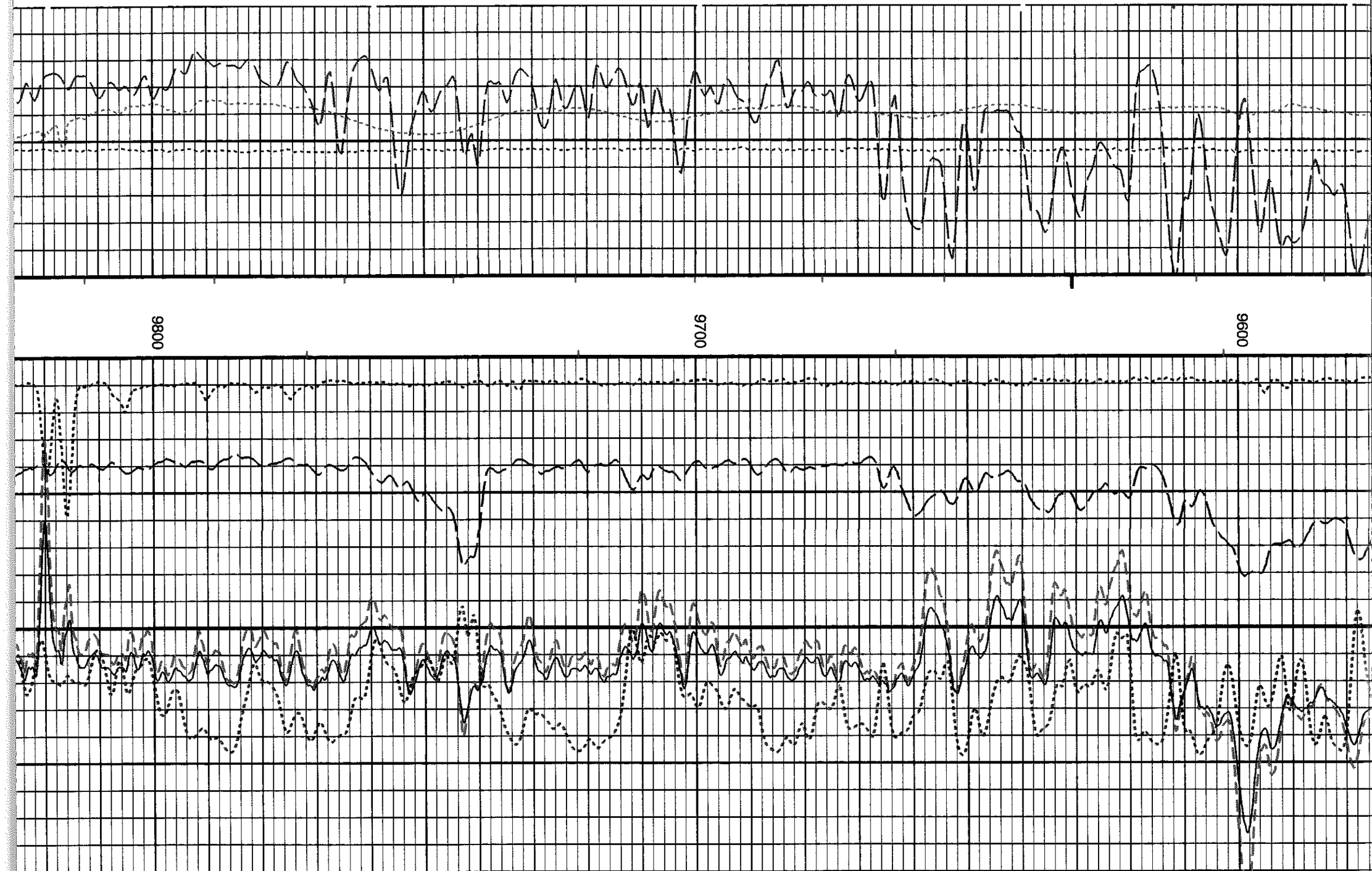
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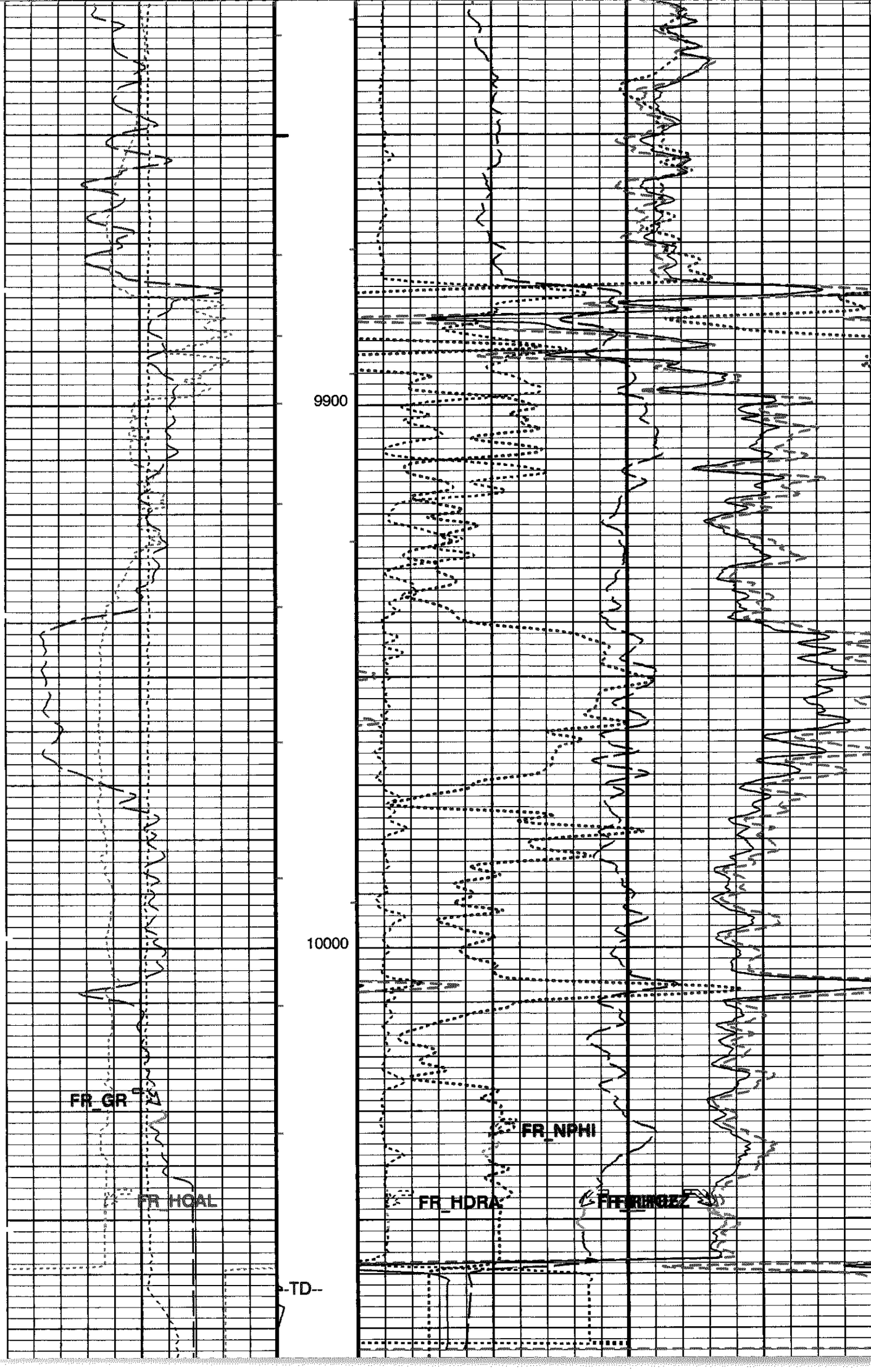

9900
10000
FR_GR
FR_HQAL
FR_NPHI
FR_HDRA
-TD--

Gamma Ray (GR)			Stuck Stretch (STIT)			Std. Res. Density Porosity (DPHZ)		
0	(GAPI)	200	0	(F)	50	0.3	(V/V)	

HILT Caliper (HCAL)			Density Correction (HDRA)		
5	(IN)	15	-0.05	(G/C3)	0.45

Tension (TENS)			Neutron Porosity (NPHI)	
10000	(LBF)	0	0.3	(V/V)

Std. Res. Formation Density (RHOZ)	
2	(G/C3)

Std. Res. Formation Pe (PEFZ)	
0	(----)

5" MAIN PASS

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 10 F3
- Integrated Hole Volume Major Pip Every 100 F3
- Integrated Cement Volume Minor Pip Every 10 F3
- Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	AIT-M: Array Induction Tool - M		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
	HILTB-FTB: High resolution Integrated Logging Tool-DTS		
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
GCLF	Germany Coal-like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MDEN	Matrix Density	2.71	G/C3
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
	STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	10050.00	FT
TDL	Total Depth - Logger	10059.00	FT
	HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN	
FCD	Future Casing (Outer) Diameter	7	IN
GCSE	Generalized Caliper Selection	HCAL	
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
	System and Miscellaneous		
BS	Bit Size	8.750	IN
DFD	Drilling Fluid Density	9.25	LB/G
DO	Depth Offset for Playback	5.0	FT
PP	Playback Processing	NORMAL	
TD	Total Depth	10059	FT

Format: 5" NUC Vertical Scale: 5" per 100' Graphics File Created: 20-Oct-2008 14:41

OP System Version: 16C0-147

MCM

AIT-M	16C0-147	HILTB-FTB	16C0-147
DTC-H	16C0-147		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_017LUP	FN:16	PRODUCER	20-Oct-2008 12:19	10074.0 FT	3696.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_021PUP	FN:20	PRODUCER	20-Oct-2008 14:41

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_016PUP	FN:15	PRODUCER	20-Oct-2008 12:15	10072.0 FT	9570.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_022PUP	FN:21	PRODUCER	20-Oct-2008 14:46	10077.0 FT	9575.5 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 222.27 F3

Cement Volume = 93.06 F3 (assuming 7.00 IN casing O.D.)

Computed from 10059.0 FT to 9576.0 FT using data channel(s) HCAL

OP System Version: 16C0-147

MCM

AIT-M	16C0-147	HILTB-FTB	16C0-147
DTC-H	16C0-147		

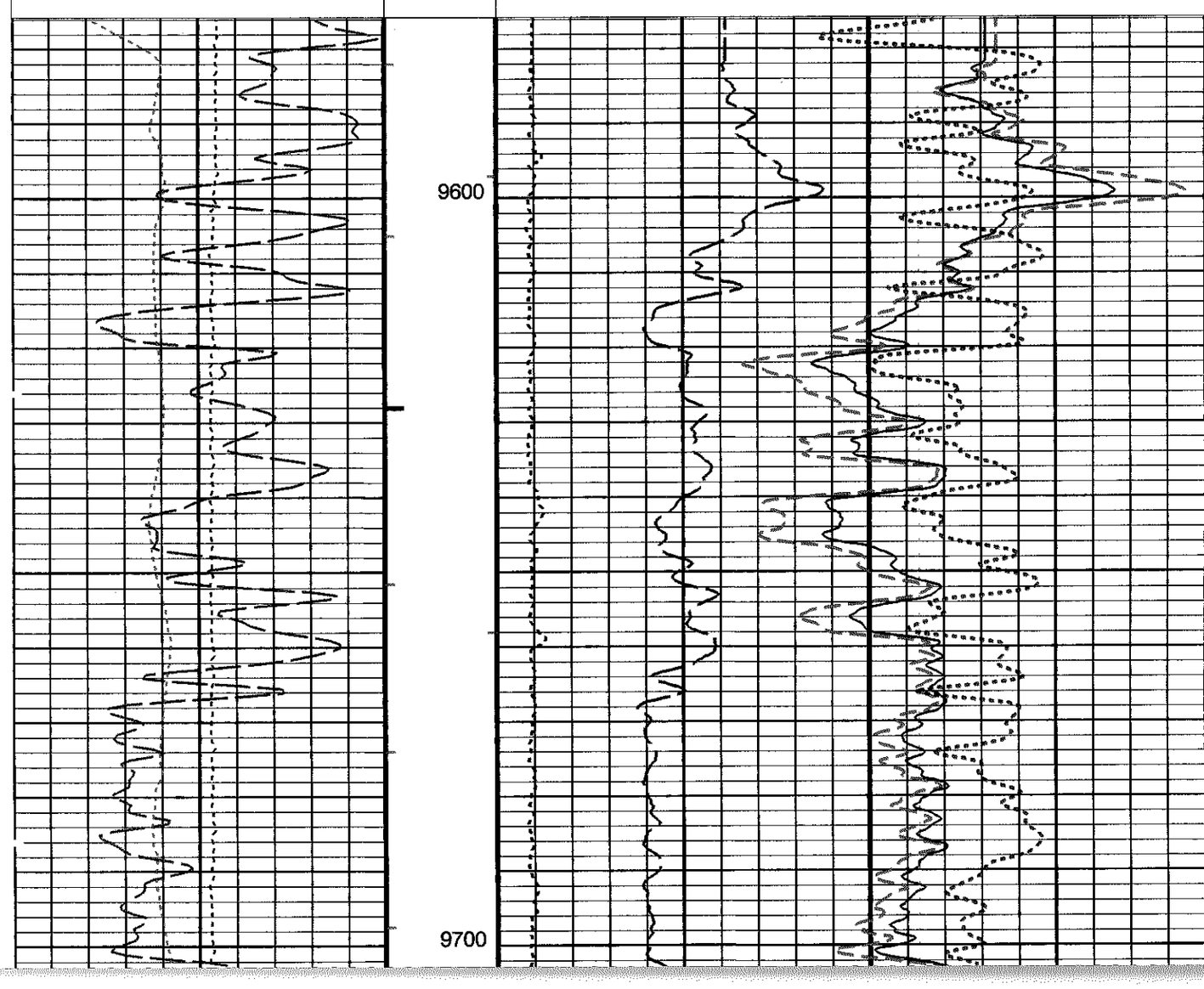
PIP SUMMARY

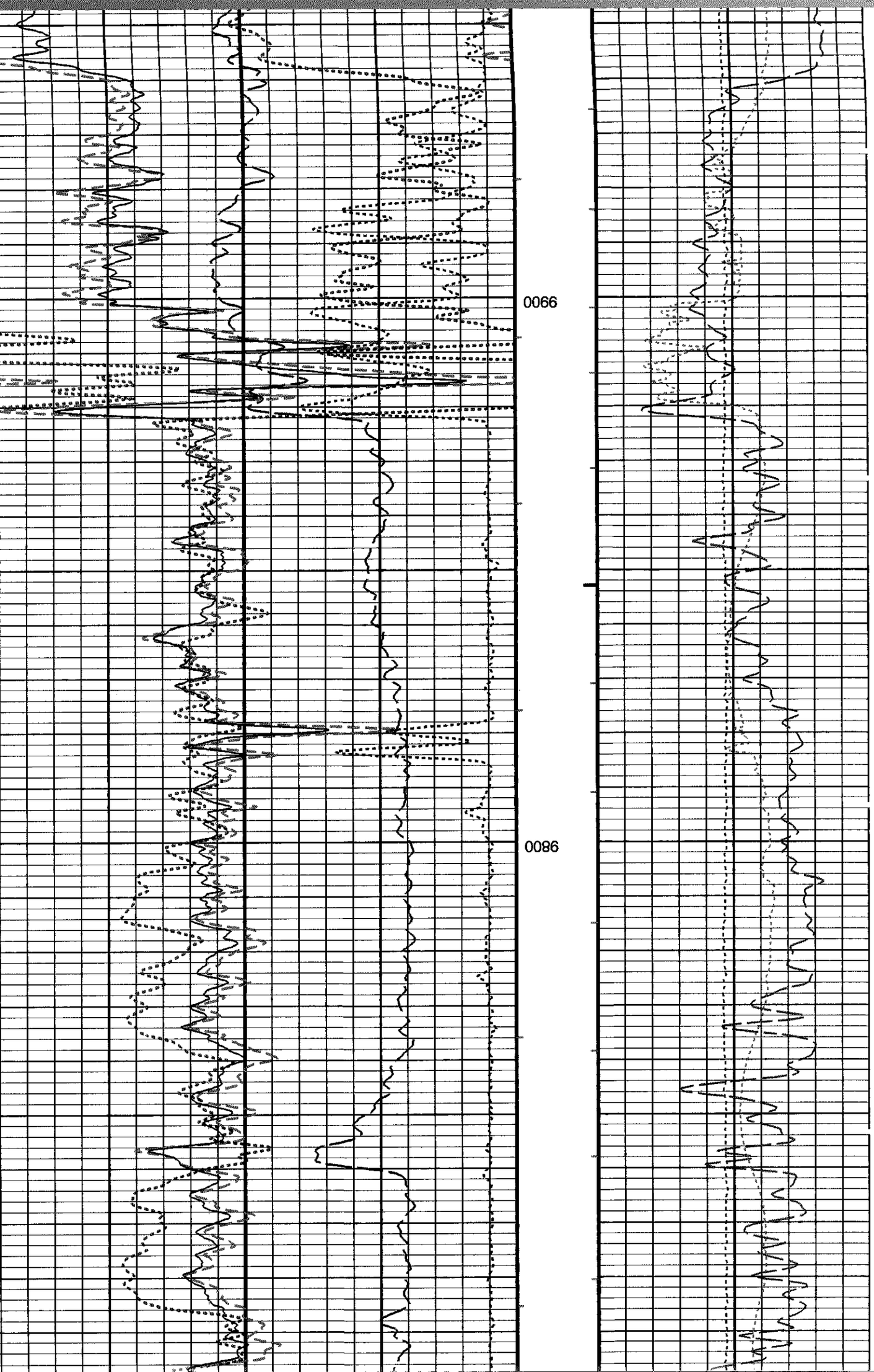
- Integrated Hole Volume Minor Pip Every 10 F3
- Integrated Hole Volume Major Pip Every 100 F3
- Integrated Cement Volume Minor Pip Every 10 F3
- Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

REPEAT SECTION

Tension (TENS)	10000 (LBF) 0	
HILT Caliper (HCAL)	5 (IN) 15	
Gamma Ray (GR)	0 (GAPI) 200	
Stuck Stretch (STIT)	0 (F) 50	
Std. Res. Formation Pe (PEFZ)	0 (----)	
Std. Res. Formation Density (RHOZ)	2 (G/C3)	
Neutron Porosity (NPHI)	0.3 (V/V)	
Density Correction (HDRA)	-0.05 (G/C3) 0.45	
Std. Res. Density Porosity (DPHZ)	0.3 (V/V)	




0066
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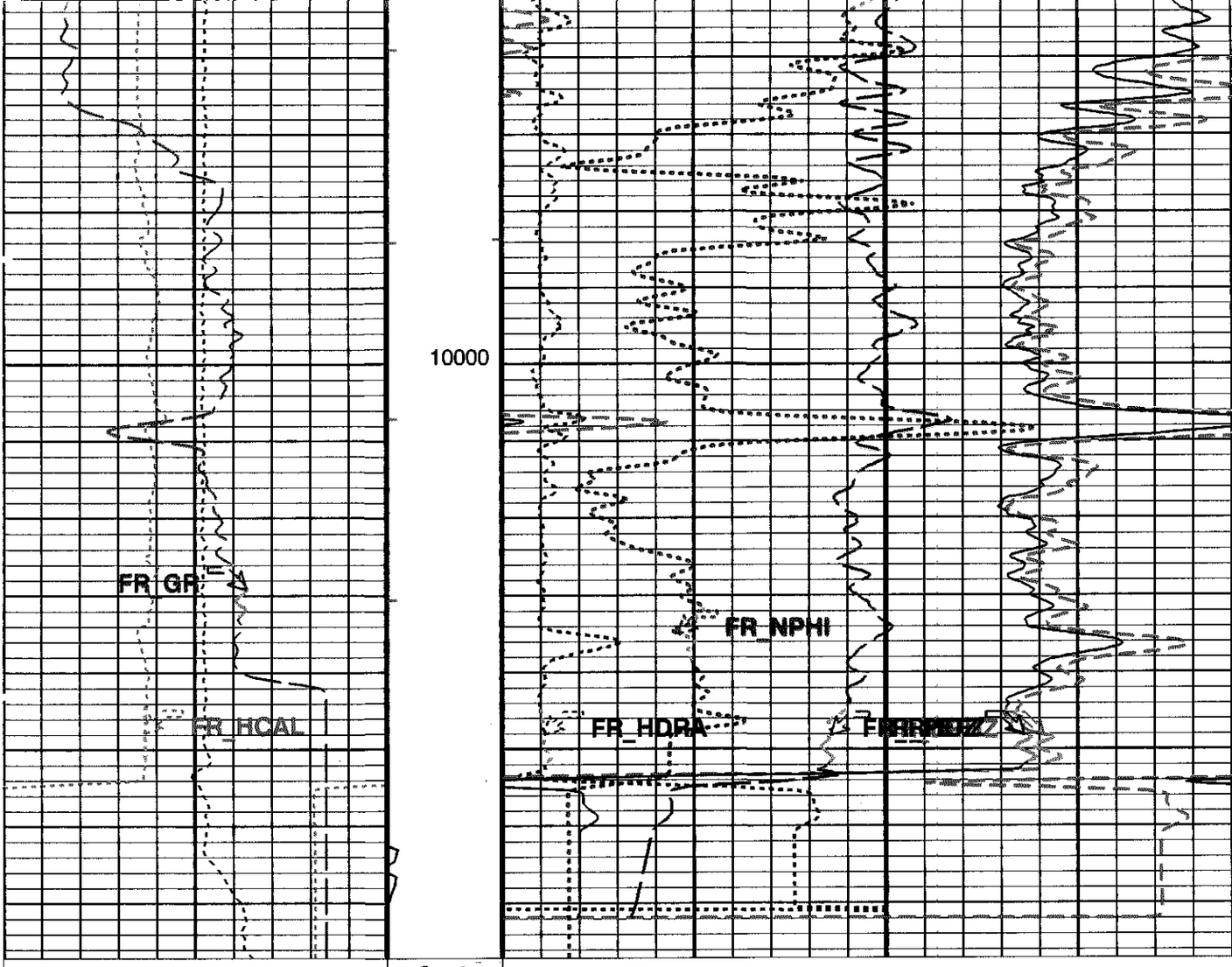

Gamma Ray (GR)	Stuck Stretch (STIT)	Std. Res. Density Porosity (DPHZ)
0 (GAPI) 200	0 (F) 50	0.3 (V/V)

HILT Caliper (HCAL)	Density Correction (HDRA)
5 (IN) 15	-0.05 (G/C3) 0.45

Tension (TENS)	Neutron Porosity (NPHI)
10000 (LBF) 0	0.3 (V/V)

Std. Res. Formation Density (RHOZ)
2 (G/C3)

Std. Res. Formation Pe (PEFZ)
0 (----)

REPEAT SECTION

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 10 F3
- Integrated Hole Volume Major Pip Every 100 F3
- Integrated Cement Volume Minor Pip Every 10 F3
- Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
AIT-M: Array Induction Tool - M			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
HILTB-FTB: High resolution Integrated Logging Tool-DTS			
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
GCLF	Germany Coal-like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MDEN	Matrix Density	2.71	G/C3
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	

NMT	HRLT Nuclear Mud Type	NODAPITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
	STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	10050.00	FT
TDL	Total Depth - Logger	10059.00	FT
	HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN	
FCD	Future Casing (Outer) Diameter	7	IN
GCSE	Generalized Caliper Selection	HCAL	
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
	System and Miscellaneous		
BS	Bit Size	8.750	IN
DFD	Drilling Fluid Density	9.25	LB/G
DO	Depth Offset for Playback	5.0	FT
PP	Playback Processing	NORMAL	
TD	Total Depth	10059	FT

Format: 5" NUC **Vertical Scale: 5" per 100'** **Graphics File Created: 20-Oct-2008 14:46**

OP System Version: 16C0-147

MCM

AIT-M	16C0-147	HILTB-FTB	16C0-147
DTC-H	16C0-147		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_016PUP	FN:15	PRODUCER	20-Oct-2008 12:15	10072.0 FT	9570.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_022PUP	FN:21	PRODUCER	20-Oct-2008 14:46

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Array Induction Tool - M Wellsite Calibration - Electronics Calibration Check - Thru Cal Mag. & Phase							
Master: 20-Aug-2008 8:56 Before: 17-Oct-2008 12:30							
Thru Cal Magnitude - 0	0	0.6166	0.6170	N/A	N/A	N/A	V
Thru Cal Magnitude - 1	0	1.264	1.266	N/A	N/A	N/A	V
Thru Cal Magnitude - 2	0	0.6262	0.6270	N/A	N/A	N/A	V
Thru Cal Magnitude - 3	0	0.7076	0.7086	N/A	N/A	N/A	V
Thru Cal Magnitude - 4	0	1.324	1.325	N/A	N/A	N/A	V
Thru Cal Magnitude - 5	0	1.927	1.928	N/A	N/A	N/A	V
Thru Cal Magnitude - 6	0	1.928	1.930	N/A	N/A	N/A	V
Thru Cal Magnitude - 7	0	1.385	1.387	N/A	N/A	N/A	V
Thru Cal Phase - 0	0	196.1	196.7	N/A	N/A	N/A	DEG
Thru Cal Phase - 1	0	195.0	195.6	N/A	N/A	N/A	DEG
Thru Cal Phase - 2	0	191.4	192.0	N/A	N/A	N/A	DEG
Thru Cal Phase - 3	0	190.6	191.2	N/A	N/A	N/A	DEG
Thru Cal Phase - 4	0	184.4	185.0	N/A	N/A	N/A	DEG
Thru Cal Phase - 5	0	182.7	183.3	N/A	N/A	N/A	DEG
Thru Cal Phase - 6	0	182.7	183.3	N/A	N/A	N/A	DEG
Thru Cal Phase - 7	0	182.0	182.6	N/A	N/A	N/A	DEG
Array Induction Tool - M Wellsite Calibration - Electronics Calibration Check - Auxiliary							
Master: 20-Aug-2008 8:56 Before: 17-Oct-2008 12:30							
Array Induction SPA Plus	991.0	990.4	989.9	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	0.002463	-0.008621	N/A	N/A	N/A	MV
Array Induction Temperature Pl	0.9170	0.9175	0.9170	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	4.926E-006	-6.774E-006	N/A	N/A	N/A	V
Array Induction Tool - M Wellsite Calibration - Test Loop Gain Correction							
Master: 20-Aug-2008 8:56							
Test Loop Gain Correctio - 0	0	1.023	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 1	0	1.014	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 2	0	1.014	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 3	0	1.009	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 4	0	0.9929	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 5	0	0.9764	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 6	0	0.9876	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 7	0	0.9959	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 0	0	0.3753	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 1	0	0.7410	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 2	0	0.01491	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 3	0	0.2049	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 4	0	0.003284	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 5	0	-0.3421	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 6	0	0.009229	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 7	0	-0.2365	N/A	N/A	N/A	N/A	DEG
Array Induction Tool - M Wellsite Calibration - Sonde Error Correction							

Master: 20-Aug-2008 8:56

R Sonde Error Correction - 0	0	-88.74	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 1	0	139.5	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 2	0	110.3	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 3	0	68.08	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 4	0	25.24	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 5	0	17.77	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 6	0	8.975	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 7	0	-0.4528	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 0	0	31.24	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 1	0	306.9	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 2	0	91.66	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 3	0	-113.2	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 4	0	45.03	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 5	0	-1.440	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 6	0	-2.780	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 7	0	-7.197	N/A	N/A	N/A	N/A	MM/M

Array Induction Tool - M Wellsite Calibration - Mud Gain Correction

Master: 20-Aug-2008 8:56

Coarse - Mag, Real, Imag - 0	0	0.9828	N/A	N/A	N/A	N/A	
Coarse - Mag, Real, Imag - 1	0	0.9832	N/A	N/A	N/A	N/A	
Coarse - Mag, Real, Imag - 2	0	0.9832	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 0	0	0.9843	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 1	0	0.9843	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 2	0	0.9843	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Stab Measurement Summary

Before: 17-Oct-2008 12:36

BS Window Ratio	0.7081	N/A	0.7110	N/A	N/A	N/A	
BS Window Sum	8067	N/A	8079	N/A	N/A	N/A	CPS
SS Window Ratio	0.4779	N/A	0.4759	N/A	N/A	N/A	
SS Window Sum	8776	N/A	8761	N/A	N/A	N/A	CPS
LS Window Ratio	0.2956	N/A	0.2970	N/A	N/A	N/A	
LS Window Sum	1181	N/A	1174	N/A	N/A	N/A	CPS

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Photo-multiplier High Voltages Calibrations

Before: 17-Oct-2008 12:36

BS PM High Voltage (Command)	1696	N/A	1692	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1828	N/A	1844	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1669	N/A	1690	N/A	N/A	N/A	V

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Crystal Quality Resolutions Calibration

Before: 17-Oct-2008 12:36

BS Crystal Resolution	11.99	N/A	11.65	N/A	N/A	N/A	%
SS Crystal Resolution	9.348	N/A	9.684	N/A	N/A	N/A	%
LS Crystal Resolution	9.623	N/A	9.533	N/A	N/A	N/A	%

High resolution Integrated Logging Tool-DTS Wellsite Calibration - MCFL Calibration

Before: 17-Oct-2008 12:30

Raw B0 Resistivity	3875	N/A	3861	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3819	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3823	N/A	N/A	N/A	OHMM

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HILT Caliper Calibration

Before: 17-Oct-2008 12:29

HILT Caliper Zero Measurement	8.000	N/A	8.131	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	11.99	N/A	N/A	N/A	IN

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Detector Calibration

Before: 17-Oct-2008 12:28

Gamma Ray Background	30.00	N/A	23.21	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	174.0	N/A	174.0	N/A	N/A	15.82	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Zero Measurement

Master: 10-Oct-2008 11:32 Before: 17-Oct-2008 12:30

CNTC Background	25.88	25.88	27.41	N/A	N/A	3.882	CPS
CFTC Background	28.21	28.21	27.68	N/A	N/A	4.232	CPS

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Ratio Measurement

Master: 10-Oct-2008 11:32

Thermal Near Corr. (Tank)	5800	5685	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2418	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.351	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Accelerometer Calibration

Before: 20-Oct-2008 10:55

Z-Axis Acceleration	32.19	N/A	32.16	N/A	N/A	N/A	F/S2

High resolution Integrated Logging Tool-DTS Master Calibration - Inversion results

Master: 10-Oct-2008 13:10

Rho Aluminum	2.596	2.598	--	--	--	--	G/C3
Rho Magnesium	1.686	1.690	--	--	--	--	G/C3
Pe Aluminum	2.570	2.535	--	--	--	--	
Pe Magnesium	2.650	2.632	--	--	--	--	

High resolution Integrated Logging Tool-DTS Master Calibration - Deviation Summary

Master: 10-Oct-2008 13:10

BS Average Deviation	0	0.2085	--	--	--	--	%
BS Max Deviation	0	0.6108	--	--	--	--	%
SS Average Deviation	0	0.2884	--	--	--	--	%
SS Max Deviation	0	0.8994	--	--	--	--	%

LS Average Deviation	0	0.5722	--	--	--	--	%
LS Max Deviation	0	1.701	--	--	--	--	%

The GLS-VJ source activity is acceptable.

The HGNS Neutron Master Calibration was done with the following parameters :

NCT-B Water Temperature	77.0	DEGF.
Thermal Housing Size	3.368	IN.
NSR-F serial number	2149	

Array Induction Tool - M / Equipment Identification

Primary Equipment:		
Rm/SP Bottom Nose	AMRM - A	
Array Induction Sonde	AMIS - A	24
Auxiliary Equipment:		

Array Induction Tool - M Wellsite Calibration

Electronics Calibration Check - Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Thru Cal Phase DEG	Nominal
0	Master	0.6166		0.6100	196.1		197.0
	Before	0.6170			196.7		
1	Master	1.264		1.270	195.0		196.0
	Before	1.266			195.6		
2	Master	0.6262		0.6200	191.4		192.0
	Before	0.6270			192.0		
3	Master	0.7076		0.7000	190.6		191.0
	Before	0.7086			191.2		
4	Master	1.324		1.340	184.4		185.0
	Before	1.325			185.0		
5	Master	1.927		1.960	182.7		182.0
	Before	1.928			183.3		
6	Master	1.928		1.960	182.7		181.0
	Before	1.930			183.3		
7	Master	1.385		1.410	182.0		175.0
	Before	1.387			182.6		
		60.00 % (Minimum)	(Nominal) 140.0 % (Maximum)		Nom -60.00 (Minimum)	(Nominal) Nom + 60.00 (Maximum)	

Master: 20-Aug-2008 8:56 Before: 17-Oct-2008 12:30

Array Induction Tool - M Wellsite Calibration

Electronics Calibration Check - Auxiliary

Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value
Master		990.4	Master		0.002463
Before		989.9	Before		-0.008621
	941.0 (Minimum) 991.0 (Nominal) 1040 (Maximum)			-50.00 (Minimum) 0 (Nominal) 50.00 (Maximum)	

Phase	Array Induction Temperature Plus V	Value	Phase	Array Induction Temperature Zero V	Value
Master		0.9175	Master		4.926E-00
Before		0.9170	Before		-6.774E-00
	0.8710 (Minimum) 0.9170 (Nominal) 0.9630 (Maximum)			-0.05000 (Minimum) 0 (Nominal) 0.05000 (Maximum)	

Master: 20-Aug-2008 8:56 Before: 17-Oct-2008 12:30

Array Induction Tool - M Wellsite Calibration

Test Loop Gain Correction

Idx	Value	Test Loop Gain Correction Magnitude V	Value	Test Loop Gain Correction Phase DEG
0	1.023		0.3753	
		0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)		-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)

1	1.014				0.7410			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
2	1.014				0.01491			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
3	1.009				0.2049			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
4	0.9929				0.003284			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
5	0.9764				-0.3421			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
6	0.9876				0.009229			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
7	0.9959				-0.2365			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	

Master: 20-Aug-2008 8:56

Array Induction Tool - M Wellsite Calibration

Sonde Error Correction

Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M		
0	-88.74				31.24			
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	139.5				306.9			
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	110.3				91.66			
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	68.08				-113.2			
		39.00 (Minimum)	64.00 (Nominal)	89.30 (Maximum)		-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	25.24				45.03			
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	17.77				-1.440			
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	8.975				-2.780			
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-0.4528				-7.197			
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 20-Aug-2008 8:56

Array Induction Tool - M Wellsite Calibration

Mud Gain Correction

Idx	Value	Coarse - Mag, Real, Imag			Value	Fine - Mag, Real, Imag		
0	0.9828				0.9843			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	0.9832				0.9843			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	0.9832				0.9843			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 20-Aug-2008 8:56

Array Induction Tool - M Master Calibration

Electronics Calibration Check - Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Thru Cal Phase DEG	Nominal
0	Master	0.6166		0.6100	196.1		197.0
1	Master	1.264		1.270	195.0		196.0
2	Master	0.6262		0.6200	191.4		192.0
3	Master	0.7076		0.7000	190.6		191.0

4	Master	1.324	1.340	184.4	185.0
5	Master	1.927	1.960	182.7	182.0
6	Master	1.928	1.960	182.7	181.0
7	Master	1.385	1.410	182.0	175.0
		60.00 % (Minimum) (Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum) (Nominal)	Nom + 60.00 (Maximum)

Master: 20-Aug-2008 8:56

Array Induction Tool - M Master Calibration
Electronics Calibration Check - Auxiliary

Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value
Master	941.0 (Minimum) 991.0 (Nominal) 1040 (Maximum)	990.4	Master	-50.00 (Minimum) 0 (Nominal) 50.00 (Maximum)	0.002463
Phase	Array Induction Temperature Plus V	Value	Phase	Array Induction Temperature Zero V	Value
Master	0.8710 (Minimum) 0.9170 (Nominal) 0.9630 (Maximum)	0.9175	Master	-0.05000 (Minimum) 0 (Nominal) 0.05000 (Maximum)	4.926E-00

Master: 20-Aug-2008 8:56

Array Induction Tool - M Master Calibration
Test Loop Gain Correction

Idx	Value	Test Loop Gain Correction Magnitude	V Value	Test Loop Gain Correction Phase DEG
0	1.023	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	0.3753	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
1	1.014	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	0.7410	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
2	1.014	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	0.01491	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
3	1.009	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	0.2049	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
4	0.9929	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	0.003284	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
5	0.9764	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	-0.3421	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
6	0.9876	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	0.009229	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
7	0.9959	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	-0.2365	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)

Master: 20-Aug-2008 8:56

Array Induction Tool - M Master Calibration
Sonde Error Correction

Idx	Value	R Sonde Error Correction MM/M	Value	X Sonde Error Correction MM/M
0	-88.74	-231.0 (Minimum) -56.00 (Nominal) 119.0 (Maximum)	31.24	-2250 (Minimum) 0 (Nominal) 2250 (Maximum)
1	139.5	114.0 (Minimum) 159.0 (Nominal) 204.0 (Maximum)	306.9	-625.0 (Minimum) 0 (Nominal) 625.0 (Maximum)
2	110.3	66.00 (Minimum) 111.0 (Nominal) 156.0 (Maximum)	91.66	-350.0 (Minimum) 0 (Nominal) 350.0 (Maximum)
3	68.08	39.00 (Minimum) 64.00 (Nominal) 89.30 (Maximum)	-113.2	-250.0 (Minimum) 0 (Nominal) 250.0 (Maximum)
4	25.24	15.00 (Minimum) 25.00 (Nominal) 35.00 (Maximum)	45.03	-63.00 (Minimum) 0 (Nominal) 63.00 (Maximum)
5	17.77	4.000 (Minimum) 14.00 (Nominal) 24.00 (Maximum)	-1.440	-50.00 (Minimum) 0 (Nominal) 50.00 (Maximum)
6	8.975	5.000 (Minimum) 10.00 (Nominal) 15.00 (Maximum)	-2.780	-30.00 (Minimum) 0 (Nominal) 30.00 (Maximum)

7	-0.4528				-7.197			
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 20-Aug-2008 8:56

Array Induction Tool - M Master Calibration

Mud Gain Correction

Idx	Value	Coarse - Mag, Real, Imag			Value	Fine - Mag, Real, Imag		
0	0.9828				0.9843			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	0.9832				0.9843			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	0.9832				0.9843			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 20-Aug-2008 8:56

High resolution Integrated Logging Tool-DTS / Equipment Identification

Primary Equipment:		
HILT high-Resolution Mechanical Sonde	HRMS - B	1744
HILT Rxo Gamma-ray Device	HRGD - B	949
HILT Micro Cylindrically Focused Log Dev	MCFL -	
GR Logging Source	GLS - VJ	5281
HILT High Res. Control Cartridge	HRCC - B	942
HILT Gamma-Ray Neutron Sonde-DTS	HGNS - B	
HGNS Gamma-Ray Device	HGR -	
HGNS Neutron Detector with Alpha Source	HCNT -	
Auxiliary Equipment:		
Neutron Calibration Tank	NCT - B	
Gamma Source Radioactive	GSR - U/Y	
HGNS Housing	HGNH -	

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Stab Measurement Summary

Phase	BS Window Ratio			Value	Phase	SS Window Ratio			Value	Phase	LS Window Ratio			Value
Before				0.7110	Before				0.4759	Before				0.2970
	0.6727 (Minimum)	0.7081 (Nominal)	0.7435 (Maximum)			0.4540 (Minimum)	0.4779 (Nominal)	0.5018 (Maximum)			0.2808 (Minimum)	0.2956 (Nominal)	0.3103 (Maximum)	
Phase	BS Window Sum CPS			Value	Phase	SS Window Sum CPS			Value	Phase	LS Window Sum CPS			Value
Before				8079	Before				8761	Before				1174
	7664 (Minimum)	8067 (Nominal)	8471 (Maximum)			8338 (Minimum)	8776 (Nominal)	9215 (Maximum)			1122 (Minimum)	1181 (Nominal)	1240 (Maximum)	

Before: 17-Oct-2008 12:36

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Photo-multiplier High Voltages Calibrations

Phase	BS PM High Voltage (Command) V			Value	Phase	SS PM High Voltage (Command) V			Value	Phase	LS PM High Voltage (Command) V			Value
Before				1692	Before				1844	Before				1690
	1596 (Minimum)	1696 (Nominal)	1796 (Maximum)			1728 (Minimum)	1828 (Nominal)	1928 (Maximum)			1569 (Minimum)	1669 (Nominal)	1769 (Maximum)	

Before: 17-Oct-2008 12:36

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Crystal Quality Resolutions Calibration

Phase	BS Crystal Resolution %			Value	Phase	SS Crystal Resolution %			Value	Phase	LS Crystal Resolution %			Value
Before				11.65	Before				9.684	Before				9.533
	10.99 (Minimum)	11.99 (Nominal)	12.99 (Maximum)			8.348 (Minimum)	9.348 (Nominal)	10.35 (Maximum)			8.623 (Minimum)	9.623 (Nominal)	10.62 (Maximum)	

Before: 17-Oct-2008 12:36

High resolution Integrated Logging Tool-DTS Wellsite Calibration

MCFL Calibration

Phase	Raw B0 Resistivity OHMM			Value	Phase	Raw B1 Resistivity OHMM			Value	Phase	Raw B2 Resistivity OHMM			Value
Before				3861	Before				3819	Before				3823
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	

Before: 17-Oct-2008 12:30

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HILT Caliper Calibration

Phase	HILT Caliper Zero Measurement IN	Value	Phase	HILT Caliper Plus Measurement IN	Value

Before	8.131	Before	11.99
6.000 (Minimum) 8.000 (Nominal) 10.00 (Maximum)		9.000 (Minimum) 12.00 (Nominal) 15.00 (Maximum)	

Before: 17-Oct-2008 12:29

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		23.21	Before		174.0	Before		165.0
0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			158.2 (Minimum) 174.0 (Nominal) 189.9 (Maximum)			150.0 (Minimum) 165.0 (Nominal) 180.0 (Maximum)		

Before: 17-Oct-2008 12:28

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		25.88	Master		28.21
Before		27.41	Before		27.68
5.000 (Minimum) 25.88 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 28.21 (Nominal) 40.00 (Maximum)		

Master: 10-Oct-2008 11:32 Before: 17-Oct-2008 12:30

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Ratio Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5685	Master		2418	Master		2.351
4700 (Minimum) 5800 (Nominal) 6900 (Maximum)			1900 (Minimum) 2400 (Nominal) 2900 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)		

Master: 10-Oct-2008 11:32

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Accelerometer Calibration

Phase	Z-Axis Acceleration F/S2	Value
Before		32.16
31.53 (Minimum) 32.19 (Nominal) 32.84 (Maximum)		

Before: 20-Oct-2008 10:55

High resolution Integrated Logging Tool-DTS Master Calibration

Inversion results

Phase	Rho Aluminum G/C3	Value	Phase	Rho Magnesium G/C3	Value
Master		2.598	Master		1.690
2.586 (Minimum) 2.596 (Nominal) 2.606 (Maximum)			1.676 (Minimum) 1.686 (Nominal) 1.696 (Maximum)		
Phase	**Pe Aluminum**	**Value**	**Phase**	**Pe Magnesium**	**Value**
Master		2.535	Master		2.632
2.470 (Minimum) 2.570 (Nominal) 2.670 (Maximum)			2.550 (Minimum) 2.650 (Nominal) 2.750 (Maximum)		

Master: 10-Oct-2008 13:10

High resolution Integrated Logging Tool-DTS Master Calibration

Deviation Summary

Phase	BS Average Deviation %	Value	Phase	SS Average Deviation %	Value	Phase	LS Average Deviation %	Value
Master		0.2085	Master		0.2884	Master		0.5722
-0.6000 (Minimum) 0 (Nominal) 0.6000 (Maximum)			-1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)			-1.500 (Minimum) 0 (Nominal) 1.500 (Maximum)		
Phase	**BS Max Deviation %**	**Value**	**Phase**	**SS Max Deviation %**	**Value**	**Phase**	**LS Max Deviation %**	**Value**
Master		0.6108	Master		0.8994	Master		1.701
-1.600 (Minimum) 0 (Nominal) 1.600 (Maximum)			-2.500 (Minimum) 0 (Nominal) 2.500 (Maximum)			-3.500 (Minimum) 0 (Nominal) 3.500 (Maximum)		

Master: 10-Oct-2008 13:10

High resolution Integrated Logging Tool-DTS Master Calibration

Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		25.88	Master		28.21
5.000 (Minimum) 25.88 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 28.21 (Nominal) 40.00 (Maximum)		

Master: 10-Oct-2008 11:32

High resolution Integrated Logging Tool-DTS Master Calibration

Tank Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CPTC (Tank)	Value
Master		5685	Master		2418	Master		2.351
4700 (Minimum)	5800 (Nominal) / 6900 (Maximum)		1900 (Minimum)	2400 (Nominal) / 2900 (Maximum)		2.120 (Minimum)	2.159 (Nominal) / 2.540 (Maximum)	

Master: 10-Oct-2008 11:32

DTS Telemetry Tool / Equipment Identification

Primary Equipment:	
DTC-H Auxiliary Cartridge	DTCH - A
DTC-H Telemetry Cartridge	DTCH - A
Auxiliary Equipment:	
DTCH Telemetry Cartridge Housing	ECH - KC

Company: **DUKE ENERGY INDIANA-EDWARDSPORT**

Schlumberger

Well: **WDW #1**
Field: **WILDCAT**
County: **KNOX**
State: **INDIANA**

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