



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

DUAL INDUCTION LOG

Company	WOOLSEY OPERATING COMPANY, LLC.		
Well	BENEFIEL #3		
Field	PIKE SOUTH		
County	BARBER	State	KANSAS
Location:	API # : 15-007-24021-0000 2035' FSL & 2090' FWL SW - NE - NE - SW SEC 35 TWP 31S RGE 12W		
Permanent Datum	GROUND LEVEL	Elevation	1619
Log Measured From	KELLY BUSHING 13' A.G.L.		
Drilling Measured From	KELLY BUSHING		
Other Services	CDL/CNL/PE		
Elevation	K.B. 1631 D.F. 1629 G.L. 1619		
Date	5/14/13		
Run Number	ONE		
Depth Driller	4875		
Depth Logger	4874		
Bottom Logged Interval	4872		
Top Log Interval	00		
Casing Driller	10 3/4"@204'		
Casing Logger	217		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6,000 PPM	
Density / Viscosity	9.0/50		
pH / Fluid Loss	9.0/9.6		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.600@85F		
Rmf @ Meas. Temp	.450@85F		
Rmc @ Meas. Temp	.720@86F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.411@124F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	10:30 P.M.		
Maximum Recorded Temperature	124F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	SCOTT ALBERG		

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395
 DIRECTIONS
 MEDICINE LODGE, KS. & RIVER RD., 1W. ON BLKTOP TO CATTLE GUARD, 1N, INTO PASTURE

Database File:

010906pe.db

Dataset Pathname:

pass3.7

Presentation Format:

dil2

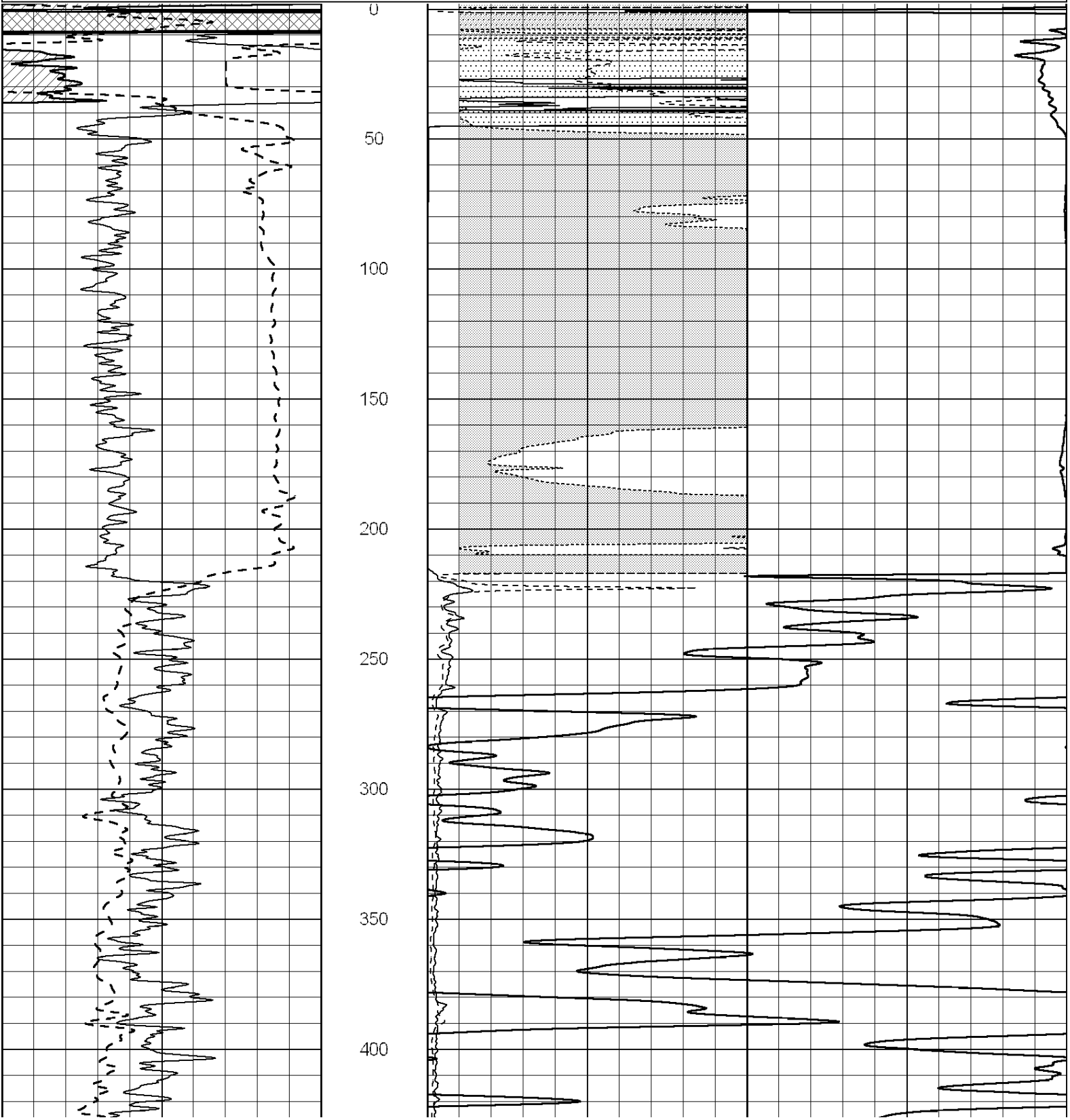
Dataset Creation:

Wed May 15 00:20:04 2013 by Calc SOC 120430

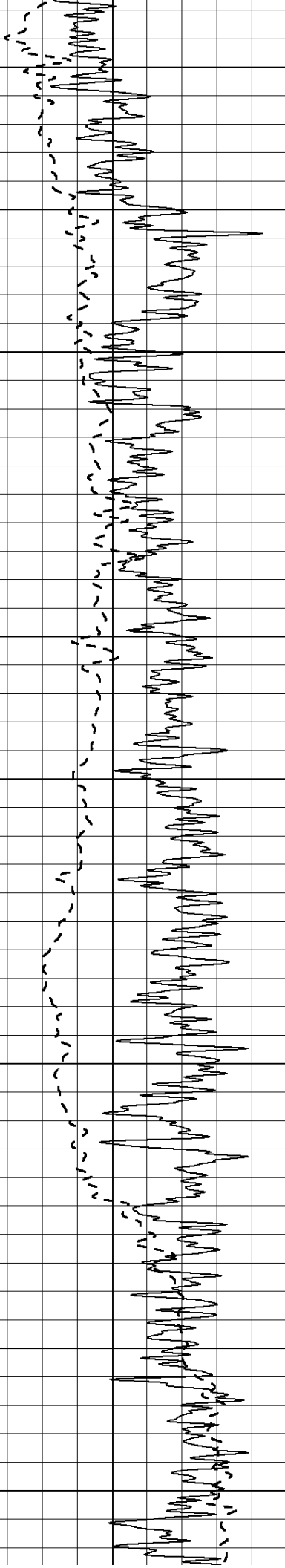
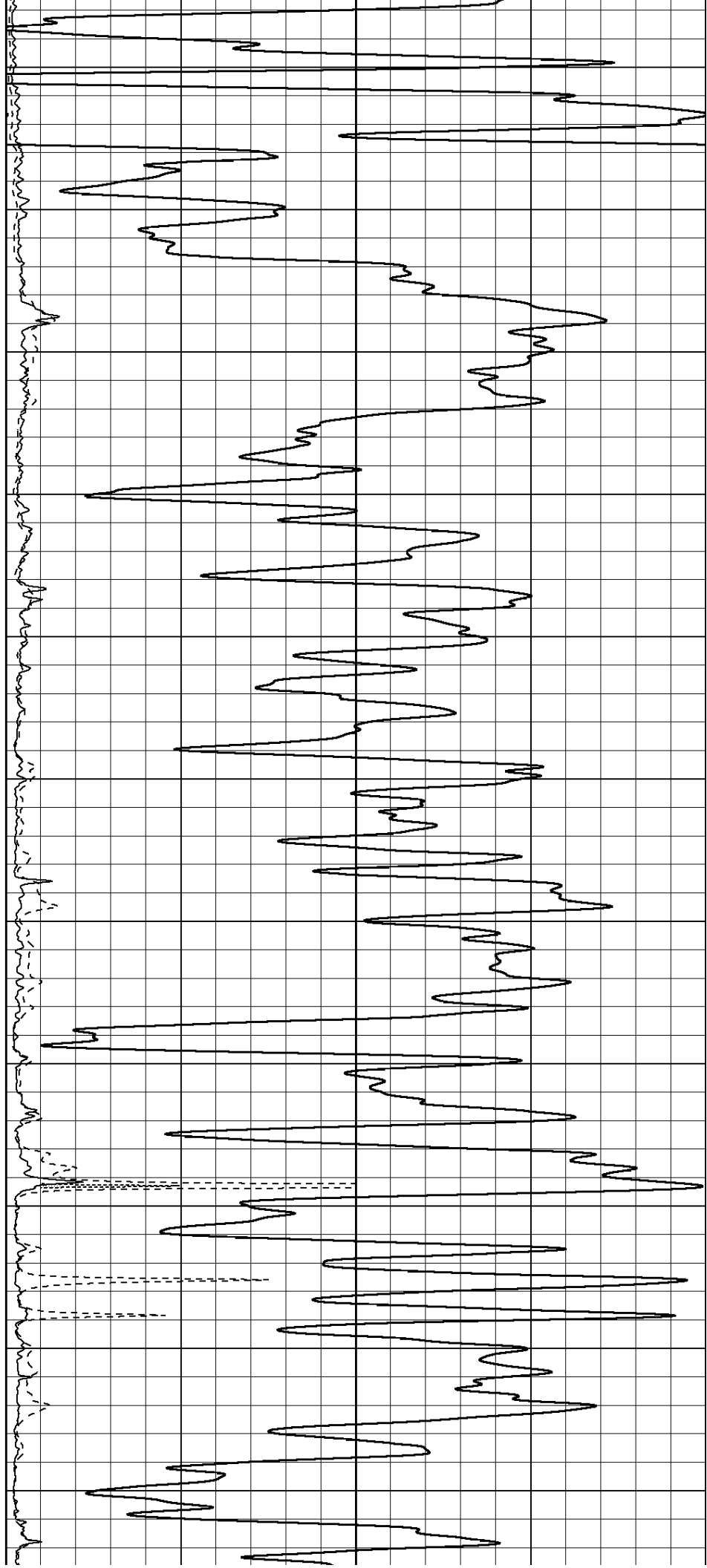
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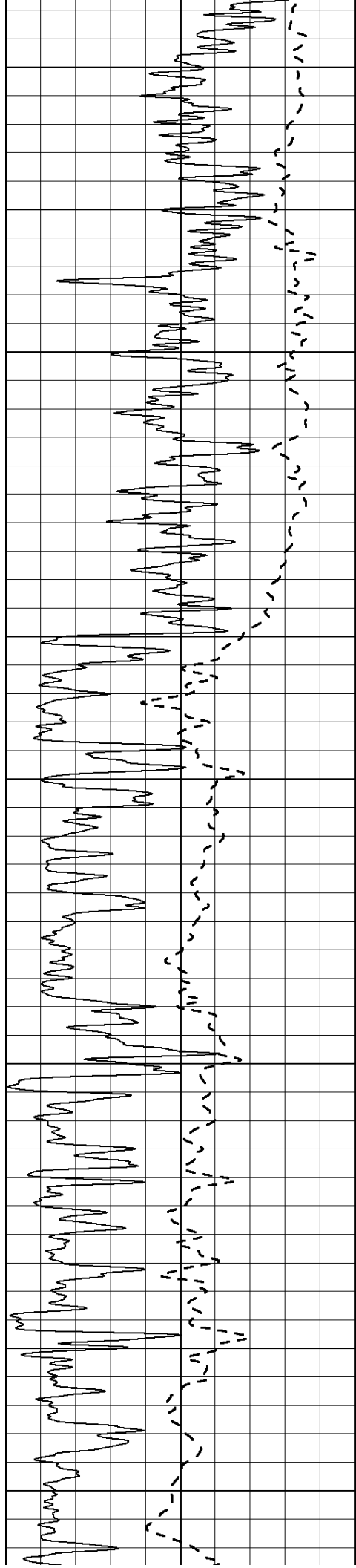
Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50	
-100	SP (mV)	100	0	RILD (Ohm-m)	50	
-----			1000			CILD (mmho/m)
			50	RILD X10 (Ohm-m)	500	
			50	RLL3 X10 (Ohm-m)	500	

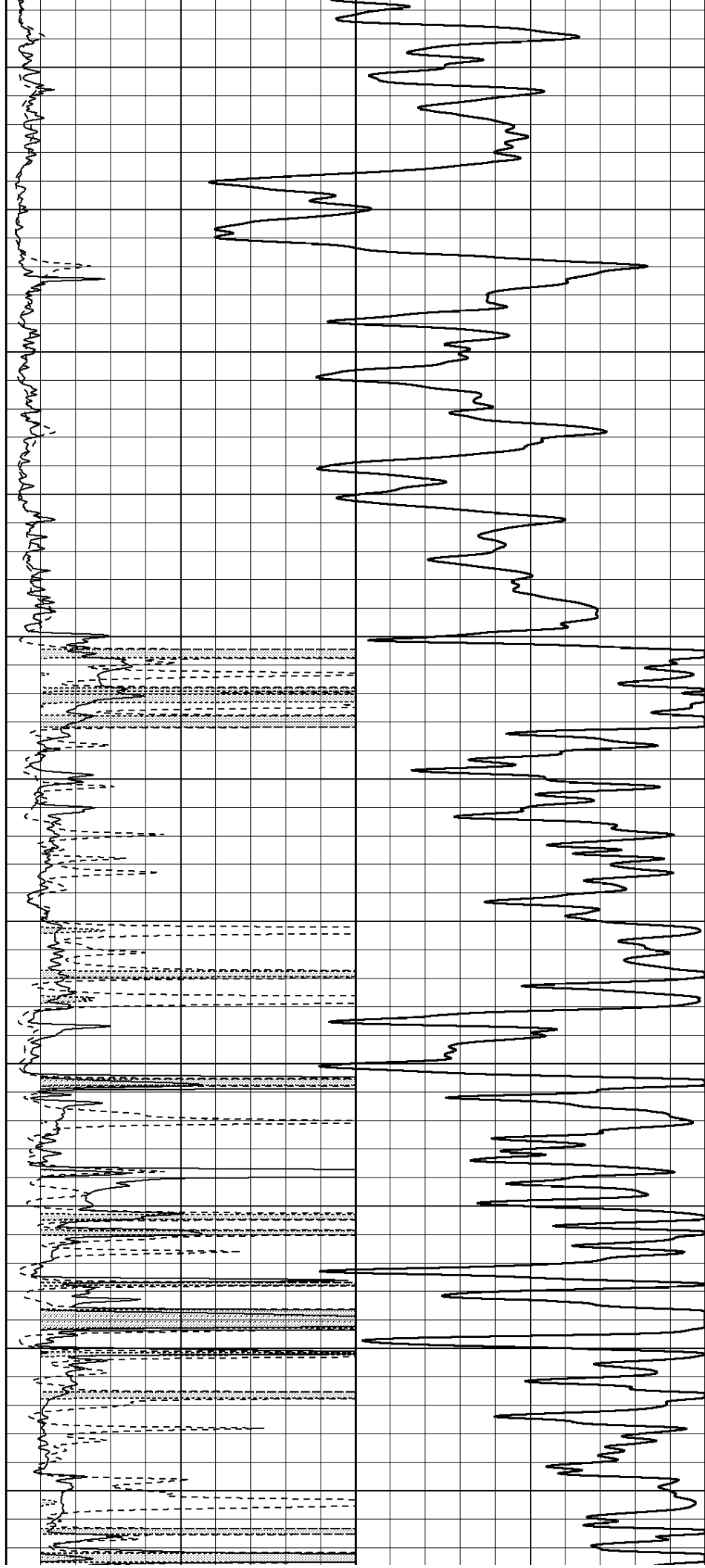


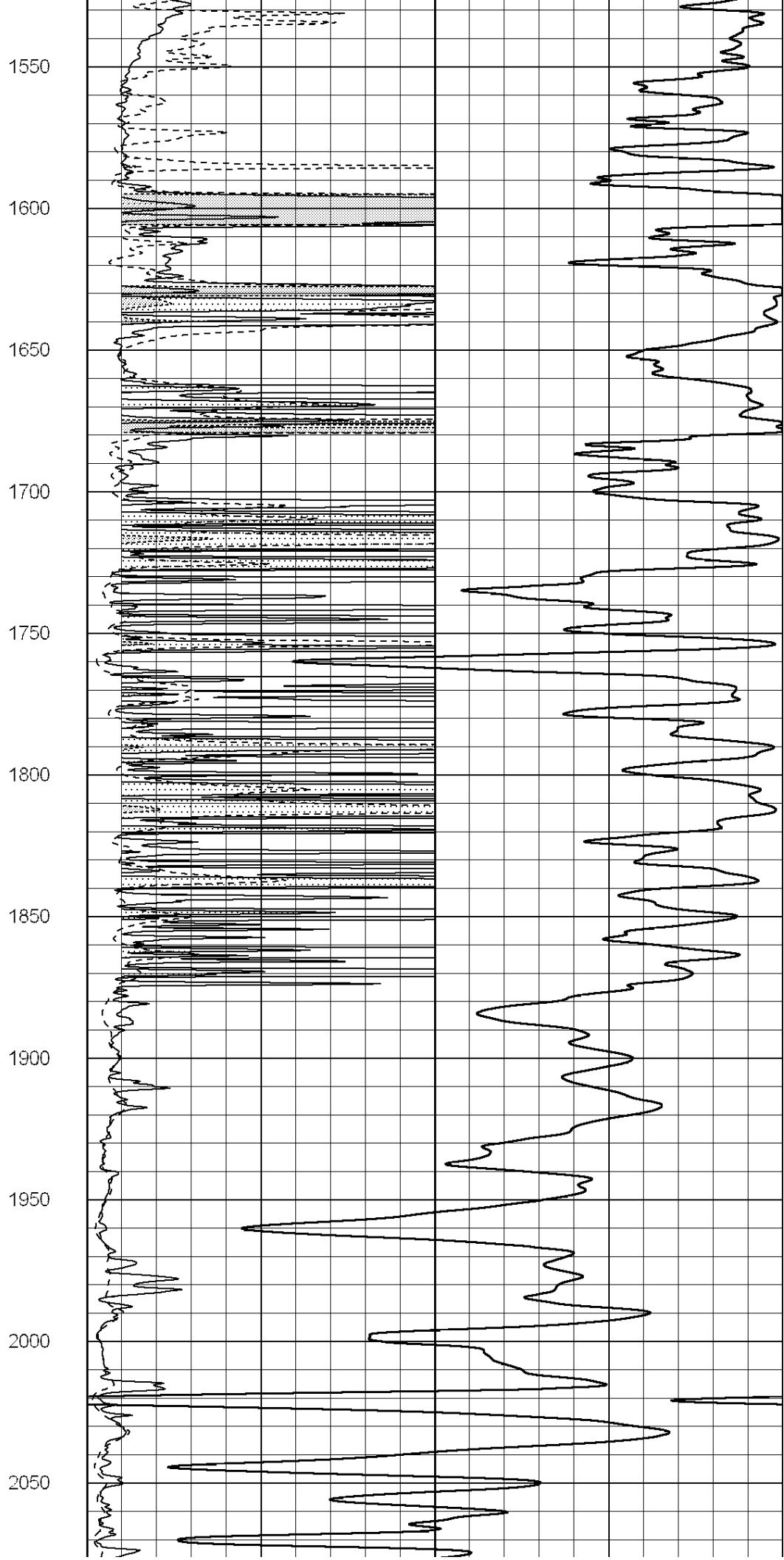
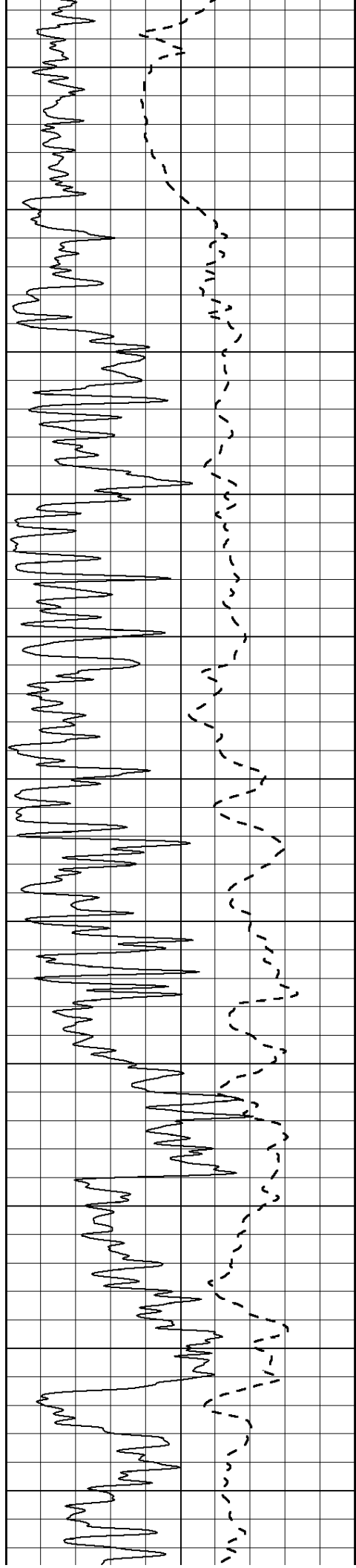
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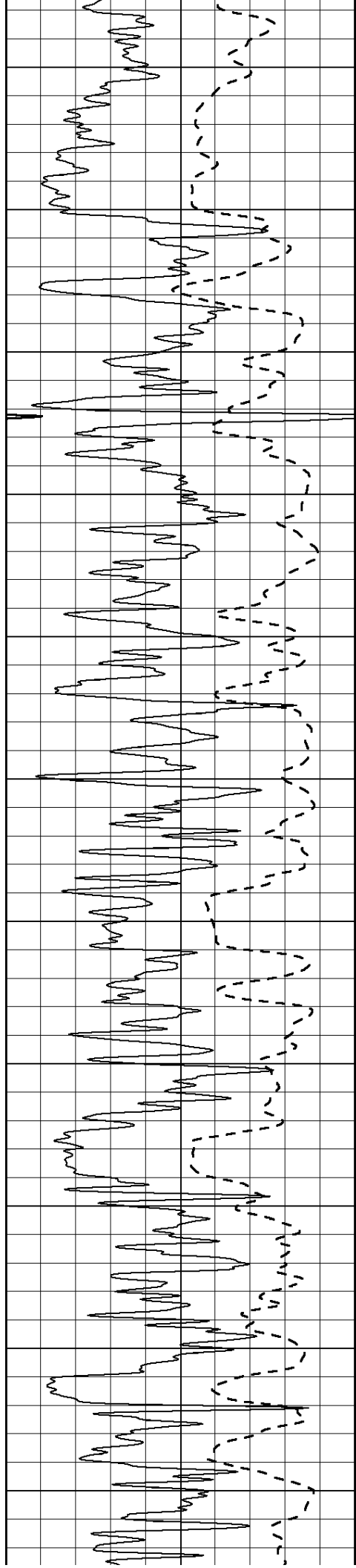




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1050
1100
1150
1200
1250
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1350
1400
1450
1500







2100

2150

2200

2250

2300

2350

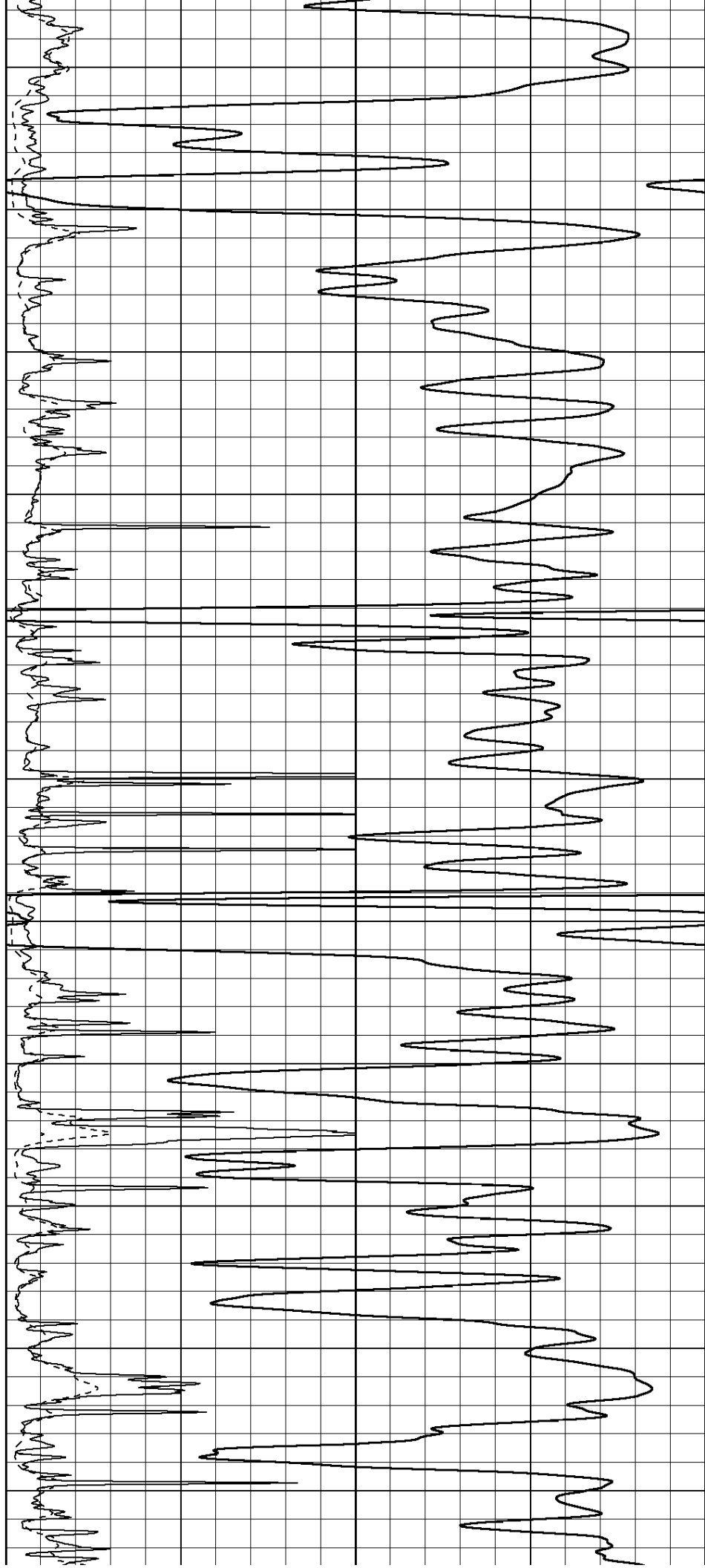
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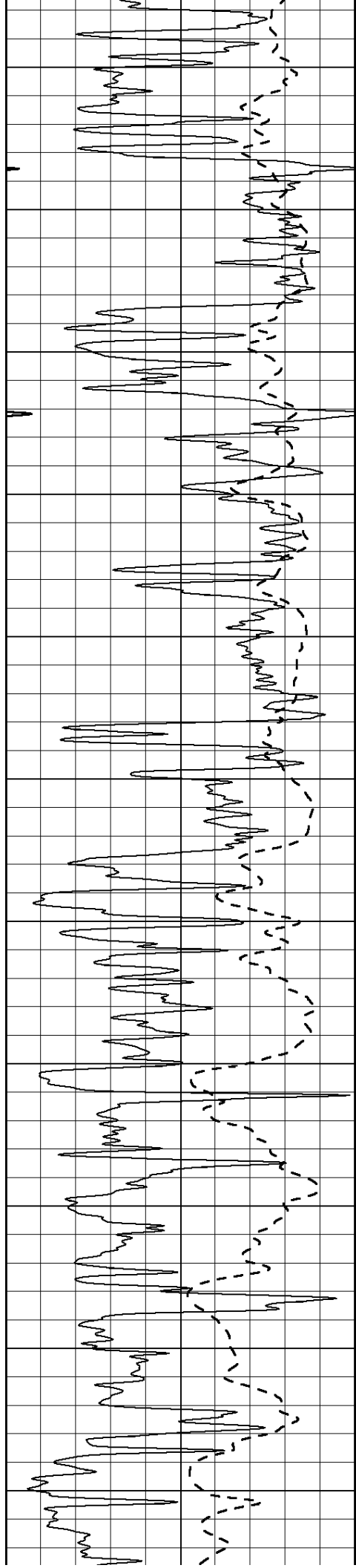
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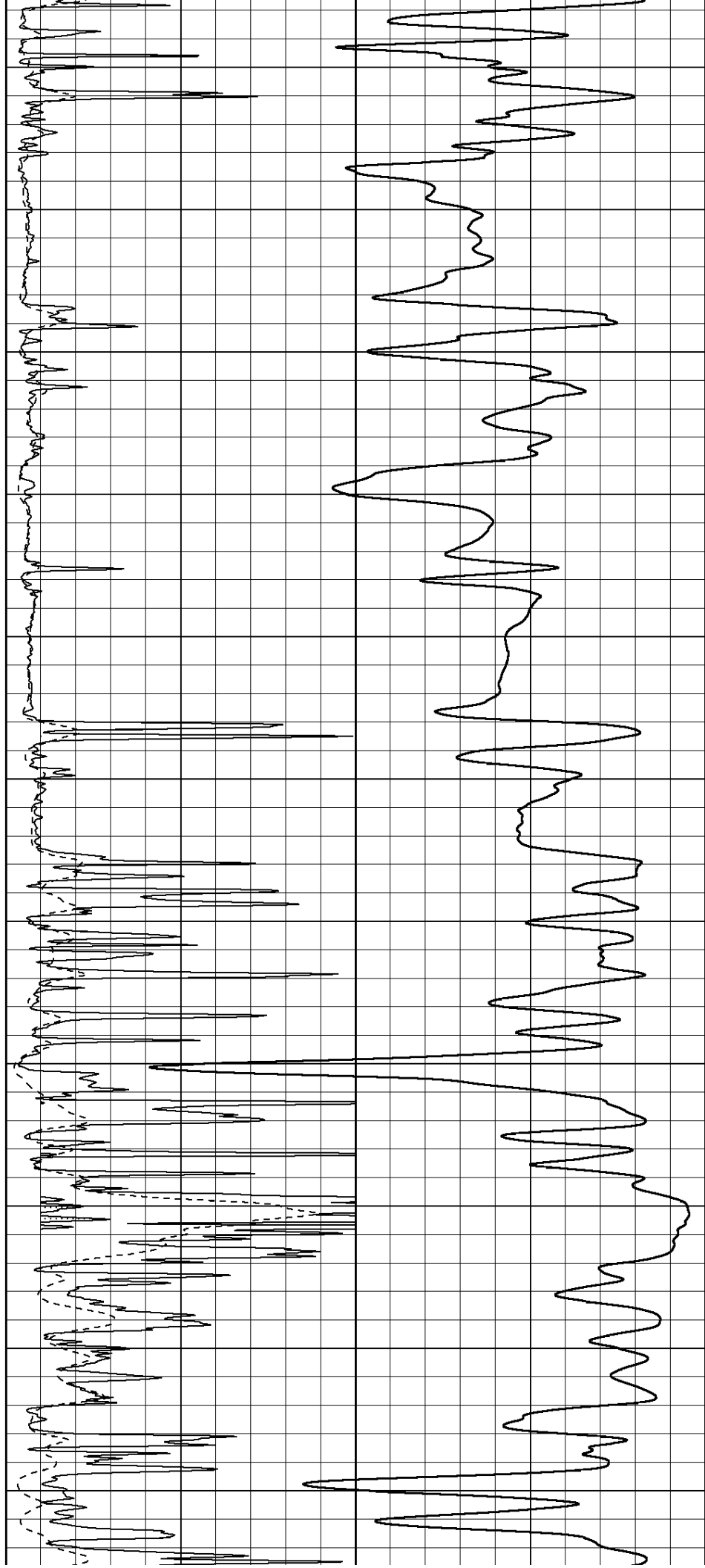
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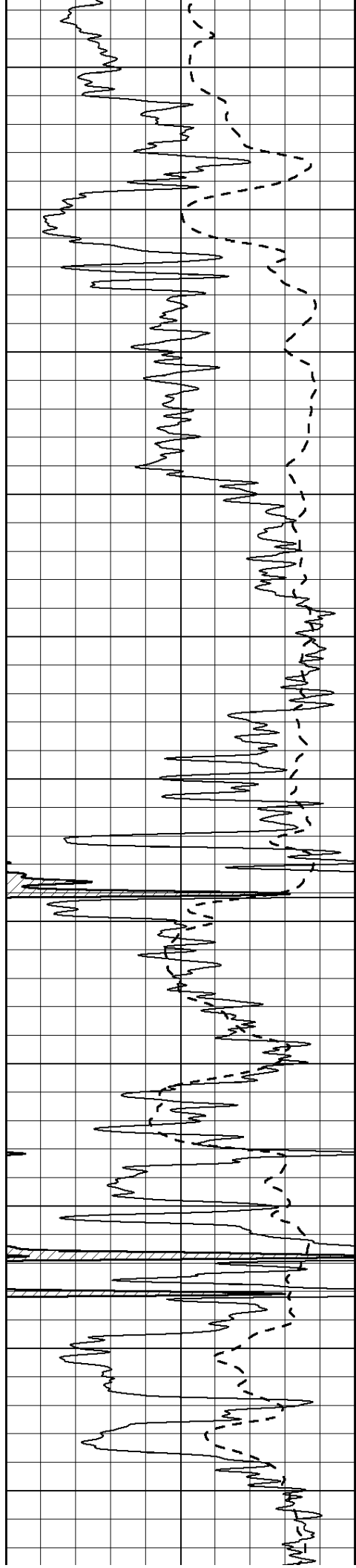
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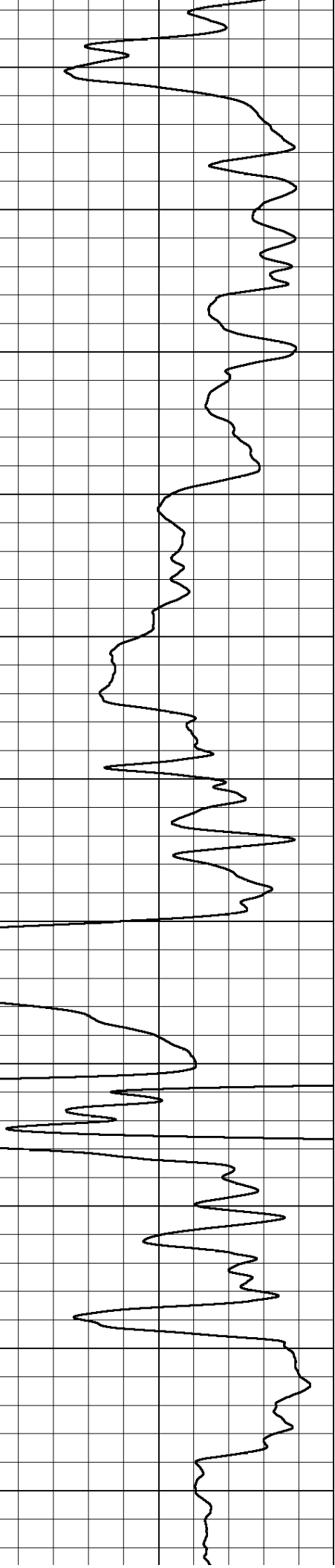
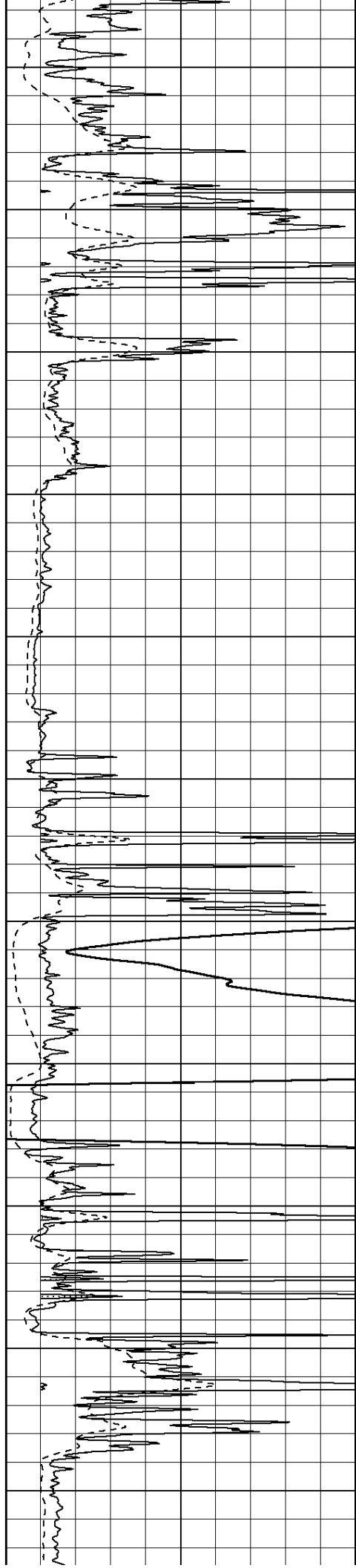
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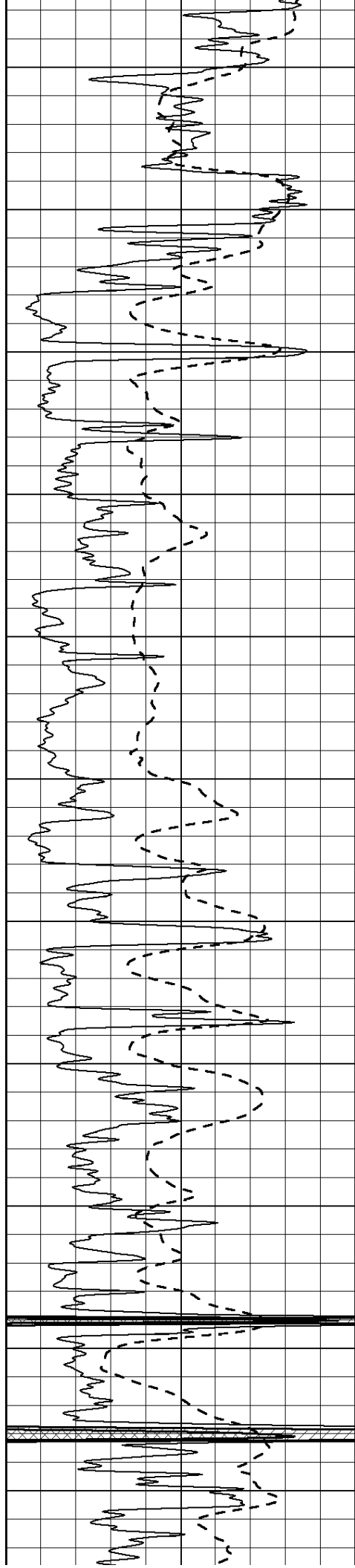
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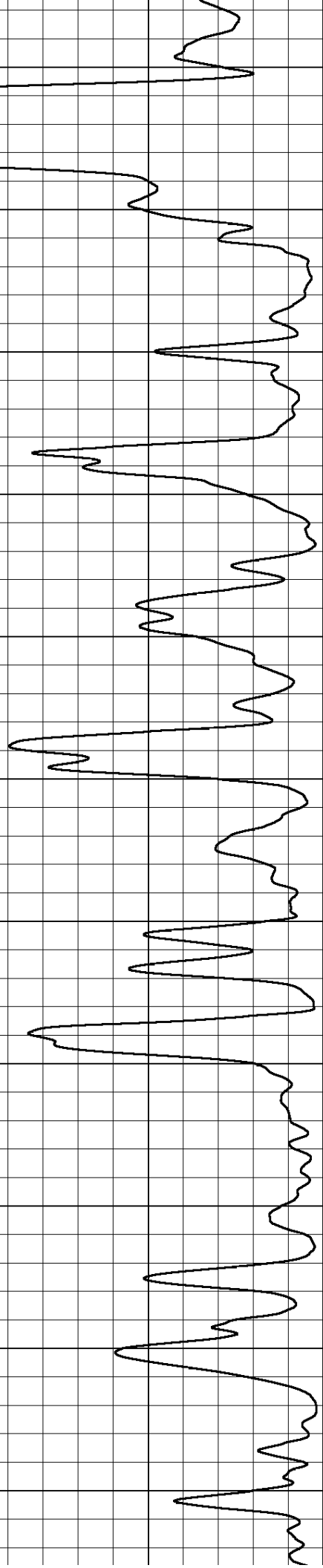
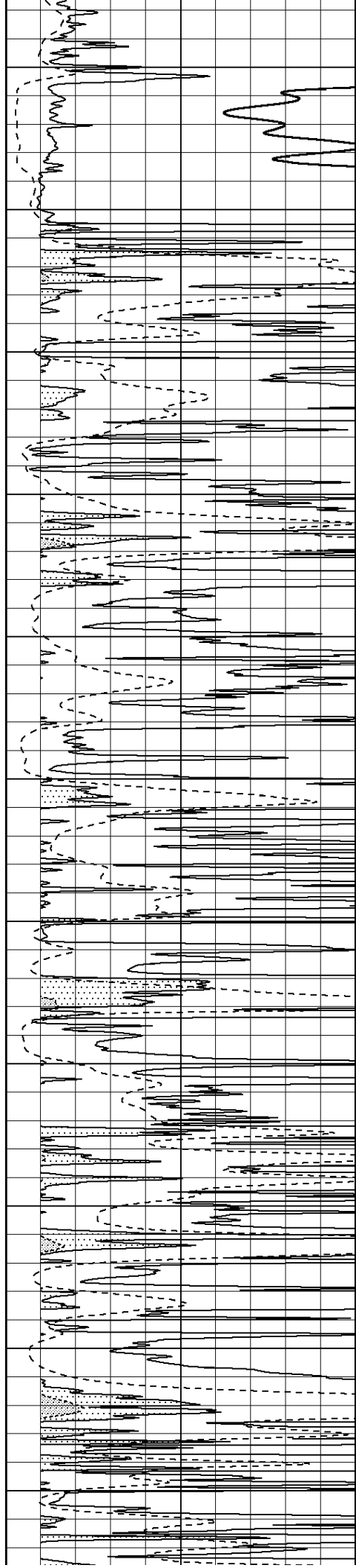
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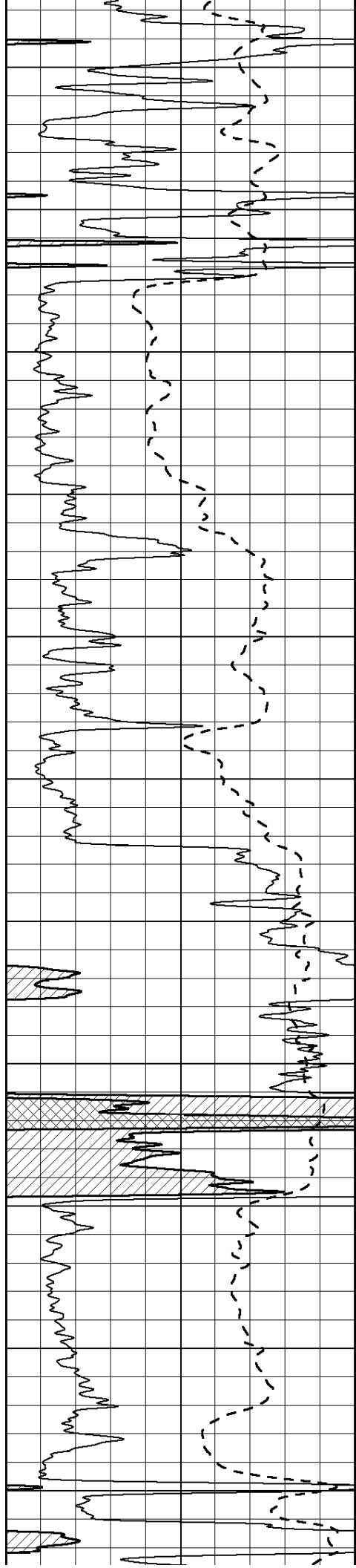
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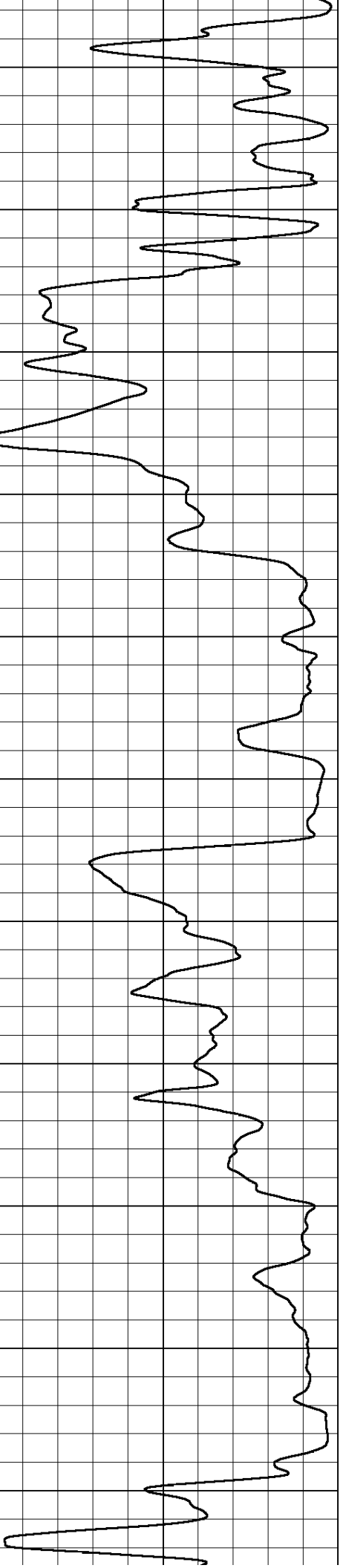
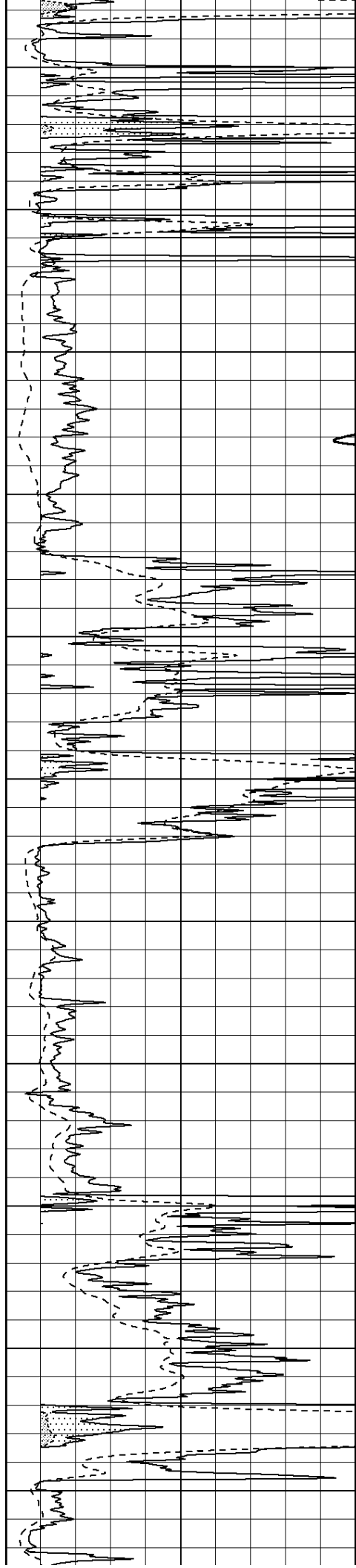
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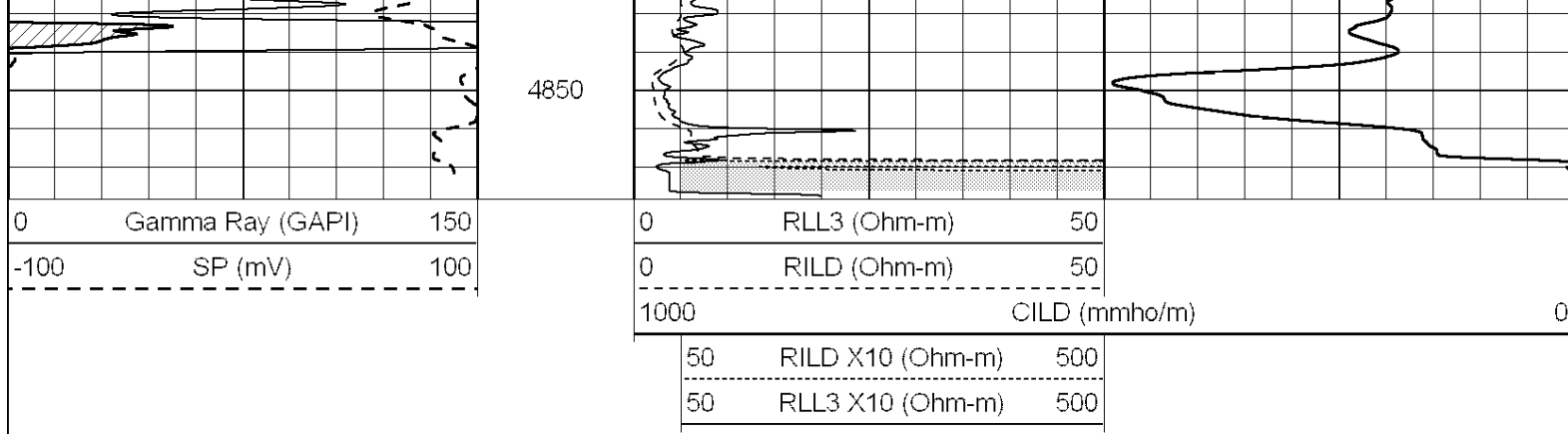
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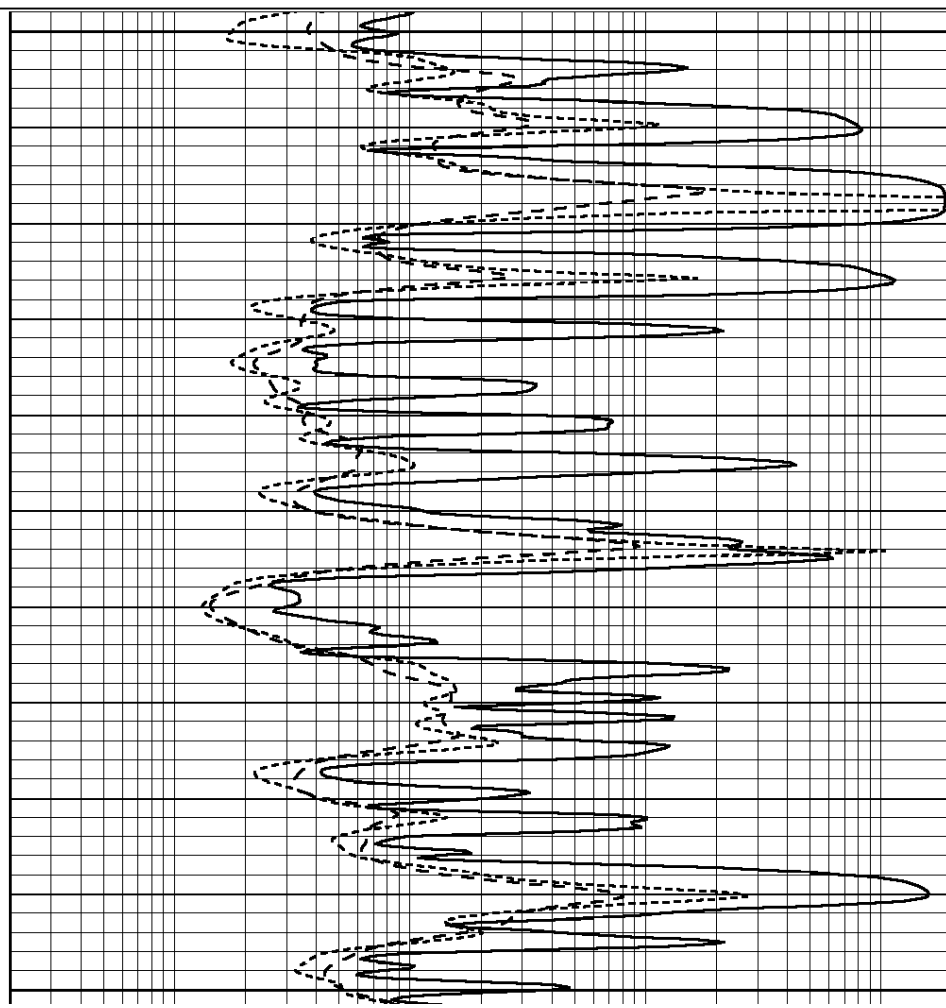
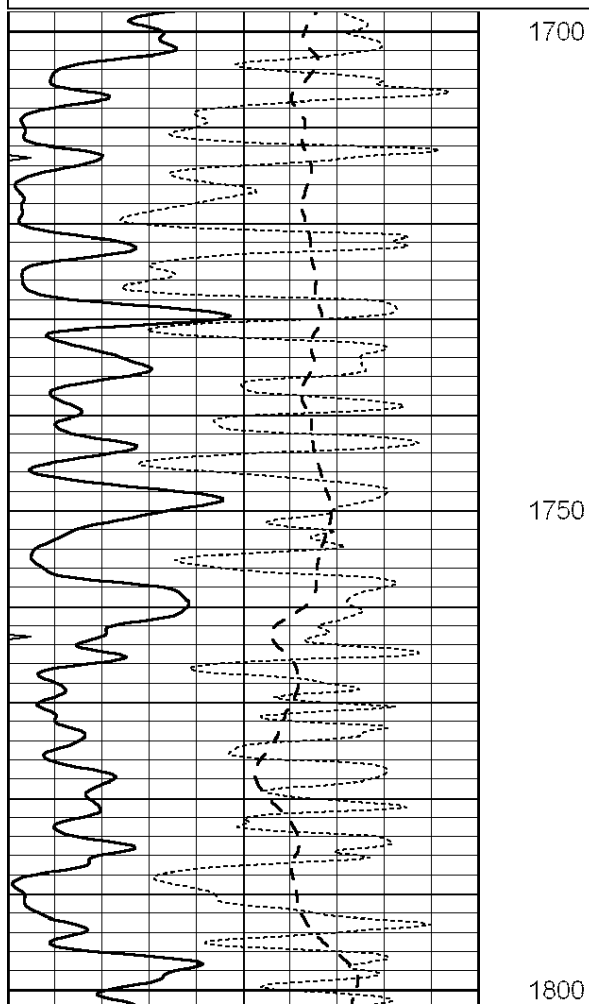


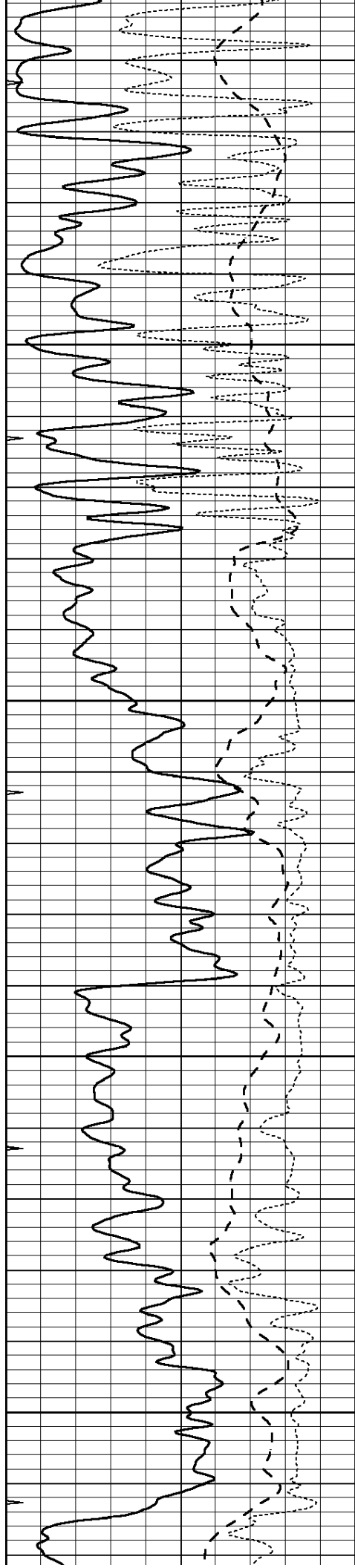


MAIN SECTION

Database File: 010906pe.db
 Dataset Pathname: pass3.7
 Presentation Format: _dil
 Dataset Creation: Wed May 15 00:20:04 2013 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			



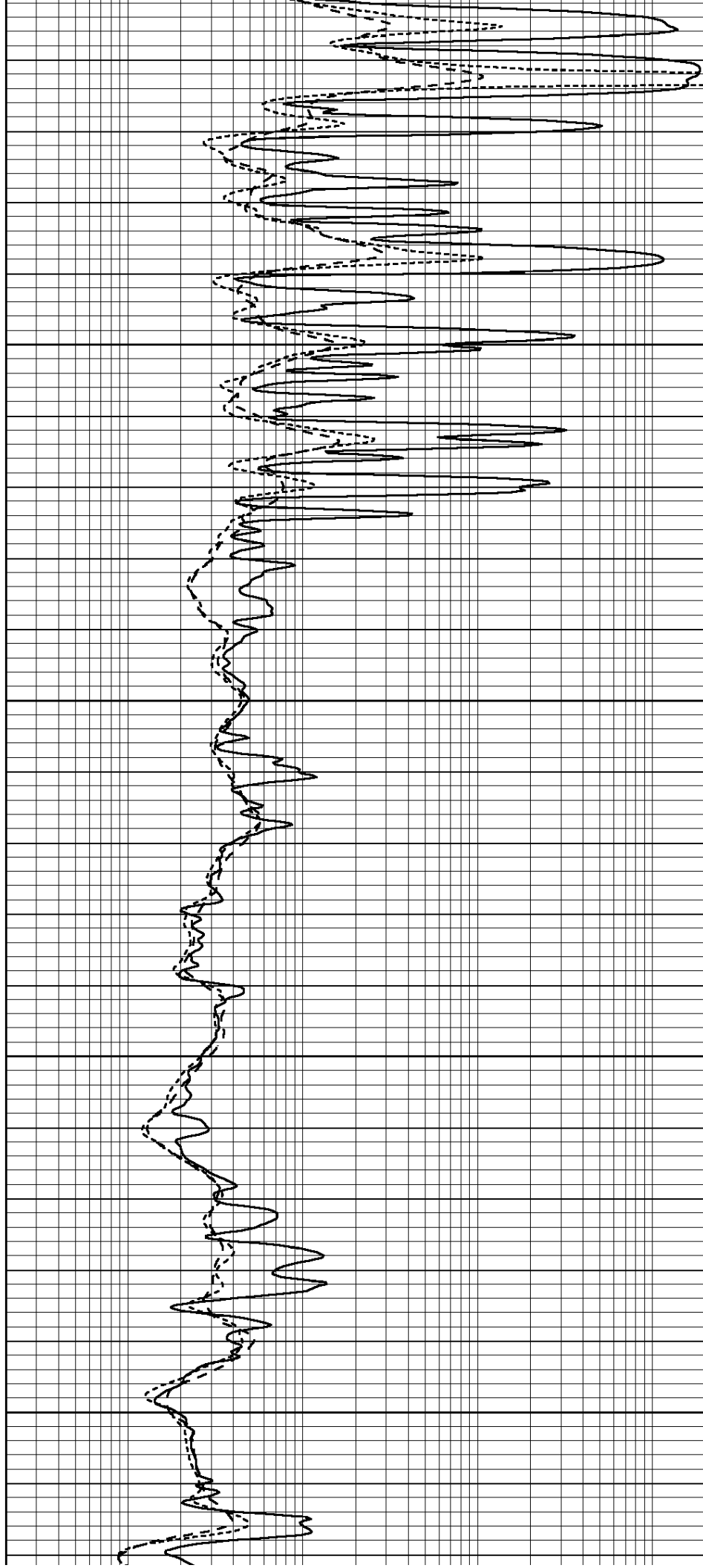


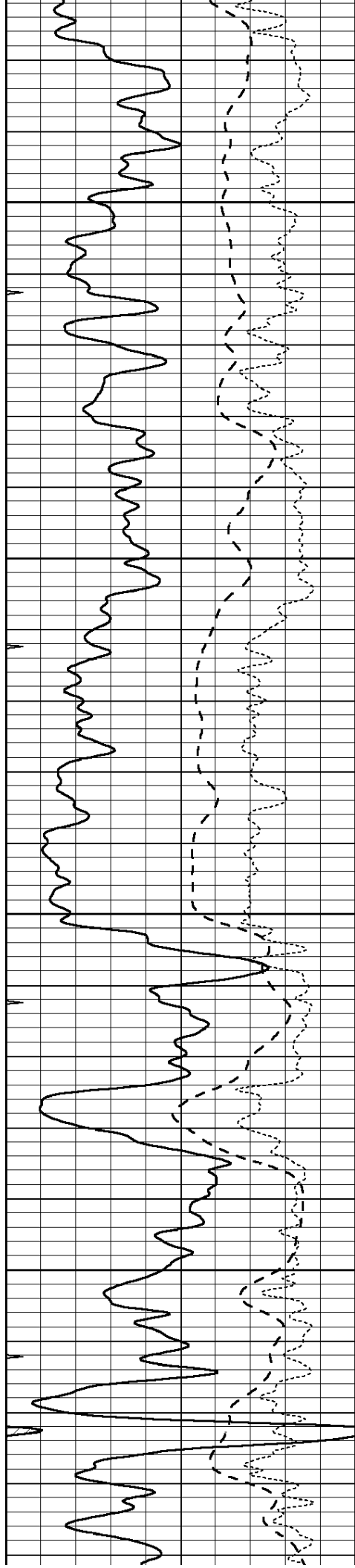
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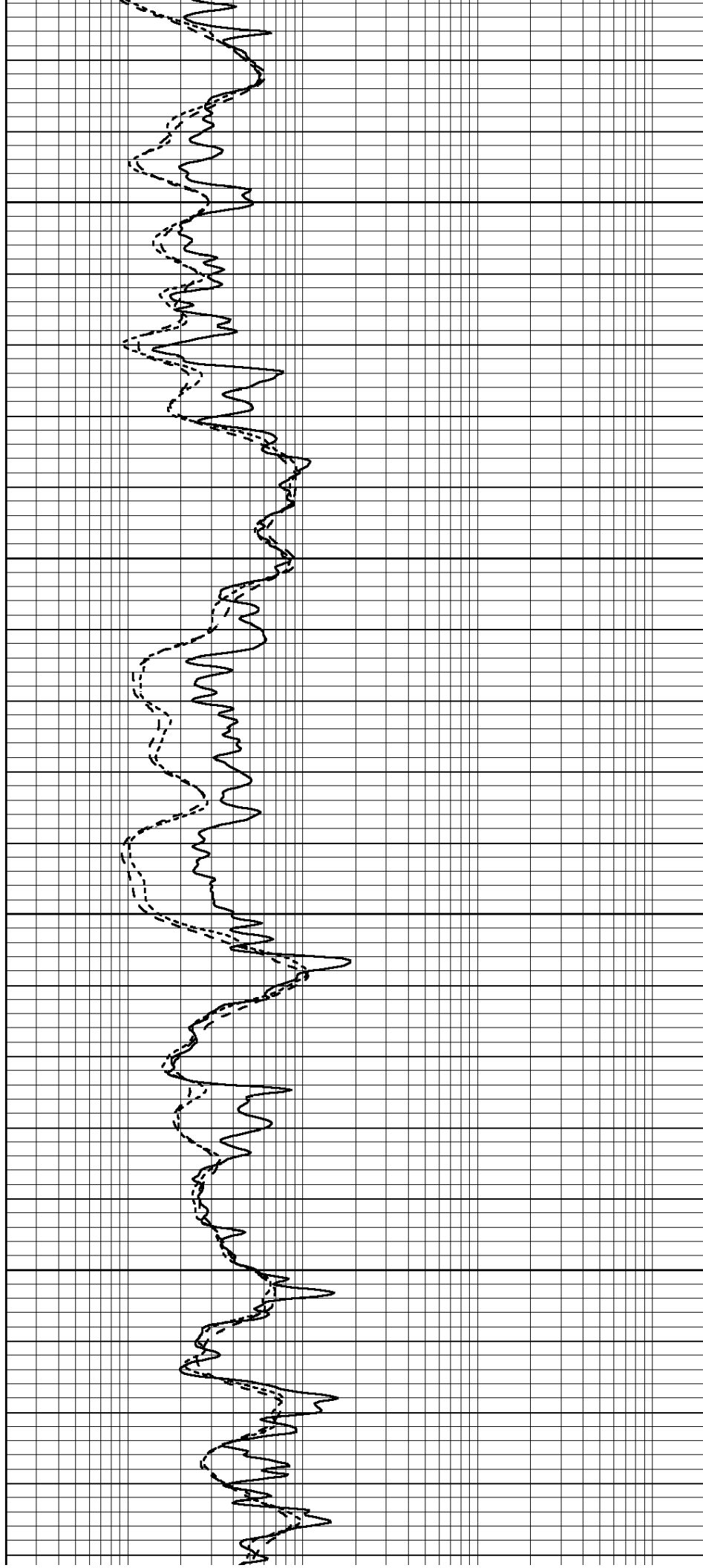


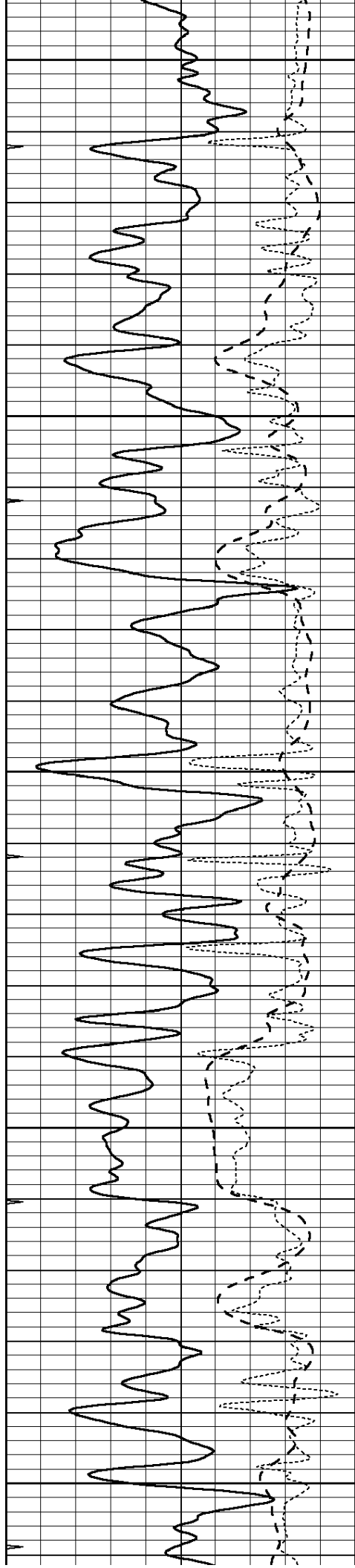
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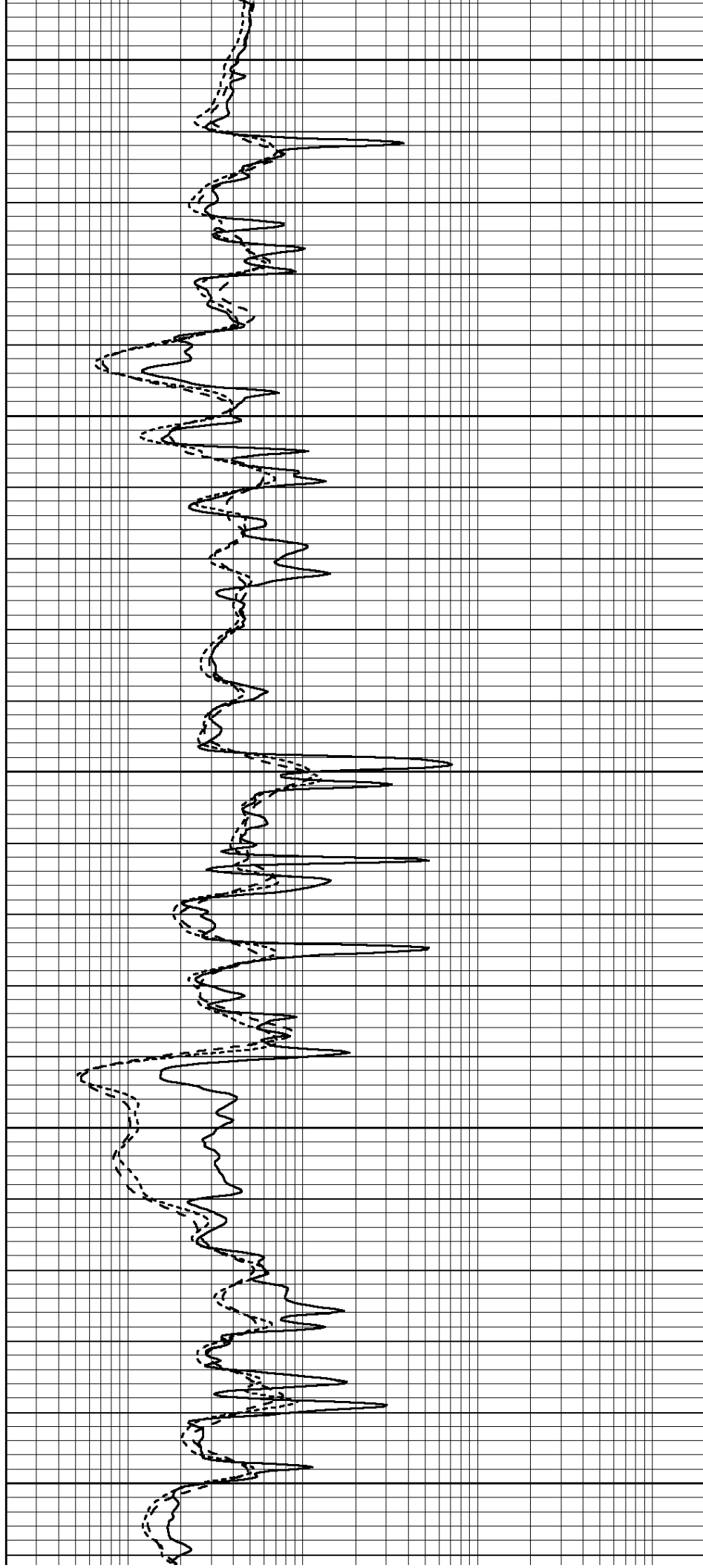
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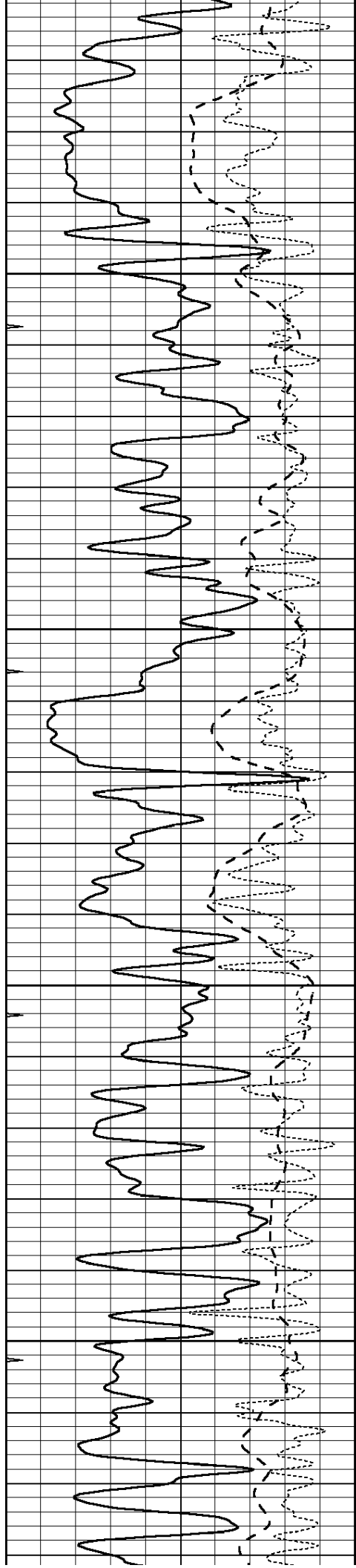
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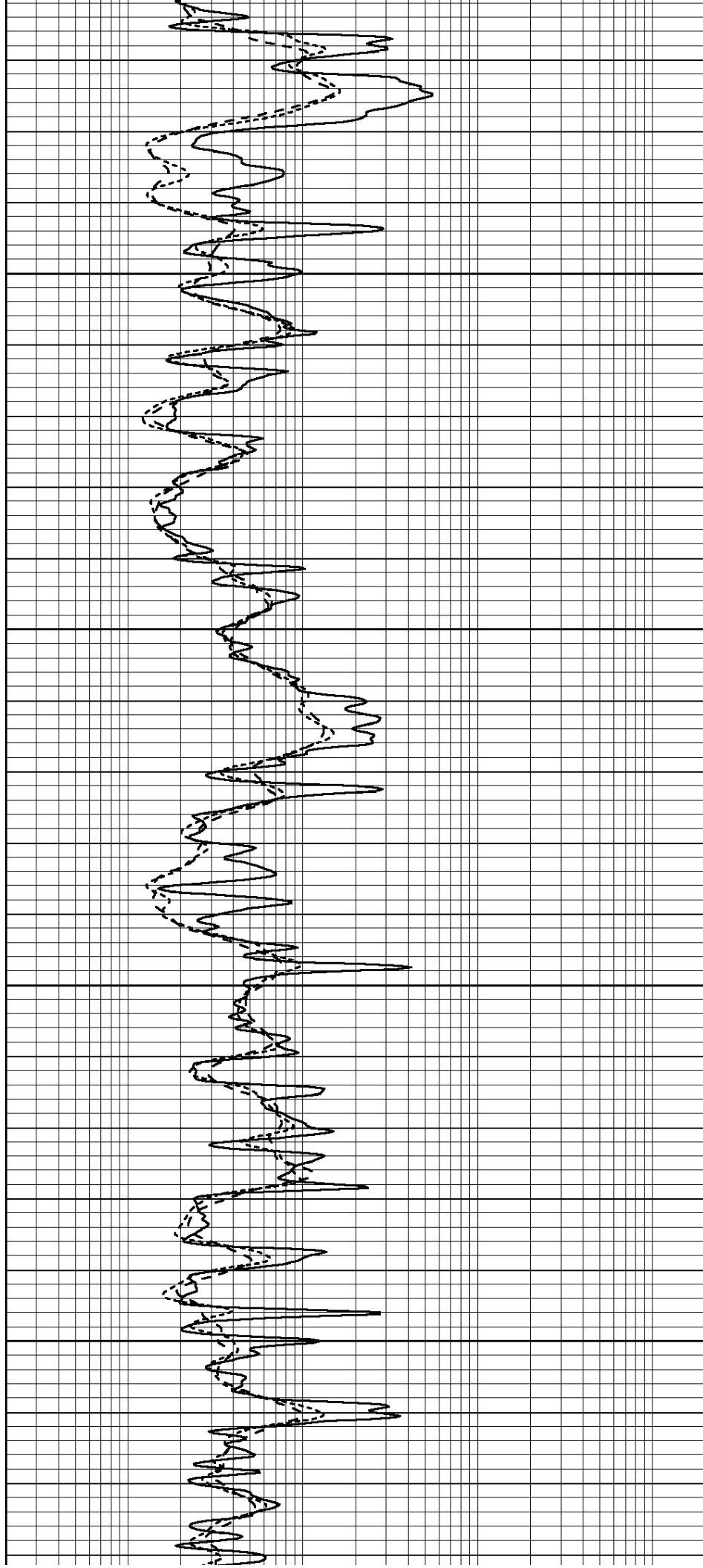


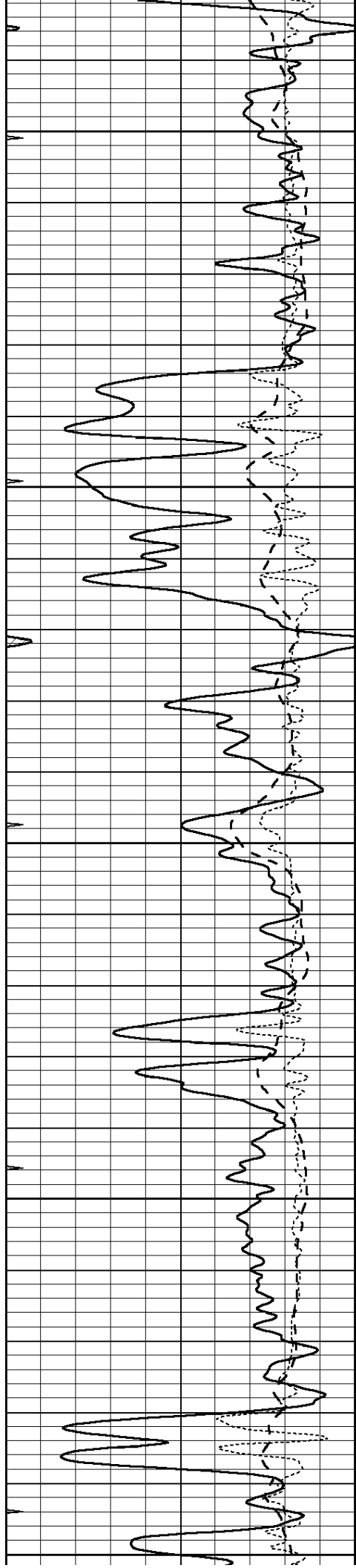
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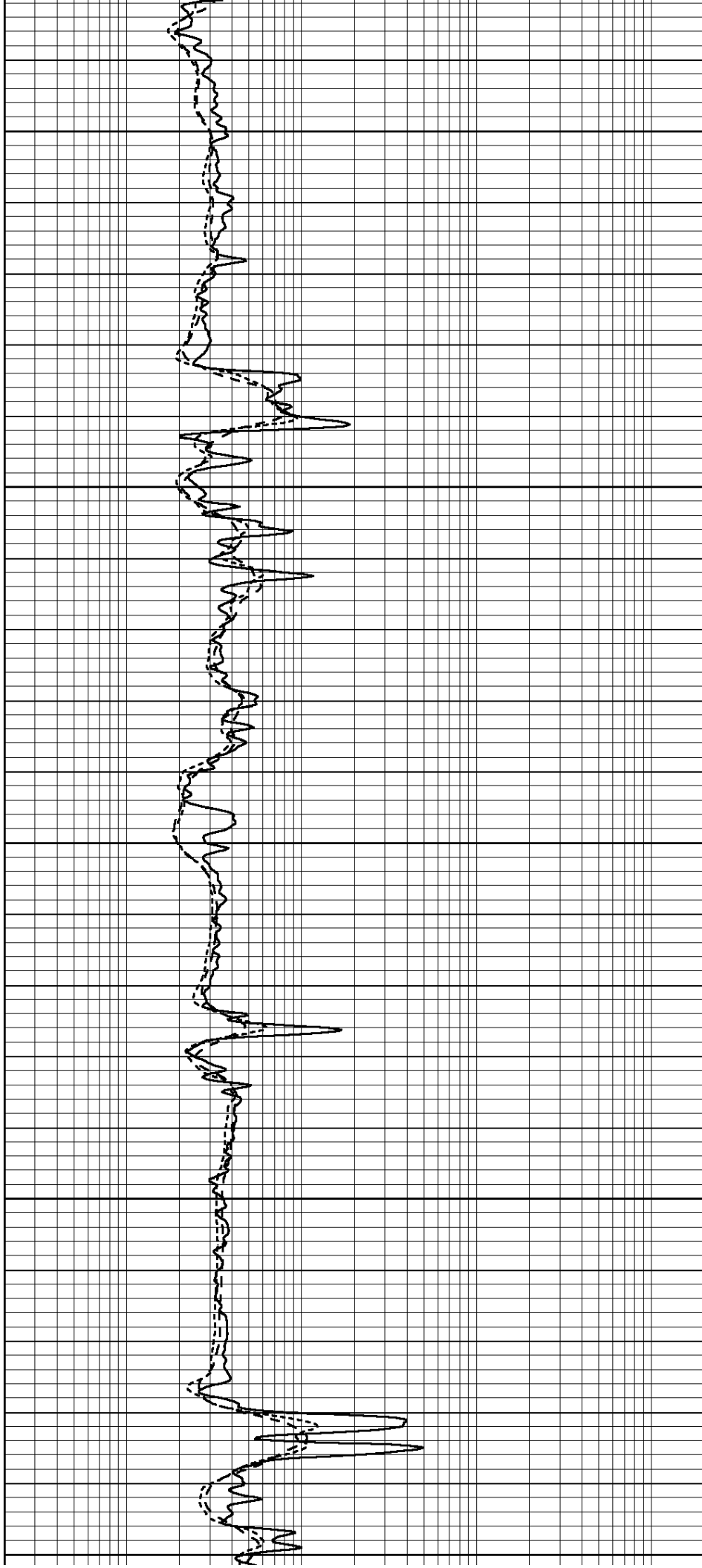
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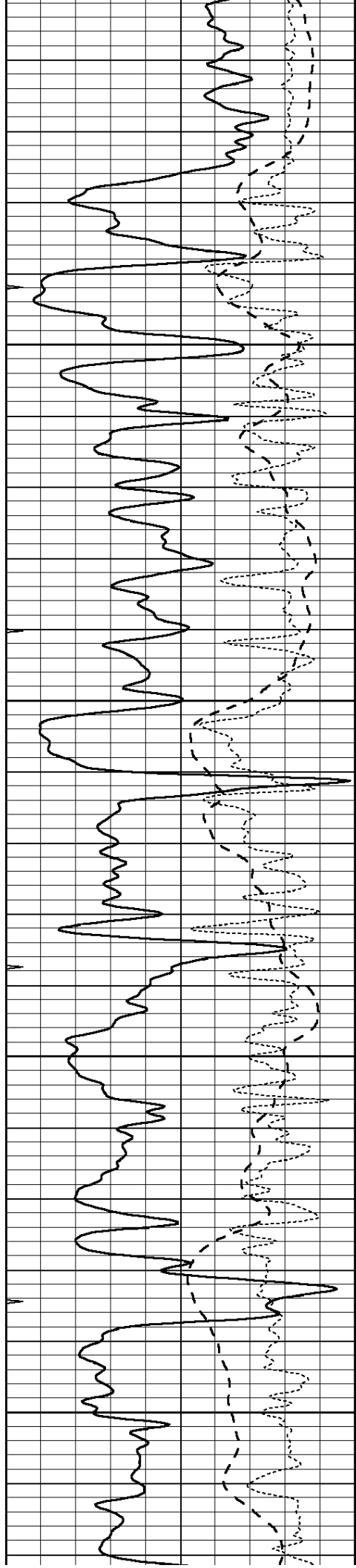
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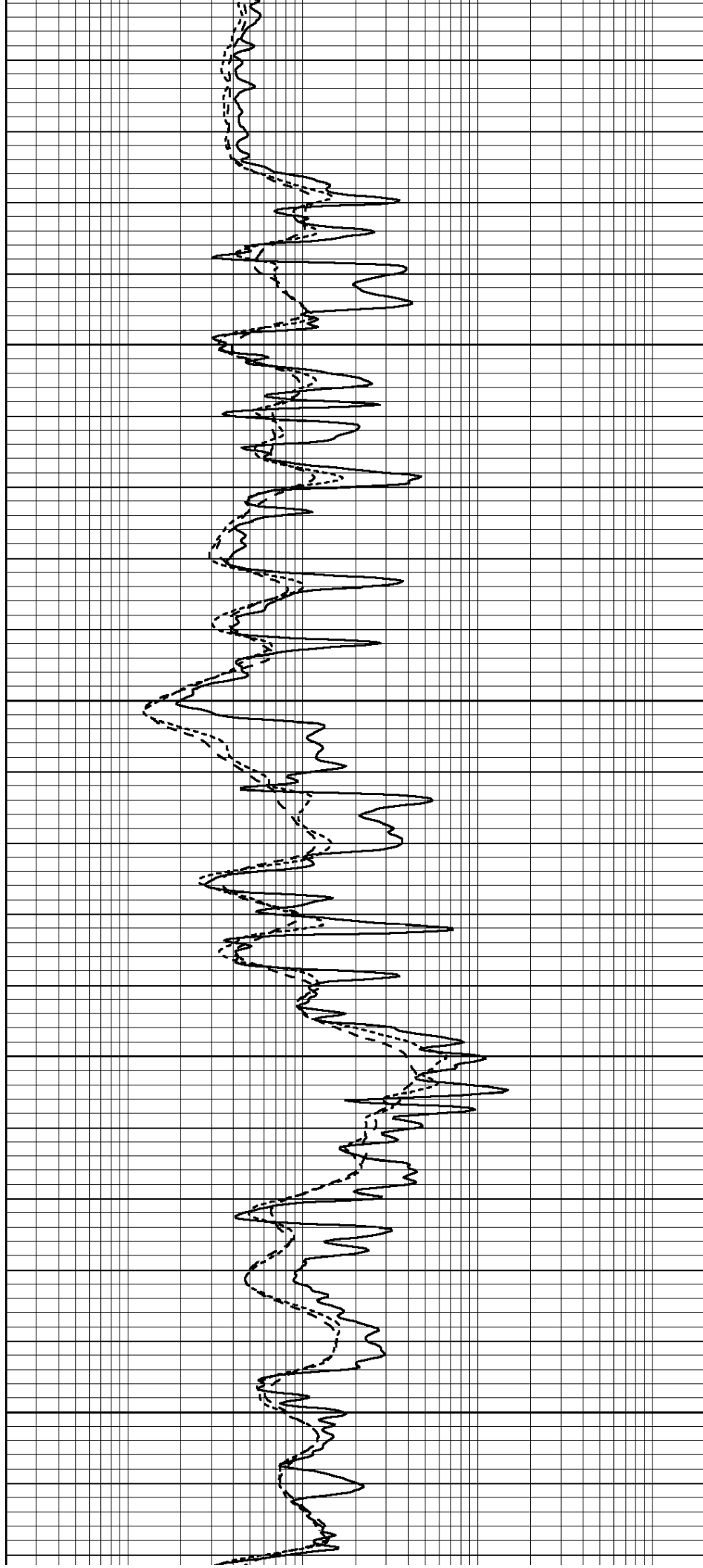


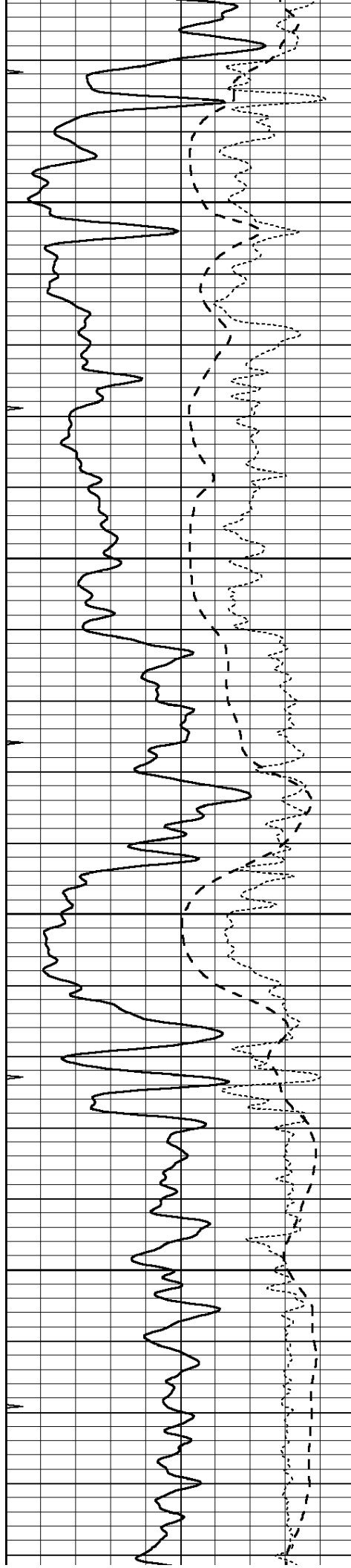
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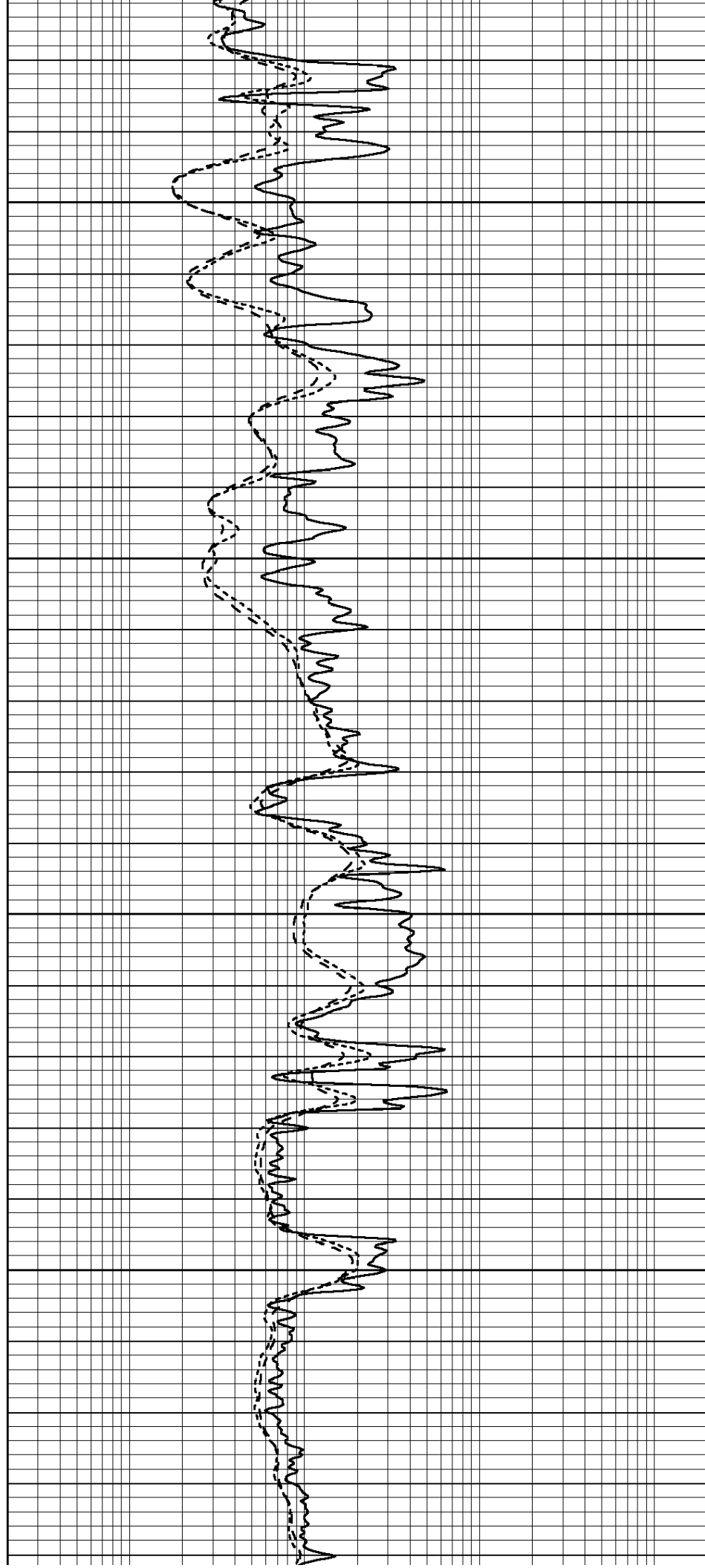


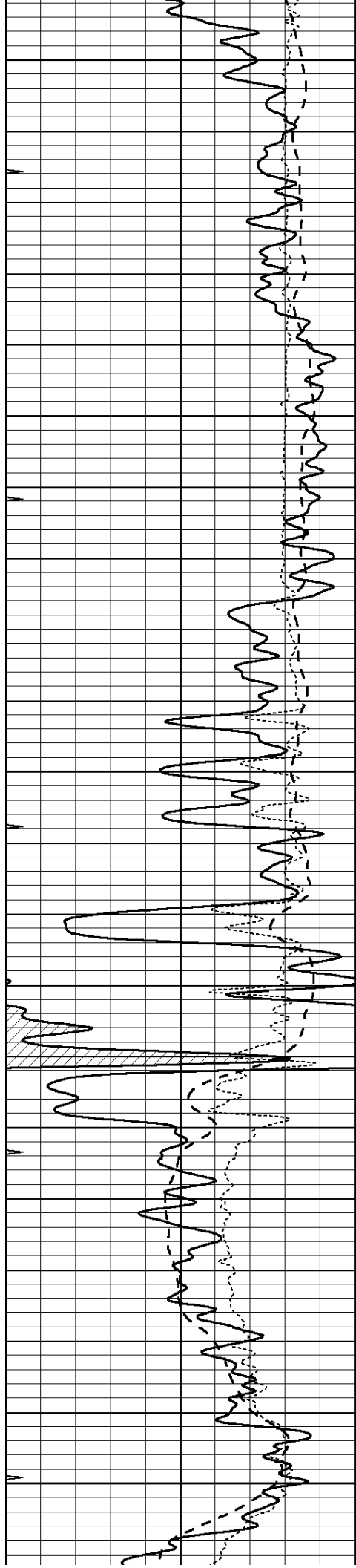
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3300





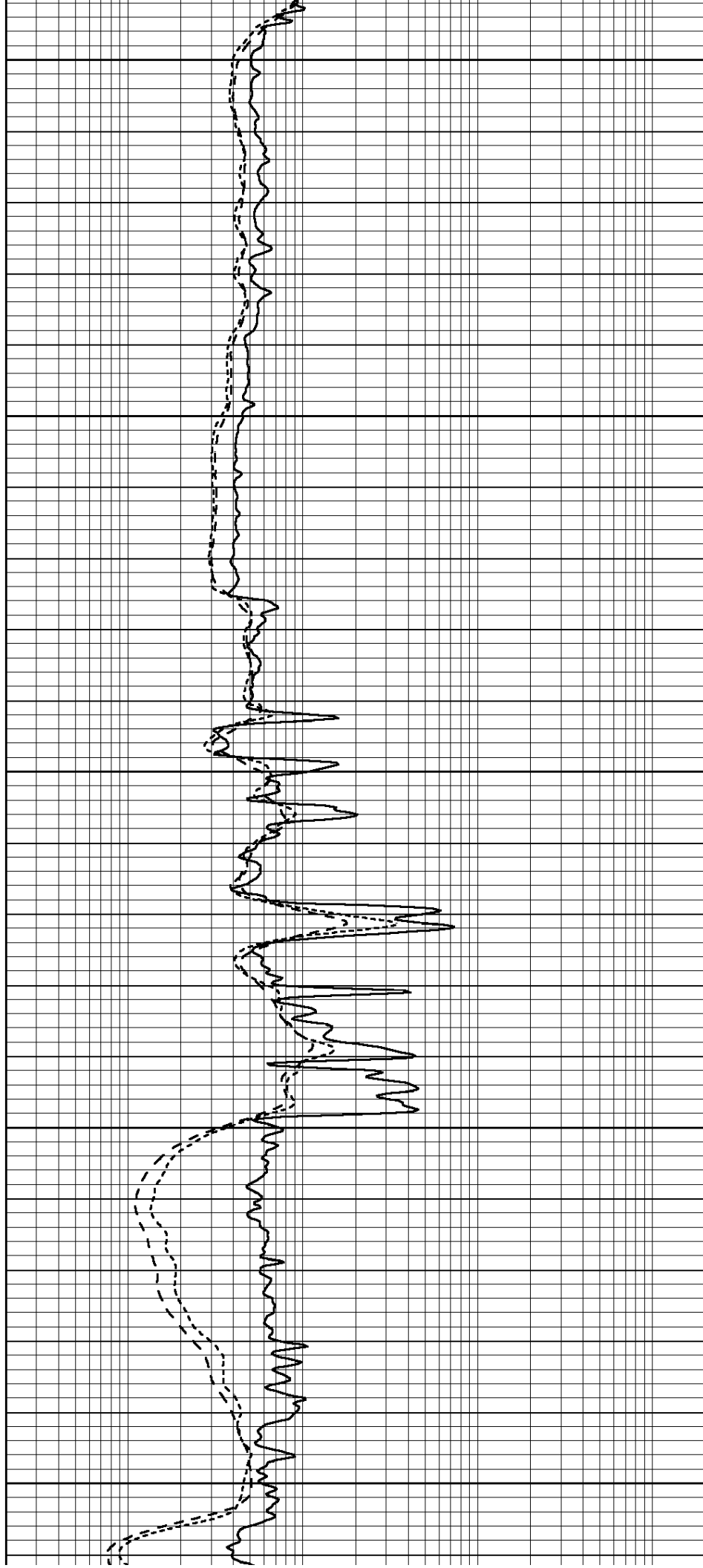
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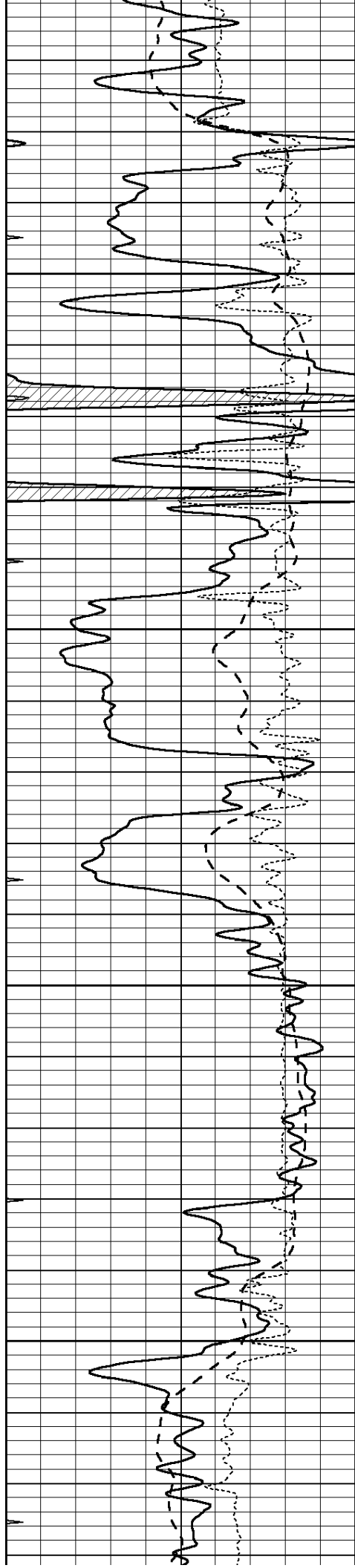
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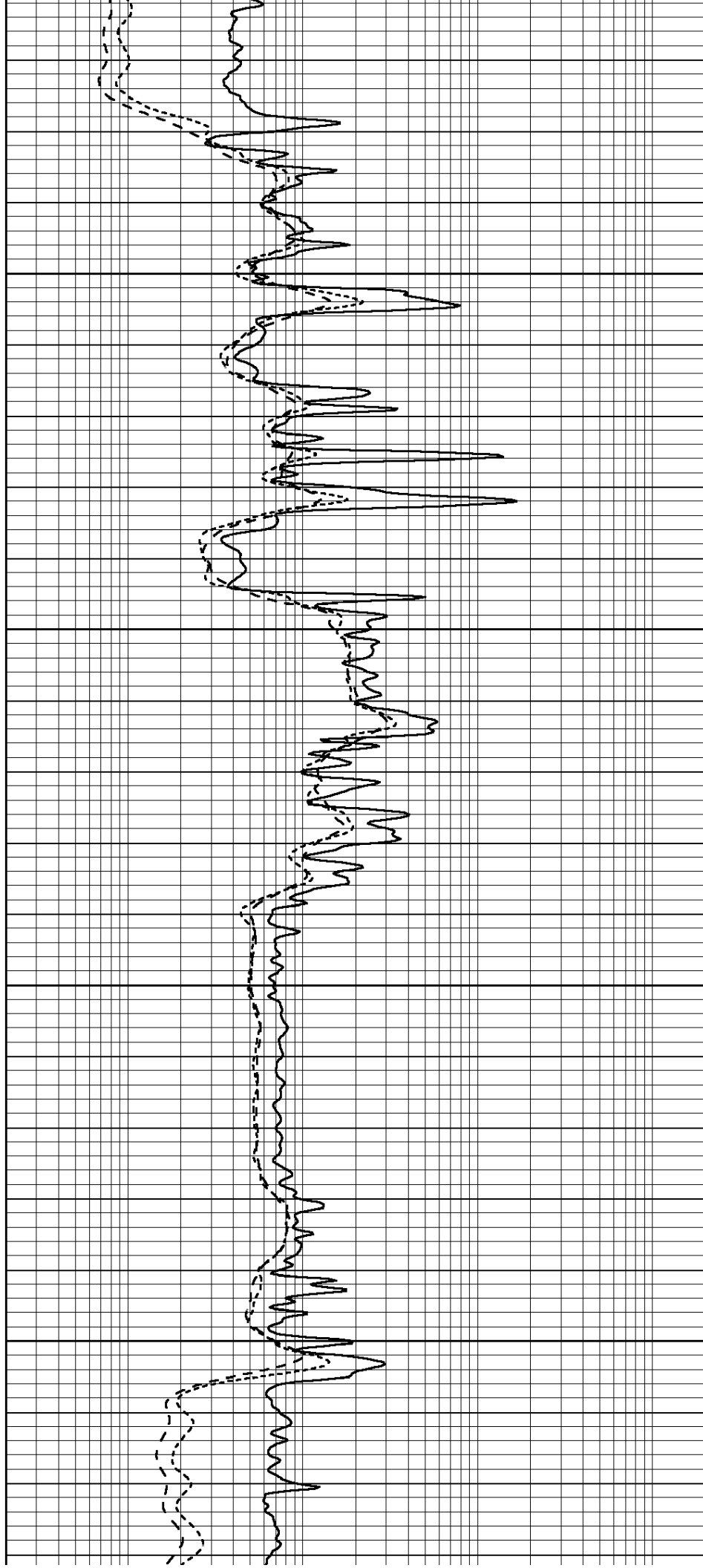


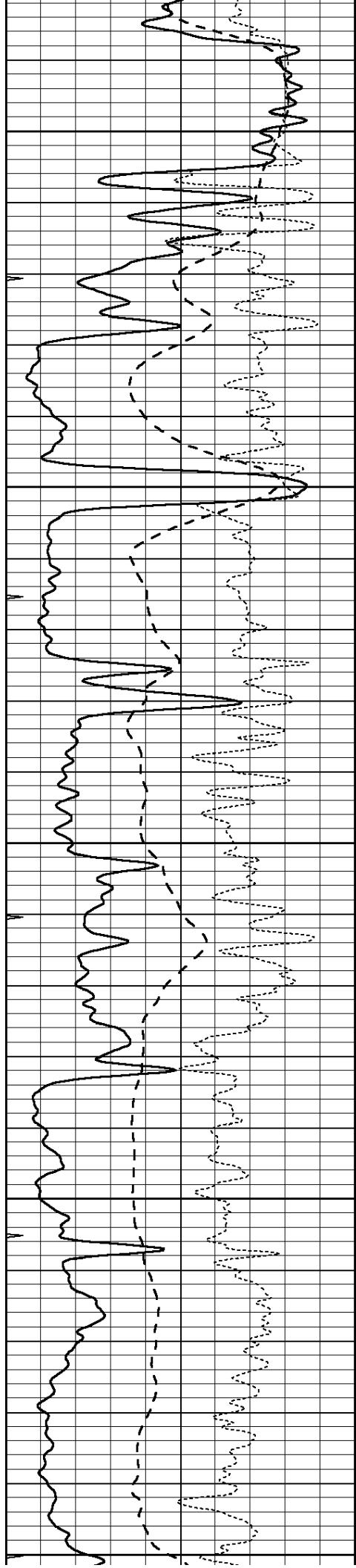
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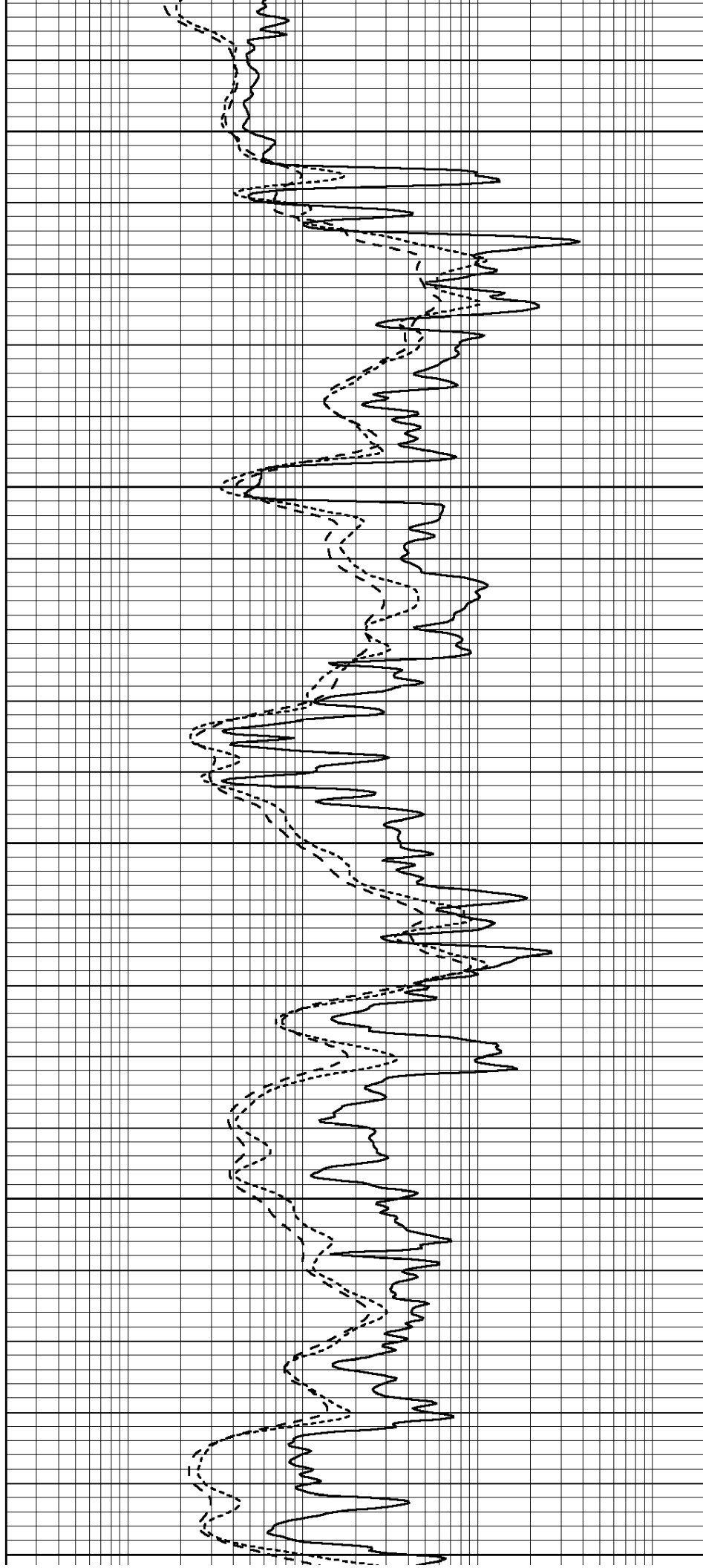
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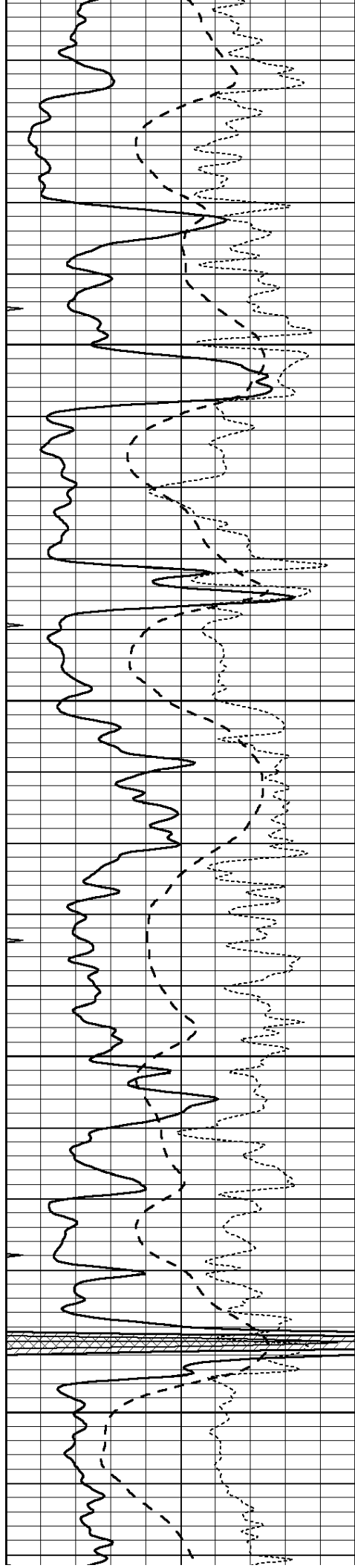
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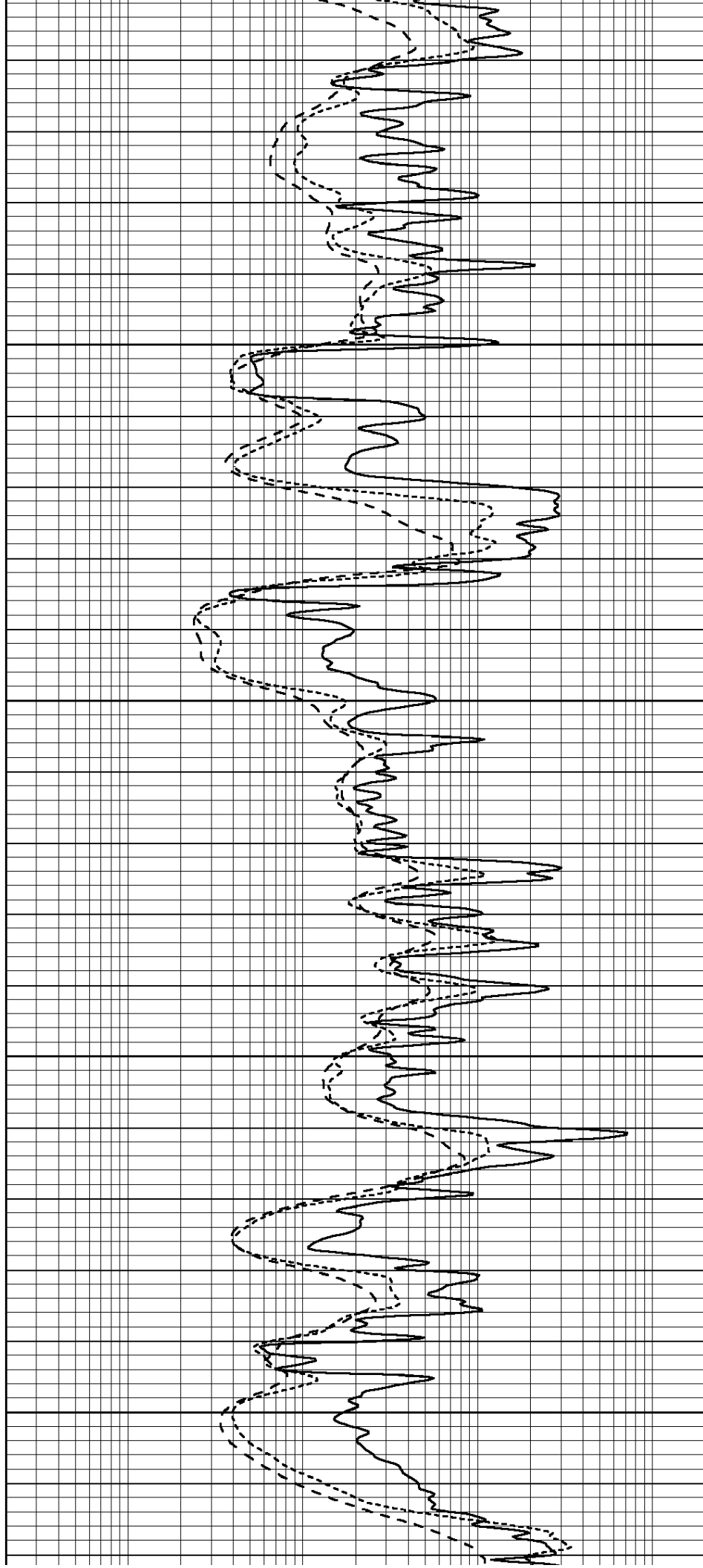


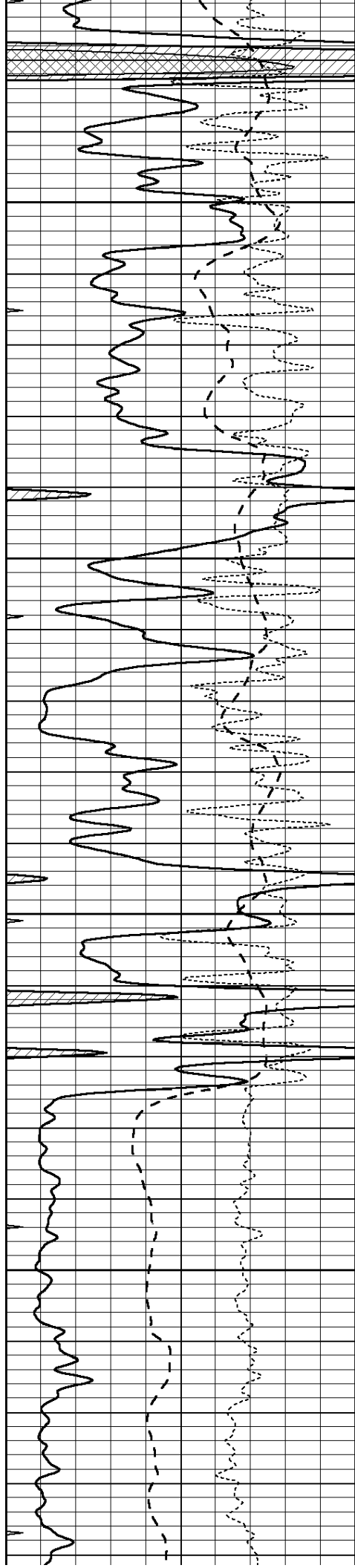
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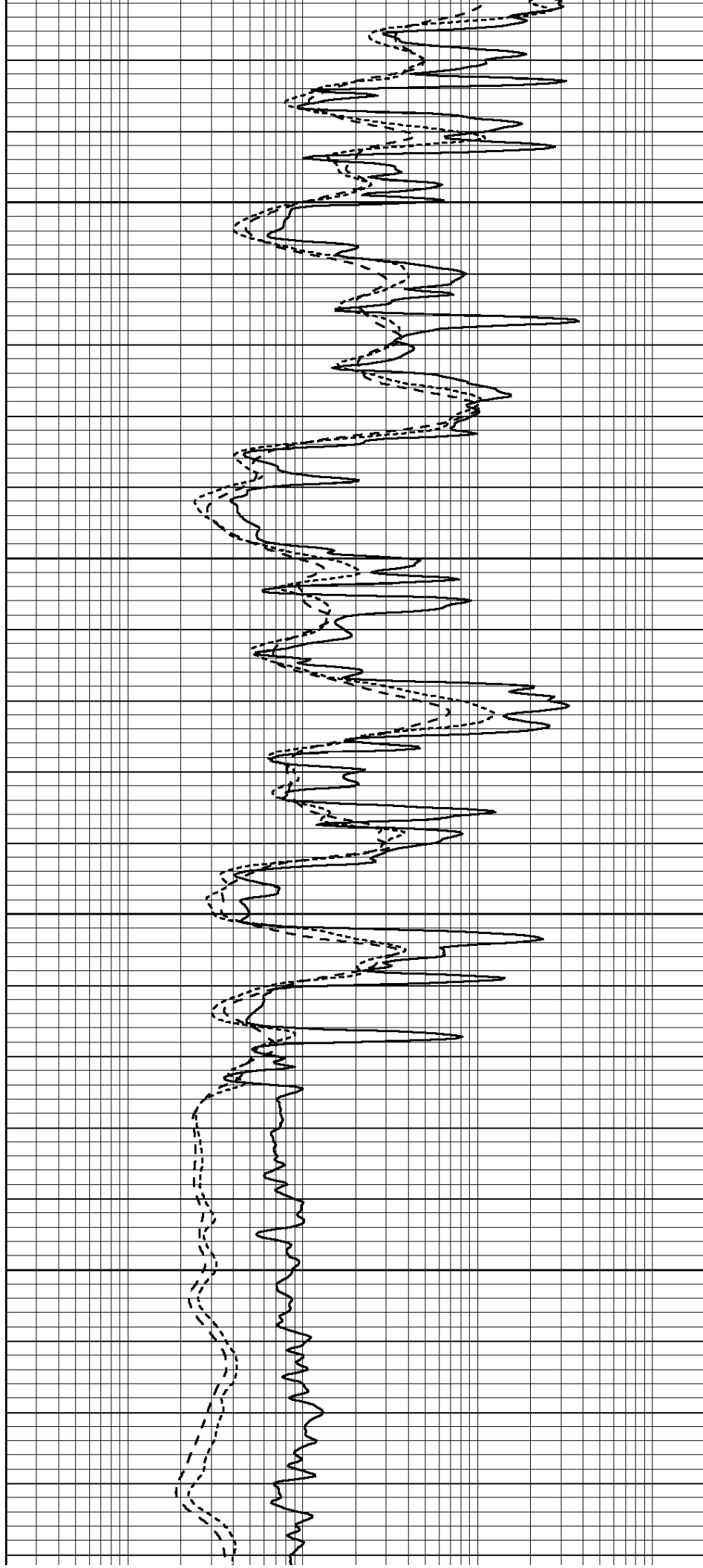


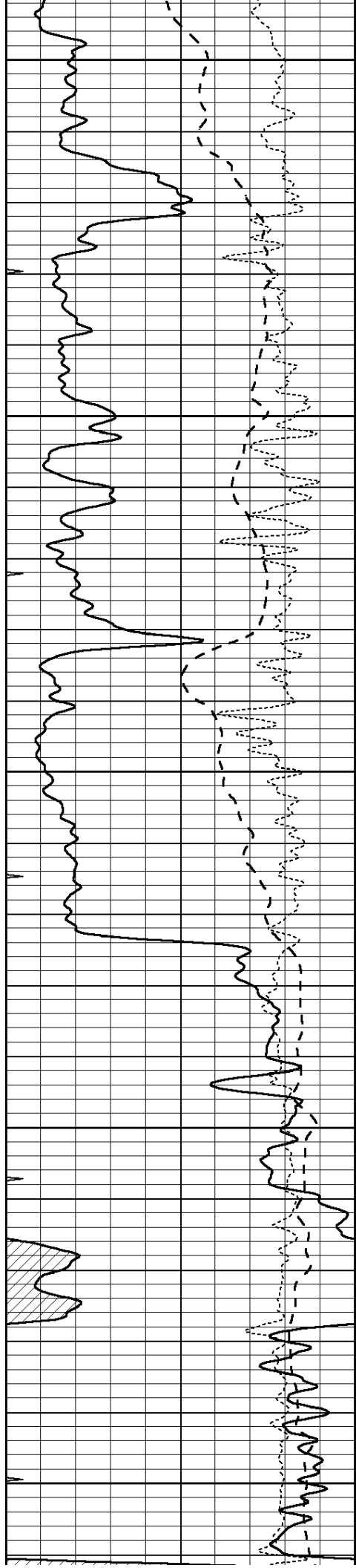
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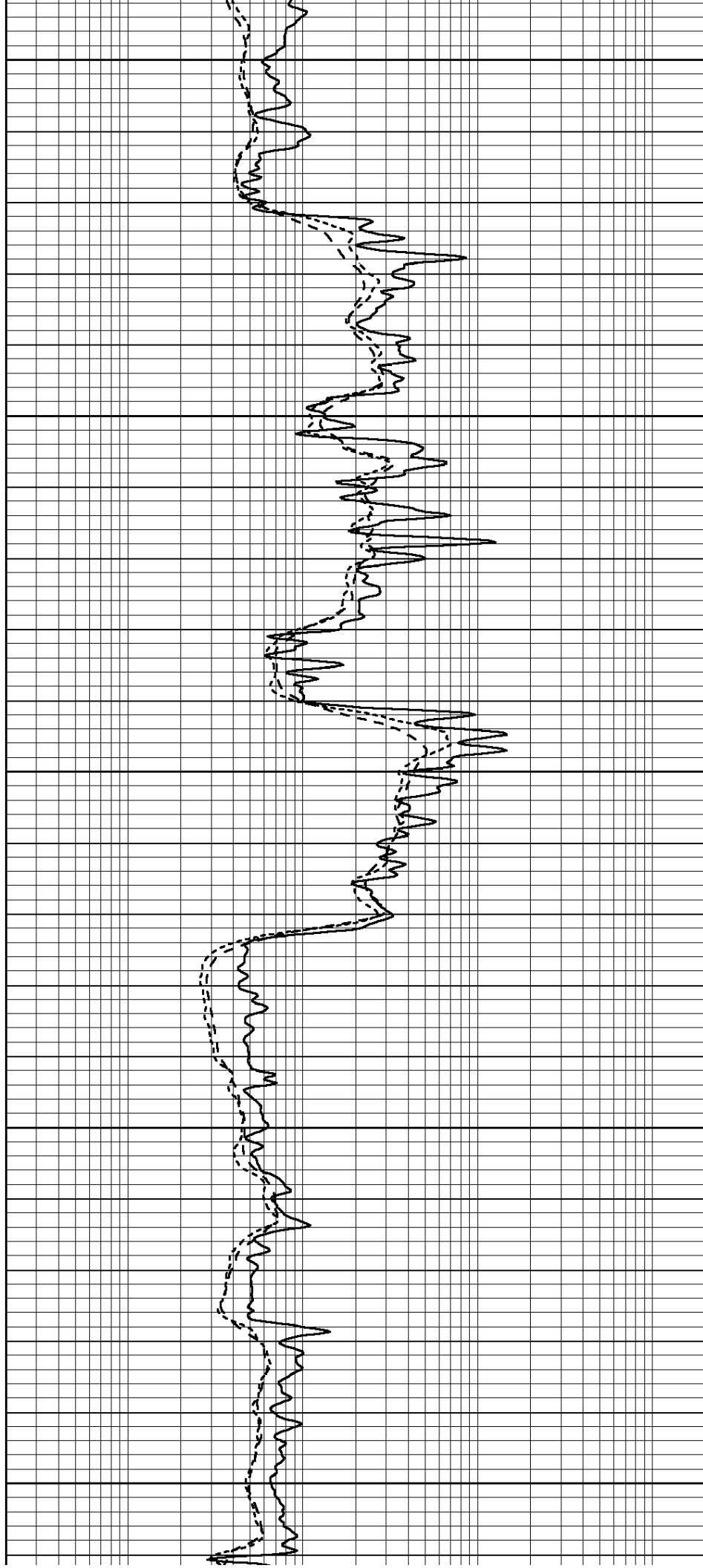
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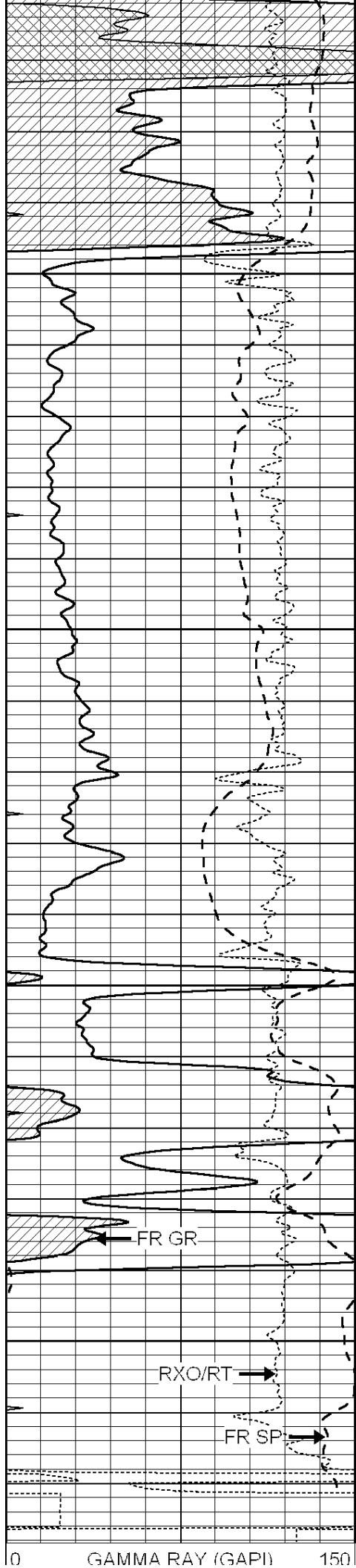
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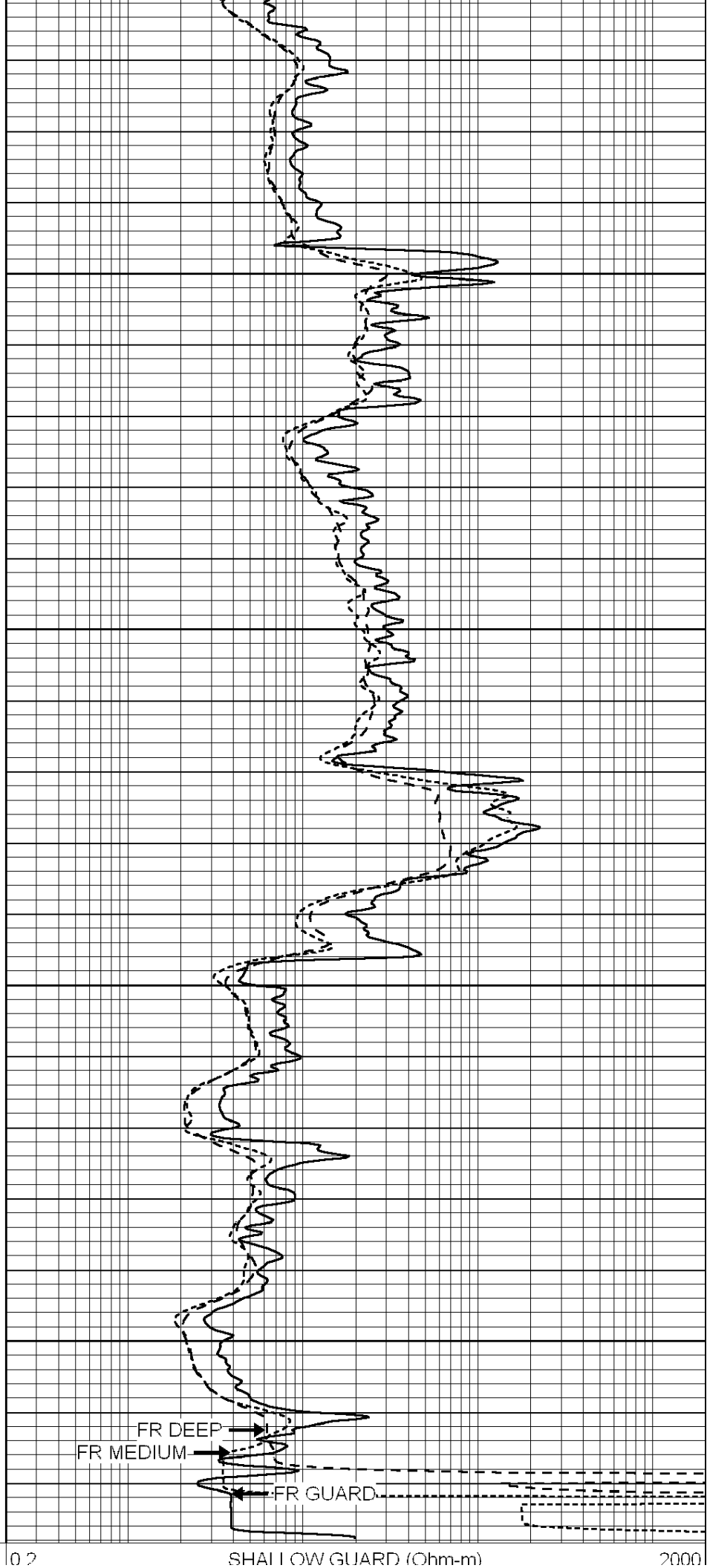
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4800

4850

LTD 4874

0 GAMMA RAY (GAPI) 150



0.2 SHALLOW GUARD (Ohm-m) 2000

-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



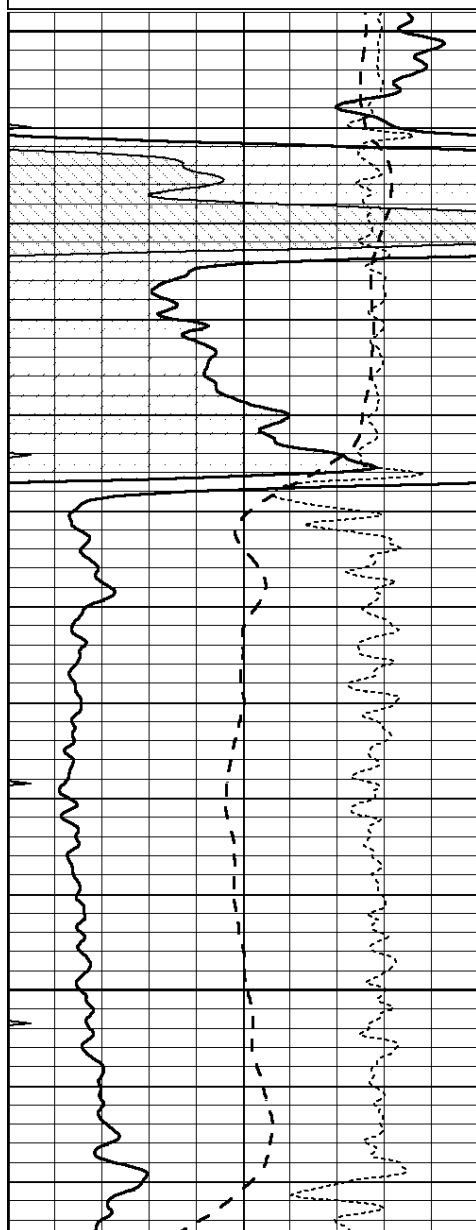
**COMPLETION
& PRODUCTION
SERVICES CO.**

REPEAT SECTION

Database File: 010906pe.db
Dataset Pathname: pass2.1
Presentation Format: _dil
Dataset Creation: Wed May 15 00:23:39 2013 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

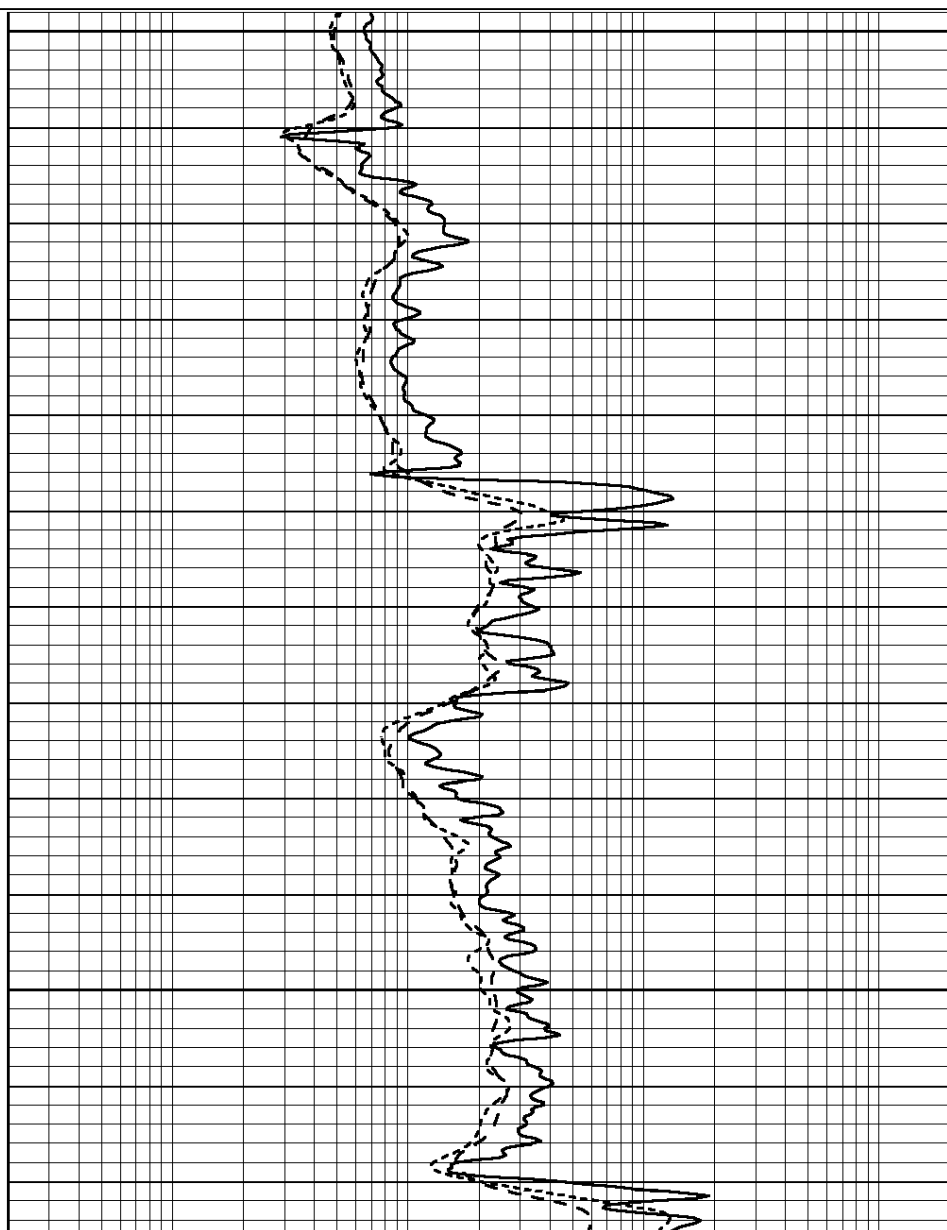
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

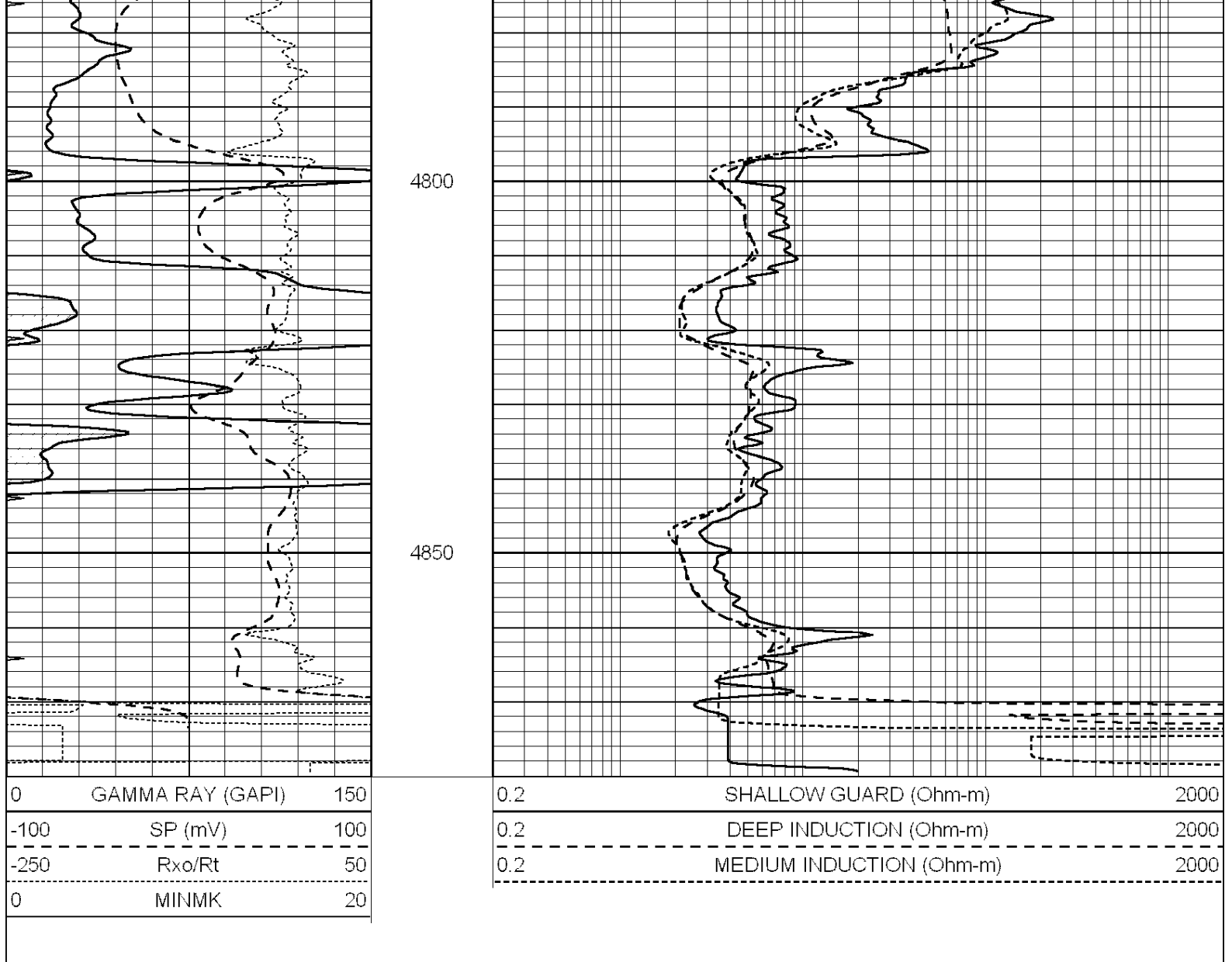


4650

4700

4750





Calibration Report									
Database File:	010906pe.db								
Dataset Pathname:	pass3.7								
Dataset Creation:	Wed May 15 00:20:04 2013 by Calc SOC 120430								
Dual Induction Calibration Report									
Serial-Model:				PROBE9-DILG					
Surface Cal Performed:				Tue May 14 21:11:23 2013					
Downhole Cal Performed:				Mon Jul 28 12:02:56 2008					
After Survey Verification Performed:				Mon Jul 28 12:02:56 2008					
Surface Calibration									
		Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b	
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	621.923	-16.000	
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-20.000	
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256	
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102	
Downhole Calibration									
		Readings			References			Results	

Readings			References			Results		
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	mmho-m		

After Survey Verification								
Readings			Targets			Results		
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Litho Density Calibration Report								
Serial: 006 Model: PRB								

Master Calibration					Performed Sun Aug 15 09:48:41 2010			
	Background	Magnesium	Aluminum	Sandstone				
Window 1	1686.6	11612.8	3932.0	12718.8				cps
Window 2	1531.4	9204.7	3267.8	9851.9				cps
Window 3	1198.3	4733.6	1952.5	4920.6				cps
Window 4	317.3	321.2	325.9	303.6				cps
Long Space	0.0	7673.3	1736.4	8320.4				cps
Short Space	1.7	2548.5	1657.2	2628.8				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 43.8	Rib Slope	: 0.961	Density/Spine Ratio			: 0.569	
Spine Angle	: 73.8	Spine Slope	: 3.453	Spine Intercept			: -18.1	

Before Survey Verification					Performed Wed Dec 31 18:00:00 1969			
Window 1	0.0	0.0	0.0	0.0				cps
Window 2	0.0	0.0	0.0	0.0				cps
Window 3	0.0	0.0	0.0	0.0				cps
Window 4	0.0	0.0	0.0	0.0				cps
Long Space	0.0	0.0	0.0	0.0				cps
Short Space	0.0	0.0	0.0	0.0				cps
Measured Rho		0.0000	0.0000	0.0000				g/cc
Measured Correction		0.0000	0.0000	0.0000				g/cc
Measured Pe			0.0000	0.0000				

After Survey Verification					Performed Wed Dec 31 18:00:00 1969			
Window 1	0.0	0.0	0.0	0.0				cps
Window 2	0.0	0.0	0.0	0.0				cps
Window 3	0.0	0.0	0.0	0.0				cps
Window 4	0.0	0.0	0.0	0.0				cps
Long Space	0.0	0.0	0.0	0.0				cps
Short Space	0.0	0.0	0.0	0.0				cps
Measured Rho		0.0000	0.0000	0.0000				g/cc
Measured Correction		0.0000	0.0000	0.0000				g/cc
Measured Pe			0.0000	0.0000				

Compensated Neutron Calibration Report			
Serial Number:		070808	
Tool Model:		Probe	
PRE-SURVEY VERIFICATION			
Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu
POST-SURVEY VERIFICATION			
Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu
Gamma Ray Calibration Report			
Serial Number:	070559		
Tool Model:	OPEN_GR		
Performed:	Mon Apr 15 10:30:52 2013		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3500	GAPI/cps	