



SUPERIOR
Hays,
Kansas

DUAL
INDUCTION
LOG

Company		WOOLSEY OPERATING COMPANY, LLC.	
Well	SWARTZ A #3		
Field	KOCHIA		
County	BARBER	State	KANSAS
Location:		API # : 15-007-23903-0000	Other Services CDL/CNL PE
Permanent Datum		GROUND LEVEL	Elevation 1423
Log Measured From		KELLY BUSHING 10' A.G.L.	
Drilling Measured From		KELLY BUSHING	Elevation K.B. 1433 D.F. 1431 G.L. 1423
SEC 1 TWP 34S RGE 11W			
Date	7/14/12		
Run Number	ONE		
Depth Driller	5135		
Depth Logger	5134		
Bottom Logged Interval	5132		
Top Log Interval	0		
Casing Driller	10 3/4" @ 216		
Casing Logger	215		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3,500 PPM	
Density / Viscosity	8.9/49		
pH / Fluid Loss	9.5/9.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.70@90F		
Rmt @ Meas. Temp	0.53@90F		
Rmc @ Meas. Temp	0.84@90F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	0.50@126F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	126F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONEWEG		
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 SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395
DIRECTIONS
MEDICINE LODGE, KS - 9 MILES SOUTH TO GERLANE RD
7 1/2 MILES EAST - SOUTH AND EAST INTO AT TANK BATTERY

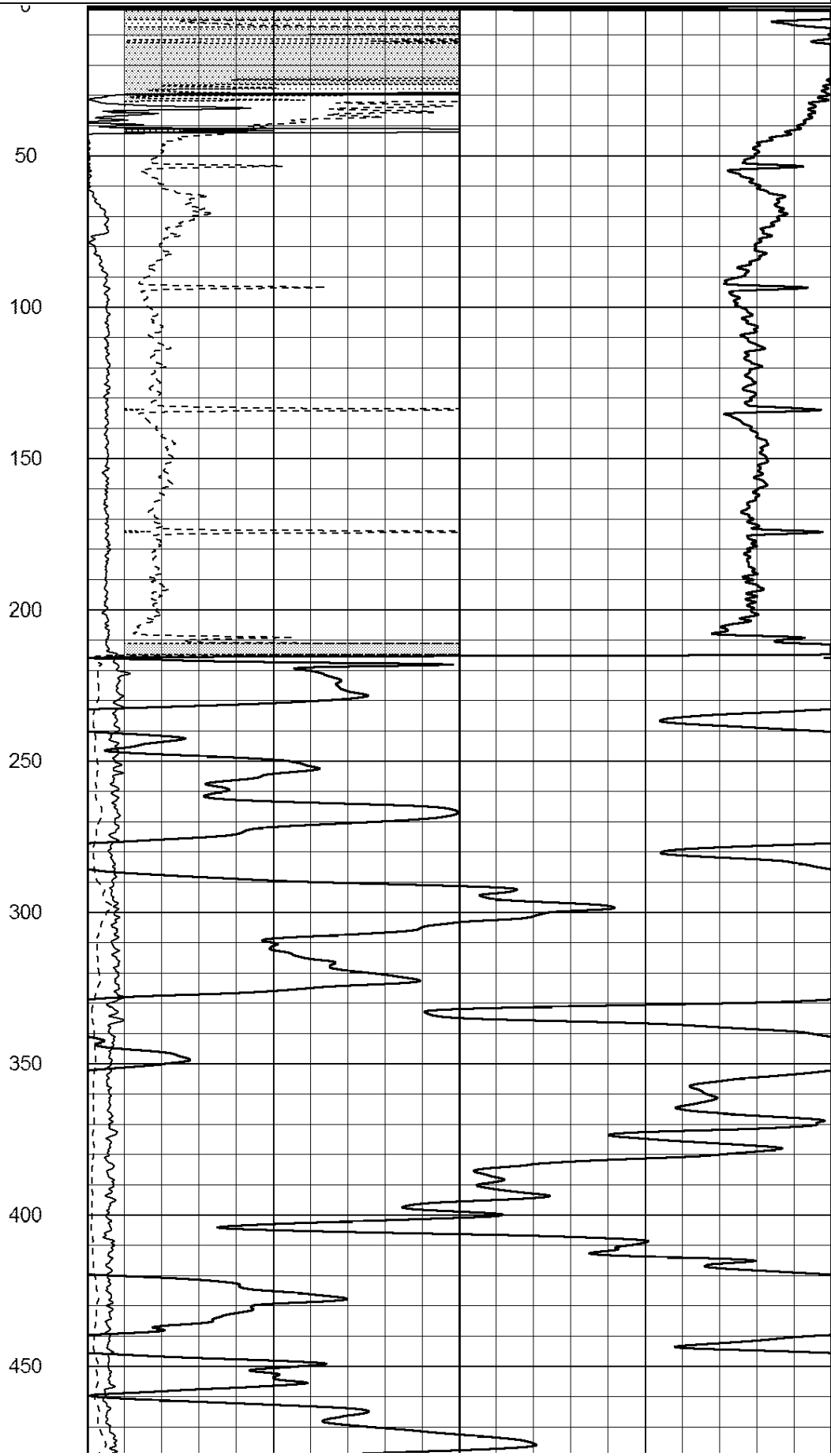
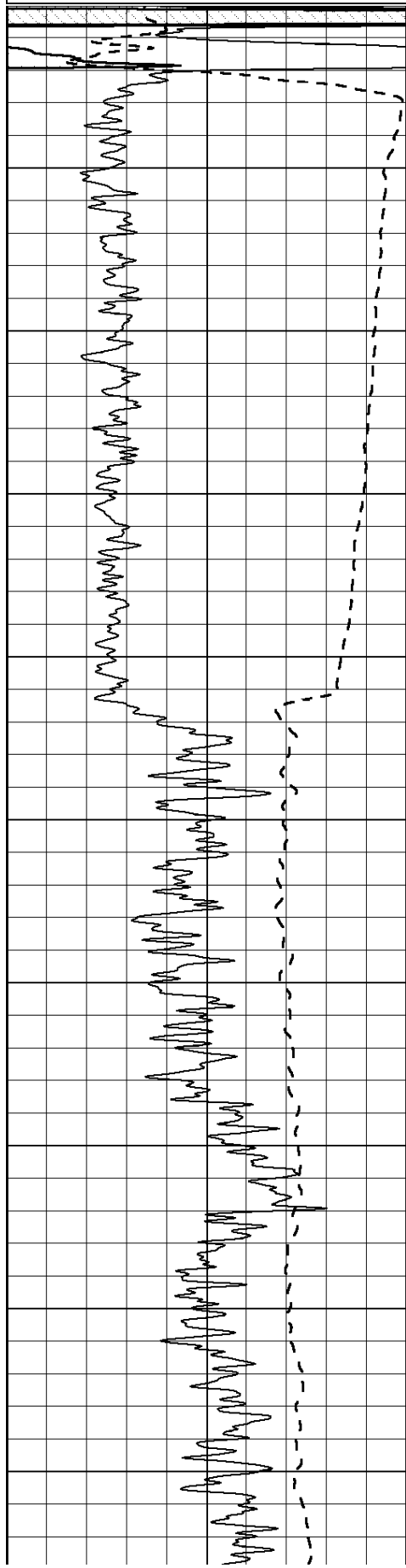
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Dataset Pathname: pass3.5
Presentation Format: _dil2
Dataset Creation: Sat Jul 14 09:10:00 2012 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

0	RLL3 (Ohm-m)	50		
0	RILD (Ohm-m)	50		

1000	CILD (mmho/m)			0
50	RILD X10 (Ohm-m)	500		

50	RLL3 X10 (Ohm-m)	500		



500

550

600

650

700

750

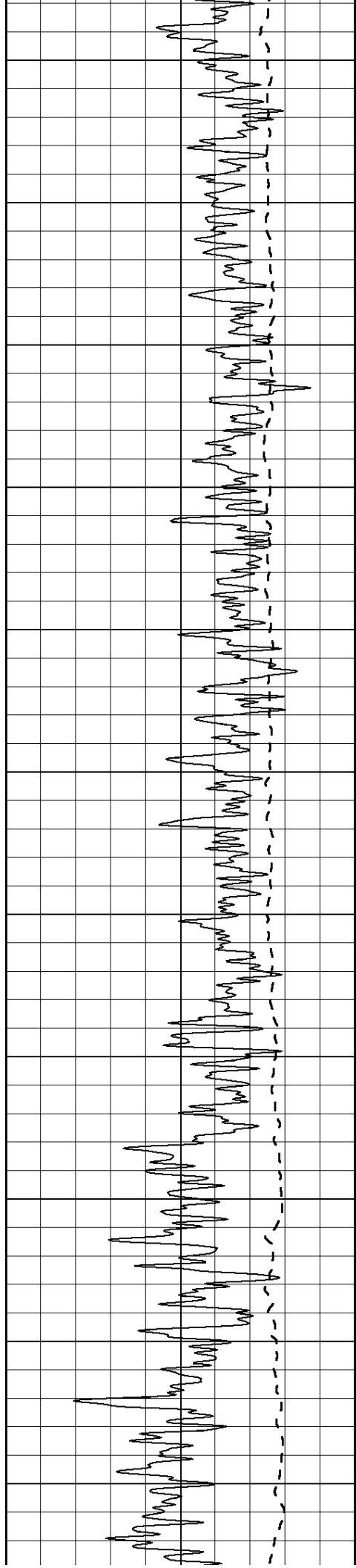
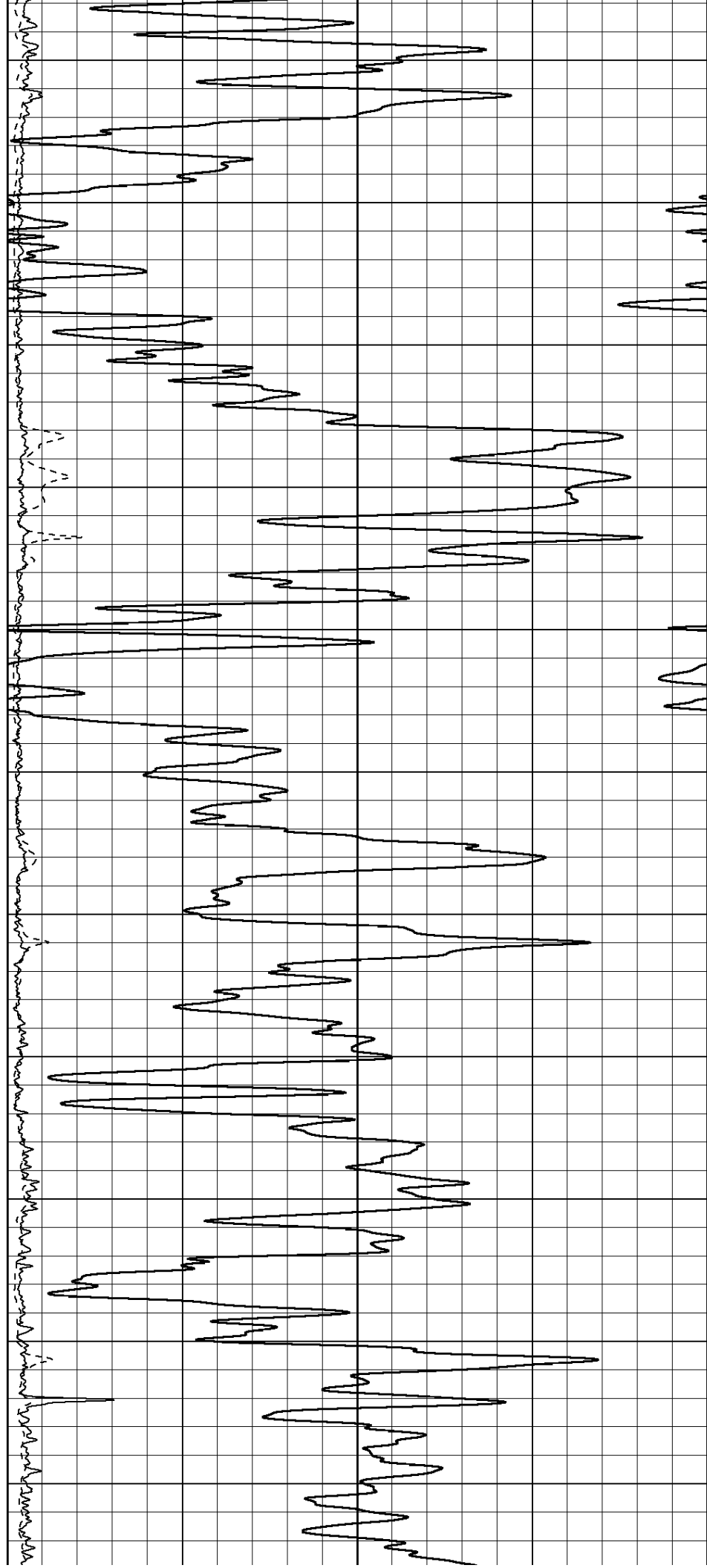
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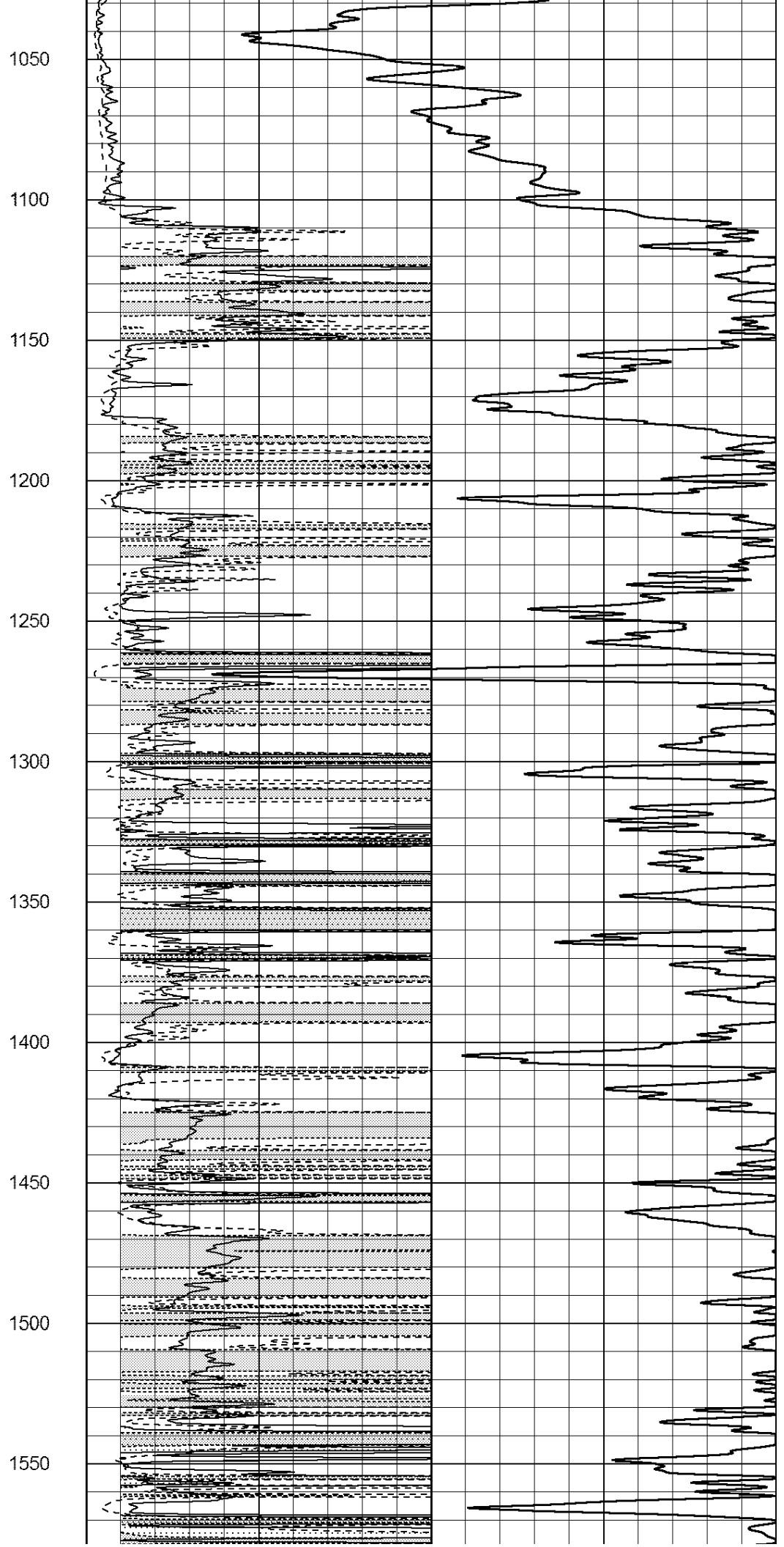
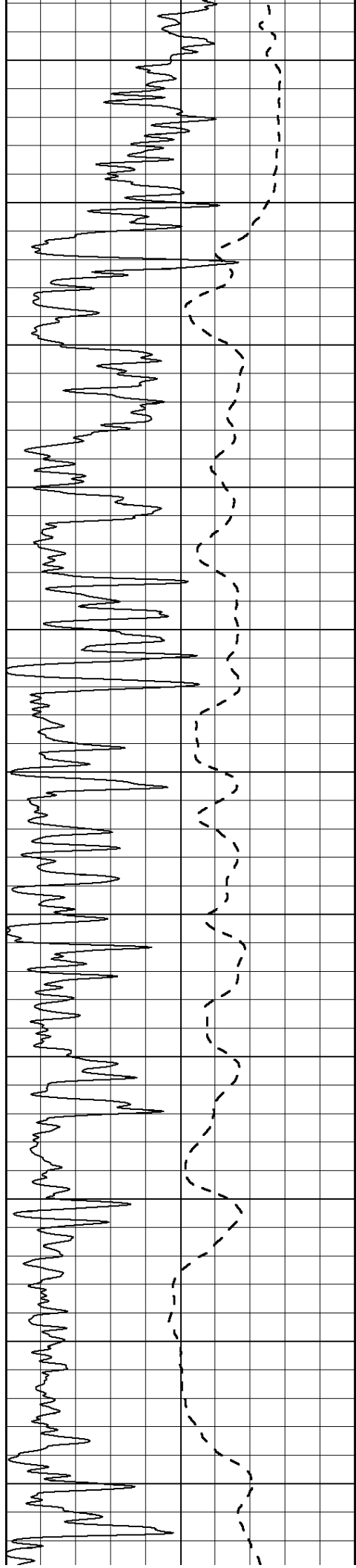
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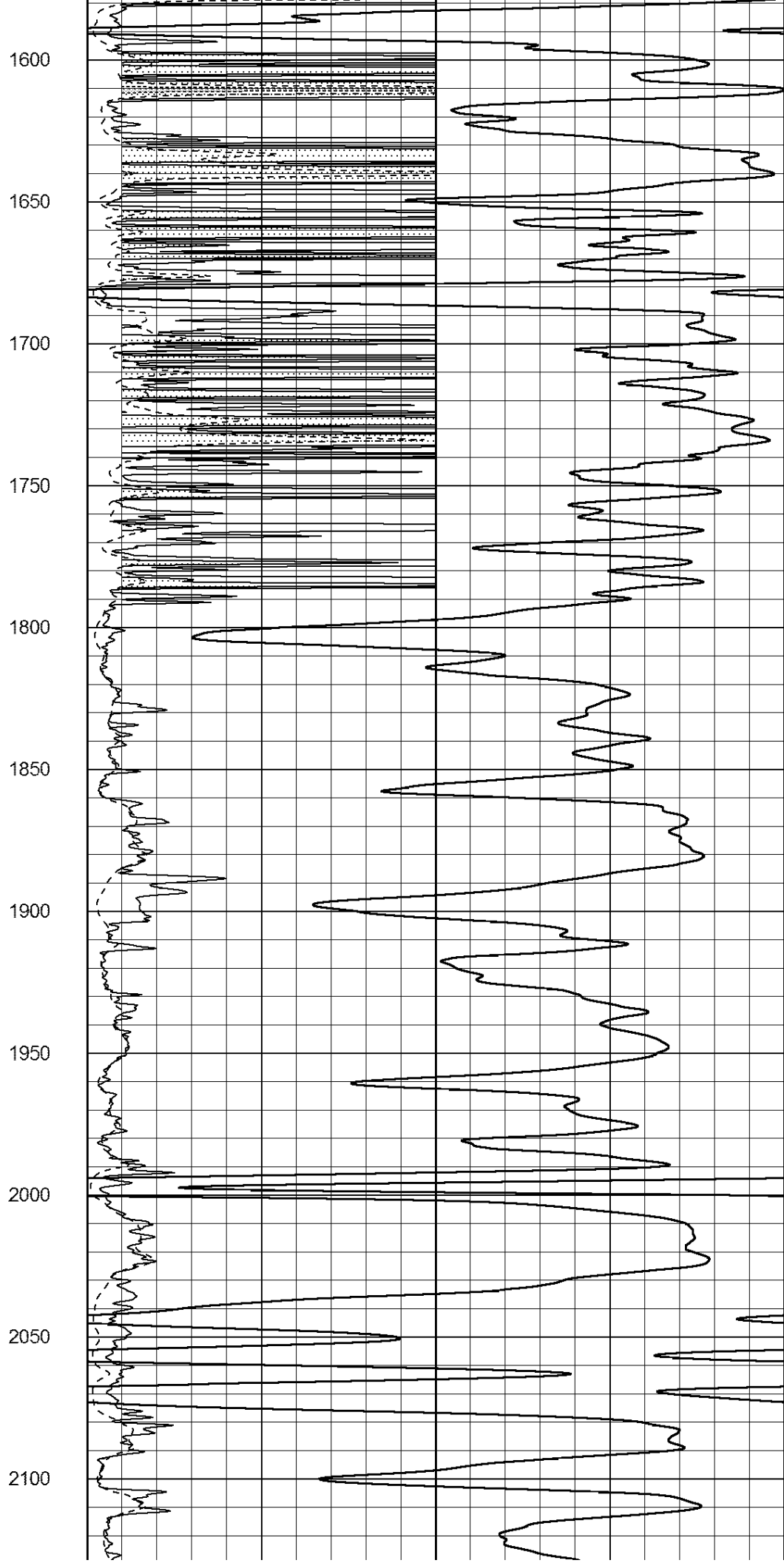
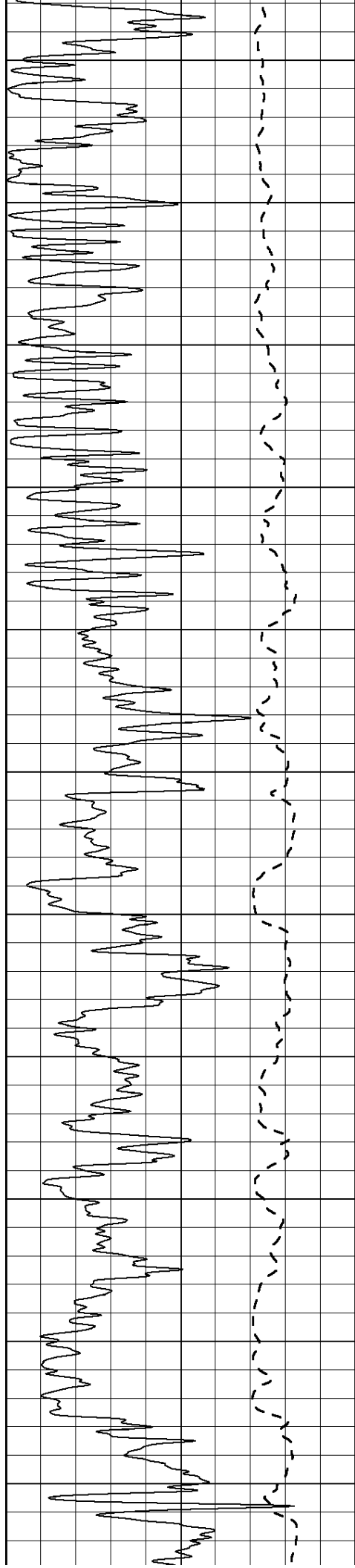
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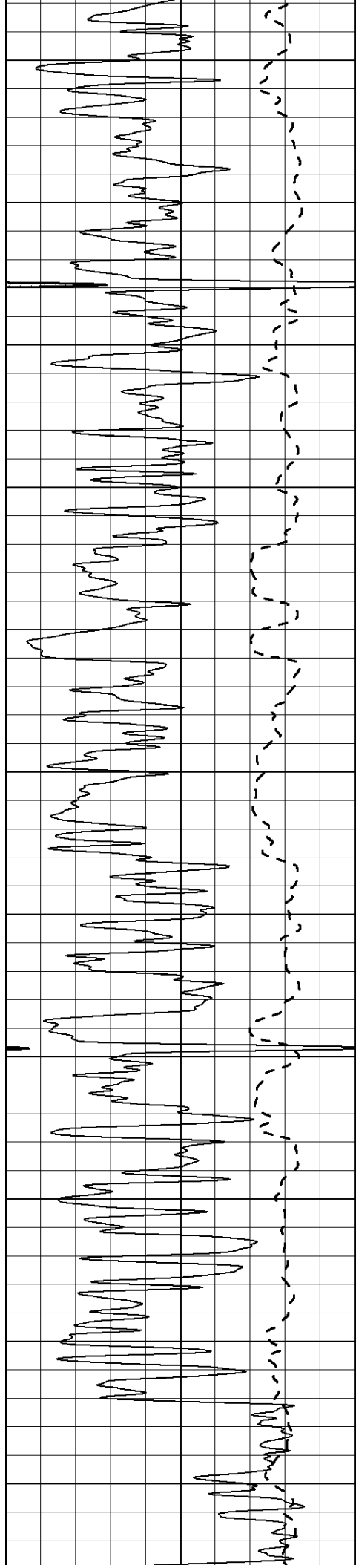
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1000









2150

2200

2250

2300

2350

2400

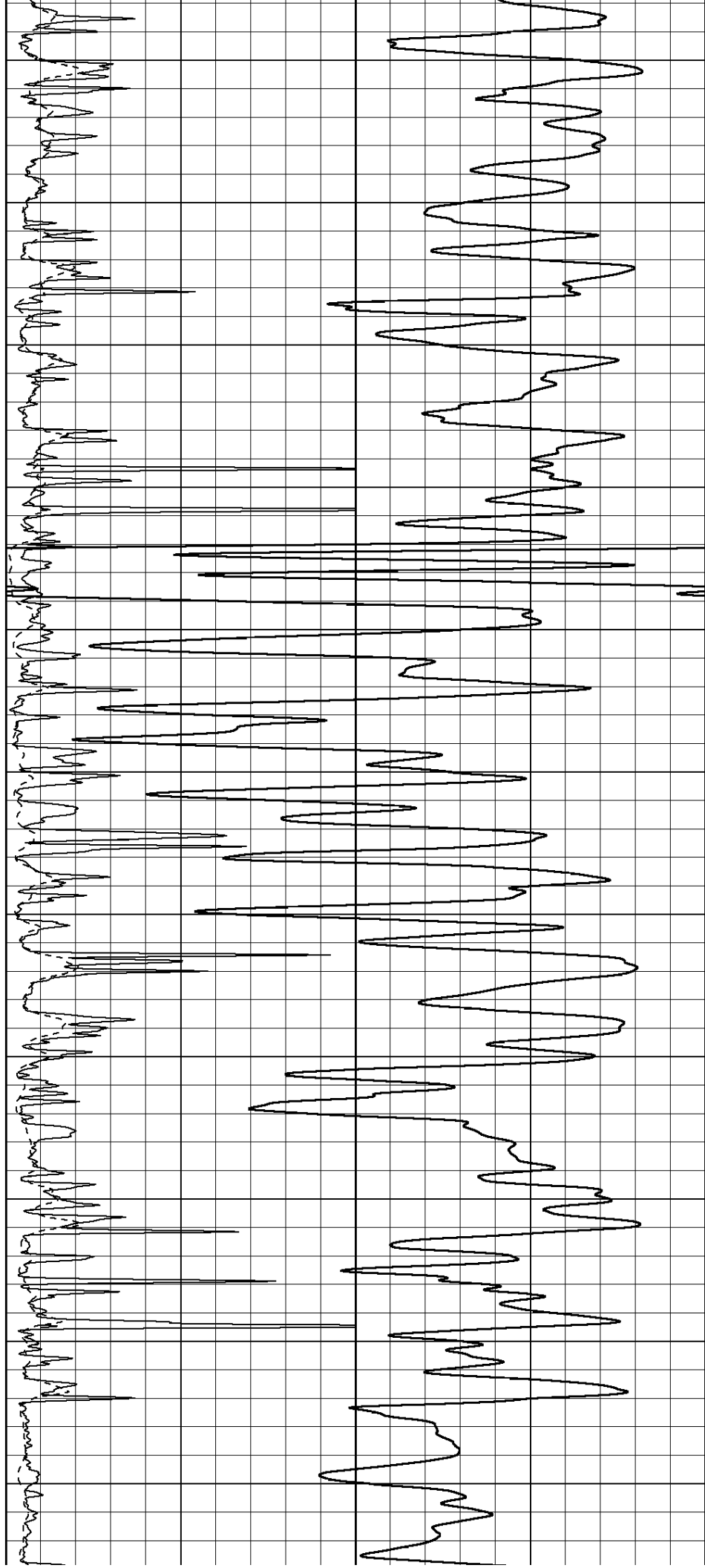
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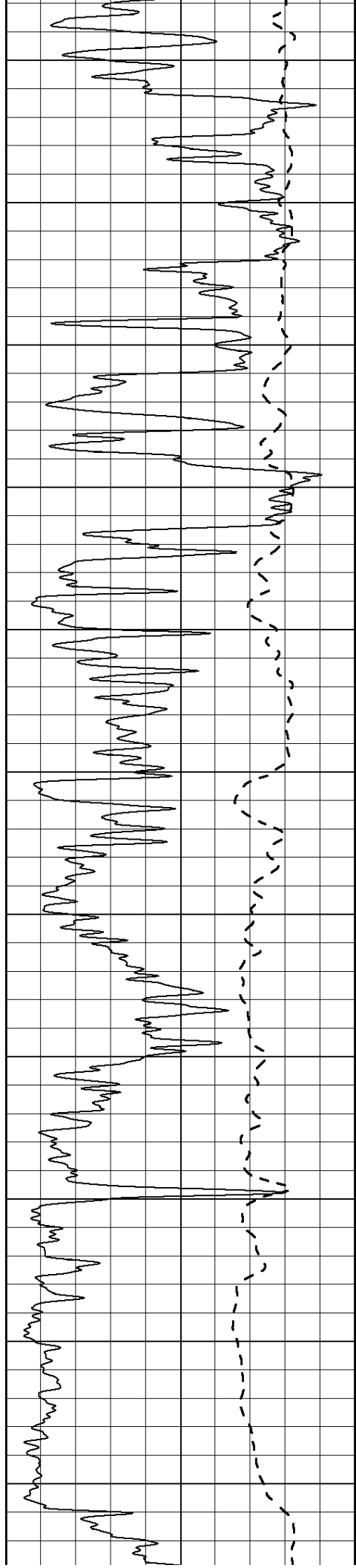
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2550

2600

2650





2700

2750

2800

2850

2900

2950

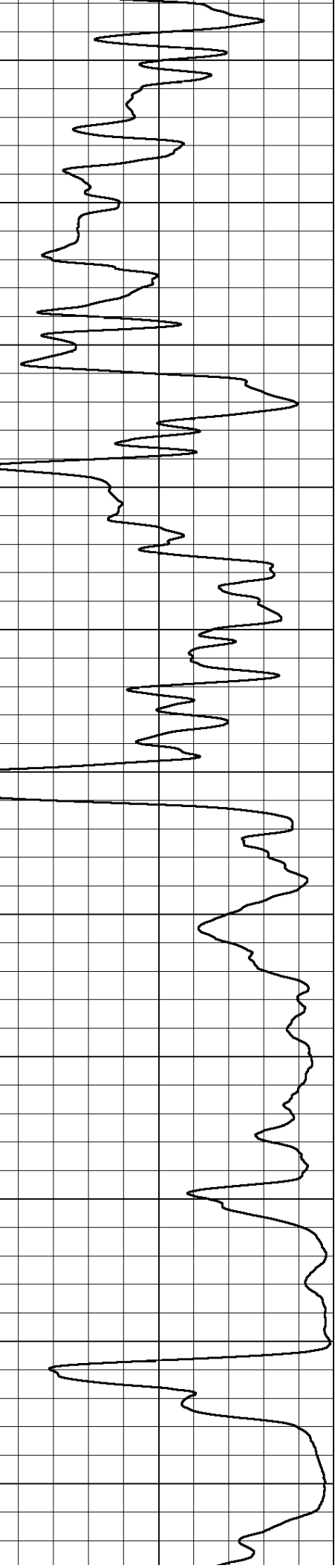
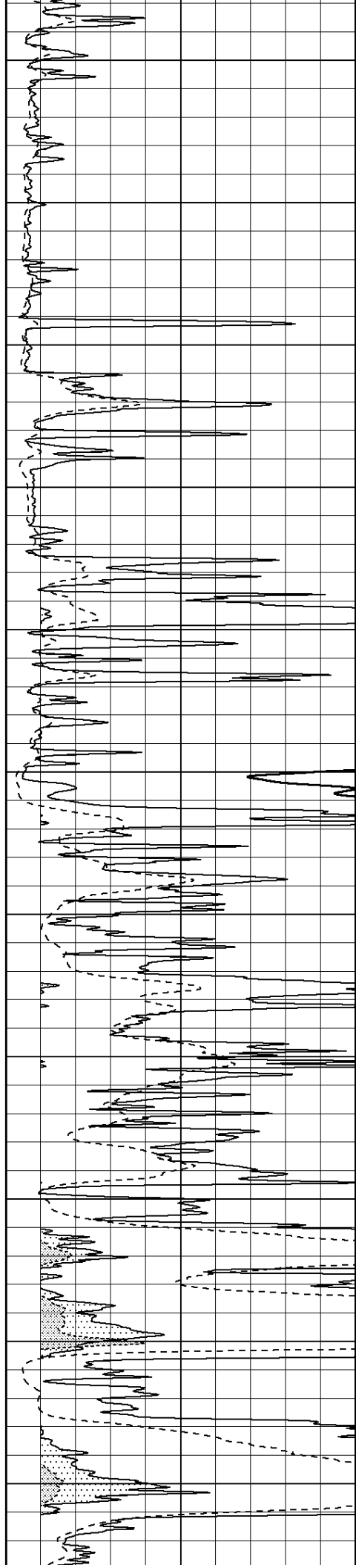
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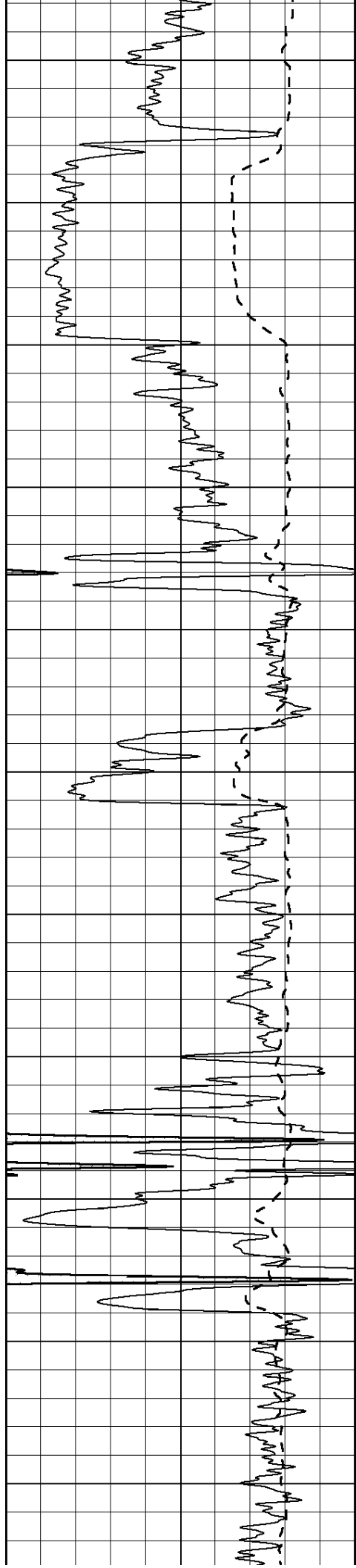
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3250

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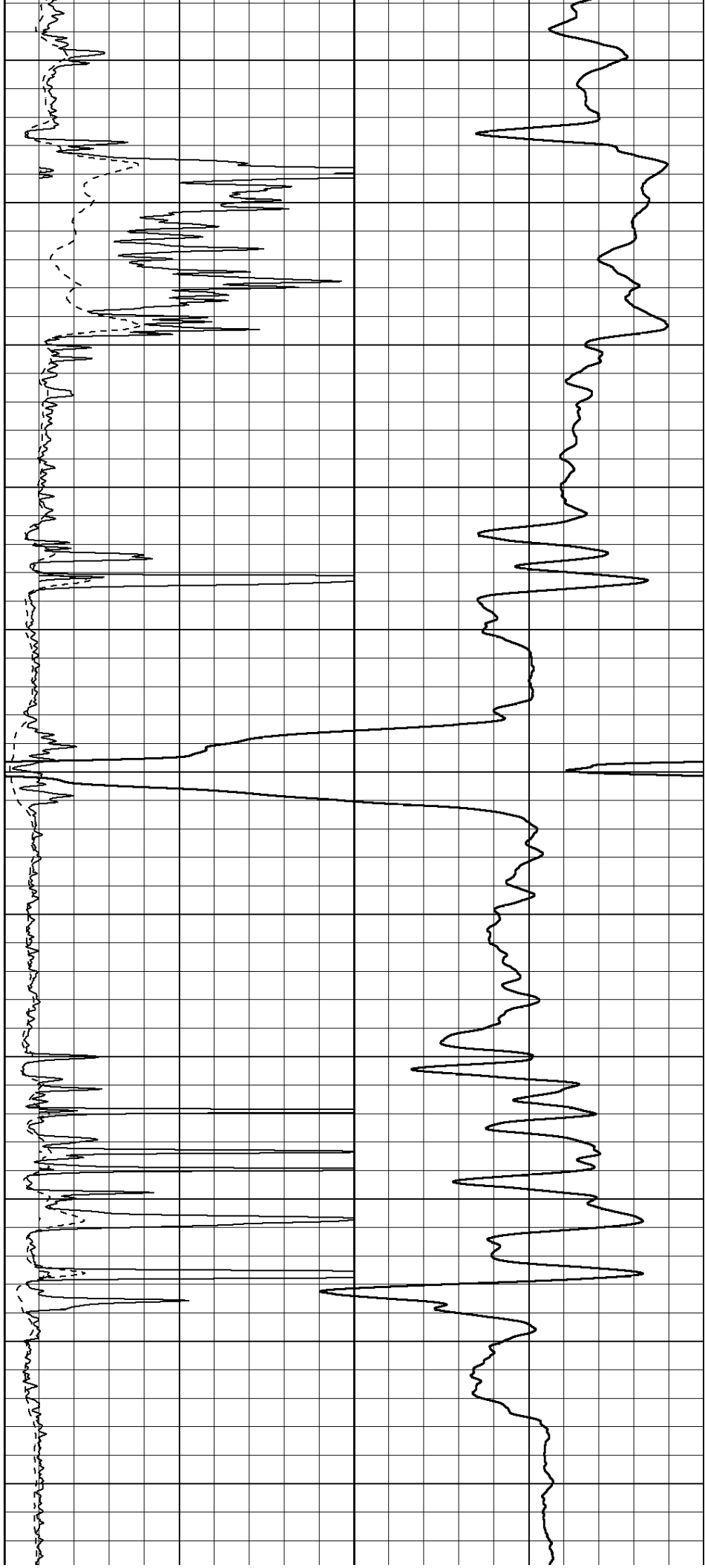
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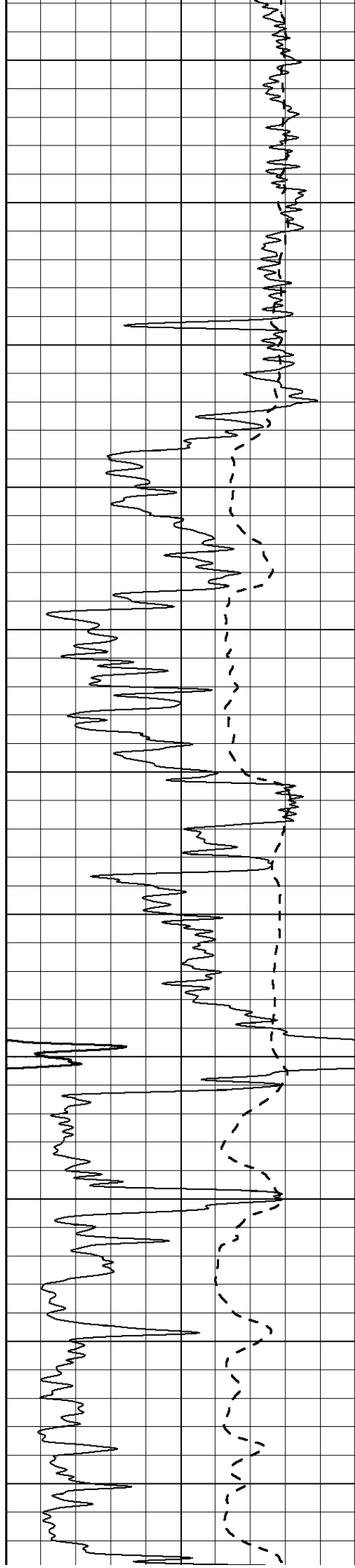
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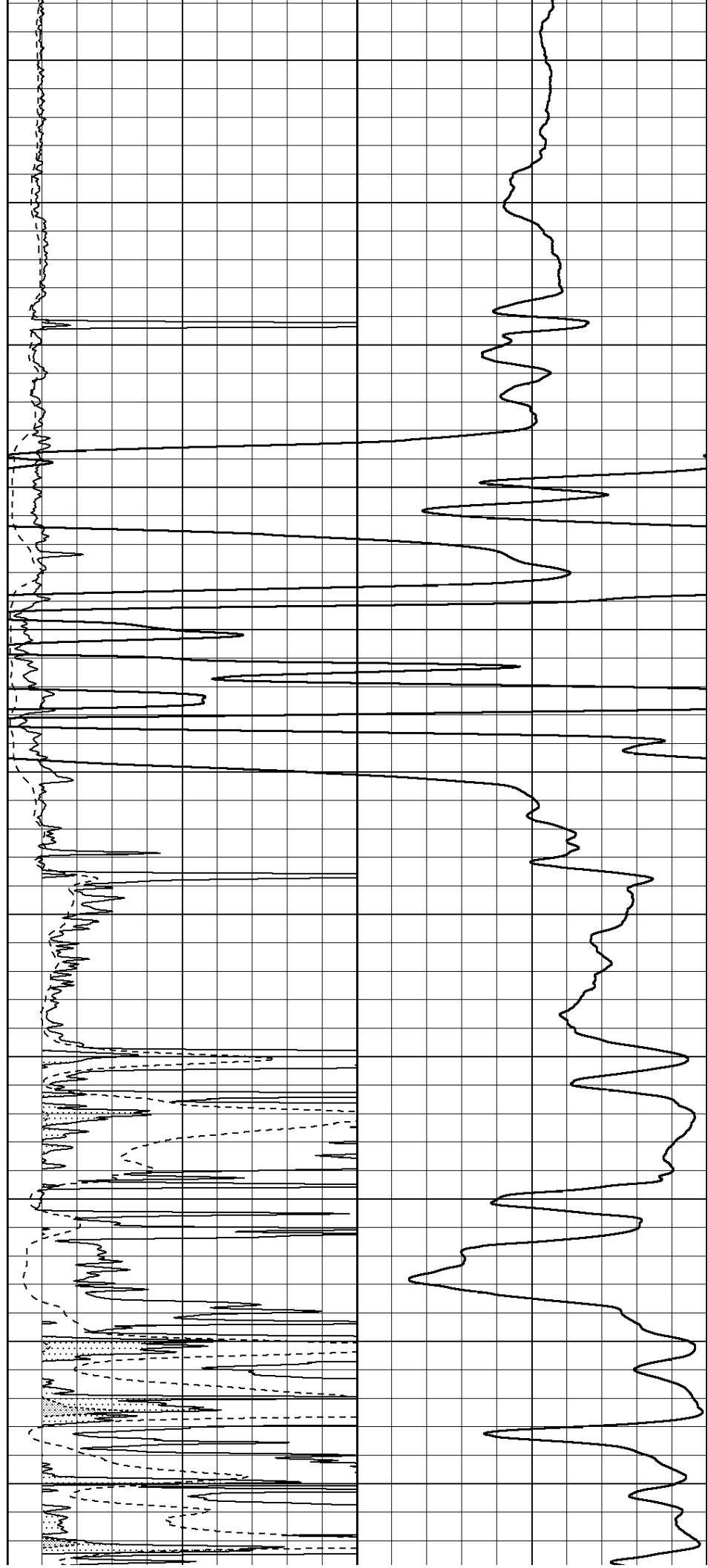
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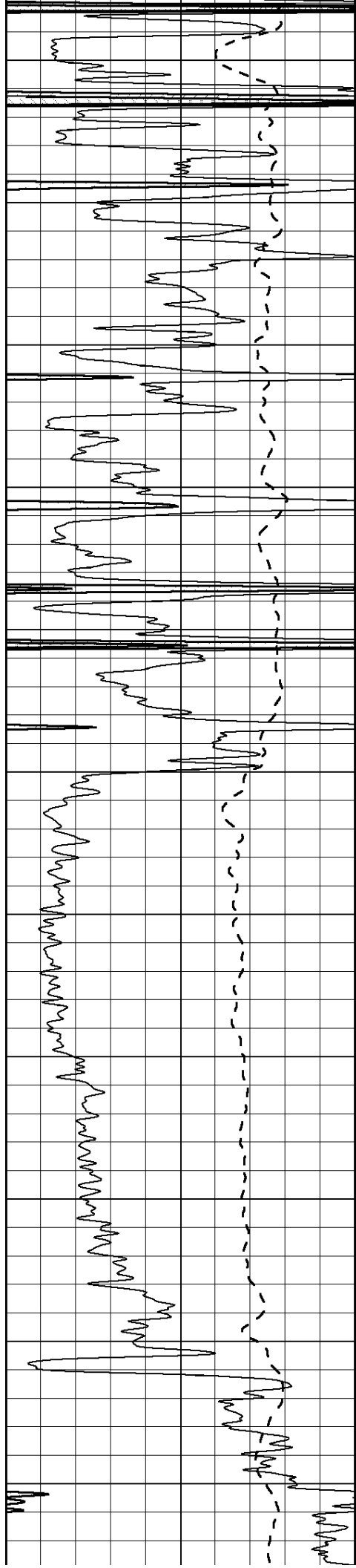
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4500

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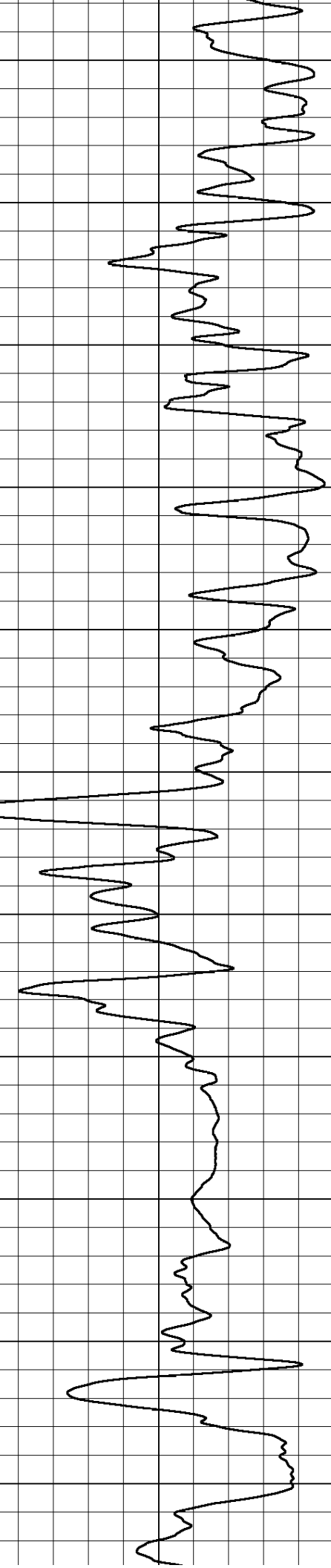
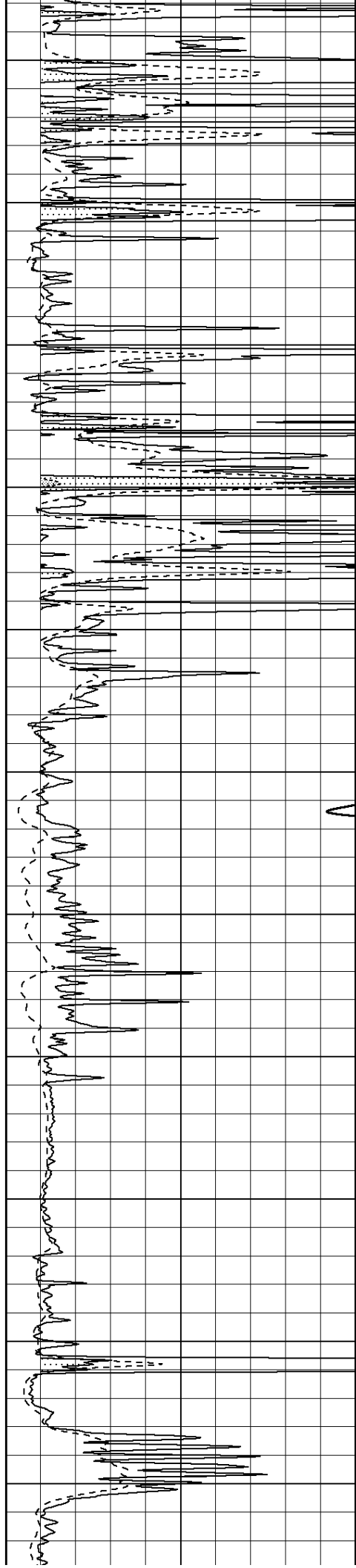
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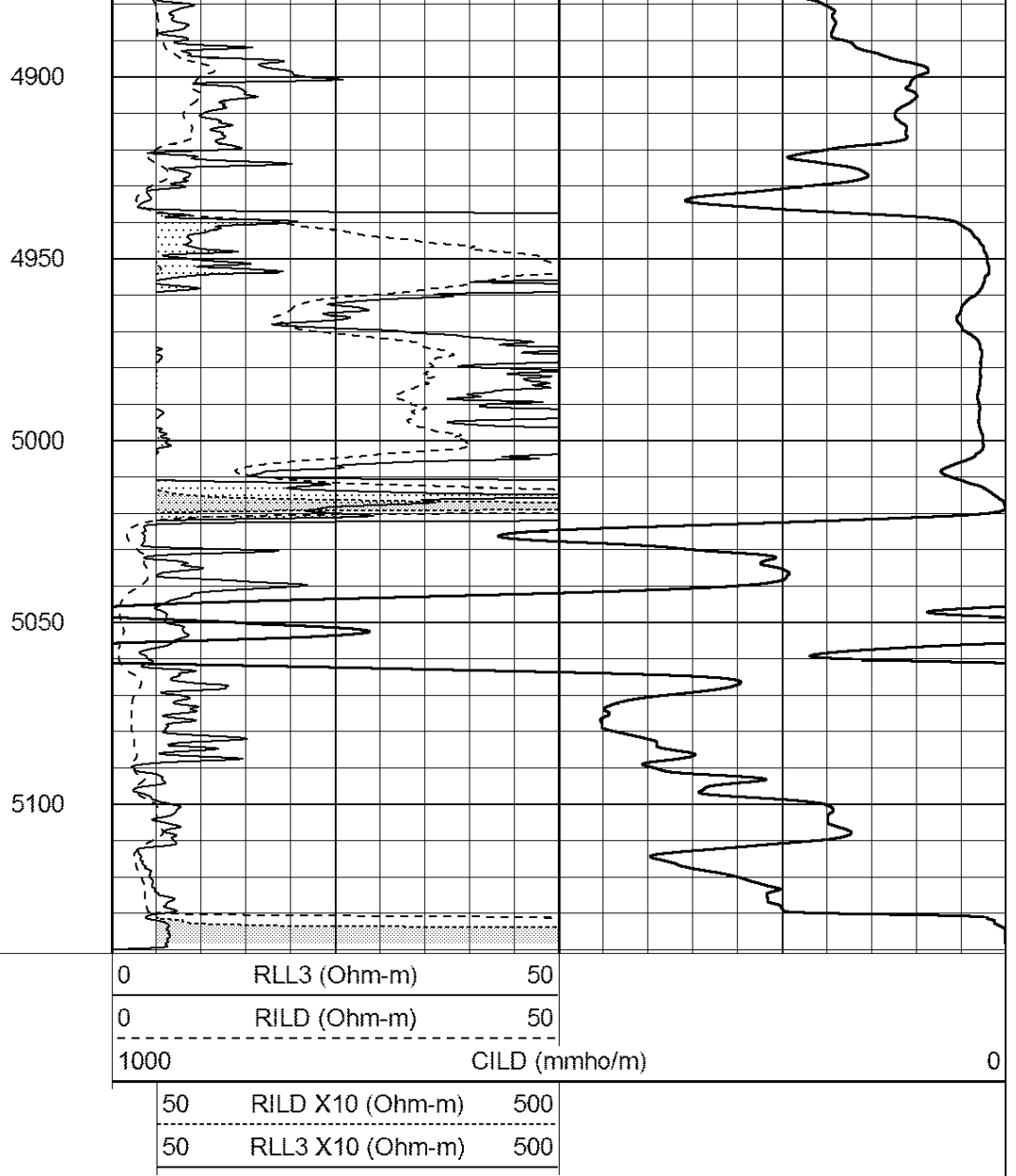
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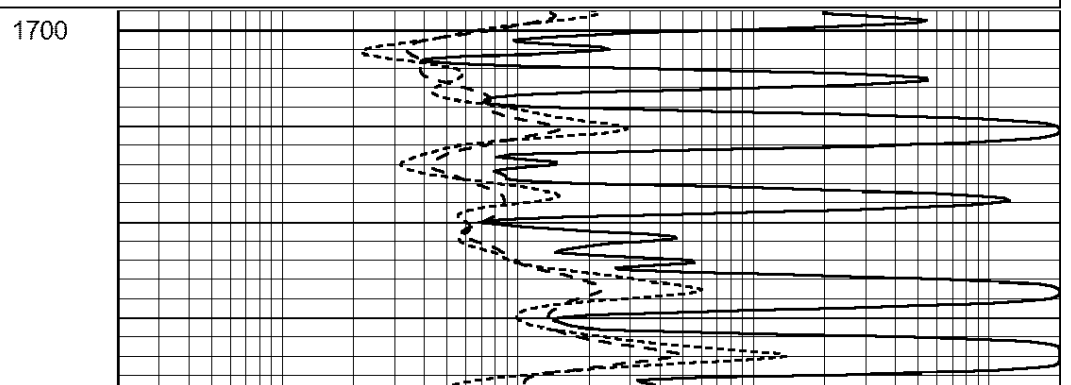
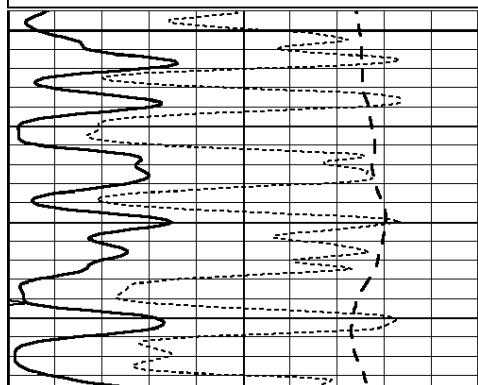
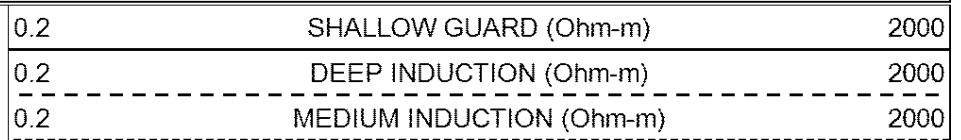
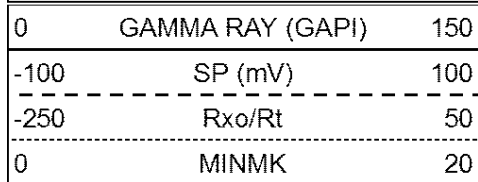
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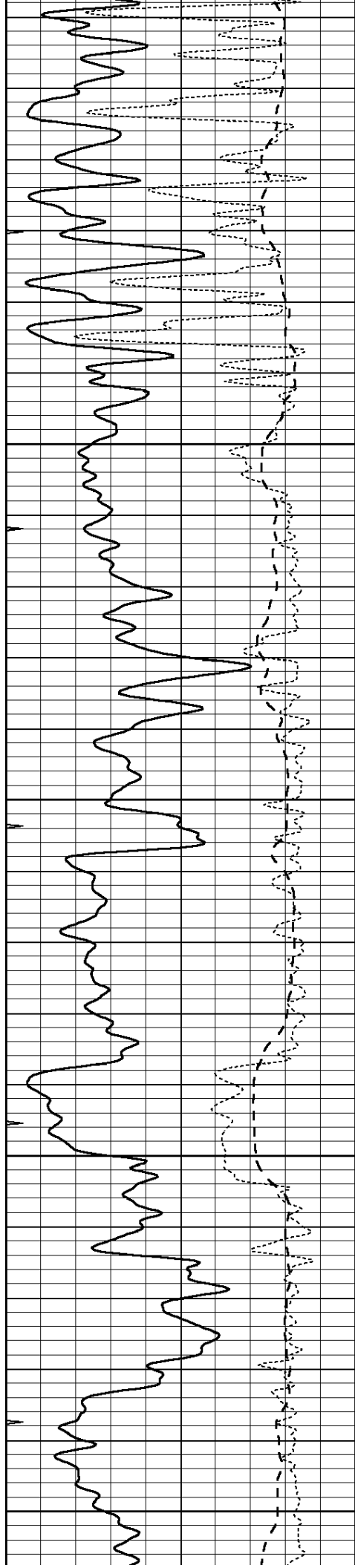
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 Presentation Format: _dil
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 Charted by: Depth in Feet scaled 1:240





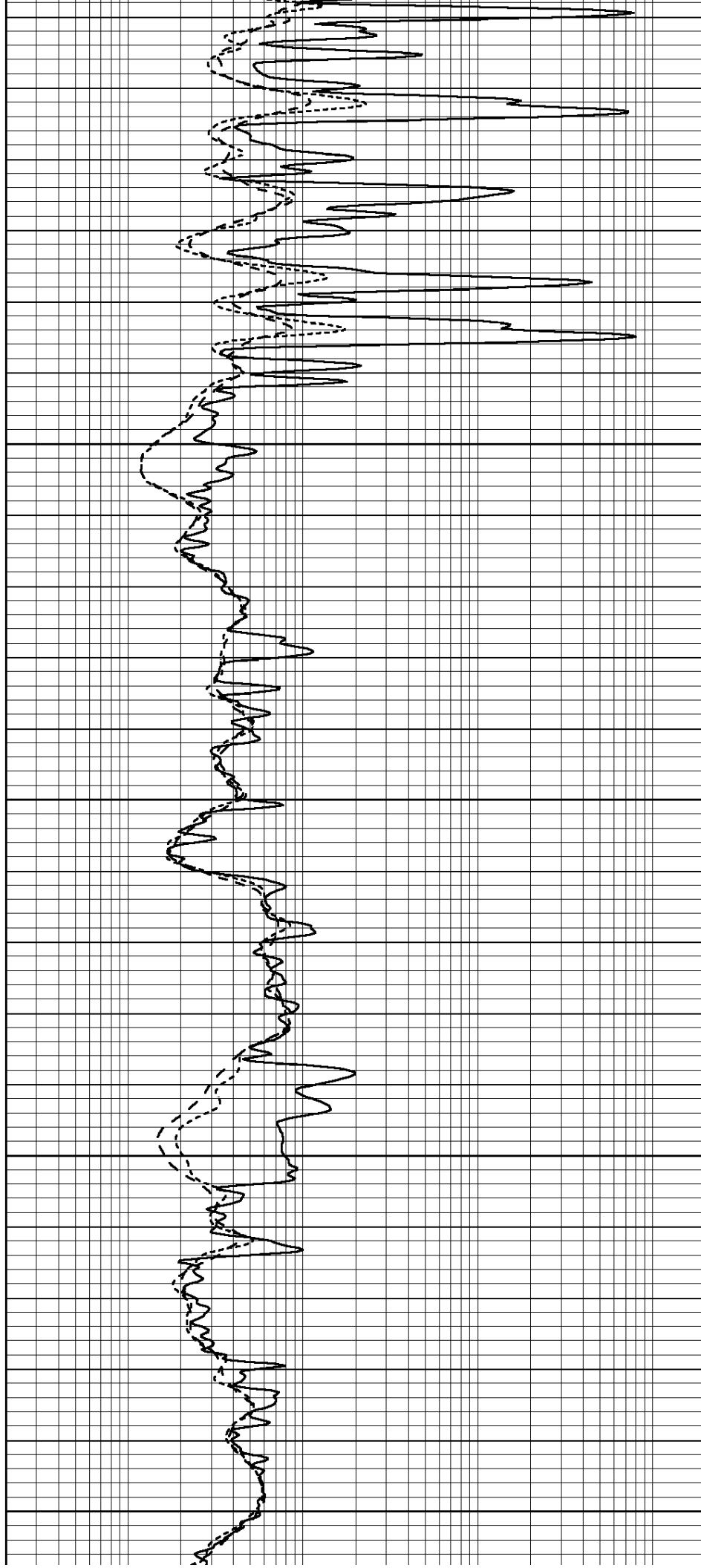
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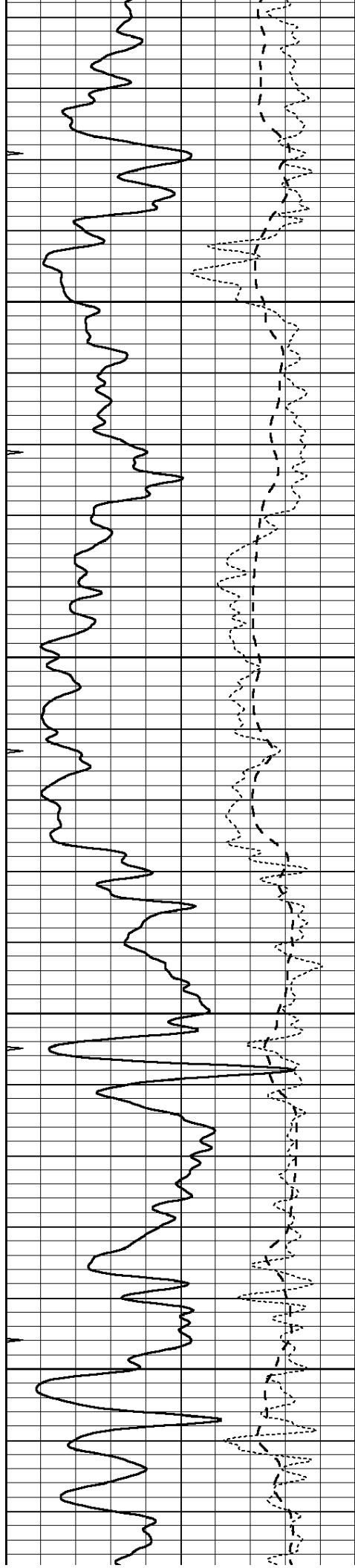
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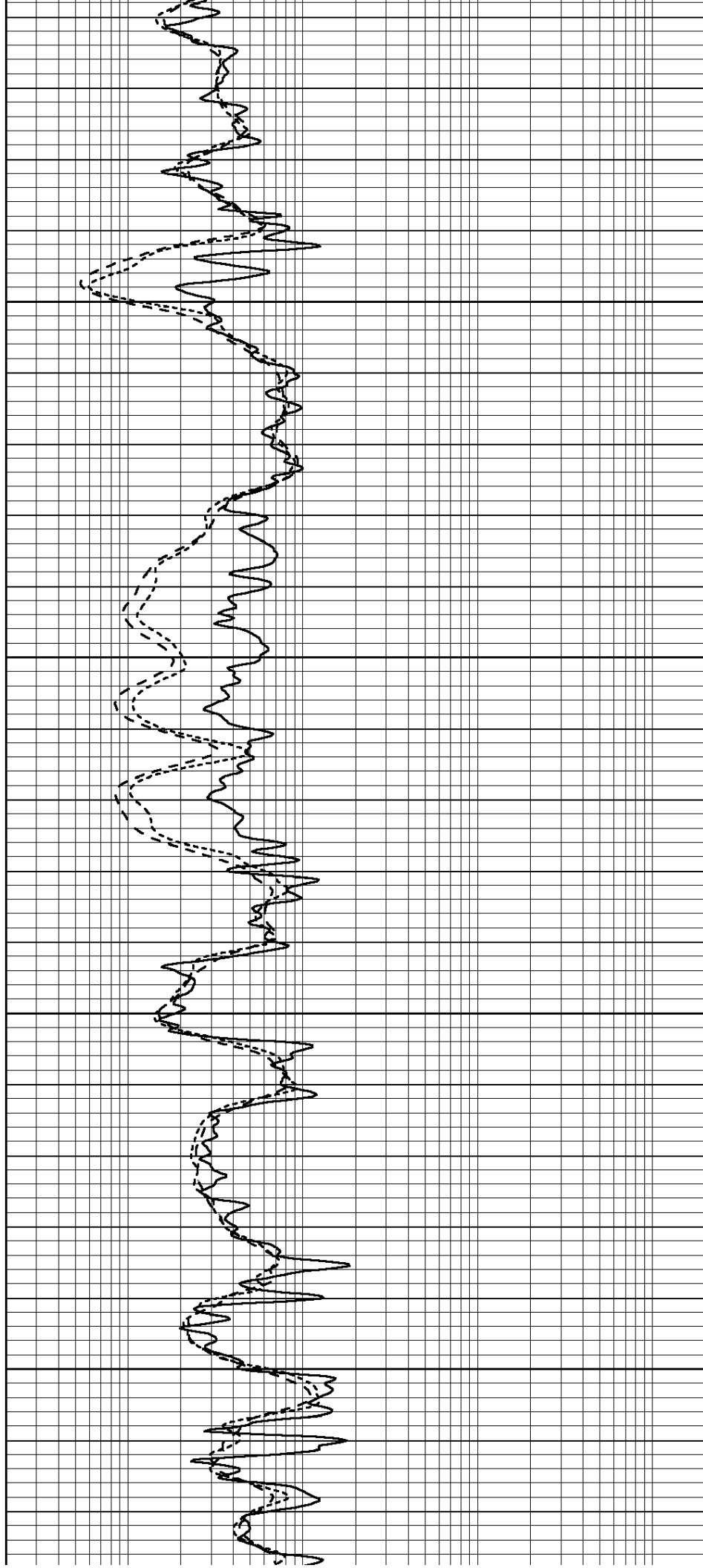


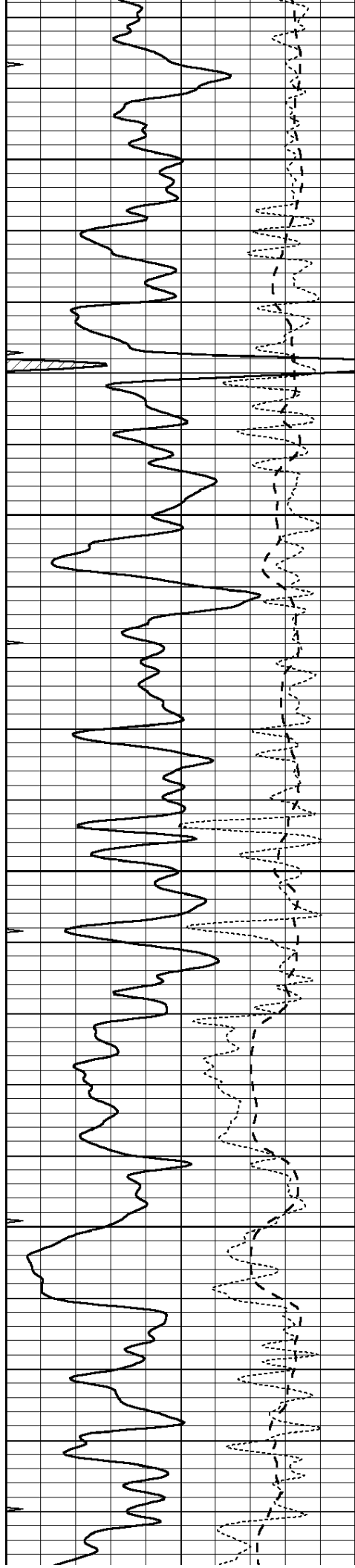
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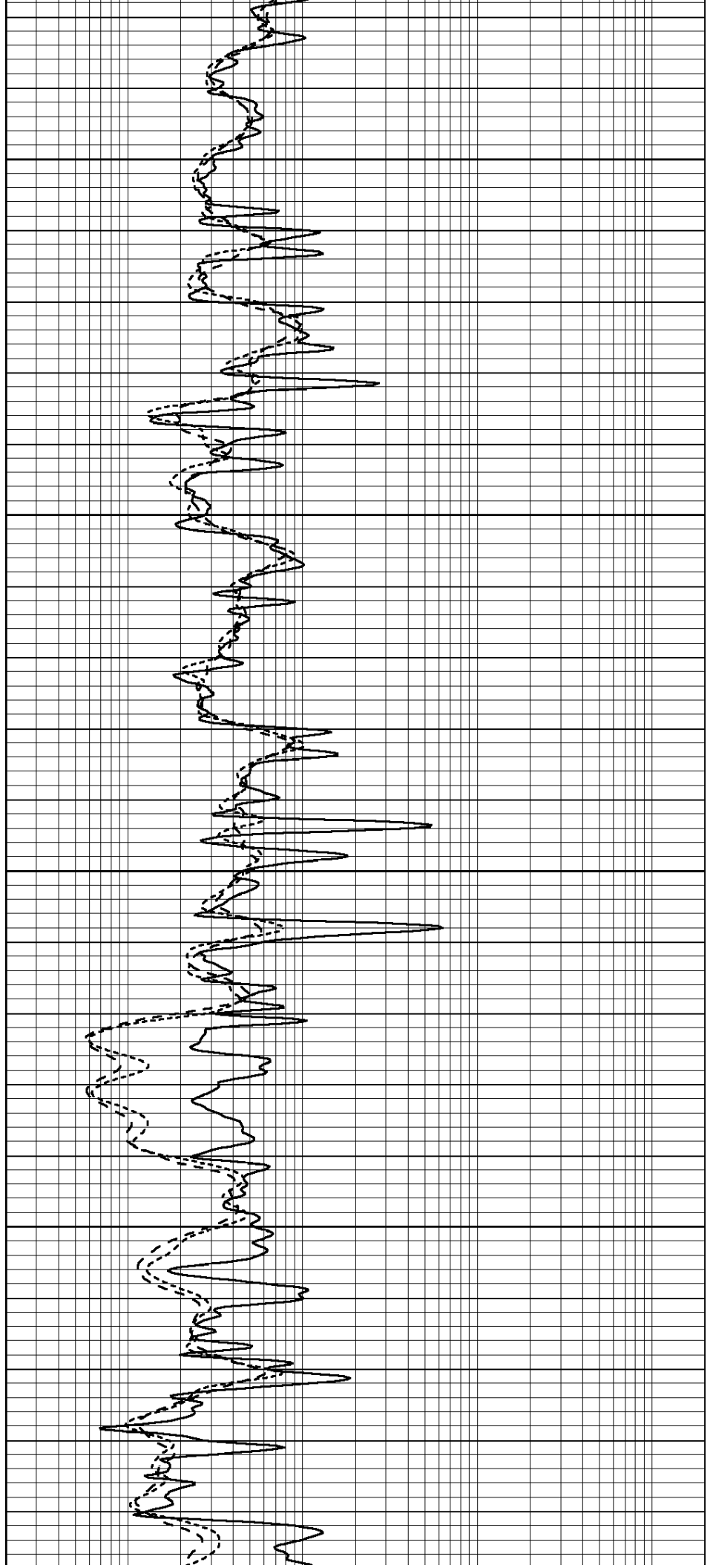


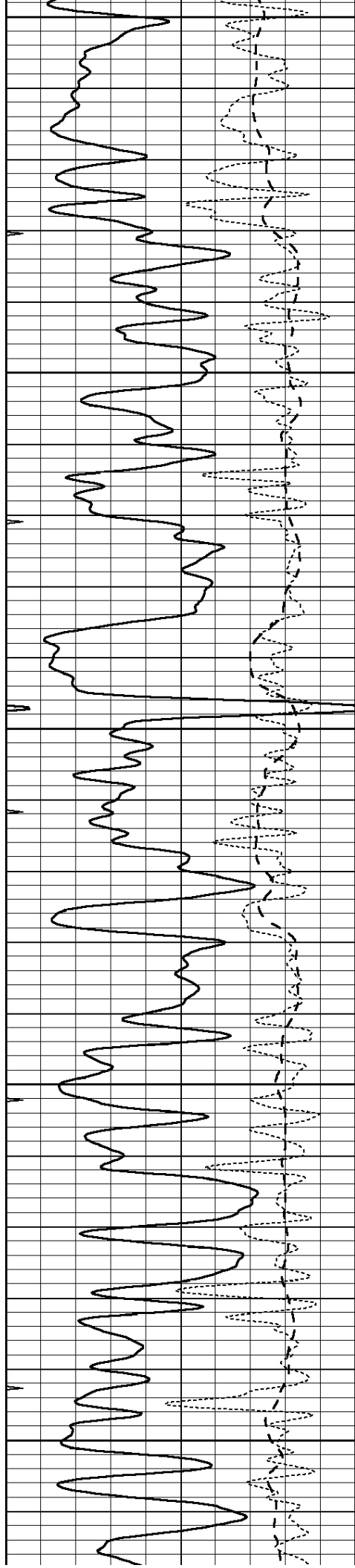
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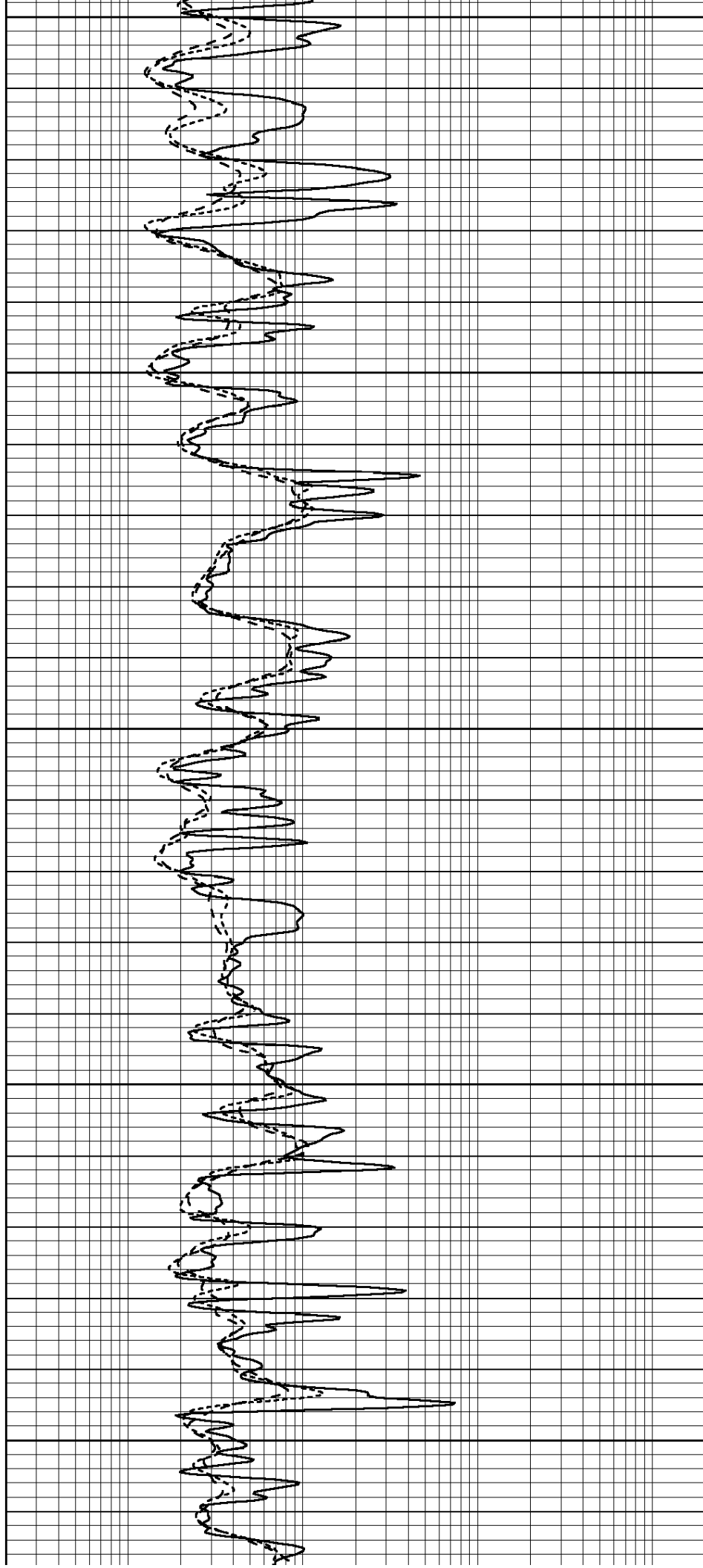
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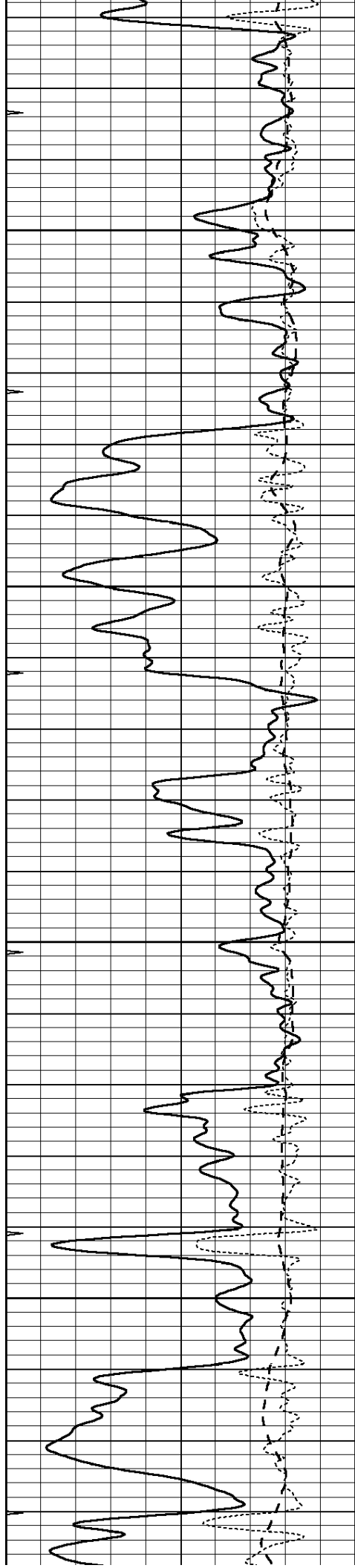
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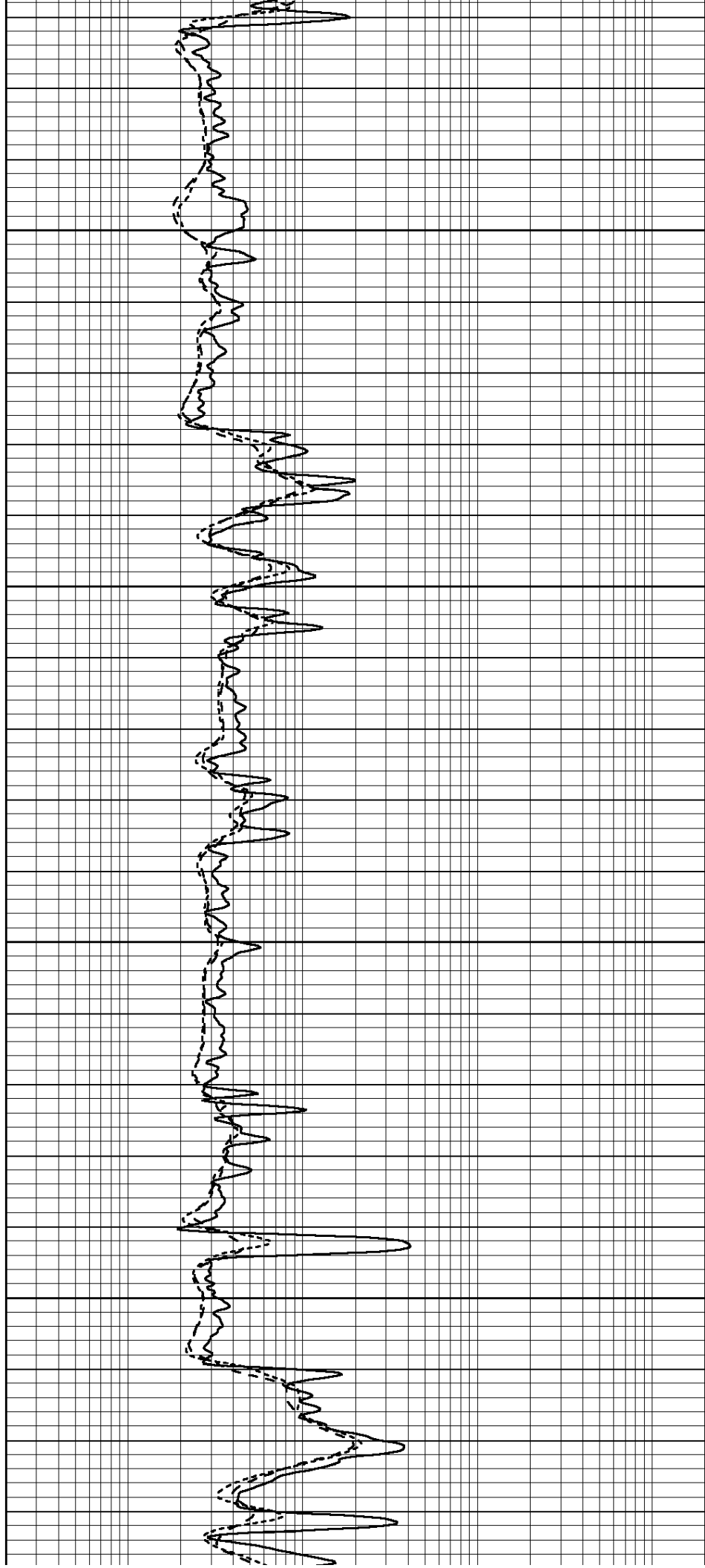


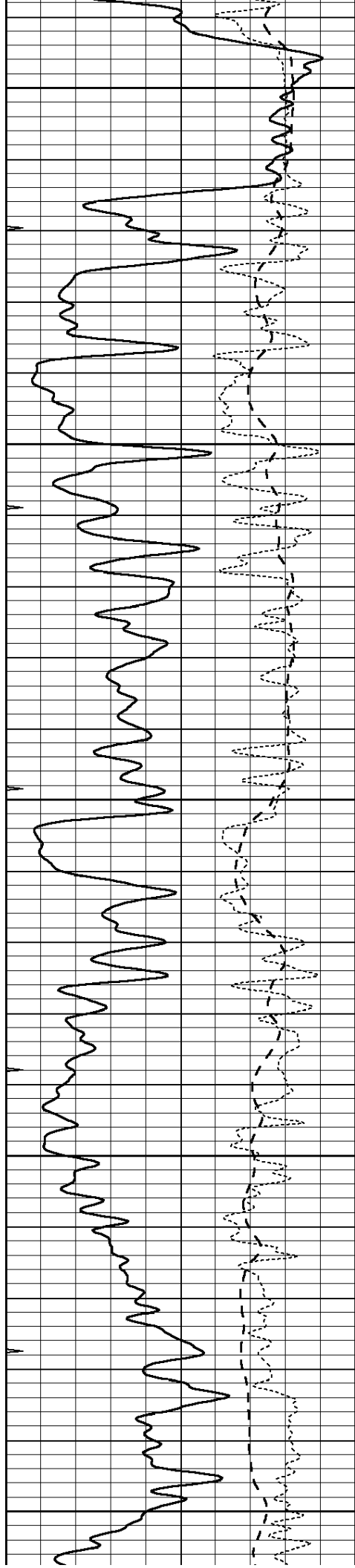
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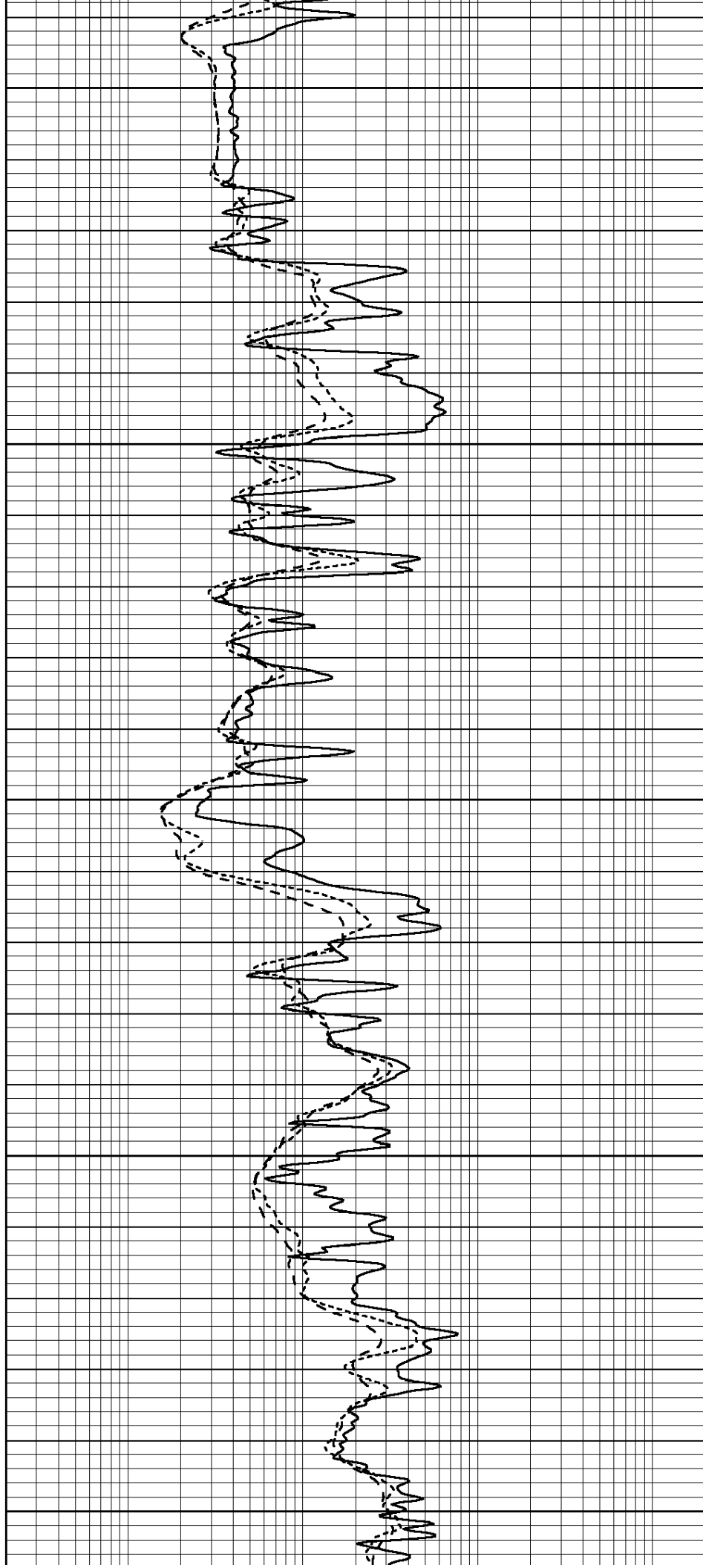
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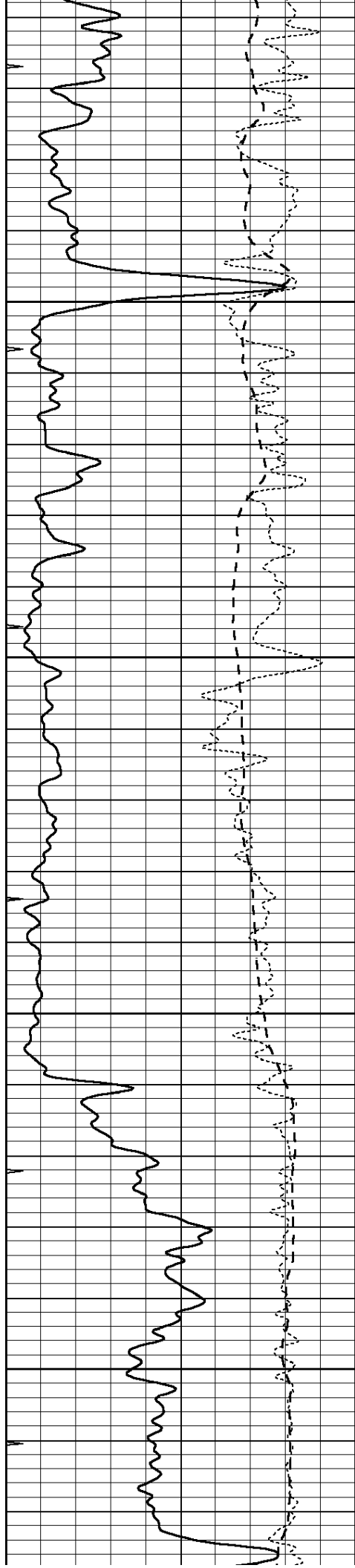
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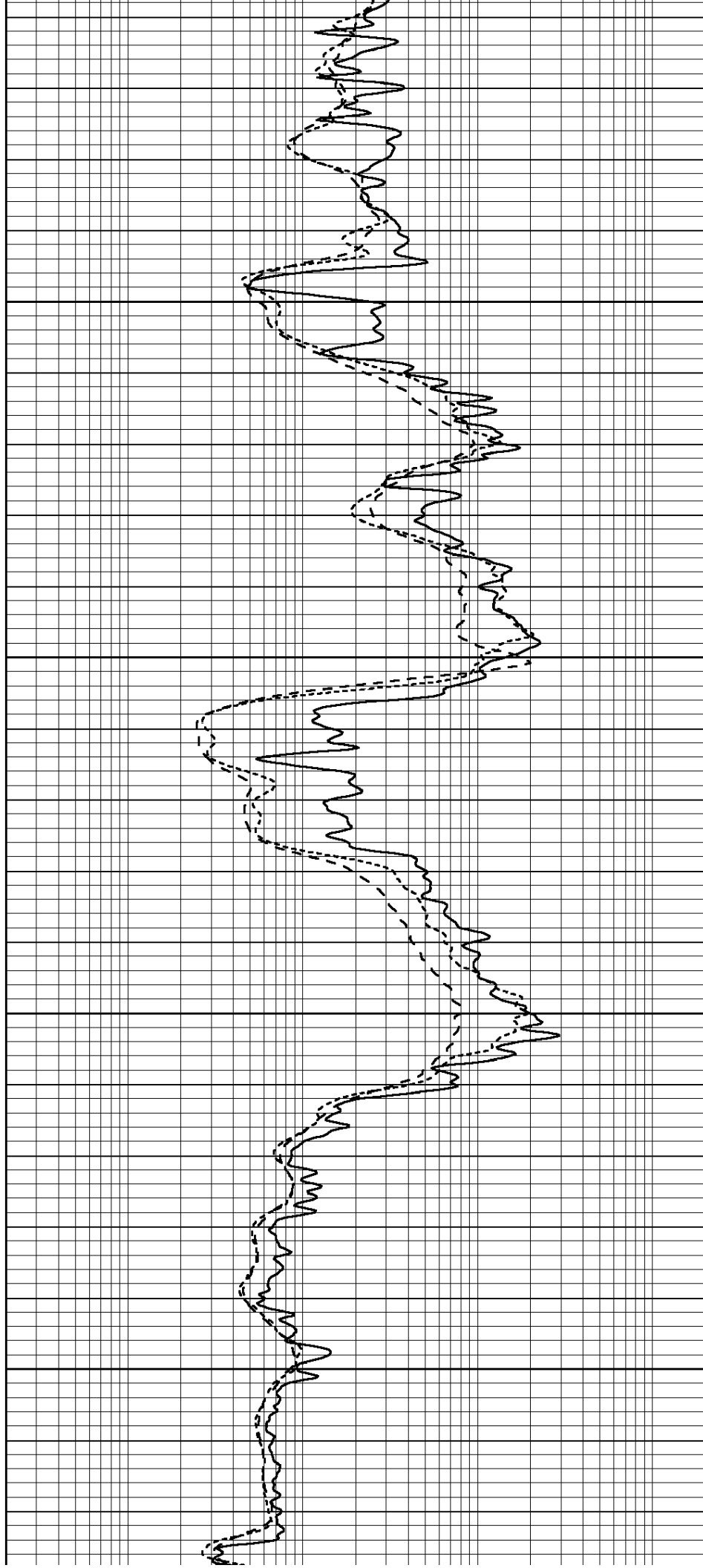


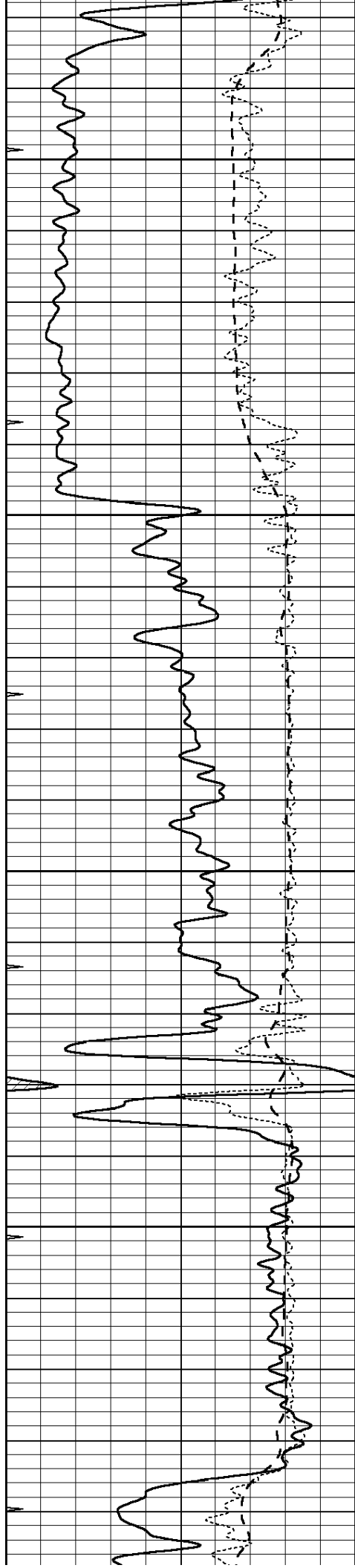
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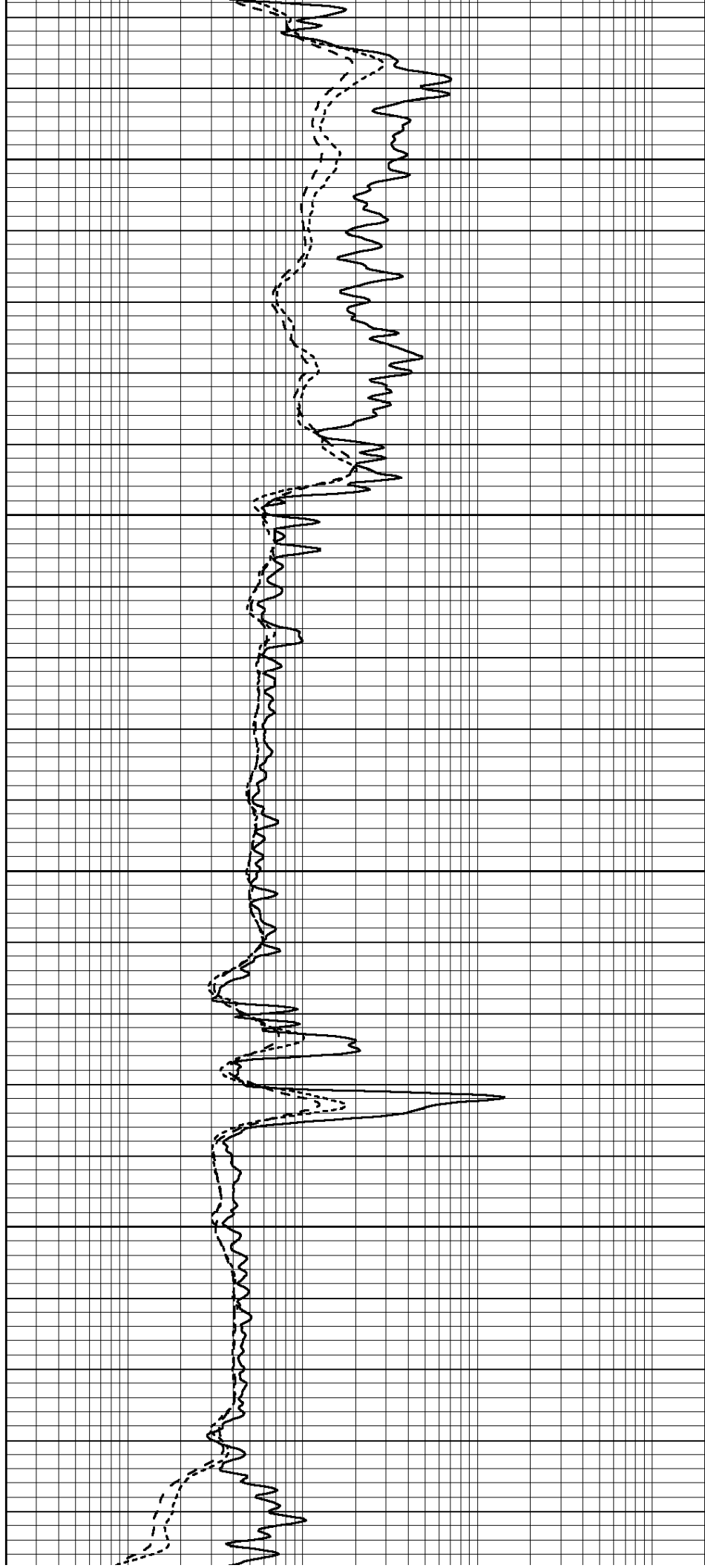


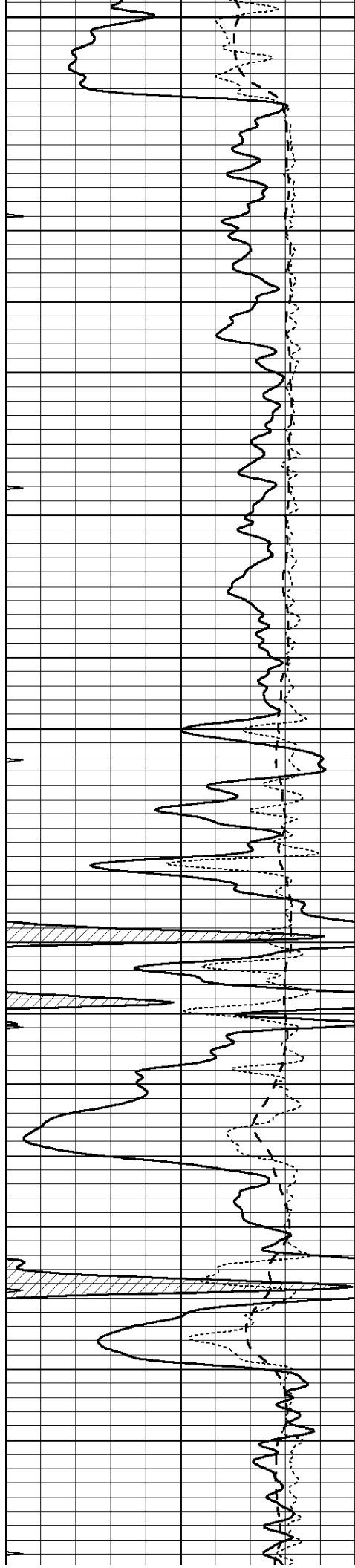
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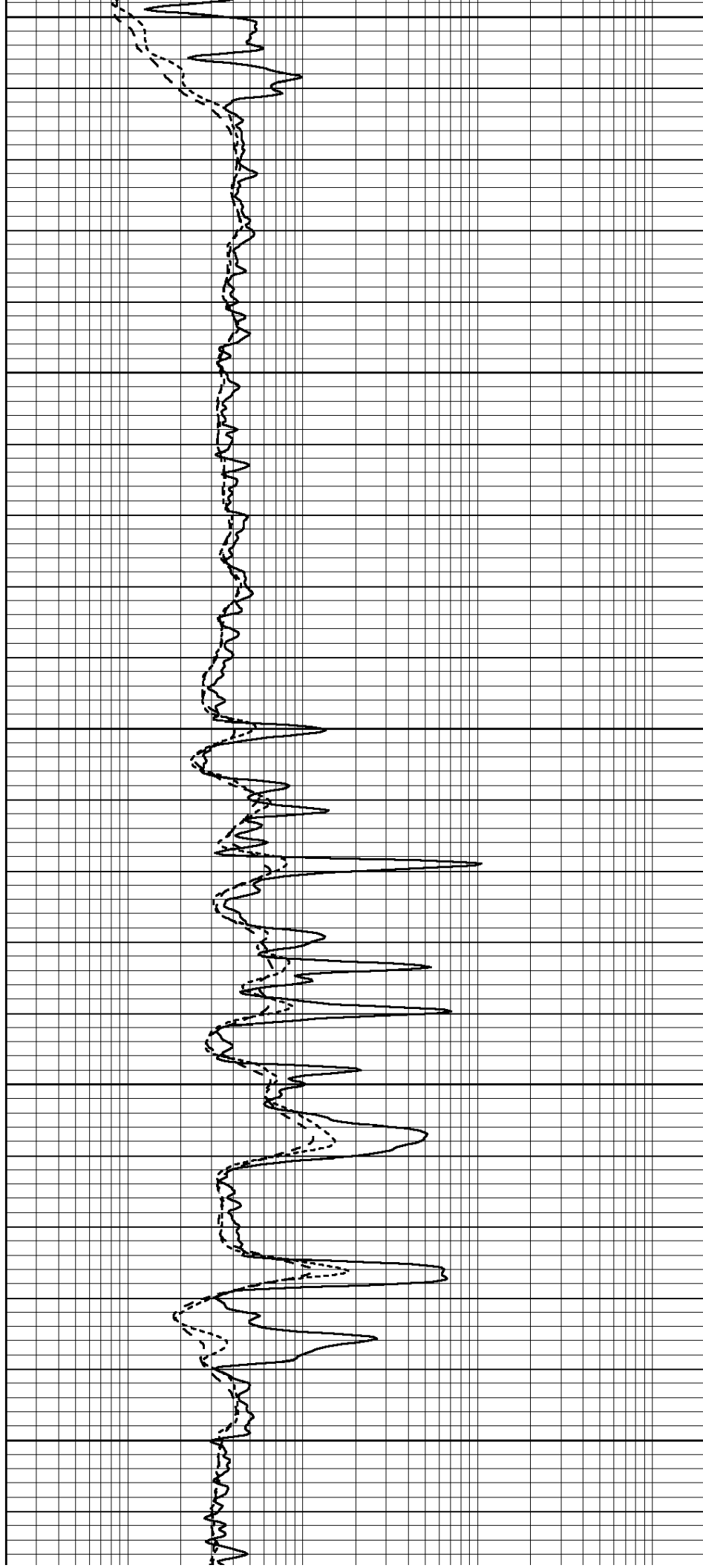
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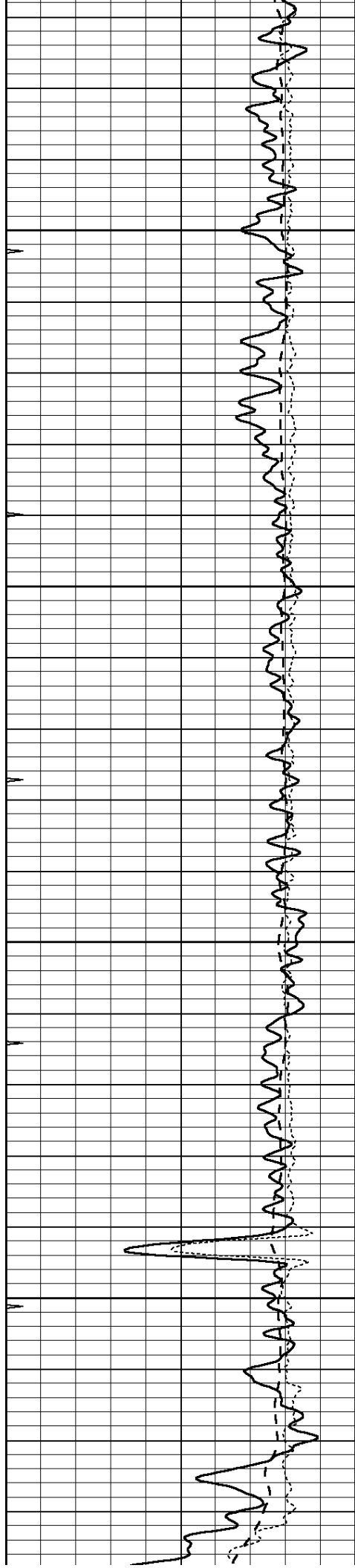
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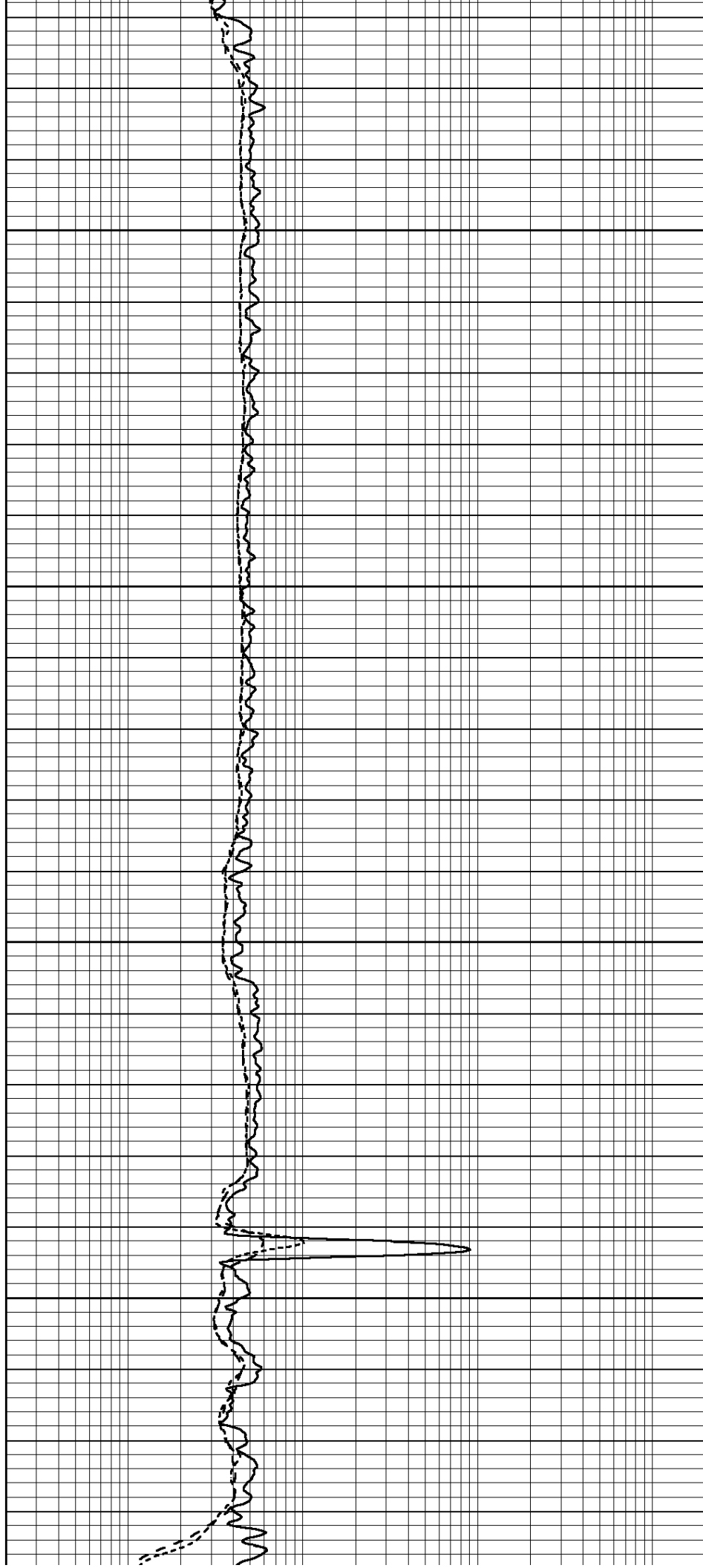


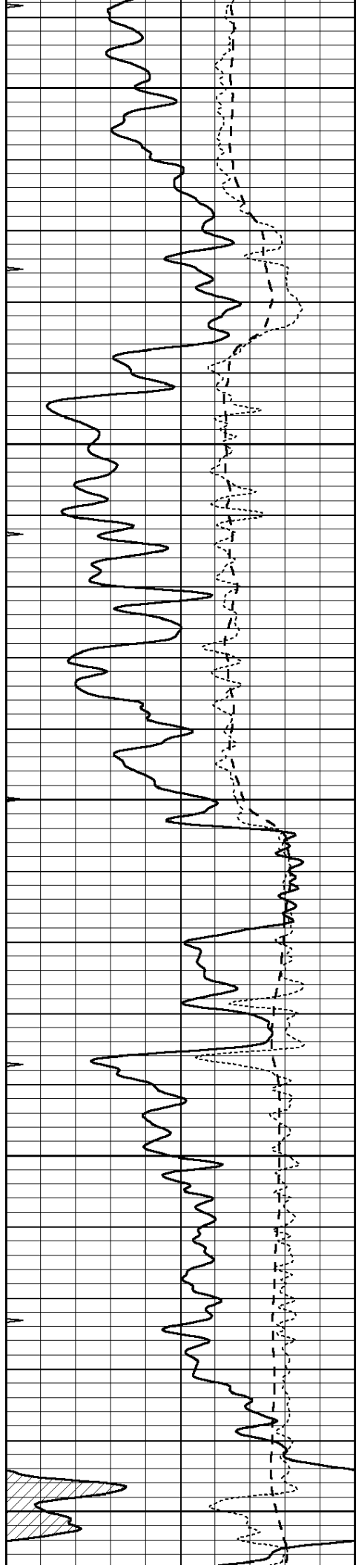
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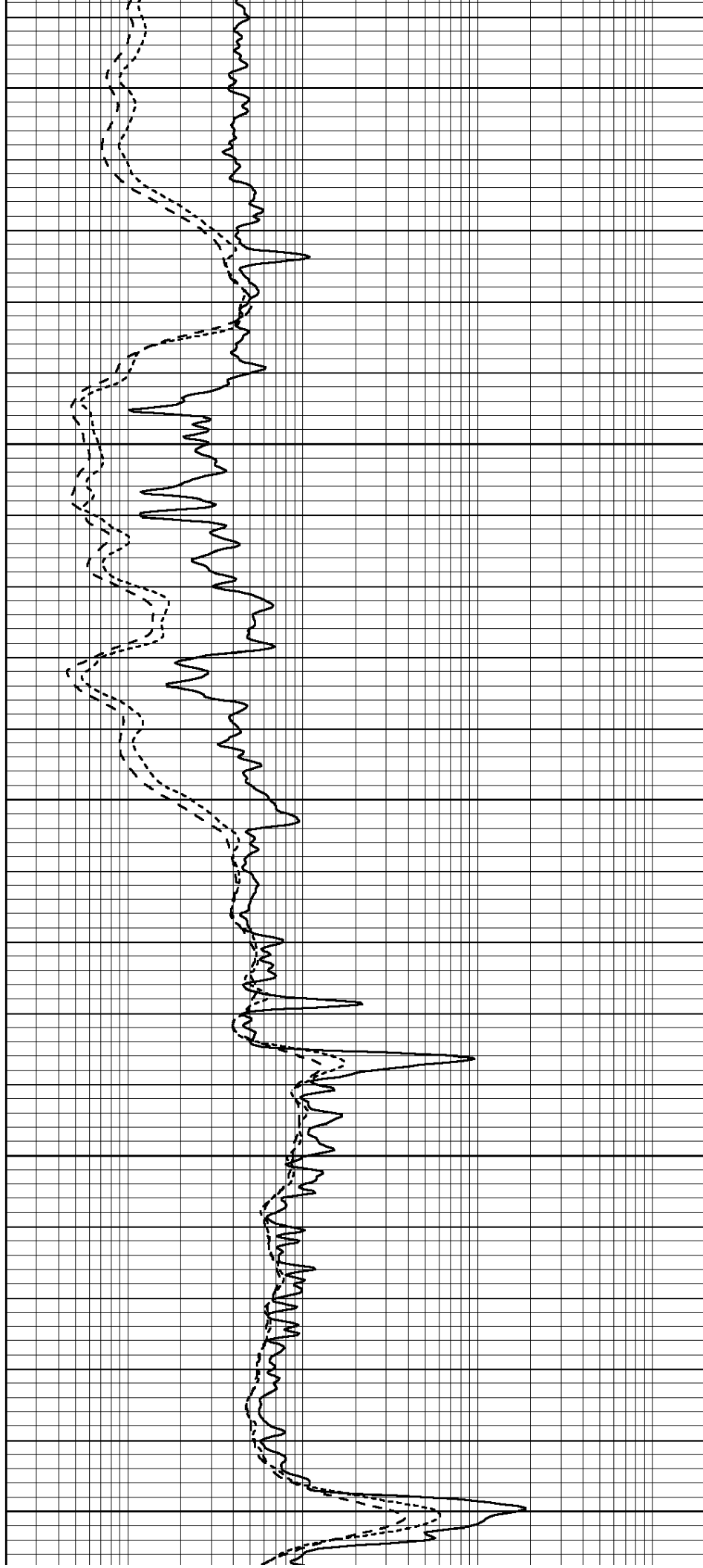
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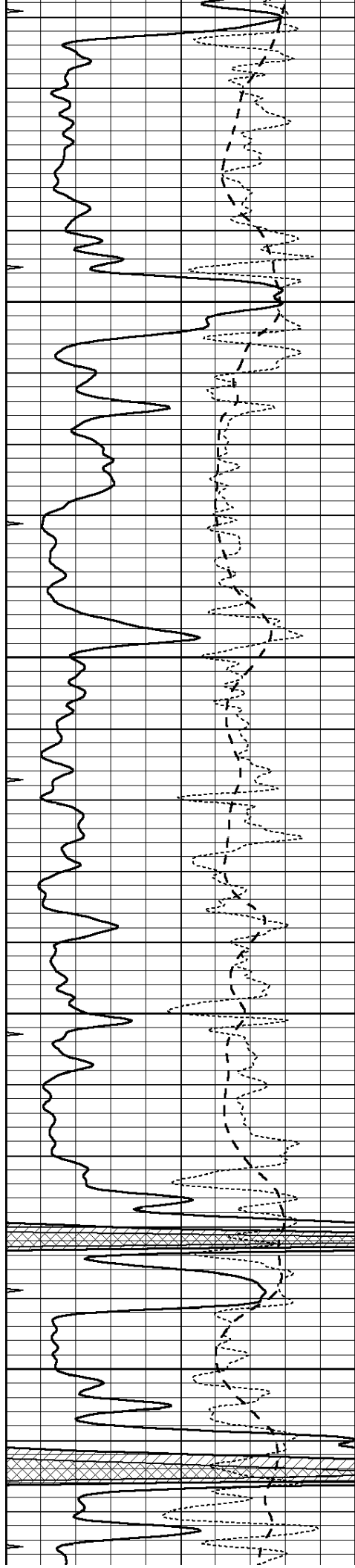
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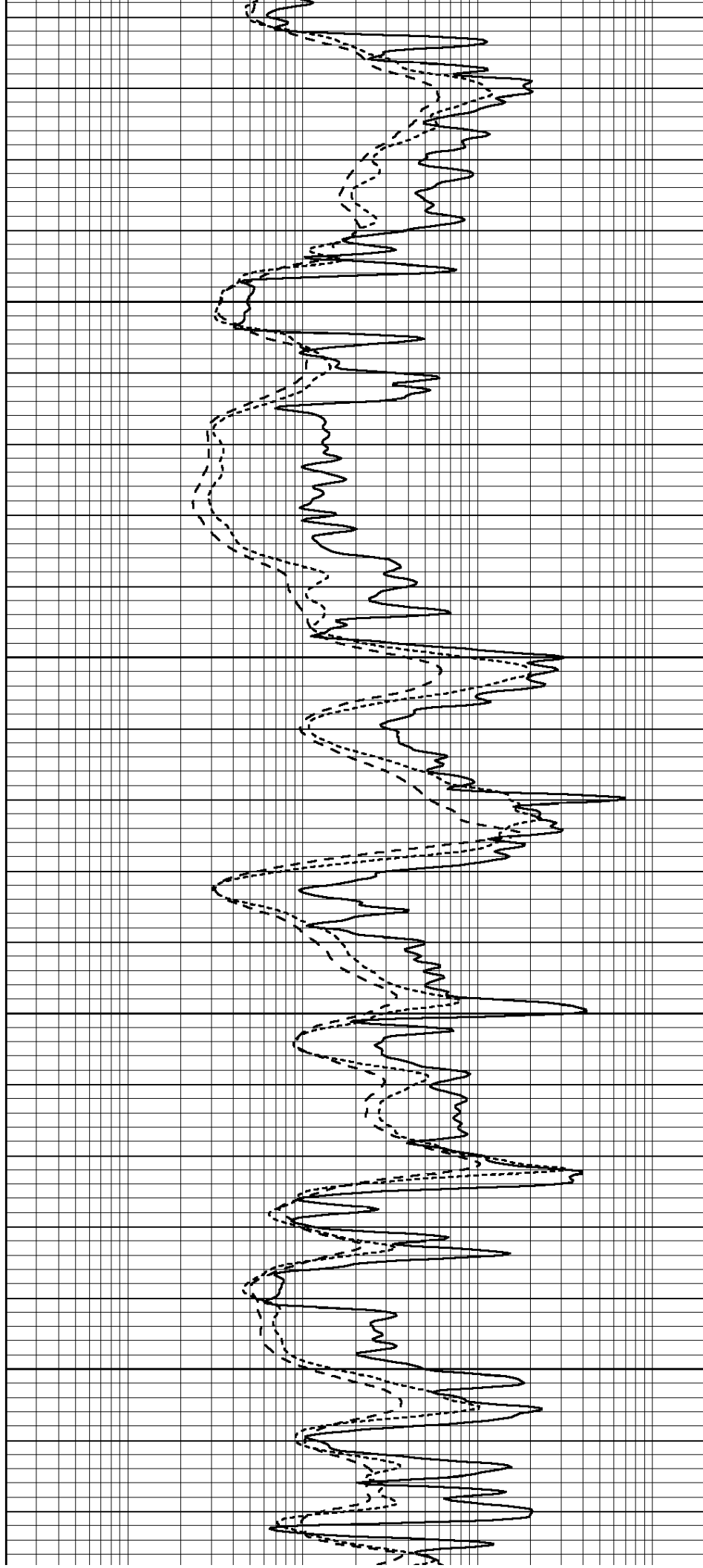


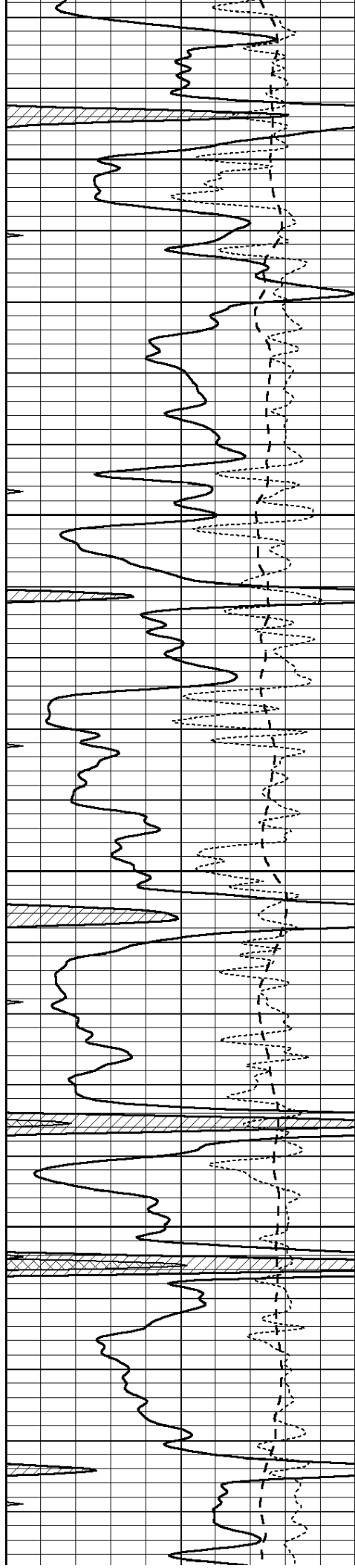
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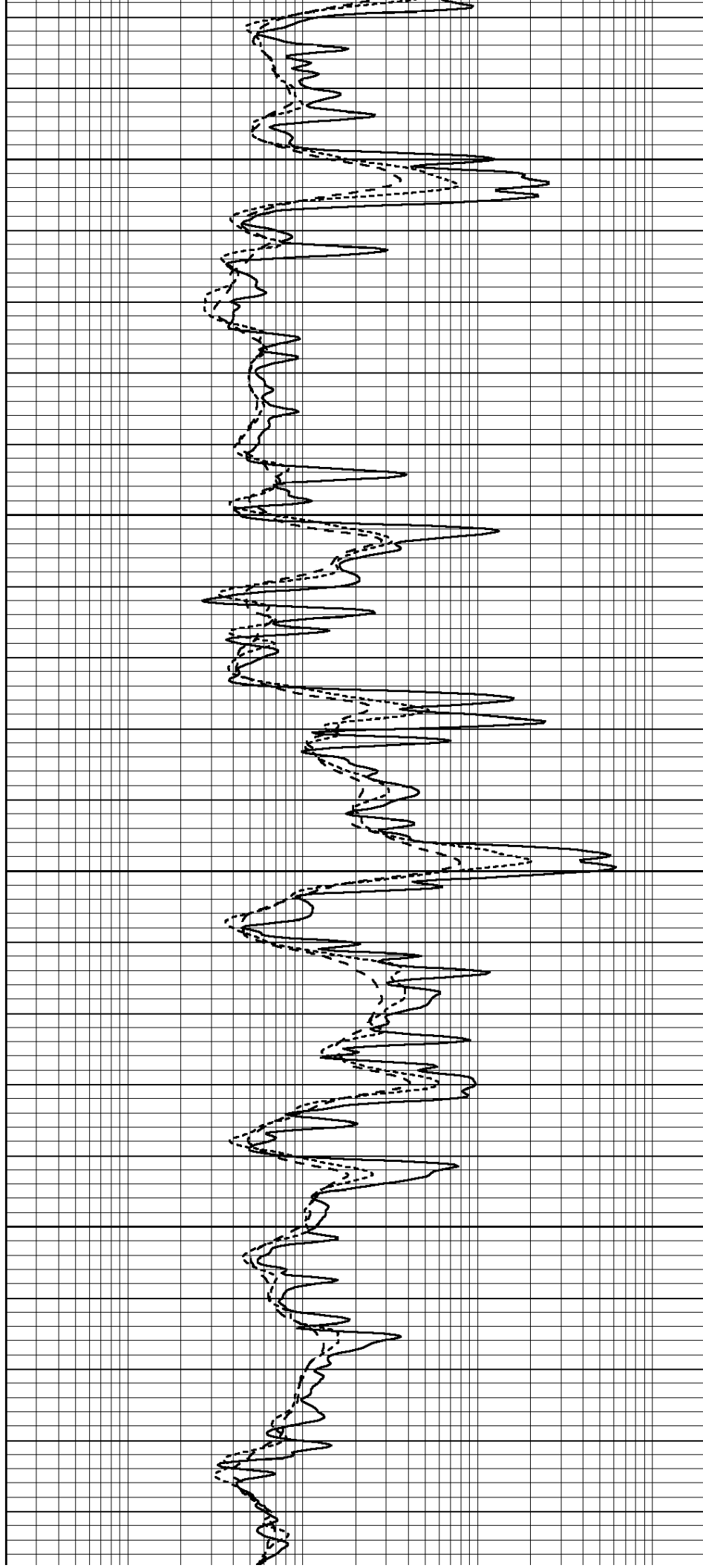


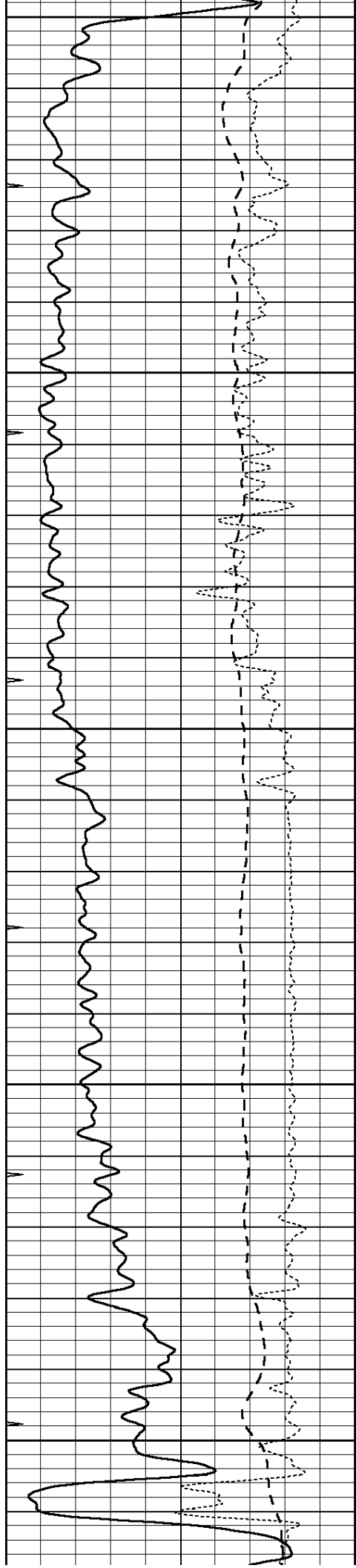
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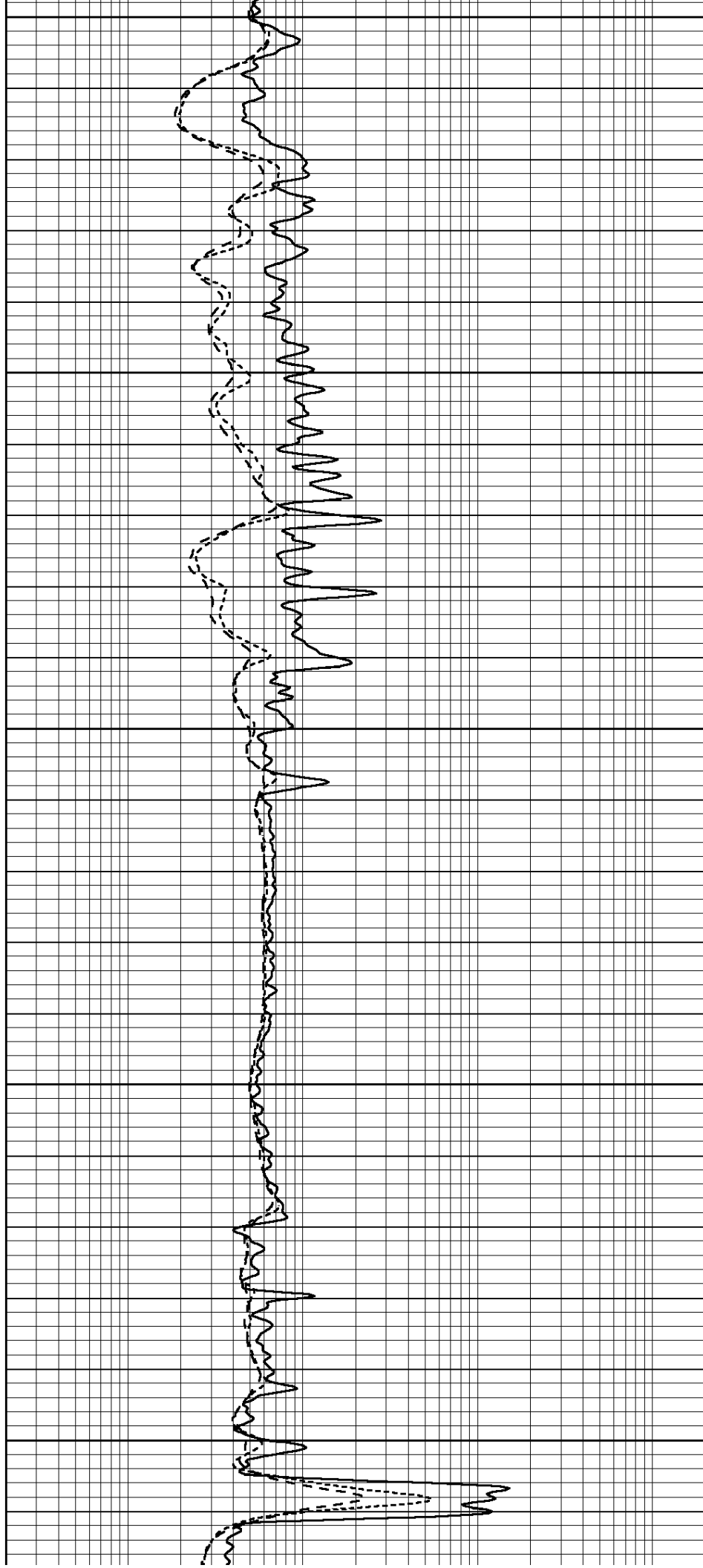
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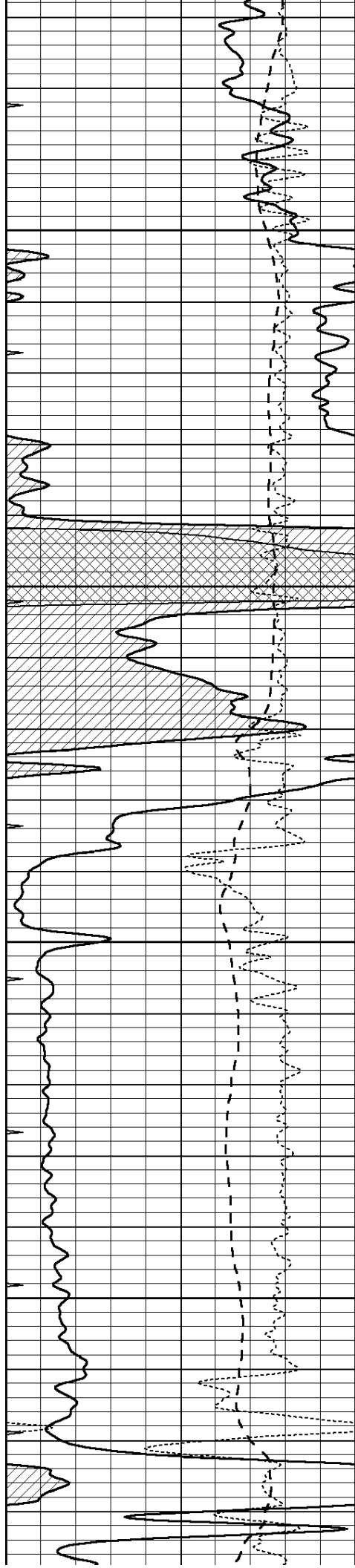
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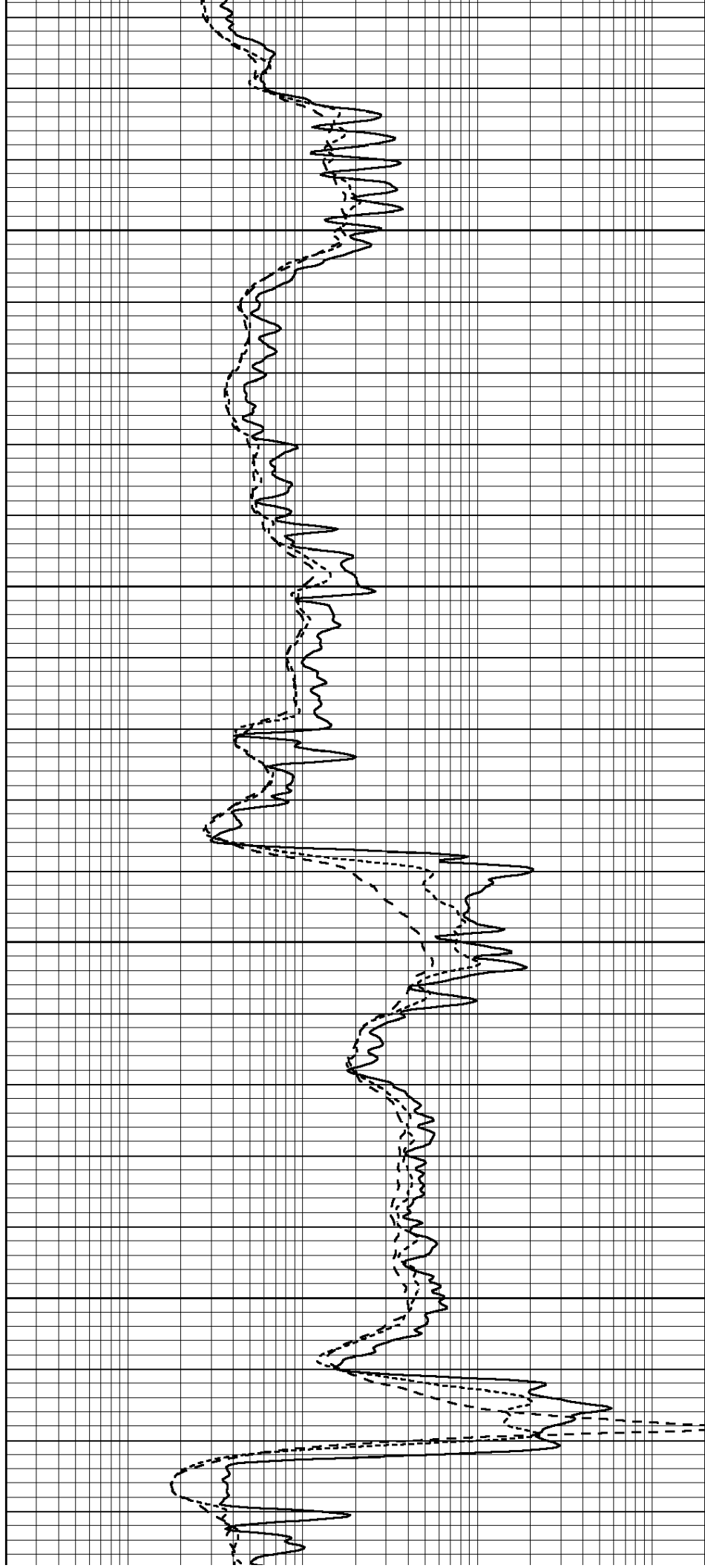


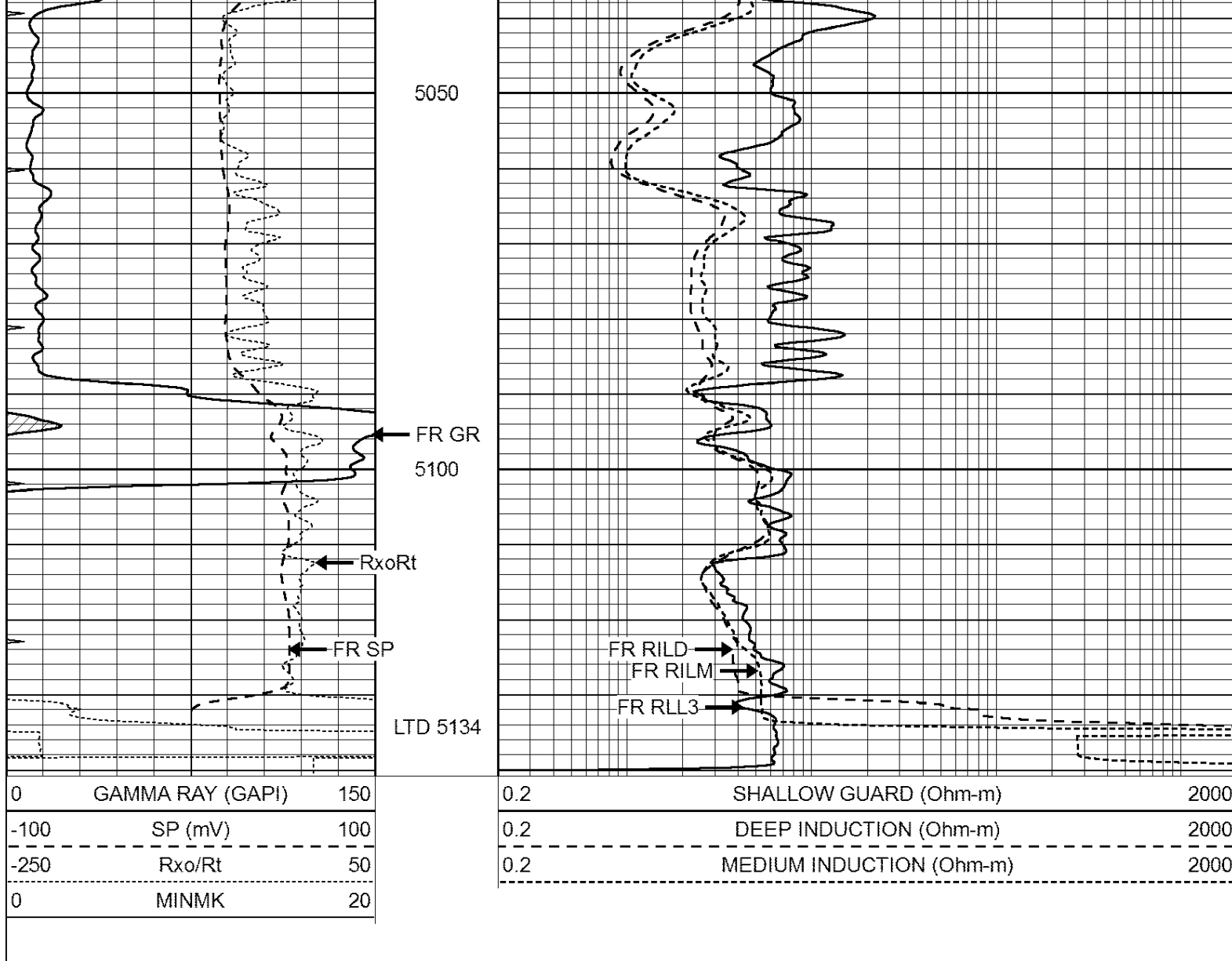
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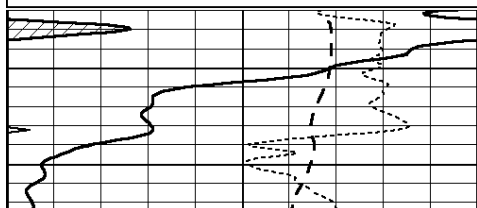


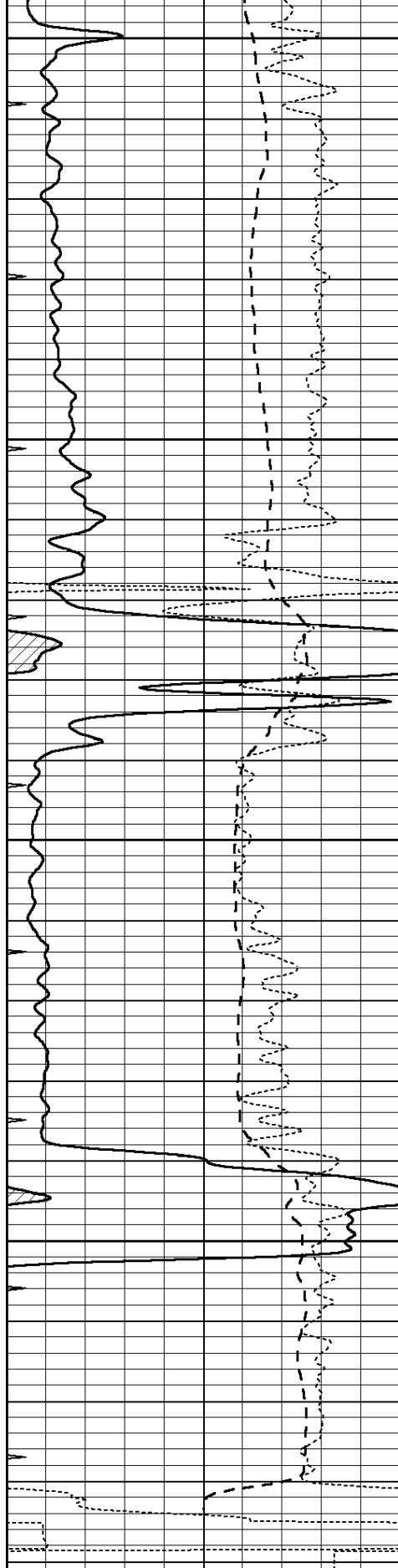
SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File: 409432pe.db
 Dataset Pathname: pass2.2
 Presentation Format: _dil
 Dataset Creation: Sat Jul 14 09:05:48 2012 by Calc Open-Cased 110302
 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			





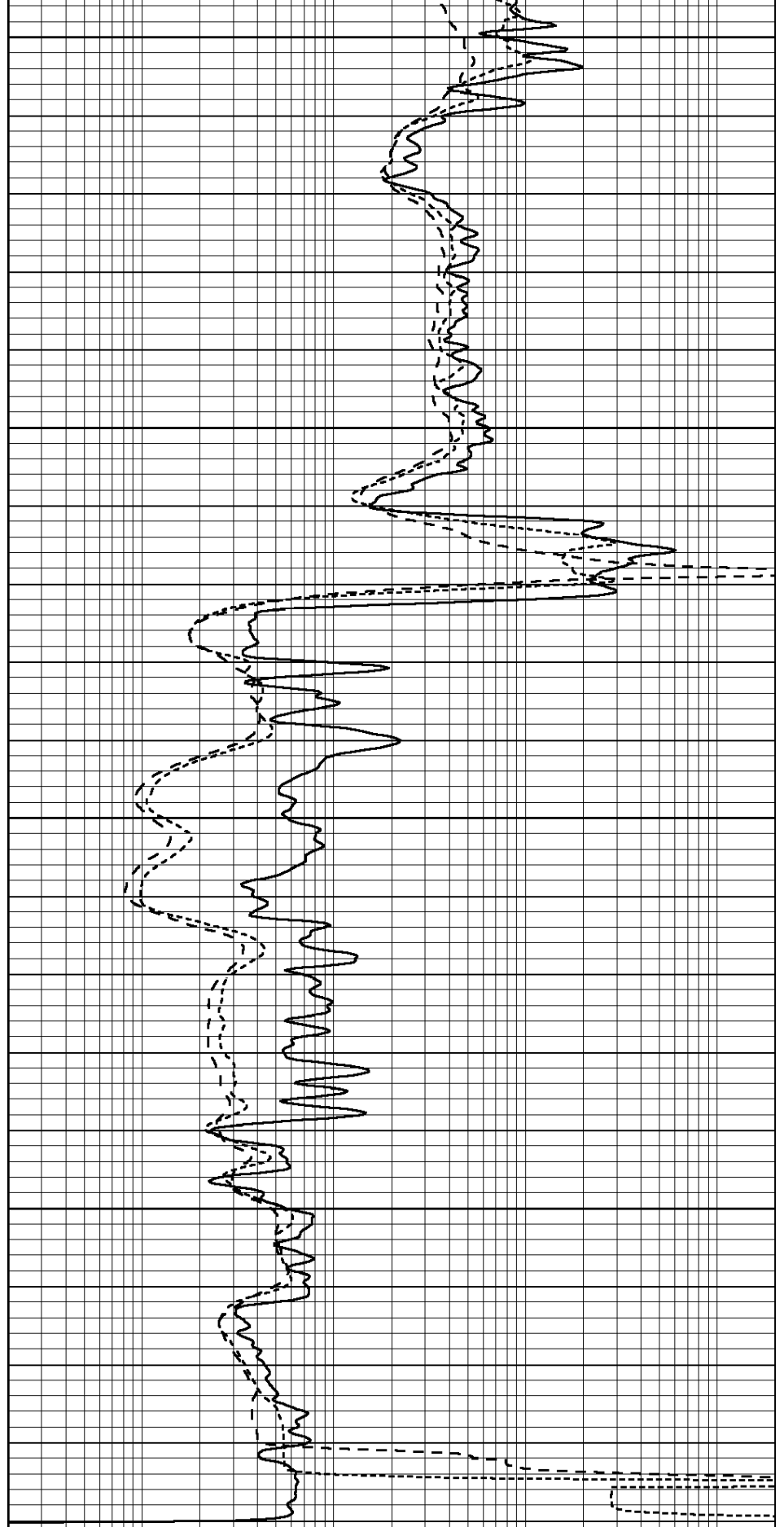
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5000

5050

5100

0	GAMMA RAY (GAPI)	150
-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

Calibration Report	
Database File:	409432pe.db
Dataset Pathname:	pass3.5
Dataset Creation:	Sat Jul 14 09:10:00 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: Performed:	DIL3-GEAR Thu Jun 28 04:10:13 2012
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Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	5.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-8.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.645	V	0.000	400.000	mmho/m	622.059	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	631.393	-4.555

Litho Density Calibration Report

Serial: 006 Model: PRB

Performed Sun Aug 15 09:48:41 2010

Litho Density Calibration					
	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			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

Caliper		
Low Ref	Readings 3.5	Reference 7.8
High Ref	5.5	15.0
	Gain: 3.7	Offset: -5.1

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:	Tue Jul 03 02:09:35 2012	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.3000	GAPI/cps