



SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company	WOOLSEY OPERATING CO. LLC.	Company	WOOLSEY OPERATING COMPANY, LLC.
Well	ACHENBACH #1	Well	ACHENBACH #1
Field	STRANATHAN	Field	STRANATHAN
County	BARBER	County	BARBER
State	KANSAS	State	KANSAS
Location:	API # : 15-007-23938-0000	Other Services	CDL/CNL/PE
Permanent Datum	GROUND LEVEL	Elevation	1374
Log Measured From	KELLY BUSHING 8' A.G.L.	Elevation	K.B. 1382 D.F. 1380 G.L. 1374
Drilling Measured From	KELLY BUSHING		
SEC 14 TWP 35S RGE 12W			
Date	9/27/12		
Run Number	ONE		
Depth Driller	5485		
Depth Logger	5468		
Bottom Logged Interval	5466		
Top Log Interval	00		
Casing Driller	13 3/8"@239'		
Casing Logger	230		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 7,000 PPM	
Density / Viscosity	9.2/54		
pH / Fluid Loss	9.5/10.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.650@84F		
Rmt @ Meas. Temp	.486@84F		
Rmc @ Meas. Temp	.780@84F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.423@129F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	2:00 P.M.		
Maximum Recorded Temperature	129F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	SCOTT ALBERG		

<<< Fold Here >>>

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
HARDTNER, KS., 3E. ON HWY 281 TO "ROUNDUP RD.", 1S., E. INTO



SUPERIOR
Hays,
Kansas

MAIN SECTION

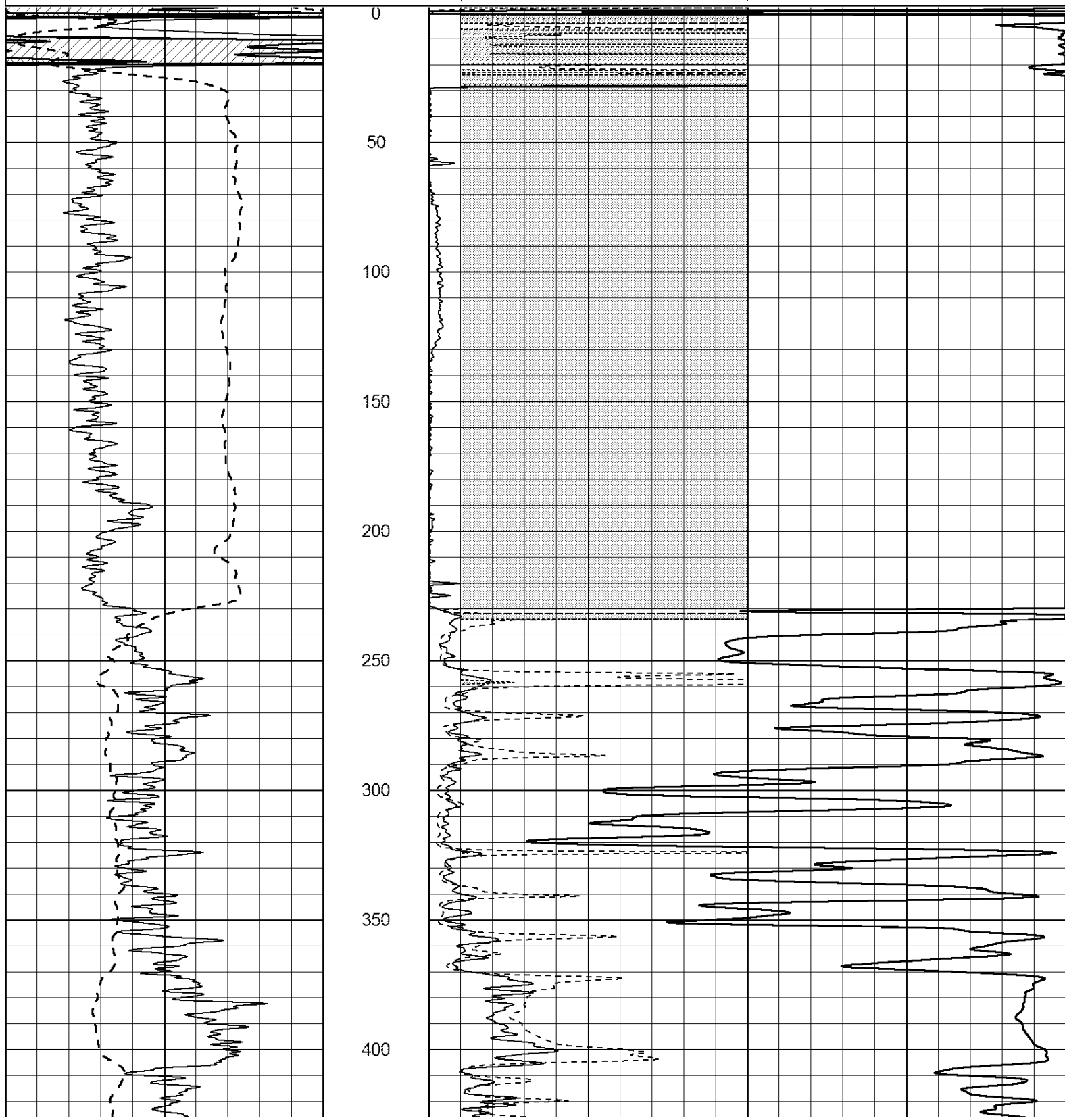
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 Dataset Pathname: pass4.9
 Presentation Format: dil2
 Dataset Creation: Thu Sep 27 16:43:21 2012 by Calc Open-Cased 110302
 Charted by: Depth in Feet scaled 1:600

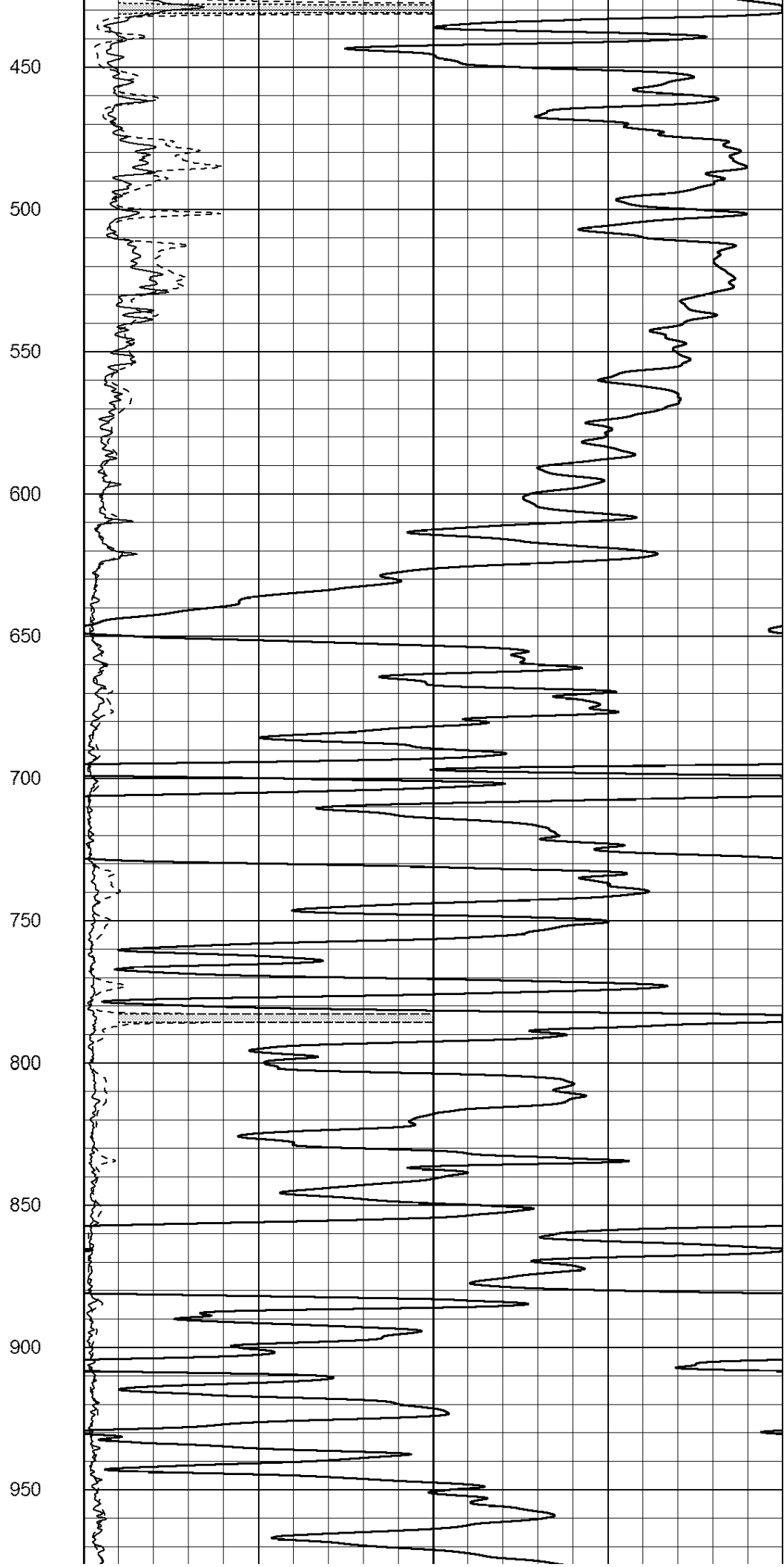
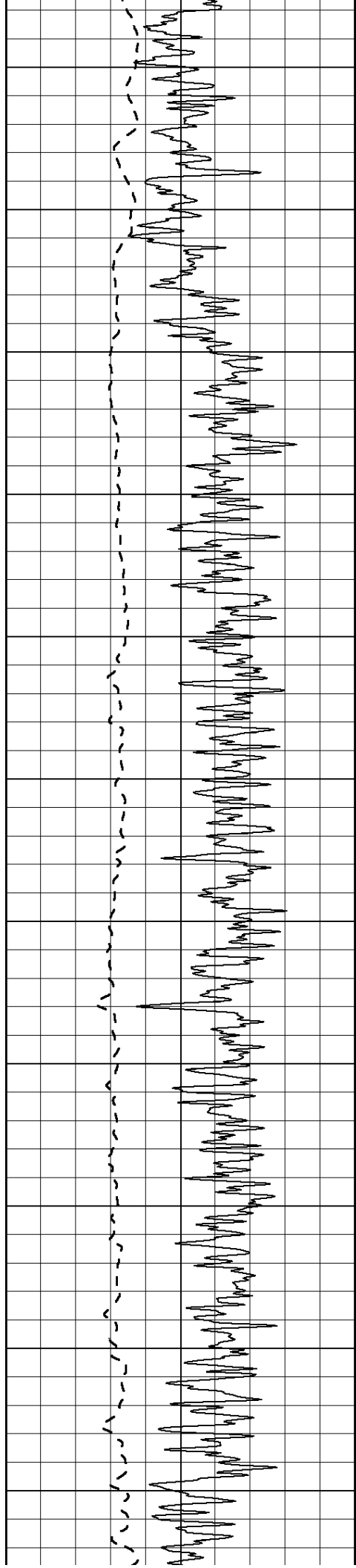
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-100	SP (mV)	100

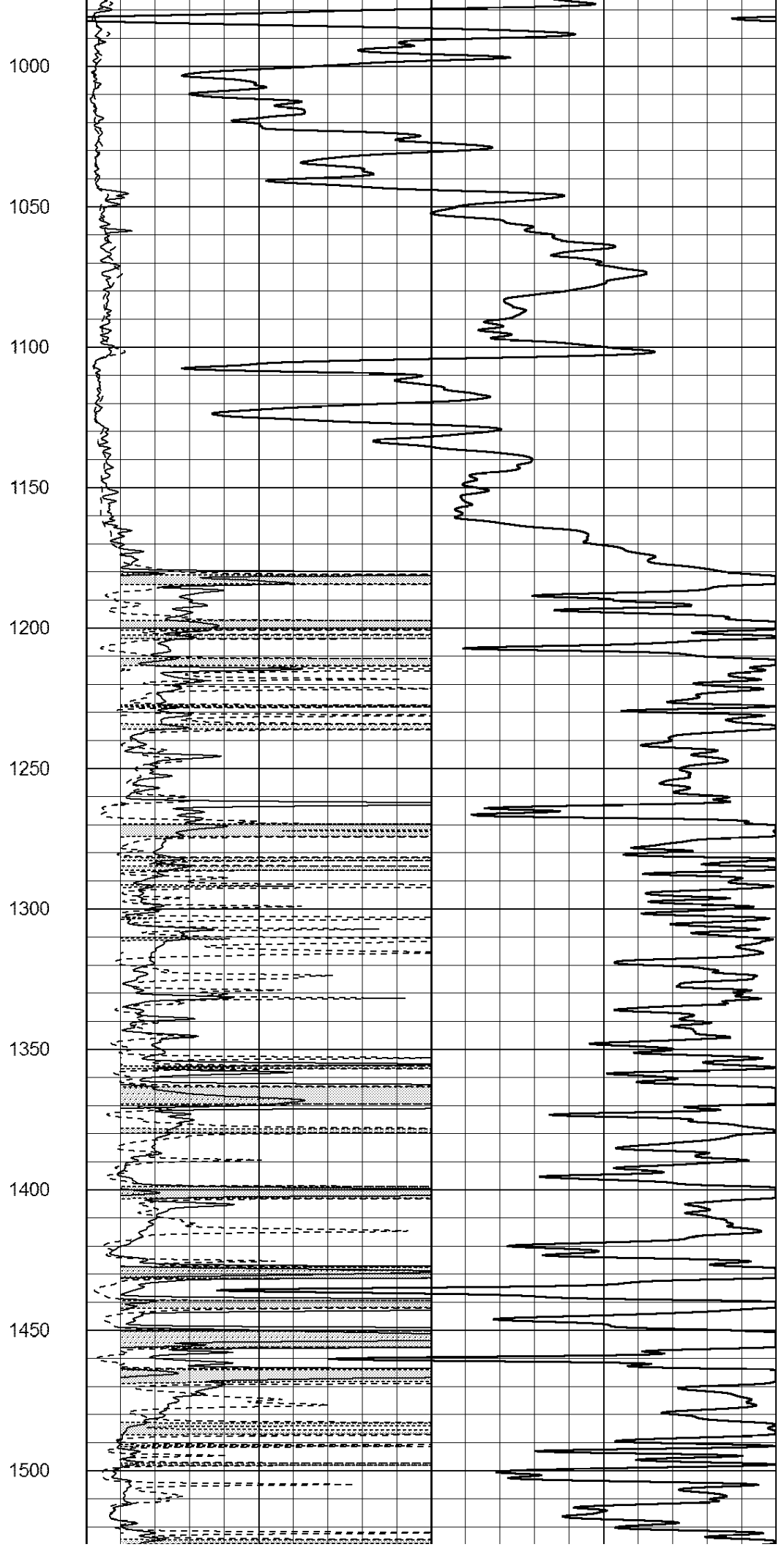
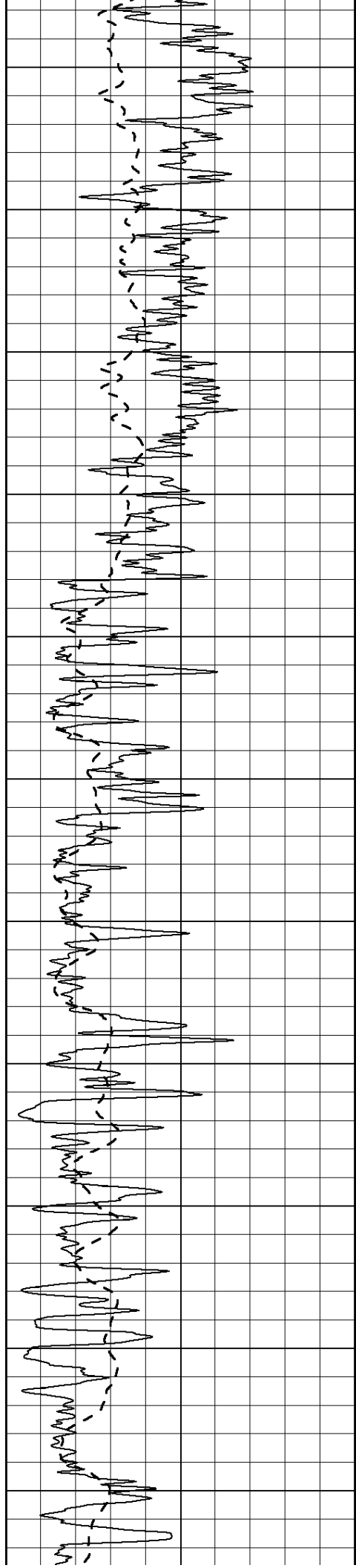
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0	RILD (Ohm-m)	50

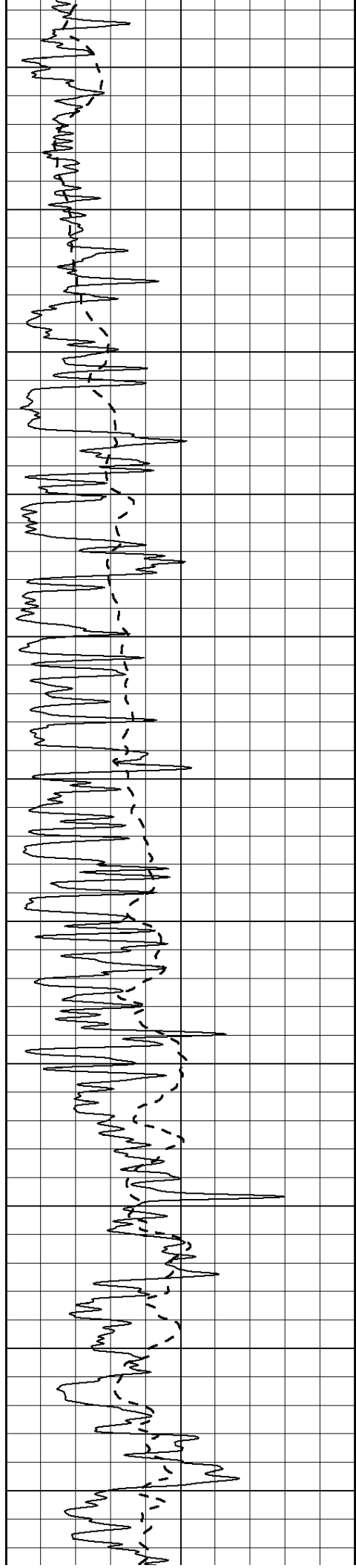
1000	CILD (mmho/m)	0
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50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500









1550

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1650

1700

1750

1800

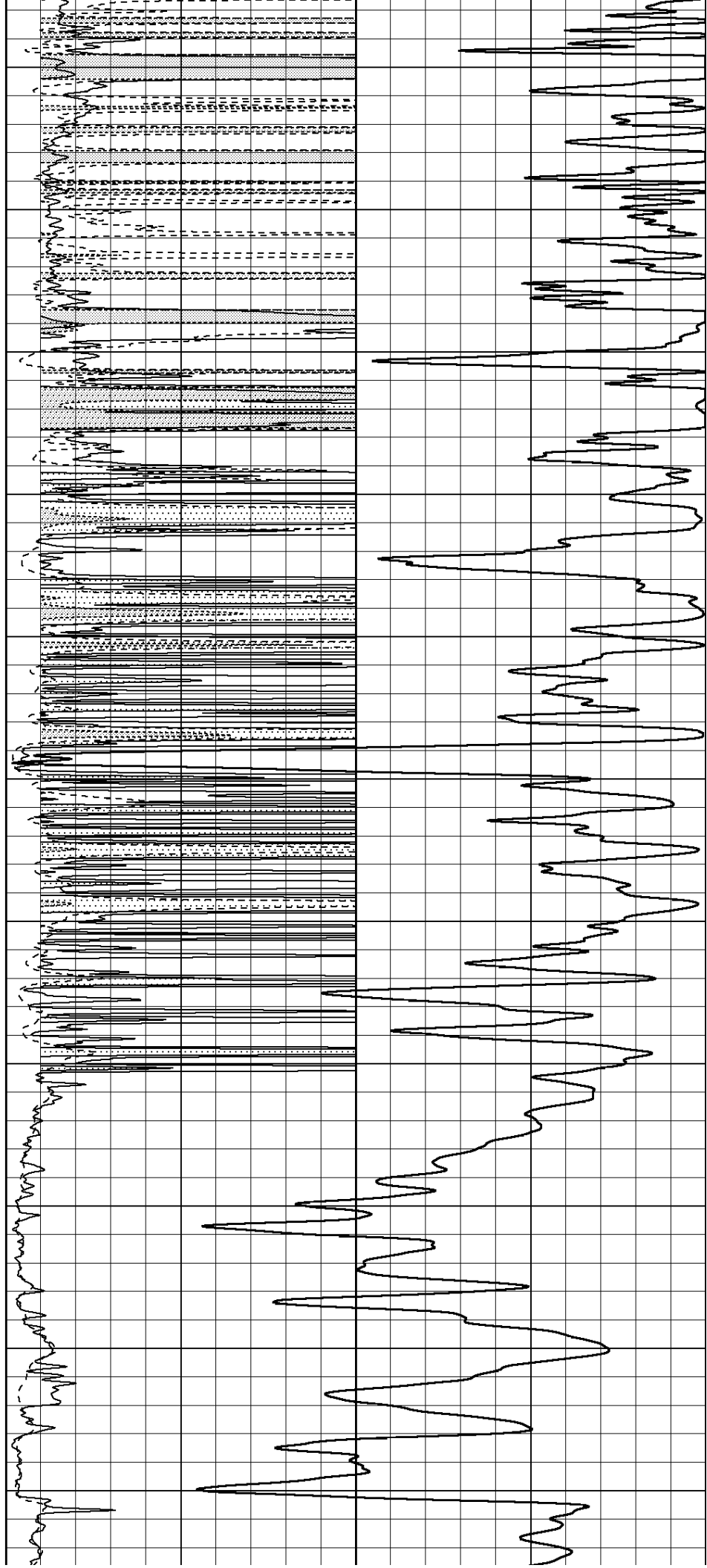
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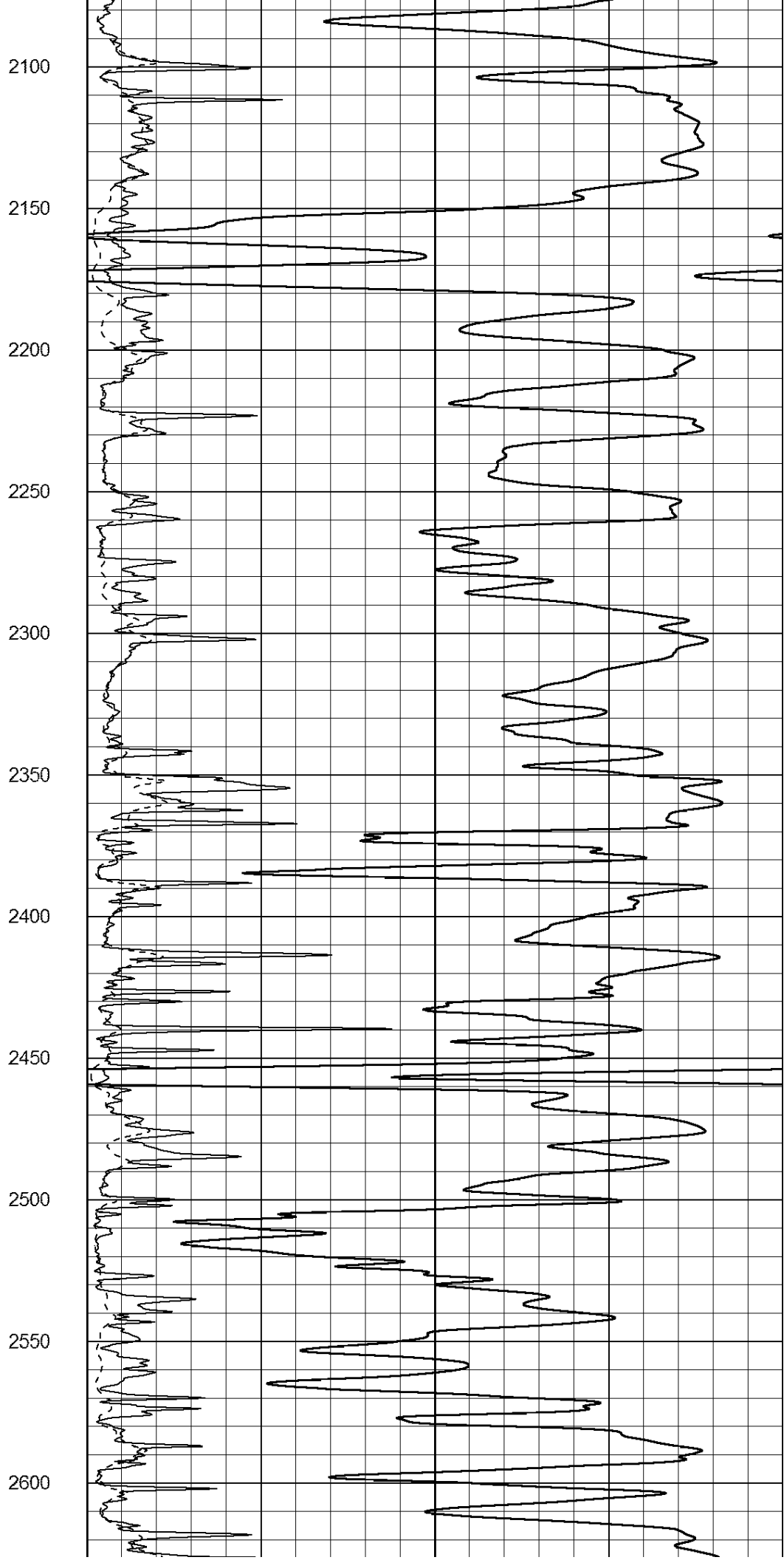
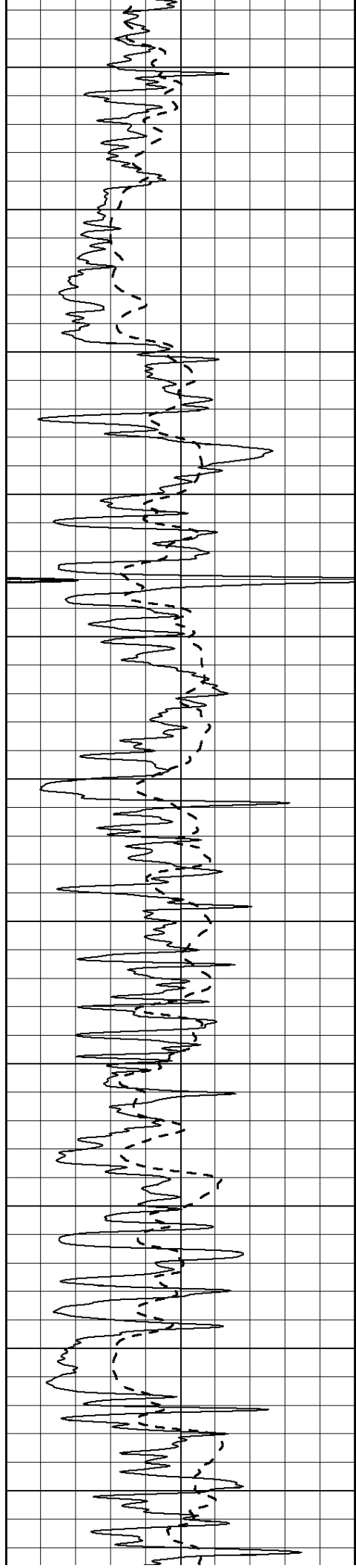
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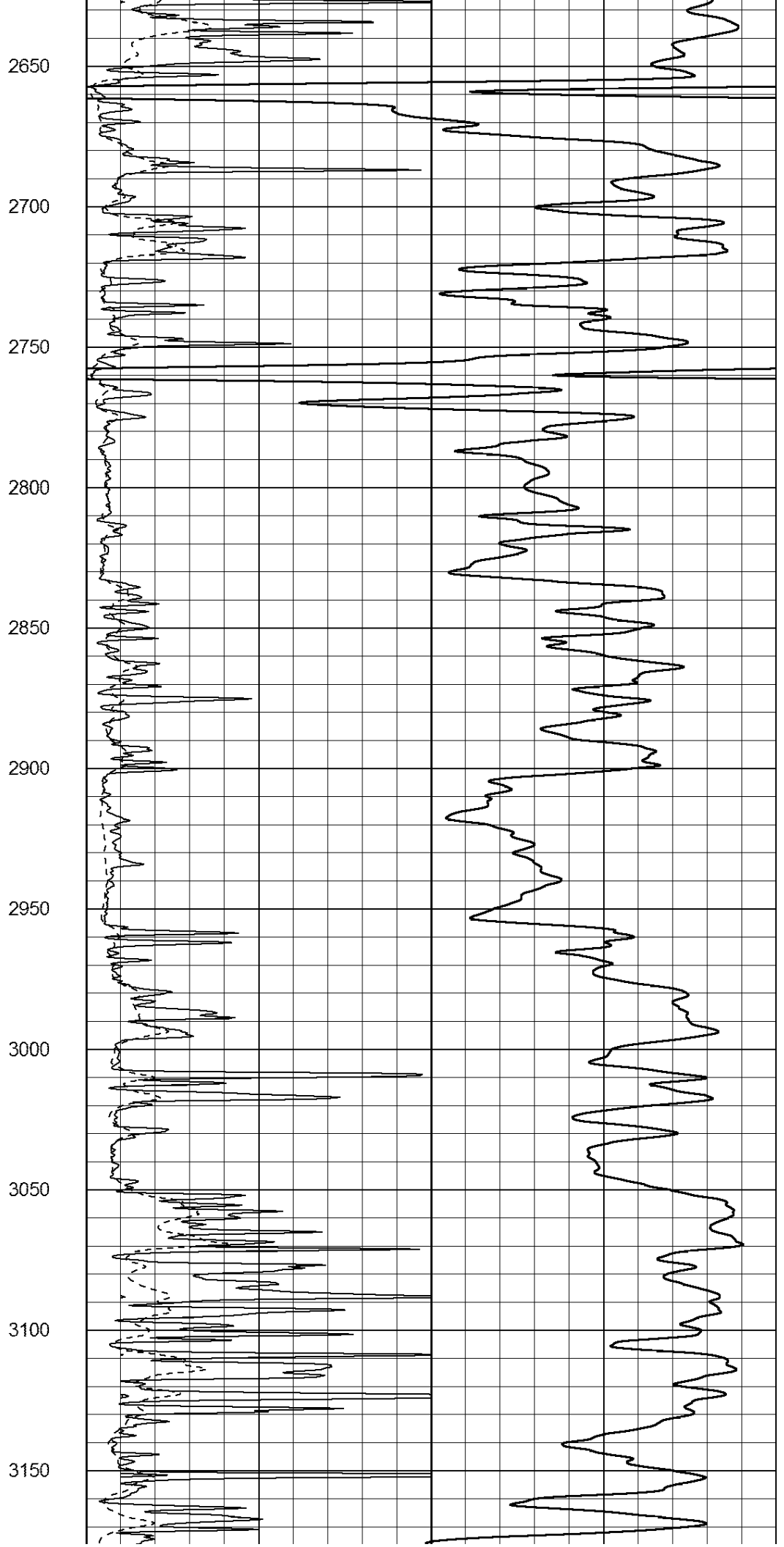
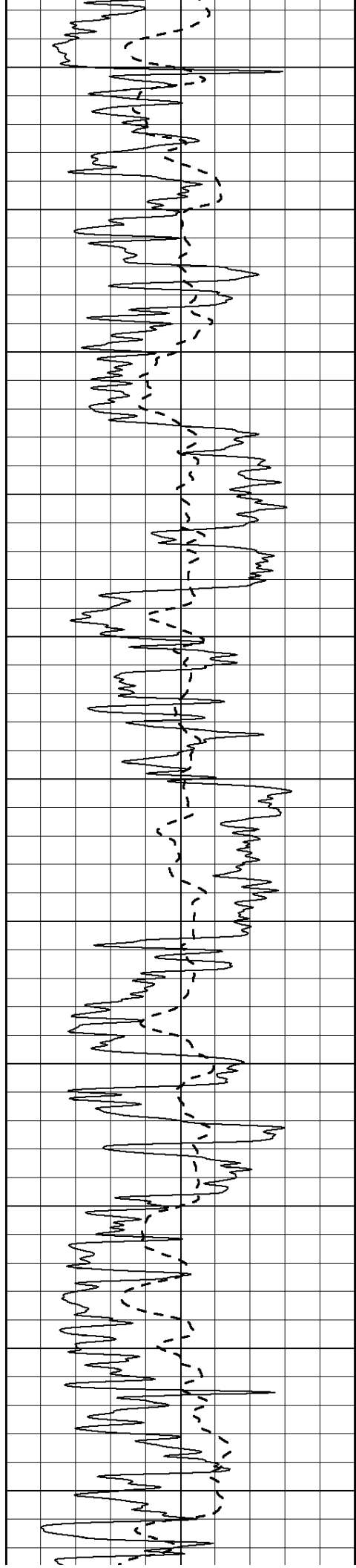
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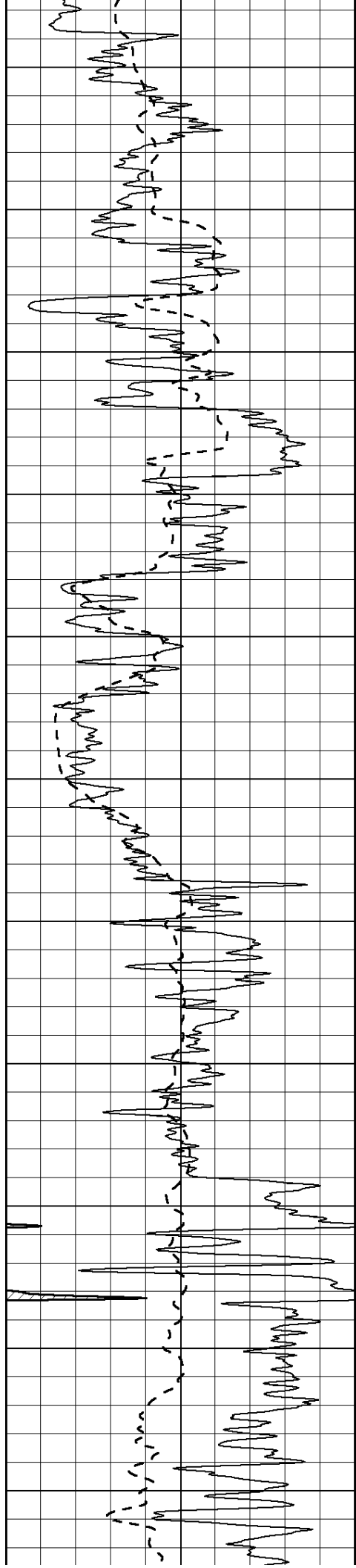
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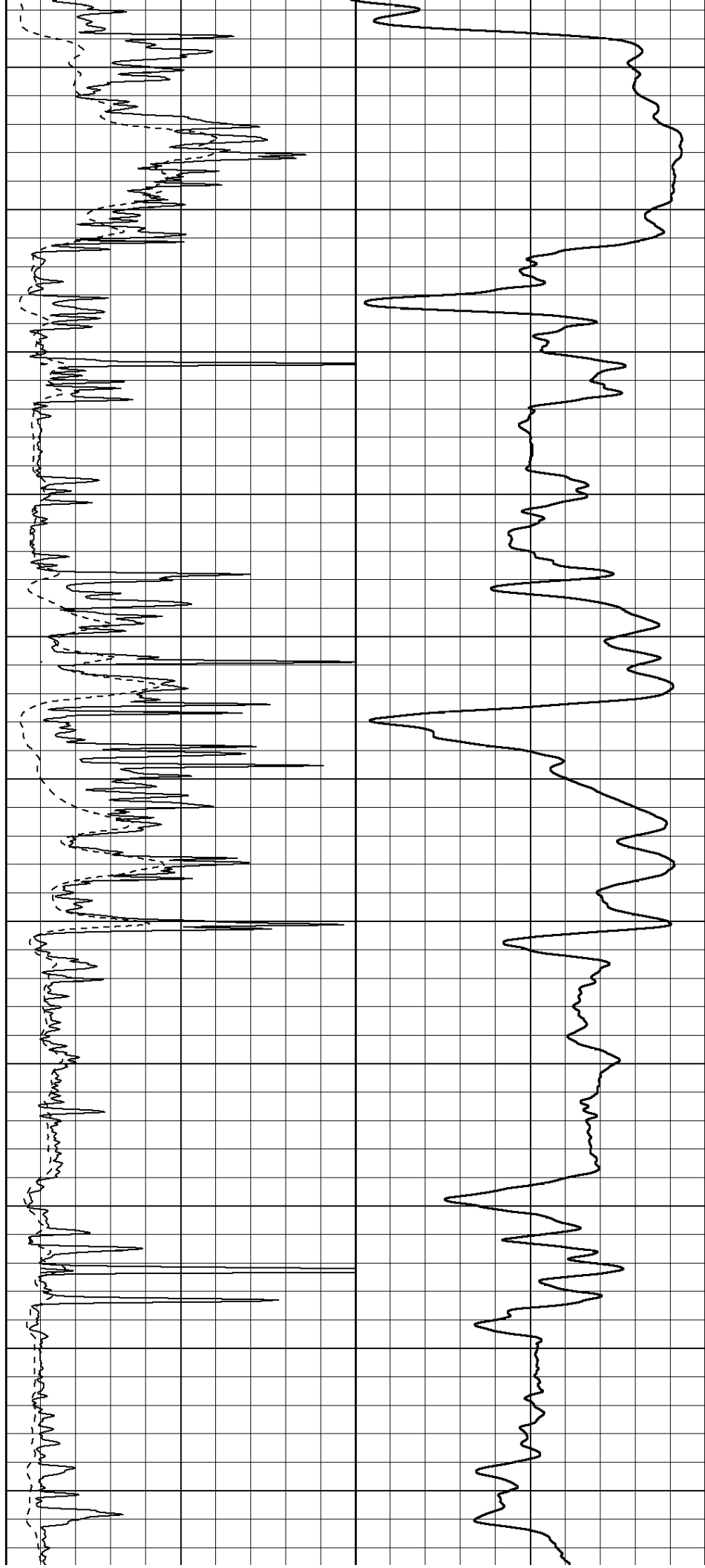
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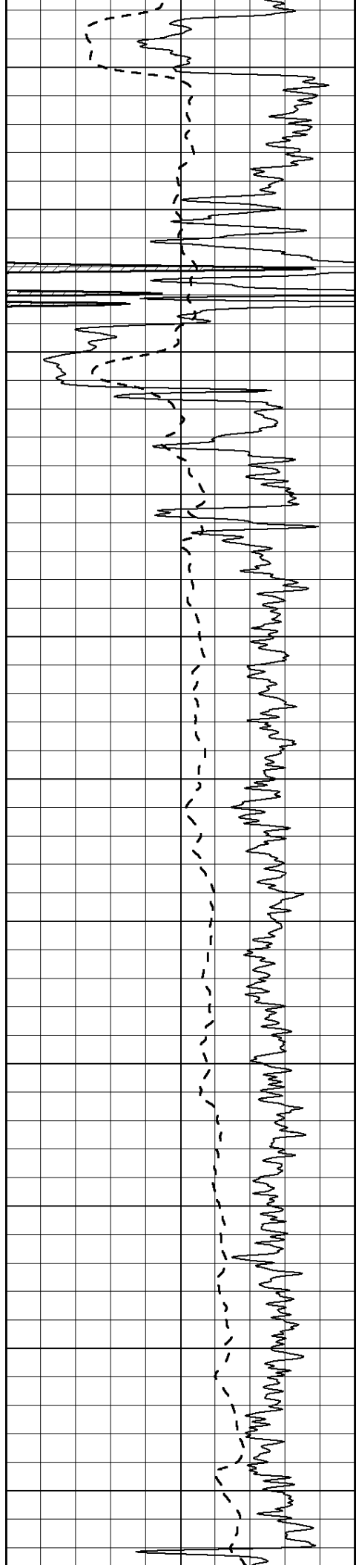
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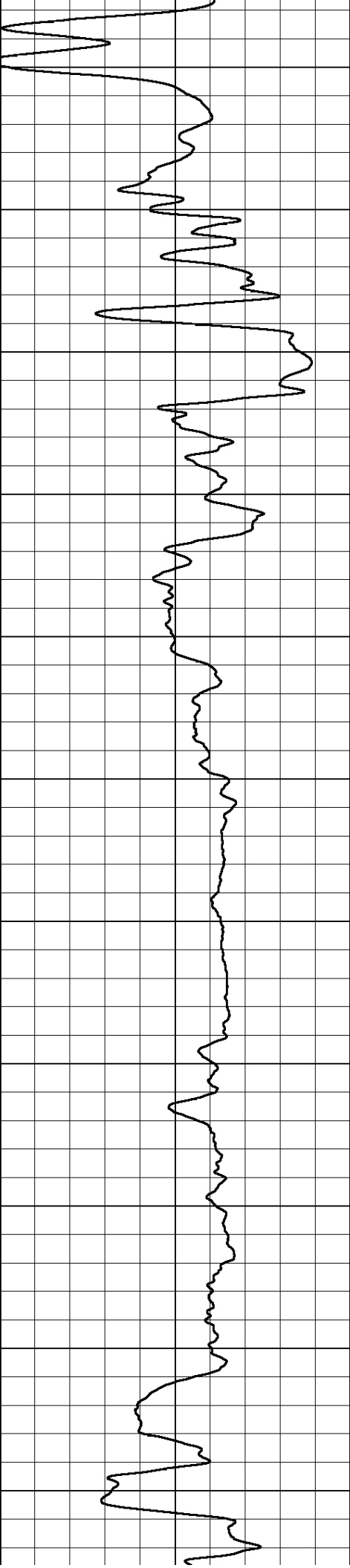
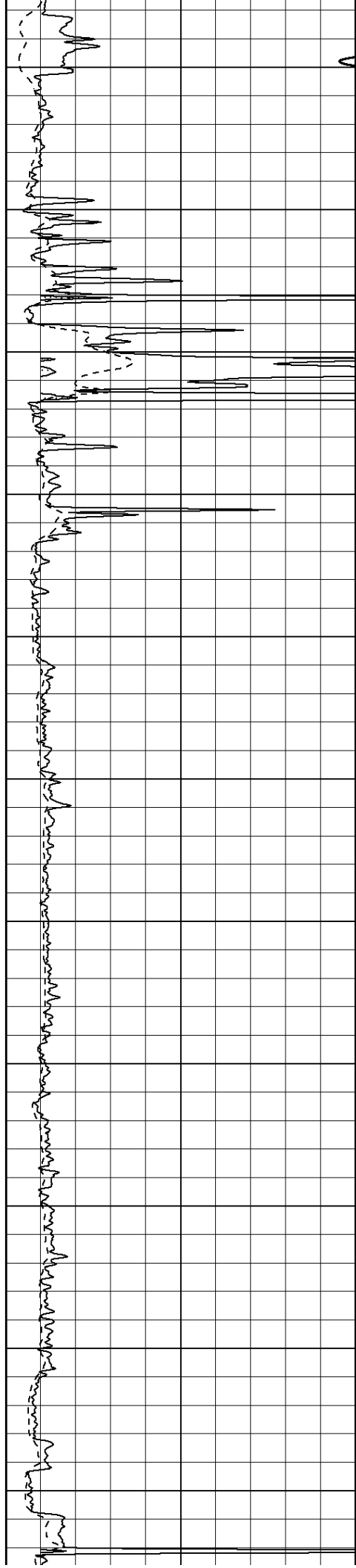
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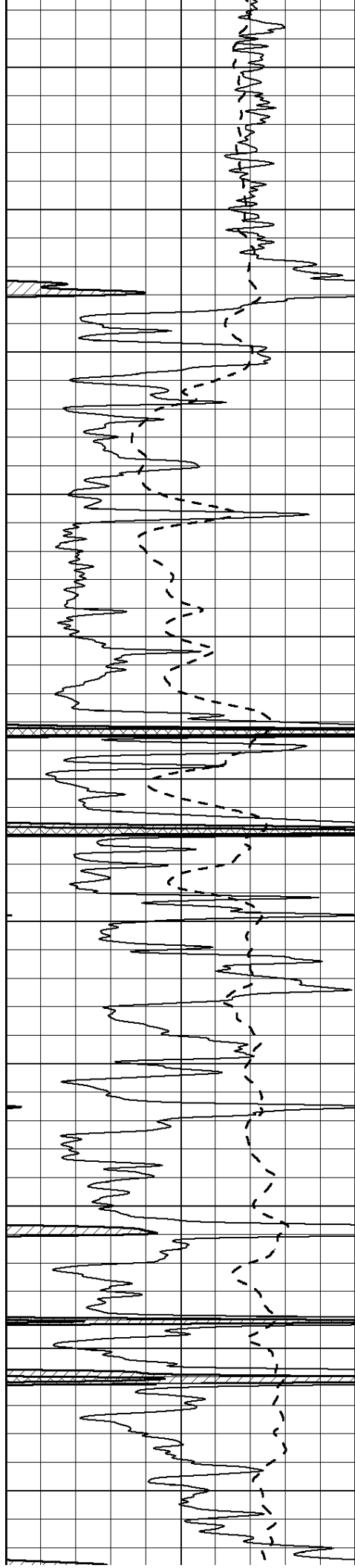
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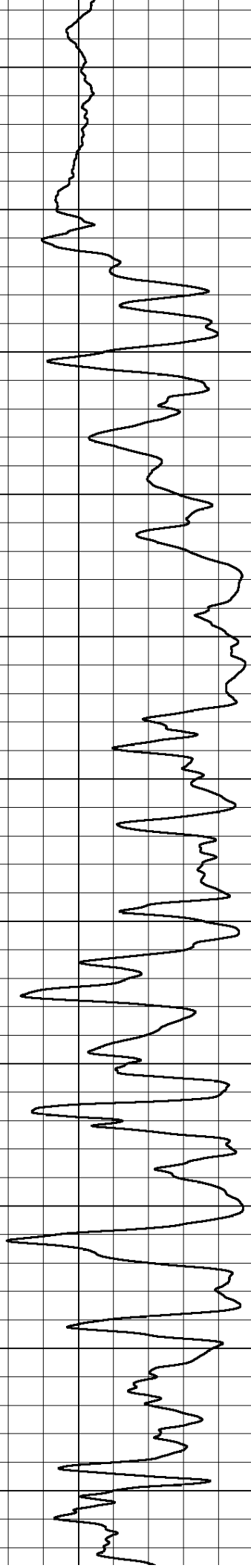
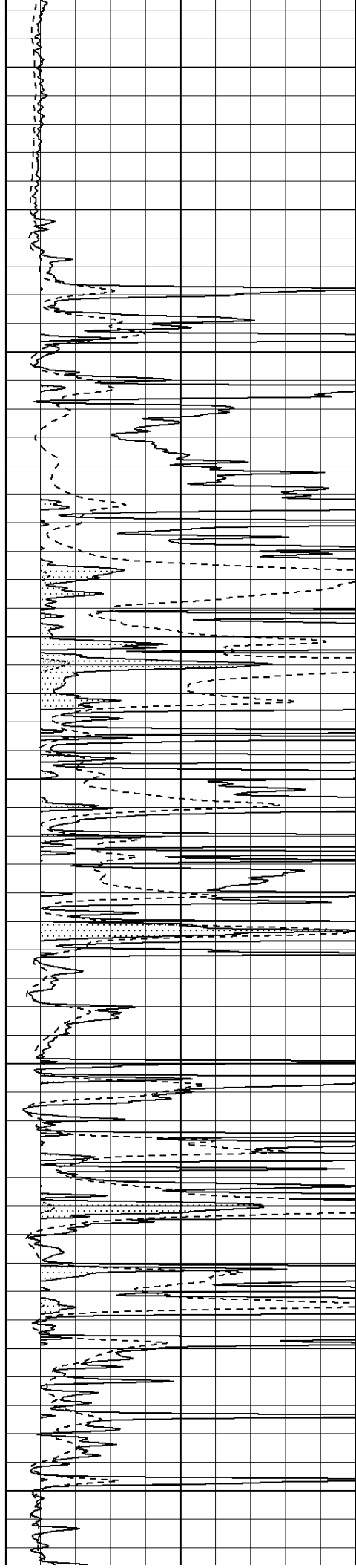
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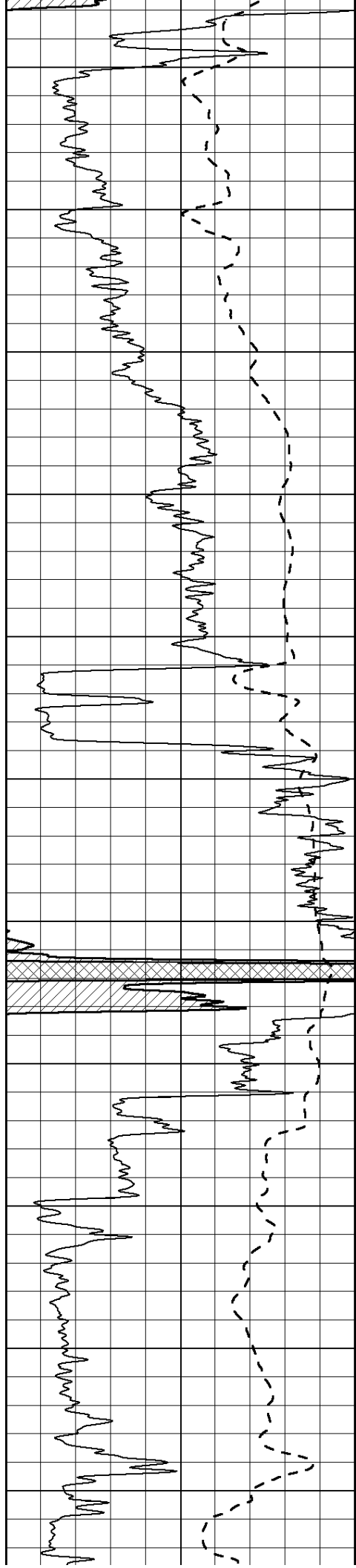
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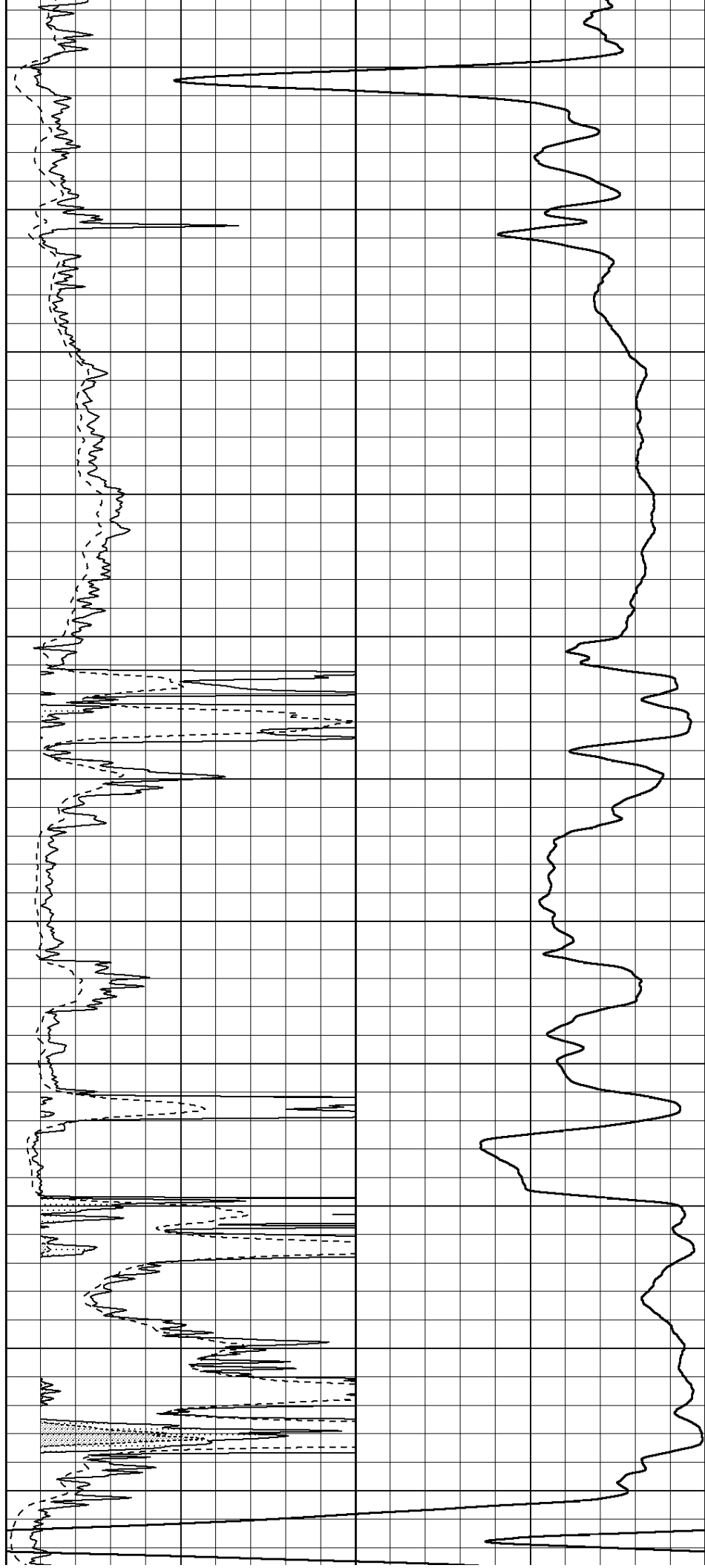
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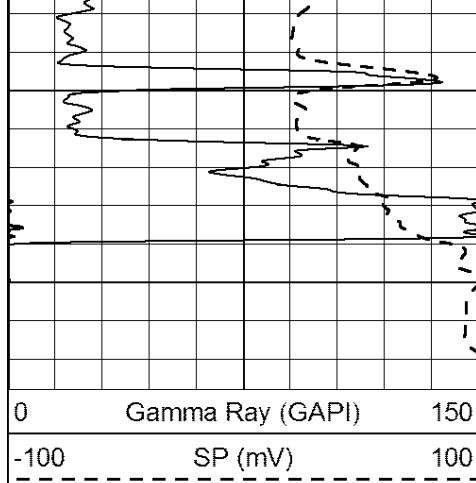
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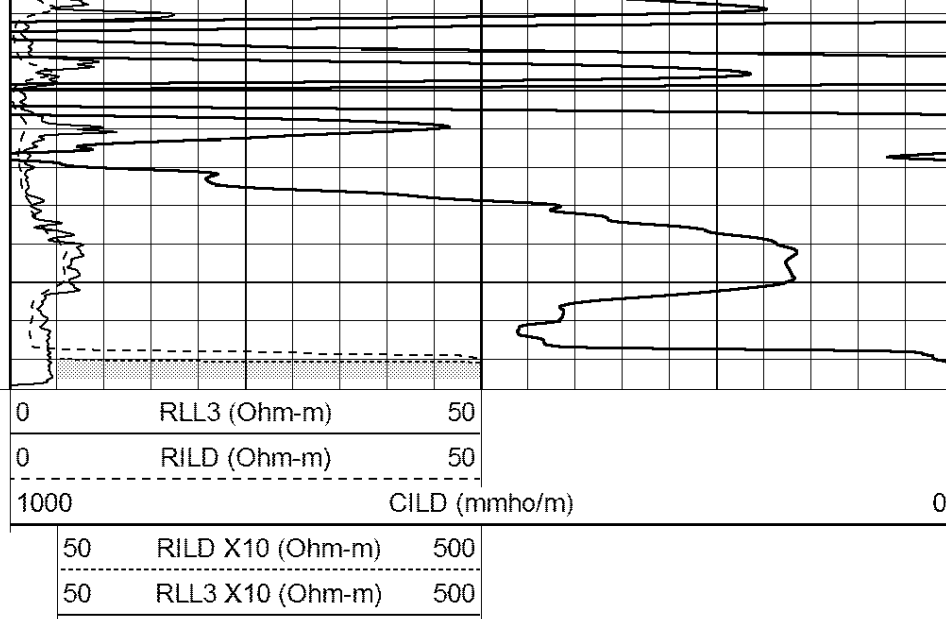
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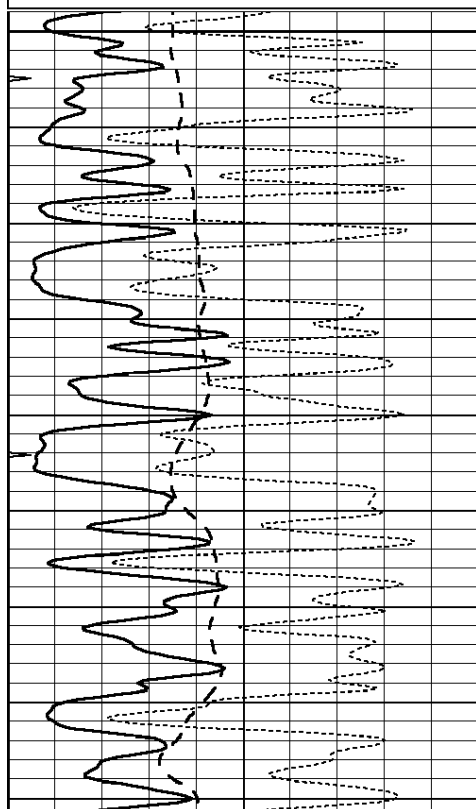
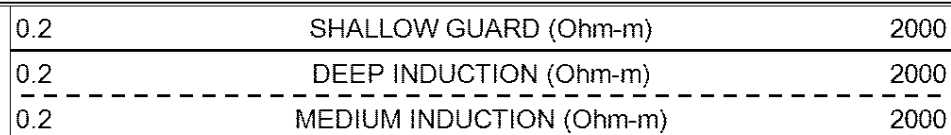
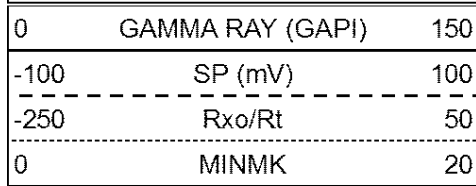
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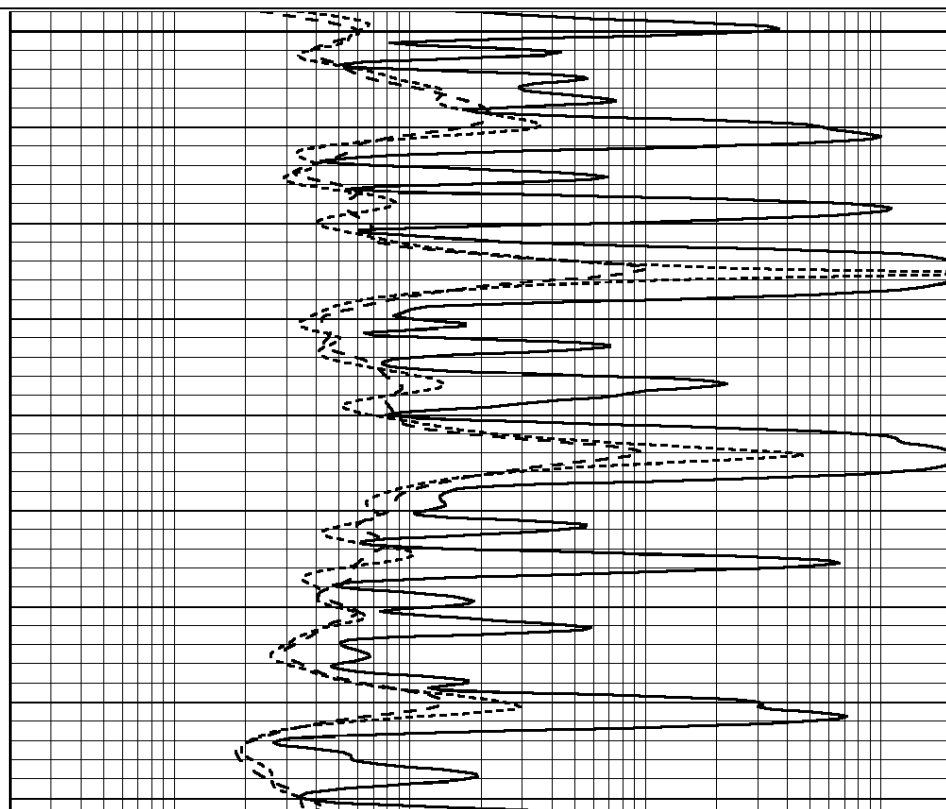
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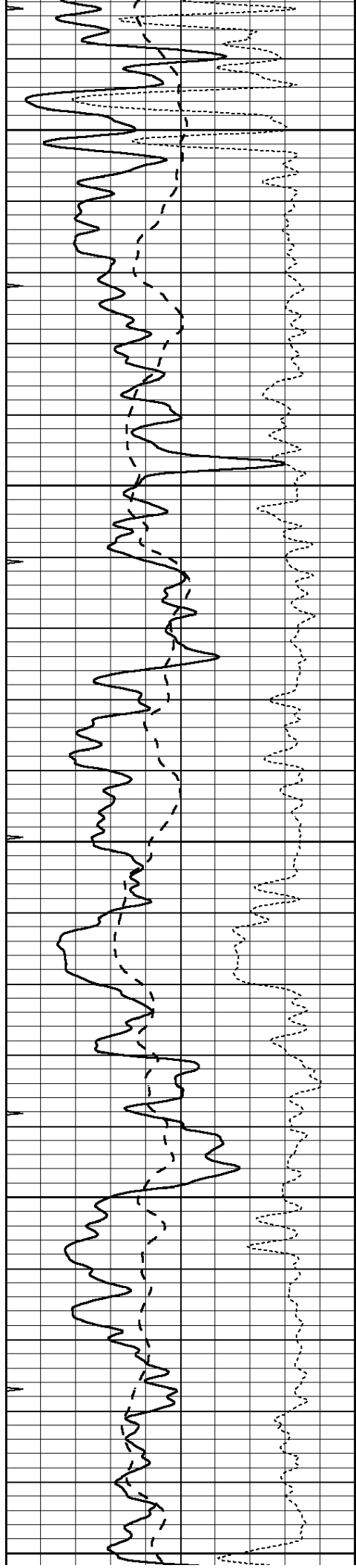
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Dataset Pathname: pass4.9
Presentation Format: dil
Dataset Creation: Thu Sep 27 16:43:21 2012 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240



1800

1850





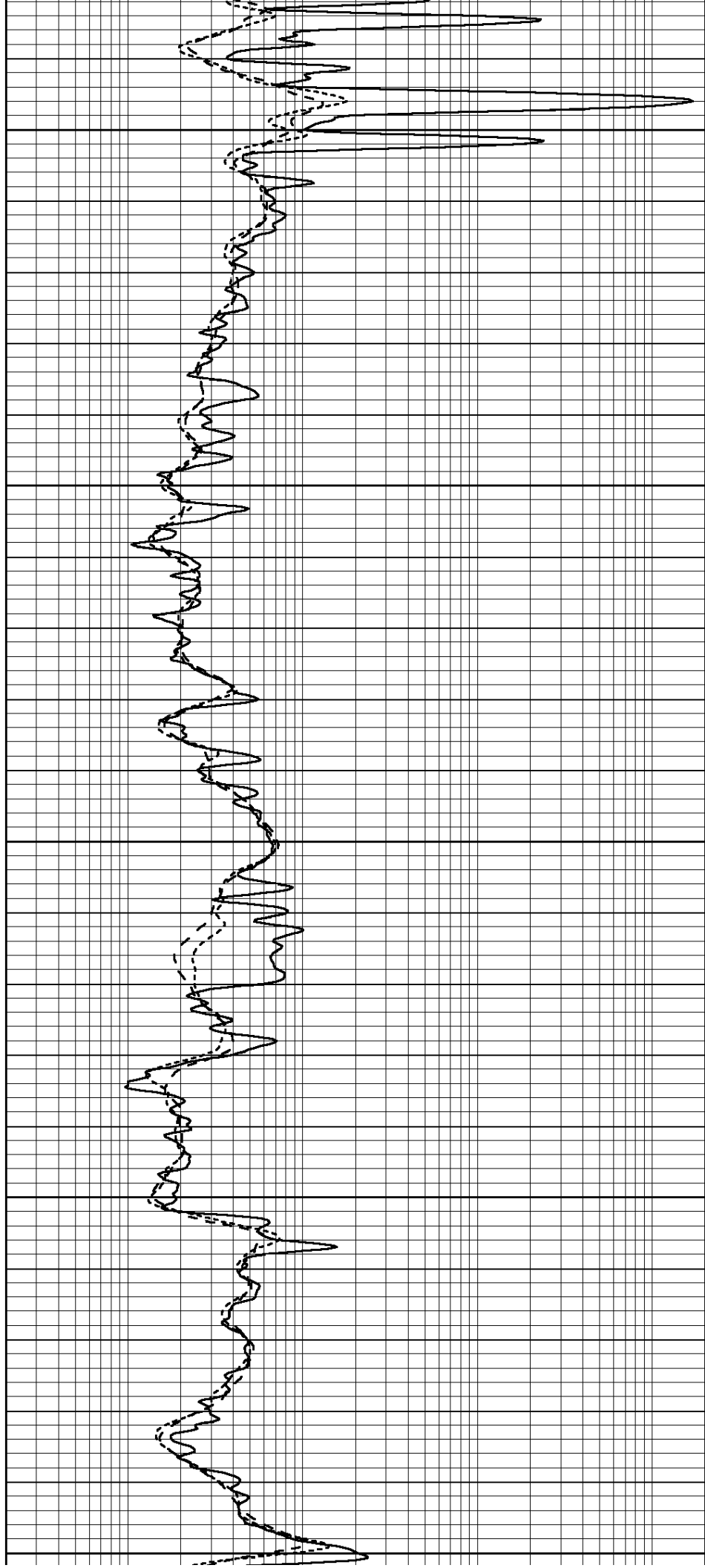
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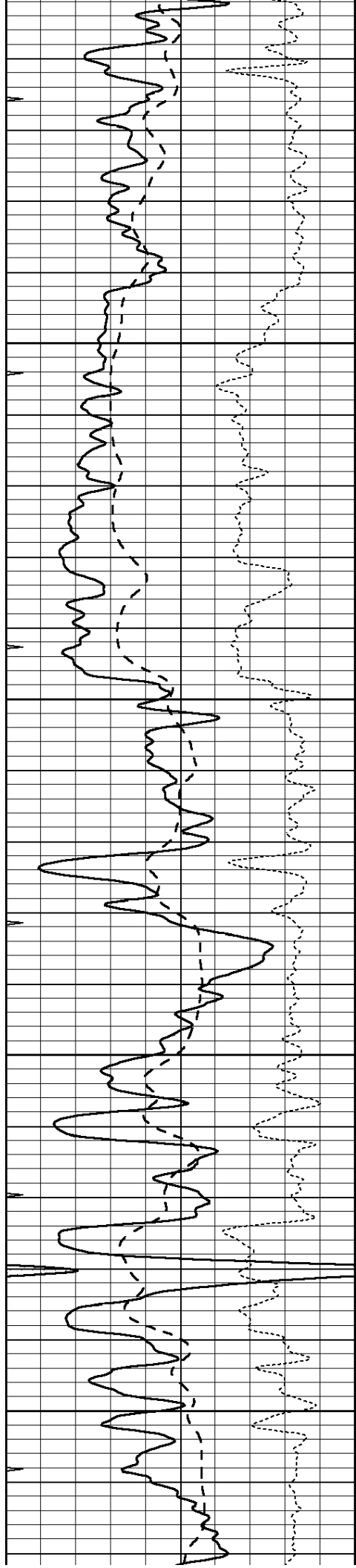
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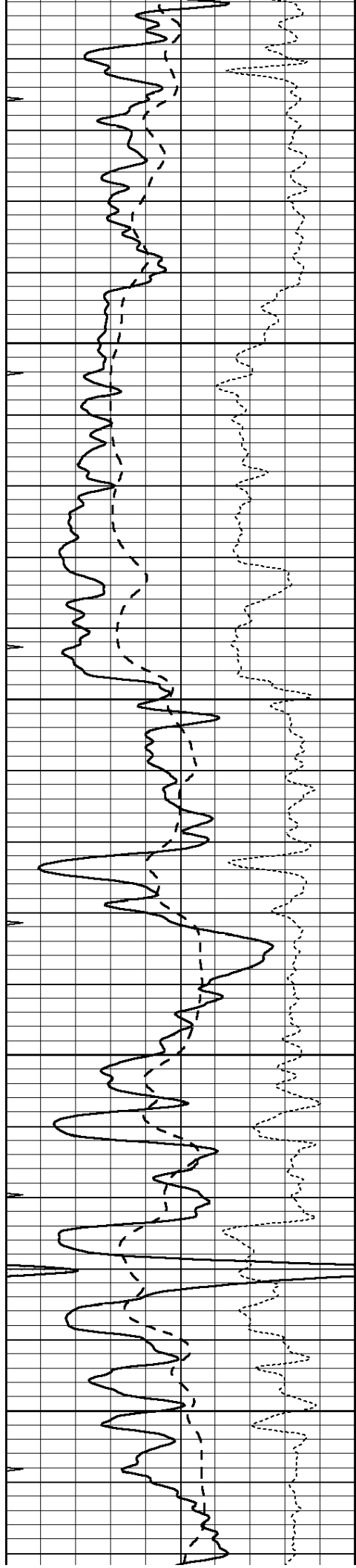
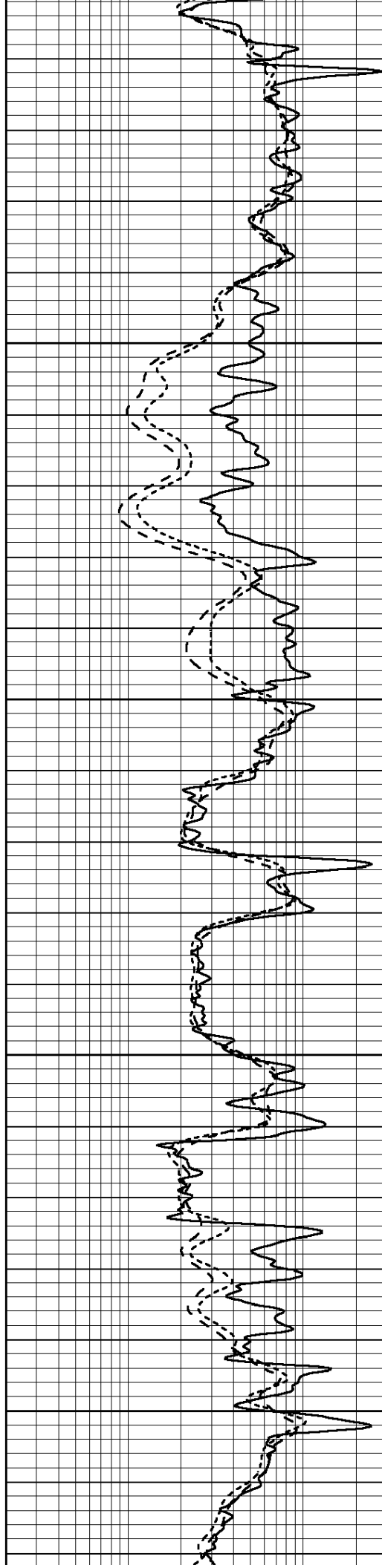


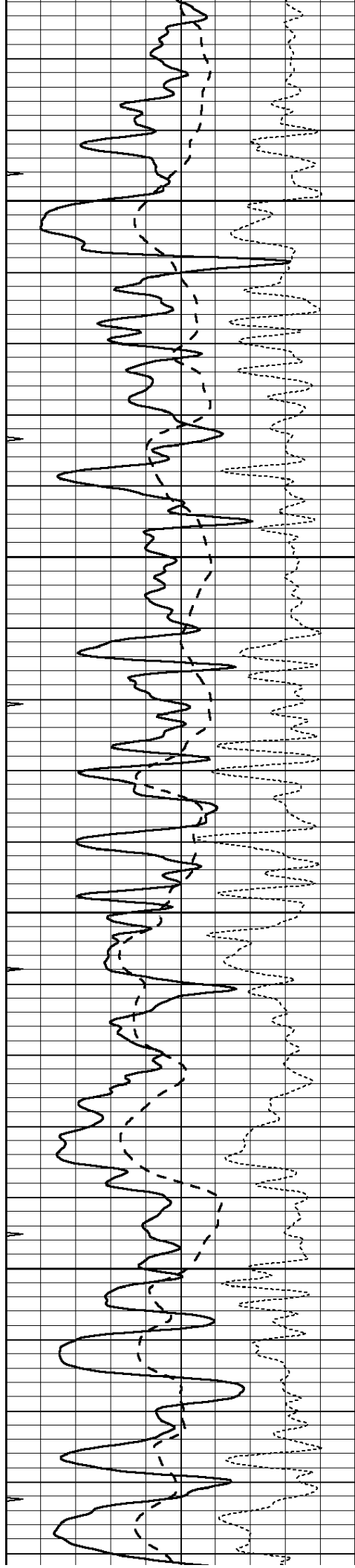
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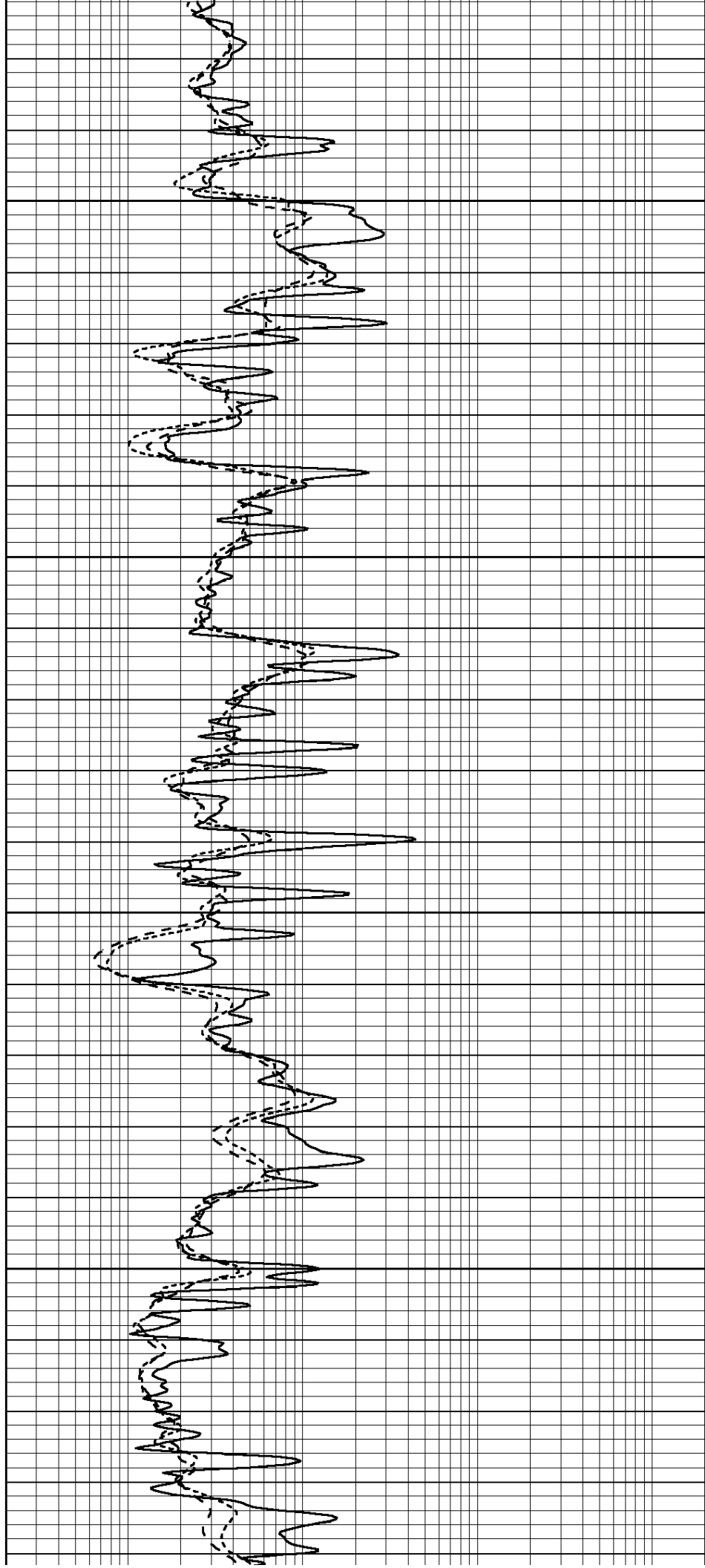


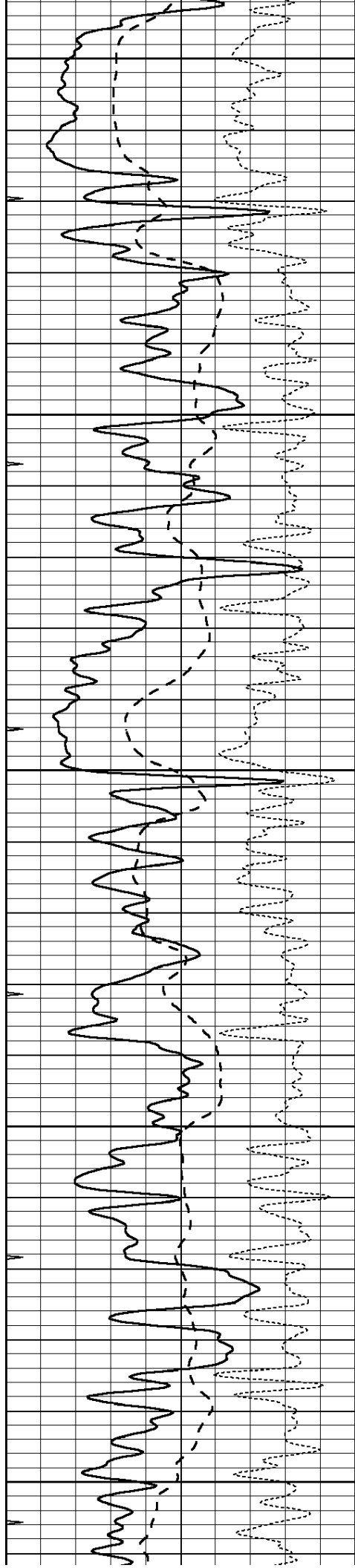
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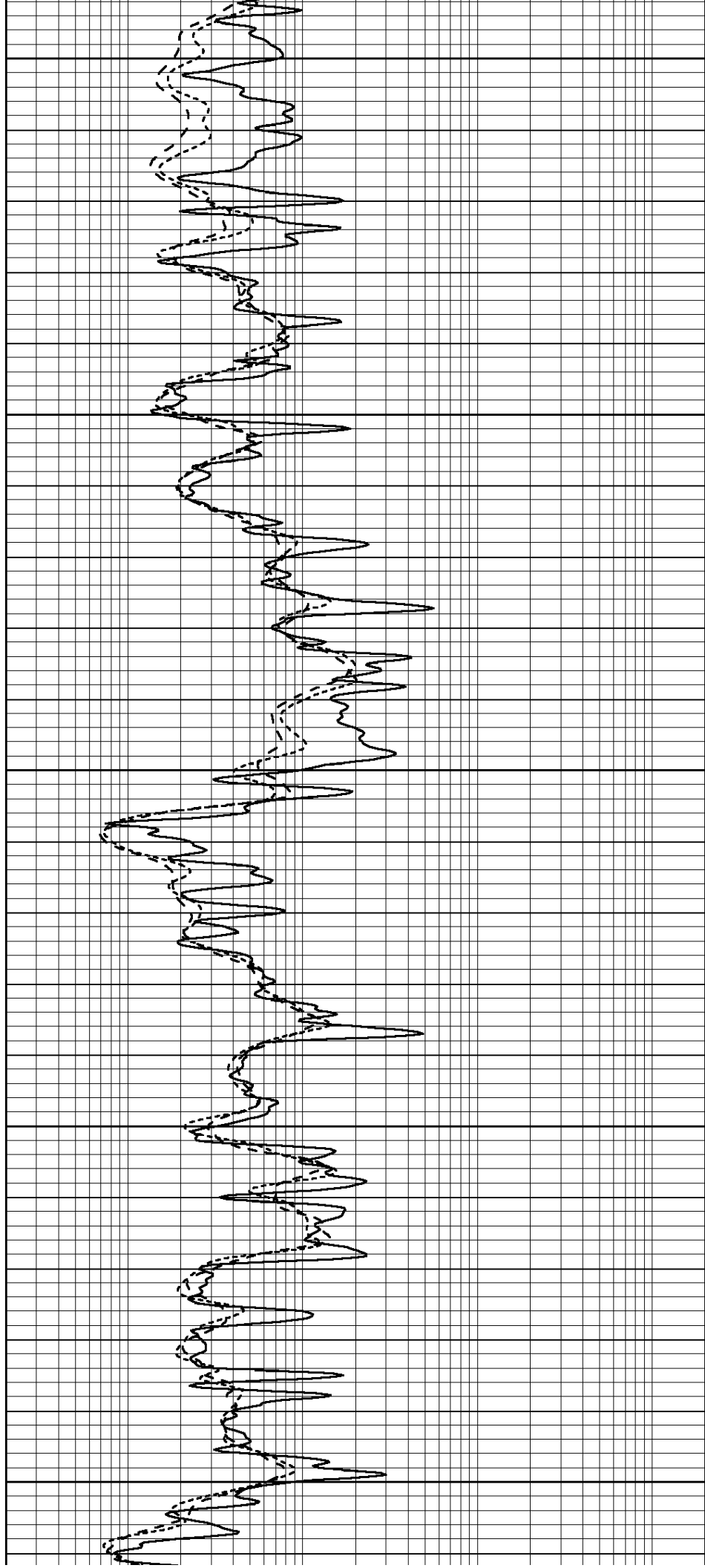
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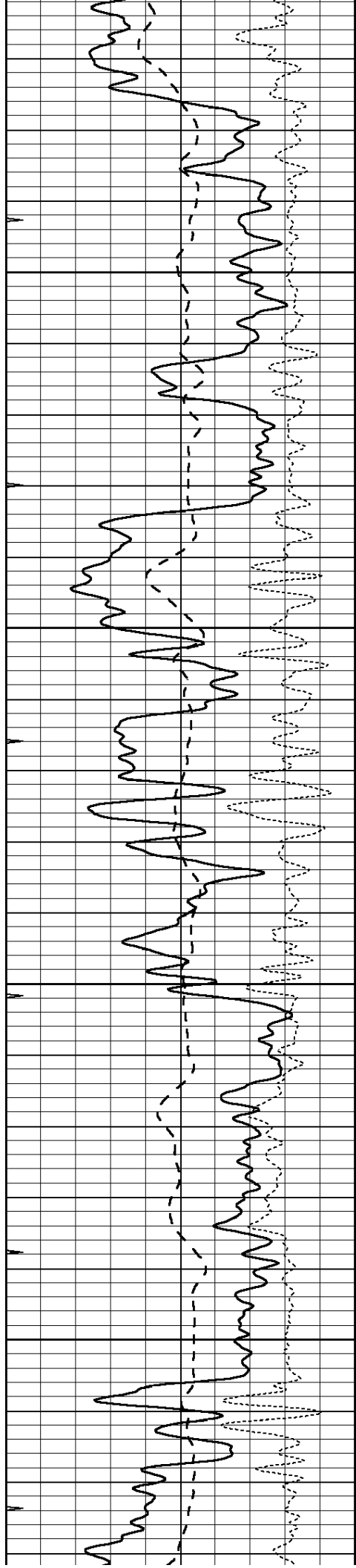
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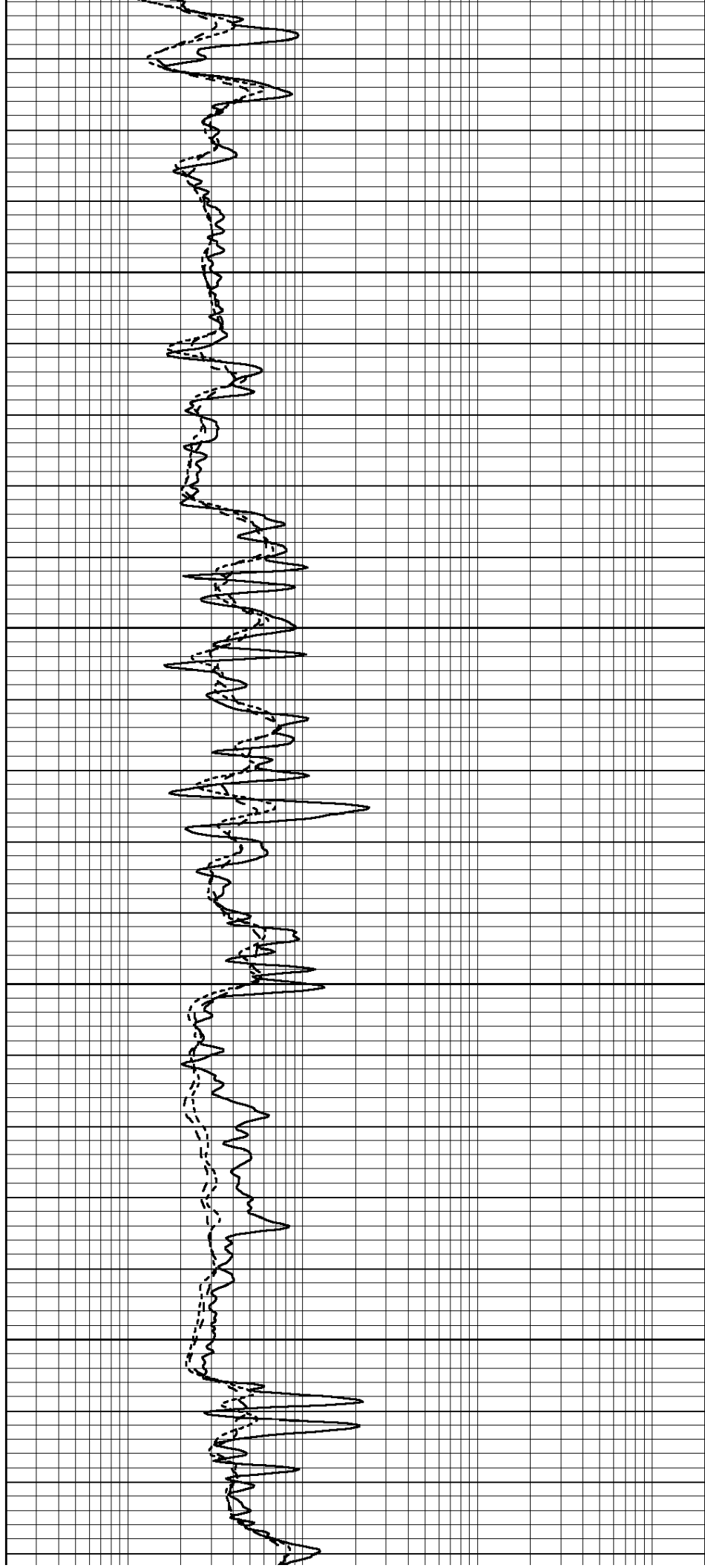


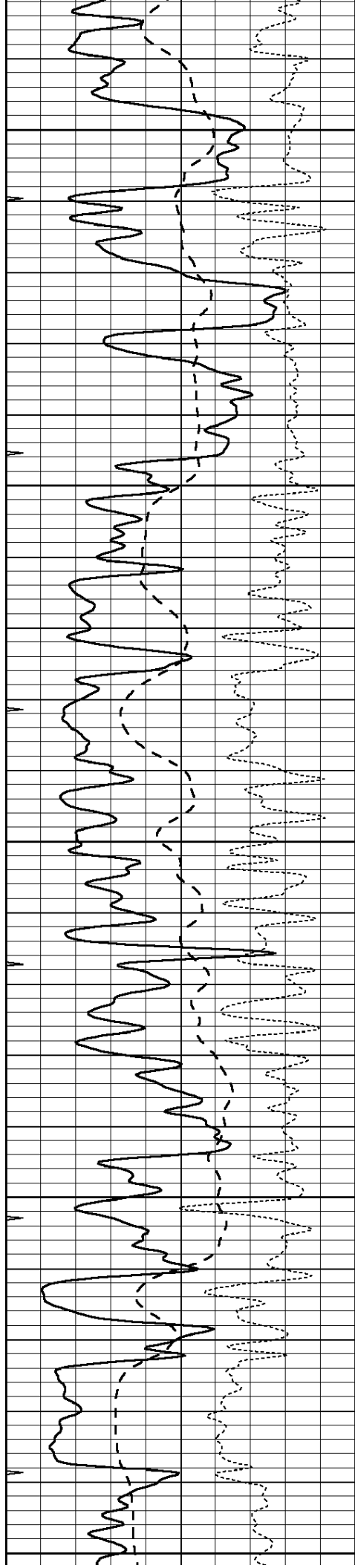
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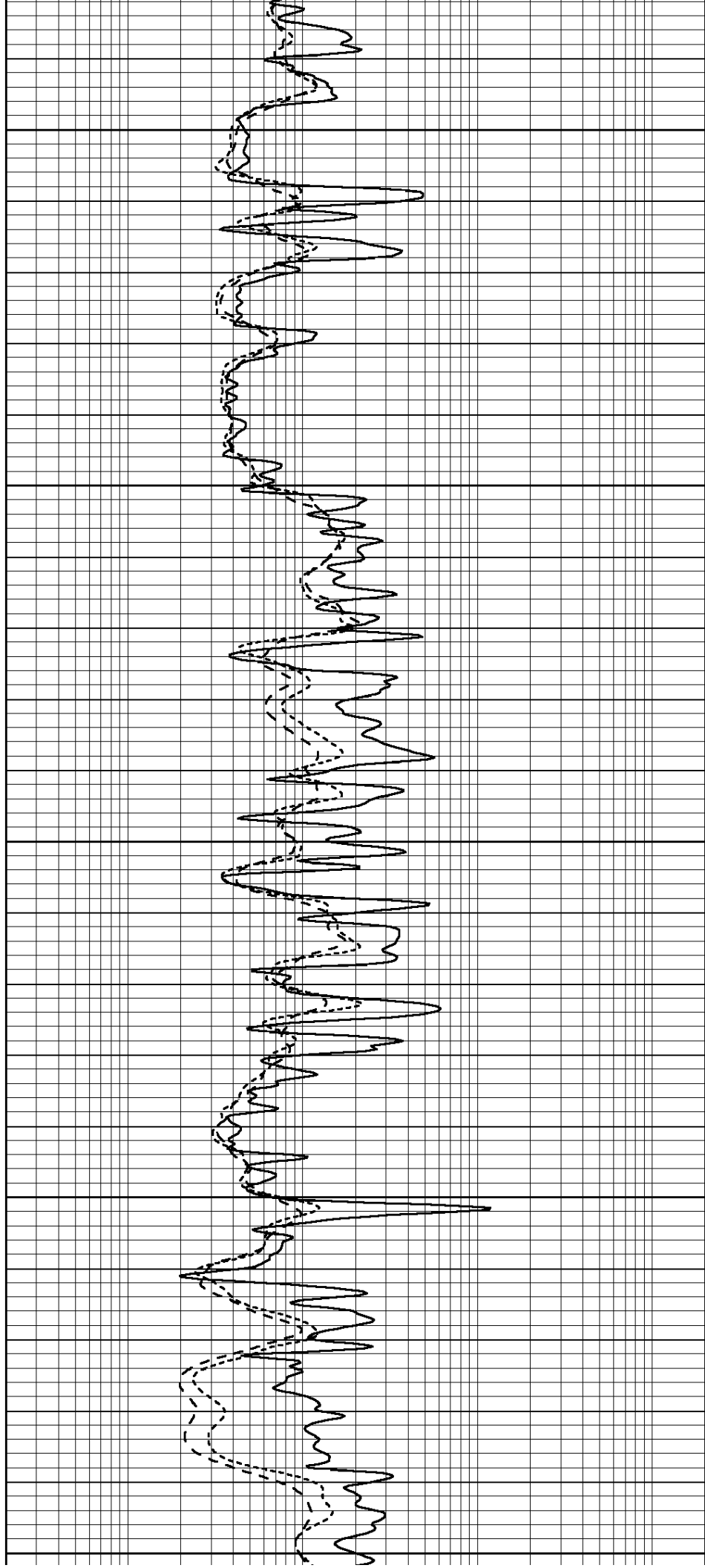
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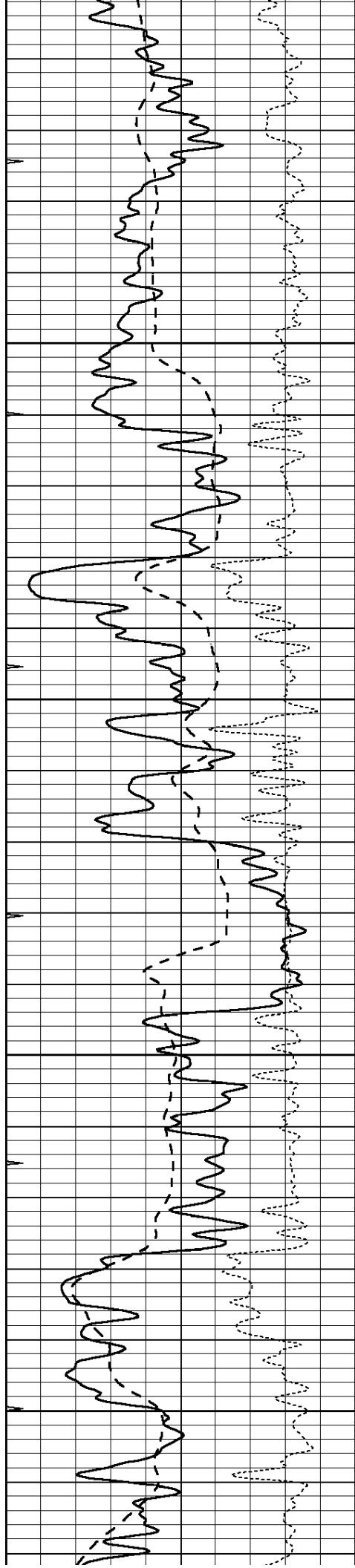
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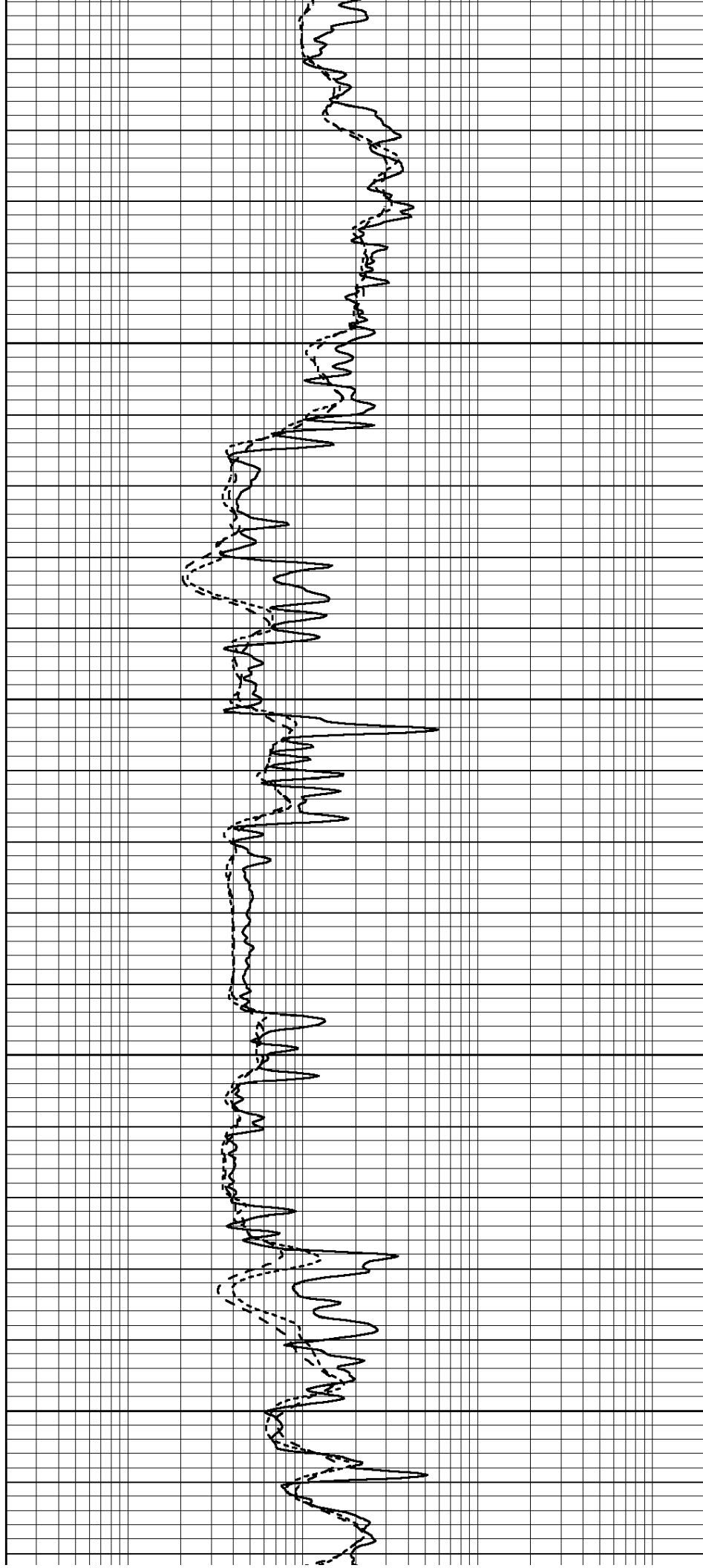


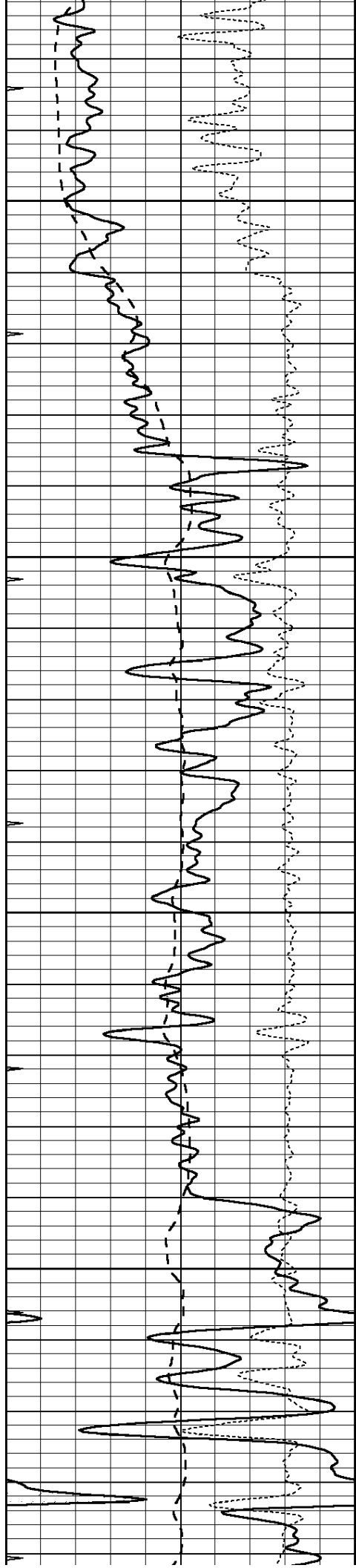
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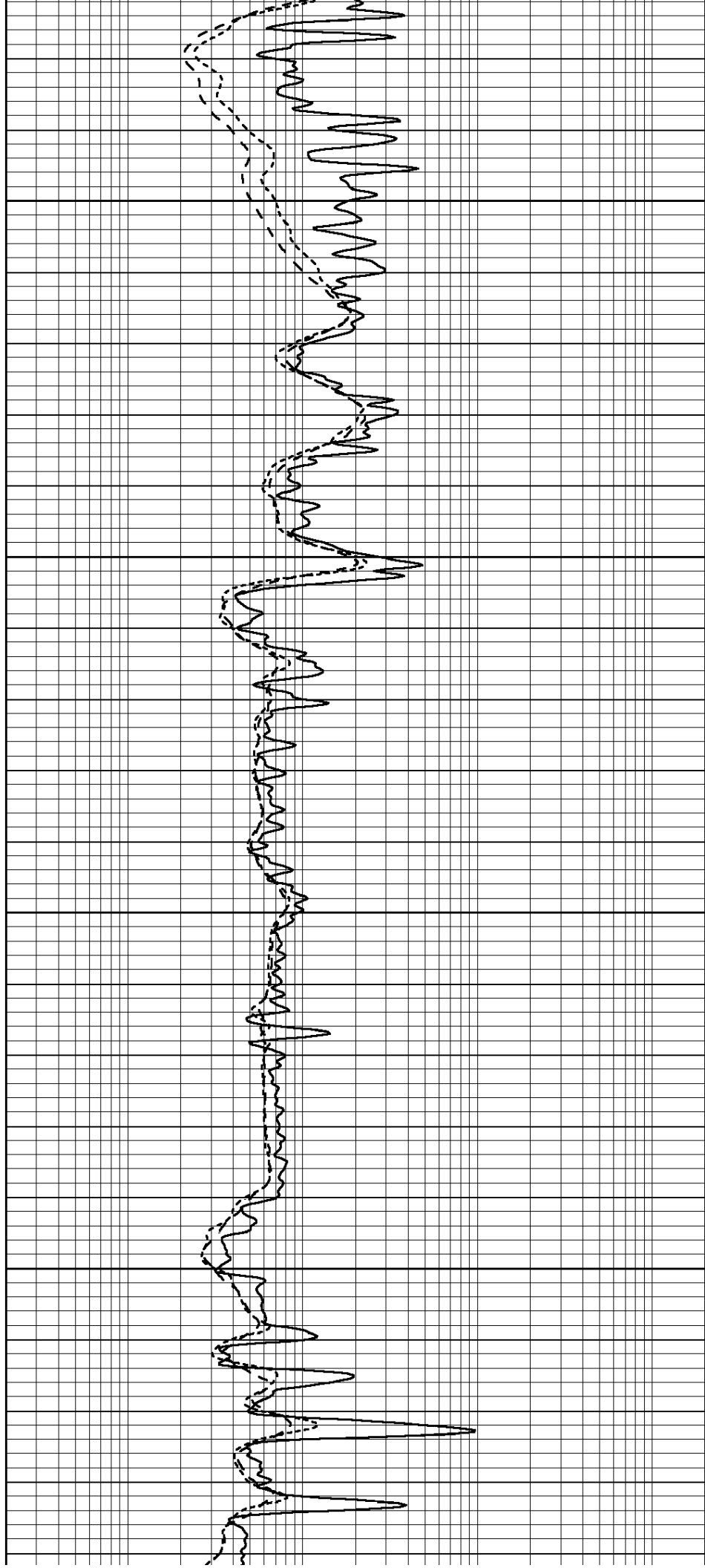


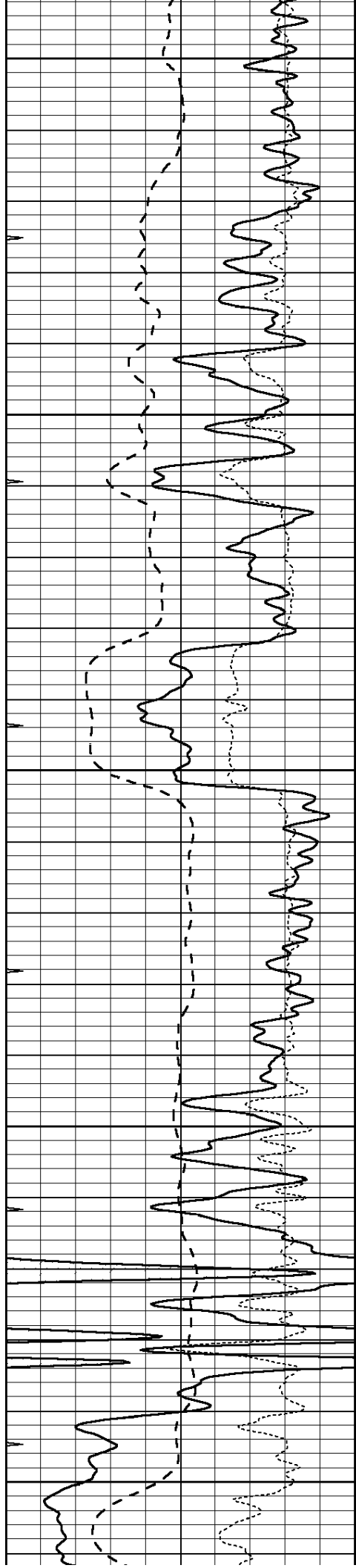
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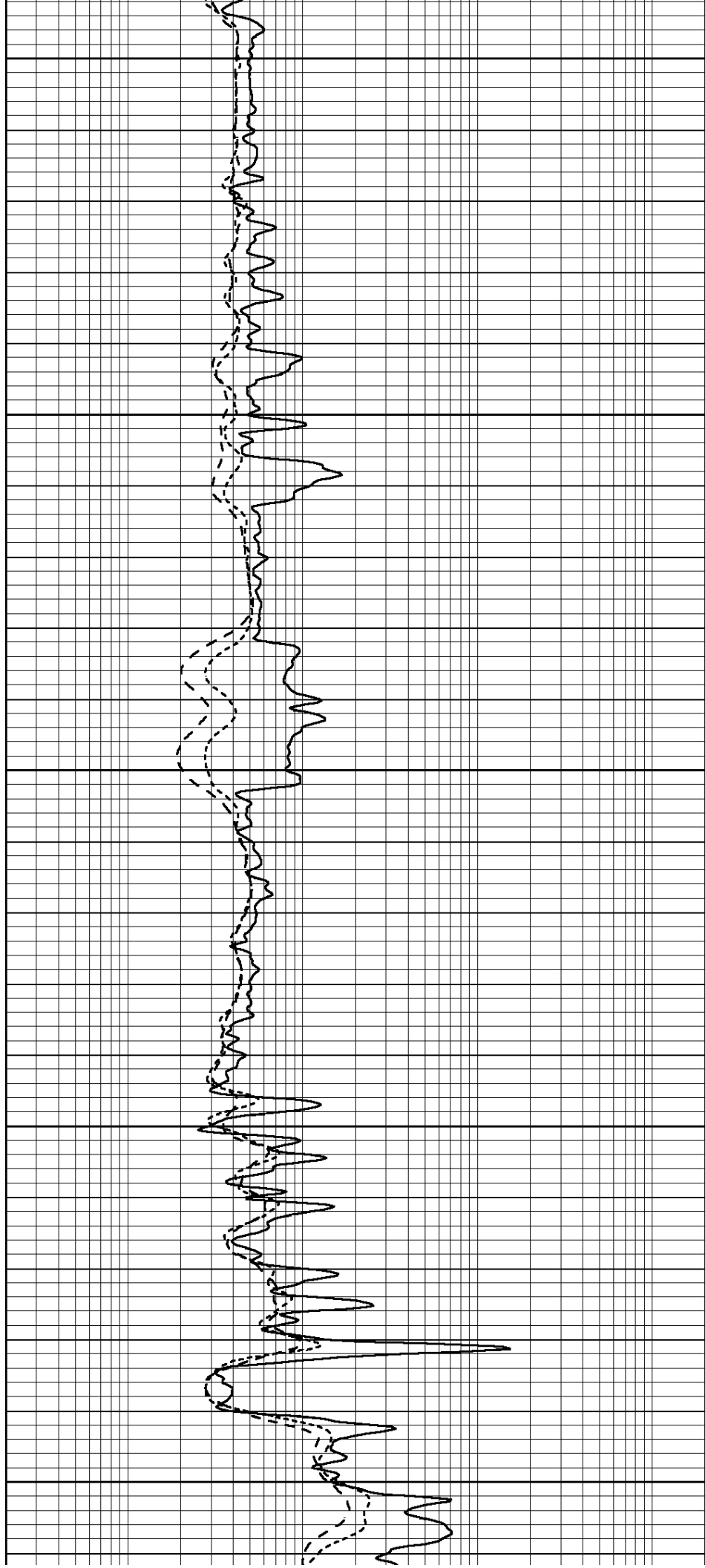
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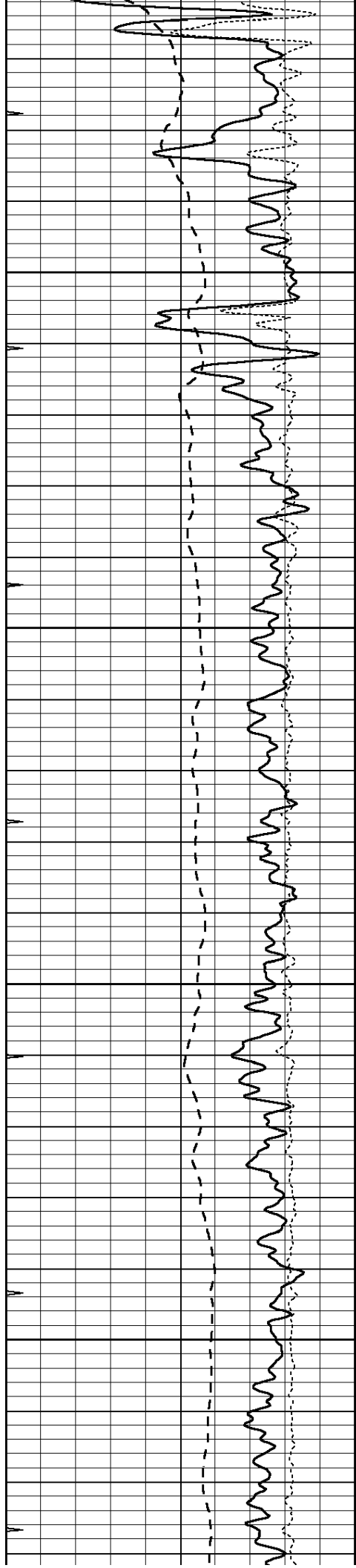
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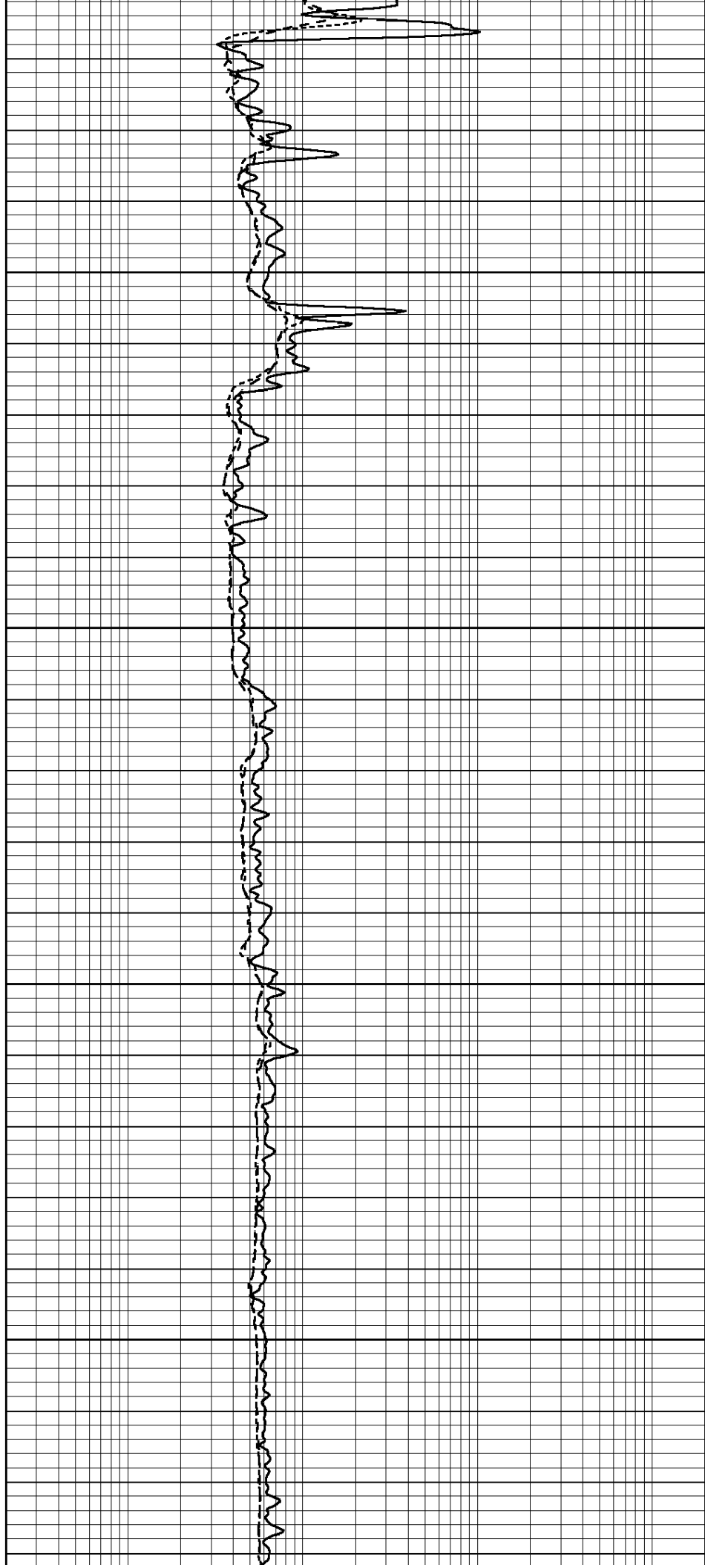


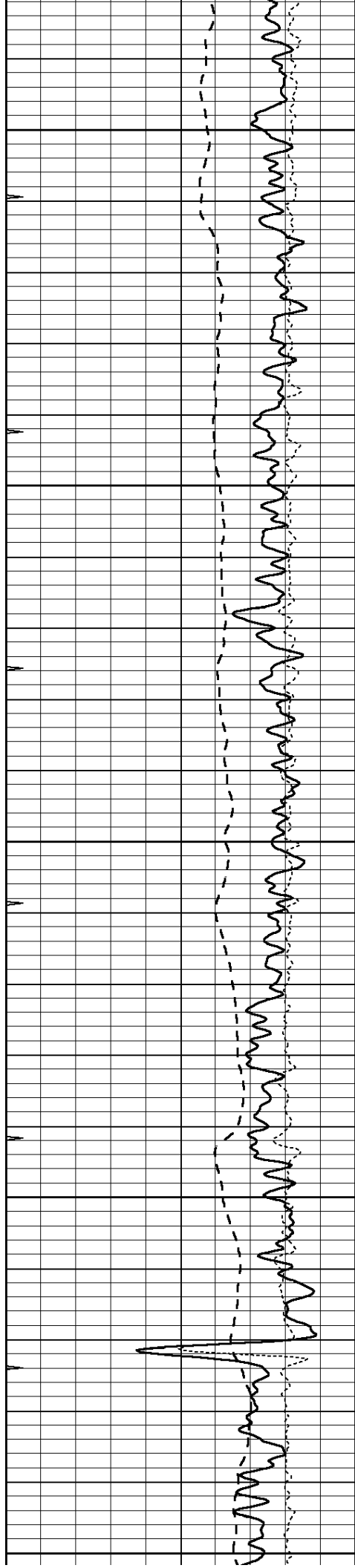
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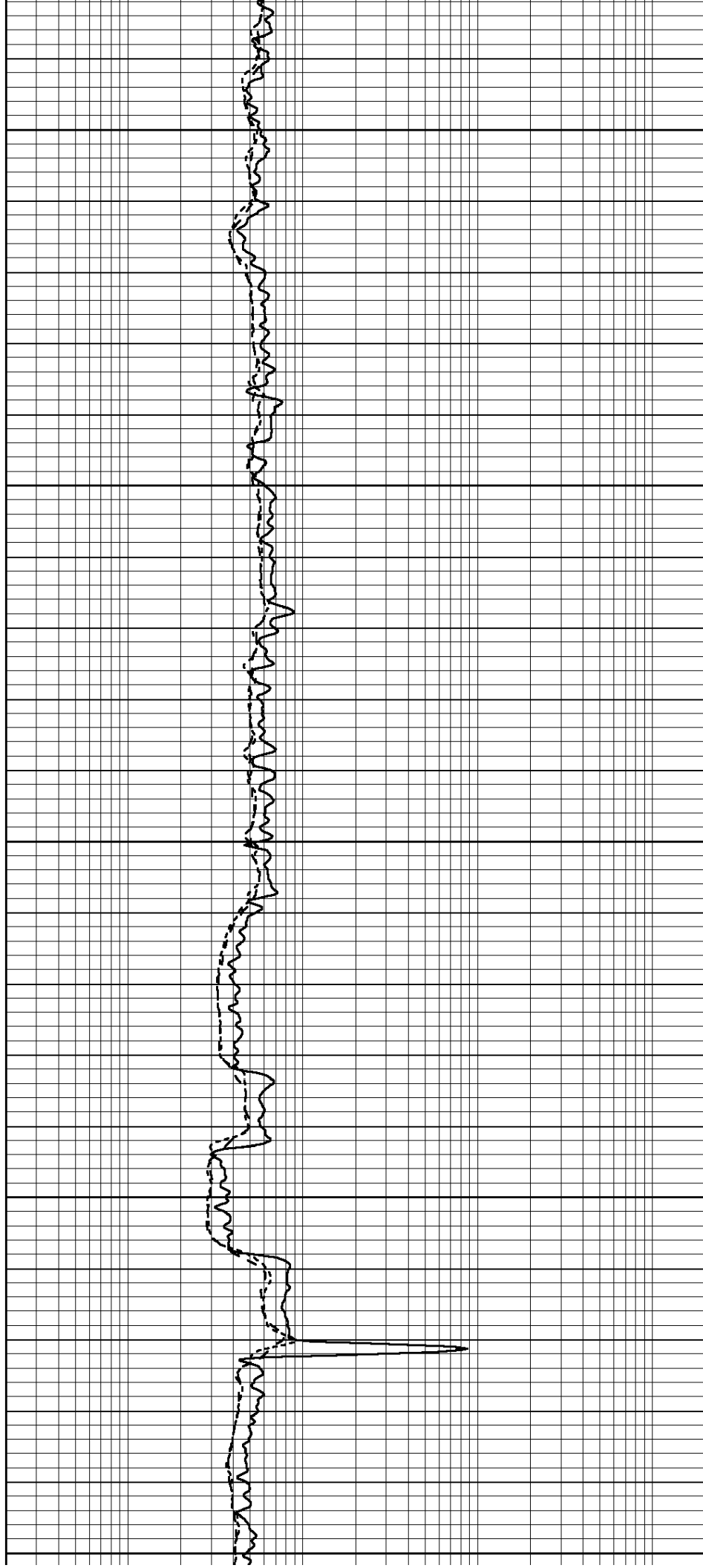
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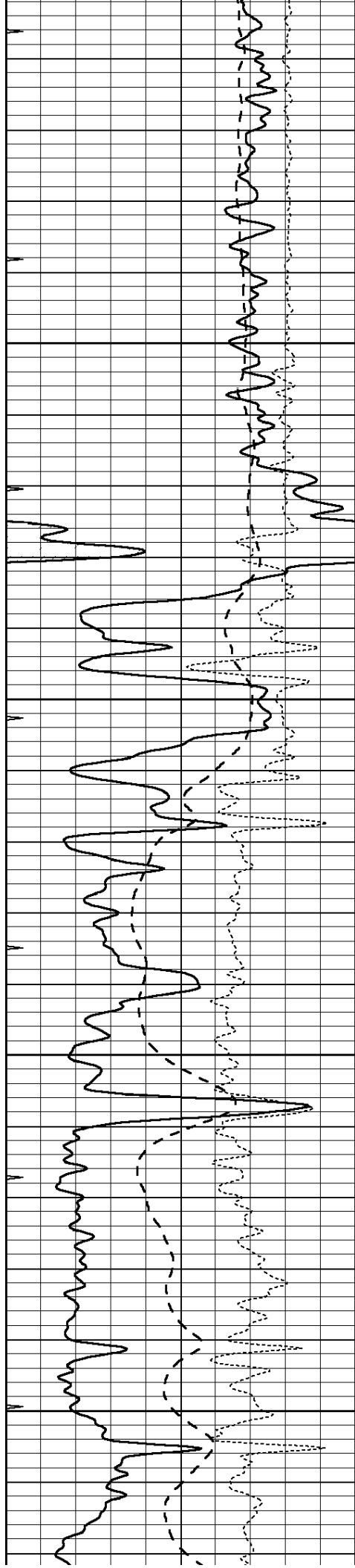
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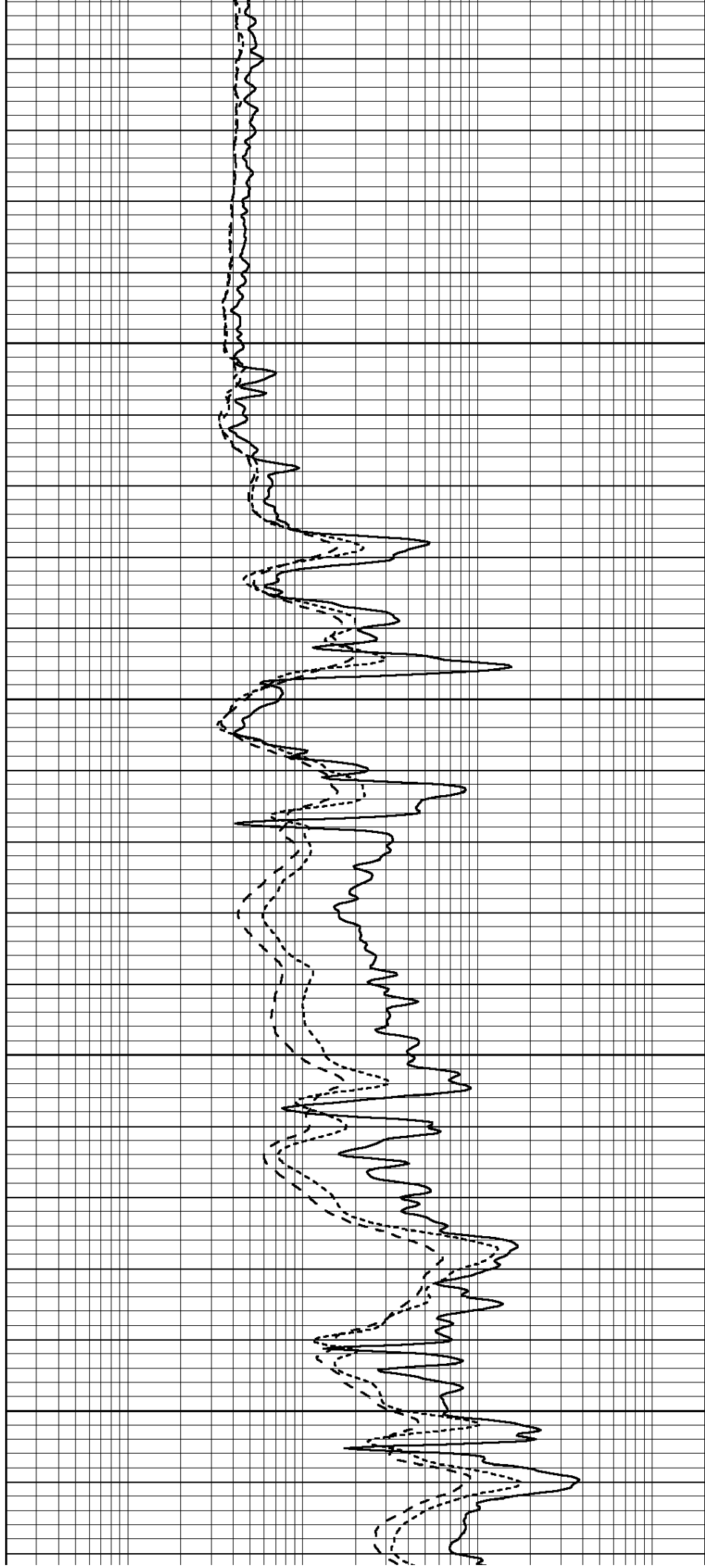


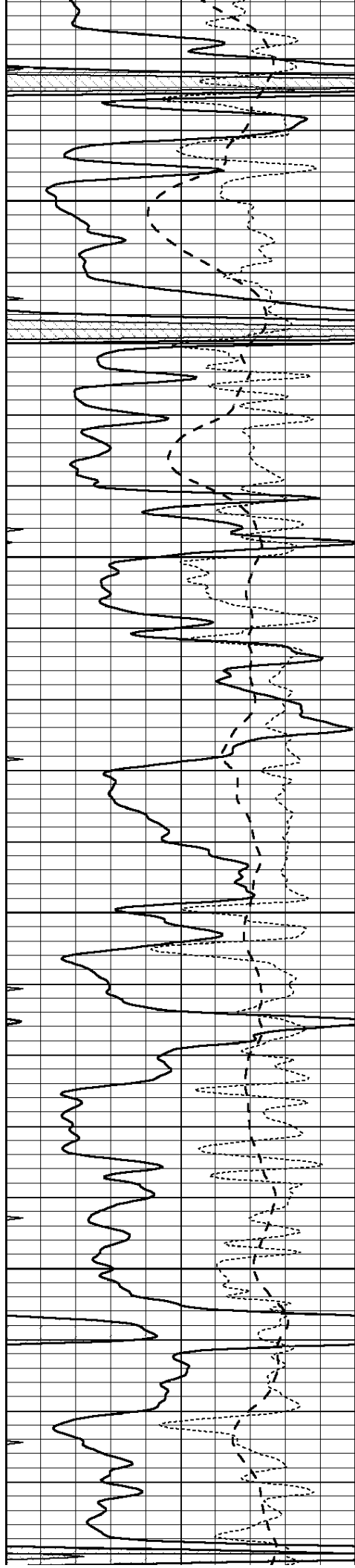
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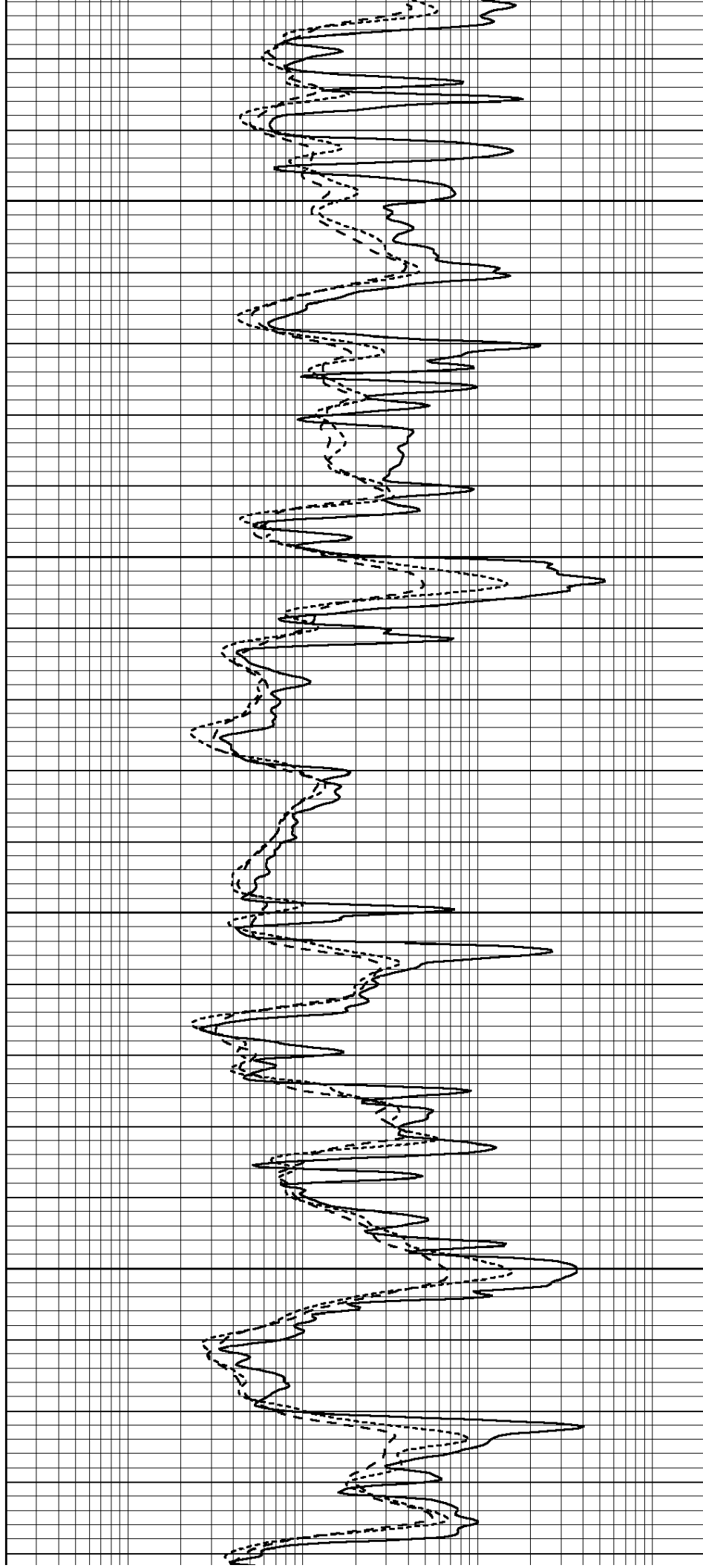


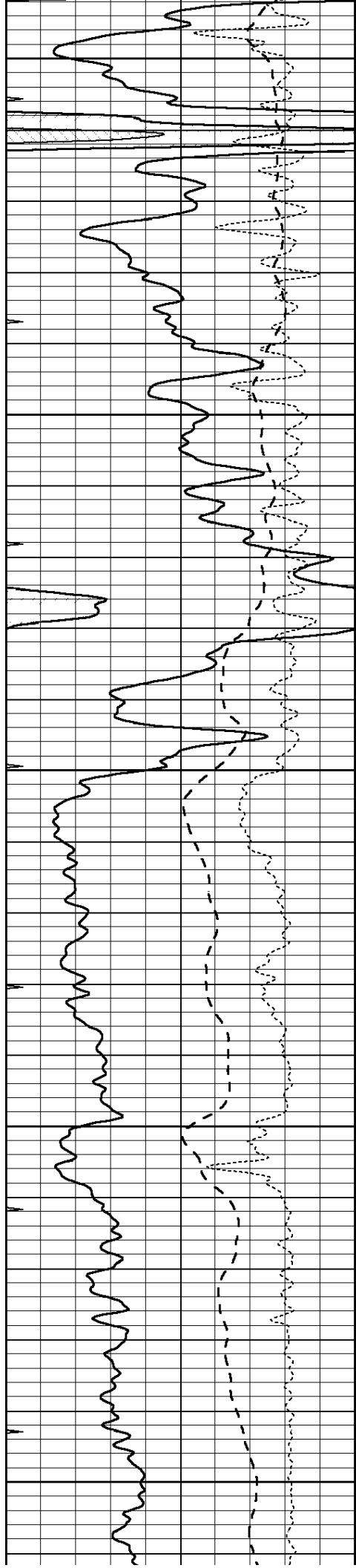
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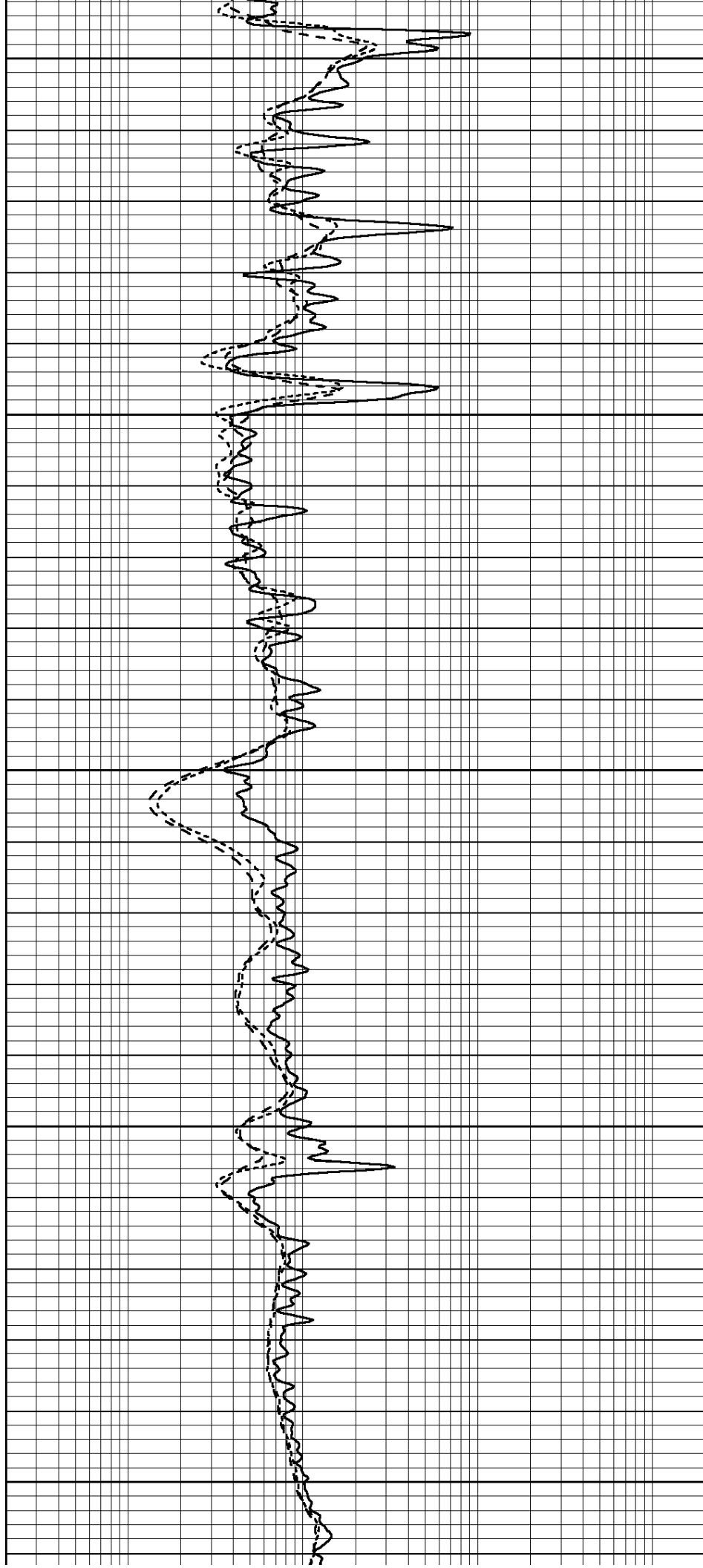
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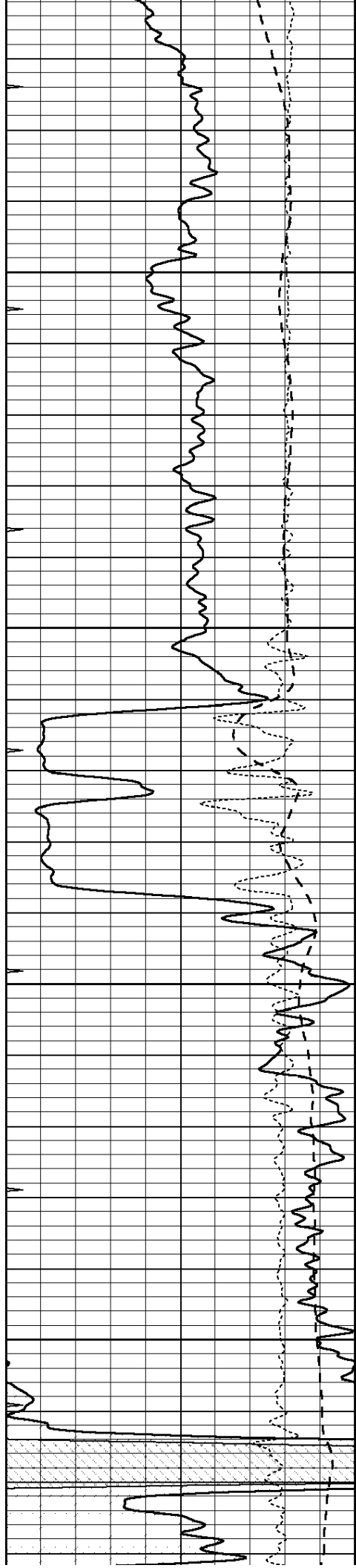
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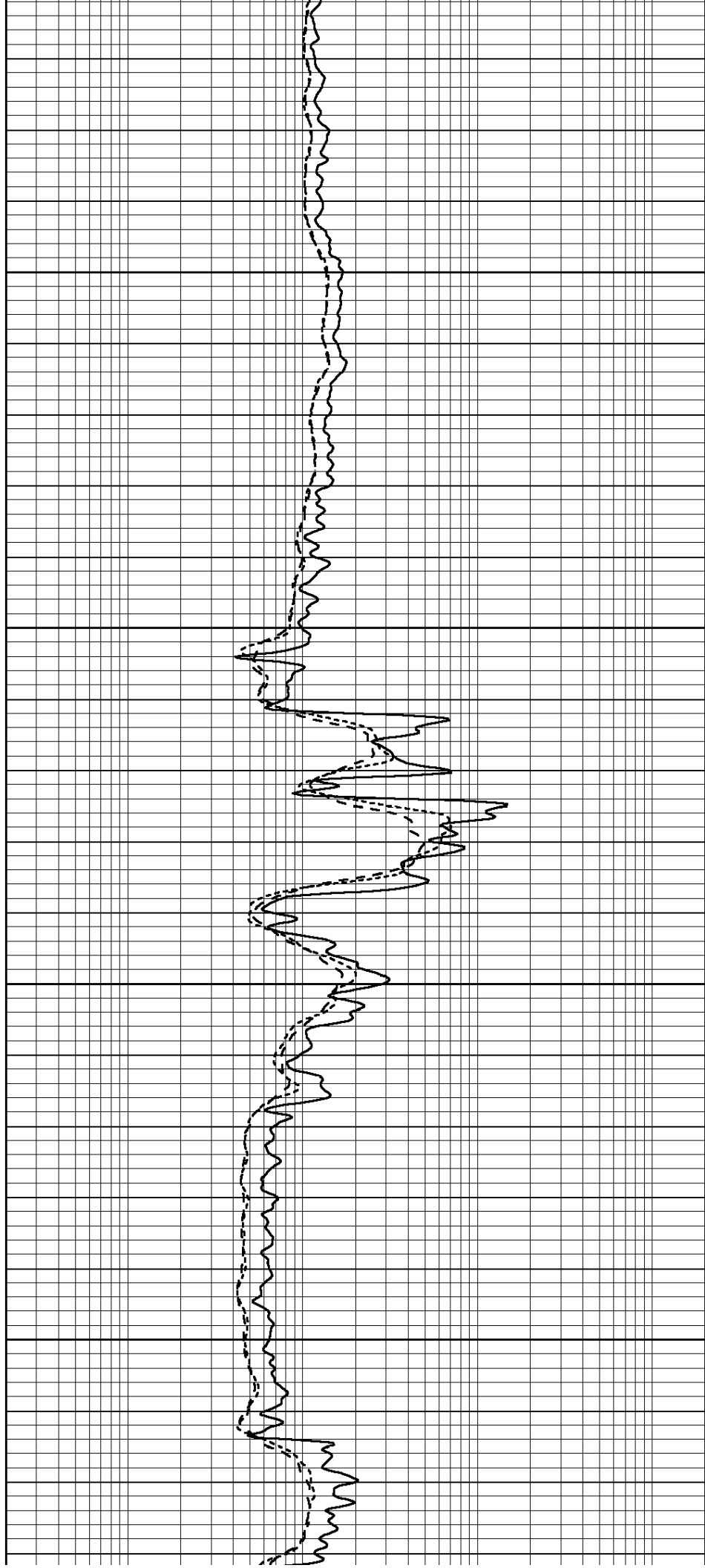


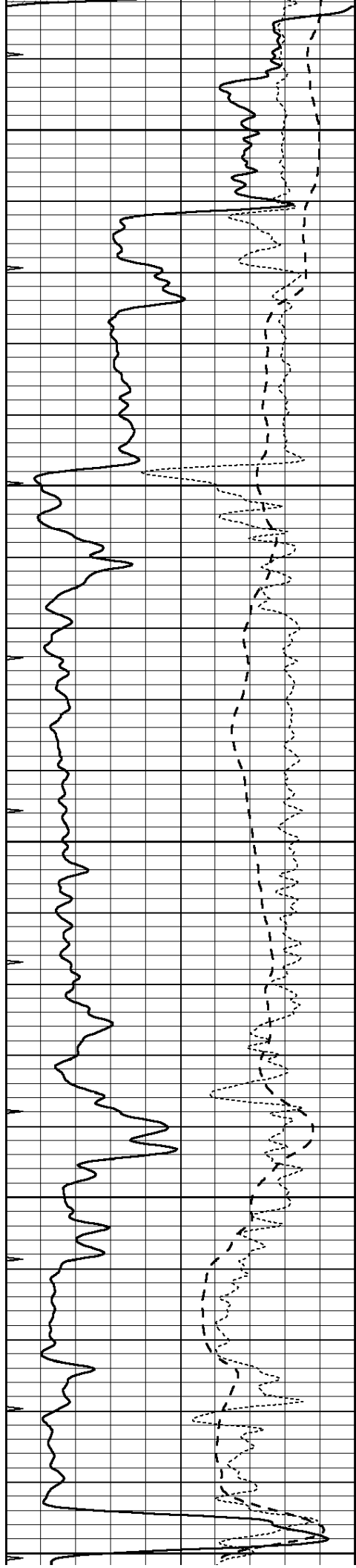
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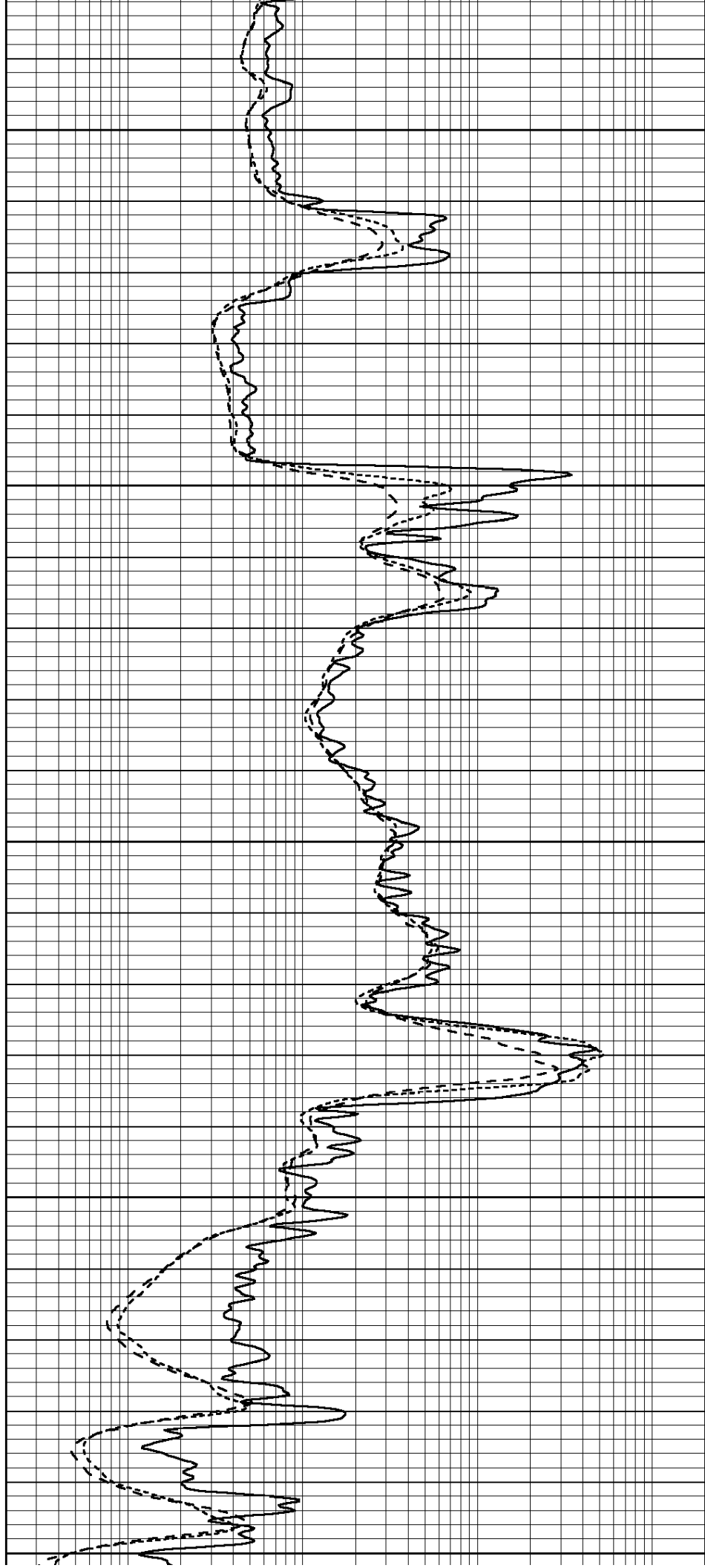
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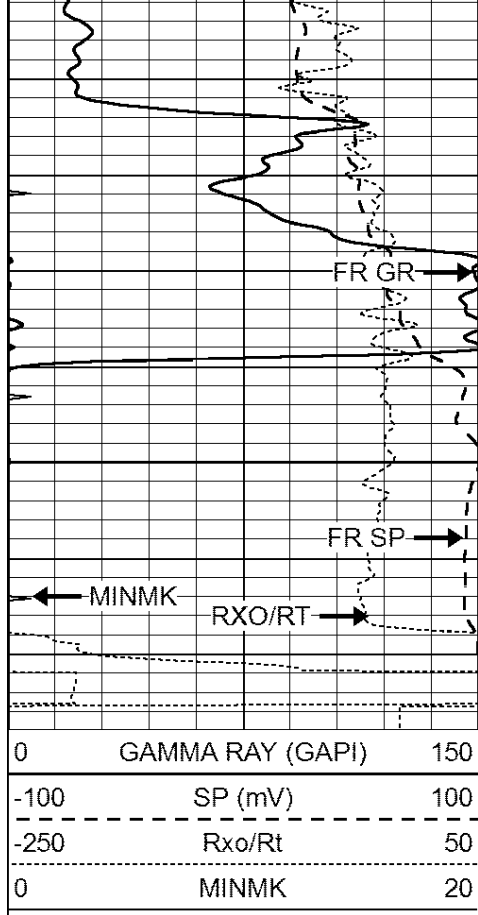
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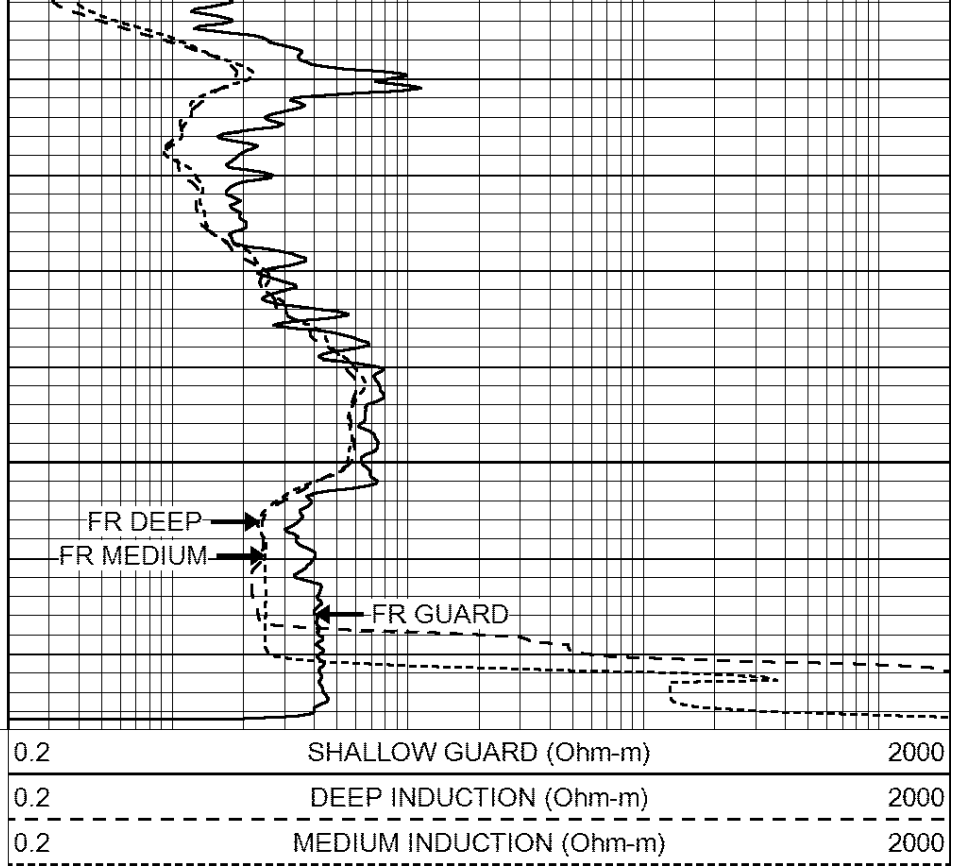
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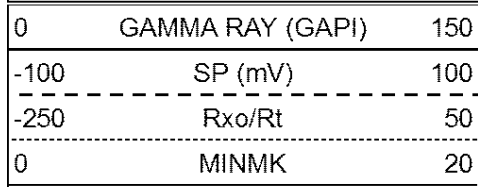
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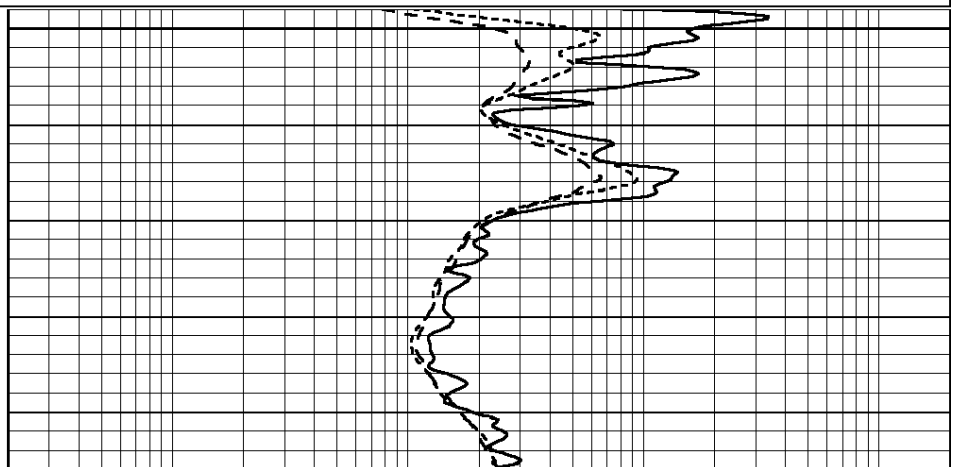
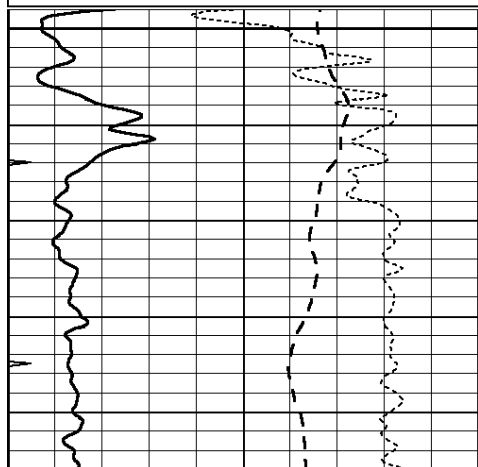
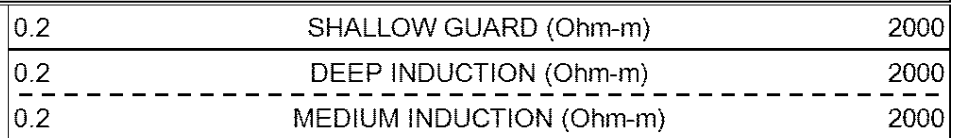
SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File: 409682pe.db
Dataset Pathname: pass3.3
Presentation Format: dil
Dataset Creation: Thu Sep 27 16:44:59 2012 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240



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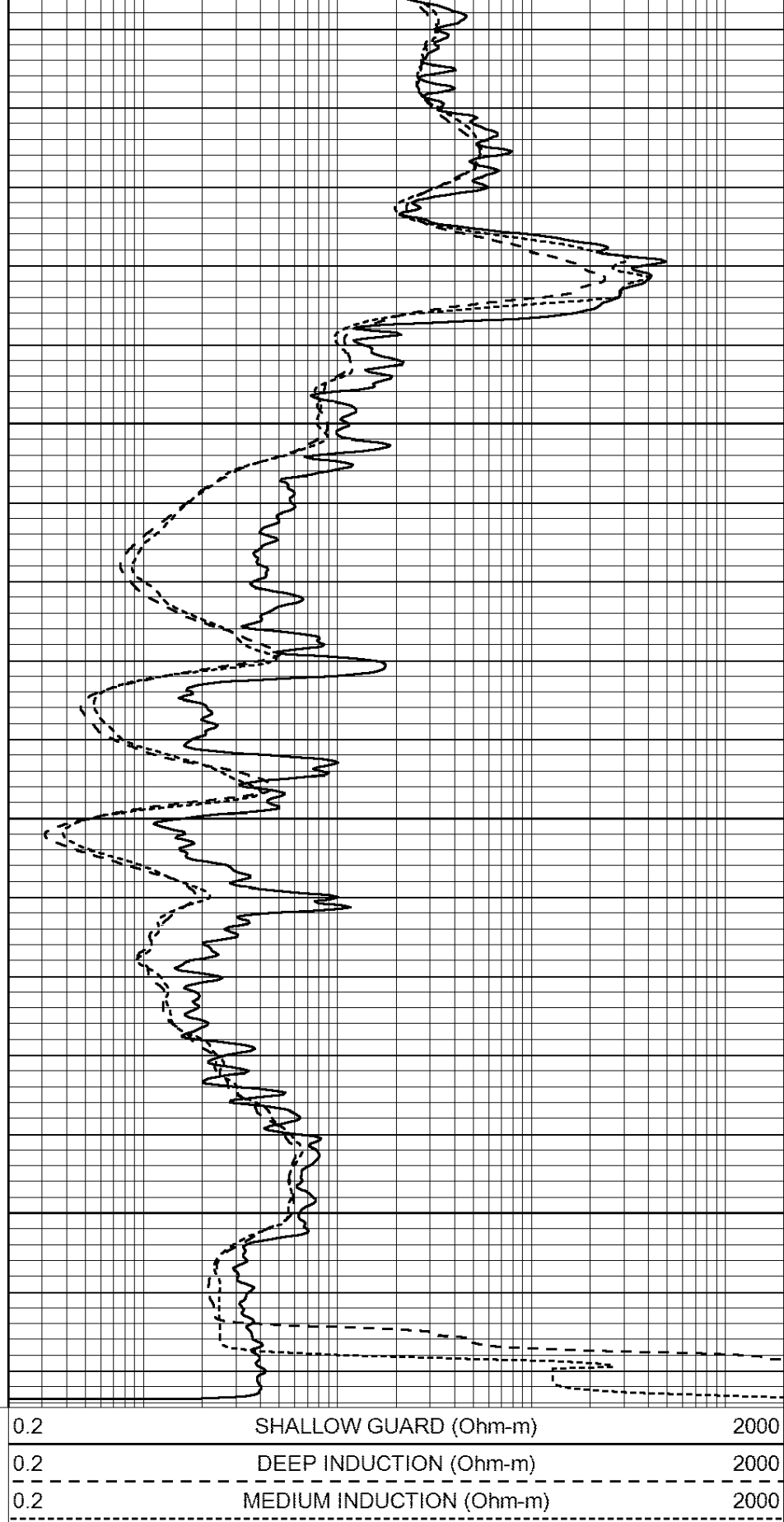


5300

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5400

5450



Calibration Report

Database File: 409682pe.db
Dataset Pathname: pass4.9

Dual Induction Calibration Report

Serial-Model:
Performed:DIL3-GEAR
Thu Sep 27 15:14:13 2012

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	9.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-5.000
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

	Readings	Reference
Low Ref	3.5	6.8
High Ref	5.5	15.0
Gain: 4.3		Offset: -8.2

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: Wed Sep 10 15:58:00 2010

Performed:

Wed Sep 19 15:36:00 2012

Calibrator Value:

1.0

GAPI

Background Reading:

0.0

cps

Calibrator Reading:

1.0

cps

Sensitivity:

0.3000

GAPI/cps