



SUPERIOR
Hays,
Kansas

DUAL
INDUCTION
LOG

Company	WOOLSEY OPERATING CO, LLC.			
Well	PLATT #1			
Field	SRANATHAN			
County	BARBER		State	KANSAS
Location:	2310' FSL & 330' FWL NW - NW- -SW		API # : 15-007-23477-0000	
	SEC 10 TWP 35S RGE 12W		Other Services CDL/CNL/PE MEL/SON FRAC	
Permanent Datum	GROUND LEVEL	Elevation	1403	
Log Measured From	KELLY BUSHING 9' A.G.L.			
Drilling Measured From	KELLY BUSHING			
Date	12-17-09			
Run Number	ONE			
Depth Driller	5490			
Depth Logger	5494			
Bottom Logged Interval	5492			
Top Log Interval	0			
Casing Driller	10 3/4" @ 221'			
Casing Logger	223'			
Bit Size	7 7/8			
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 4,500 PPM		
Density / Viscosity	9.2/55			
pH / Fluid Loss	10.5/8.8			
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	.65 @ 63F			
Rmf @ Meas. Temp	.49 @ 63F			
Rmc @ Meas. Temp	.78 @ 63F			
Source of Rmf / Rmc	MEASURED			
Rm @ BHT	.31 @ 130F			
Time Circulation Stopped	2 HOURS			
Time Logger on Bottom				
Maximum Recorded Temperature	130F			
Equipment Number	680			
Location	HAYS, KANSAS			
Recorded By	JEFF GRONEWEG			
Witnessed By	CURTIS COVEY			

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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

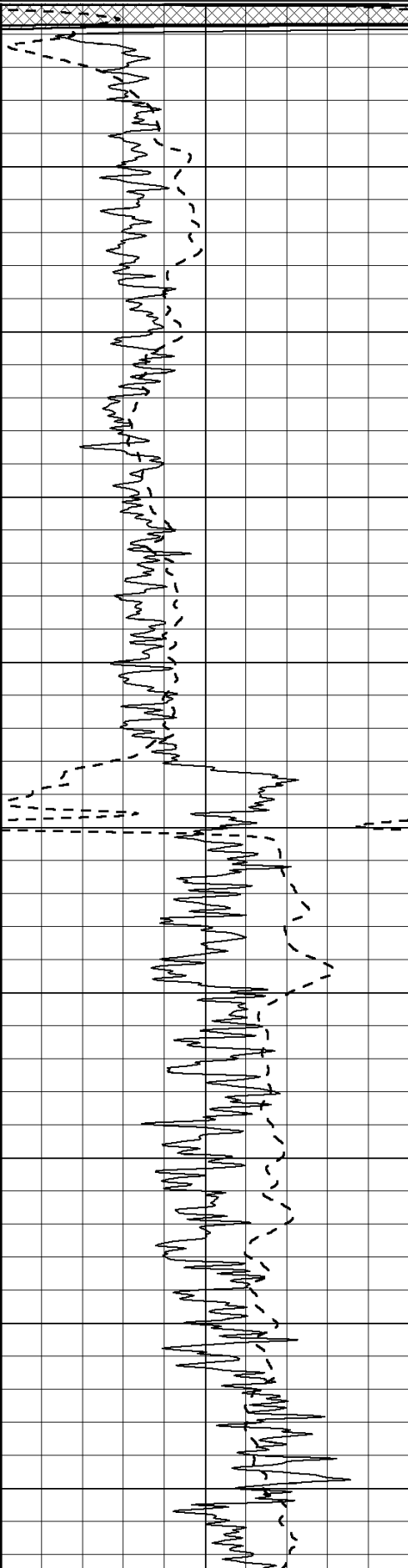
THANK YOU FOR USING SUPERIOR WELL SERVICES HAYS, KANSAS (785)628-6395
DIRECTIONS
HARDTNER, KS - 2 MILES EAST - SOUTH & EAST INTO

Database File: 004660pe.db
Dataset Pathname: pass4.3
Presentation Format: _dil2
Dataset Creation: Thu Dec 17 21:54:26 2009 by Calc Open-Cased 090629

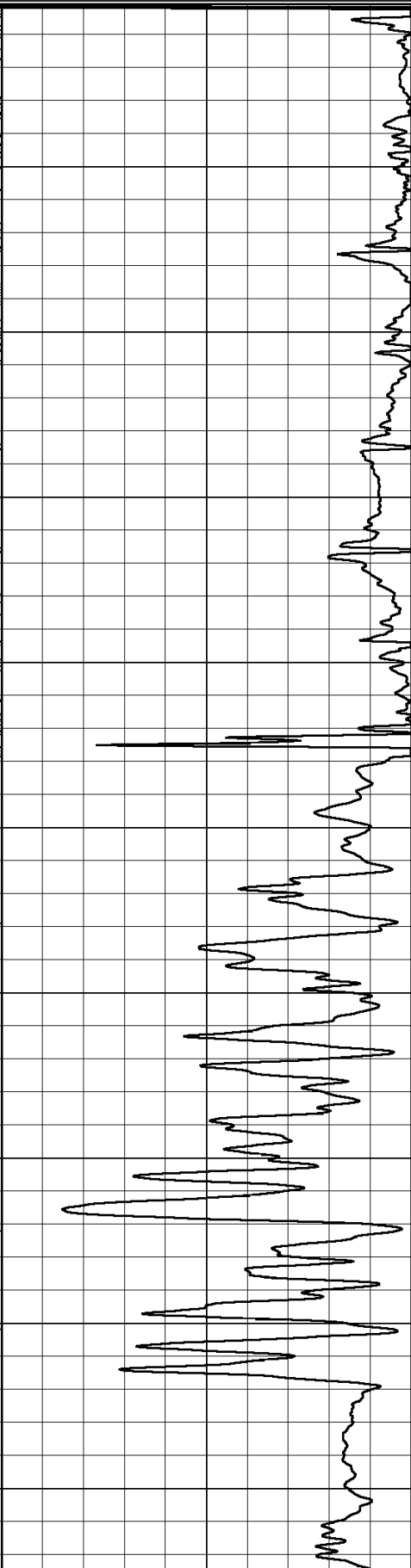
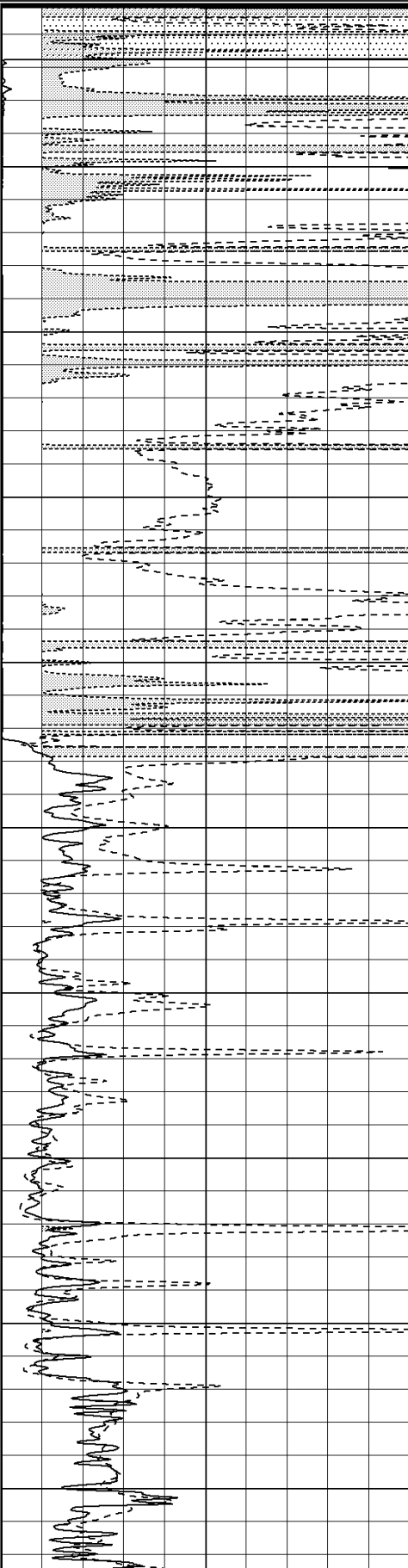
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-100	SP (mV)	100

0	RLL3 (Ohm-m)	50
0	Deep Induction (Ohm-m)	50

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



0
50
100
150
200
250
300
350
400
450



500

550

600

650

700

750

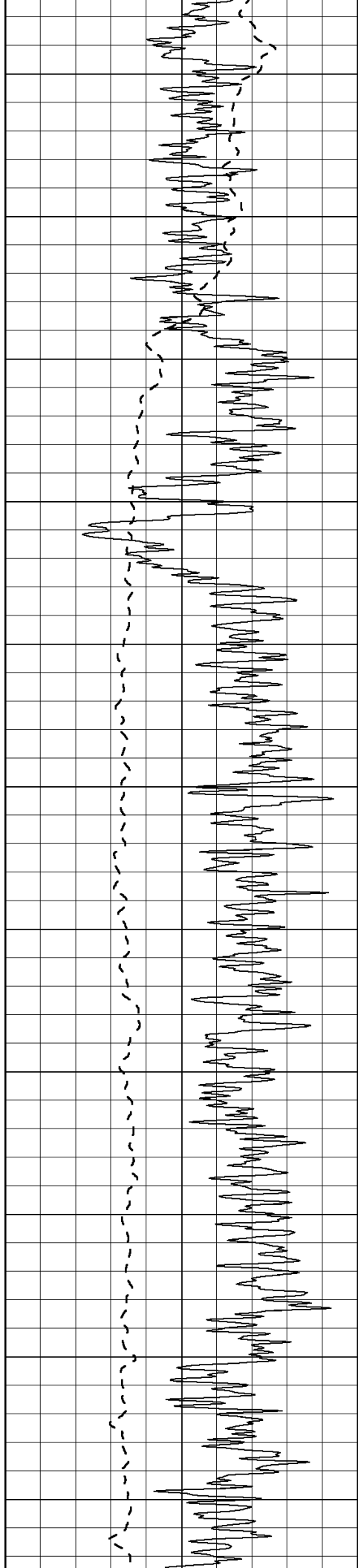
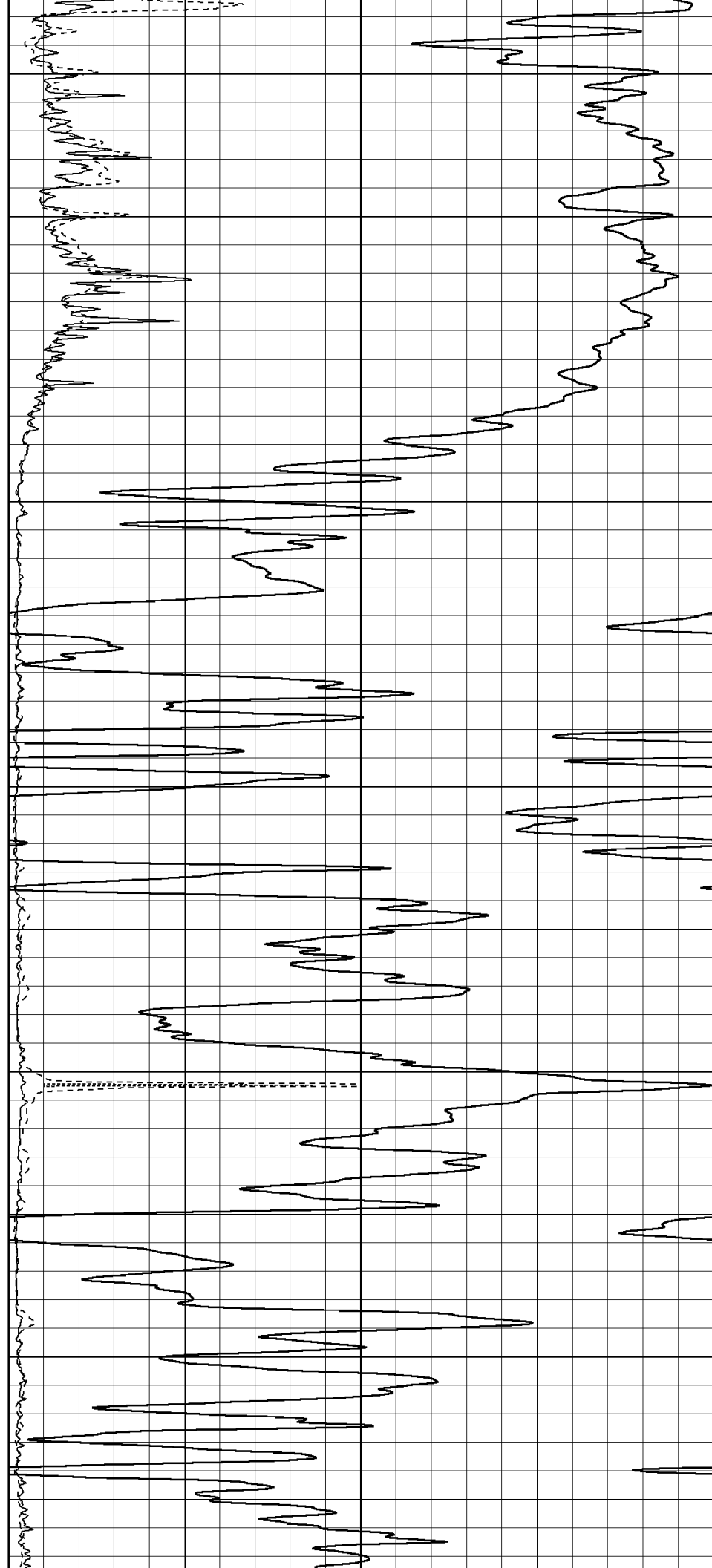
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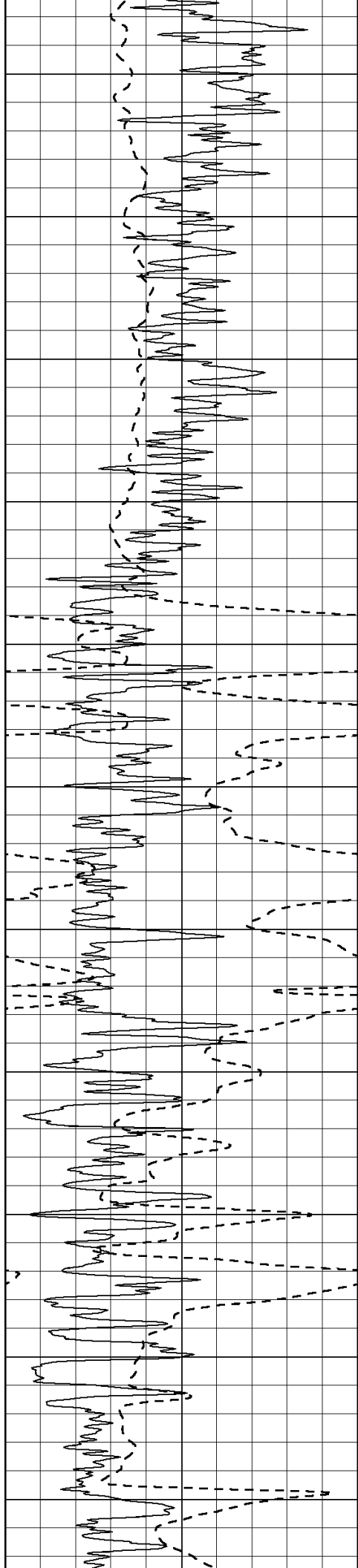
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900

950

1000





1050

1100

1150

1200

1250

1300

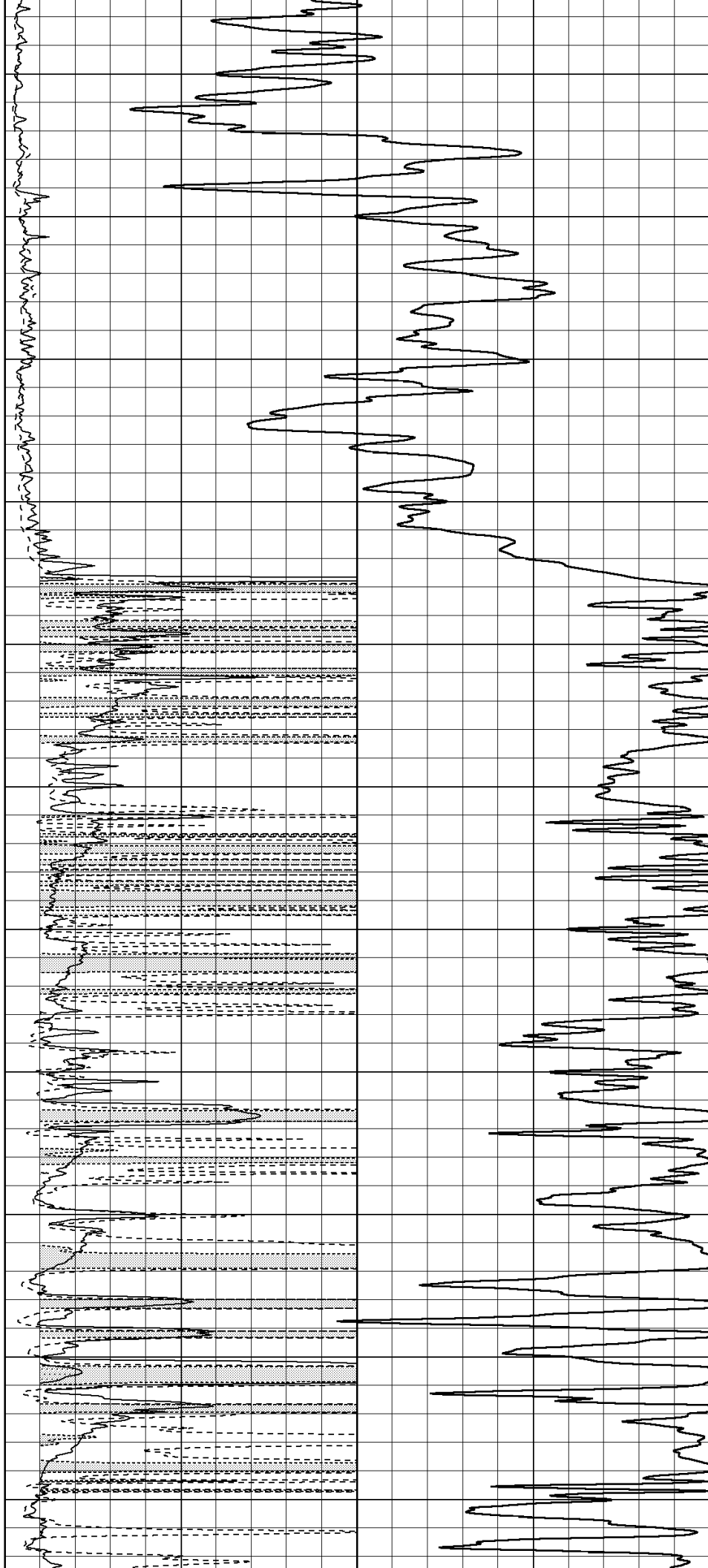
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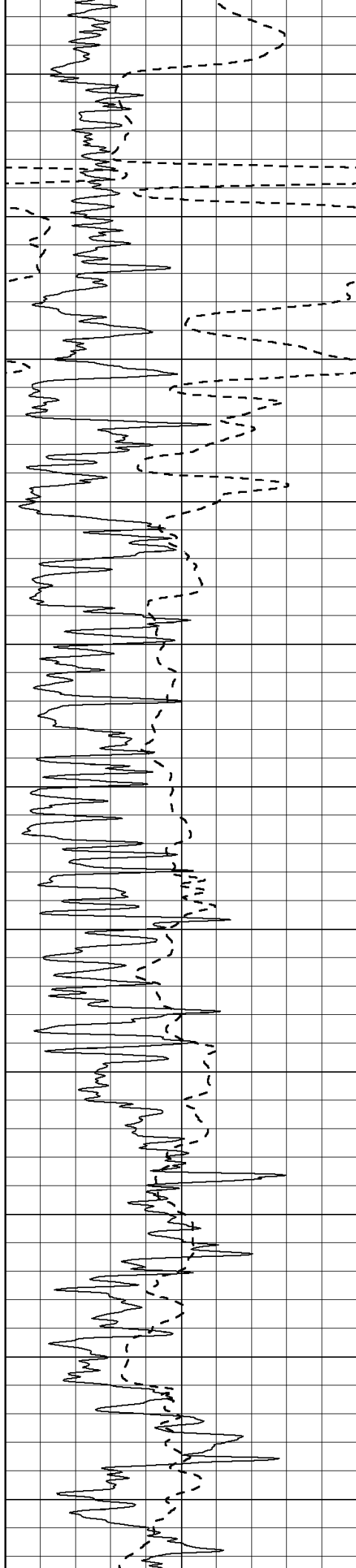
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1600

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1700

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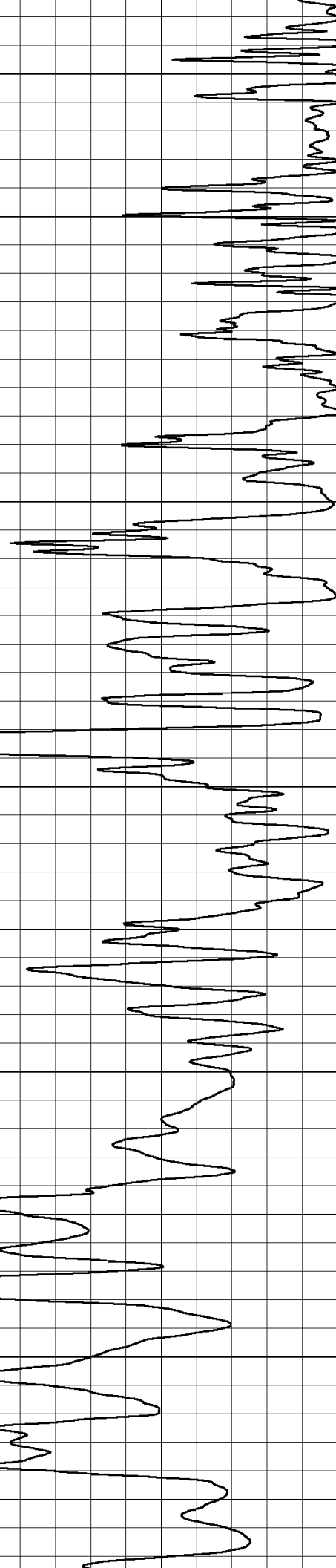
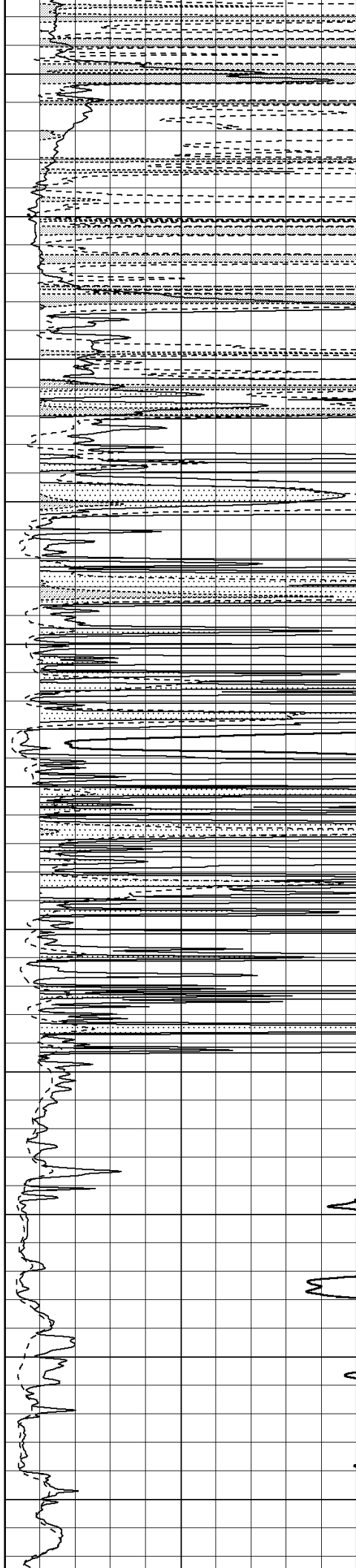
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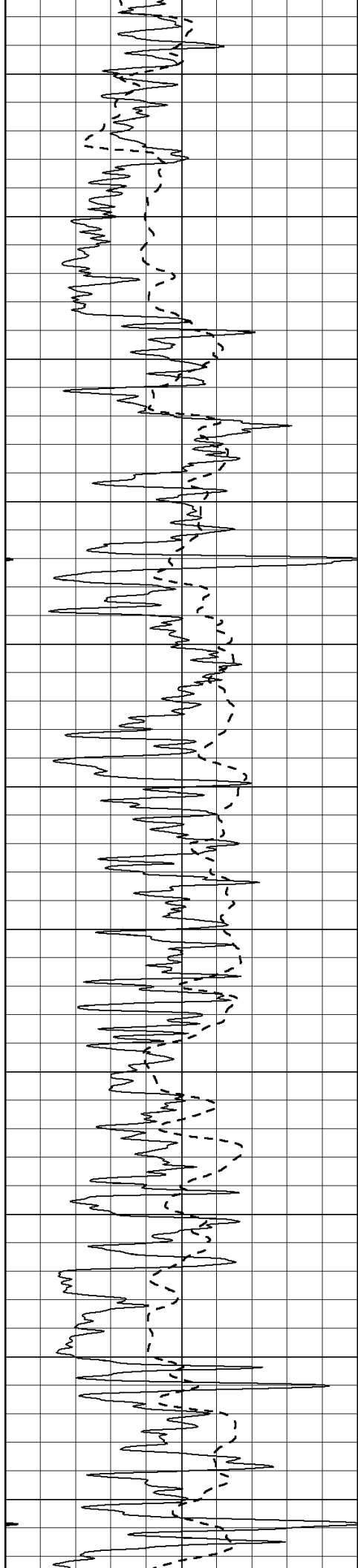
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2300

2350

2400

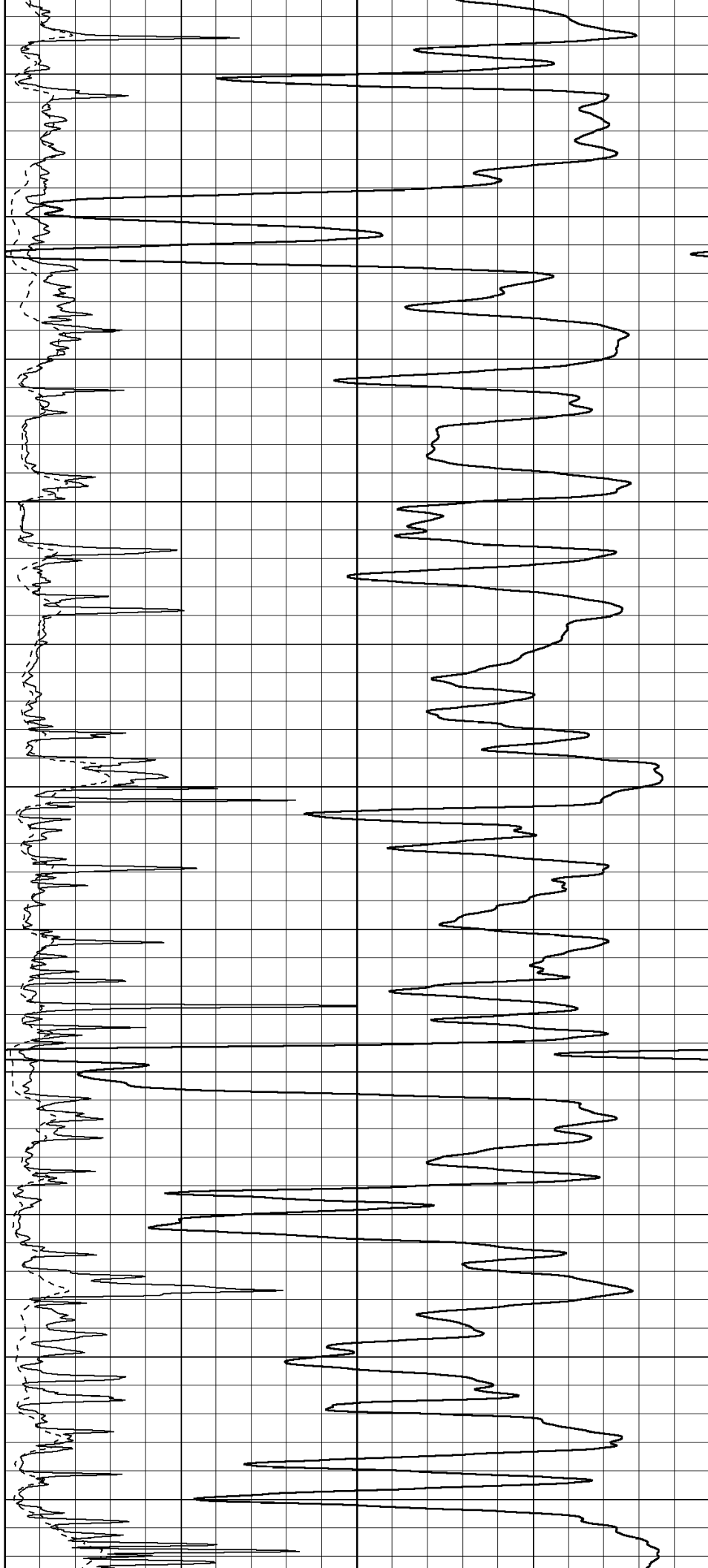
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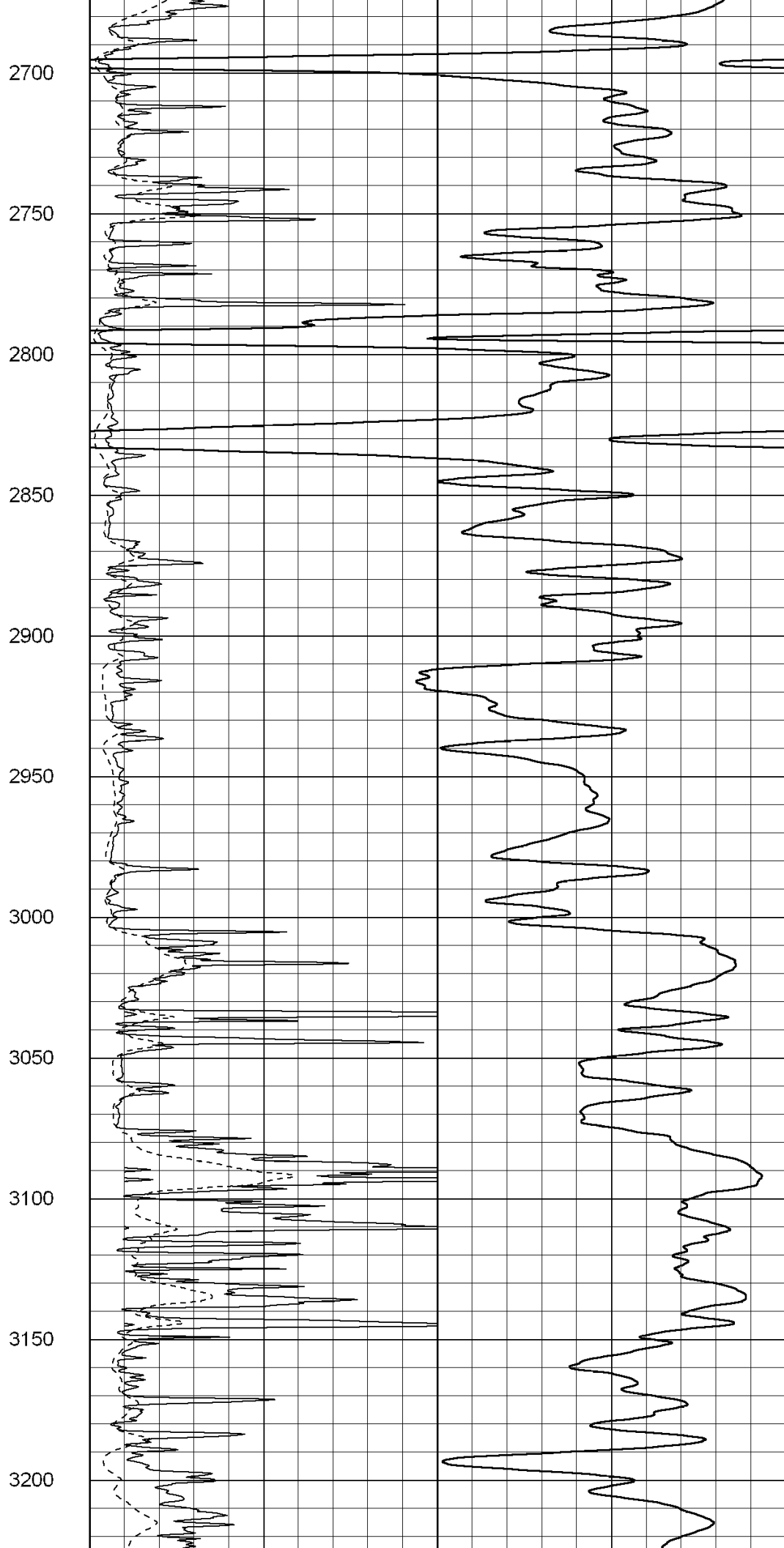
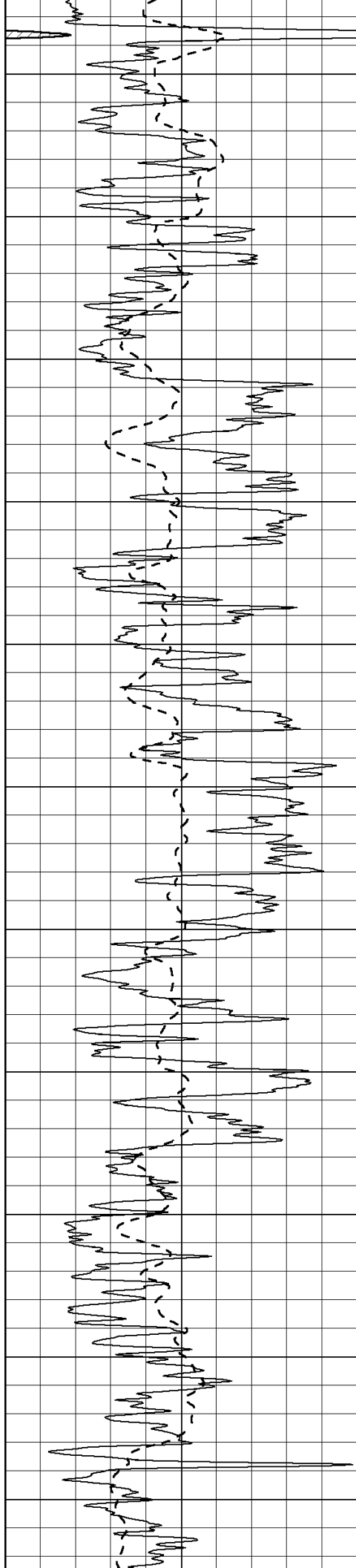
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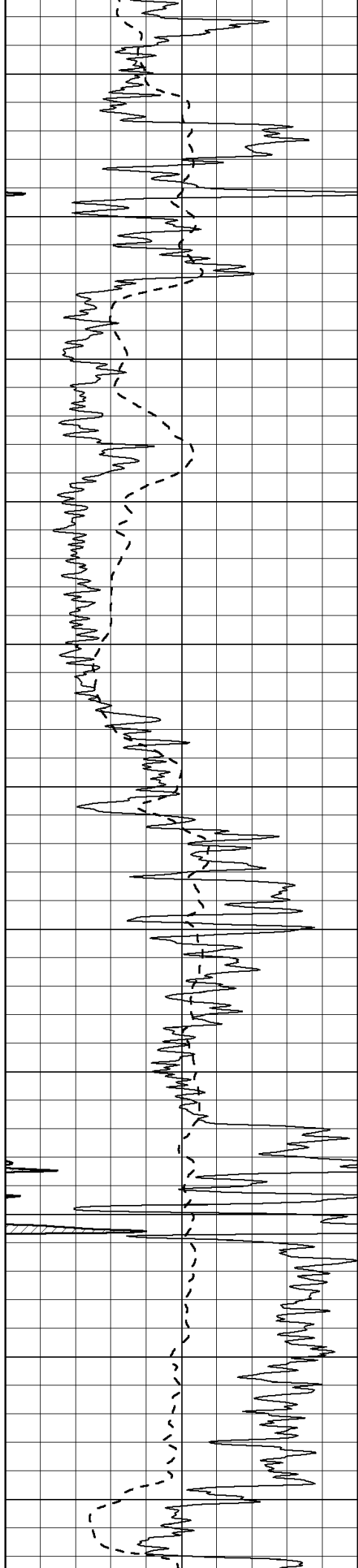
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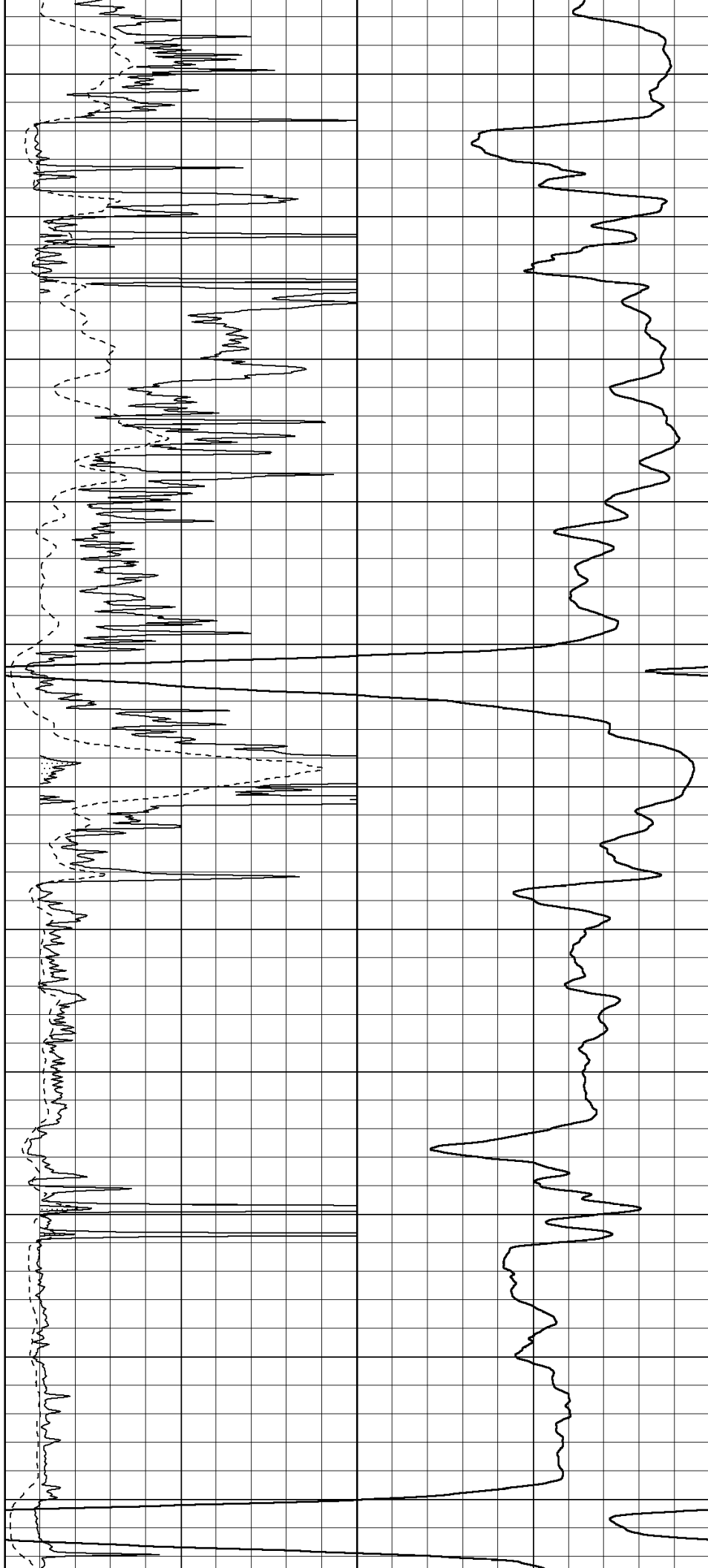
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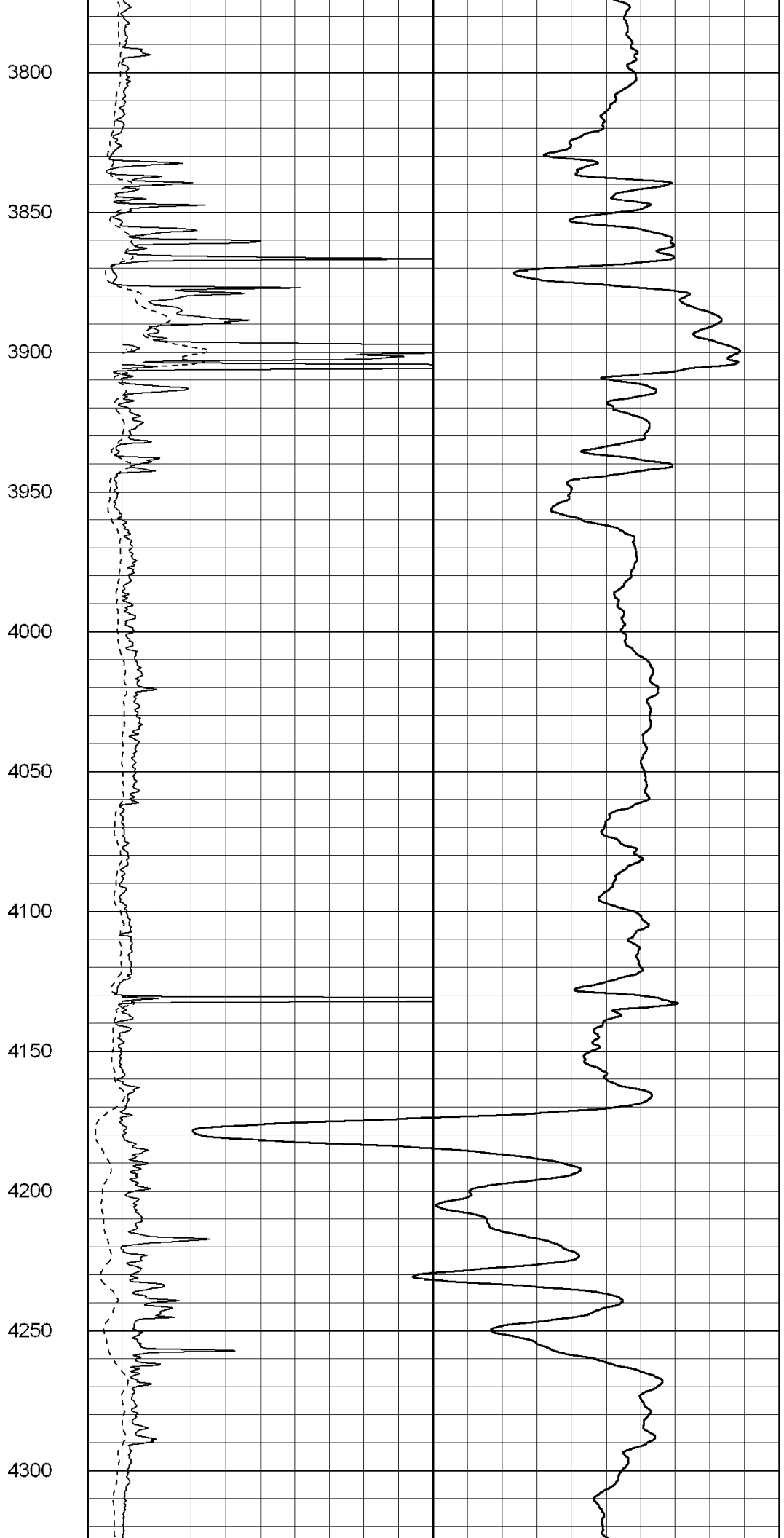
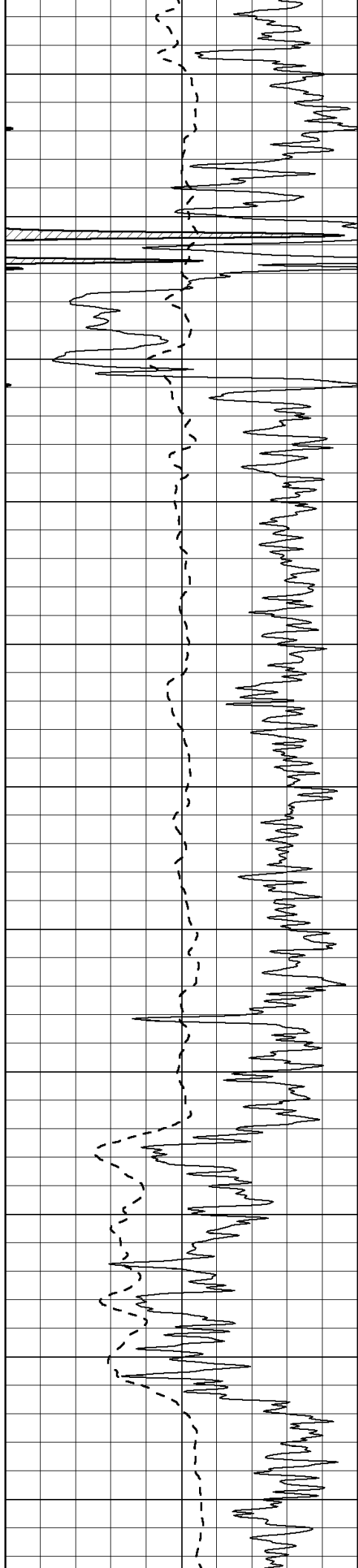
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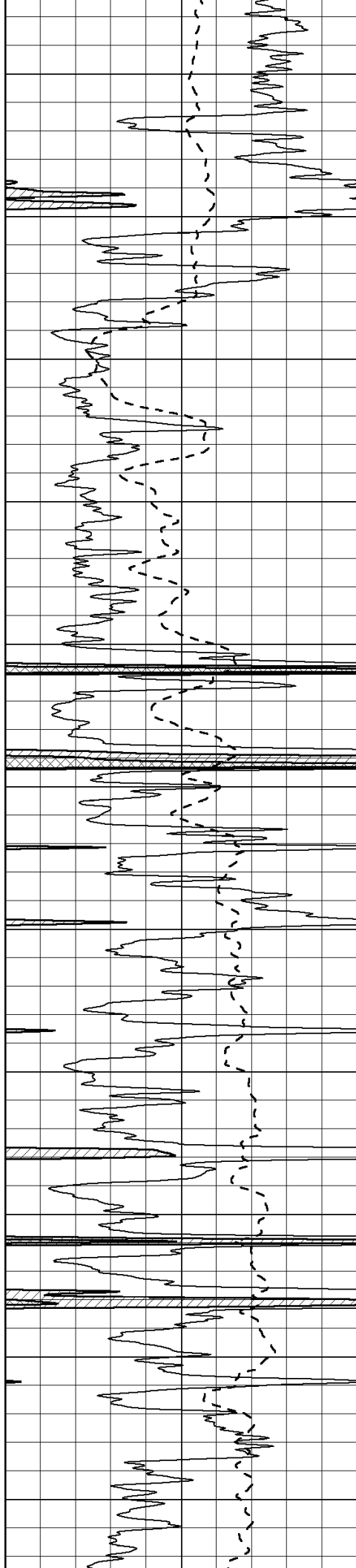
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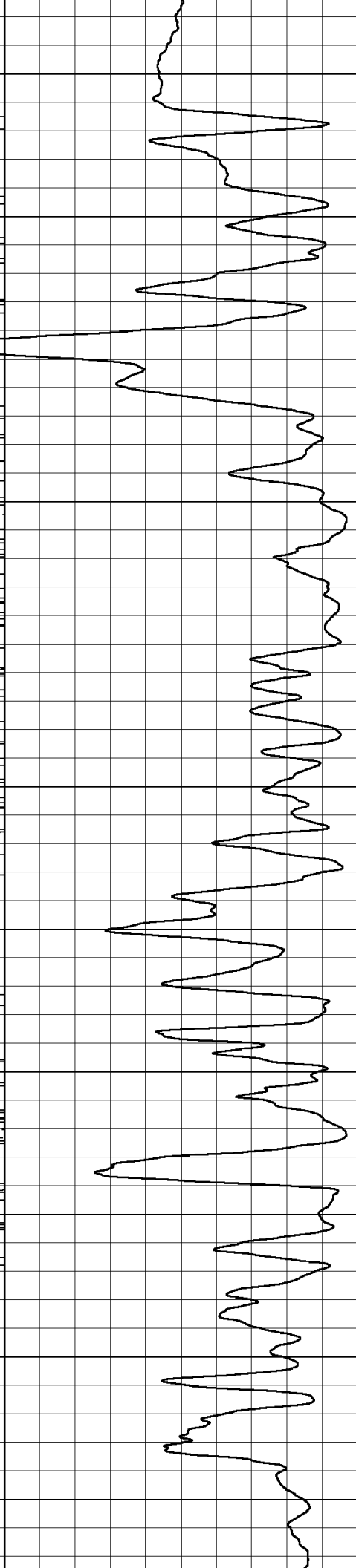
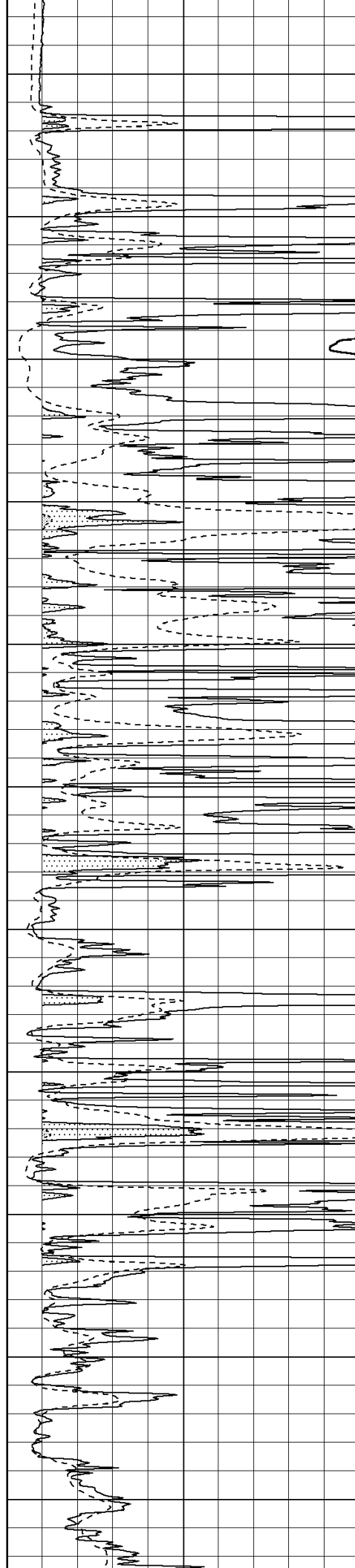
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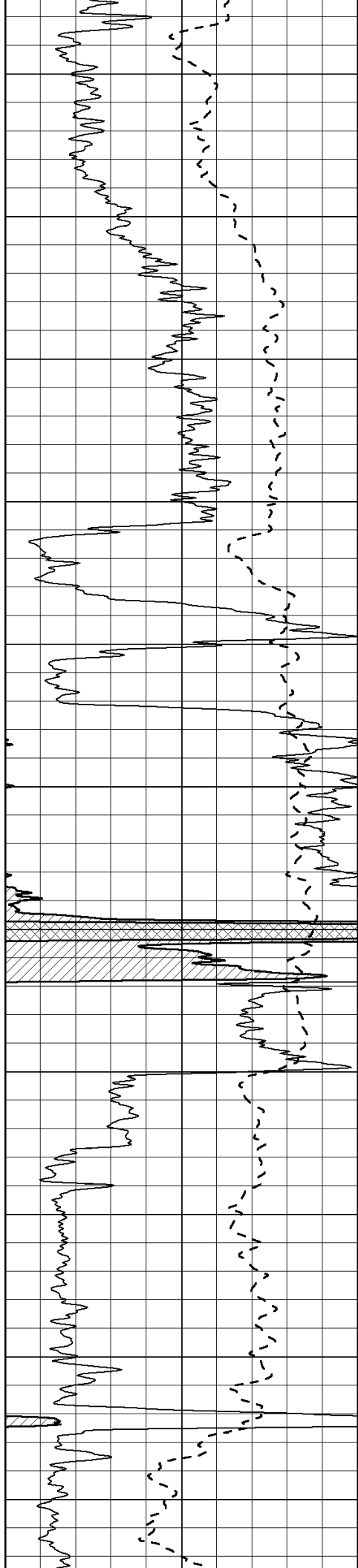
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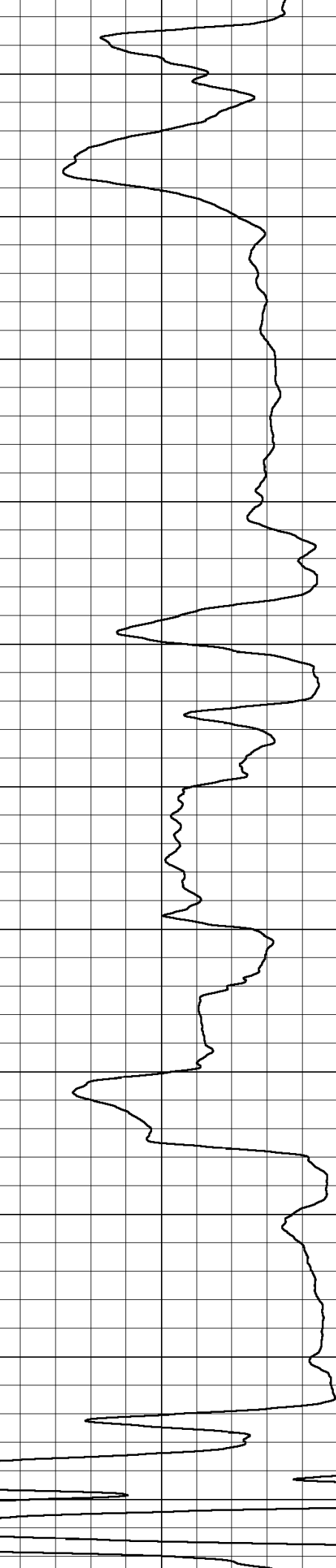
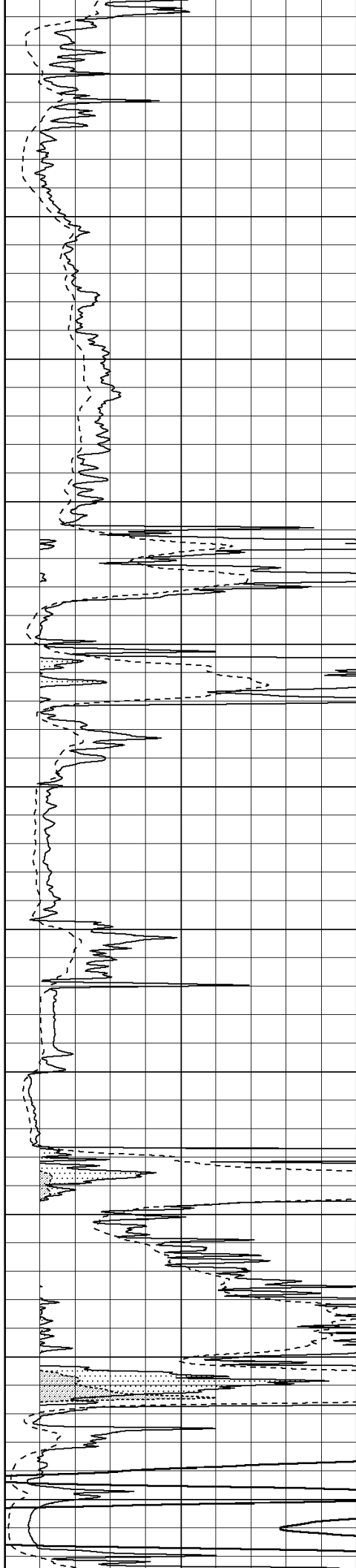
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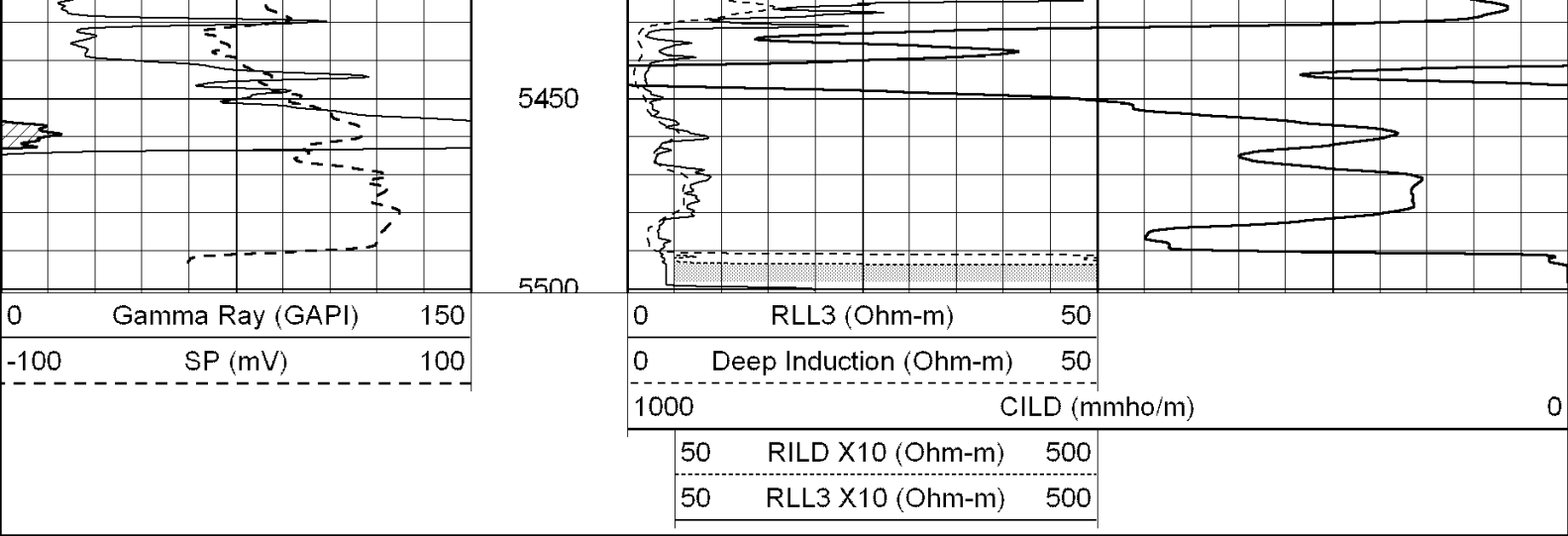
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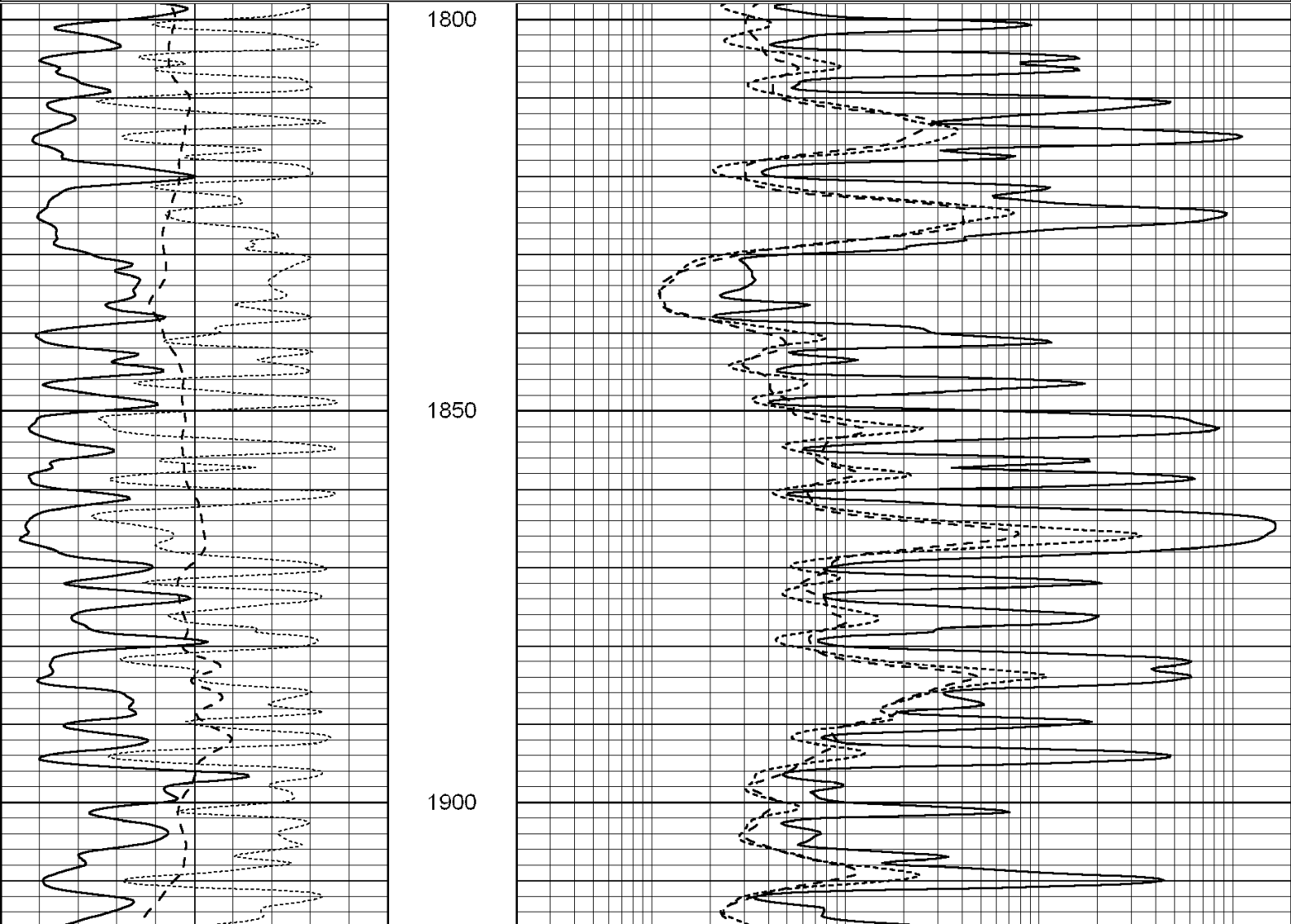
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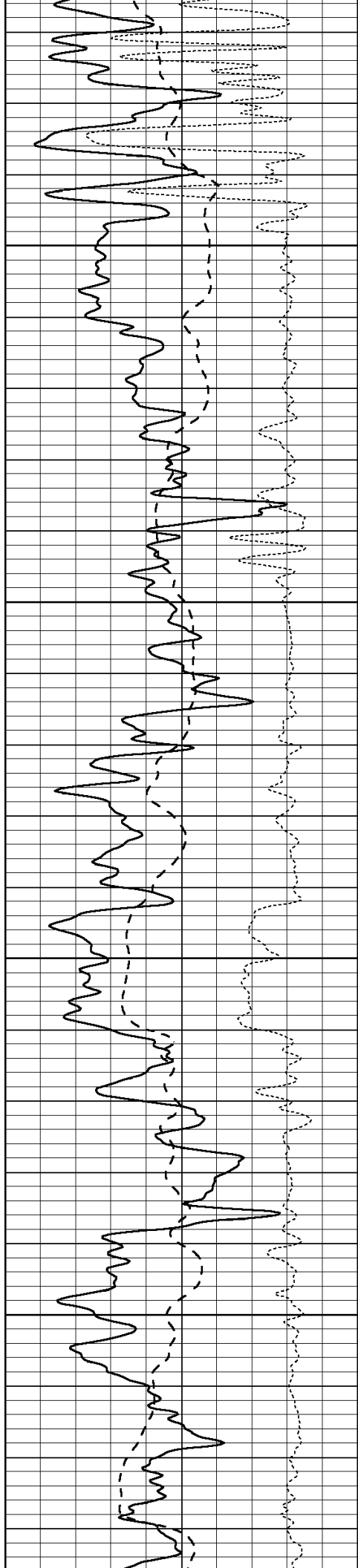
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Dataset Pathname: pass4.2					
Presentation Format: _dil					
Dataset Creation: Thu Dec 17 21:08:37 2009 by Calc Open-Cased 090629					
Charted by: Depth in Feet scaled 1:240					
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	MEDIUM INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000



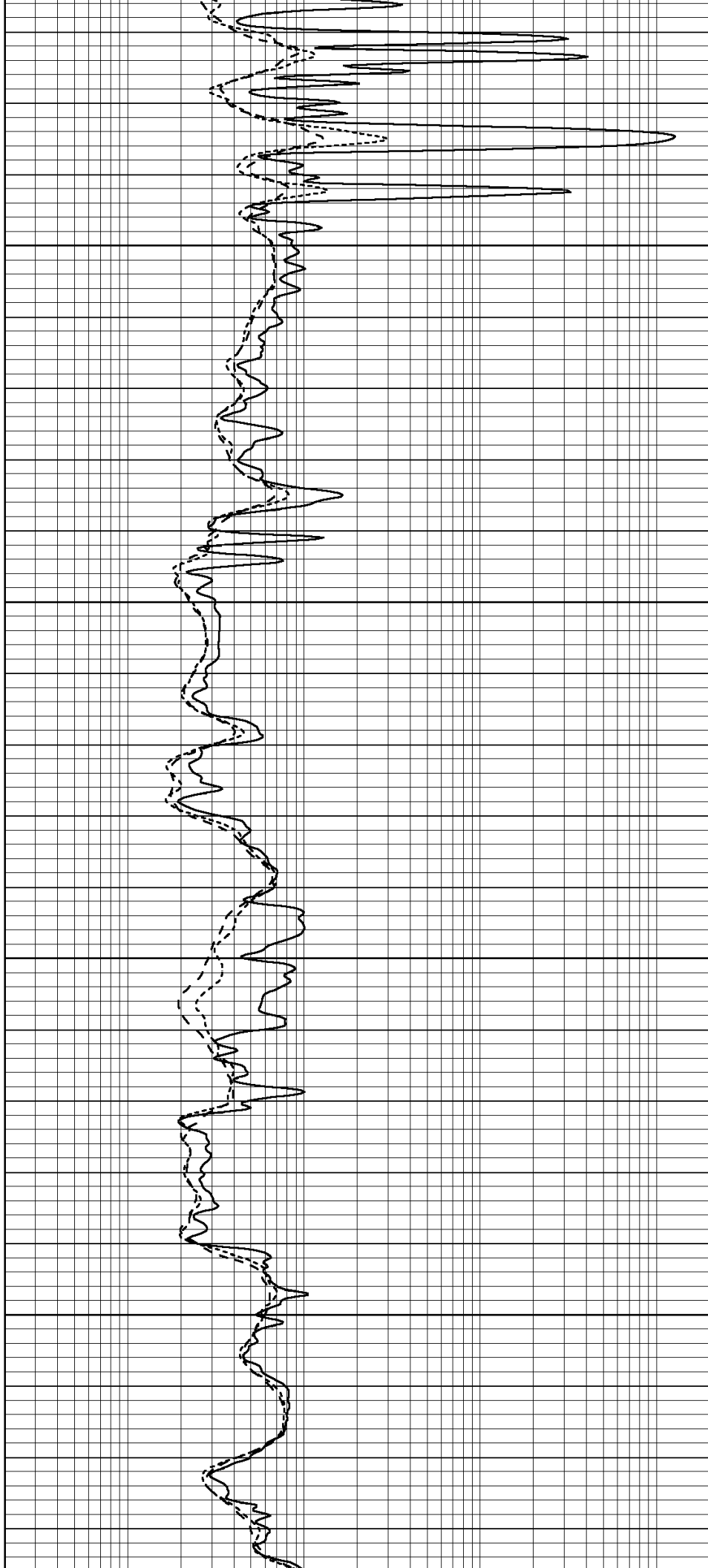


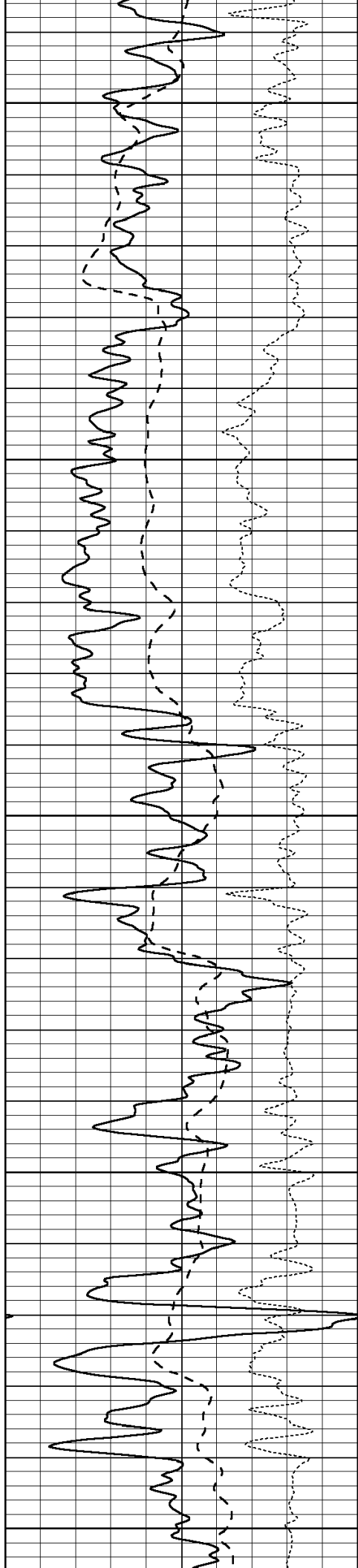
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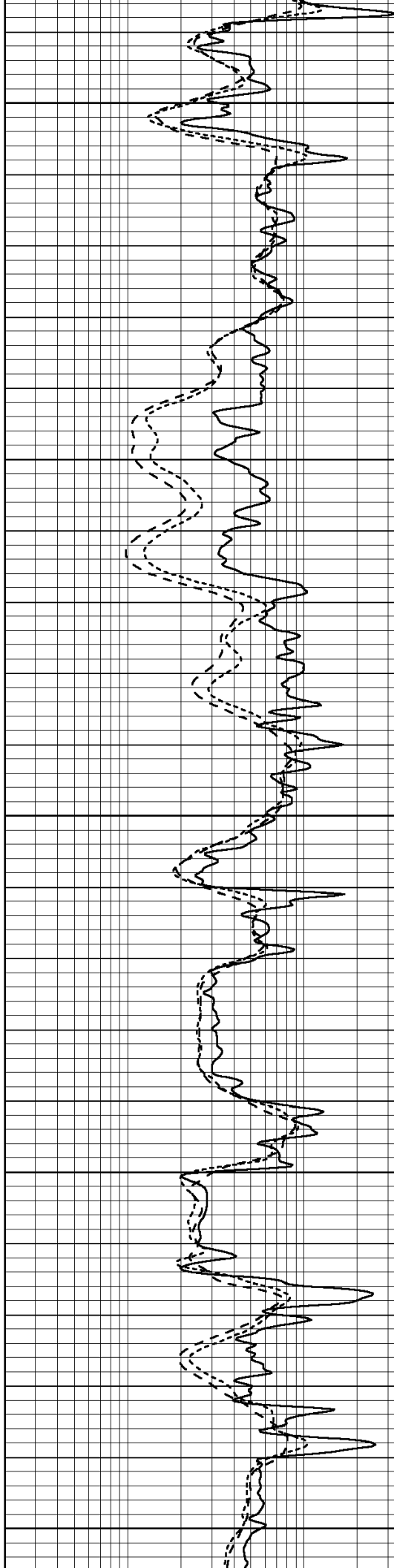
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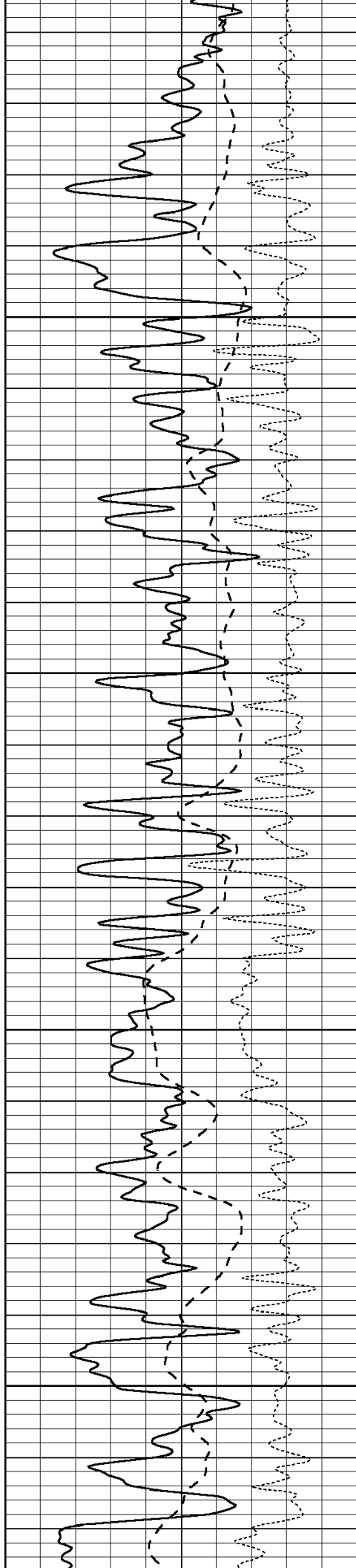
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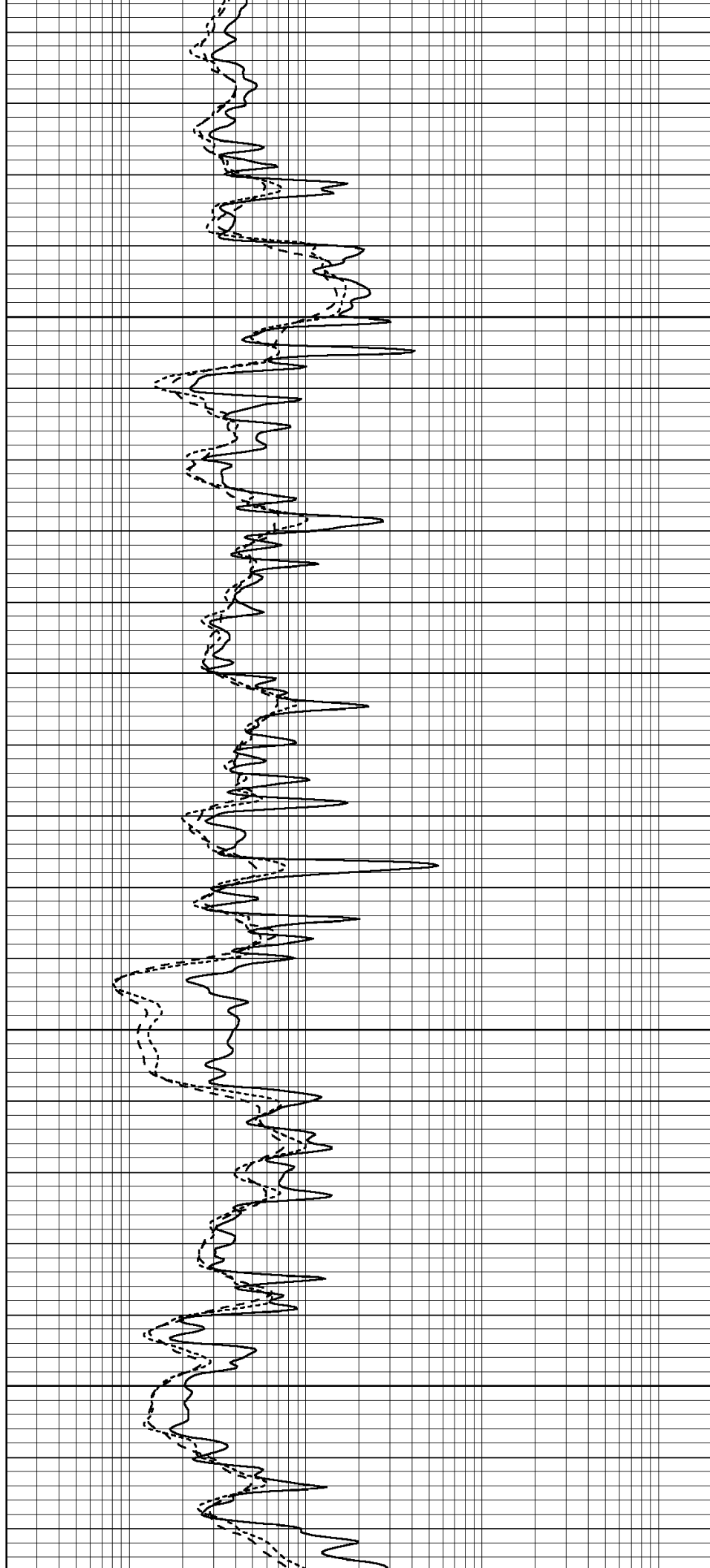


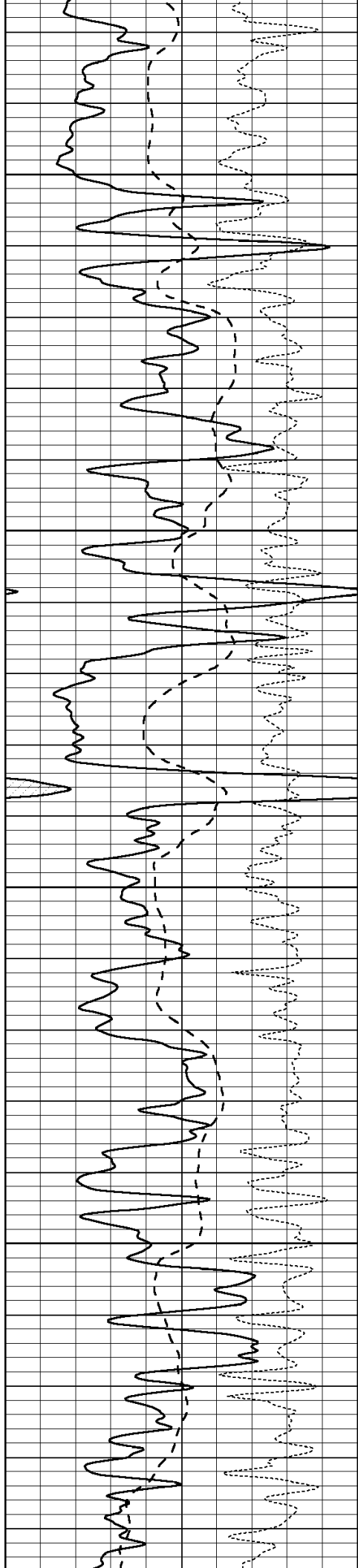
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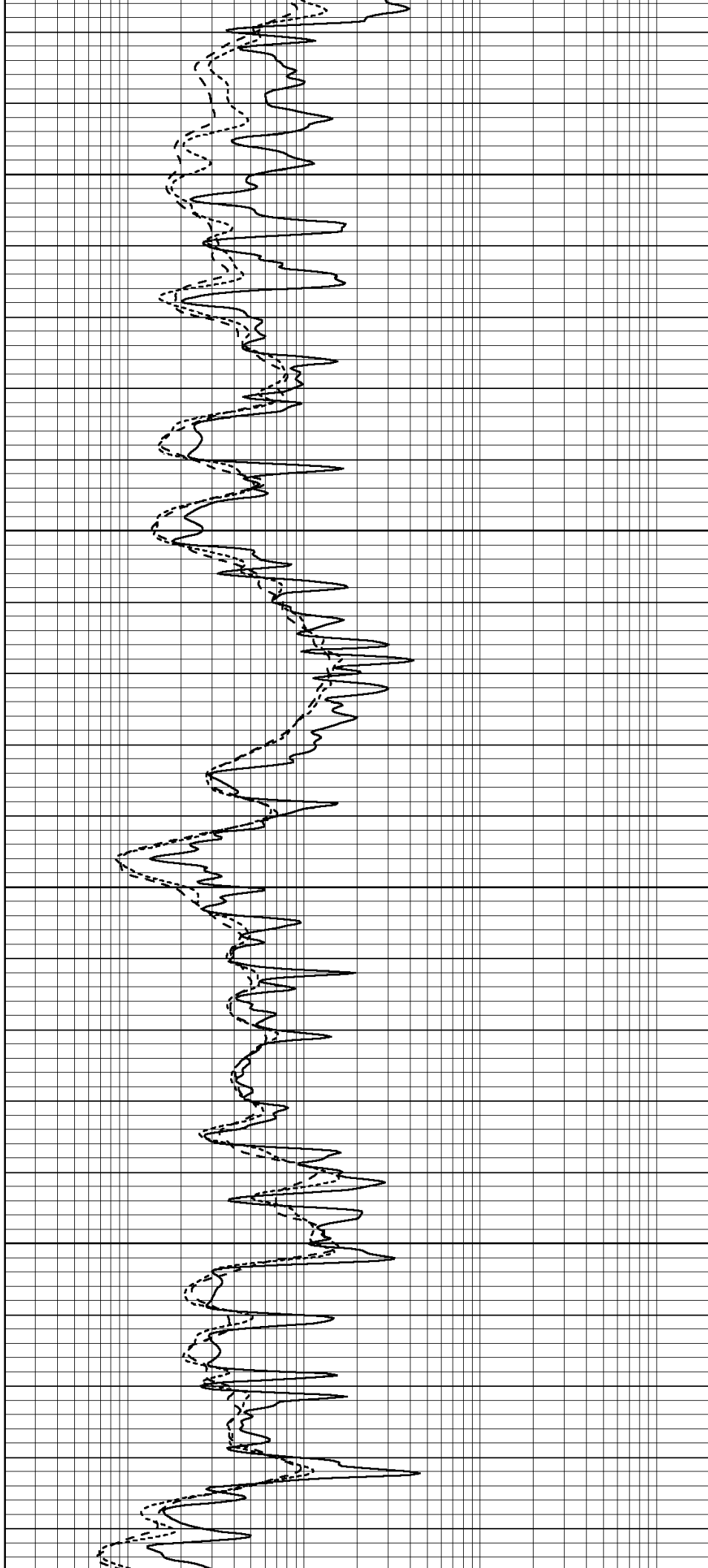


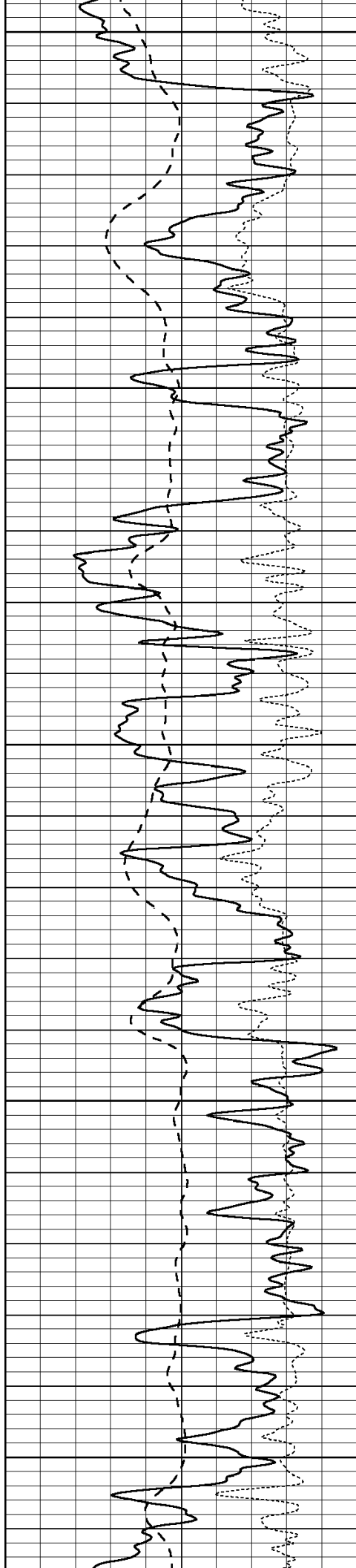
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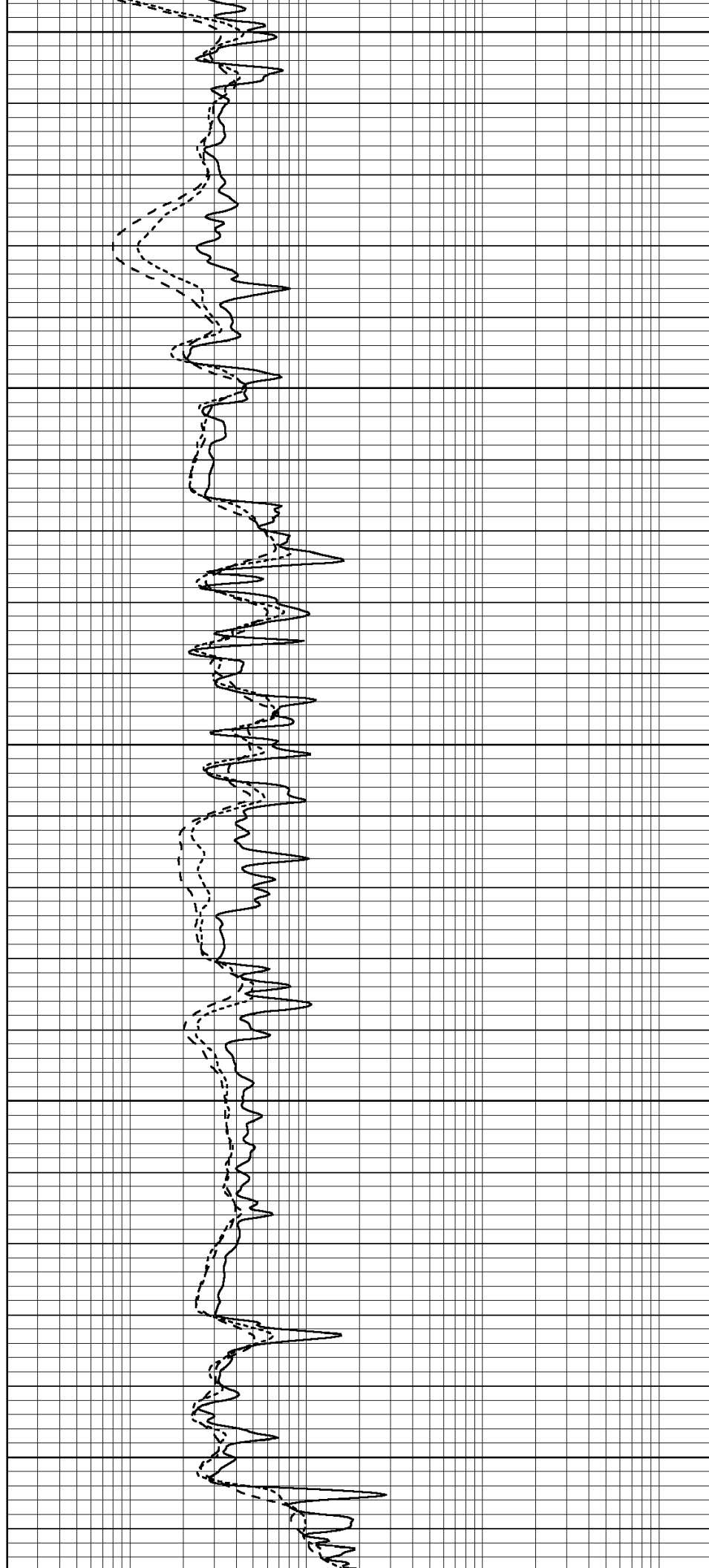
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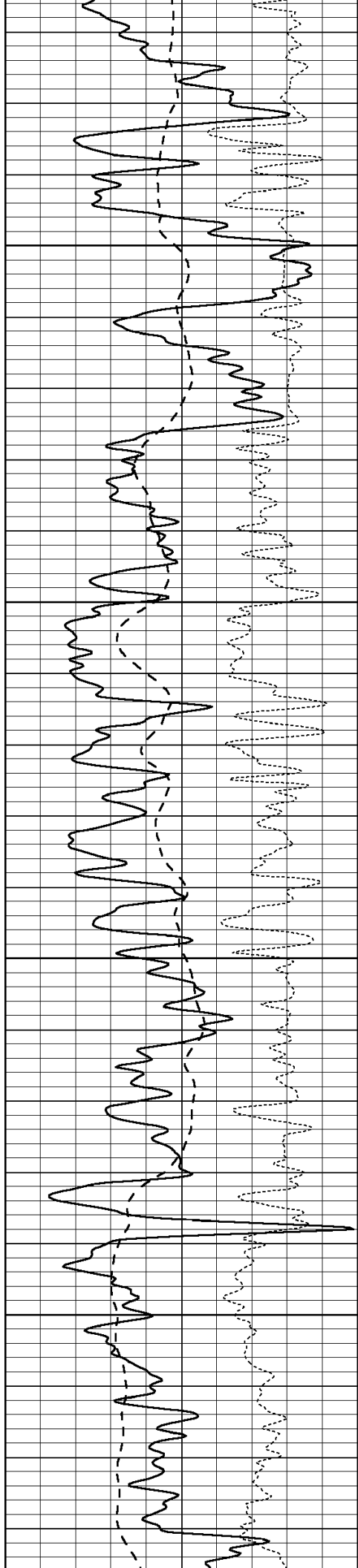
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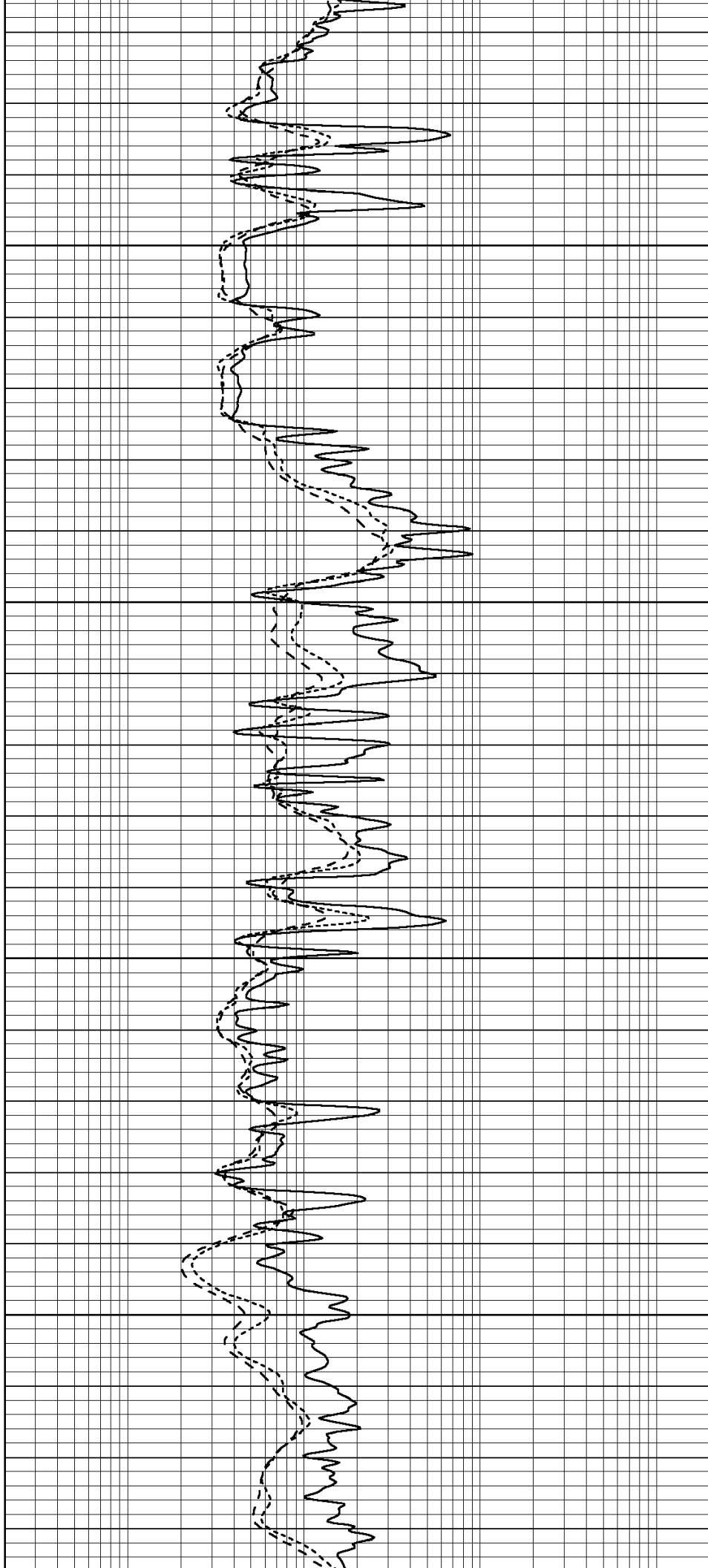


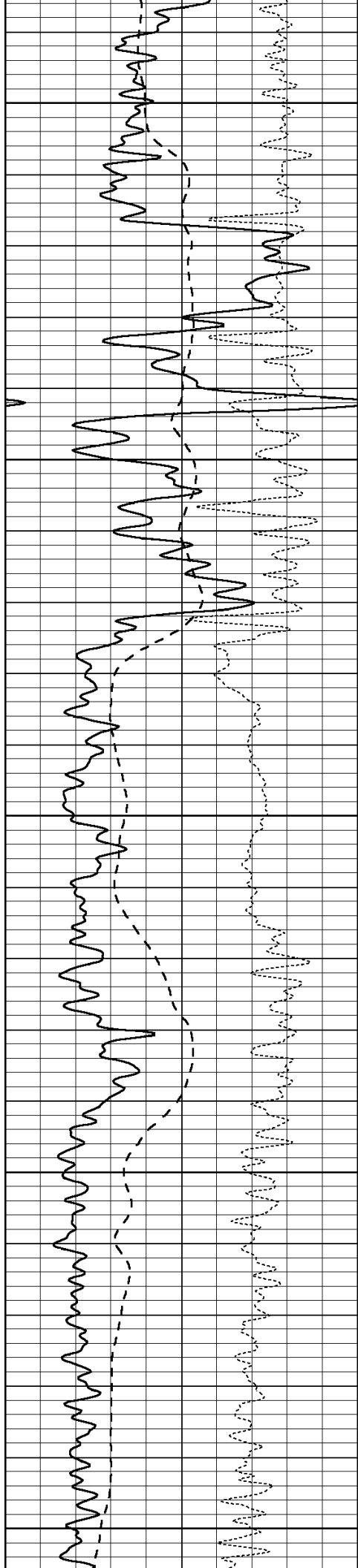
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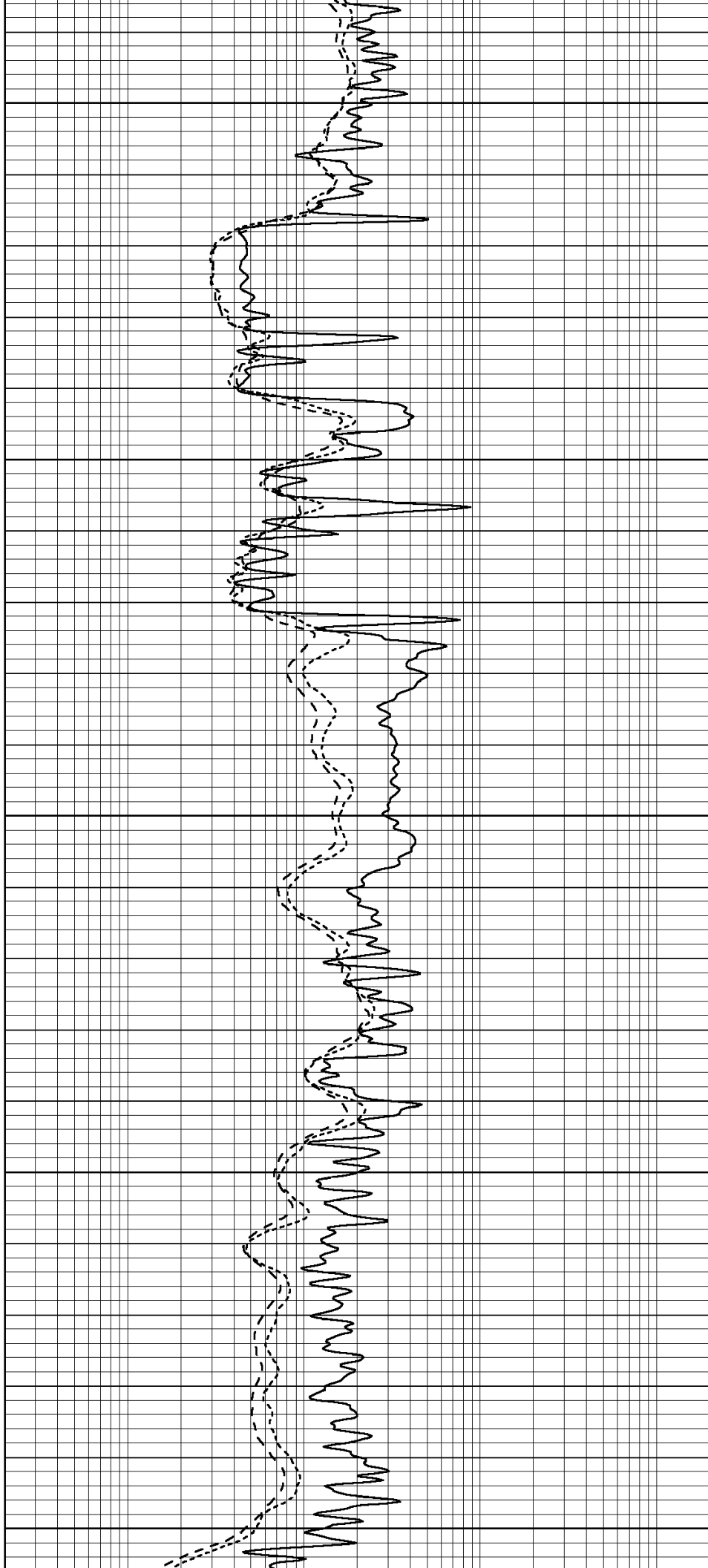
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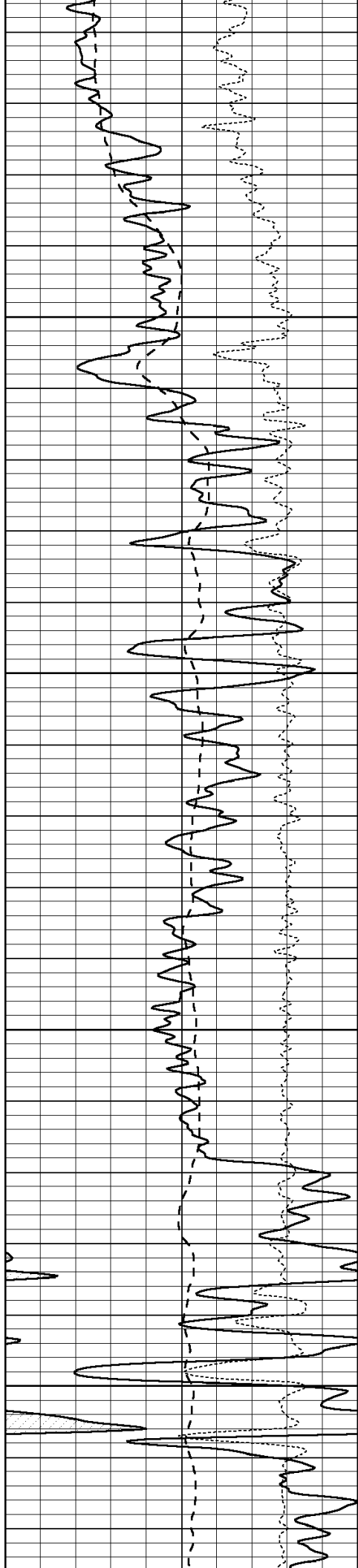
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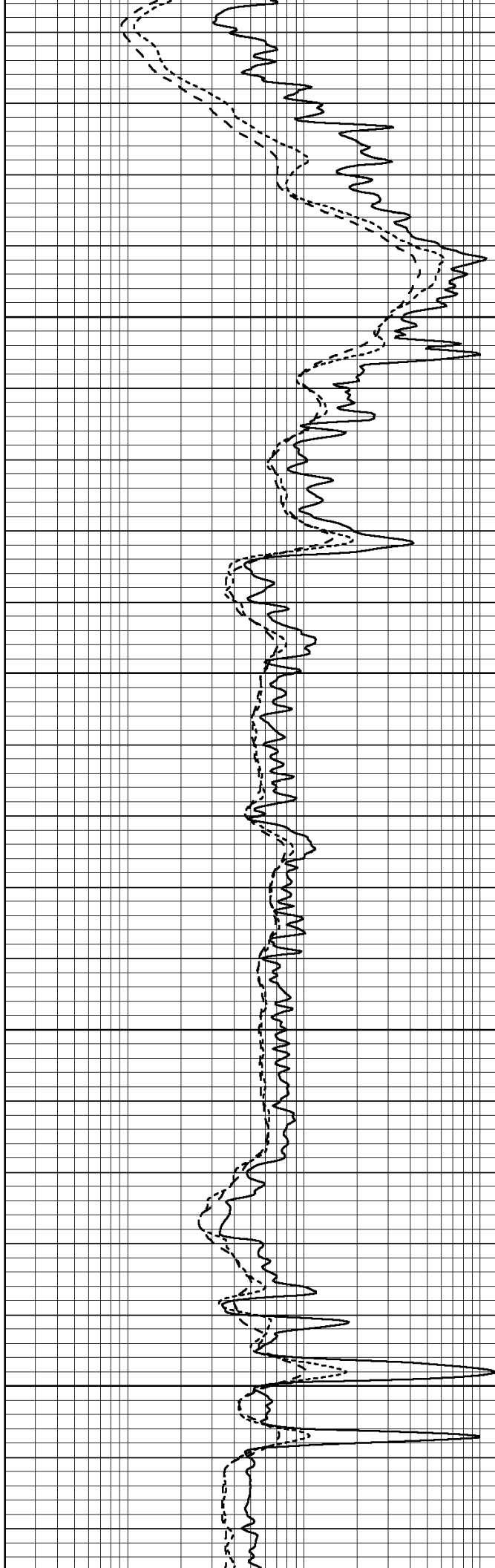


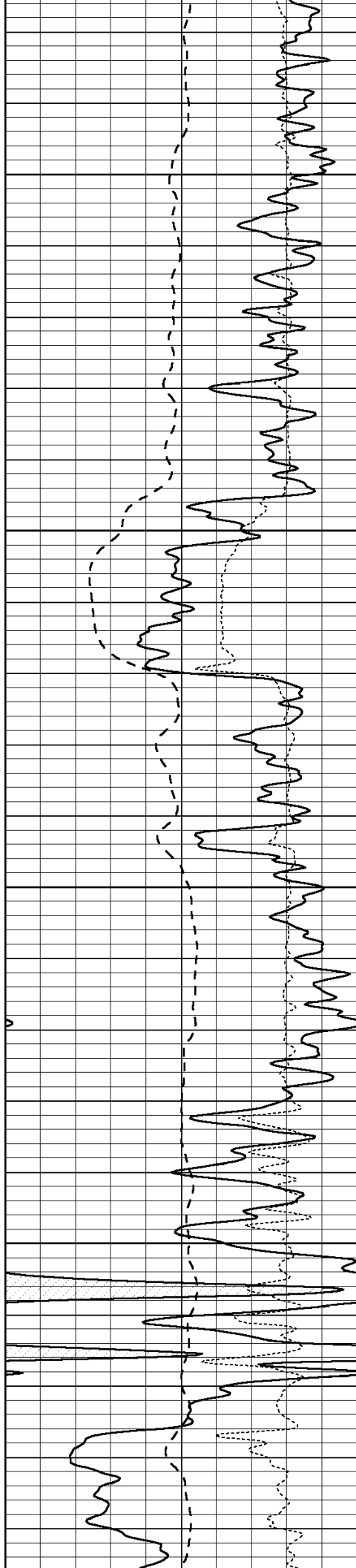
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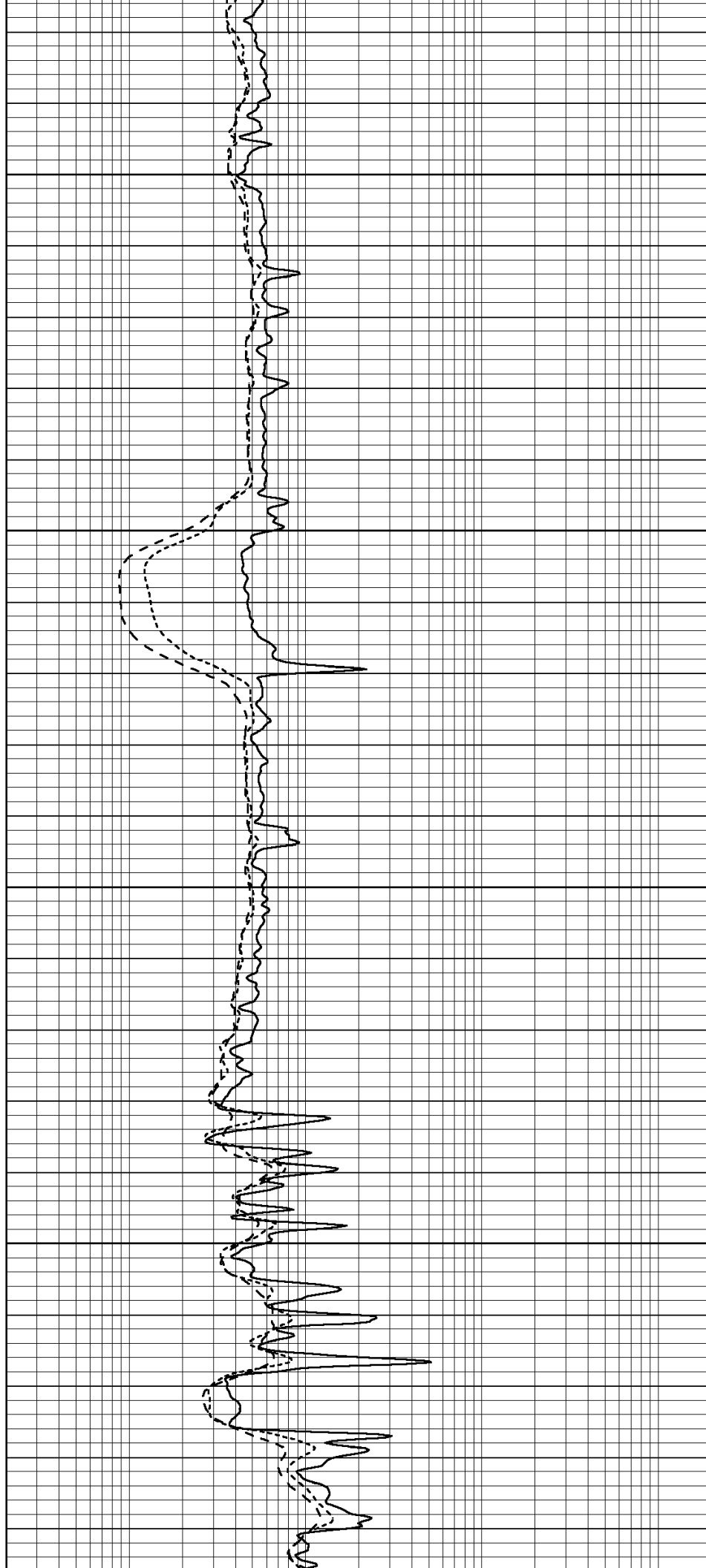


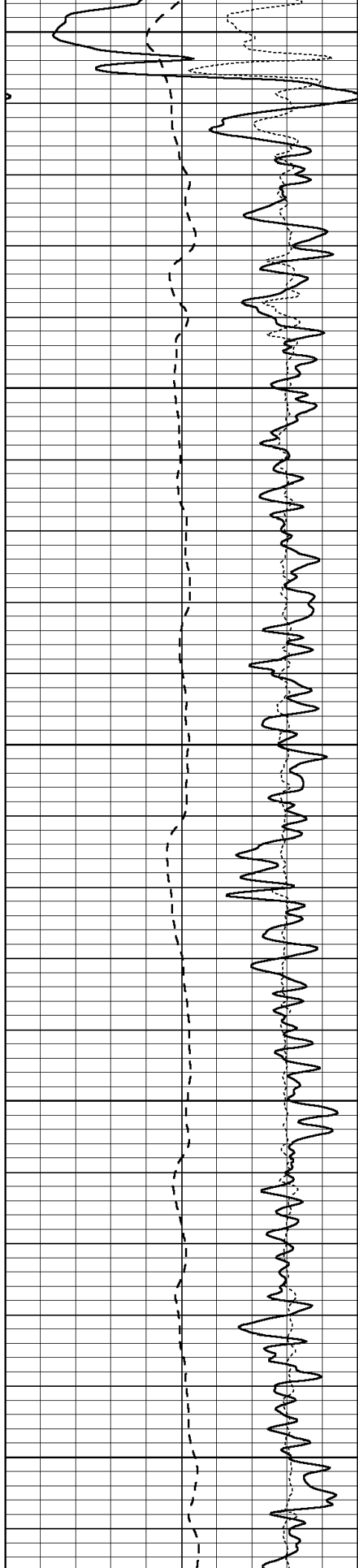
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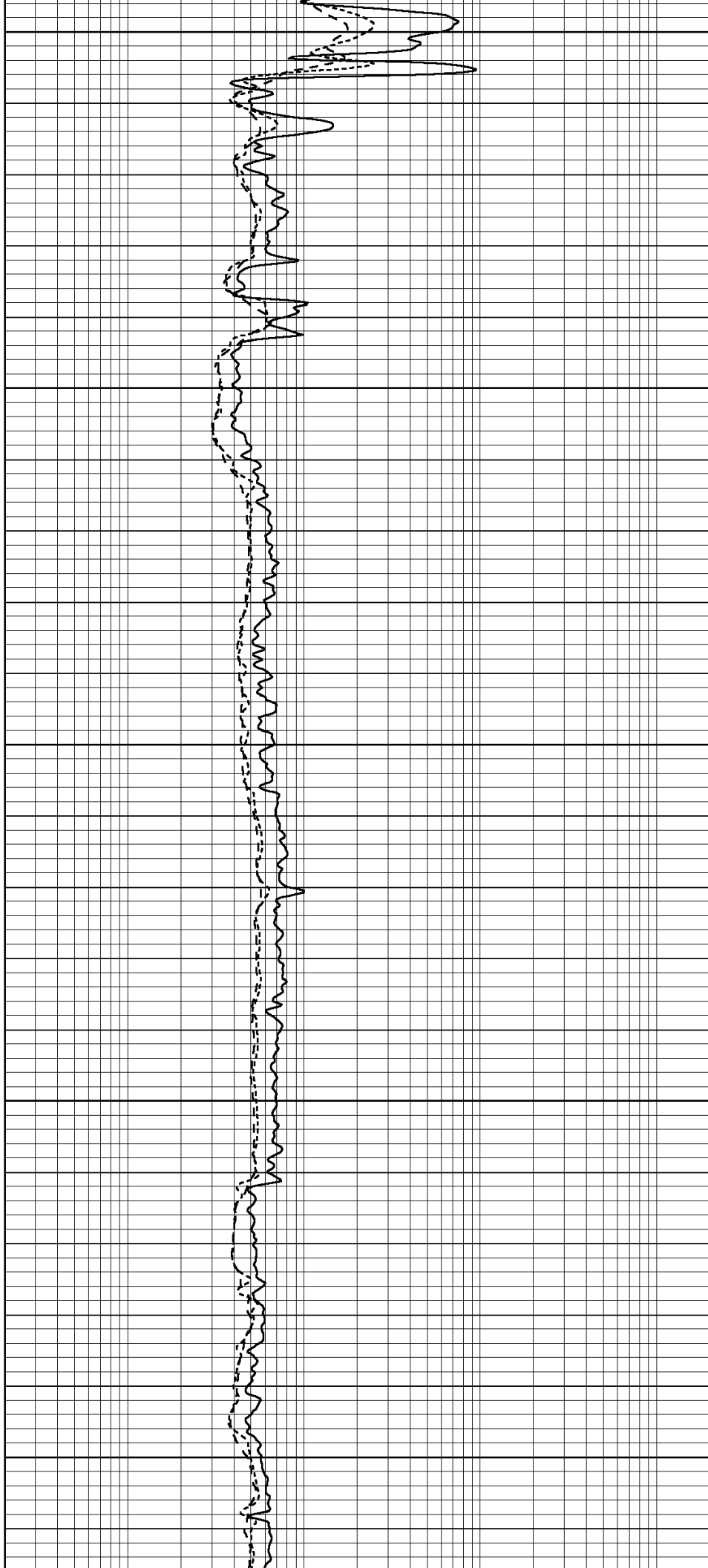
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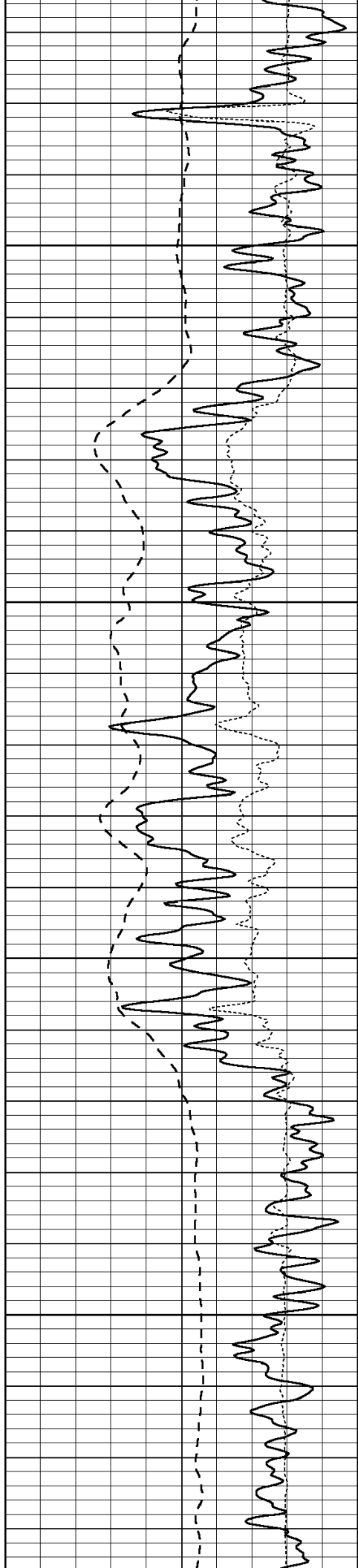
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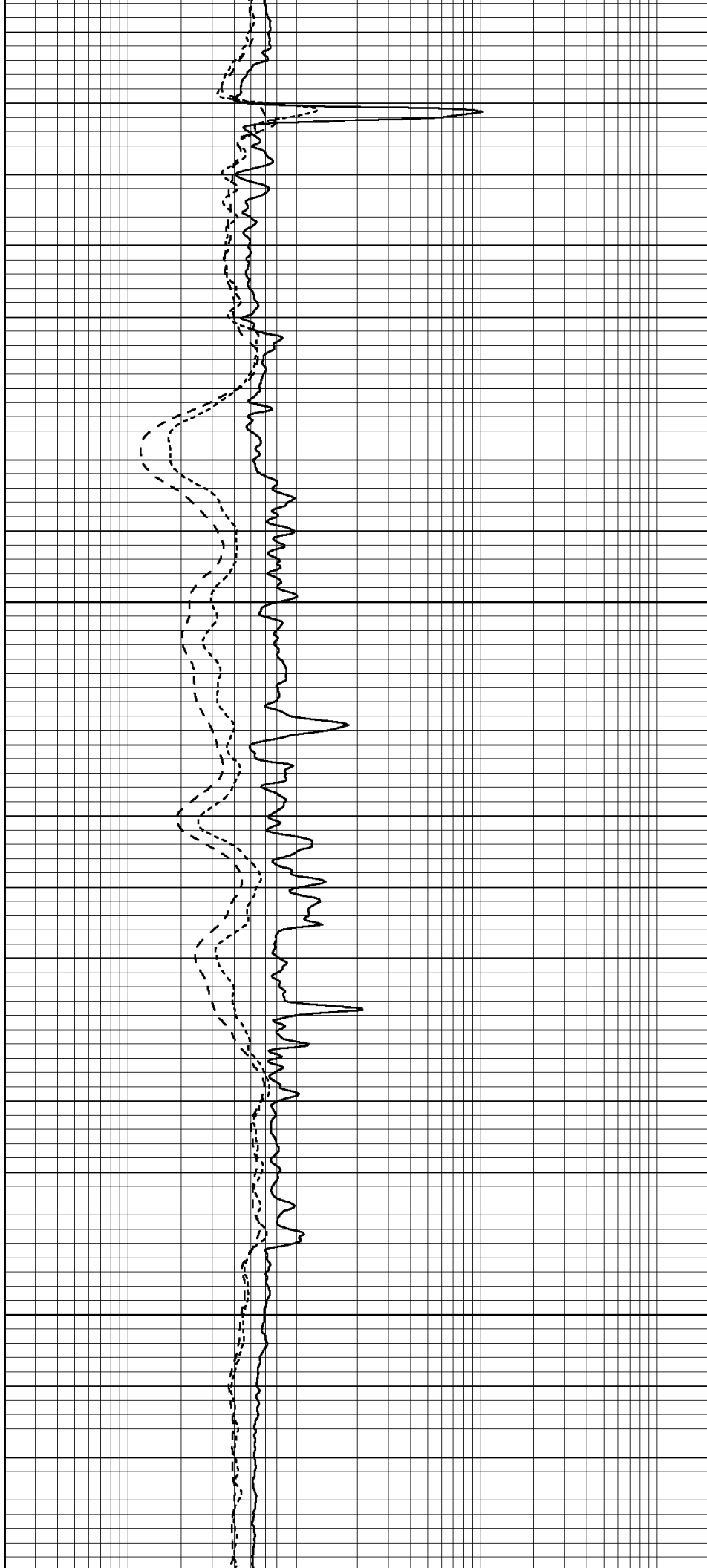


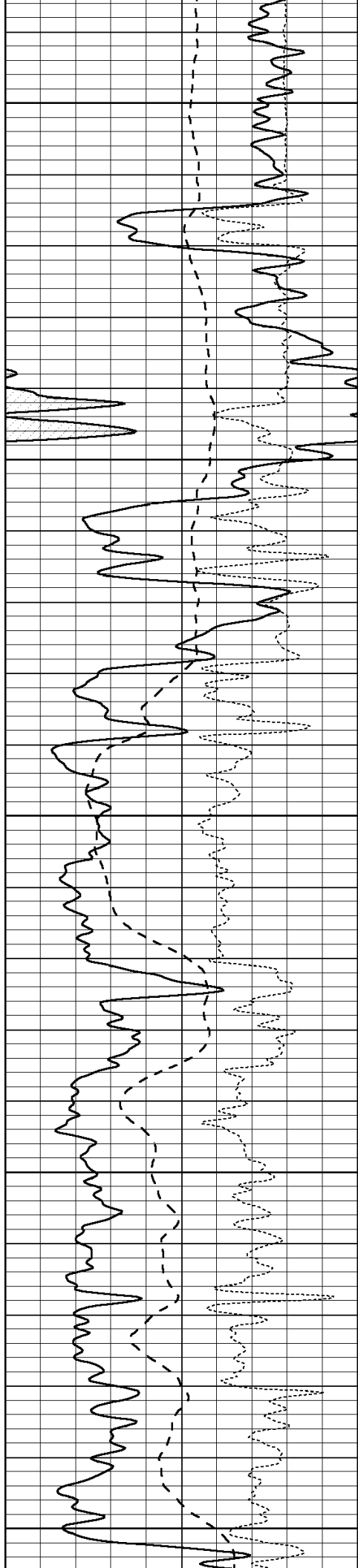
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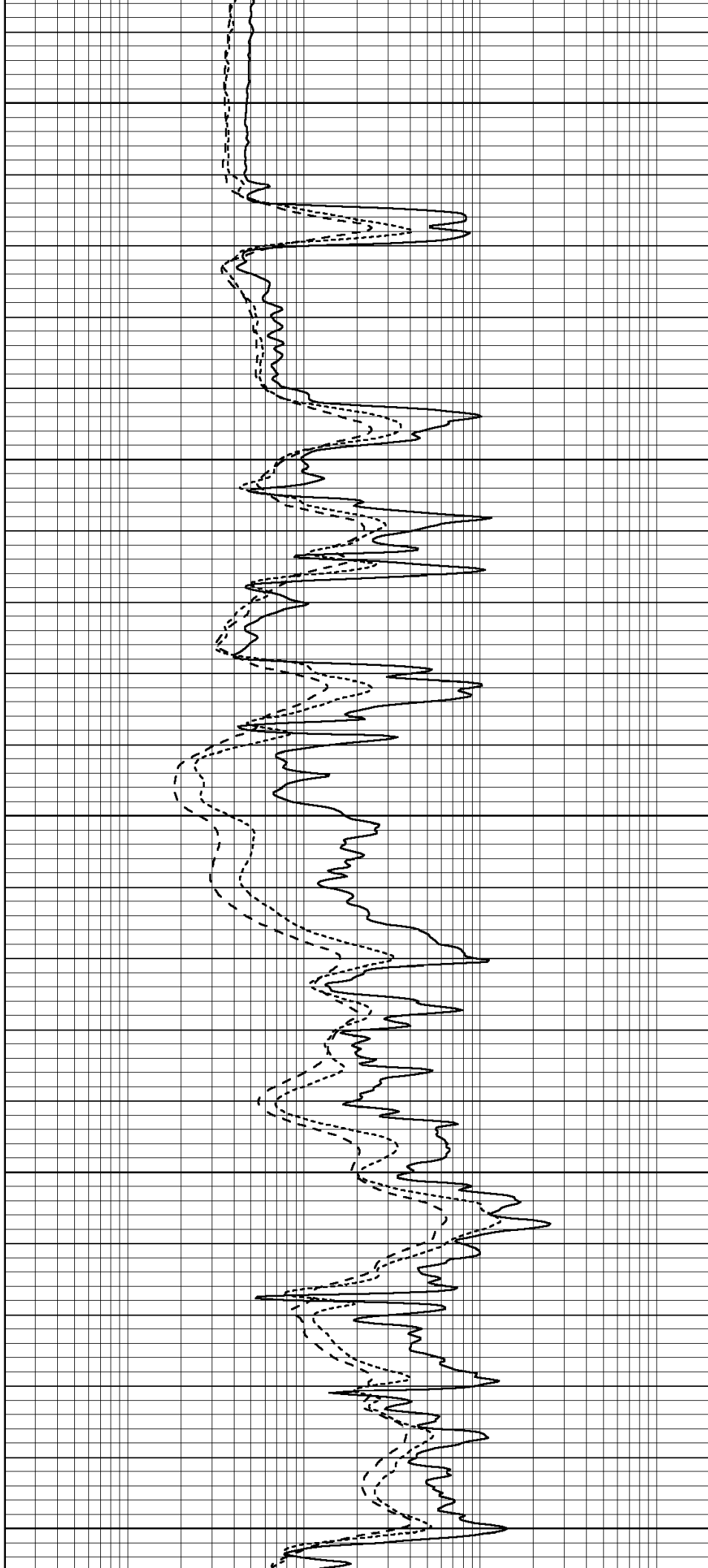
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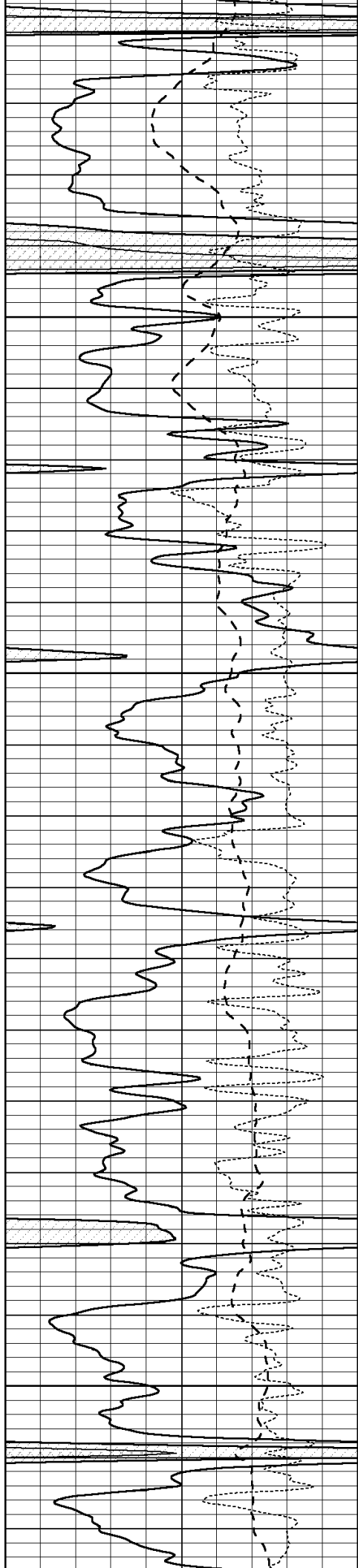
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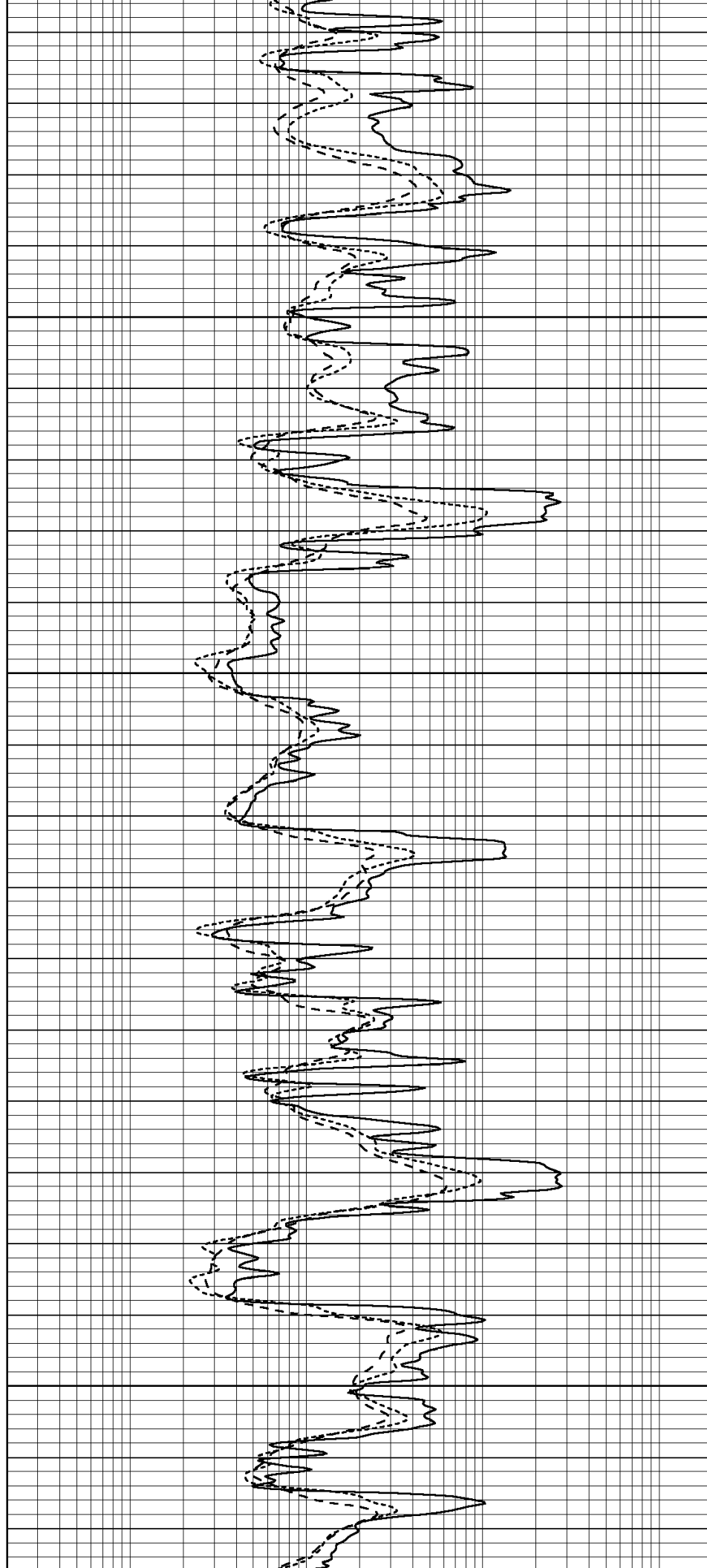


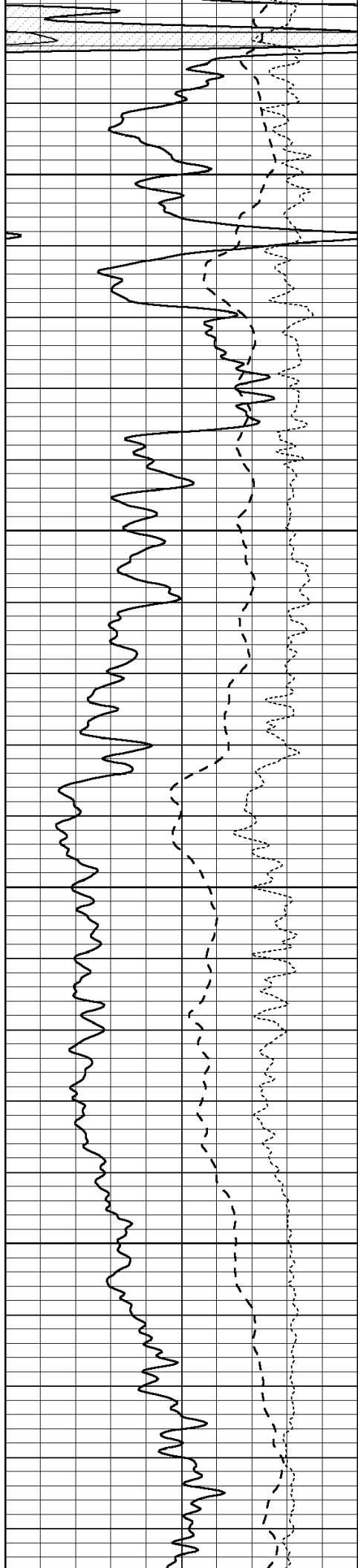
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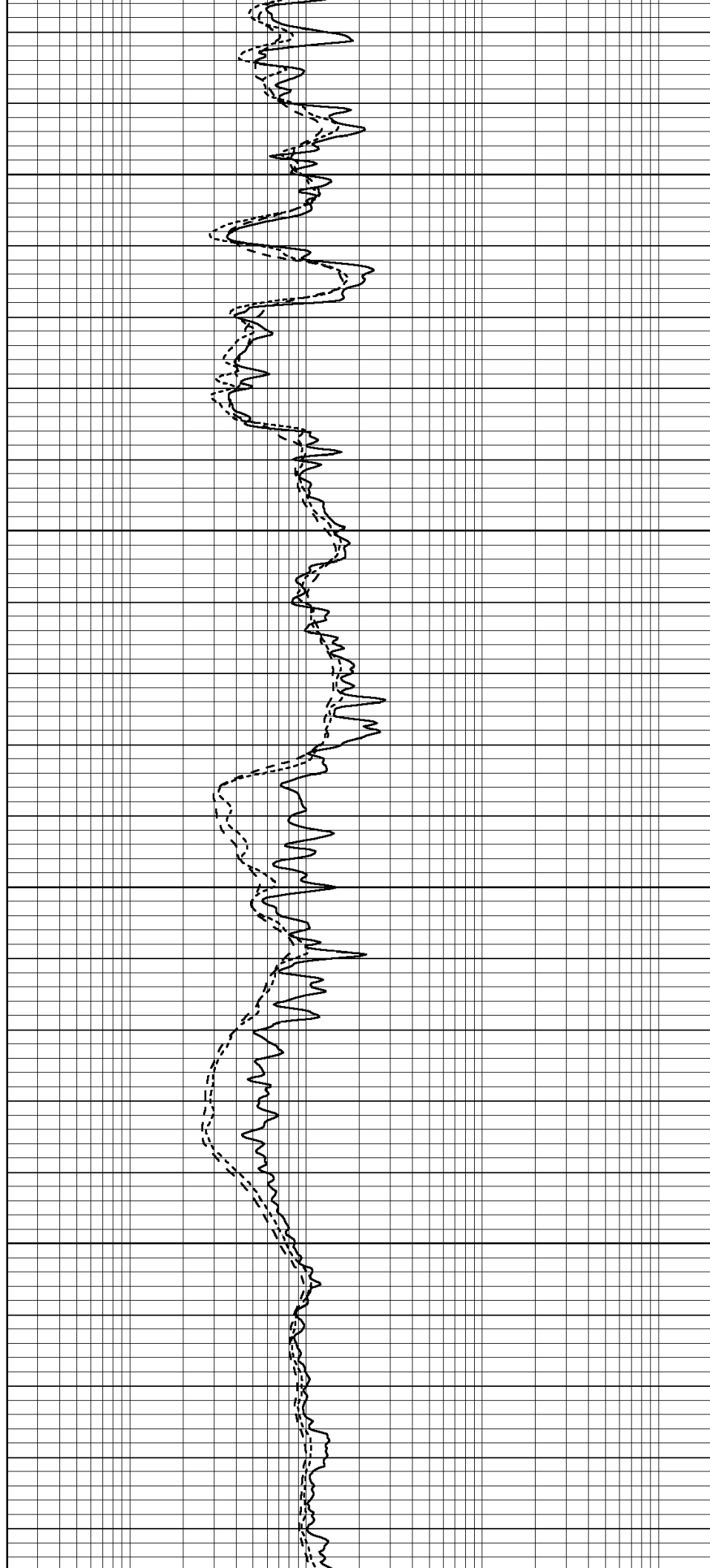


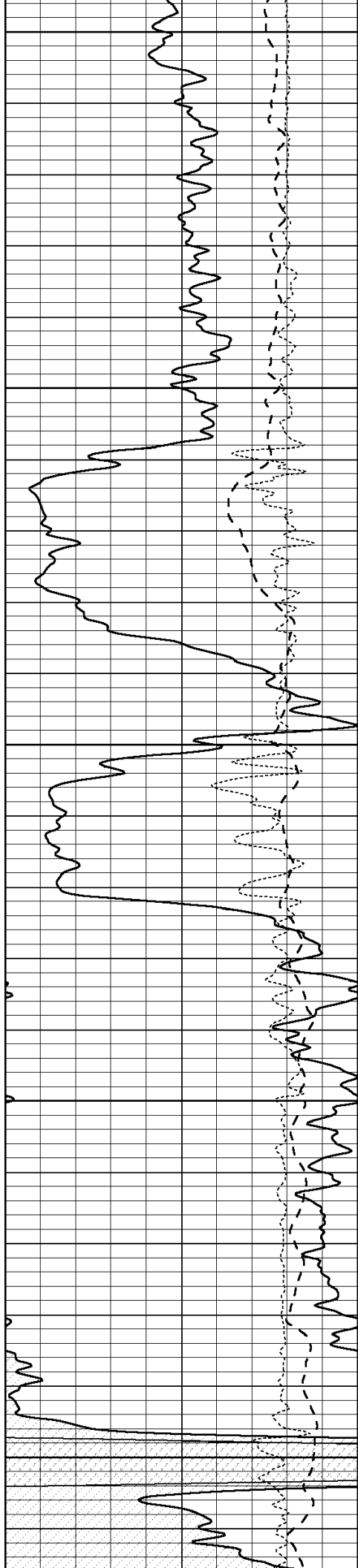
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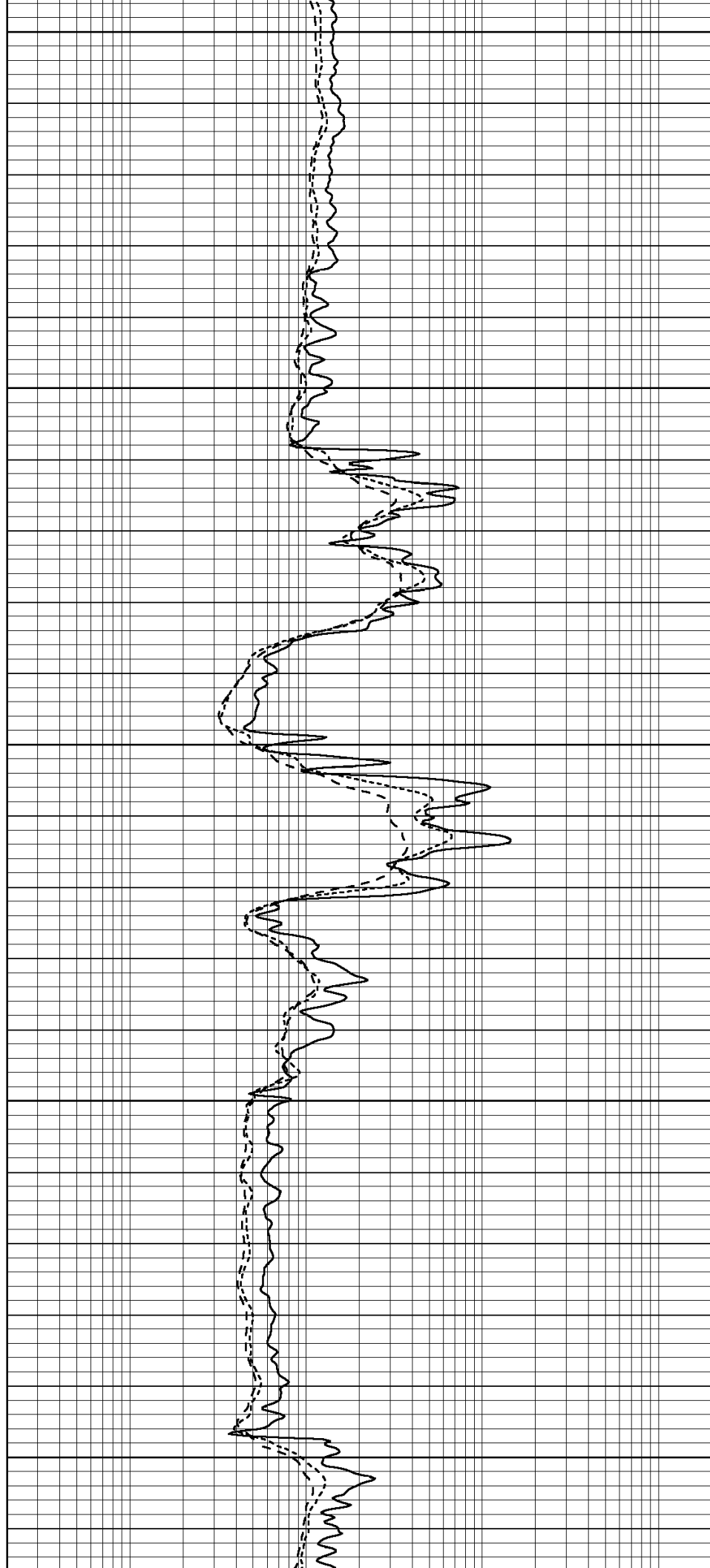
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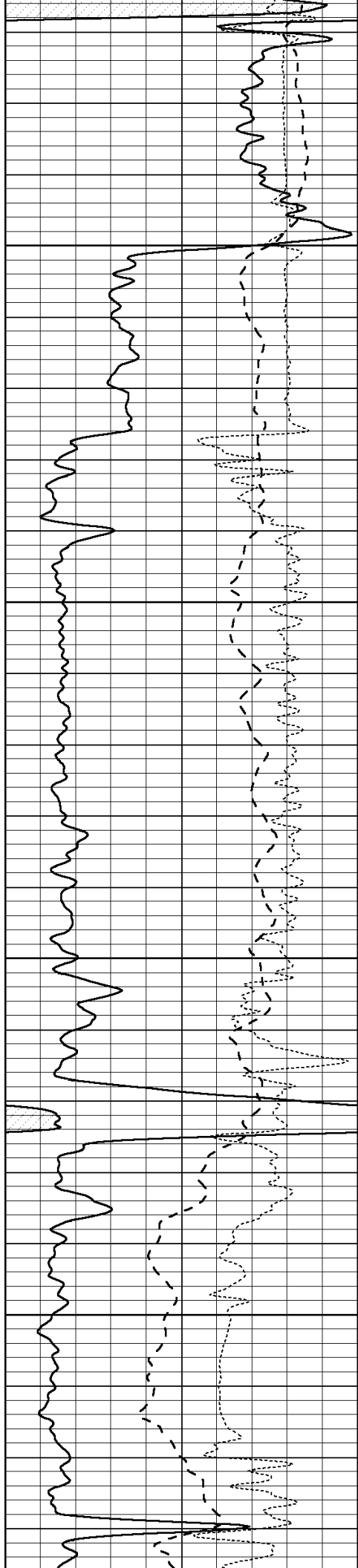
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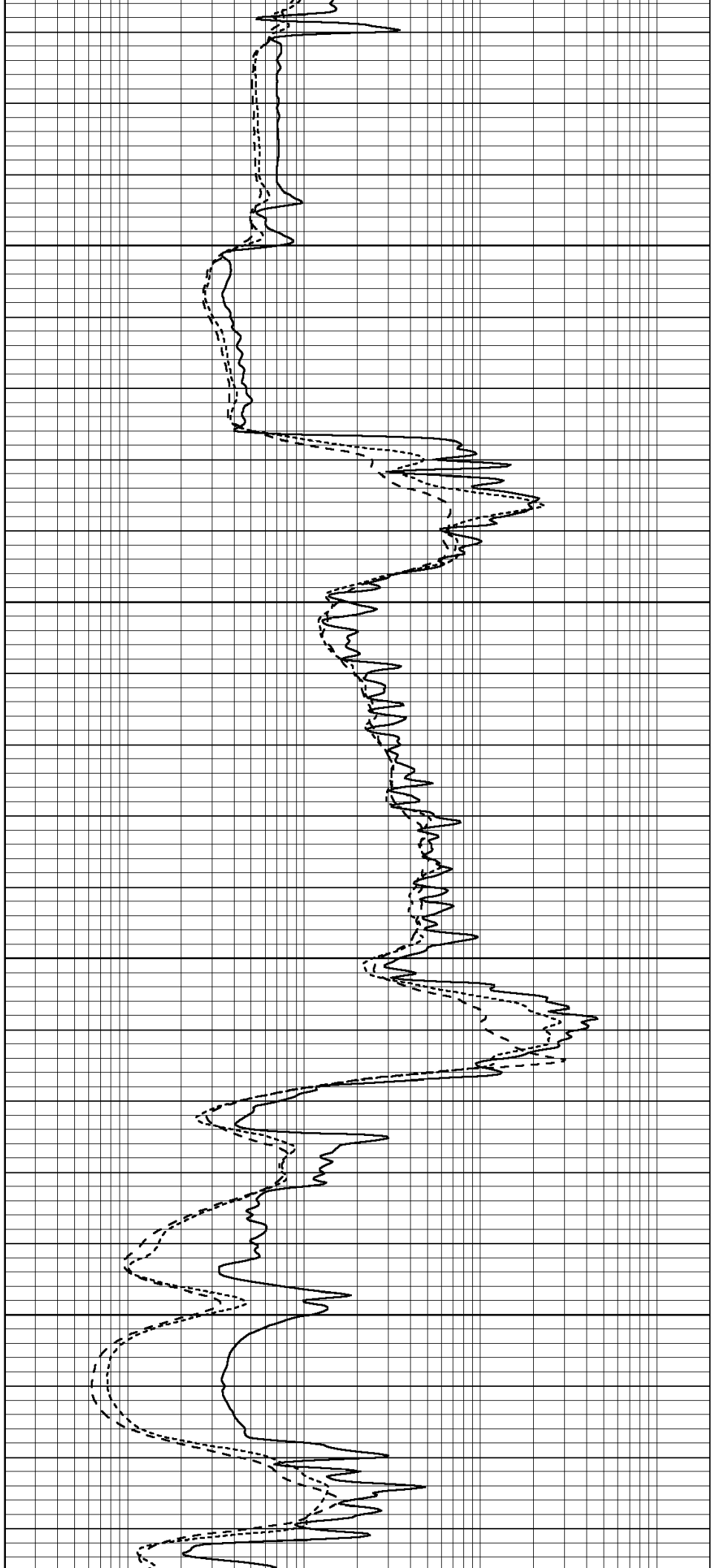


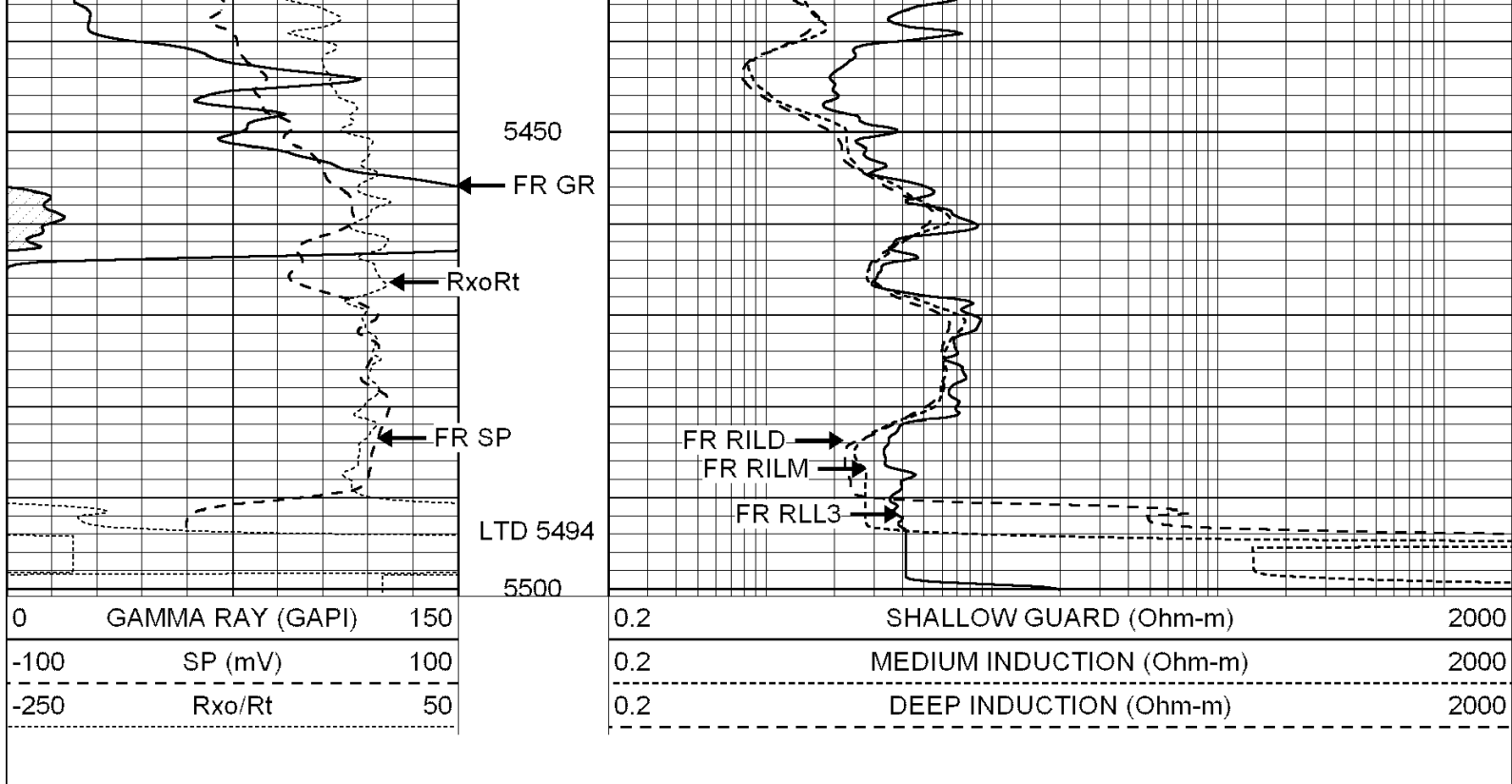
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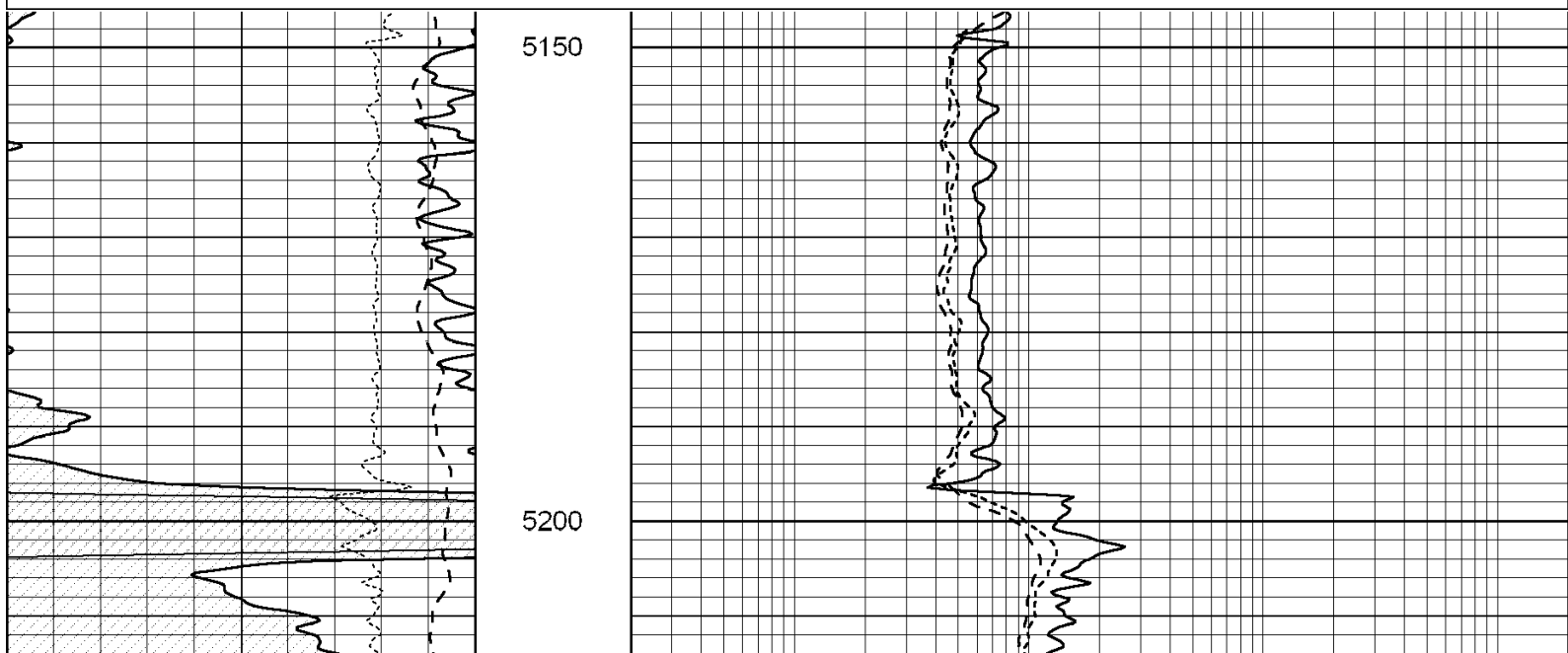
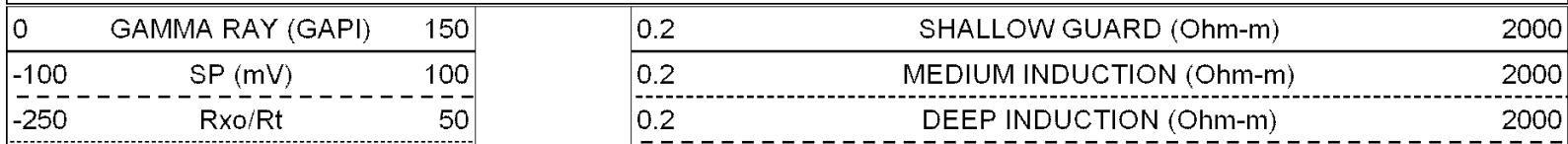


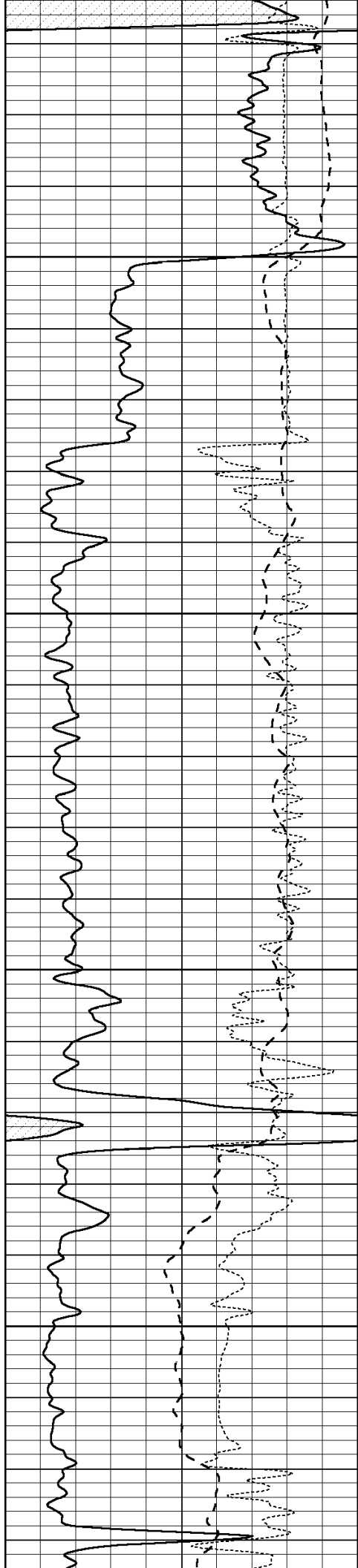


SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File: 004660pe.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Thu Dec 17 19:30:39 2009 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240



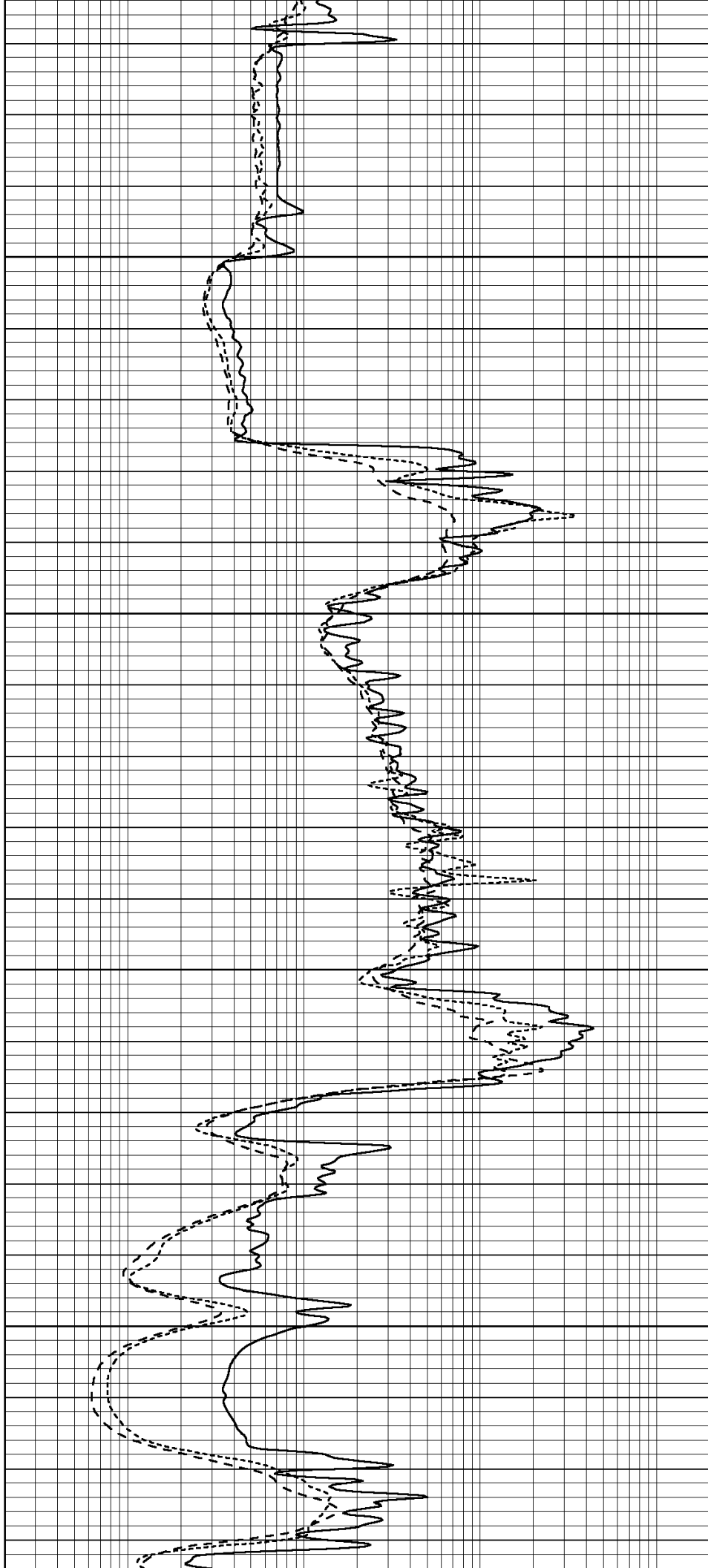


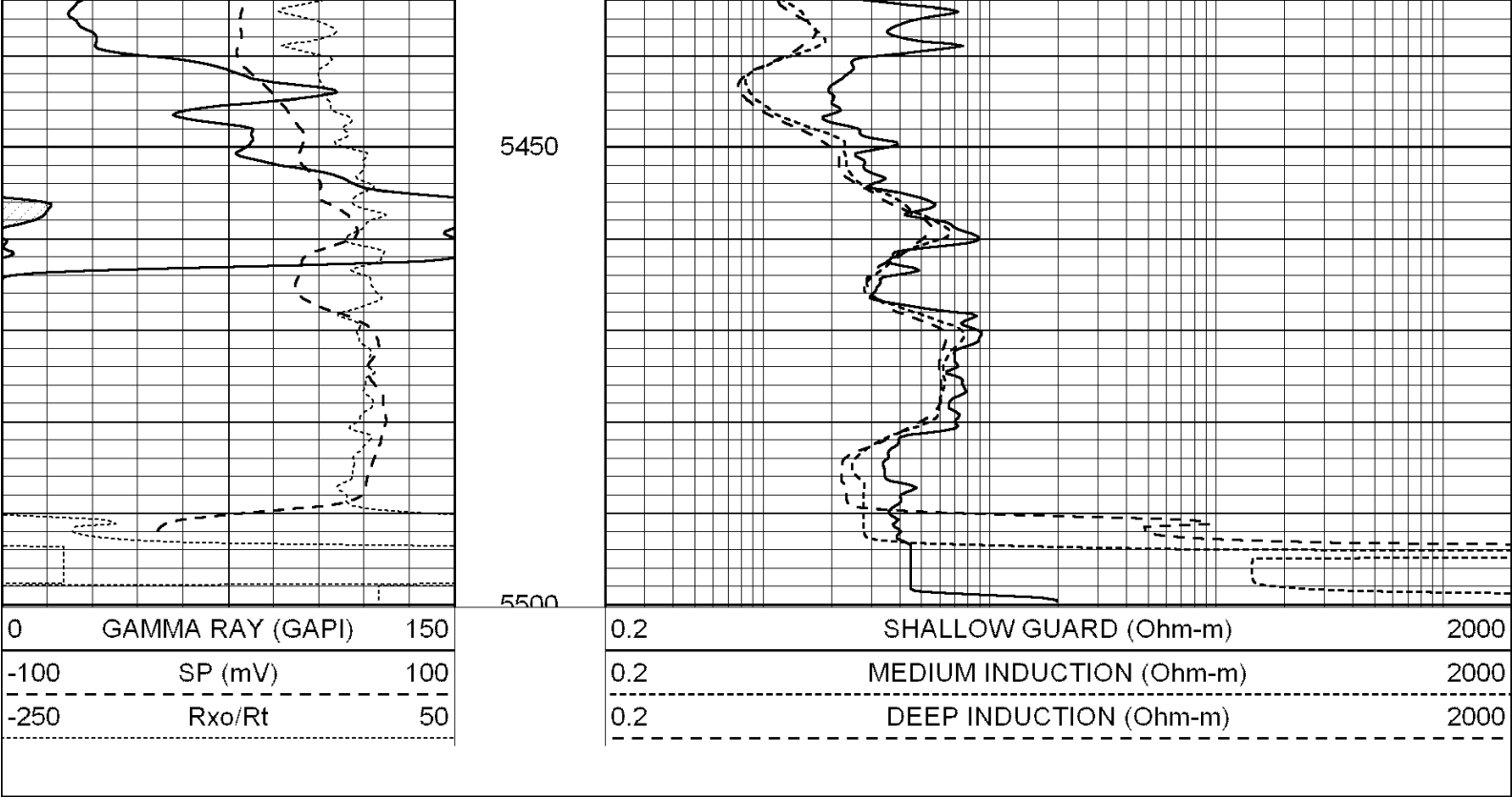
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Calibration Report									
Database File:		004660pe.db							
Dataset Pathname:		pass4.3							
Dataset Creation:		Thu Dec 17 21:54:26 2009 by Calc Open-Cased 090629							
Dual Induction Calibration Report									
Serial-Model:				PROBE8-DILG					
Surface Cal Performed:				Fri Aug 01 06:33:19 2008					
Downhole Cal Performed:				Mon Jul 28 11:08:27 2008					
After Survey Verification Performed:				Mon Jul 28 11:08:27 2008					
Surface Calibration									
Readings				References			Results		
Loop:	Air	Loop		Air	Loop		m	b	
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730	
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680	
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619	
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739	
Downhole Calibration									
Readings				References			Results		
	Zero	Cal		Zero	Cal		m'	b'	
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000	
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000	
LL3		7.500	V		1500.000	Ohm-m			
		0.000	V		20.000	Ohm-m			
		-6.500	V		3800.000	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: 002 Model: PRB

Performed Mon Oct 29 15:40:49 2007

Litho Density Calibration					
	Background	Magnesium	Aluminum	Sandstone	
Window 1	1056.3	9118.0	2809.7	10378.4	cps
Window 2	969.9	7671.9	2431.6	8565.8	cps
Window 3	683.8	2939.8	1161.0	3161.8	cps
Window 4	231.4	231.6	226.7	230.8	cps
Long Space	0.0	6702.0	1461.7	7595.9	cps
Short Space	1.2	1433.6	959.4	1568.6	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 45.2	Rib Slope	: 1.008	Density/Spine Ratio	: 0.559
Spine Angle	: 75.2	Spine Slope	: 3.791	Spine Intercept	: -18.7

Caliper		
	Readings	Reference
Low Ref	3.1	8.0
High Ref	5.4	14.0
	Gain: 2.5	Offset: 1.1

Compensated Neutron Calibration Report

Serial Number:	5I
Tool Model:	G

CALIBRATION						
Detector		Readings		Target		Normalization
Short Space		1.00	cps	1.00	cps	1.0000
Long Space		1.00	cps	1.00	cps	1.0000

Gamma Ray Calibration Report

Serial Number:	GR6
Tool Model:	OPEN
Performed:	Tue Nov 10 08:32:36 2009
Calibrator Value:	150.0
	GAPI
Background Reading:	0.0
Calibrator Reading:	276.0
	cps
Sensitivity:	0.5535
	GAPI/cps