



SUPERIOR
Hays,
Kansas

DUAL
INDUCTION
LOG

Company	RITCHIE EXPLORATION, INC.		
Well	BARNGROVER #1		
Field			
County	FORD	State	KANSAS
Location:	API # : 15-057-20829-0000		Other Services
	2305' FNL & 335' FEL SE - SE - NE		CDL/CNL
	SEC 7	TWP 28S	RGE 23W
Permanent Datum	GROUND LEVEL		Elevation 2515
Log Measured From	KELLY BUSHING 12' A.G.L.		K.B. 2527 D.F. 2525 G.L. 2515
Drilling Measured From	KELLY BUSHING		
Date	7-23-12		
Run Number	ONE		
Depth Driller	5299		
Depth Logger	5298		
Bottom Logged Interval	5274		
Top Log Interval	3500		
Casing Driller	345		
Casing Logger	345		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.0 / 49	CHLORIDES 9,200 PPM	
pH / Fluid Loss	10.0 / 10.4		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	0.45 @ 90F		
Rmf @ Meas. Temp	0.34 @ 90F		
Rmc @ Meas. Temp	0.54 @ 90F		
Source of Rmf / Rmc	MEASURED		
Rim @ BHT	0.32 @ 128F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	128F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	JEFF GRONEWEG		
Witnessed By	MACKLIN ARMSTRONG		

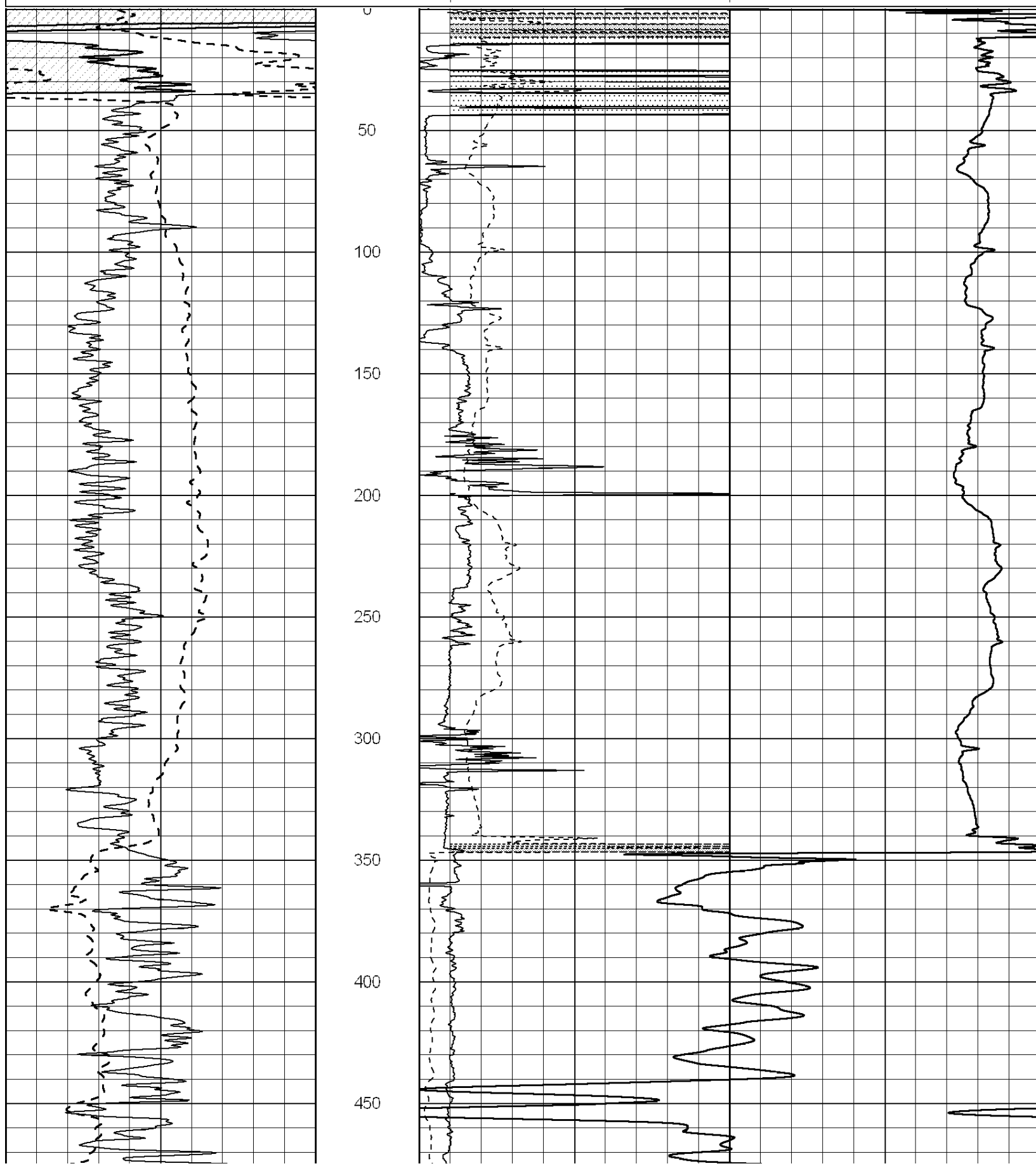
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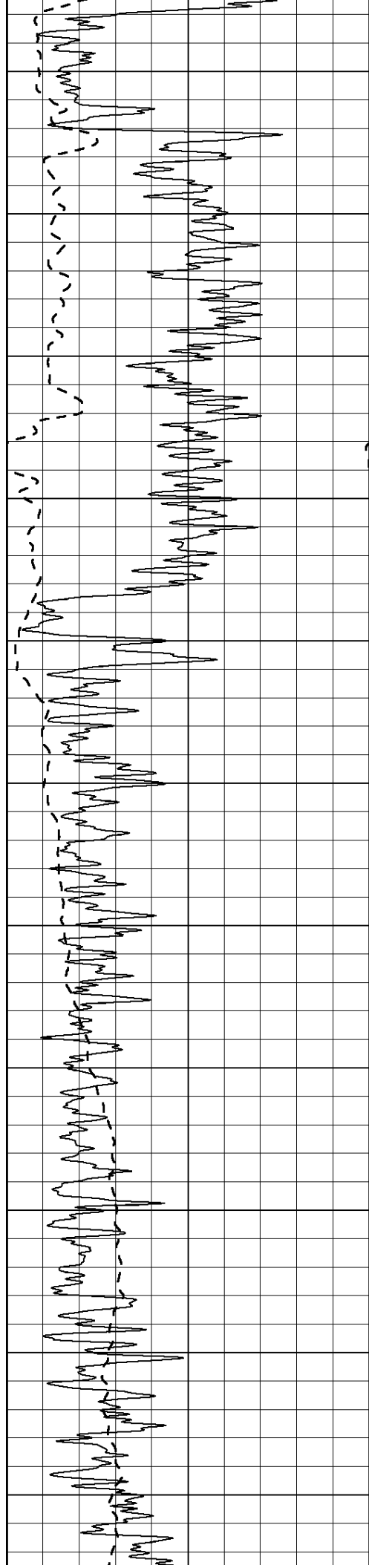
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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

SUPERIOR WELL SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: FORT DODGE, KS - EAST TO RD 117 - SOUTH TO SADDLE RD
1 MILE EAST - 1 MILE SOUTH - 3/4 MILE EAST - SOUTH INTO

0	Gamma Ray (GAPI)	150	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	





500

550

600

650

700

750

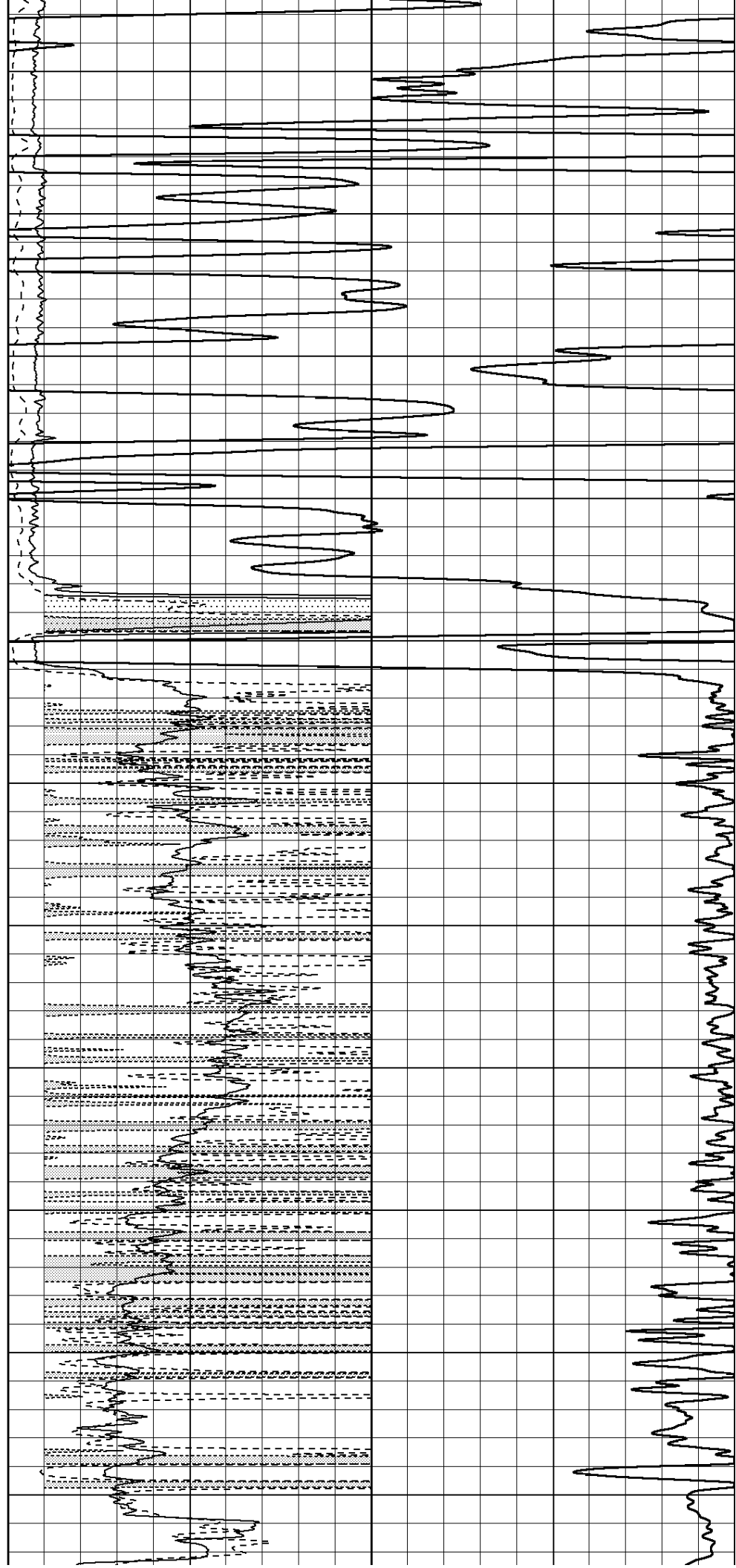
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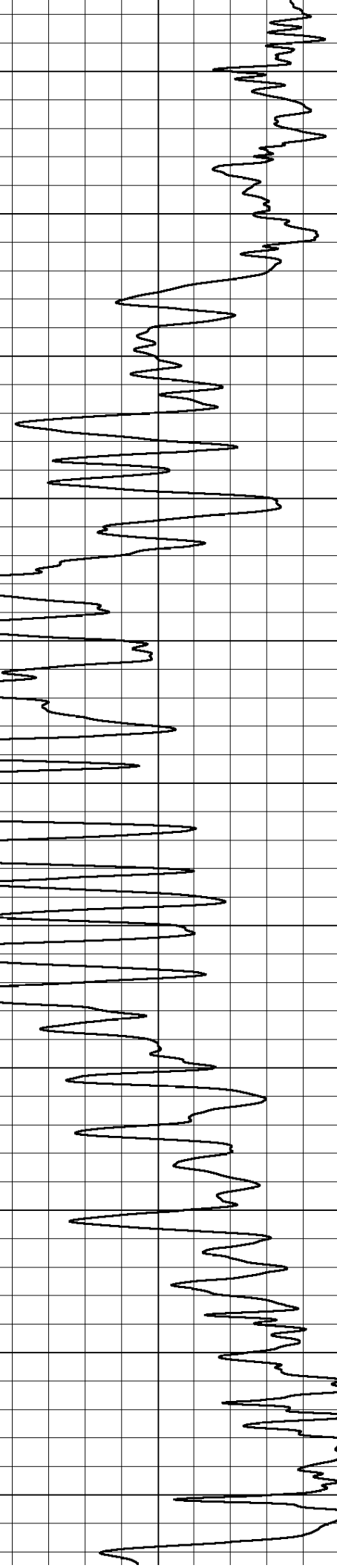
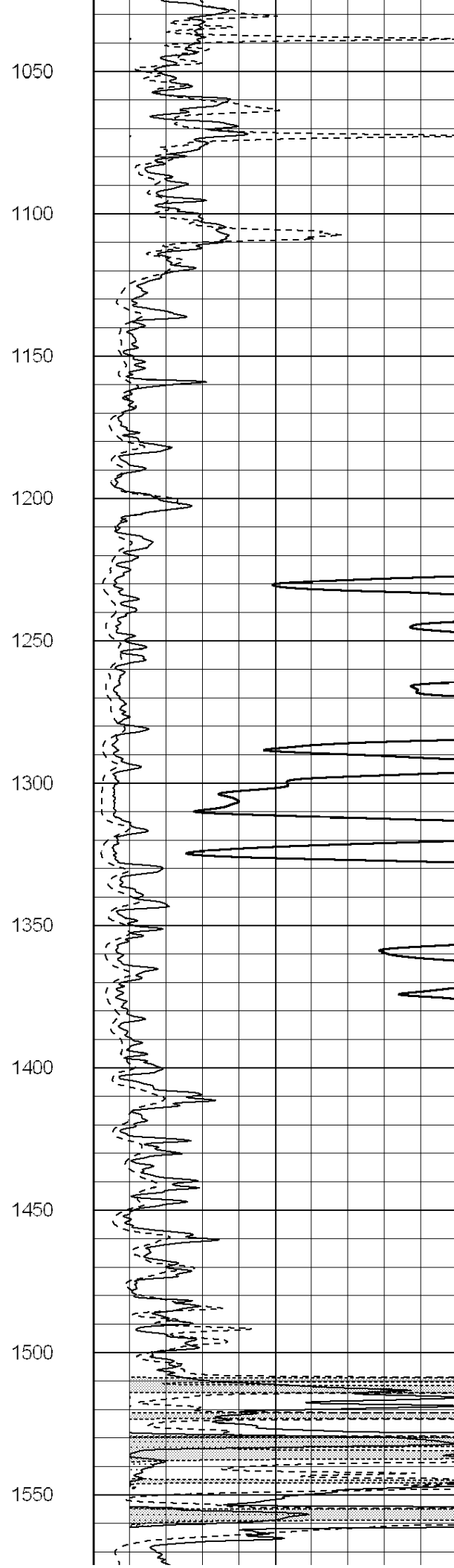
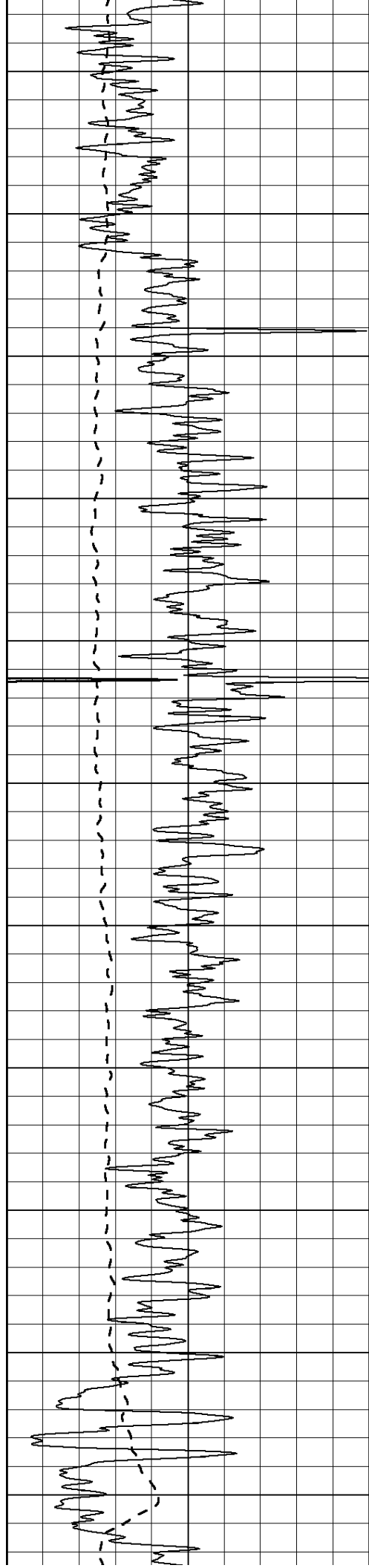
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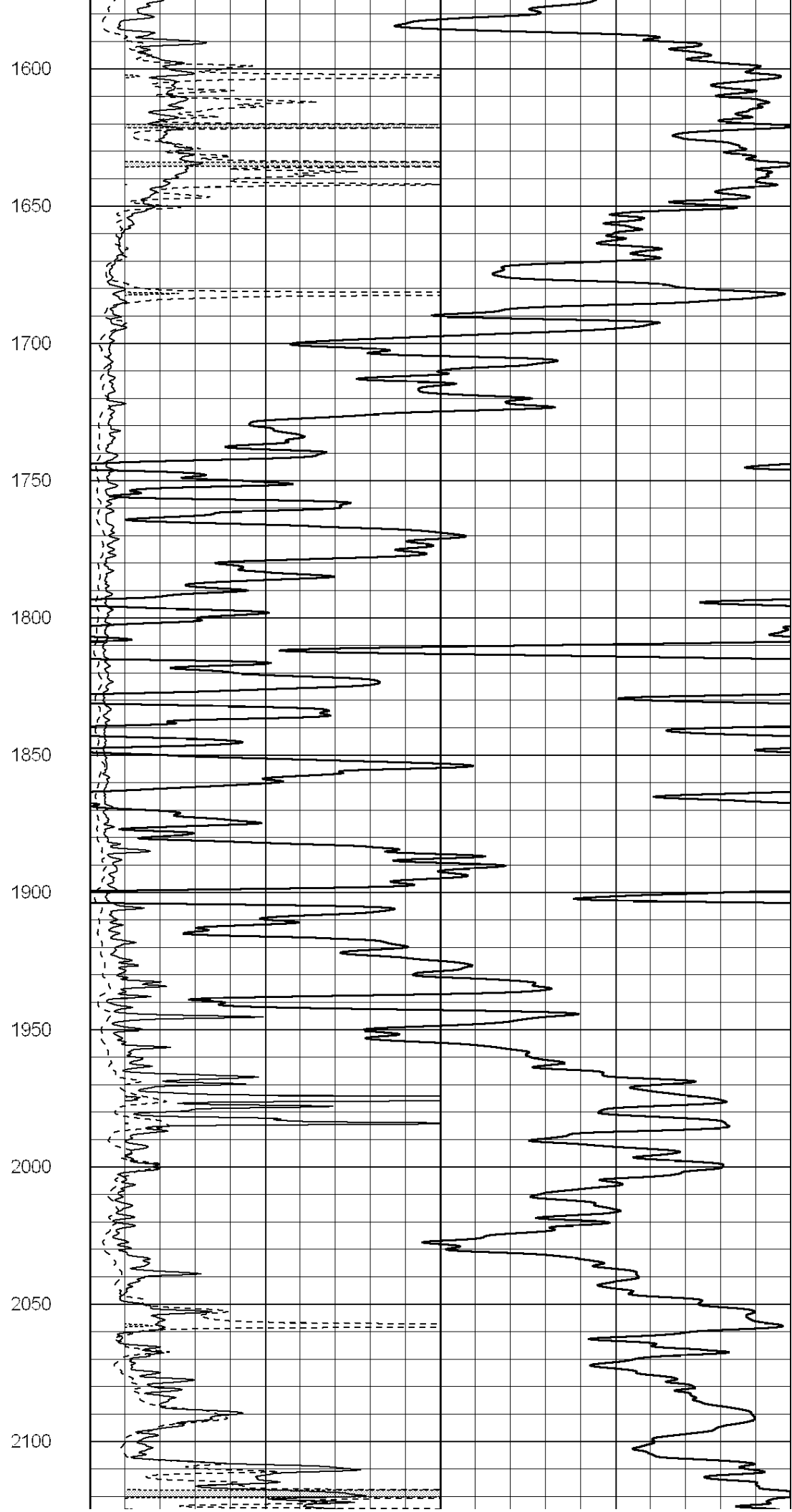
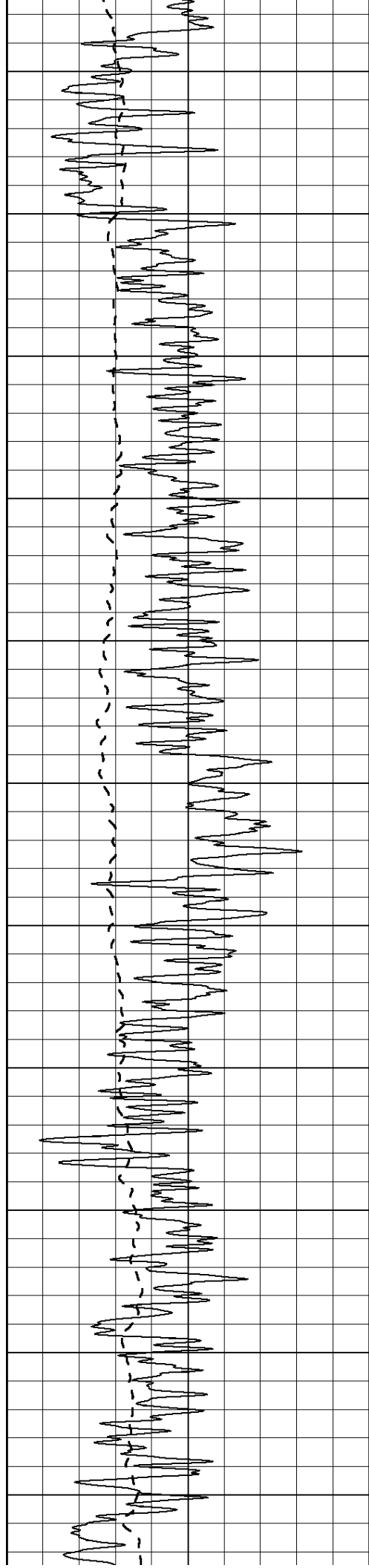
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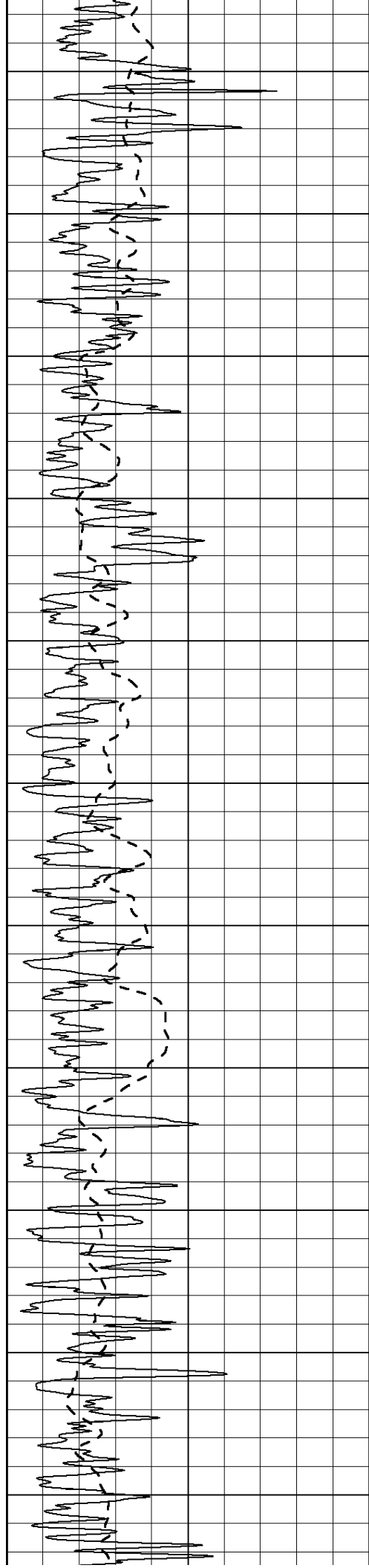
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1000









2150

2200

2250

2300

2350

2400

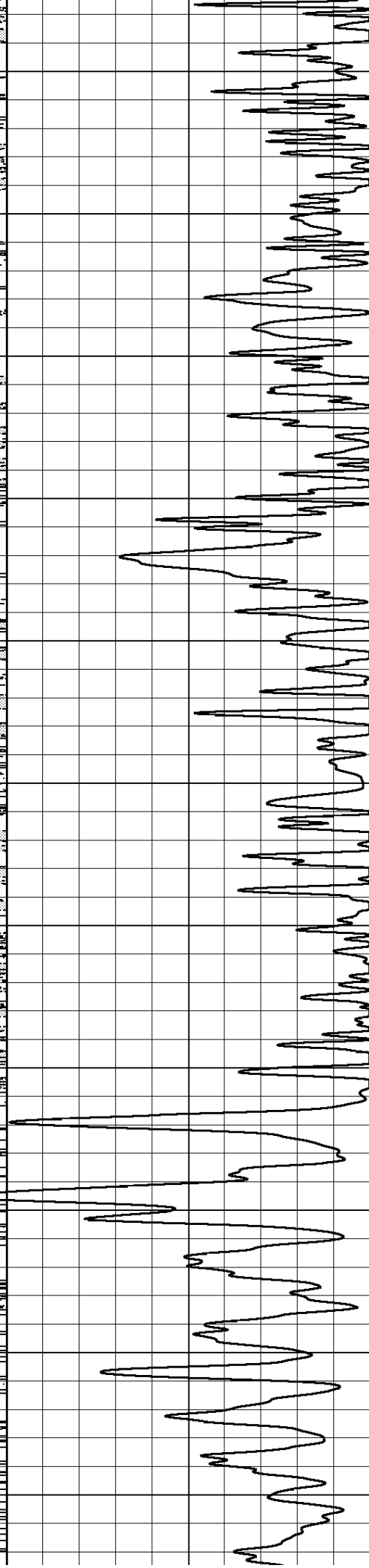
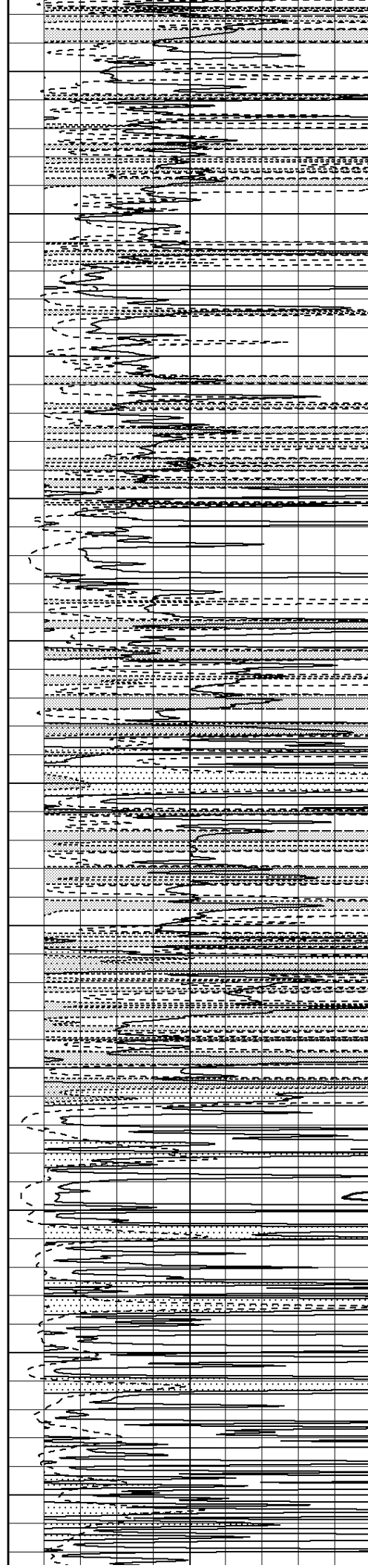
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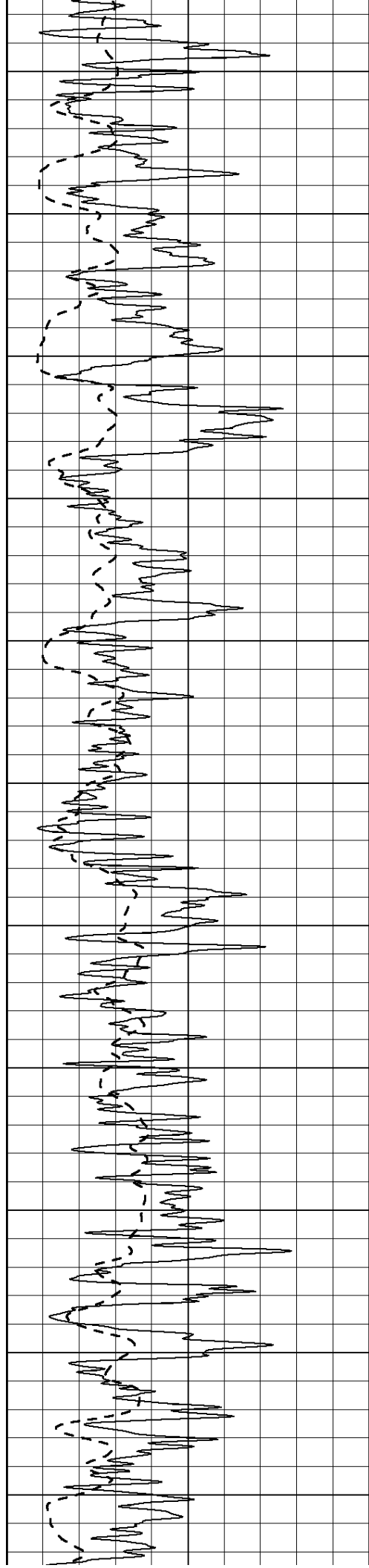
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2550

2600

2650





2700

2750

2800

2850

2900

2950

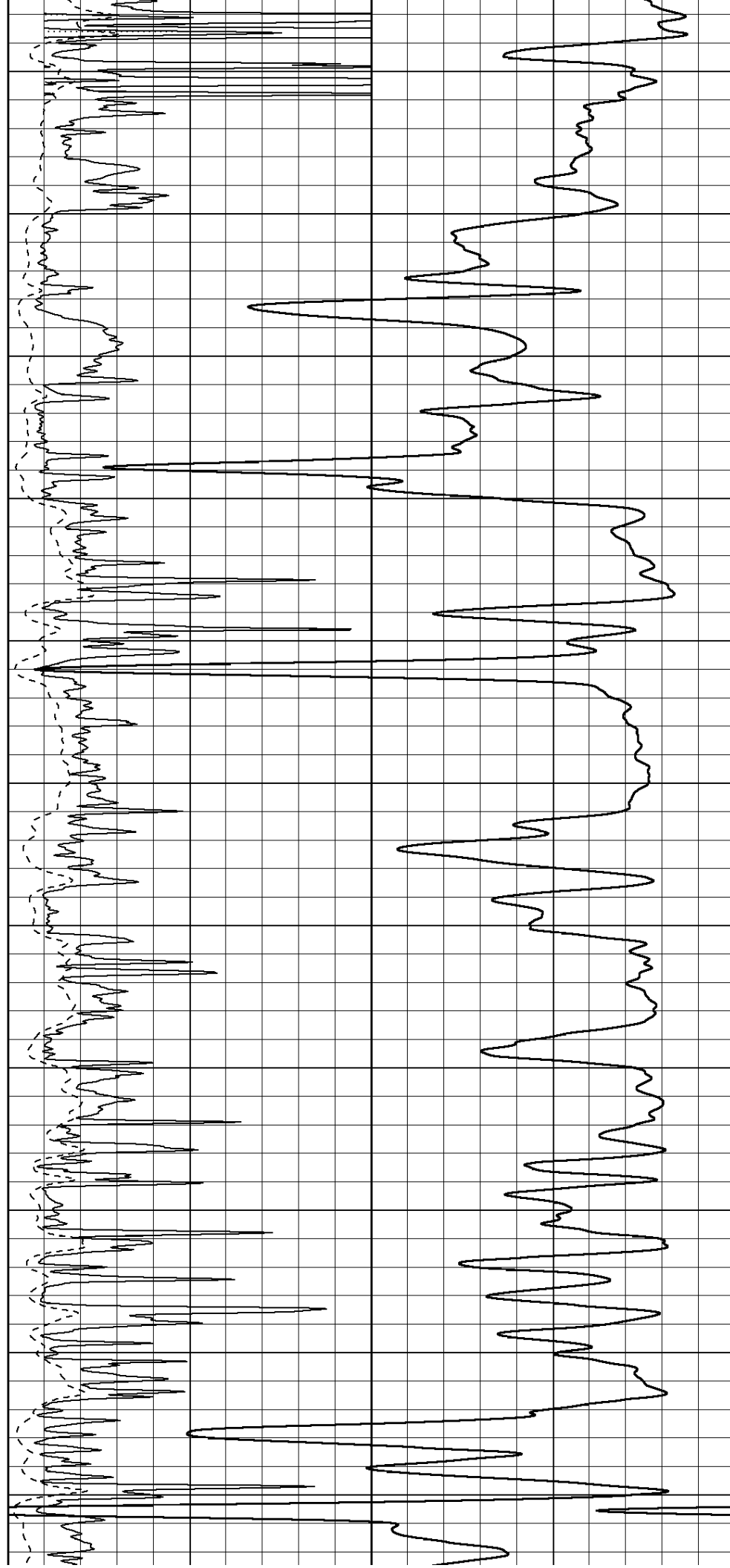
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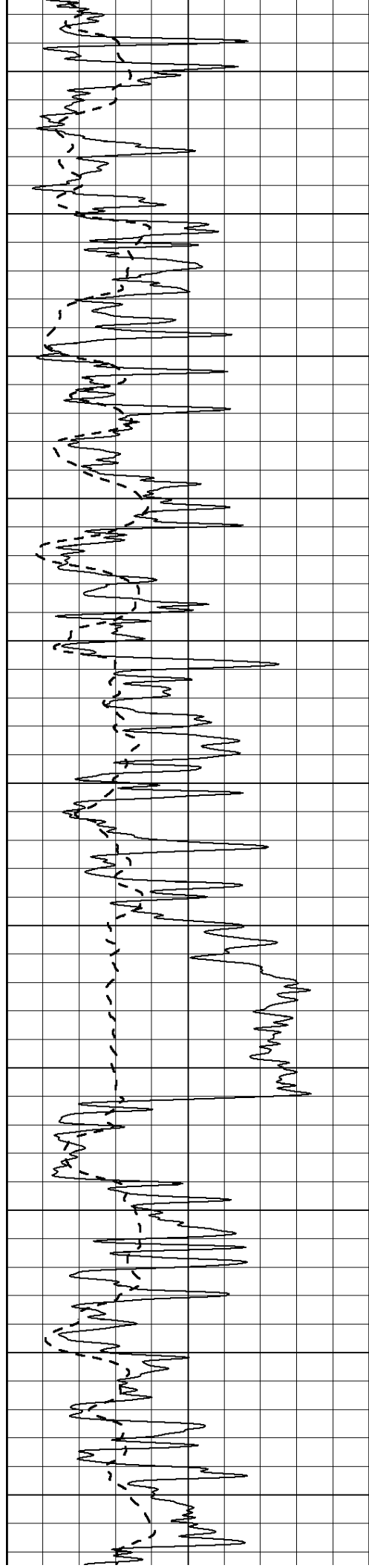
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3250

3300

3350

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3450

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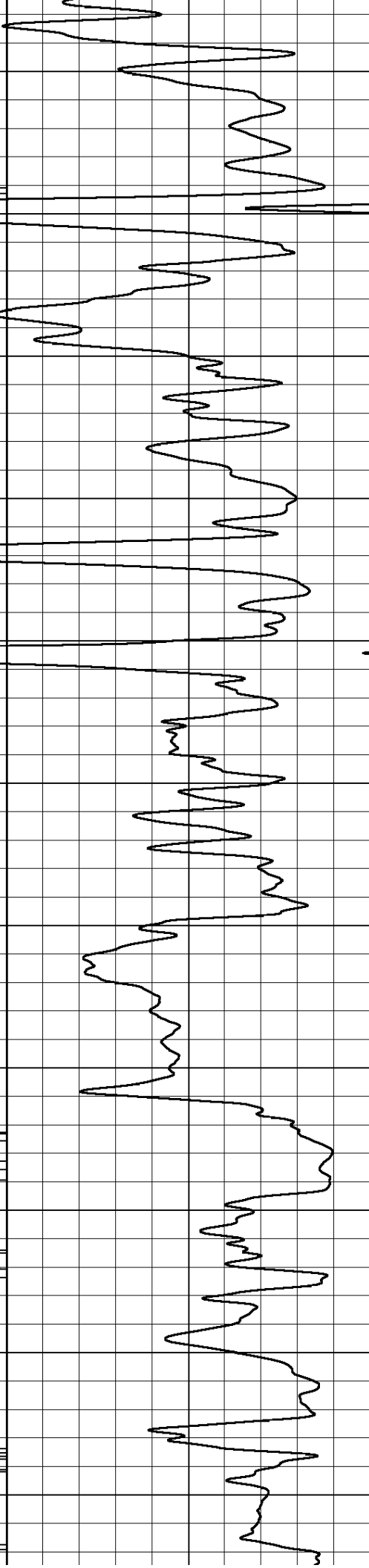
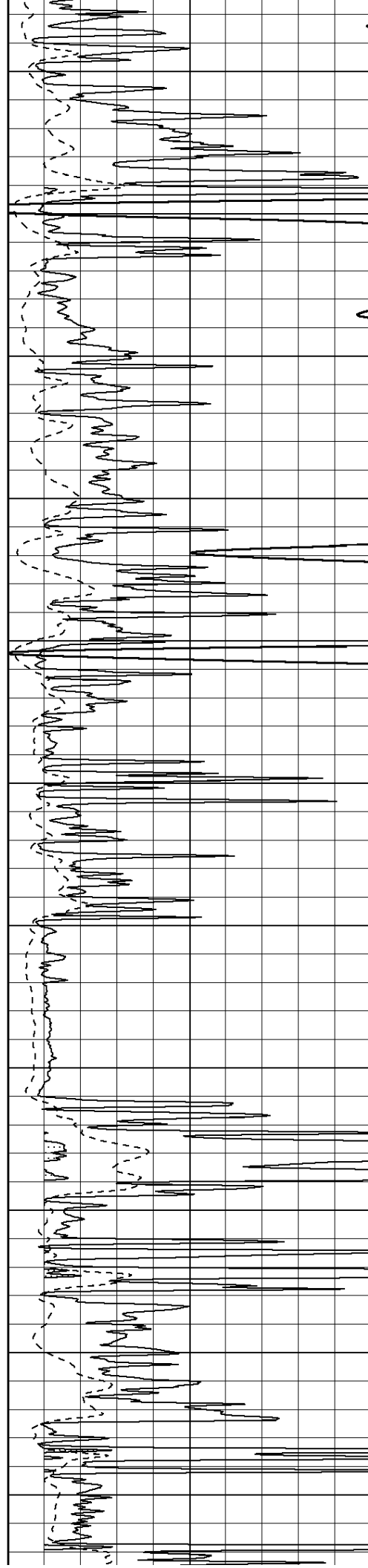
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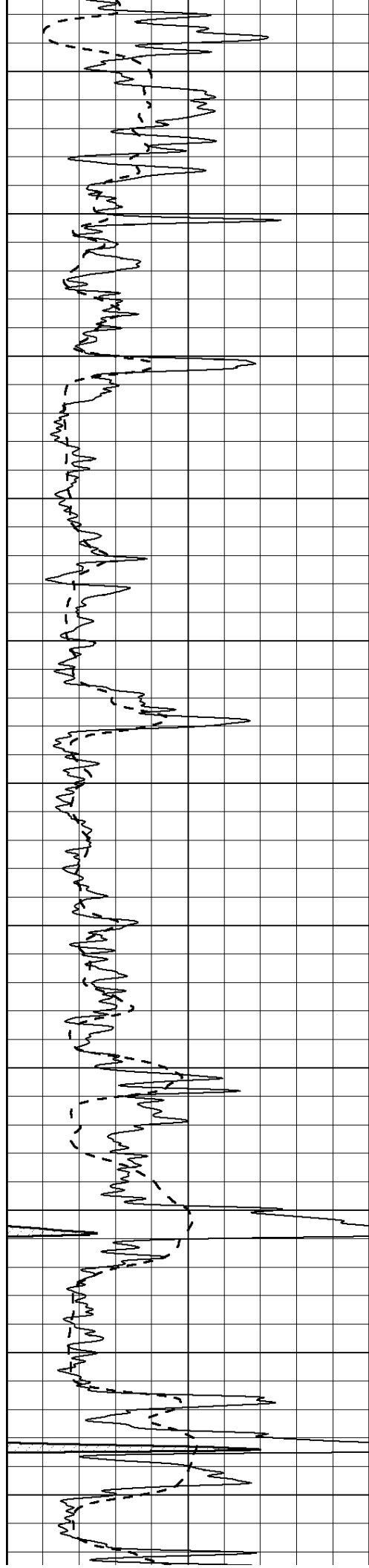
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3900

3950

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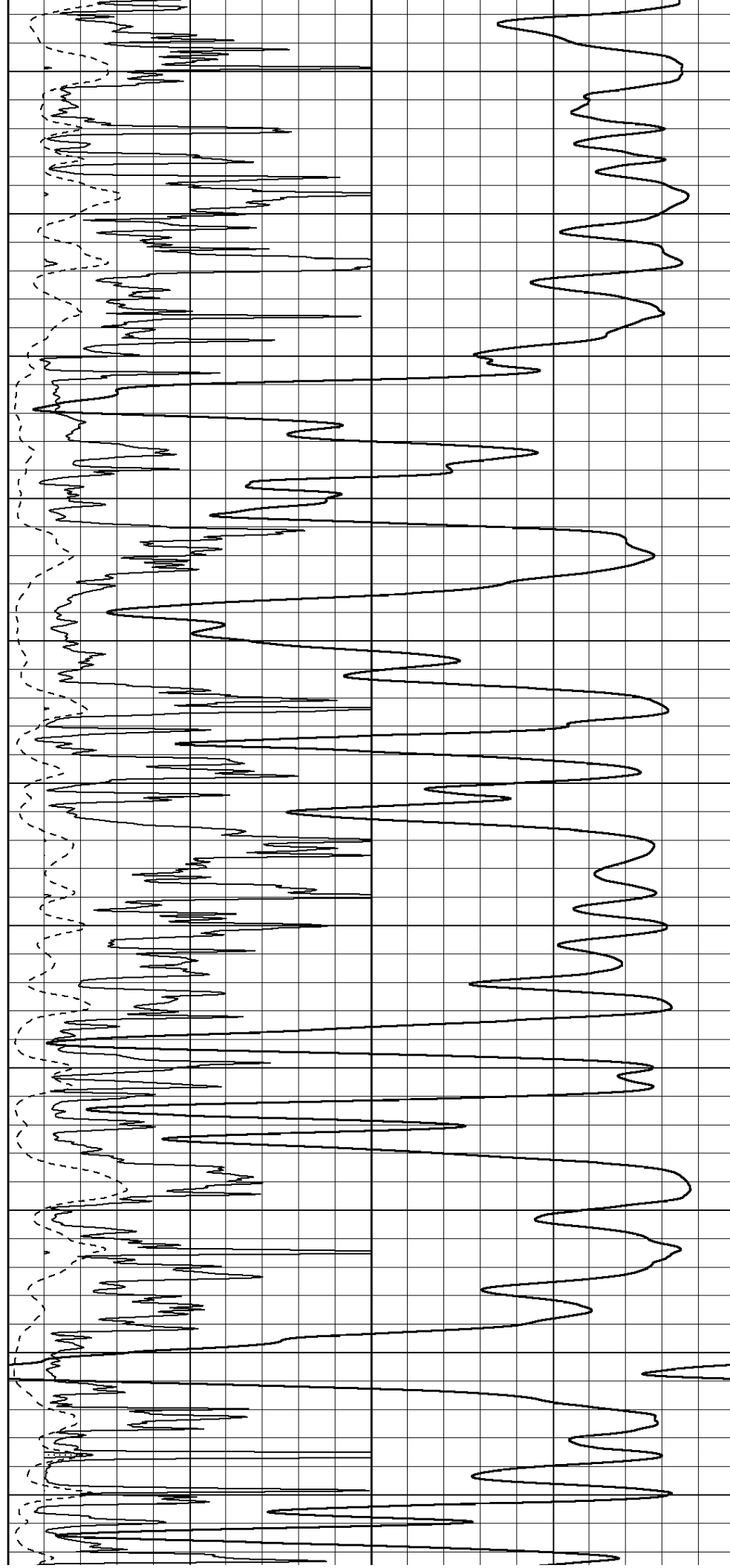
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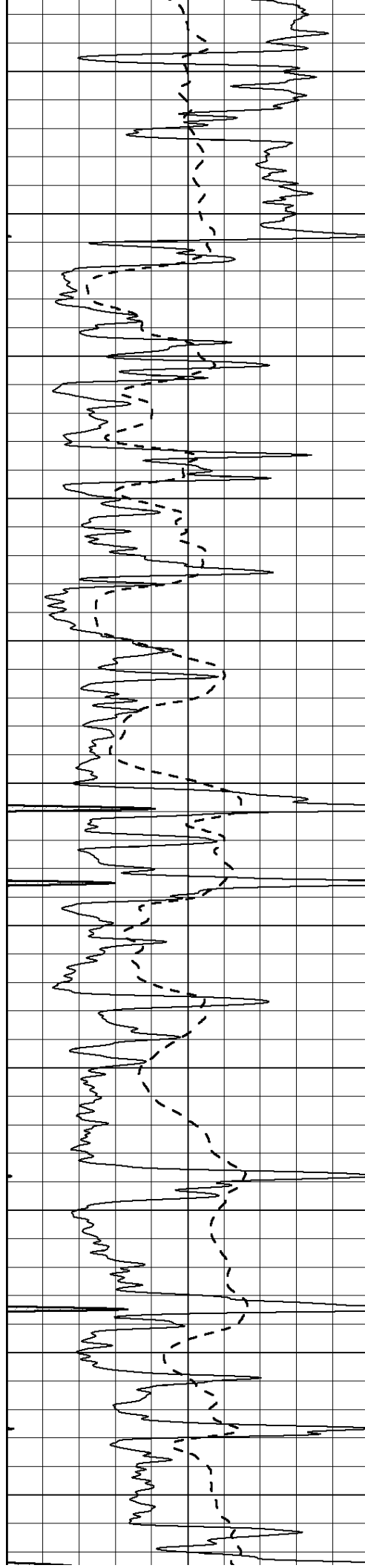
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4350

4400

4450

4500

4550

4600

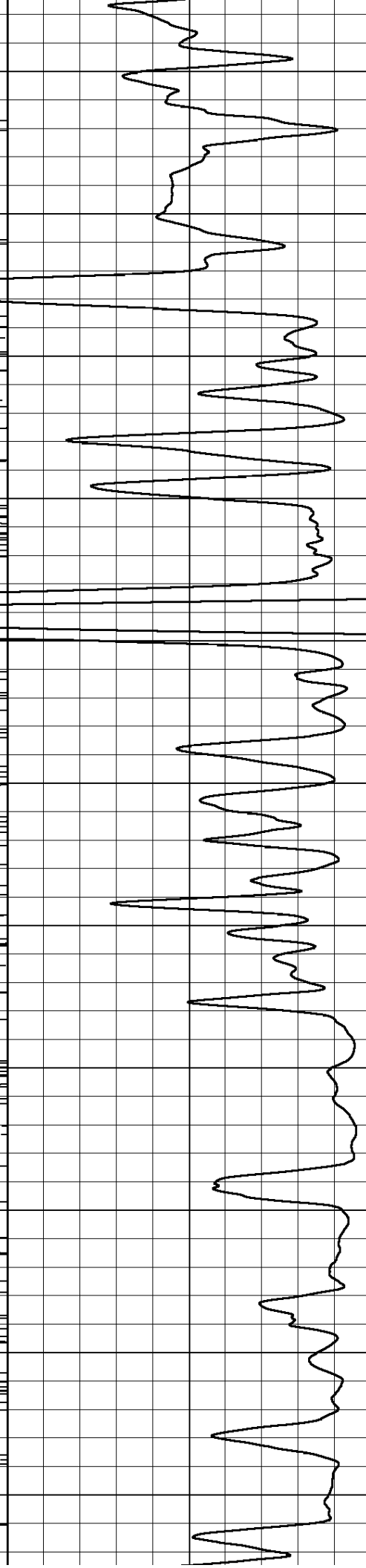
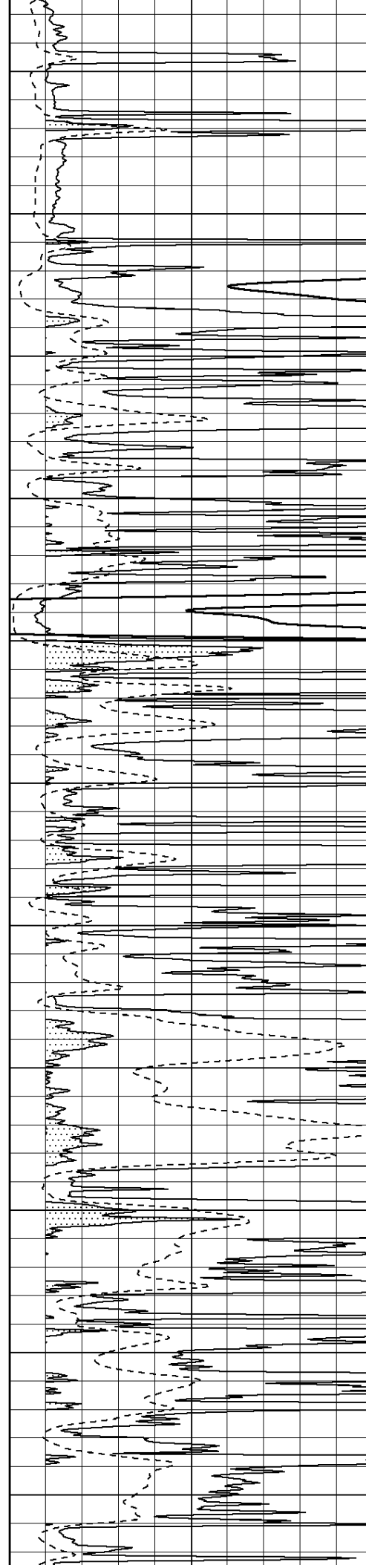
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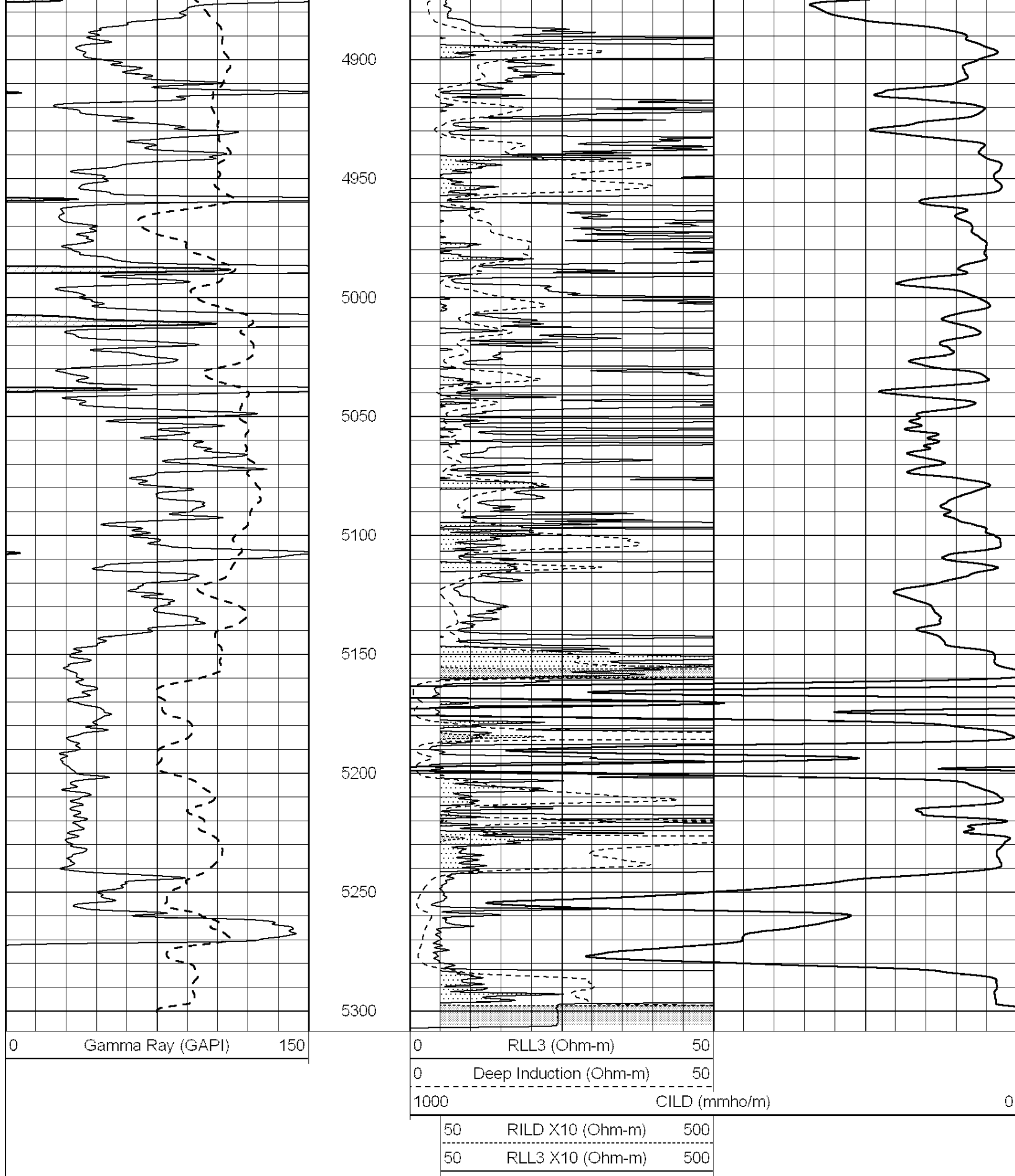
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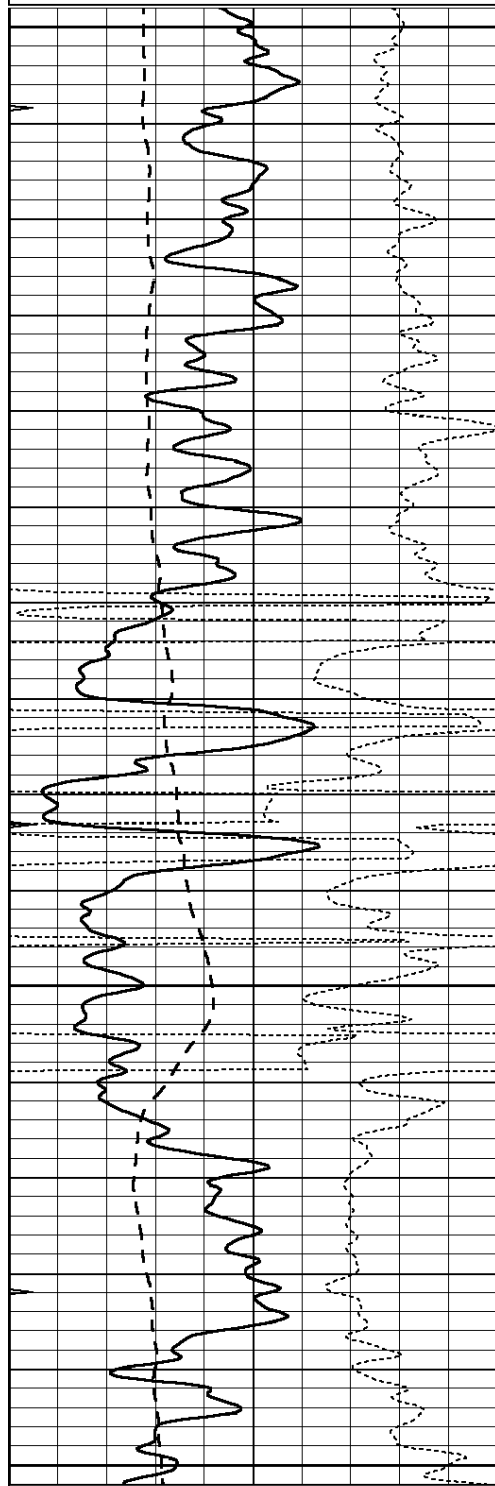
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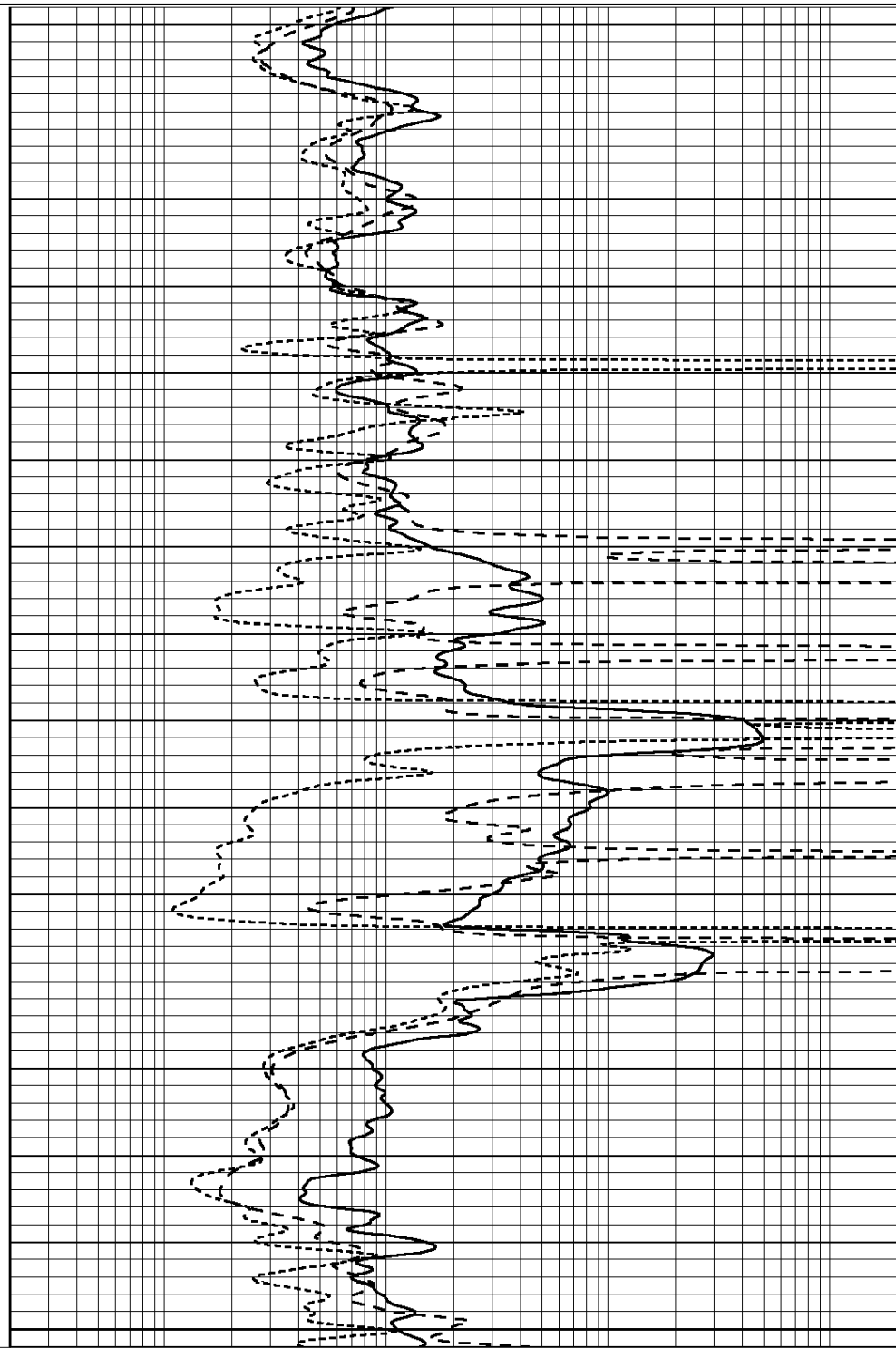
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Presentation Format: dil
Dataset Creation: Mon Jul 23 12:49:19 2012 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

Charted by: Depth in feet scaled 1:240		
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20



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-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

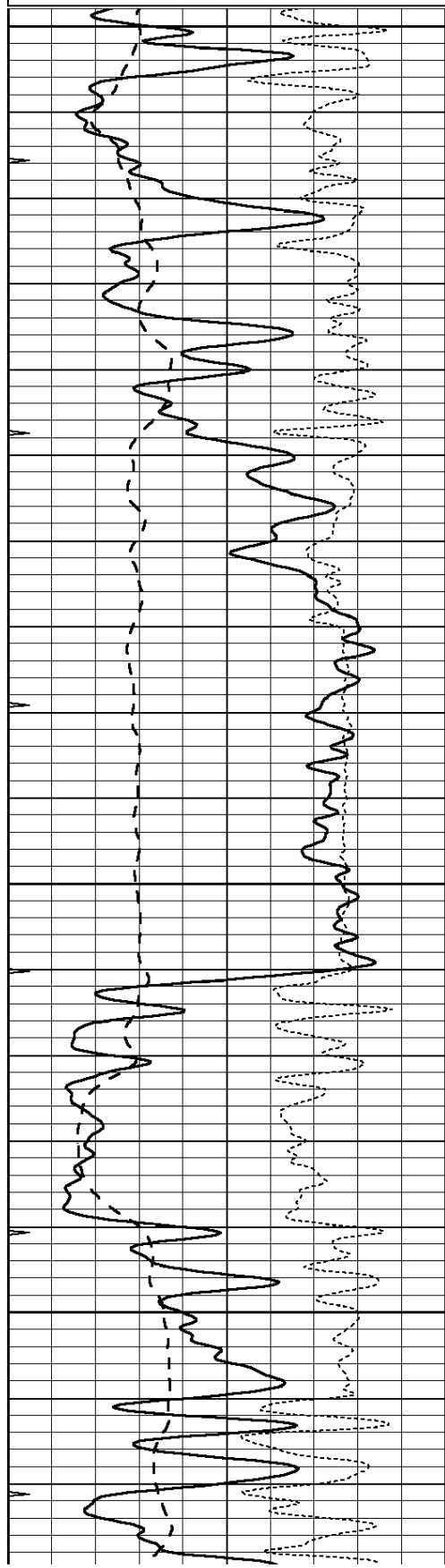
0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



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

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

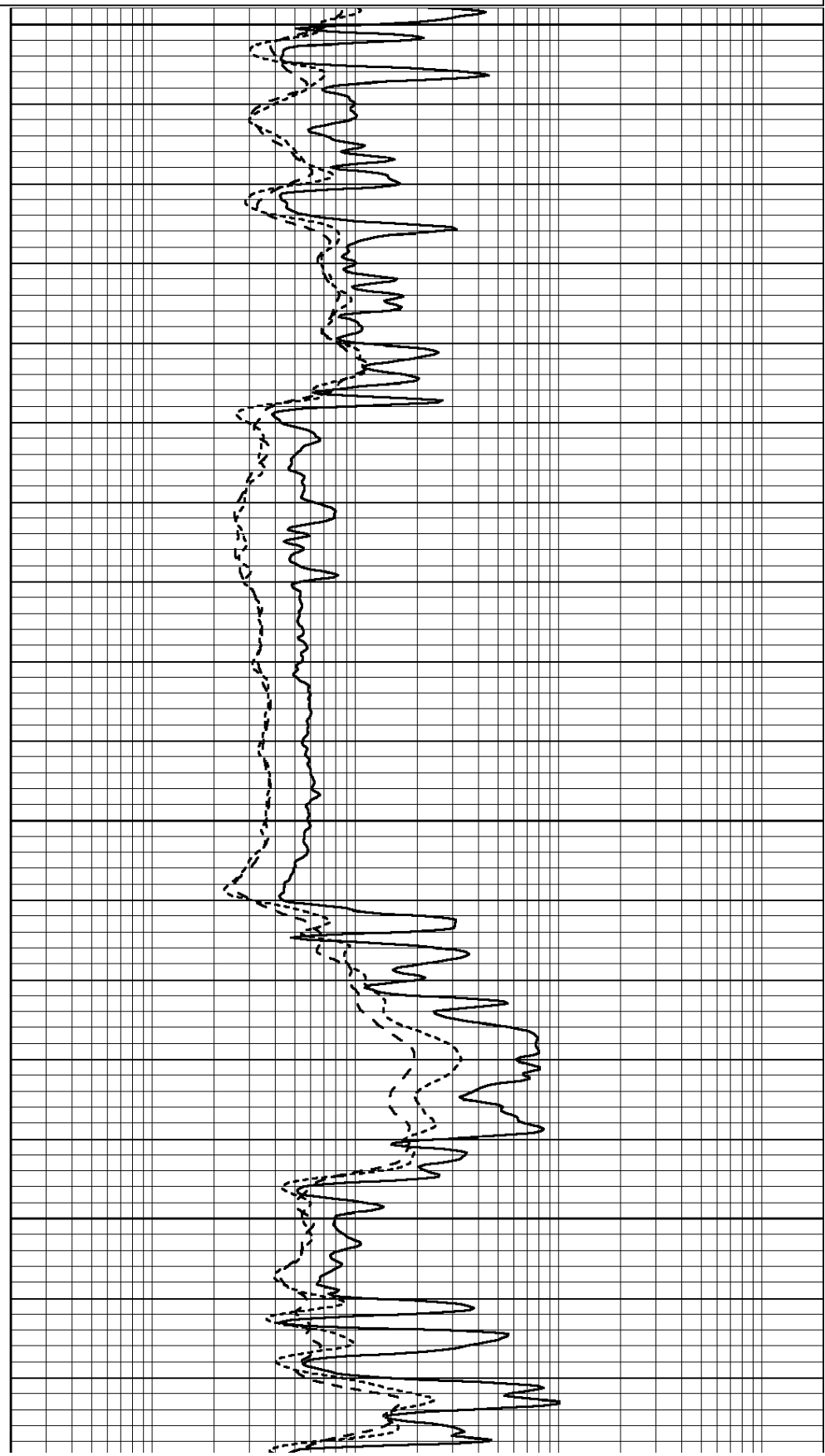


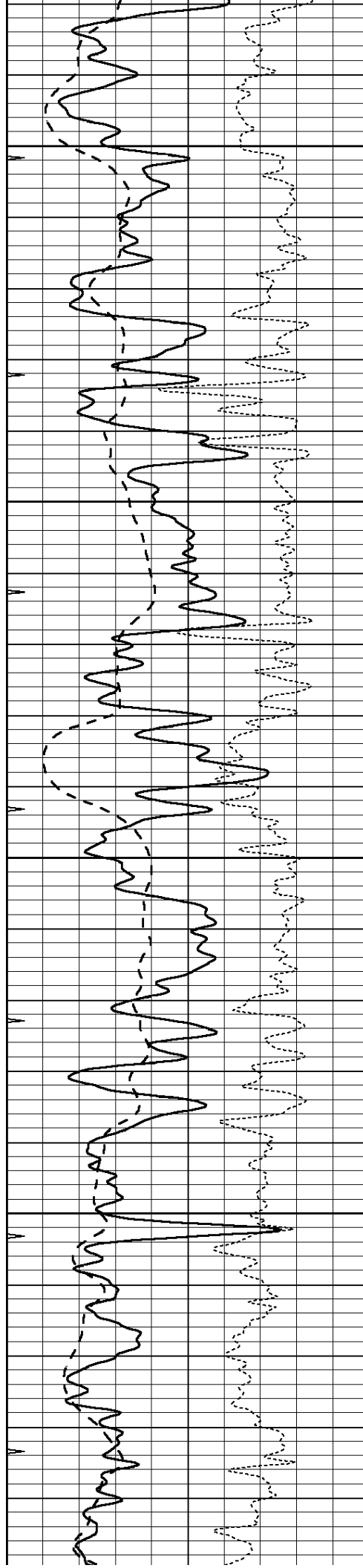
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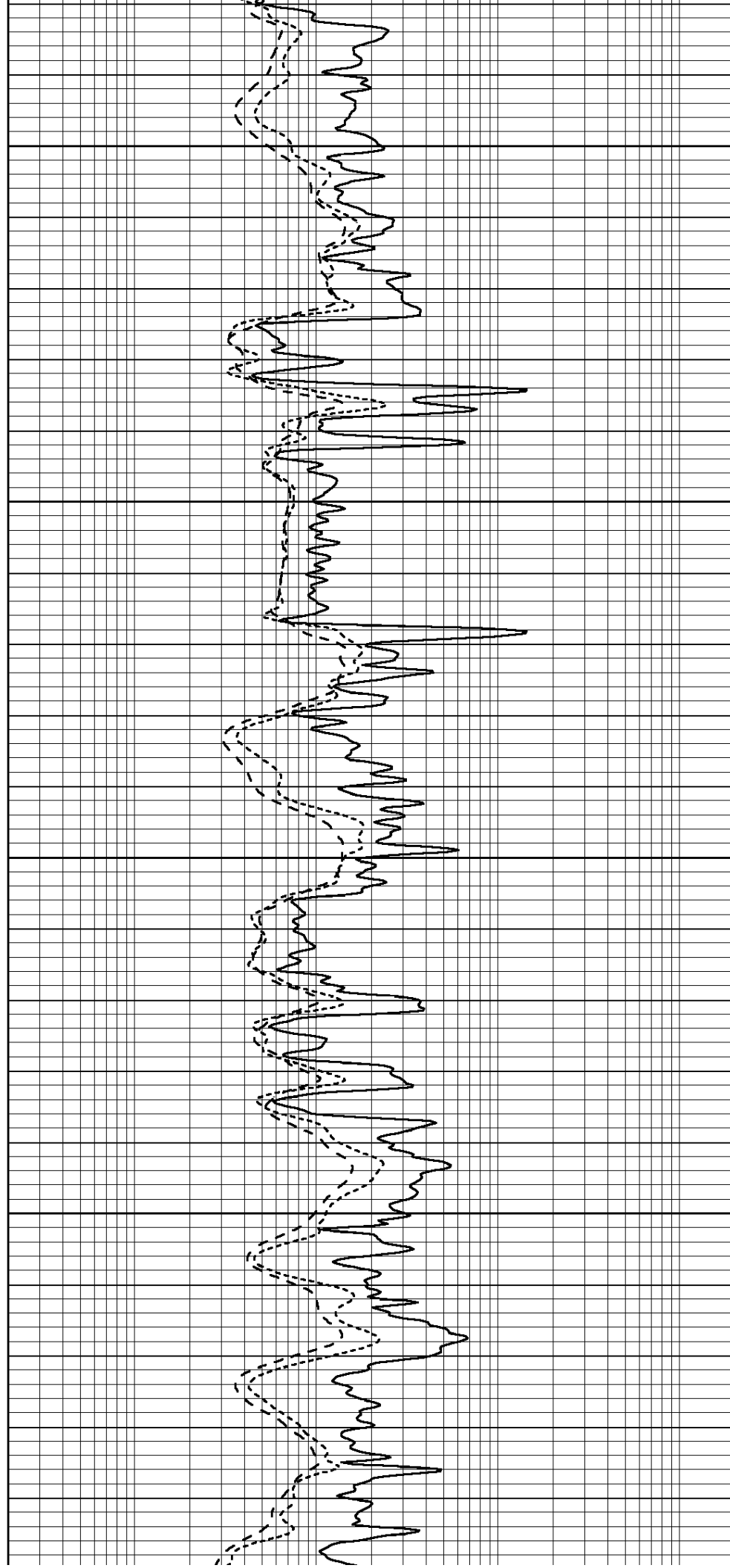


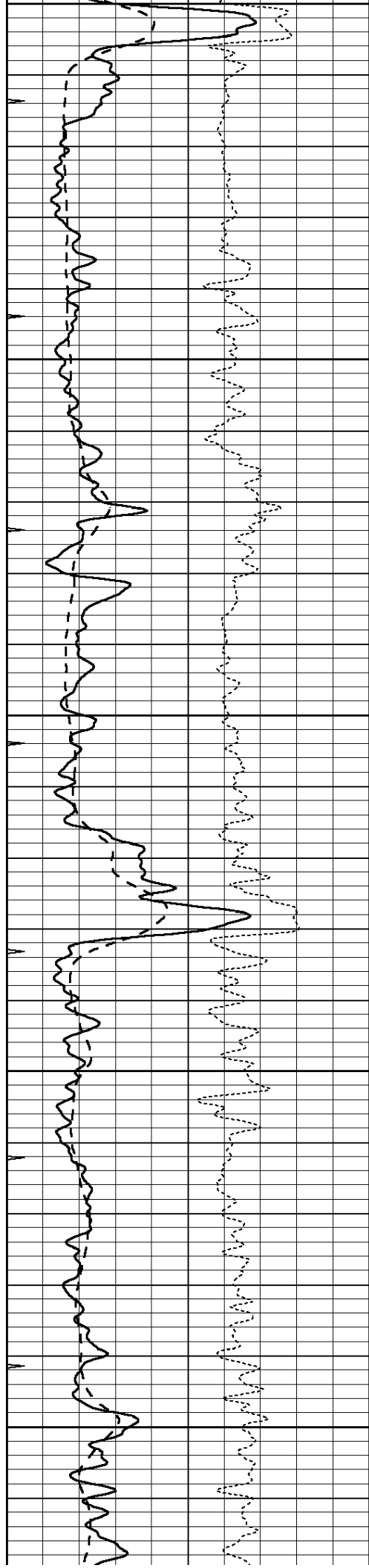
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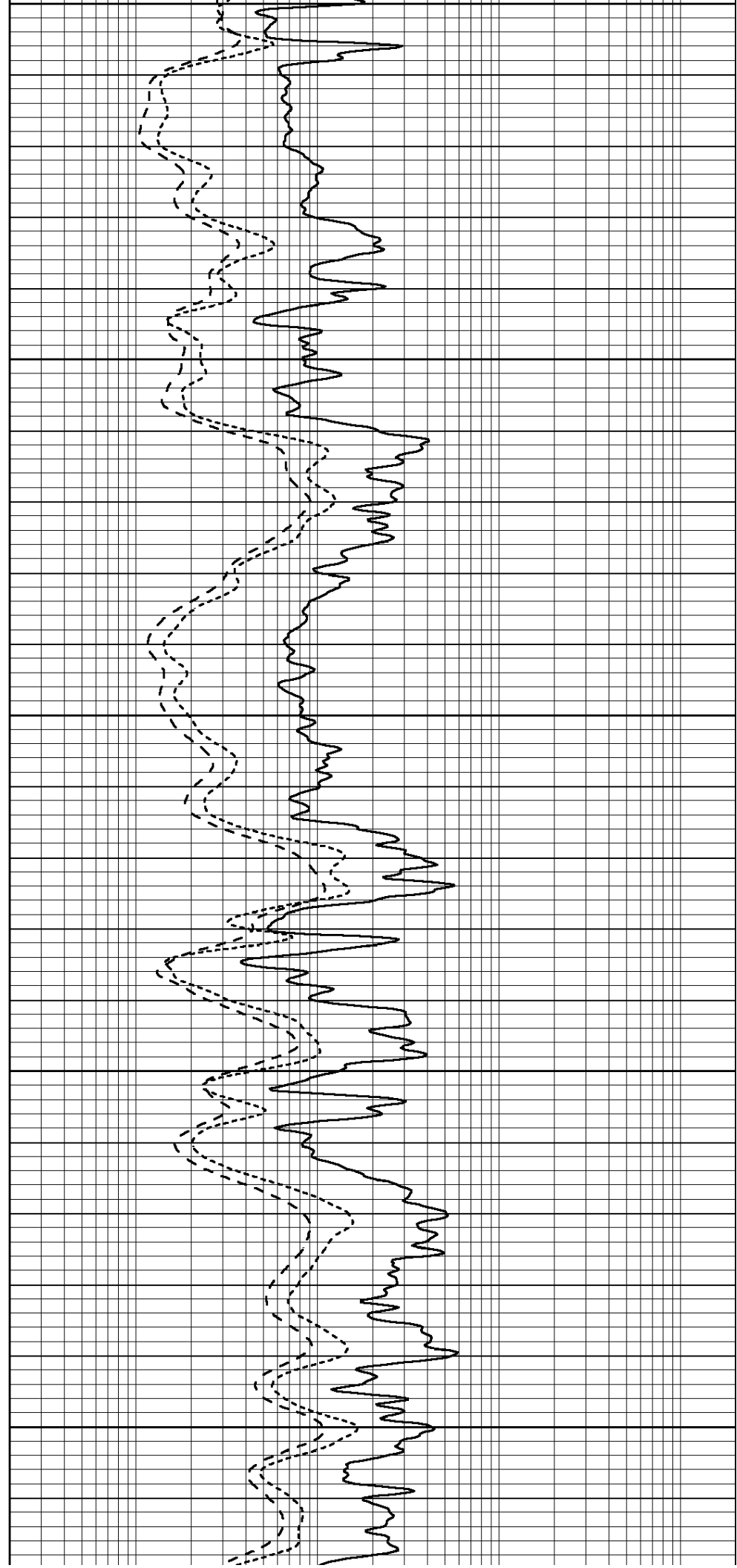
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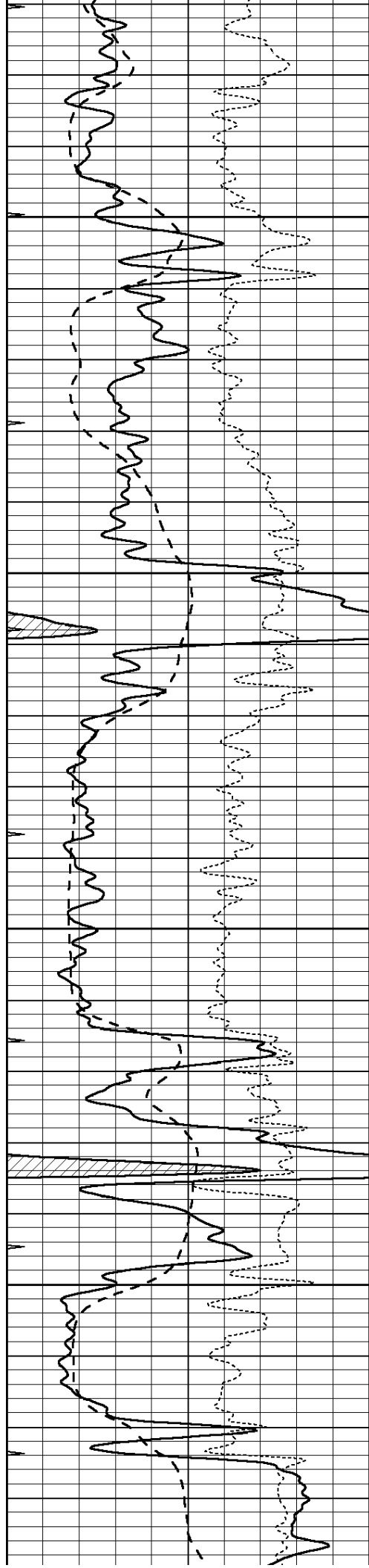
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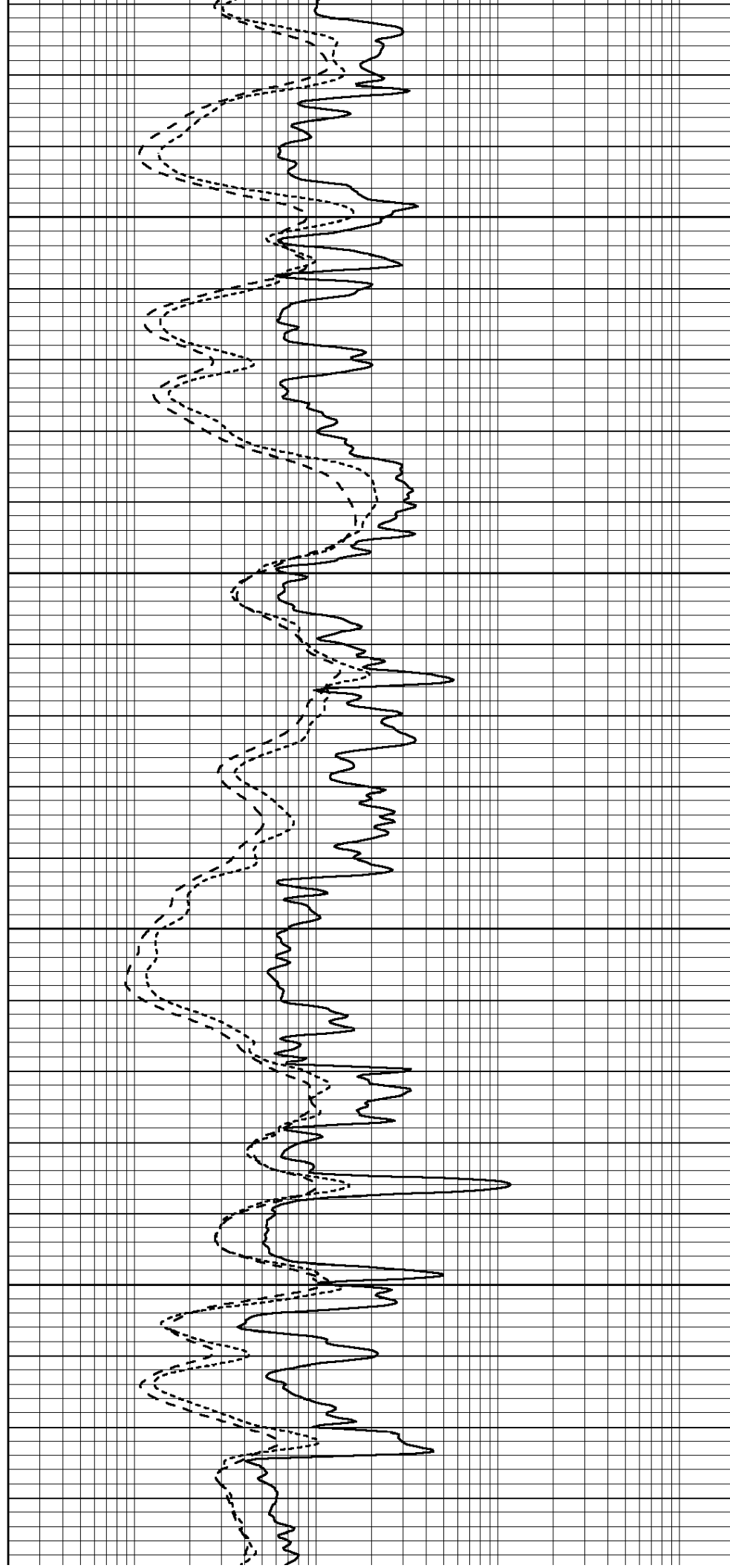


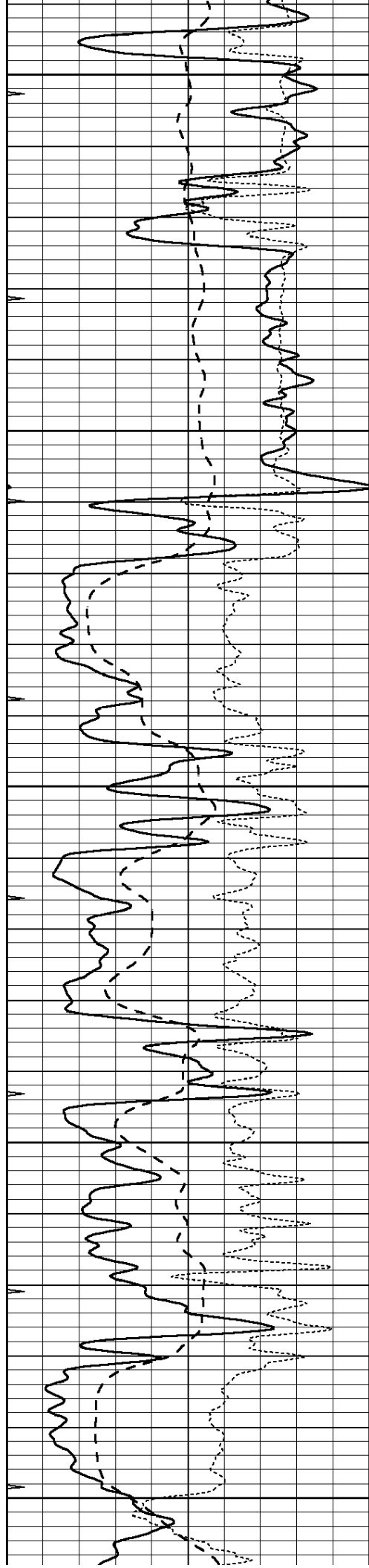
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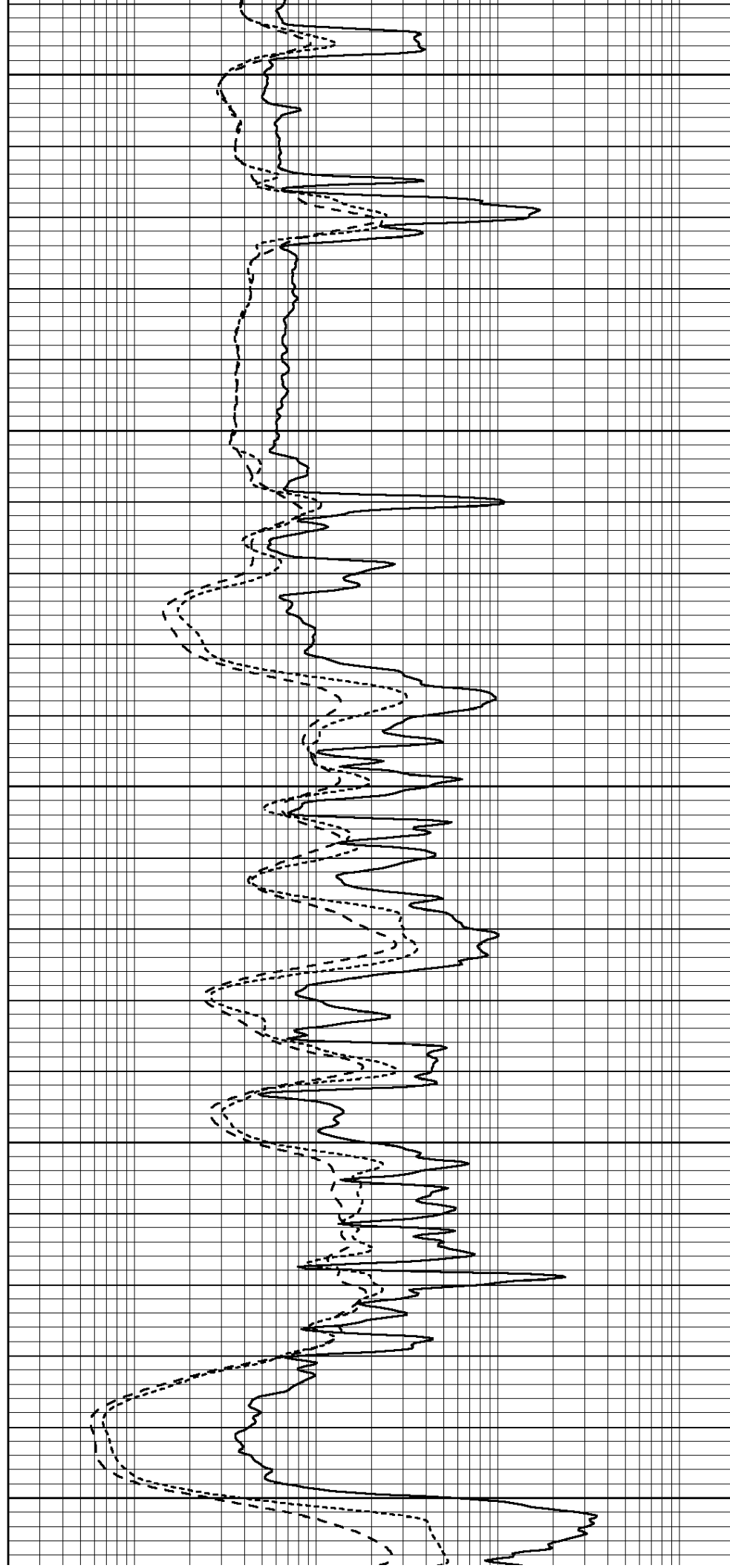
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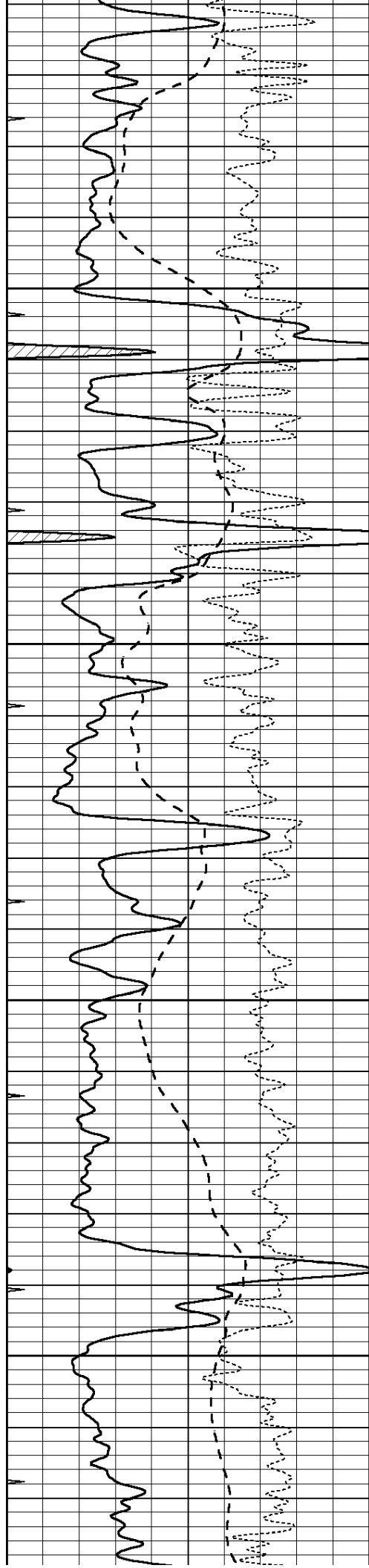
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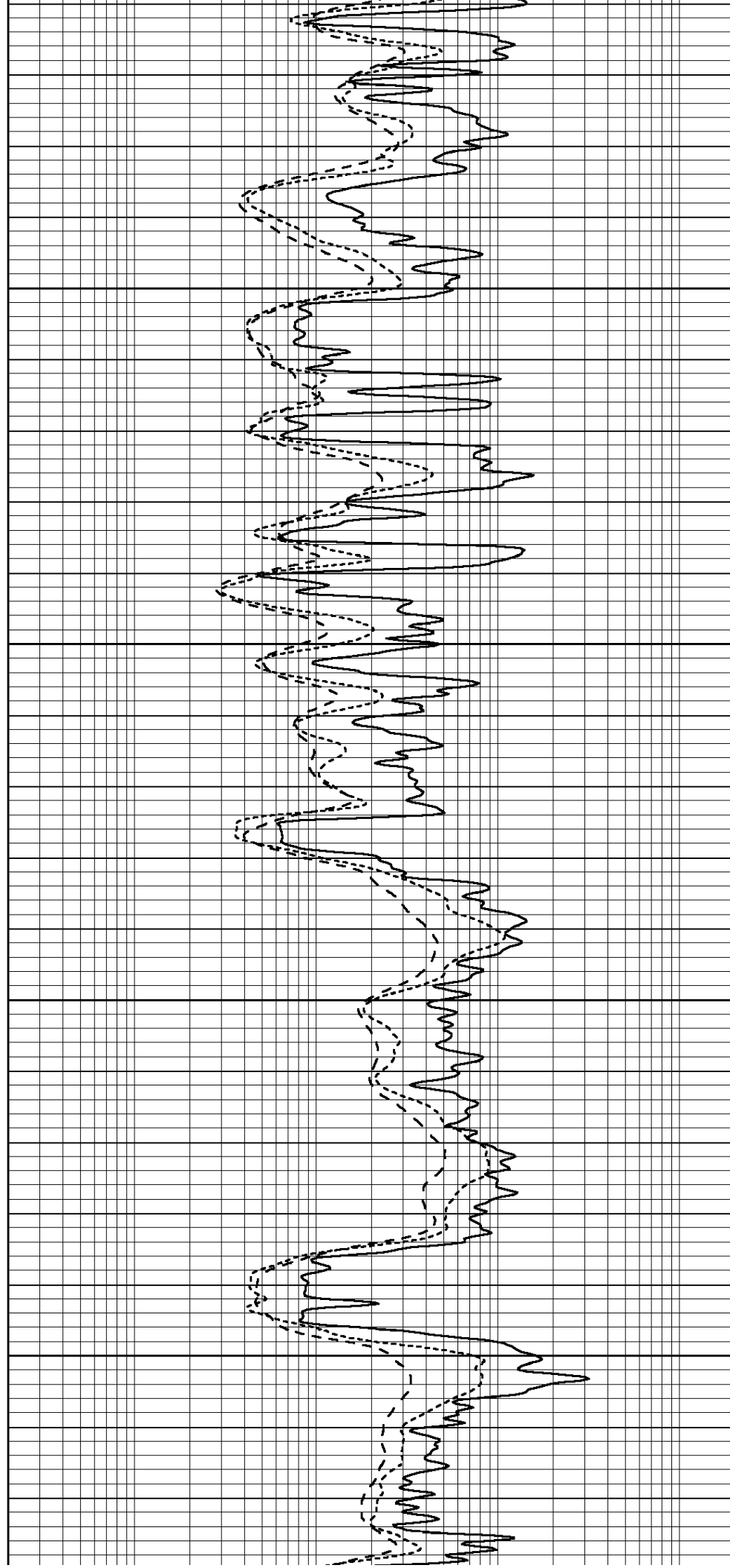


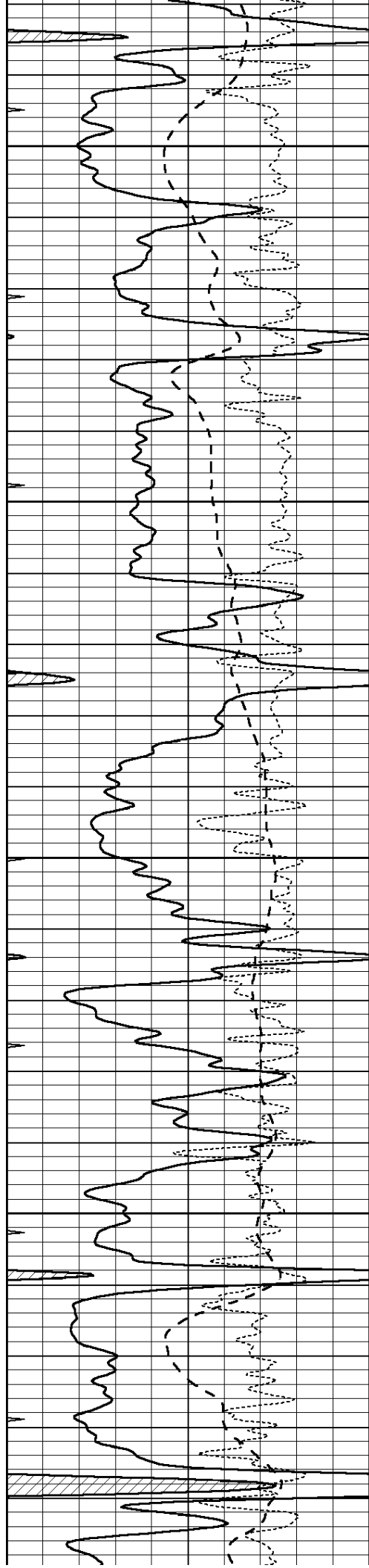
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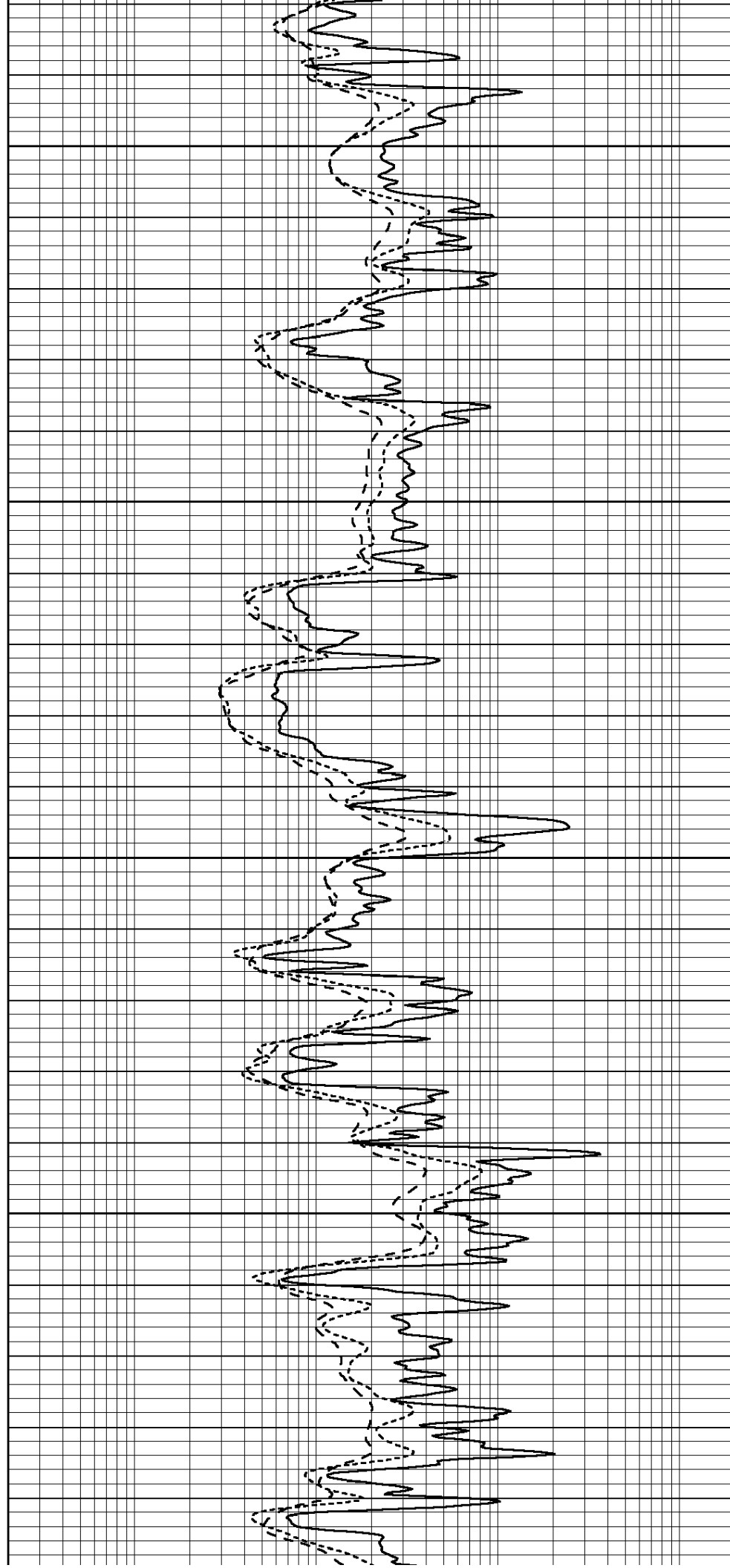
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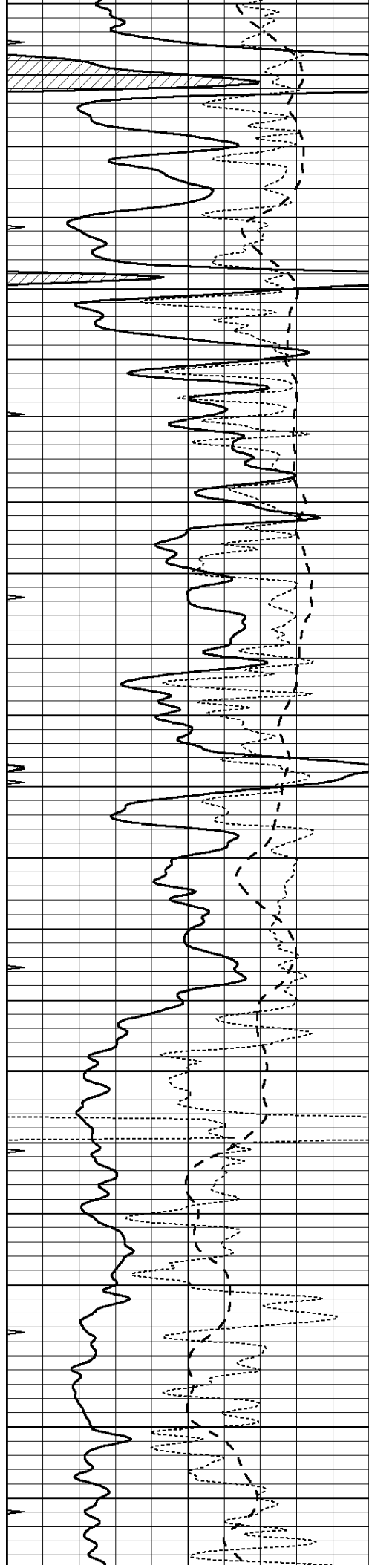
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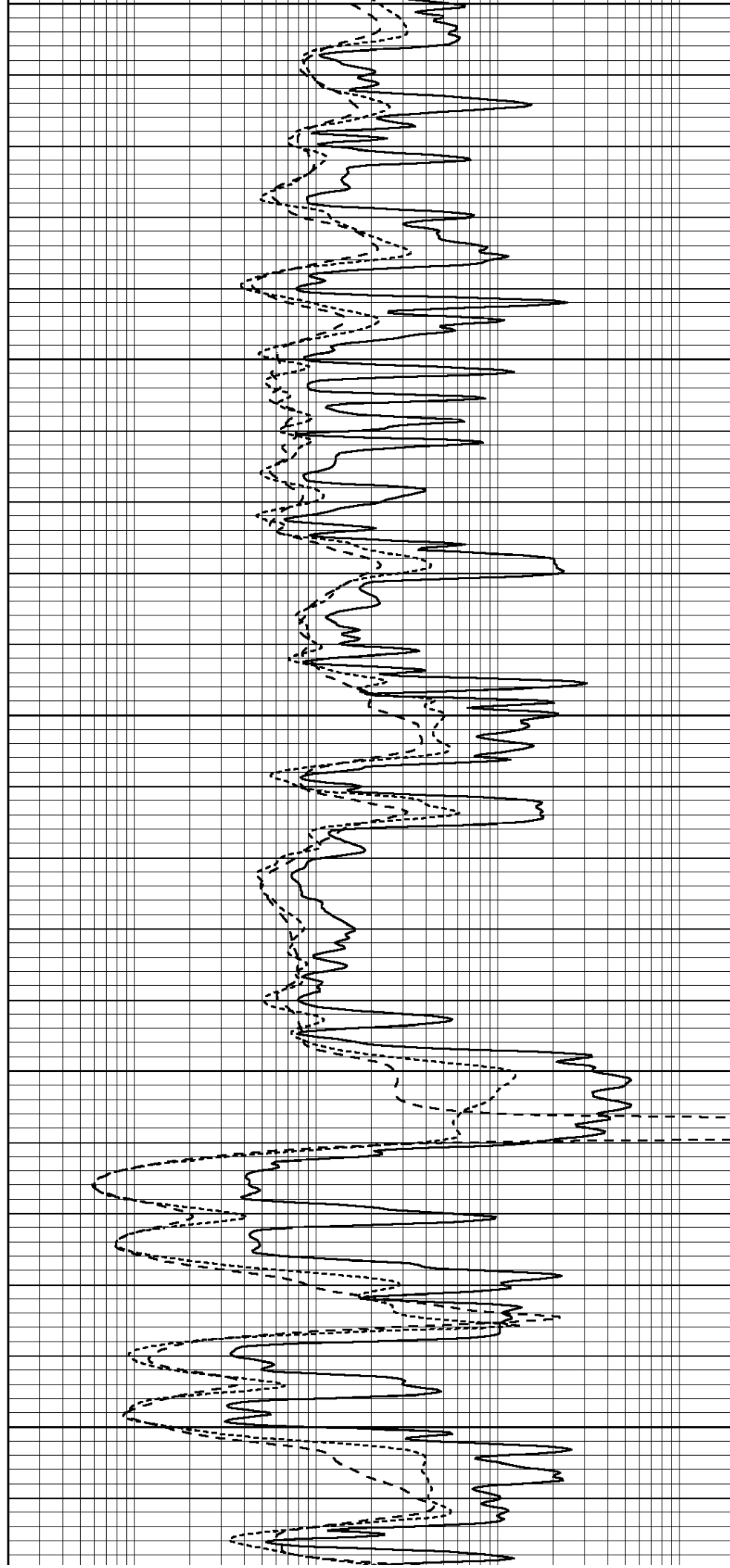
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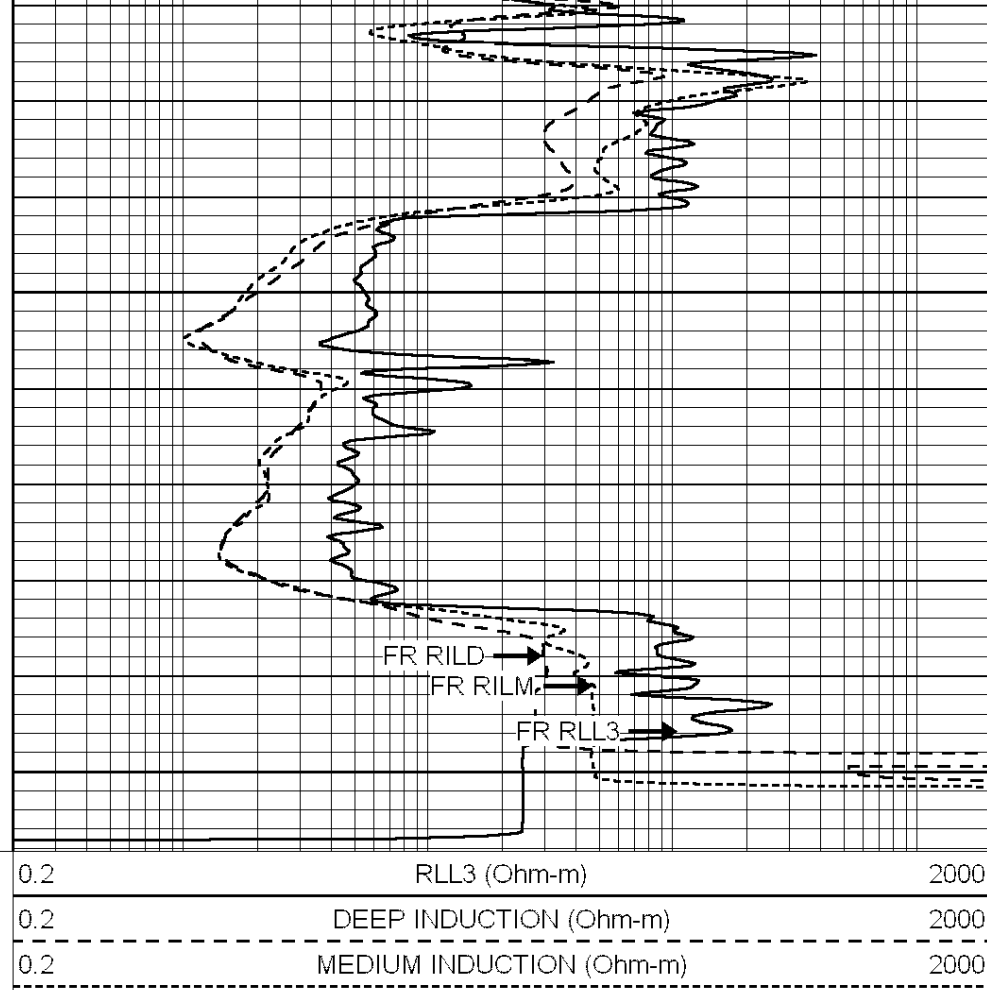
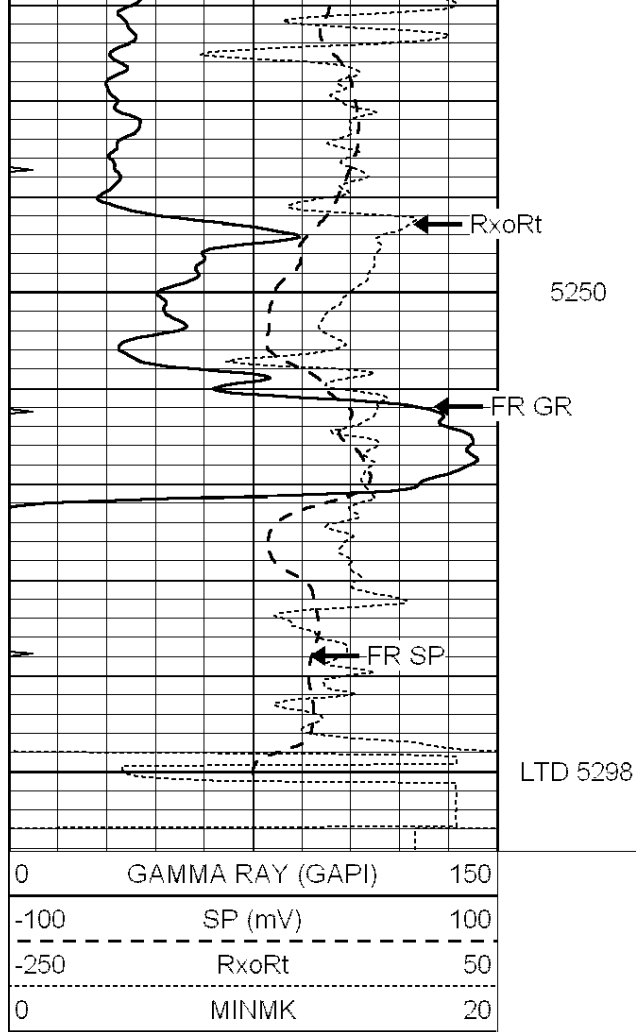
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5150

5200





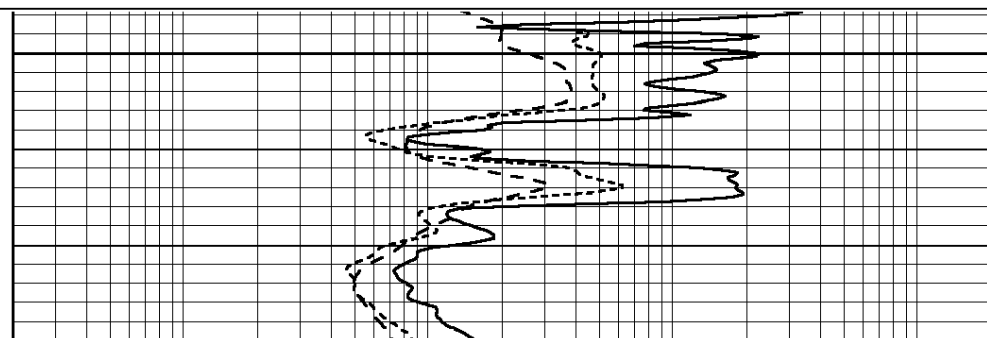
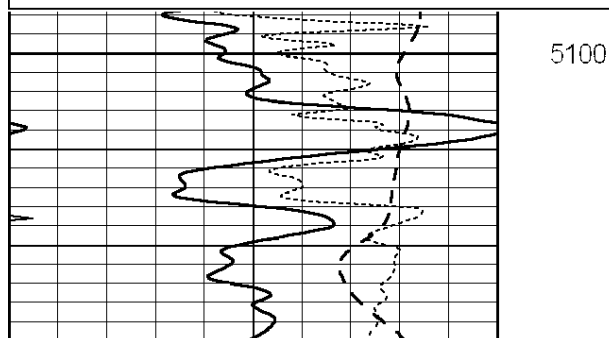
SUPERIOR
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Kansas

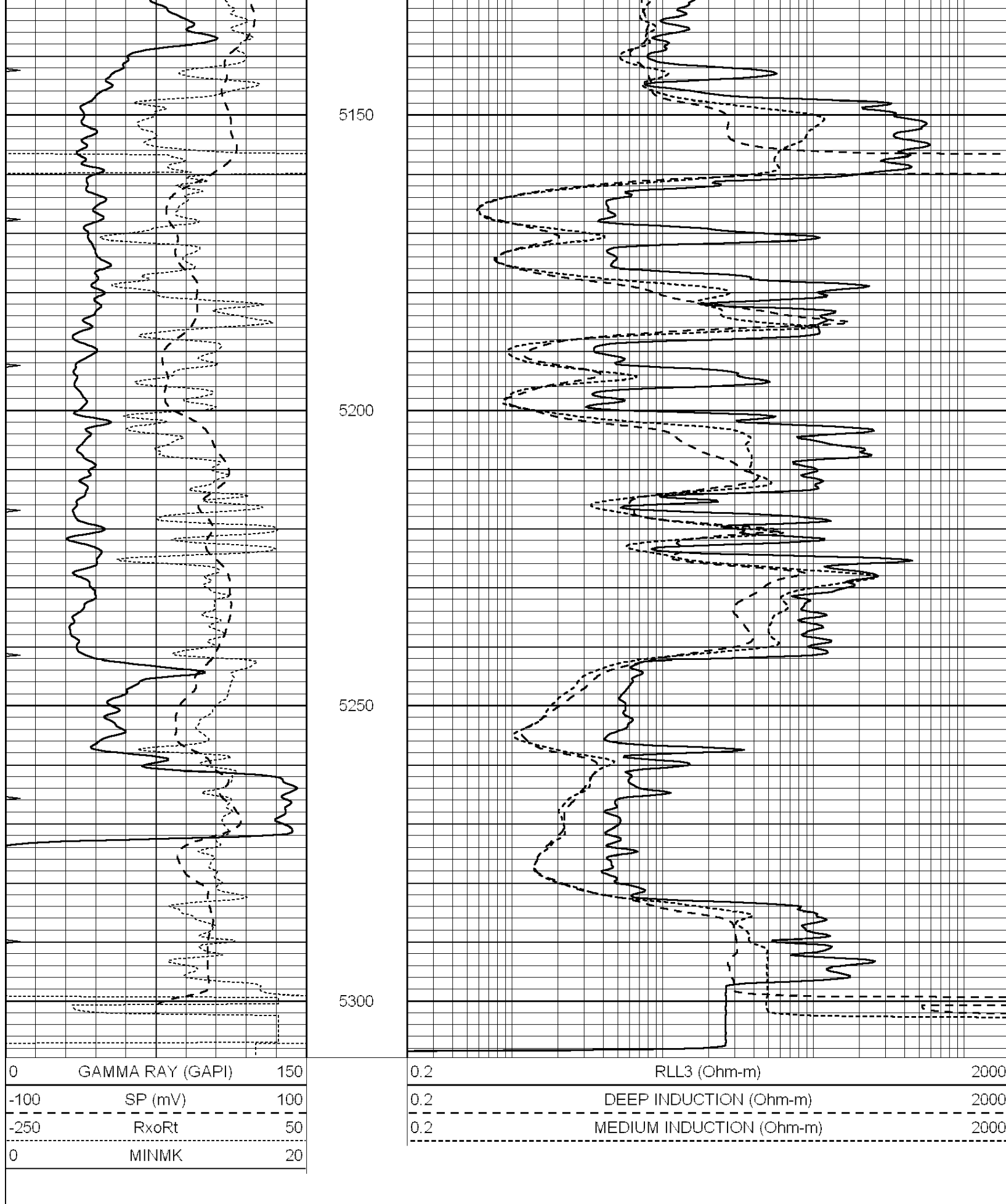
REPEAT SECTION

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 Presentation Format: dil
 Dataset Creation: Mon Jul 23 11:06:40 2012 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000





Calibration Report

Database File: 009559ddn.db

Dataset Pathname: pass3.3

Dual Induction Calibration Report

Serial-Model:

DIL5-GEAR

Performed:

Fri Jul 20 12:27:05 2012

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.004	0.654	V	0.000	400.000	mmho/m	500.000	-10.000
Medium	-0.005	0.737	V	0.000	462.500	mmho/m	530.000	-9.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.006	0.655	V	0.000	400.000	mmho/m	615.668	-3.483
Medium	0.010	0.747	V	0.000	462.500	mmho/m	627.607	-6.064

Compensated Density Calibration Report

Serial-Model:

GEAR1-GEARHART

Source / Verifier:

147 / 147

Master Calibration Performed:

Wed Jul 11 18:39:29 2012

Master Calibration

	Density			Far Detector		Near Detector	
Magnesium	1.710	g/cc		1243.76		629.14	cps
Aluminum	2.590	g/cc		282.16		435.01	cps
Spine Angle = 76.03				Density/Spine Ratio = 0.576			
	Size			Reading			
Small Ring	8.00	in		4.29	V		
Large Ring	14.00	in		6.09	V		

Compensated Neutron Calibration Report

Serial Number:

NUE_2I

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:

GR5

Tool Model:

OPEN

Performed:

Sat Jul 14 06:56:03 2012

Calibrator Value:

1.0

GAPI

Background Reading:

0.0

cps

Calibrator Reading:

1.0

cps

Sensitivity:

0.7500

GAPI/cps