



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**DUAL  
INDUCTION  
LOG**

Company RITCHIE EXPLORATION, INC.  
Well DON UNIT #1  
Field ANTELOPE RIDGE  
County GOVE State KANSAS

Company RITCHIE EXPLORATION, INC.  
Well DON UNIT #1  
Field ANTELOPE RIDGE  
County GOVE  
State KANSAS

Location: API #: 15-063-22130-00-00  
1530' FSL & 2345' FEL  
SW - NW - SE  
SEC 22 TWP 13S RGE 31W  
Permanent Datum GROUND LEVEL Elevation 2902  
Log Measured From KELLY BUSHING 5' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
CNL/CDL  
Elevation  
K.B. 2907  
D.F. 2905  
G.L. 2902

Date	9/4/13		
Run Number	ONE		
Depth Driller	4725		
Depth Logger	4726		
Bottom Logged Interval	4724		
Top Log Interval	00		
Casing Driller	8 5/8 @ 225		
Casing Logger	223		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3.400	
Density / Viscosity	9.2 / 51		
pH / Fluid Loss	10.0 / 8.8		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	0.75 @ 104F		
Rmf @ Meas. Temp	0.56 @ 104F		
Rmc @ Meas. Temp	0.90 @ 104F		
Source of Rmf / Rmc	MEASURED		
Rim @ BHT	0.64 @ 123F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	123F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	IAN MABB		
Witnessed By	MAX LOVELLY		

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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

**NABORS COMPLETION & PRODUCTION SERVICES**  
785-628-6395

THANK YOU FOR YOUR BUSINESS

DIRECTIONS: OAKLEY, KS. - 11 MILES SOUTH TO GOVE RD. - EAST TO RD. 16 - 4 MILES SOUTH TO RD. 0  
- 1/2 EAST - NORTH INTO

0 Gamma Ray (GAPI) 150

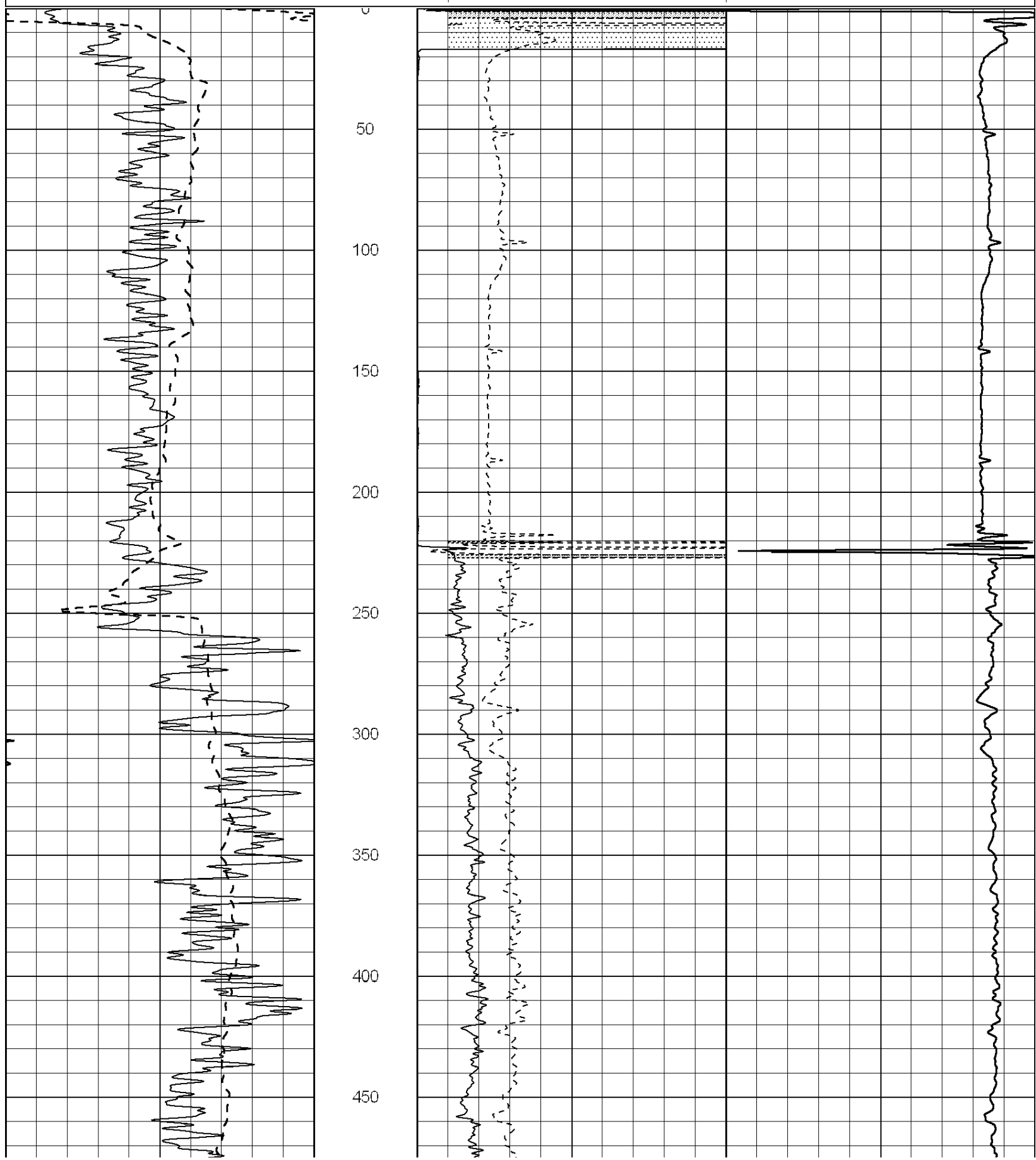
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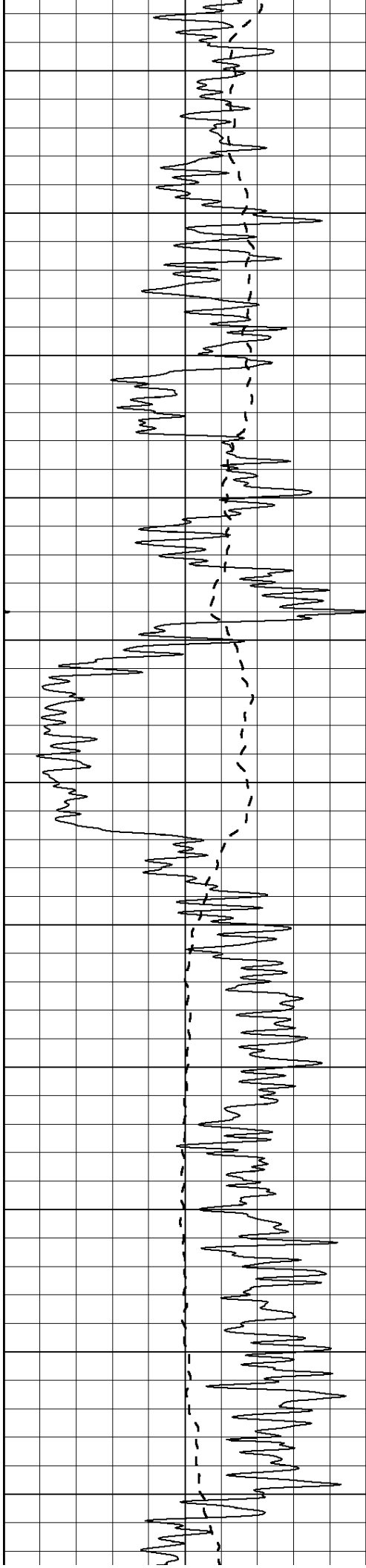
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1000 CILD (mmho/m) 0

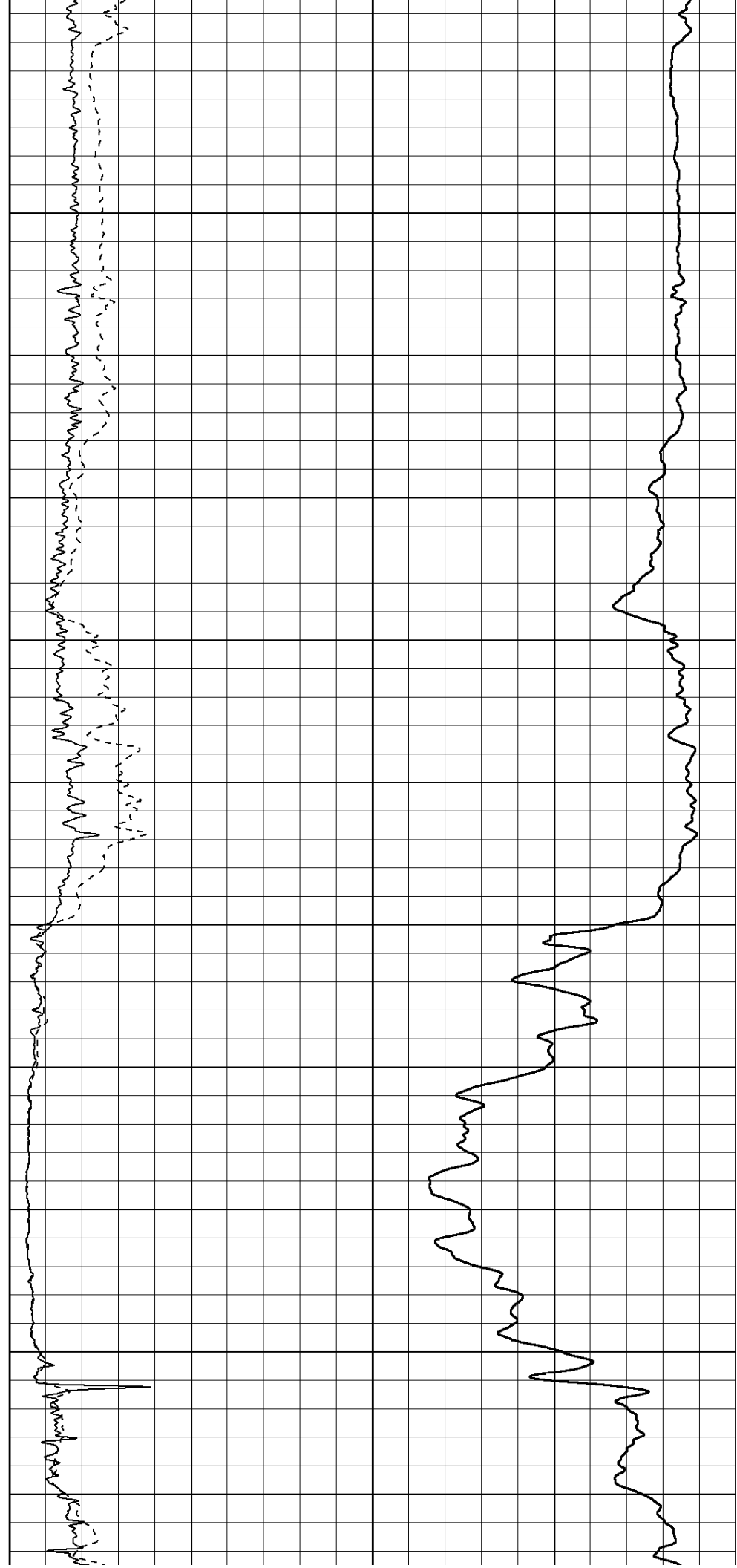
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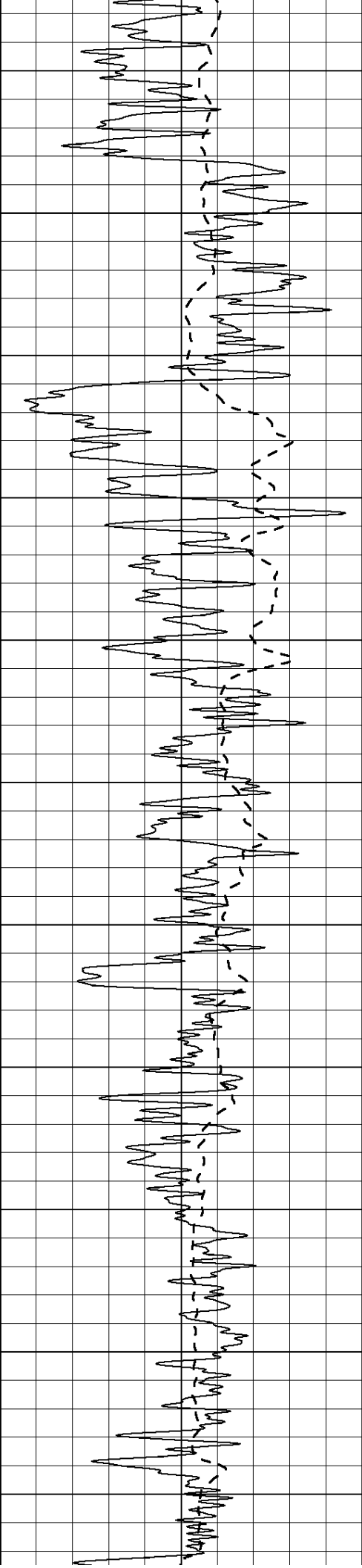
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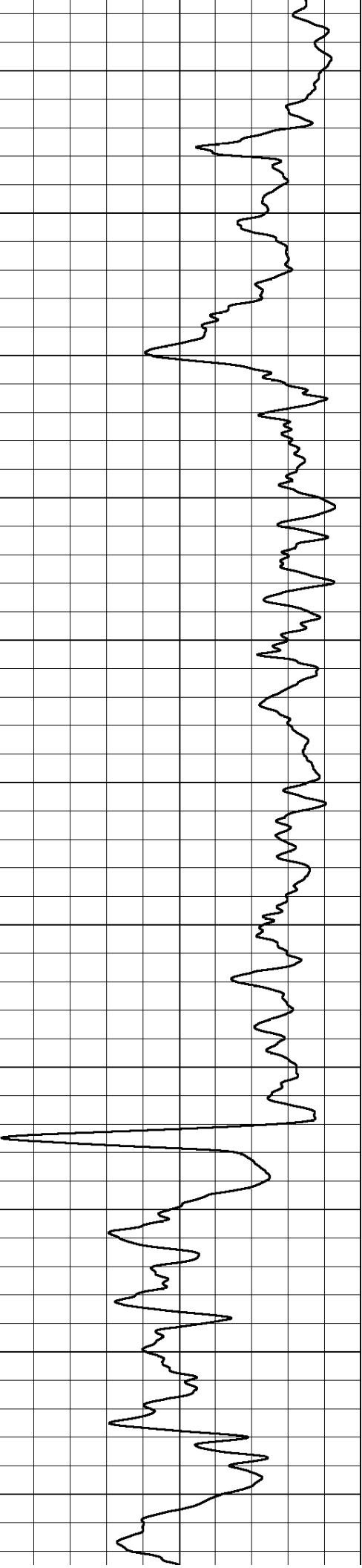
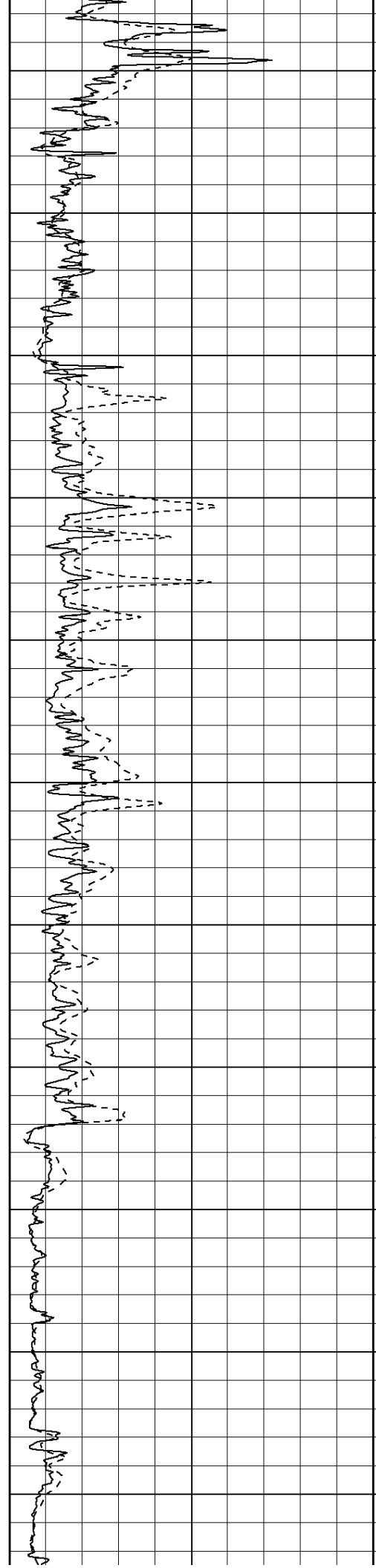


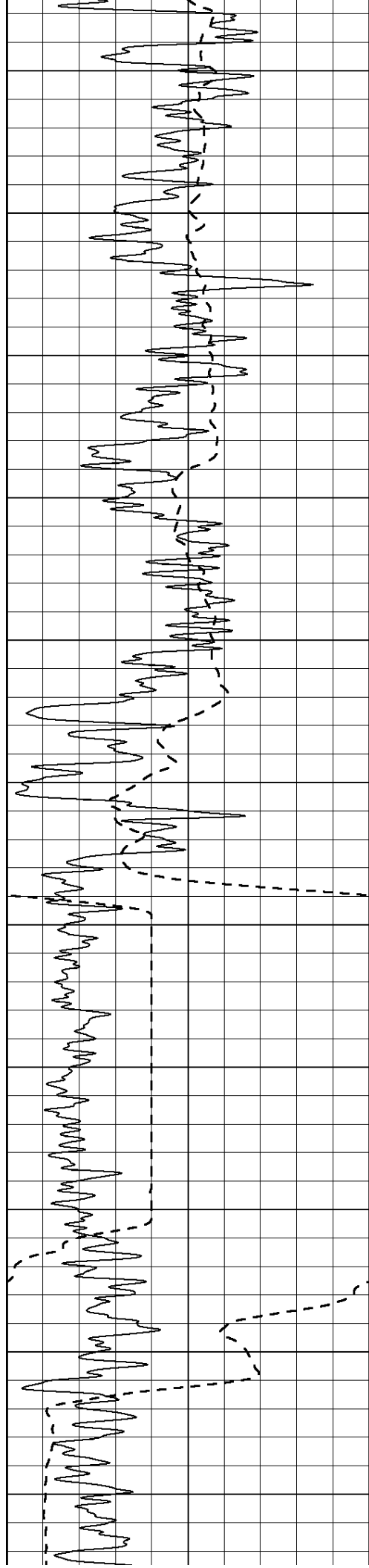
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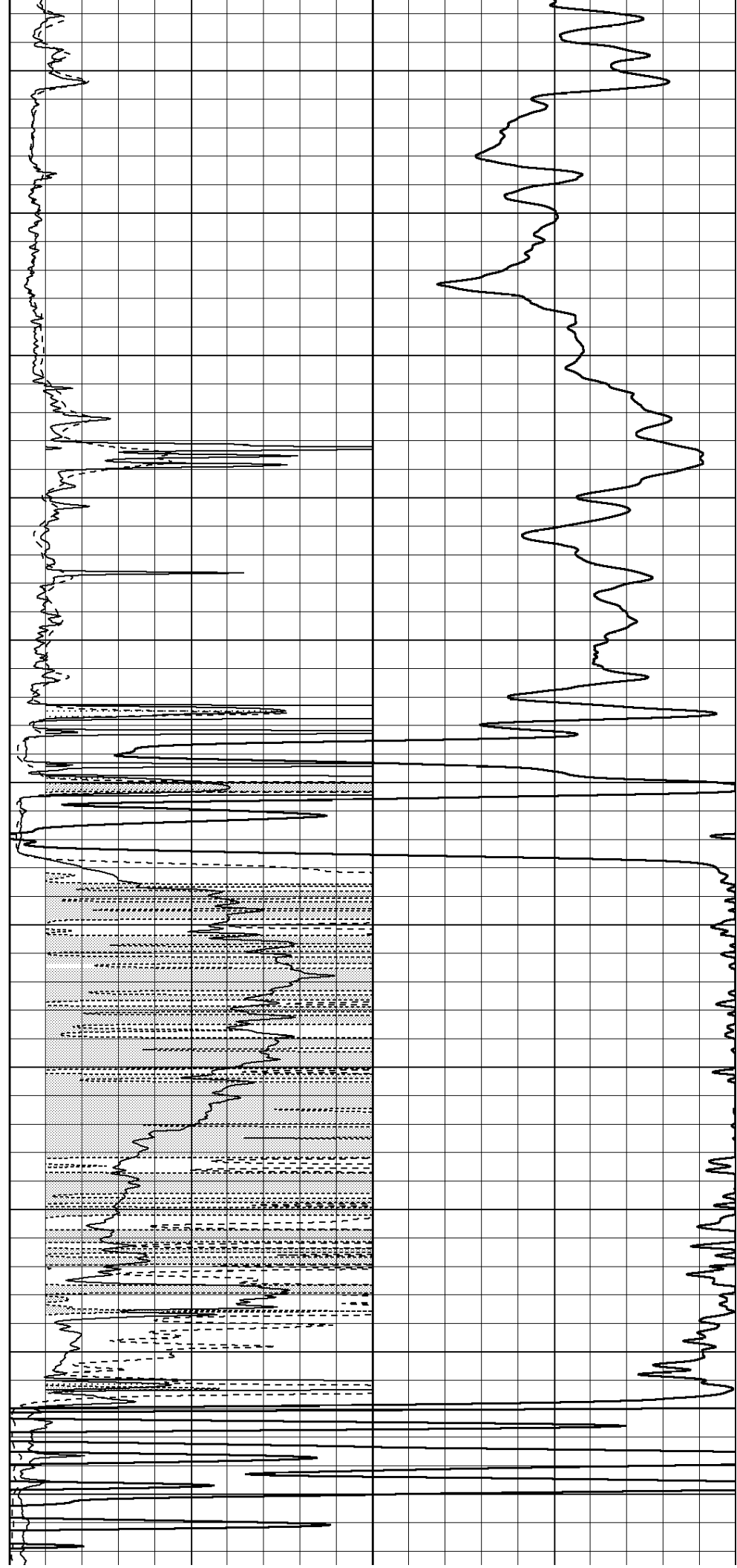


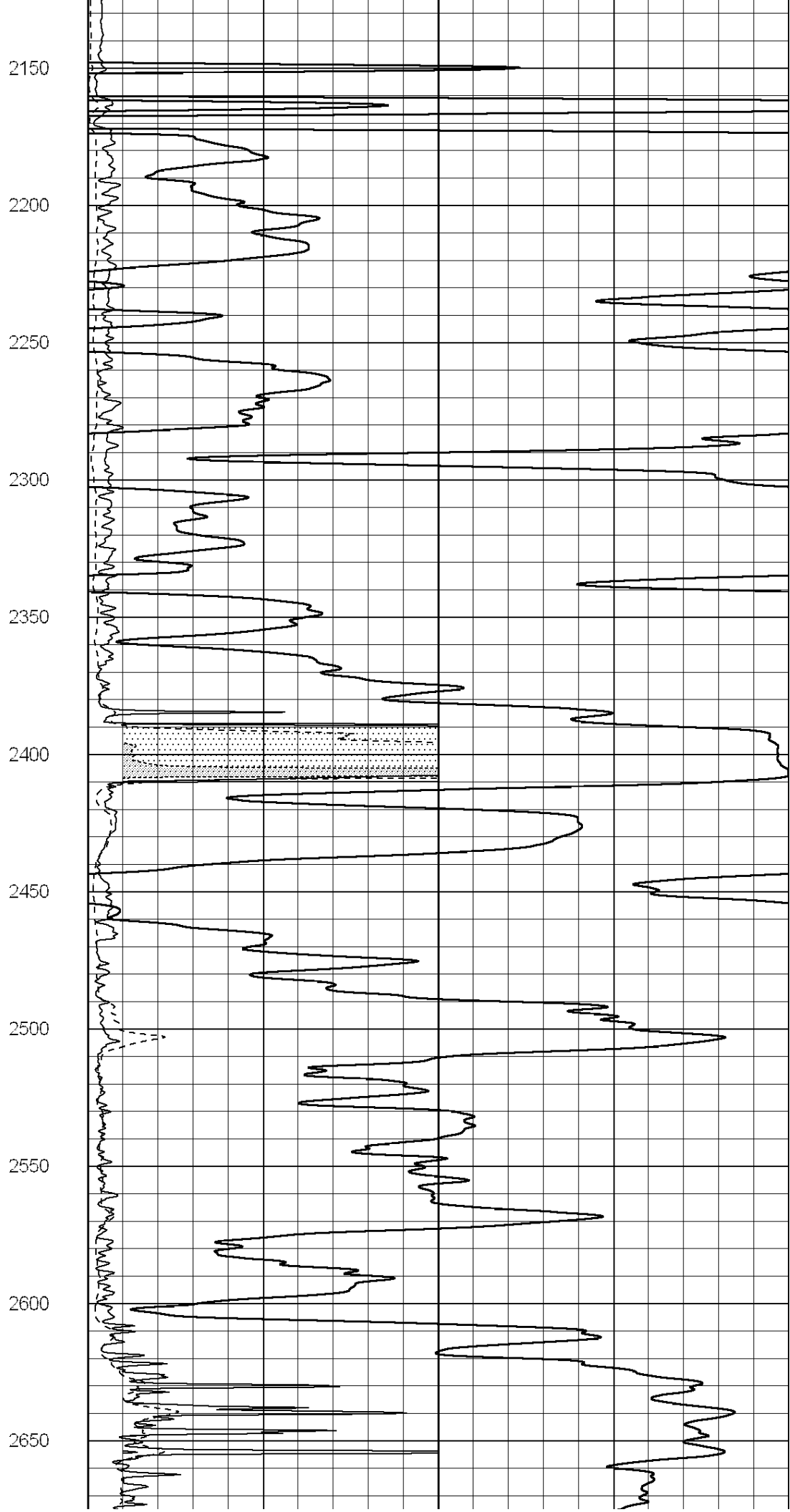
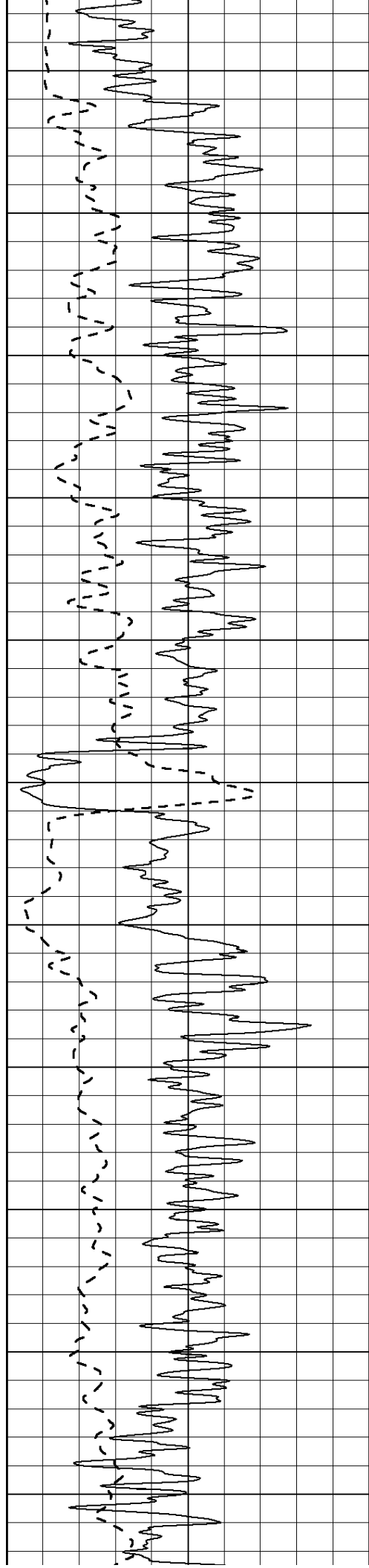
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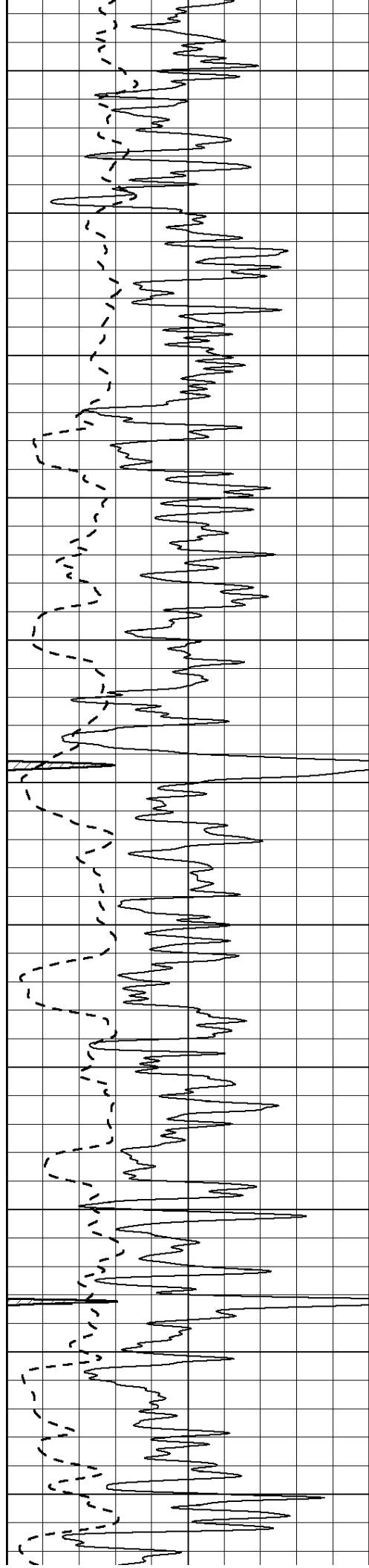




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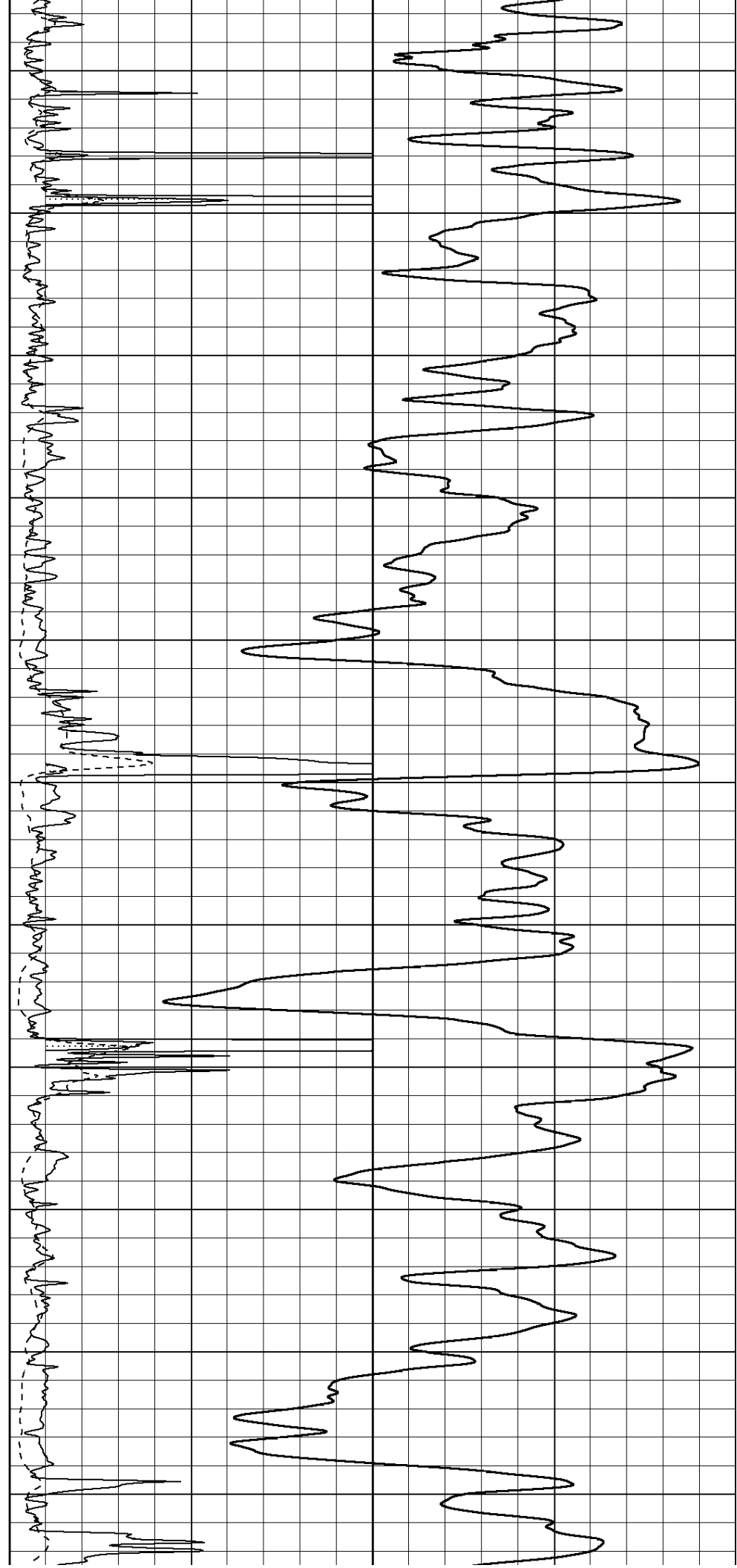
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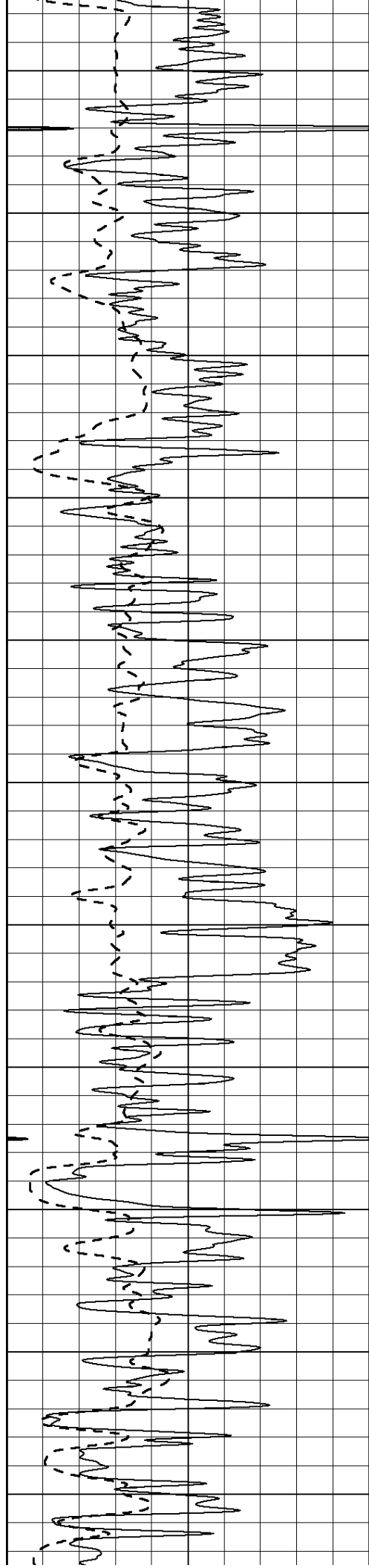
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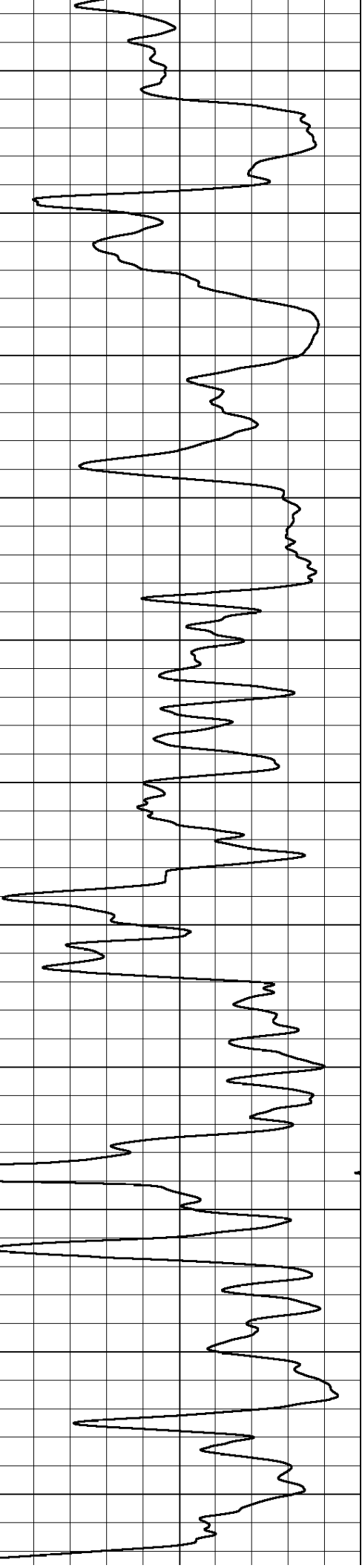
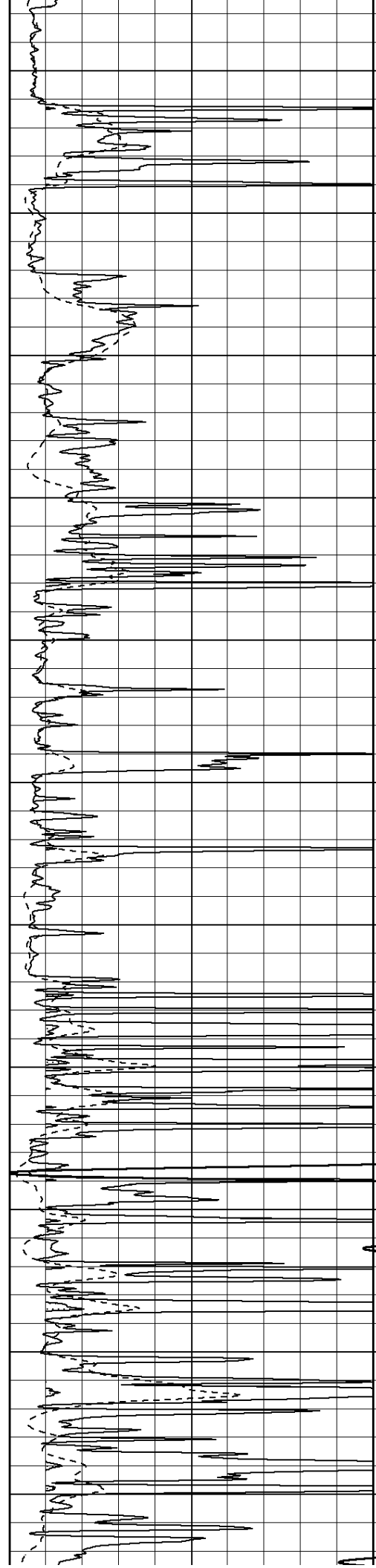
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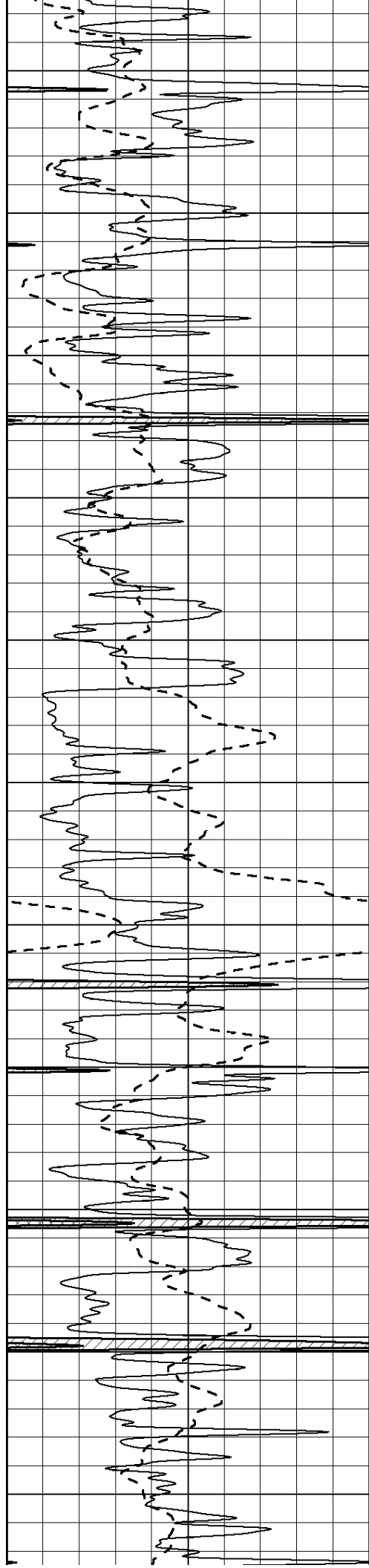
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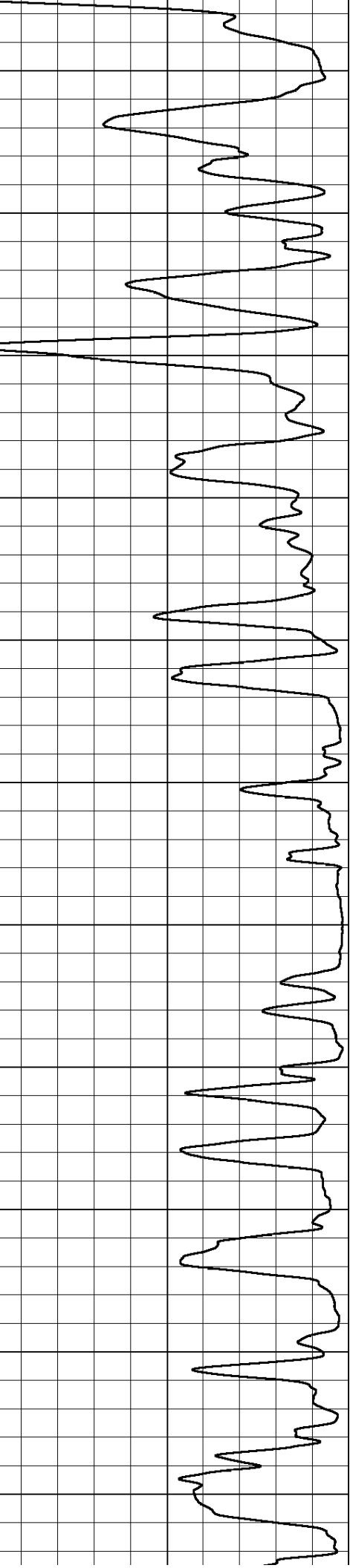
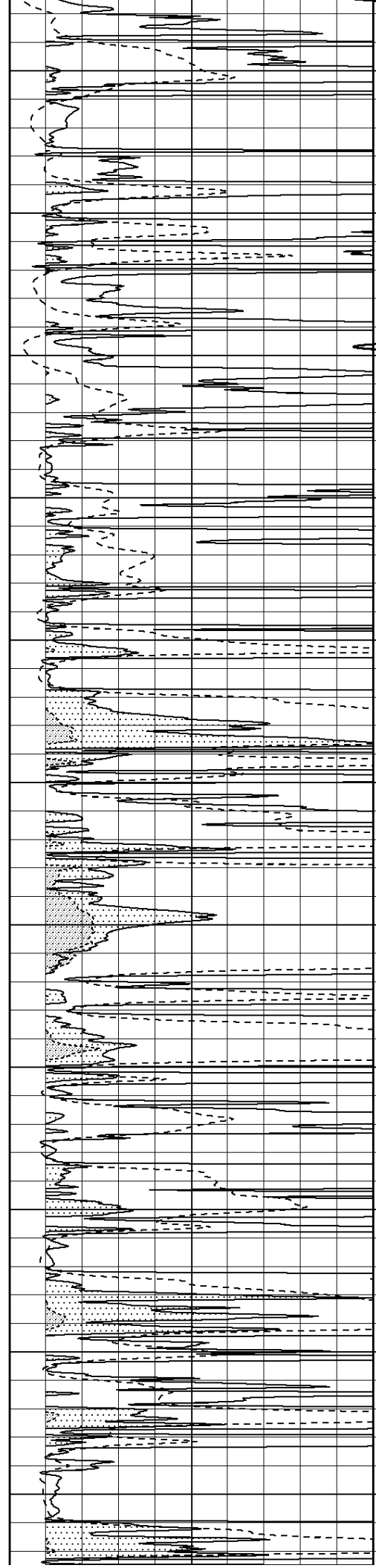


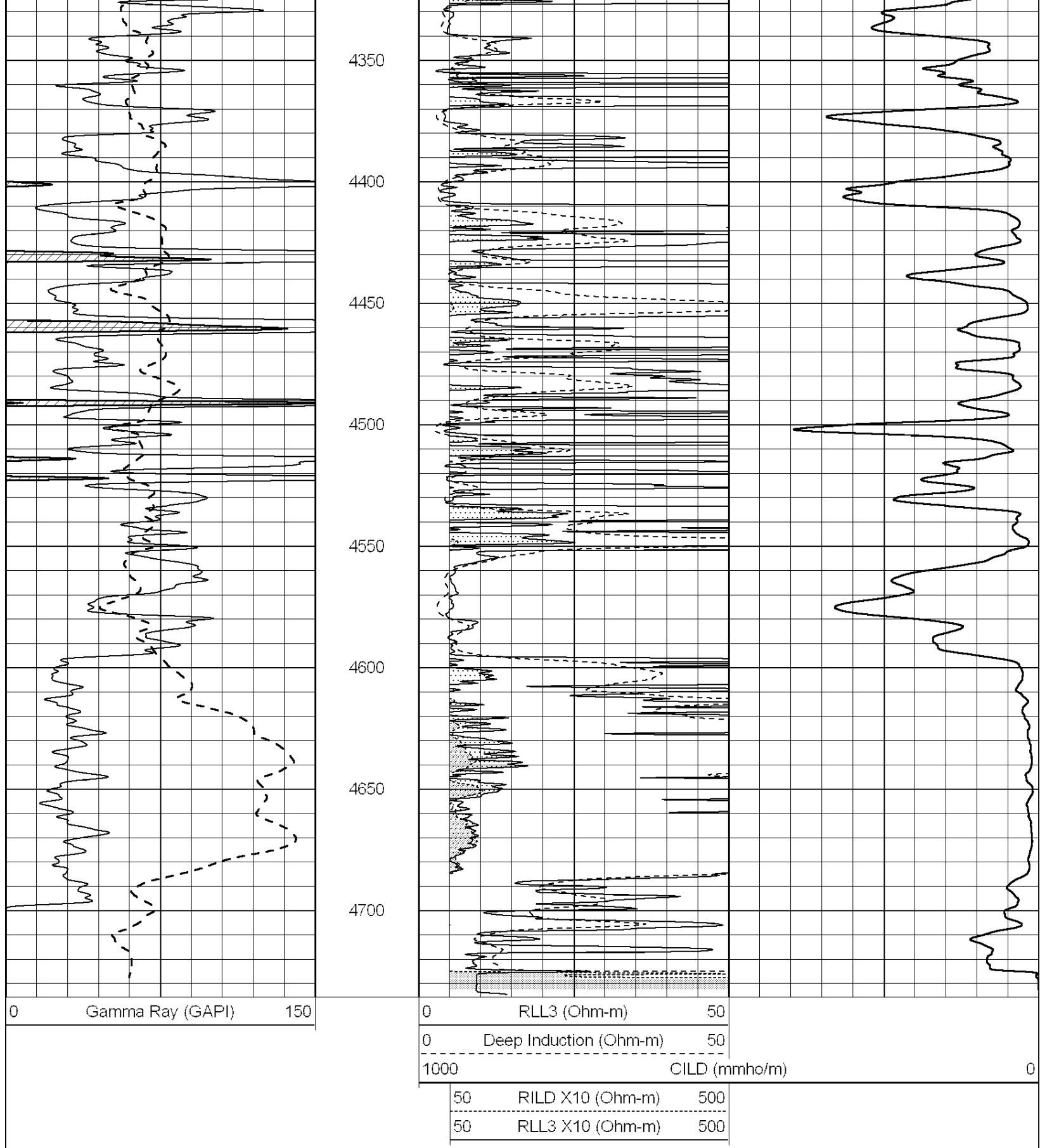
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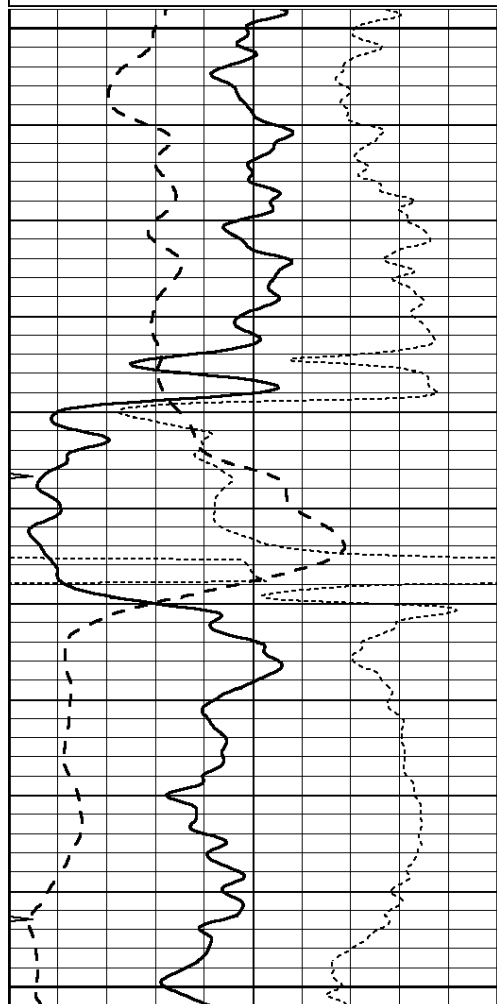


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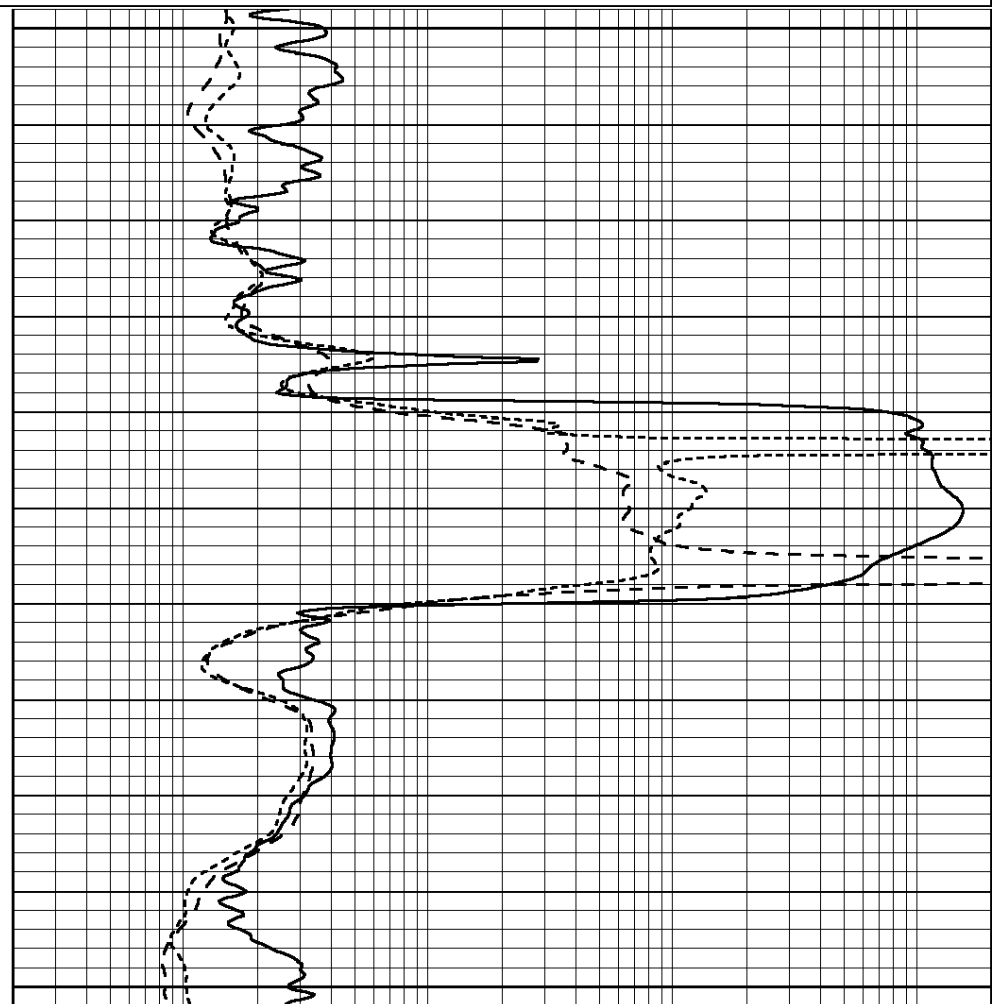


-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

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



2350  
2400  
2450



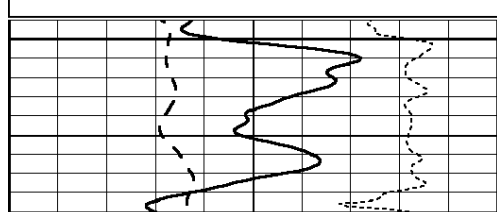
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

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

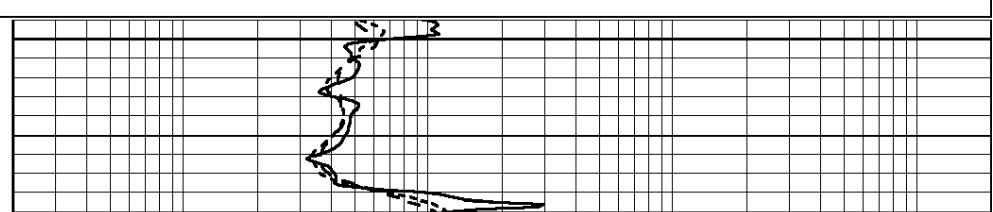
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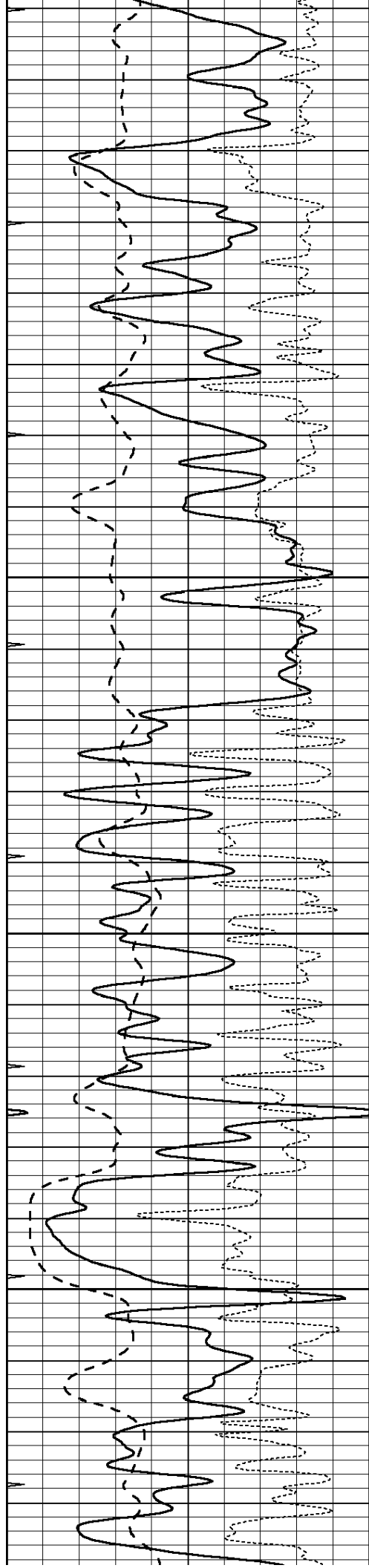
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-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

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



3450



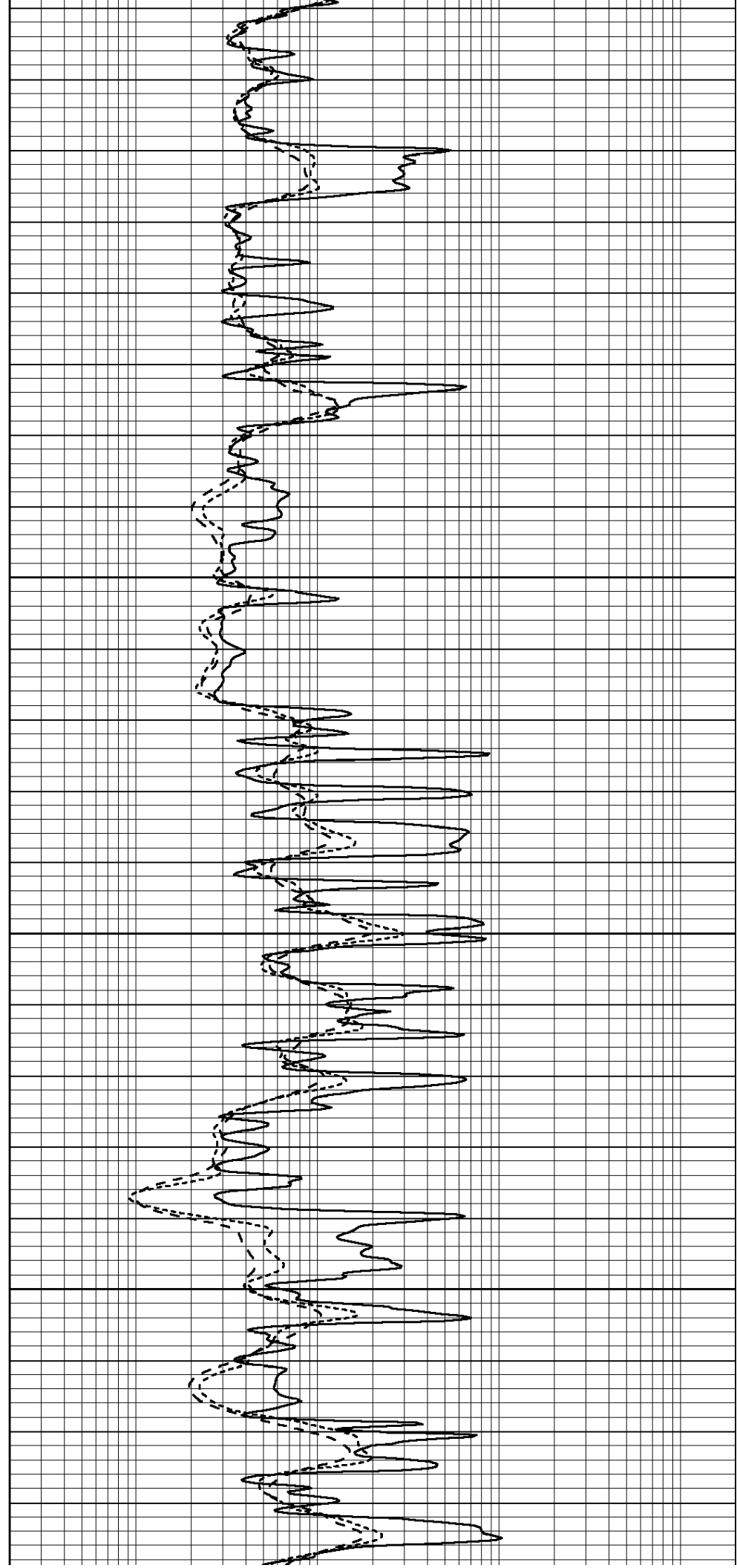


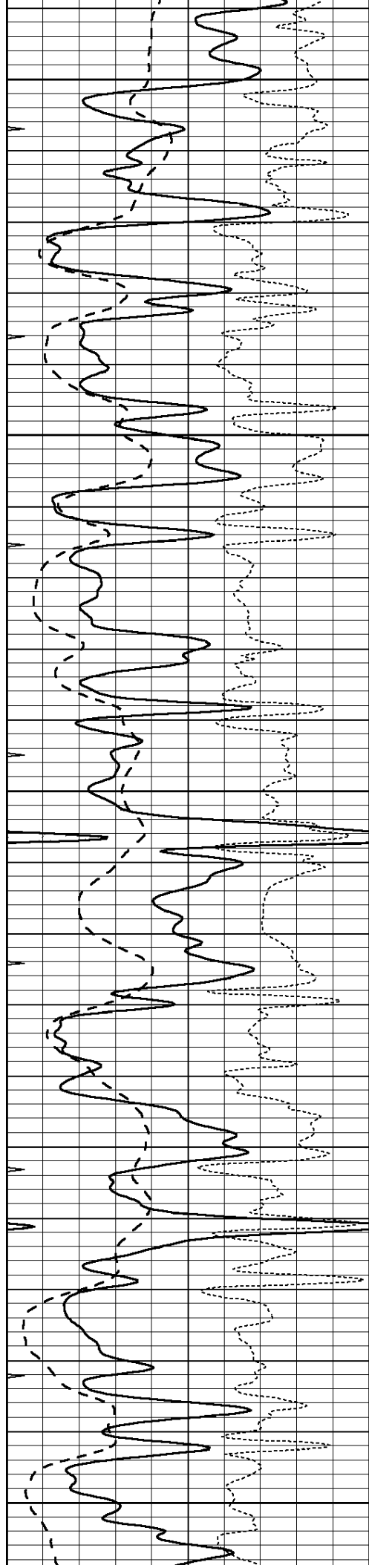
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3600

3650





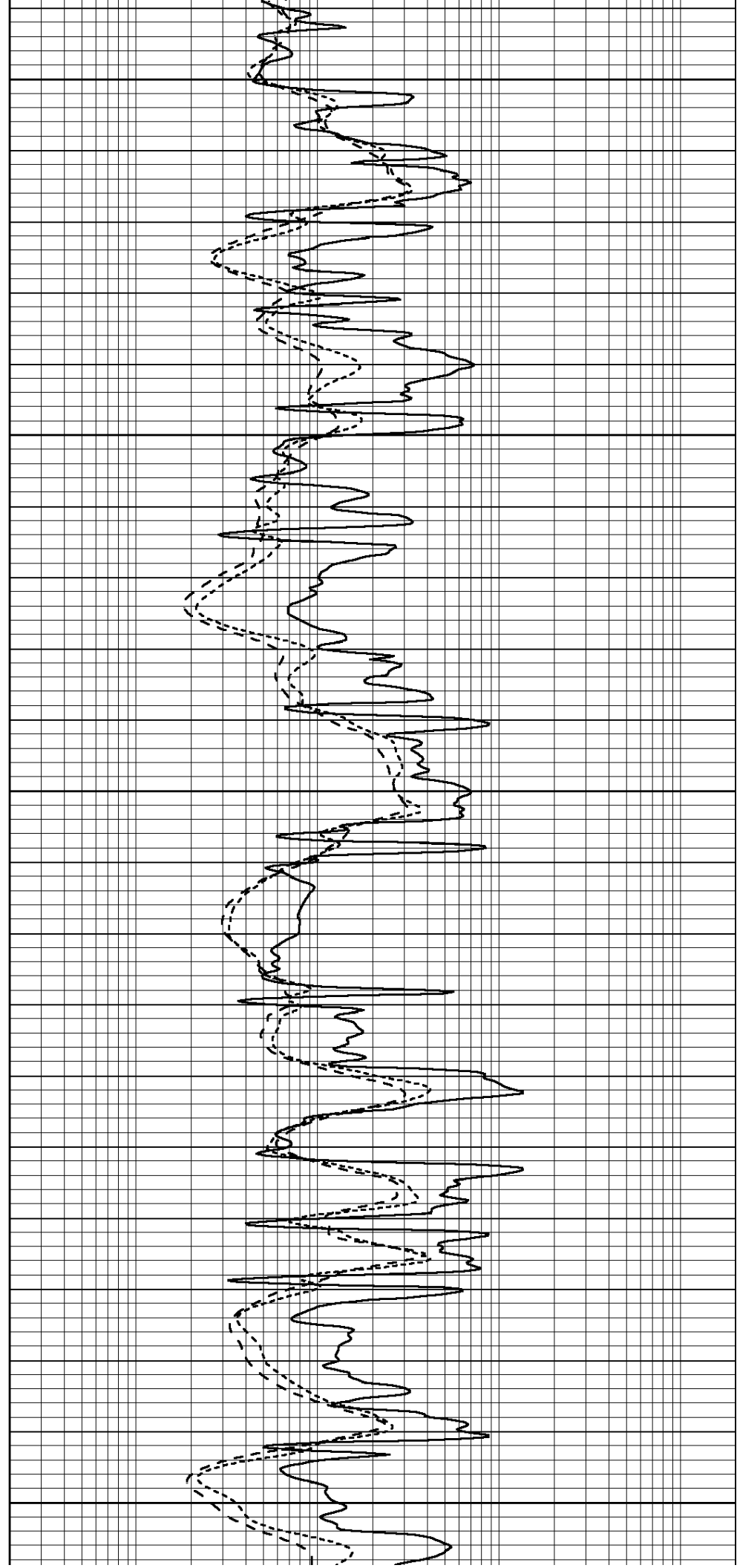
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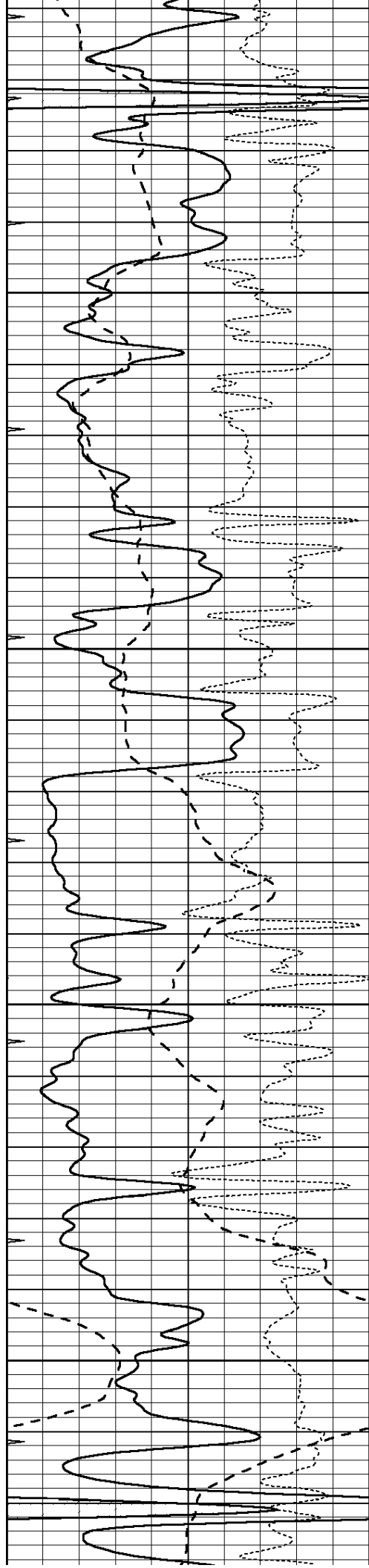
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3850

3900



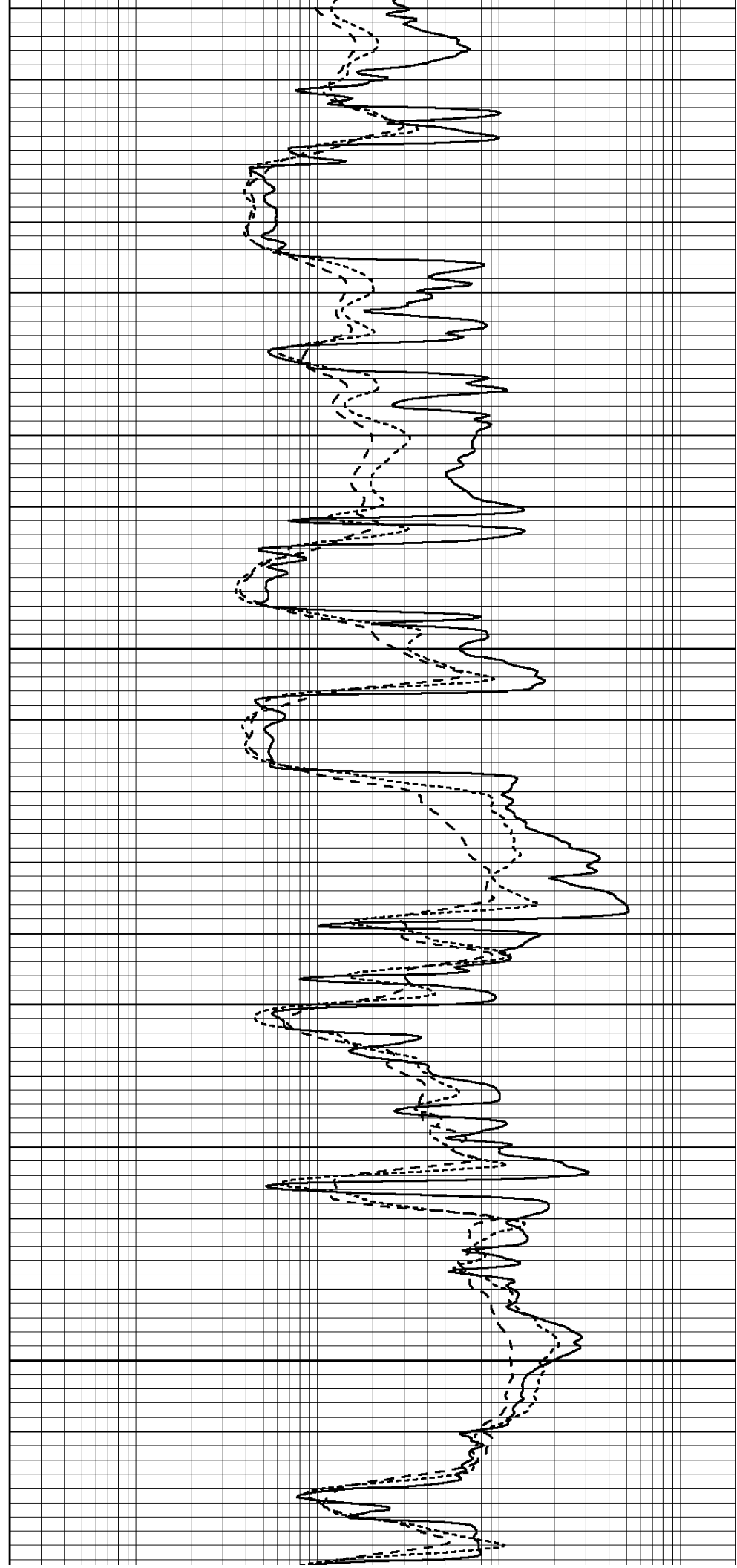


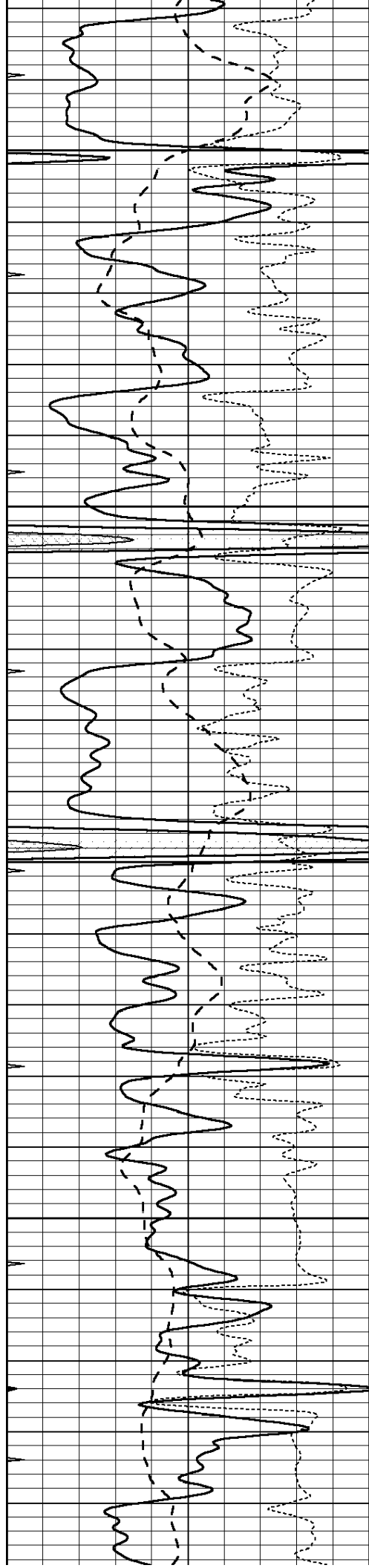
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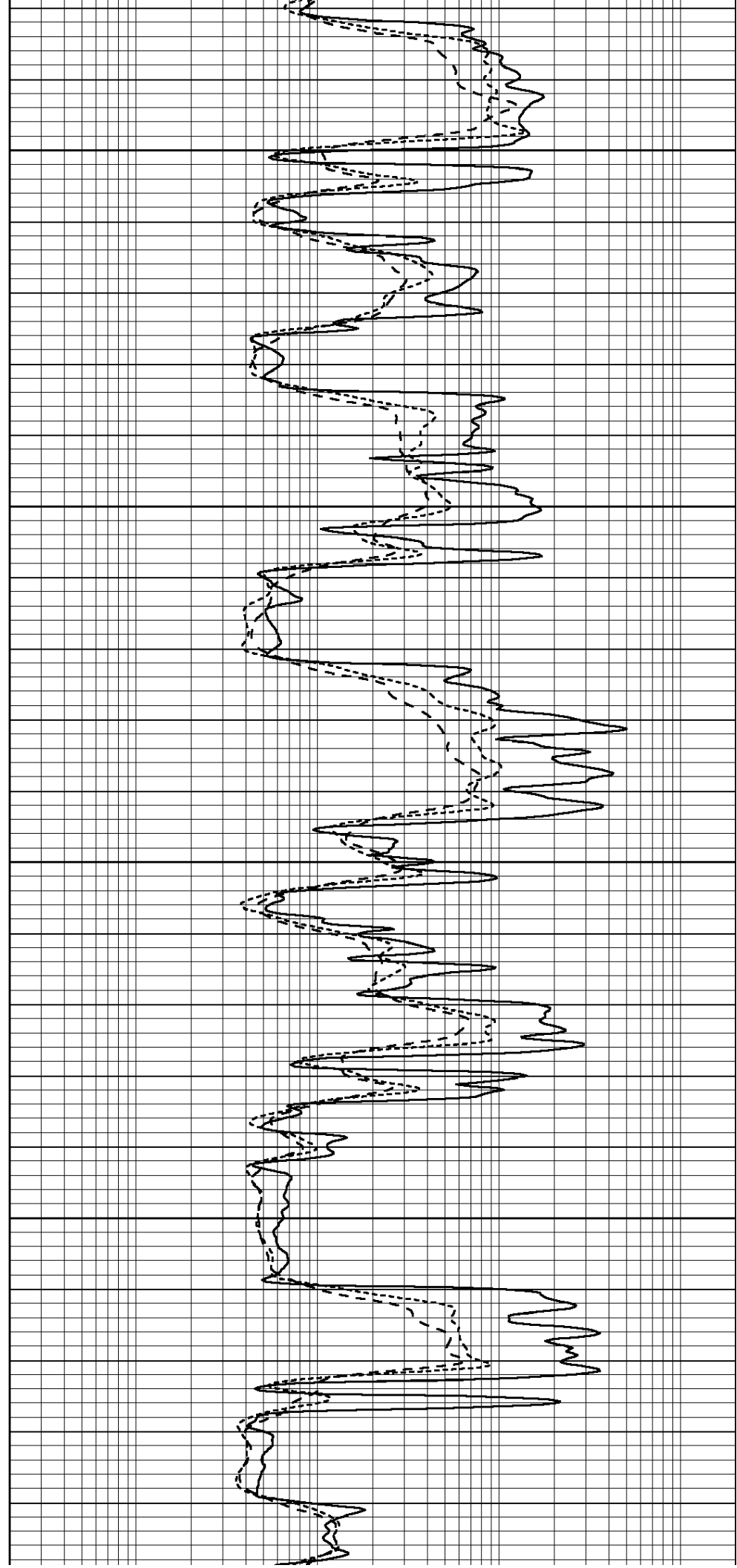


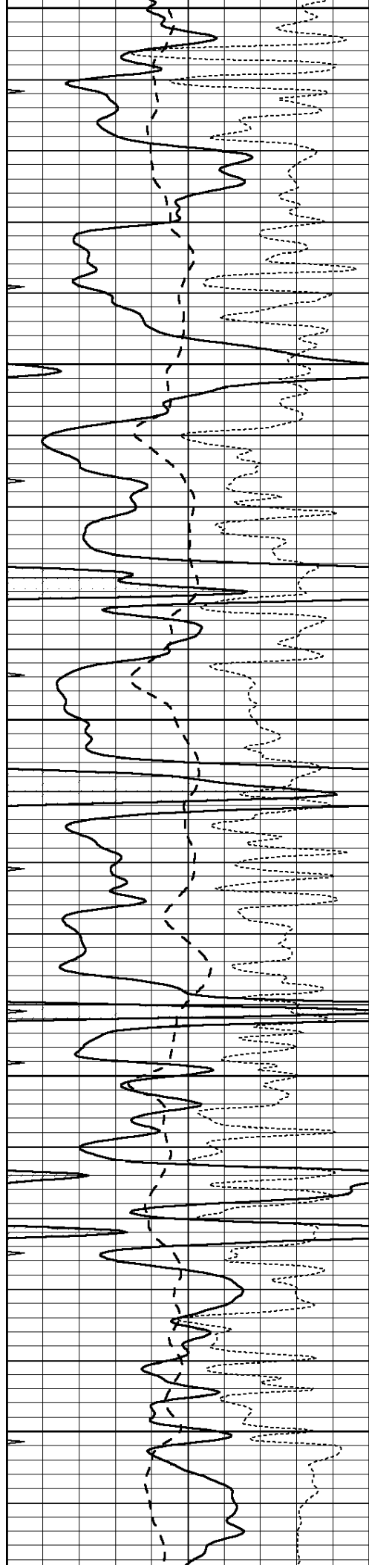
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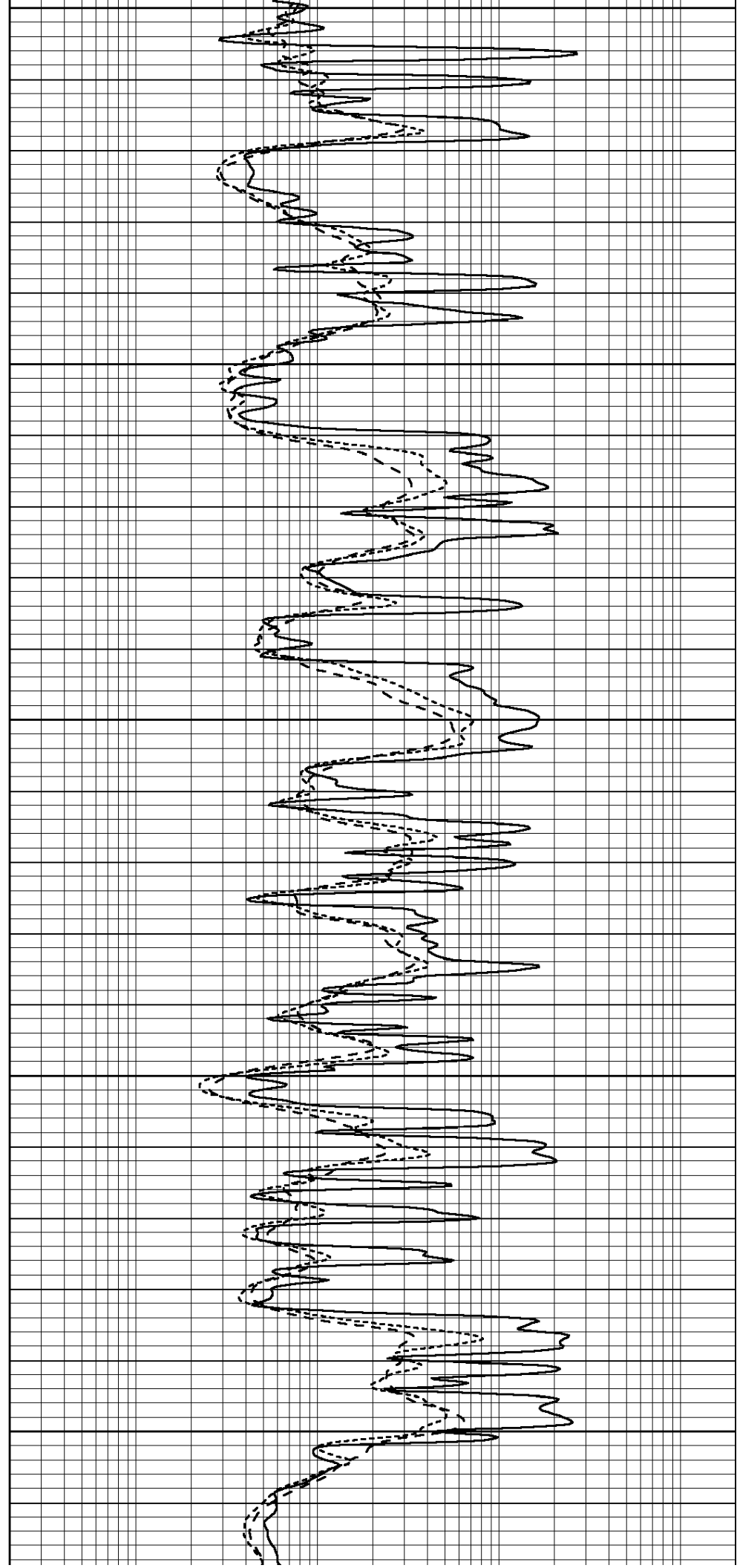
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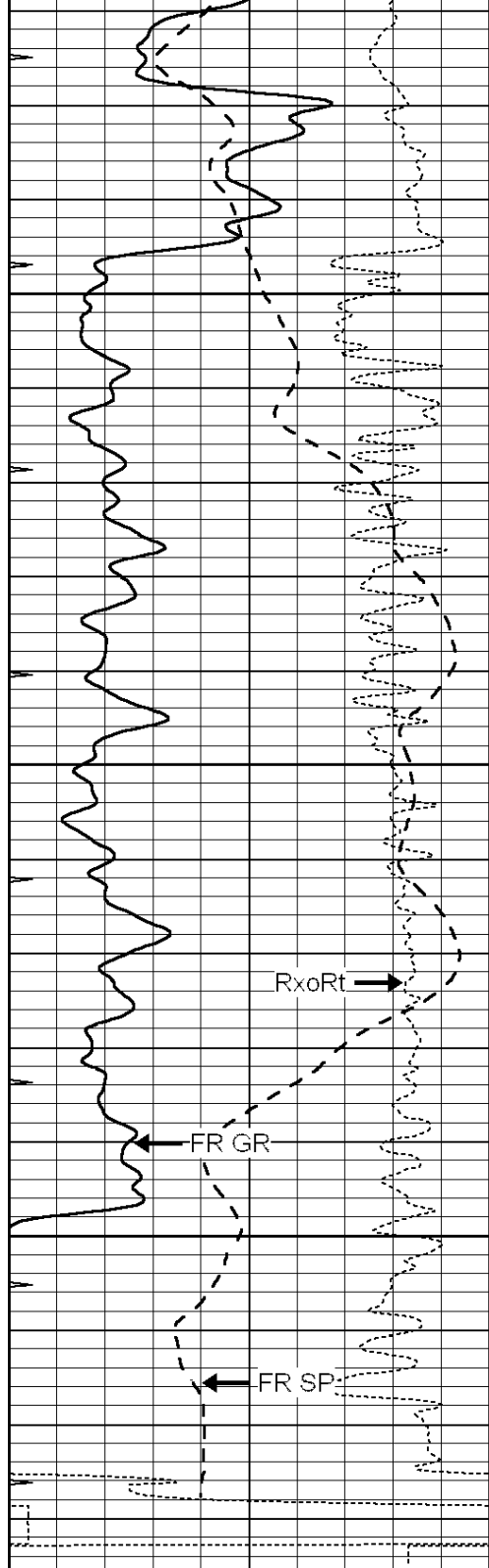
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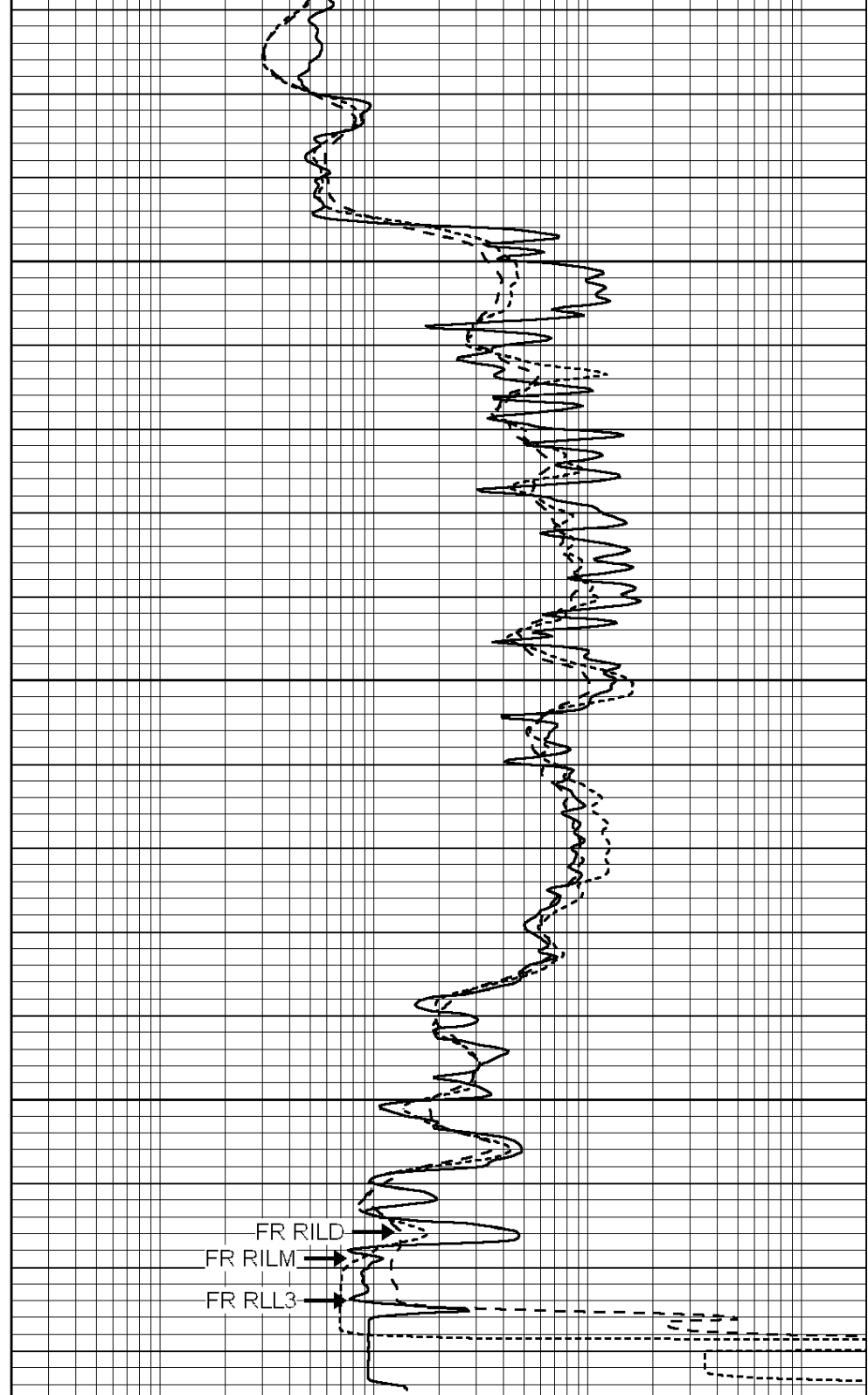
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-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

4600

4650

4700

LTD 4726



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

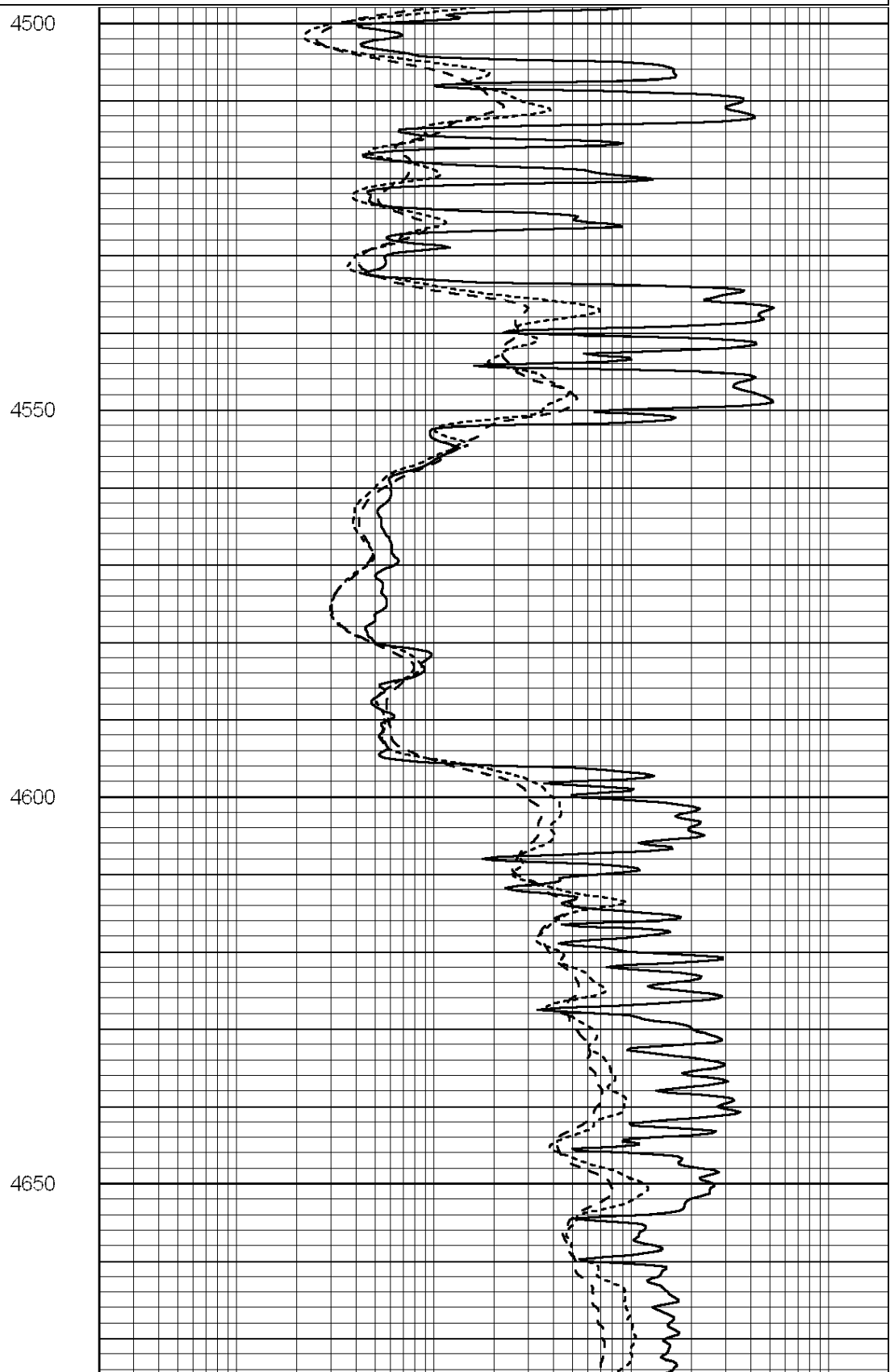
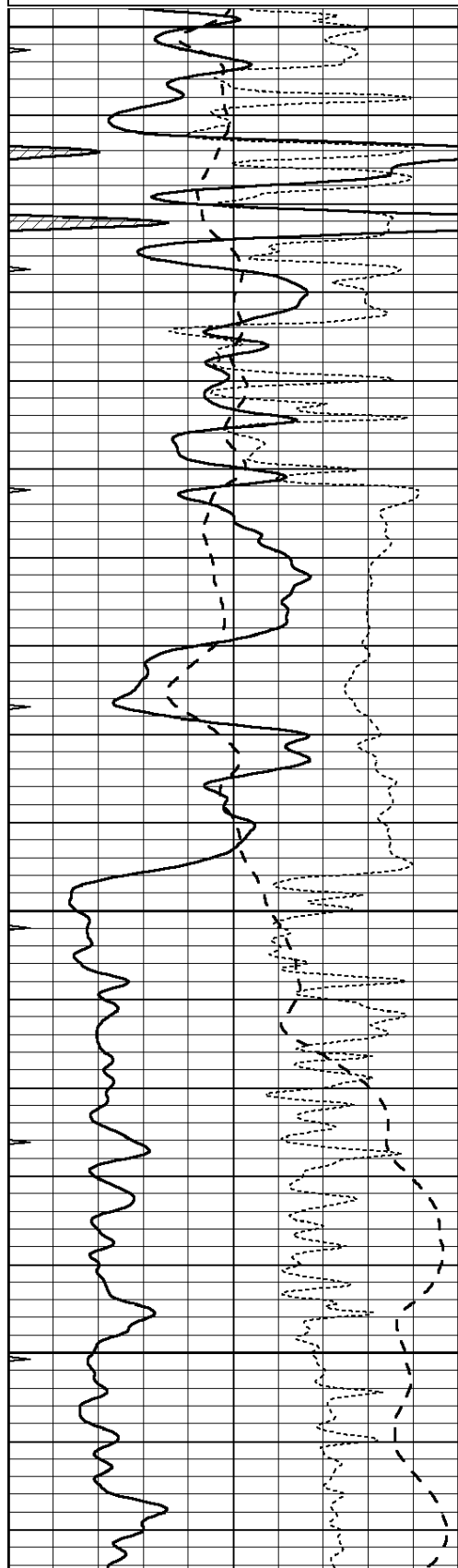


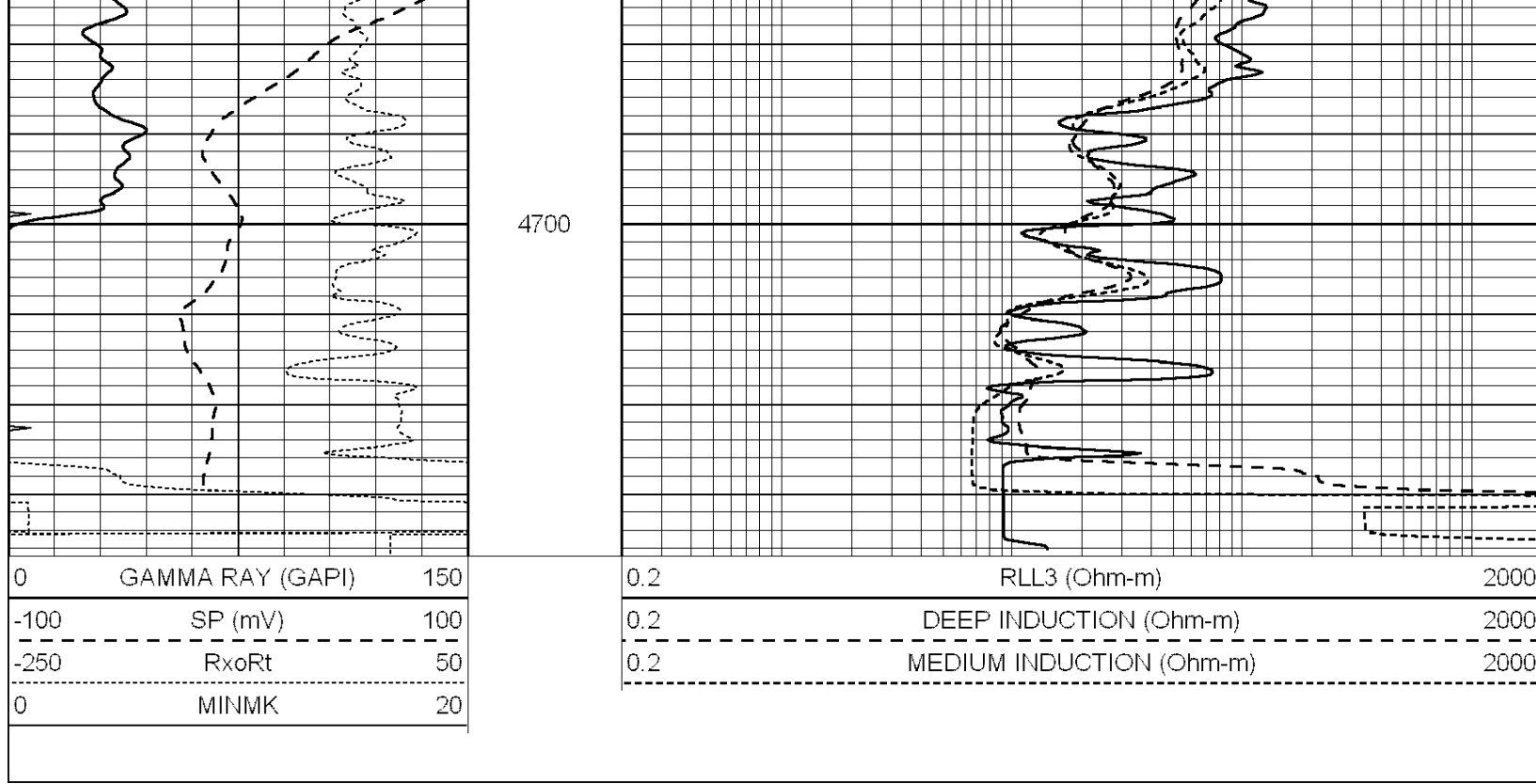
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 Charted by: Depth in Feet scaled 1:240

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: 011712ddn.db  
 Dataset Pathname: pass3.3  
 Dataset Creation: Wed Sep 04 19:32:39 2013 by Calc Open-Cased 090629

### Dual Induction Calibration Report

Serial-Model: PROBE7-DILG  
 Surface Cal Performed: Thu Aug 29 12:01:20 2013  
 Downhole Cal Performed: Sat Jan 19 19:51:38 2013  
 After Survey Verification Performed: Sat Jan 19 19:51:38 2013

#### Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop	V	Air	Loop		m	b
Deep	0.793	0.790	V	0.000	400.000	mmho/m	500.000	20.000
Medium	0.992	1.002	V	0.000	464.000	mmho/m	560.000	-24.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.041	0.642	V	0.000	400.000	mmho/m	664.874	-27.011
Medium	0.035	0.802	V	0.000	464.000	mmho/m	604.936	-21.367

#### Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	135384.000	27094.500	mmho/m	135400.000	27082.400	mmho/m	1.000	-19.259
Medium	-47330.100	-9381.740	mmho/m	-47327.100	-9389.280	mmho/m	1.000	-10.154
LL3		7.322	V		1400.000	Ohm-m		
		0.038	V		20.000	Ohm-m		
		-7.273	V		4000.000	mmho-m		

#### After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'

Deep	0.000	0.000	mmho/m	135384.000	27094.500	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	-47330.100	-9381.740	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1400.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		4000.000	mmho-m		

Compensated Density Calibration Report

Serial-Model: GEAR1-GEARHART  
Source / Verifier: 147 / 147  
Master Calibration Performed: Thu Aug 29 12:00:35 2013

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1205.77	610.74	cps
Aluminum	2.580	g/cc	271.21	419.72	cps
Spine Angle = 75.89			Density/Spine Ratio = 0.566		
	Size		Reading		
Small Ring	8.20	in	4.83	V	
Large Ring	14.00	in	7.01	V	

Compensated Neutron Calibration Report

Serial Number: NEU\_4I  
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: Wed Sep 04 17:51:54 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 GAPI/cps