

HALLIBURTON

ACOUSTIC CEMENT BOND LOG

Company	ORION	Company	ORION	County	GARFIELD	State	CO
Well	HILTON 23-1	Well	HILTON 23-1	Field	MAMM CREEK		
Field	MAMM CREEK						
County	GARFIELD	County	GARFIELD	State	CO		
API No.:	050451611100	Serv #:	6118095	Other Services			
Location:	SURFACE HOLE: 0793' FSL & 1875' FWL						
	BOTTOM HOLE: VERTICAL WELL			NONE			
Permanent Datum	GROUND LEVEL	Elevation	6325'				
Log Measured From	K.B. , 15 Ft. above perm. datum			K.B. 6340' D.F. 6339' G.L. 6325'			
Drilling Measured From	K.B.						
Date @ Time Logged	08/20/2008 2345 HRS	Type Fluid in Hole		FRESH WATER			
Run No.	ONE	Density of Fluid		8.34 PPG			
Depth - Driller	8350'	Fluid Level		FULL			
Depth - Logger	8335'	Cement Top Est. Logged		2600'			
Bottom - Logged Interval	8333'	Equipment / Location		10026060 / GU			
Top - Log Interval	SURFACE	Recorded by		C. JOHNSON			
Max. Recorded Temp.	244 F	Witnessed by		DON HERNANDEZ			
CEMENTING DATA	Surface	Protection					
	String	String		Liner			
Date / Time Cemented							
Primary / Squeeze							
Expected Compressive Strength	psi@ hrs	psi@ hrs		psi@ hrs			
Cement Volume							
Cement Type / Weight	/	/		/			
Formulation							
Mud Type / Mud Wgt.	/	/		/			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	1 1/2"	SURFACE	1050'	8.625"	32#	SURFACE	1050'
ONE	7.875"	1050'	8350'	4.5"	11.6#	SURFACE	8350'

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HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

Comments

CBL/GR/CCL RAN IN COMBINATION
TRAVEL TIME SKIP WHEN GOOD BOND IS PRESENT.
HES CBL LOG IS THE PRIMARY LOG FOR THIS WELL.
LOG INTERVALS PER CUSTOMER REQUEST.

SHORT JOINTS AT: 3396' - 3418' & 6393' - 6416'

YOUR CREW TODAY: K. SLUSSER, L. GORDON

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES, GRAND JUNCTION, CO

Service Ticket No. 6118095

API No. 050451611100

PGM Ver 2007-0213

The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA

GAMMA RAY		CCL		CBL				
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.		
Serial No.	061015	Serial No.	061015	Serial No.	070374	Serial No.		
Model No.	PRB_275	Model No.	PRB_275	Model No.	PRB_275	Model No.		
Diameter	2.75"	Diameter	2.75"	Diameter	2.75"	Diameter		
LOGGING DATA								
General Data								
Pass	Depths		Well Head	Speed	Logging Run Comments			
No.	From	To	Pressure	Ft/Min				
ONE	8335'	SURFACE	0	65	MAIN LOG SECTION			
TWO	8335'	8100'	0	65	REPEAT LOG SECTION			
	GAMMA RAY		CCL		AMPLITUDE			
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	R
ONE	0	200	-9	1	0	100		
DIRECTIONAL INFORMATION								
Maximum Deviation		N/A	deg. @	N/A	KOP	N/A		

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ACOUSTIC CEMENT BOND LOG

MAIN LOG SECTION

5"=100'

Database File: hilton_23_1_cbl.db

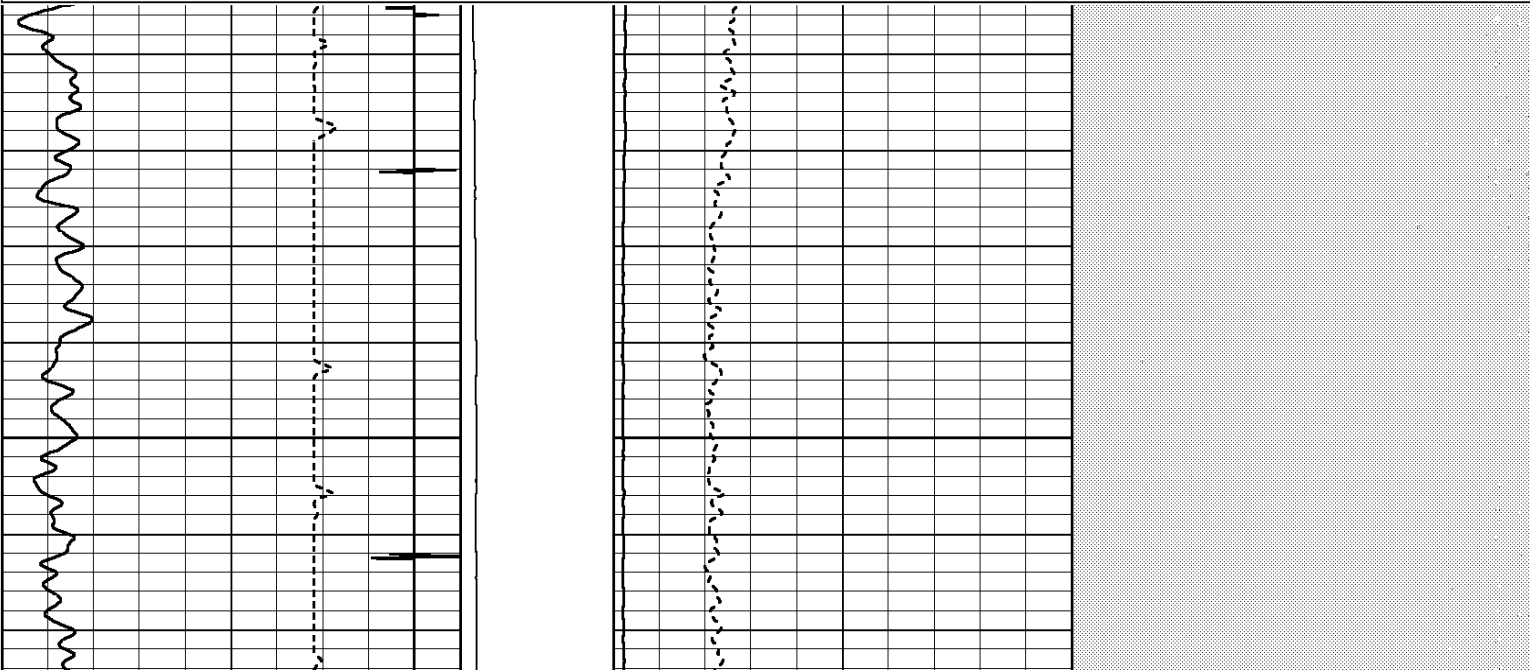
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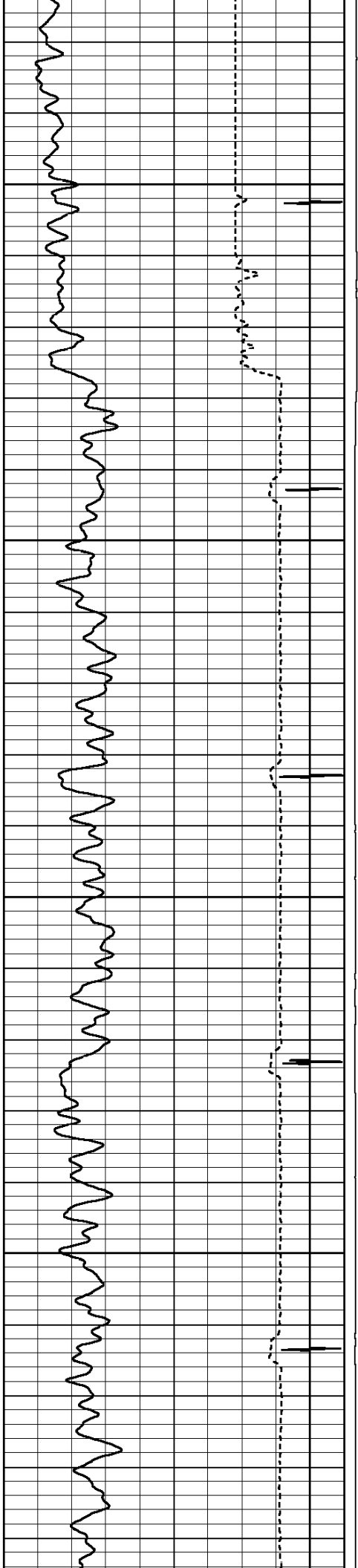
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Dataset Creation: Thu Aug 21 02:27:20 2008

Charted by: Depth in Feet scaled 1:240

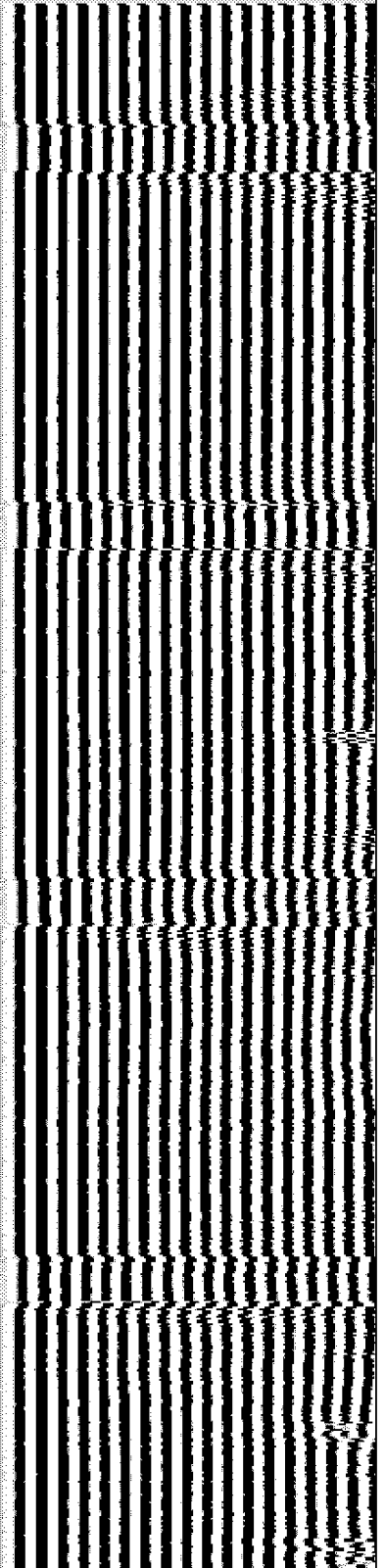
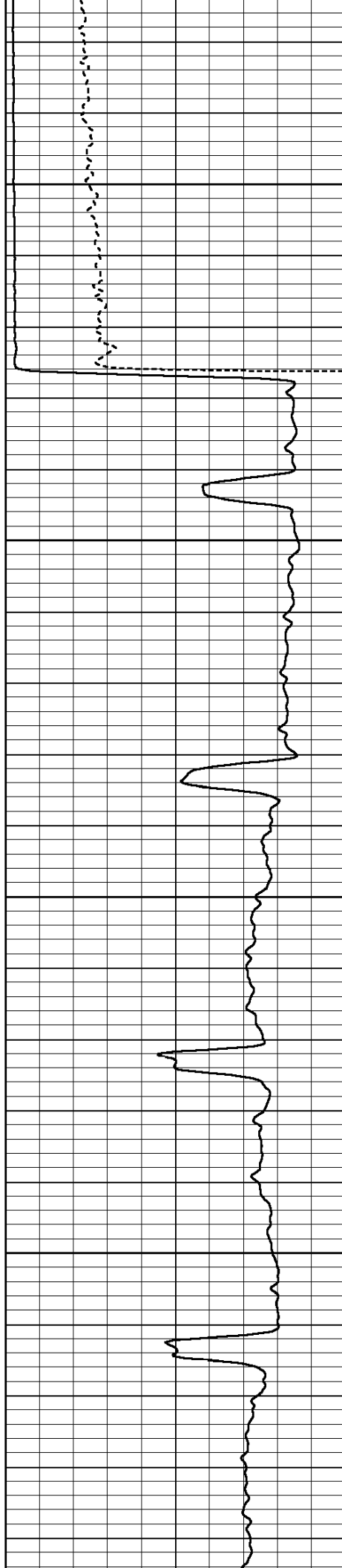
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0	Gamma Ray (GAPI)	200	0 (lb)3000	0	AMPLITUDE (mV)	100			
-9	CCL	1							

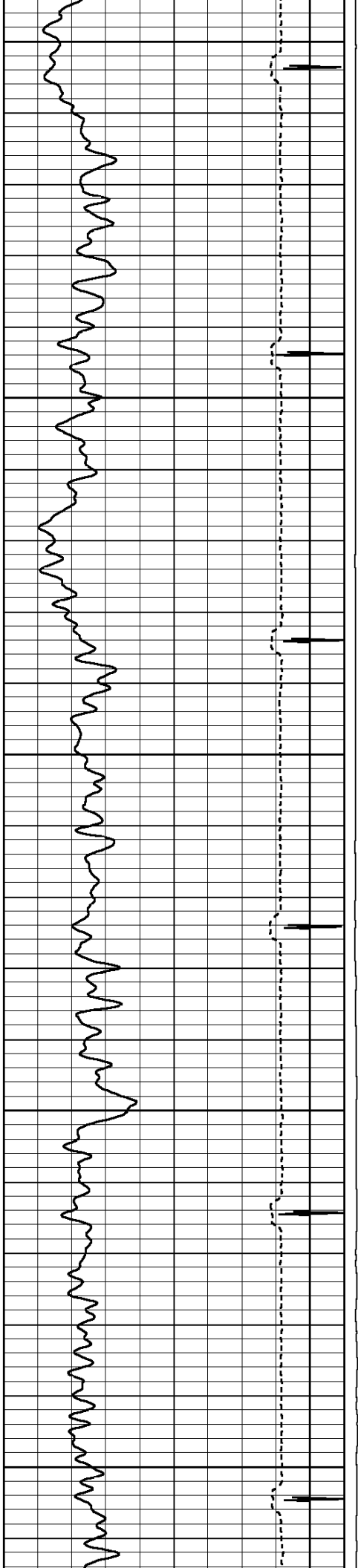




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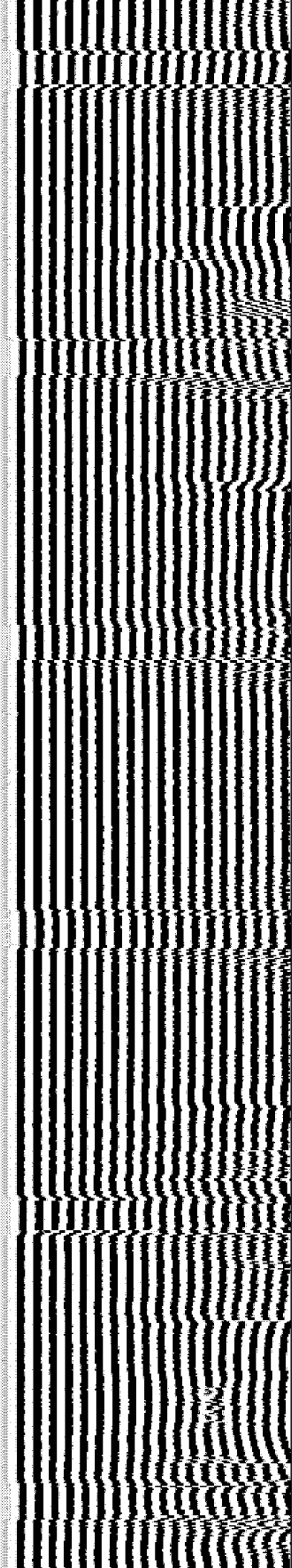
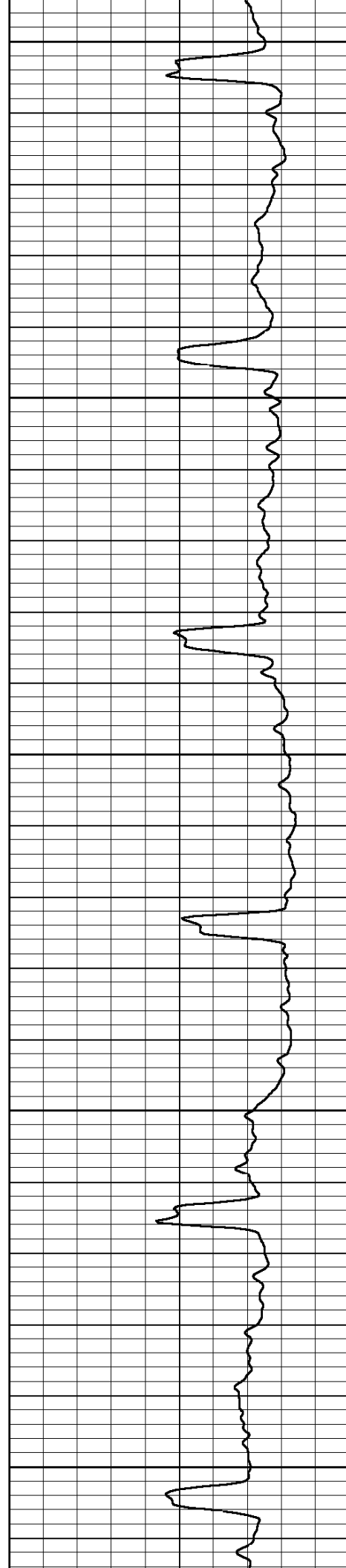


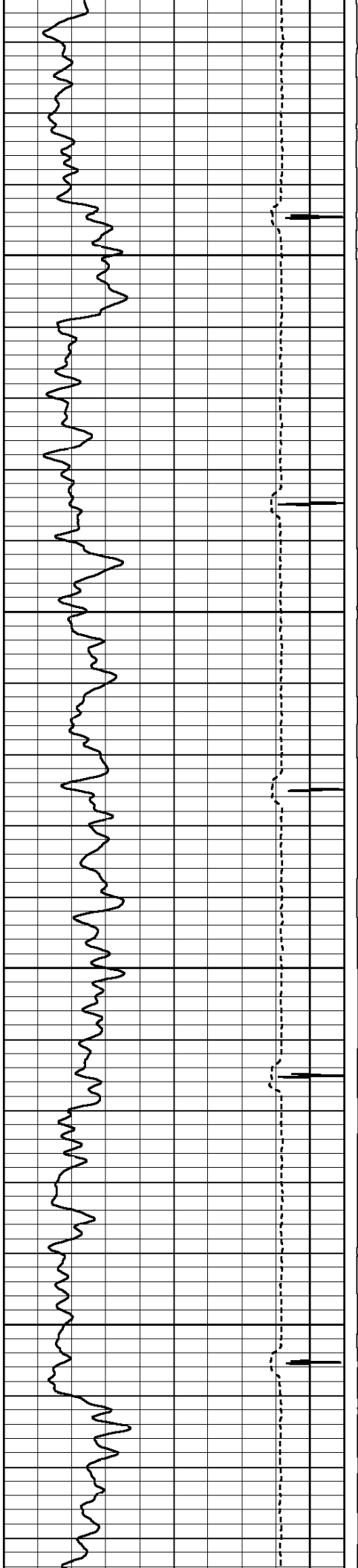


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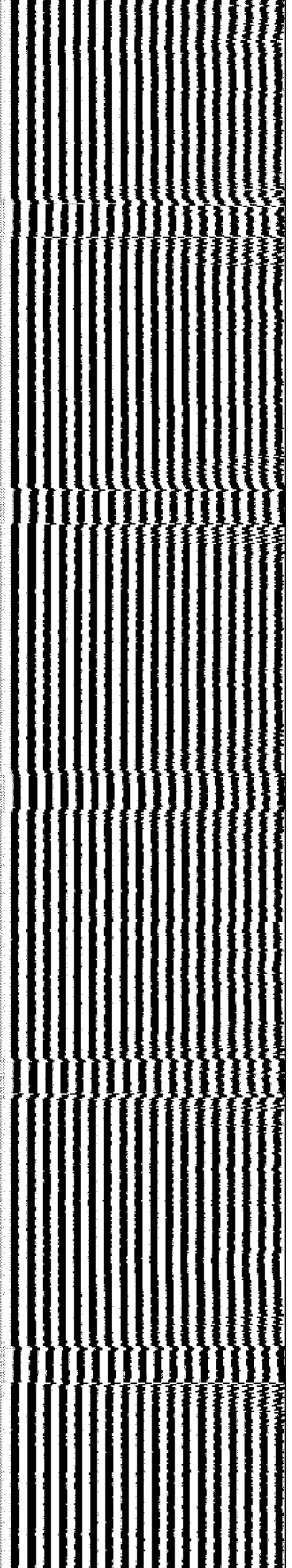
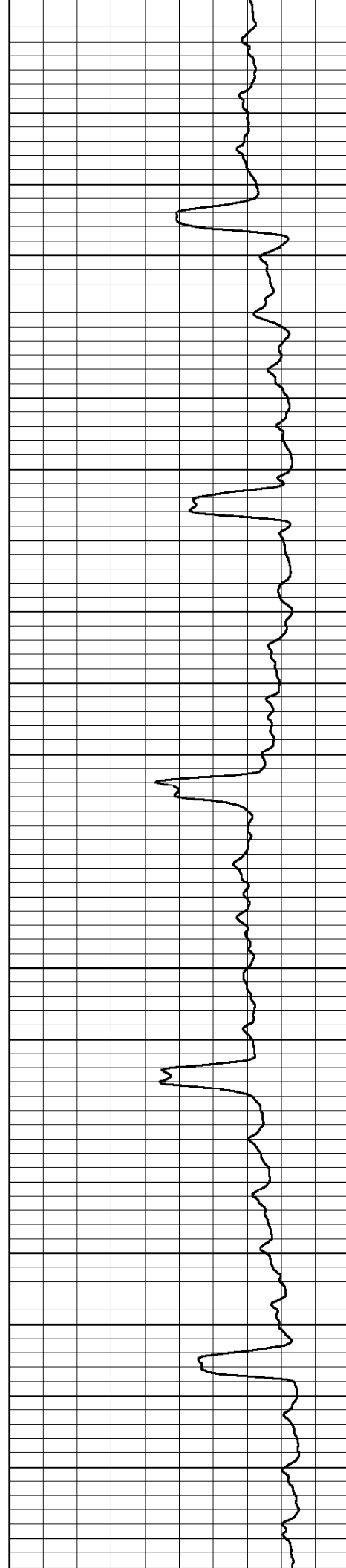
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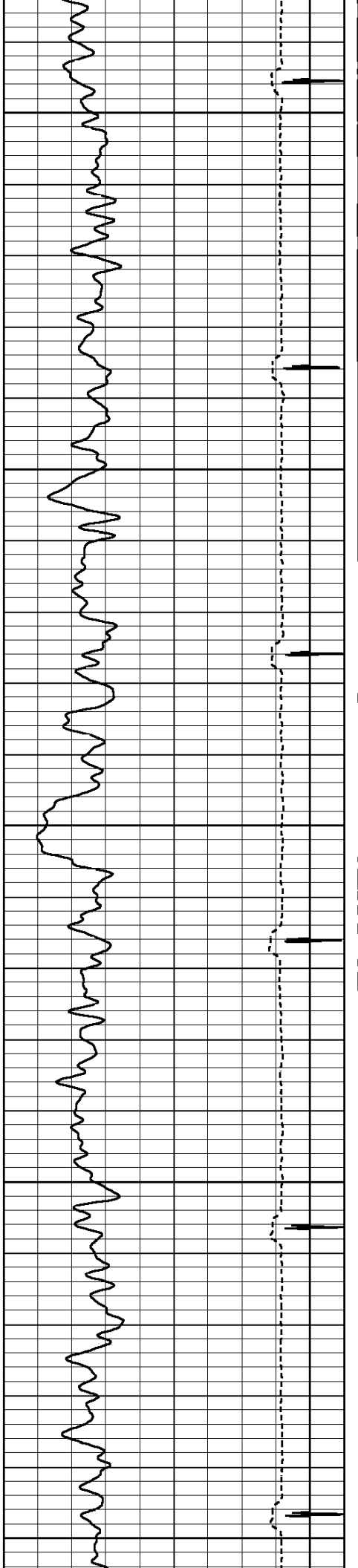




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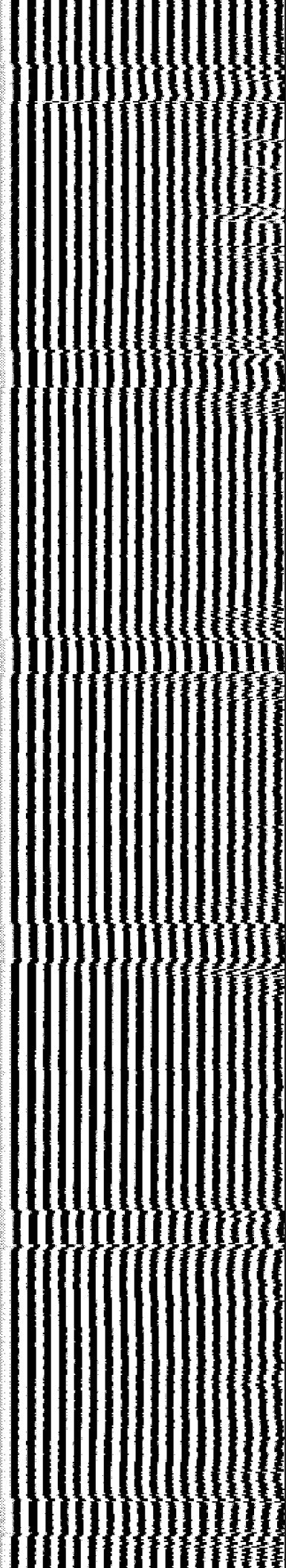
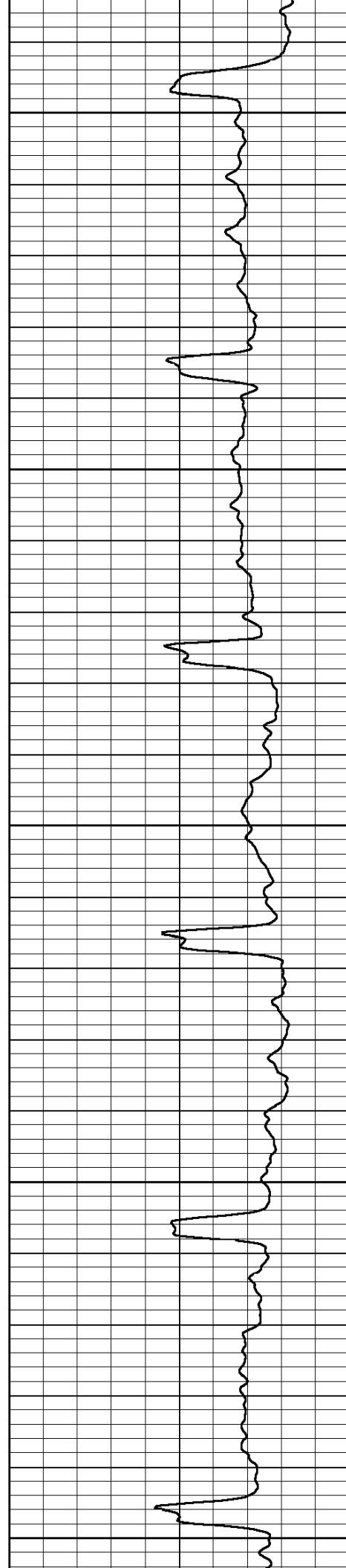
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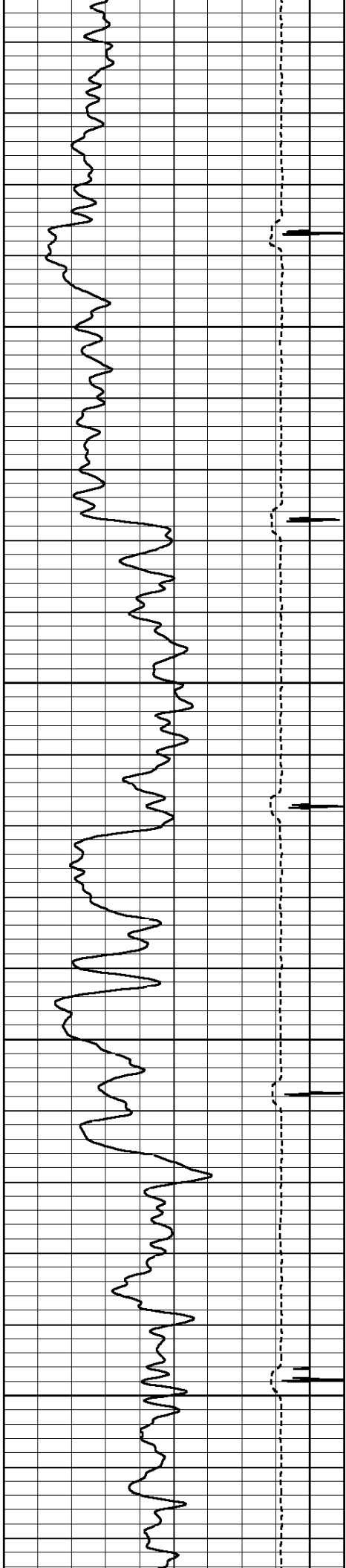




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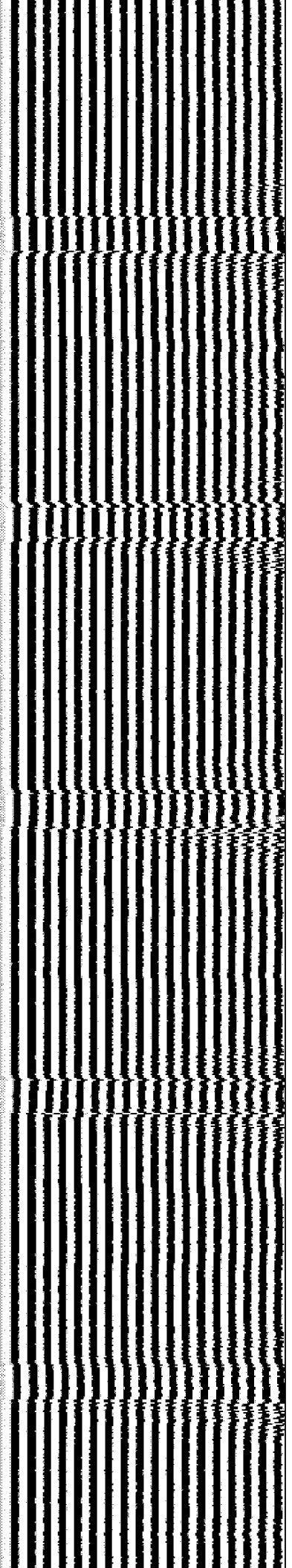
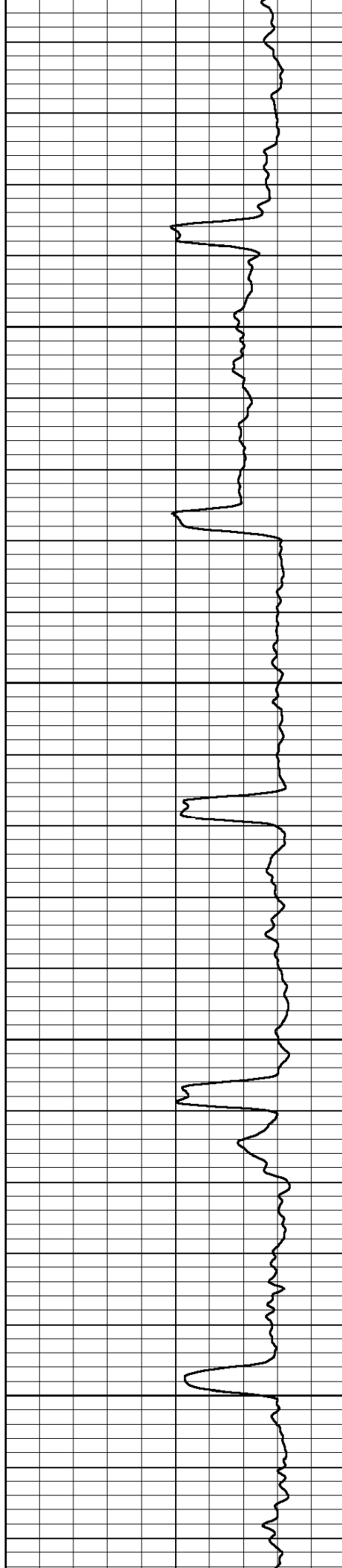
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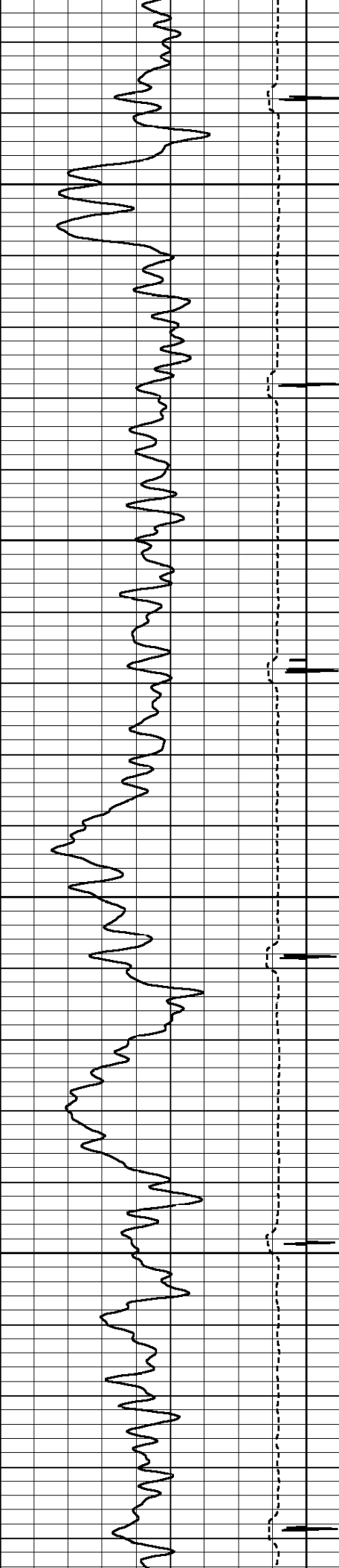




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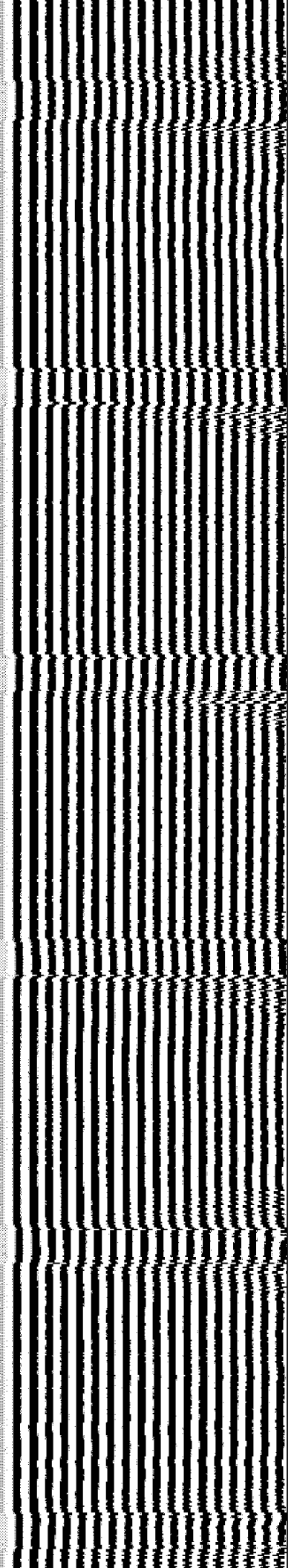
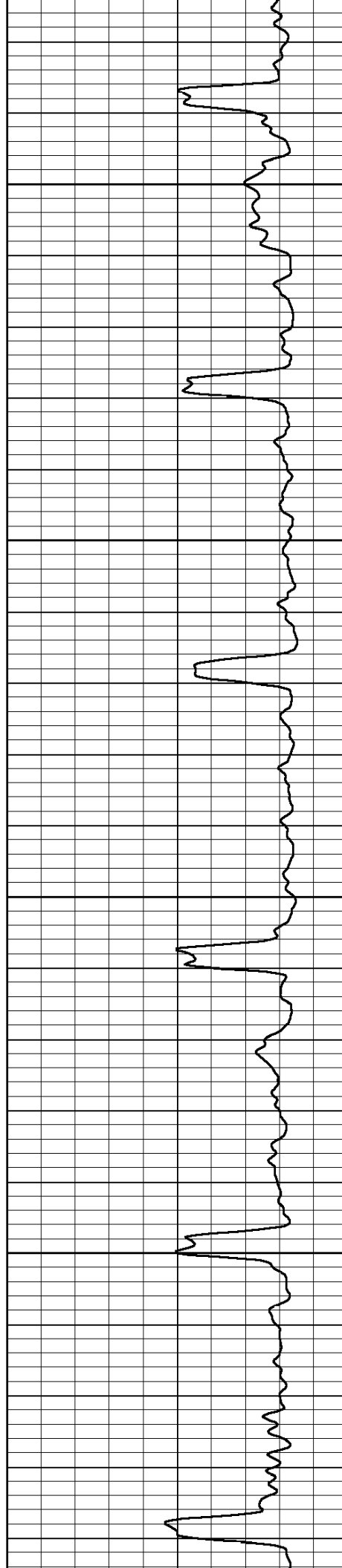
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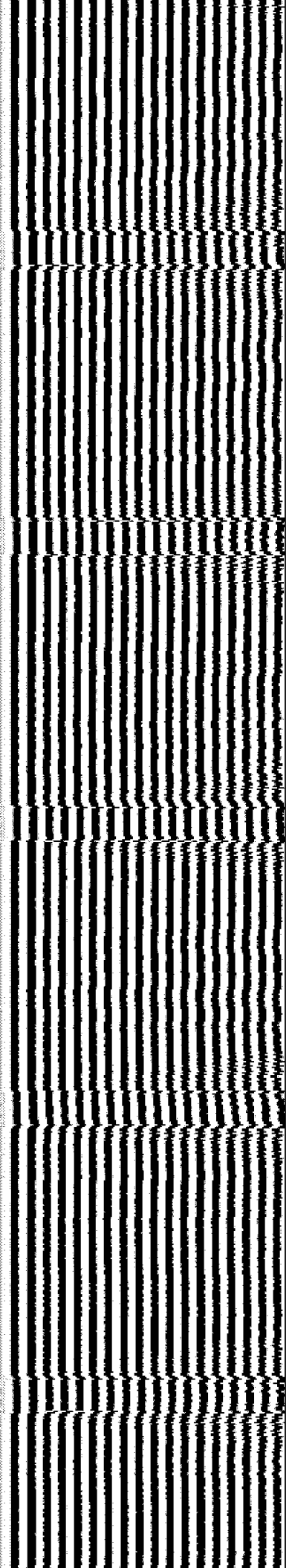
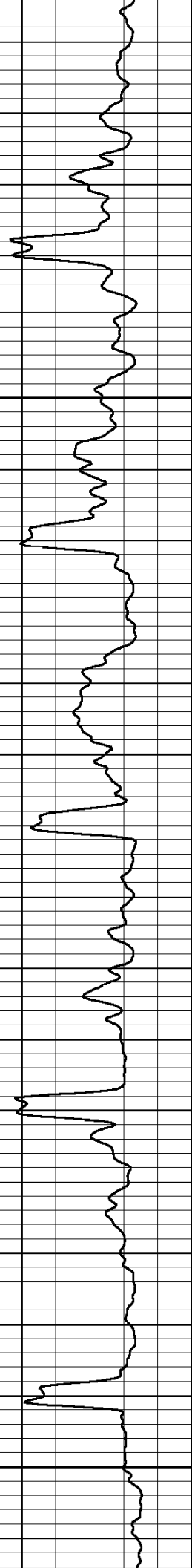
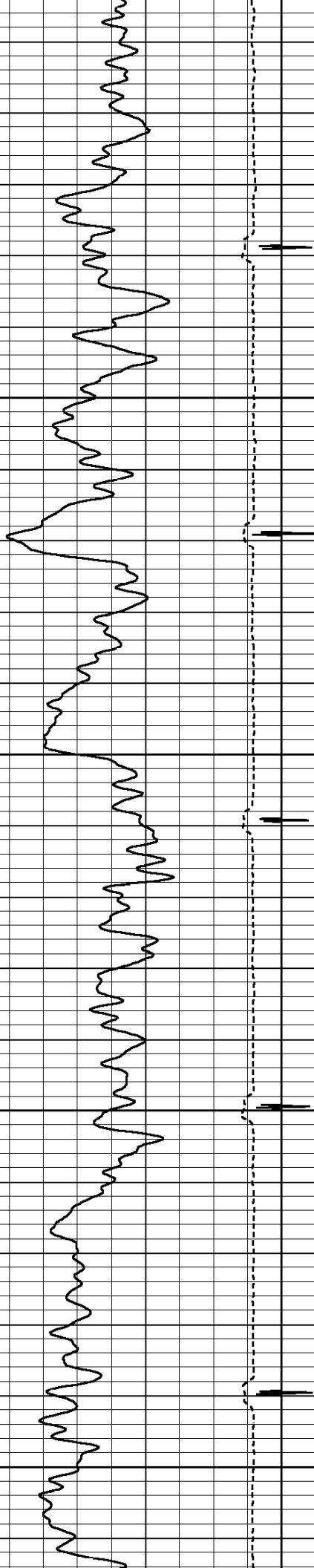
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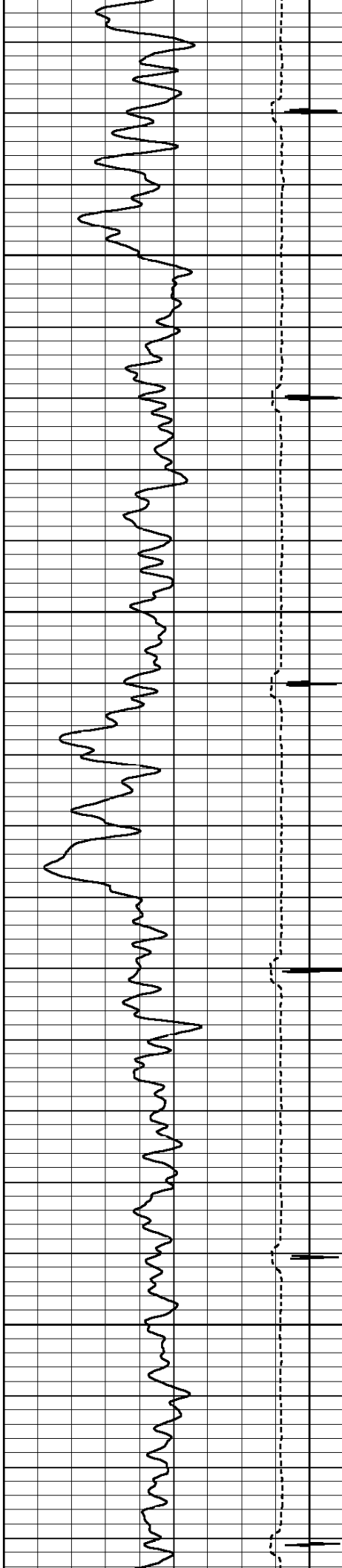


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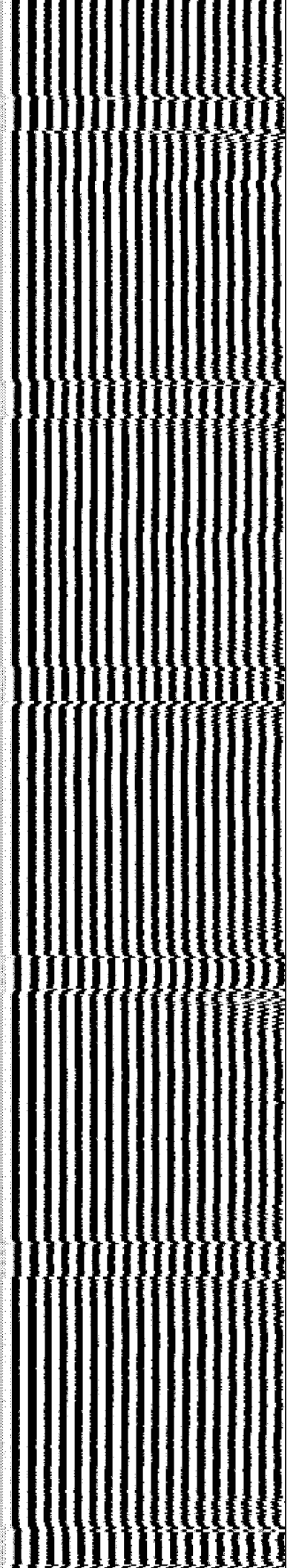
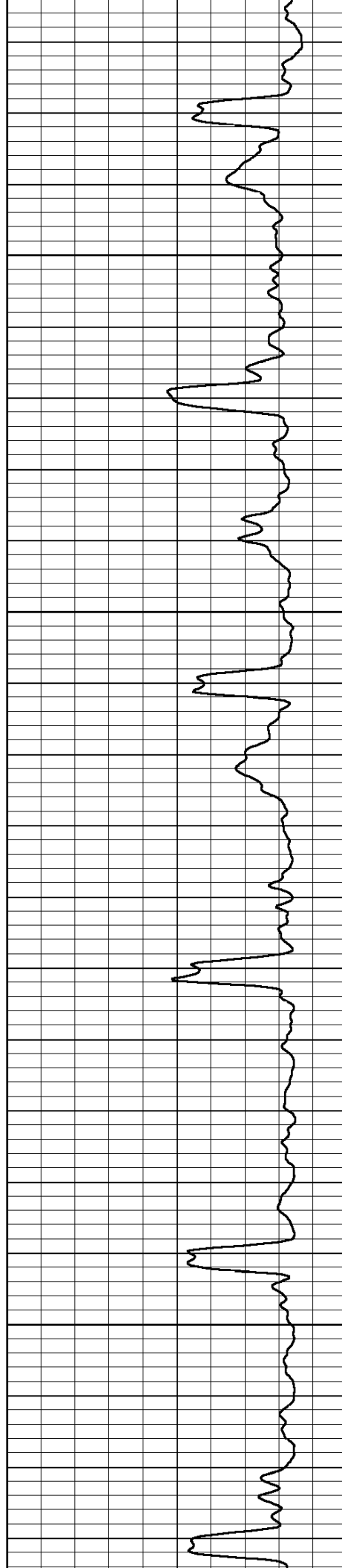
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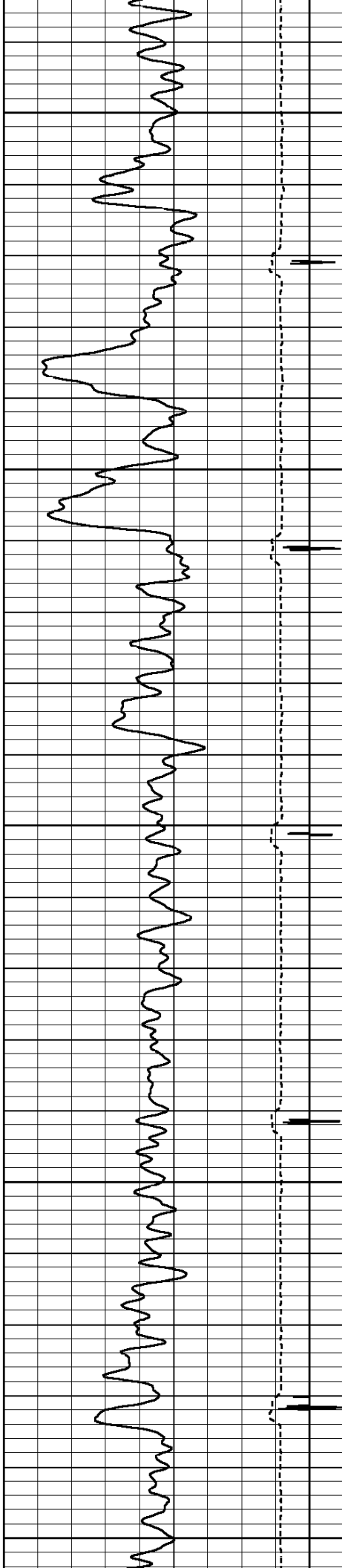




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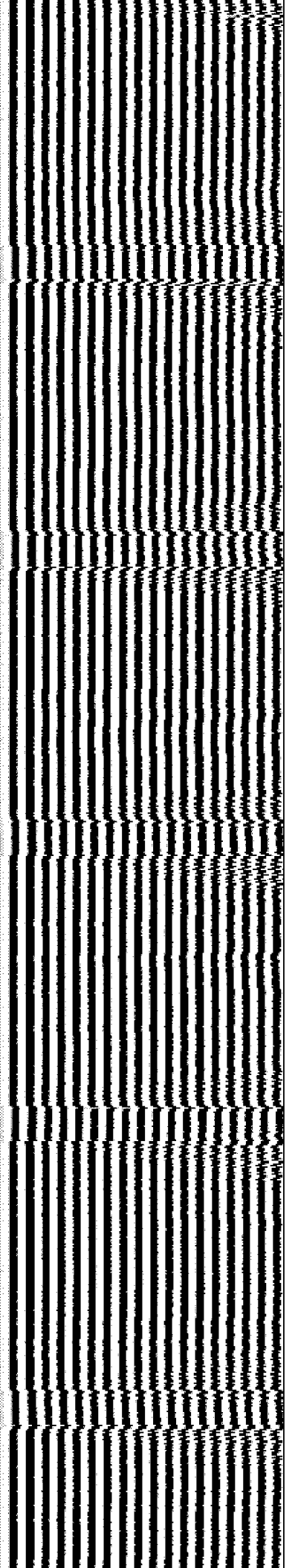
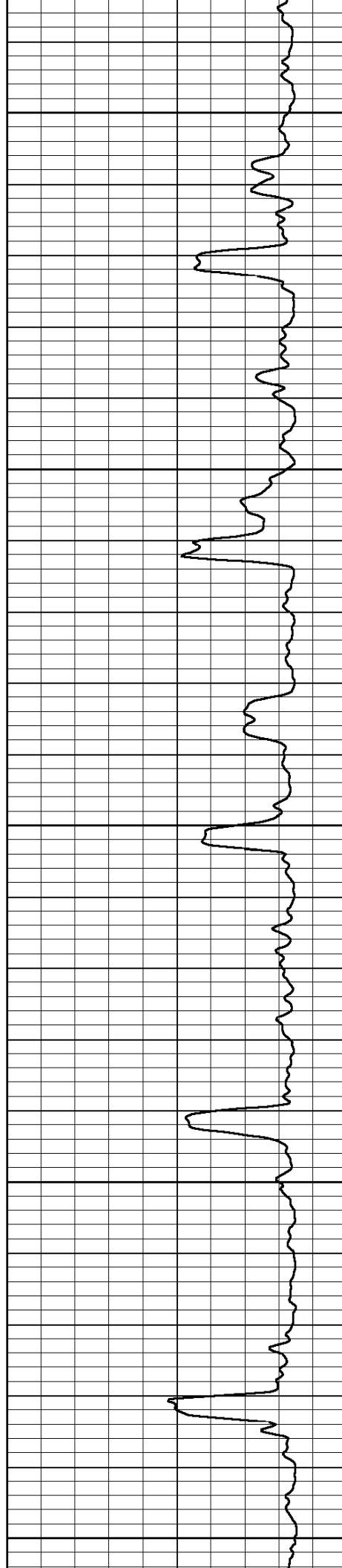
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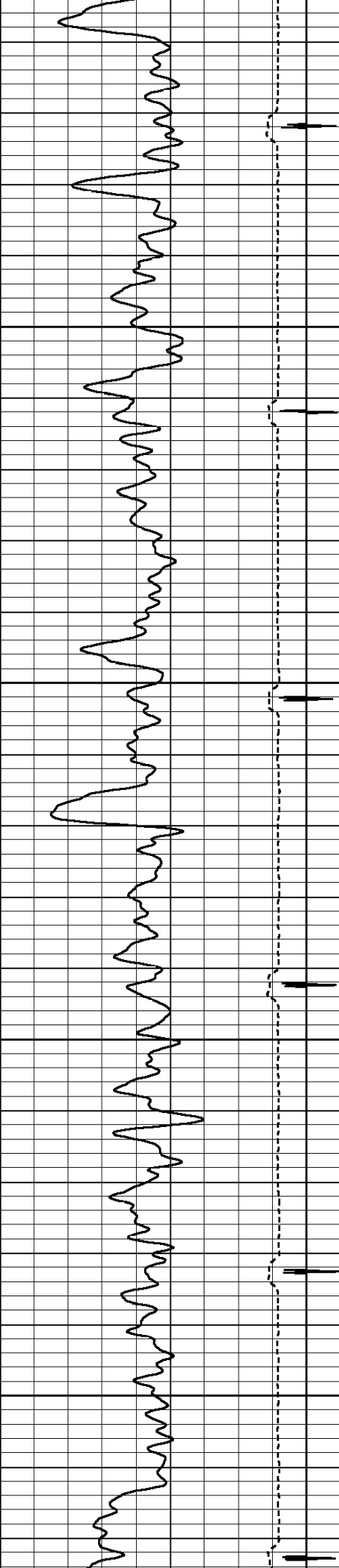




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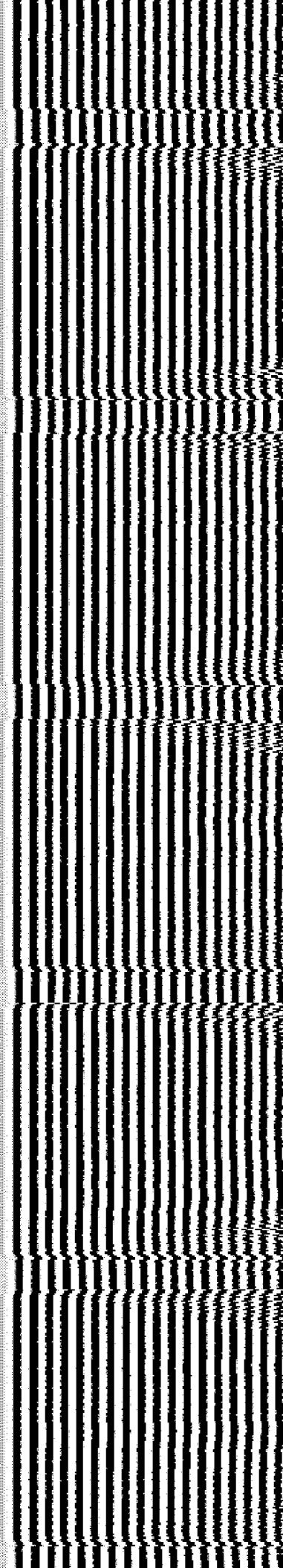
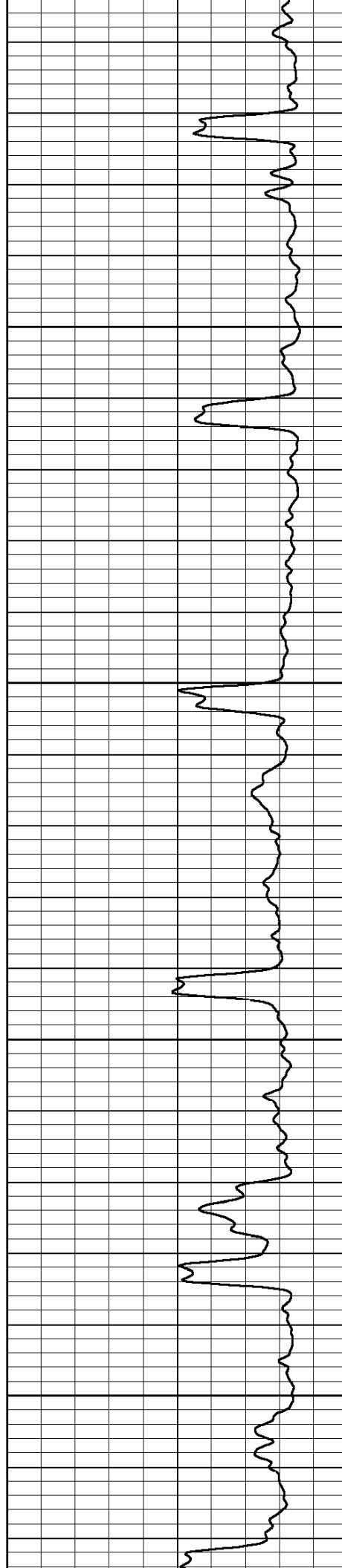
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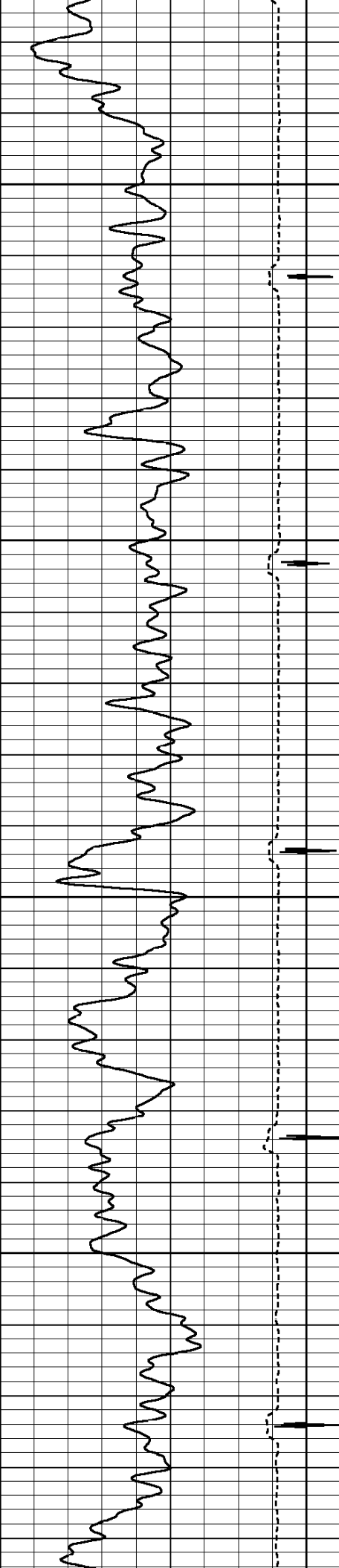




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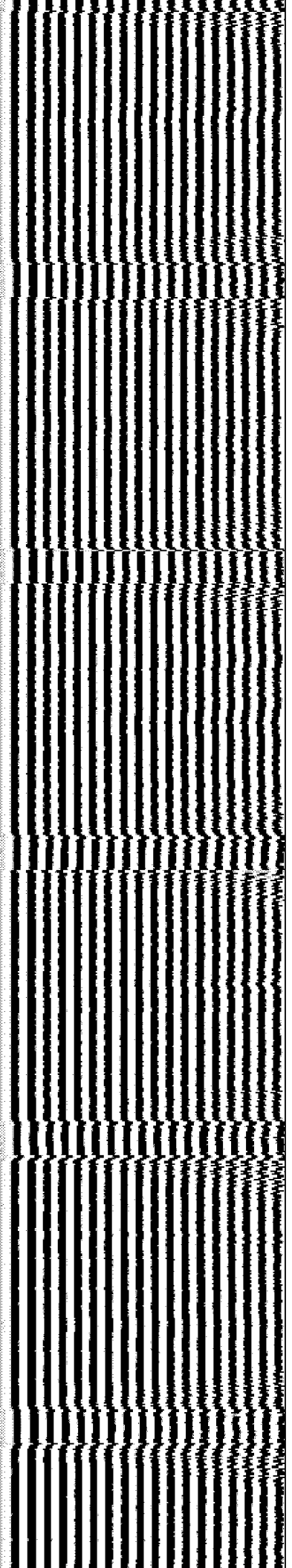
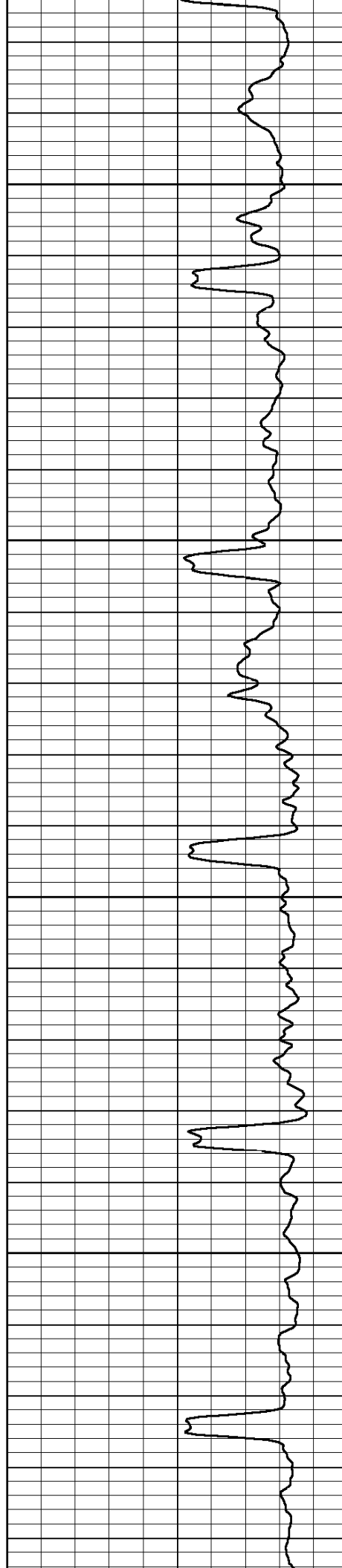
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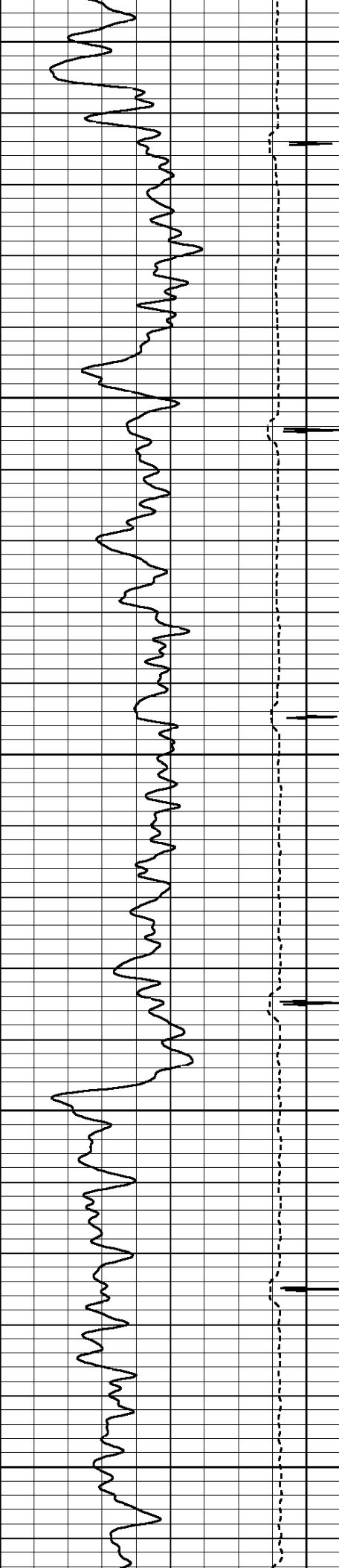




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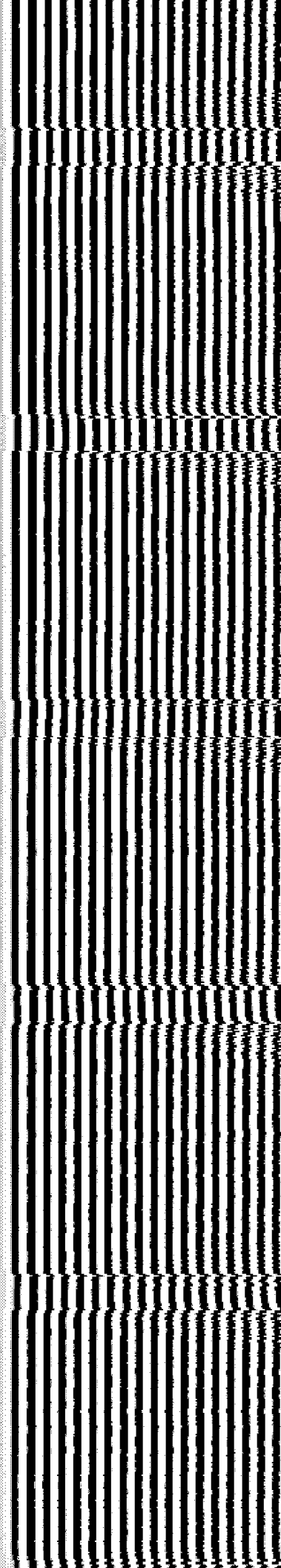
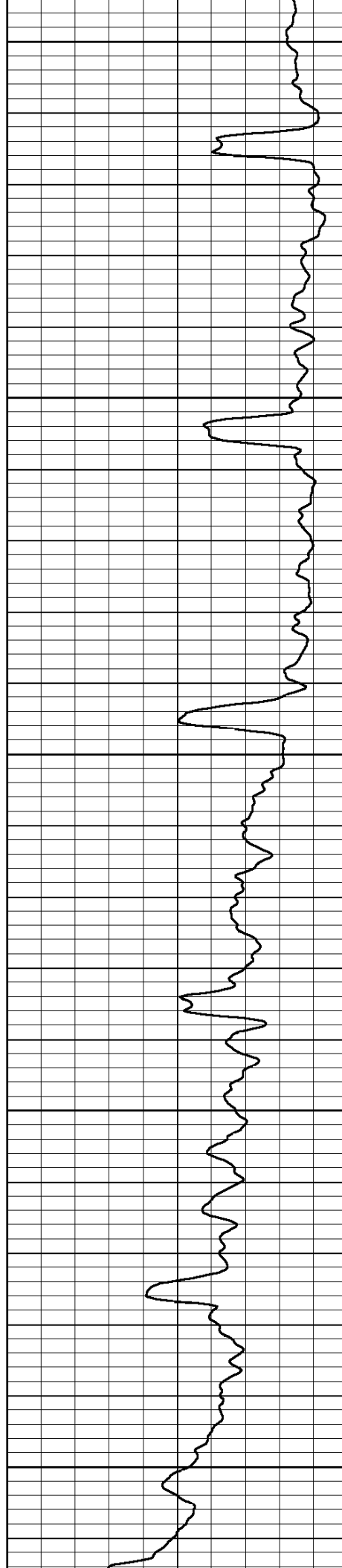


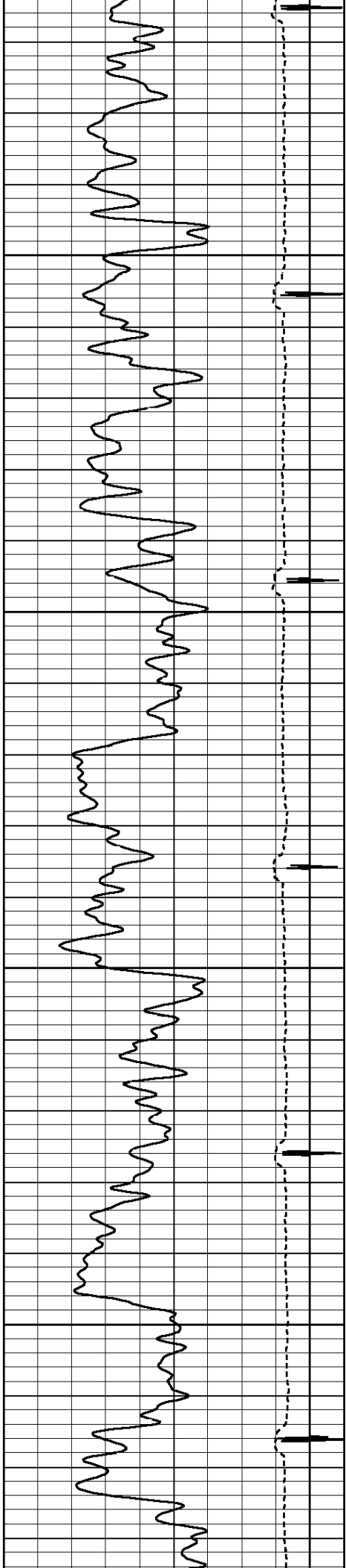


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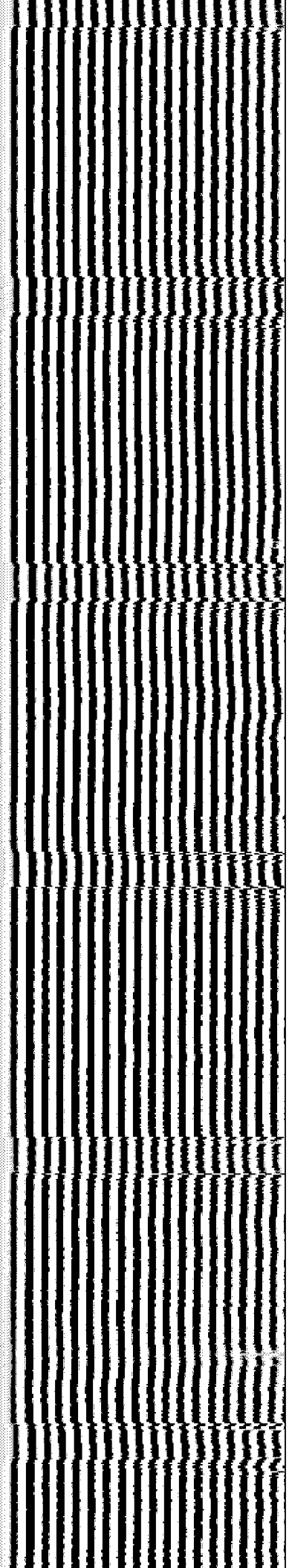
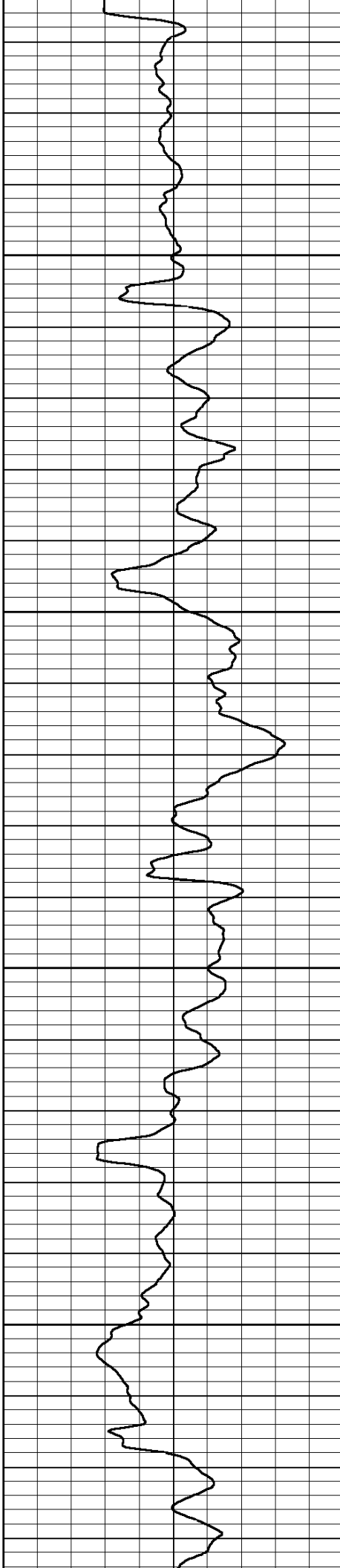
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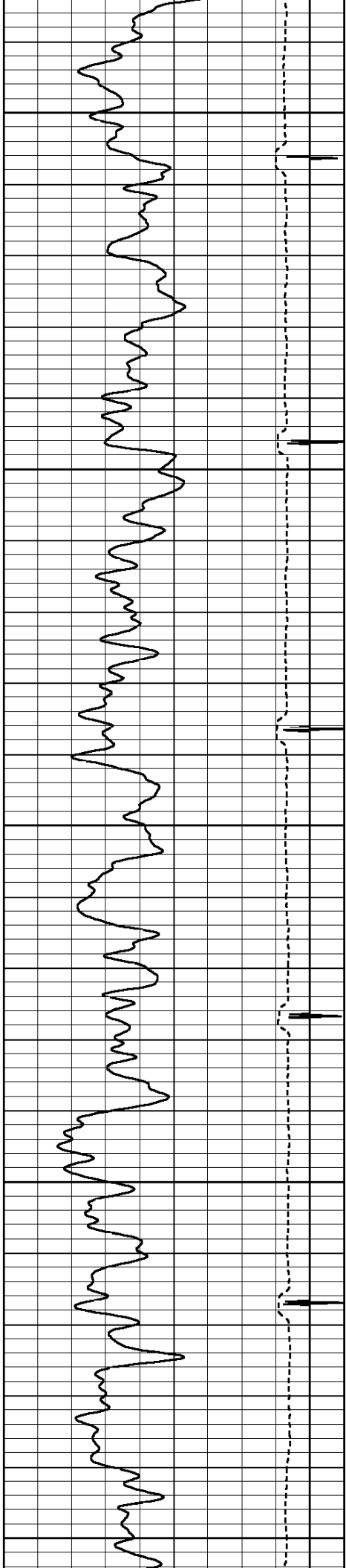




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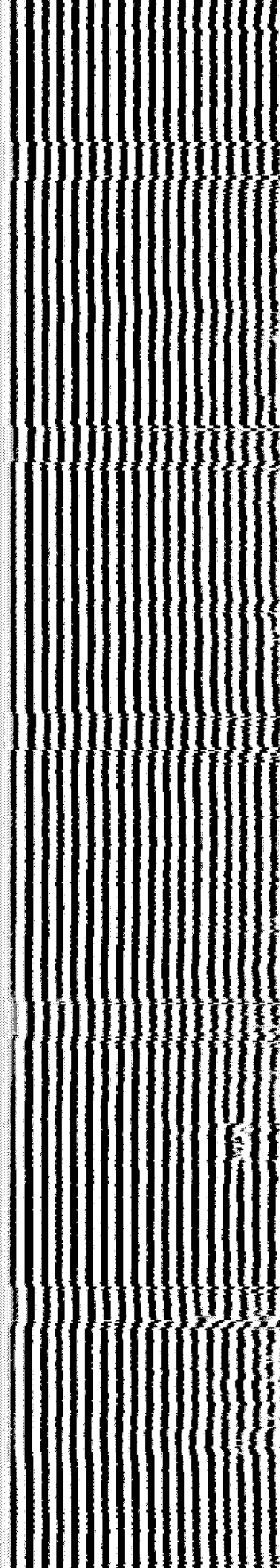
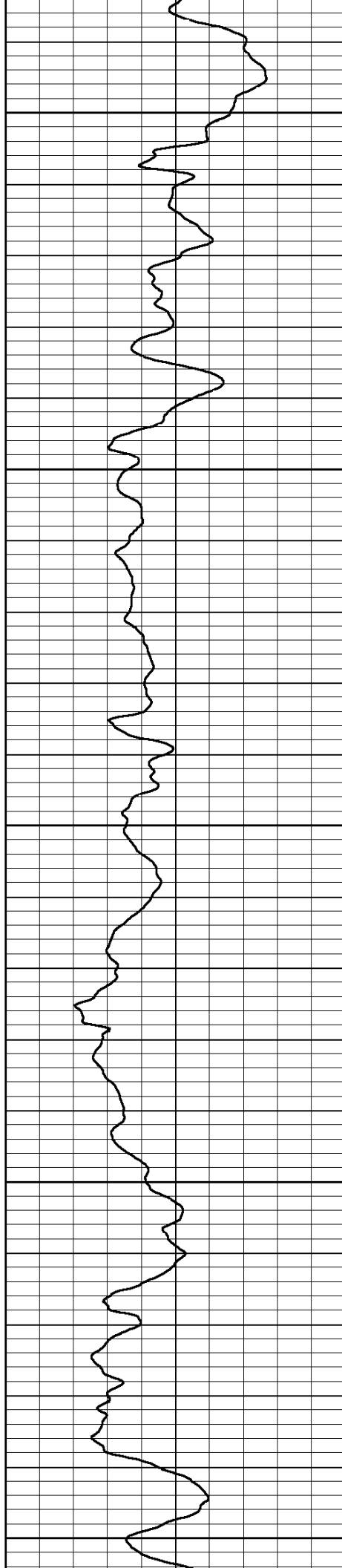
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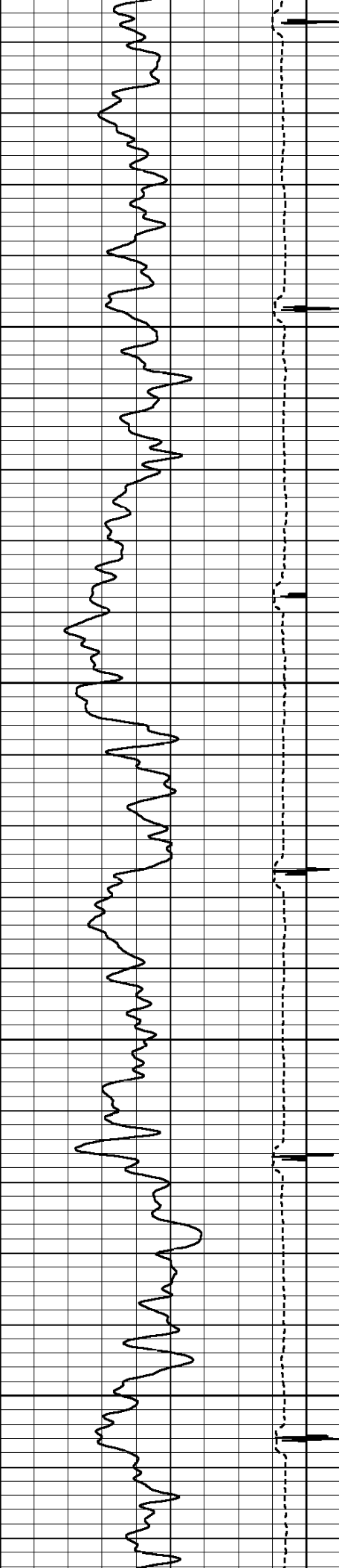




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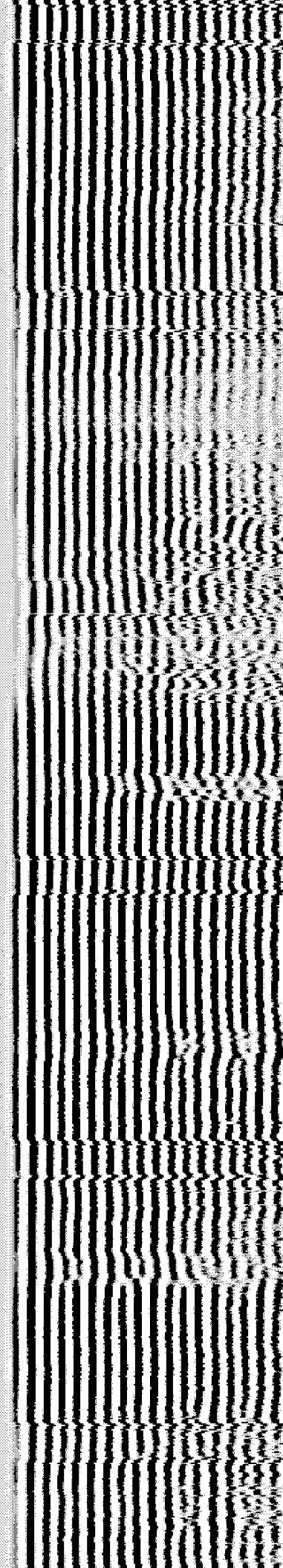
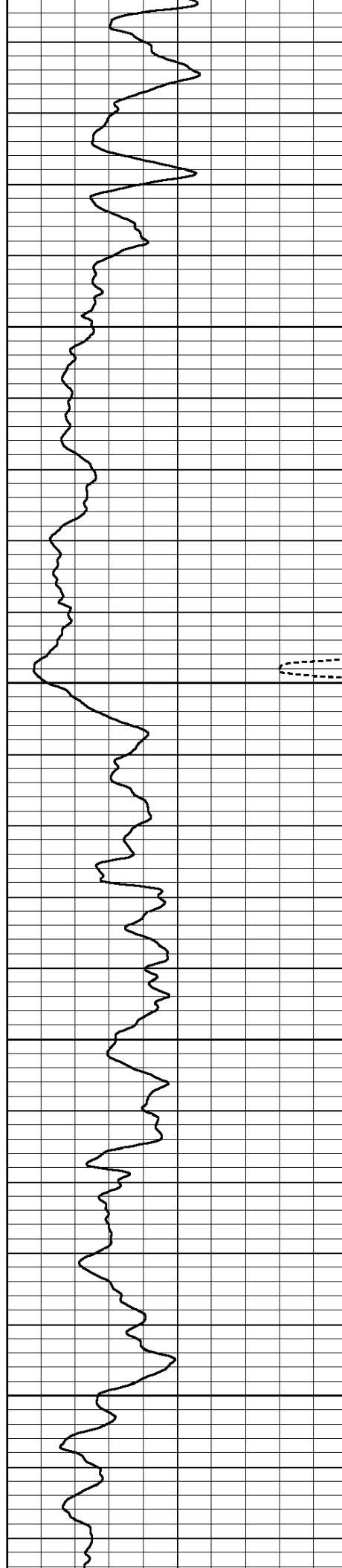
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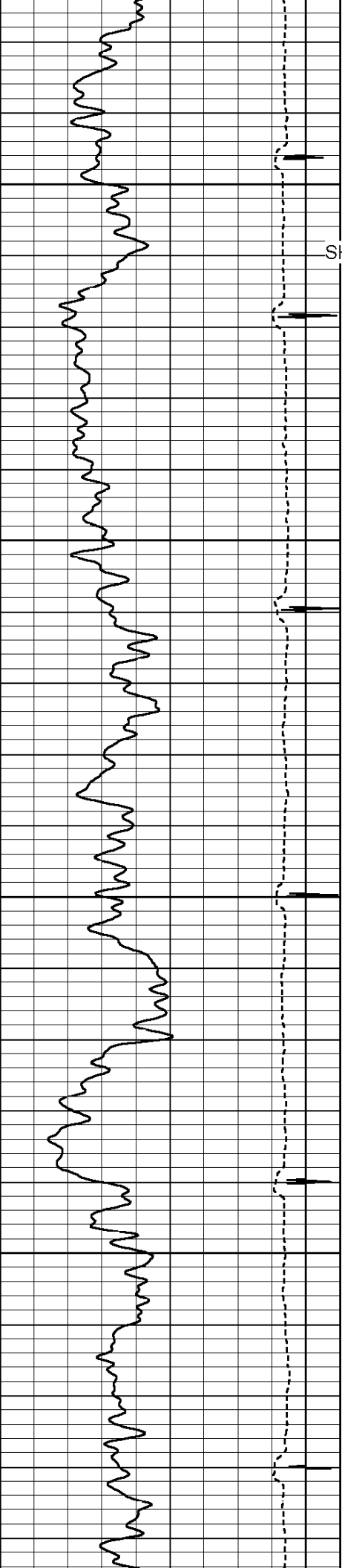




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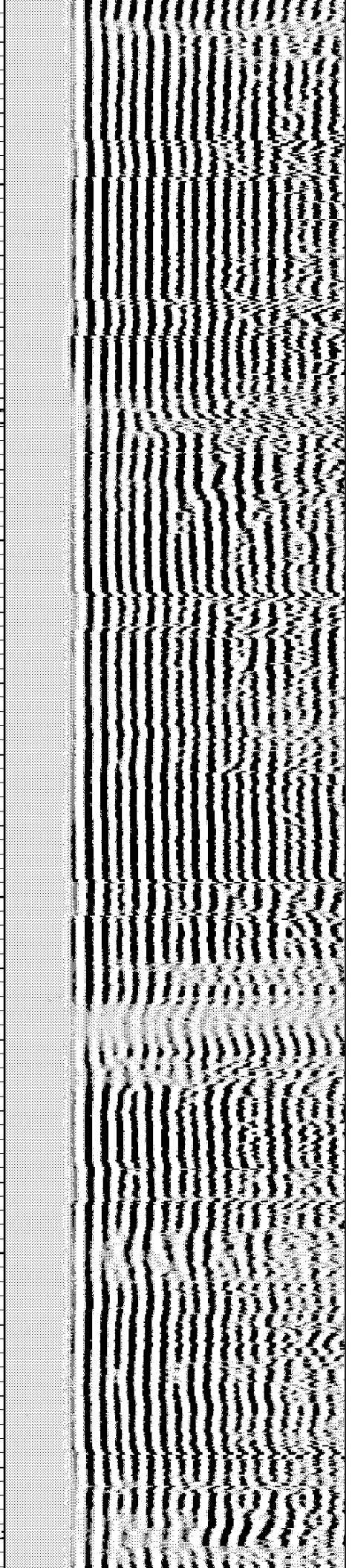
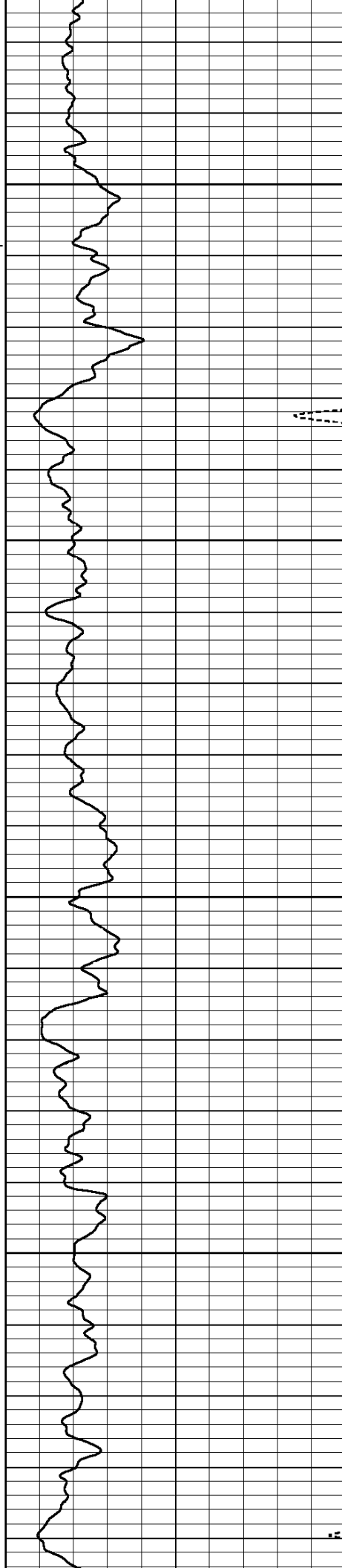


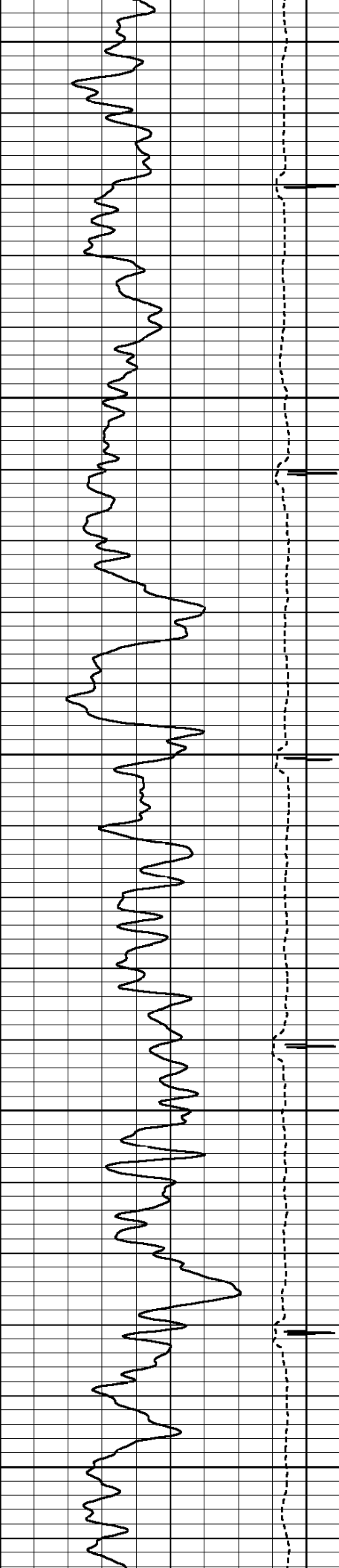


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SHORT JOINT

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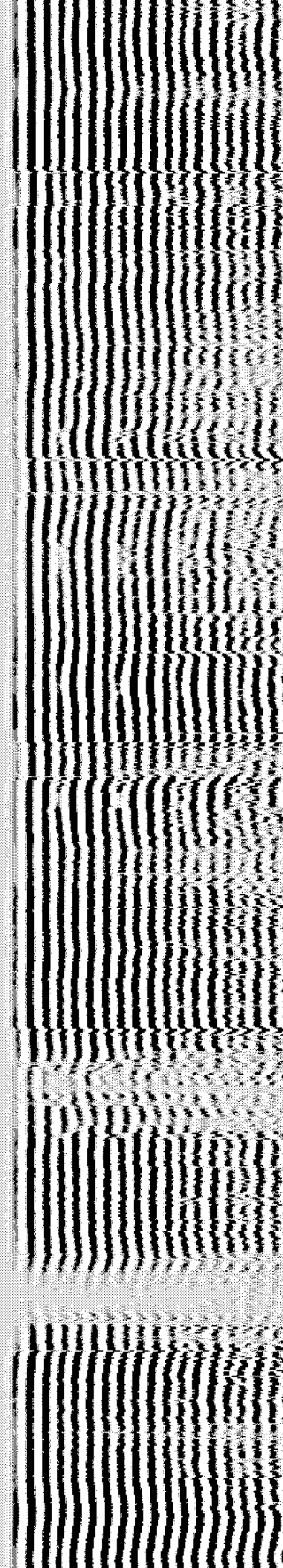
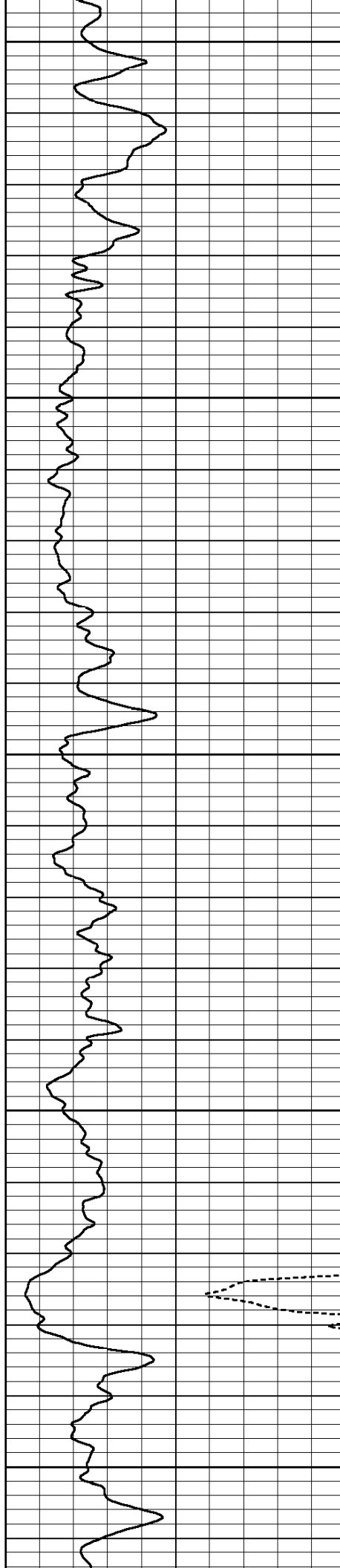


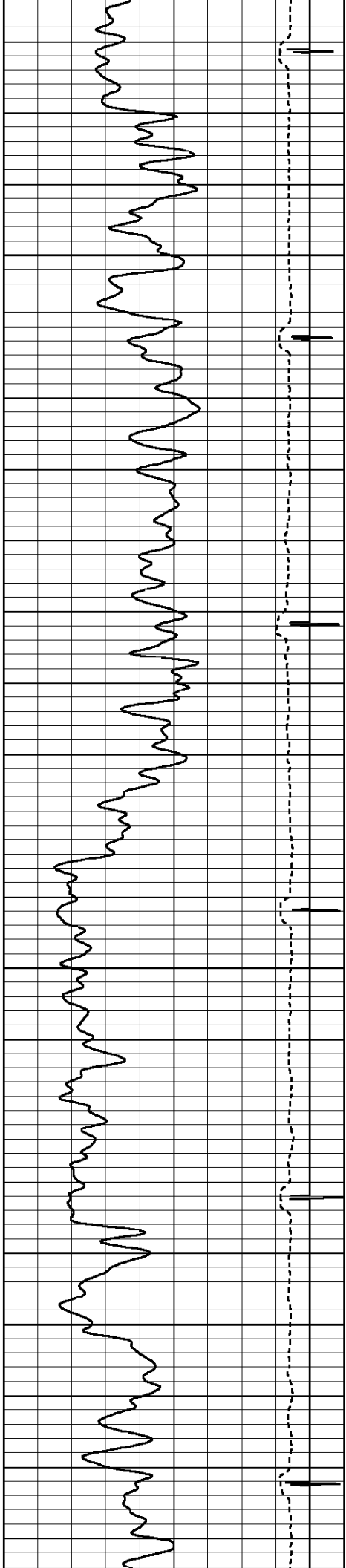


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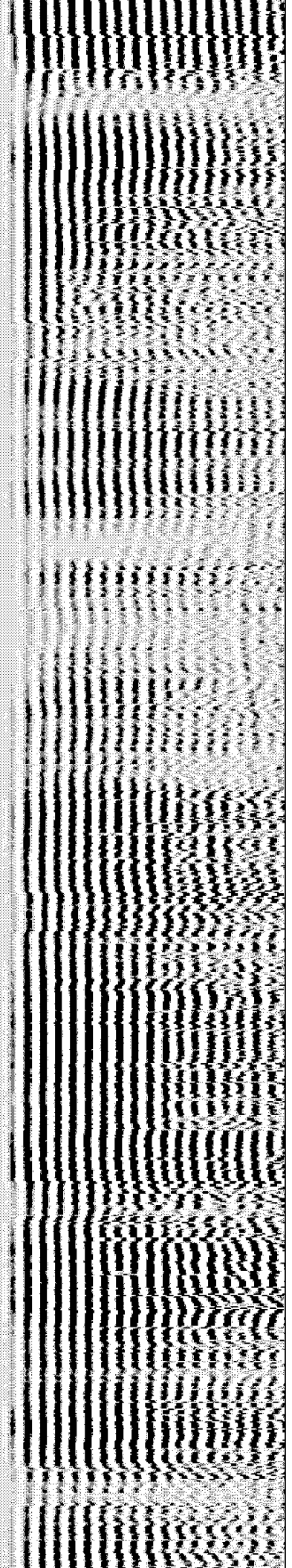
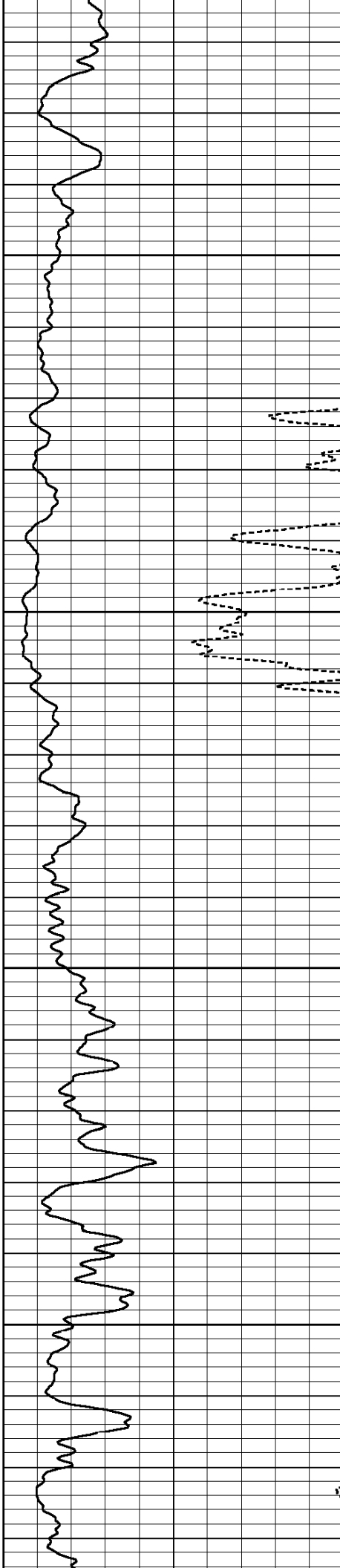
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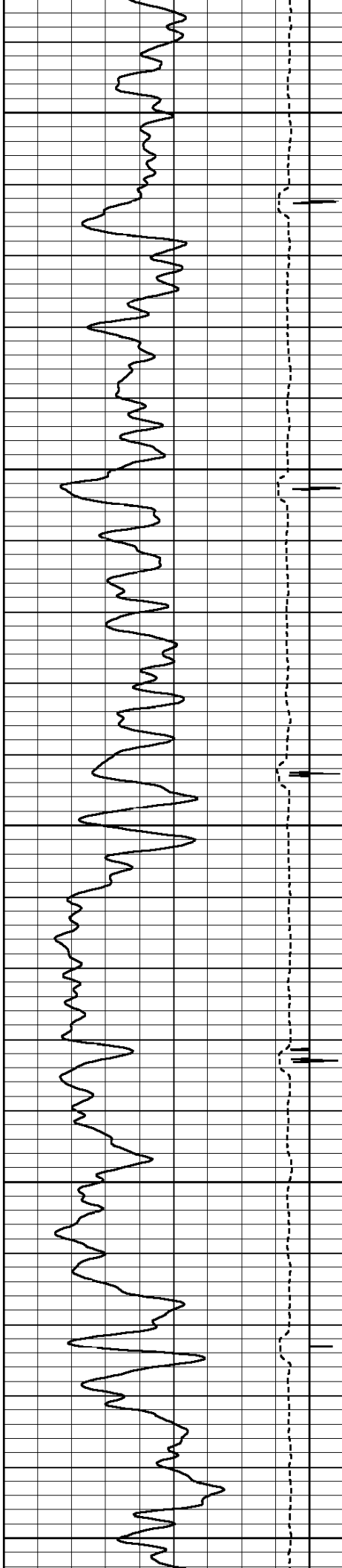




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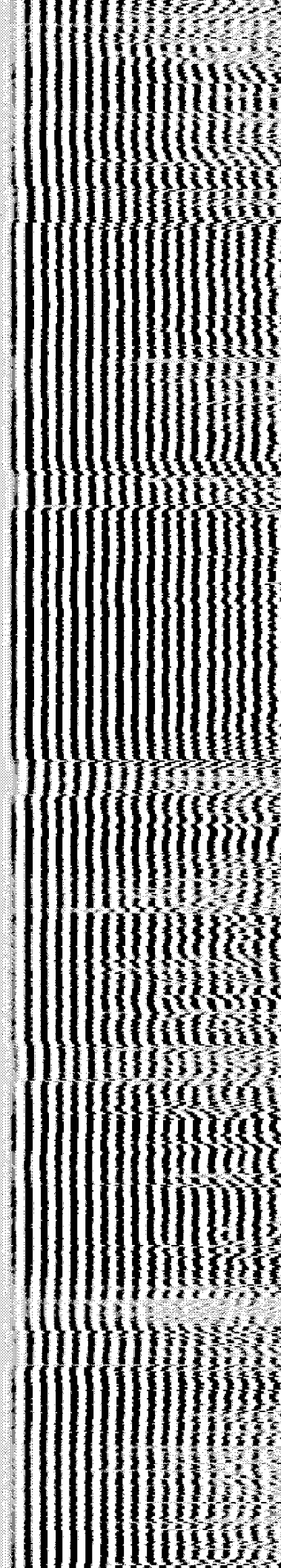
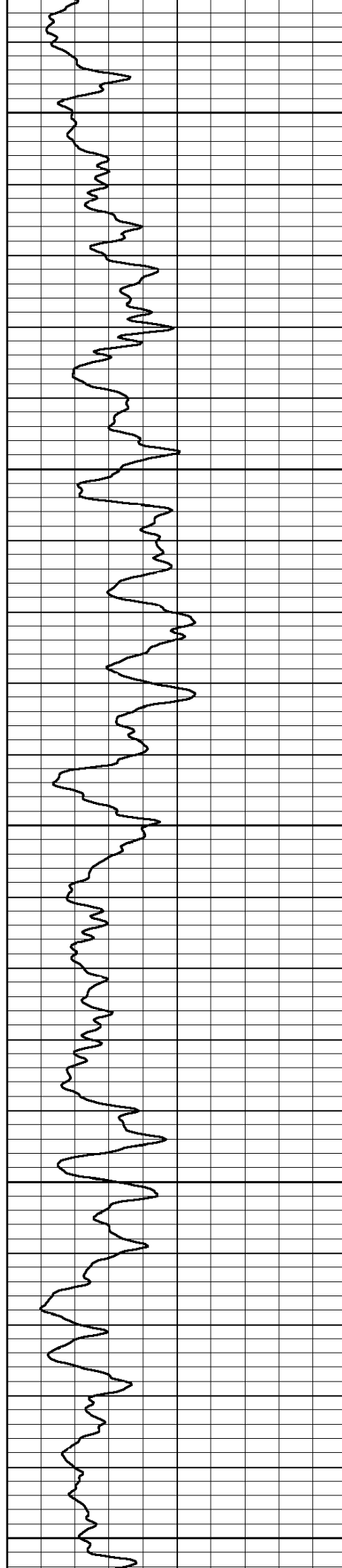
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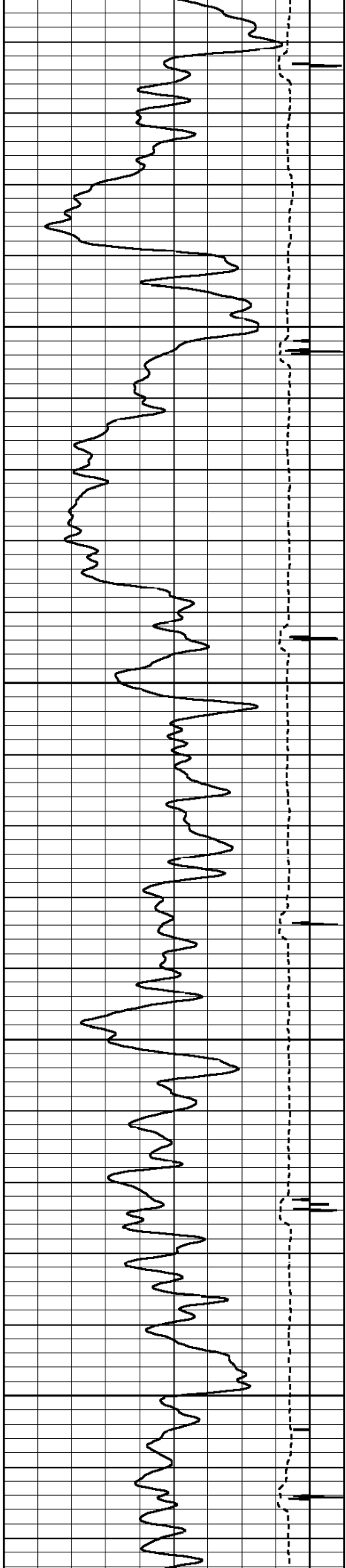




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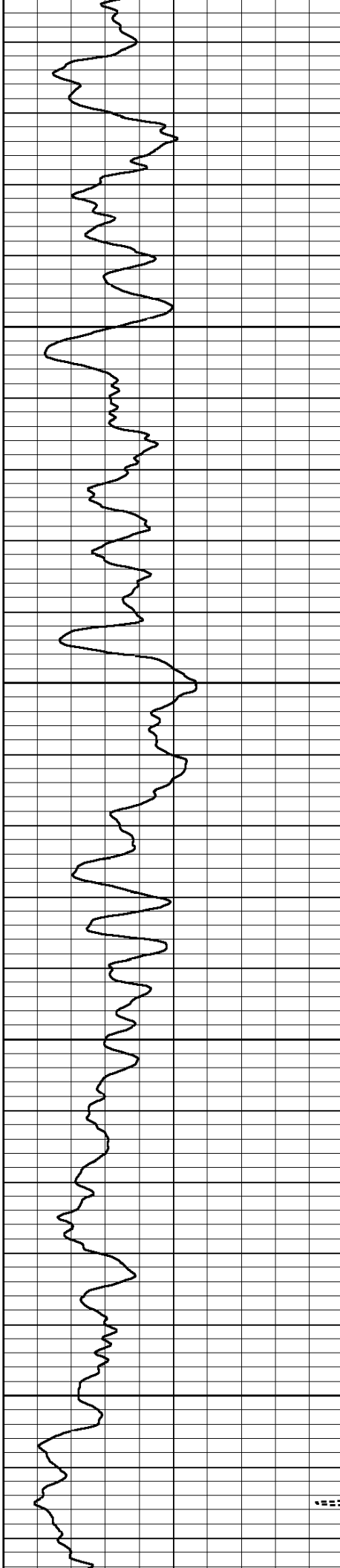
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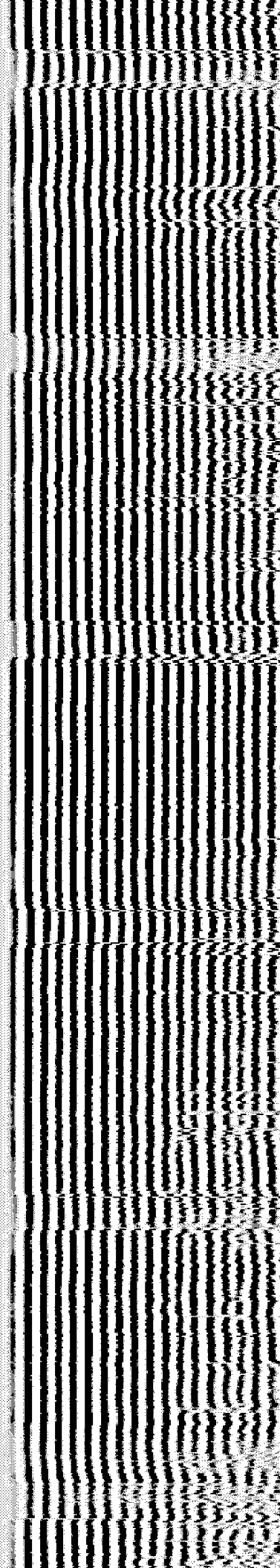


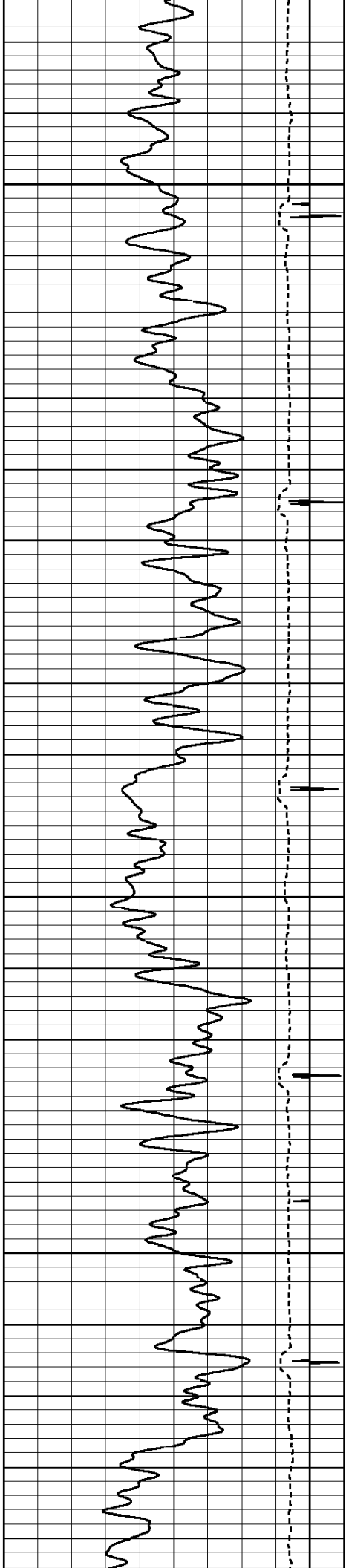
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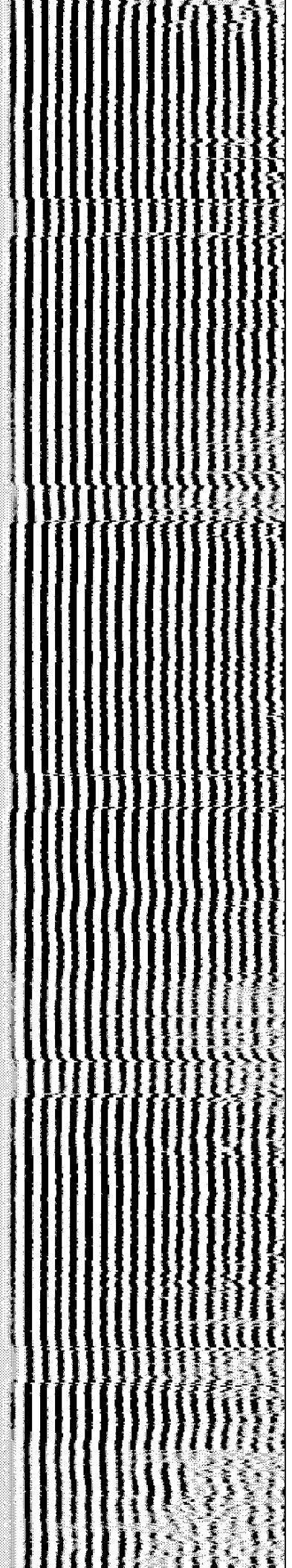
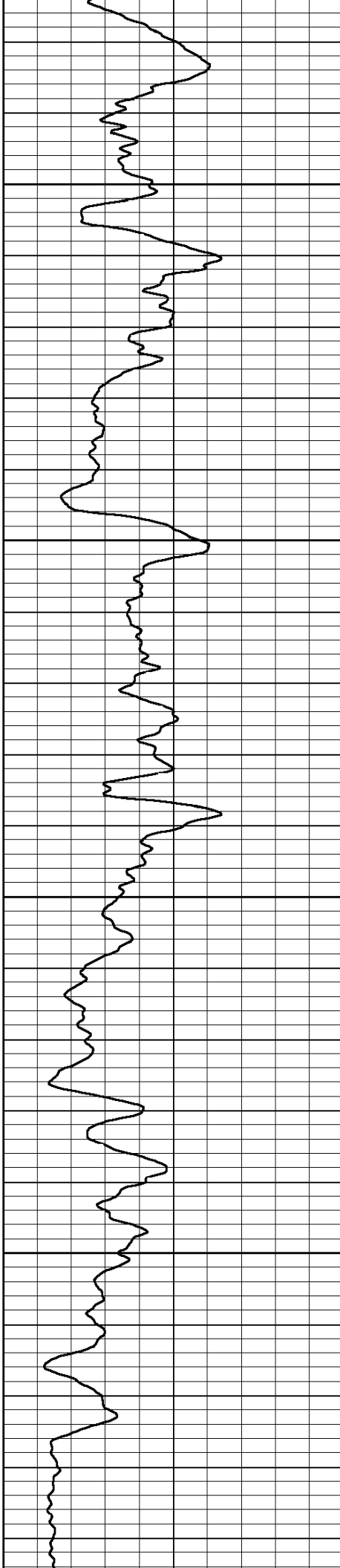
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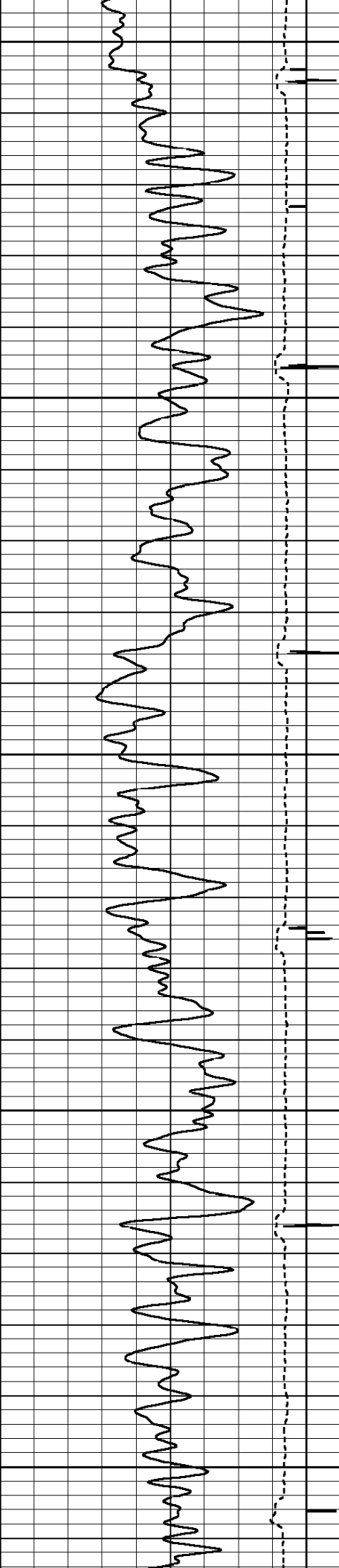




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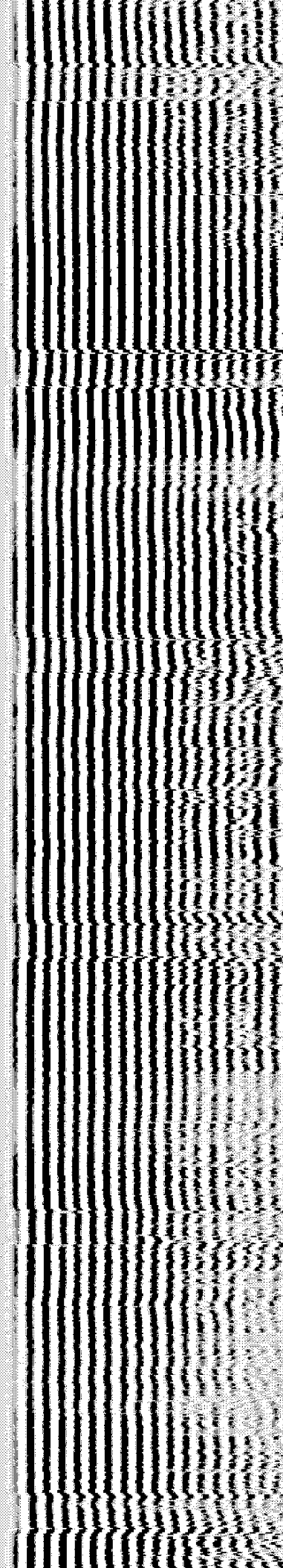
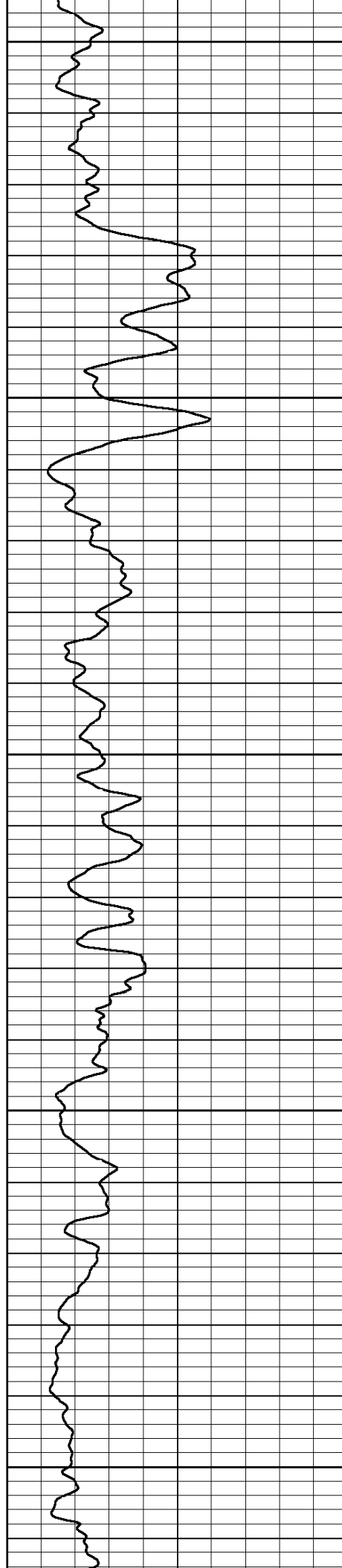


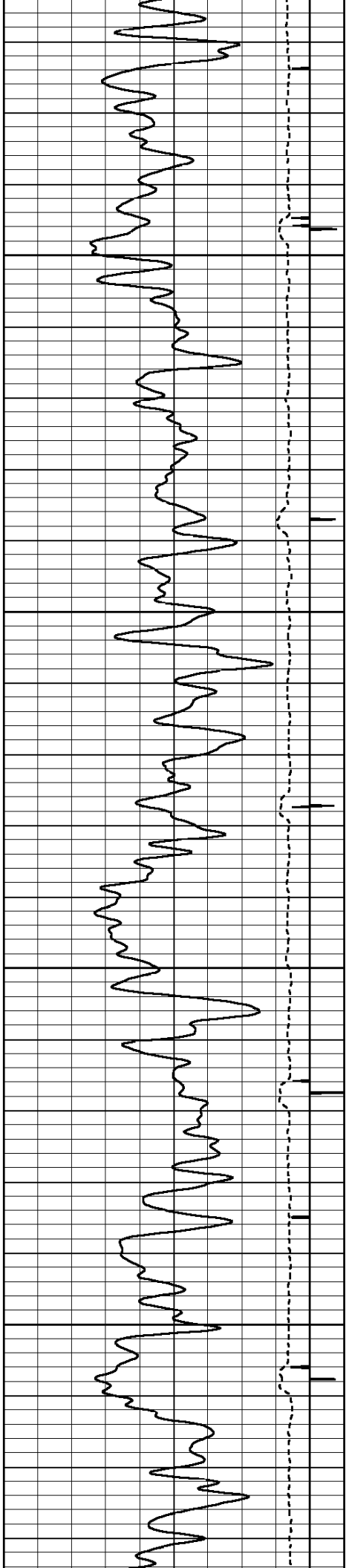


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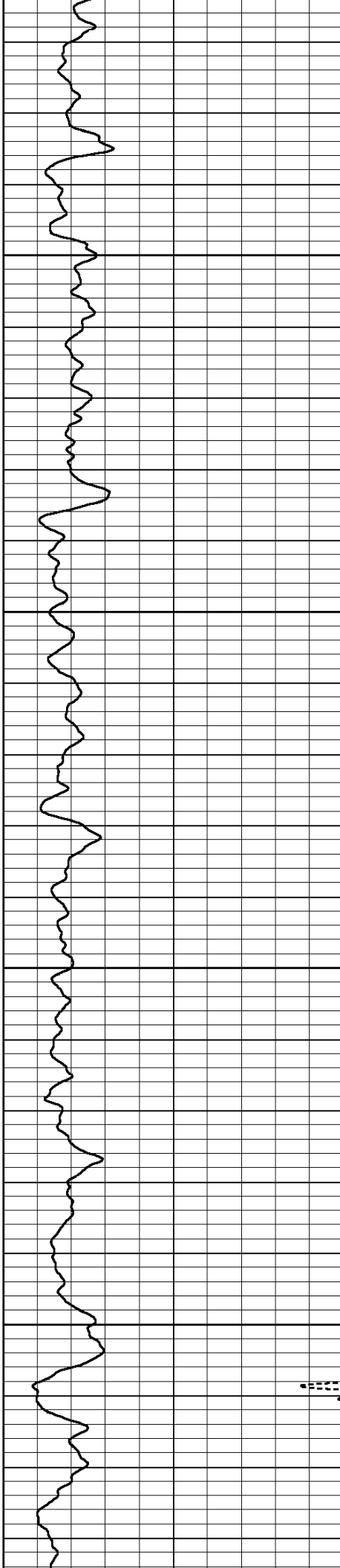
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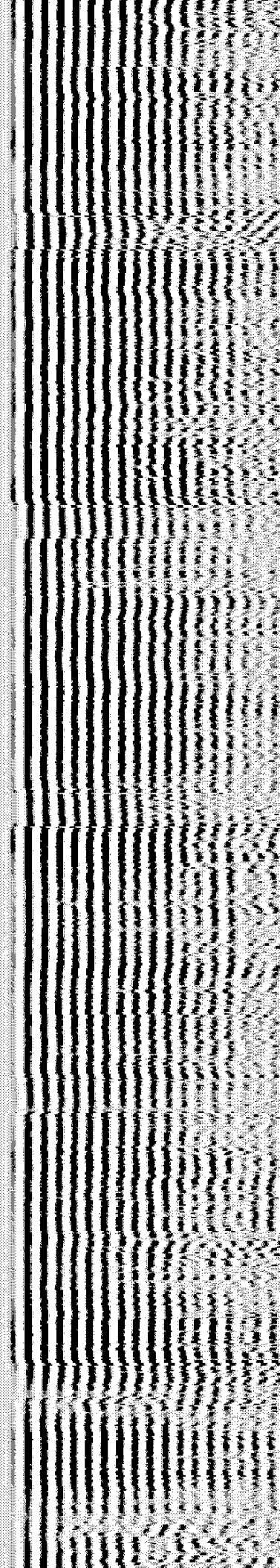


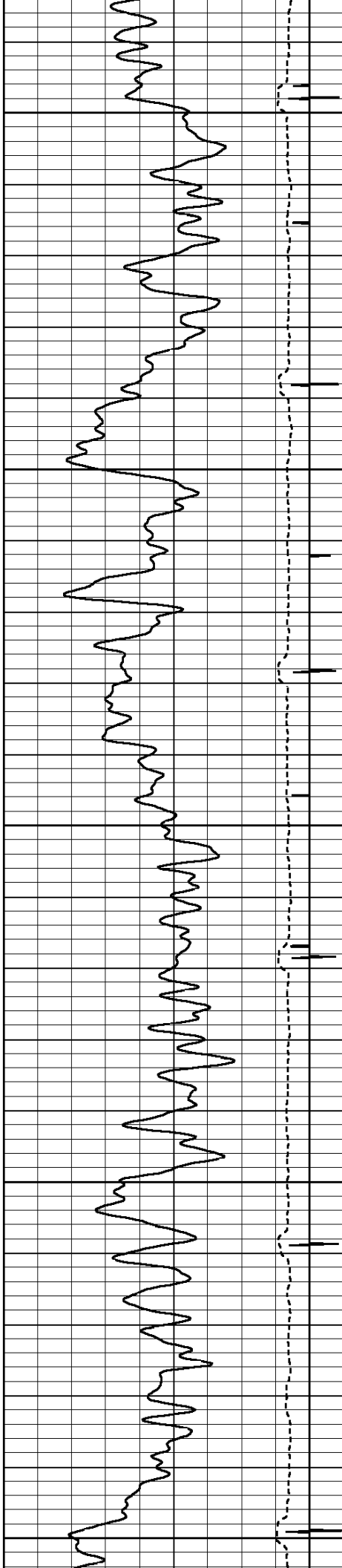
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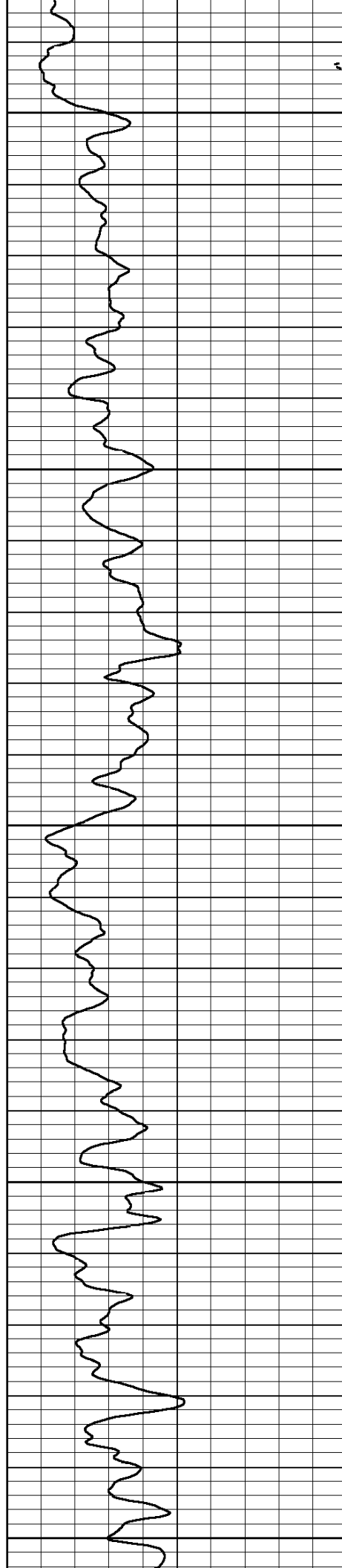
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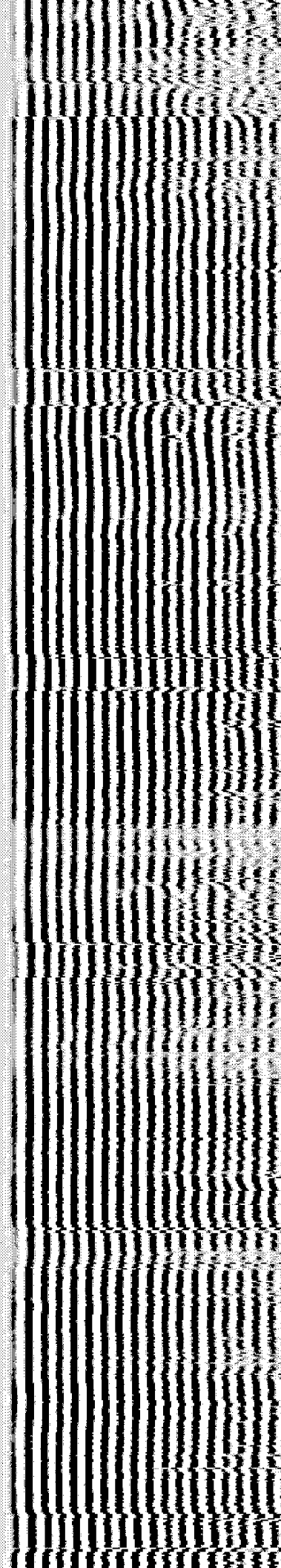


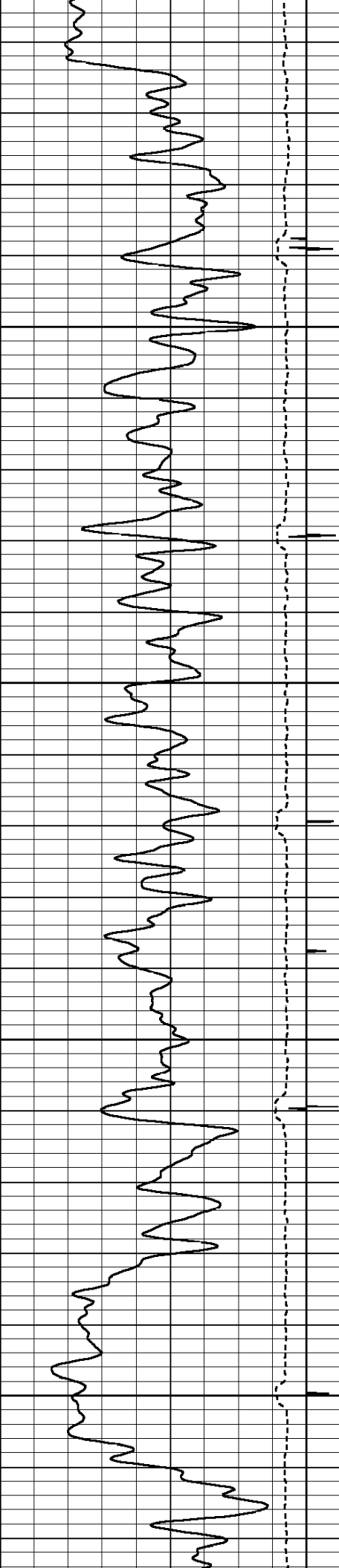
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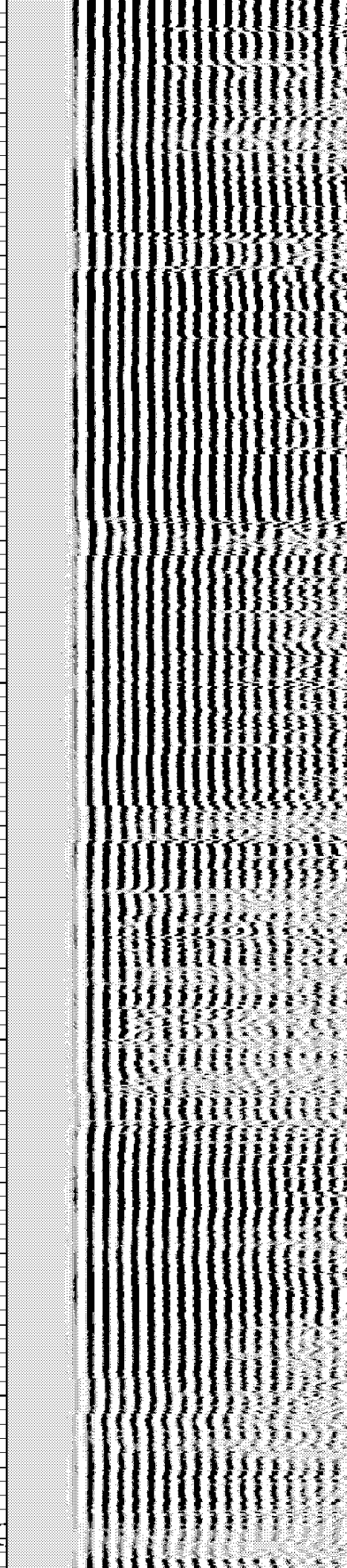
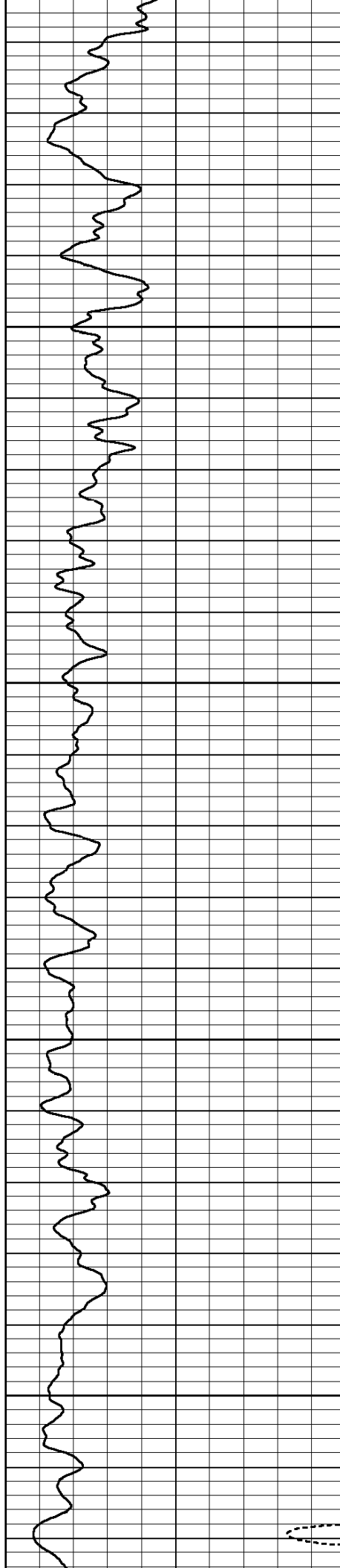
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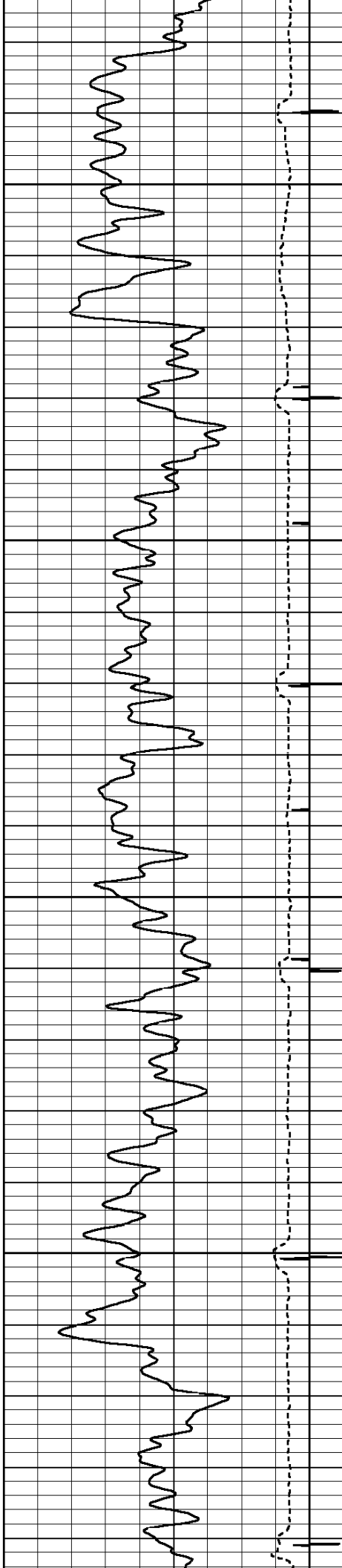




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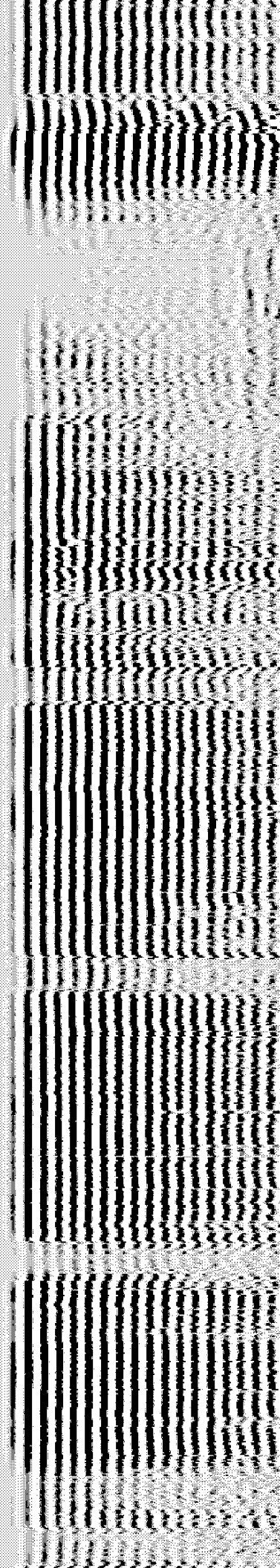
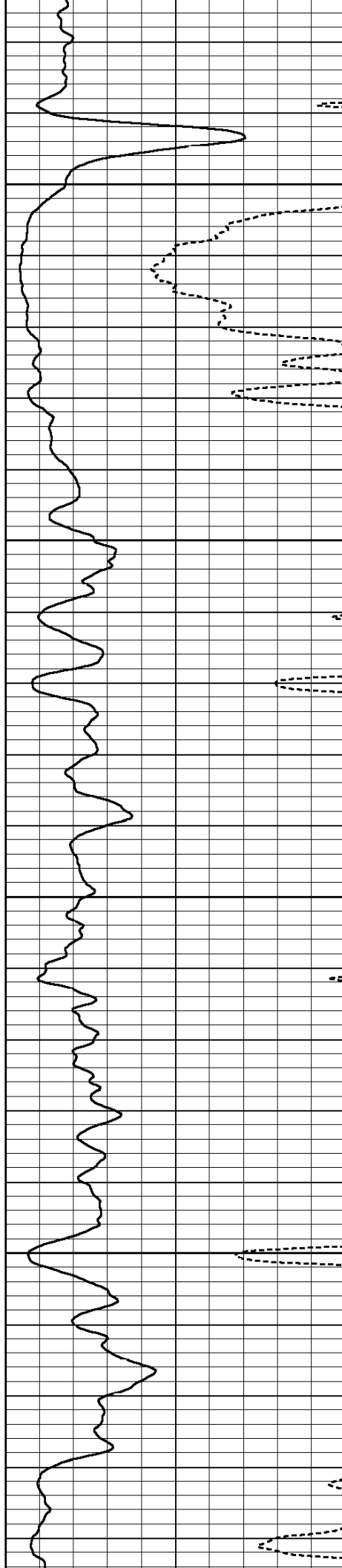
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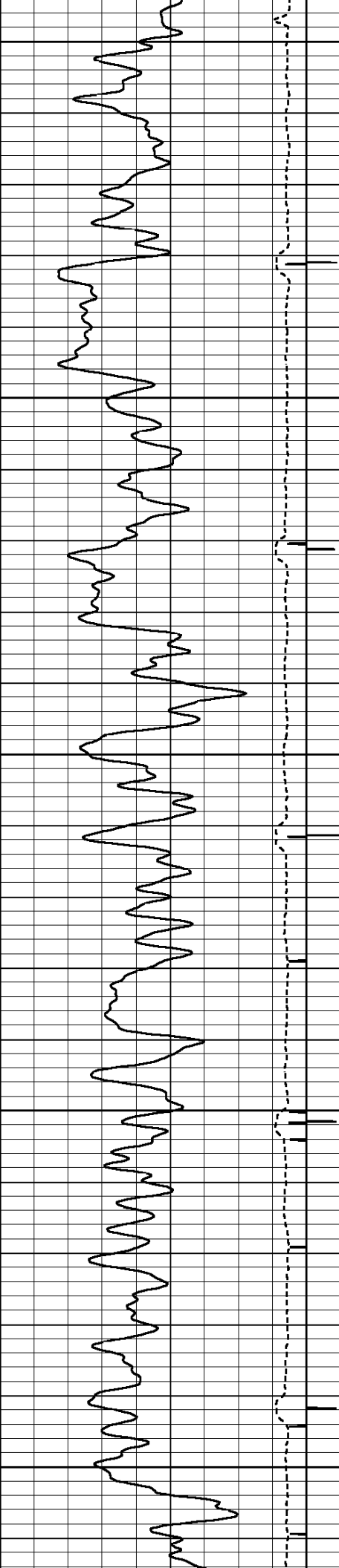




5600

5700

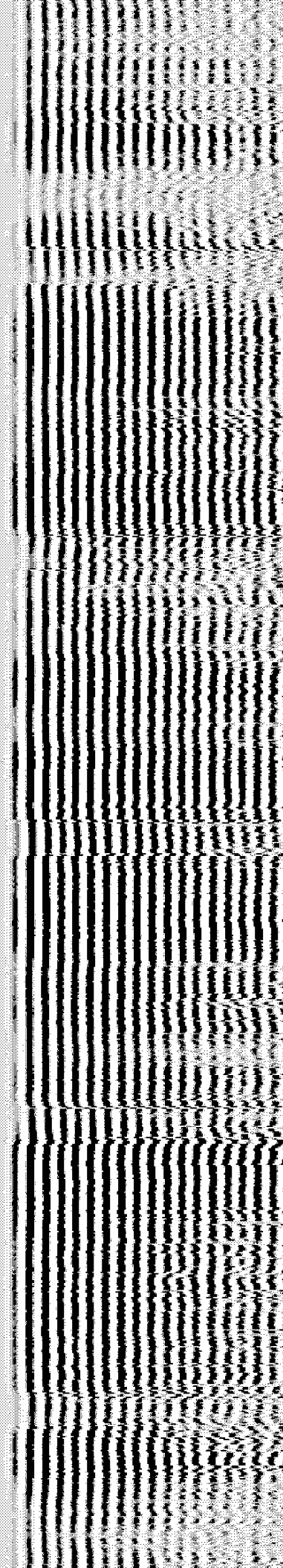
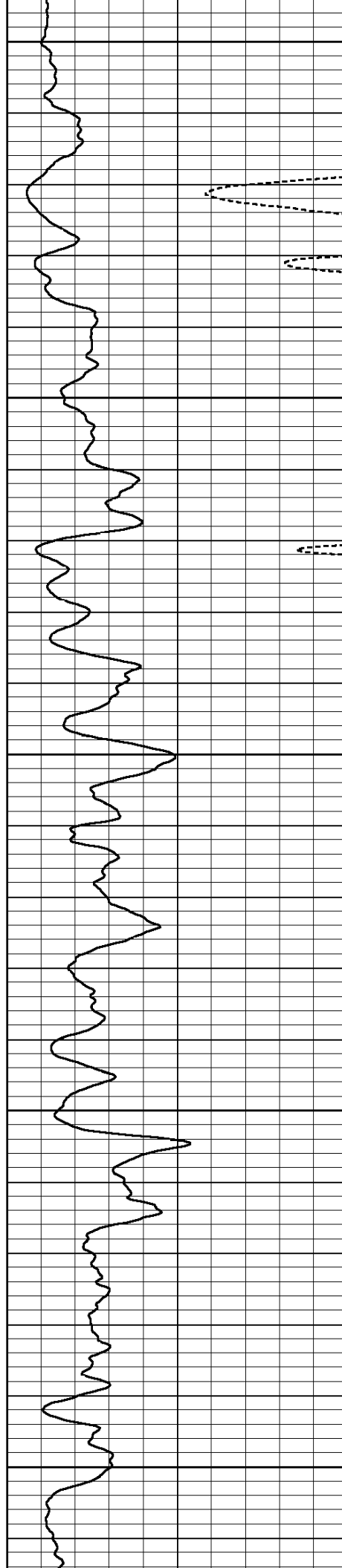


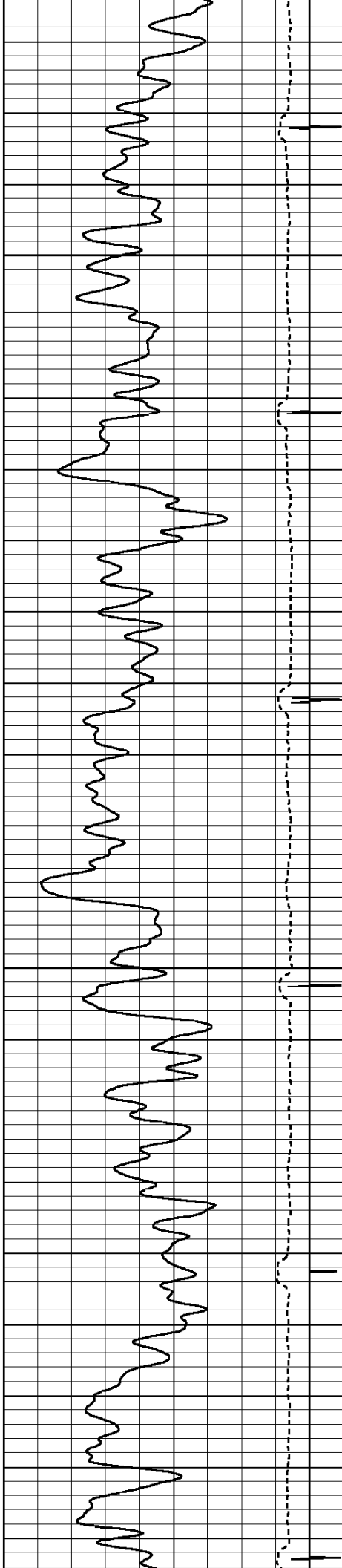


5800

5900

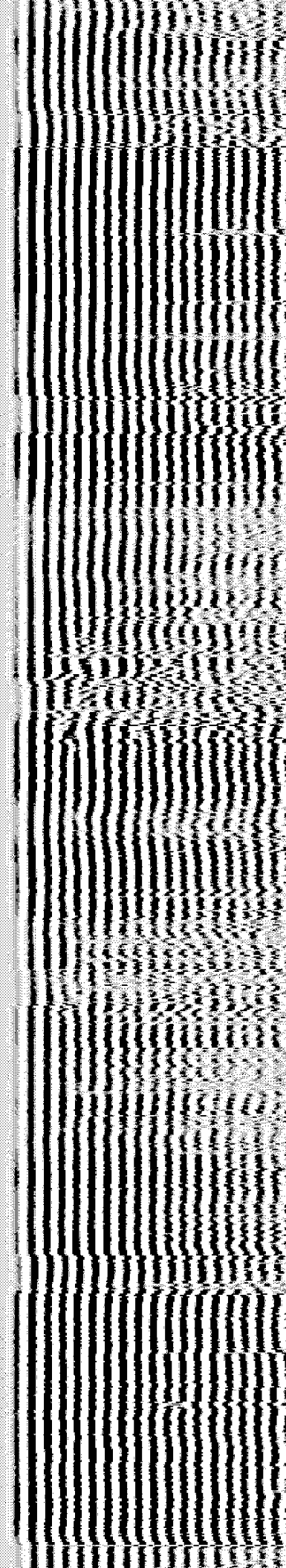
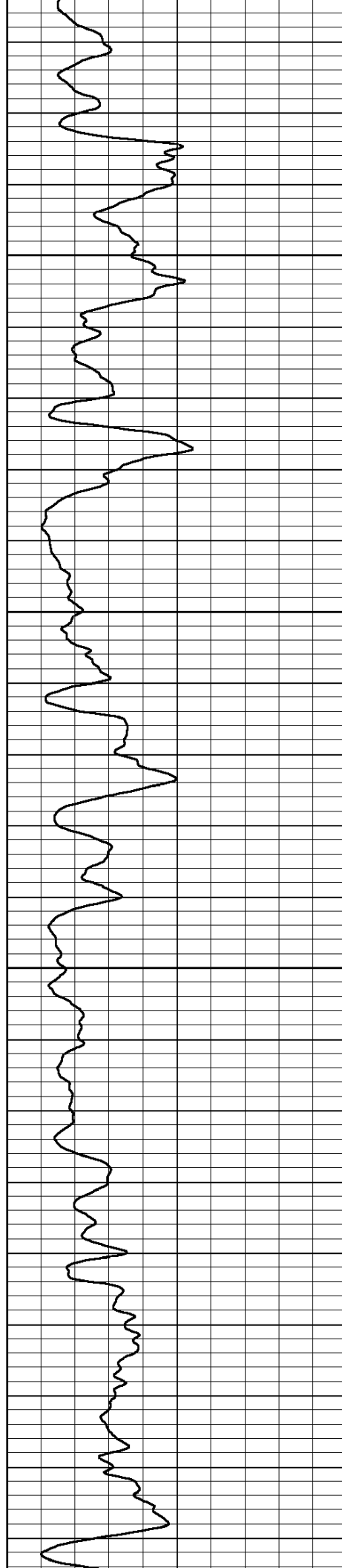
6000

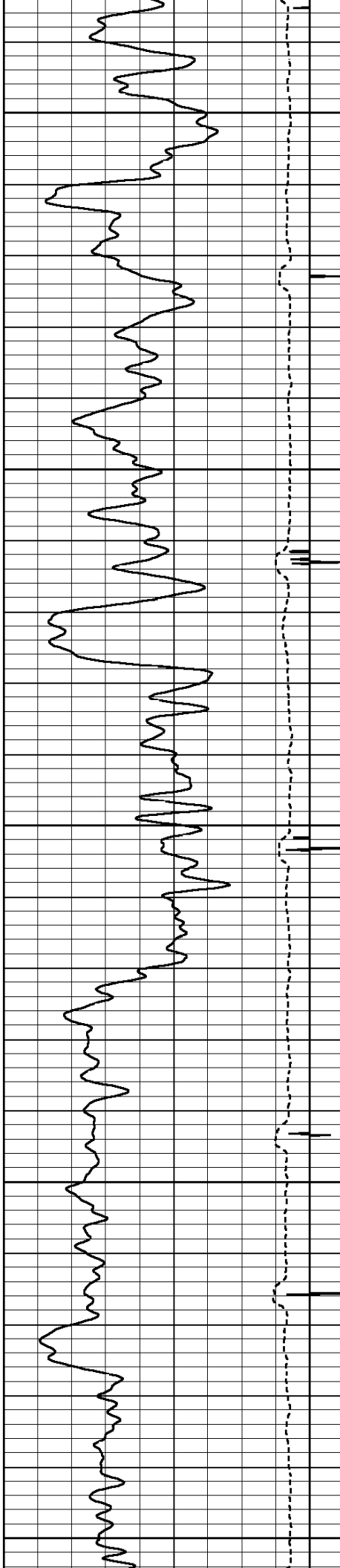




6100

6200

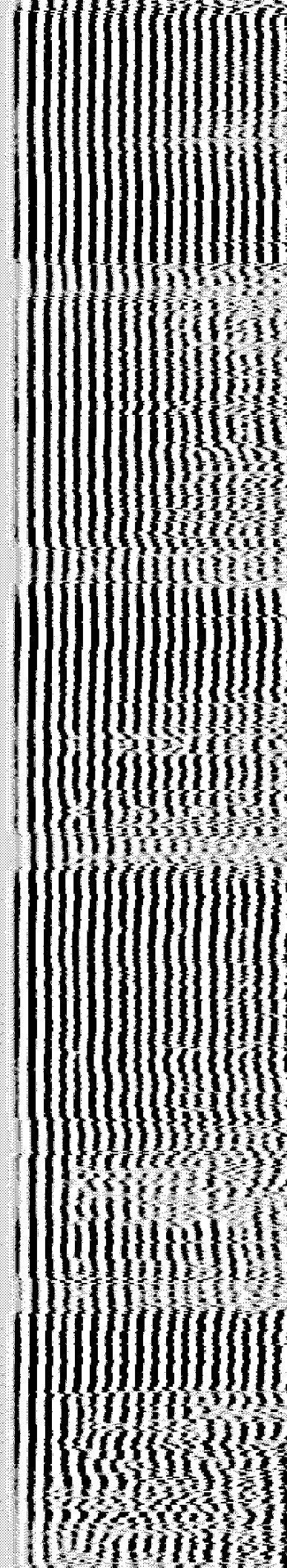
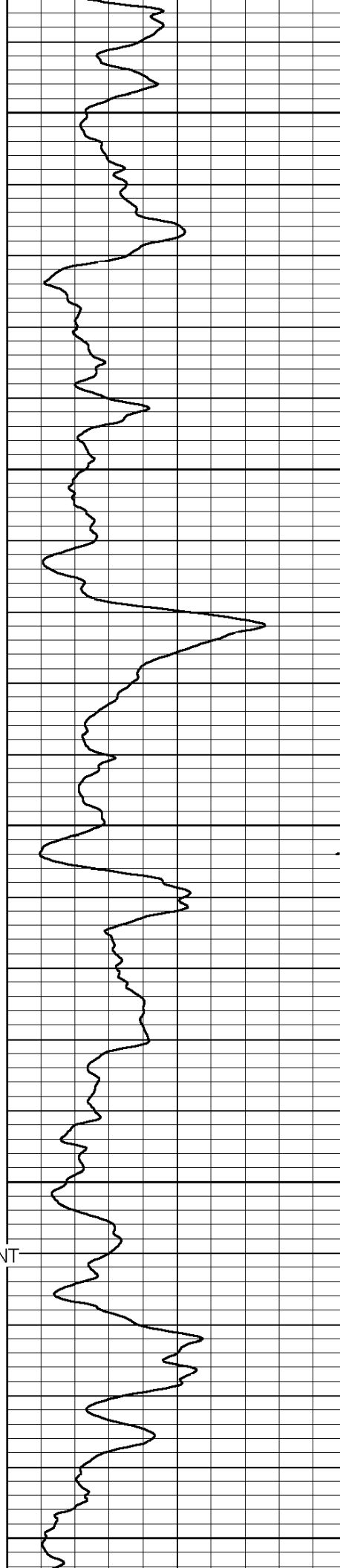


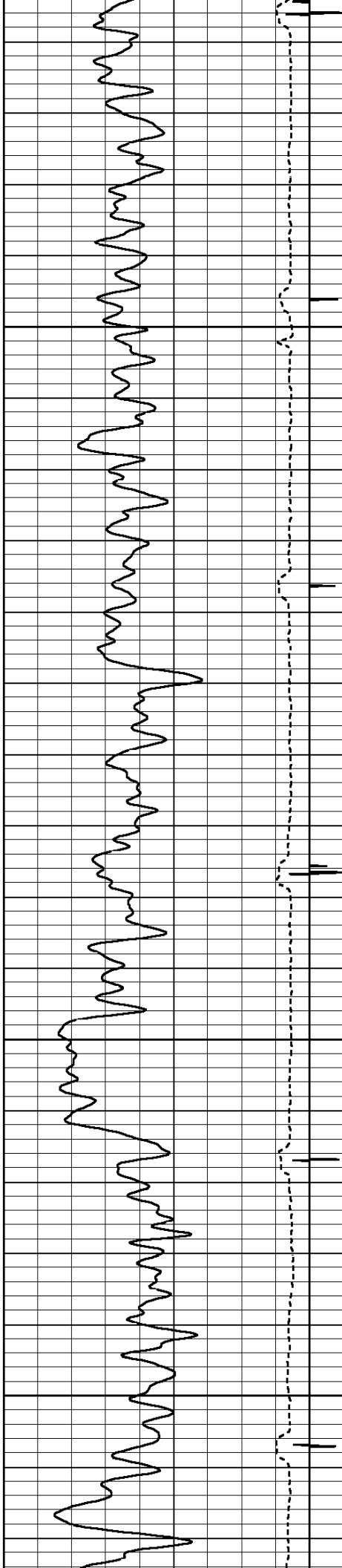


6300

6400

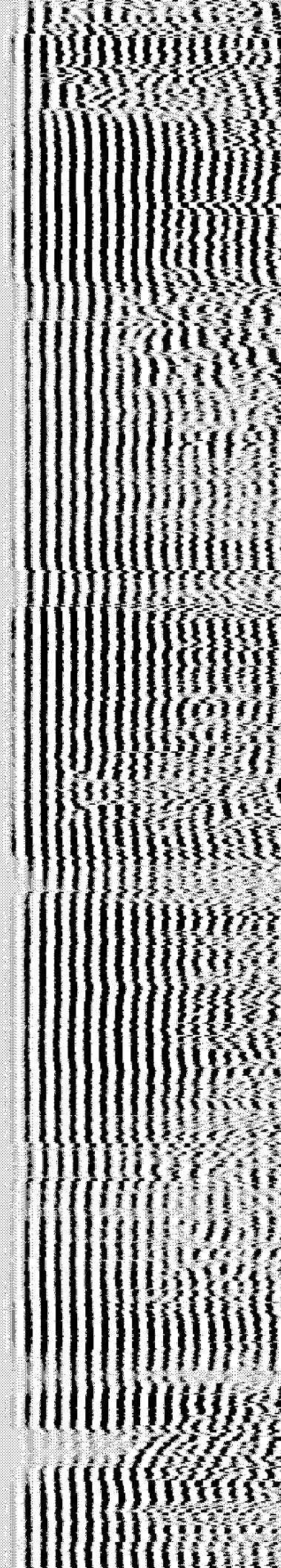
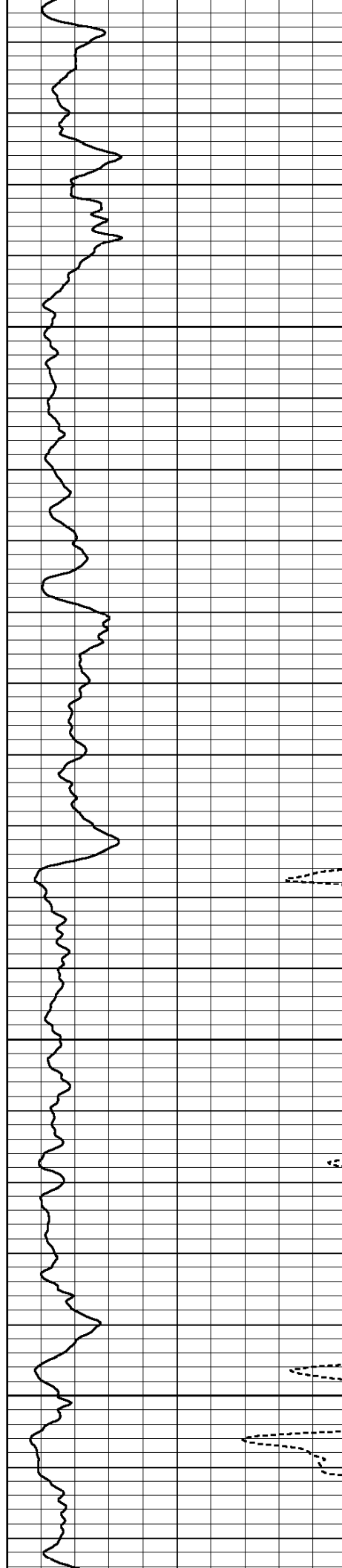
SHORT JOINT

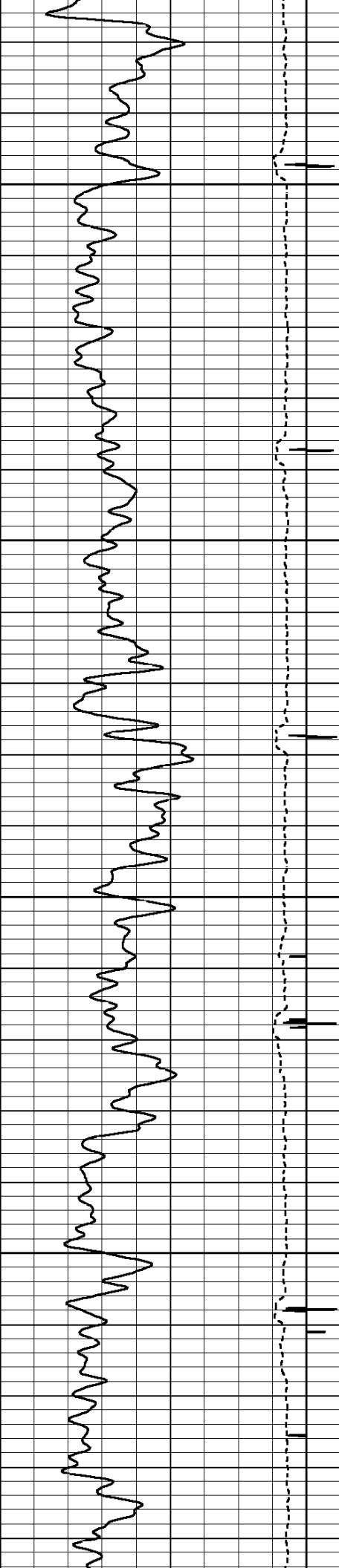




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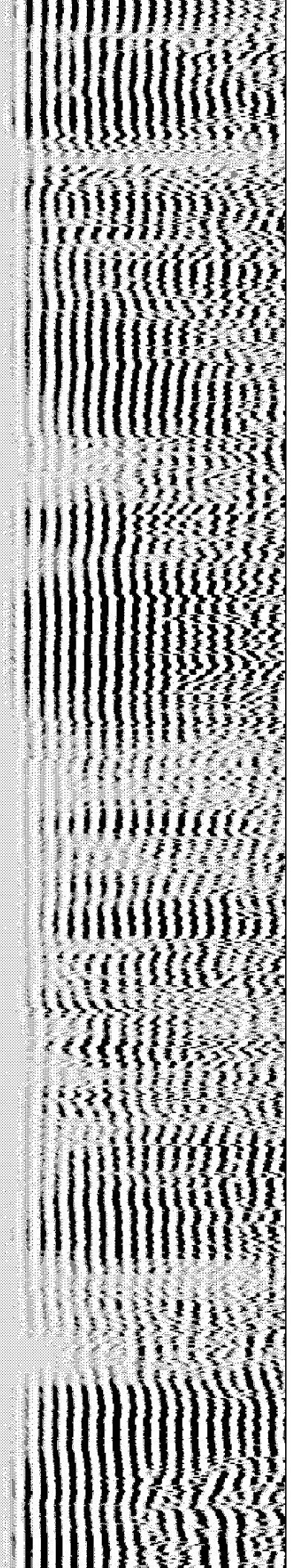
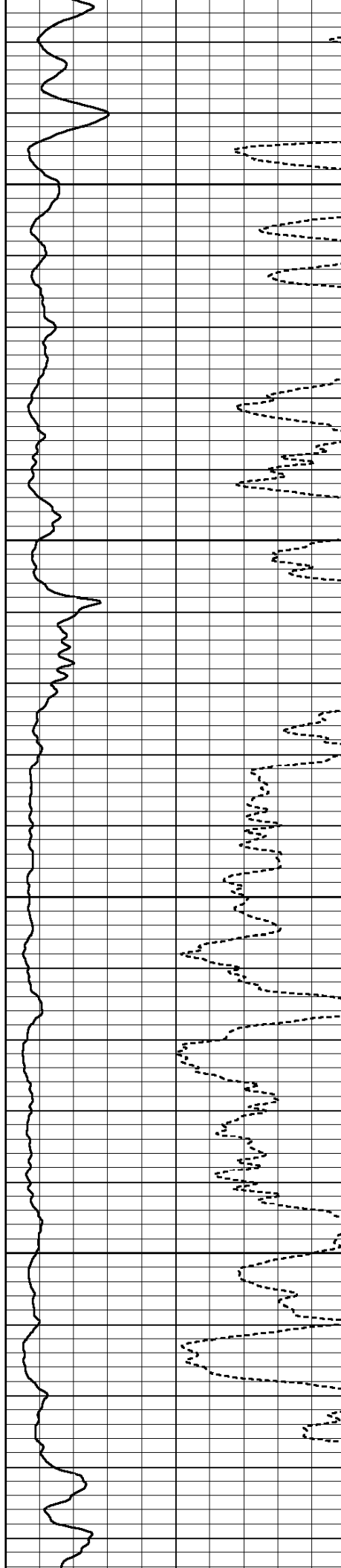
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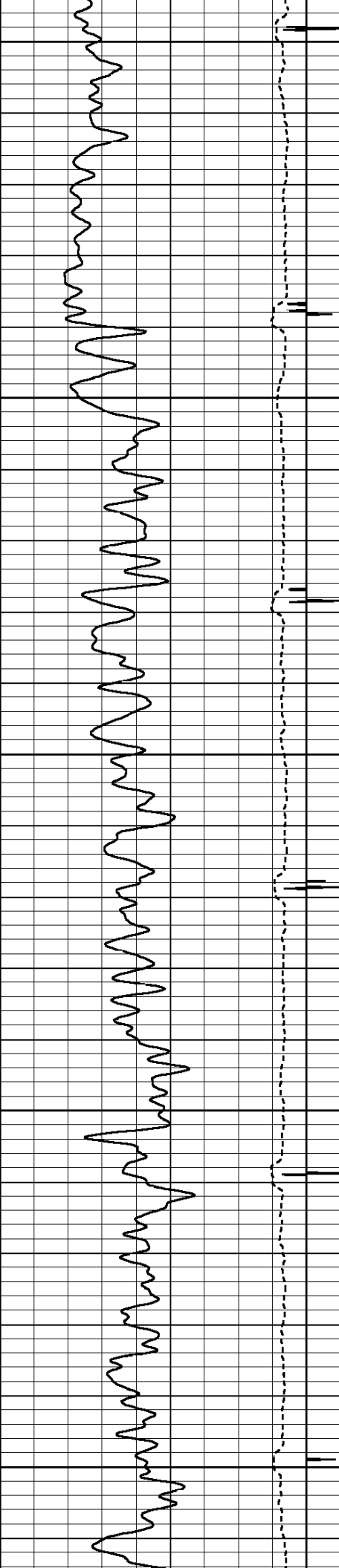




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6800

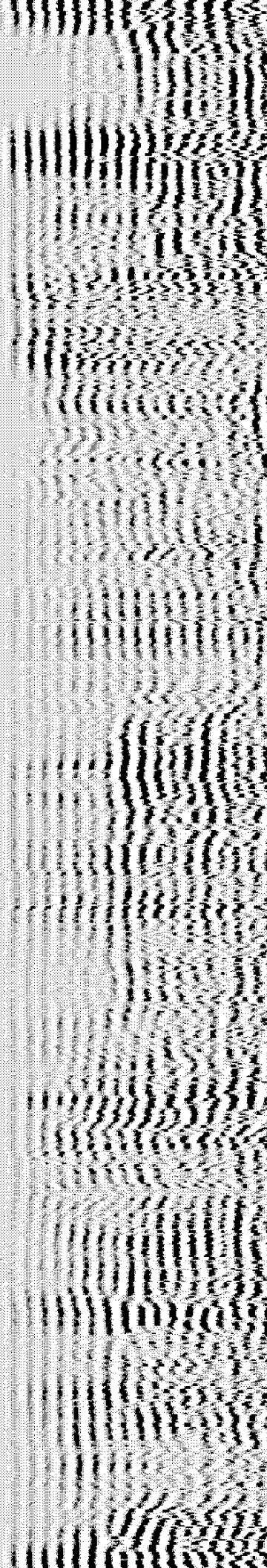
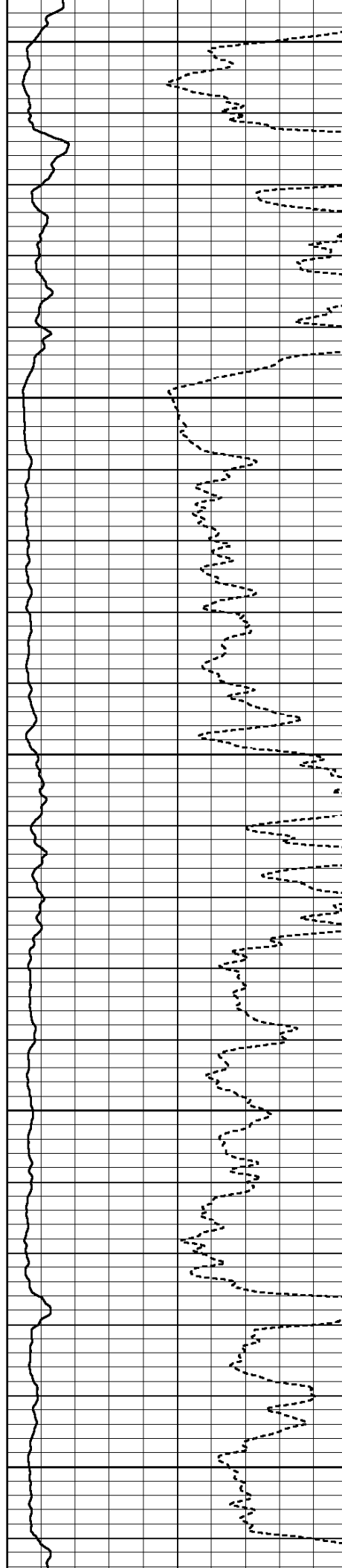




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7000

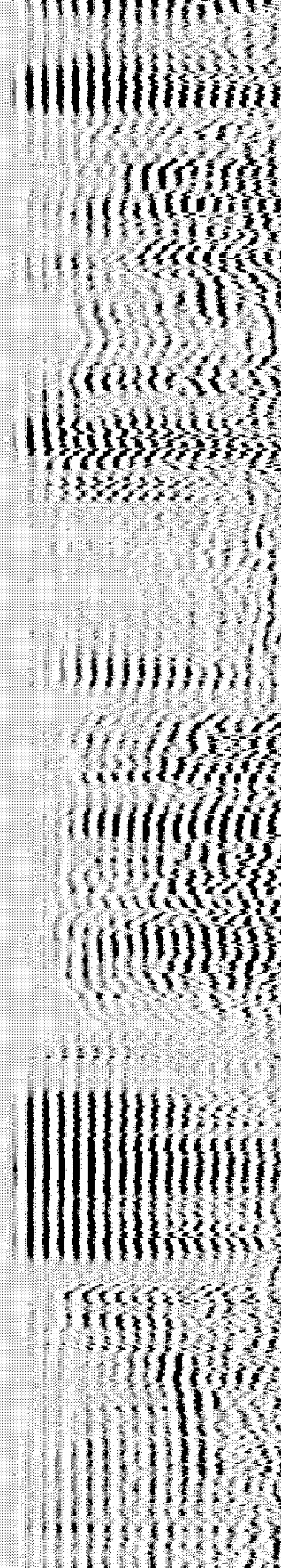
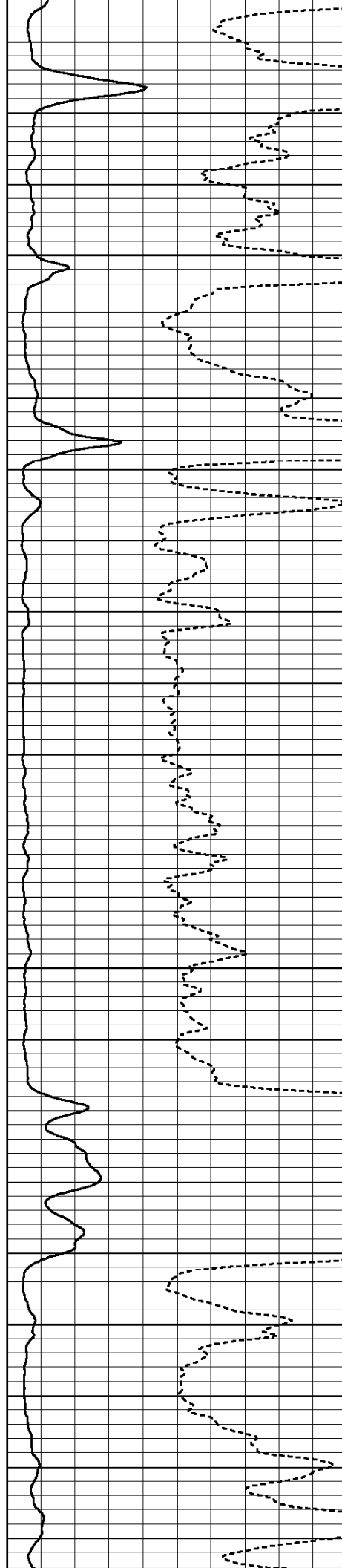
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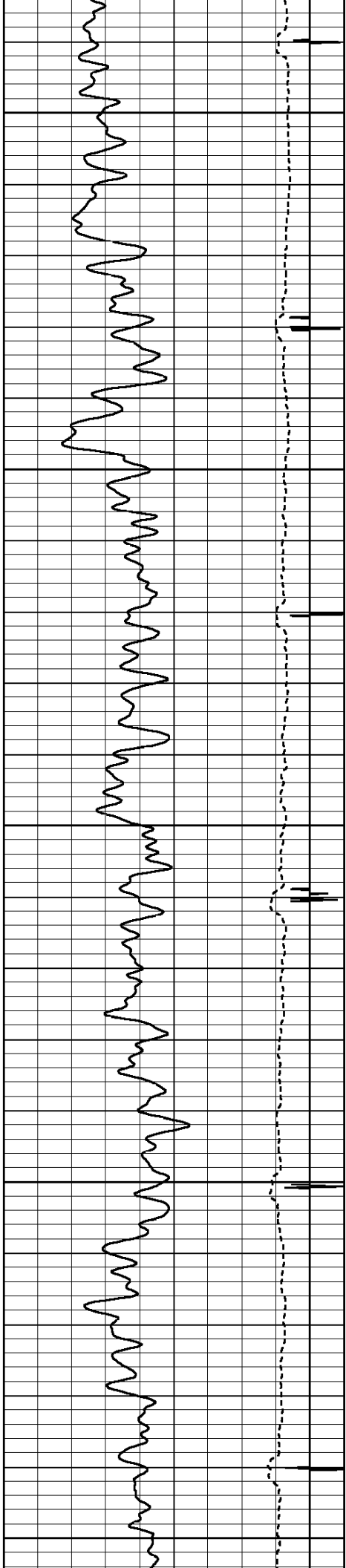




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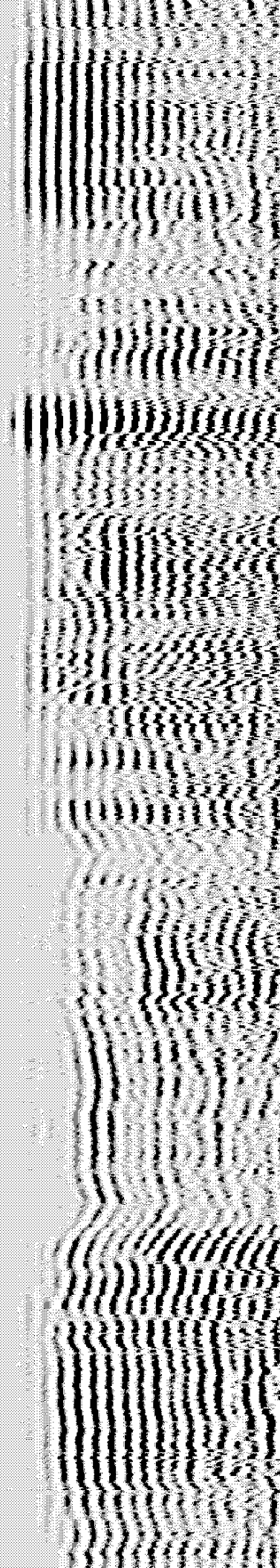
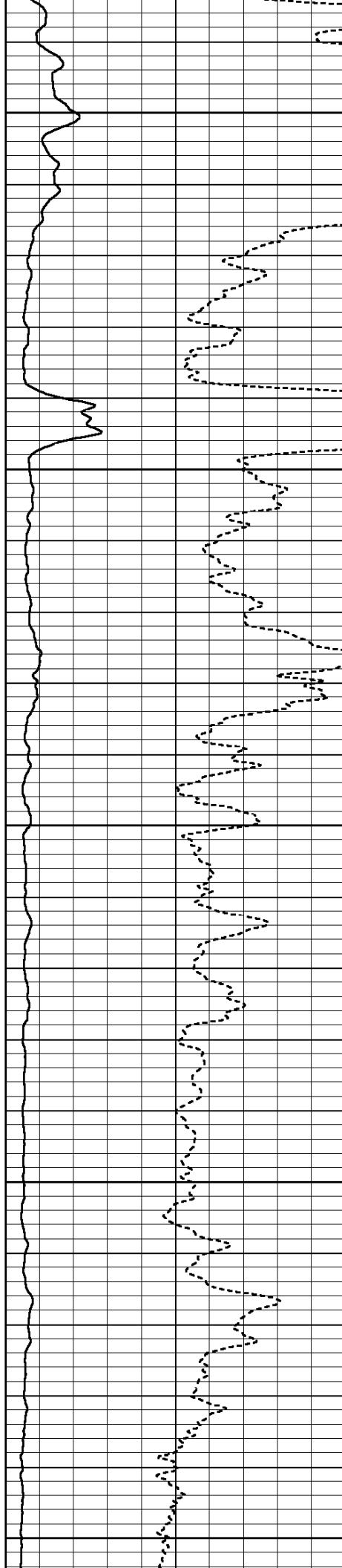
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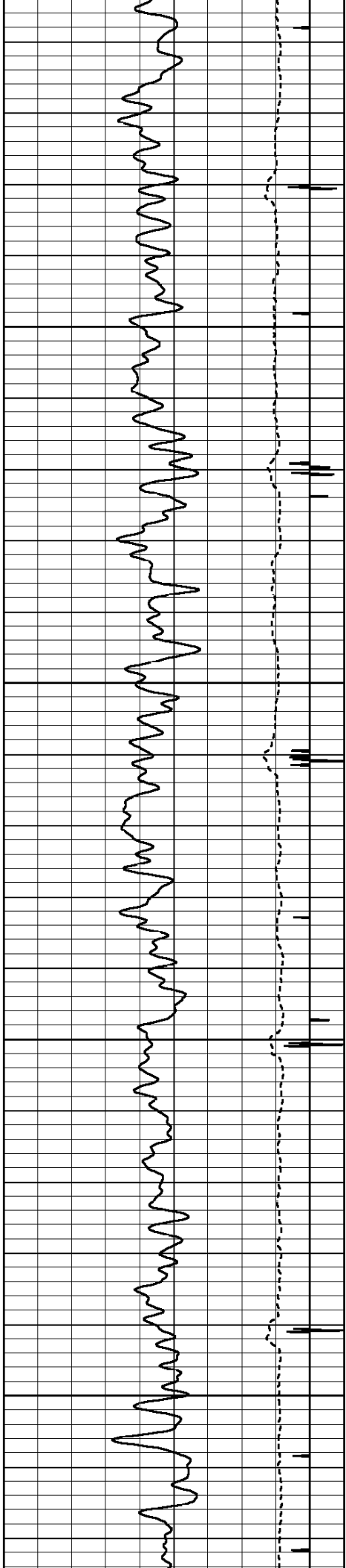




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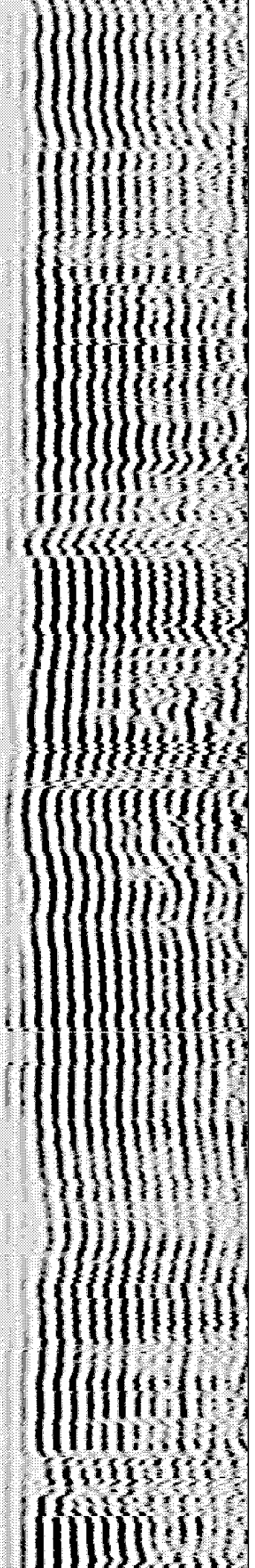
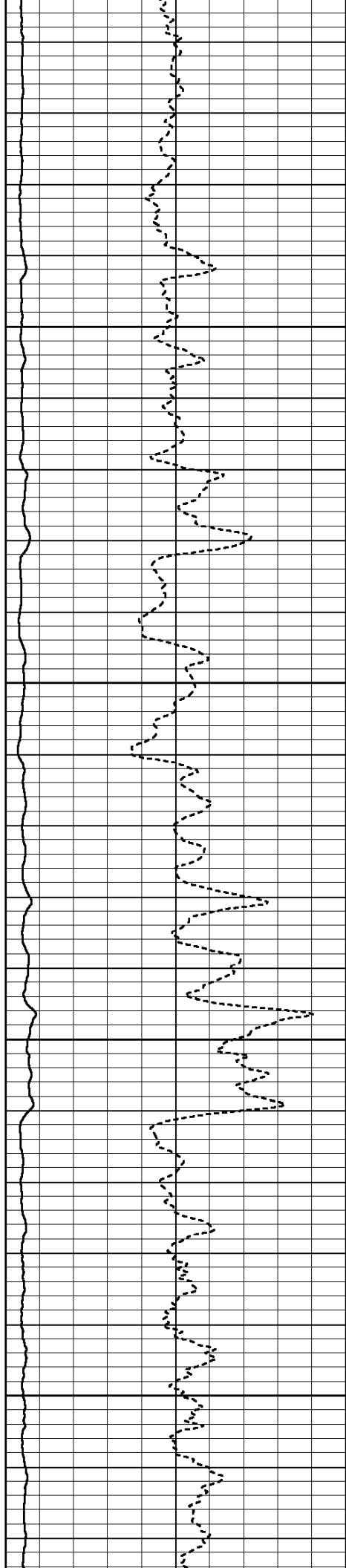
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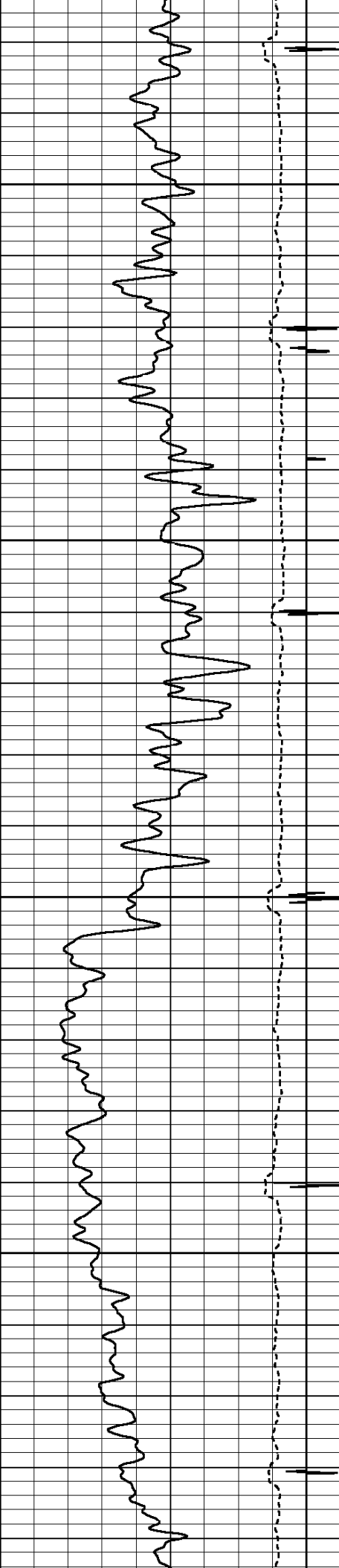




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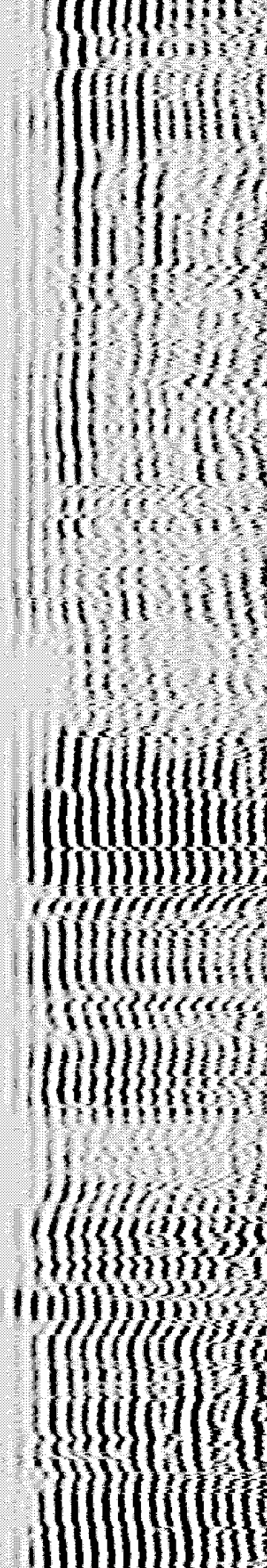
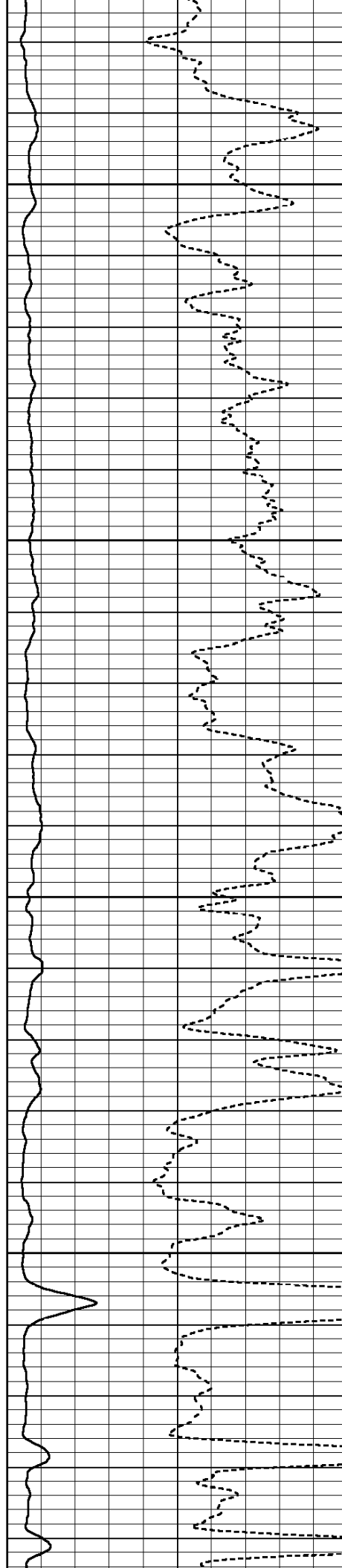
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7800

7900

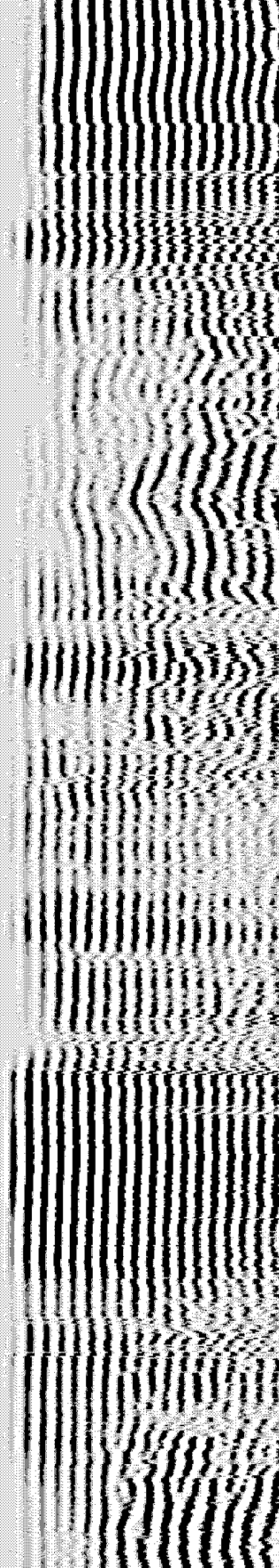
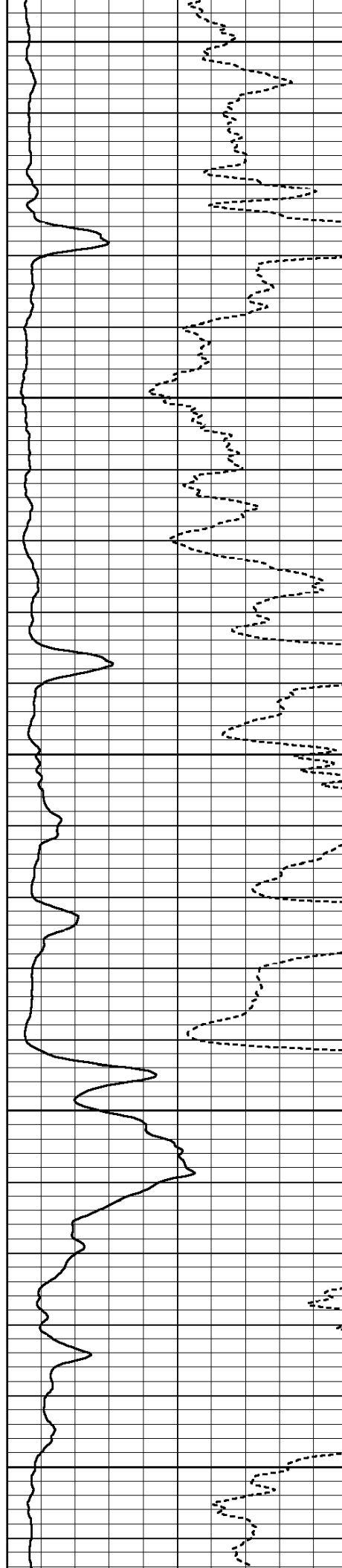


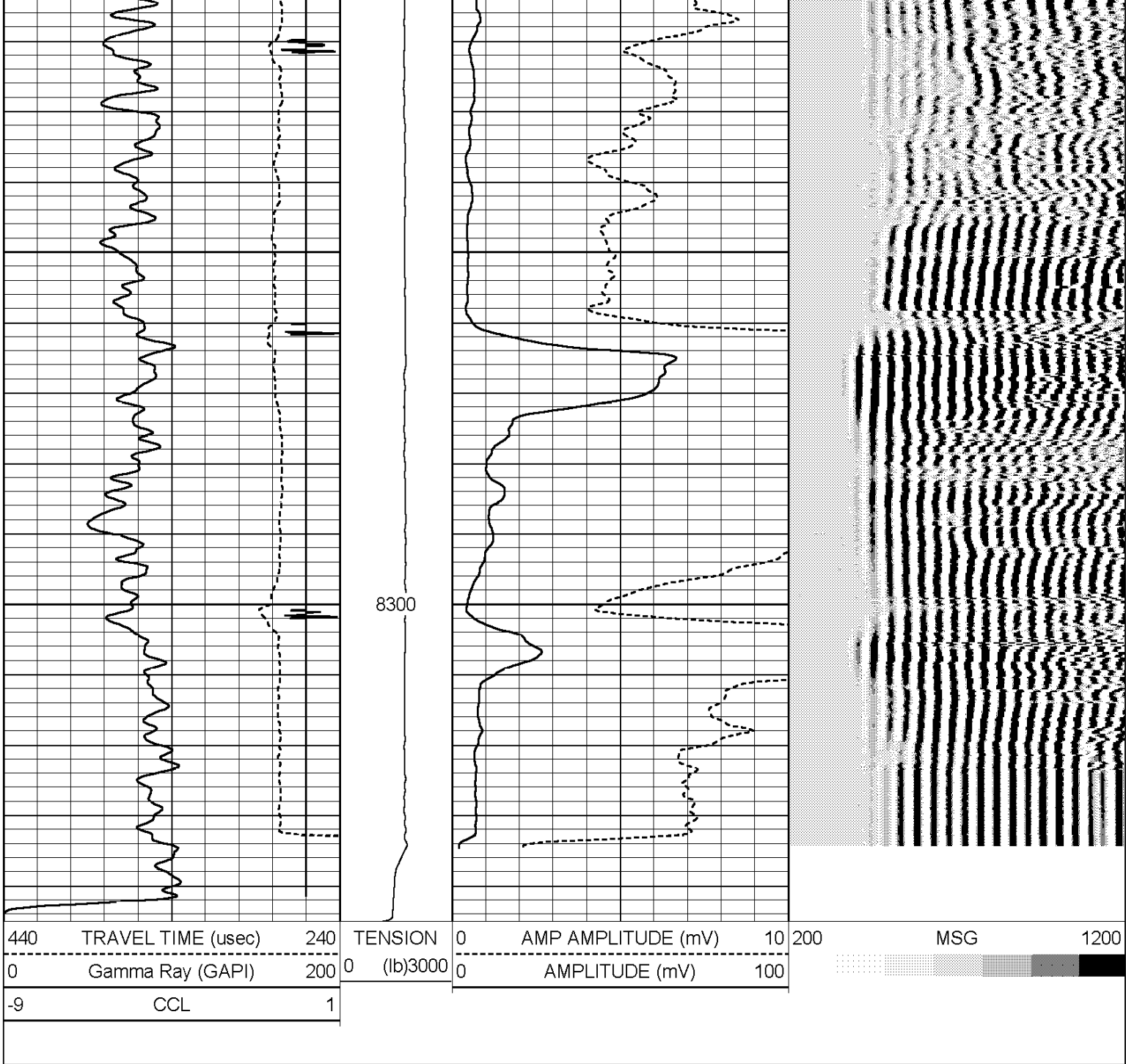


8000

8100

8200





HALLIBURTON	ACOUSTIC CEMENT BOND LOG
	MAIN LOG SECTION
	5"=100'

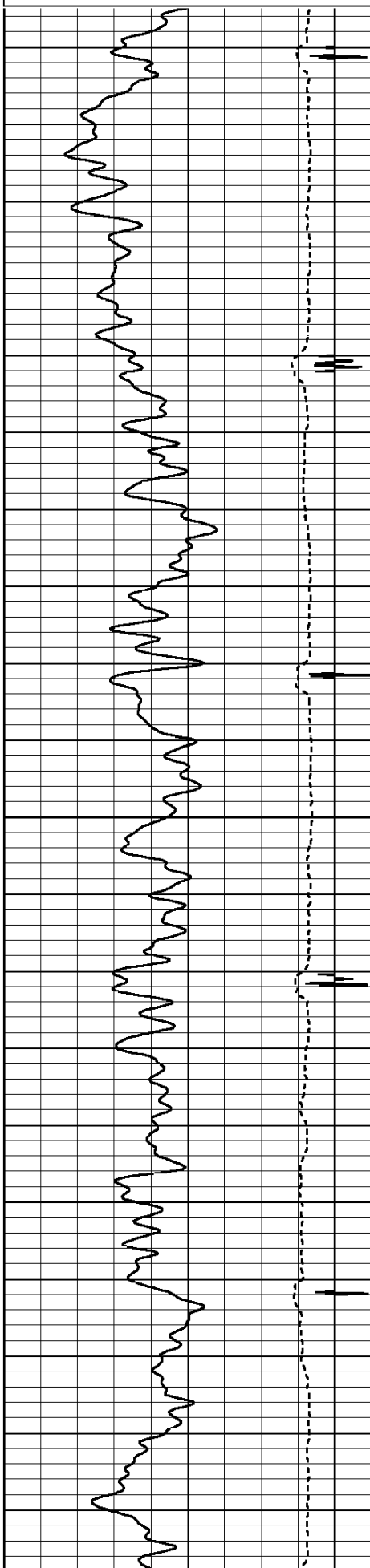
HALLIBURTON	ACOUSTIC CEMENT BOND LOG
	REPEAT LOG SECTION
	5"=100'

Database File:	hilton_23_1_cbl.db
Dataset Pathname:	CBL/REPT1
Presentation Format:	cbl_prbe
Dataset Creation:	Thu Aug 21 02:28:48 2008
Charted by:	Depth in Feet scaled 1:240



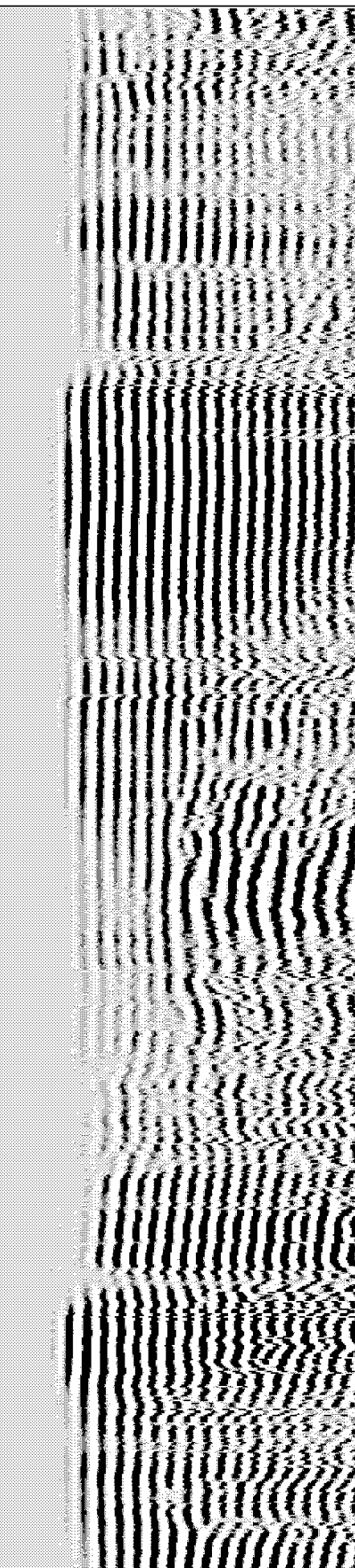
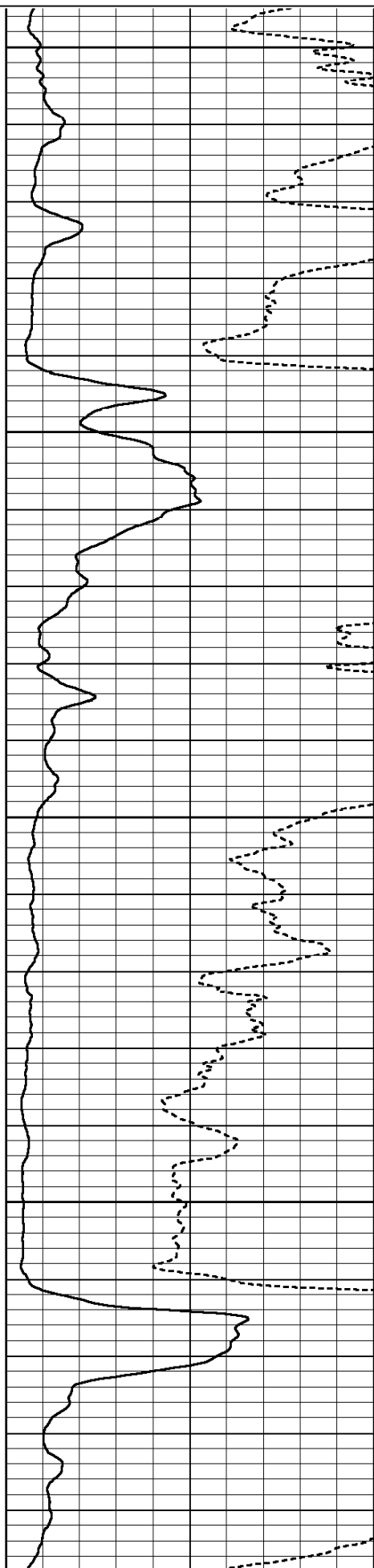
0	Gamma Ray (GAPI)	200
-9	CCL	1

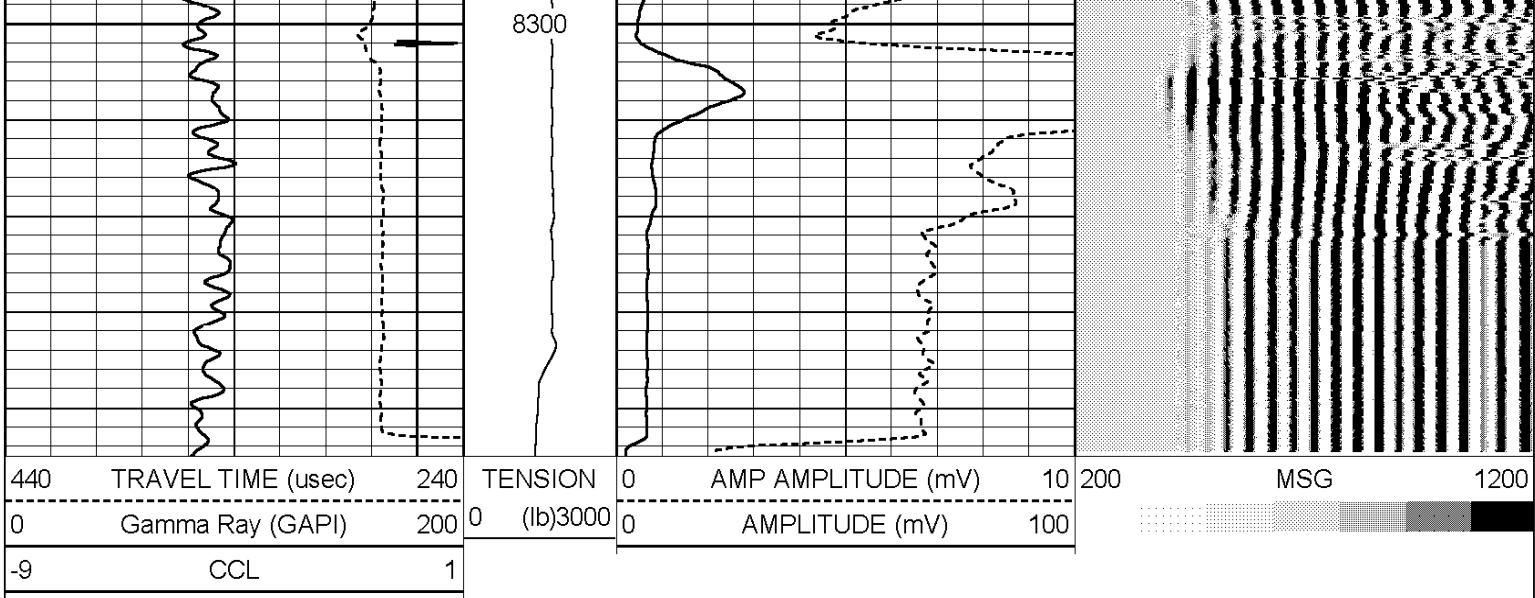
0	(lb)3000	0	AMPLITUDE (mV)	100
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8100

8200

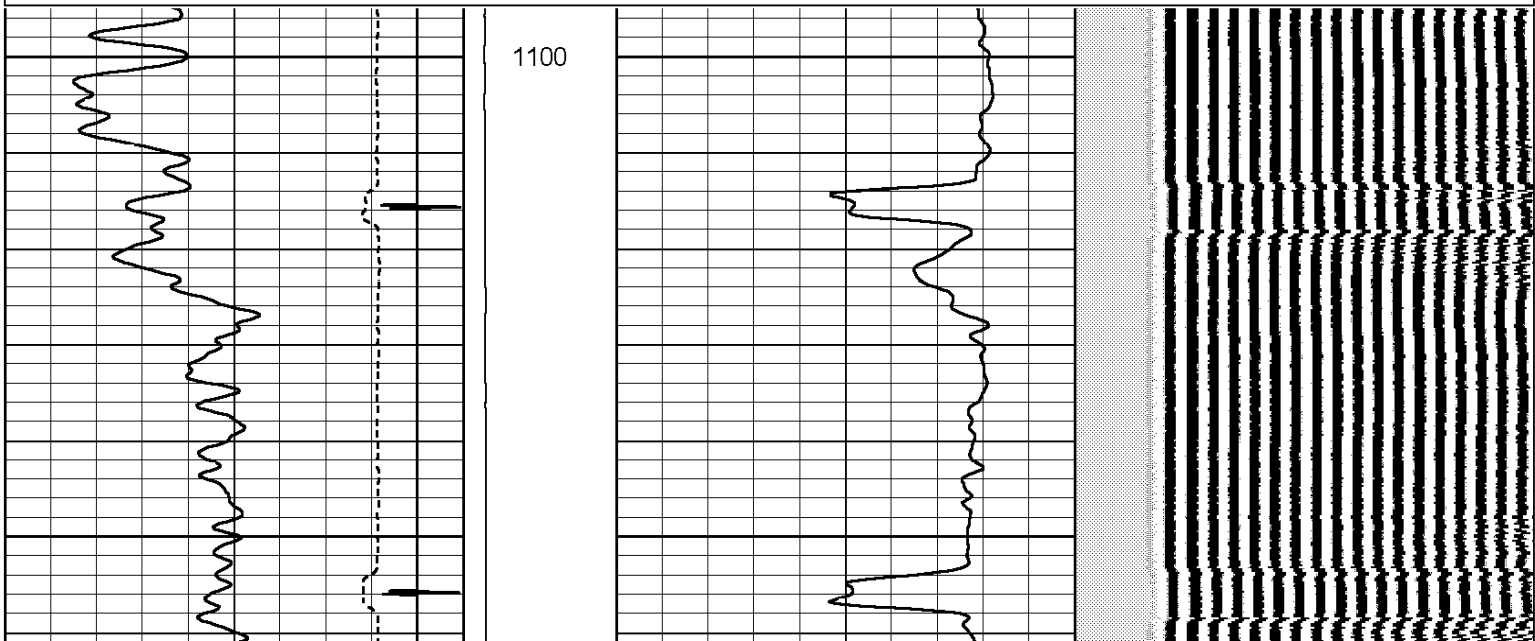
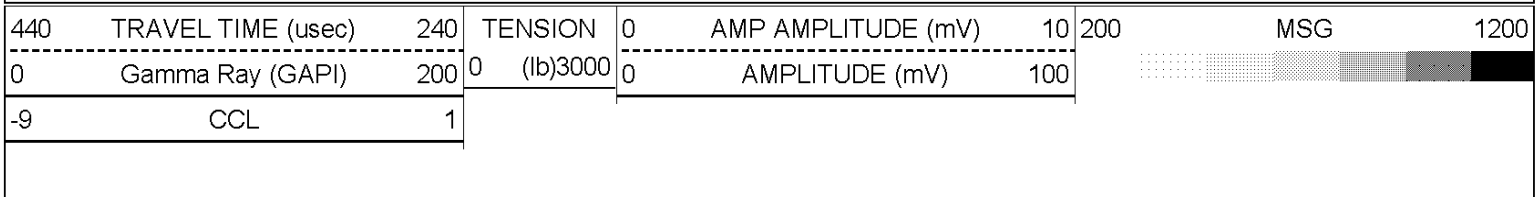


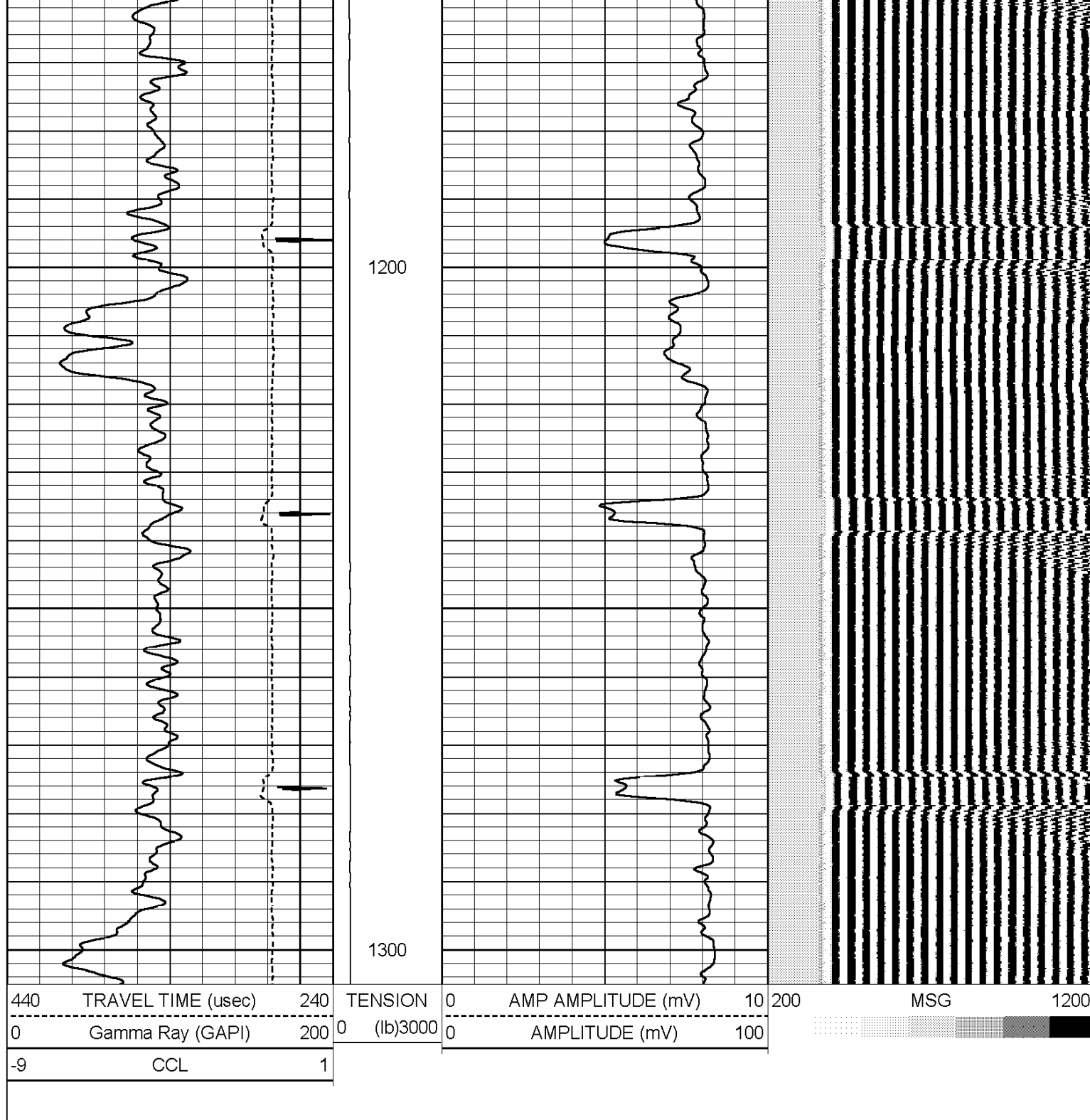


HALLIBURTON	<h2>ACOUSTIC CEMENT BOND LOG</h2> <p>REPEAT LOG SECTION 5"=100'</p>
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HALLIBURTON	<h2>ACOUSTIC CEMENT BOND LOG</h2> <p>FREE PIPE SECTION 5"=100'</p>
--------------------	--

Database File: hilton_23_1_cbl.db Dataset Pathname: CBL/FREE1 Presentation Format: cbl_prbe Dataset Creation: Thu Aug 21 02:28:52 2008 Charted by: Depth in Feet scaled 1:240





HALLIBURTON

ACOUSTIC CEMENT BOND LOG

FREE PIPE SECTION

5"=100'

Calibration Report

Database File: hilton_23_1_cbl.db
Dataset Pathname: CBL/REPT1
Dataset Creation: Thu Aug 21 02:28:48 2008

Gamma Ray Calibration Report

Type / Serial: probe275dig / 061015

SHOP CALIBRATION

Wed Aug 20 23:20:11 2008

	Counts/Sec.	Gain	Offset	Jig	Units
Background	82.3				cps
Calibrator	410.3				cps
		0.7683			GAPI/cps

PRIMARY VERIFICATION

Wed Aug 20 23:22:59 2008

Background	63.6				cps
Calibrator	311.7				cps
Difference				248.1	GAPI

BEFORE SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

AFTER SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Cement Bond Log Calibration Report

Serial Number:	070374			
Tool Model:	Probe			
Performed:	Wed Aug 20 23:35:54 2008			
Depth:	1197	ft		
Casing Diameter:	4.5	in		
	3' Spacing		5' Spacing	
Signal Zero:	2		2	mV
Calibrated Amplitude:	82		82	mV
Reading at Signal Zero:	-0.0013916		0.00197754	V
Reading in Free Pipe:	1.09617		0.982178	V
Gain:	72.889		81.616	
Offset:	2.10143		1.8386	

Company	ORION
Well	HILTON 23-1
Field	MAMM CREEK
County	GARFIELD

State CO

HALLIBURTONACOUSTIC CEMENT
BOND LOG