

HALLIBURTON

ACOUSTIC CEMENT BOND LOG

Company	WILLIAMS PRODUCTION RMT CO		
Well	AP 44-14-696		
Field	PARACHUTE		
County	GARFIELD	State	CO

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Well	AP 44-14-696		
Field	PARACHUTE		
County	GARFIELD	State	CO

API No.:	05045147750000	Serv #:	6460744
Location:	S.H.L.0159' FSL & 1753' FEL SW-SE		
B.H.L.:1056' FSL & 553' FEL SE-SE		RMTE	

Permanent Datum	GROUND LEVEL				Elevation	6664'	Elevation	
Log Measured From	KB				21	Ft. above perm. datum	K.B. 6685' D.F. 6684' G.L. 6664'	
Drilling Measured From	KB							
Date @ Time Logged	24 FEB 2009 @ 2030				Type Fluid in Hole	WATER		
Run No.	ONE				Density of Fluid	8.4 #		
Depth - Driller	8941'				Fluid Level	FULL		
Depth - Logger	8820'				Cement Top Est. Logged	LOGGED		
Bottom - Logged Interval	8816'				Equipment / Location	10549604 / GU		
Top - Log Interval	SURFACE				Recorded by	SKJERPEN/SMITH		
Max. Recorded Temp.	246 F				Witnessed by	N/A		
CEMENTING DATA					Protection	Production	Liner	
Date / Time Cemented	String				String	String		
Primary / Squeeze								
Expected								
Compressive Strength	psi@ hrs				psi@ hrs	psi@ hrs	psi@ hrs	psi@ hrs
Cement Volume								
Cement Type / Weight	/				/	/	/	
Formulation								
Mud Type / Mud Wgt.	/				/	/	/	
Borehole Record					Casing & Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To	
ONE	24"	SURFACE	60'	18"	N/A	SURFACE	60'	
TWO	14.75"	60'	2500'	9.625"	32.3#	SURFACE	2500'	
THREE	7.875"	2500'	8941'	4.5"	11.6#	SURFACE	8925'	

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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

GR-CCL-CBL RAN IN COMBINATION

H.E.S. CBL DATED 24 FEB 2009 IS THE PRIMARY DEPTH REFERENCE

SHORT JOINT: 5502' - 5524'

YOUR CREW TODAY: GREENLEE, COLLINS

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES

Service Ticket No. 6460744

API No. 05045147750000

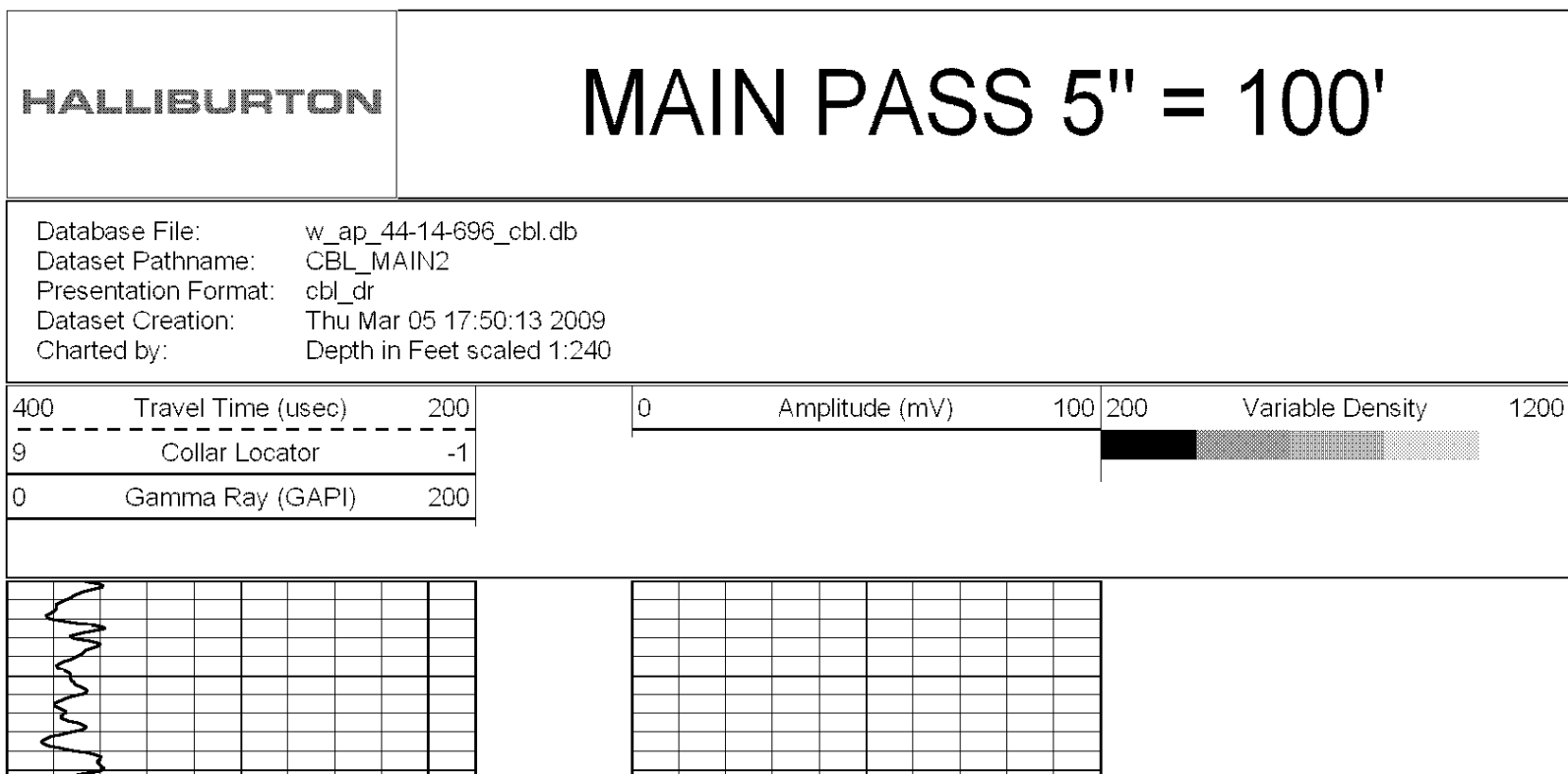
PGM Ver 070213

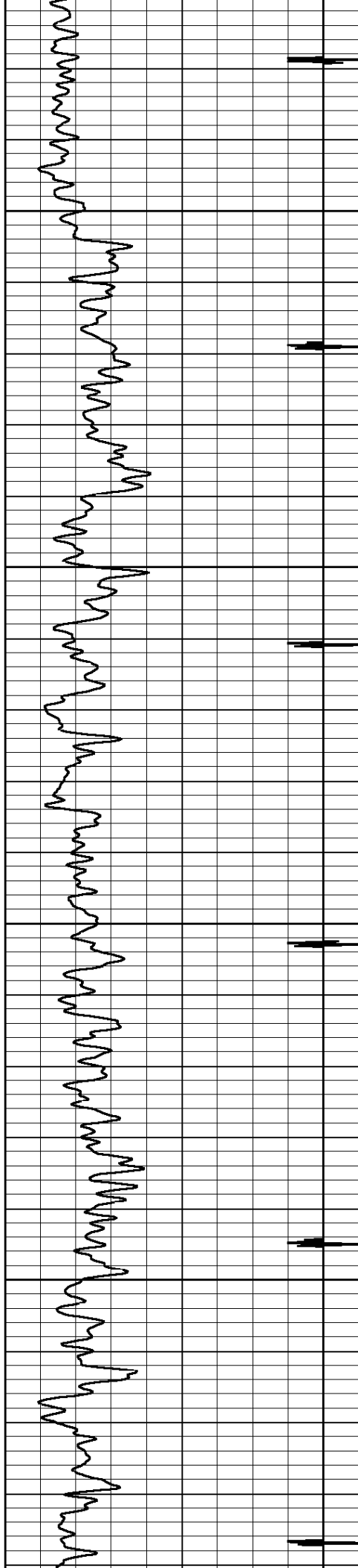
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA

GR		CCL		CBL		TEMP	
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	070359	Serial No.	070359	Serial No.	081003	Serial No.	070606
Model No.	GR-PROBE	Model No.	CCL-PROBE	Model No.	CBL-PROBE	Model No.	TEMP
Diameter	2.75"	Diameter	2.75"	Diameter	2.75"	Diameter	1.69"
LOGGING DATA							
General Data							
Pass	Depths		Well Head	Speed	Logging Run Comments		
No.	From	To	Pressure	Ft/Min			
ONE	8820'	SURFACE	0	REC	MAIN LOG SECTION		
	GR		CCL				
Pass	Scale		Scale		Scale		Scale
No.	L	R	L	R	L	R	L
ONE	0	200	-9	1			
DIRECTIONAL INFORMATION							
Maximum Deviation			deg. @		KOP		

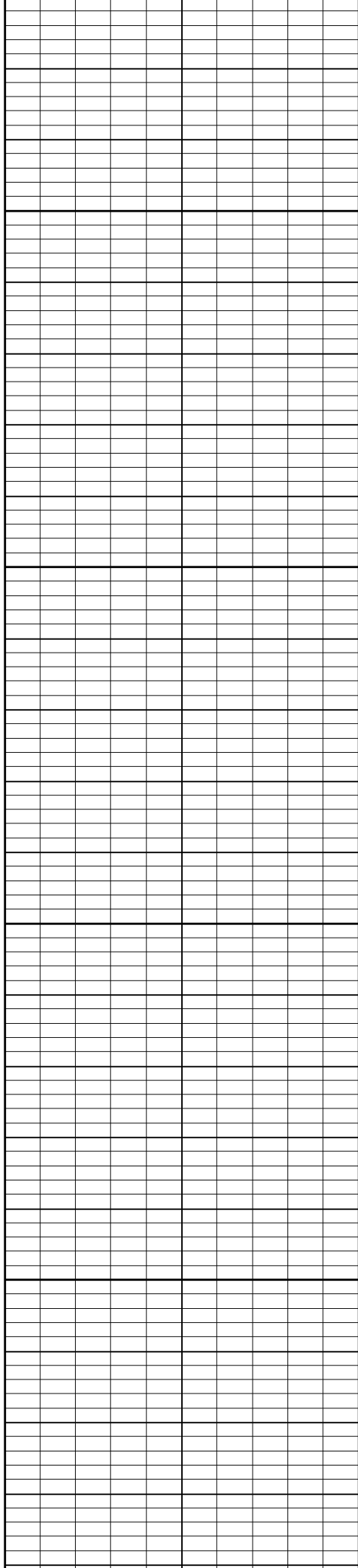
Log Variables	Database: C:\Warrior\Data\w_ap_44-14-696_cbl.db Dataset: field/well/run1/pass4						
	Top - Bottom						
PPT usec 0	MAXAMPL mV 82	MINAMPL mV 3	MINATTN db/ft 0.8	CASEOD in 4.5	PERFS 0	TDEPTH ft 8820	BOTTEMP degF 246
BOREID in 7.875							

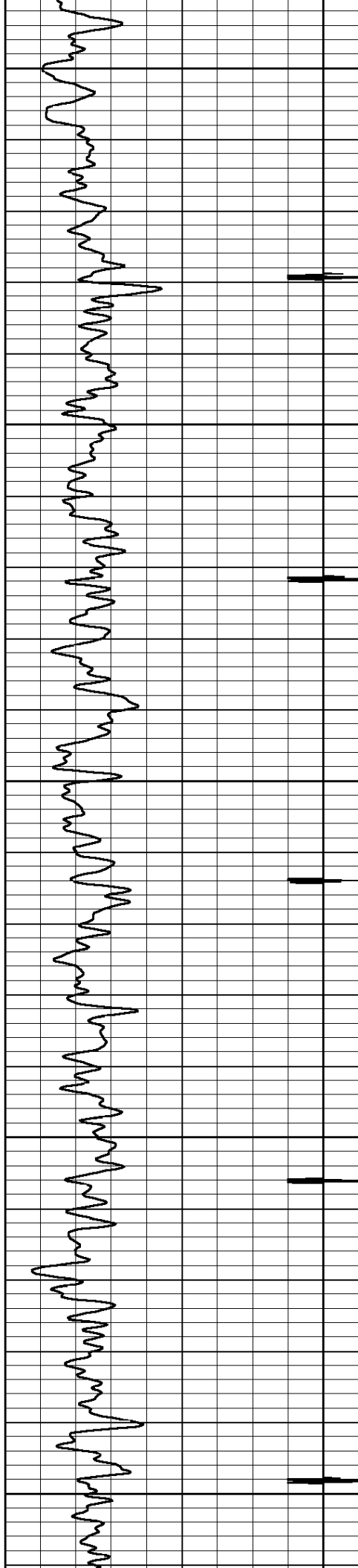




100

200

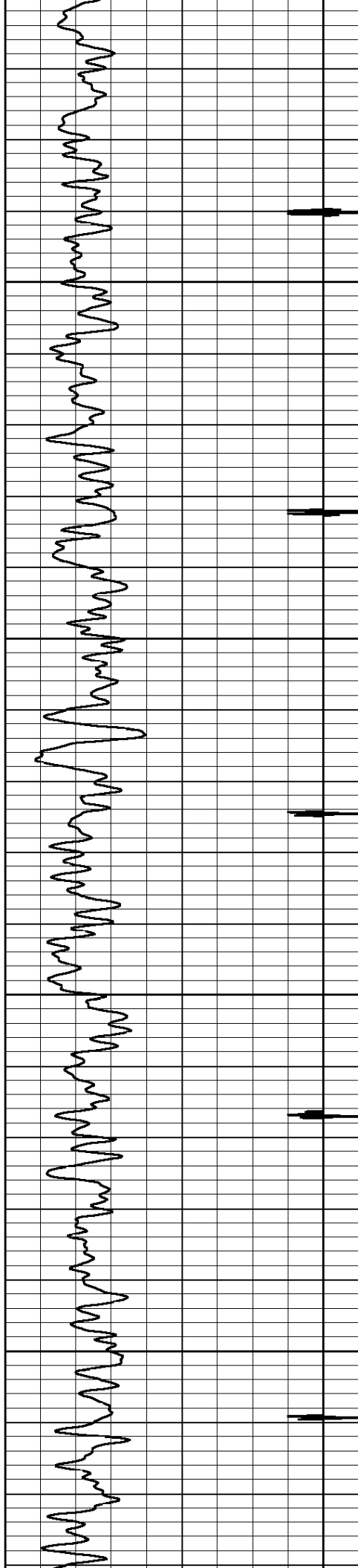




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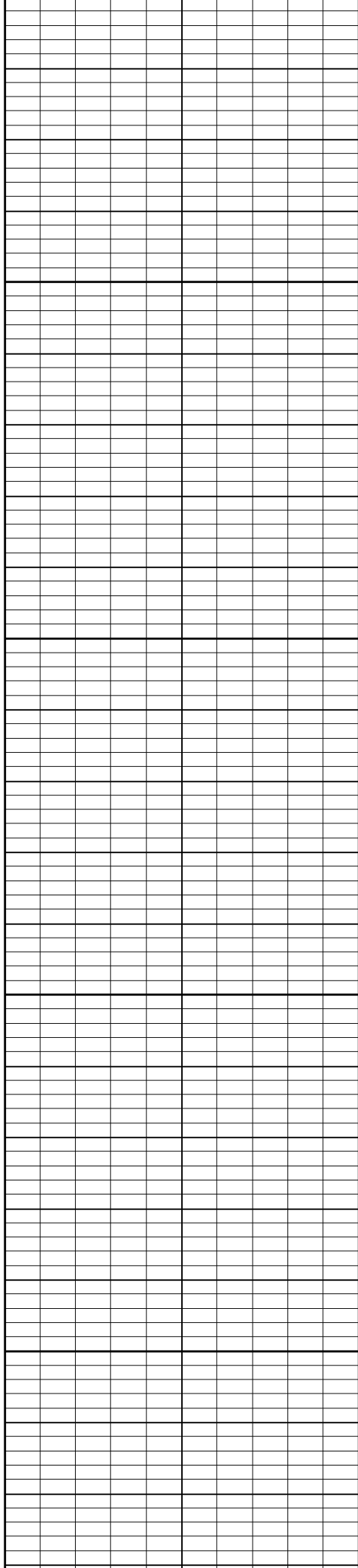
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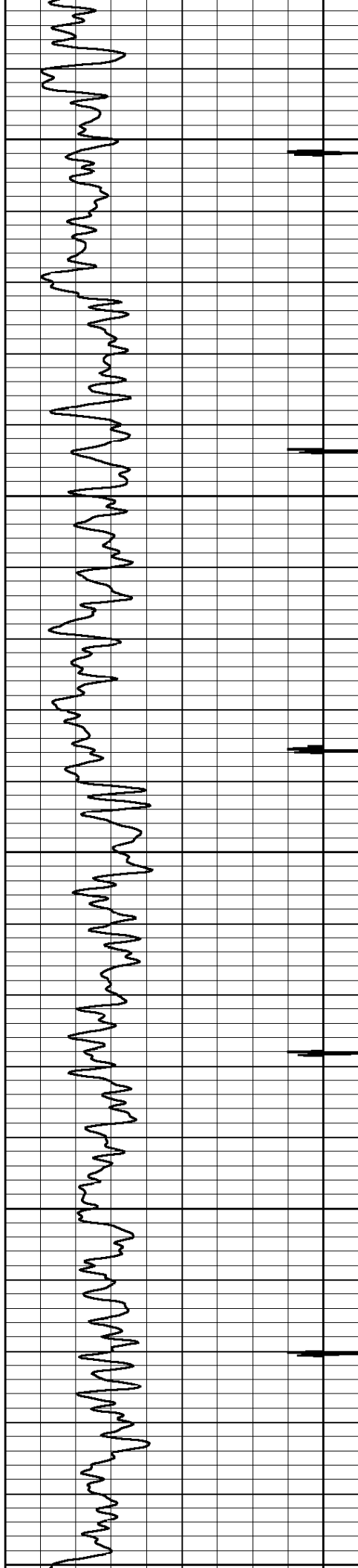
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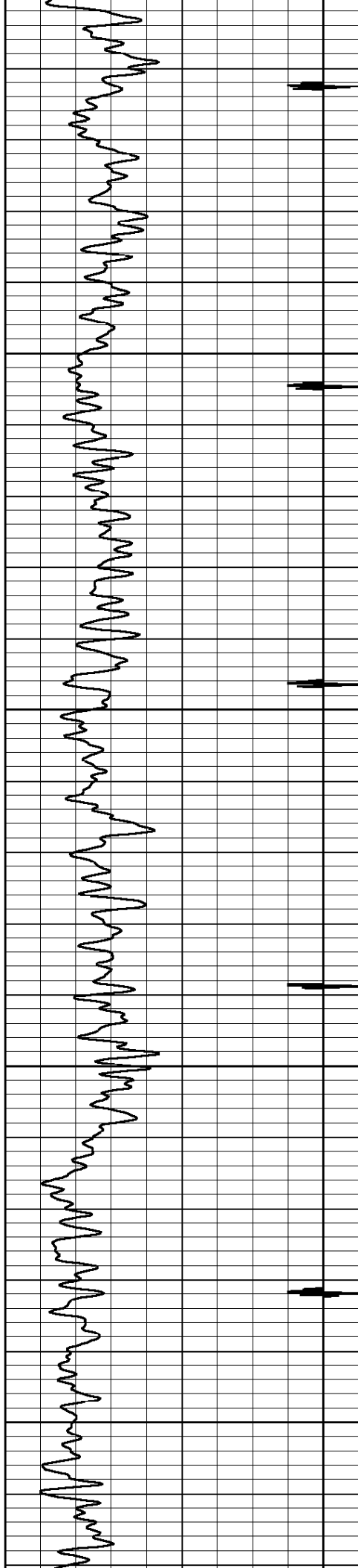
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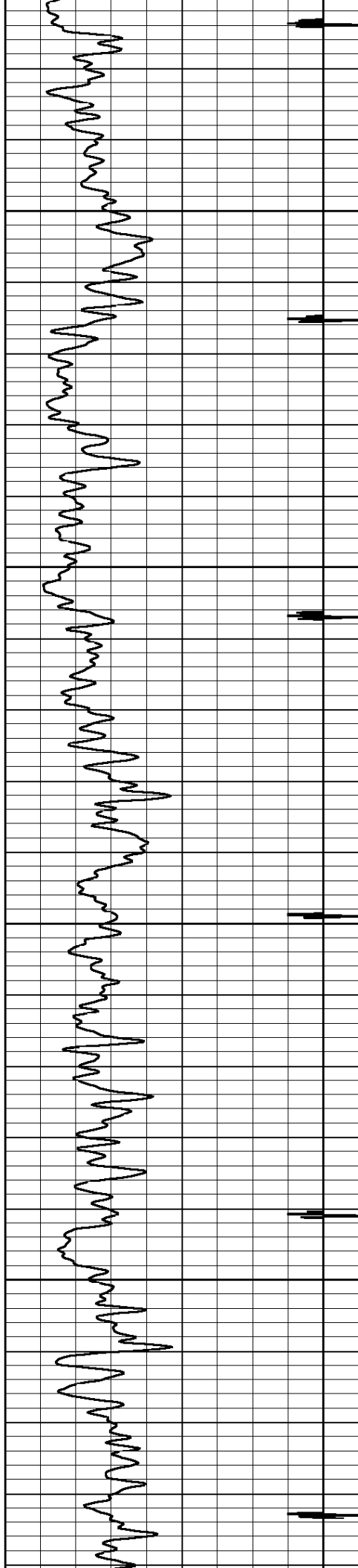
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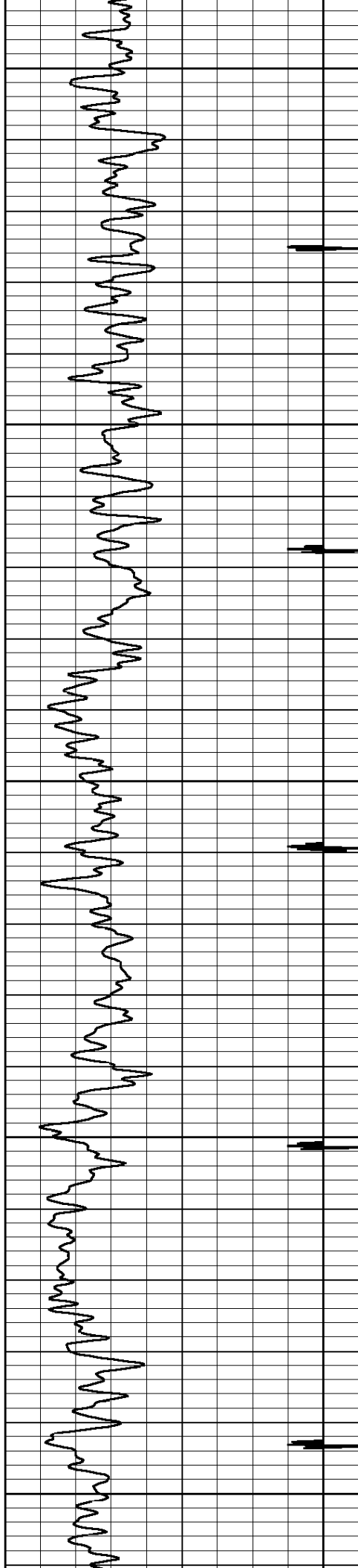
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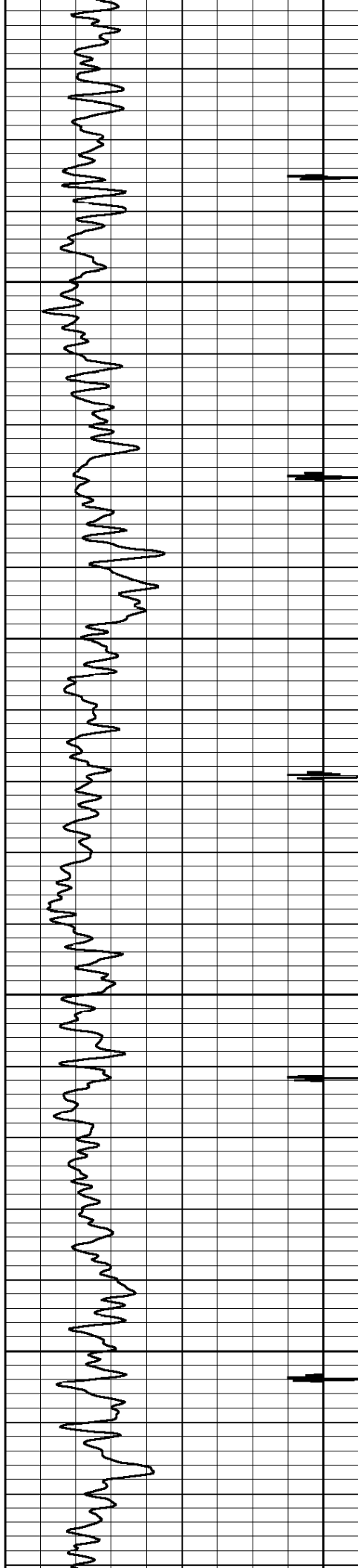
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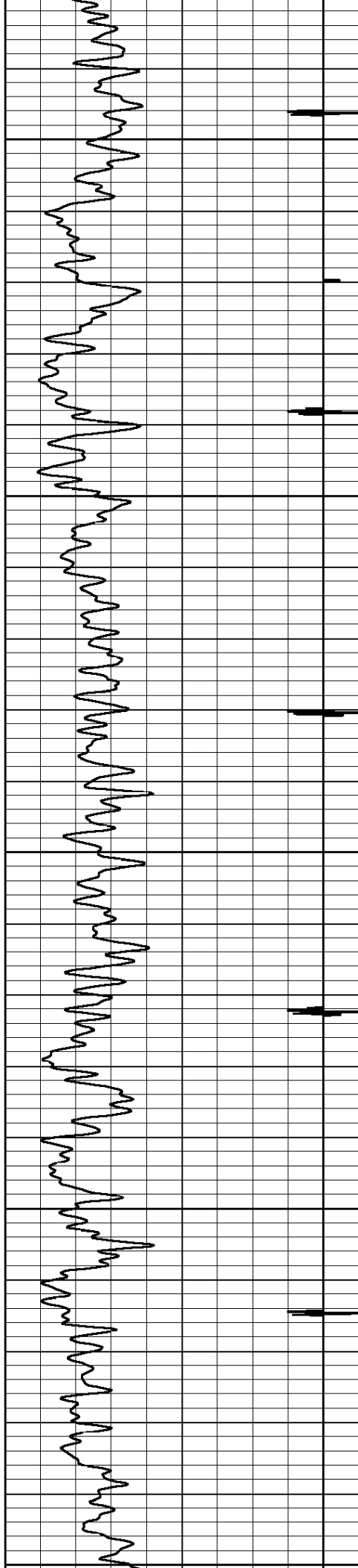
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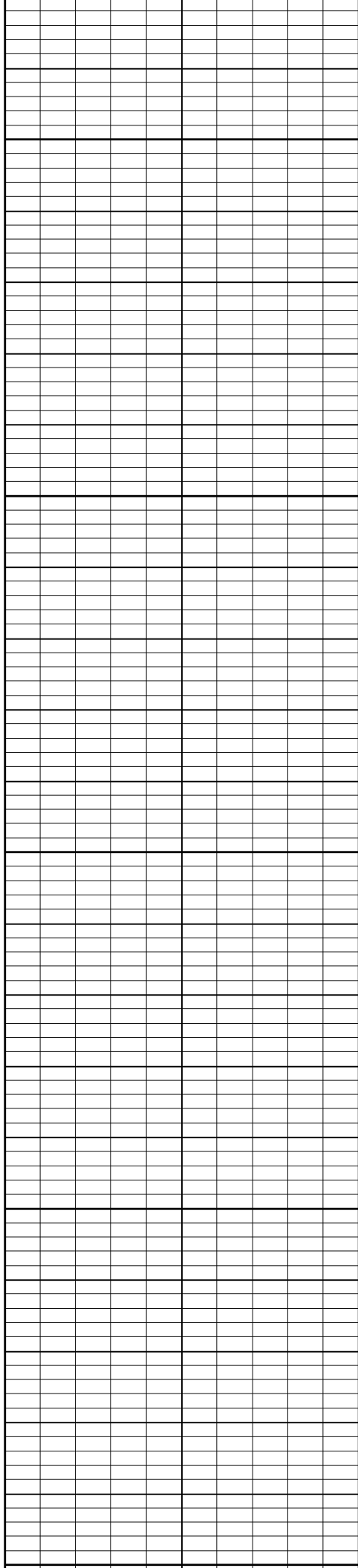
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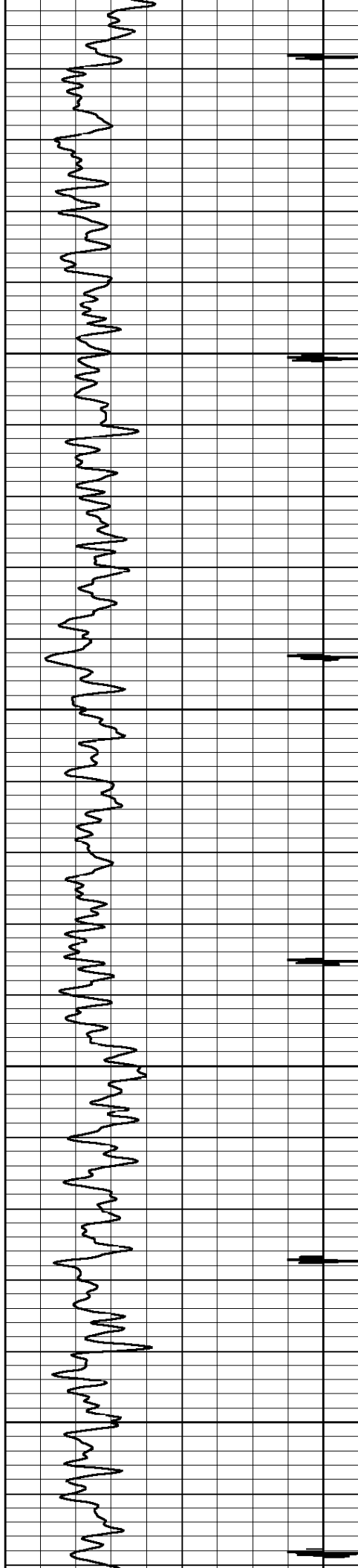
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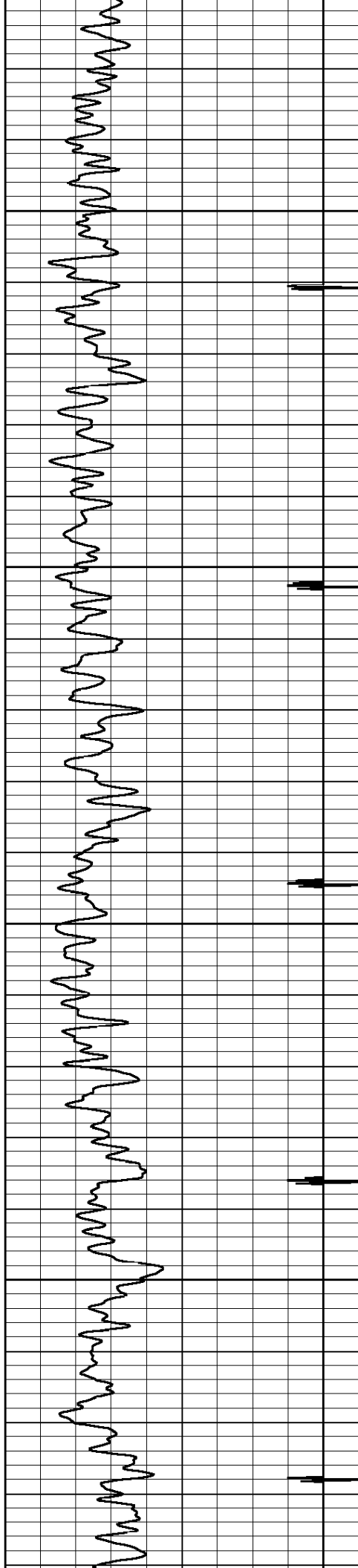
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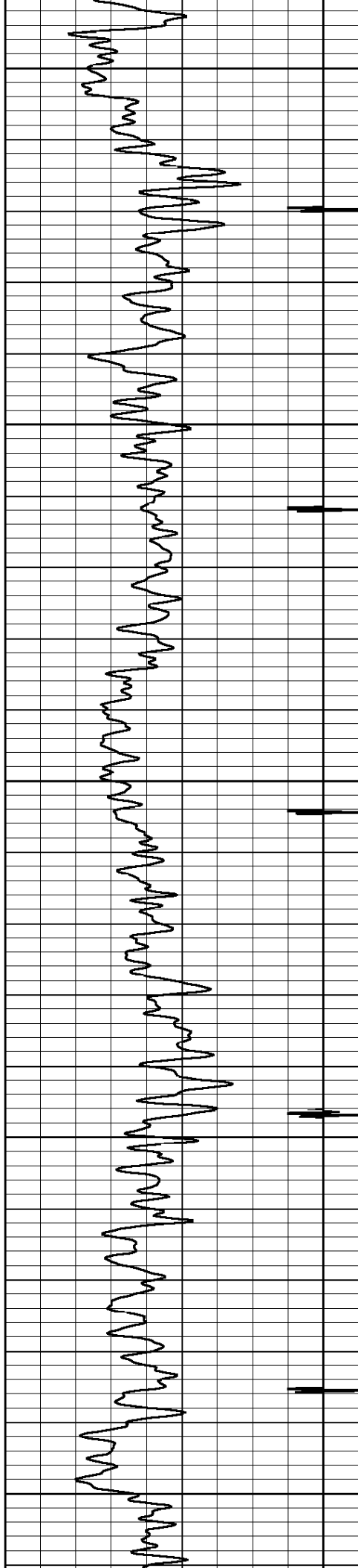
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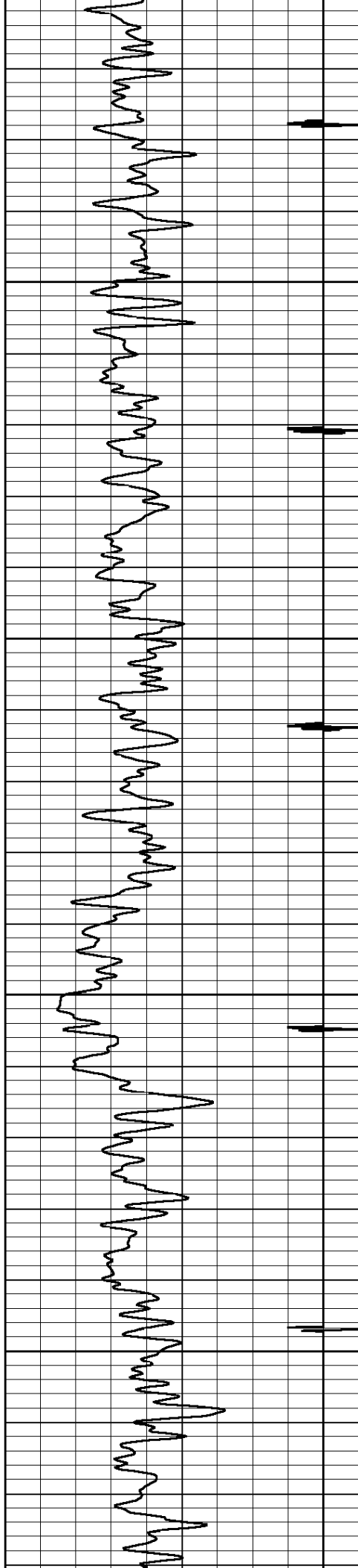
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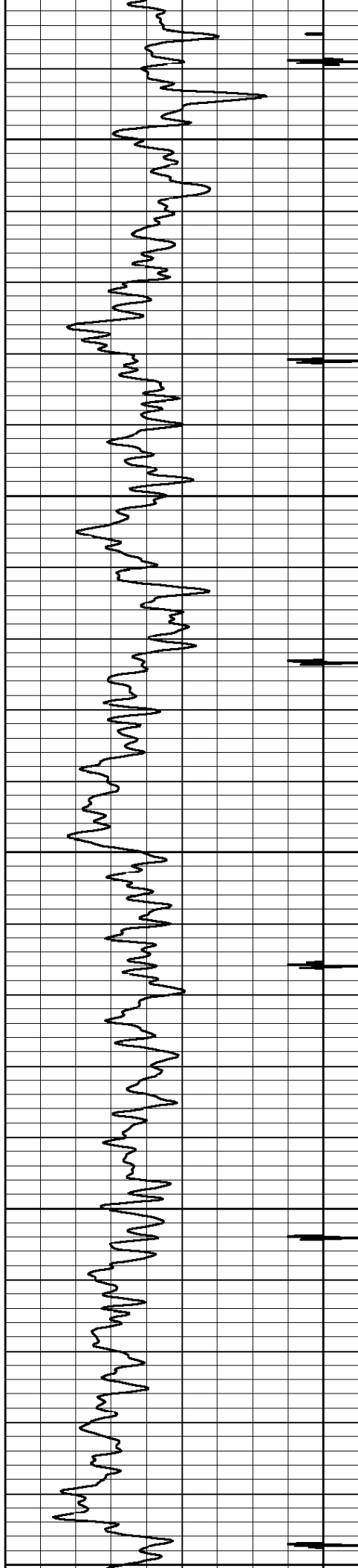
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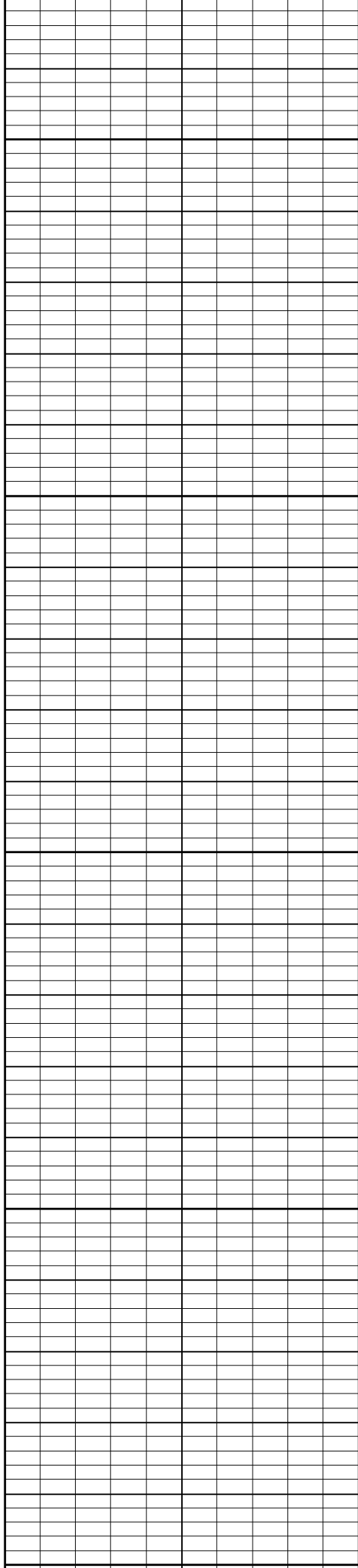
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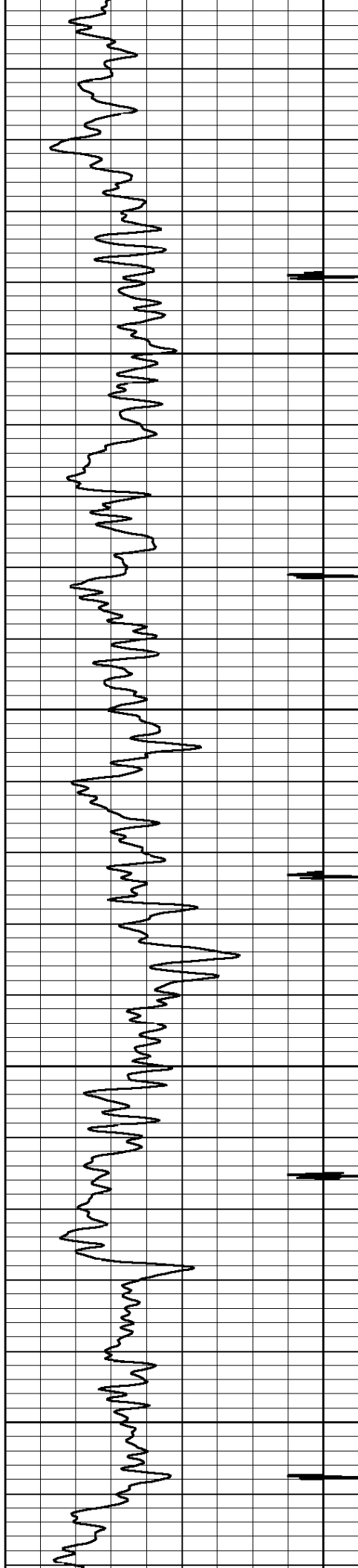
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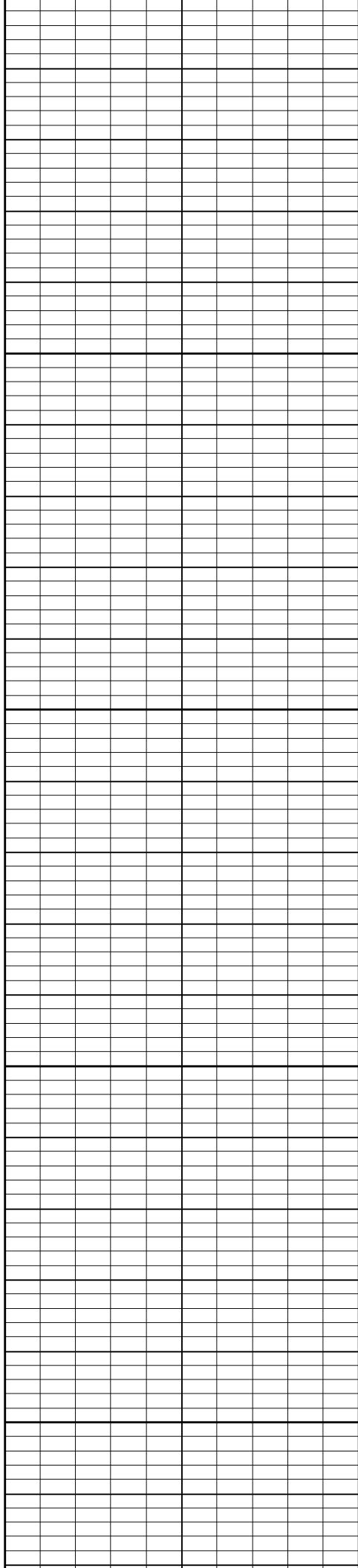
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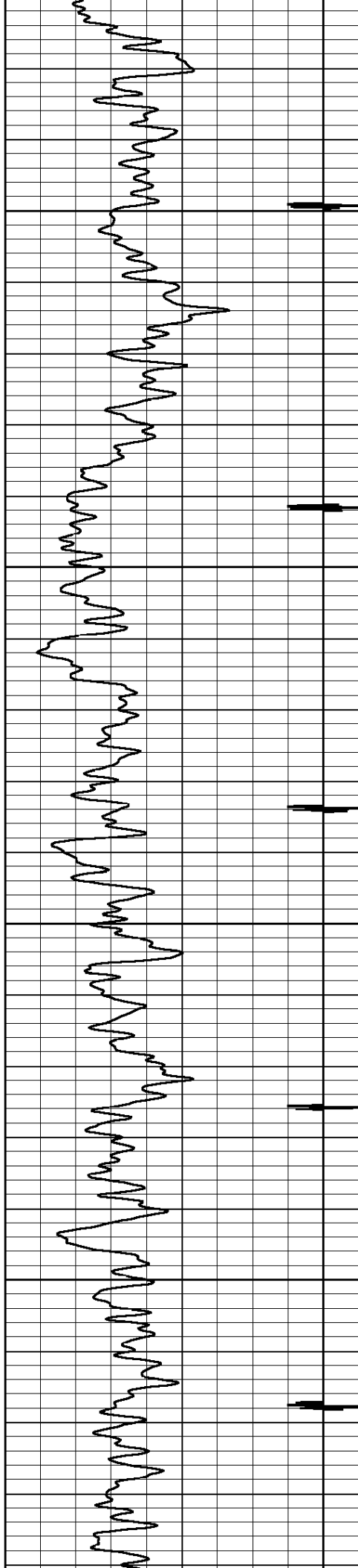




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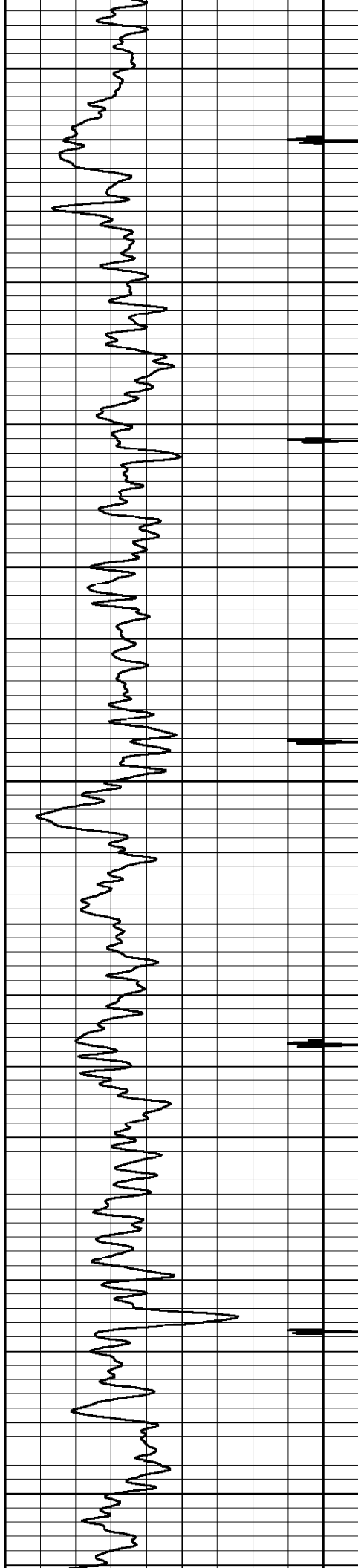
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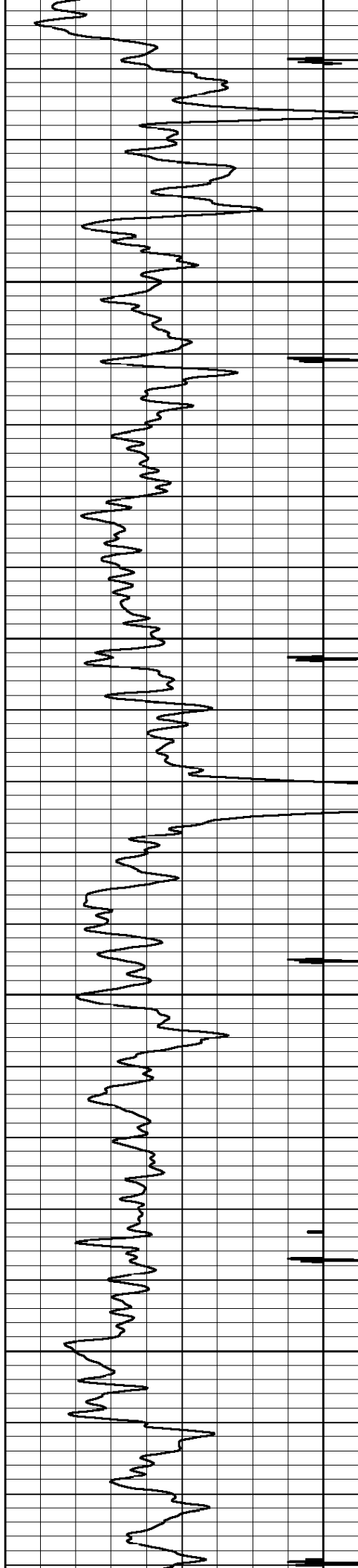
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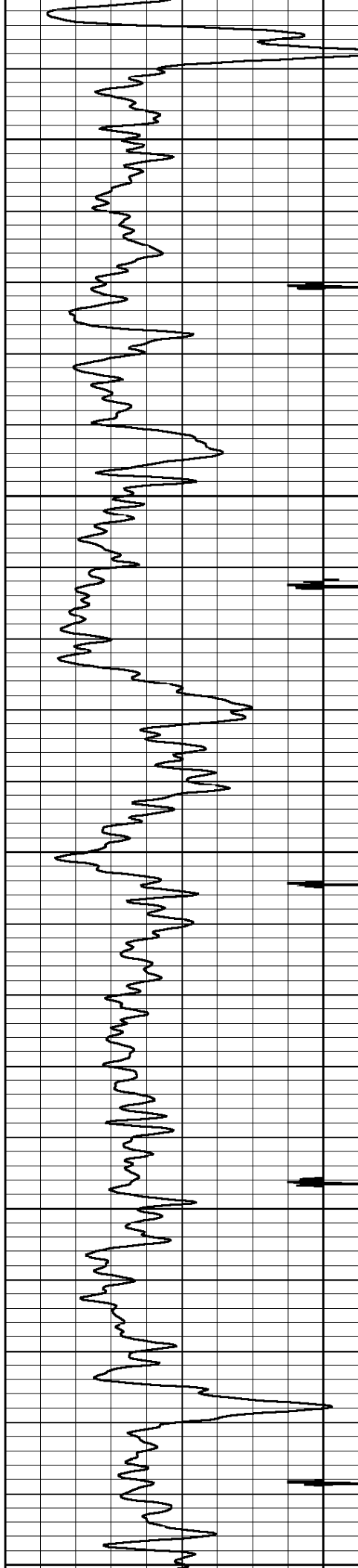
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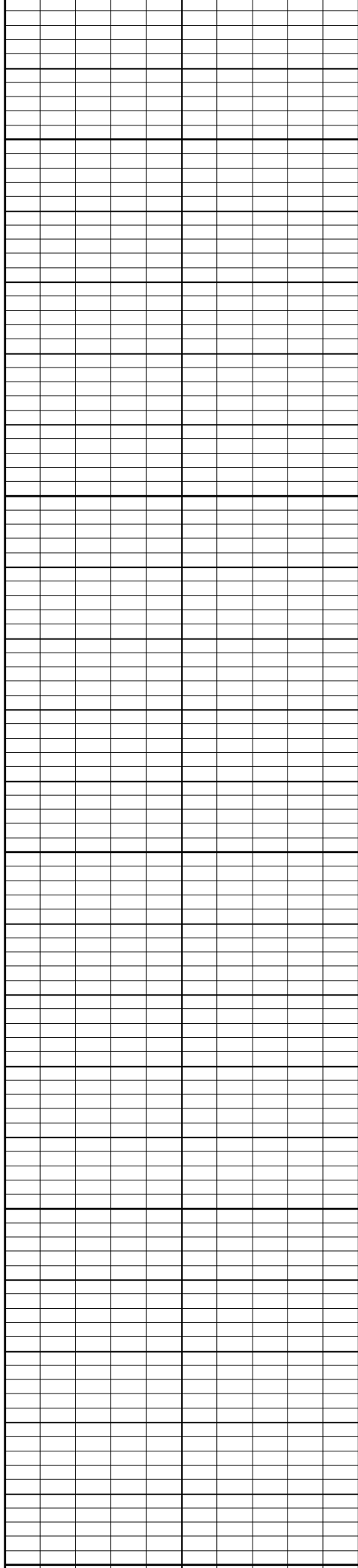
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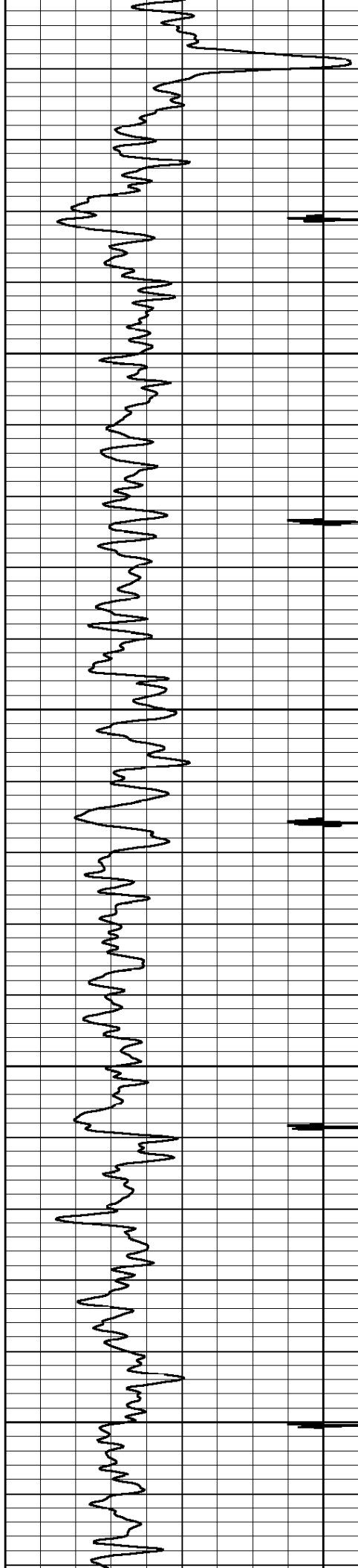
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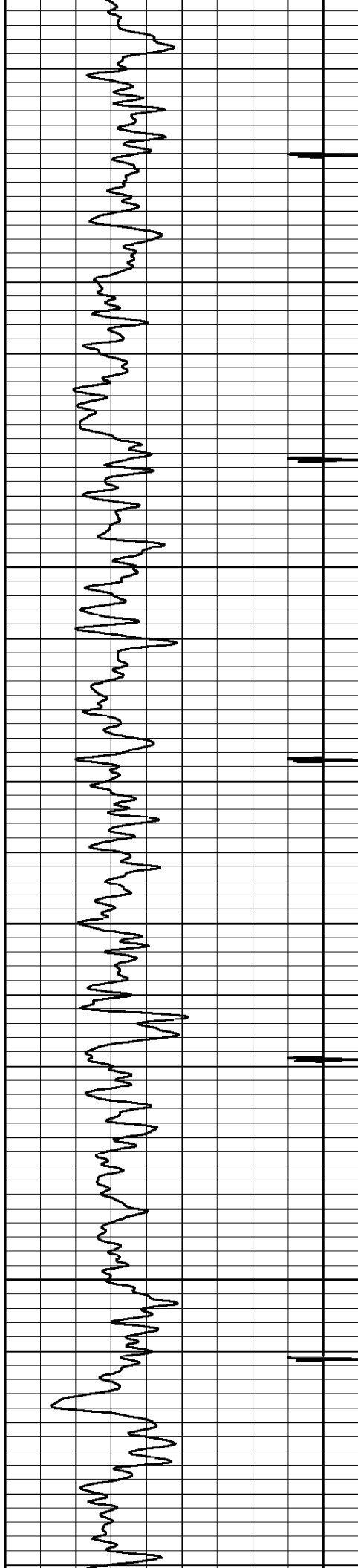
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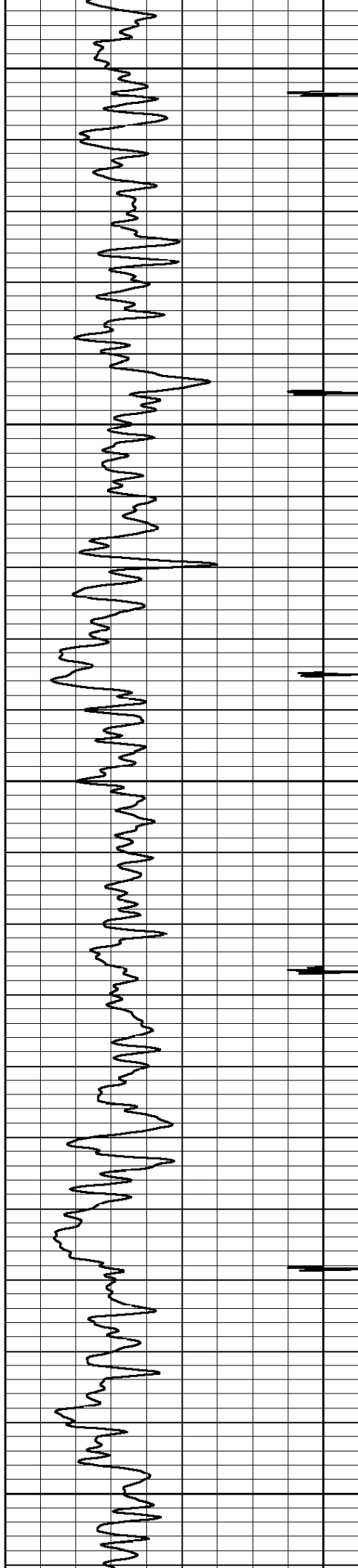
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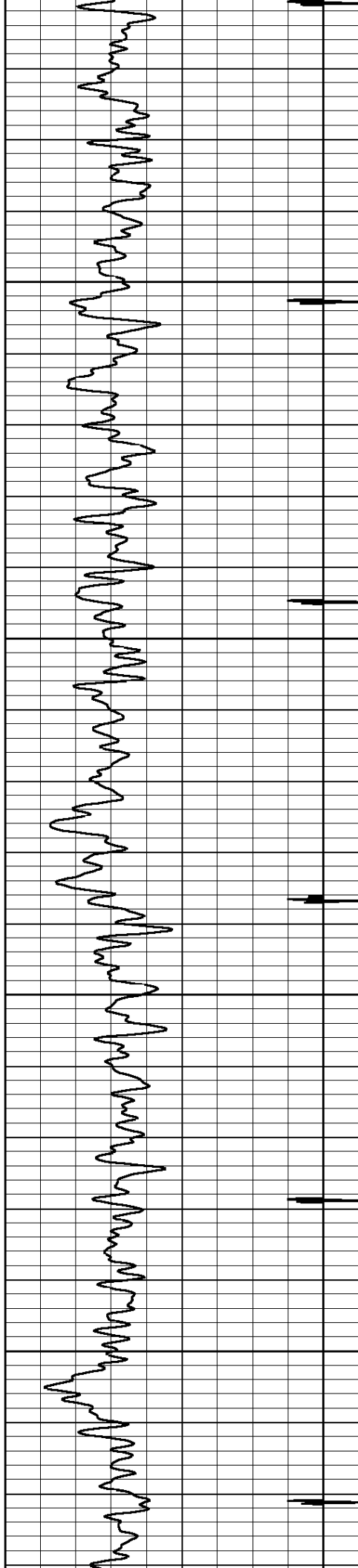
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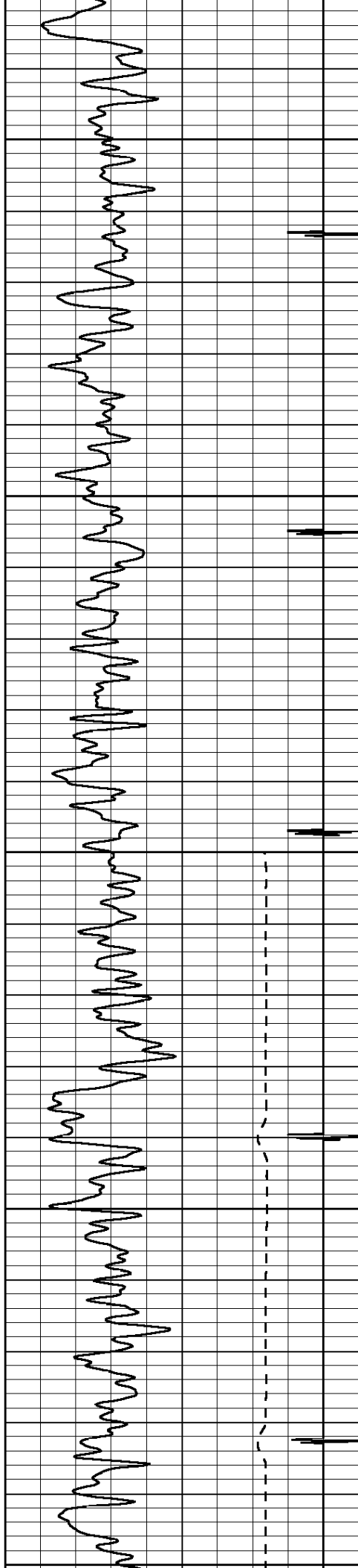
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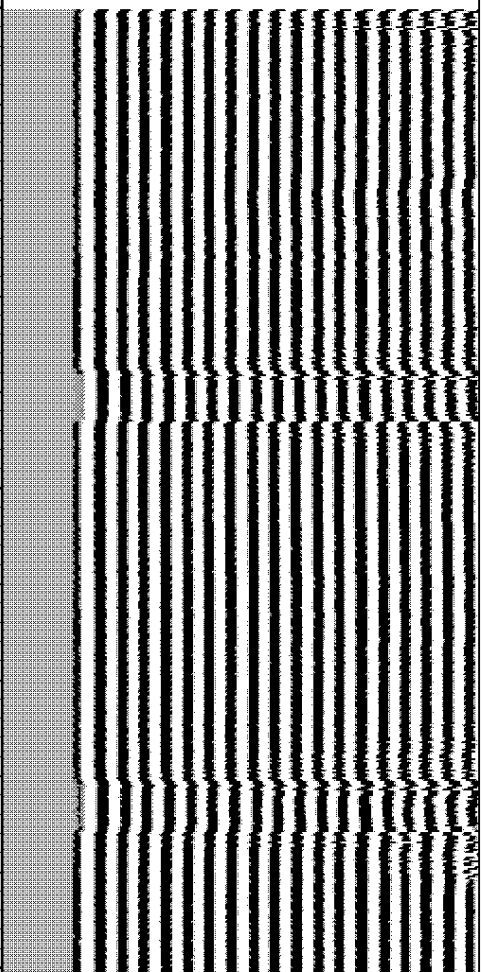
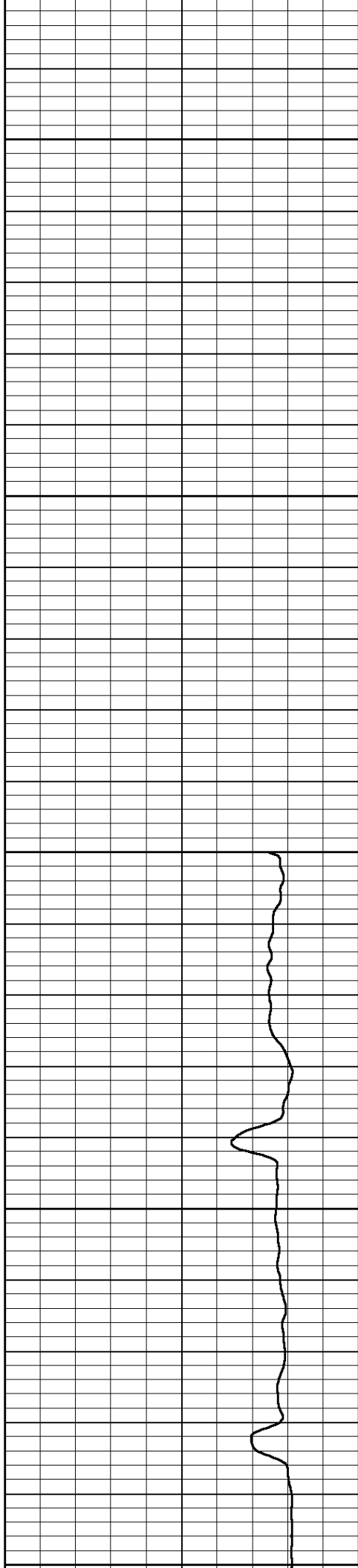
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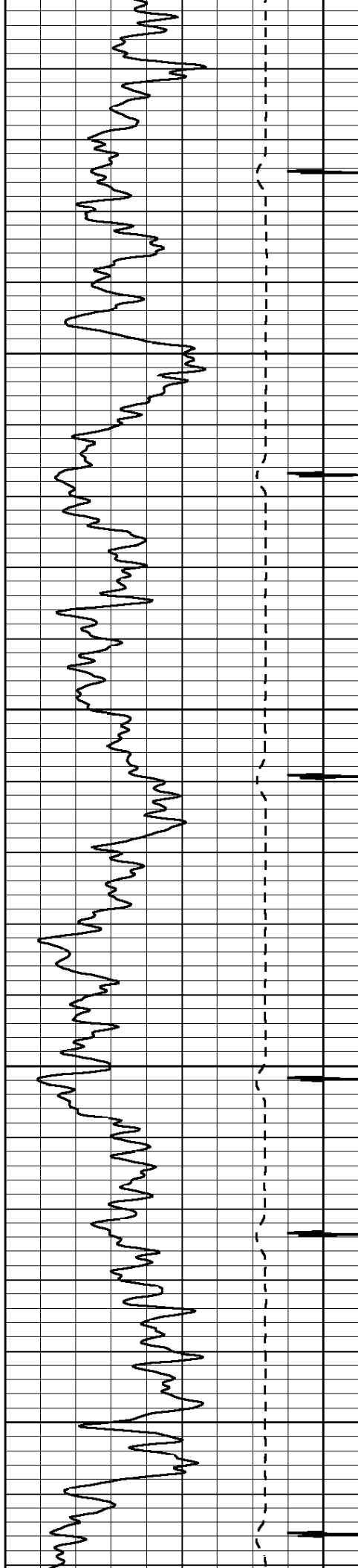
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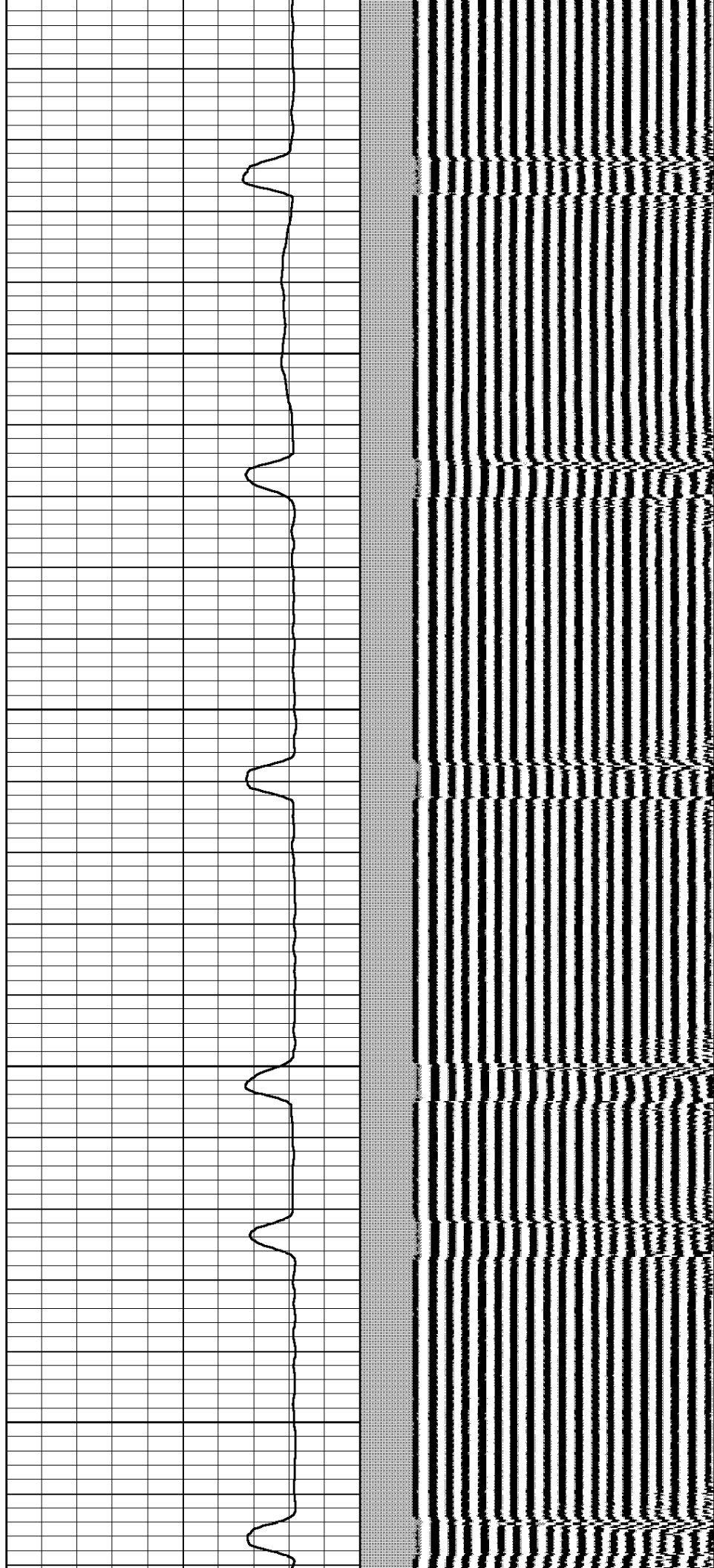


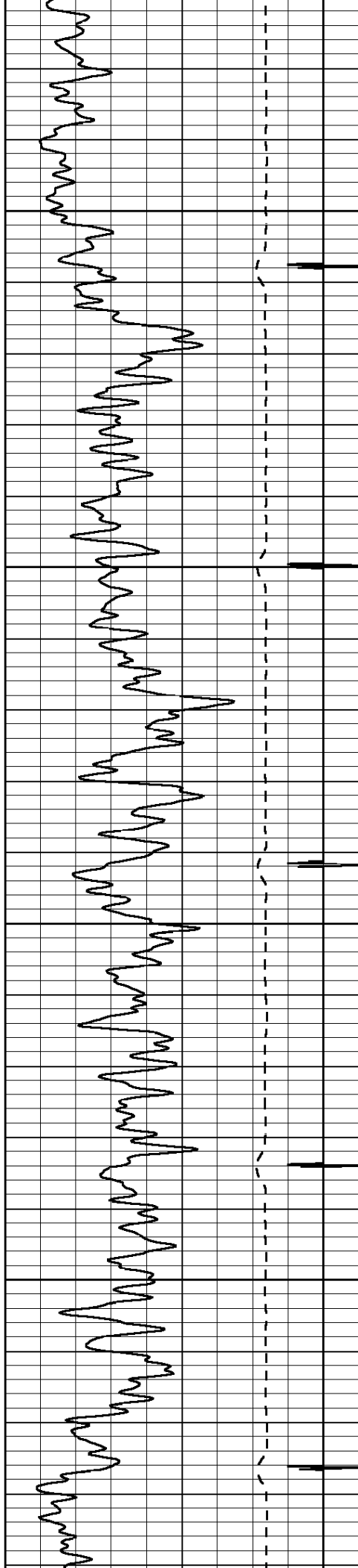


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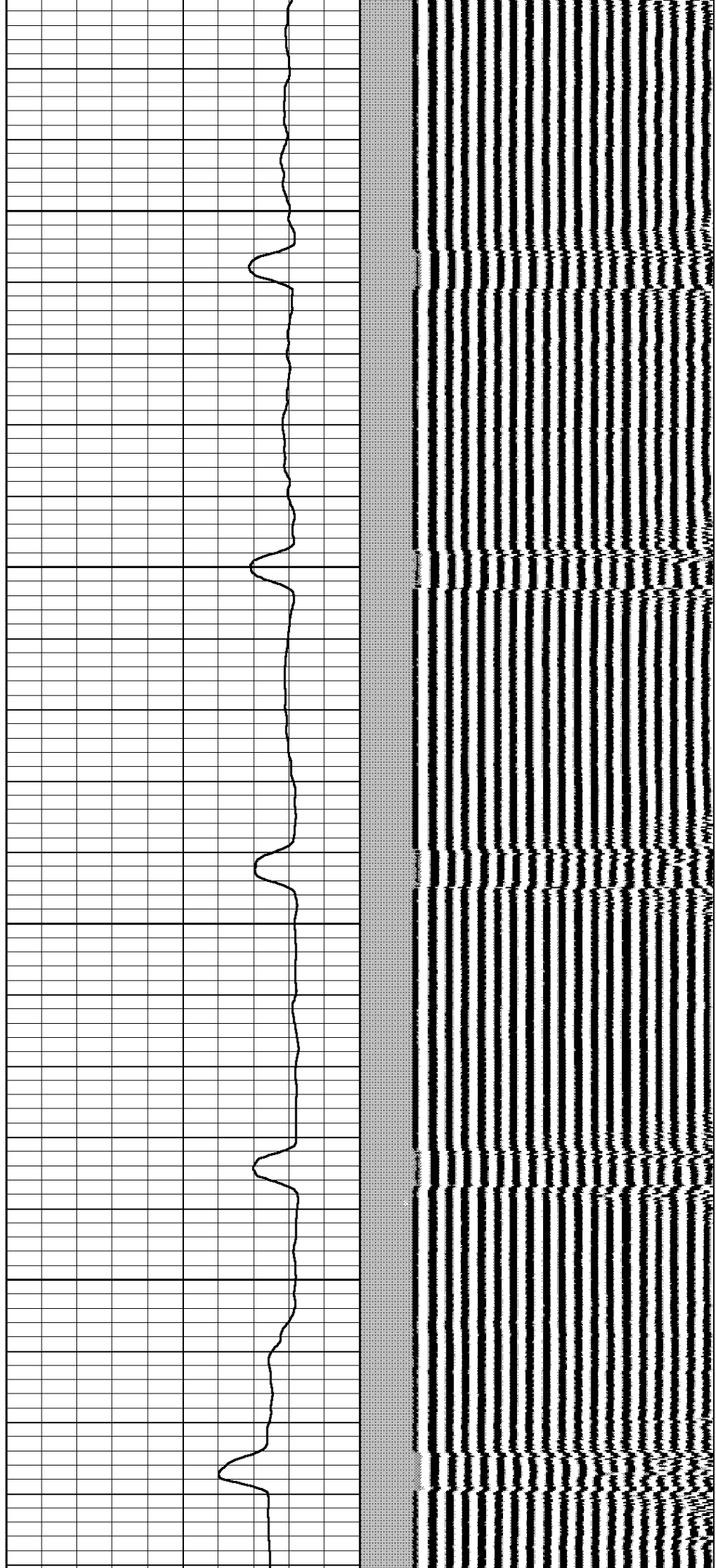
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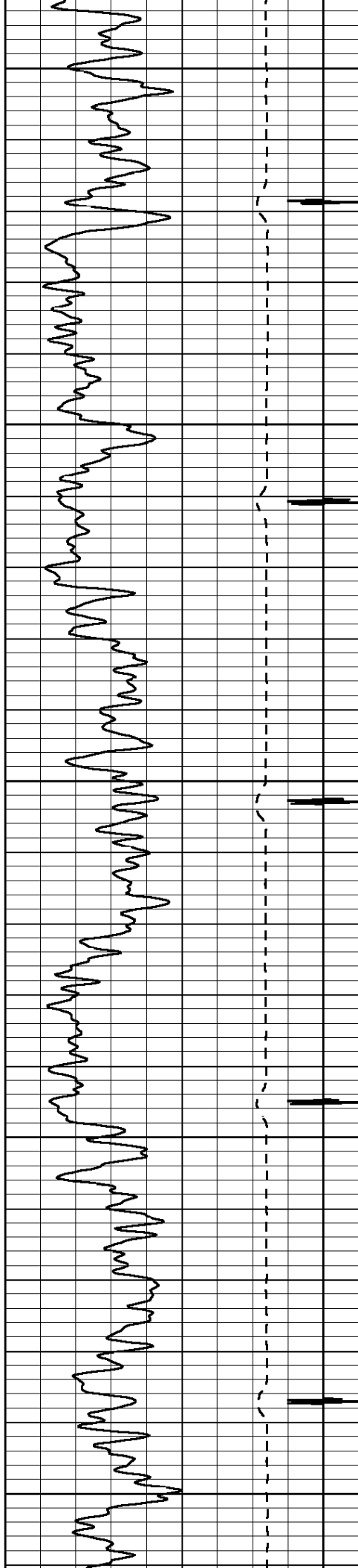




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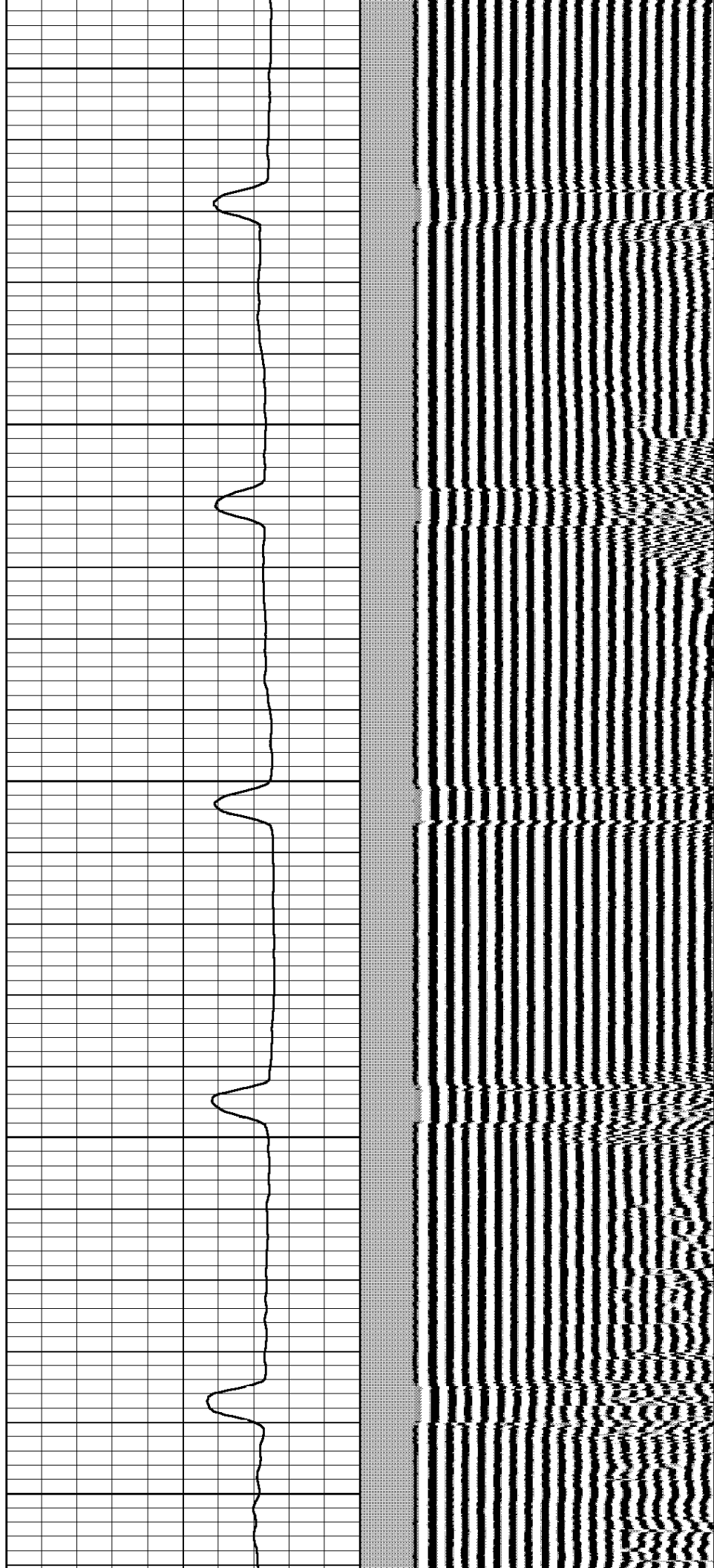


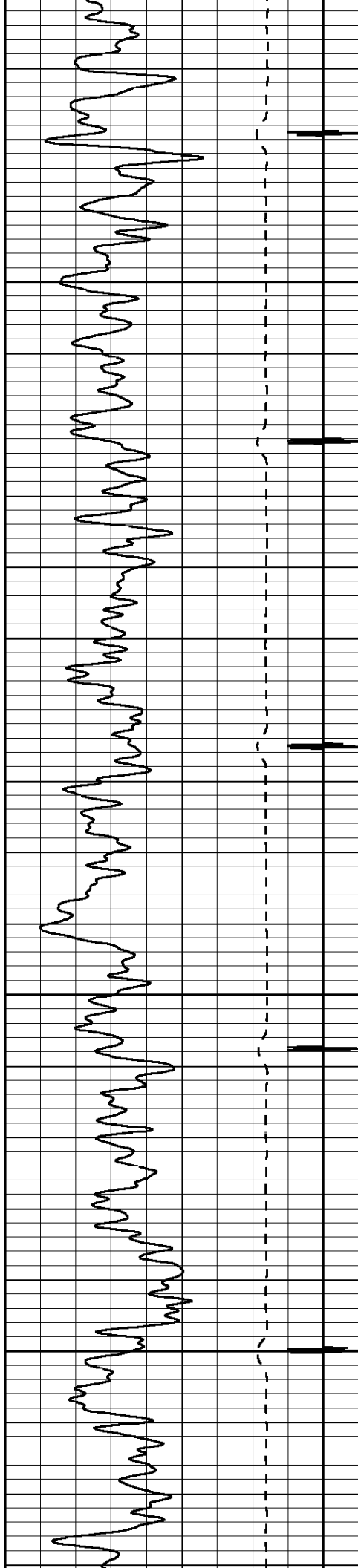


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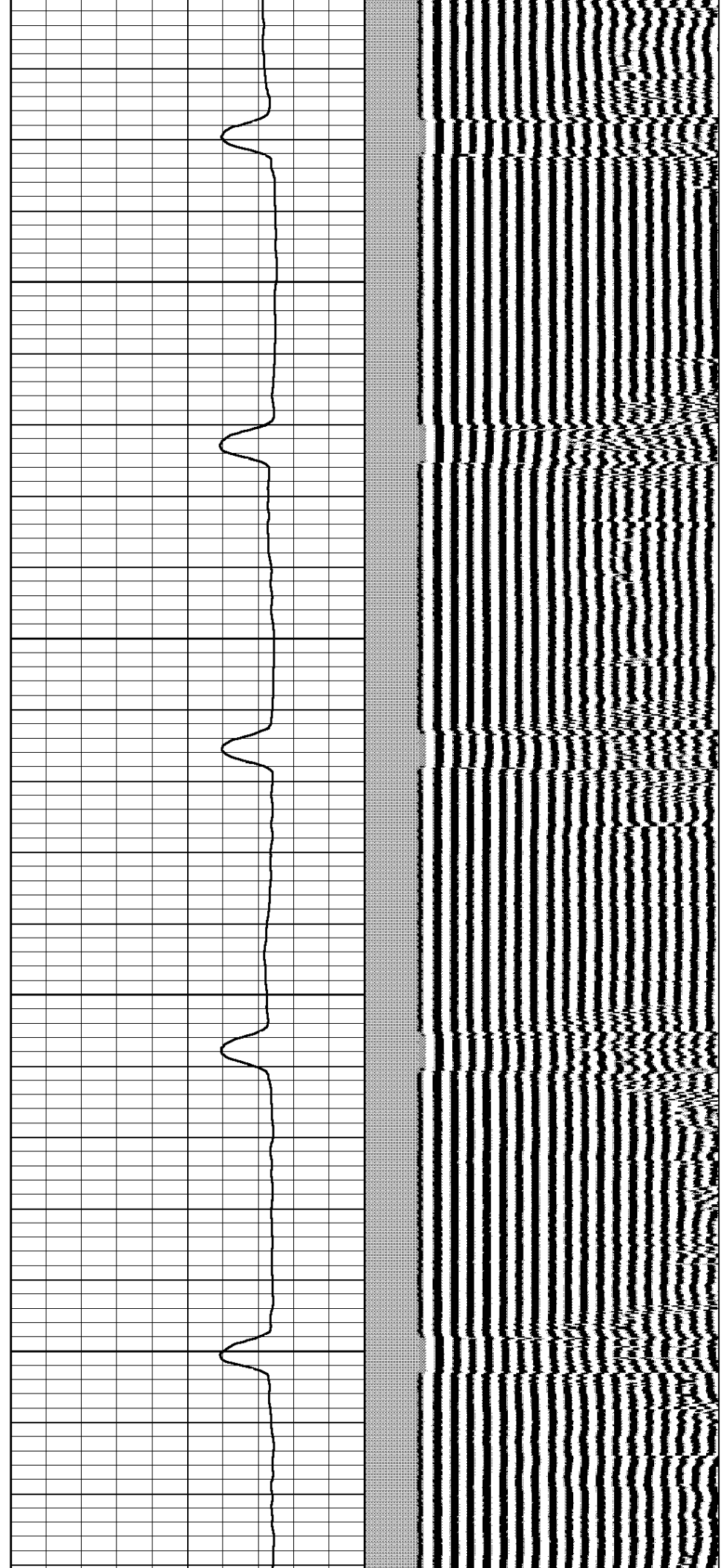
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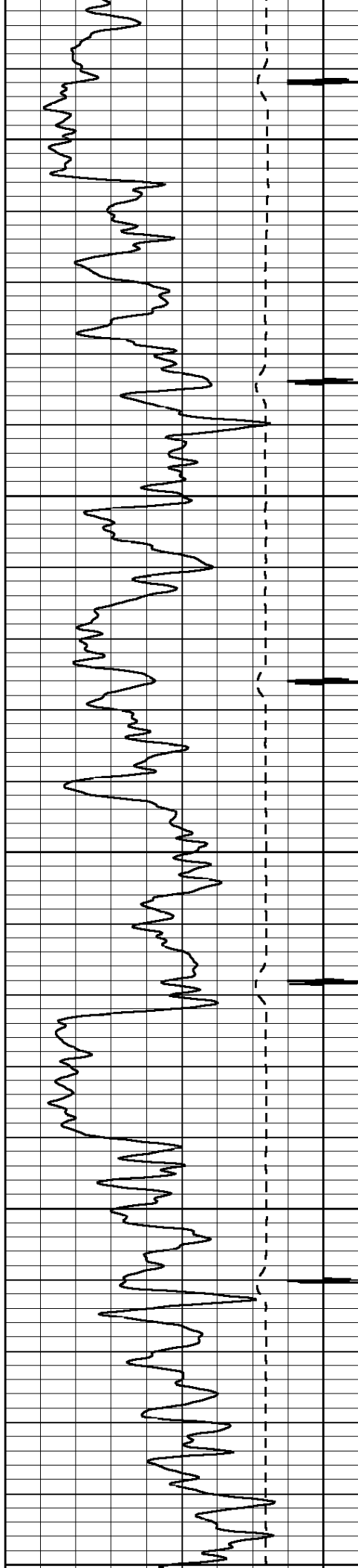




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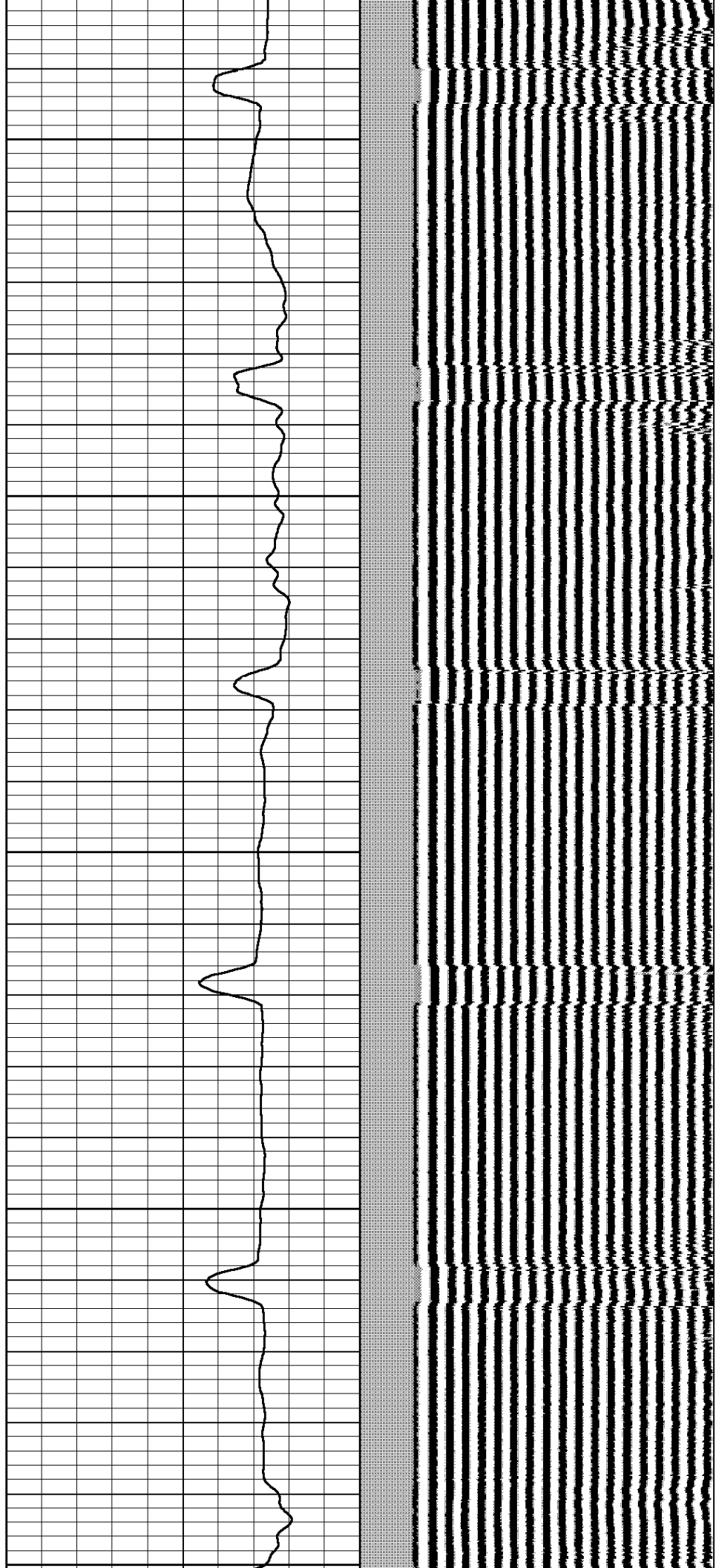
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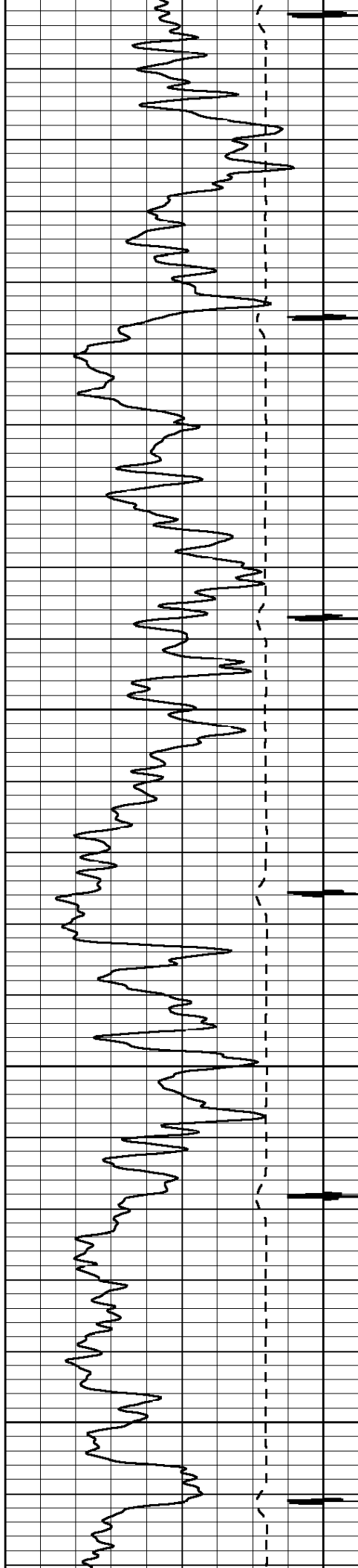




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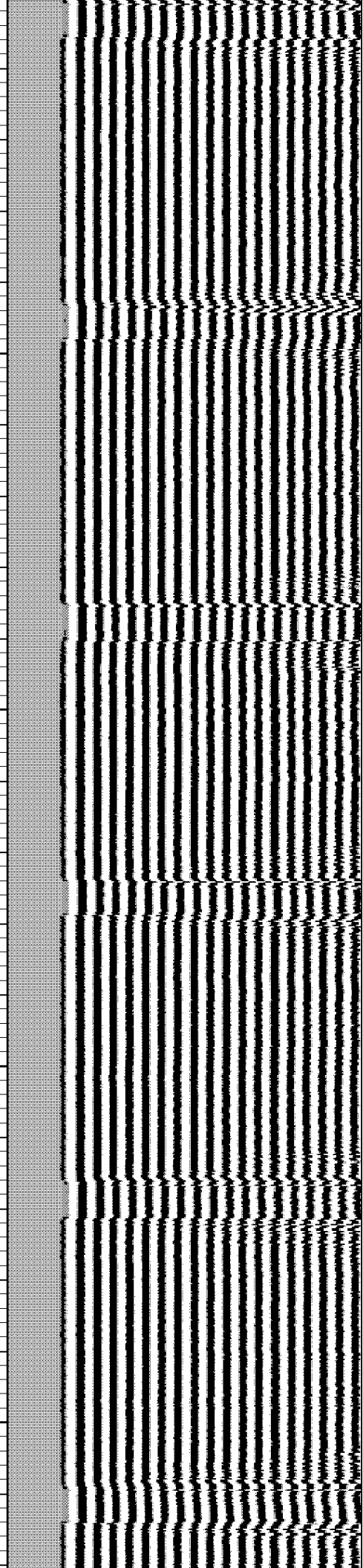
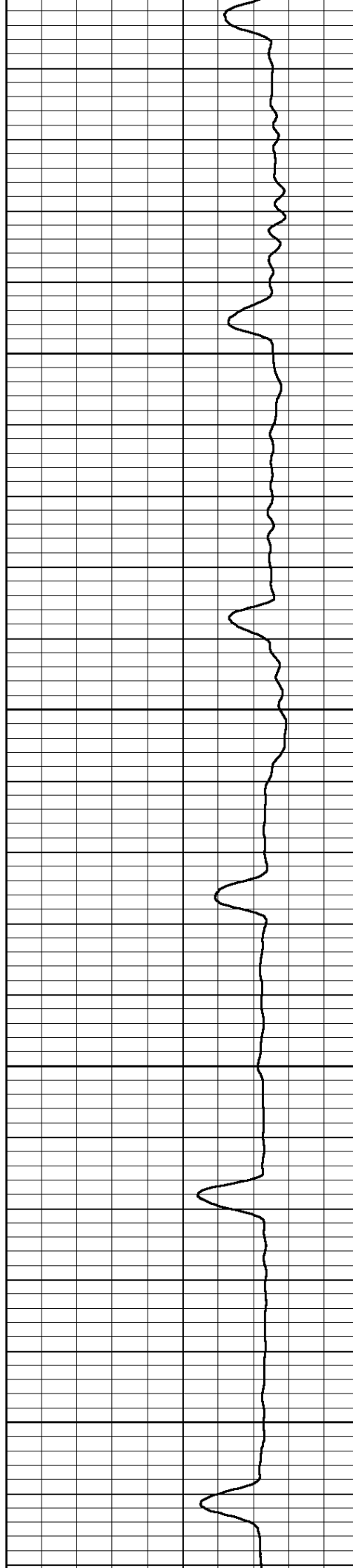
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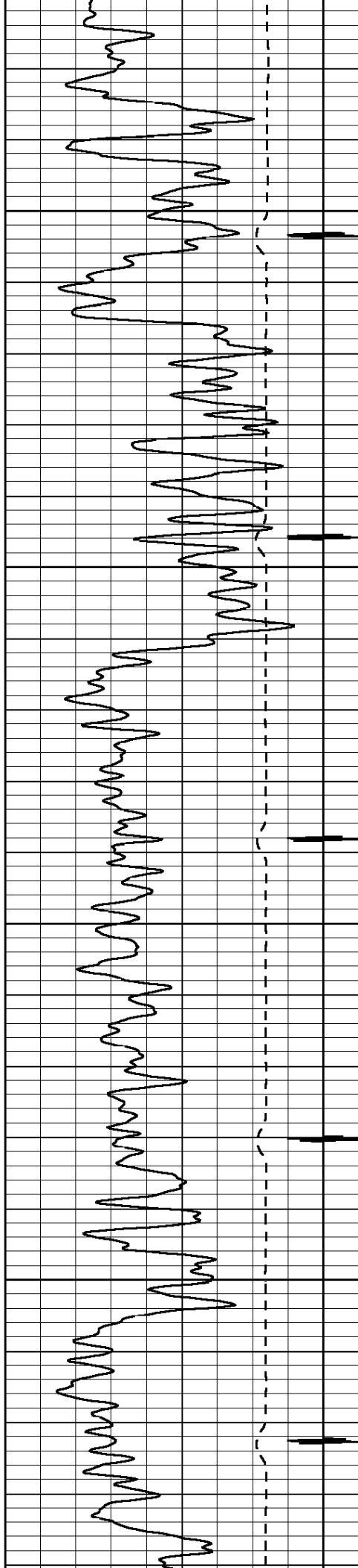




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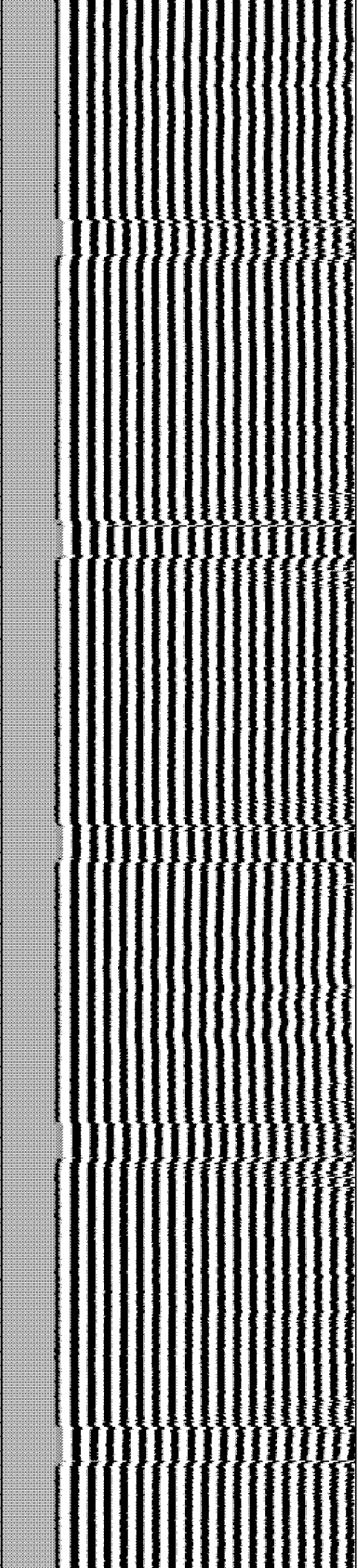
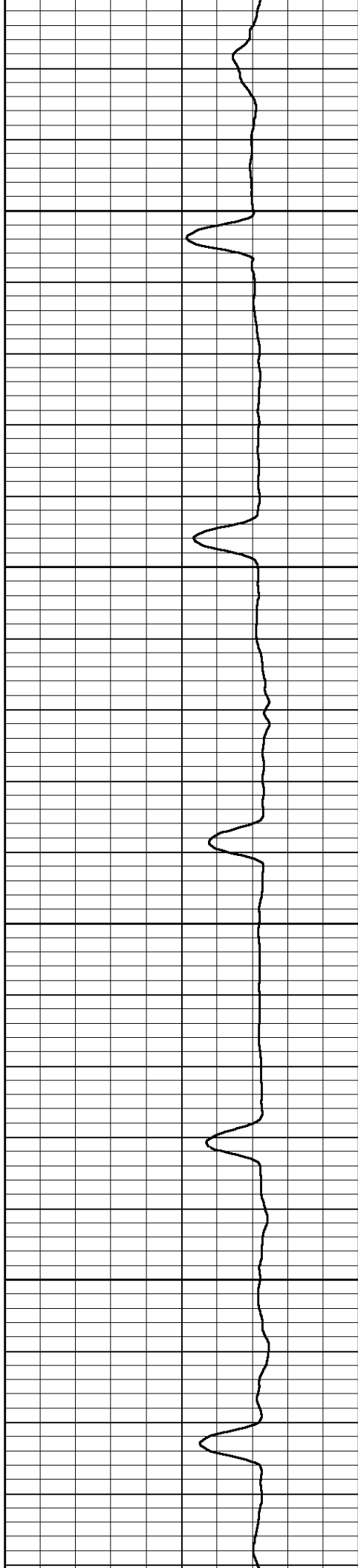
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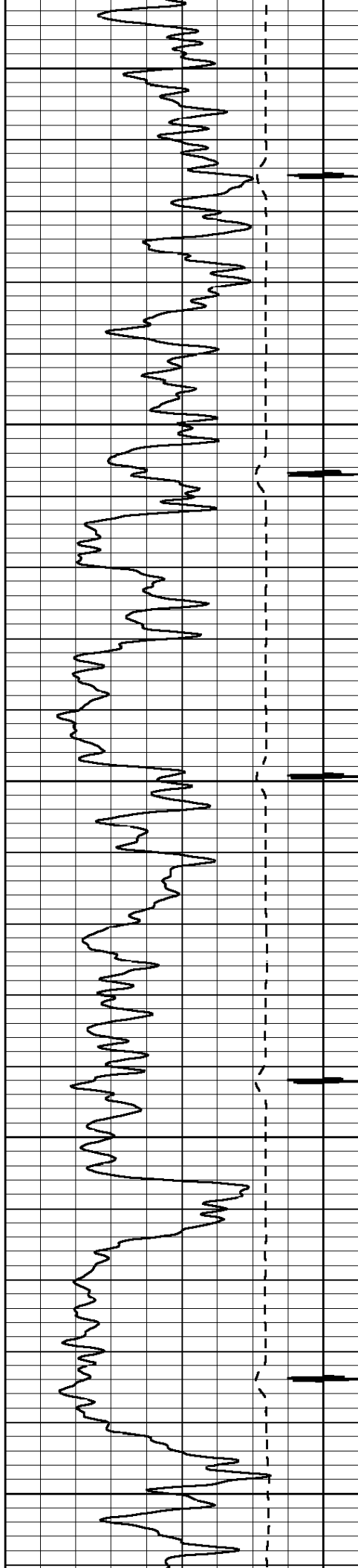




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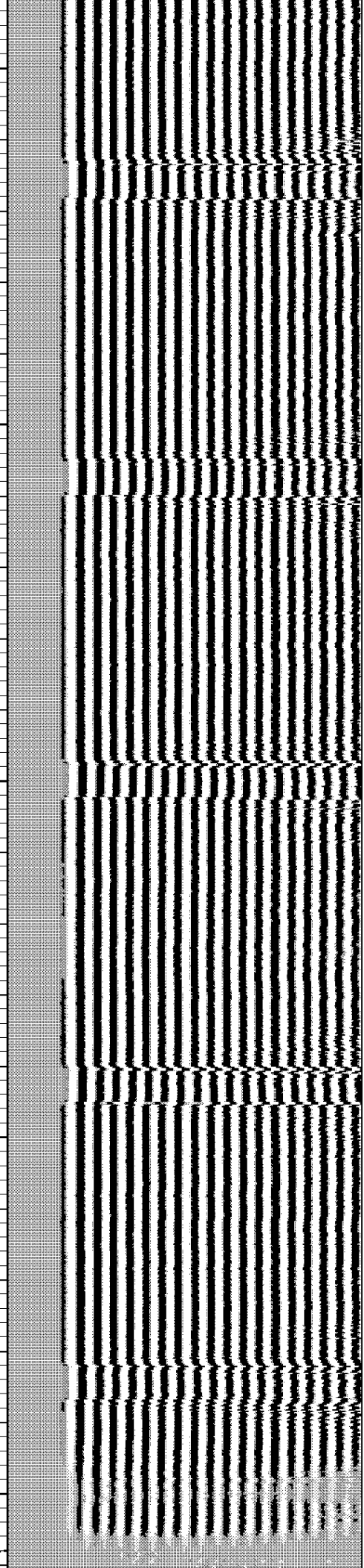
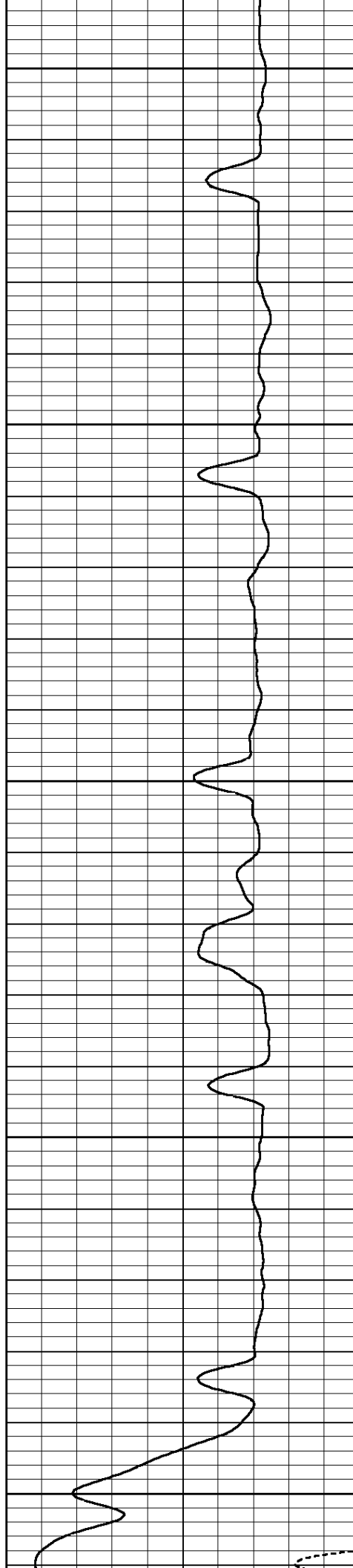


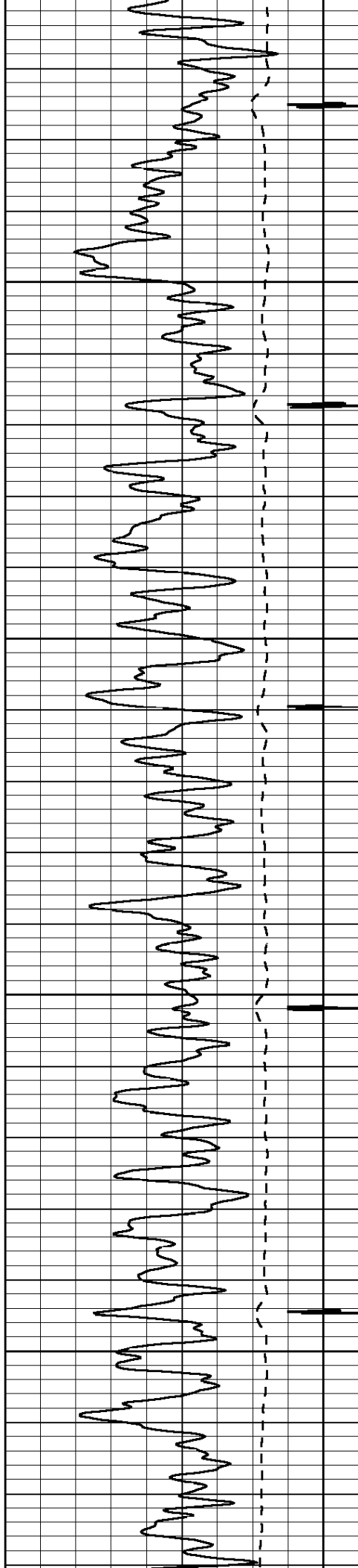


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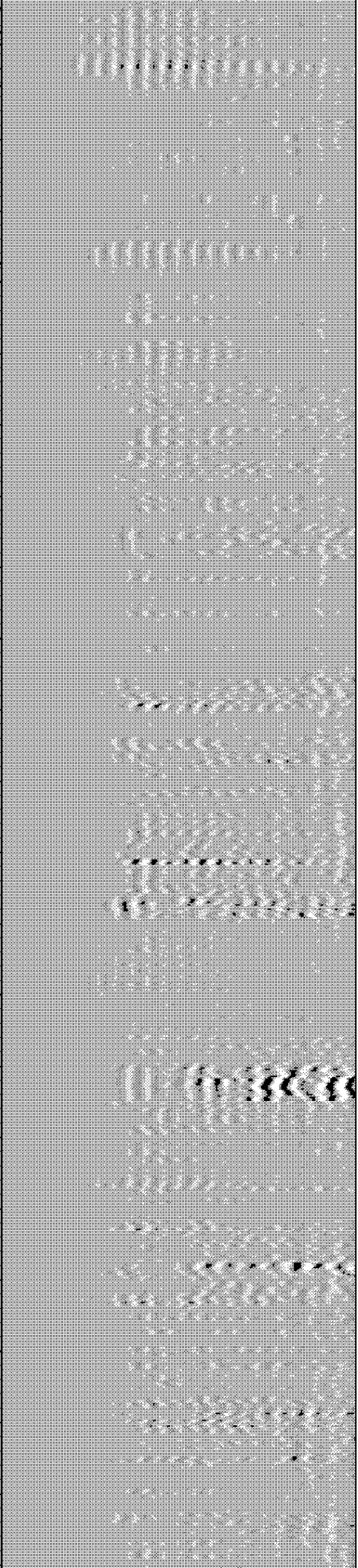
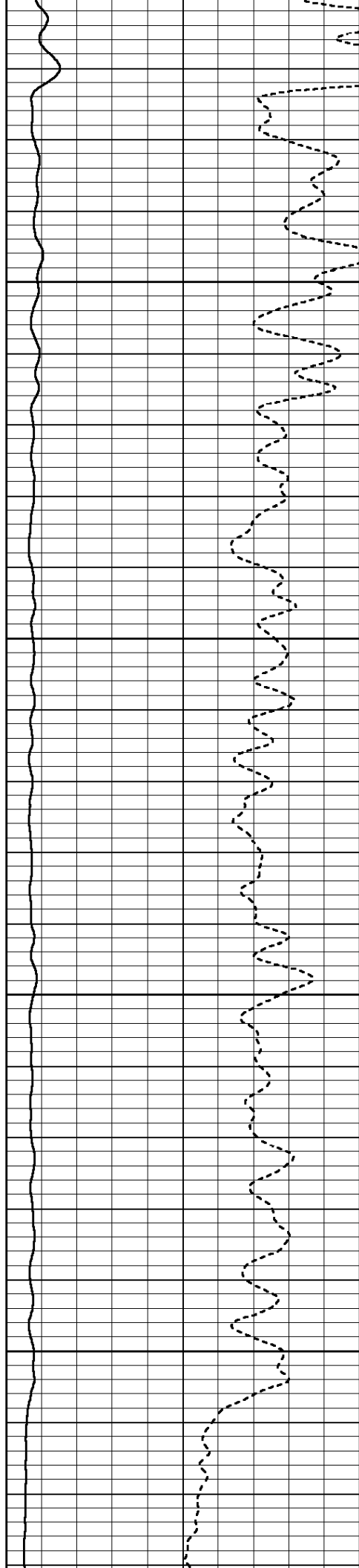
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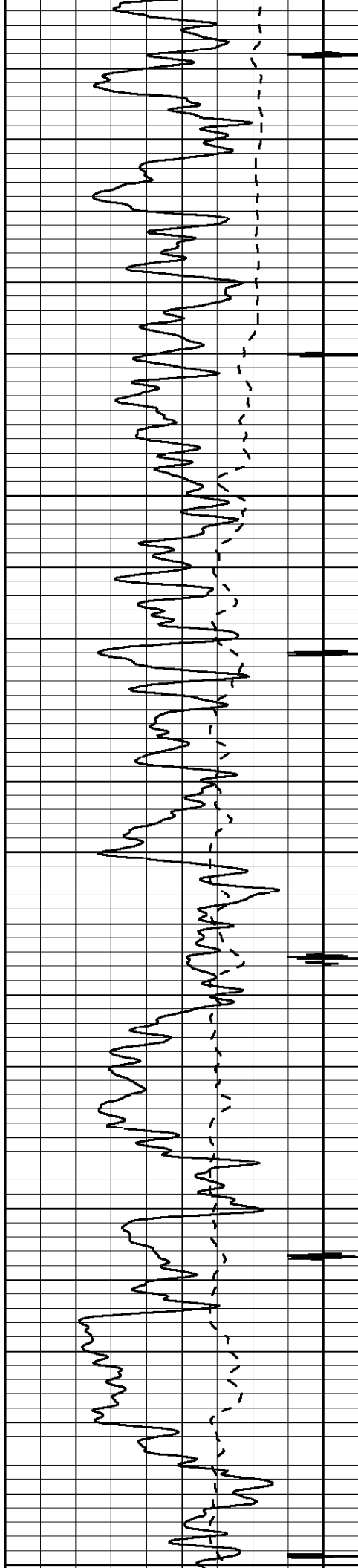




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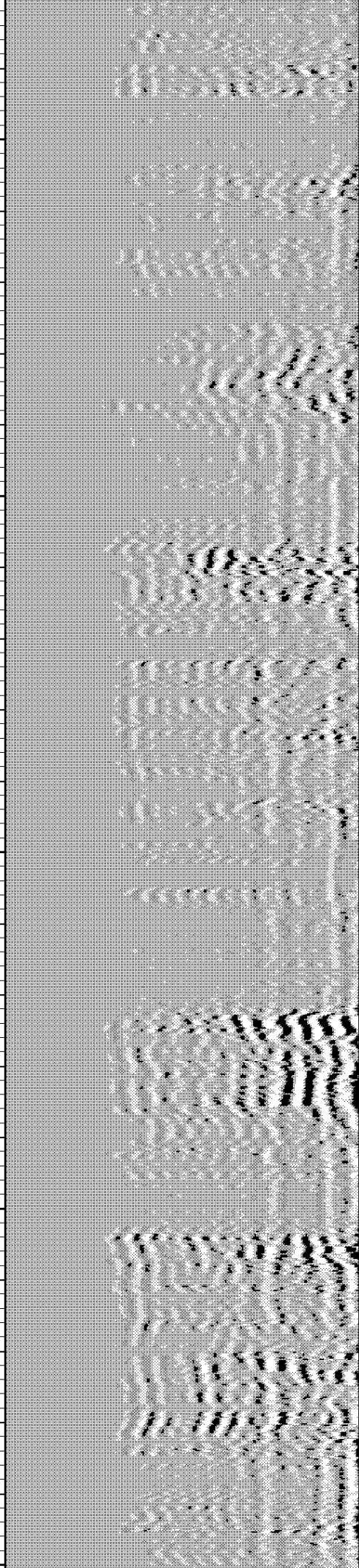
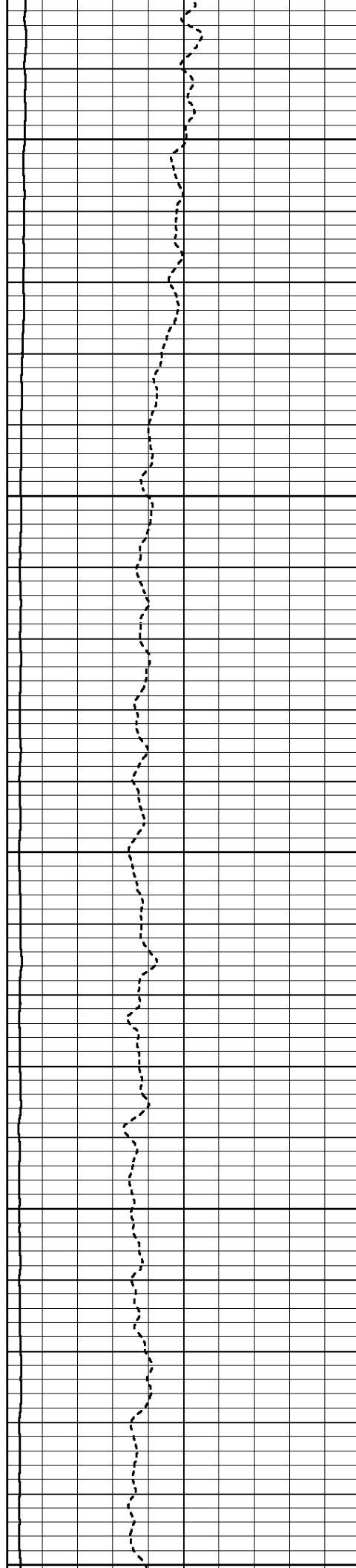
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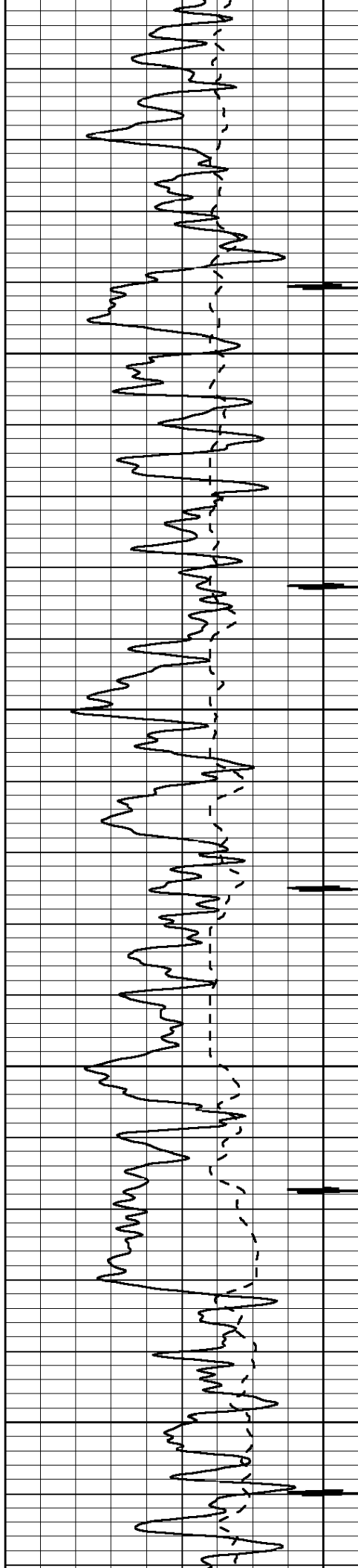




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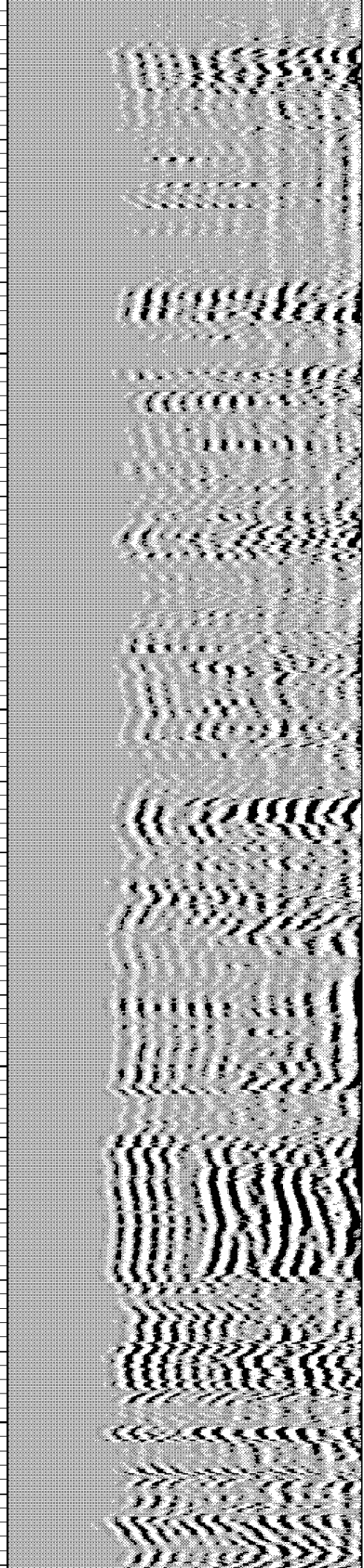
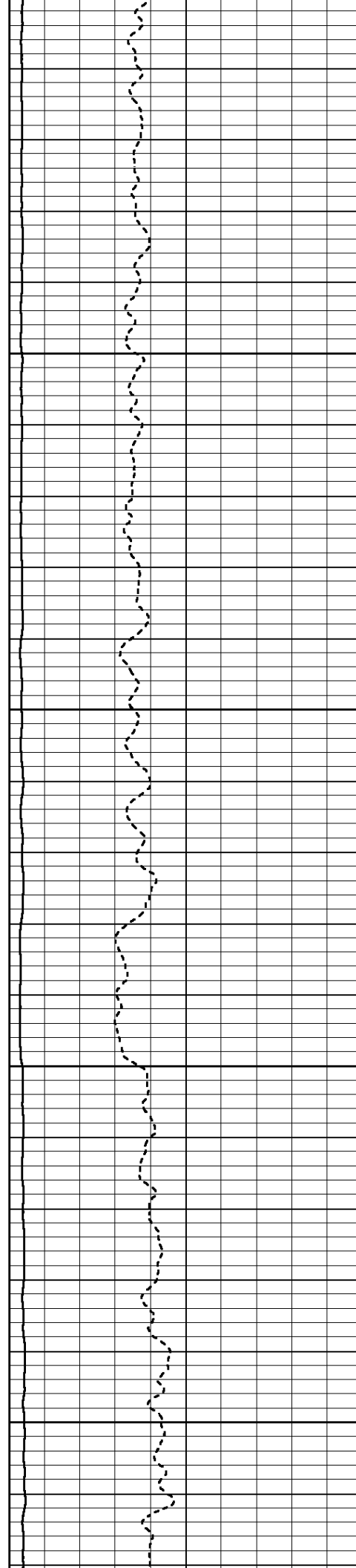
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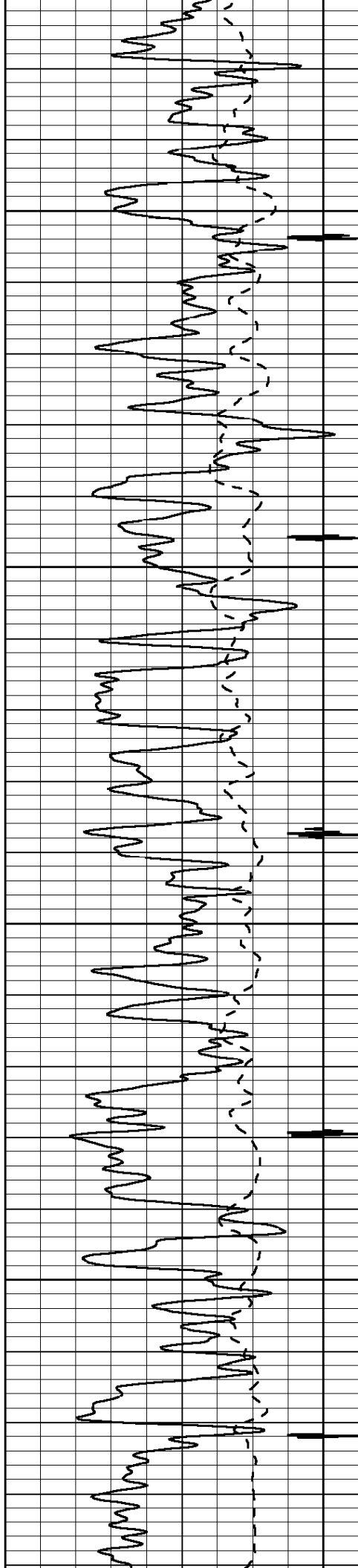




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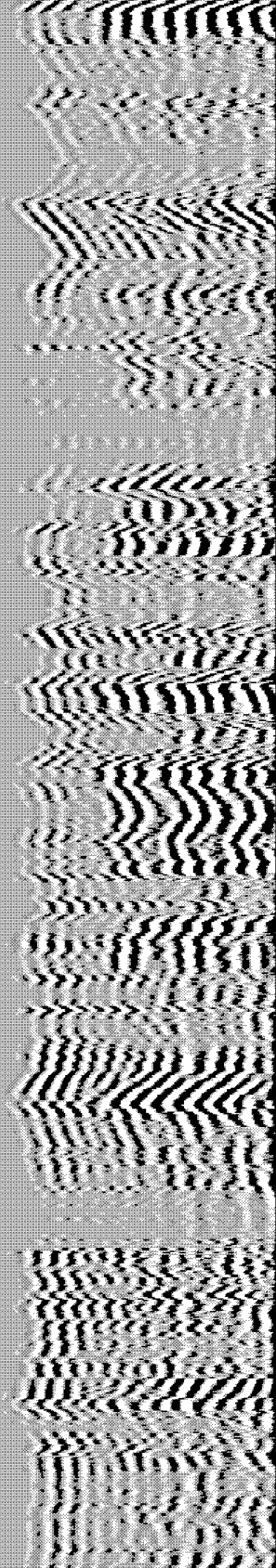
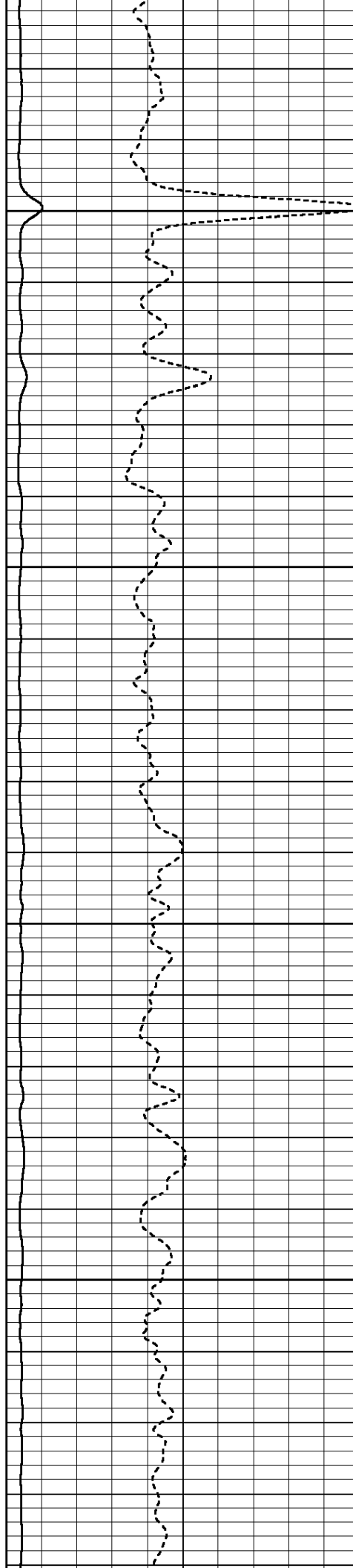
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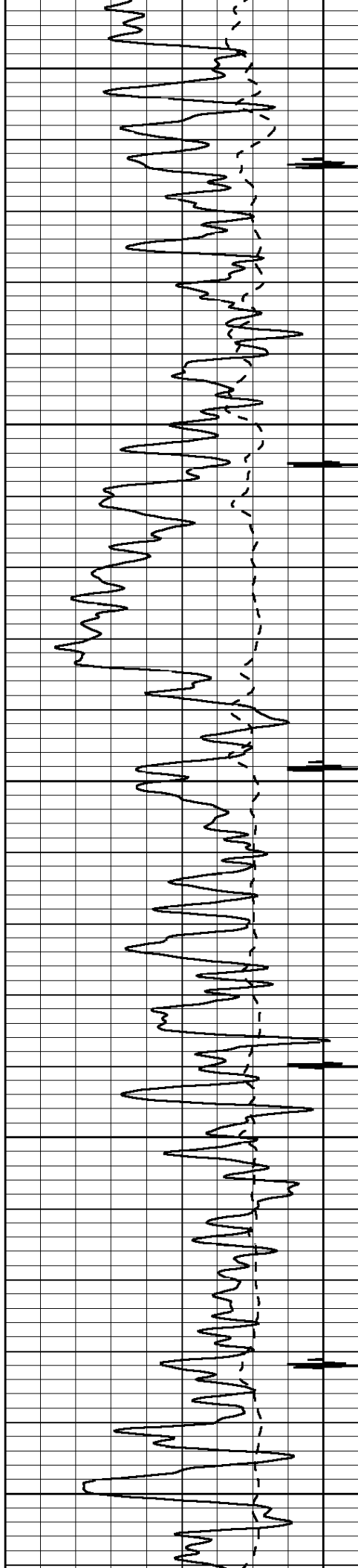




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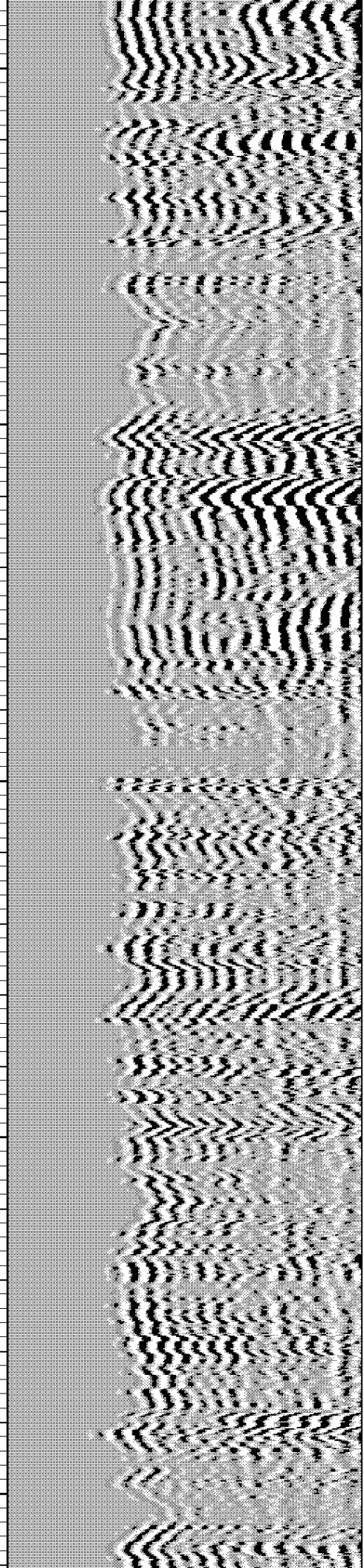
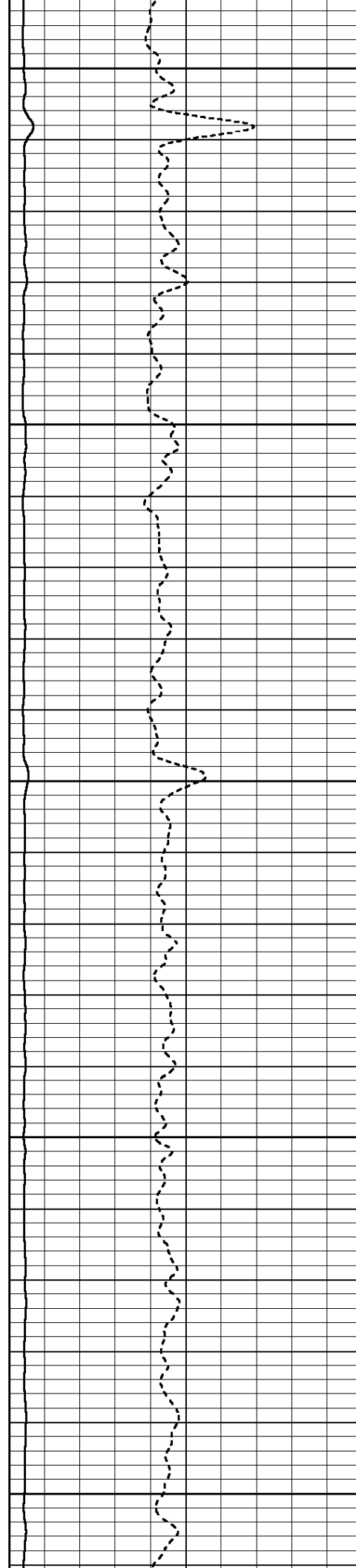


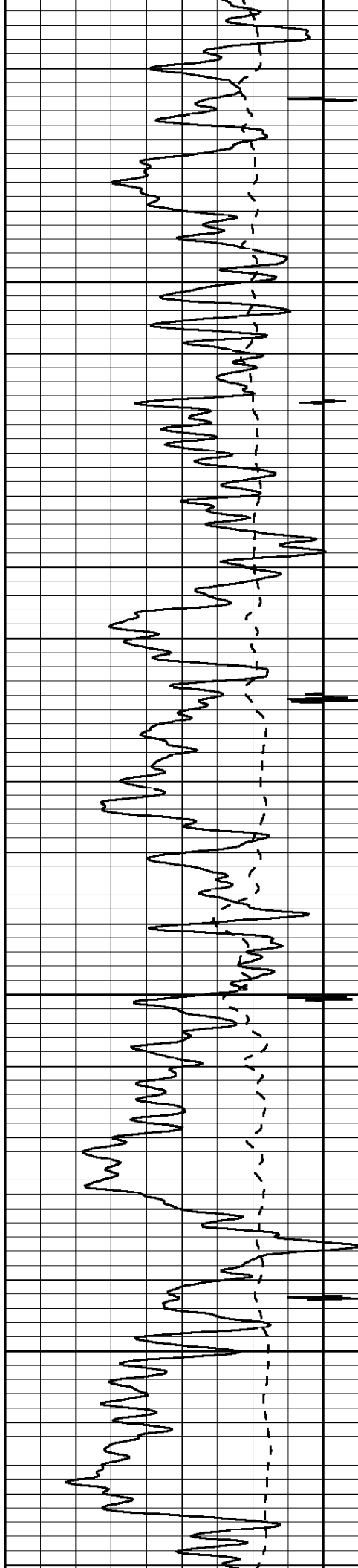


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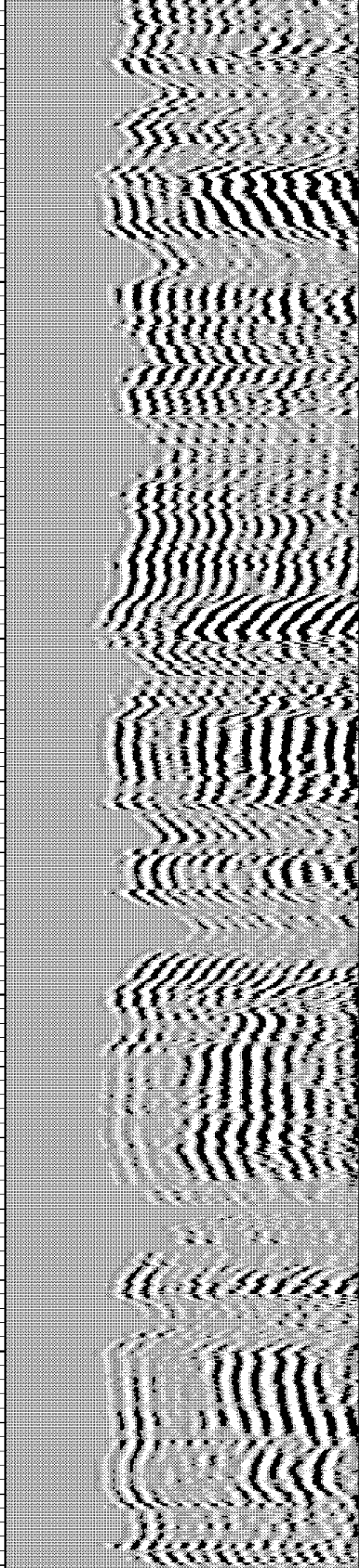
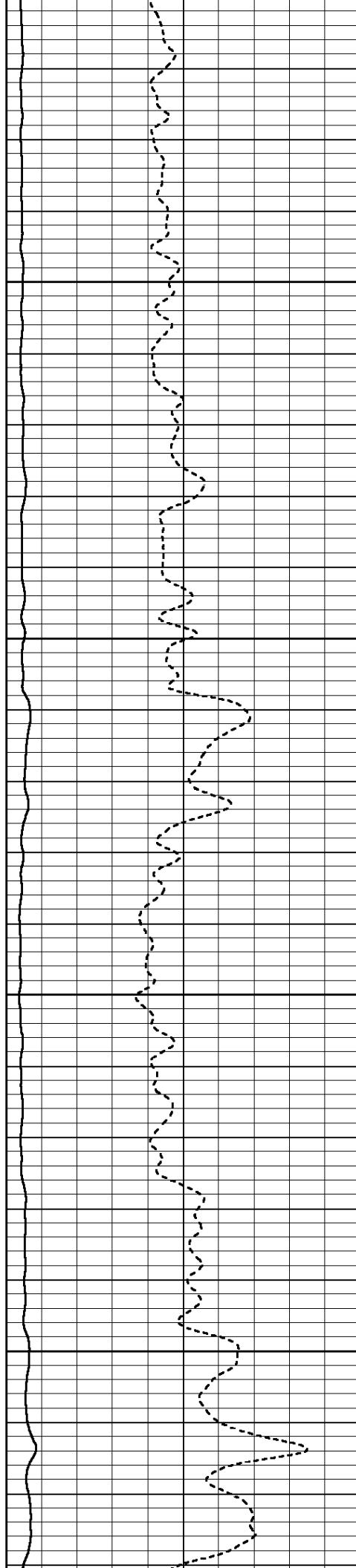
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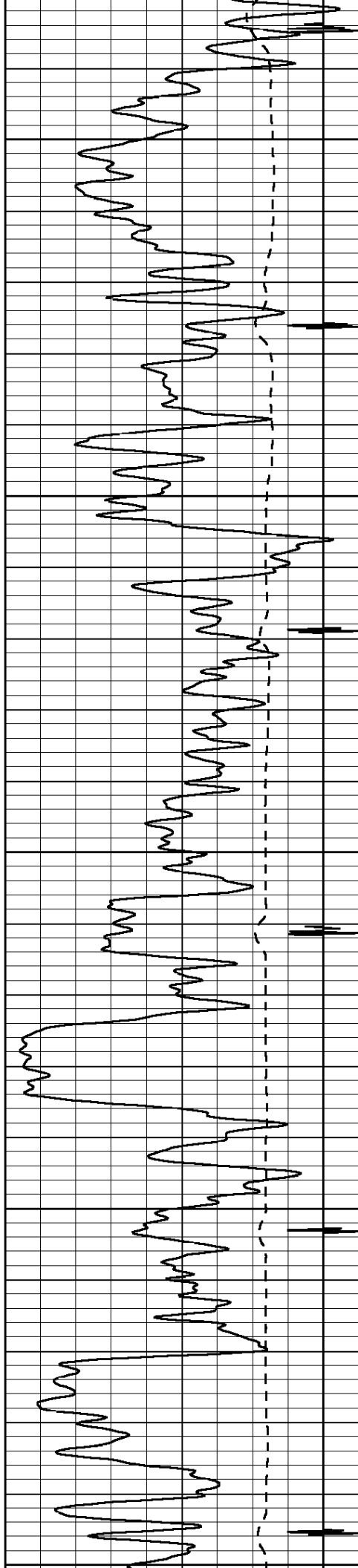




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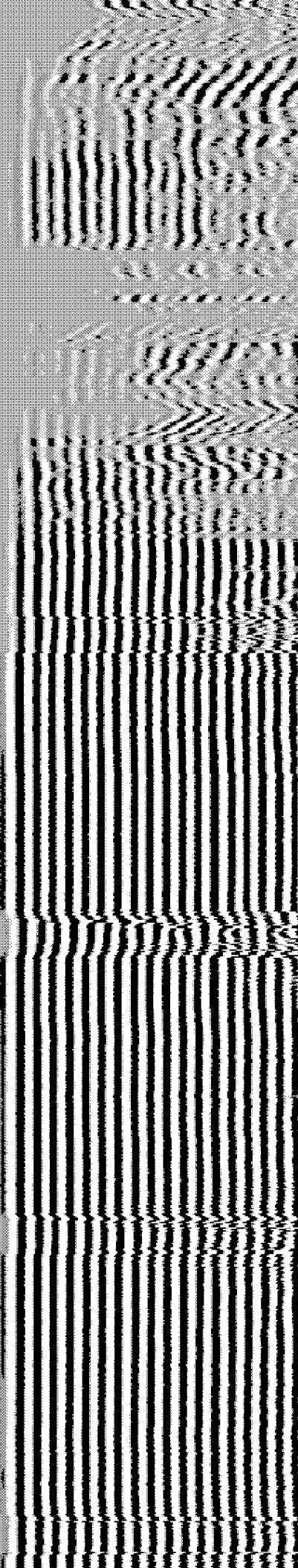
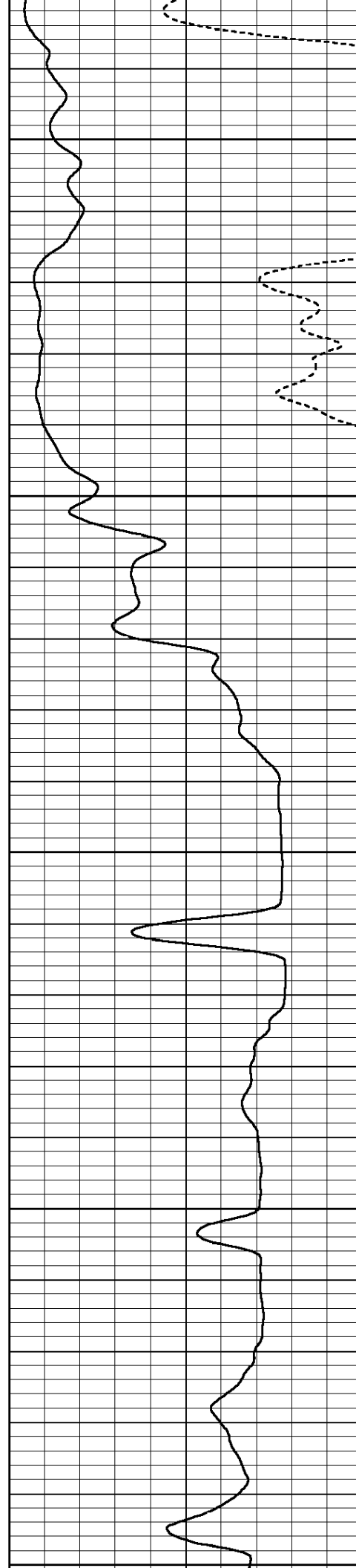
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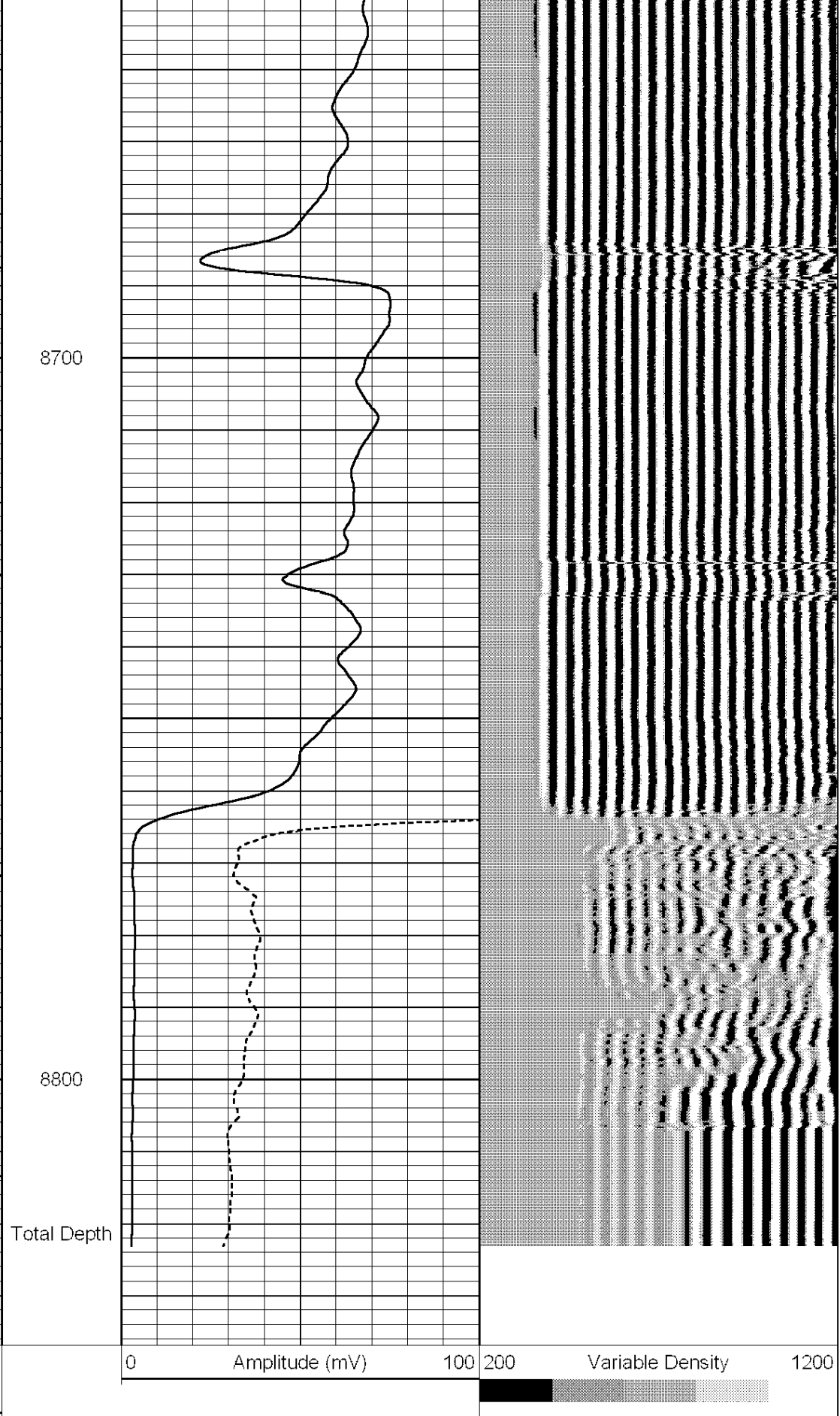




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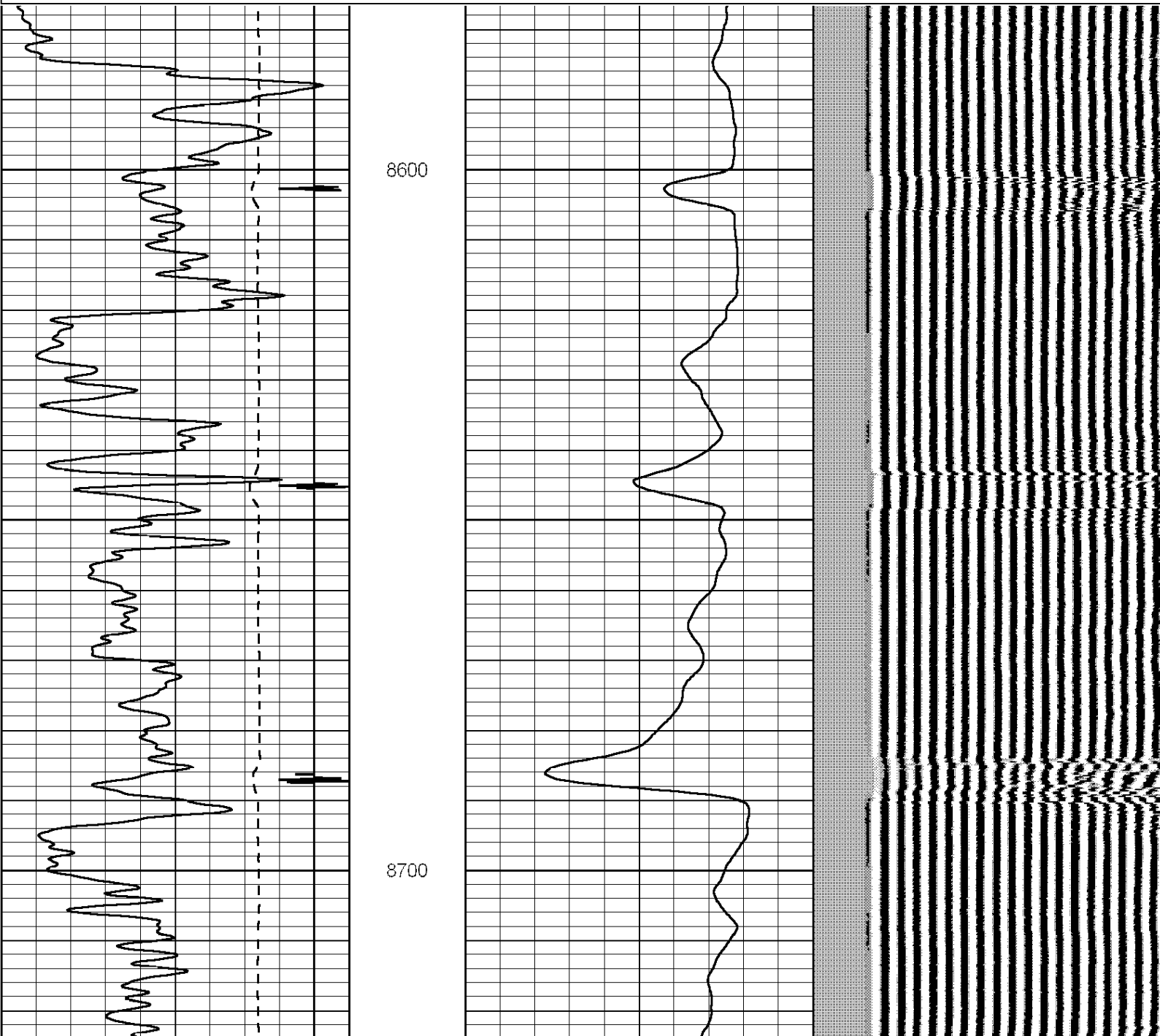


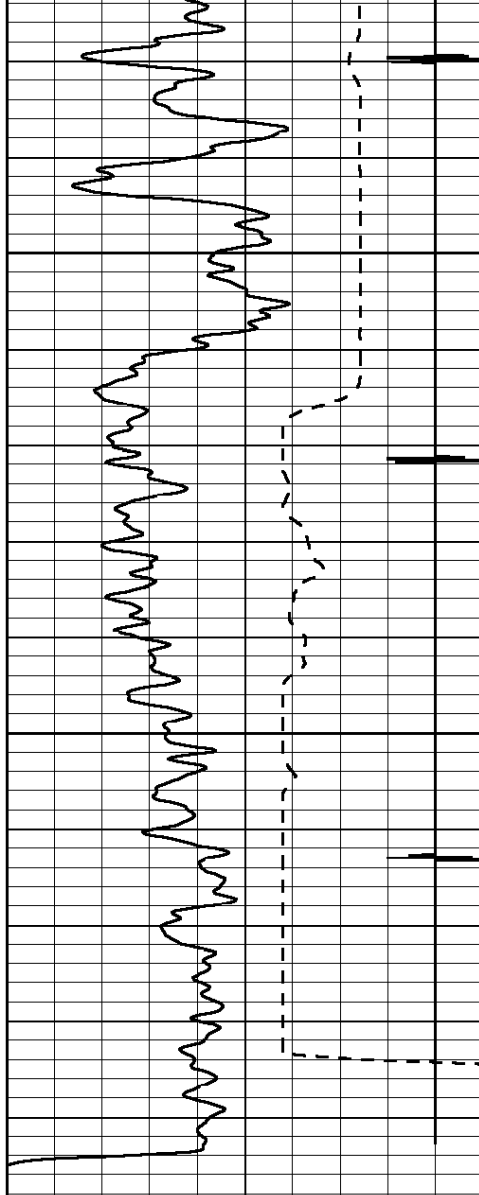
HALLIBURTON

REPEAT PASS

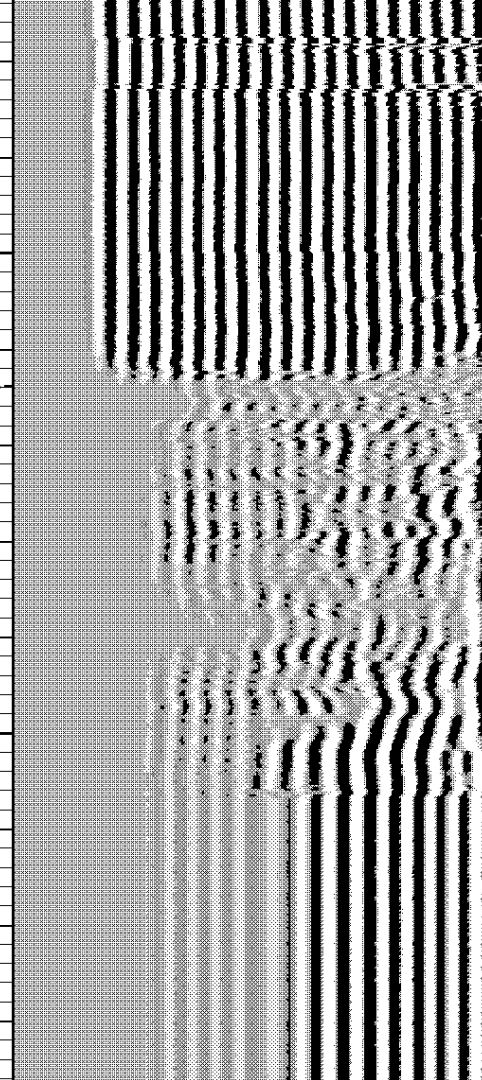
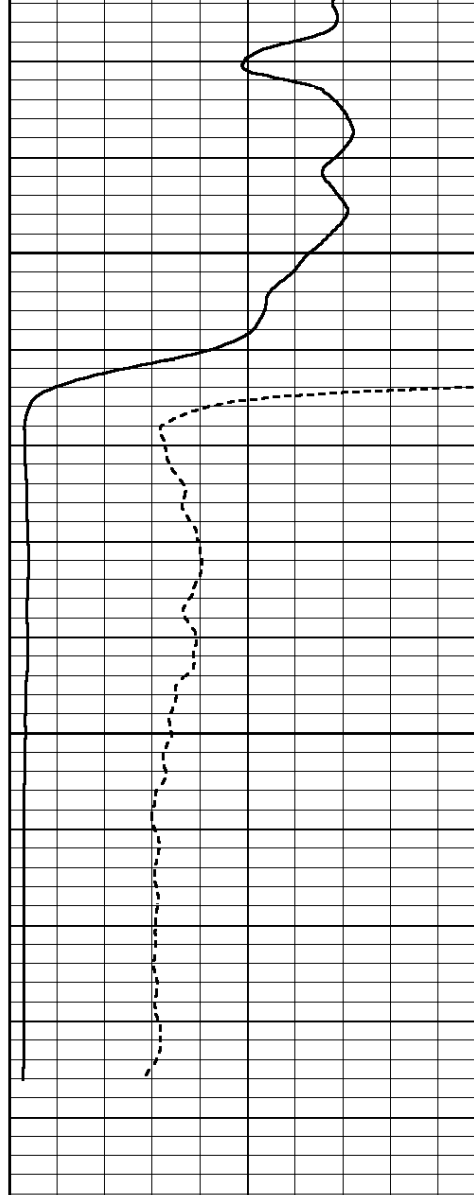
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Dataset Pathname: pass3
Presentation Format: cbl_main
Dataset Creation: Tue Feb 24 19:55:02 2009 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

400	Travel Time (usec)	200	0	Amplitude (mV)	100	200	Variable Density	1200
9	Collar Locator	-1						
0	Gamma Ray (GAPI)	200						





8800



400	Travel Time (uSec)	200
9	Collar Locator	-1
0	Gamma Ray (GAPI)	200

0	Amplitude (mV)	100	200	Variable Density	1200
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HALLIBURTON

REPEAT PASS

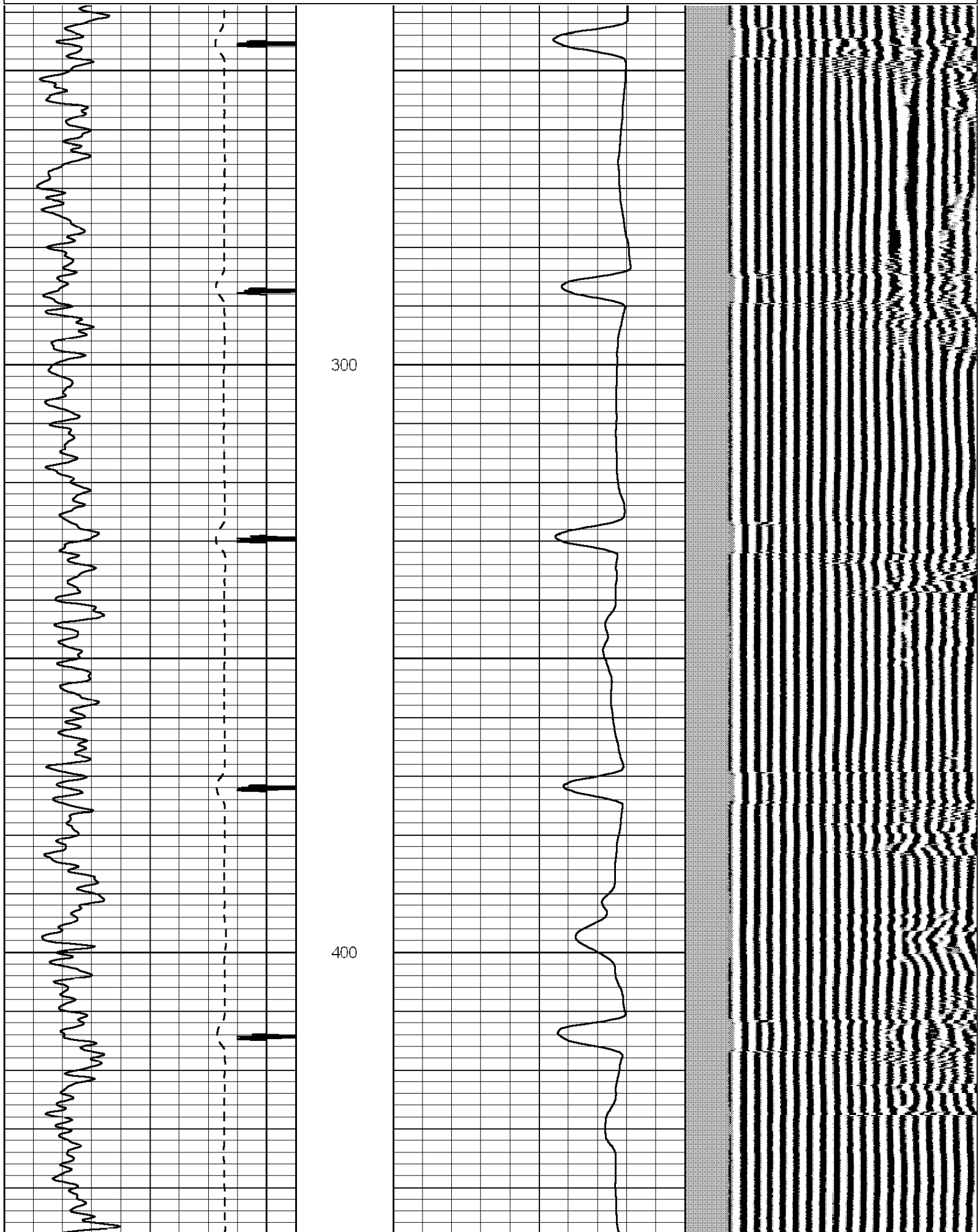
HALLIBURTON

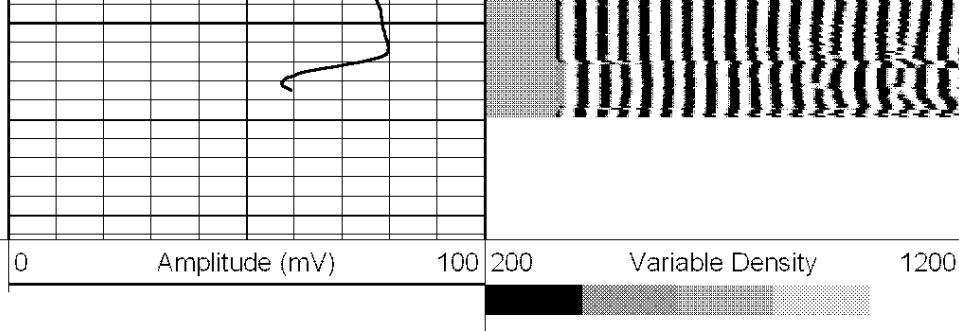
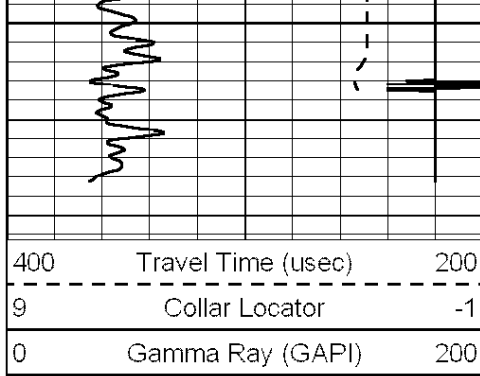
FREE PIPE

Database File: w_ap_44-14-696_cbl.db
 Dataset Pathname: pass1
 Presentation Format: cbl_main
 Dataset Creation: Tue Feb 24 19:10:08 2009 by Log Halliburton Casedho
 Charted by: Depth in Feet scaled 1:240

400	Travel Time (uSec)	200
9	Collar Locator	-1

0	Amplitude (mV)	100	200	Variable Density	1200
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HALLIBURTON	<h1>FREE PIPE</h1>
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Calibration Report	
Database File:	w_ap_44-14-696_cbl.db
Dataset Pathname:	pass4
Dataset Creation:	Tue Feb 24 20:02:56 2009 by Log Halliburton Casedho

Temperature Calibration Report	
Serial Number:	070606
Tool Model:	1.375TEMP
Performed:	Fri Jul 05 03:18:21 1996
	Reference Reading
Low Reference:	0.00 degF 0.00 cps
High Reference:	1.00 degF 1.00 cps
Gain:	0.10
Offset:	0.00
Delta Spacing	1

Gamma Ray Calibration Report	
Type / Serial:	Probe / 070359

SHOP CALIBRATION		Mon Feb 23 08:46:30 2009			
	Counts/Sec.	Gain	Offset	Jig	Units
Background	78.5				cps
Calibrator	309.9				cps
		0.9163			GAPI/cps
PRIMARY VERIFICATION		Mon Feb 23 08:48:37 2009			
Background	71.6				cps
Calibrator	285.5				cps
Difference				213.9	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

Cement Bond Log Calibration Report						
Serial Number:		081003				
Tool Model:		Probe				
Performed:		Tue Feb 24 20:53:11 2009				
Depth:		460.77	ft			
Casing Diameter:		4.5	in			
		3' Spacing		5' Spacing		
Signal Zero:		3		3	mV	
Calibrated Amplitude:		81.1961		81.1961	mV	
Reading at Signal Zero:		0.00339355		0.00292969	V	
Reading in Free Pipe:		1.78945		1.60095	V	
Gain:		46.7814		48.933		
Offset:		2.85143		2.85664		

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
WVF3	13.43		STNDRD Standard Cable Head - F.N. 1 3/8"	1.15	1.44	1.10
			CENT-Probe (PT_MONO2)	2.88	2.75	35.00
			CBL-Probe (081003) Probe 2.75" Dual Receiver Bond	8.75	2.75	60.00
			CENT-Probe (PT_MONO2)	2.88	2.75	35.00

CCL	5.46					
GR	4.08		GR-Probe (070359) Probe 2.75" 4 Channel Pulse	4.81	2.75	30.00
TEMP LLMTEN	0.08 0.00		TEMP-1.375TEMP (070606) Temperature Tool	1.54	1.38	5.00
Dataset: w_ap_44-14-696_cbl.db: field/well/run1/pass4 Total Length: 22.02 ft Total Weight: 166.10 lb O.D.: 2.75 in						

Company	WILLIAMS PRODUCTION RMT CO				
Well	AP 44-14-696				
Field	PARACHUTE				
County	GARFIELD			State	CO
HALLIBURTON			ACOUSTIC CEMENT BOND LOG		