

HALLIBURTON

ACOUSTIC CEMENT BOND LOG

Company		WILLIAMS PRODUCTION CO	
Well		GM 314-32	
Field		GRAND VALLEY	
County		GARFIELD State CO	
Company WILLIAMS PRODUCTION CO Well GM 314-32 Field GRAND VALLEY County GARFIELD State CO		API No.: 05045169280000 Serv #: 6459456 Location: SURFACE HOLE: 2656' FNL & 2263' FWL BOTTOM HOLE: 1029' FSL & 1229' FWL NONE	
Permanent Datum		GROUND LEVEL Elevation 5736'	
Log Measured From		K.B. , 15 Ft. above perm. datum	
Drilling Measured From		K.B. D.F. 5736'	
Date @ Time Logged	01/27/2009 @ 1000 HRS	Type Fluid in Hole	FRESH WATER
Run No.	ONE	Density of Fluid	8.34 PPG
Depth - Driller	6960'	Fluid Level	FULL
Depth - Logger	6913'	Cement Top Est. Logged	LOGGED
Bottom - Logged Interval	6912'	Equipment / Location	10029613 / GU
Top - Log Interval	SURFACE	Recorded by	A. LINTEL
Max. Recorded Temp.	210 F	Witnessed by	N/A
CEMENTING DATA		Protection	Production
Date / Time Cemented	String	String	Liner
Primary / Squeeze			
Expected			
Compressive Strength	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 45'	18" 48#	SURFACE 45'
TWO	13.5" 45' 1300'	9.625" 32.3#	SURFACE 1300'
THREE	7.875" 1300' 6960'	4.5" 11.6#	SURFACE 6948'

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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 WHCIH 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

CORRELATED TO HES DENSITY/NEUTRON/RESISTIVITY LOG DATED 01/19/2009

LOGGED INTERVALS PER CUSTOMER REQUEST

SHORT JOINT: 3739' - 3768'

THANK YOU FOR USING HALLIBURTON ENERGY SERVICES GRAND JUNCTION, CO

Service Ticket No. 6459456

API No. 05045169280000

PGM Ver WARRIOR 7.0

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

EQUIPMENT DATA

CBL		GR/CBL						
Run No.	ONE	Run No.	ONE	Run No.		Run No.		
Serial No.	061113	Serial No.	061015	Serial No.		Serial No.		
Model No.	CBL-PROBE	Model No.	GR-PROBE	Model No.		Model No.		
Diameter	2.75"	Diameter	2.75"	Diameter		Diameter		
LOGGING DATA								
General Data								
Pass	Depths		Well Head	Speed	Logging Run Comments			
No.	From	To	Pressure	Ft/Min				
ONE	6913'	SURFACE	0 PSI	60	MAIN LOG SECTION			
GAMMA RAY		CCL		AMPLITUDE				
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	200	-9	1	0	100		
DIRECTIONAL INFORMATION								
Maximum Deviation			deg. @		KOP			

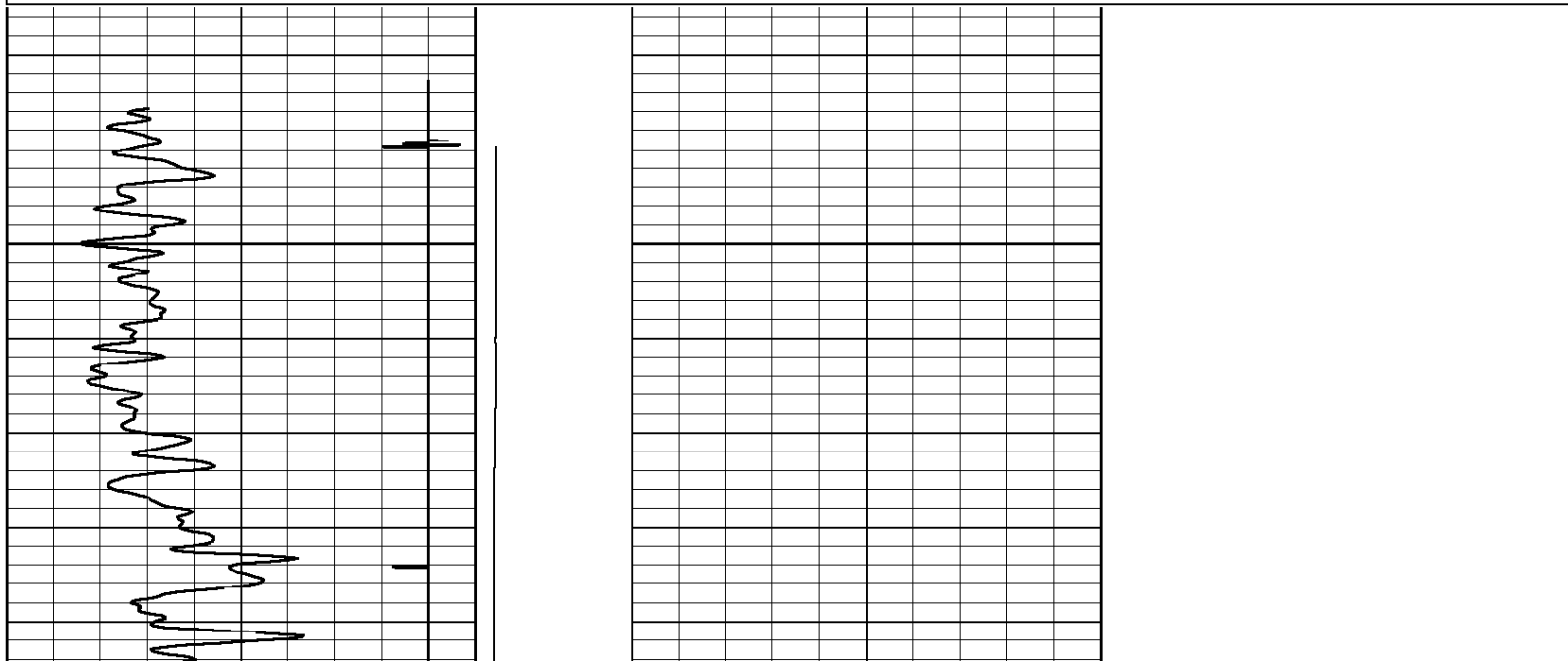
HALLIBURTON

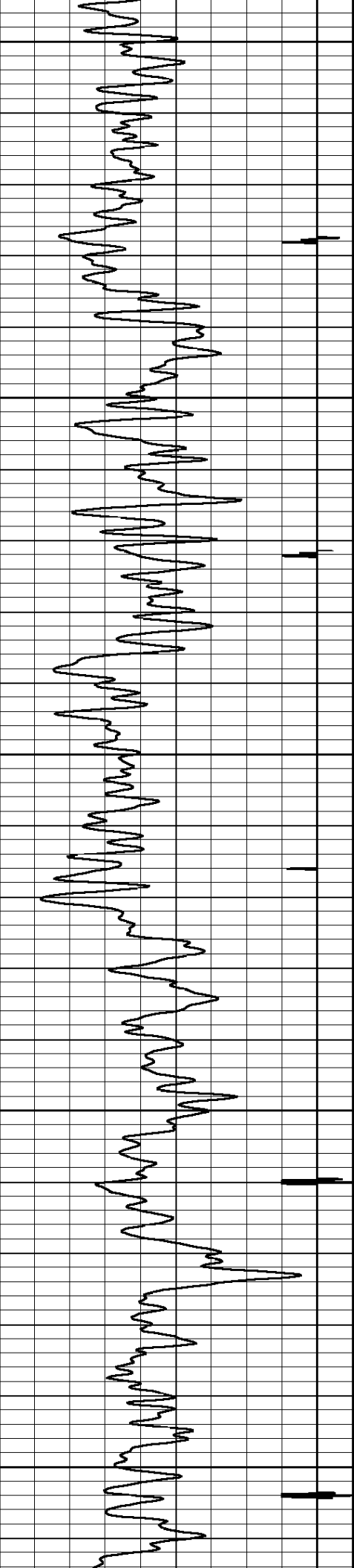
MAIN LOG SECTION

5" = 100'

Database File:	gm_314_32_cbl.db
Dataset Pathname:	mainF
Presentation Format:	CBL_PR~1
Dataset Creation:	Tue Jan 27 12:22:20 2009
Charted by:	Depth in Feet scaled 1:240

420	TRAVEL TIME (usec)	220	TENSION	0	AMP AMPLITUDE (mV)	10	200	MSG	1200
-9	Collar Locator	1	0 (lb)3000	0	AMPLITUDE (mV)	100			
0	Gamma Ray (GAPI)	200							

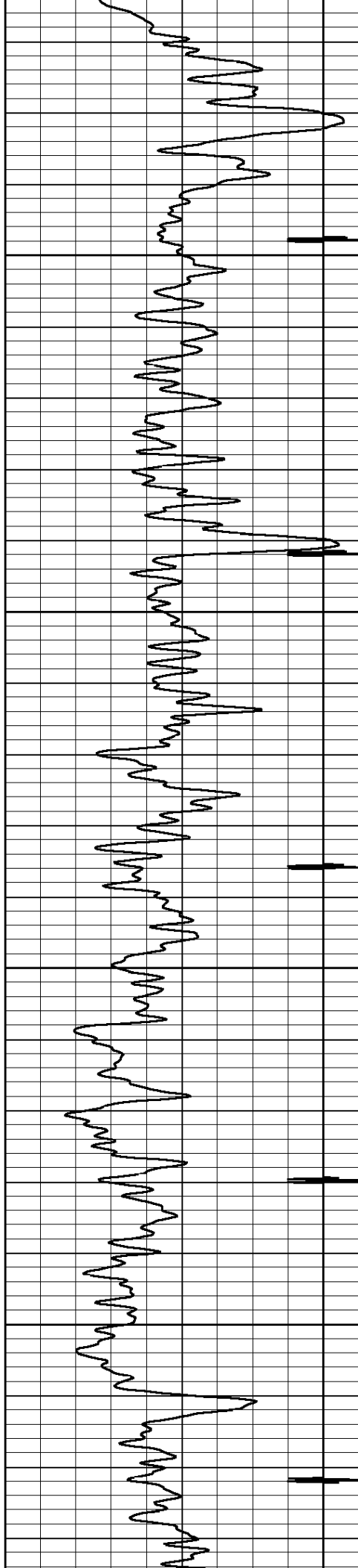




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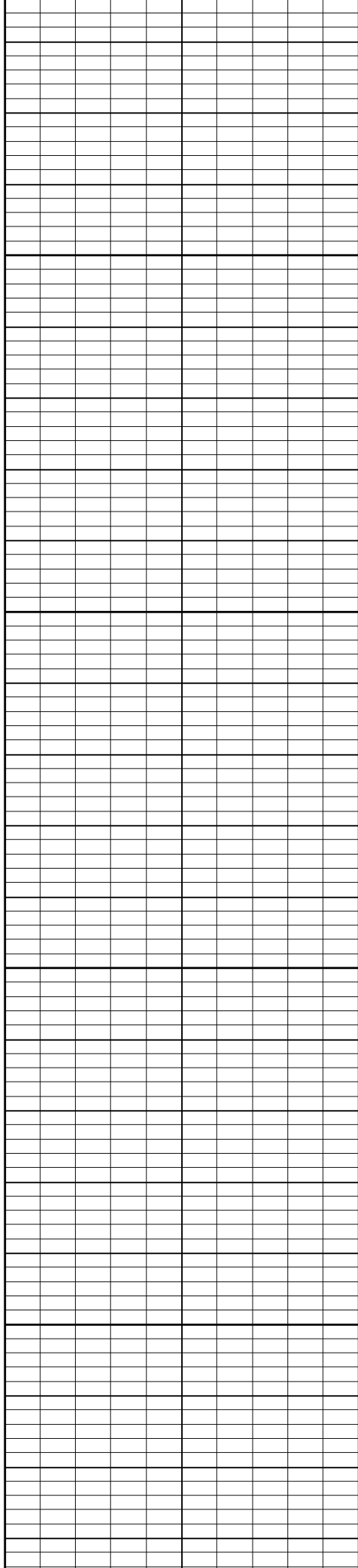
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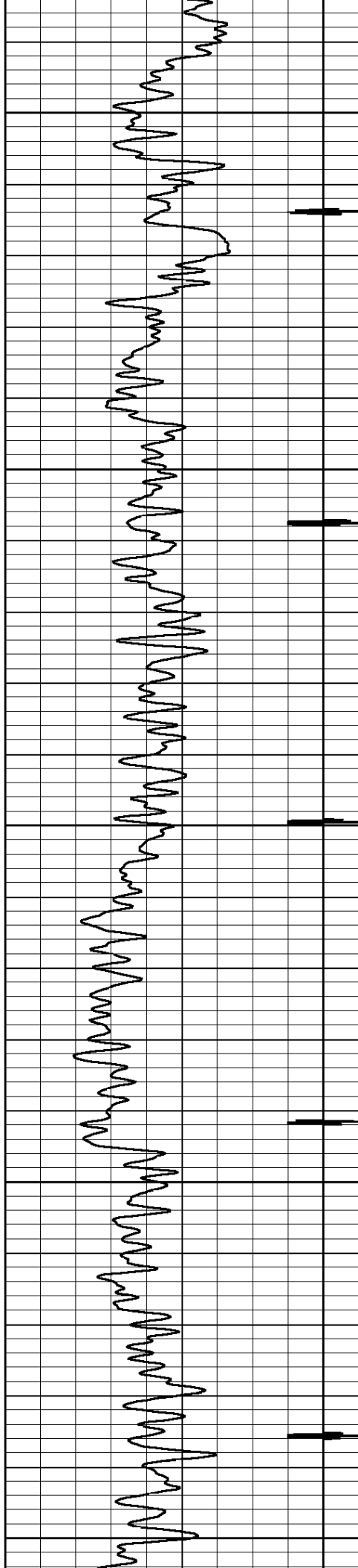
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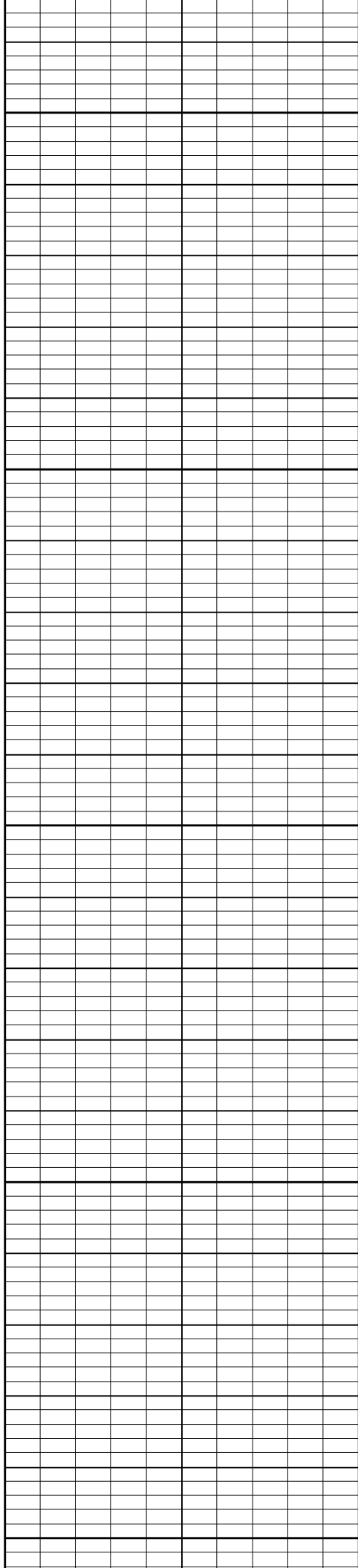
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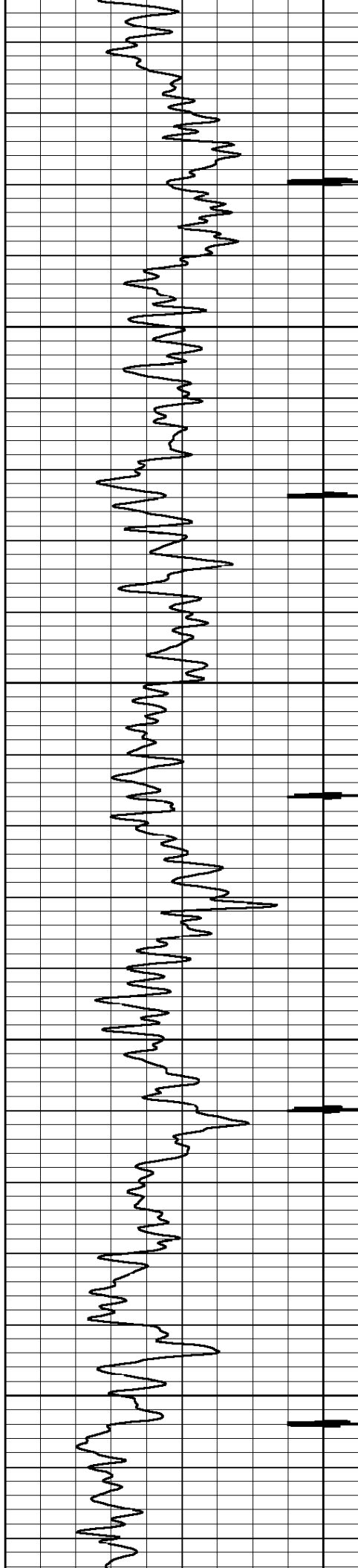




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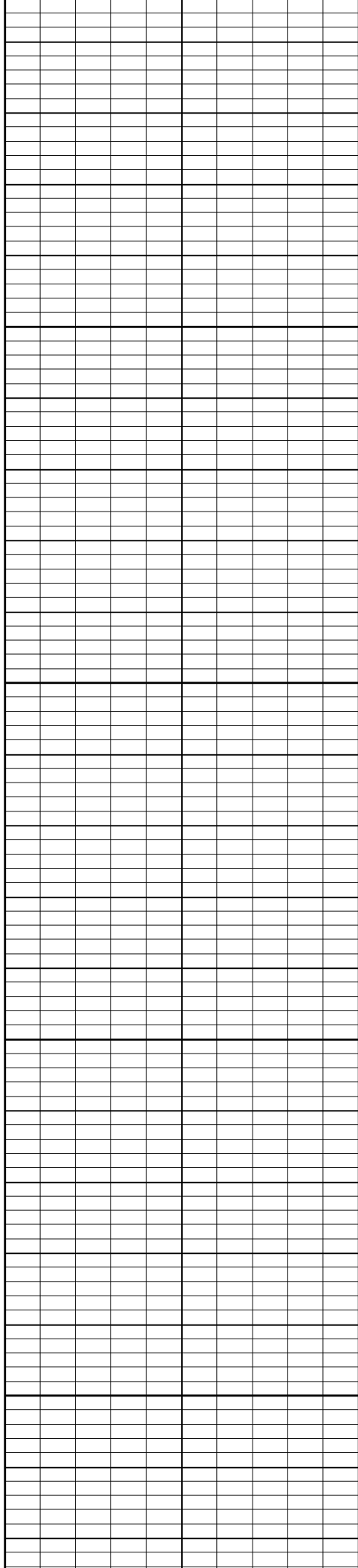
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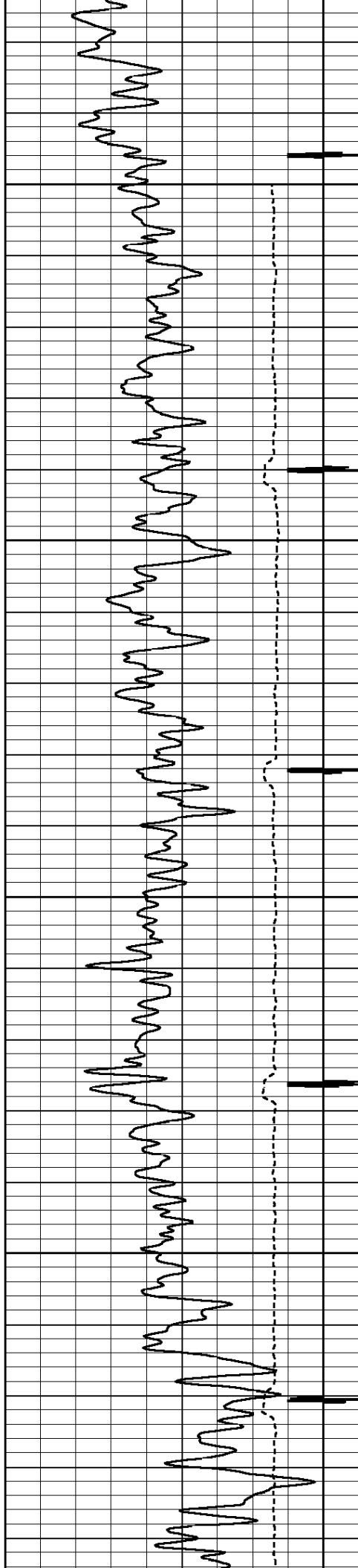




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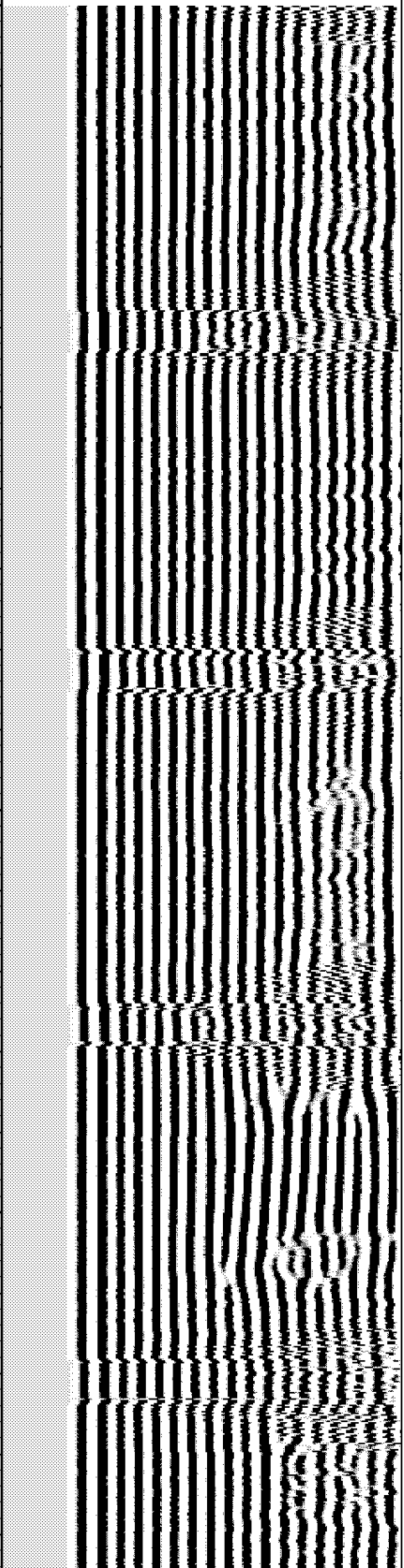
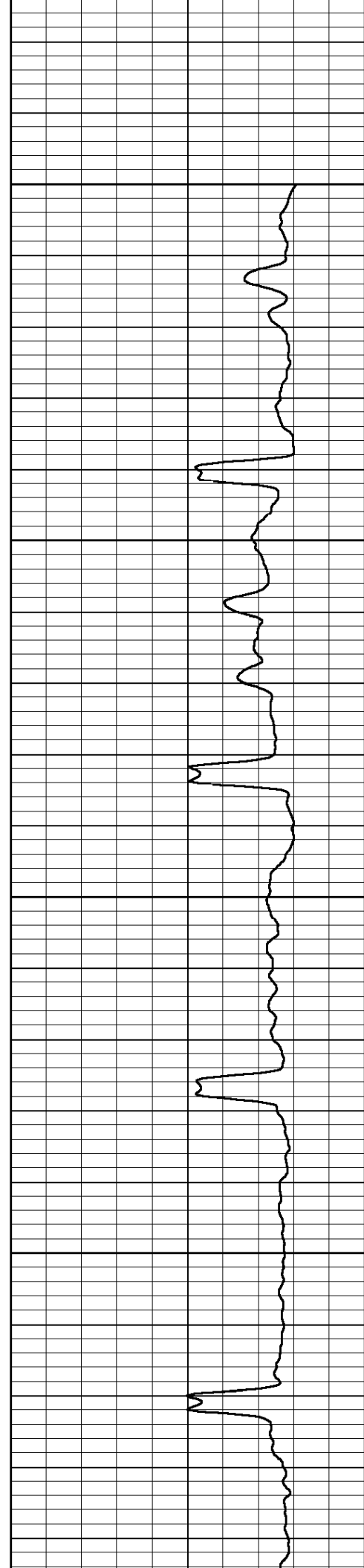
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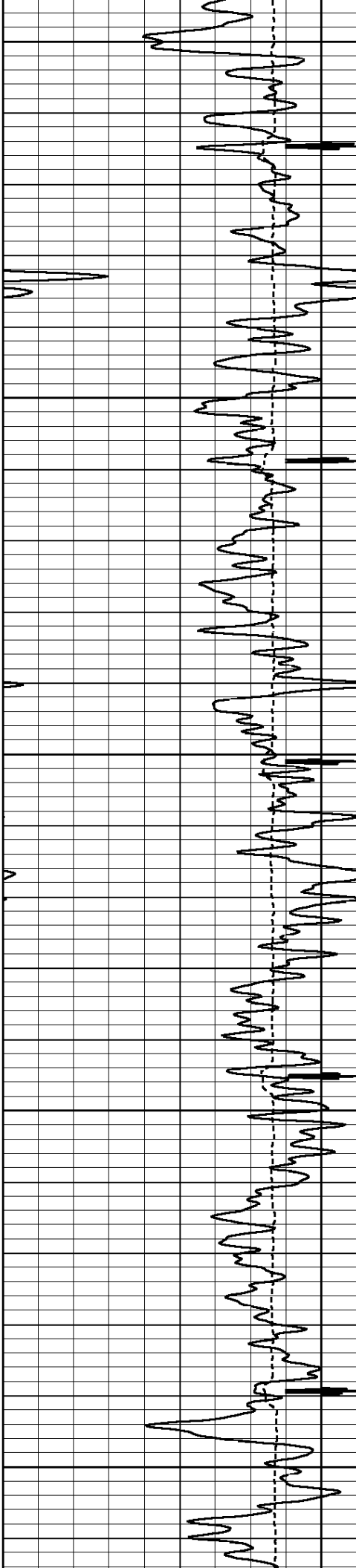




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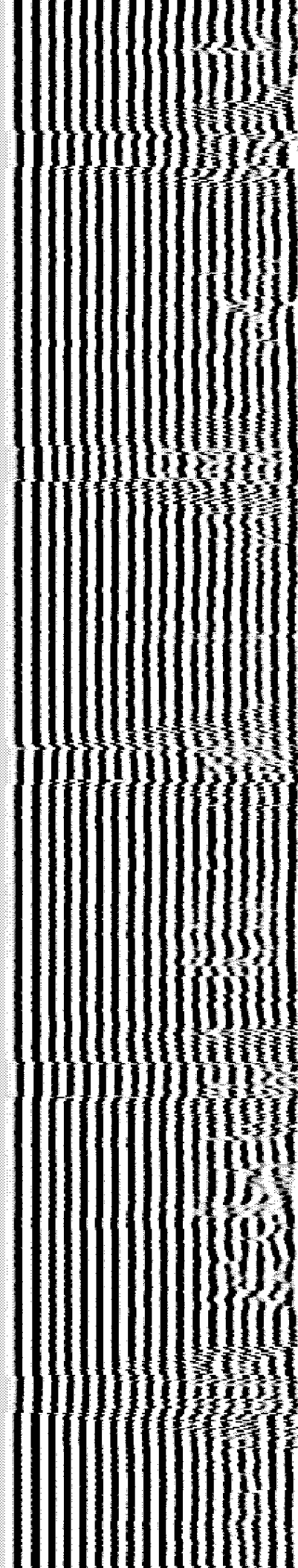
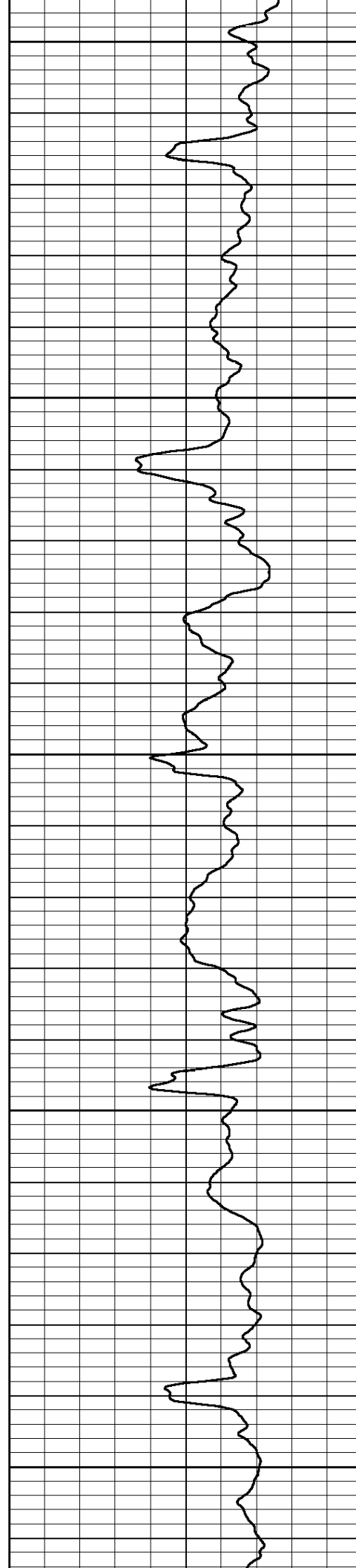


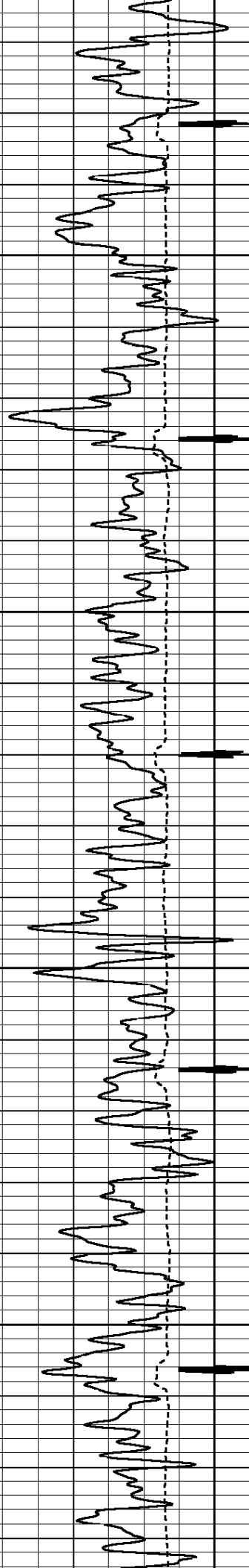


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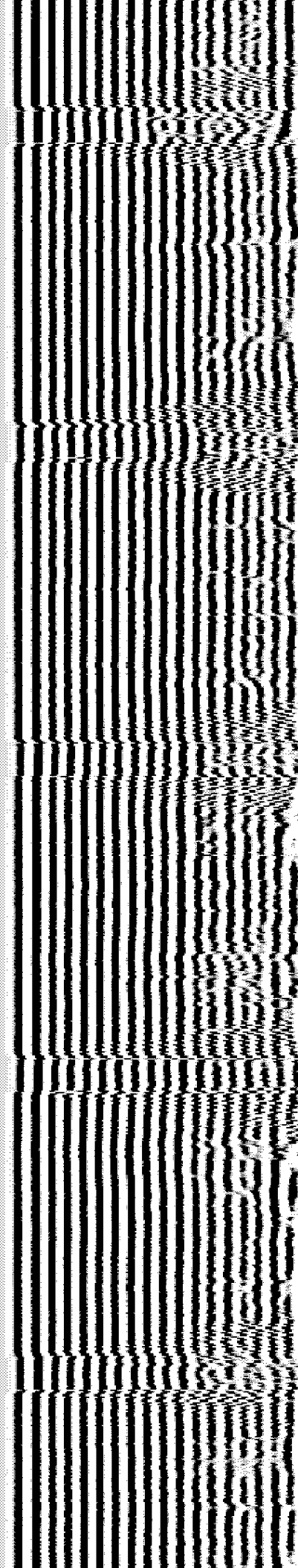
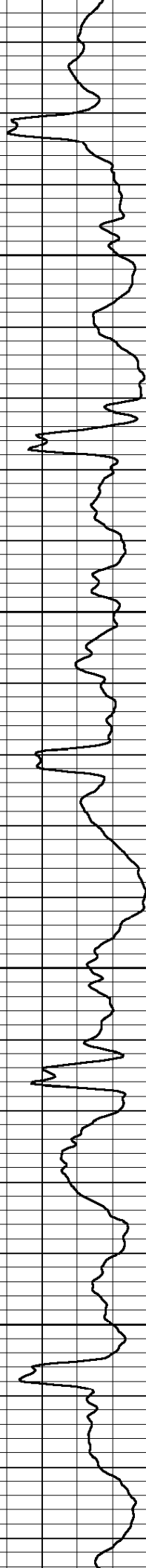
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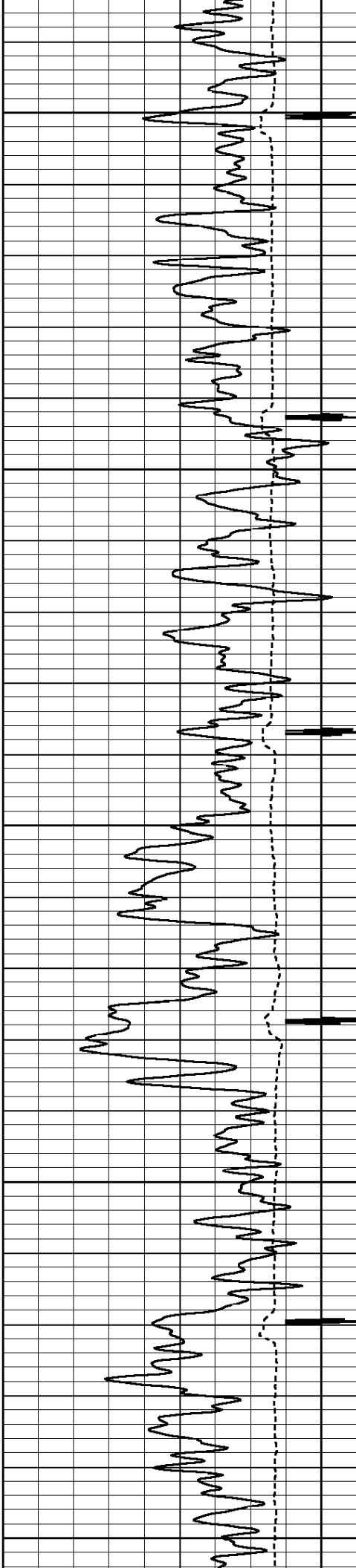




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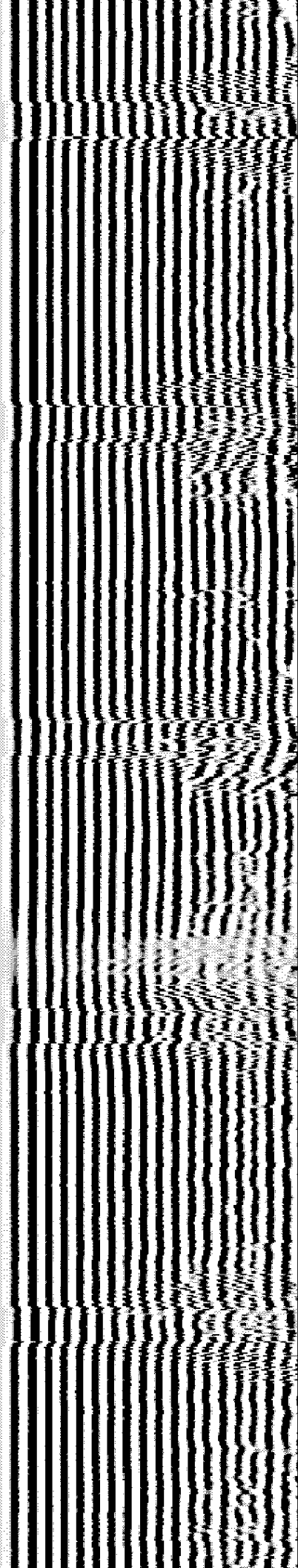
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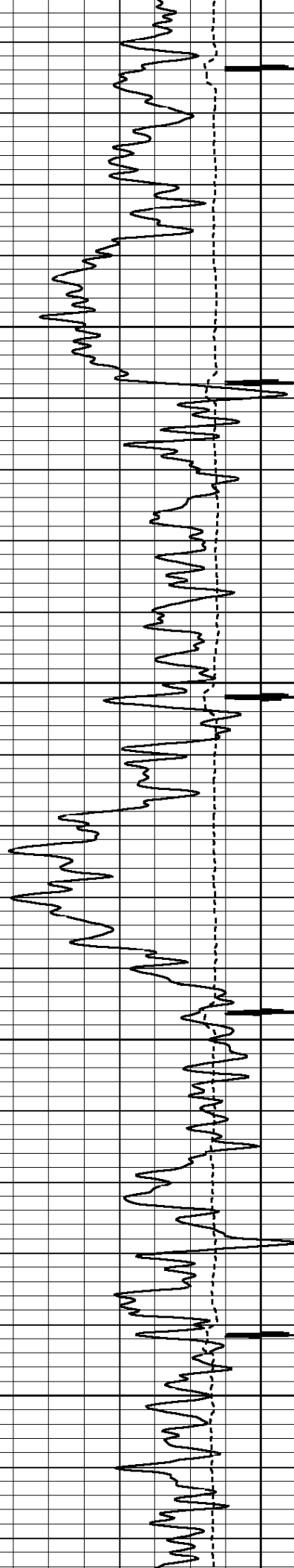




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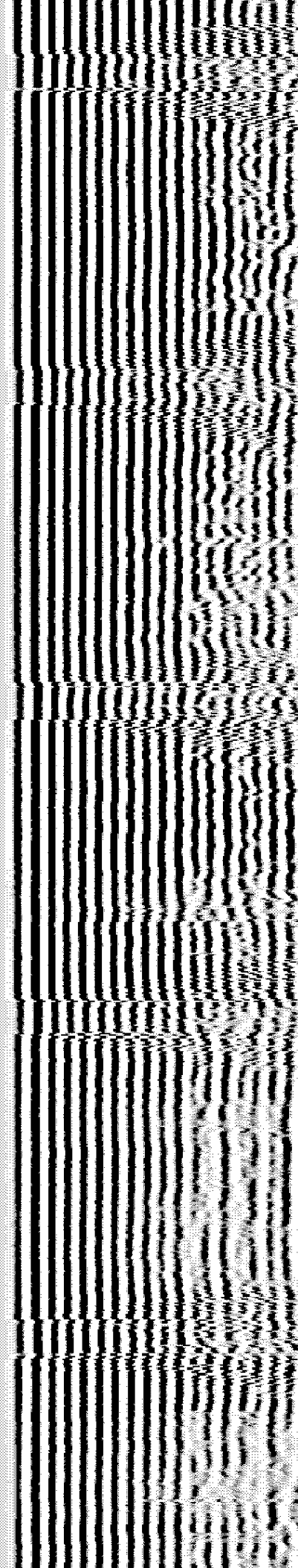
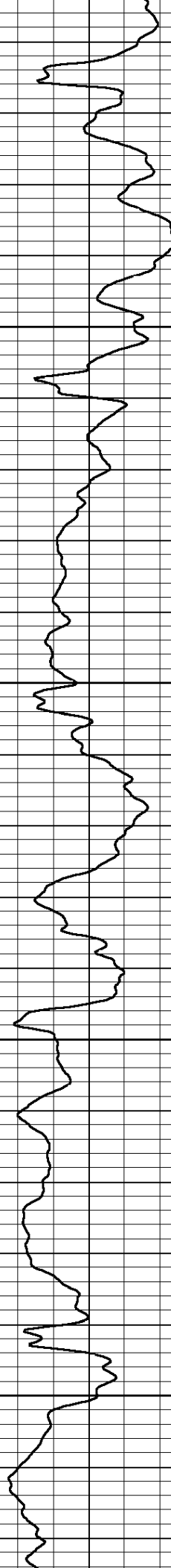
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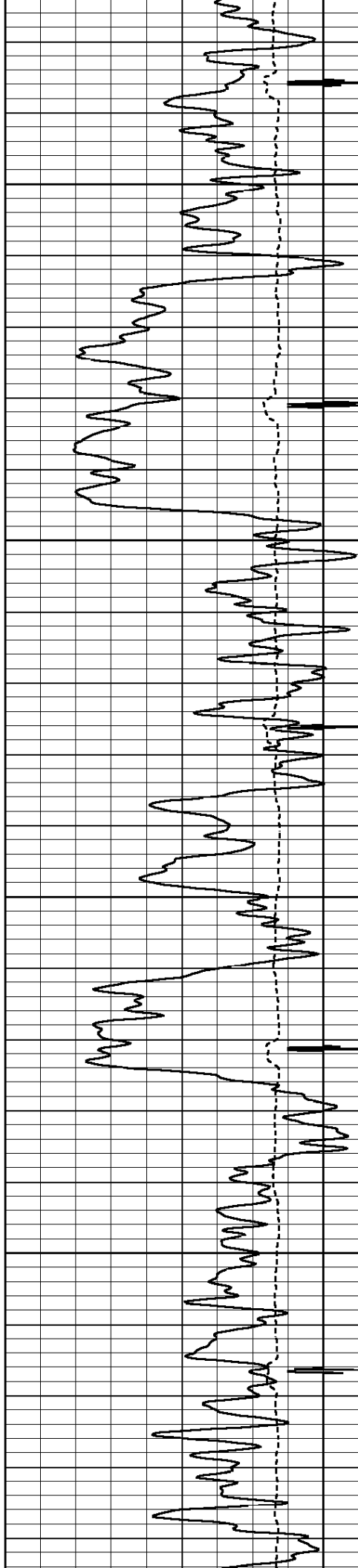




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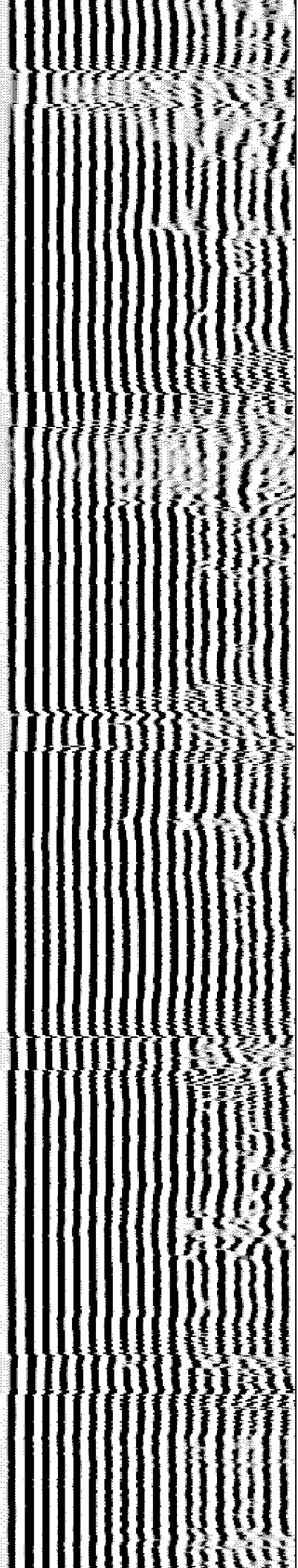
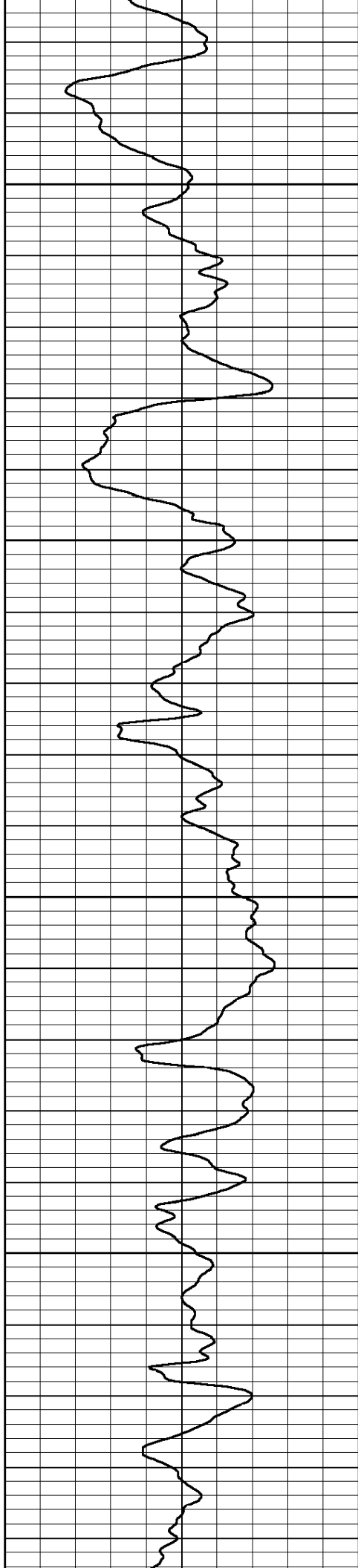
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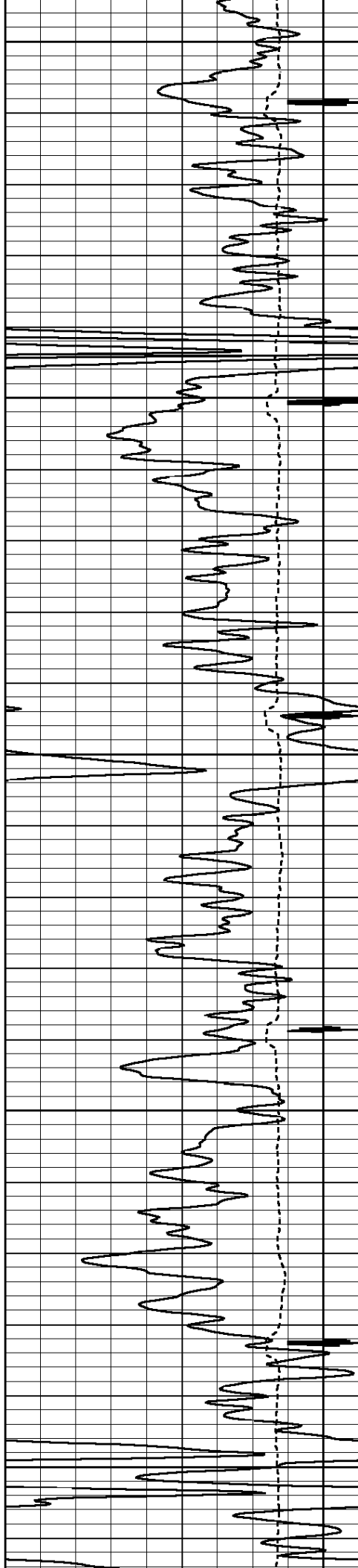




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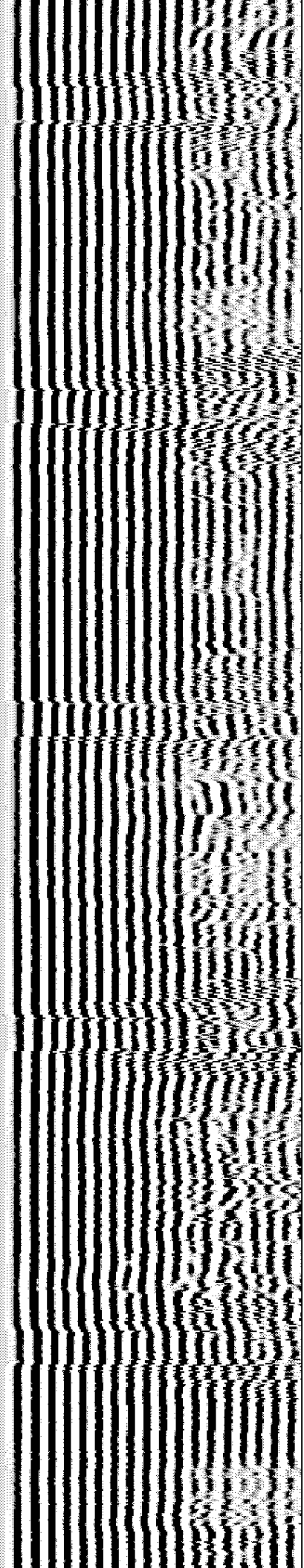
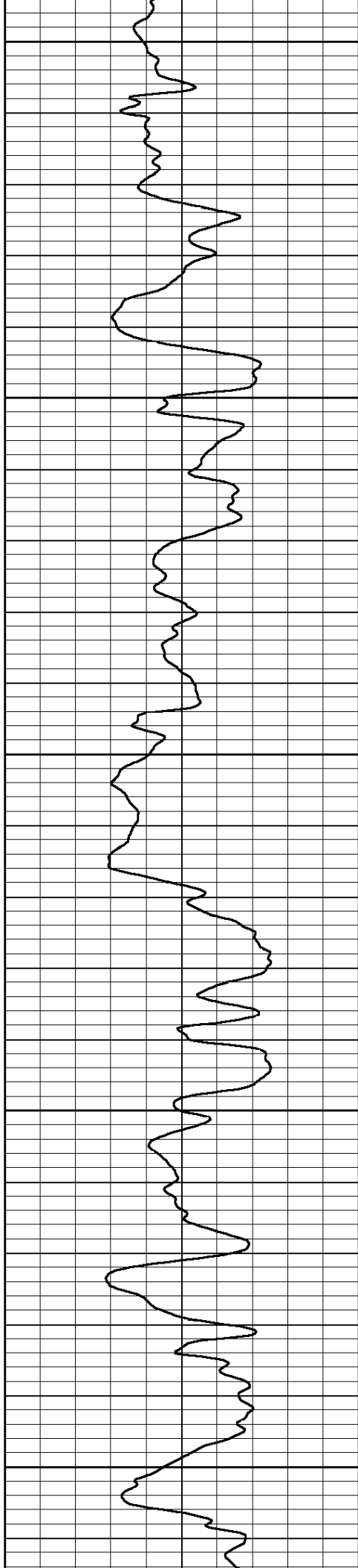


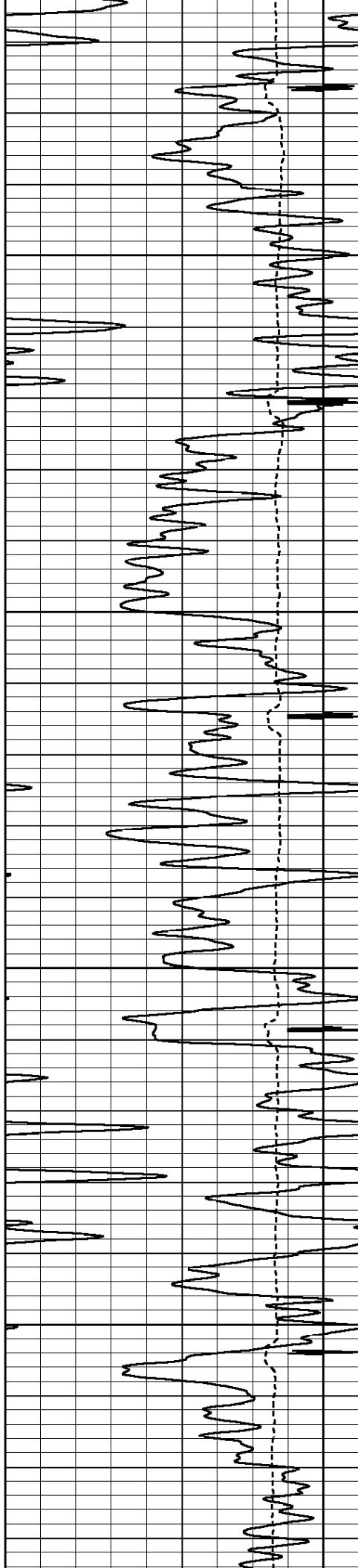


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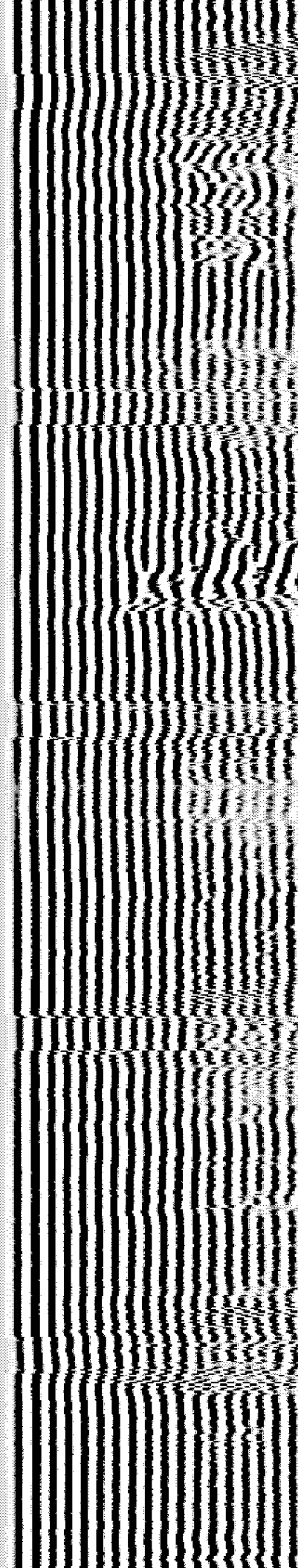
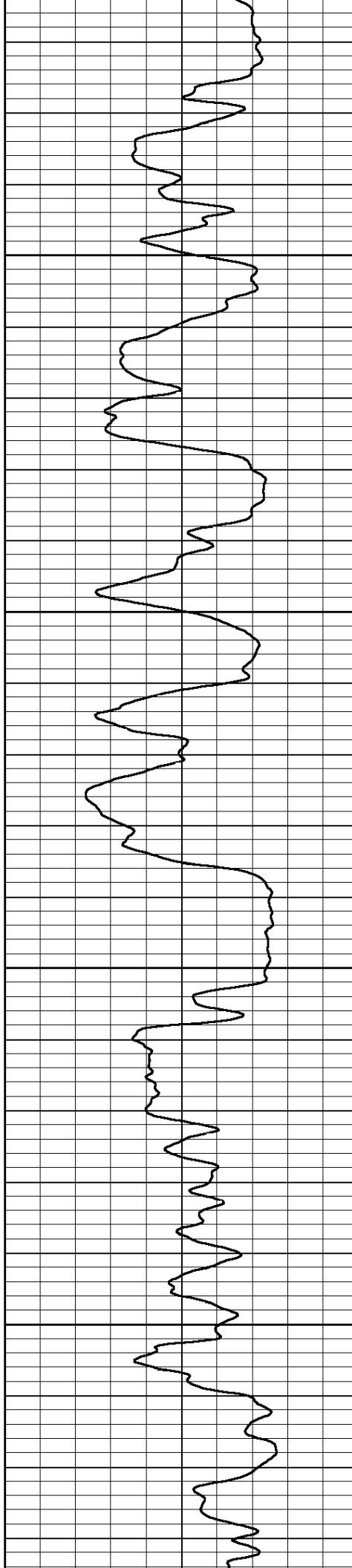
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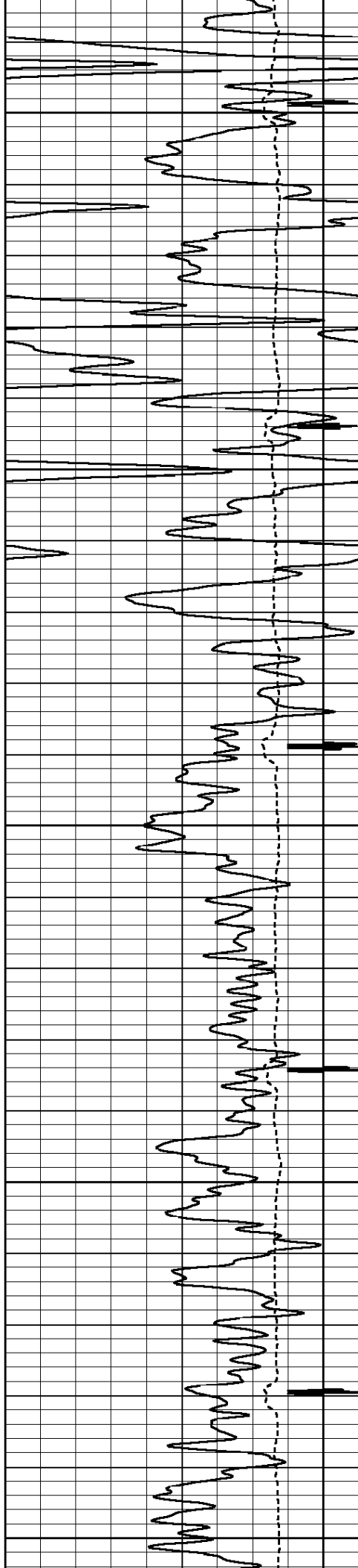




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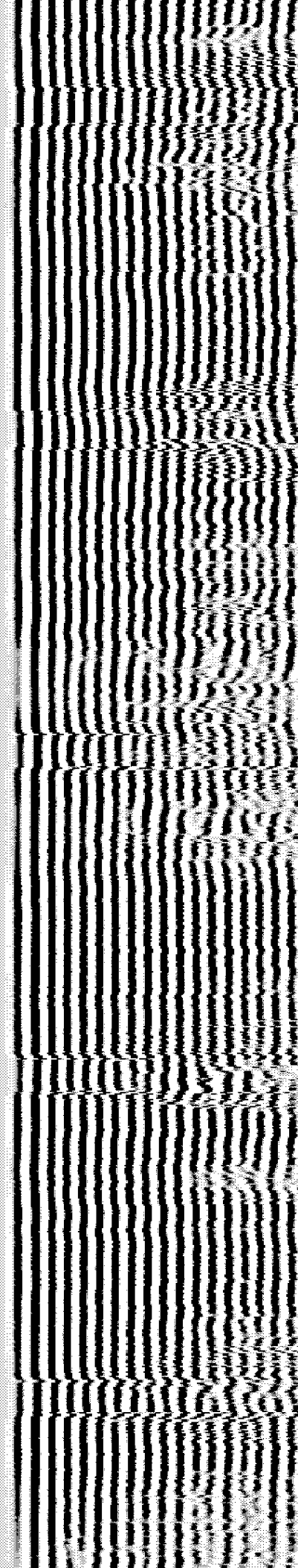
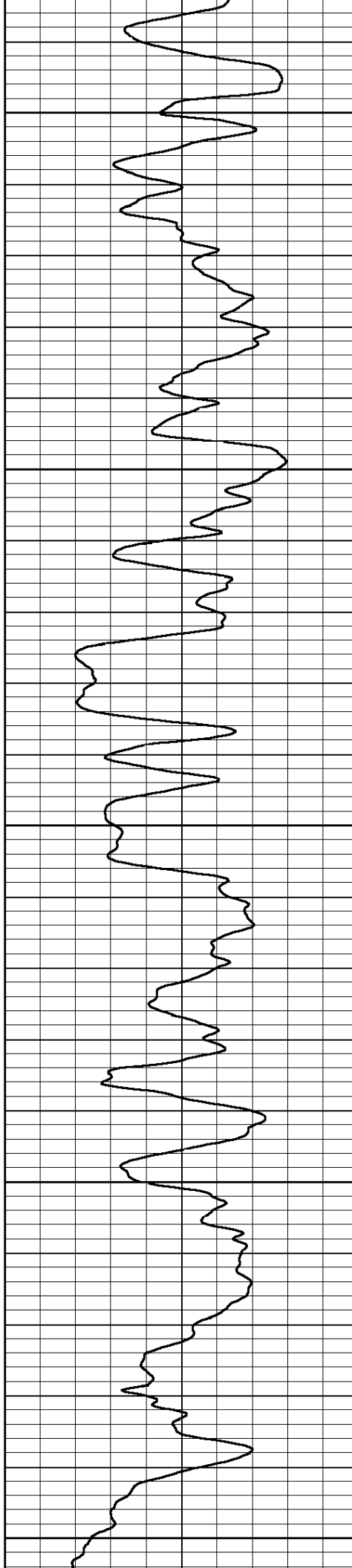
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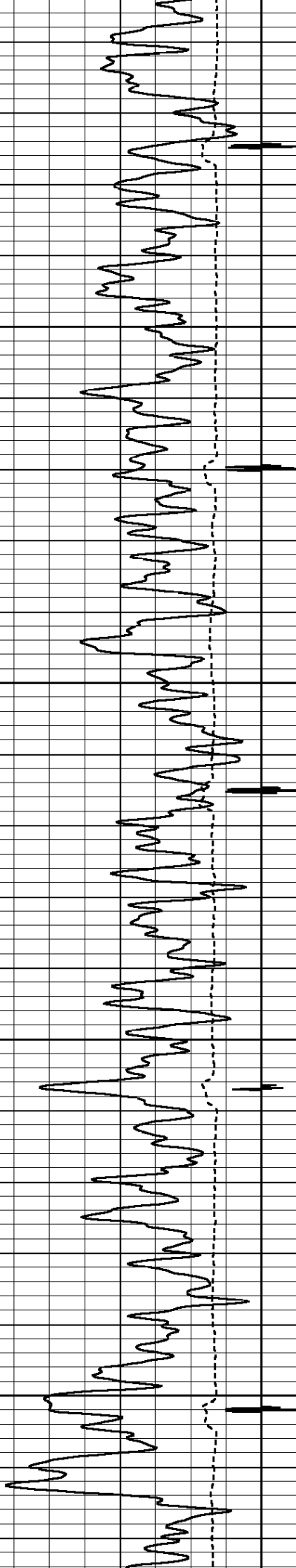




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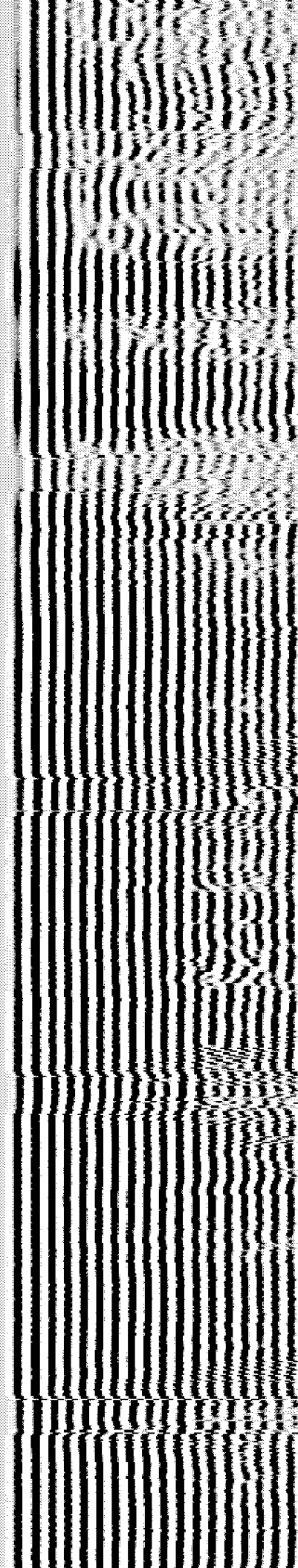
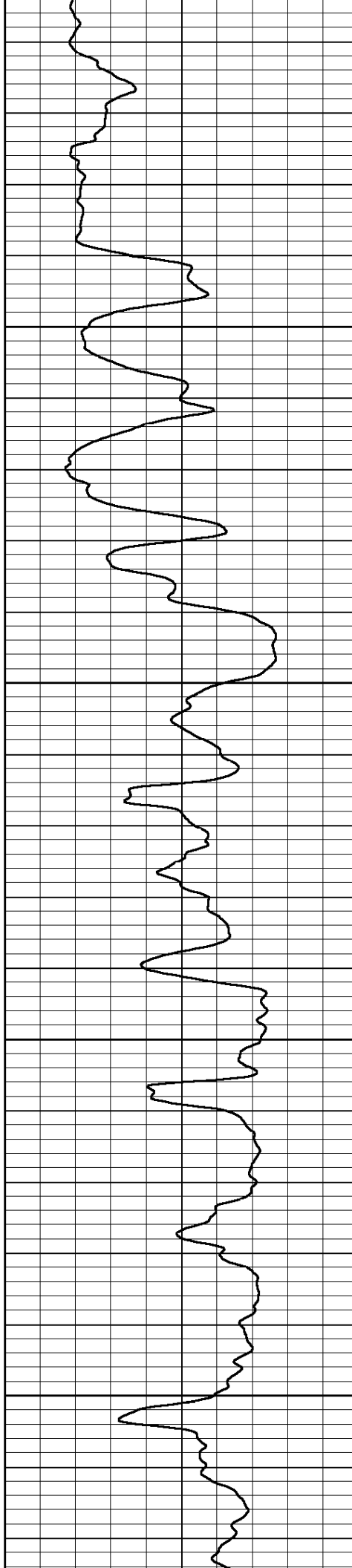
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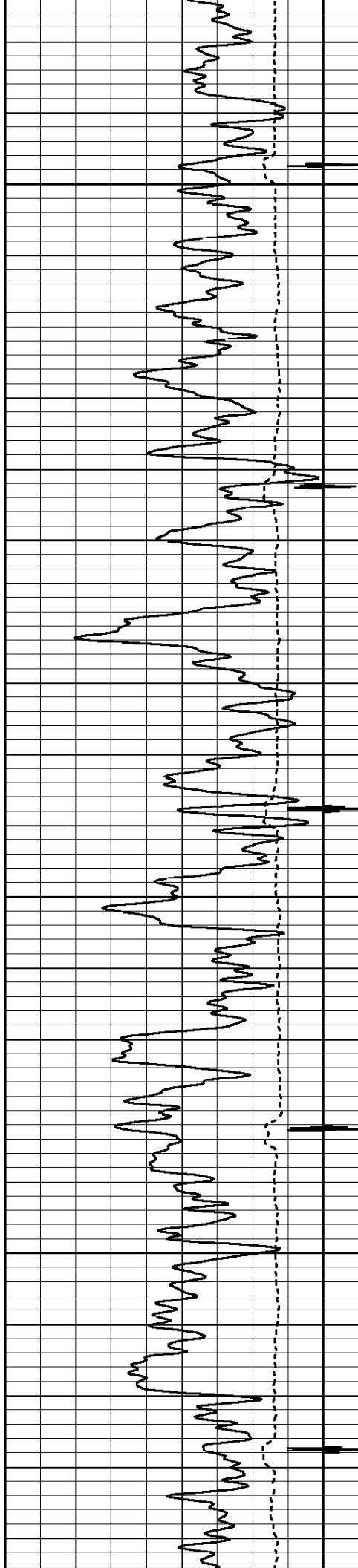




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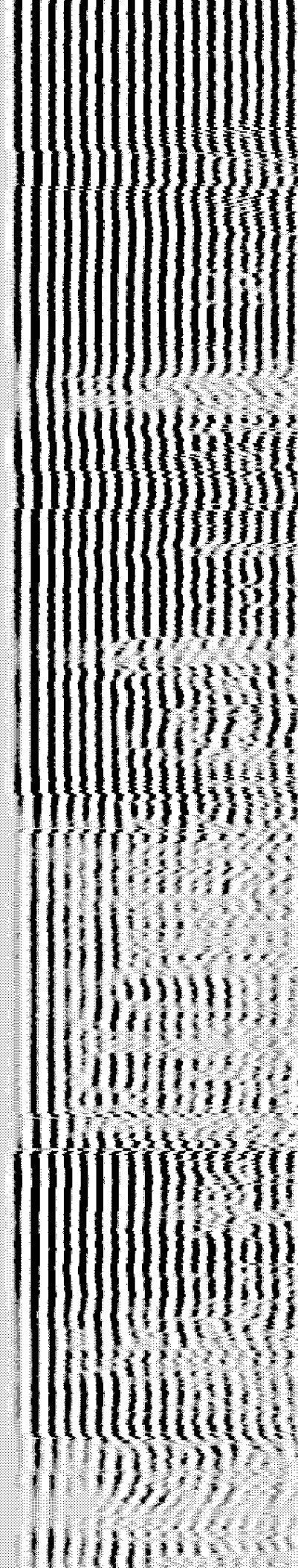
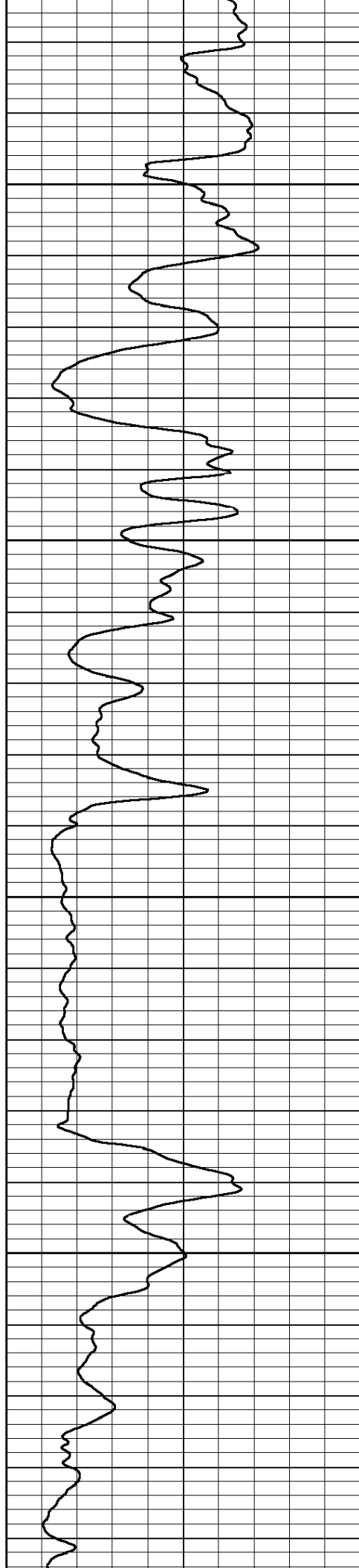
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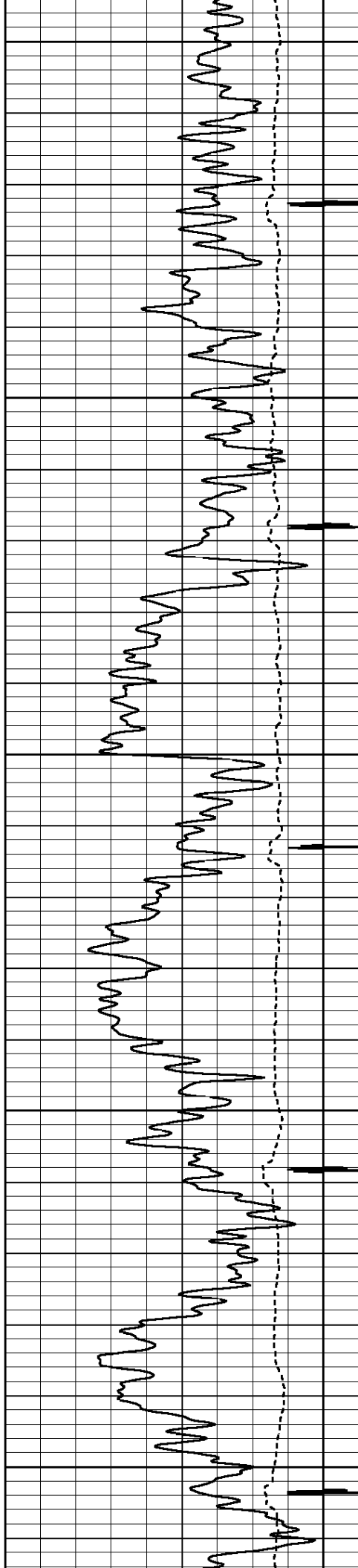




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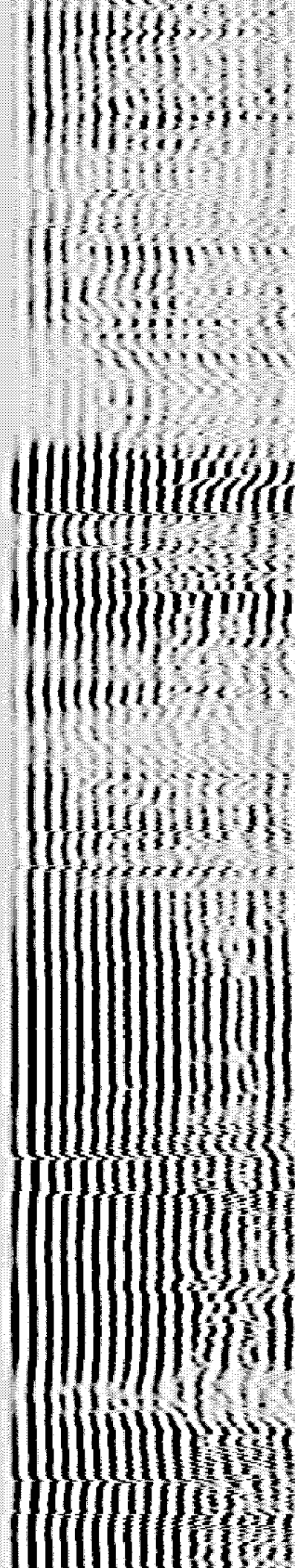
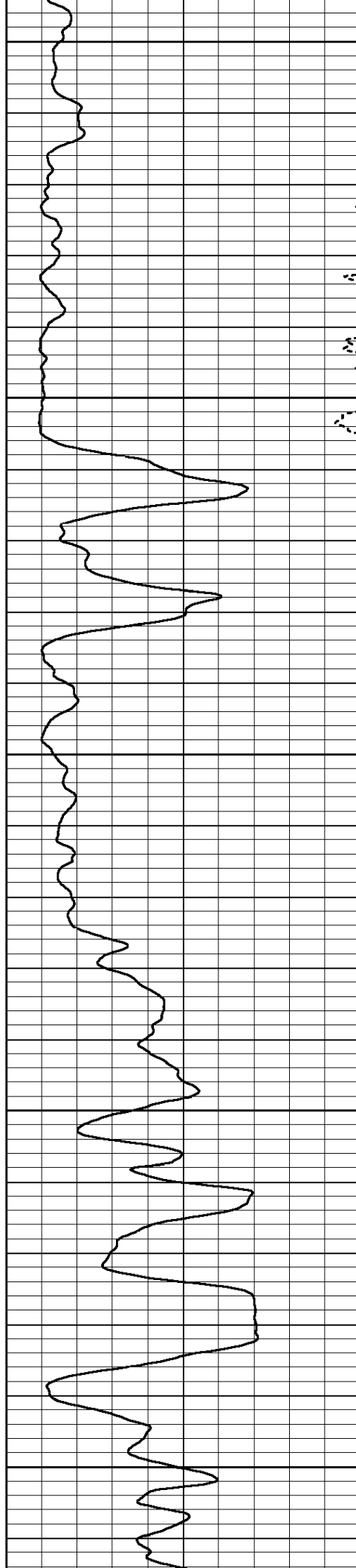


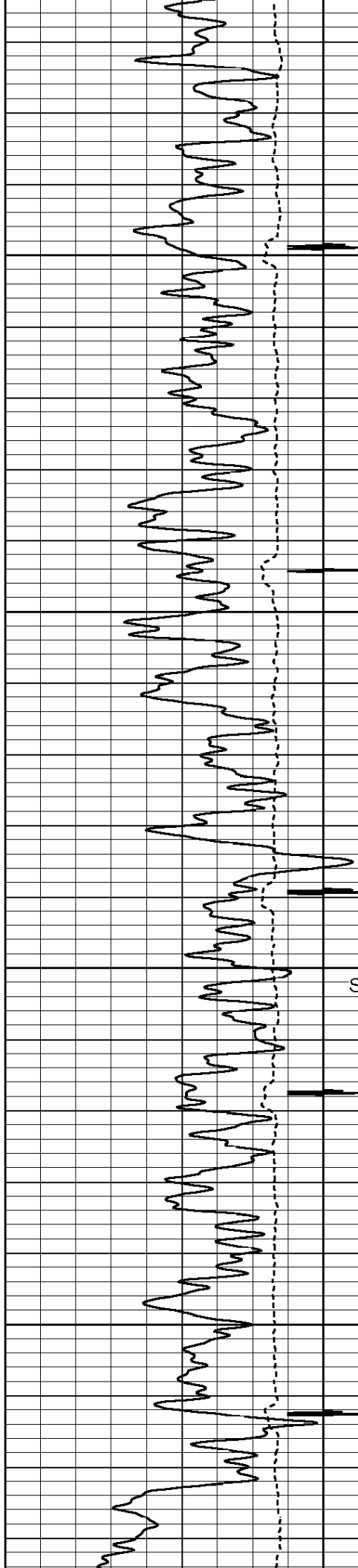


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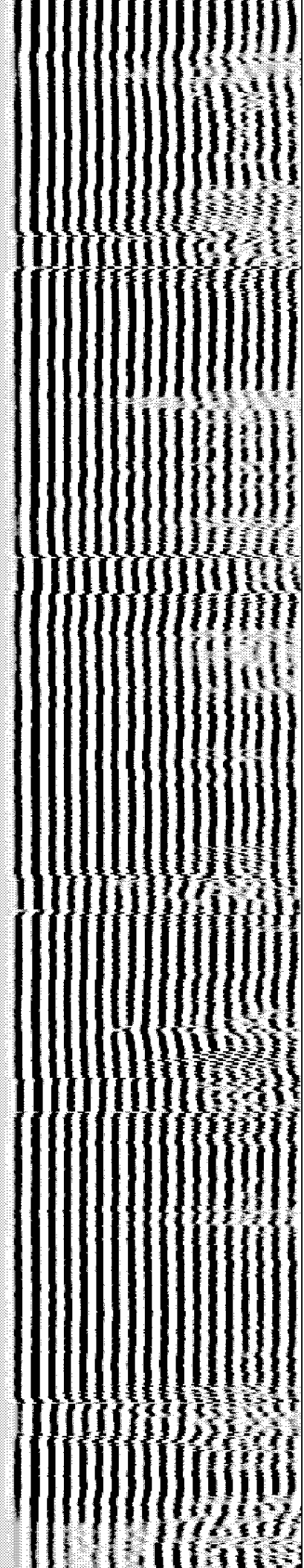
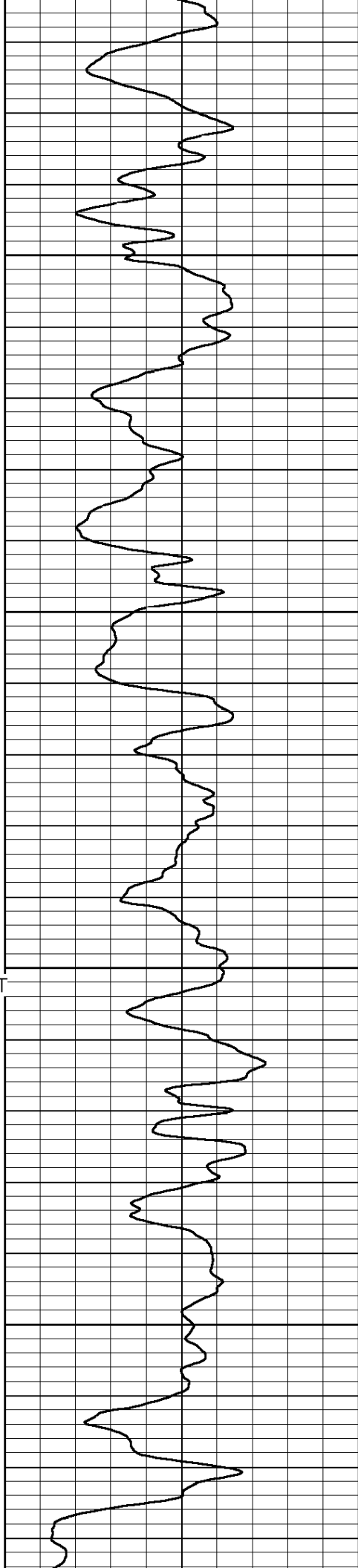


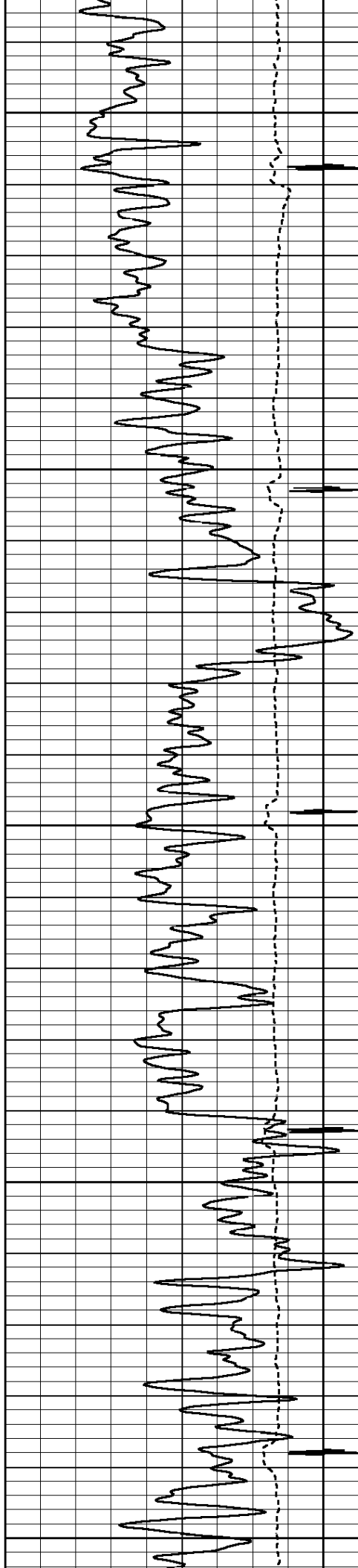


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SHORT JOINT

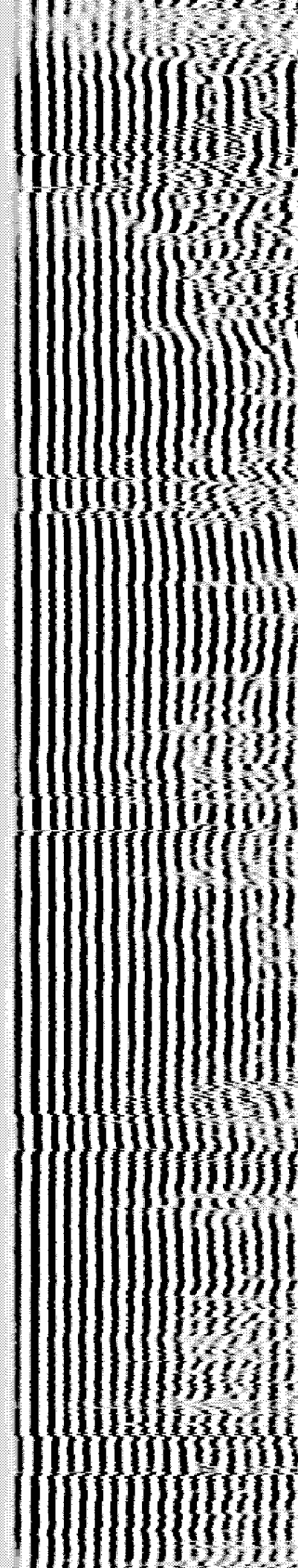
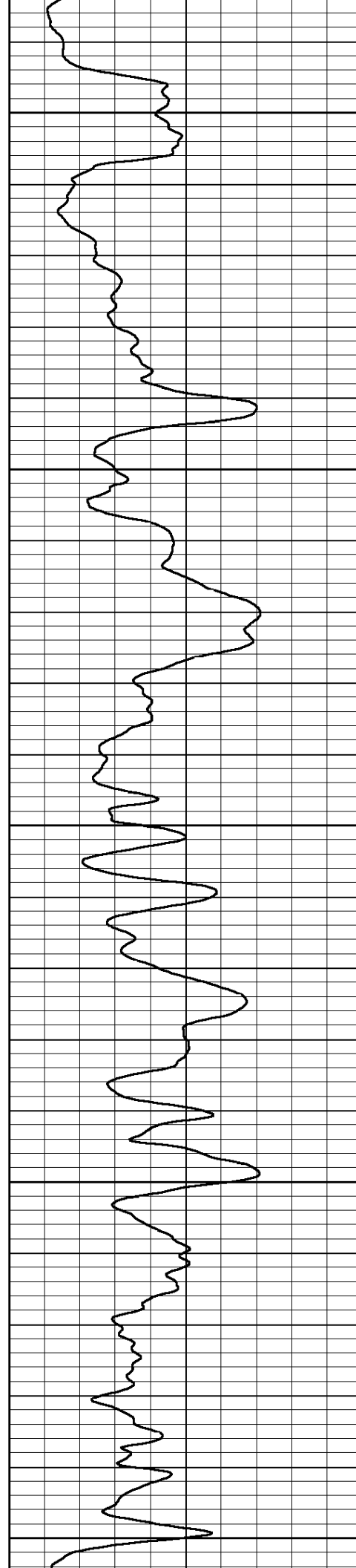
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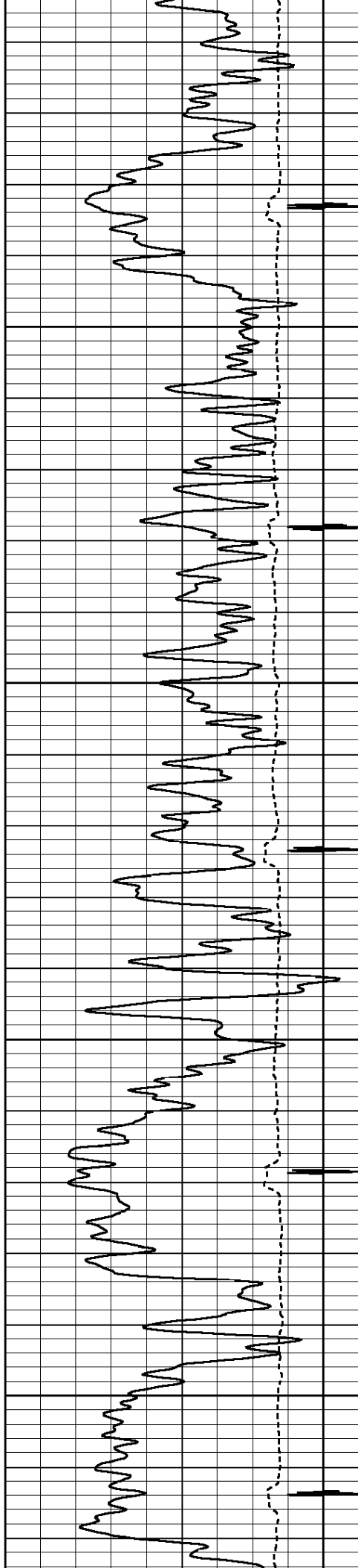




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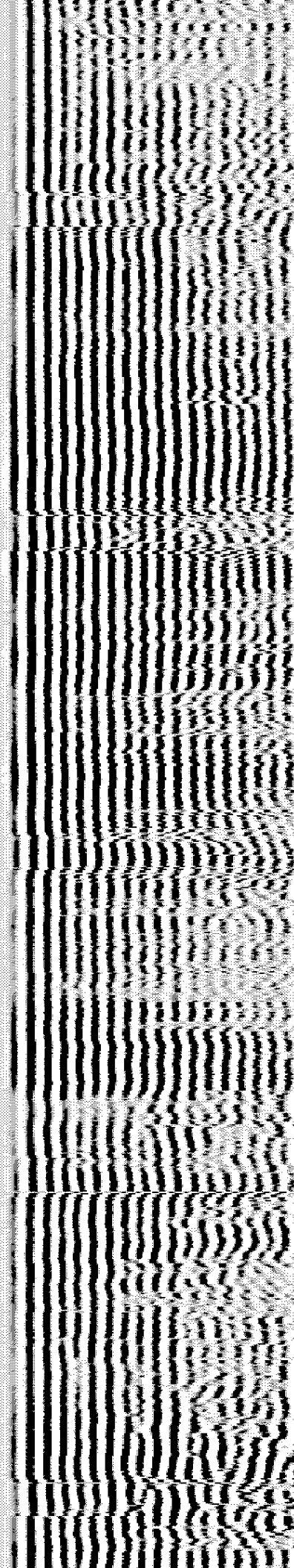
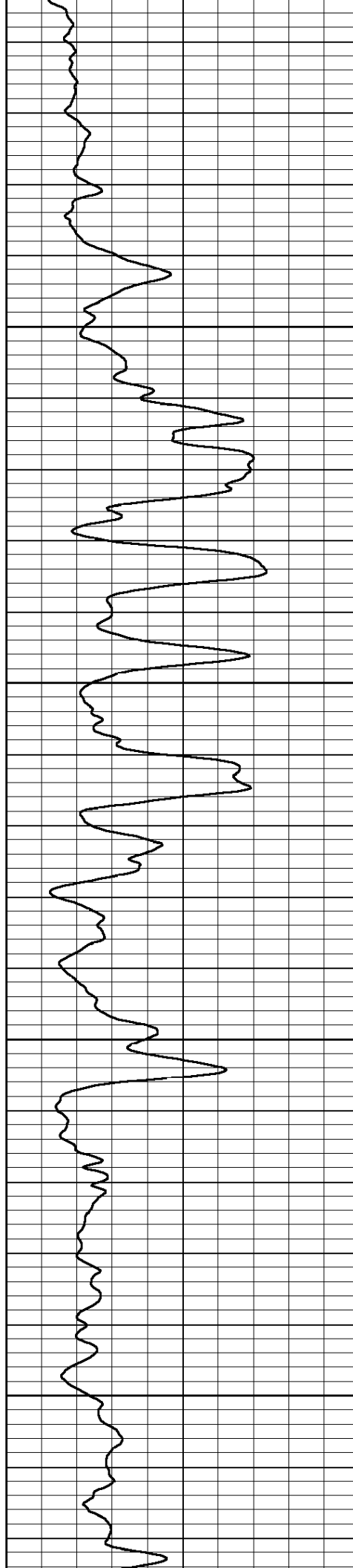
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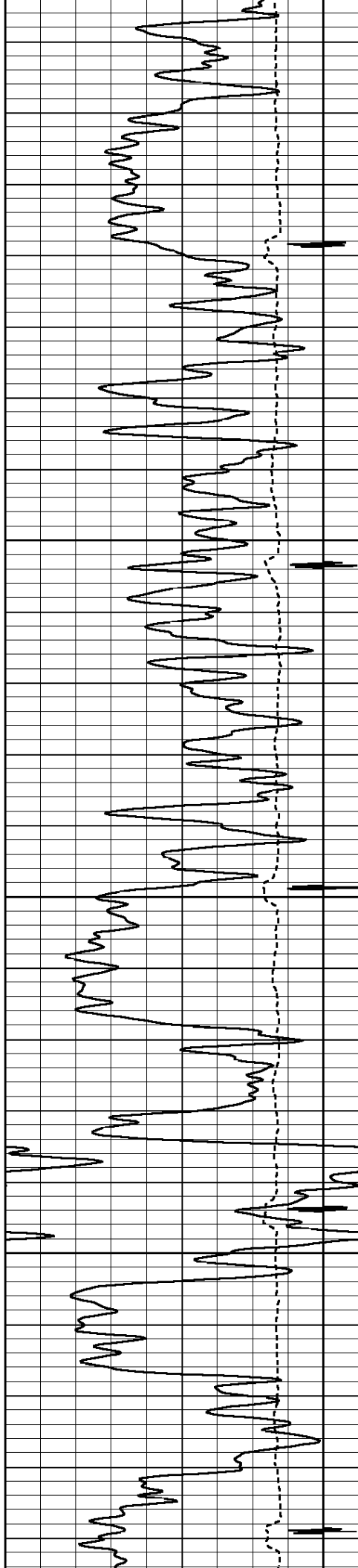




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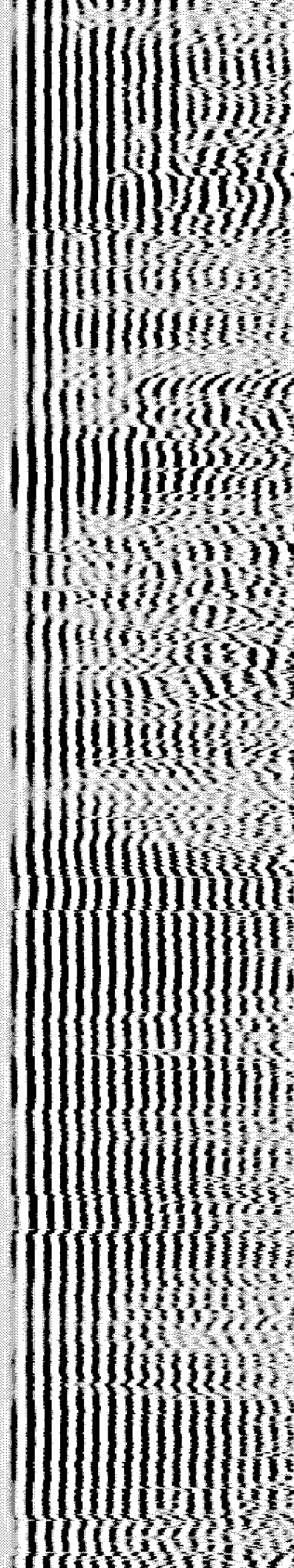
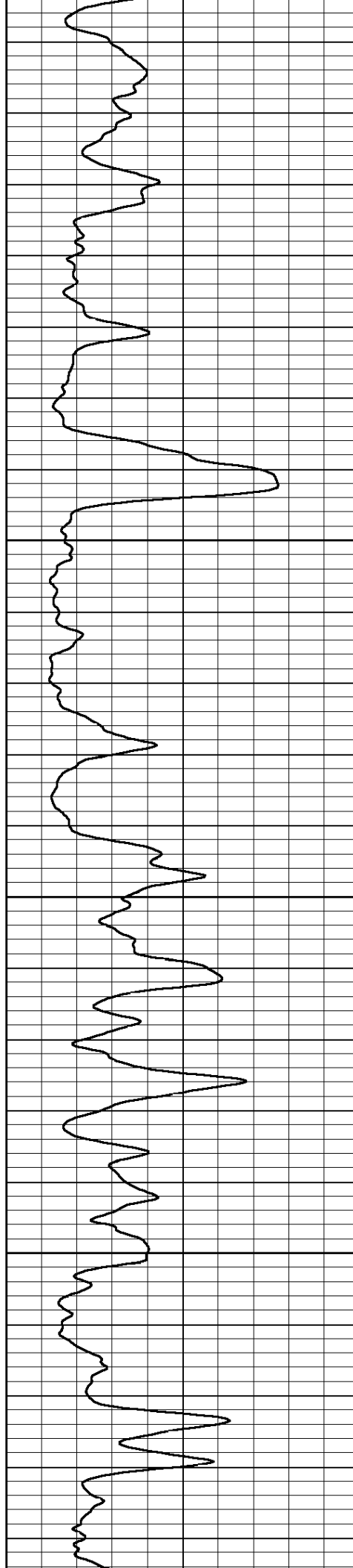
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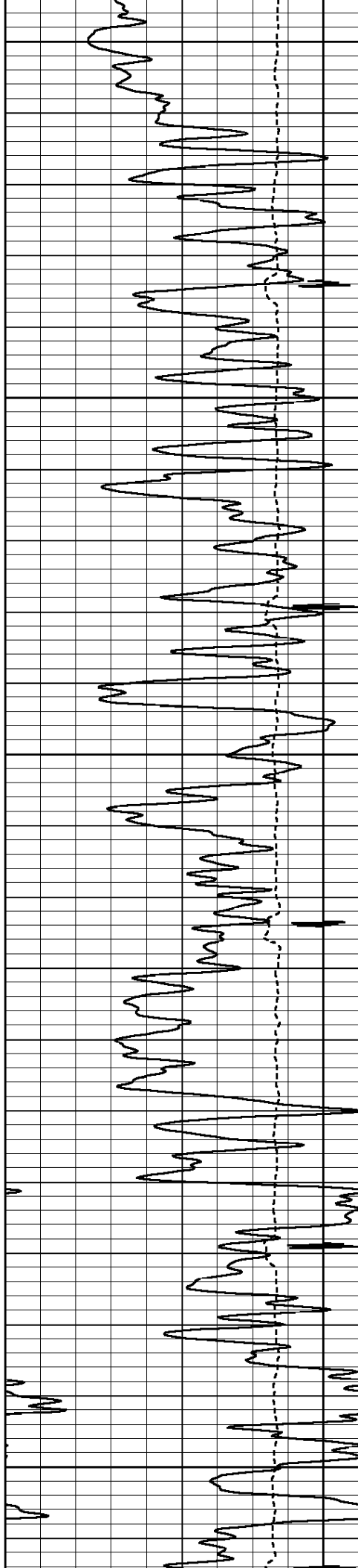




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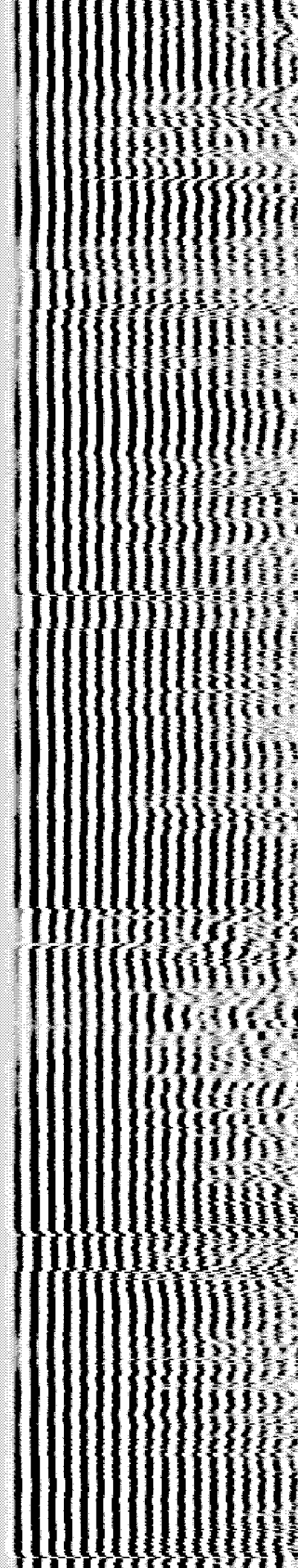
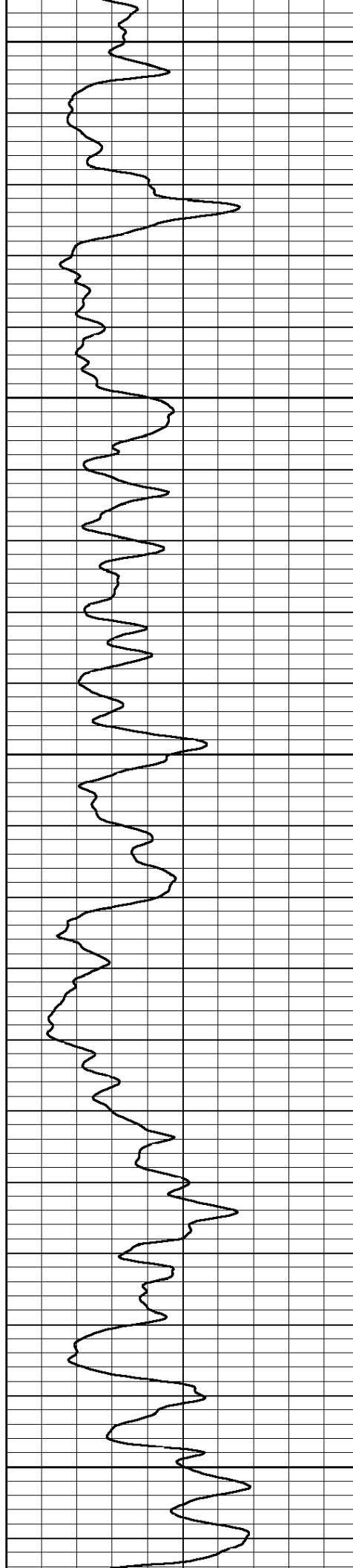


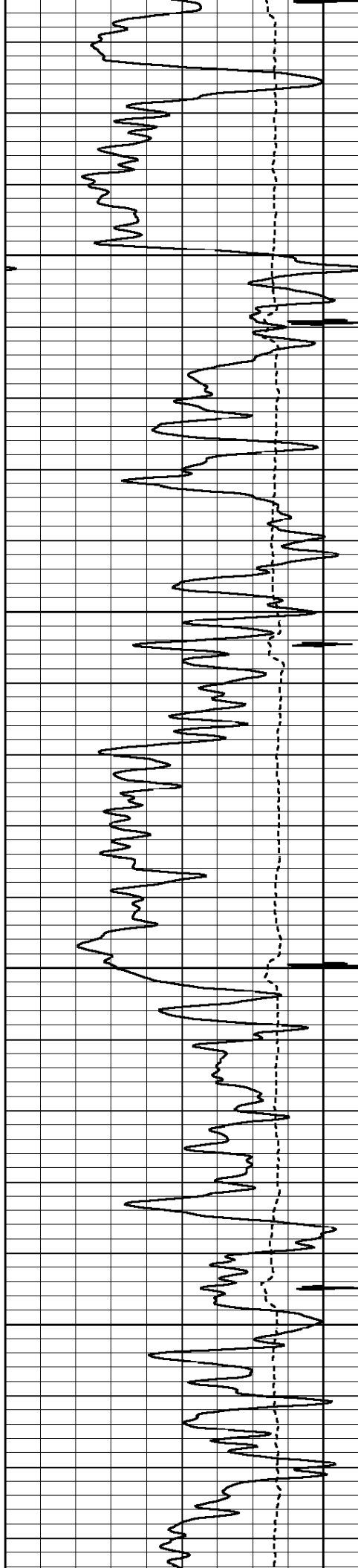


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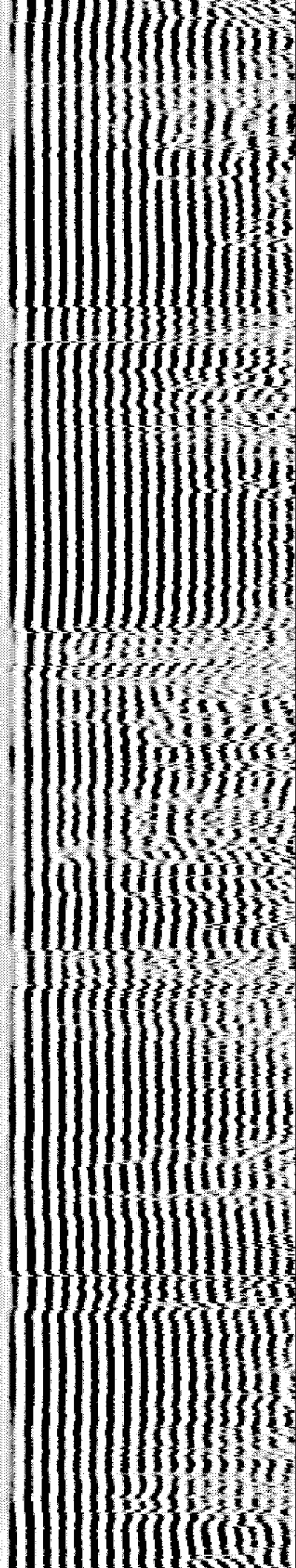
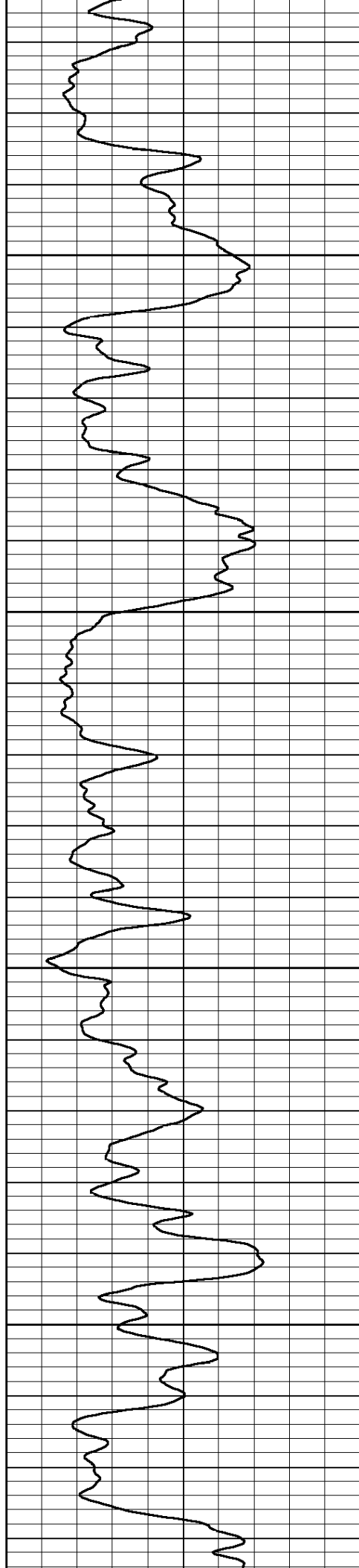
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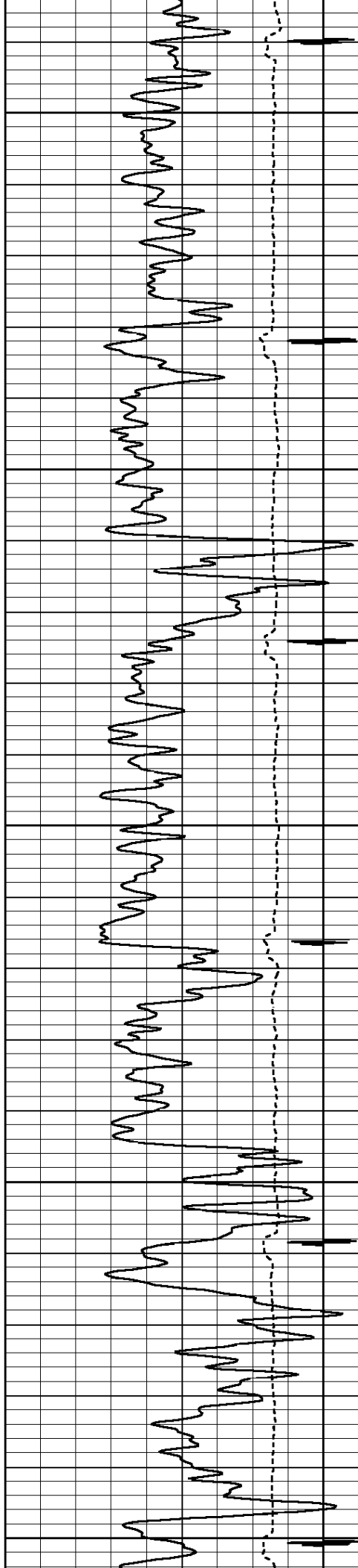




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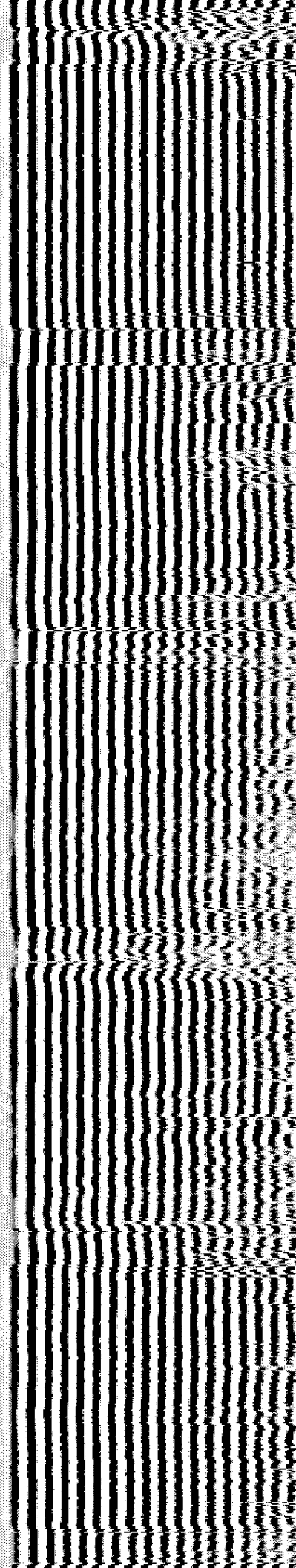
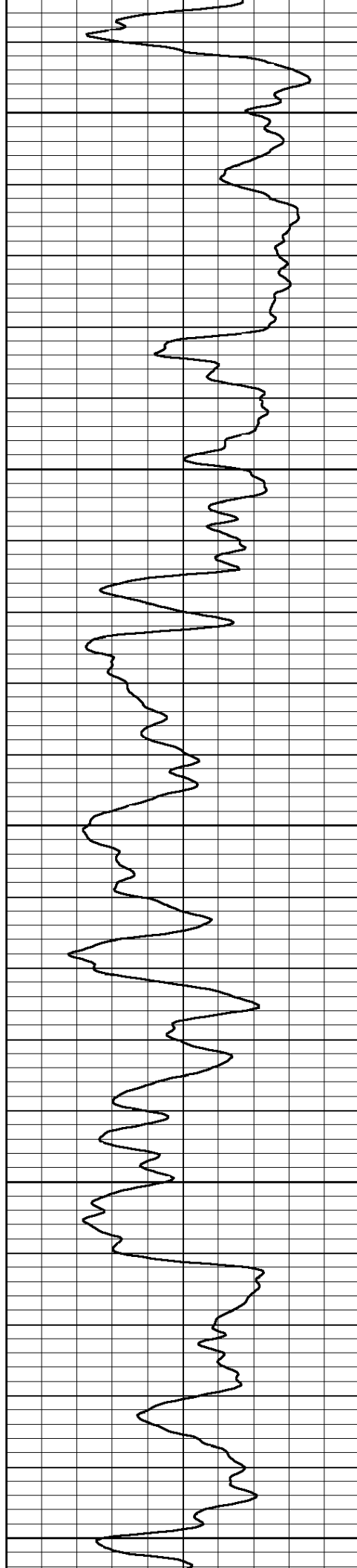
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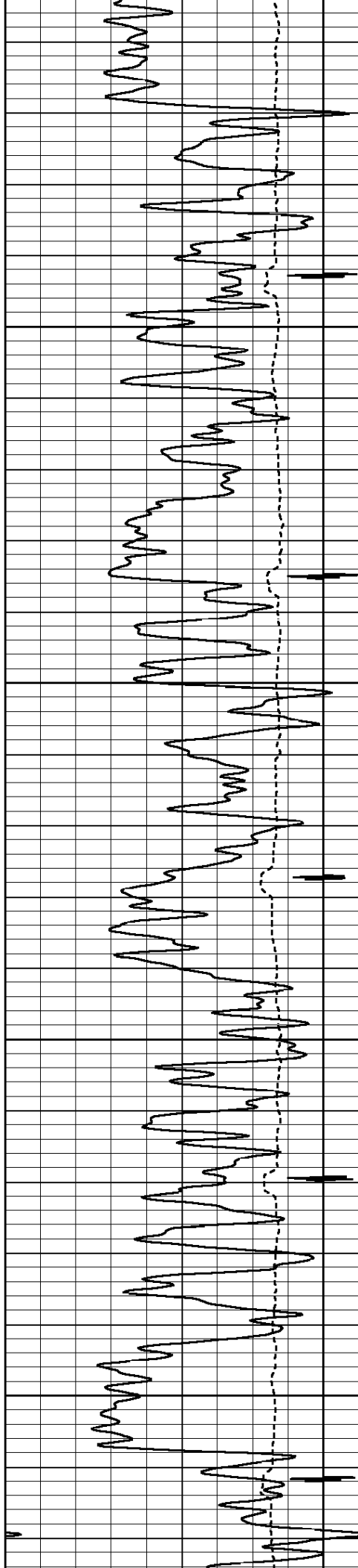




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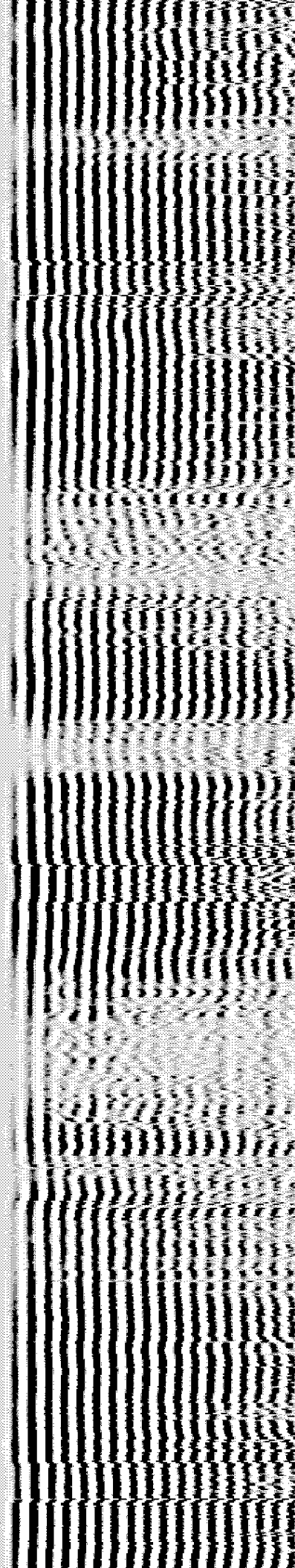
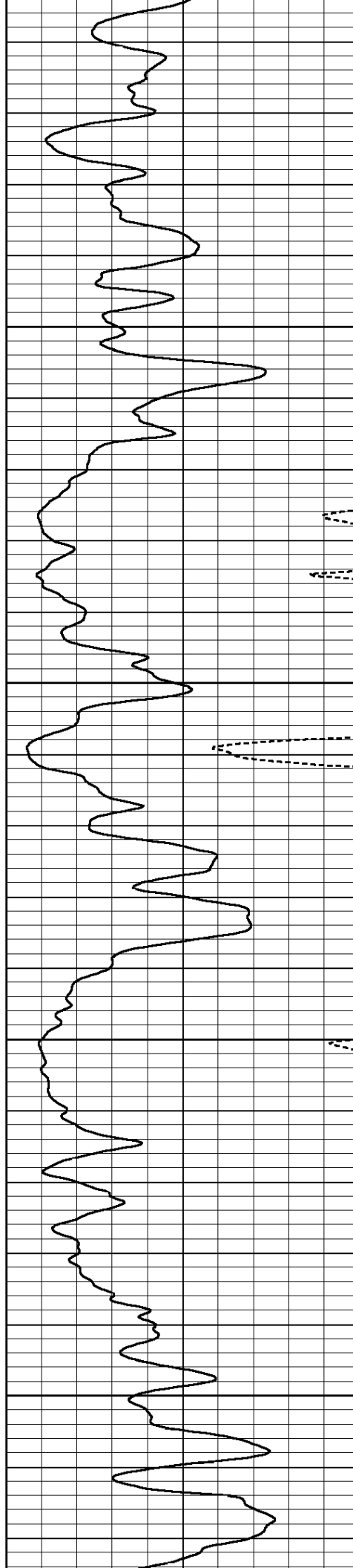
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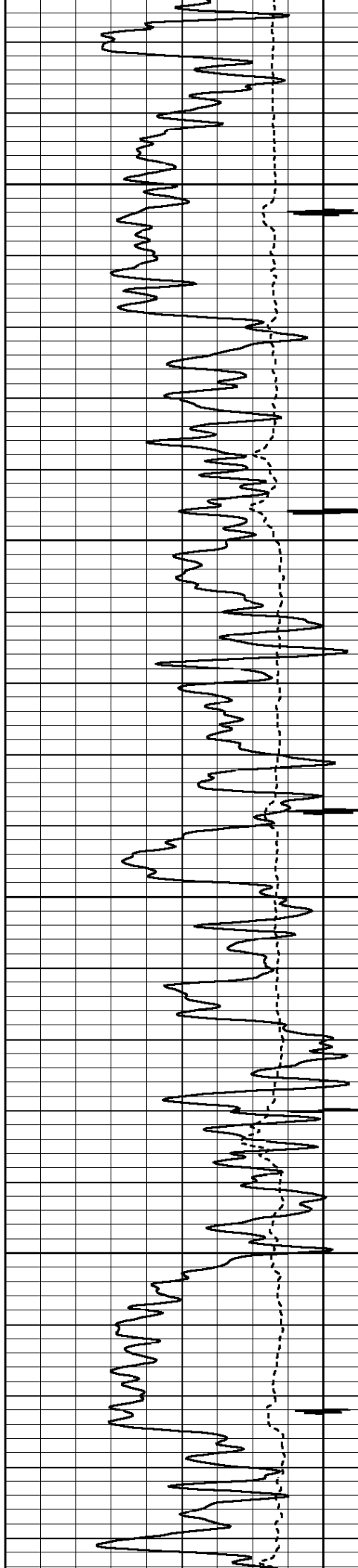




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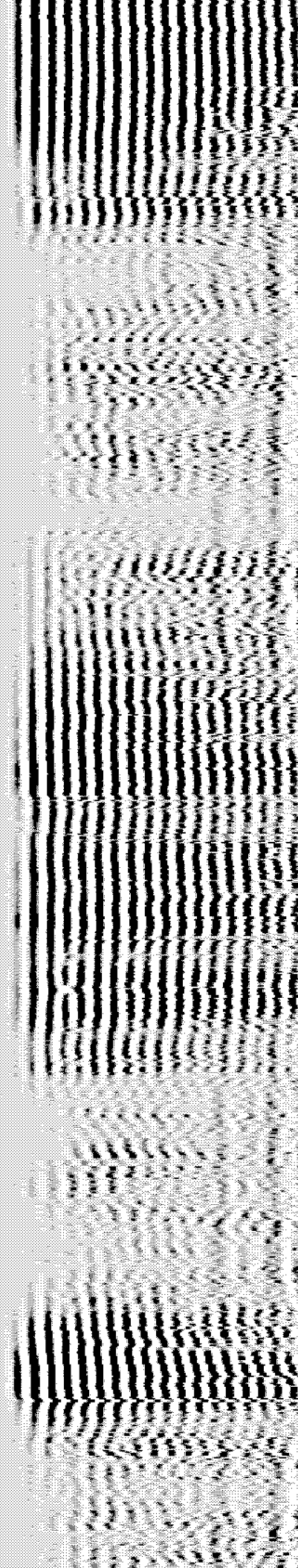
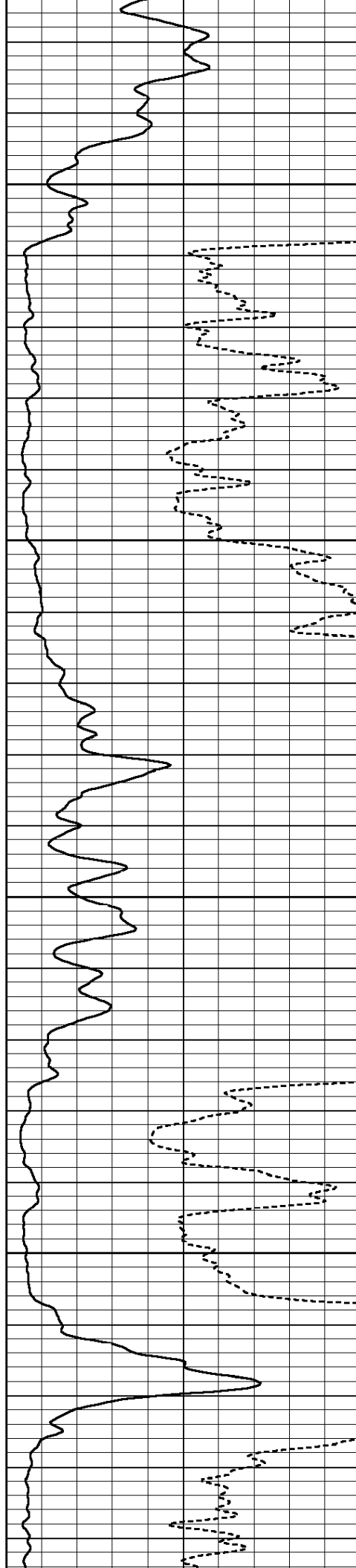
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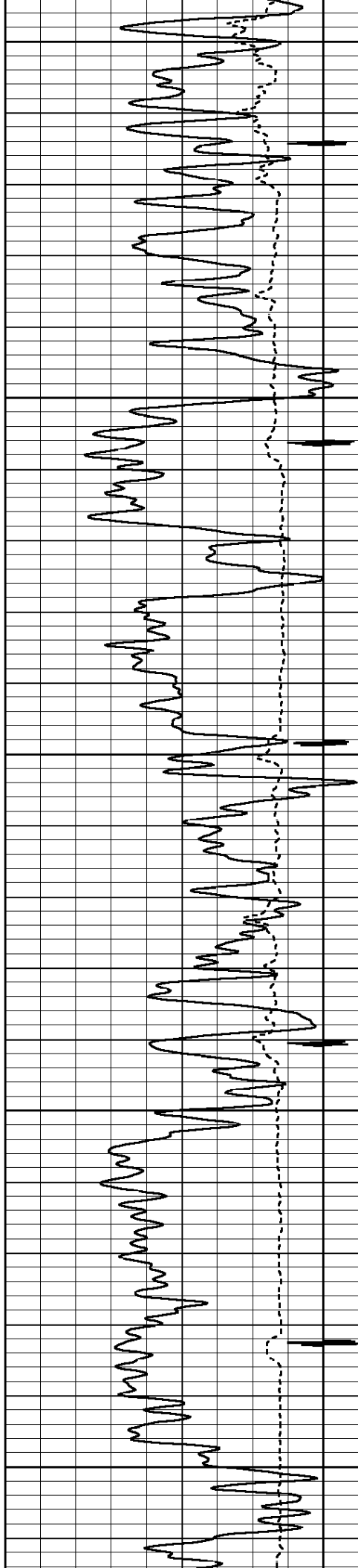




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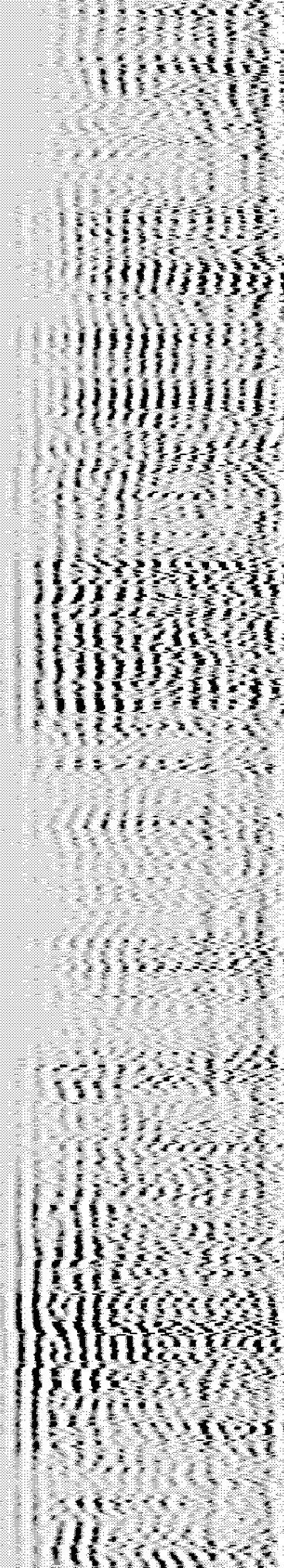
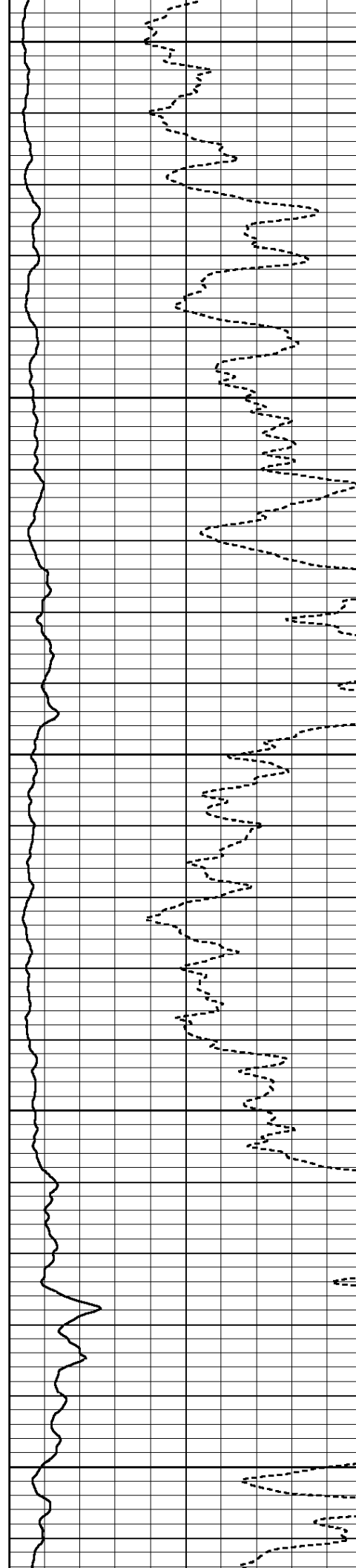


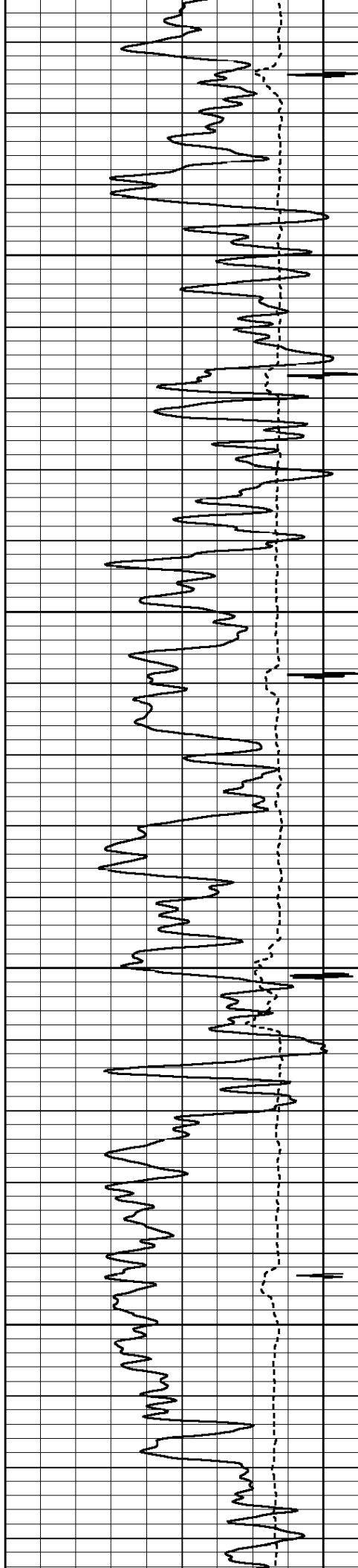


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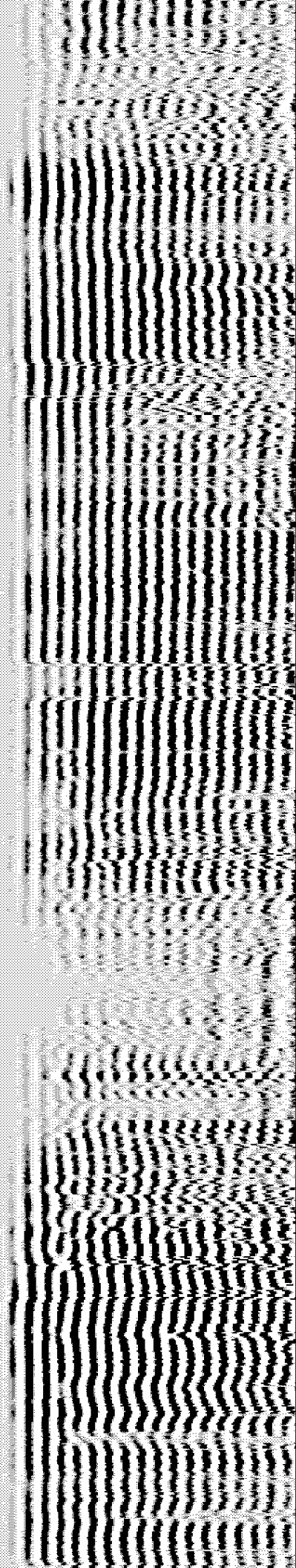
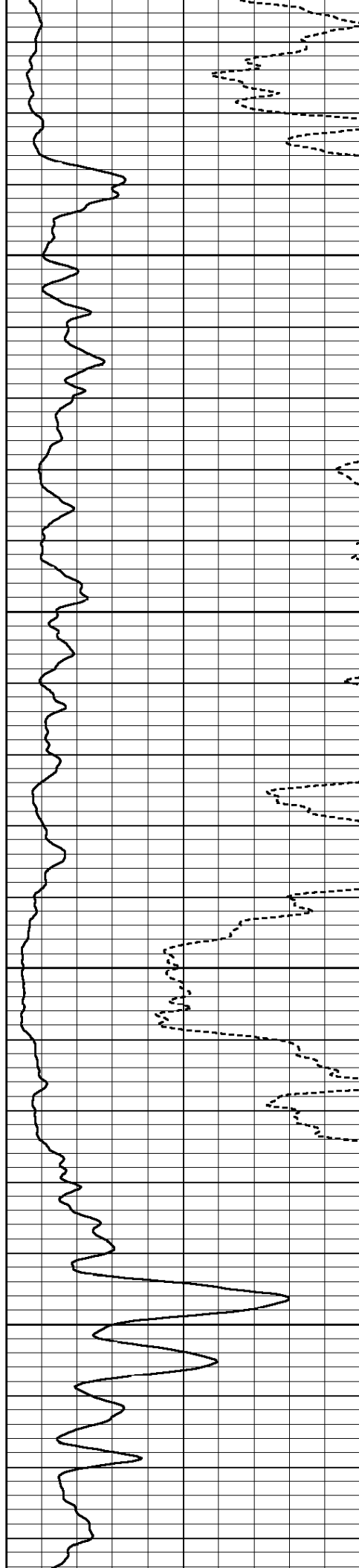
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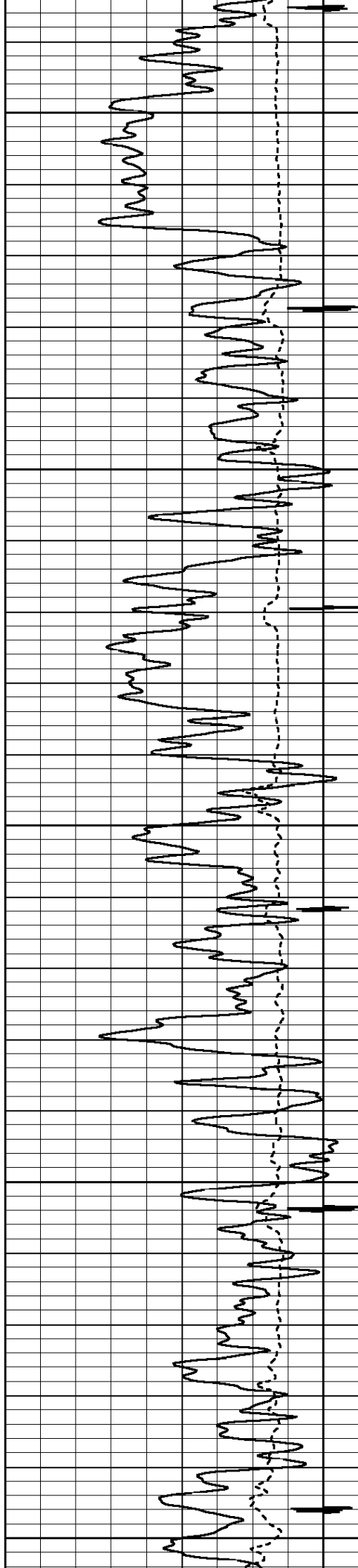




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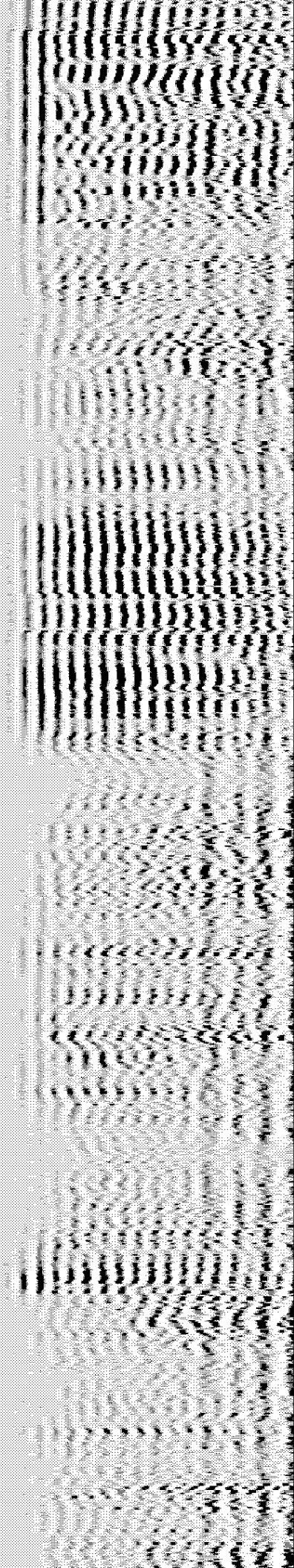
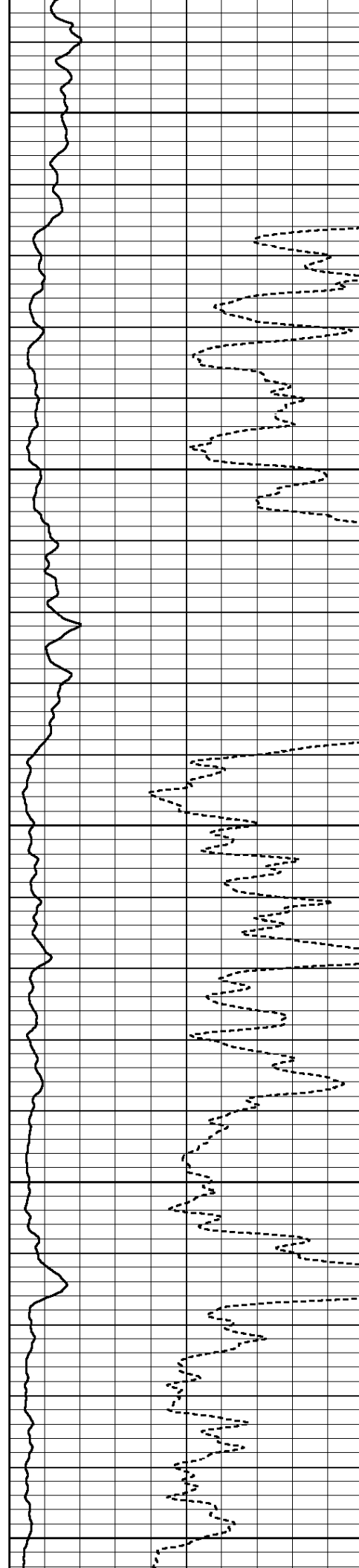
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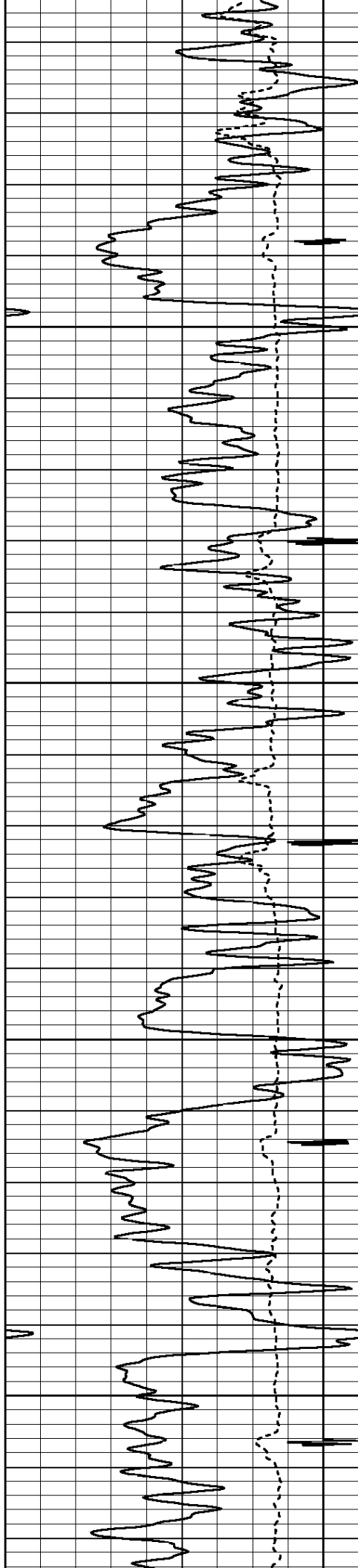




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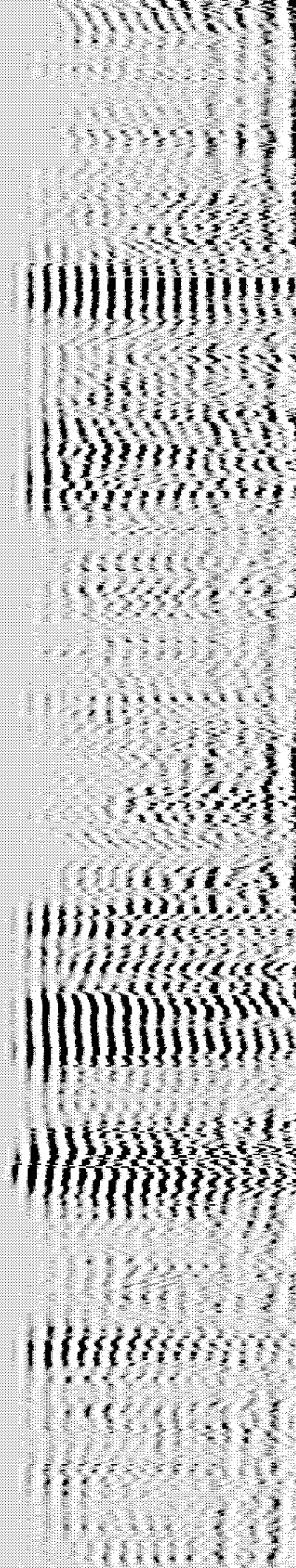
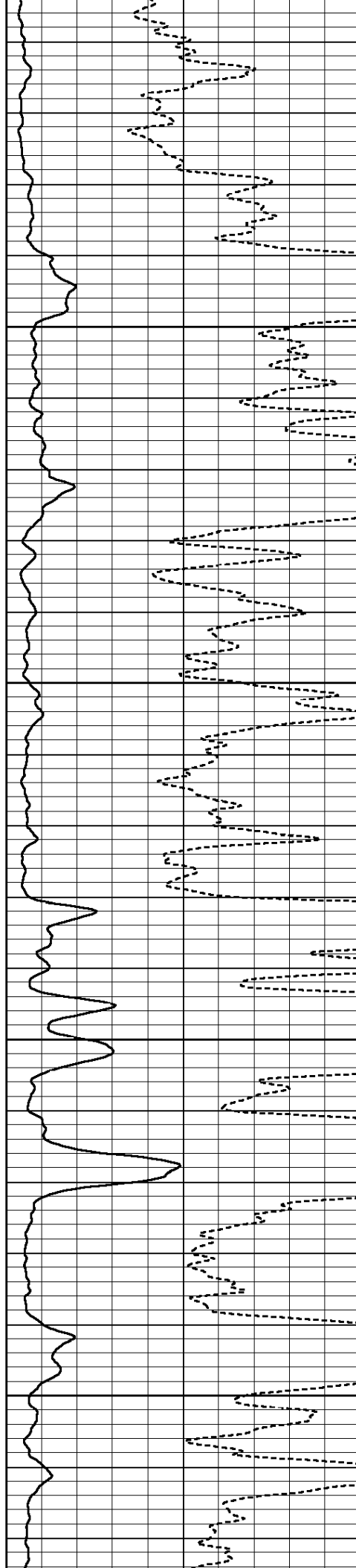
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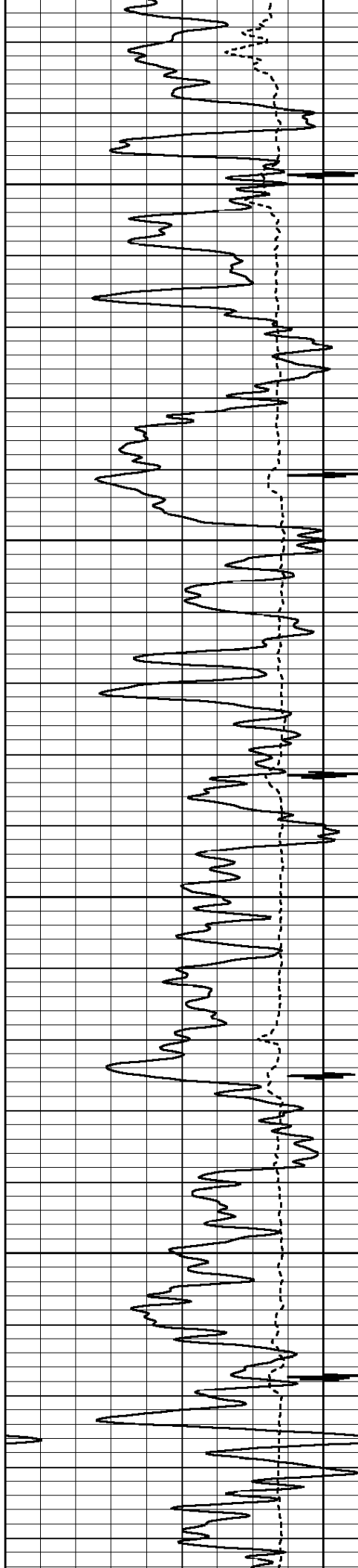




6300

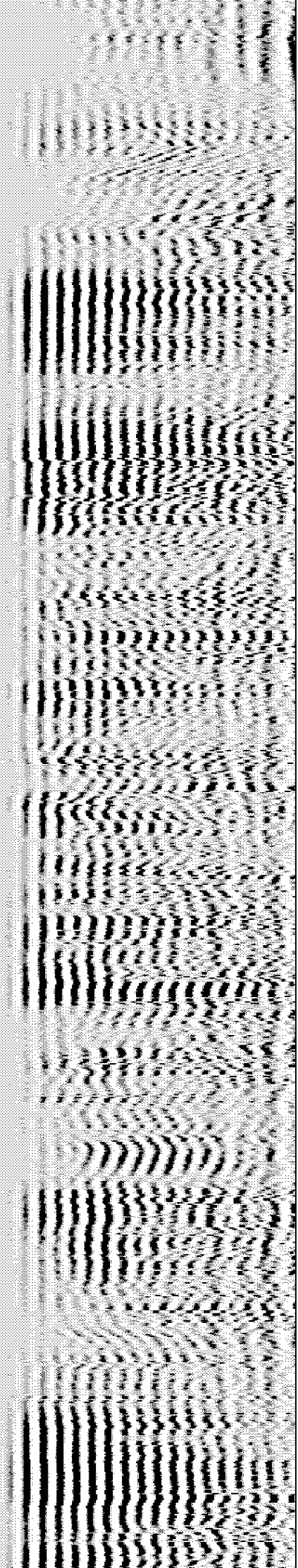
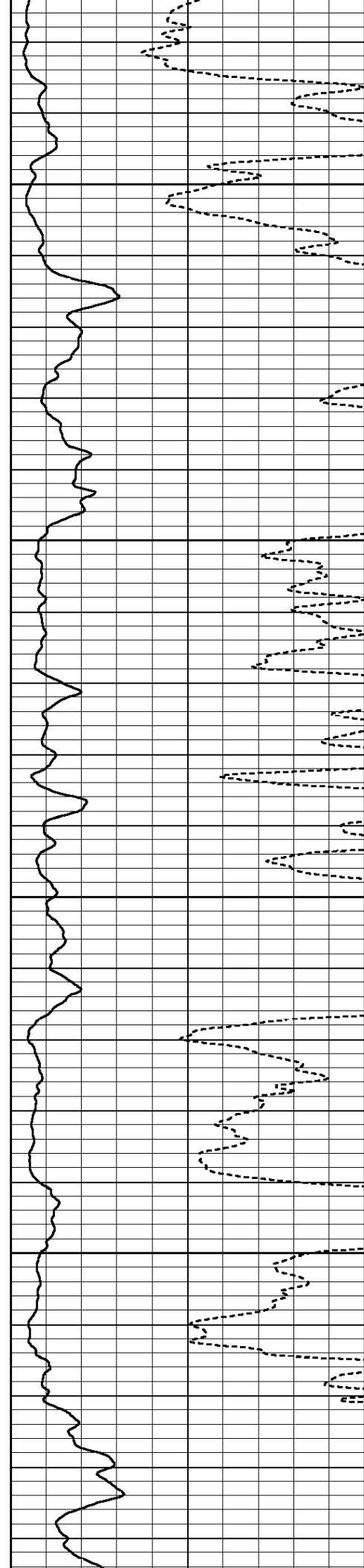
6400

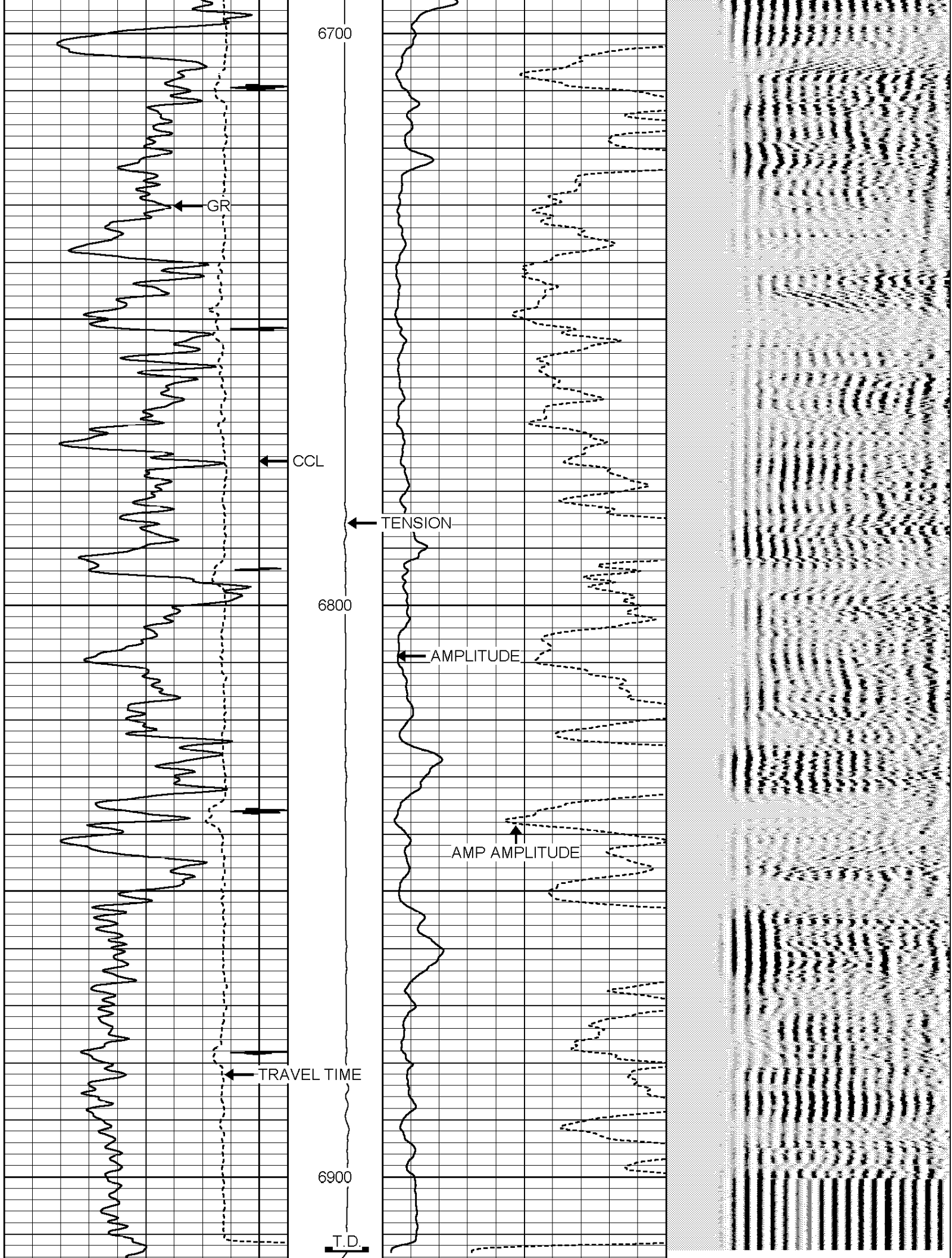


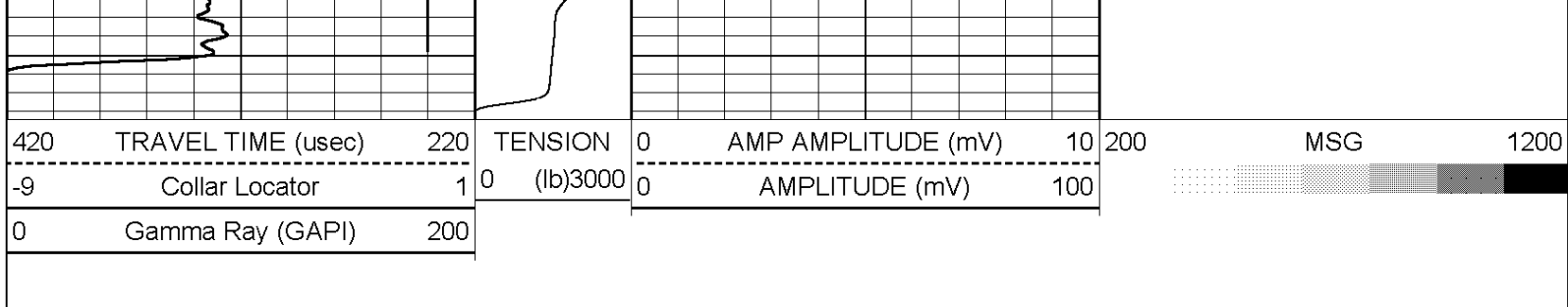


6500

6600







HALLIBURTON

MAIN LOG SECTION

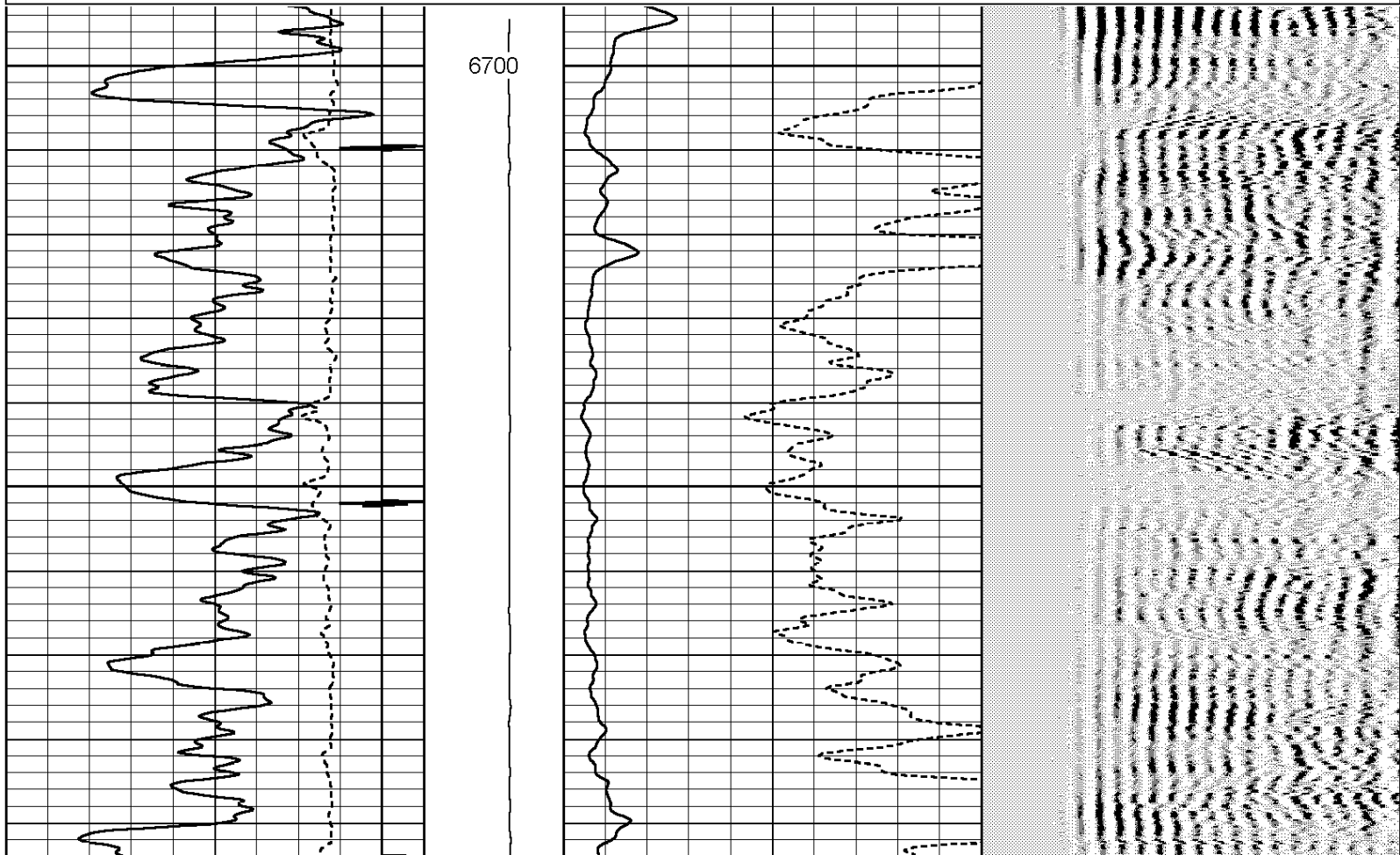
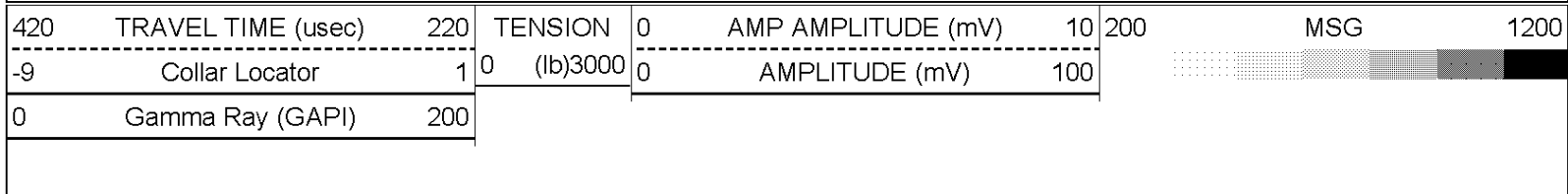
5" = 100'

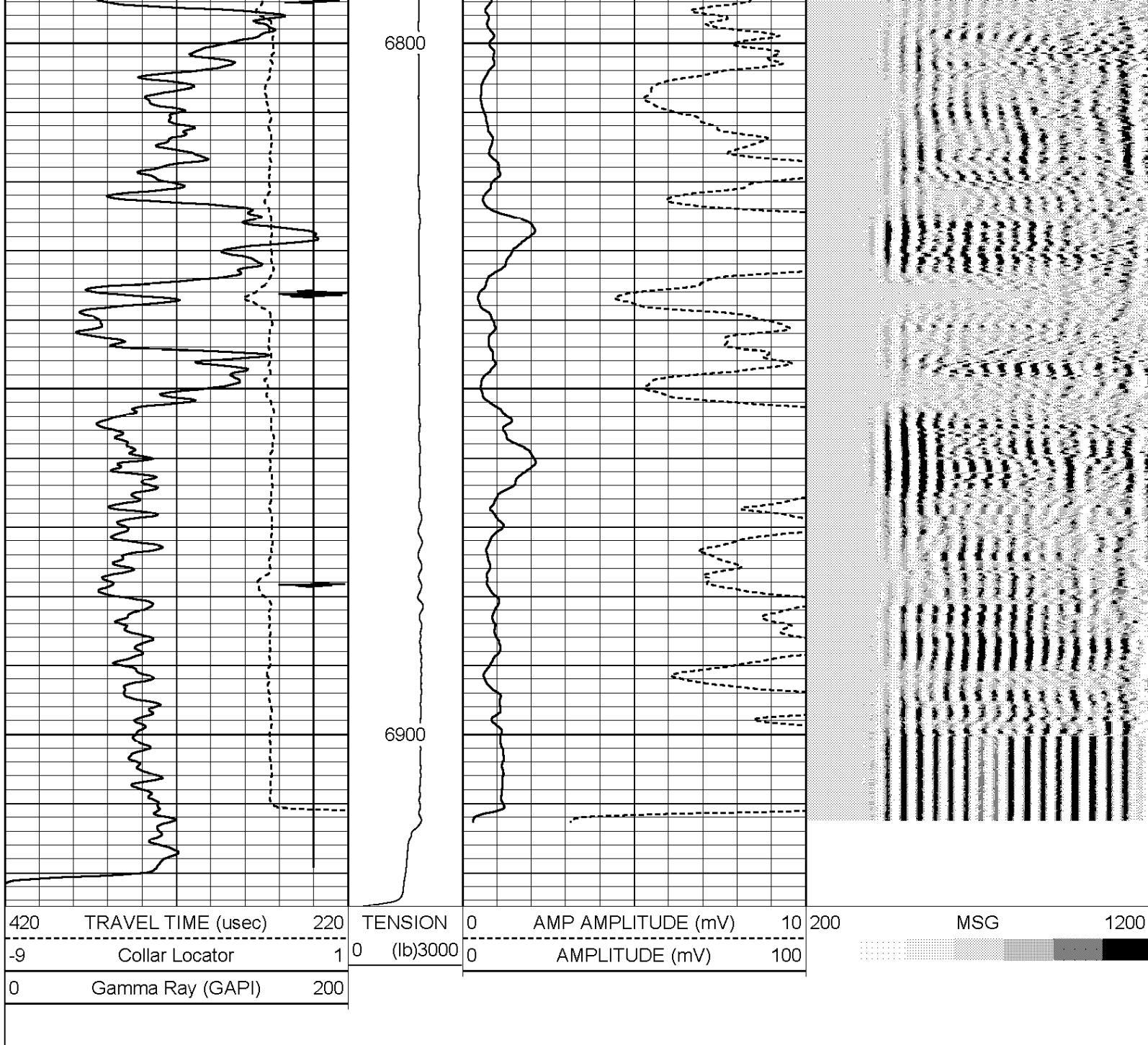
HALLIBURTON

REPEAT LOG SECTION

5" = 100'

Database File: gm_314_32_cbl.db
Dataset Pathname: rept1
Presentation Format: CBL_PR~1
Dataset Creation: Tue Jan 27 09:44:49 2009 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240





HALLIBURTON

REPEAT LOG SECTION

5" = 100'

HALLIBURTON

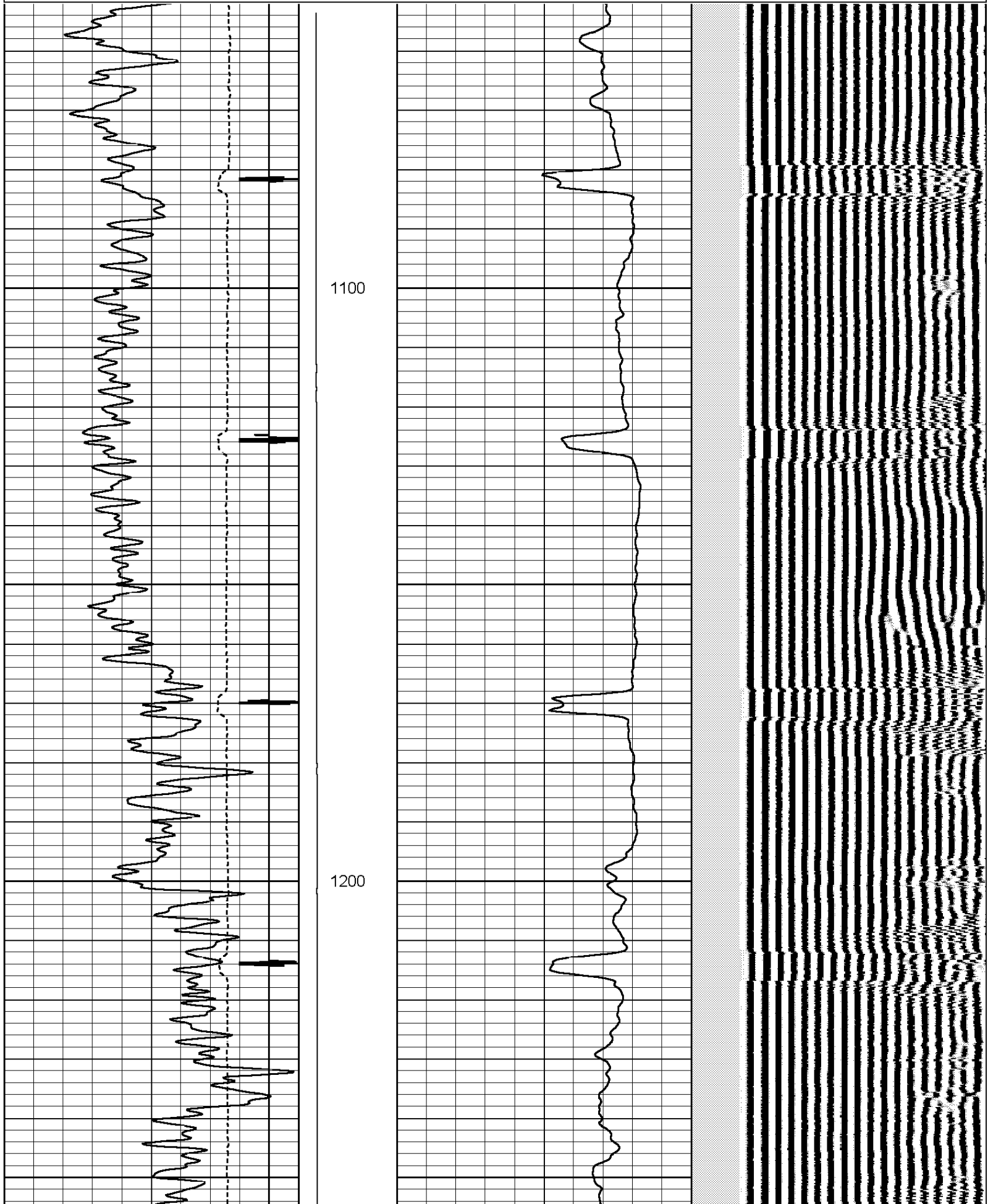
FREE PIPE LOG SECTION

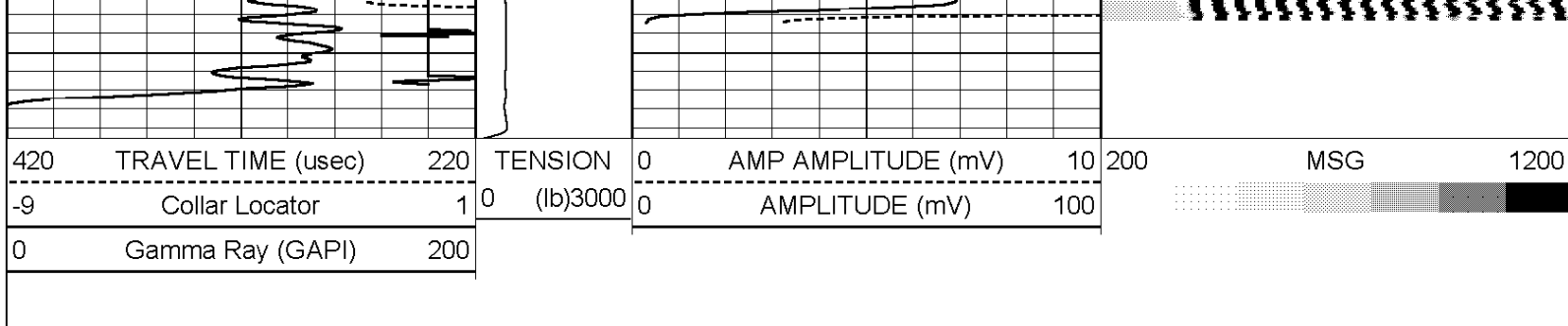
5" = 100'

Database File: gm_314_32_cbl.db
Dataset Pathname: free3
Presentation Format: CBL_PR~1
Dataset Creation: Tue Jan 27 09:14:35 2009 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240



-9	Collar Locator	1	0	AMPLITUDE (mV)	100
0	Gamma Ray (GAPI)	200	0		





HALLIBURTON	<h1>FREE PIPE LOG SECTION</h1>
	<p>5" = 100'</p>

Calibration Report	
Database File:	gm_314_32_cbl.db
Dataset Pathname:	mainF
Dataset Creation:	Tue Jan 27 12:22:20 2009

Temperature Calibration Report			
Serial Number:	080315		
Tool Model:	1.375TEMP		
Performed:	Sat Jan 24 14:53:29 2009		
	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	
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Type / Serial:		Probe / 061015			
SHOP CALIBRATION		Tue Jan 27 08:48:09 2009			
	Counts/Sec.	Gain	Offset	Jig	Units
Background	51.5				cps
Calibrator	231.3				cps
		1.4017			GAPI/cps
PRIMARY VERIFICATION		Tue Jan 27 08:50:18 2009			
Background	67.8				cps
Calibrator	314.8				cps
Difference				247.0	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

Serial Number: 061113
 Tool Model: Probe
 Performed: Tue Jan 27 09:13:50 2009

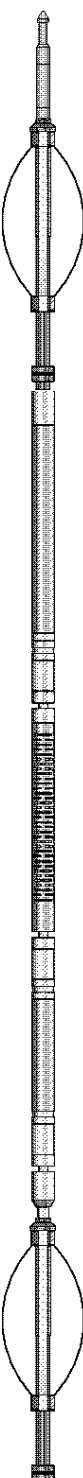
Depth: 1169.9 ft
 Casing Diameter: 4.5 in

3' Spacing 5' Spacing

Signal Zero: 3 mV
 Calibrated Amplitude: 81.1961 mV
 Reading at Signal Zero: -0.00334473 V
 Reading in Free Pipe: 1.85078 V

Gain: 42.1741
 Offset: 3.14106

43.6566
 3.19078

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
WVF3	13.45		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 (061113) Probe 2.75" Dual Receiver Bond	8.75	2.75	92.00
			CENT-Probe (PT_MONO2)	2.88	2.75	35.00
WVF5	12.45					

CCL	5.46					
GR	4.08		GR-Probe (061015) Probe 2.75" 4 Channel Pulse	4.83	2.75	57.00
TEMP LLMTEN	0.08 0.00		TEMP-1.375TEMP (080315) Temperature Tool	1.54	1.38	5.00
Dataset: gm_314_32_cbl.db: field/well/run1/mainF Total Length: 22.04 ft Total Weight: 225.10 lb O.D. 2.75 in						

Company	WILLIAMS PRODUCTION CO				
Well	GM 314-32				
Field	GRAND VALLEY				
County	GARFIELD			State	CO
HALLIBURTON			ACOUSTIC CEMENT BOND LOG		