

**CEMENT BOND LOG
GAMMA RAY CCL
VDL**

Company **Noble Energy INC.**

Well PANTHER C11-28D

Field Wattenberg

County	Weld	State	Colorado
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Location: API #: 051233467700000

Other Services

SHL: 665' FSL & 837' FEL SE SE
BHL: 52' FSL & 2564' FWL SE SW
SEC 02 TWP 4N RGE 64W.

Elevation

Company	Noble Energy INC.
Well	PANTHER C11-28D
Field	Wattenberg
County	Weld
State	Colorado

Permanent Datum	GL	Elevation	4618
Log Measured From	KB	24'	
Drilling Measured From	KB		

K.B.	4642
D.F.	4641
G.L.	4618

date	April 17, 2012
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Run Number

Depth Logger	7287
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Bottom Logged Interval	1286
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op Log interval	660
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Water

Max. Recorded Temp.	227 deg F
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Estimated Cement Top	1700
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Time Well Ready	Crane
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Time	PM
10:00	10:00
10:05	10:05
10:10	10:10
10:15	10:15
10:20	10:20
10:25	10:25
10:30	10:30
10:35	10:35
10:40	10:40
10:45	10:45
10:50	10:50
10:55	10:55
11:00	11:00
11:05	11:05
11:10	11:10
11:15	11:15
11:20	11:20
11:25	11:25
11:30	11:30
11:35	11:35
11:40	11:40
11:45	11:45
11:50	11:50
11:55	11:55
12:00	12:00
12:05	12:05
12:10	12:10
12:15	12:15
12:20	12:20
12:25	12:25
12:30	12:30
12:35	12:35
12:40	12:40
12:45	12:45
12:50	12:50
12:55	12:55
13:00	13:00
13:05	13:05
13:10	13:10
13:15	13:15
13:20	13:20
13:25	13:25
13:30	13:30
13:35	13:35
13:40	13:40
13:45	13:45
13:50	13:50
13:55	13:55
14:00	14:00
14:05	14:05
14:10	14:10
14:15	14:15
14:20	14:20
14:25	14:25
14:30	14:30
14:35	14:35
14:40	14:40
14:45	14:45
14:50	14:50
14:55	14:55
15:00	15:00
15:05	15:05
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15:15	15:15
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15:25	15:25
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15:35	15:35
15:40	15:40
15:45	15:45
15:50	15:50
15:55	15:55
16:00	16:00
16:05	16:05
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16:45	16:45
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16:55	16:55
17:00	17:00
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17:15	17:15
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17:25	17:25
17:30	17:30
17:35	17:35
17:40	17:40
17:45	17:45
17:50	17:50
17:55	17:55
18:00	18:00
18:05	18:05
18:10	18:10
18:15	18:15
18:20	18:20
18:25	18:25
18:30	18:30
18:35	18:35
18:40	18:40
18:45	18:45
18:50	18:50
18:55	18:55
19:00	19:00
19:05	19:05
19:10	19:10
19:15	19:15
19:20	19:20
19:25	19:25
19:30	19:30
19:35	19:35
19:40	19:40
19:45	19:45
19:50	19:50
19:55	19:55
20:00	20:00
20:05	20:05
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20:25	20:25
20:30	20:30
20:35	20:35
20:40	20:40
20:45	20:45
20:50	20:50
20:55	20:55
21:00	21:00
21:05	21:05
21:10	21:10
21:15	21:15
21:20	21:20
21:25	21:25
21:30	21:30
21:35	21:35

Original Number	4387
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Wool Size / ID Number	2.75 Fluke 1010
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Considered By	K. MacFarlane
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Wilfred B. Wilfred B.	Wilfred B.
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Barehole Record	
1	
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98	
99	
100	

Run Number	Bit	From	To
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[illegible]

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[illegible]

Surface Strips	0.5/0"	21 lb/#
asphalt concrete	0.12	11 lb/#

rot string		
9		

Production String	4 1/2"	11.6 lb/ft
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inner		
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[illegible]

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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

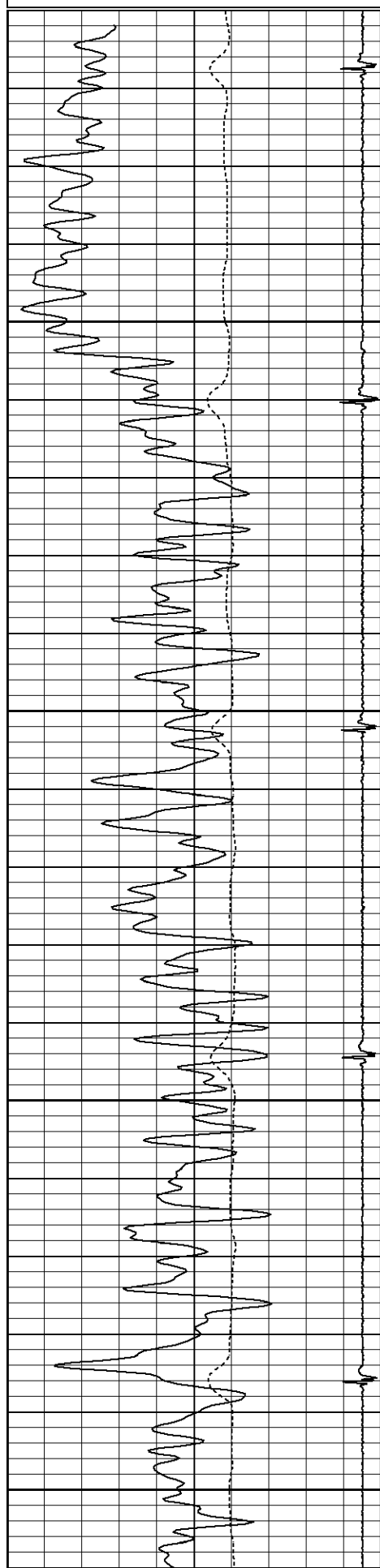
Thank You For Choosing Superior Well Services!!!
API# 05-123-34677-0000
Correlated to PSI's
Compensated Density / Compensated Neutron / Microlog
Dated: Feb 29, 2012
Directions: 48 & 49, N 2/10, W 2/10, S Into
(West Well of 6 Well Pad)

Database File: cblpanther c11-28d.db
Dataset Pathname: pass3
Presentation Format: noble en
Dataset Creation: Tue Apr 17 16:19:24 2012 by Log SCH 120126
Charted by: Depth in Feet scaled 1:240

80	CCL	-4
30	Gamma Ray (GAPI)	130
340	TT3 (usec)	240

0	Amplified Amplitude (mV)	30
0	Amplitude (mV)	100

	Variable Density	1200
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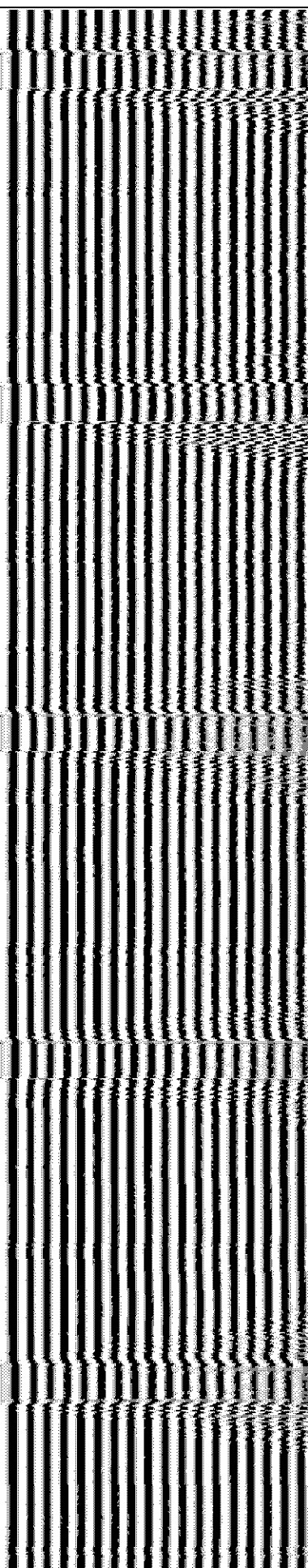
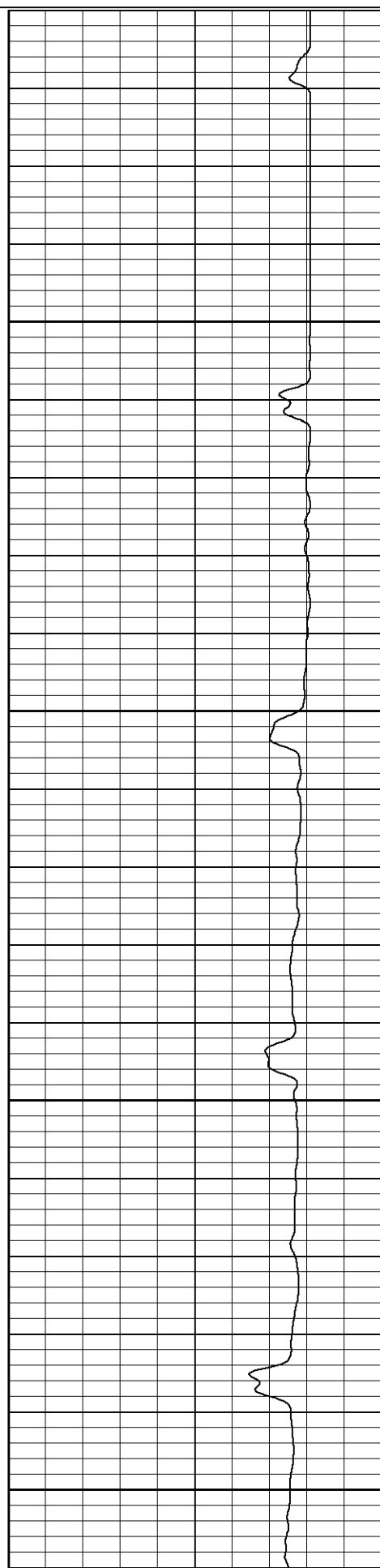


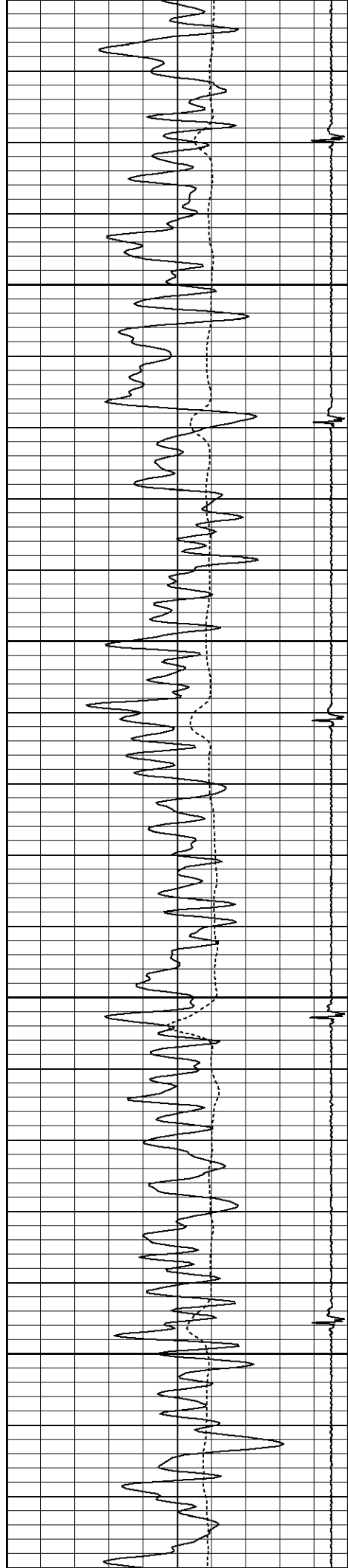
700

750

800

850



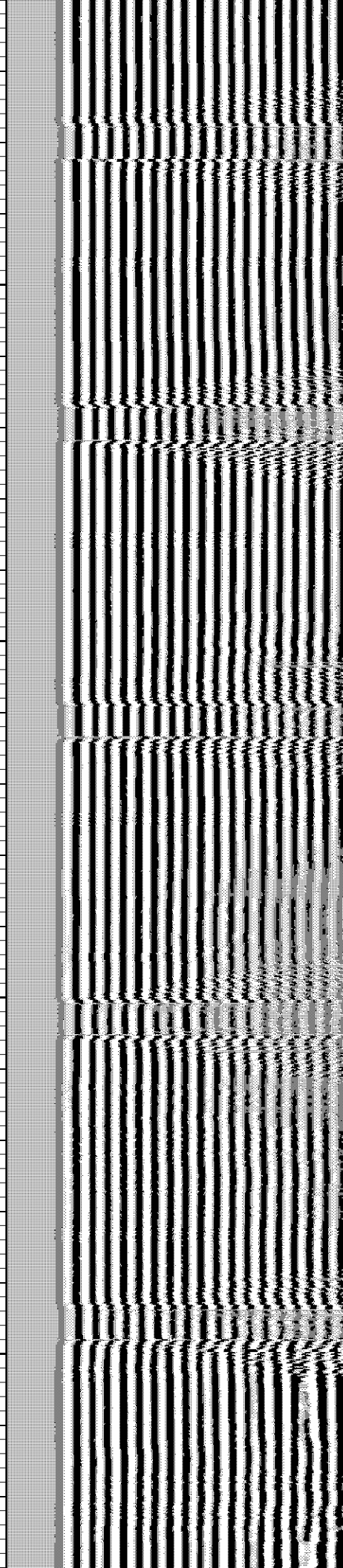
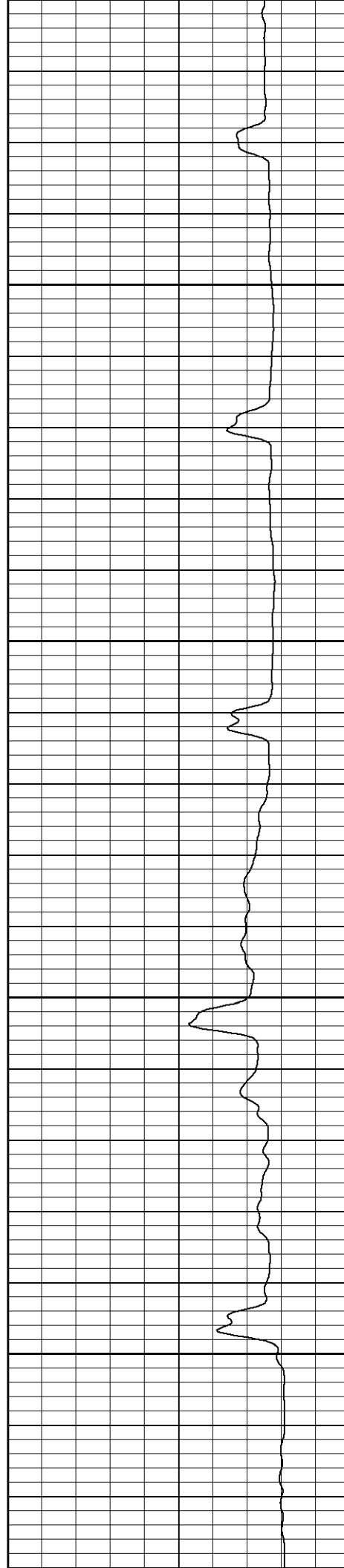


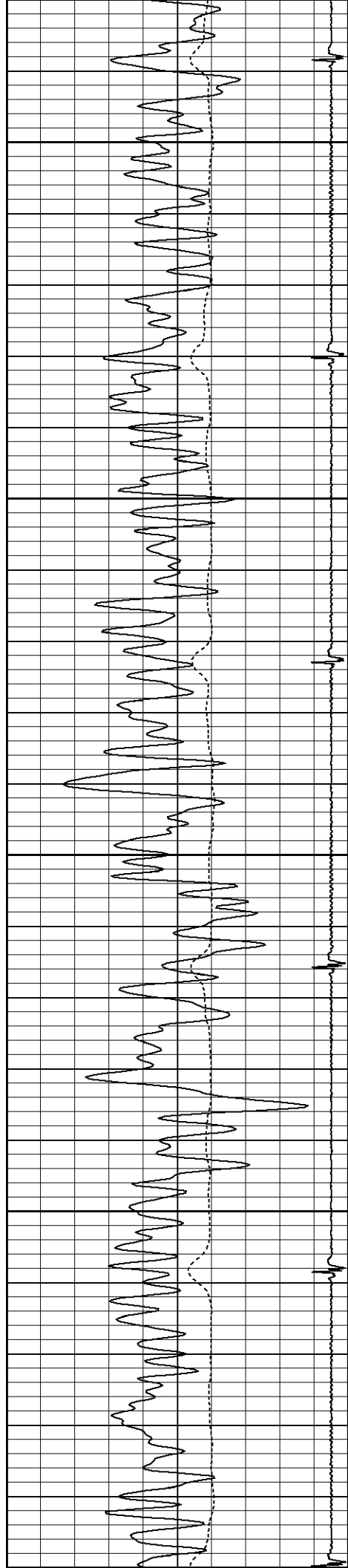
900

950

1000

1050





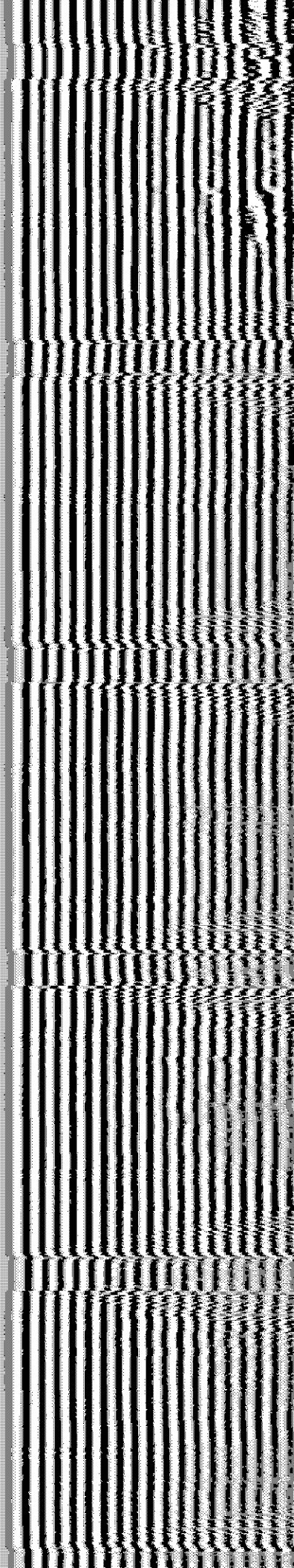
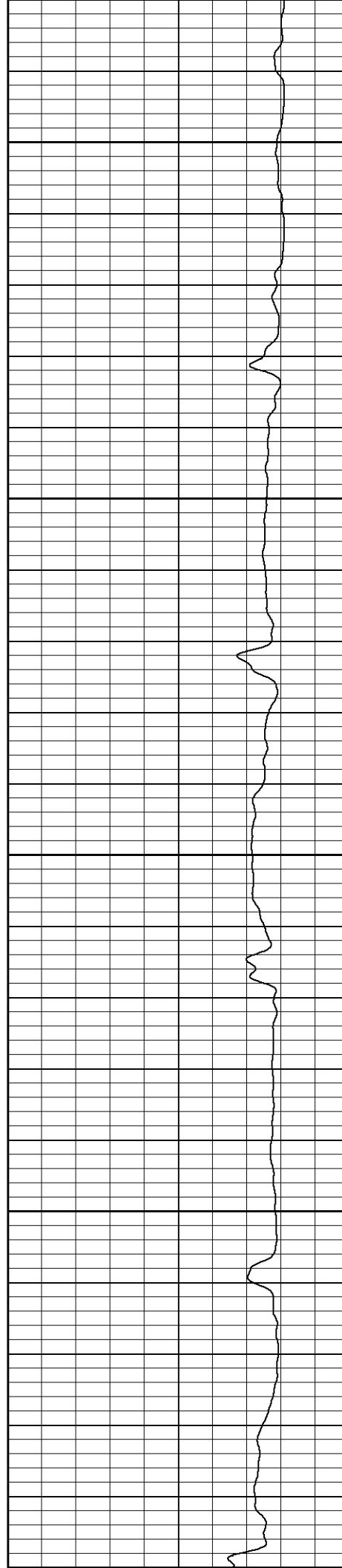
1100

1150

1200

1250

1300





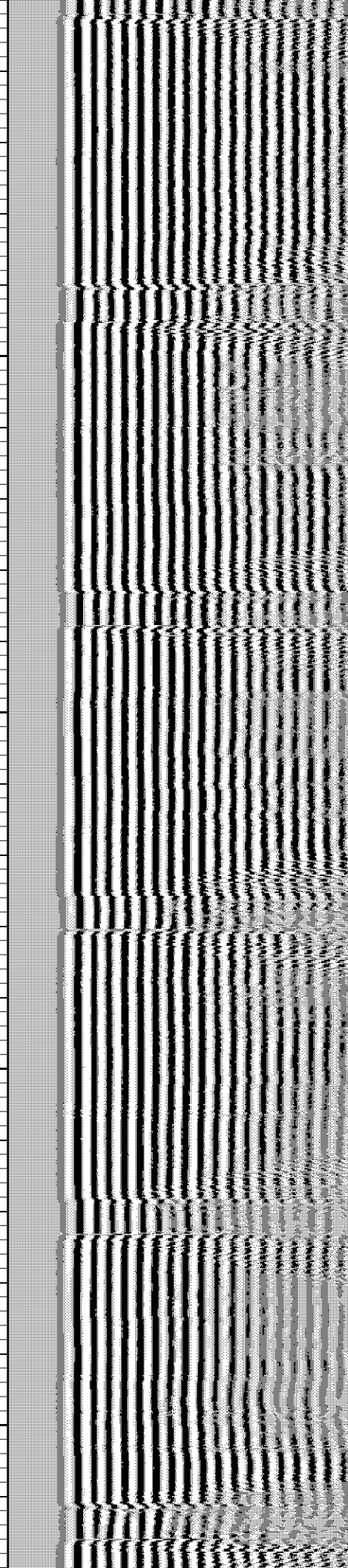
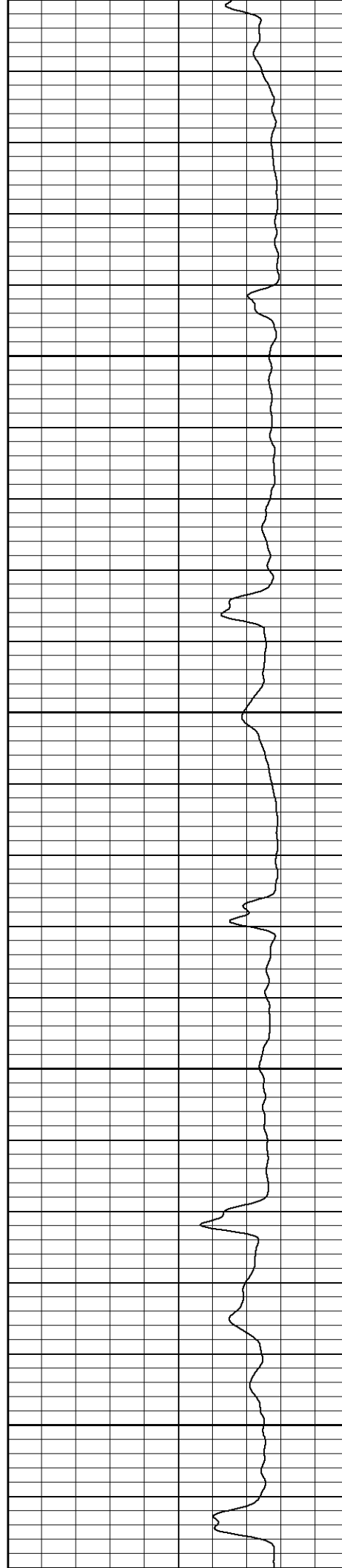
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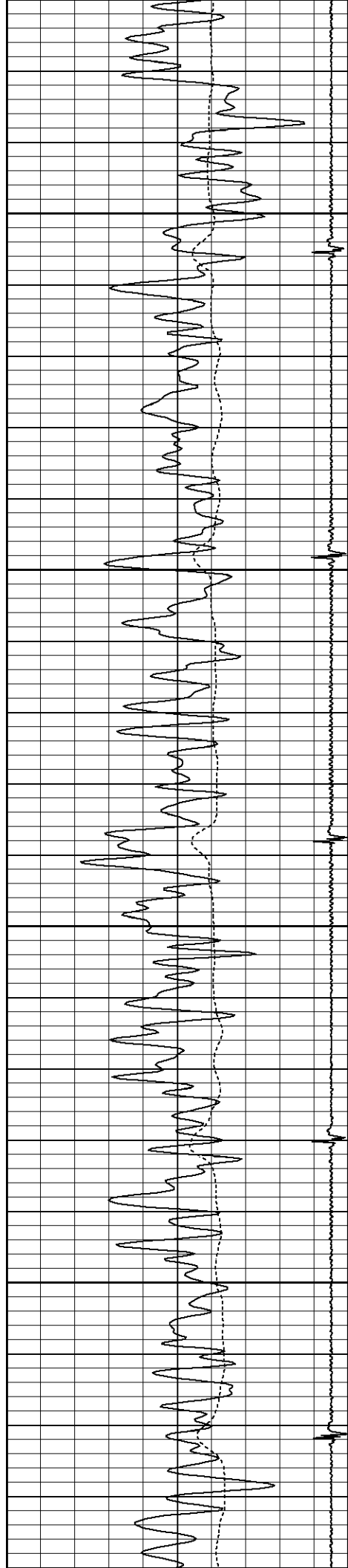
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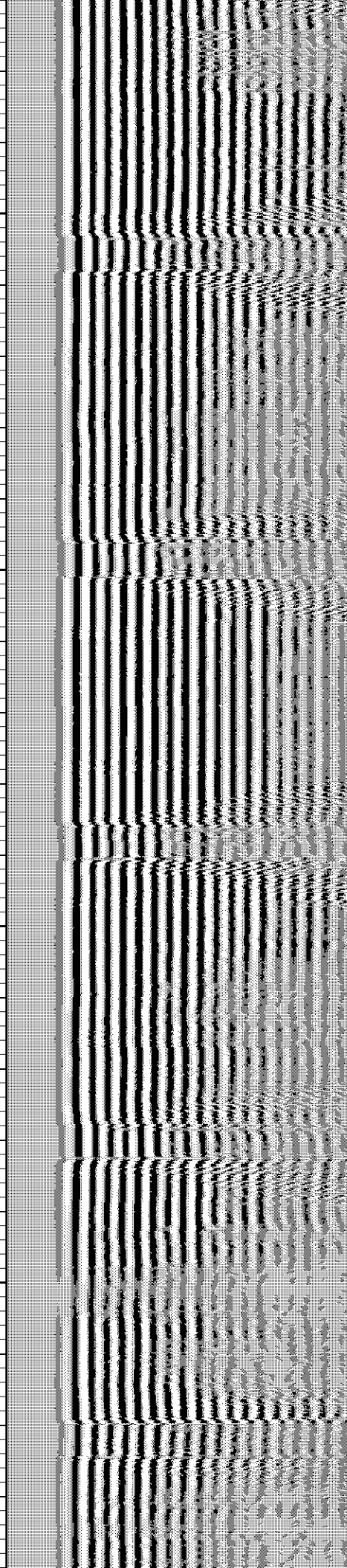
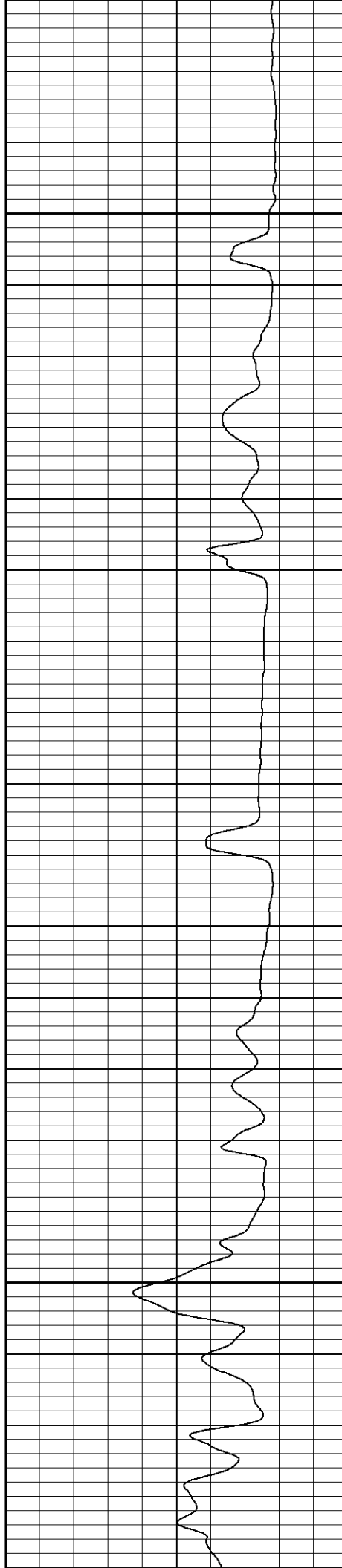


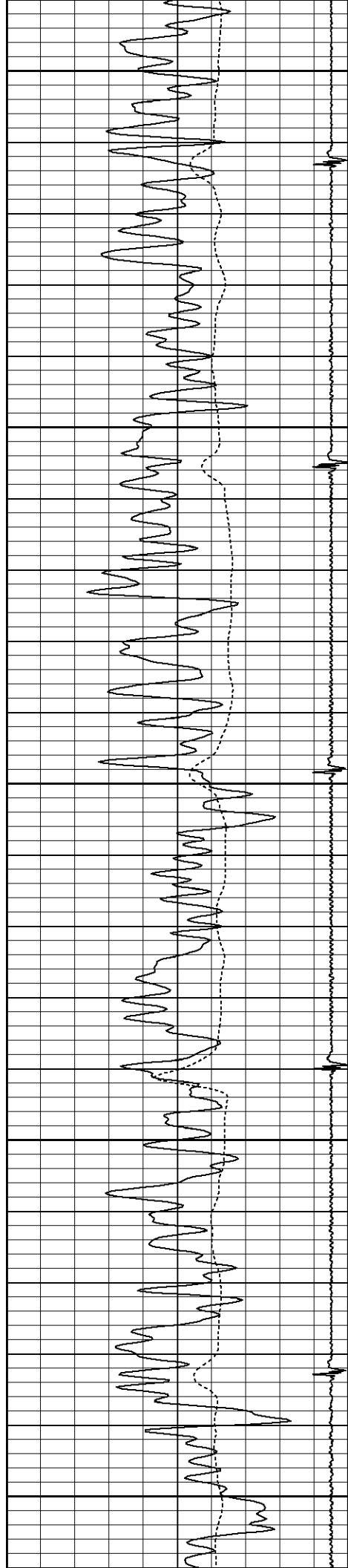
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1600

1650

1700





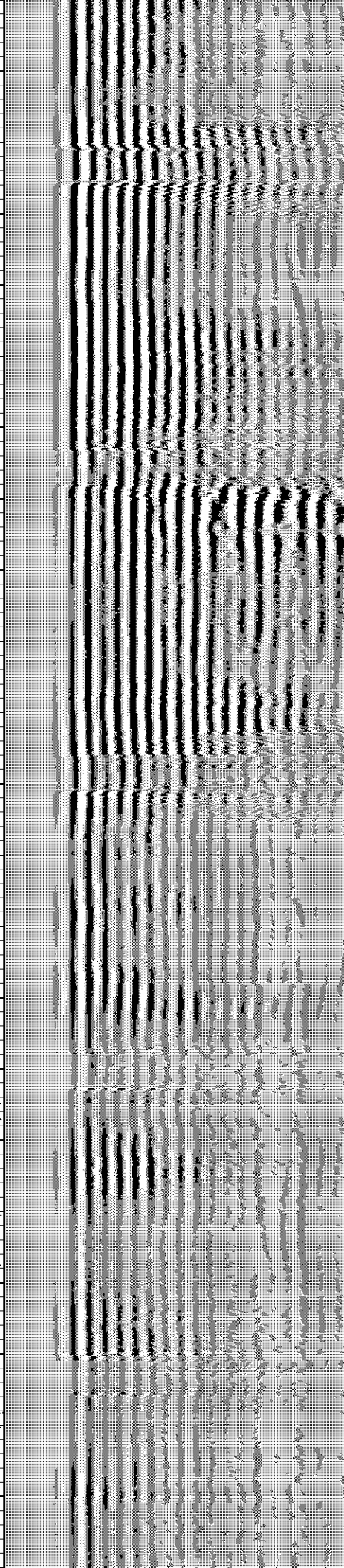
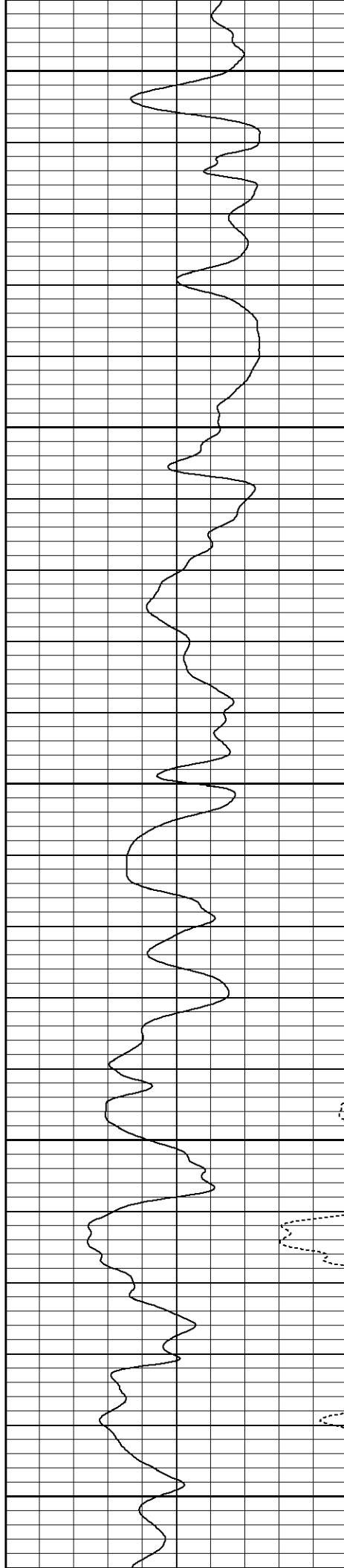
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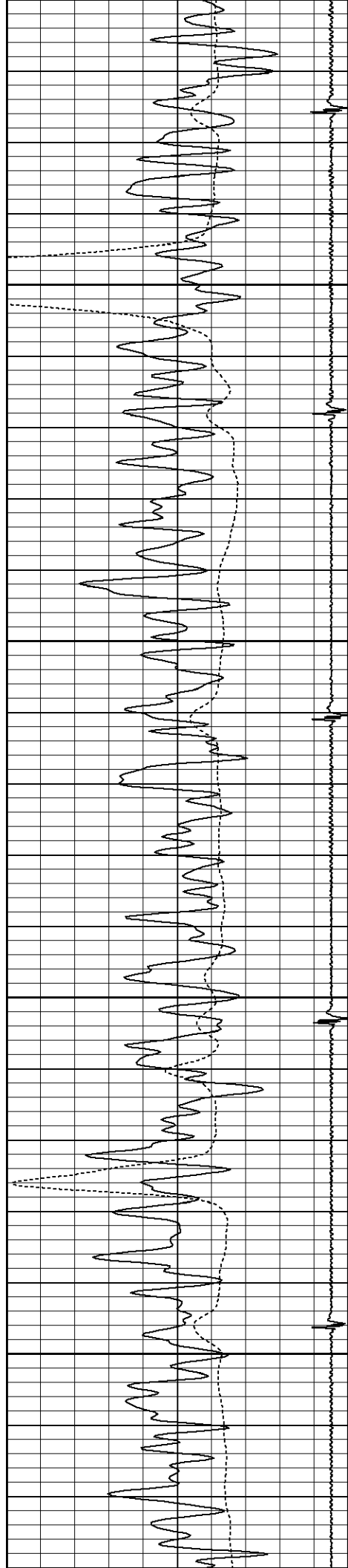
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1850

1900

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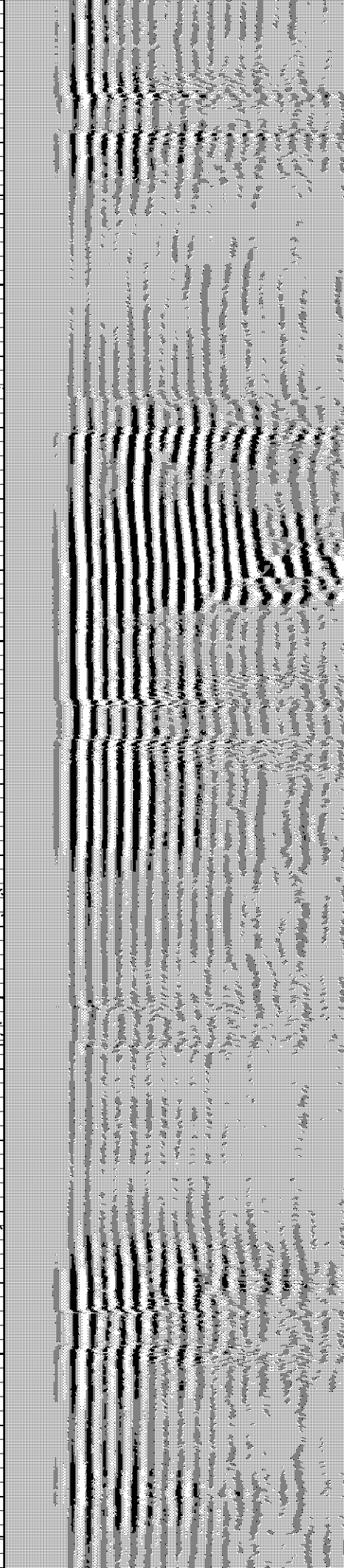
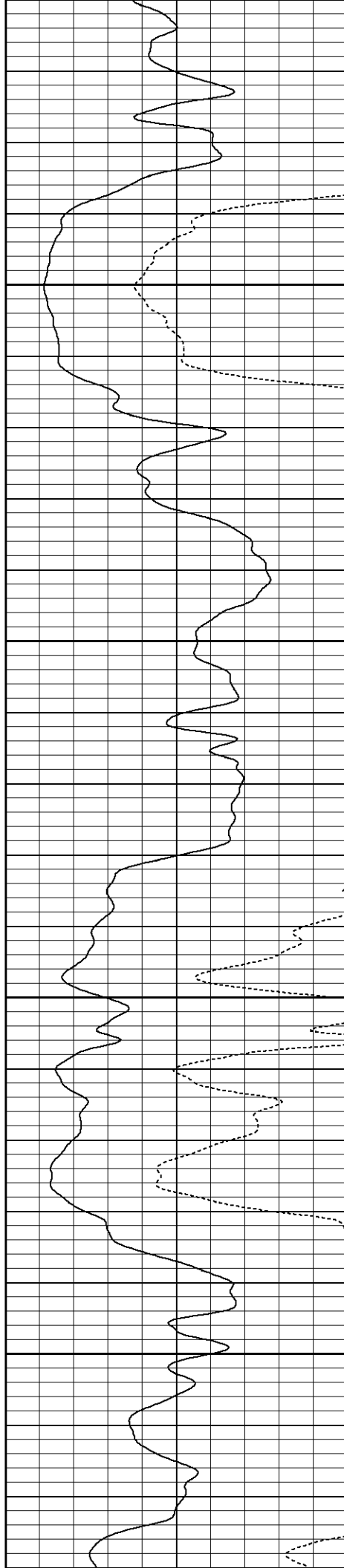


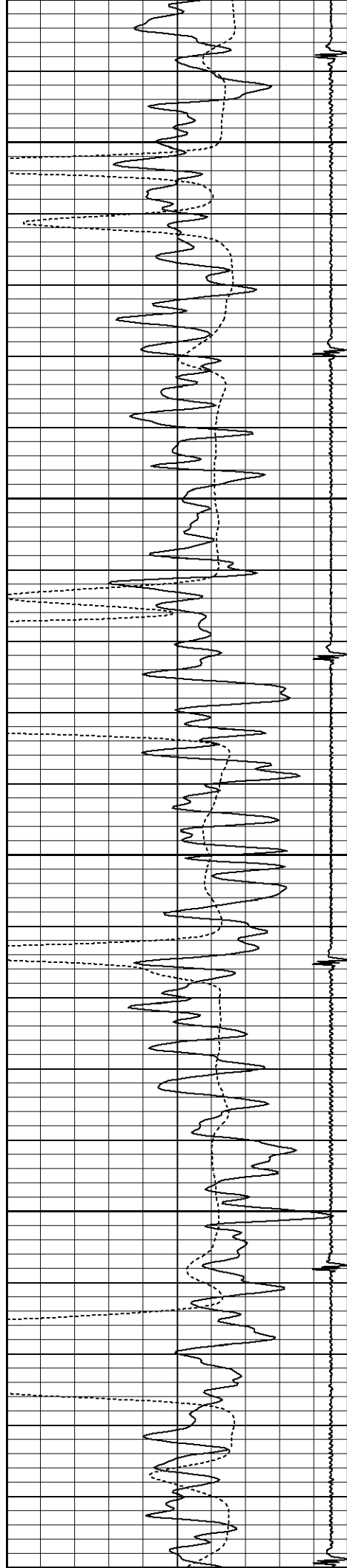
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2050

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2150





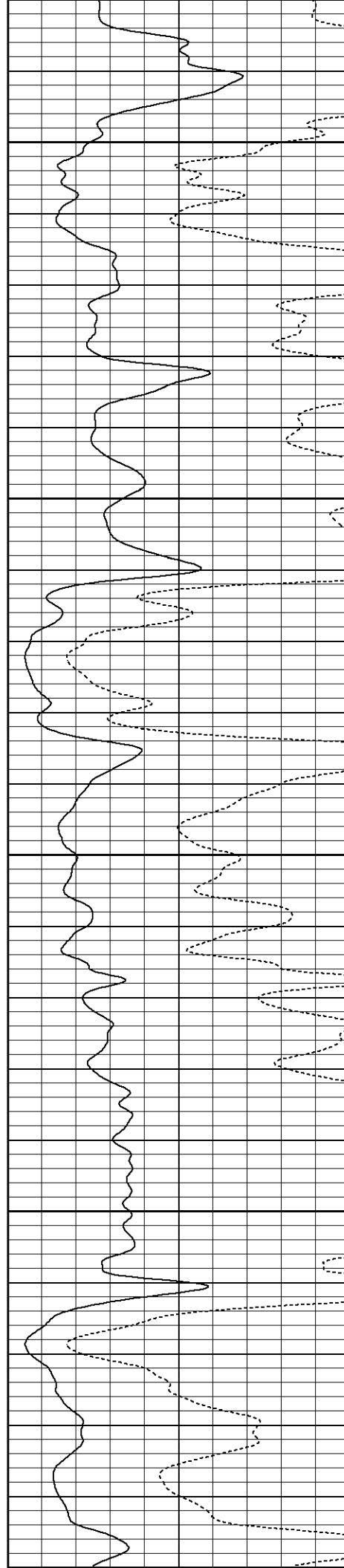
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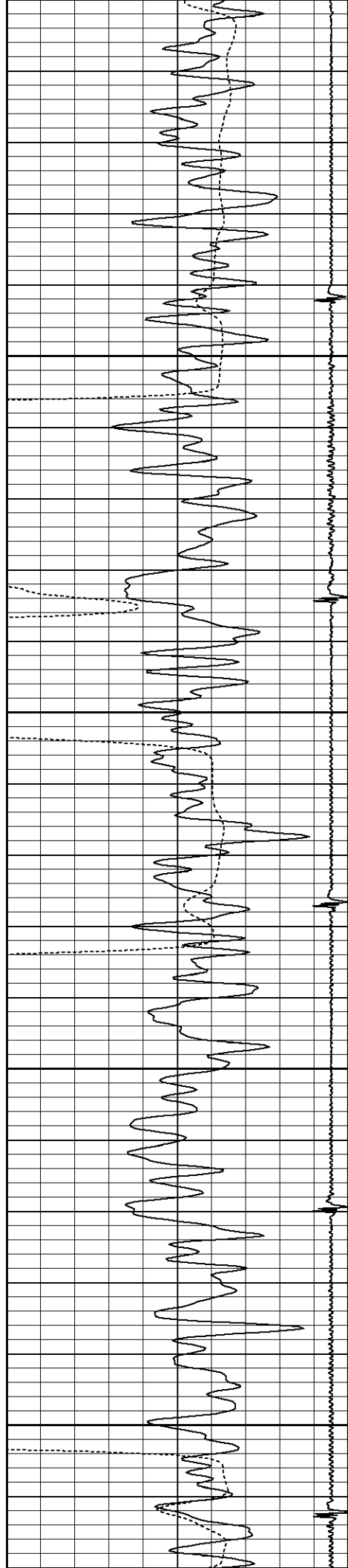
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2300

2350

2400





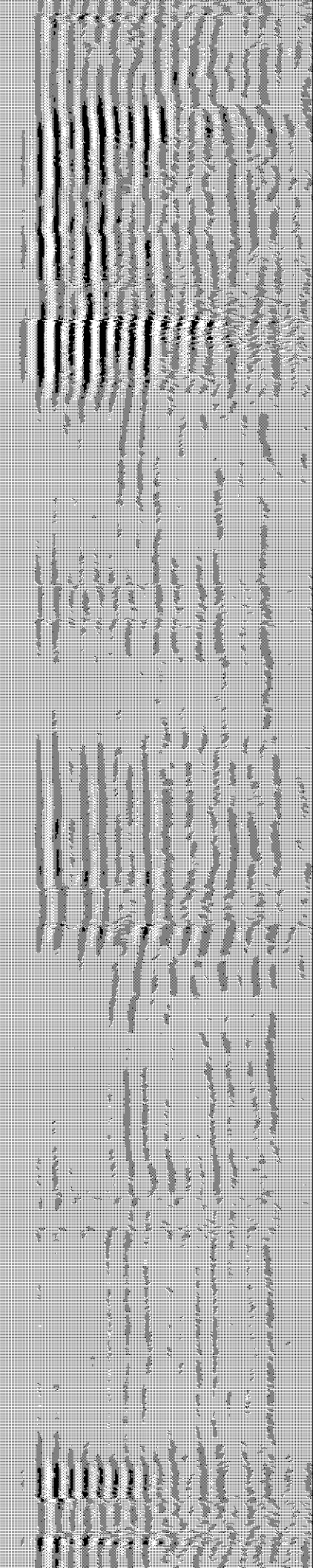
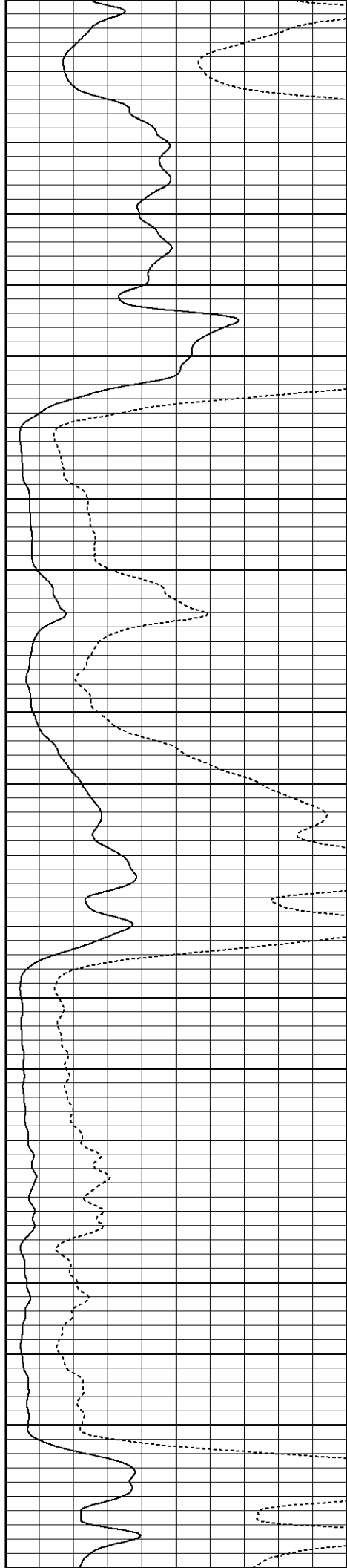
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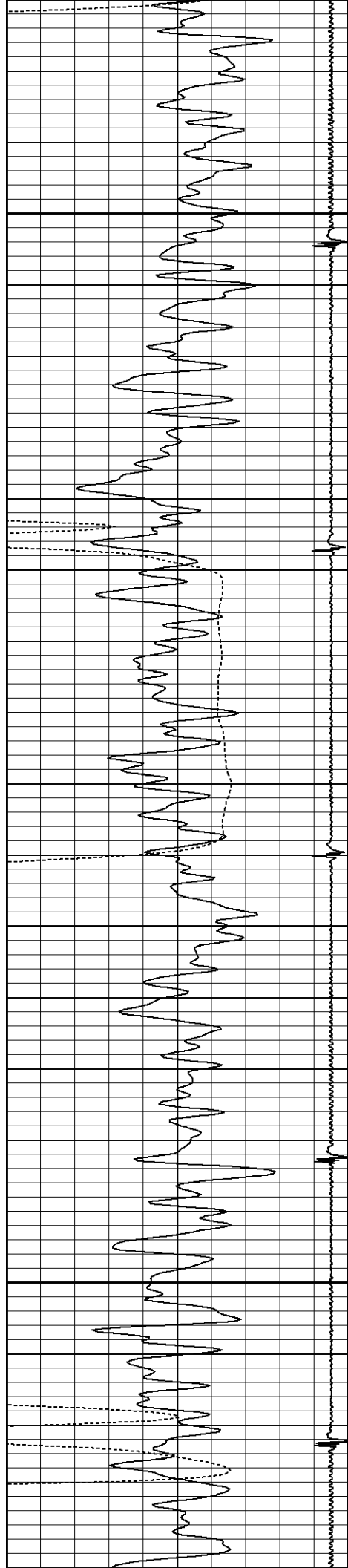
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2500

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2600



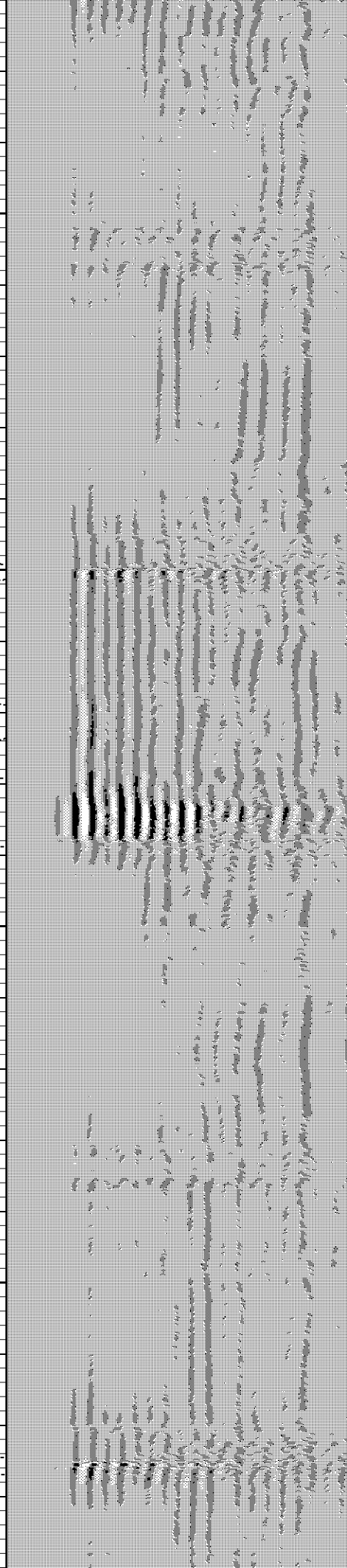
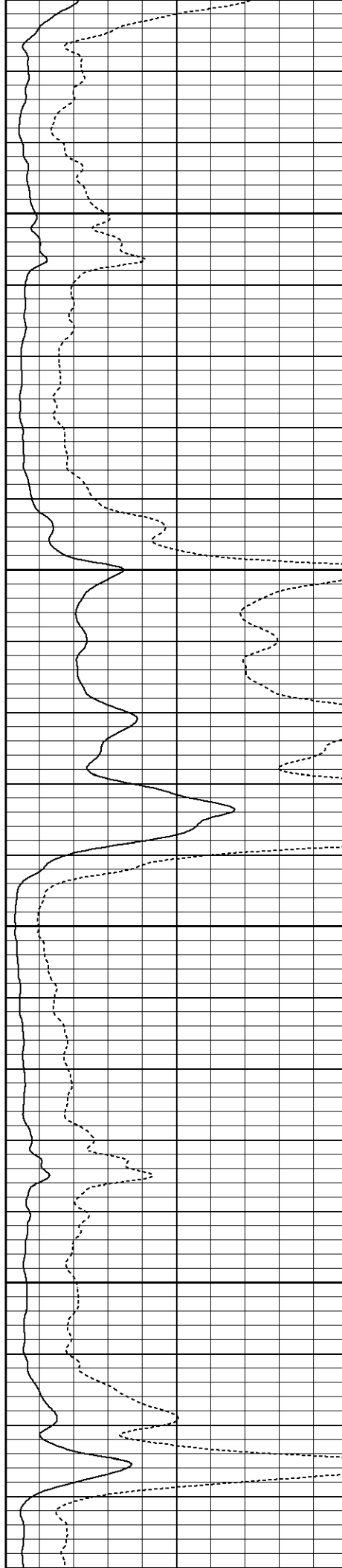


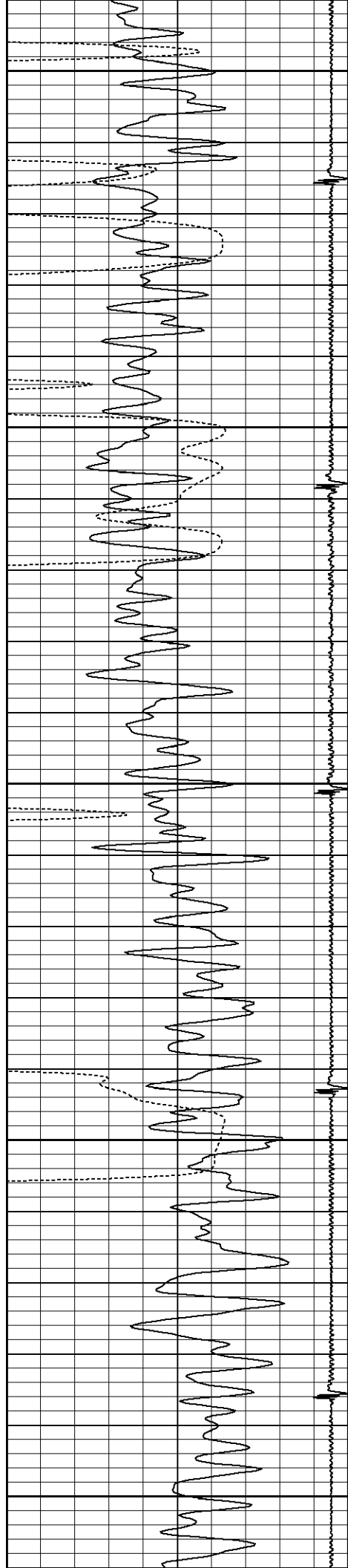
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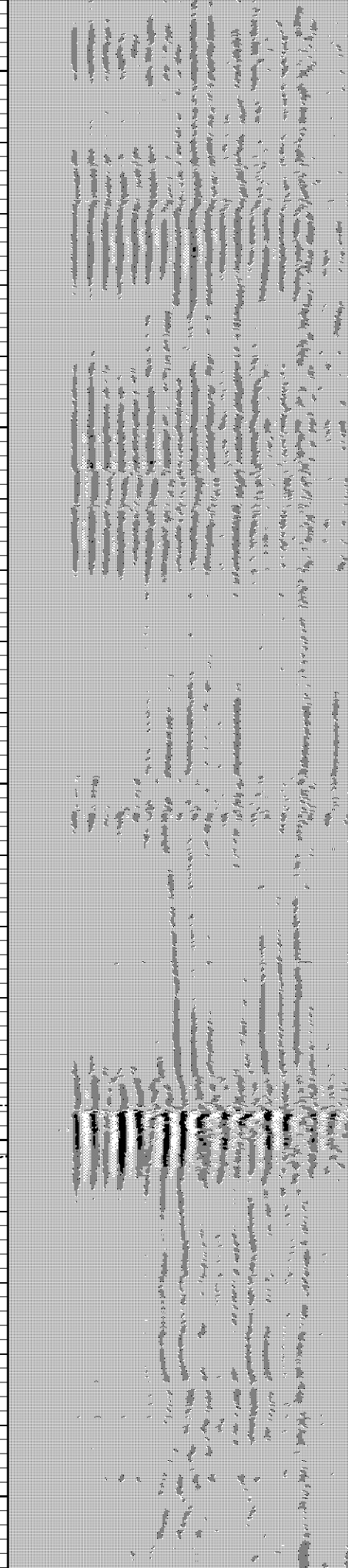
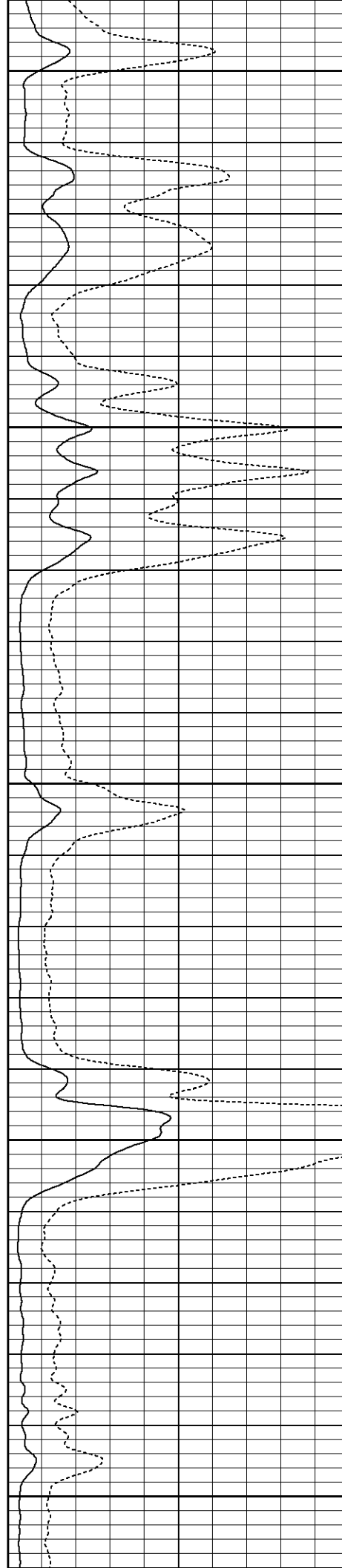
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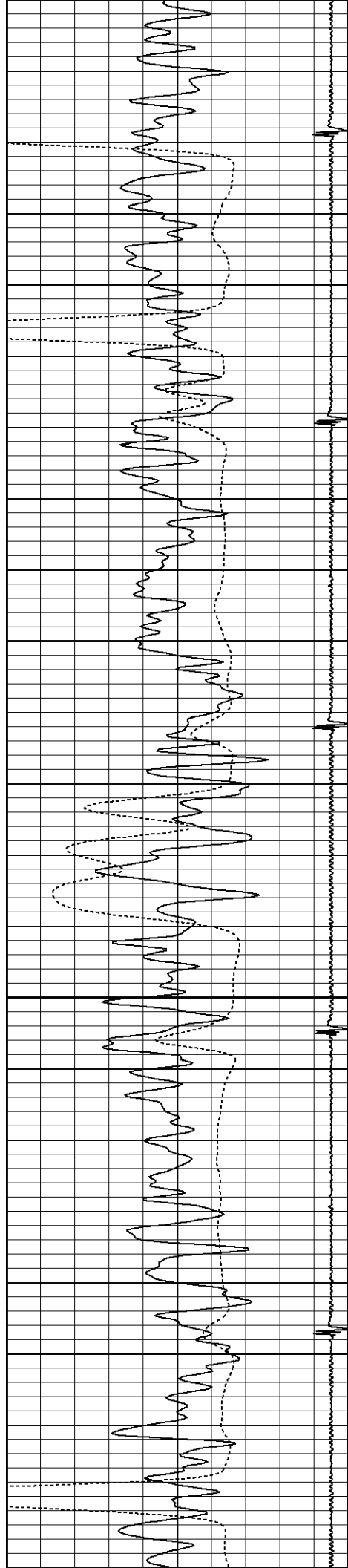
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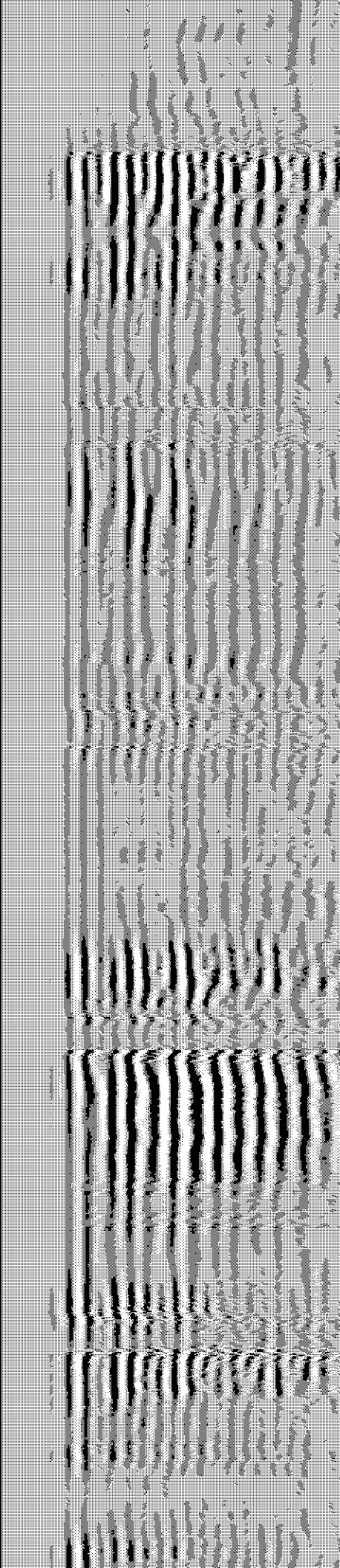
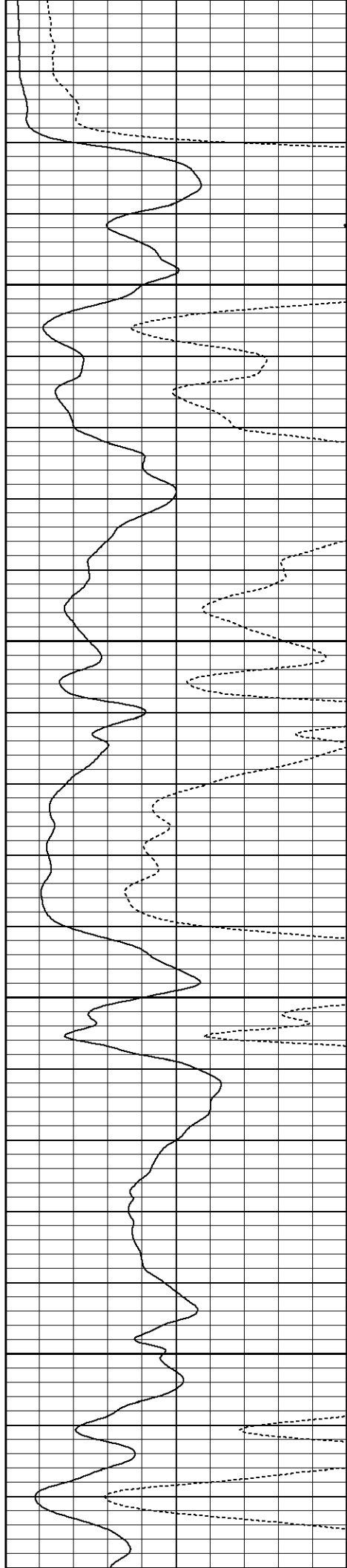


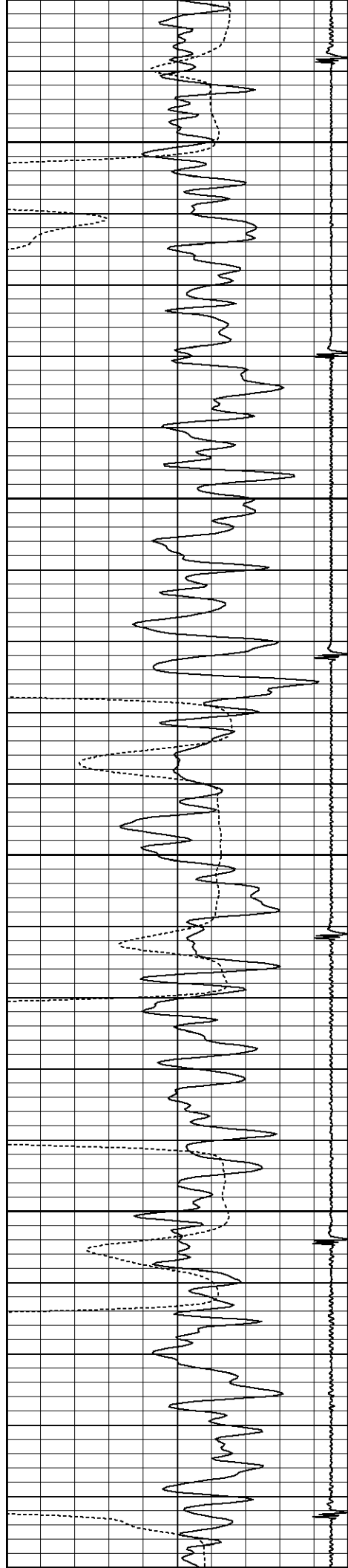
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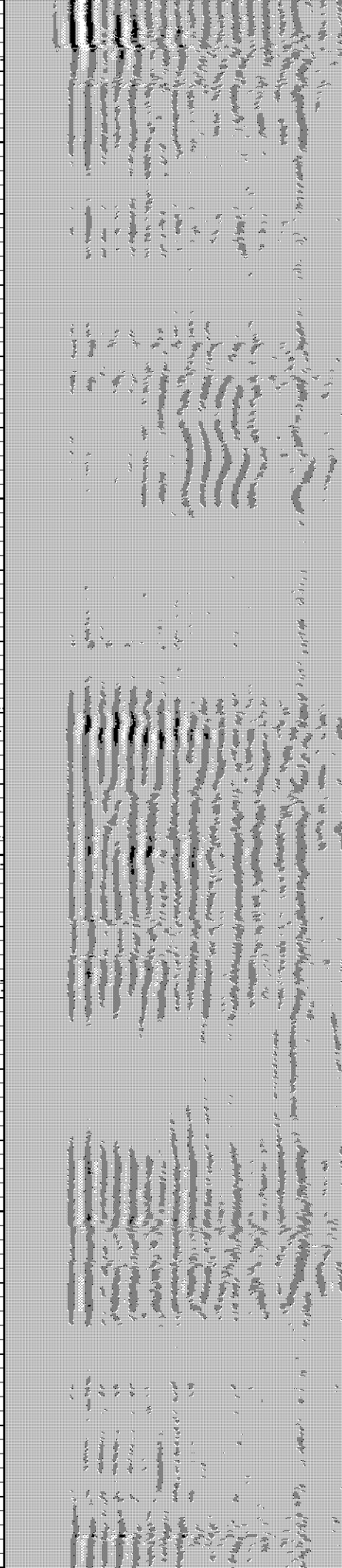
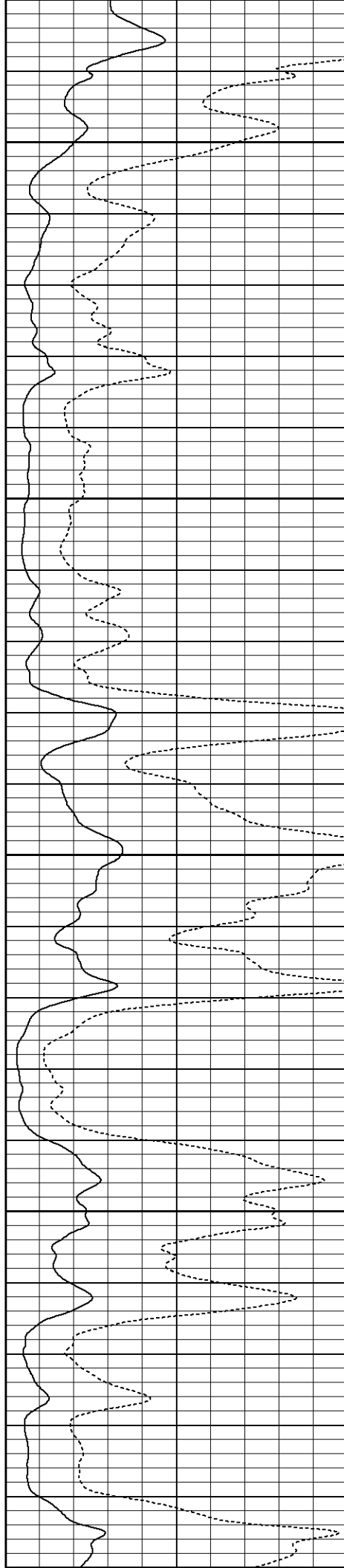
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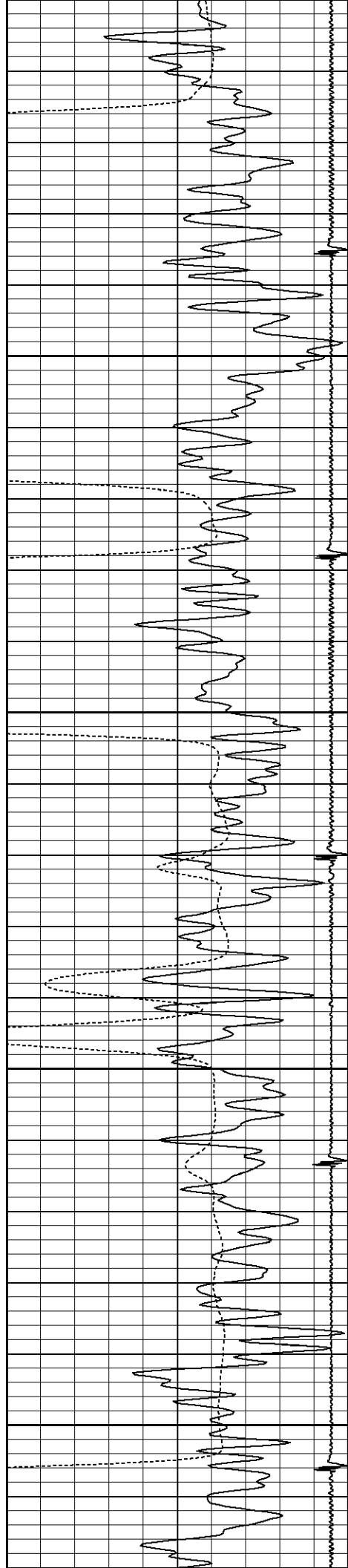
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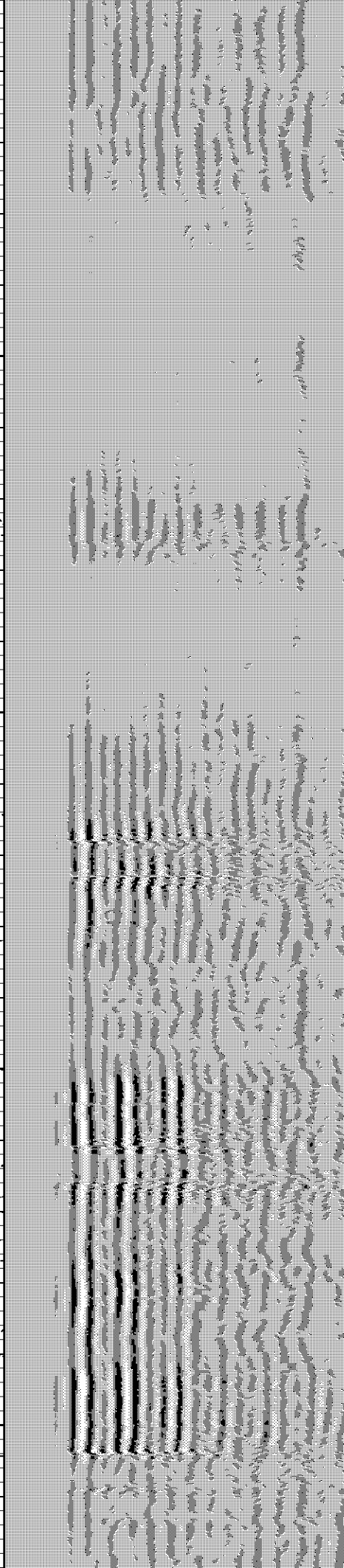
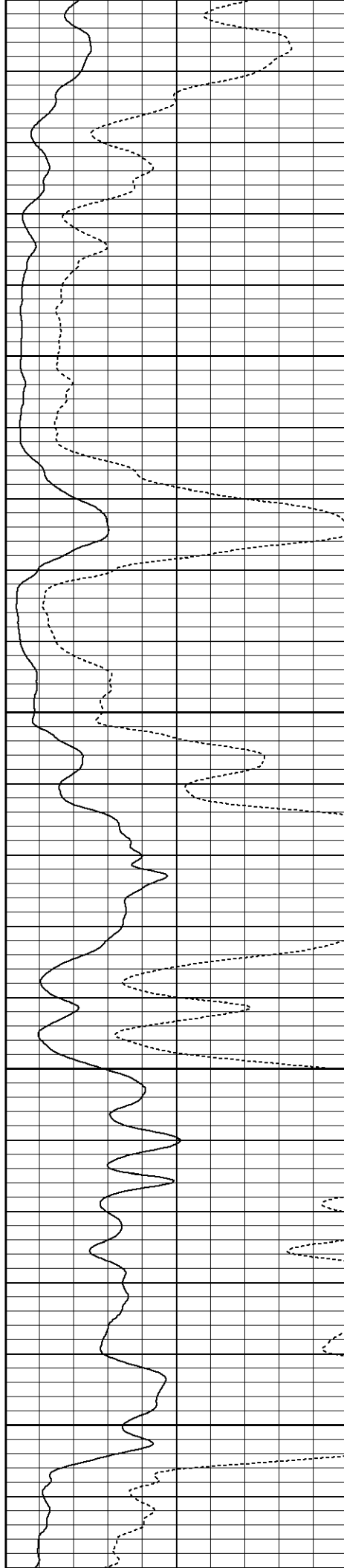
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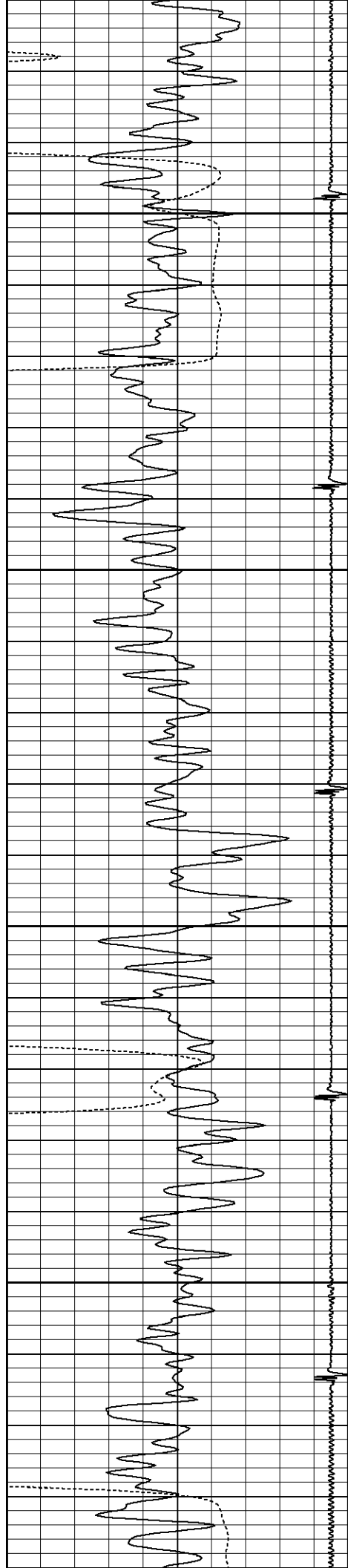
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3700



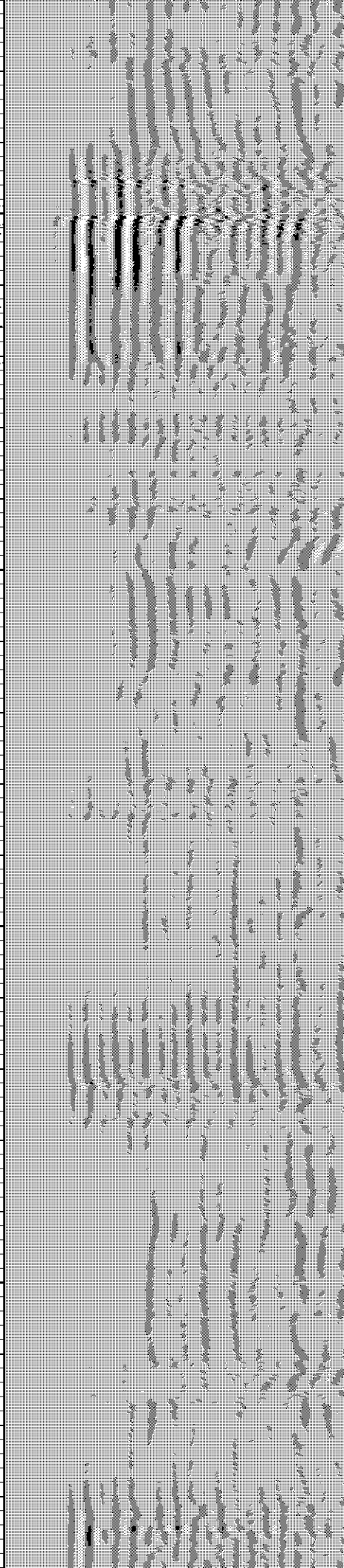
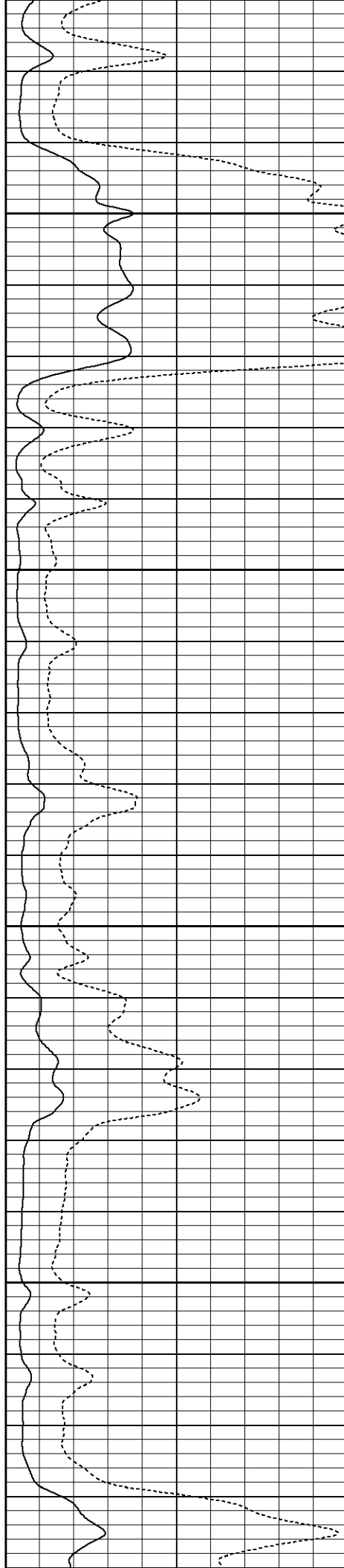


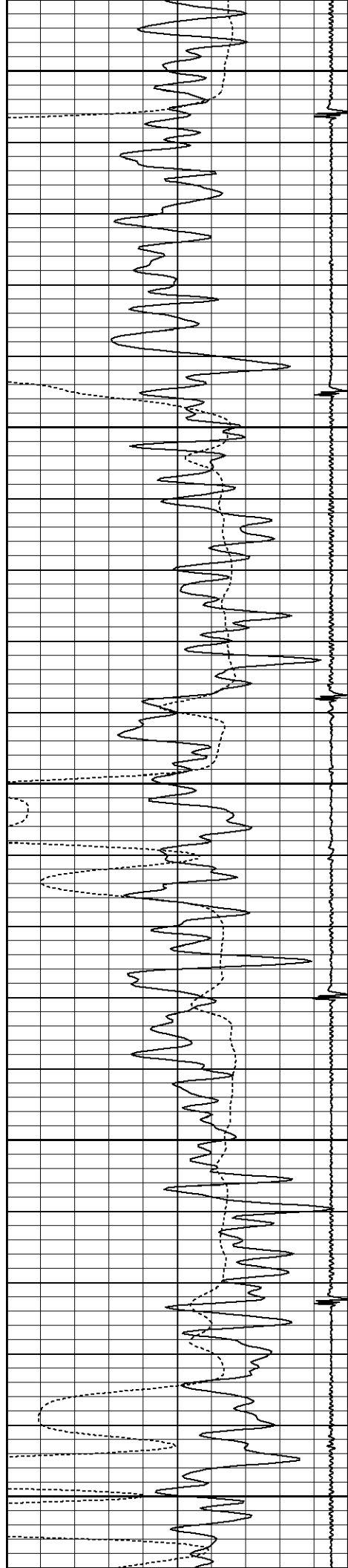
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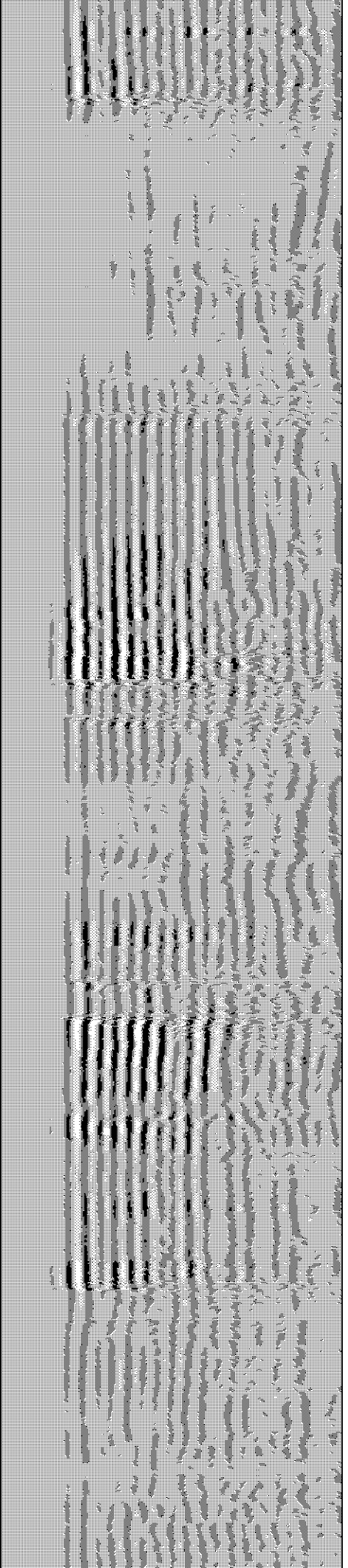
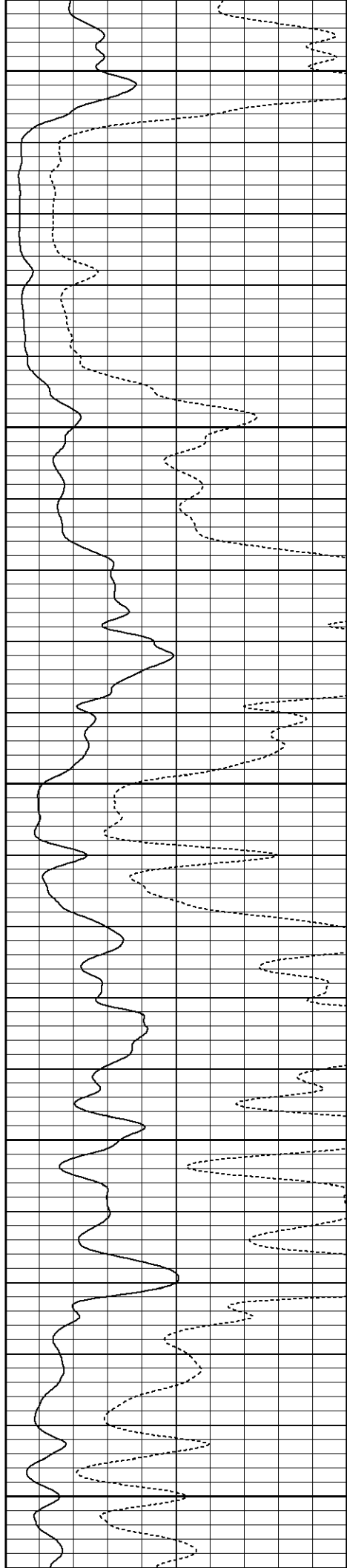
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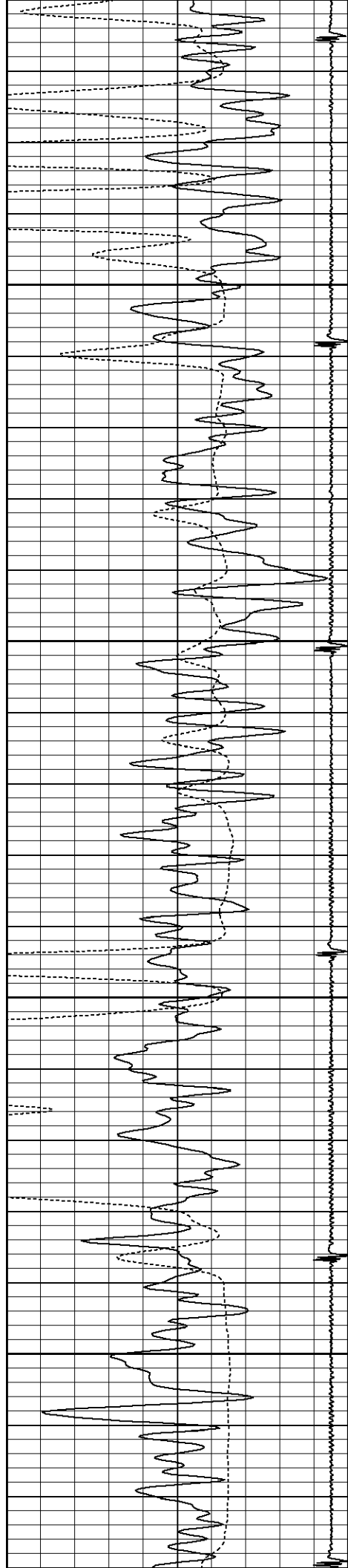
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4050

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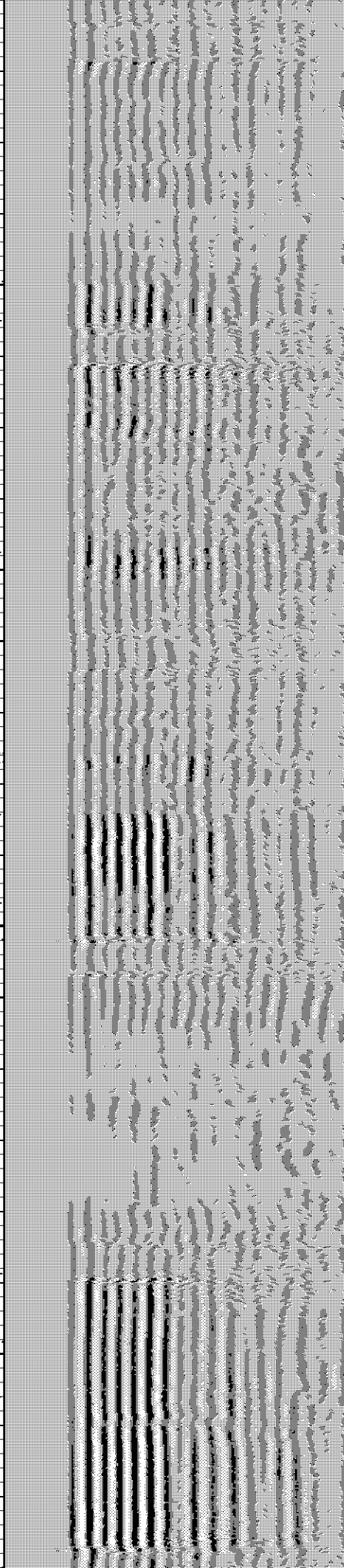
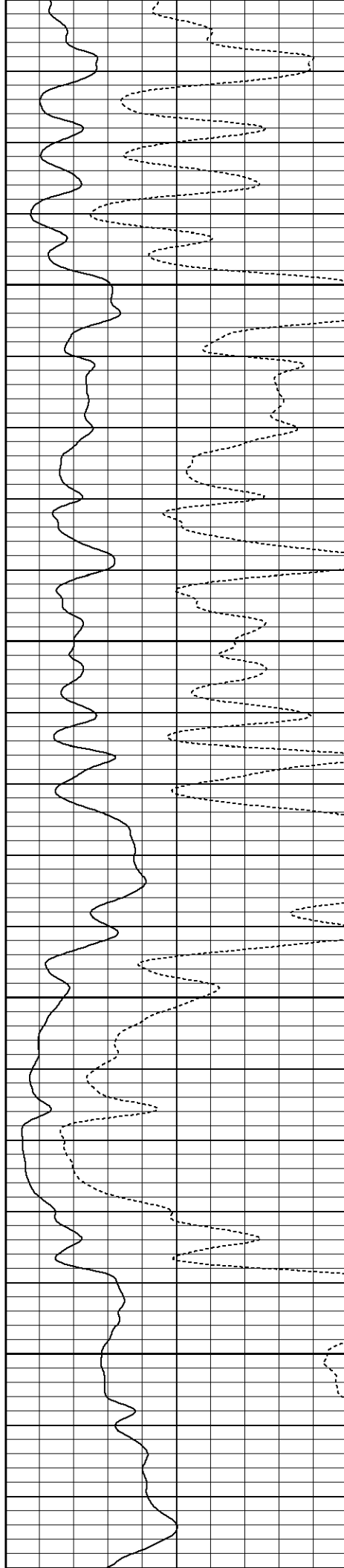


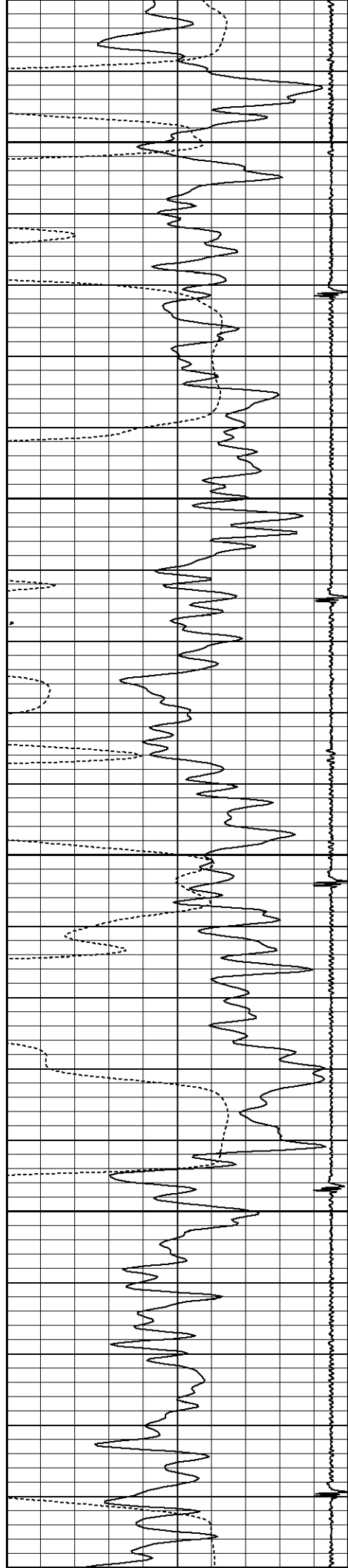
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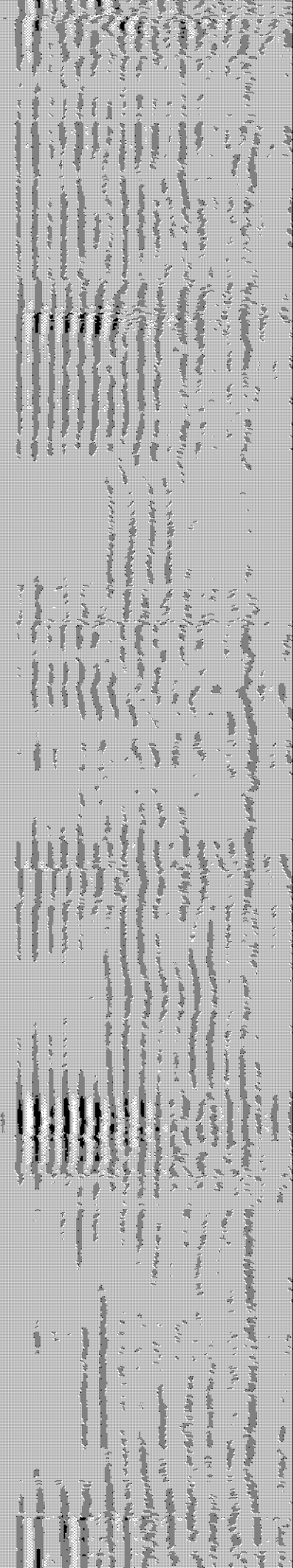
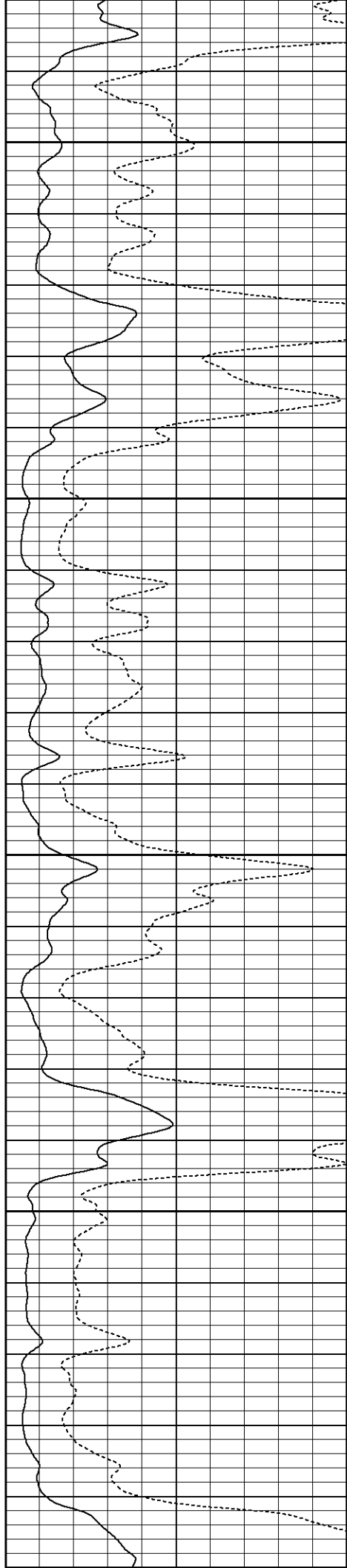
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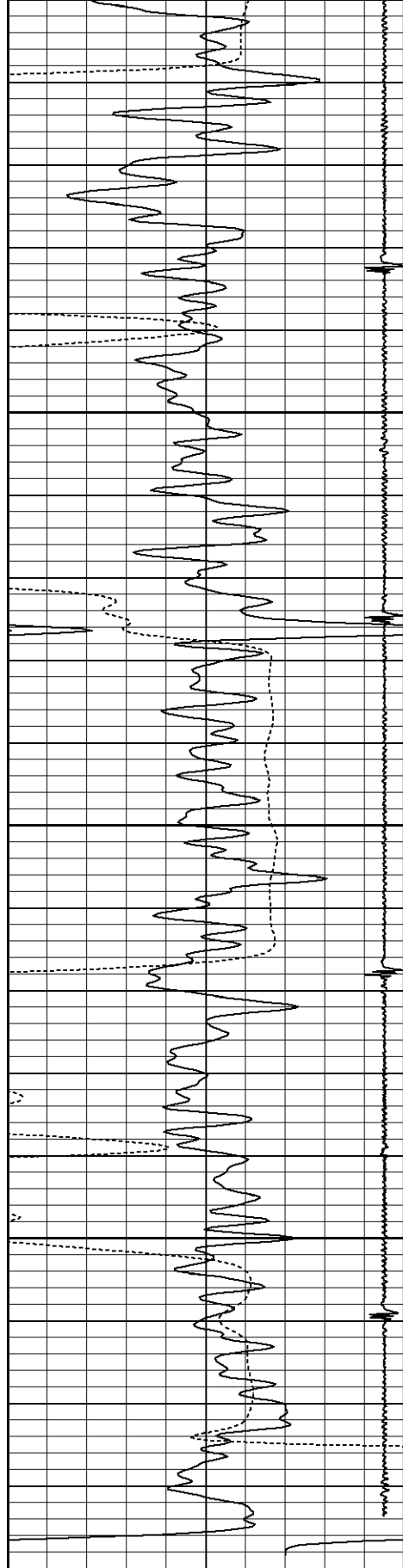
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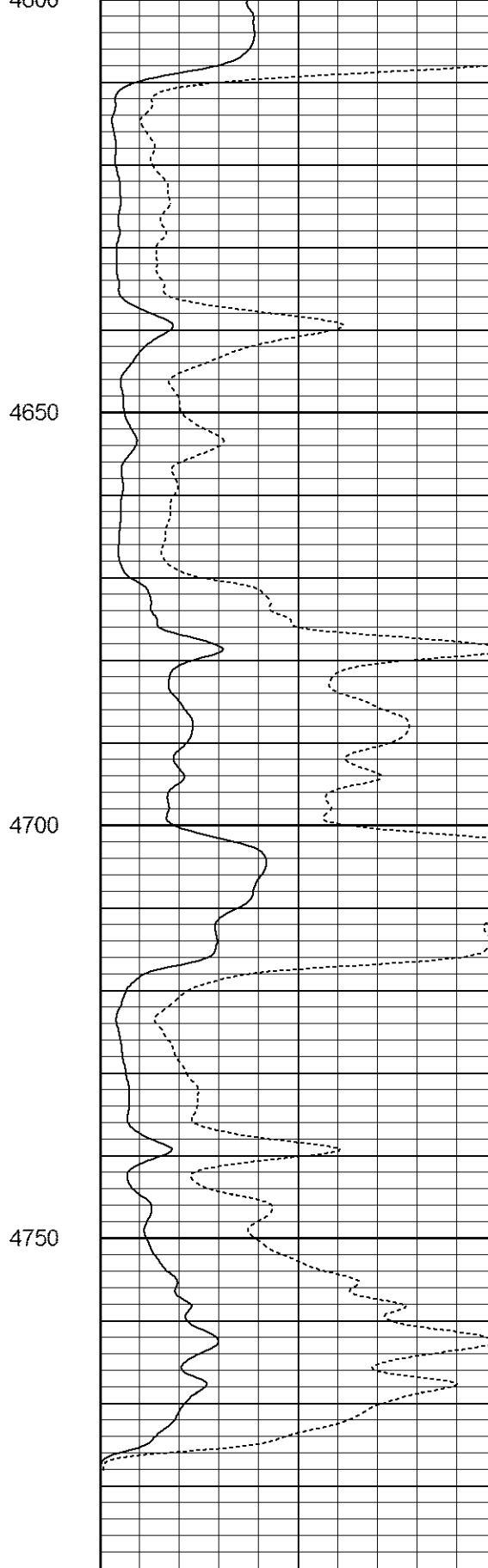
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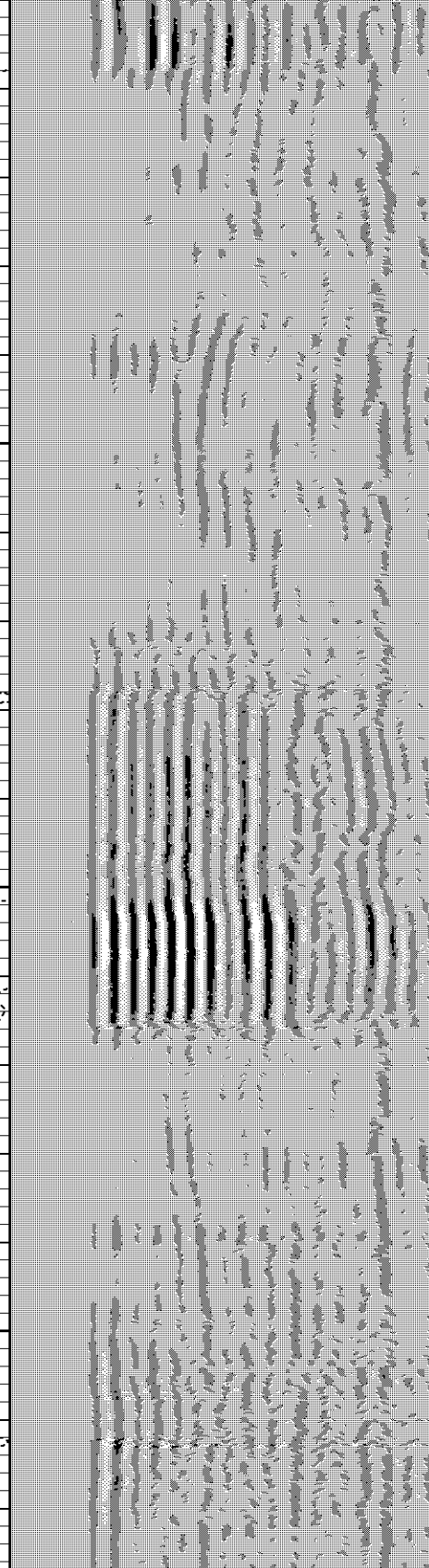




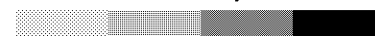
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30	Gamma Ray (GAPI)	130
340	TT3 (usec)	240



0	Amplified Amplitude (mV)	30
0	Amplitude (mV)	100



200 Variable Density 1200

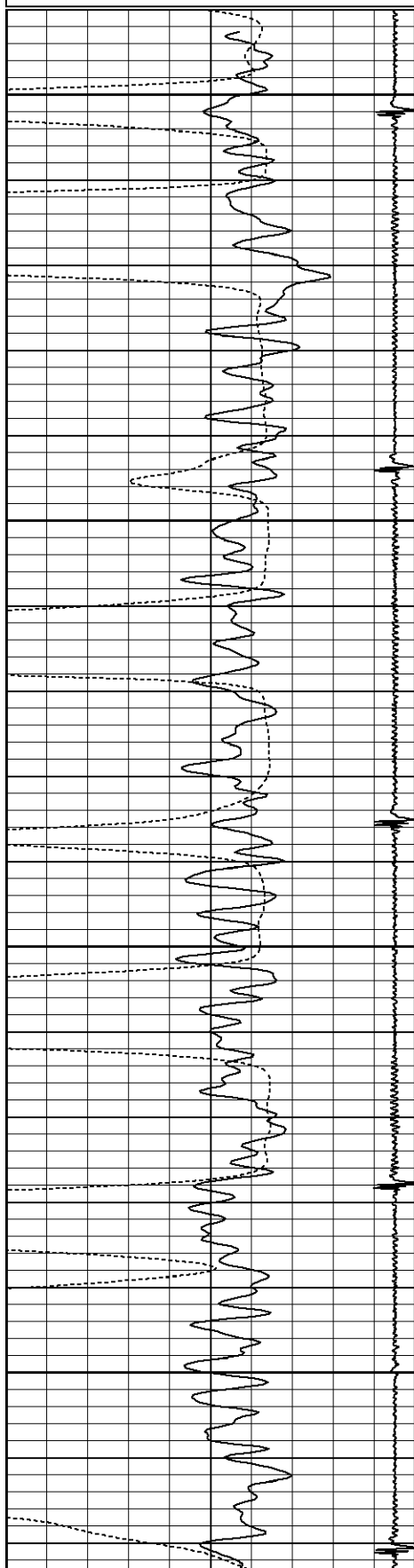


Database File: c:\parkner\017_2004.d
Dataset Pathname: pass2
Presentation Format: noble en
Dataset Creation: Tue Apr 17 16:00:18 2012 by Log SCH 120126
Charted by: Depth in Feet scaled 1:240

80	CCL	-4
0	Gamma Ray (GAPI)	150
340	TT3 (usec)	240

0	Amplified Amplitude (mV)	30
0	Amplitude (mV)	100

200 Variable Density 1200

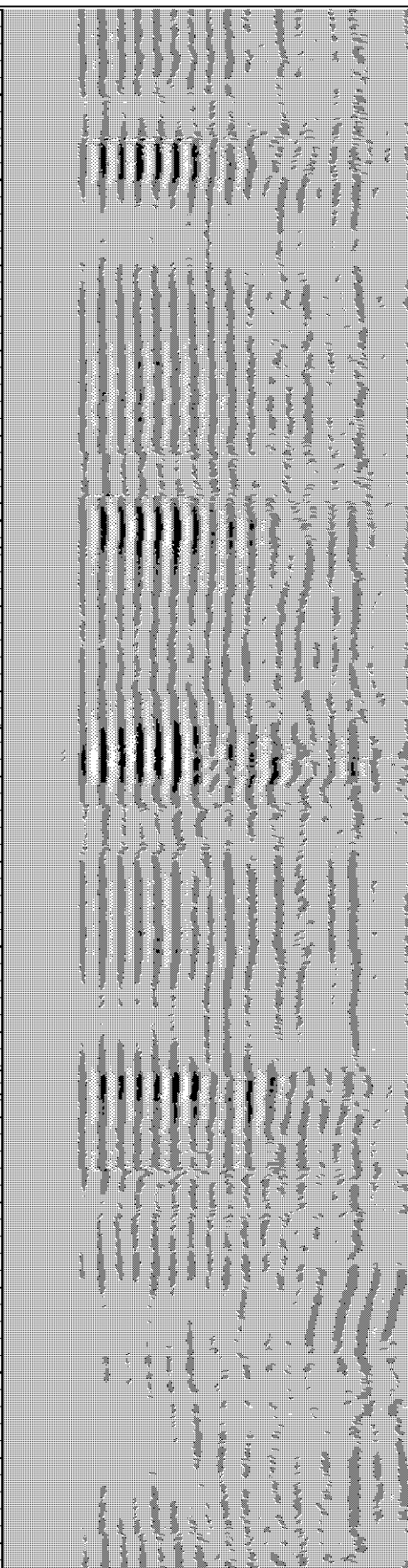
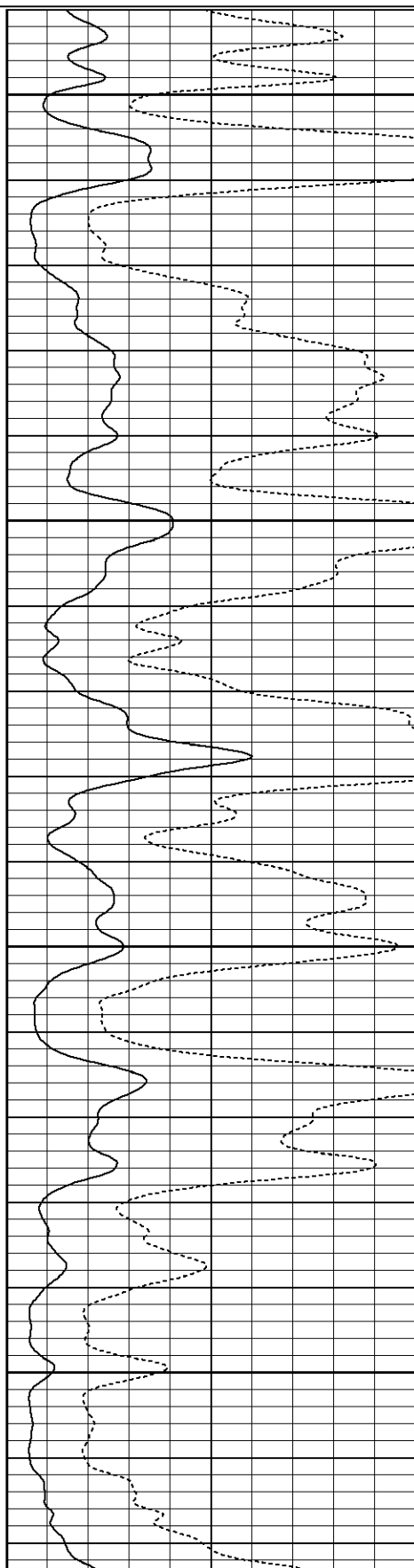


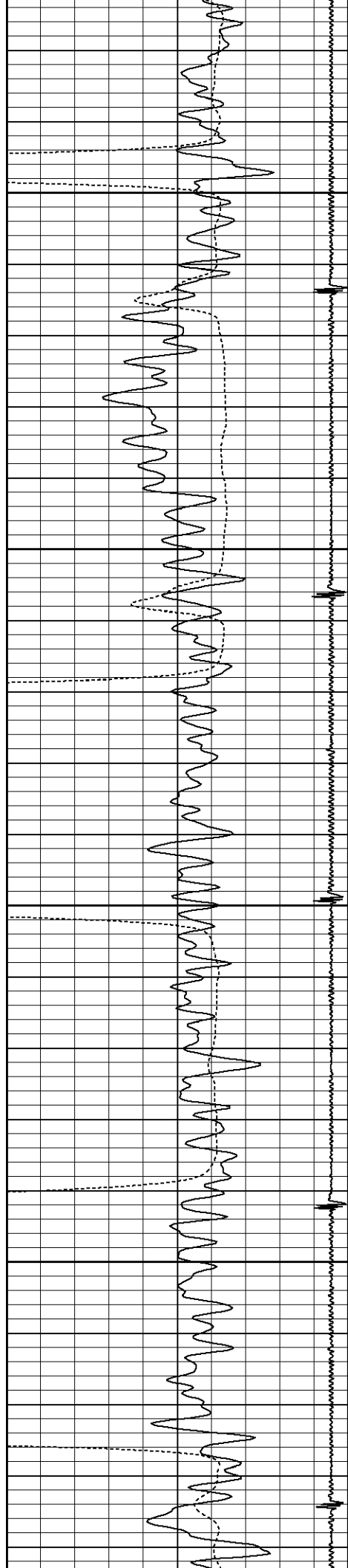
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4900

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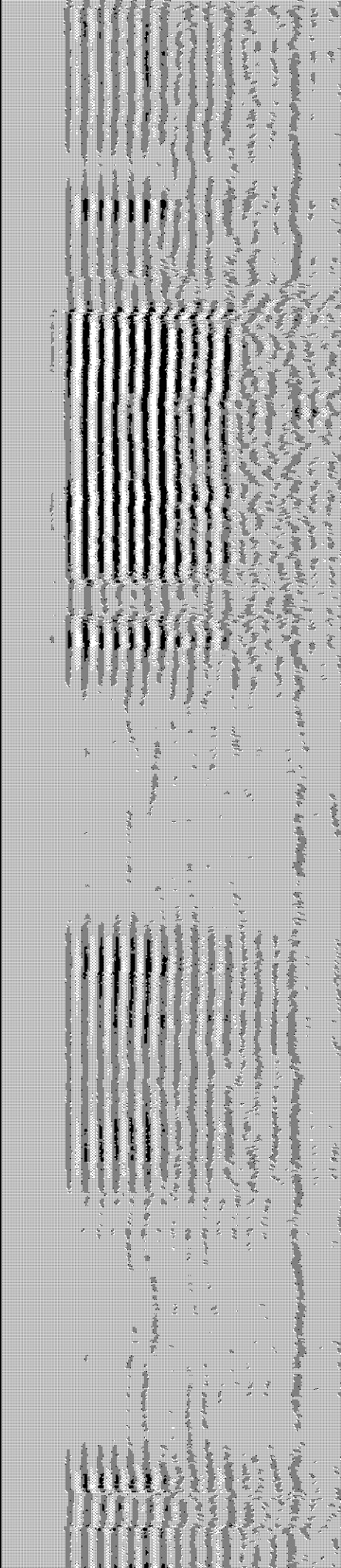
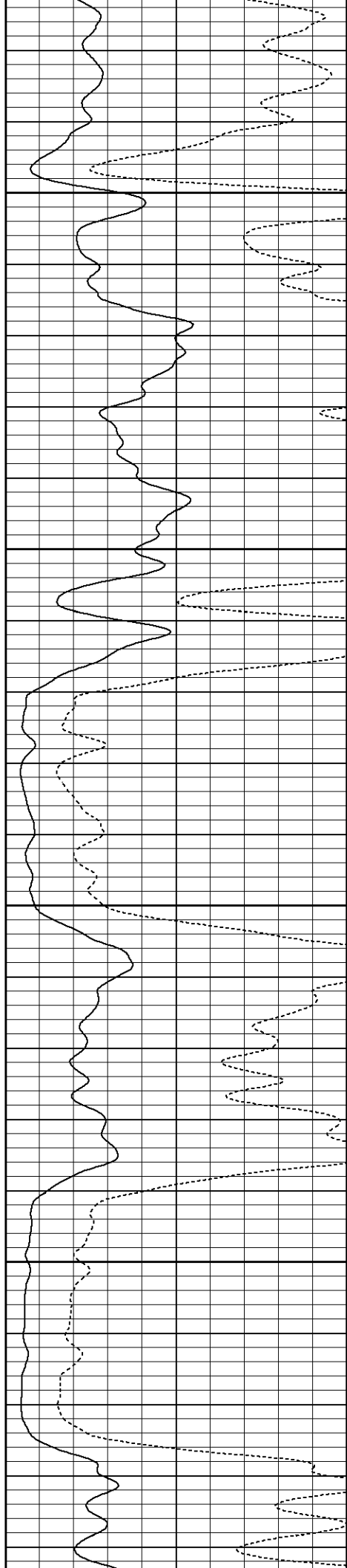


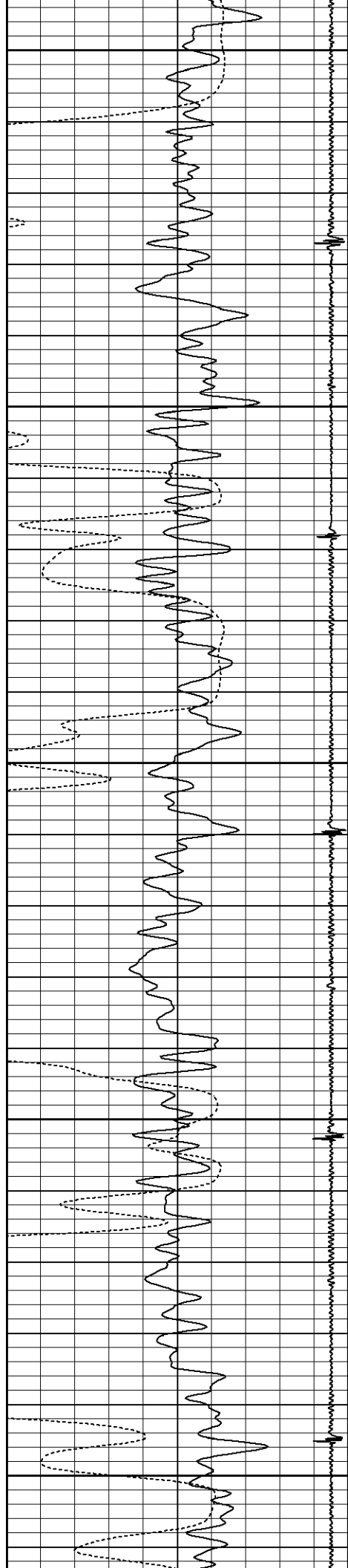
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5050

5100

5150





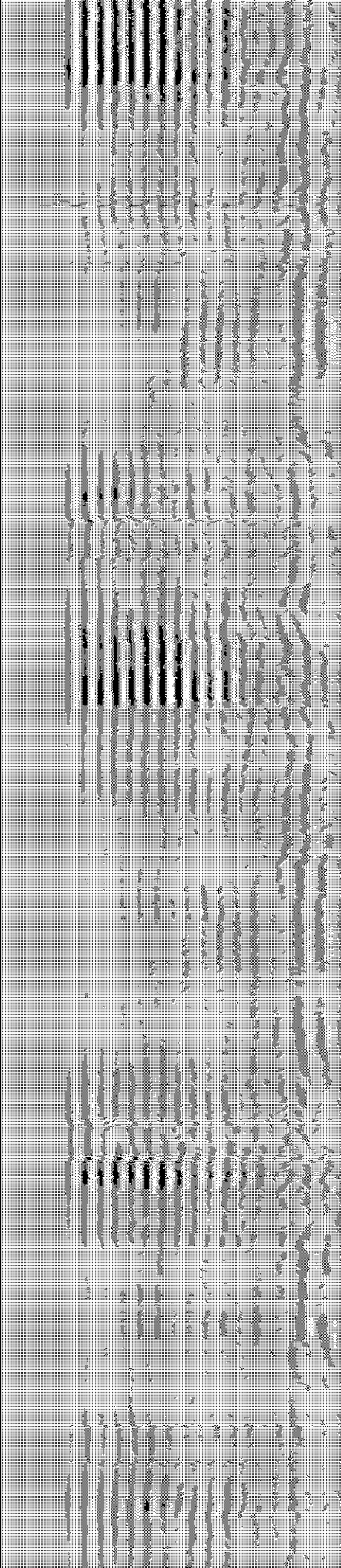
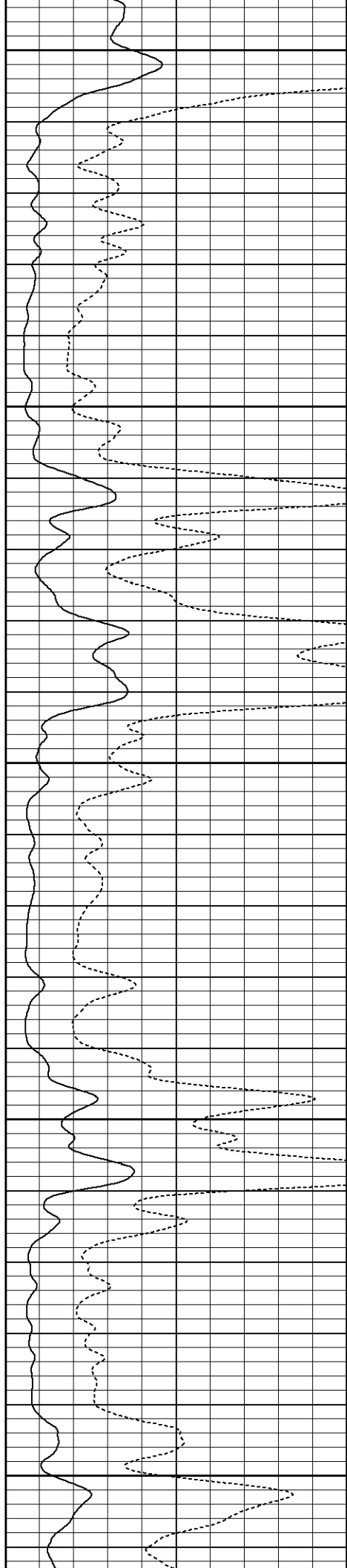
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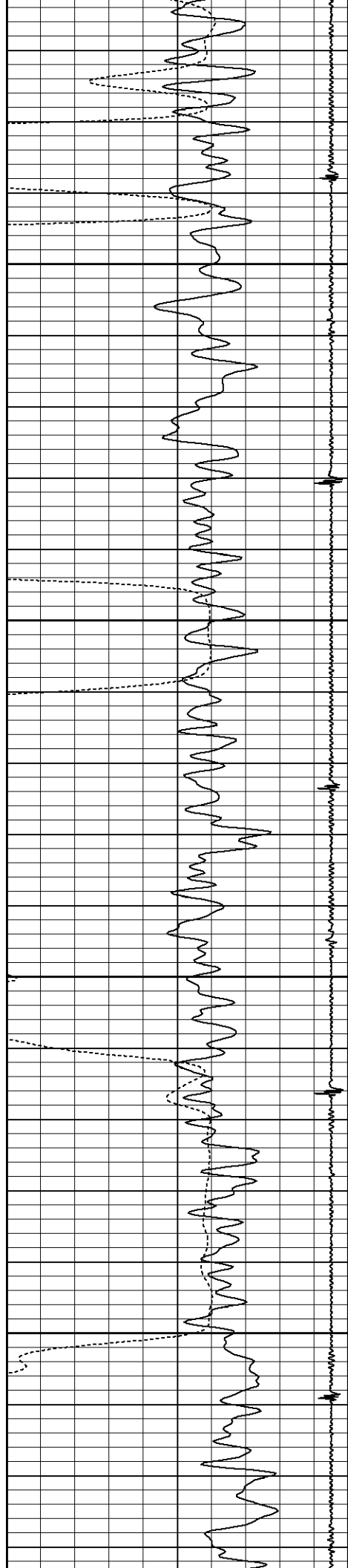
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5400



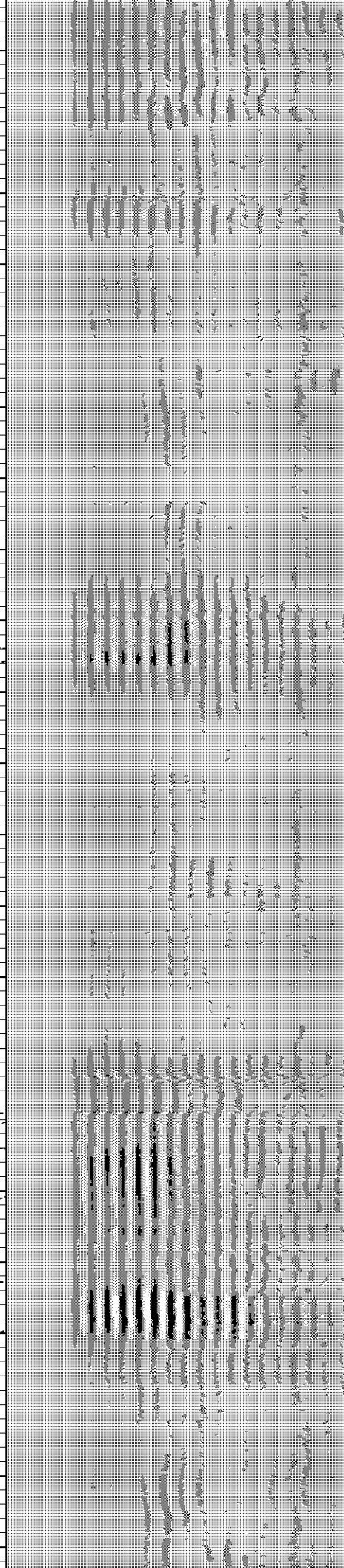
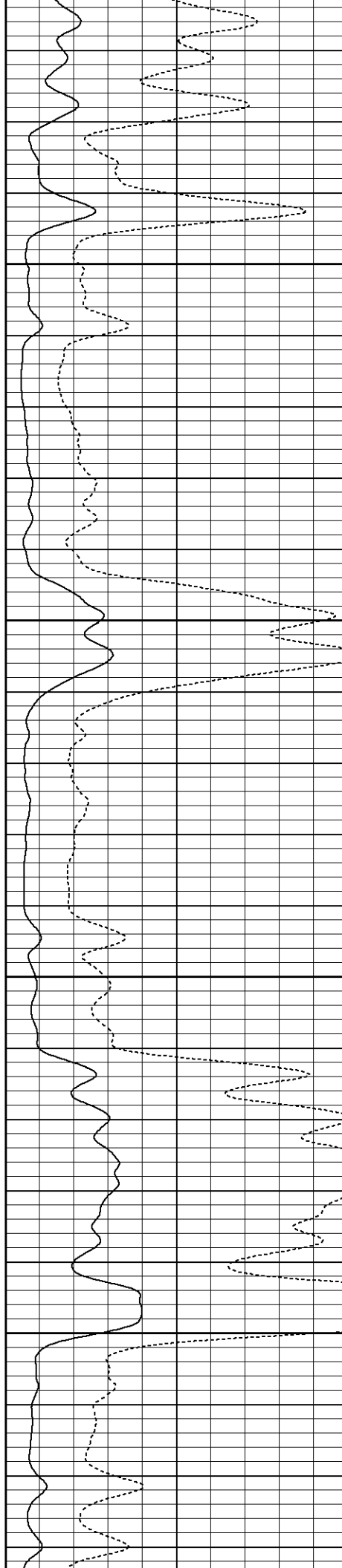


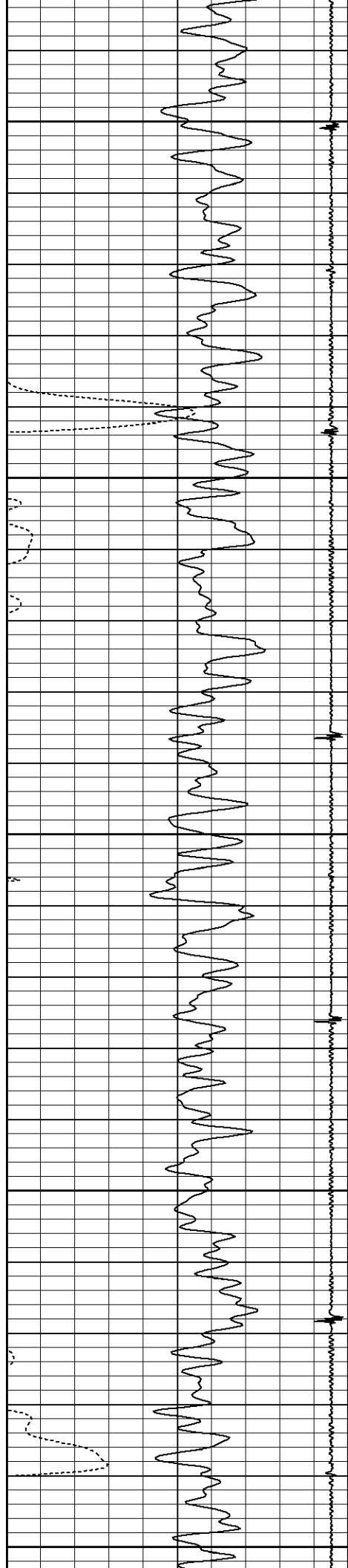
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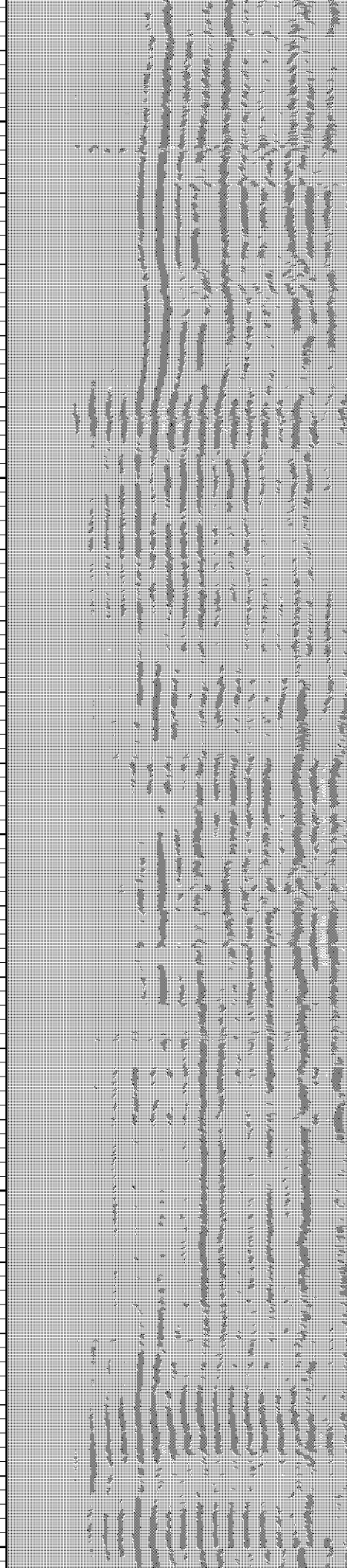
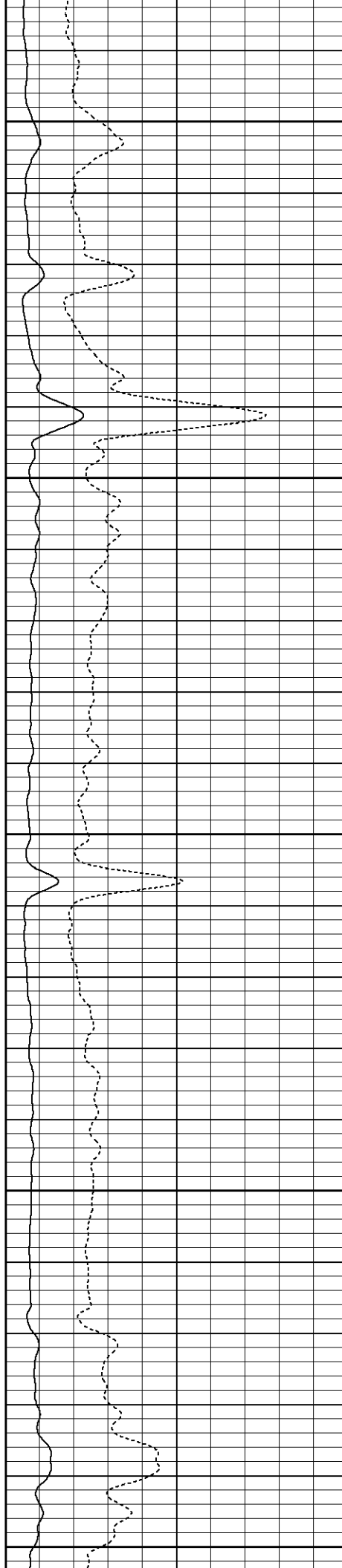
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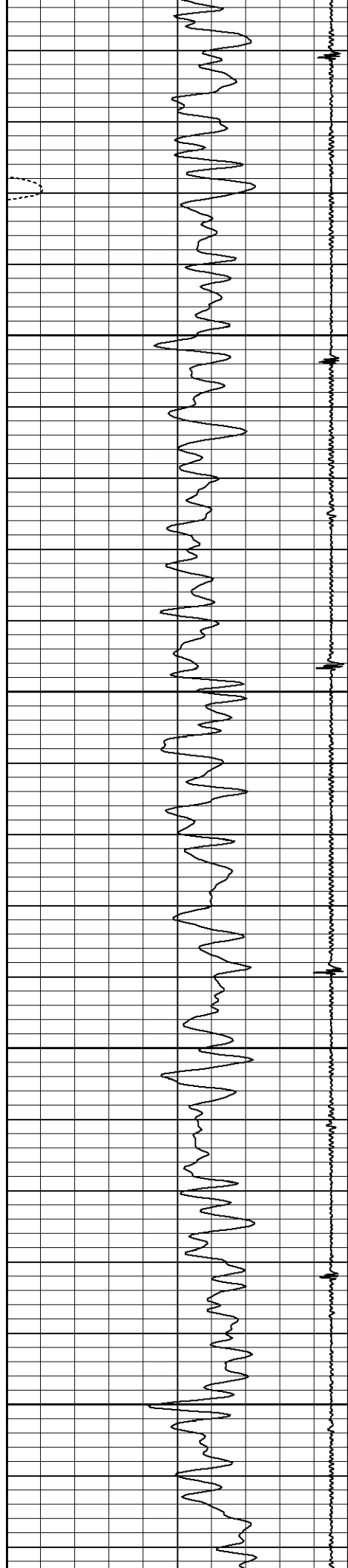
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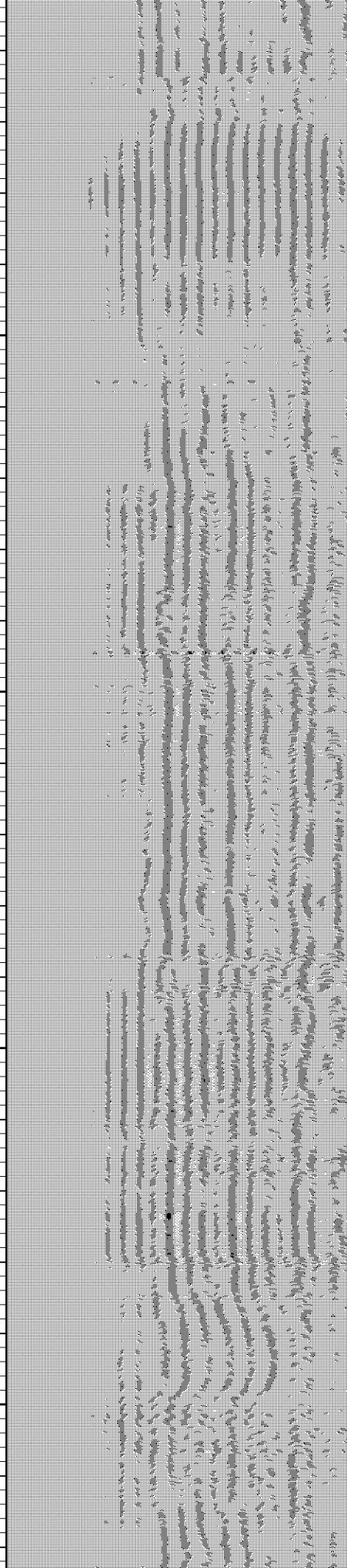
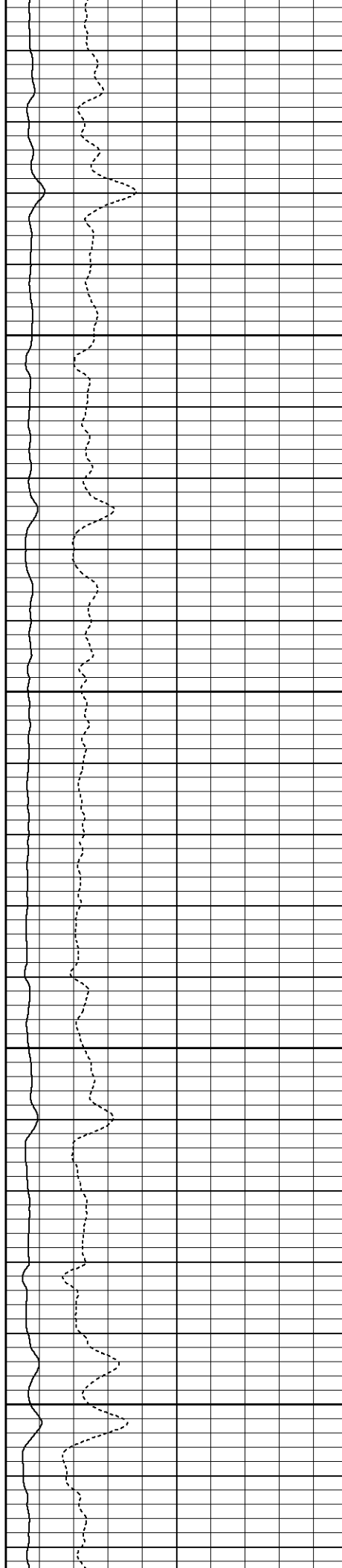


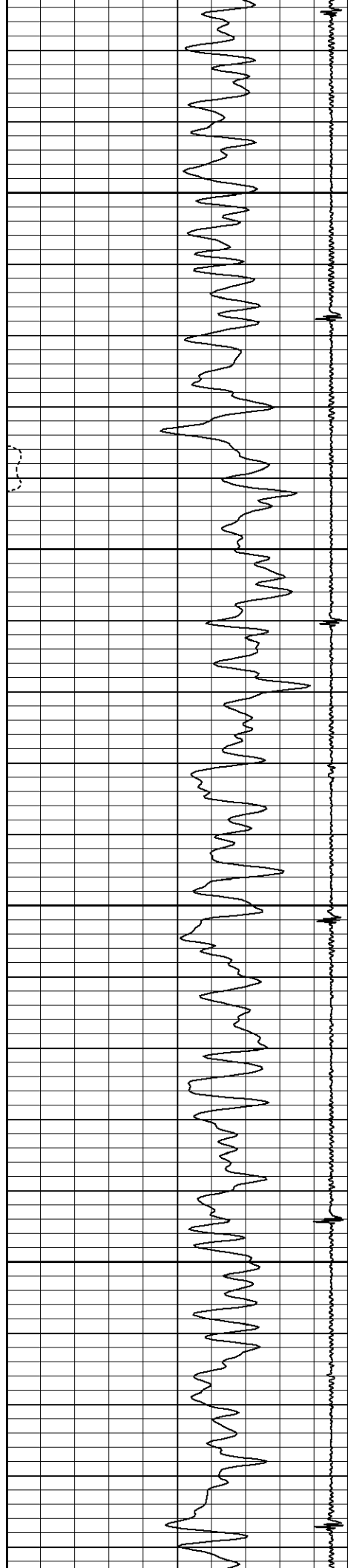
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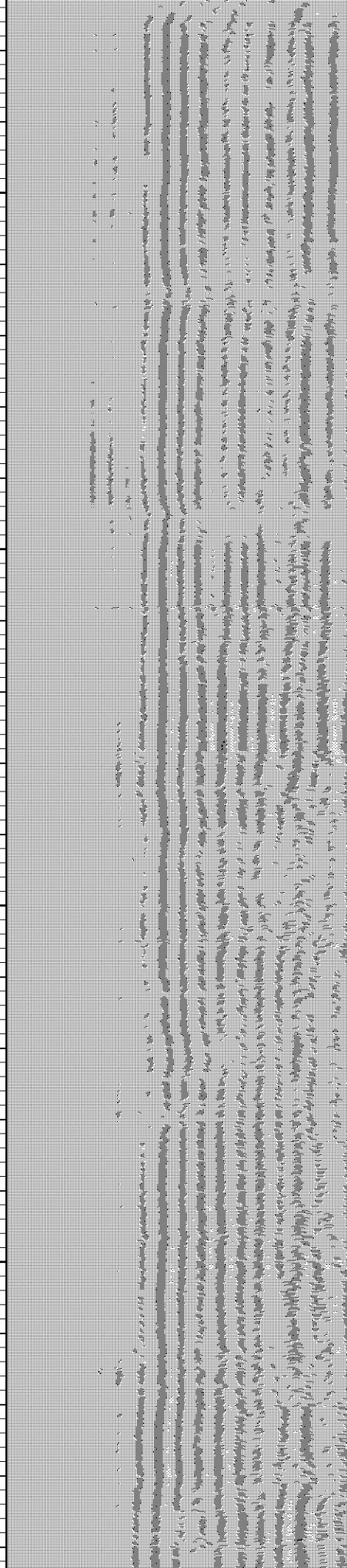
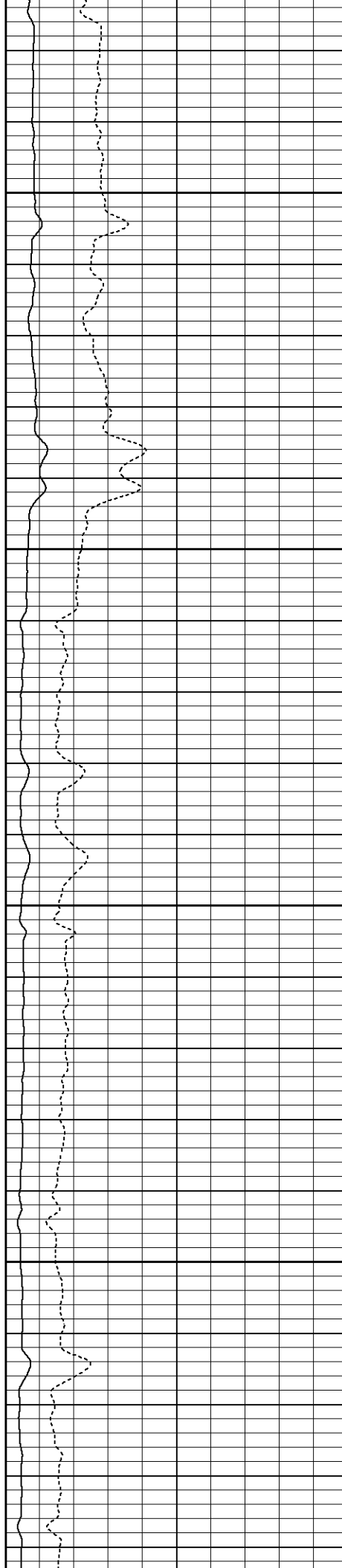


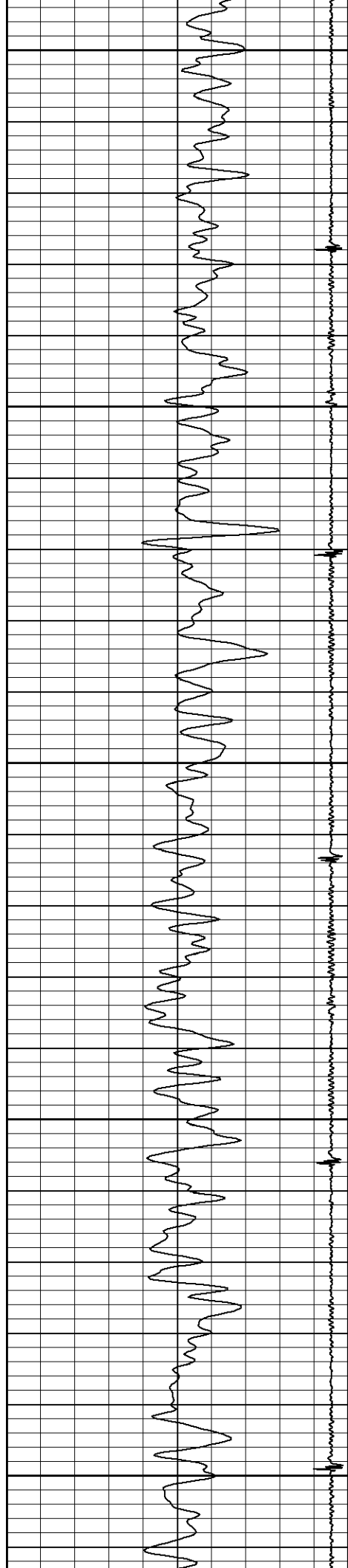
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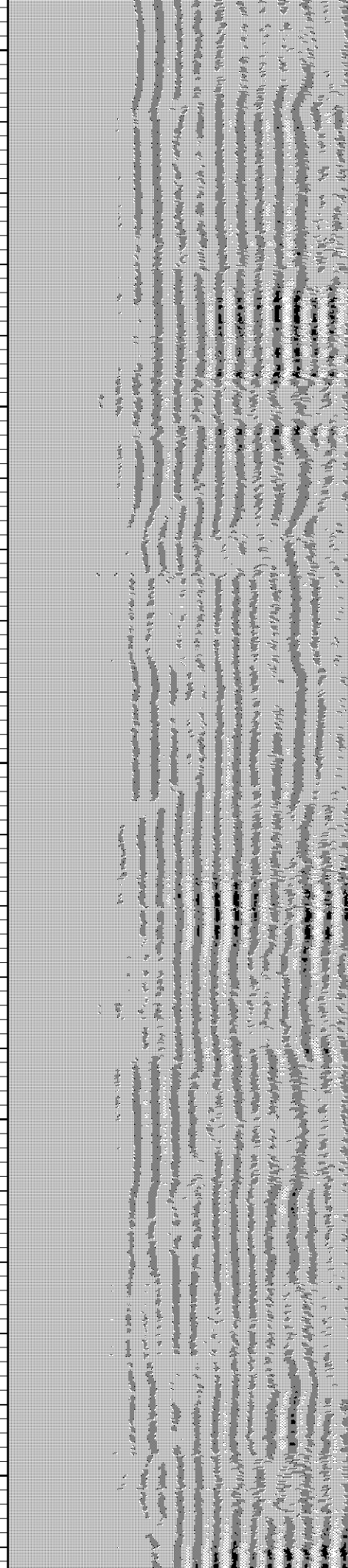
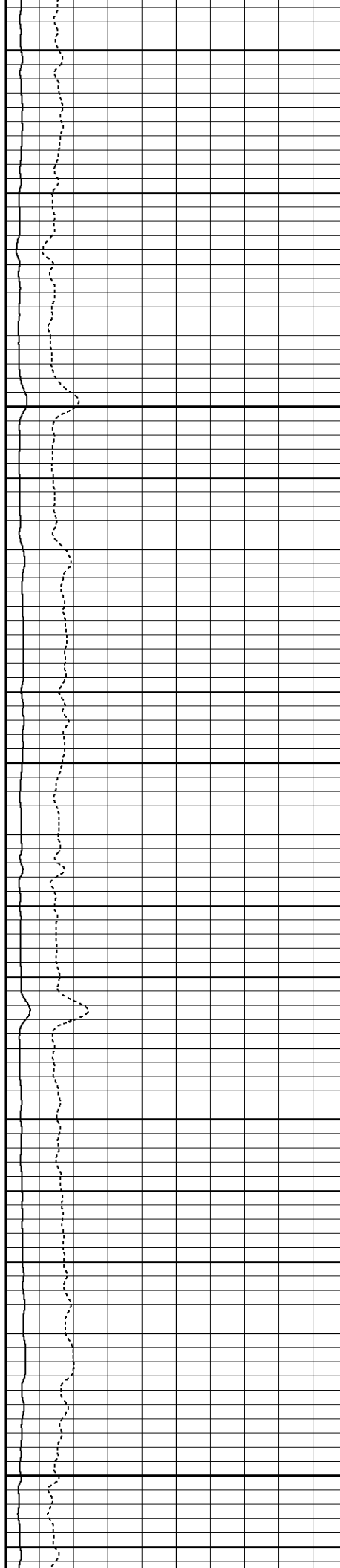
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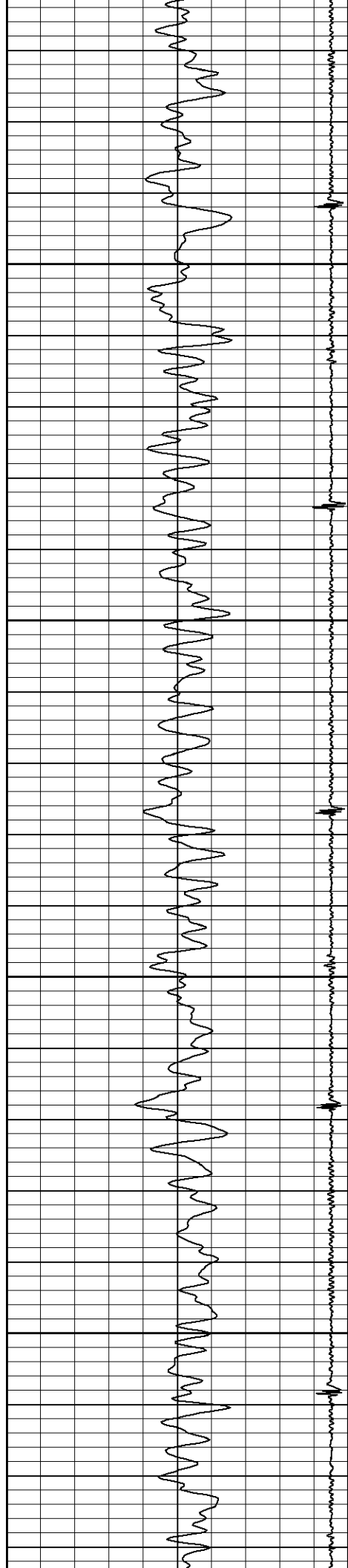
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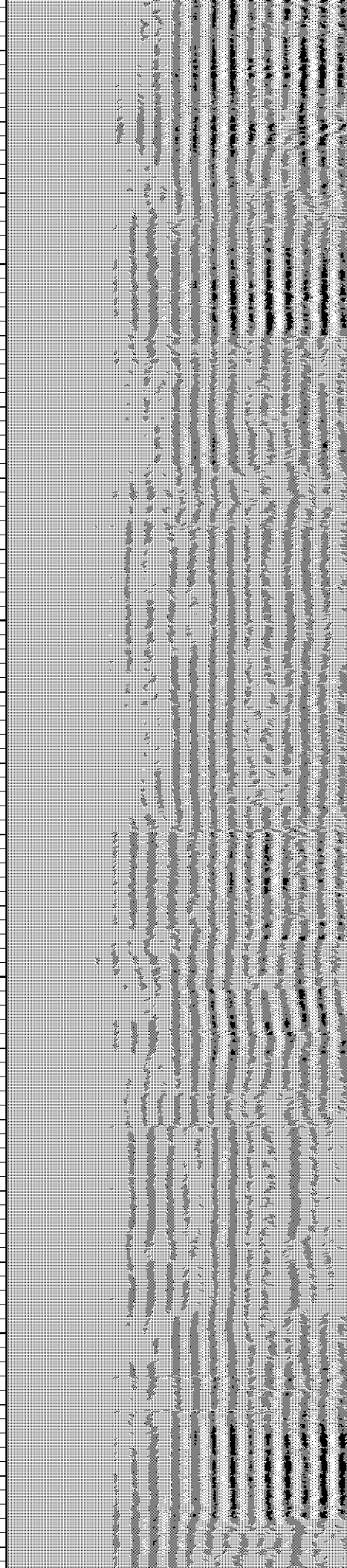
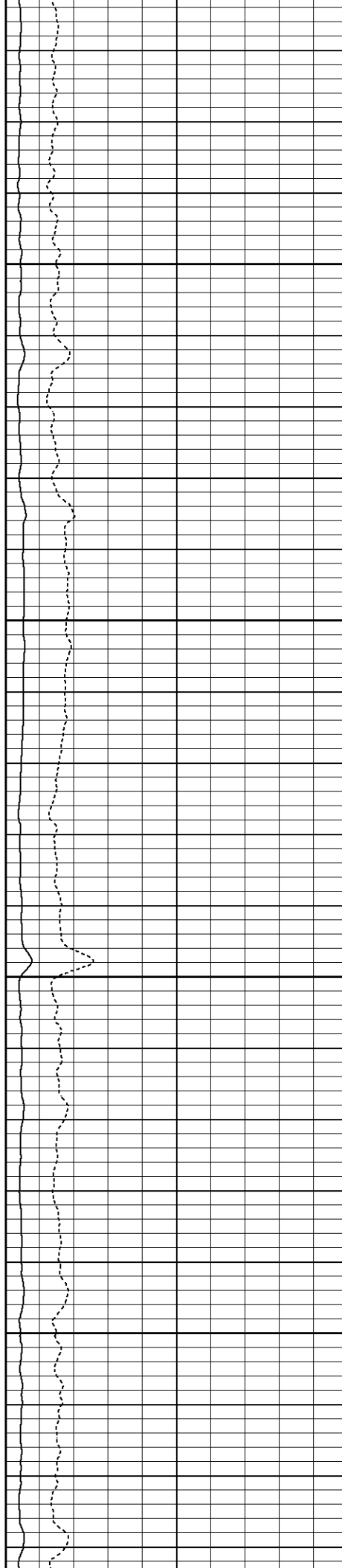


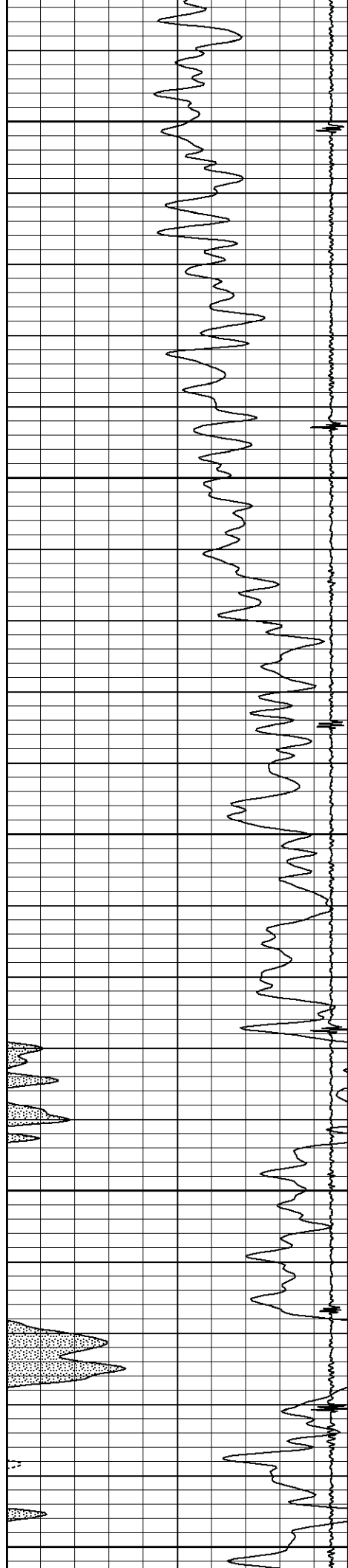
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6600

6650

6700





6750

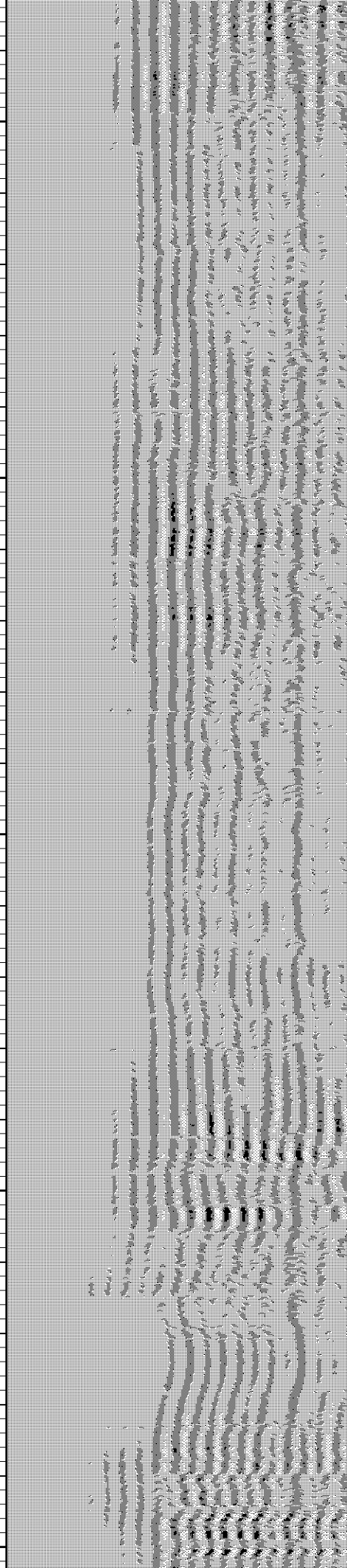
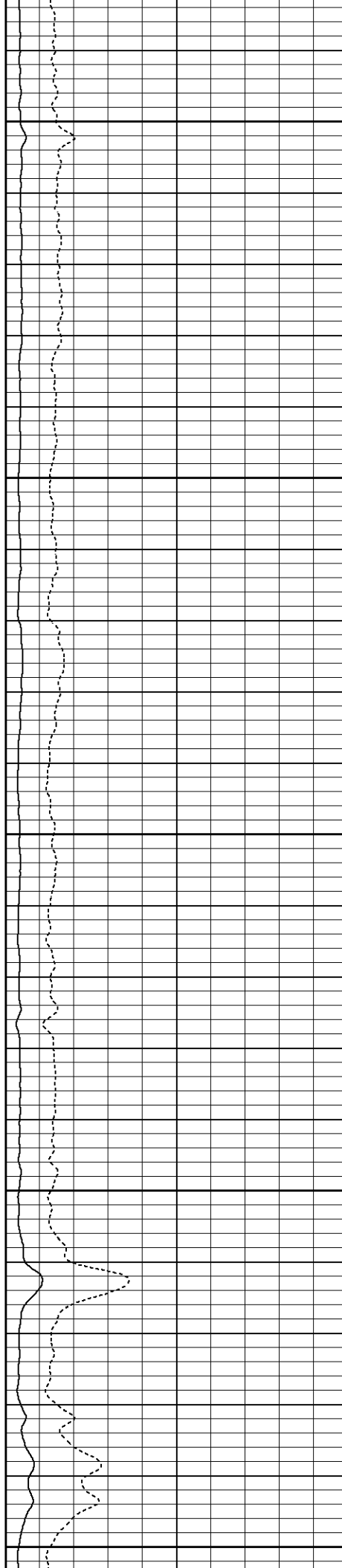
6800

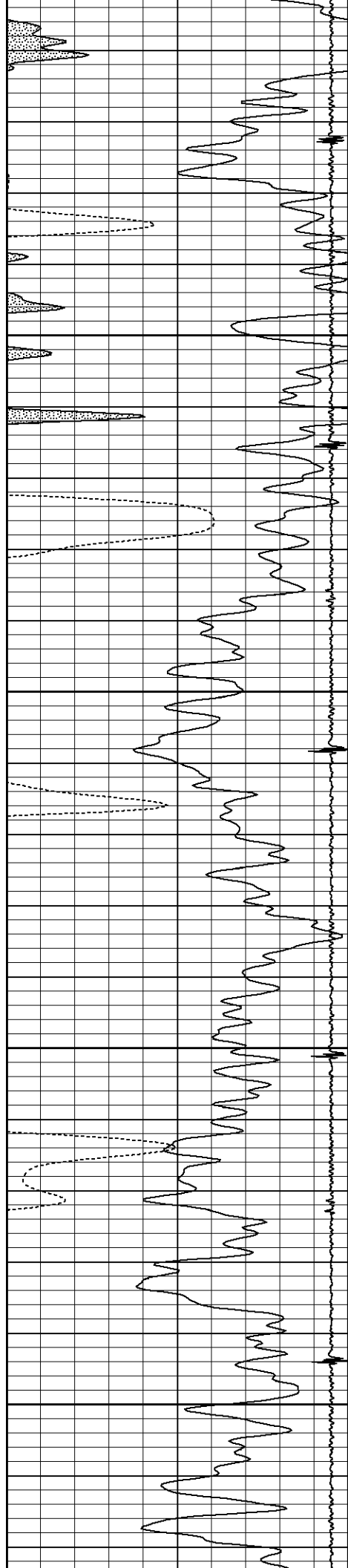
6850

6900

Flag Joint

6950



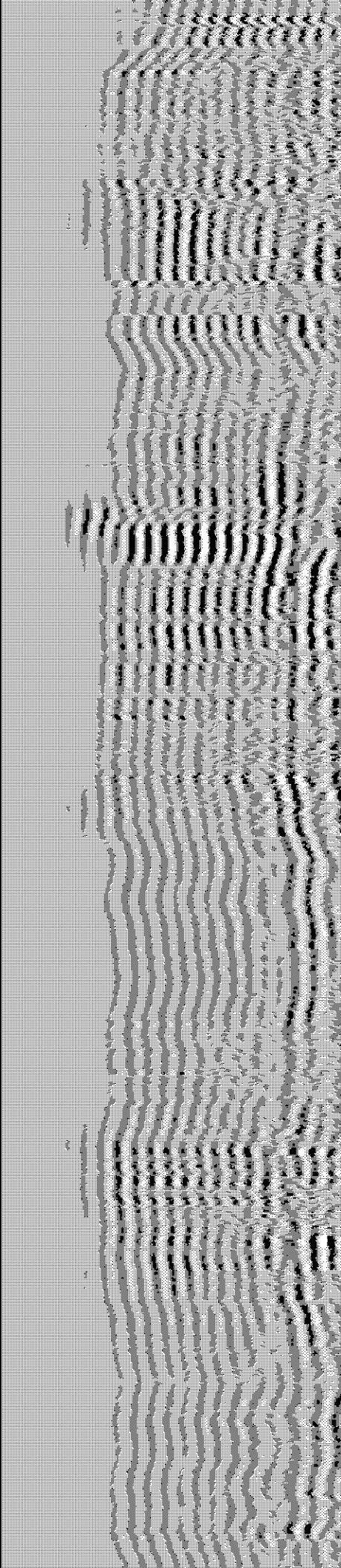
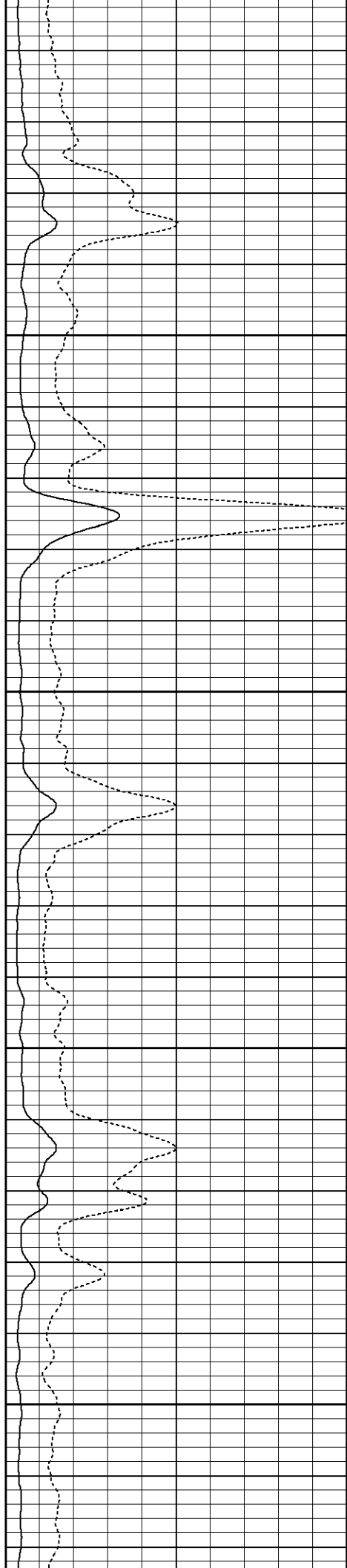


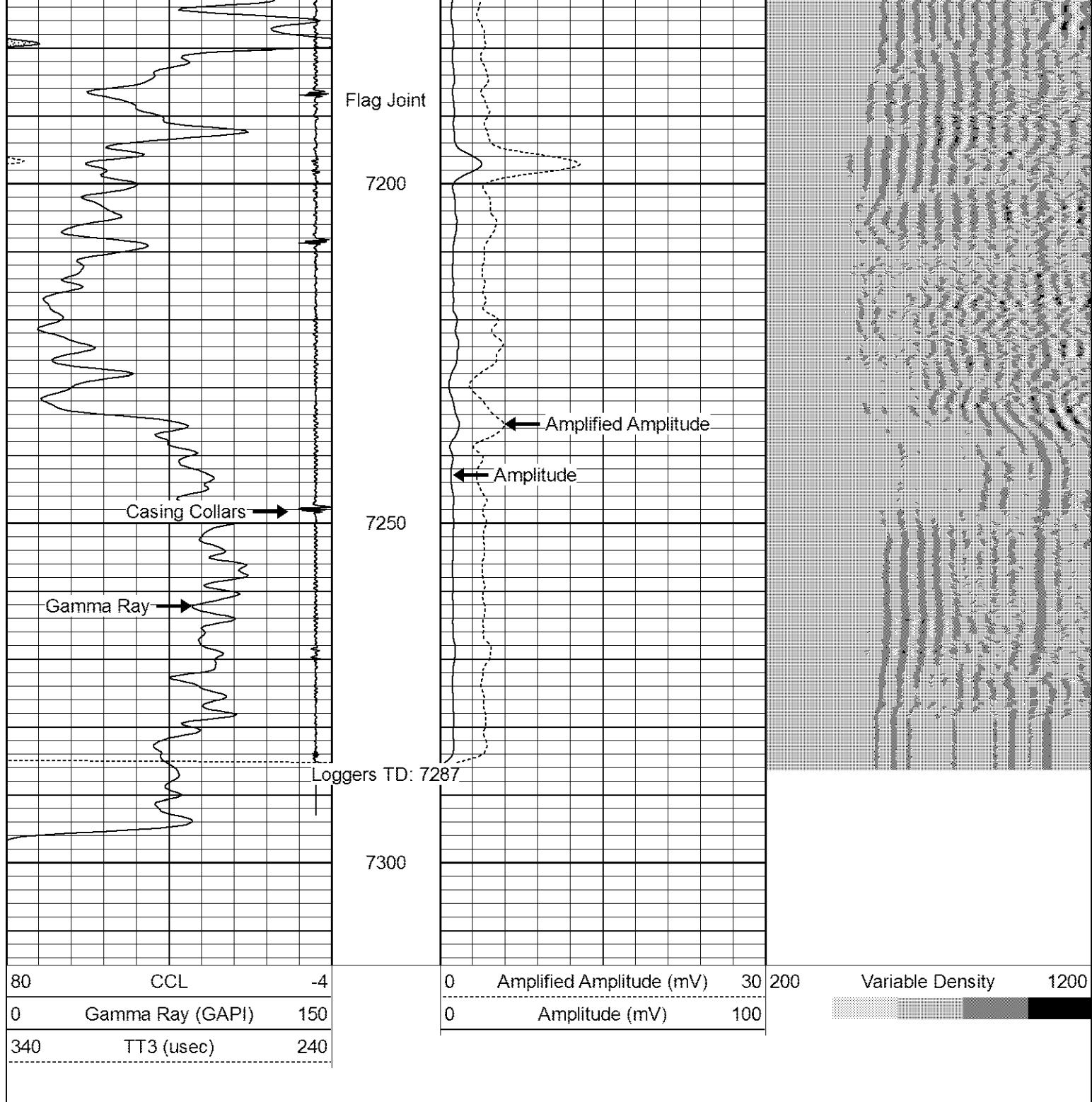
7000

7050

7100

7150





Calibration Report

Database File: cblpanther c11-28d.db
 Dataset Pathname: pass3
 Dataset Creation: Tue Apr 17 16:19:24 2012 by Log SCH 120126

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 101010

SHOP CALIBRATION

Tue Apr 17 13:38:27 2012

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.6800			GAPI/cps

PRIMARY VERIFICATION

Background	0.0		cps
Calibrator	0.0		cps
Difference		0.0	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

Cement Bond Log Calibration Report

Serial Number:	110802		
Tool Model:	Probe275Digital		
Performed:	Tue Apr 17 13:23:03 2012		
Depth:	251.708	ft	
Casing Diameter:	4.5	in	
	3' Spacing	5' Spacing	
Signal Zero:	0.7	0	mV
Calibrated Amplitude:	81.1961	81.1961	mV
Reading at Signal Zero:	0.0135742	0.013501	V
Reading in Free Pipe:	2.49878	2.40452	V
Gain:	32.3901	33.9588	
Offset:	0.260329	-0.458477	