

HALLIBURTON										Cement Bond Log									
Company High Point Operating Corporation Well 16-6302BE Field Hereford County Weld State Co										Company High Point Operating Corporation Well 16-6302BE Field Hereford County Weld State Co									
API No.: 051234729500 Location: Latitude: 40.916658 Logitude: -104.444668										Serv #: 905621256 Other Services									
Sec: 16 Twp: 11N Rge: 63W										Plug & Perf									
Permanent Datum										Ground Level Elevation									
Log Measured From KB, 20, KB										Ft. above perm. datum K.B. 5287' D.F. 5287' G.L. 5267'									
Drilling Measured From KB																			
Date @ Time Logged 4/12/19 @19:54										Type Fluid in Hole FRESH									
Run No. ONE										Density of Fluid 8.33									
Depth - Driller 17853'										Fluid Level Surface									
Depth - Logger 17590'										Cement Top Est. Logged REC									
Bottom - Logged Interval 17590'										Equipment / Location 11808537 / Rock Springs									
Top - Log Interval 4560										Recorded by Kyler Young									
Max. Recorded Temp.										Witnessed by Andrew Peetoom									
CEMENTING DATA										Surface Protection									
String										String									
Date / Time Cemented																			
Primary / Squeeze																			
Expected Compressive Strength										psi@ hrs psi@ hrs									
Cement Volume										psi@ hrs psi@ hrs									
Cement Type / Weight										/ /									
Formulation																			
Mud Type / Mud Wgt.										/ /									
Borehole Record										Casing & Tubing Record									
Run Number Bit From To										Size Weight From To									
ONE 9 5/8"										36 LB SURFACE 1550'									
ONE 7"										23 LB SURFACE 7899.7'									
ONE 4.5"										13.5 LB SURFACE 6963.3'									
ONE 4.5"										11.6 LB 6963.3' 17910'									
<<< Fold Here >>>																			
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.																			
LOGS CORRELATED TO AIR LOCK SUB AT 8009"																			
THANK YOUFOR CHOOSING HALLIBURTON ENERGY SERVICES																			

Service Ticket No.	905621256	API No.	051234729500	PGM Ver	WARRIOR 8
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client					
EQUIPMENT DATA					
Run No.	ONE	Run No.	ONE	Run No.	
Serial No.	081113	Serial No.	11021927	Serial No.	
Model No.	PROBE CBL	Model No.	GR-CCL	Model No.	
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	

No.	17830						
ONE							
	GAMMA		AMP				
Pass	Scale		Scale		Scale		Scale
No.	L	R	L	R	L	R	L
ONE	0	100	0	100			
DIRECTIONAL INFORMATION							
Maximum Deviation	90	deg. @	8013'	KOP	6980'		

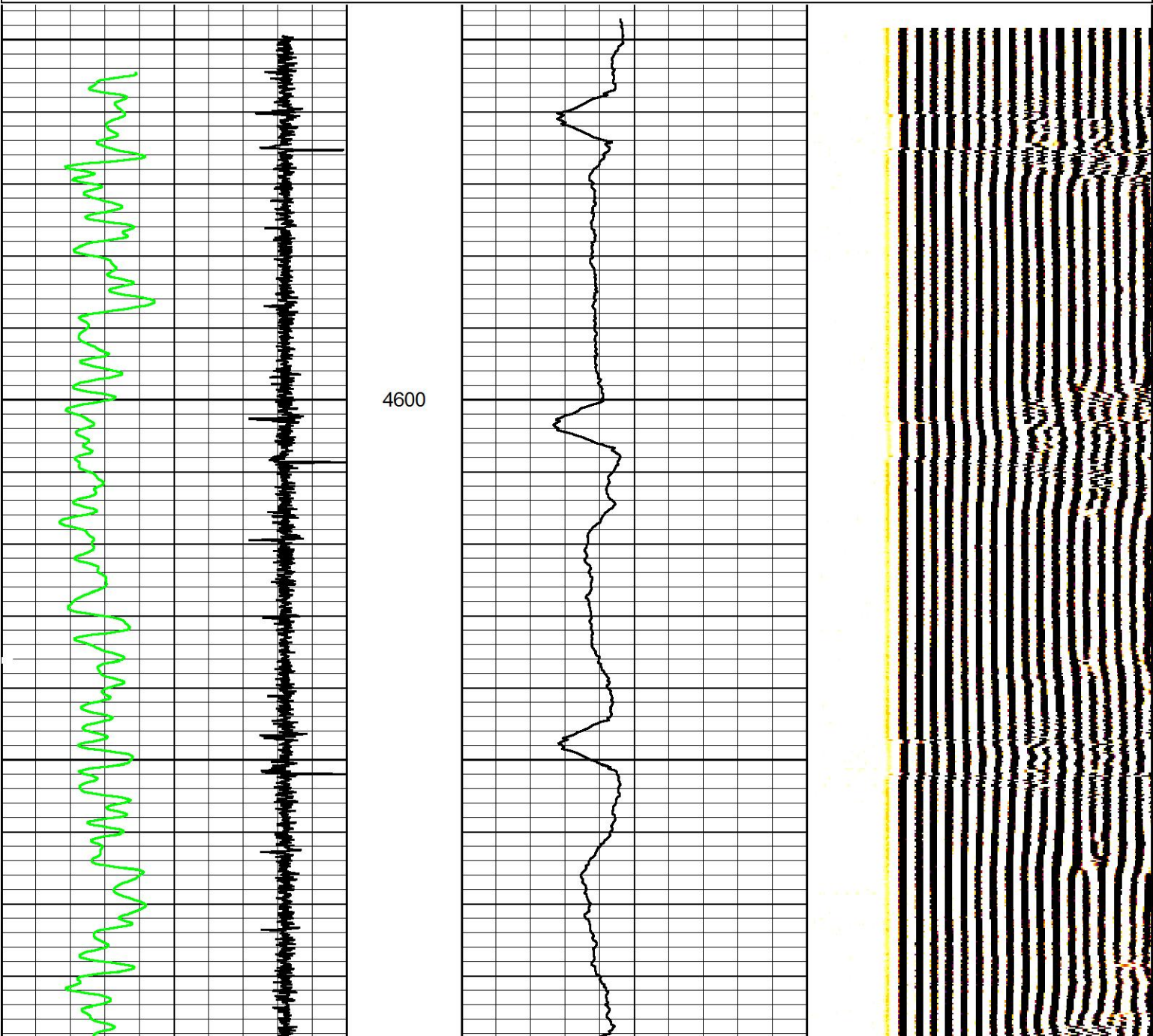
HALLIBURTON

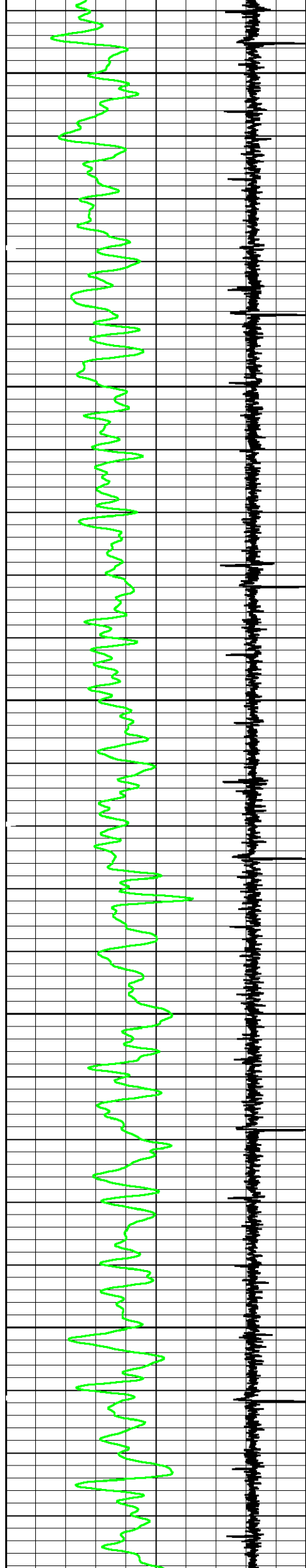
Main Pass

5"=100'

Database File	c:\users\hesadmin\desktop\6302be updatd\cbl_6302be.db
Dataset Pathname	Stage1/Main
Presentation Format	hcbl
Dataset Creation	Sat Apr 13 13:51:03 2019
Charted by	Depth in Feet scaled 1:240

3' Travel Time	0	3' Amplitude (mV)	100	100	MSG (usec)	1100
1 CCL -0.2	0	3' Amplitude X5 (mV)	20			
0 Gamma Ray (GAPI) 100						

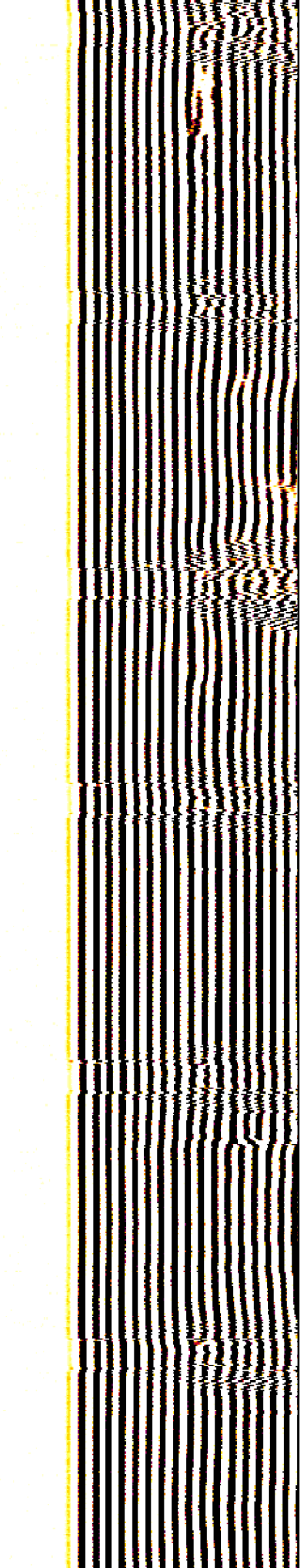
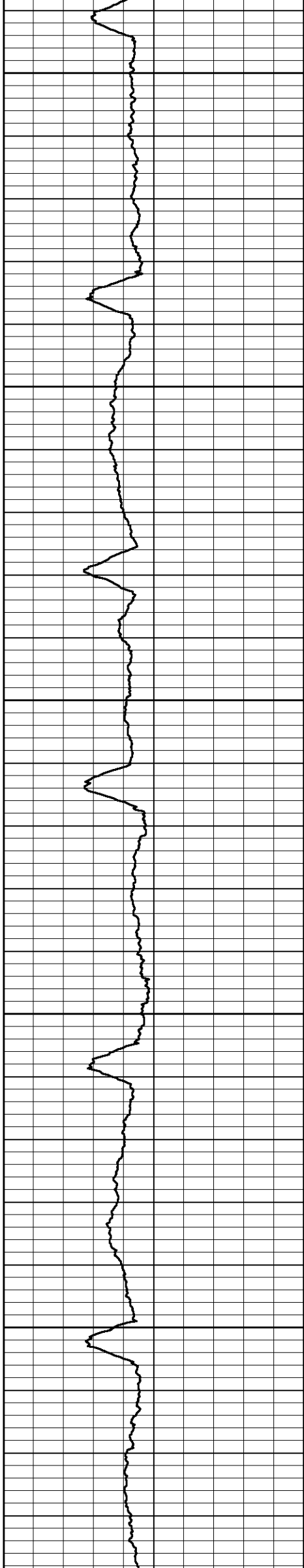


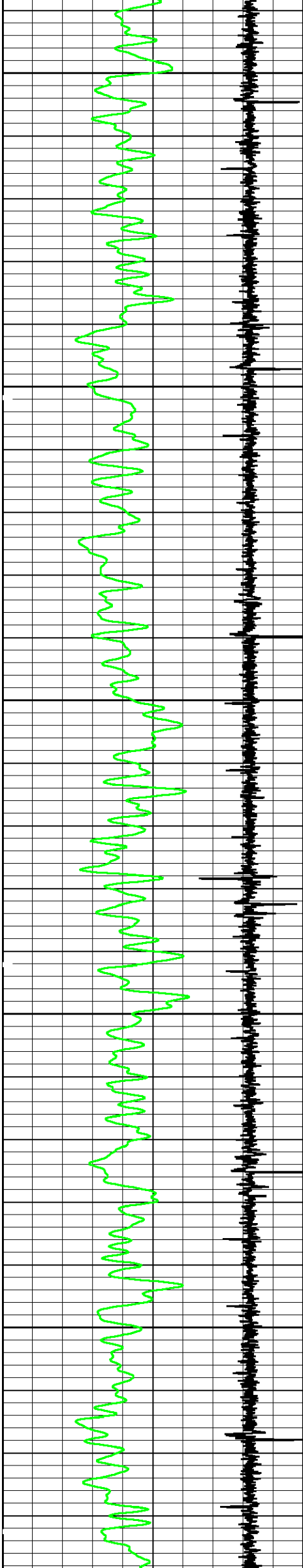


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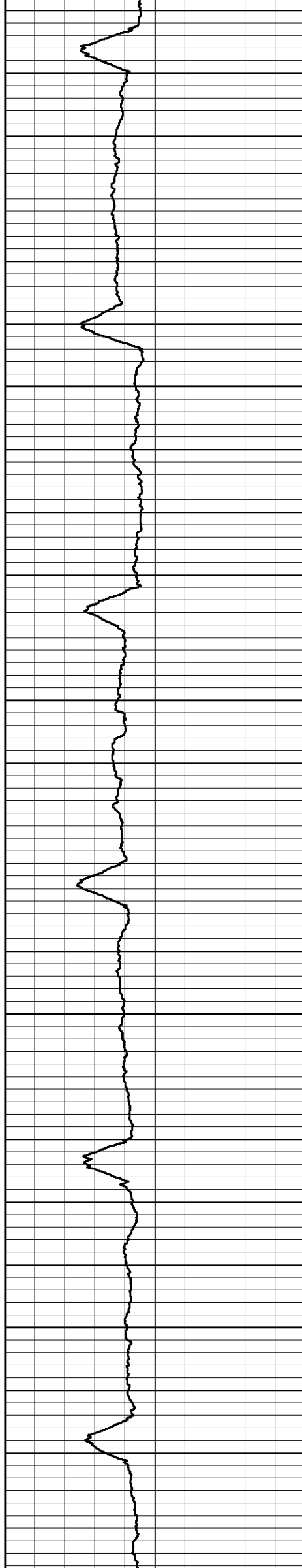
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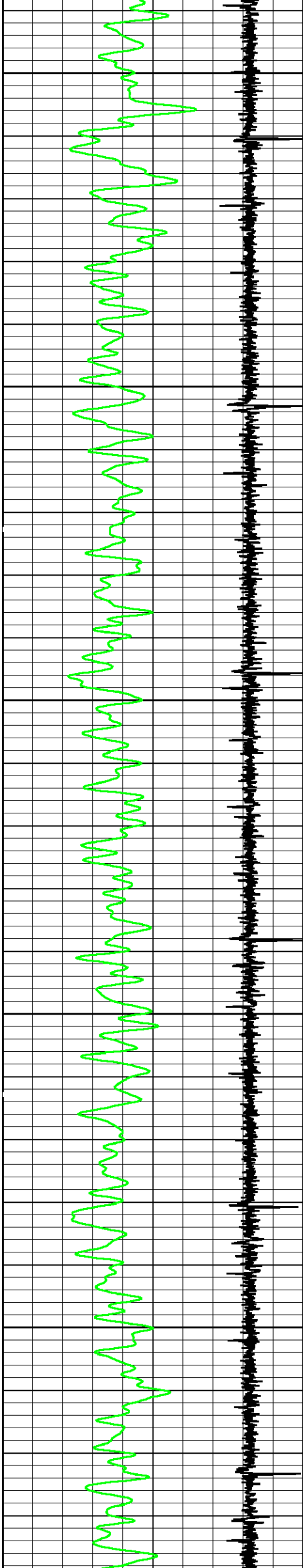




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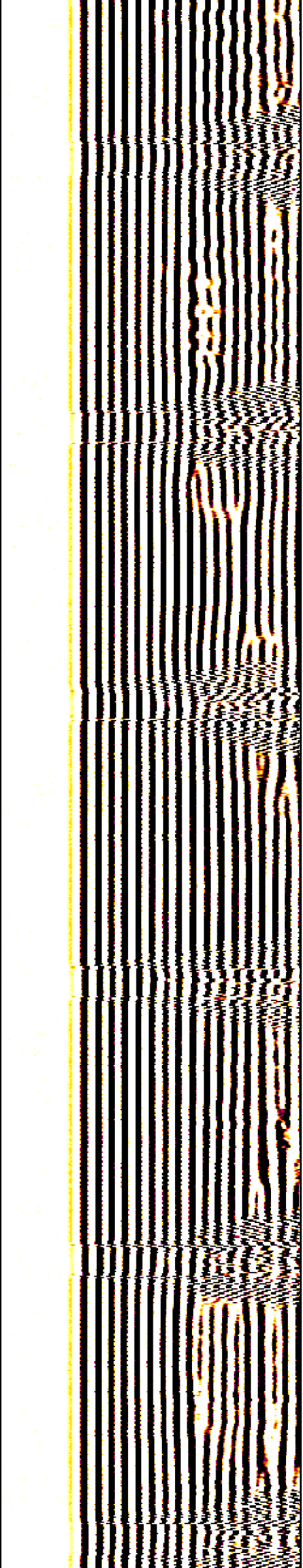
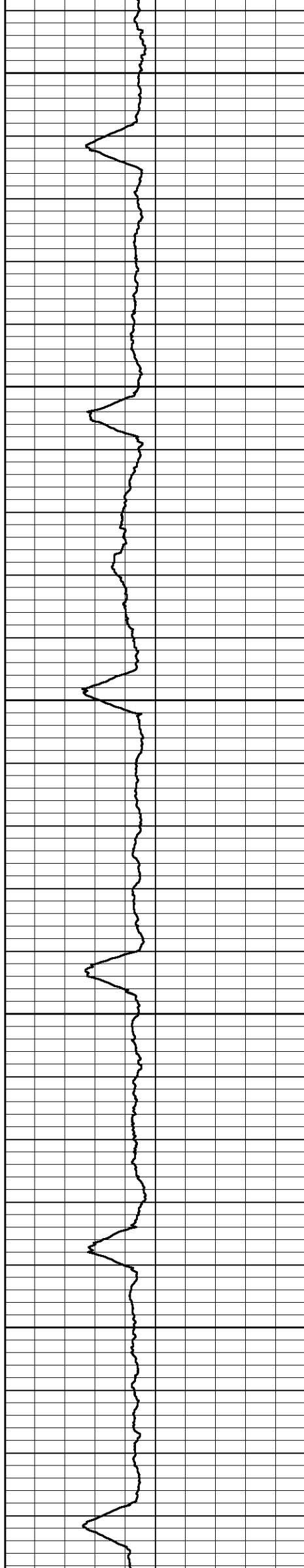


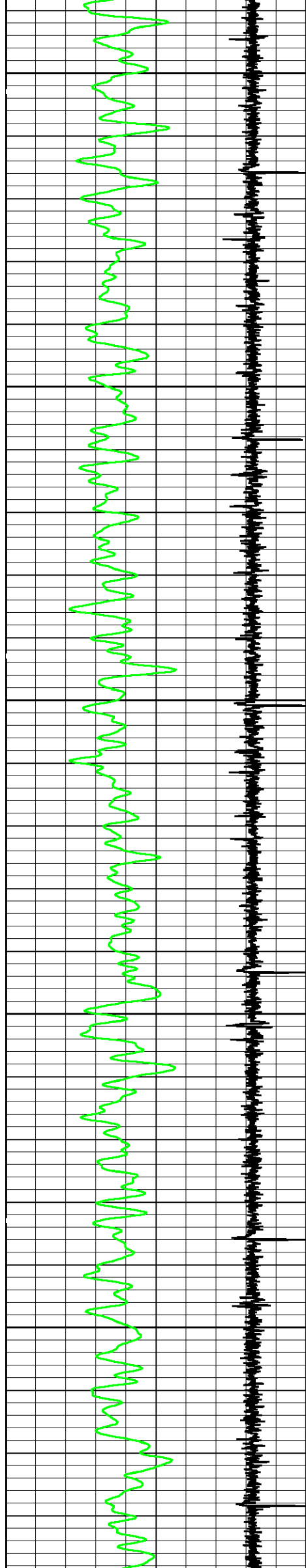


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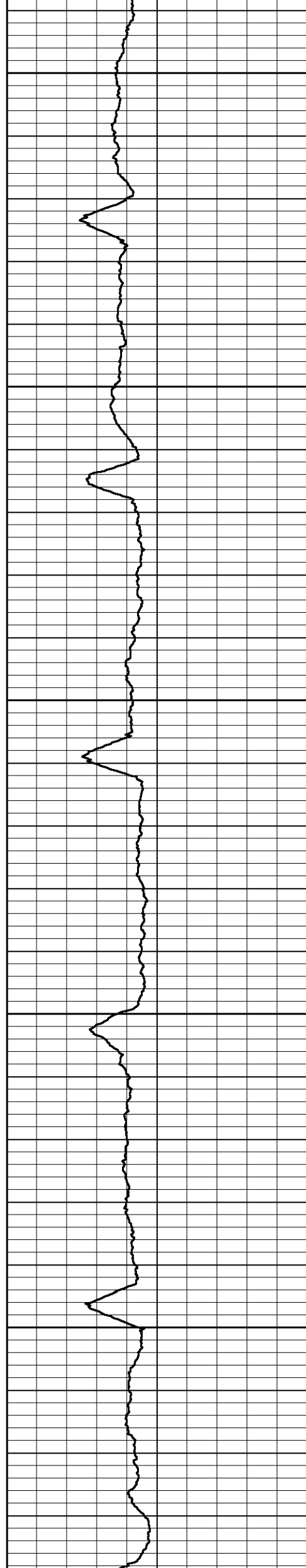
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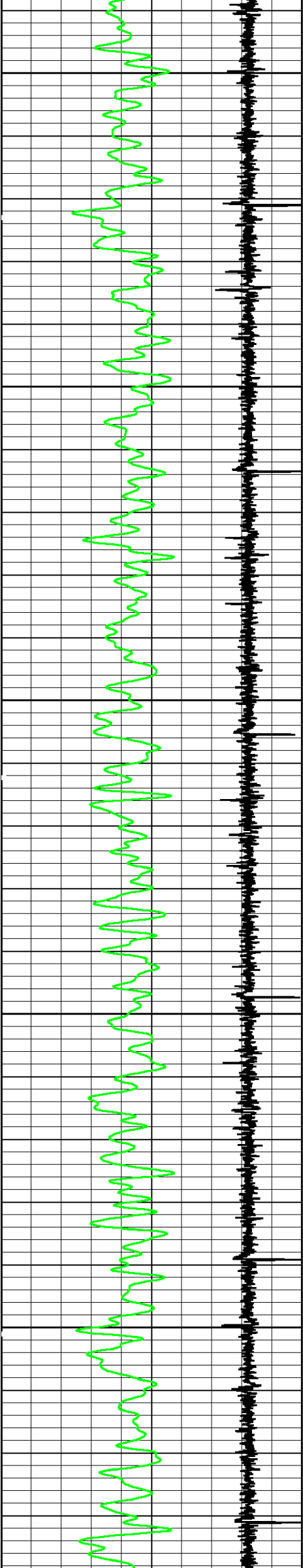




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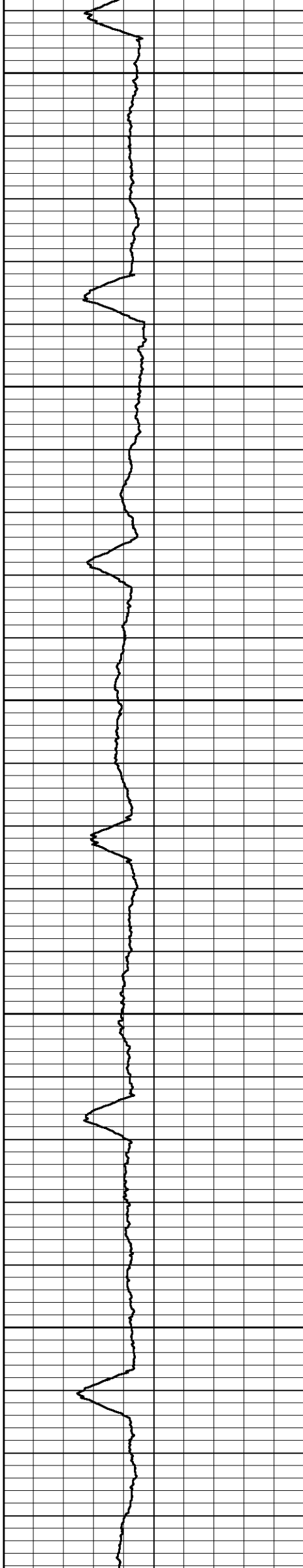


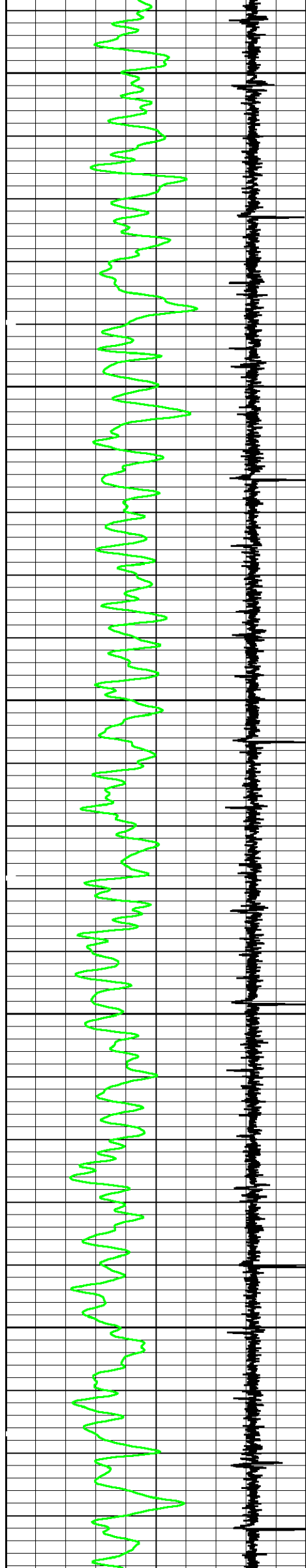


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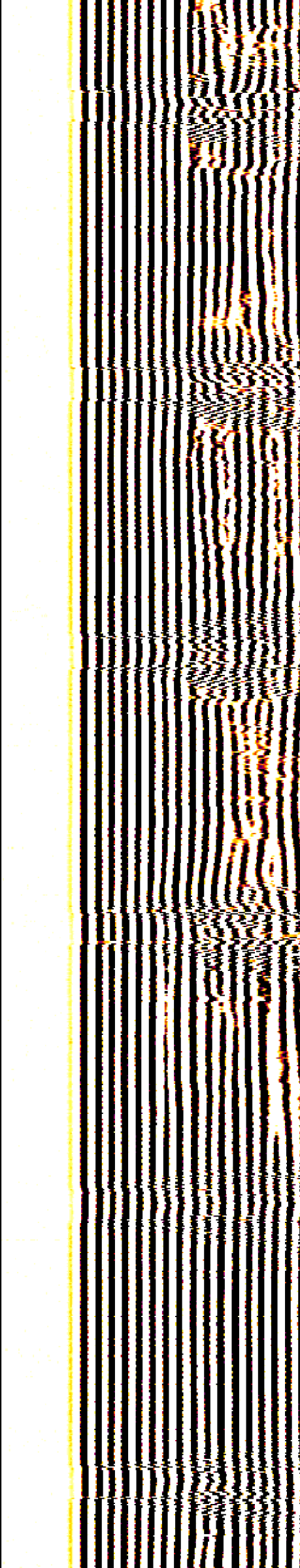
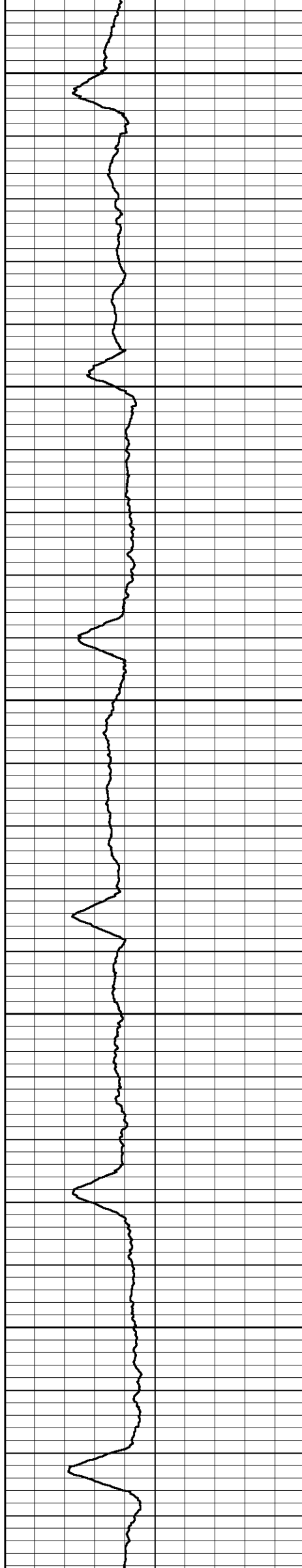
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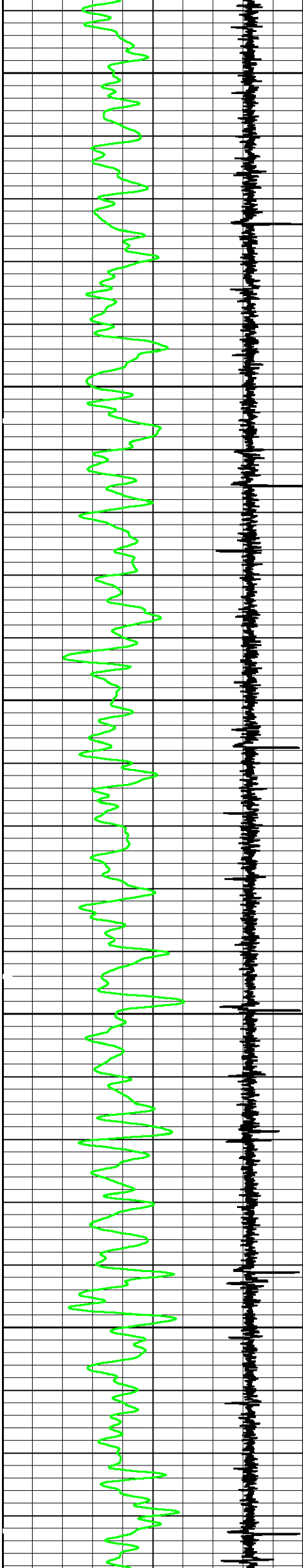




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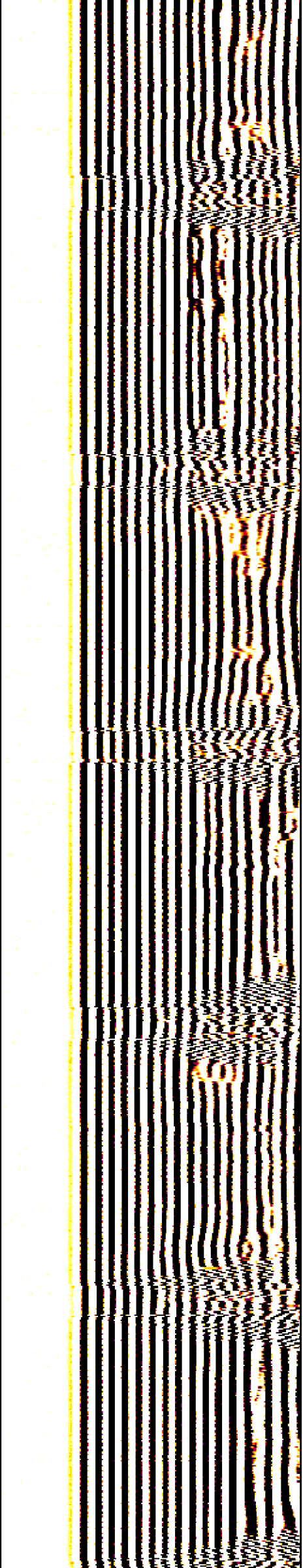
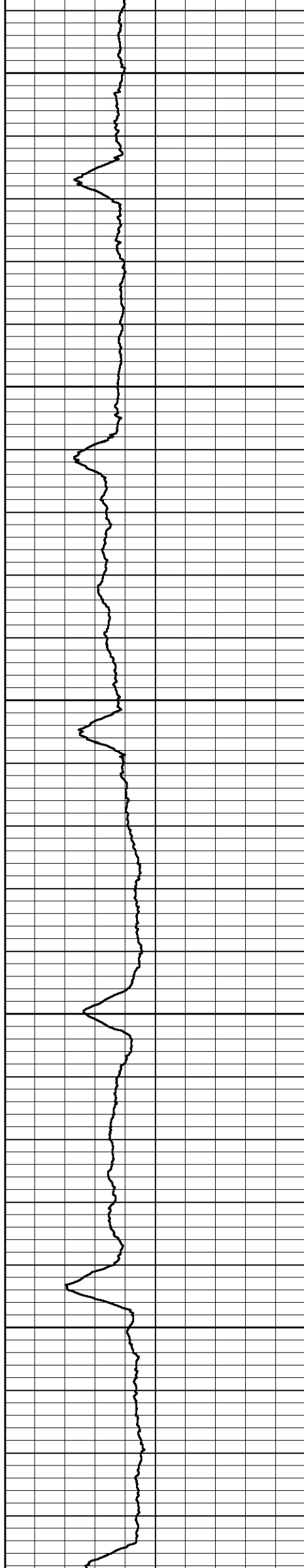


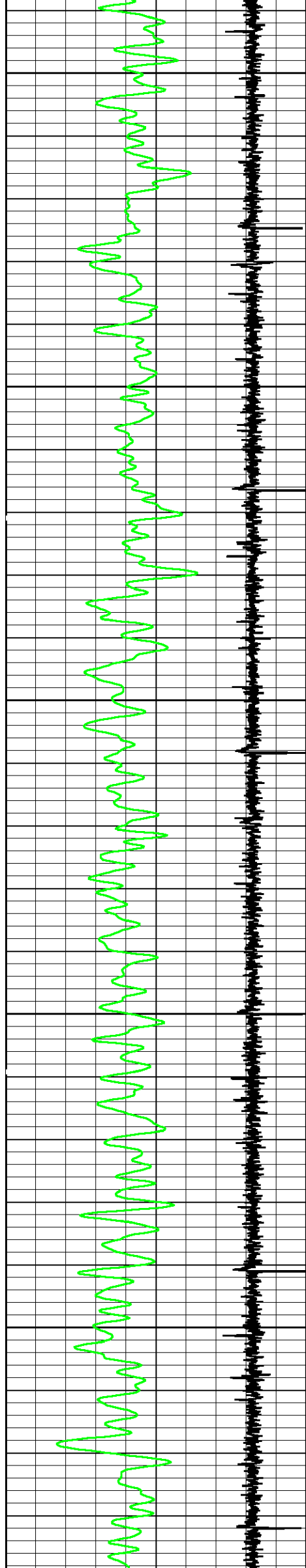


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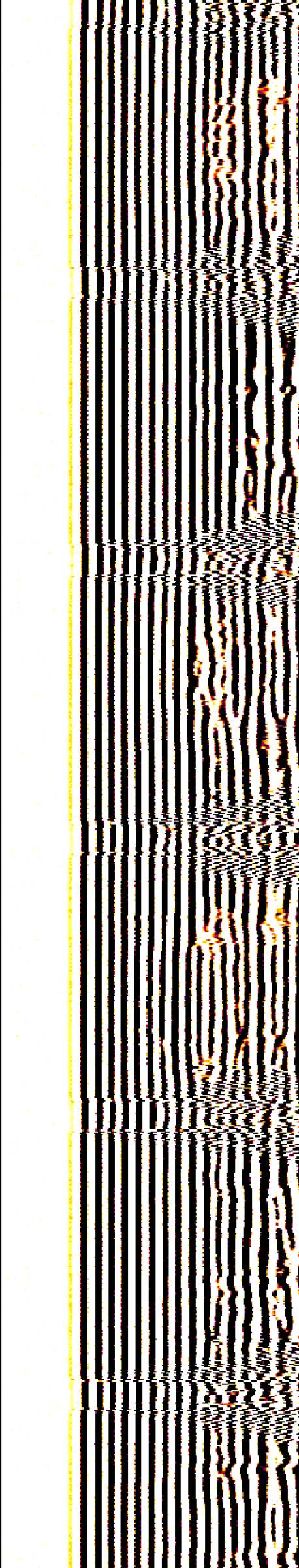
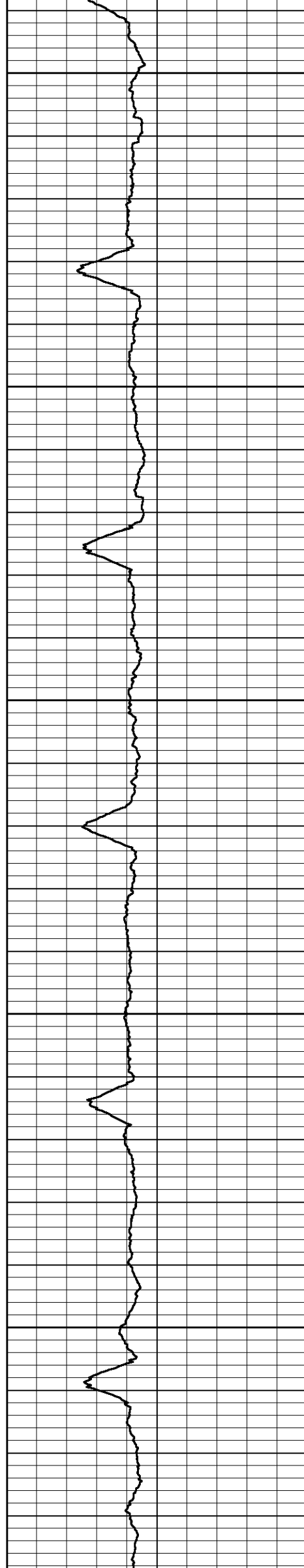
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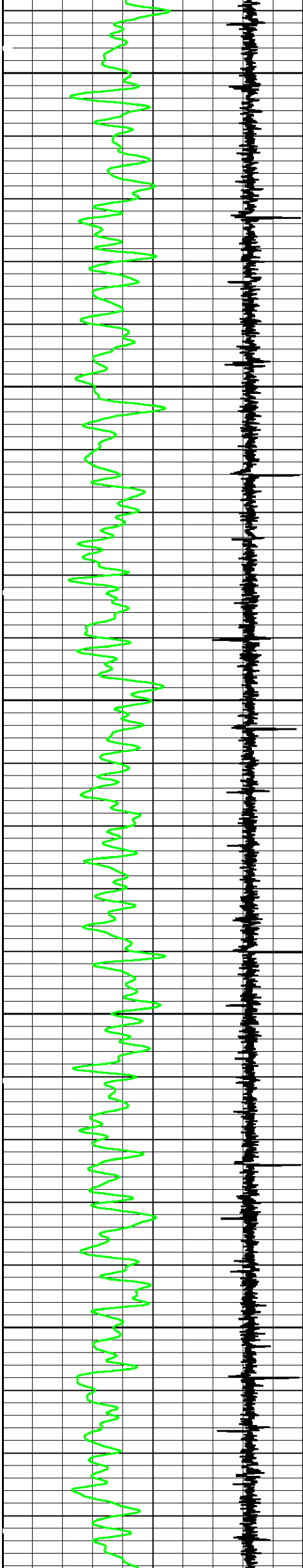




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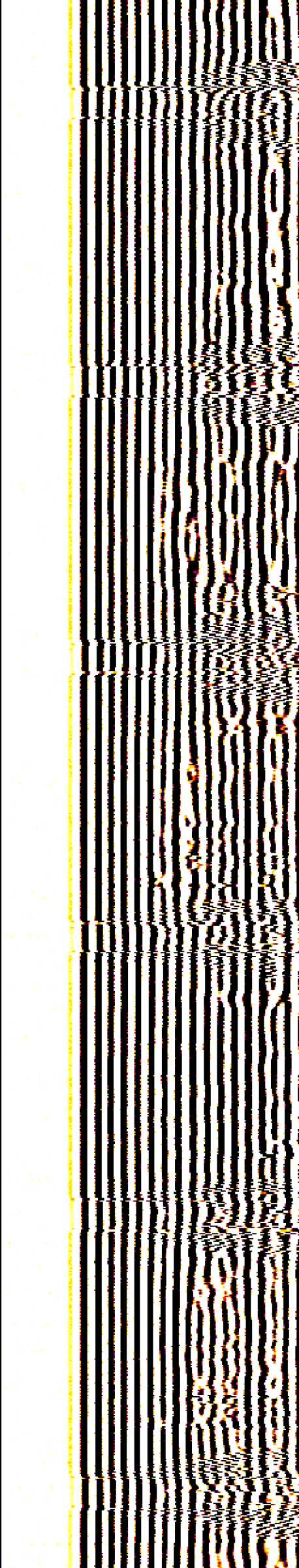
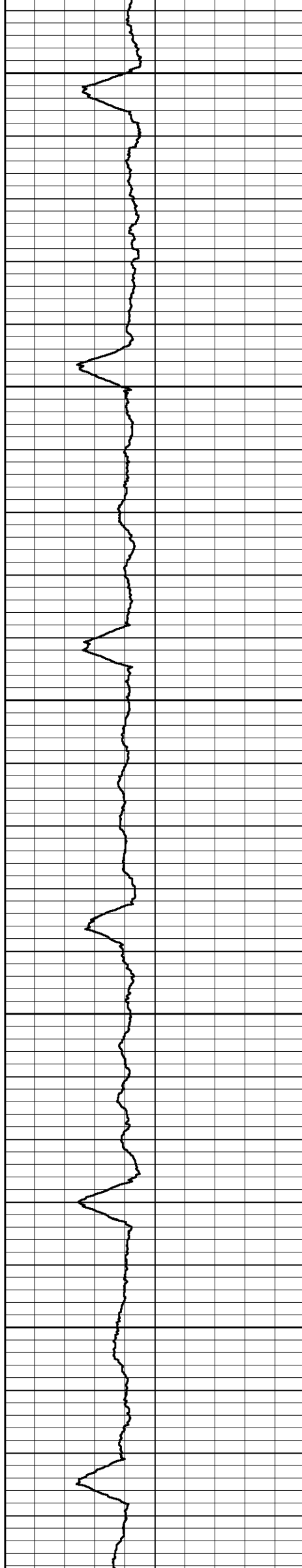


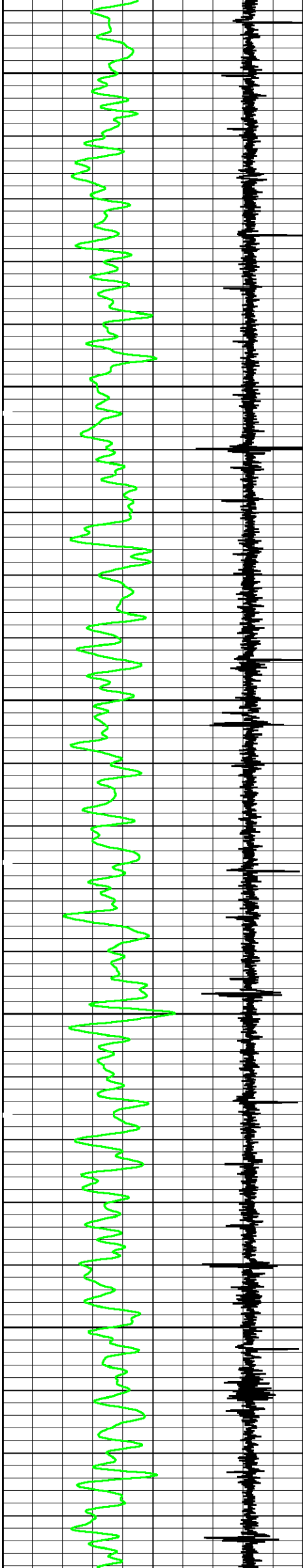


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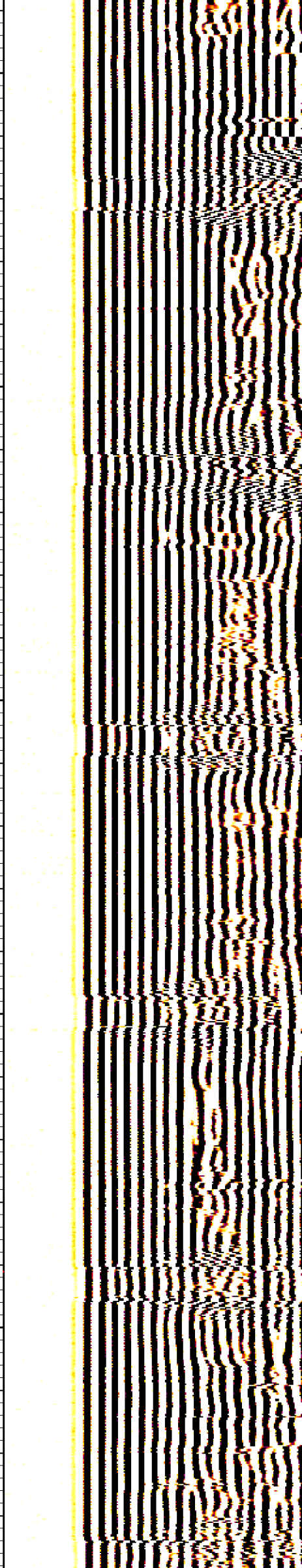
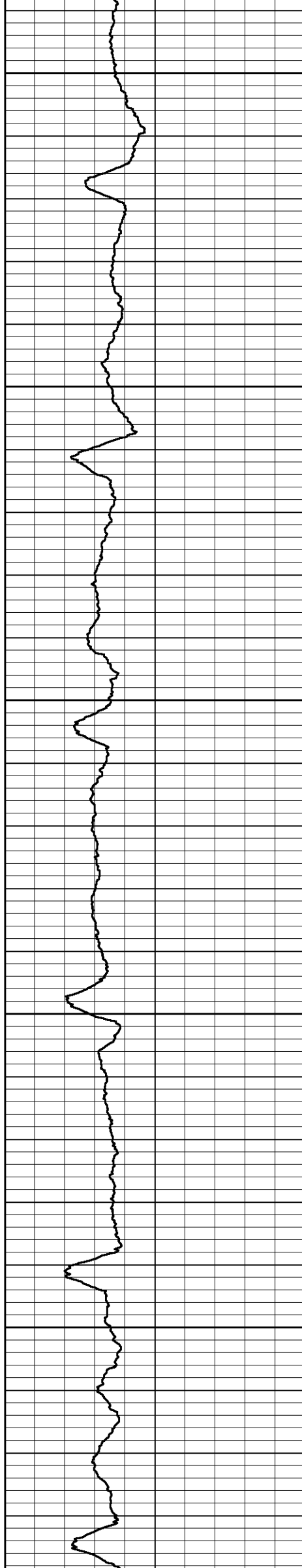
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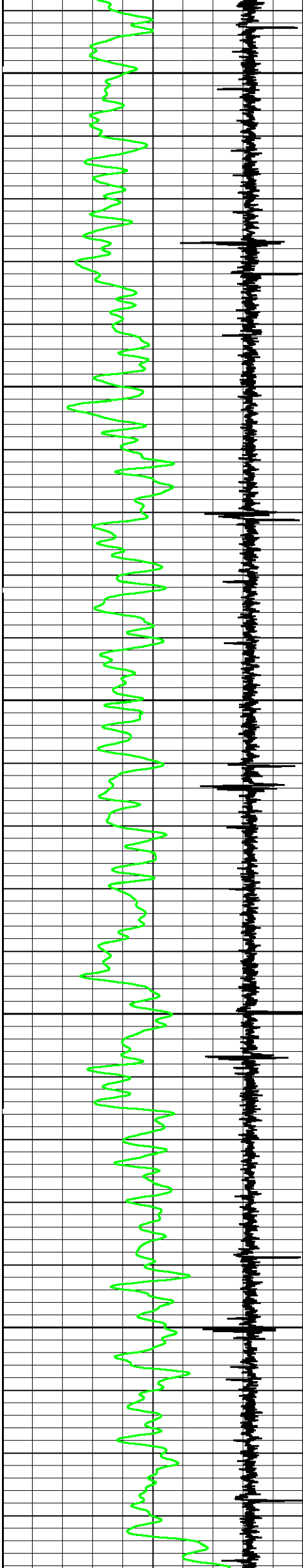




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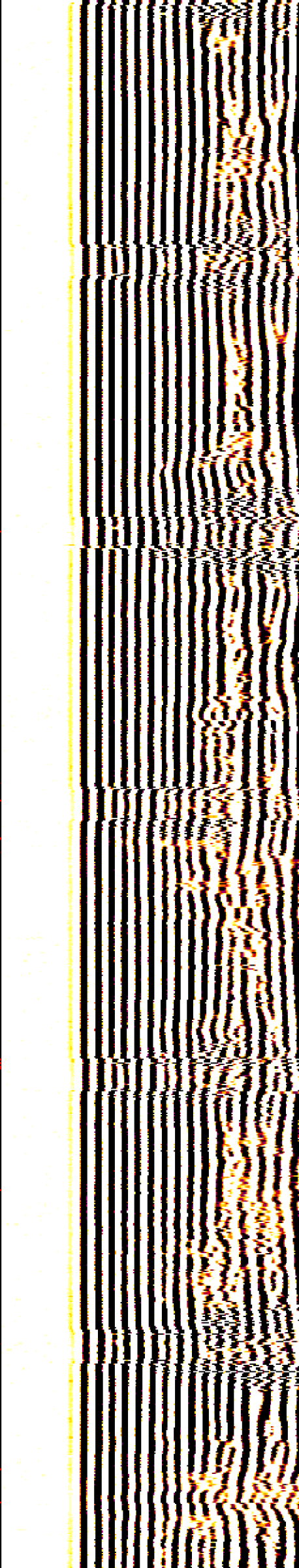
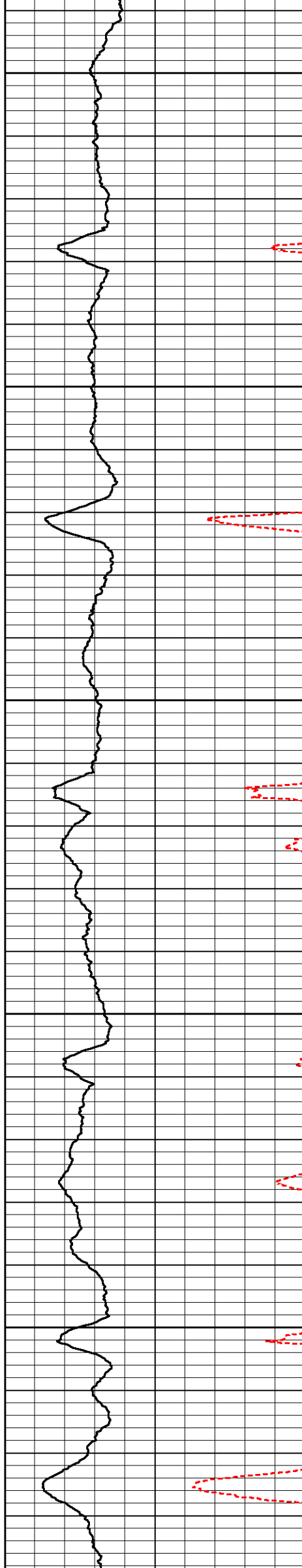


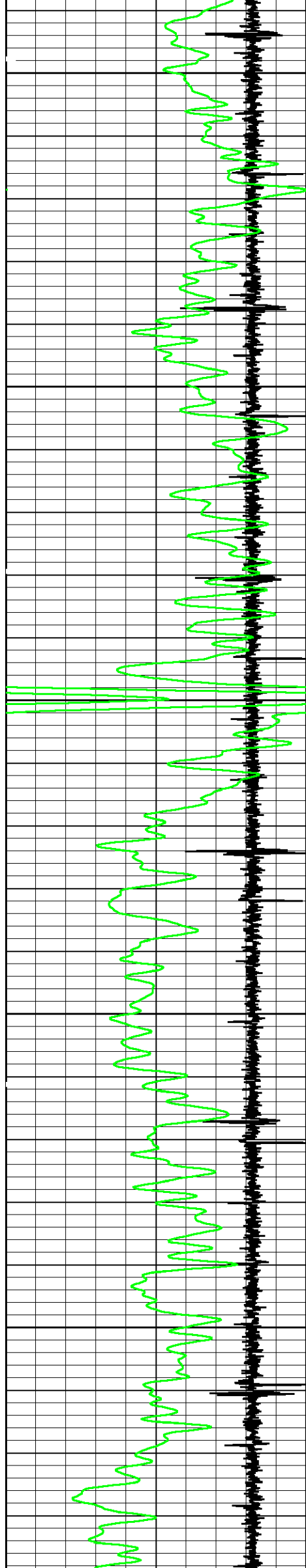


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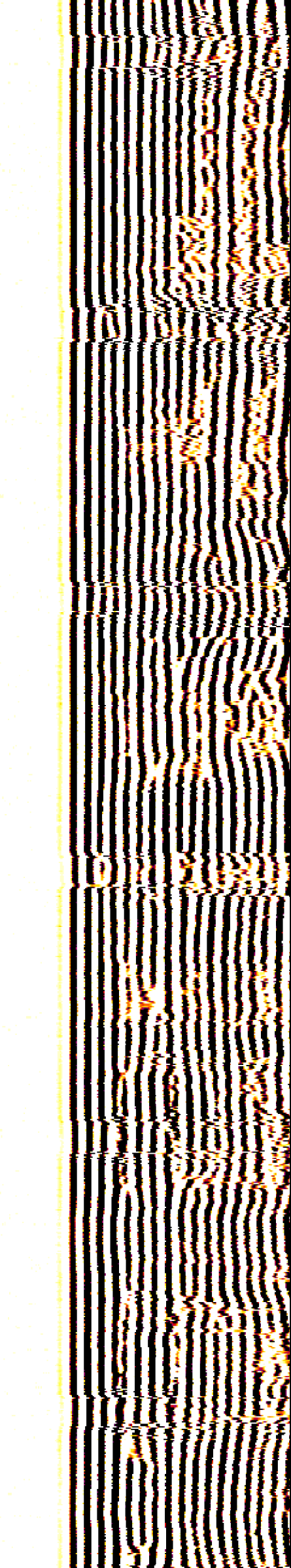
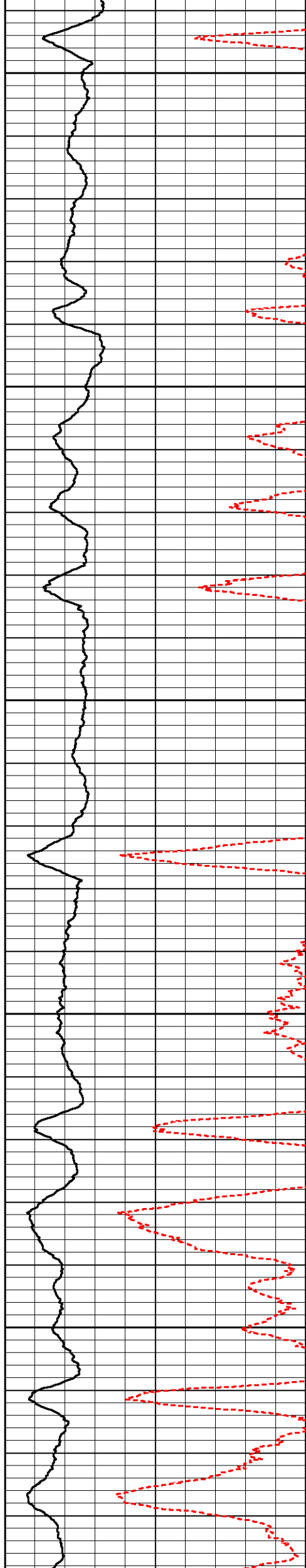
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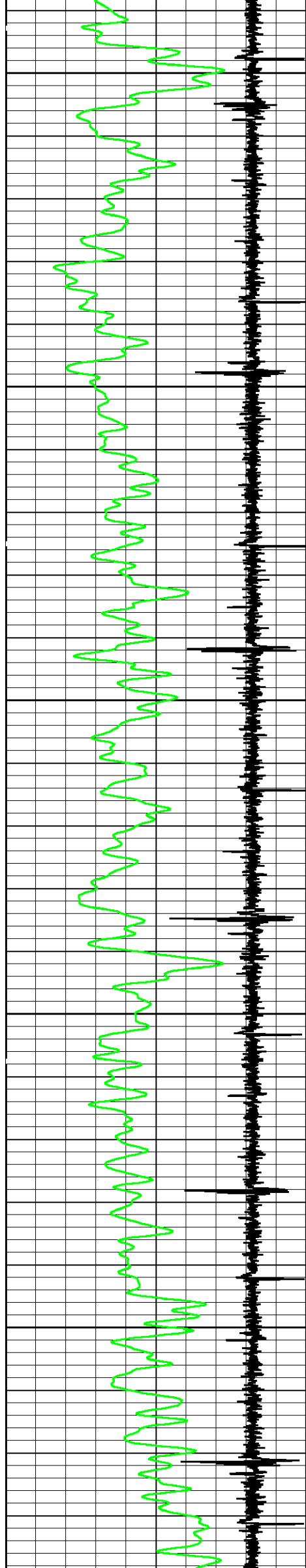




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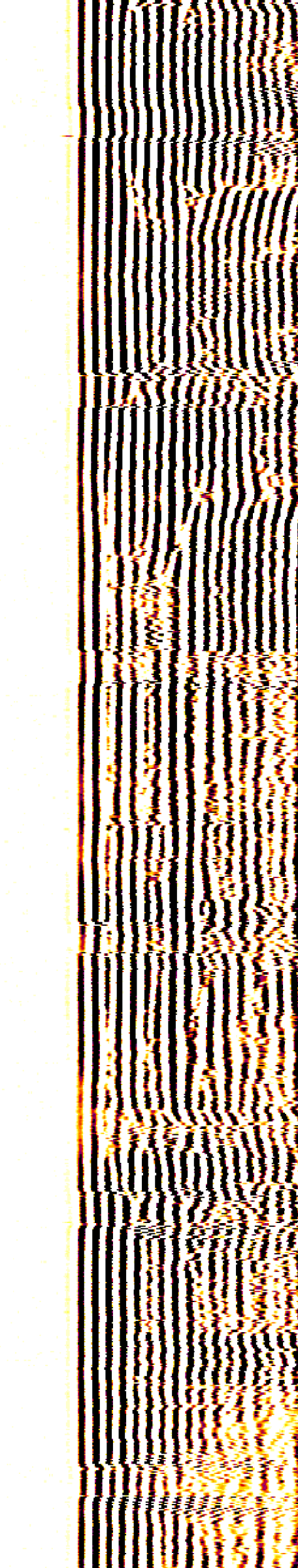
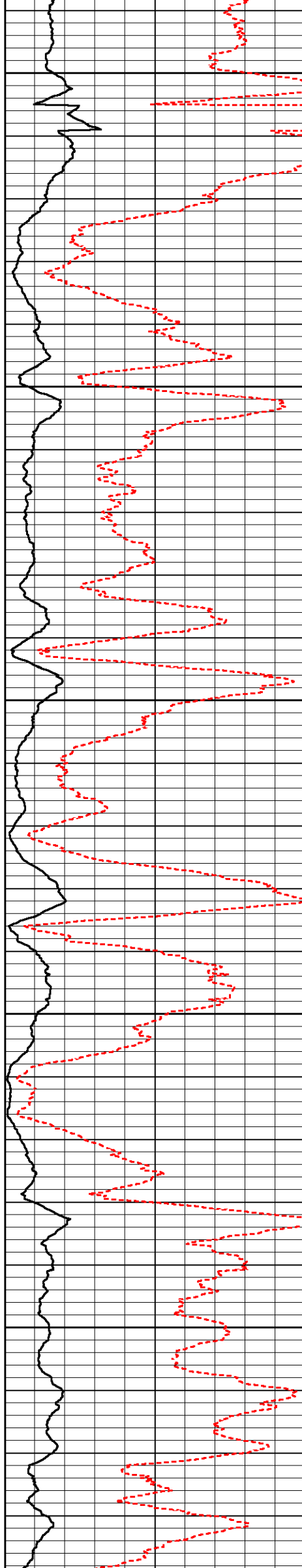


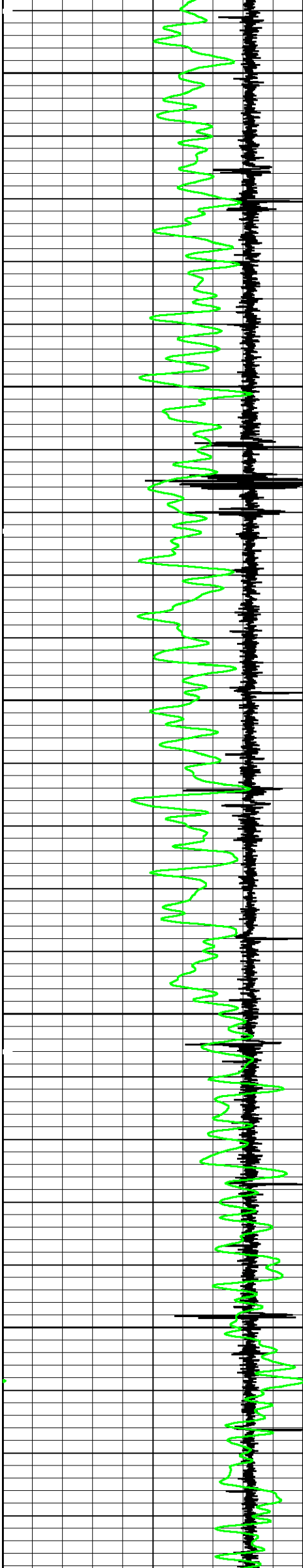


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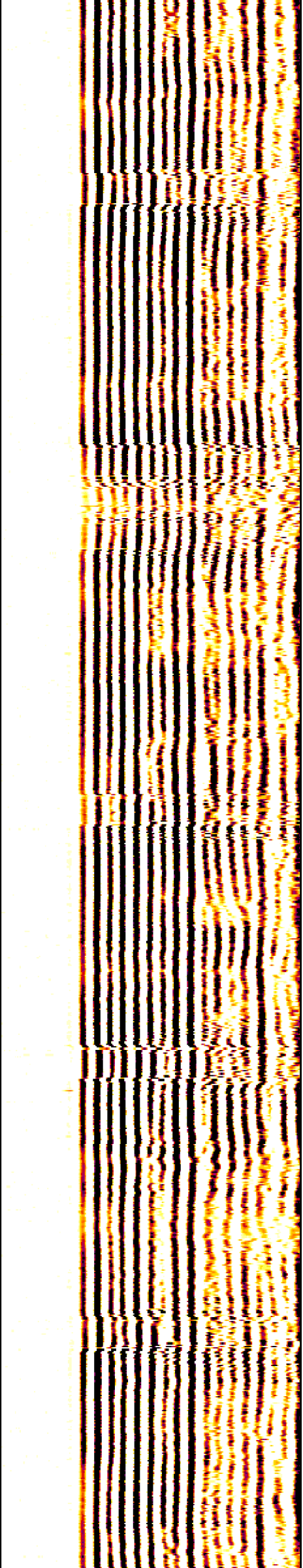
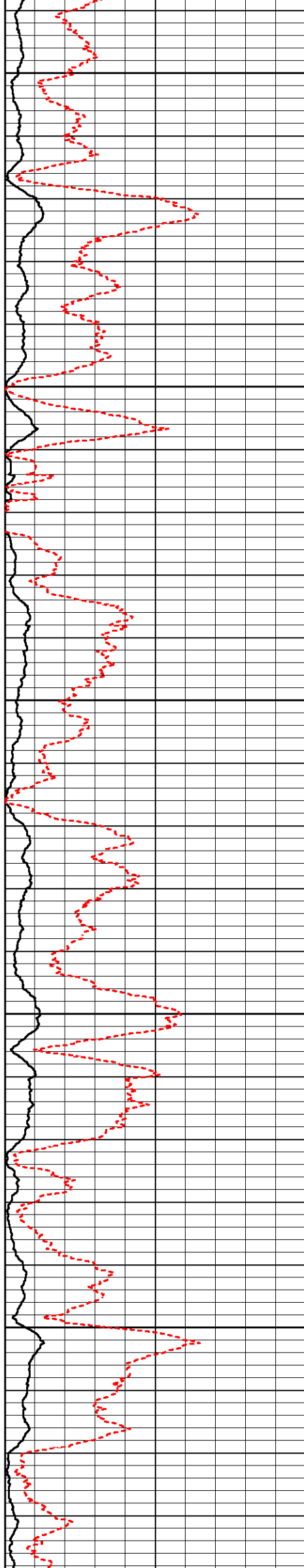
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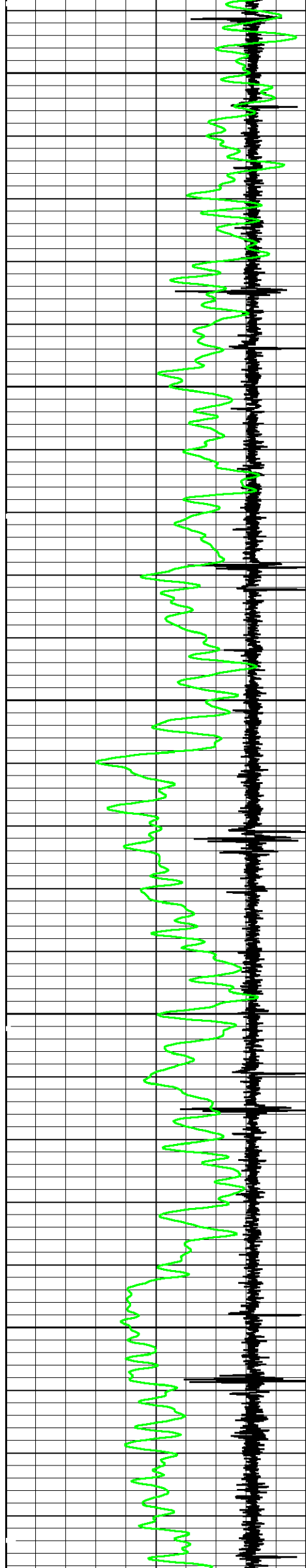




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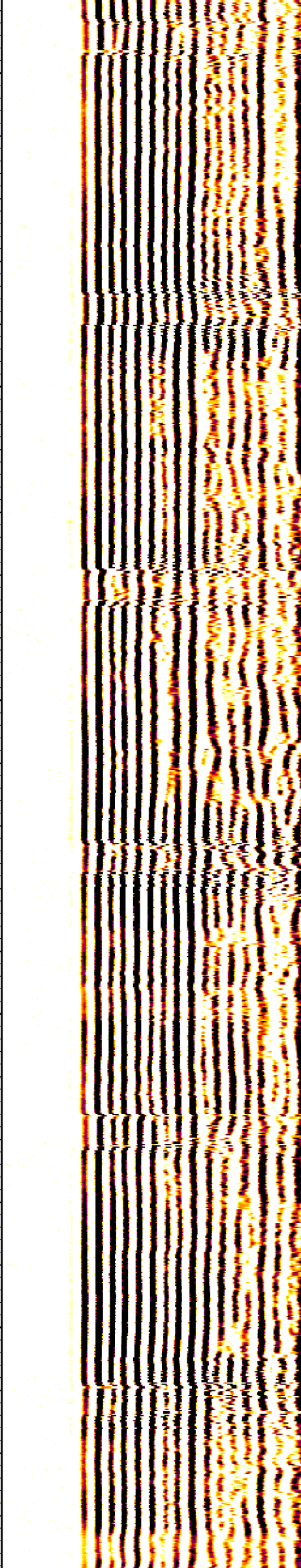
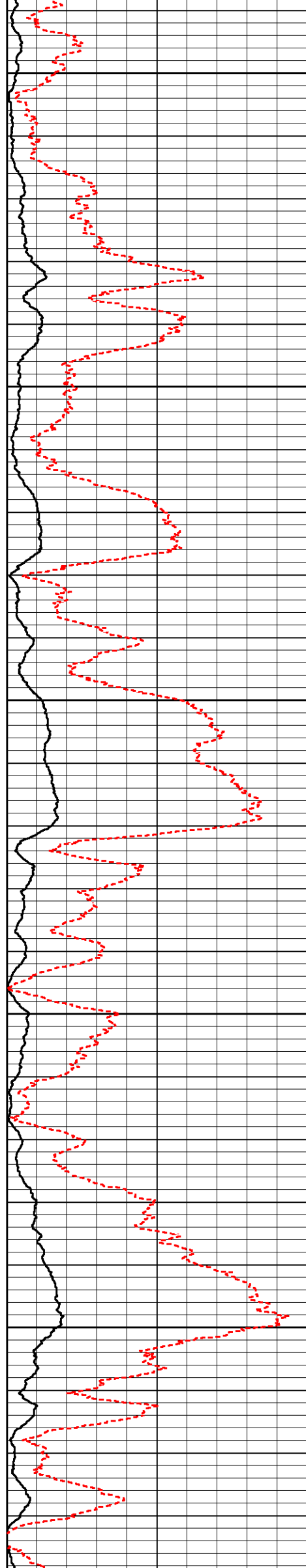


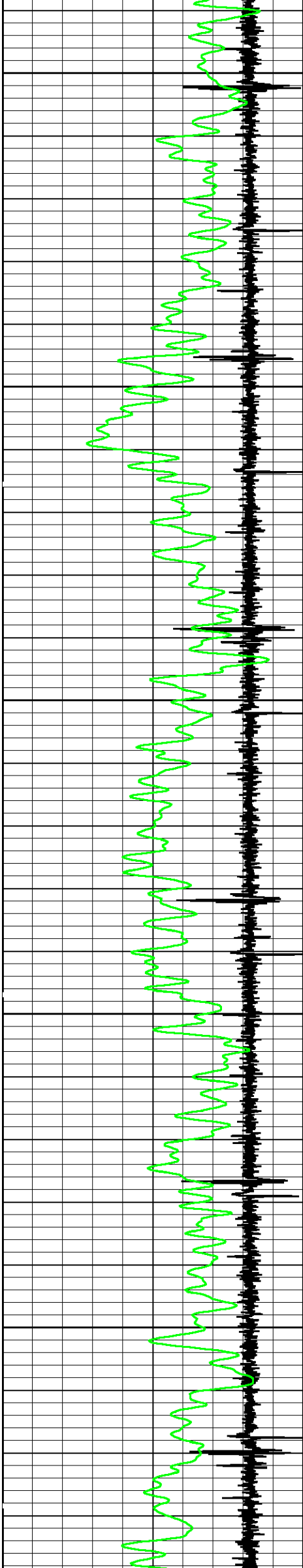


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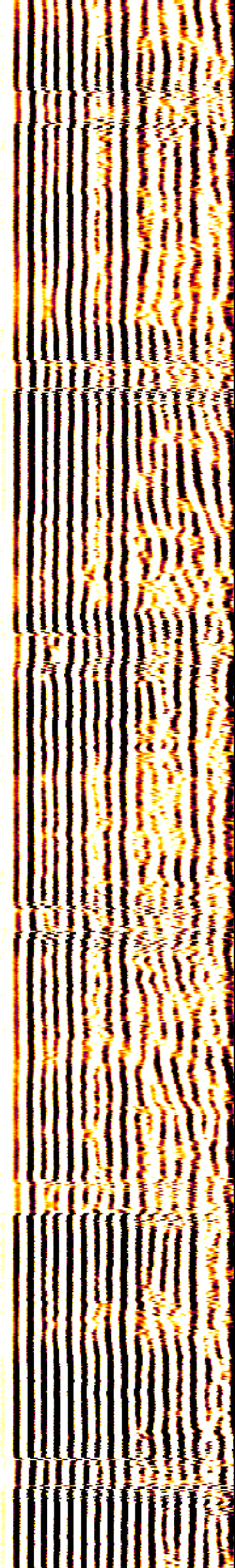
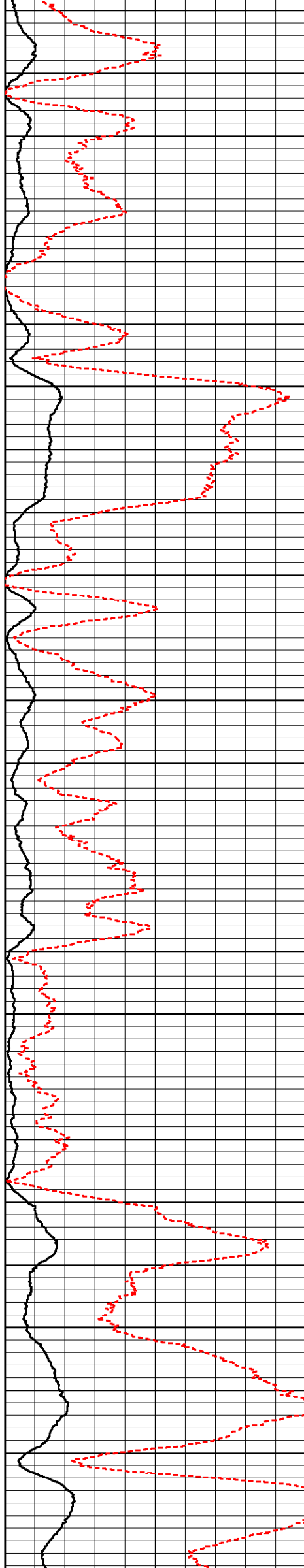
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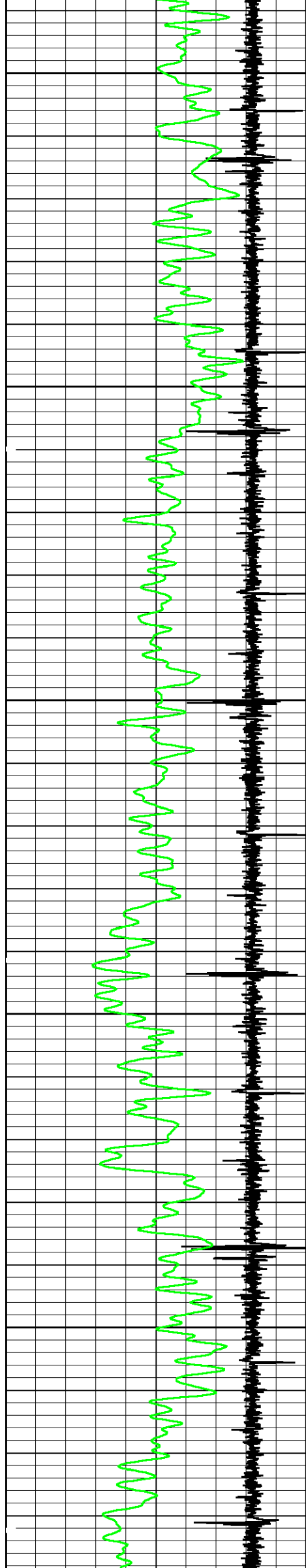




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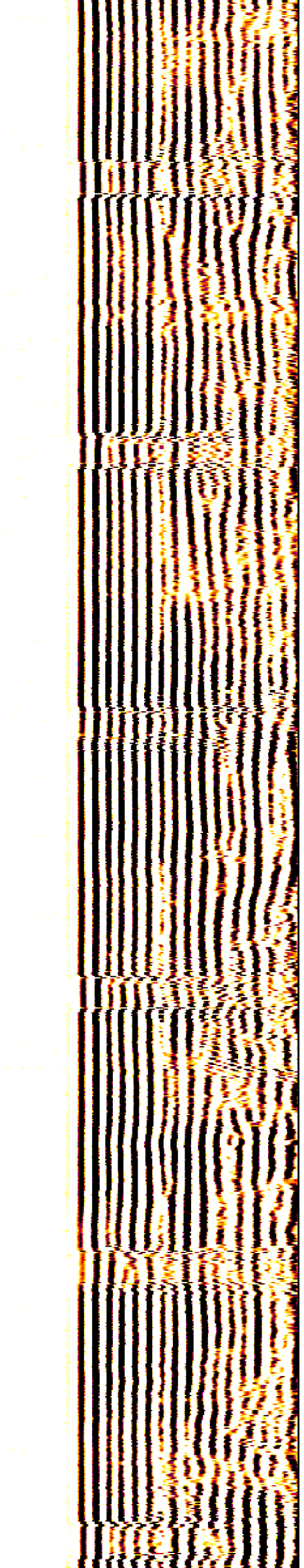
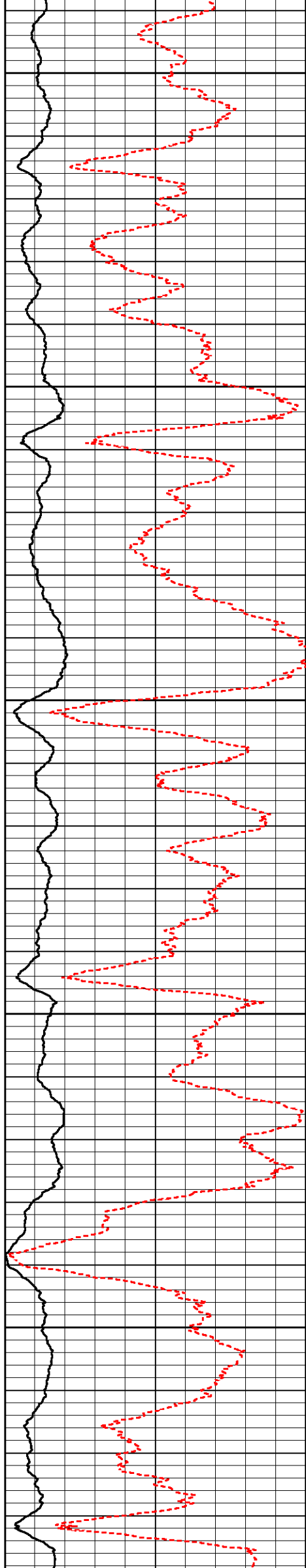


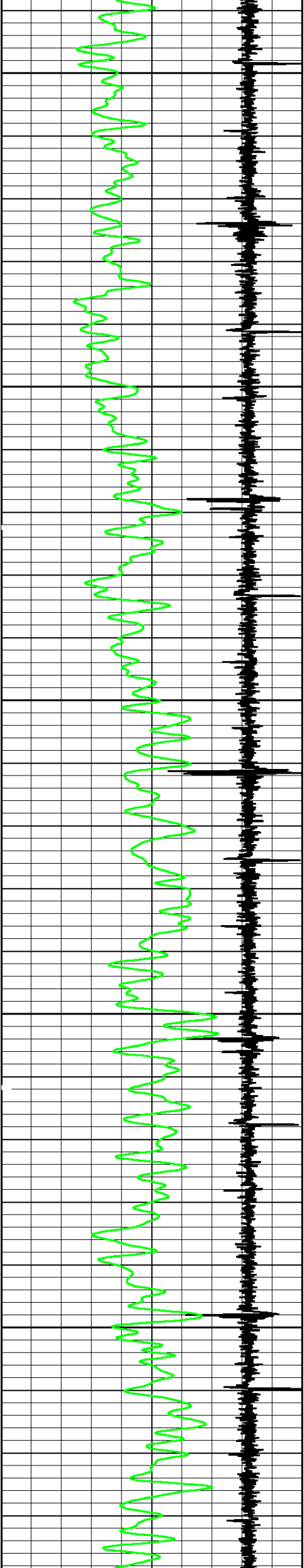


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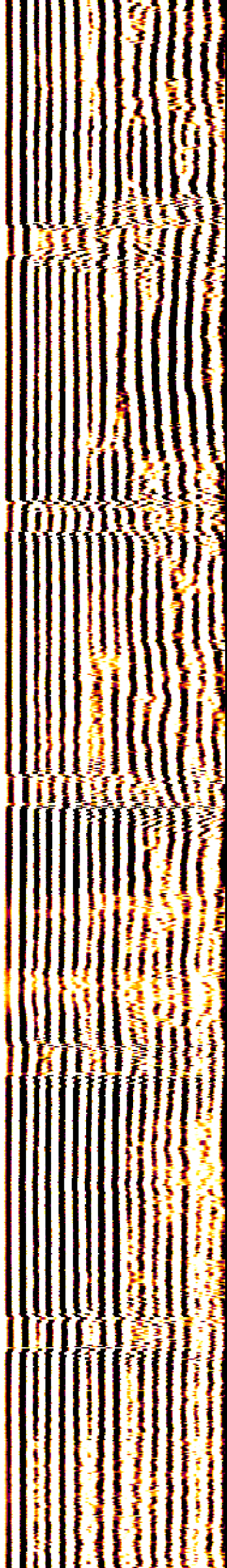
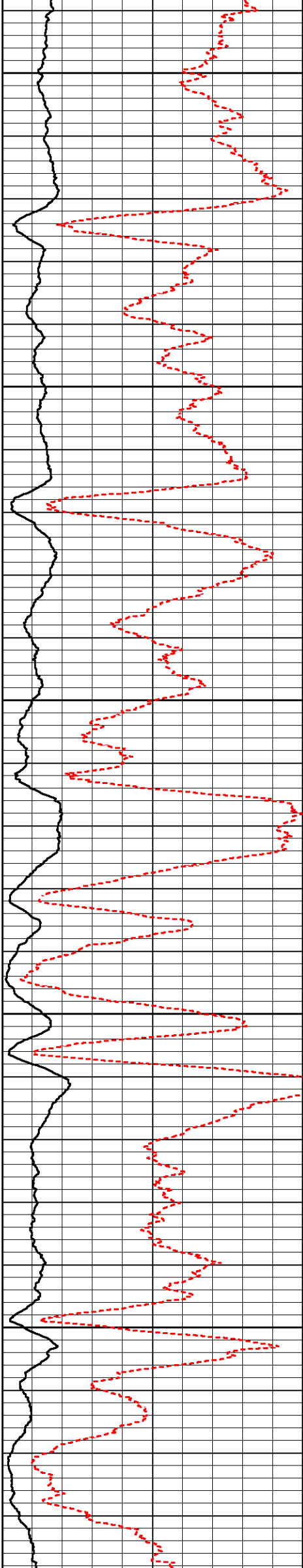
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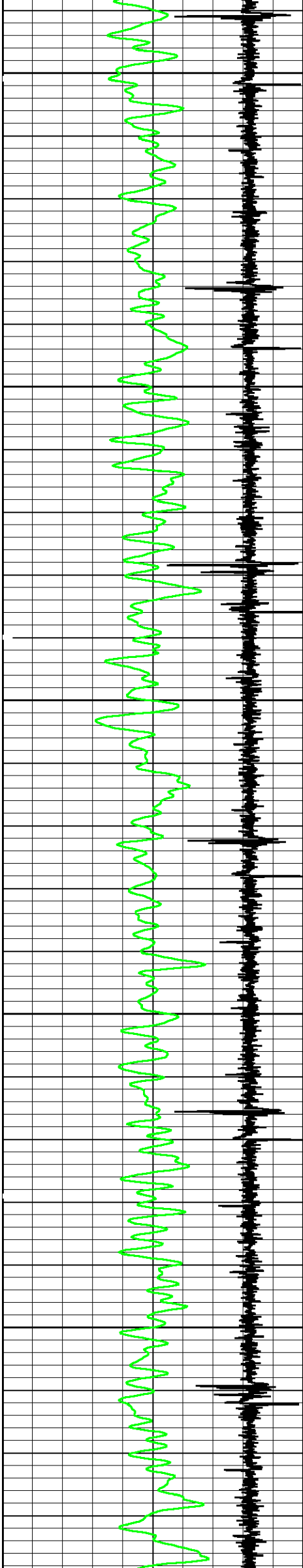




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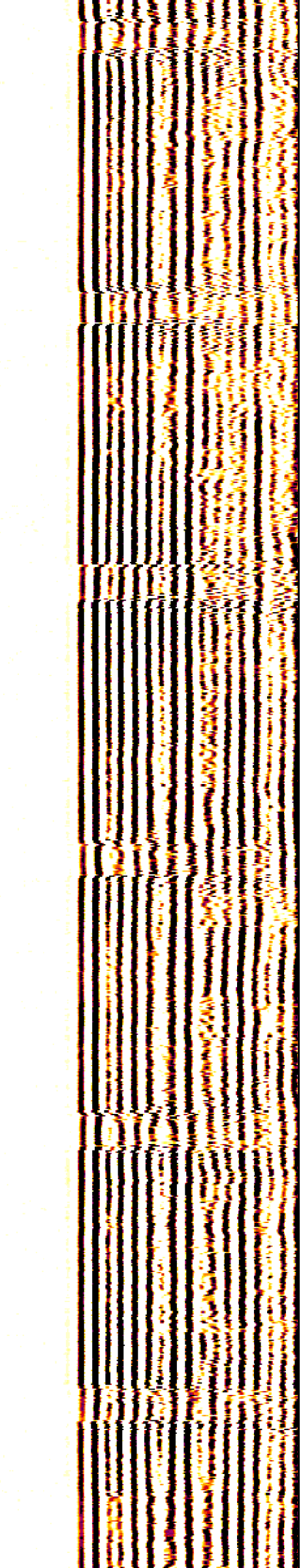
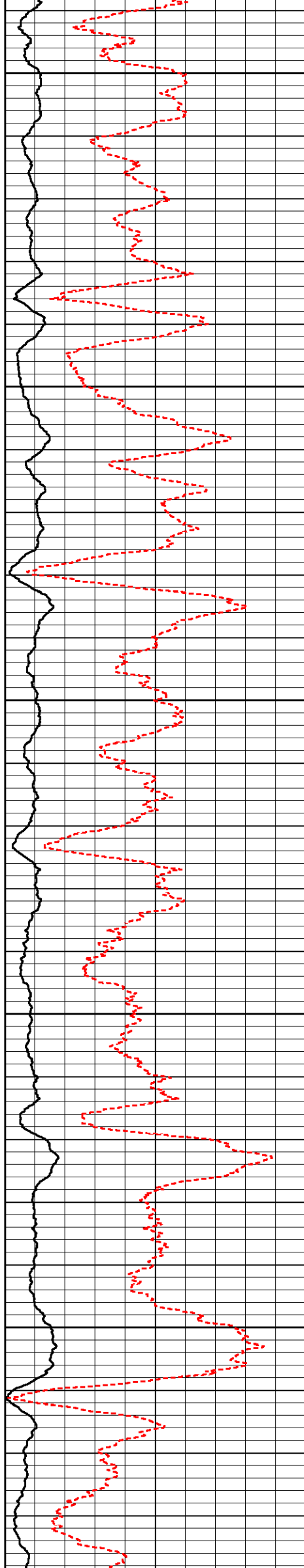


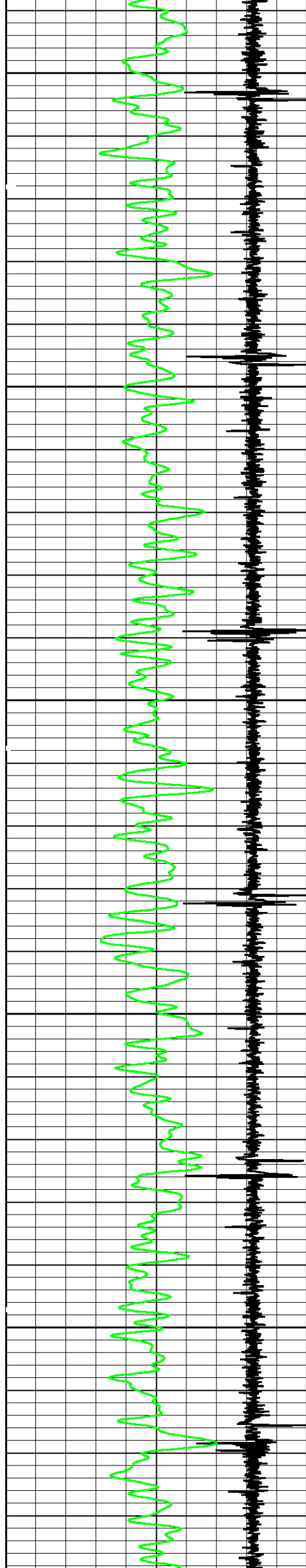


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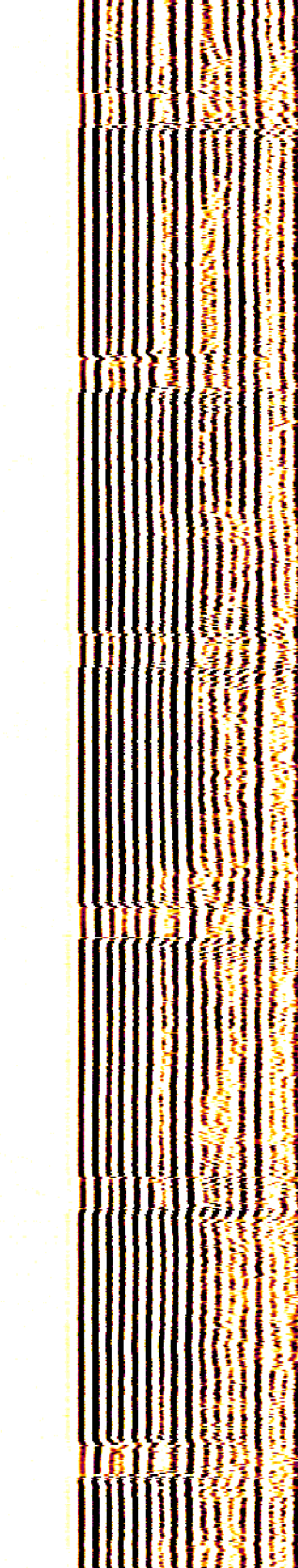
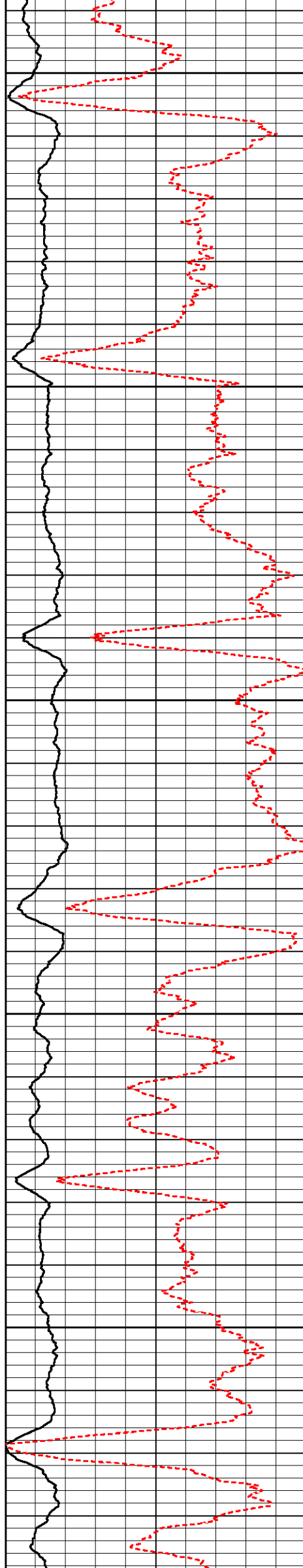
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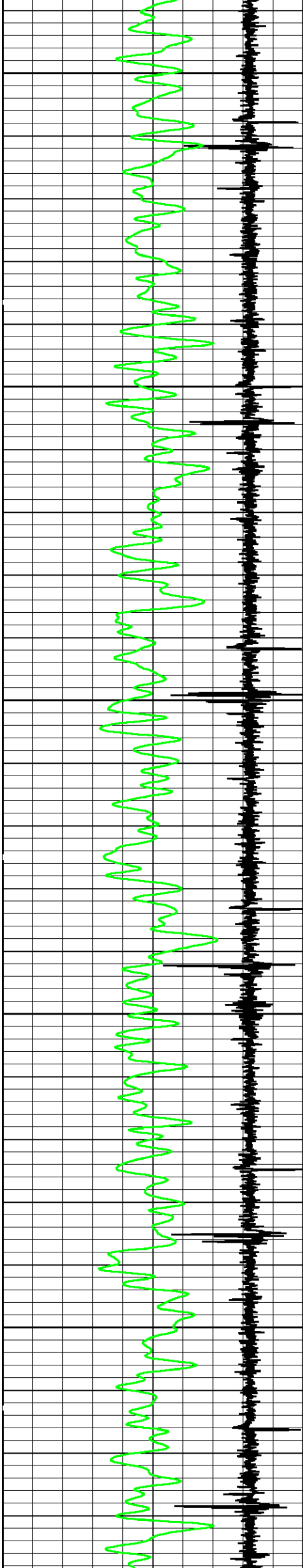




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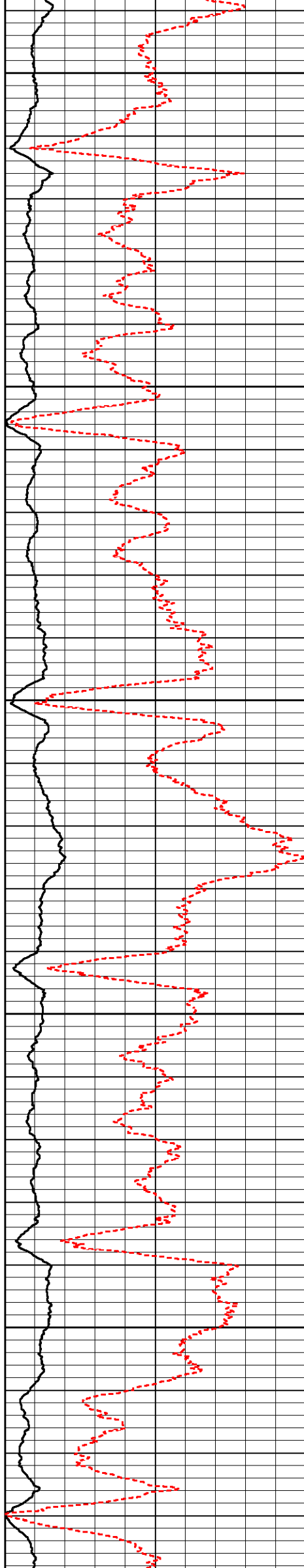


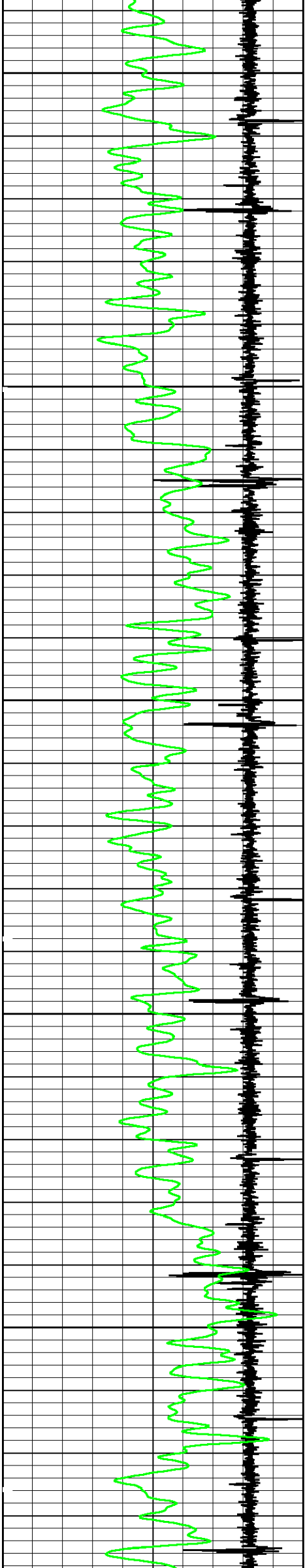


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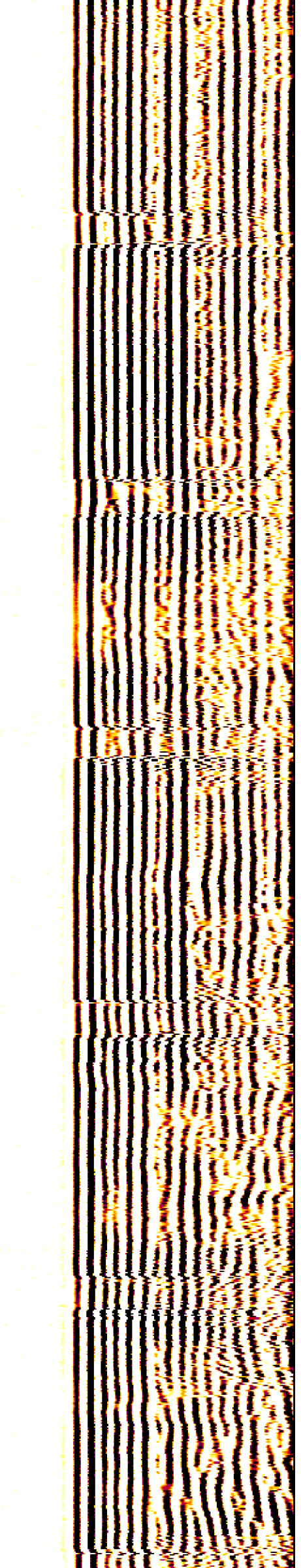
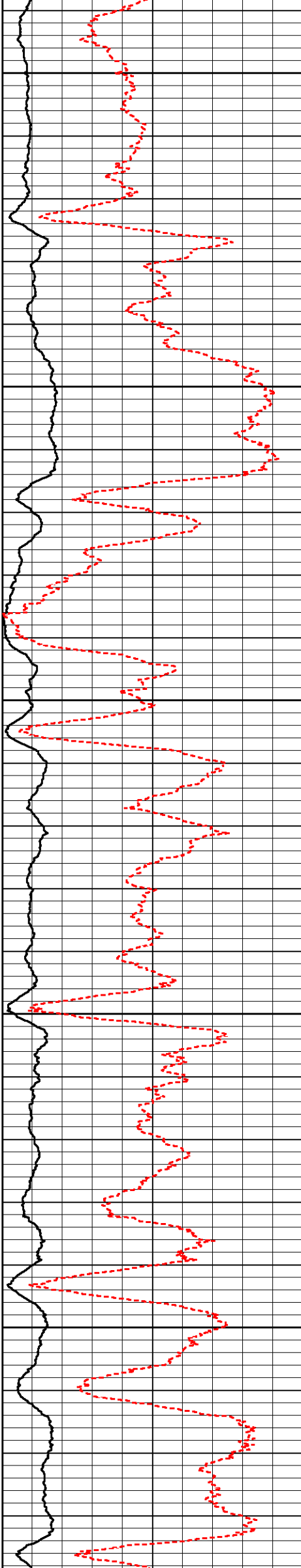
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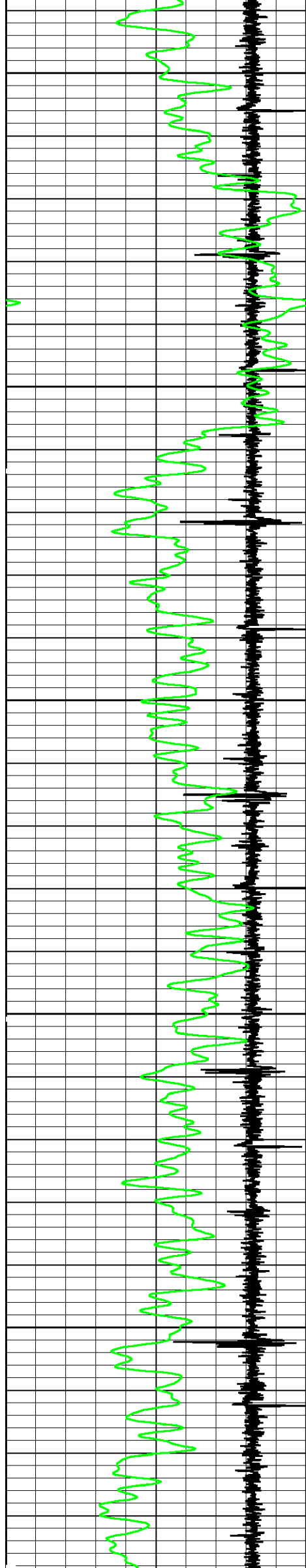




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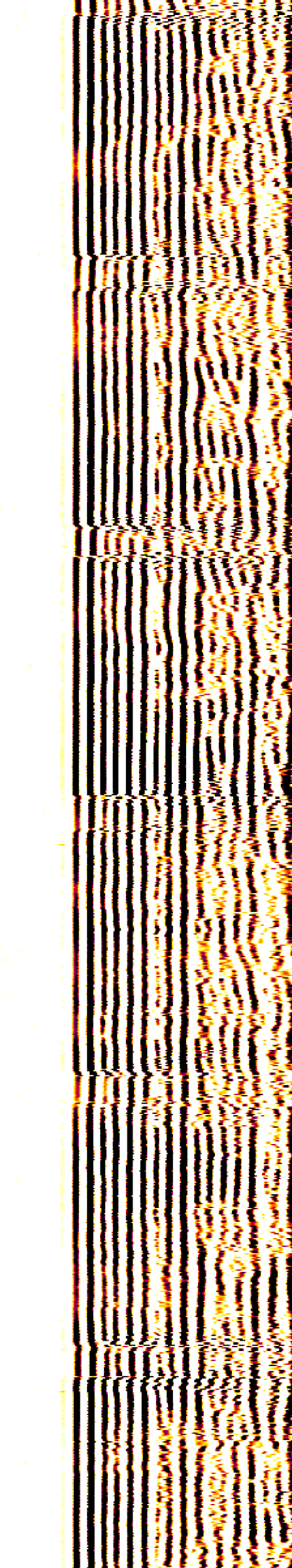
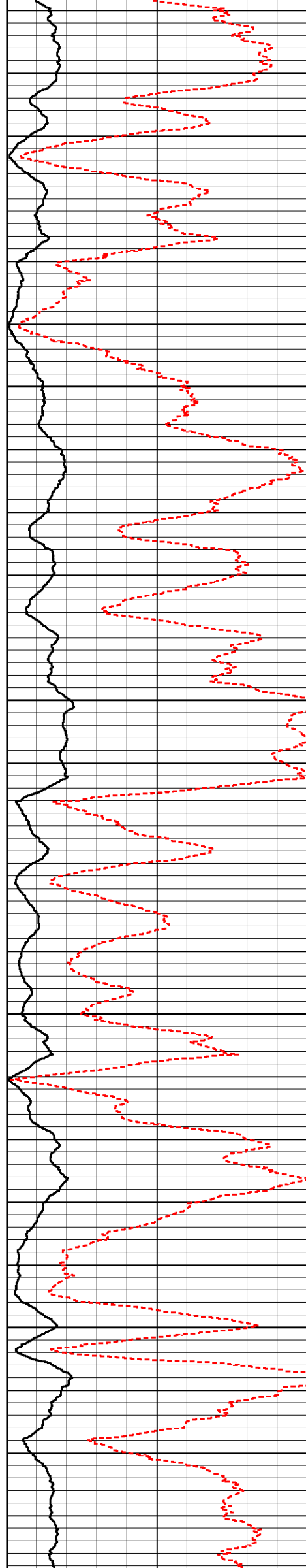


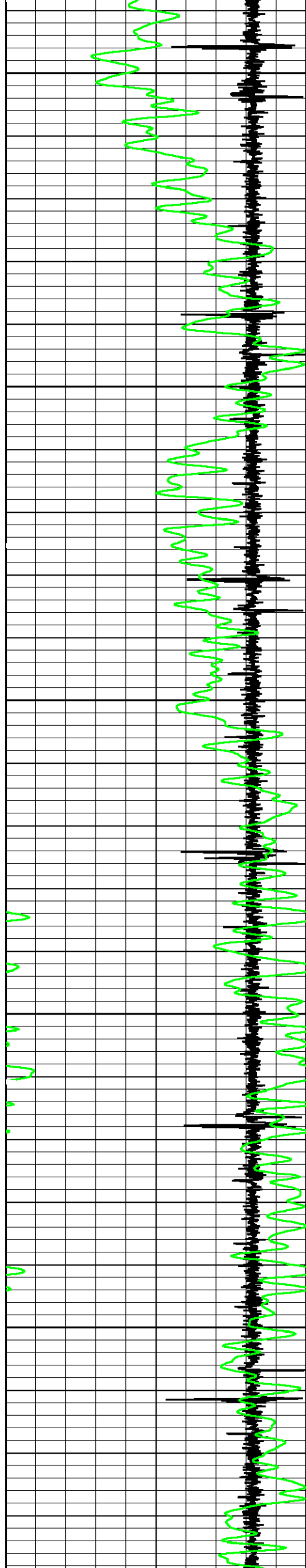


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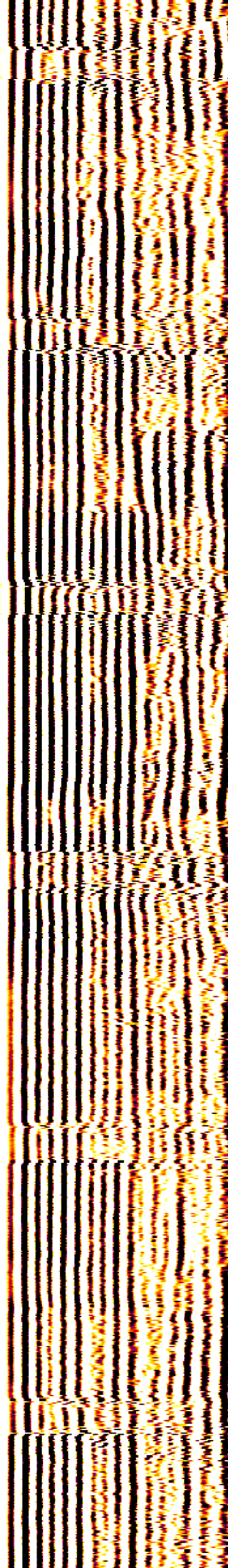
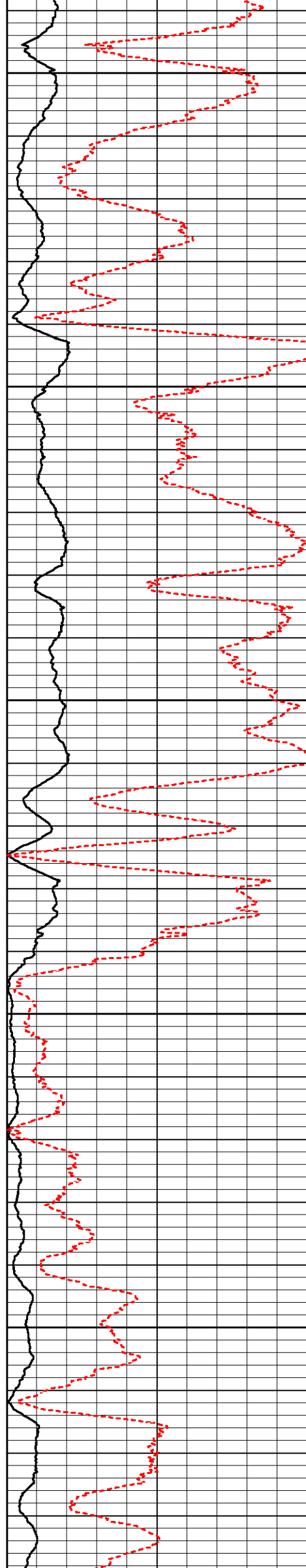
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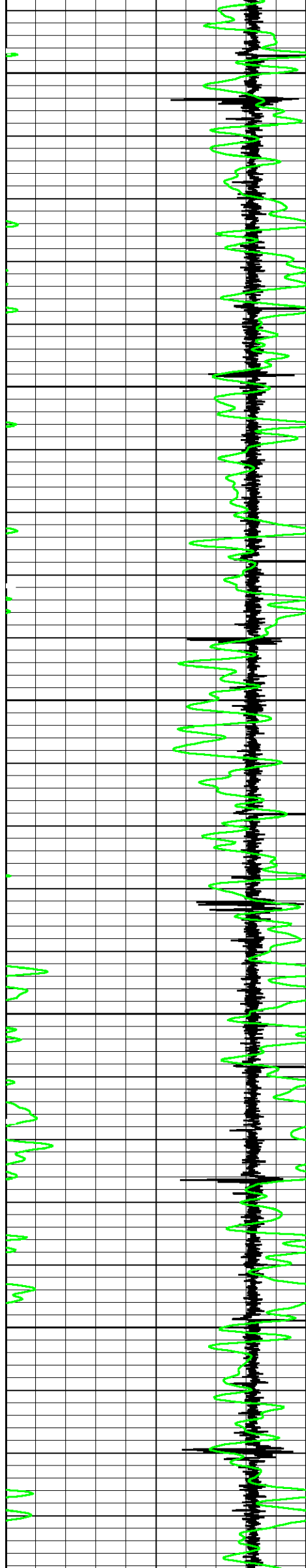




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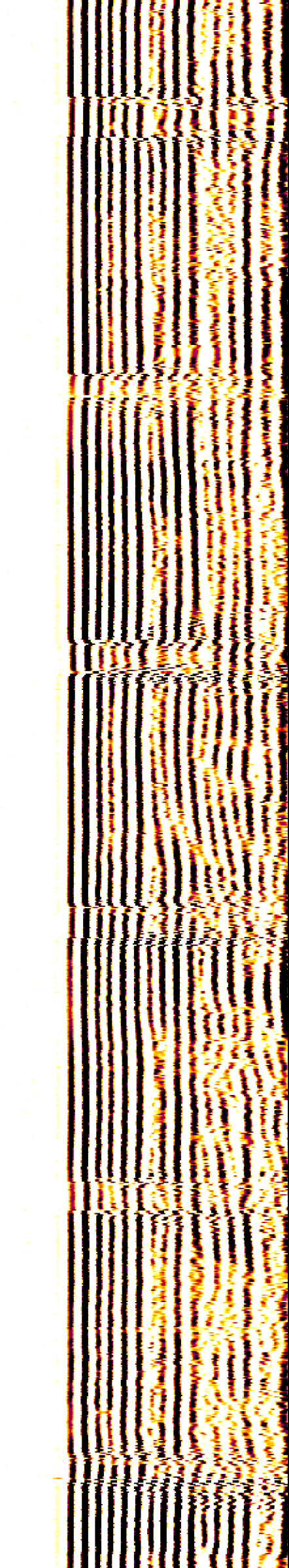
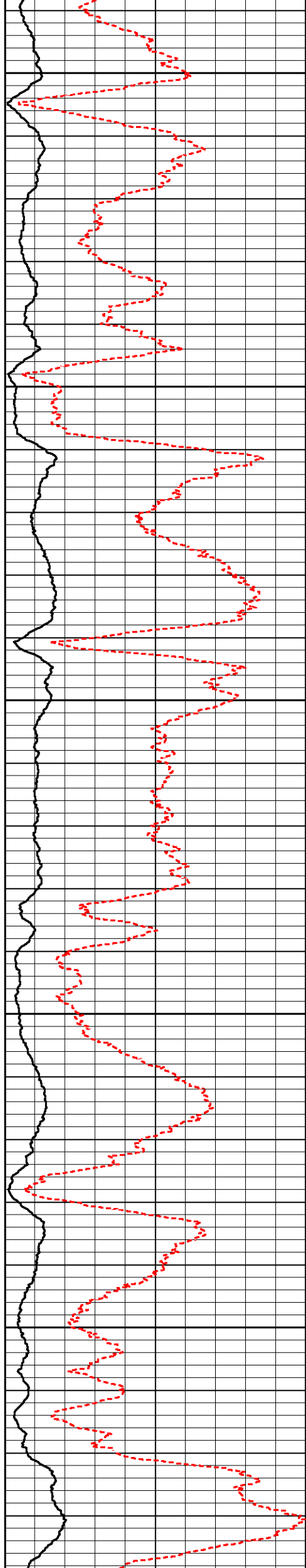


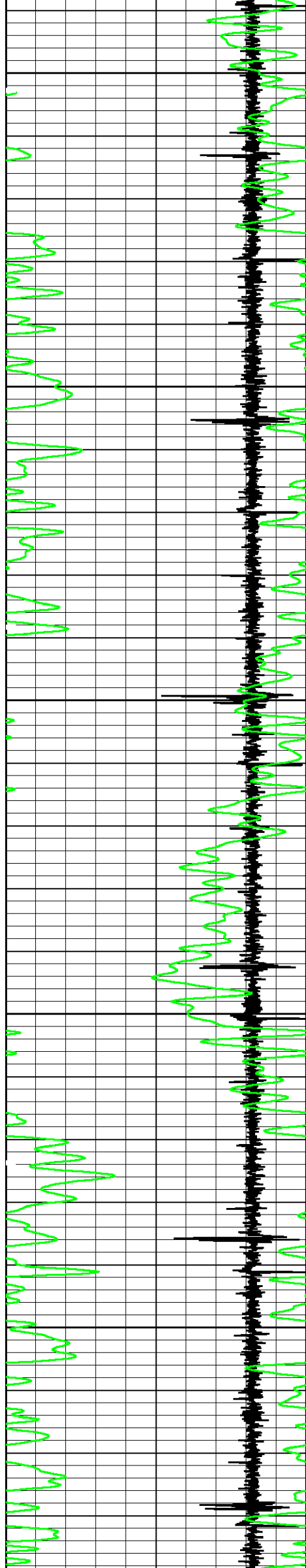


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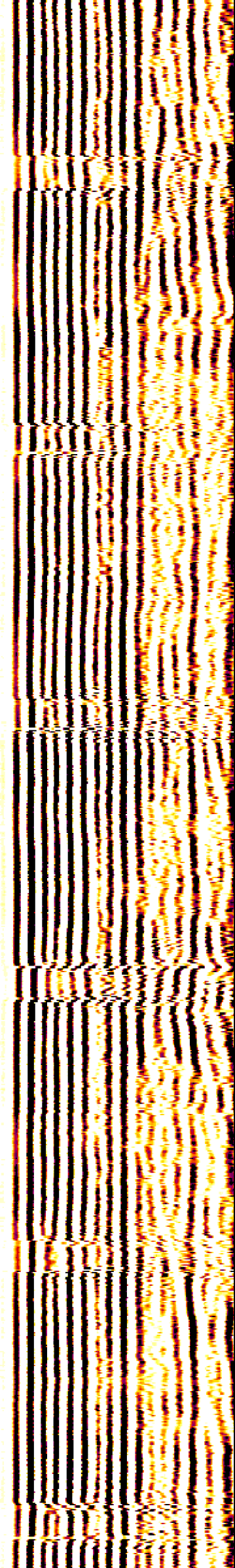
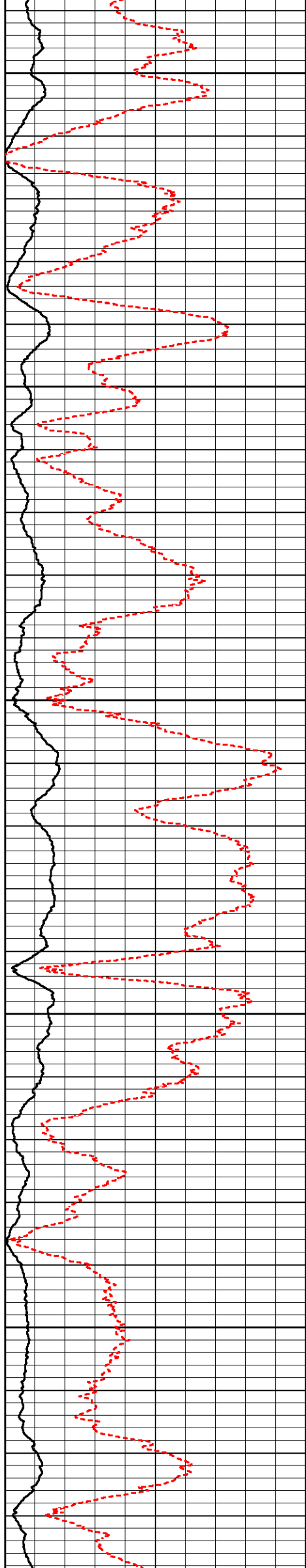
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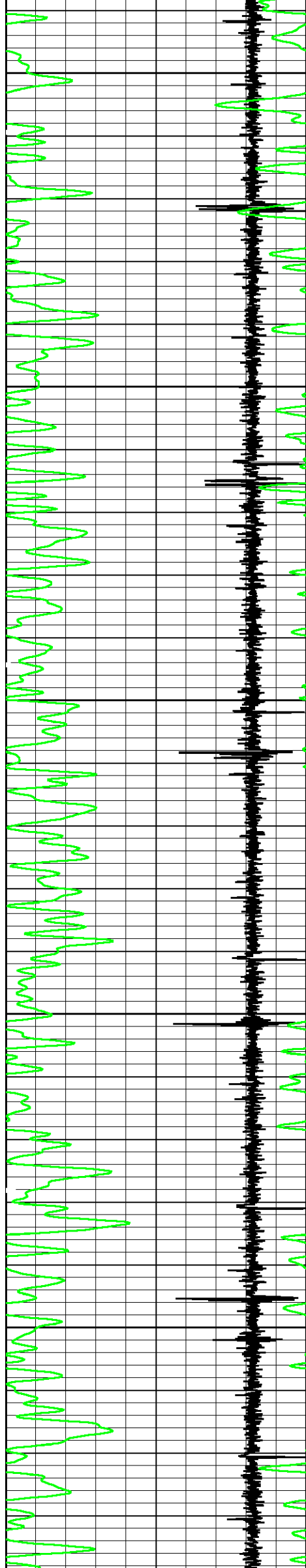




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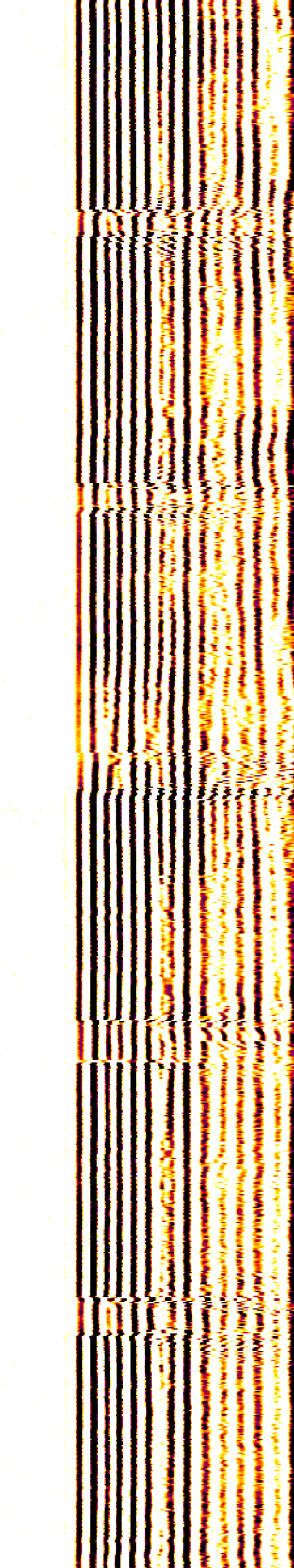
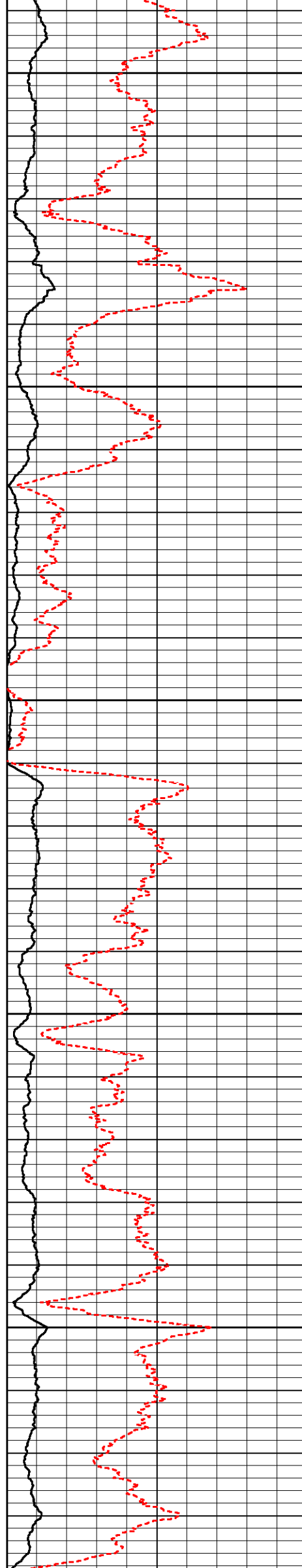


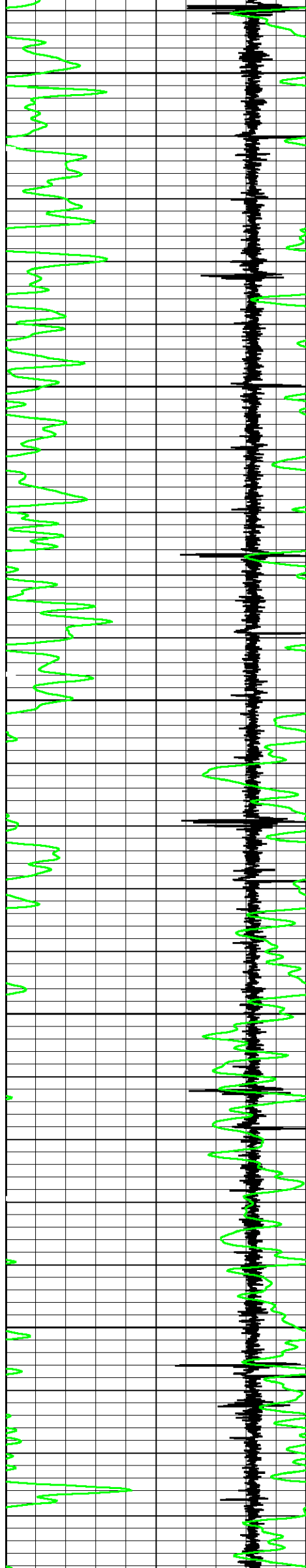


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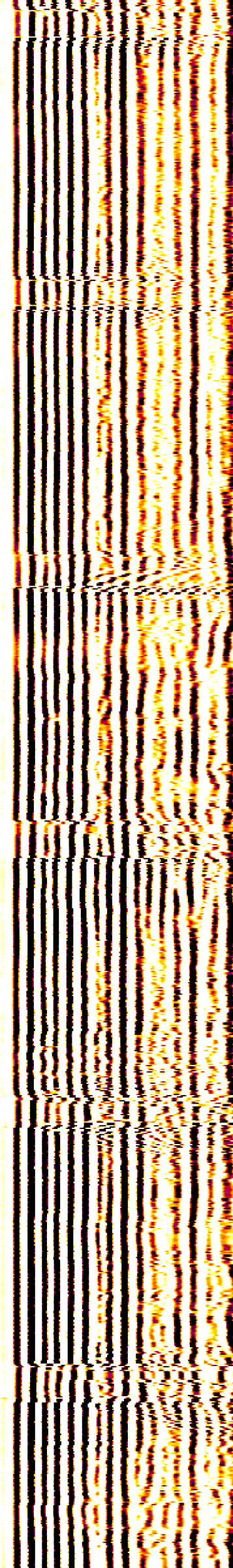
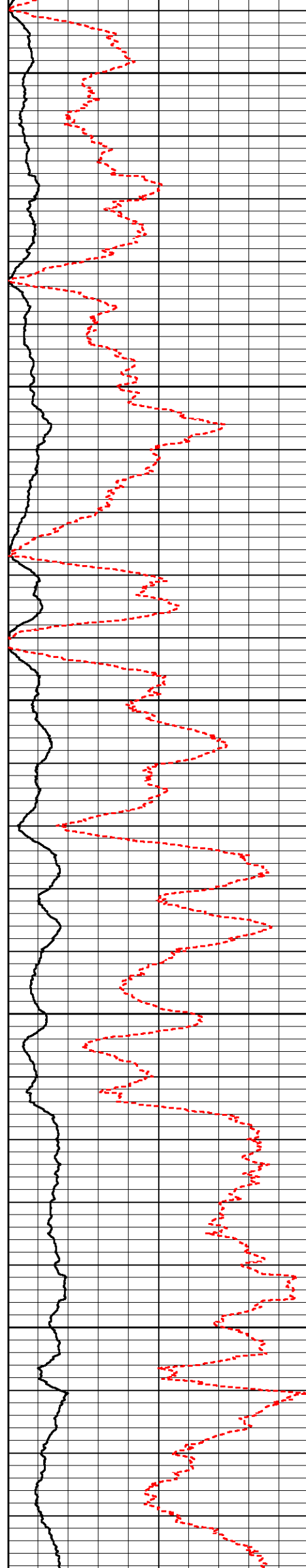
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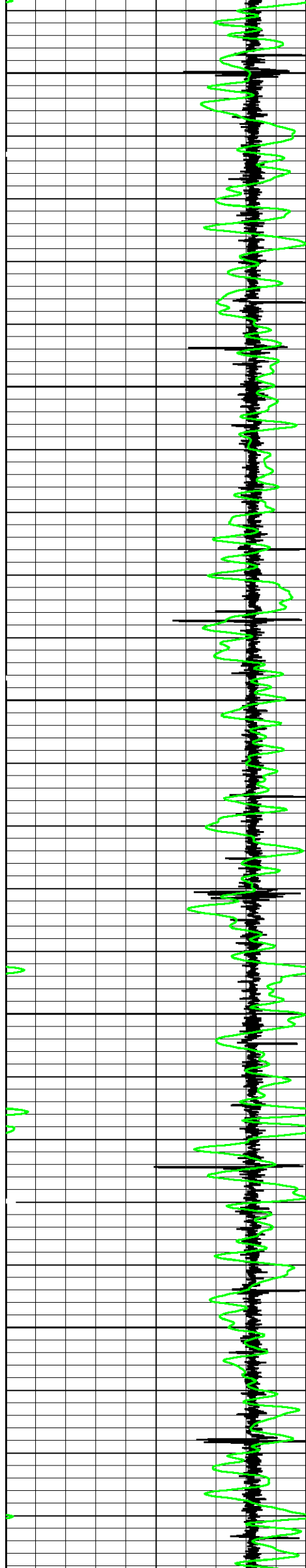




11500

11600

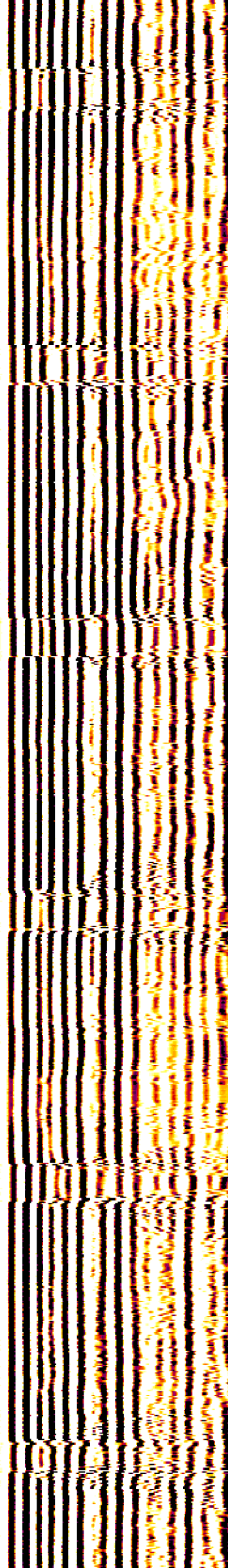
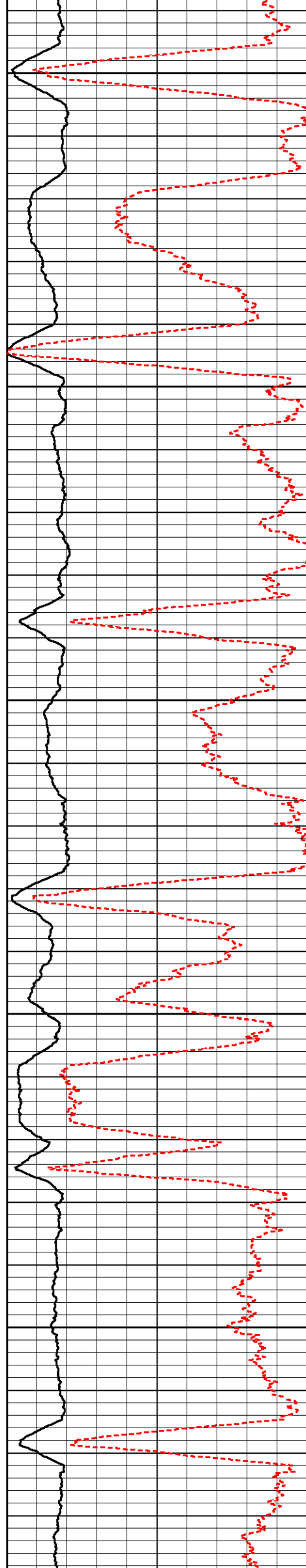


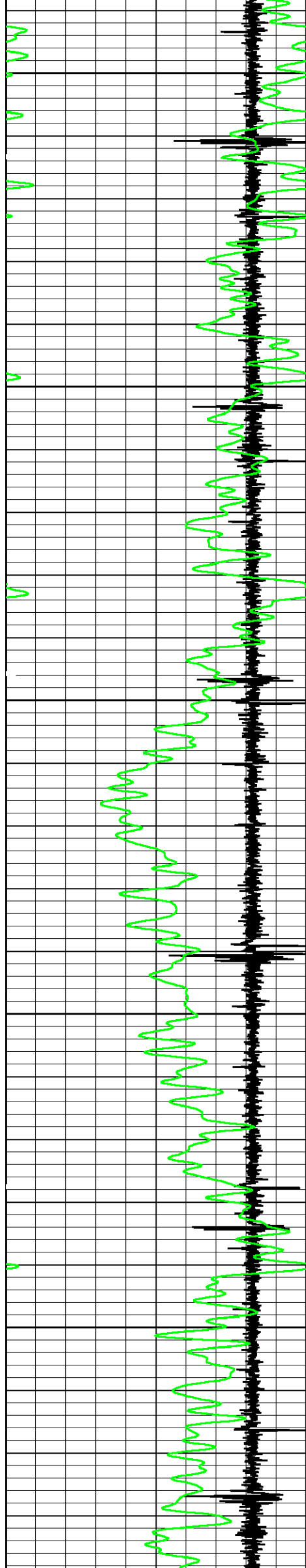


11700

11800

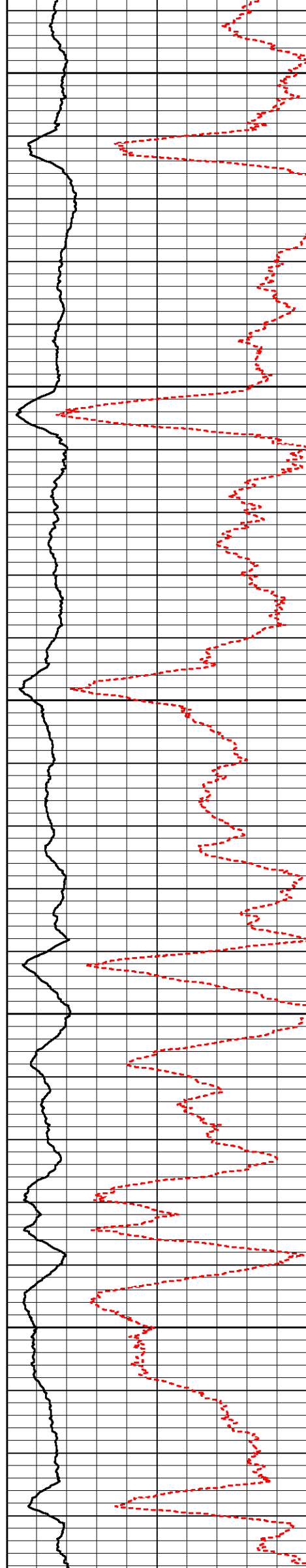
11900

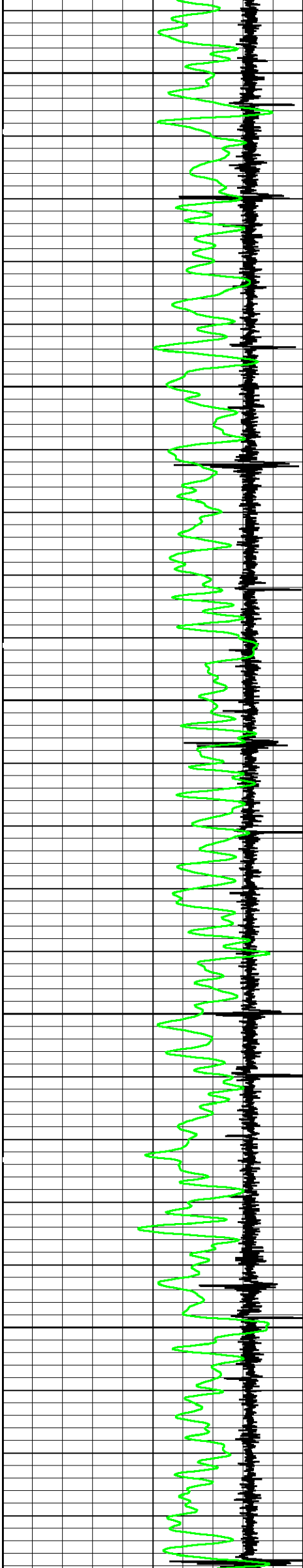




12000

12100

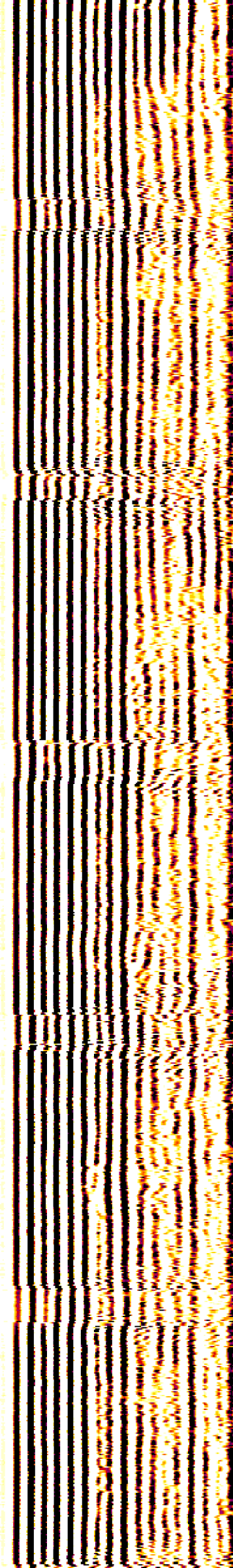
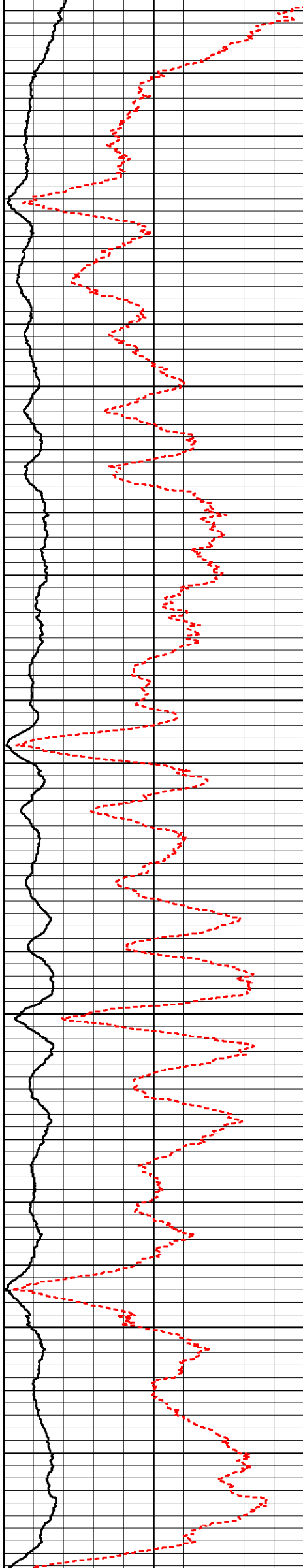


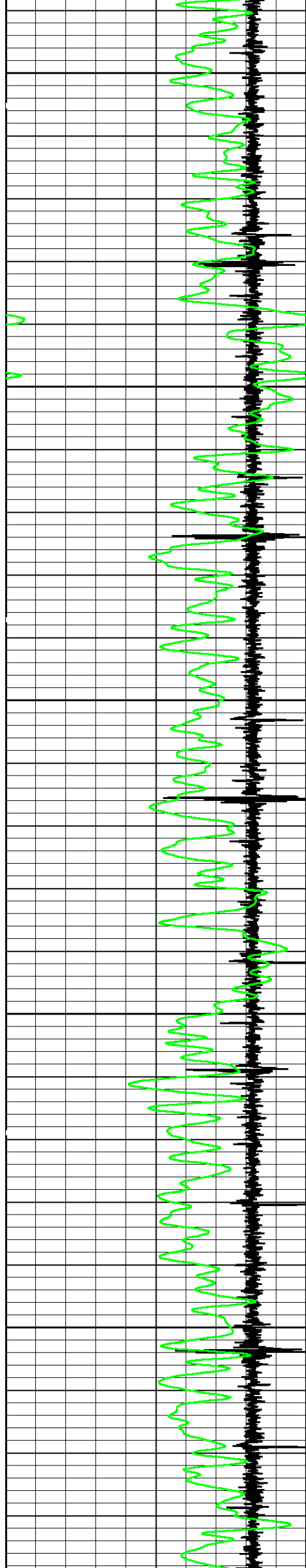


12200

12300

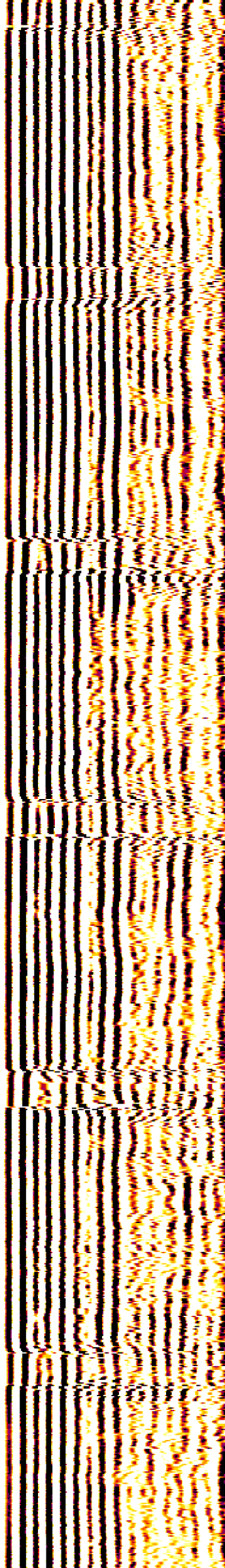
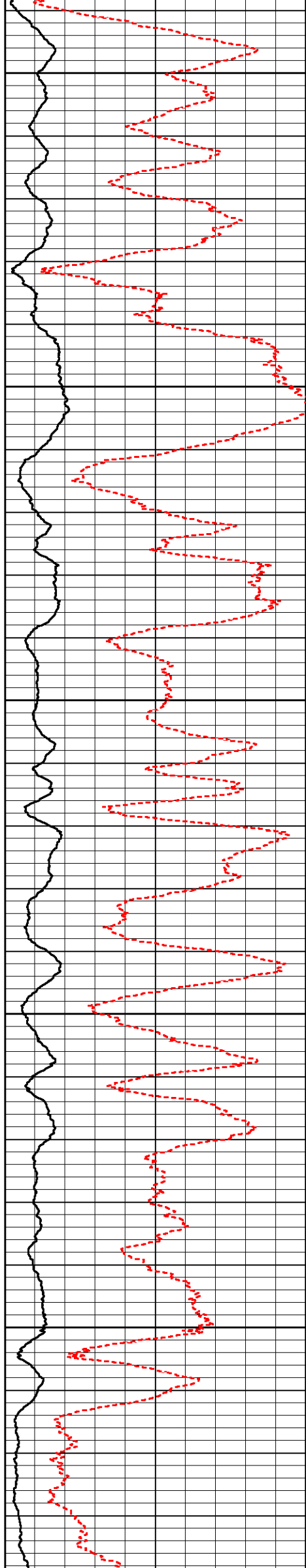
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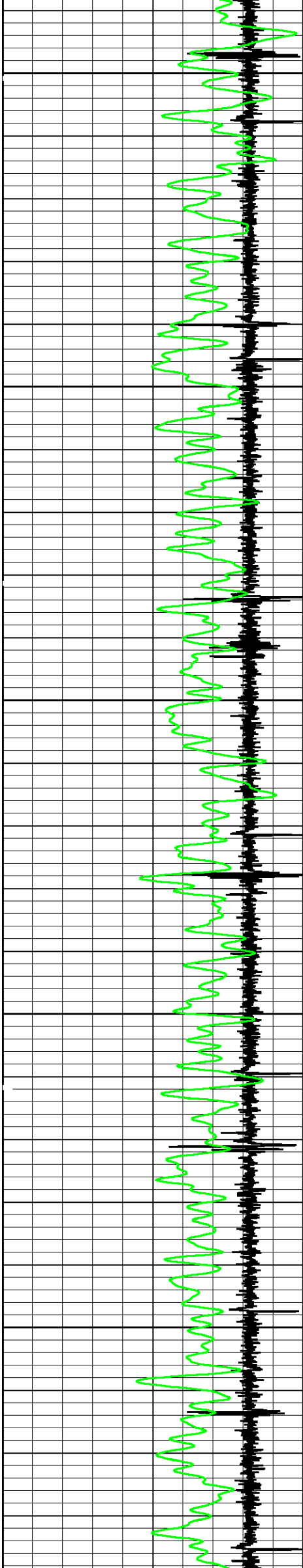




12500

12600

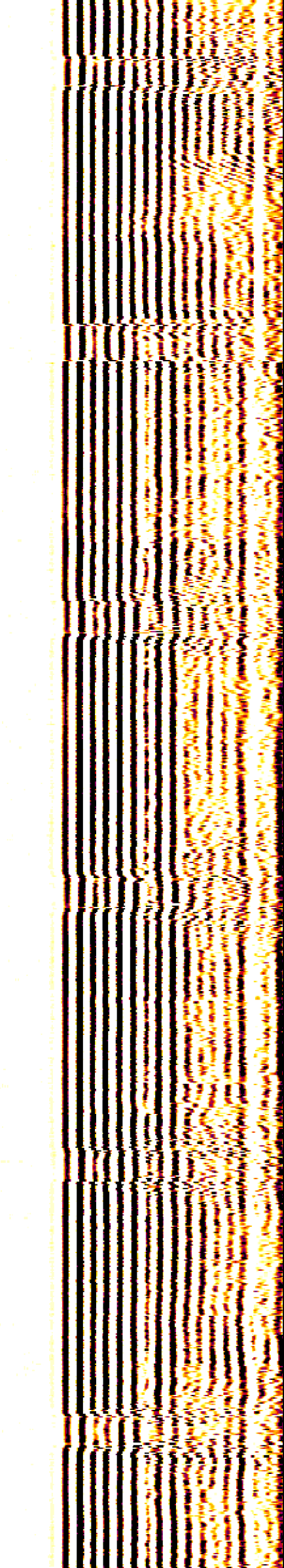
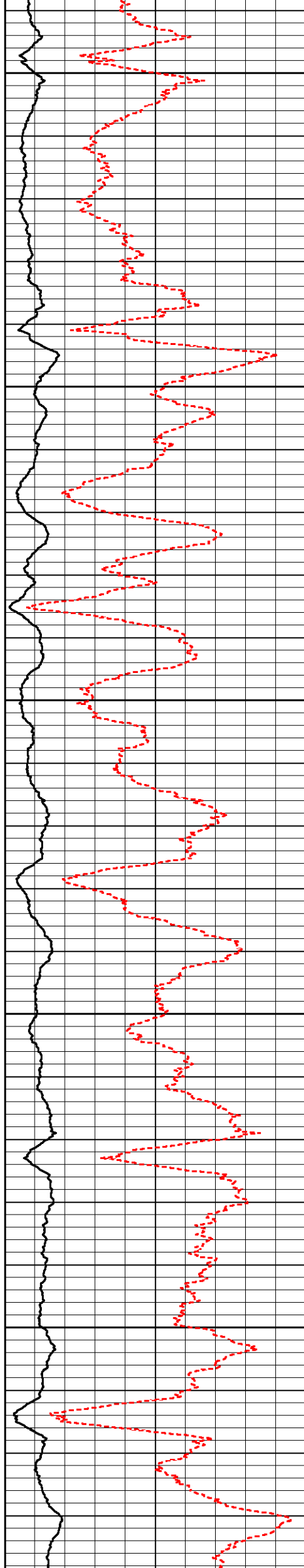


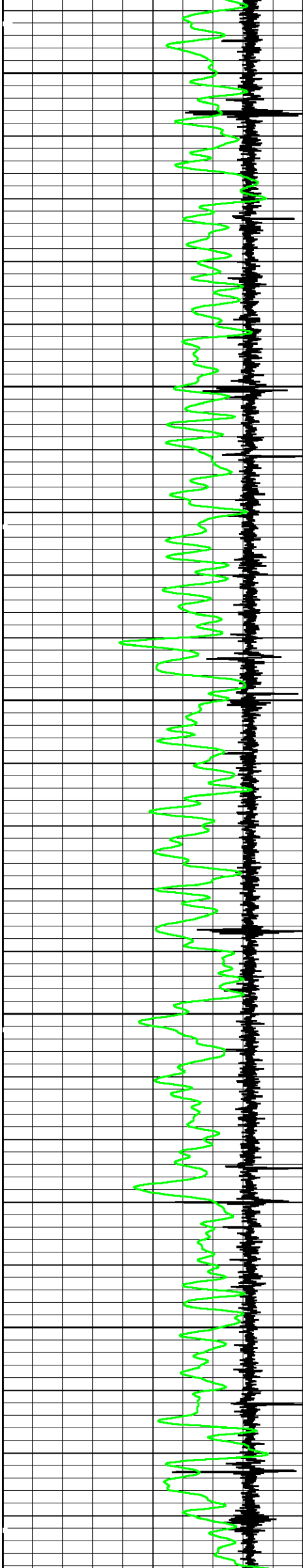


12700

12800

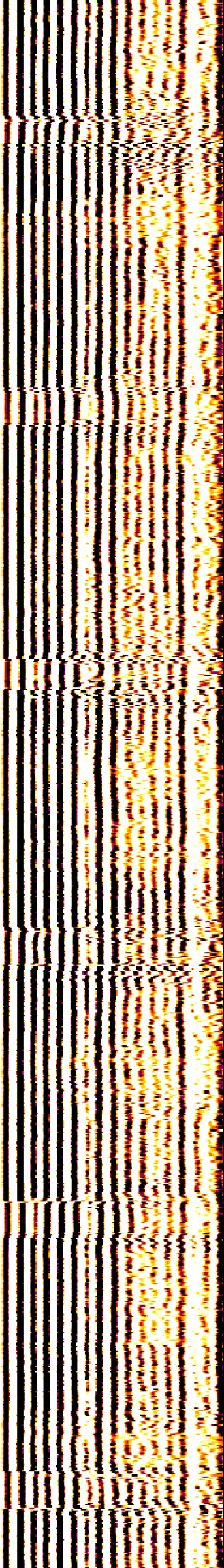
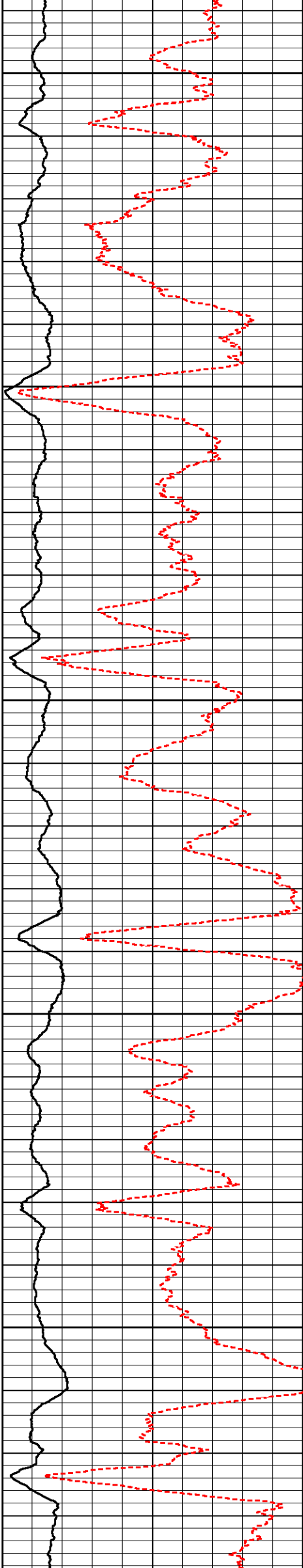
12900

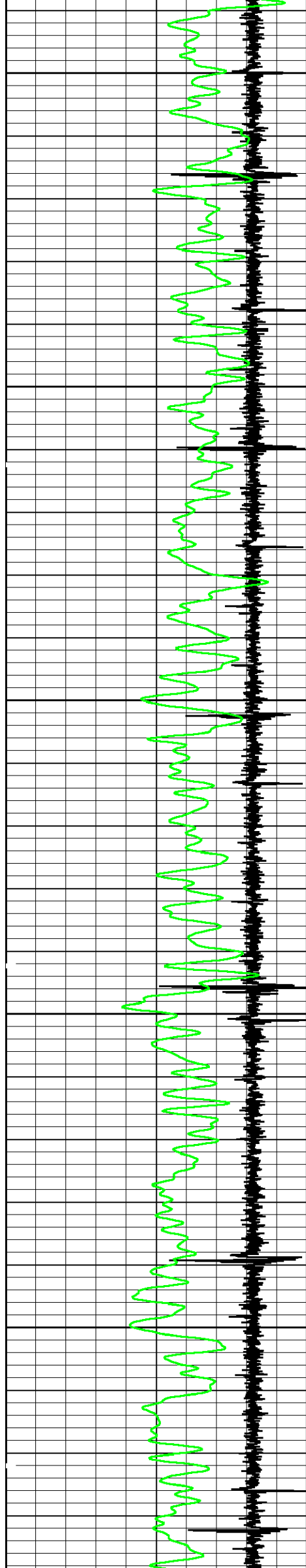




13000

13100

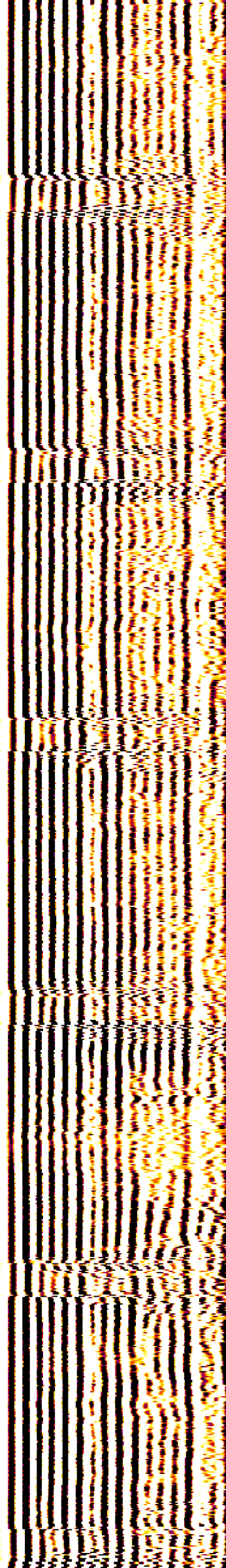
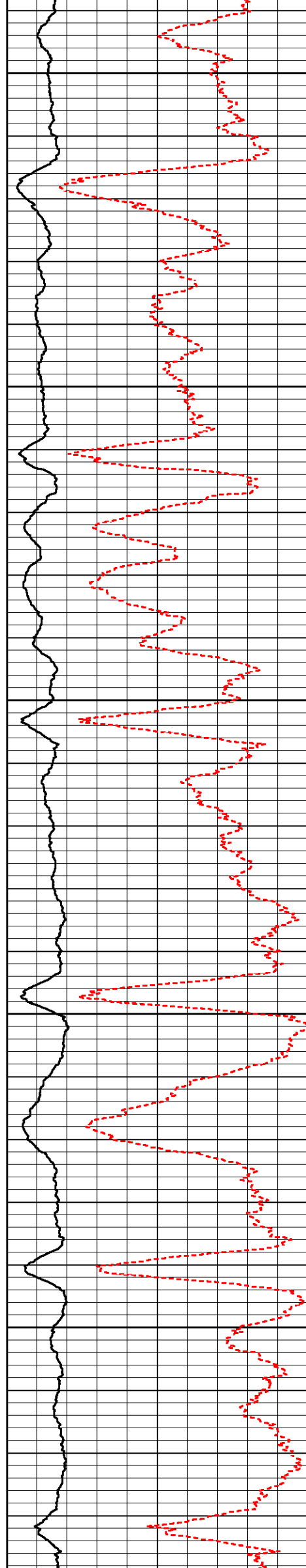


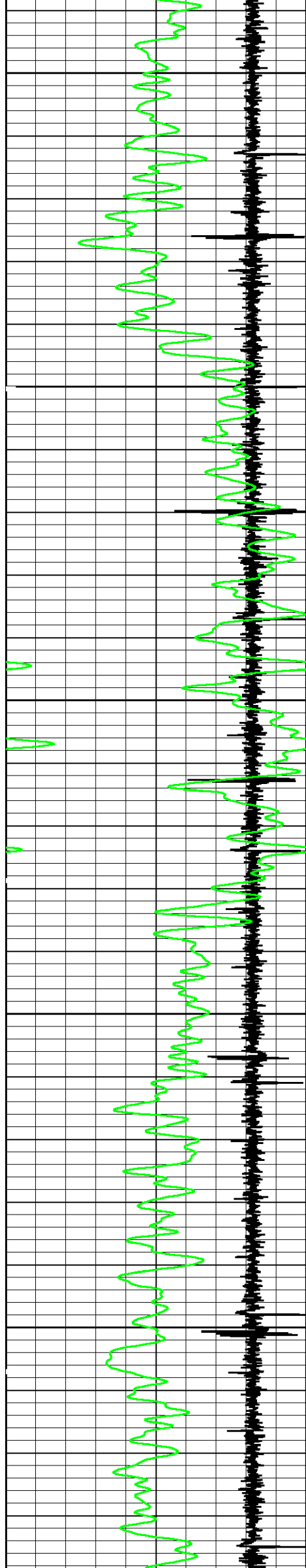


13200

13300

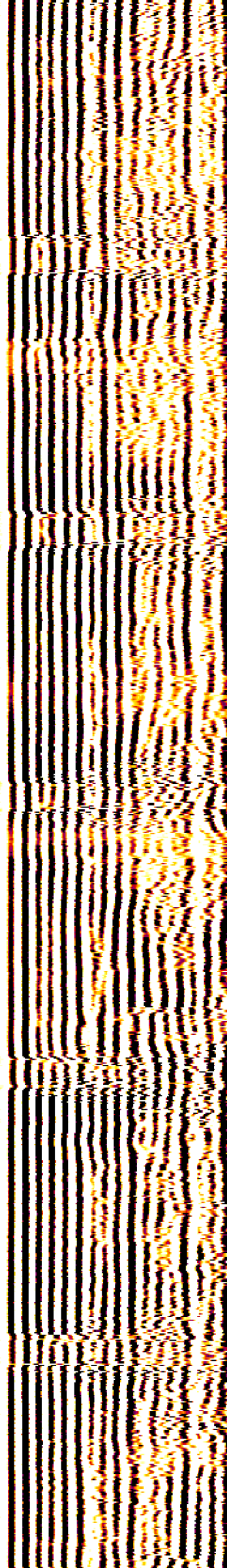
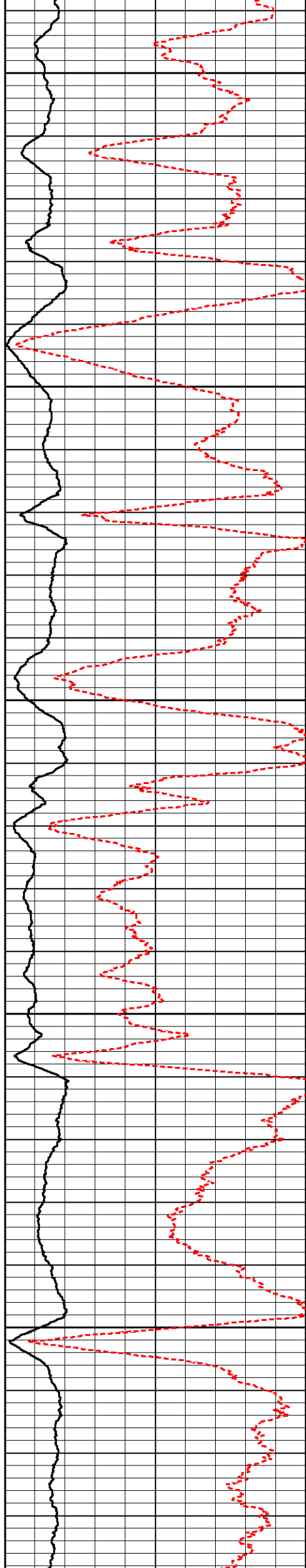
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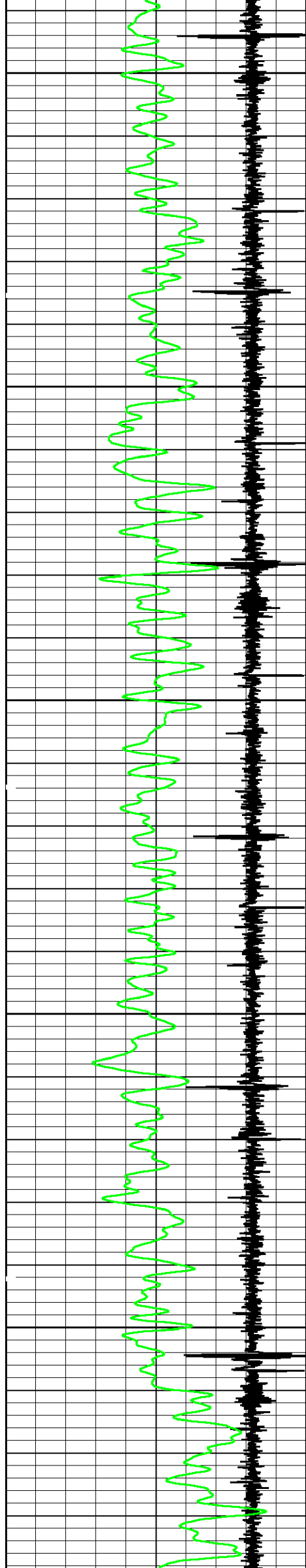




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13600

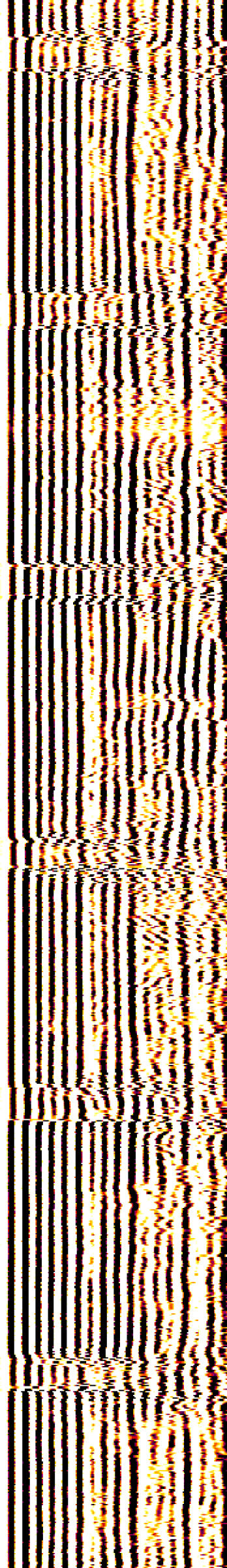
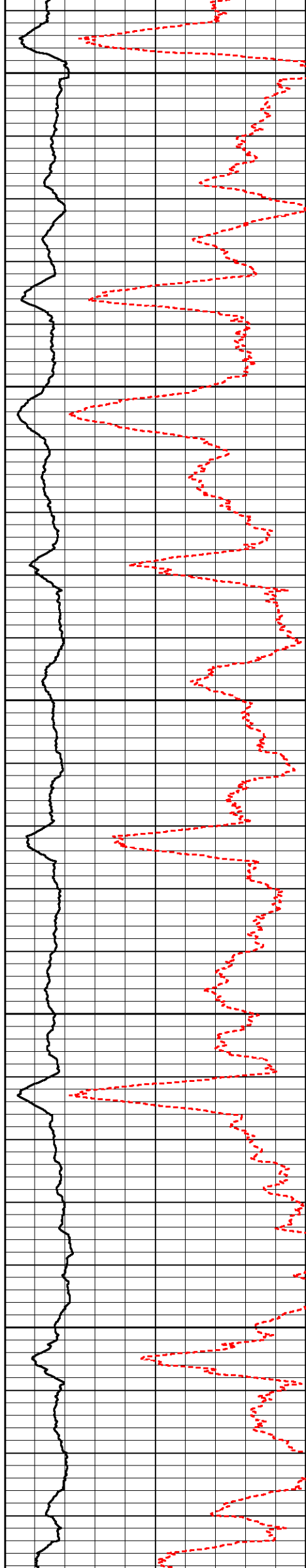


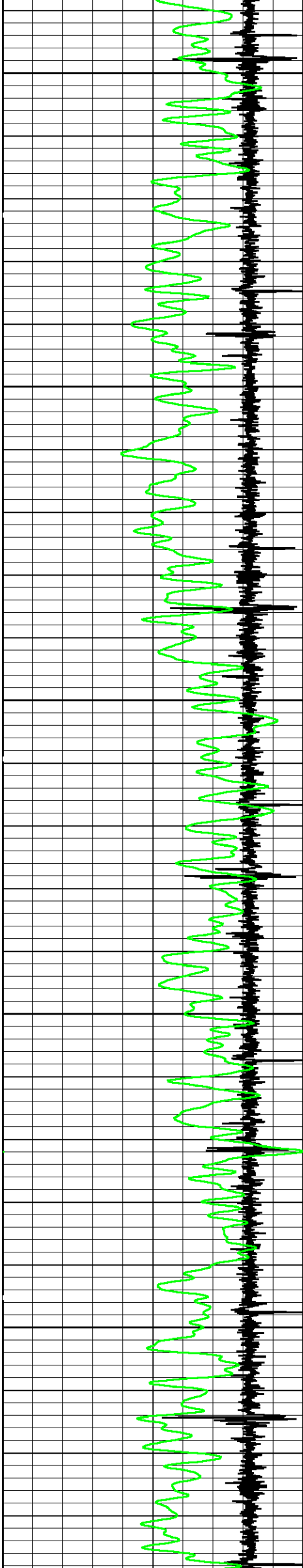


13700

13800

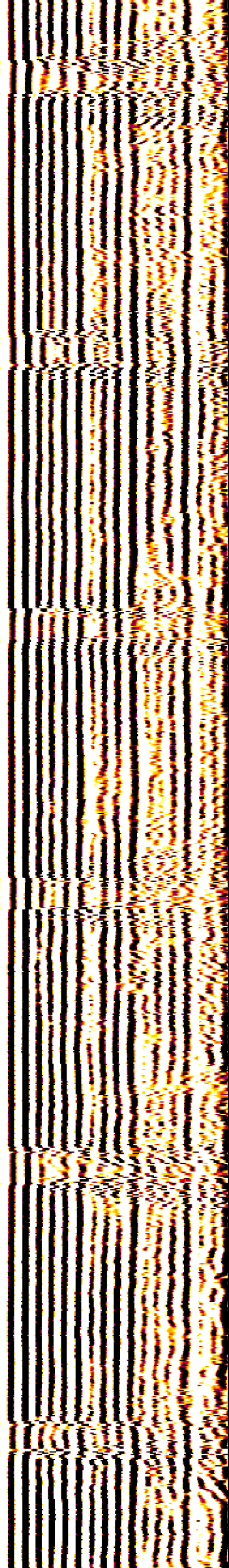
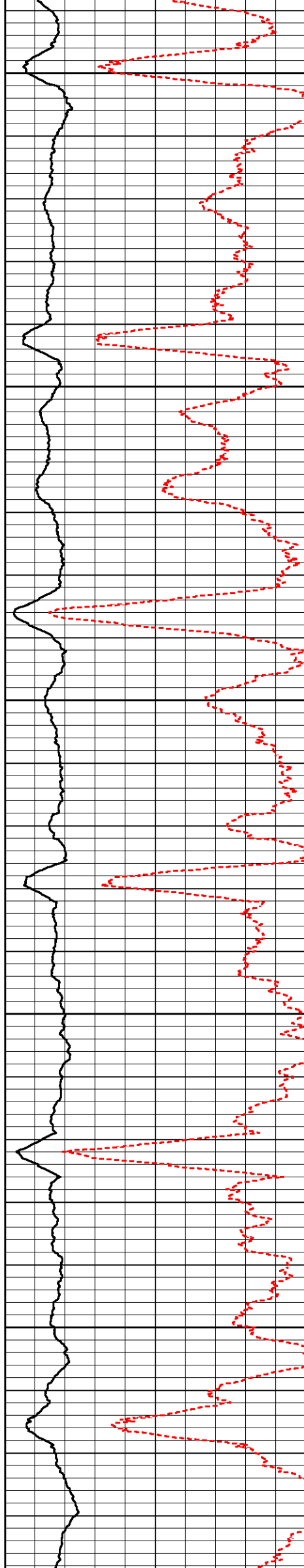
13900

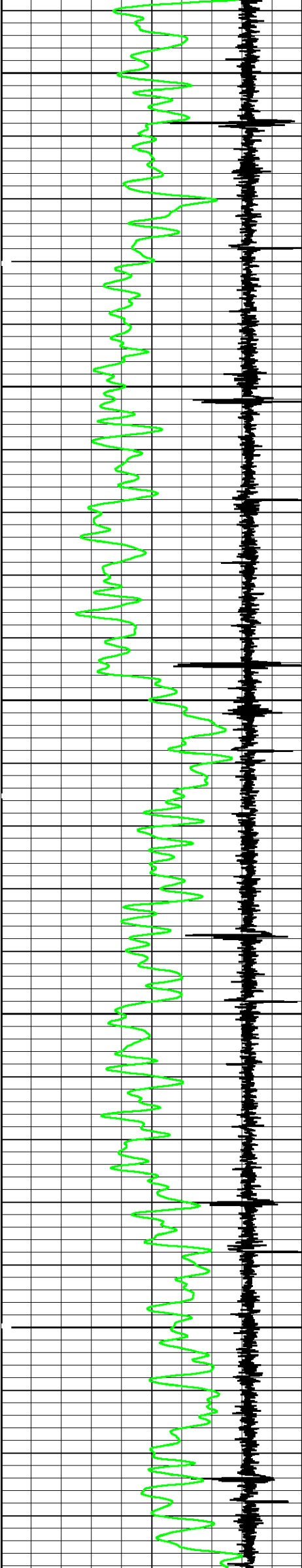




14000

14100

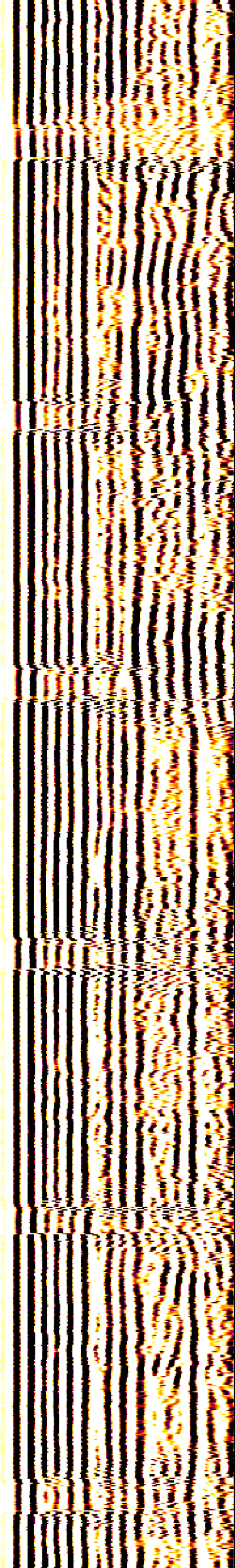
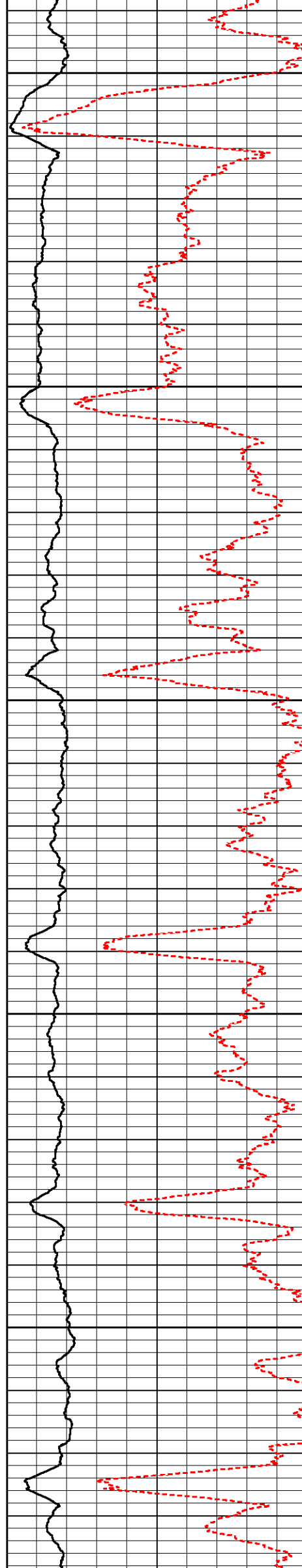


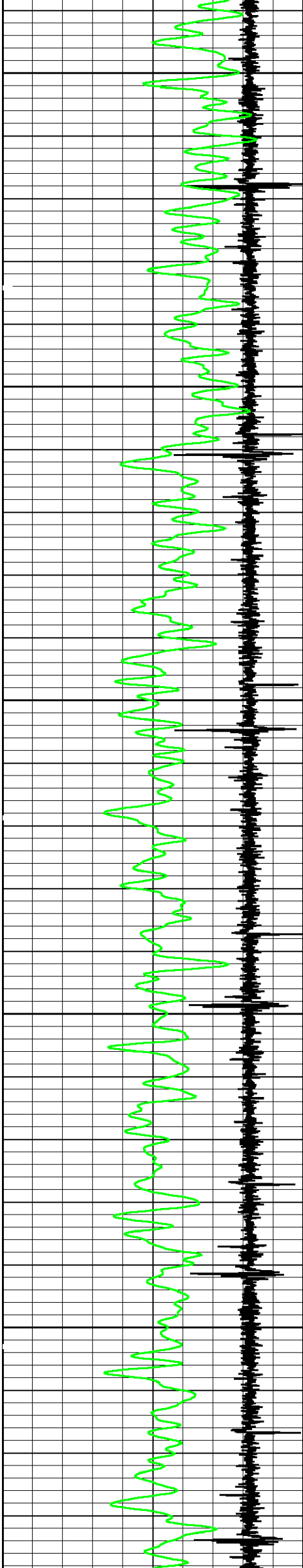


14200

14300

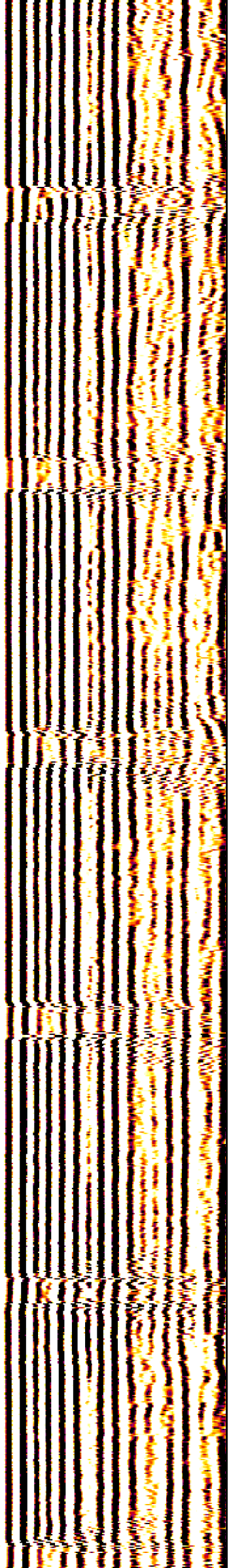
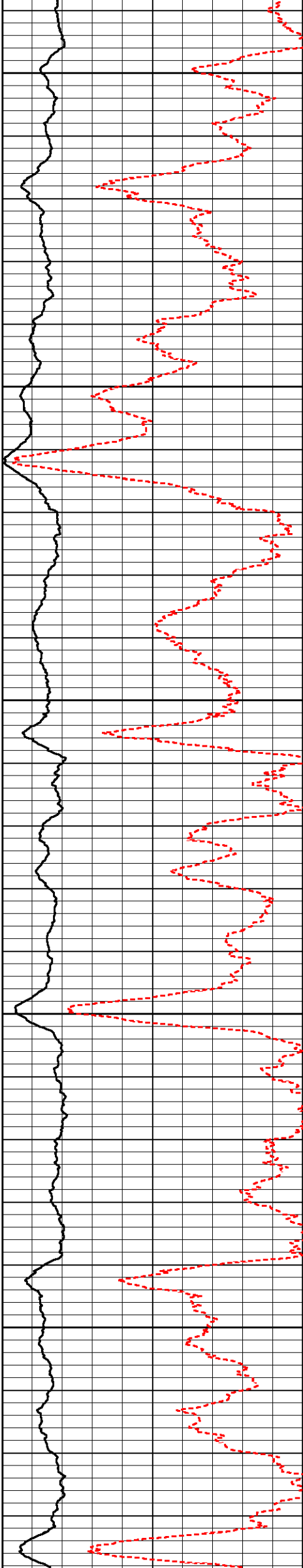
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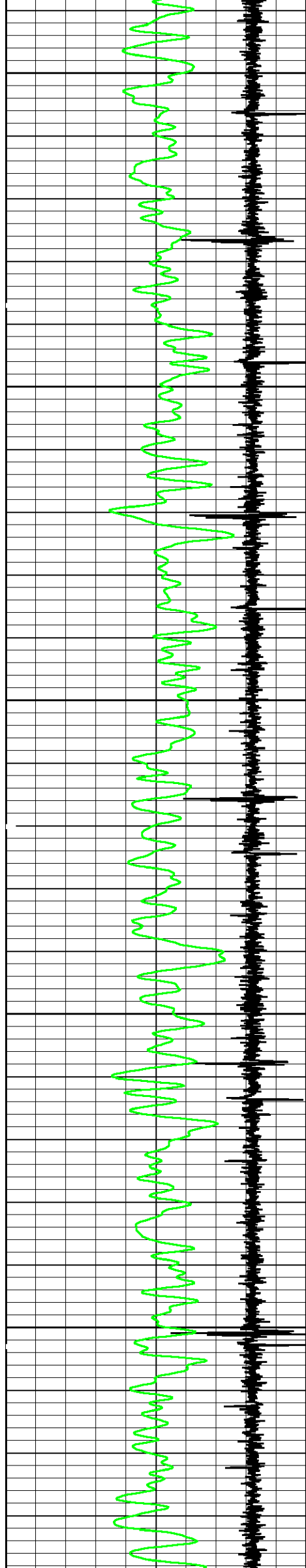




14500

14600

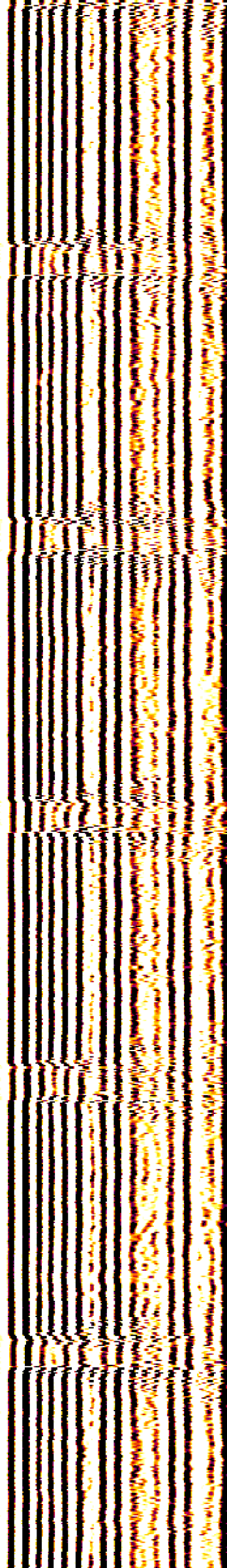
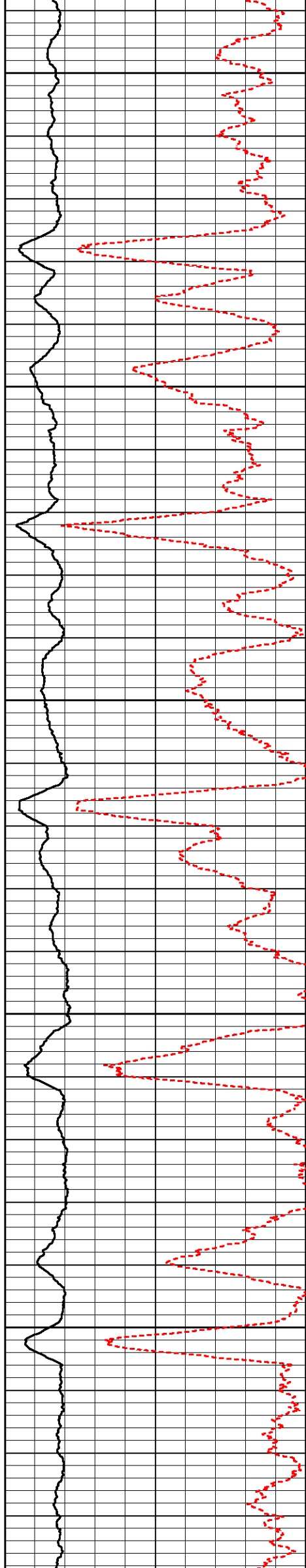


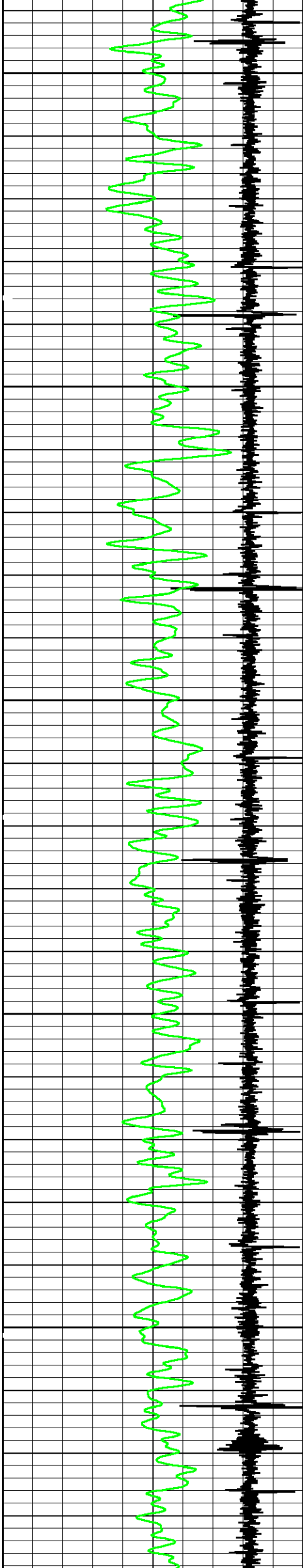


14700

14800

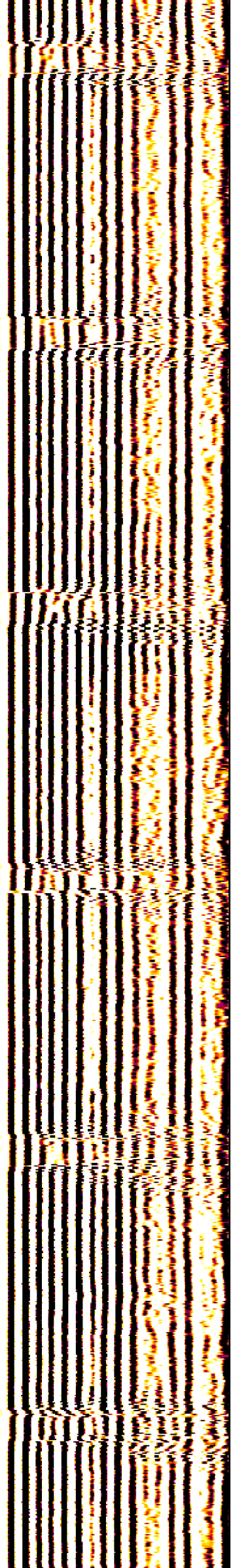
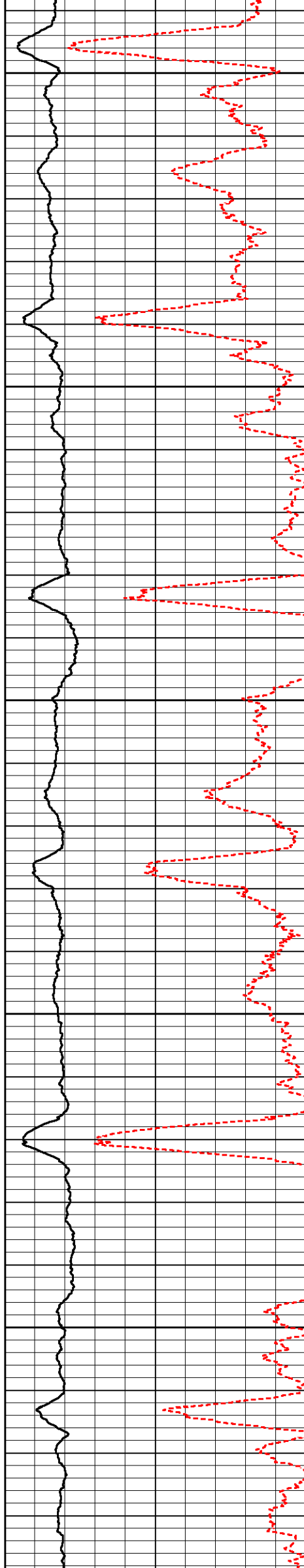
14900

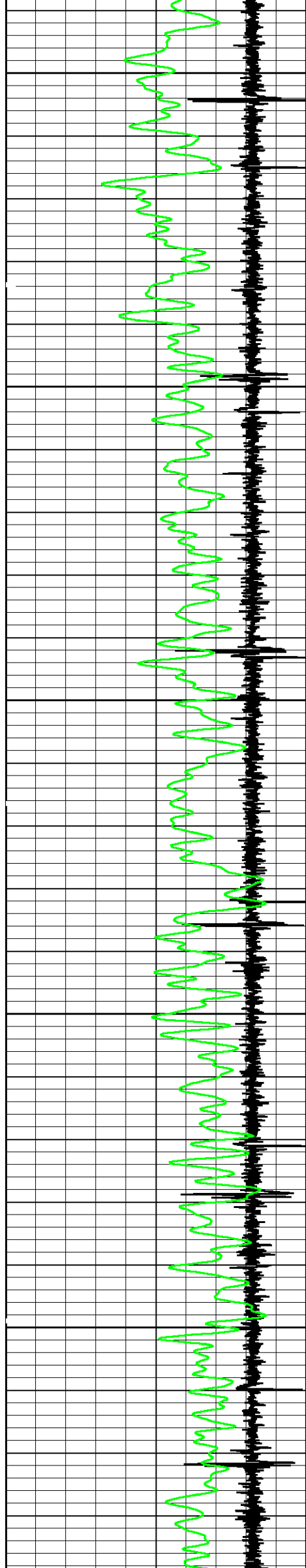




15000

15100

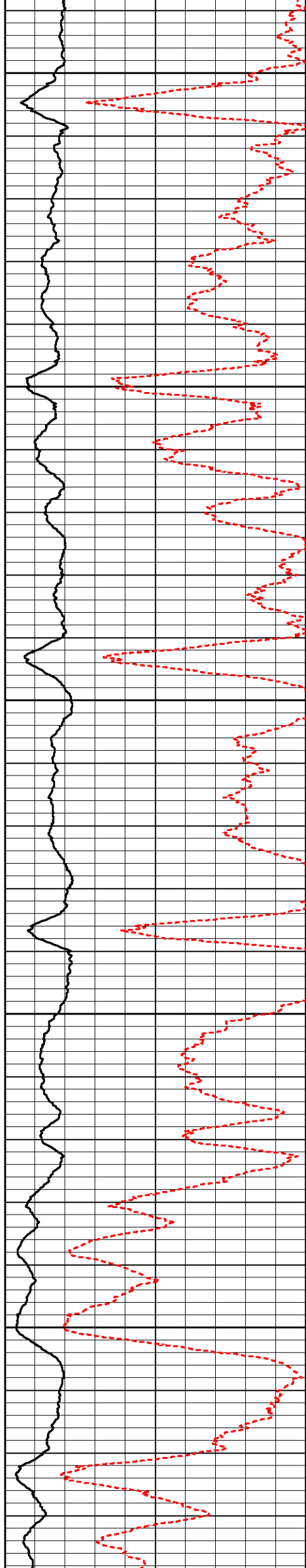


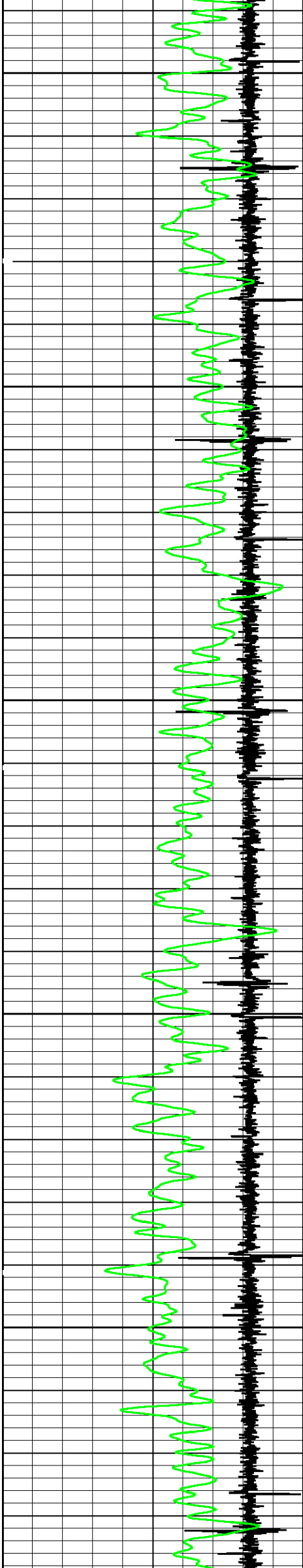


15200

15300

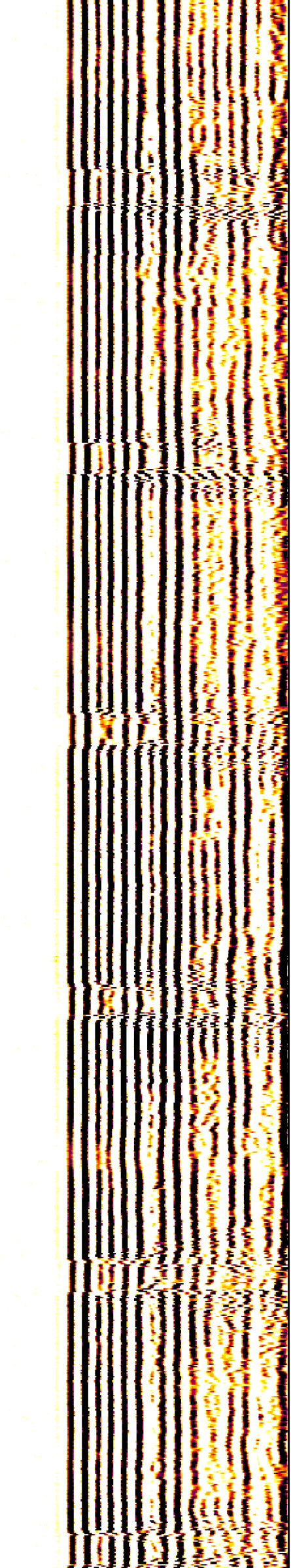
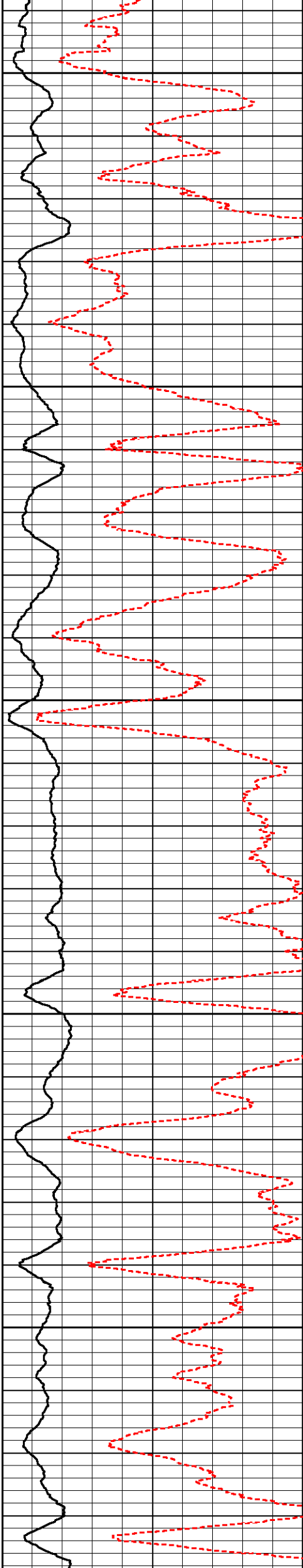
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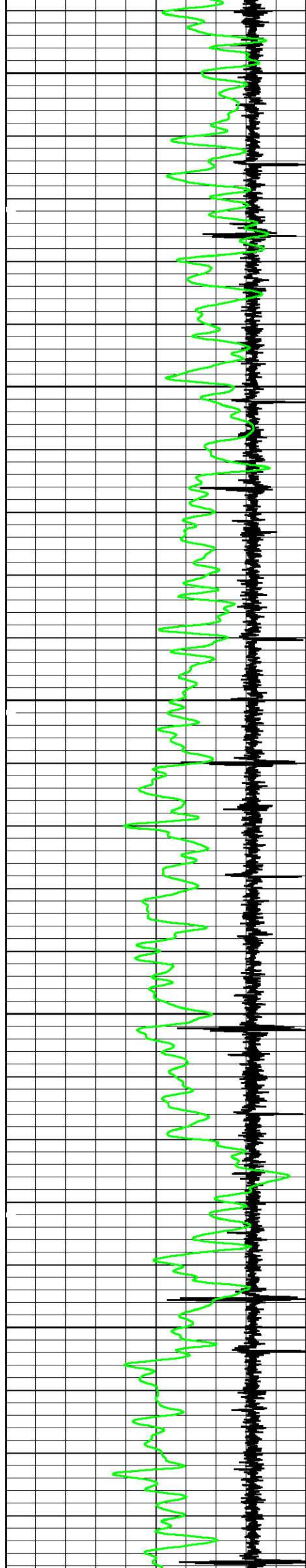




15500

15600

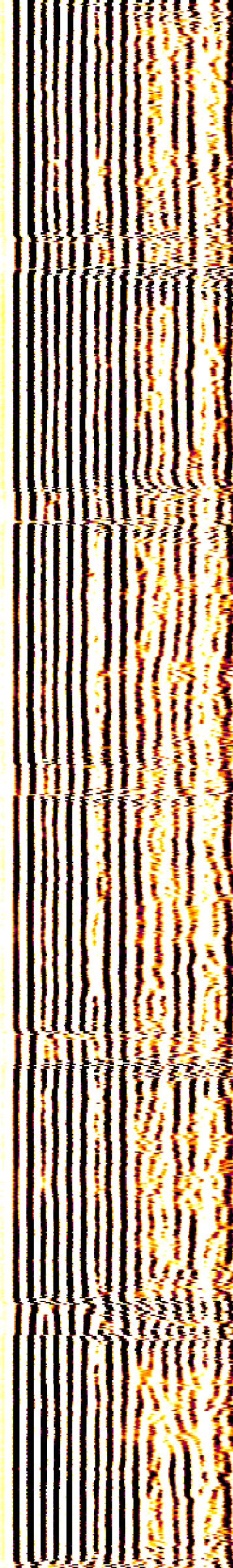
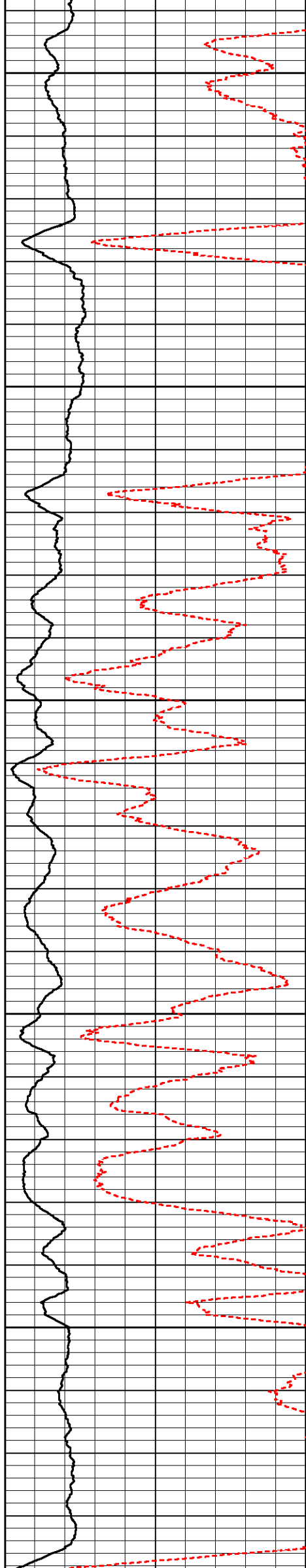


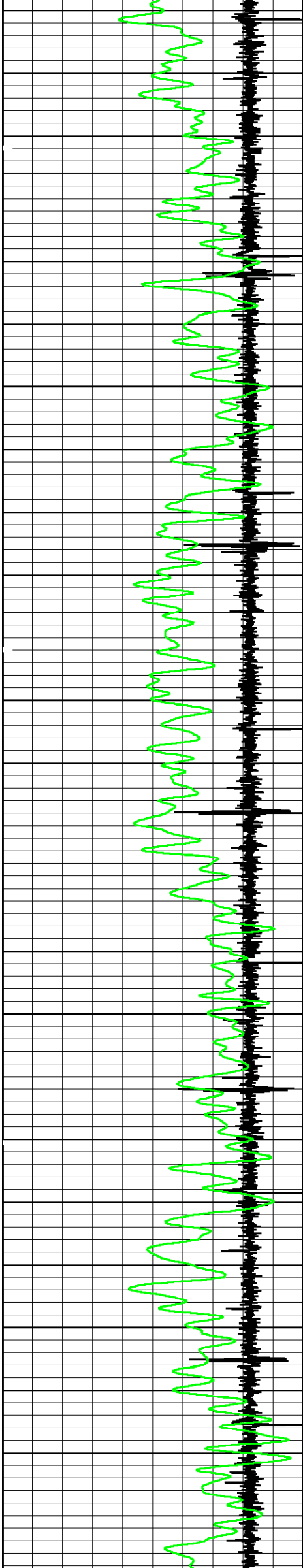


15700

15800

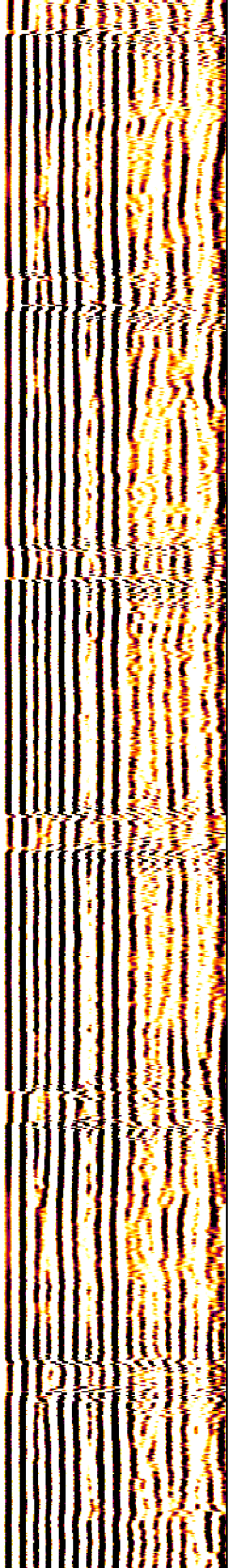
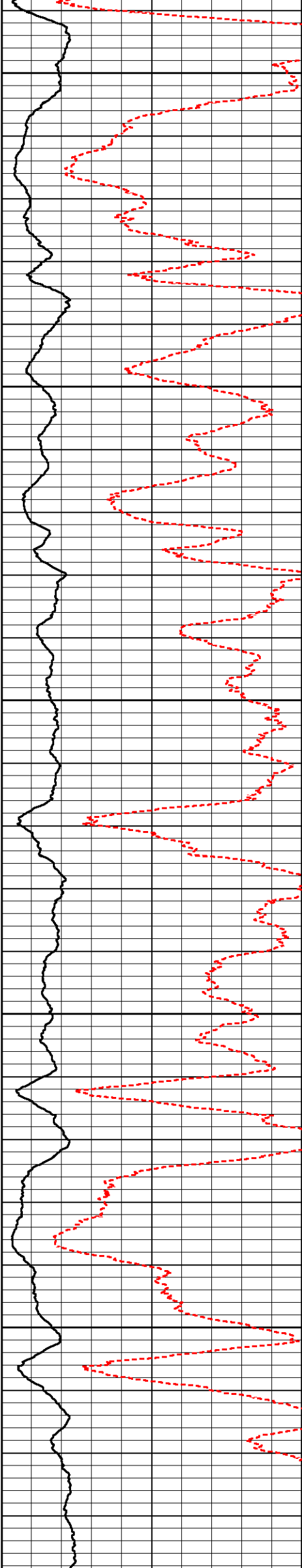
15900

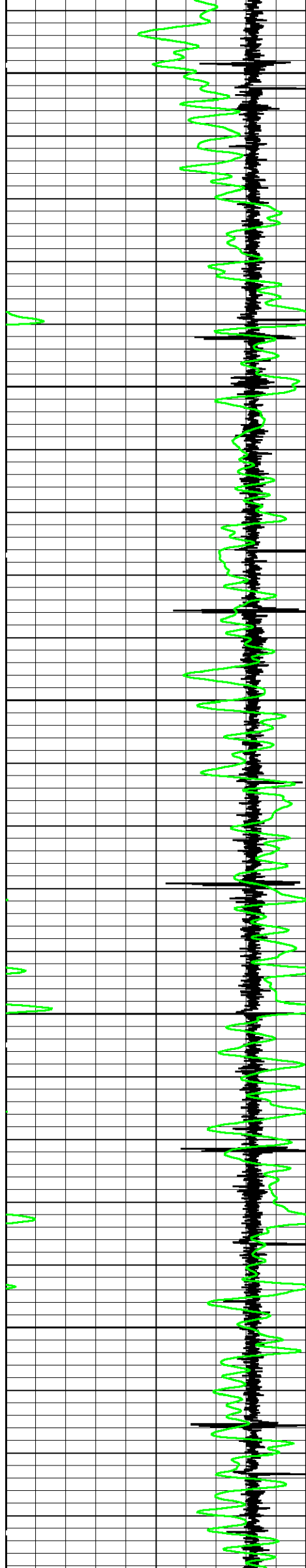




16000

16100

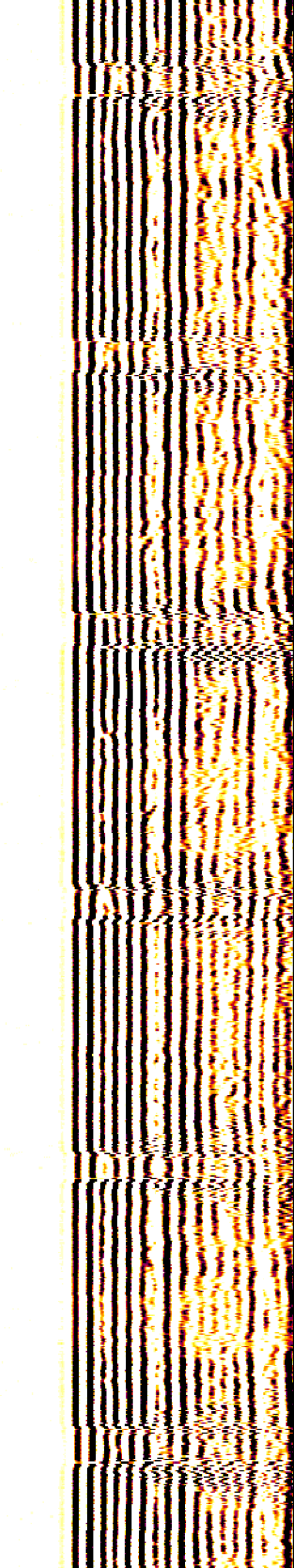
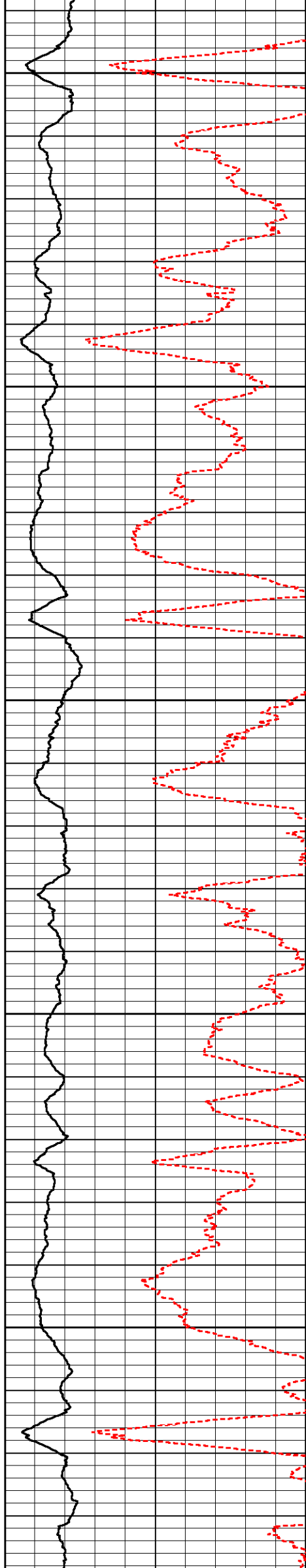


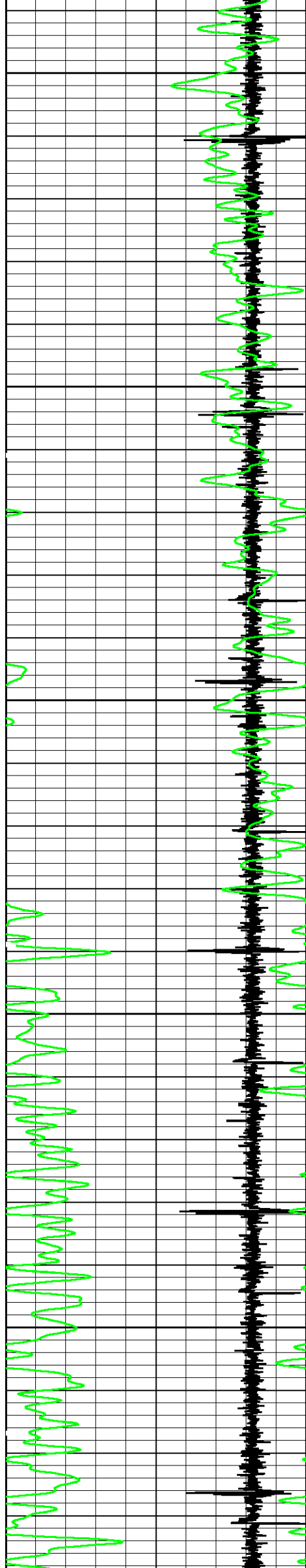


16200

16300

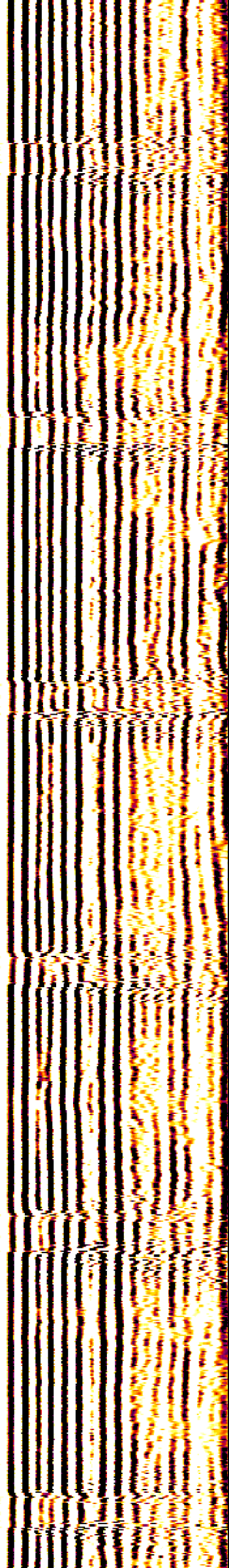
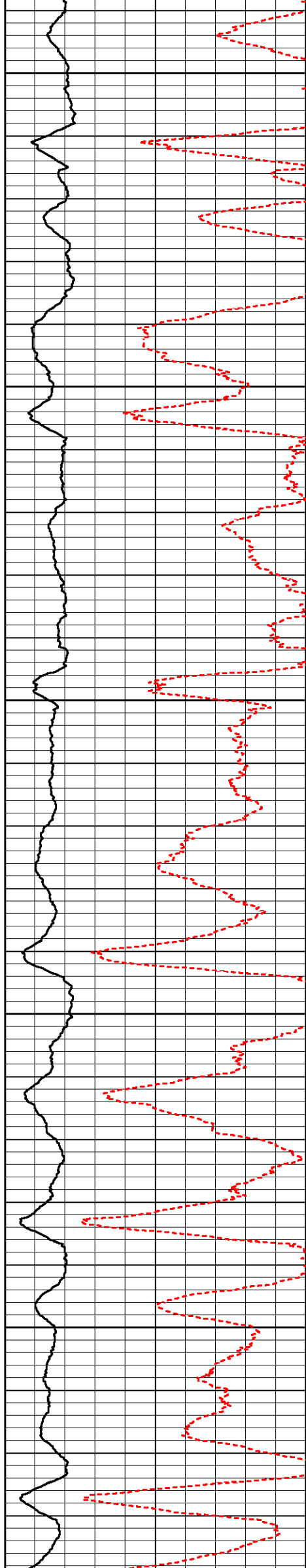
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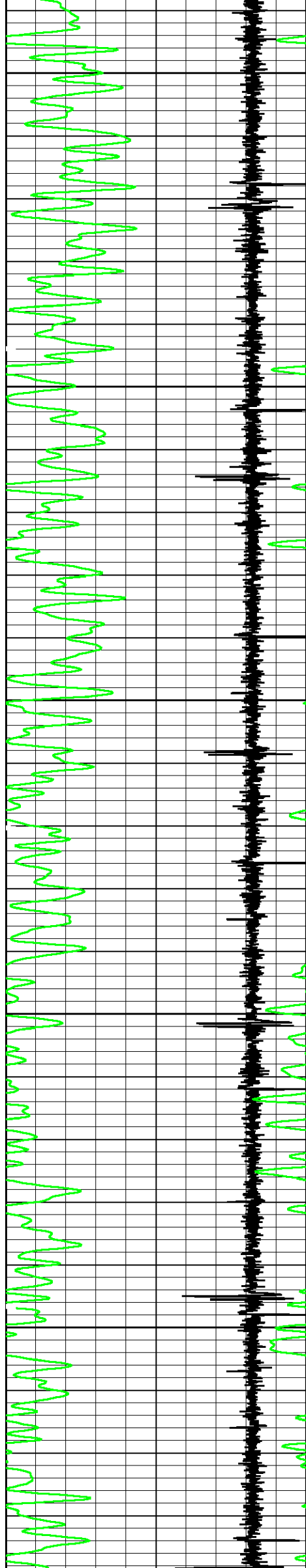




16500

16600

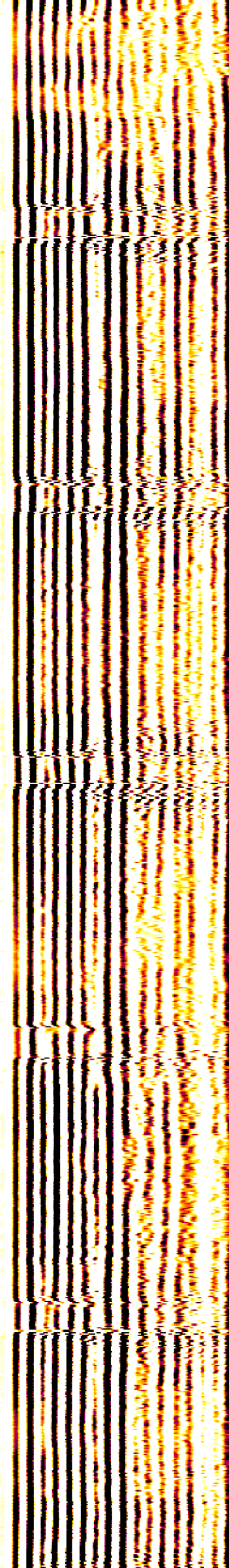
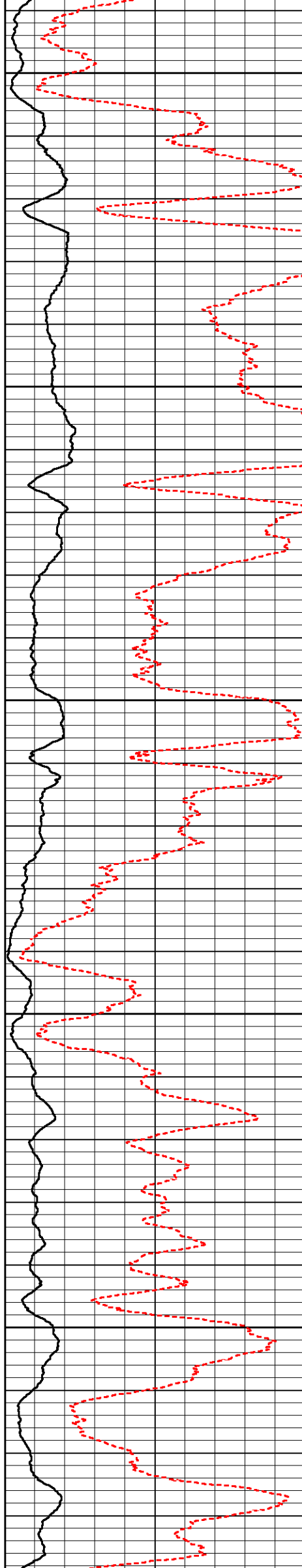


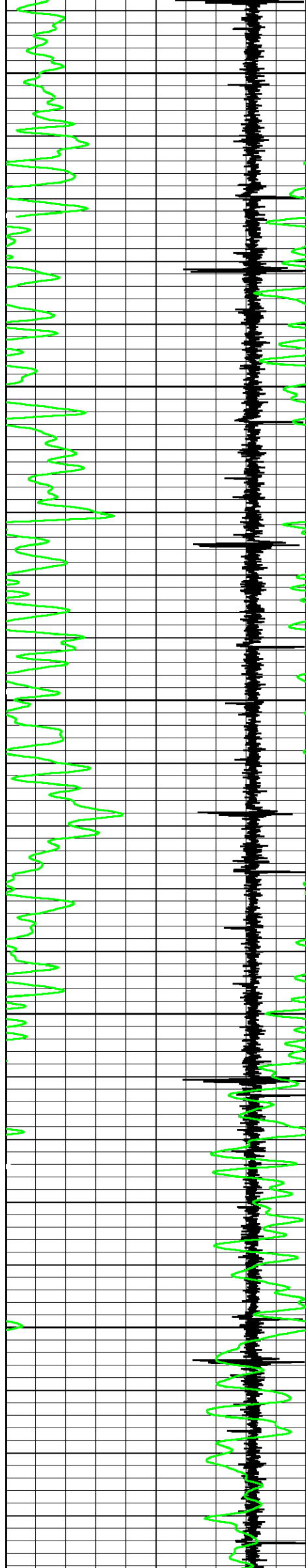


16700

16800

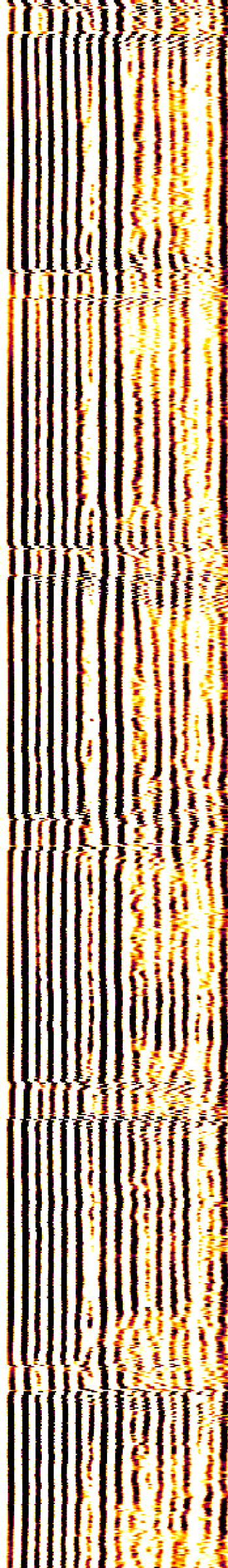
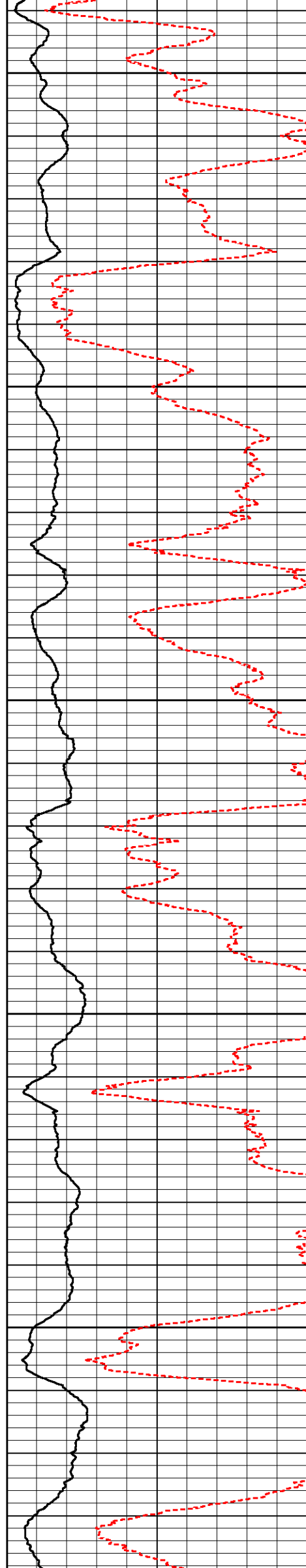
16900

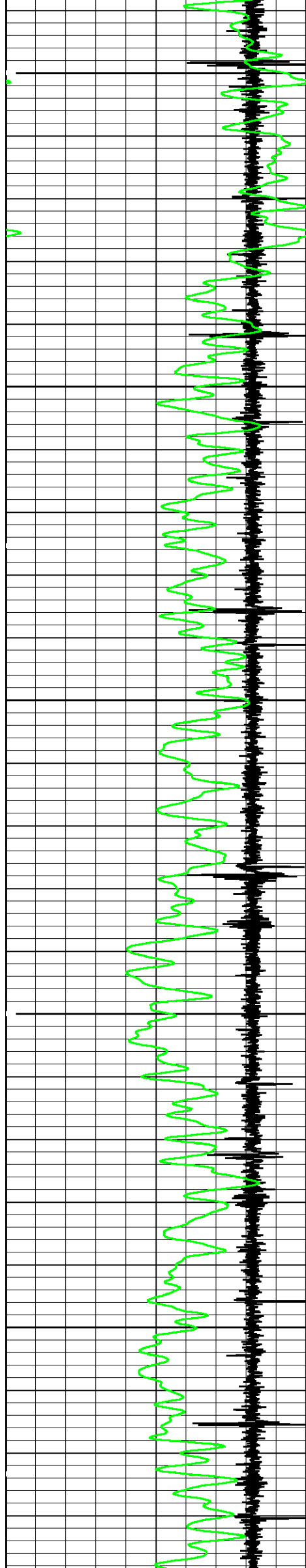




17000

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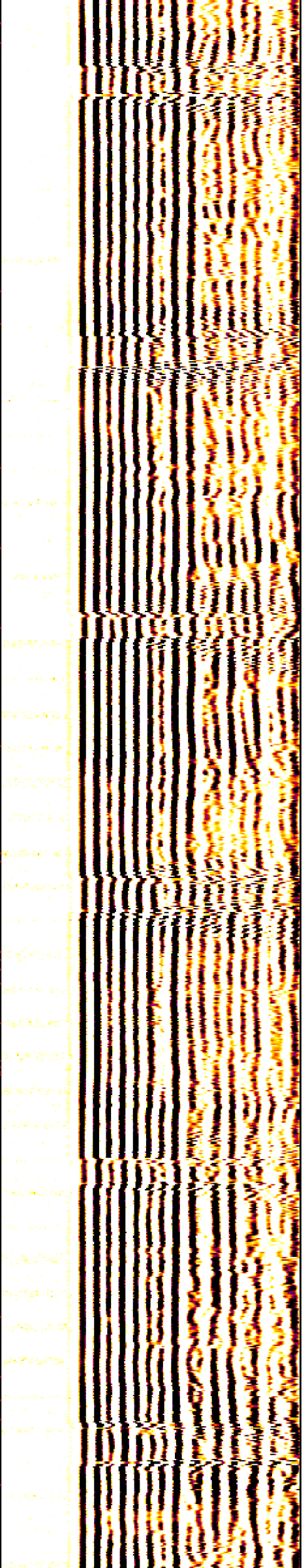
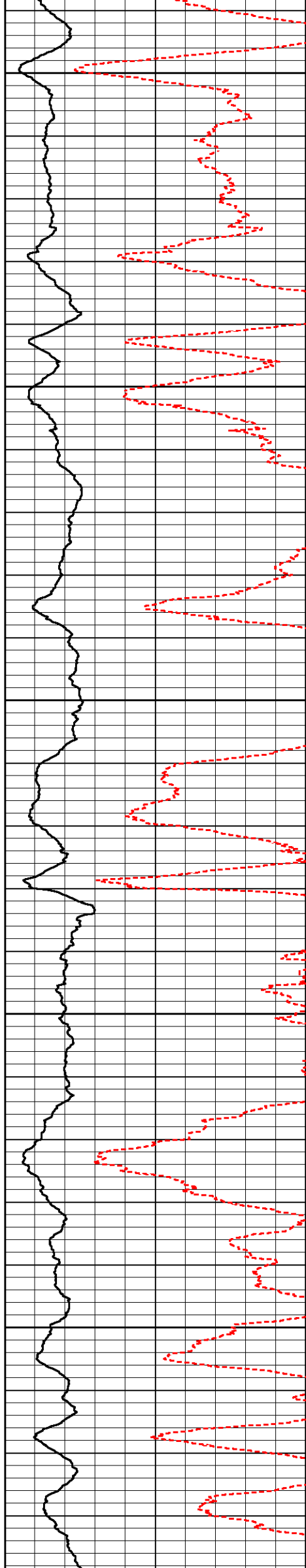


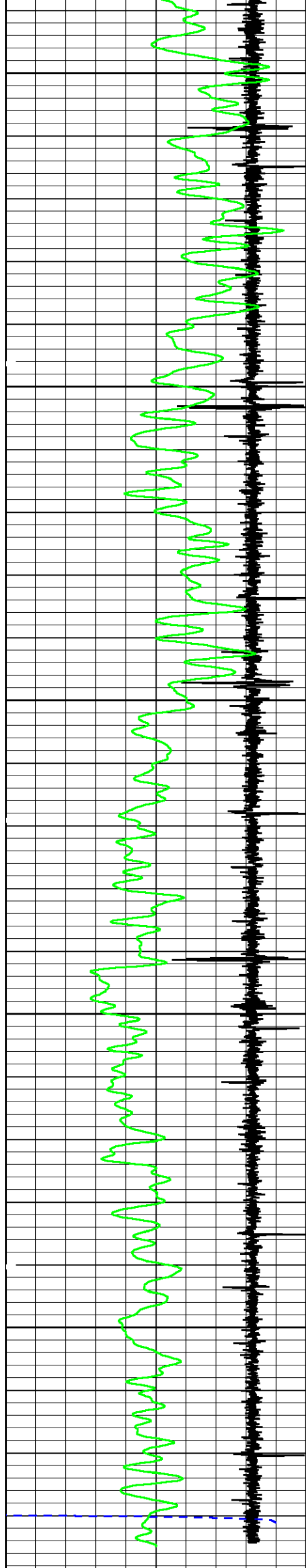


17200

17300

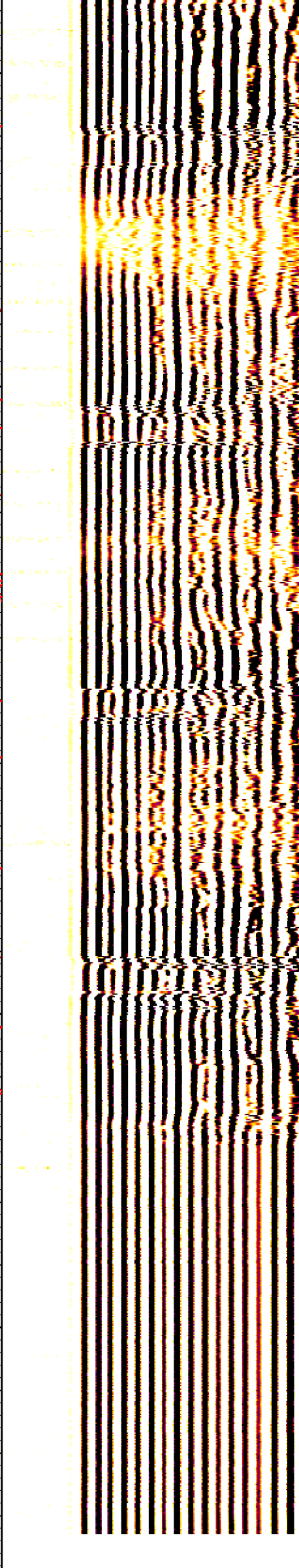
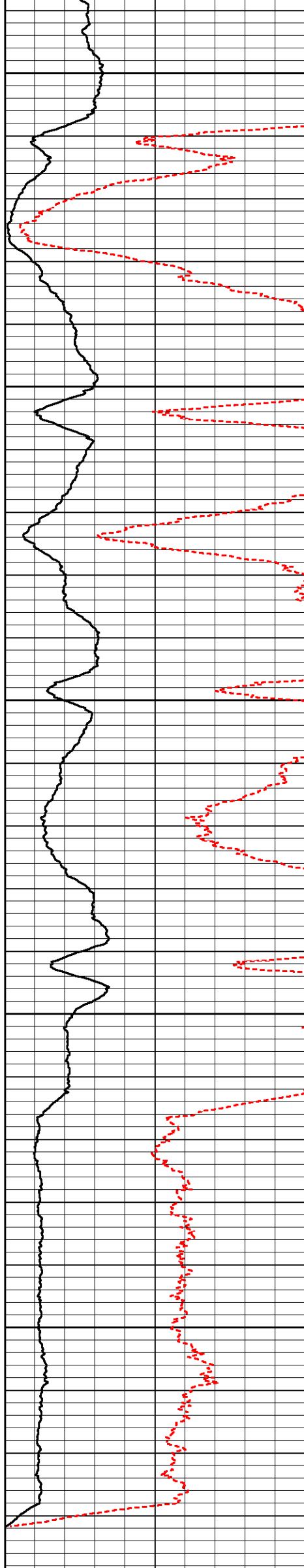
17400





17500

17600



3' Travel Time			0	3' Amplitude (mV)	100	100	MSG (usec)	1100
1	CCL	-0.2	0	3' Amplitude X5 (mV)	20			
0	Gamma Ray (GAPI)	100						

Main Pass

5"=100'

HALLIBURTON

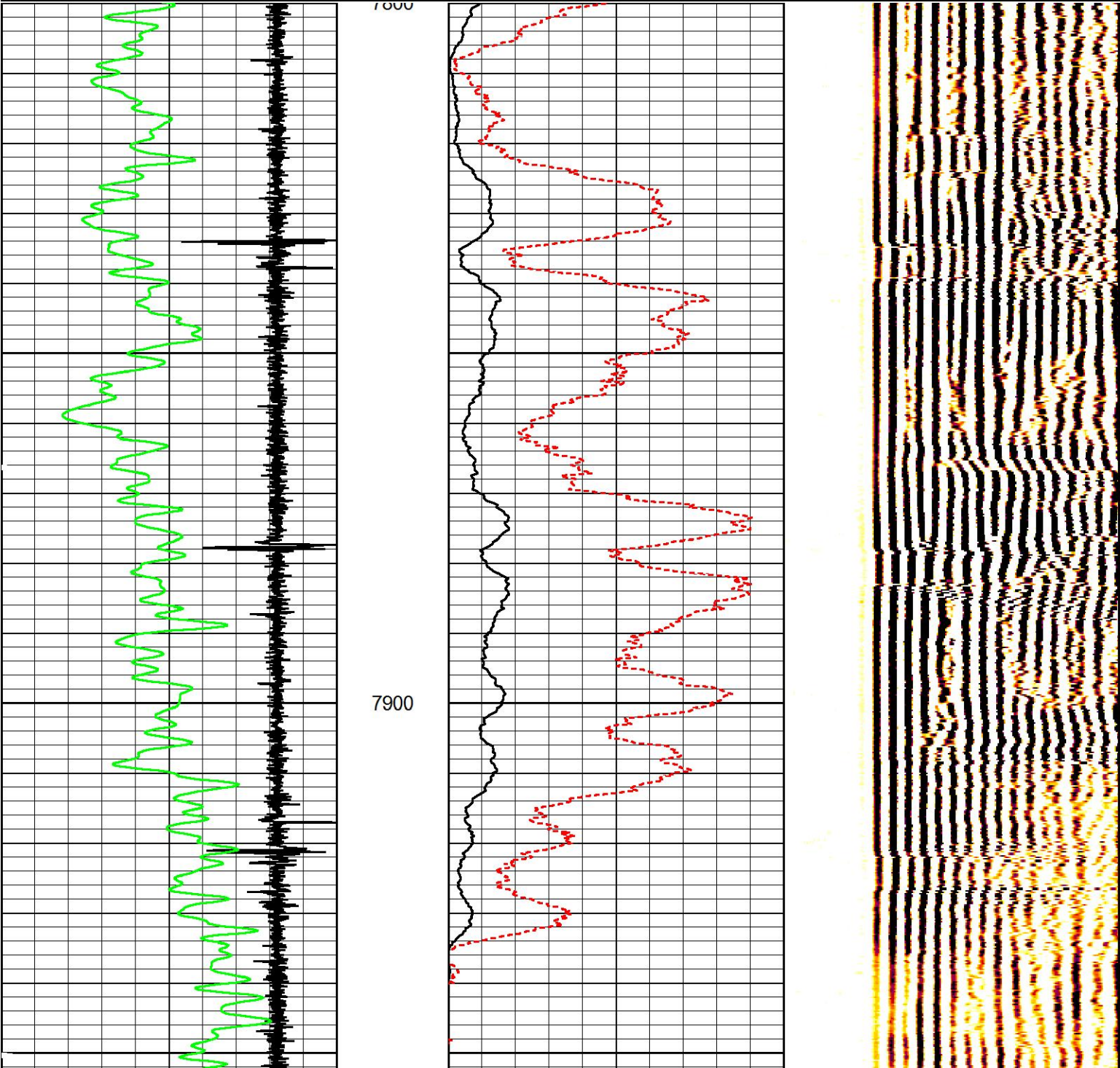
Repeat Pass

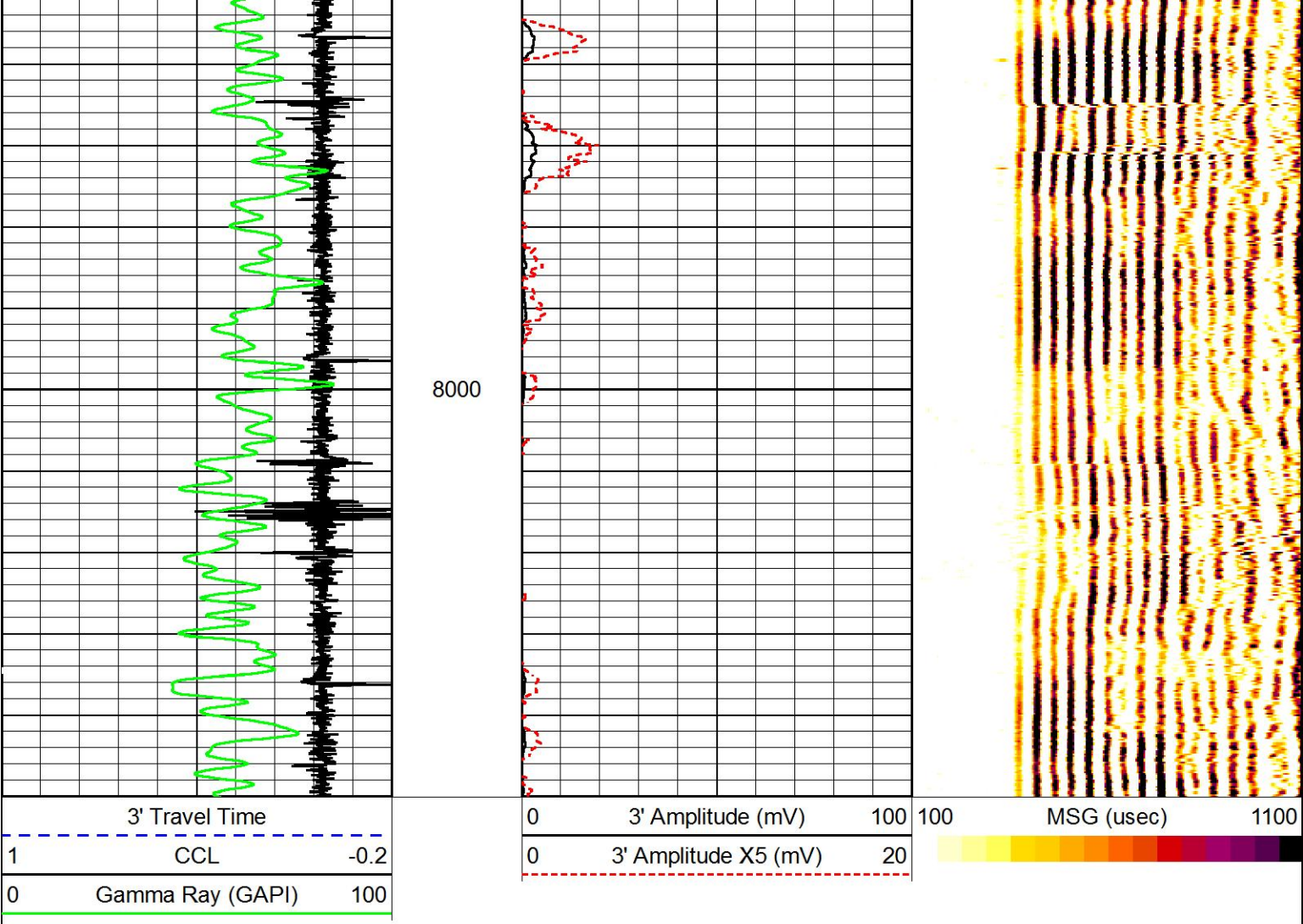
5"=100'

HALLIBURTON

Database File c:\users\hesadmin\desktop\6302be updatd\cbl_6302be.db
Dataset Pathname Stage1/repeat2
Presentation Format hcbl
Dataset Creation Sat Apr 13 13:00:58 2019
Charted by Depth in Feet scaled 1:240

3' Travel Time			0	3' Amplitude (mV)	100	100	MSG (usec)										1100
1	CCL	-0.2	0	3' Amplitude X5 (mV)	20												
0	Gamma Ray (GAPI)	100															





Repeat Pass

5"=100'

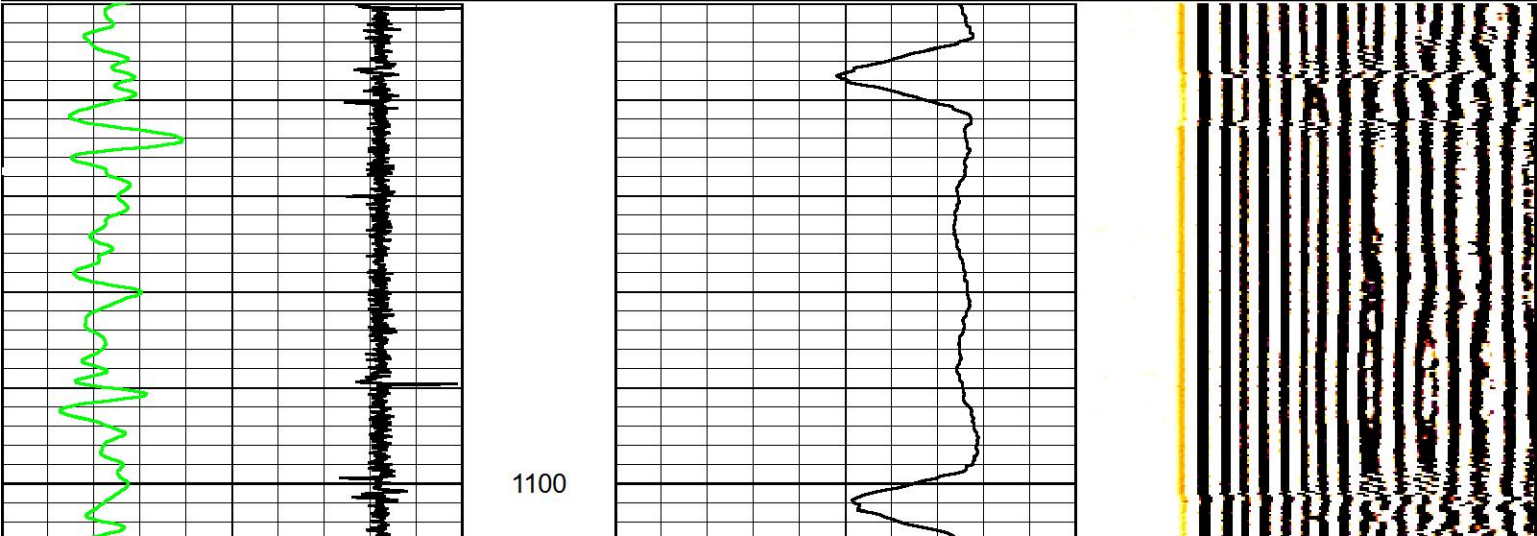
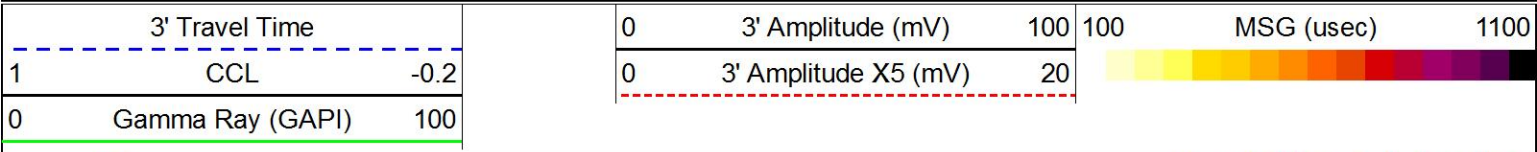
HALLIBURTON

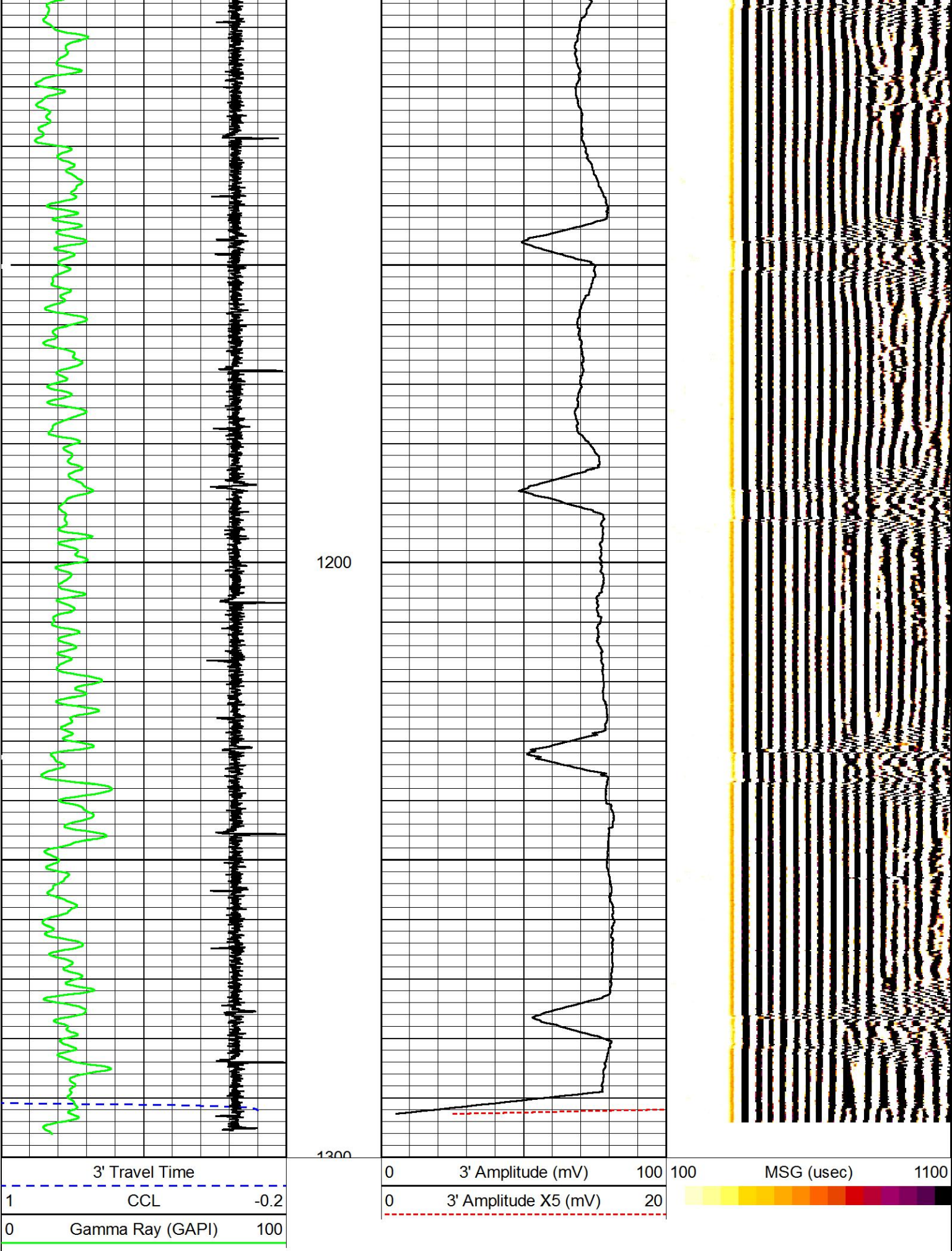
Free Pipe Pass

5"=100'

HALLIBURTON

Database File c:\users\hesadmin\desktop\6302be updatd\cbl_6302be.db
Dataset Pathname Stage1/Freepipe
Presentation Format hcbl
Dataset Creation Sat Apr 13 12:14:00 2019
Charted by Depth in Feet scaled 1:240





Free Pipe Pass

5"=100'

HALLIBURTON

Log Variables

Database: C:\Users\hesadmin\Desktop\6302BE UPDATD\cbl_6302be.db
Dataset: field/well/Stage1/Main/_vars_

Top - 6963.00 ft

BHTEMP_Src TEMP	BITSIZE in 6.125	BOTTEMP degF 200	CASEOD in 4.5	CASETHCK in 0.29	CASEWGHT lb/ft 13.5	MAXAMPL mV 82	MINAMPL mV 1
MINATTN db/ft 0.8	MudWgt lb/gal 8.33	PERFS 0	PPT usec 0	SRFTEMP degF 60	TDEPTH ft 0		
6963.00 ft - Bottom							
BHTEMP_Src TEMP	BITSIZE in 6.125	BOTTEMP degF 200	CASEOD in 4.5	CASETHCK in 0.25	CASEWGHT lb/ft 11.6	MAXAMPL mV 82	MINAMPL mV 1
MINATTN db/ft 0.8	MudWgt lb/gal 8.33	PERFS 0	PPT usec 0	SRFTEMP degF 60	TDEPTH ft 17853		

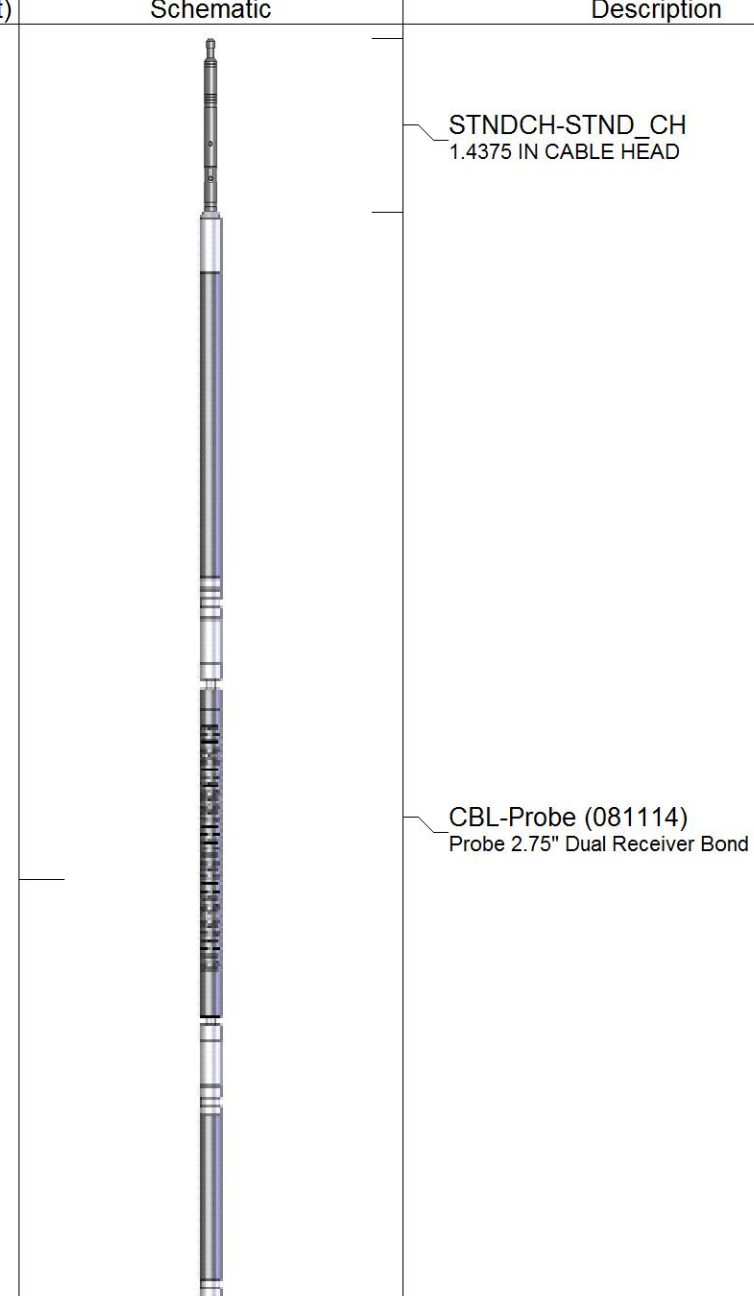
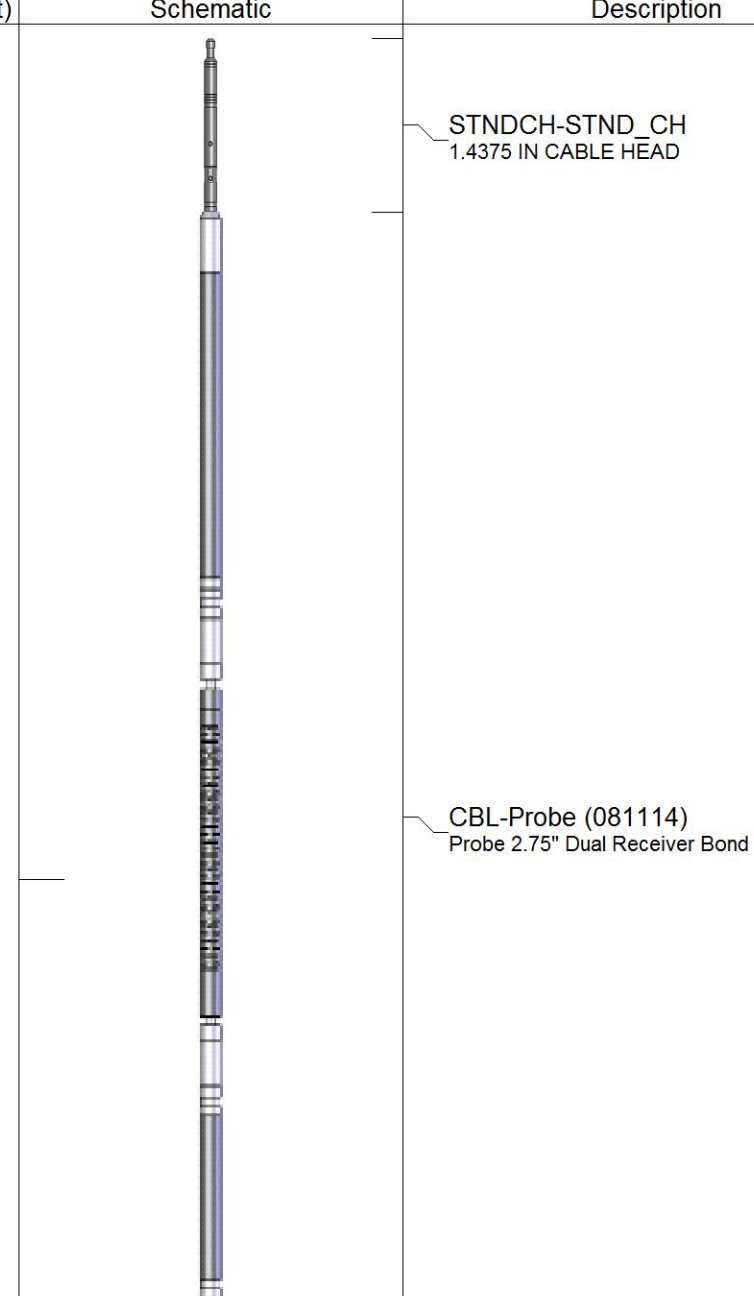
Calibration Report					
Database File	C:\Users\hesadmin\Desktop\6302BE UPDATD\cbl_6302be.db				
Dataset Pathname	Stage1/repeat2				
Dataset Creation	Sat Apr 13 13:00:58 2019				
Temperature Calibration Report					
Serial Number:	001				
Tool Model:	T_Temp				
Performed:	Mon Apr 04 13:27:25 2011				
	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					
Serial Number:	11021927				
Tool Model:	Probe				
Performed:	Thu Mar 28 15:11:40 2019				
Calibrator Value:	150.0		GAPI		
Background Reading:	40.1		cps		
Calibrator Reading:	189.8		cps		
Sensitivity:	1.0022		GAPI/cps		
Segmented Cement Bond Log Calibration Report					
Serial Number:	081114				
Tool Model:	Probe				
Calibration Casing Diameter:	4.500		in		
Calibration Depth:	1270.282		ft		

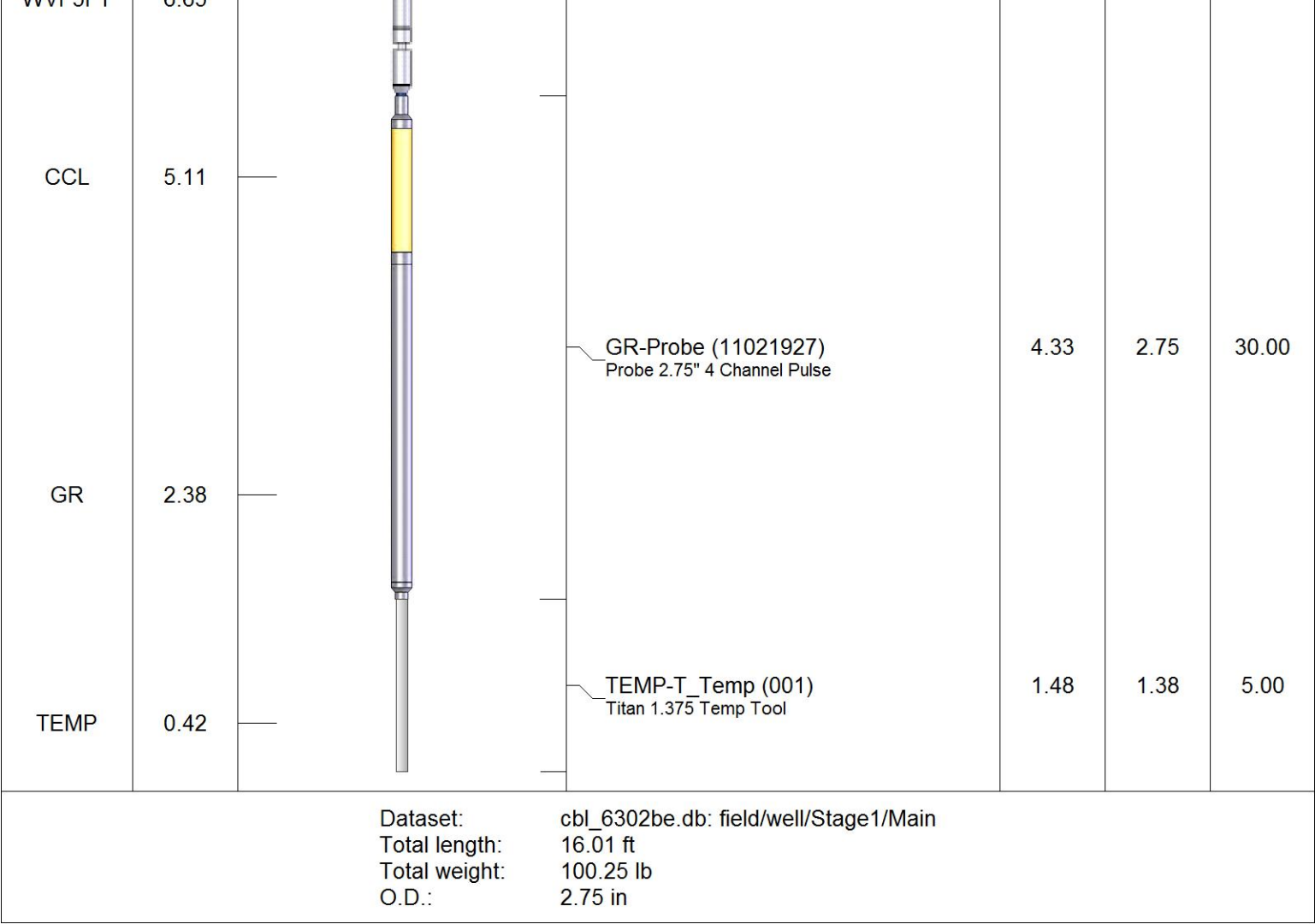
Master Calibration, performed Sat Apr 13 12:13:06 2019:							
		Raw (v)		Calibrated (mv)		Results	
		Zero	Cal	Zero	Cal	Gain	Offset
3'		0.000	0.249	0.000	81.196	325.547	0.000
CAL							
5'		0.000	0.271	0.000	81.196	299.567	0.000
SUM							
S1							
S2							
S3							

S4	
S5	
S6	
S7	
S8	

Internal Reference Calibration, performed (Not Performed):						
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL						

Air Zero Calibration, performed Sat Apr 13 10:07:17 2019:			
	Raw (v)	Calibrated (v)	Results
	<u>Zero</u>	<u>Zero</u>	<u>Offset</u>
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1			
S2			
S3			
S4			
S5			
S6			
S7			
S8			

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
WVF3FT	9.81		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.28	1.44	5.25
			CBL-Probe (081114) Probe 2.75" Dual Receiver Bond	8.92	2.75	60.00
WVE5ET	6.65					



Company	High Point Operating Corporation			
Well	16-6302BE			
Field	Hereford			
County	Weld	State	Co	
HALLIBURTON	Cement Bond Log			