

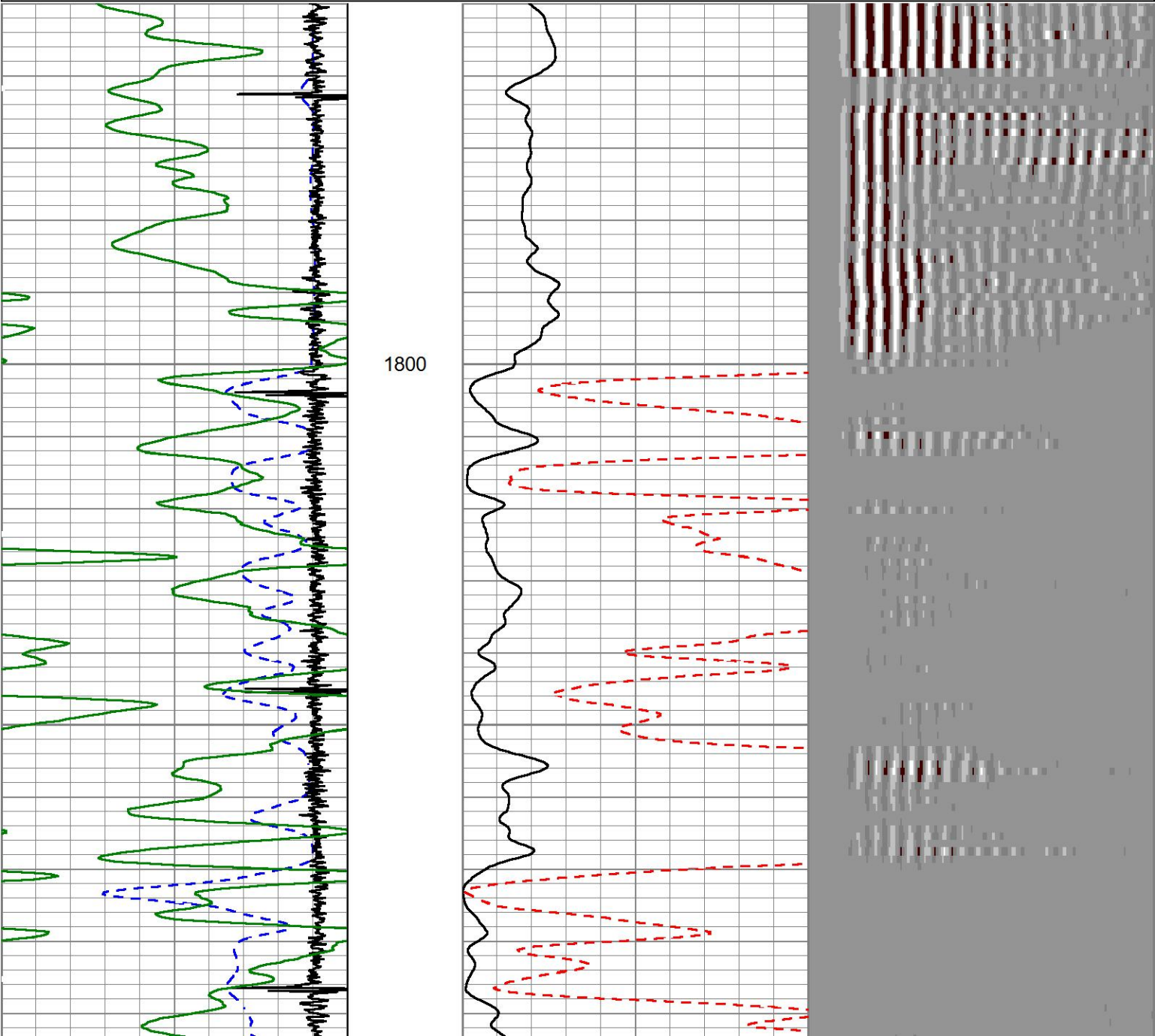
CEMENT BOND LOG

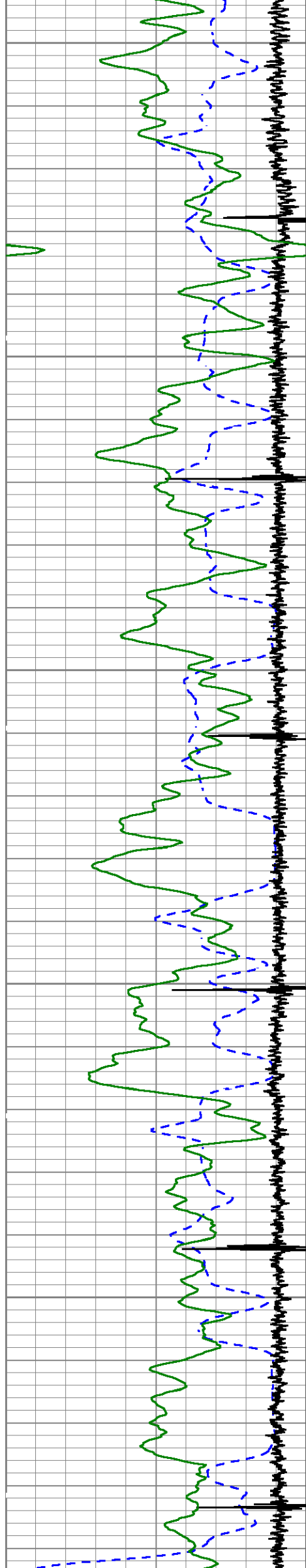
<div data-bbox="58 1129 263 1141"><<< Fold Here >>></div> <div data-bbox="58 1141 794 1305"> <p>HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH 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.</p> </div>	
<div data-bbox="58 1305 794 1856"> <p>TOOLS WERE RAN IN 4.5" 11.6# CASING.</p> <p>RMT RAN IN SIGMA MODE WITH A GENERATOR VOLTAGE OF 86V.</p> <p>**THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES***</p> </div>	<div data-bbox="794 1305 1555 1856"> <div data-bbox="794 1305 875 1331">Comments</div> </div>

Service Ticket No.	903921549	API No.	05045227100000	PGM Ver	WARRIOR 8.0
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client					
EQUIPMENT DATA					
GAMMA		CBL		RMT	
Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	12159411	Serial No.	11836468	Serial No.	12376244
Model No.	TTTCU-002	Model No.	CBL-M	Model No.	RMTi
Diameter	1.69"	Diameter	2.75"	Diameter	2.75"
LOGGING DATA					
General Data					
Pass	Depths		Well Head	Speed	Logging Run Comments
No	From	To	Pressure	Ft/Min	

ONE	TD	SURFACE CSG	14.7 PSI	20			
	GAMMA		CBL		RMTI		
Pass	Scale		Scale		Scale		Scale
No.	L	R	L	R	L	R	L L
ONE	0	150	0	100	60	0	
DIRECTIONAL INFORMATION							
Maximum Deviation			deg. @		KOP		

MAIN PASS							
HALLIBURTON							
5" = 100'							
Database File		f:\ursa\b&v 23a-07-07-95\23a.db					
Dataset Pathname		MAIN.1					
Presentation Format		ICBL_M~1					
Dataset Creation		Mon Mar 27 05:56:55 2017					
Charted by		Depth in Feet scaled 1:240					
420	TRAVEL TIME (usec)	220	LTEN	0	AMP AMPLITUDE (mV)	10	200 MSG 1060
-3500	Collar Locator	350	0 (lb3000	0	AMPLITUDE (mV)	100	
0	Gamma Ray (GAPI)	150					

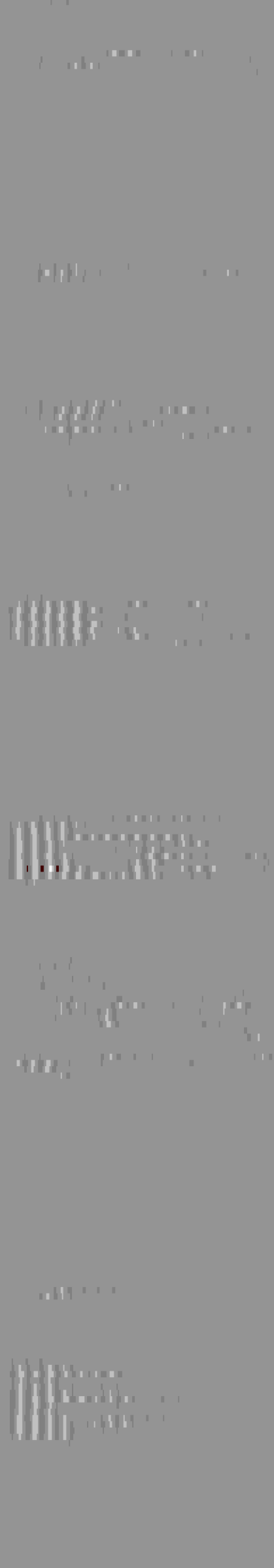
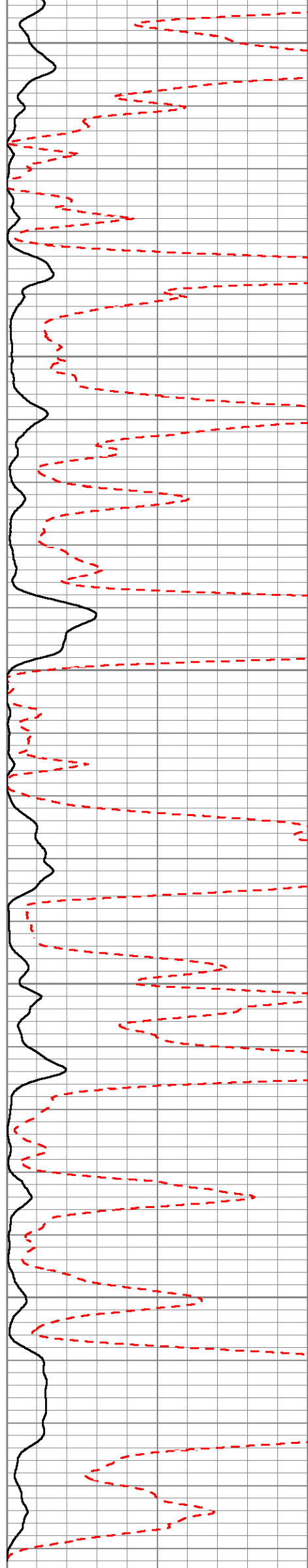


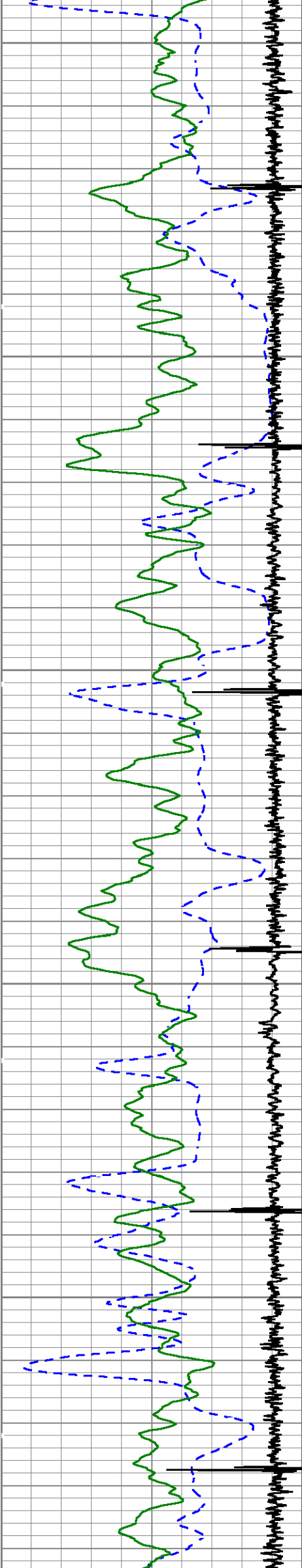


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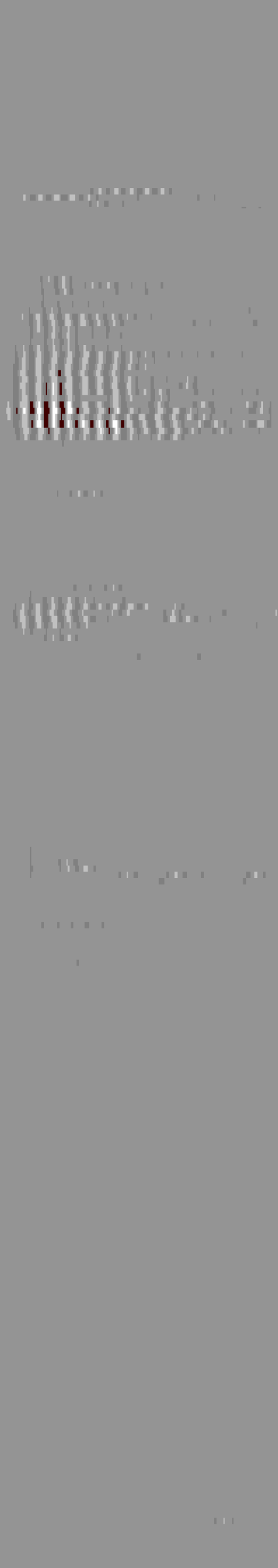
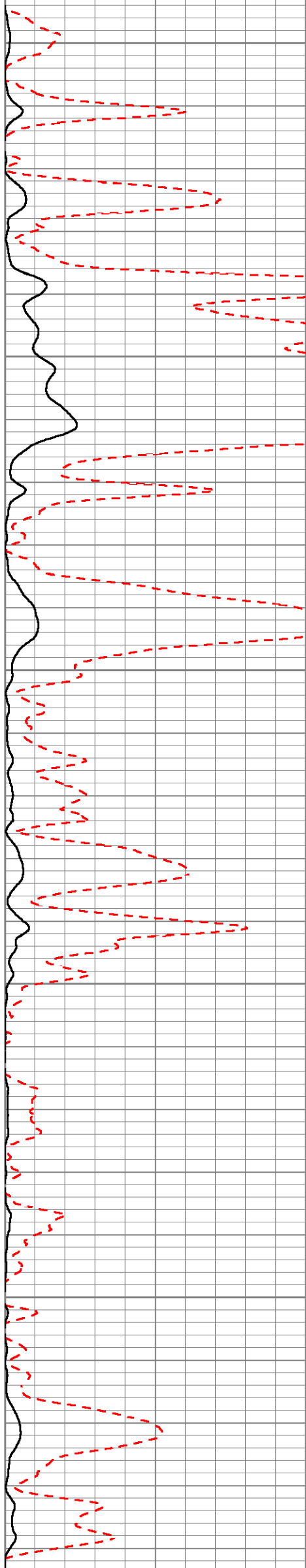
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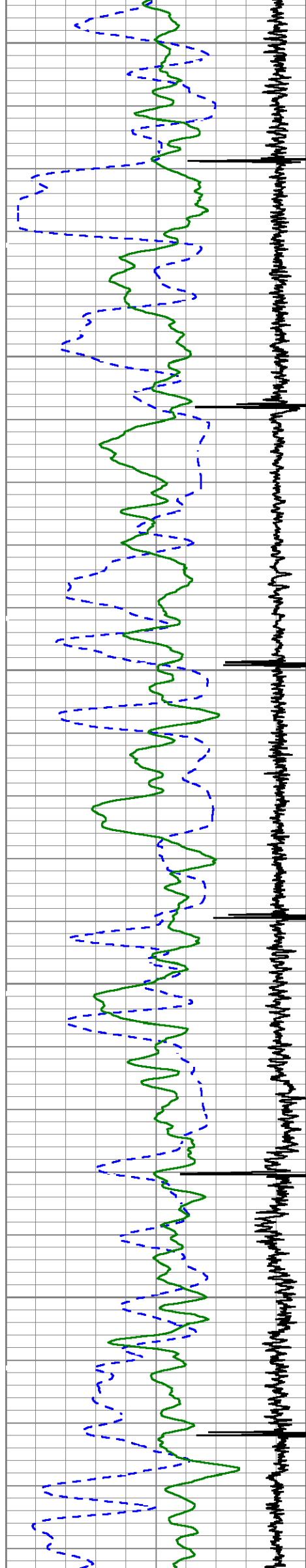




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2300

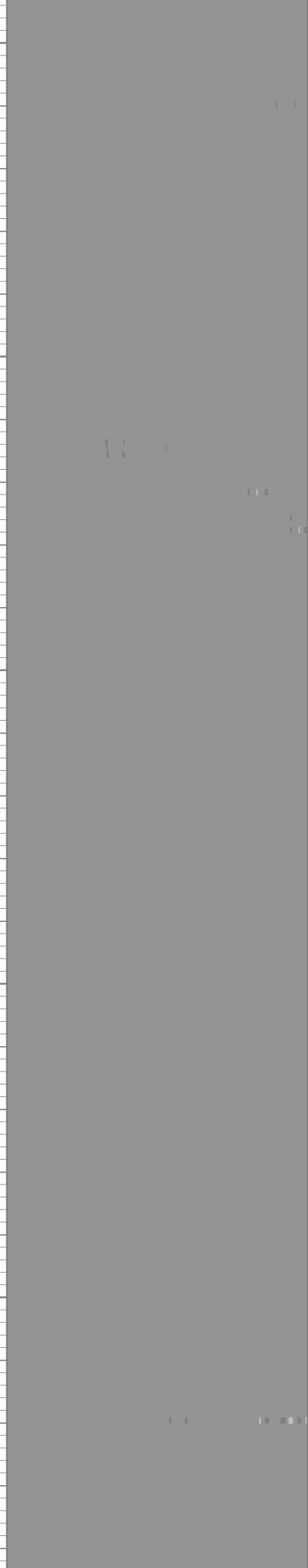
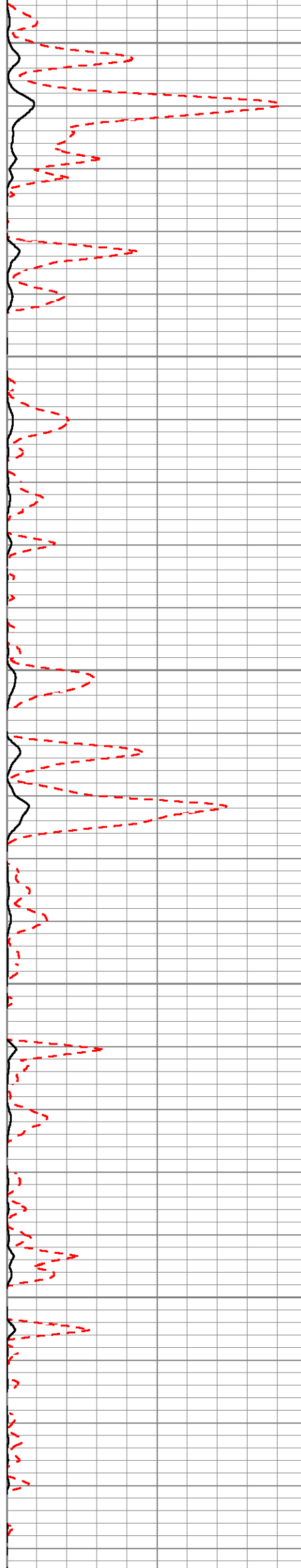


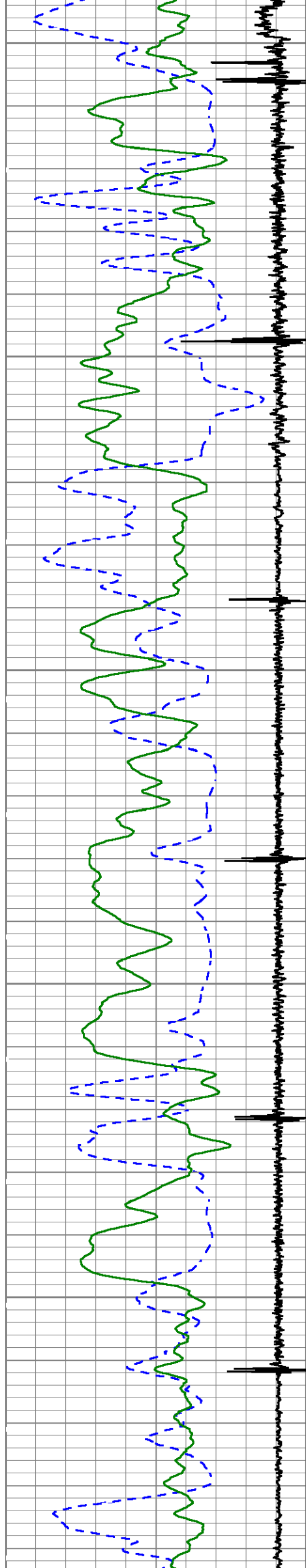


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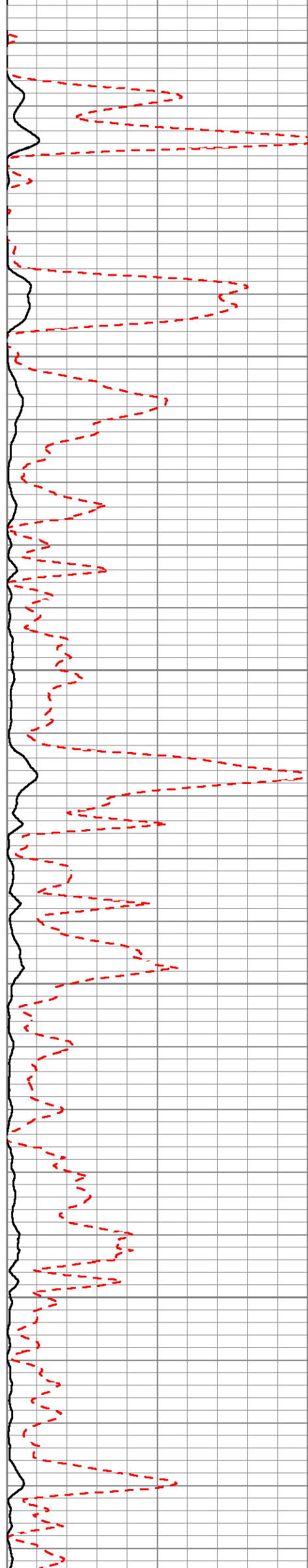
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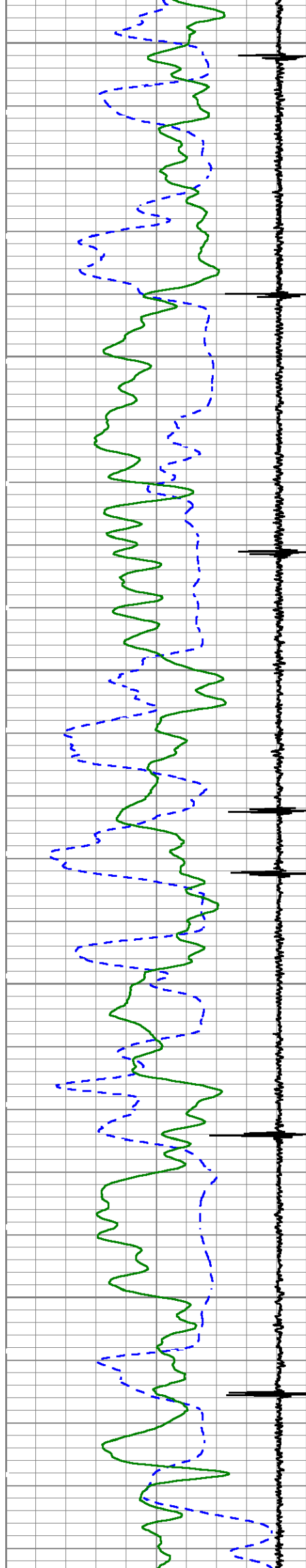




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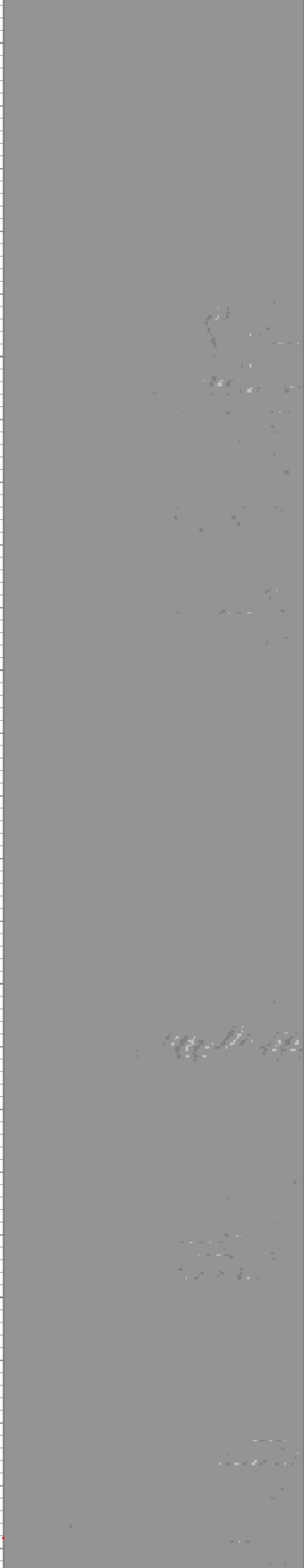
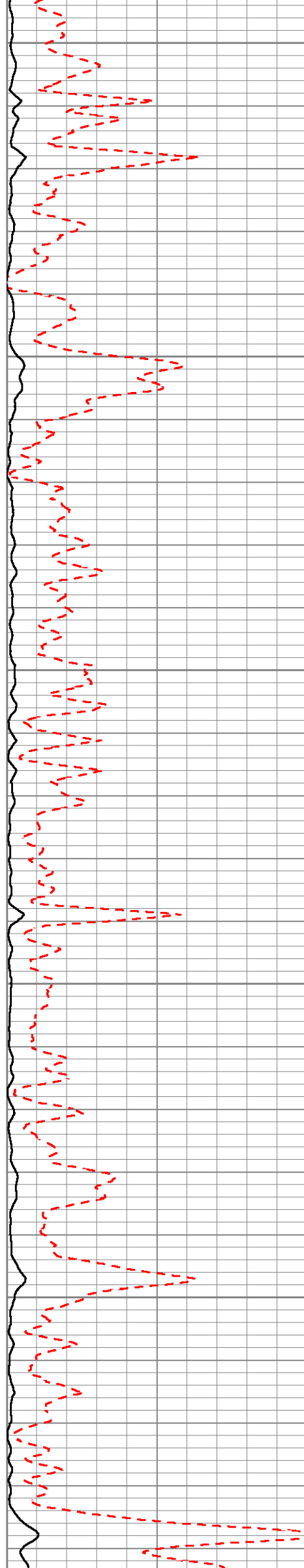


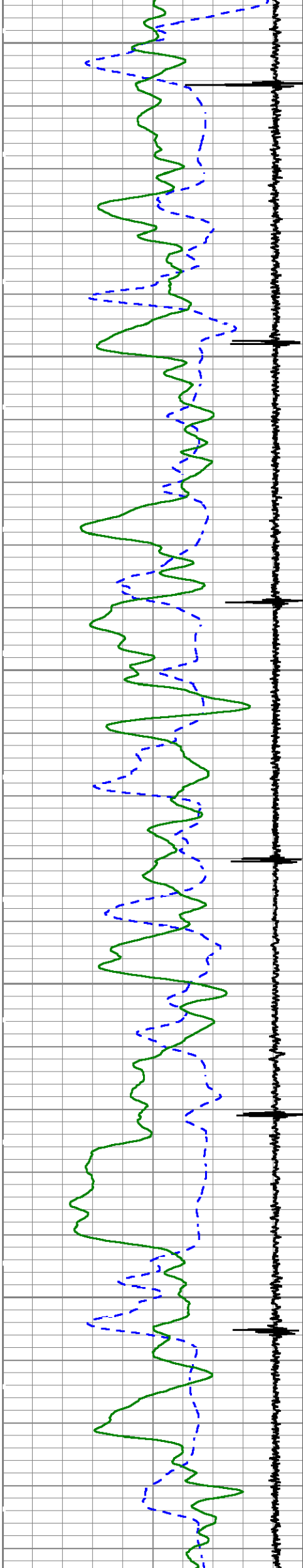


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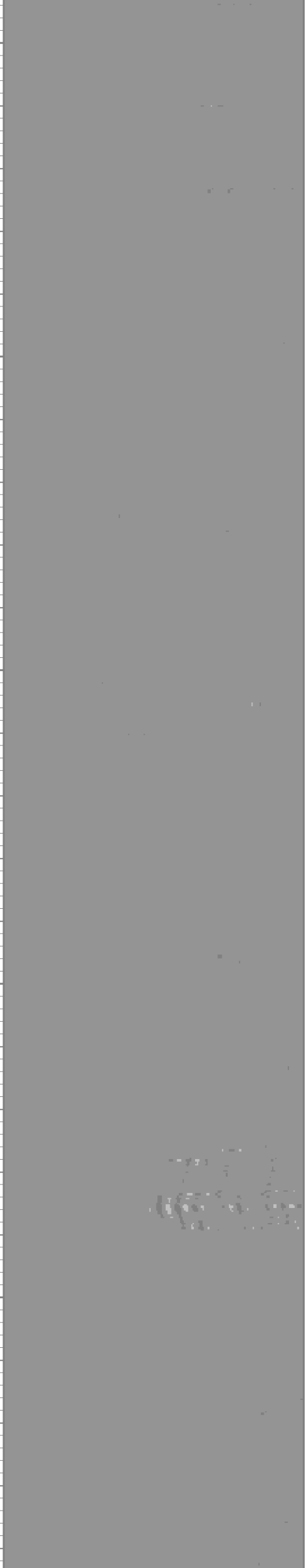
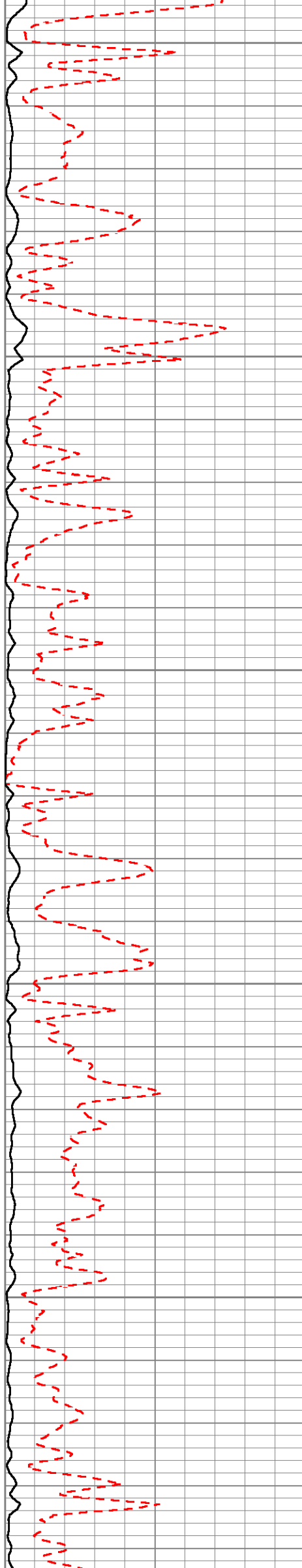
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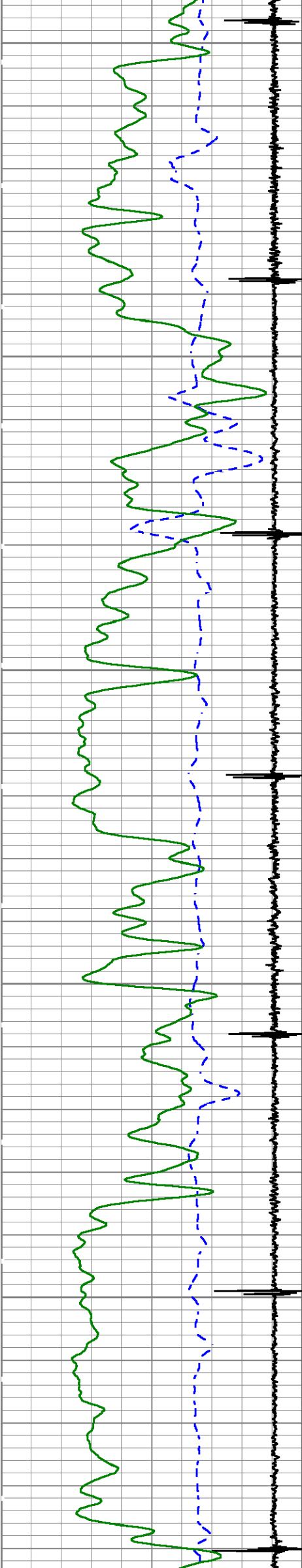




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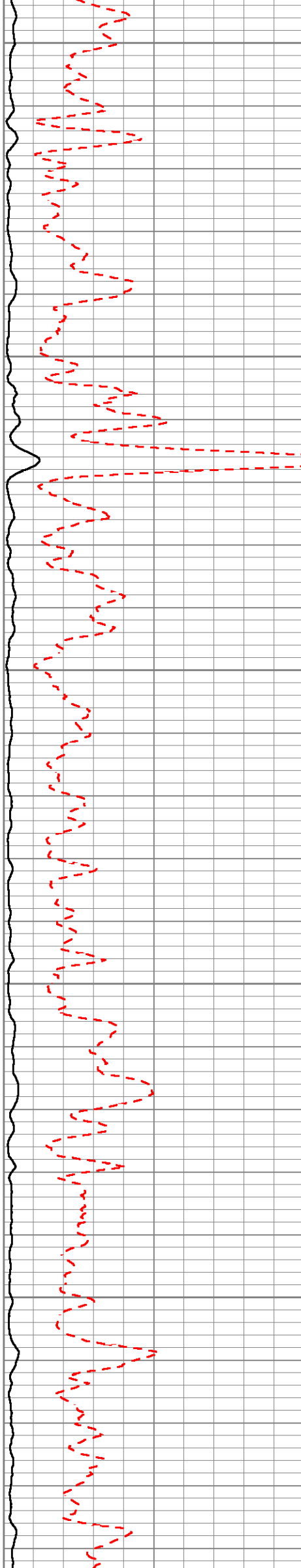


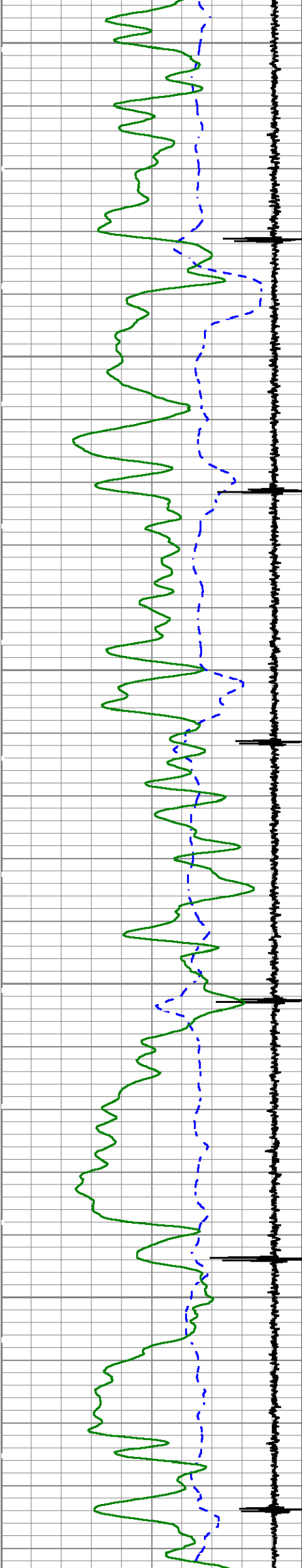


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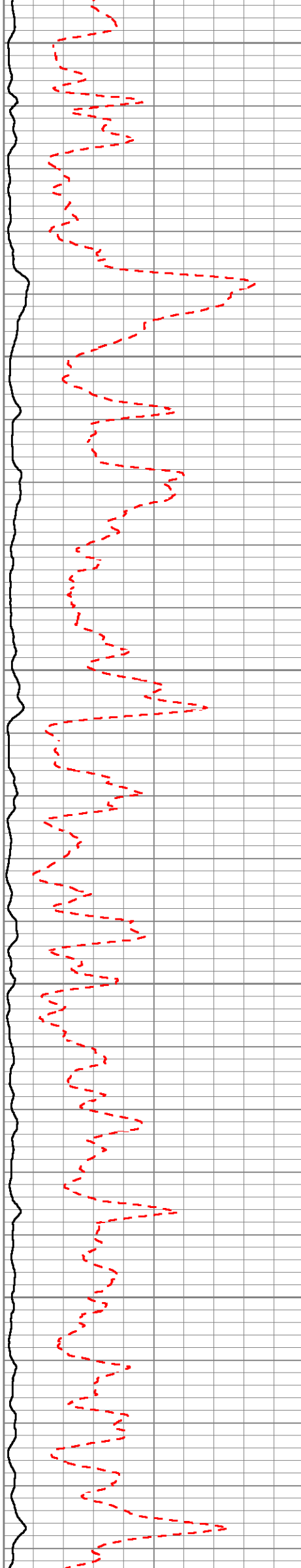
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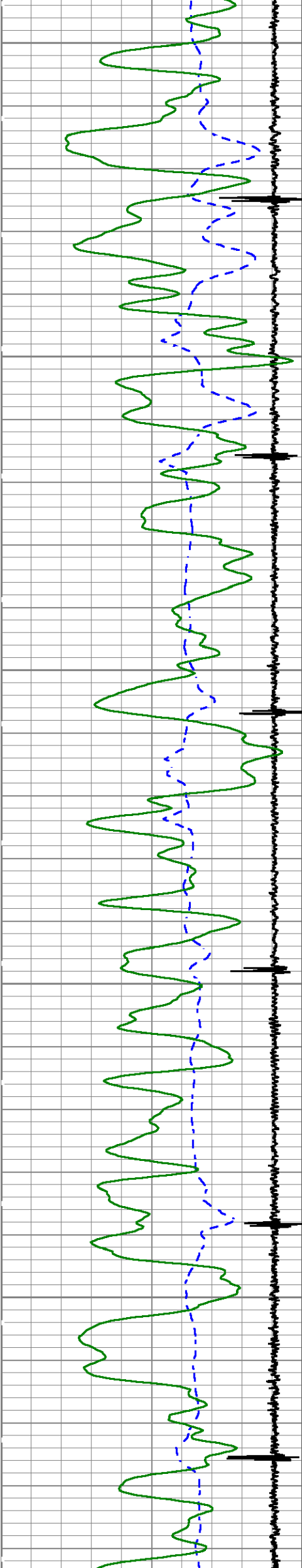




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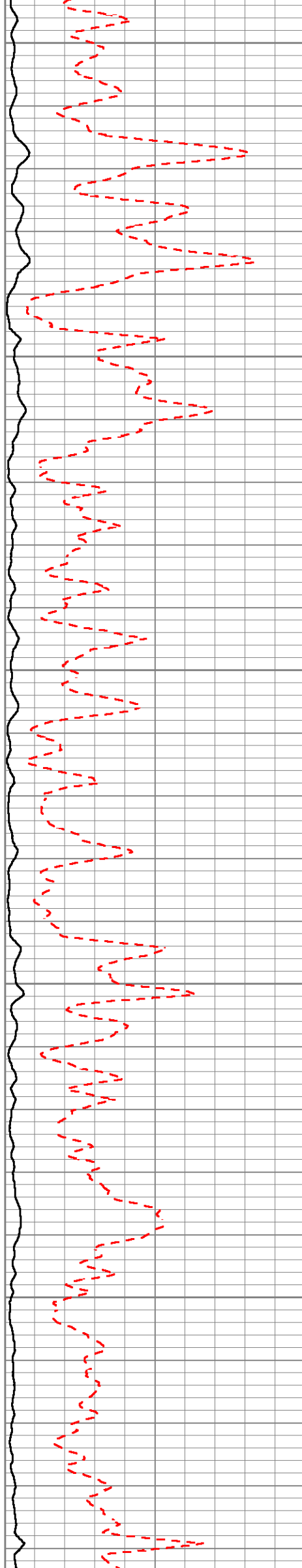


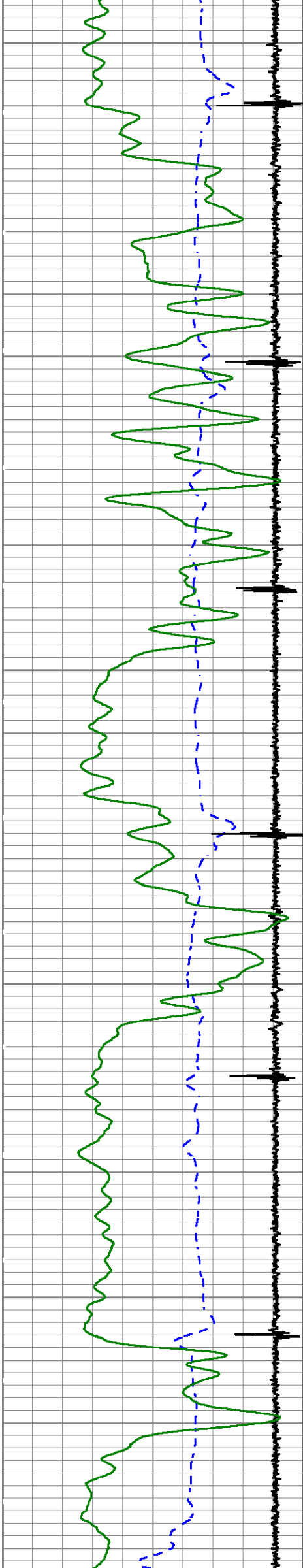


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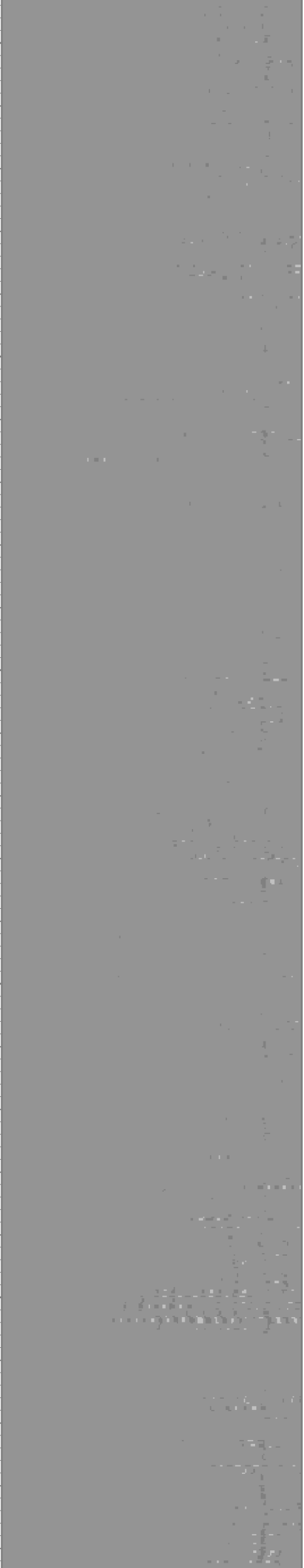
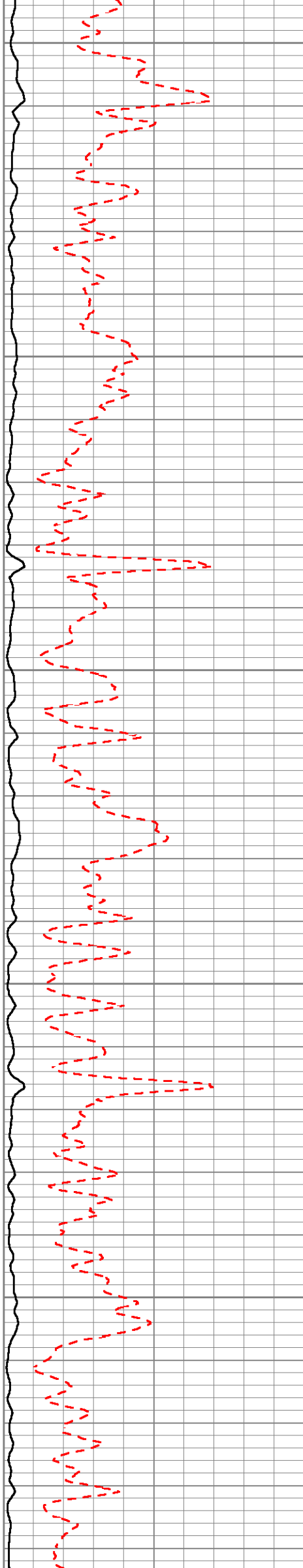
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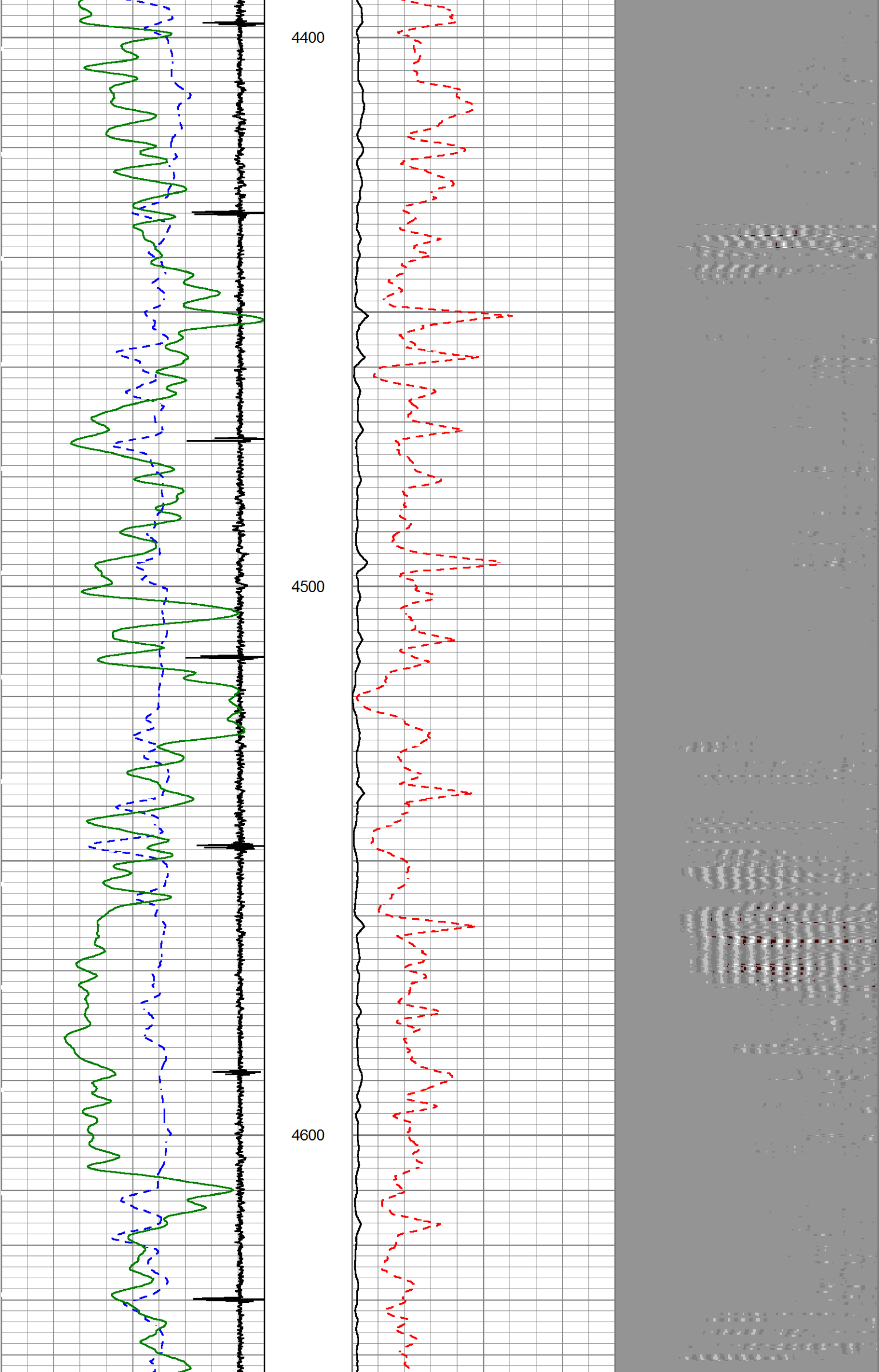


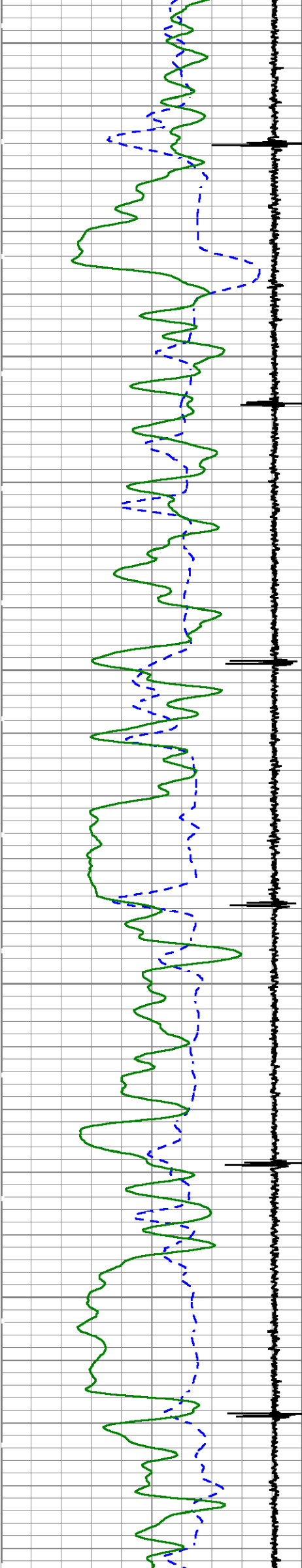


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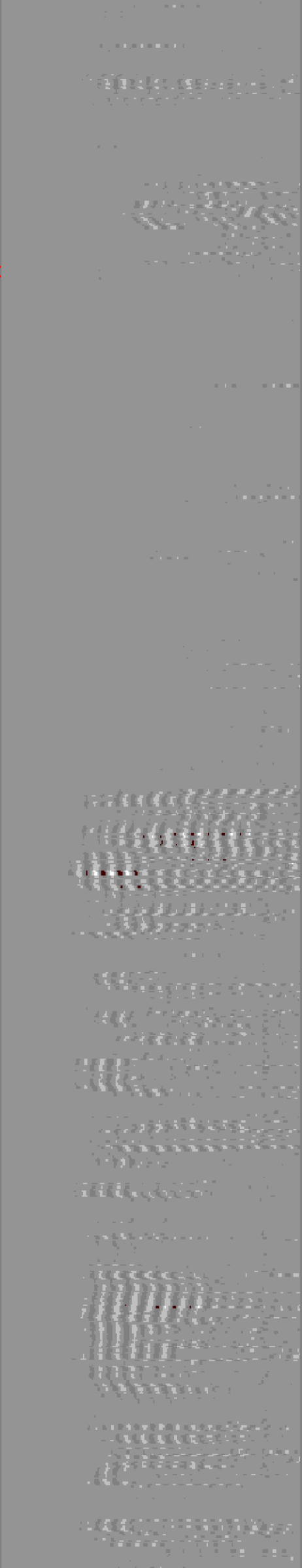
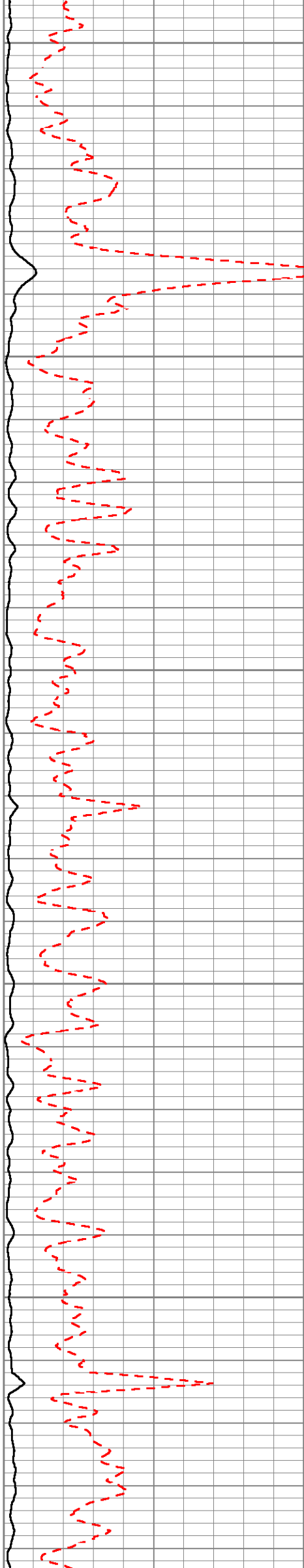


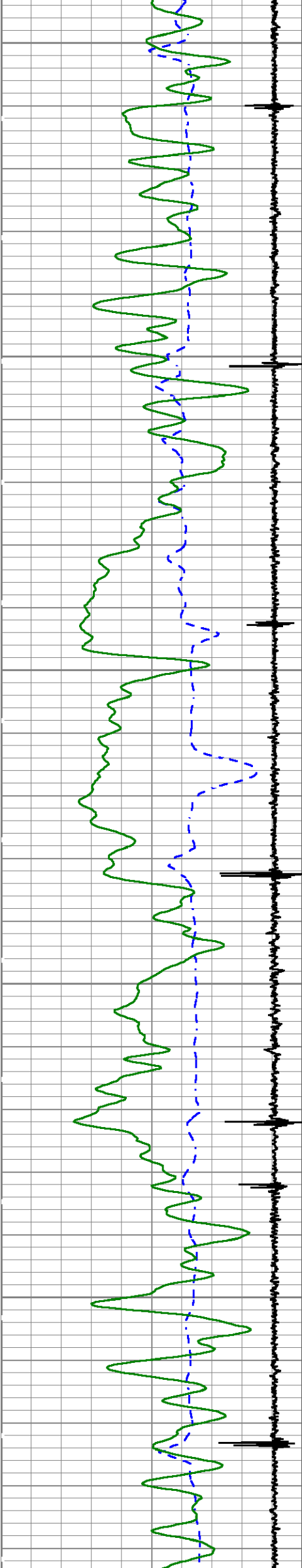




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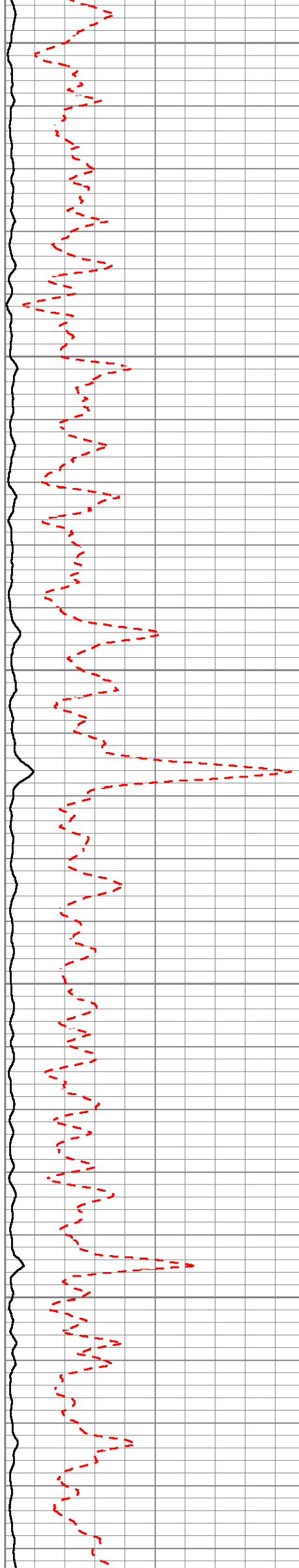


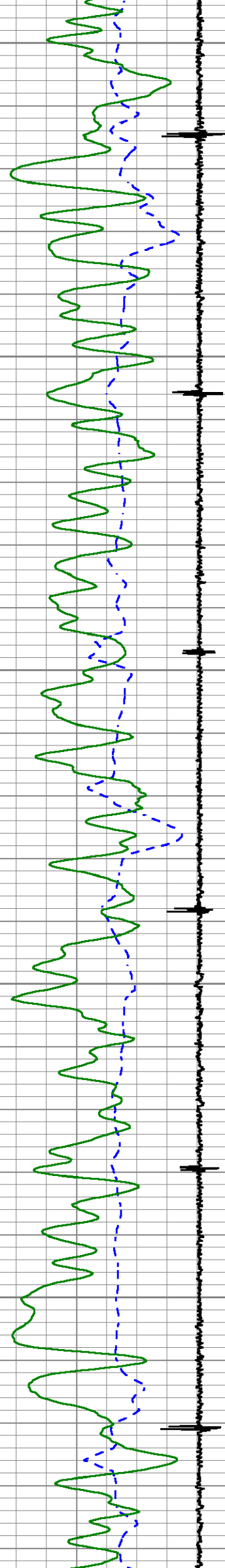


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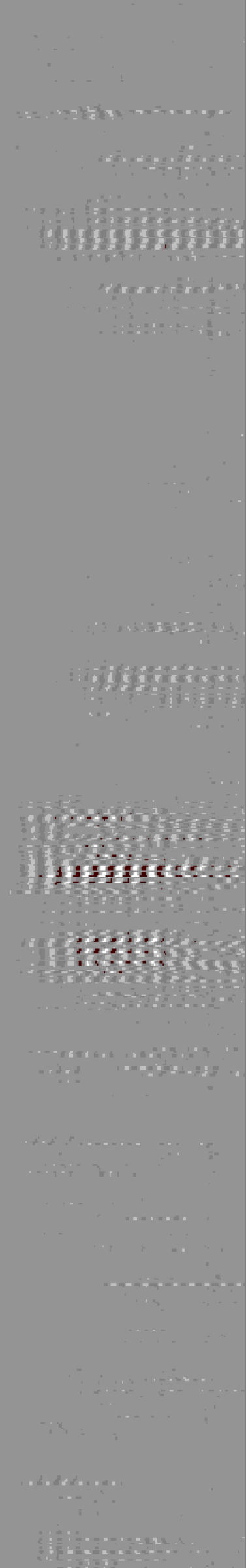
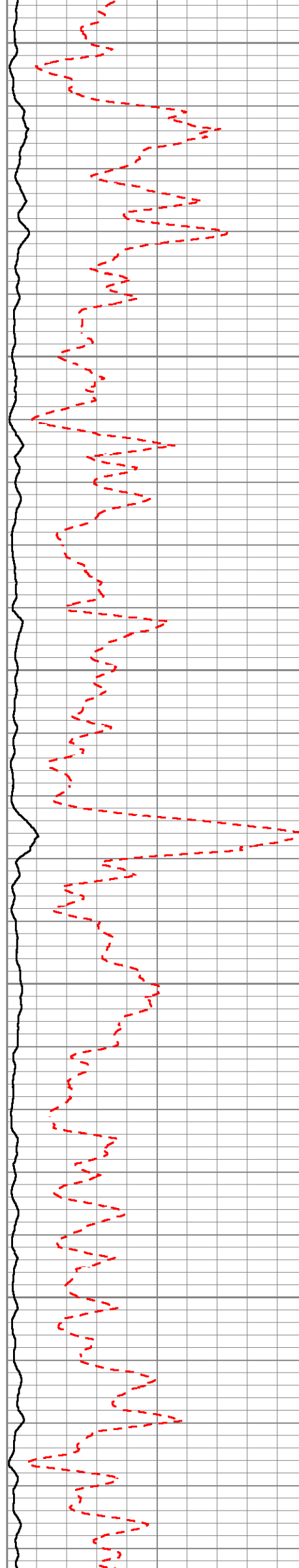
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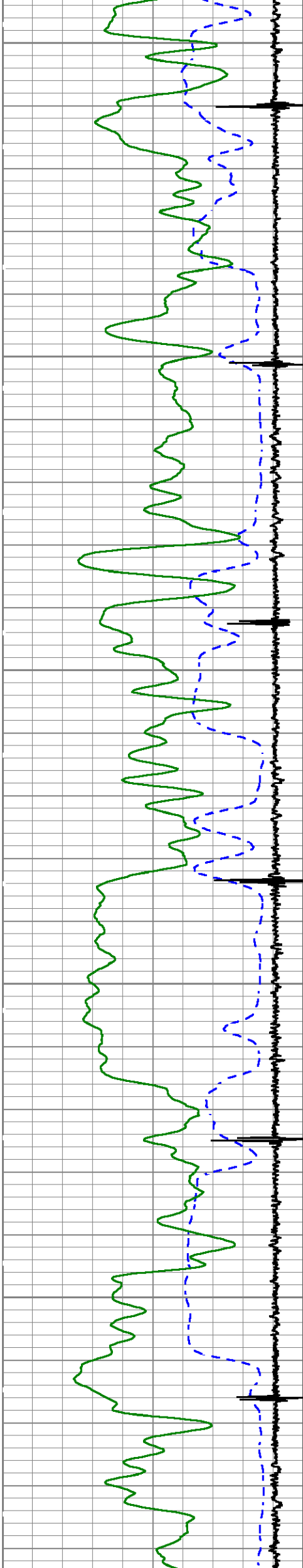




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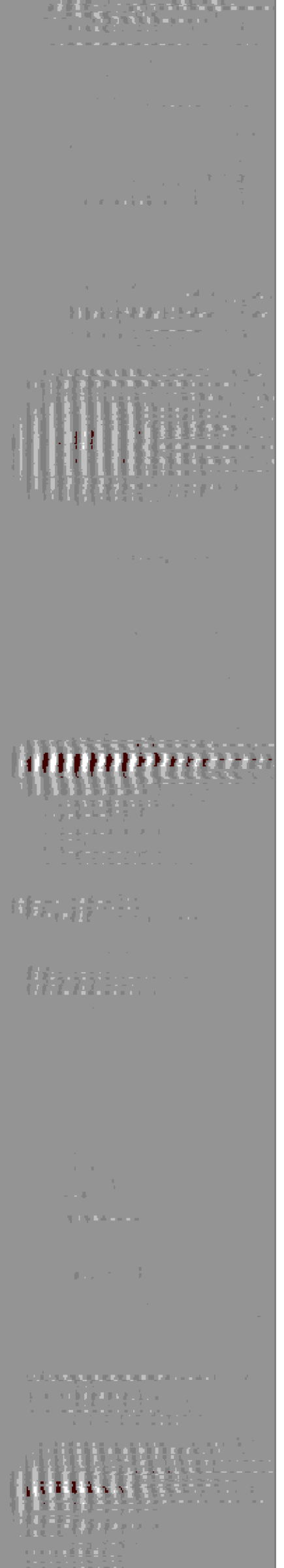
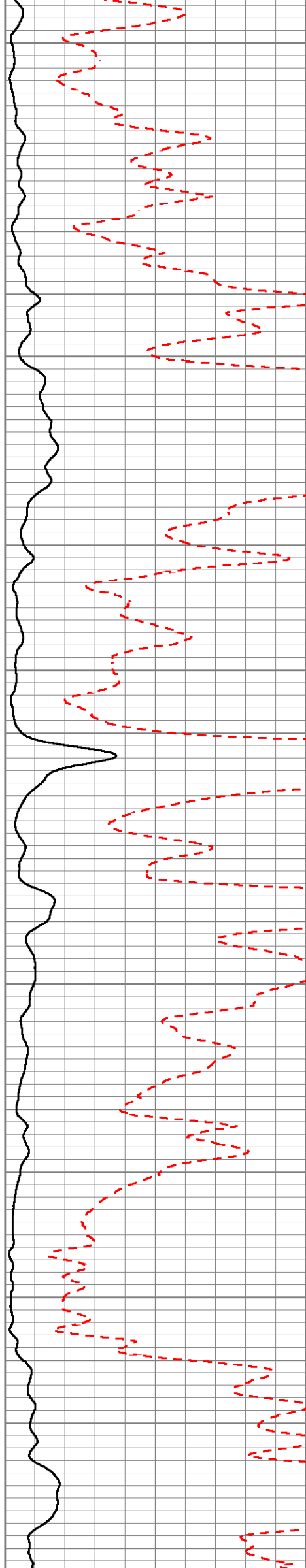


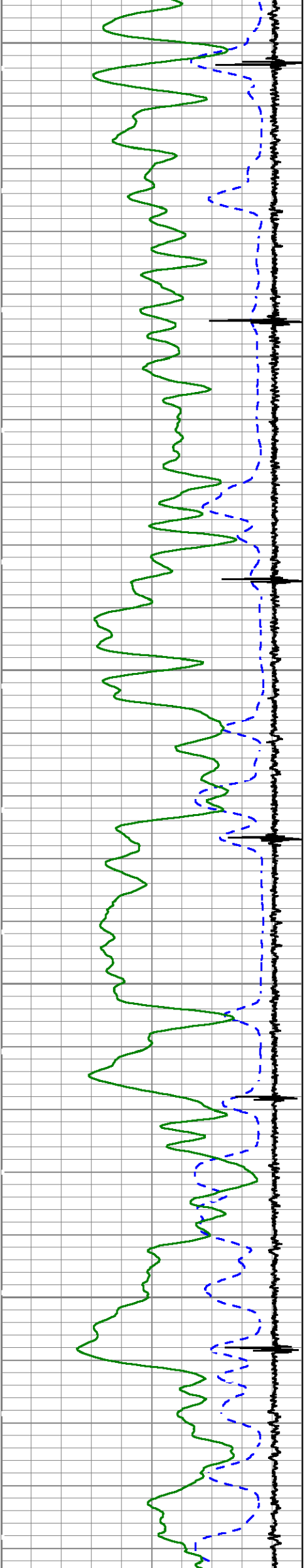


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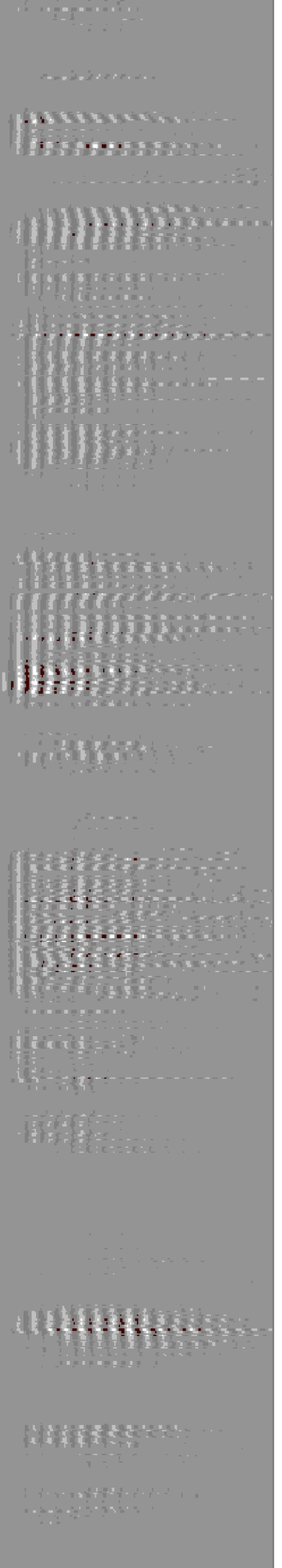
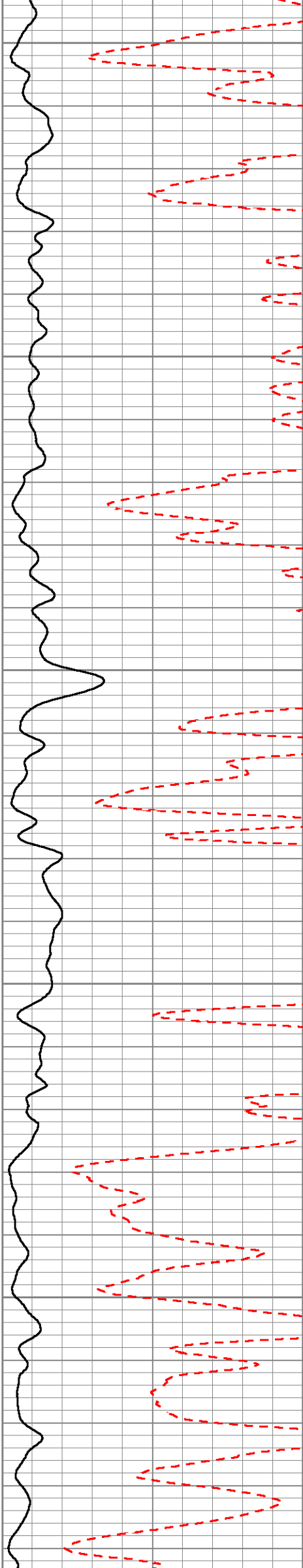
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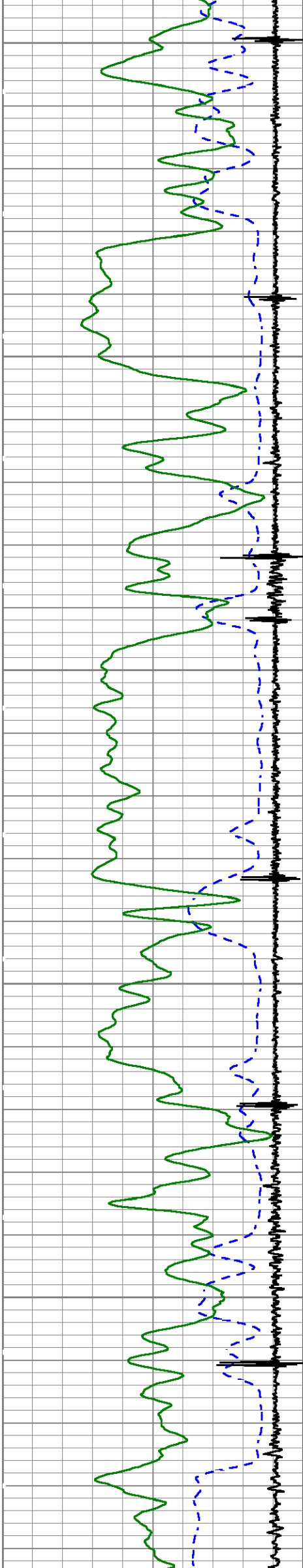




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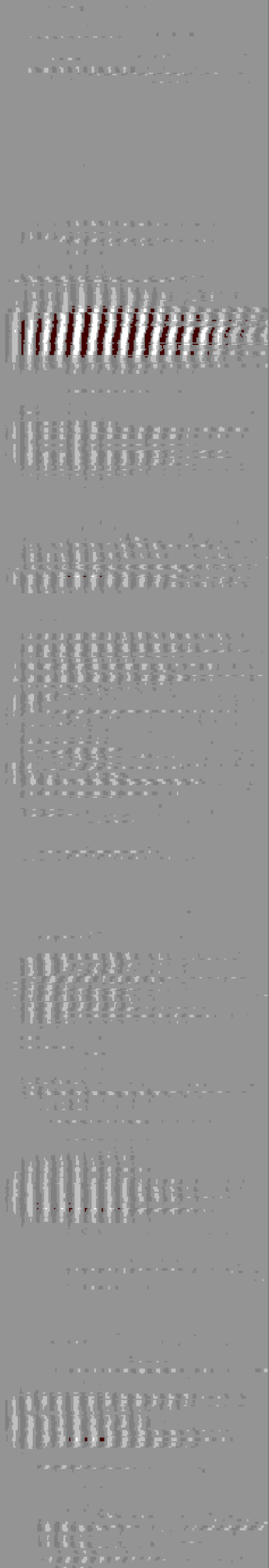
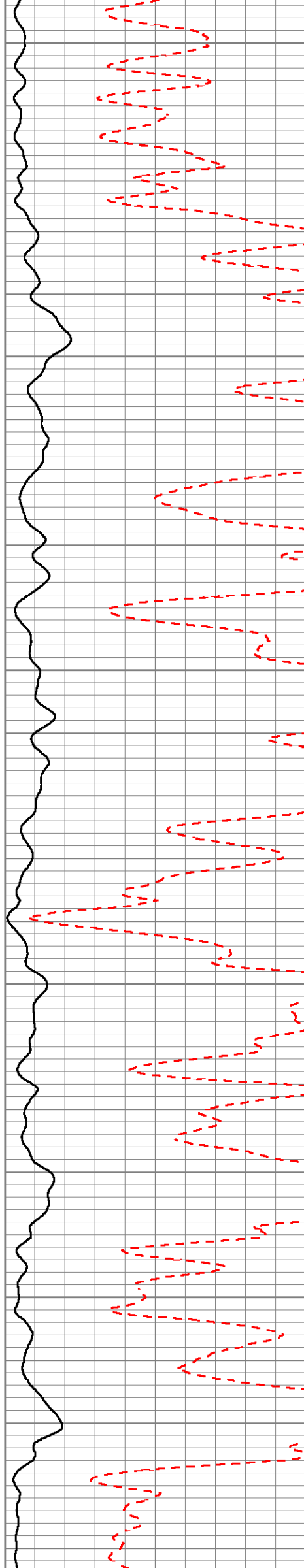


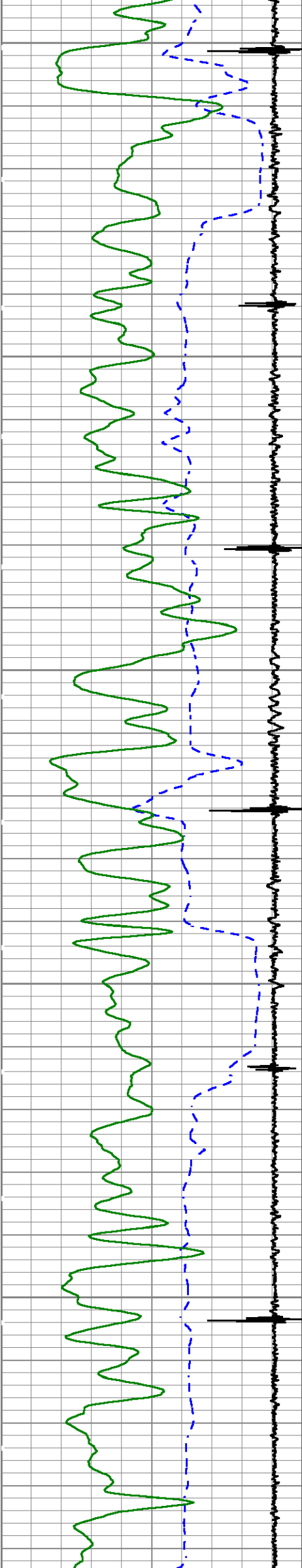


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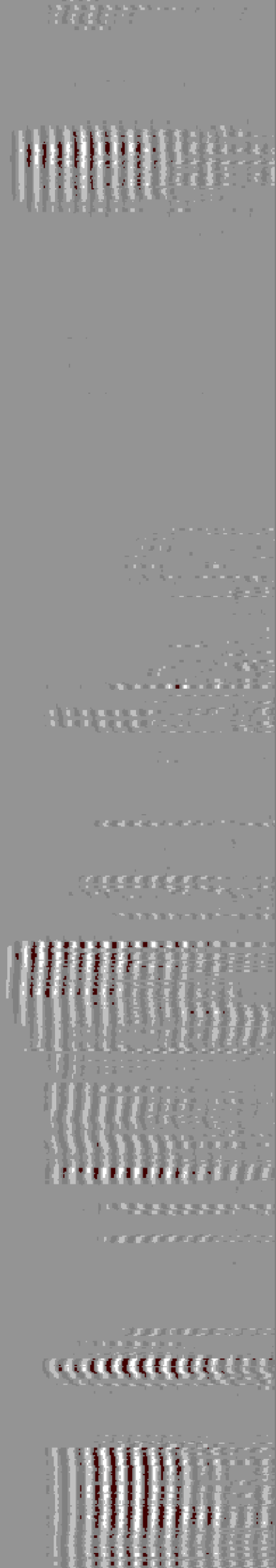
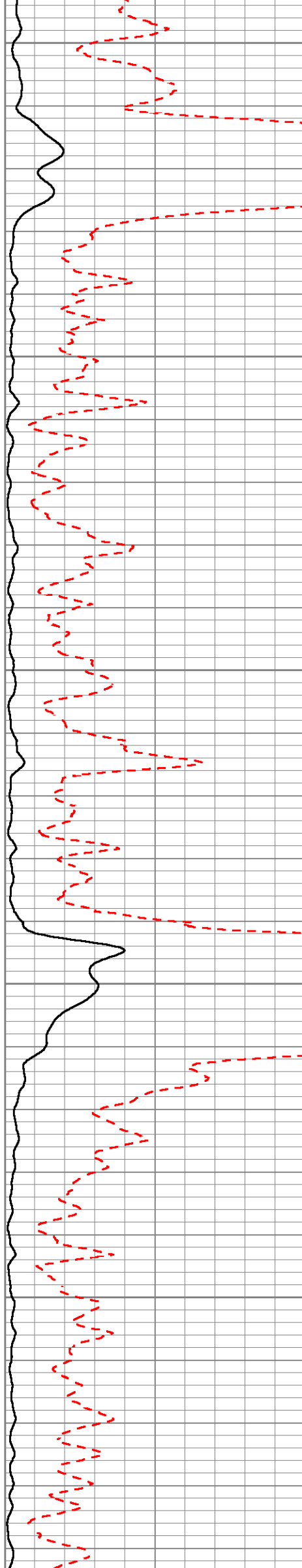
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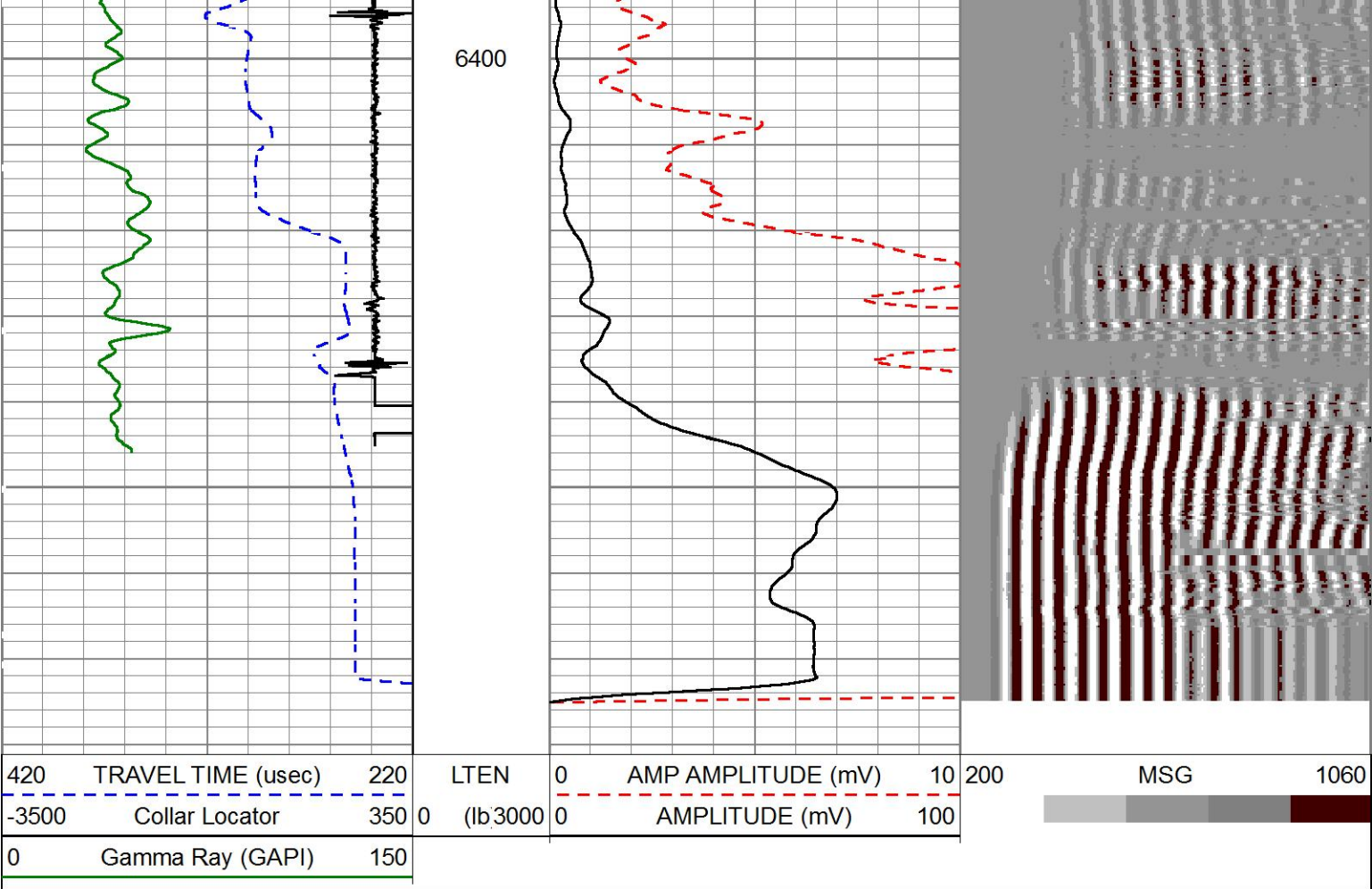




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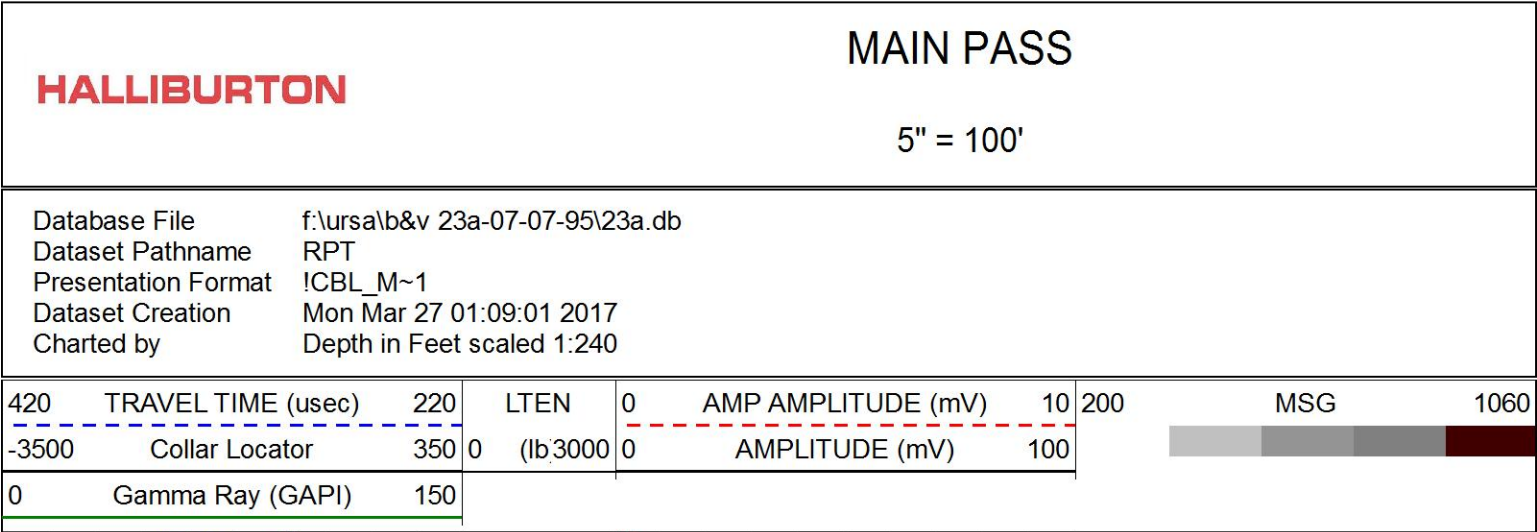




MAIN PASS

5" = 100'

HALLIBURTON

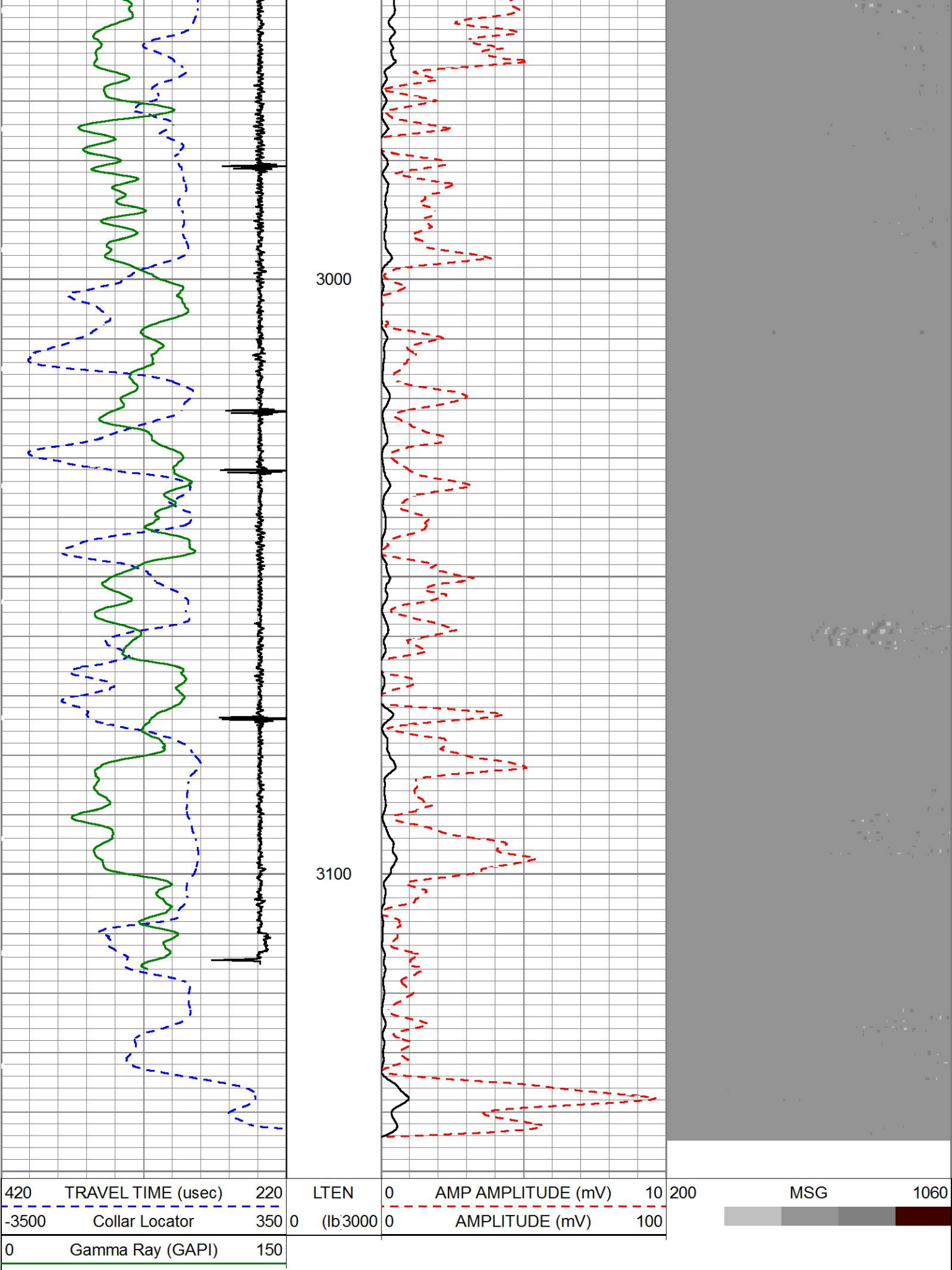


MAIN PASS

5" = 100'

HALLIBURTON

Database File f:\ursa\b&v 23a-07-07-95\23a.db
Dataset Pathname RPT
Presentation Format ICBL_M~1
Dataset Creation Mon Mar 27 01:09:01 2017
Charted by Depth in Feet scaled 1:240



MAIN PASS

HALLIBURTON

5" = 100'

Log Variables

Database: \ursa\b&v 23a-07-07-95\23a.db
Dataset: field/well/run1/MAIN/_vars_

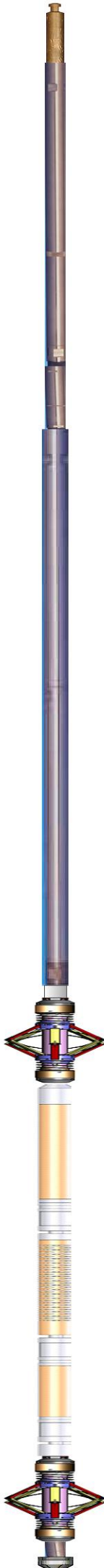
Top - Bottom

BHSAL1 1	BHSAL2 0	BHTEMP_Src TEMP	BITSIZE in 7.875	BORSAL kppm 150	BOTTEMP degF 200	CASED? Yes	CASEOD in 4.5
CASETHCK in 0.25	CASEWGHT lb/ft 11.6	LIRISHFTF 0	LIRISHFTN 0	LTH Sandstone	MAXAMPL mV 82	MINAMPL mV 1	MINATTN db/ft 0.8
MSGGN 1	MudWgt lb/gal 8.4	PERFS 0	POROS1 1	POROS2 0	PPT usec 0	RHO CF 0.25	SO in 0
SRFTEMP degF 50	TDEPTH ft 6500	UHSGC NONE	USERFTT usec/ft 0	ZREF MRayl 1.7			

Calibration Report		
Database File	f:\ursa\b&v 23a-07-07-95\23a.db	
Dataset Pathname	MAIN	
Dataset Creation	Mon Mar 27 01:39:13 2017	
Cement Bond Log Shop Calibration Report		
Serial-Model:	11836468-A	
Calibration Performed:	Sun Mar 26 19:34:08 2017	
Free Pipe Calibration		
	Measured	Units
TT	245.6	usec
Amplitude	408.0	mV
Log Base Line	19.3	mV
Calibration References and Gain		
	Value	Units
Name		
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp.	82.0	mV
Amp. Gain	0.208	

Gamma Ray Calibration Report					
Type / Serial:		002 / 12159411			
SHOP CALIBRATION		Mon Feb 20 15:54:04 2017			
	Counts/Sec.	Gain	Offset	Jig	Units
Background	27.6				cps
Calibrator	317.4				cps
		1.4943			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

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
CCL	35.86		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
GR	33.60		TTTCU-002 (12159411) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	37.00
			XHU-003 (000001) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
RmtTFGT RmtTNGT	22.95 22.45		RMTI-A (12376244) Halliburton RMTI Tool	14.00	2.13	77.00
RmtFP5V RmtNFwMcsP RmtCommFWa	14.70 14.70 14.70		X-OVER-SondexxGo Sondex Box x Go Pin Cross Over	0.31	1.69	1.00
			CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
Temp	9.57					
TT3FT AMP3FT WVF5FT	7.32 7.32 6.36		HCBLM-A (11836468) Halliburton HCBLM Tool	9.38	2.75	116.00
WVF3FT	2.84		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
			AUH-001 (11072111) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00
LLMTEN	0.00		BUL-001 (000001) Bullnose	0.30	1.69	1.50

Dataset:	23a.db: field/well/run1/MAIN.1
Total length:	39.43 ft
Total weight:	293.50 lb
O.D.:	3.13 in

Company	URSA OPERATING COMPANY		
Well	B&V 23A-07-07-95		
Field	WILDCAT		
County	GARFIELD	State	CO

HALLIBURTON	CEMENT BOND LOG
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