

CEMENT BOND LOG

[illegible]

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.

TOOLS WERE RAN IN 4.5" 11.6# CASING.

RMT RAN IN SIGMA MODE WITH A GENERATOR VOLTAGE OF 86V.

****THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES****

Service Ticket No.	903920761	API No.	05045228440000	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		

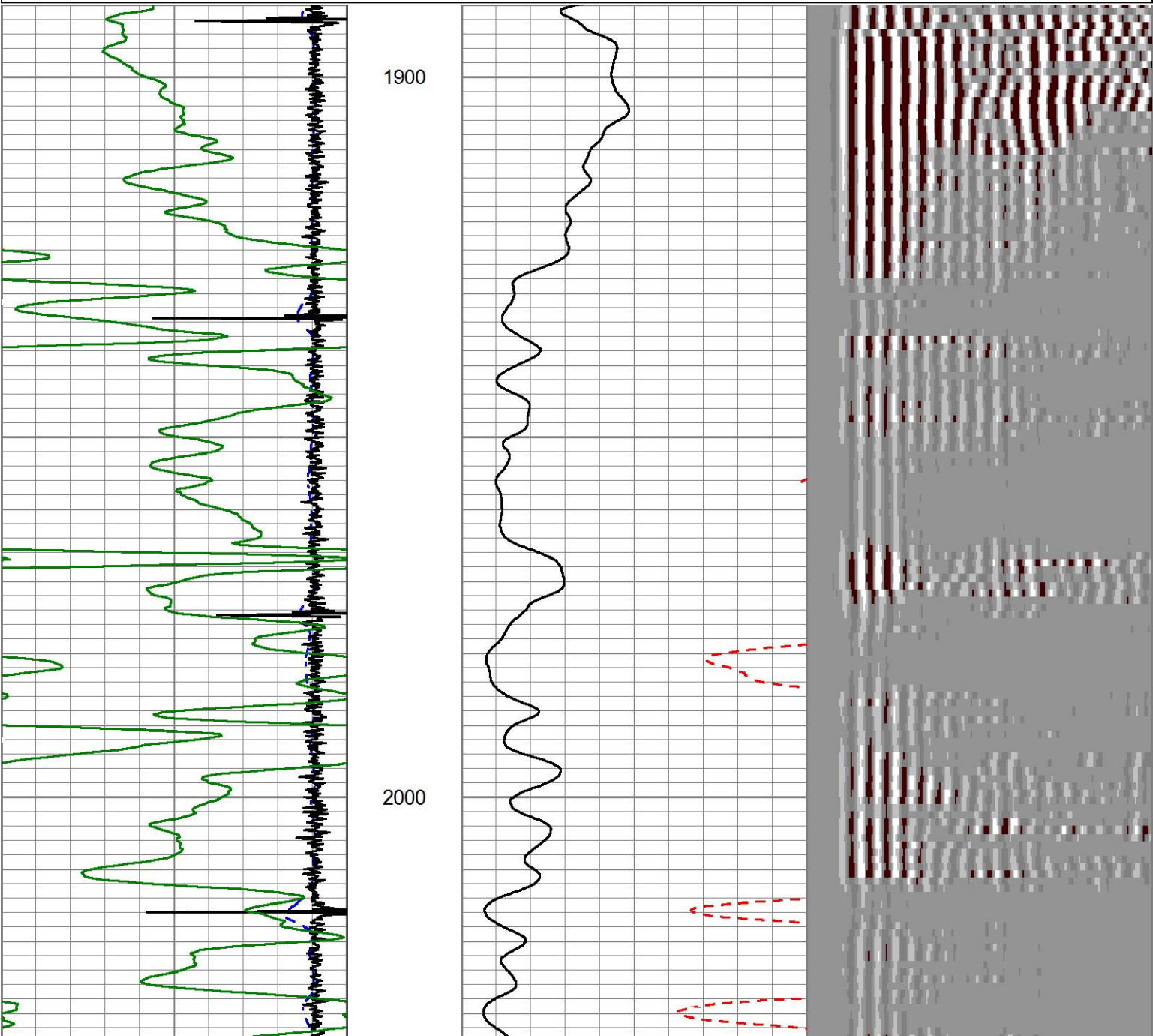
HALLIBURTON

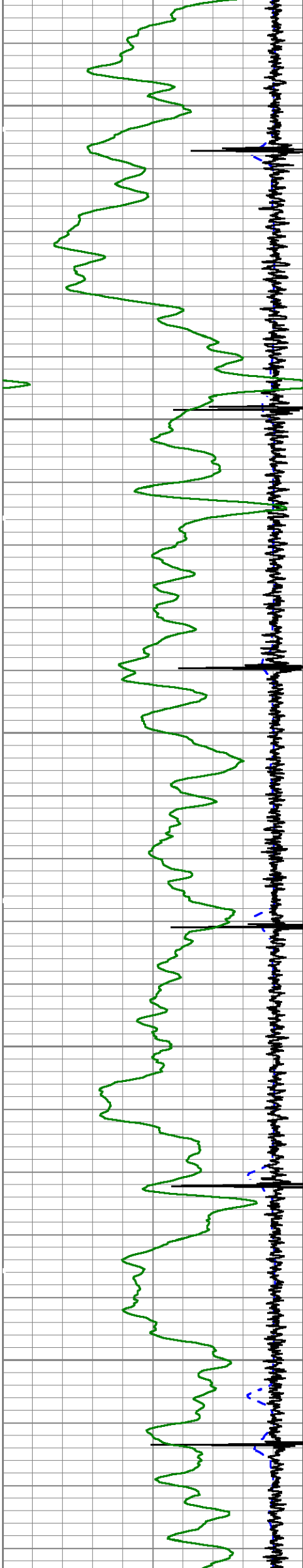
MAIN PASS

5" = 100'

Database File	g:\ursab&v 33b-07-07-95\33b.db
Dataset Pathname	MAIN1
Presentation Format	ICBL_M~1
Dataset Creation	Mon Mar 27 16:16:44 2017
Charted by	Depth in Feet scaled 1:240

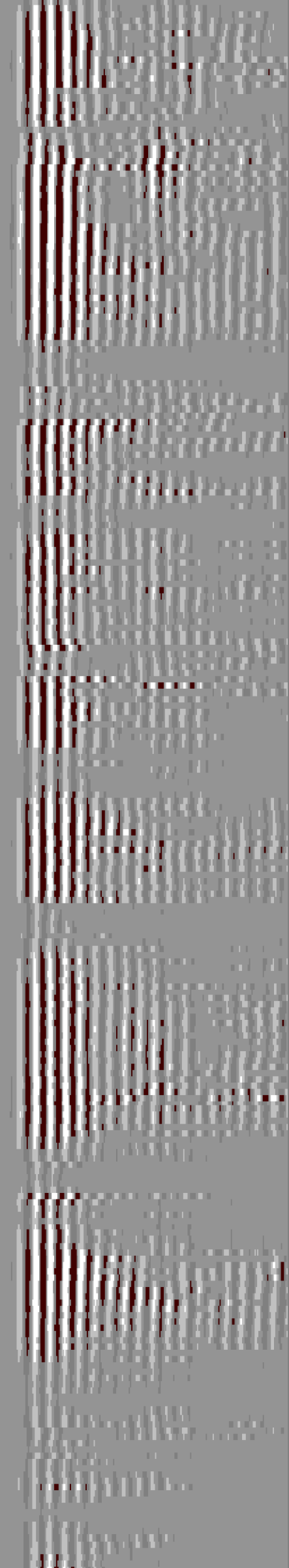
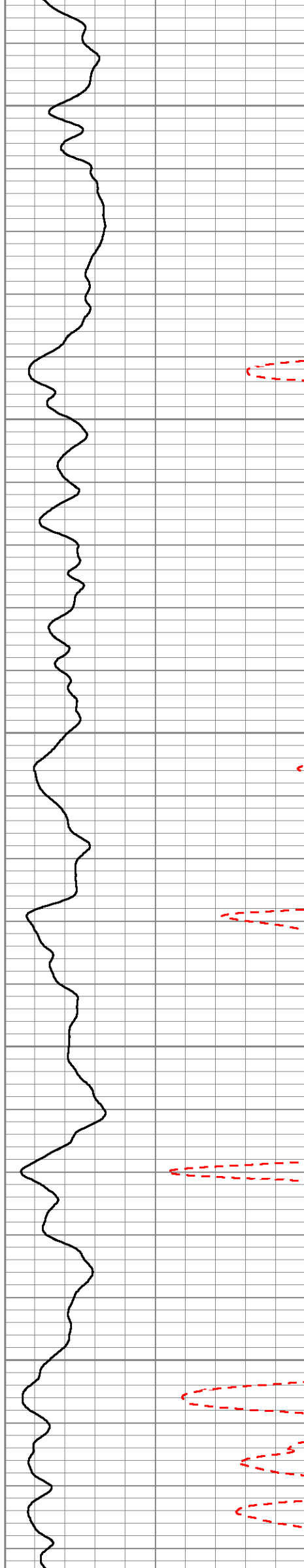
420	TRAVEL TIME (usec)	220	LTEN	0	AMP AMPLITUDE (mV)	10	200	MSG	1060
-3500	Collar Locator	350	0	(lb)3000	0	AMPLITUDE (mV)	100		
0	Gamma Ray (GAPI)	150							

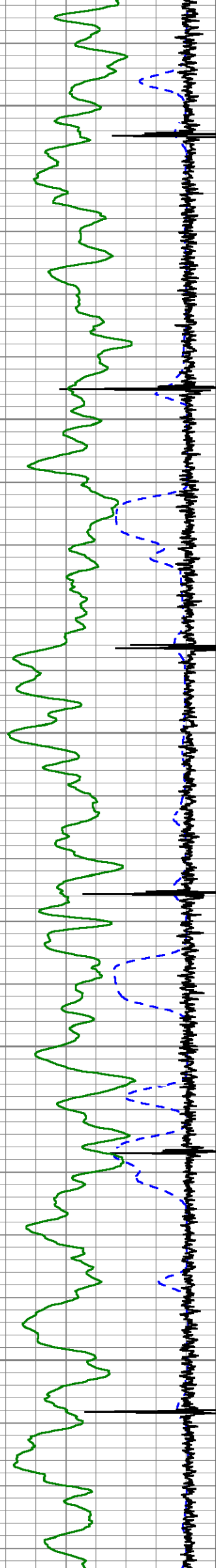




2100

2200

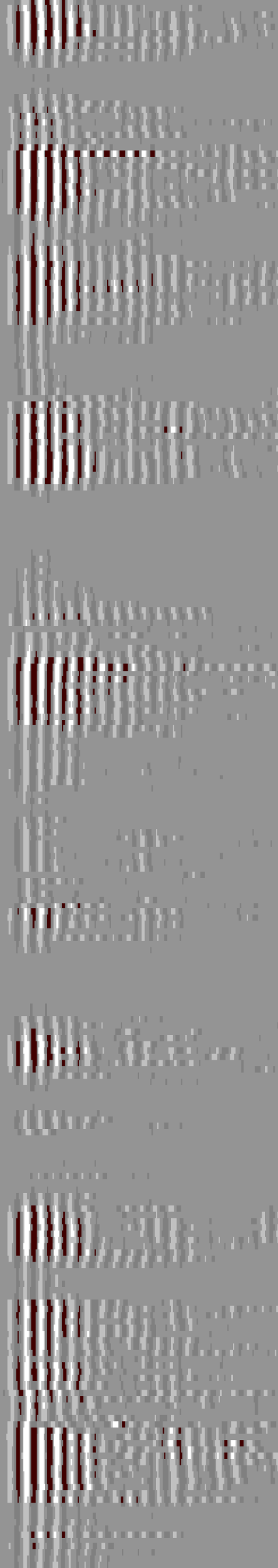
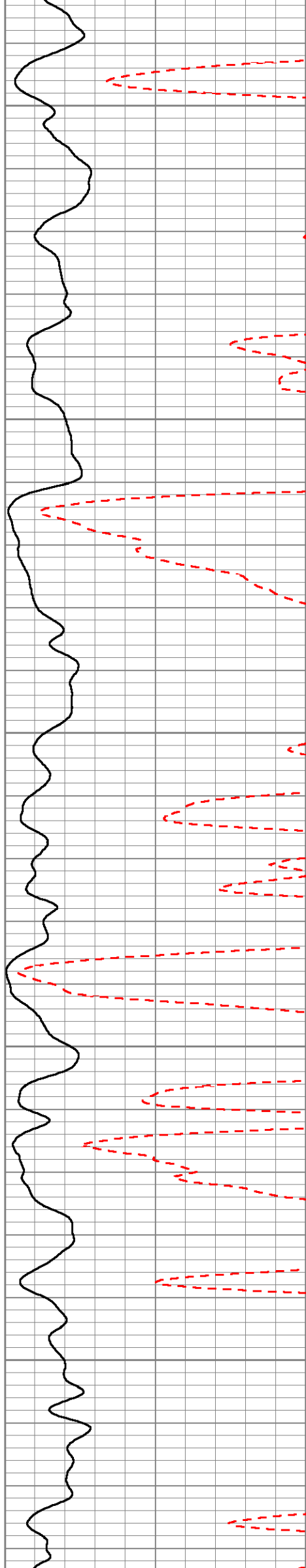


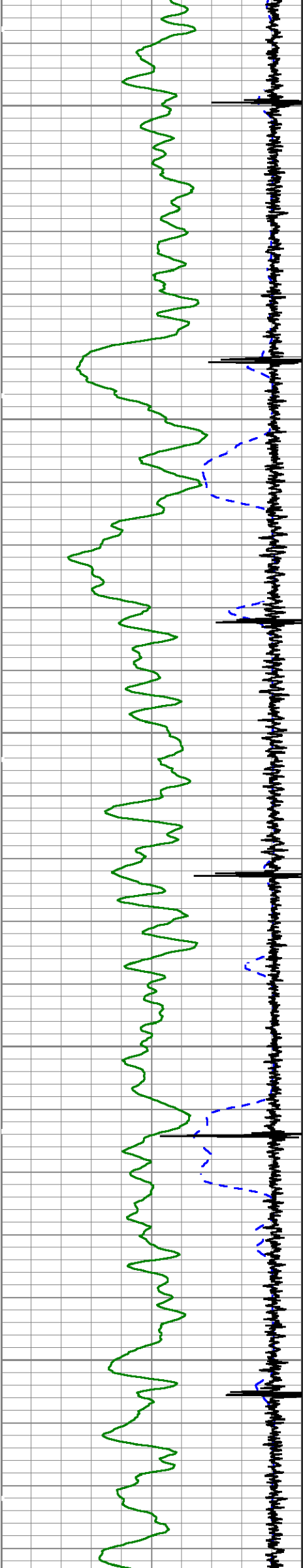


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2400

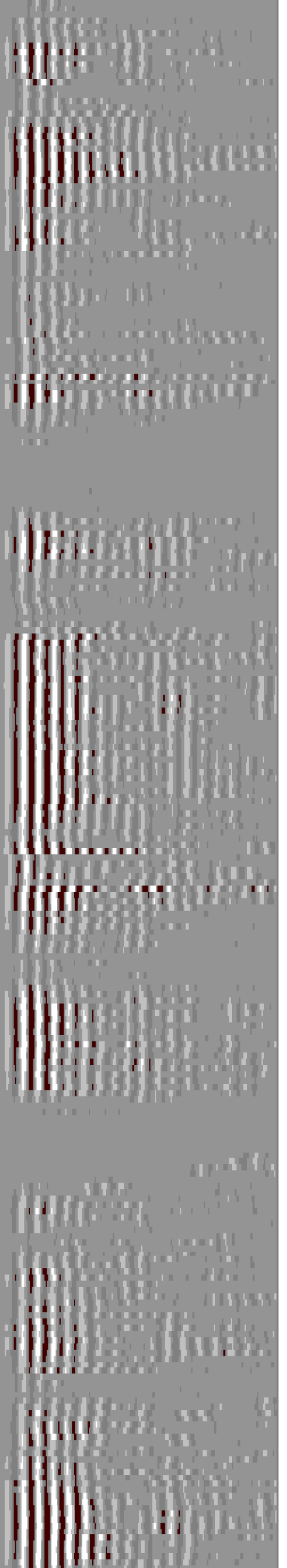
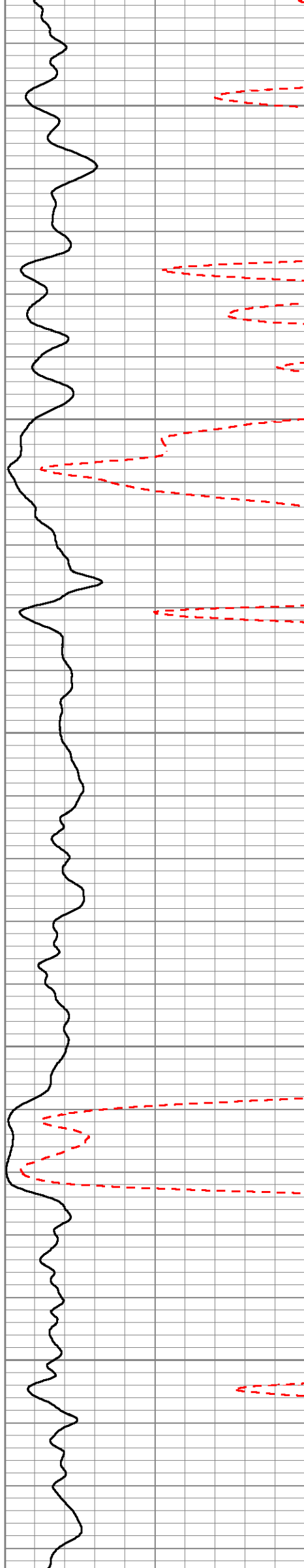
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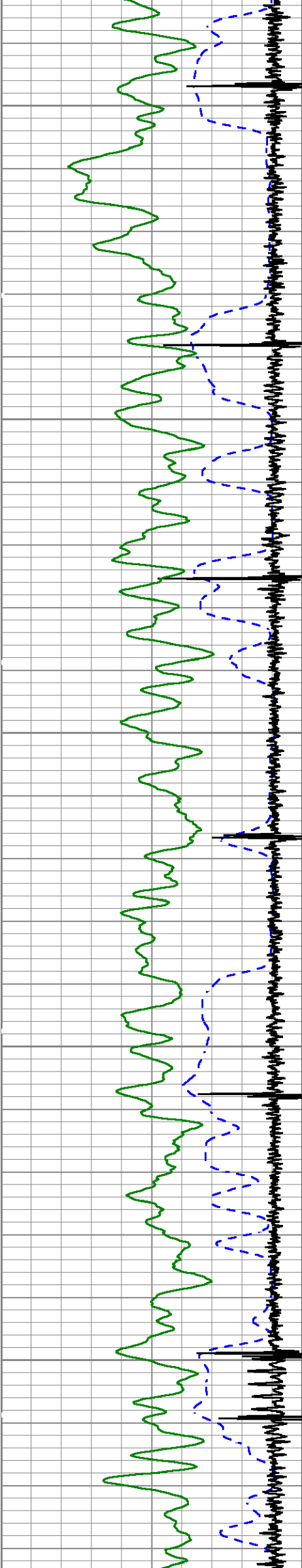




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2700

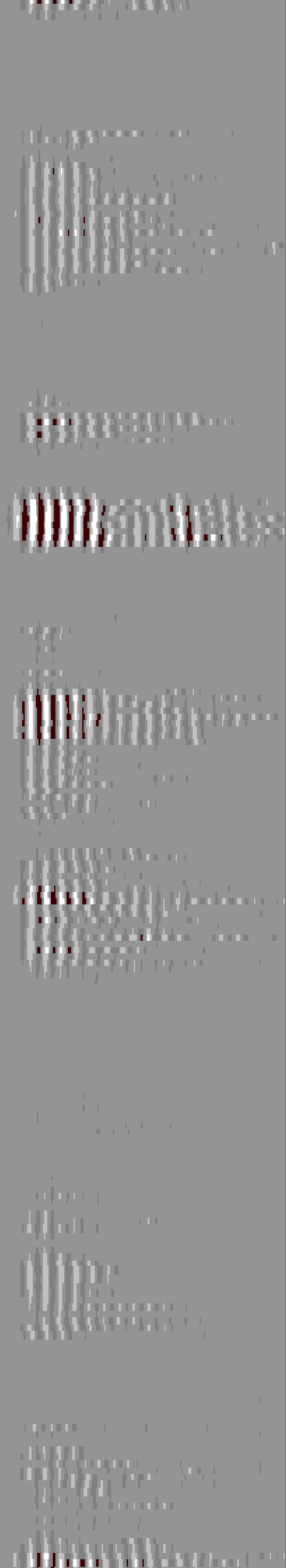
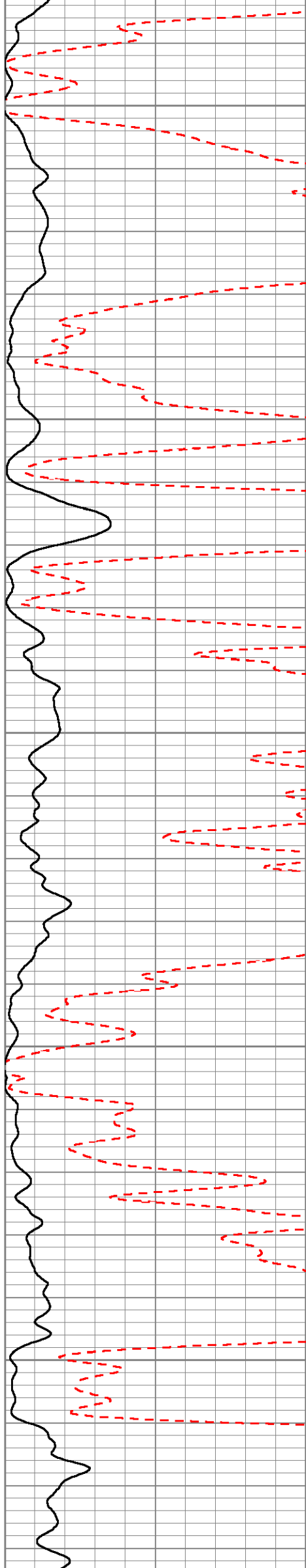


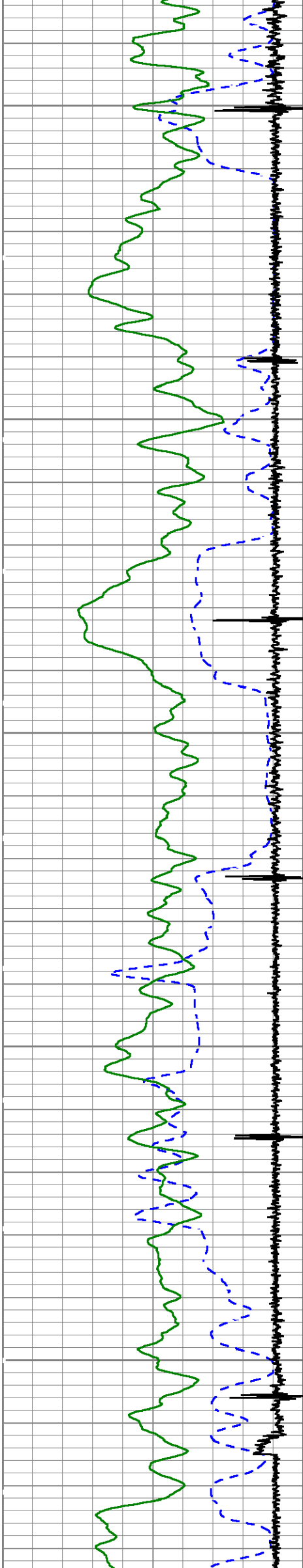


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2900

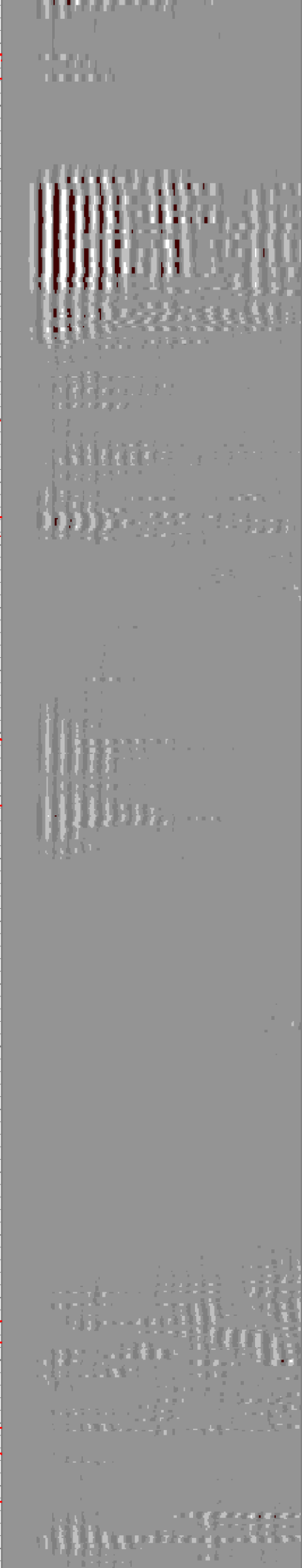
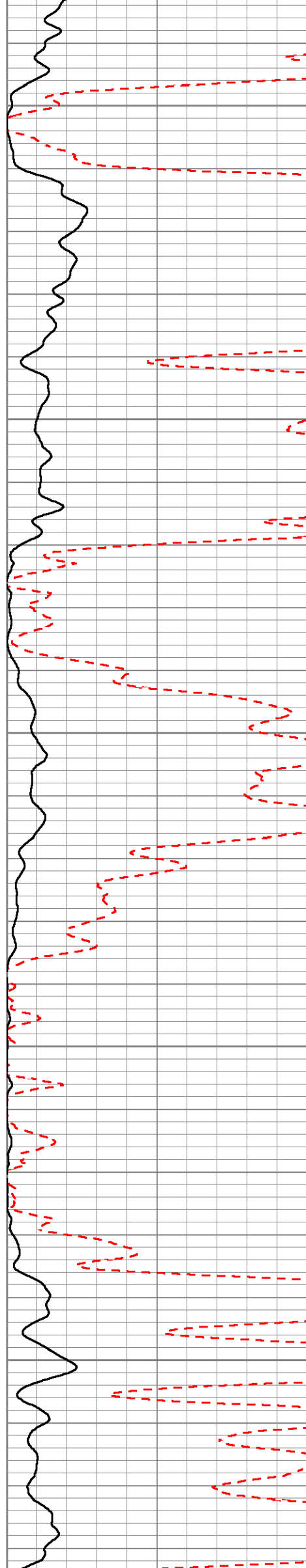
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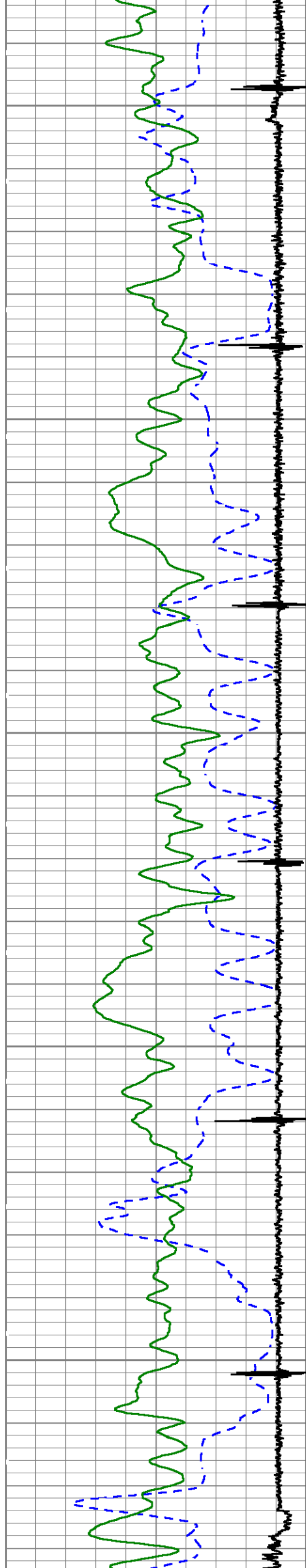




3100

3200

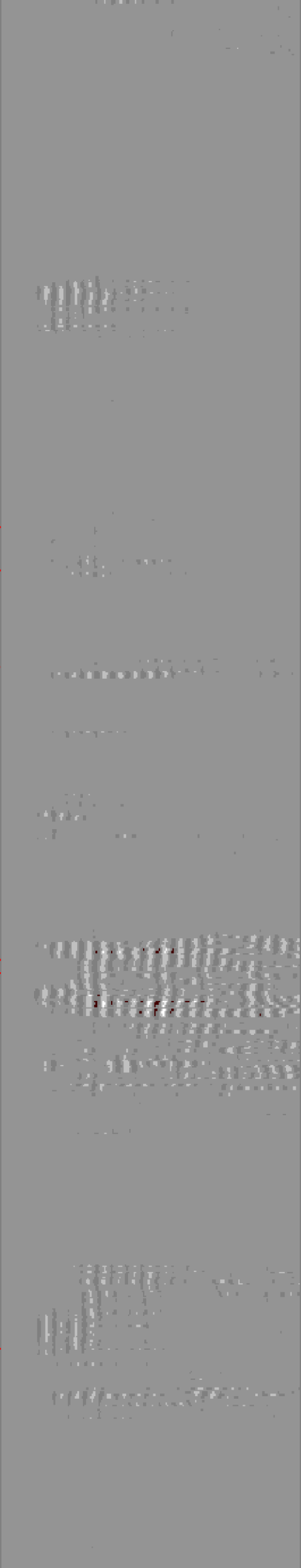
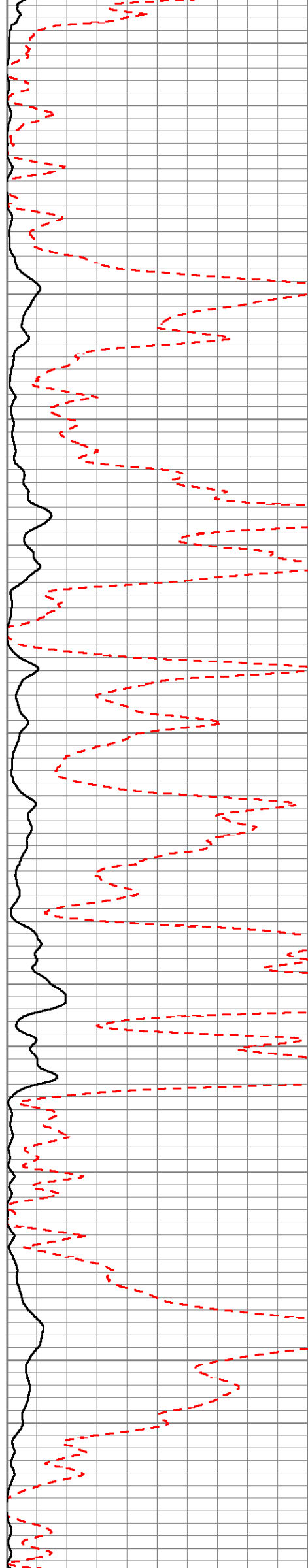


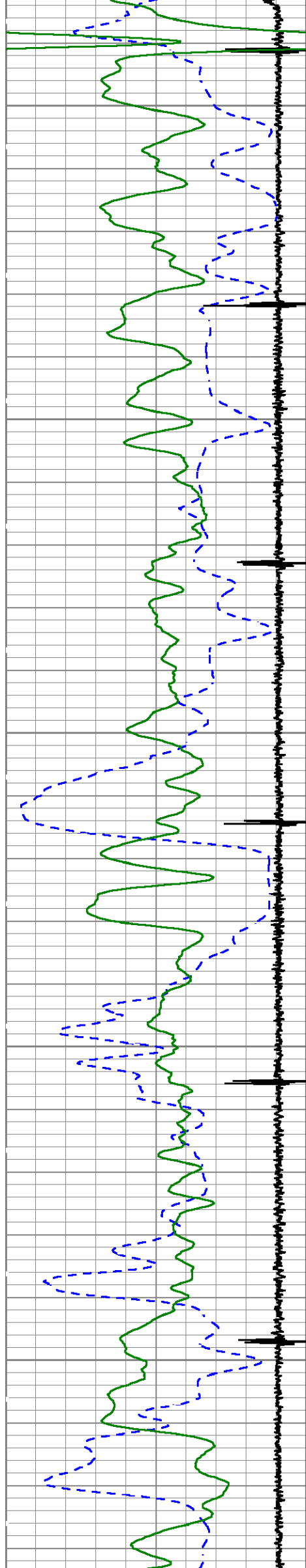


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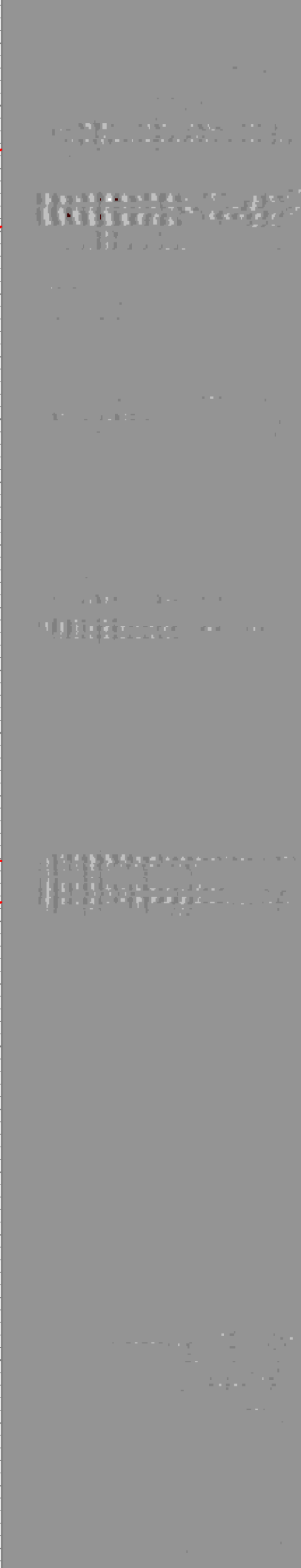
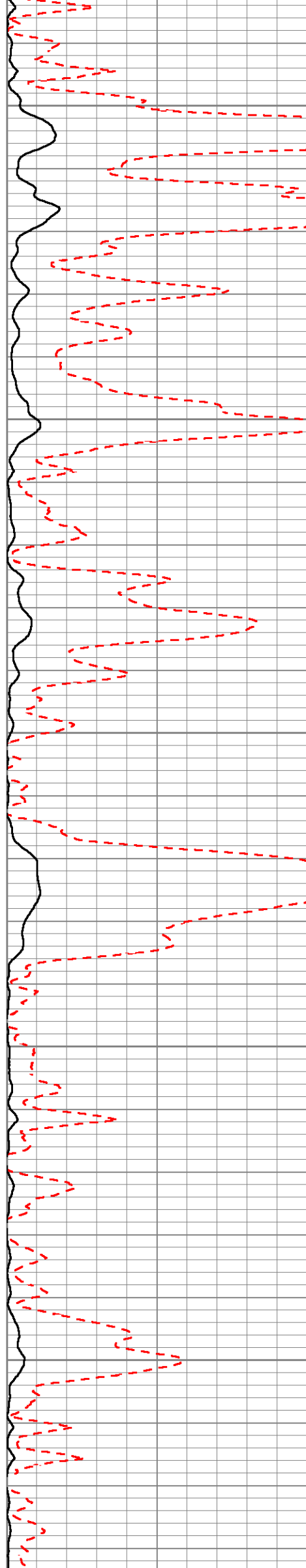
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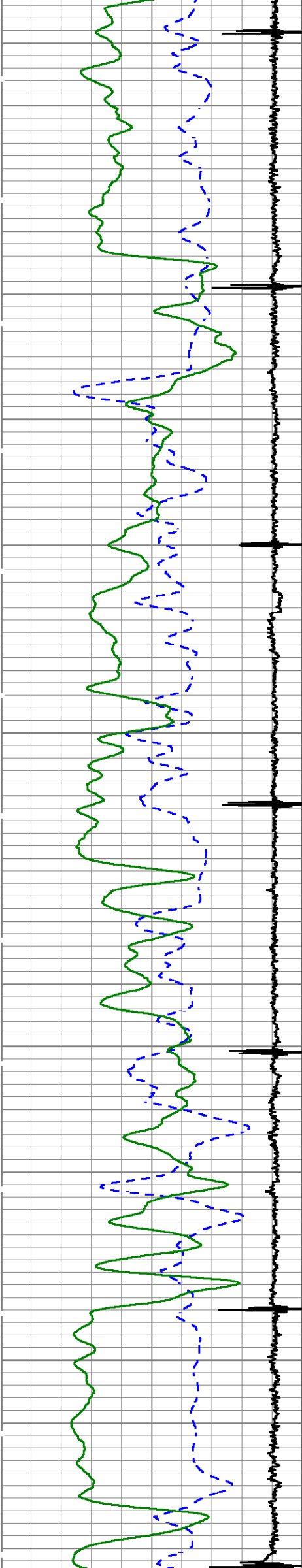




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3700

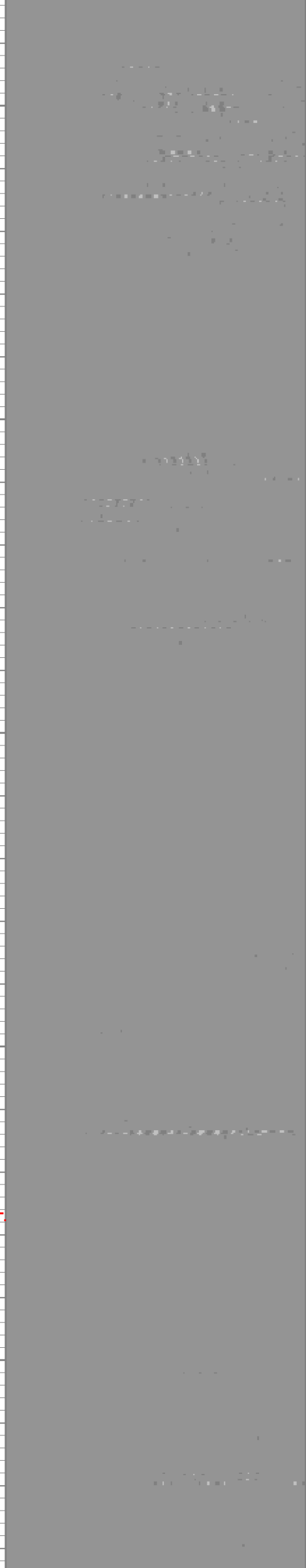
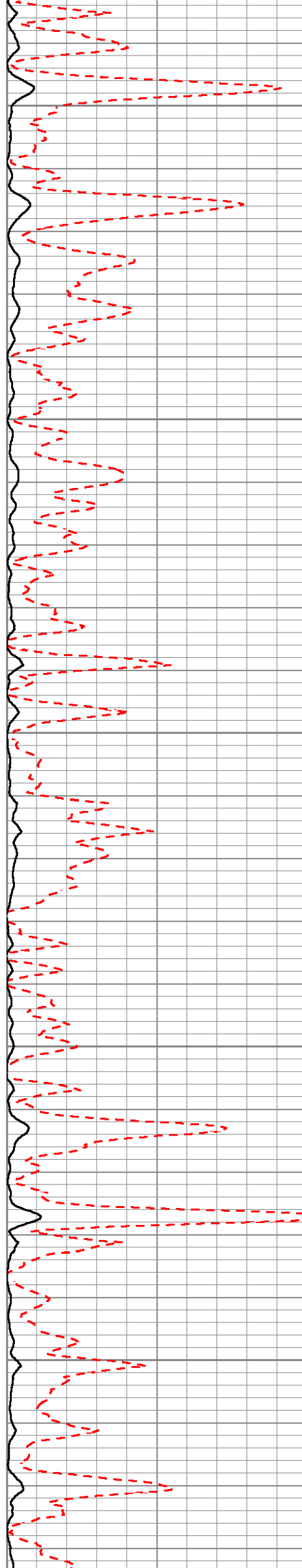


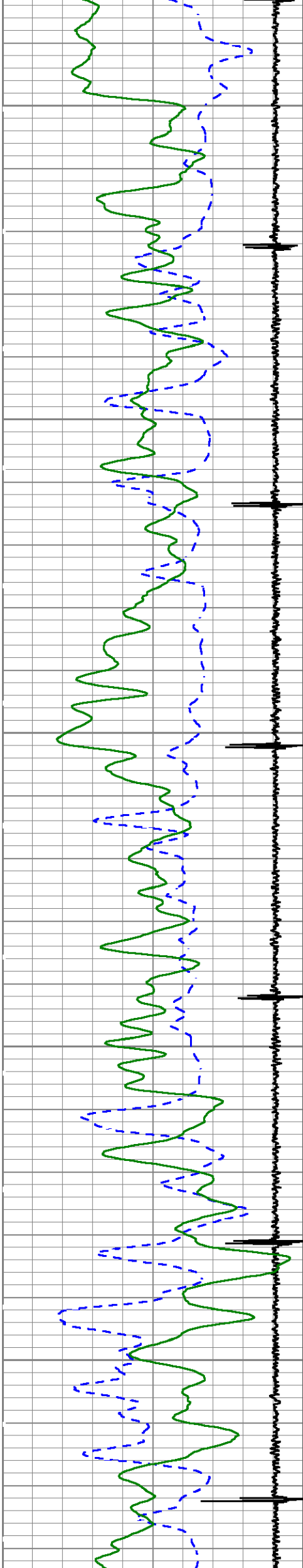


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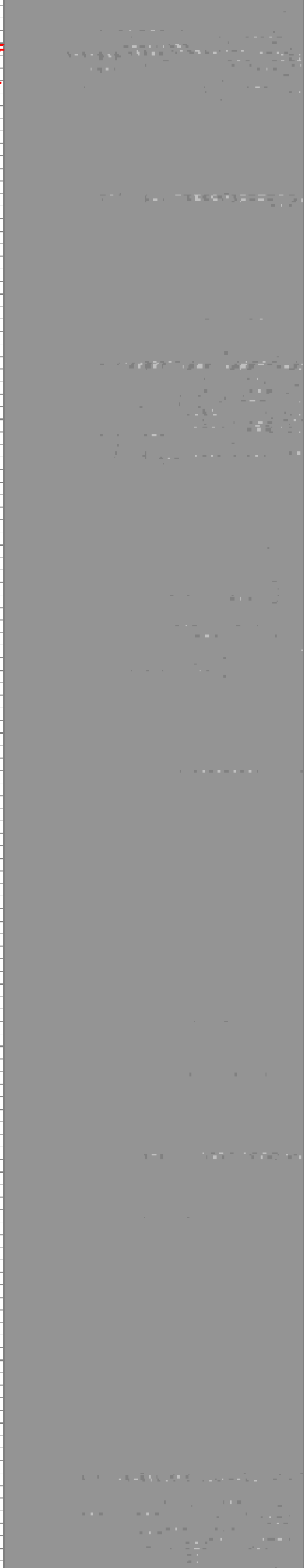
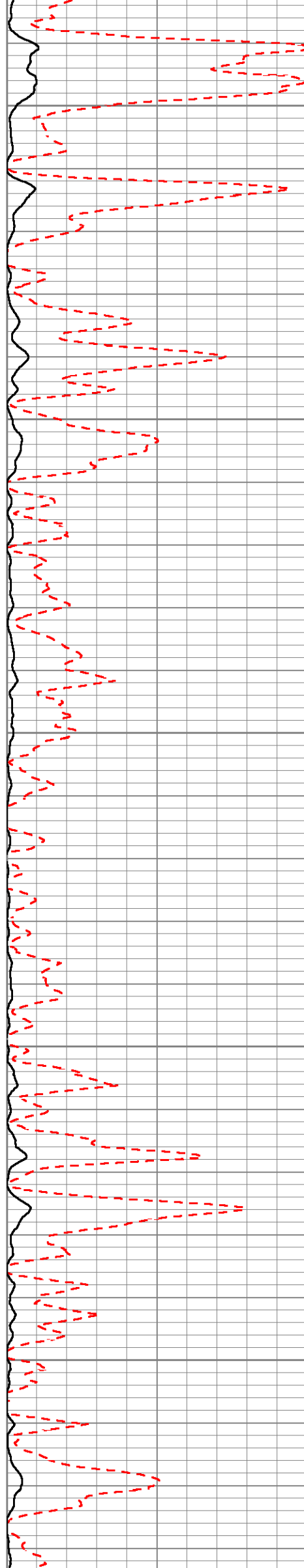
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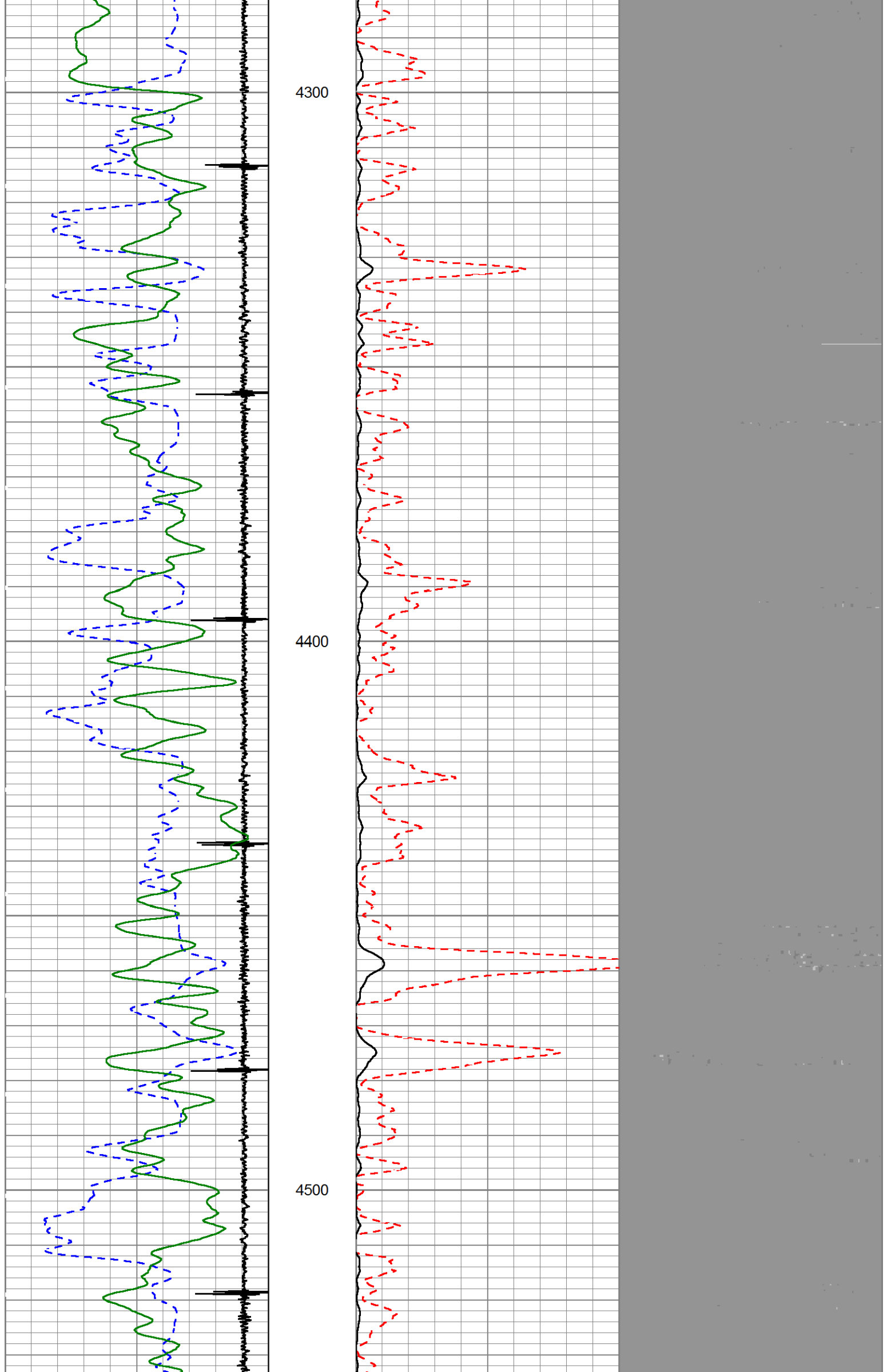


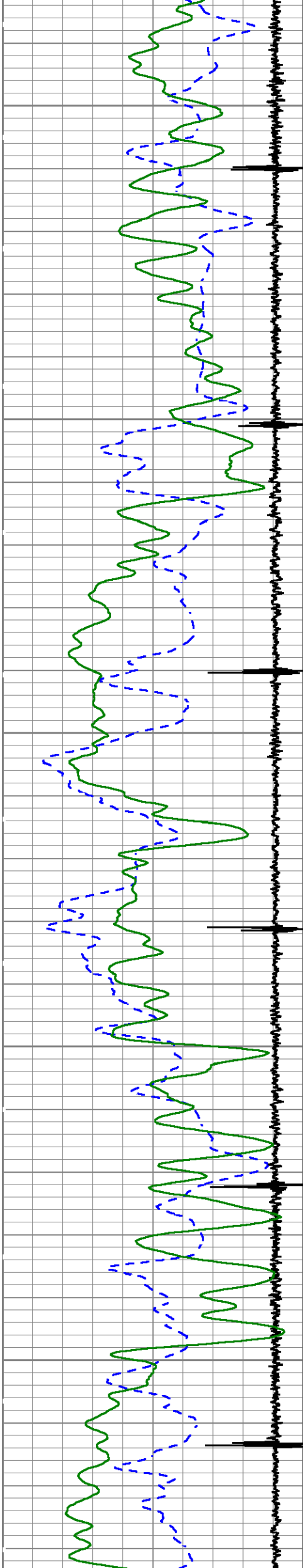


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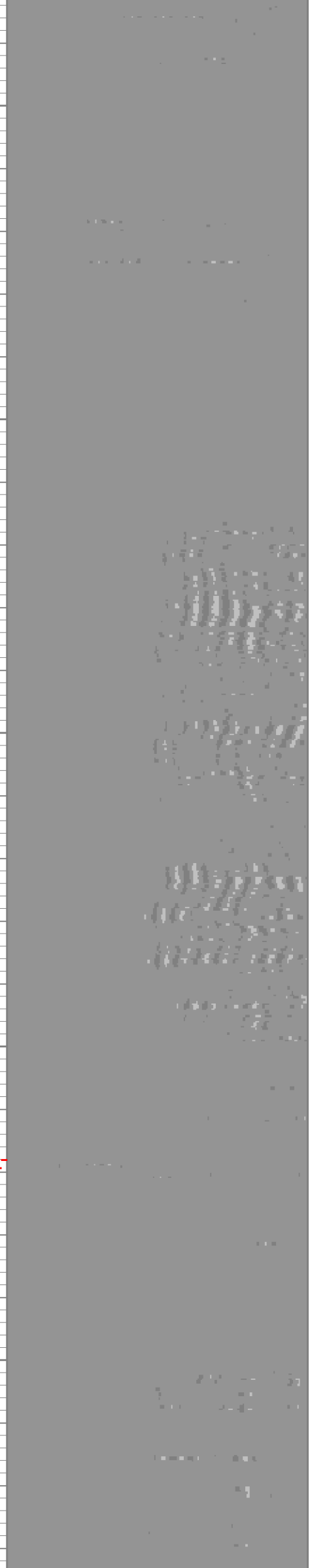
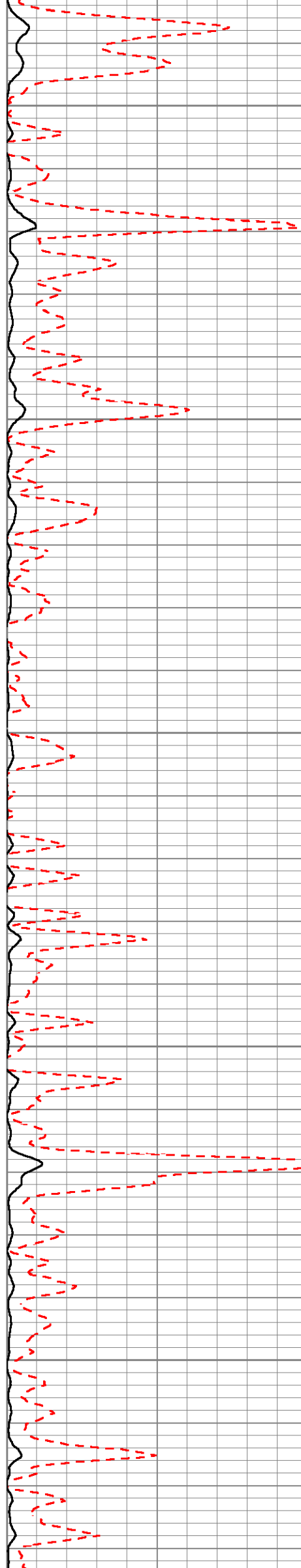


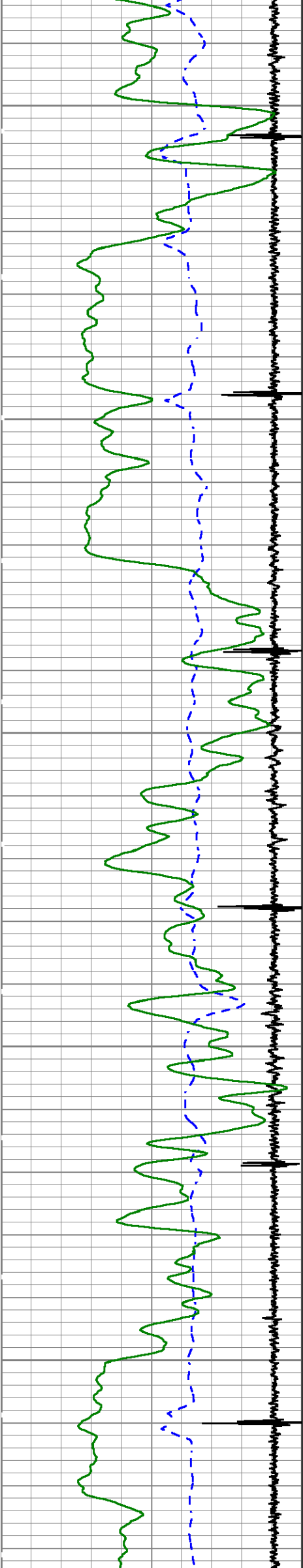




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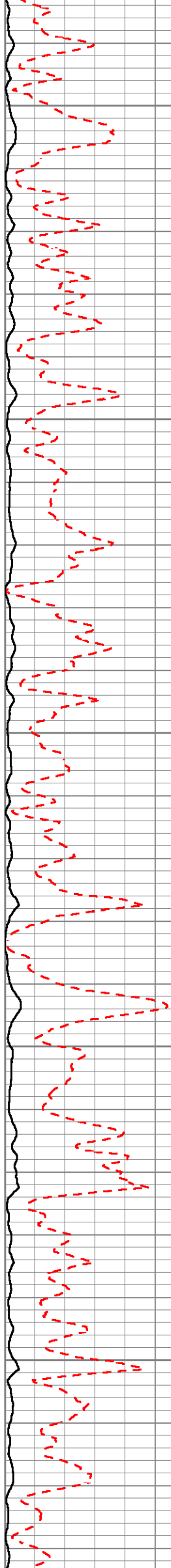


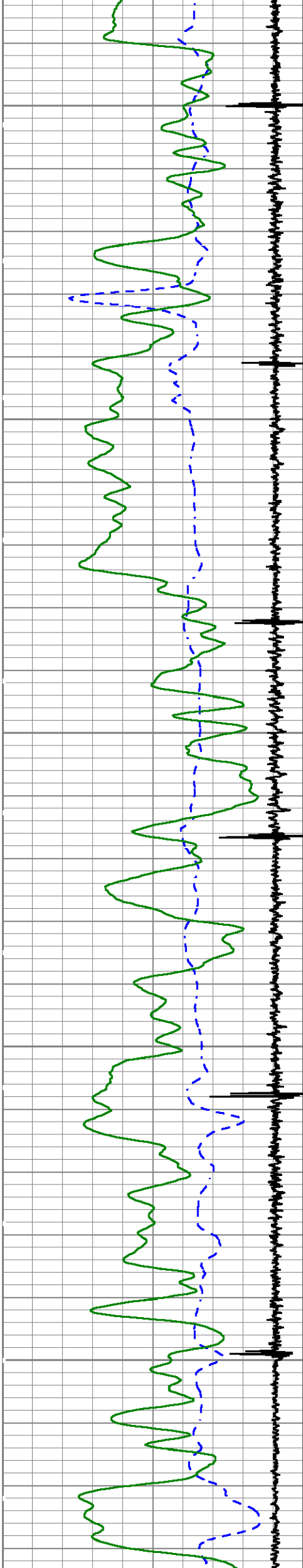


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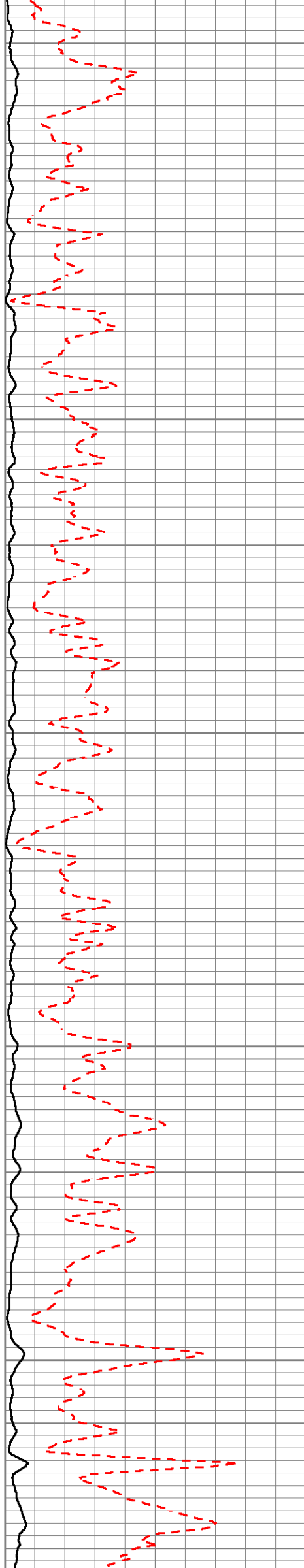
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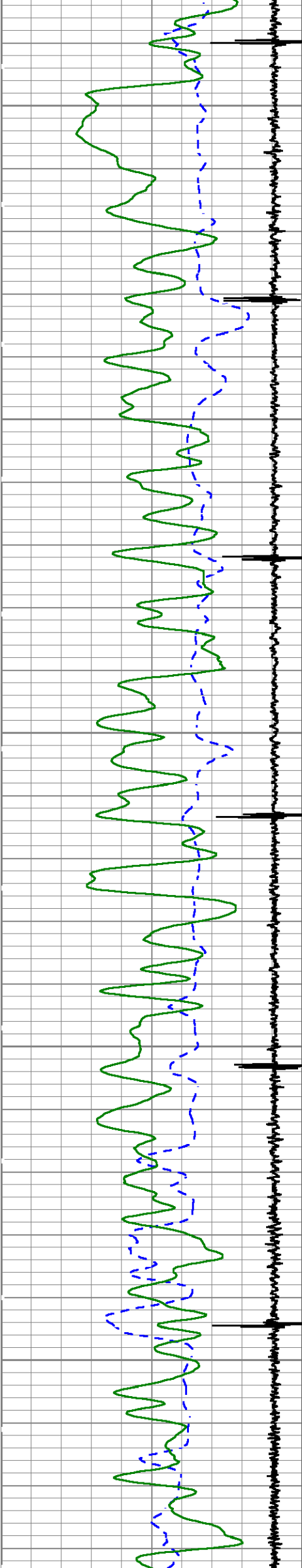




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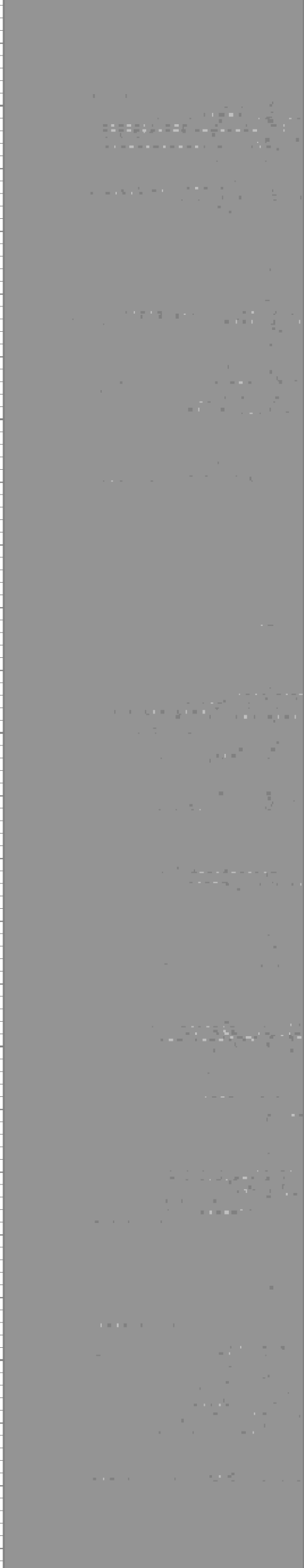
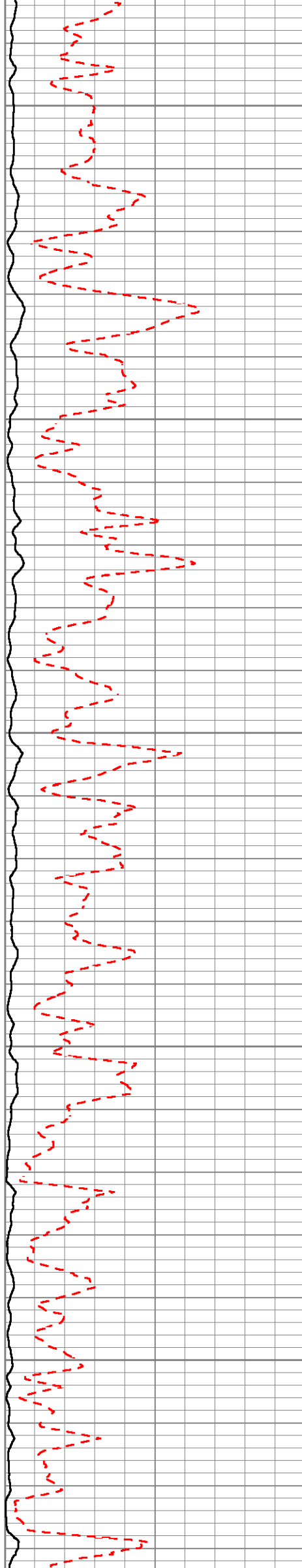


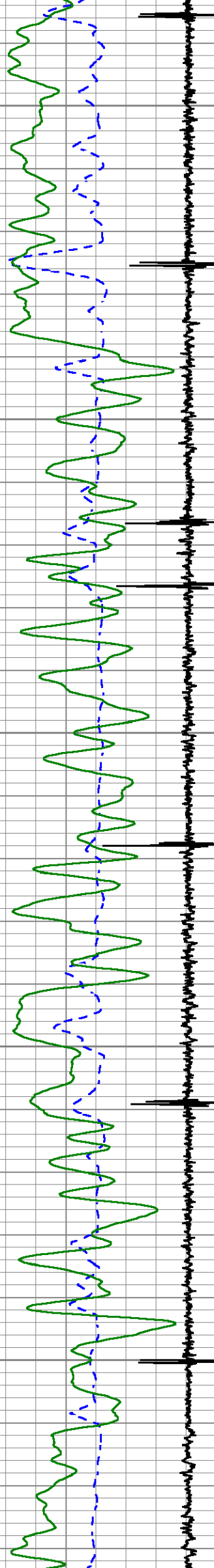


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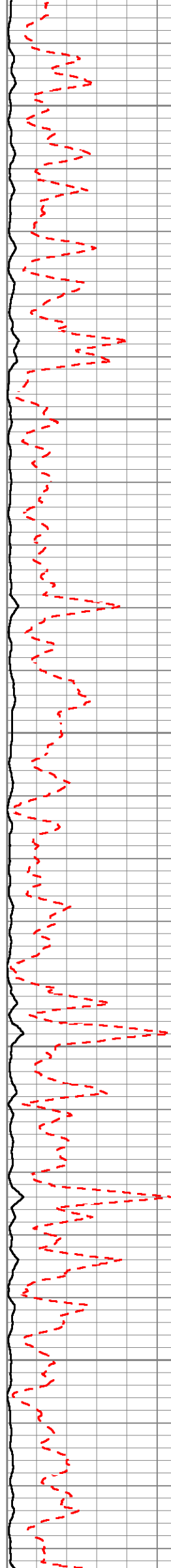
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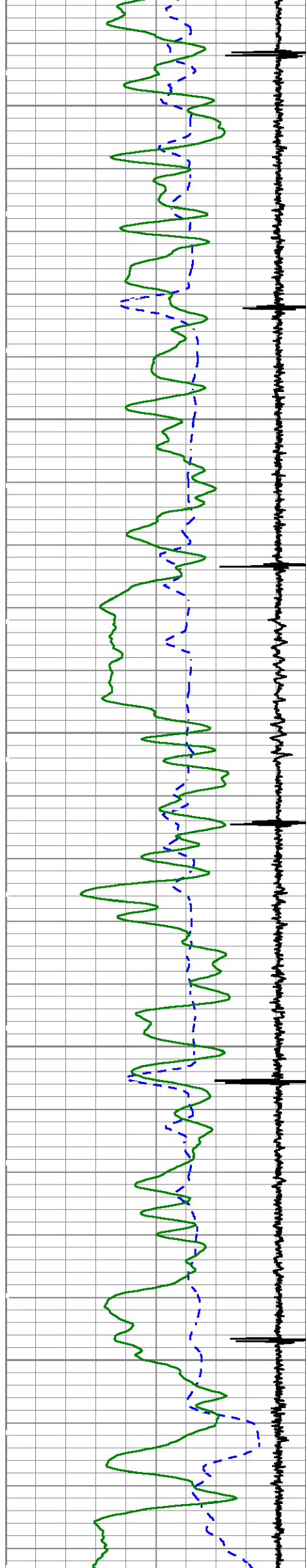




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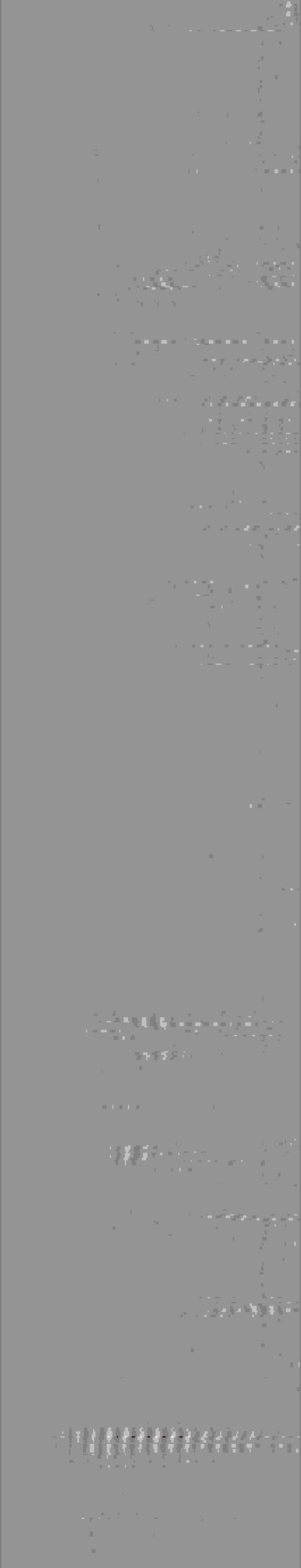
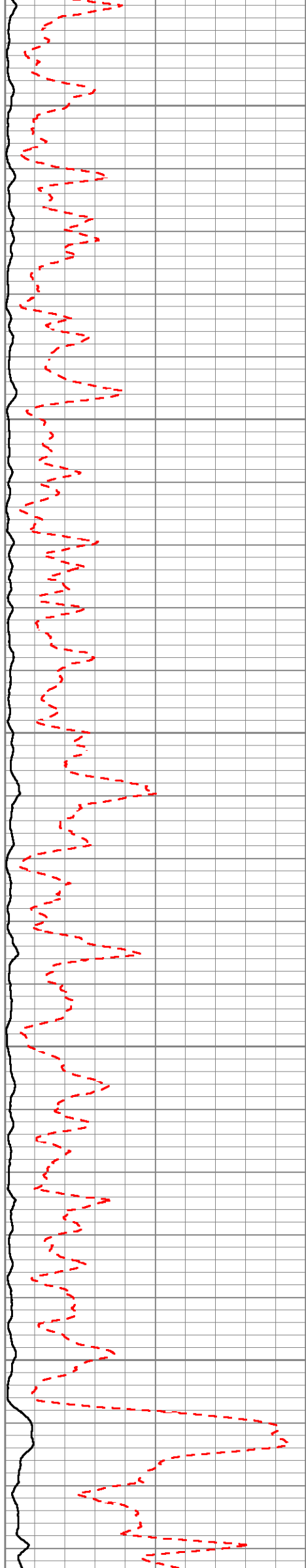


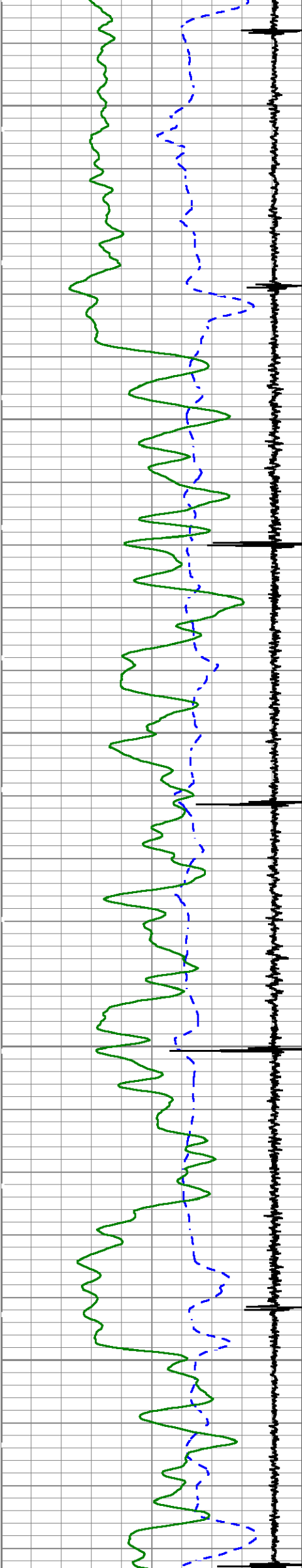


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5900

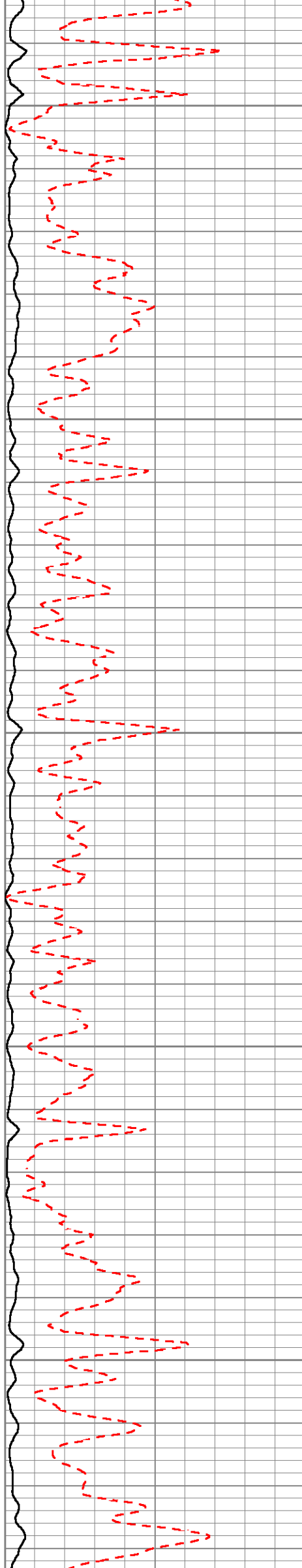
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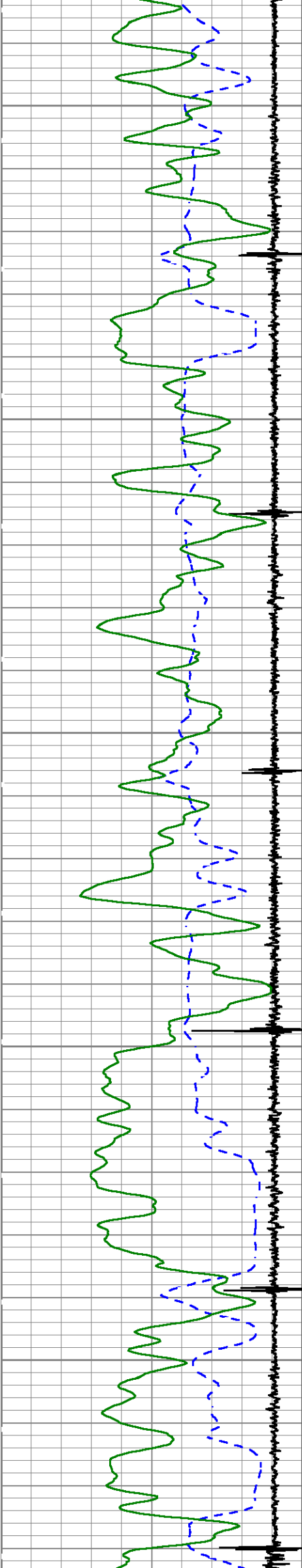




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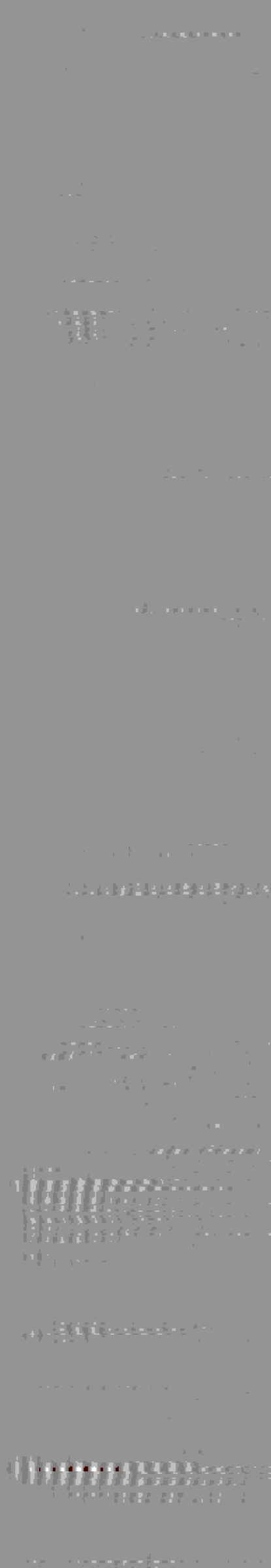
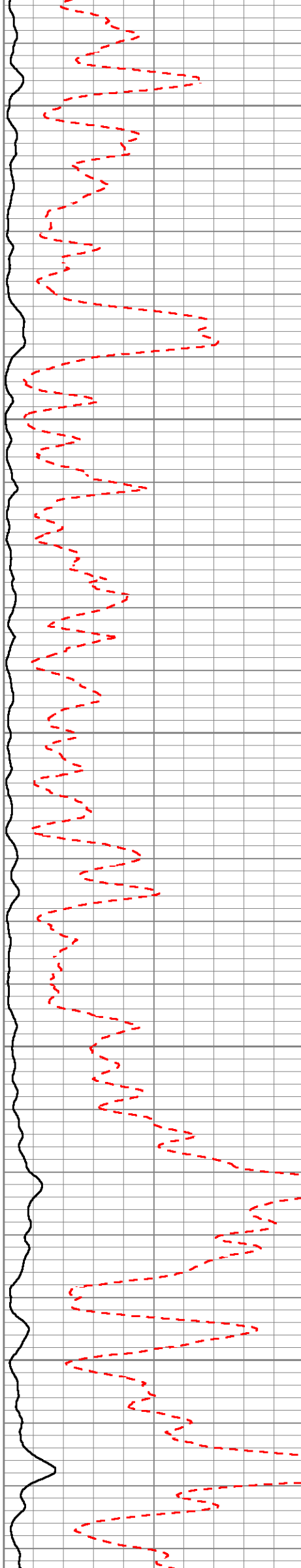


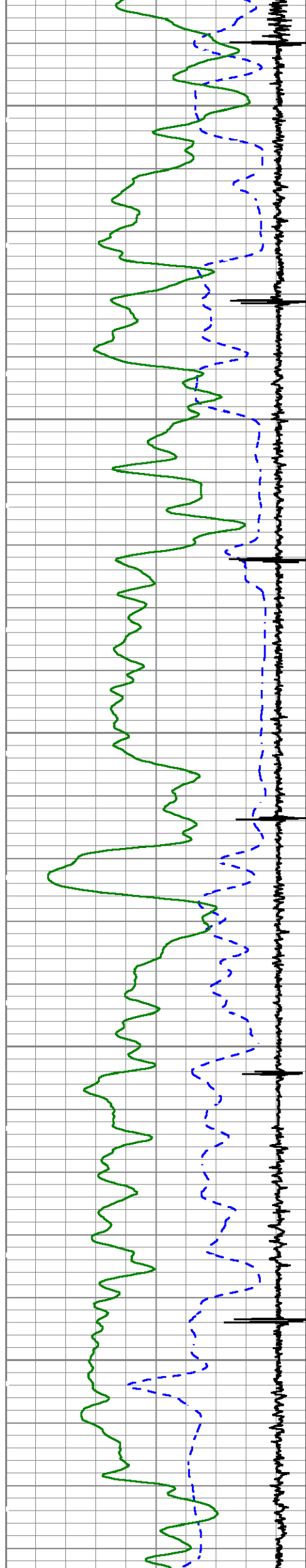


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6400

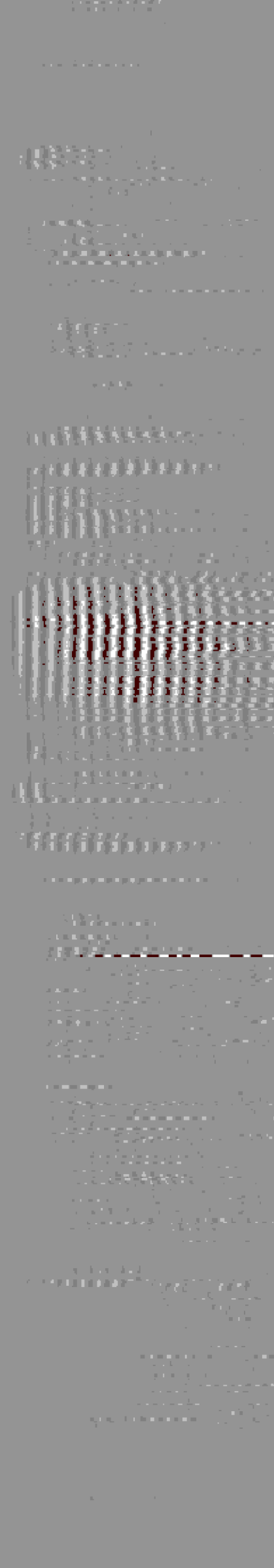
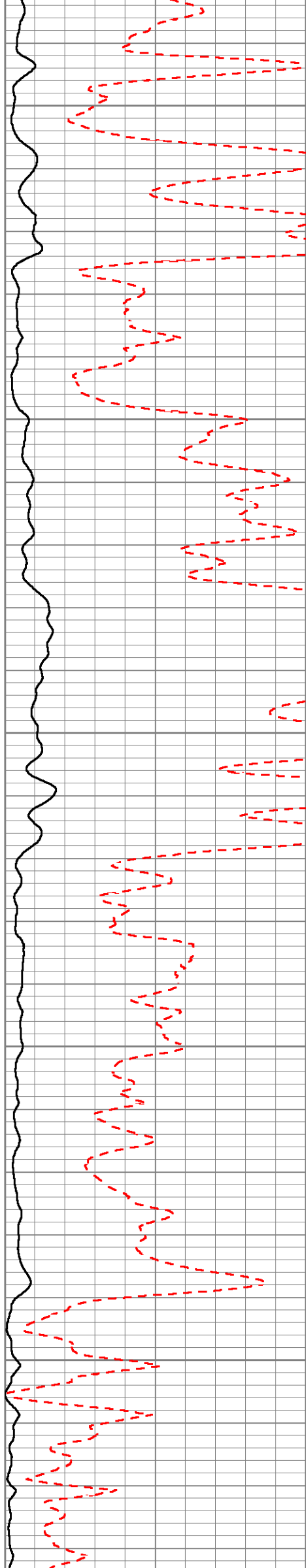
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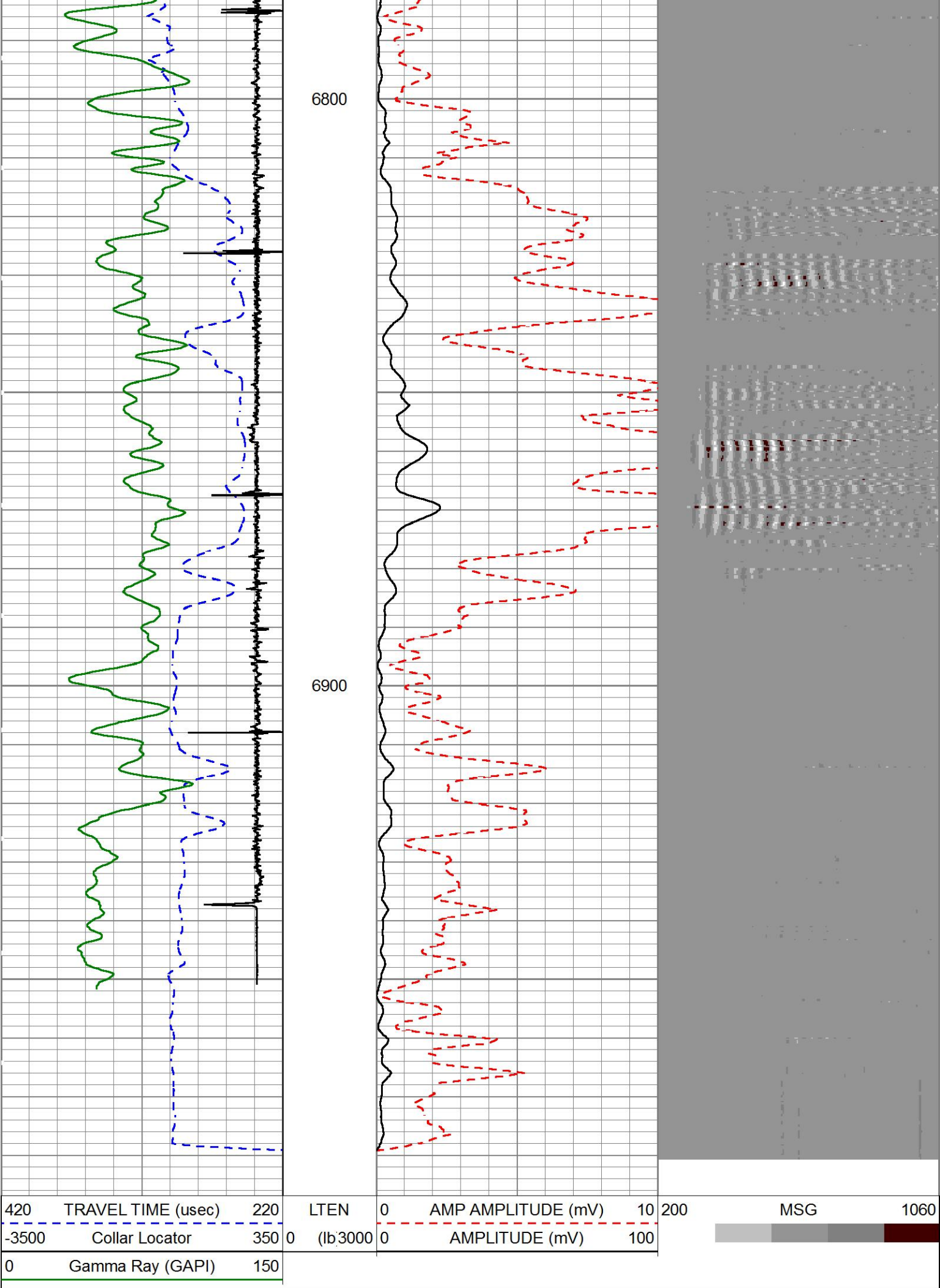




6600

6700





MAIN PASS

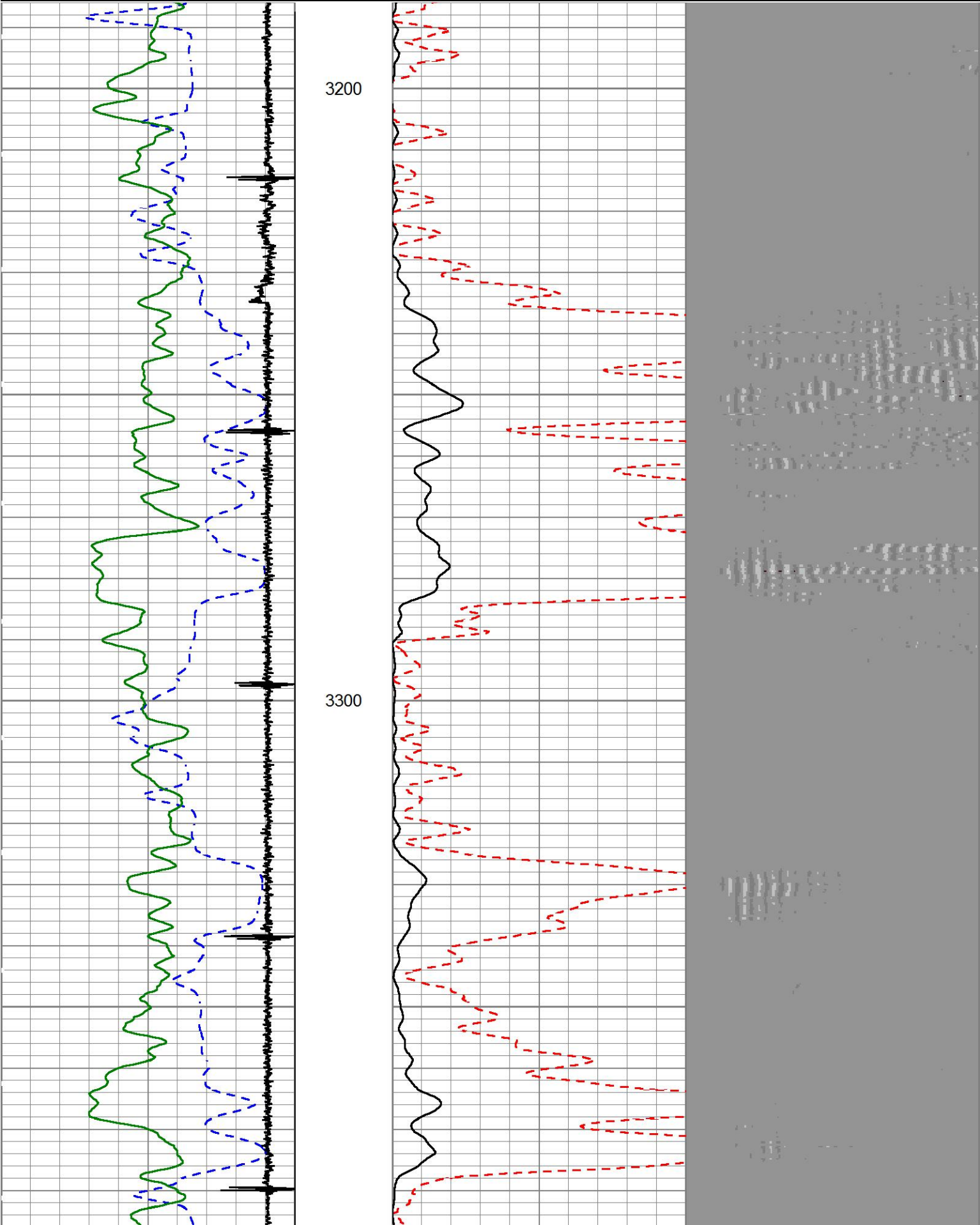
5" = 100'

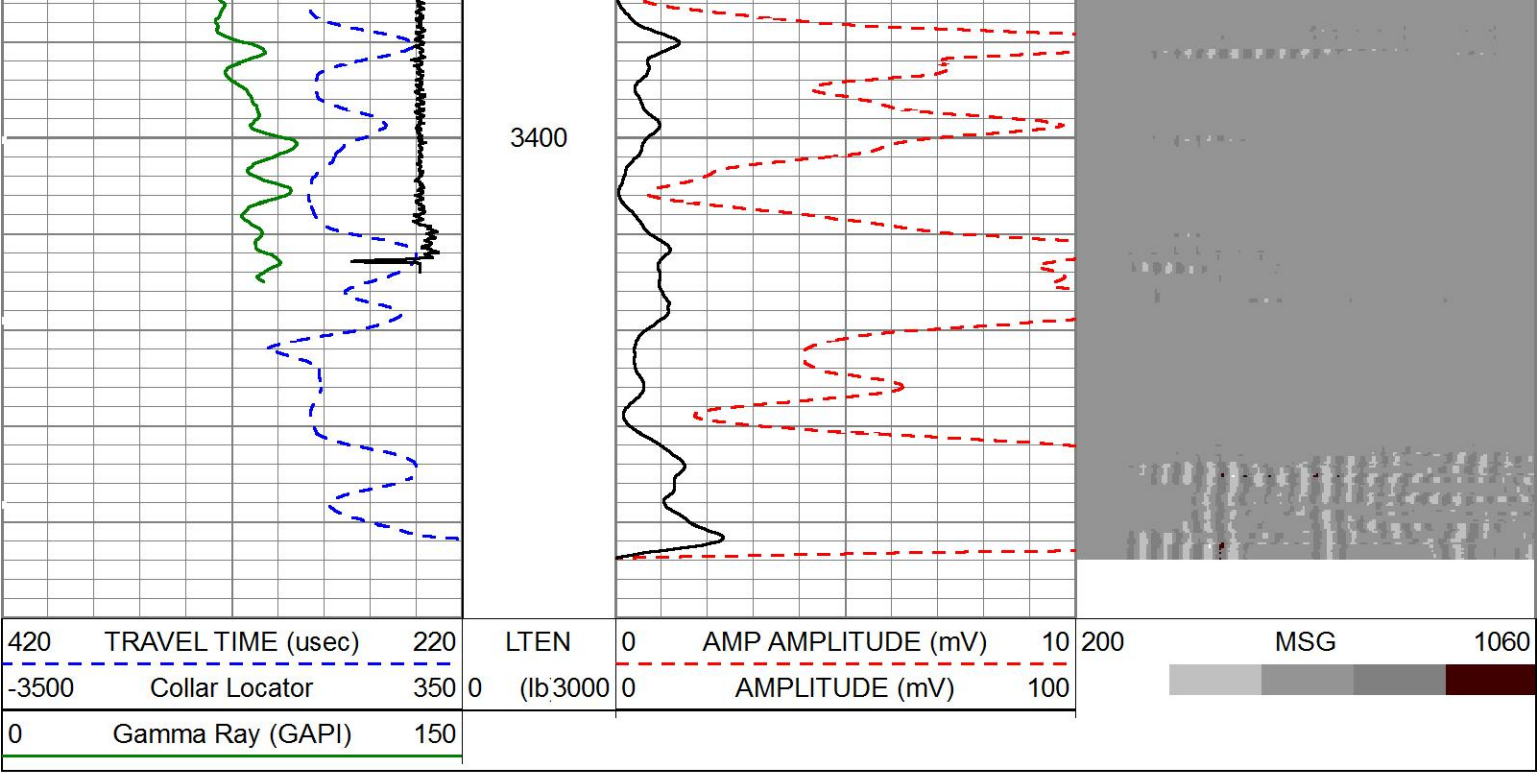
REPEAT PASS

HALLIBURTON

Database File g:\ursa\b&v 33b-07-07-95\33b.db
Dataset Pathname RPT
Presentation Format ICBL_M~1
Dataset Creation Mon Mar 27 15:12:01 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	(lb,3000	0	AMPLITUDE (mV)	100		
0	Gamma Ray (GAPI)	150							





REPEAT PASS

5" = 100'

Log Variables

Database:g:\ursa\b&v 33b-07-07-95\33b.db
Dataset field/well/run1/MAIN1/_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	RHOCF 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 g:\ursa\b&v 33b-07-07-95\33b.db
Dataset Pathname MAIN1
Dataset Creation Mon Mar 27 16:16:44 2017

Cement Bond Log Shop Calibration Report


Serial-Model: 11836468-A
Calibration Performed: Sun Mar 26 19:34:08 2017


Free Pipe Calibration

TT	Measured	Units
Amplitude	245.6	usec
Log Base Line	408.0	mV
	19.3	mV

Calibration References and Gain

Name	Value	Units
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
Background	27.6	Offset
Calibrator	317.4	Jig
		Units
		cps
		cps
		GAPI/cps
1.4943		
PRIMARY VERIFICATION		
Background	0.0	
Calibrator	0.0	
Difference		0.0
		cps
		cps
		GAPI
BEFORE SURVEY VERIFICATION		
Background	0.0	
Calibrator	0.0	
Difference		0.0
		cps
		cps
		GAPI
AFTER SURVEY VERIFICATION		
Background	0.0	
Calibrator	0.0	
Difference		0.0
		cps
		cps
		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
RmtTFGT RmtTNGT	22.95 22.45		XHU-003 (000001) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
		RMTI-A (12376244) Halliburton RMTI Tool	14.00	2.13	77.00	

RmtFP5V	14.70		X-OVER-SondexxGo Sondex Box x Go Pin Cross Over	0.31	1.69	1.00
RmtNFwvMcsPI	14.70		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
RmtCommFWa	14.70					
Temp	9.57					
TT3FT	7.32		HCBLM-A (11836468) Halliburton HCBLM Tool	9.38	2.75	116.00
AMP3FT	7.32					
WVF5FT	6.36					
WVF3FT	2.84		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
LLMTEN	0.00		AUH-001 (11072111) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00
			BUL-001 (000001) Bullnose	0.30	1.69	1.50
Dataset: 33b.db: field/well/run1/MAIN1 Total length: 39.43 ft Total weight: 293.50 lb O.D.: 3.13 in						

Company	URSA OPERATING COMPANY				
Well	B&V 33B-07-07-95				
Field	WILDCAT				
County	GARFIELD		State	CO	
HALLIBURTON	CEMENT BOND LOG				