

CEMENT BOND LOG

[illegible]

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HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR 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

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.	903921659	API No.	05045227170000	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		

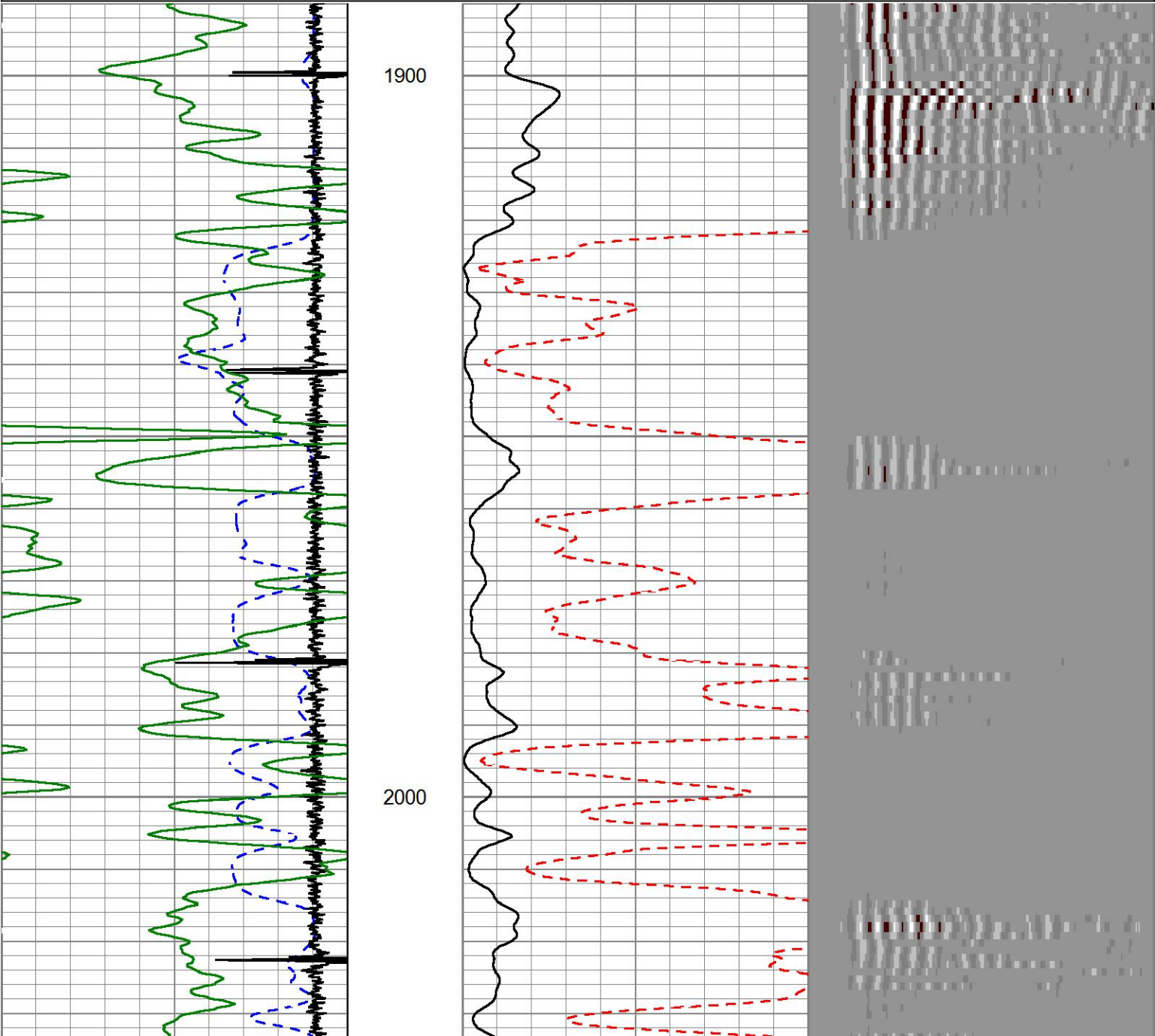
HALLIBURTON

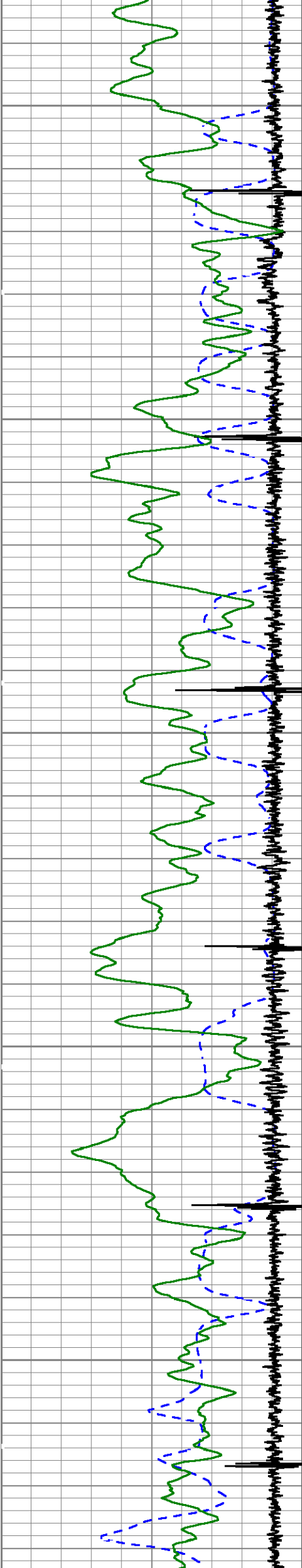
MAIN PASS

5" = 100'

Database File g:\ursa\b&v 33c-07-07-95\33c.db
Dataset Pathname MAIN
Presentation Format ICBL_M~1
Dataset Creation Mon Mar 27 11:05:25 2017
Charted by Depth in Feet scaled 1:240

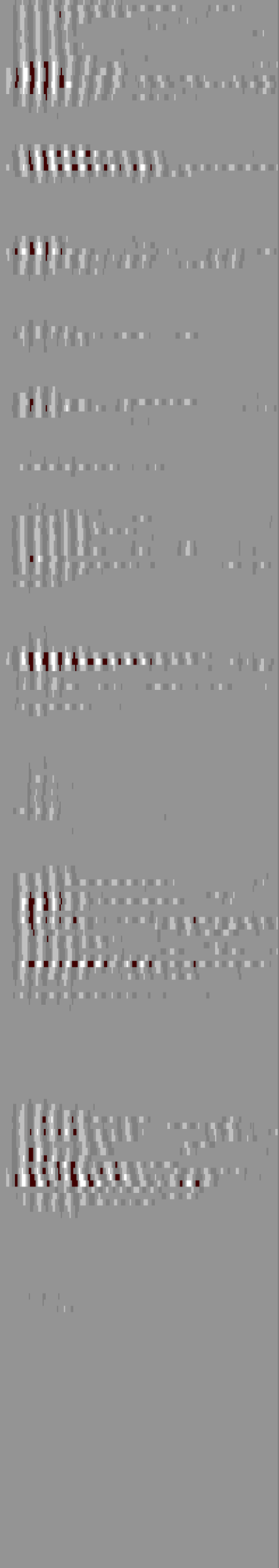
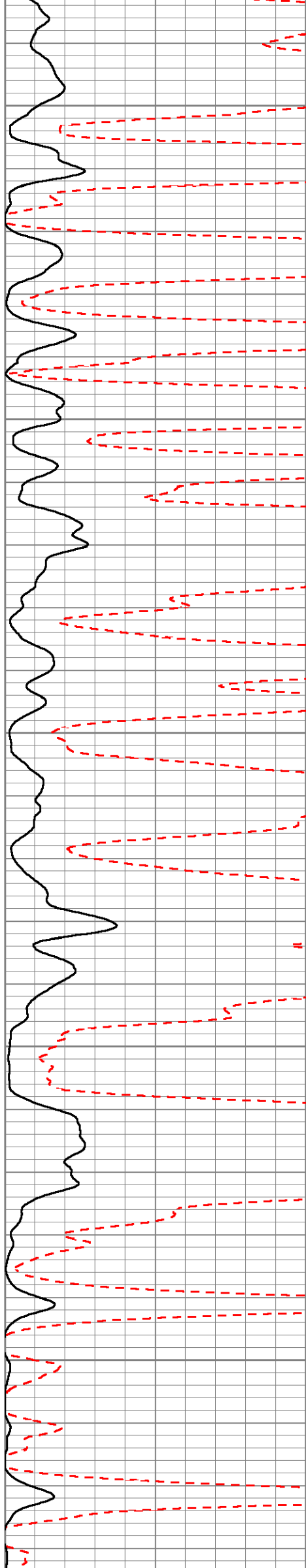
420	TRAVEL TIME (usec)	220	LTEN	0	AMP AMPLITUDE (mV)	10	200	MSG	1060
-3500	Collar Locator	350	0	(lb)3000	0	AMPLITUDE (mV)	100		
0	Gamma Ray (GAPI)	150							

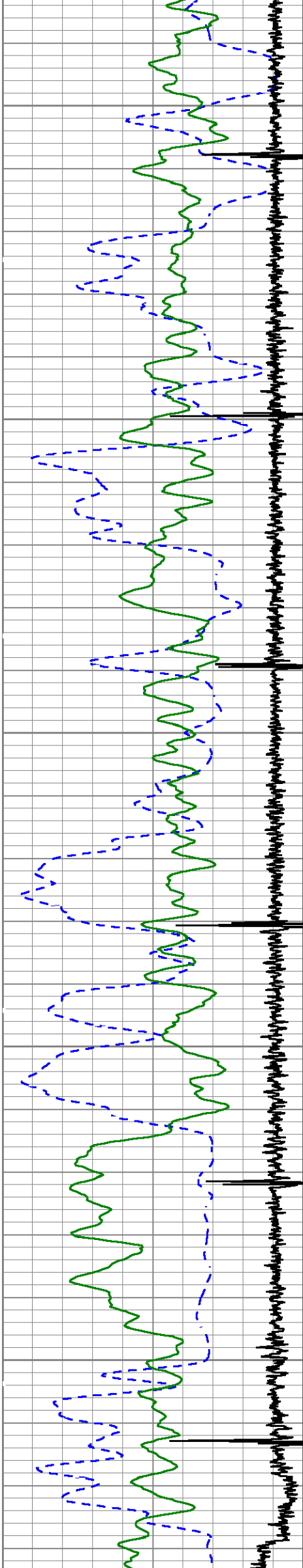




2100

2200

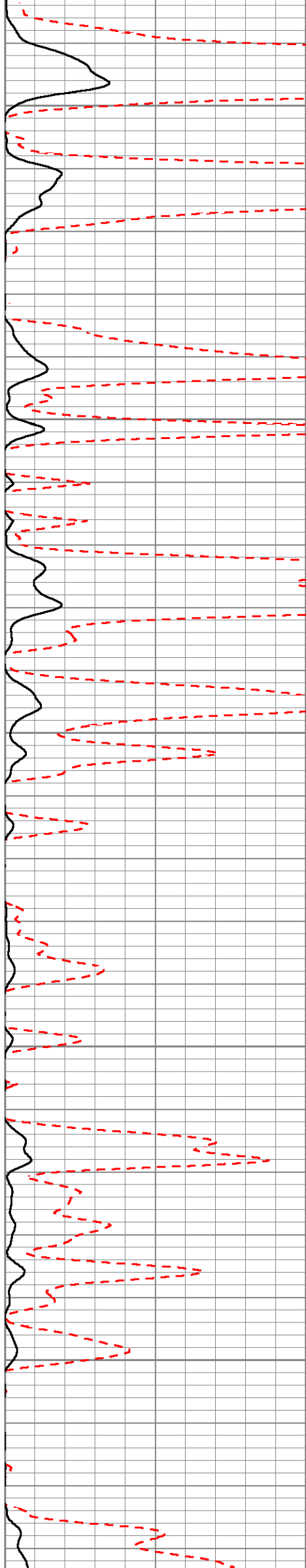


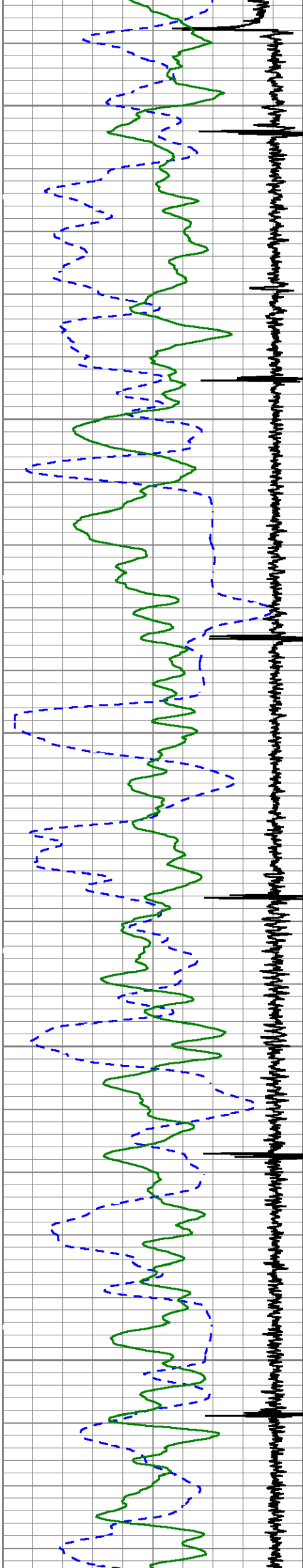


2300

2400

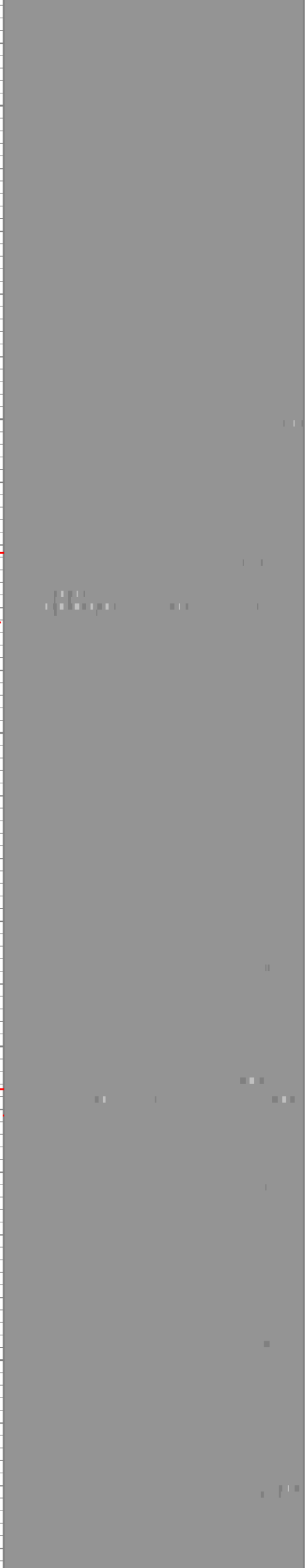
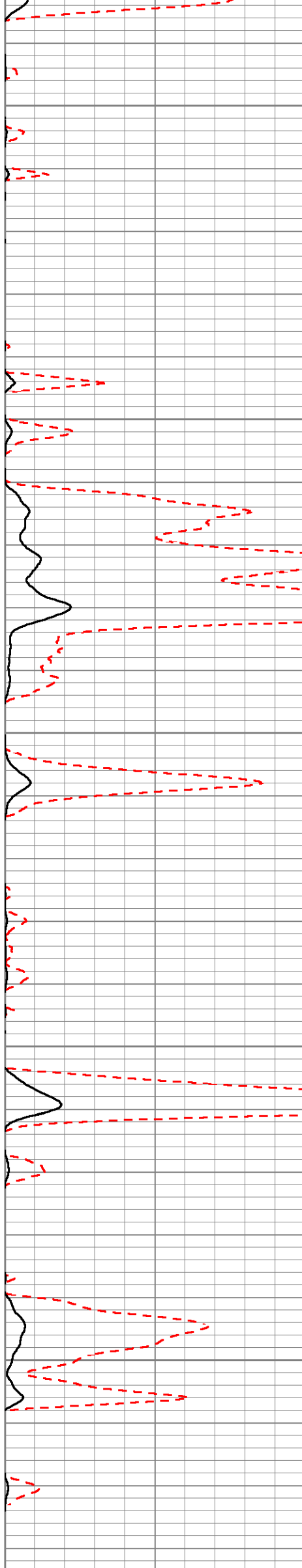
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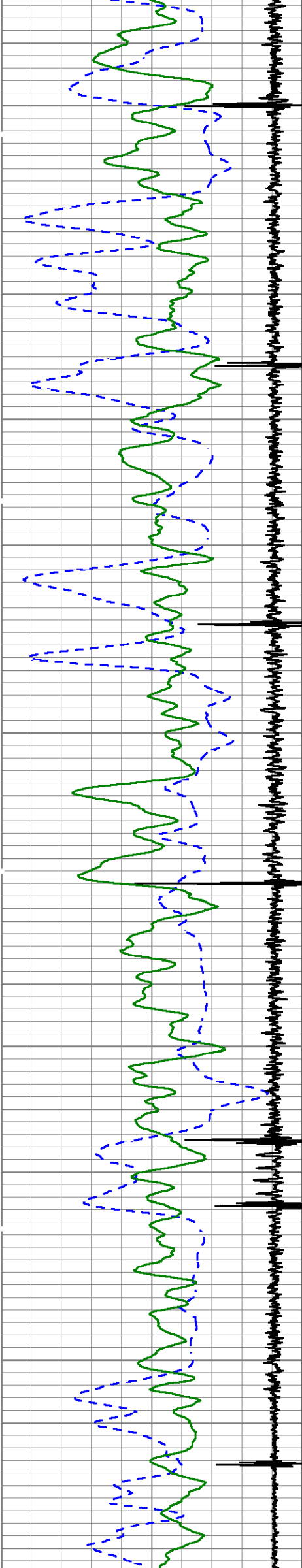




2600

2700

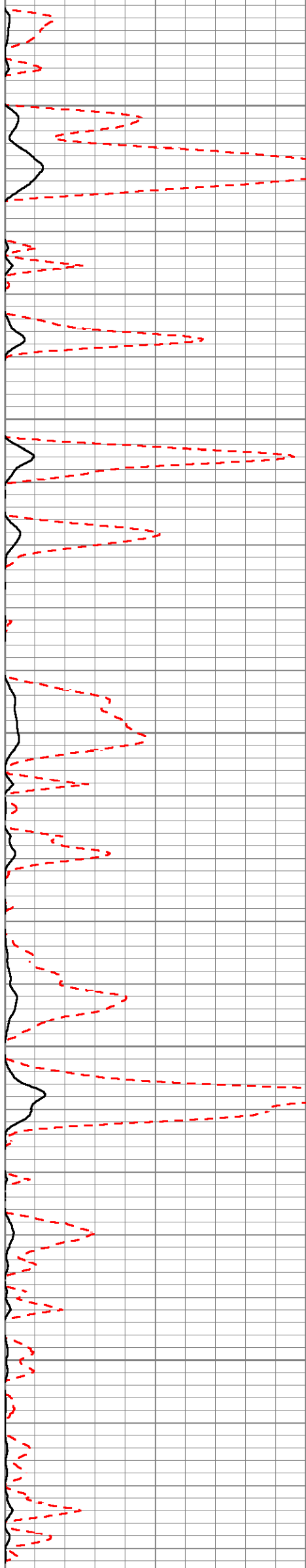


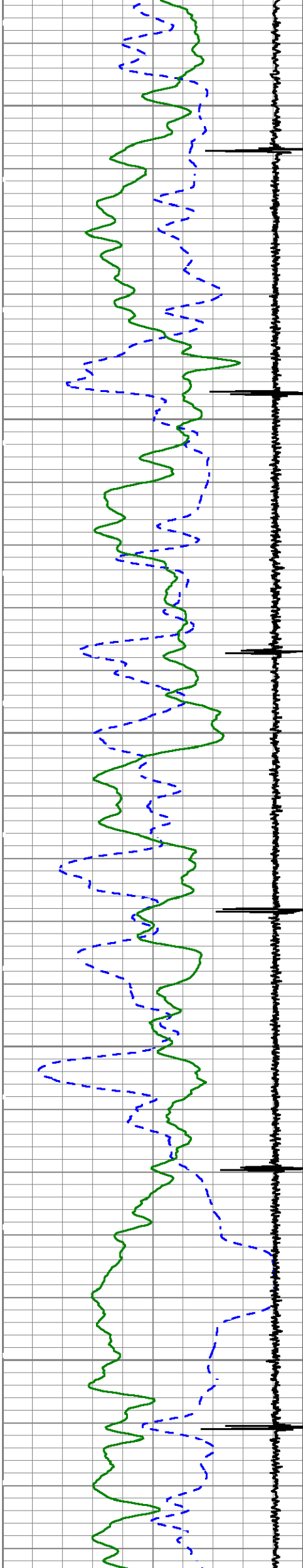


2800

2900

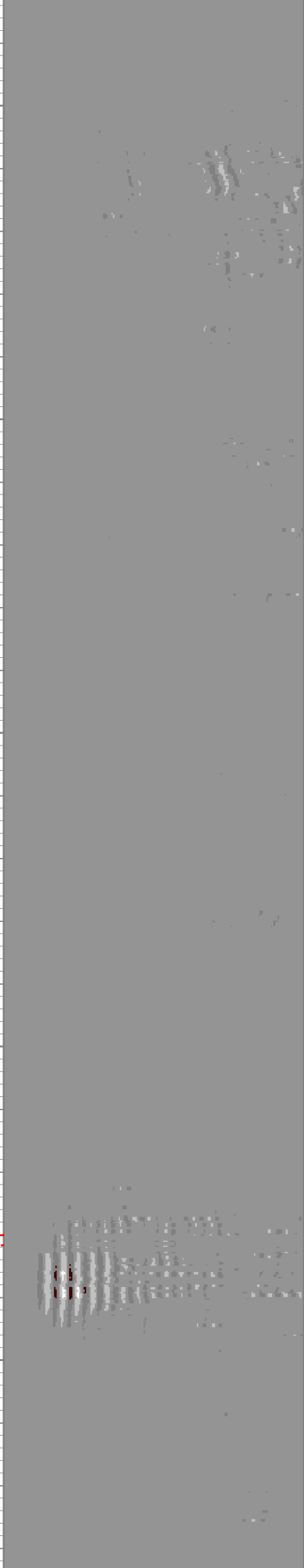
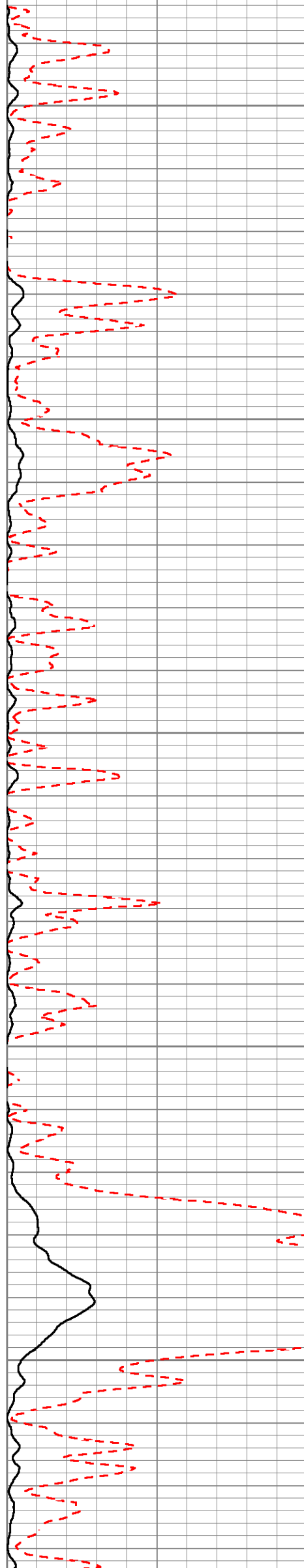
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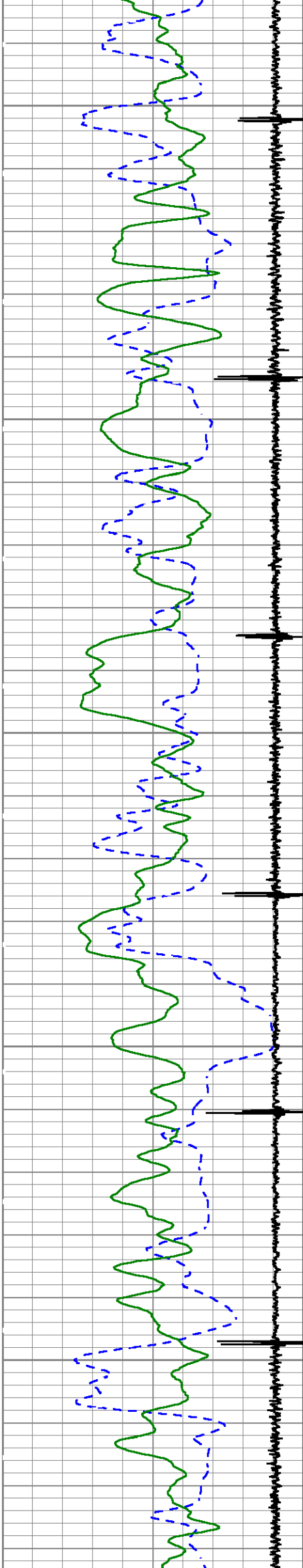




3100

3200

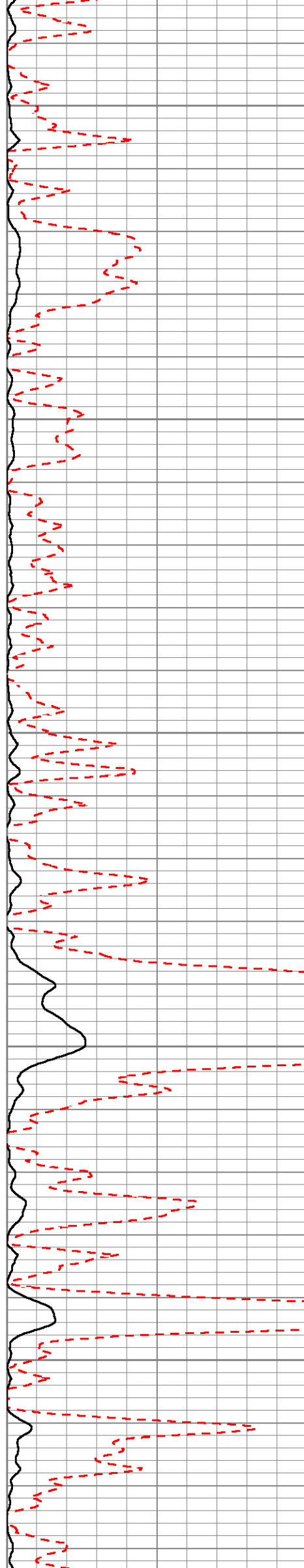


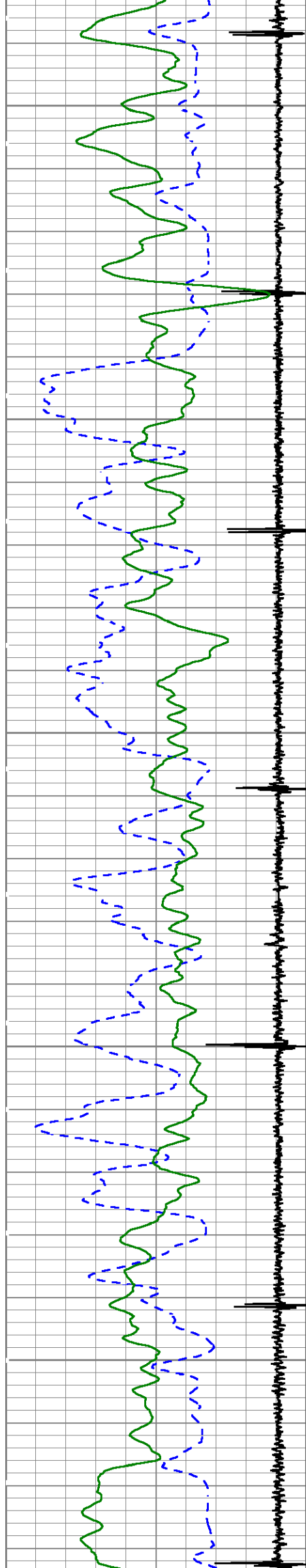


3300

3400

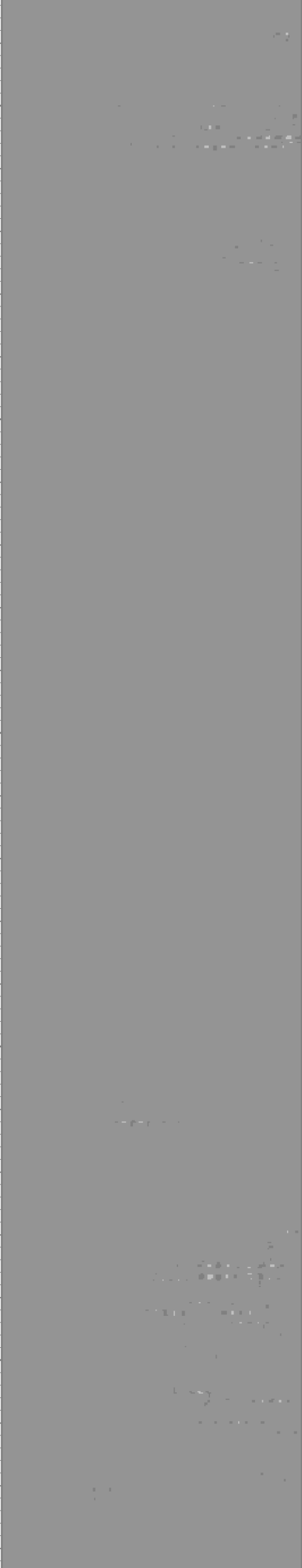
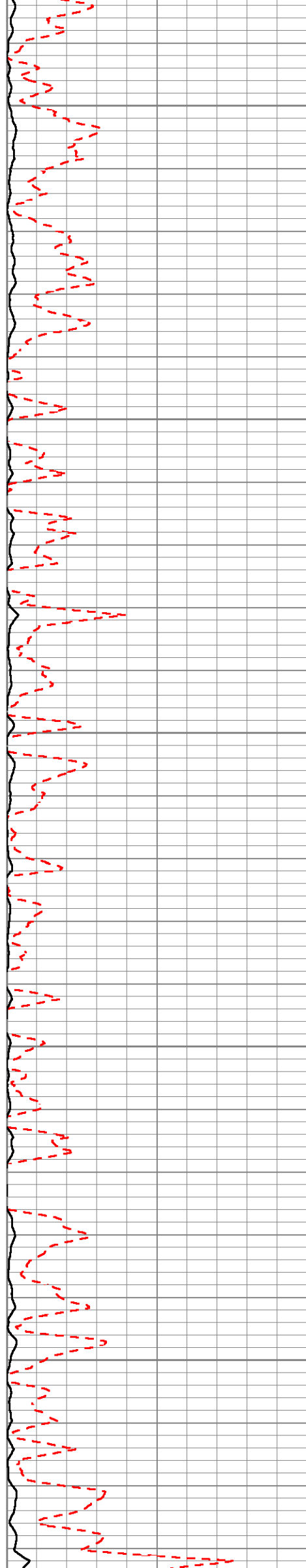
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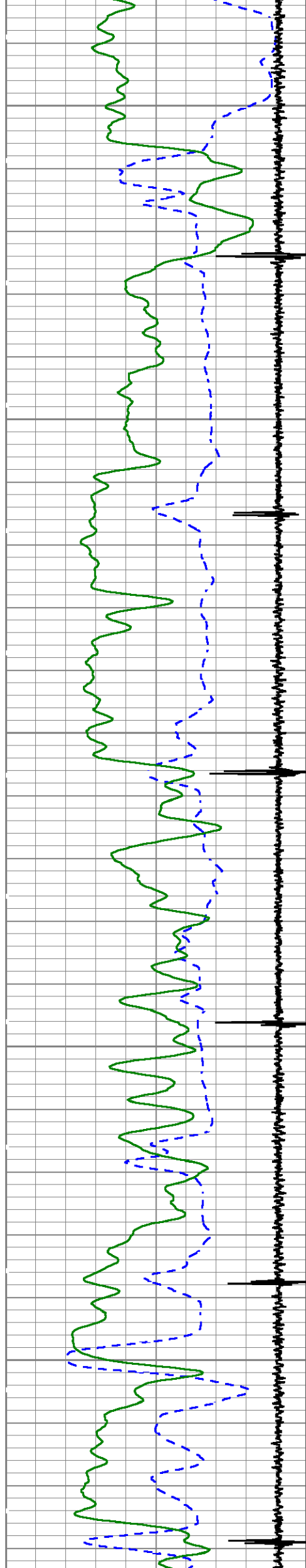




3600

3700

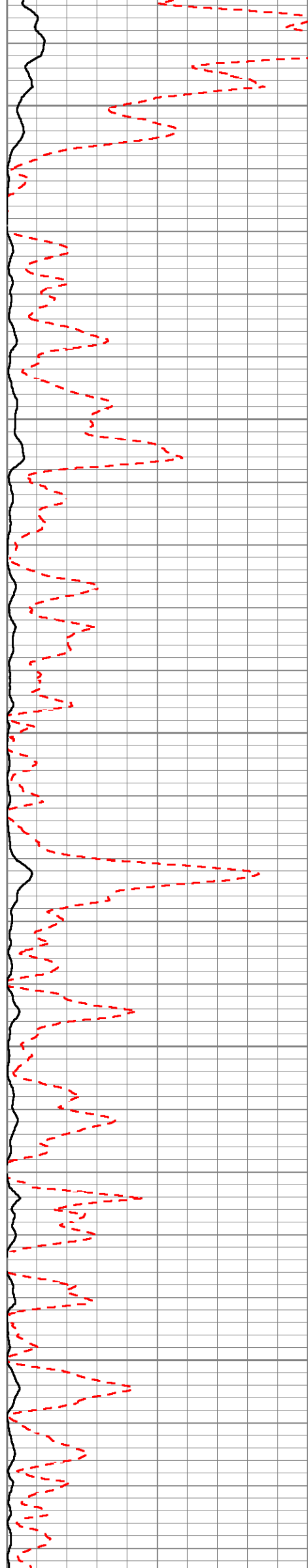


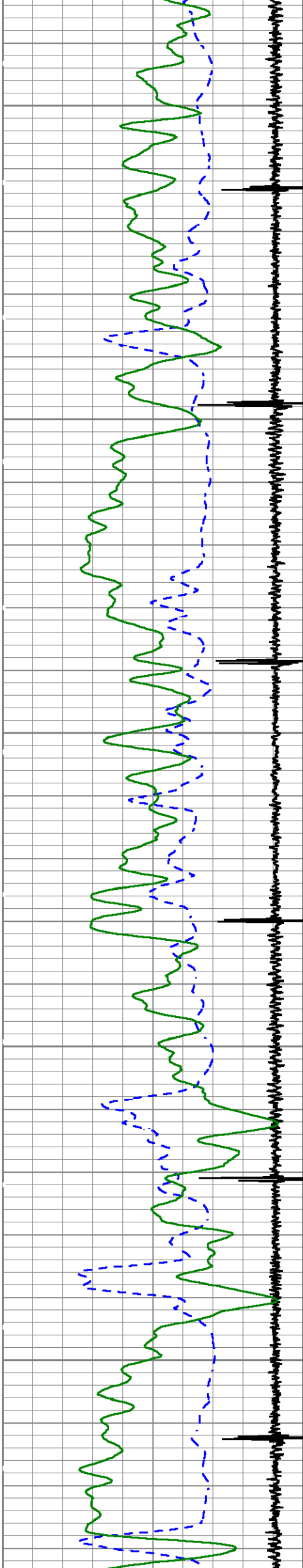


3800

3900

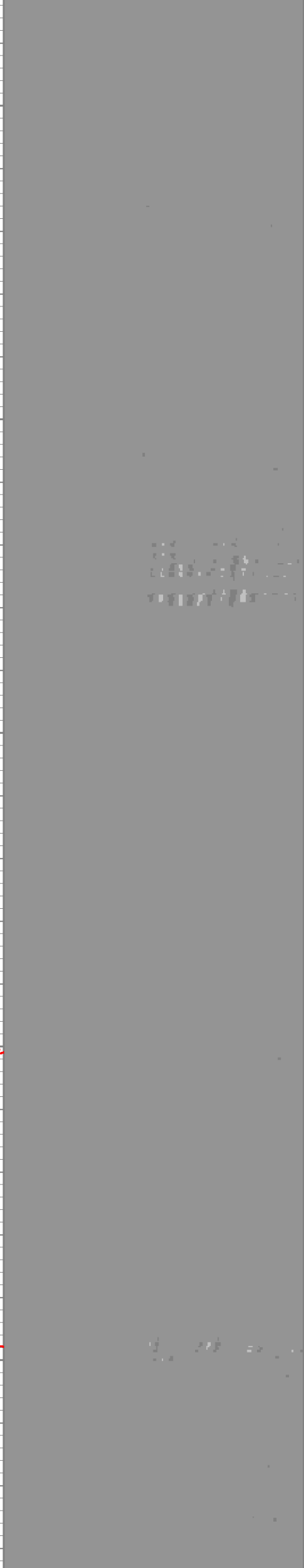
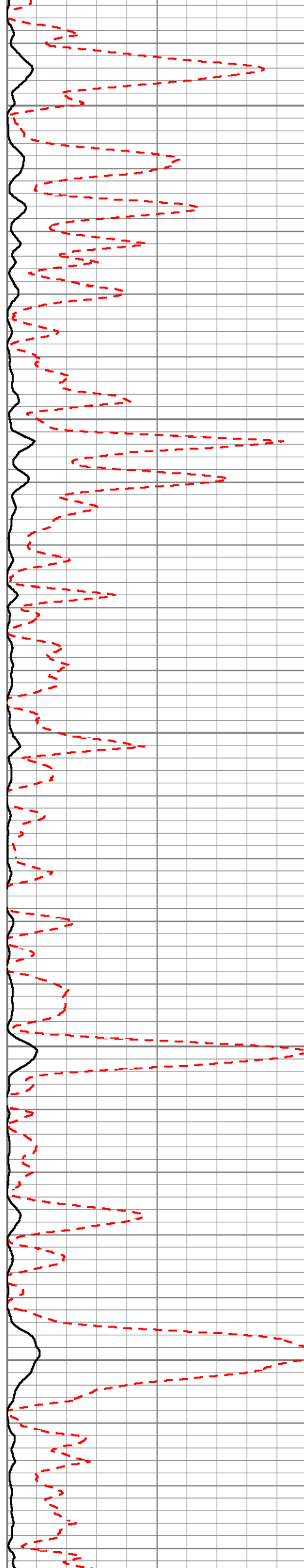
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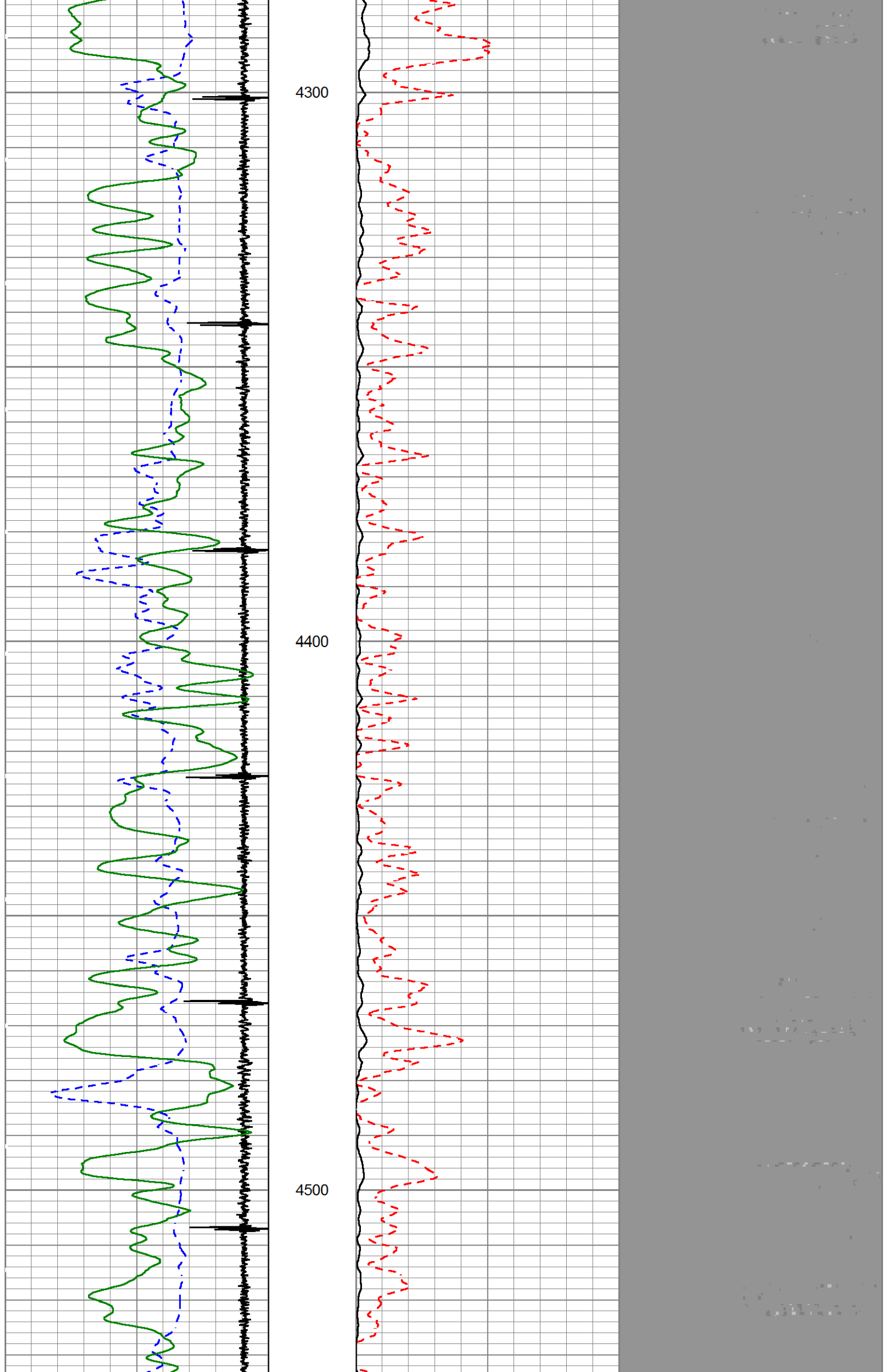


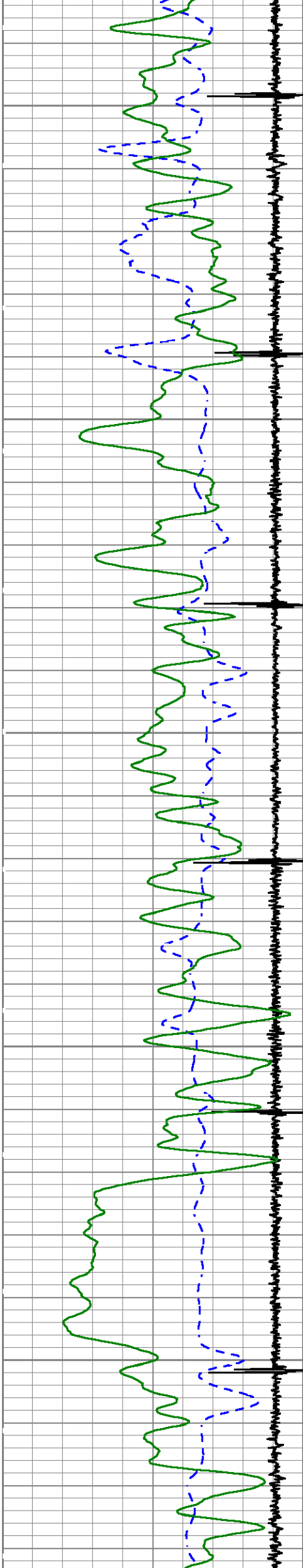


4100

4200

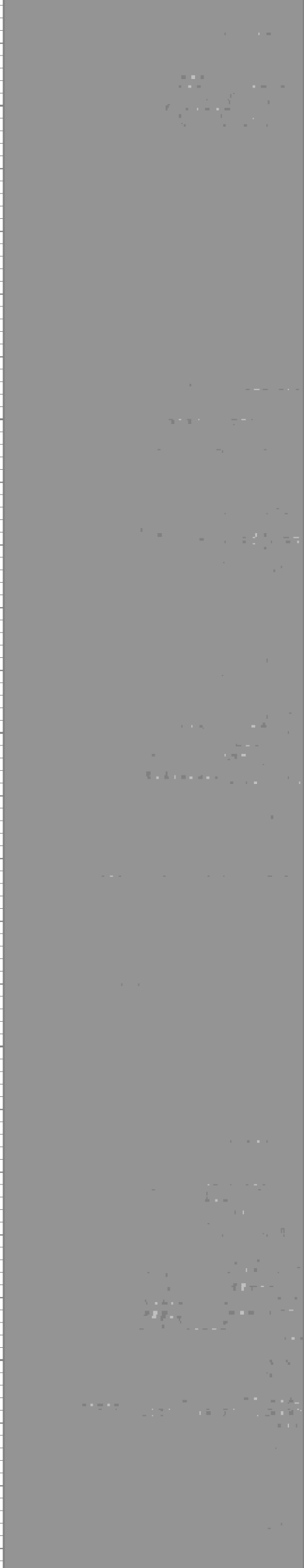
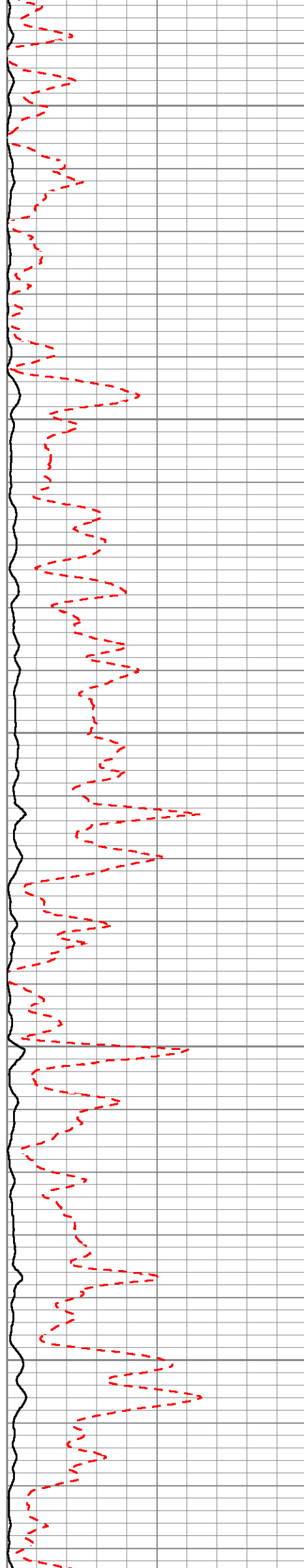


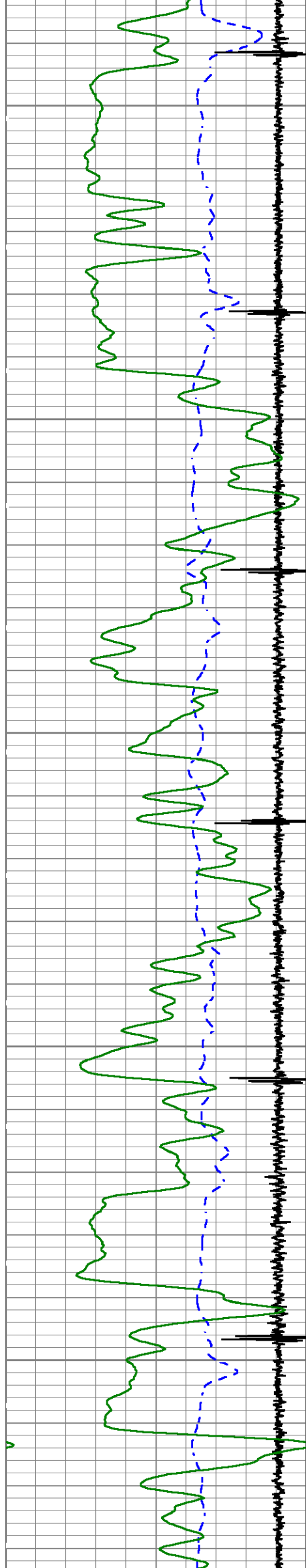




4600

4700

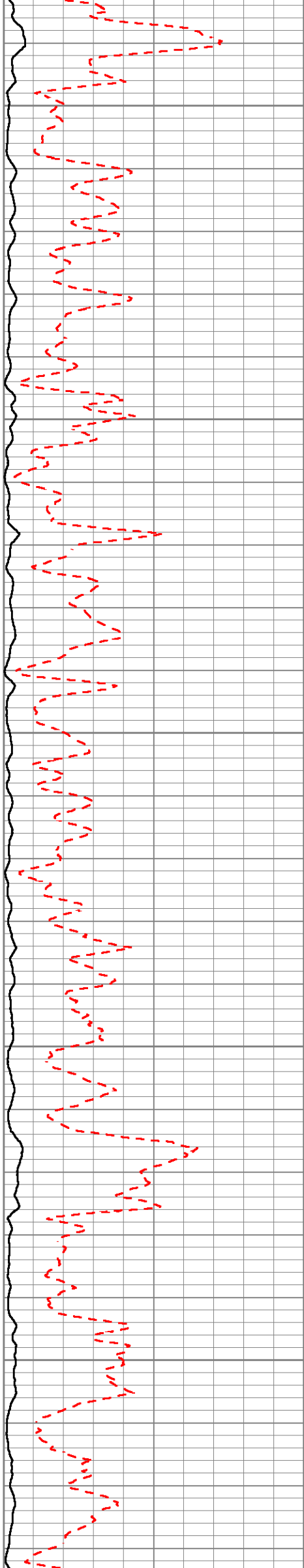


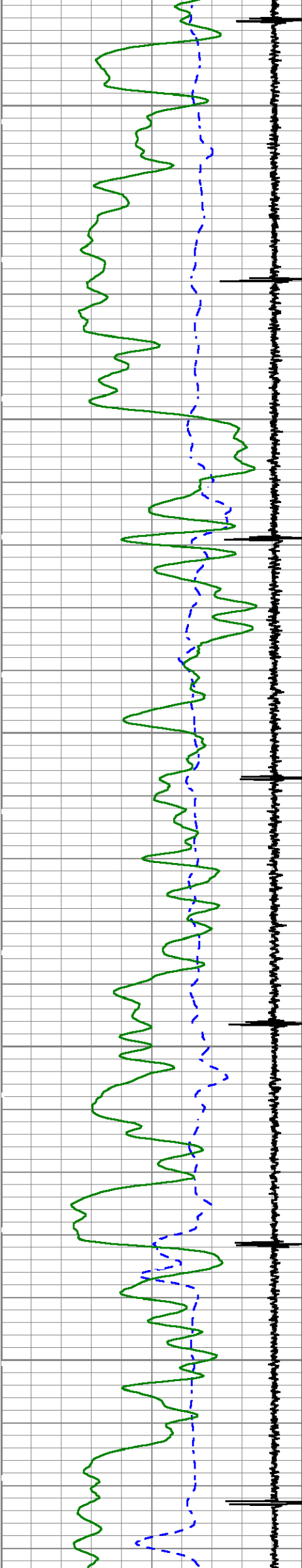


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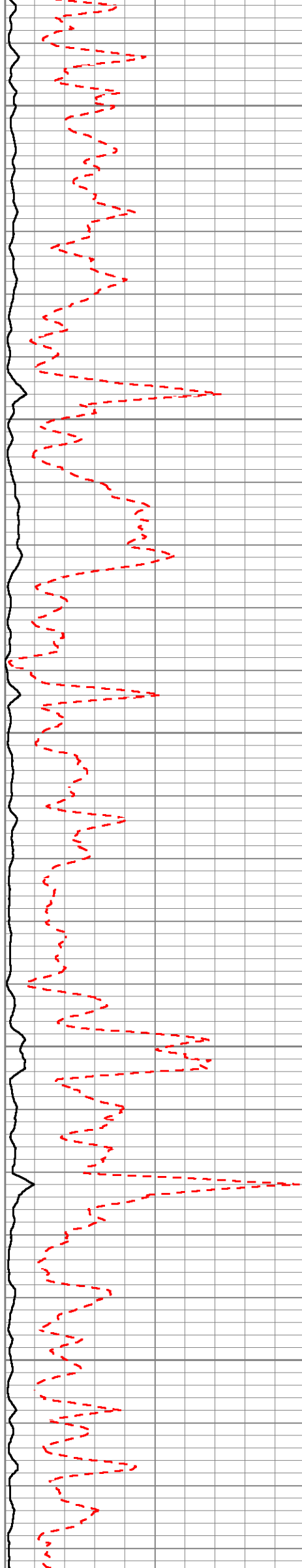
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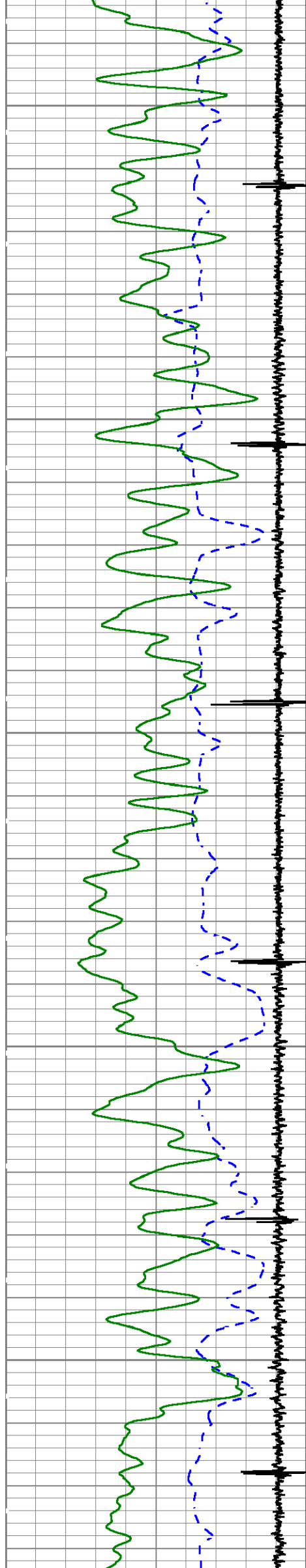




5100

5200

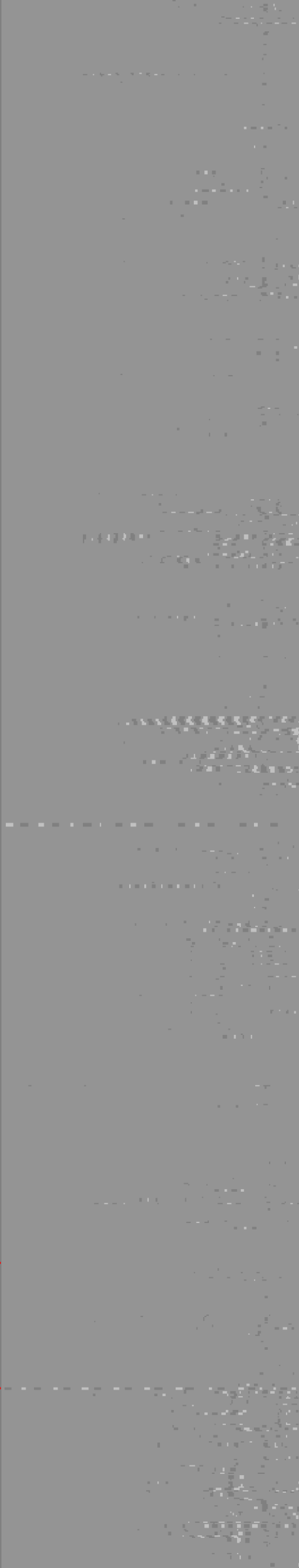
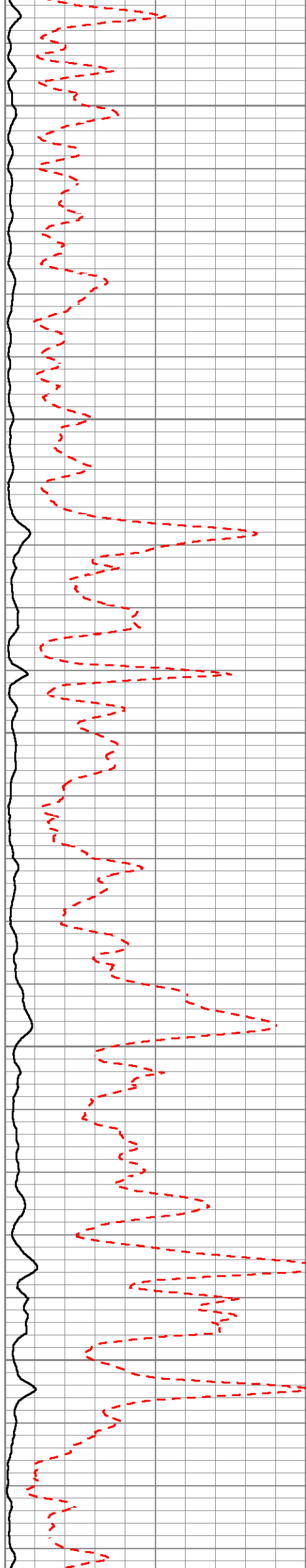


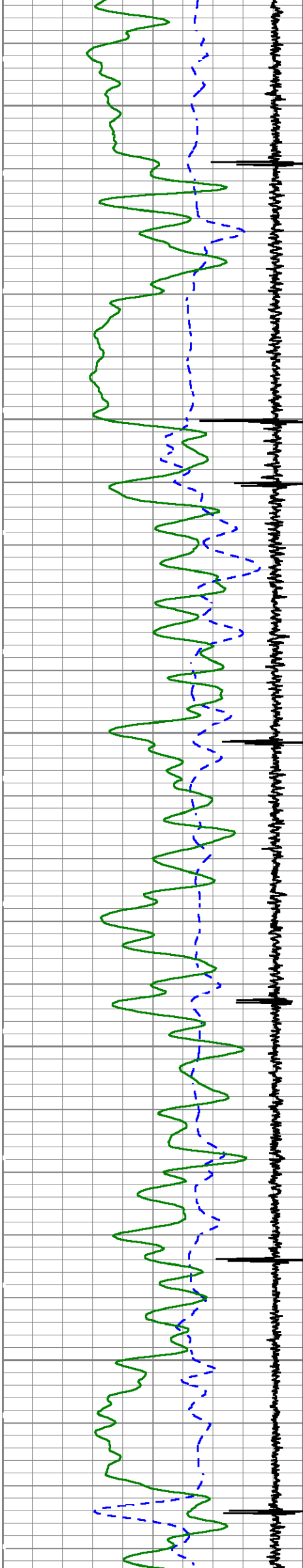


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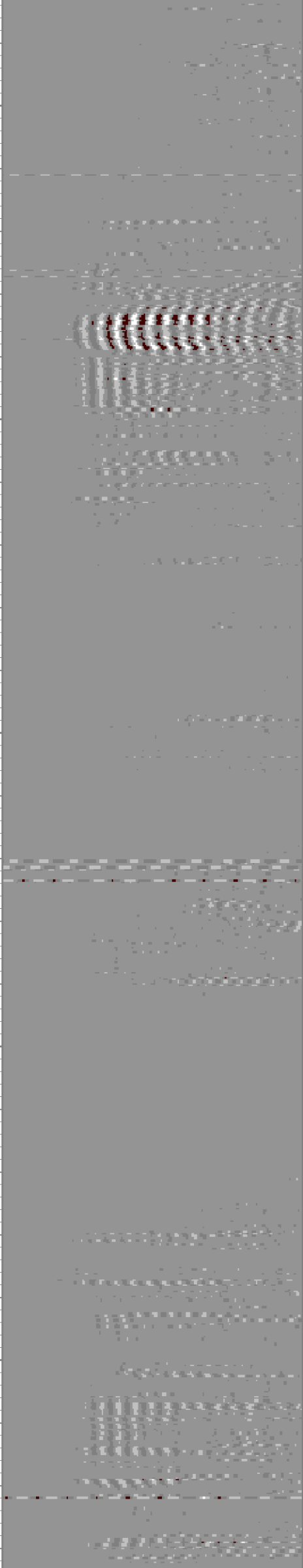
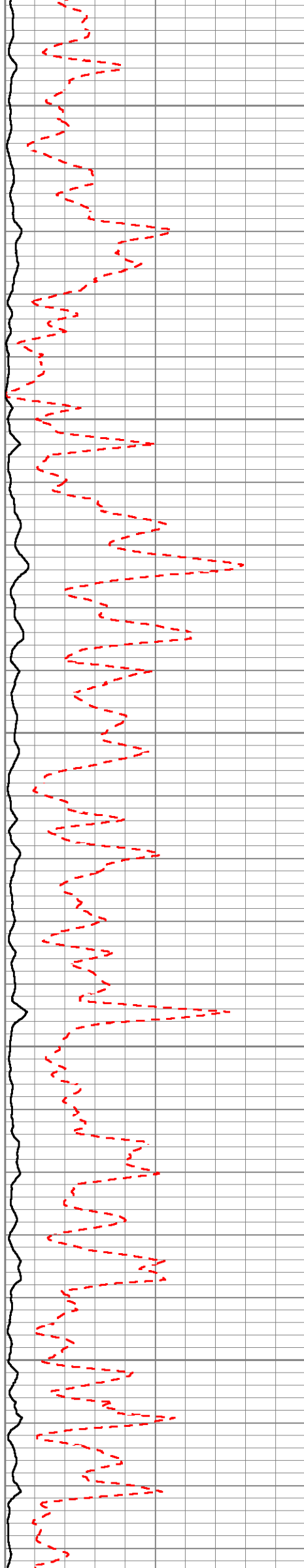
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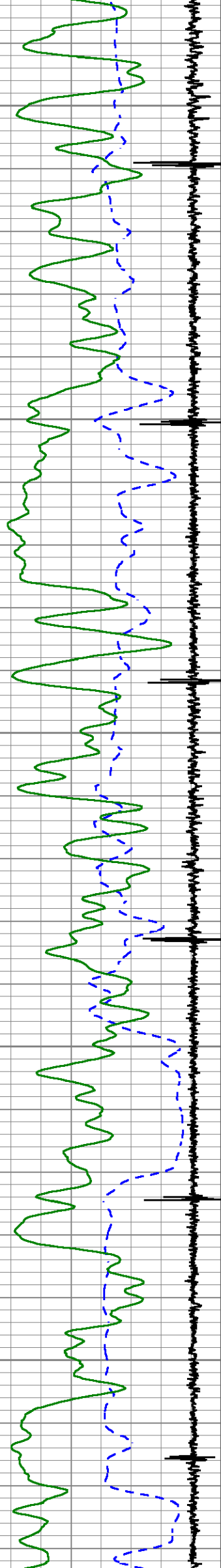




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5700

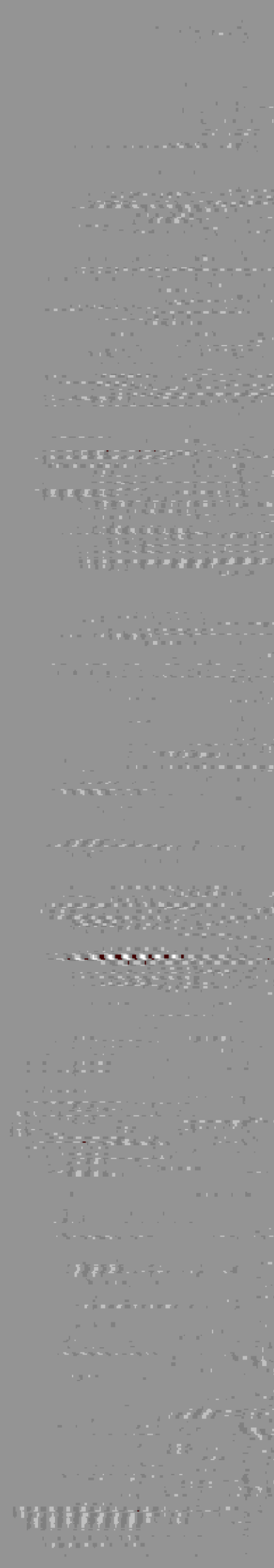
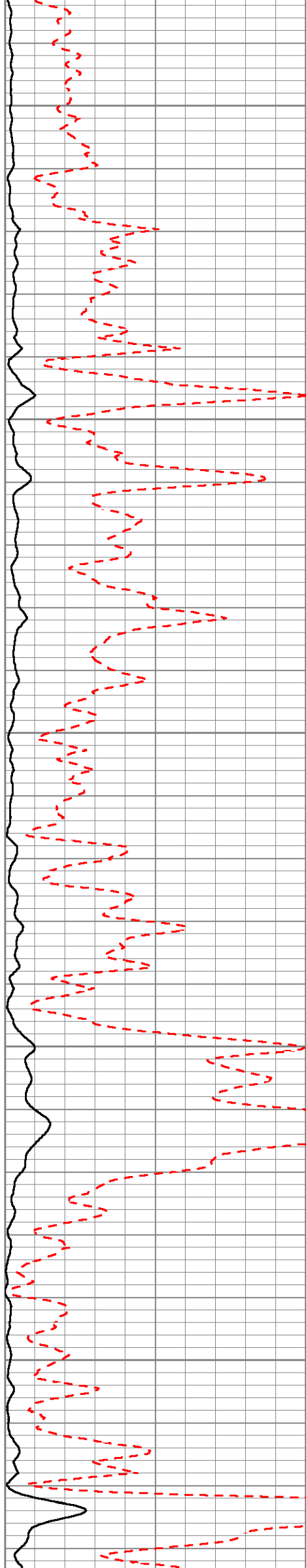


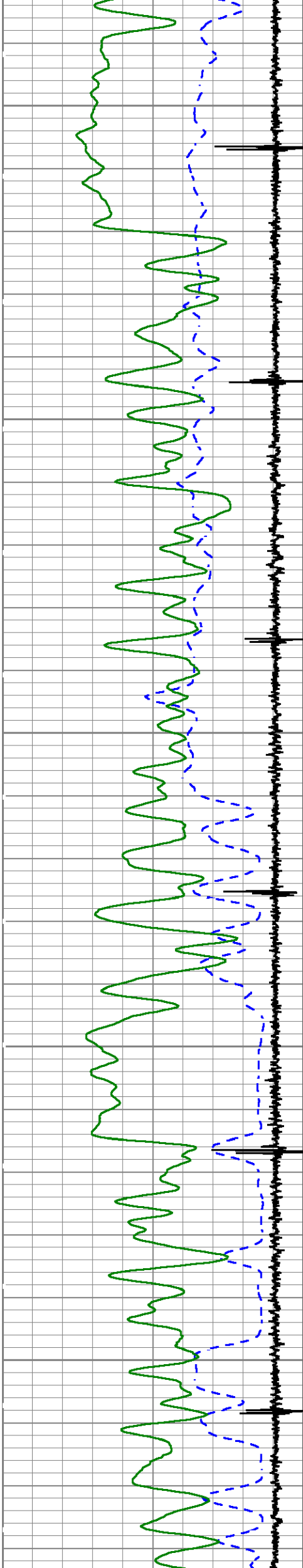


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5900

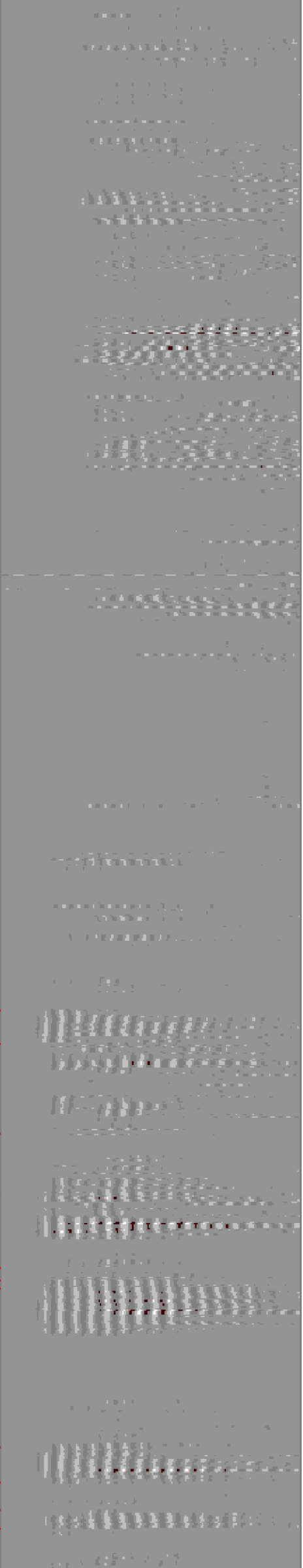
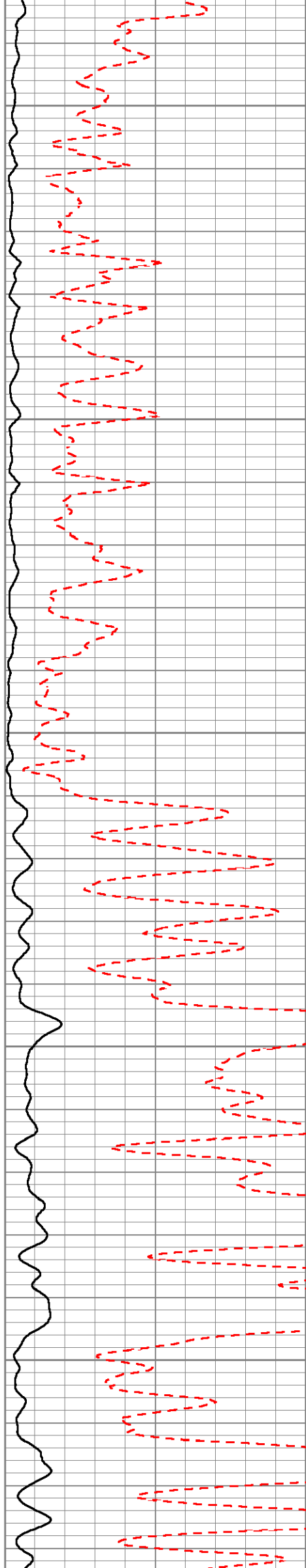
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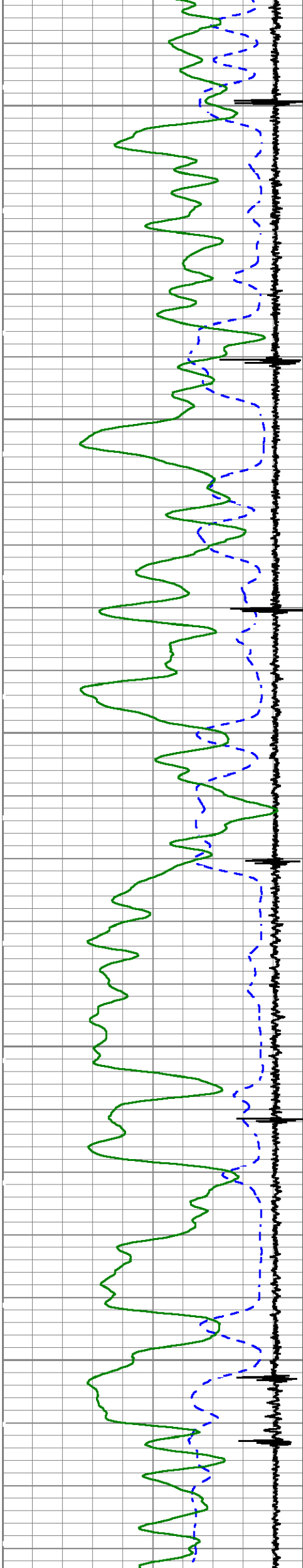




6100

6200

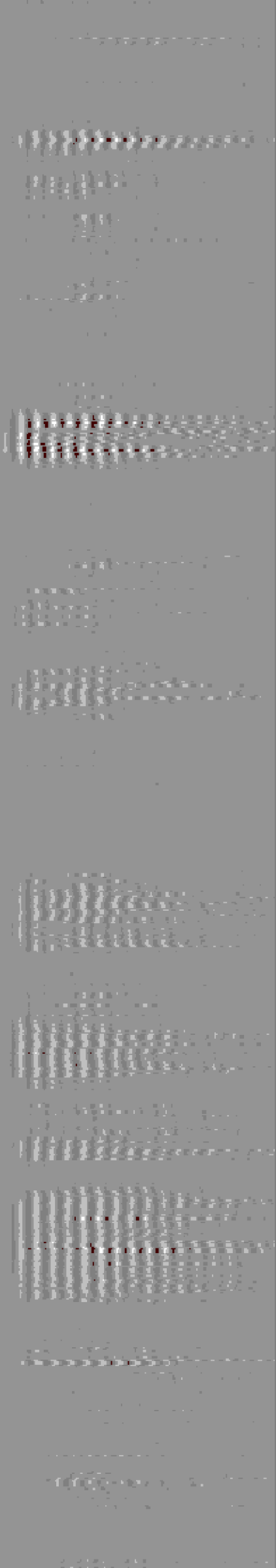
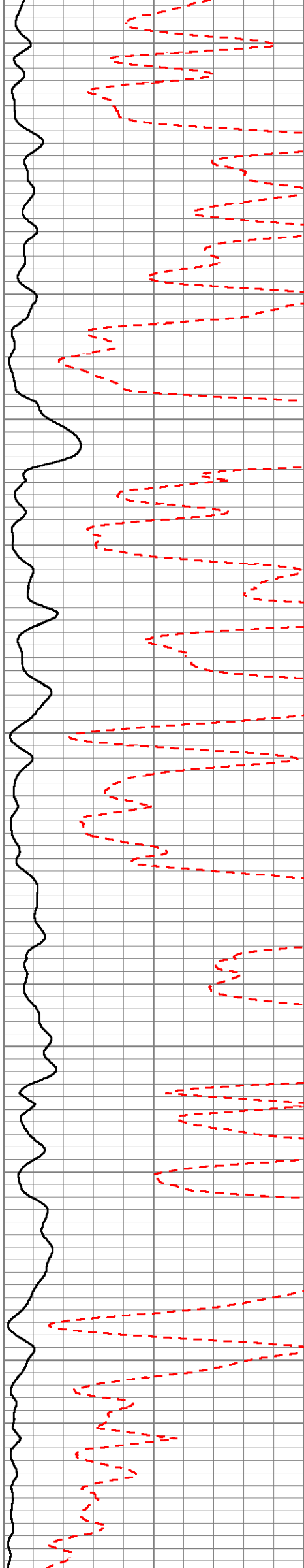


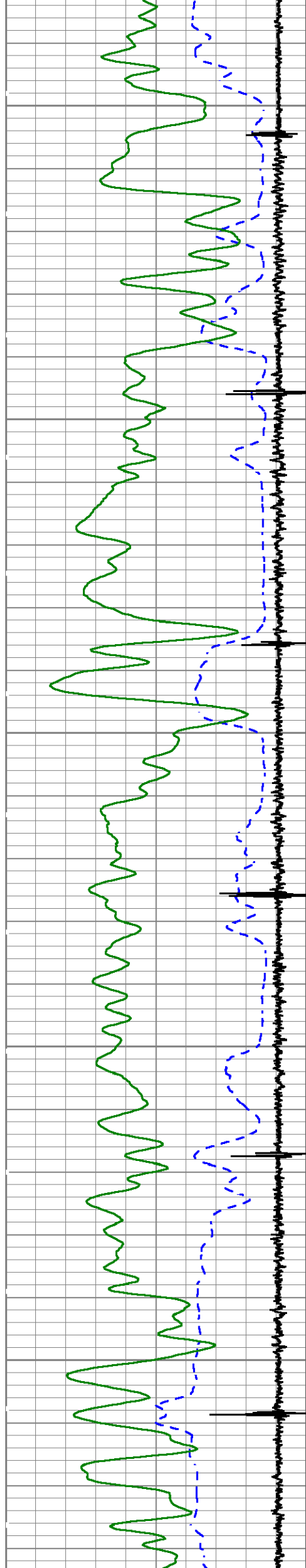


6300

6400

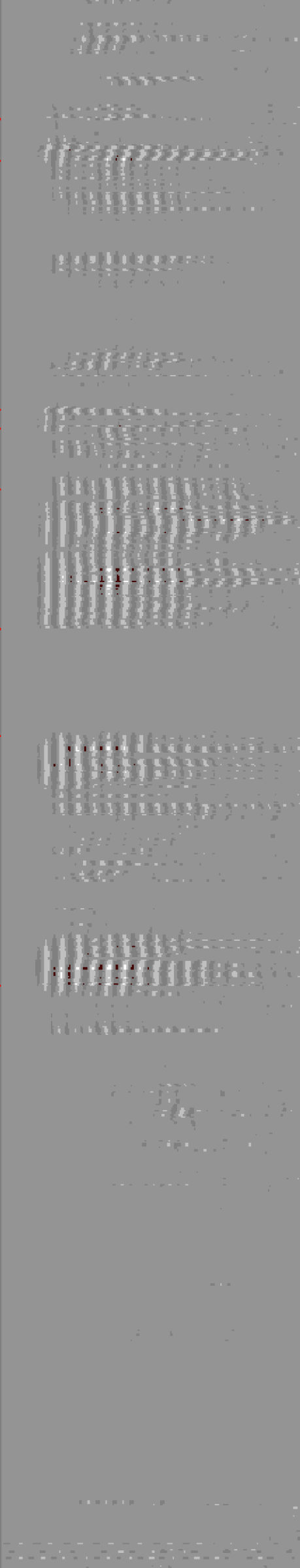
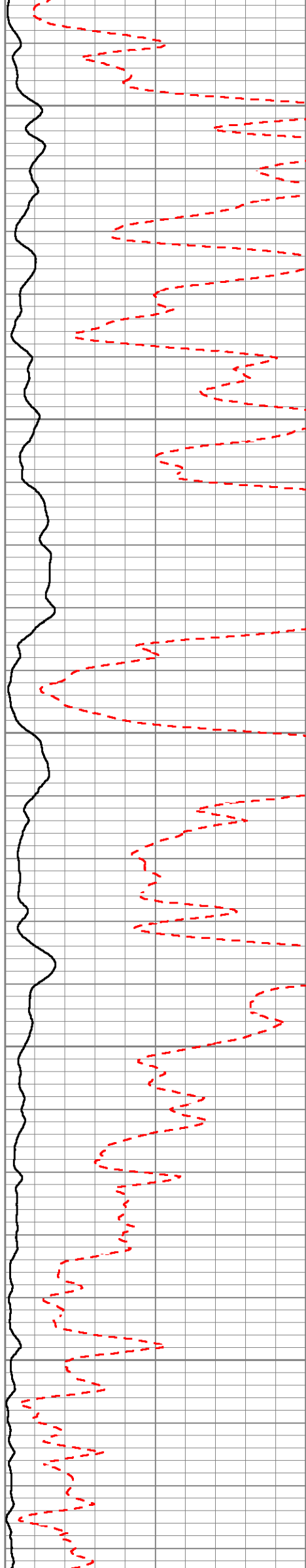
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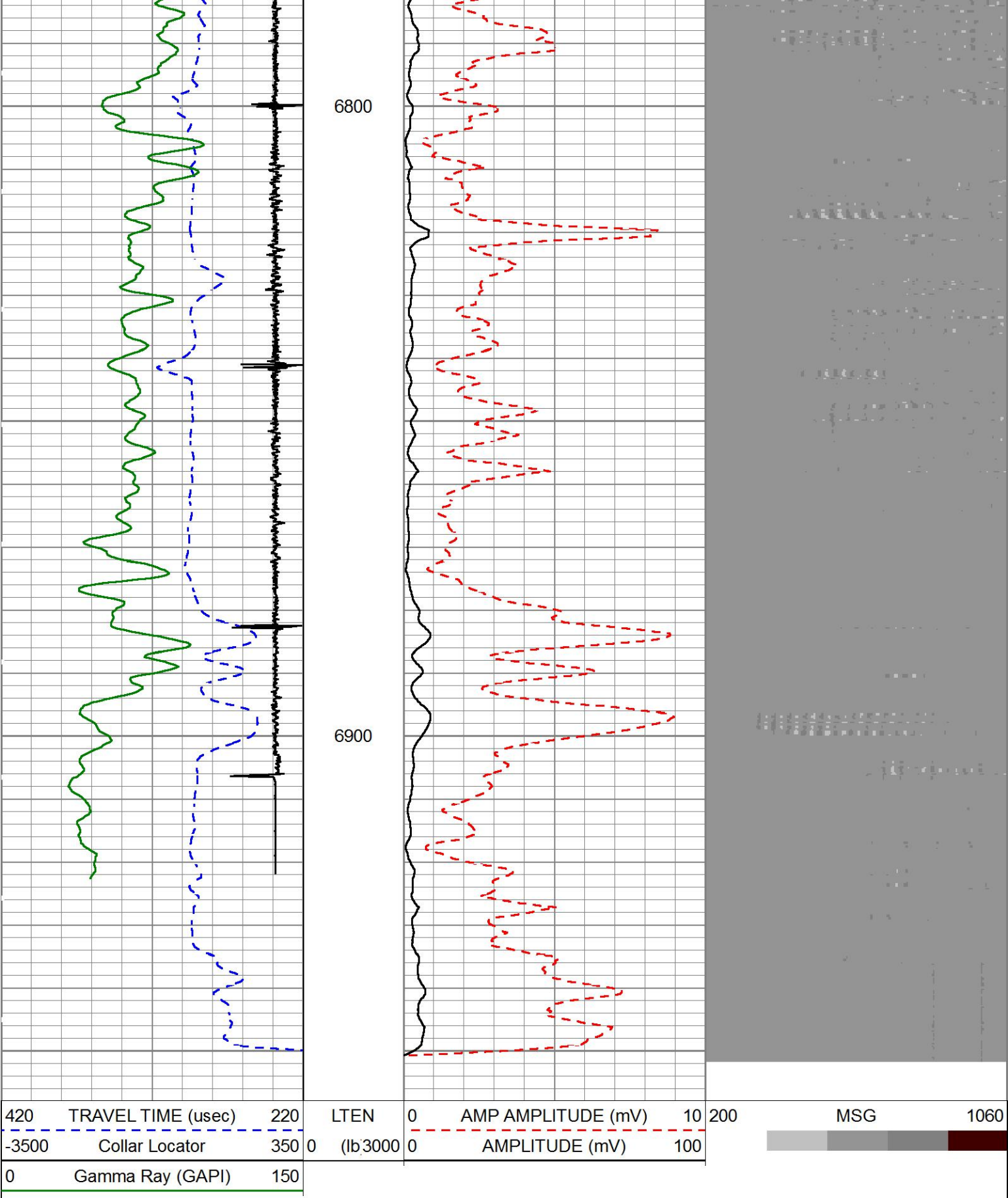




6600

6700





MAIN PASS

HALLIBURTON

5" = 100'

MAIN PASS

HALLIBURTON

5" = 100'

420	TRAVEL TIME (usec)	220
-3500	Collar Locator	350
0	Gamma Ray (GAPI)	150

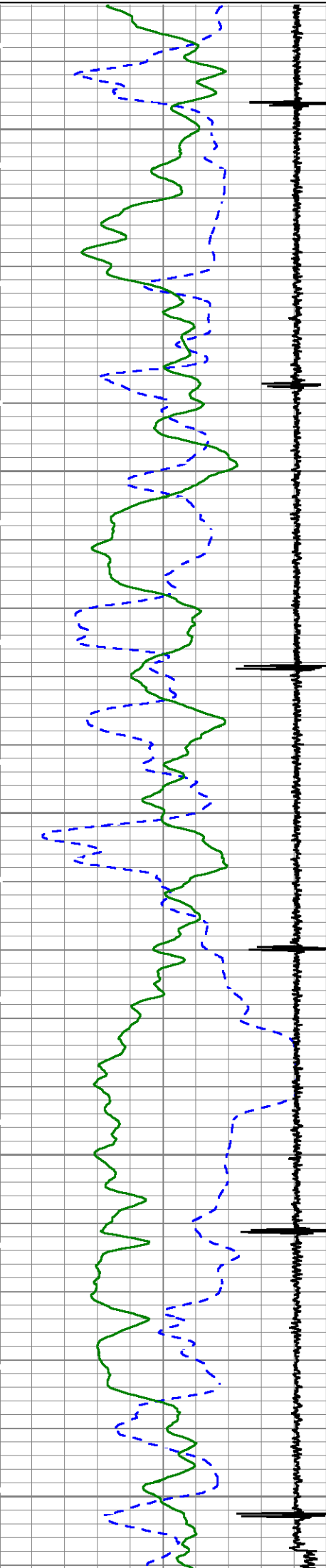
LTEN
(lb/3000)

0	AMP AMPLITUDE (mV)	10
0	AMPLITUDE (mV)	100

200

MSG

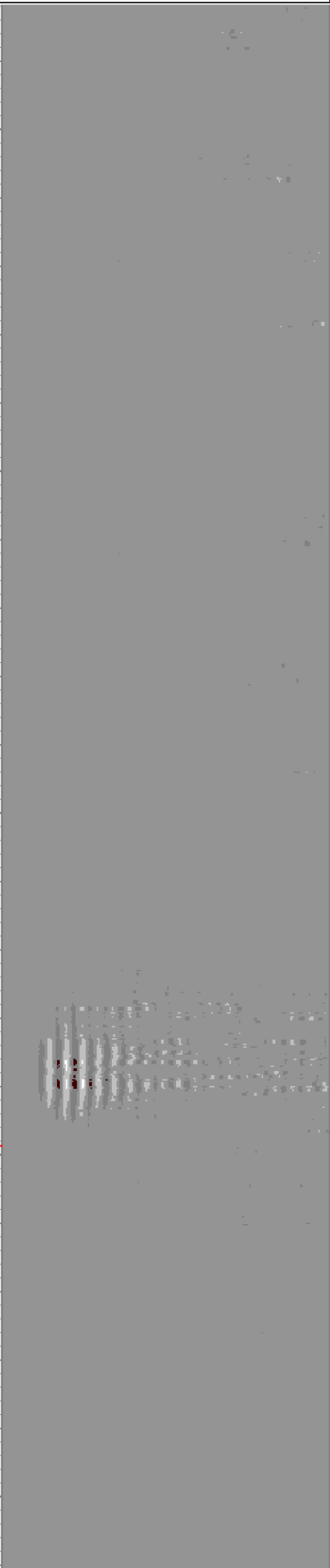
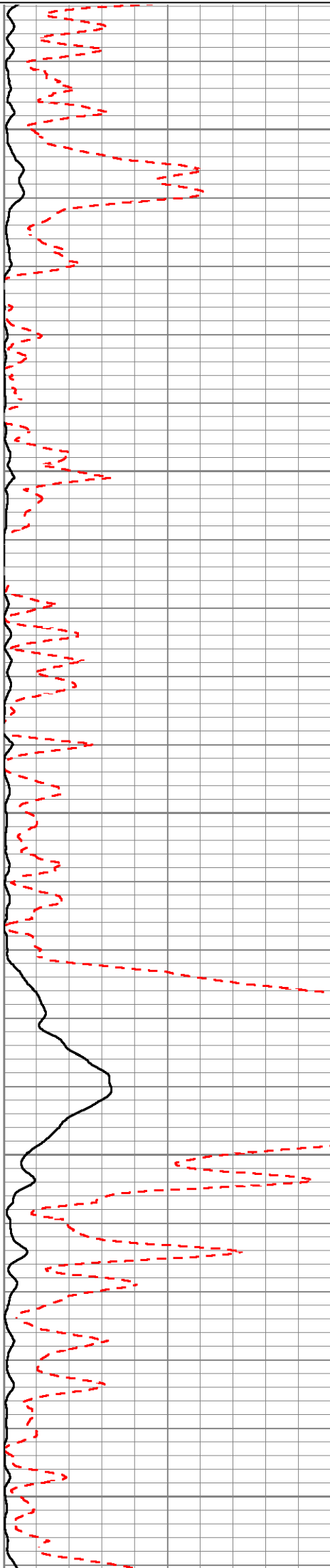
1060

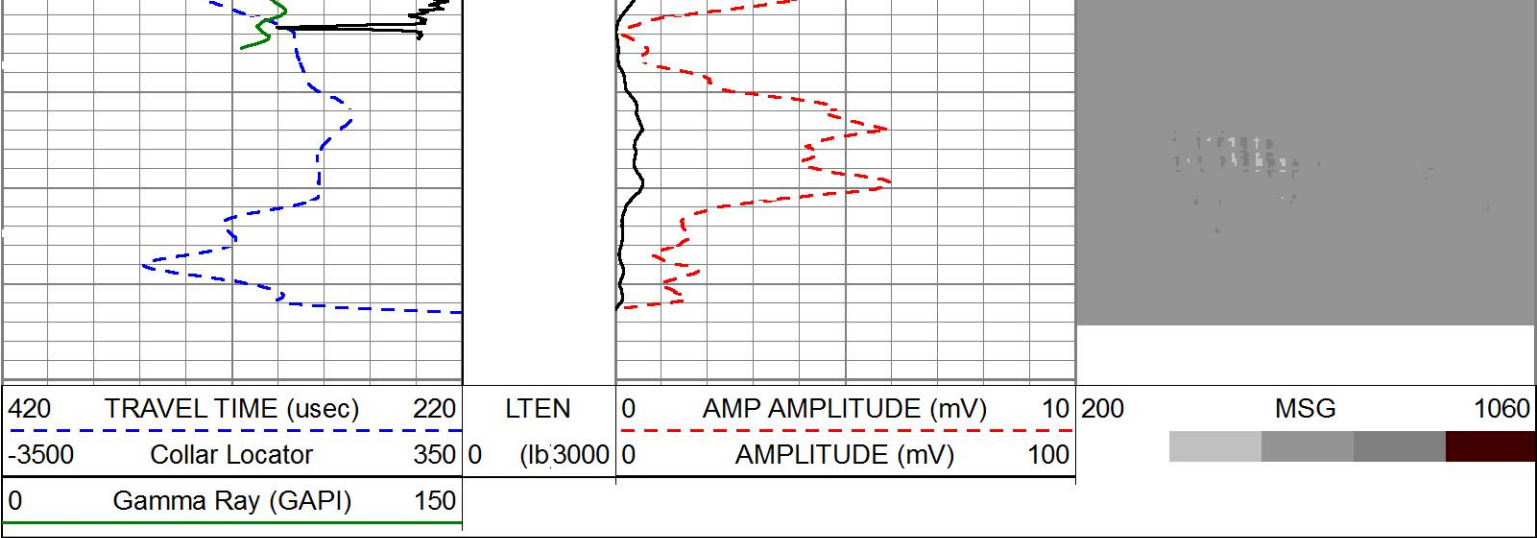


3100

3200

3300





HALLIBURTON

MAIN PASS

5" = 100'

Log Variables

Database:g:\ursa\b&v 33c-07-07-95\33c.db

Dataset field/well/run1/MAIN/_vars_


Top - Bottom

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

Calibration Report		
Database File	g:\ursa\b&v 33c-07-07-95\33c.db	
Dataset Pathname	MAIN	
Dataset Creation	Mon Mar 27 11:05:25 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		
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	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
			TTTCU-002 (12159411) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	37.00
GR	33.60		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	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
			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: 33c.db: field/well/run1/MAIN Total length: 39.43 ft Total weight: 293.50 lb O.D.: 3.13 in						

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