

HALLIBURTON

ACOUSTIC CEMENT
BOND LOG

CompanyCAERUS OIL & GAS, LLC.
WellNOLTE 13B-13
FieldGRAND VALLEY
CountyGARFIELDStateCO

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WellNOLTE 13B-13
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API No.: 05-045-22298-0000
Location: SURFACE HOLE LOCATION:
0810' FSL & 0348' FEL
BOTTOM HOLE LOCATION:
2105' FSL & 0660' FWL
Gauge Ring RMT

Other Services

Permanent DatumGROUND LEVEL Elevation 5088'
Log Measured FromKB, 24 Ft. above perm. datum
Drilling Measured FromKB

Sec: 14 Twp: 07S Rge: 96W

Date @ Time Logged	23 MAY 2014	Type Fluid in Hole	WATER
Run No.	ONE	Density of Fluid	8.4#
Depth - Driller	6364'	Fluid Level	68'
Depth - Logger	6302'	Cement Top Est. Logged	SEE LOG
Bottom - Logged Interval	6302'	Equipment / Location	10971668 / G.J.
Top - Log Interval	SURFACE	Recorded by	D. SOLIS
Max. Recorded Temp.	N/A	Witnessed by	B. STEWART
CEMENTING DATA	Surface	Protection	Liner
	String	String	
Date / Time Cemented	N/A	String	N/A
Primary / Squeeze			
Expected Compressive Strength	psi@ hrs	psi@ hrs	psi@ hrs
Cement Volume			
Cement Type / Weight	/	/	/
Formulation			
Mud Type / Mud Wgt.	/	/	/

Borehole Record				Casing & Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	N/A	SURFACE	1000'	9.25"	36.0#	SURFACE	1000'
TWO	8.75"	1000'	6364'	4.5"	11.6#	SURFACE	6364'

<<< 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

HES CBL LOG DATED: 23 MAY 2014 IS THE PRMIARY DEPTH REFERENCE FOR THIS WELL.

GR-RMT-CBL RAN IN COMBINATION.

LOG INTERVALS PER CUSTOMER REQUEST.

SHORT JOINTS @:3963' - 3973' AND 5554' - 5564'.

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.

Service Ticket No.	901365025	API No.	05-045-22298-0000	PGM Ver	14.02.28001
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The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA							
TELEMETRY		CEMENT BOND TOOL					
Run No.	ONE	Run No.	ONE	Run No.		Run No.	
Serial No.	11510512	Serial No.	11001119	Serial No.		Serial No.	
Model No.	TTTC-U-002	Model No.	RBT-004	Model No.		Model No.	
Diameter	1.688"	Diameter	3.125"	Diameter		Diameter	

LOGGING DATA

General Data					
Pass	Depths		Well Head	Speed	Logging Run Comments
No	From	To	Pressure	Ft/Min	

ONE	6302'	SURFACE	0	50	MAIN LOG SECTION			
	GAMMA RAY		TRAVEL TIME		AMPLITUDE		MSG	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	150	370	170	0	100	200	1200
DIRECTIONAL INFORMATION								
Maximum Deviation		N/A	deg. @	N/A	KOP	N/A		

HALLIBURTON

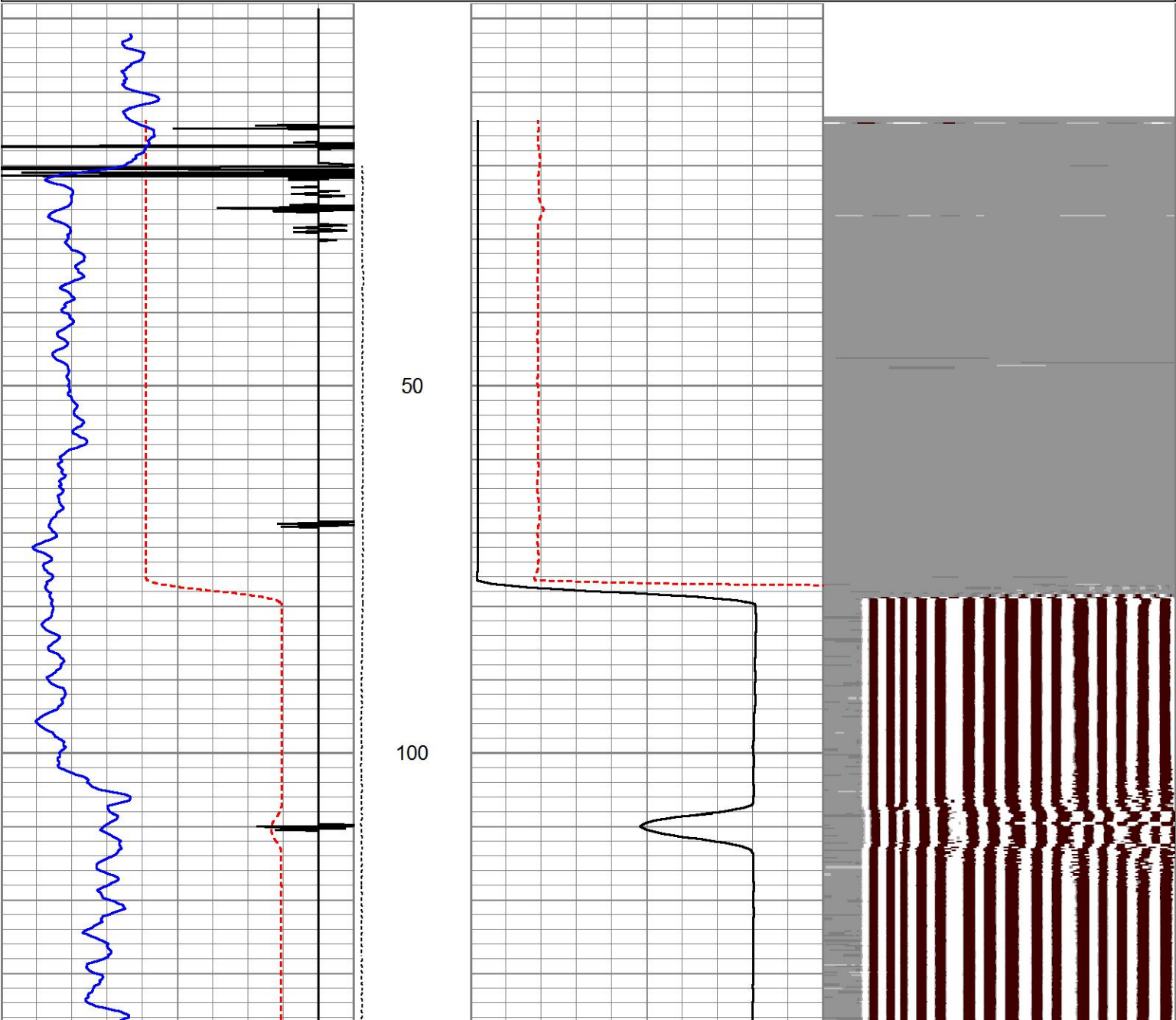
MAIN LOG SECTION

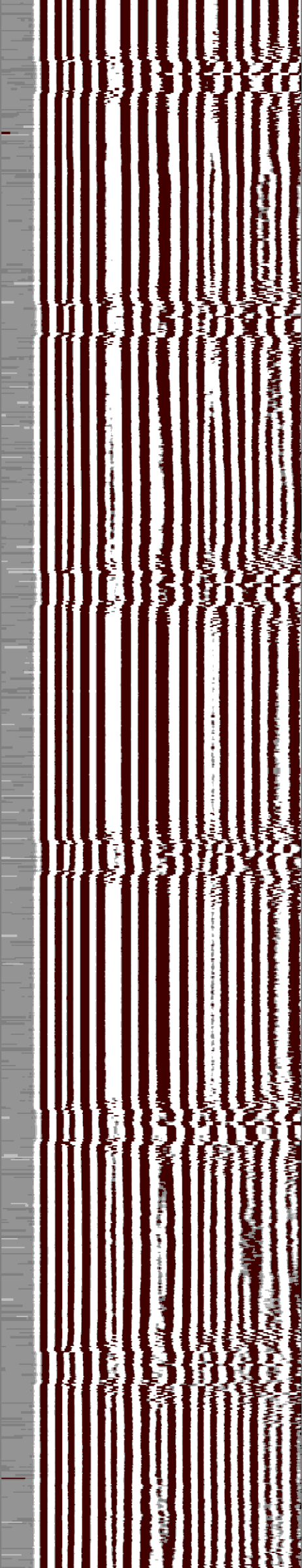
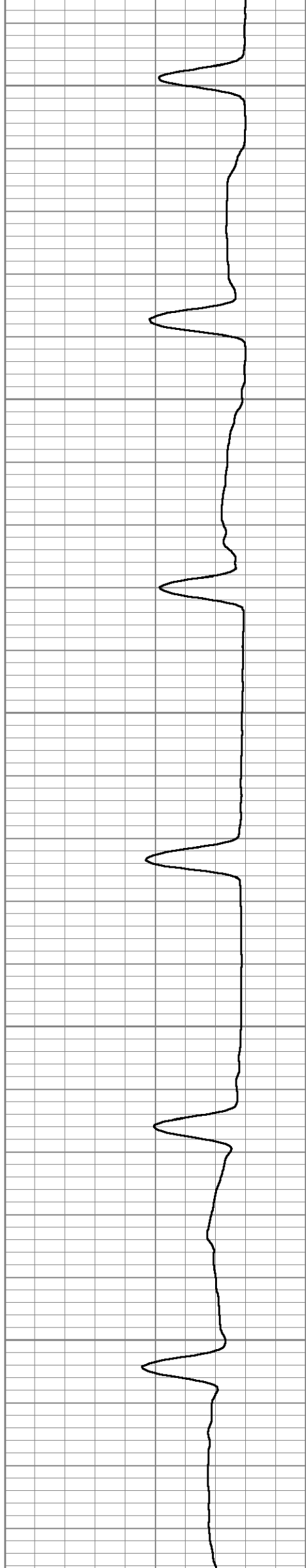
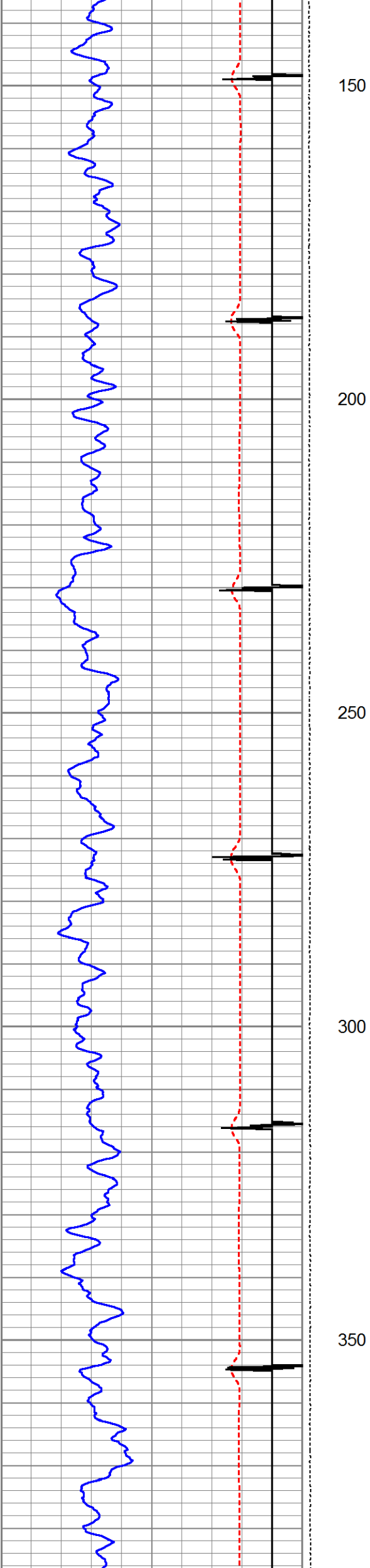
5" = 100'

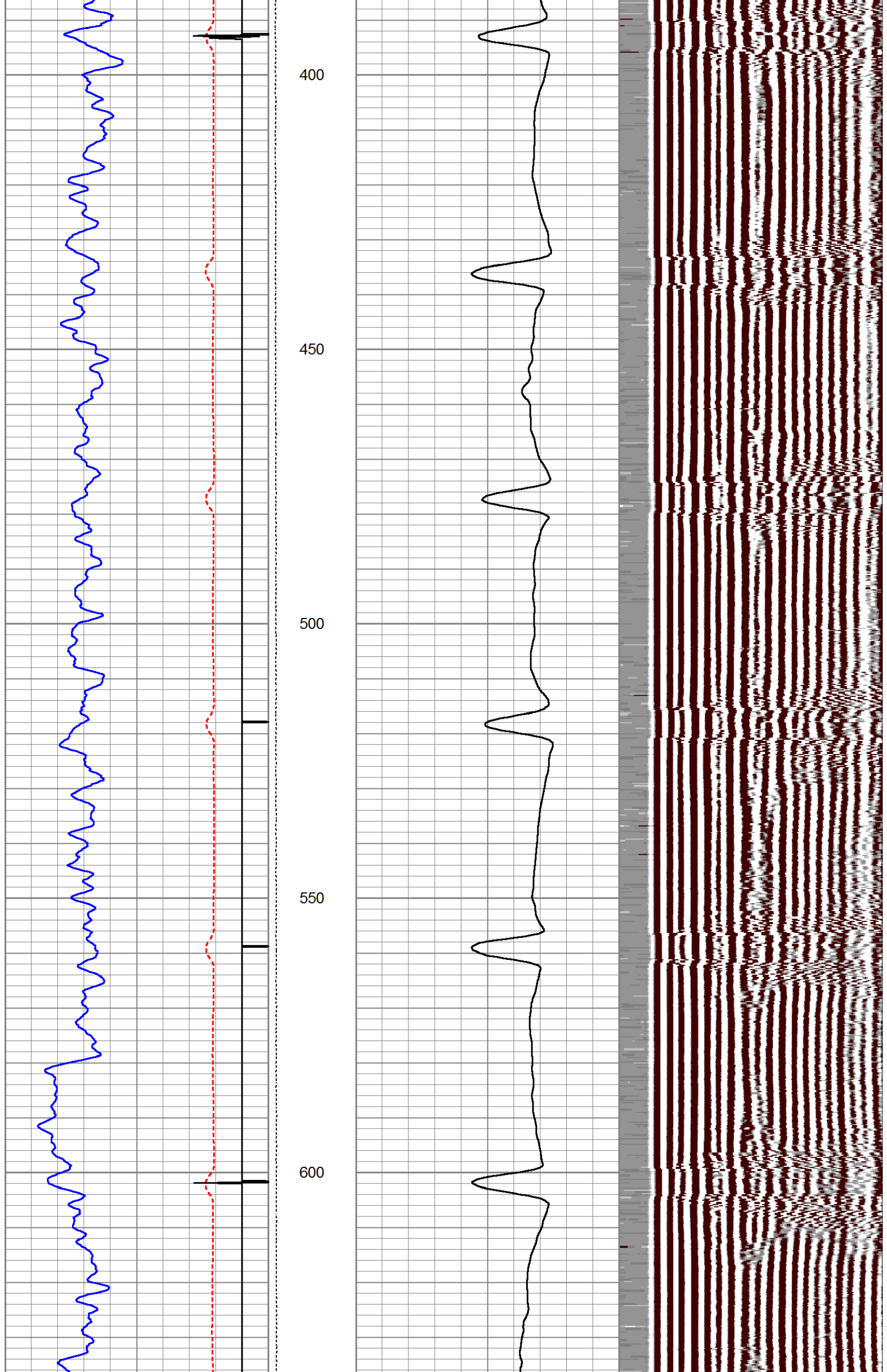
Database File
Dataset Pathname
Presentation Format
Dataset Creation
Charted by

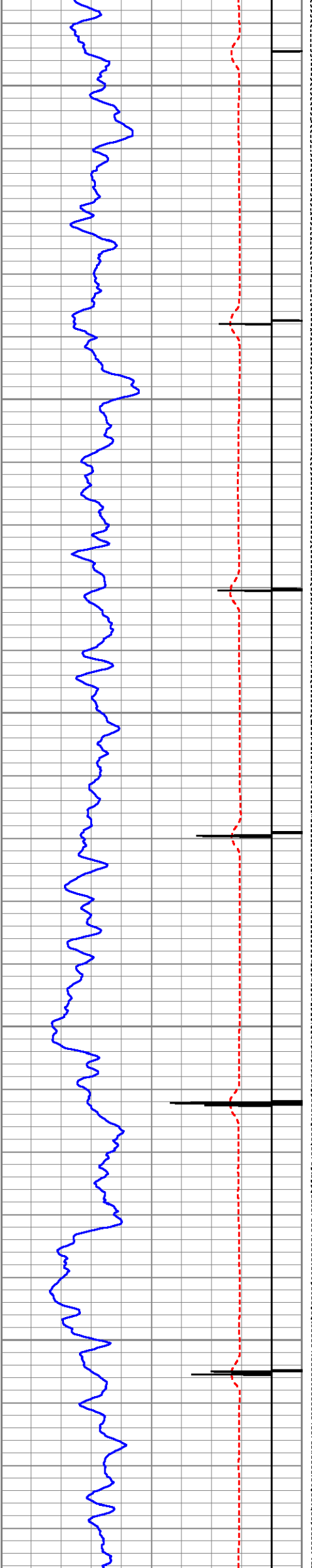
nolte_13b13_cmb.db
13B13/run1/CBL1
cbl-radi
Sat May 24 11:00:43 2014
Depth in Feet scaled 1:240

370	TT3FT (usec)	170	LTEN	0	AMP3FT (mV)	100	200	VDL	1200
-540	COLLARS	60	0	(lb4000	0	AMPLIFIED AMPLITUDE (mV)	10		
0	GAMMA RAY (GAPI)	150							









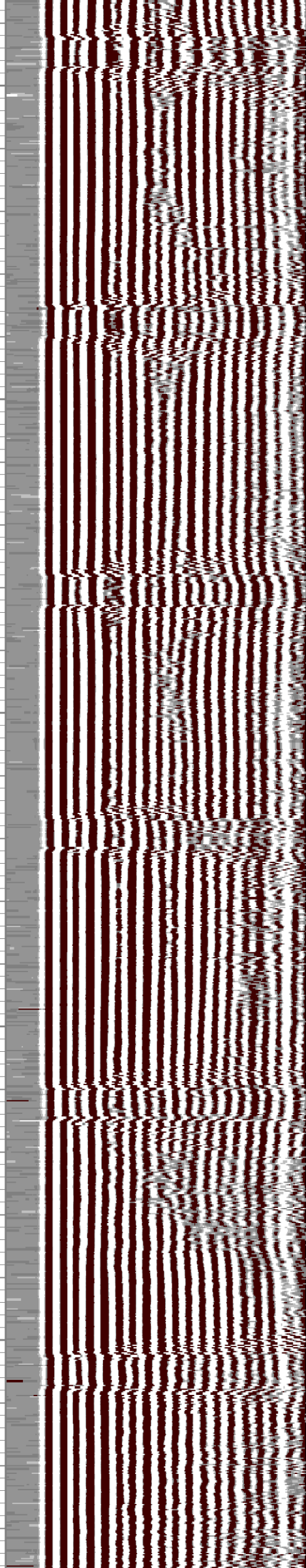
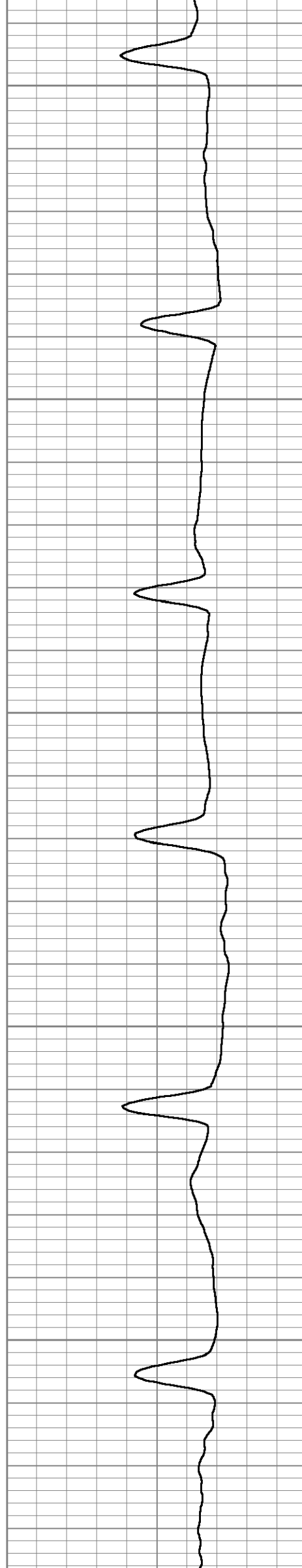
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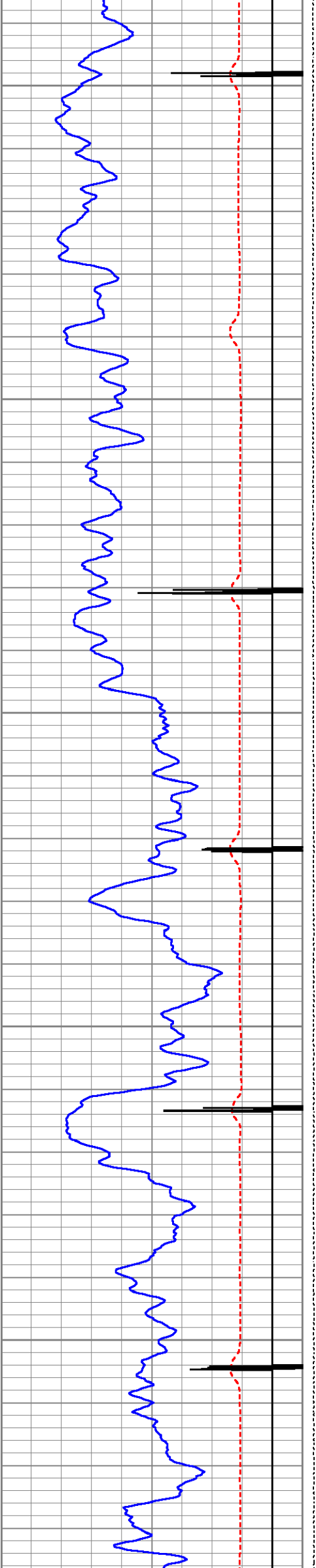
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750

800

850





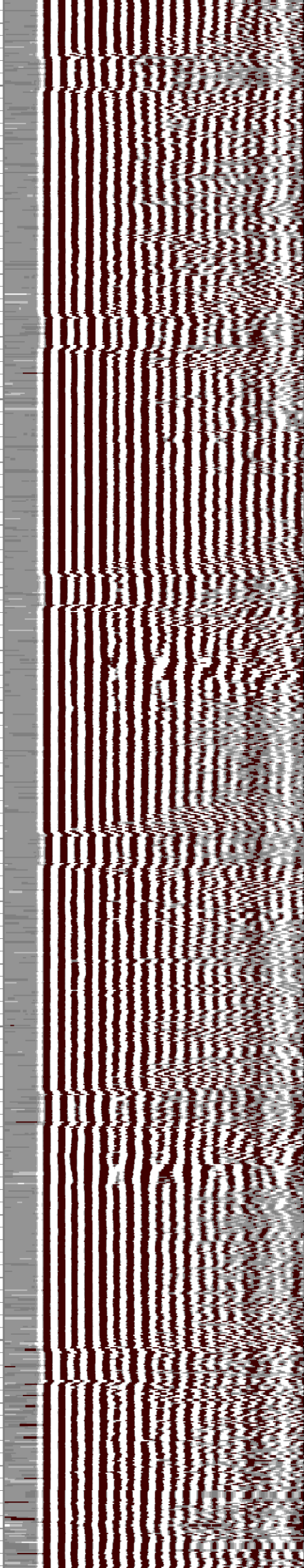
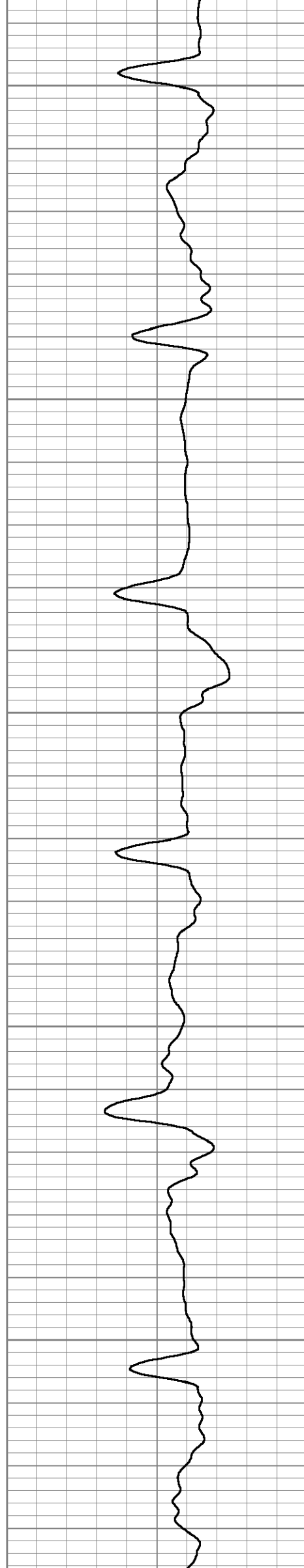
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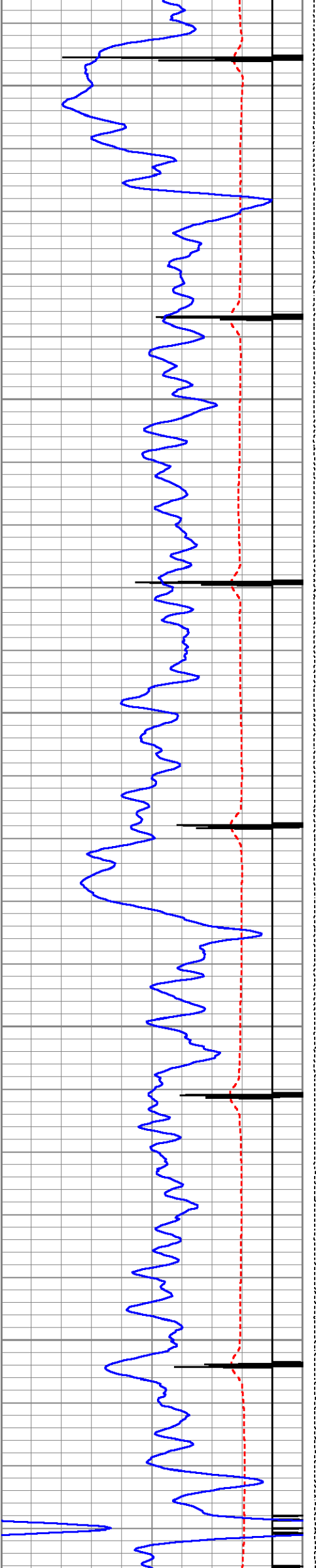
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1000

1050

1100





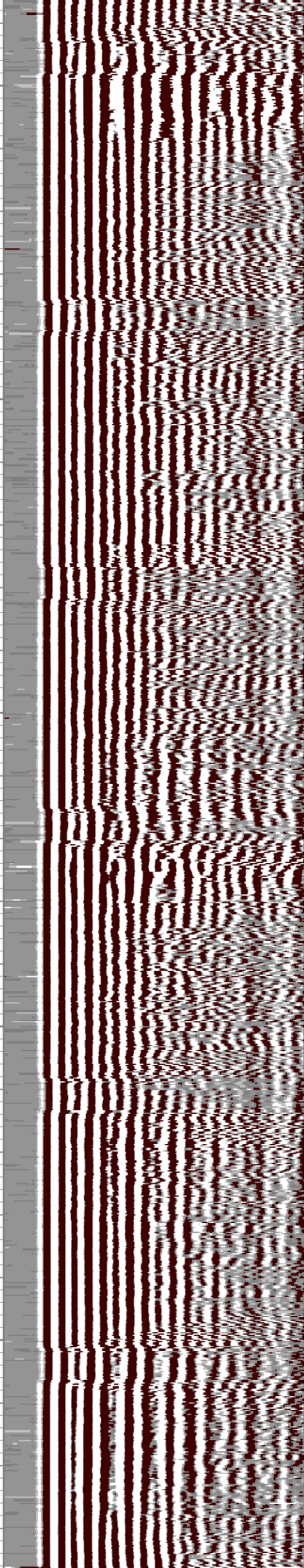
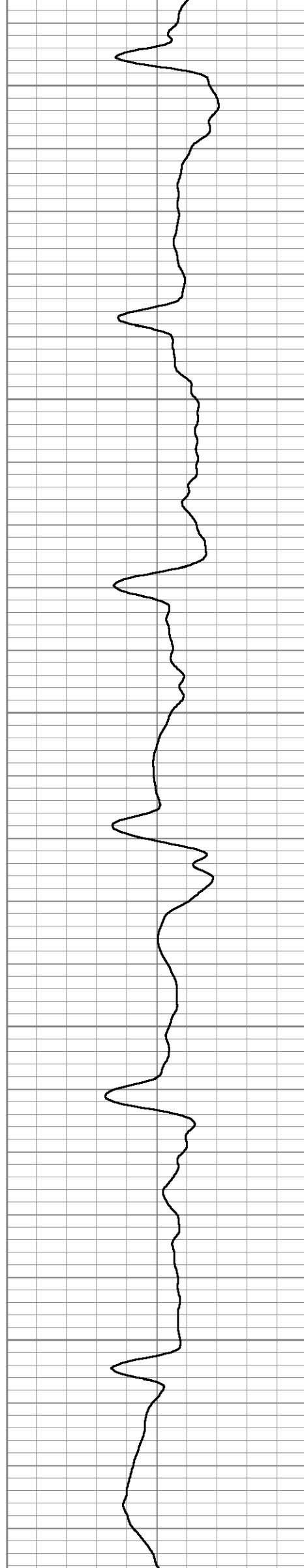
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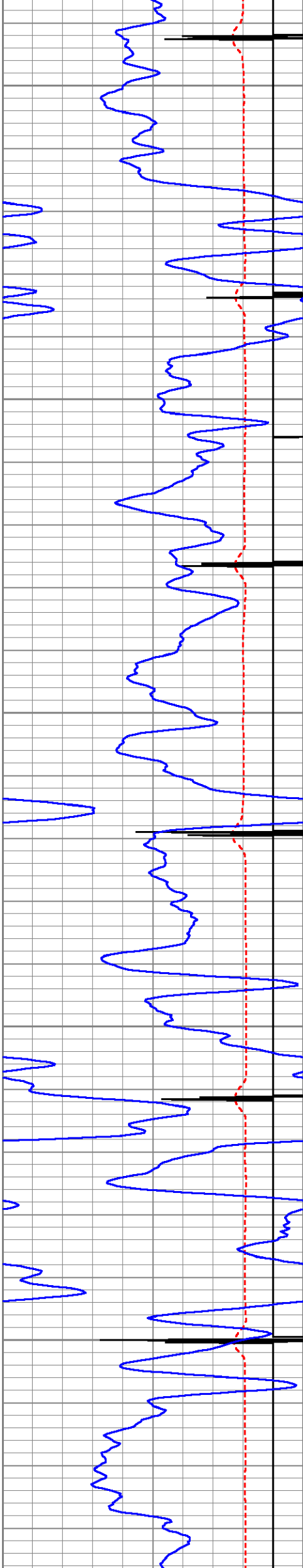
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1250

1300

1350





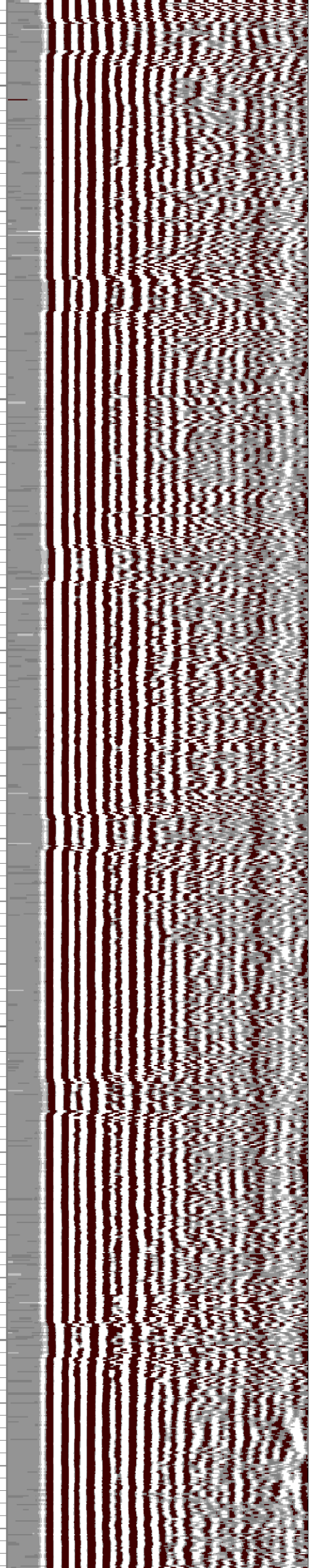
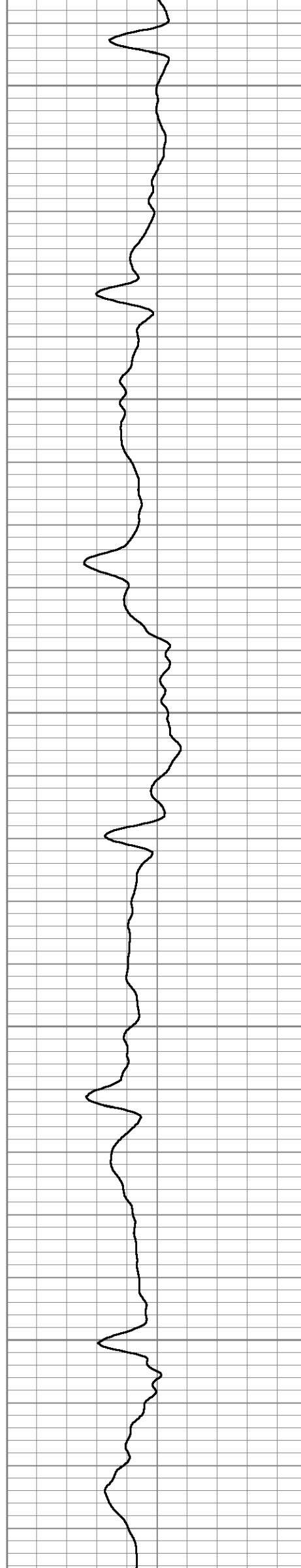
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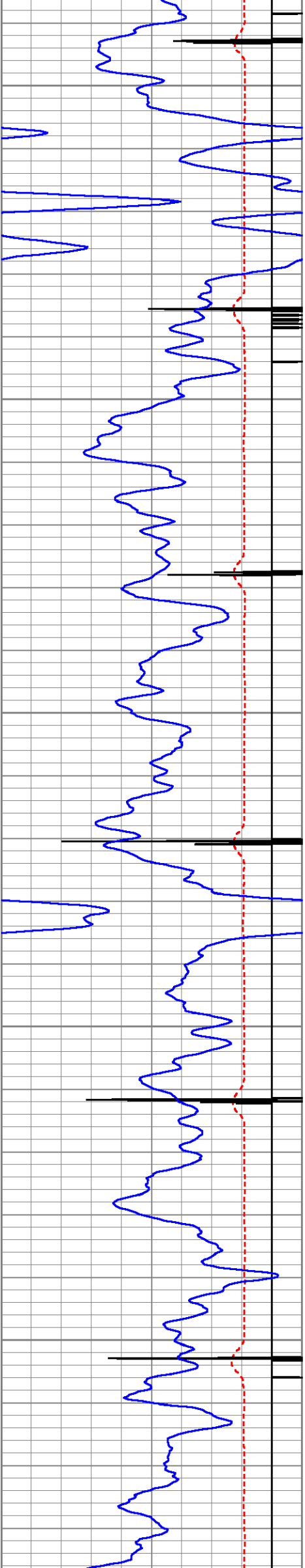
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1600





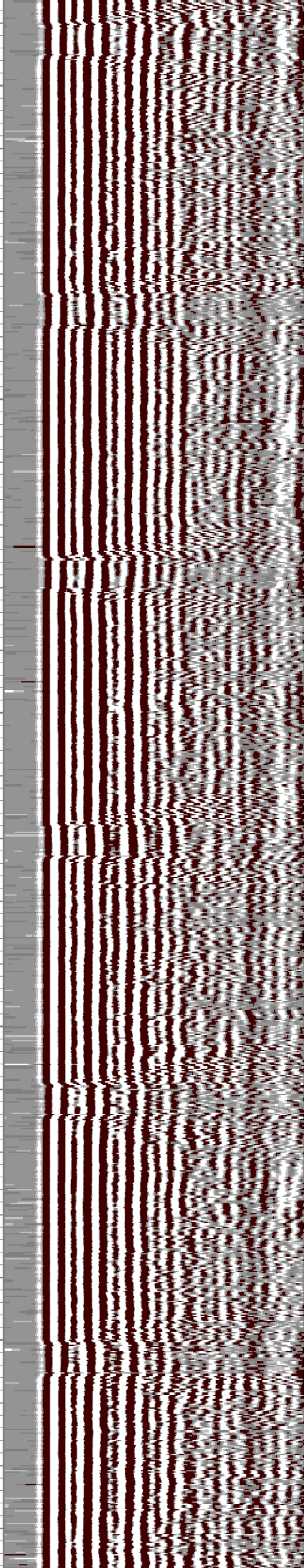
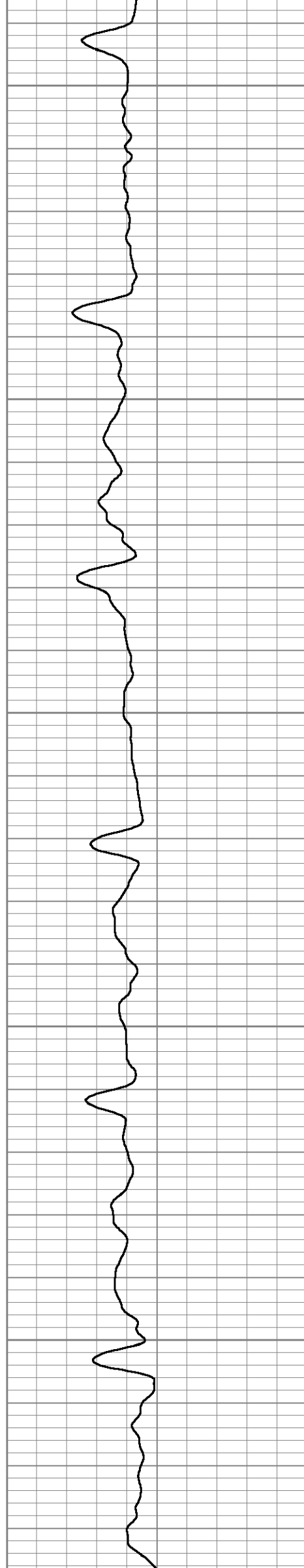
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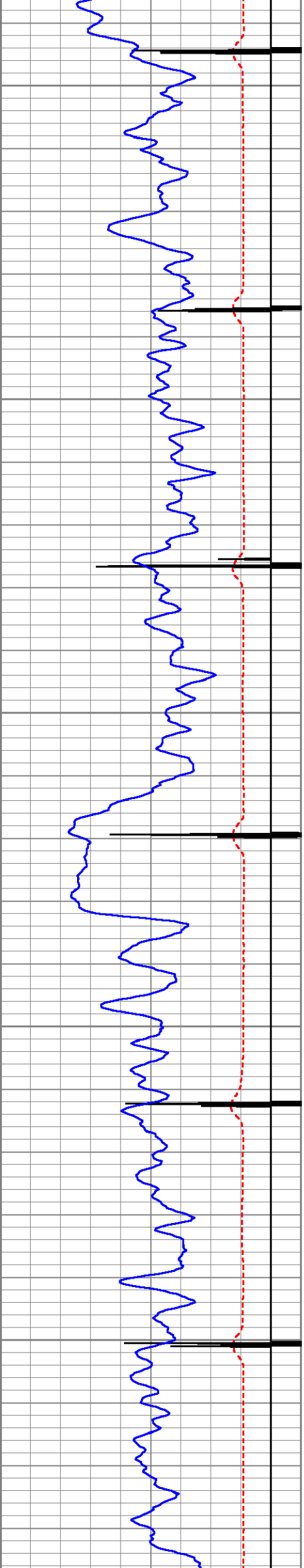
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1750

1800

1850





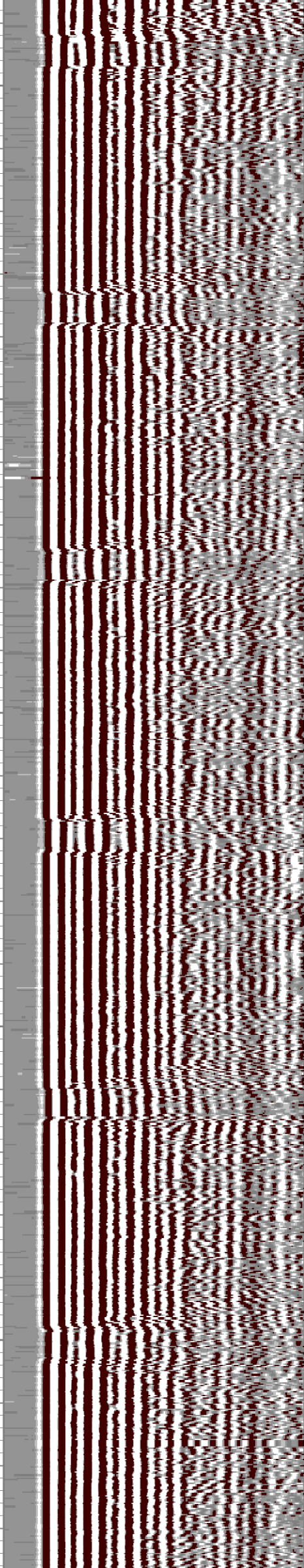
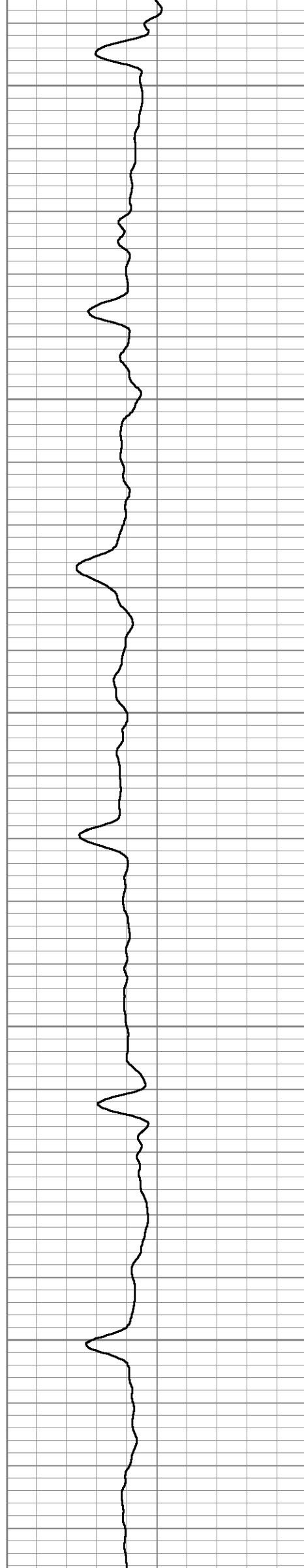
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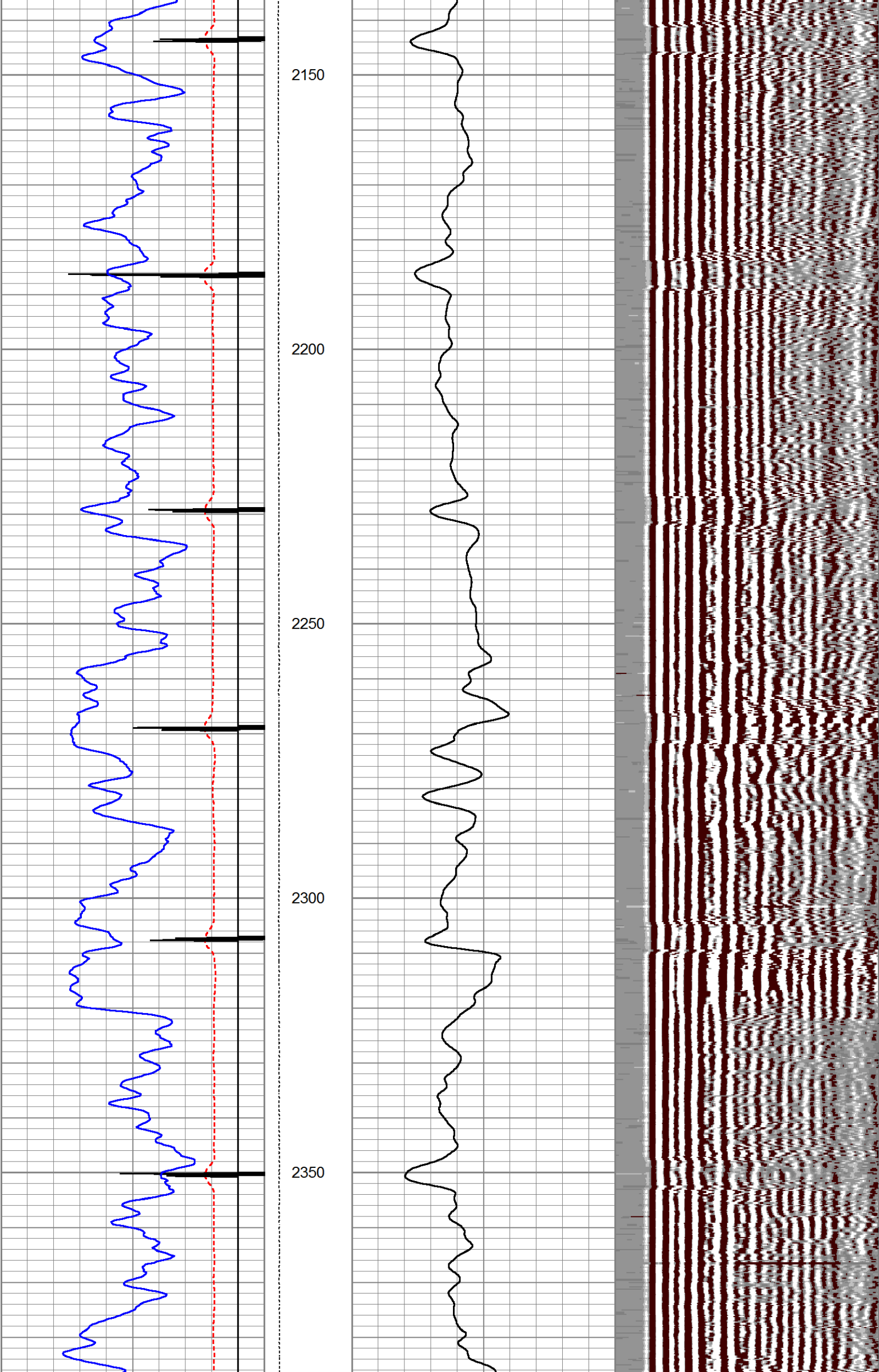
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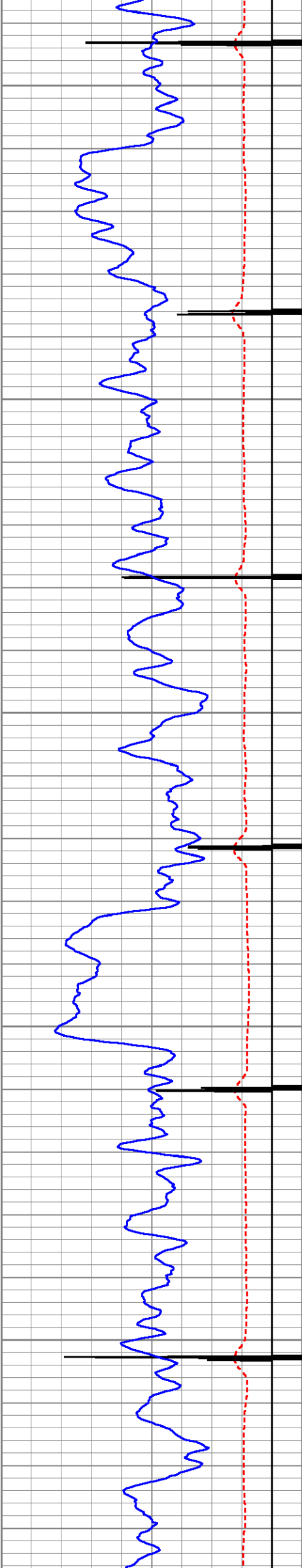
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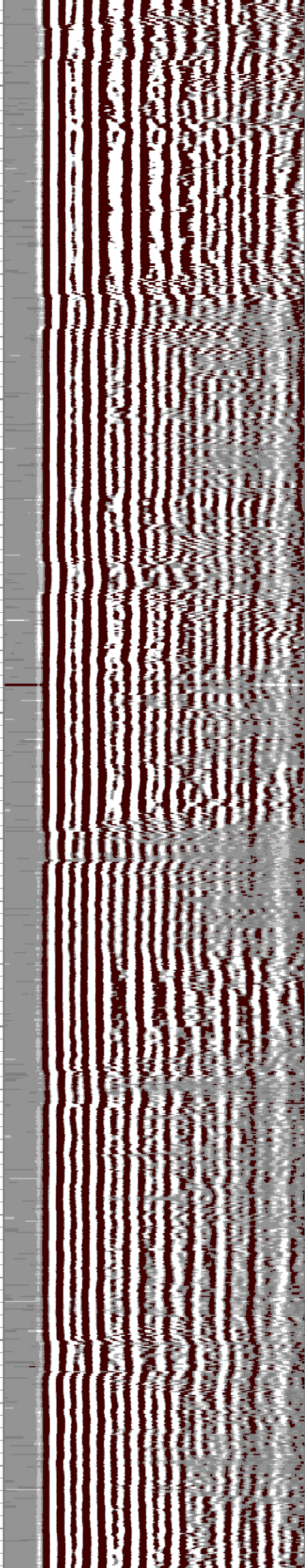
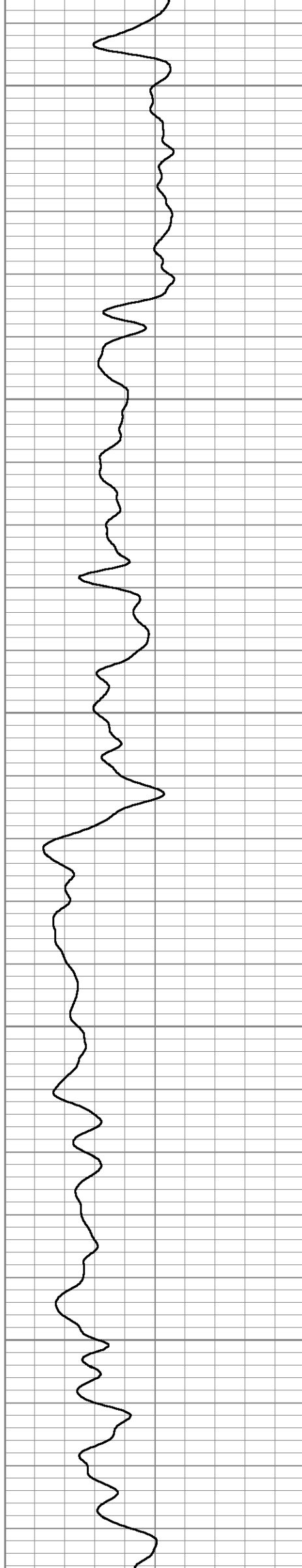
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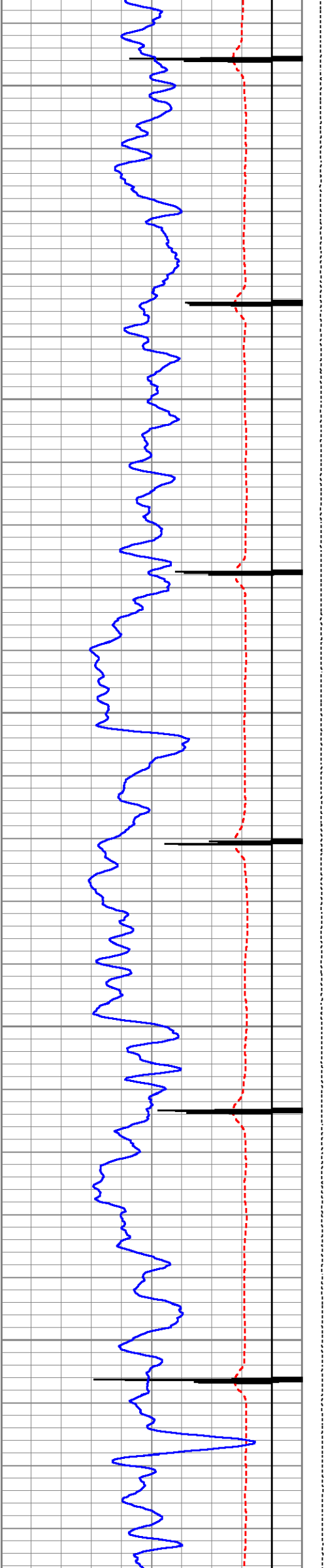
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2600





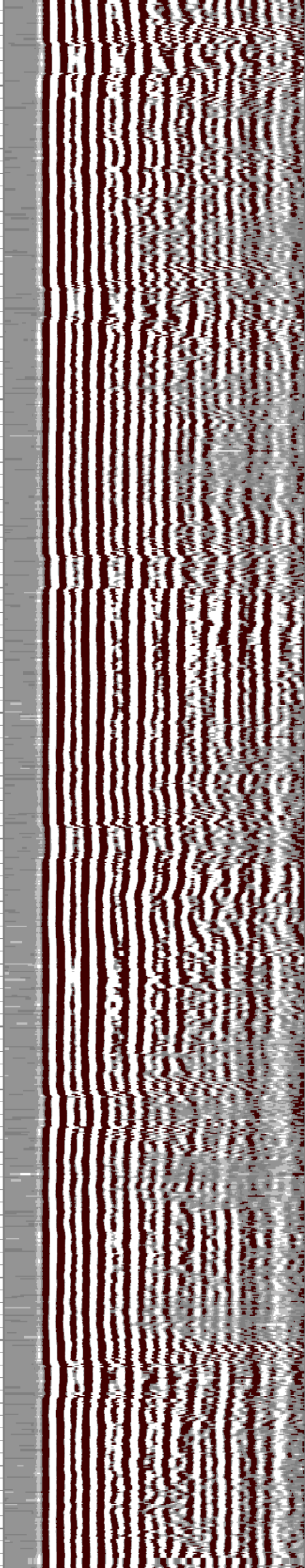
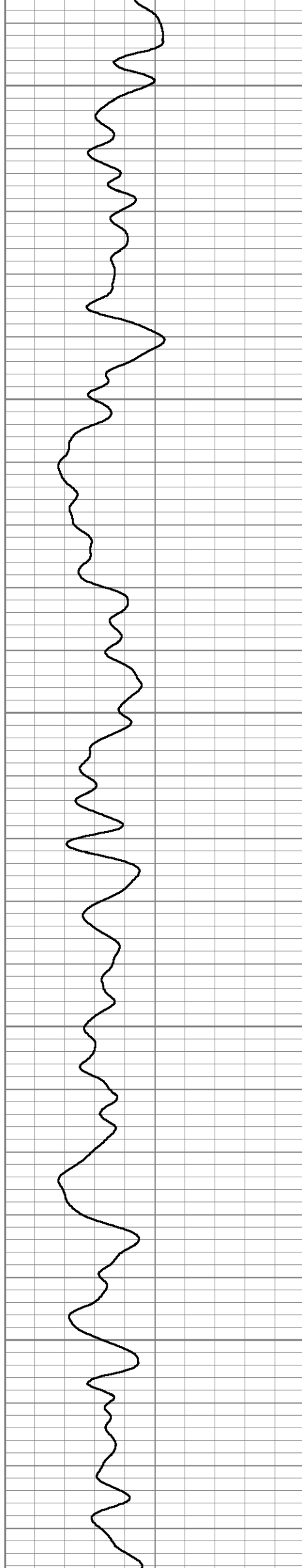
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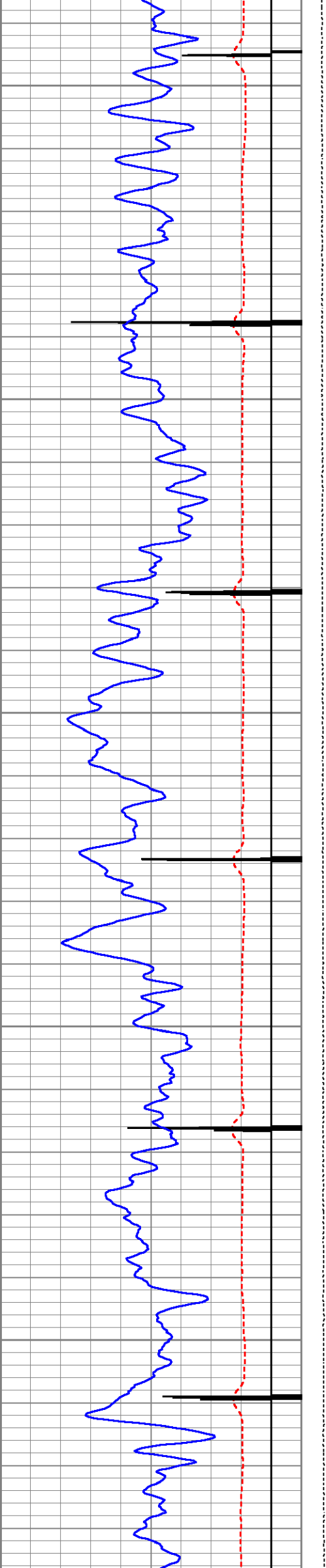
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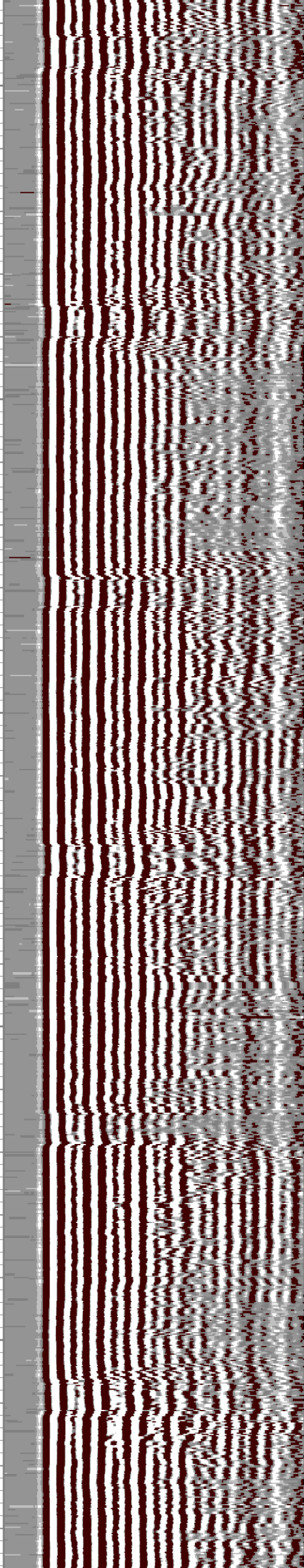
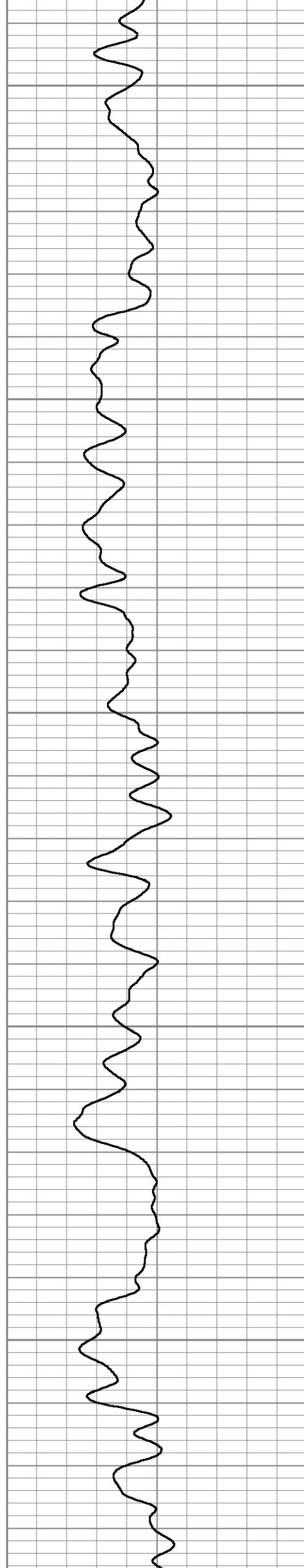
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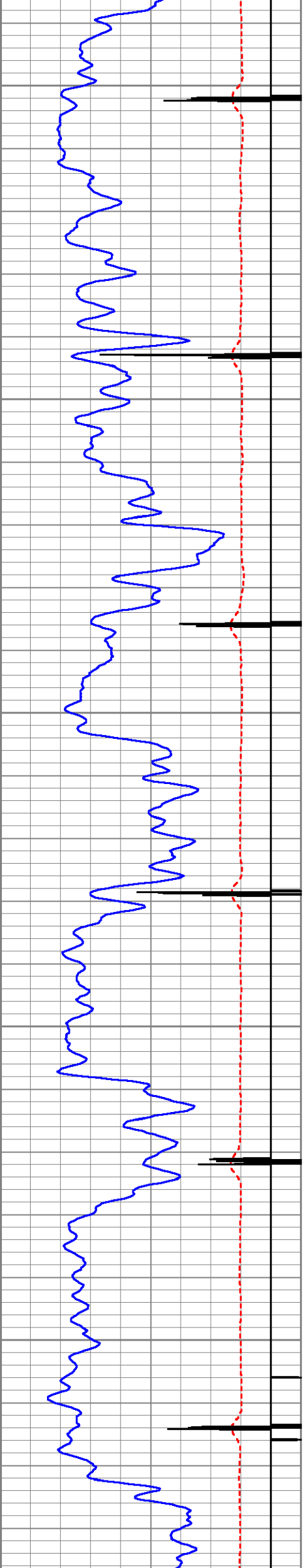
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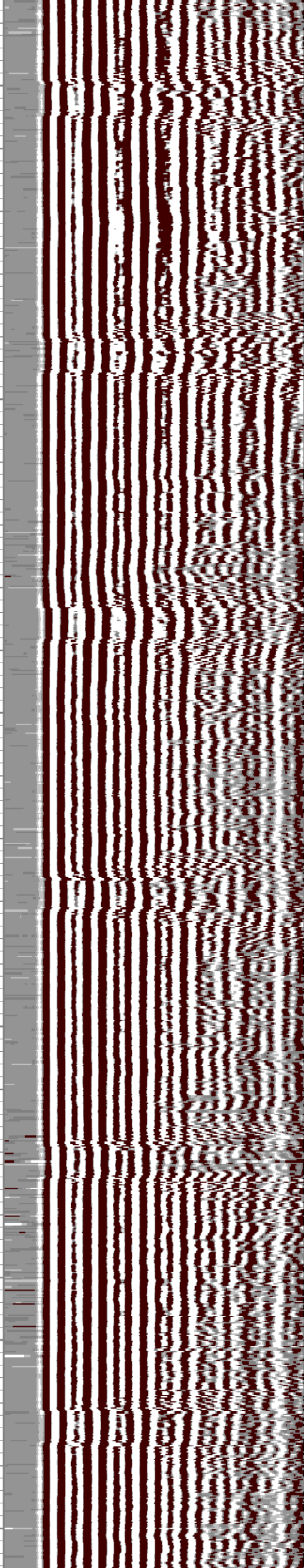
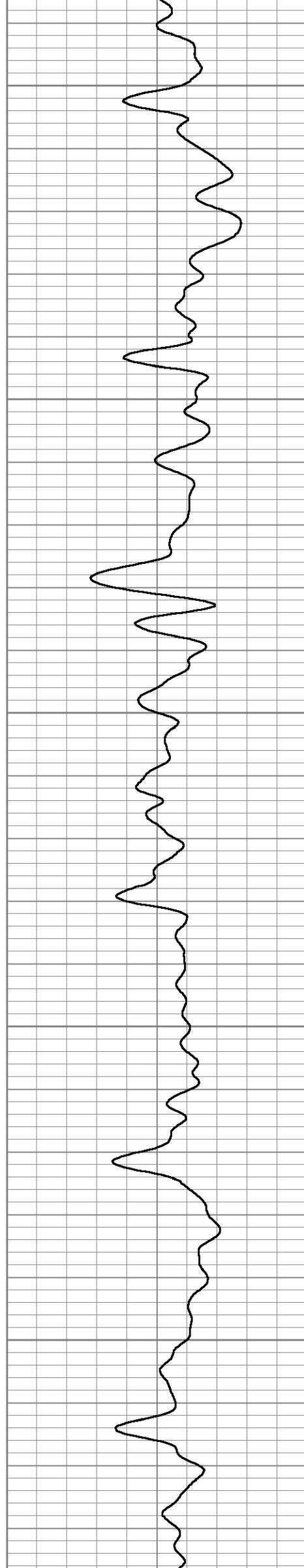
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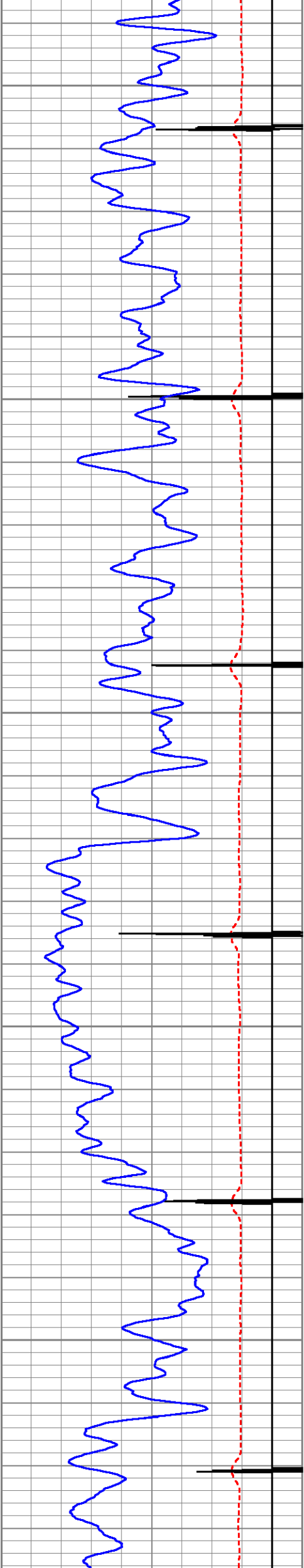
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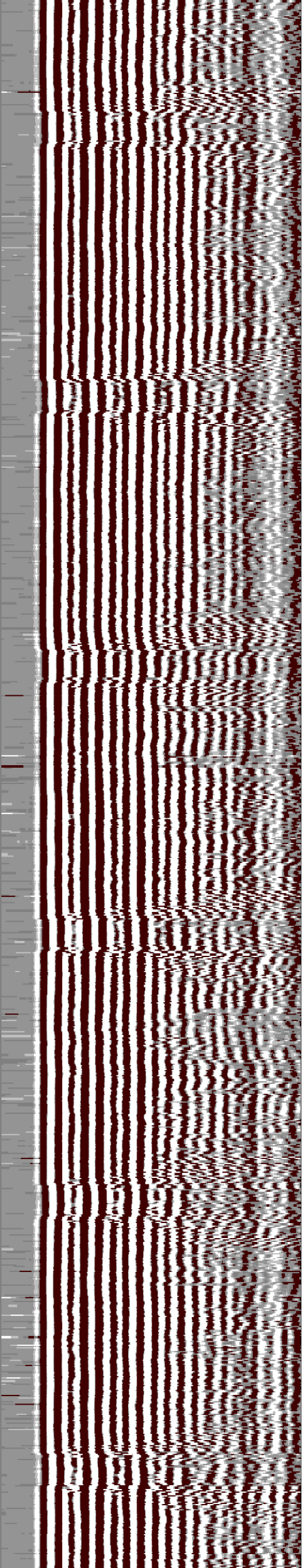
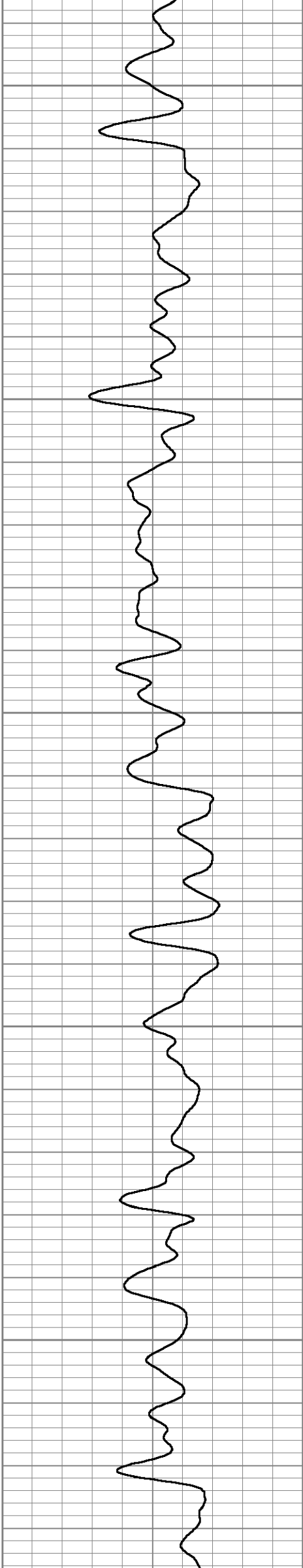
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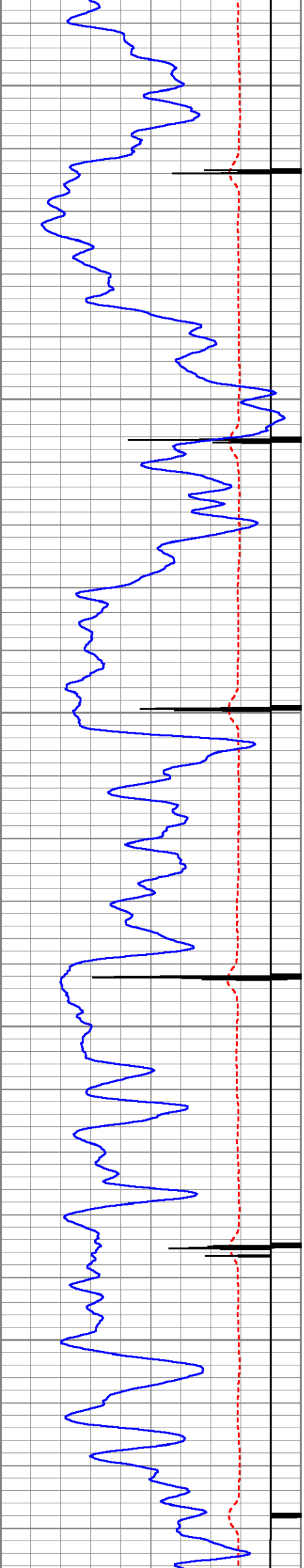
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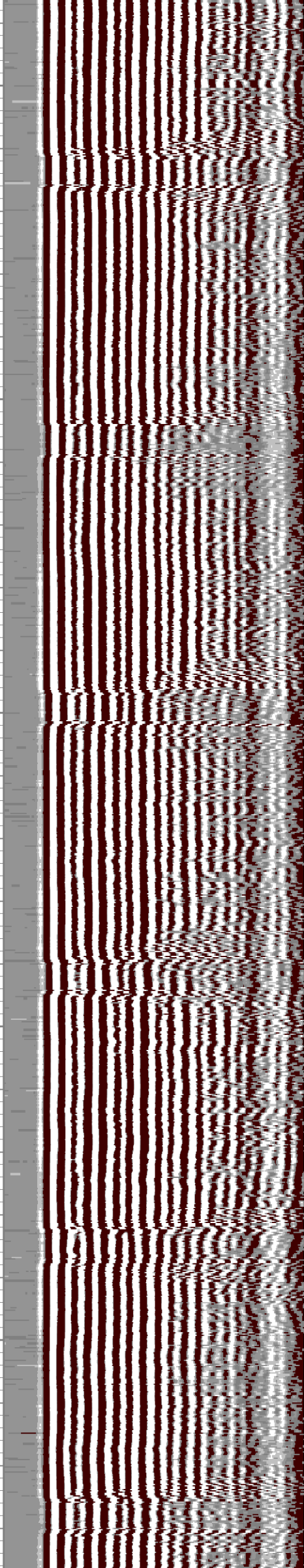
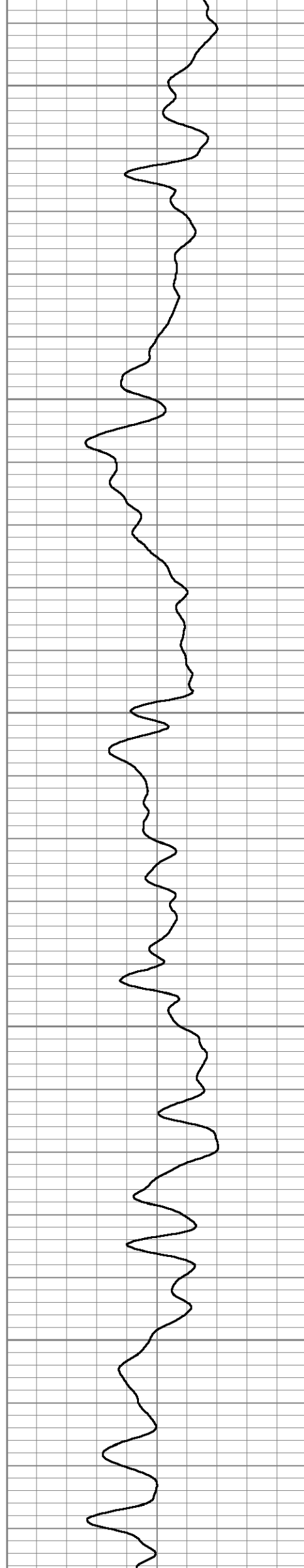
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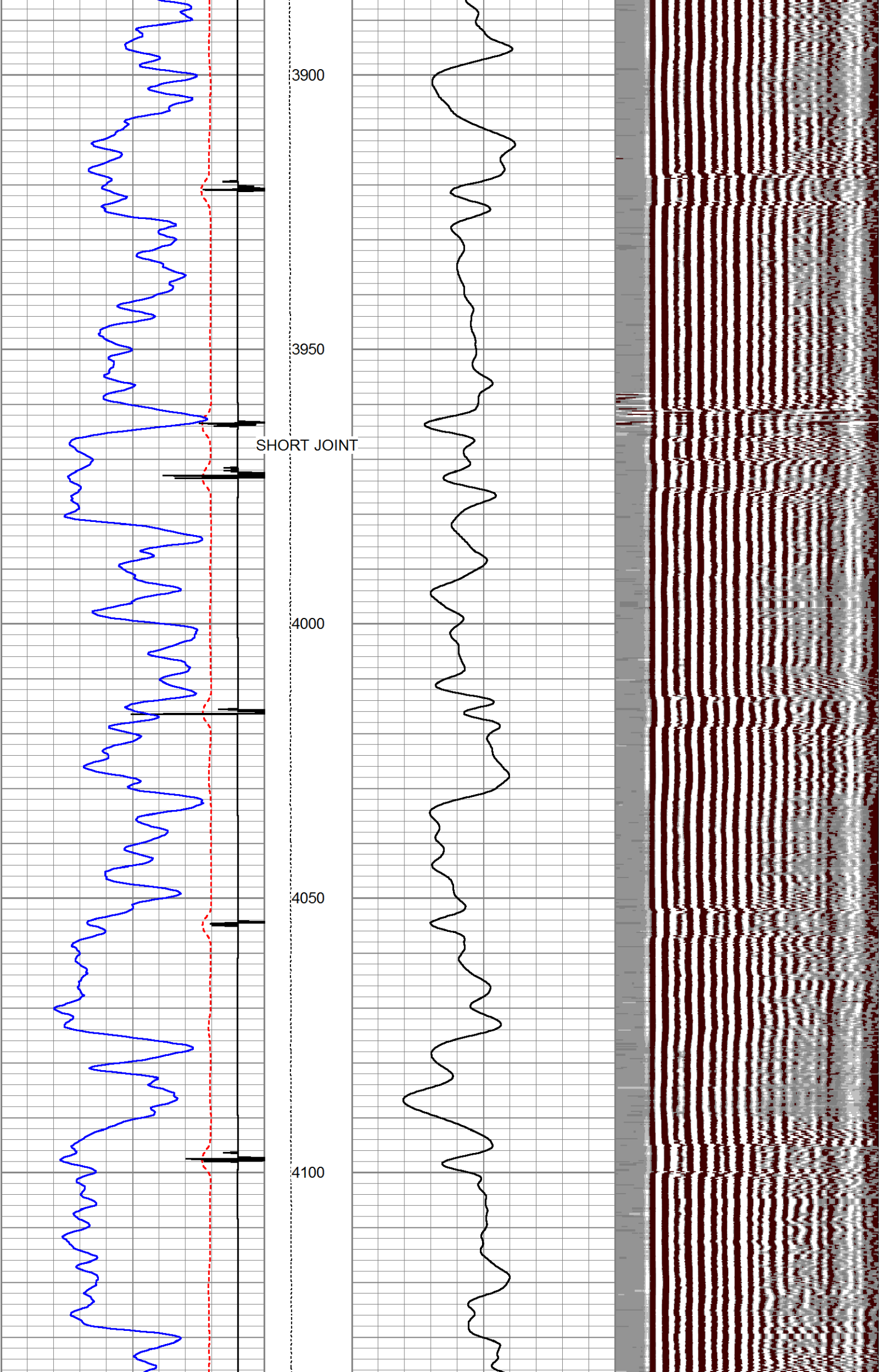
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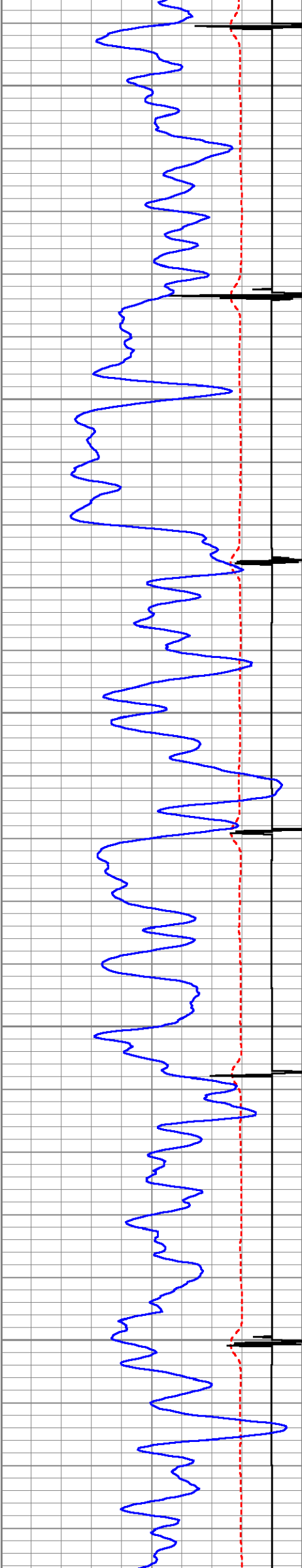
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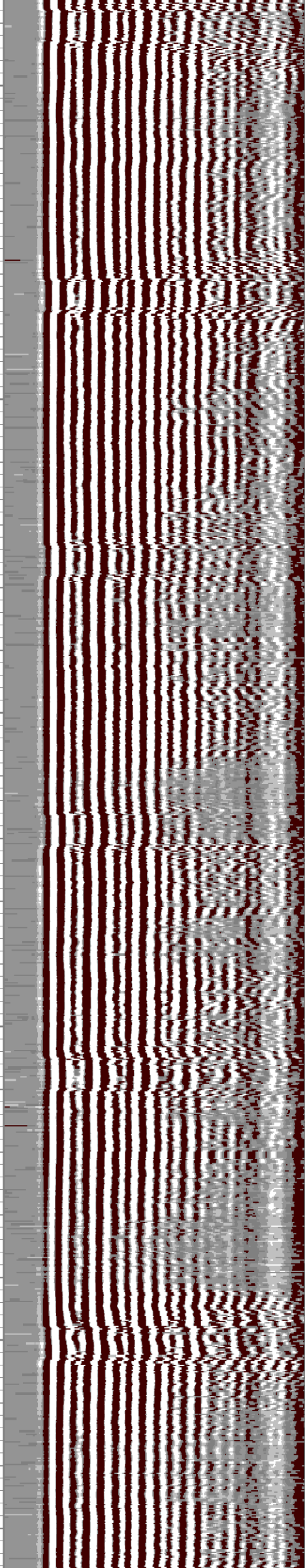
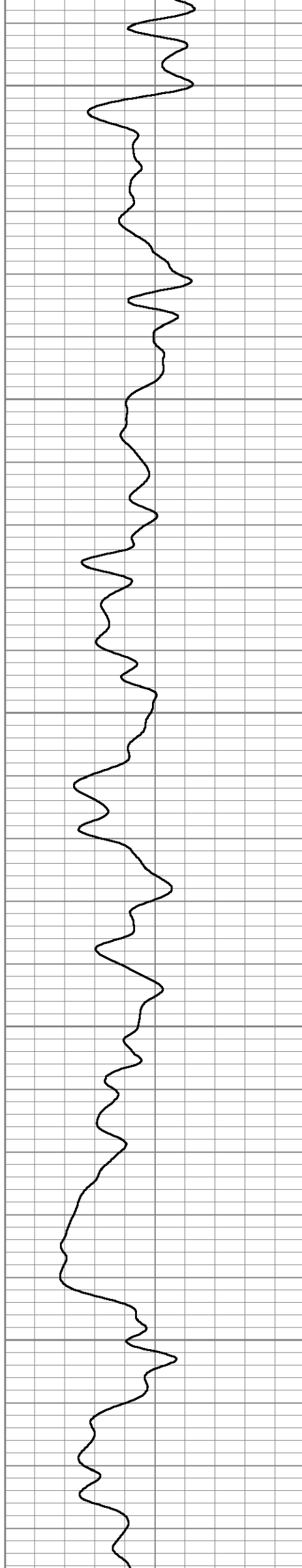
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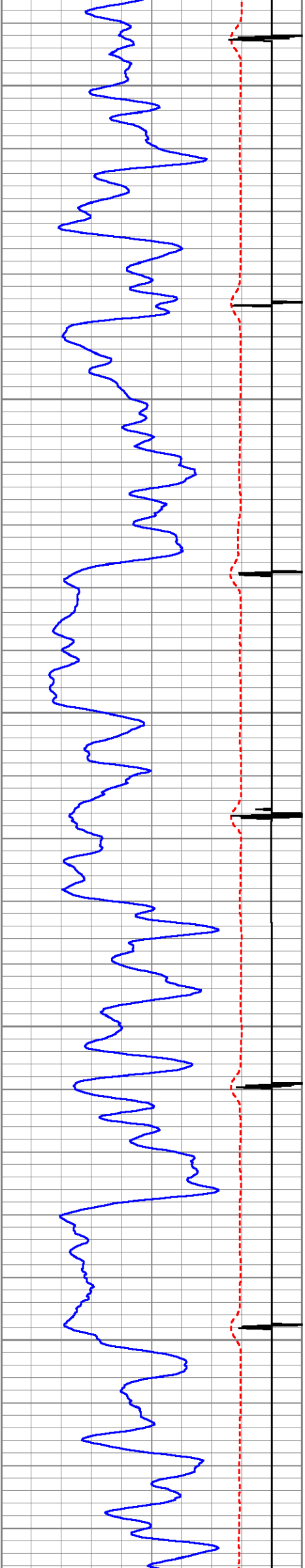
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4300

4350





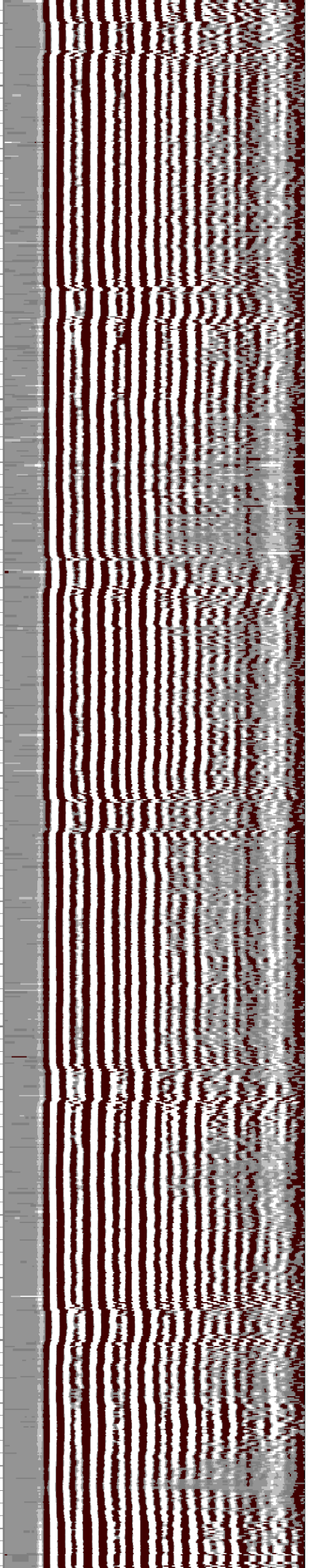
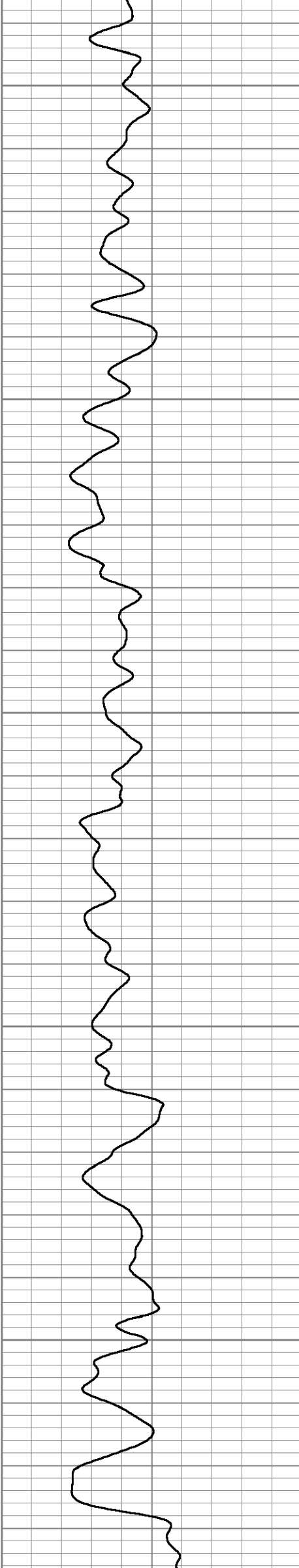
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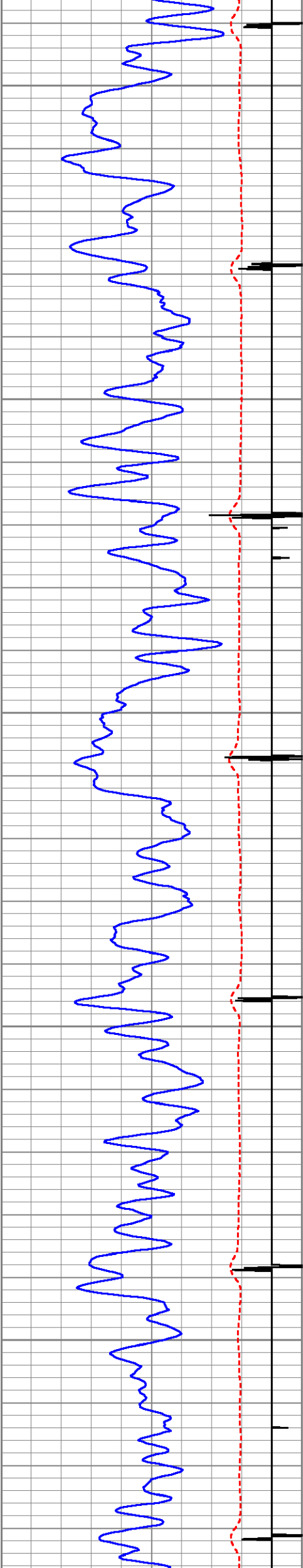
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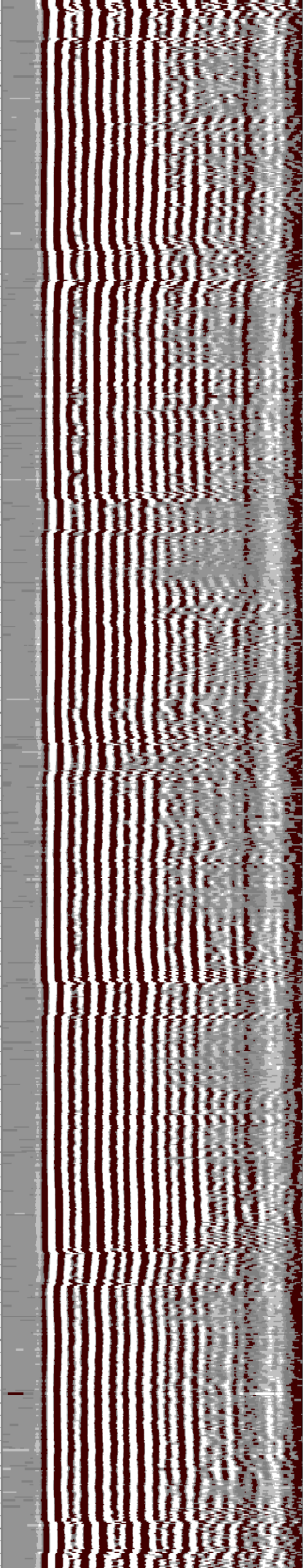
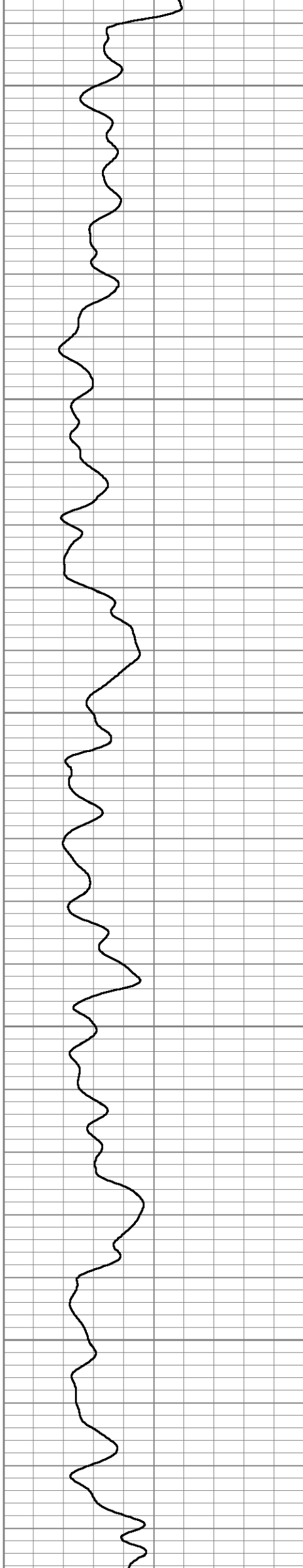
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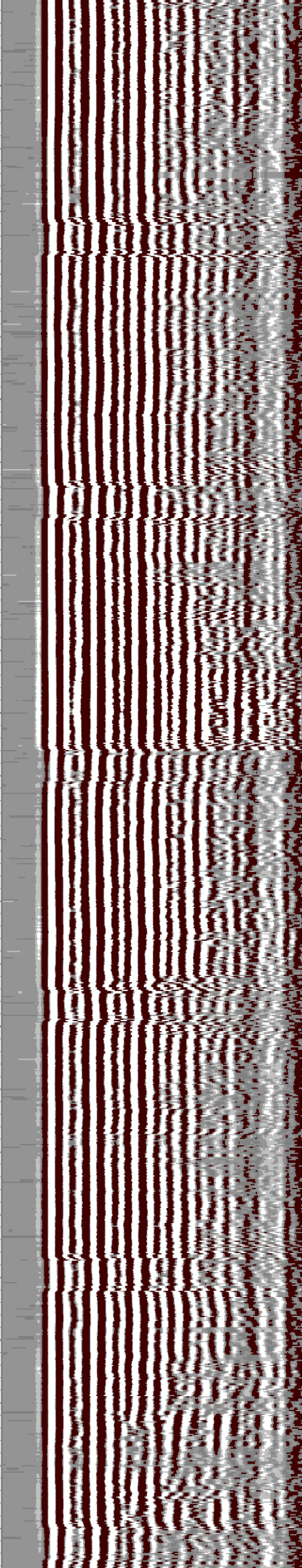
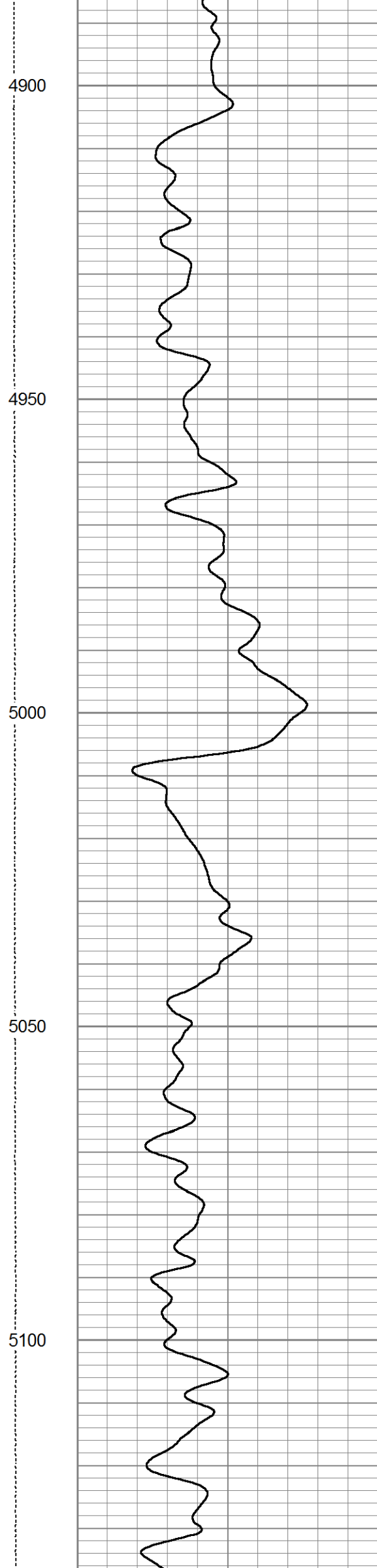
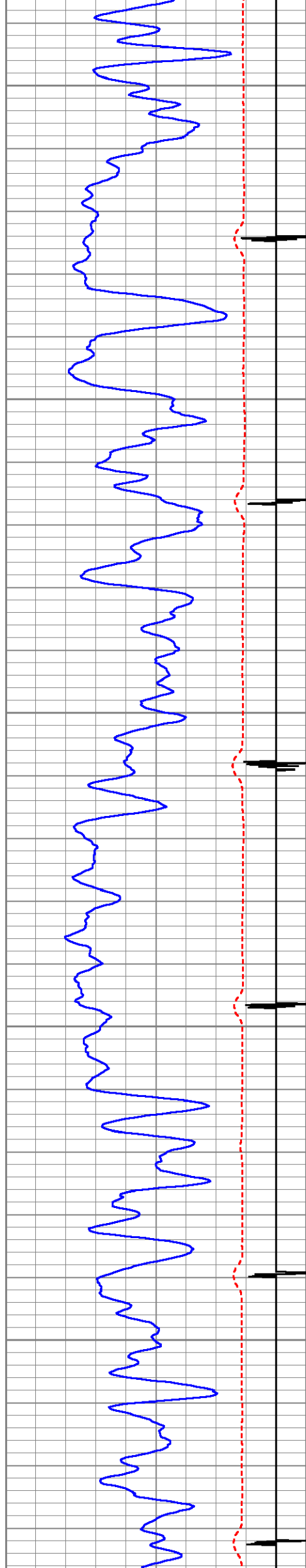
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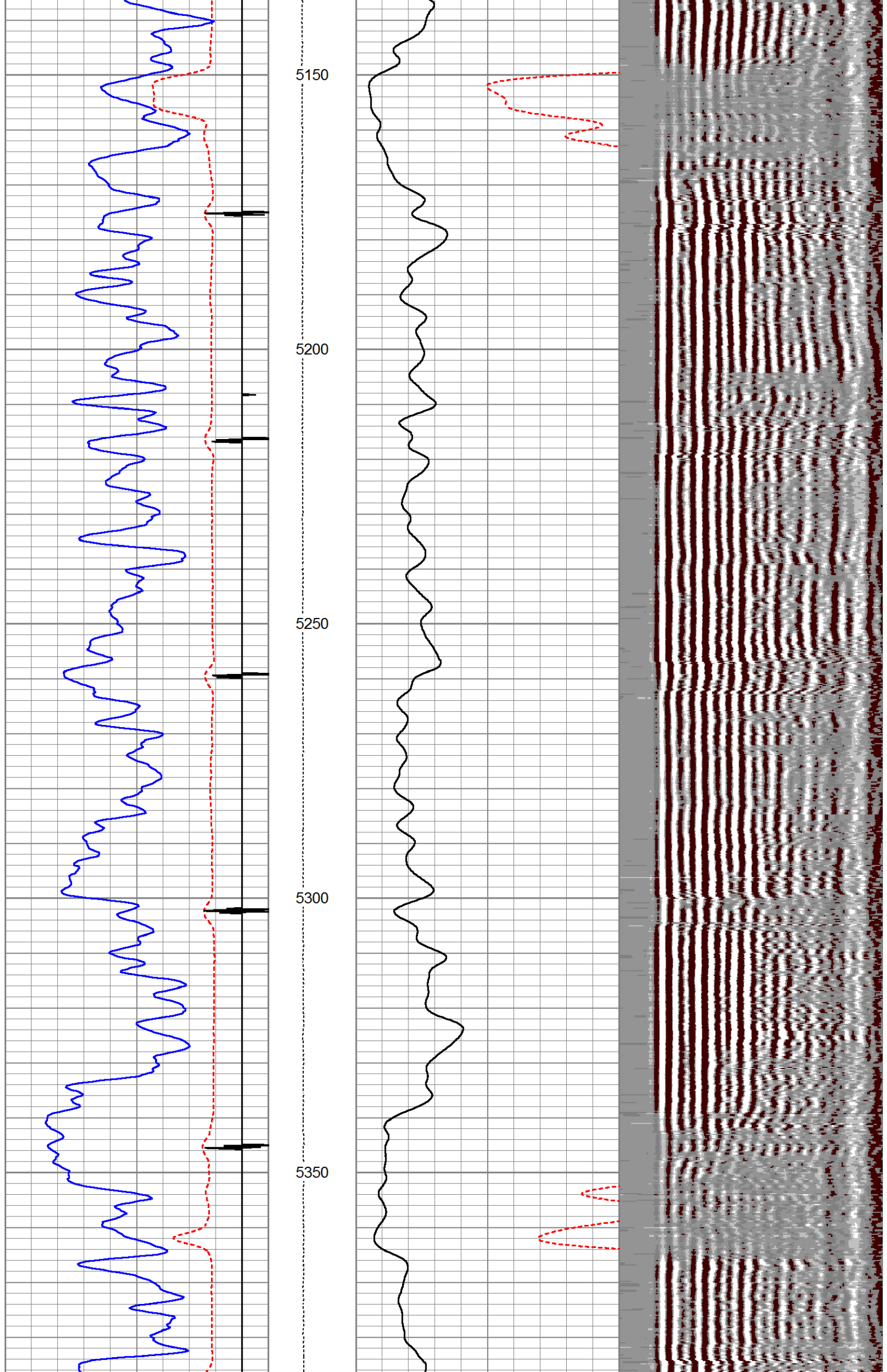
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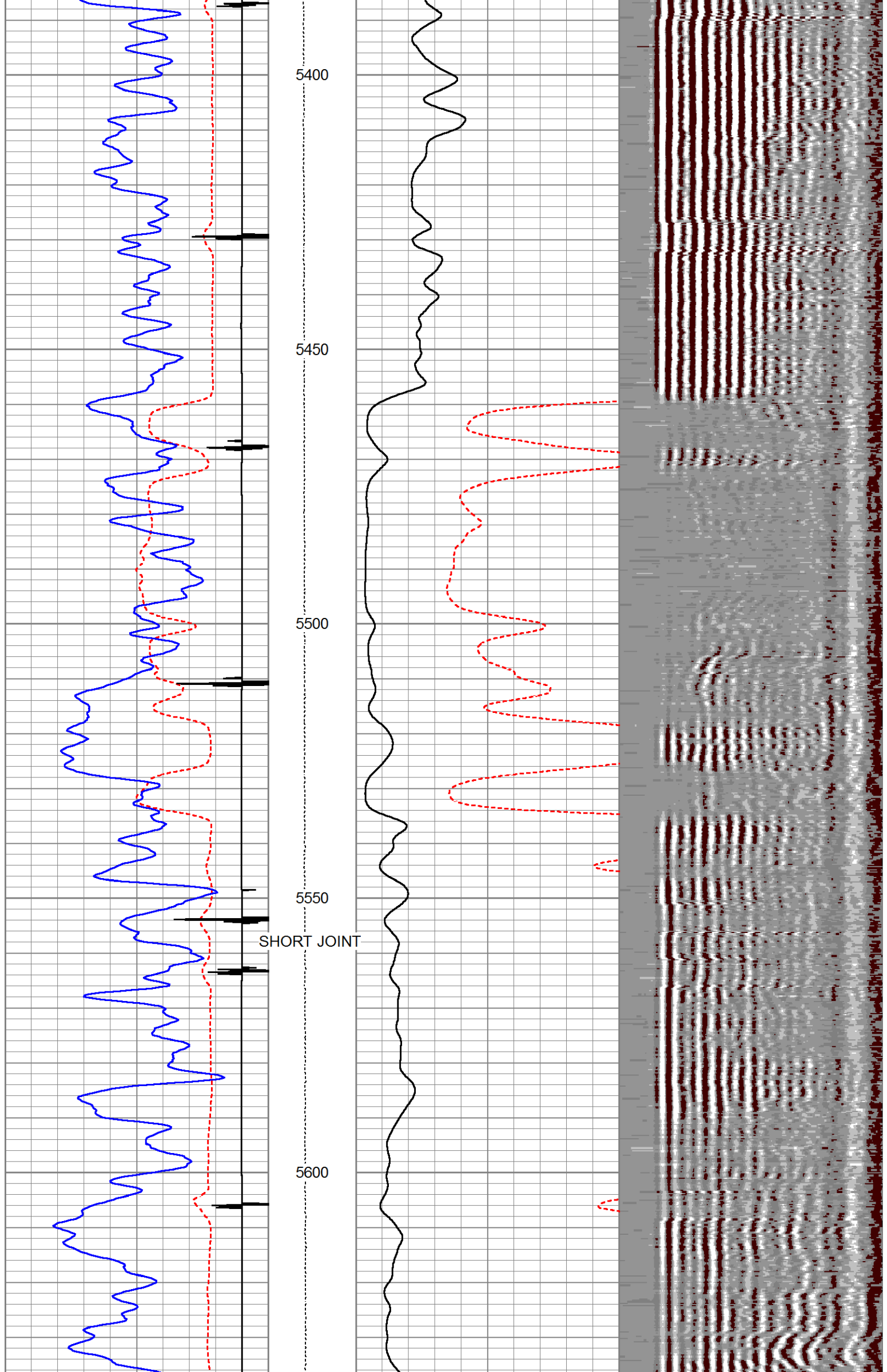
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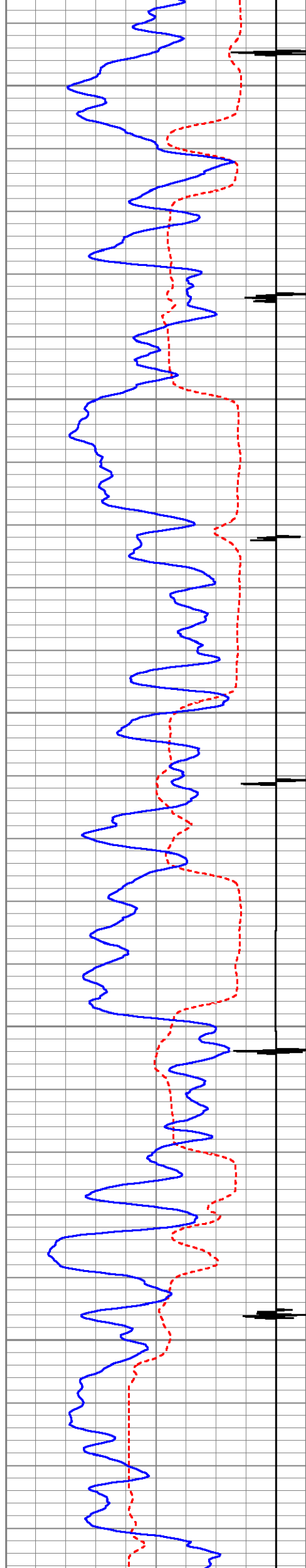
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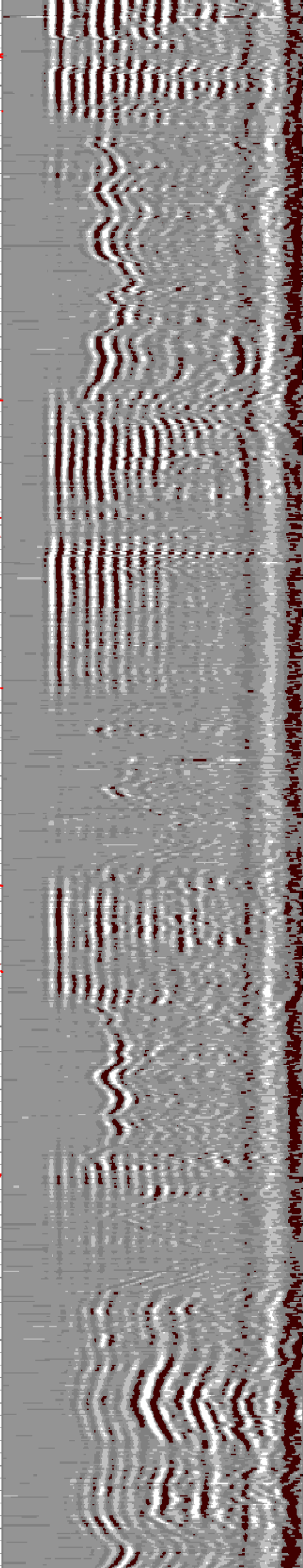
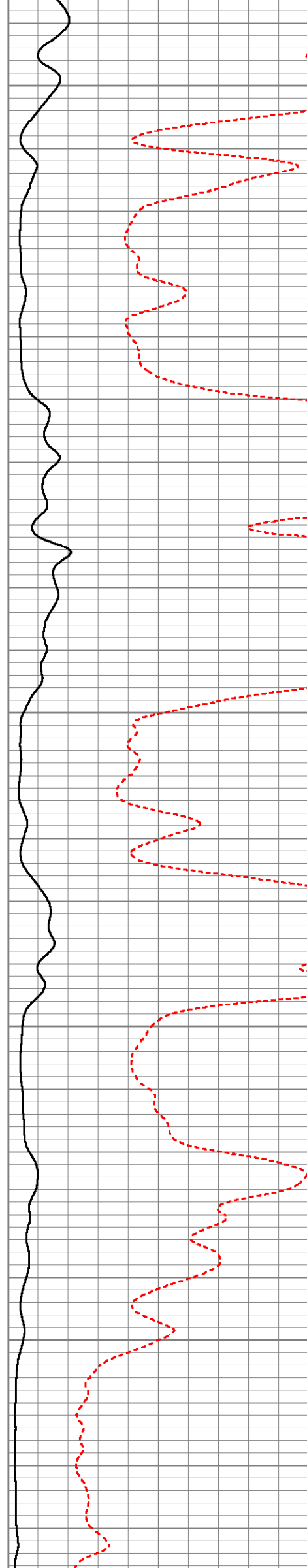
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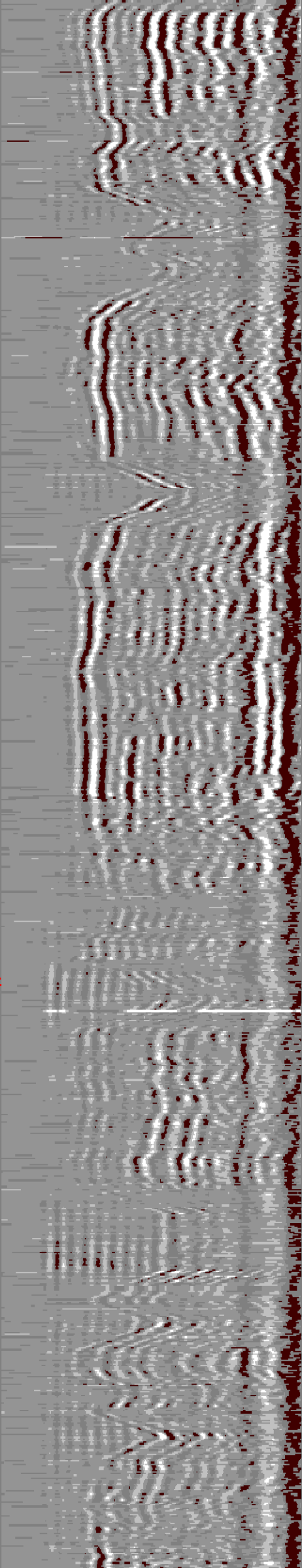
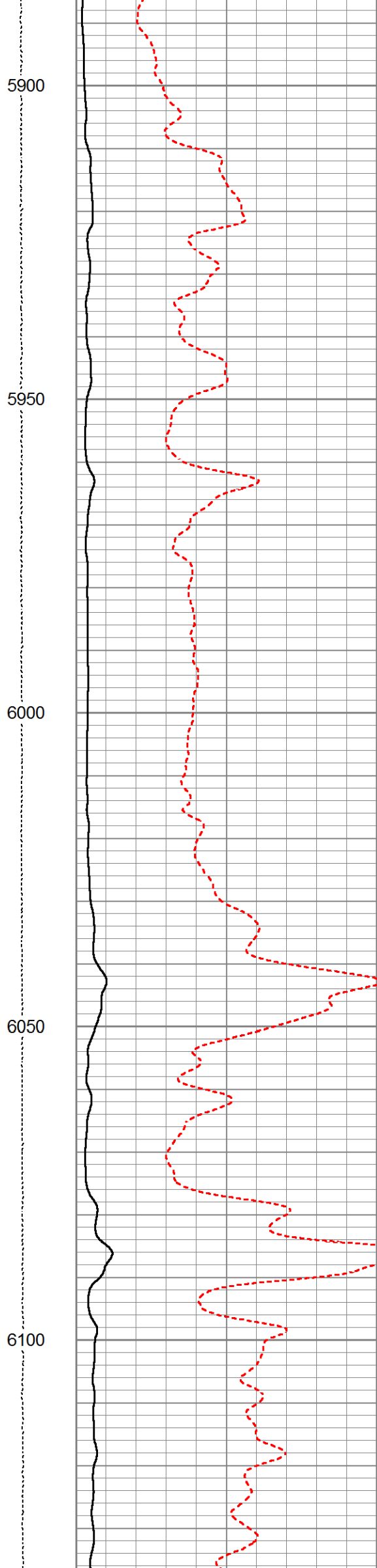
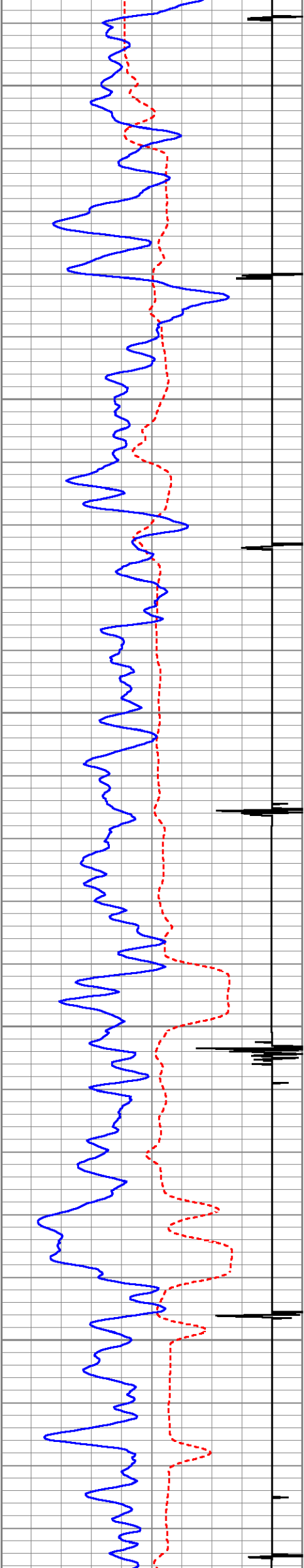
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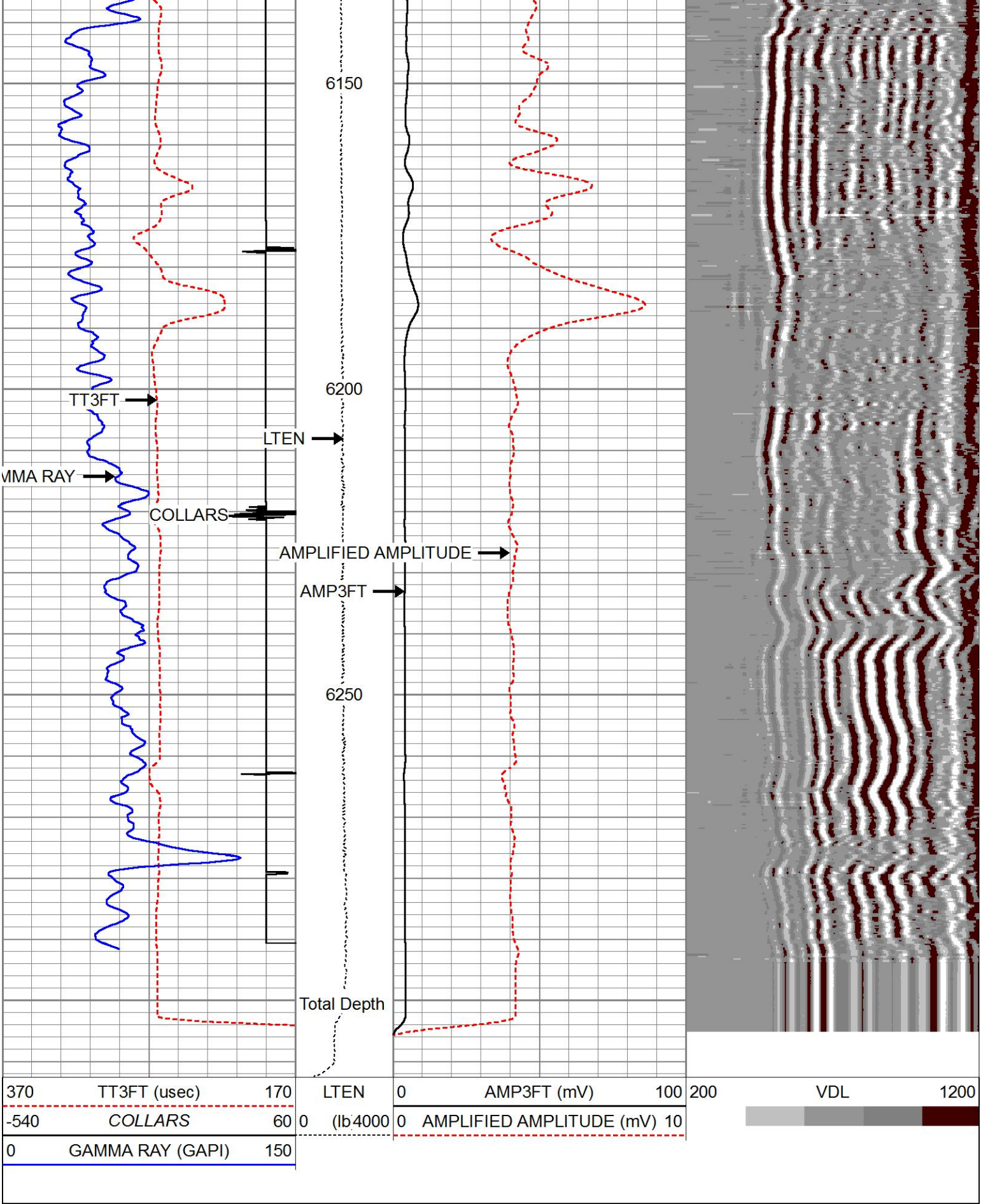
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5800

5850







MAIN LOG SECTION


HALLIBURTON

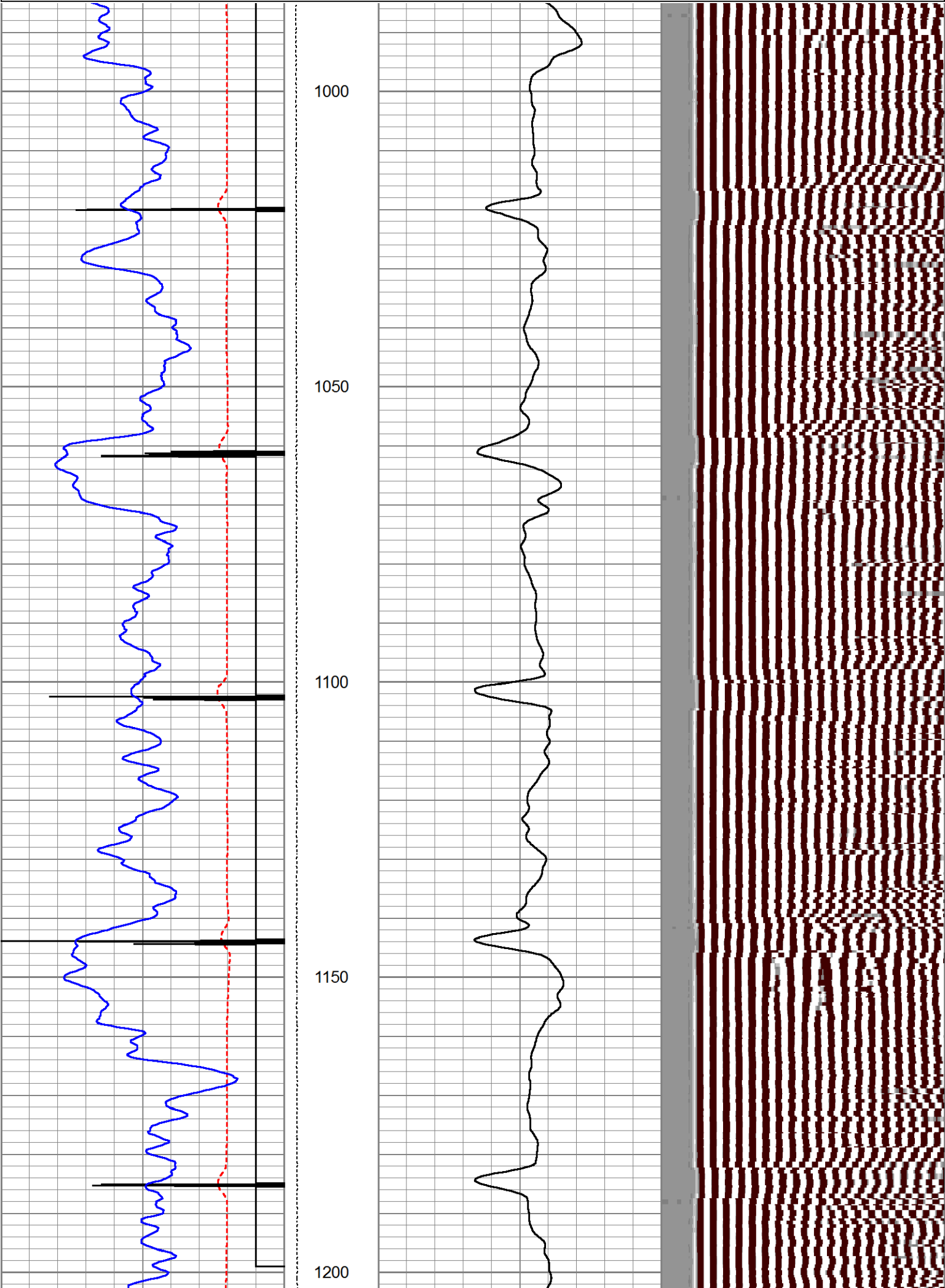
5" = 100'

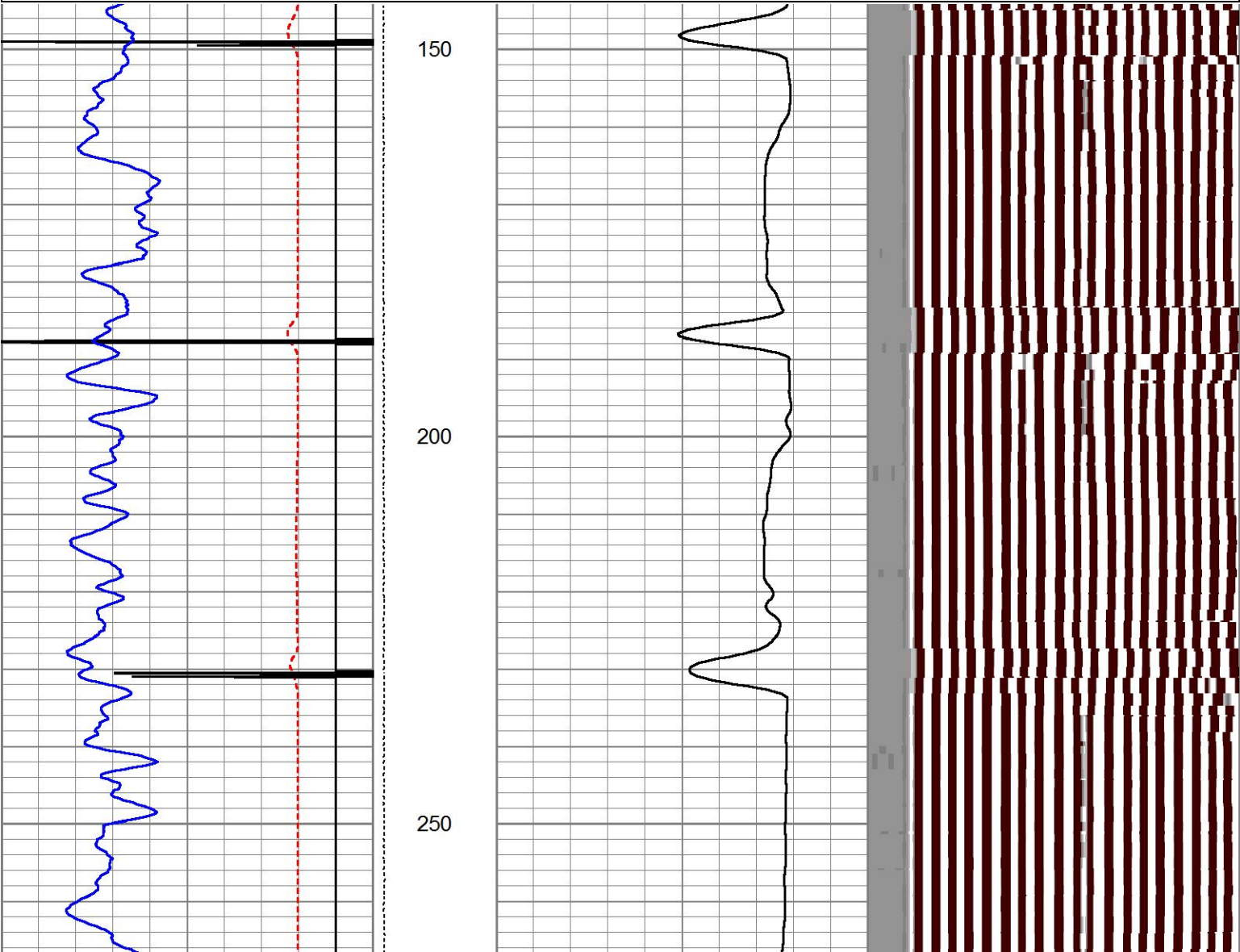
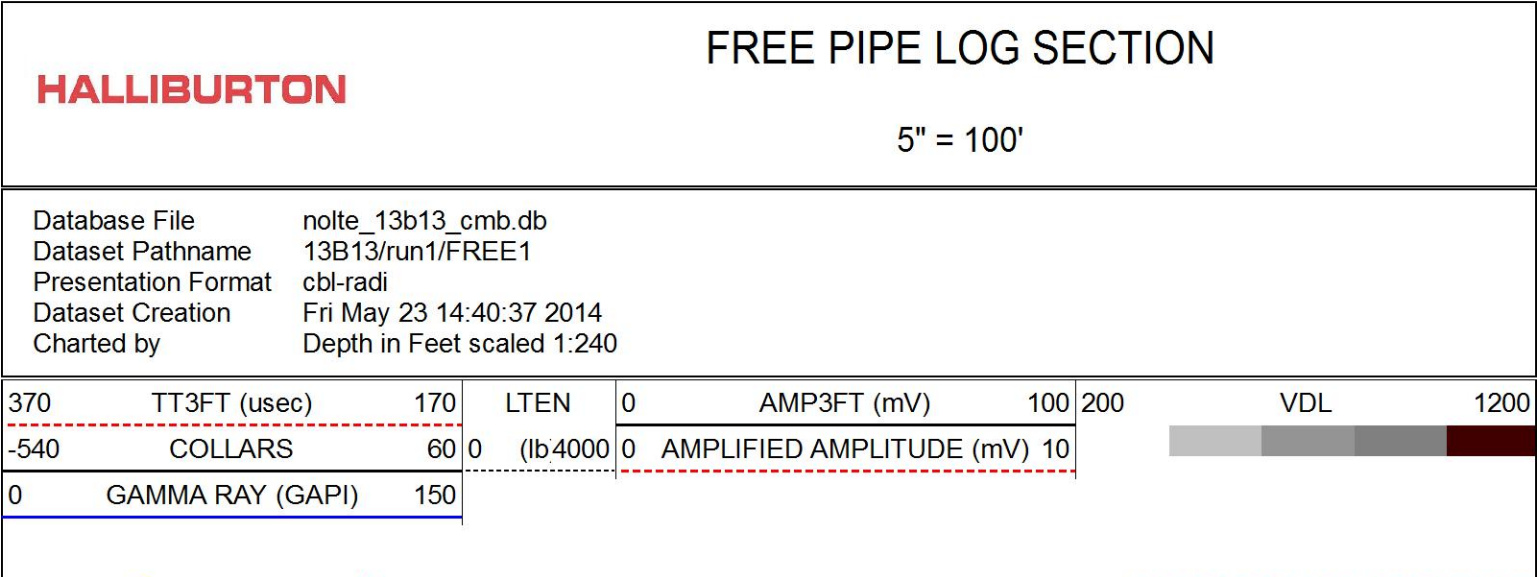
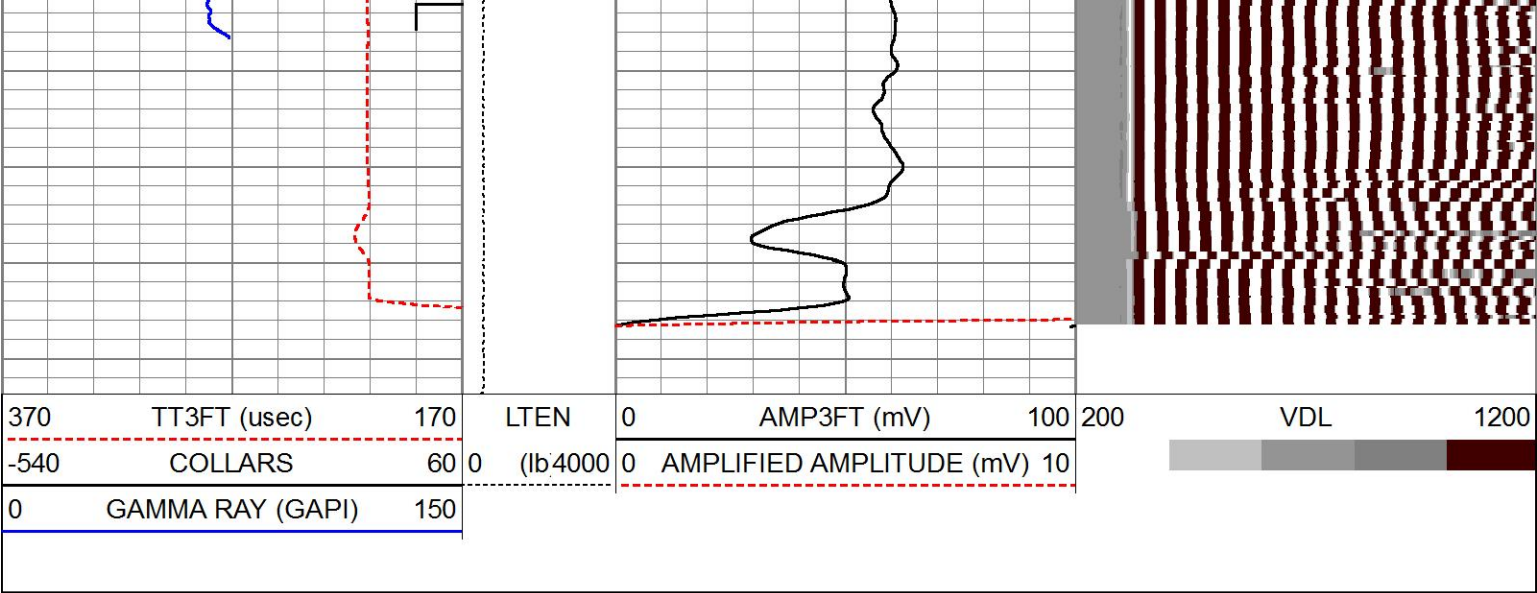
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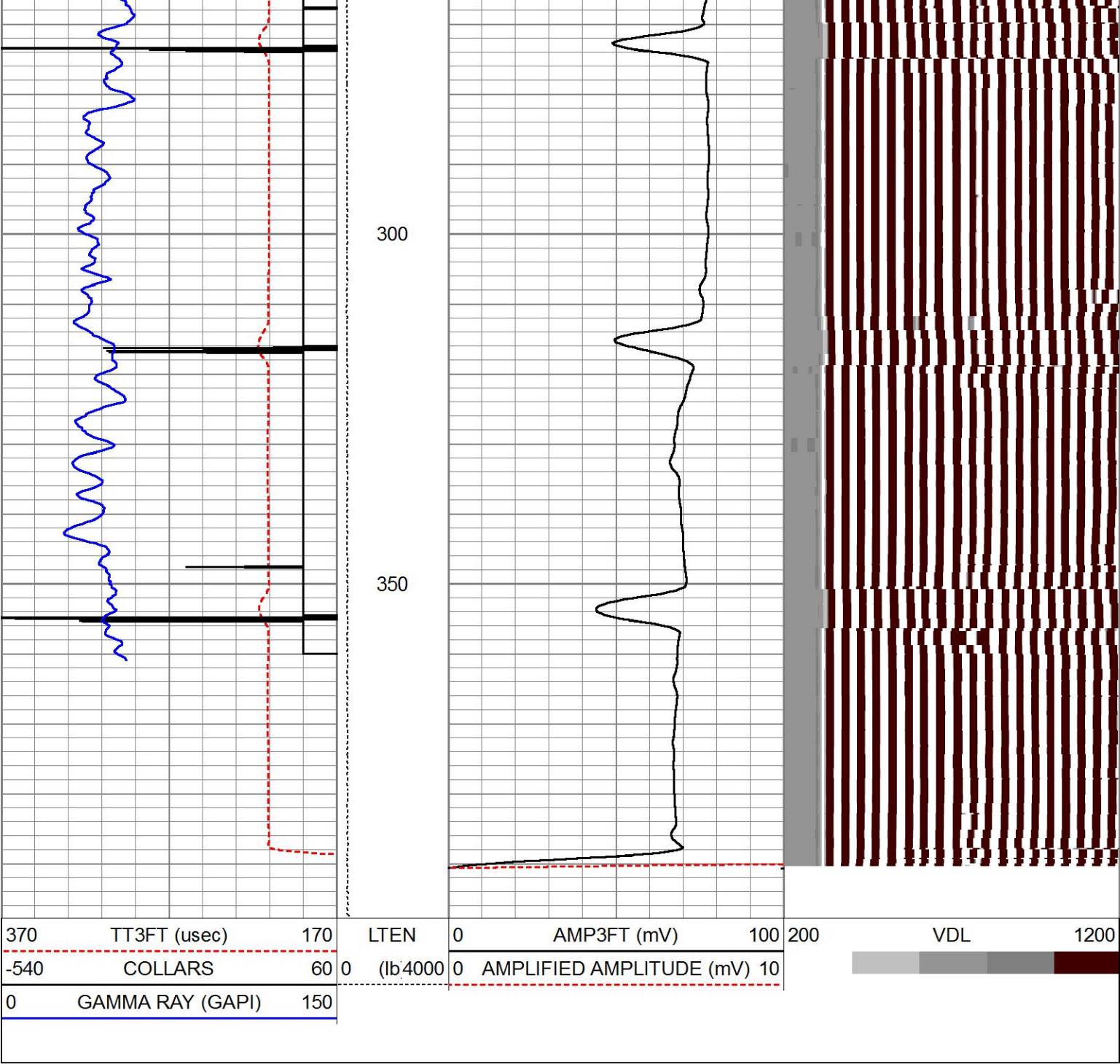
HALLIBURTON

5" = 100'

Presentation Format		cbl-radi							
Dataset Creation		Fri May 23 14:54:55 2014							
Charted by		Depth in Feet scaled 1:240							
370	TT3FT (usec)	170	LTEN	0	AMP3FT (mV)	100	200	VDL	1200
-540	COLLARS	60	0 (lb4000	0	AMPLIFIED AMPLITUDE (mV)	10			
0	GAMMA RAY (GAPI)	150							







HALLIBURTON

FREE PIPE LOG SECTION

5" = 100'

Log Variables DatabaseD:\Warrior_data\nolte_13b13_cmb.db
Dataset field/13B13/run1/CBL1

Top - Bottom

GAINCO	RINOR	RTF	RTN	RNOR	BHSAL2	BHSAL1	POROS2
0	0.971547	0.916631	0.93876	4.66536	0	1	0
POROS1	LTH	UHSGC	RHO CF	SO in	BORSAL kppm	CASED?	PPT usec
1	Sandstone	1	0.33	0	100	Yes	0
CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	SRFTEMP degF	MudWgt lb/gal	CASETHCK in	CASEOD in
11.6	0	1	0.8	0	8.4	0.25	4.5
PERFS	TDEPTH ft	BOTTEMP degF	BITSIZE in				
0	0	100	8.75				

Calibration Report							
Database File	nolte_13b13_cmb.db						
Dataset Pathname	13B13/run1/CBL1						
Dataset Creation	Sat May 24 11:00:43 2014						
Segmented Cement Bond Log Calibration Report							
Serial Number:		11001119					
Tool Model:		004					
Calibration Casing Diameter:		4.500	in				
Calibration Depth:		95.712	ft				
Master Calibration, performed Tue May 20 11:08:13 2014:							
	Raw (v)		Calibrated (mv)		Results		
	Zero	Cal	Zero	Cal	Gain	Offset	
3FT	0.028	1.075	2.000	81.196	75.648	-0.137	
5FT	0.017	0.955	2.000	81.196	84.435	0.578	
S1	0.032	1.068	0.000	100.000	96.516	-3.053	
S2	0.030	1.052	0.000	100.000	97.808	-2.937	
S3	0.030	1.077	0.000	100.000	95.483	-2.854	
S4	0.029	1.077	0.000	100.000	95.454	-2.773	
S5	0.029	1.074	0.000	100.000	95.725	-2.796	
S6	0.028	1.063	0.000	100.000	96.606	-2.724	
S7	0.028	1.061	0.000	100.000	96.802	-2.726	
S8	0.029	1.052	0.000	100.000	97.739	-2.792	
Calibration Report							
Serial Number:		11001119					
Tool Model:		004					
Performed:							
Low:	Reference (degF)		Reading ()				
	0.000		0.000				
	High:	1.000		1.000			
		Gain = 1.000		Offset = 0.000			
Gamma Ray Calibration Report							
Type / Serial:		002 / 11510512					
SHOP CALIBRATION		Sat May 24 09:38:42 2014					
Background Calibrator	Counts/Sec.	Gain	Offset	Jig	Units		
	45.0				cps		
	328.5	1.4388			cps GAPI/cps		
PRIMARY VERIFICATION		Sat May 24 09:41:10 2014					
Background Calibrator Difference	64.7				cps		
	467.6				cps		
				402.9	GAPI		
BEFORE SURVEY VERIFICATION							
Background Calibrator Difference	0.0				cps		
	0.0				cps		
				0.0	GAPI		
AFTER SURVEY VERIFICATION							
Background Calibrator Difference	0.0				cps		
	0.0				cps		
				0.0	GAPI		

Well	NOLTE13B-13		
Field	GRAND VALLEY		
County	GARFIELD	State	CO
HALLIBURTON		ACOUSTIC CEMENT BOND LOG	