

HALLIBURTON

ACOUSTIC CEMENT
BOND LOG

Company URSA OPERATING COMPANY				Company URSA OPERATING COMPANY			
Well YATER 12C-17-07-95				Well YATER 12C-17-07-95			
Field PARACHUTE				Field PARACHUTE			
County GARFIELD				County GARFIELD			
State CO				State CO			
API No.: 05-045-22882-0000				Serv #: 902308623			
Location: SURFACE HOLE LOCATION: 1754' FSL & 1106' FWL				Other Services			
BOTTOM HOLE LOCATION: 2041' FNL & 0660' FWL				RMT GAUGE RING			
Permanent Datum GROUND LEVEL				Elevation 5519'			
Log Measured From KB				K.B. 5536'			
Drilling Measured From KB				D.F. 5535'			
				G.L. 5519'			
Date @ Time Logged 11 APR 2015				Type Fluid in Hole WATER			
Run No. ONE				Density of Fluid 8.4#			
Depth - Driller 6953'				Fluid Level 62'			
Depth - Logger 6903'				Cement Top Est. Logged 1500'			
Bottom - Logged Interval SURFACE				Equipment / Location 10971668 / G.J.			
Top - Log Interval 236 DEG F				Recorded by UNATTENDED			
Max. Recorded Temp. SURFACE				Witnessed by LINER			
CEMENTING DATA String				Protection String			
Date / Time Cemented N/A				String N/A			
Primary / Squeeze N/A				Production N/A			
Expected psi@ hrs				psi@ hrs			
Compressive Strength 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	To
ONE		12.25"	SURFACE	1779'	8.625"	32.0#	1779'
TWO		7.875"	1779'	6953'	4.5"	11.6#	6953'

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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

HES CBL LOG DATED 11 APR 2015 IS THE PRIMARY DEPTH REFERENCE FOR THIS WELL.

GR-CBL-RMT RAN IN COMBINATION.

LOG INTERVALS PER CUSTOMER REQUEST.

SHORT JOINTS @: 4121' - 4131', 5240' - 5250', 6408' - 6418'.

THANK YOU FOR CHOOSING AHLLIBURTON ENERGY SERVICES.

Service Ticket No.		902308623		API No.		05-045-22772-0000		PGM Ver		14.11.12001	
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client											
EQUIPMENT DATA											
TELEMETRY			CEMENT BOND LOG			RESERVOIR MONITOR TOOL					
Run No.	ONE		Run No.	ONE		Run No.	ONE		Run No.		
Serial No.	12159411		Serial No.	11794522		Serial No.	12270722		Serial No.		
Model No.	TTTC-U-002		Model No.	CBL-M		Model No.	RMT3D-A		Model No.		
Diameter	1.688"		Diameter	2.75"		Diameter	2.125"		Diameter		
LOGGING DATA											
General Data											
Pass	Depths			Well Head		Speed		Logging Run Comments			
No	From		To		Pressure		Ft/Min				

ONE	6903'	SURFACE	0	REC	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	200	410	210	0	100	200	1060
DIRECTIONAL INFORMATION								
Maximum Deviation		N/A	deg. @	N/A	KOP	481'		

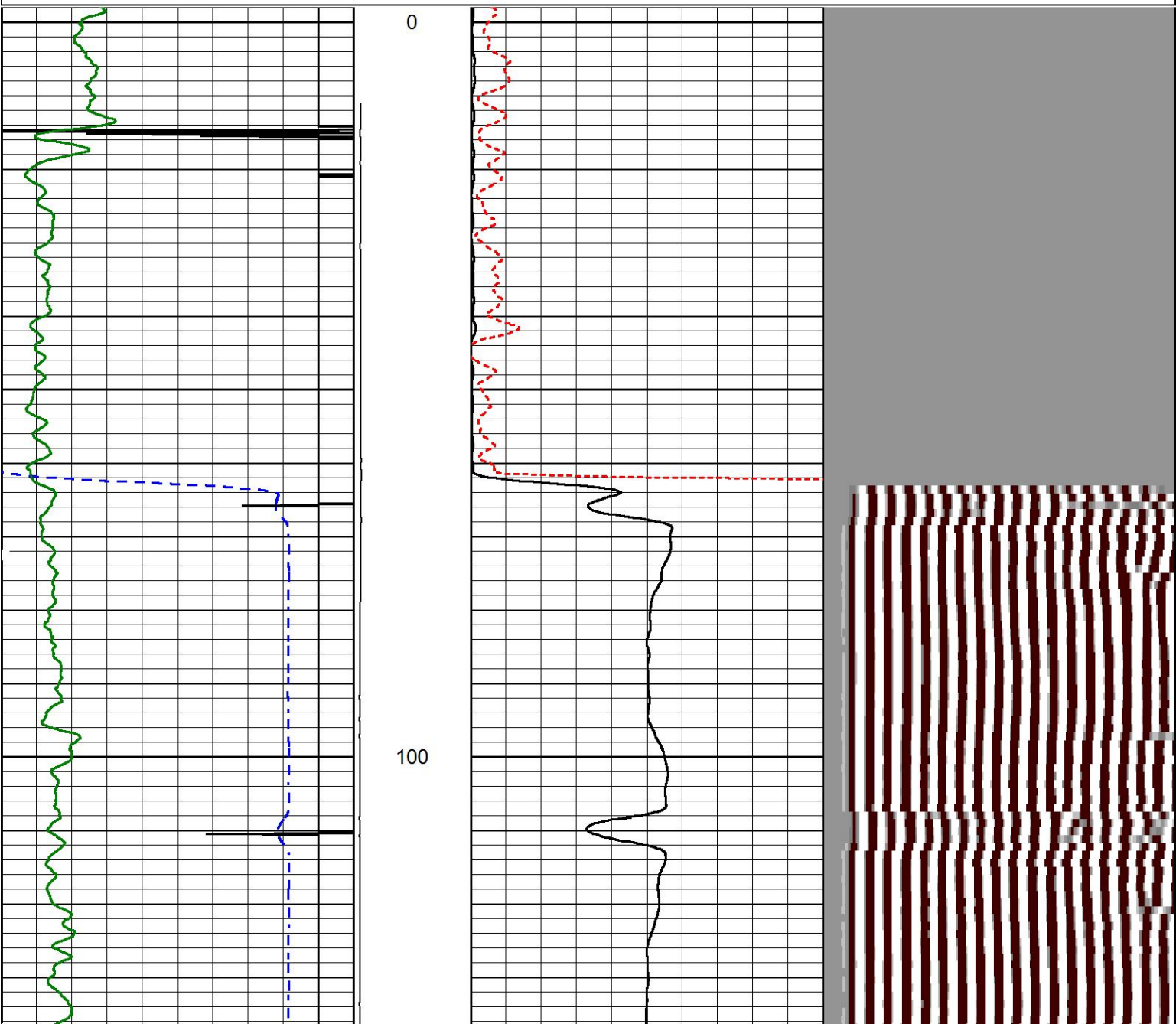
HALLIBURTON

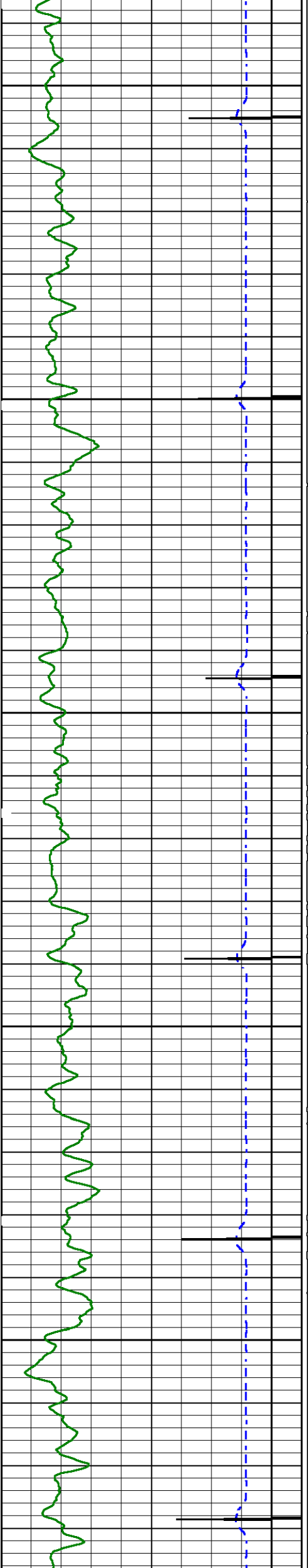
MAIN LOG SECTION

5" = 100'

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Dataset Pathname	MAIN1
Presentation Format	hcbtg
Dataset Creation	Sat Apr 11 19:40:43 2015
Charted by	Depth in Feet scaled 1:240

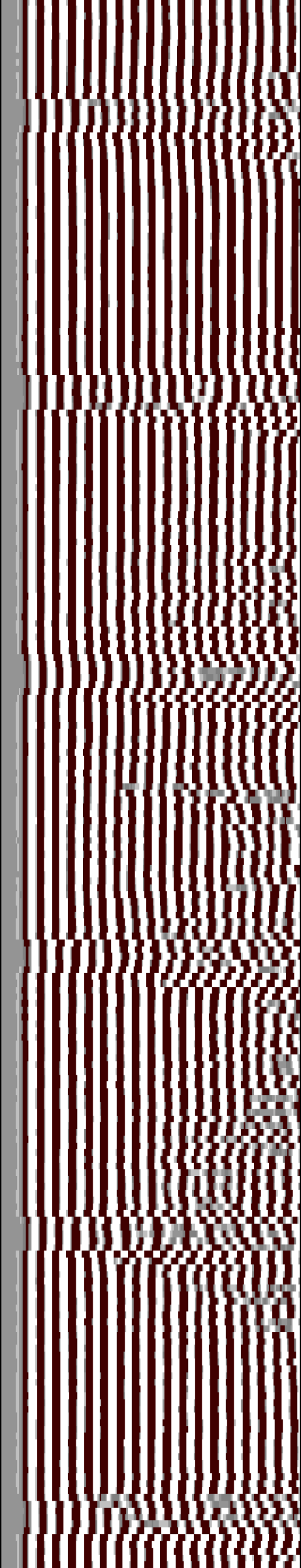
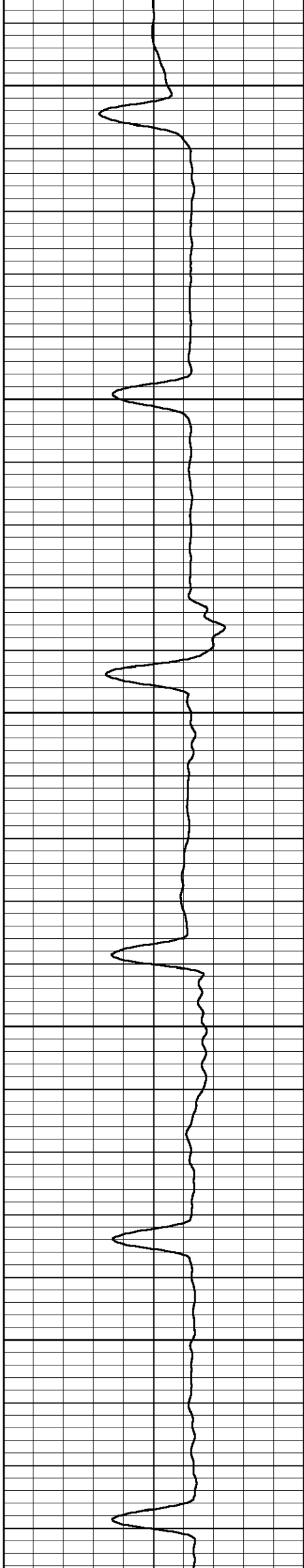
410	3' Travel Time (usec)	210	LTEN	0	3' Amplitude (mV)	100	200	MSG	1060
-540	CCL	60	0	(lb/6000	0	3' Amplitude X5 (mV)	10		
0	GR (GAPI)	200							
100	TEMP (degF)	300							

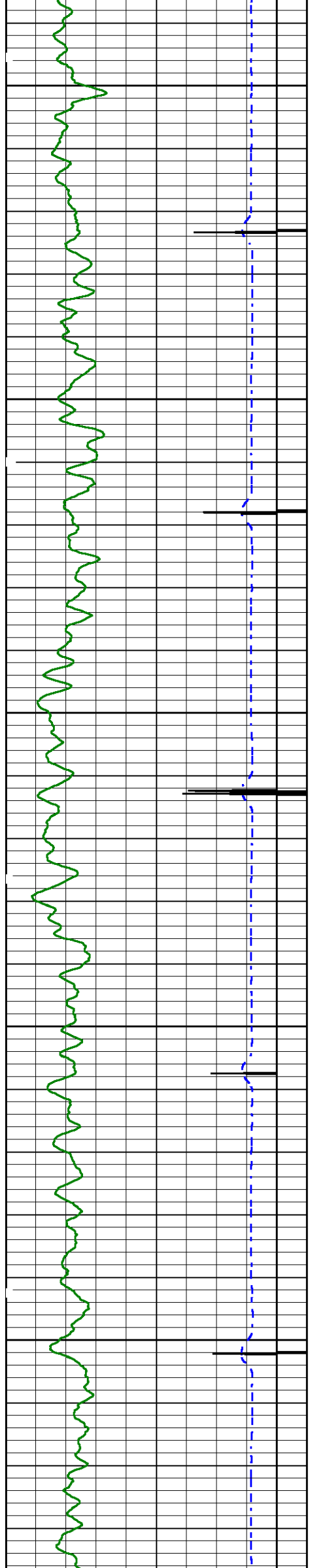




200

300

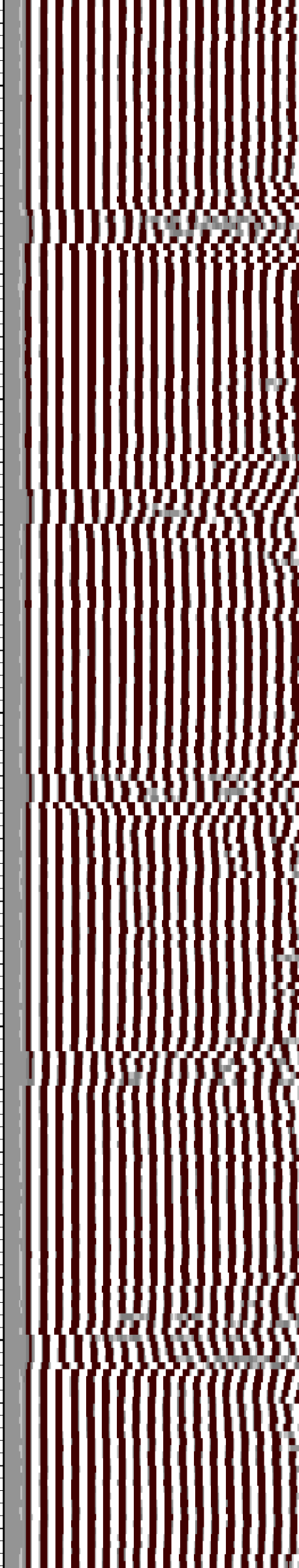
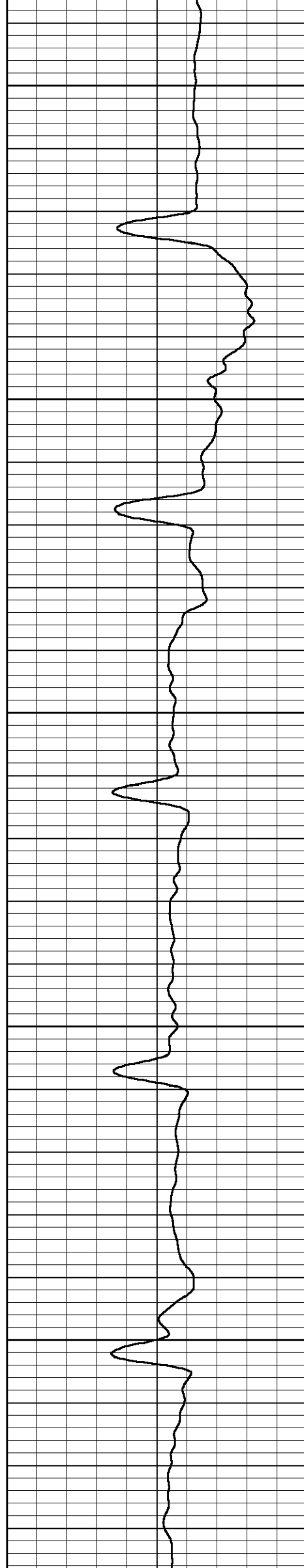


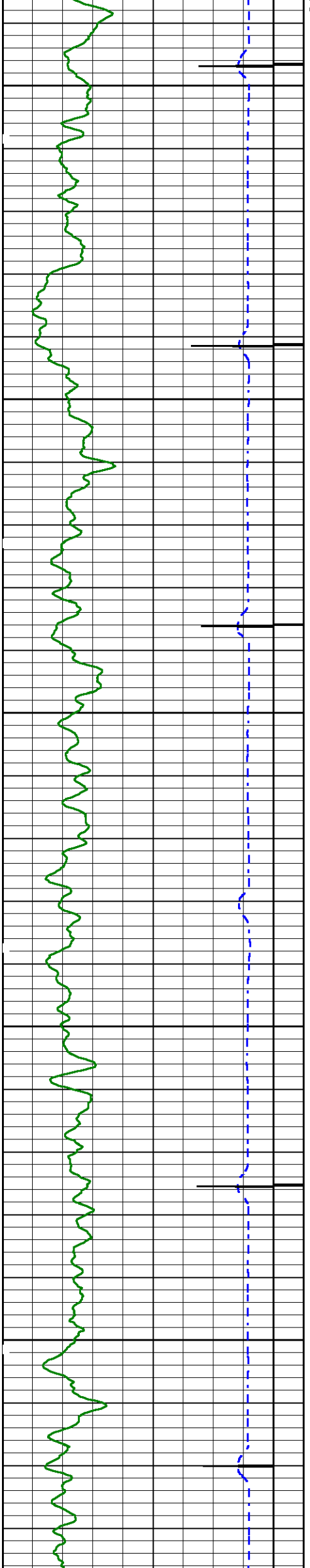


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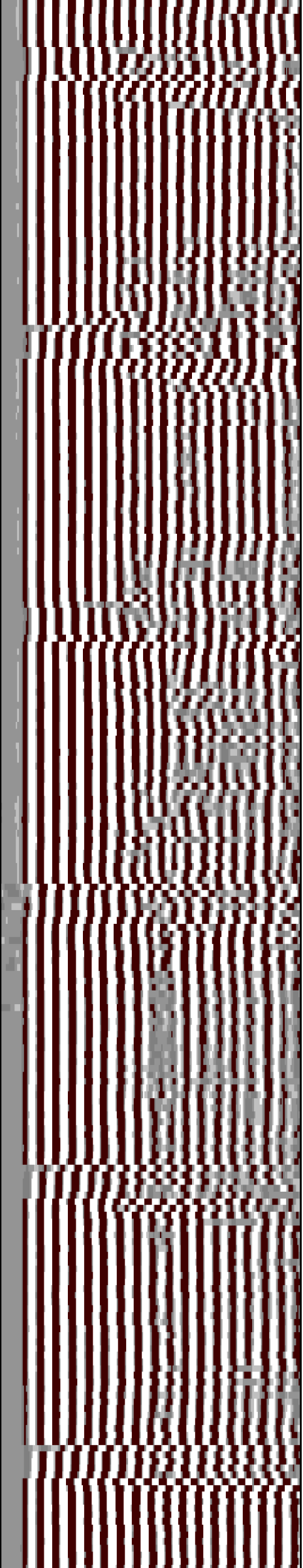
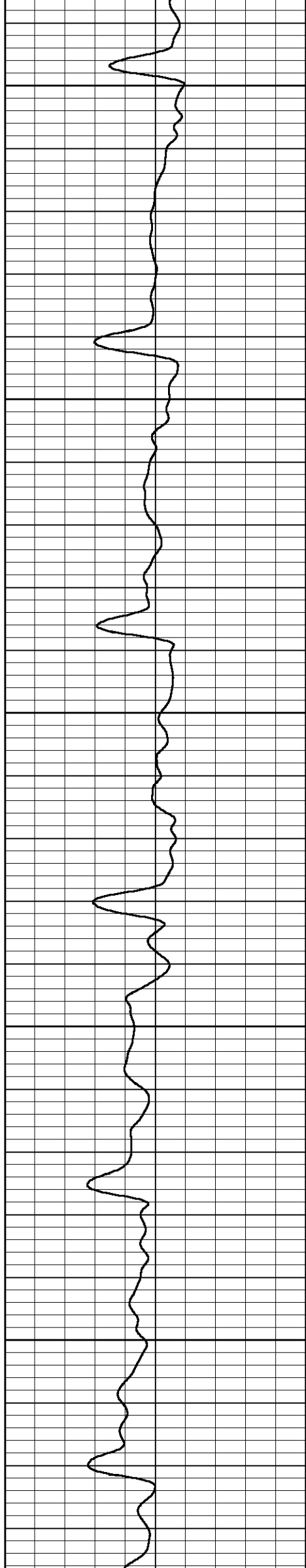
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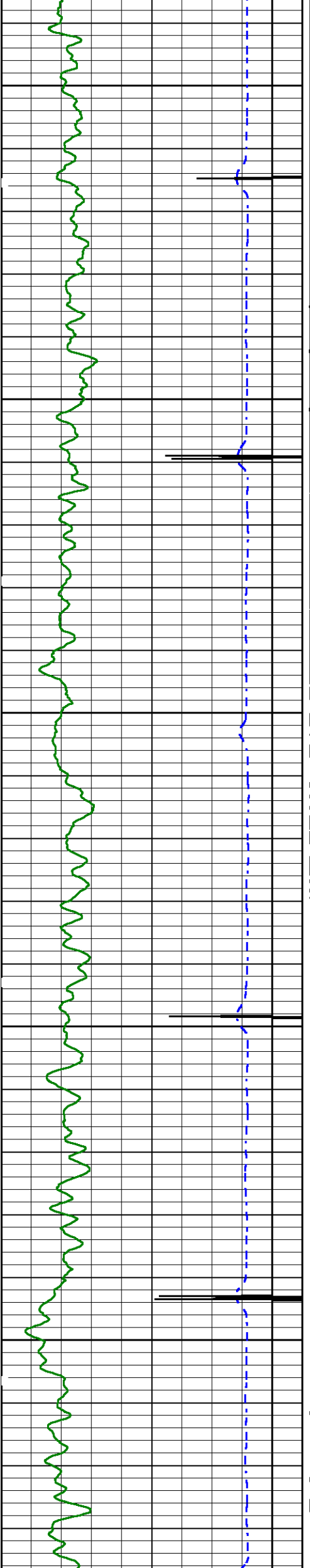




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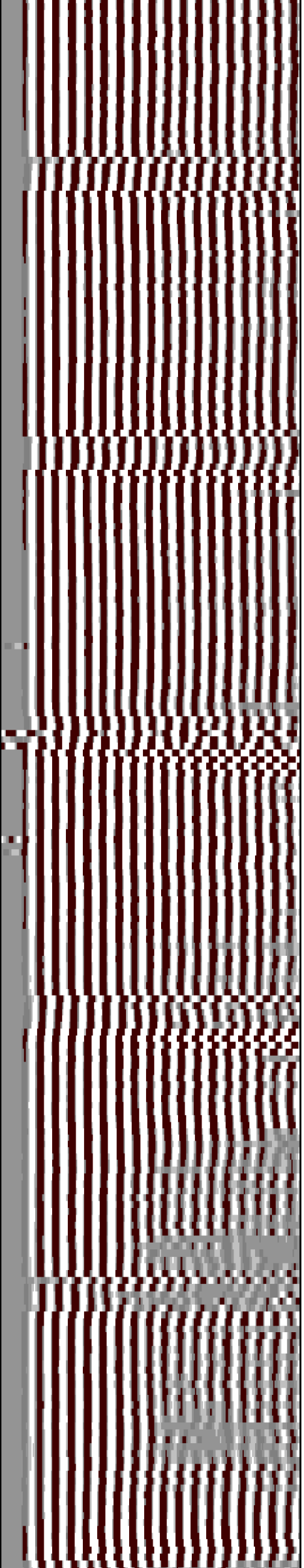
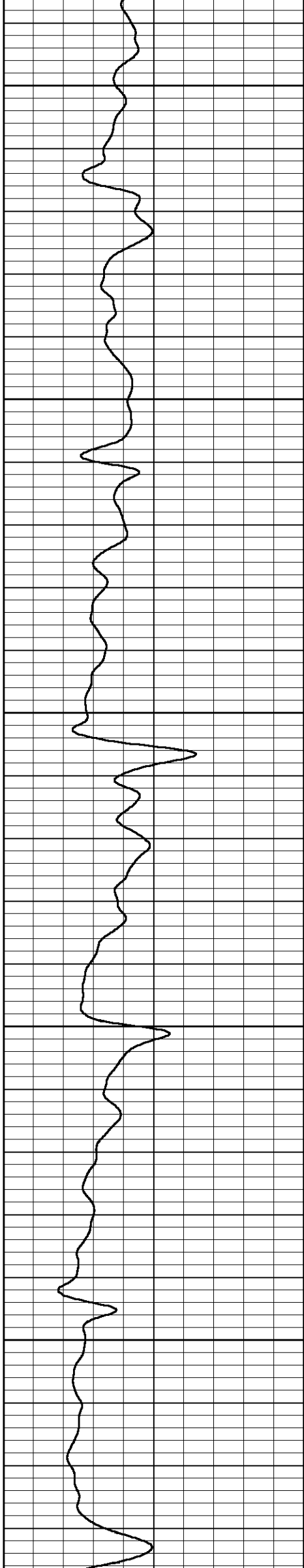


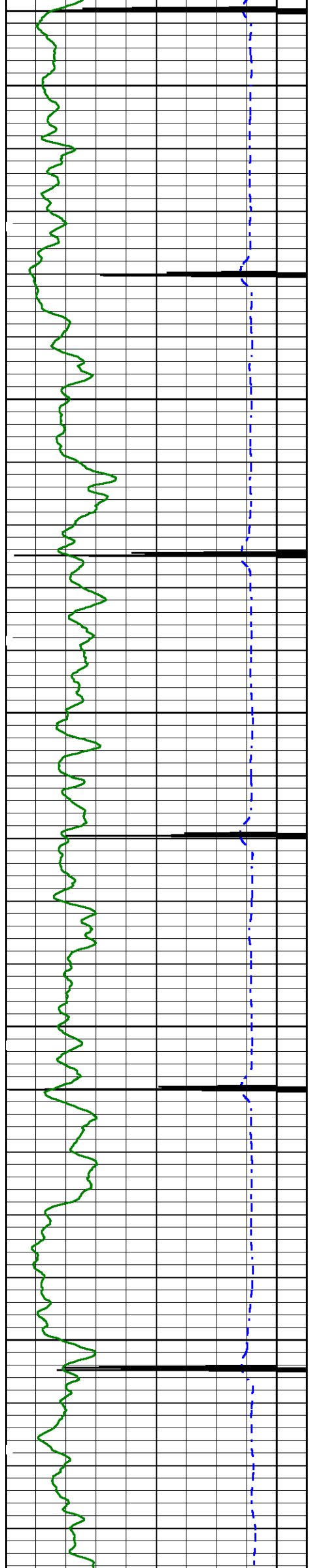


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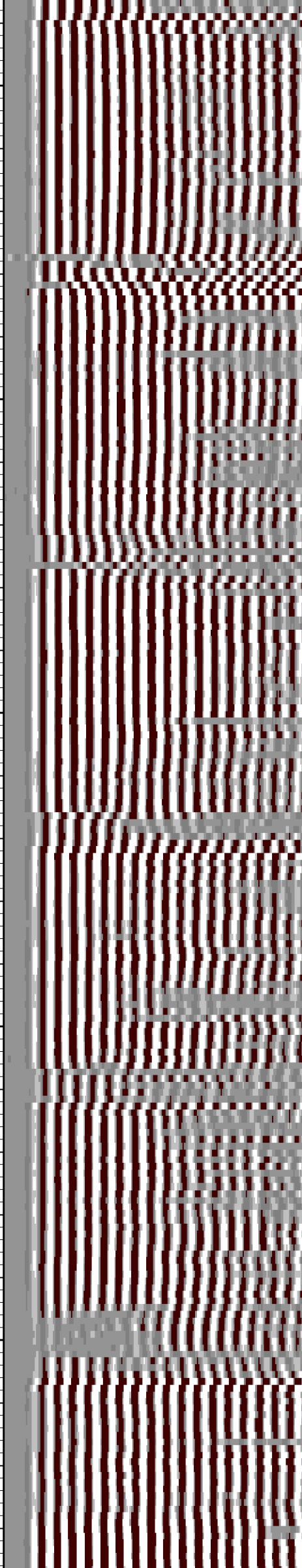
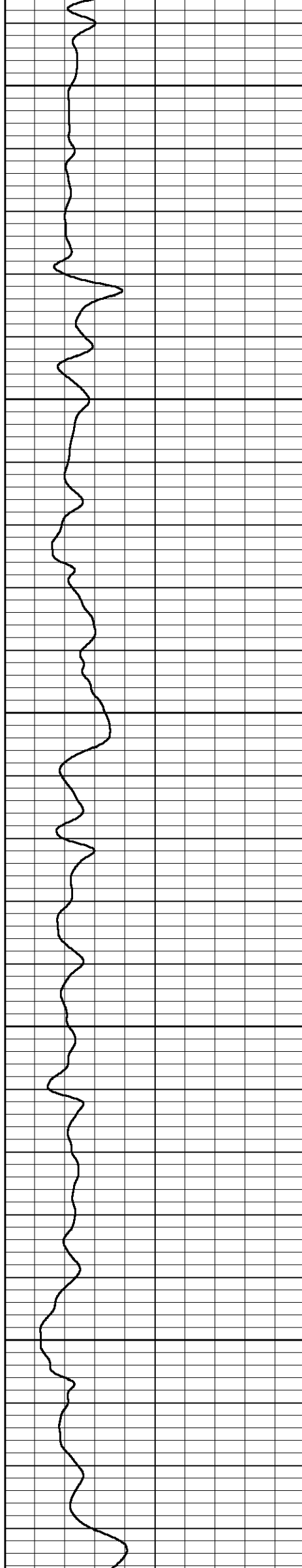
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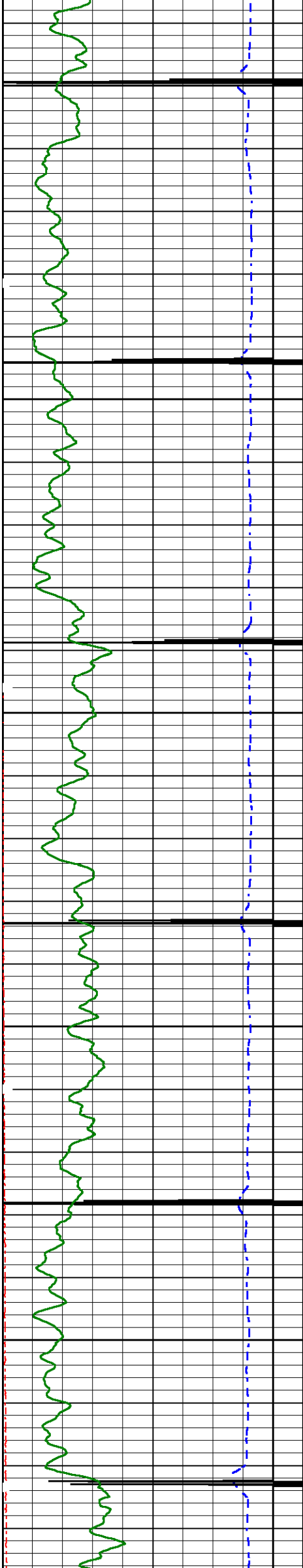




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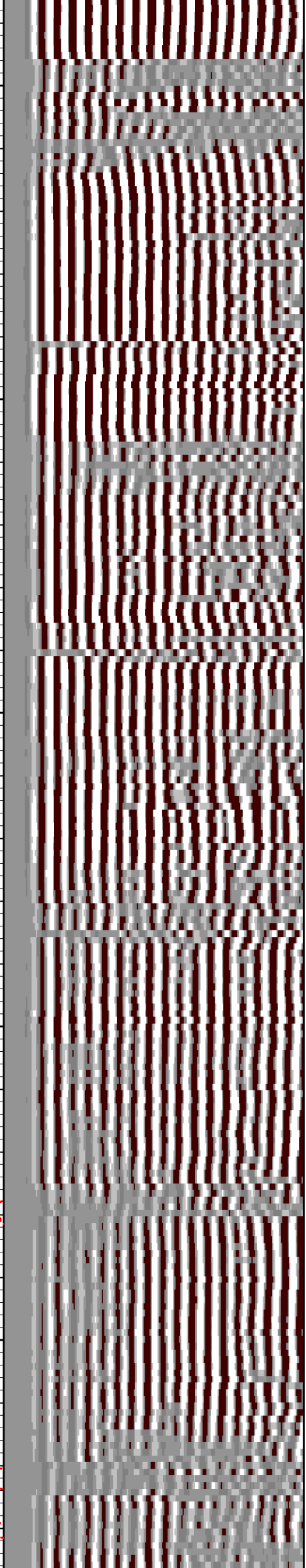
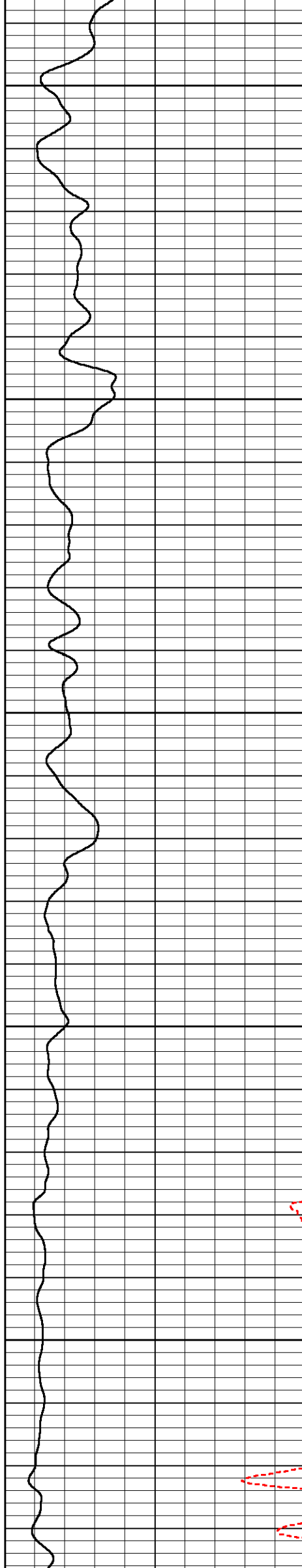


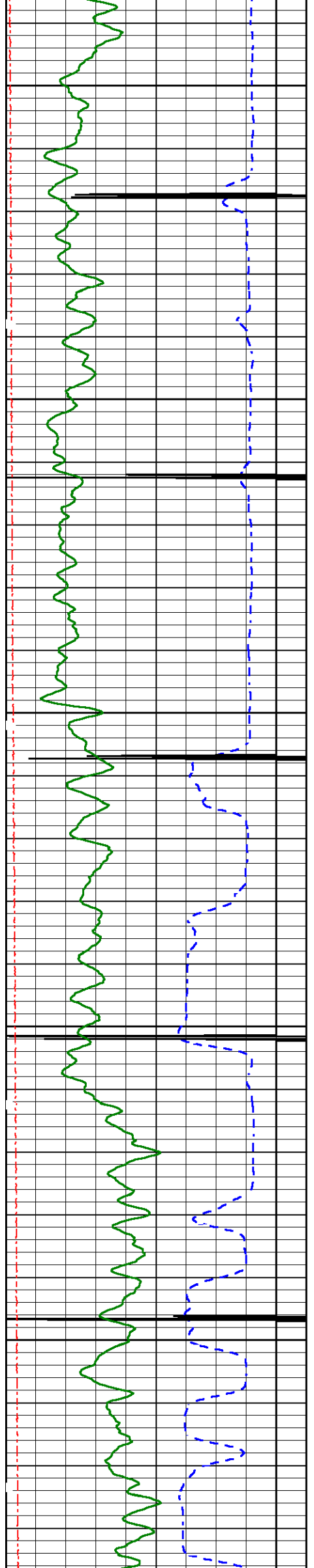


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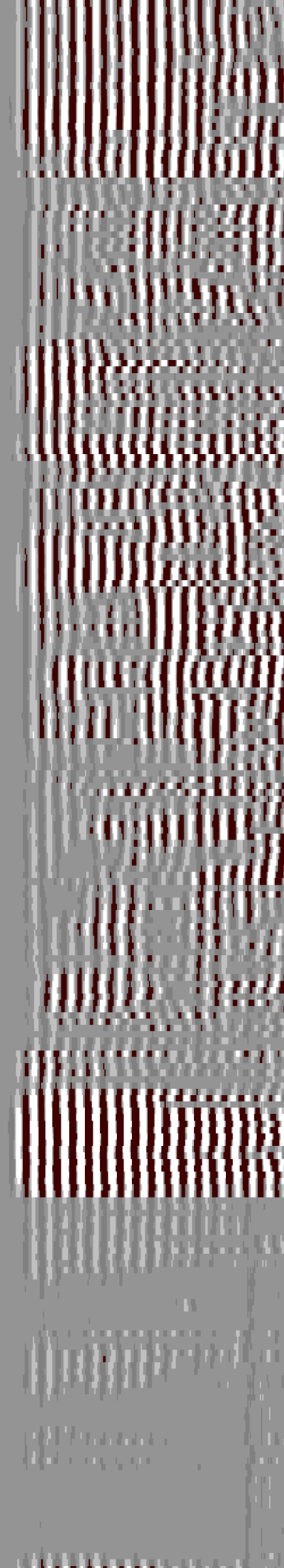
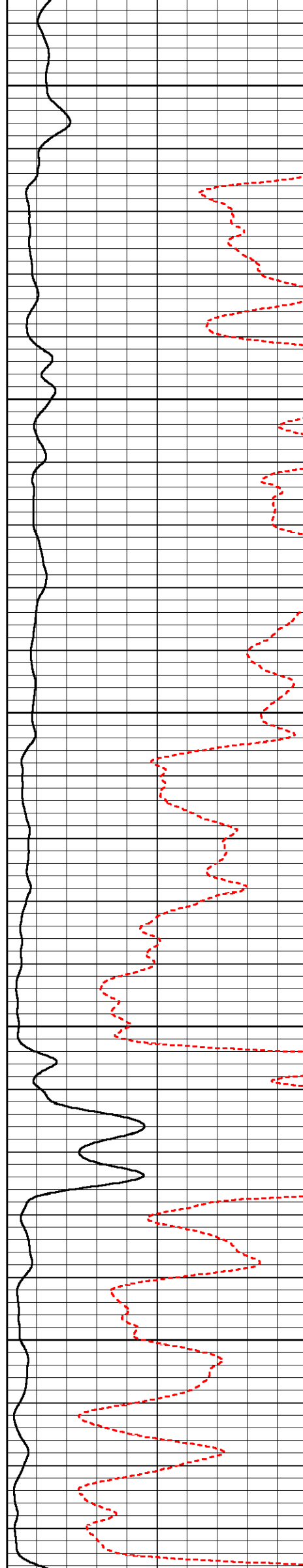
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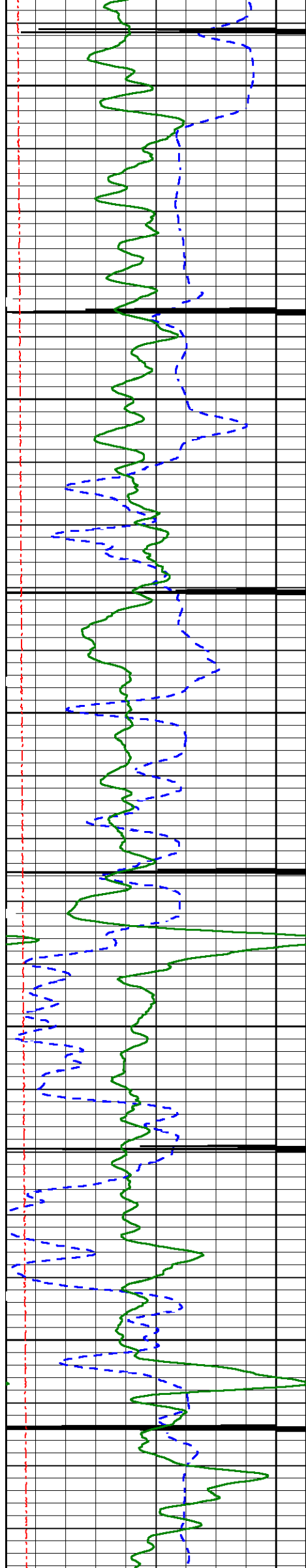




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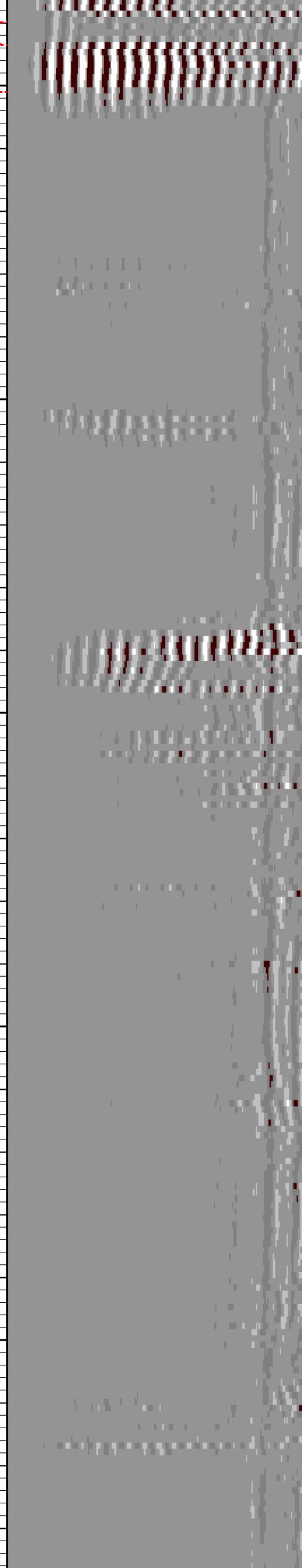


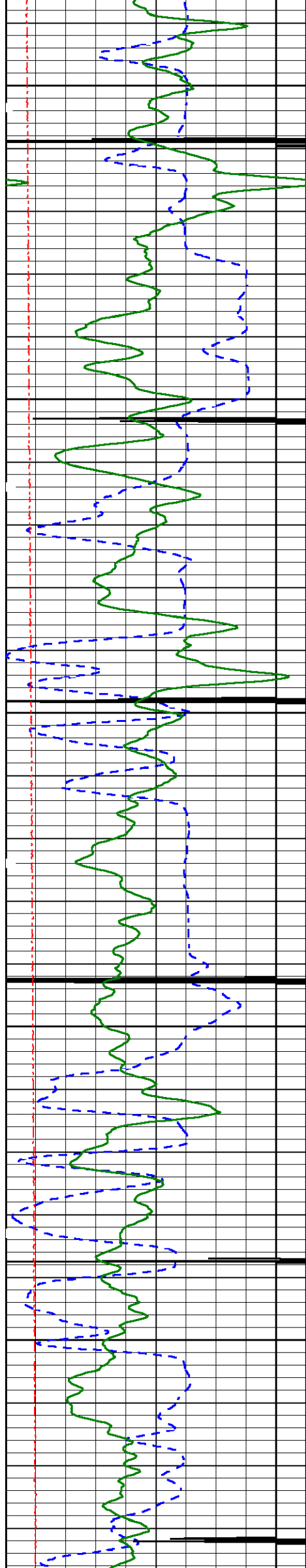


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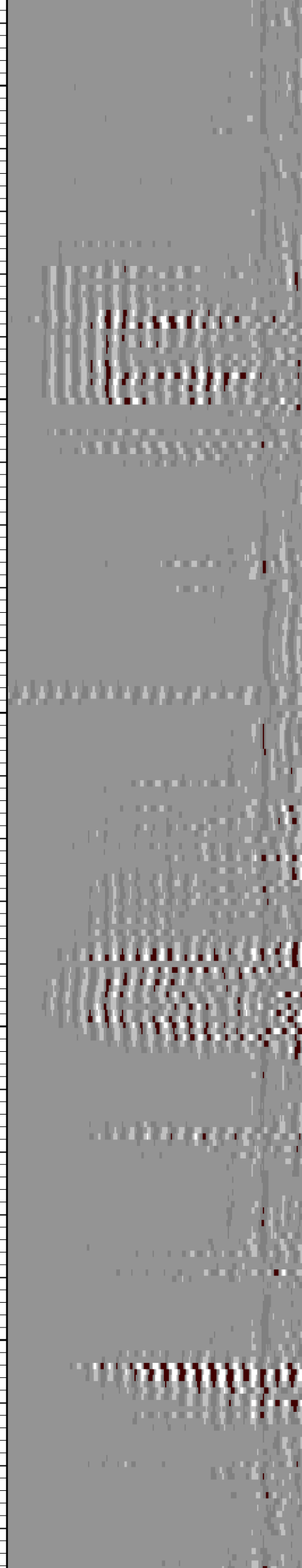
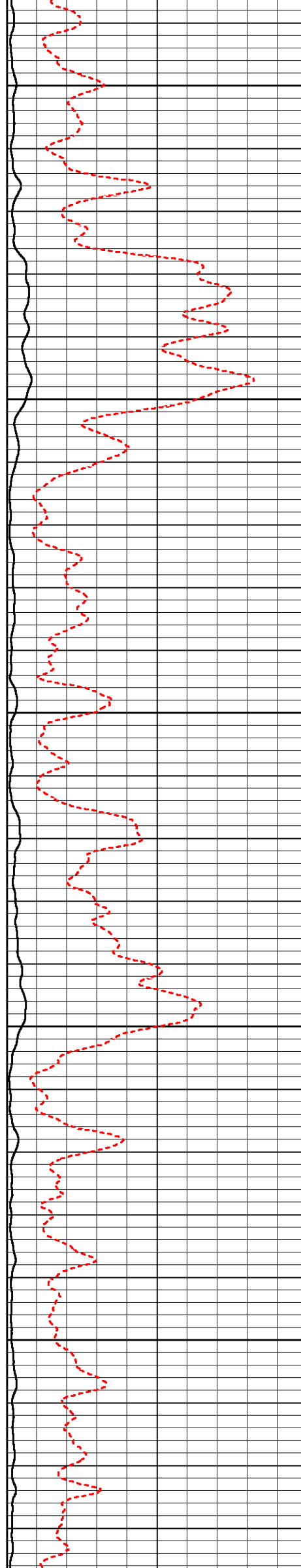
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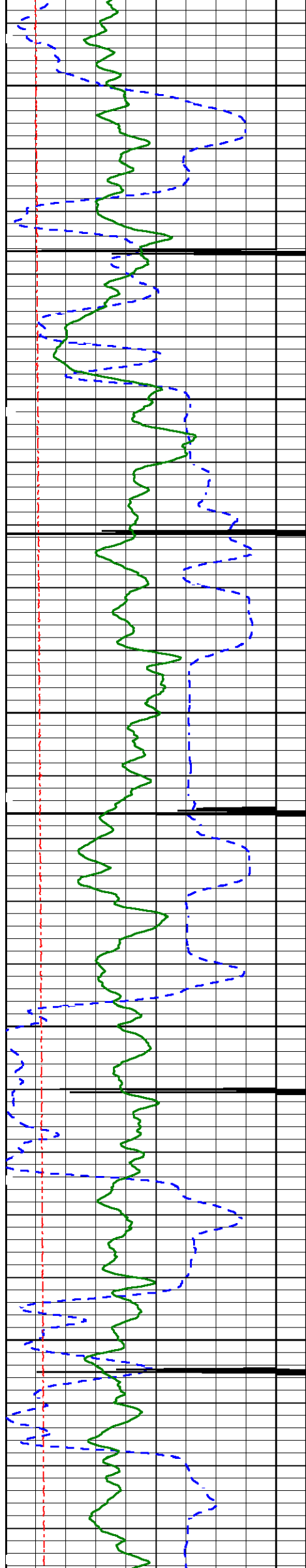




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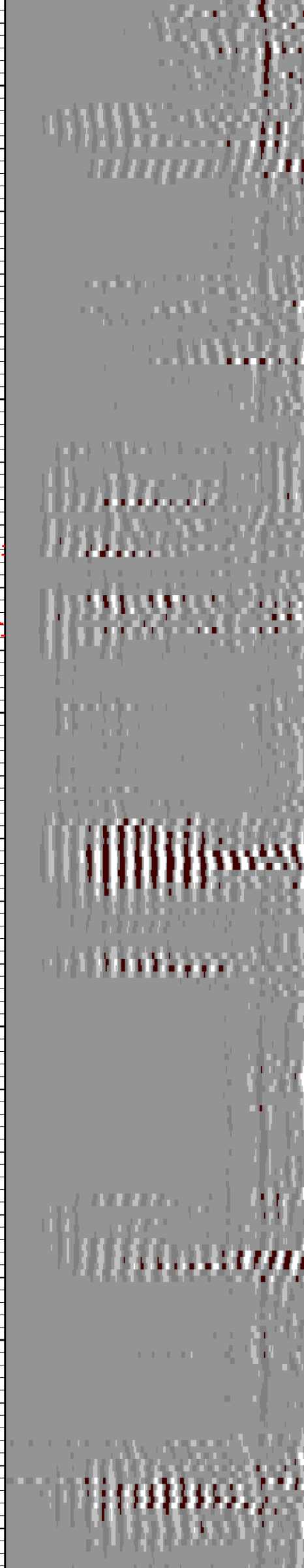
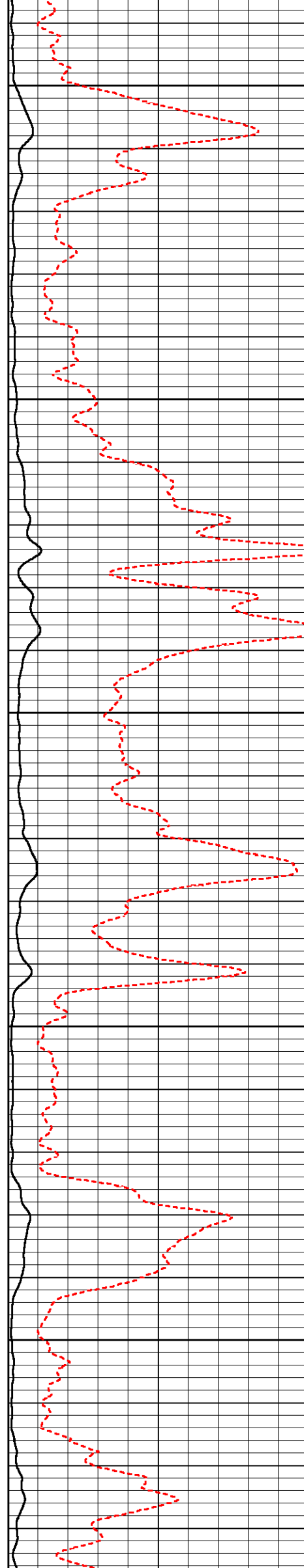


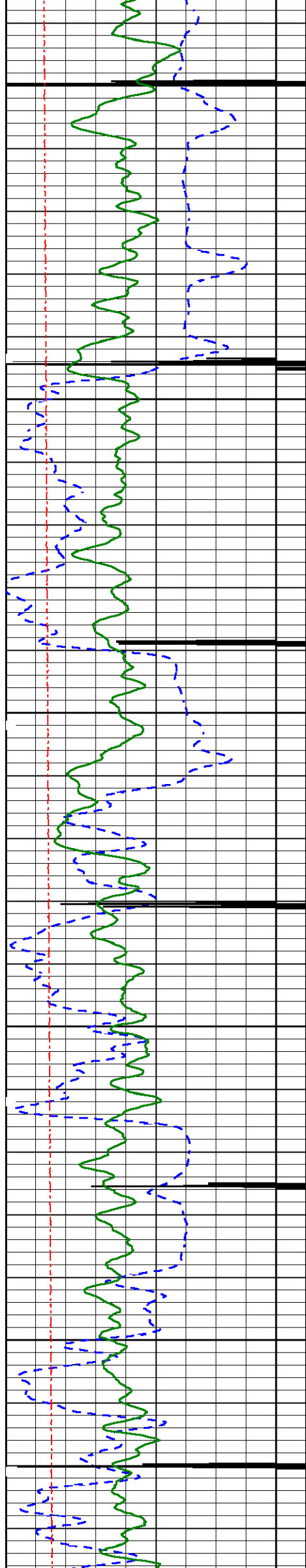


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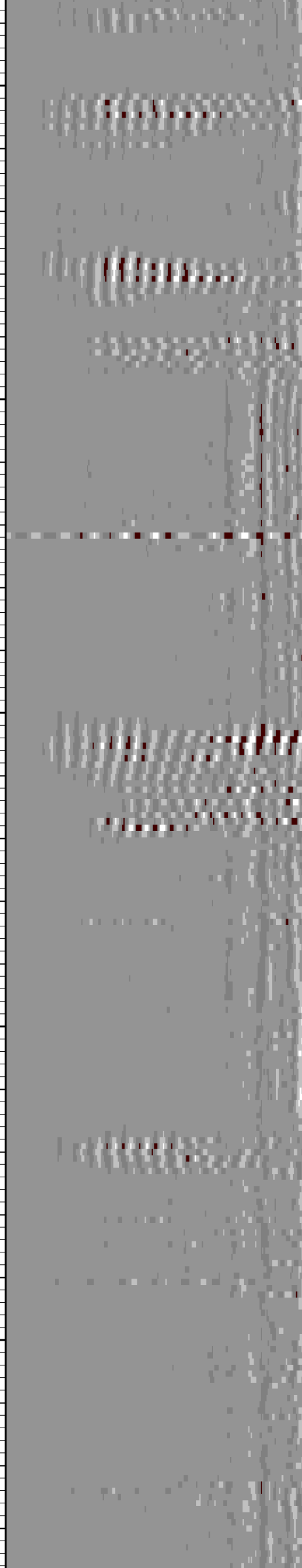
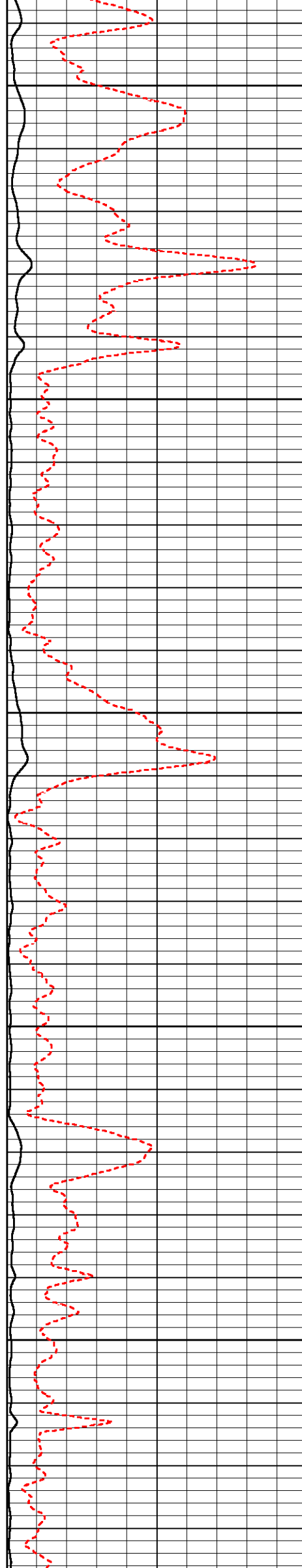
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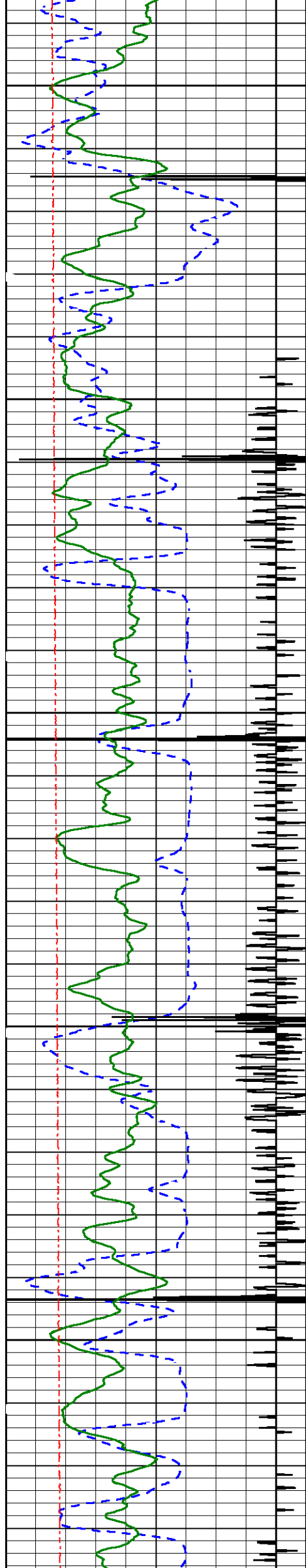




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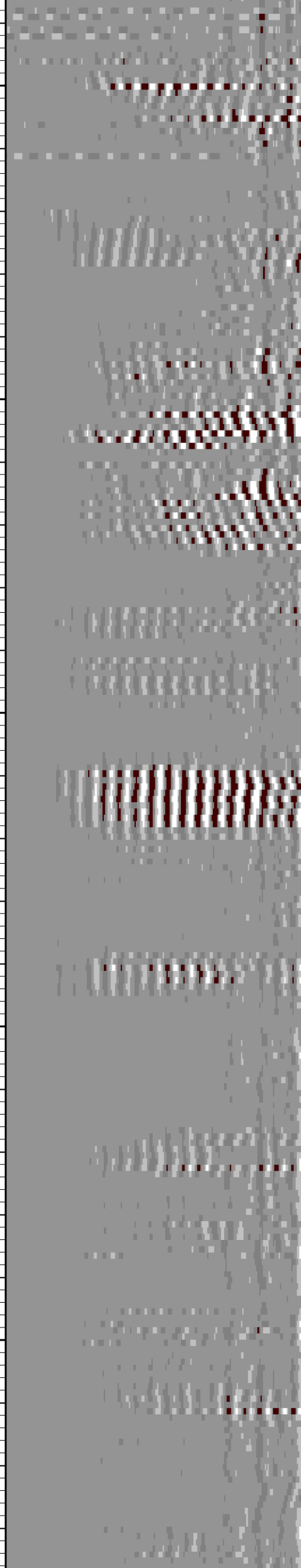
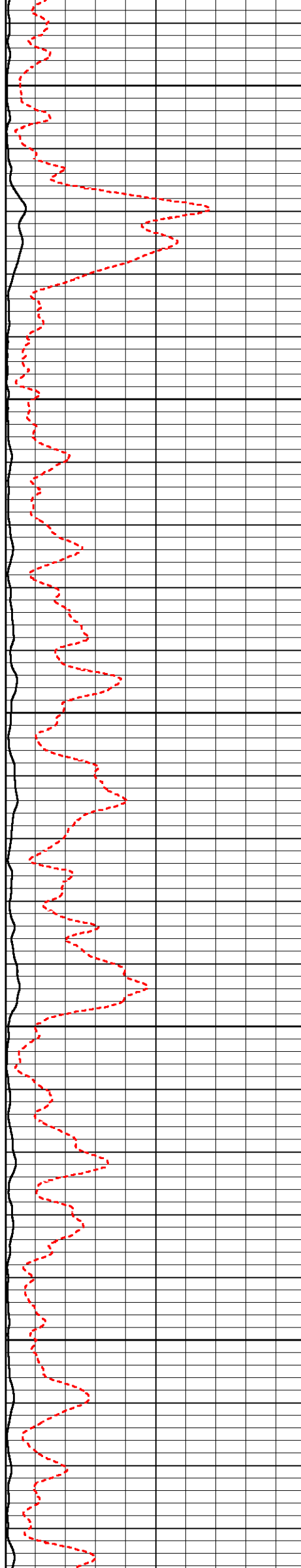


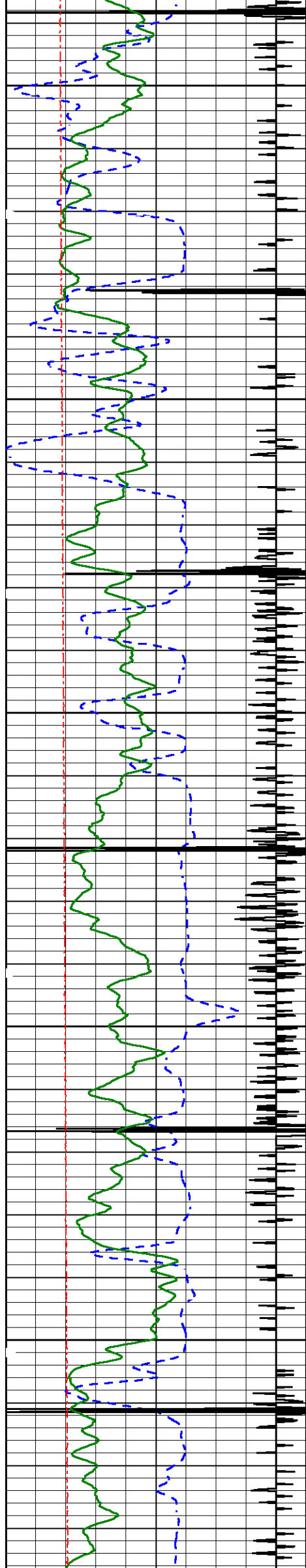


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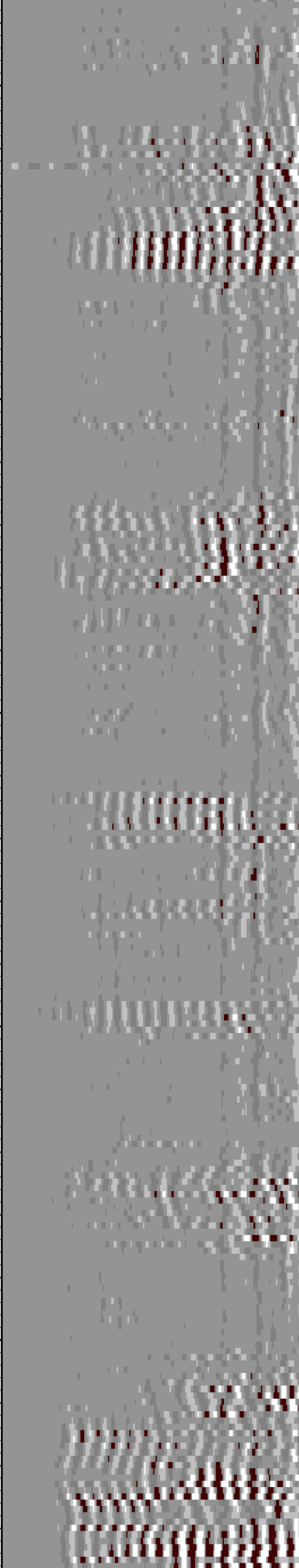
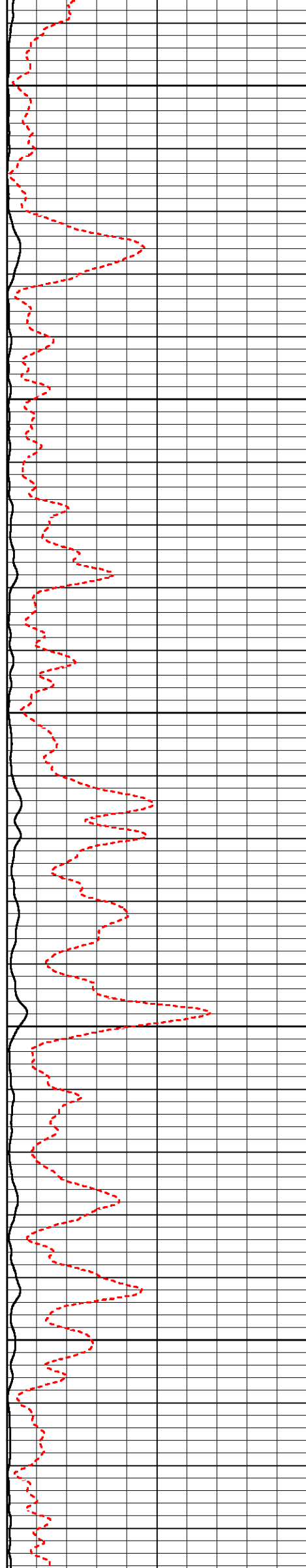
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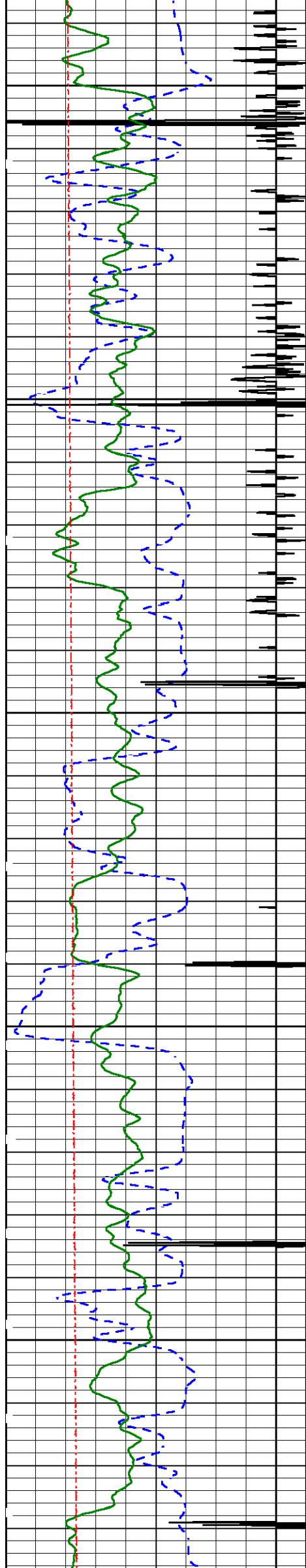




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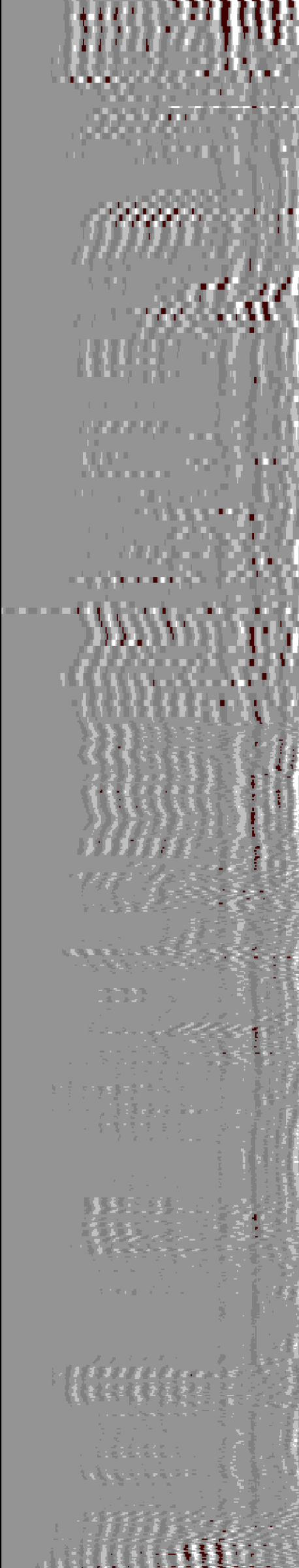
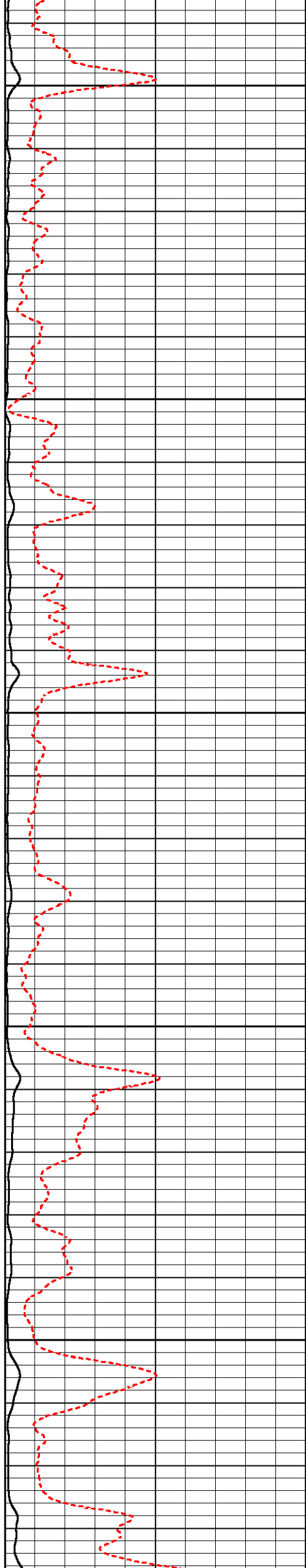


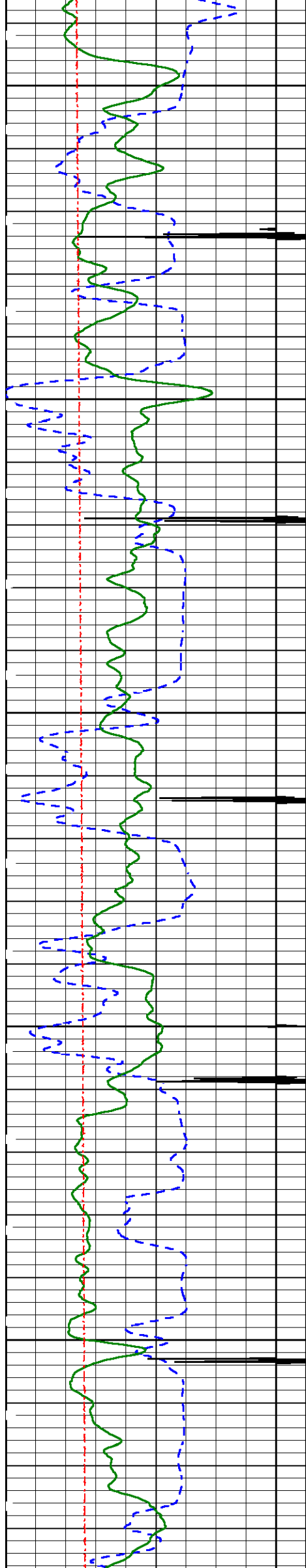


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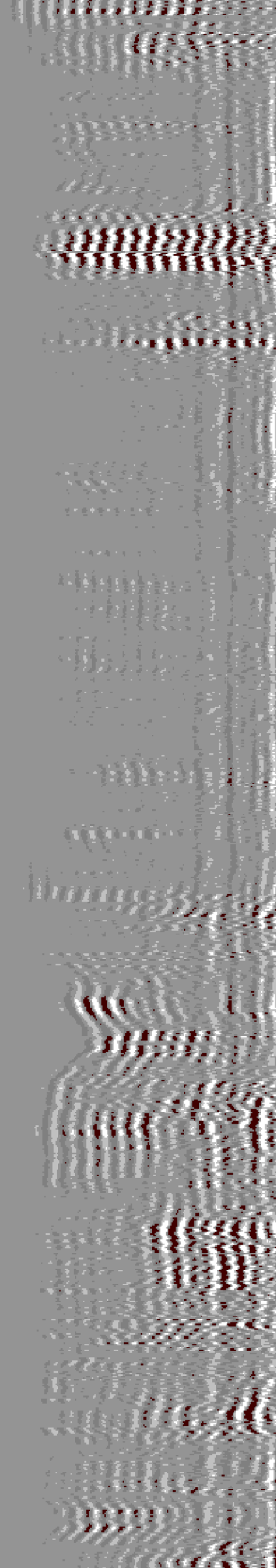
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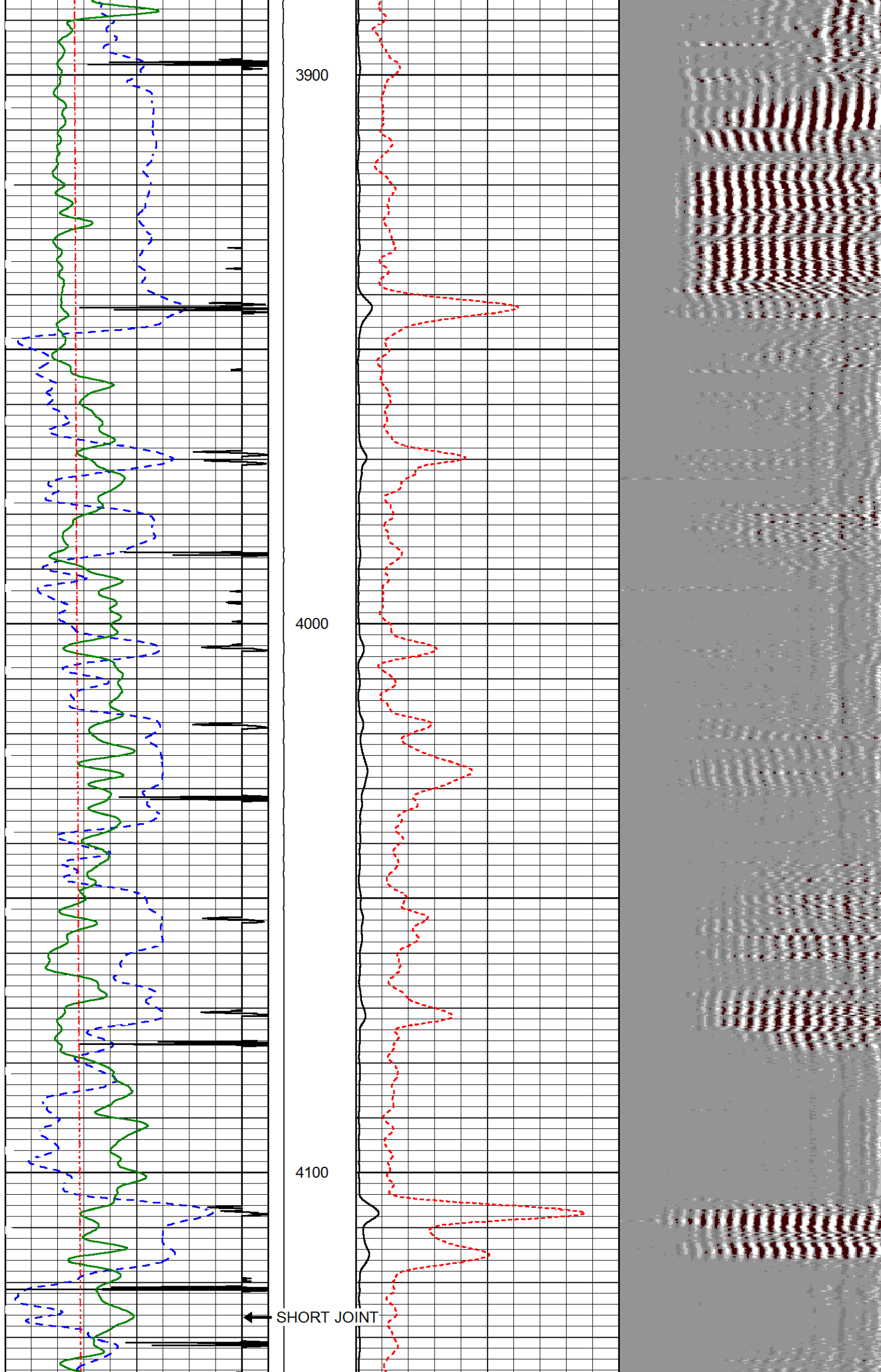


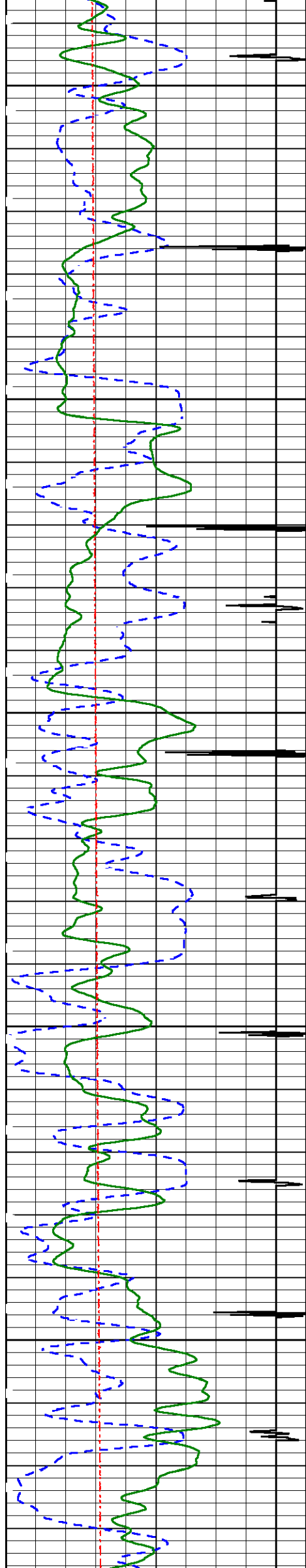


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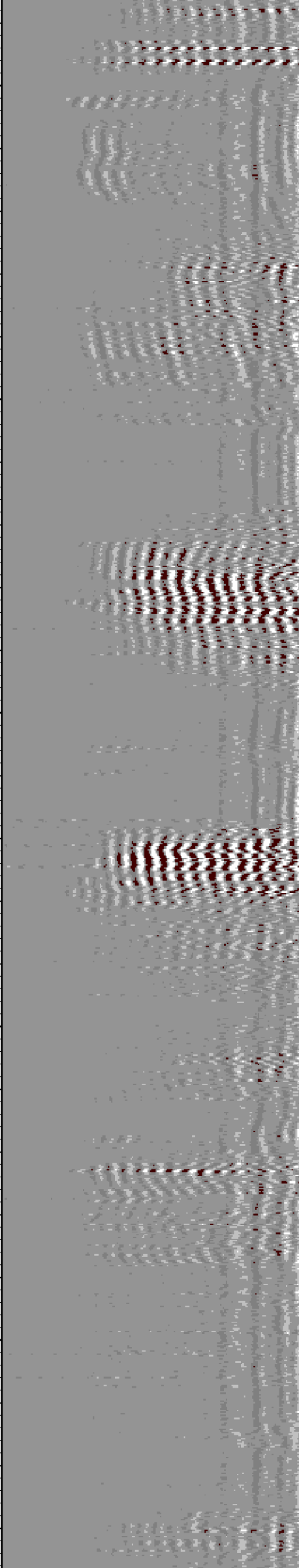
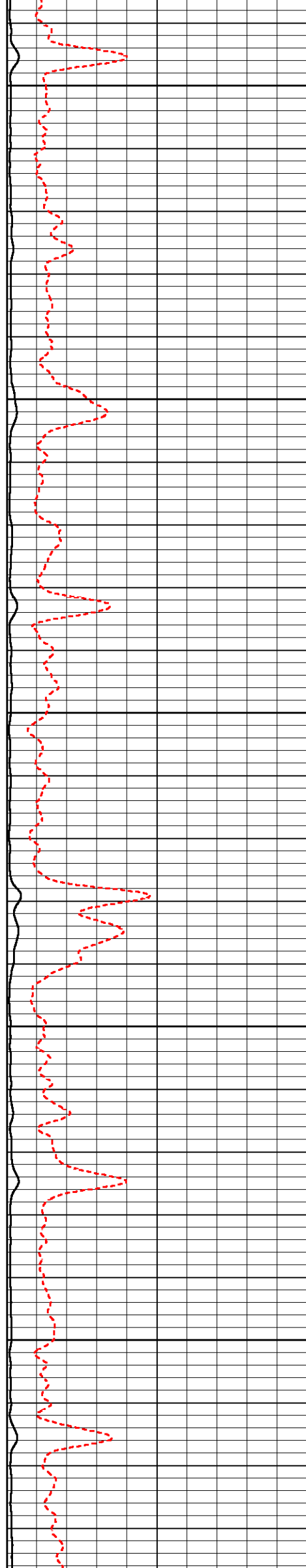


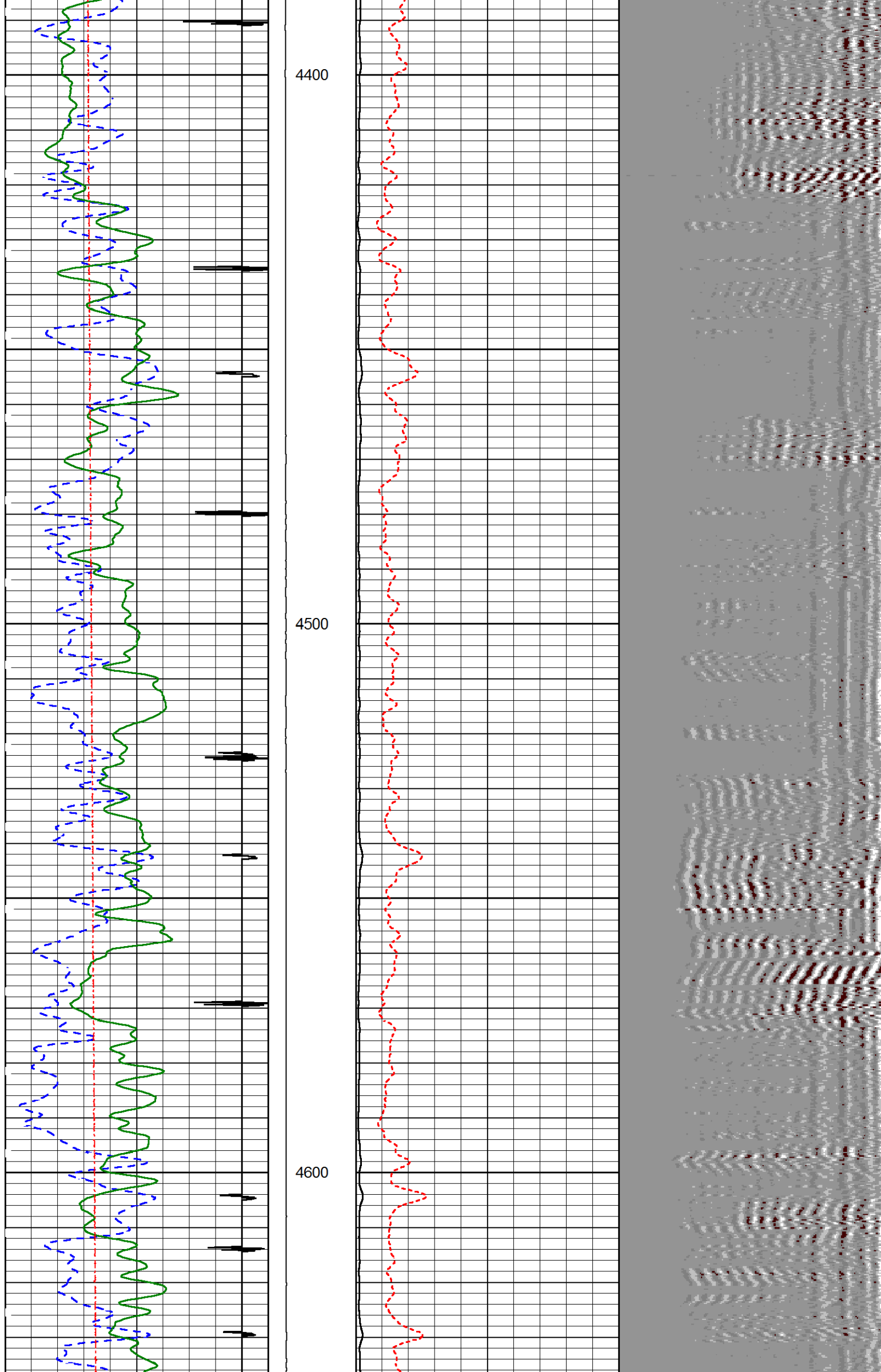


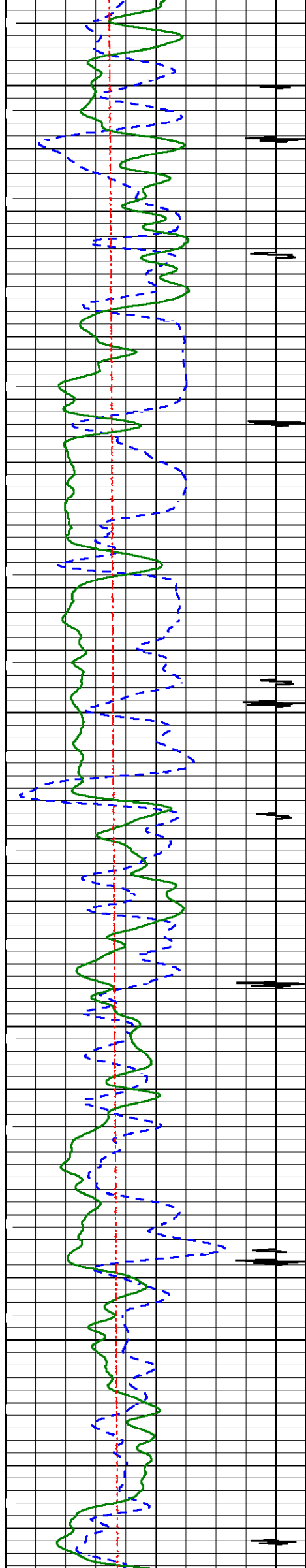


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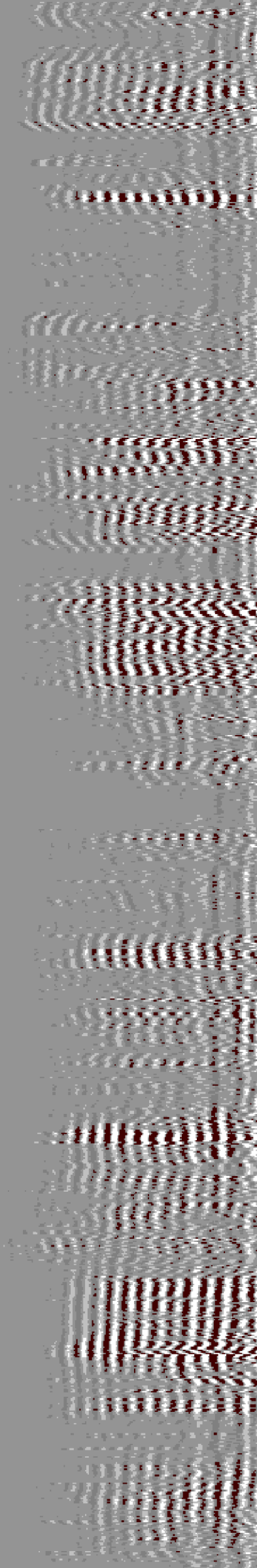
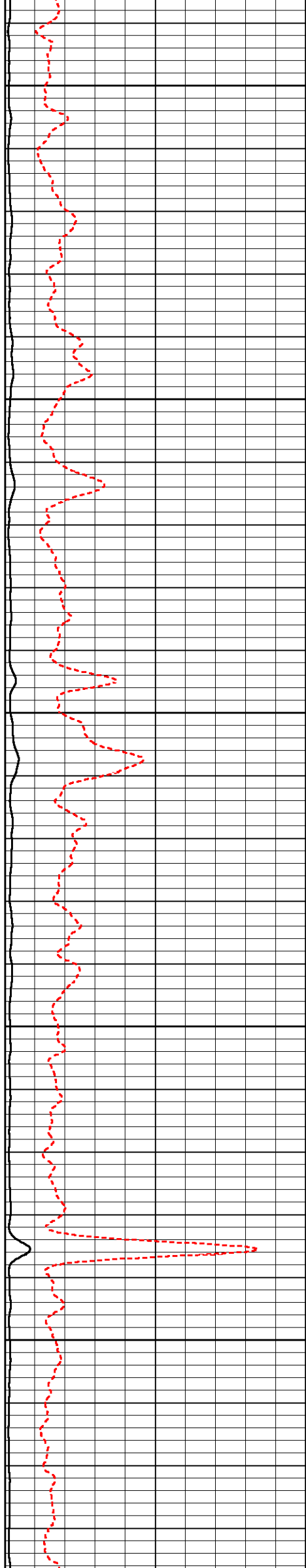


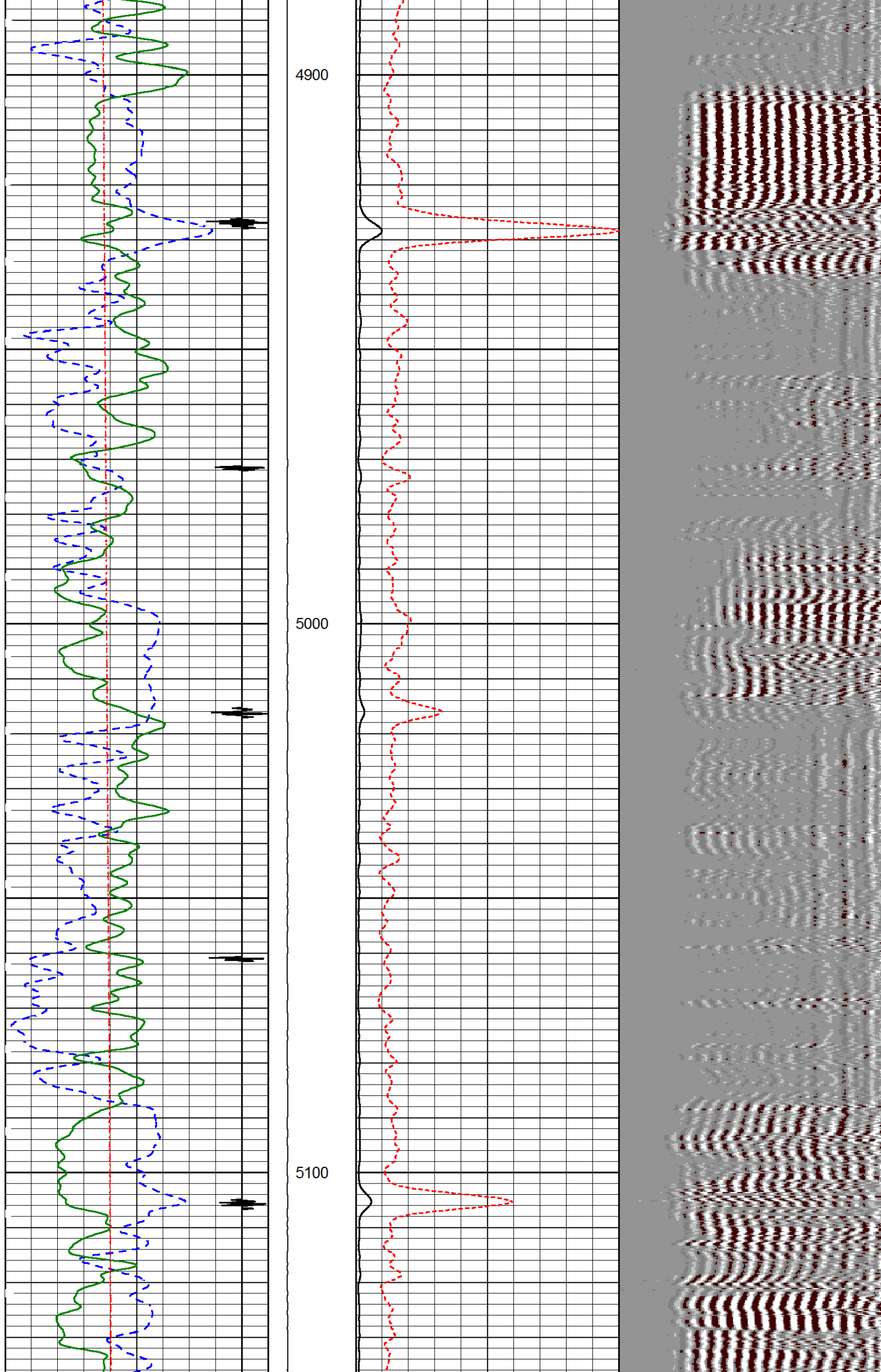


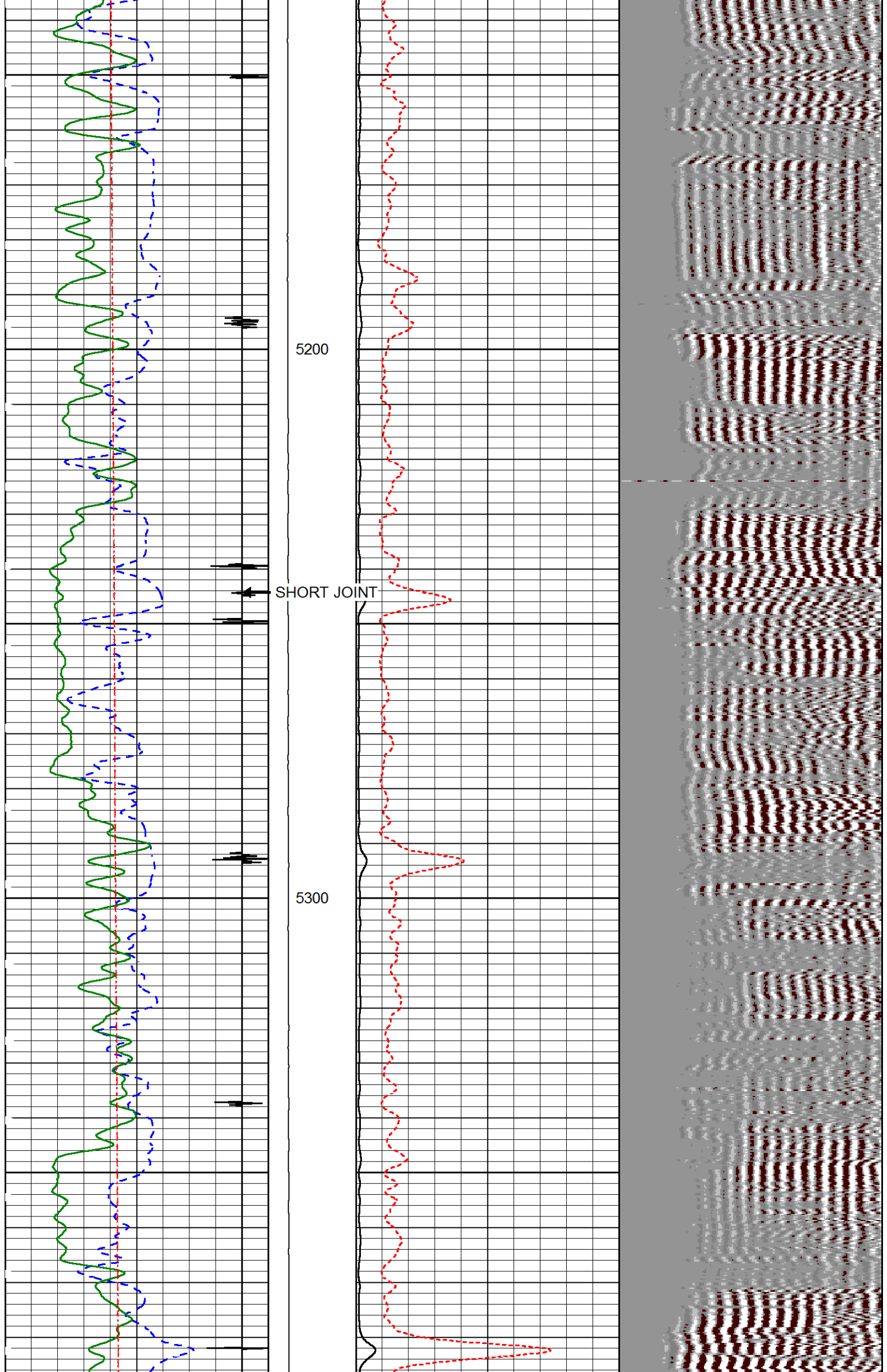


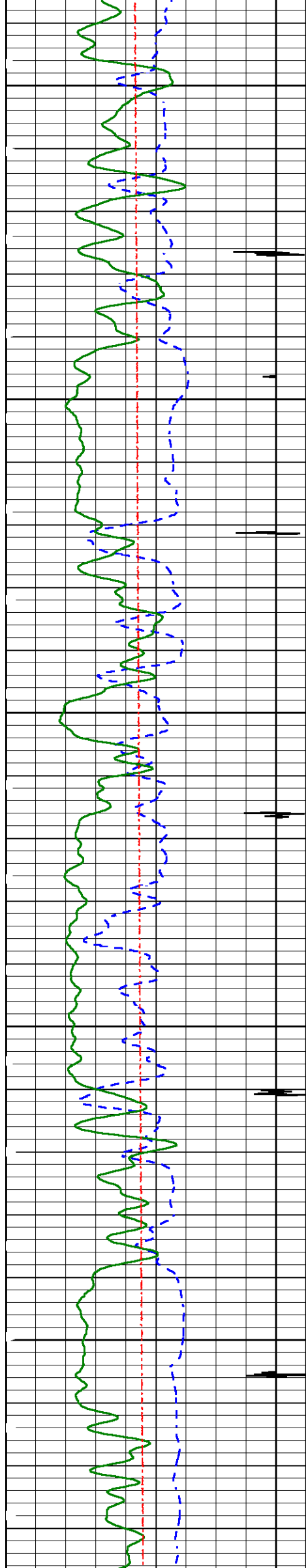
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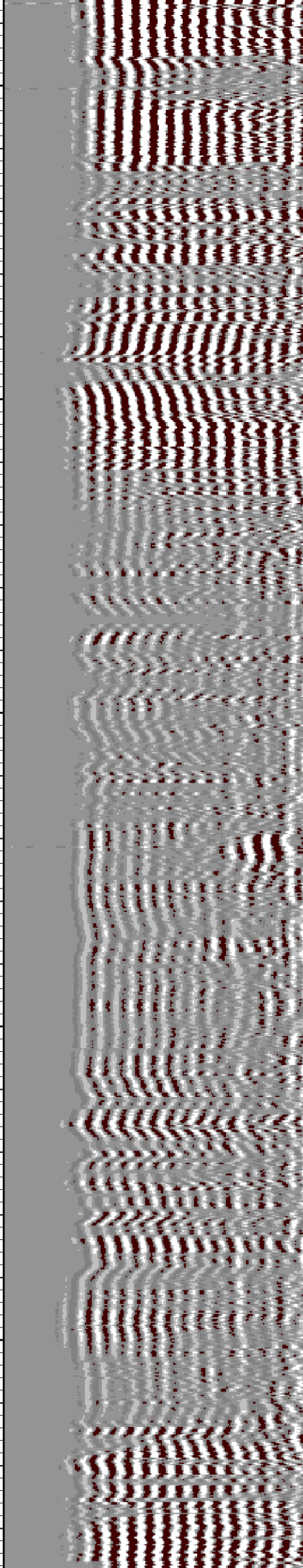
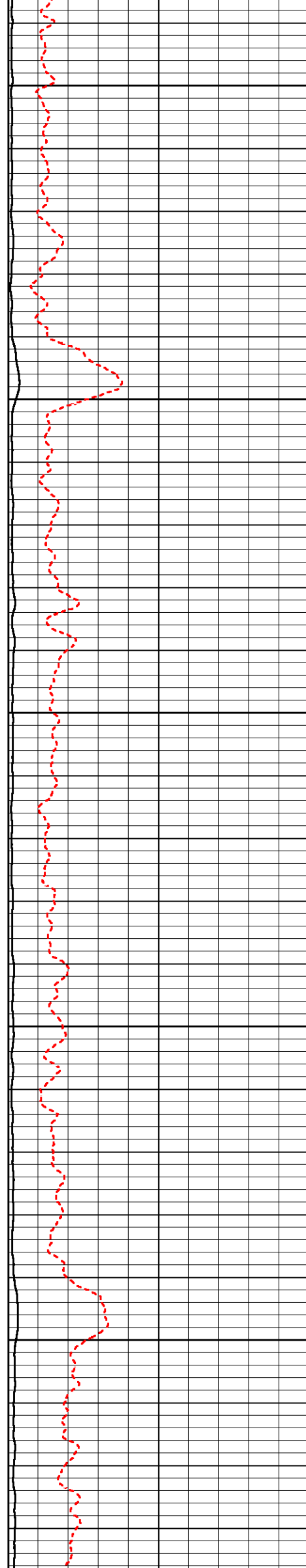


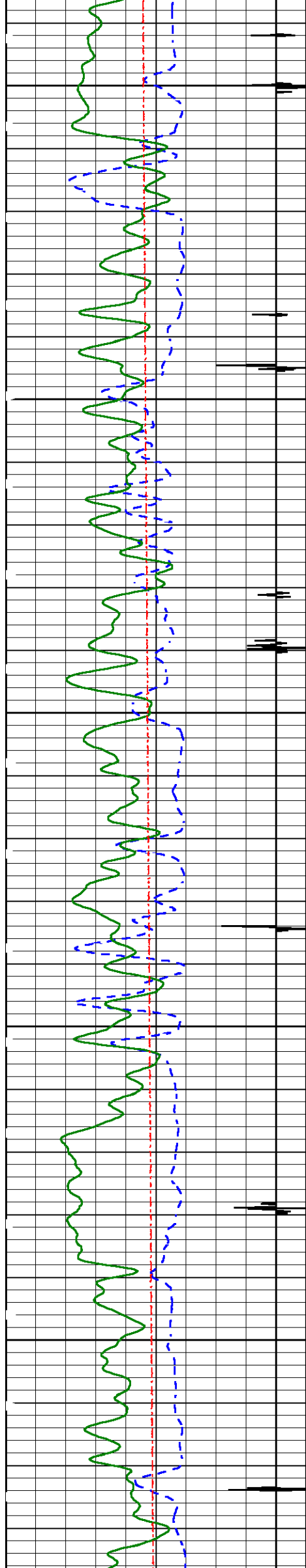


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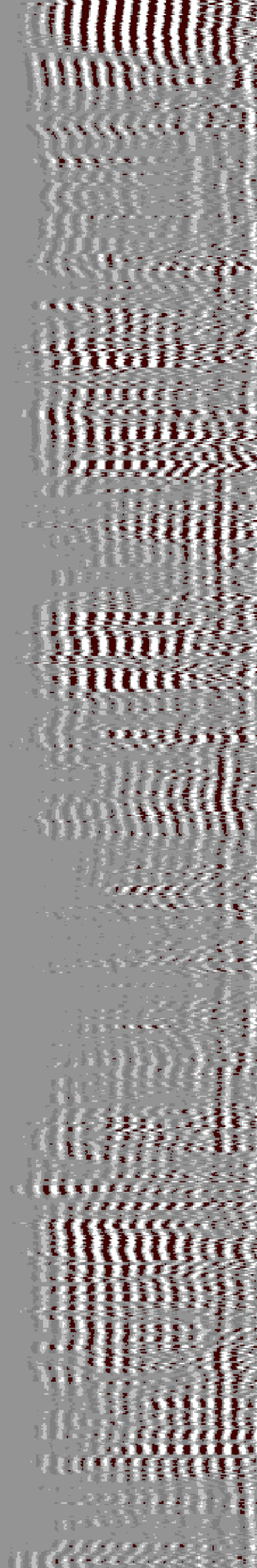
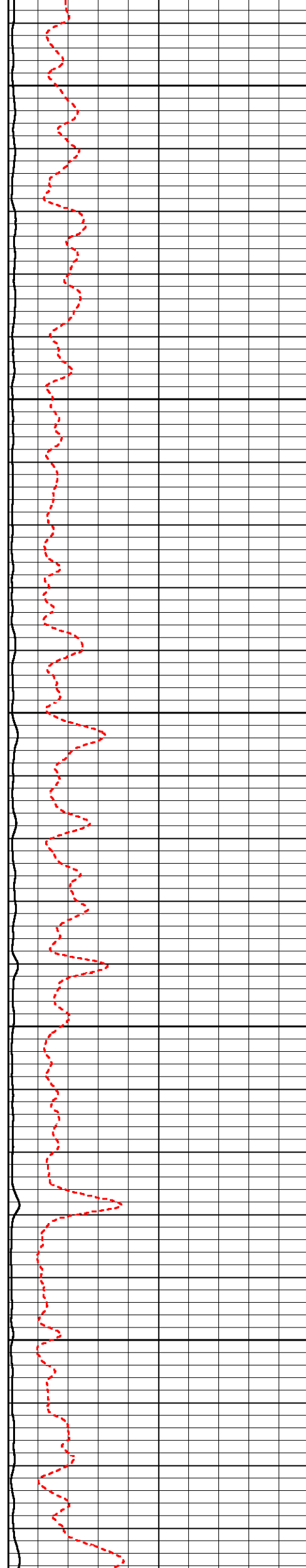
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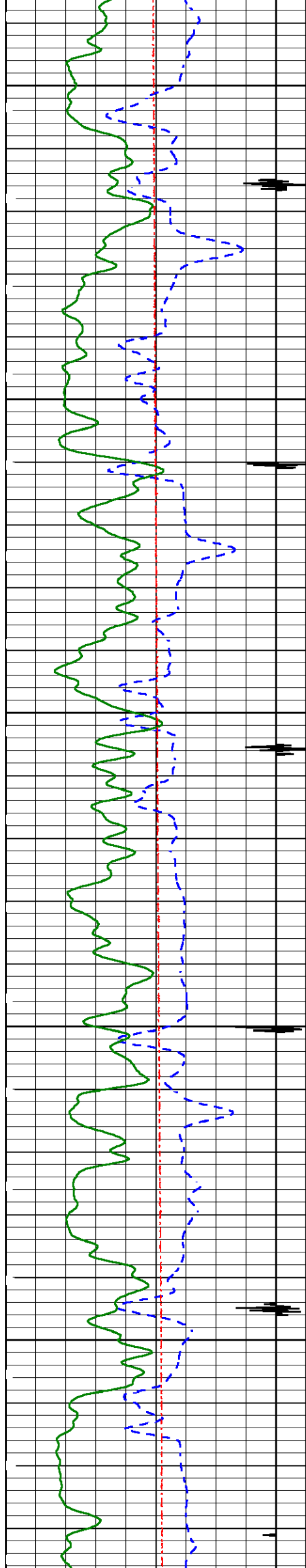




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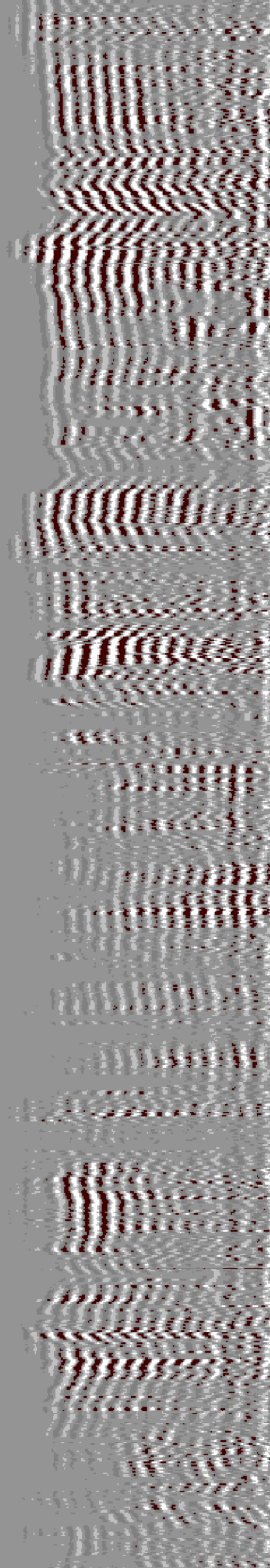
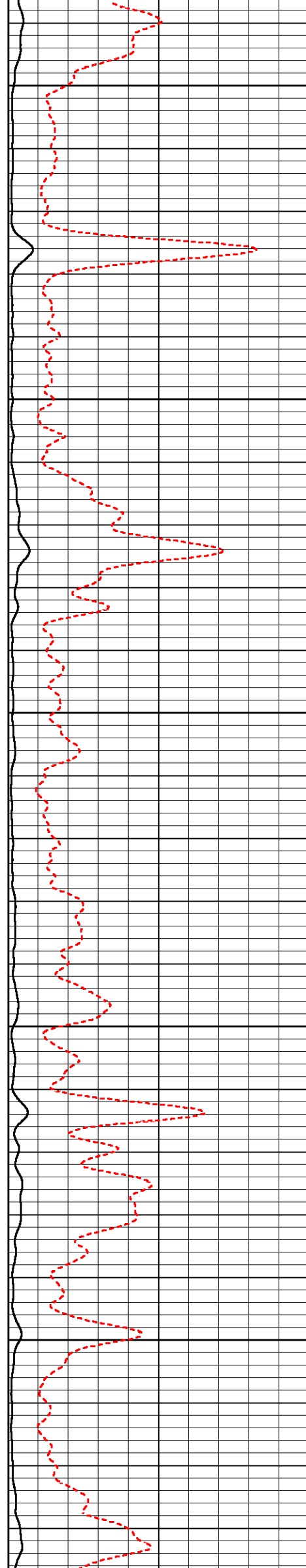


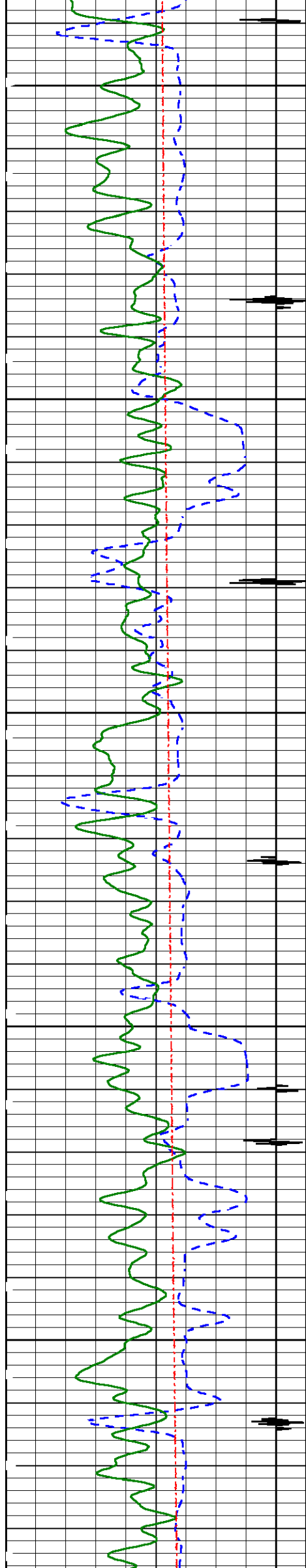


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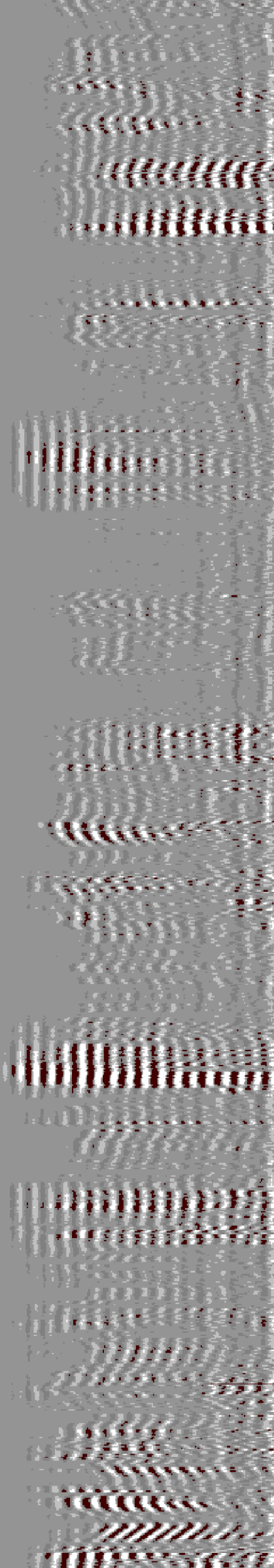
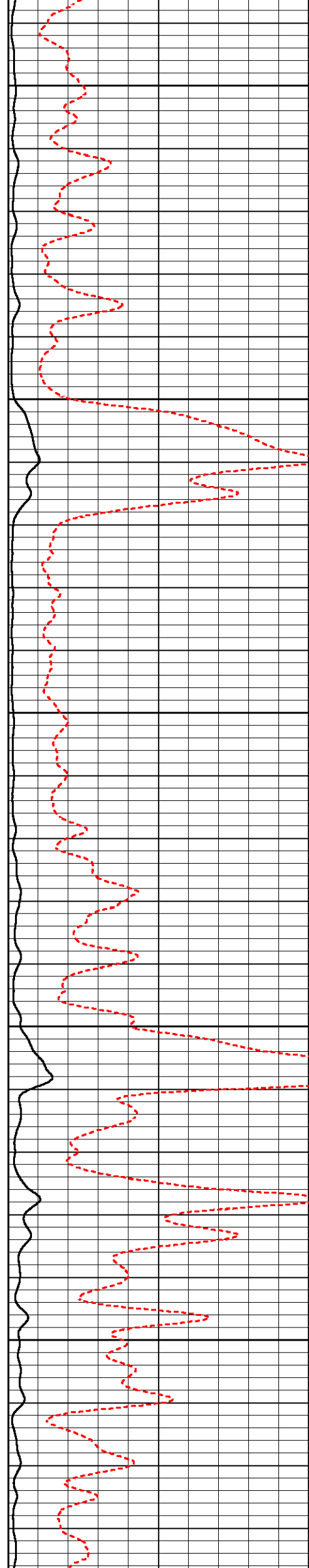
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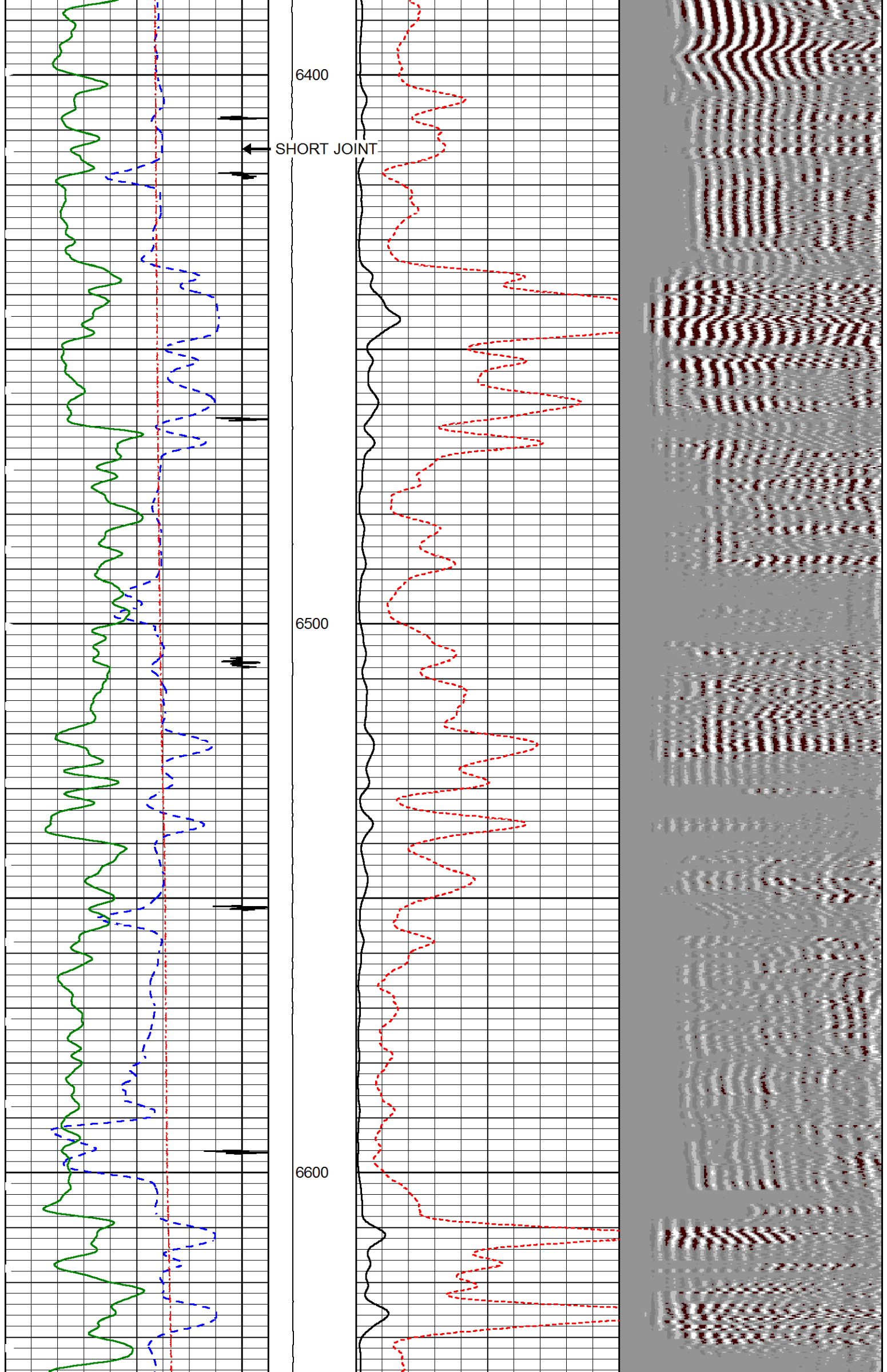


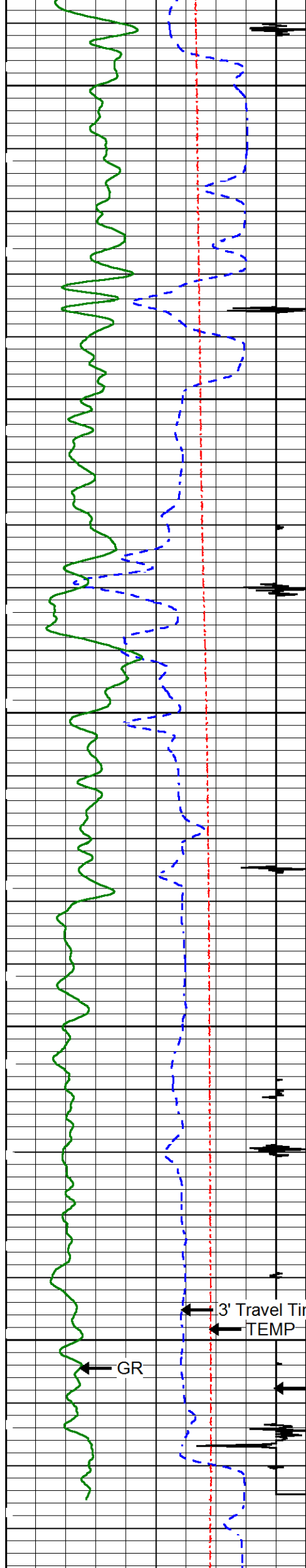


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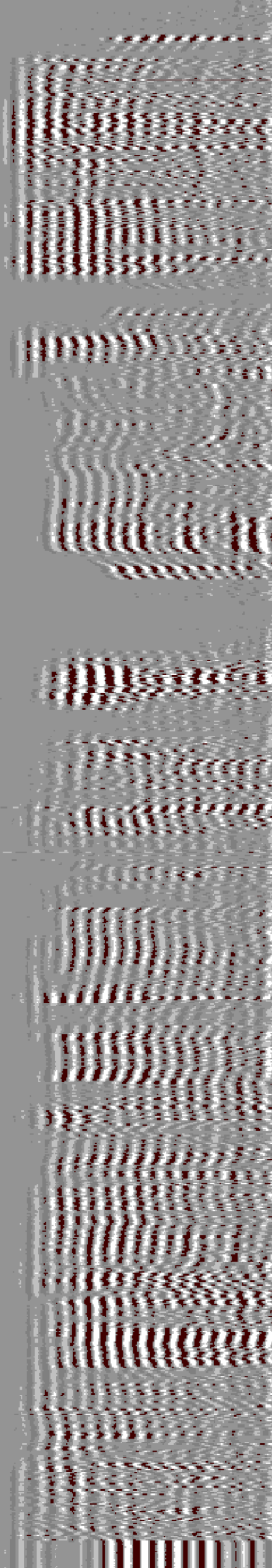
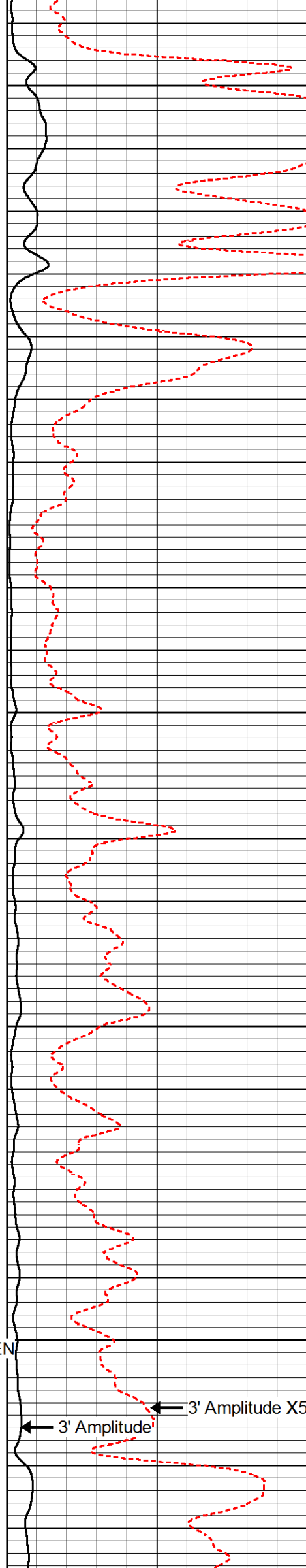


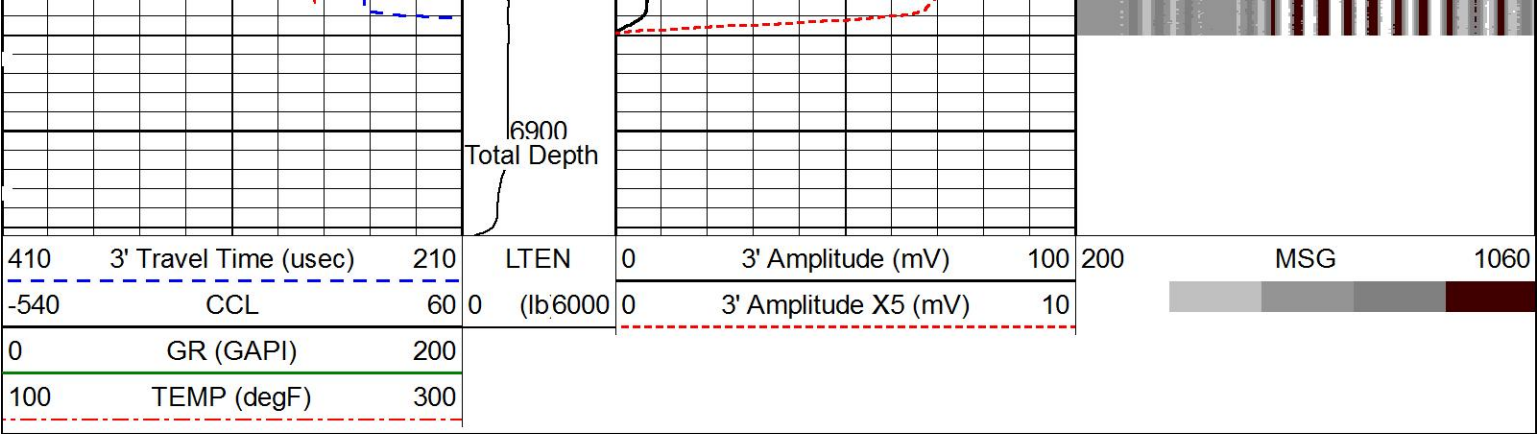
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LTEN

CCL

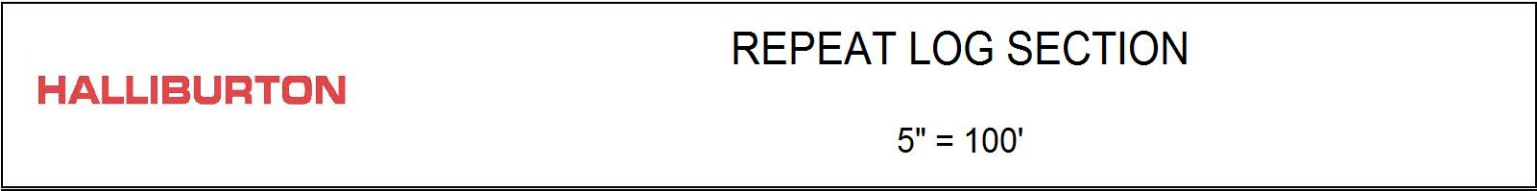




MAIN LOG SECTION

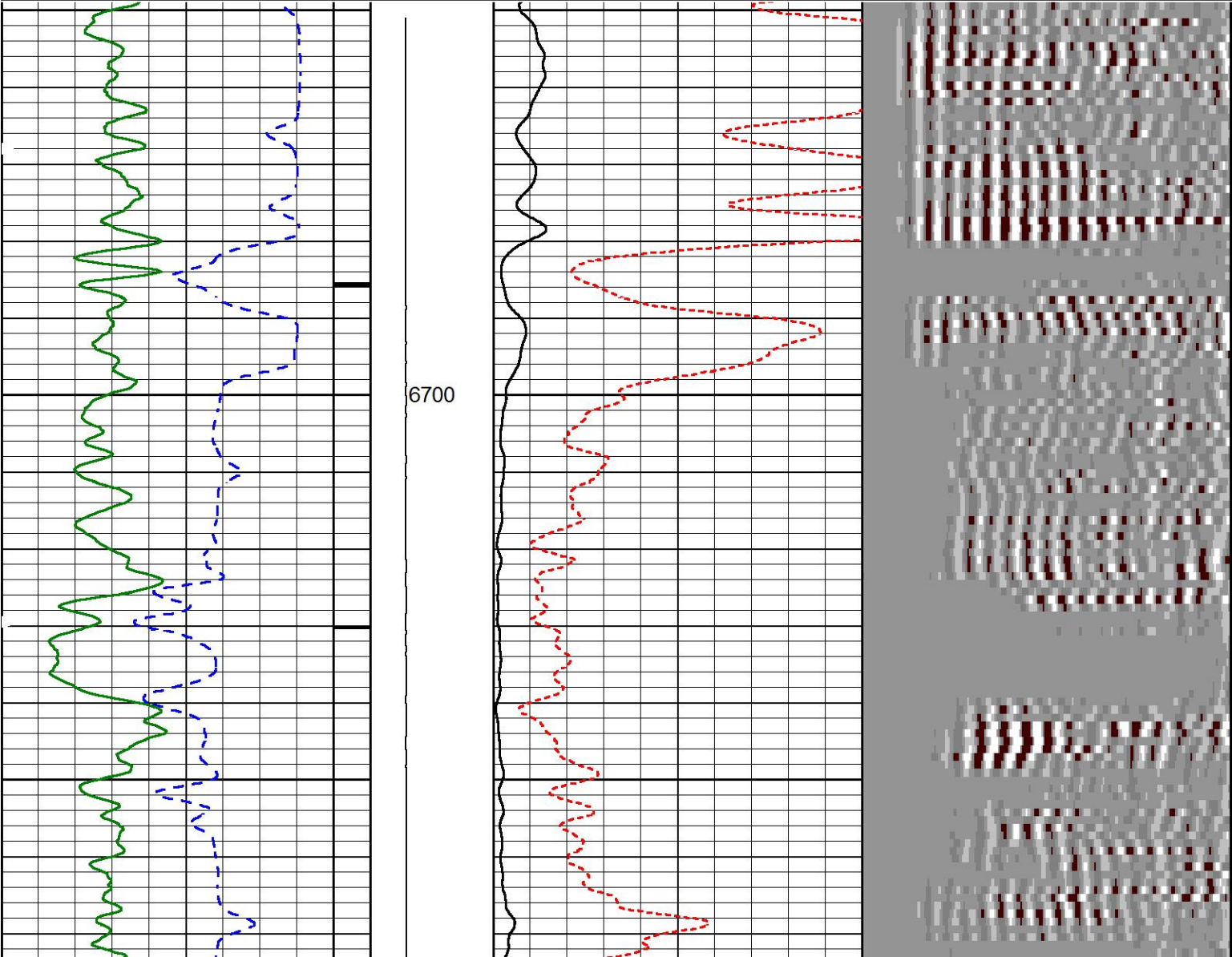
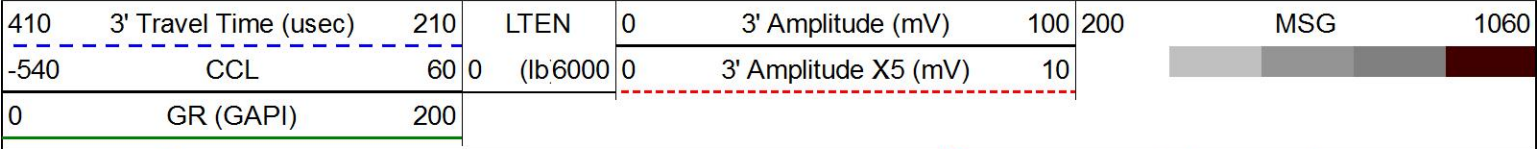
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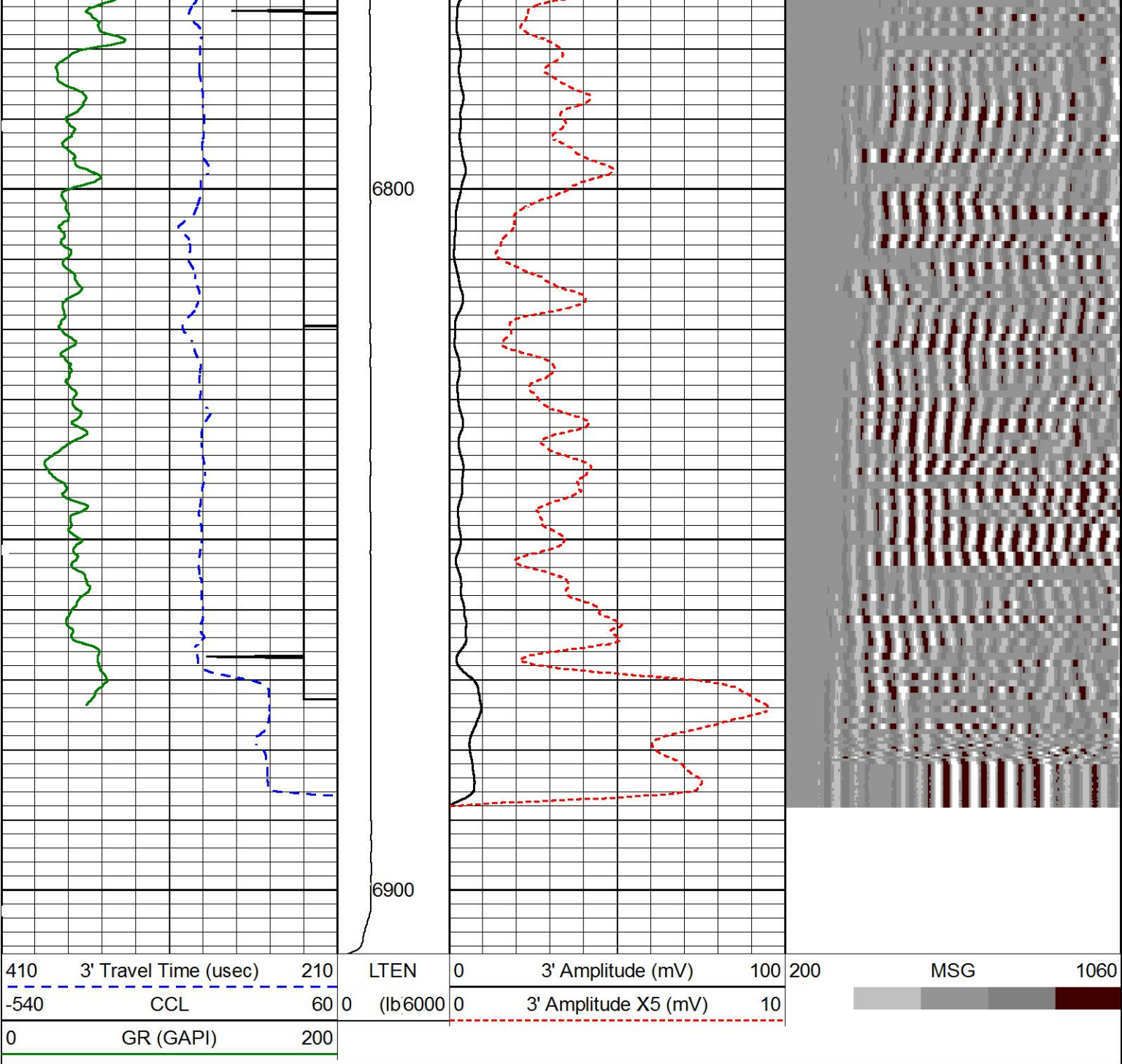
HALLIBURTON



HALLIBURTON

Database File yater_12c_3dcombo.db
Dataset Pathname CBLRPT1
Presentation Format hcb1g
Dataset Creation Sat Apr 11 19:29:26 2015
Charted by Depth in Feet scaled 1:240





REPEAT LOG SECTION

HALLIBURTON

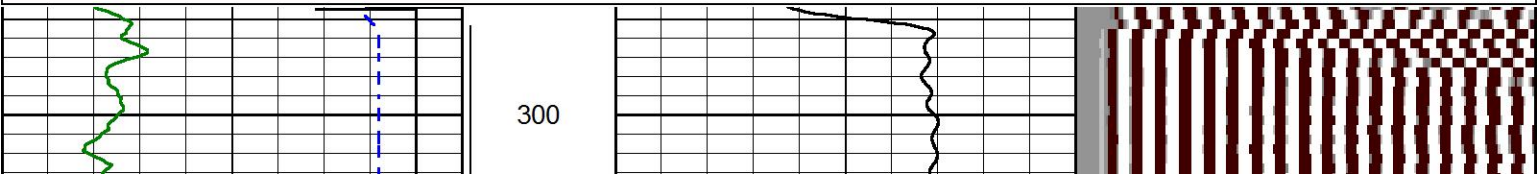
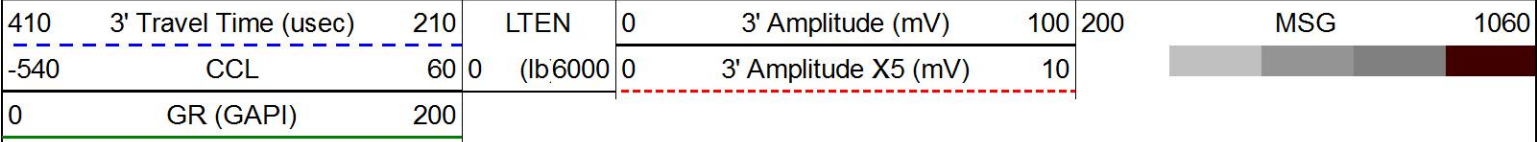
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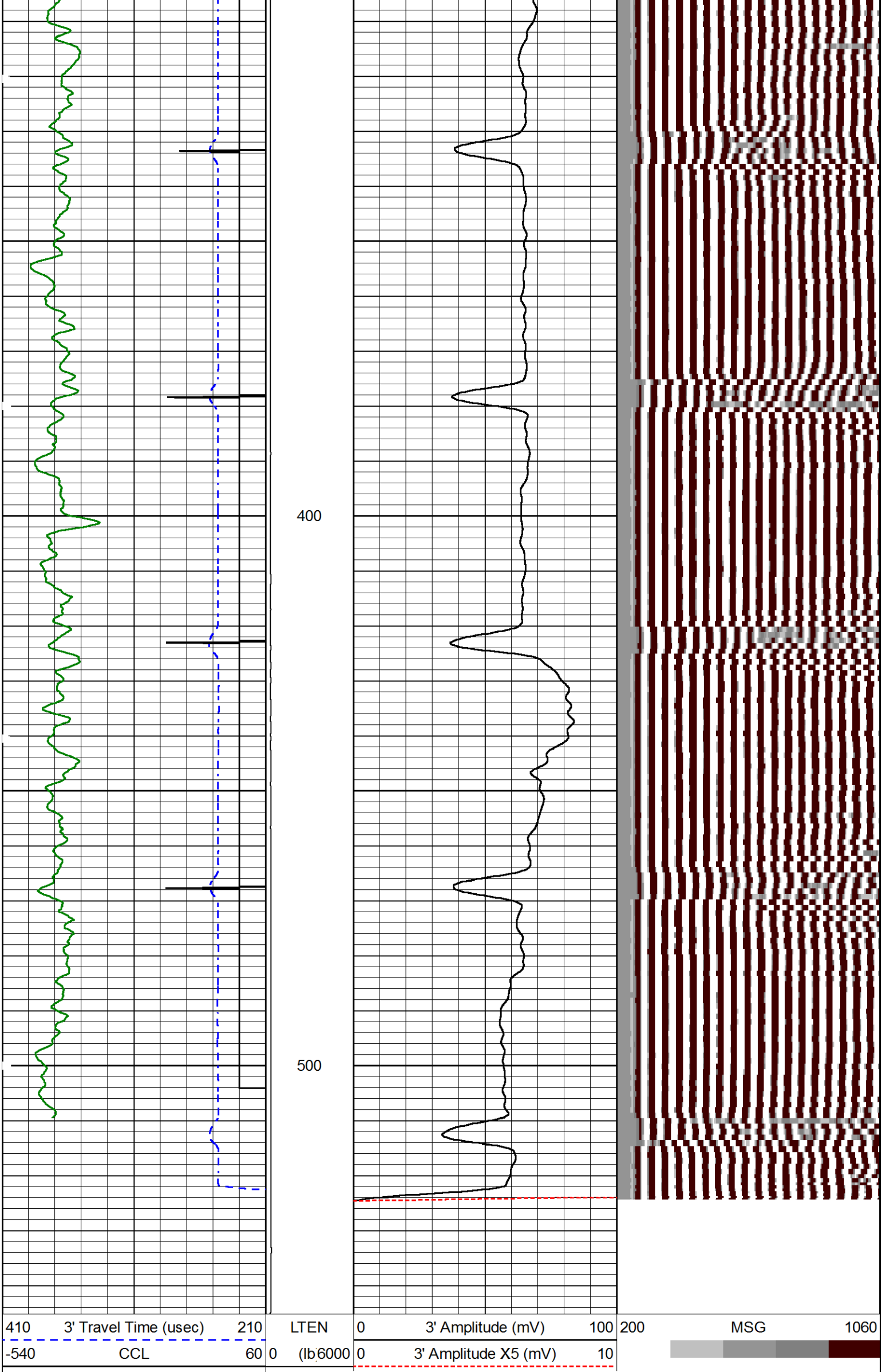
FREE PIPE LOG SECTION

HALLIBURTON

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Database File yater_12c_3dcombo.db
Dataset Pathname FREE2
Presentation Format hcbg
Dataset Creation Sat Apr 11 18:24:14 2015
Charted by Depth in Feet scaled 1:240





HALLIBURTON

FREE PIPE LOG SECTION

5" = 100'

Log Variables

DatabaseC:\ProgramData\Warrior\Data\yater_12c_3dcombo.db
Dataset field/well/run1/MAIN1/_vars_

Top - 17.00 ft

BHTEMP_Src	BHSAL2	BHSAL1	RUN3D?	POROSL2	POROSL1	POROS2	POROS1
TEMP	0	1	No	0	1	0	1
LTH	UHSGC	RHOCFL	RHOCF	SO in	BORSAL kppm	CASED?	MSGGN
Sandstone	NONE	0.15	0.25	0	150	Yes	1
USERFTT usec/ft	ZREF MRayl	CASEWGHT lb/ft	SRFTEMP degF	MudWgt lb/gal	CASETHCK in	CASEOD in	PERFS
0	1.7	11.6	0	8.4	0.25	4.5	0
TDEPTH ft	BOTTEMP degF	BITSIZE in					
0	100	7.875					

17.00 ft - Bottom

BHTEMP_Src	BHSAL2	BHSAL1	RUN3D?	POROSL2	POROSL1	POROS2	POROS1
TEMP	0	1	Yes	0	1	0	1
LTH	UHSGC	RHOCFL	RHOCF	SO in	BORSAL kppm	CASED?	MSGGN
Sandstone	NONE	0.15	0.25	0	150	Yes	1
USERFTT usec/ft	ZREF MRayl	CASEWGHT lb/ft	SRFTEMP degF	MudWgt lb/gal	CASETHCK in	CASEOD in	PERFS
0	1.7	11.6	0	8.4	0.25	4.5	0
TDEPTH ft	BOTTEMP degF	BITSIZE in					
0	100	7.875					

Calibration Report

Database Fileyater_12c_3dcombo.db
Dataset PathnameMAIN1
Dataset CreationSat Apr 11 19:40:43 2015

Reservoir Monitor Tool I (3 Detector) Calibration Report

Serial-Model:12270722-A
Shop Calibration Performed:Thu Apr 09 15:04:28 2015

Carbon/Oxygen Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	87.00	80.00	7.00	+/-15.00	V
ITCR2	3296	3250	46	+/-250	cps

Near Detector					
H	Channel 60	Expected Value 60 +/-2	Amplitude 0.0275	FWHM 5.26	Tol. <6.00
Fe	206	206 +/-2	0.0969	-----	-----
NGAIN = 0.996	NZOFF = 0.5				
Far Detector					
H	Channel 60	Expected Value 60 +/-2	Amplitude 0.0396	FWHM 5.02	Tol. <6.50
Fe	209	208 +/-2	0.0913	-----	-----
FGAIN = 0.993	FZOFF = 0.0				
Flask Temperature	64.9 degF				
Result	Logged	Expected Value	Diff.	Tol.	Units
NFER	2.14	2.10	0.04	+/-0.10	
FFER	1.81	1.80	0.01	+/-0.30	
LFER	1.13	1.60	-0.47	+/-0.60	
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.64	1.64	0.00	+/-0.05	
TCCR2	5198	5000	198	+/-1000	cps
ITCR2	3265	3200	65	+/-250	cps

Sigma Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	86.00	80.00	6.00	+/-15.00	V
FCAP	9873	10000	-127	+/-500	cps
Horizontal Water Tank					
Result	Logged	Expected Value	Diff.	Tol.	Units
NFER	2.15	2.10	0.05	+/-0.10	
FFER	1.92	1.80	0.12	+/-0.30	
LFER	2.38	1.60	0.78	+/-0.60	
N/F Normalizer	0.946	0.935	0.011		
N/L Normalizer	0.106	0.111	-0.005		
N/F Inel Norm	0.610	0.610	-0.000		
N/L Inel Norm	0.056	0.055	0.001		
RNF	1.057	1.070	-0.013	+/-0.120	
RNL	9.420	9.000	0.420	+/-1.000	
RINC	1.640	1.640	-0.000	+/-0.180	
RINCL	18.001	18.000	0.001	+/-2.000	
SGFN	24.10	24.00	0.10	+/-0.50	cu
SGFF	22.94	22.85	0.09	+/-0.50	cu
SGFL	22.01	22.00	0.01	+/-1.00	cu
FSIN	23703	24000	-297	+/-2000	cps
LSIN	2207	2400	-193	+/-500	cps
FCAP	9992	10000	-8	+/-1000	cps
LCAP	1122	1200	-78	+/-200	cps
NFTR	0.83			<5.00	
FFTR	0.87			<5.00	
LFTR	1.18			<5.00	
NBKG	186			<500	cps
FBKG	99			<500	cps
LBKG	13			<500	cps
RTN	0.419	0.400	0.019	+/-0.100	usec
RTF	0.442	0.400	0.042	+/-0.100	usec

Calibration Software Modules					
HRMT3D Module	2015.3.19.0				
RMT3D Module	2015.3.19.1				
Log Data Acquisition Software Modules					

HRMT3D Module	2015.3.19.0
RMT3D Module	2015.3.19.1

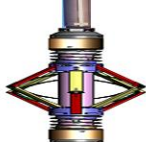

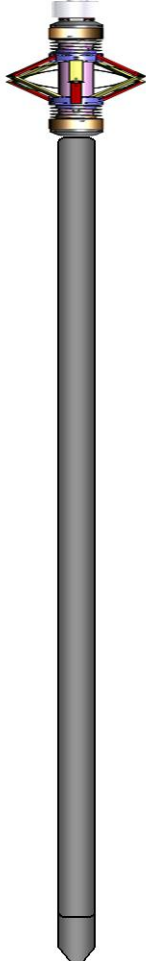
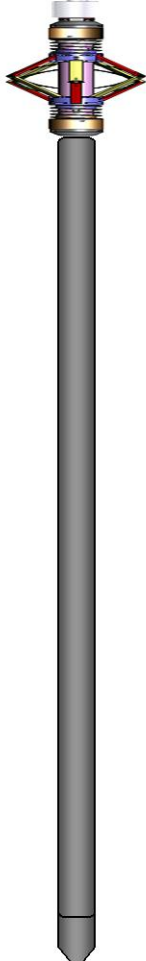
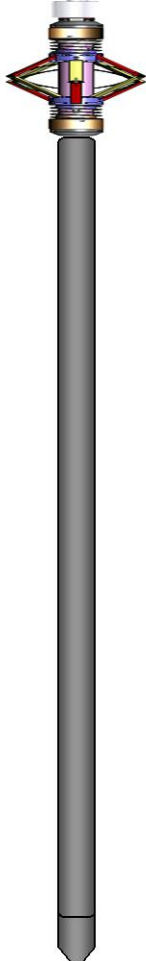
Cement Bond Log Shop Calibration Report		
Serial-Model:	11794522-A	
Calibration Performed:	Sat Apr 11 18:23:08 2015	

Free Pipe Calibration		
TT	Measured	Units
Amplitude	245.7	usec
Log Base Line	609.7	mV
	8.4	mV
Calibration References and Gain		
Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp.	81.2	mV
Amp. Gain	0.135	

Gamma Ray Calibration Report		
Type / Serial:	002 / 12159411	

SHOP CALIBRATION		Sat Apr 11 11:13:47 2015			
	Counts/Sec.	Gain	Offset	Jig	Units
Background	39.6				cps
Calibrator	328.2				cps
		1.4140			GAPI/cps
PRIMARY VERIFICATION		Sat Apr 11 11:15:49 2015			
Background	55.1				cps
Calibrator	468.8				cps
Difference				413.6	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	36.04		STNDCH-STND_CH	1.50	1.44	1.00
GR	33.78		1.4375 IN CABLE HEAD			
Temp	24.06					
TT3FT	21.81					
AMP3FT	21.81					
Rm3TLGT	8.75					
Rm3LBACK	8.75					
Rm3LCAPT	8.75		TTTCU-002 (12159411)	7.65	1.69	100.00
Rm3LINEL	8.75		Through Tubing Telemetry Cartridge - Ultrawire			
Rm3TFGT	8.25					
Rm3FBACK	8.25					
Rm3FCAPT	8.25					
Rm3FINEL	8.25					
Rm3TNGT	7.75					
Rm3NBACK	7.75		XHU-003 (11899561)	1.58	1.69	7.00

Rm3NBACK	7.75		Crossover Halliburton 1553 to Ultrawire				
Rm3NCAPT	7.75			CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
Rm3NINEL	7.75						
Rm3ImpBTEST	0.00						
Rm3ImpBCYC	0.00						
Rm3ImpBRGW	0.00						
Rm3ImpBRGO	0.00						
Rm3ImpState	0.00						
Rm3ImpPhase	0.00						
Rm3ImpCyc	0.00						
Rm3GenClampV	0.00						
Rm3LTemp	0.00		HCBLM-A (11794522) Halliburton HCBLM Tool	9.38	2.75	116.00	
Rm3LPMHV	0.00						
Rm3LPMI	0.00						
Rm3LPrgSt1	0.00						
Rm3LDetStat	0.00						
Rm3FTemp	0.00						
Rm3FPMHV	0.00						
Rm3FPMI	0.00						
Rm3FPrgSt1	0.00						
Rm3FDetStat	0.00						
Rm3NTemp	0.00						
Rm3NPMHV	0.00						
Rm3NPMI	0.00						
Rm3NPrGSt1	0.00						
Rm3NDetStat	0.00						
Rm3Genlonl	0.00						
Rm3Gen15BusV	0.00						
Rm3GenLvdsV	0.00						
Rm3GenSyncV	0.00						
Rm3GenClampV	0.00						
Rm3GenP5V	0.00		RMT3D-A (12270722) RMT3D - 3 Detector RMT-I	15.17	2.13	86.00	
Rm3GenP33V	0.00						
Rm3Gen200V	0.00						
Rm3GenP15Vl	0.00						
Rm3GenTemp	0.00						
Rm3GenP5Vl	0.00						
Rm3Genl	0.00						
Rm3GenPv	0.00						
Rm3GenCmd	0.00						
Rm3GenIspl	0.00						
Rm3GenIsPv	0.00						
Rm3GenIsPcmc	0.00						
Rm3GenRepPv	0.00	Dataset: yater_12c_3dcombo.db: field/well/run1/MAIN1 Total length: 39.61 ft Total weight: 360.00 lb O.D.: 3.13 in					
Rm3GenRepV	0.00						
Rm3GenRepSv	0.00						
Rm3GenContSt	0.00						

Company	URSA OPERATING COMPANY				
Well	YATER 12C-17-07-95				
Field	PARACHUTE				
County	GARFIELD		State	CO	
HALLIBURTON	ACOUSTIC CEMENT BOND LOG				