

HALLIBURTON										ACOUSTIC CEMENT BOND LOG									
Company    URSA OPERATING COMPANY										Company    URSA OPERATING COMPANY									
Well    YATER 43A-17-07-95										Well    YATER 43A-17-07-95									
Field    PARACHUTE										Field    PARACHUTE									
County    GARFIELD State    CO										County    GARFIELD    State    CO									
Permanent Datum    GROUND LEVEL    Elevation    5519'										Other Services									
Log Measured From    KB    17    Ft. above perm. datum										Location: SURFACE HOLE LOCATION: 1717' FSL & 1107' FWL									
Drilling Measured From    KB										BOTTOM HOLE LOCATION: 2439' FSL & 0660' FEL									
Date @ Time Logged    12 APR 2015										Sec: 17    Twp: 07S    Rge: 95W									
Run No.    ONE										Type Fluid in Hole    WATER									
Depth - Driller    7005'										Density of Fluid    8.4#									
Depth - Logger    6924'										Fluid Level    62'									
Bottom - Logged Interval    6924'										Cement Top Est. Logged    1300'									
Top - Log Interval    SURFACE										Equipment / Location    1097'1668    /    G.J.									
Max. Recorded Temp.    232 DEG F										Recorded by    D. SOLIS									
CEMENTING DATA    Surface										Witnessed by    R. TOLLE									
Date / Time Cemented    String										Protection    String									
Primary / Squeeze    N/A										String    N/A									
Expected Compressive Strength    psi@    hrs										Production    String									
Cement Volume    /										Liner    N/A									
Cement Type / Weight    /																			
Formulation    /																			
Mud Type / Mud Wgt.    /																			
Borehole Record										Casing & Tubing Record									
Run Number    Bit    From    To    Size    Weight    From    To																			
ONE    12.25"    SURFACE    1830'    8.625"    32.0#    SURFACE    1830'																			
TWO    7.875"    1830'    7005'    4.5"    11.6#    SURFACE    7005'																			

Service Ticket No.	902306489	API No.	05-045-22763-0000	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
Serial No.	12159411	Serial No.	11794522	Serial No.	12270722
Model No.	TTTC-U-002	Model No.	CBL-M	Model No.	RMT3D-A
Diameter	1.688"	Diameter	2.75"	Diameter	2.125"
LOGGING DATA					
General Data					
Pass	Depths		Well Head	Speed	Logging Run Comments
No	From	To	Pressure	Ft/Min	

ONE	6924'	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	328'		

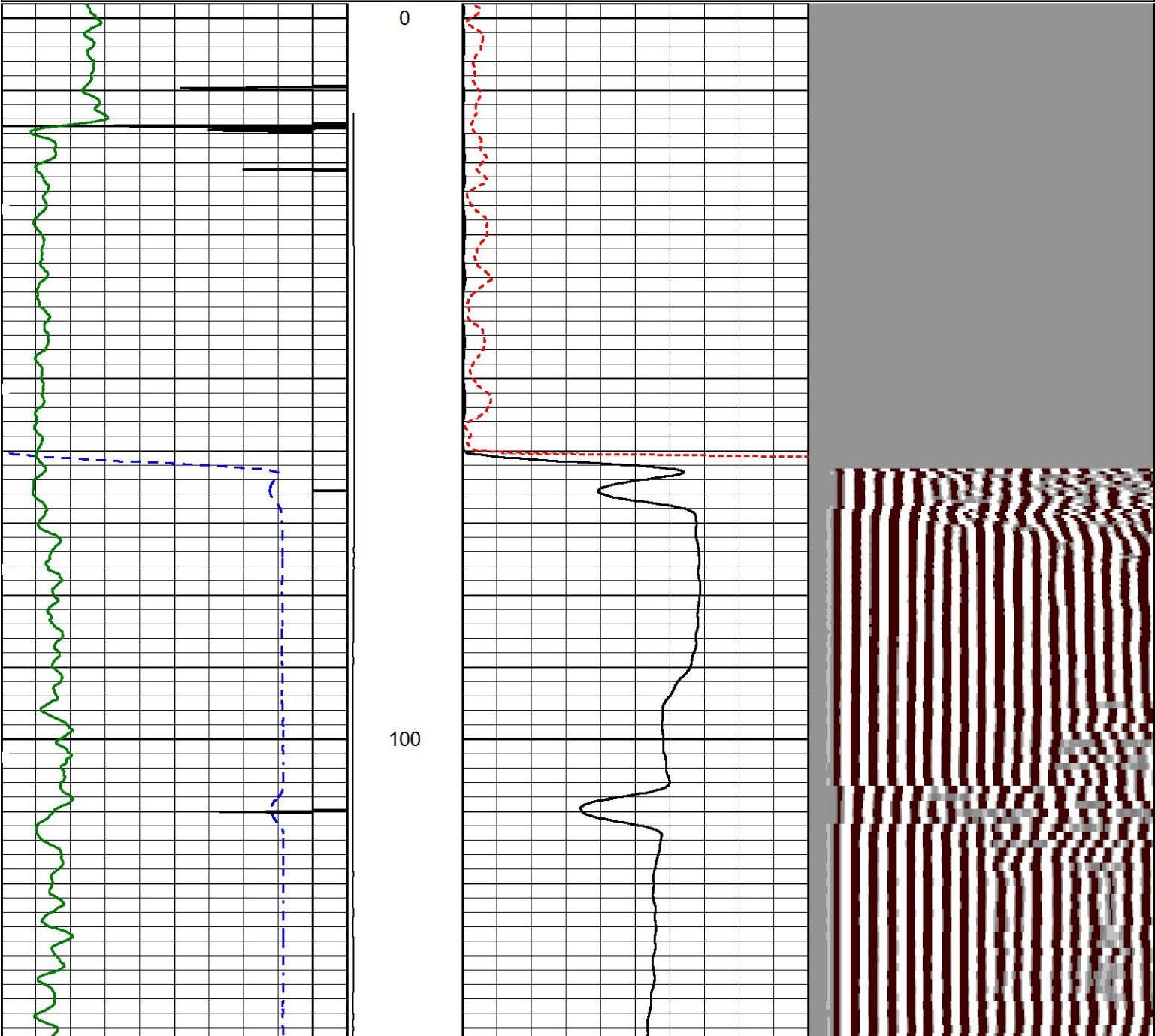
HALLIBURTON

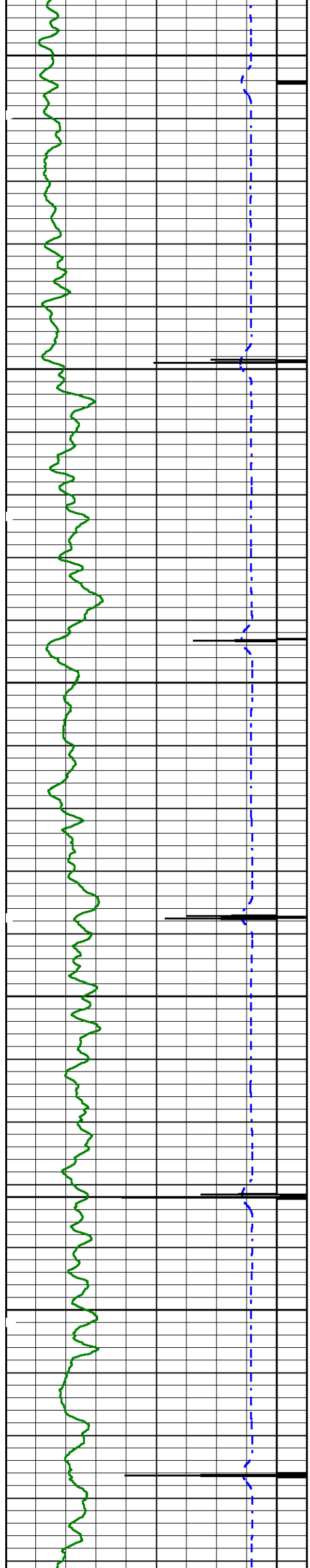
MAIN LOG SECTION

5" = 100'

Database File	yater_43a_3dcombo.db
Dataset Pathname	MAIN1
Presentation Format	hcbtg
Dataset Creation	Sun Apr 12 08:20:02 2015
Charted by	Depth in Feet scaled 1:240

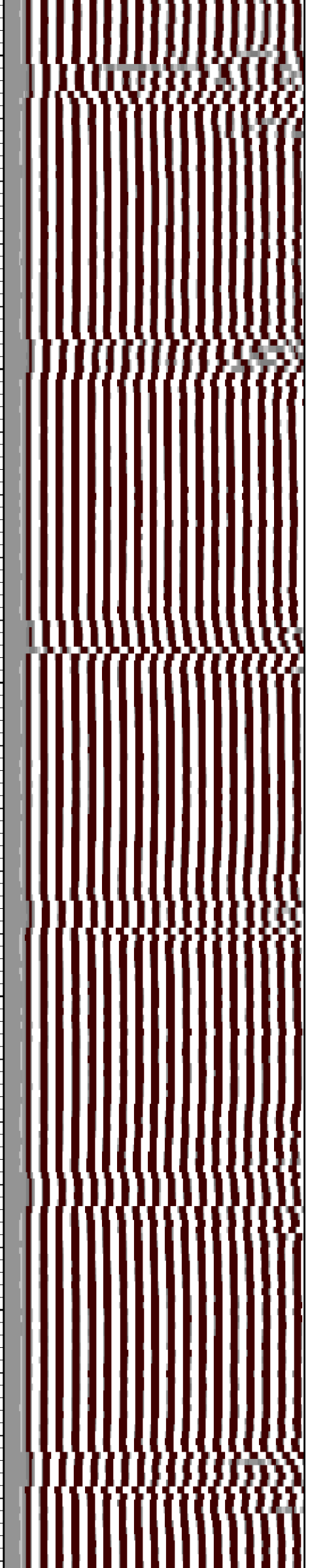
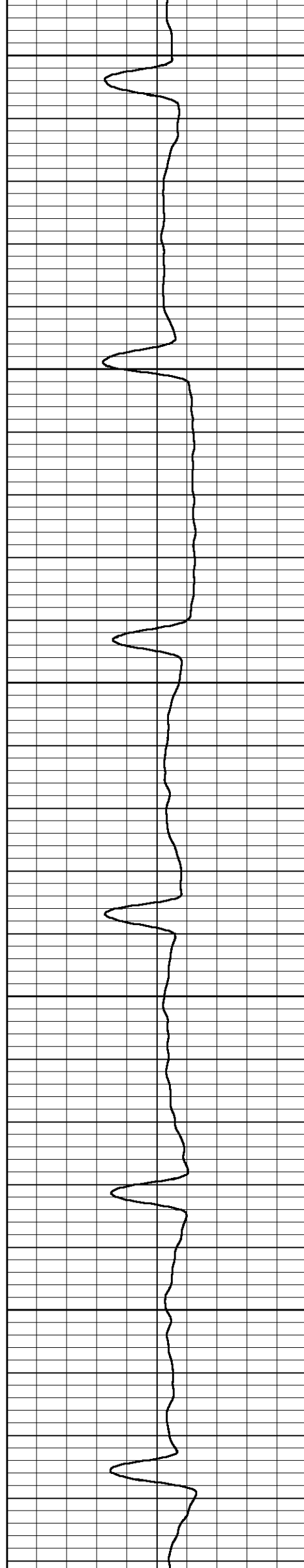
410	3' Travel Time (usec)	210	LTEN	0	3' Amplitude (mV)	100	200	MSG	1060
-540	CCL	60	0	(lb.6000)	0	3' Amplitude X5 (mV)	10		
0	GR (GAPI)	200							

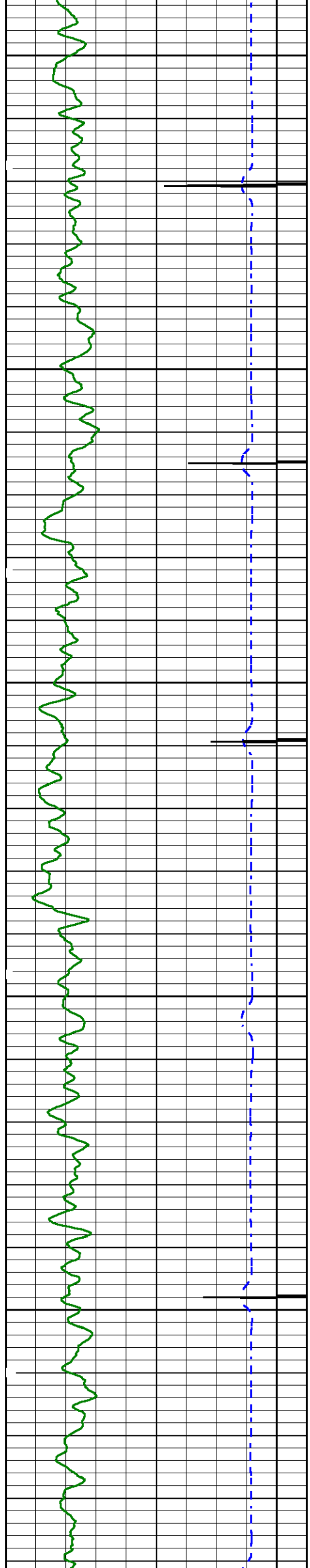




200

300

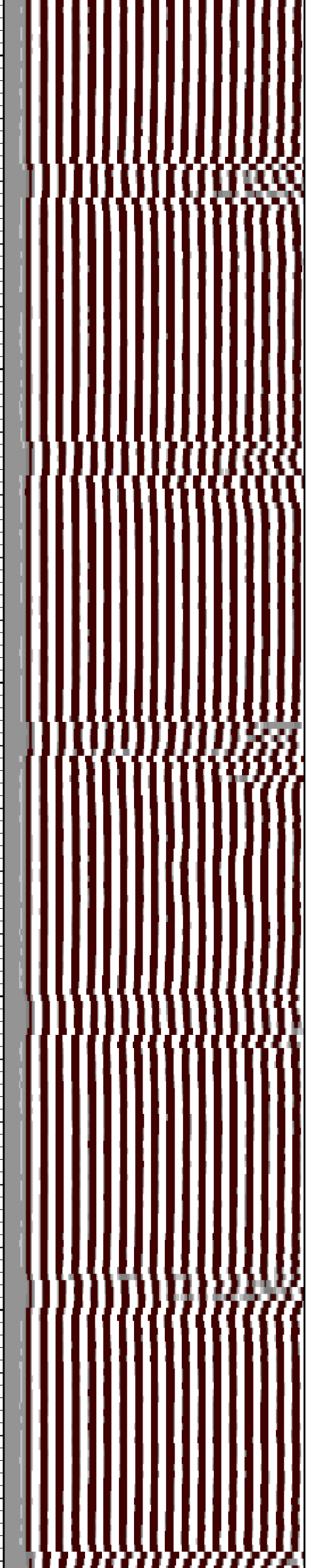
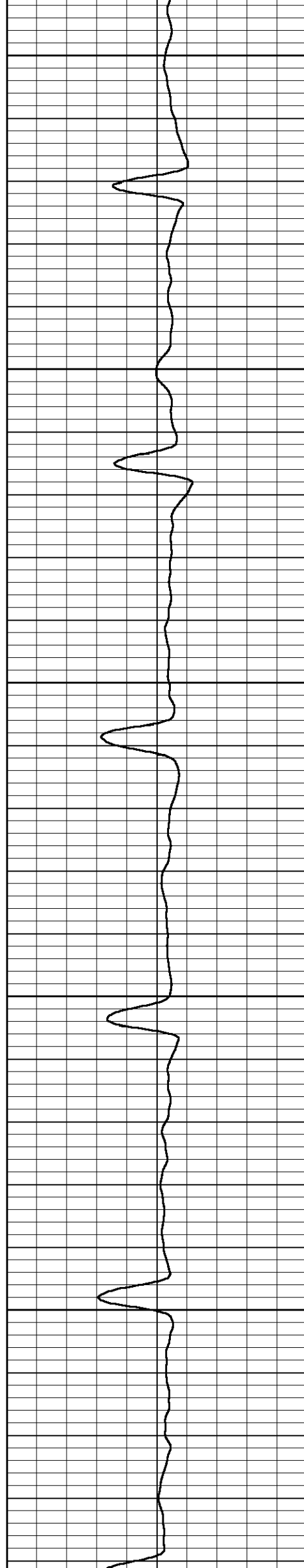


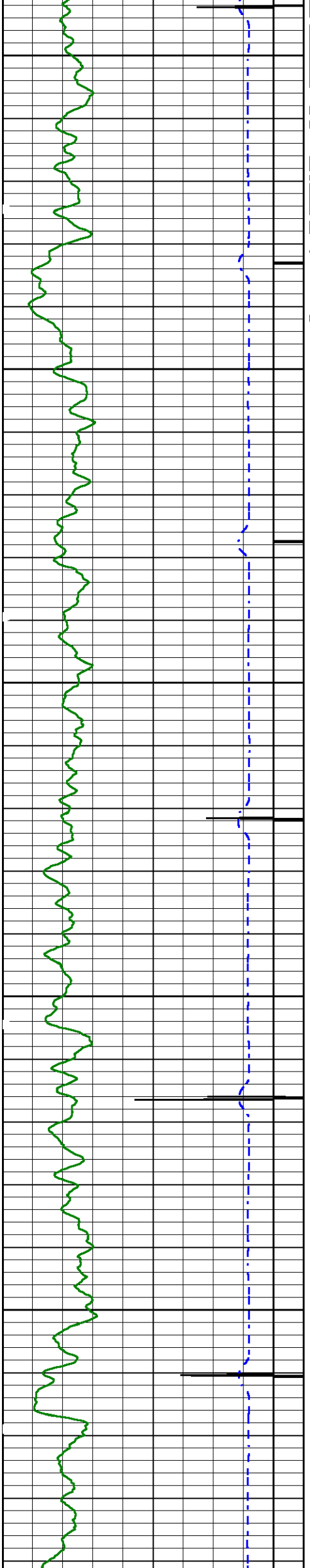


400

500

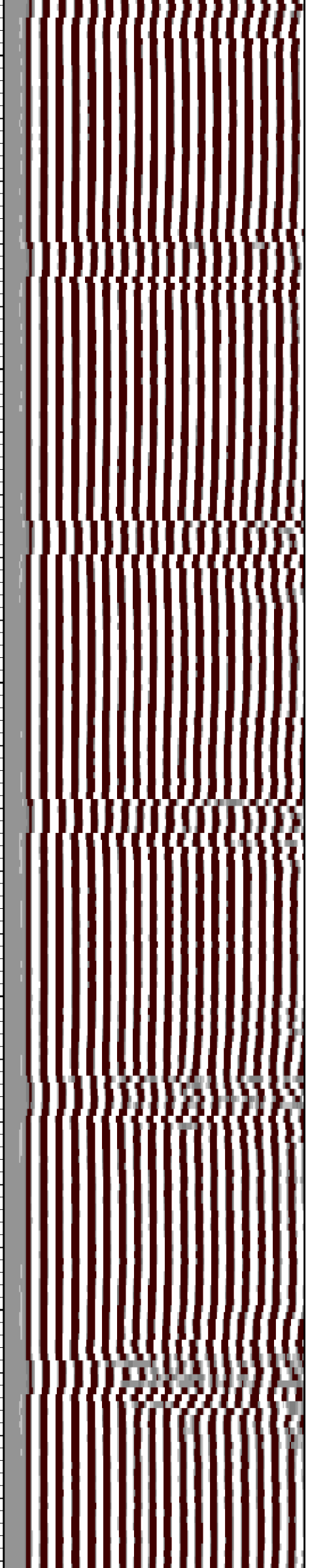
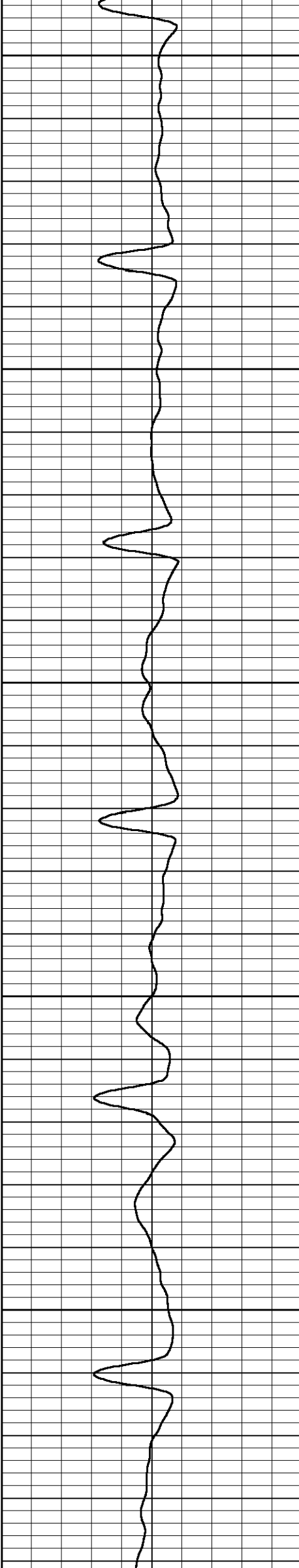
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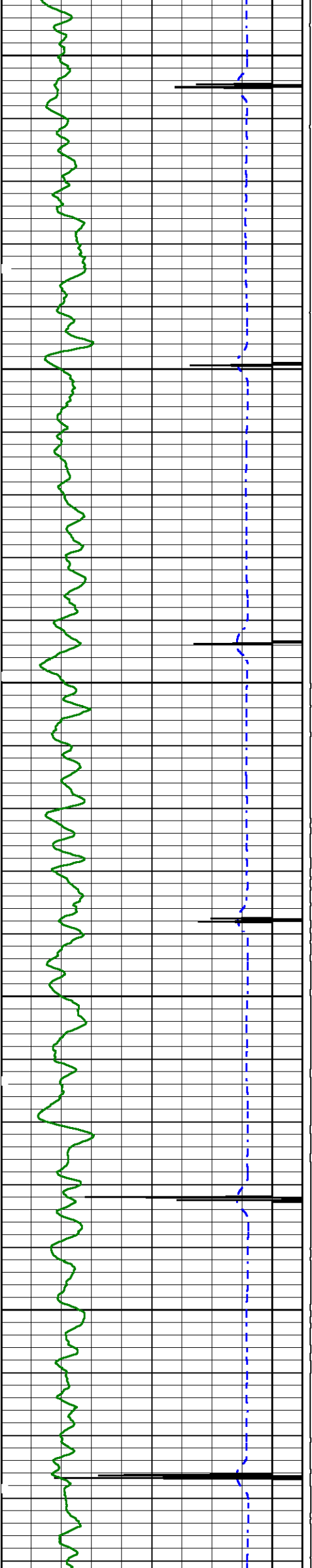




700

800

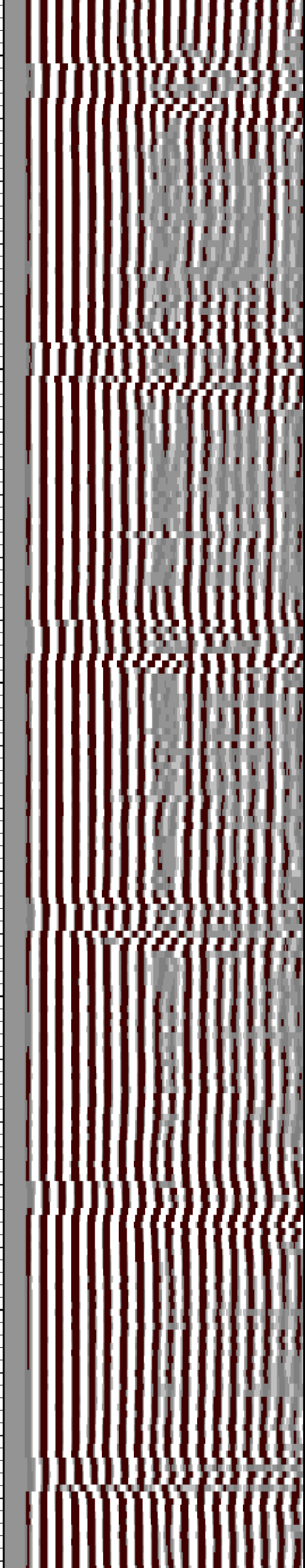
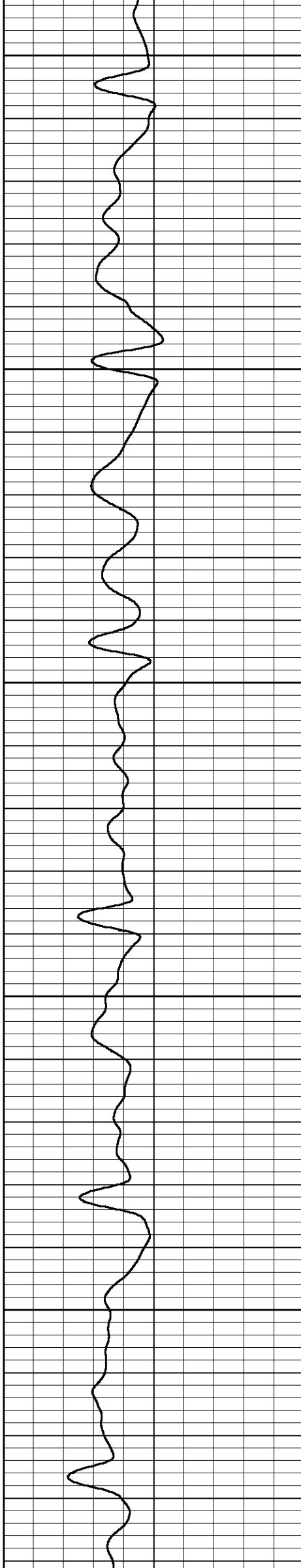


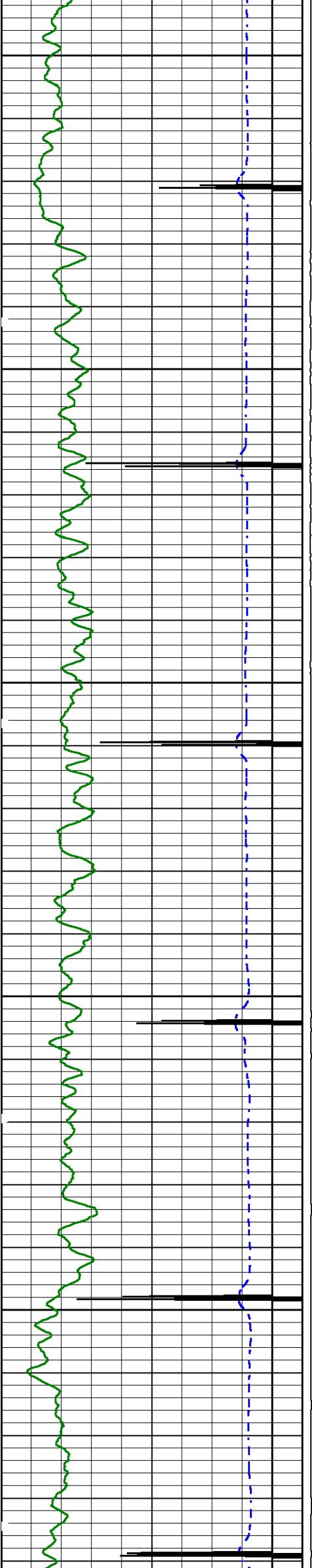


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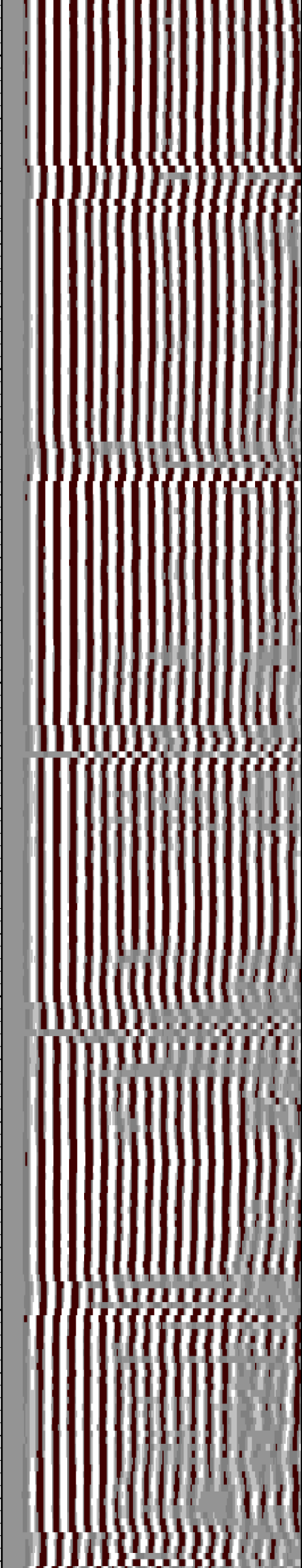
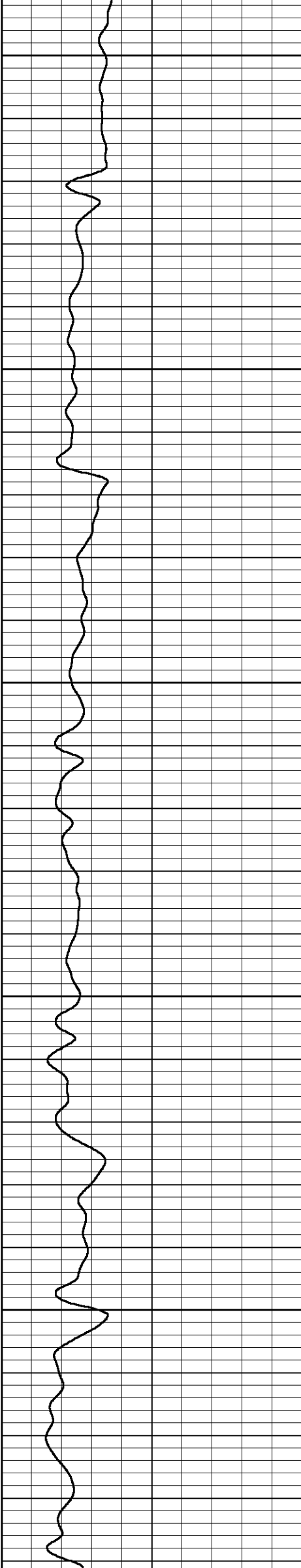
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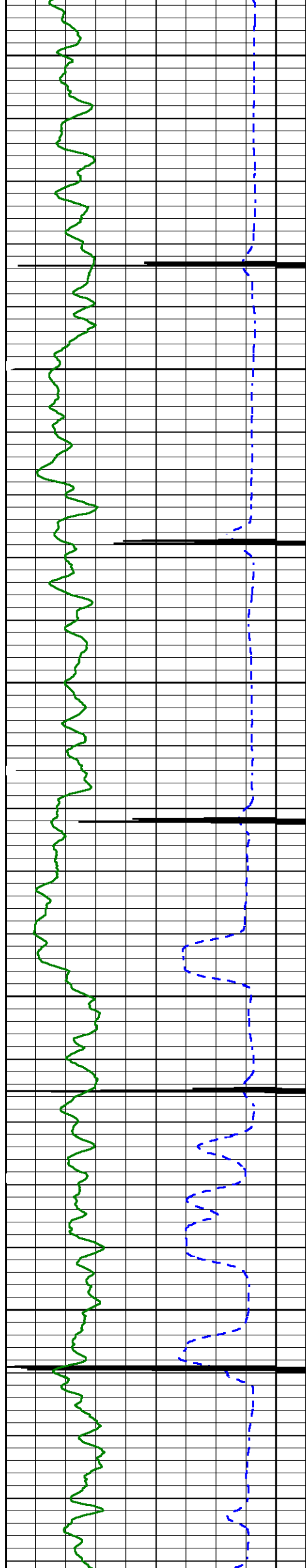




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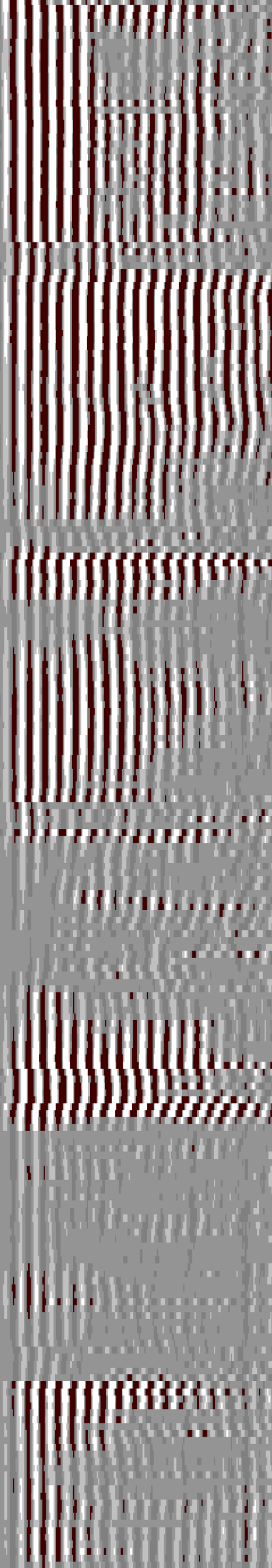


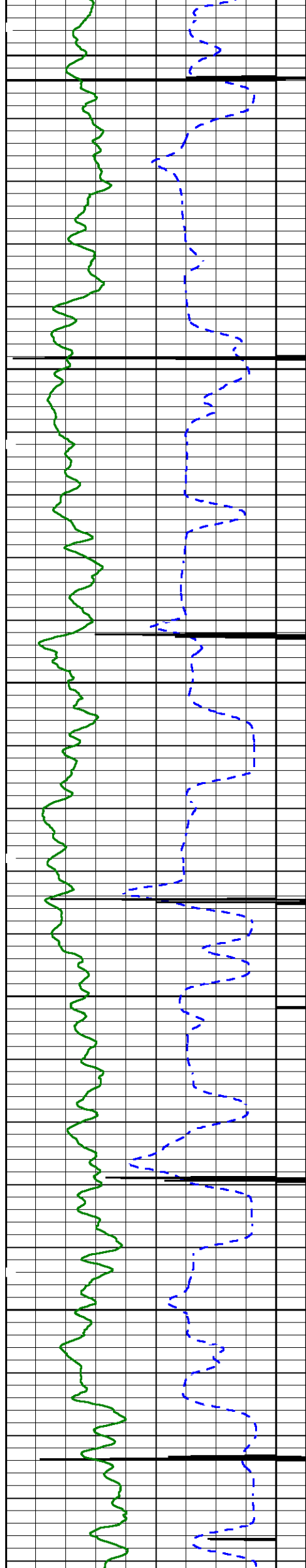


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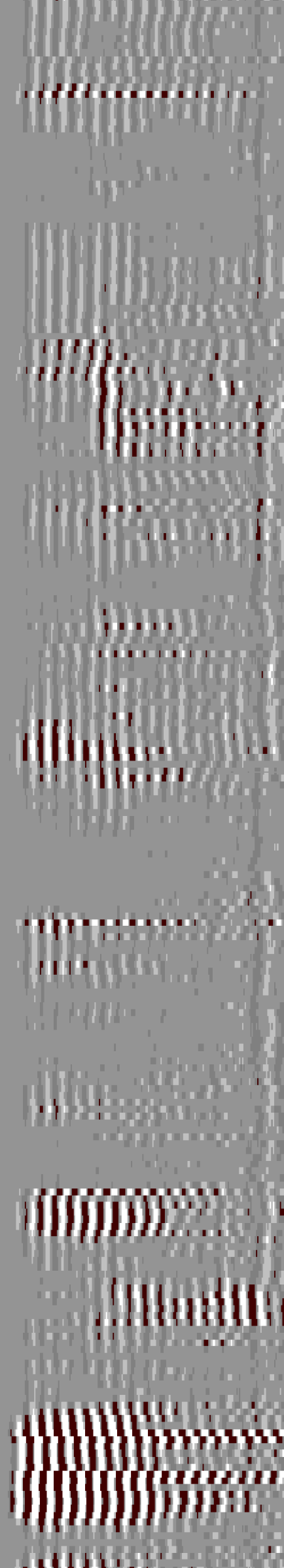
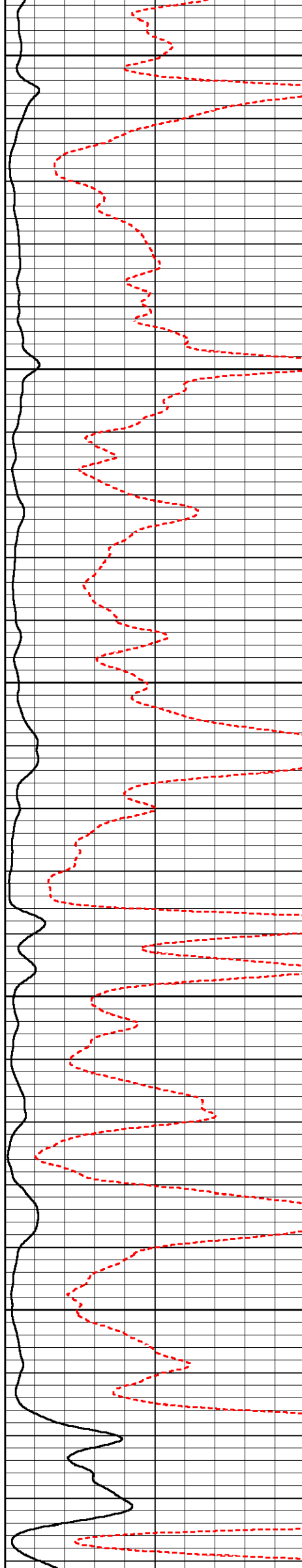
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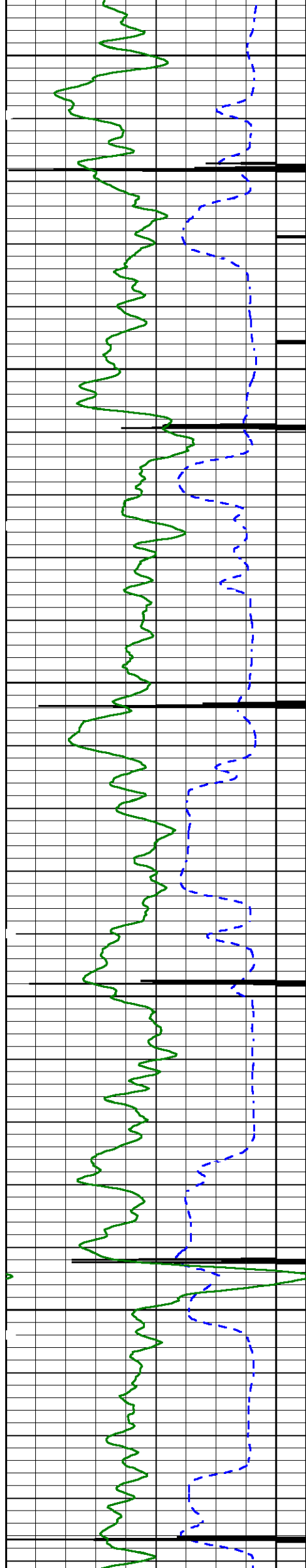




1700

1800

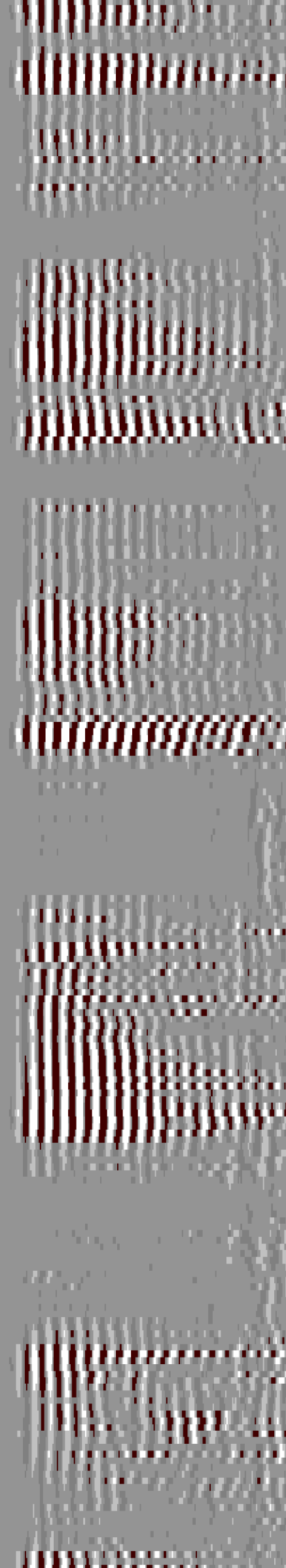
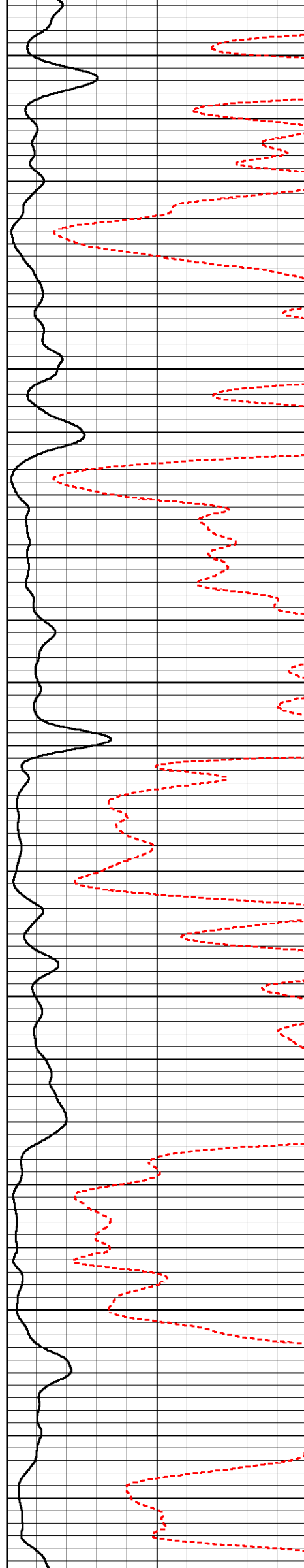


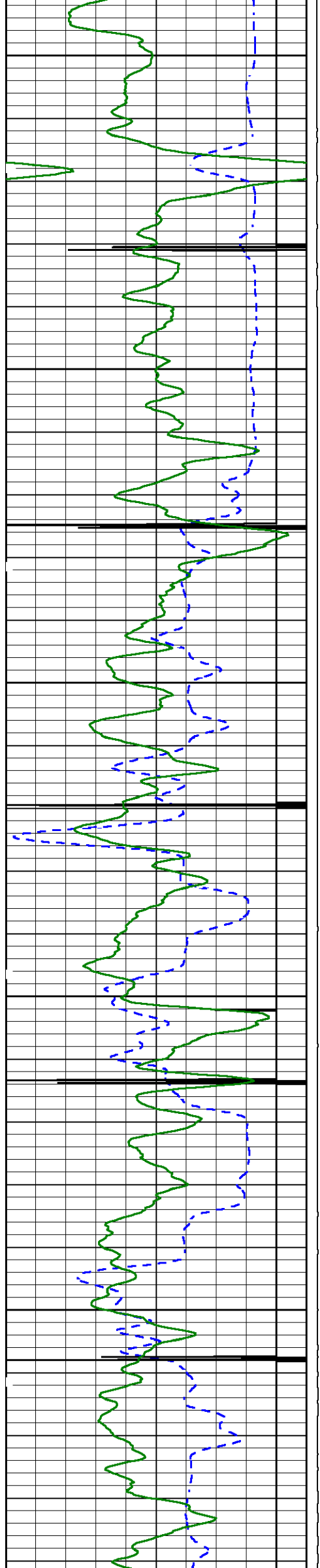


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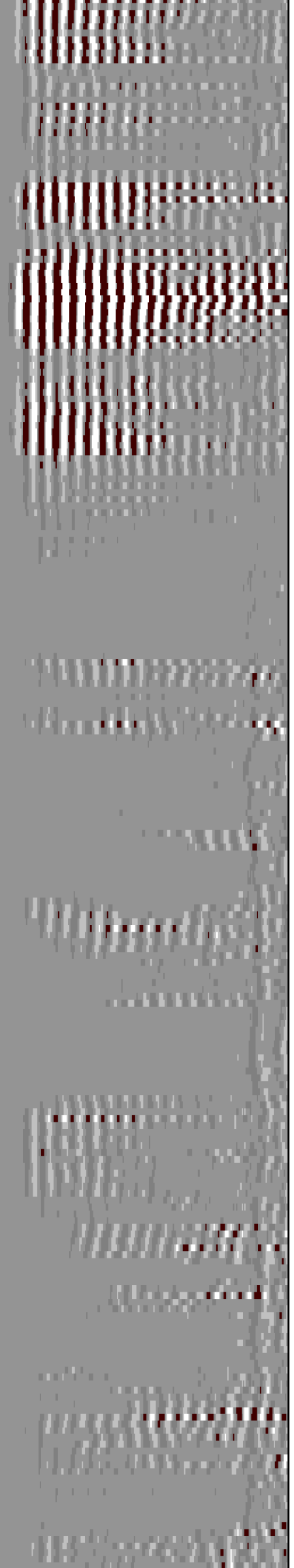
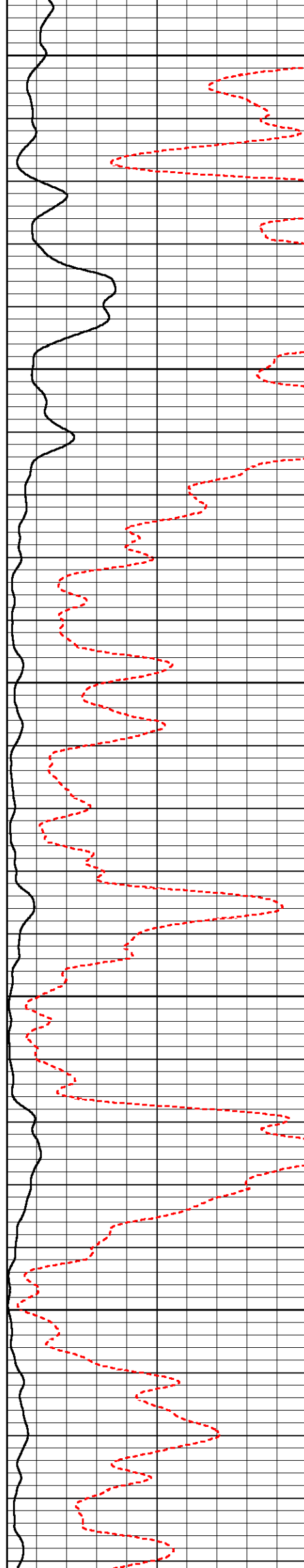
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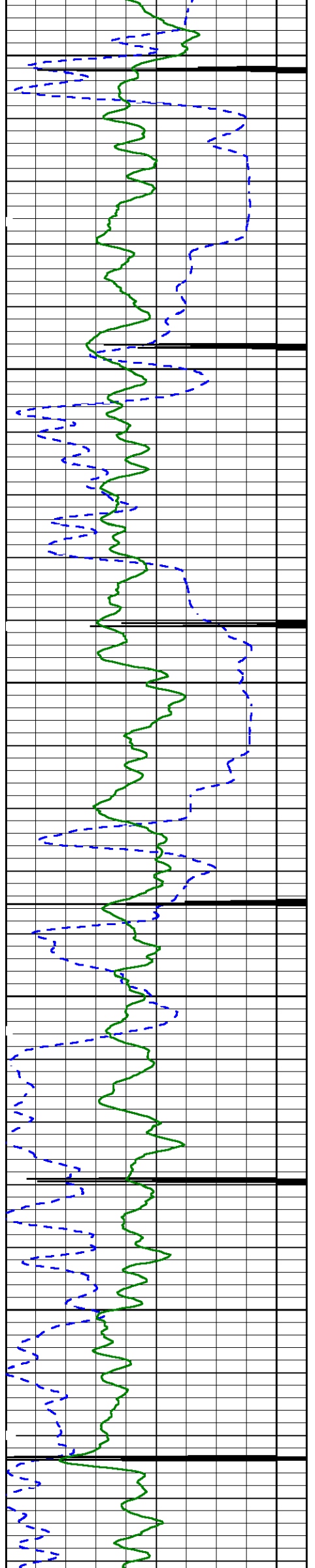




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2300

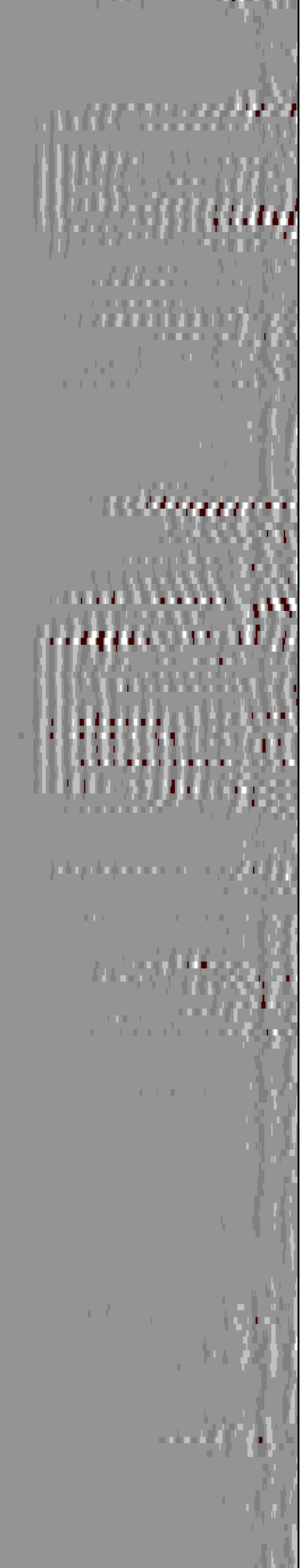
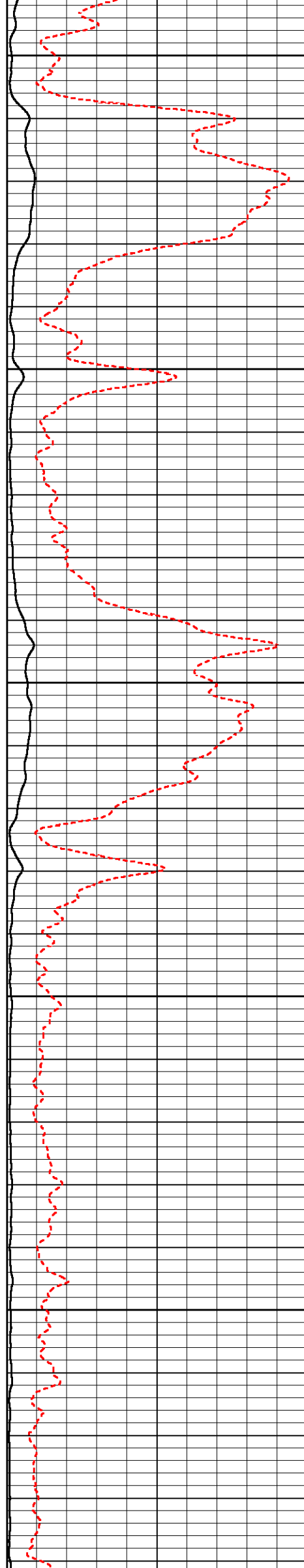


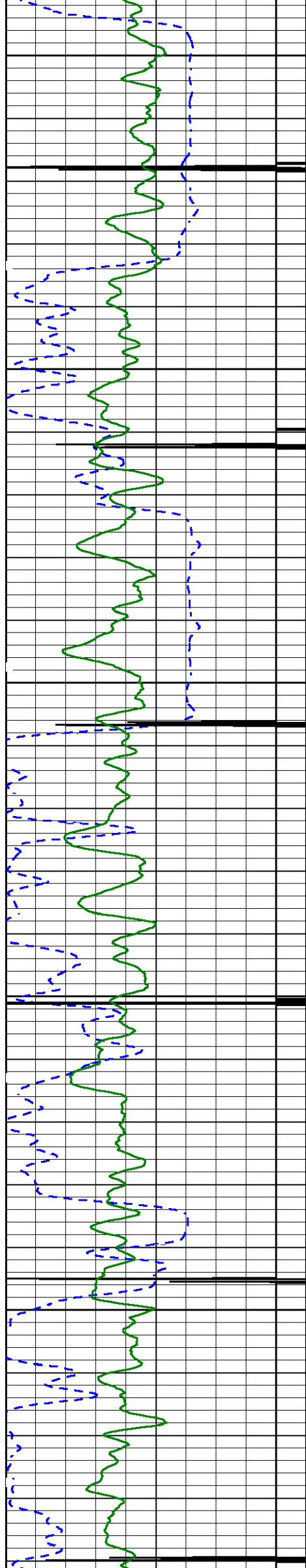


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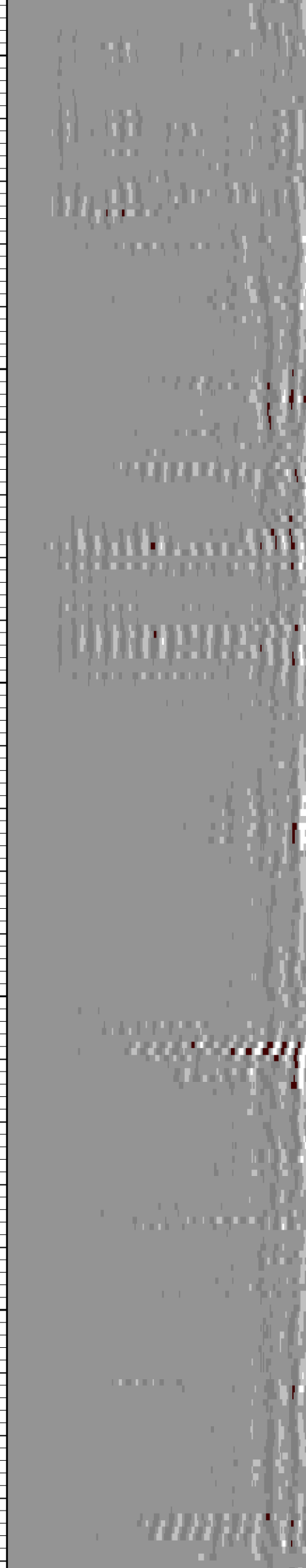
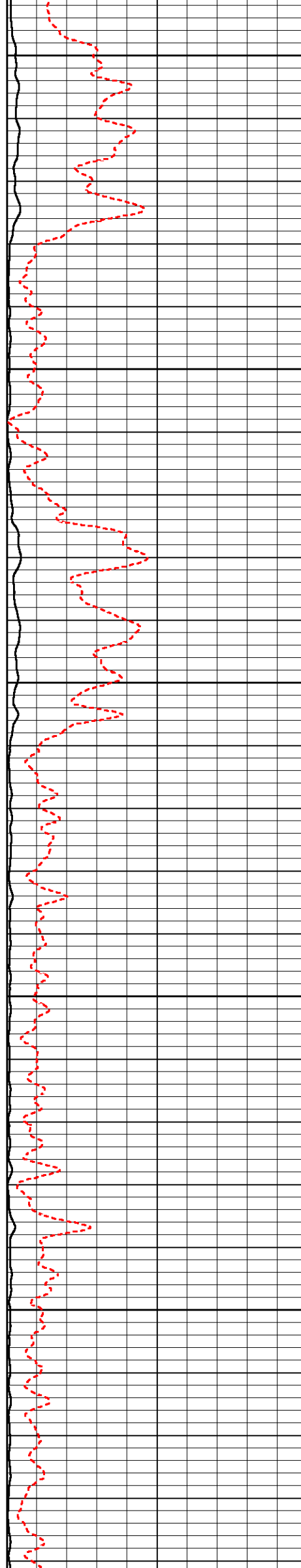
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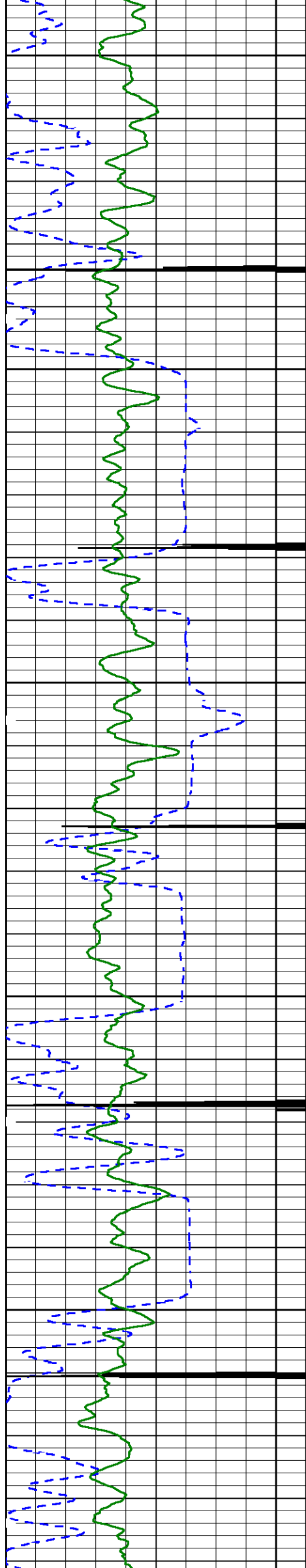




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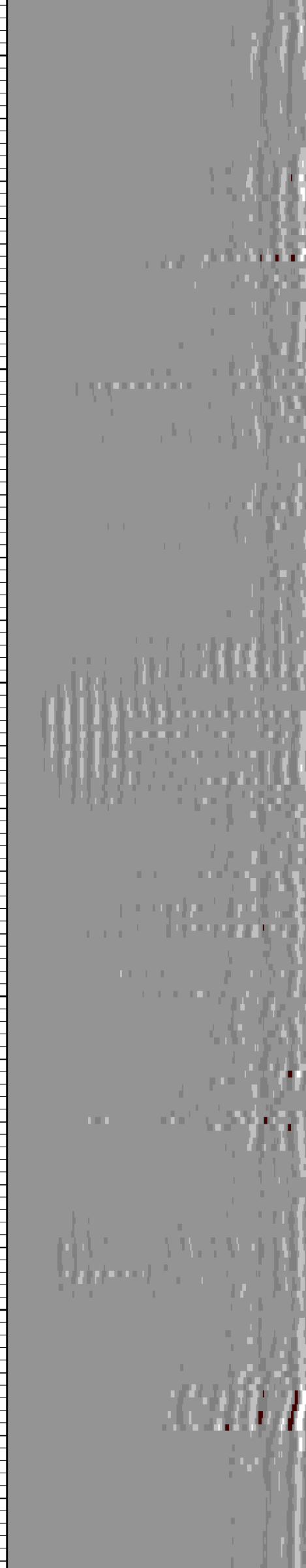


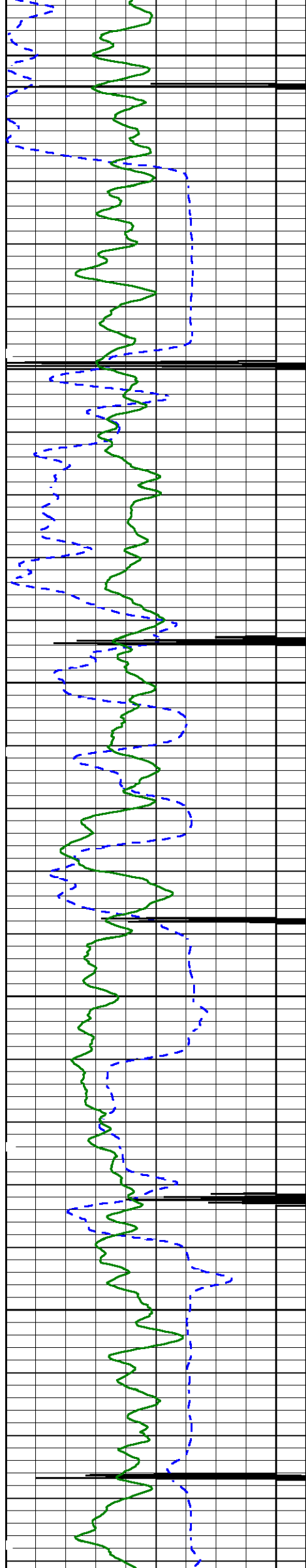


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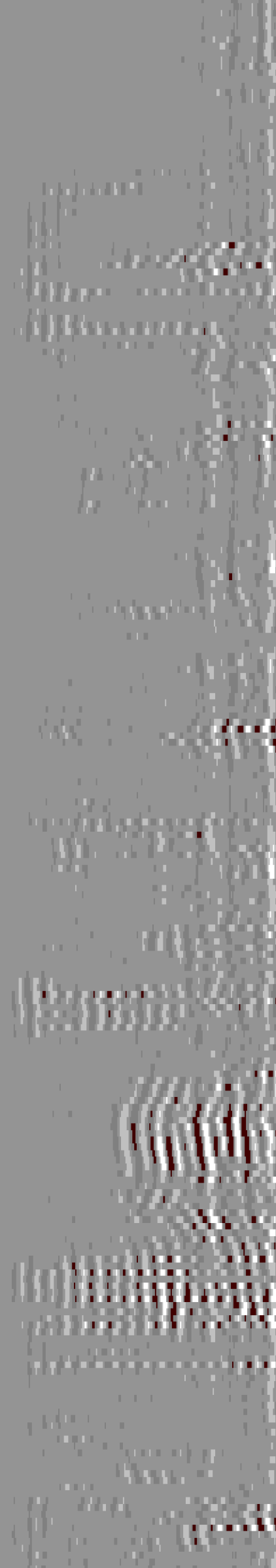
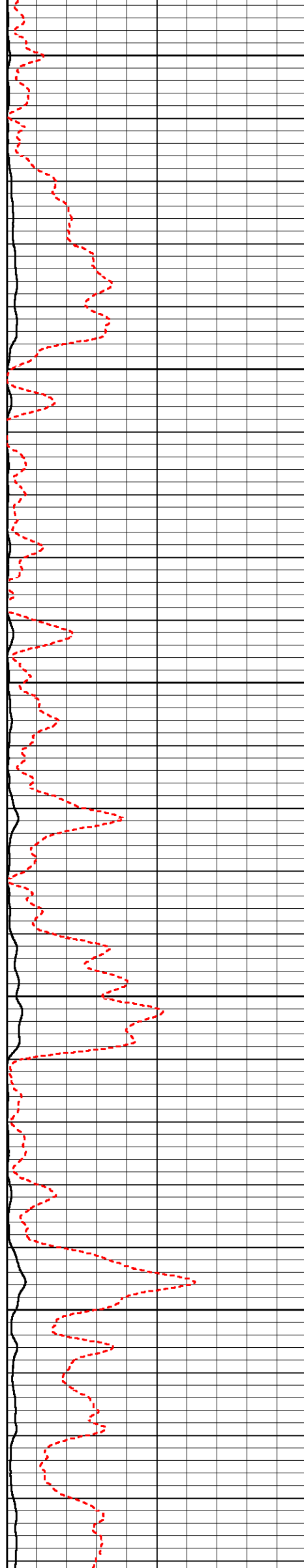
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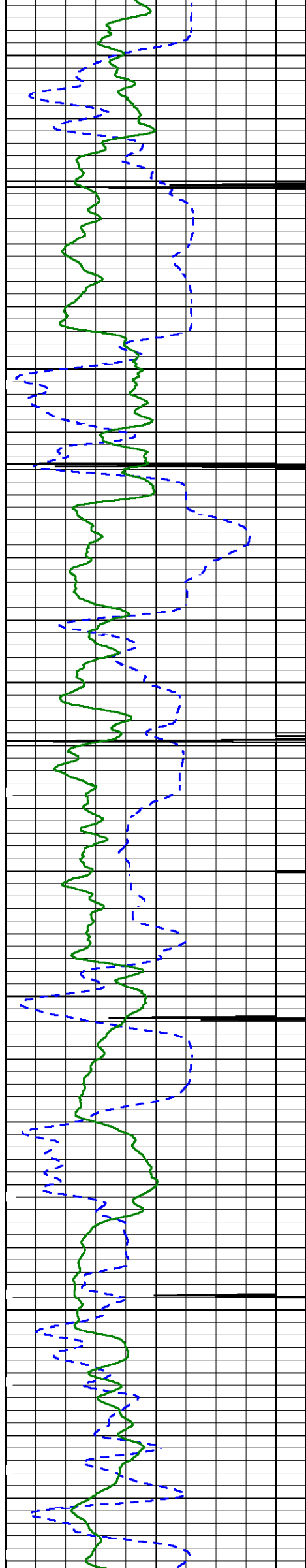




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3300

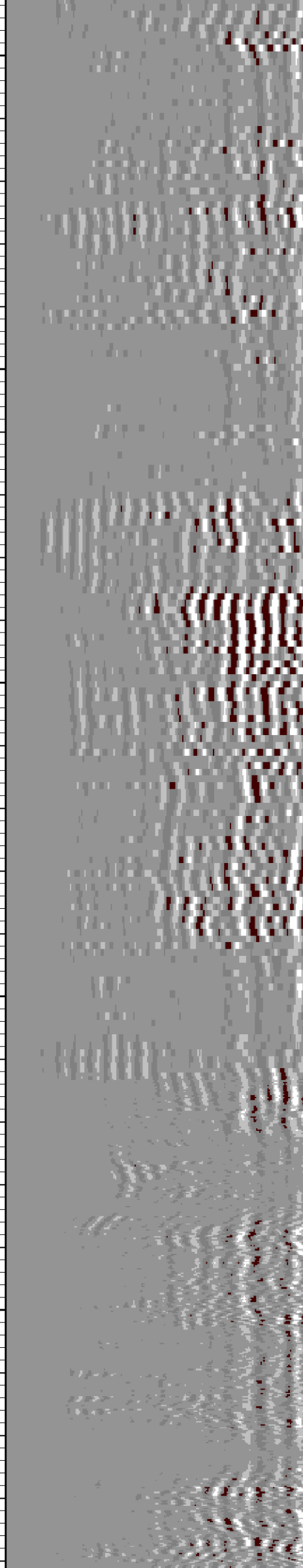
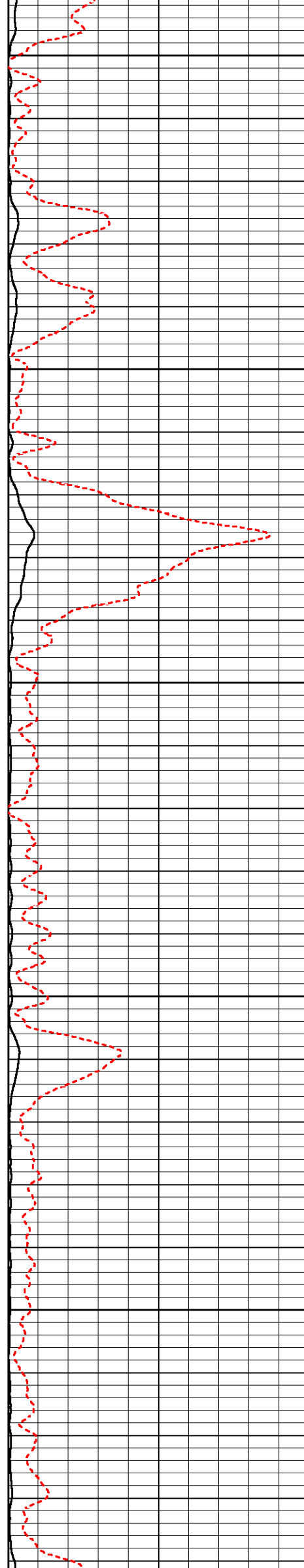


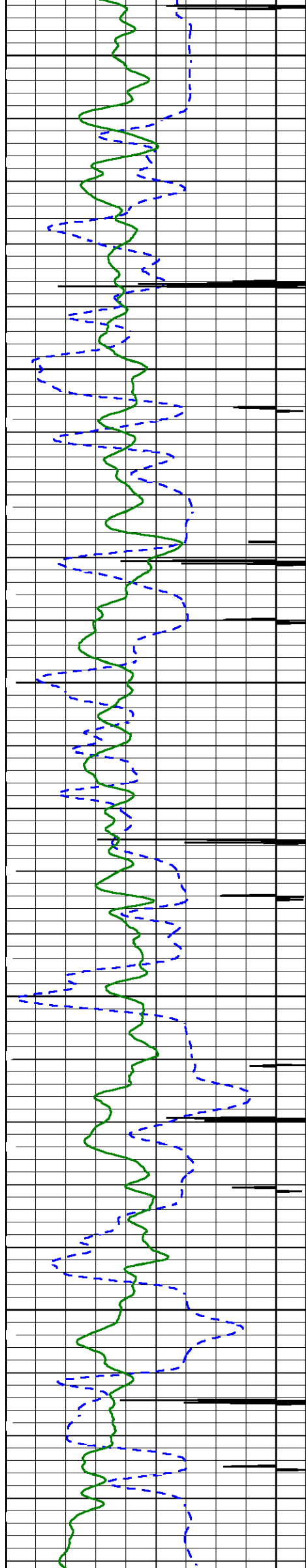


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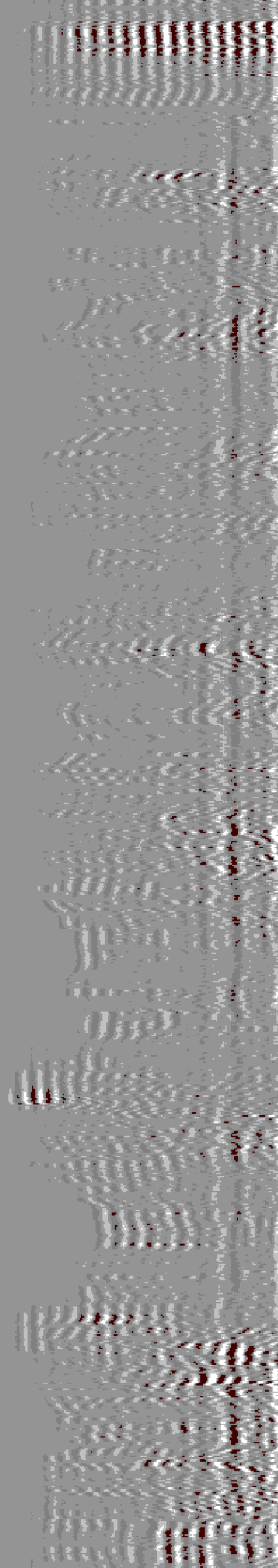
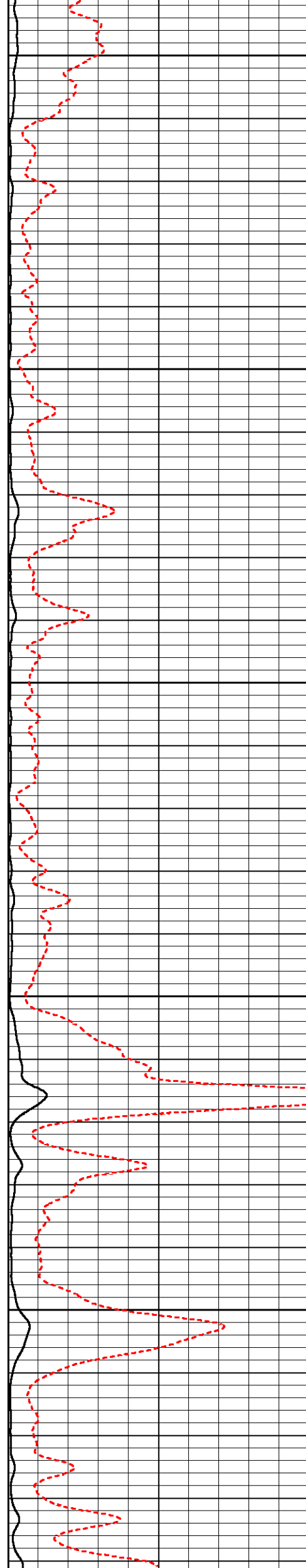
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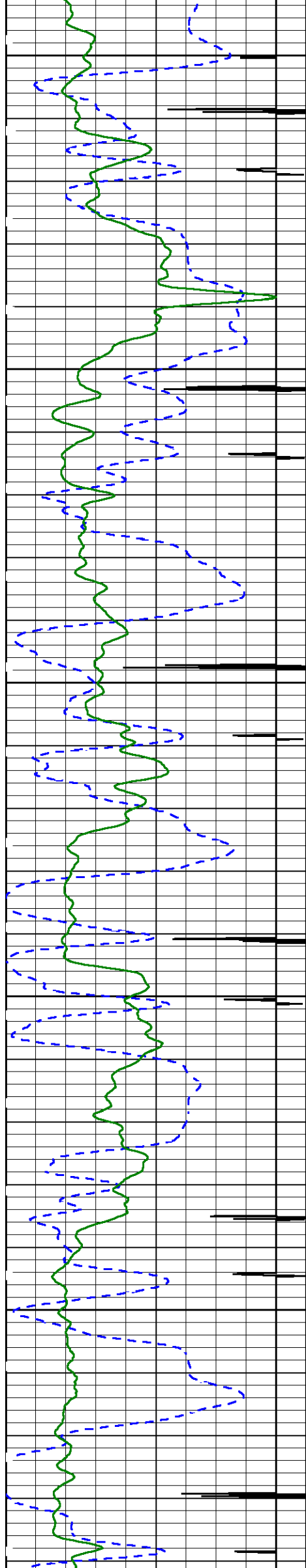




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3800

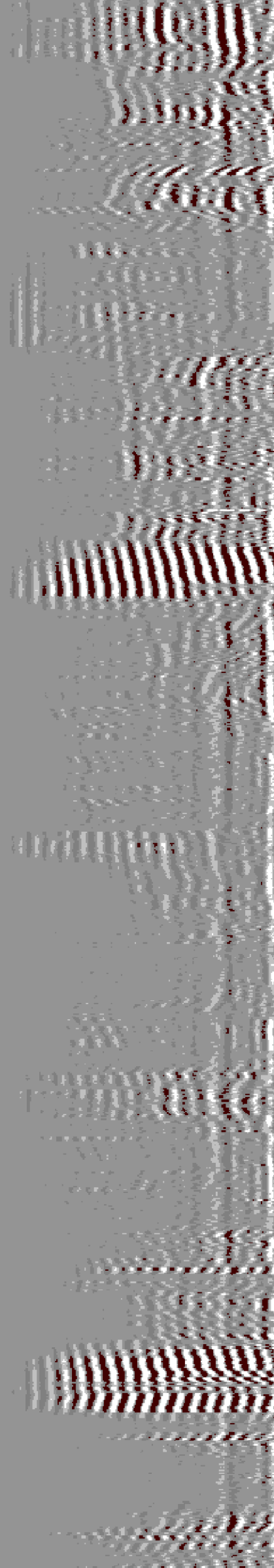
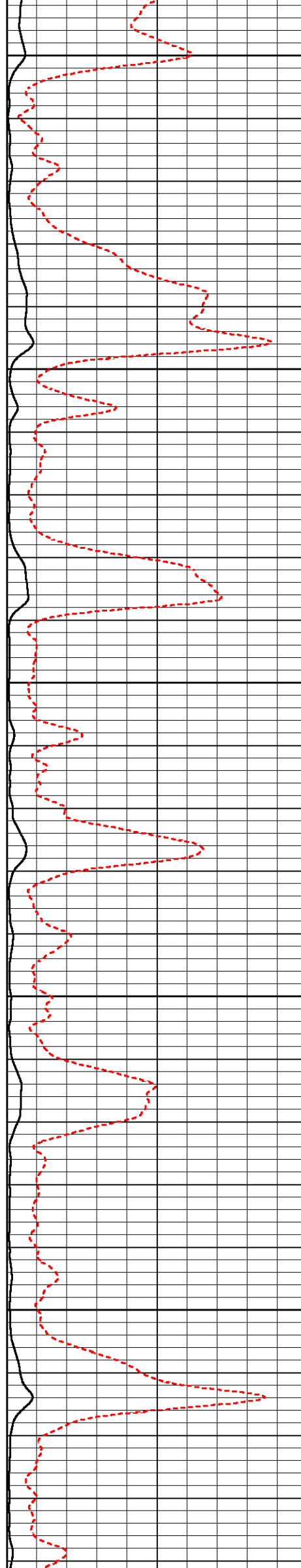


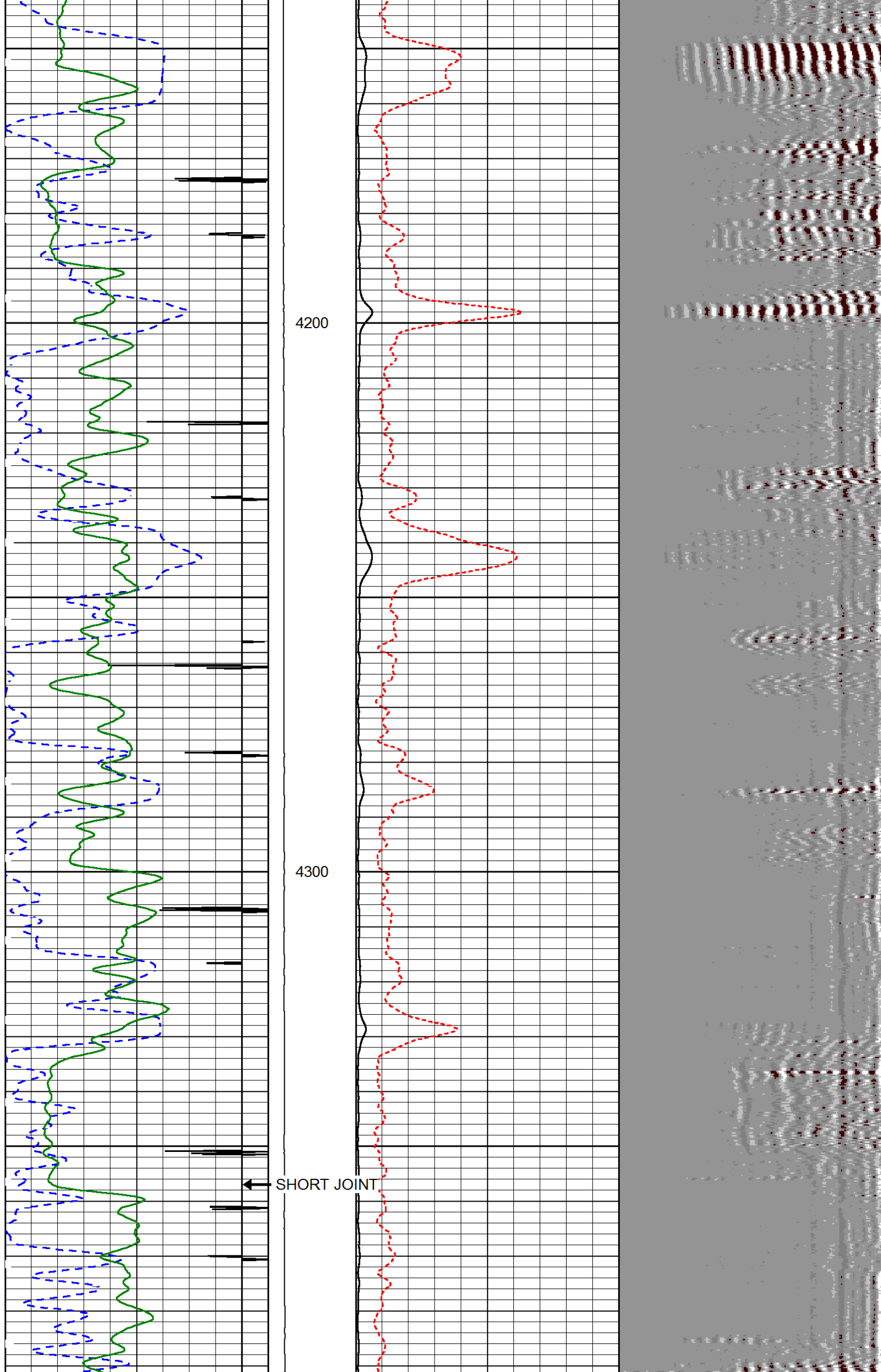


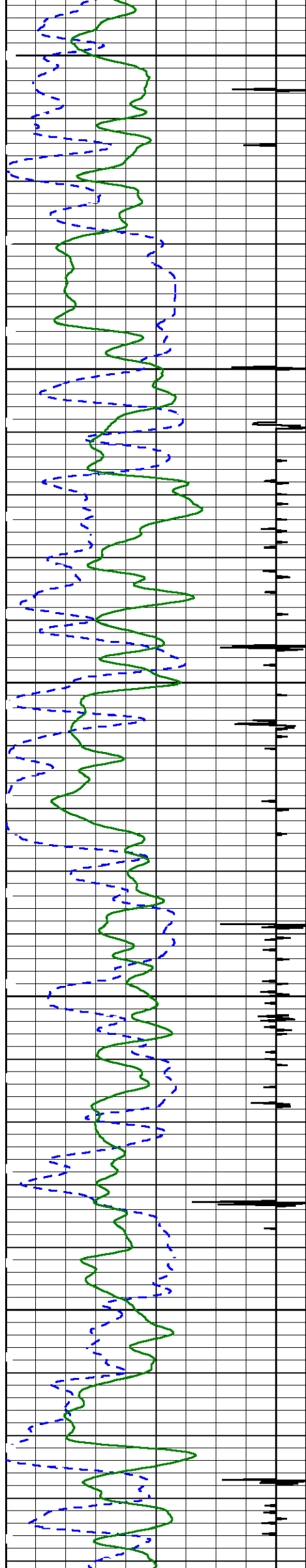
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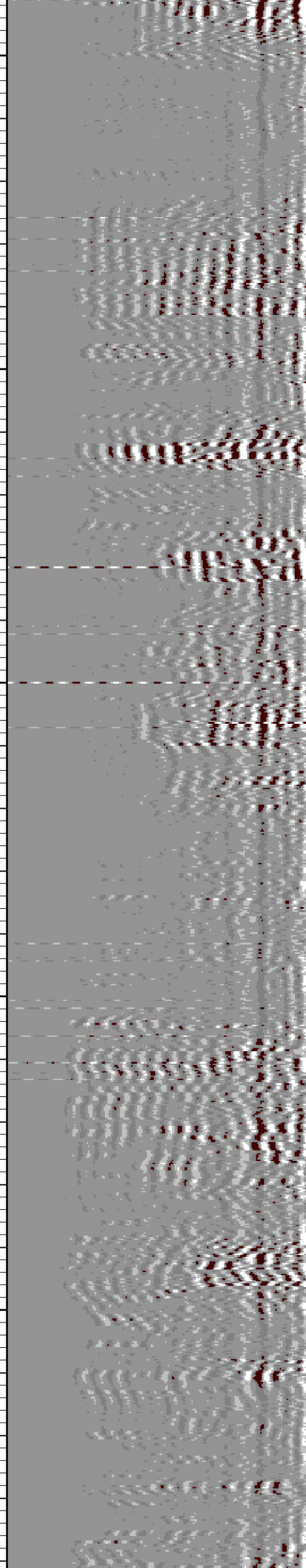
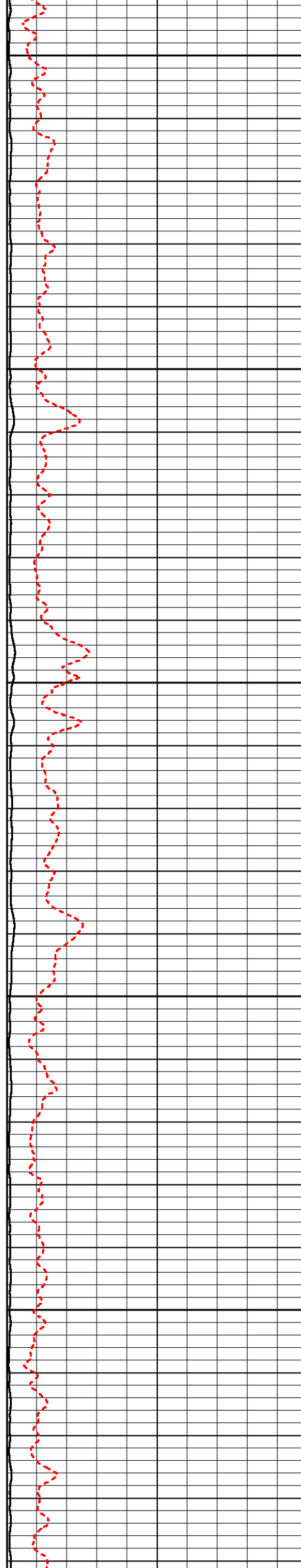


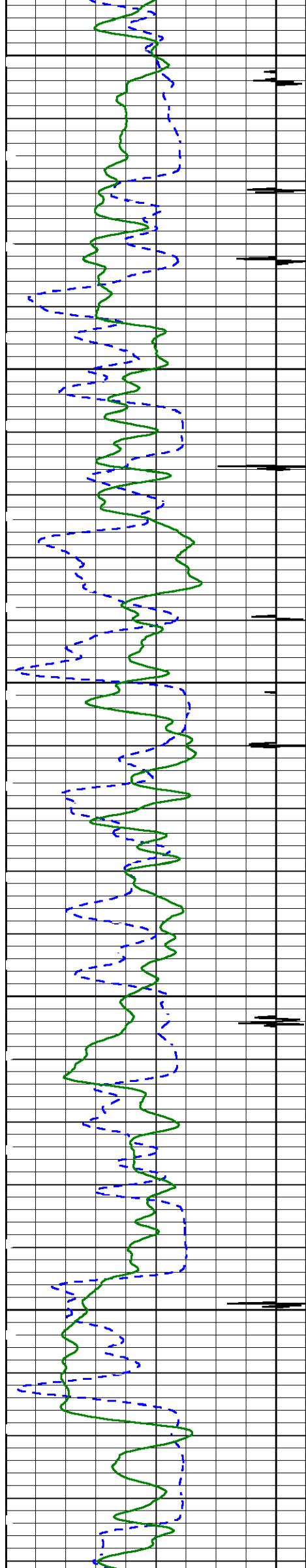


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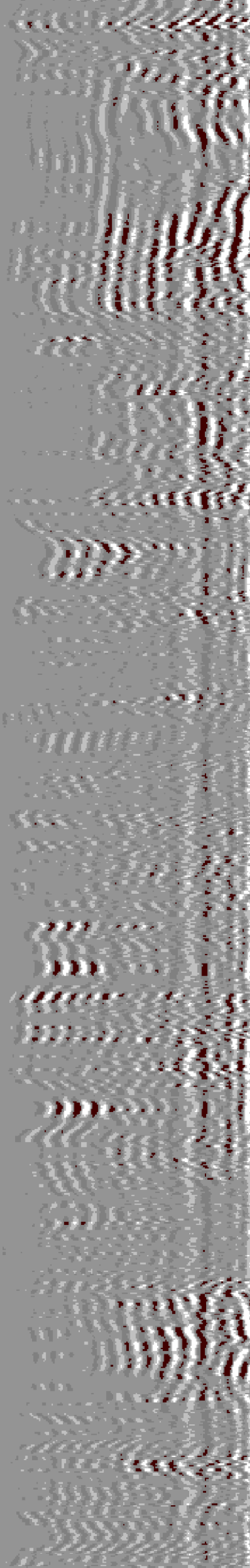
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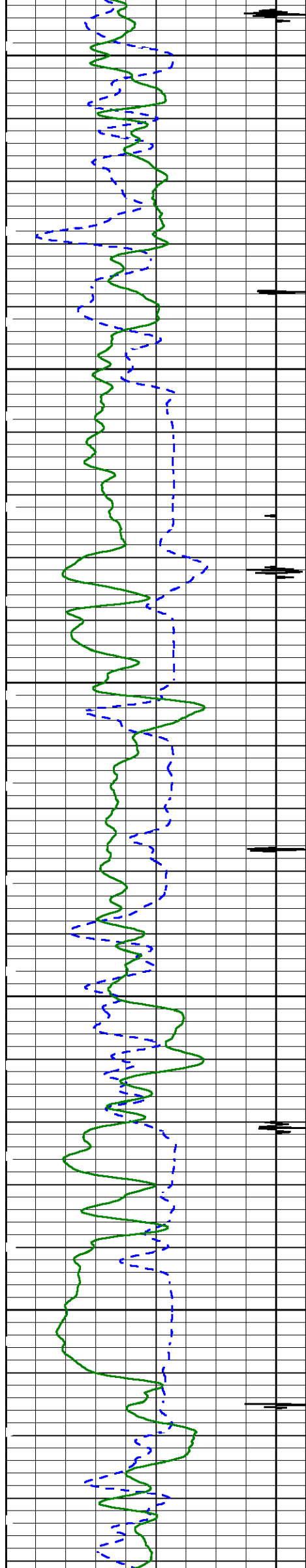




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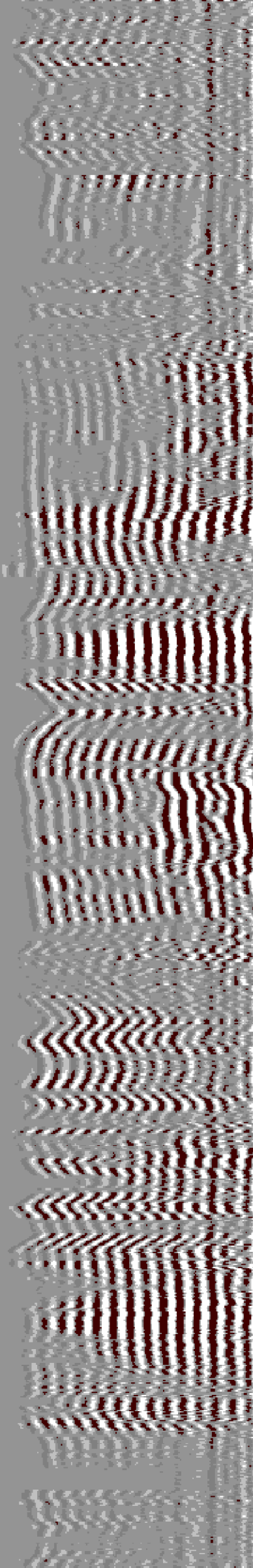
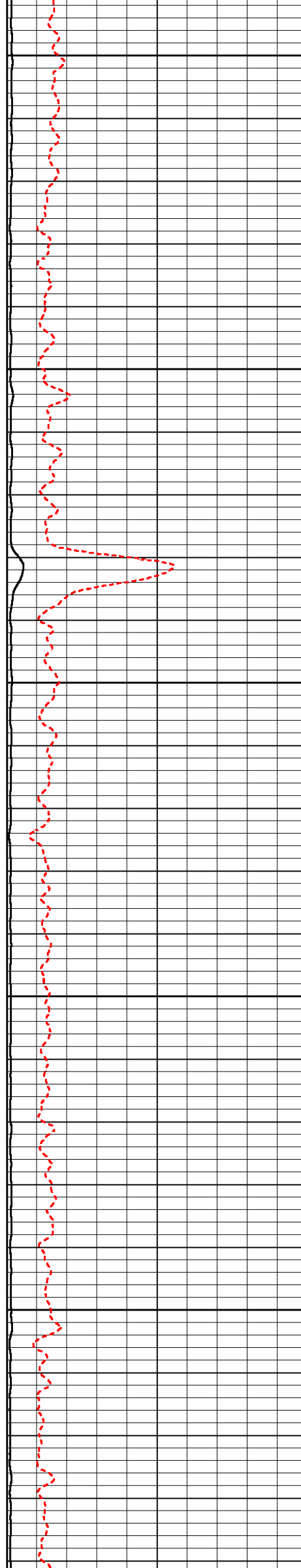


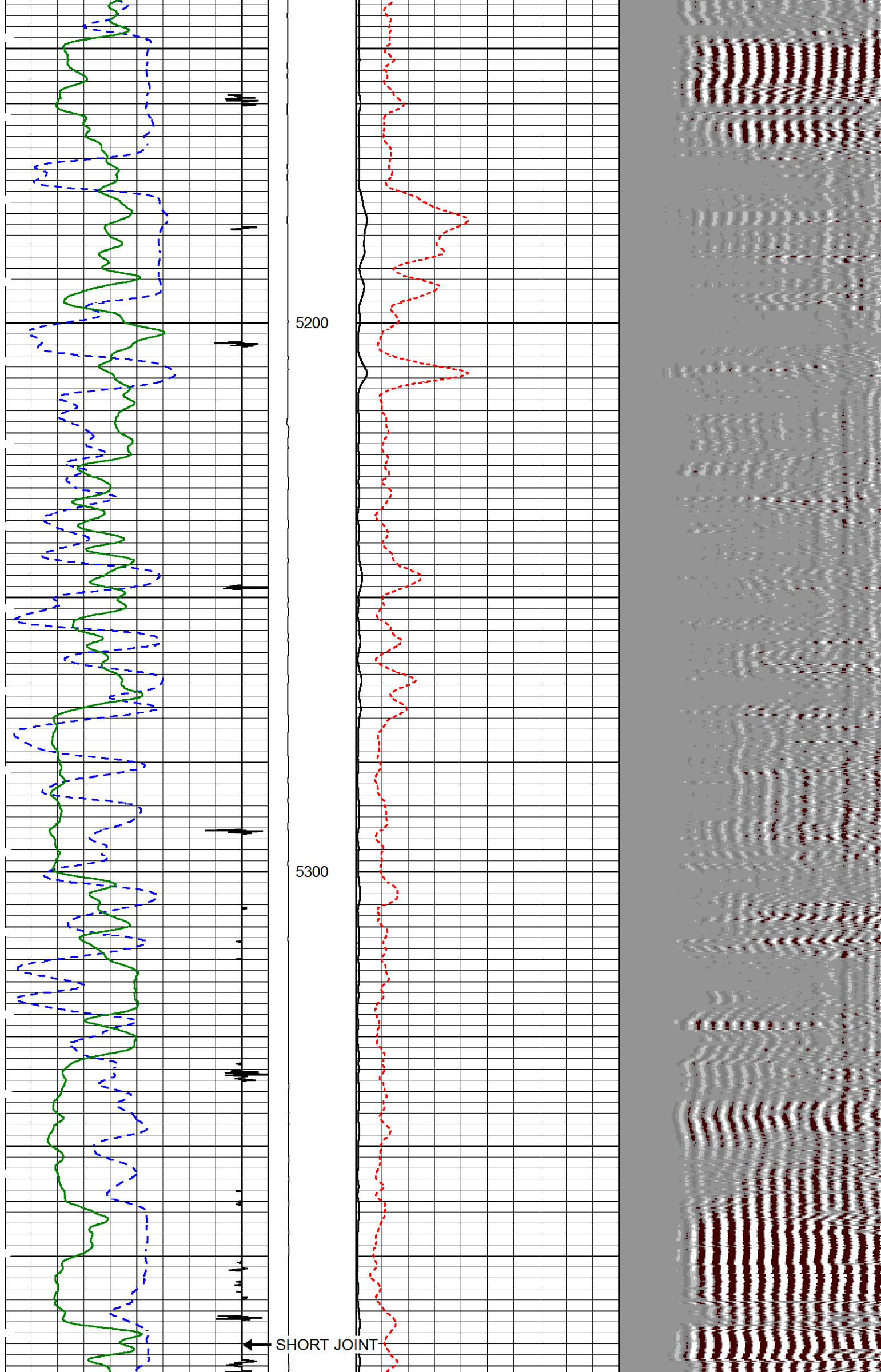


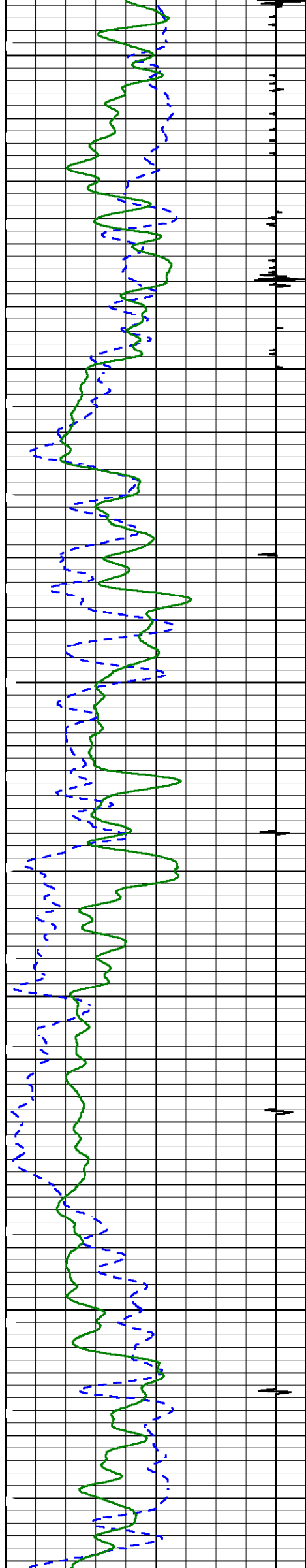
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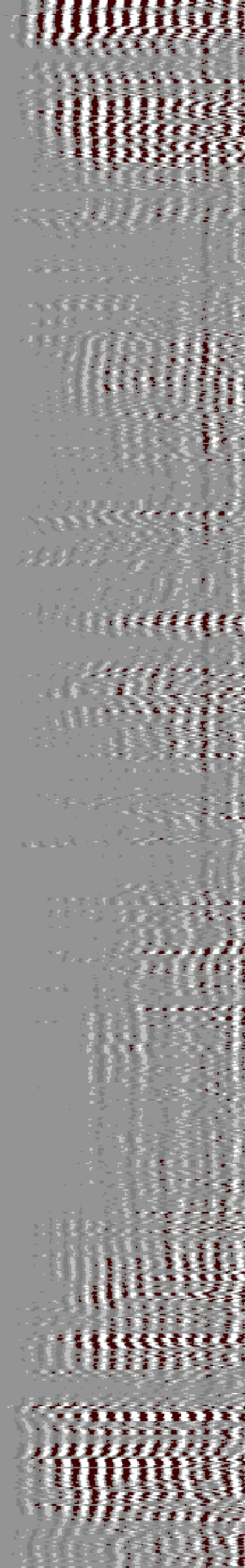
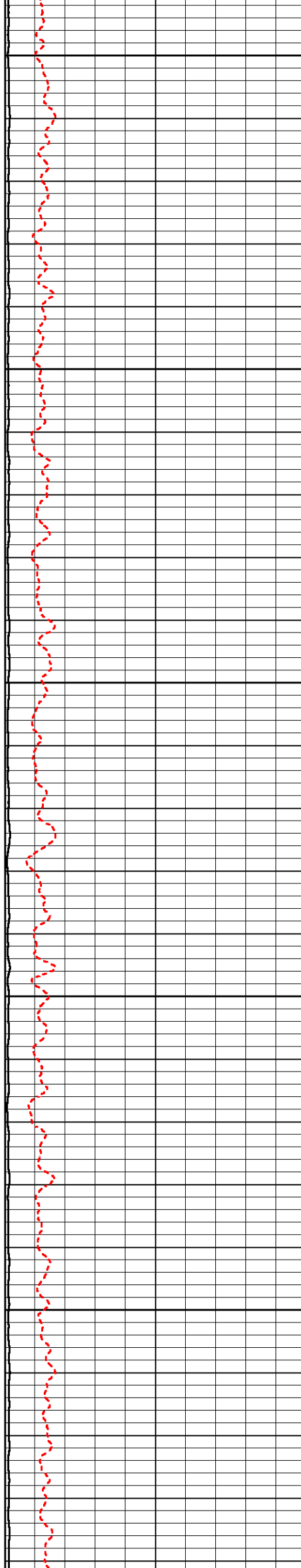


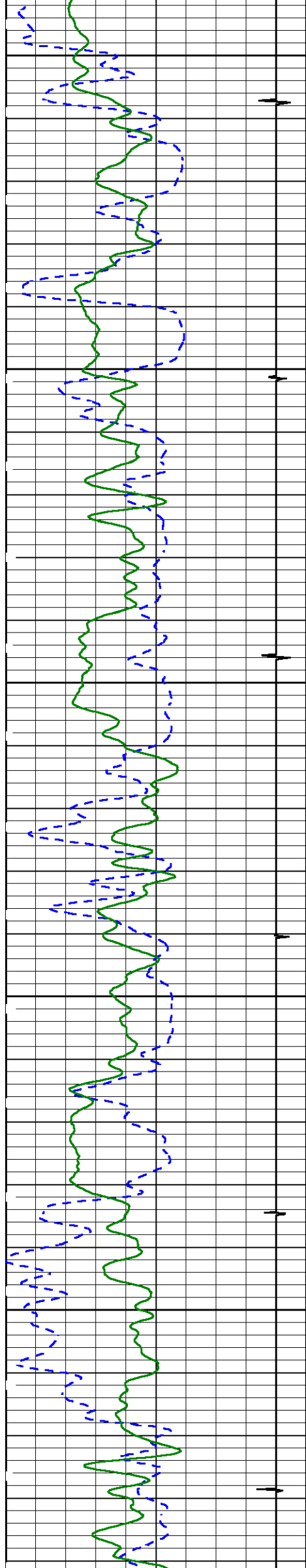


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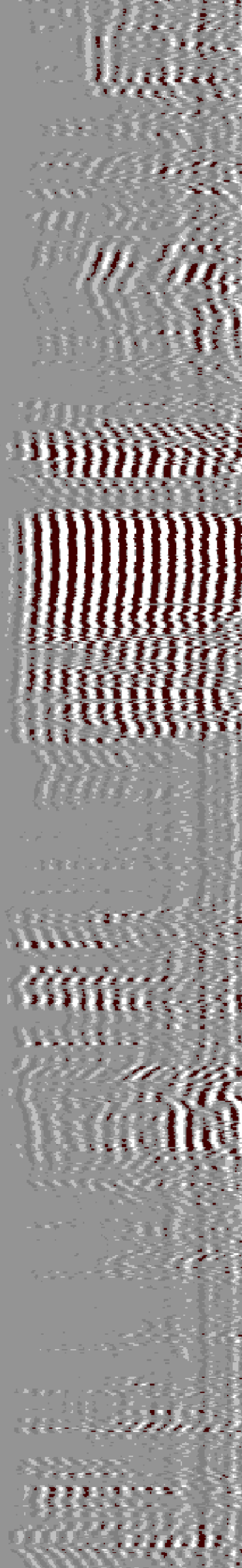
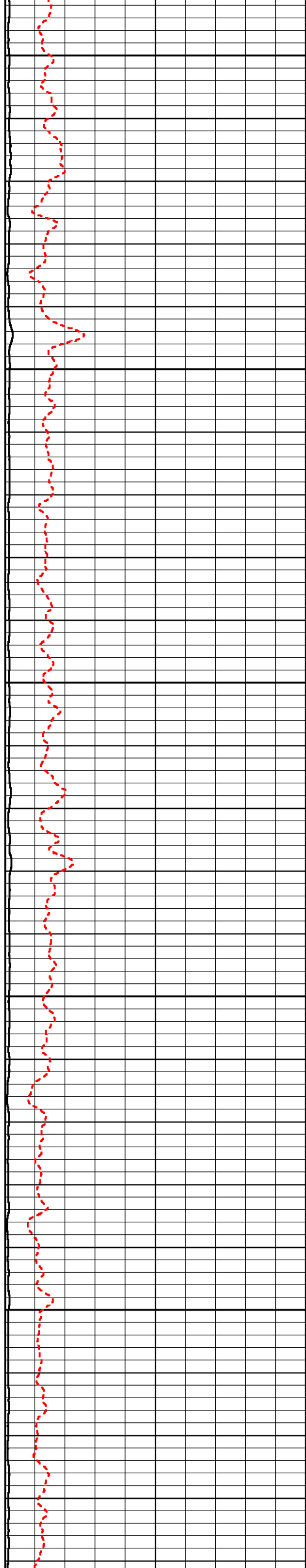
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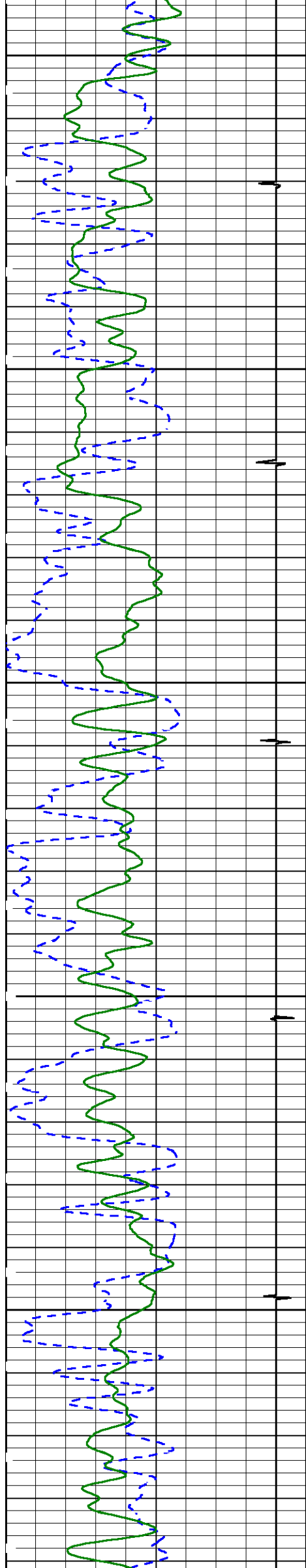




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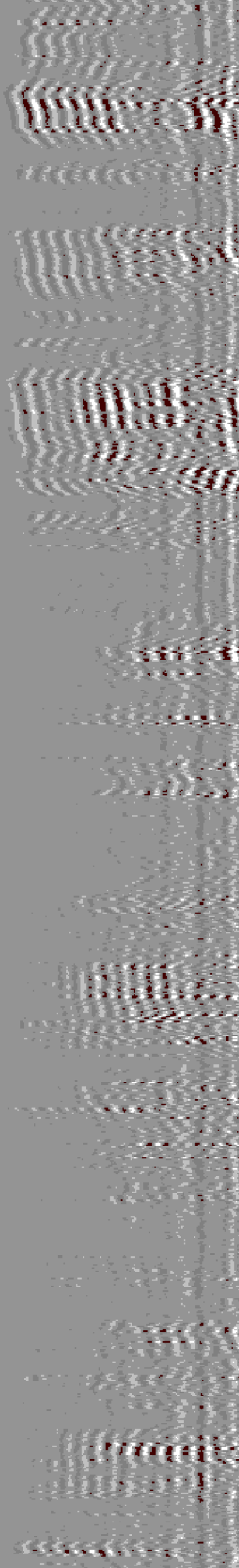
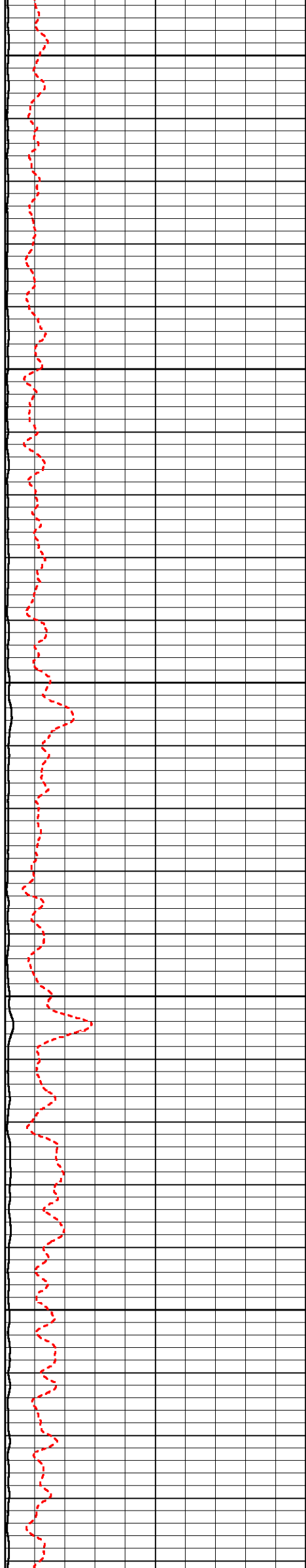


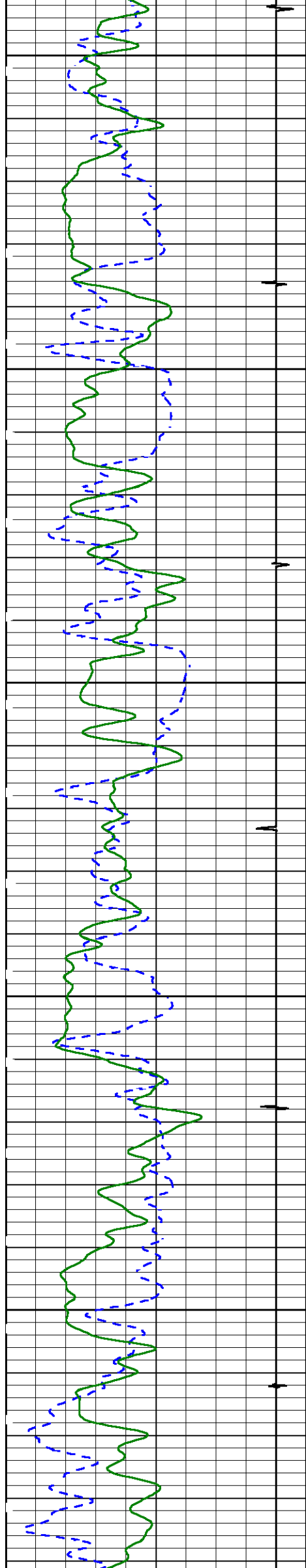


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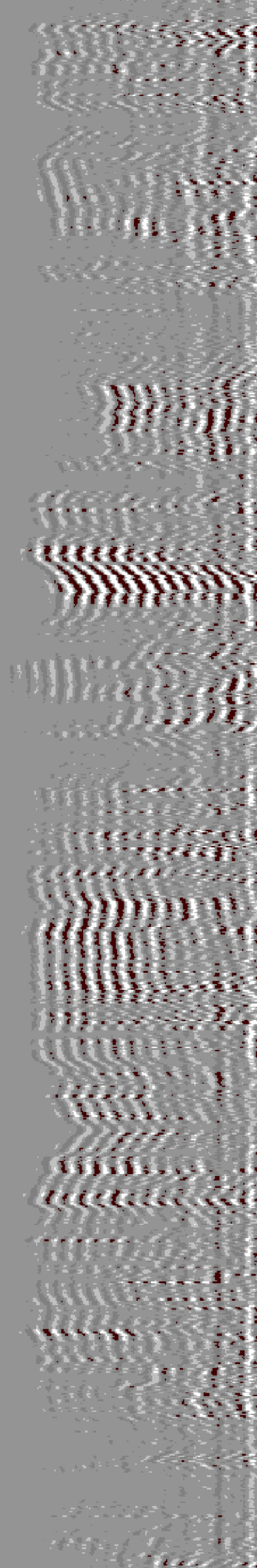
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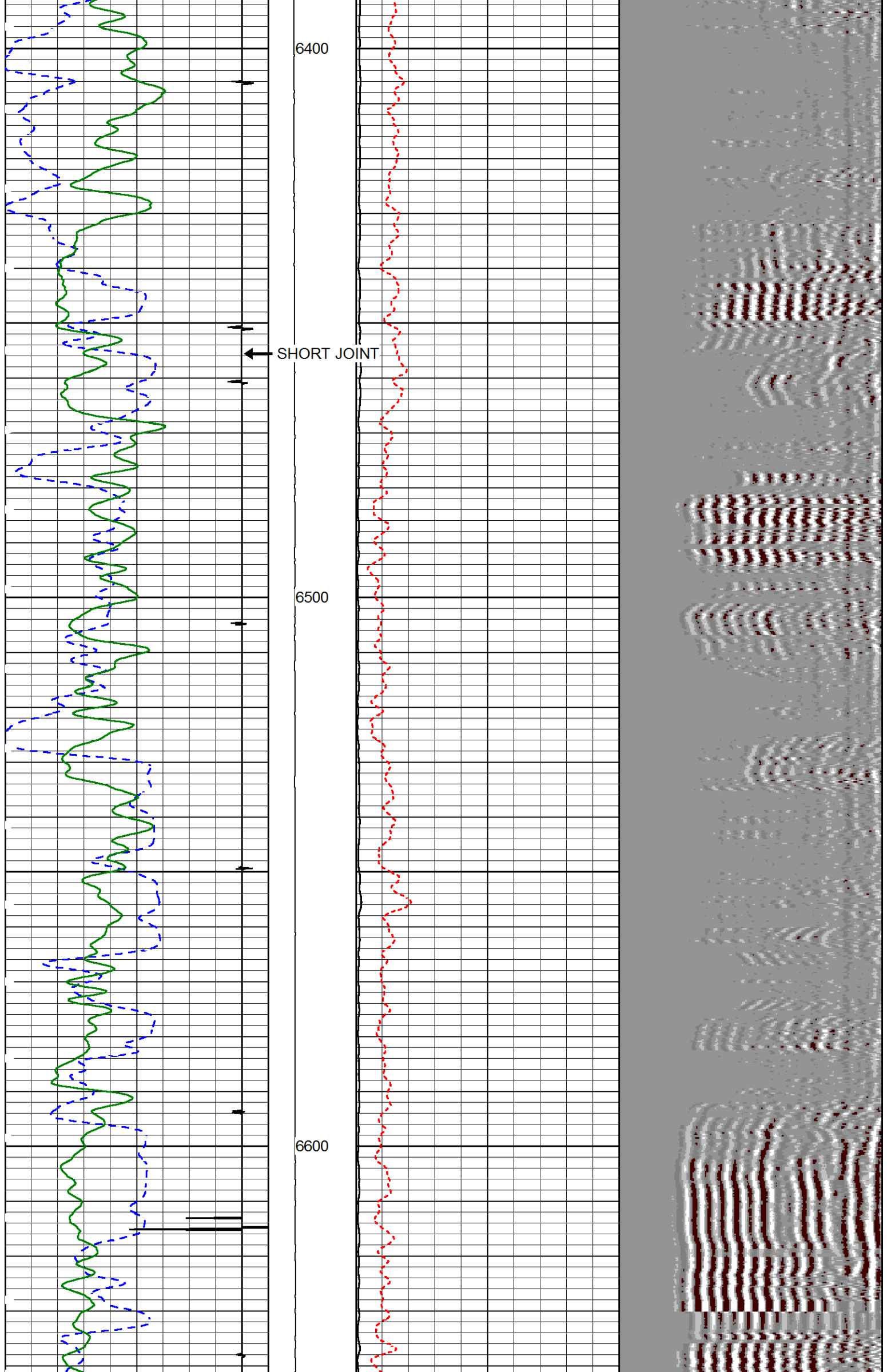


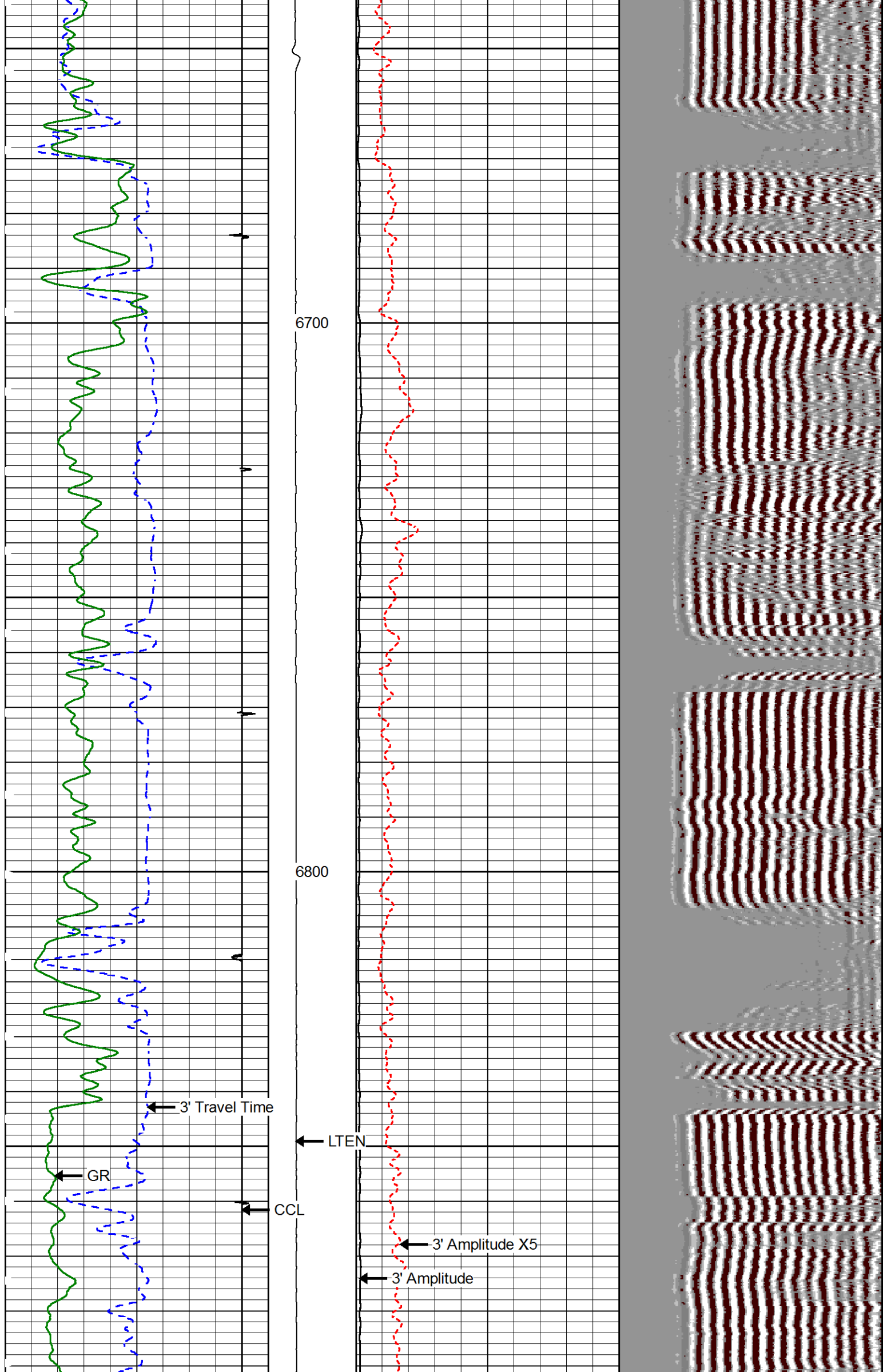


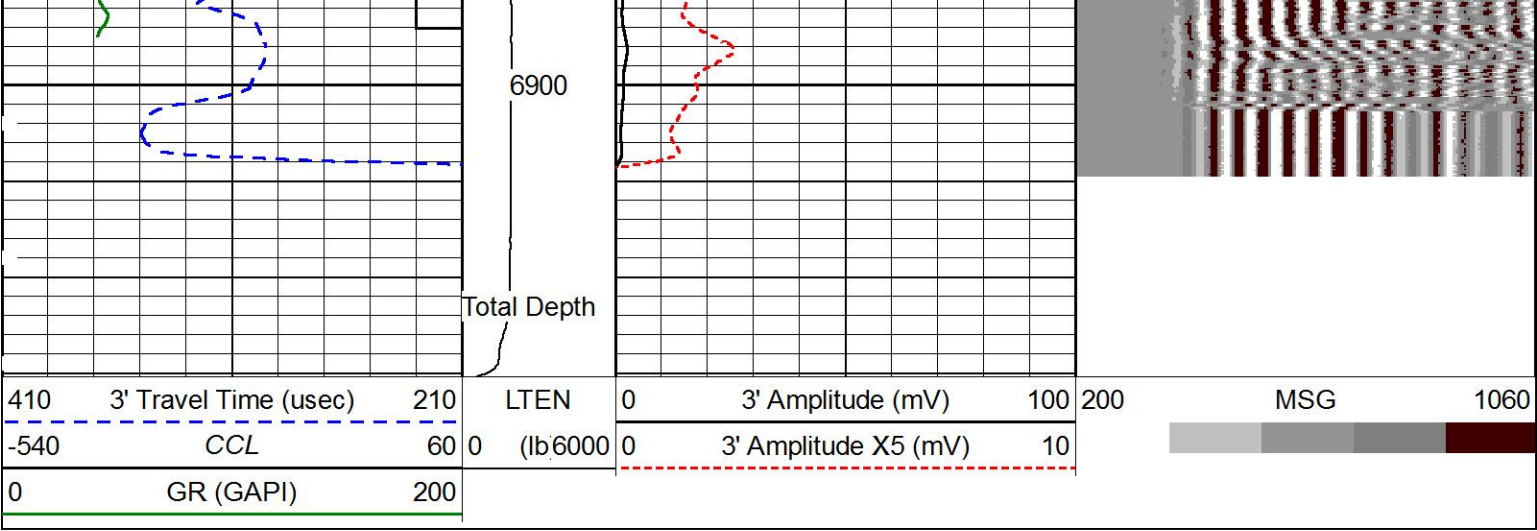
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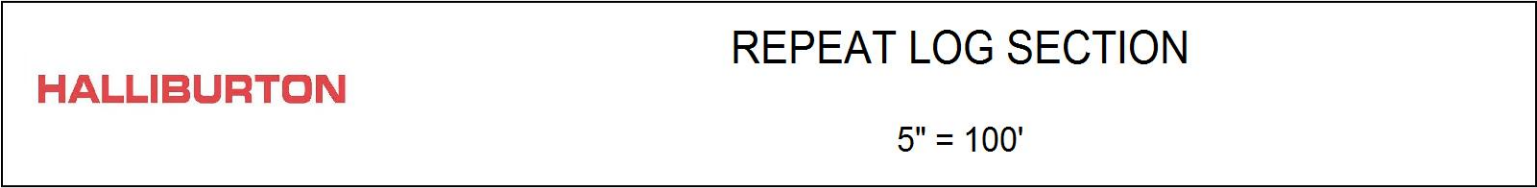




MAIN LOG SECTION

HALLIBURTON

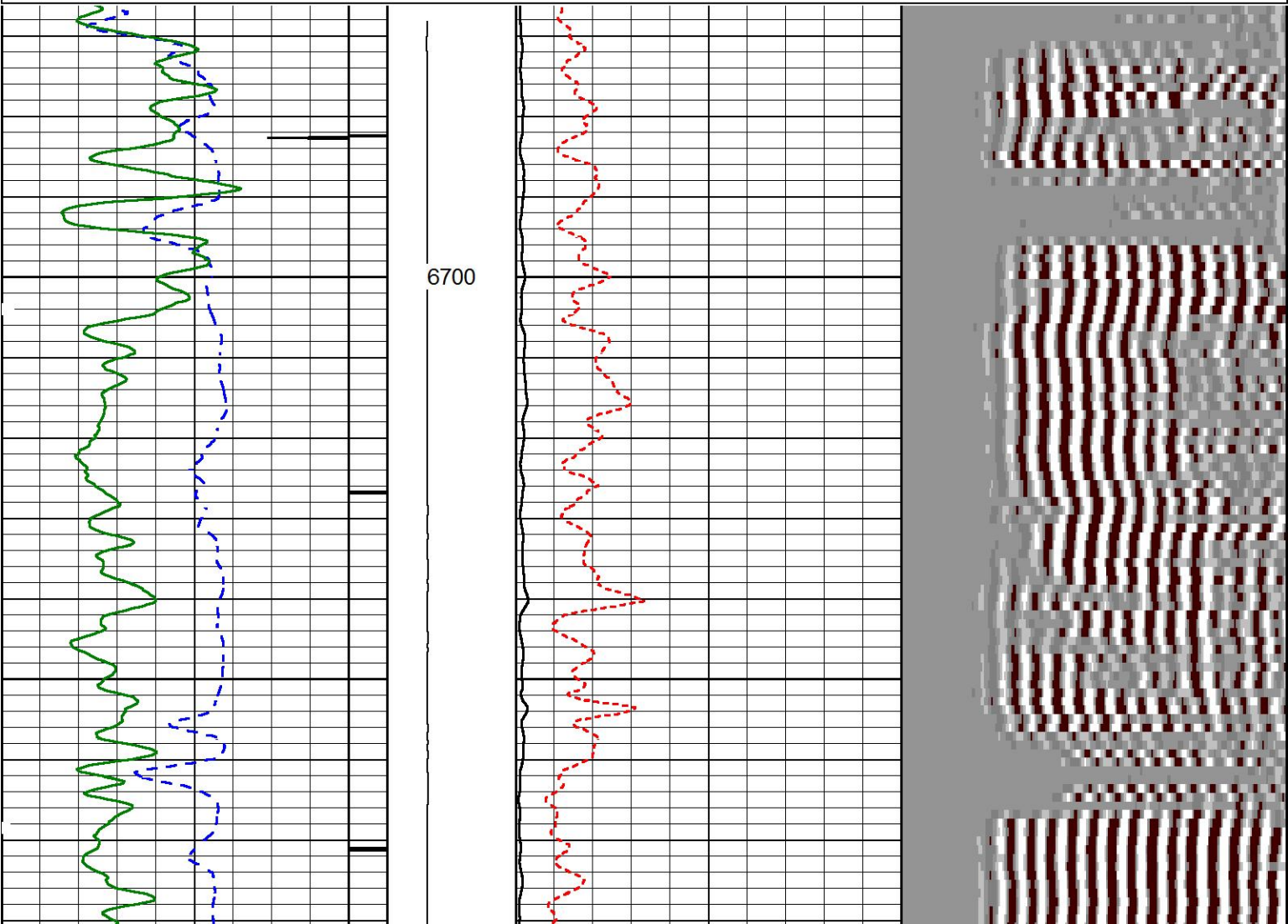
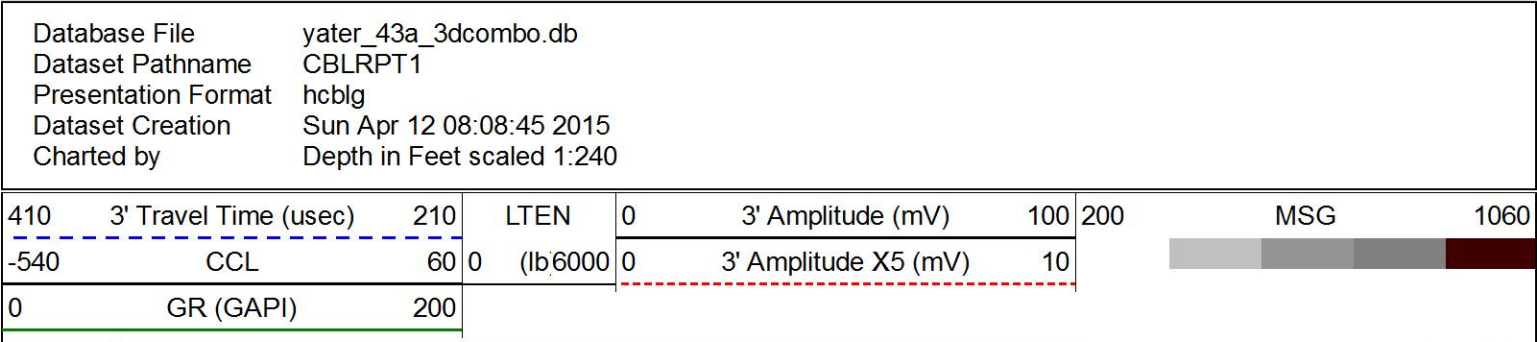
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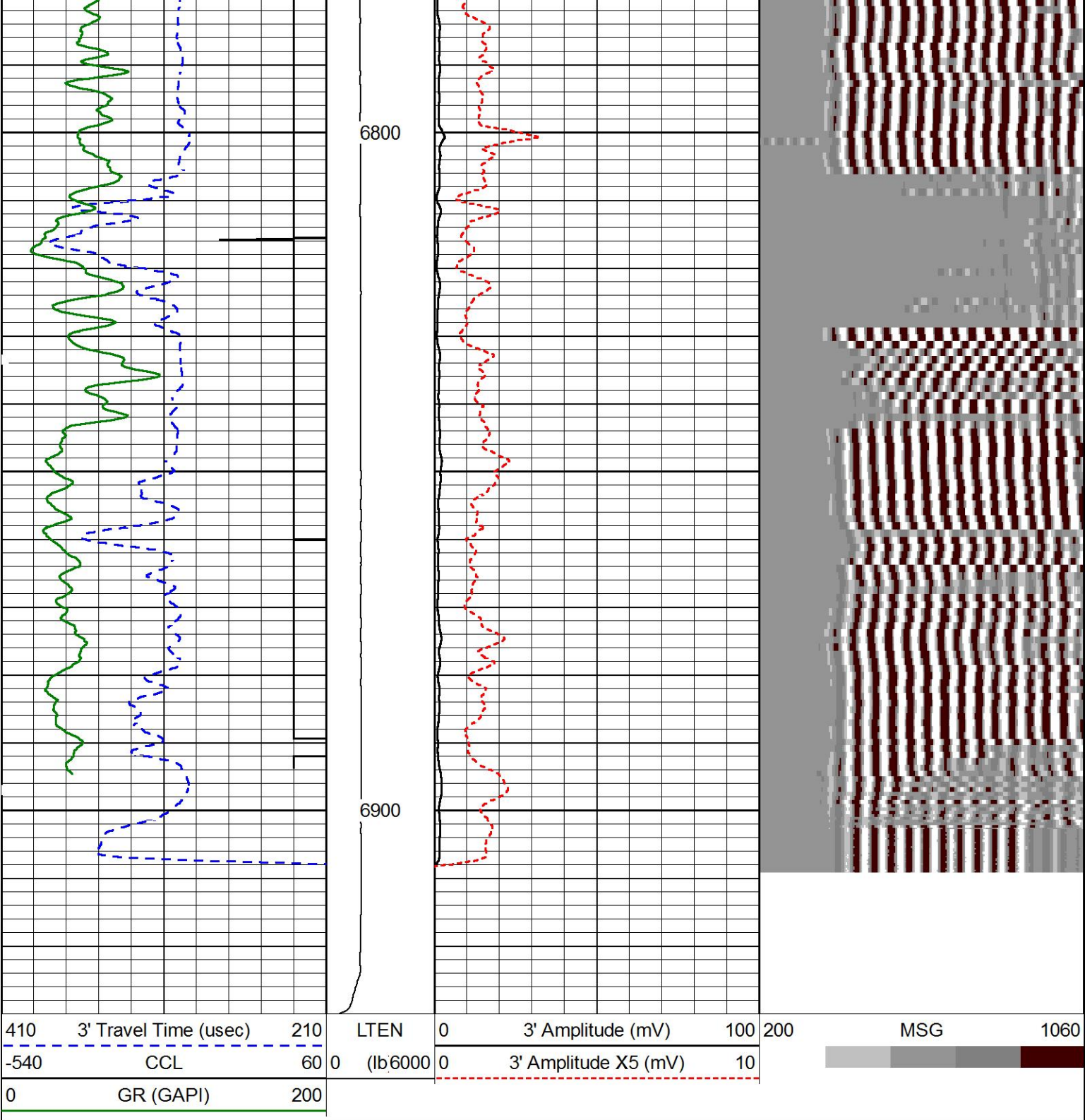


REPEAT LOG SECTION

HALLIBURTON

5" = 100'





## REPEAT LOG SECTION

**HALLIBURTON**

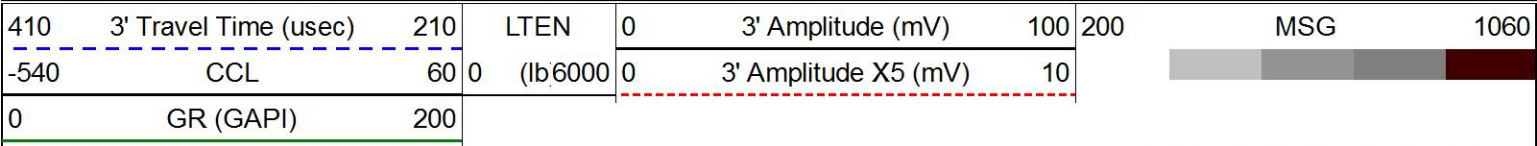
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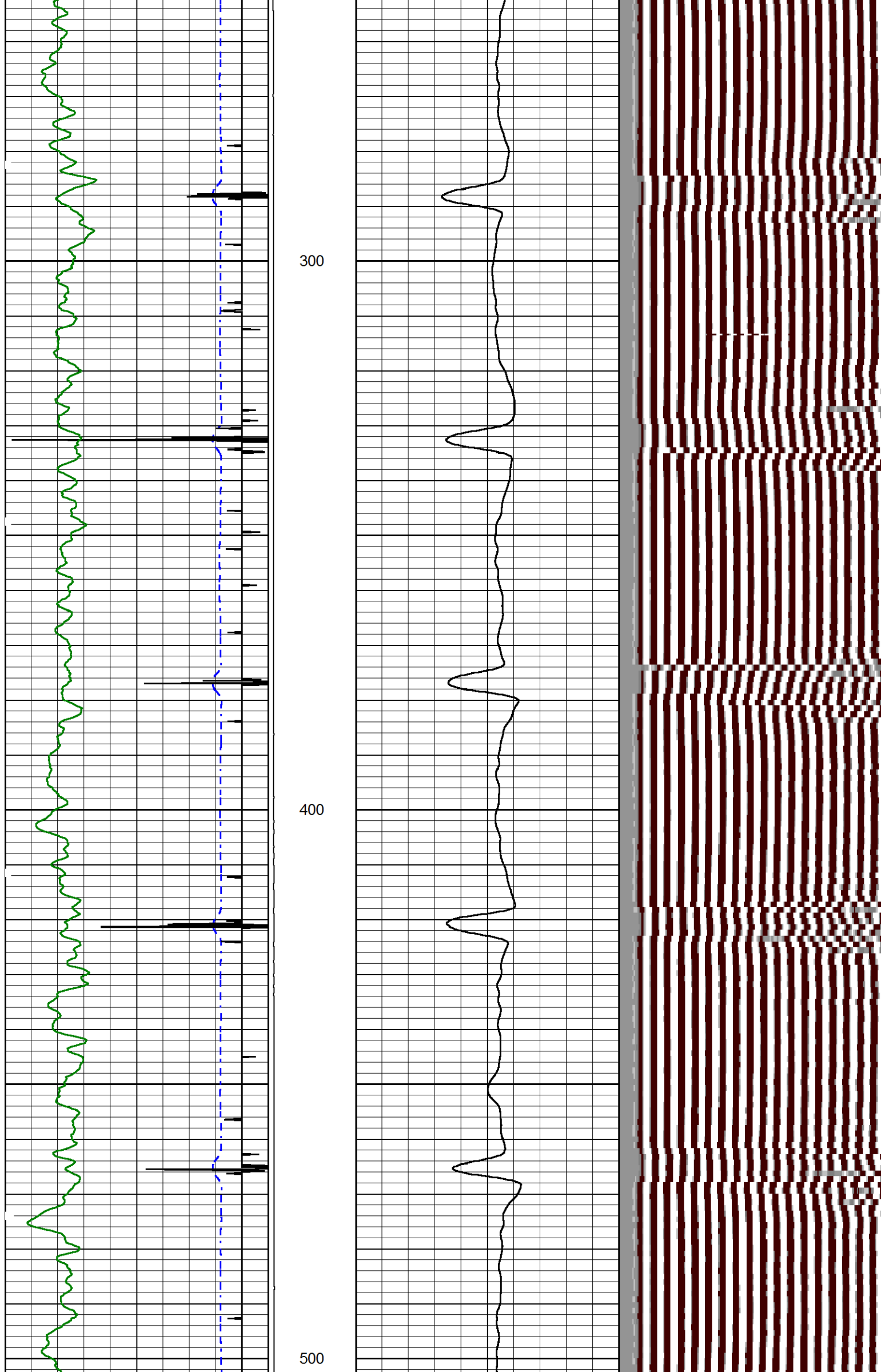
## FREE PIPE LOG SECTION

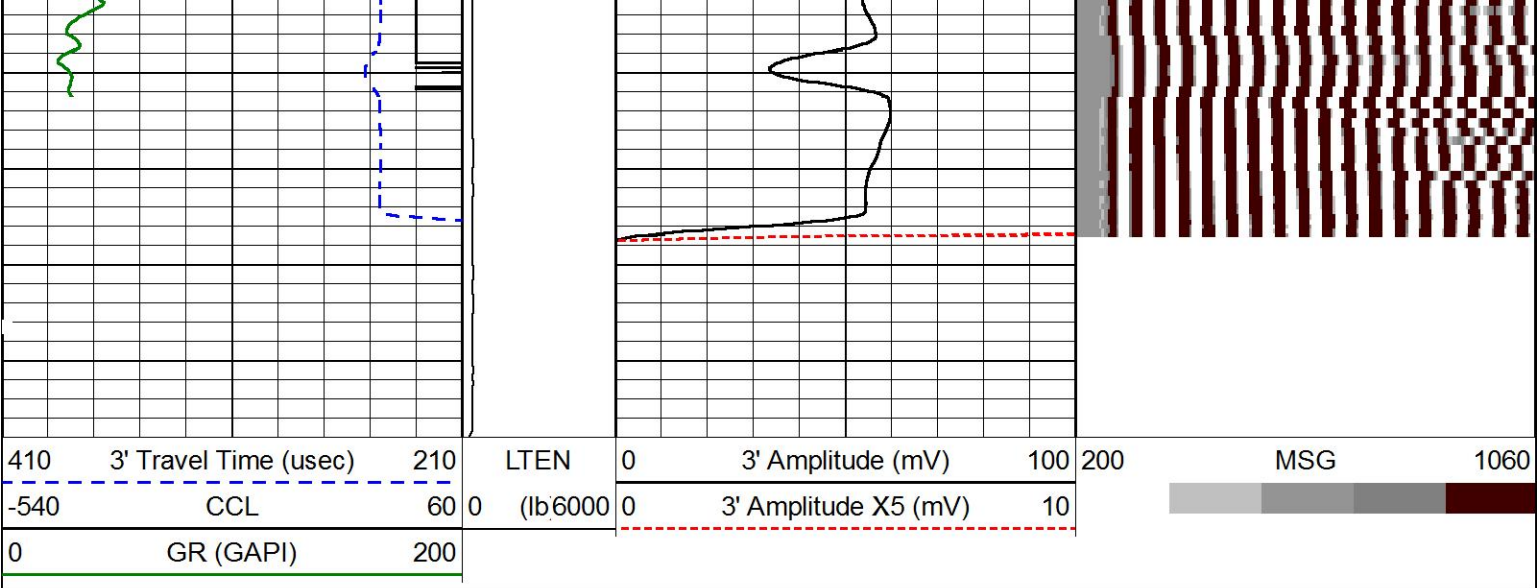
**HALLIBURTON**

5" = 100'

Database File: yater\_43a\_3dcombo.db  
Dataset Pathname: FREE1  
Presentation Format: hcbg  
Dataset Creation: Sun Apr 12 07:01:09 2015  
Charted by: Depth in Feet scaled 1:240







HALLIBURTON

FREE PIPE LOG SECTION

5" = 100'

DatabaseC:\ProgramData\Warrior\Data\yater\_43a\_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	10					

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	10					

Reservoir Monitor Tool (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					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0275	5.26	<6.00
Fe	206	206 +/-2	0.0969	-----	-----
NGAIN = 0.996	NZOFF = 0.5				
Far Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0396	5.02	<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	9888	10000	-112	+/-1000	

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
CC1	22.24					

CCL	36.04		1.50	1.44	1.00	
GR	33.78					
Temp	24.06					
TT3FT	21.81					
AMP3FT	21.81					
Rm3TLGT	8.75					
Rm3LBACK	8.75					
Rm3LCAPT	8.75		TTTCU-002 (12159411) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
Rm3LINEL	8.75					
Rm3TFGT	8.25					
Rm3FBACK	8.25					
Rm3FCAPT	8.25					
Rm3FINEL	8.25					
Rm3TNGT	7.75					
Rm3NBACK	7.75		XHU-003 (11899561) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
Rm3NCAPT	7.75					
Rm3NINEL	7.75		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
Rm3ImpBTEST	0.00					
Rm3ImpBCYC	0.00					
Rm3ImpBRGW	0.00					
Rm3ImpBRGO	0.00					
Rm3ImpState	0.00					
Rm3ImpPhase	0.00					
Rm3ImpCyc	0.00					
Rm3GenClampV	0.00		HCBLM-A (11794522) Halliburton HCBLM Tool	9.38	2.75	116.00
Rm3LTemp	0.00					
Rm3LPMHV	0.00					
Rm3LPMI	0.00					
Rm3LPrgSt1	0.00					
Rm3LDetStat	0.00					
Rm3FTemp	0.00					
Rm3FPMHV	0.00					
Rm3FPMI	0.00					
Rm3FPrgSt1	0.00		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
Rm3FDetStat	0.00					
Rm3NTemp	0.00					
Rm3NPMHV	0.00					
Rm3NPMI	0.00					
Rm3NPrgSt1	0.00					
Rm3NDetStat	0.00					
Rm3GenIonI	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					
Rm3GenP15VI	0.00					
Rm3GenTemp	0.00					
Rm3GenP5VI	0.00					
Rm3GenI	0.00					
Rm3GenPv	0.00					
Rm3GenCmd	0.00					
Rm3GenIspl	0.00					
Rm3GenIsPv	0.00					
Rm3GenIsPcmc	0.00					
Rm3GenRepPv	0.00	Dataset: yater_43a_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 43A-17-07-95		
Field	PARACHUTE		
County	GARFIELD	State	CO
HALLIBURTON		ACOUSTIC CEMENT BOND LOG	