



**CEMENT  
BOND LOG  
WITH GAMMA RAY**

**PIONEER**  
Pioneer Energy Services

Company	BONANZA CREEK ENERGY		
Well	STATE PRONGHORN 41-32-31MRLNB		
Field	WATTENBERG		
County	WELD		
State	COLORADO		
Location:	API # : 05123423520000		Other Services
	SHL: 1246' FNL & 745' FEL NENE		NONE
	LAT: 40.36114		
	LONG: -104.22619		
Permanent Datum	GL	Elevation 4565'	Elevation
Log Measured From	KB		K.B. 4582'
Drilling Measured From	KB ... 17' ABOVE GL		D.F. 4582'
			G.L. 4565'

Date of Service	DECEMBER 8, 2015		
Run Number	ONE		
Depth Driller or PBTD	N/A		
Depth Logger	5640'		
Bottom Log Interval	5638'		
Top Log Interval	SURFACE		
Open Hole Size	8.75"		
Type Fluid	FSW		
Fluid Level	30'		
Fluid Density	8.33 PPG		
Max. Recorded Temperature	181 F		
Max. Wellhead Pressure	0 PSI		
Wellhead Connection	OPEN		
Estimated Cement Top	SEE LOG		
Unit Number	P1		
Wireline Size	9/32"		
Location	FT MORGAN, CO		
Recorded By	SCHUMAN		
Witnessed By	M.R.K. BUNKER		
	Size	Wt/Ft	Top
Tubing Record			Bottom
Surface Casing	9.625"	36#	SURFACE 1413'
Production Casing	7"	26#	SURFACE 6588'
Liner Record	4.5"	11.6#	5590' N/A

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.  
LOG CORRELATED TO KB

THANK YOU FOR USING PIONEER ENERGY SERVICES

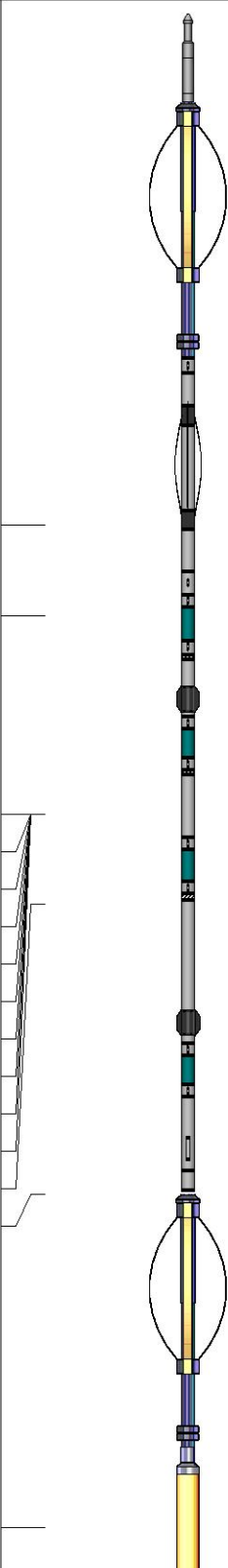
Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: SCHUMAN	CBL	141166
Operator: GARCIA	GR	111211
Operator: STUMP		
Operator:		

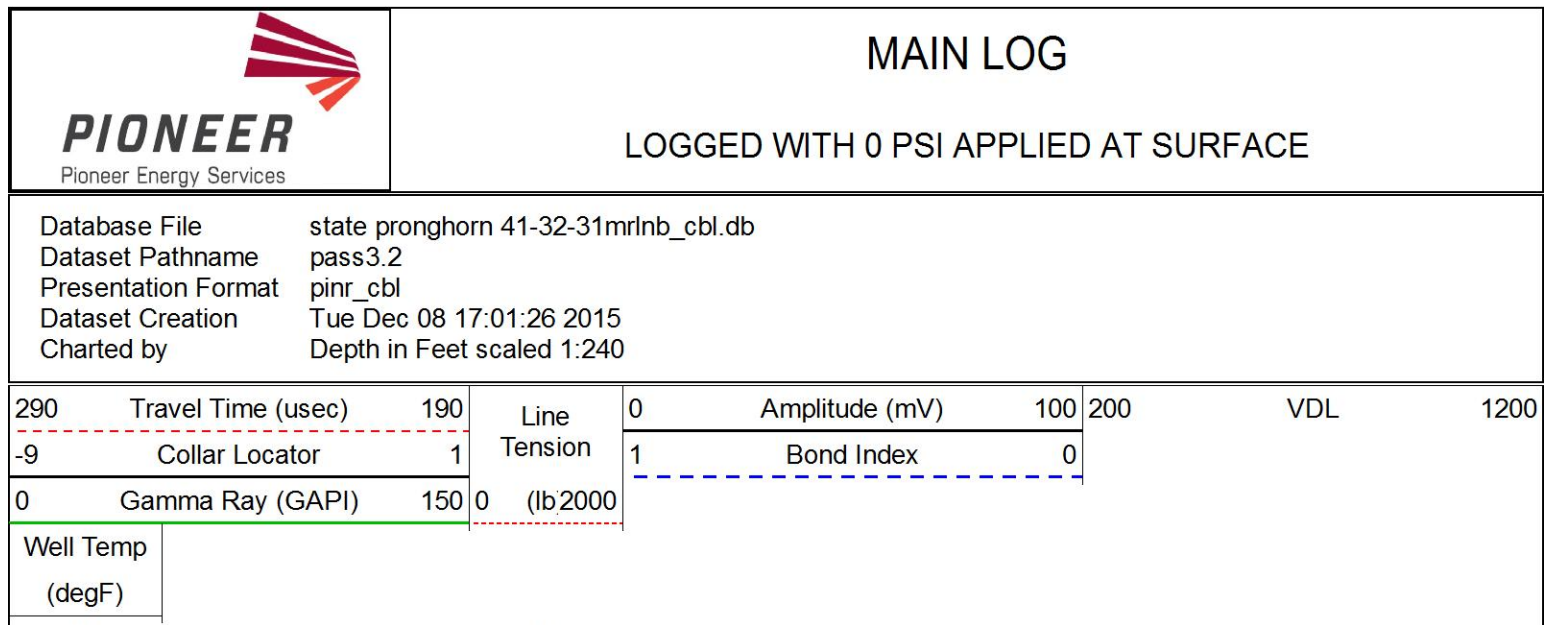
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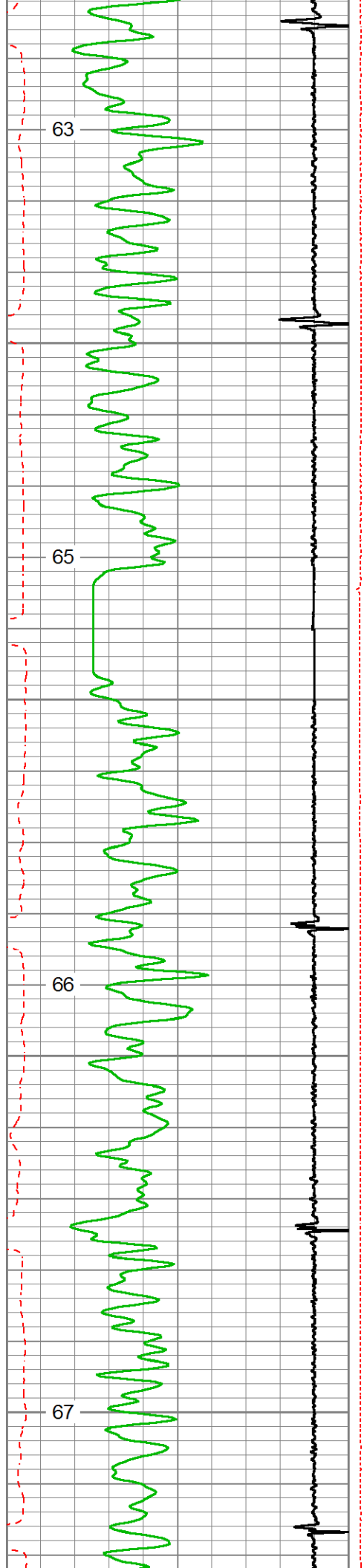
**Top - Bottom**

BHTEMP_Src	PPT usec	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	SRFTEMP degF	CASETHCK in
TEMP	0	26	0	1.5	0.08	0	0
CASEOD in 7	PERFS  0	TDEPTH ft 0	BOTTEMP degF 100	BOREID in 8.75			

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)	
			CHD-STNDRD Standard Cable Head	1.00	1.69	10.00	
			CENT-PTS275	2.83	2.75		
IntTemp	14.88						
TEMP	13.86						
				RBT-RBT-C3 (141166_7in) Probe Radii Bond Tool with Digital Telemetry	9.40	2.75	90.00
WVFS8	11.63						
WVFS7	11.63						
WVFS6	11.63						
WVFS5	11.63						
WVFS4	11.63						
WVFS3	11.63						
WVFS2	11.63						
WVFS1	11.63						
WVFCAL	11.63						
WVF3FT	11.63						
WVF5FT	10.63						
HEADVOLT	7.38						
			CENT-PTS275	2.83	2.75		
CCL	3.63						







63

65

66

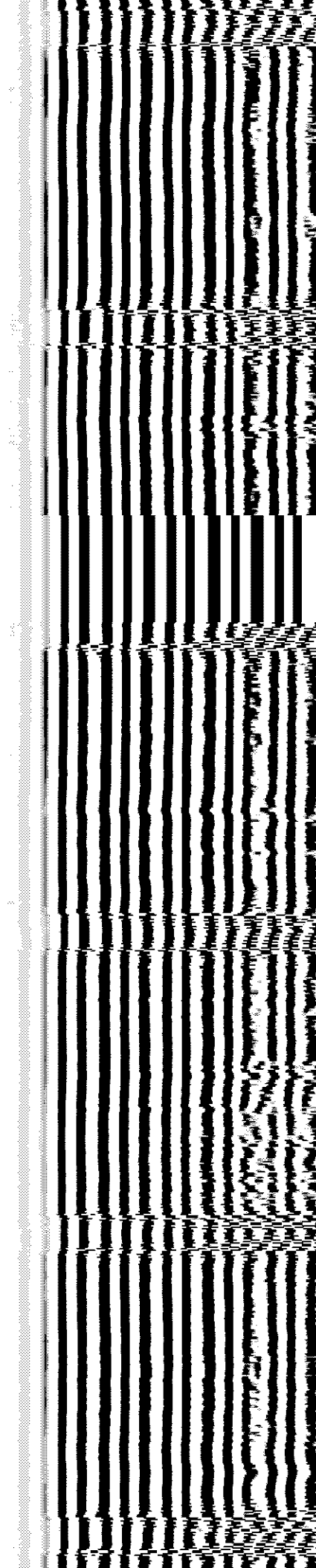
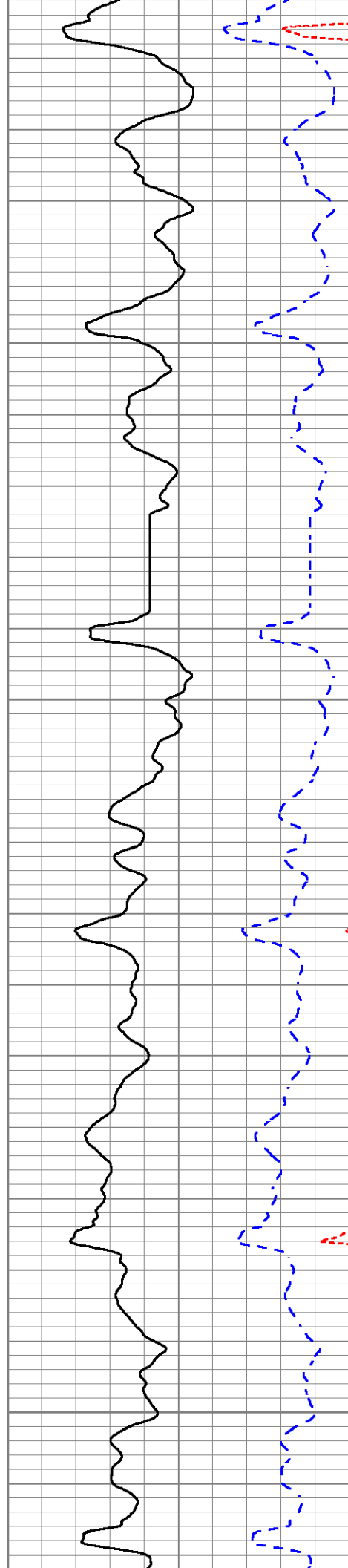
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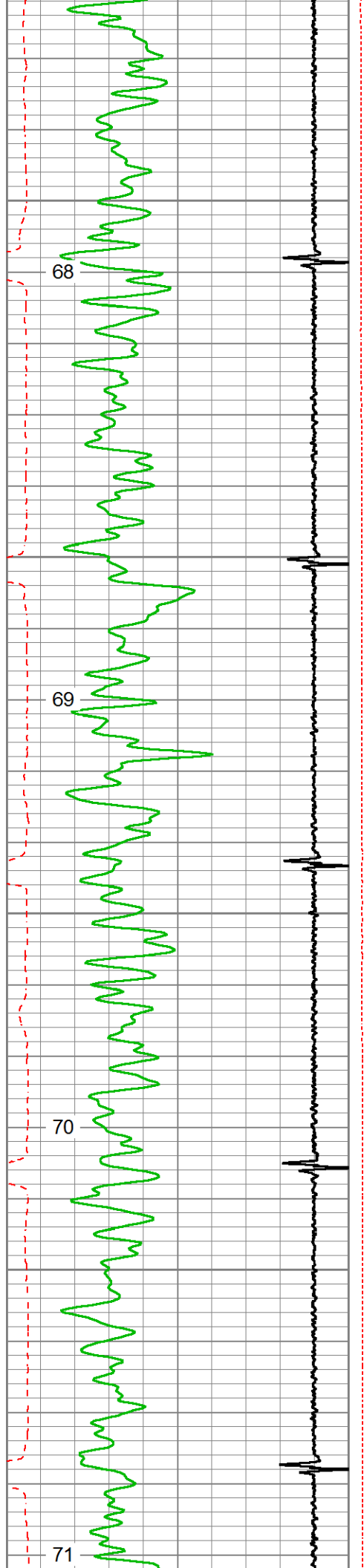
150

200

250

300



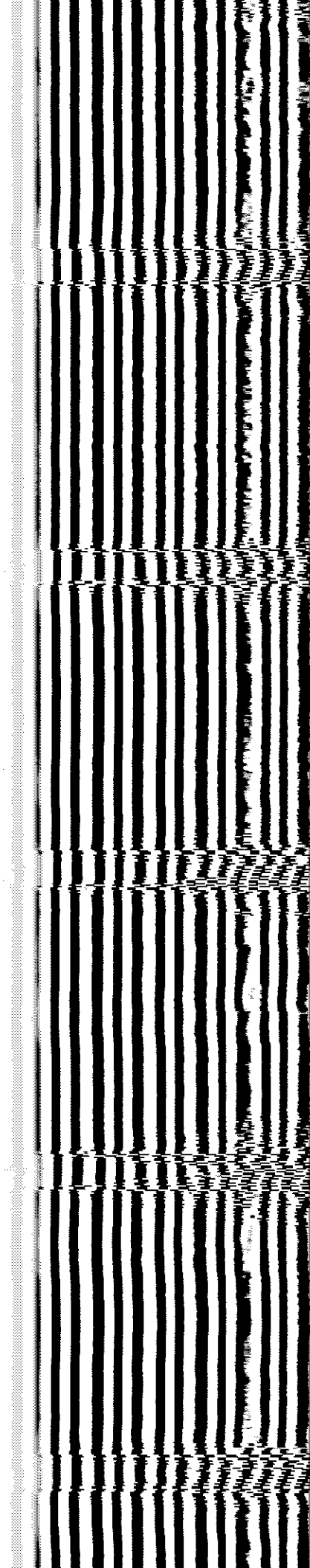
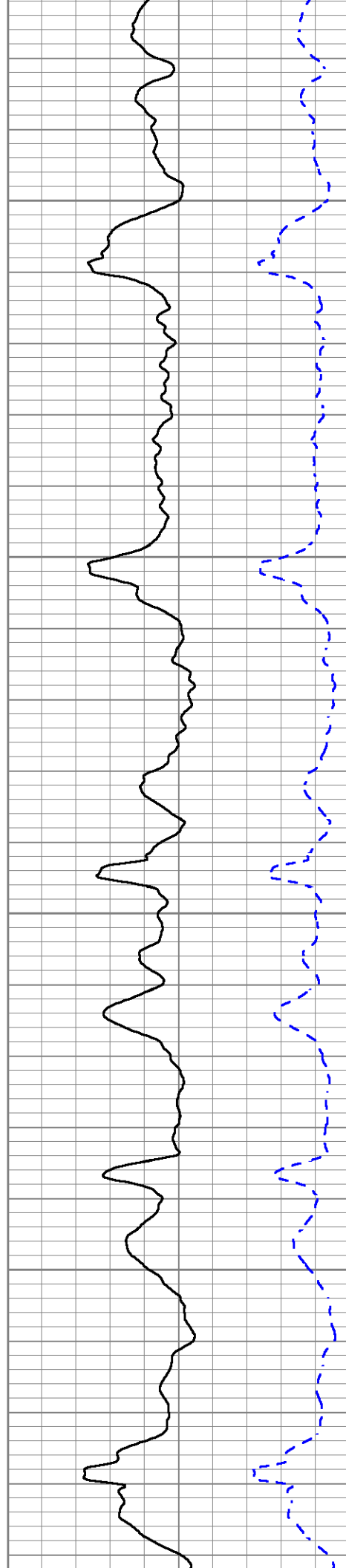


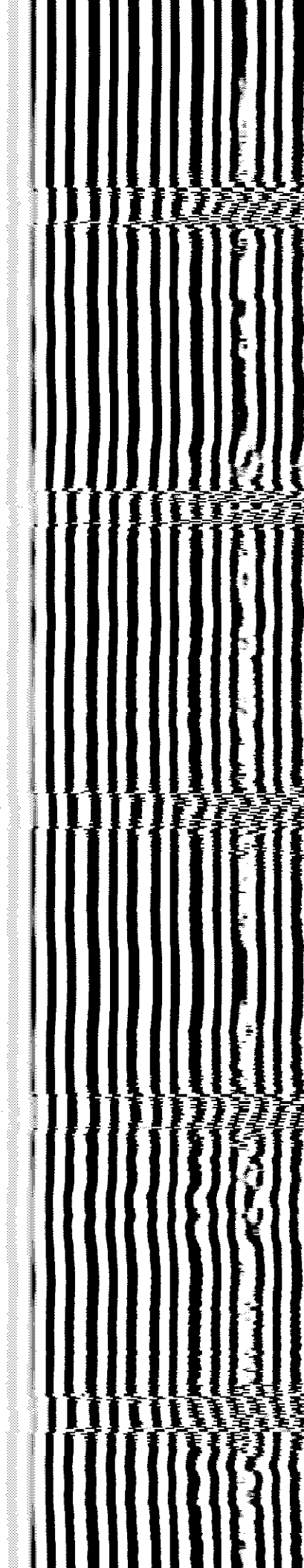
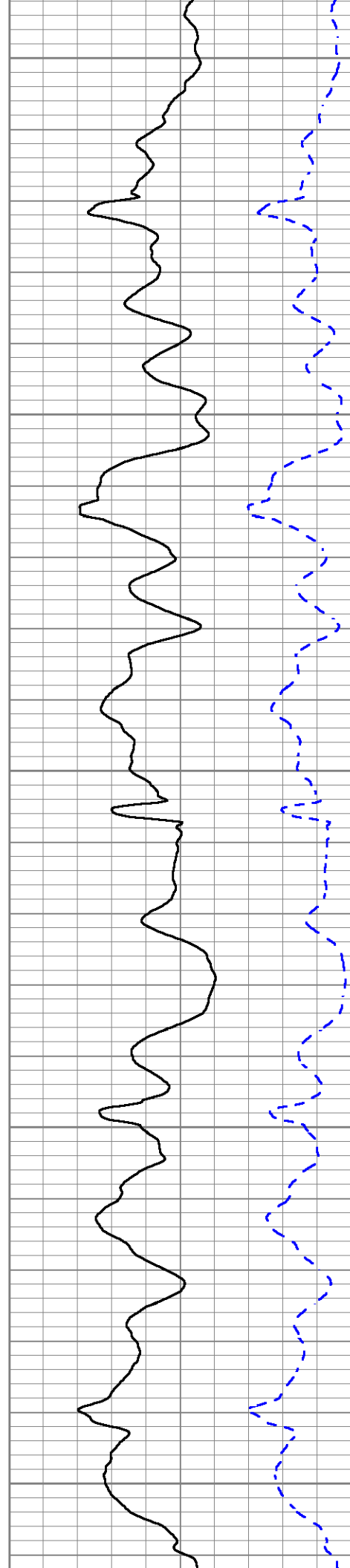
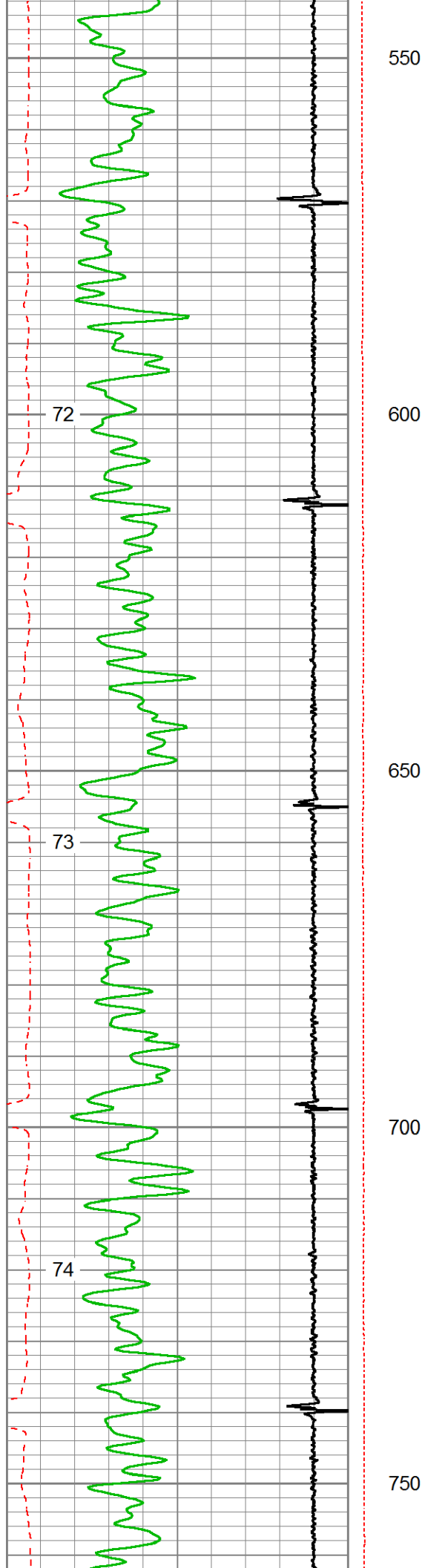
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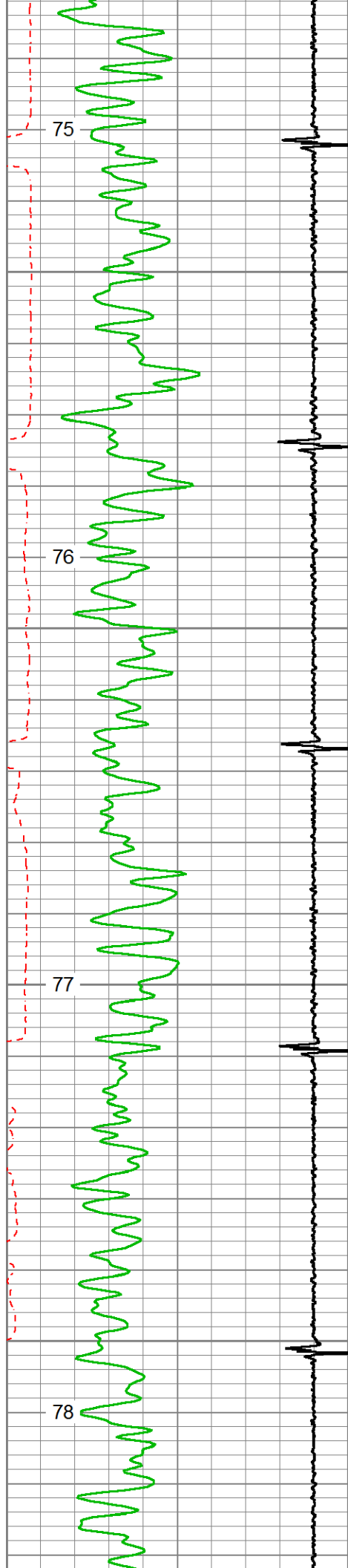
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500





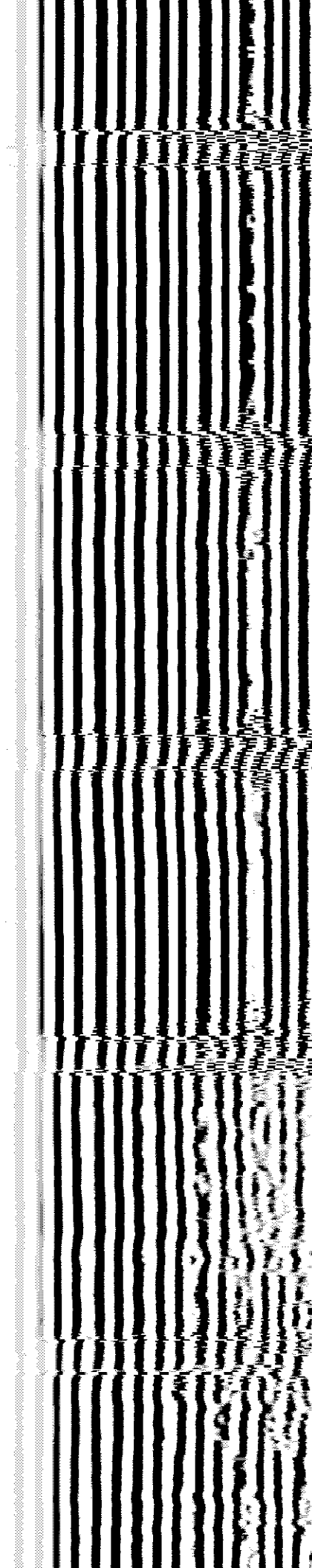
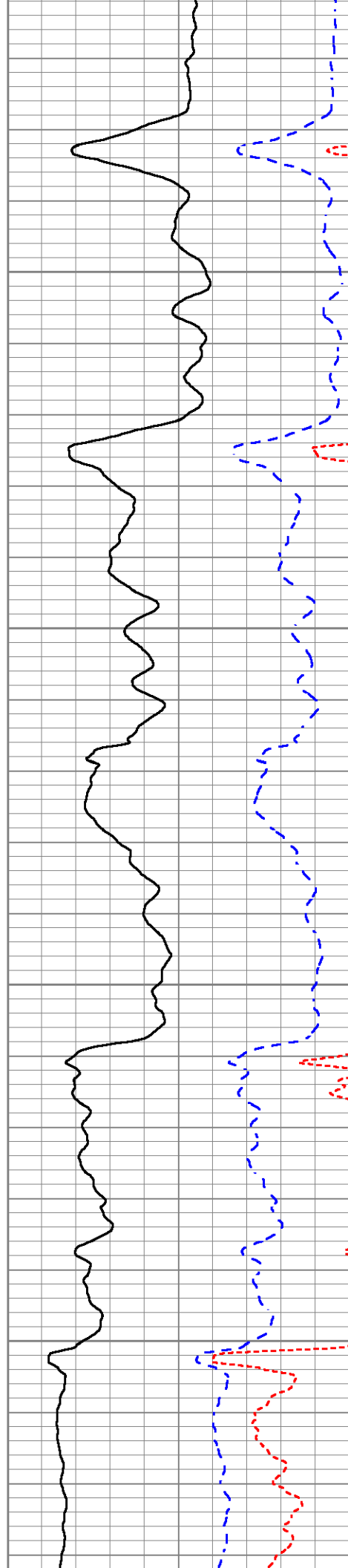


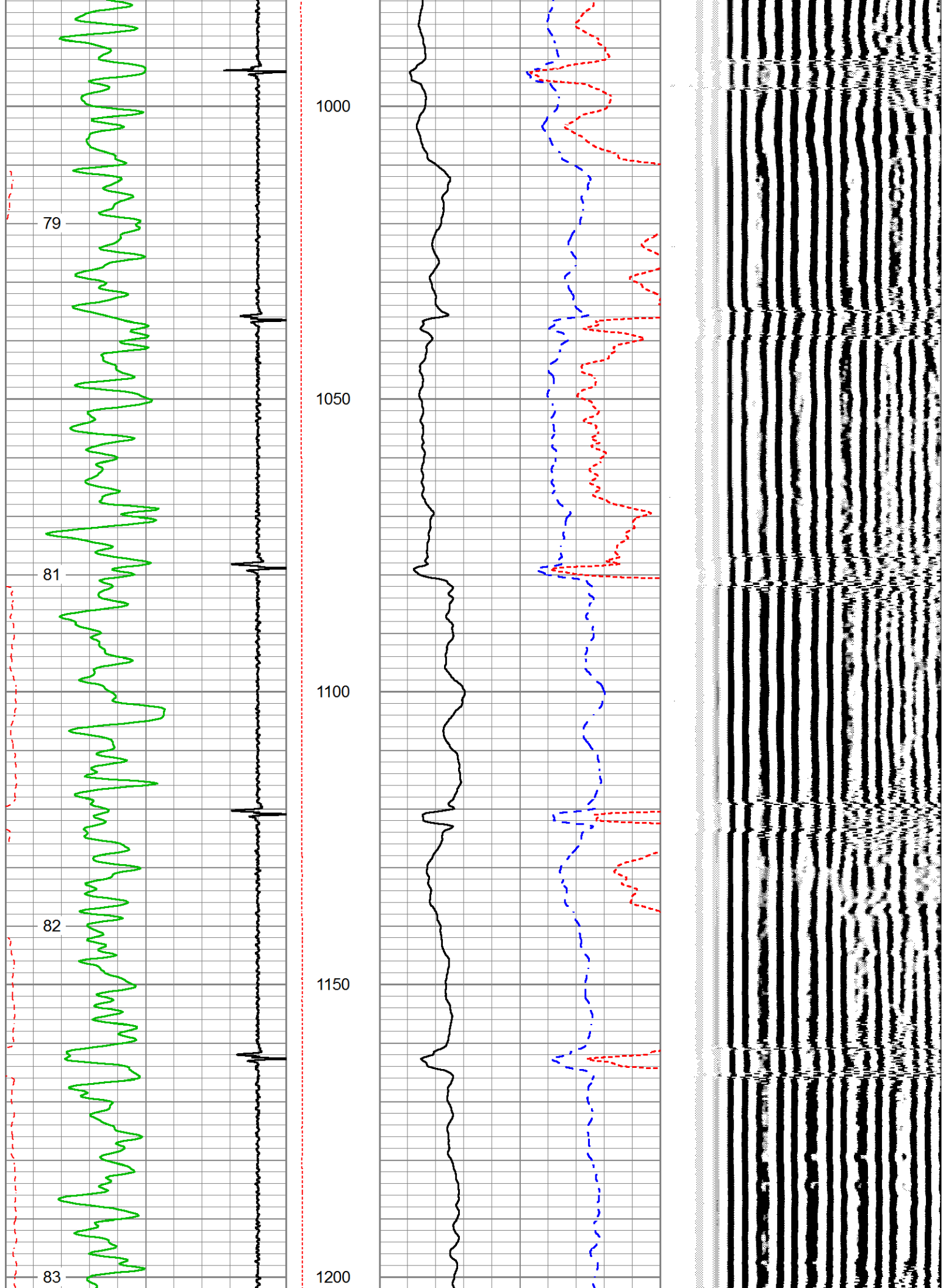
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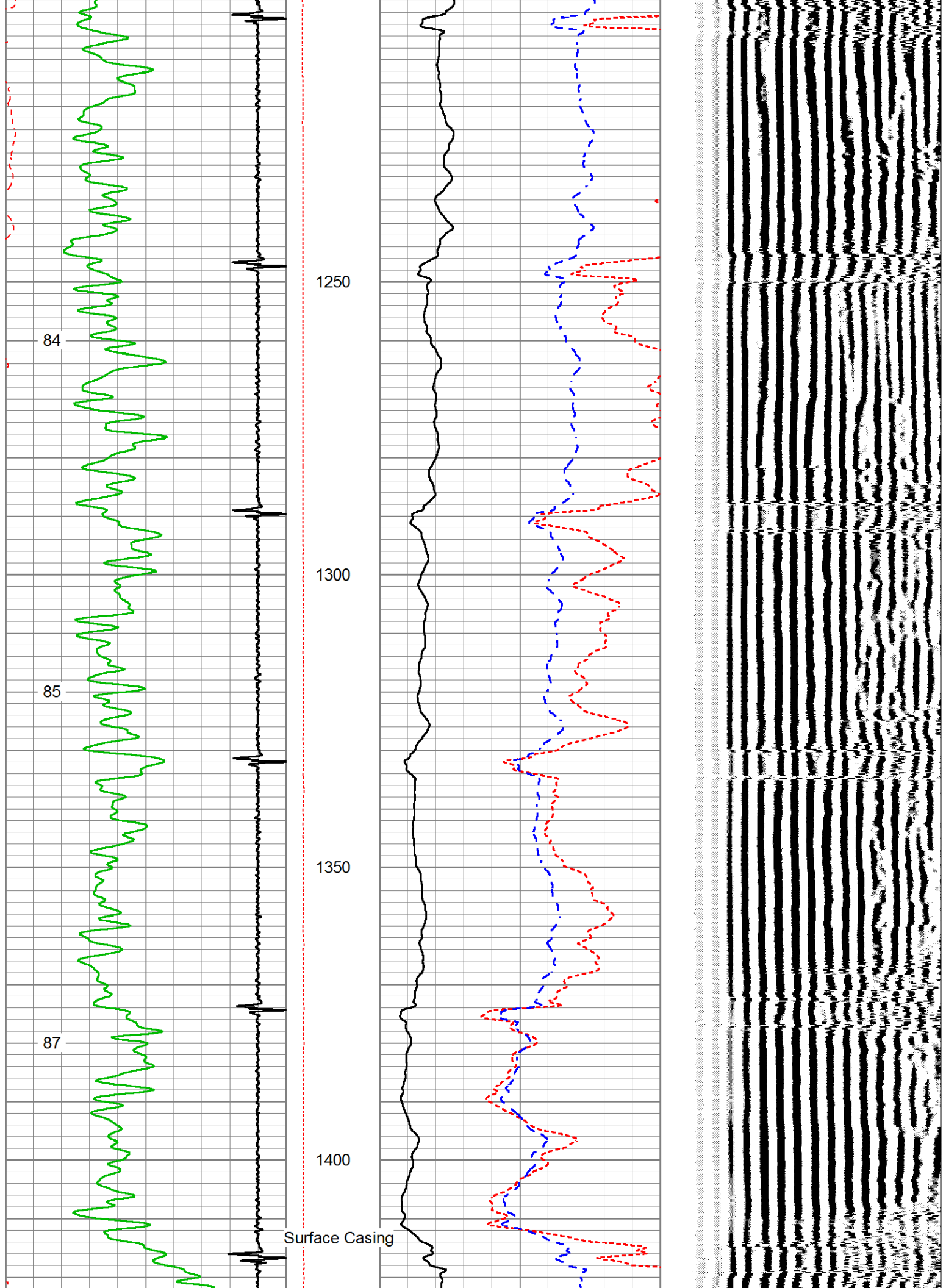
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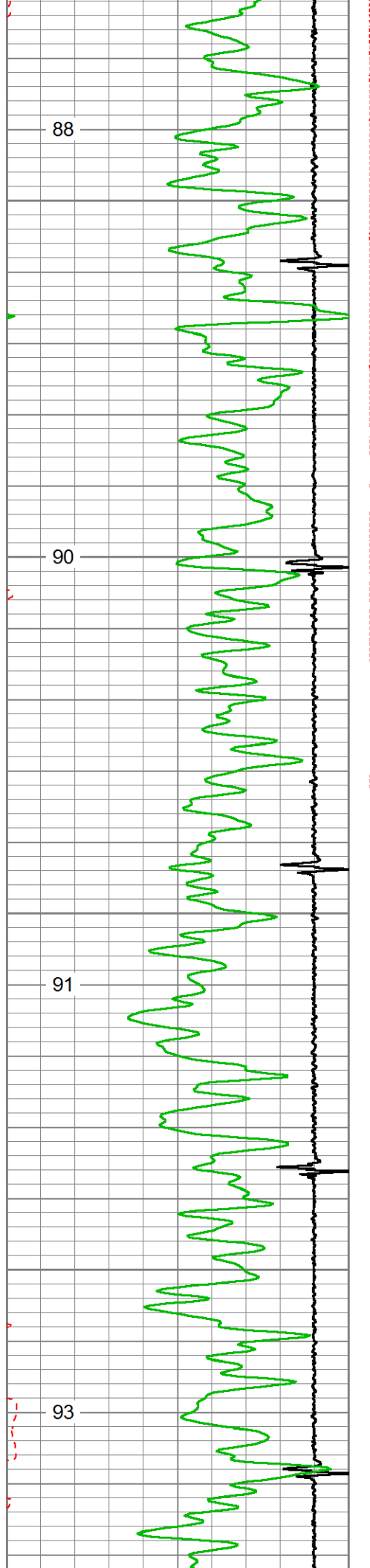
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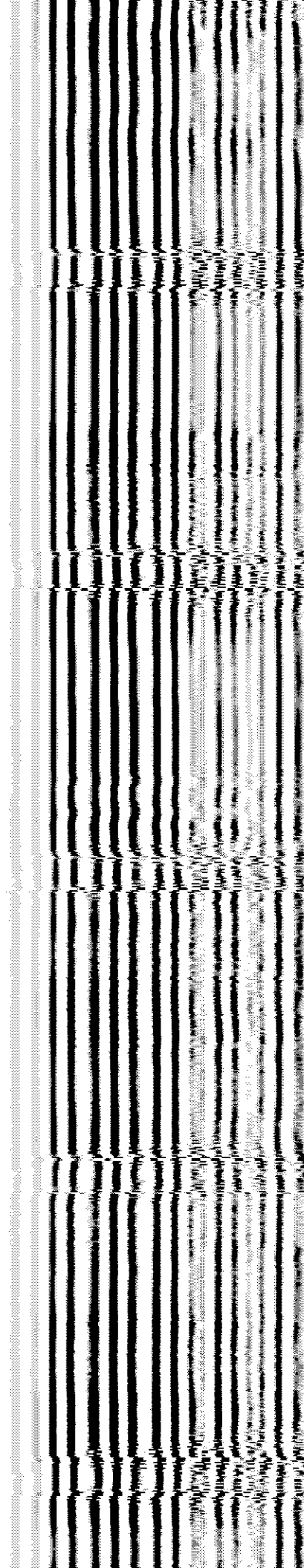
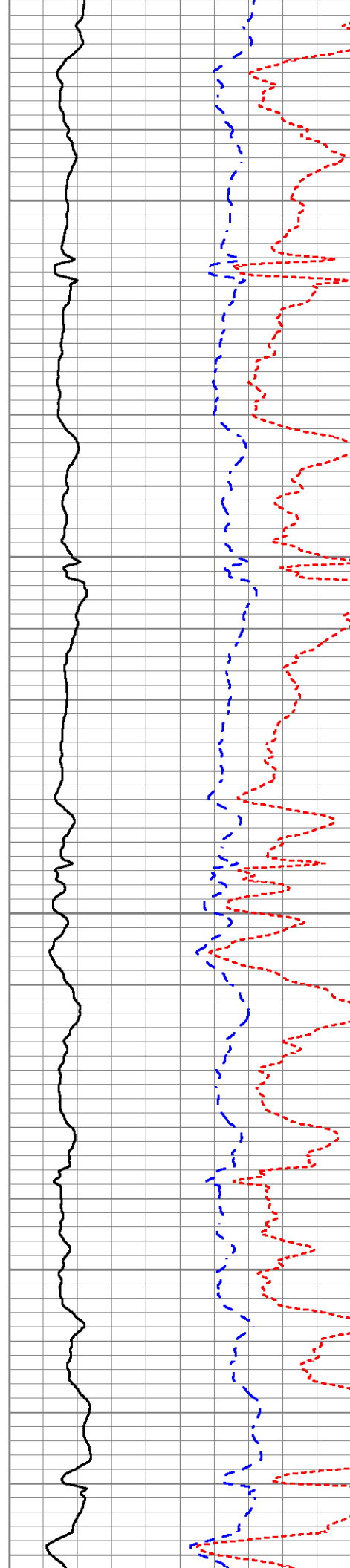
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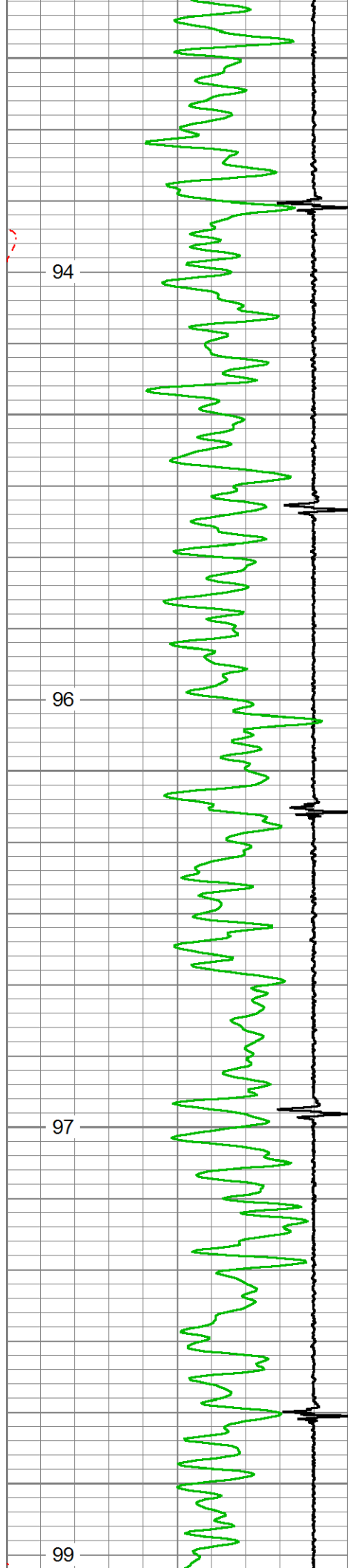
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1500

1550

1600





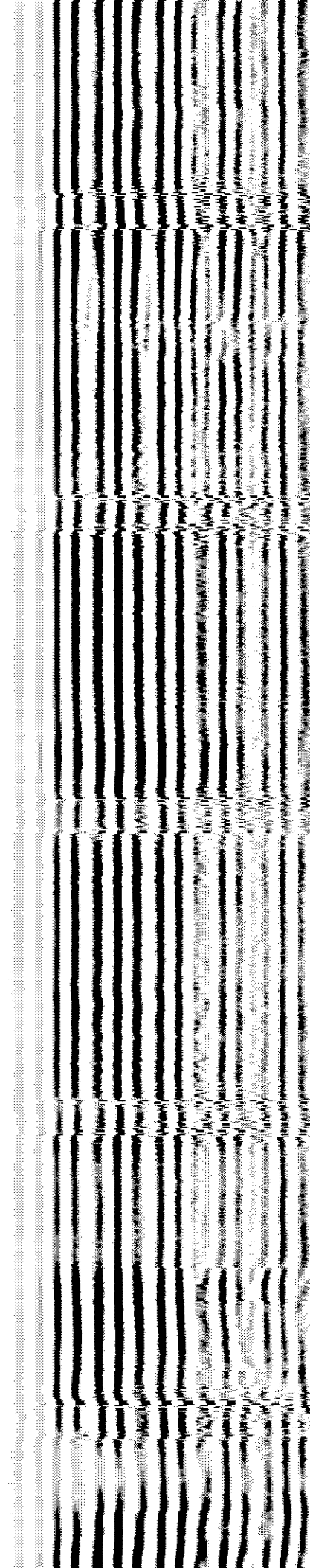
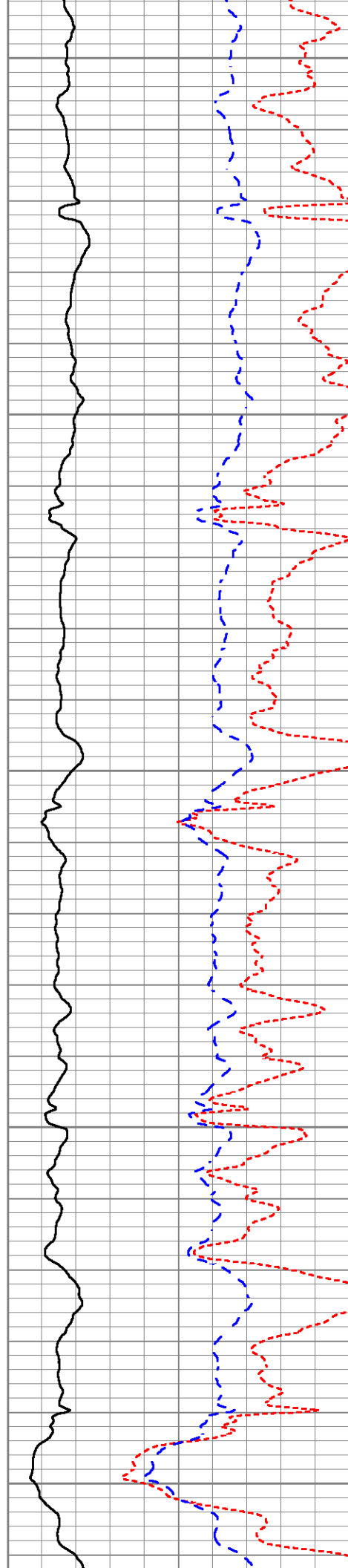
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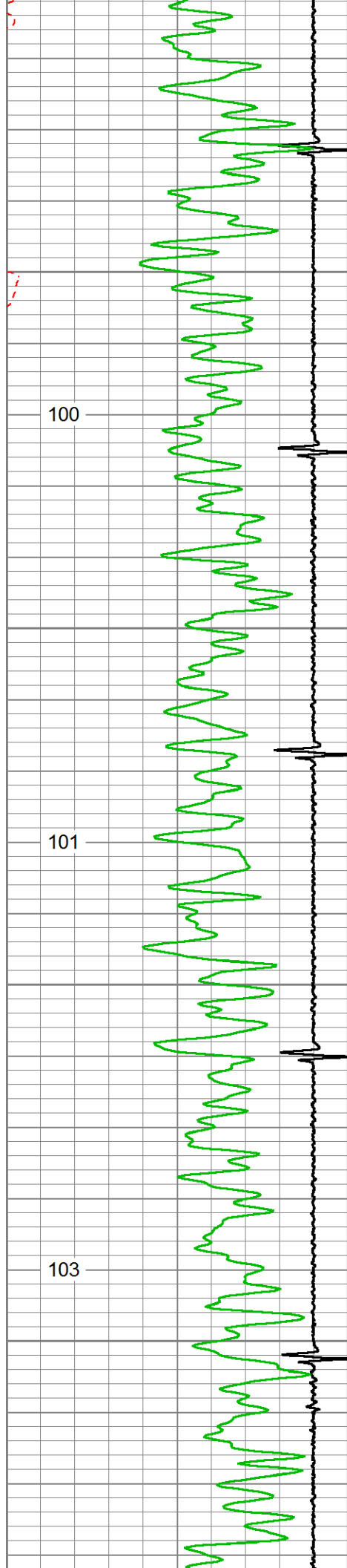
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1850





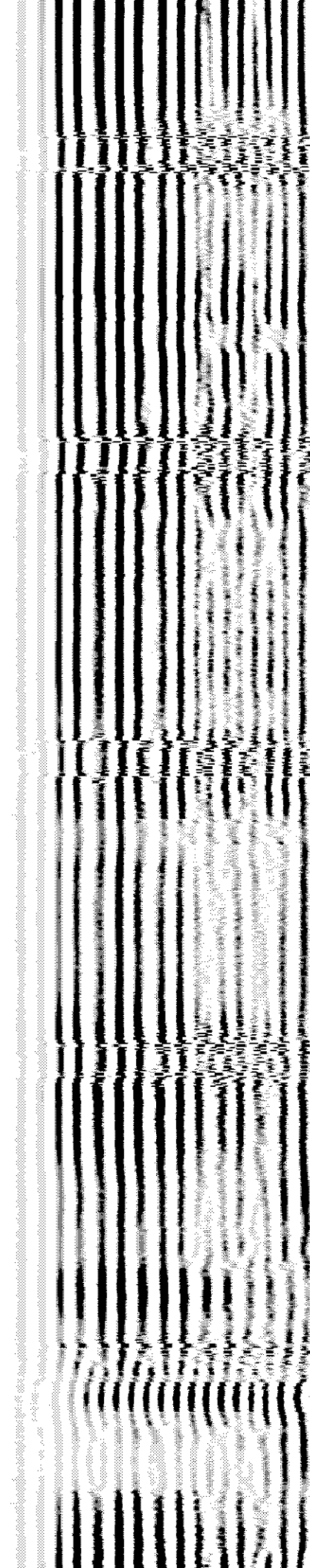
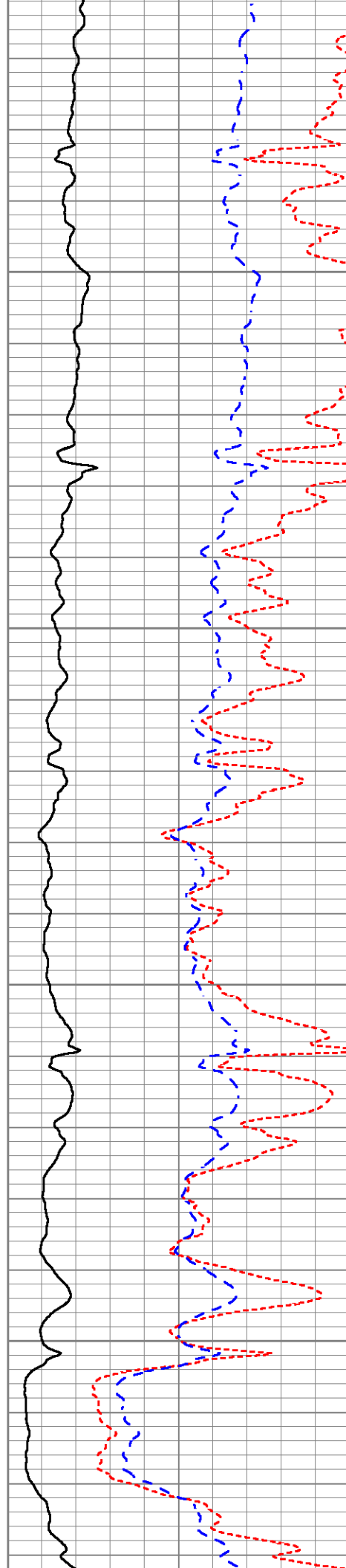


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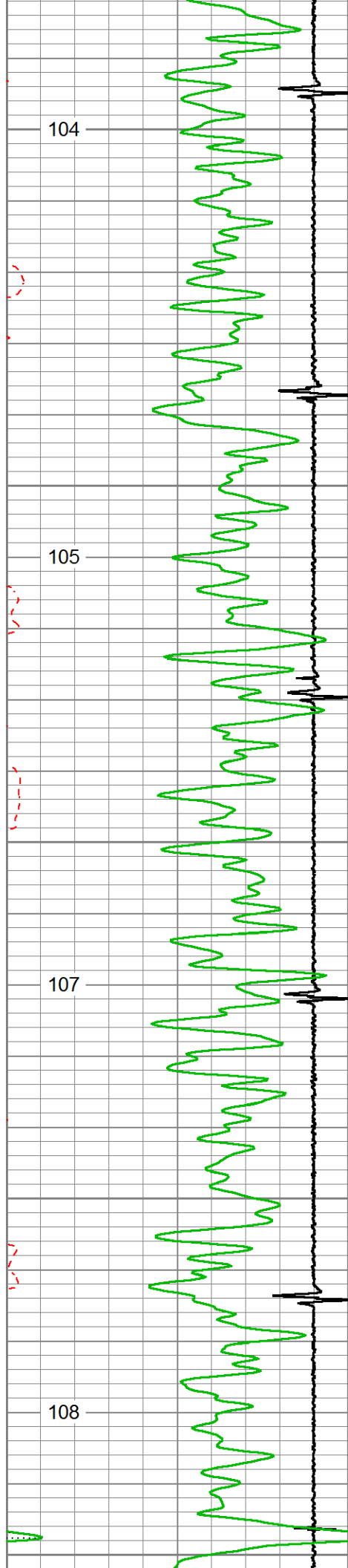
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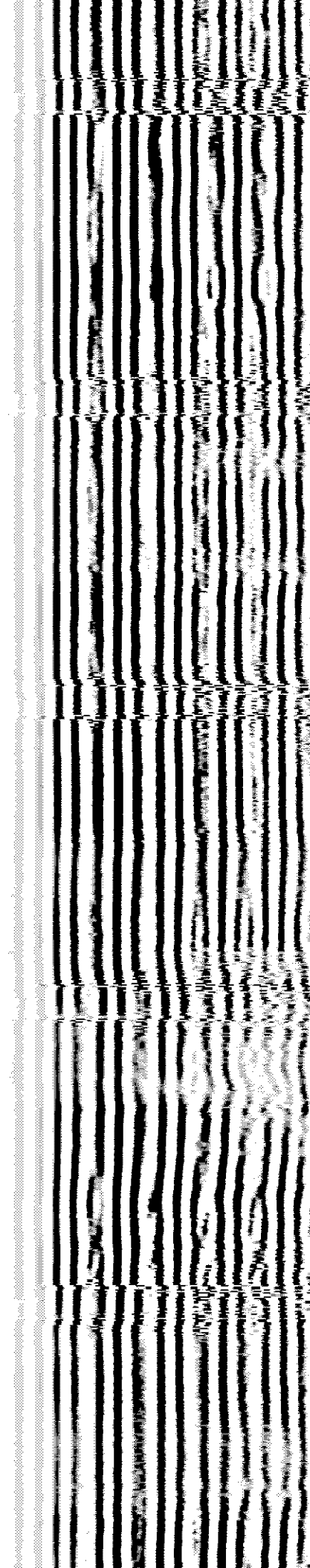
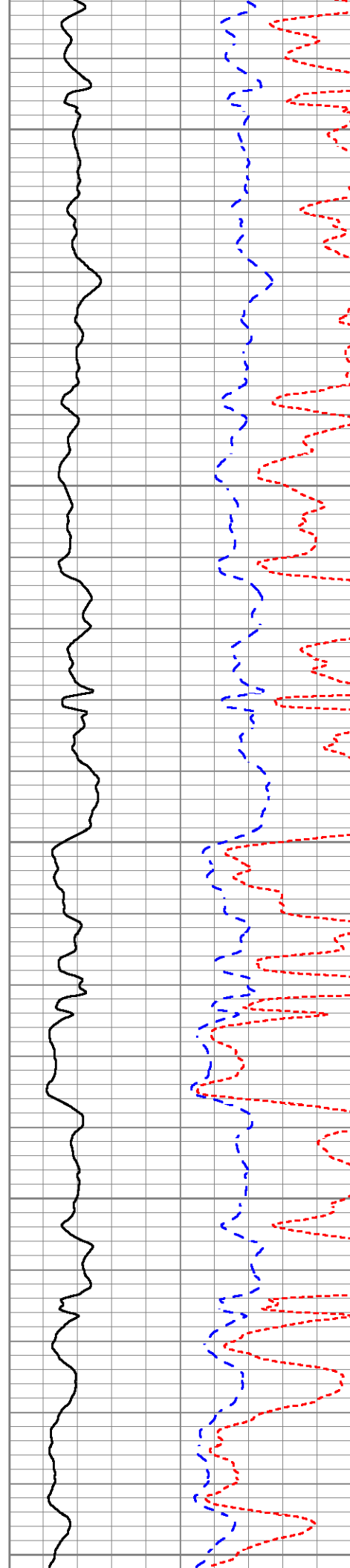
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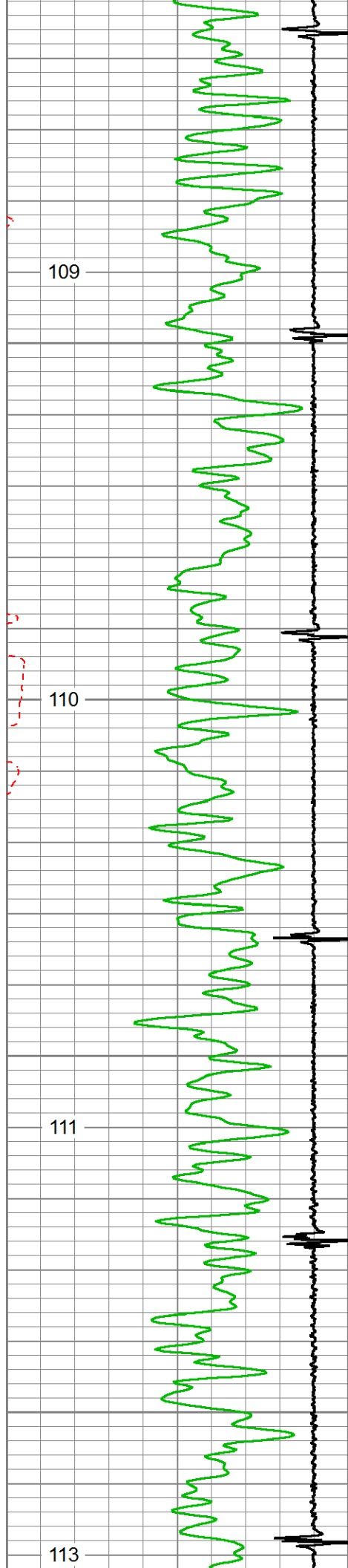
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2200

2250

2300



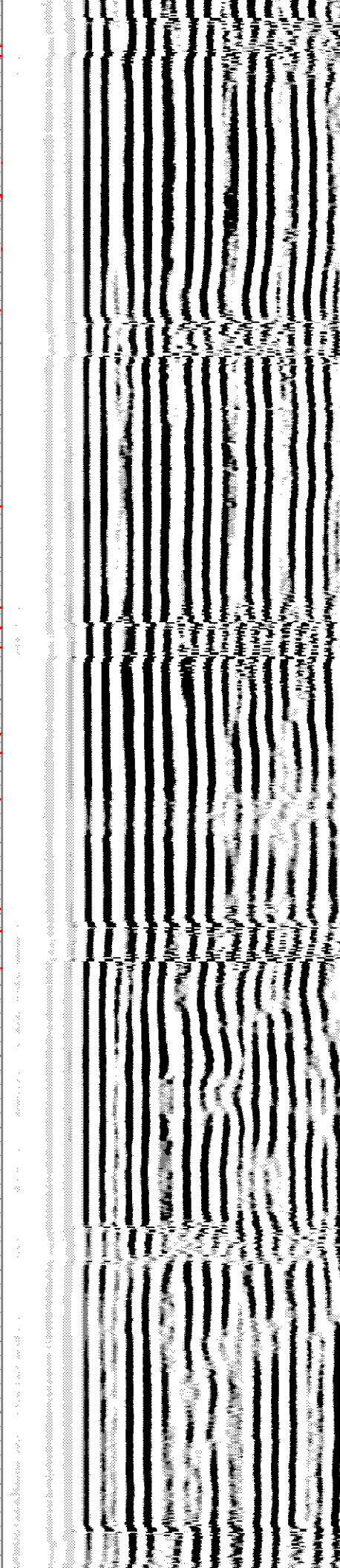
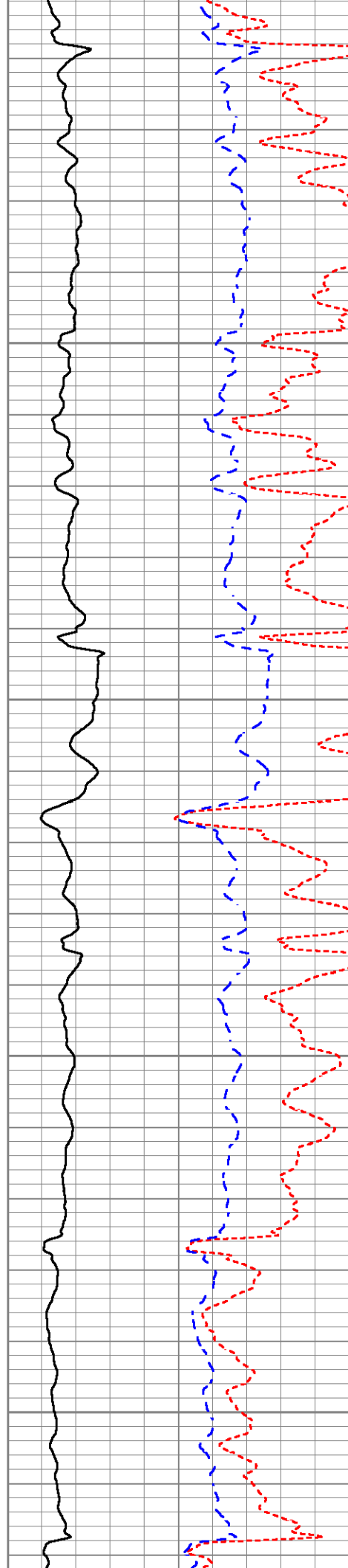


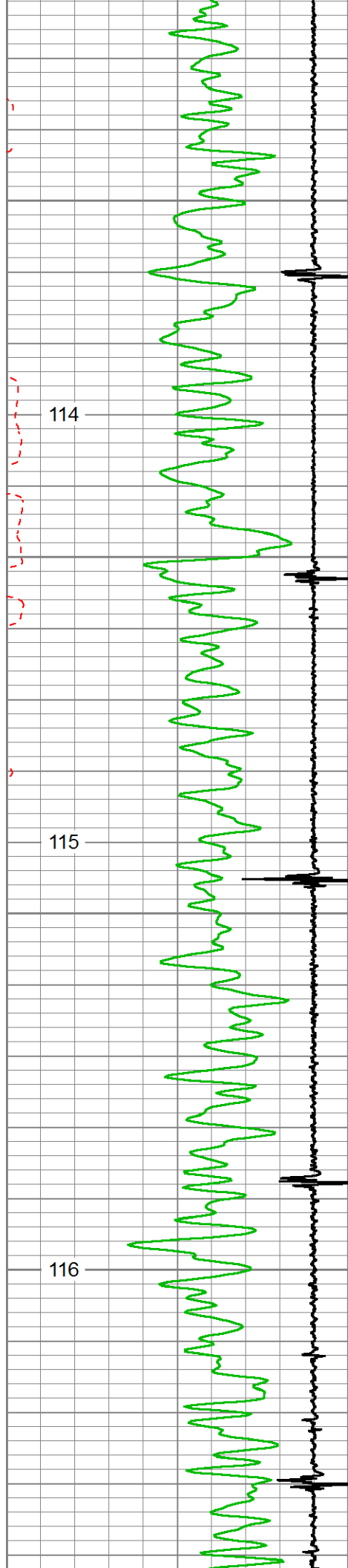
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2550

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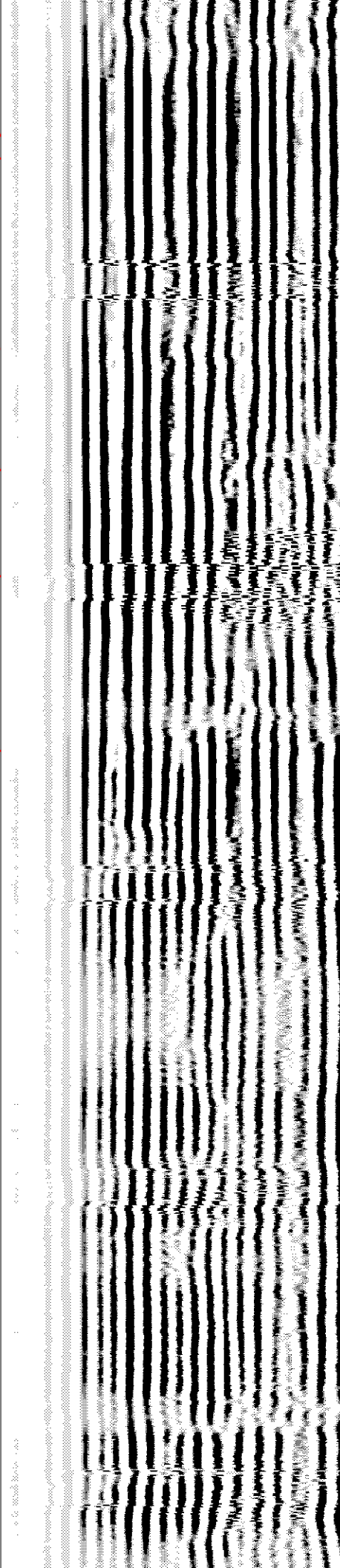
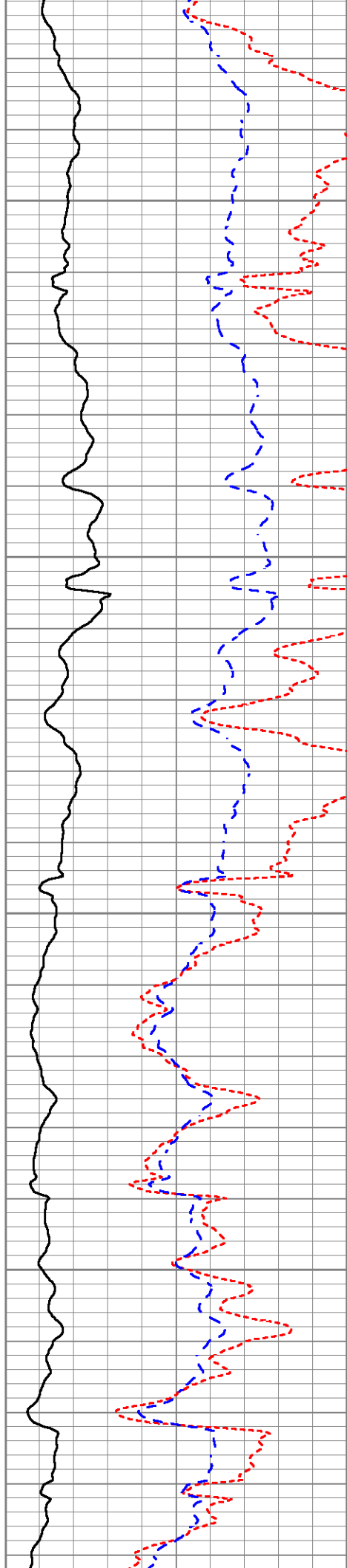
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2700





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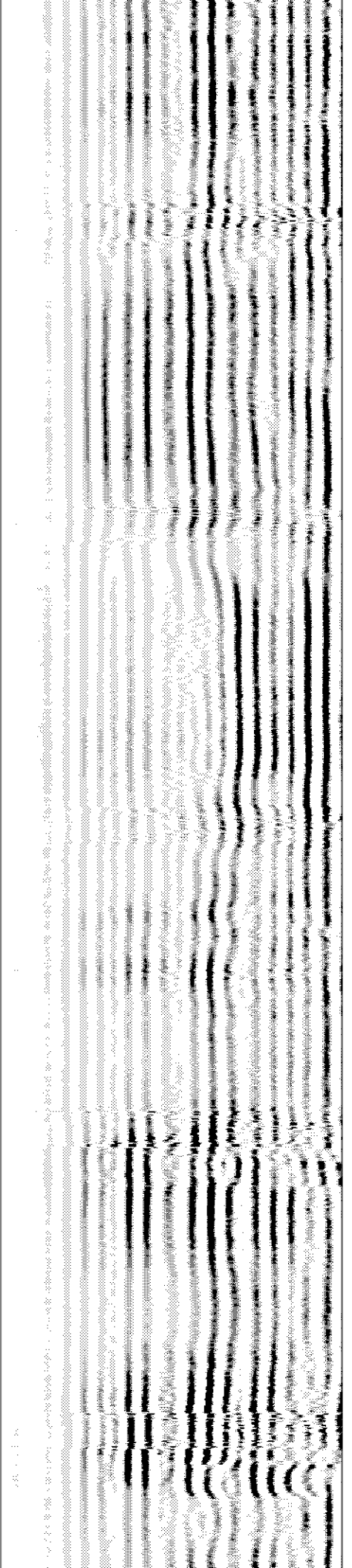
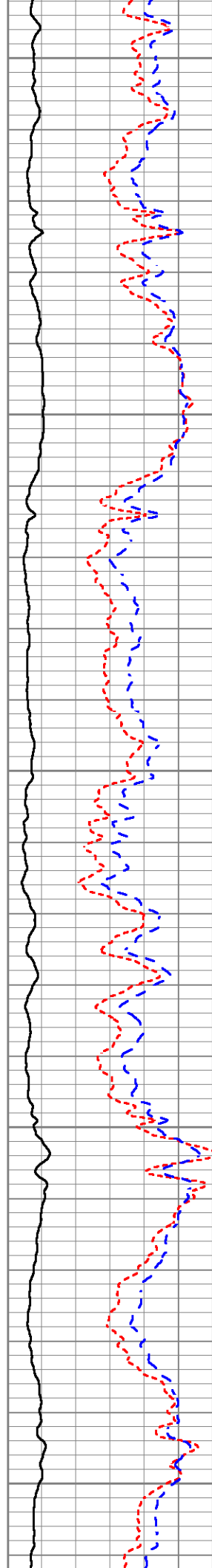
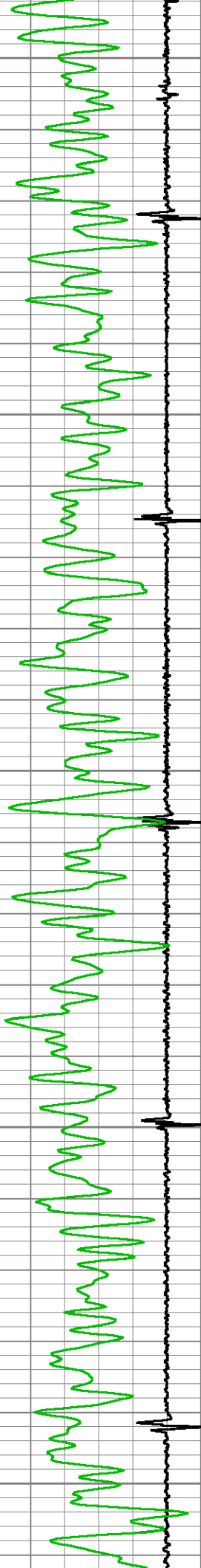
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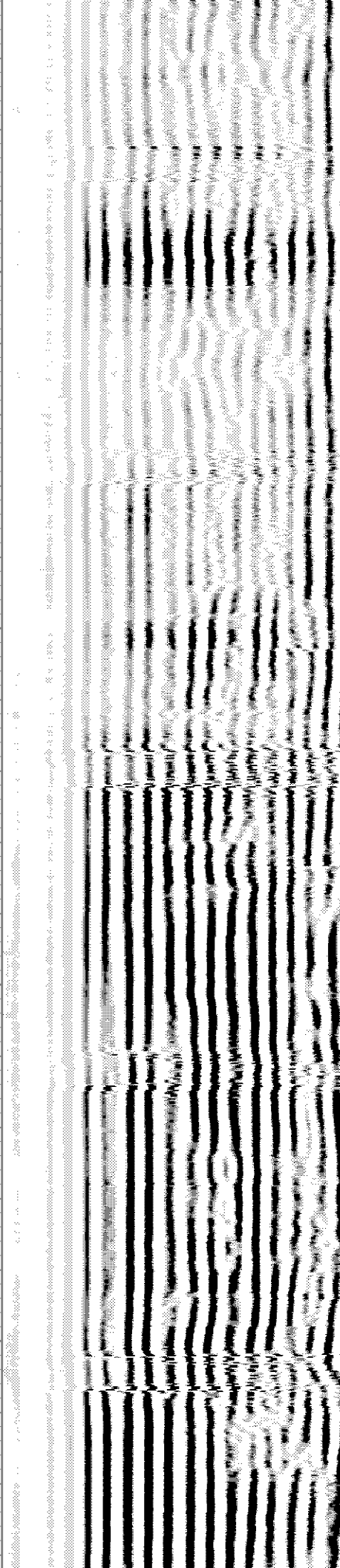
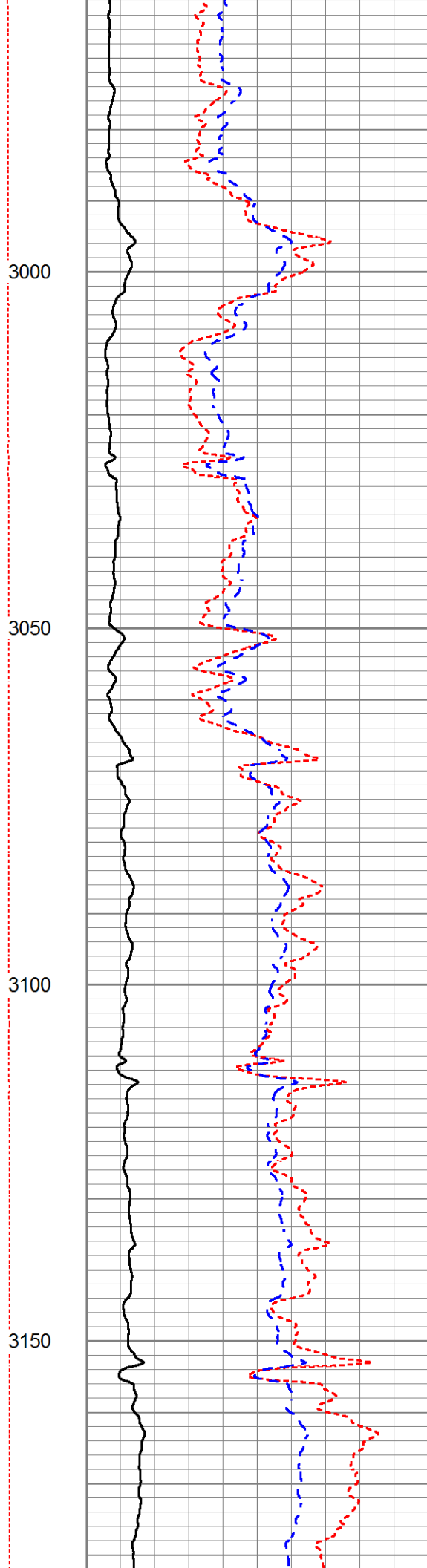
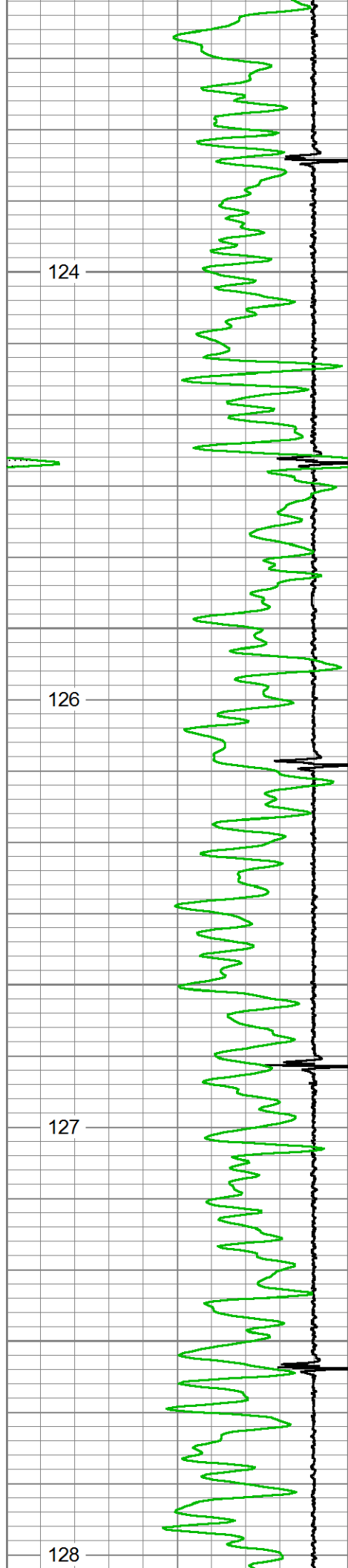
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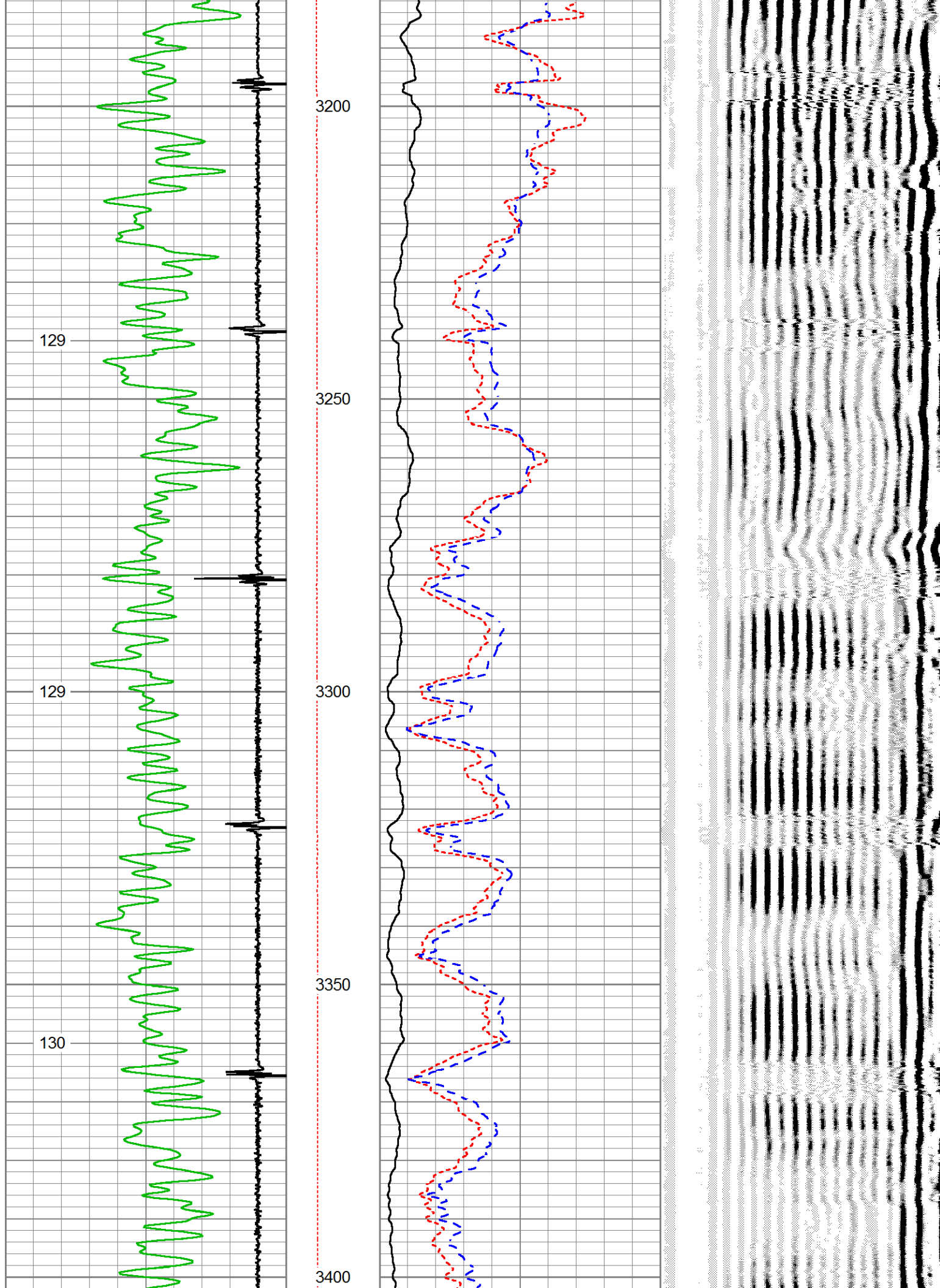
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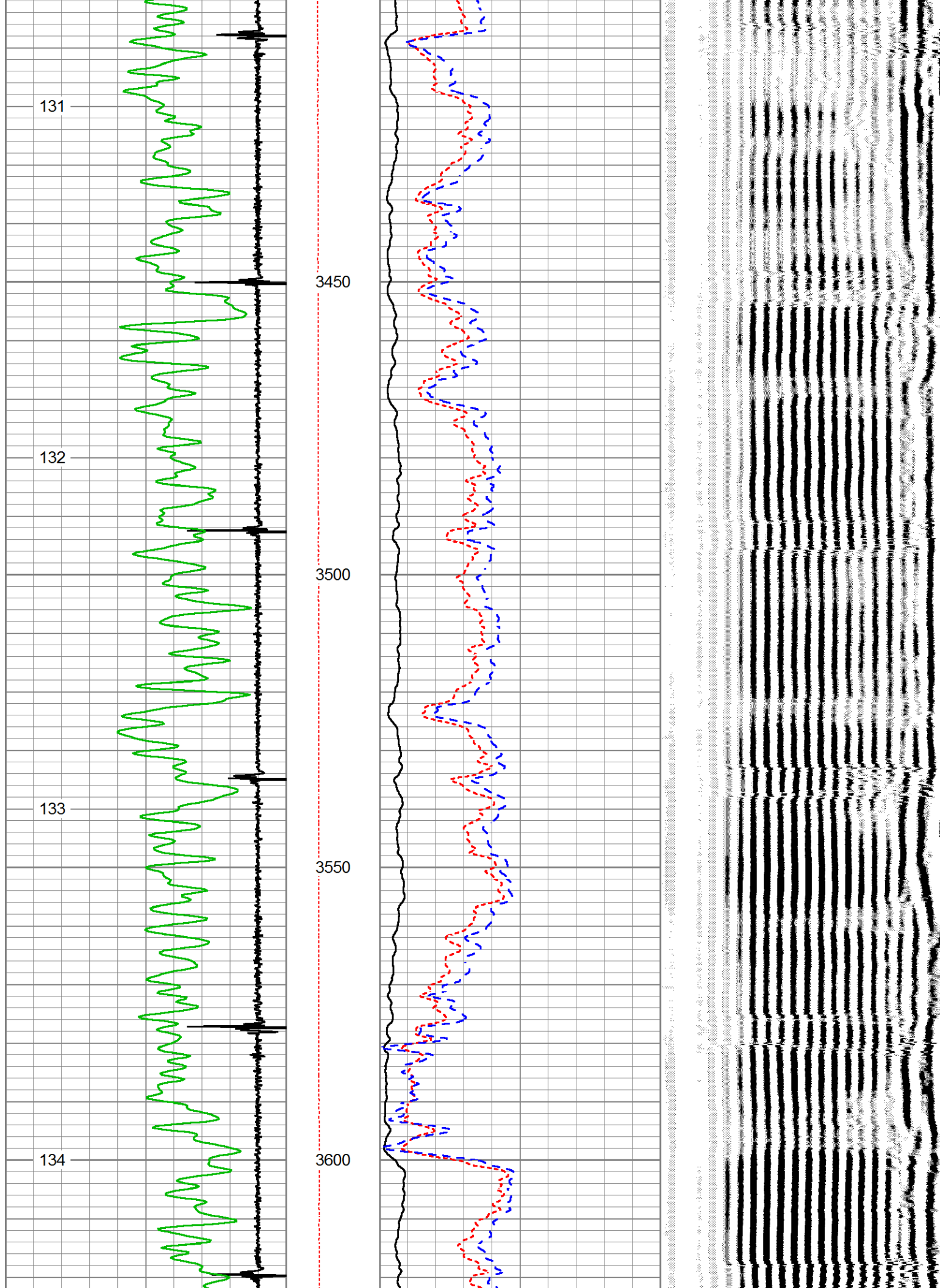
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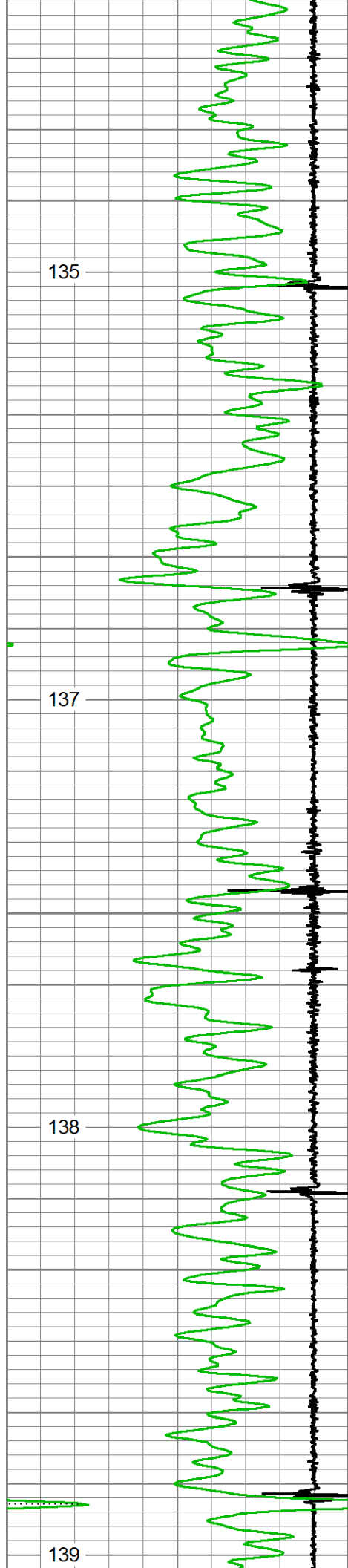










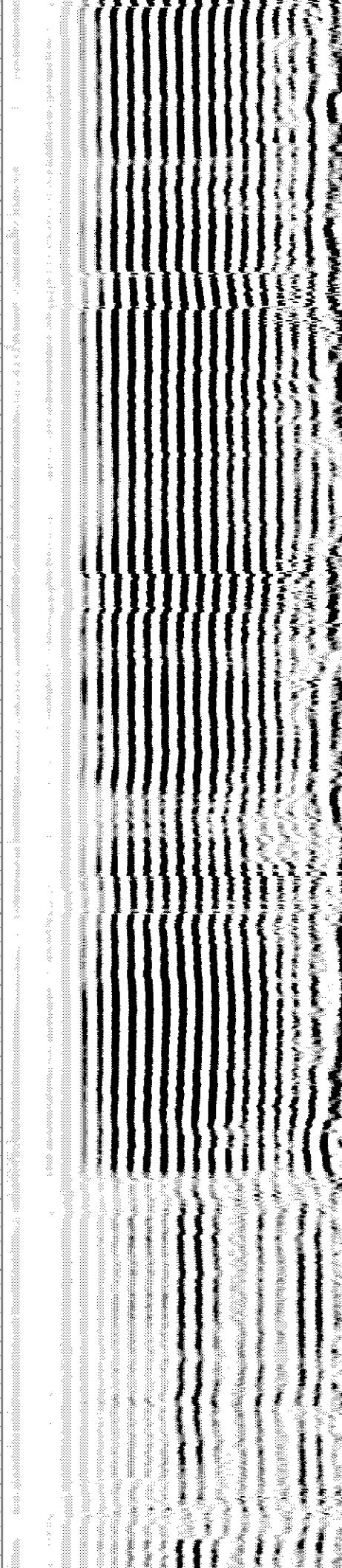
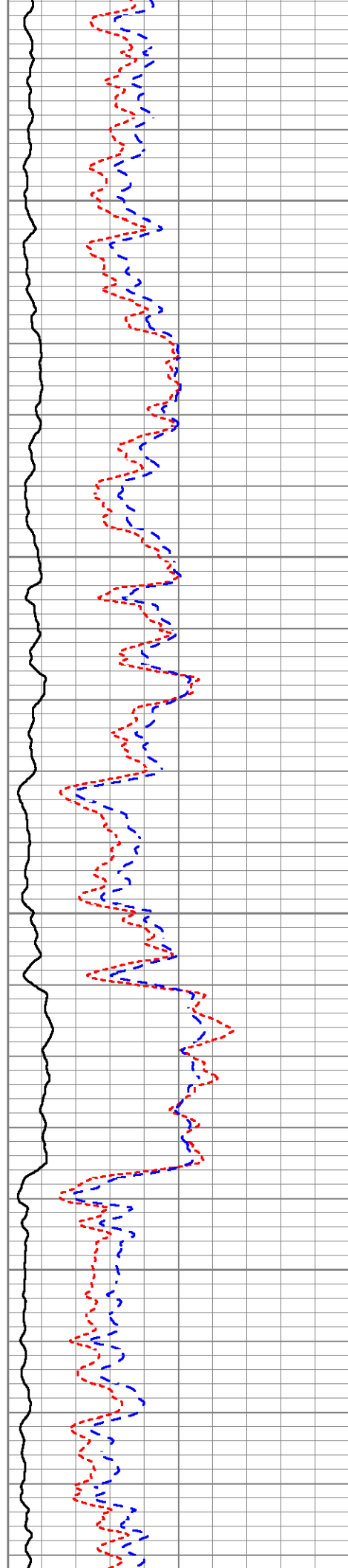


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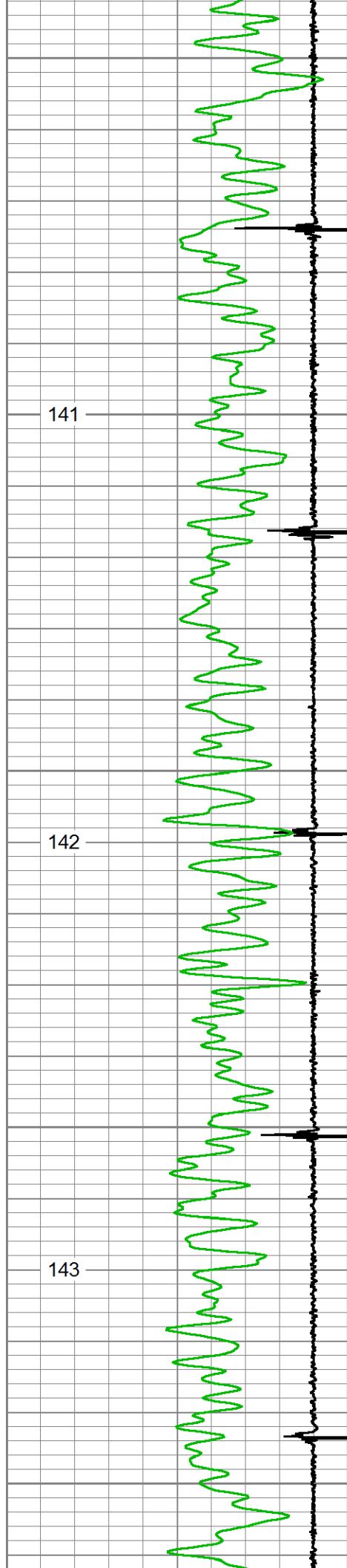
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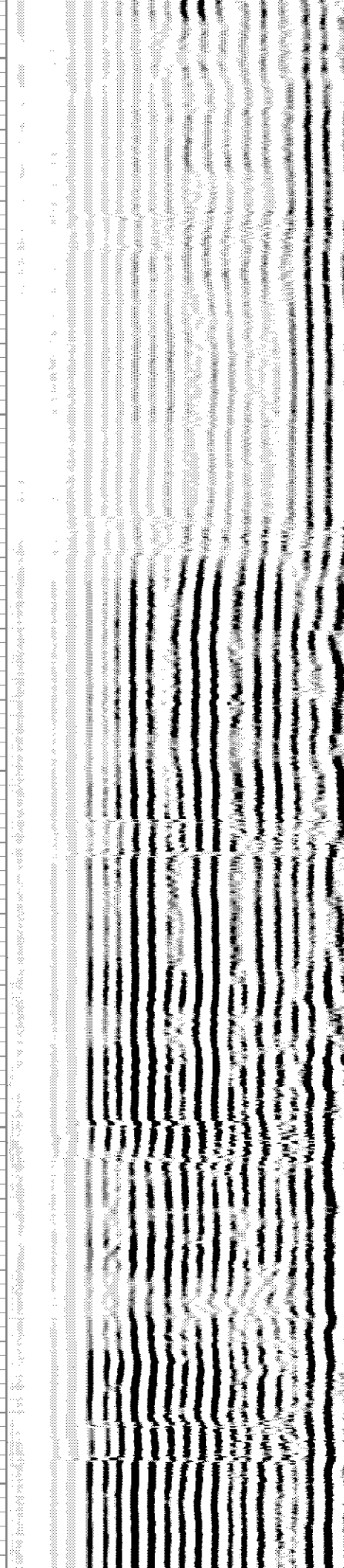
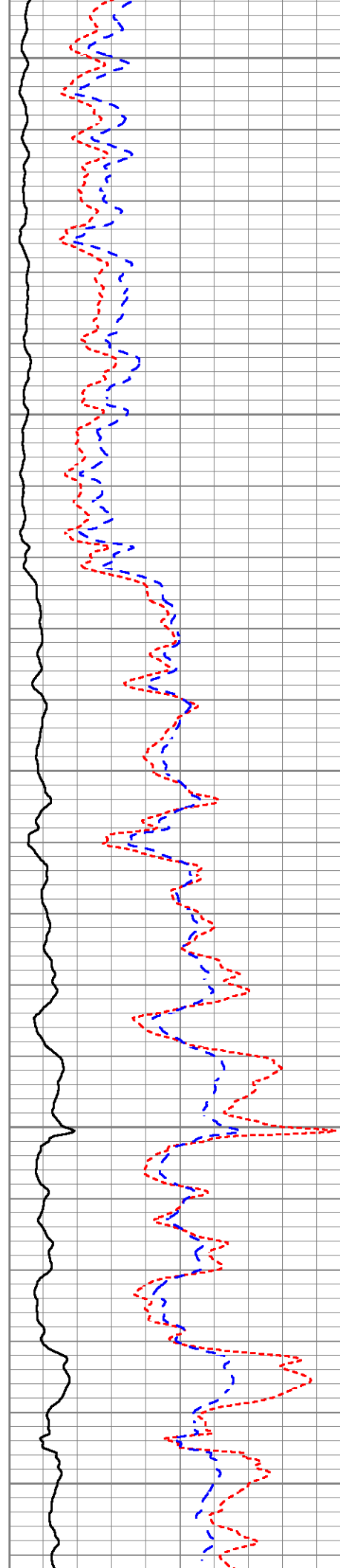
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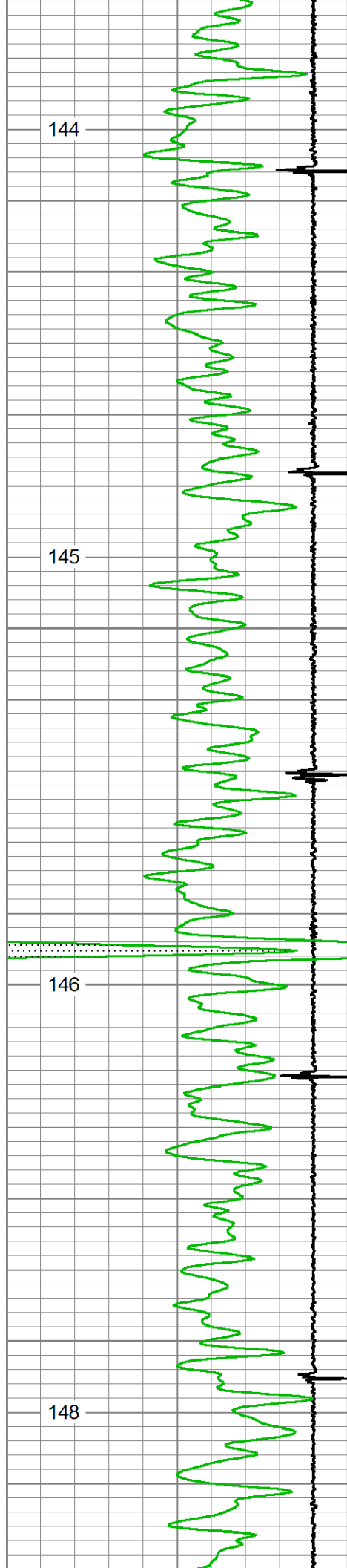
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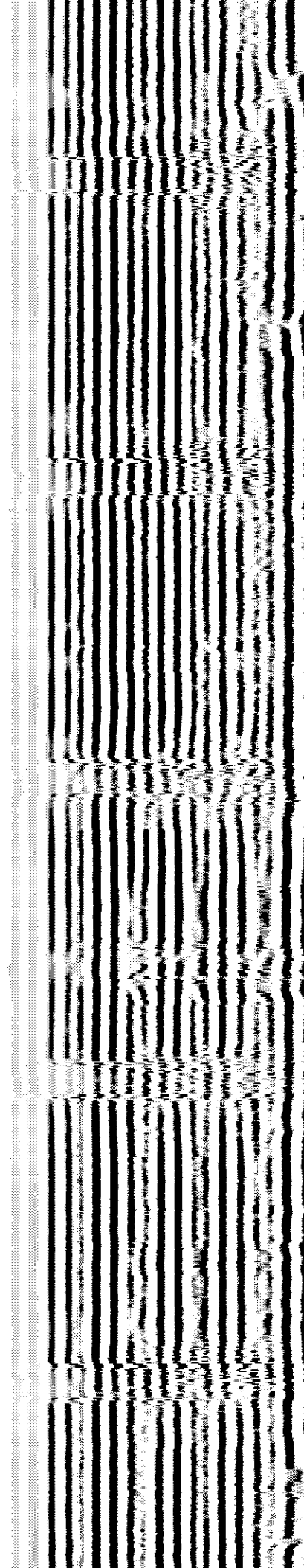
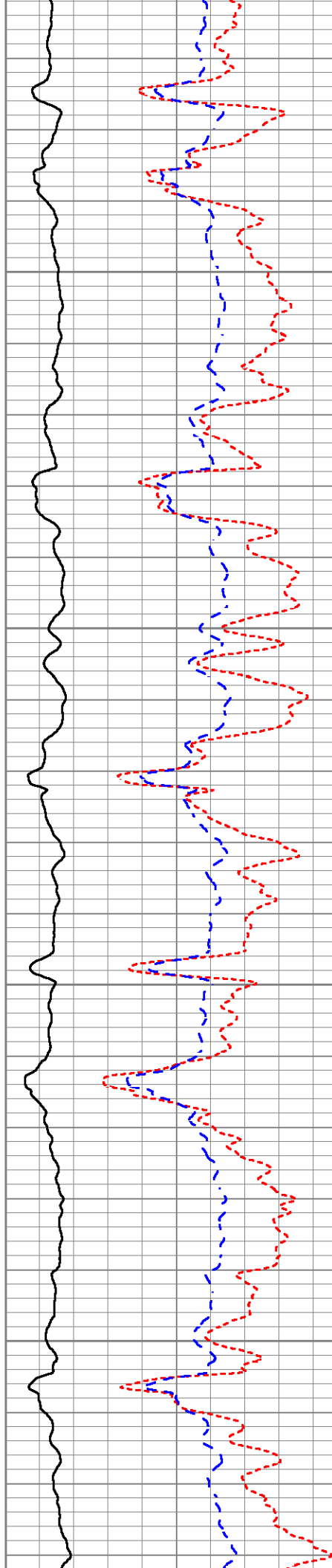


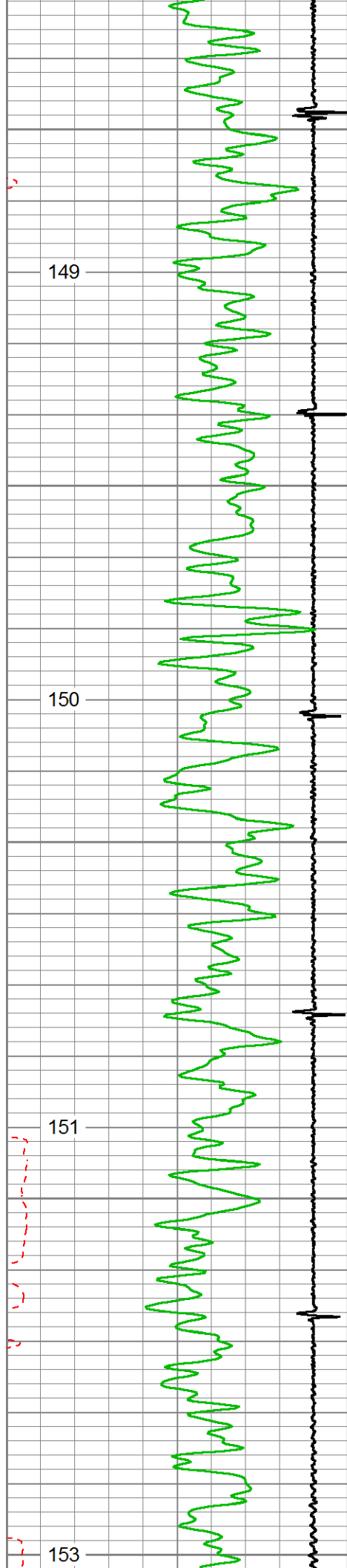
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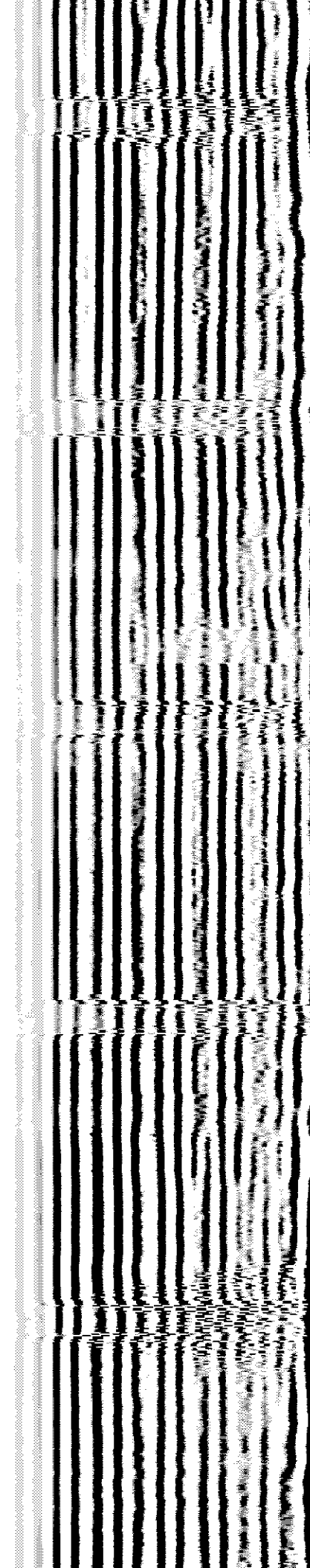
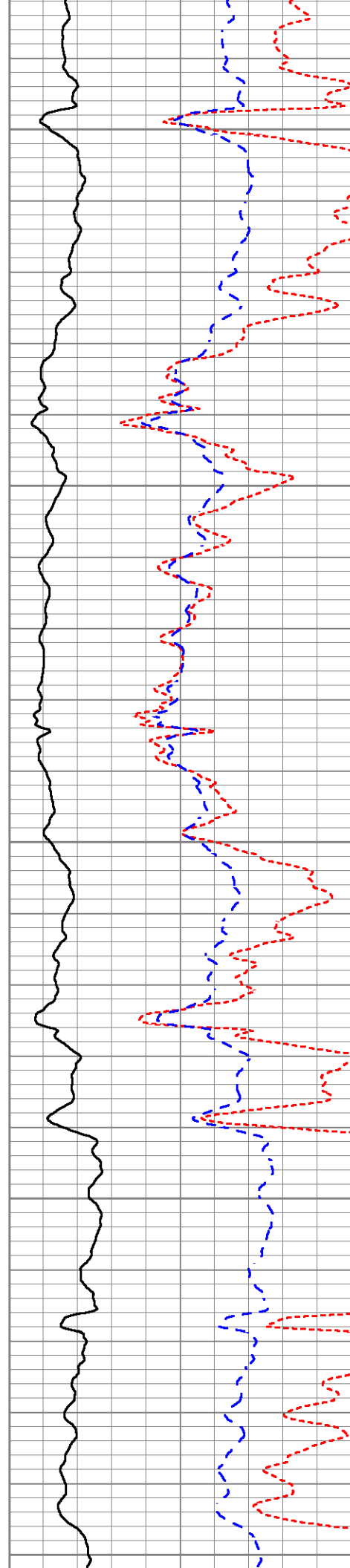
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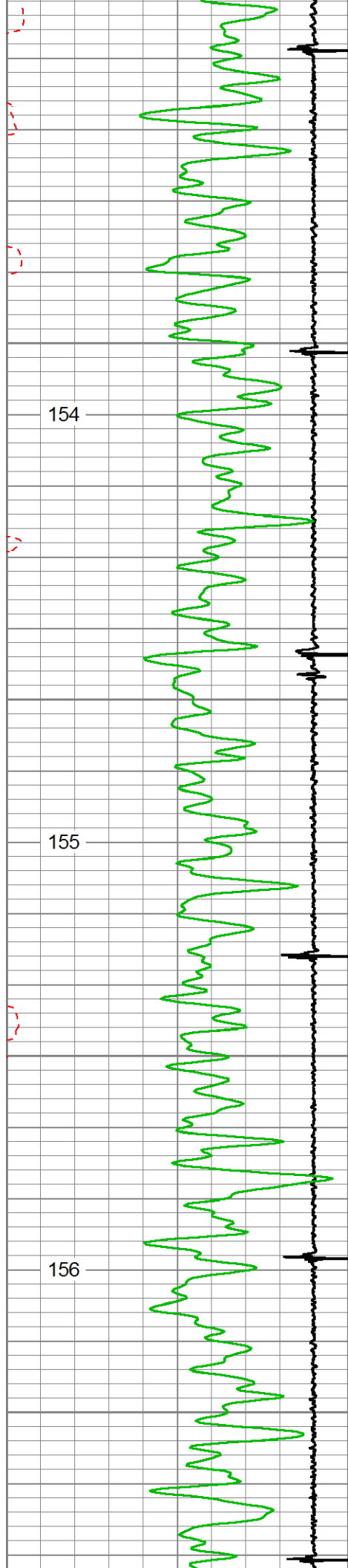
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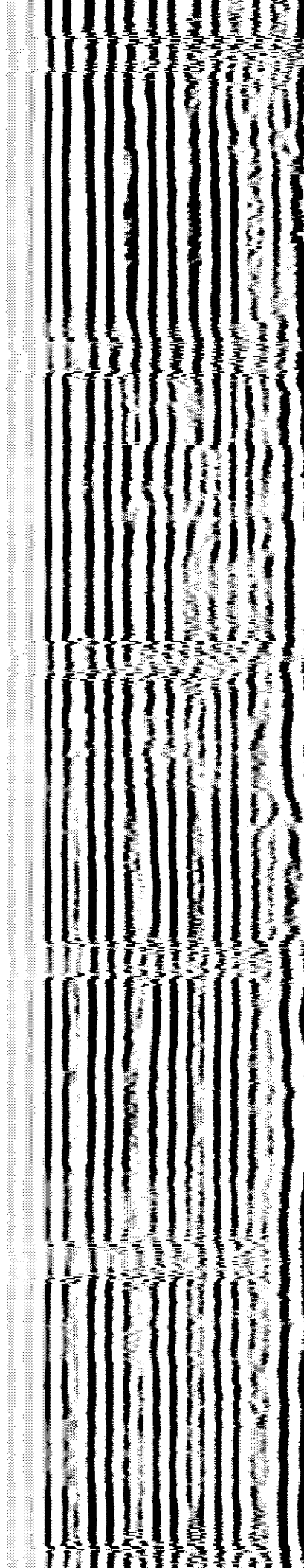
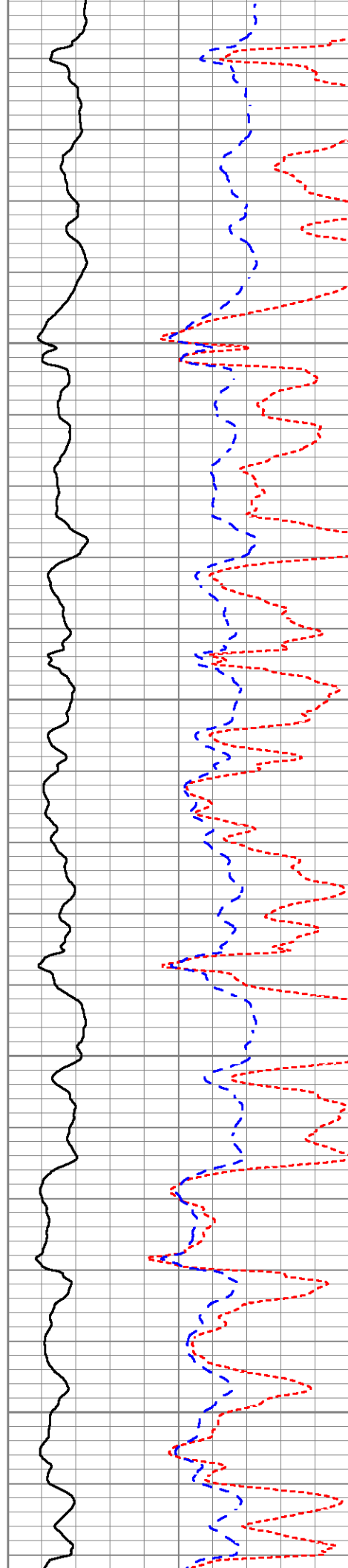
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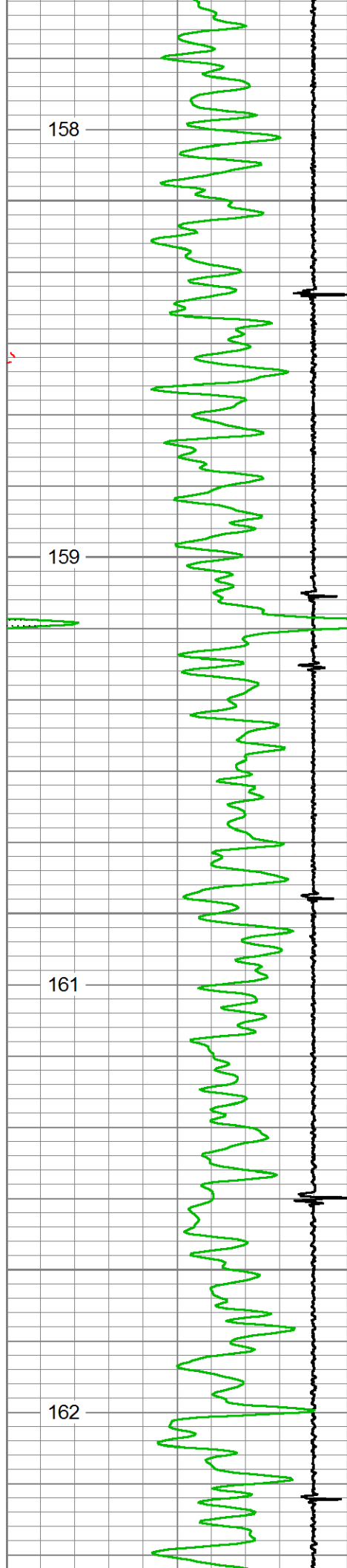
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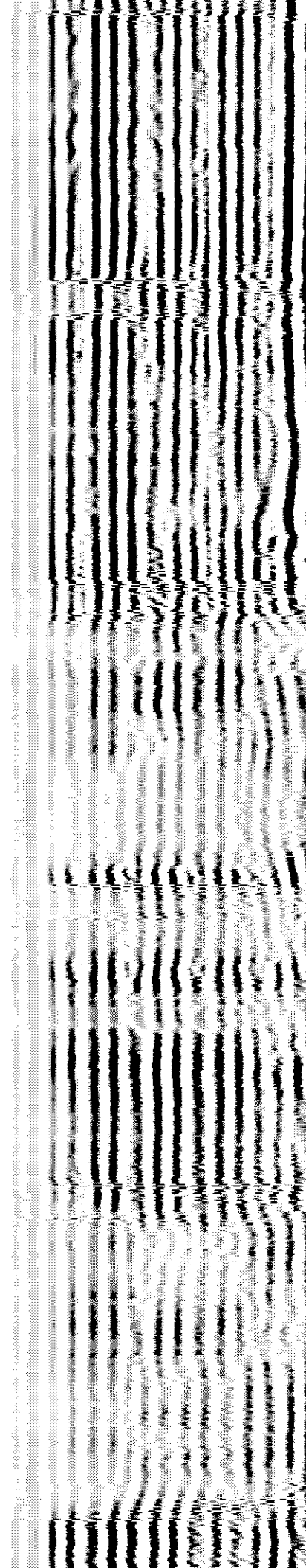
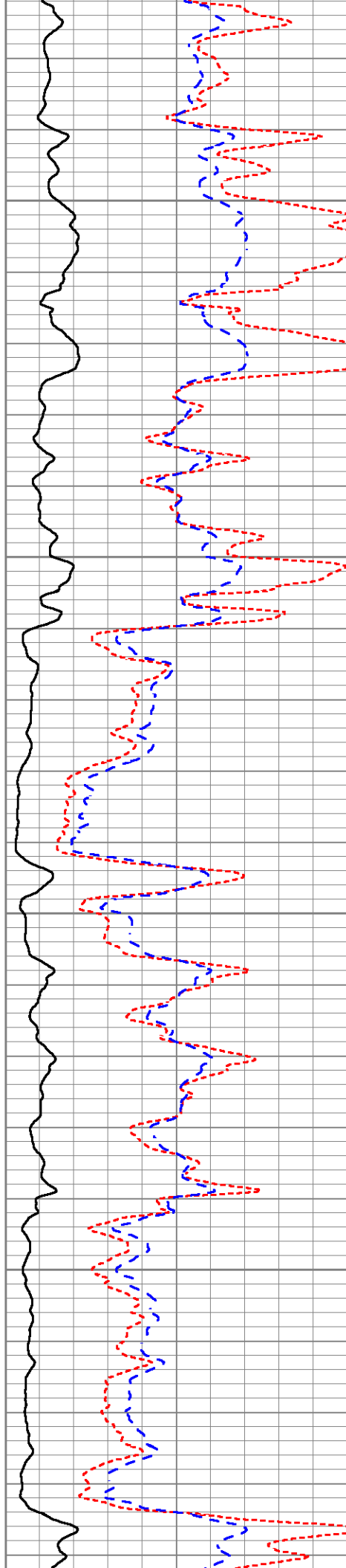


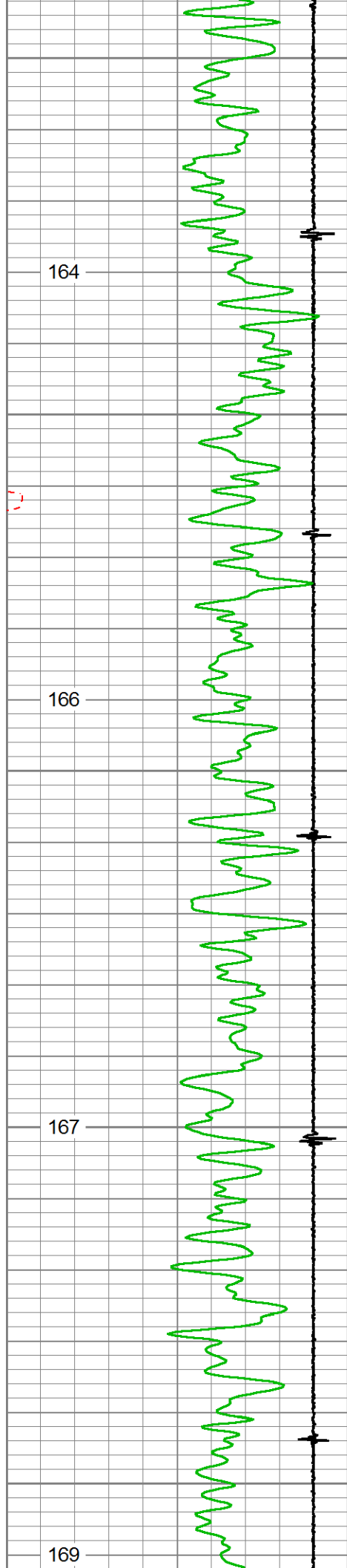
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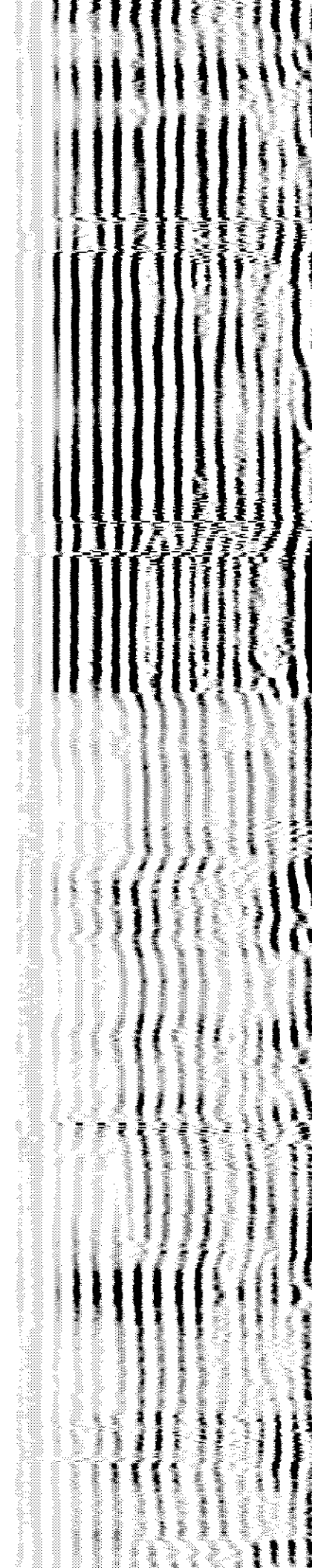
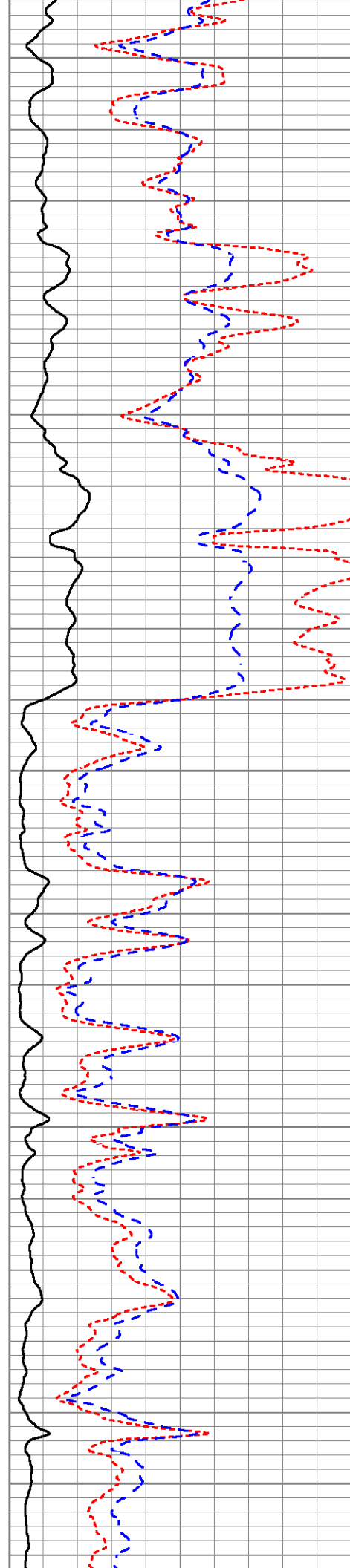
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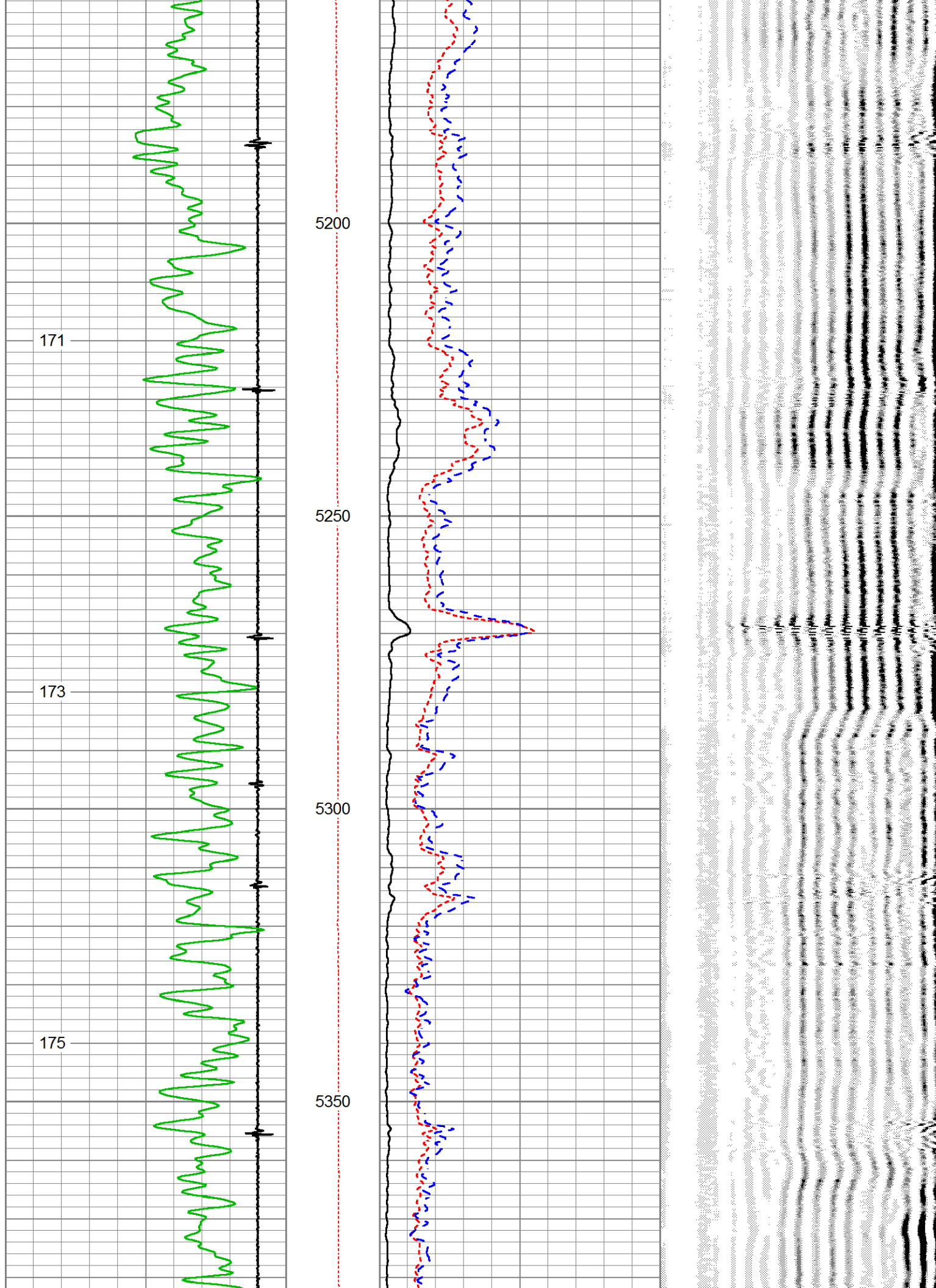
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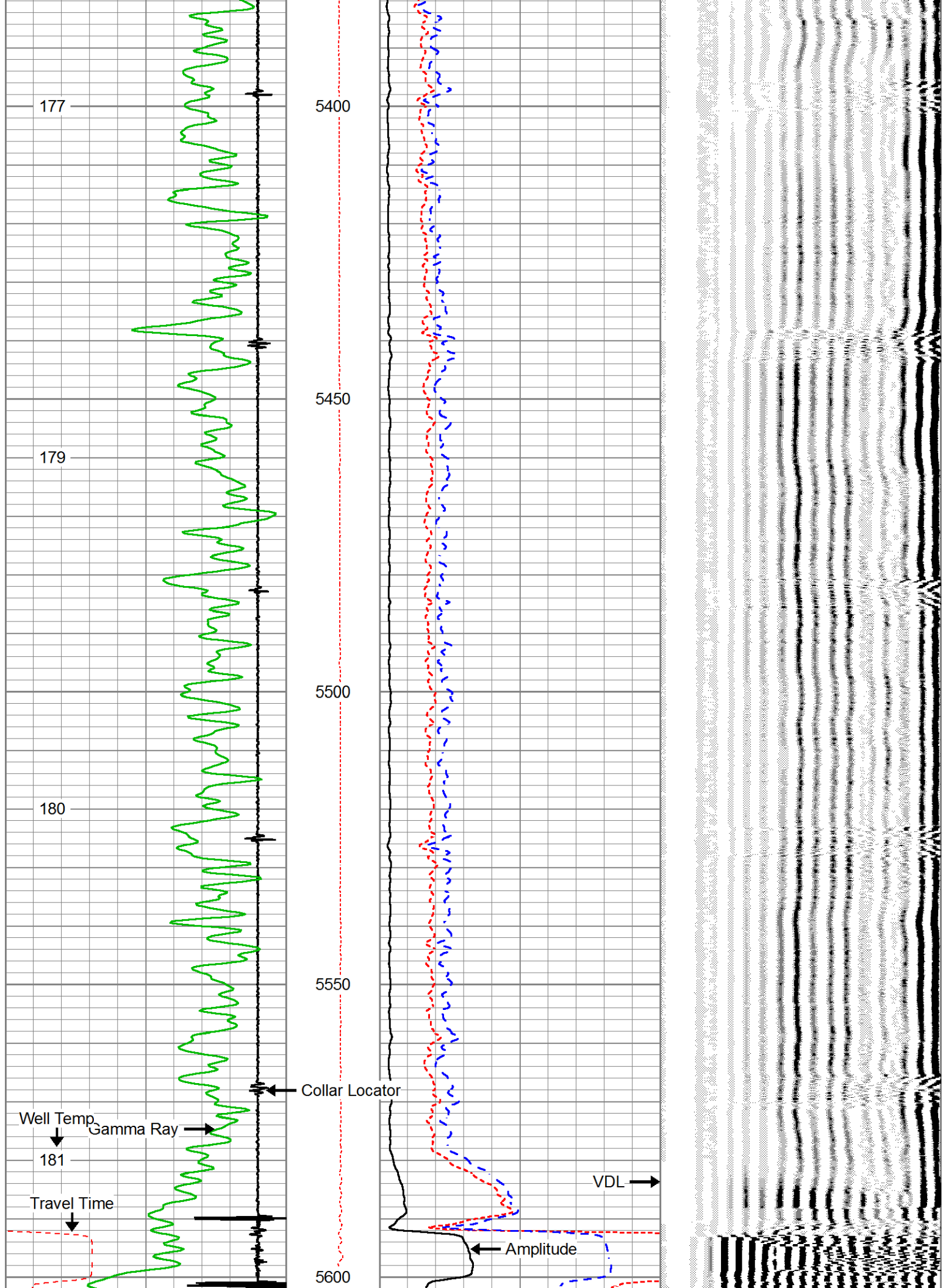
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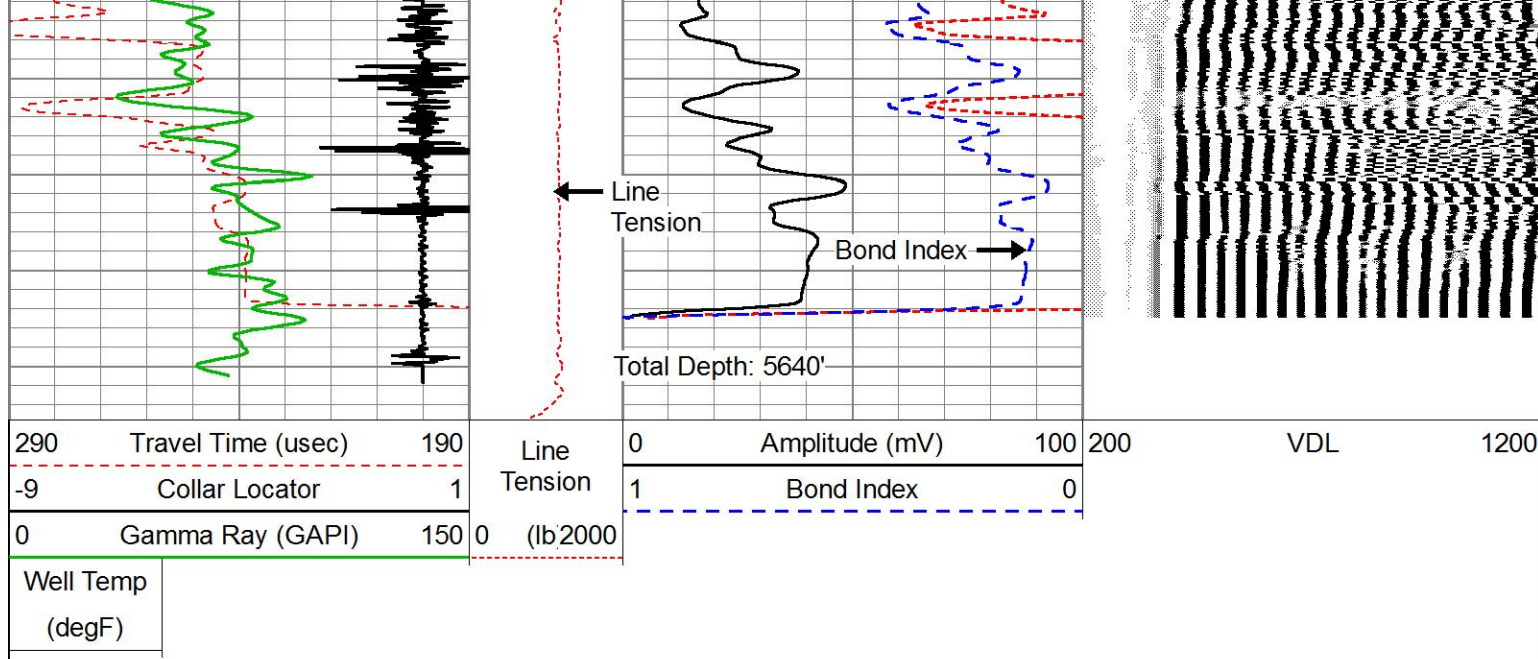















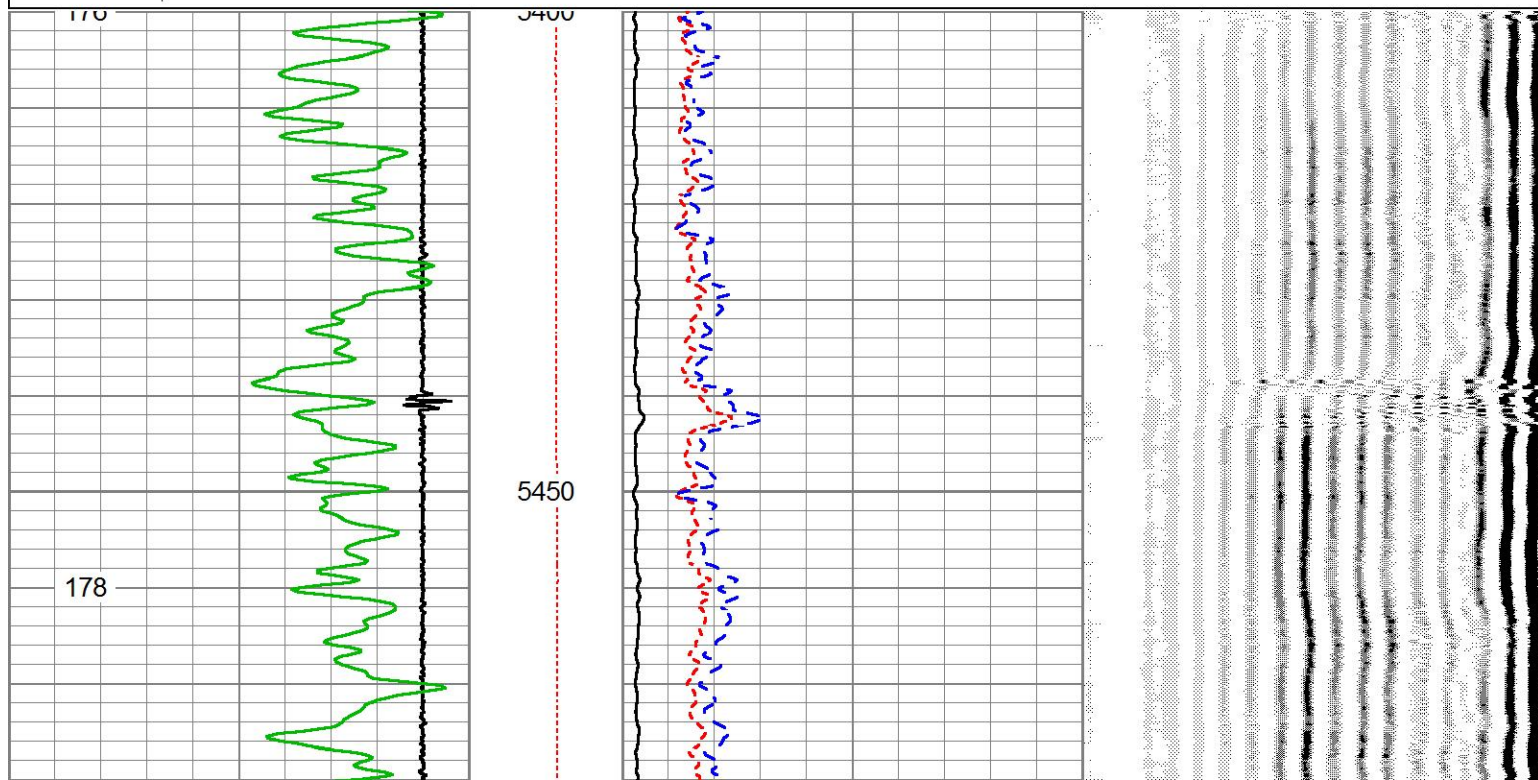
**PIONEER**  
Pioneer Energy Services

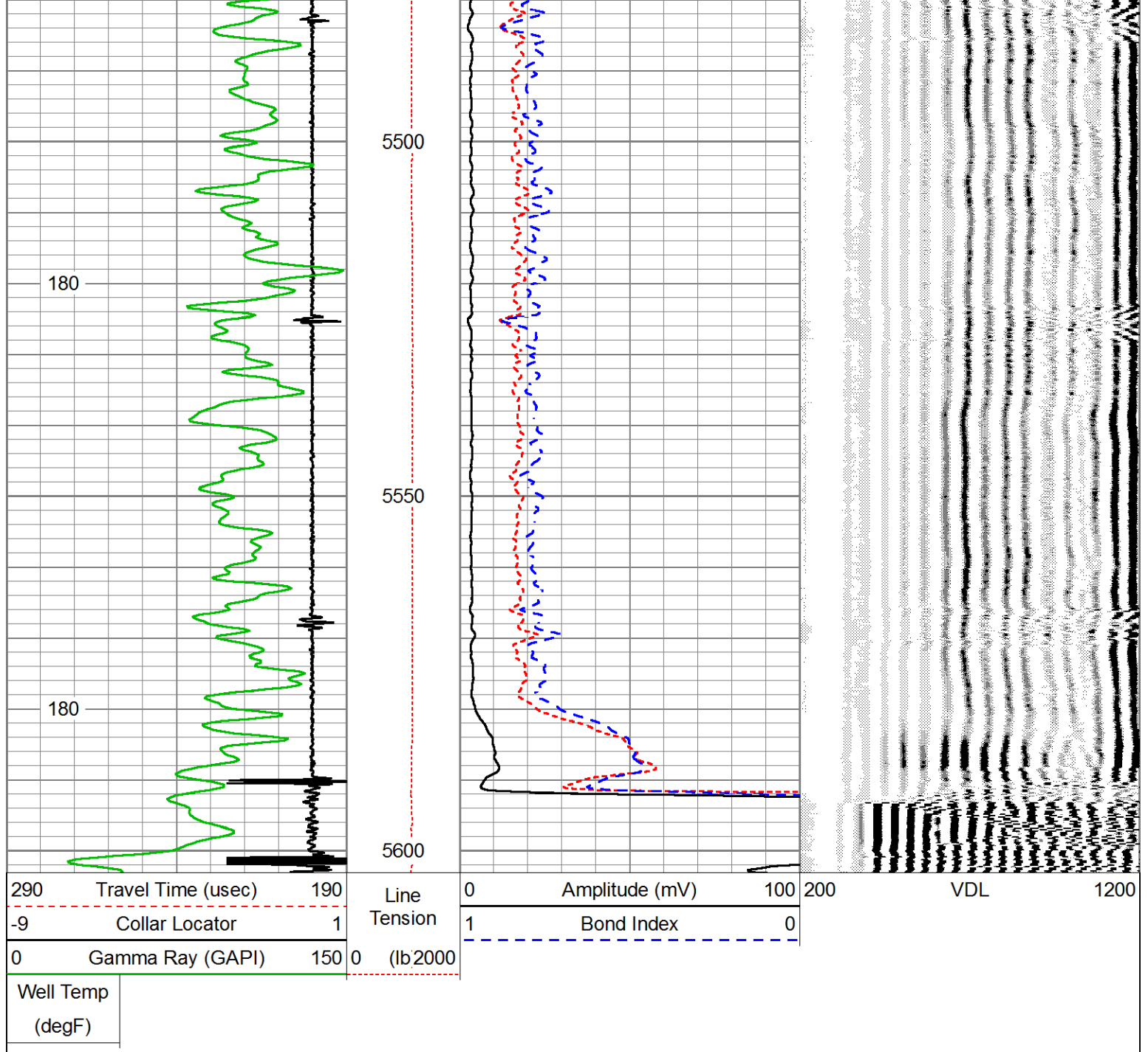
## REPEAT SECTION

LOGGED WITH 0 PSI APPLIED AT SURFACE

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 Dataset Pathname: pass2  
 Presentation Format: pinr\_cbl  
 Dataset Creation: Tue Dec 08 14:49:23 2015  
 Charted by: Depth in Feet scaled 1:240

290	Travel Time (uSec)	190	Line Tension	0	Amplitude (mV)	100	200	VDL	1200
-9	Collar Locator	1	1	1	Bond Index	0			
0	Gamma Ray (GAPI)	150	0	(lb/2000)					
Well Temp (degF)									





Calibration Report		
Database File	state pronghorn v-32-31mrlnb.db	
Dataset Pathname	pass1	
Dataset Creation	Tue Dec 08 13:13:01 2015	
Gamma Ray Calibration Report		
Serial Number:	111211	
Tool Model:	Probe	
Performed:	Tue Dec 01 07:35:29 2015	
Calibrator Value:	693.0	GAPI
Background Reading:	338.5	cps
Calibrator Reading:	1057.0	cps
Sensitivity:	0.9000	GAPI/cps
Segmented Cement Bond Log Calibration Report		

Serial Number: 141166\_7in  
Tool Model: RBT-C3  
Calibration Casing Diameter: 7.000 in  
Calibration Depth: 1108.300 ft

Master Calibration, performed Tue Dec 01 07:01:05 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.018	1.551	1.000	62.000	63.000	-0.500
CAL	0.014	1.749				
5'	0.012	1.520	1.000	62.000	47.035	0.427
SUM						
S1	0.019	1.508	0.000	100.000	67.153	-1.255
S2	0.019	1.538	0.000	100.000	65.814	-1.236
S3	0.019	1.532	0.000	100.000	66.111	-1.289
S4	0.019	1.529	0.000	100.000	66.199	-1.241
S5	0.019	1.522	0.000	100.000	66.509	-1.237
S6	0.017	1.532	0.000	100.000	65.992	-1.102
S7	0.018	1.515	0.000	100.000	66.774	-1.188
S8	0.019	1.542	0.000	100.000	65.640	-1.238

Temperature Calibration Report

Serial Number: 141166\_7in  
Tool Model: RBT-C3  
Performed: Wed Dec 02 09:38:42 2015

	Reference	Reading
Low Reference:	35.00 degF	29.90 degF
High Reference:	91.00 degF	102.60 degF
Gain:	0.77	
Offset:	11.97	
Delta Spacing	1	



Company	BONANZA CREEK ENERGY
Well	STATE PRONGHORN 41-32-31MRLNB
Field	WATTENBERG
County	WELD
State	COLORADO
Country	USA