



**RADIAL CEMENT BOND
GAMMA RAY/CCLVDL**

Company ANTERO RESOURCES CORPORATION
 Well HEINTZMAN UNIT 3H
 Field MARCELLUS
 County TYLER
 State W.V.

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 County TYLER State W.V.

Location: API #: 47095025280000 Other Services
 SEC TWP RGE Elevation N/A
 Permanent Datum G.L. K.B. N/A
 Log Measured From G.L. D.F. N/A
 Drilling Measured From K.B. G.L. N/A

Date	2/4/19
Run Number	ONE
Depth Driller	17263
Depth Logger	6991
Bottom Logged Interval	6935
Top Log Interval	SURFACE
Open Hole Size	8.5"
Type Fluid	H2O
Density / Viscosity	N/A
Max. Recorded Temp.	141 DEG
Estimated Cement Top	1550 FT
Time Well Ready	N/A
Time Logger on Bottom	N/A
Equipment Number	340
Location	BRIDGEPORT.WV
Recorded By	K.LINGER
Witnessed By	JAY TEPPER

Borehole Record		Casing Record					
Run Number	Bit	From	To	Size	Weight	From	To
				5.5	23	0	17263

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, 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. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

THANK YOU FOR USING KLX ENERGY SERVICES
 SHIFTED DOWN HOLE 4 FT TO MATCH PIPE TALLY
 TOP OF CEMENT @ 1550 FT
 BOTTOM HOLE TEMP- 141 DEG
 MARKER JOINT @ 6014-6025

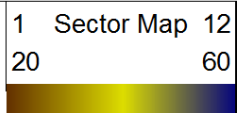


MAIN PASS 1500 PSI

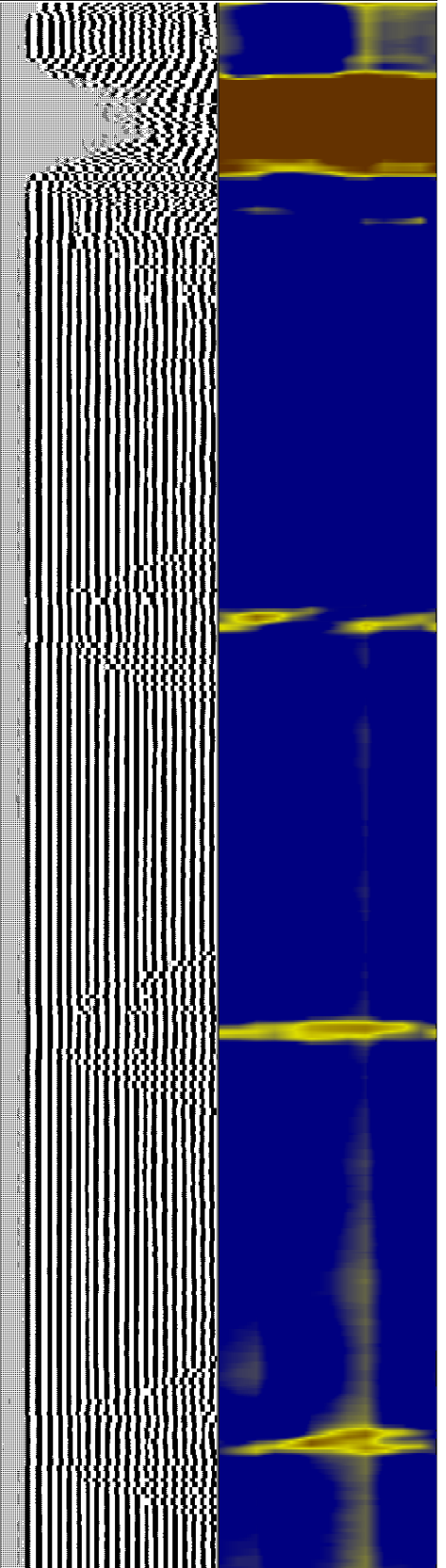
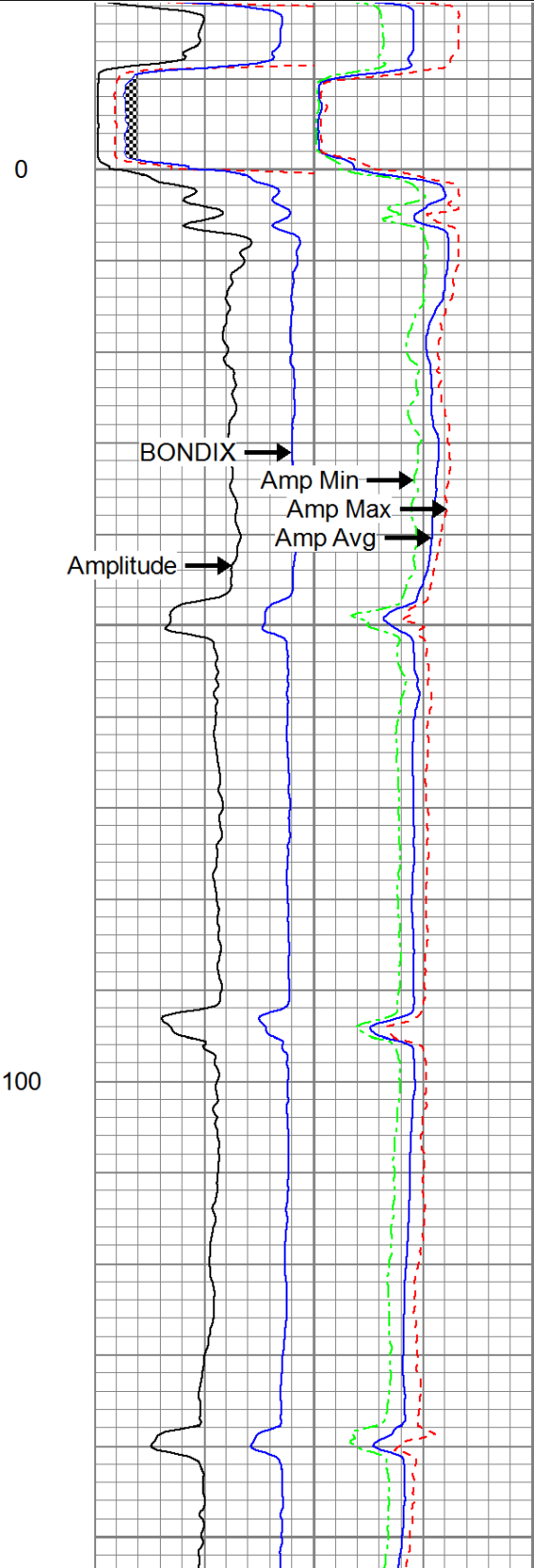
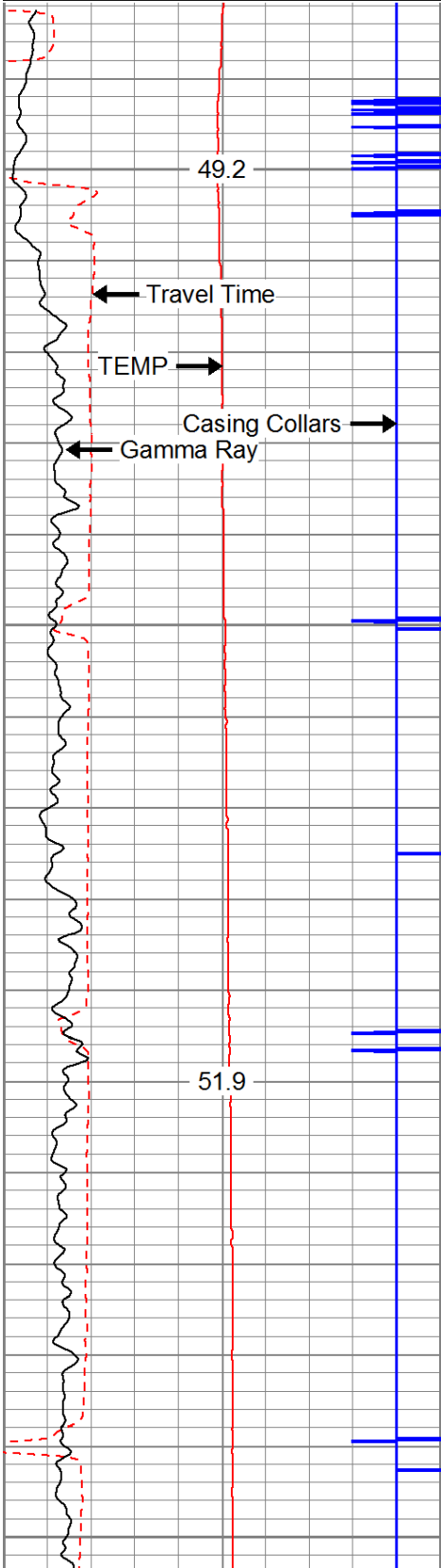
Database File: f:\2019 antero\pyle run\heintzman_3h.db
 Dataset Pathname: pass5.1
 Presentation Format: antero
 Dataset Creation: Mon Feb 04 11:39:16 2019 by Calc 7.0 B1
 Charted by: Depth in Feet scaled 1:240

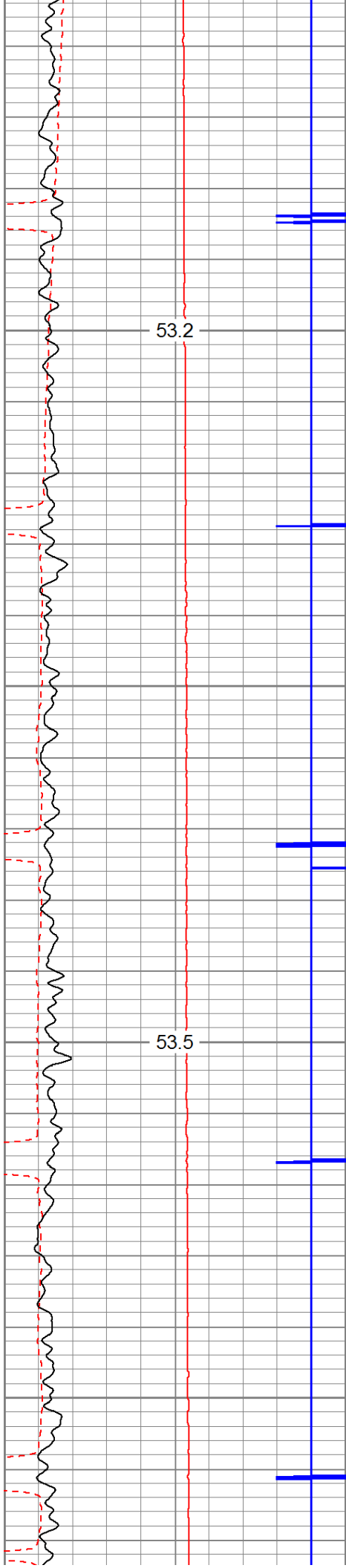
225	Travel Time (usec)	125
9	Casing Collars	-1
0	Gamma Ray	180
0	TEMP (degF)	100

Amplitude	0	Amp Avg	150	200	VDL	1200
(mV)	100	Amp Max	150			
AmpX5 (mV)	20	Amp Min	150			
BONDIX	0					



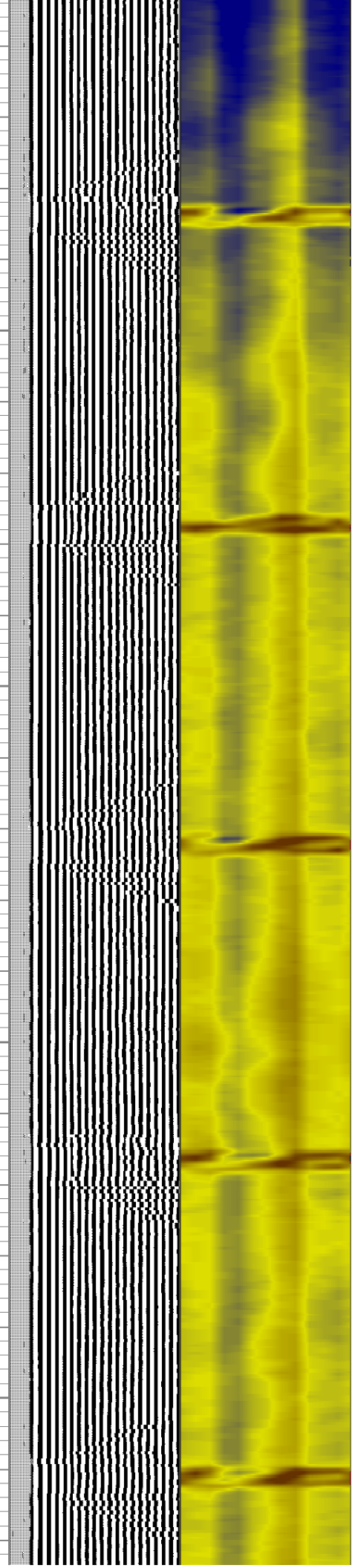
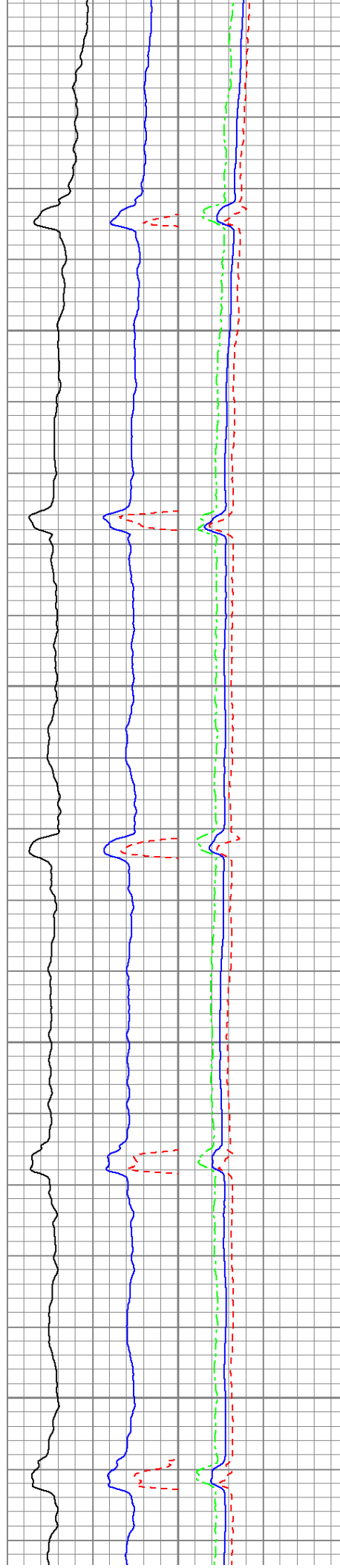
TEMP (degF)

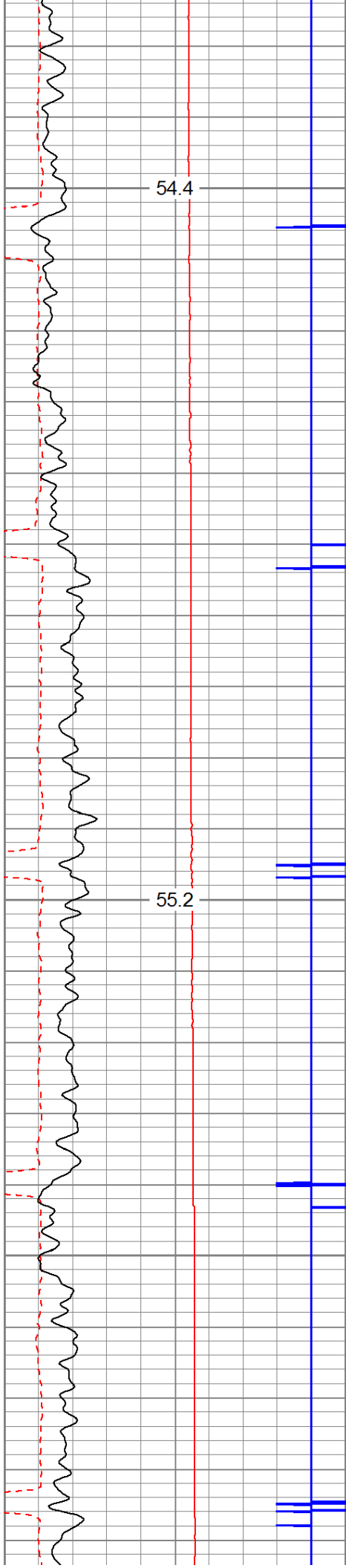




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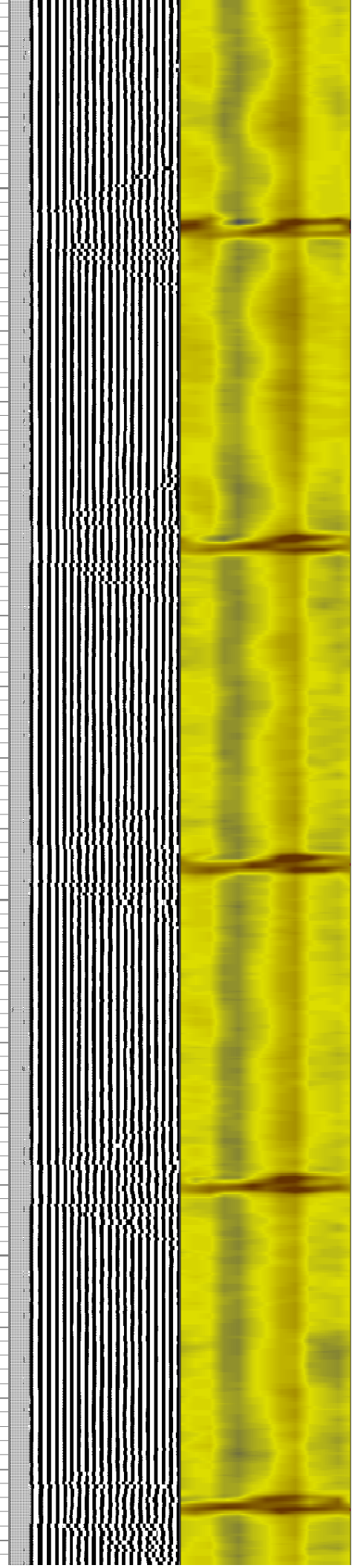
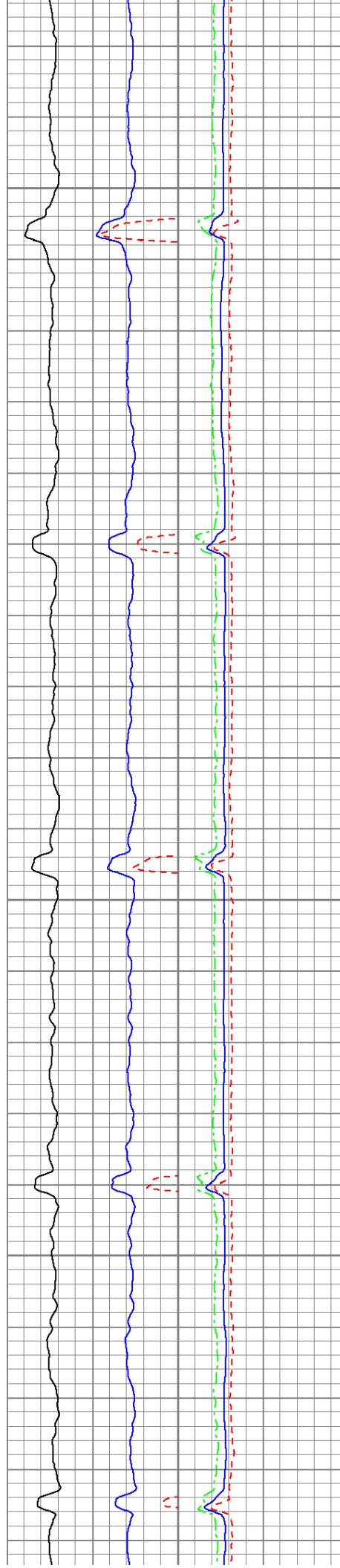
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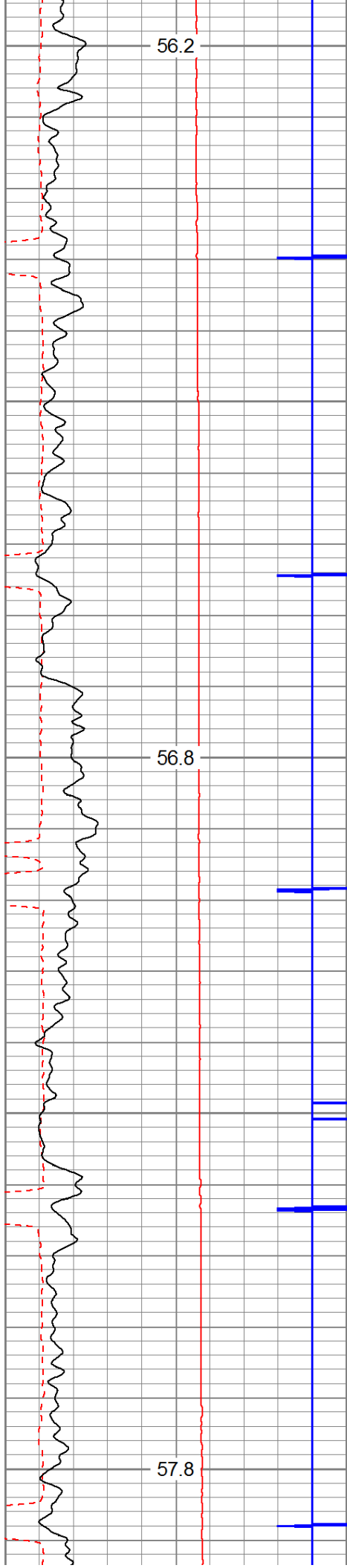




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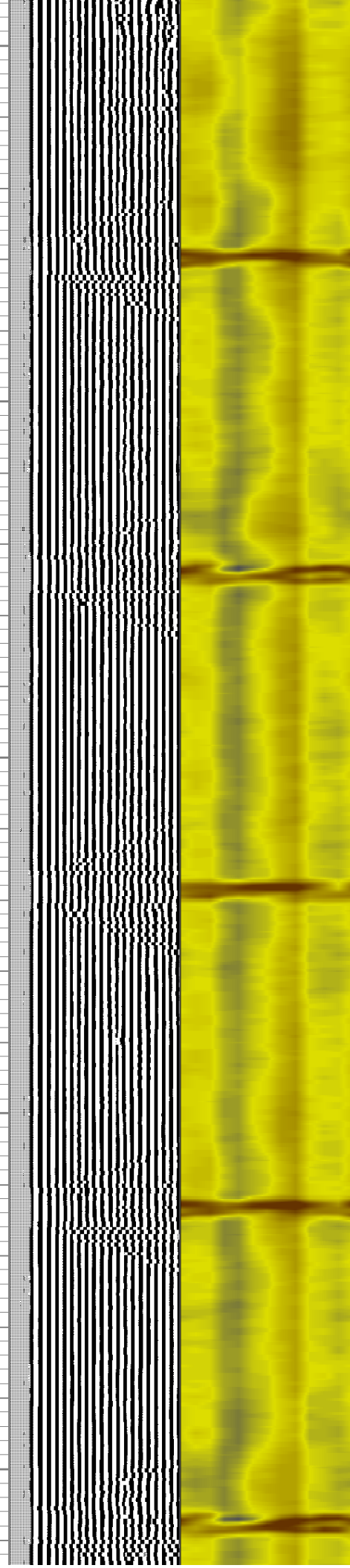
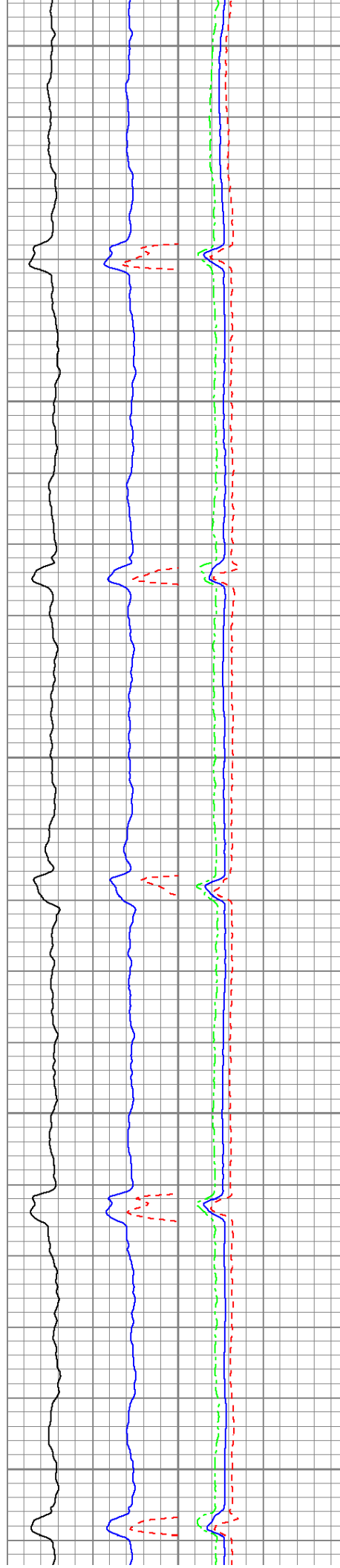


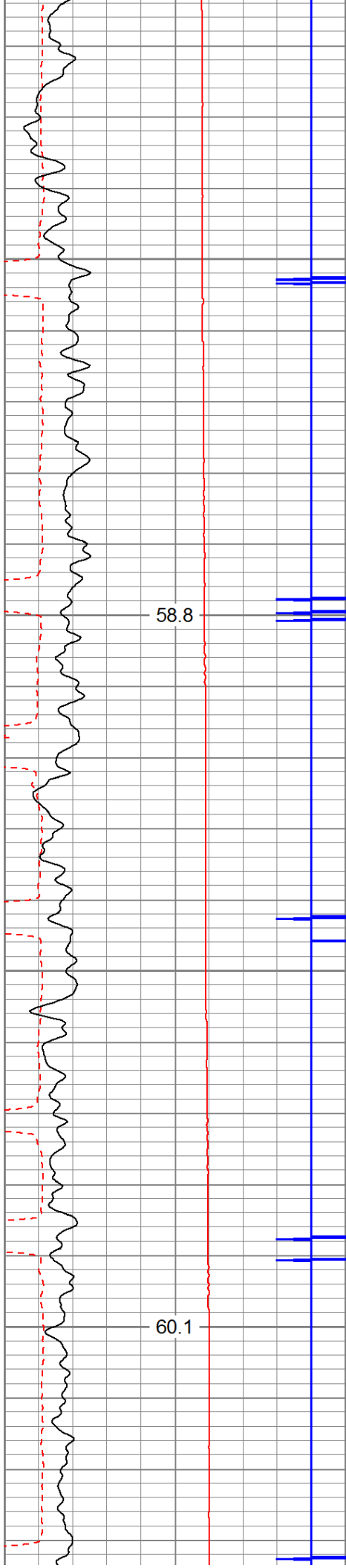


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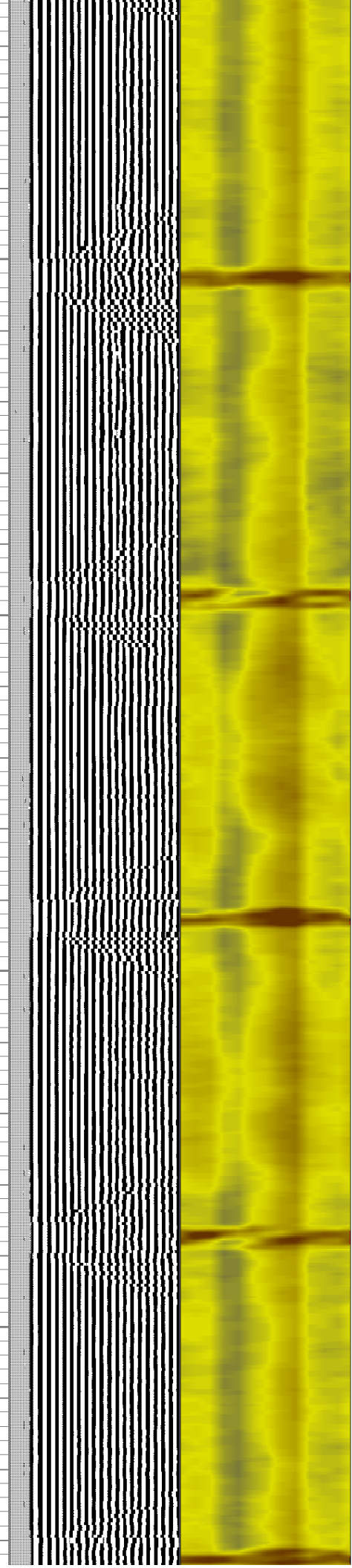
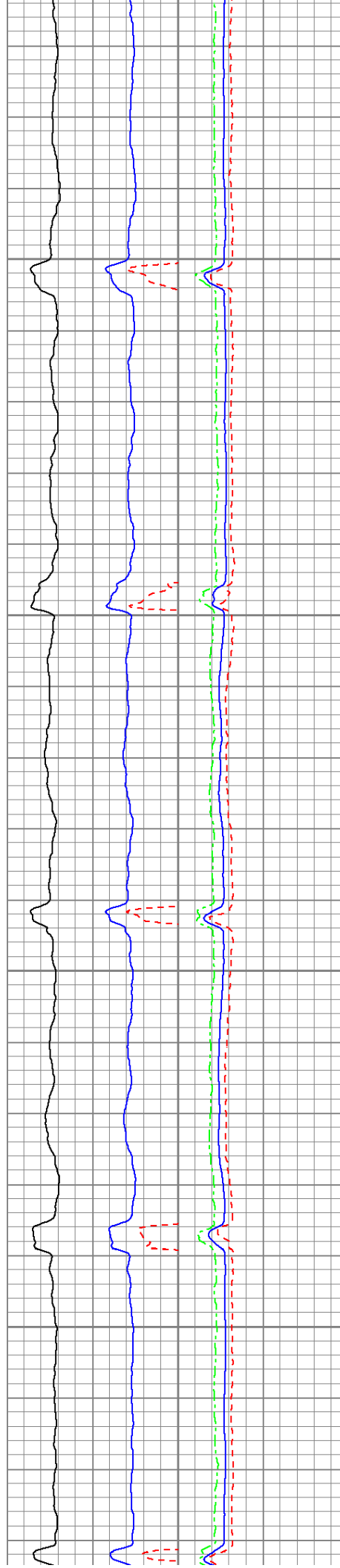
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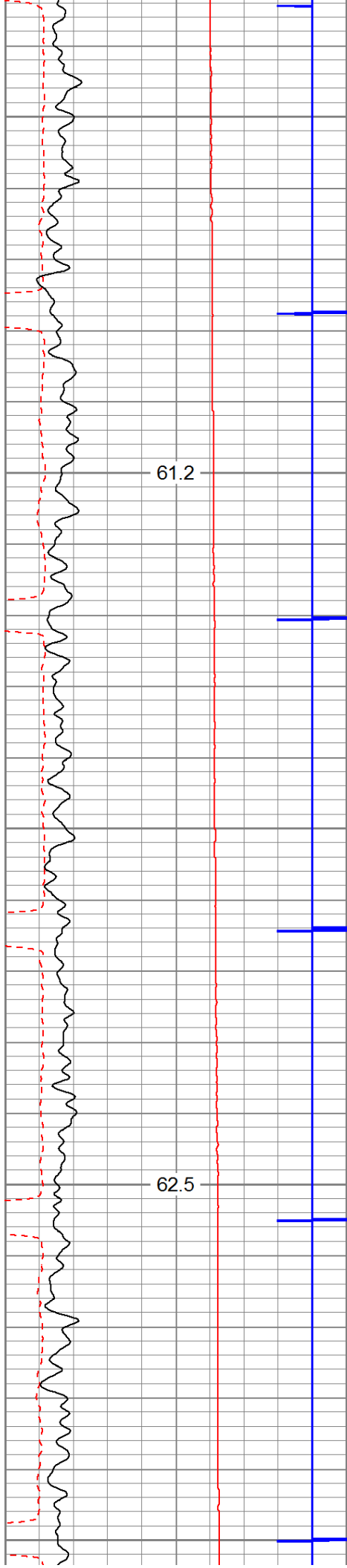




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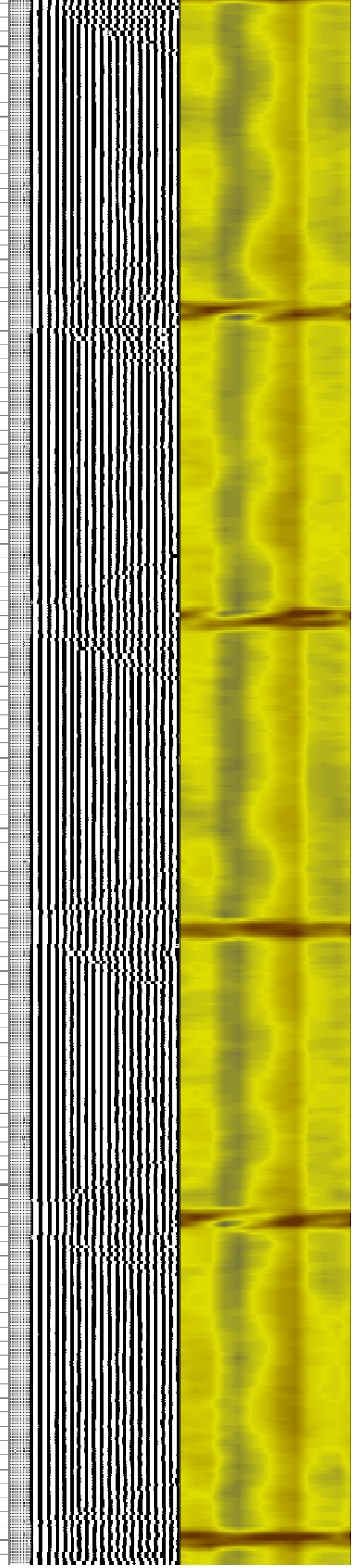
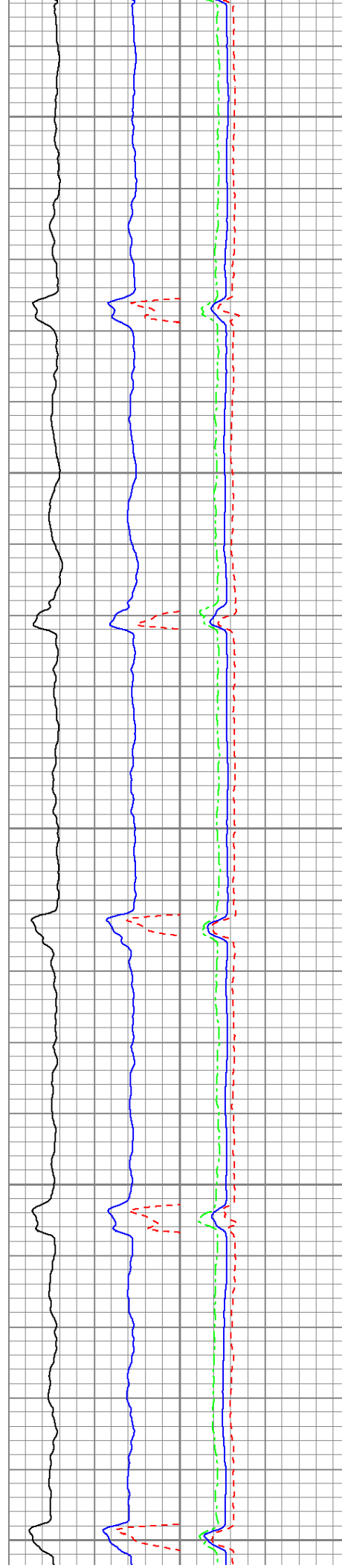
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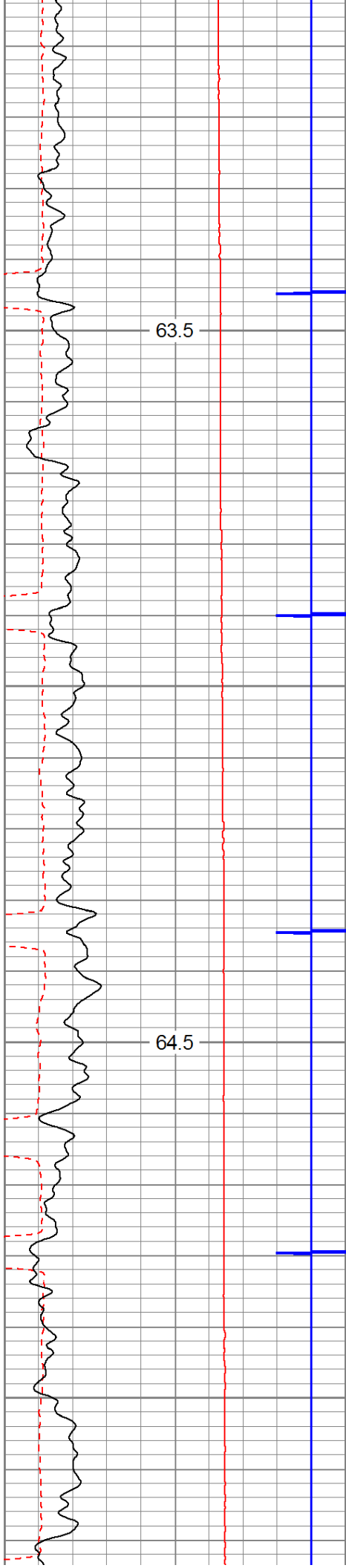




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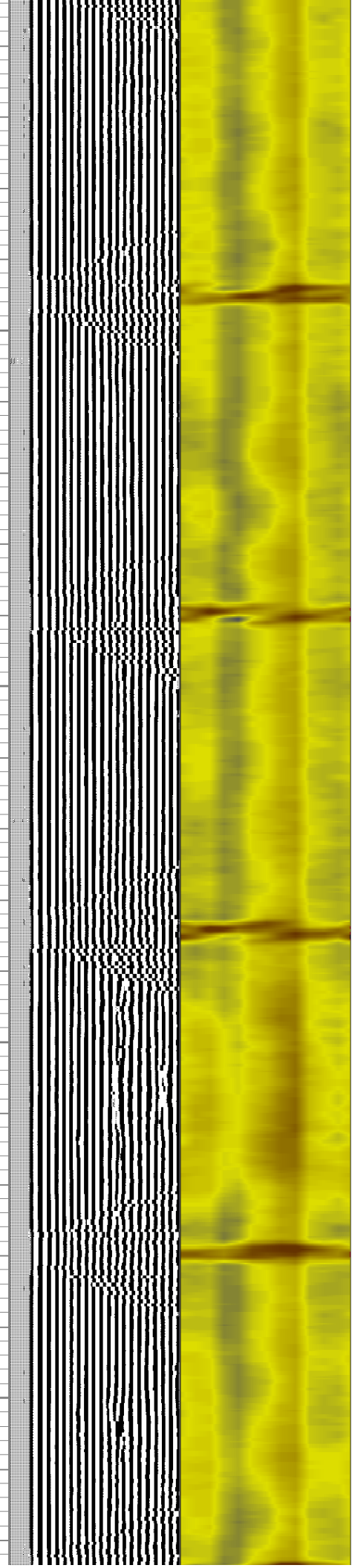
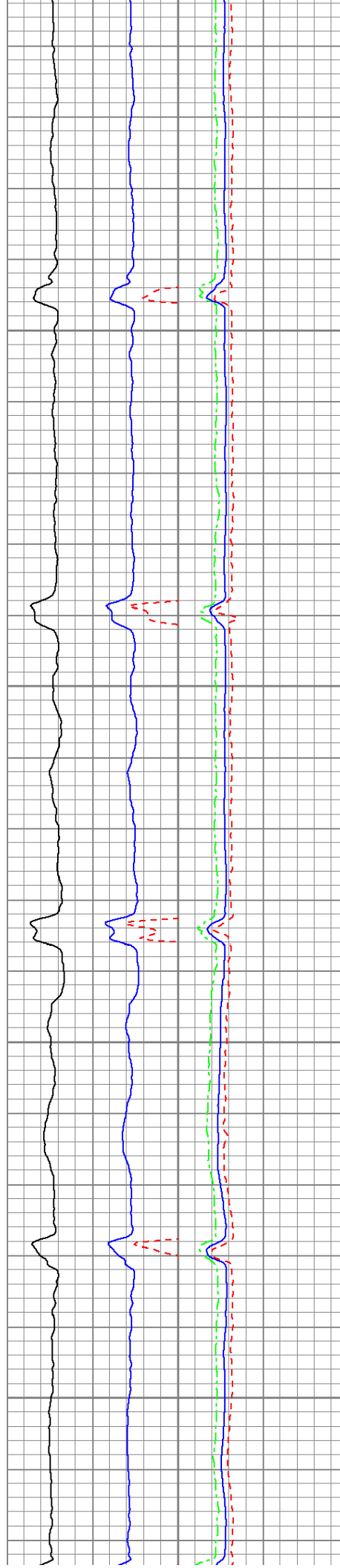
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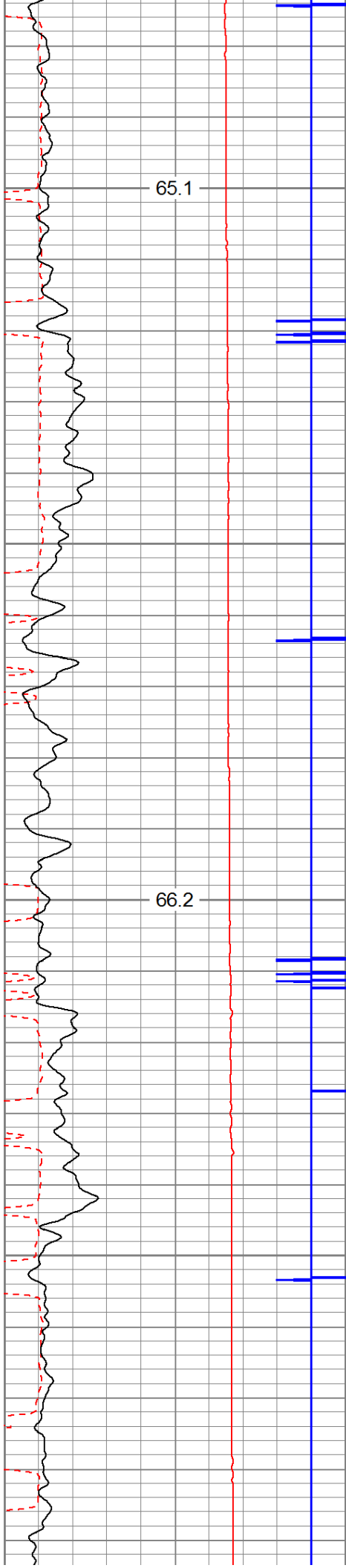




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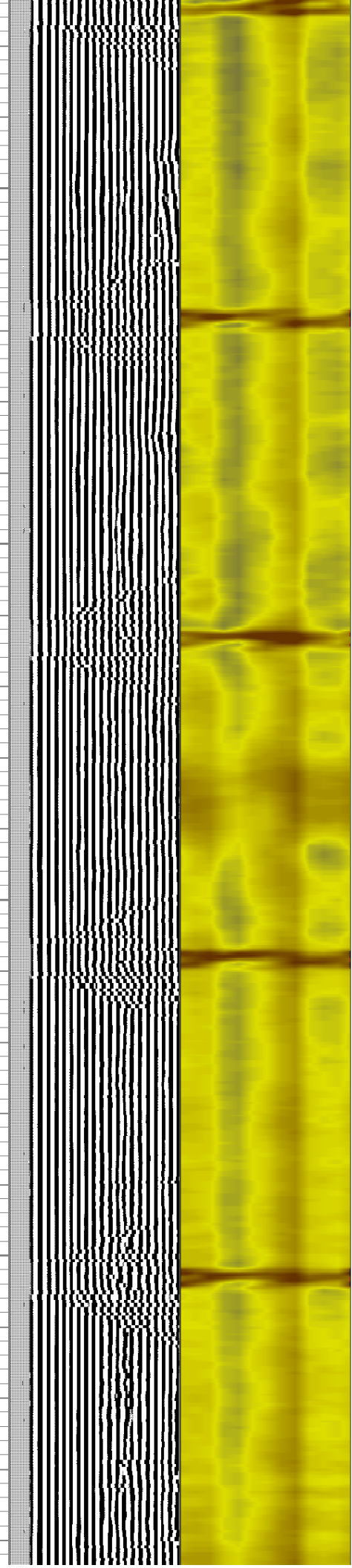
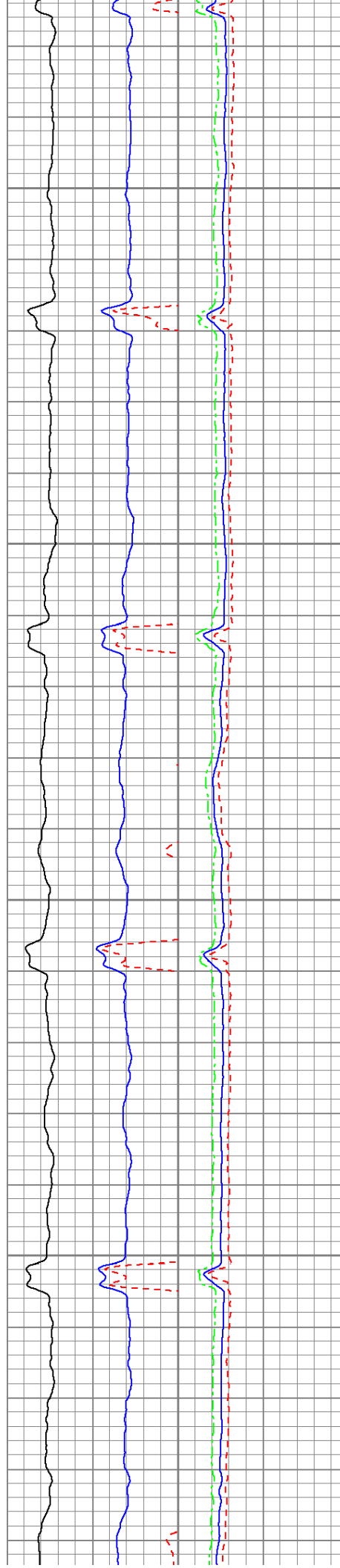
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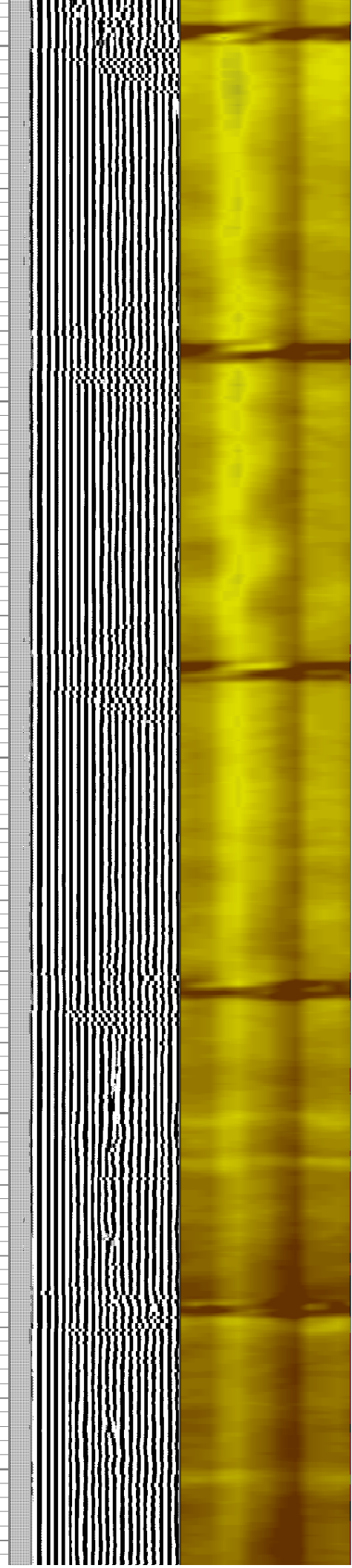
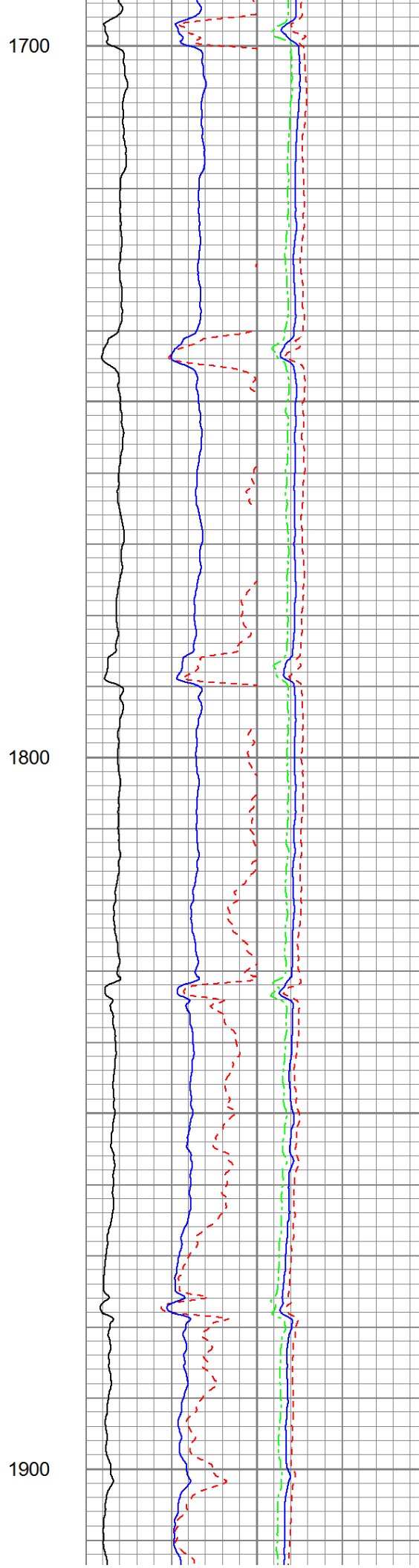
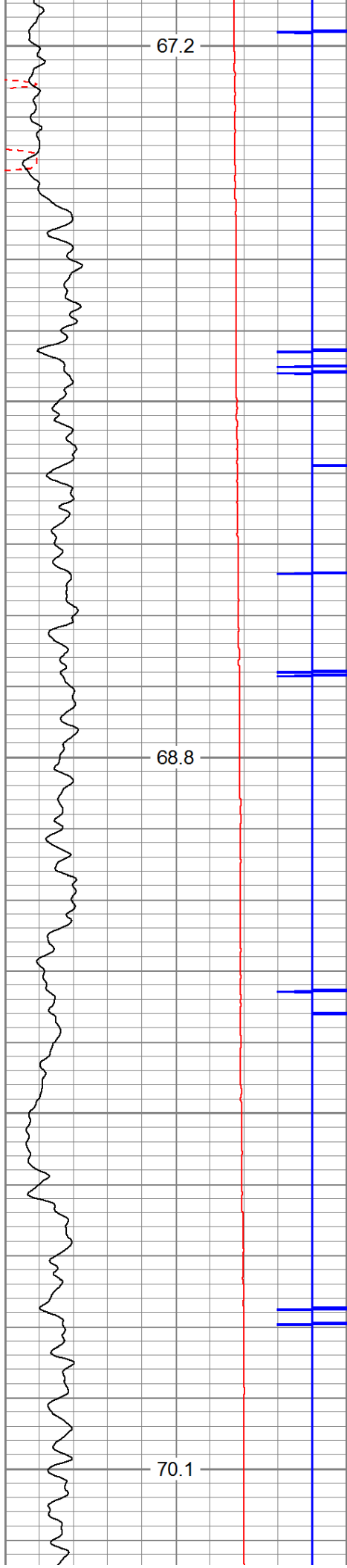


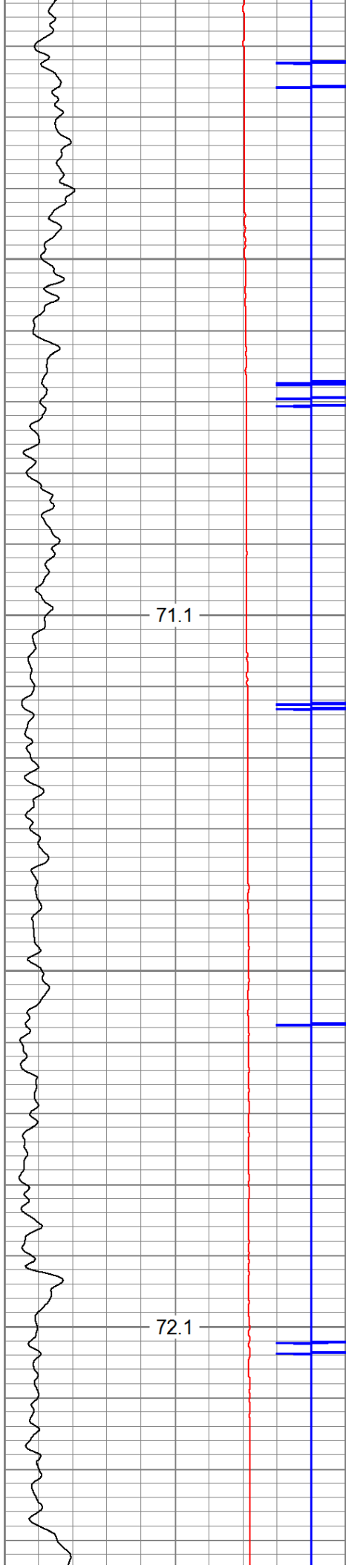


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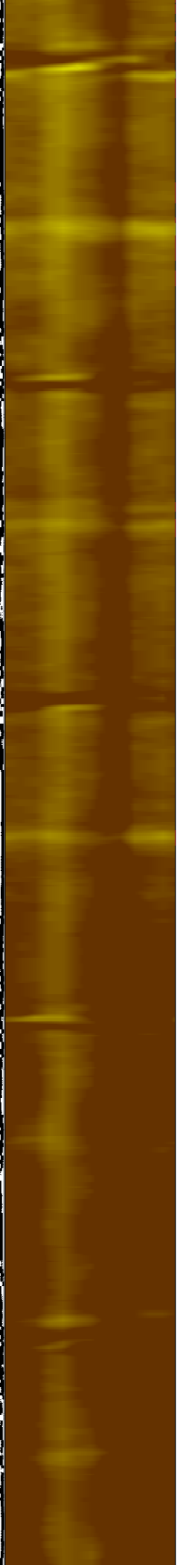
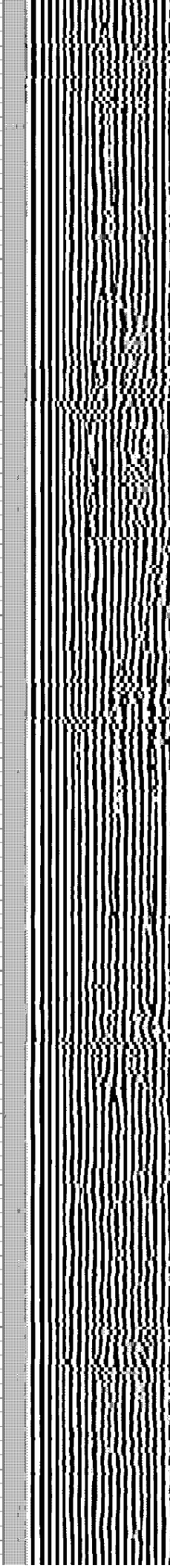


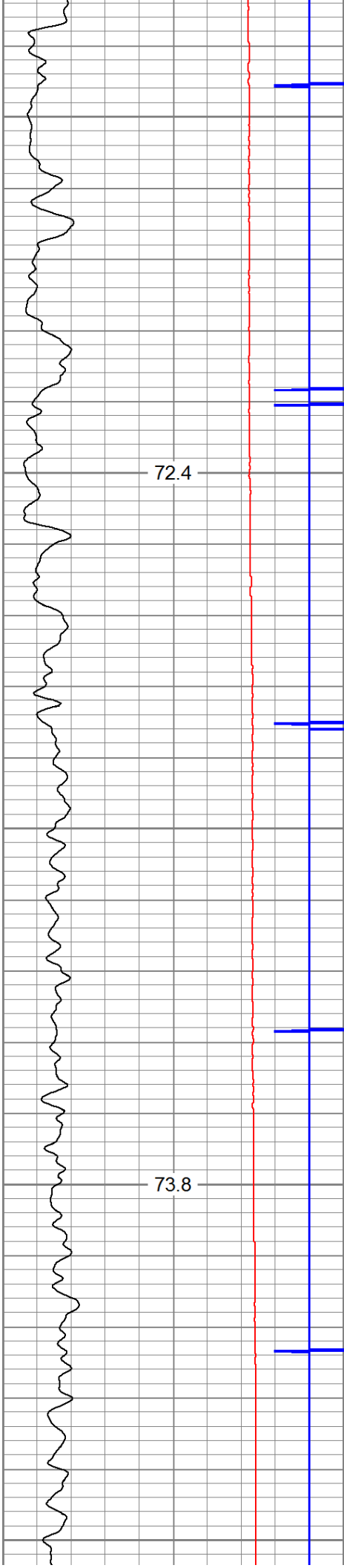




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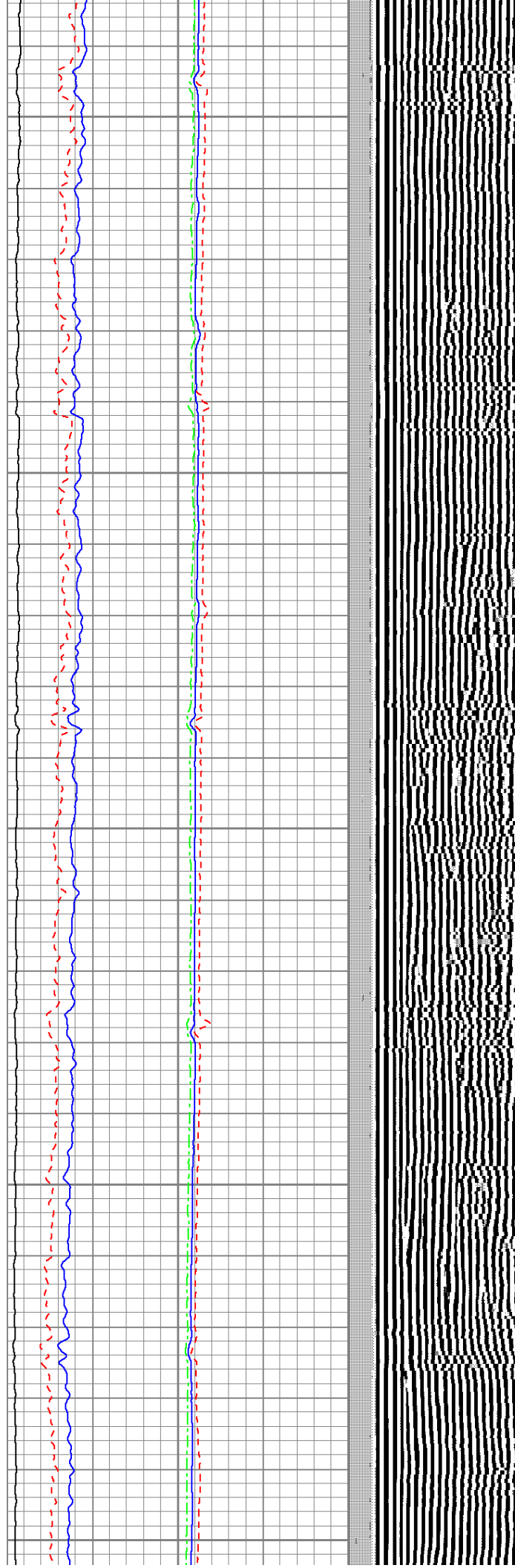
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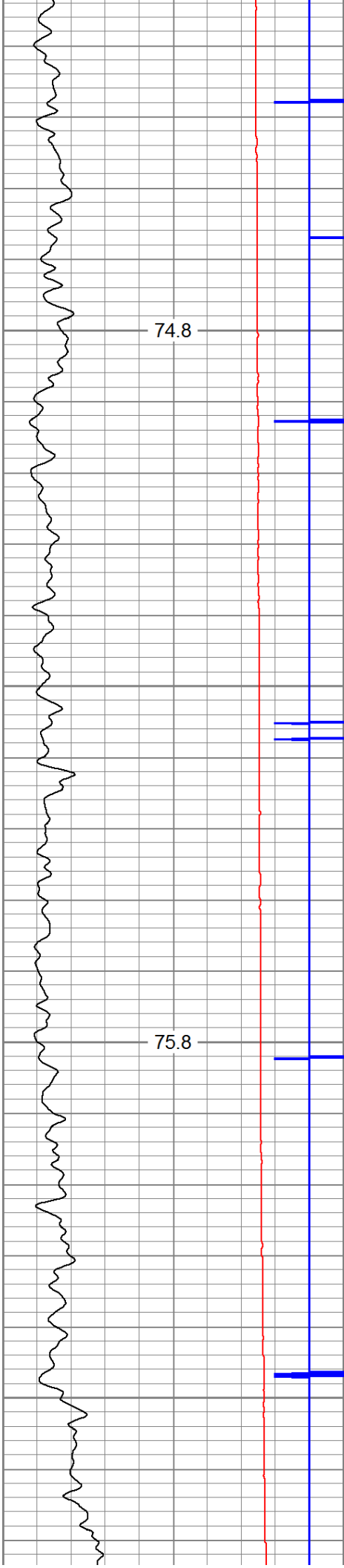




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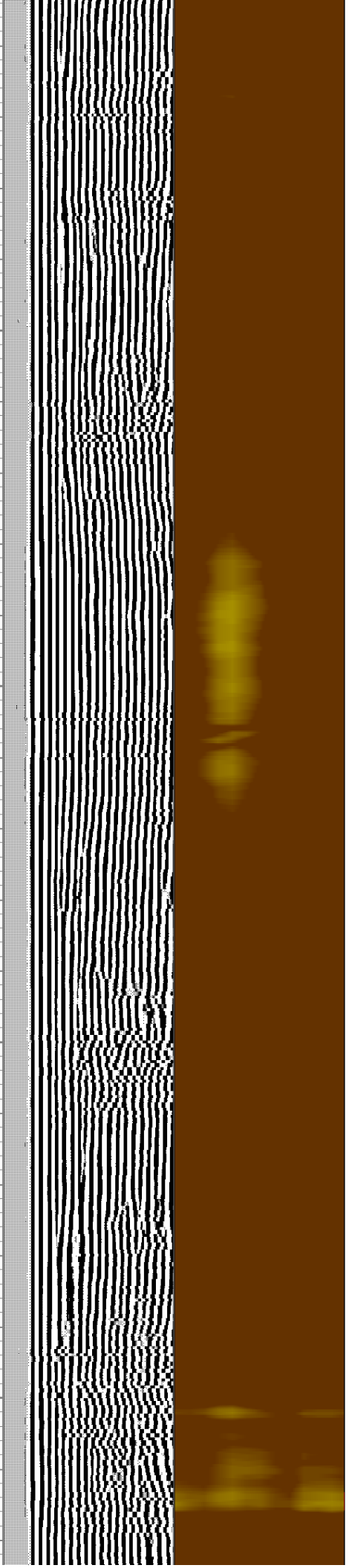
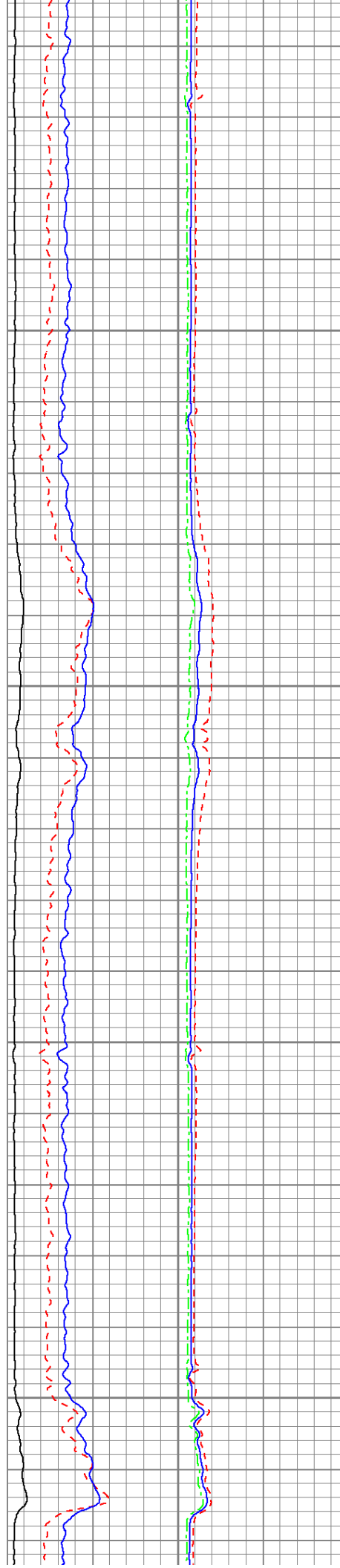
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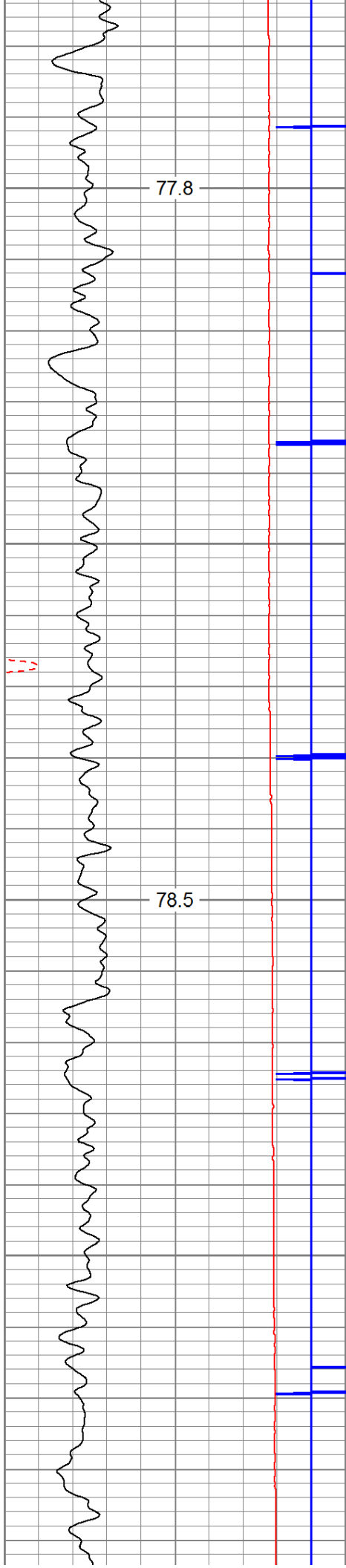




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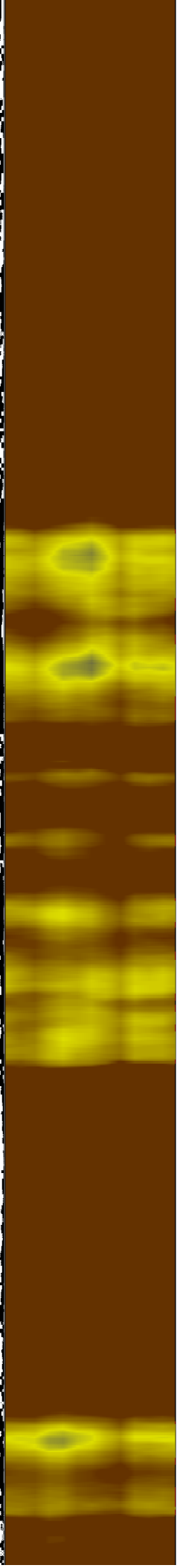
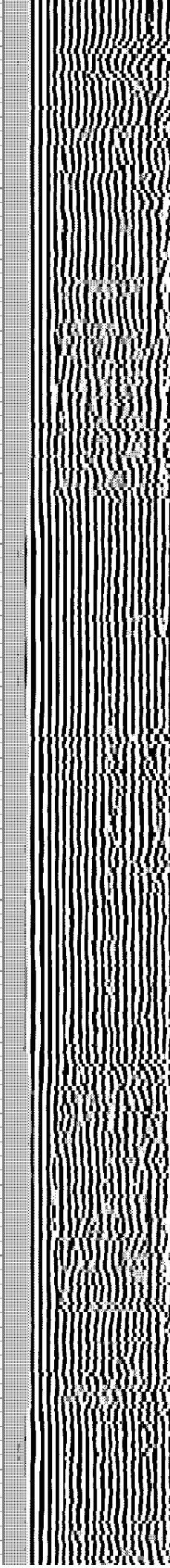
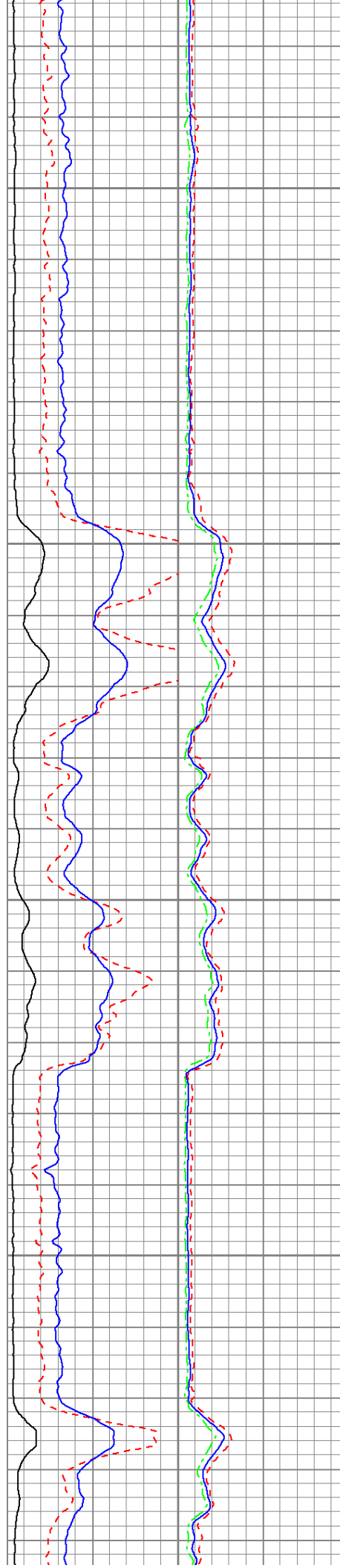
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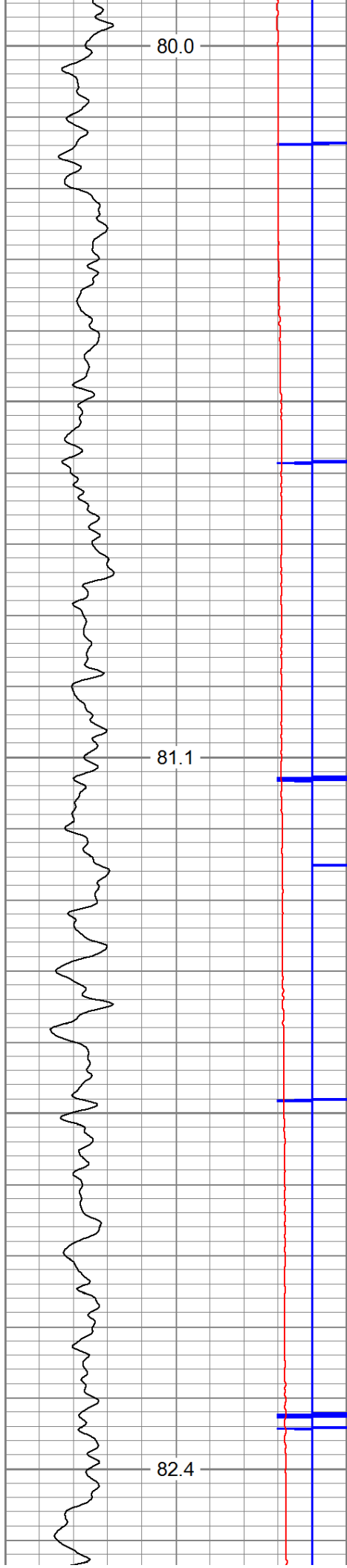




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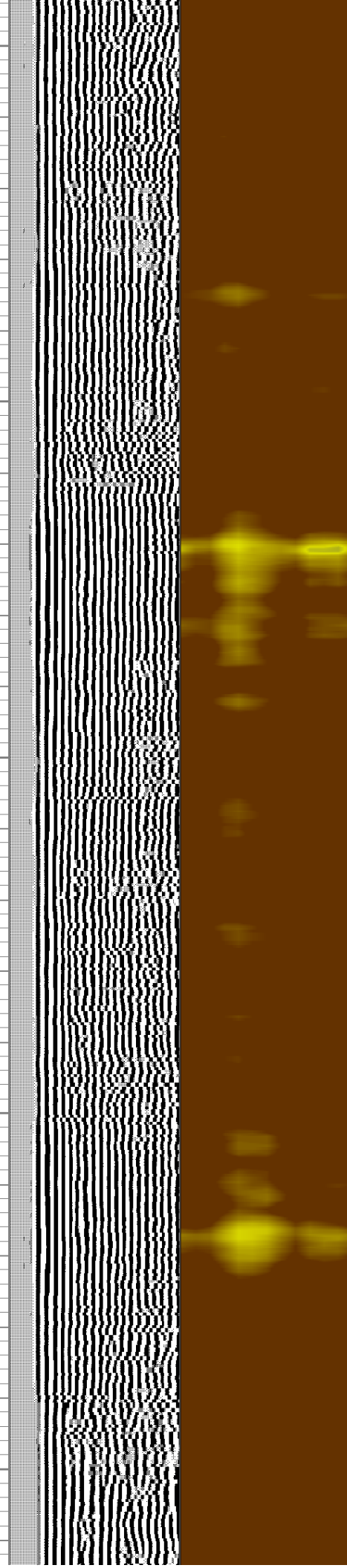
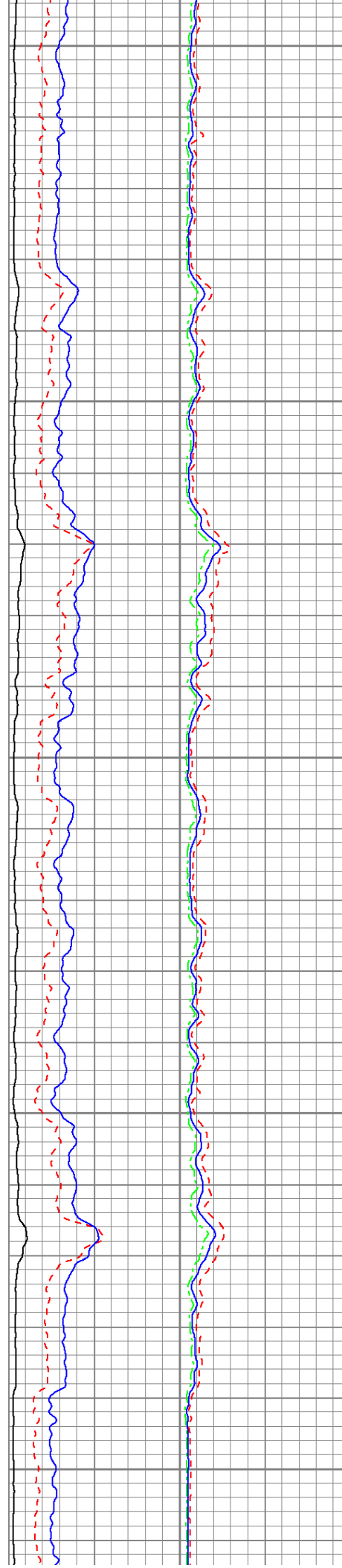


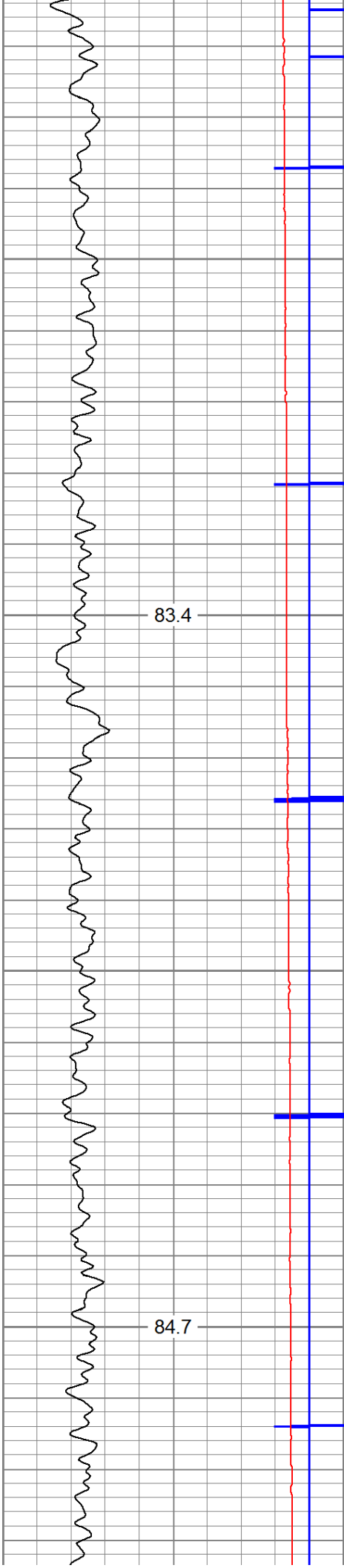


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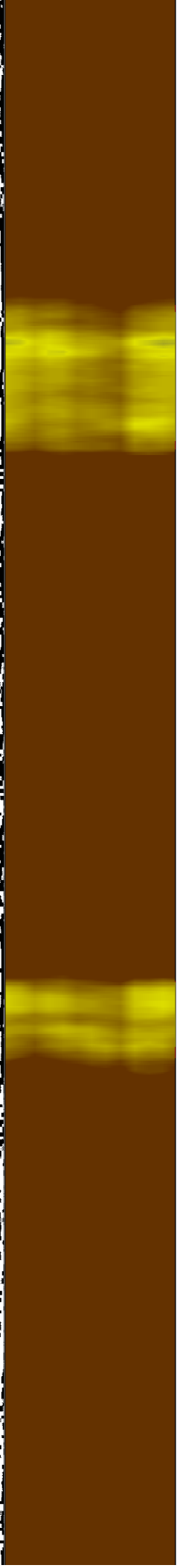
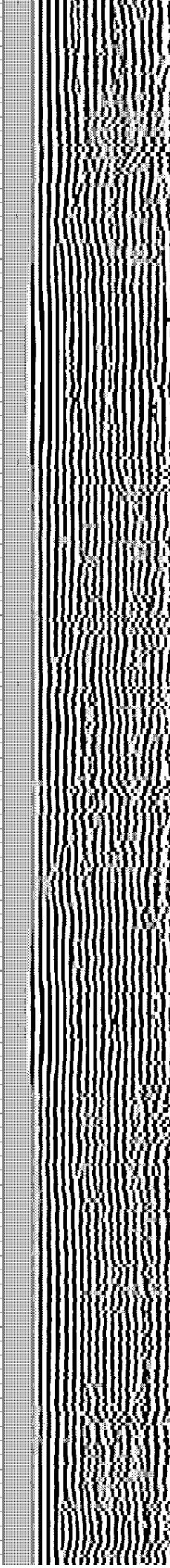
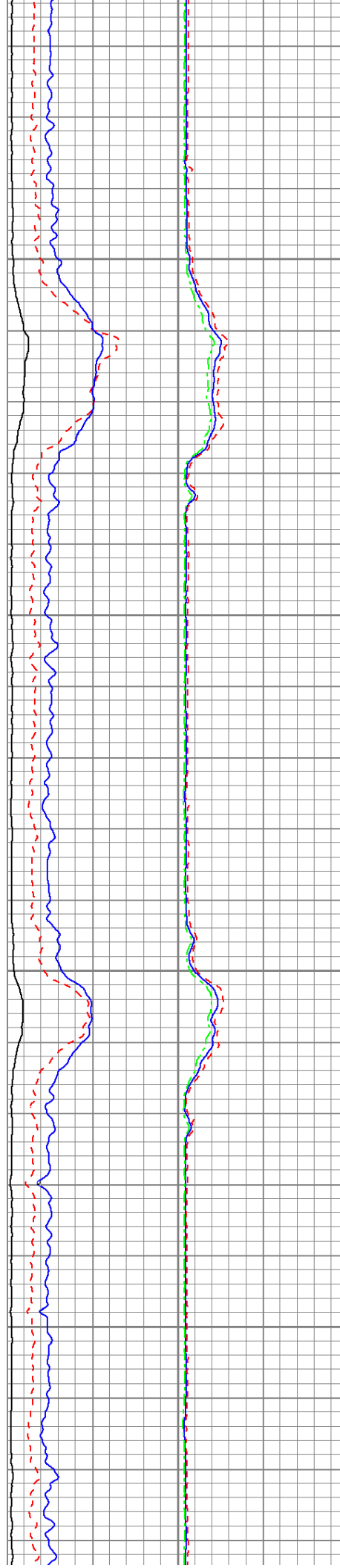
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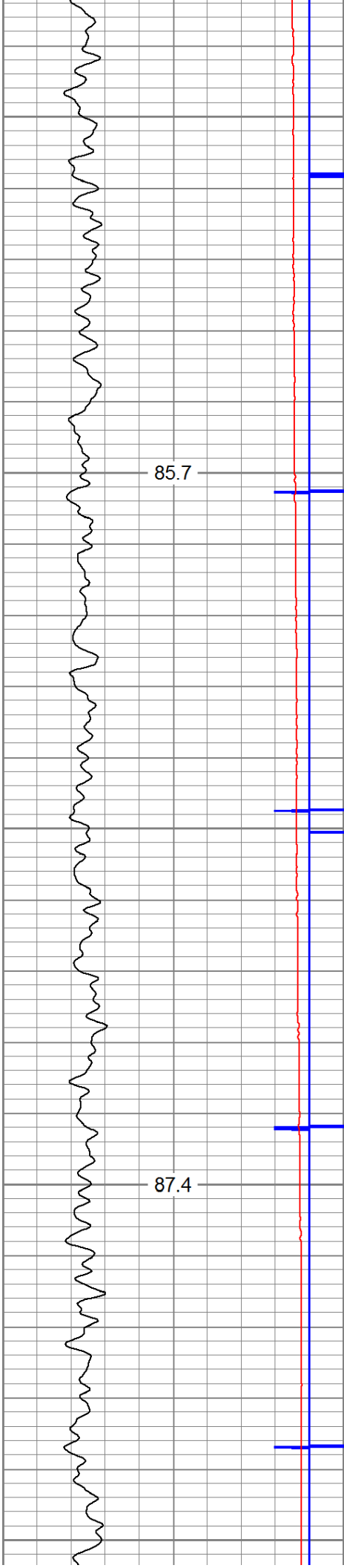




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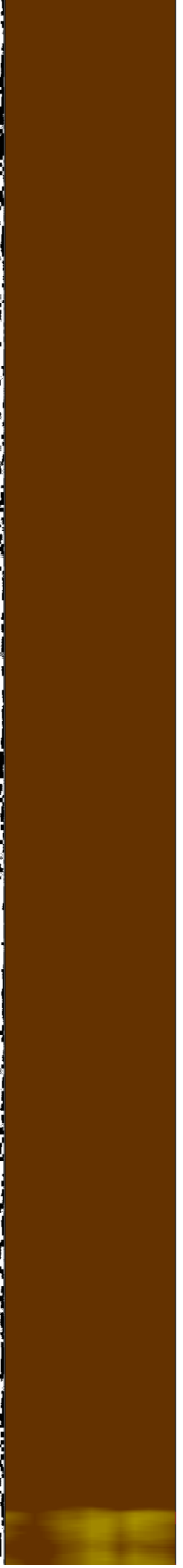
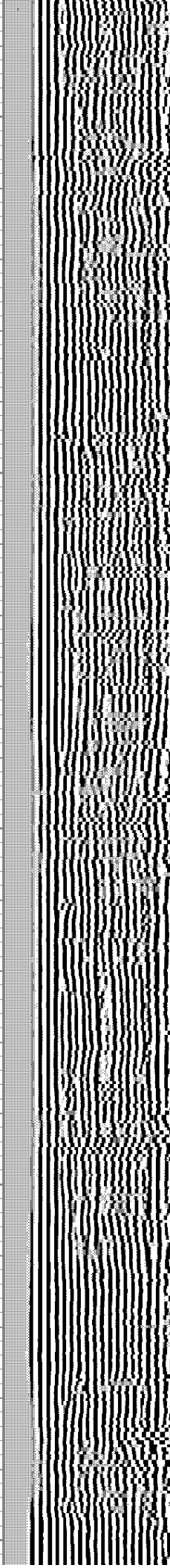
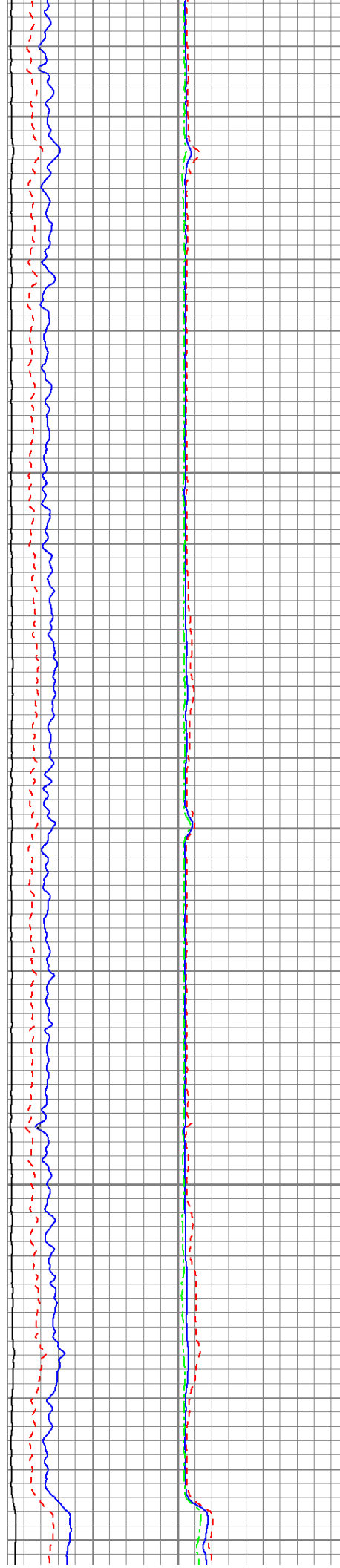
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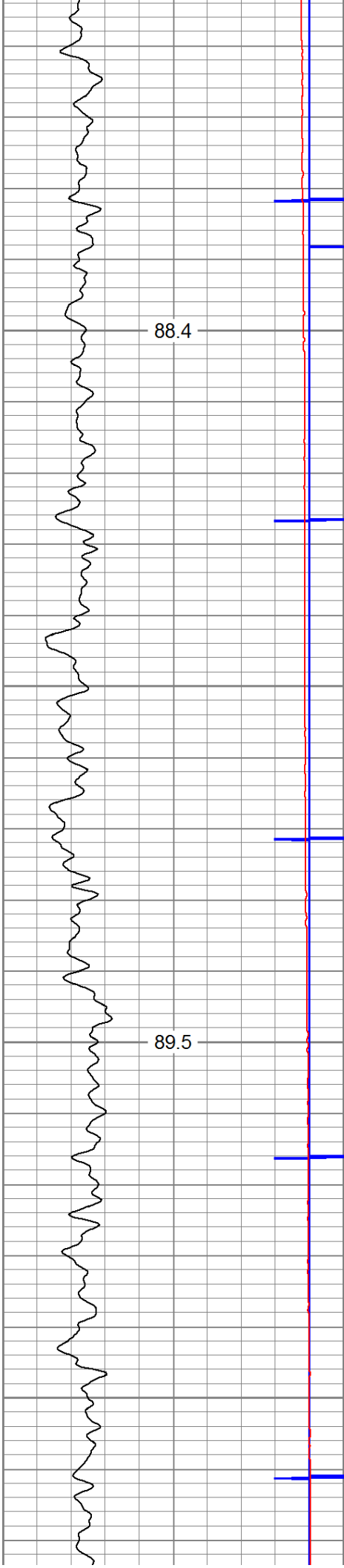




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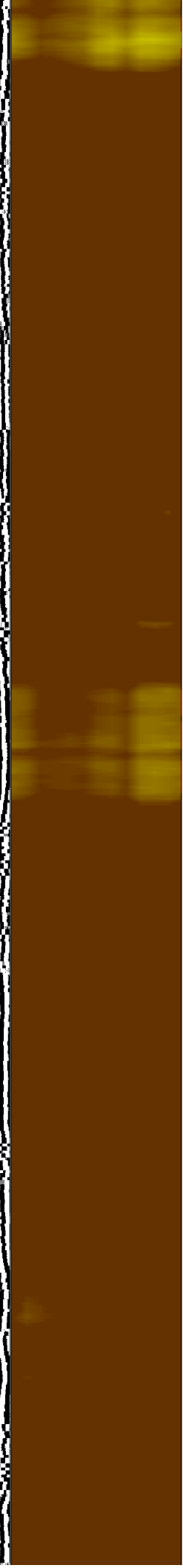
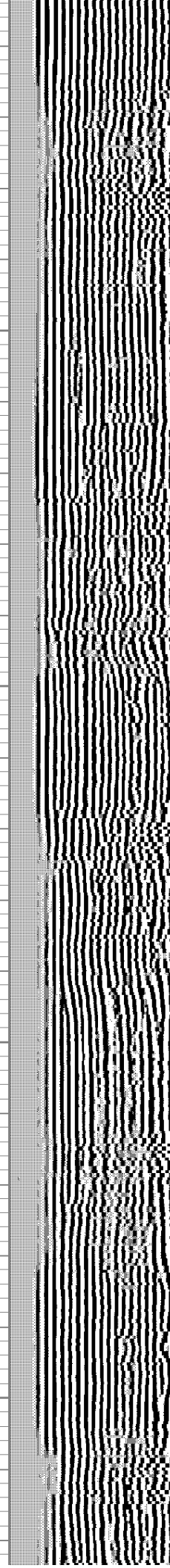
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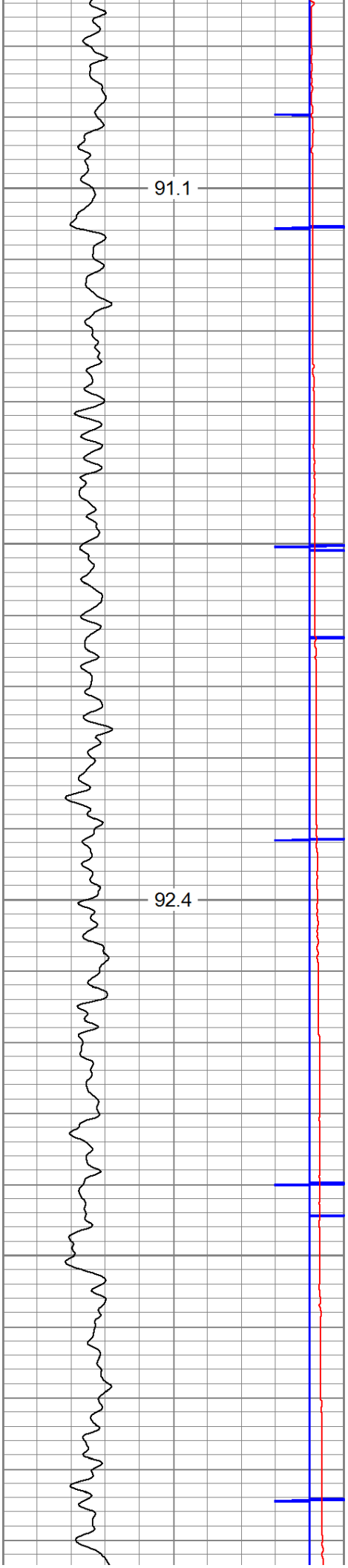




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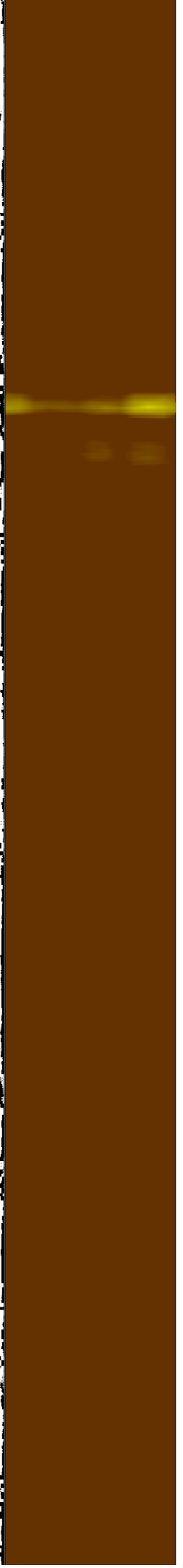
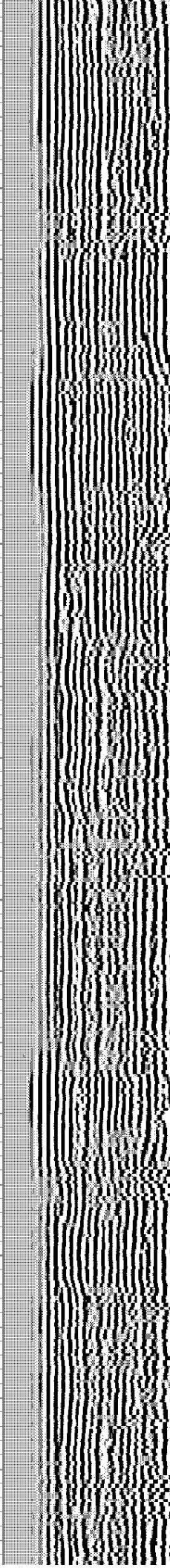
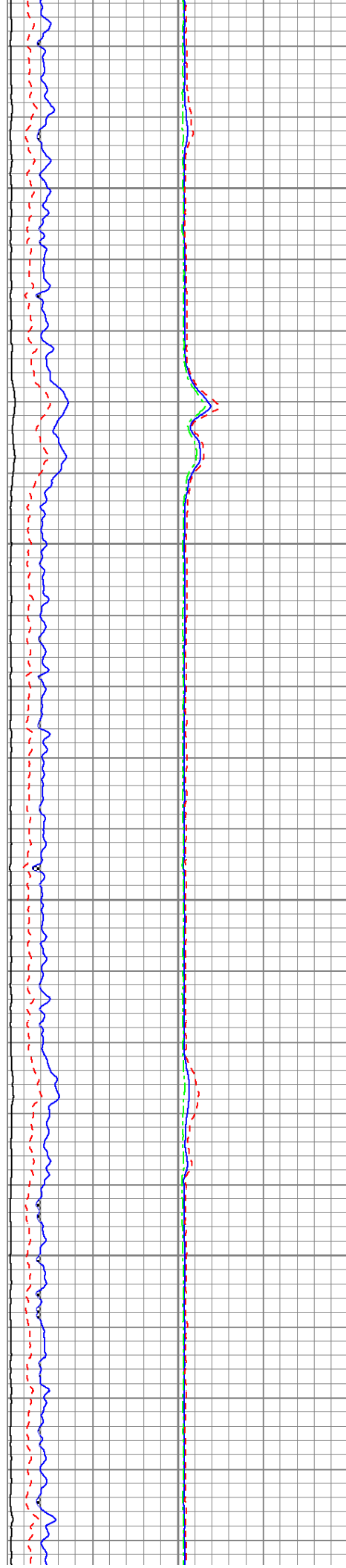
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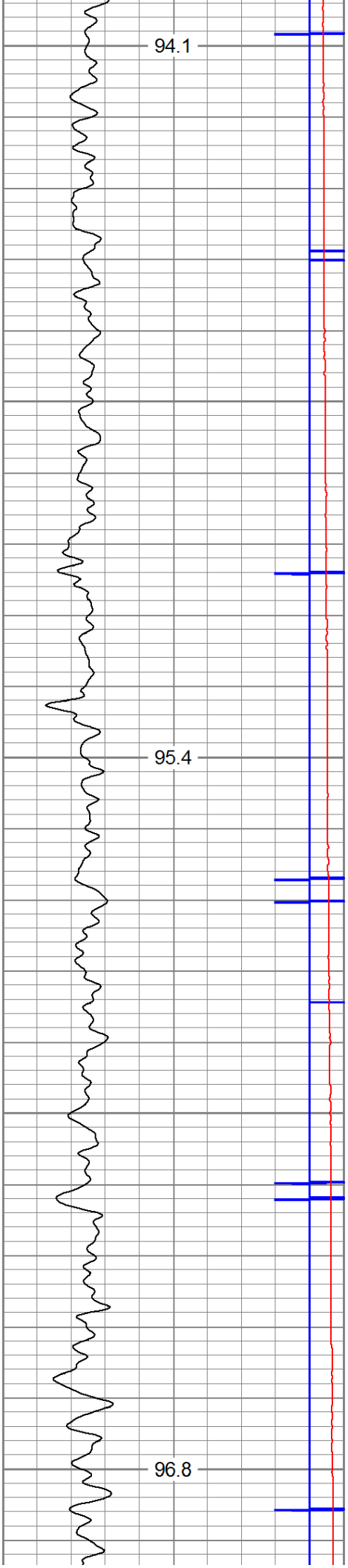




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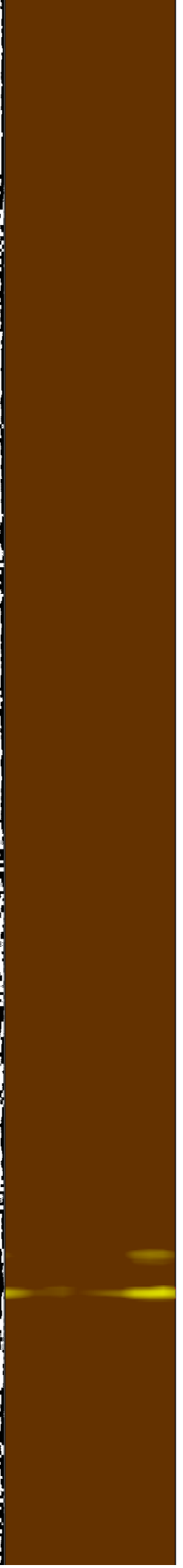
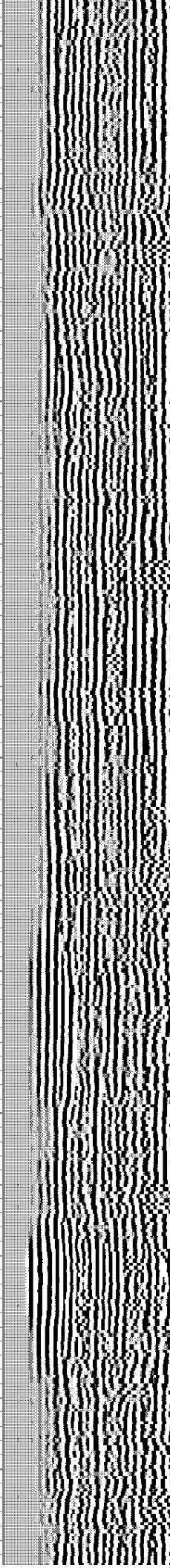
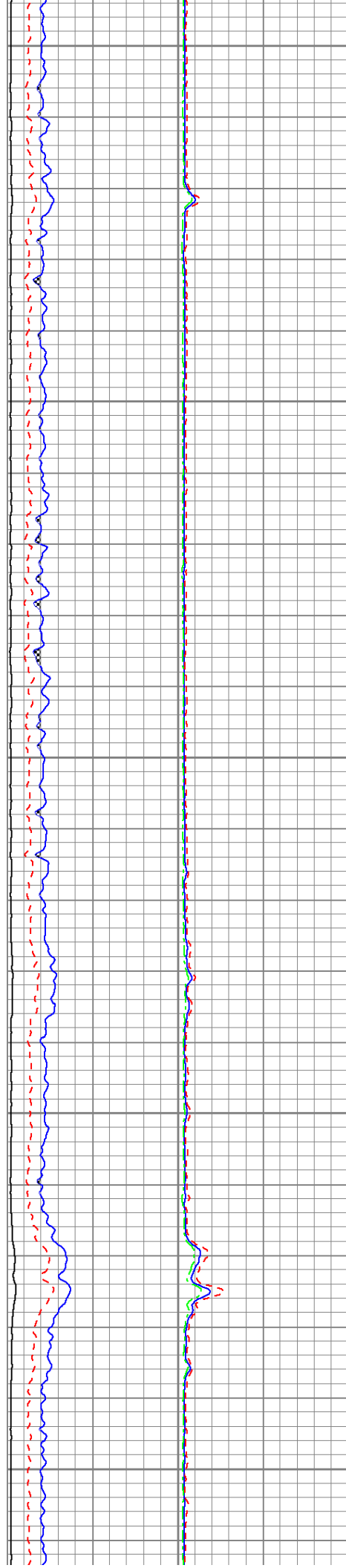


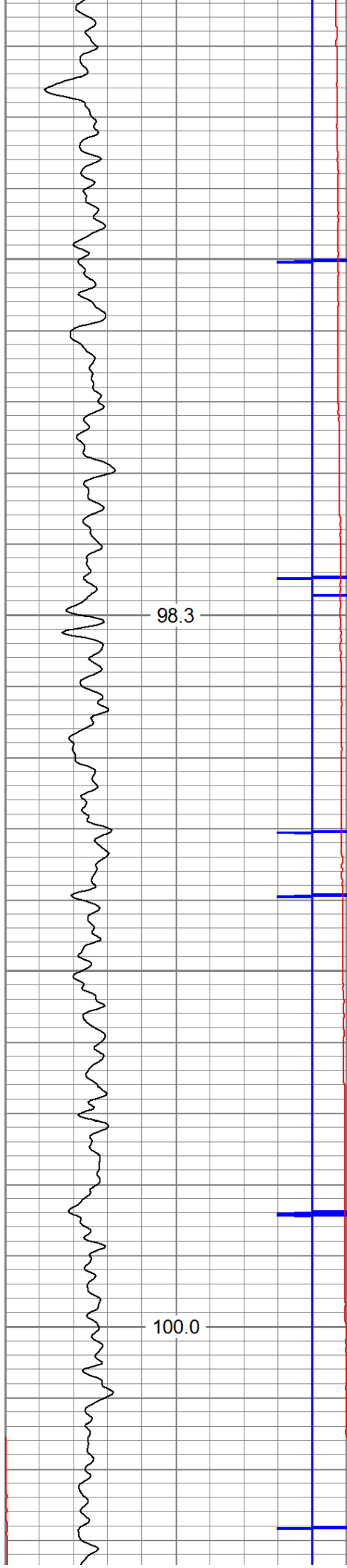


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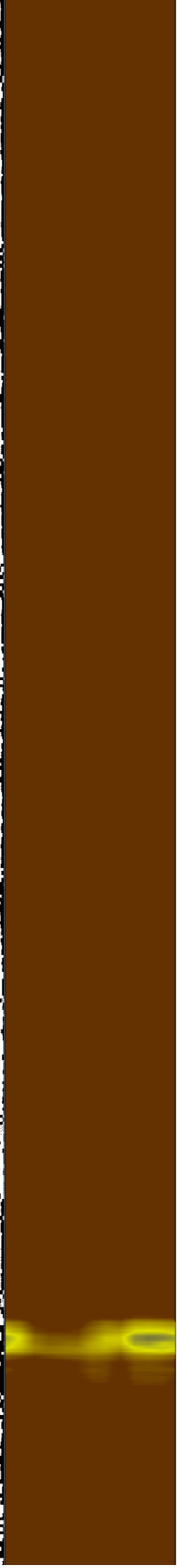
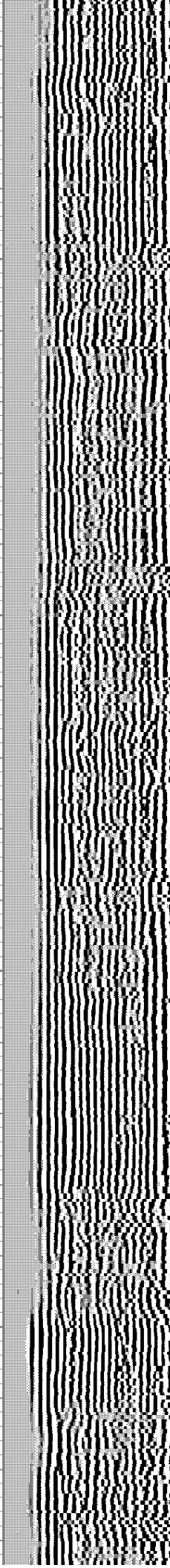
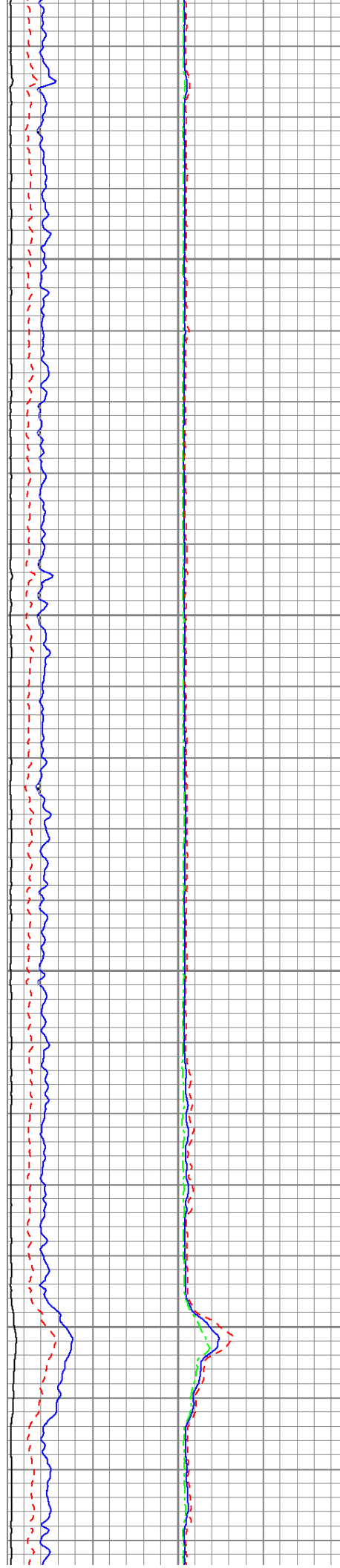
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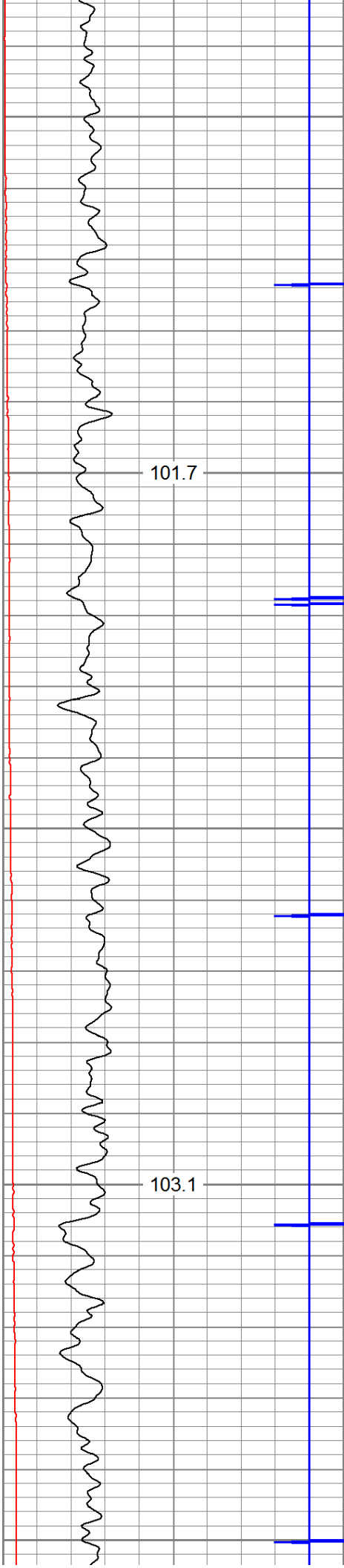




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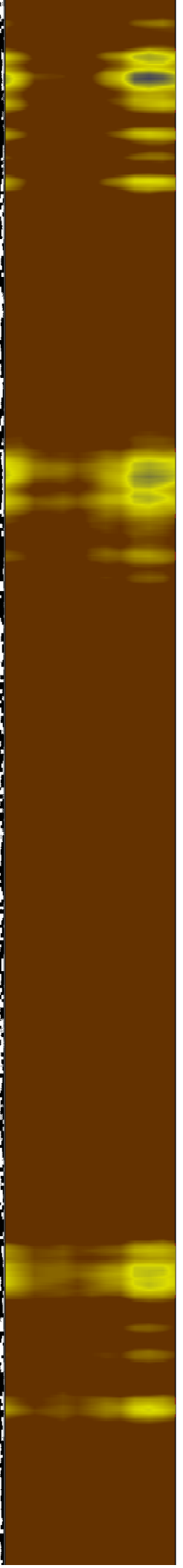
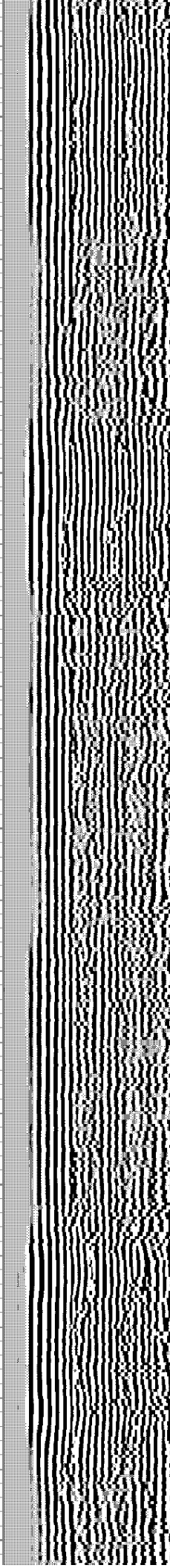
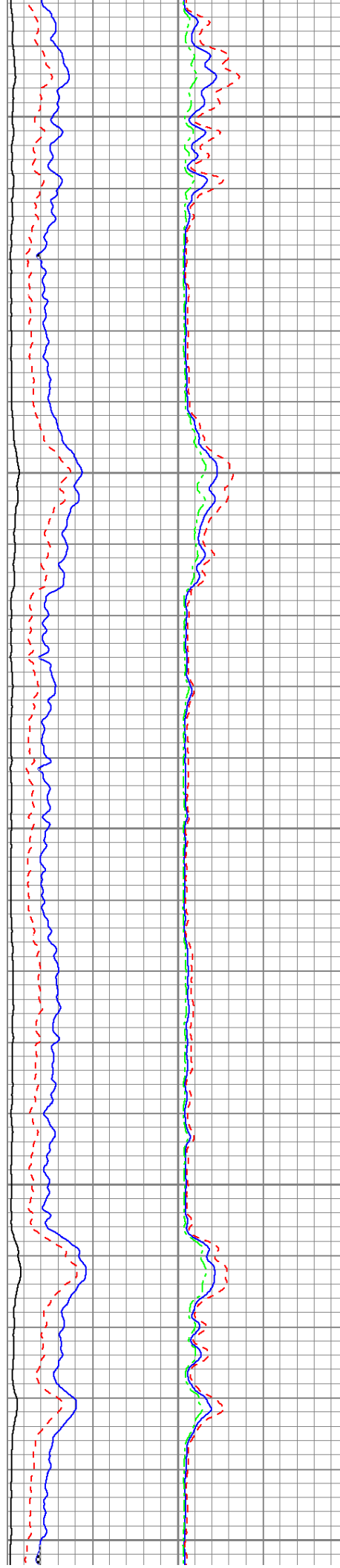
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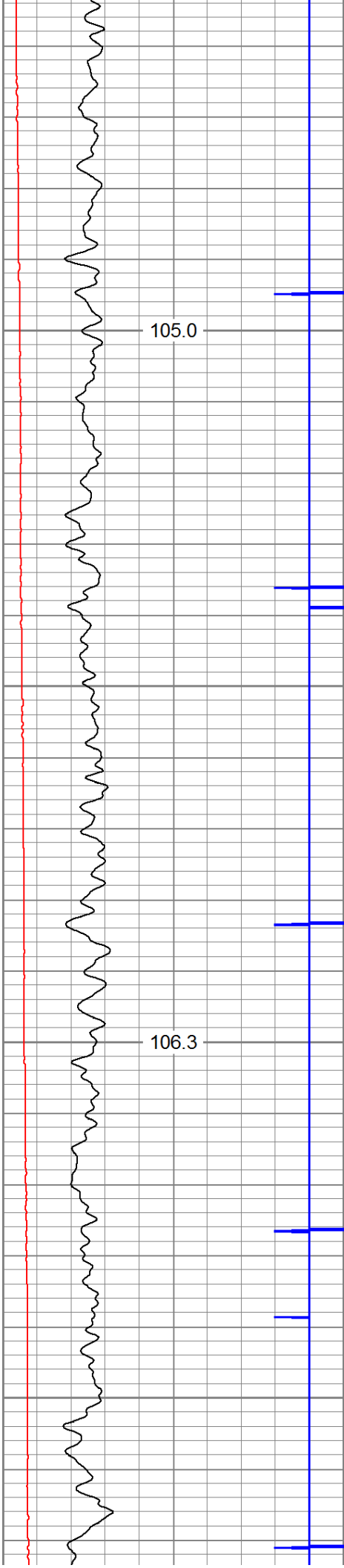




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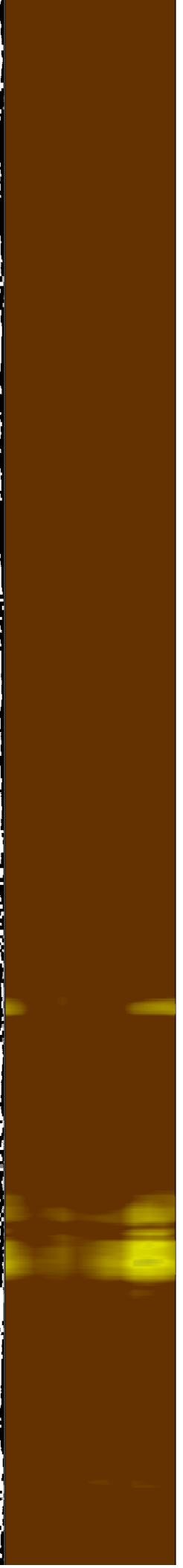
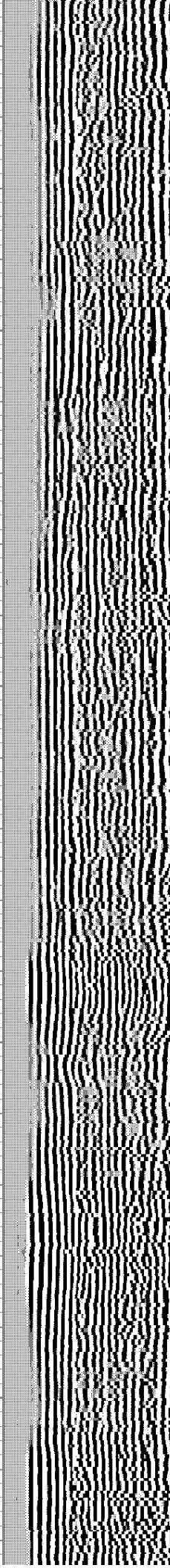
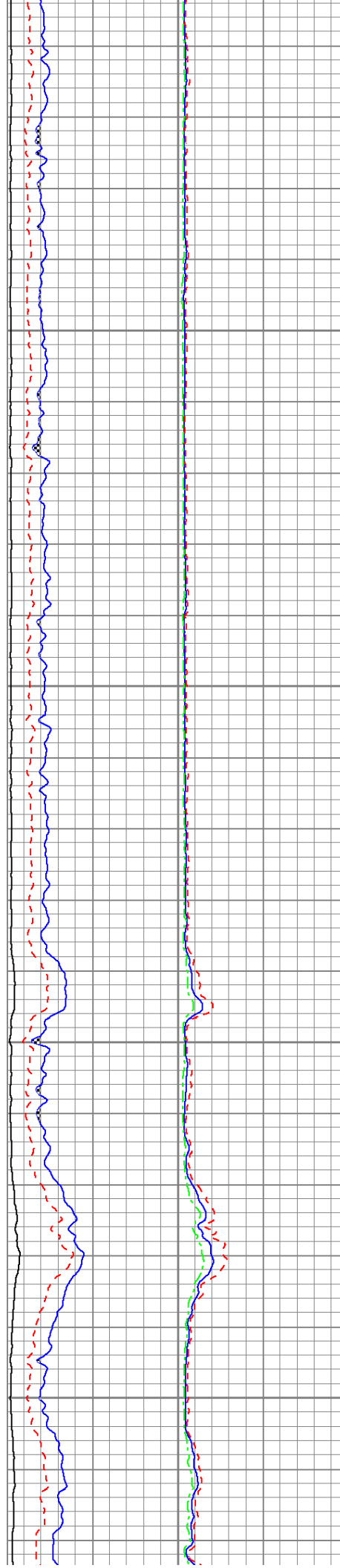
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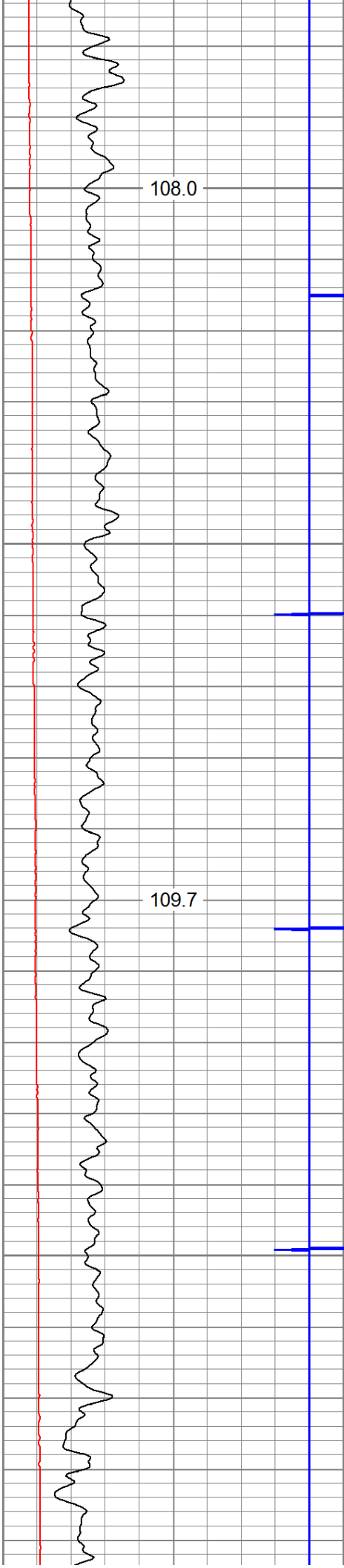




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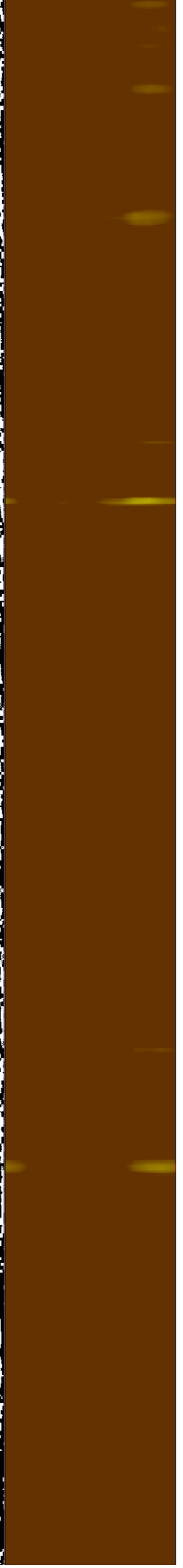
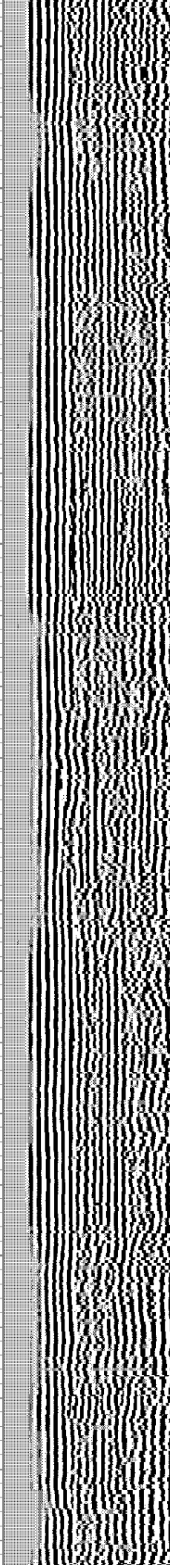
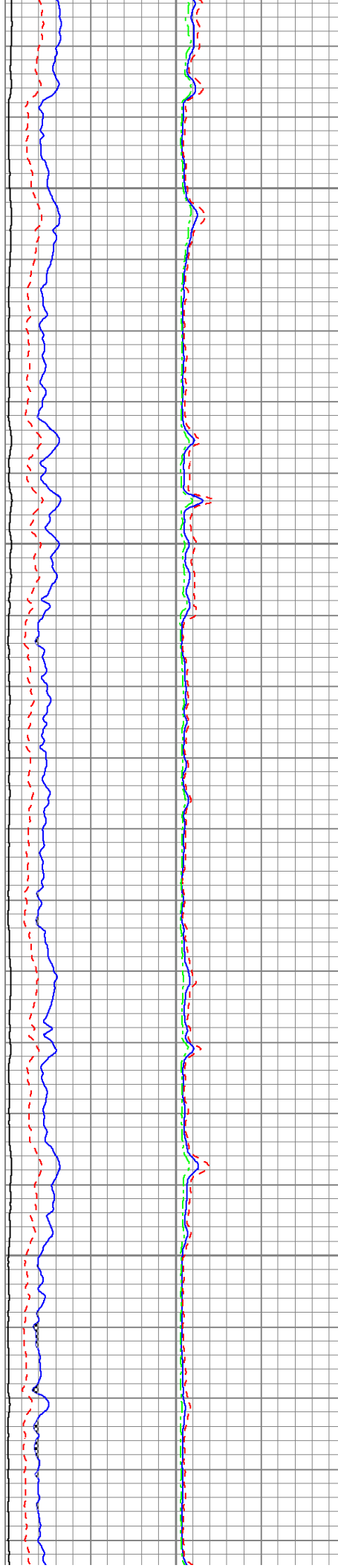


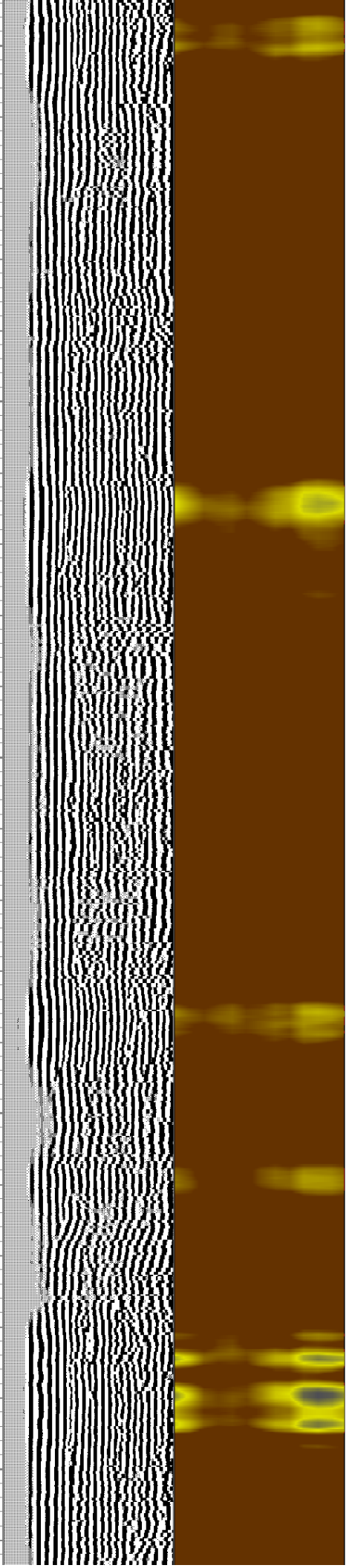
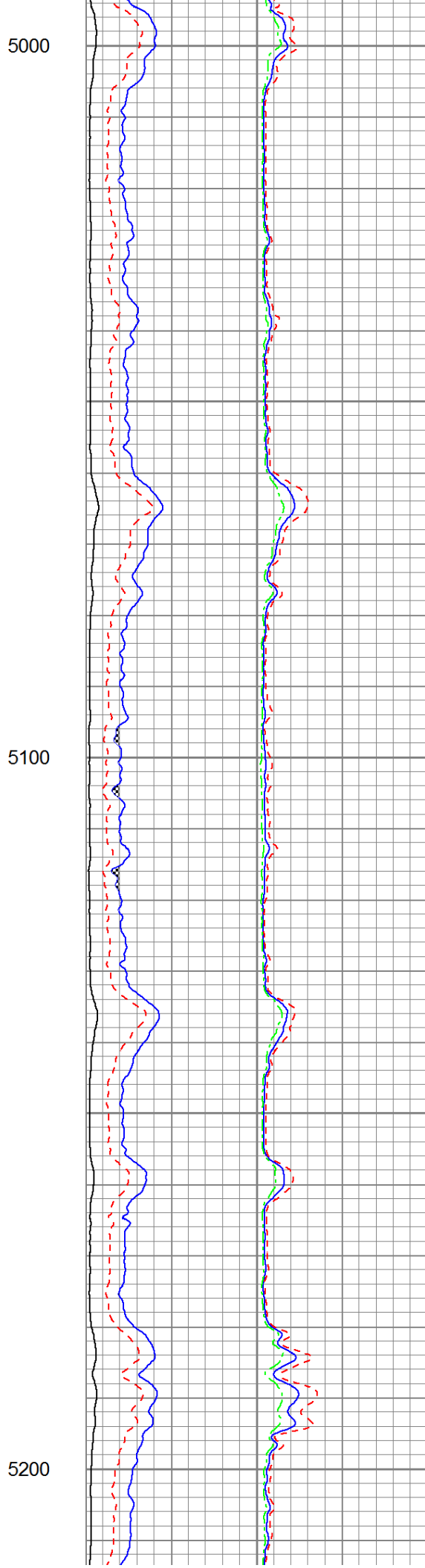
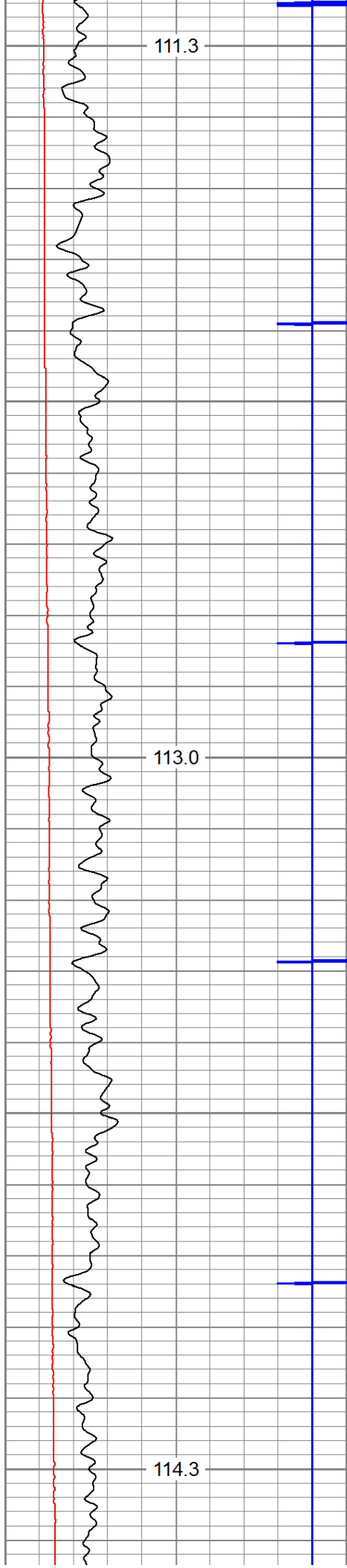
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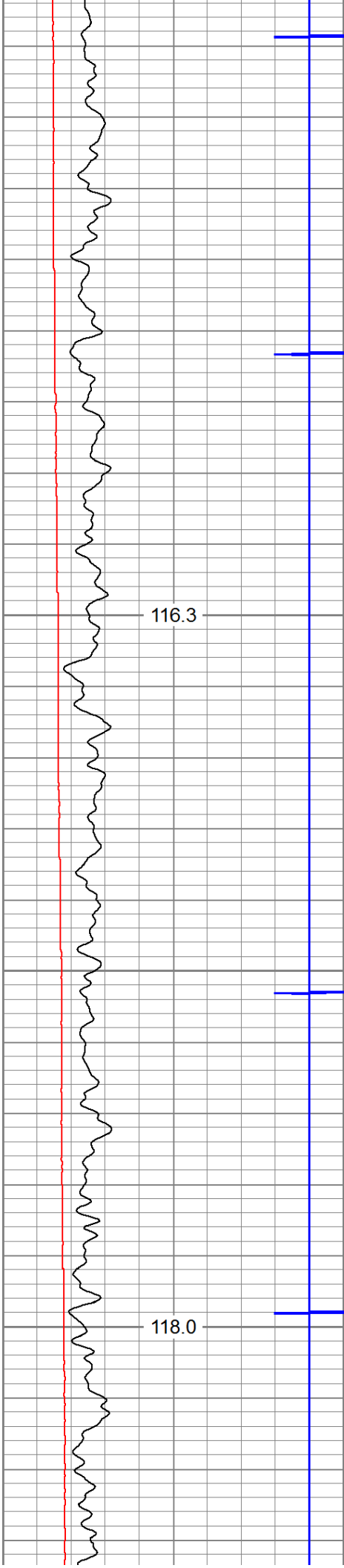
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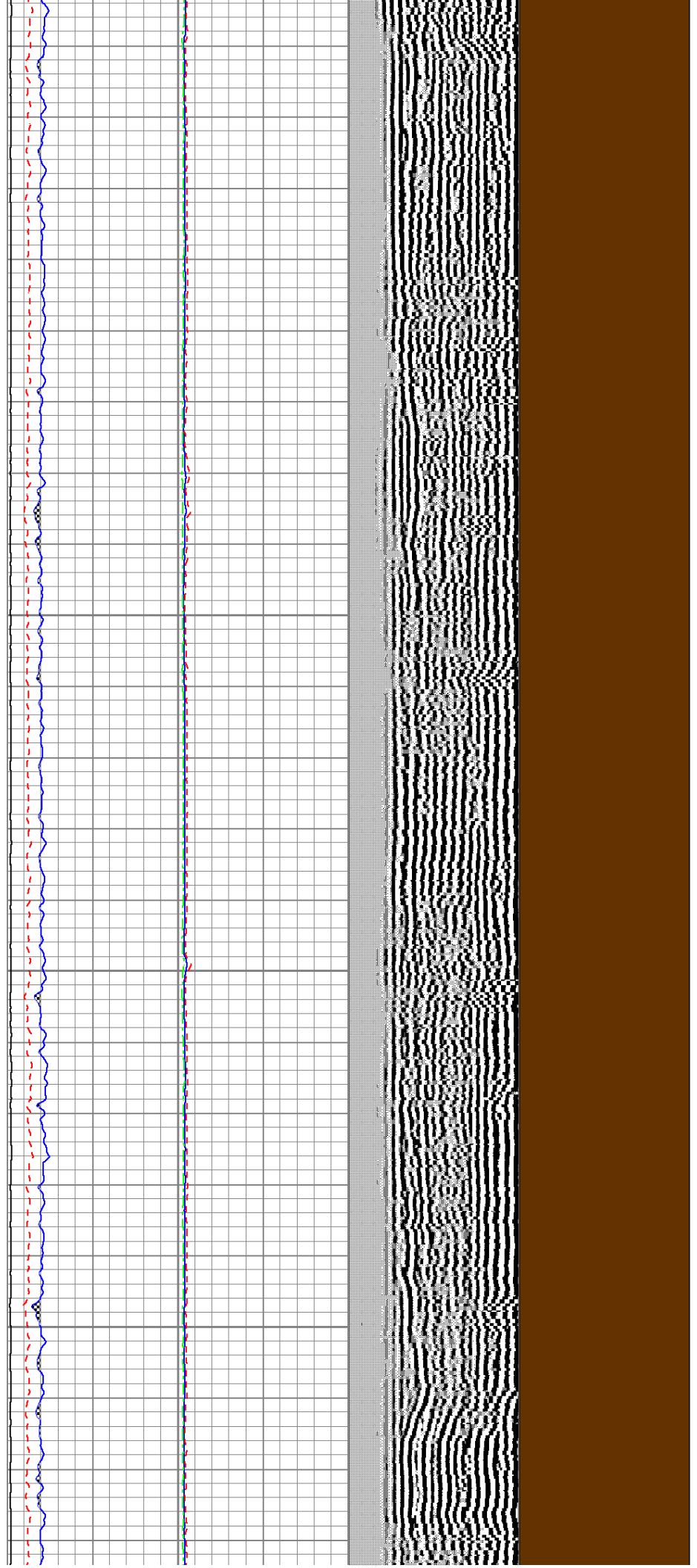


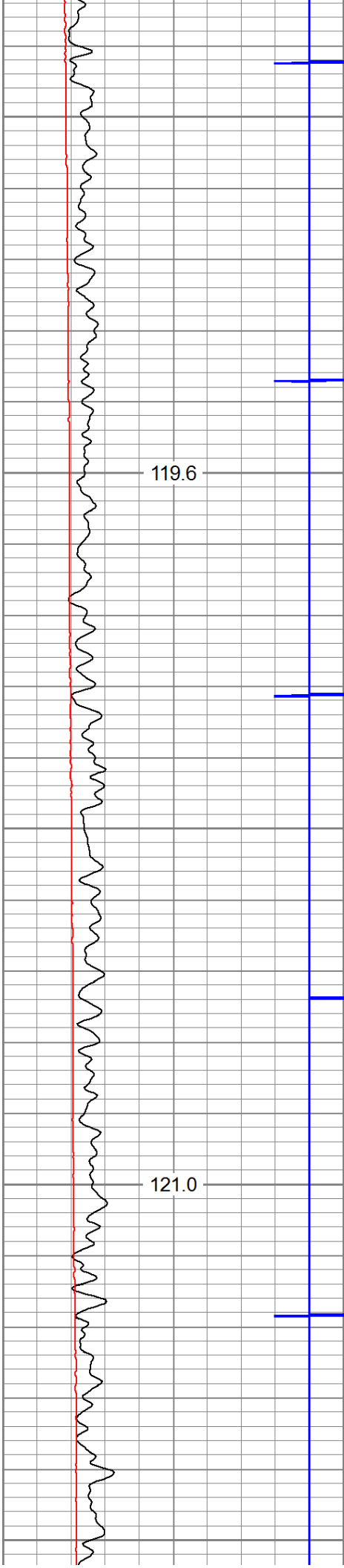




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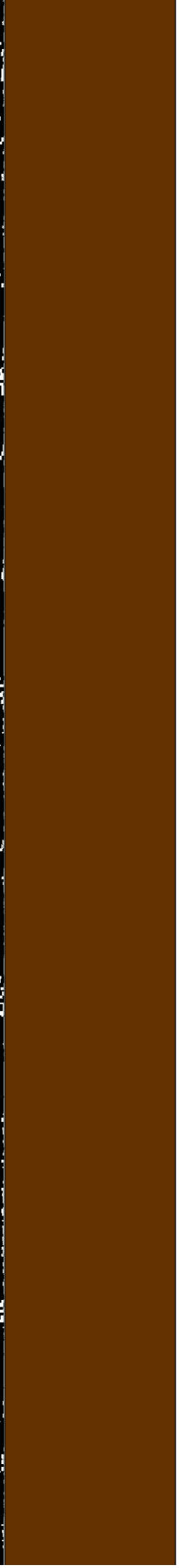
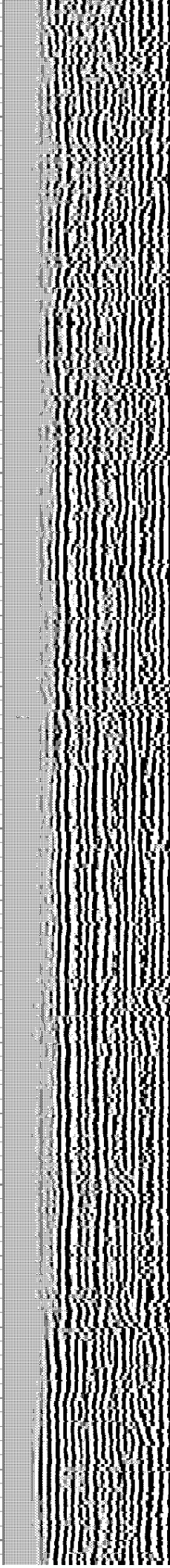
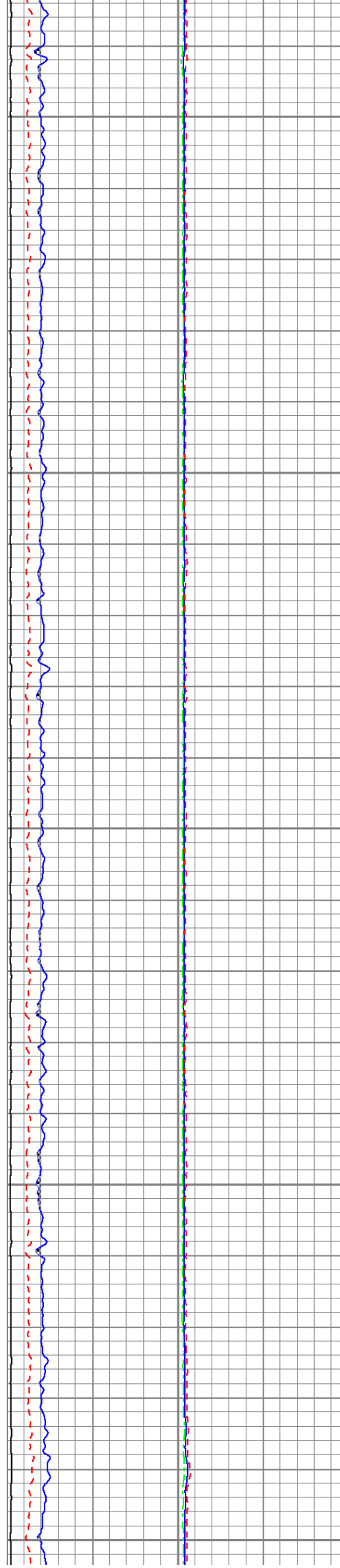
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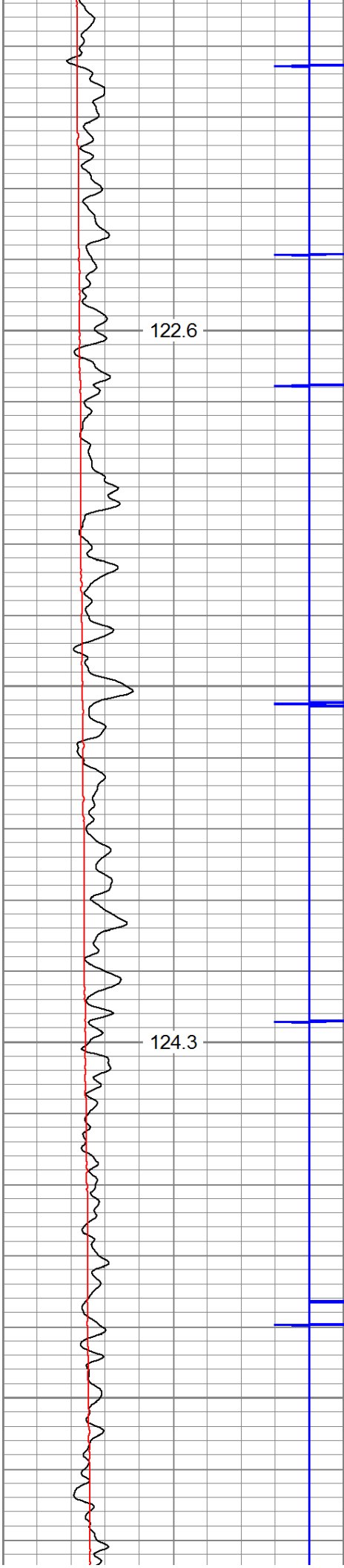




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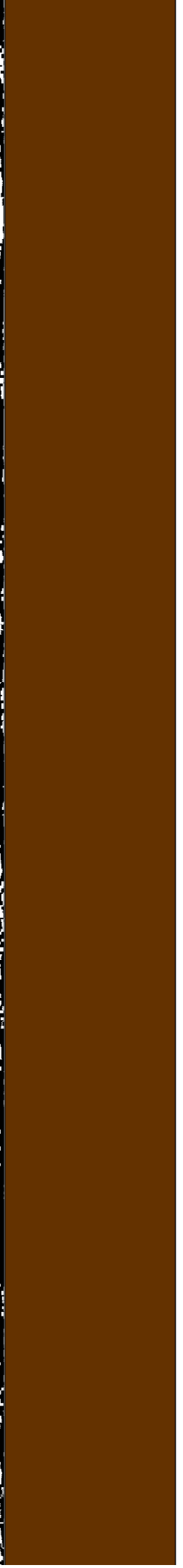
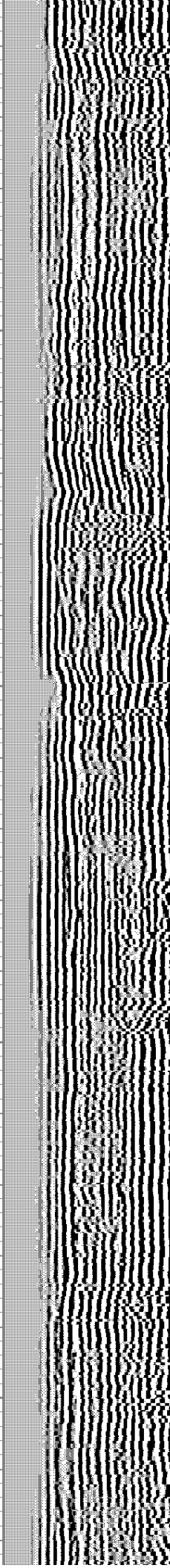
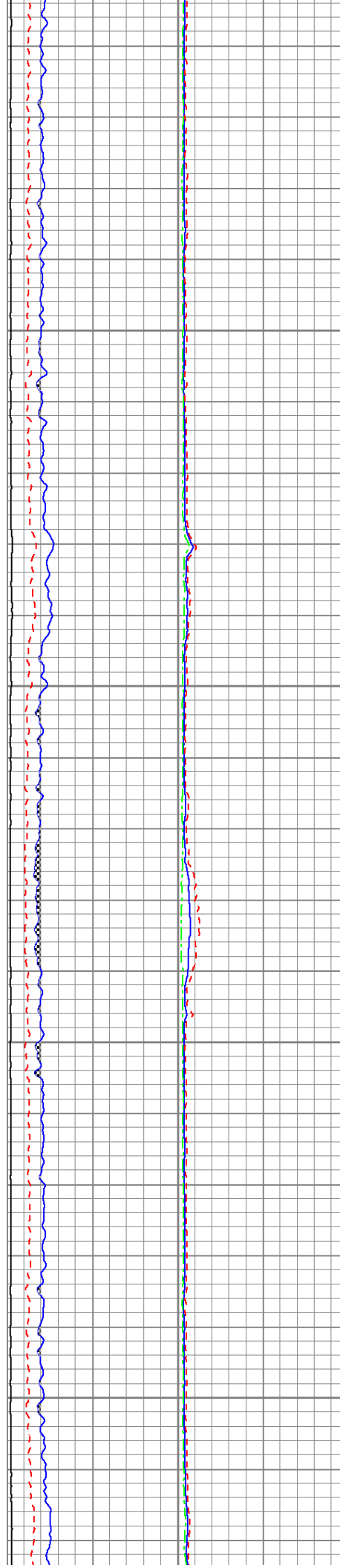
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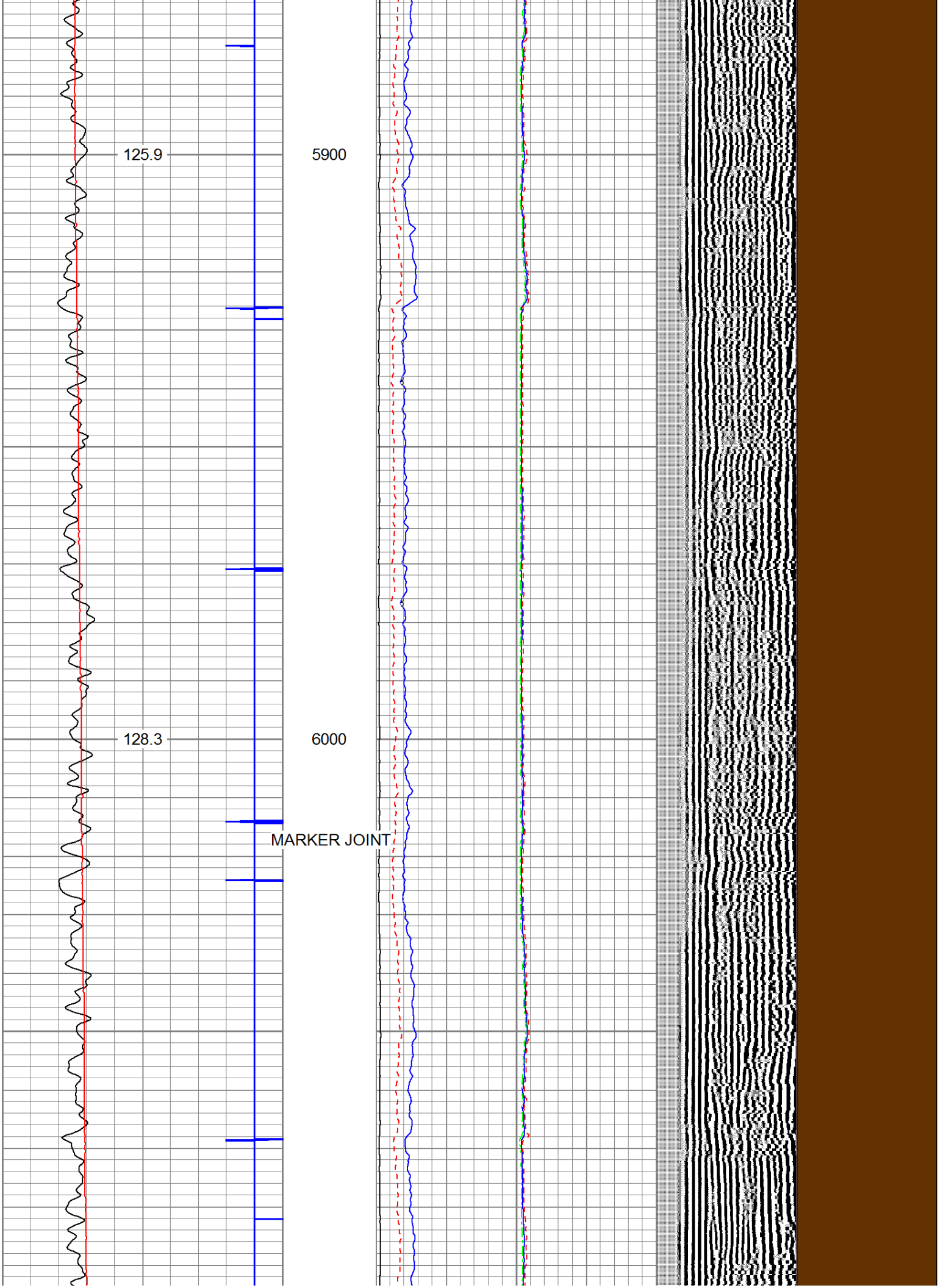


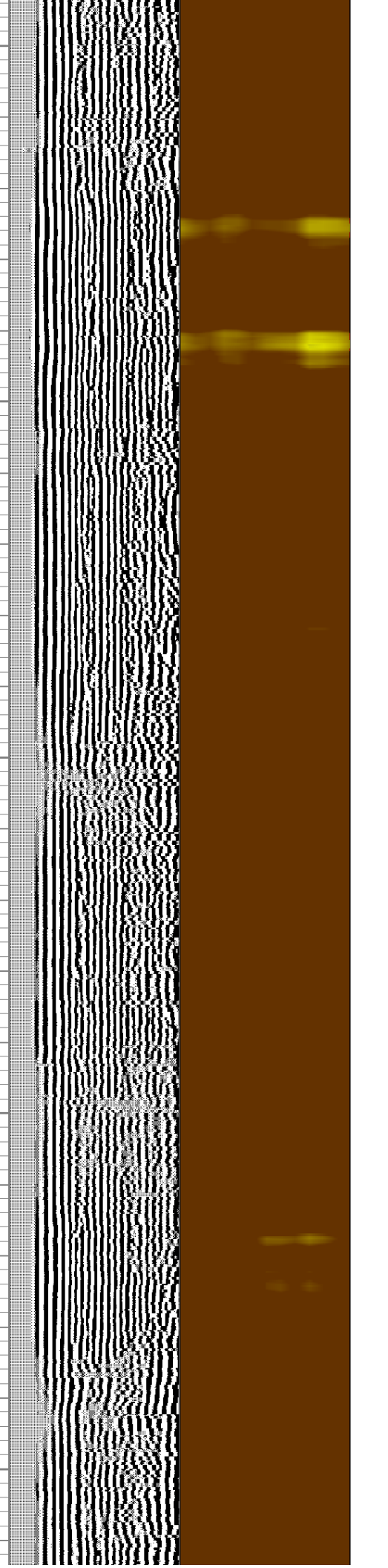
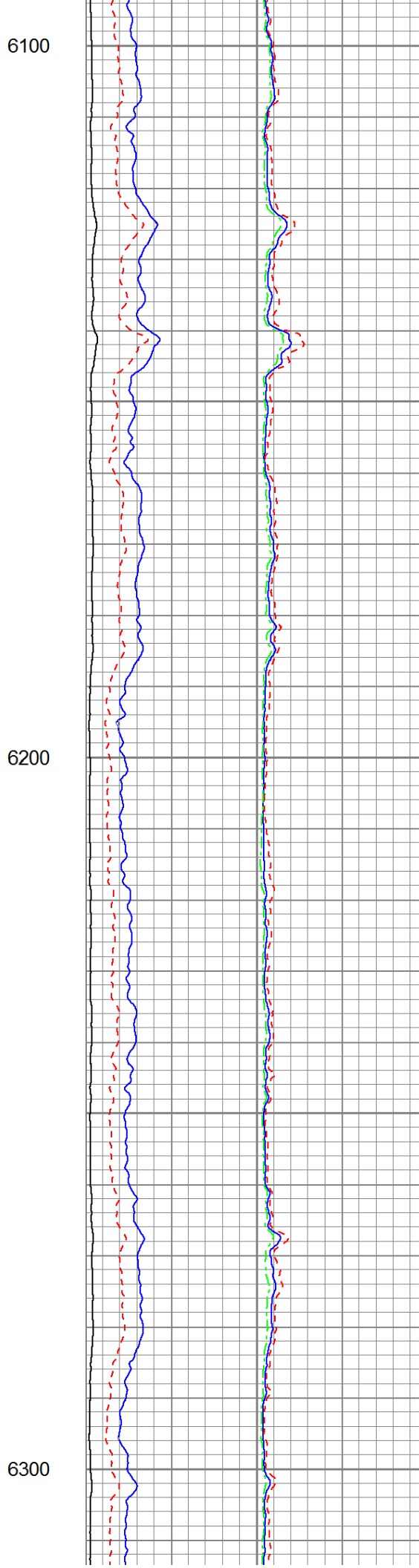
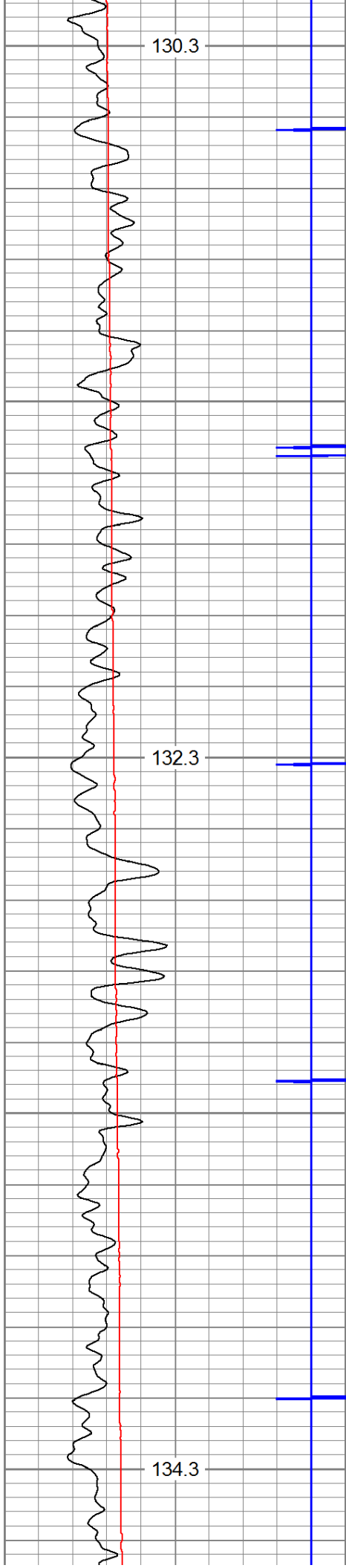


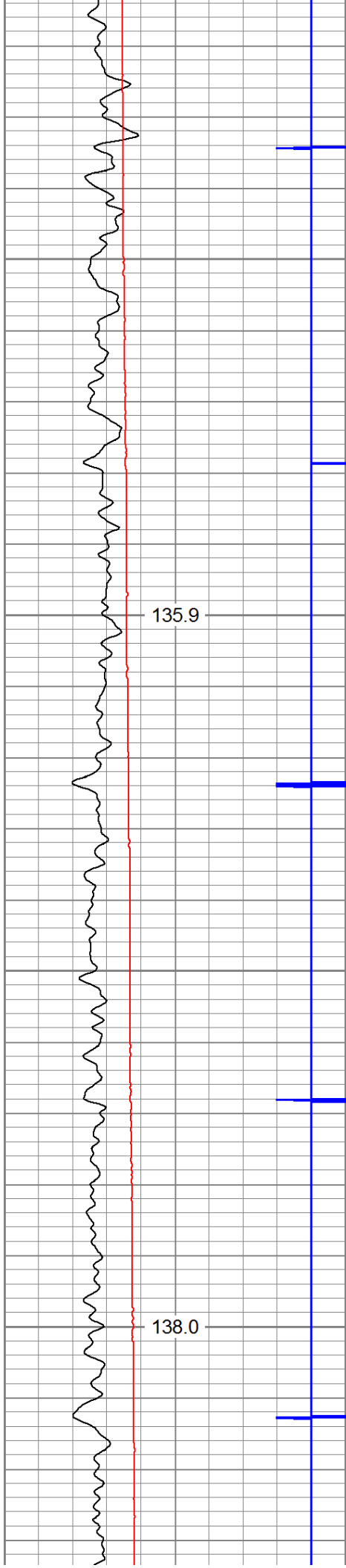
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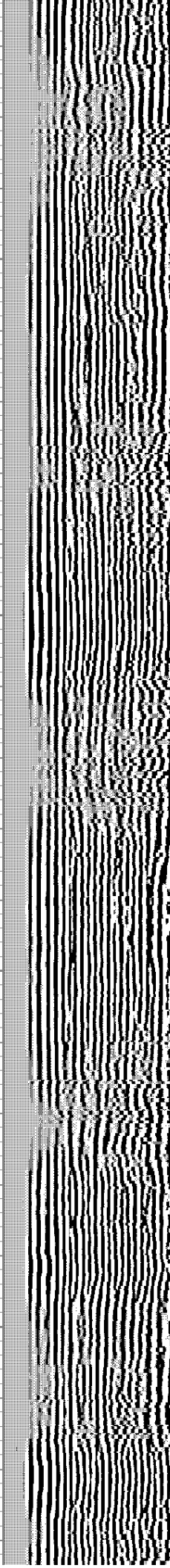
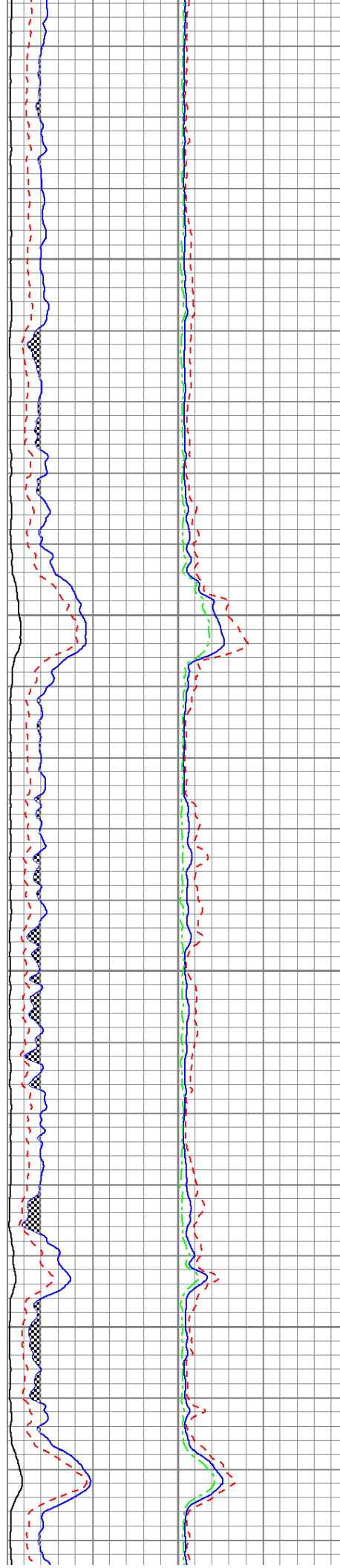


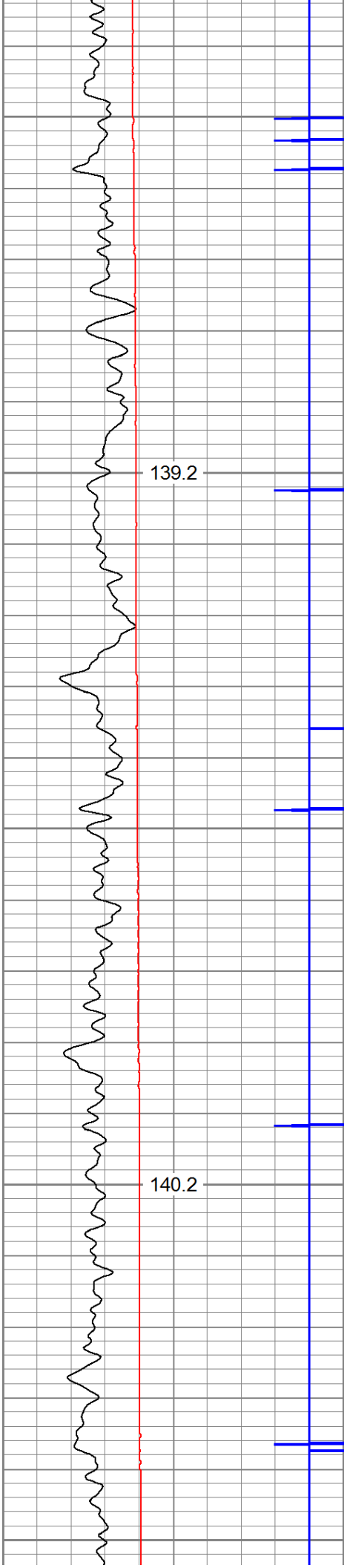




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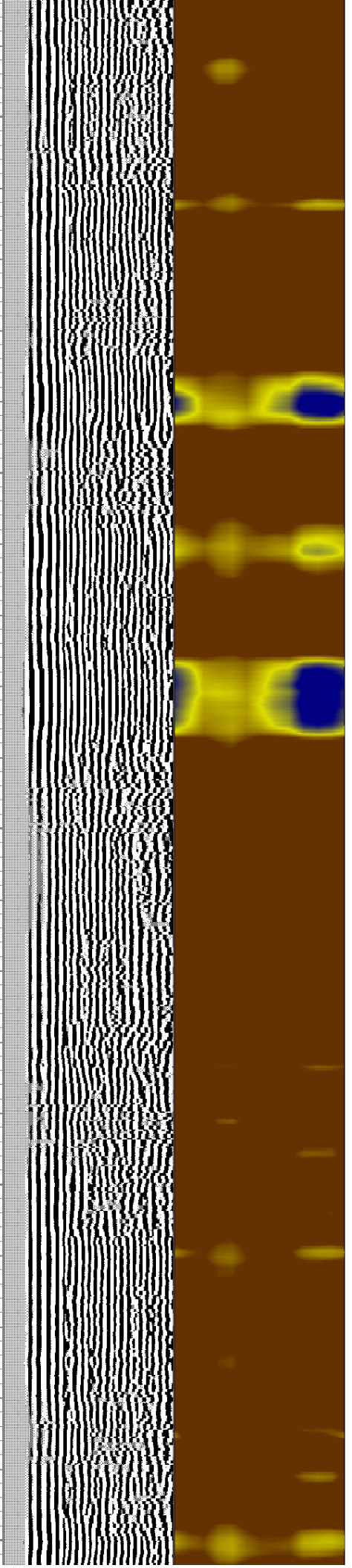
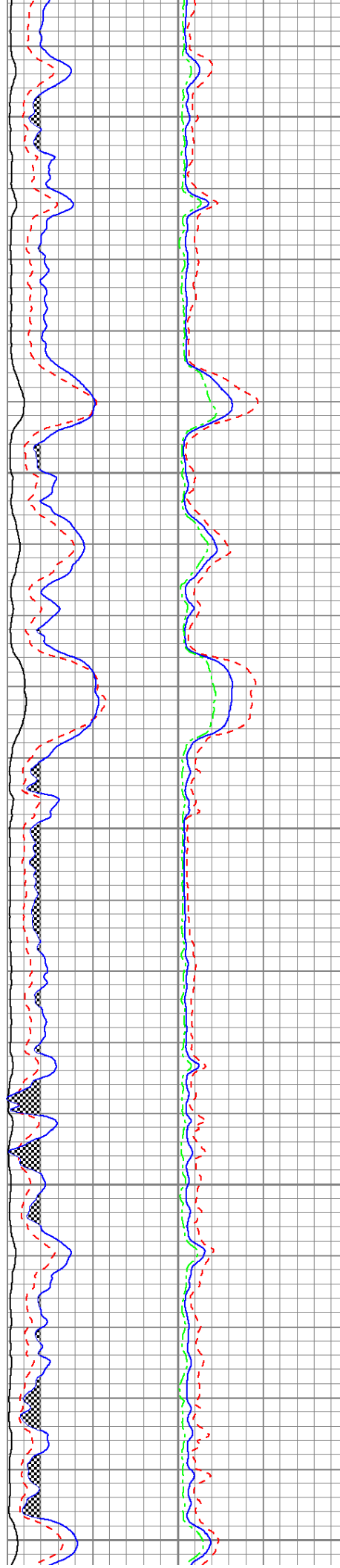
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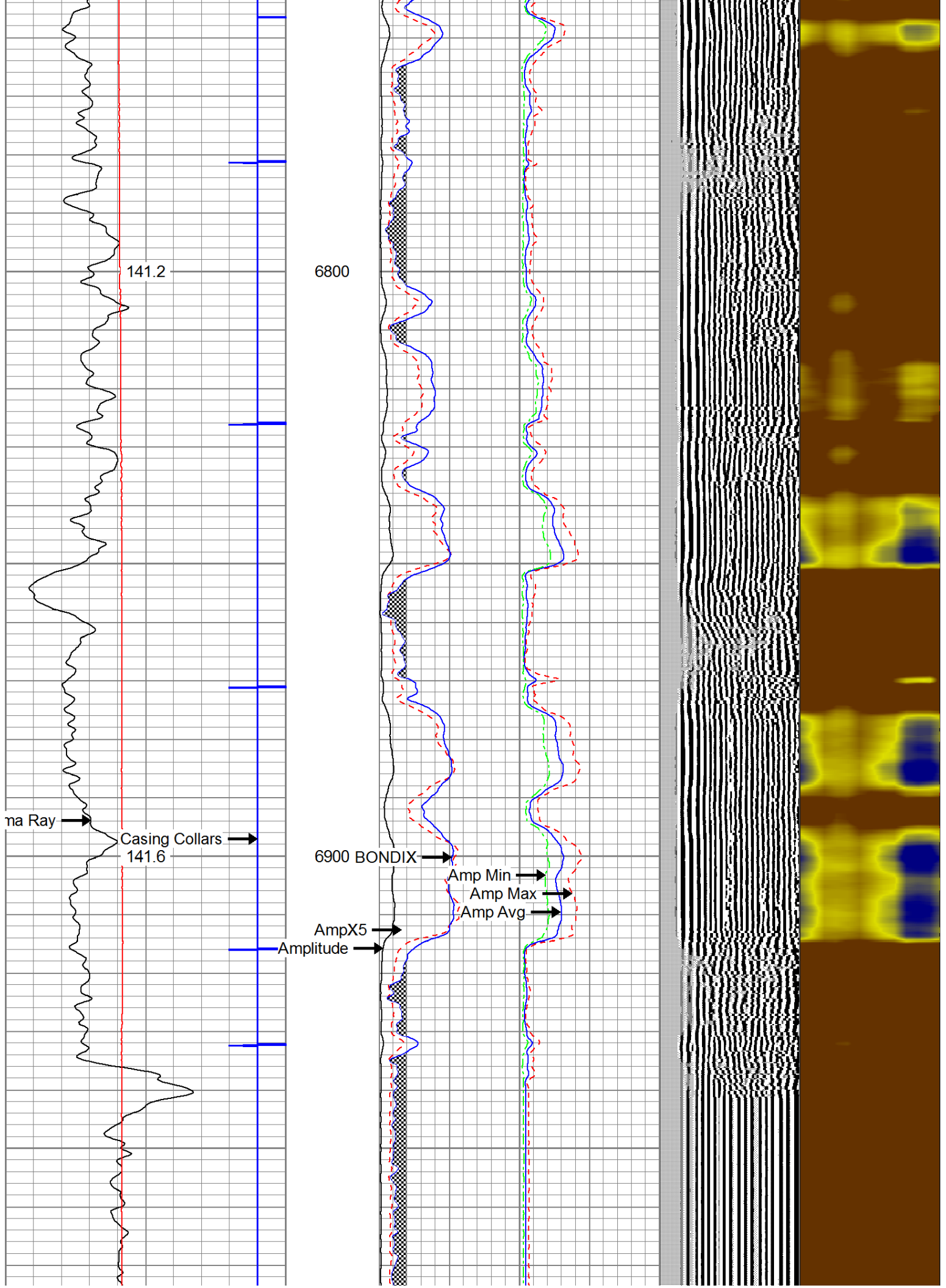


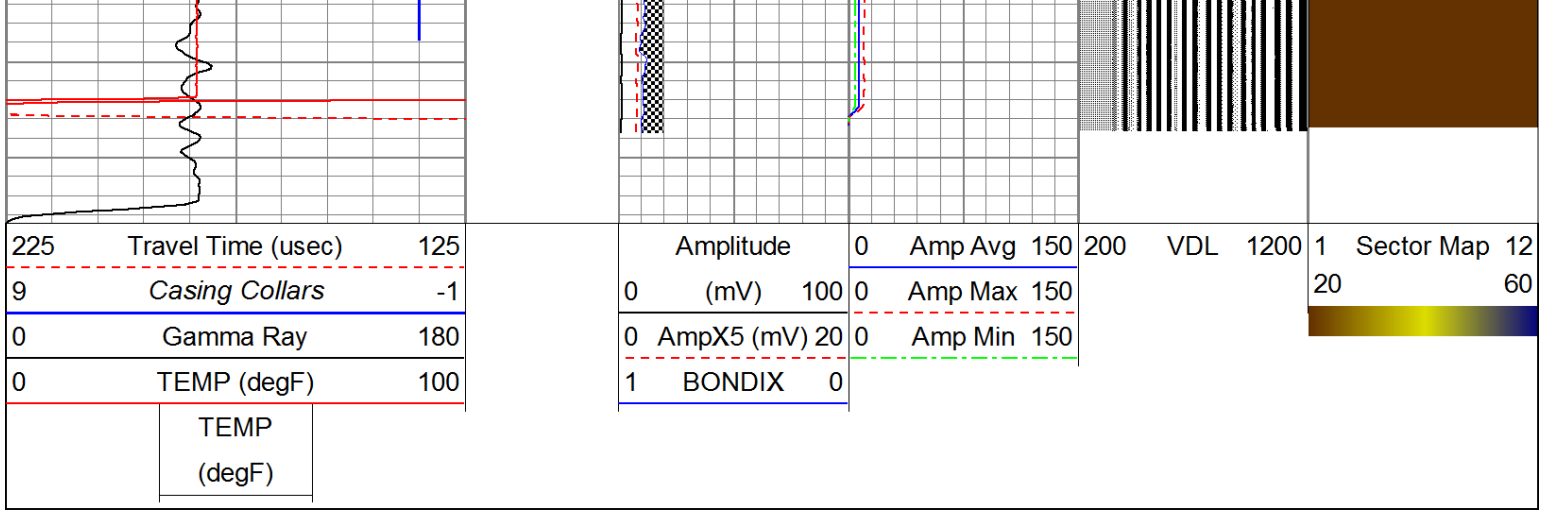


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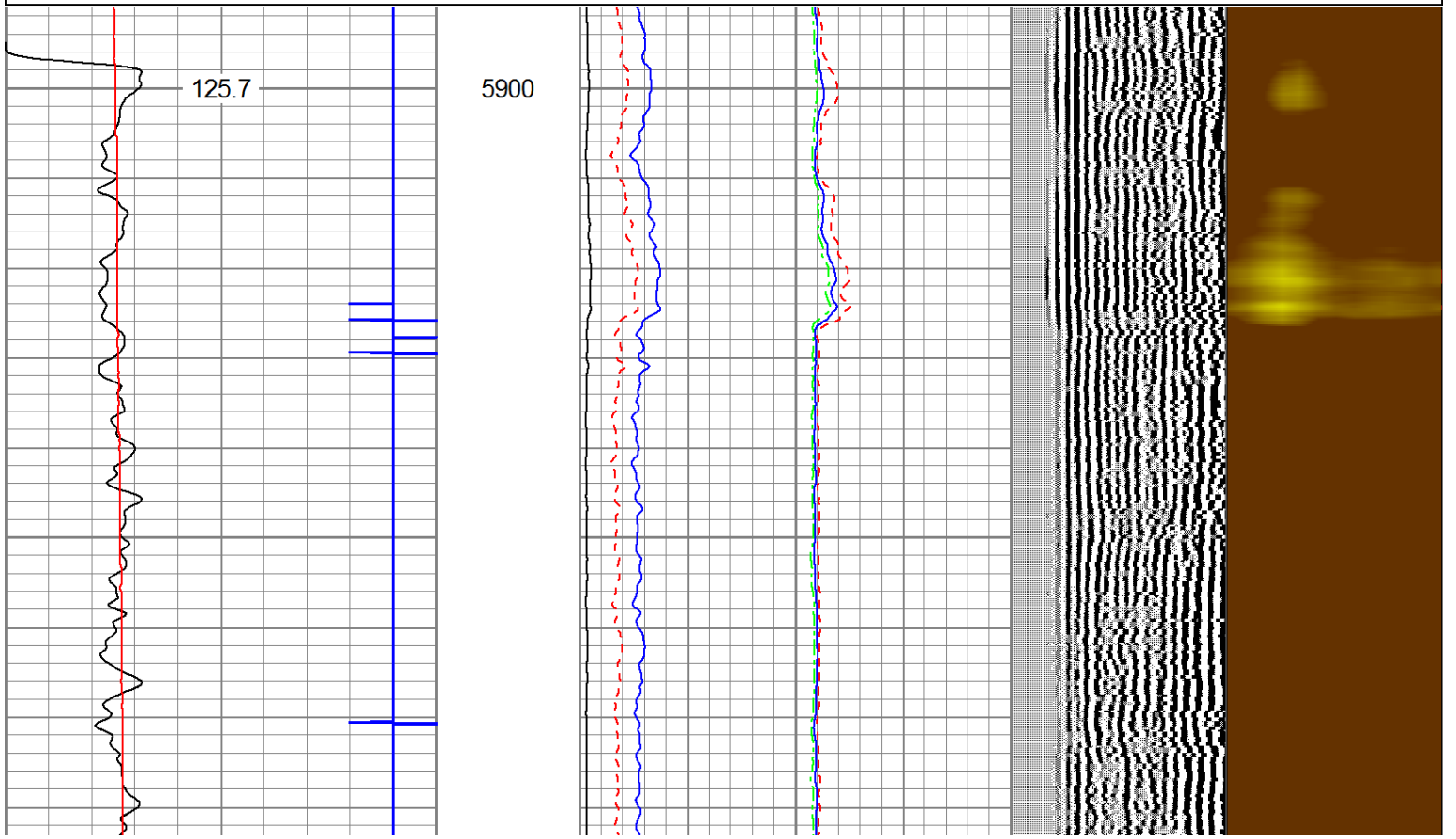
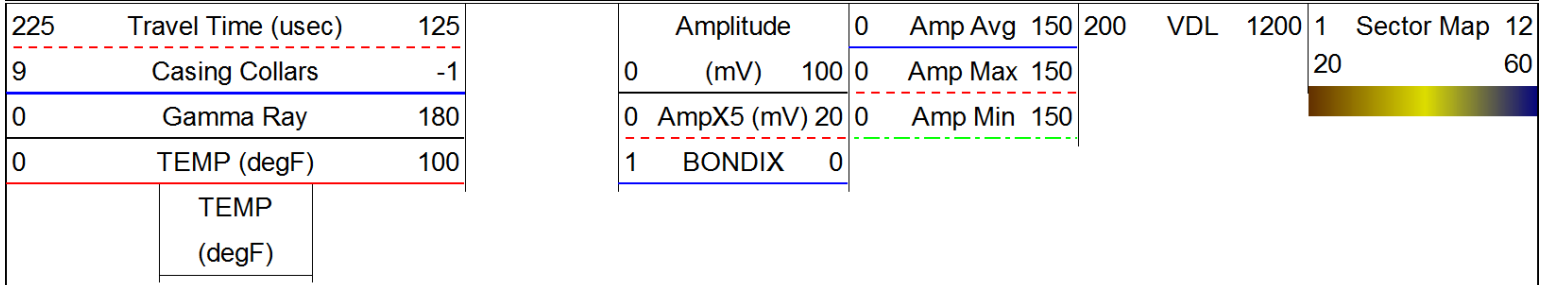


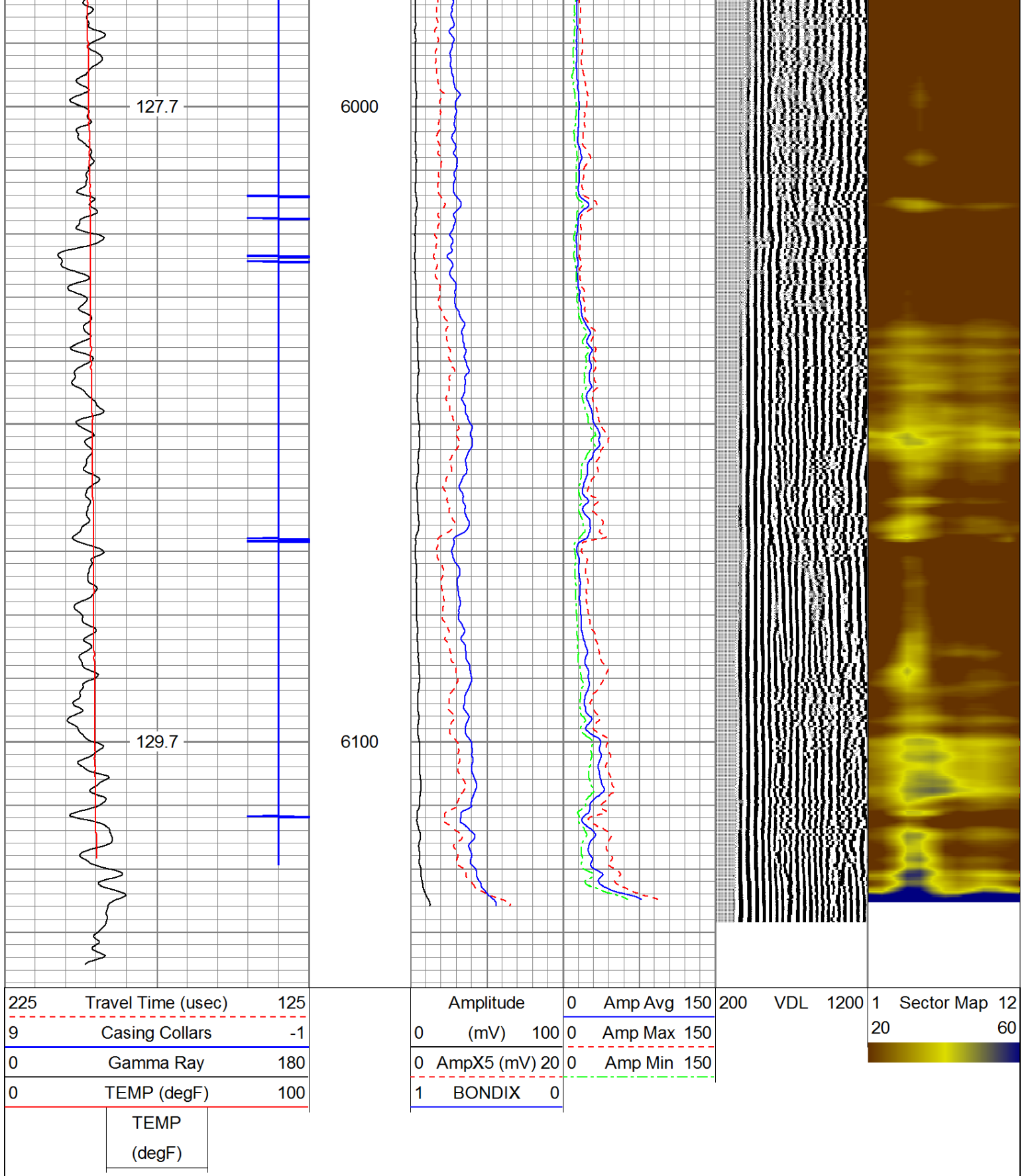





REPEAT PASS 0 PSI

Database File: f:\2019 antero\pyle run\heintzman_3h.db
 Dataset Pathname: pass3
 Presentation Format: antero
 Dataset Creation: Mon Feb 04 09:45:40 2019 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CCL	18.93		CCL-312tekco (3.12TEKCO) Tekco 3 1/8" 450 Deg. "F" SmCo Logging CCL	1.82	3.12	25.00

			2.75 2 3/4" Tekco Adjustable Centralizer	2.73	2.75	25.00
TEMP	12.77					
WVFS1	11.48					
WVFS2	11.48		SCBL-Tek12 (IOL40-05) Tekco 400 Deg F 12 Sector RIB with Temp	9.13	3.25	135.00
WVFS3	11.48					
WVFS4	11.48					
WVFS5	11.48					
WVFS6	11.48					
WVFS7	11.48					
WVFS8	11.48					
WVFS9	11.48					
WVFS10	11.48					
WVFS11	11.48					
WVFS12	11.48					
WVF3FT	10.73					
WVFCAL	10.73					
WVF5FT	9.73					
WVFTEMP	6.40		2.75 2 3/4" Tekco Adjustable Centralizer	2.73	2.75	25.00
WVFSYNC	6.40					
			GR-Tek-Co 2 3/4 (IPSNO-03) Tekco 2 3/4" 400 Deg. F Logging Gamma Ray	3.67	2.75	40.00
GR	1.04					

Dataset: heintzman_3h.db: field/well/run1/pass5.1
 Total Length: 20.07 ft
 Total Weight: 250.00 lb
 O.D. 3.25 in

Calibration Report

Database File: F:\2019 ANTERO\pyle run\heintzman_3h.db
 Dataset Pathname: pass5.1
 Dataset Creation: Mon Feb 04 11:39:16 2019 by Calc 7.0 B1

Gamma Ray Calibration Report

Serial Number:	IPSN0-03	
Tool Model:	Tek-Co 2 3/4	
Performed:	Mon Nov 07 10:23:17 2016	
Calibrator Value:	1.0	
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.3000	/cps

Temperature Calibration Report

Serial Number:	IOL40-05
Tool Model:	Tek12
Performed:	Wed Jul 31 10:53:14 2013

	Reference		Reading	
Low Reference:	0.00	degF	0.00	usec
High Reference:	1.00	degF	1.00	usec
Gain:	0.33			
Offset:	0.00			
Delta Spacing	2			



Company	ANTERO RESOURCES
Well	HEINTZMAN UNIT 3H
Field	MARCELLUS
County	TYLER
State	W.V.

Country USA