



**RADIAL CEMENT BOND  
GAMMA RAY/CCLVDL**

Company ANTERO RESOURCES CORPORATION  
 Well HEINTZMAN UNIT 1H  
 Field MARCELLUS  
 County TYLER  
 State W.V.

Company ANTERO RESOURCES CORPORATION  
 Well HEINTZMAN UNIT 1H  
 Field MARCELLUS  
 County TYLER State W.V.

Location: API #: 47095025260000 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	17755'						
Depth Logger	7352'						
Bottom Logged Interval	7352'						
Top Log Interval	SURFACE						
Open Hole Size	8.5"						
Type Fluid	H2O						
Density / Viscosity	N/A						
Max. Recorded Temp.	141 DEG						
Estimated Cement Top	1010'						
Time Well Ready	N/A						
Time Logger on Bottom	N/A						
Equipment Number	340						
Location	BRIDGEPORT.WV						
Recorded By	JBOGGS						
Witnessed By	JAY TEPFER						
Borehole Record		Casing Record					
Run Number	Bit	From	To	Size	Weight	From	To
				5.5	23	0	17755

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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 35 FT UP HOLE TO MATCH PIPE TALLY  
 TOP OF CEMENT @ 1010'  
 BOTTOM HOLE TEMP- 141 DEG  
 MARKER JOINT @ 6111'-6121'



**MAIN LOG 1500 PSI**

Database File: f:\2019 antero\pyle run\heintzman\_1h.db  
 Dataset Pathname: pass3.1  
 Presentation Format: antero  
 Dataset Creation: Mon Feb 04 17:57:09 2019 by Calc 7.0 B1  
 Charted by: Depth in Feet scaled 1:240

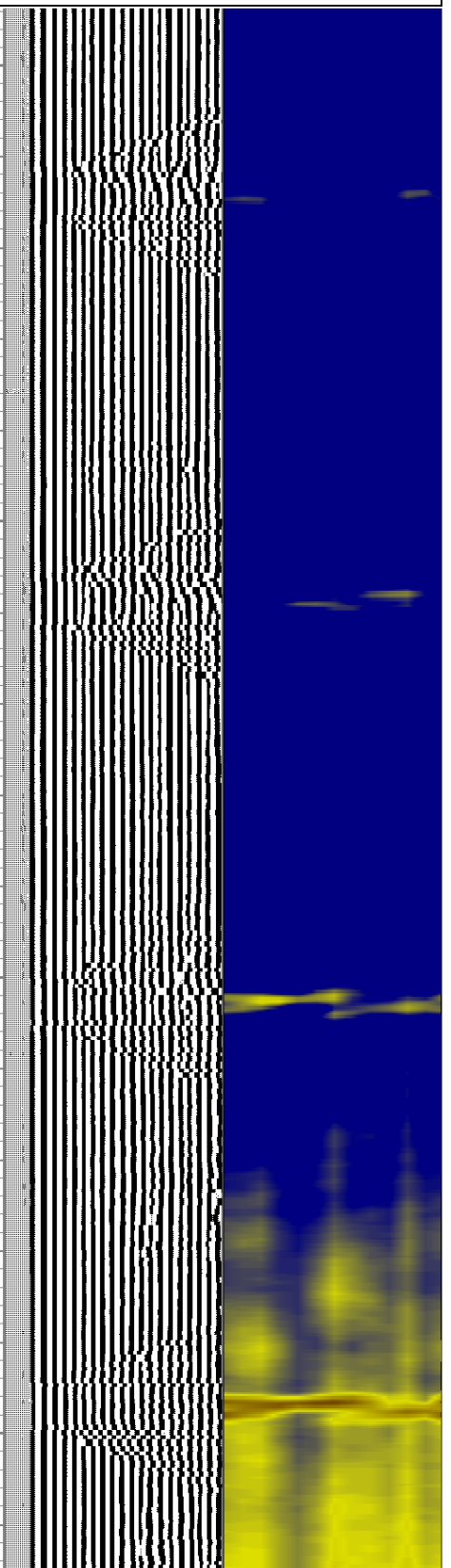
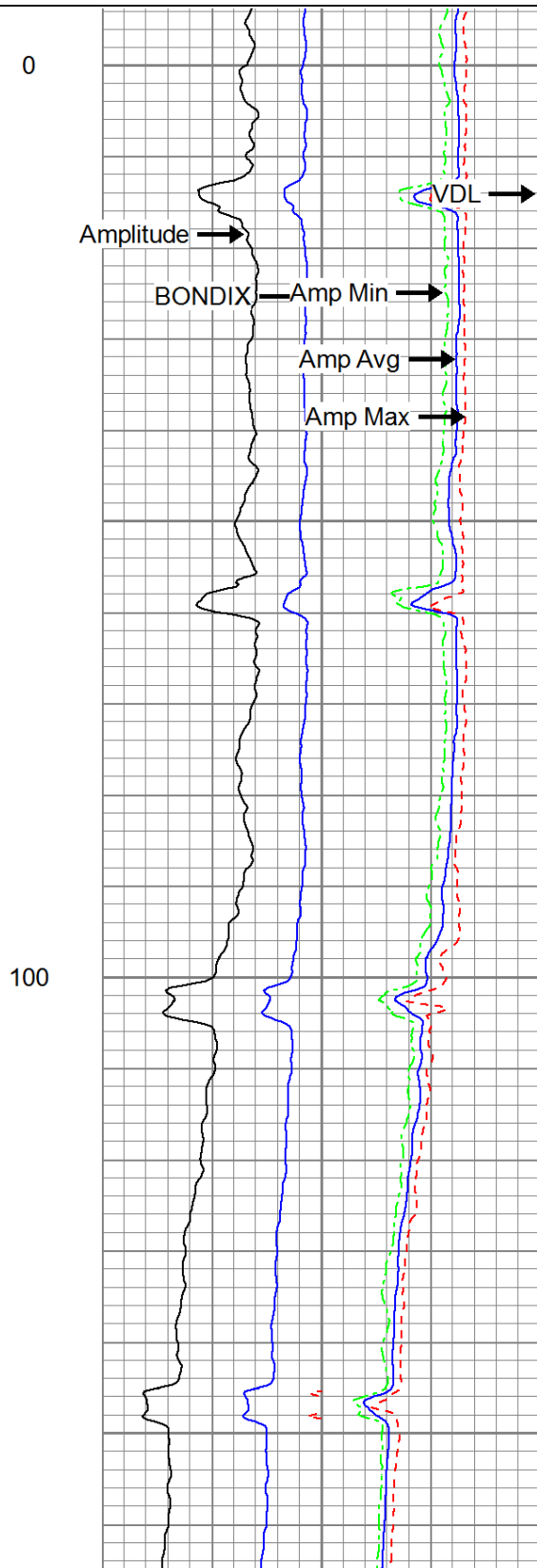
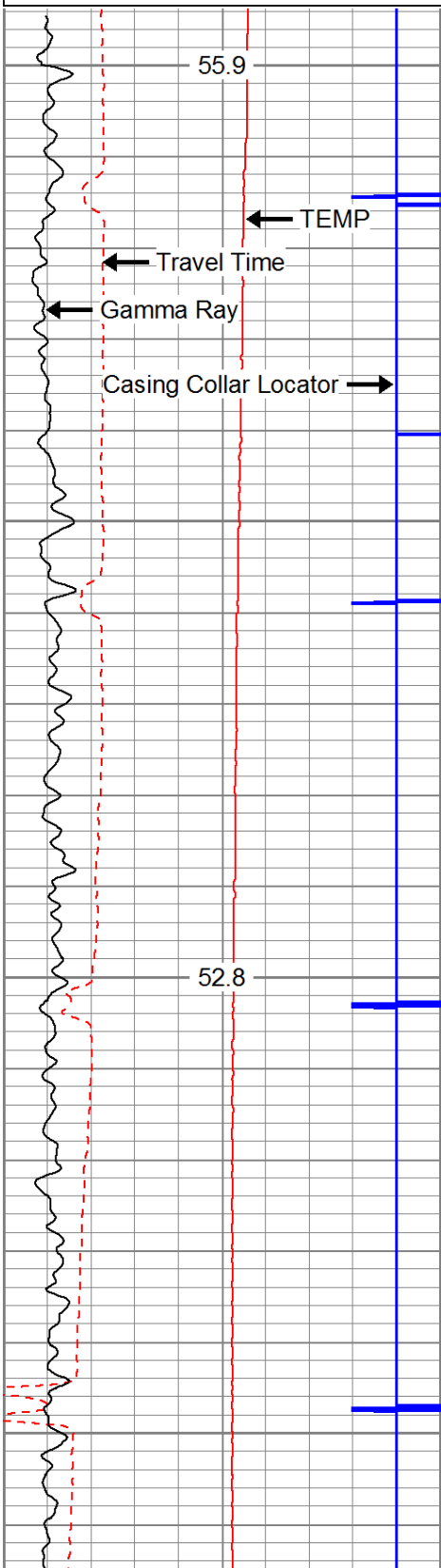
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9	Casing Collars	-1
0	Gamma Ray	180
0	TEMP (degF)	100

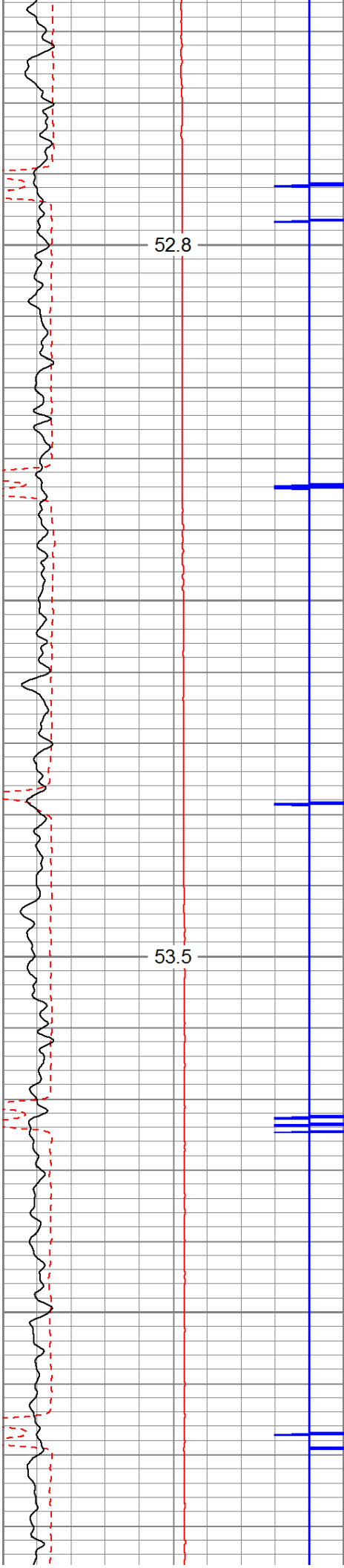
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0 (mV)	100	0	Amp Max	150		
0 AmpX5 (mV)	20	0	Amp Min	150		
1 BONDIX	0					

1	Sector Map	12
20		60



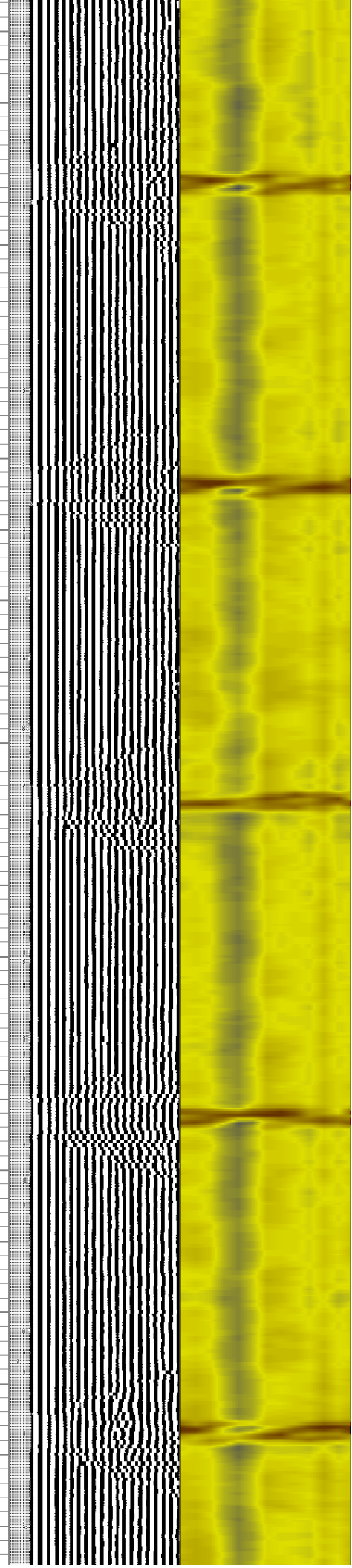
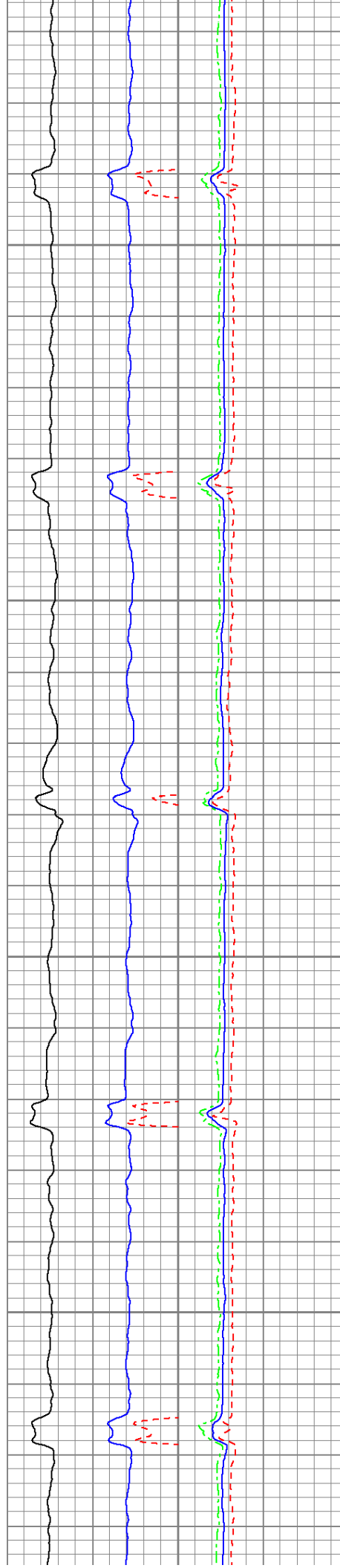
TEMP  
(degF)

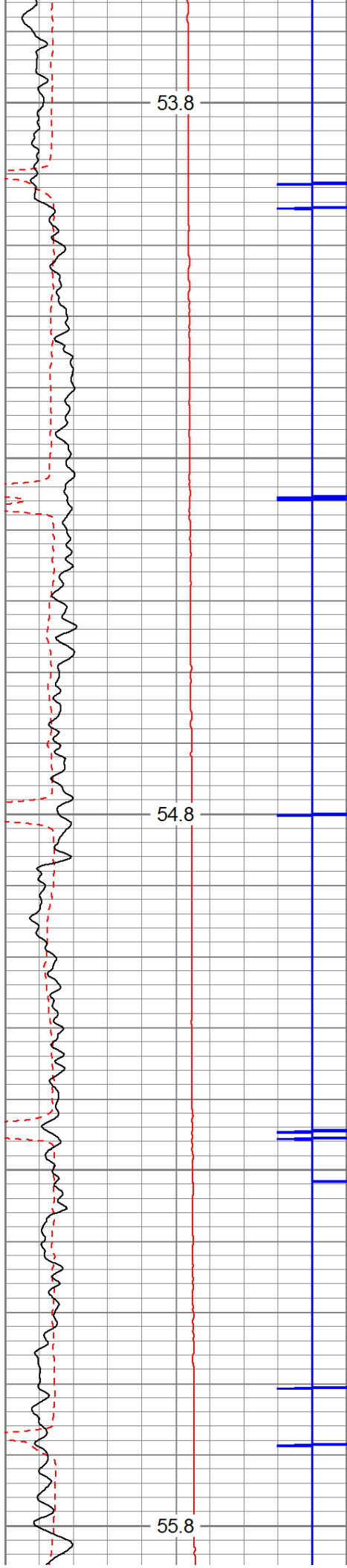




200

300

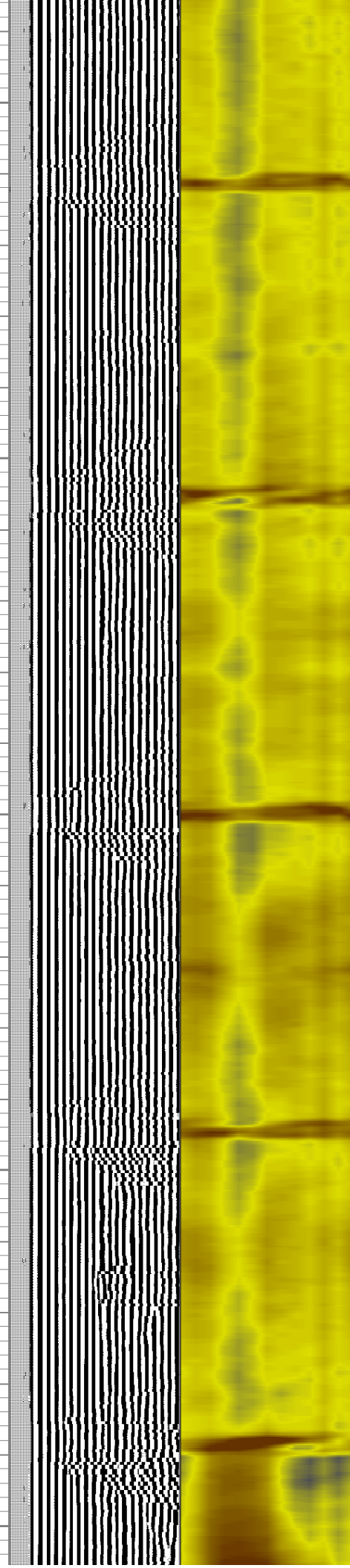
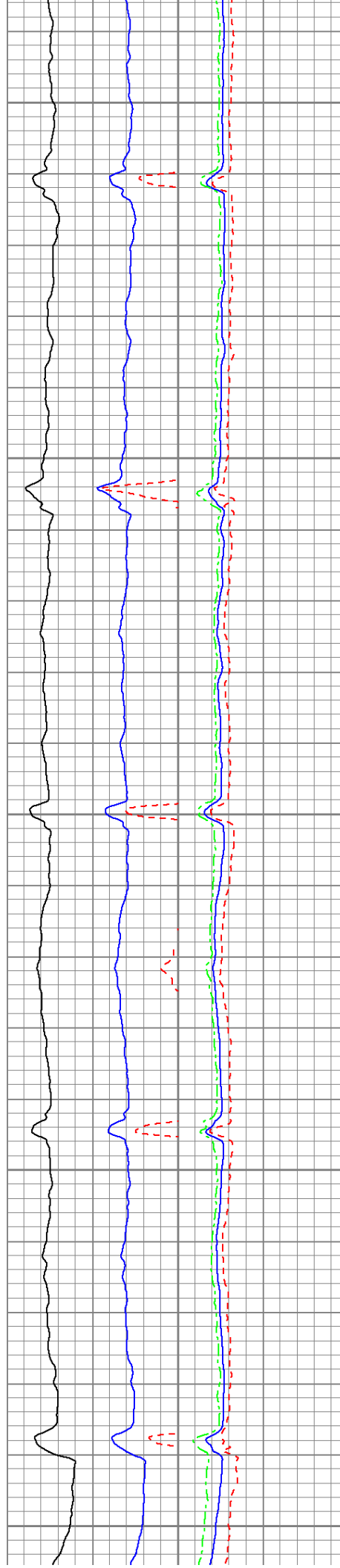


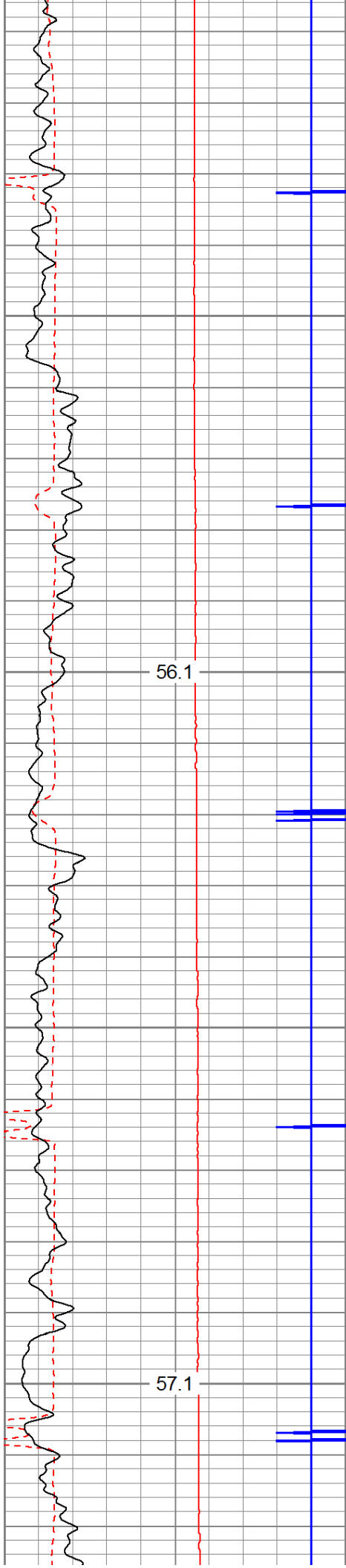


400

500

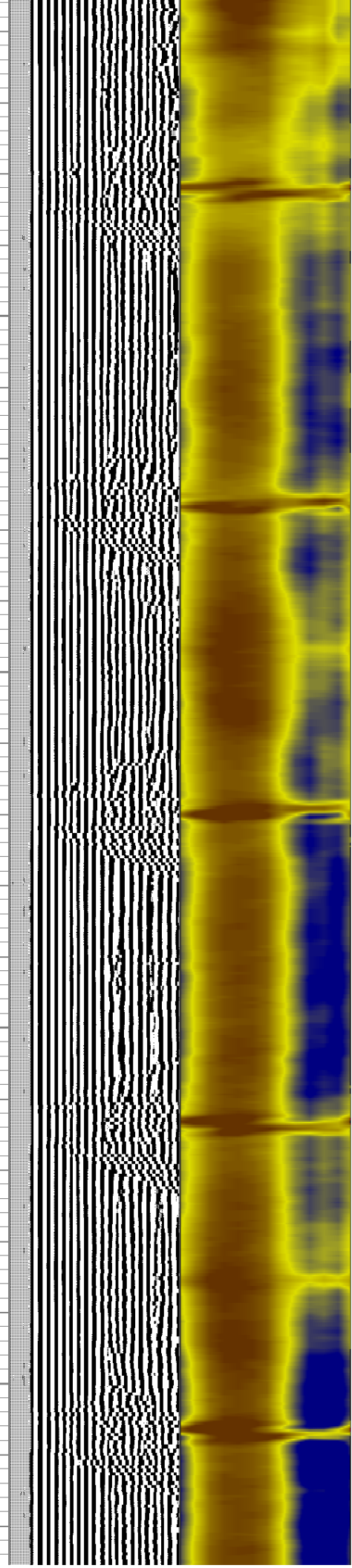
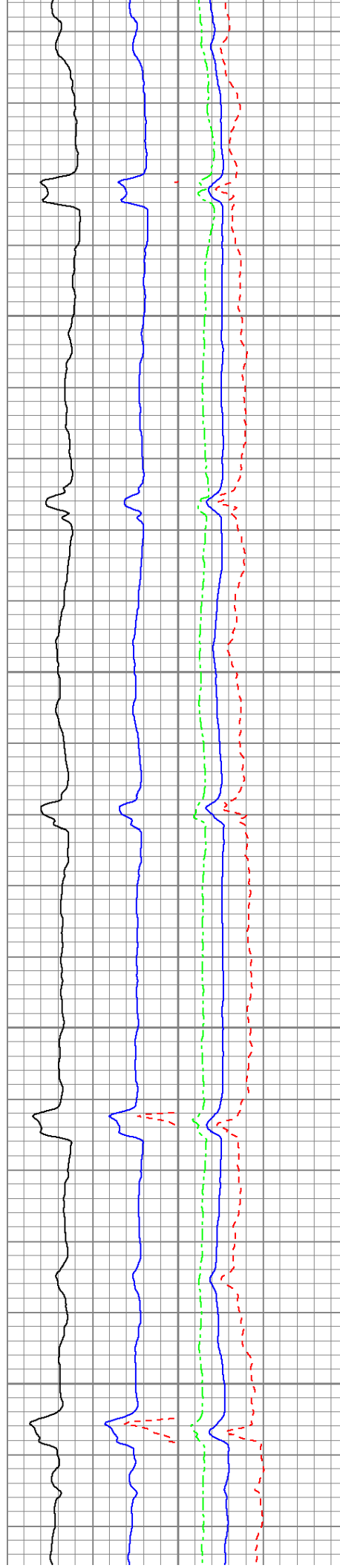
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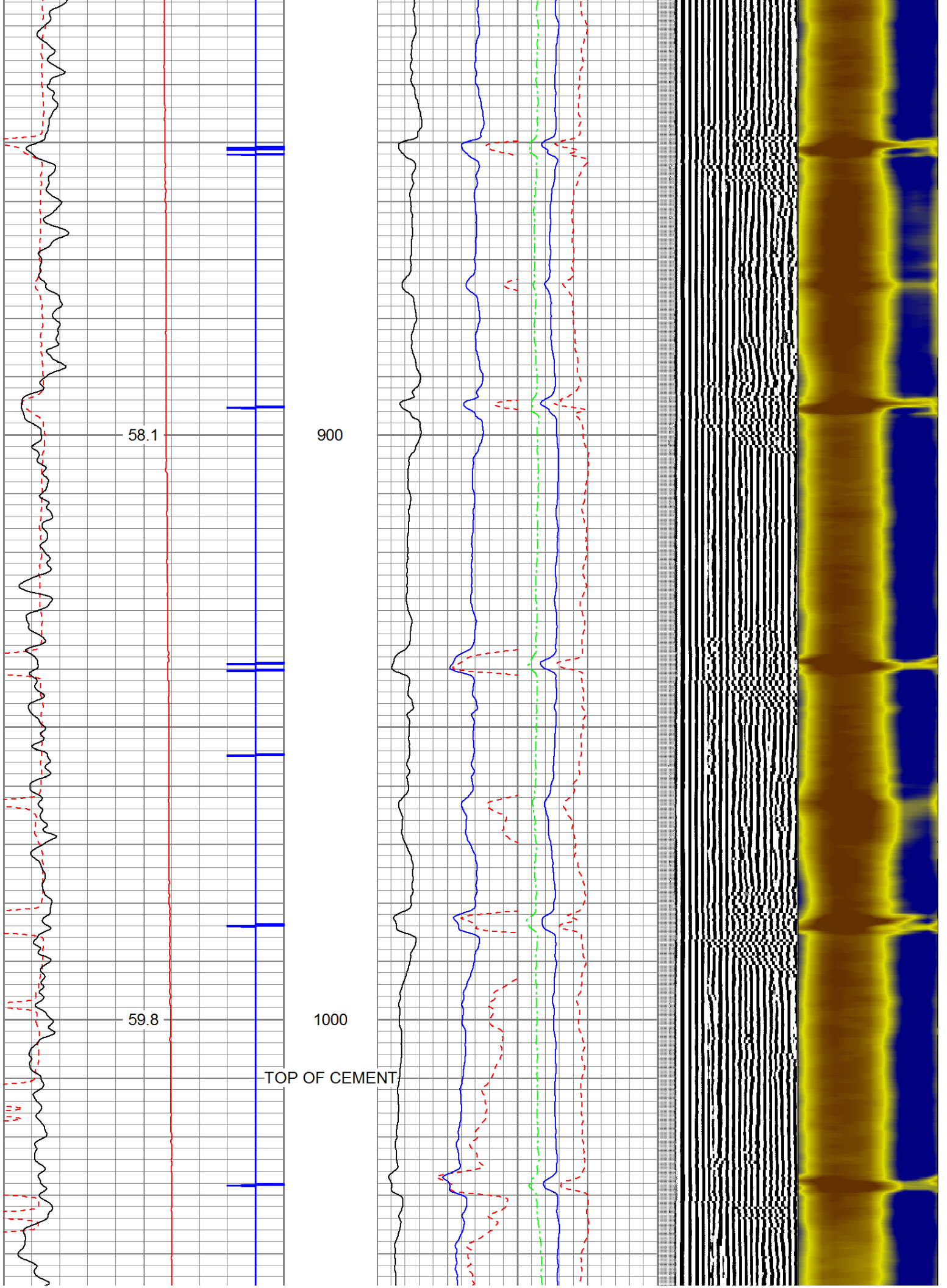


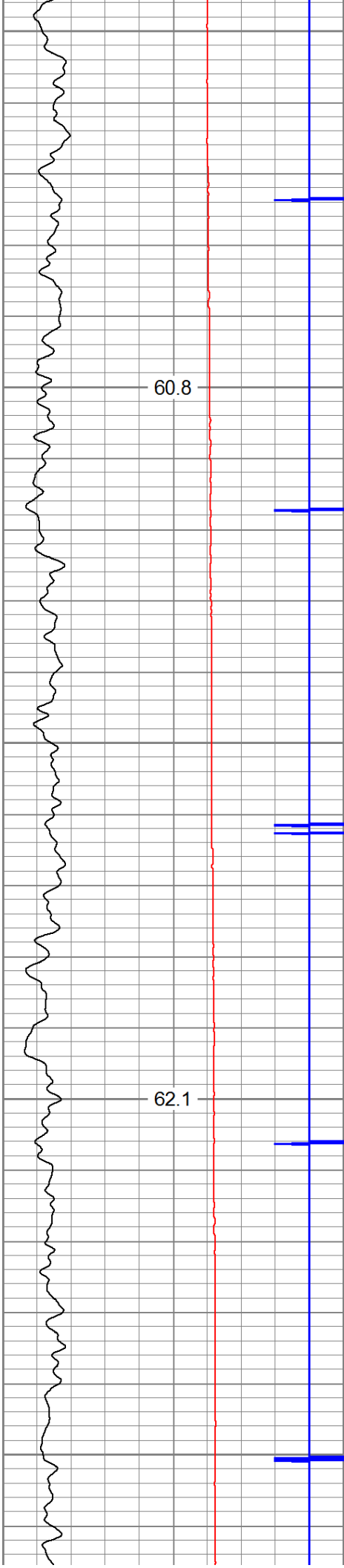


700

800





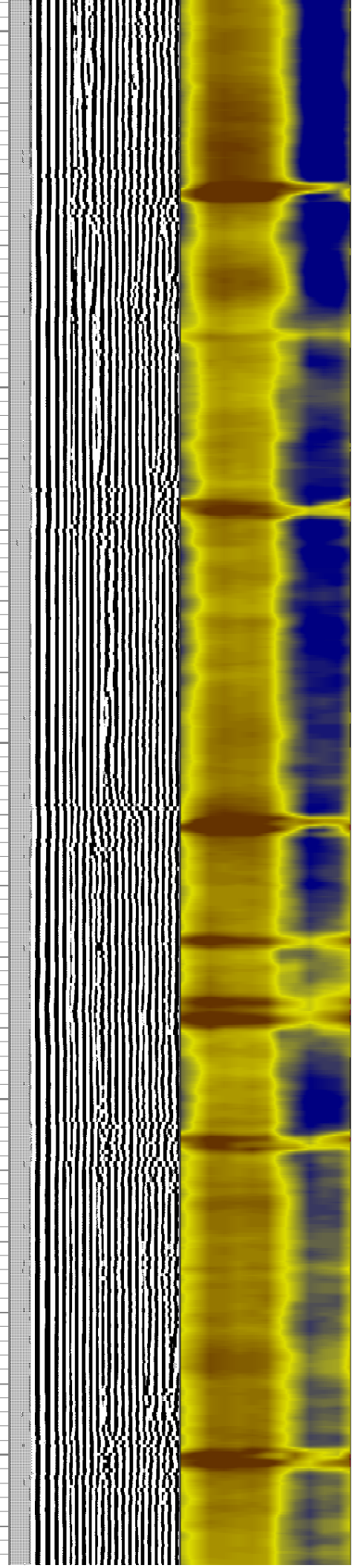
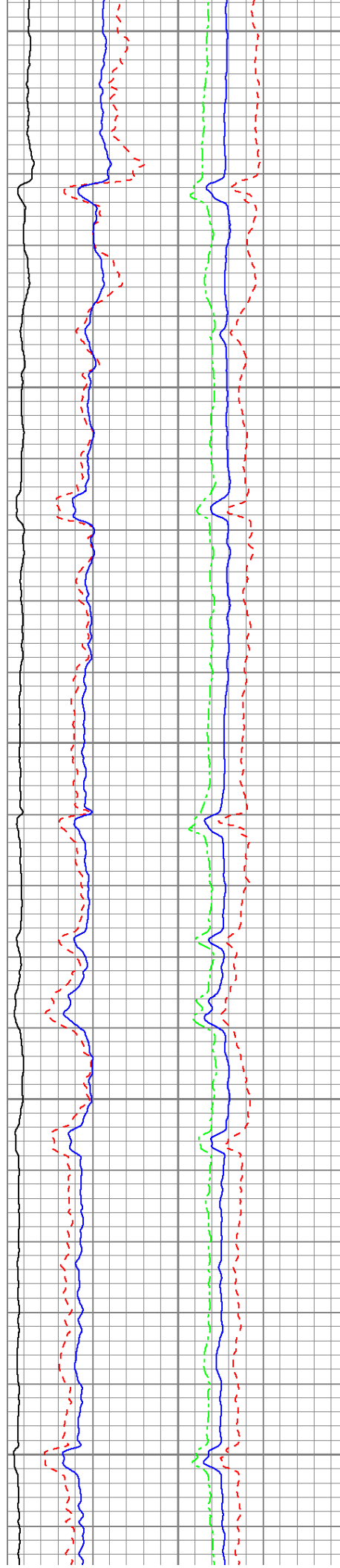


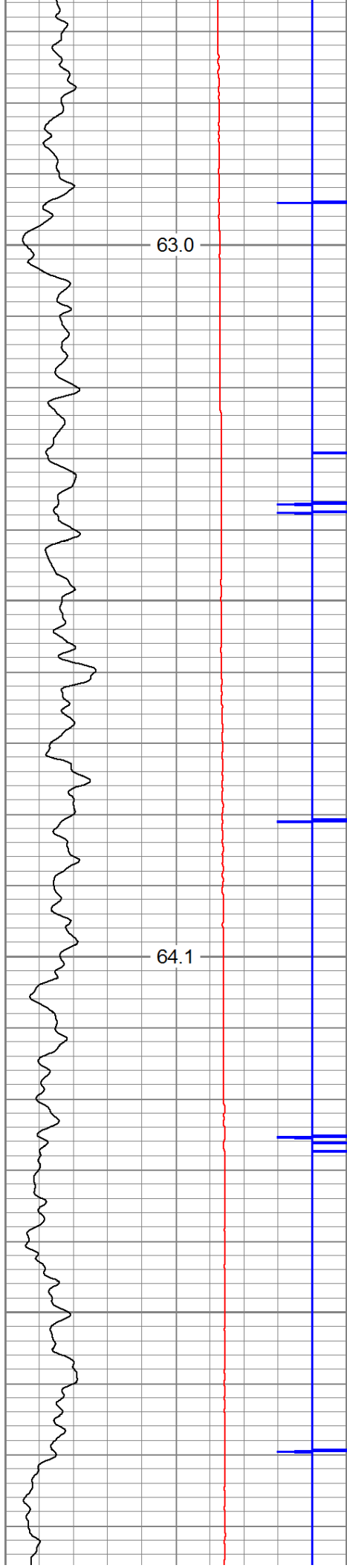
60.8

62.1

1100

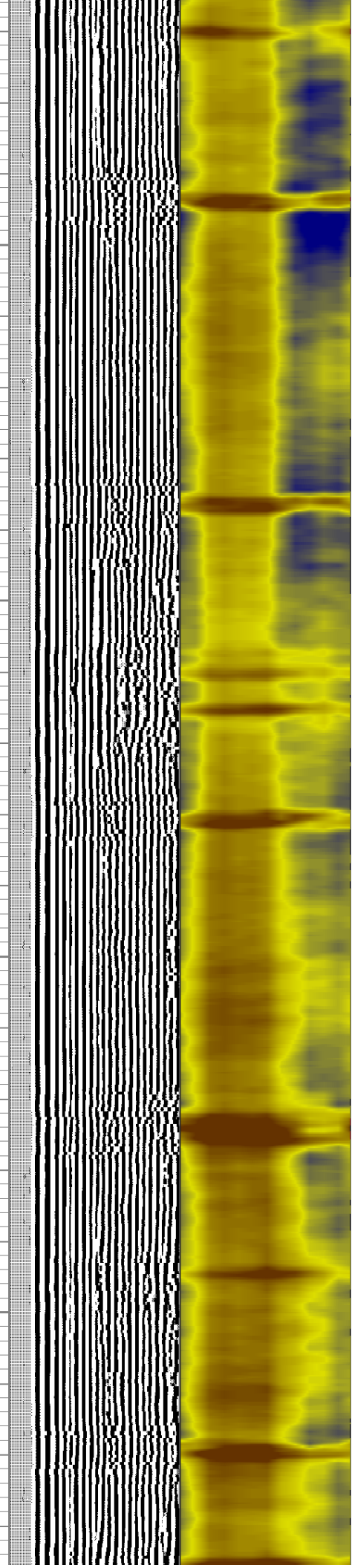
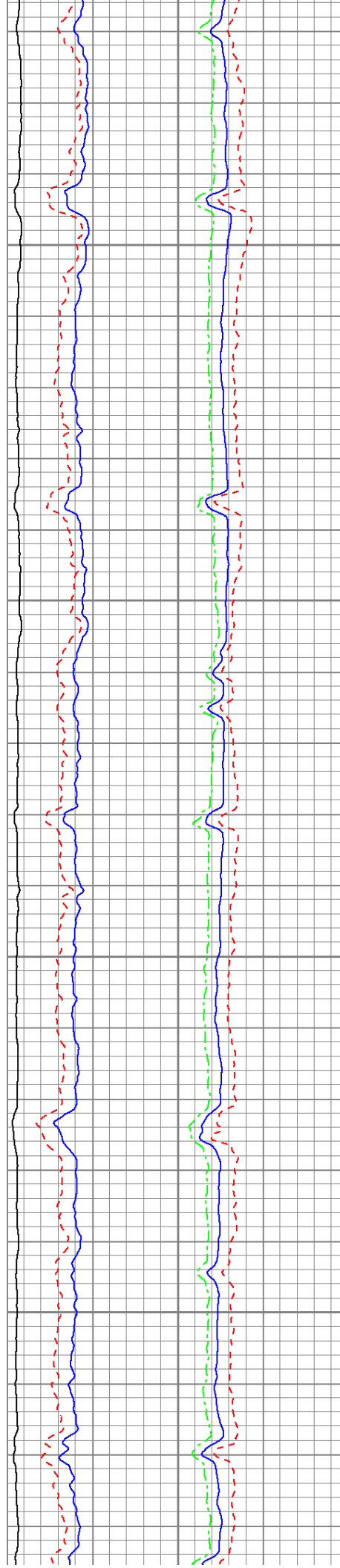
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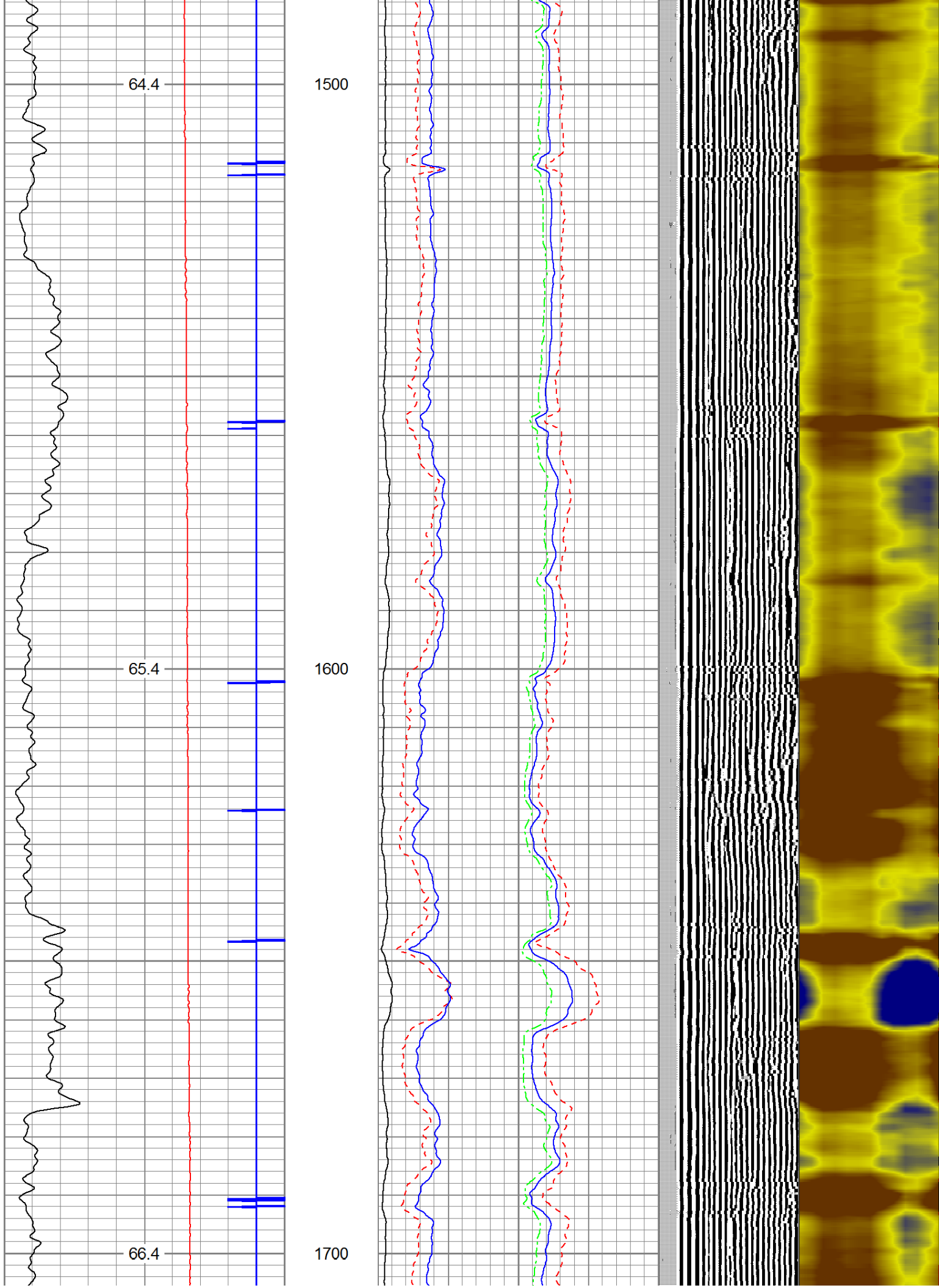


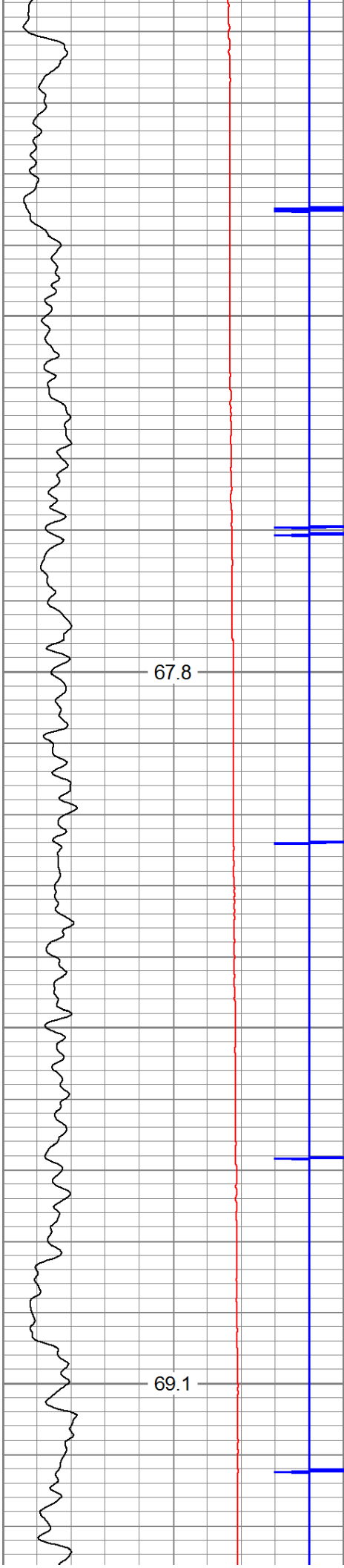
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1400







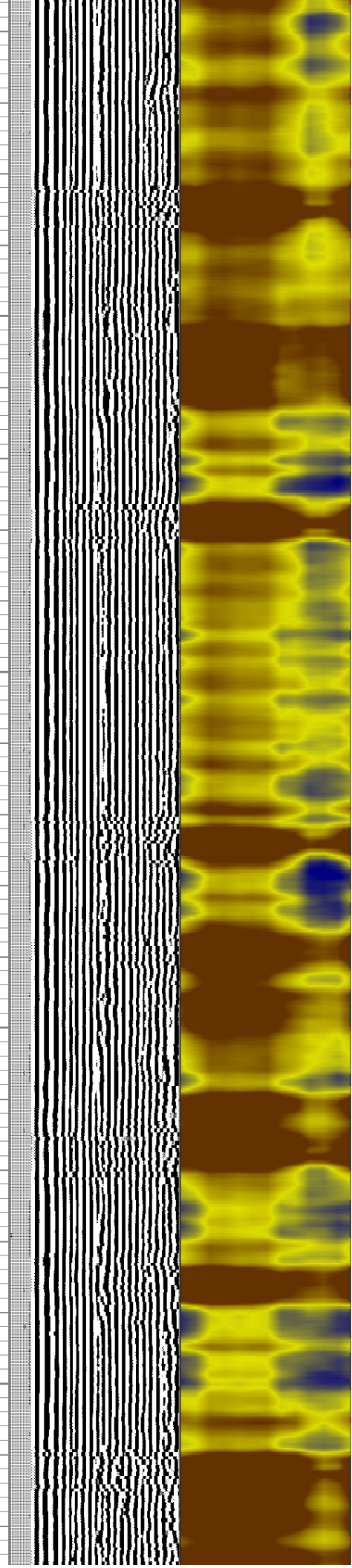
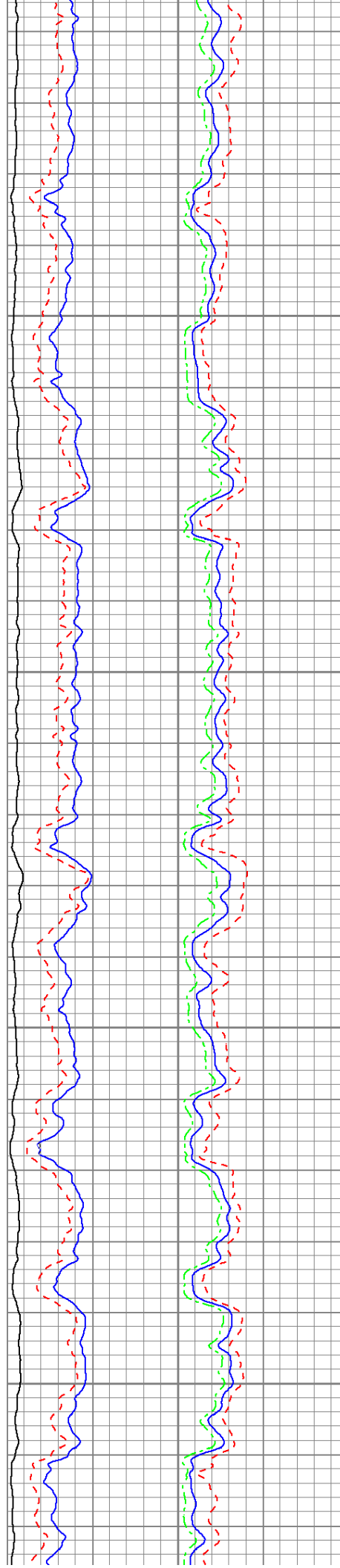


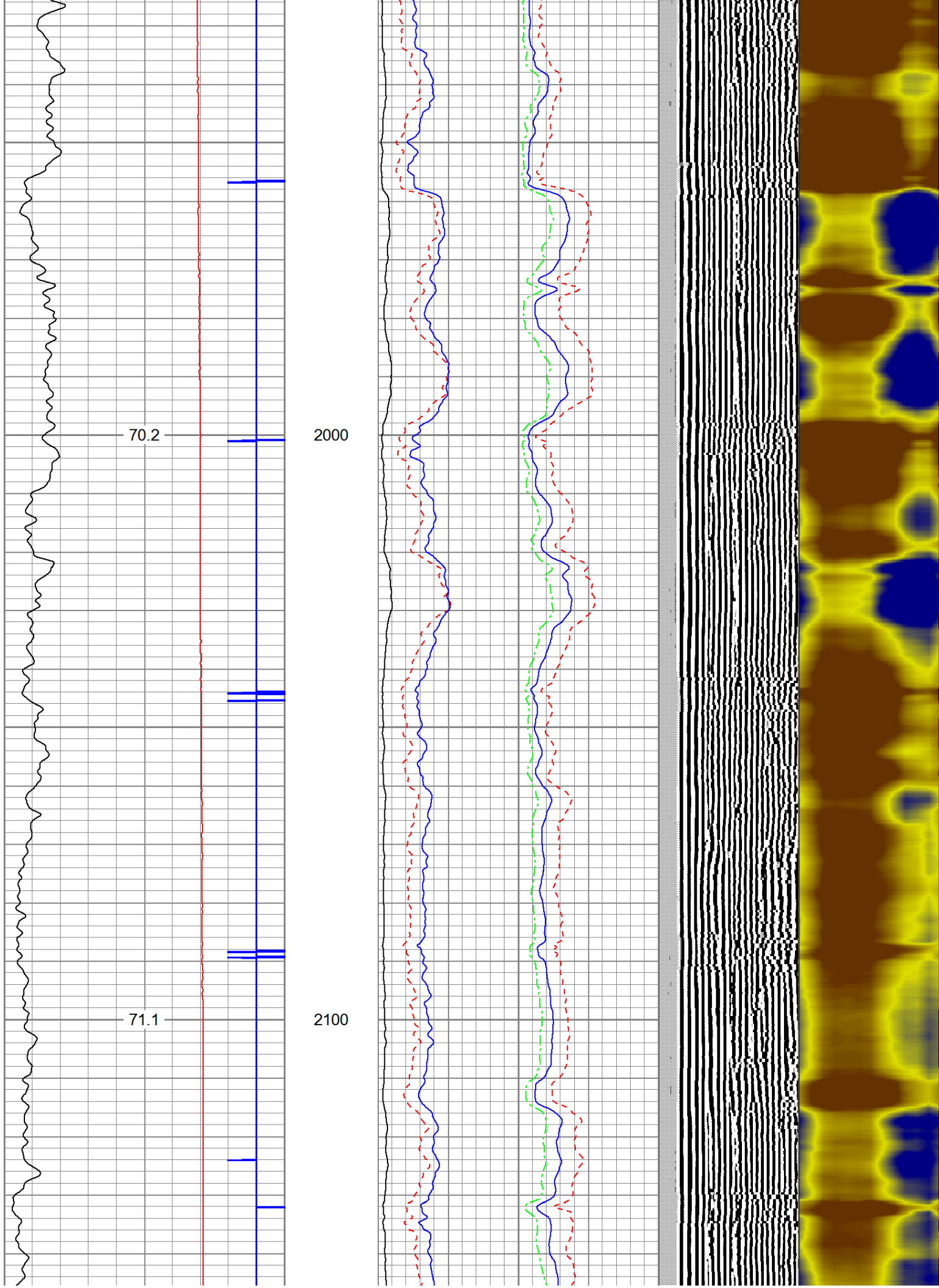
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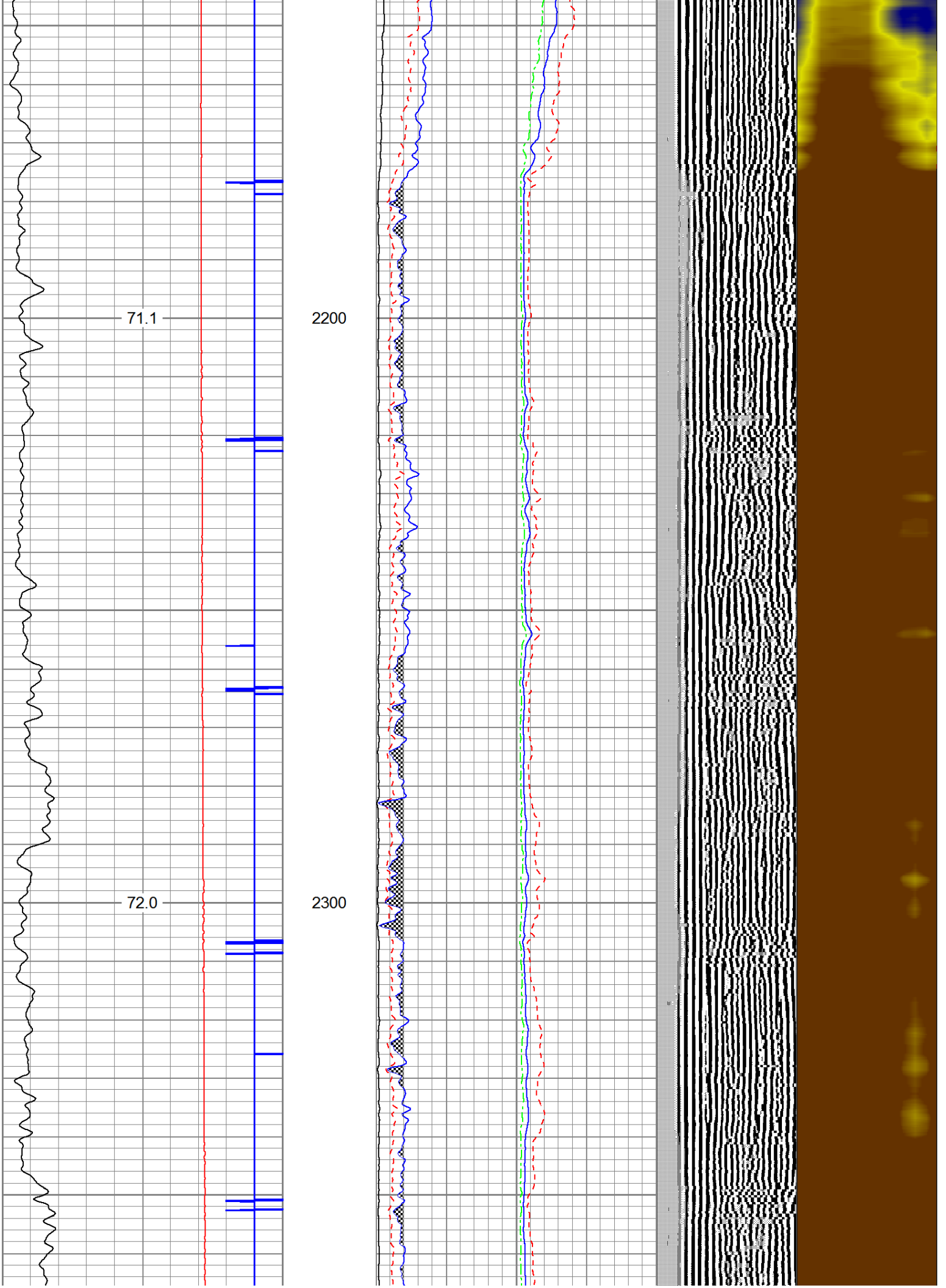
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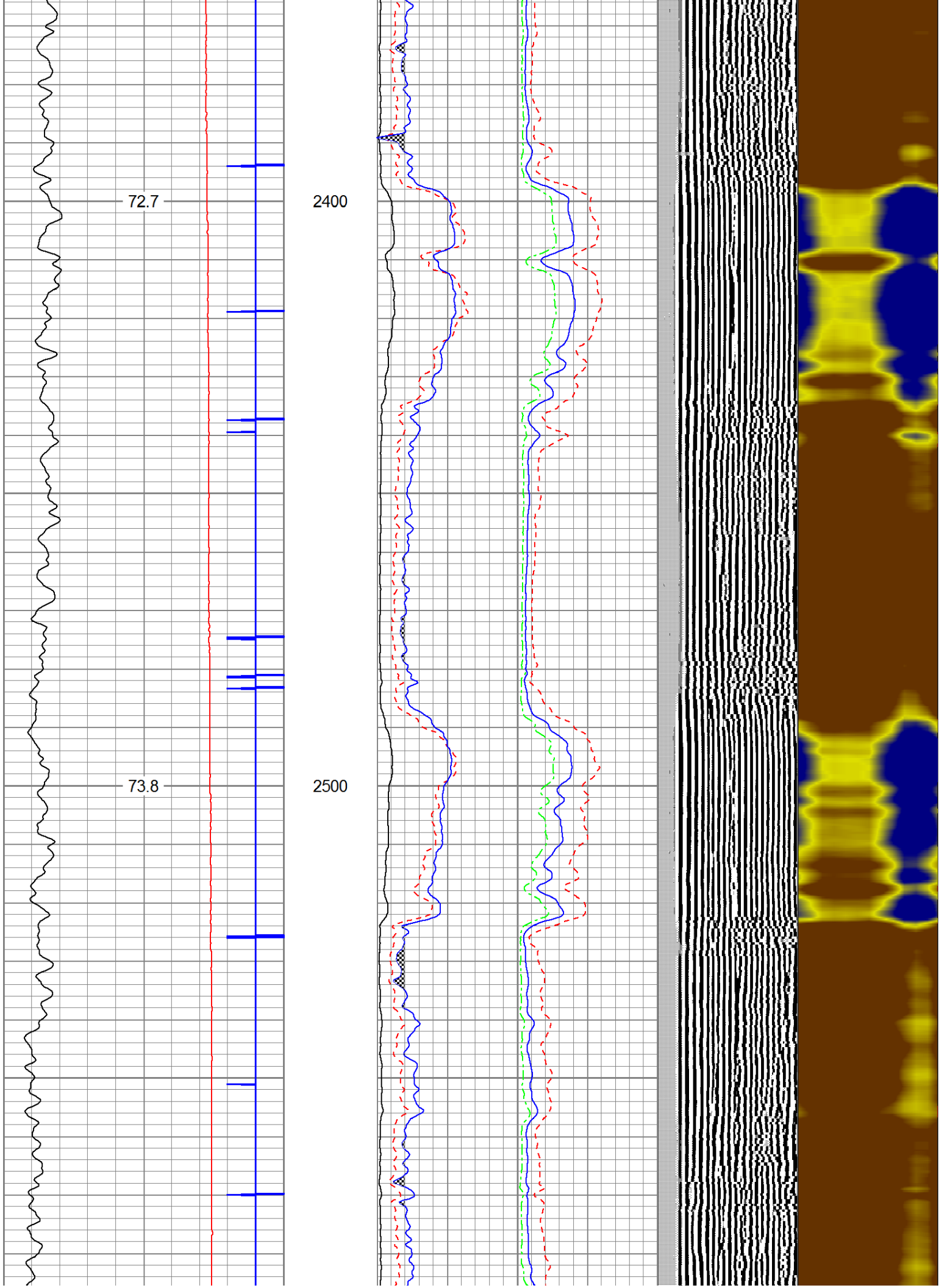
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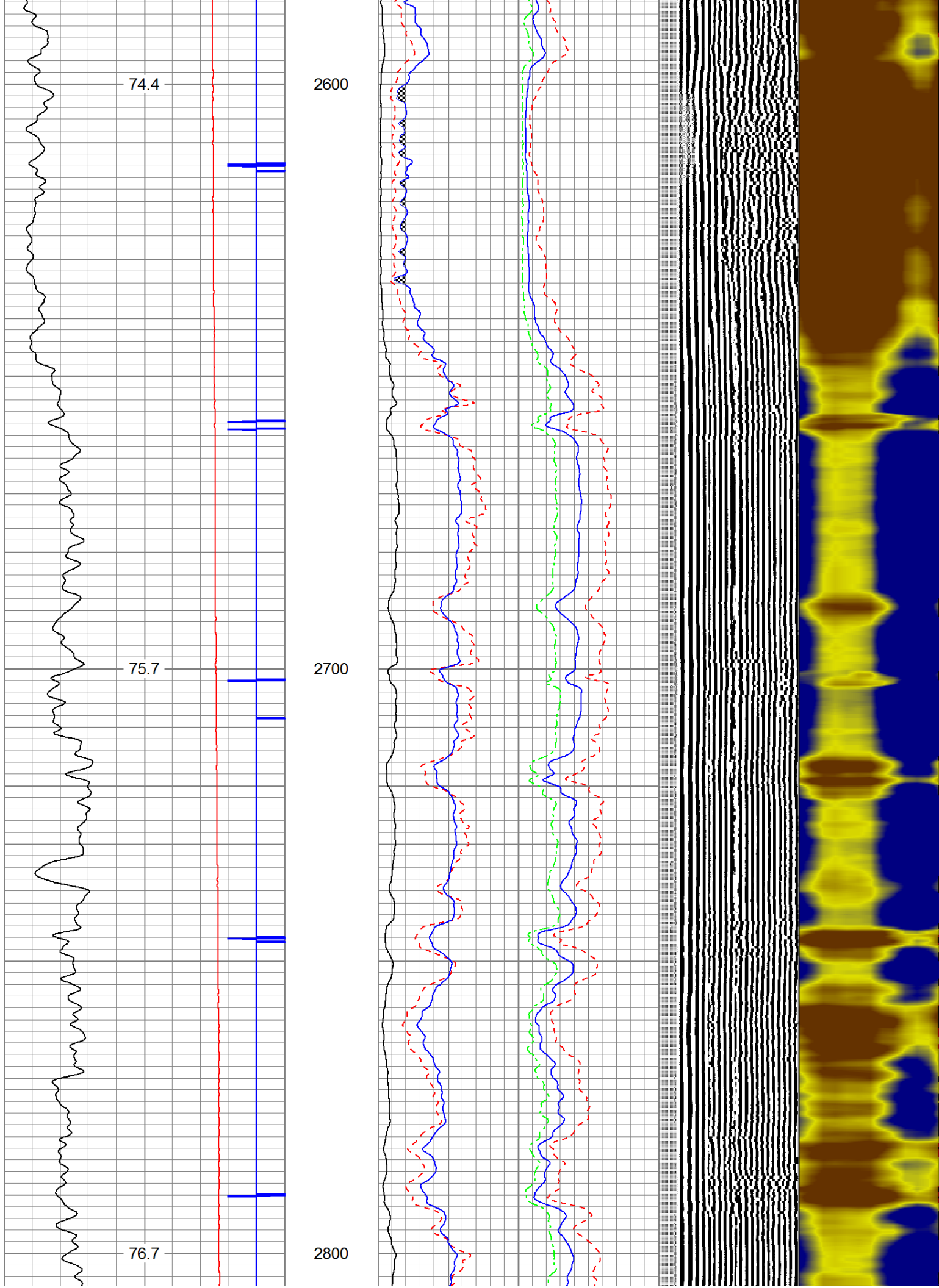
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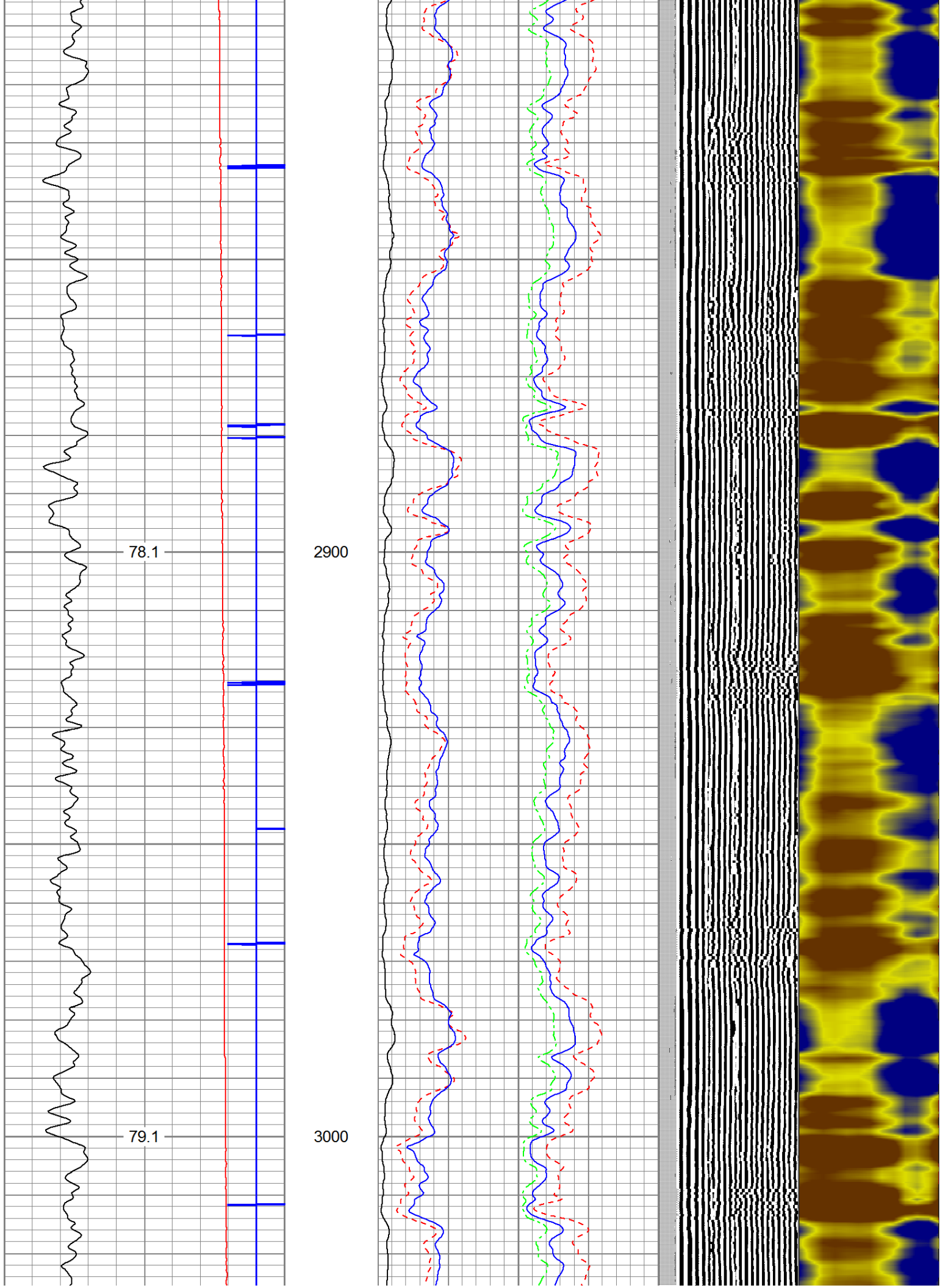


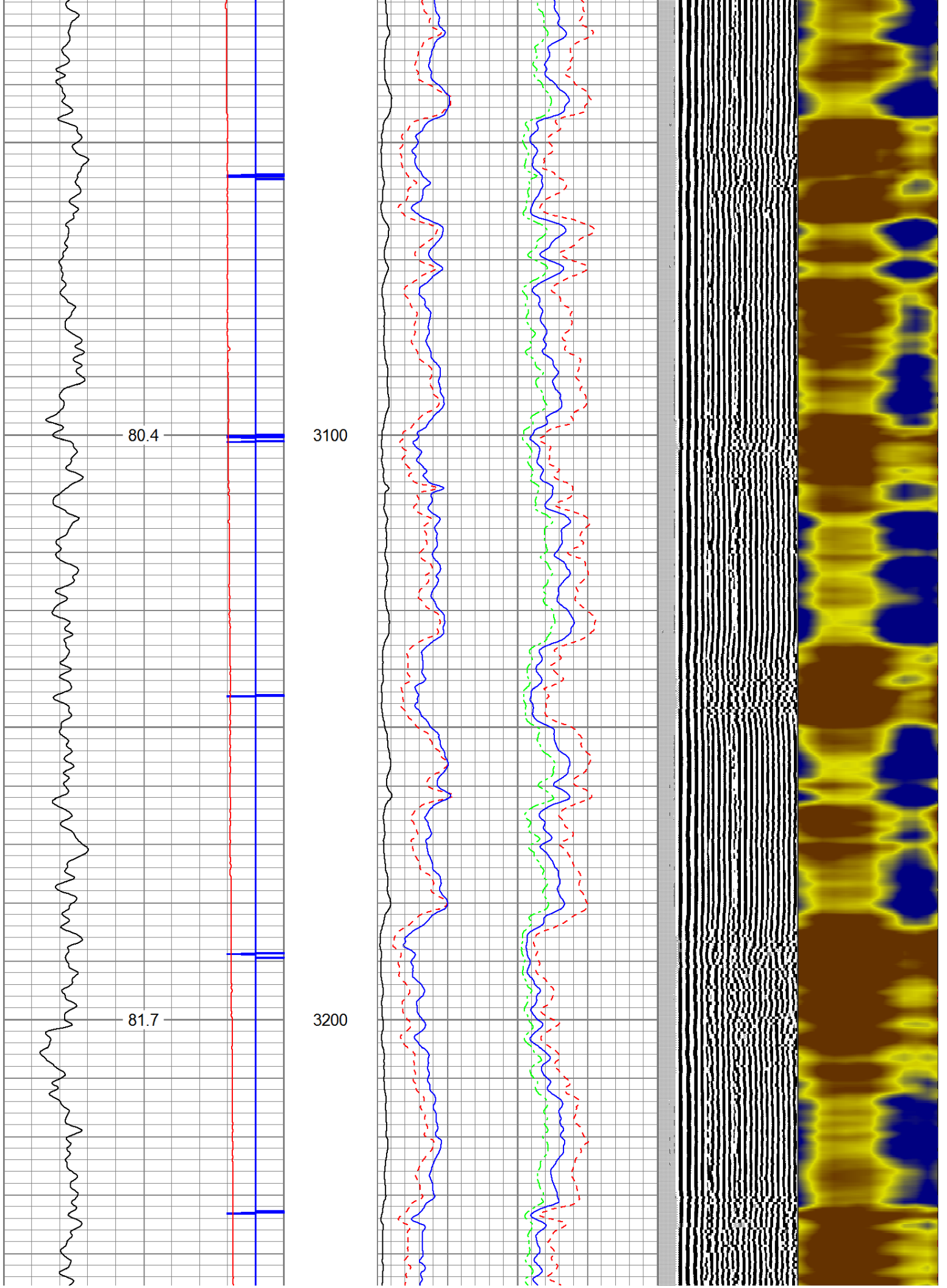




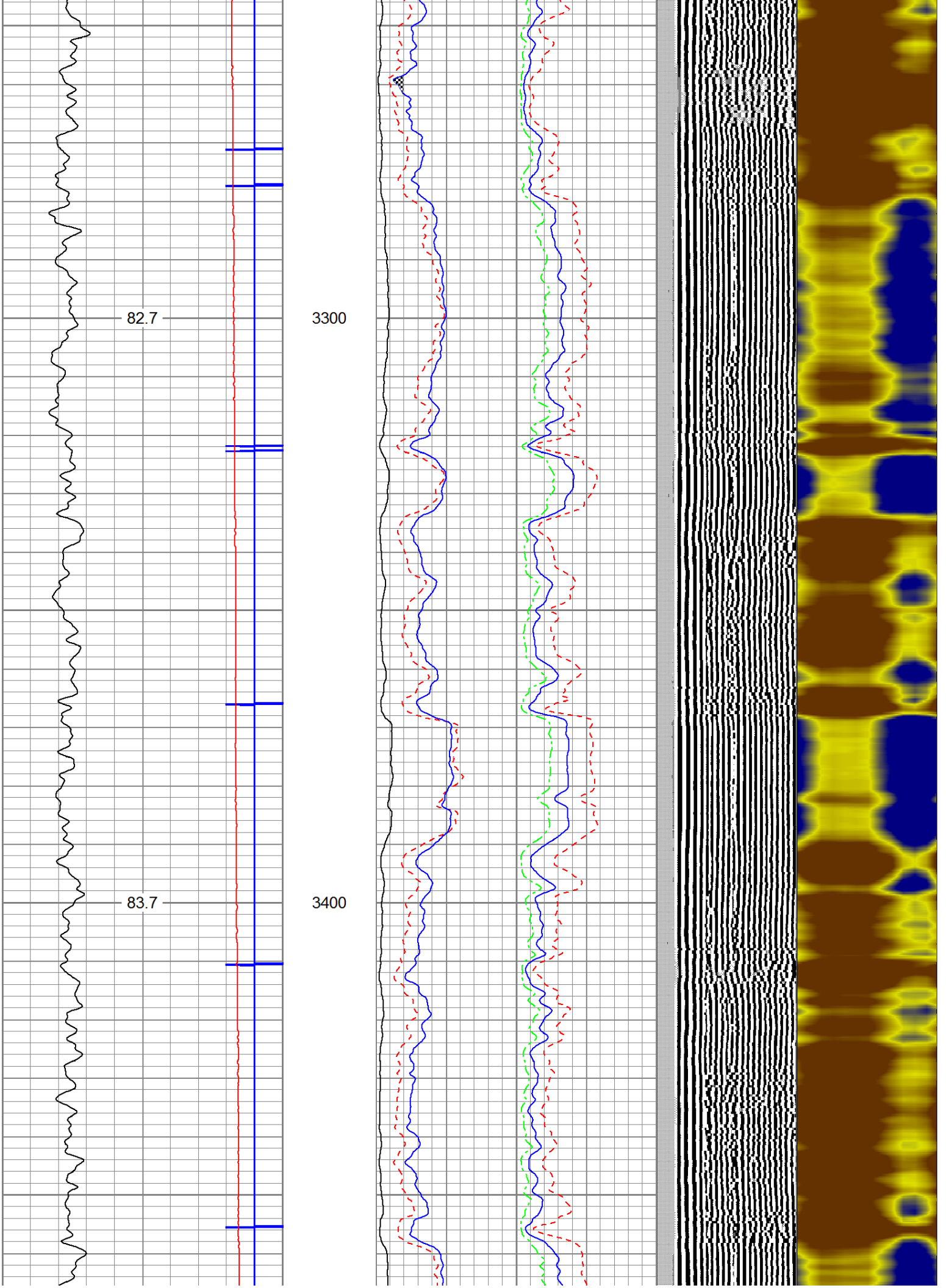


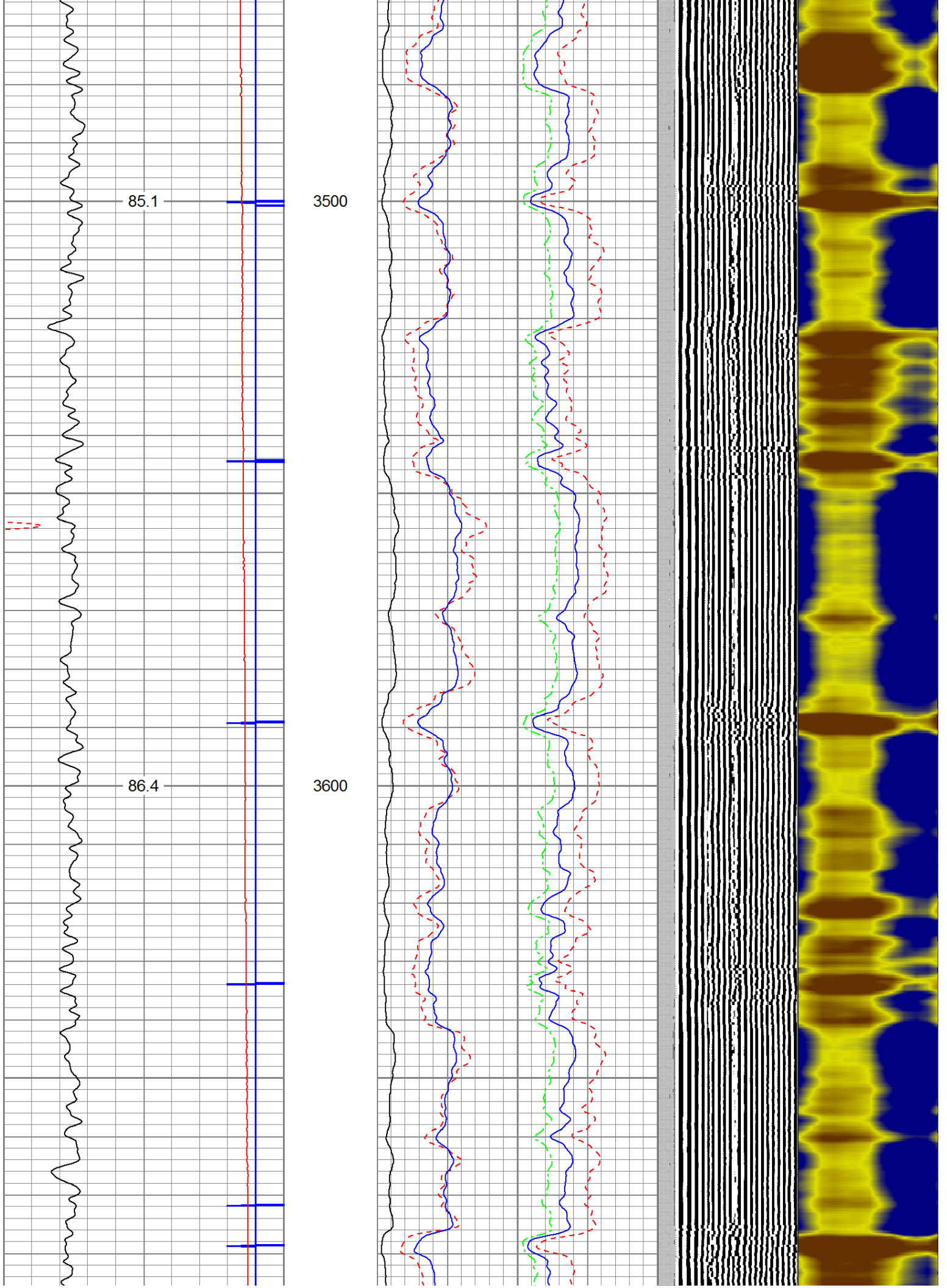


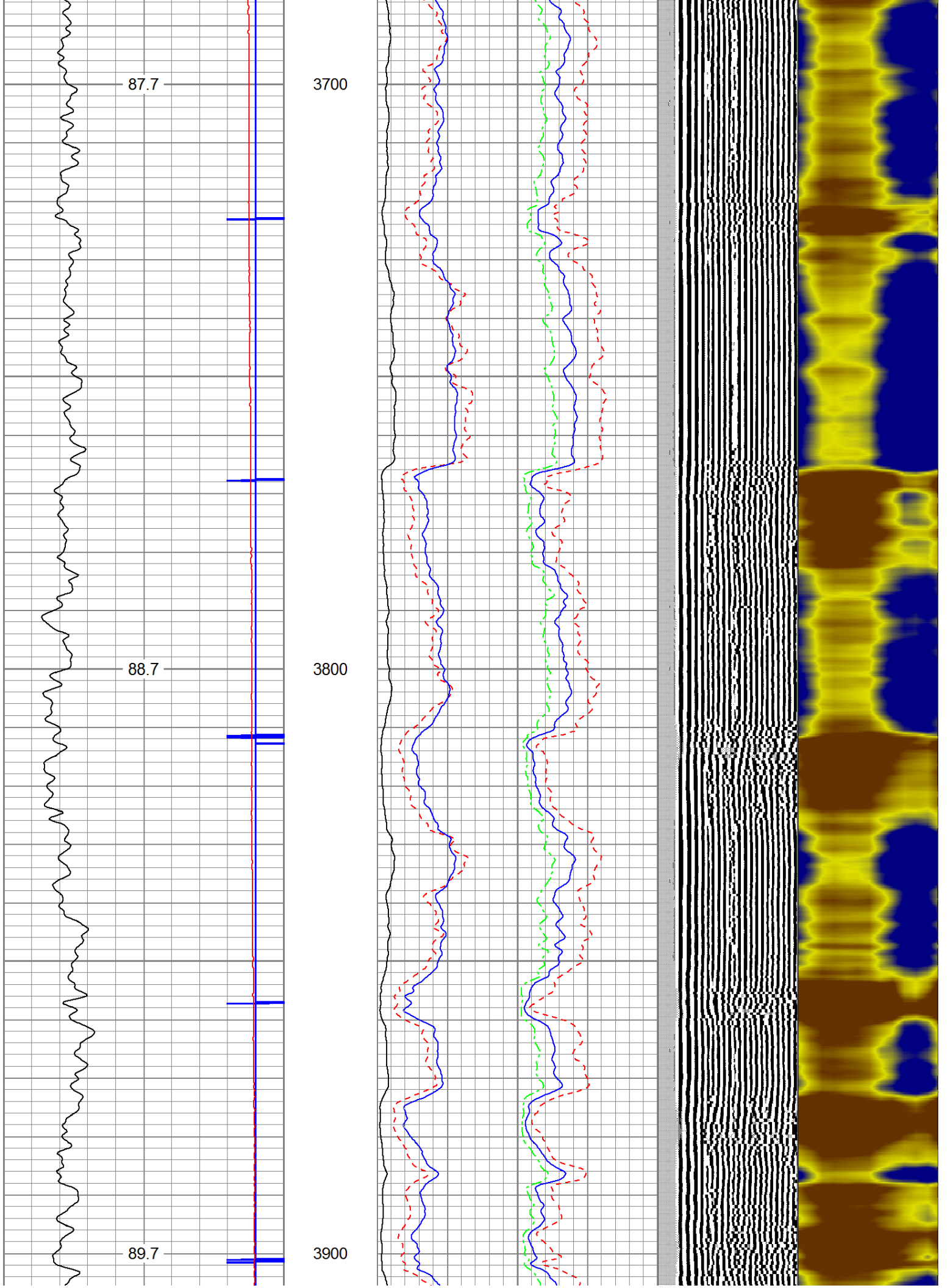


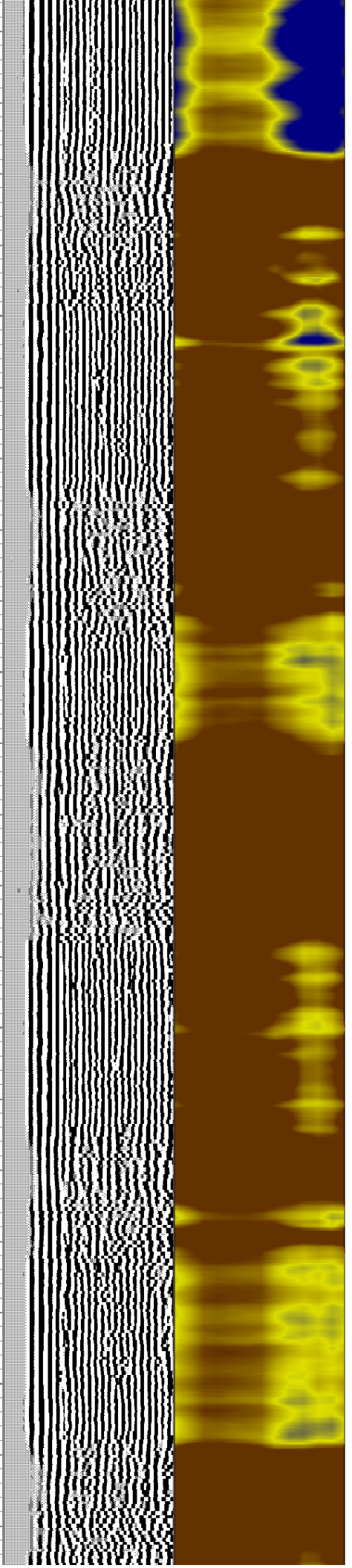
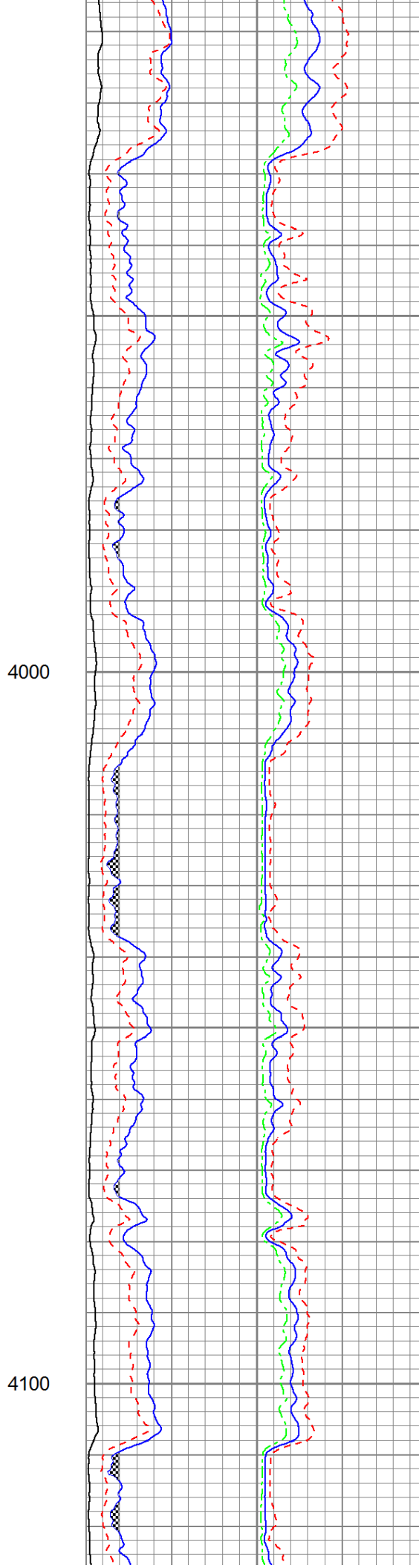
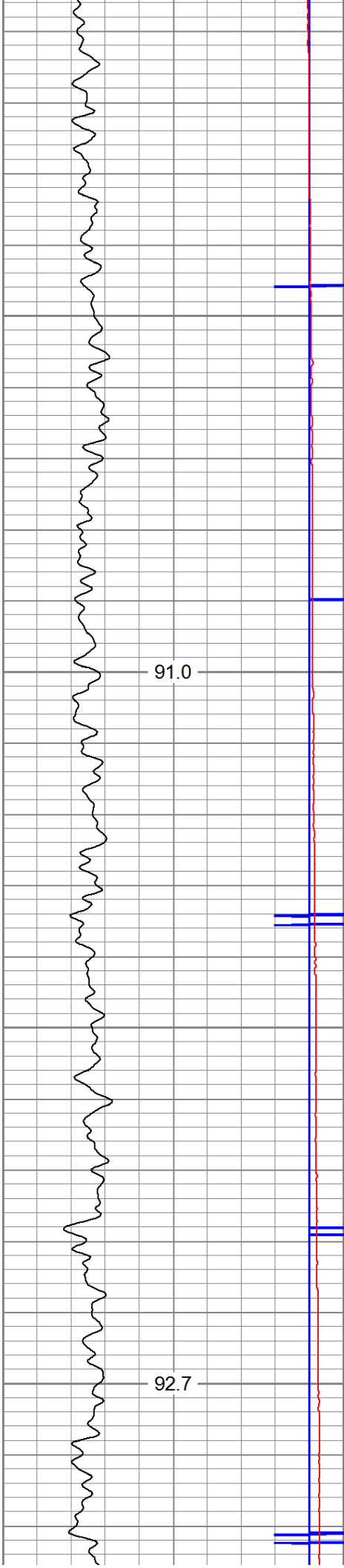


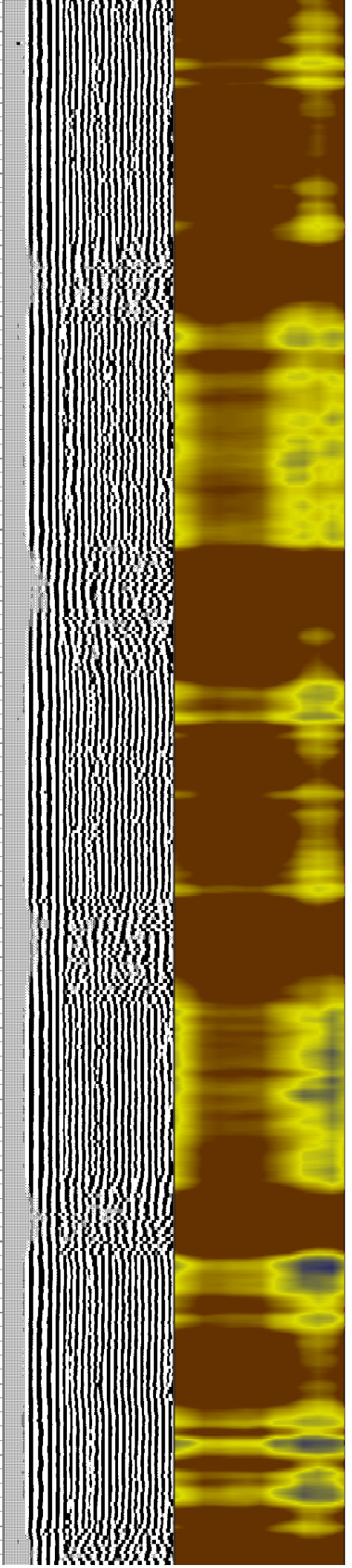
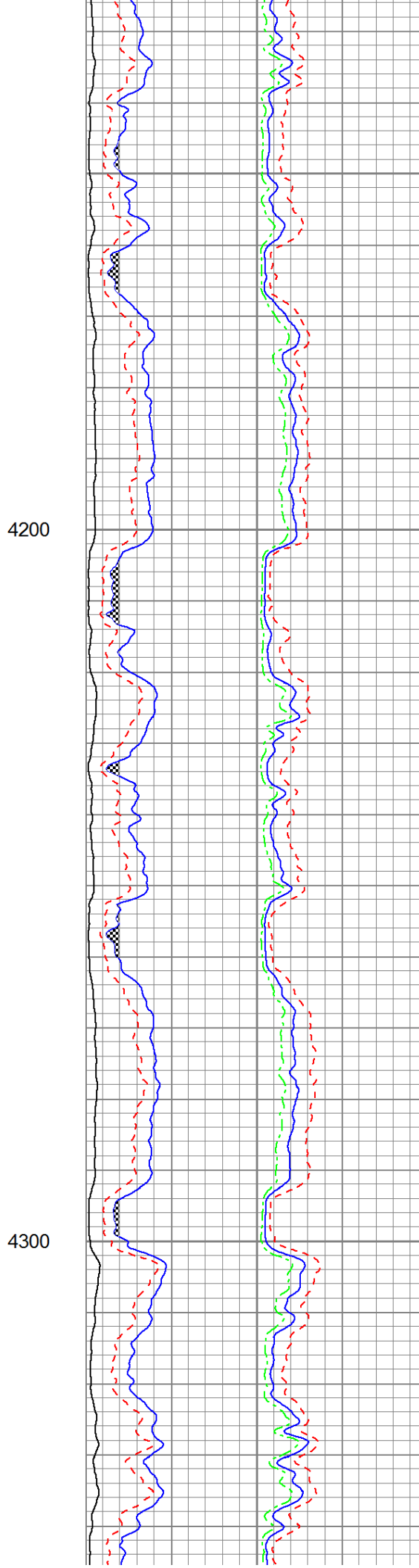
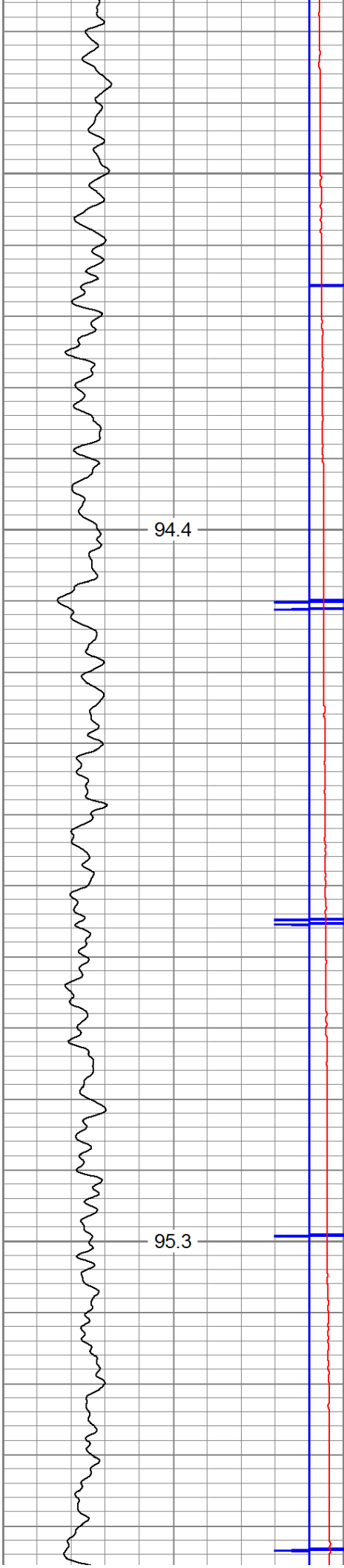


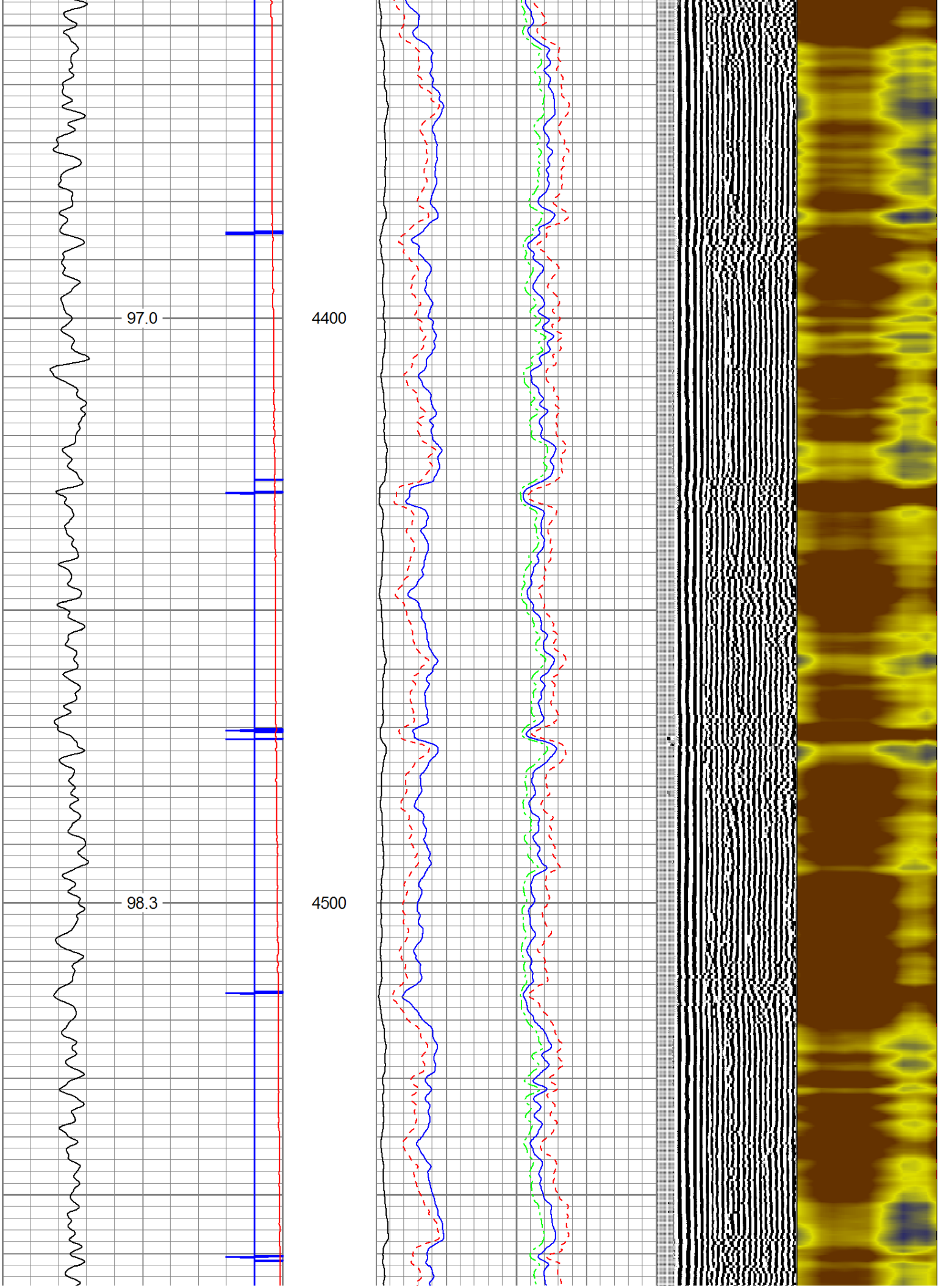


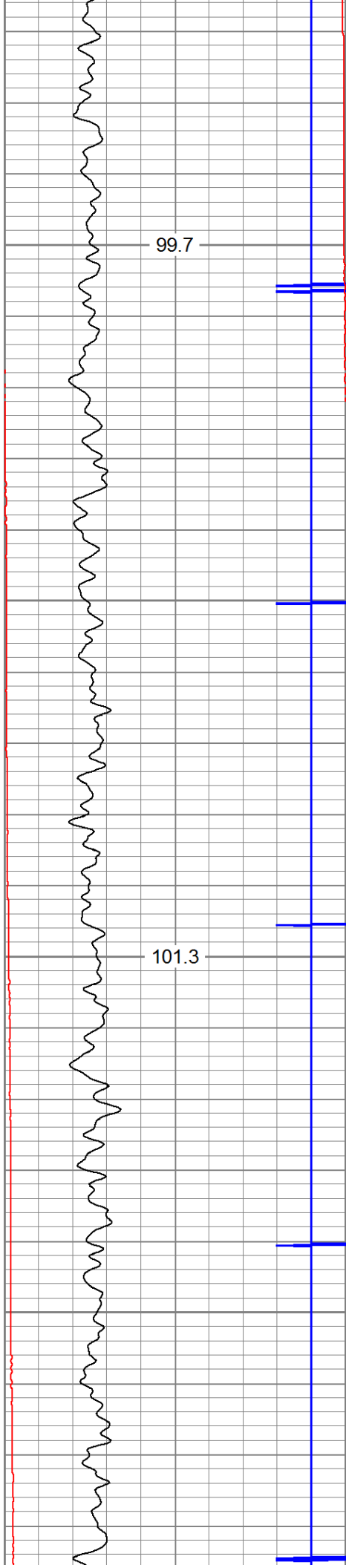






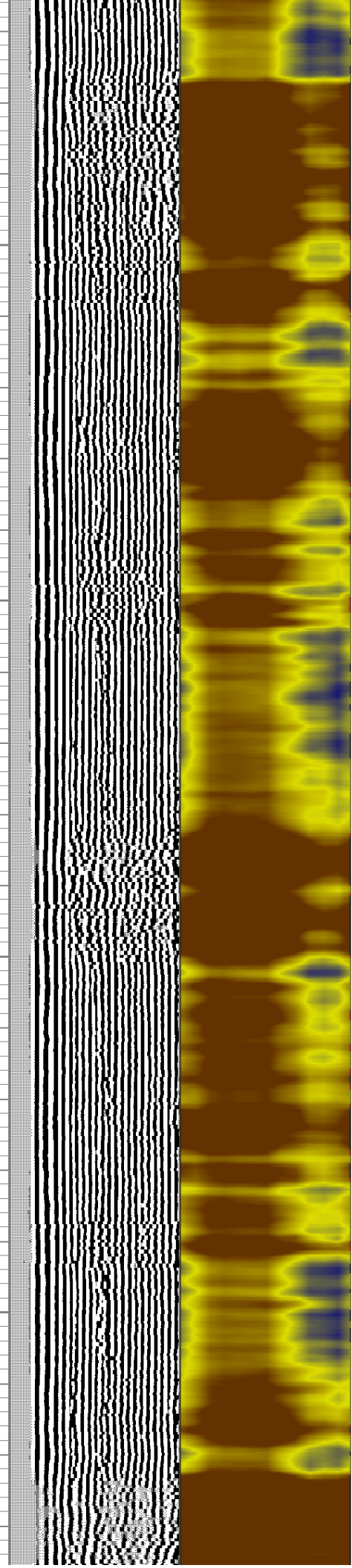
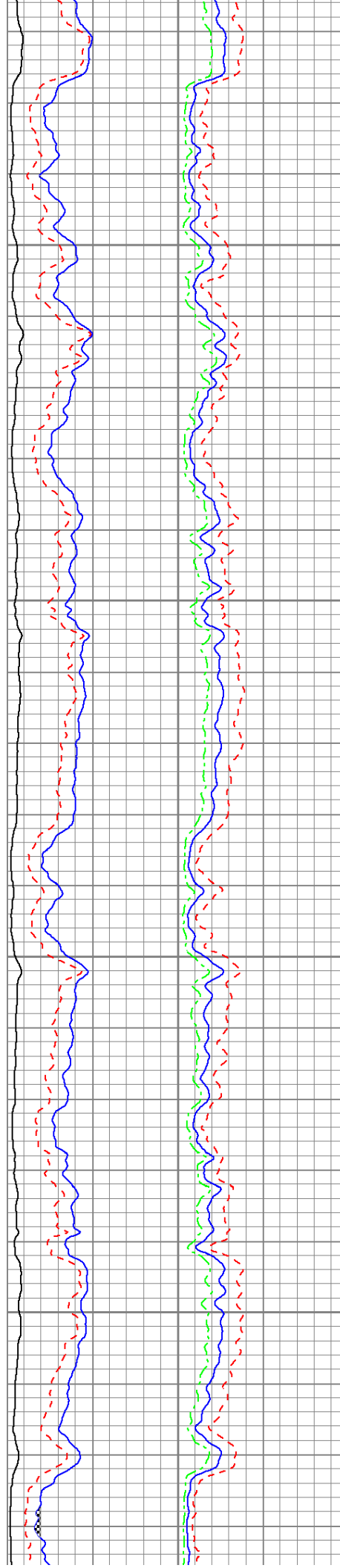


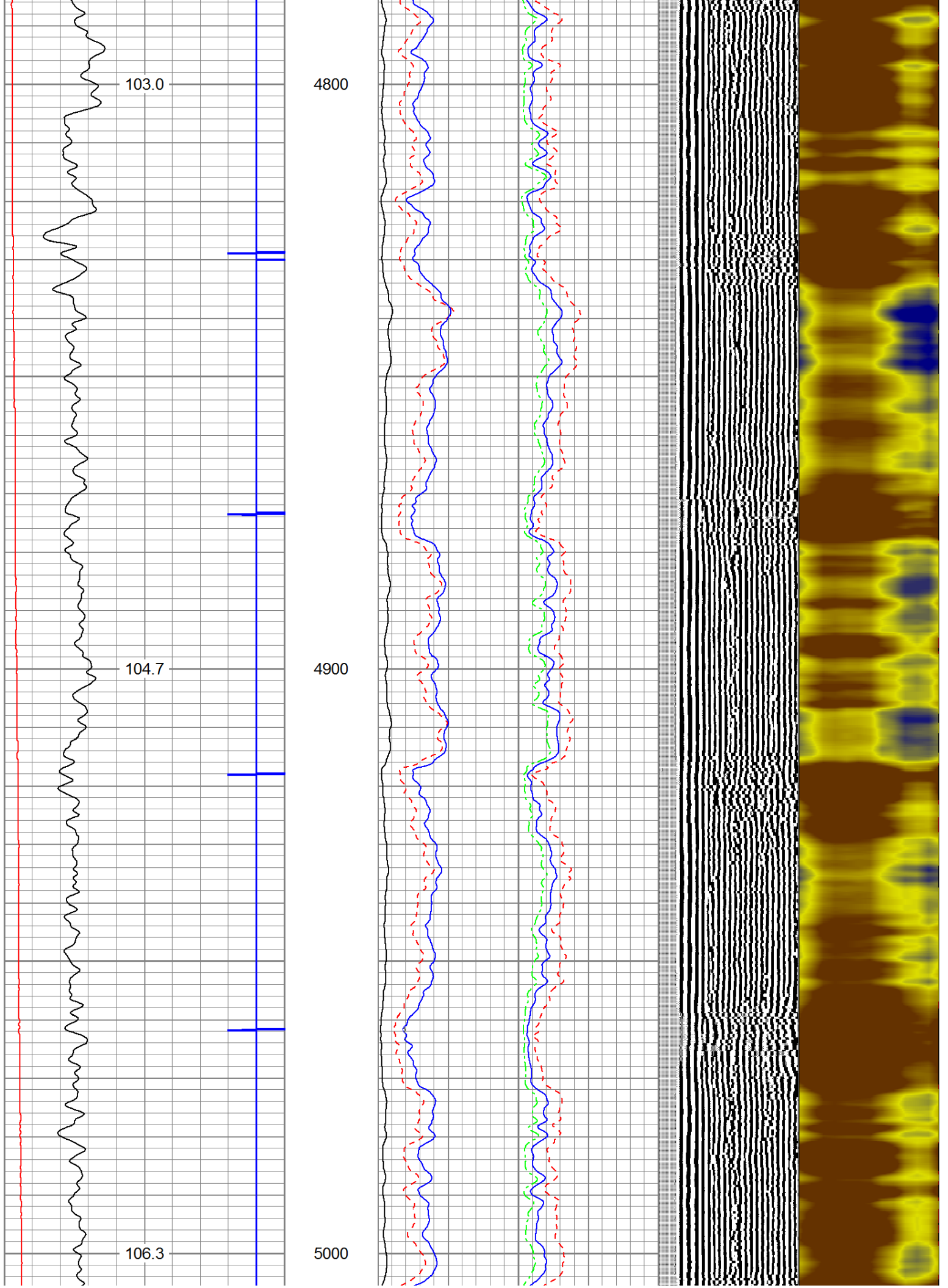




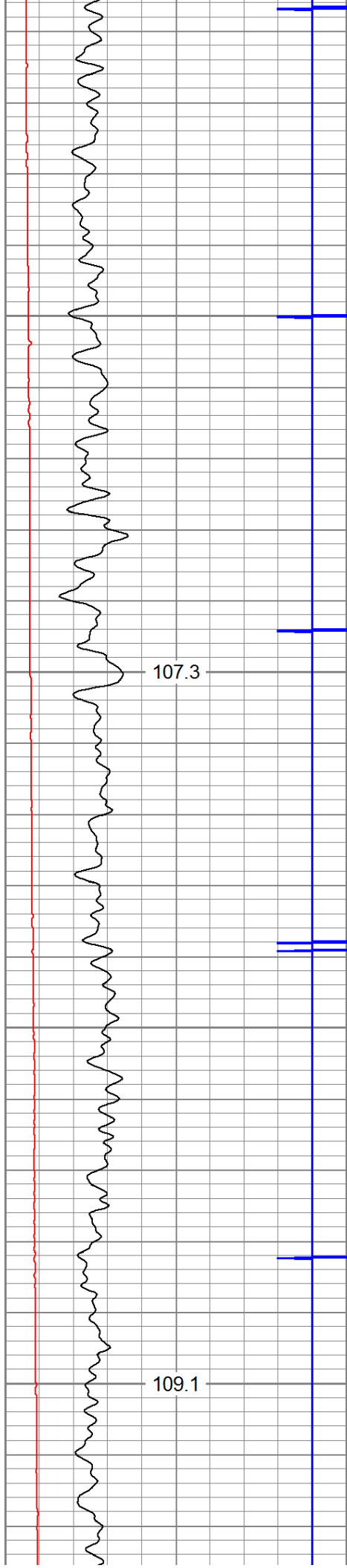
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4700



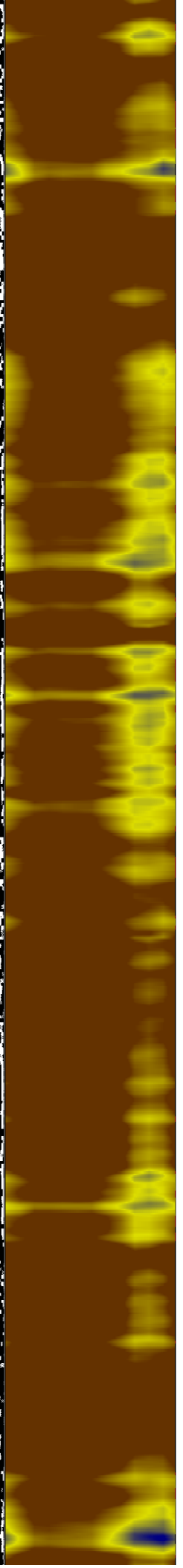
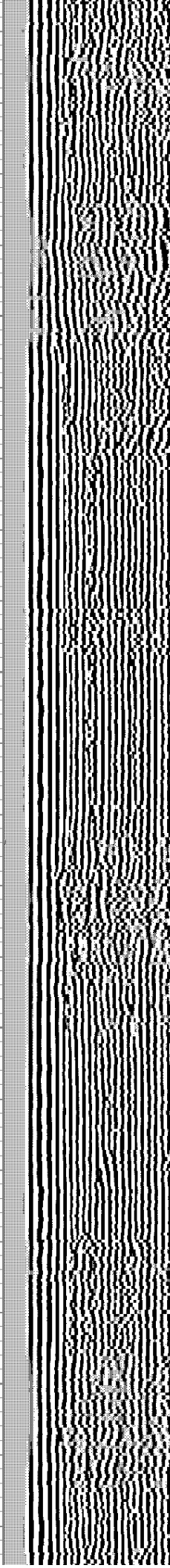
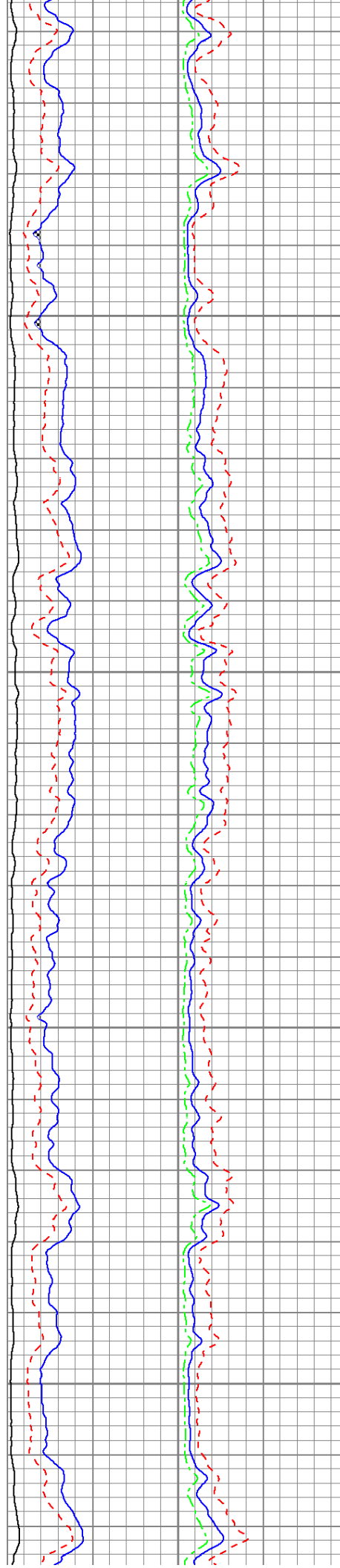


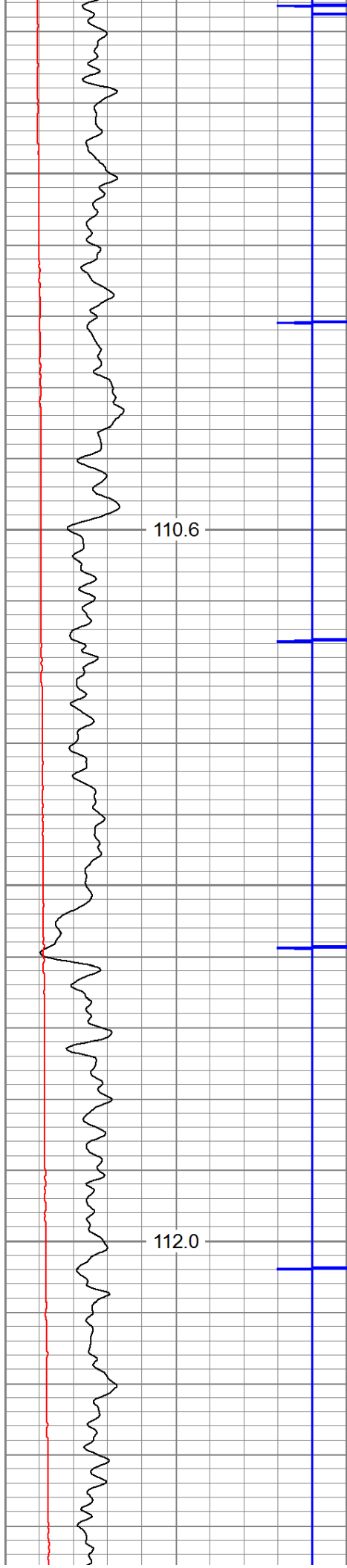




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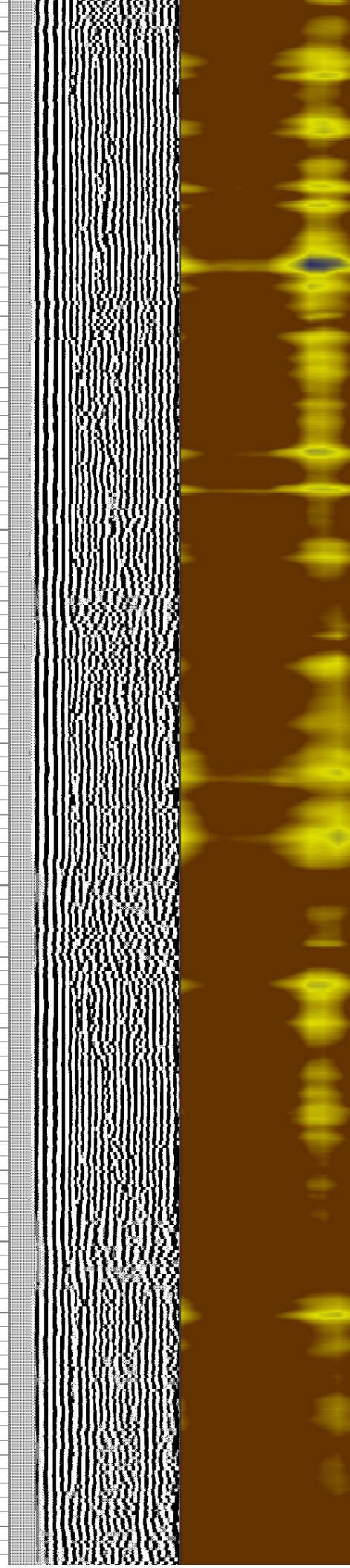
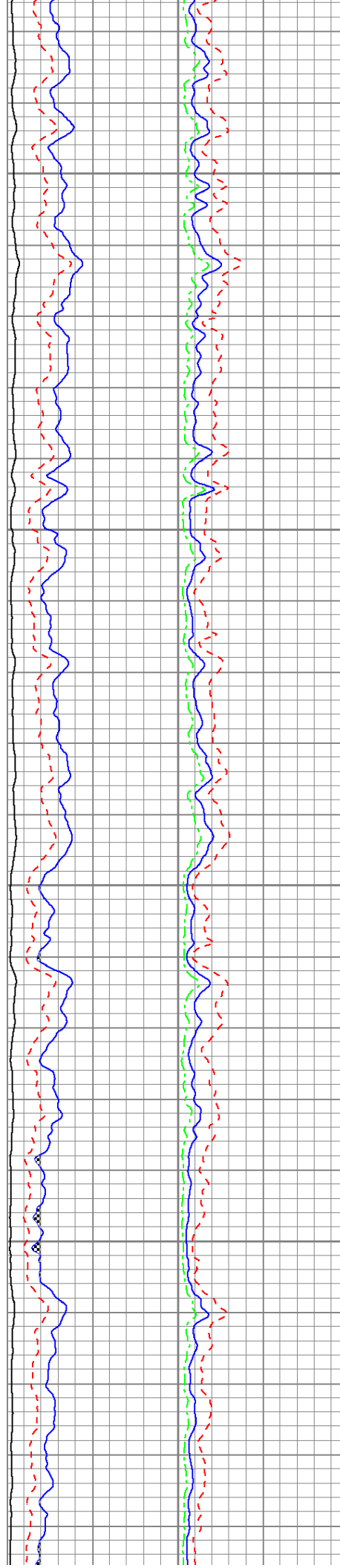
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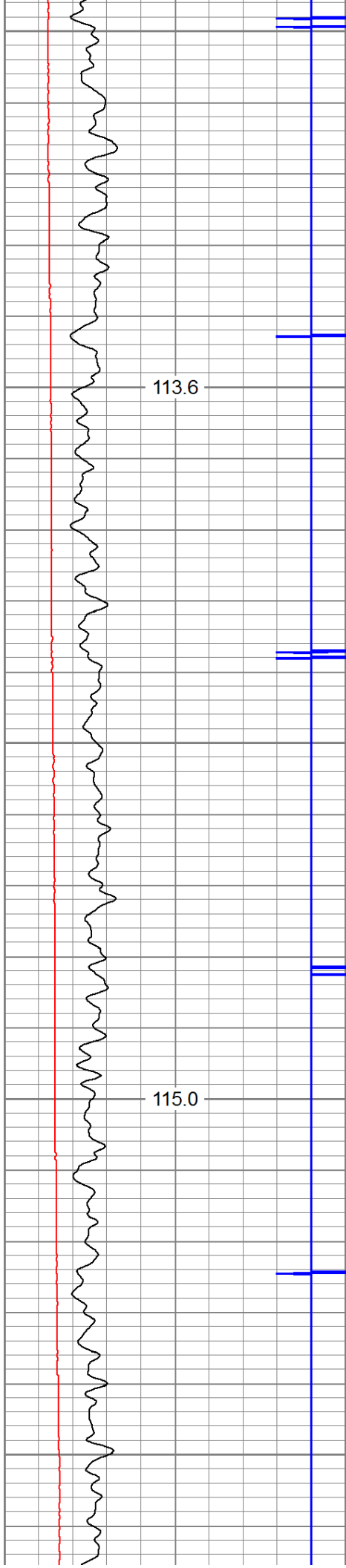




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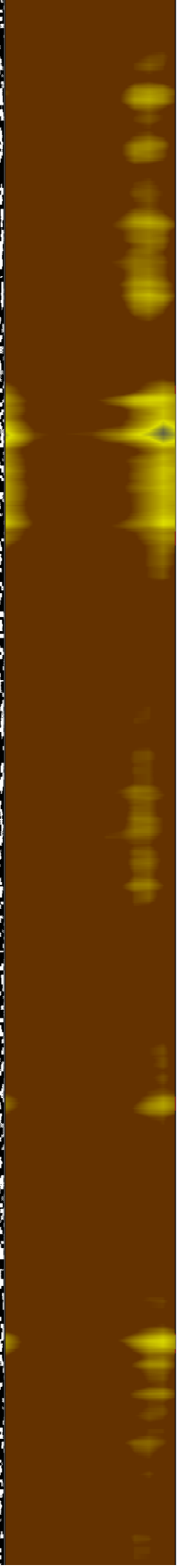
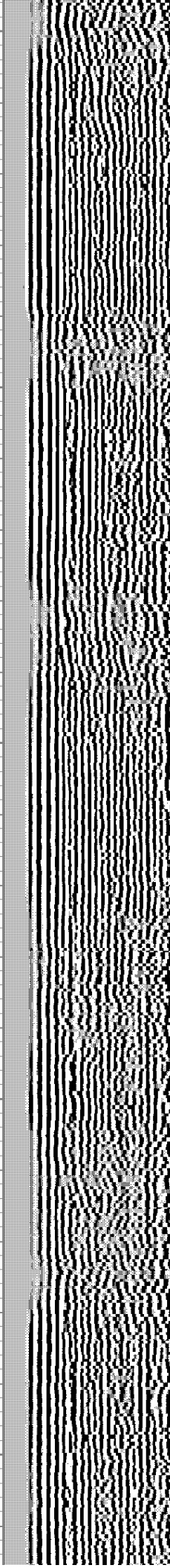
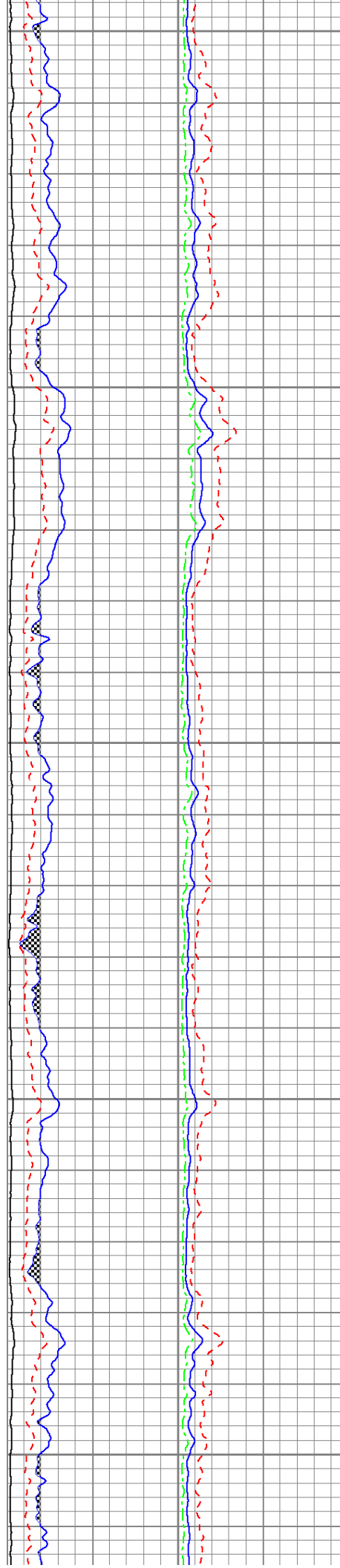
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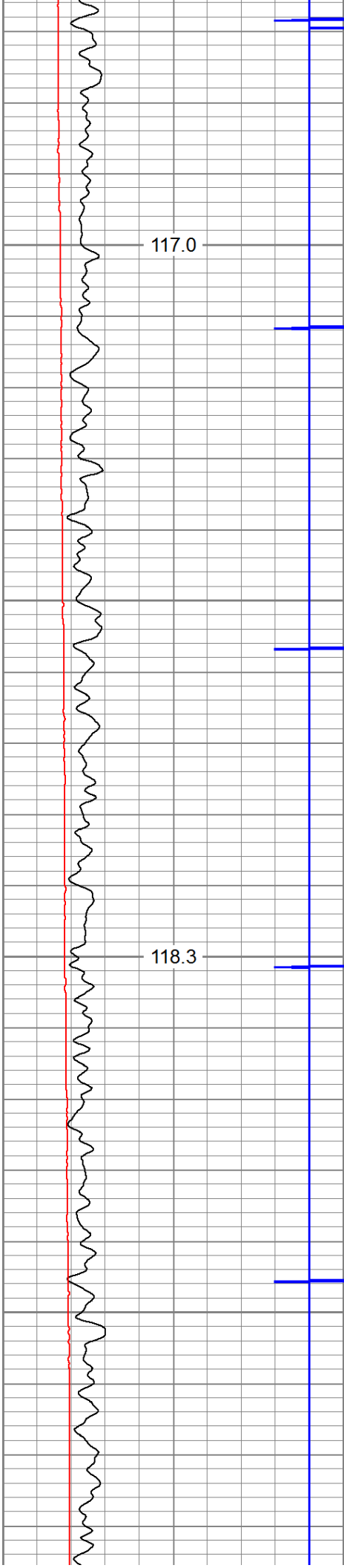




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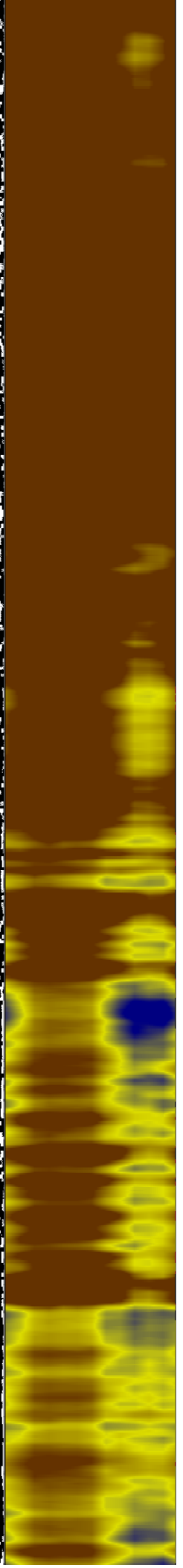
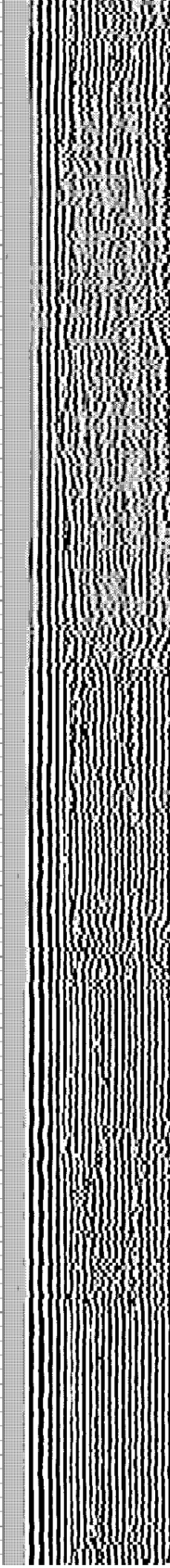
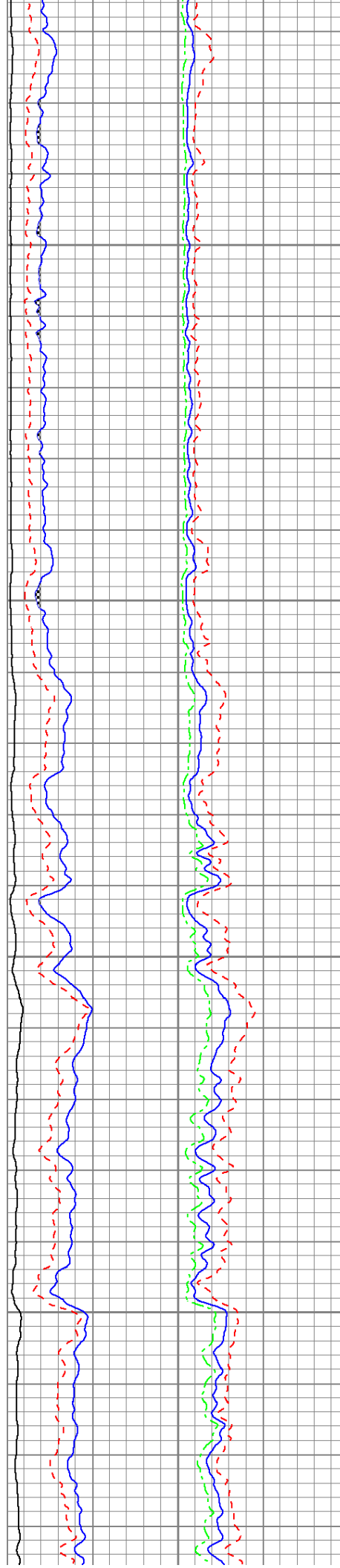
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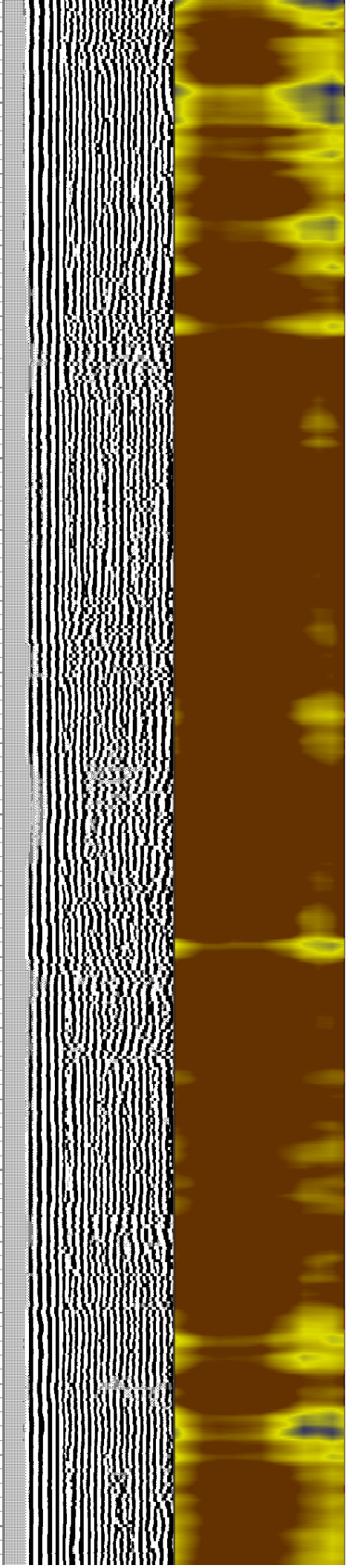
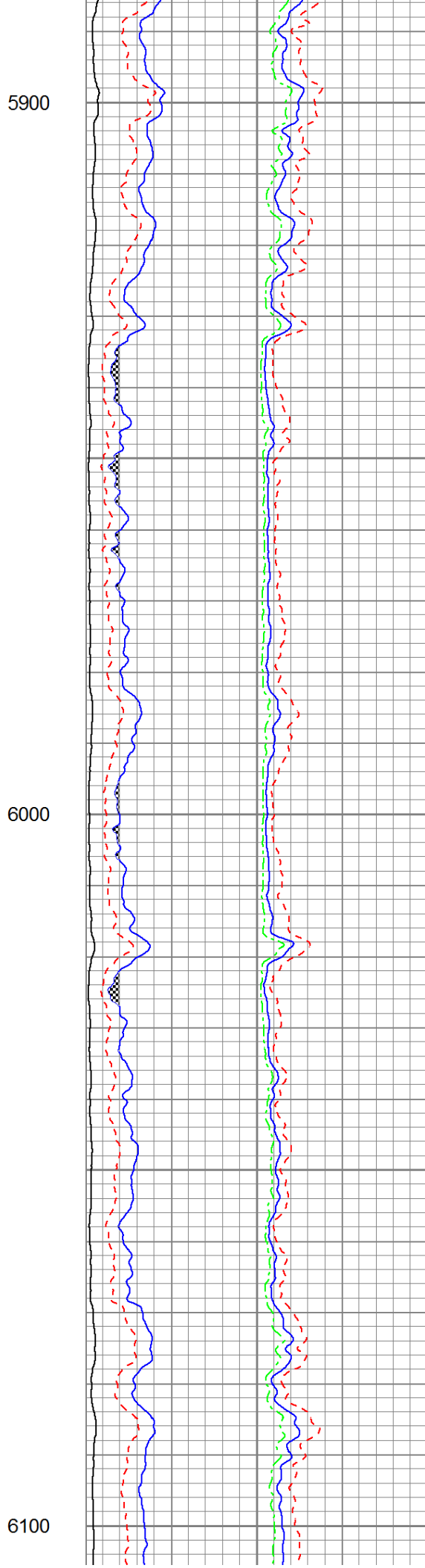
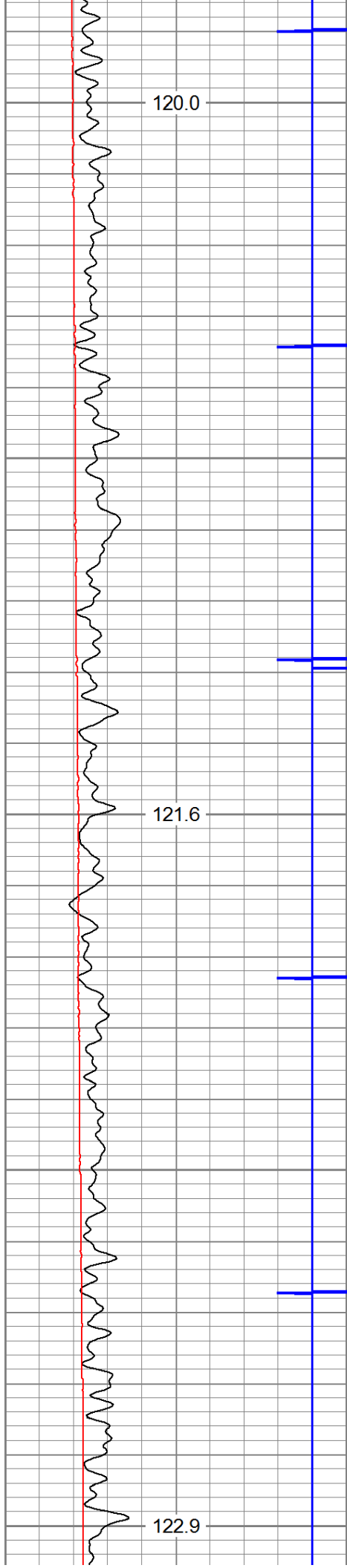


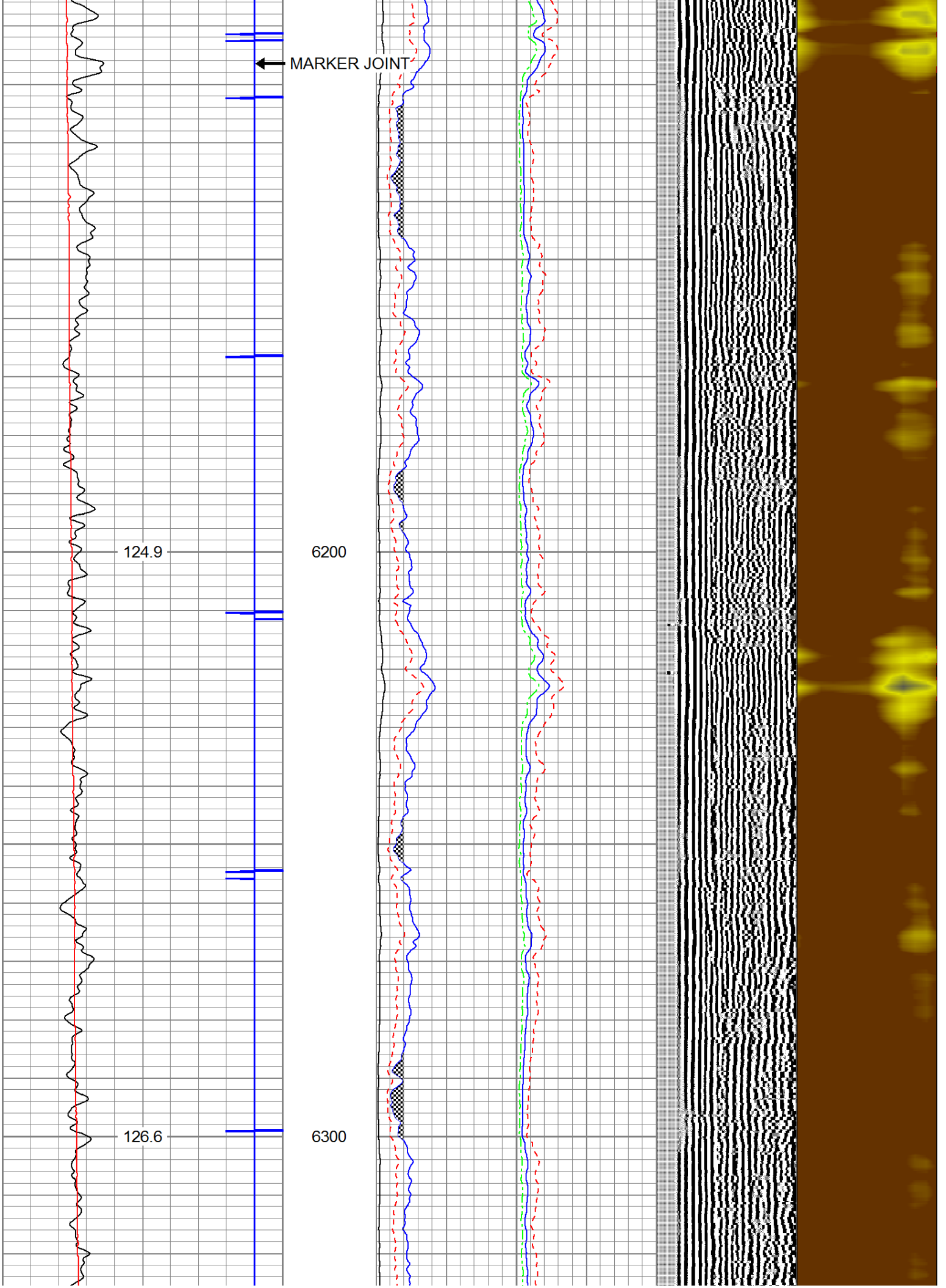


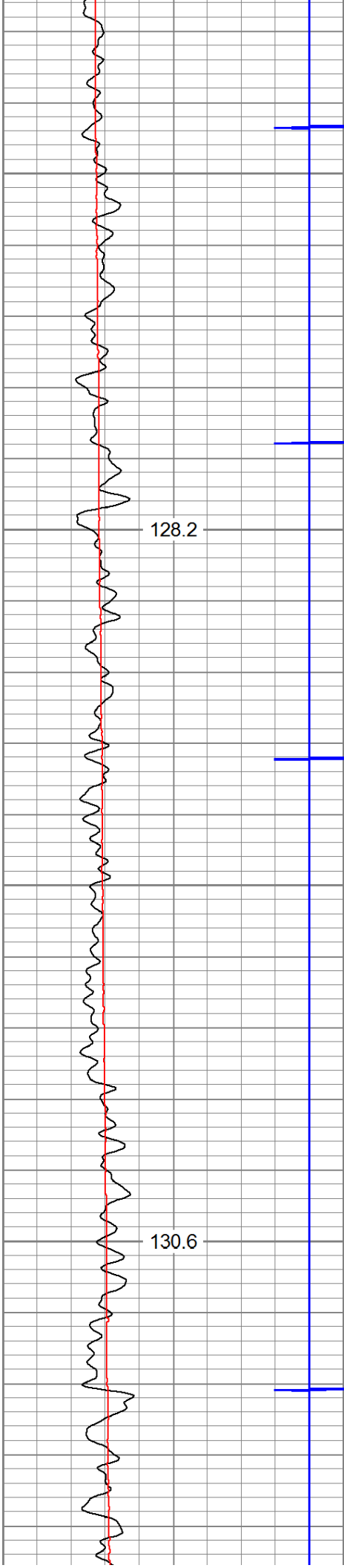
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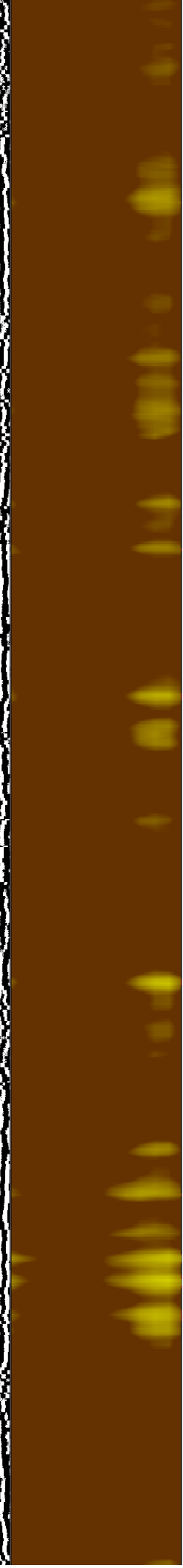
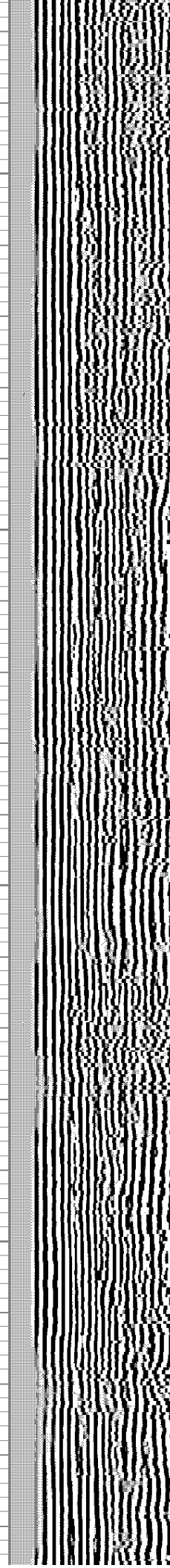
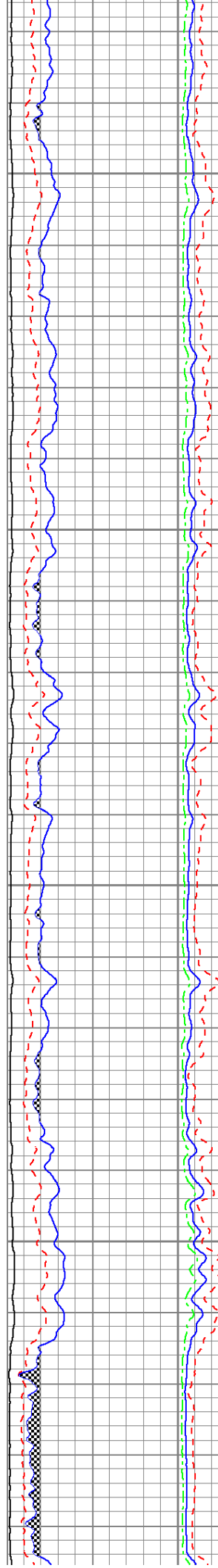


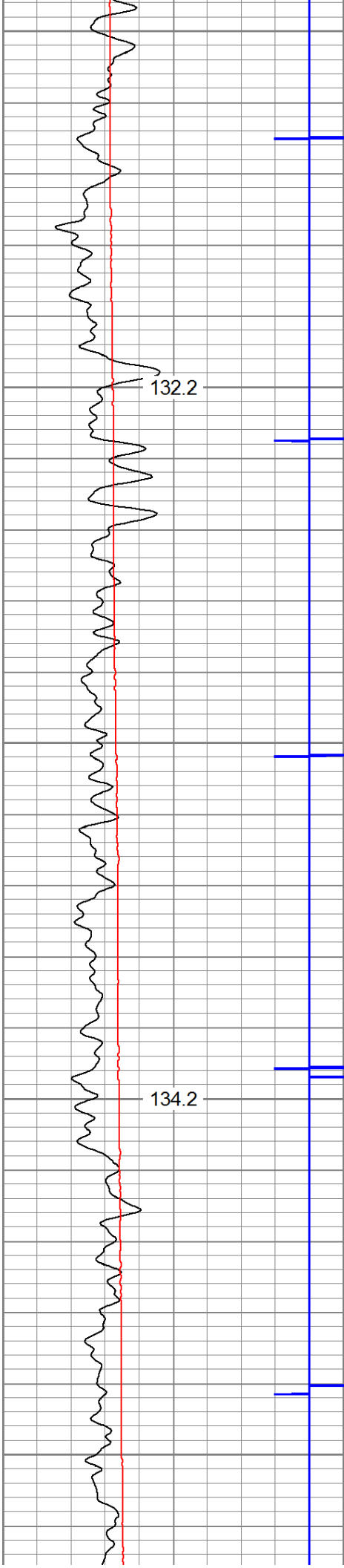




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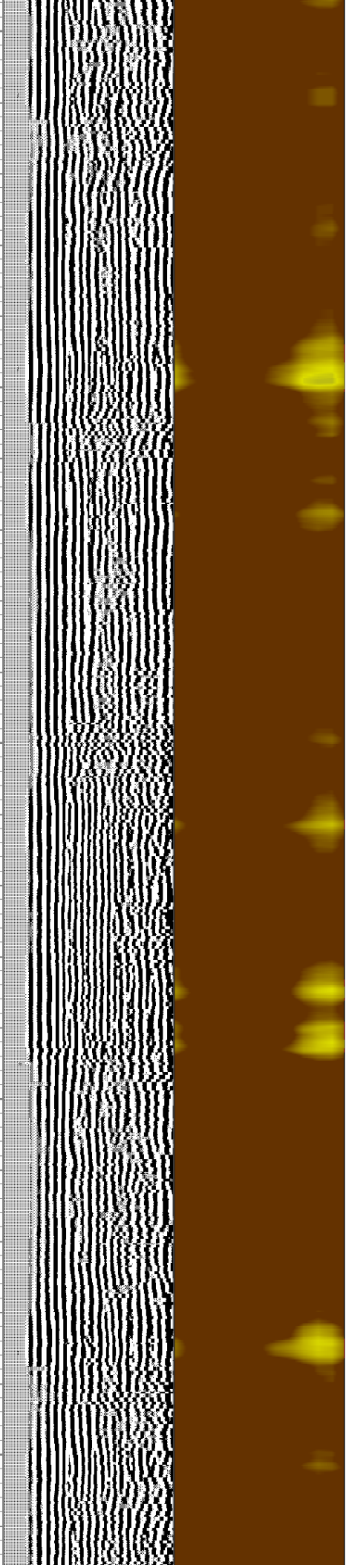
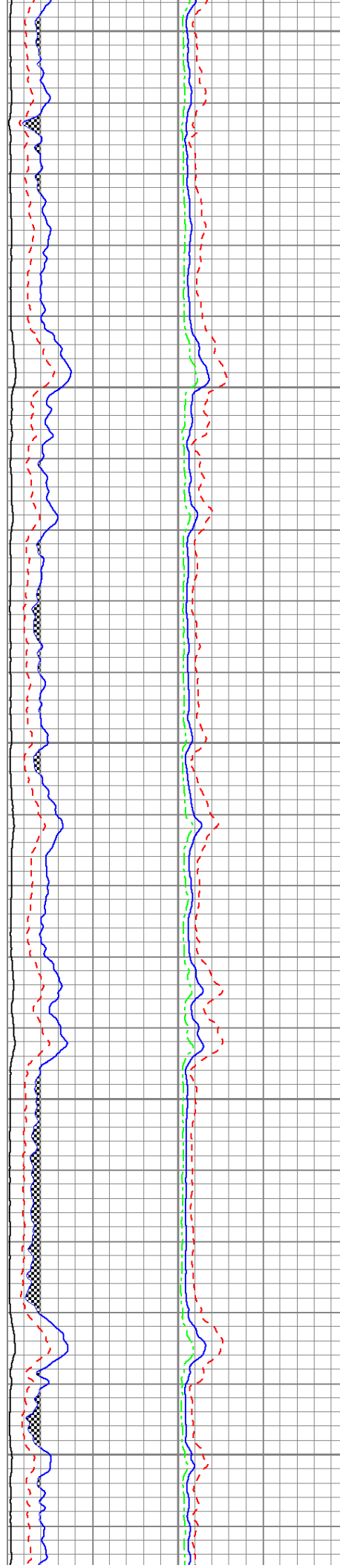
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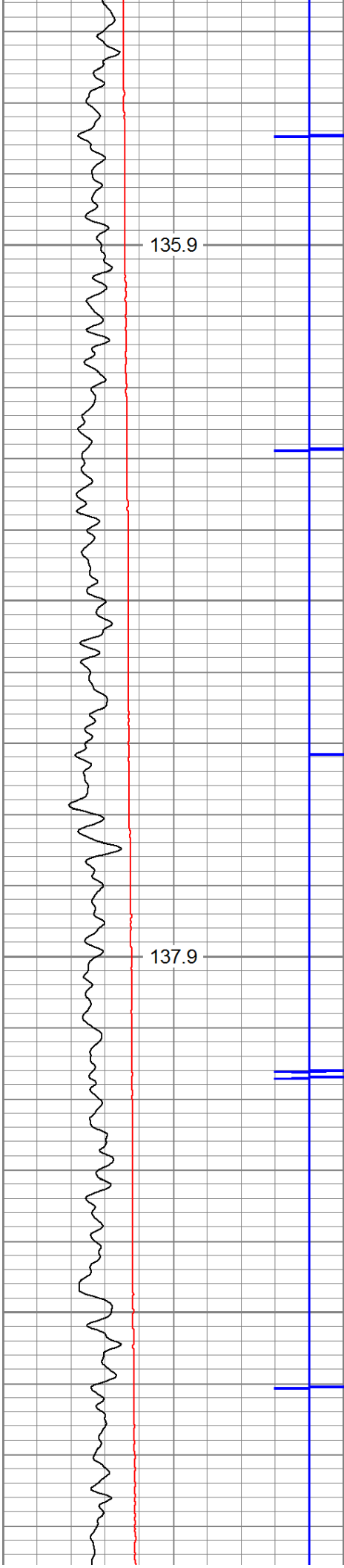


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6700

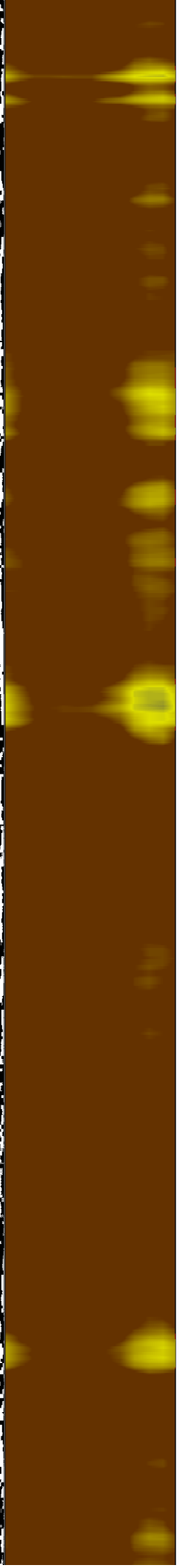
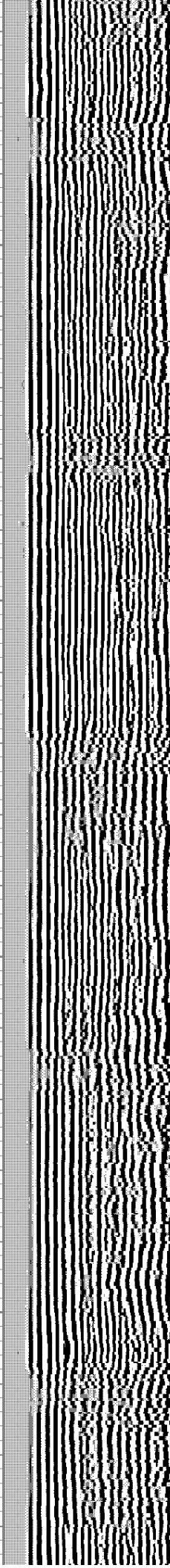
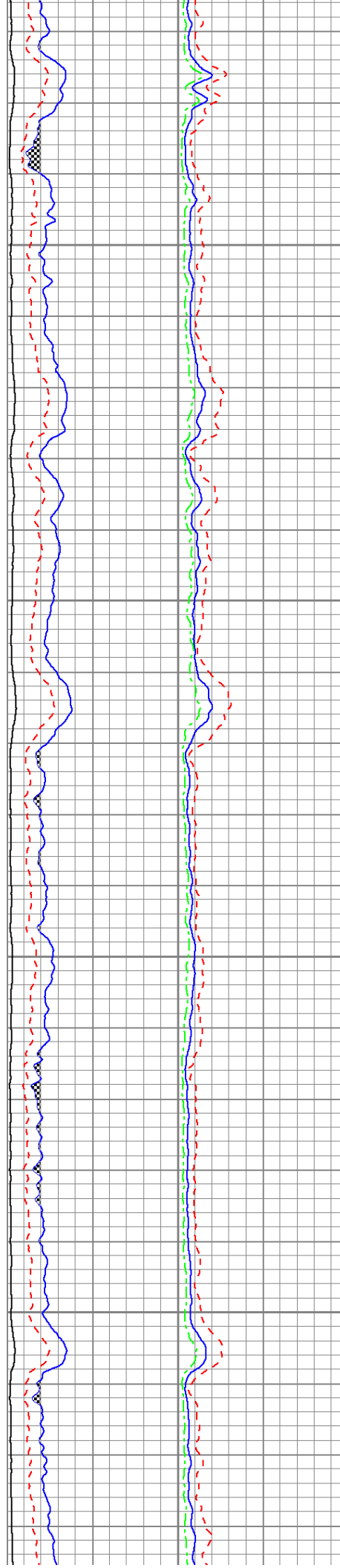


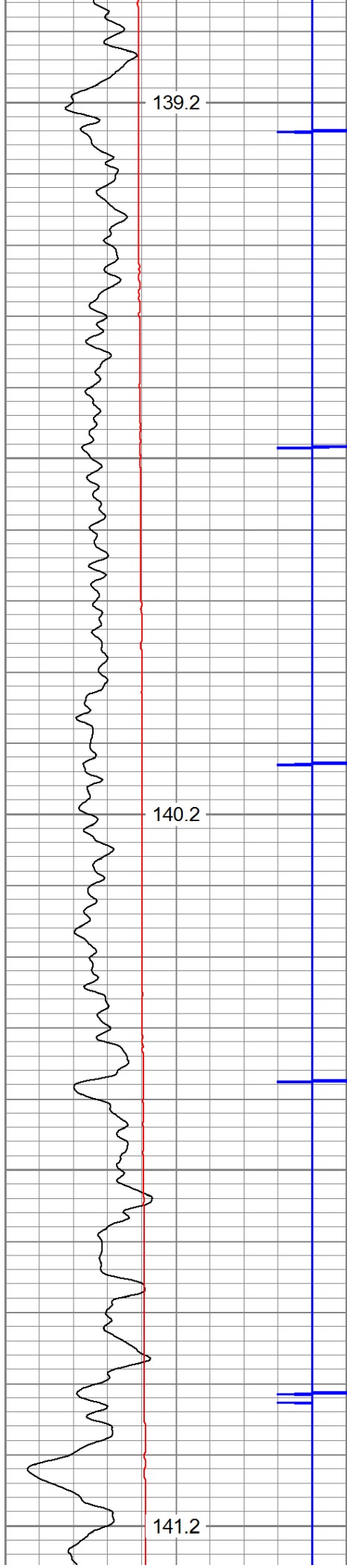




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6900

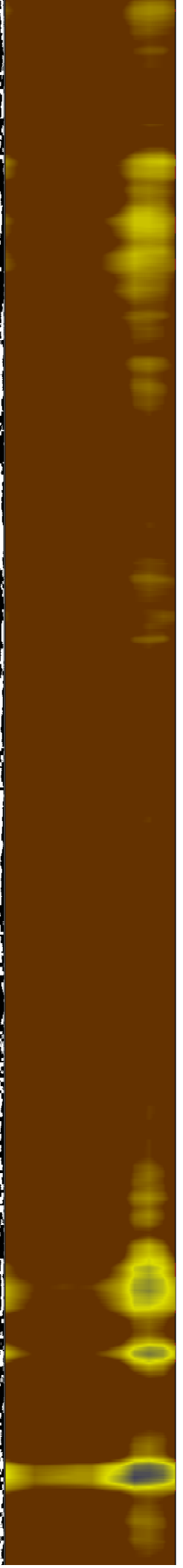
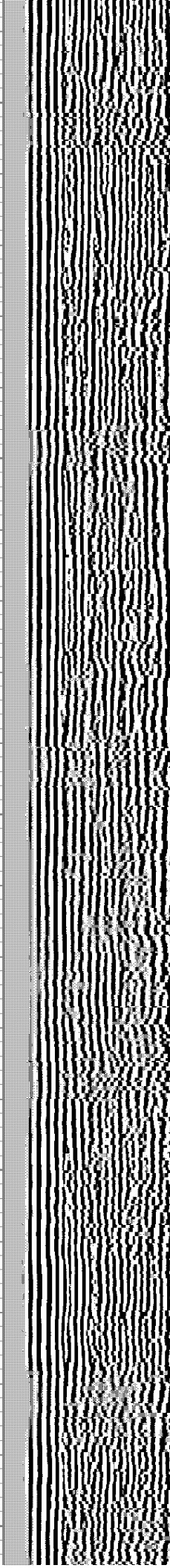
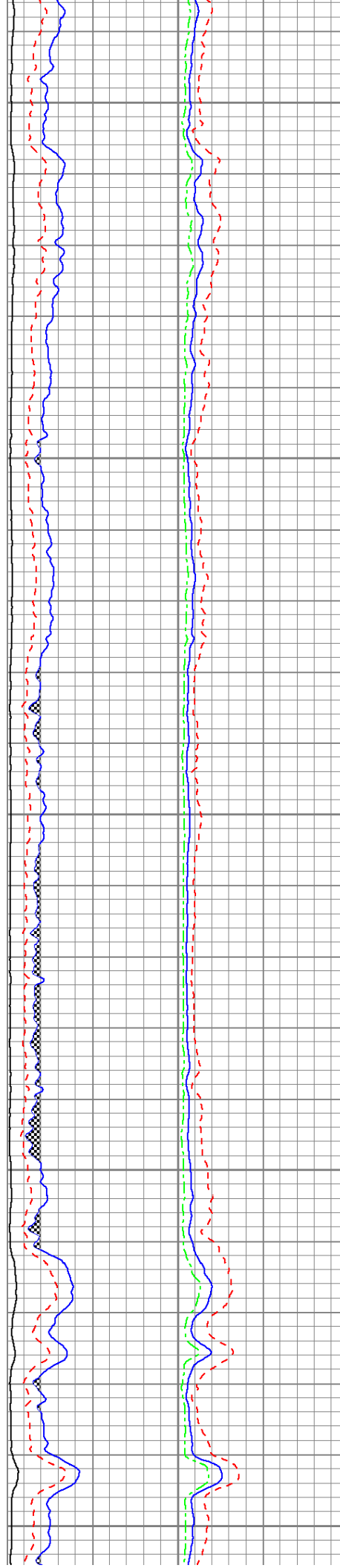


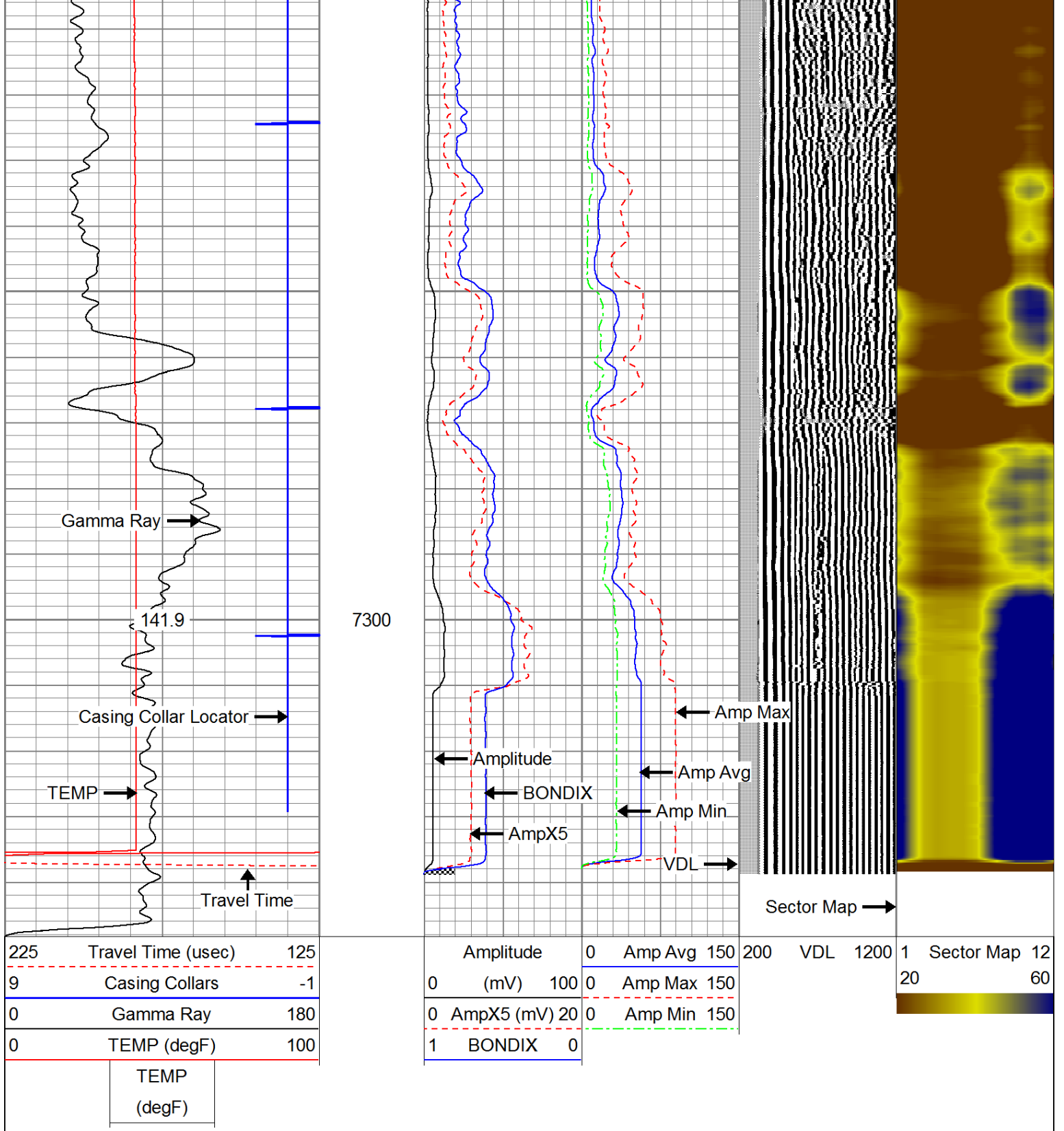


7000

7100

7200





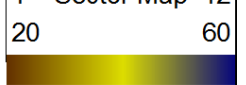
# REPEAT SECTION 0 PSI

Database File: f:\2019 antero\pyle run\heintzman\_1h.db  
 Dataset Pathname: pass2.2  
 Presentation Format: antero  
 Dataset Creation: Mon Feb 04 18:01:06 2019 by Calc 7.0 B1  
 Charted by: Depth in Feet scaled 1:240

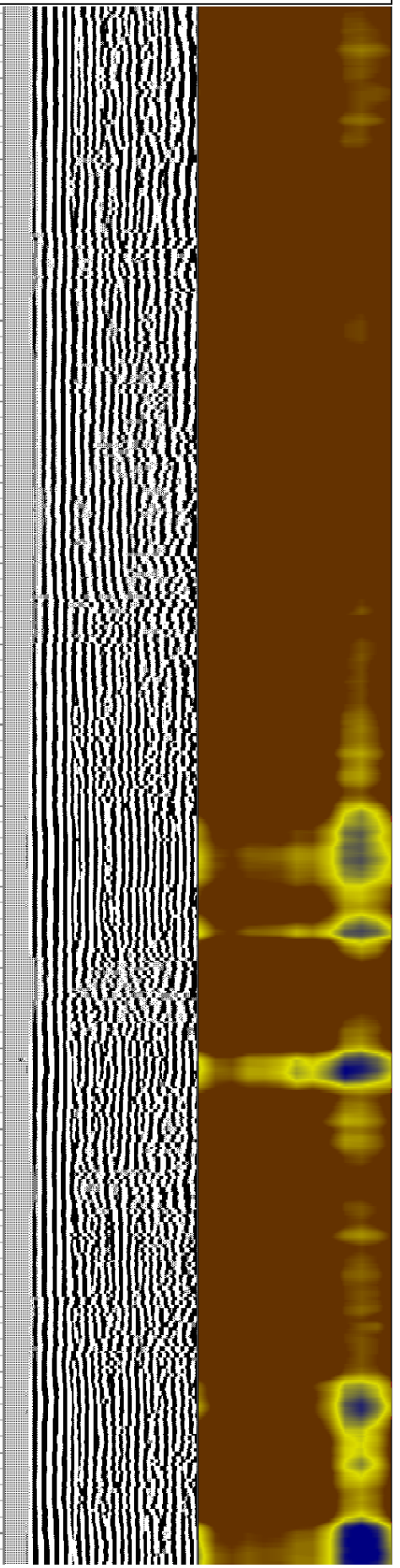
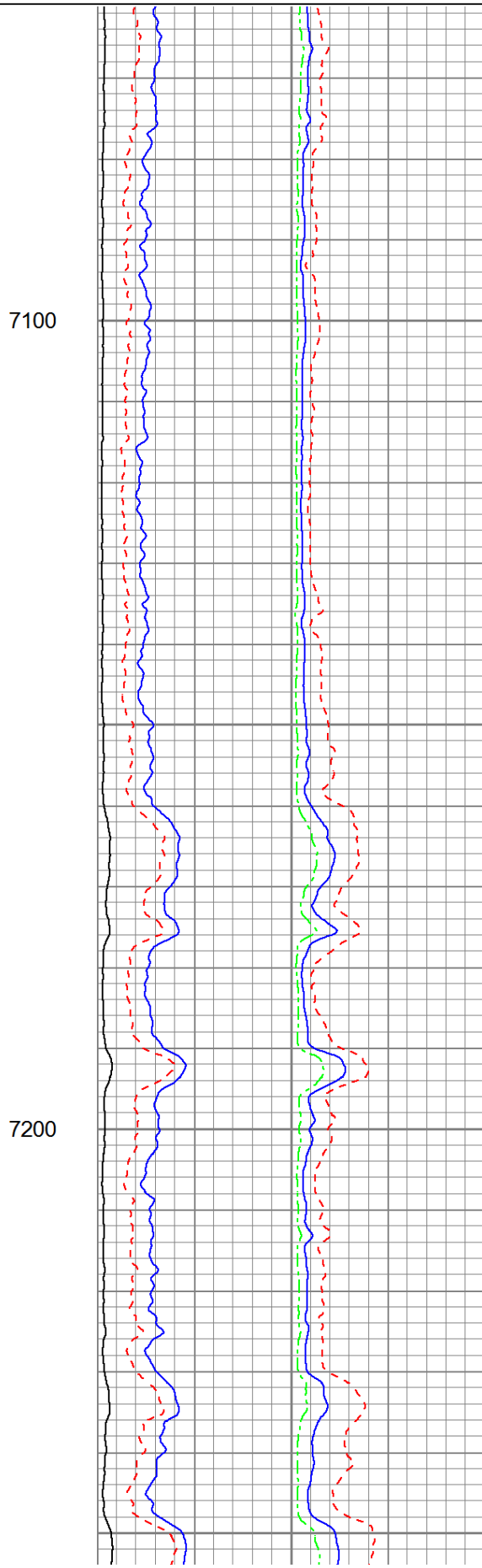
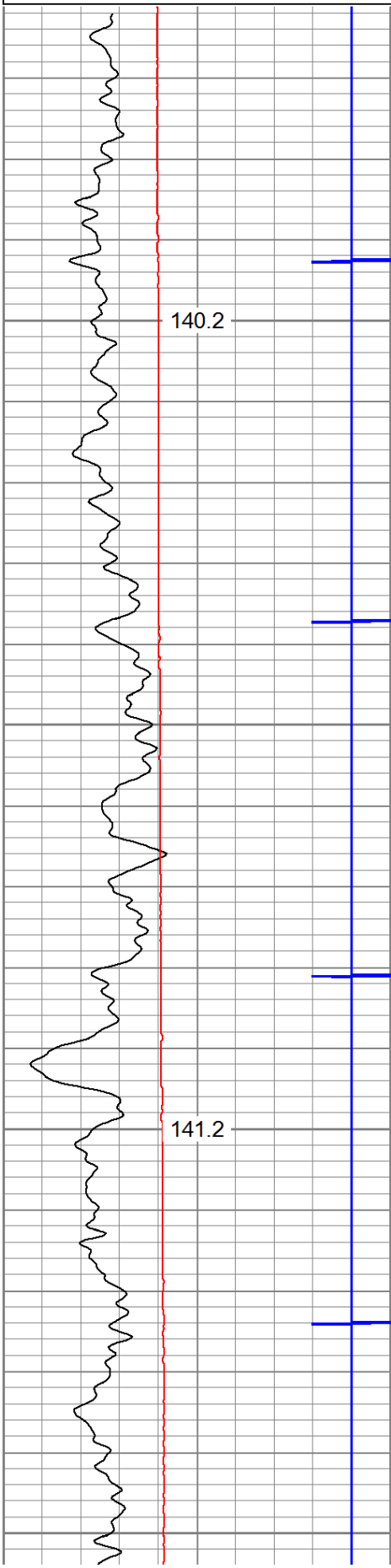
225	Travel Time (usec)	125	Amplitude	0	Amp Avg	150	200	VDL	1200	1	Sector Map	12
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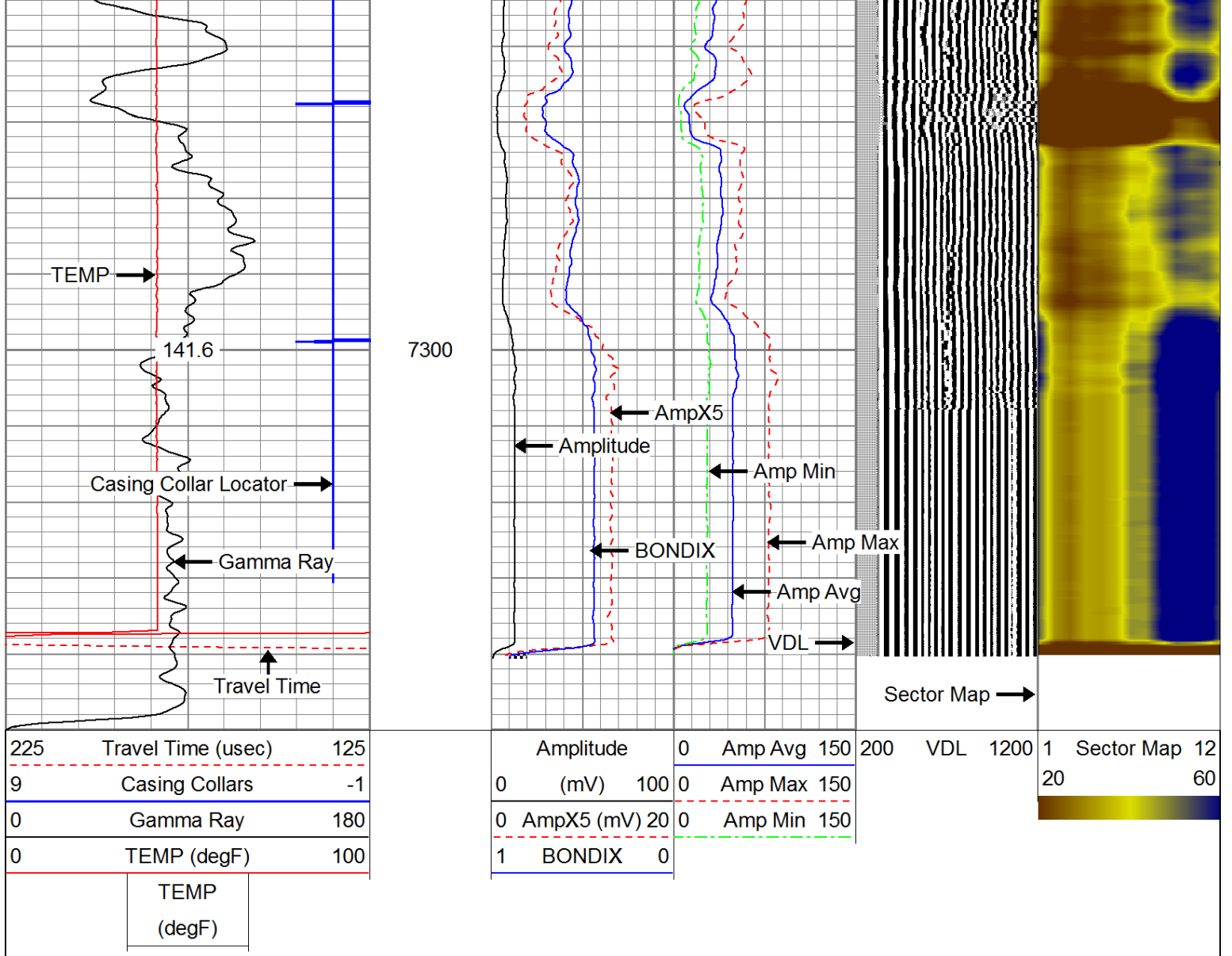
9	Casing Collars	-1
0	Gamma Ray	180
0	TEMP (degF)	100

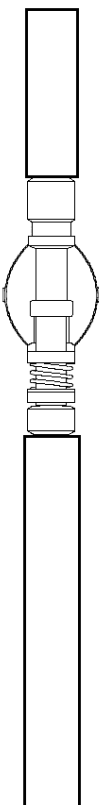
0	(mV)	100	0	Amp Avg	150
0	AmpX5 (mV)	20	0	Amp Max	150
1	BONDIX	0			



TEMP  
(degF)





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		SCBL-Tek12 (IOL40-05) Tekco 400 Deg F 12 Sector RIB with Temp	9.13	3.25	135.00
WVFS2	11.48					
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					
WVFSYNC	6.40		2.75 2 3/4" Tekco Adjustable Centralizer	2.73	2.75	25.00
			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\_1h.db: field/well/run1/pass3.1  
 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\_1h.db  
 Dataset Pathname: pass3.1  
 Dataset Creation: Mon Feb 04 17:57:09 2019 by Calc 7.0 B1

#### Gamma Ray Calibration Report

Serial Number: IPSNO-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 CORPORATION

Well HEINTZMAN UNIT 1H

Field MARCELLUS

County TYLER

State W.V.

Country USA