



**RADIAL CEMENT BOND
GAMMA RAY / CCL / VDL**

Company ANTERO RESOURCES CORPORATION
Well KRAMER 1H
Field MARCELLUS
County TYLER
State WV

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Well KRAMER 1H
Field MARCELLUS
County TYLER State WV

Location: API #: 47-095-02674-0000
Other Services

SEC	TWP	RGE	Elevation
			1014.5'
Permanent Datum	G.L.	Elevation	1014.5'
Log Measured From	K.B.		K.B. 1040'
Drilling Measured From	K.B. OF 25.5'		D.F. 1039'
			G.L. 1014.5'

Date	7/2/20
Run Number	ONE
Depth Driller	16006'
Depth Logger	7379'
Bottom Logged Interval	7379'
Top Log Interval	SURFACE
Open Hole Size	6.75"
Type Fluid	H2O
Density / Viscosity	N/A
Max. Recorded Temp.	141 DEG
Estimated Cement Top	3530'
Time Well Ready	N/A
Time Logger on Bottom	N/A
Equipment Number	340
Location	BRIDGEPORT, WV
Recorded By	J BOGGS
Witnessed By	BOB REED

Borehole Record		Casing Record					
Run Number	Bit	From	To	Size	Weight	From	To
				5.0"	18#	16006'	SURFACE

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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

TOP OF CEMENT @ 3530'
MARKER JOINT ON ORIGINAL PASS-6069'-6080'
MARKER JOINT ON DEPTH SHIFTED PASS- 6042'-6053'
BOTTOM HOLE TEMP-141 DEG
WELL WAS LOGGED WITH 1500PSI HELD ON CASING



DEPTH SHIFTED PASS

Database File: g:\antero-hogue pad\kramer 1h.db
 Dataset Pathname: pass4.4
 Presentation Format: antero
 Dataset Creation: Tue Jul 07 12:21:47 2020 by Calc Std Casedhole 10081
 Charted by: Depth in Feet scaled 1:240

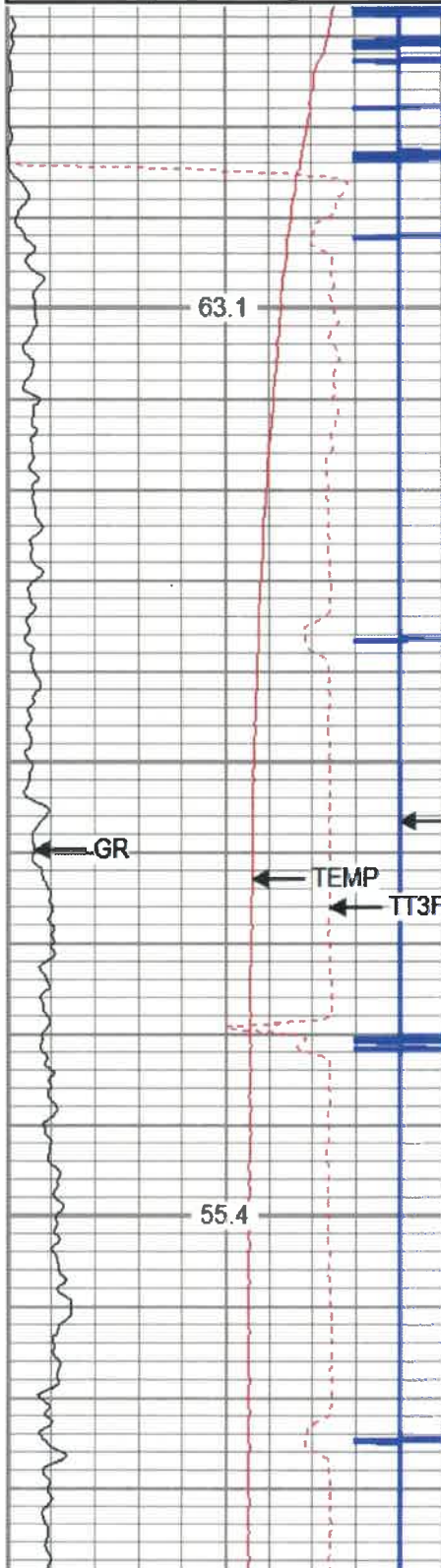
280	Travel Time (usec)	180
9	Casing Collars	-1
0	Gamma Ray	180
0	TEMP (degF)	100

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

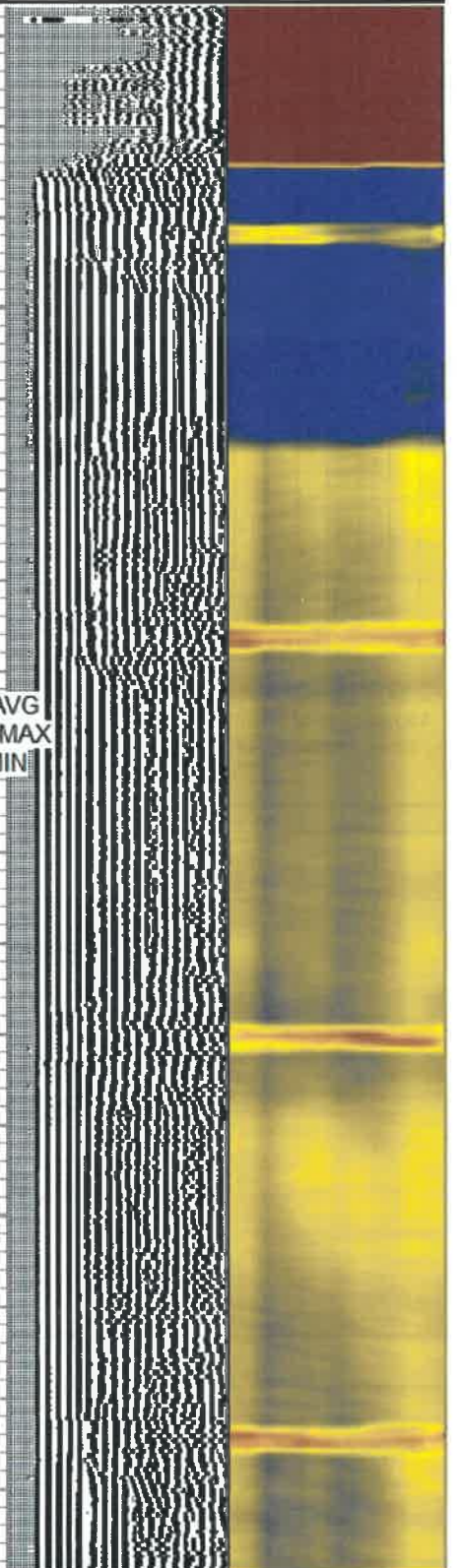
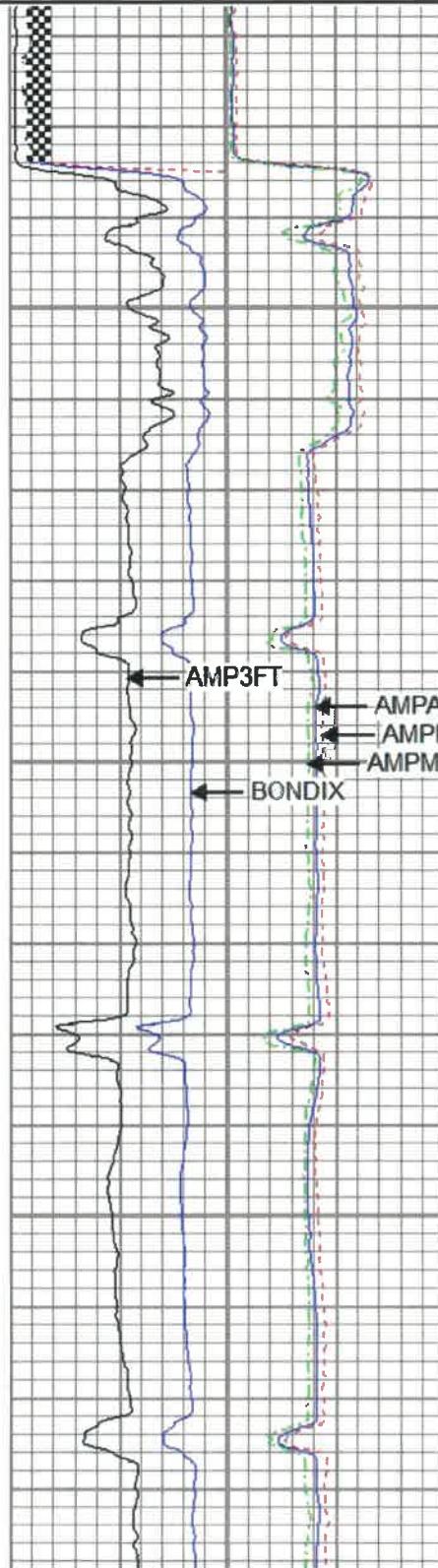
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 20 80

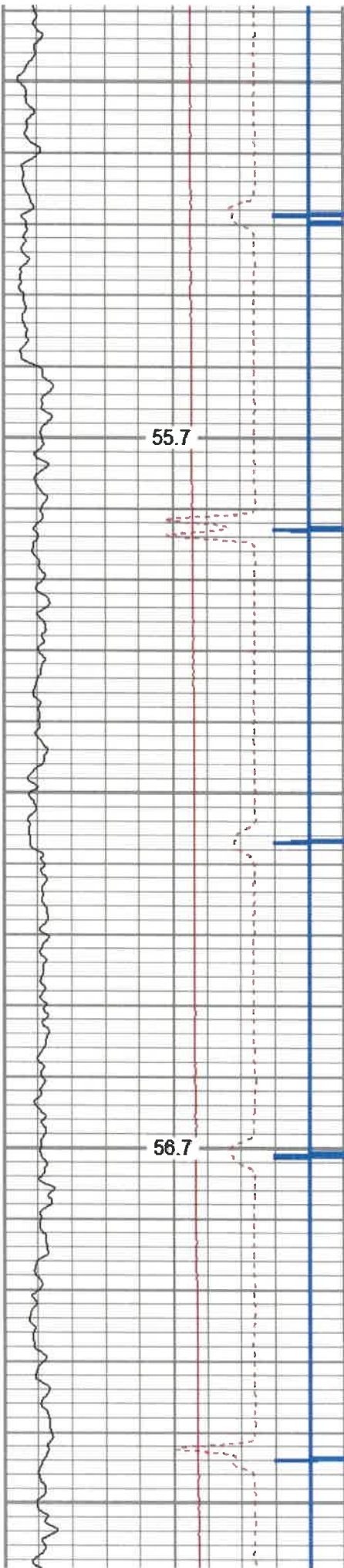


TEMP (degF)



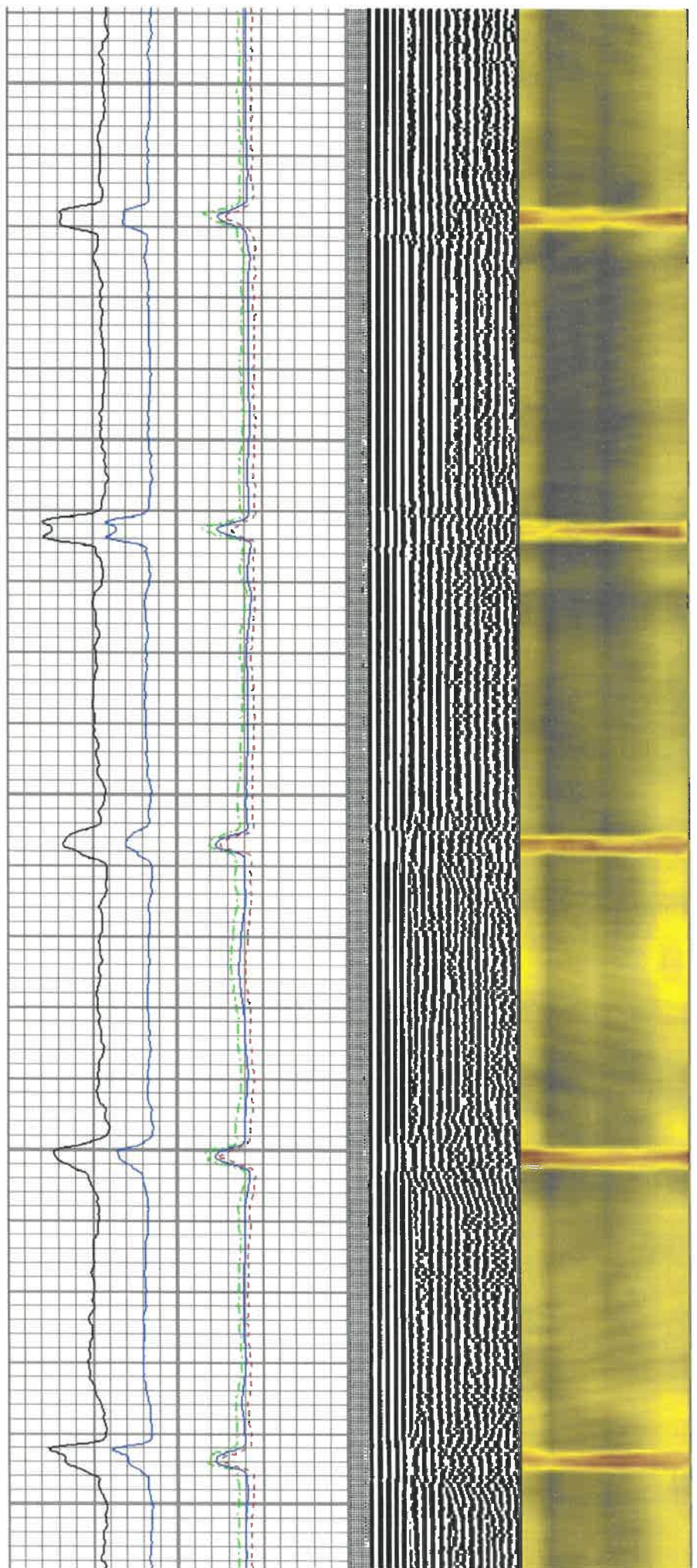
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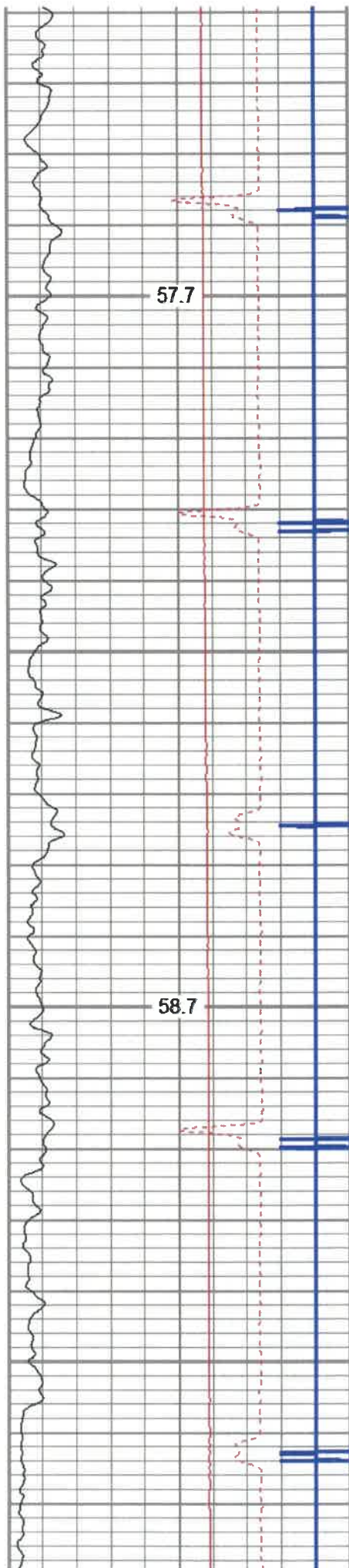




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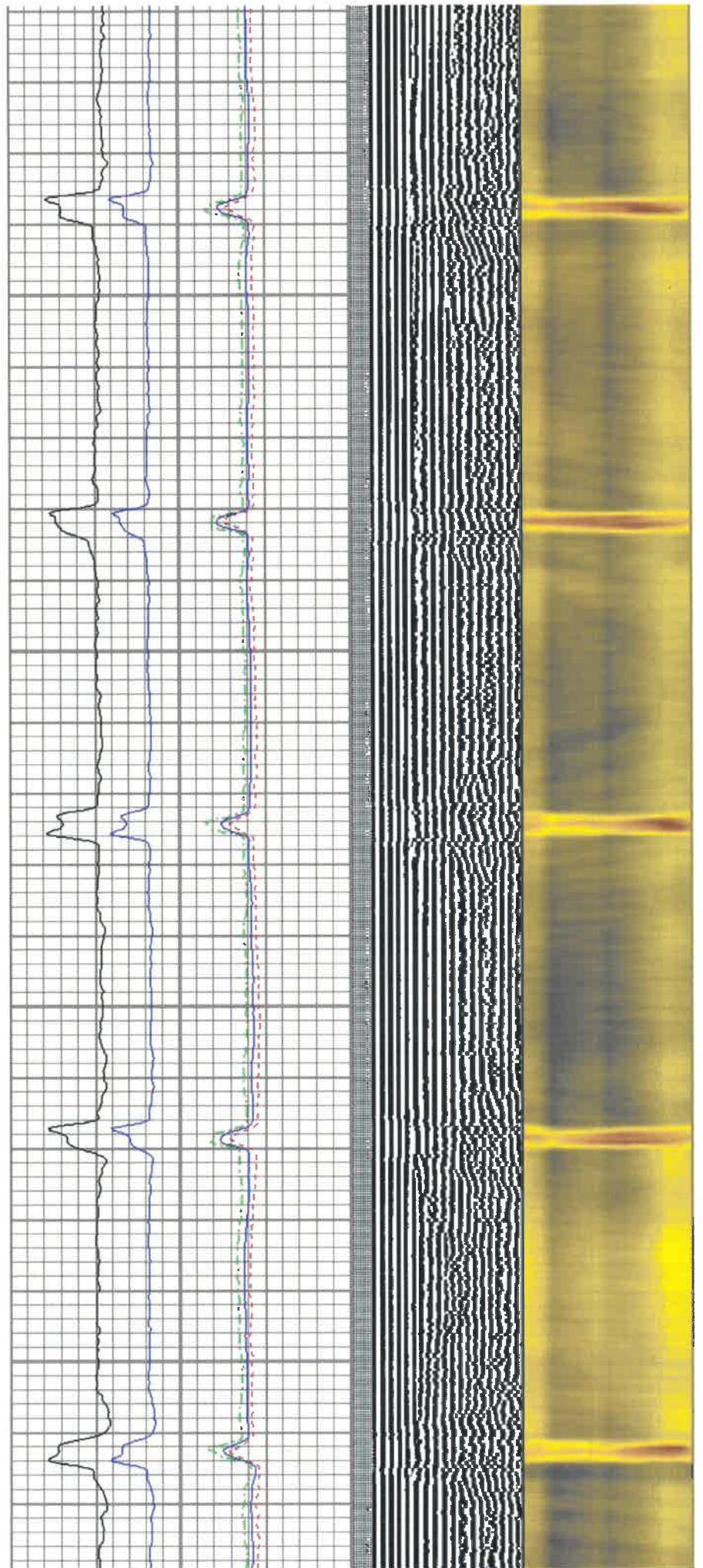
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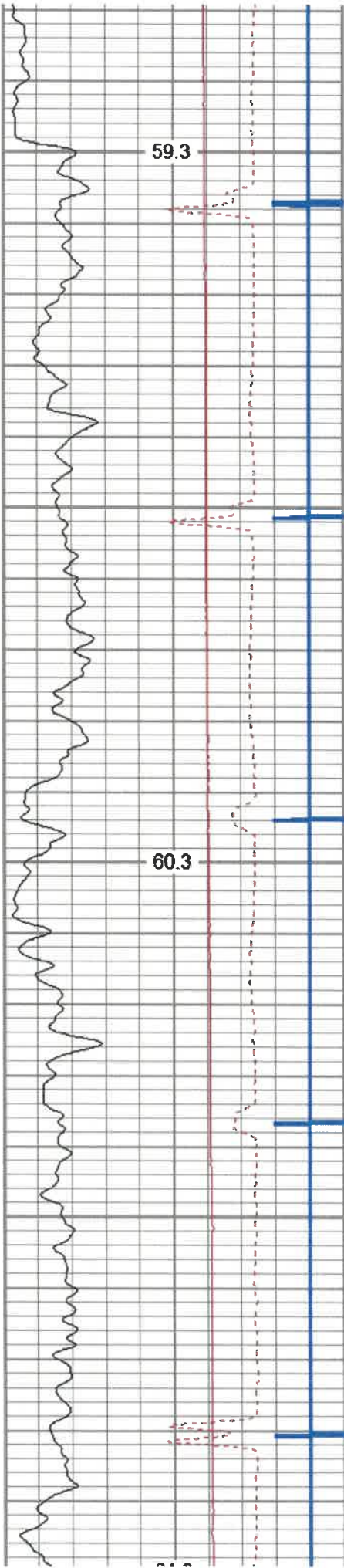




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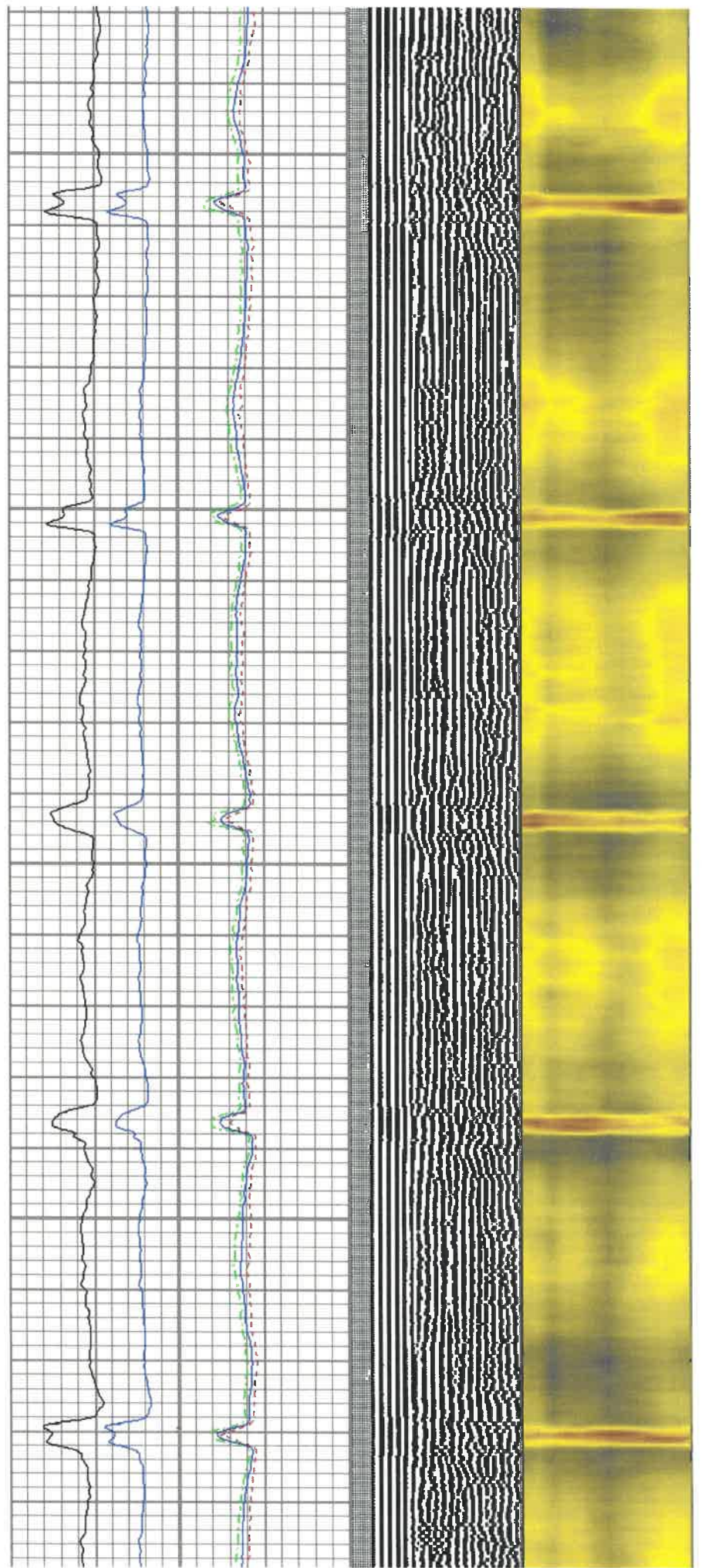
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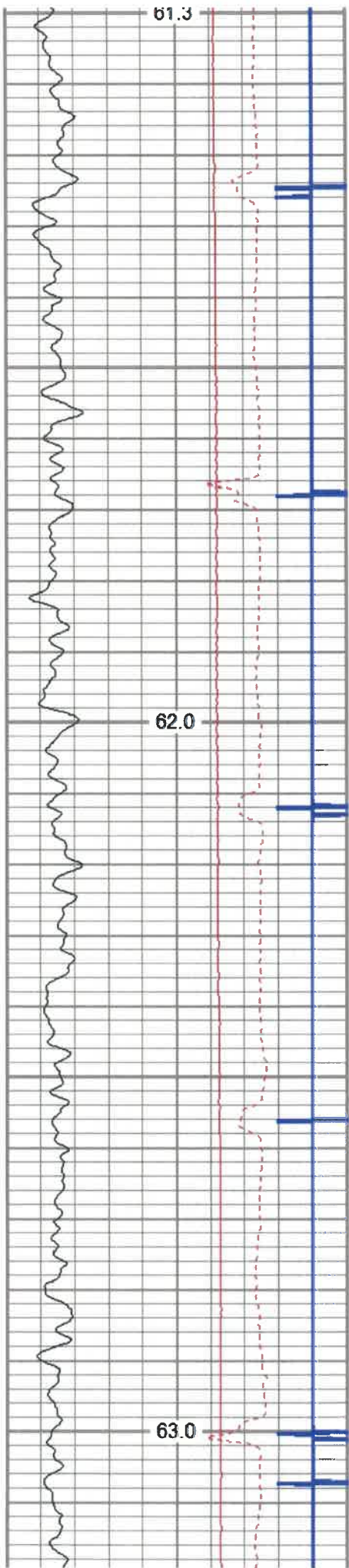




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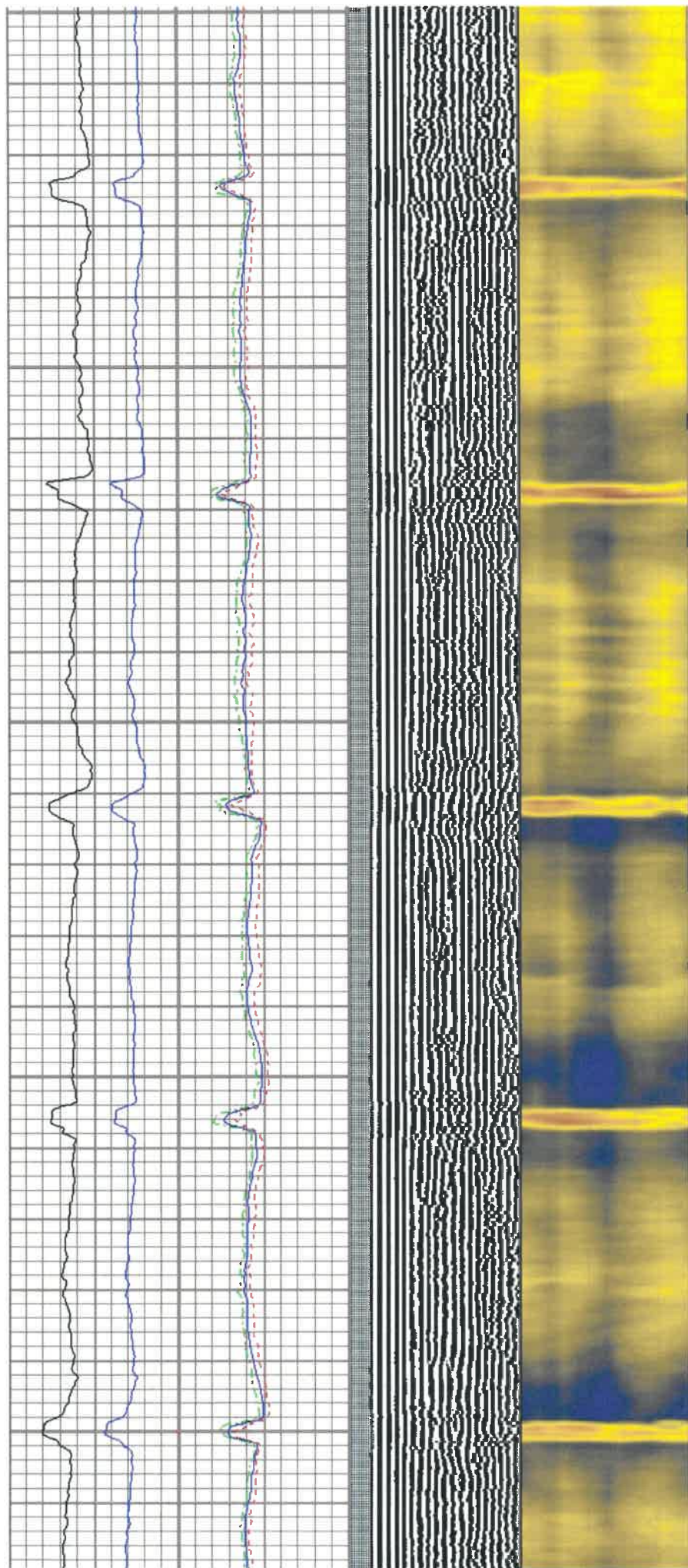


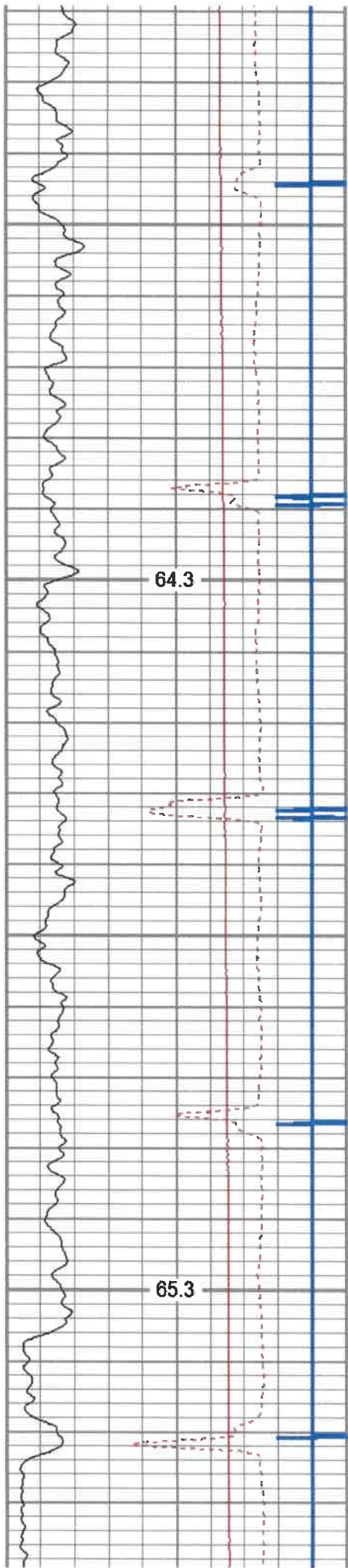


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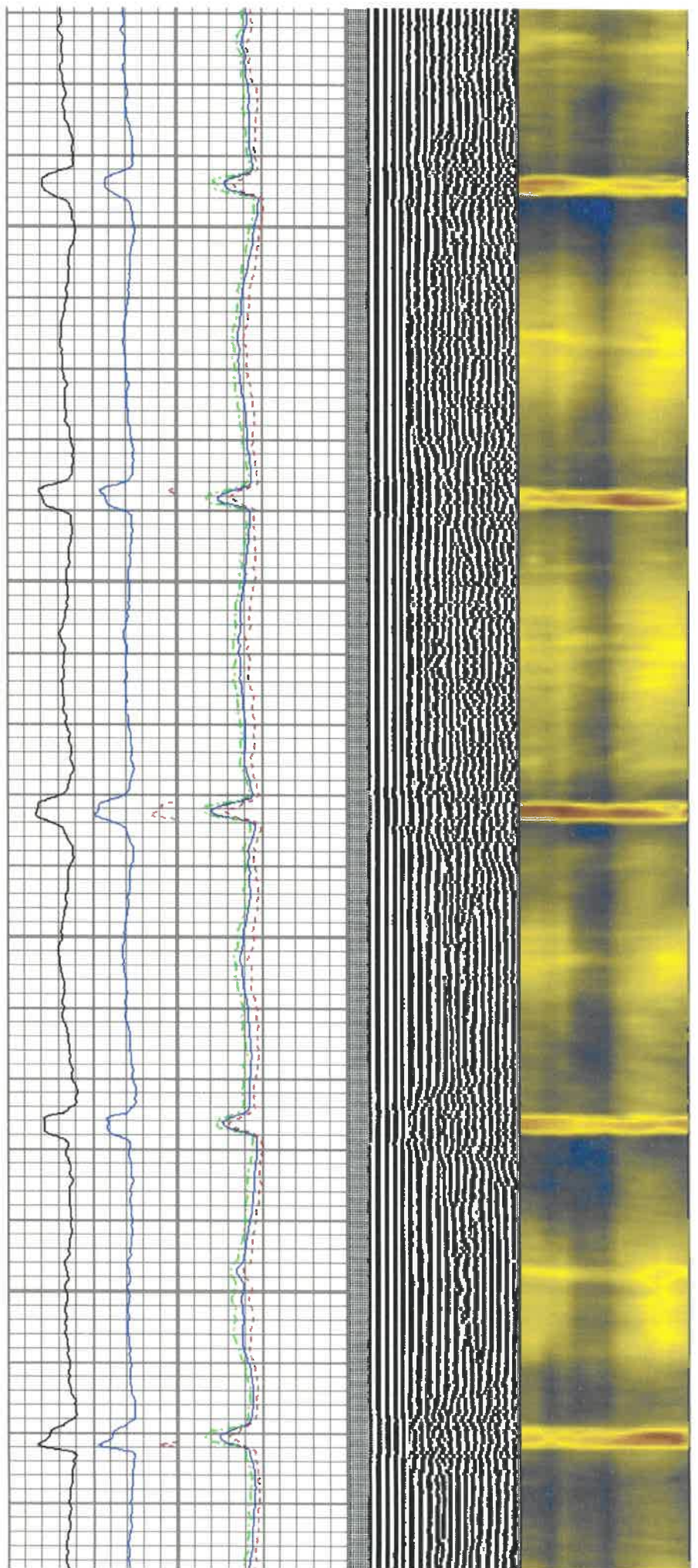
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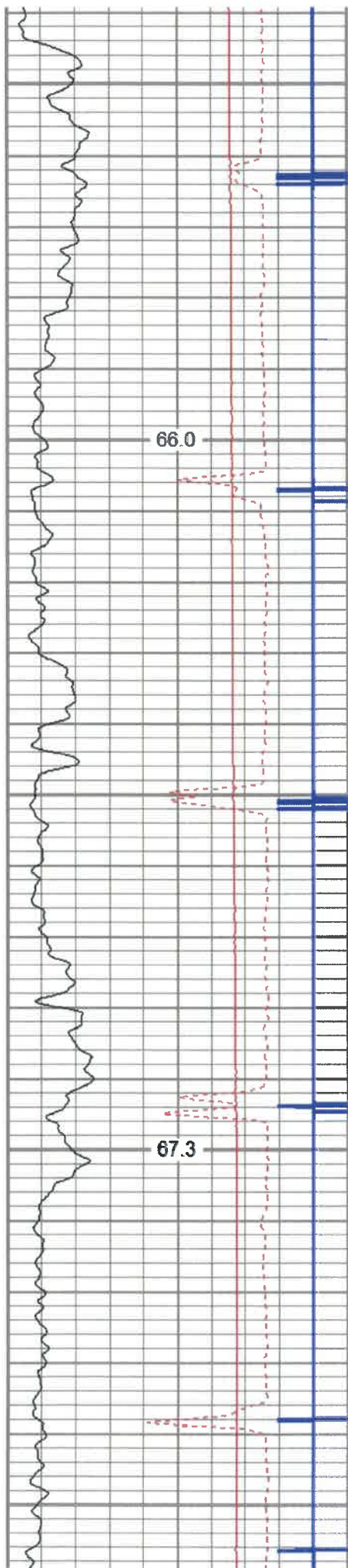




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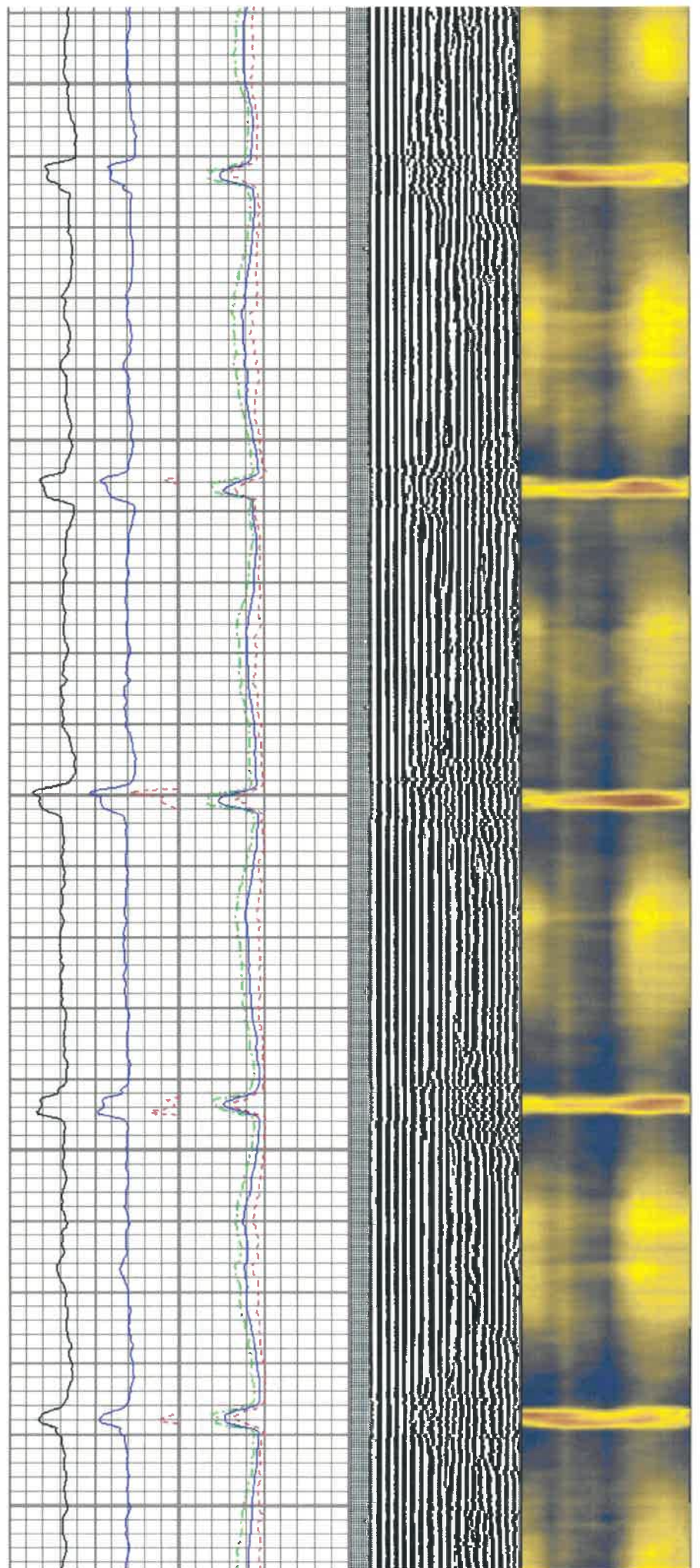
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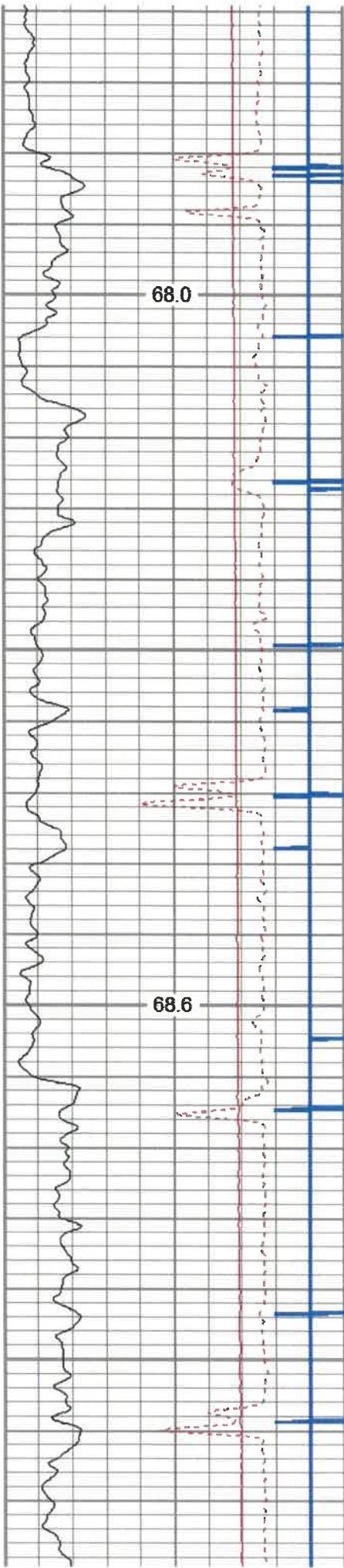




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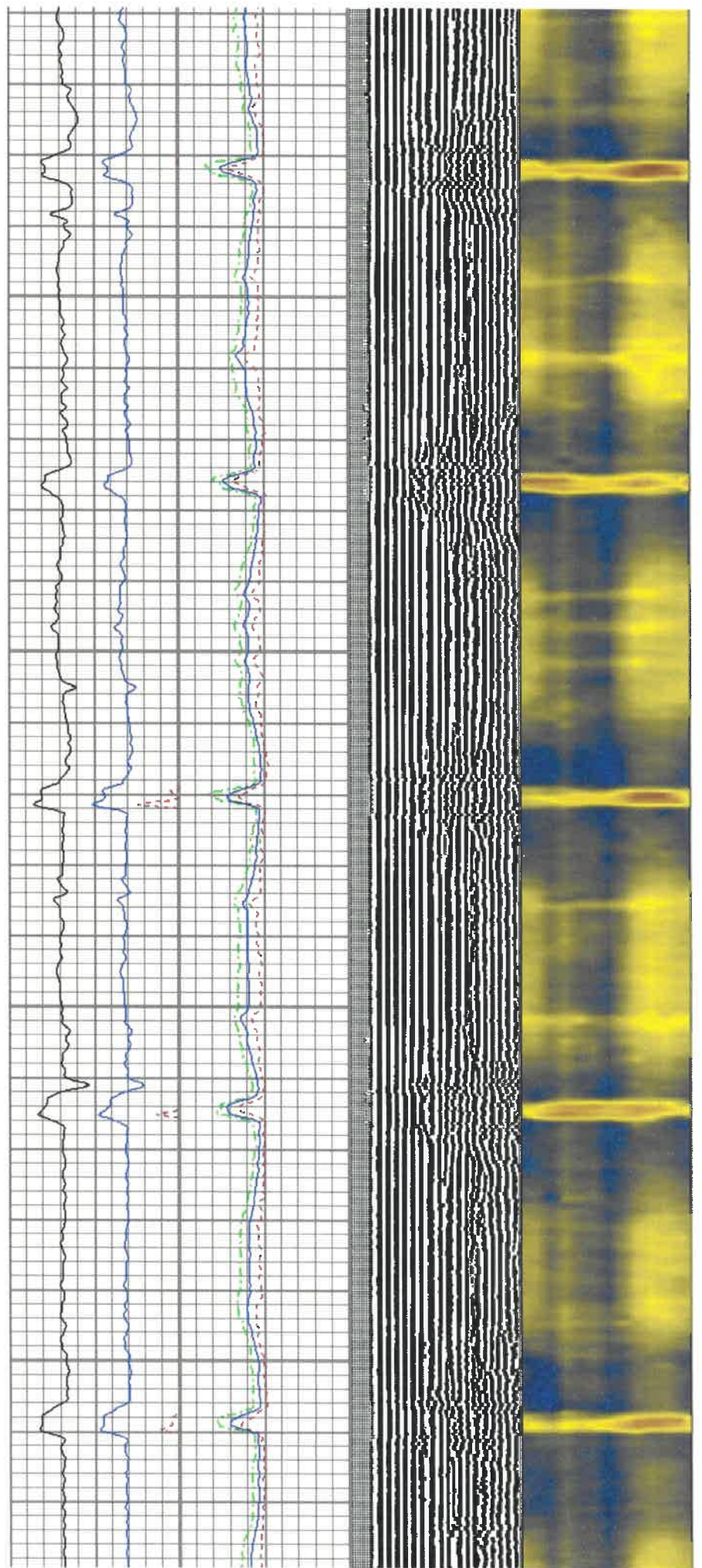
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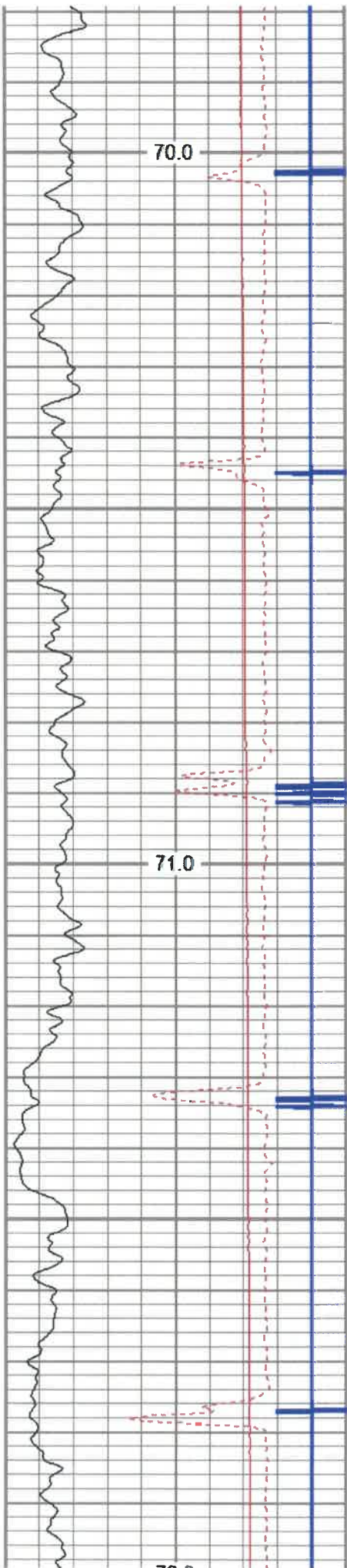




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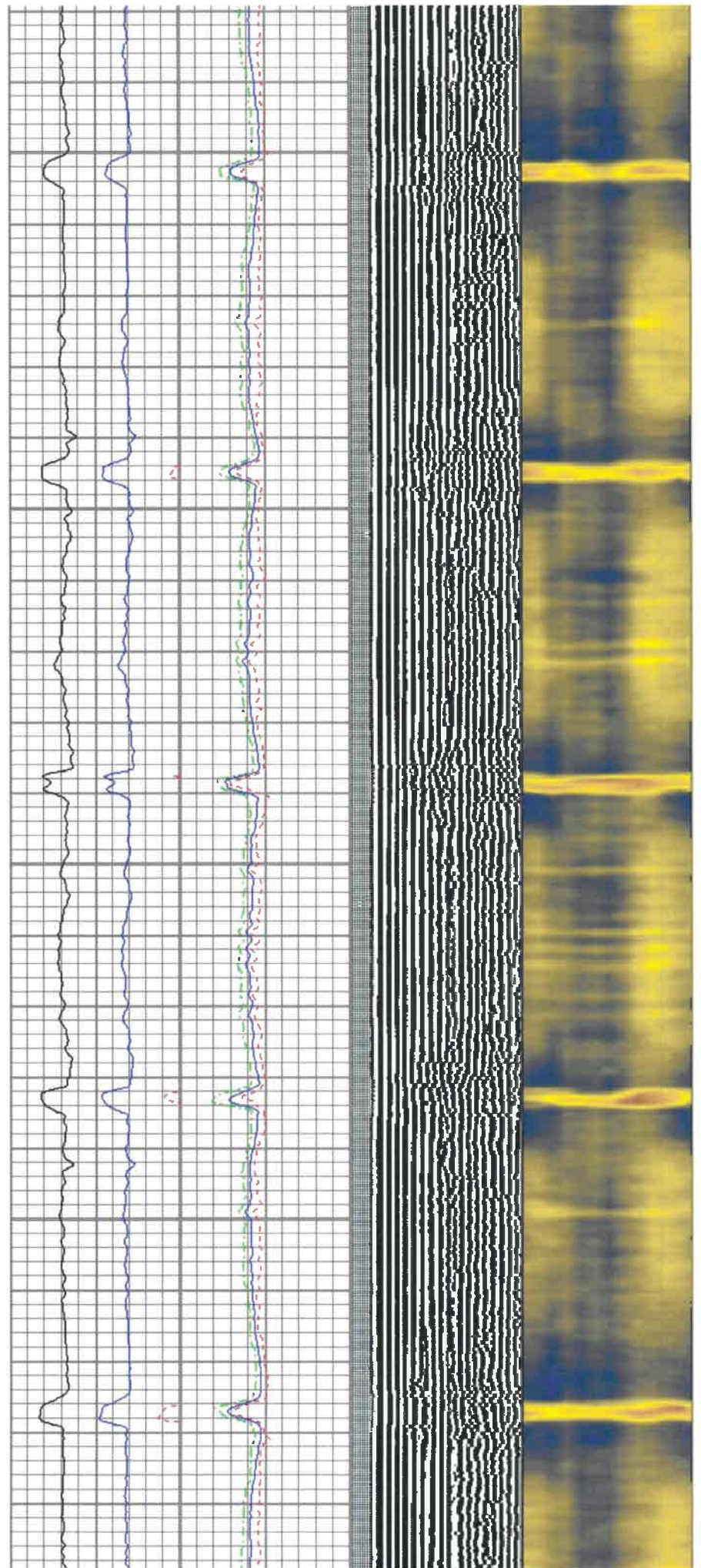
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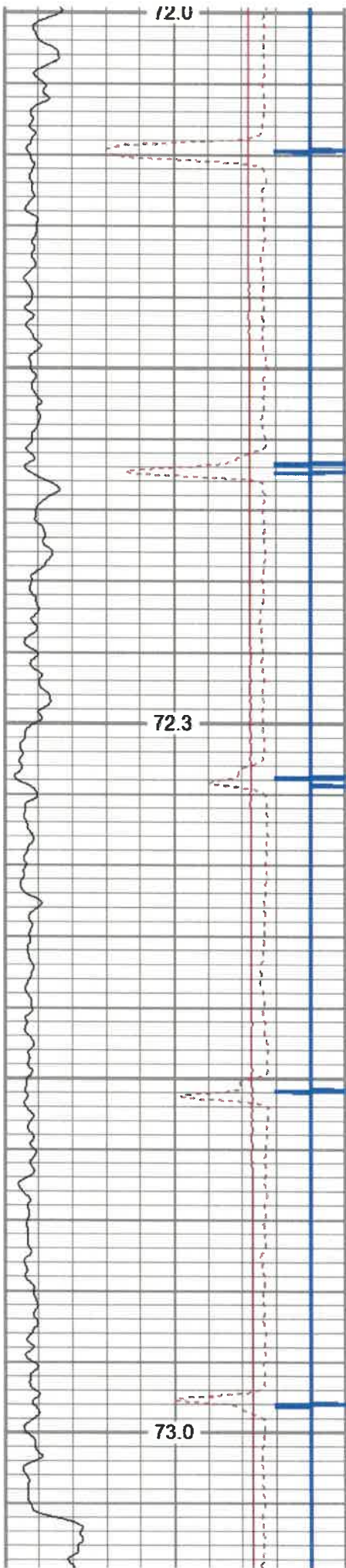




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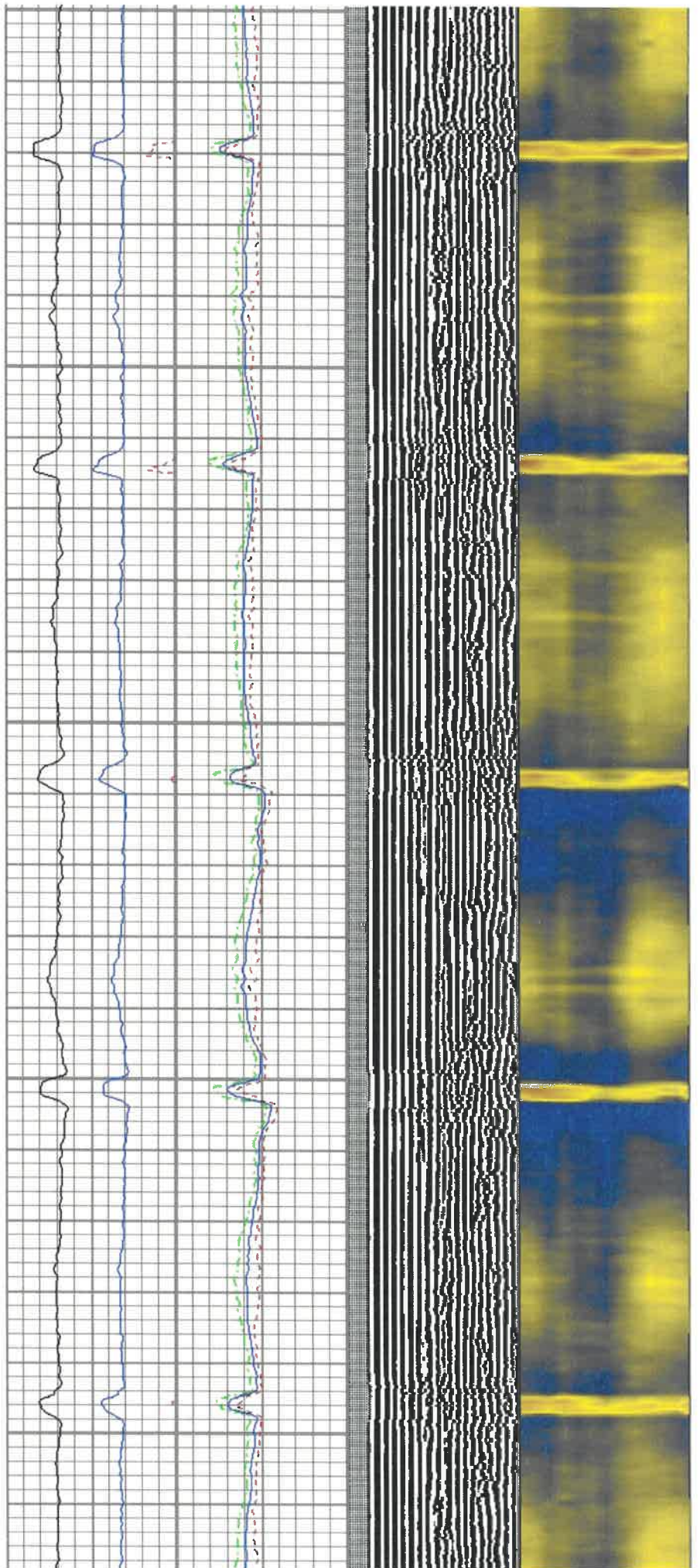


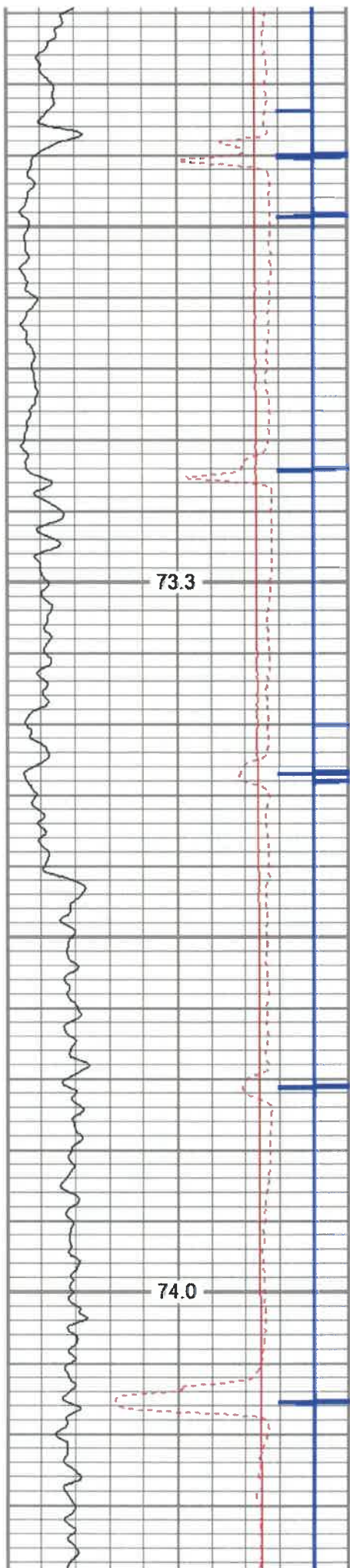


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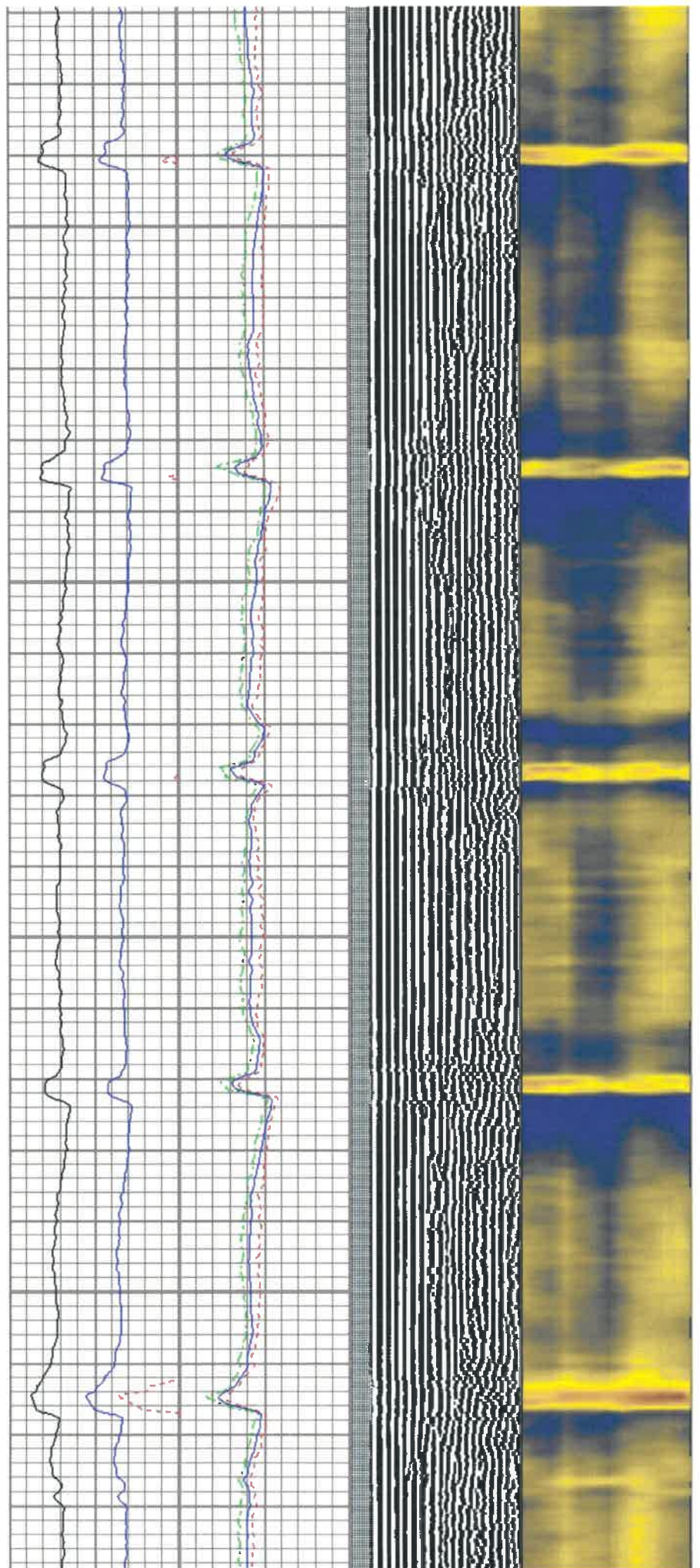
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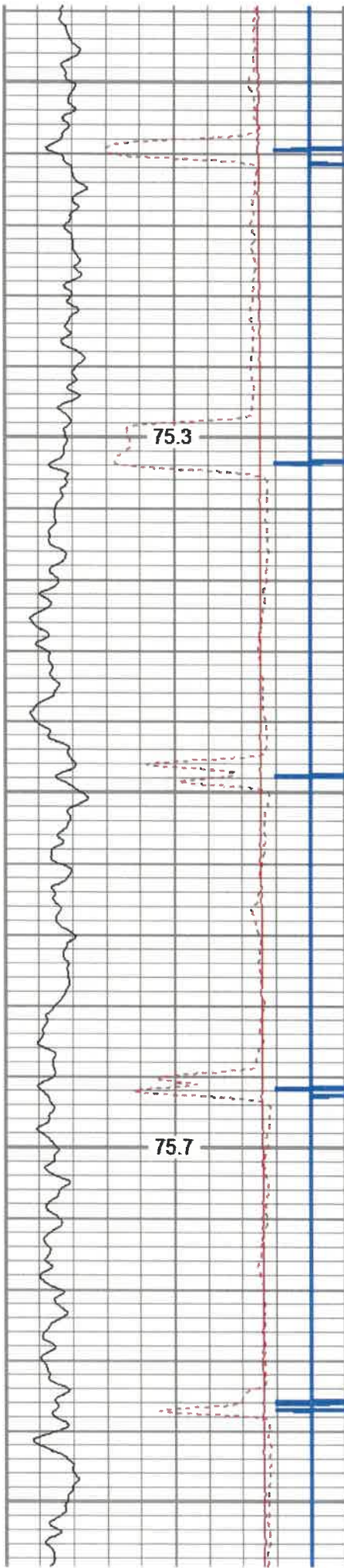




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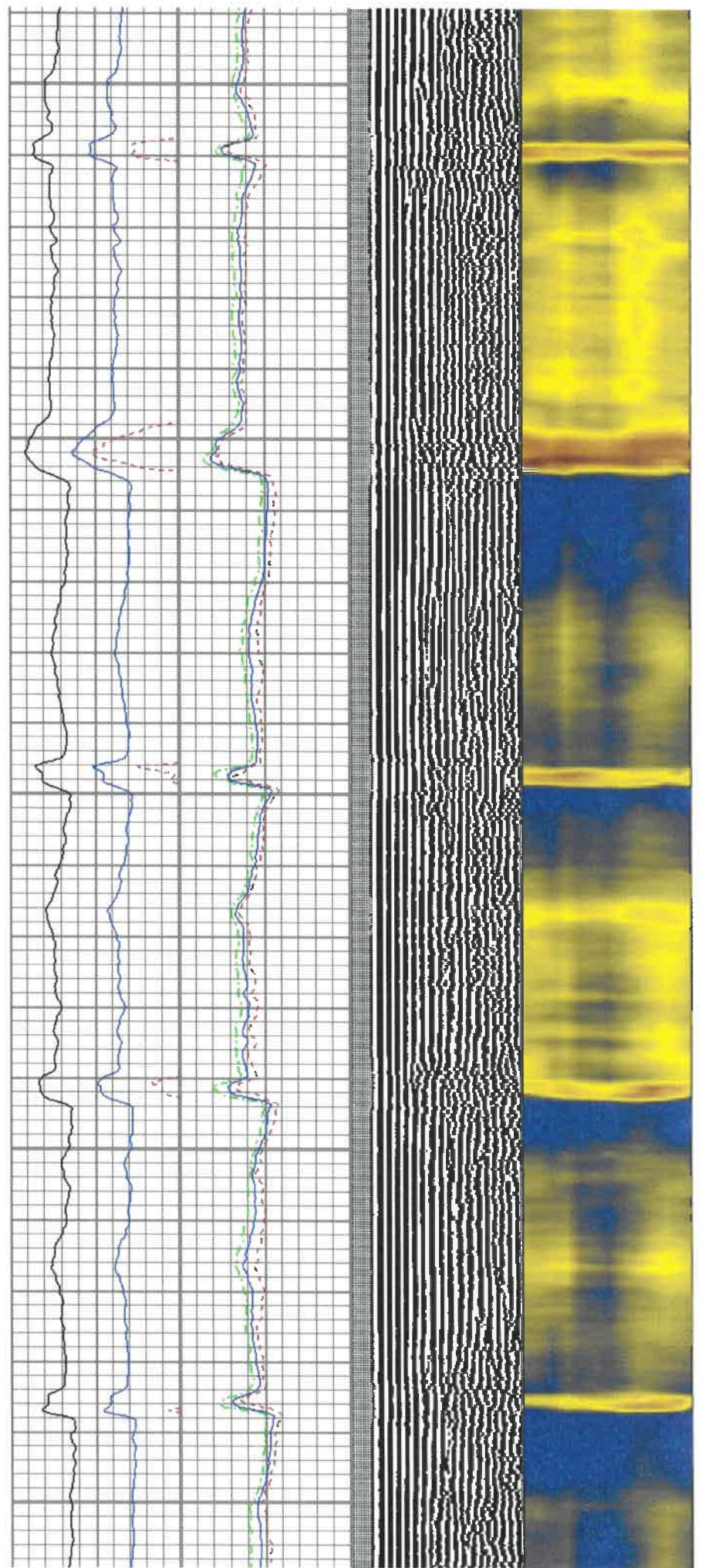
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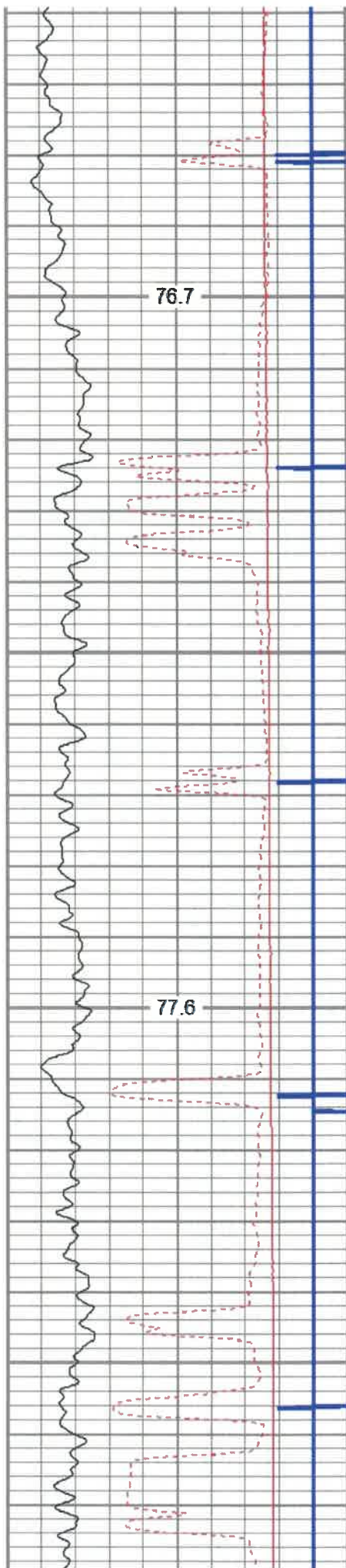




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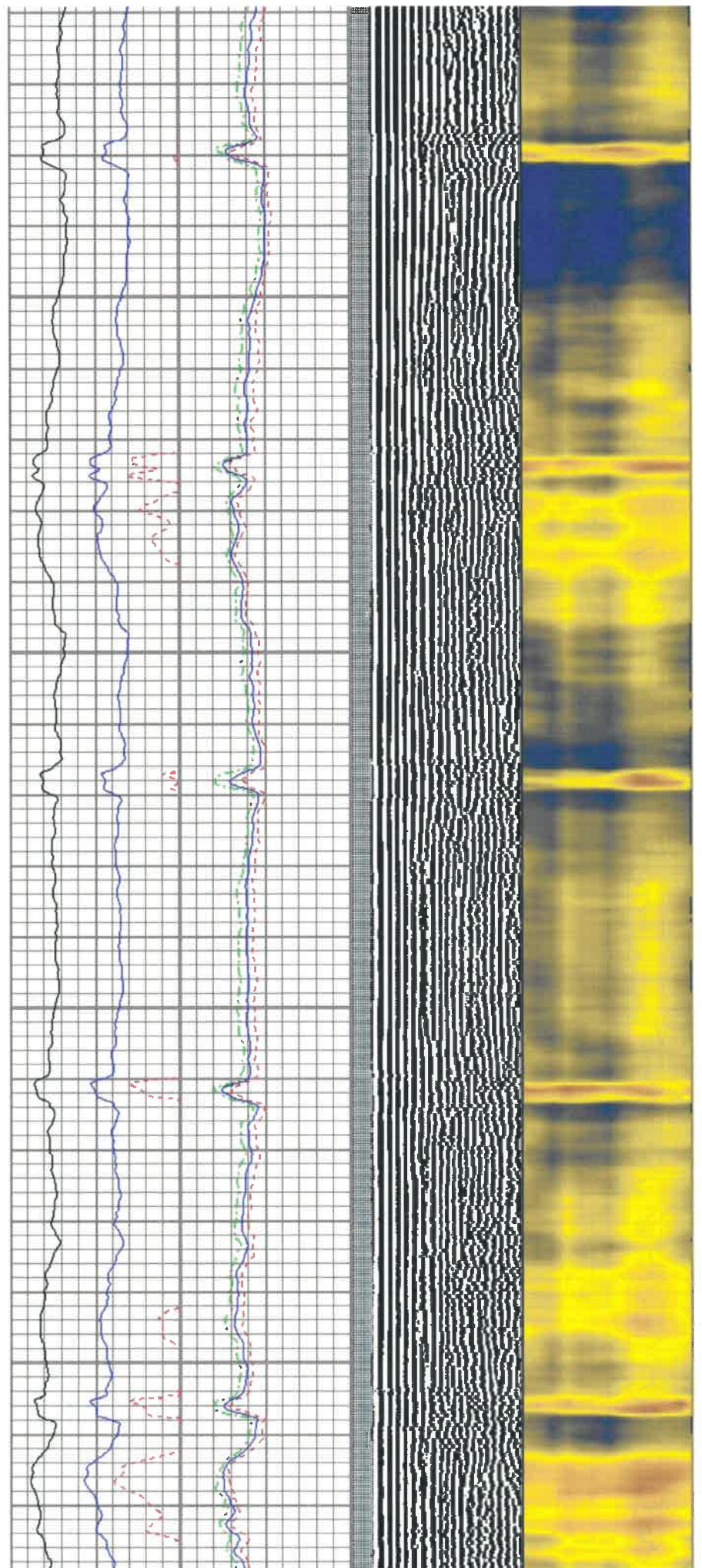
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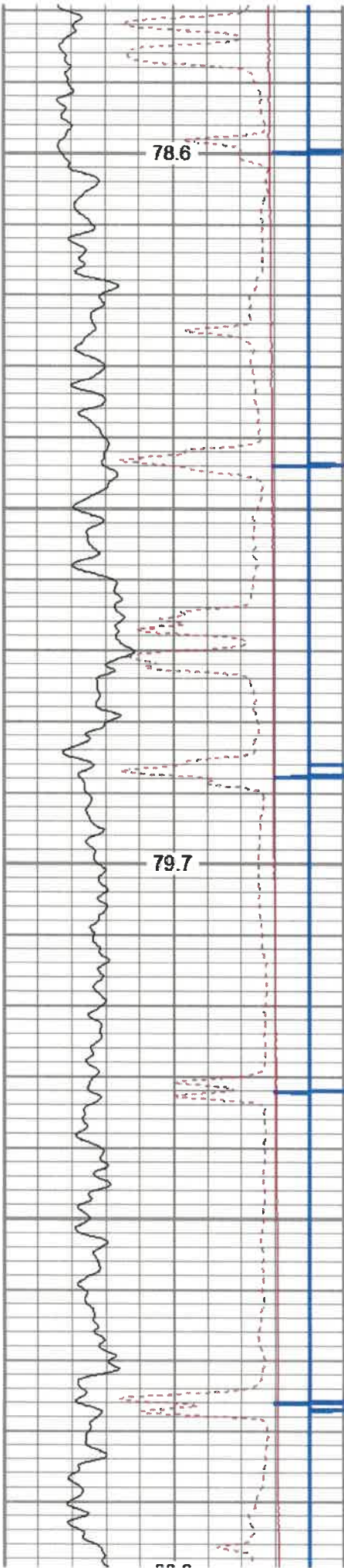




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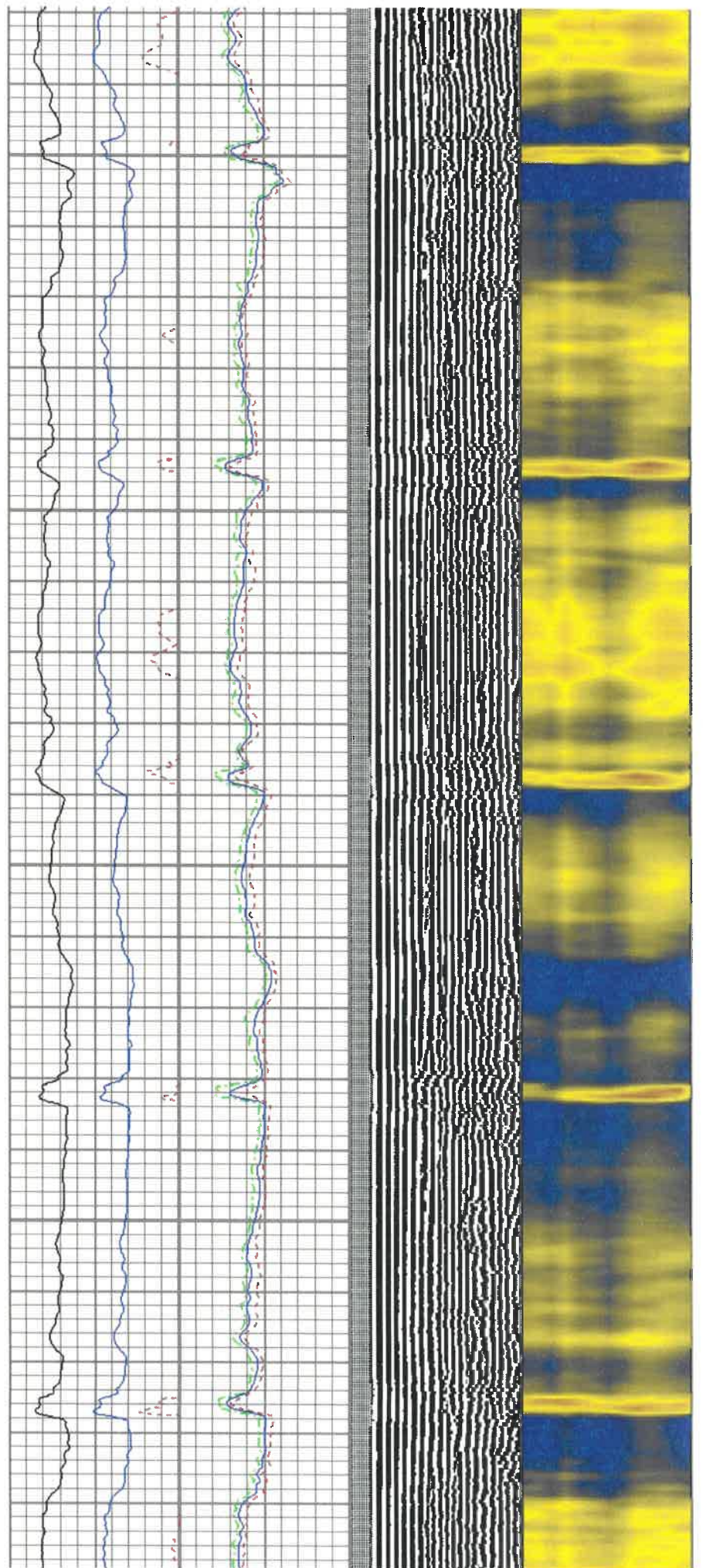
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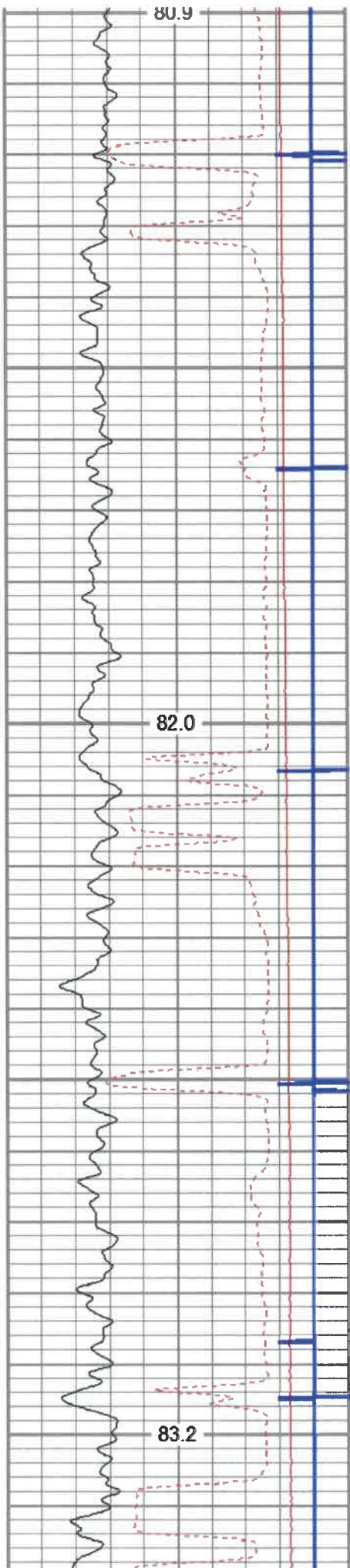




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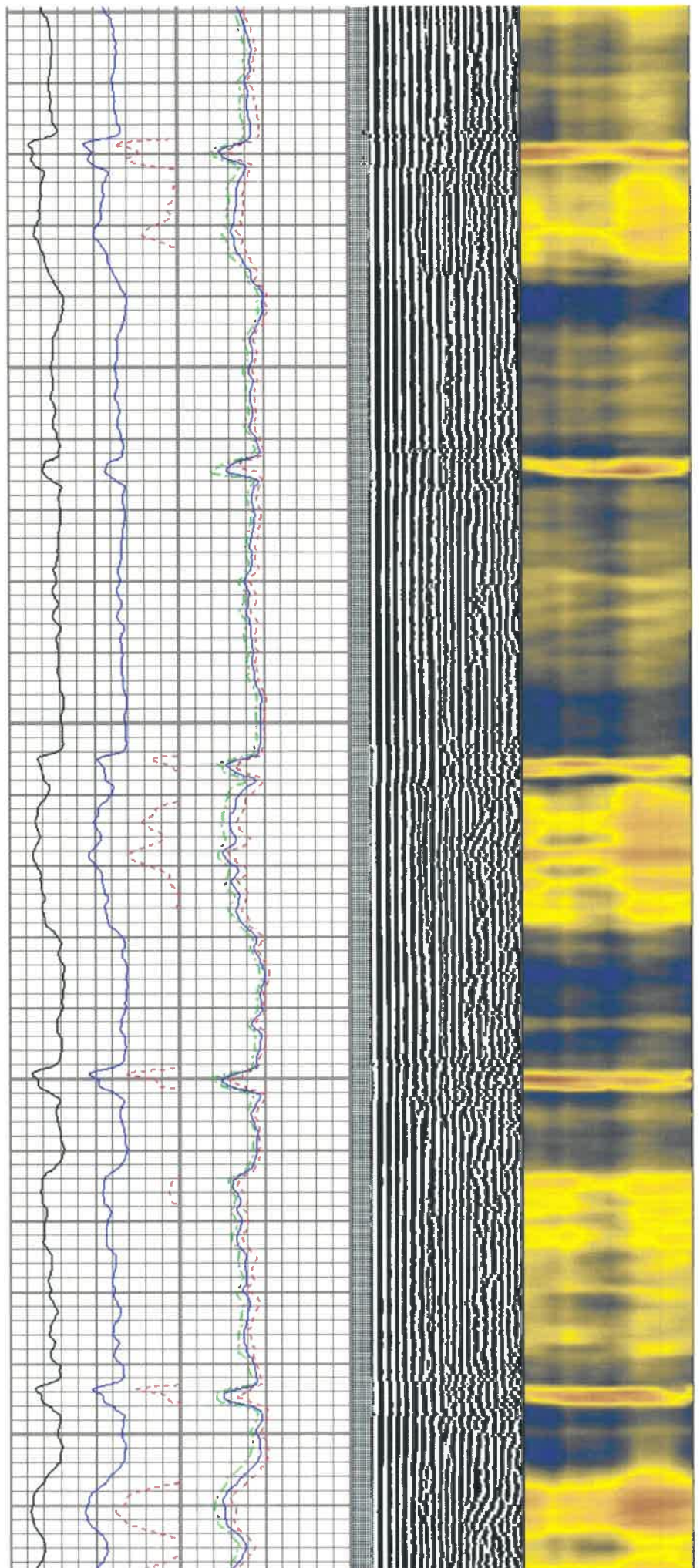


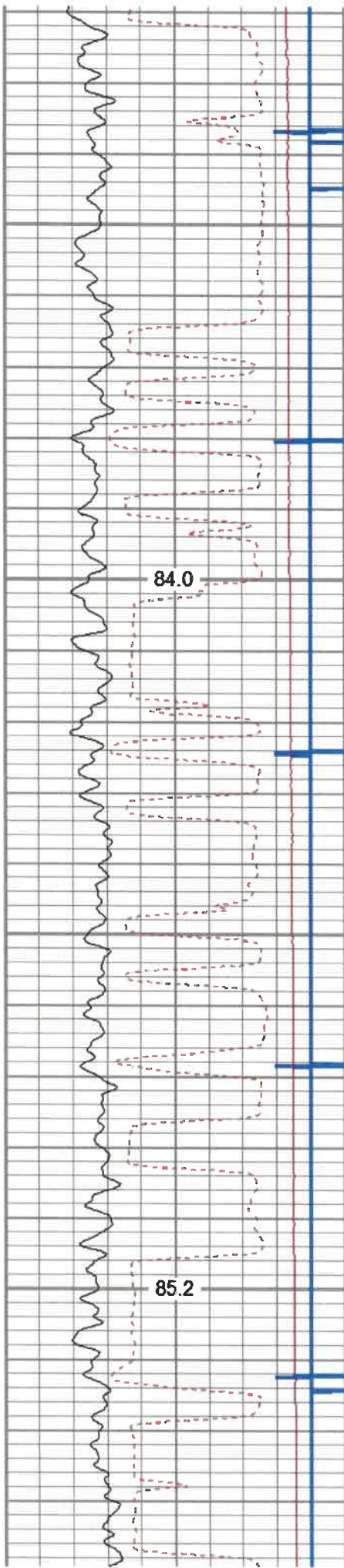


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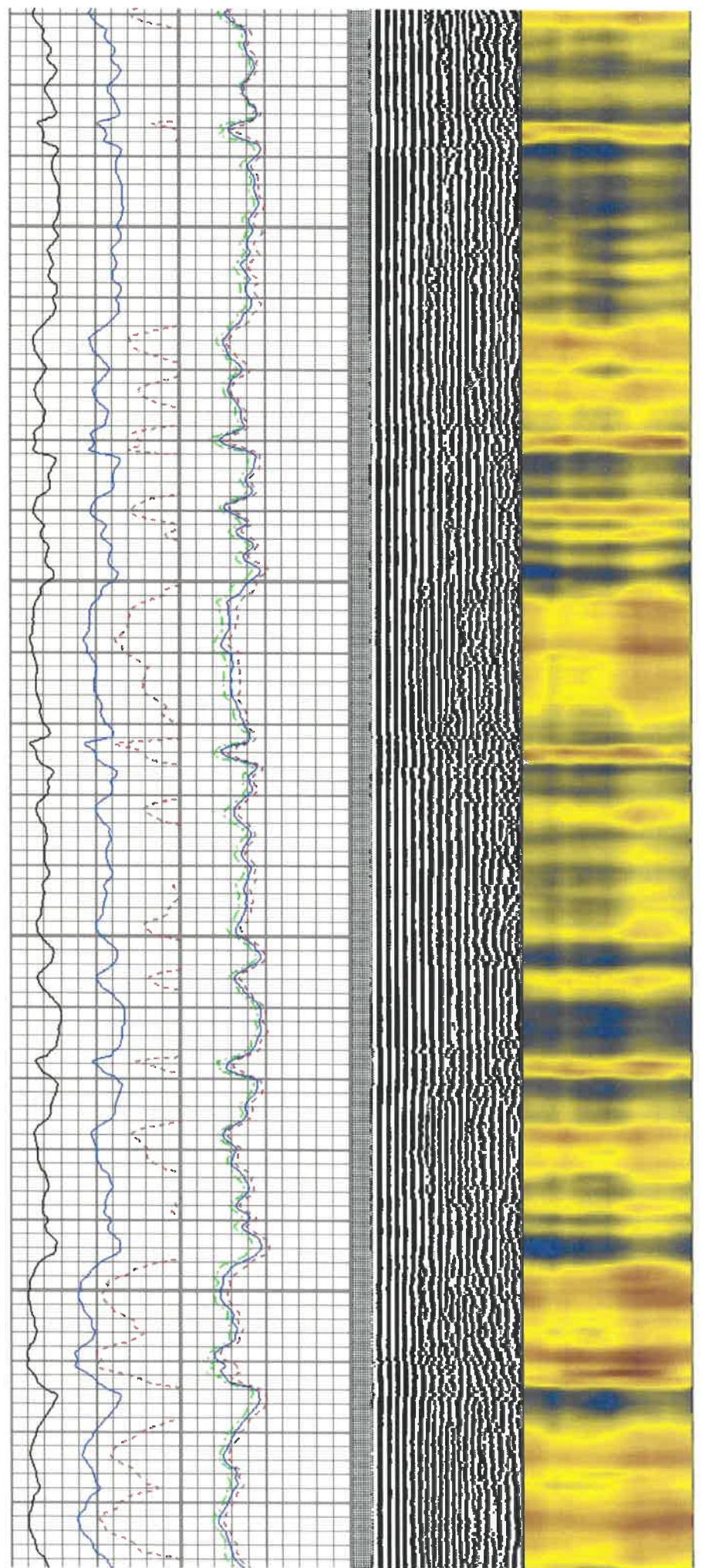
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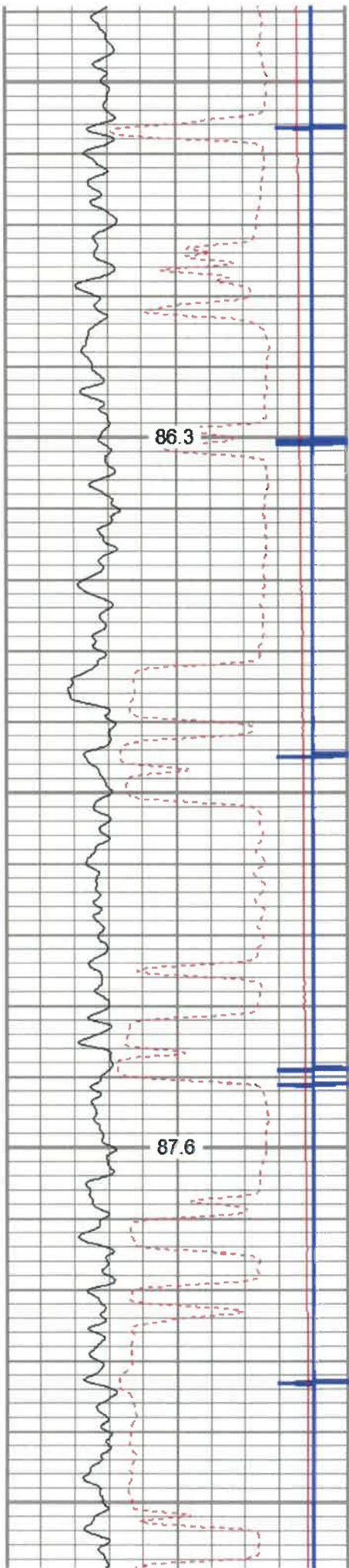




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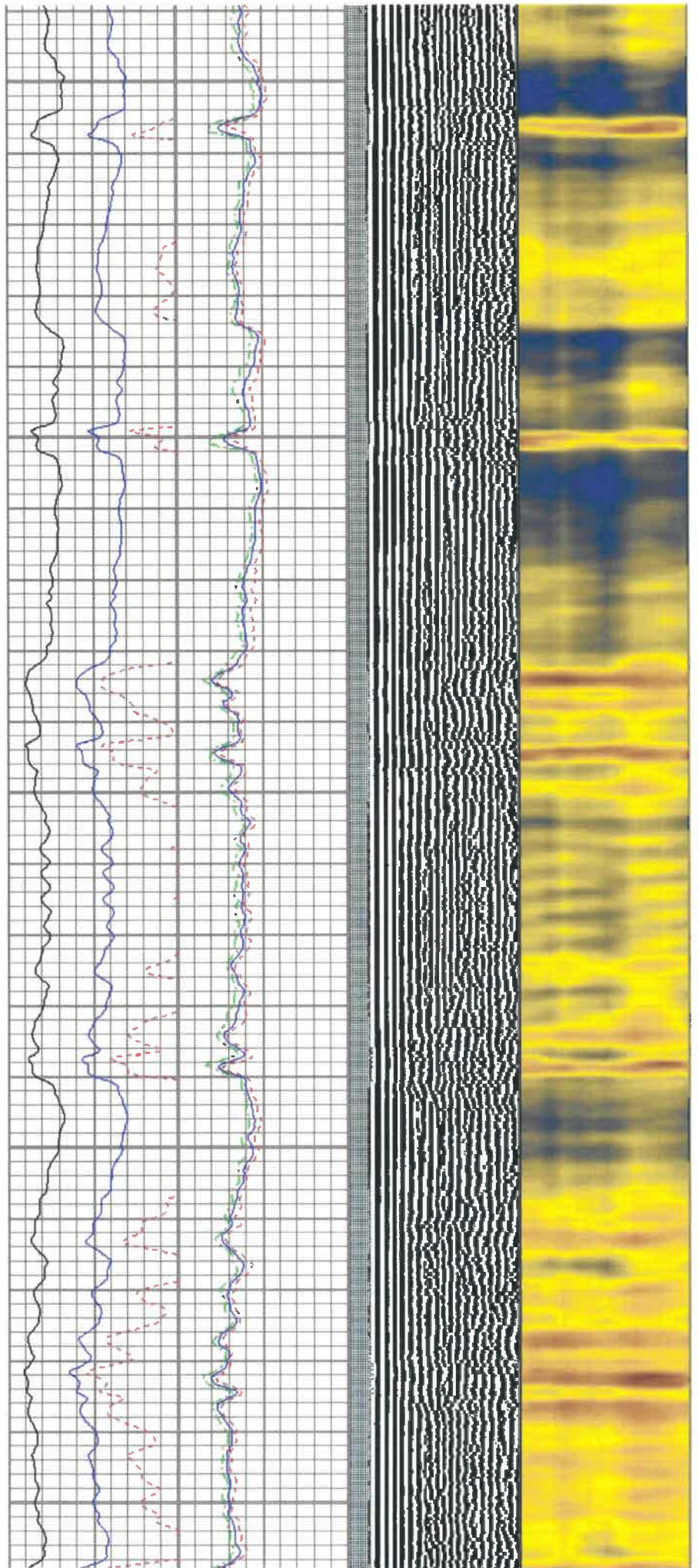
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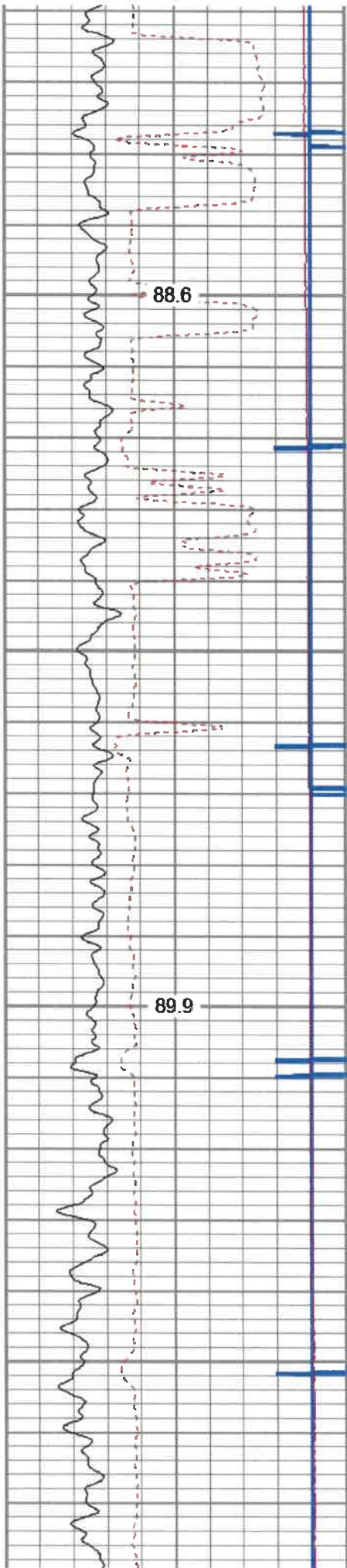




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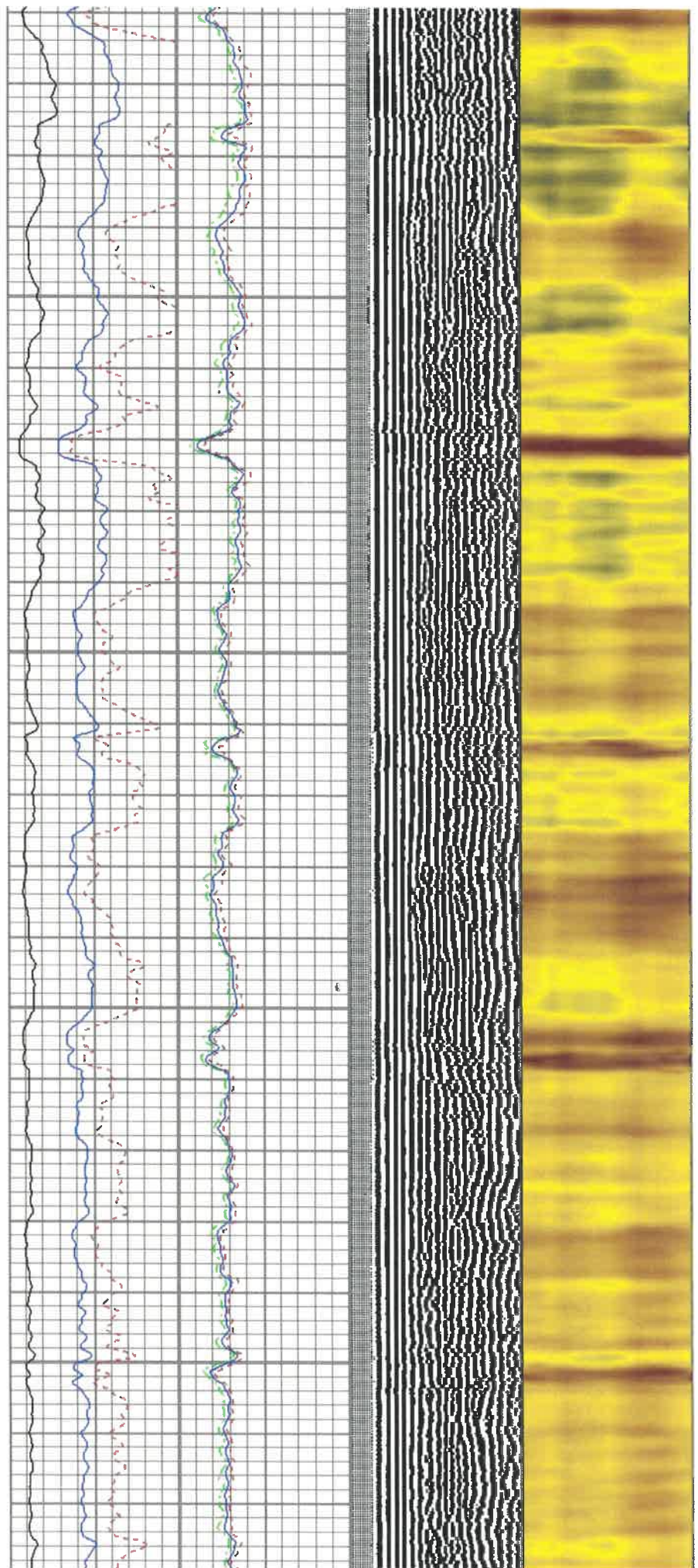
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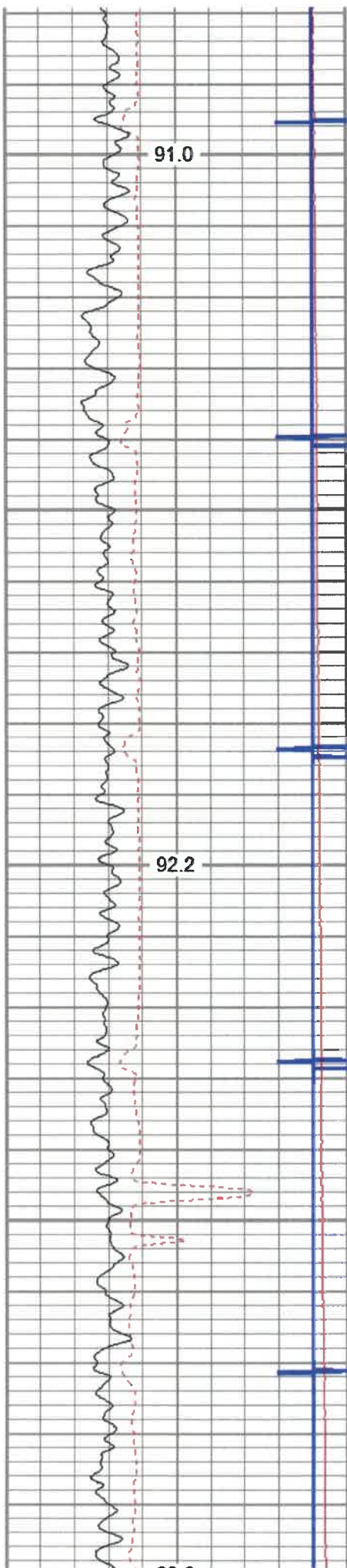




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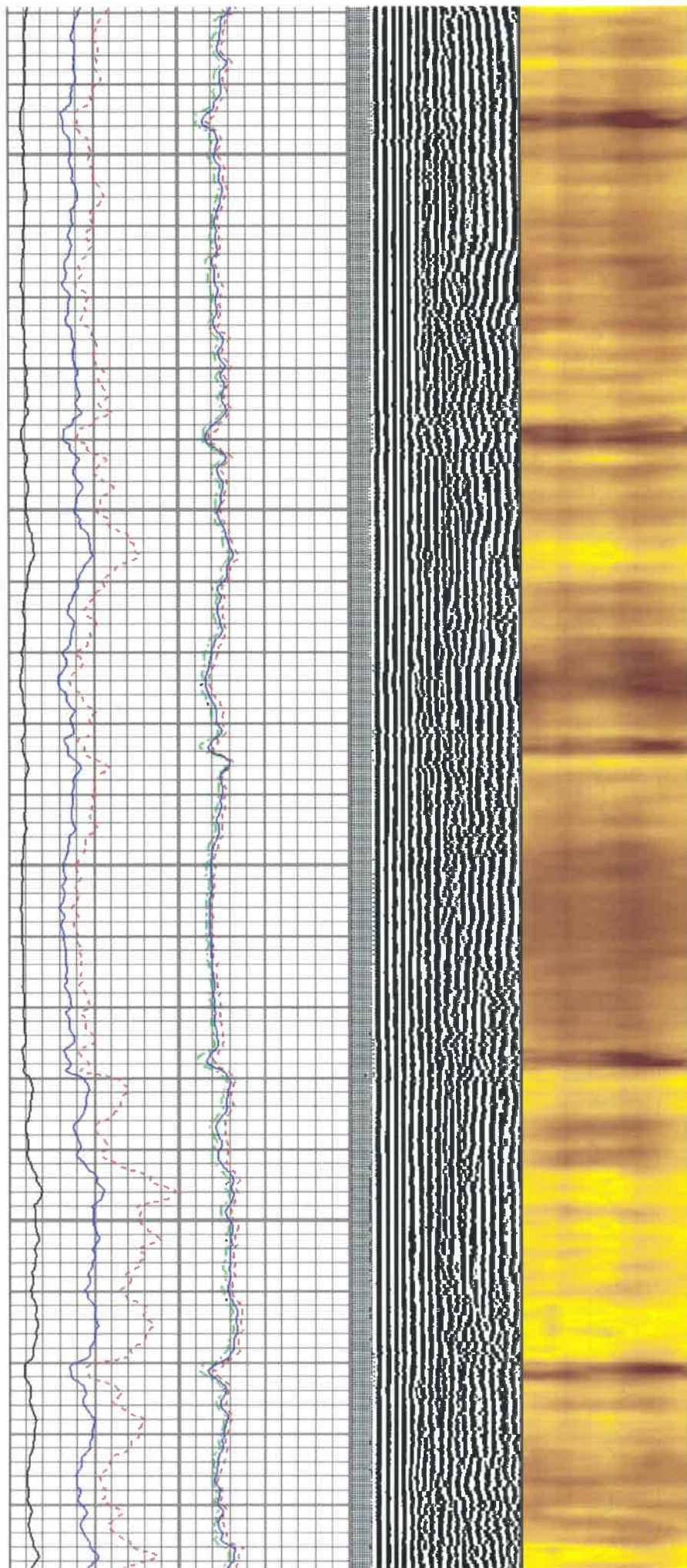
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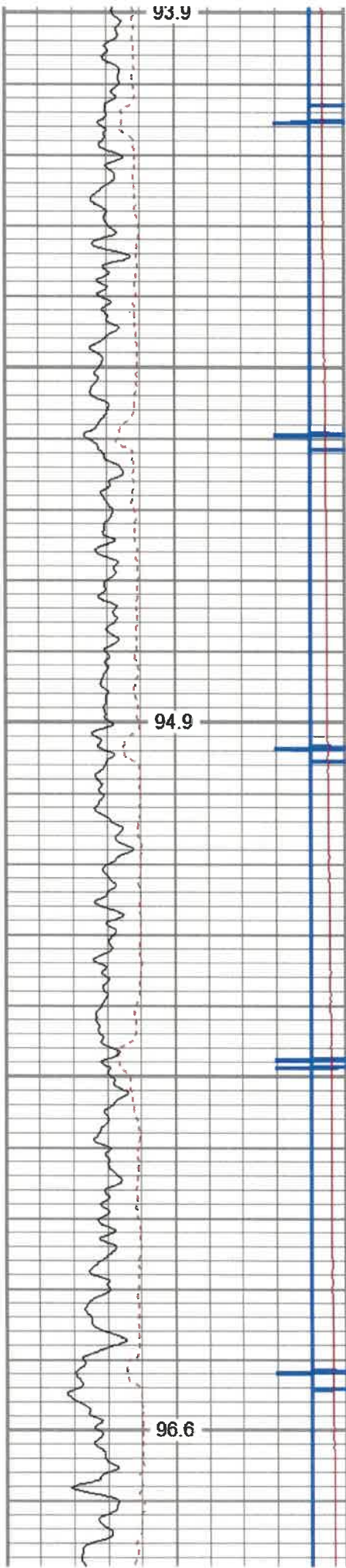




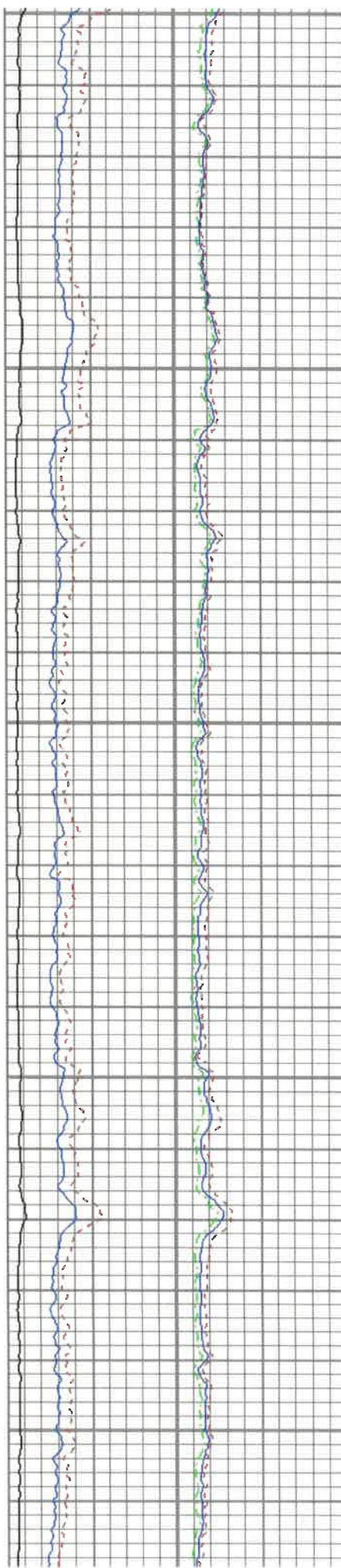
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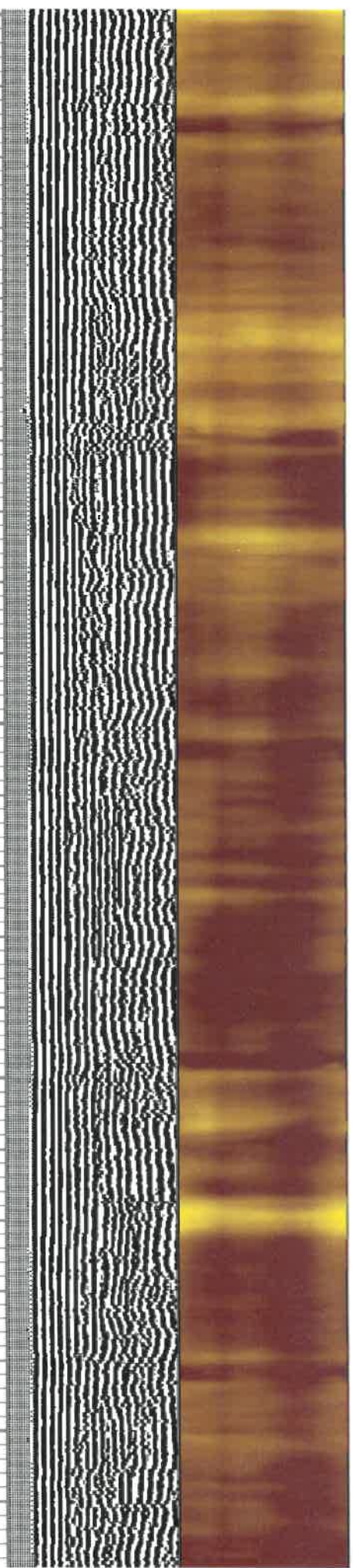


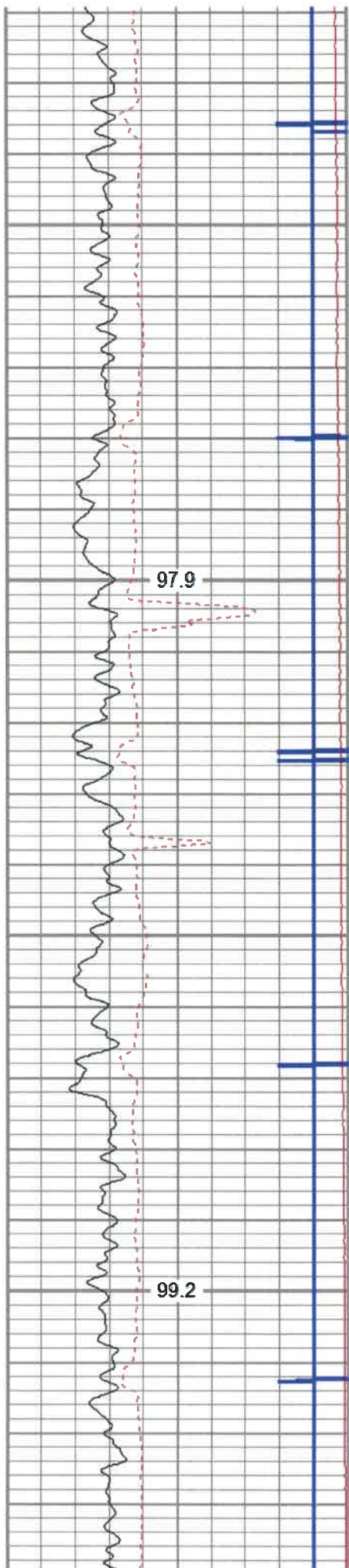
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4200

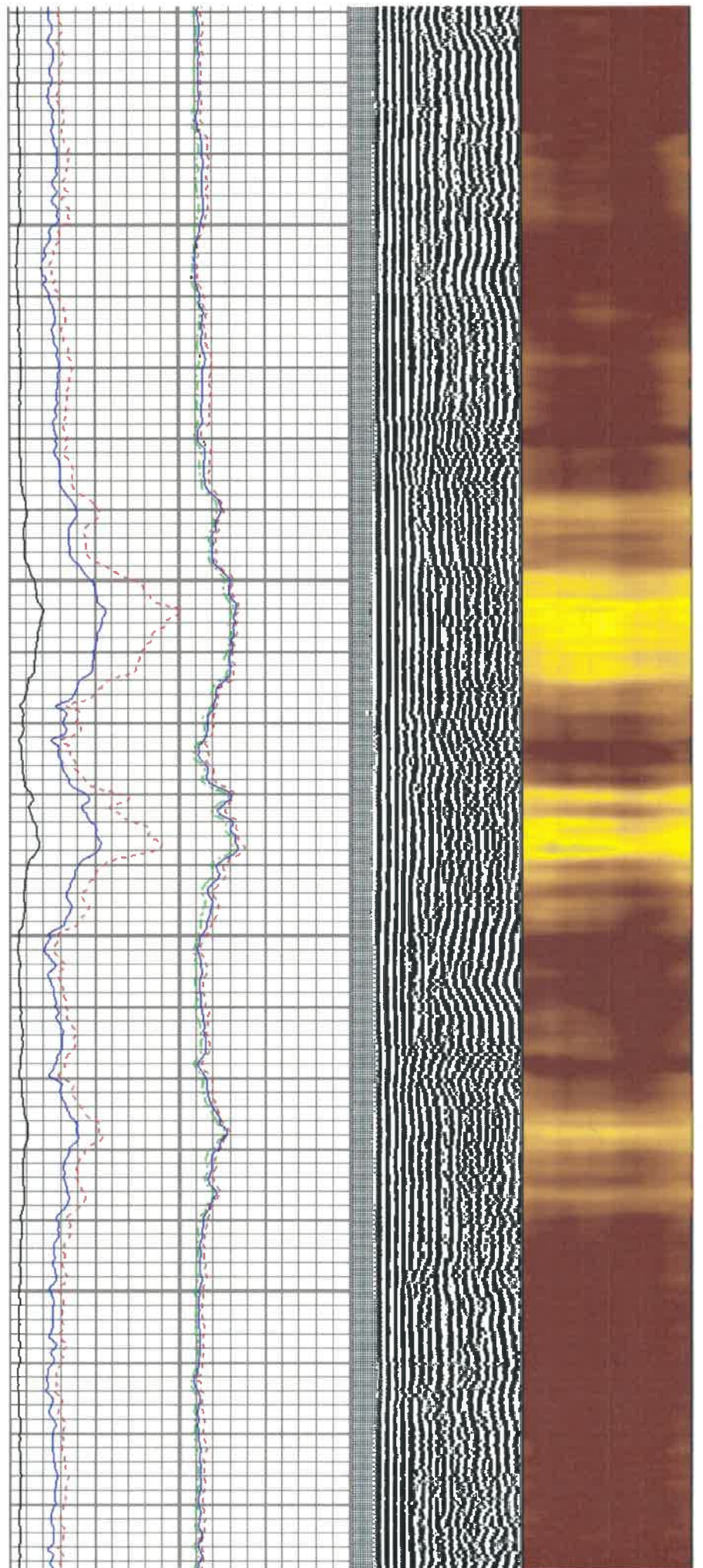
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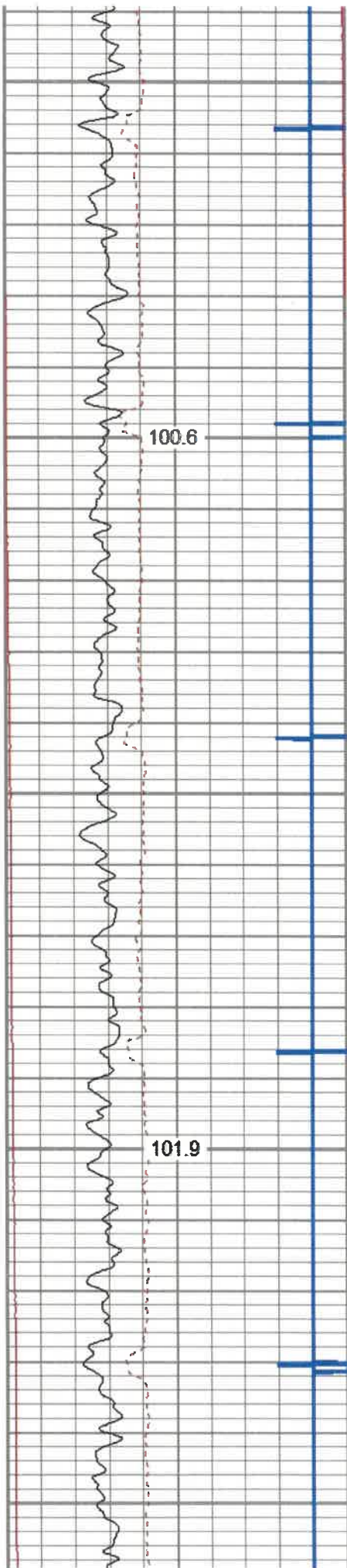




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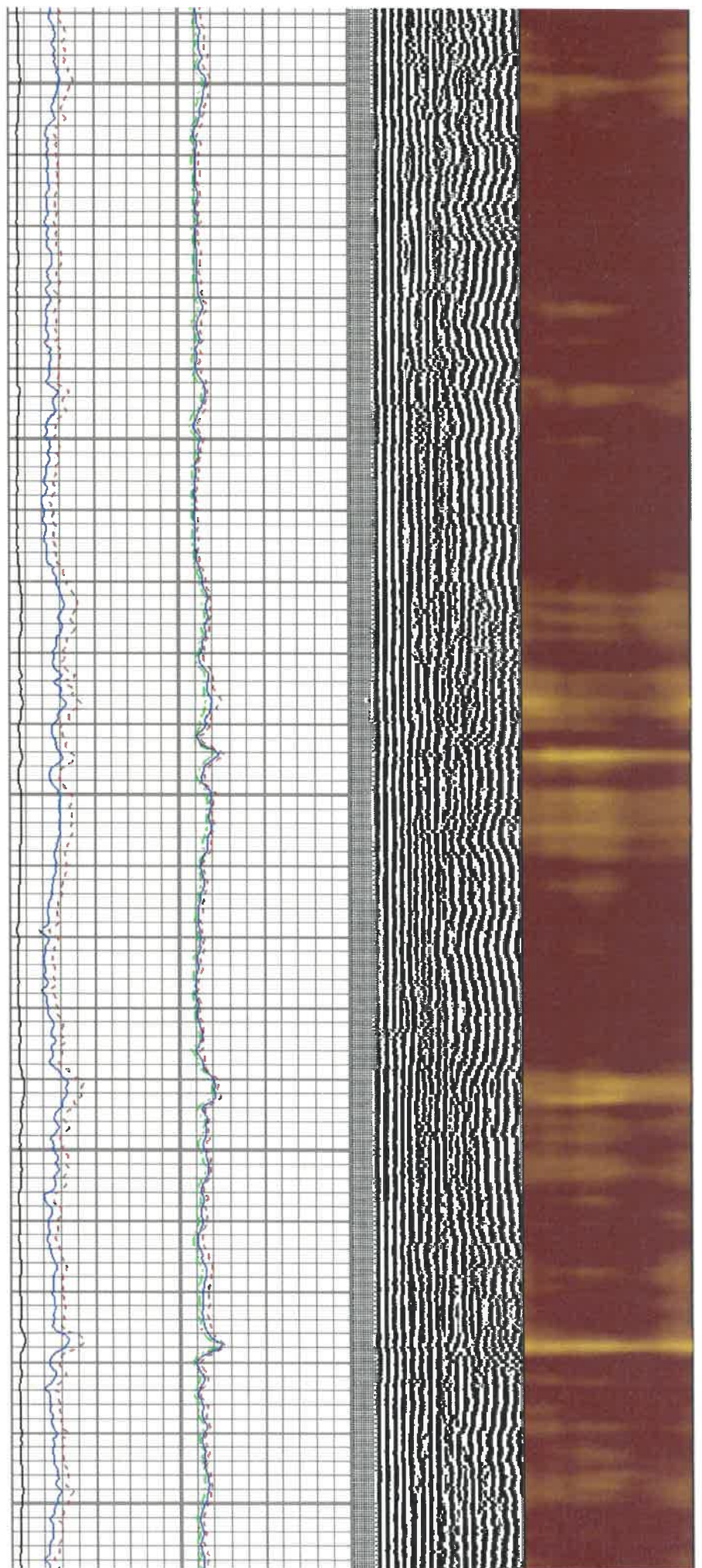
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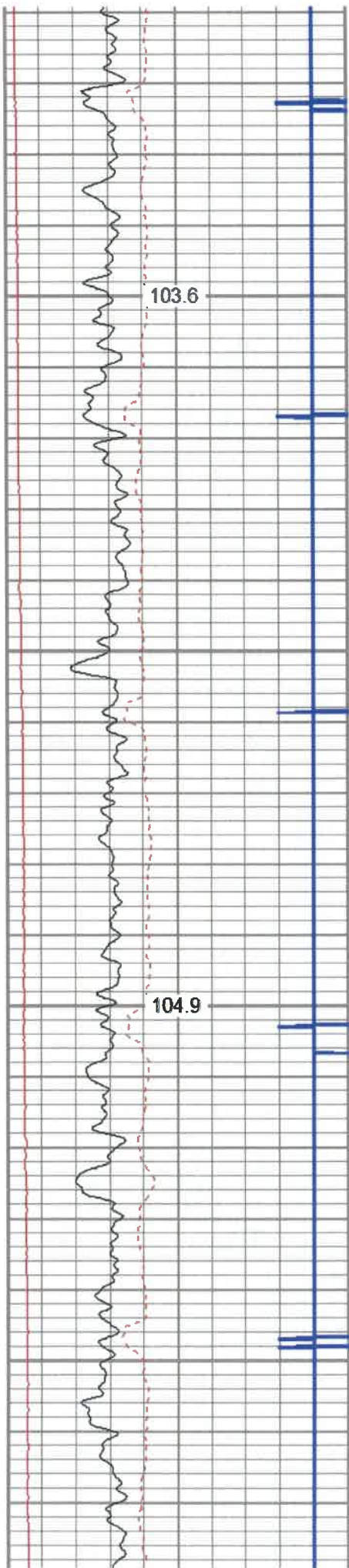




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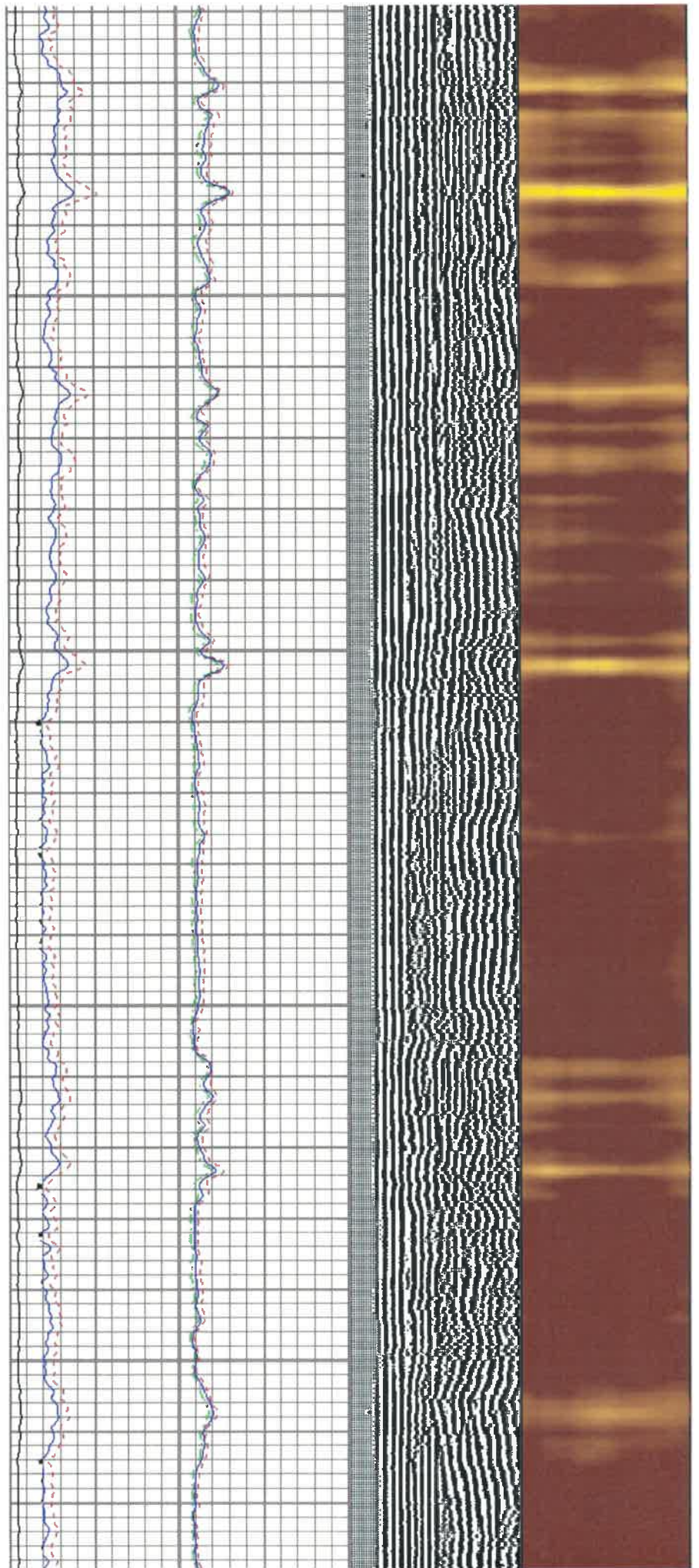
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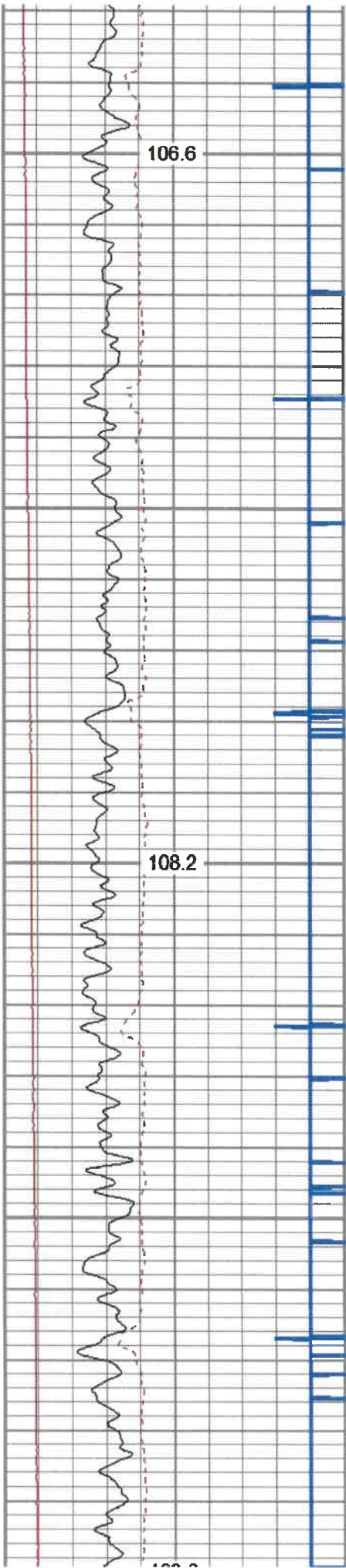




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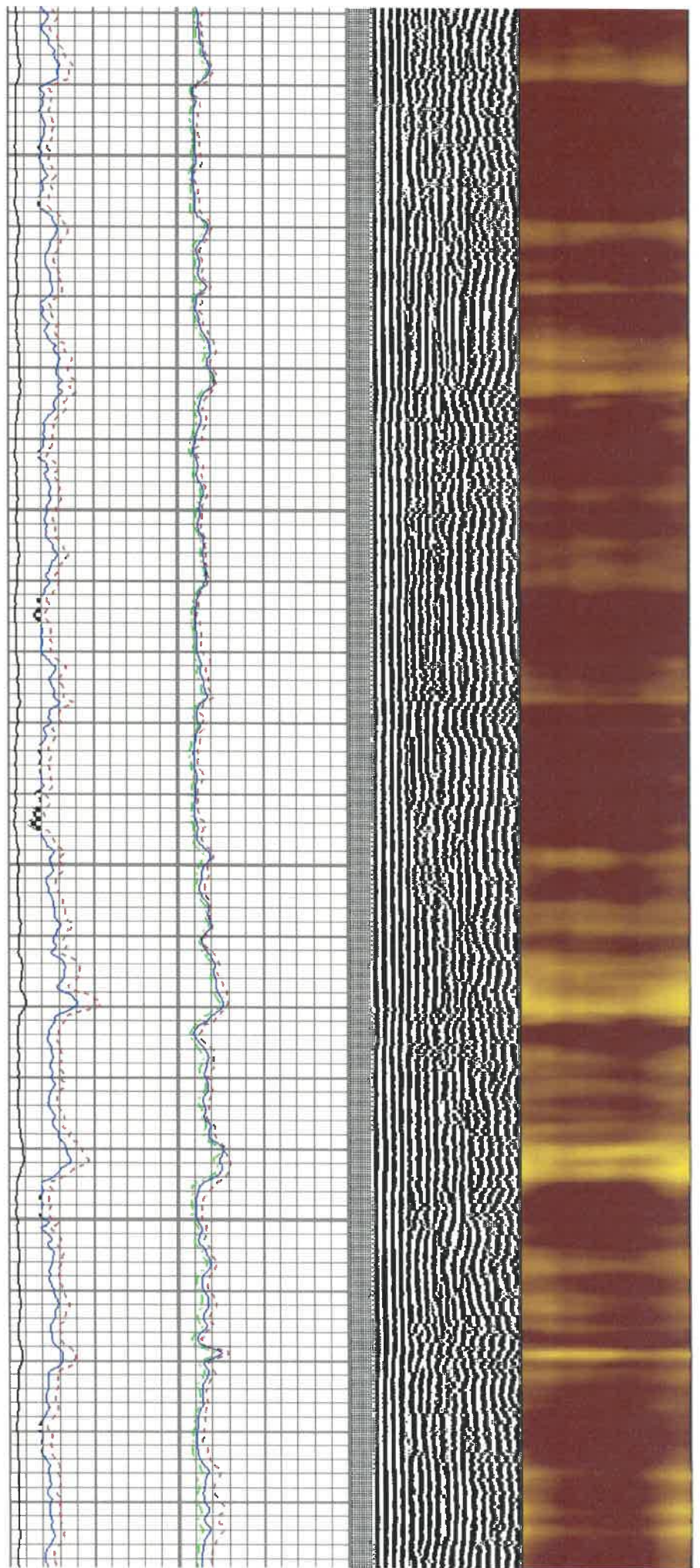
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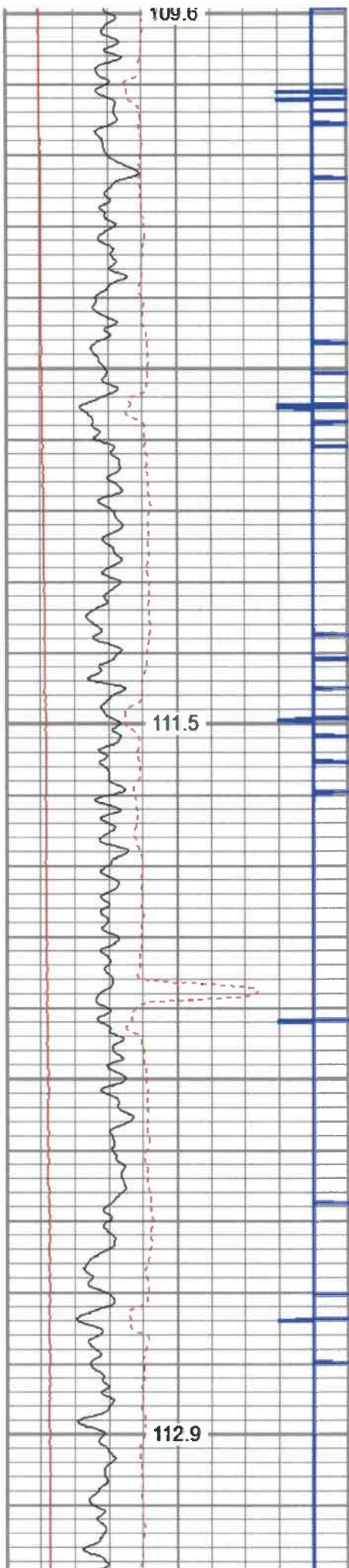




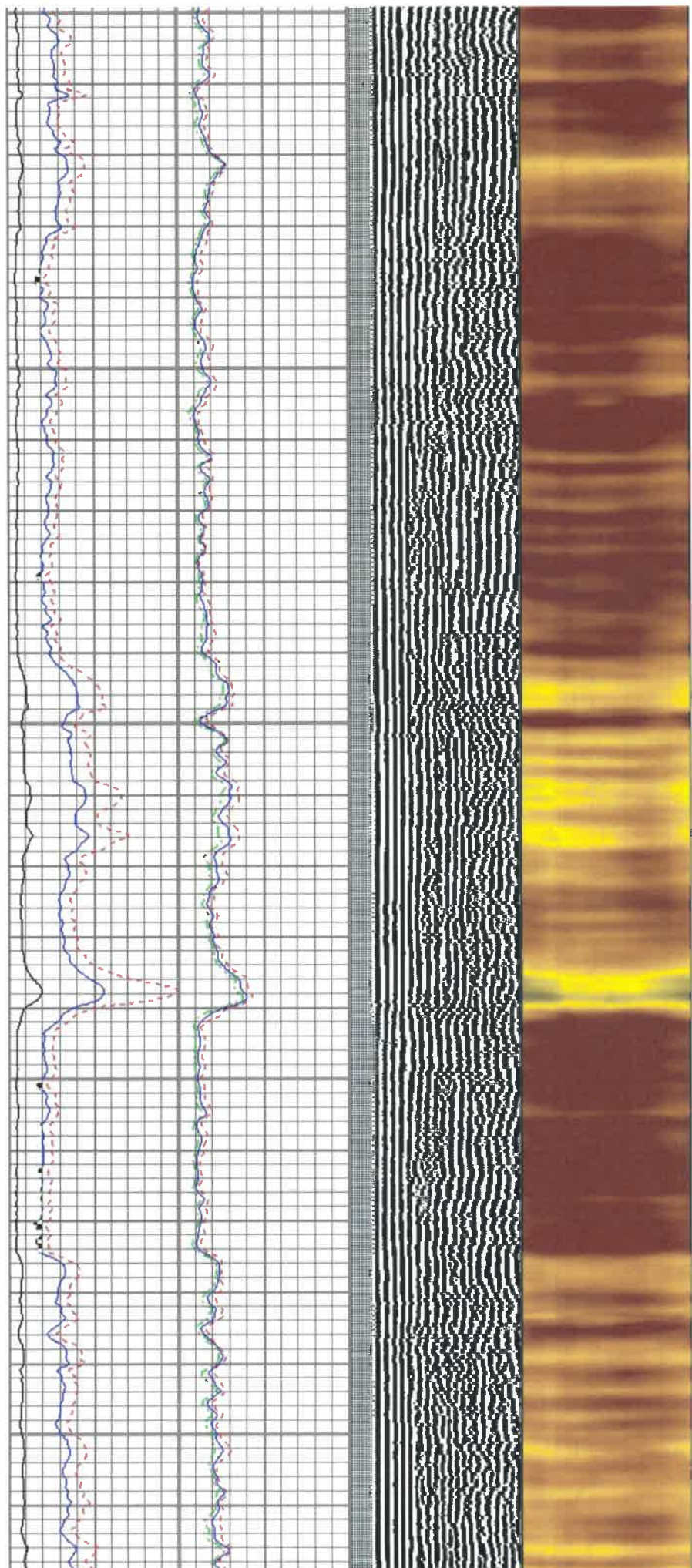
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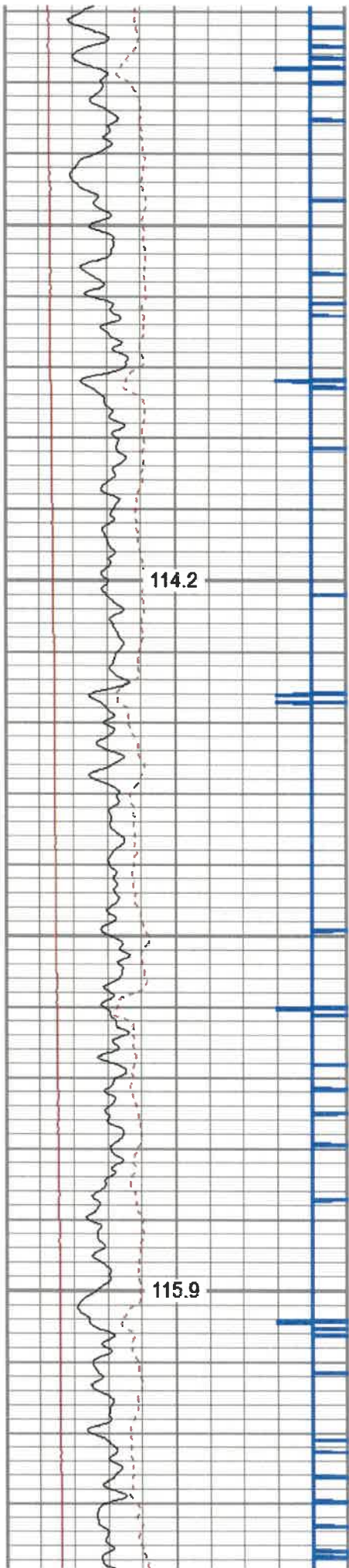


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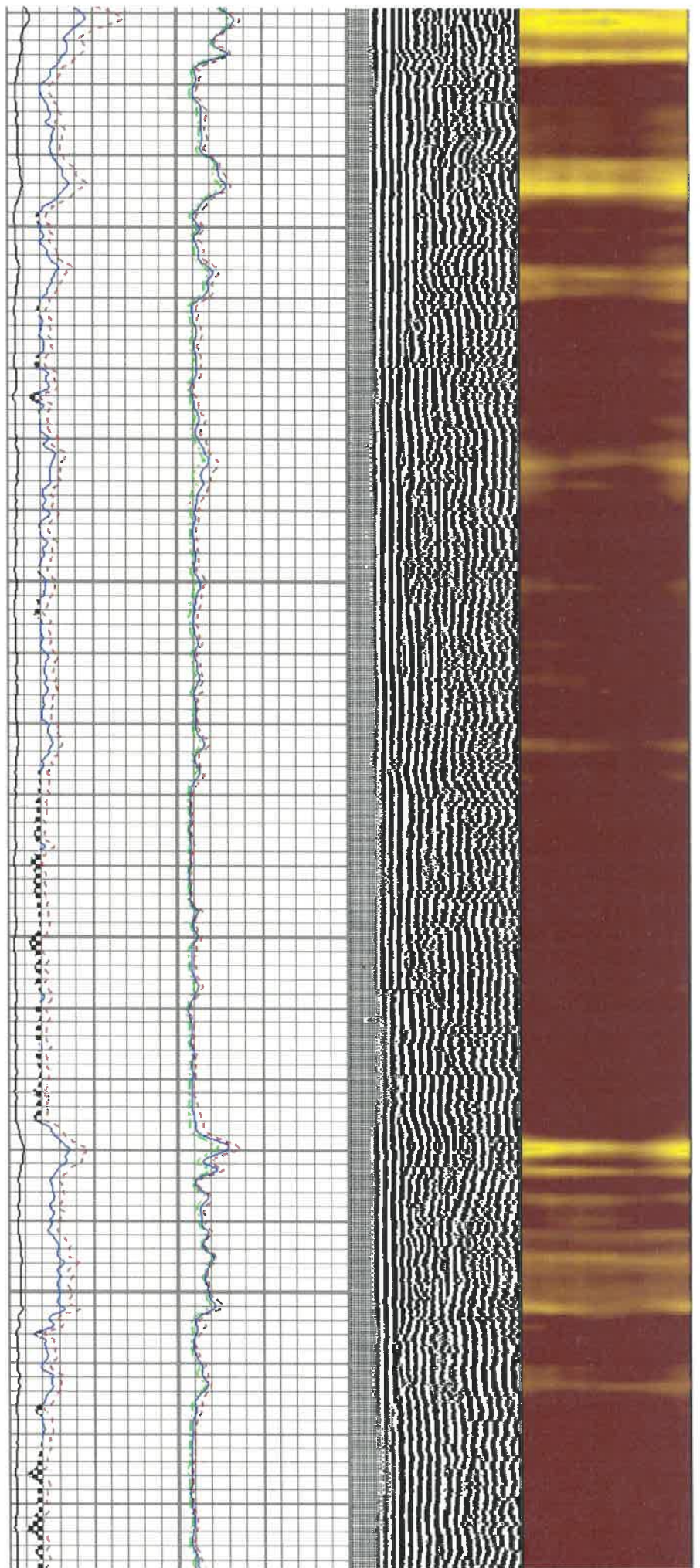
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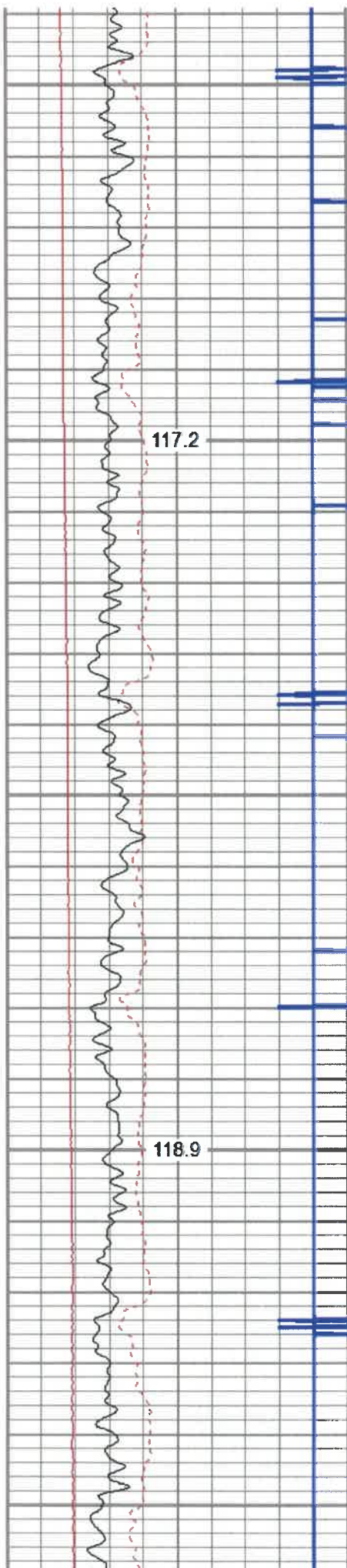
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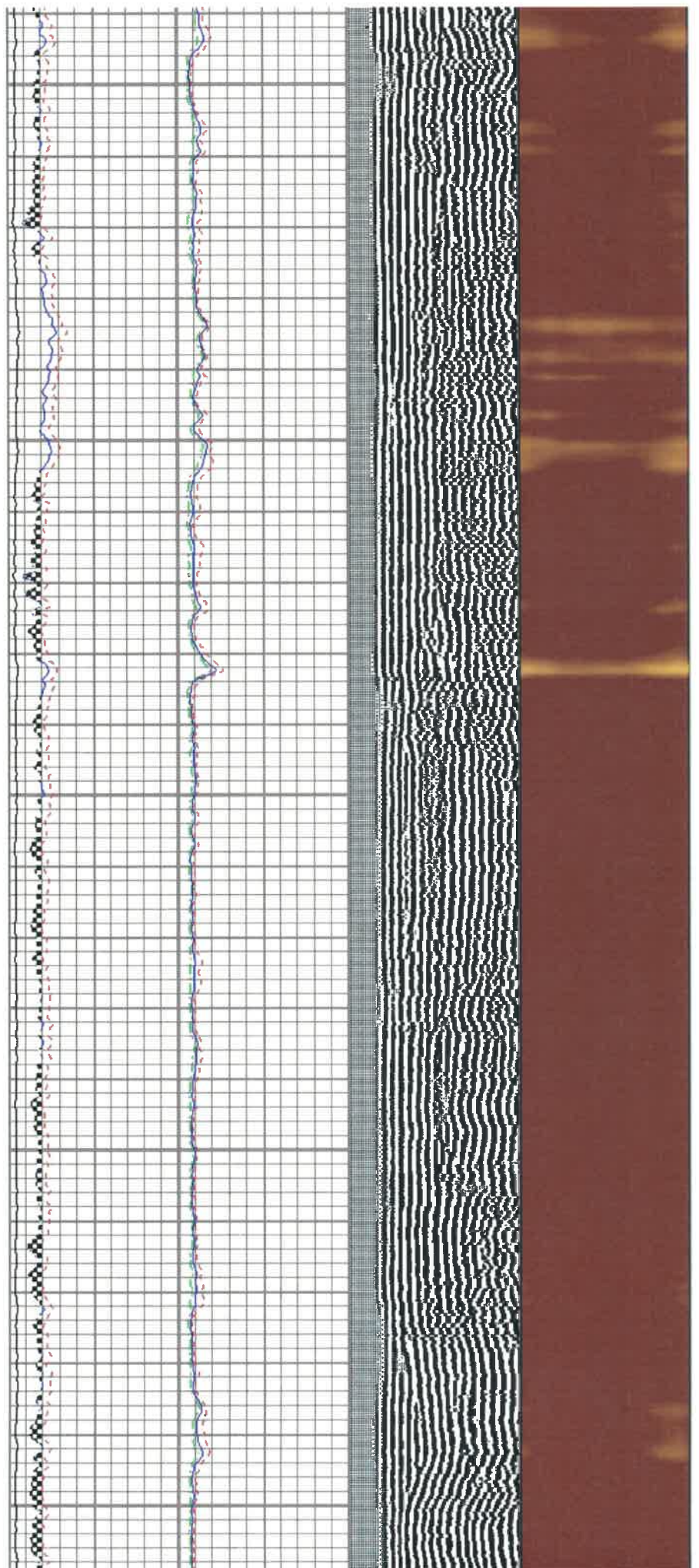
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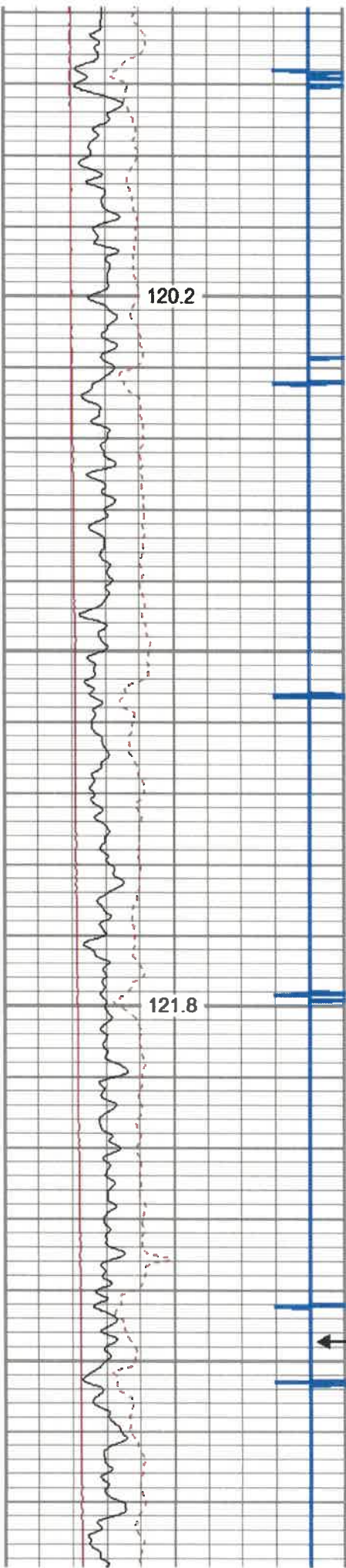




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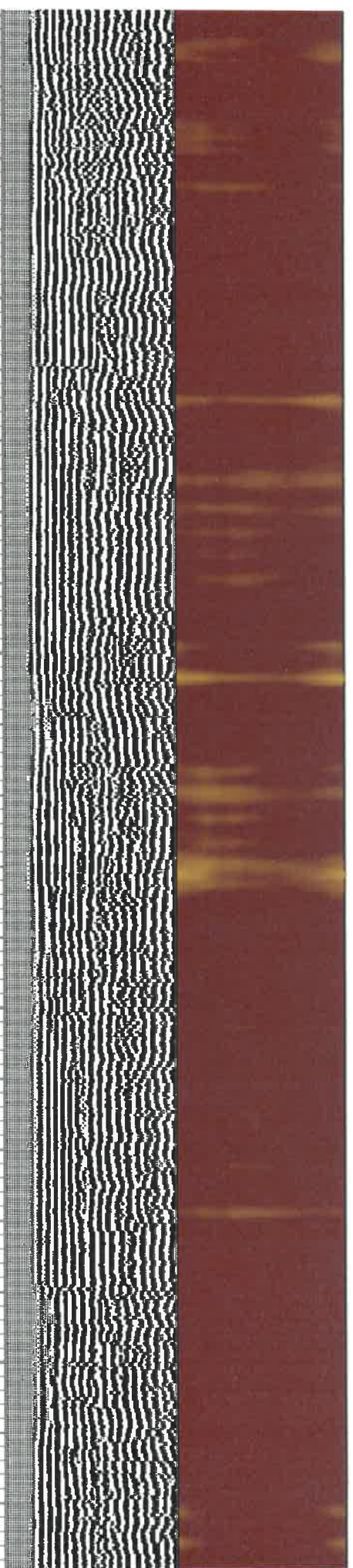
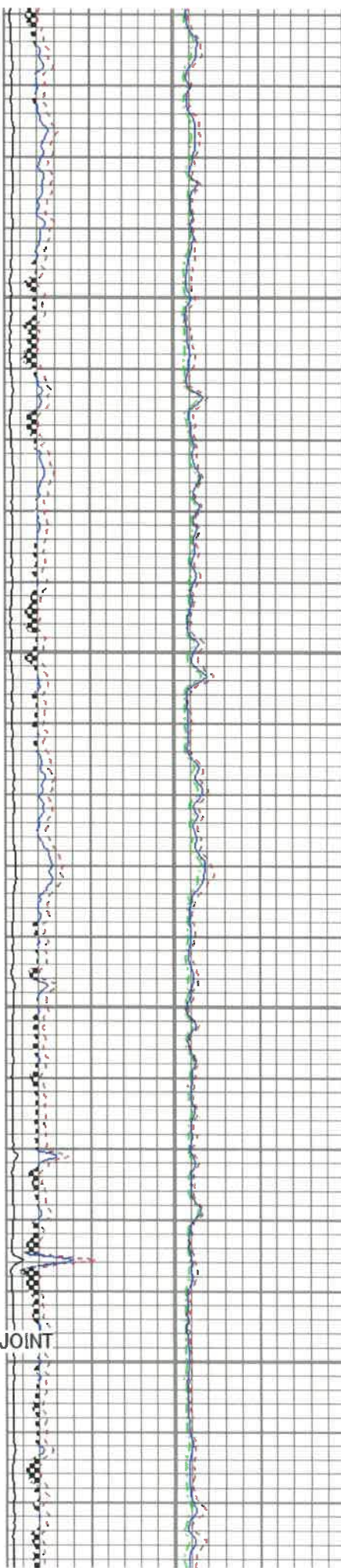
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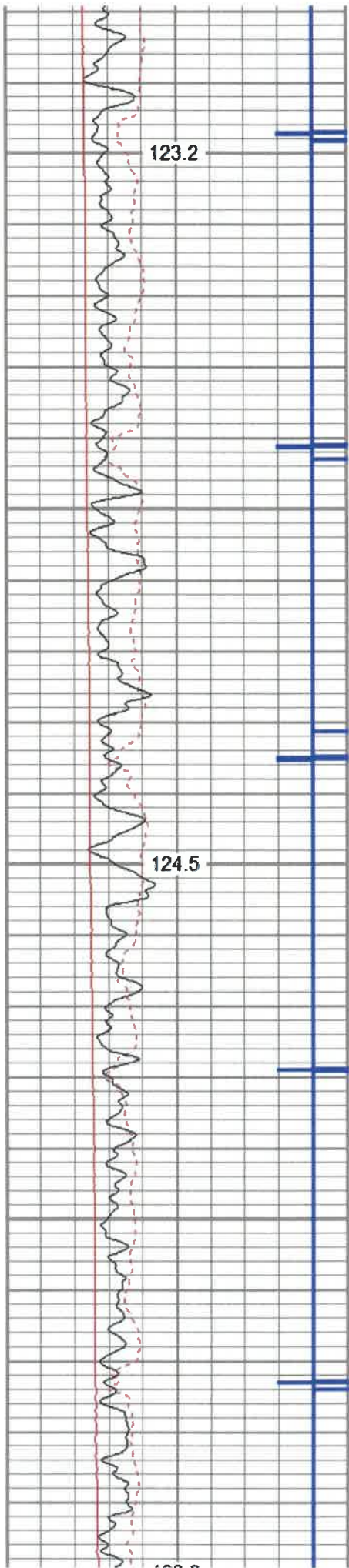
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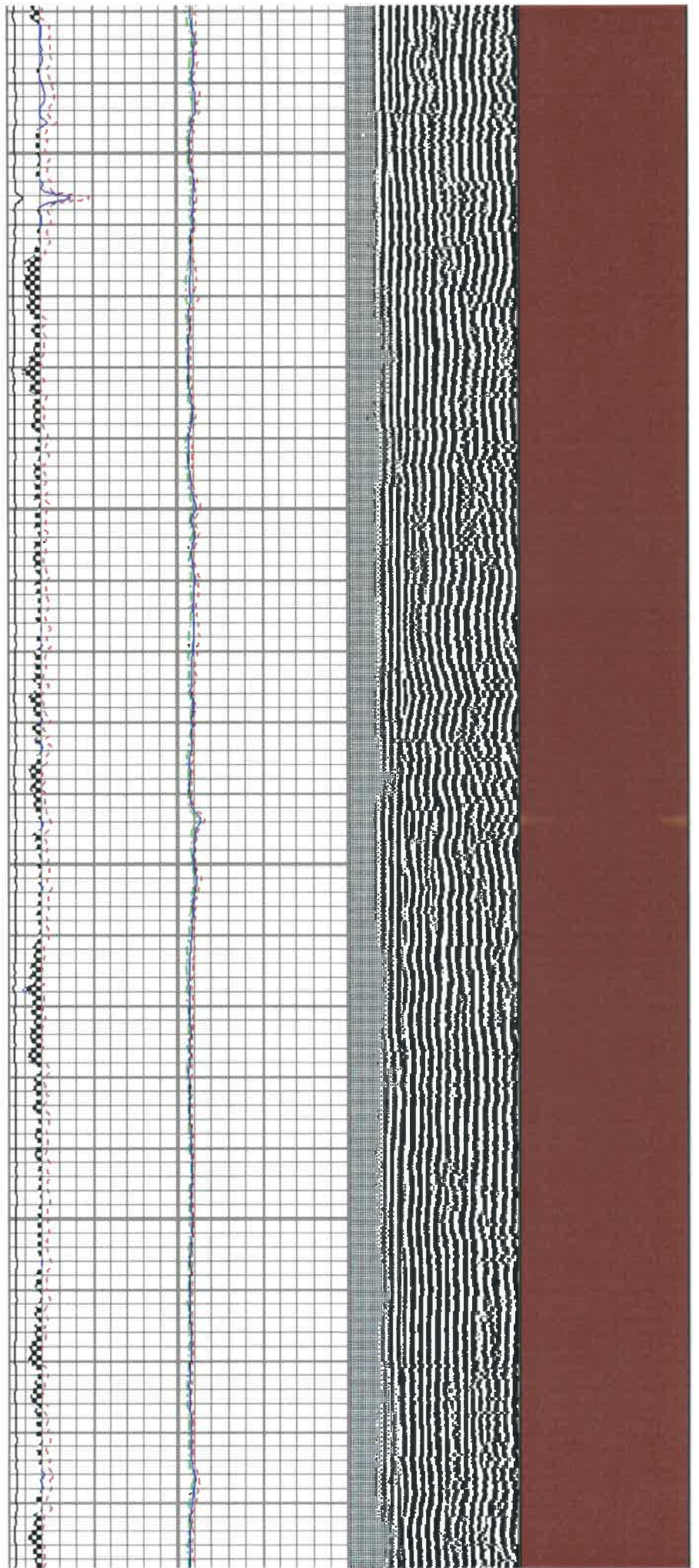
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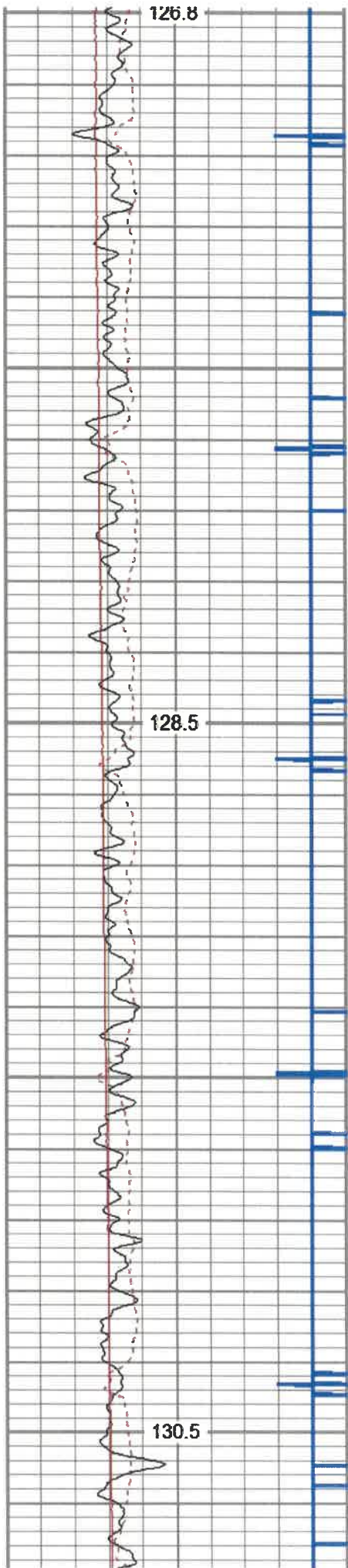




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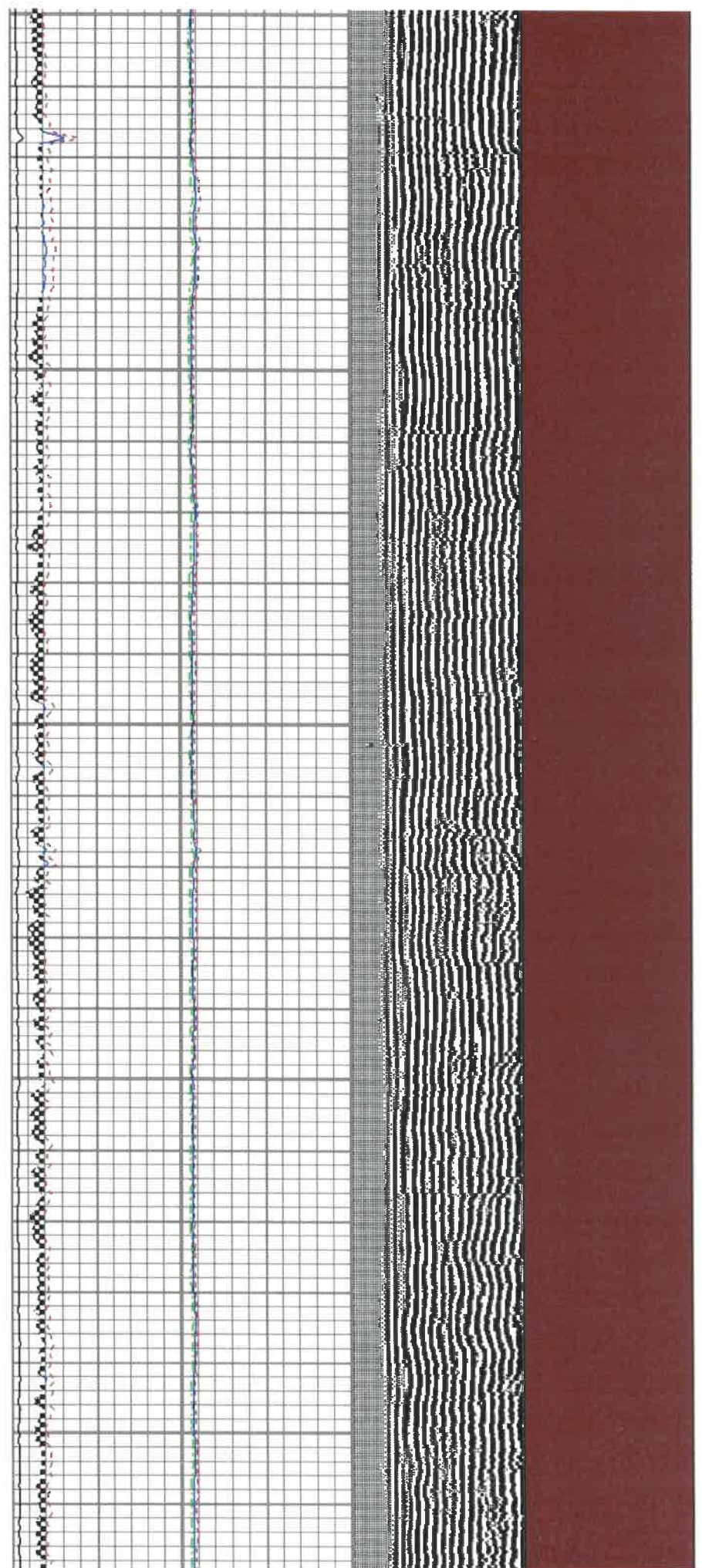


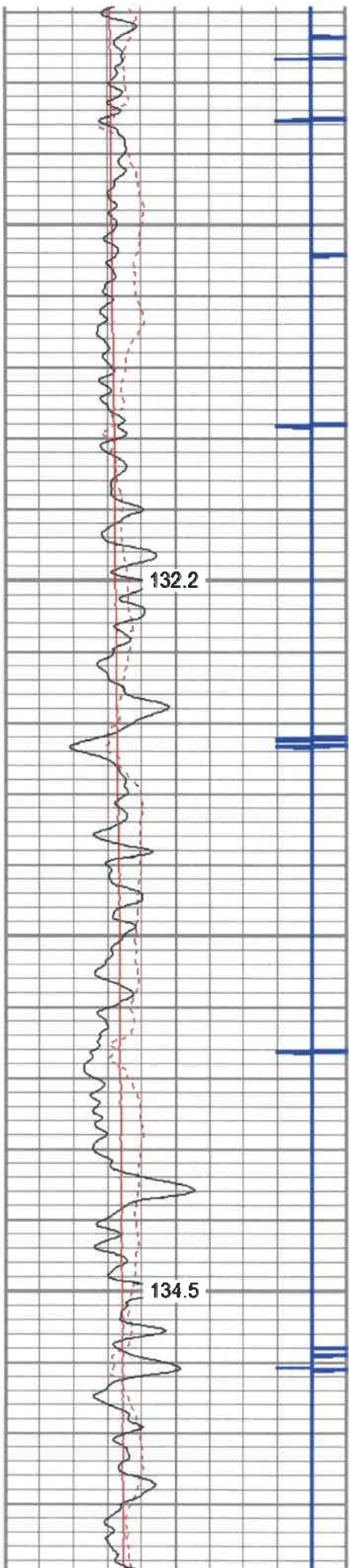


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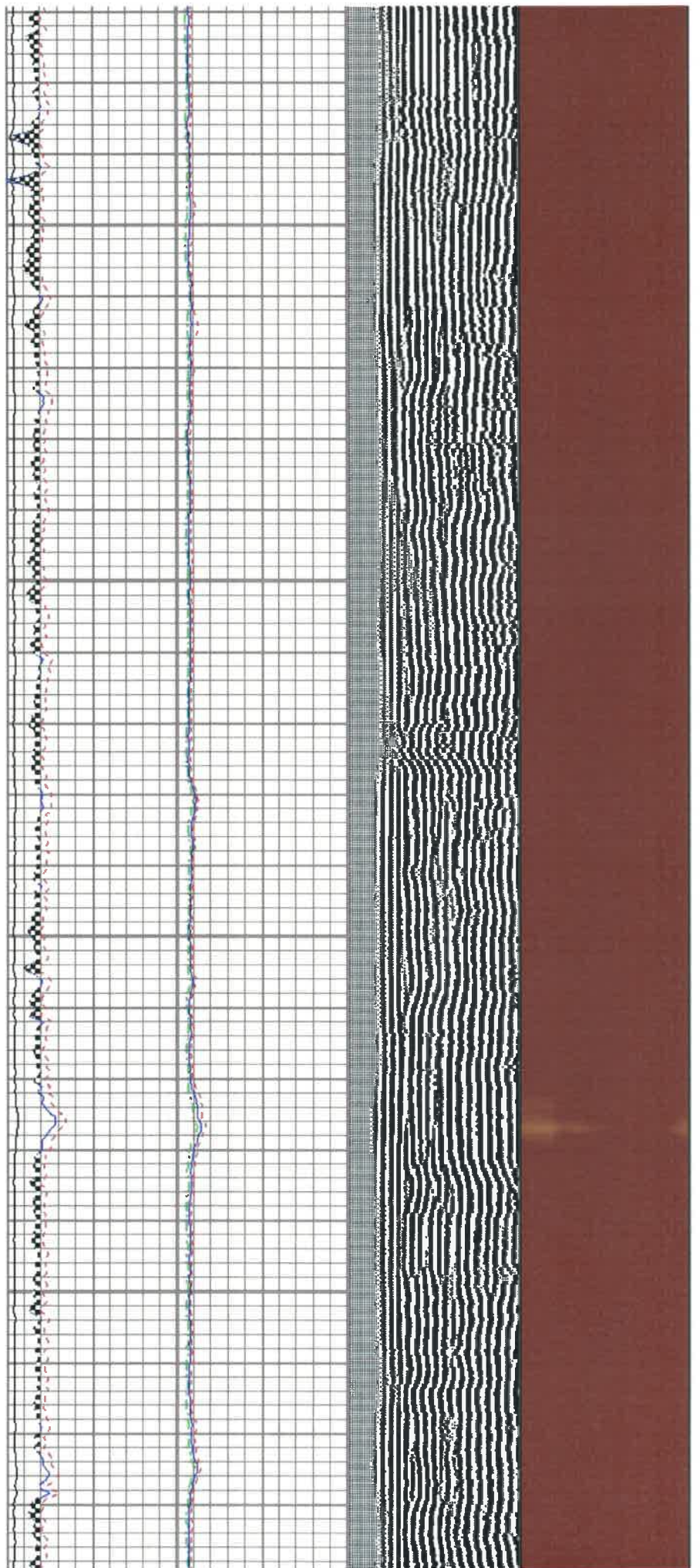
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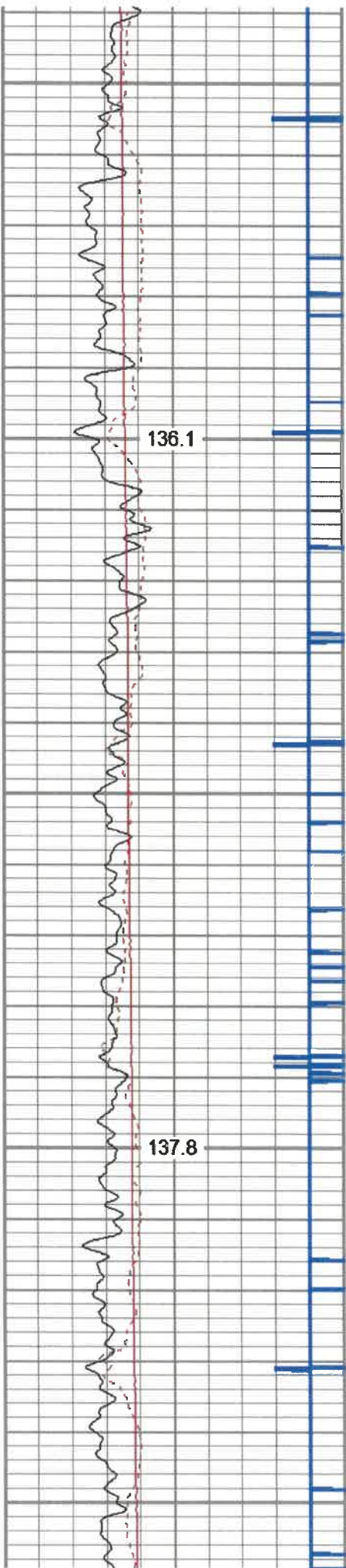




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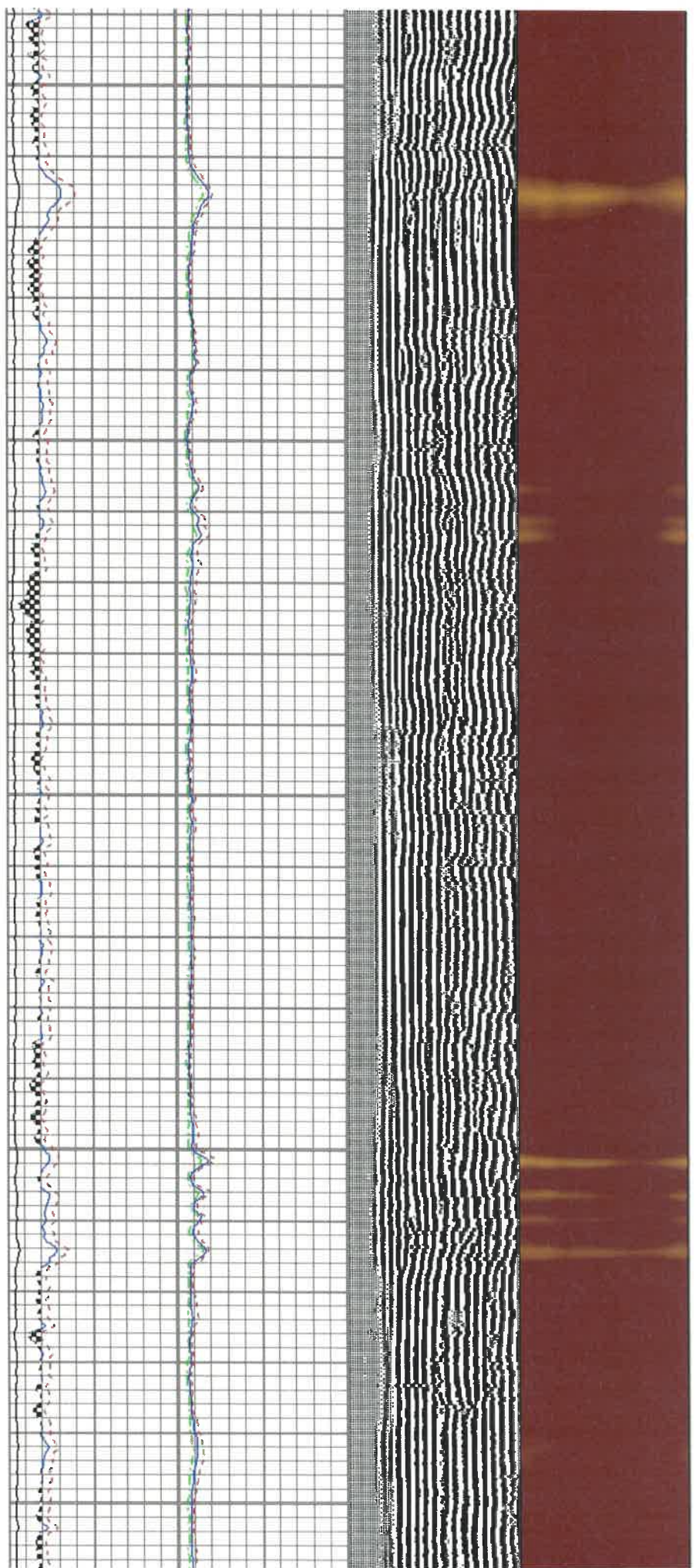
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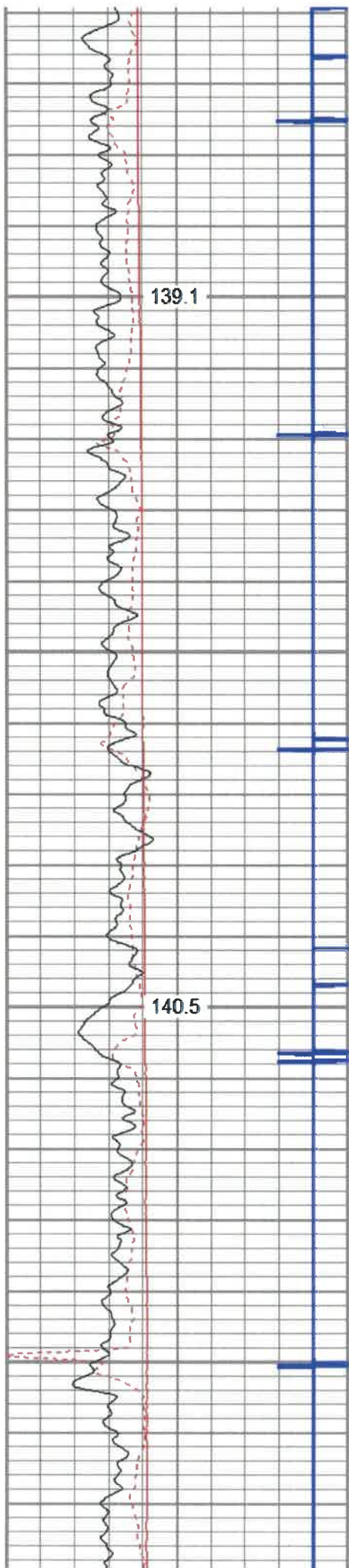




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6900



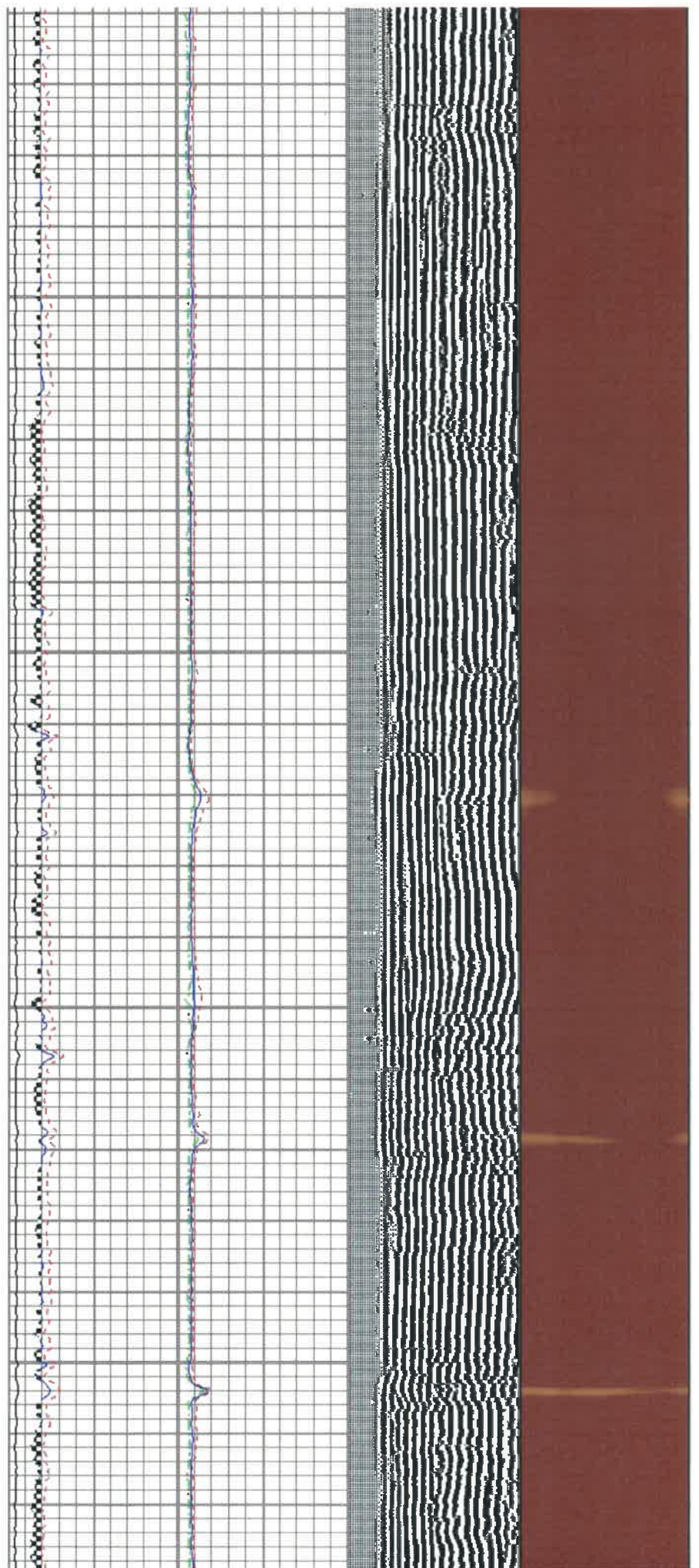


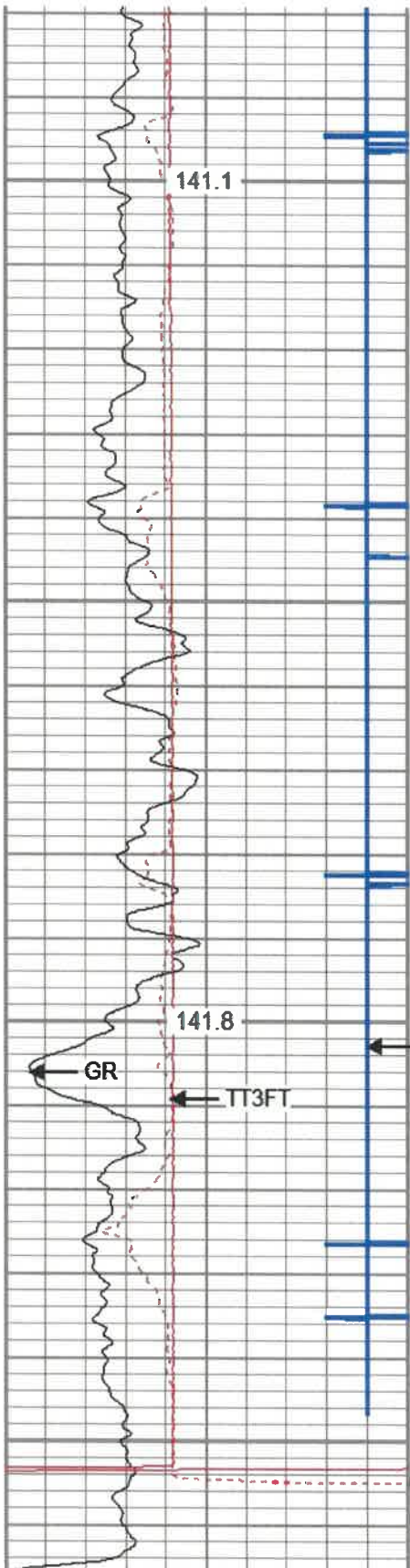
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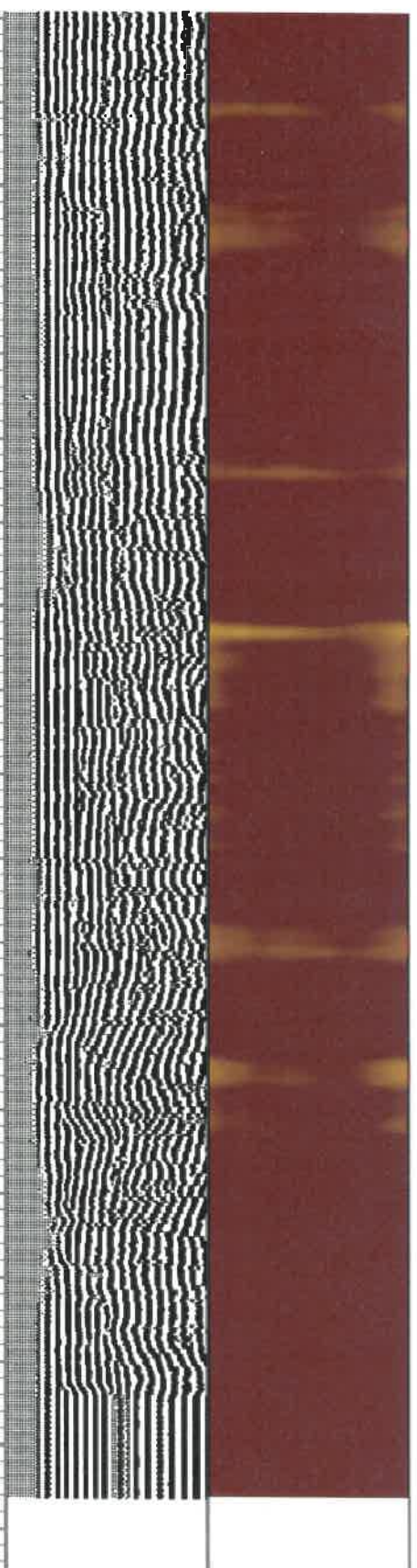
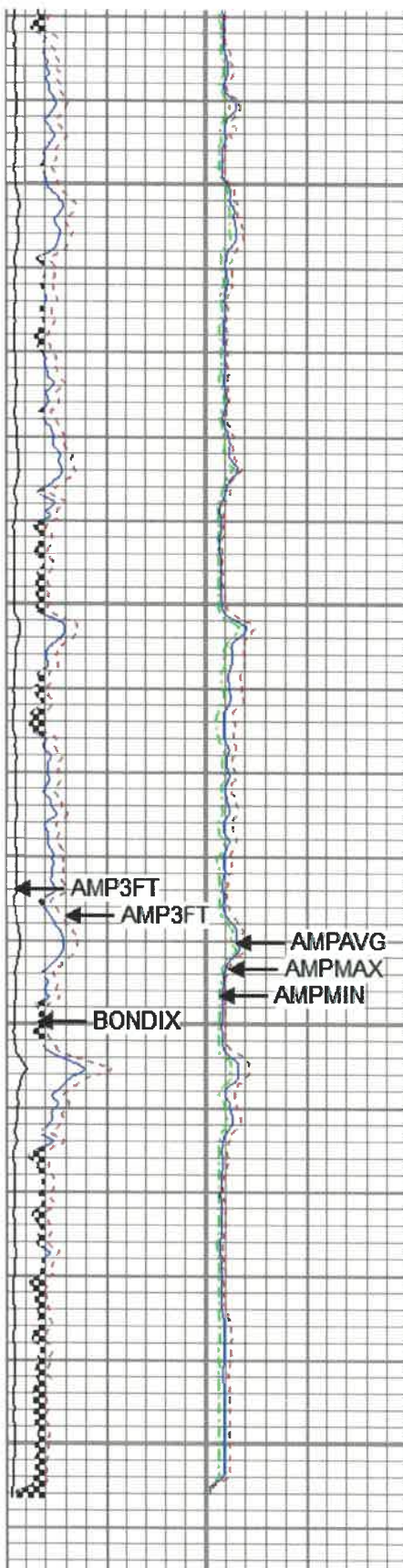
7100





7200

7300
CCL



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

TEMP
(degF)

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

200	VDL	1200	1	Sector Map	12
			20		80



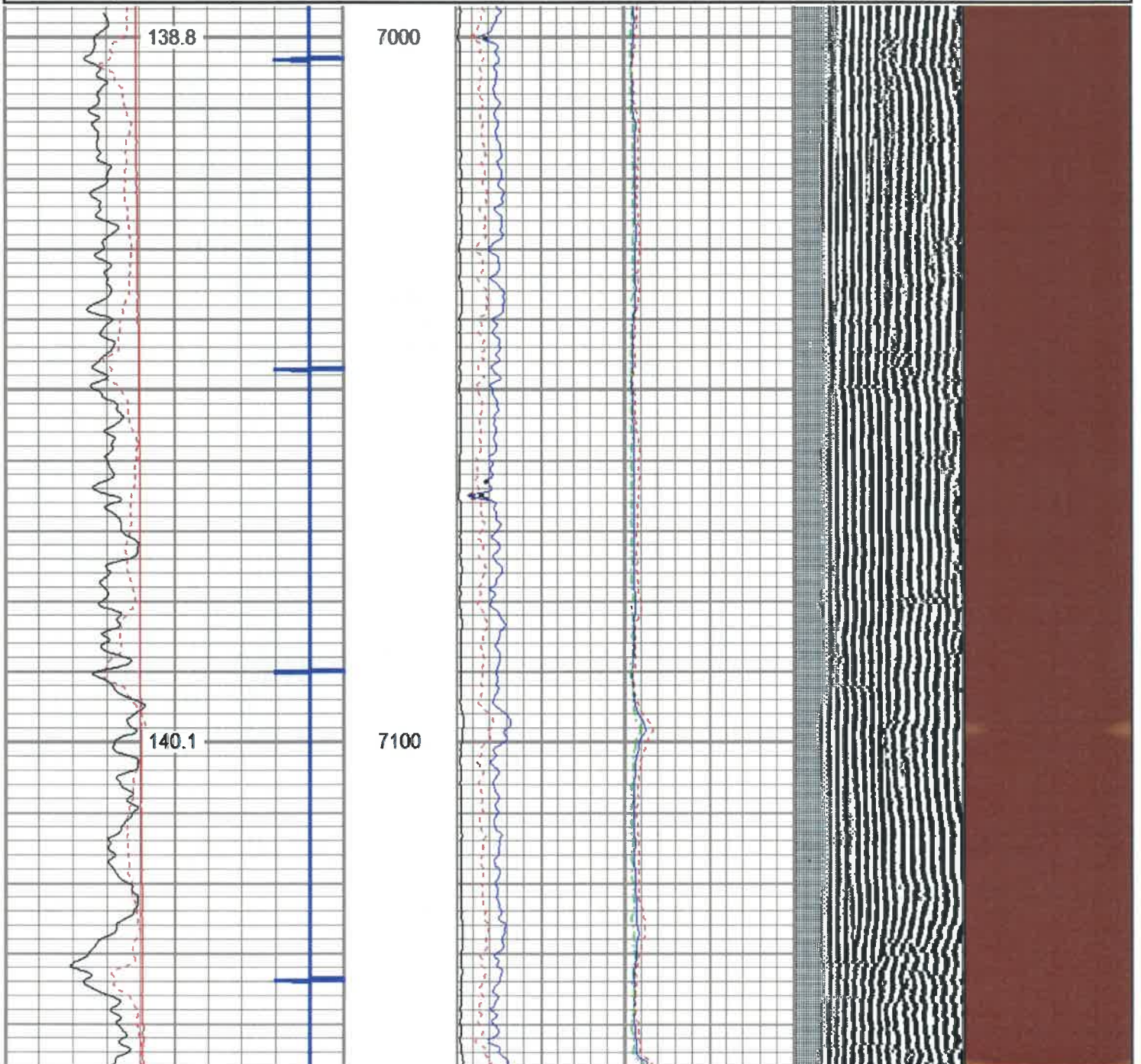


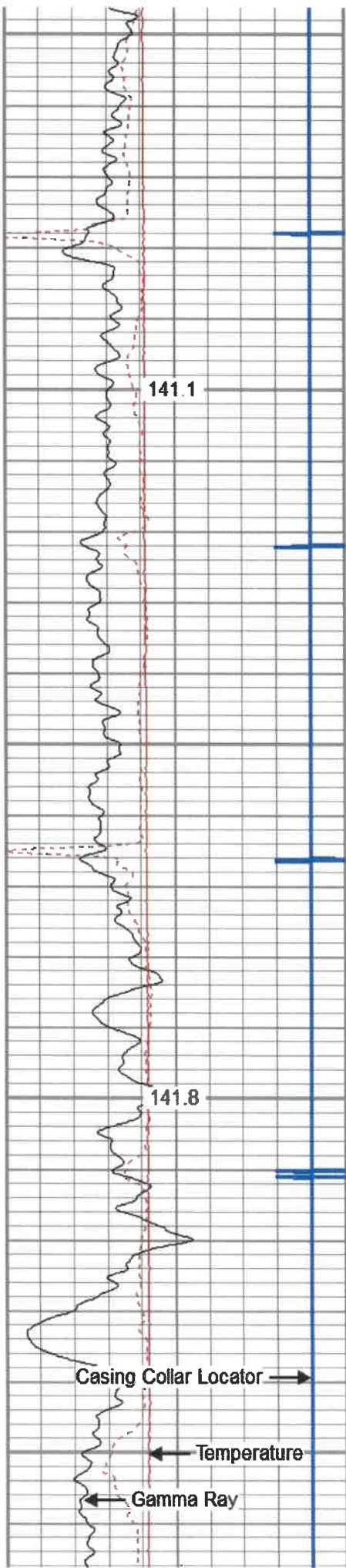
REPEAT SECTION

Database File: g:\antero-hogue pad\kramer 1h.db
 Dataset Pathname: pass3.1
 Presentation Format: antero
 Dataset Creation: Thu Jul 02 11:50:56 2020 by Calc 7.0 B1
 Charted by: Depth in Feet scaled 1:240

280	Travel Time (usec)	180	Amplitude	0	Amp Avg	150	200	VDL	1200	1	Sector Map	12
9	Casing Collars	-1	0	(mV)	100	0	Amp Max	150		20		80
0	Gamma Ray	180	0	AmpX5 (mV)	20	0	Amp Min	150				
0	TEMP (degF)	100	1	BONDIX	0							

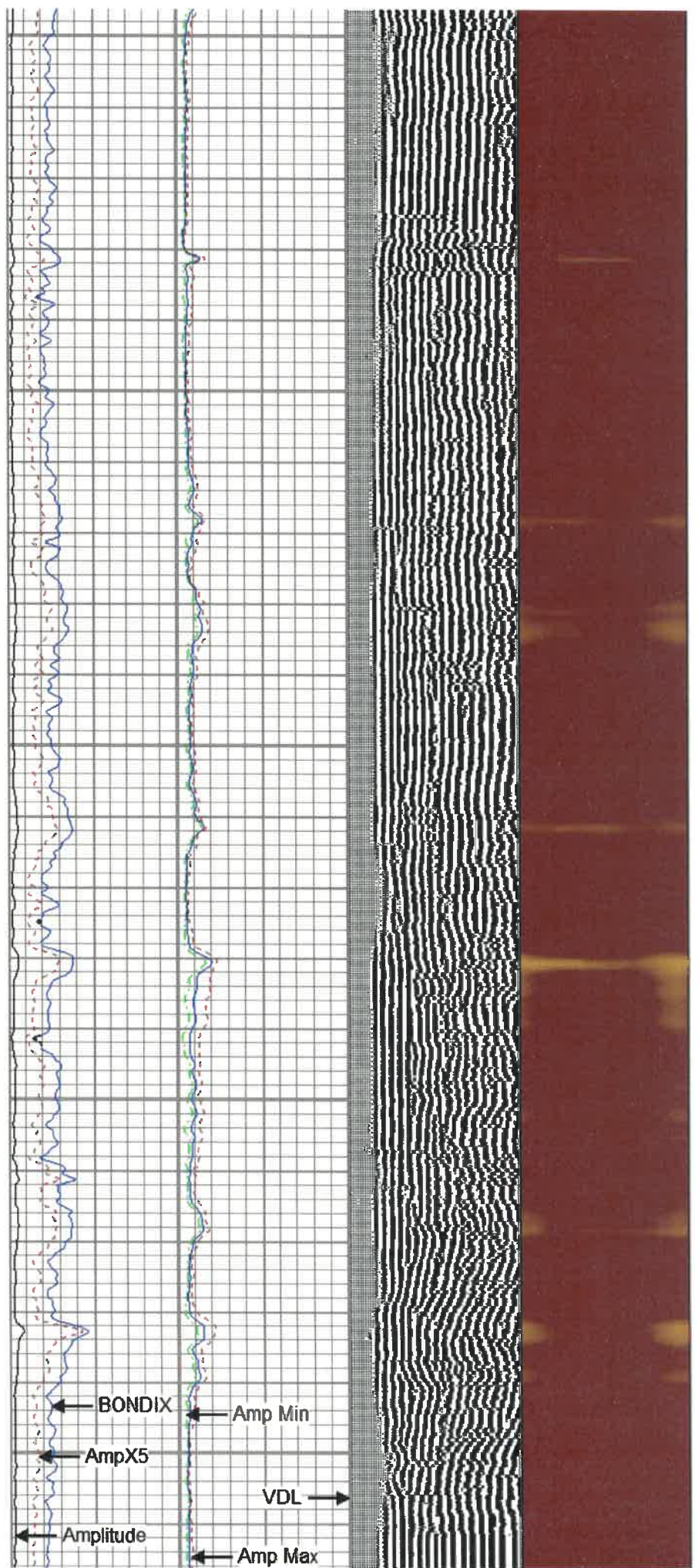
TEMP
(degF)

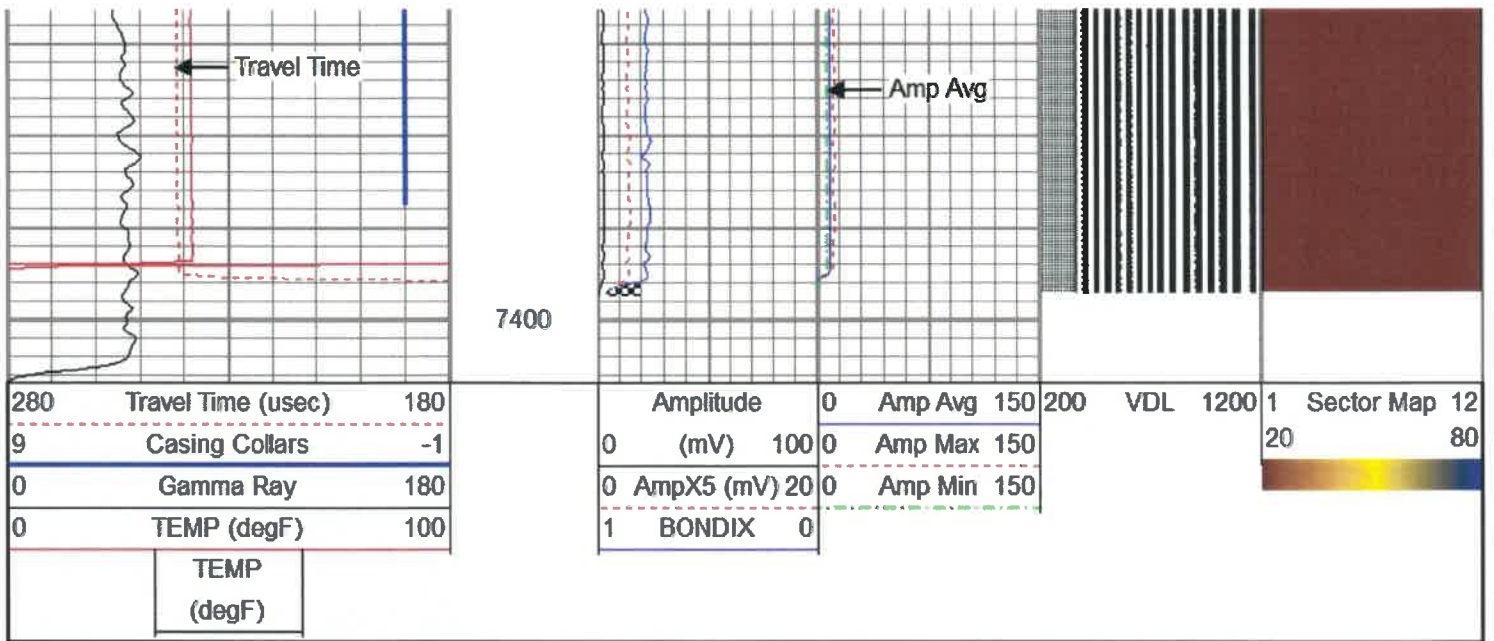




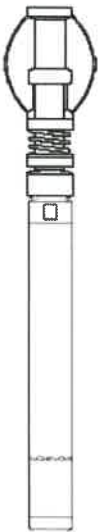
7200

7300





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	1.04		GR-Tek-Co 2 3/4 (IPSNO-03) Tekco 2 3/4" 400 Deg. F Logging Gamma Ray	3.67	2.75	40.00
Dataset: kramer 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: G:\ANTERO-HOGUE PAD\kramer 1h.db
 Dataset Pathname: pass4.2
 Dataset Creation: Thu Jul 02 11:47:23 2020 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 KRAMER 1H
 Field MARCELLUS
 County TYLER
 State WV
 Country

