



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

Company ANTERO RESOURCES CORPORATION
Well BILL UNIT 1H
Field MARCELLUS
County RITCHIE
State WV

Company ANTERO RESOURCES CORPORATION
Well BILL UNIT 1H
Field MARCELLUS
County RITCHIE State WV

Location: API #: 47085102400000 Other Services

Permanent Datum	SEC	TWP	RGE	Elevation
Log Measured From				K.B.
Drilling Measured From				D.F.
				G.L.

Date	1-10-19			
Run Number	1			
Depth Driller	13366'			
Depth Logger	6932			
Bottom Logged Interval	6932			
Top Log Interval	SURFACE			
Open Hole Size	5.5" CASING			
Type Fluid	WATER			
Density / Viscosity	N/A			
Max. Recorded Temp.	135.8 DEG			
Estimated Cement Top	760'			
Time Well Ready	N/A			
Time Logger on Bottom	16:35			
Equipment Number	640		CREW	
Location	BRIDGEPORT WW		K NICHOLAS	
Recorded By	PAT DAVIDSON		J TATE	
Witnessed By	JOHN MAXWELL		J AMAN	

Borehole Record		Casing Record					
Run Number	Bit	From	To	Size	Weight	From	To
				13.375		SURFACE	608'
				9.625		SURFACE	2620'
				5.5	23#	SURFACE	13366'

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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

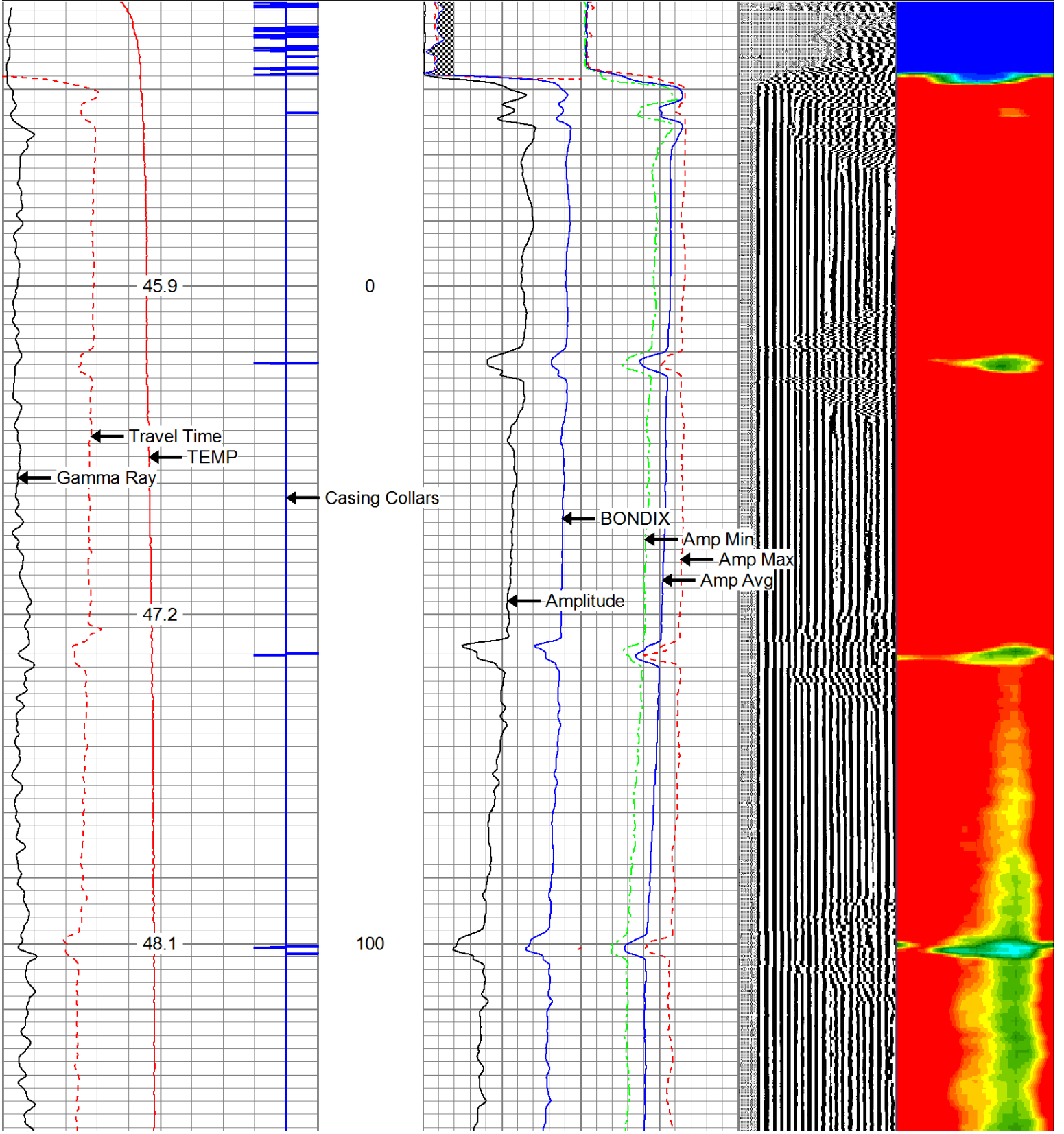
CBL IS NOT CORRELATED TO PRODUCTION CASING TALLEY MARKER JOINT
DEPTH SHIFTED 0' TO KB AFTER CORRELATION
MARKER JOINT RECORDED AT 5838' TO 5848'
BOTTOM HOLE TEMP DEG 135
RAN UNDER PRESSURE @1500PSI

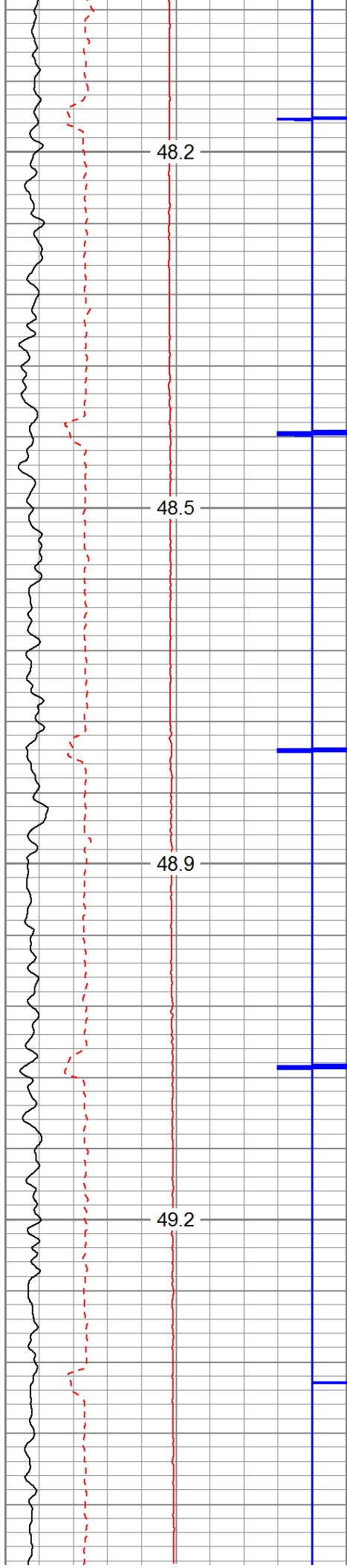


MAIN PASS 1500 PSI

Database File: f:\2019 antero\antero_bil1h.db
 Dataset Pathname: pass5.1
 Presentation Format: antero
 Dataset Creation: Thu Jan 10 18:31:57 2019 by Calc 7.0 B1
 Charted by: Depth in Feet scaled 1:240

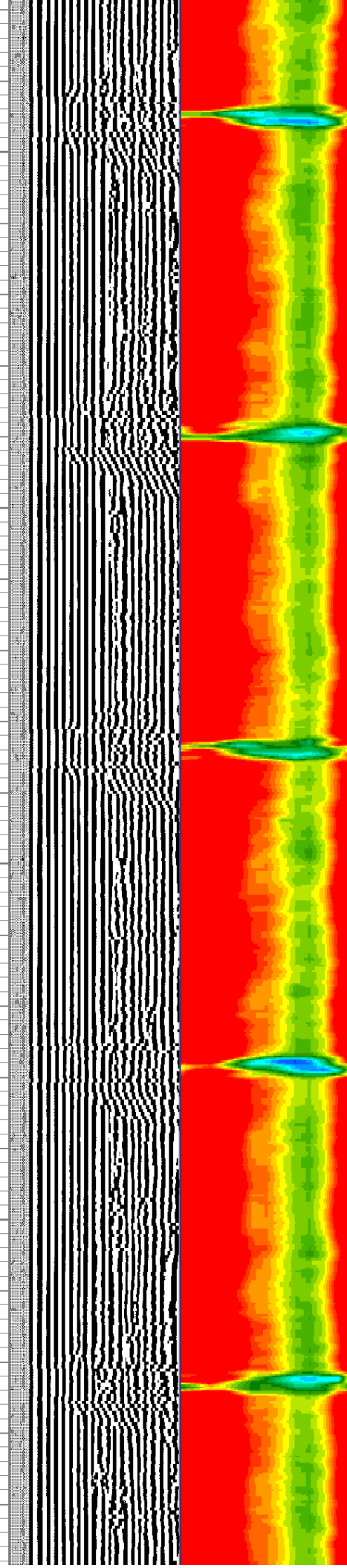
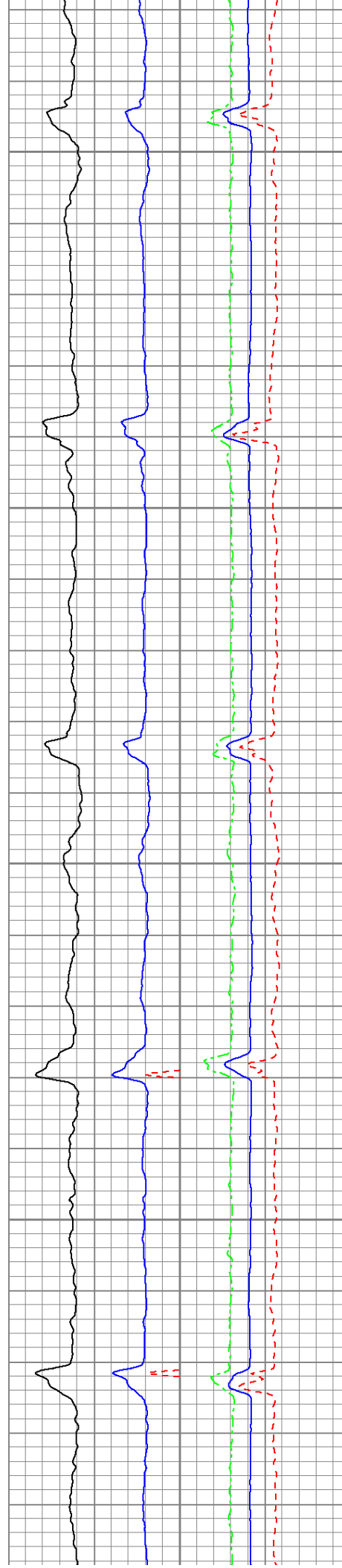
225	Travel Time (usec)	125	Amplitude	0	Amp Avg	150	200	VDL	1200	1	Sector Map	12
9	Casing Collars	-1	(mV)	100	Amp Max	150				20		60
0	Gamma Ray	180	AmpX5 (mV)	20	Amp Min	150						
0	TEMP (degF)	100	BONDIX	0								

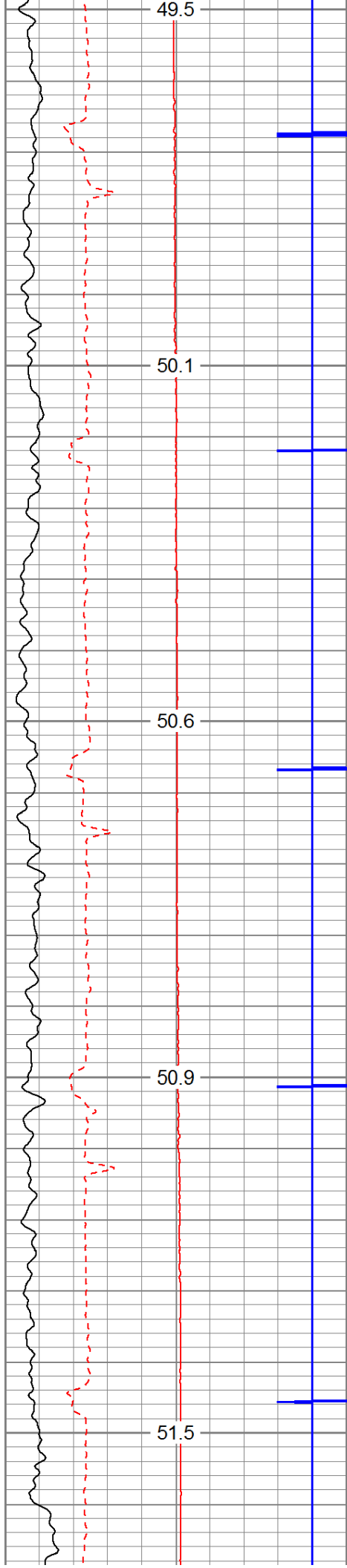




200

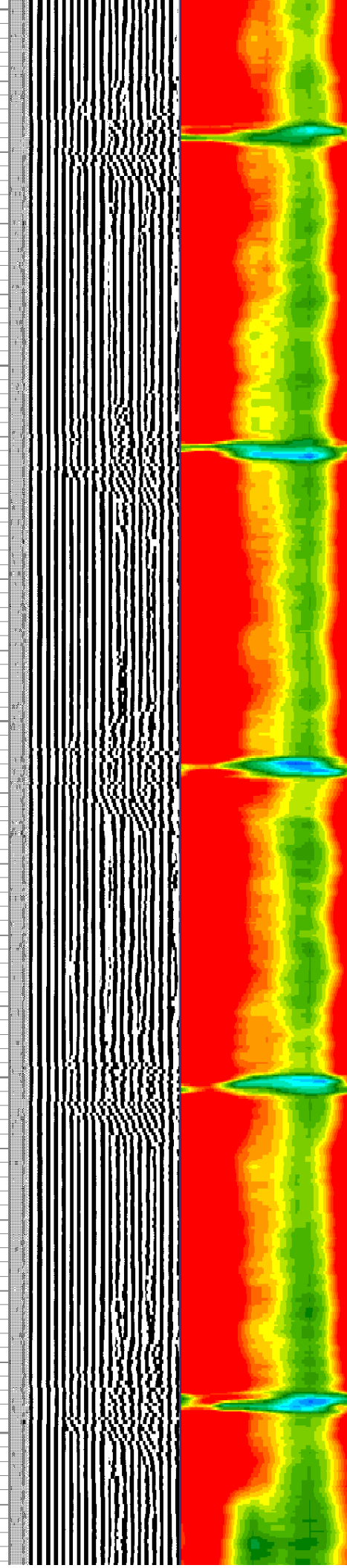
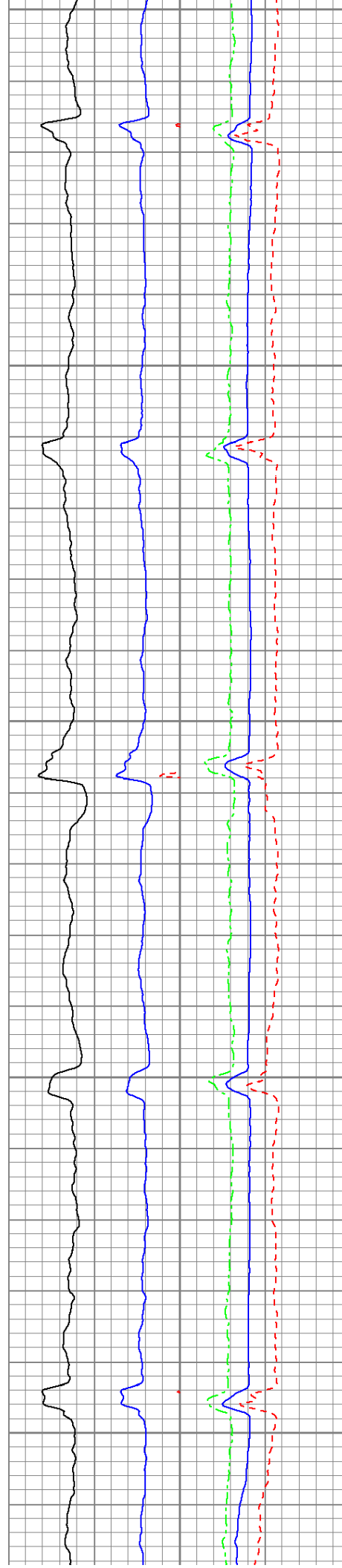
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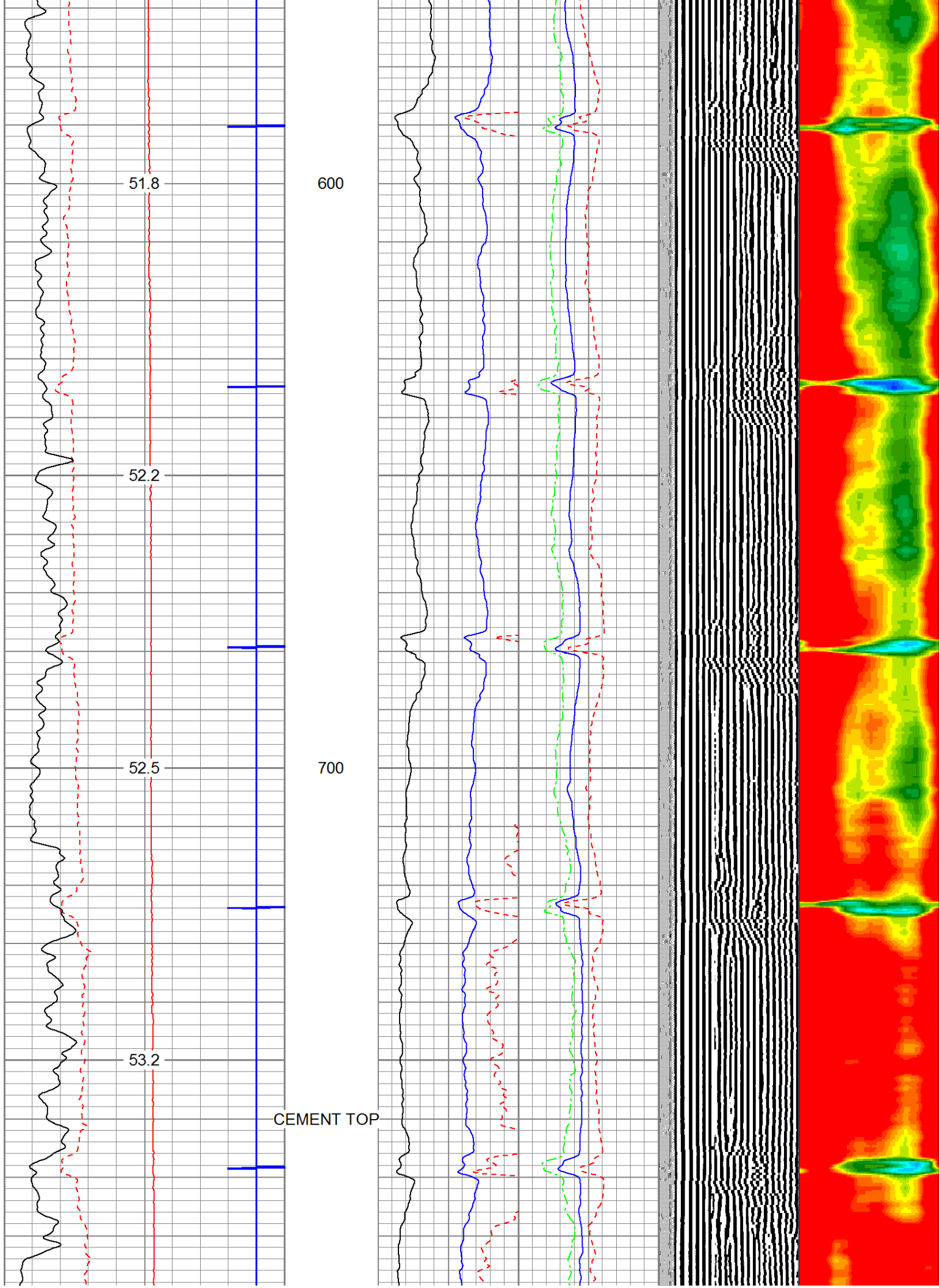


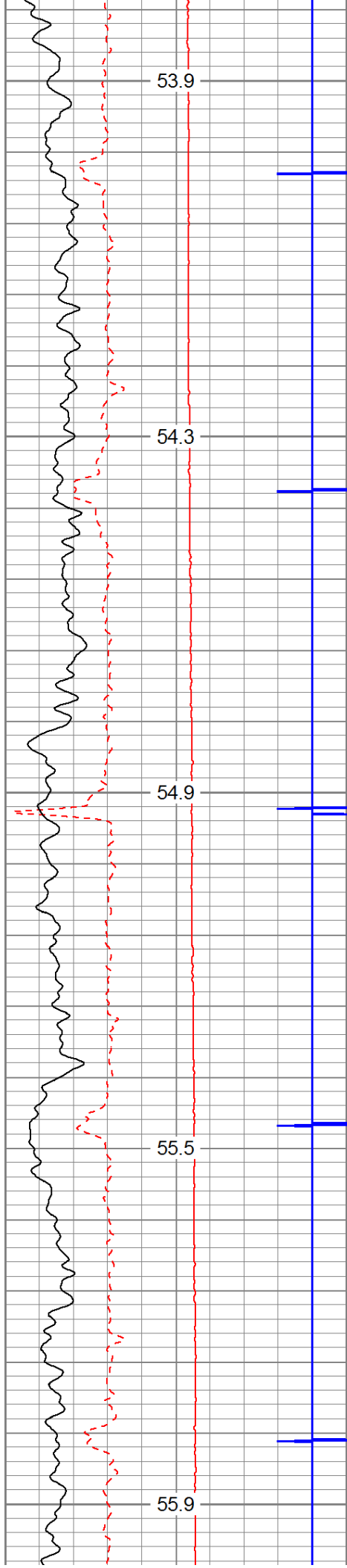


400

500



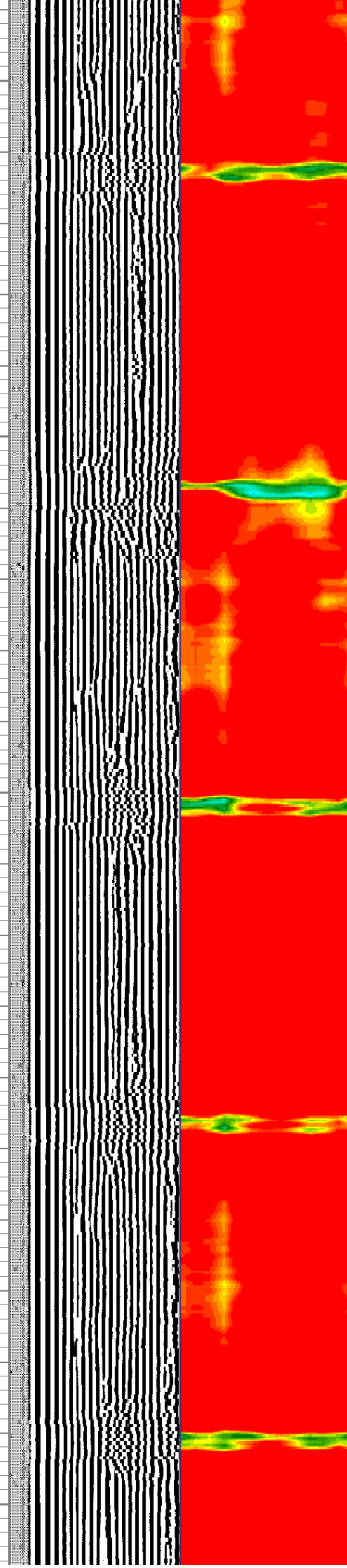
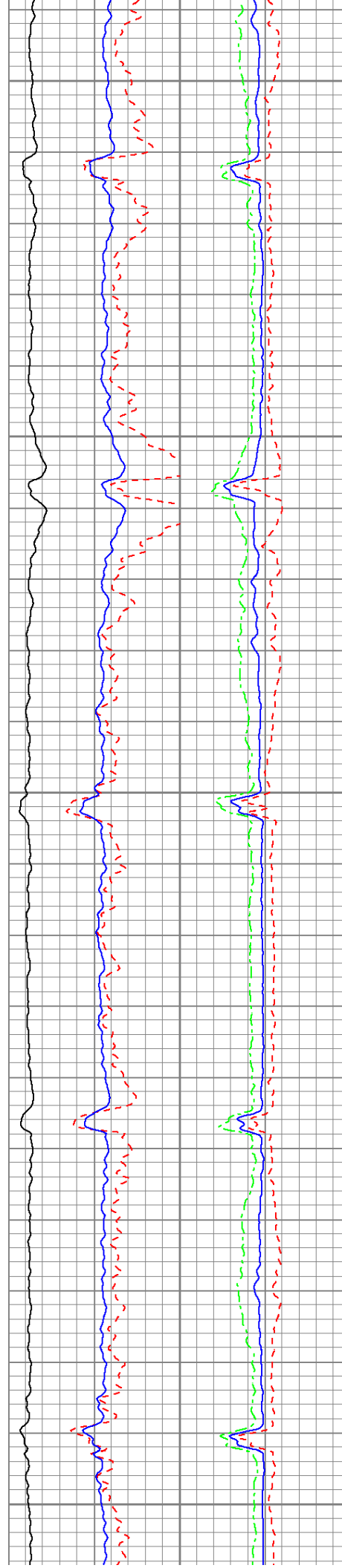


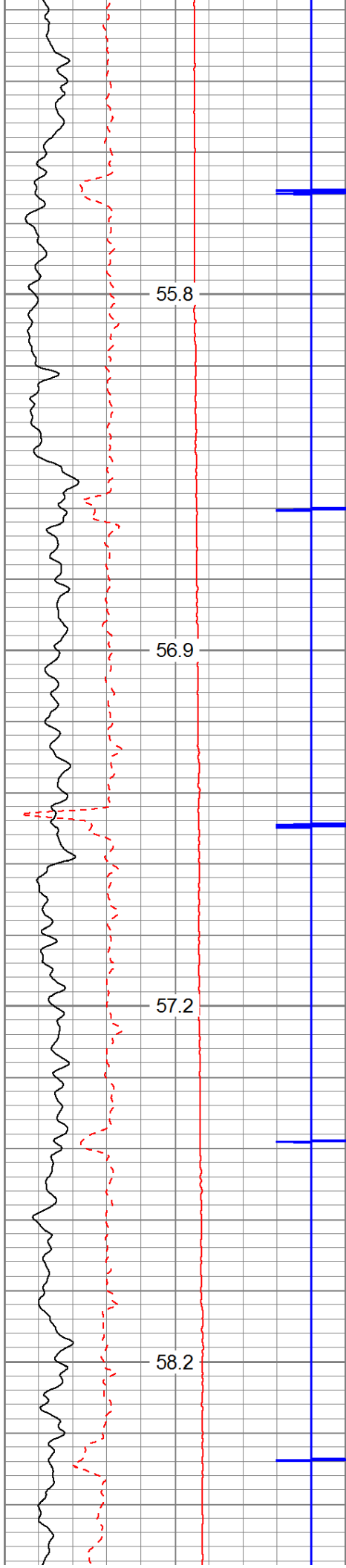


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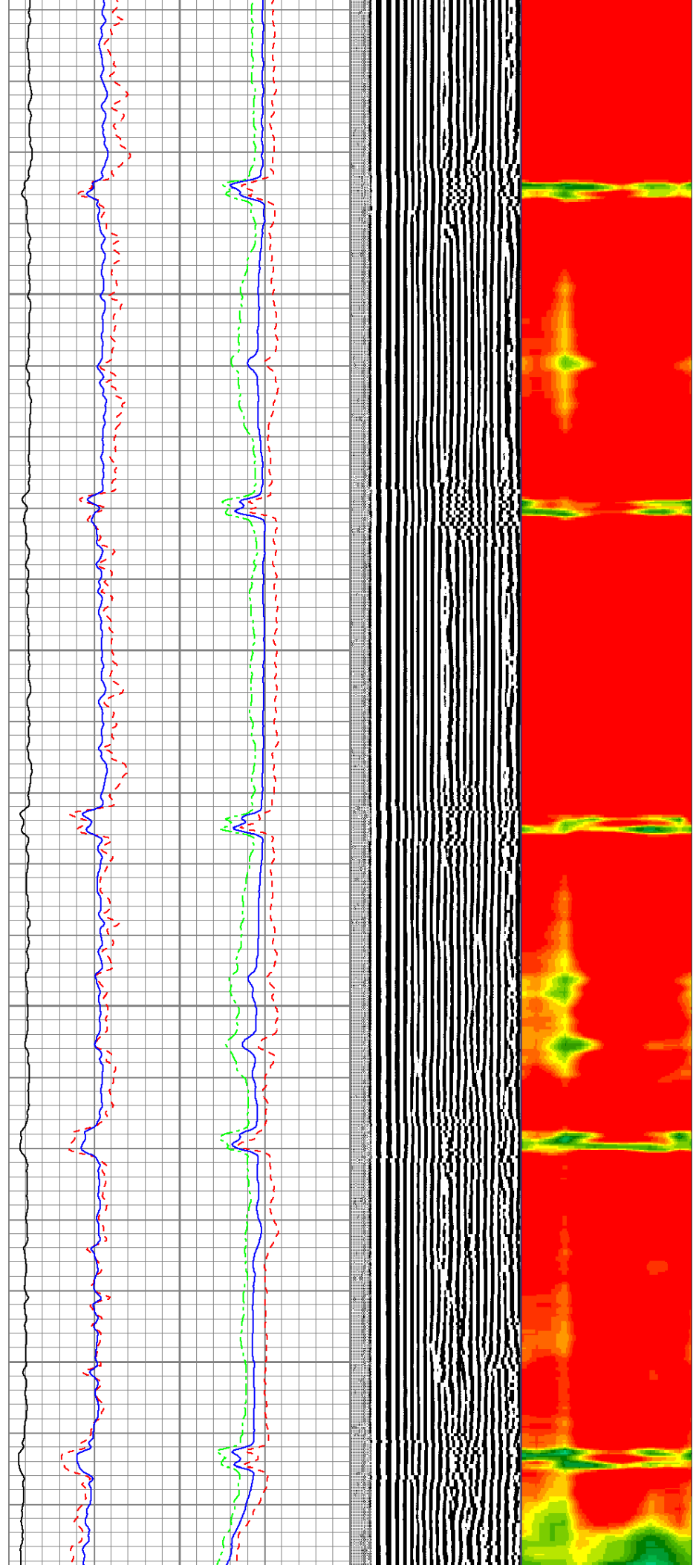
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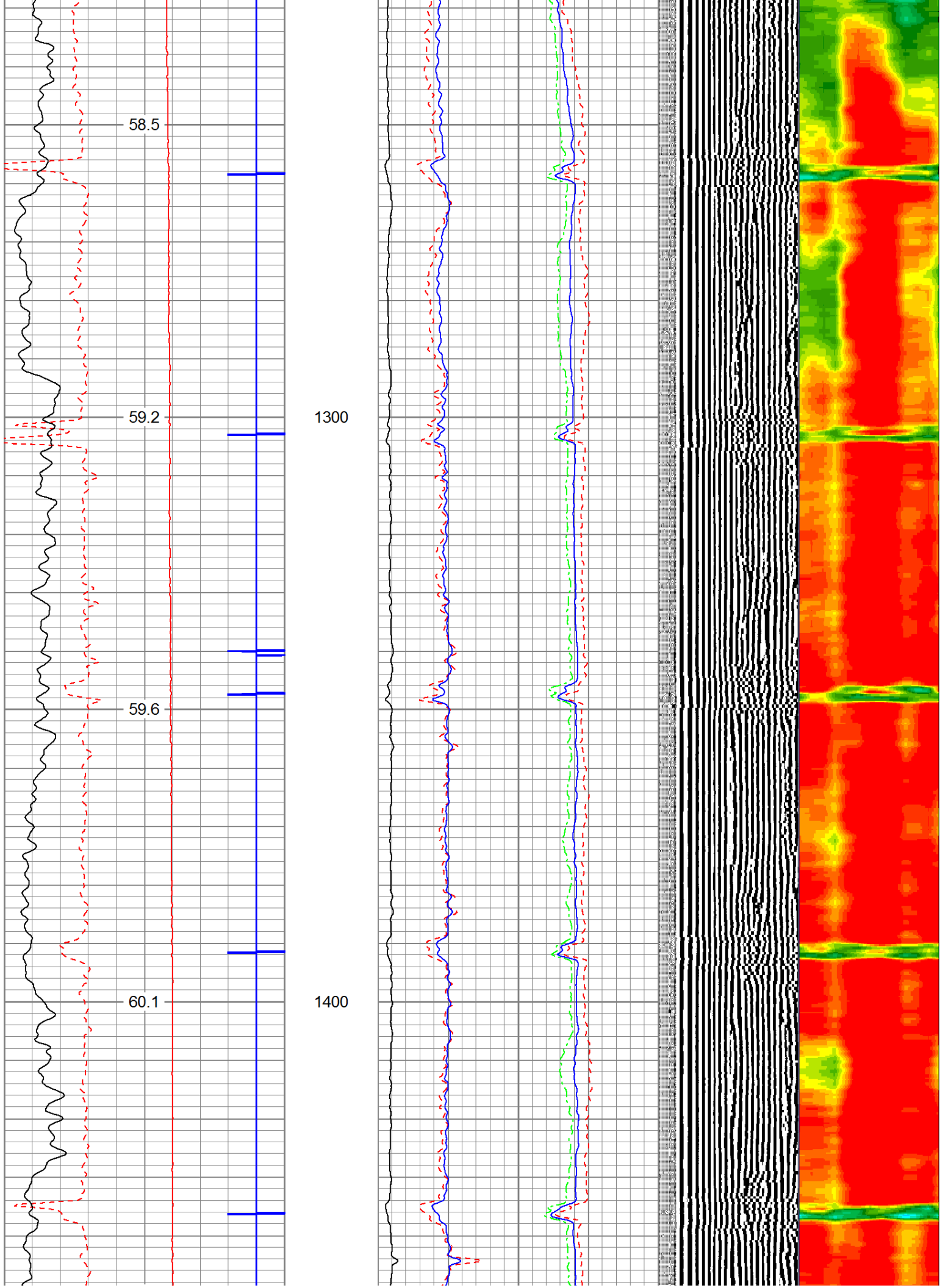


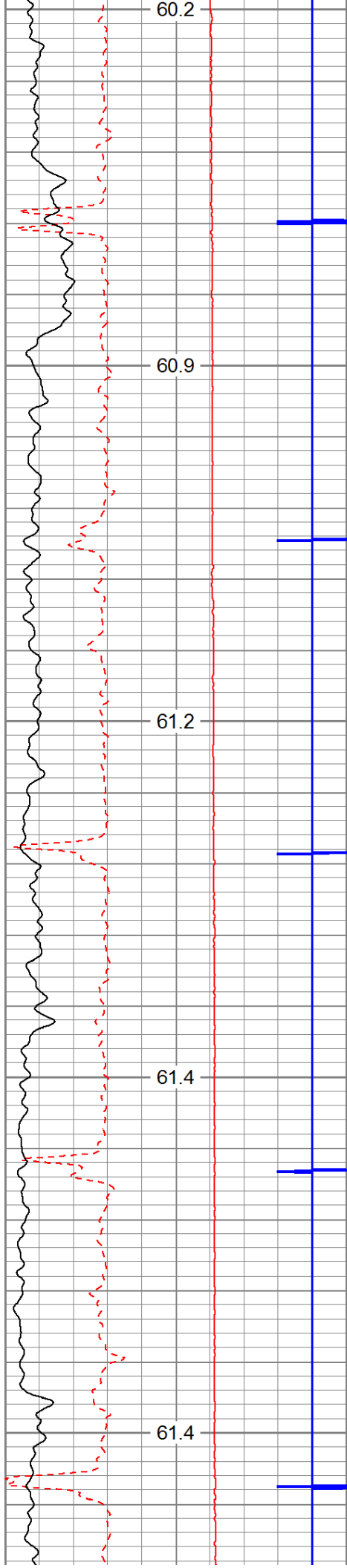


1100

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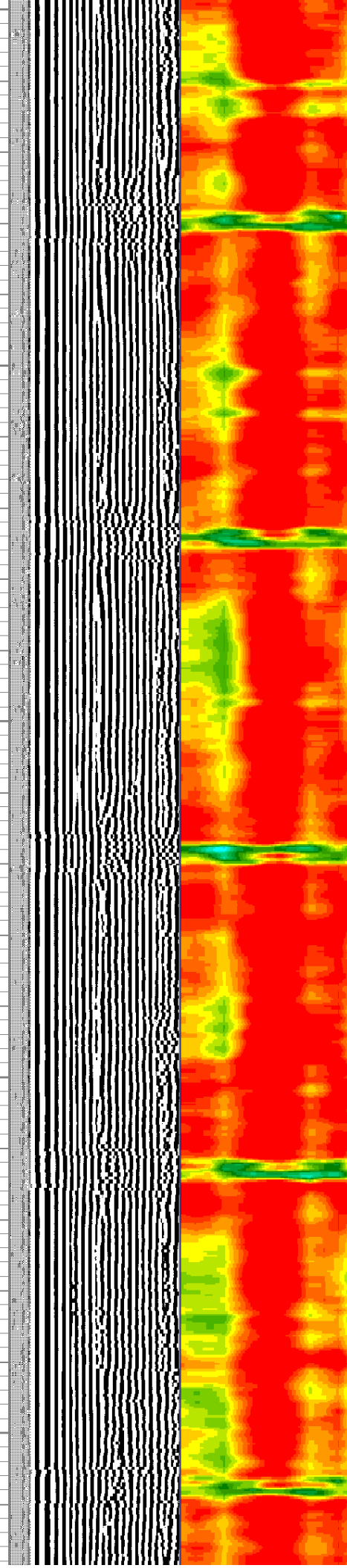
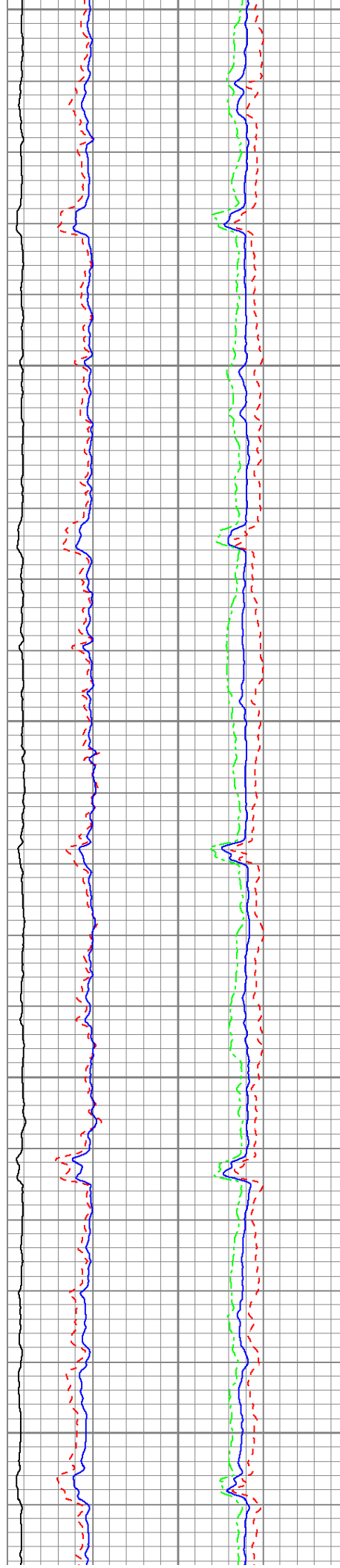


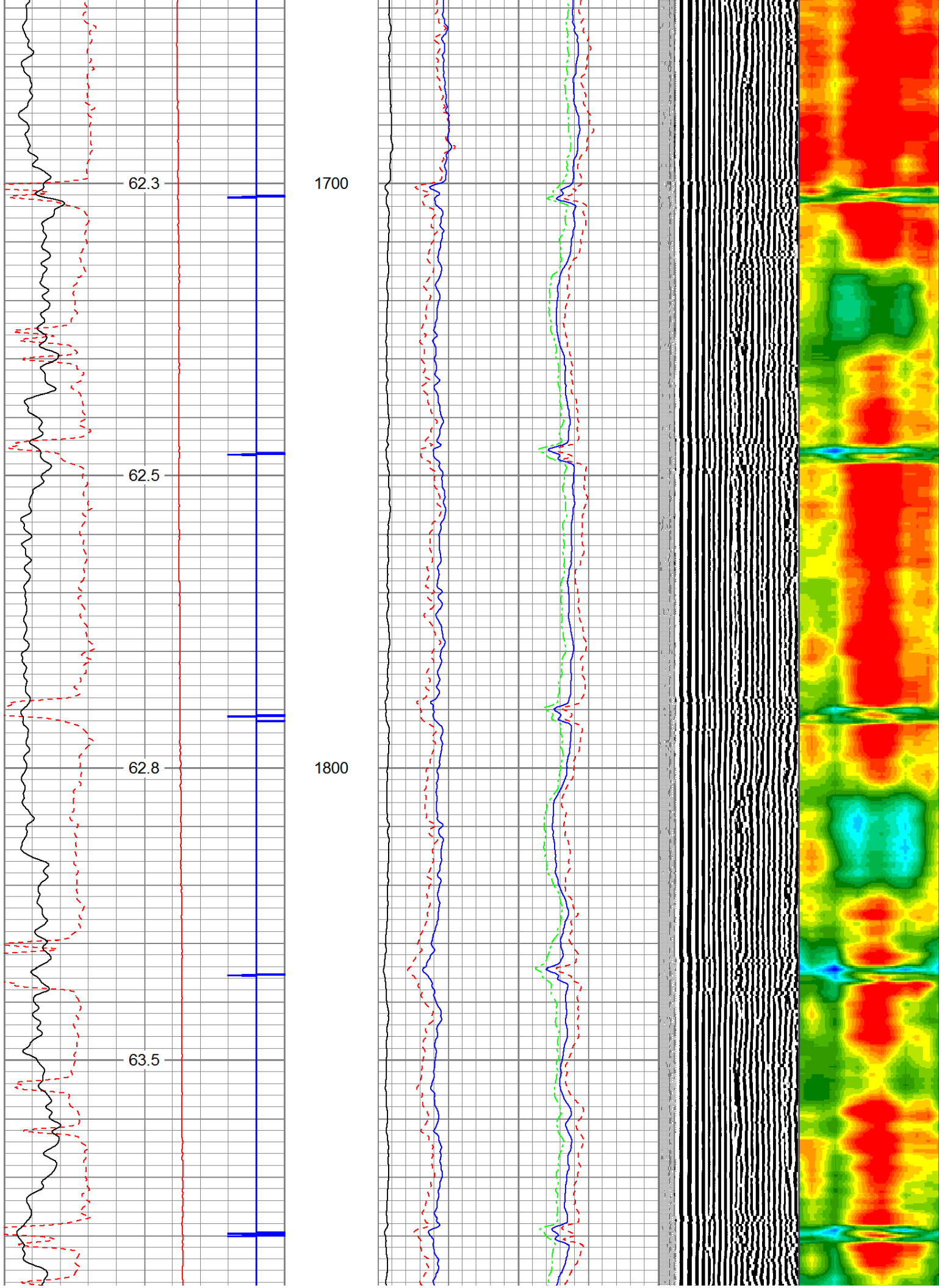


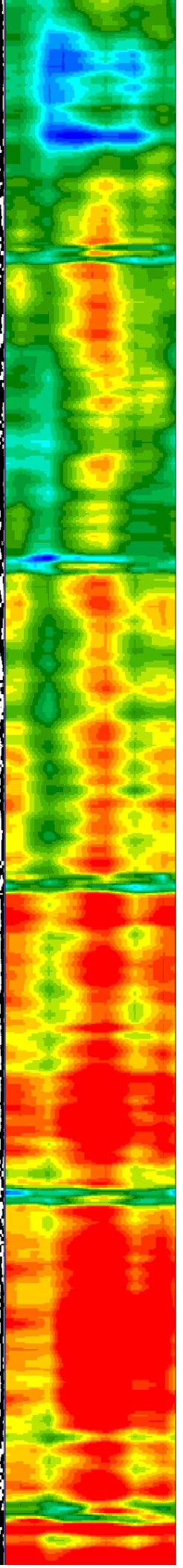
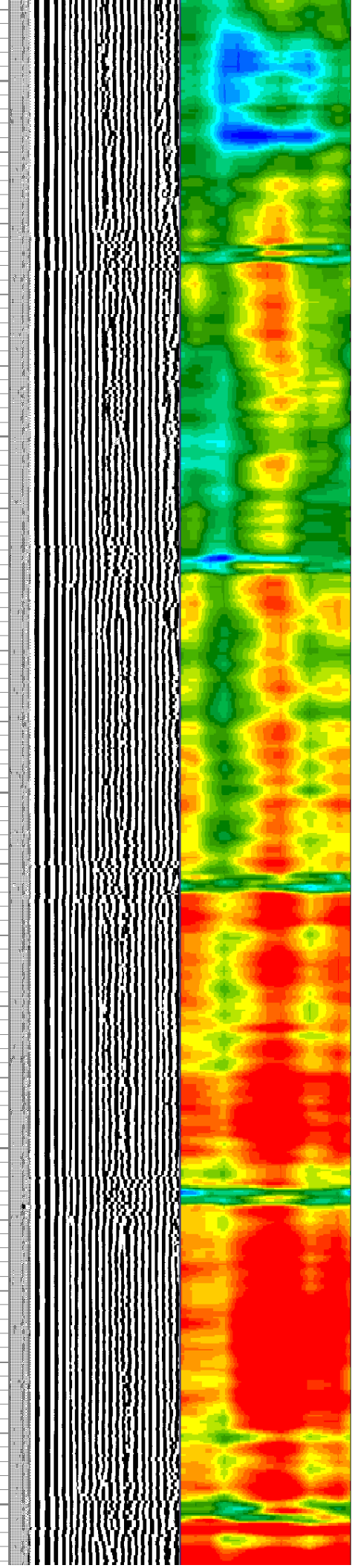
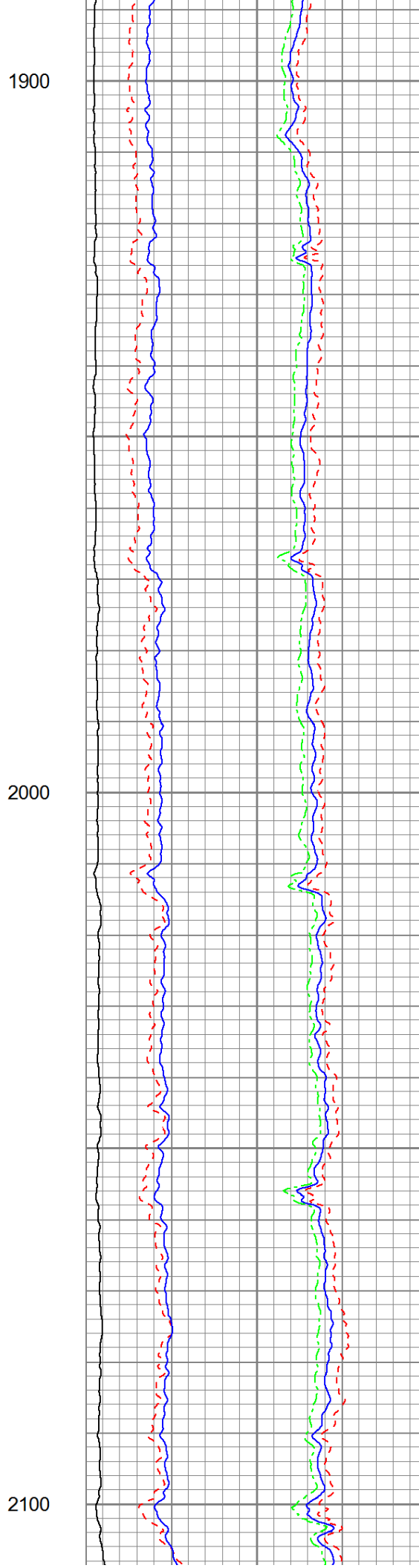
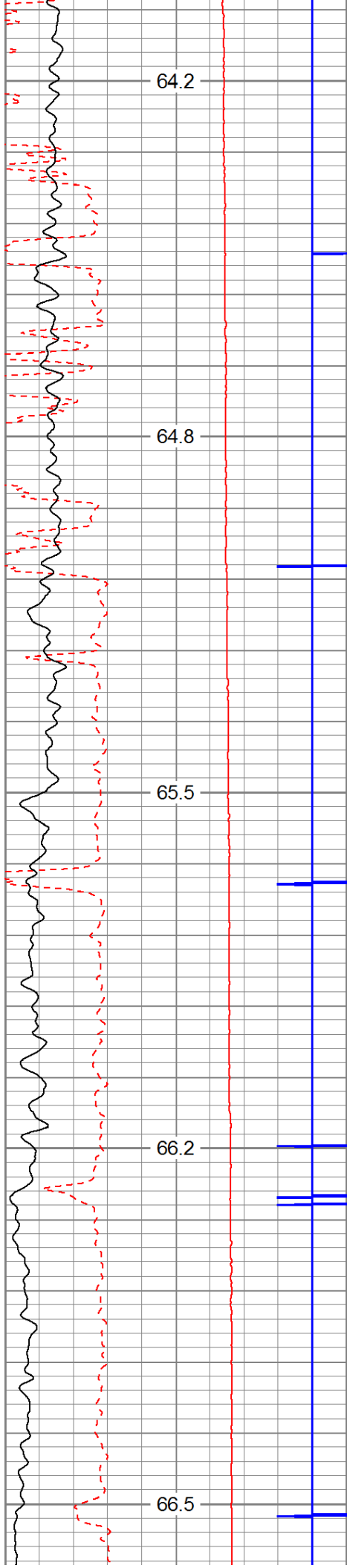


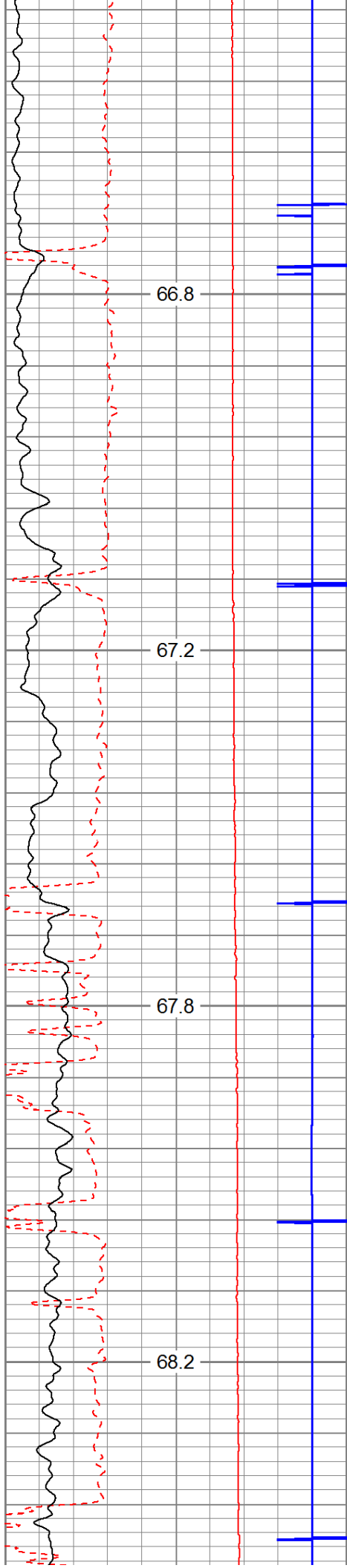
1500

1600



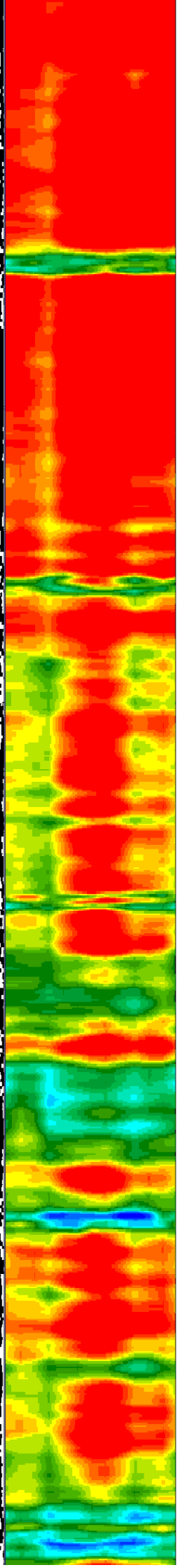
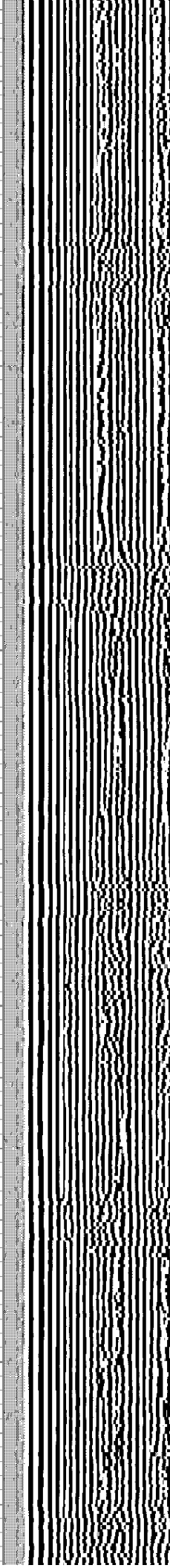


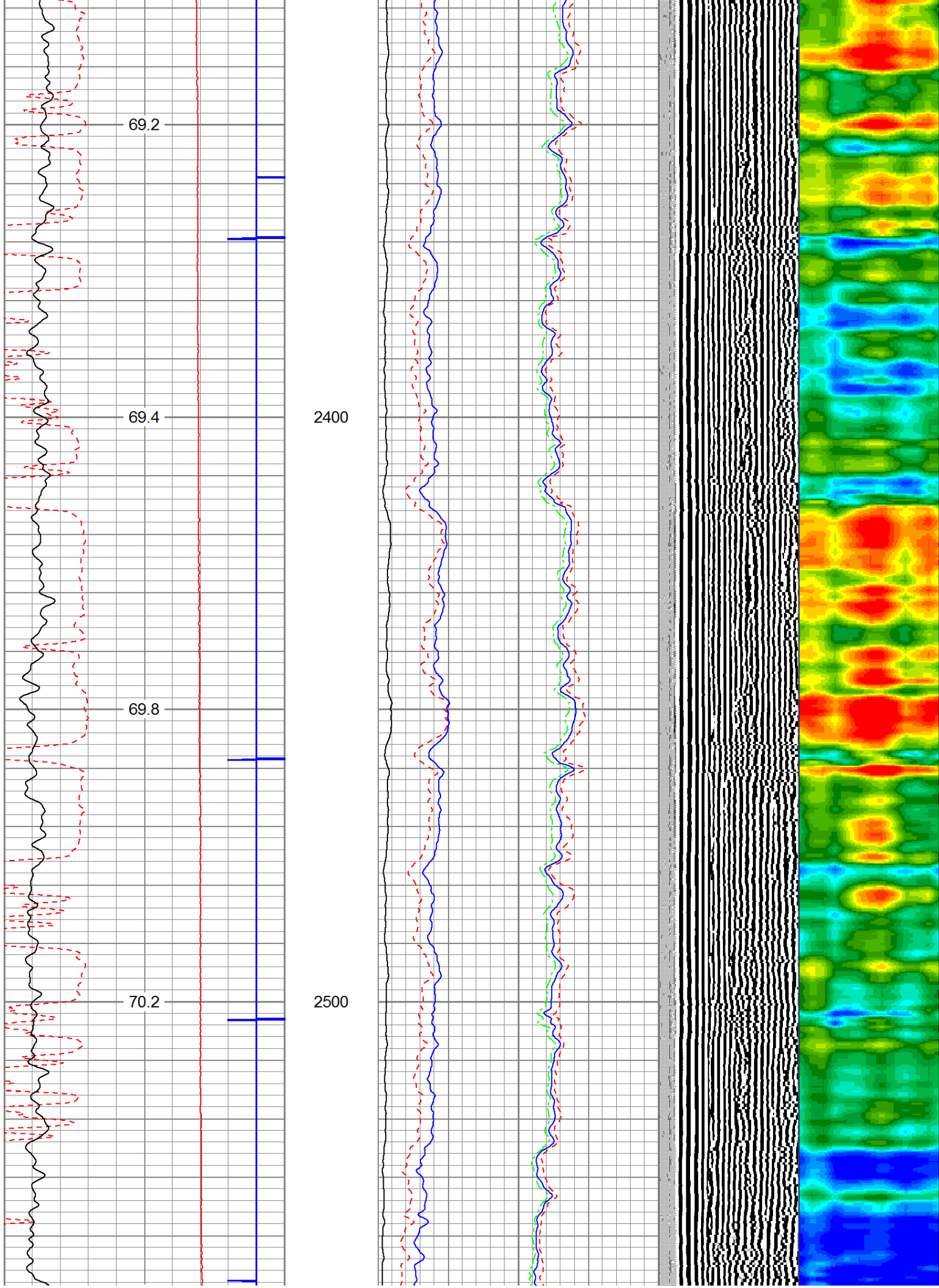


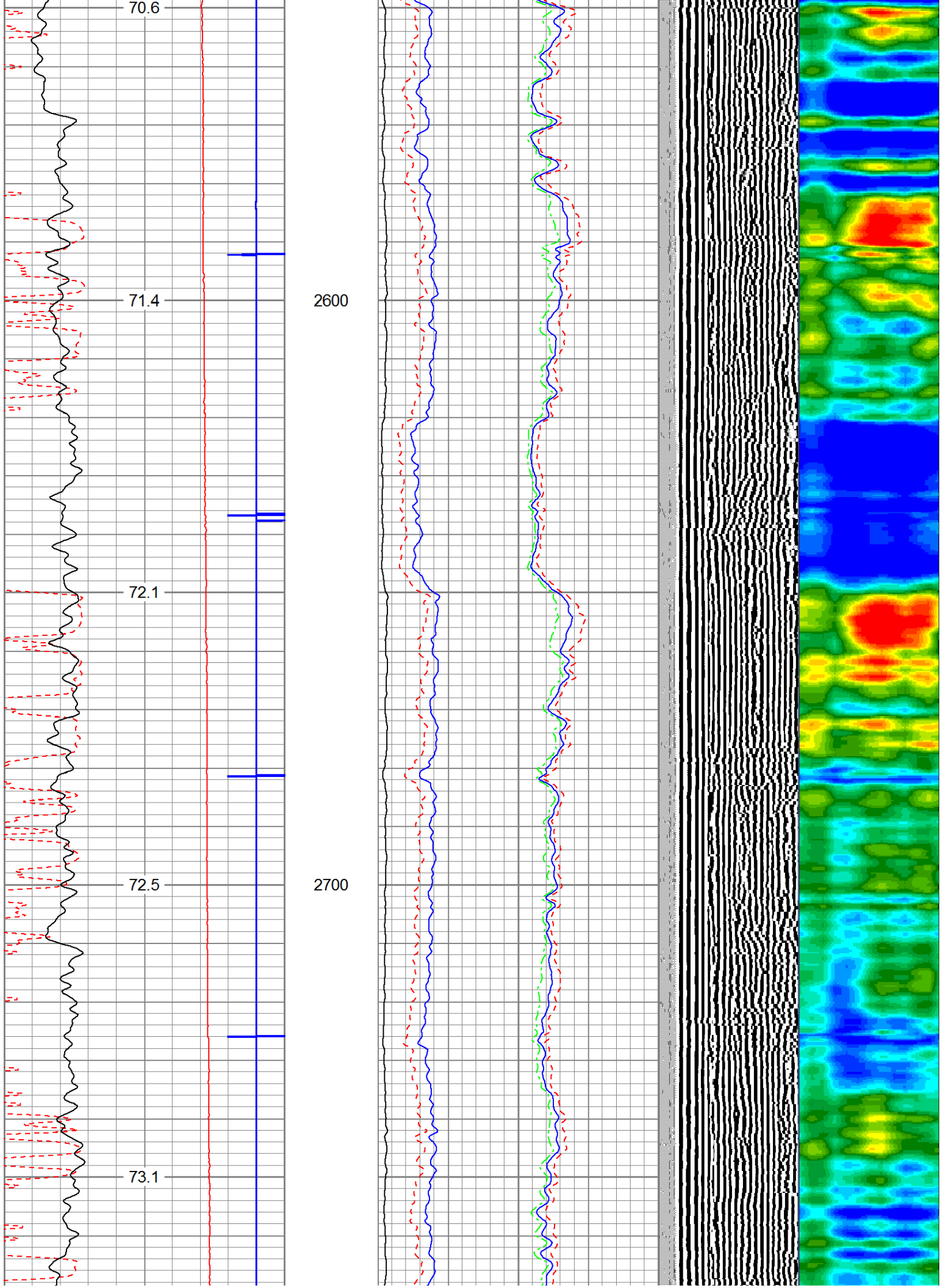


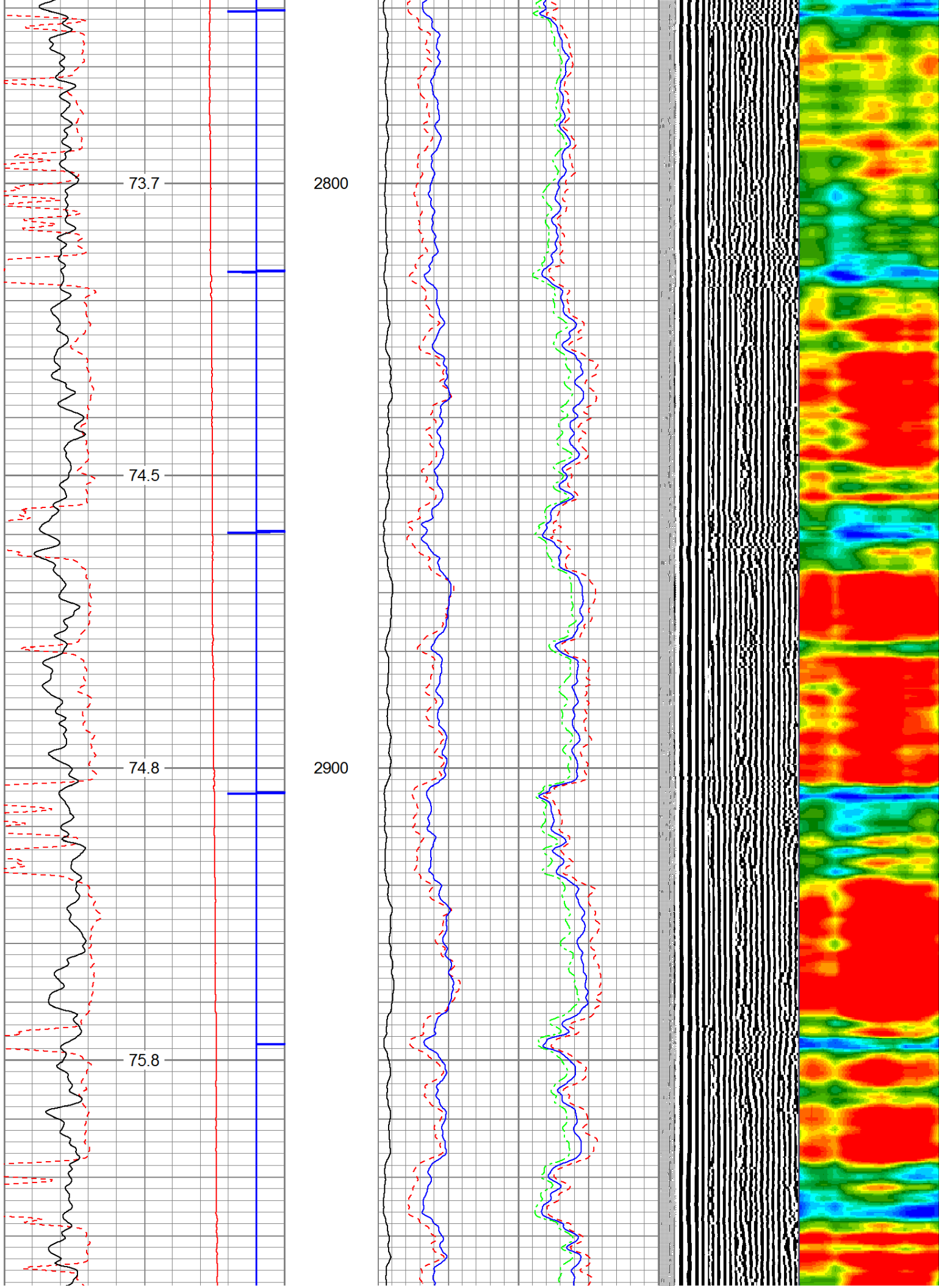
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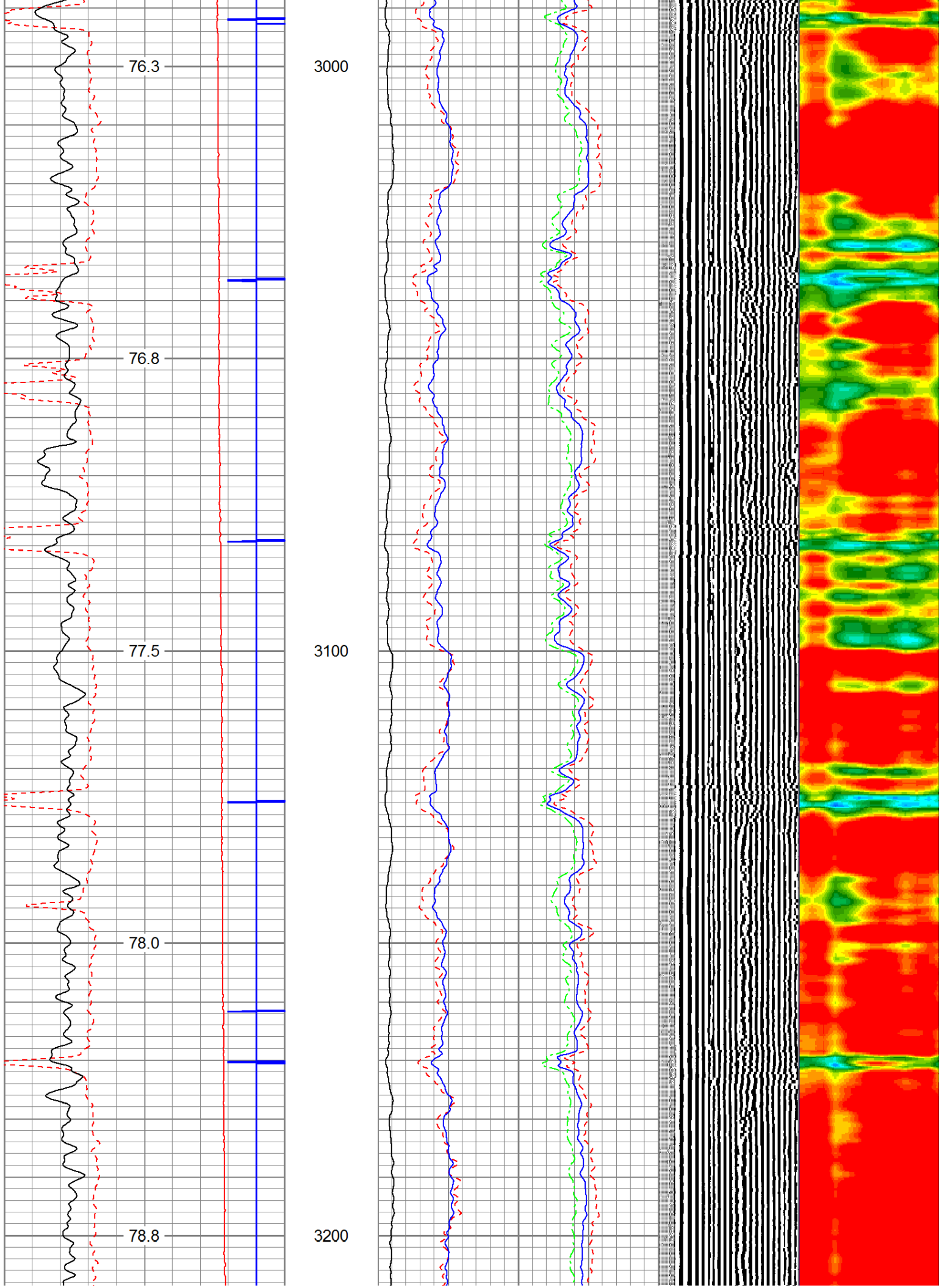
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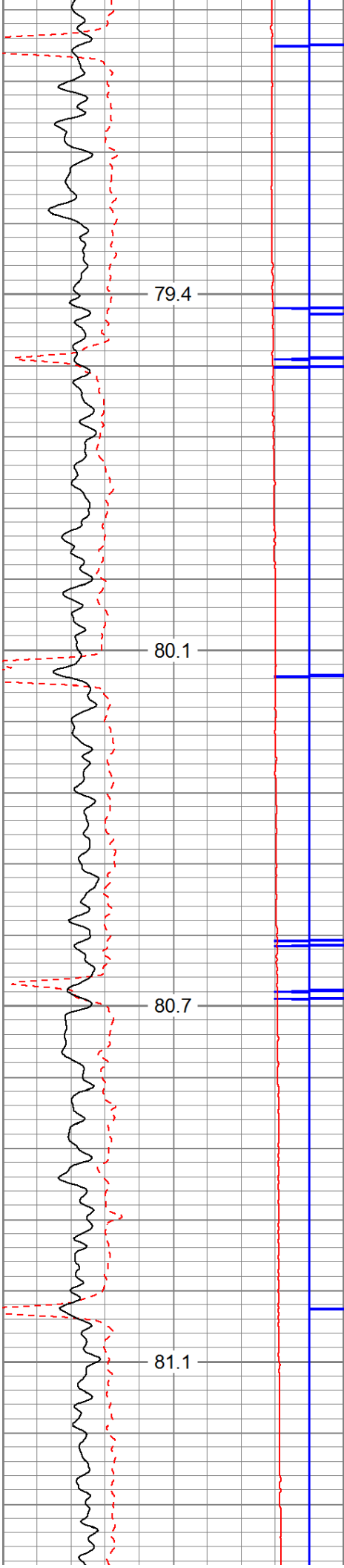






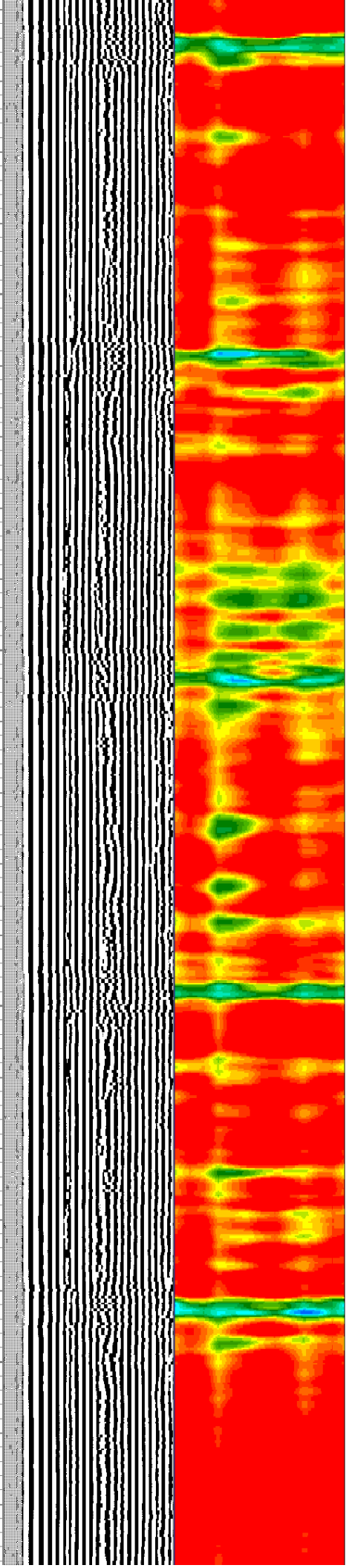
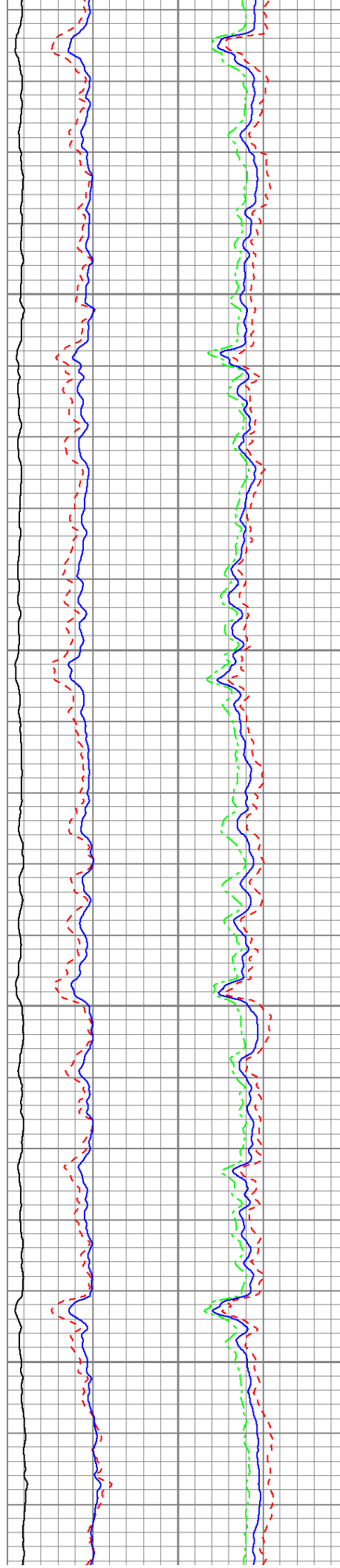


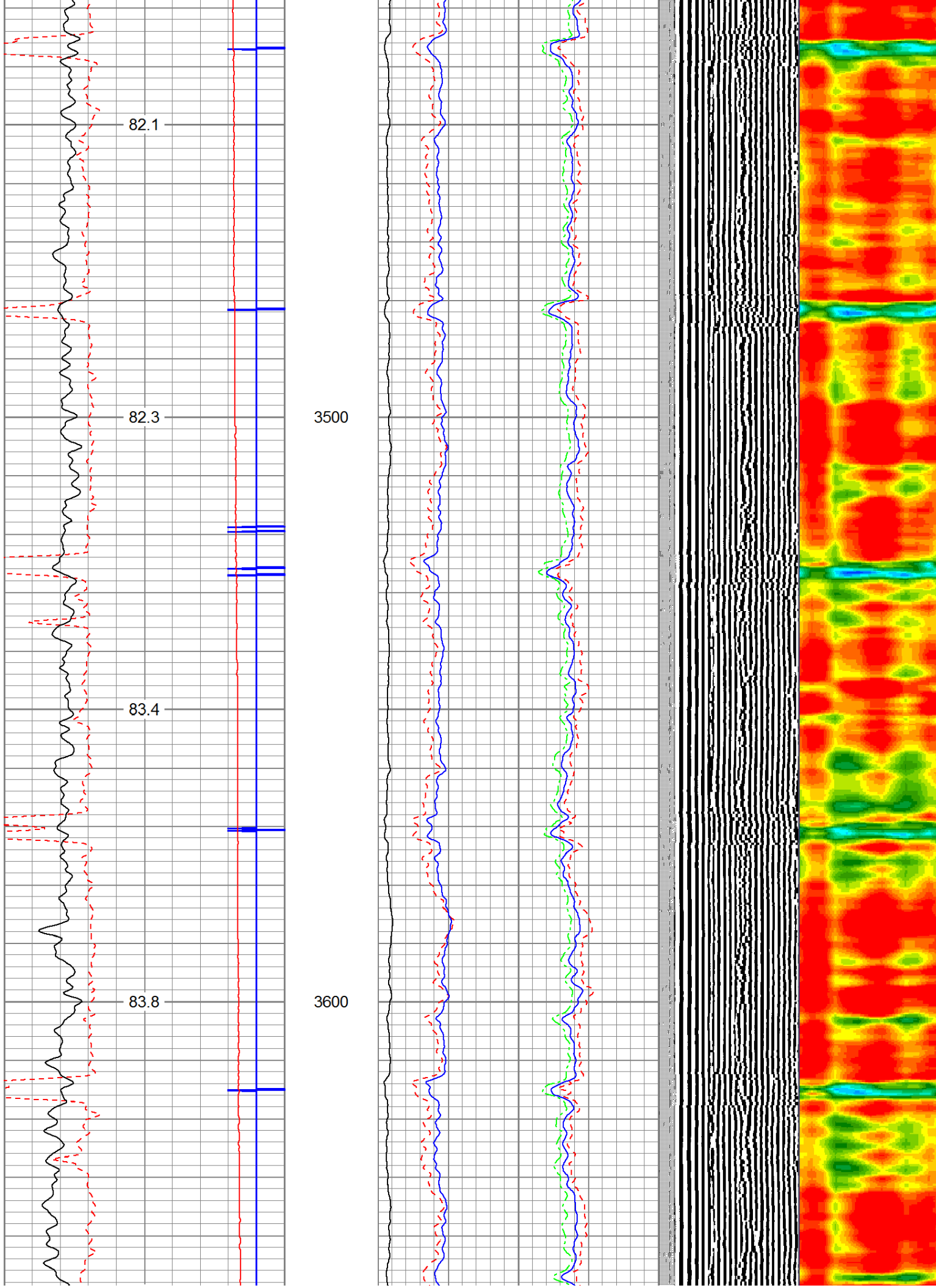


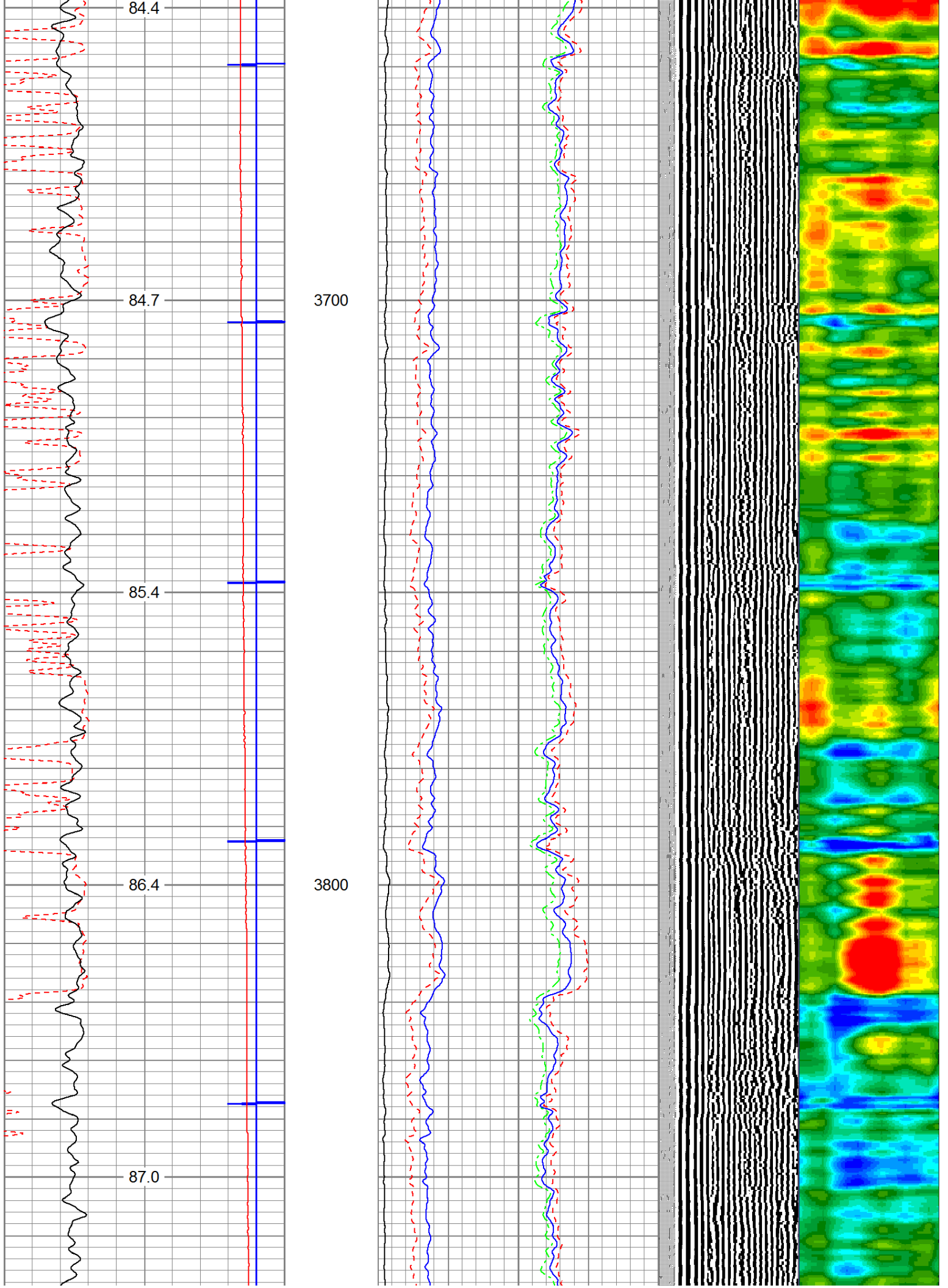


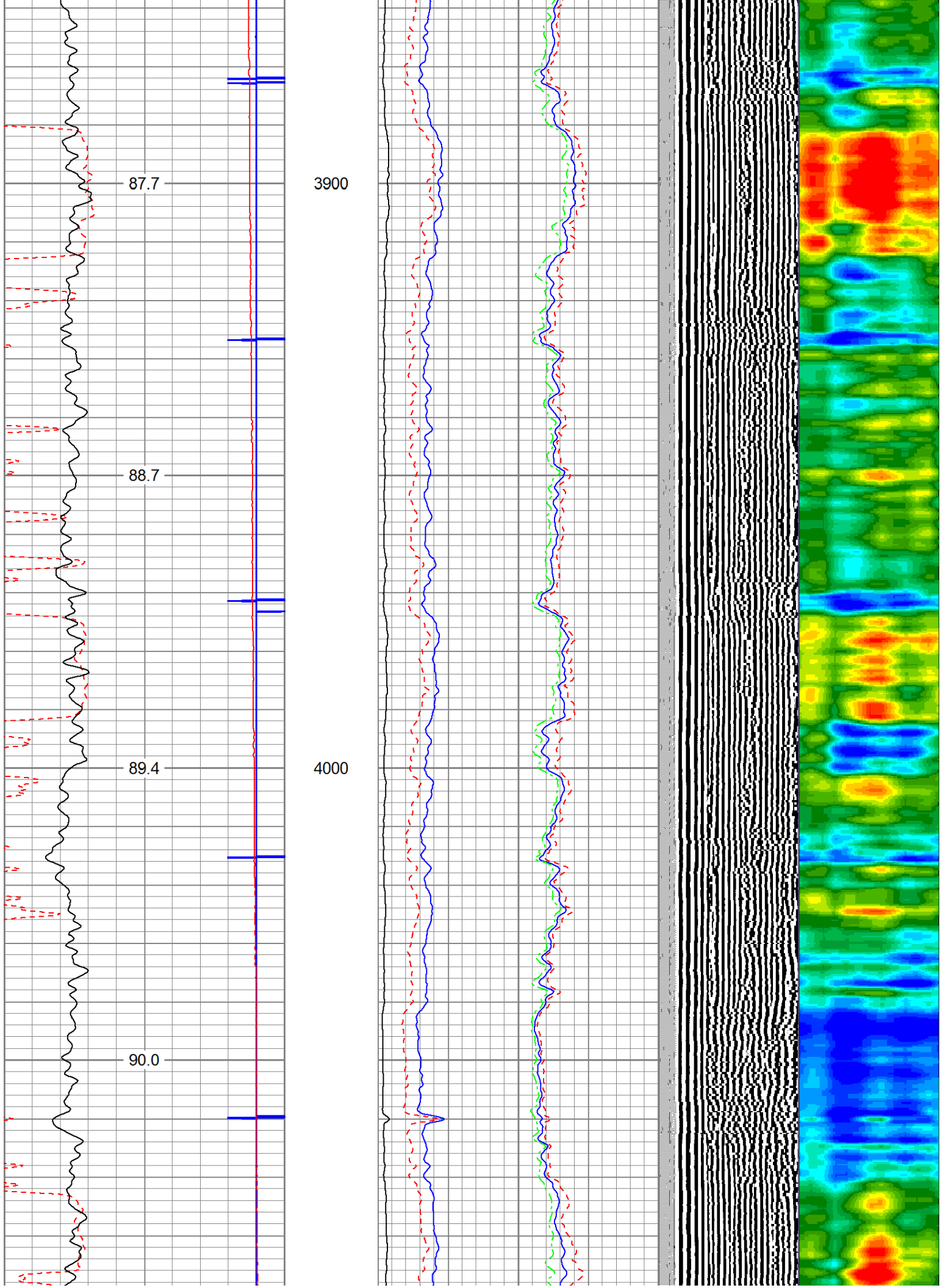
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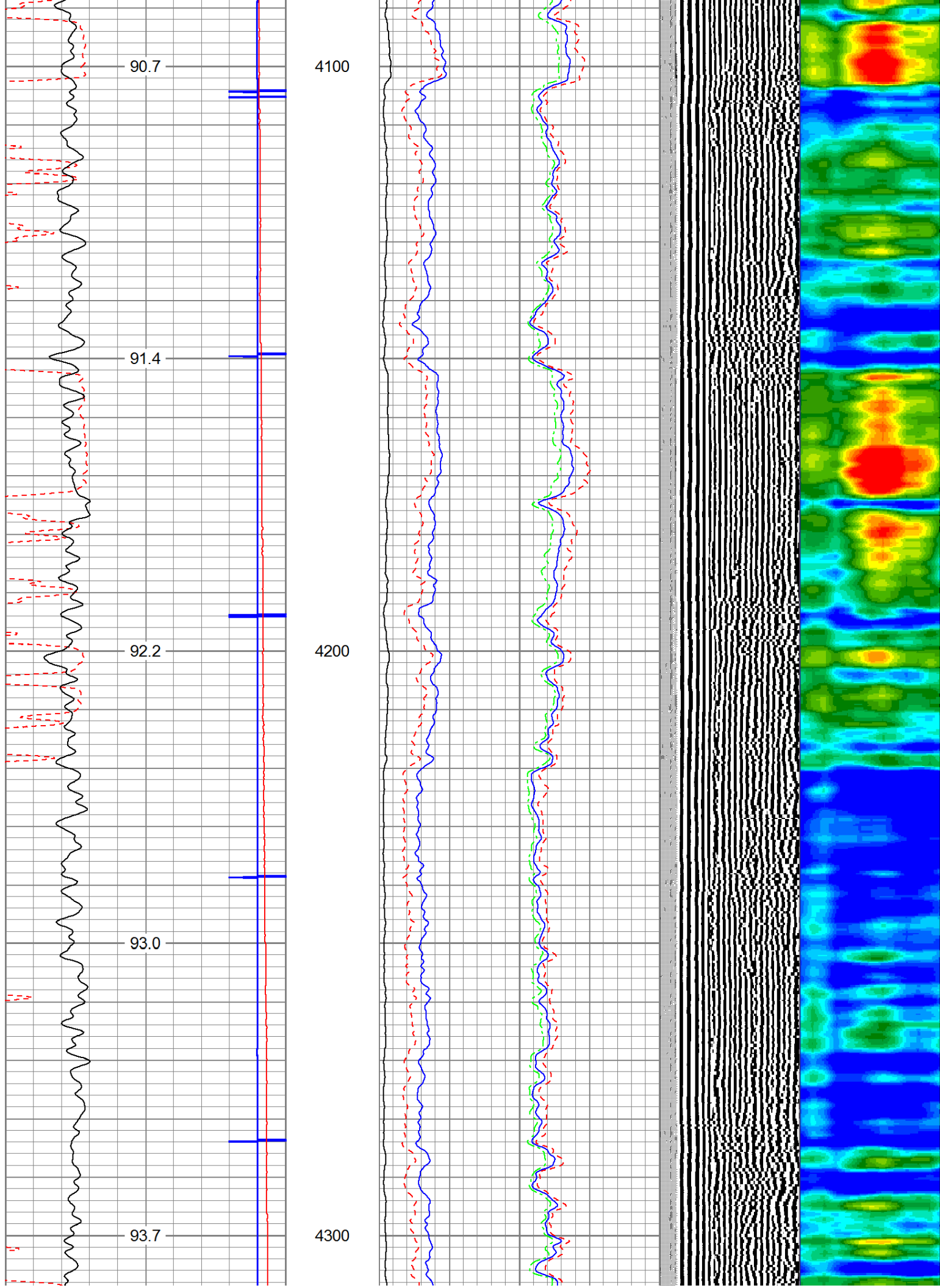
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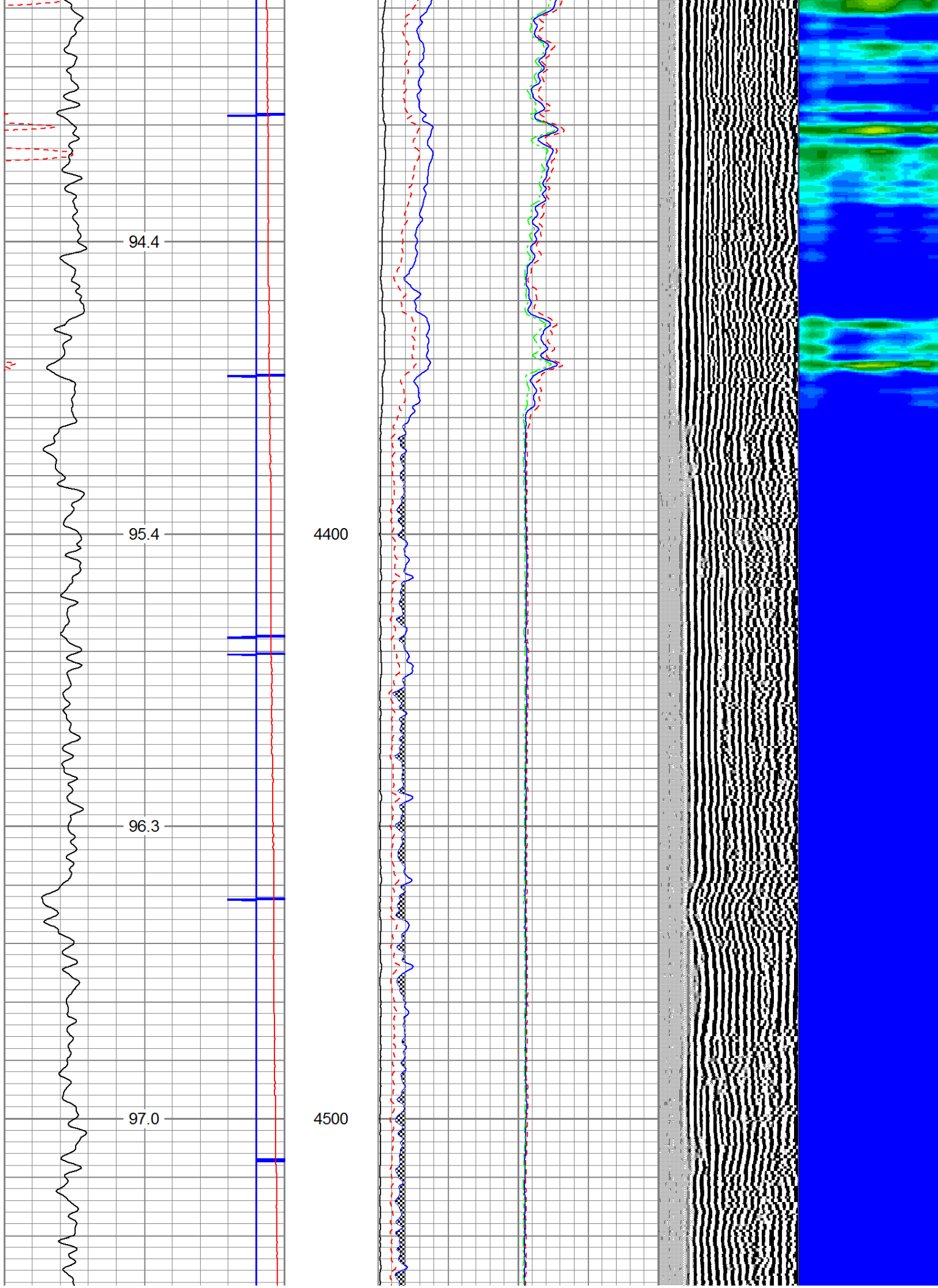


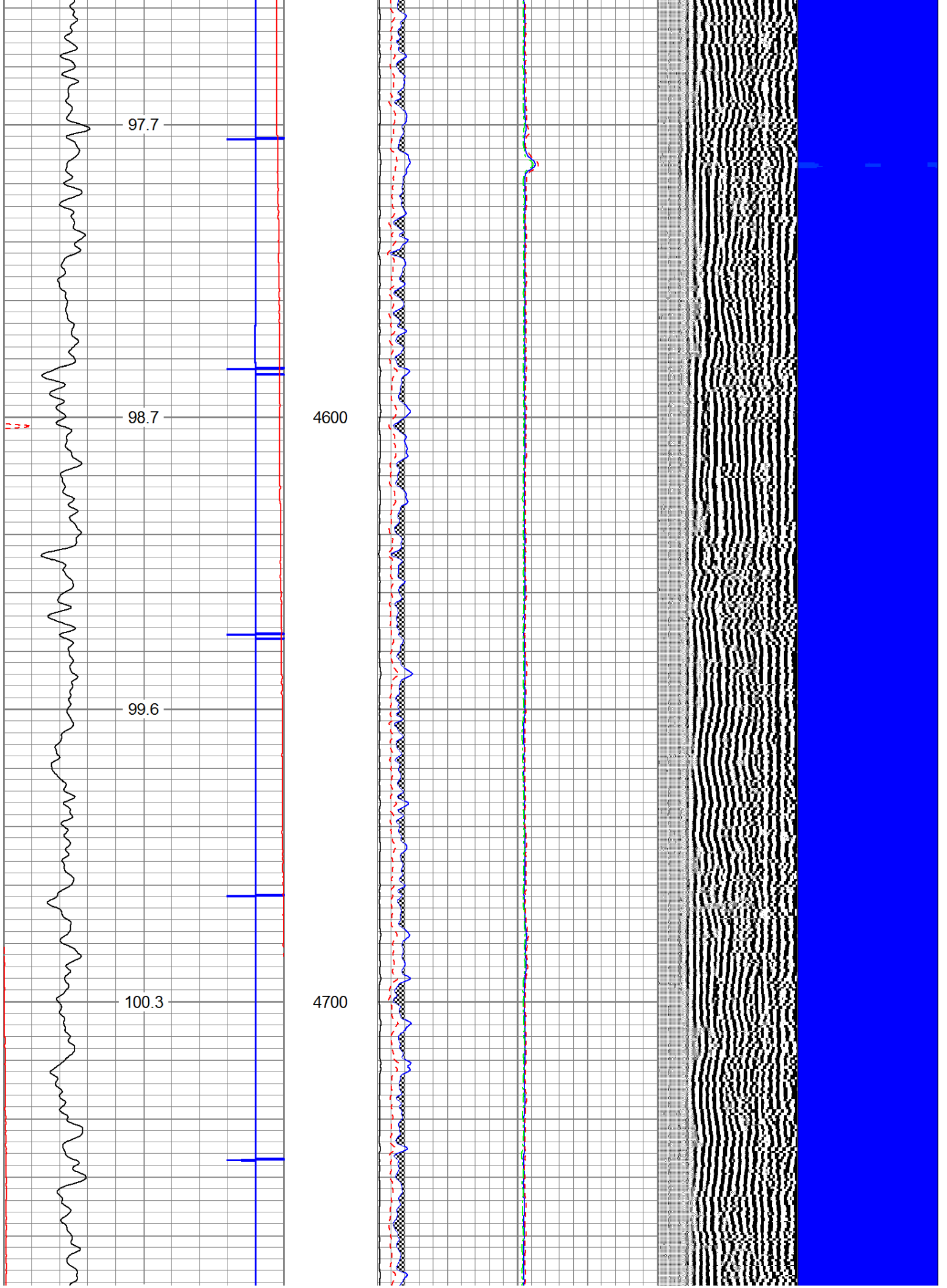


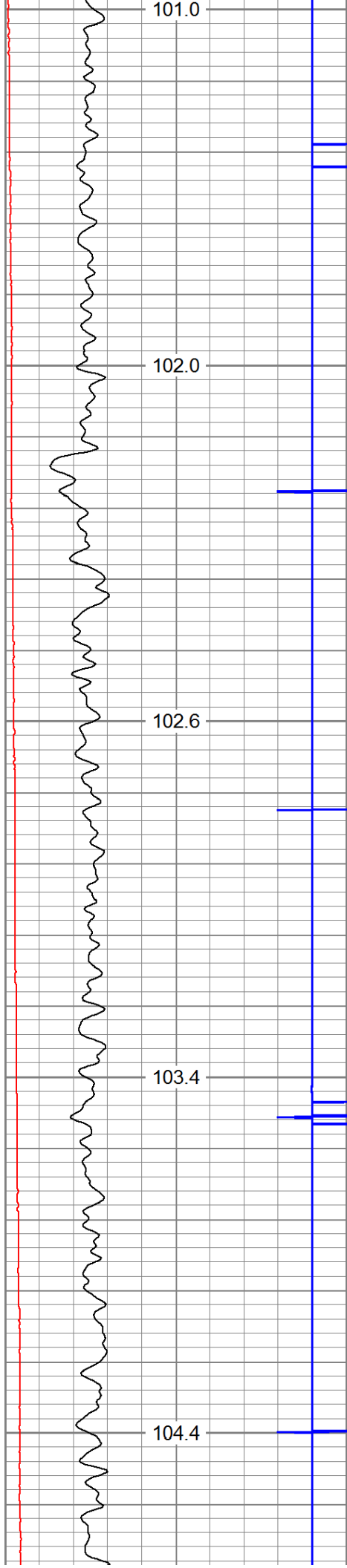






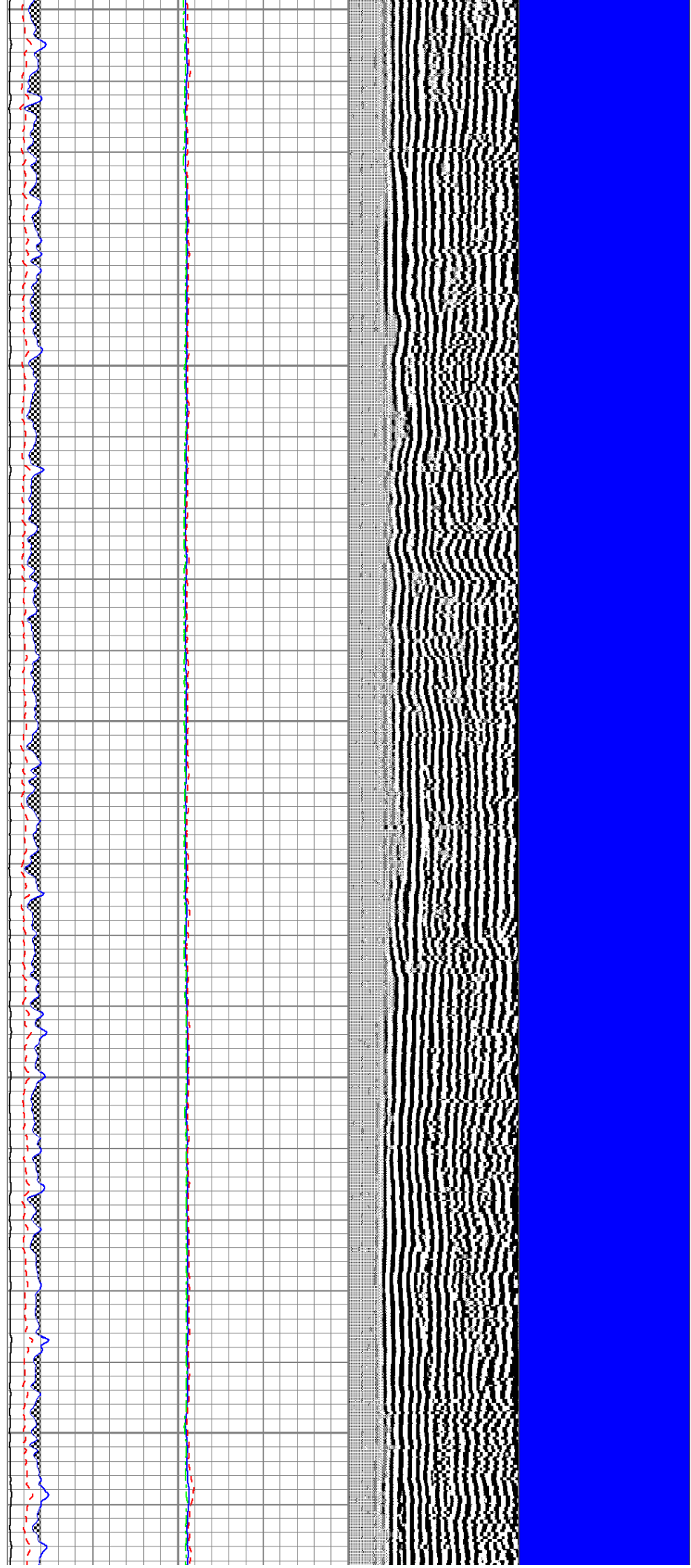


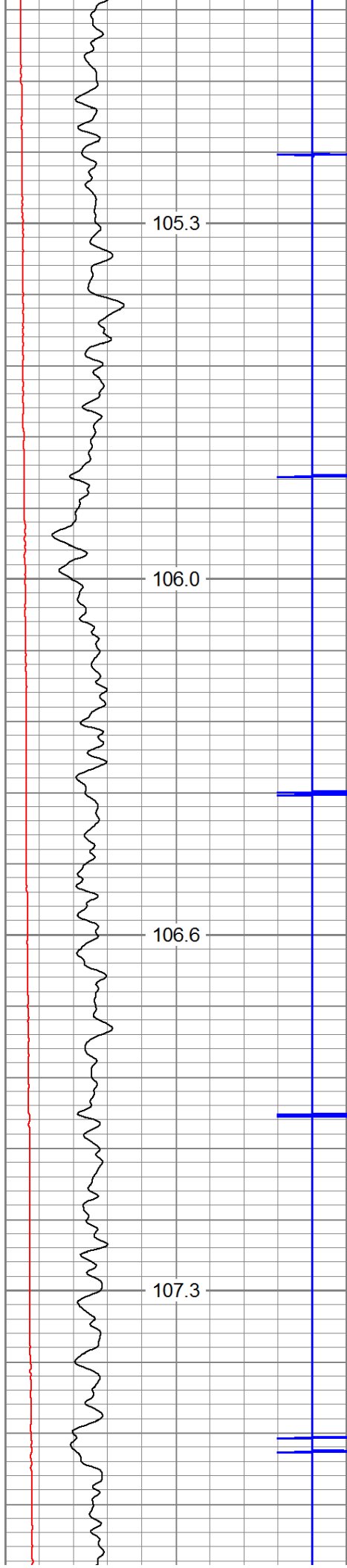




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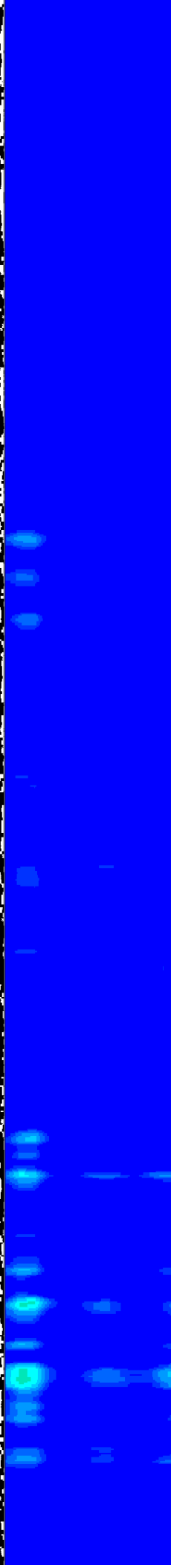
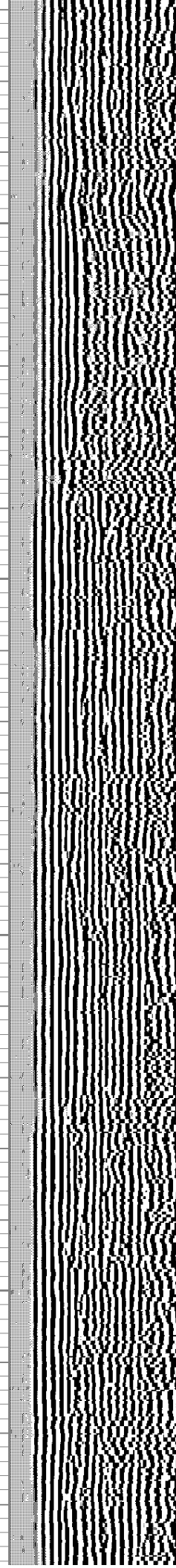
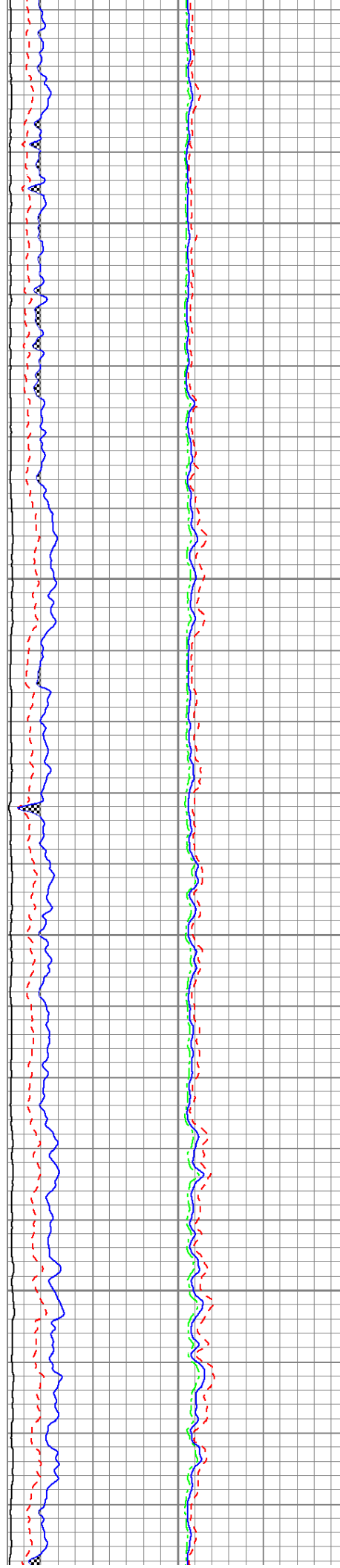
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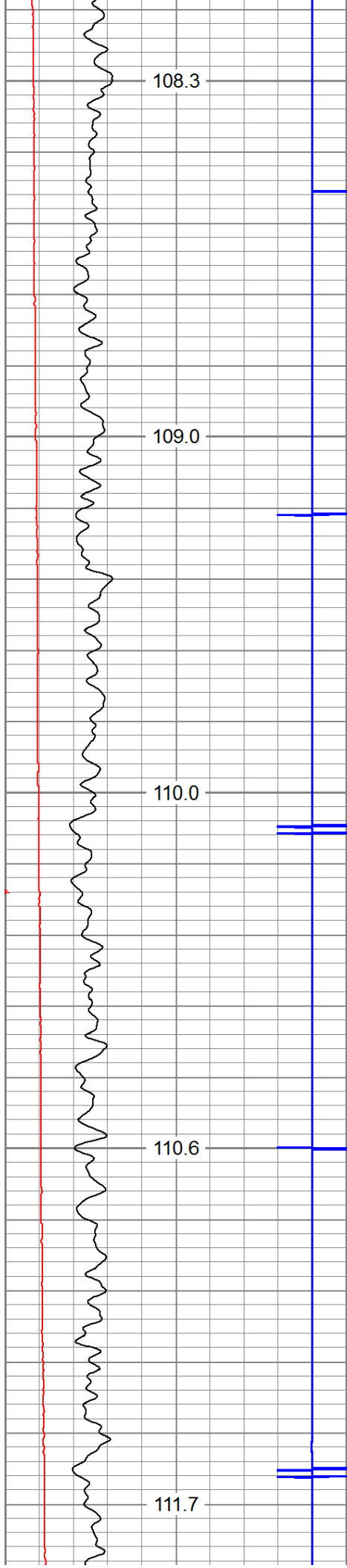




5000

5100

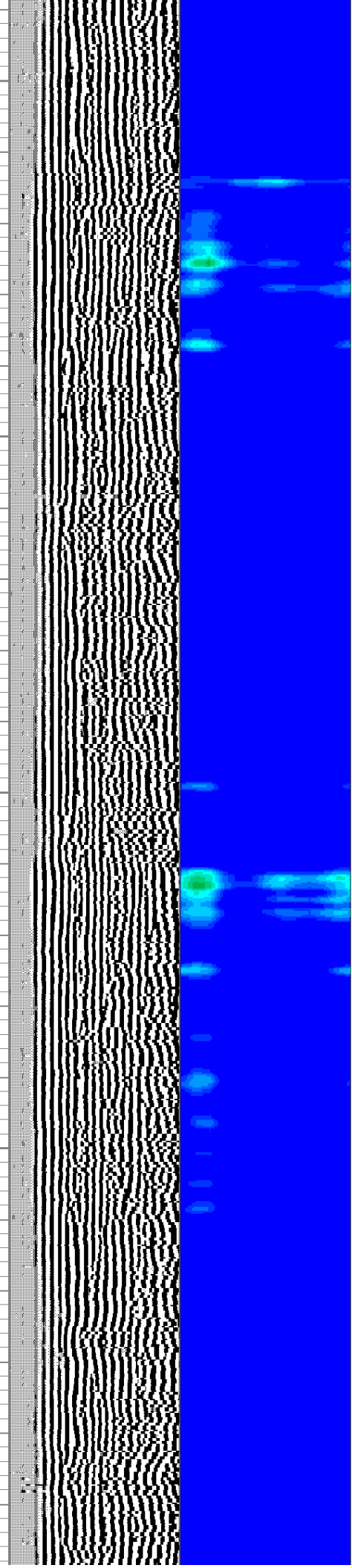
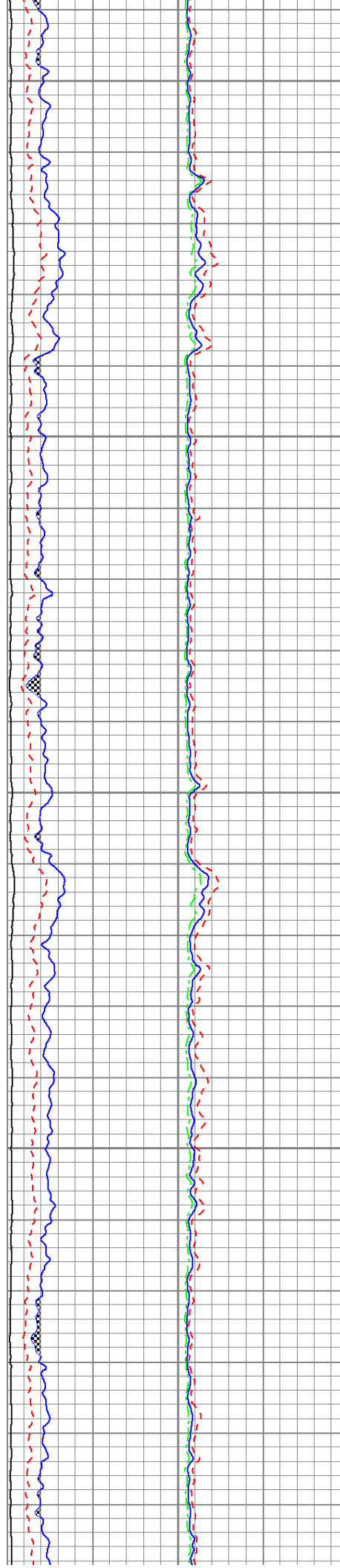


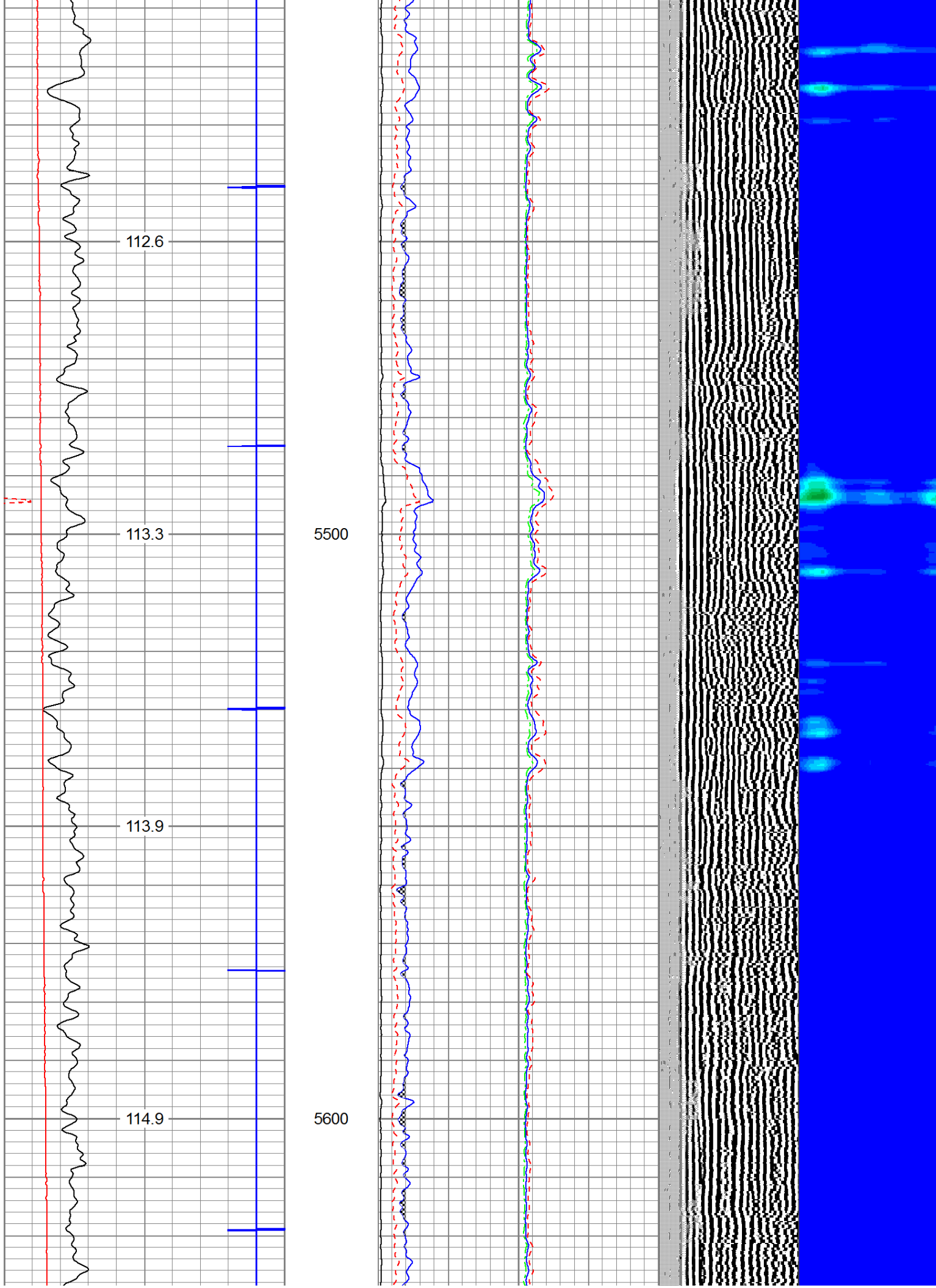


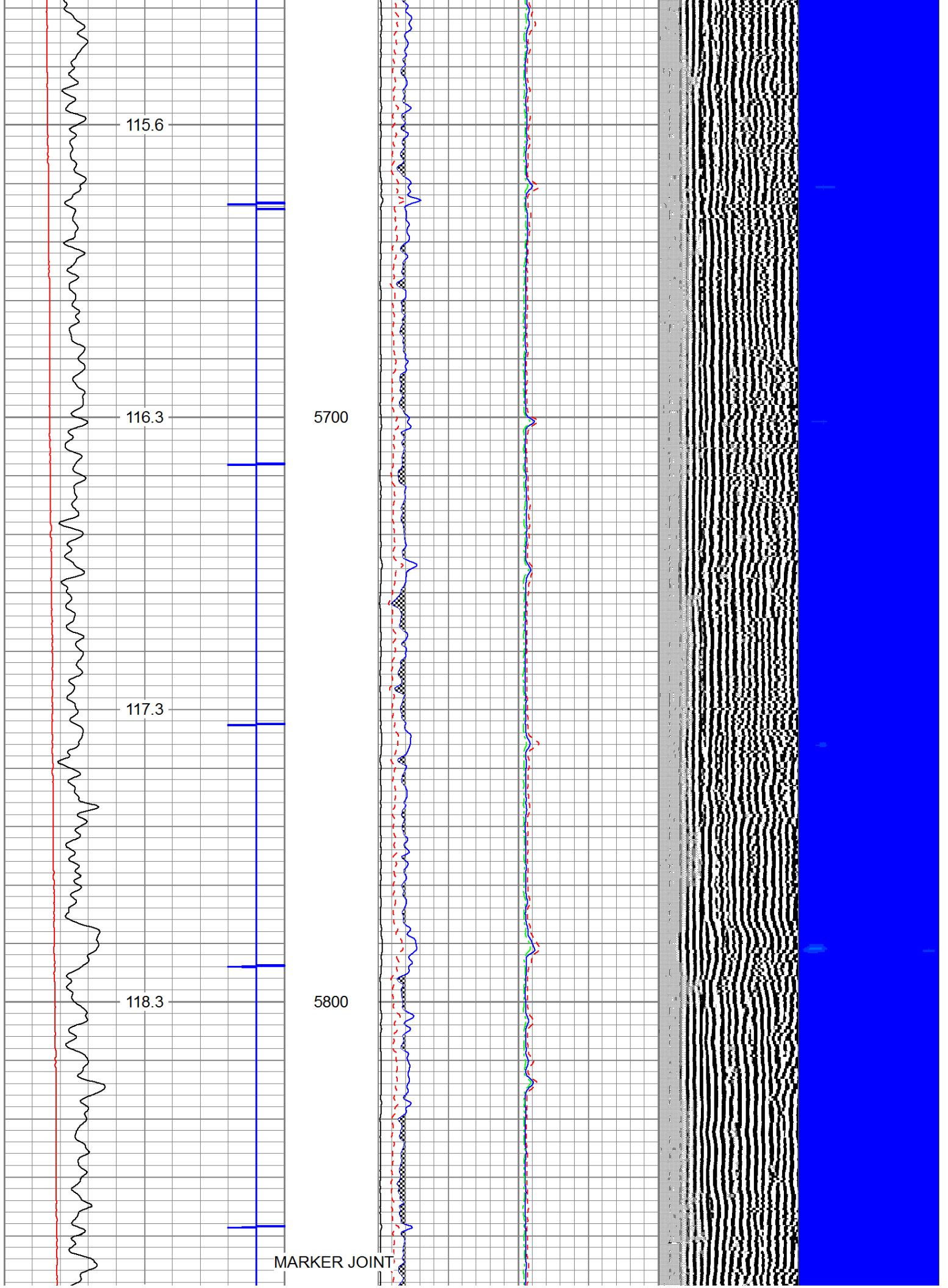
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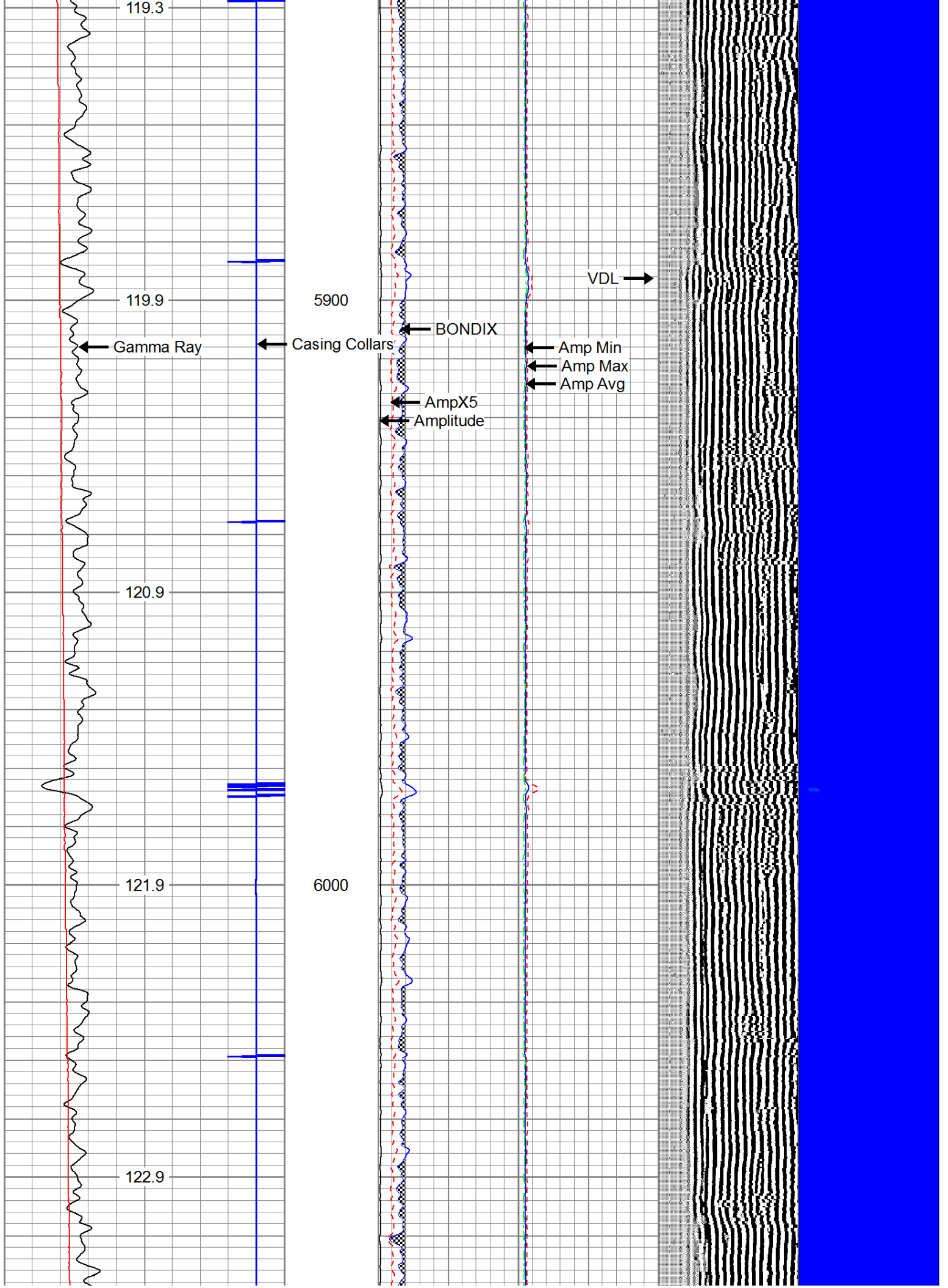
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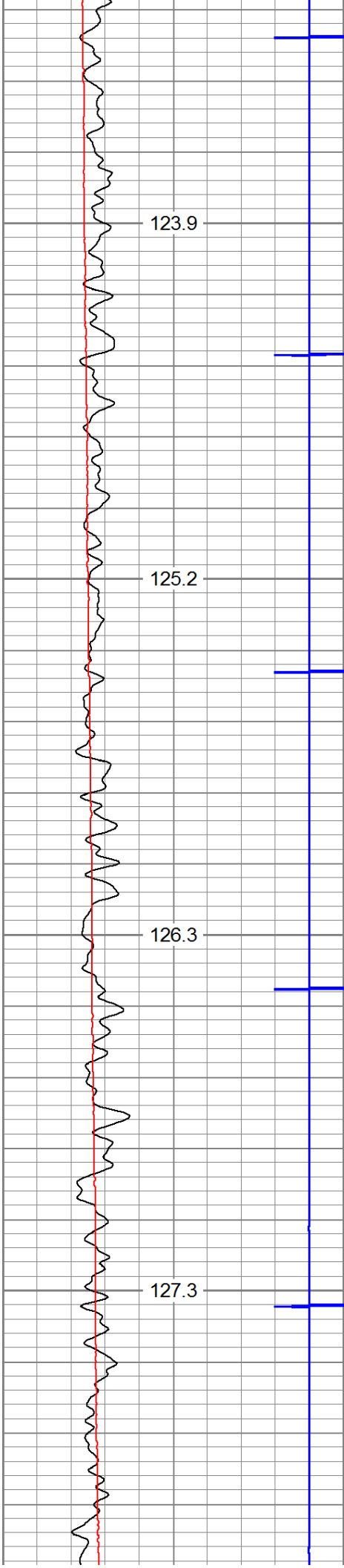
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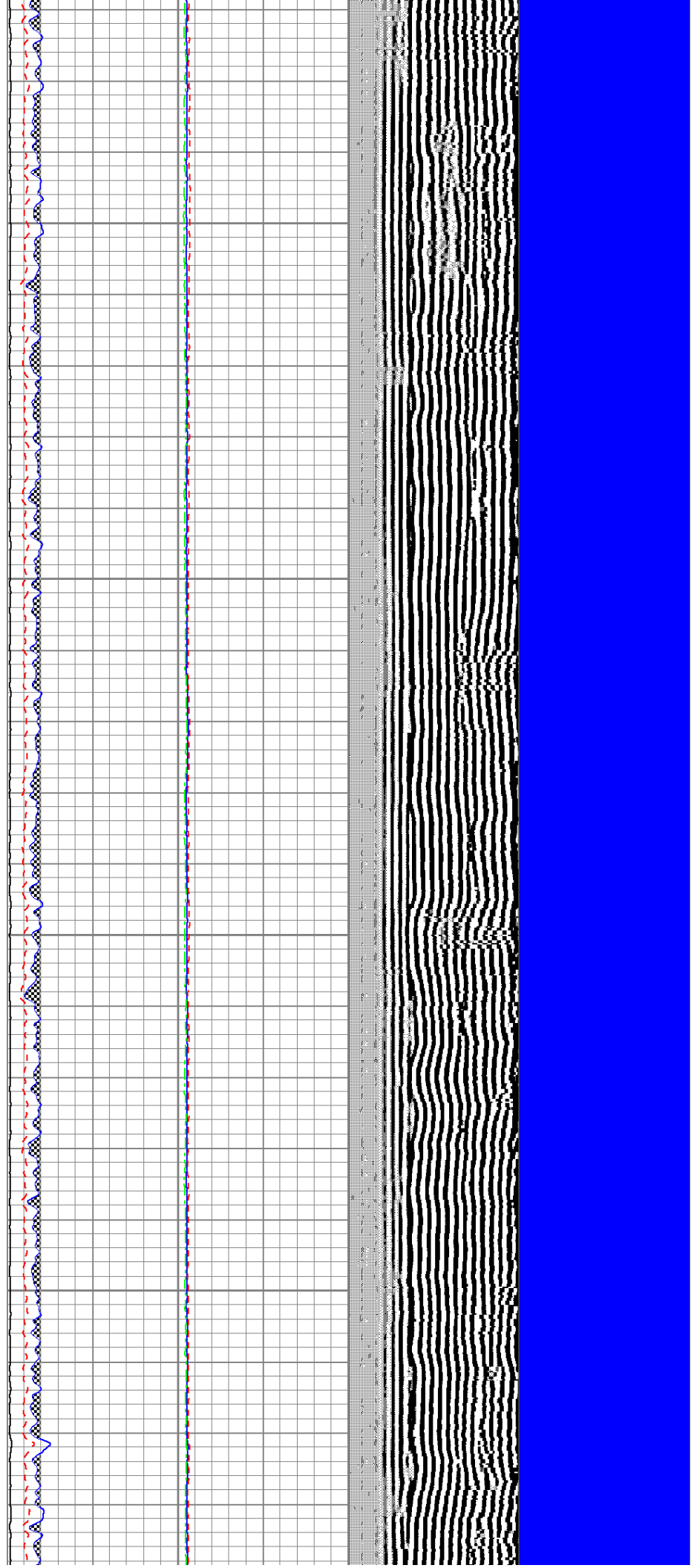


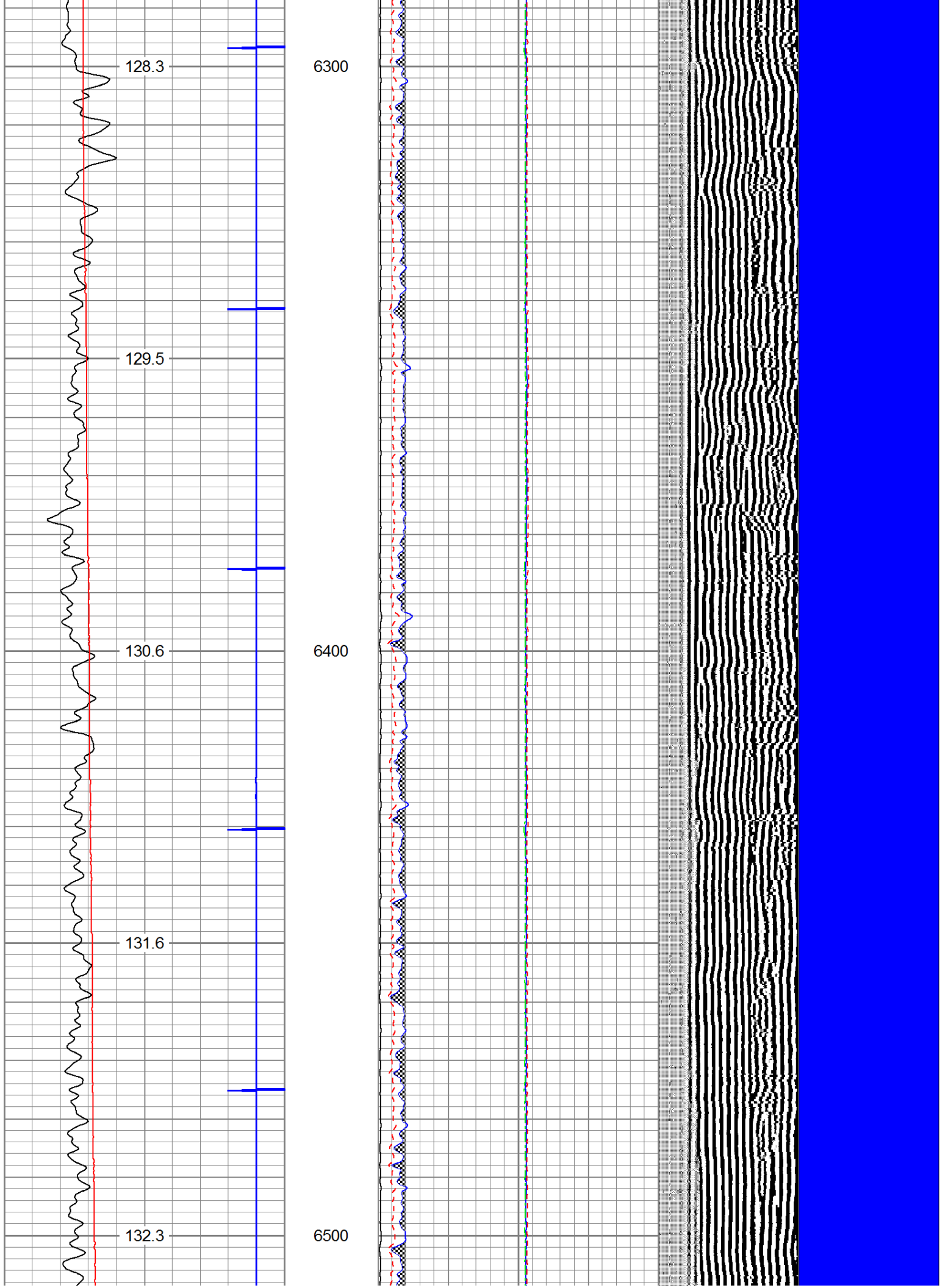


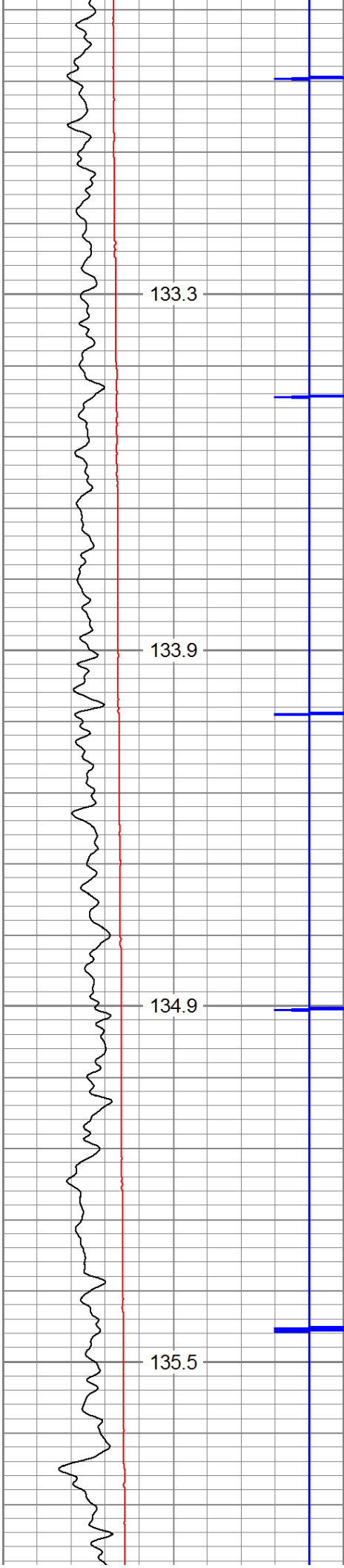


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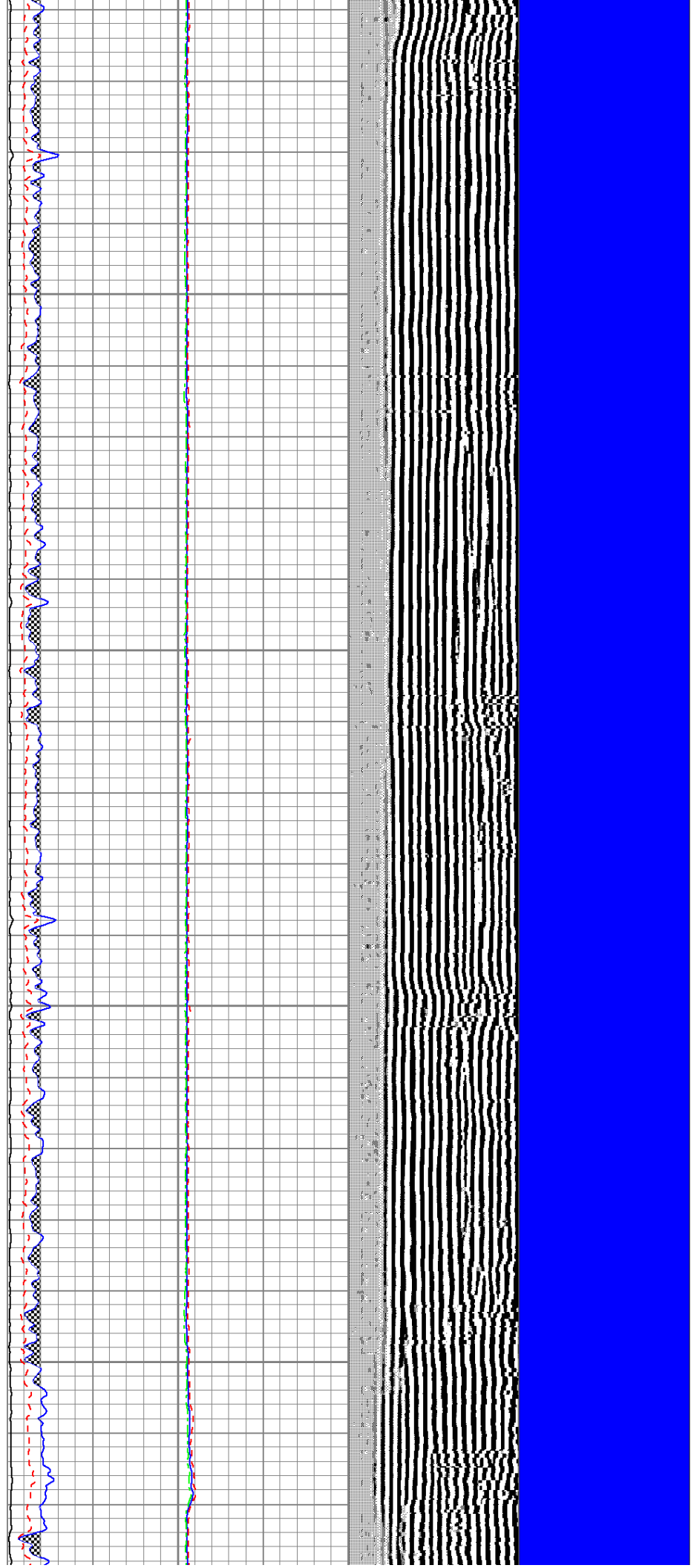


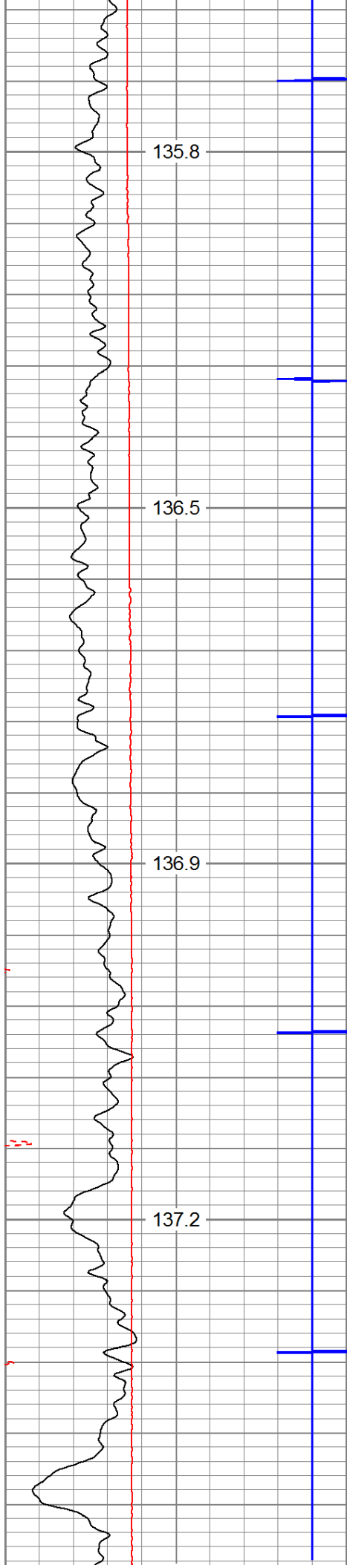




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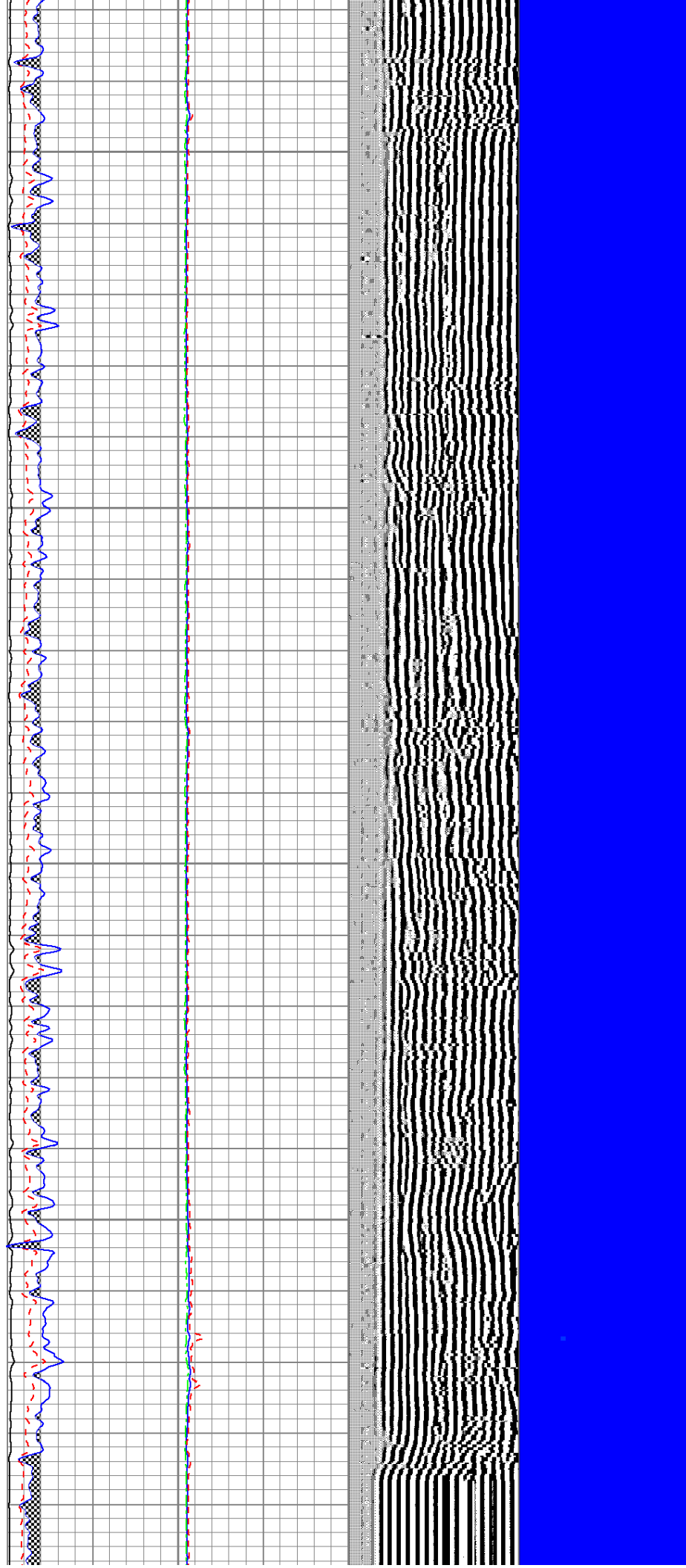
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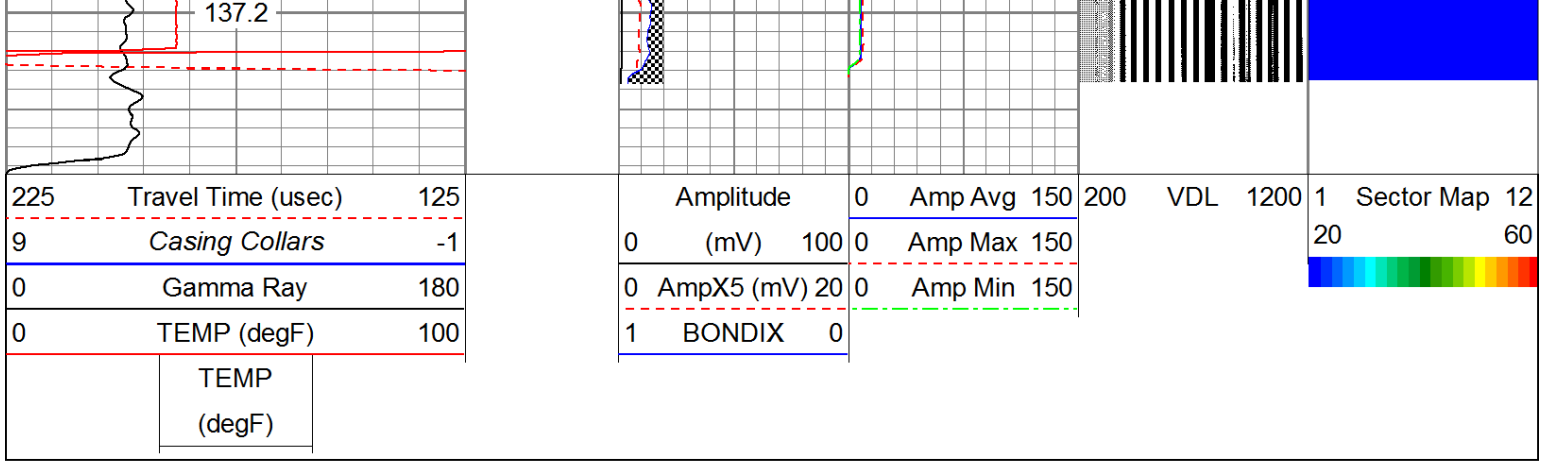




6800

6900



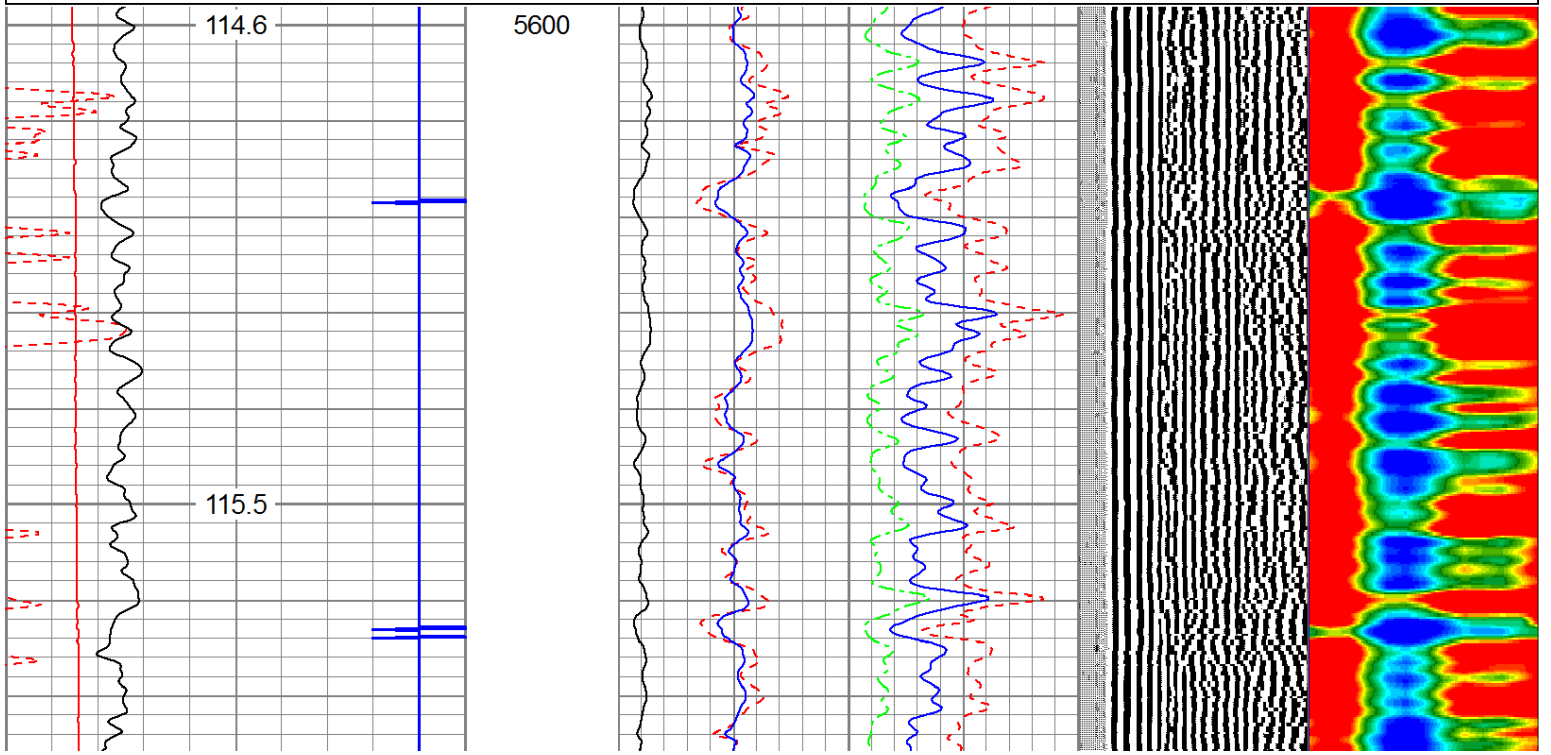
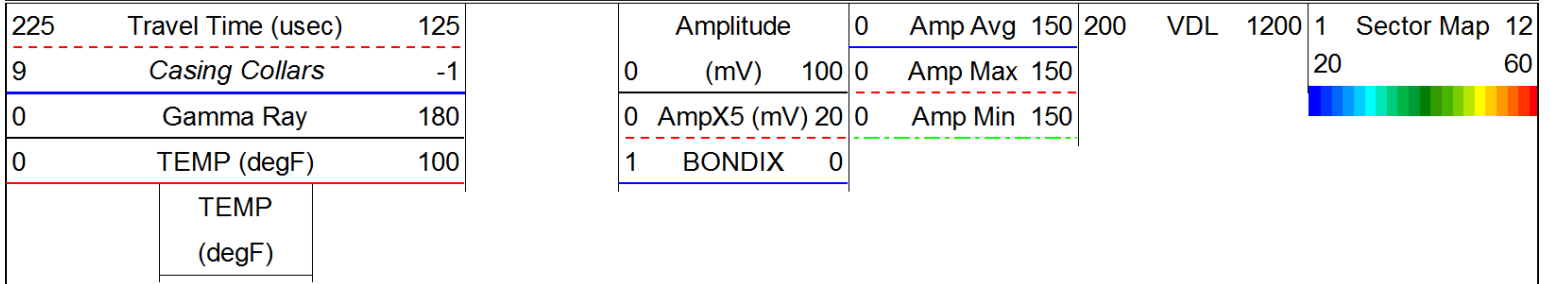


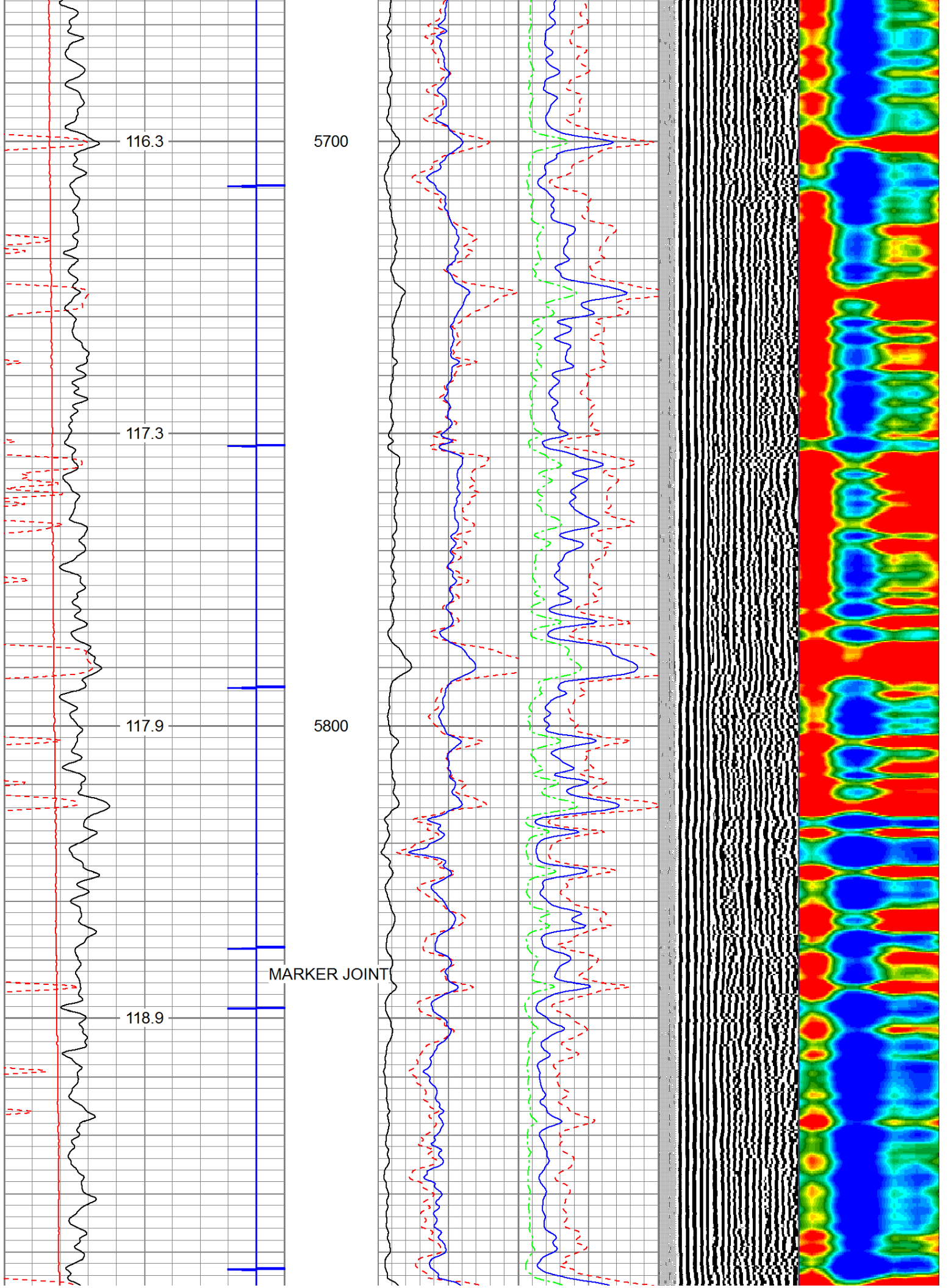
MAIN PASS 1500 PSI

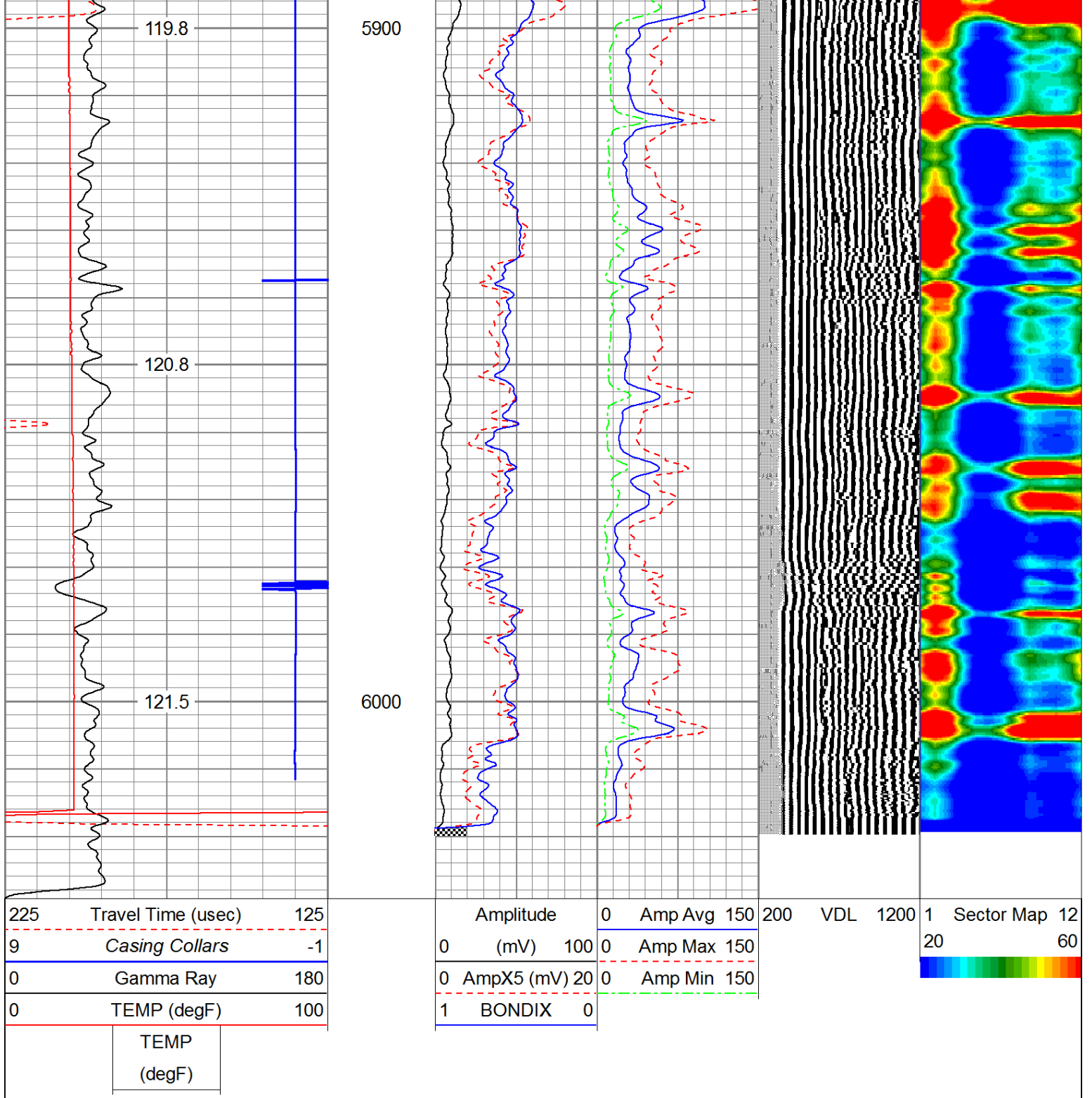


REPEAT PASS

Database File: f:\2019 antero\antero_bil1h.db
 Dataset Pathname: pass2
 Presentation Format: antero
 Dataset Creation: Thu Jan 10 16:18:16 2019 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240







REPEAT PASS

Log Variables

Database: F:\2019 ANTERO\antero_bii1h.db
 Dataset: field/well/run1/pass5.1

Top - Bottom

XXXX	PPT usec	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	SRFTEMP degF	CASEOD in
0	0	23	0	1	0.8	0	5.5
PERFS	TDEPTH	ROTTEMP	RORFID				

0	ft	degF	in
0	0	100	7.875

Calibration Report

Database File: F:\2019 ANTERO\antero_bill1h.db
 Dataset Pathname: pass5.1
 Dataset Creation: Thu Jan 10 18:31:57 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			

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					
WVES1	11.48					

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					
WV5FT	9.73					
WVTEMP	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: antero_bii1h.db: field/well/run1/pass5.1
 Total Length: 20.07 ft
 Total Weight: 250.00 lb
 O.D.: 3.25 in



Company	ANTERO RESOURCES CORPORATION	
Well	BILL UNIT 1H	
Field	MARCELLUS	
County	RITCHIE	
State	WV	Country