



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

Company ANTERO RESOURCES CORPORATION
Well WALDO UNIT 2H
Field MARCELLUS
County RITCHIE
State WV

Company ANTERO RESOURCES CORPORATION
Well WALDO UNIT 2H
Field MARCELLUS
County RITCHIE State WV

Location: API #: 47085103550000 Other Services

Permanent Datum	SEC	TWP	RGE	Elevation
Log Measured From	KB 30'			K.B.
Drilling Measured From				D.F.
				G.L.

Date	1-12-19						
Run Number	1						
Depth Driller	17997'						
Depth Logger	7077'						
Bottom Logged Interval	7077'						
Top Log Interval	SURFACE						
Open Hole Size	5.5" CASING						
Type Fluid	WATER						
Density / Viscosity	N/A						
Max. Recorded Temp.	138 DEG						
Estimated Cement Top	3280'						
Time Well Ready	N/A						
Time Logger on Bottom	10:57						
Equipment Number	640		CREW				
Location	BRIDGEPORT WW		K NICHOLAS				
Recorded By	PAT DAVIDSON		J TATE				
Witnessed By	JOHN MAXWELL		J AMAN				
Borehole Record							
Run Number	Bit	From	To	Size	Weight	From	To
				13.375		SURFACE	563'
				9.625		SURFACE	2562'
				5.5	23#	SURFACE	17997'
Casing Record							

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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

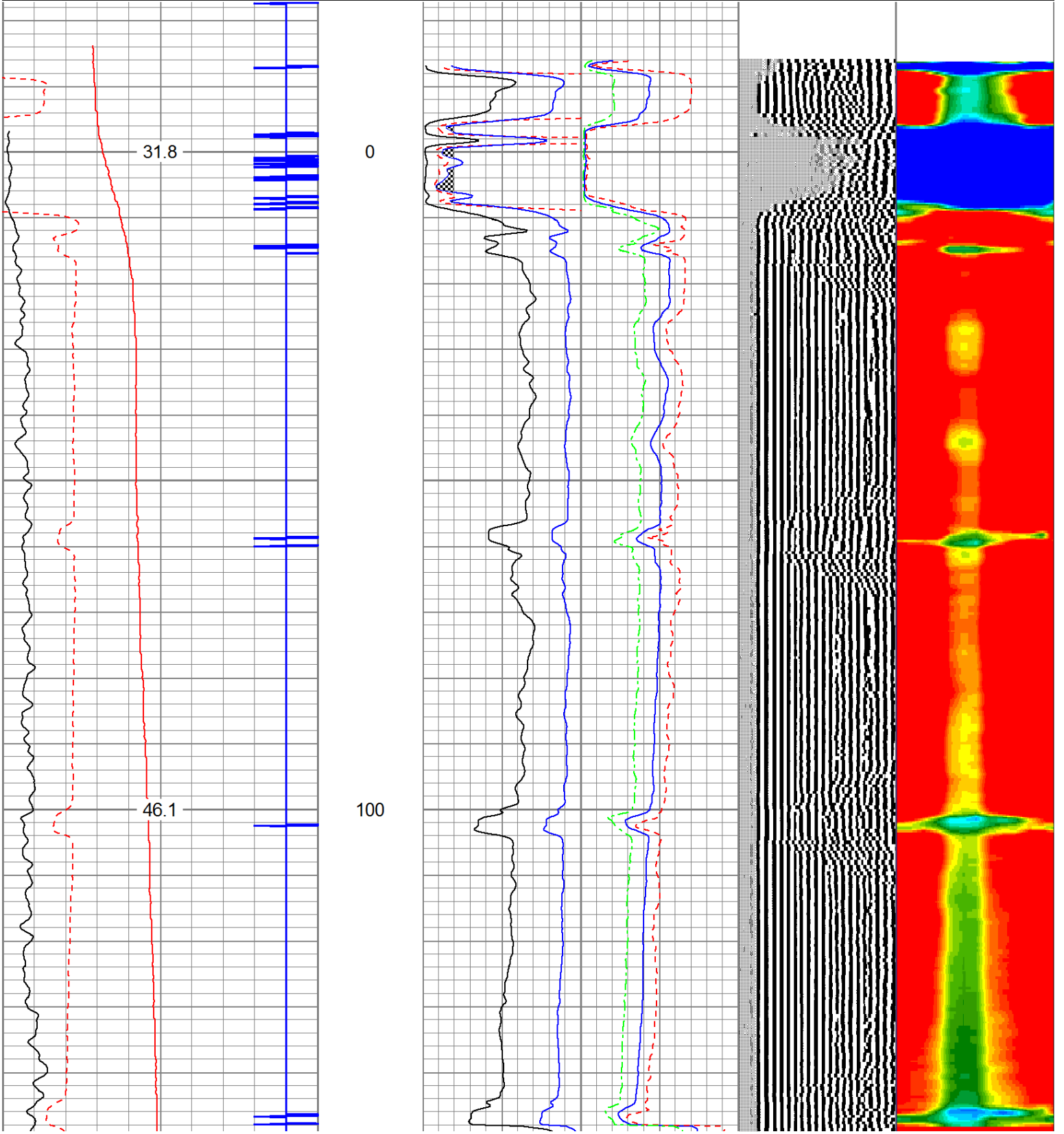
CBL IS CORRELATED TO PRODUCTION CASING TALLEY MARKER JOINT
DEPTH SHIFTED 0' TO KB AFTER CORRELATION
MARKER JOINT RECORDED AT 5891' TO 5902'
BOTTOM HOLE TEMP 138 DEG
LOG RAN UNDER PRESSURE @1500PSI

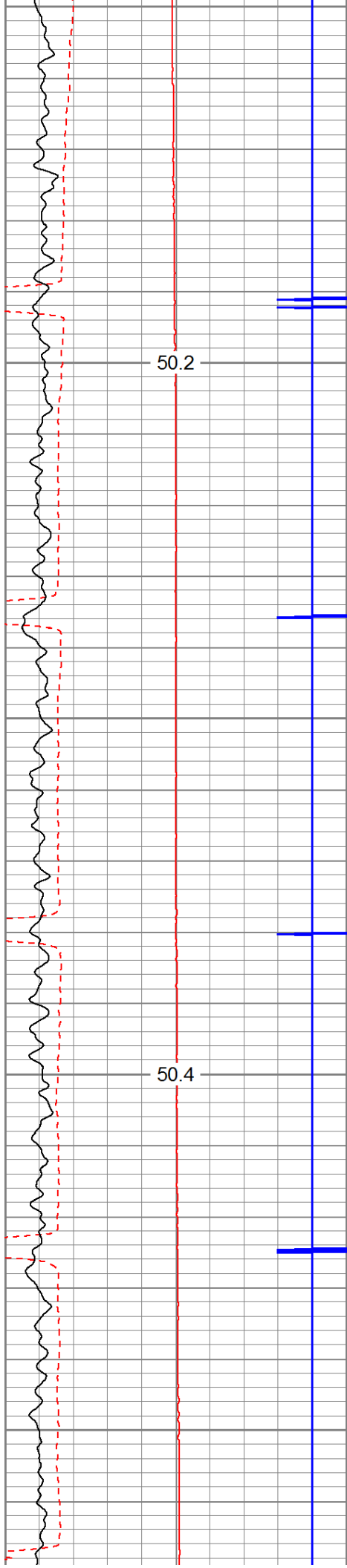


MAIN PASS 1500 PSI

Database File: antero_waldo2h.db
 Dataset Pathname: merge1
 Presentation Format: antero
 Dataset Creation: Tue Jan 15 20:01:57 2019
 Charted by: Depth in Feet scaled 1:240

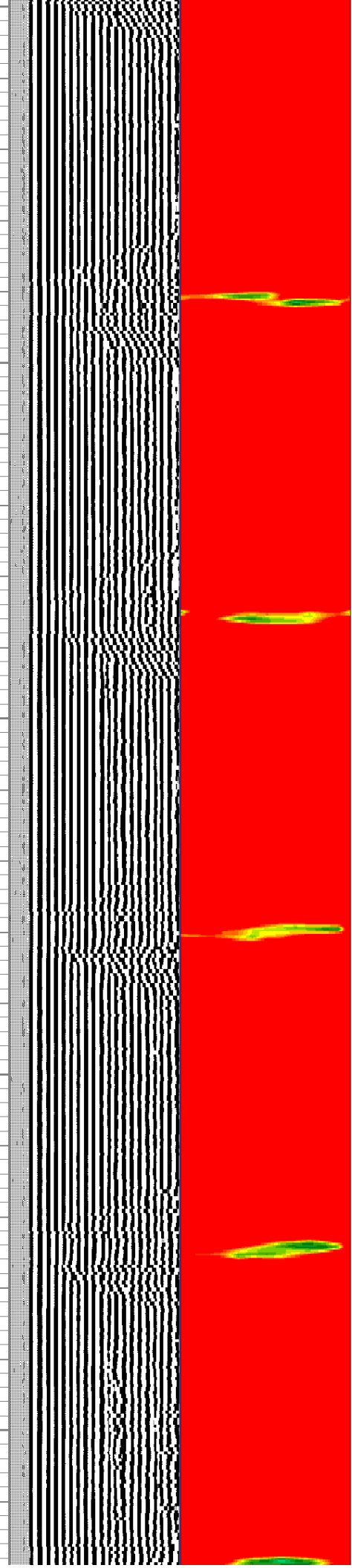
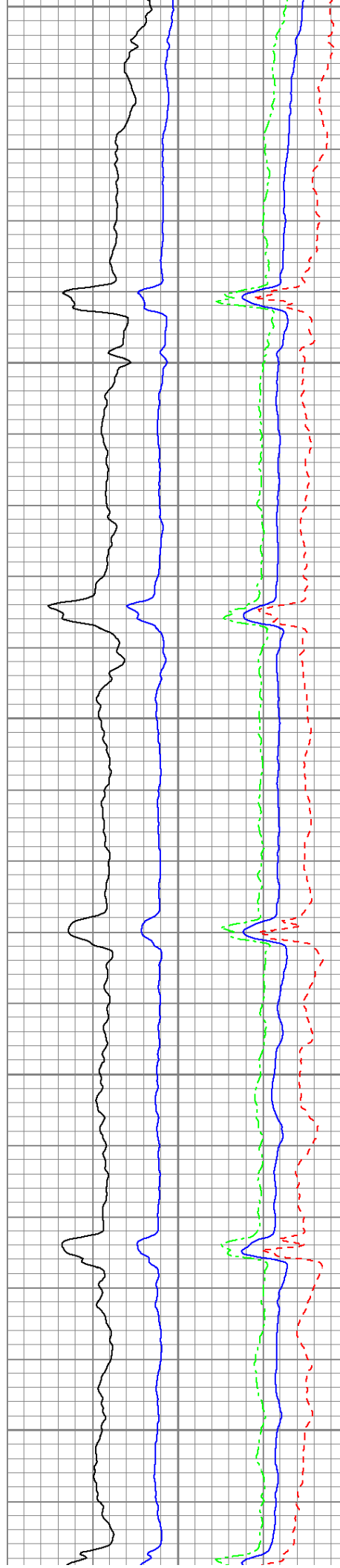
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9	Casing Collars	-1	(mV)	100	Amp Max	150				20		60
0	Gamma Ray	180	AmpX5 (mV)	20	Amp Min	150						
0	TEMP (degF)	100	BONDIX	0								
	TEMP (degF)											

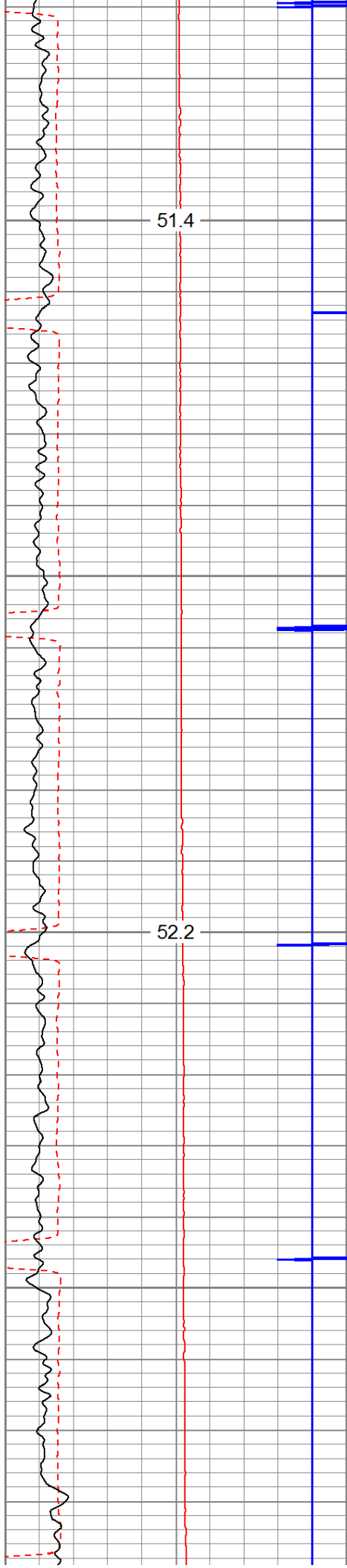




200

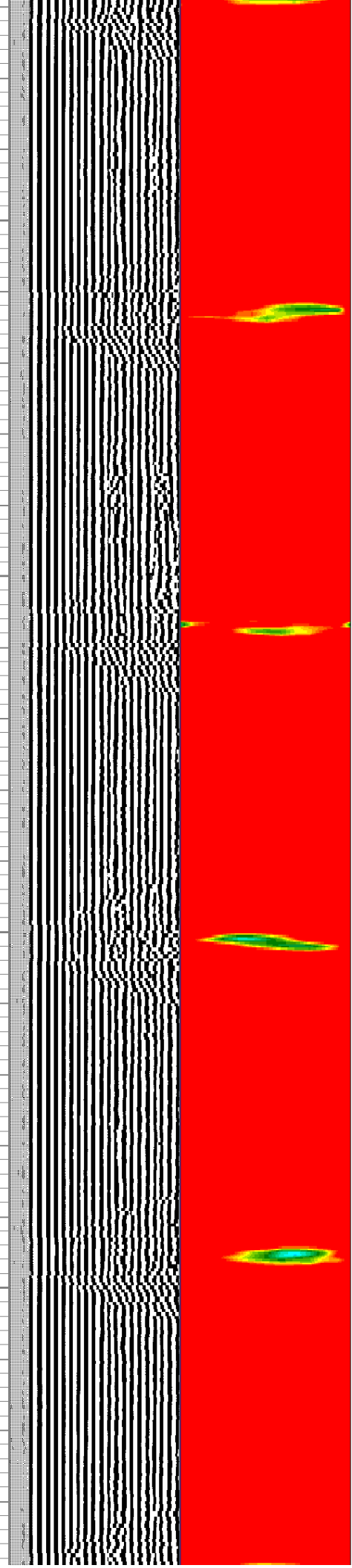
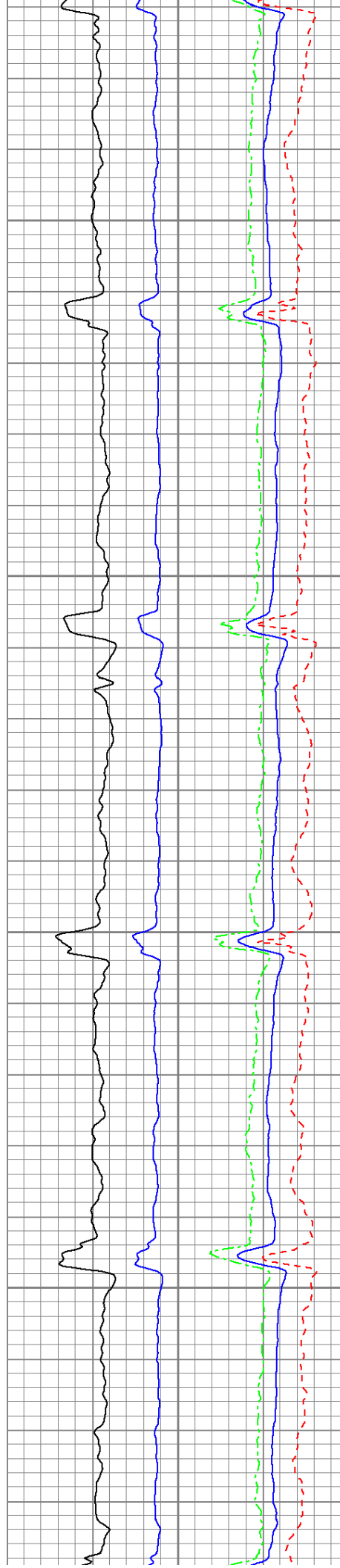
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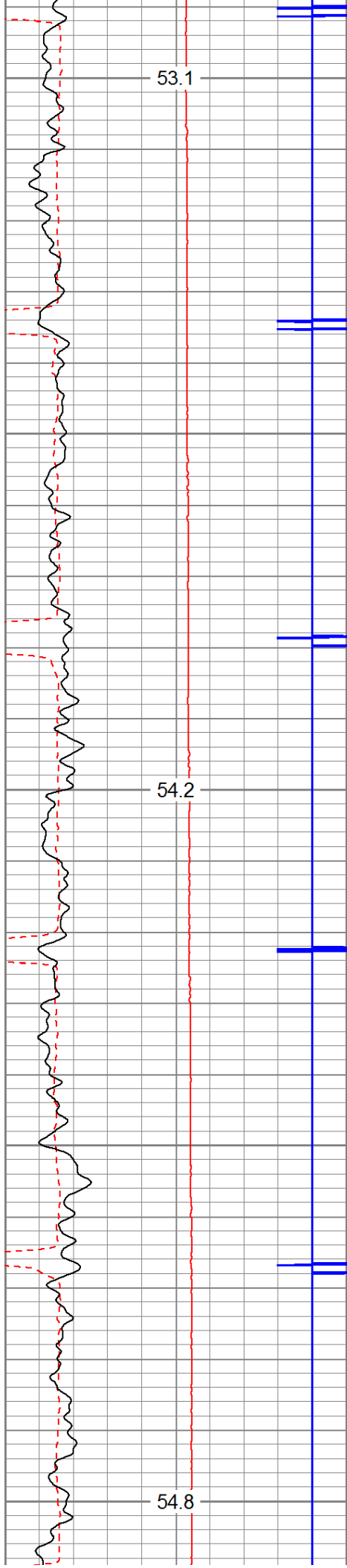




400

500

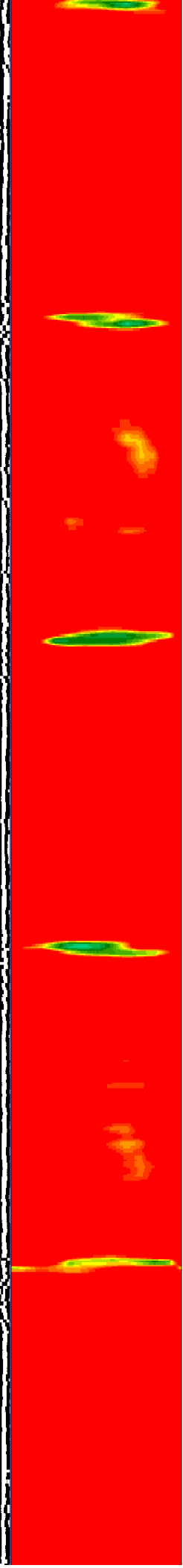
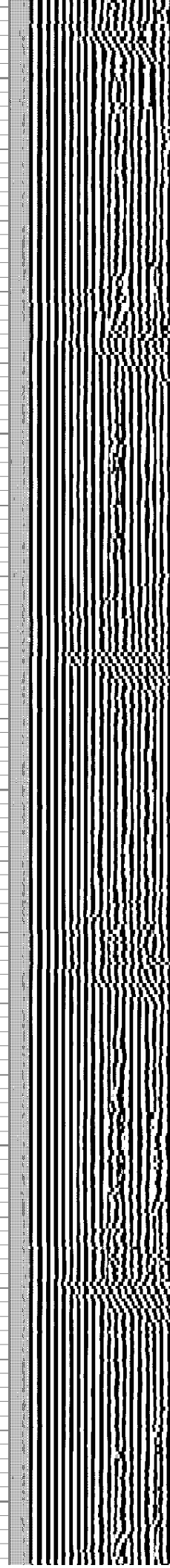
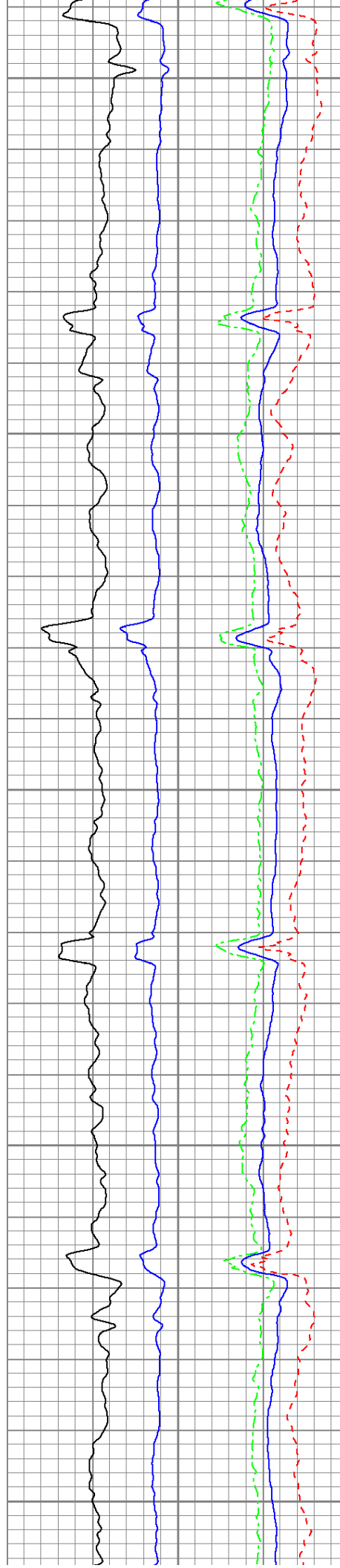


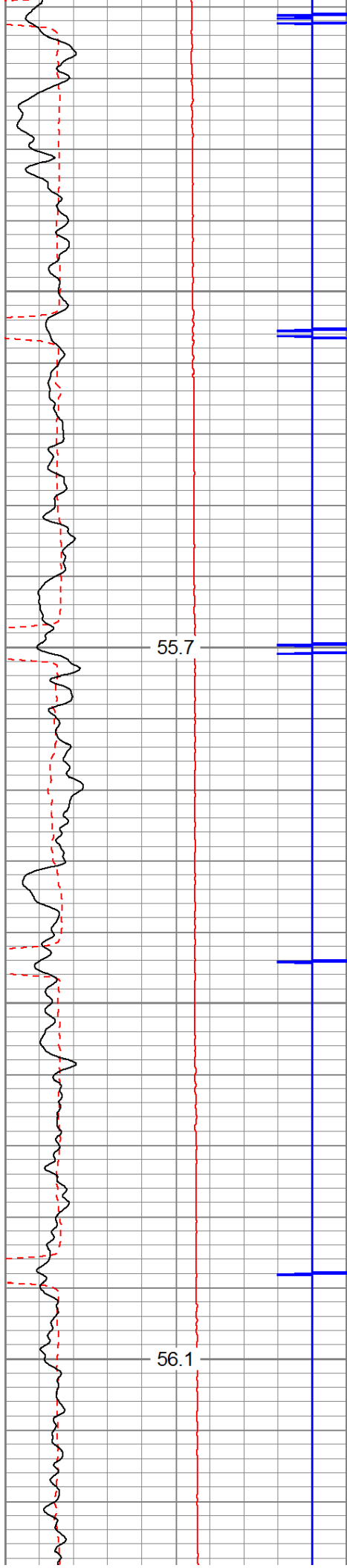


600

700

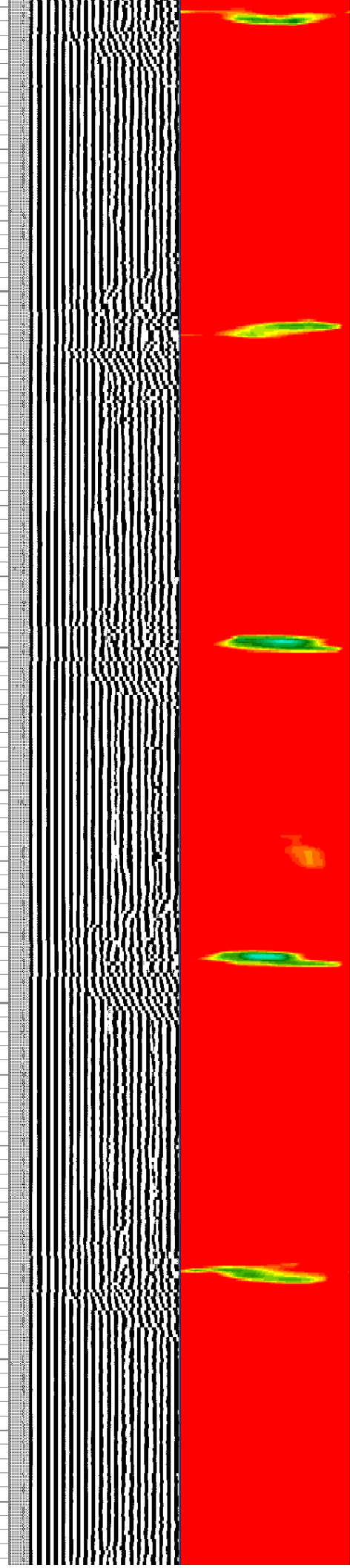
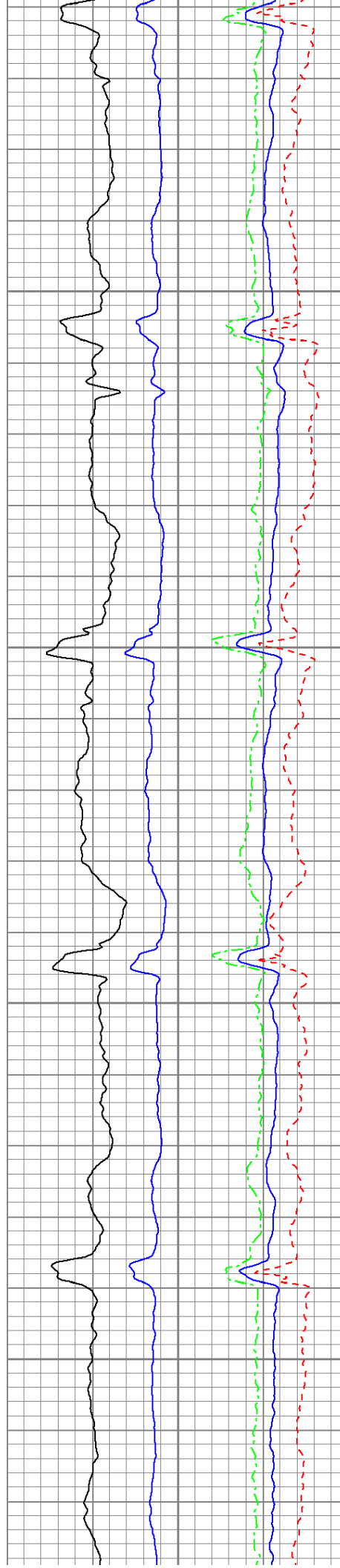
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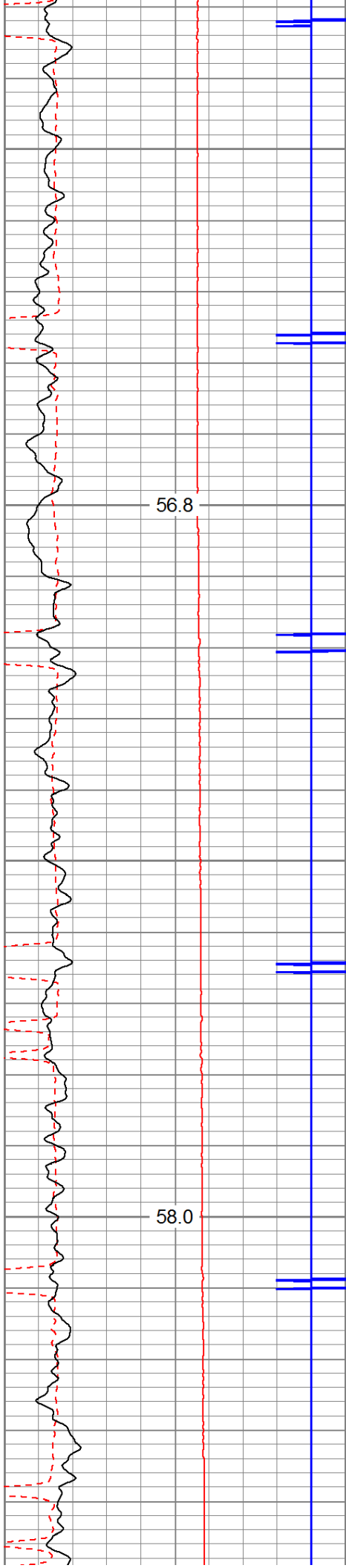




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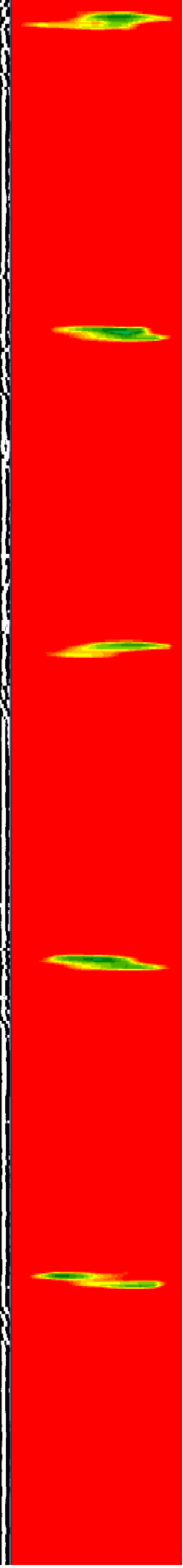
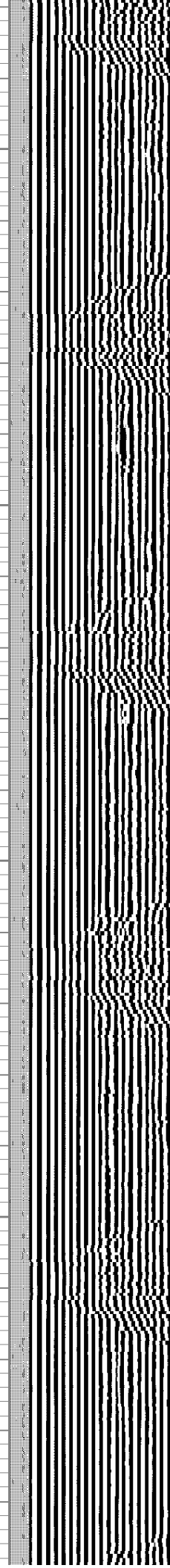
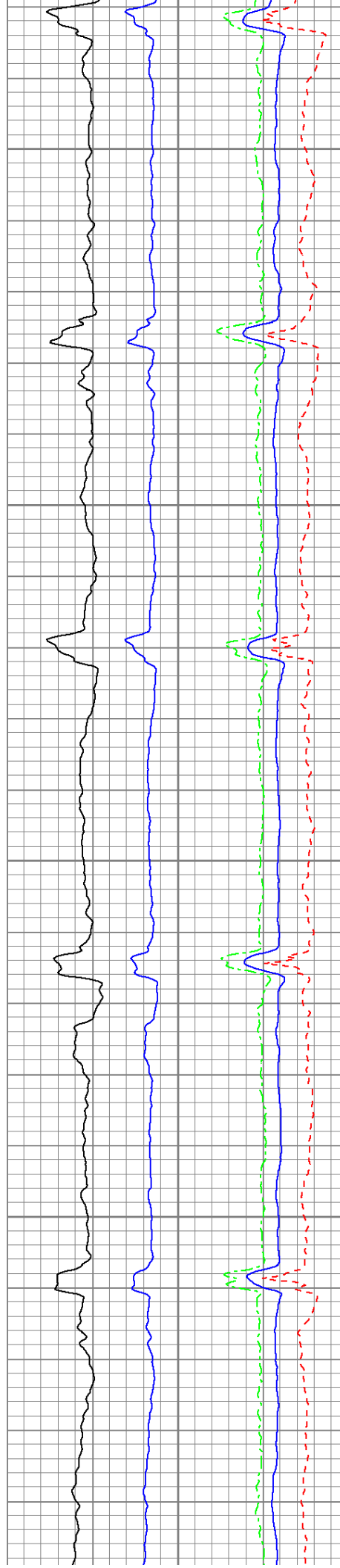
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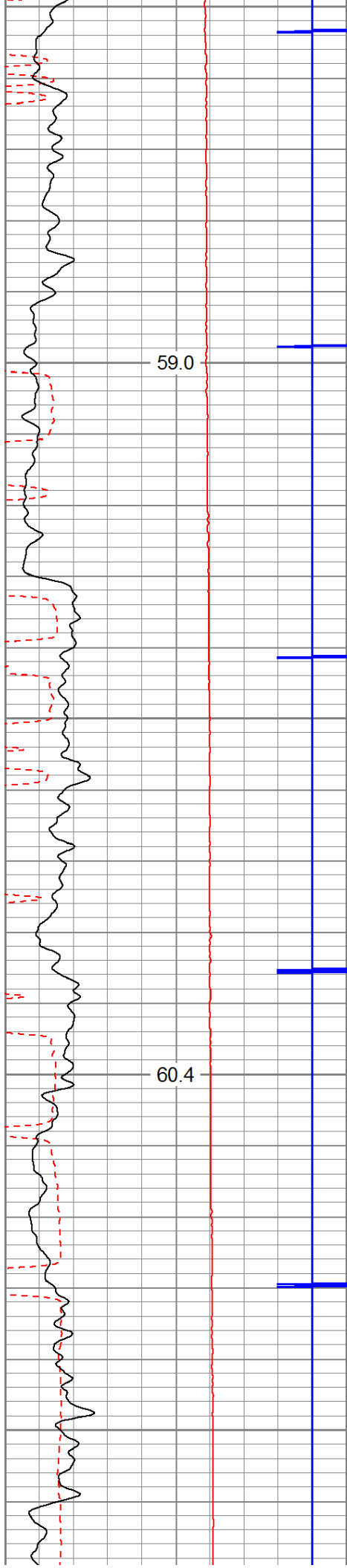




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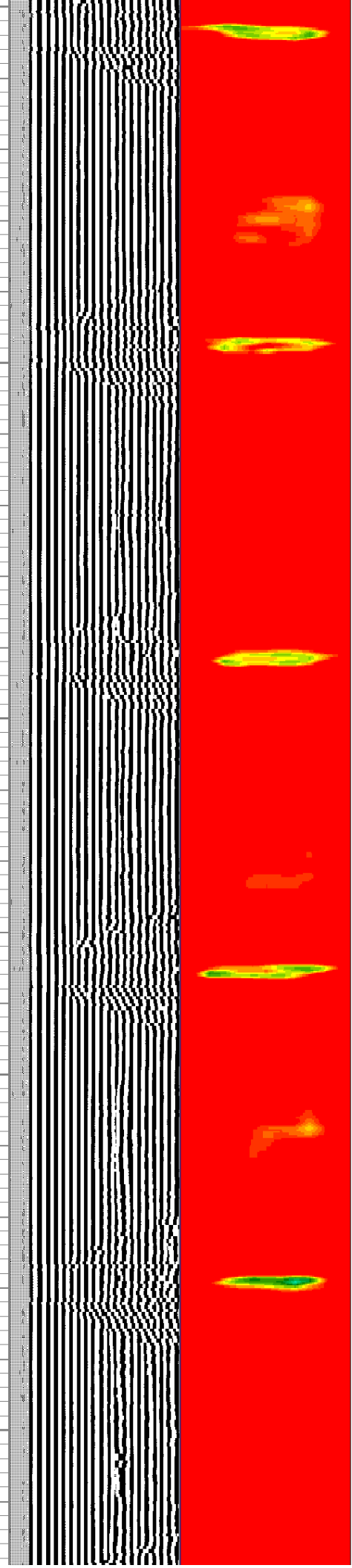
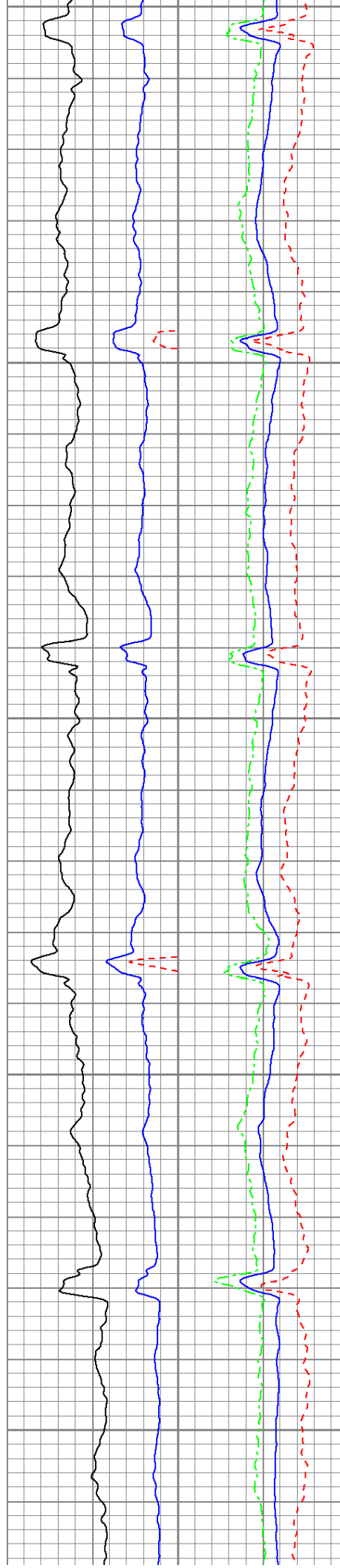
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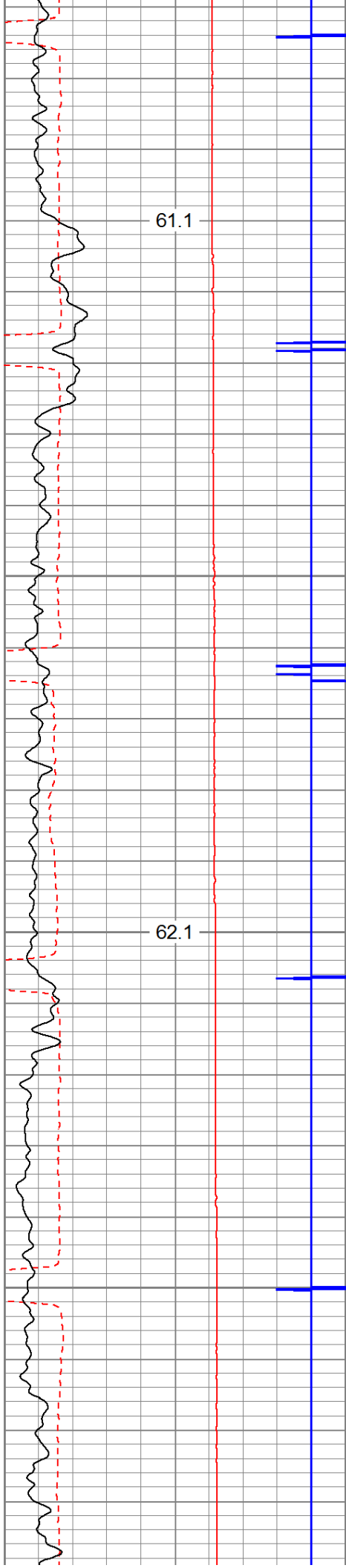




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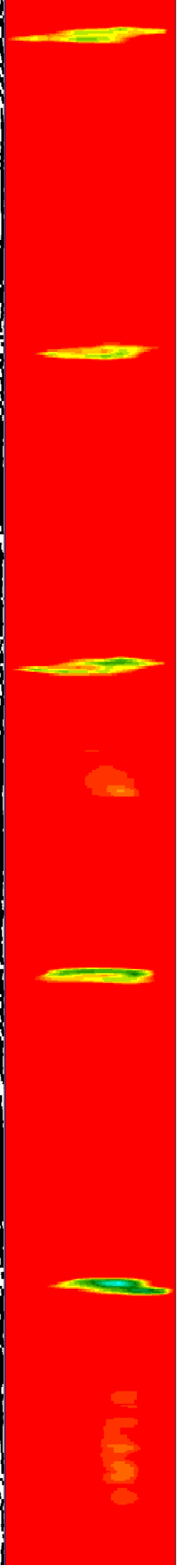
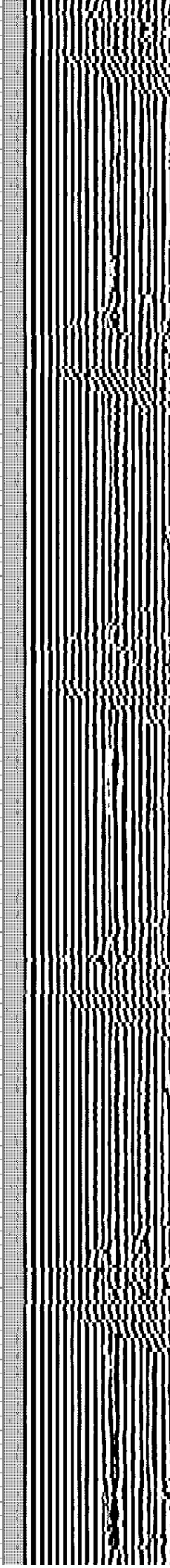
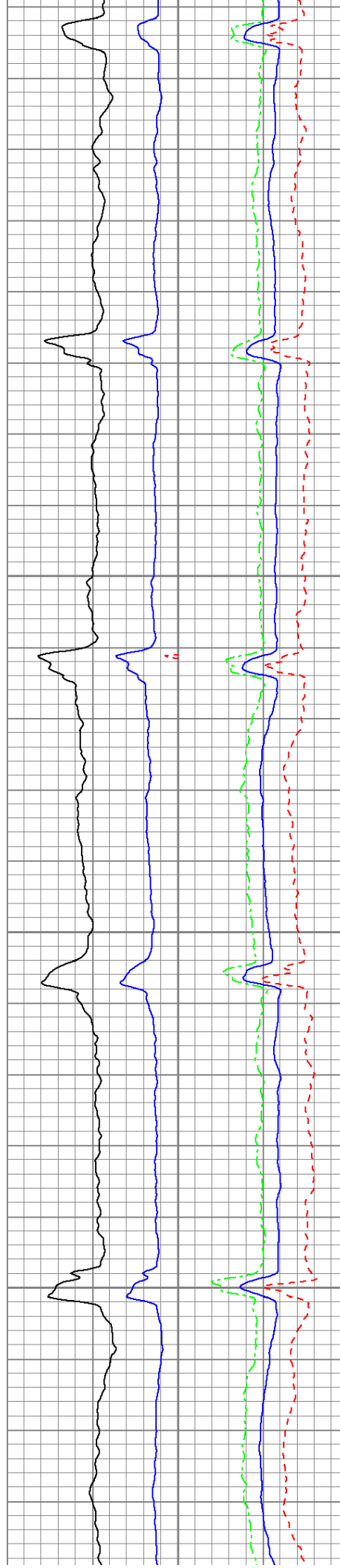
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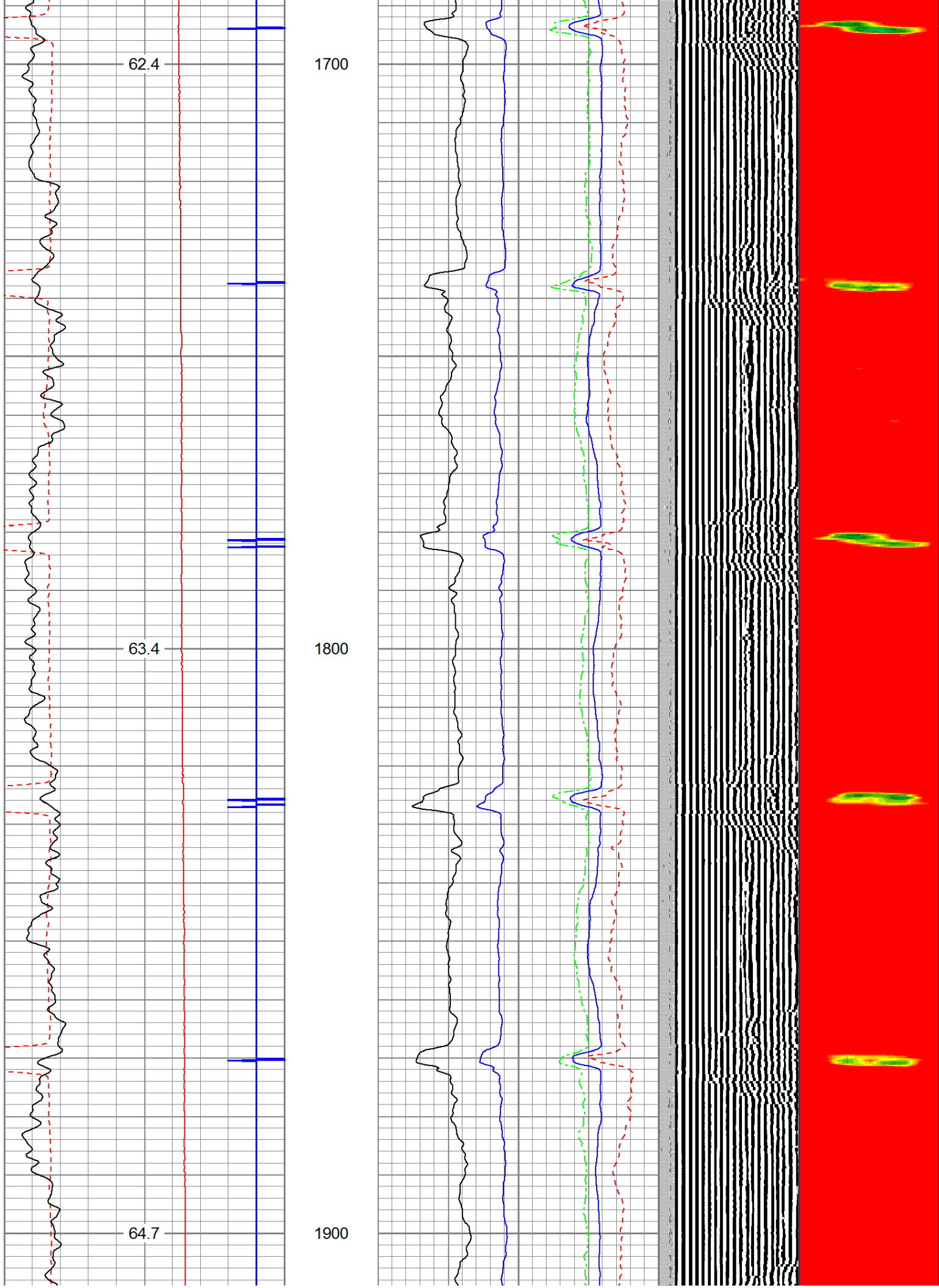


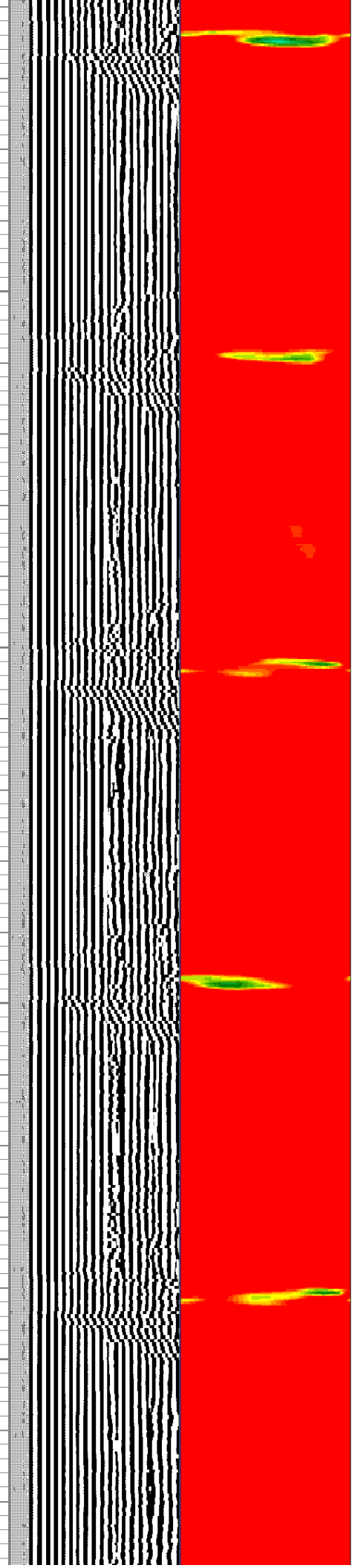
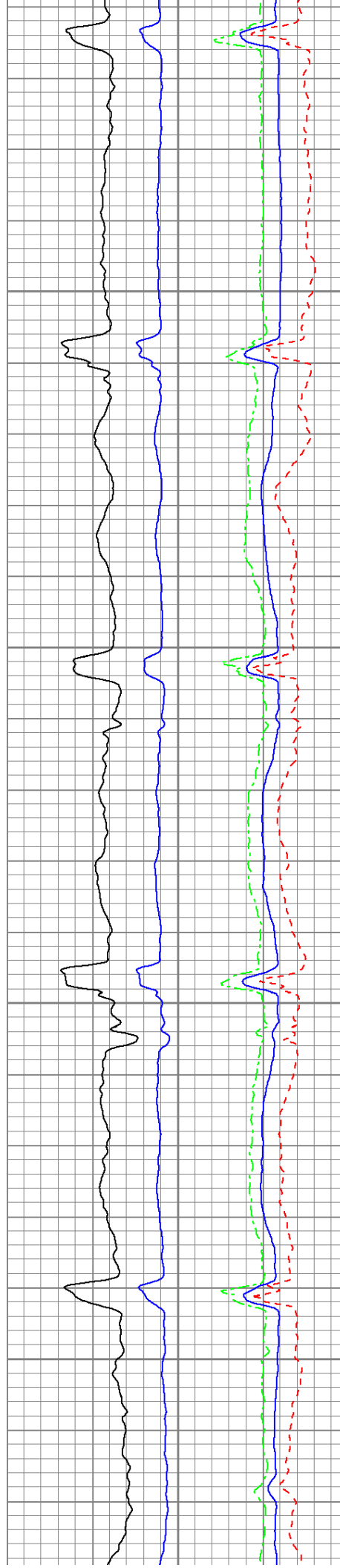
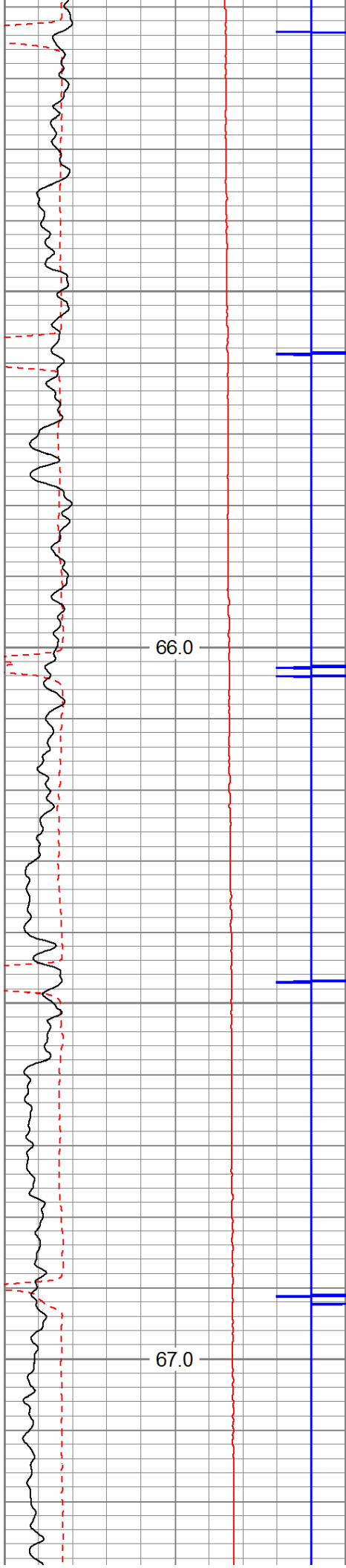


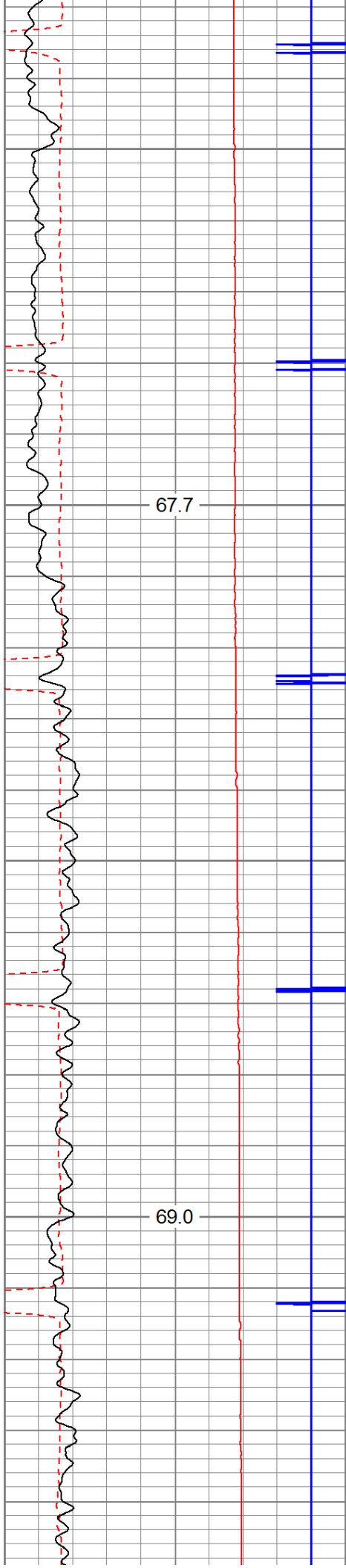
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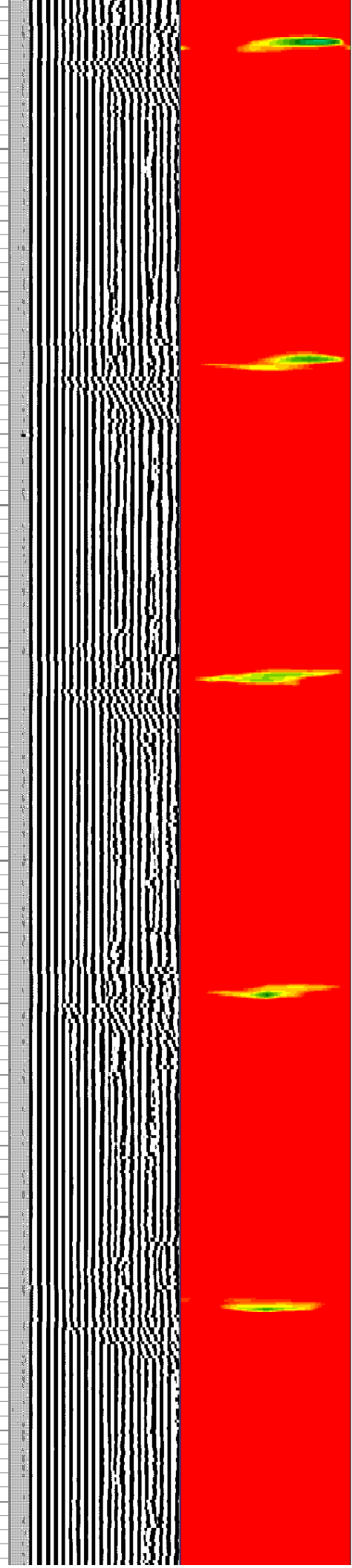
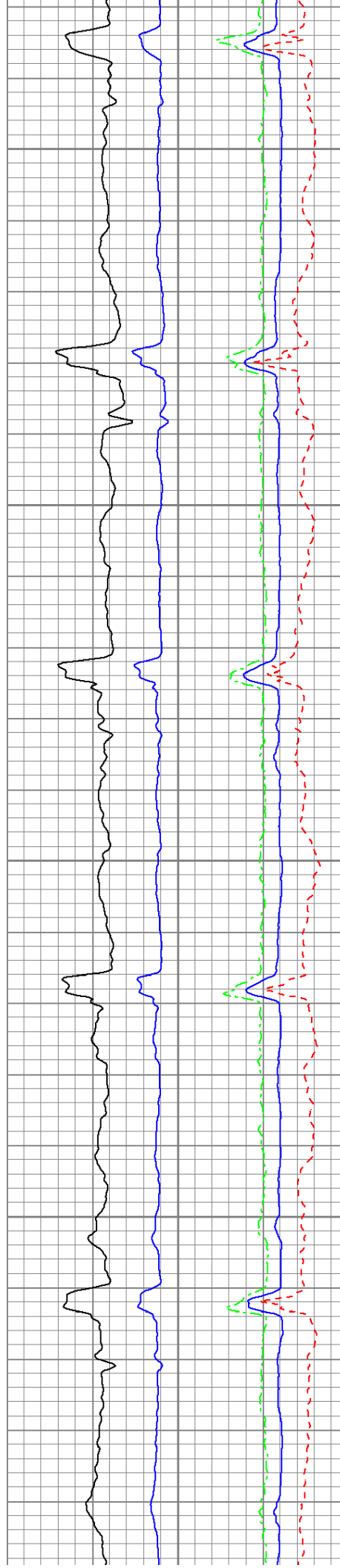


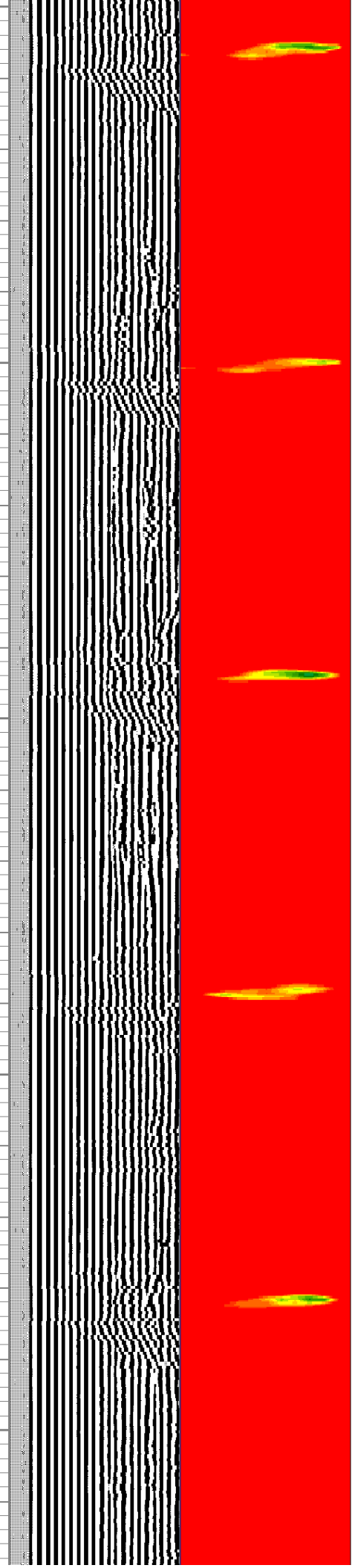
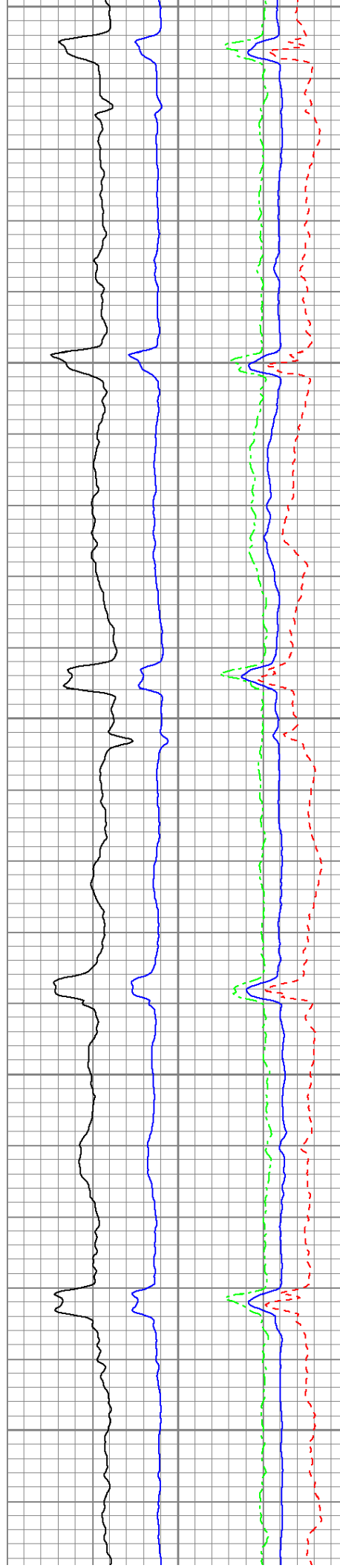
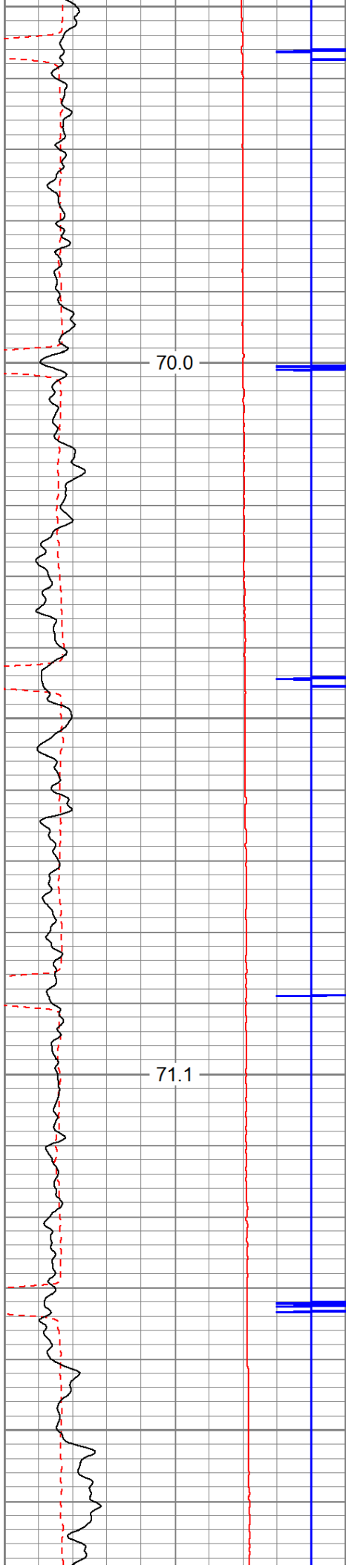


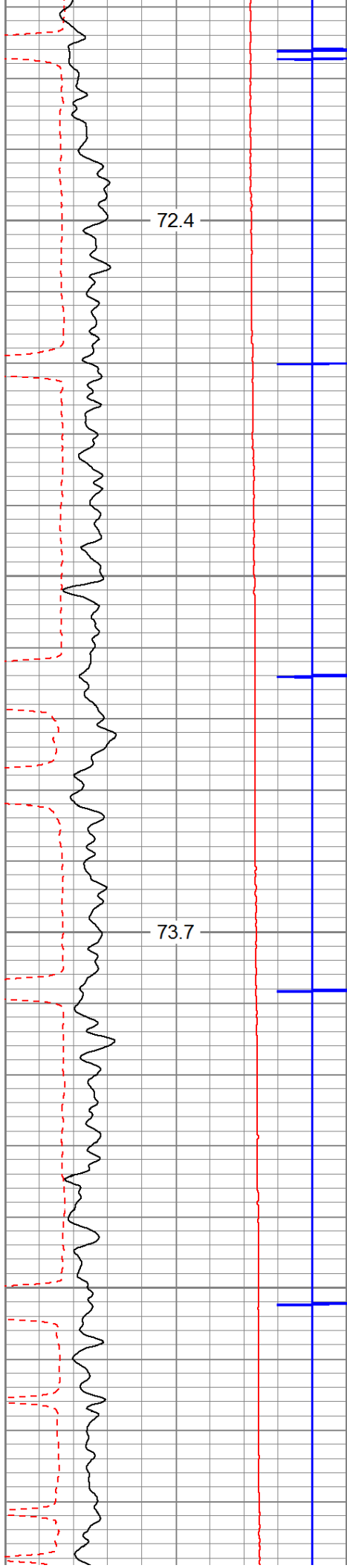


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2300





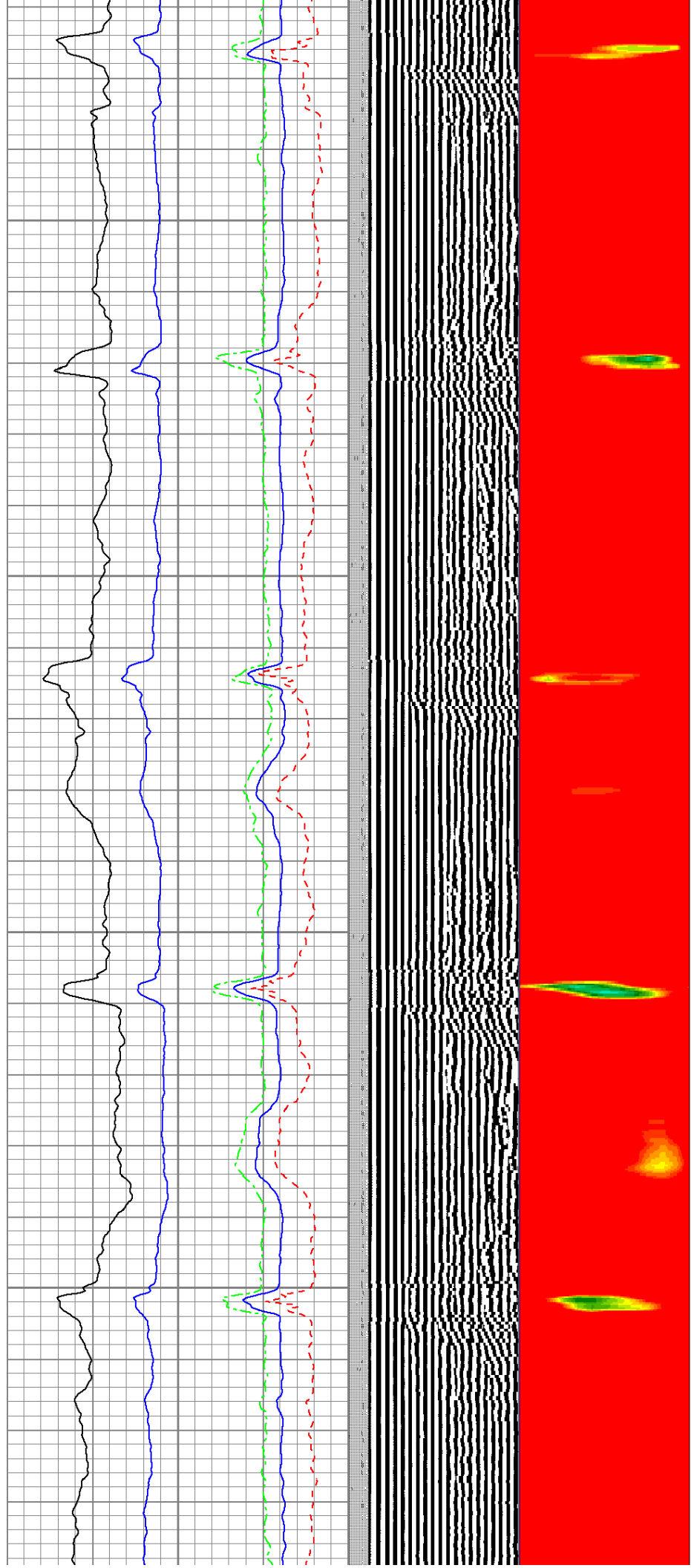


2600

2700

72.4

73.7

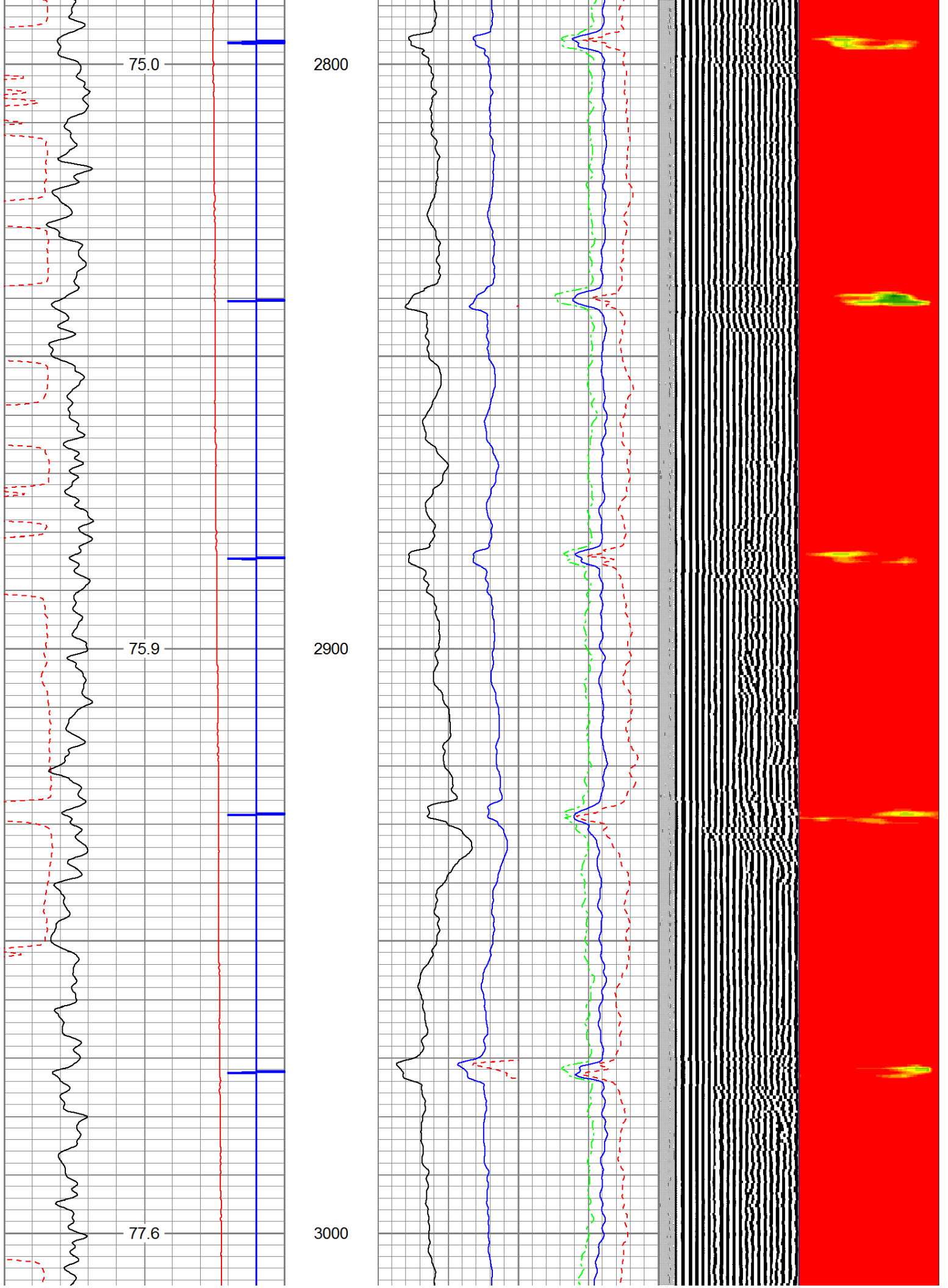


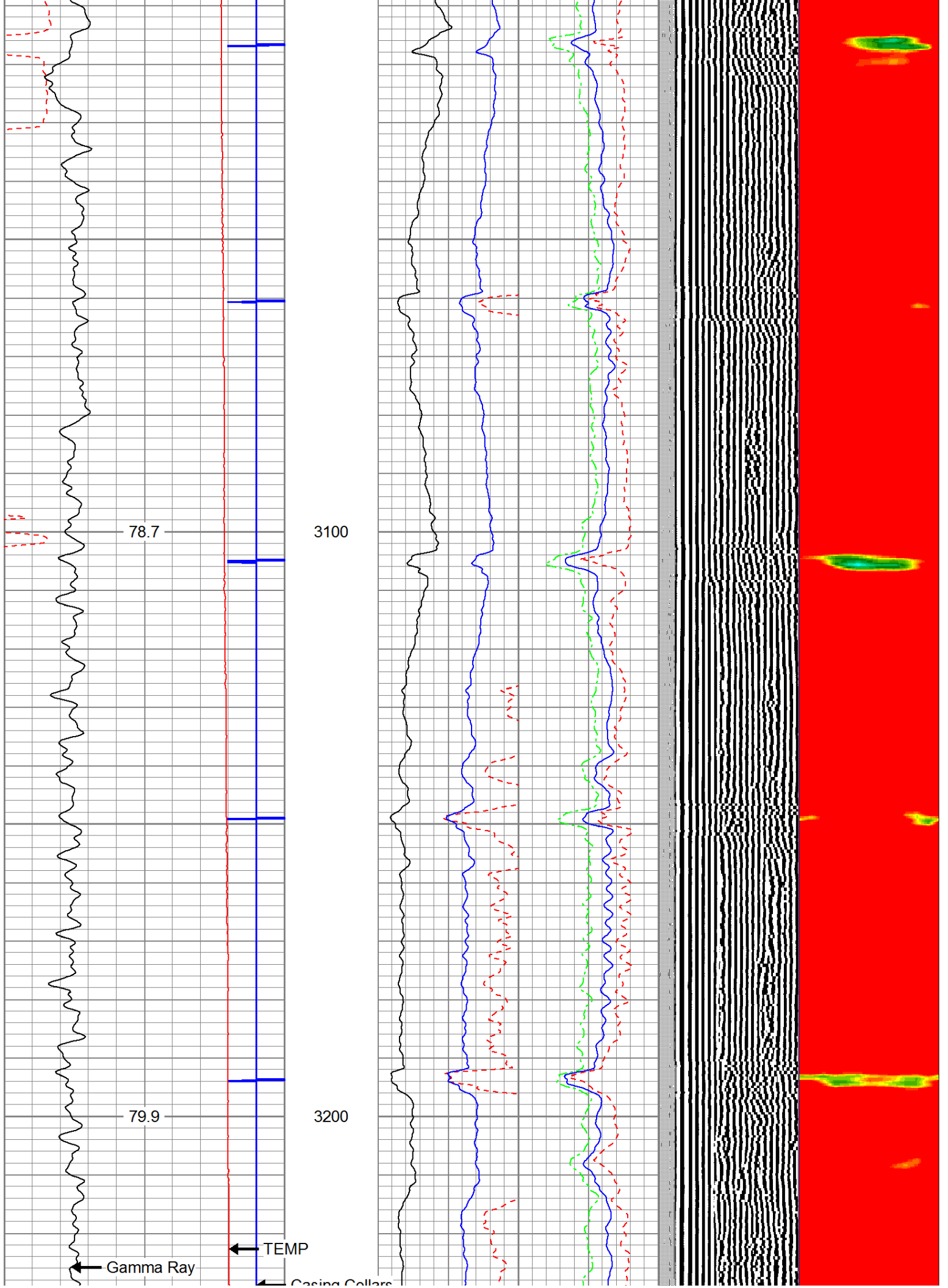
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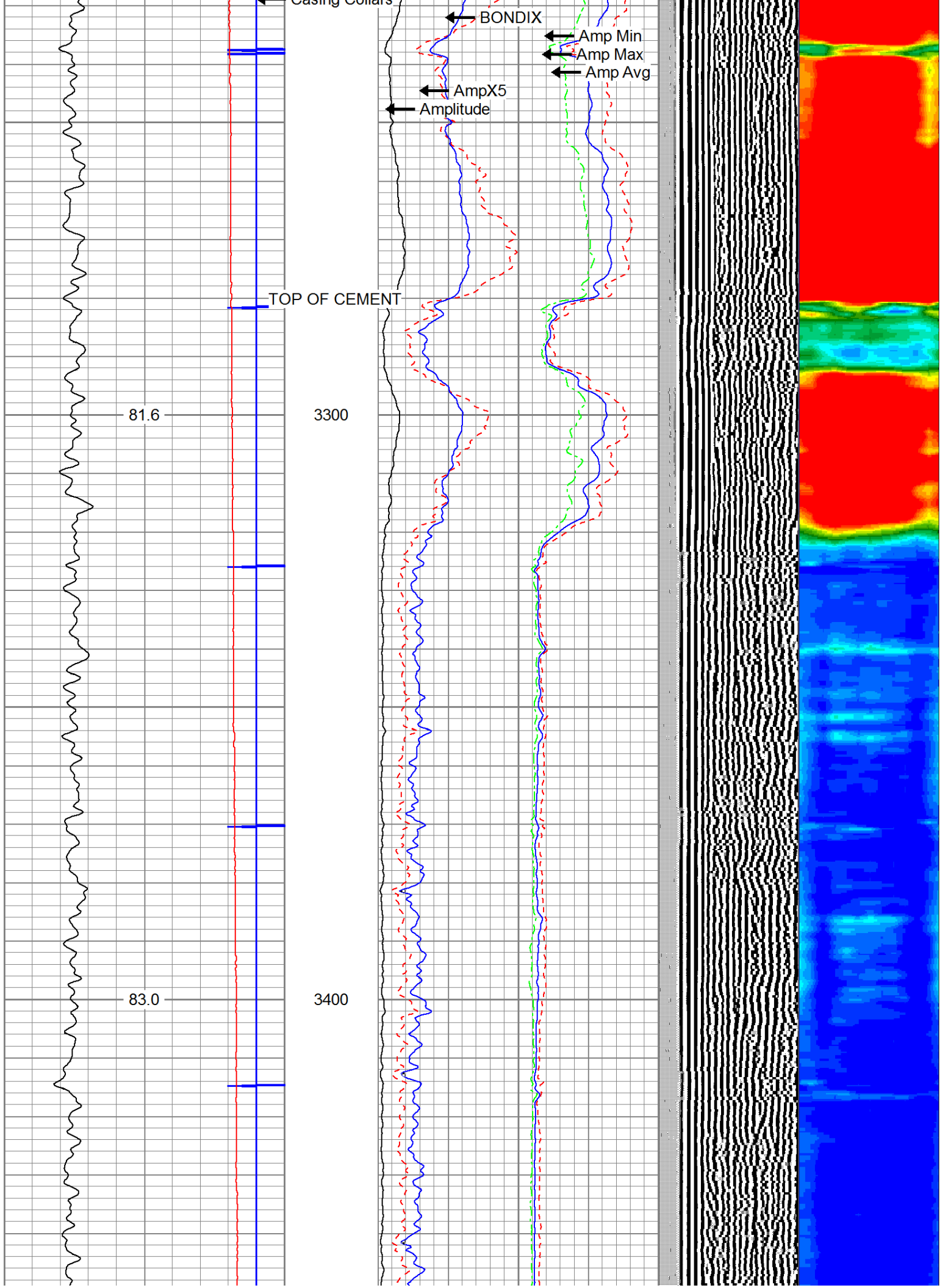
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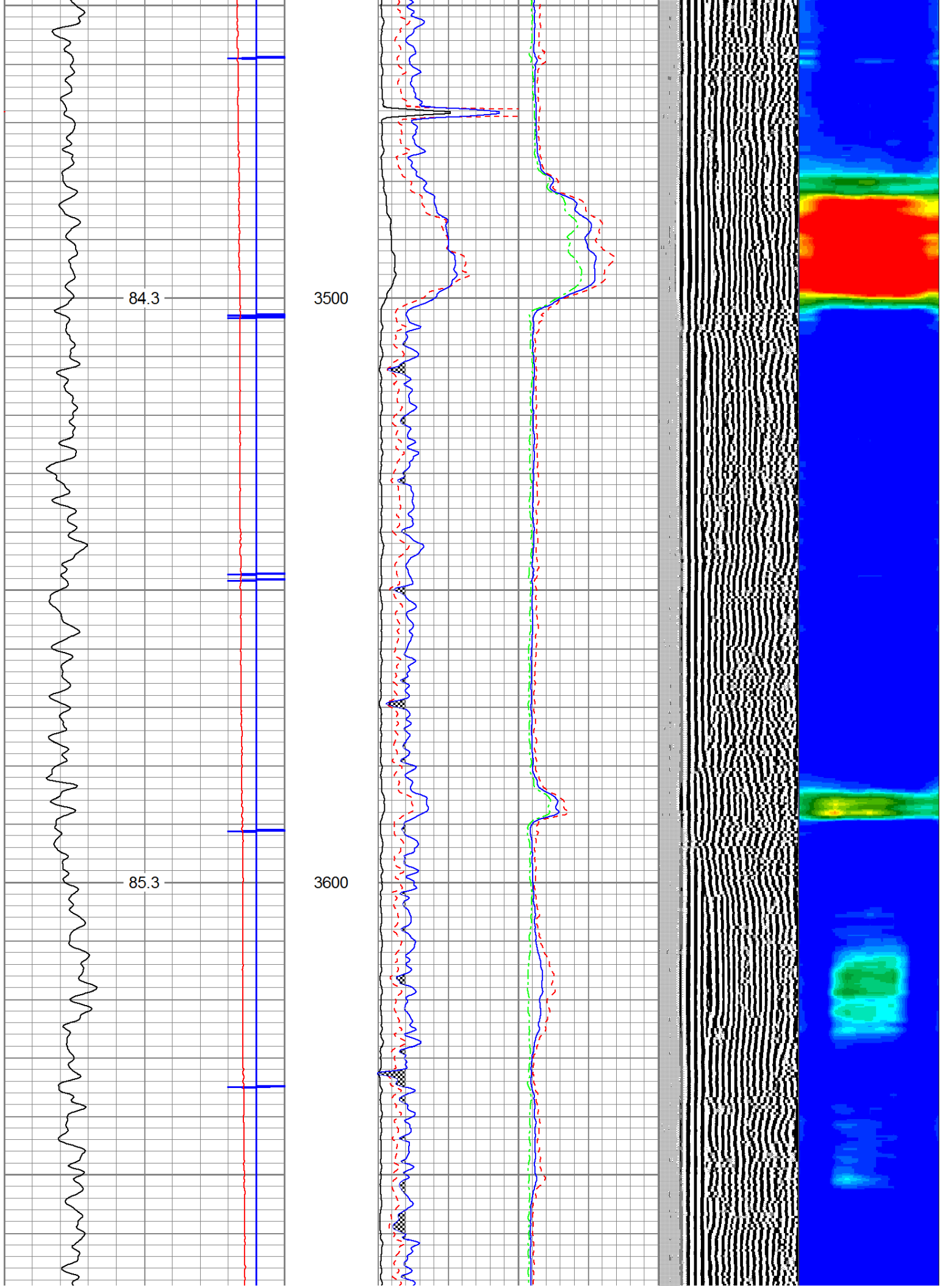
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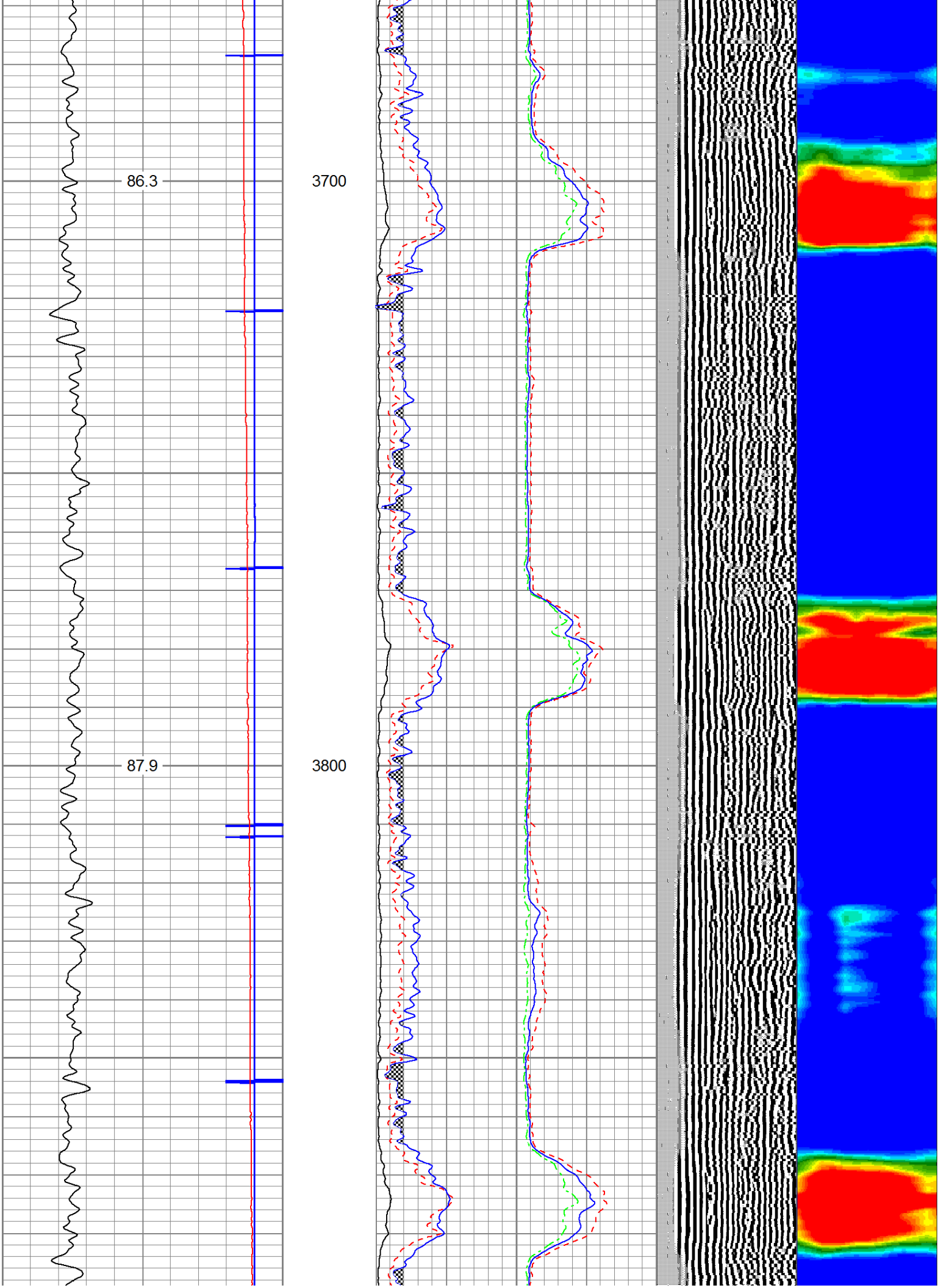
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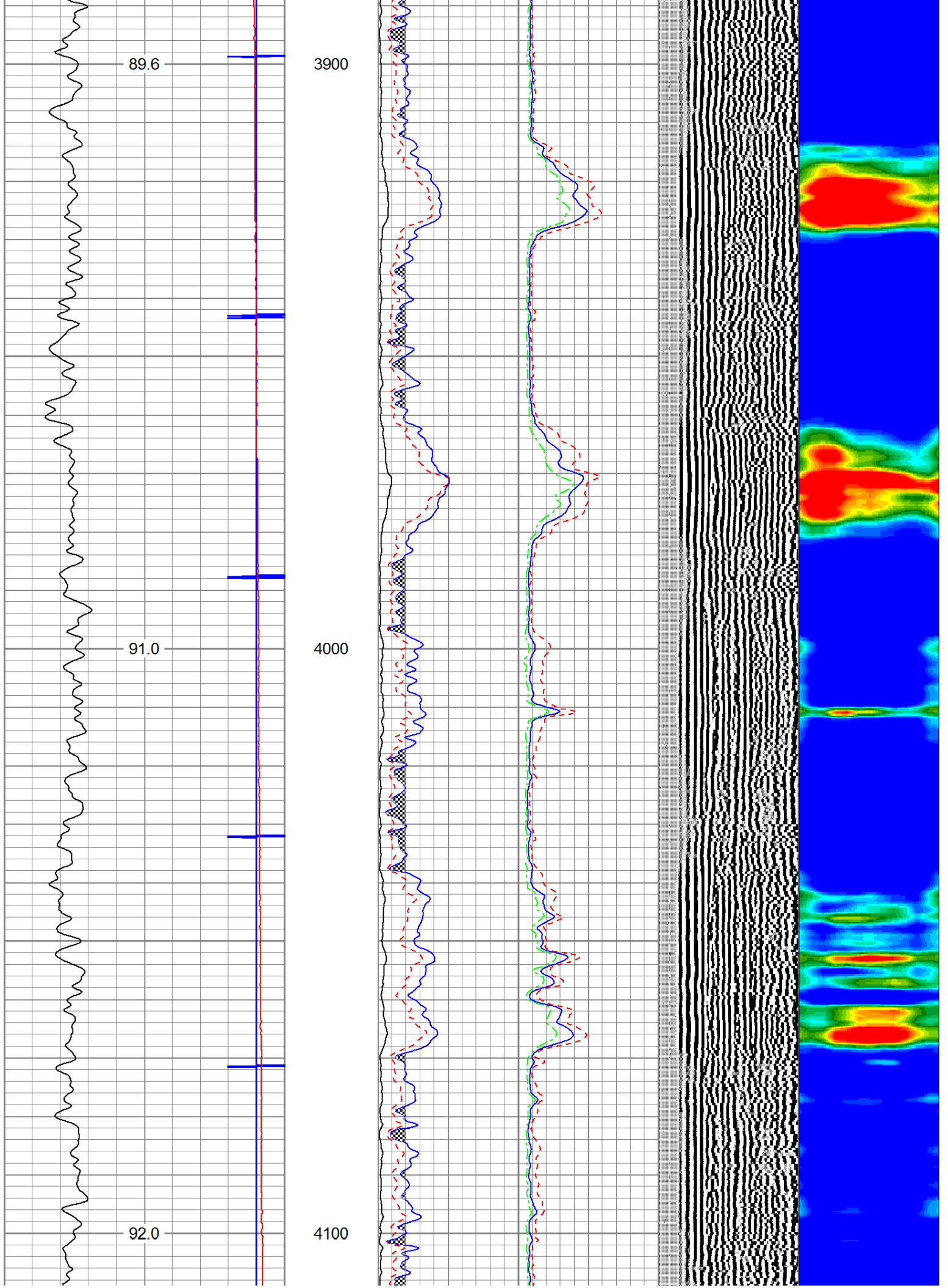


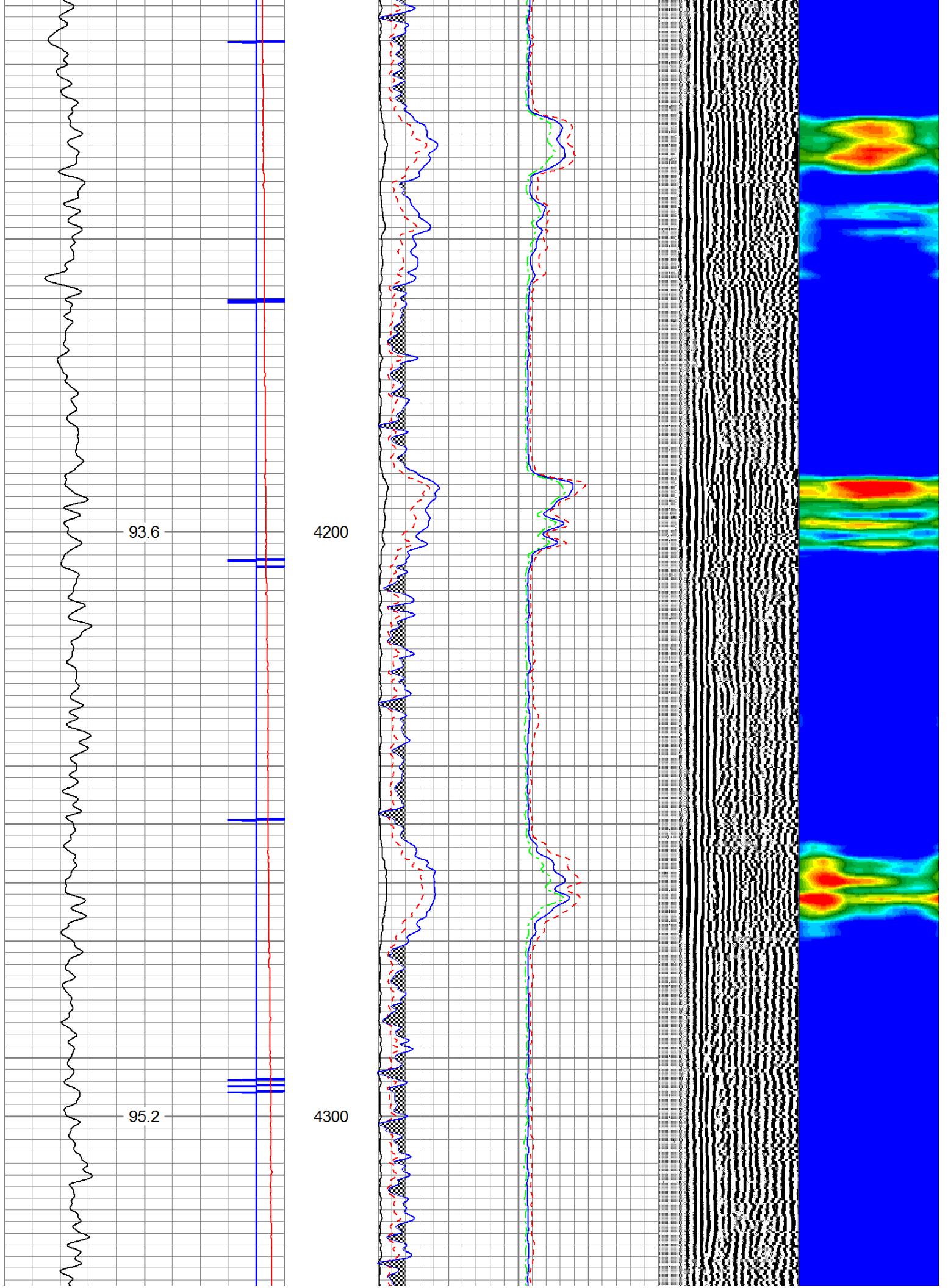


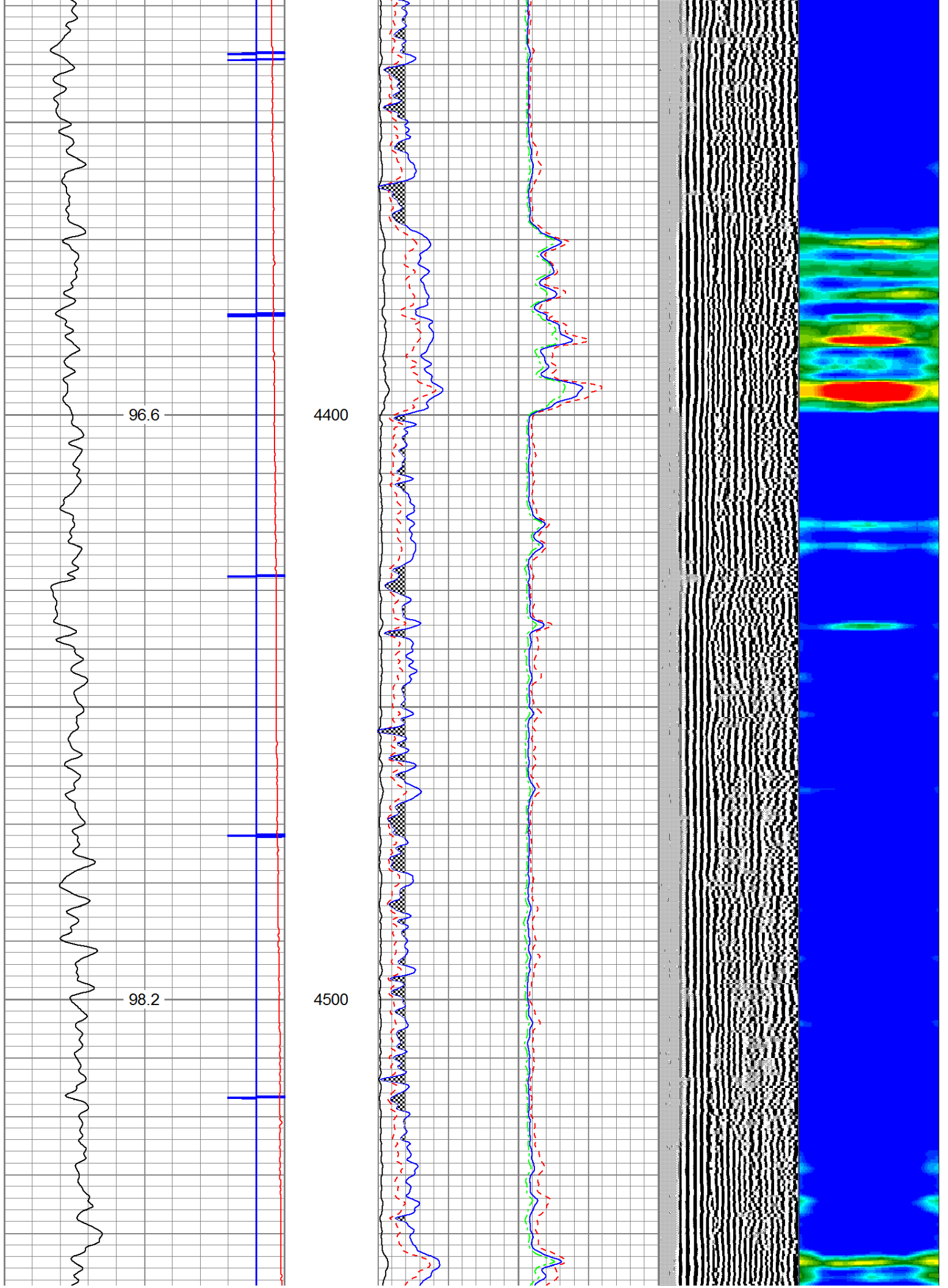


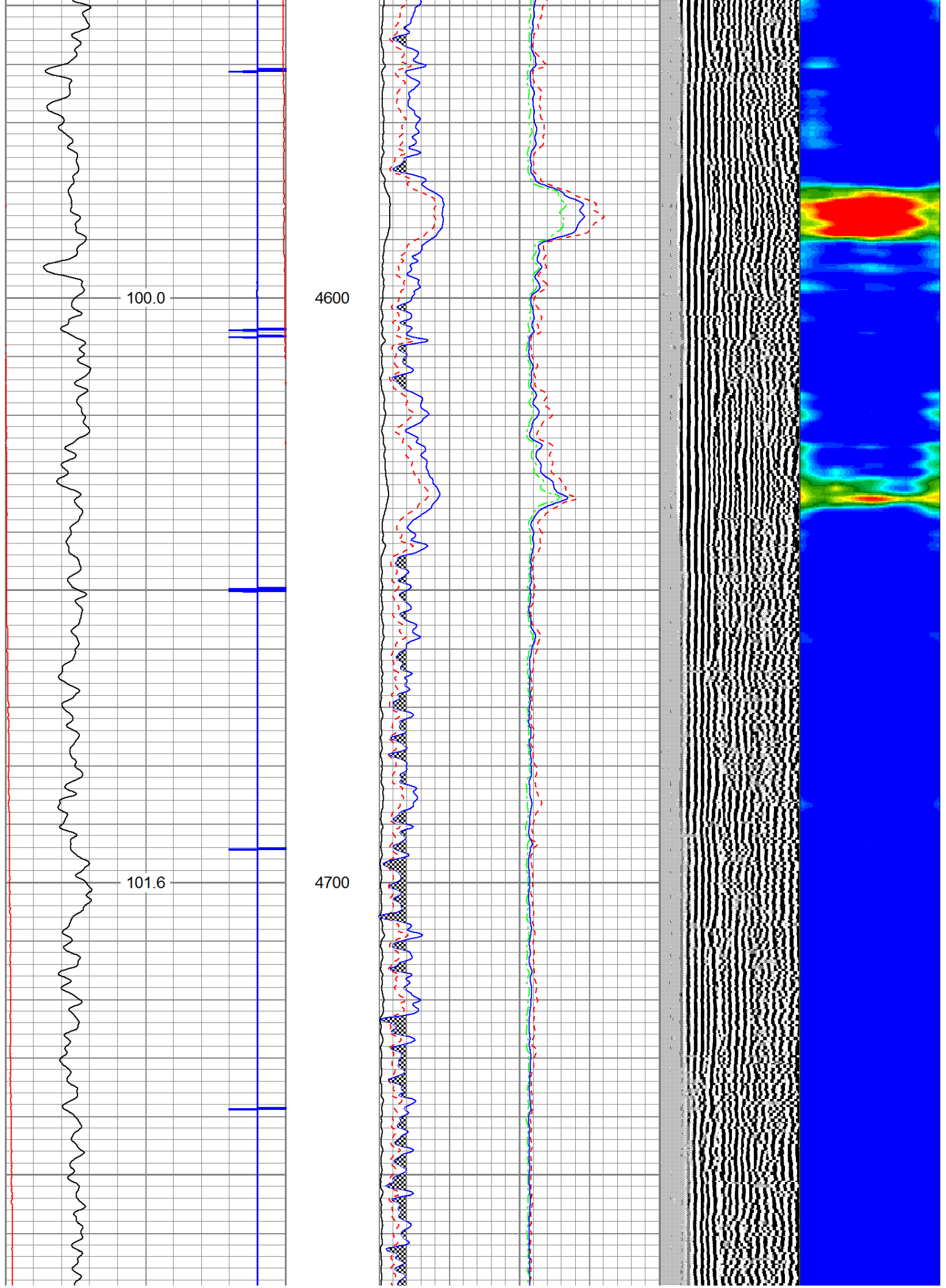


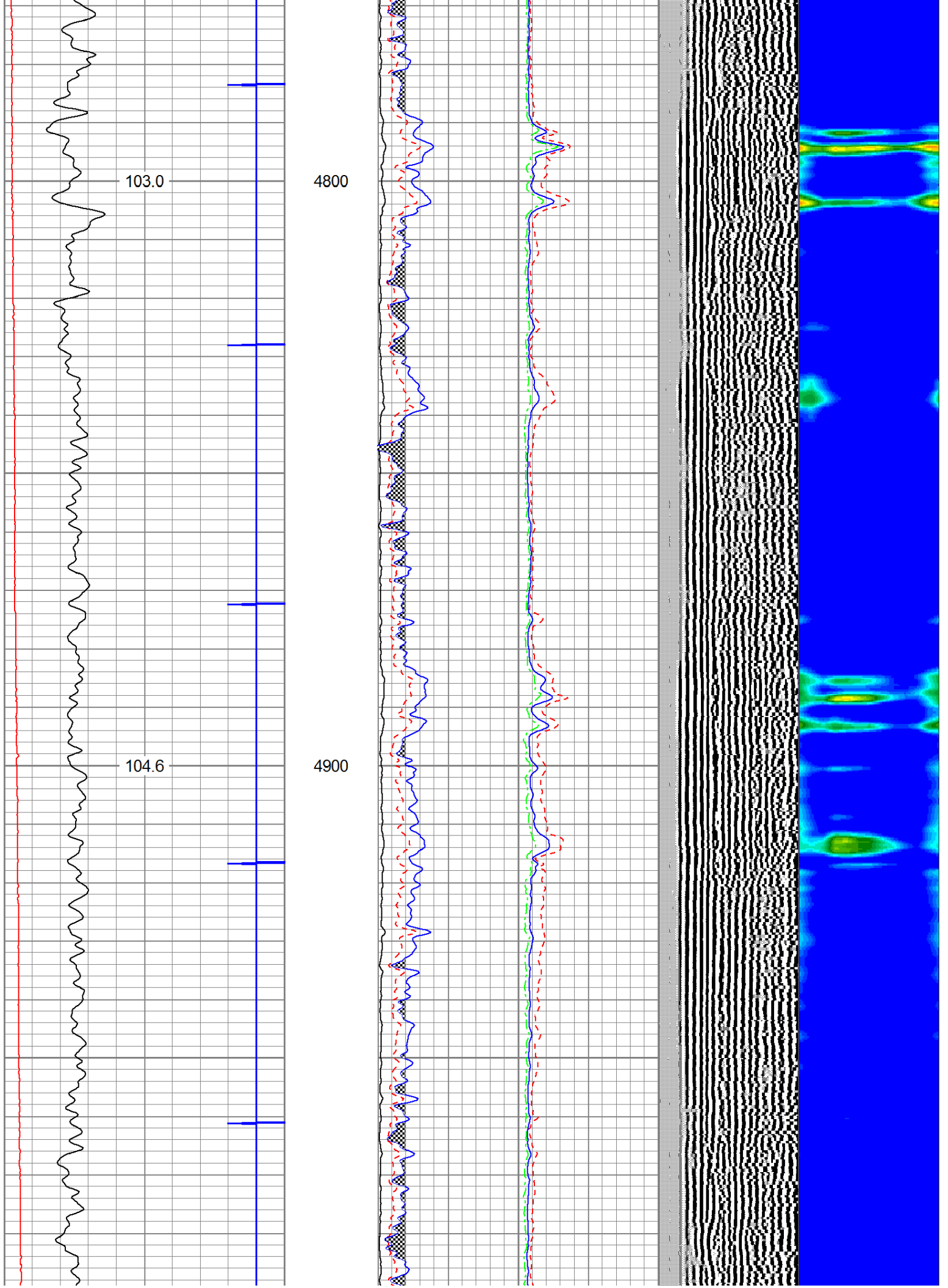


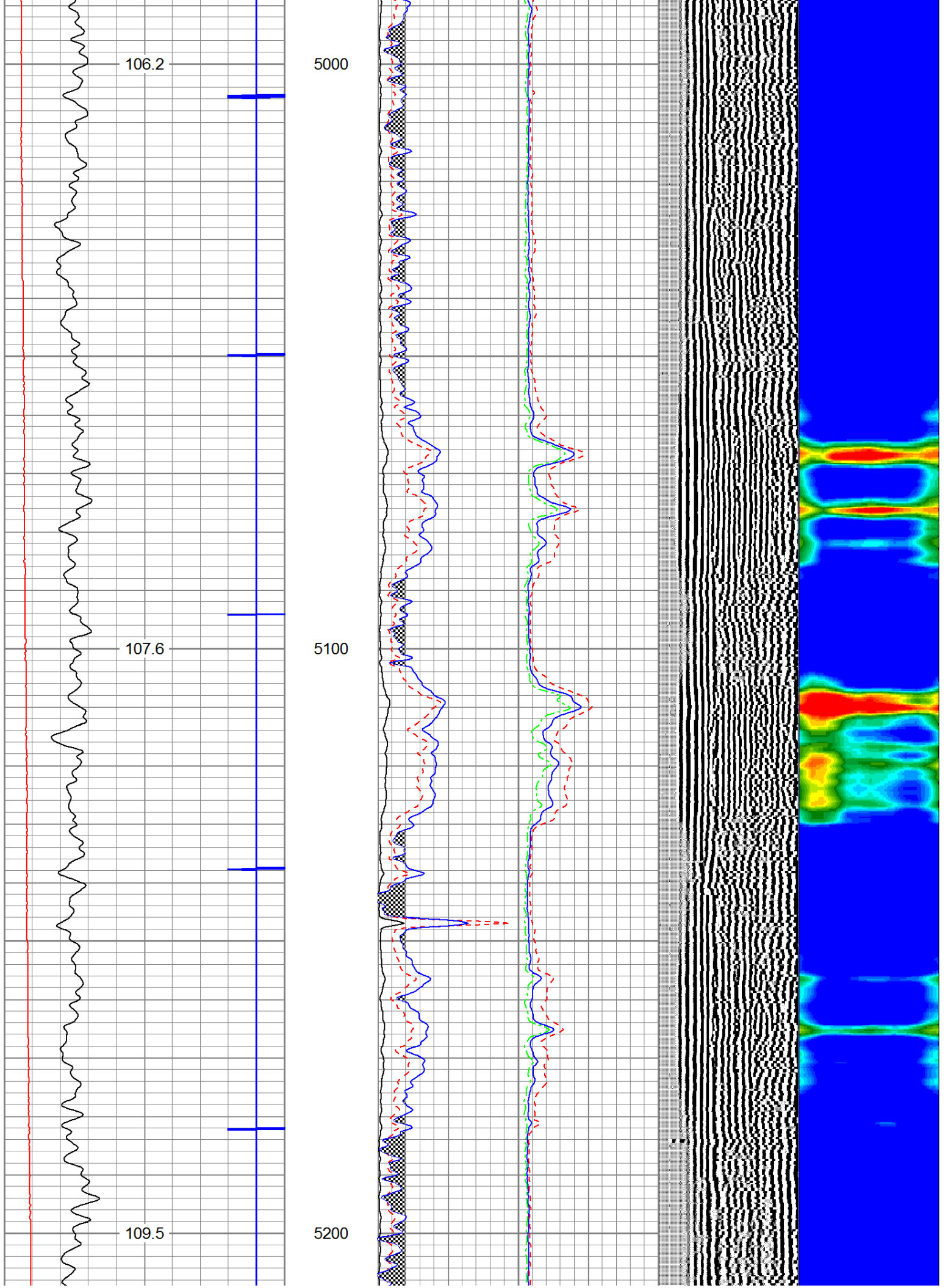


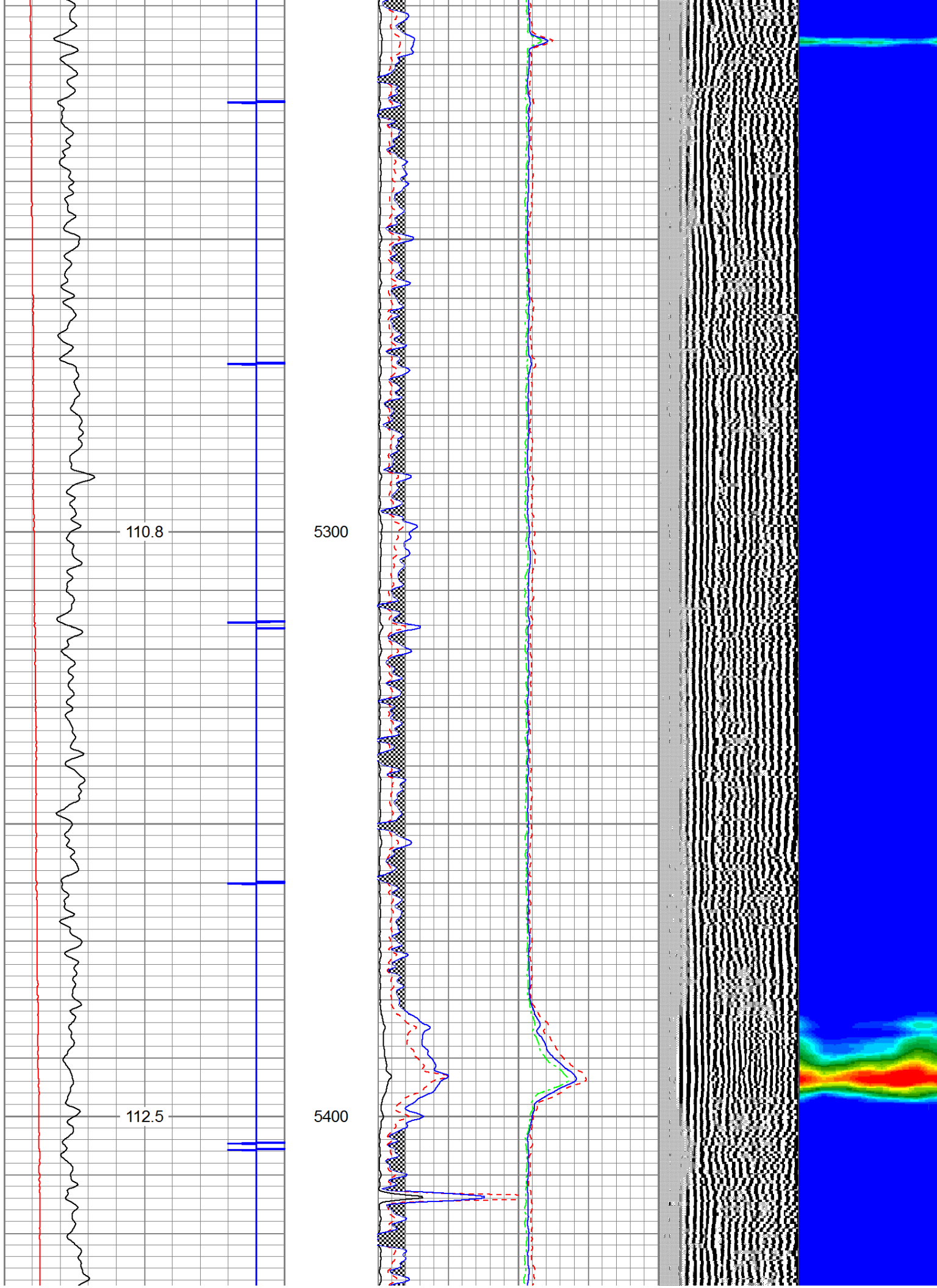


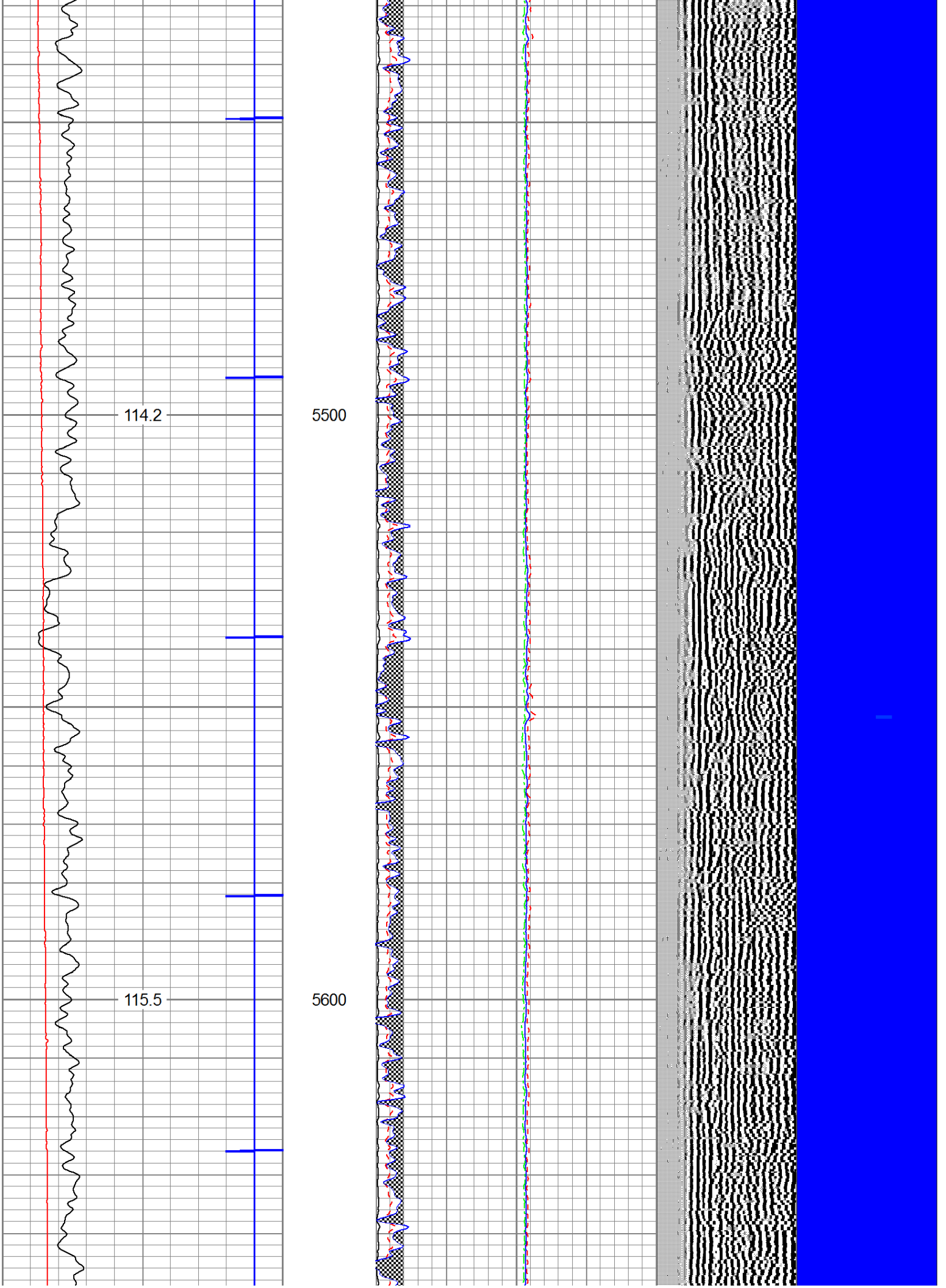


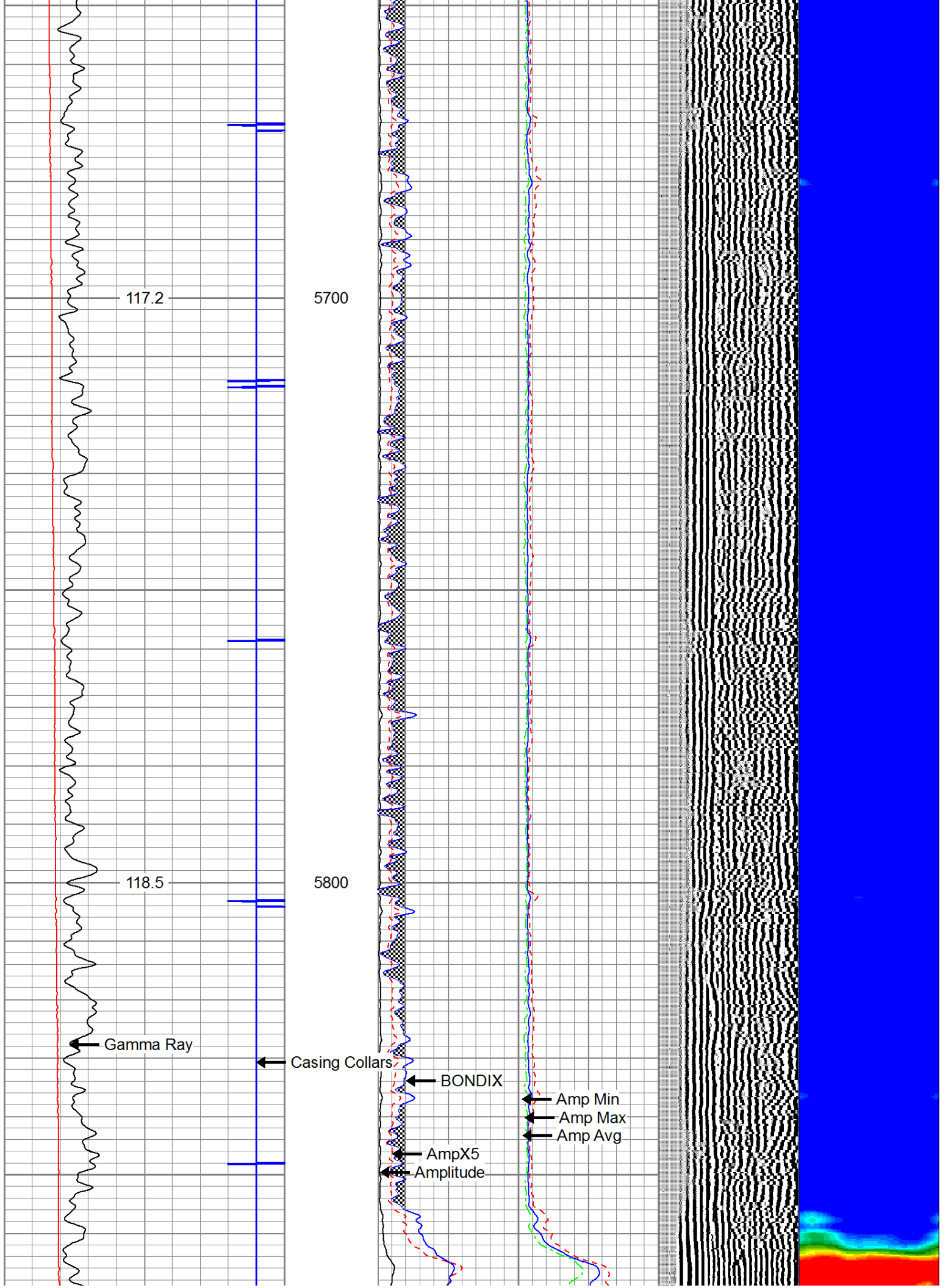


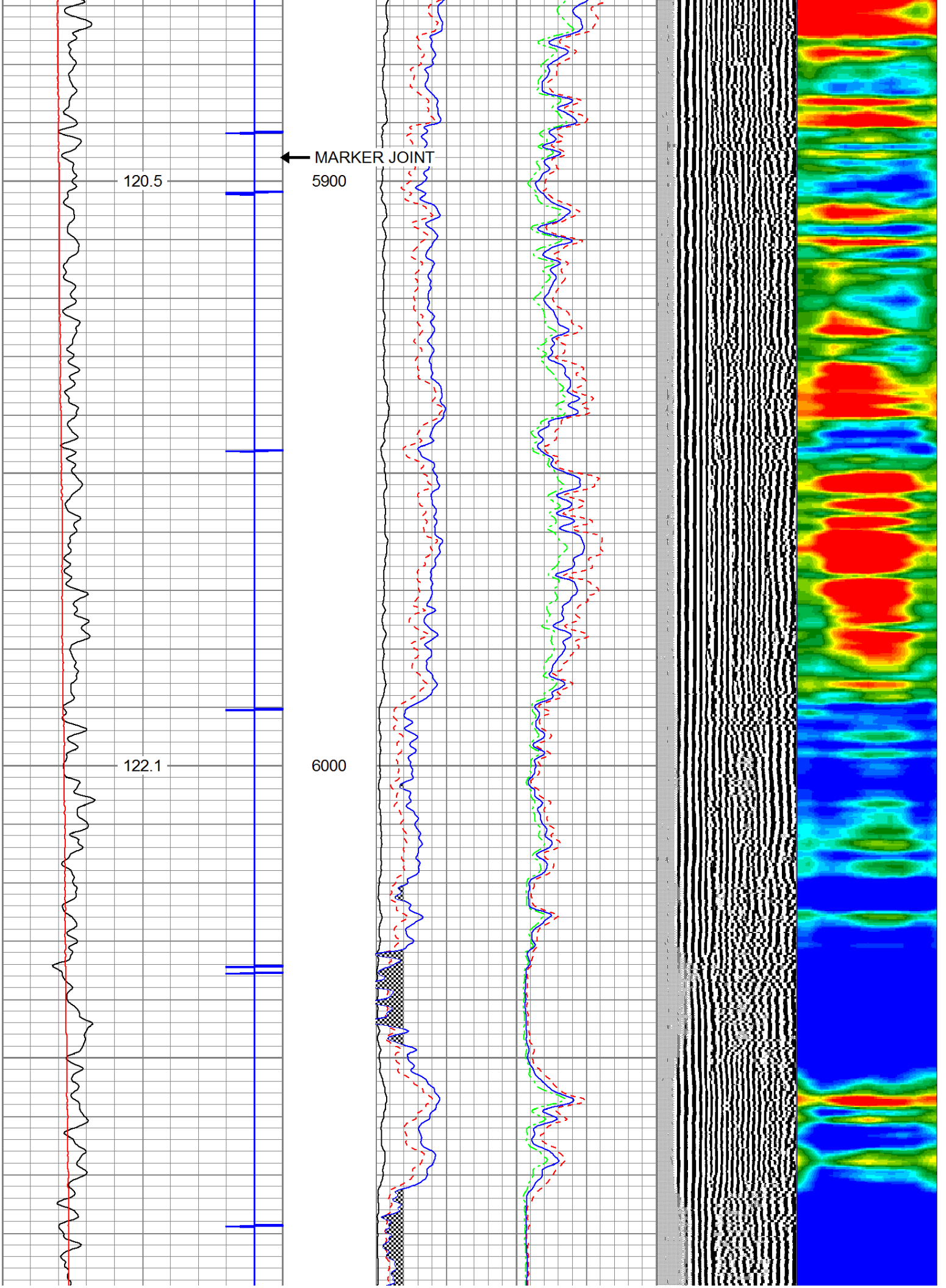


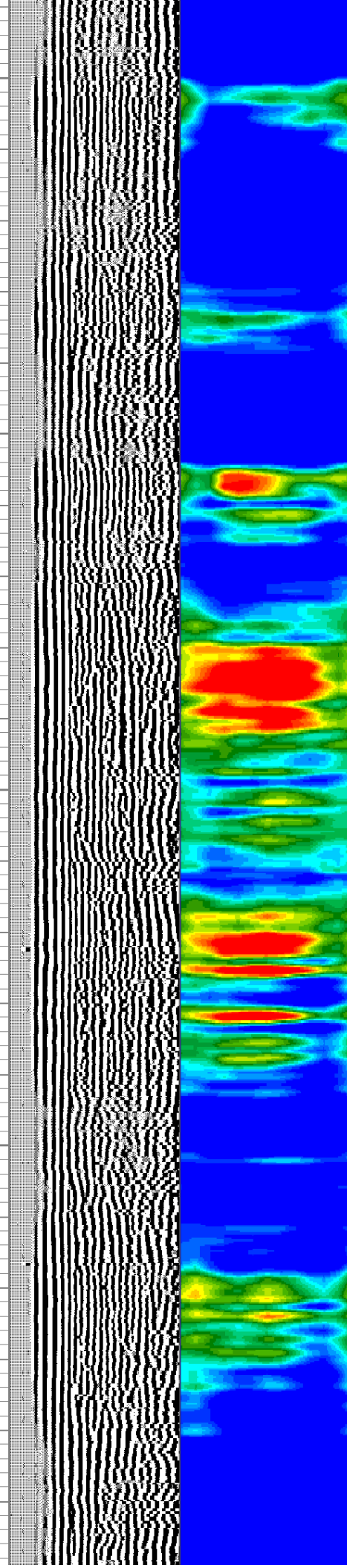
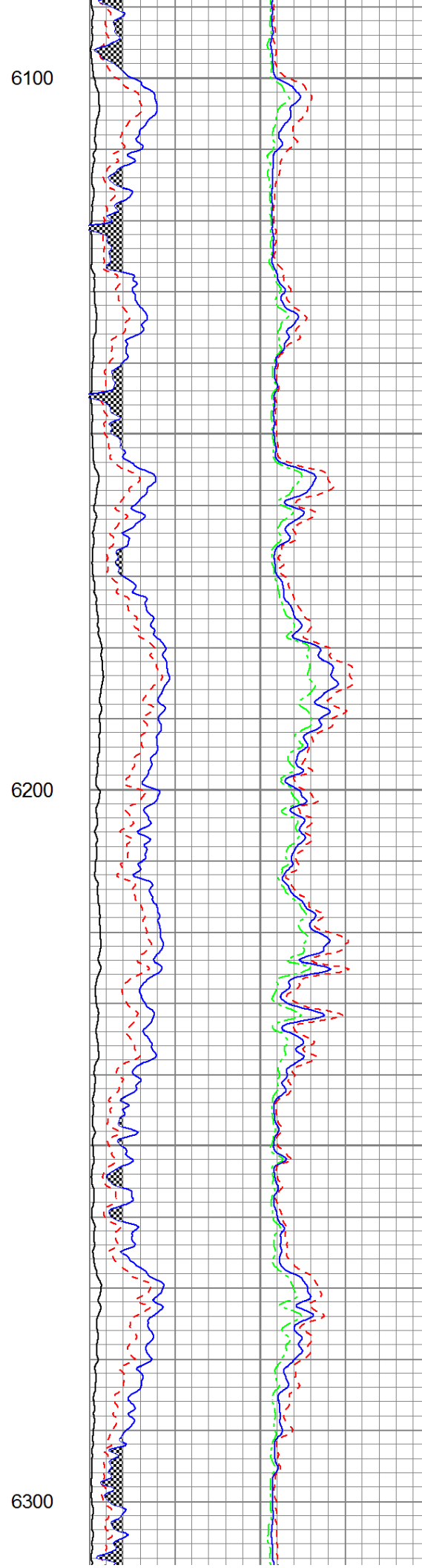
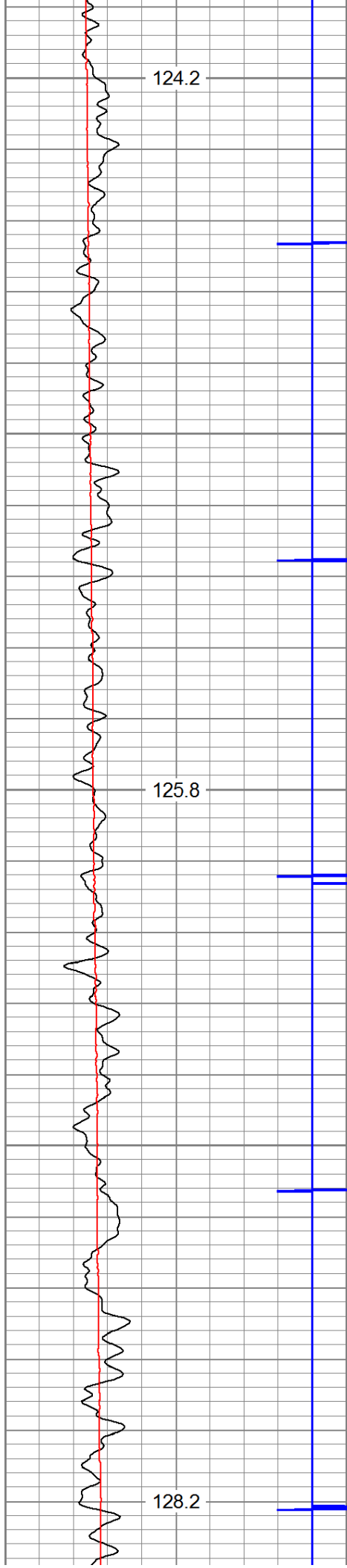


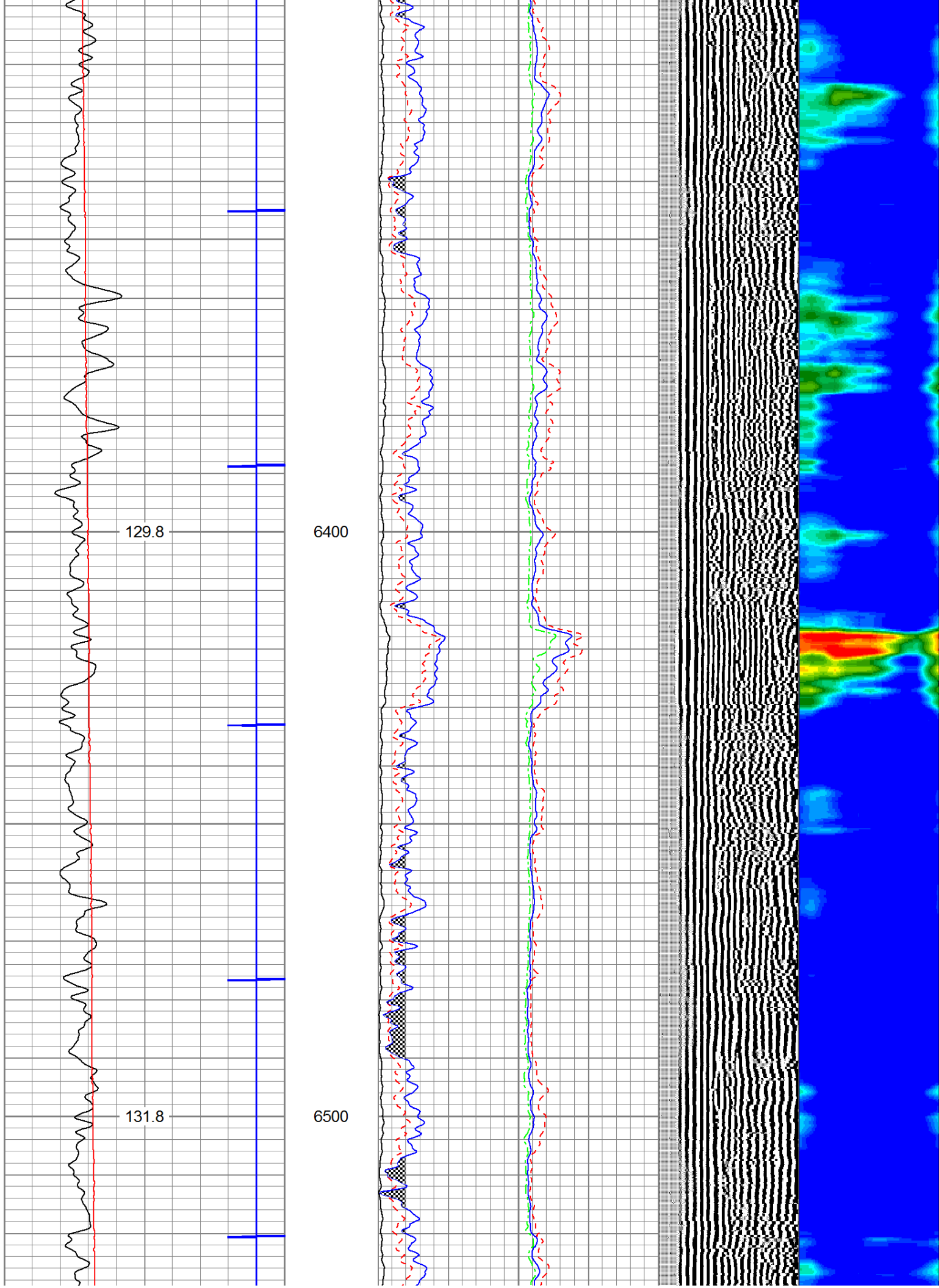


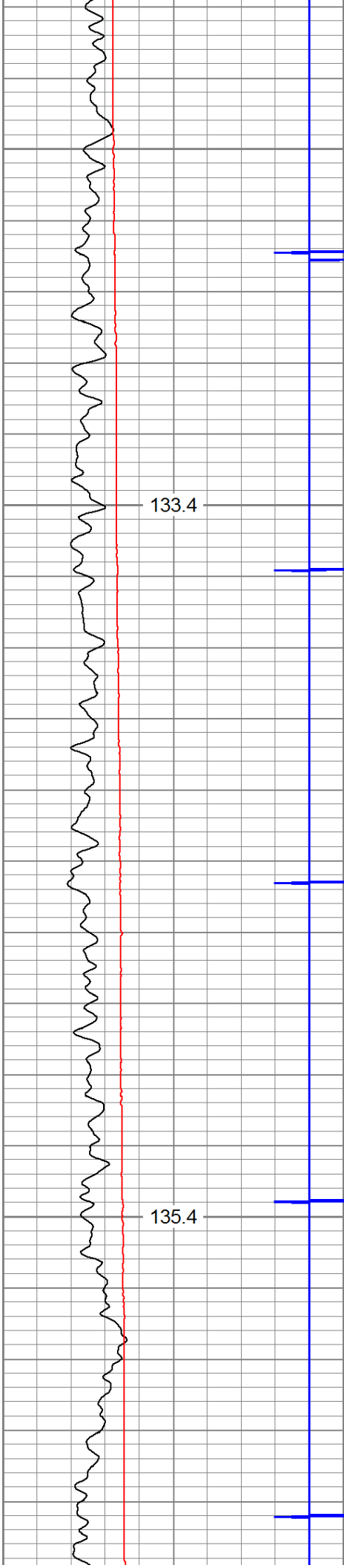






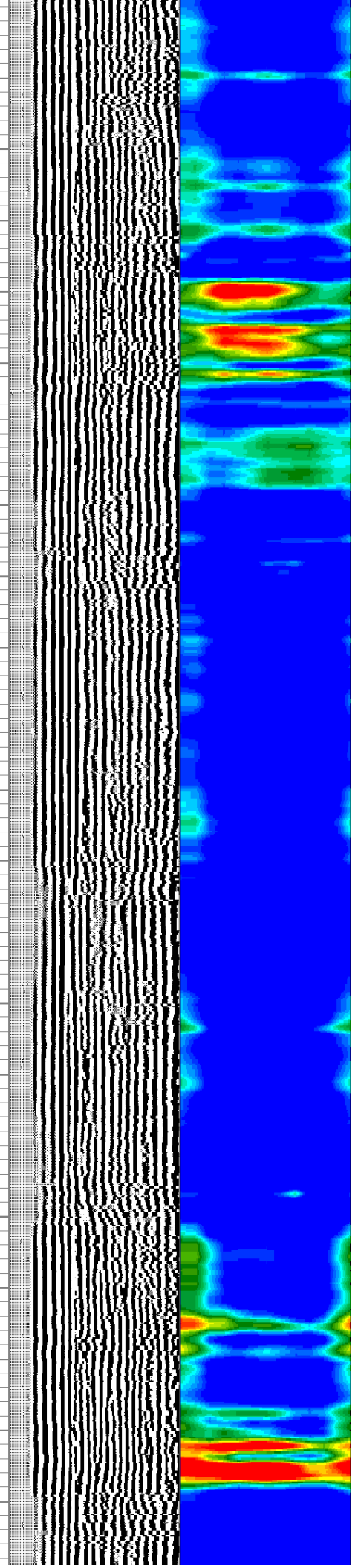
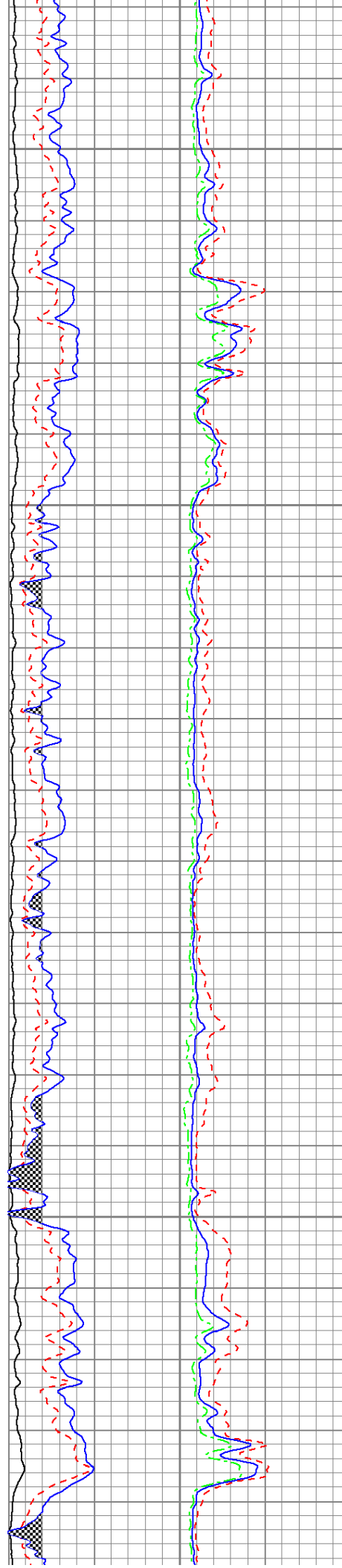


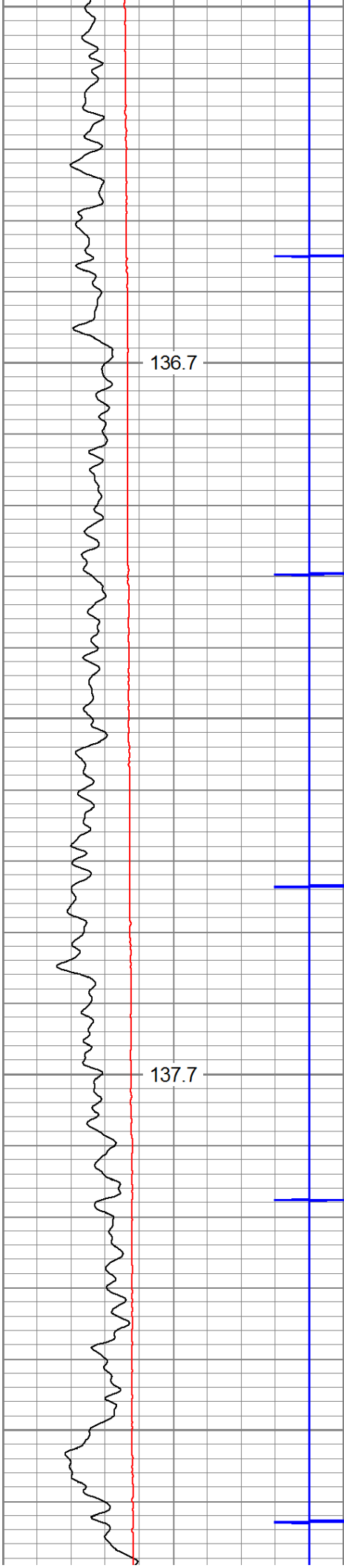




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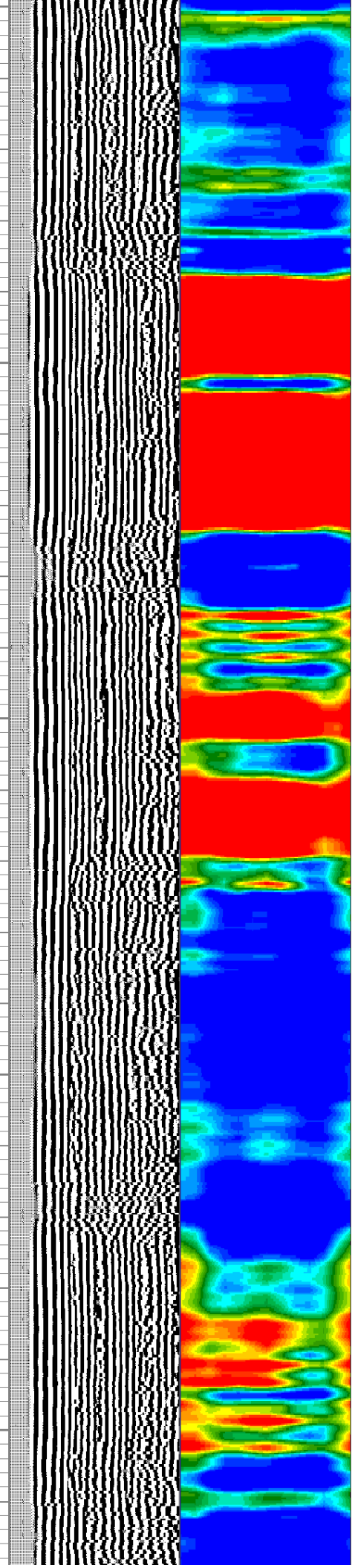
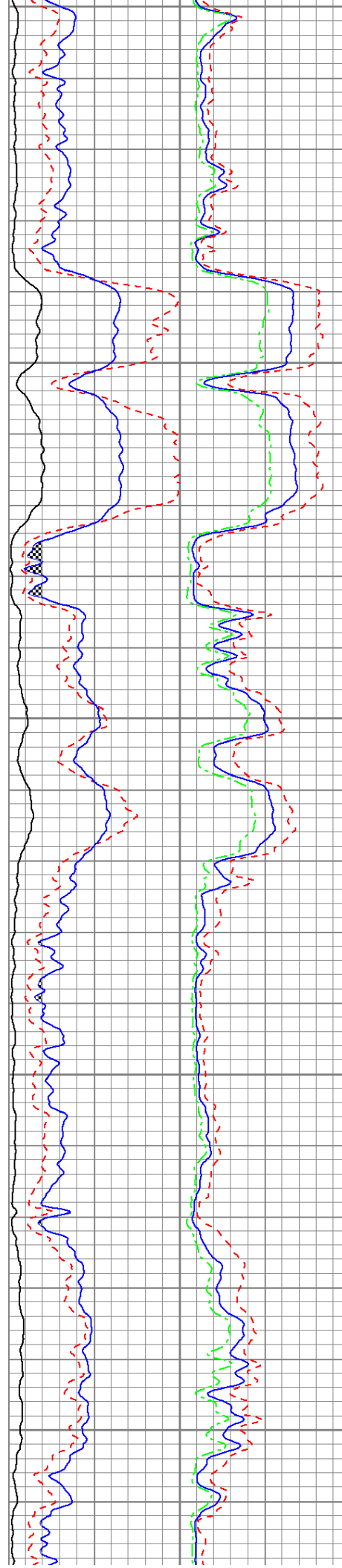
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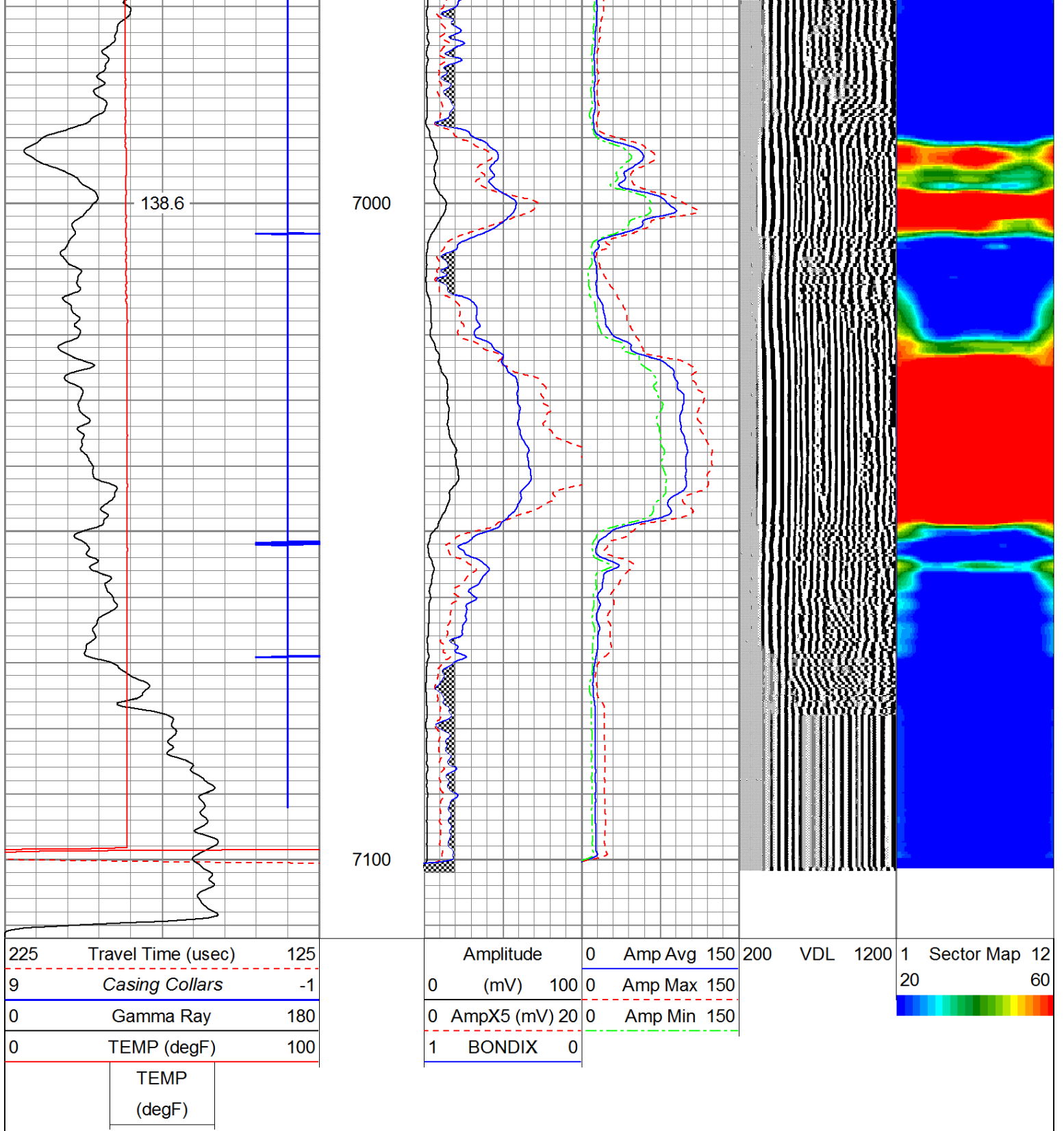




6800

6900





MAIN PASS 1500 PSI

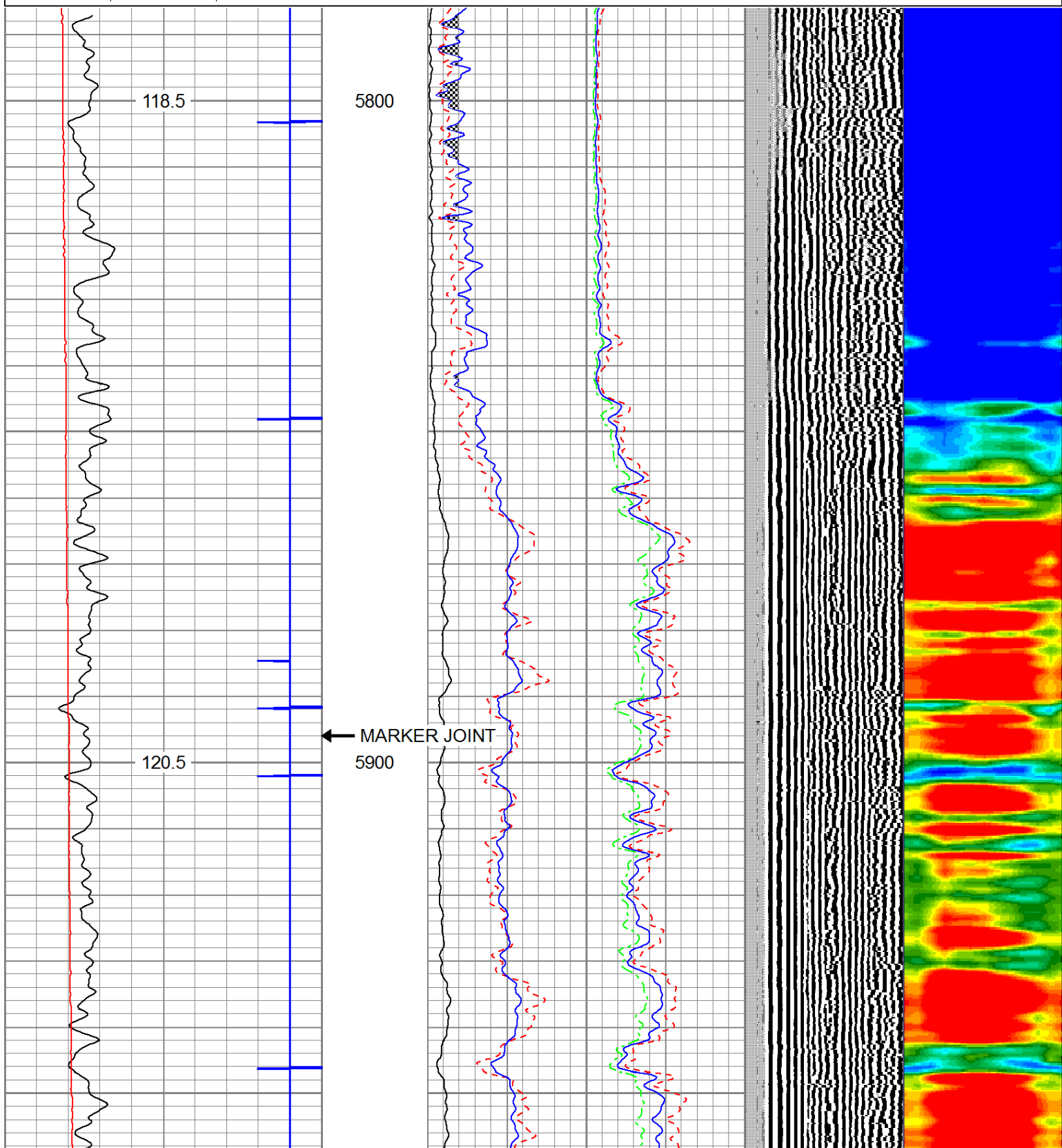


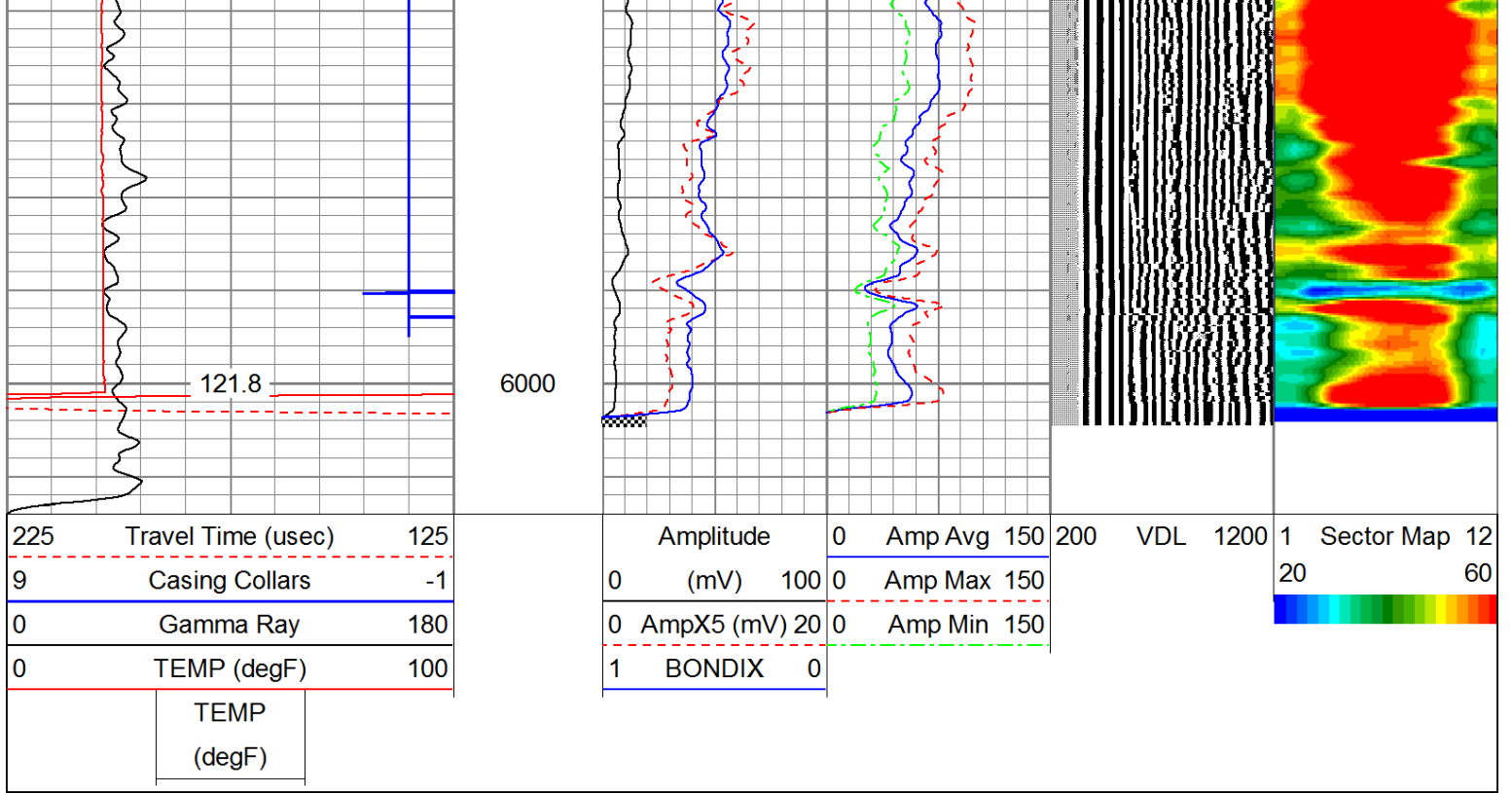
REPEAT PASS

Database File: f:\2019 anterolantero bison pad\antero_waldo2h.db
 Dataset Pathname: pass3
 Presentation Format: antero
 Dataset Creation: Sat Jan 12 10:35:08 2019 by Log 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	0 (mV)	100	0	Amp Max	150			20		60
0	Gamma Ray	180	0	AmpX5 (mV) 20	0	Amp Min	150					
0	TEMP (degF)	100	1	BONDIX	0							

TEMP
(degF)





REPEAT PASS

Log Variables

Database: C:\Warrior\Data\antero_waldo2h.db
Dataset: field/well/run1/merge1

Top - -22.80 ft

BOREID in 0	BOTTEMP degF 0	TDEPTH ft 0	PERFS 0	CASEOD in 0	SRFTEMP degF 0	MINATTN db/ft 0	MINAMPL mV 0
MAXAMPL mV 0	CASEWGHT lb/ft 0	PPT uSec 0	XXXX 0				

-22.80 ft - 148.00 ft

BOREID in 7.875	BOTTEMP degF 100	CASEOD in 5.5	MINATTN db/ft 0.8	MINAMPL mV 1	CASEWGHT lb/ft 23
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148.00 ft - 7112.00 ft

7112.00 ft - Bottom

BOREID in 0	BOTTEMP degF 0	CASEOD in 0	MINATTN db/ft 0	MINAMPL mV 0	CASEWGHT lb/ft 0
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Calibration Report

Database File: antero_waldo2h.db
 Dataset Pathname: merge1
 Dataset Creation: Tue Jan 15 20:01:57 2019

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					
WVFS1	11.48					
WVFS2	11.48					
WVFS3	11.48					
WVFS4	11.48		SCBL-Tek12 (IOL40-05) Tekco 400 Deg F 12 Sector RIB with Temp	9.13	3.25	135.00

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:	antero_waldo2h.db: field/well/run1/merge1
Total Length:	20.07 ft
Total Weight:	250.00 lb
O.D.	3.25 in

	Company	ANTERO RESOURCES CORPORATION
	Well	WALDO UNIT 2H
	Field	MARCELLOUS
	County	RITCHIE
	State	WV
	Country	