



**Radial Cement Bond
Gamma Ray
Casing Collar Log**

Company TEP Rocky Mountain LLC
Well Federal WMC 411-20
Field Rulison
County Garfield
State Colorado

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Well Federal WMC 411-20
Field Rulison
County Garfield State Colorado

Location: API #: 05-045-24493
SEC 17 TWP 7S RGE 93W
Permanent Datum Ground Level Elevation 8869 FT
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing
Other Services
Elevation
K.B. 8899 FT
D.F. 8898 FT
G.L. 8869 FT

Date	28-OCT-2022		
Run Number	One		
Depth Driller	11057 FT		
Depth Logger	10965 FT		
Bottom Logged Interval	10963 FT		
Top Log Interval	Surface		
Open Hole Size	8.75"		
Type Fluid	Water		
Density / Viscosity	8.34 Lb/Gal		
Max. Recorded Temp.	261°F		
Estimated Cement Top	See Log		
Time Well Ready	ROA		
Time Logger on Bottom	12:00		
Equipment Number	8047		
Location	Grand Junction		
Recorded By	A. Ellsworth		
Witnessed By	G. Wade		

Borehole Record		Tubing Record					
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record		Top		Bottom	
Surface String	Size	Wgt/Ft	Surface	Surface	Bottom
Surface String	9-5/8"	36	Surface	Surface	1138 FT
Prot. String					
Production String	4-1/2"	11.6	Surface	Surface	11047 FT
Liner					

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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

Log ran as per customer request
Depth referenced to Kelly Bushing at 30 FT

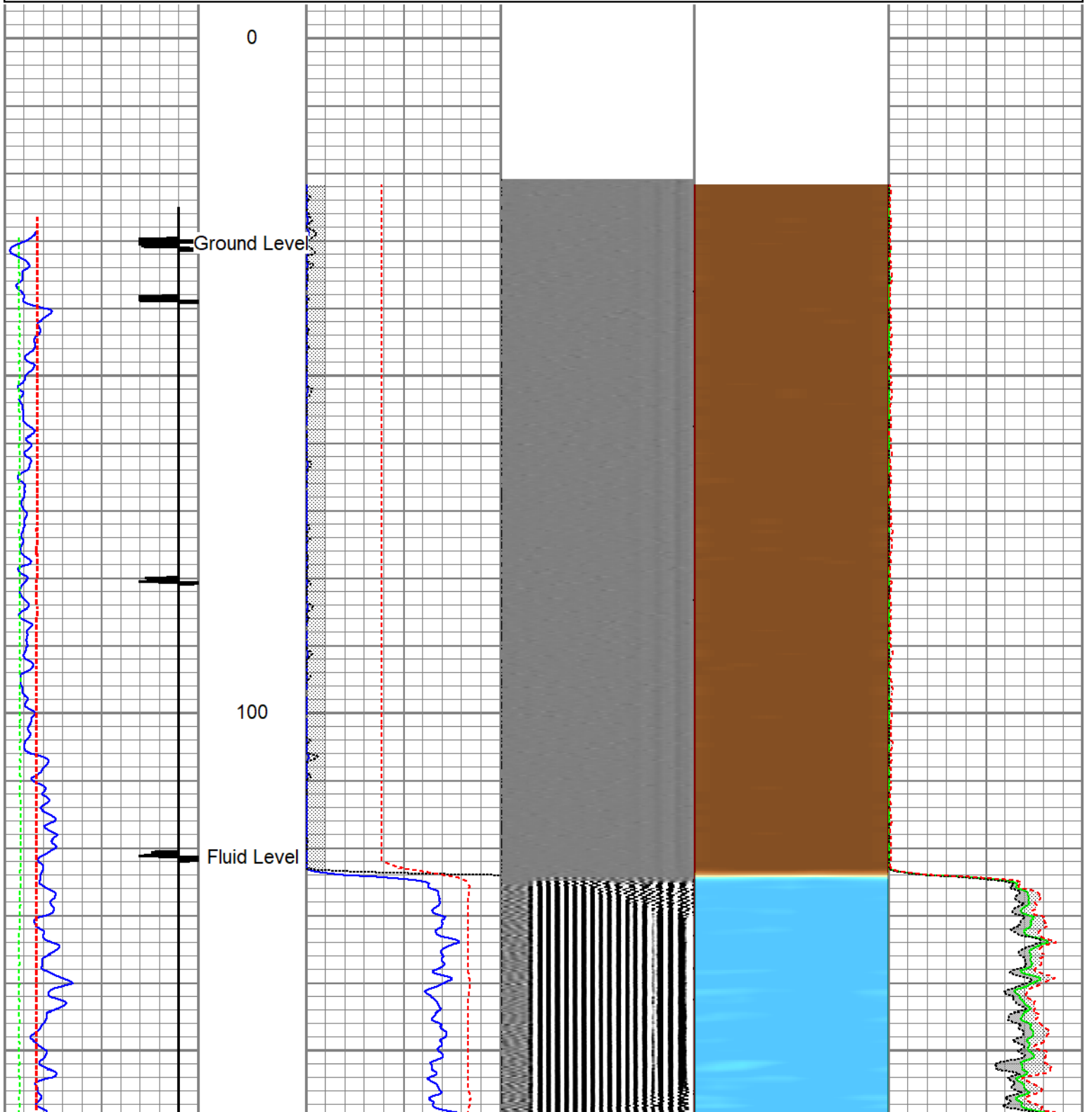
Thank you for choosing The Wireline Group!

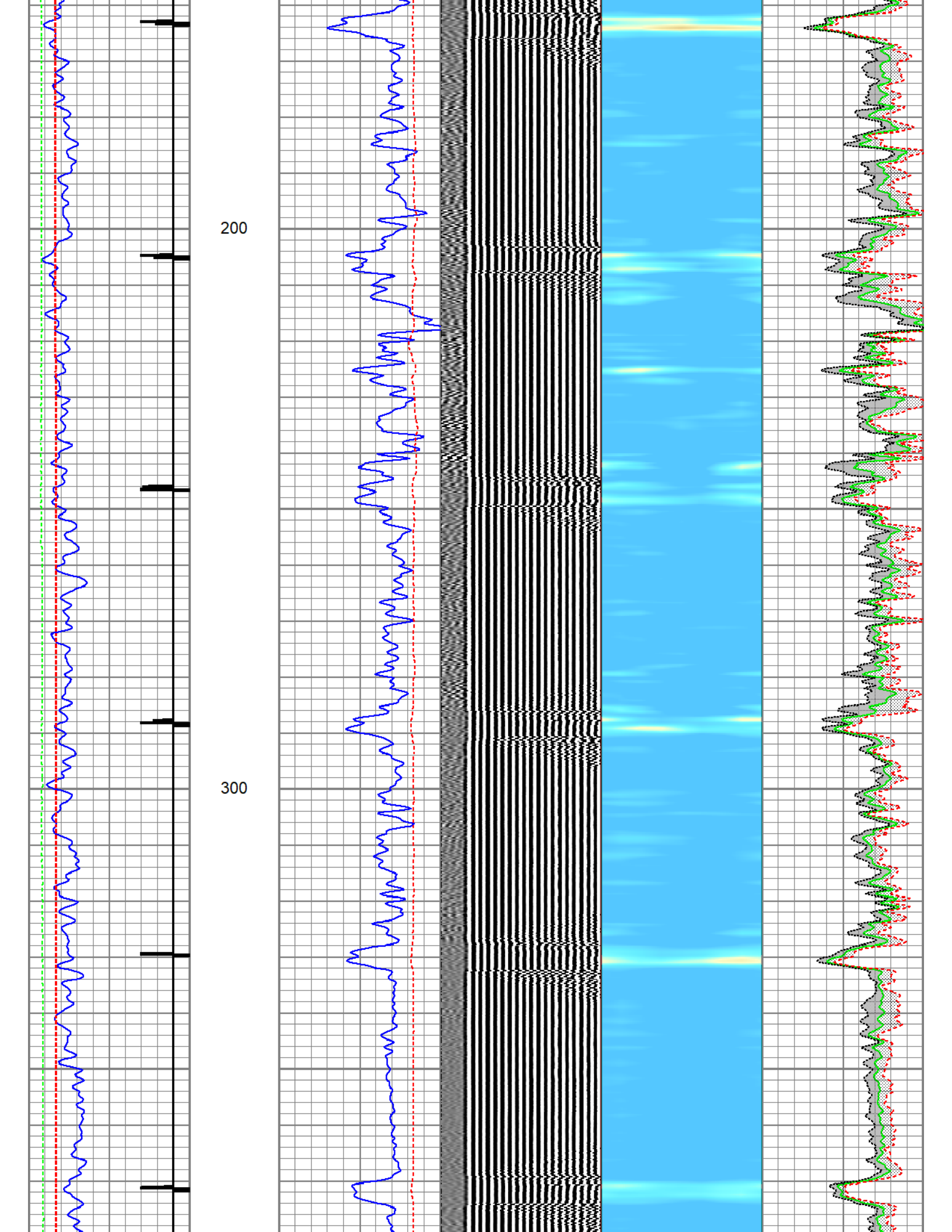


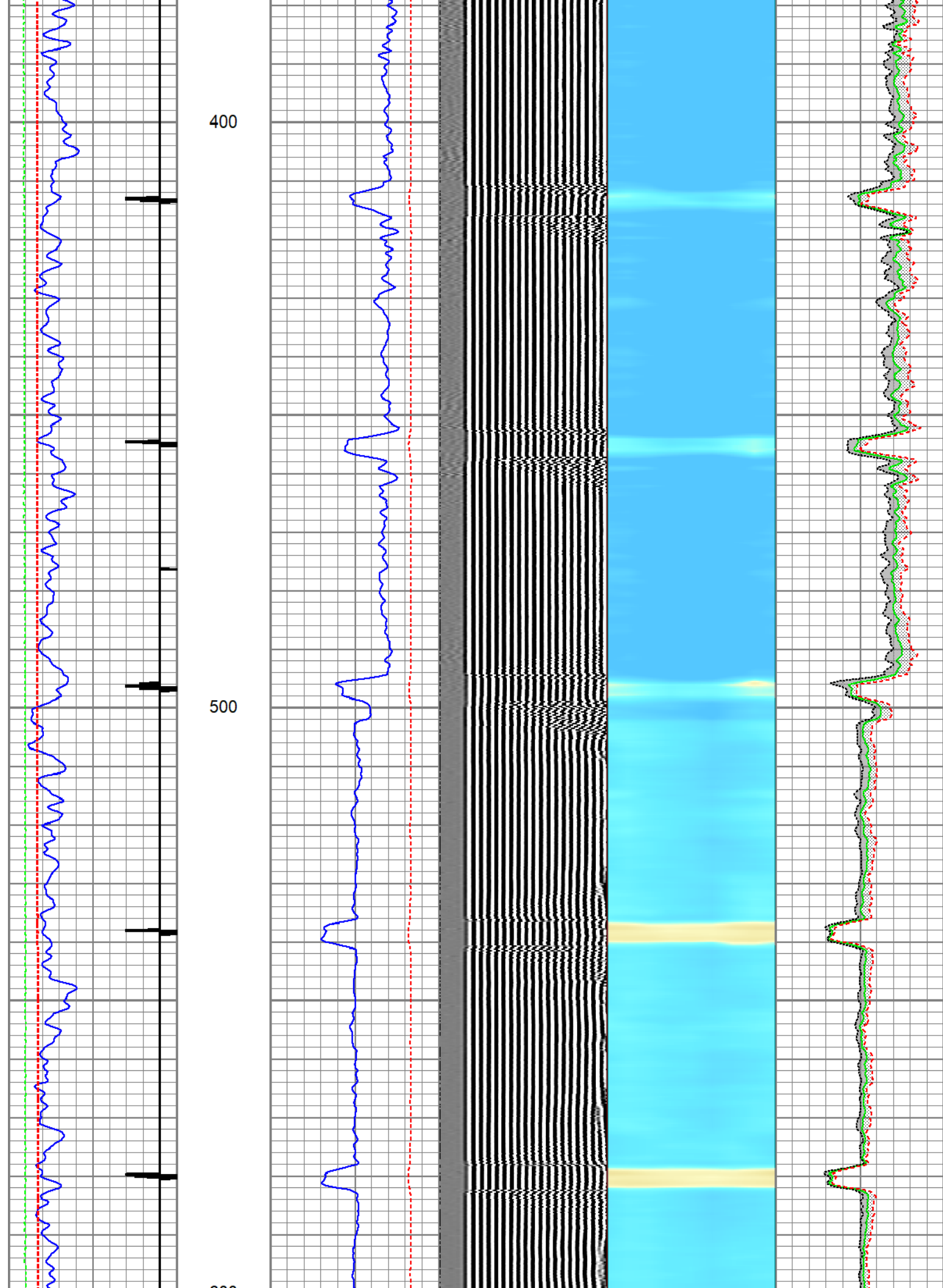
Main Pass 5" = 100'

Database File tep_fed wmc 411-20_rcbl_10-28-2022.db
 Dataset Pathname main.2
 Presentation Format twgrcbl
 Dataset Creation Fri Oct 28 14:13:50 2022
 Charted by Depth in Feet scaled 1:240

Gamma Ray (GAPI) 200	3' Amplitude (mV) 100	5' Variable Density Log (usec) 1200	Sector Map	Average Amplitude 0 120
Line Tension (lb) 3000	3' Amplitude x 5 (mV) 20			Minimum Amplitude 0 120
-9 CCL\$1 1	3' Travel Time (usec) 150			Maximum Amplitude 0 120
0 Temp (degF) 300				



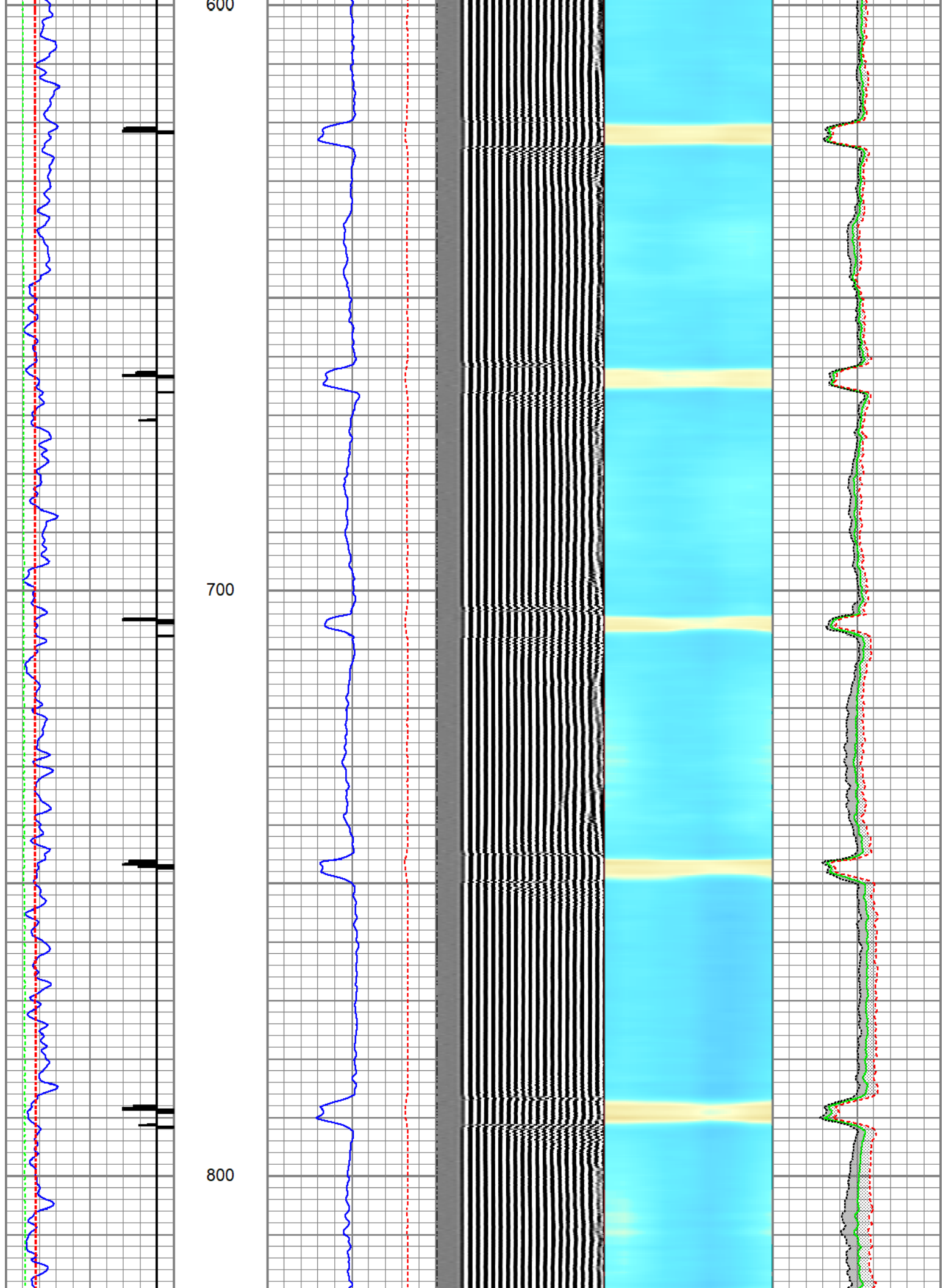


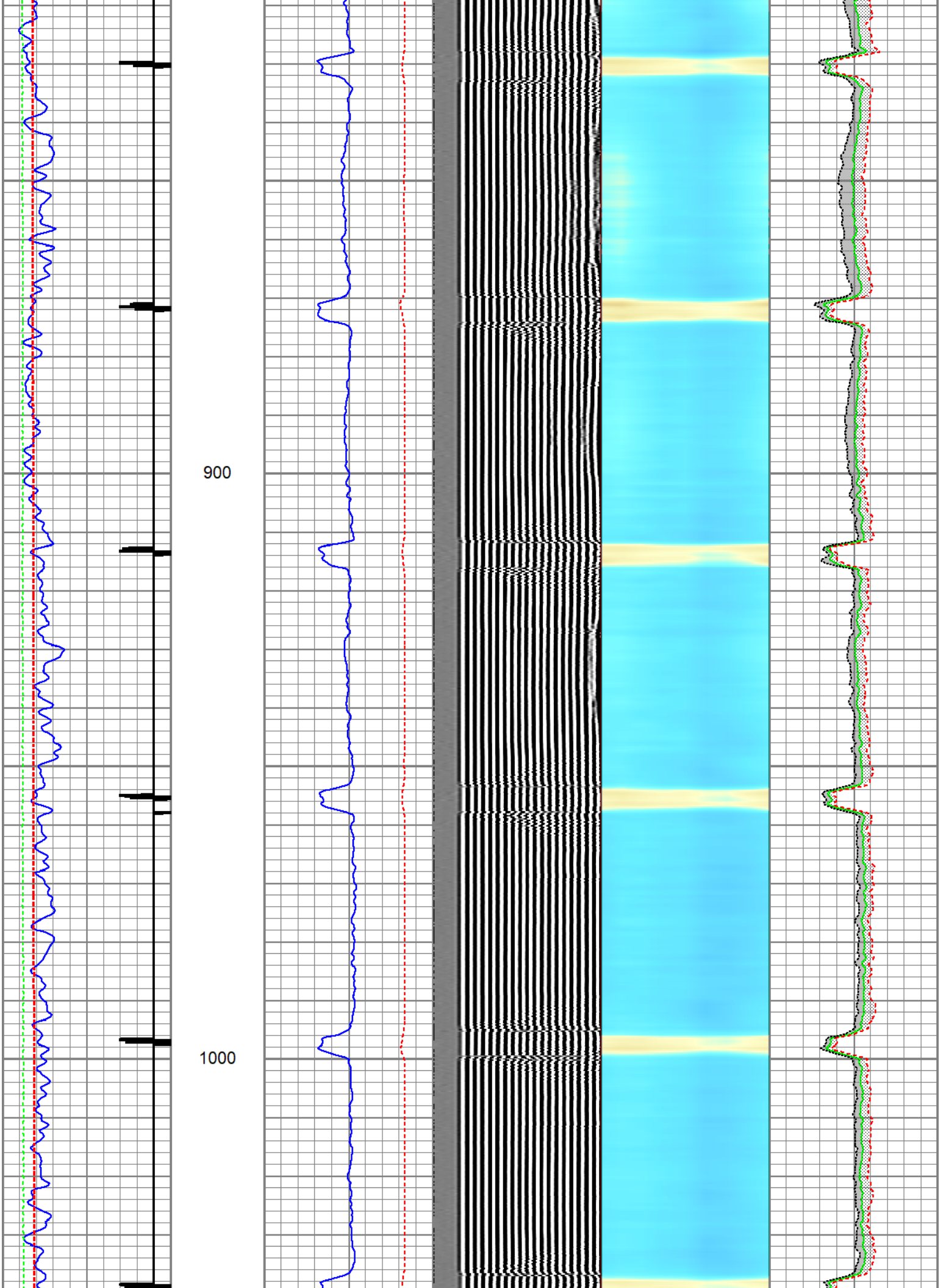


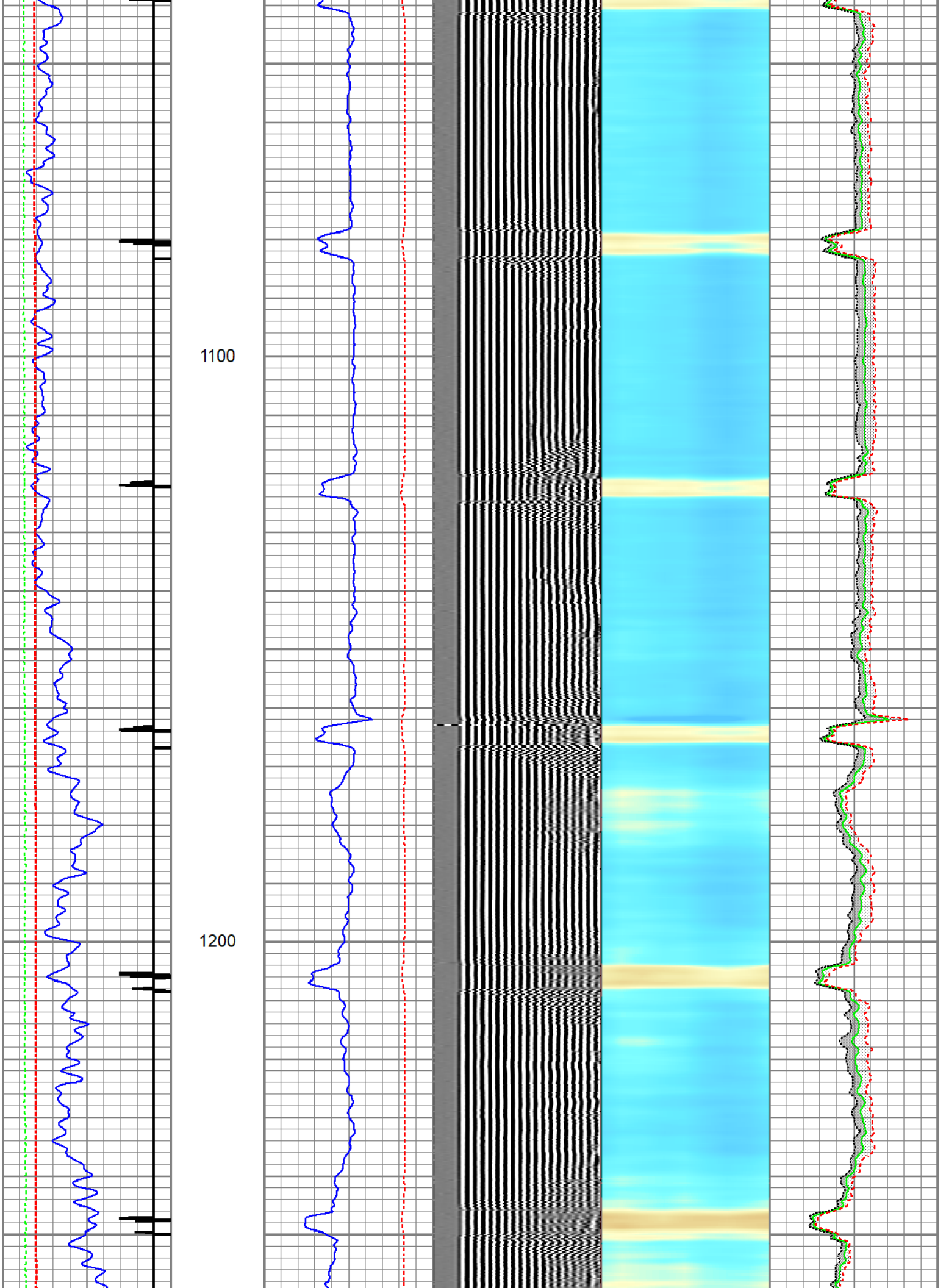
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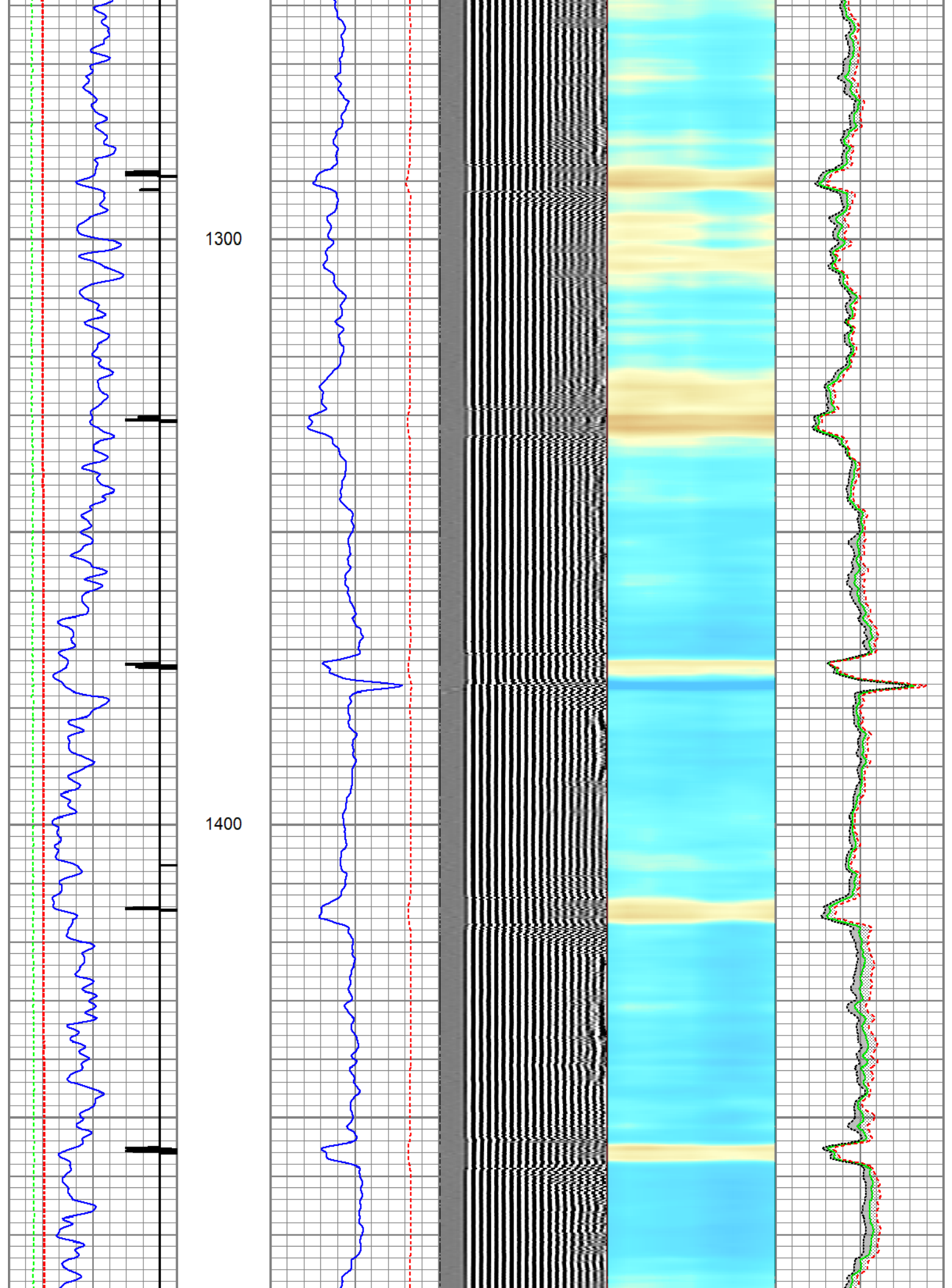
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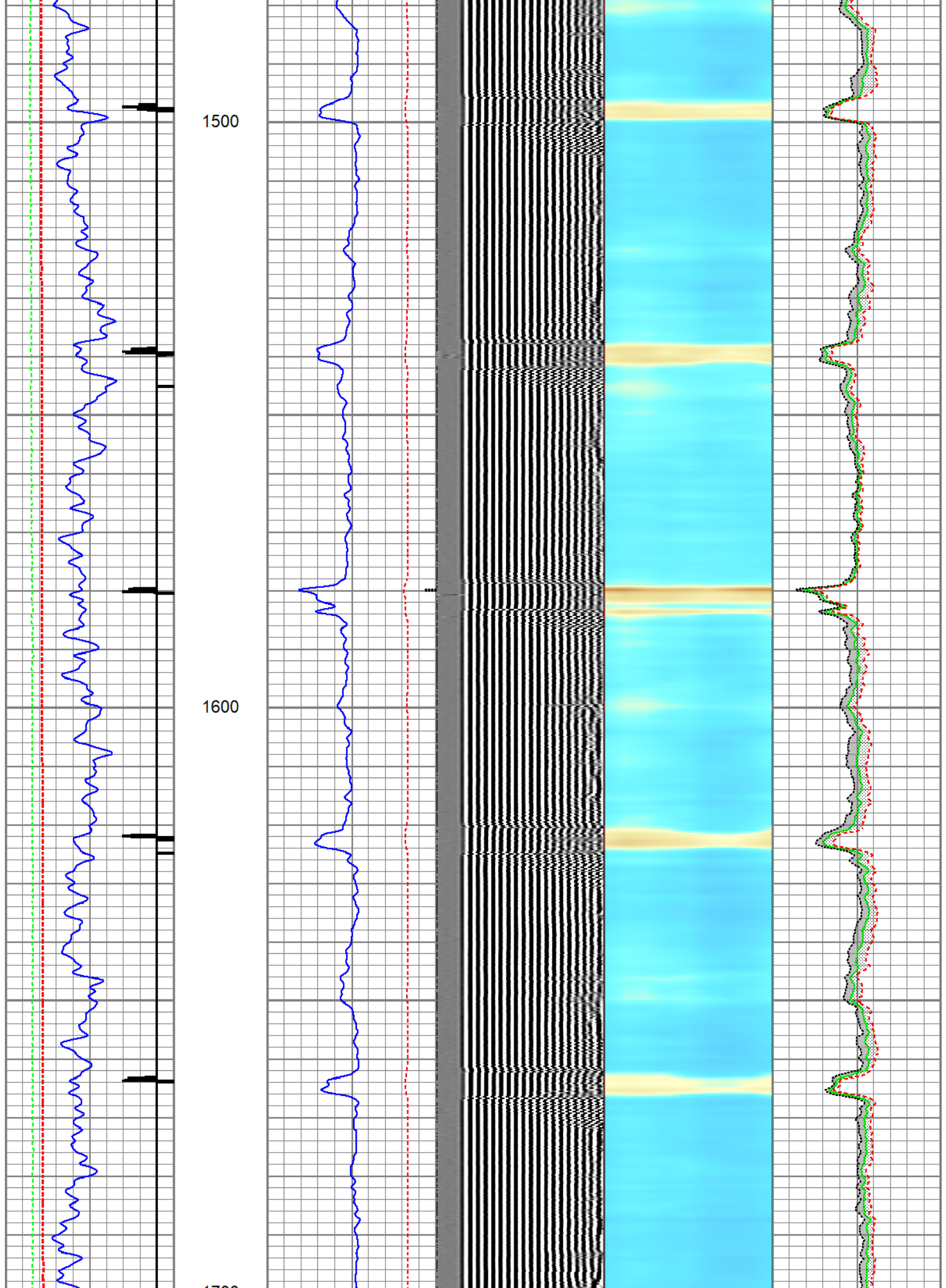
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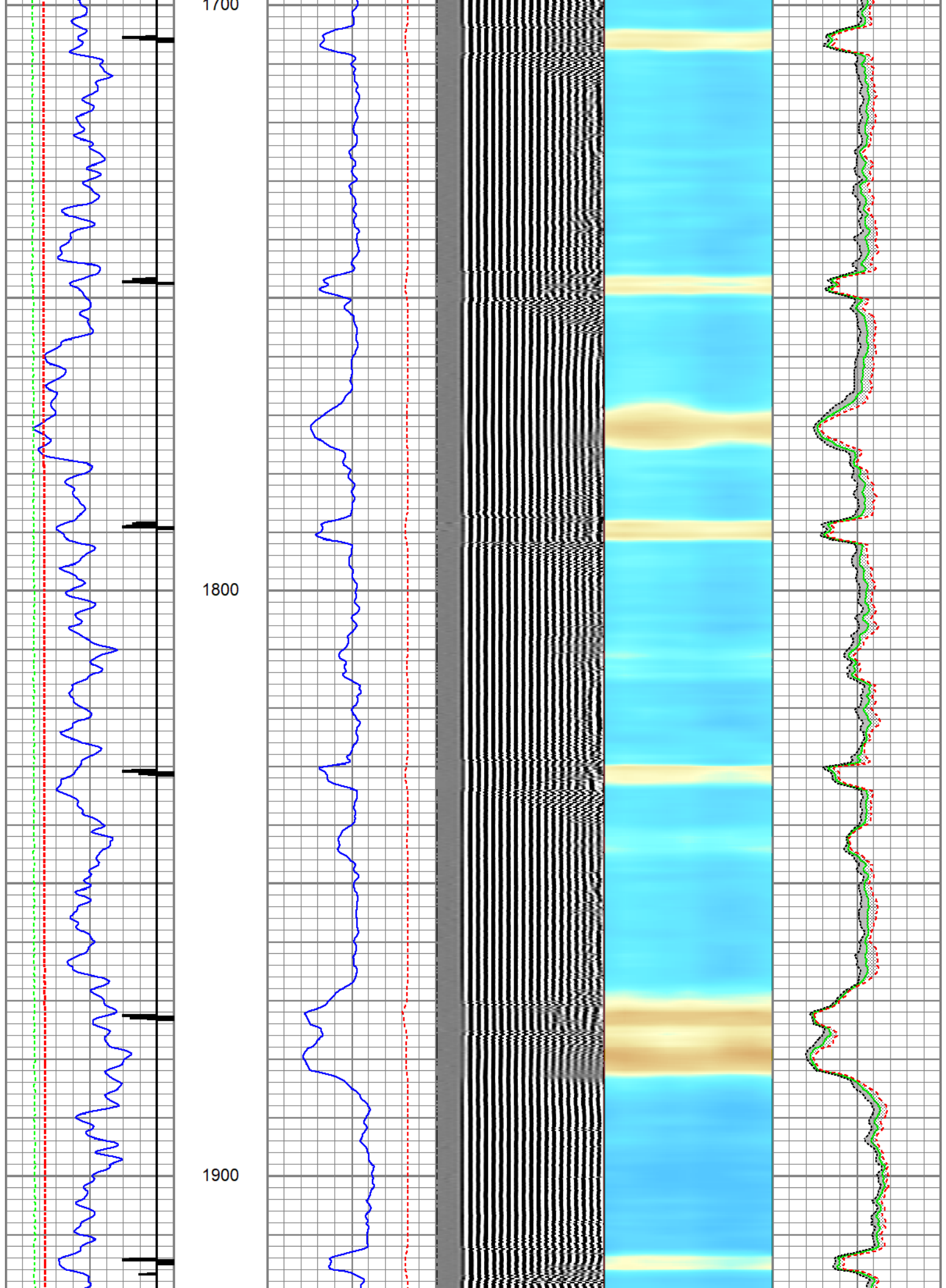


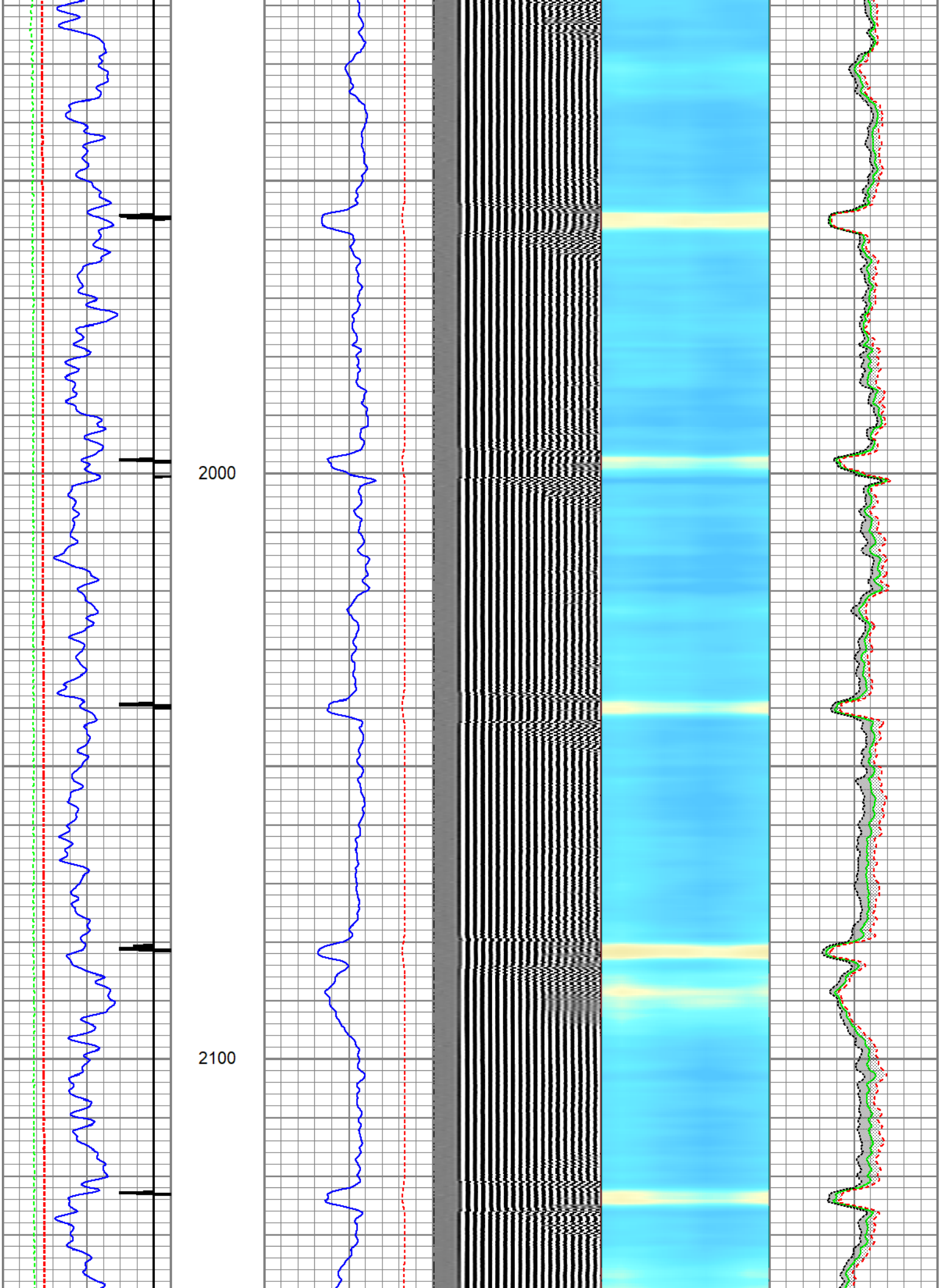


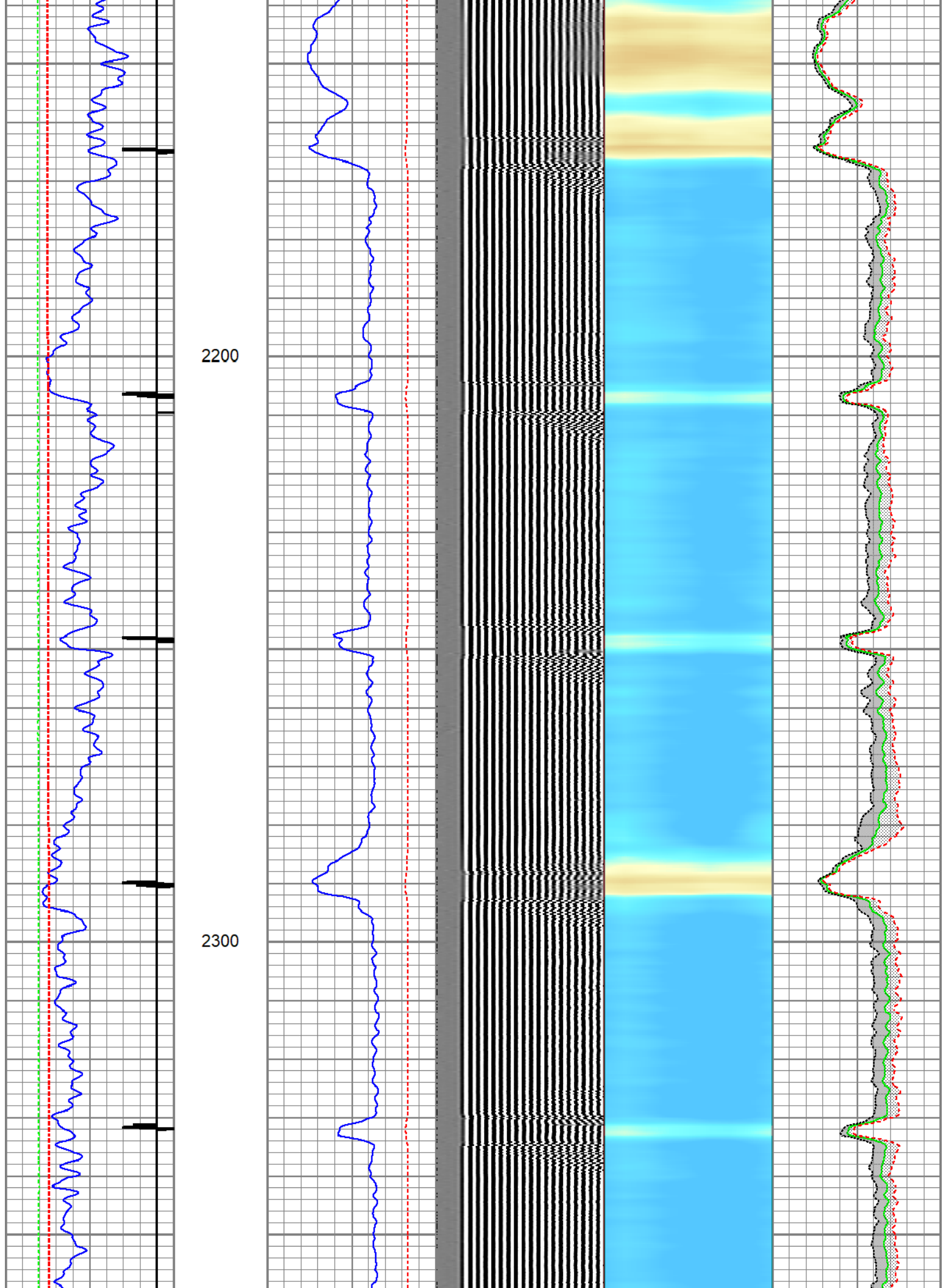
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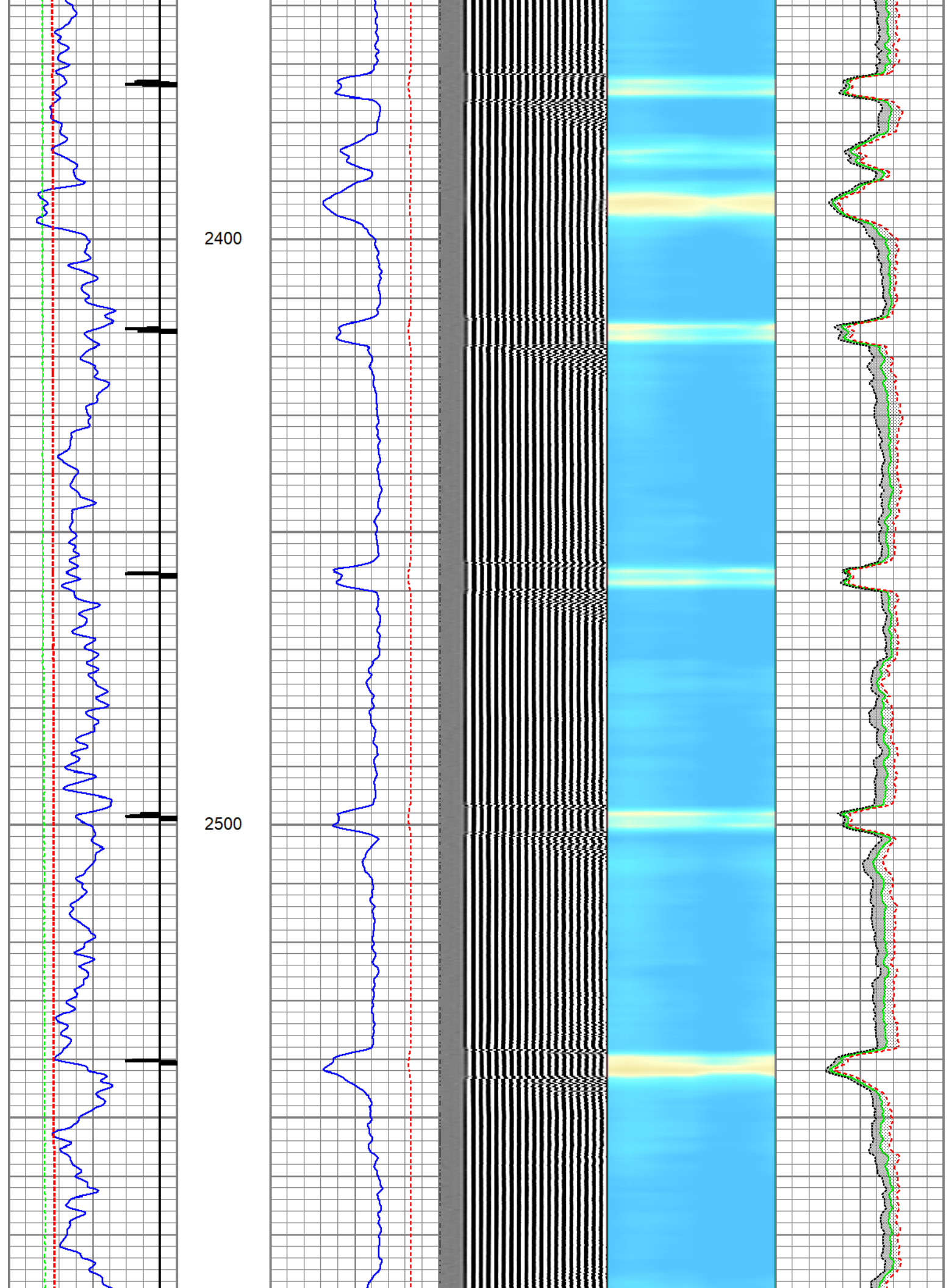
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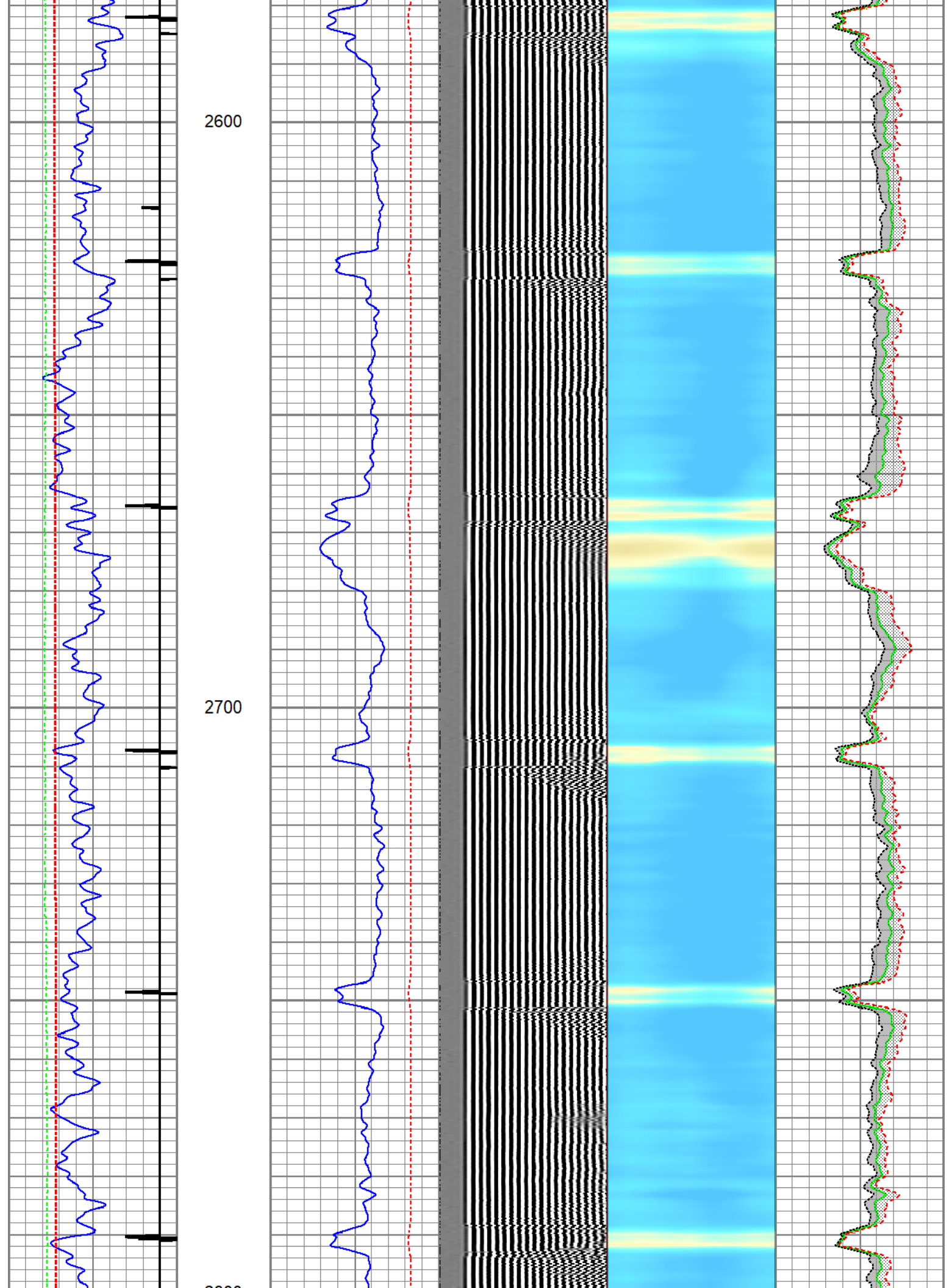
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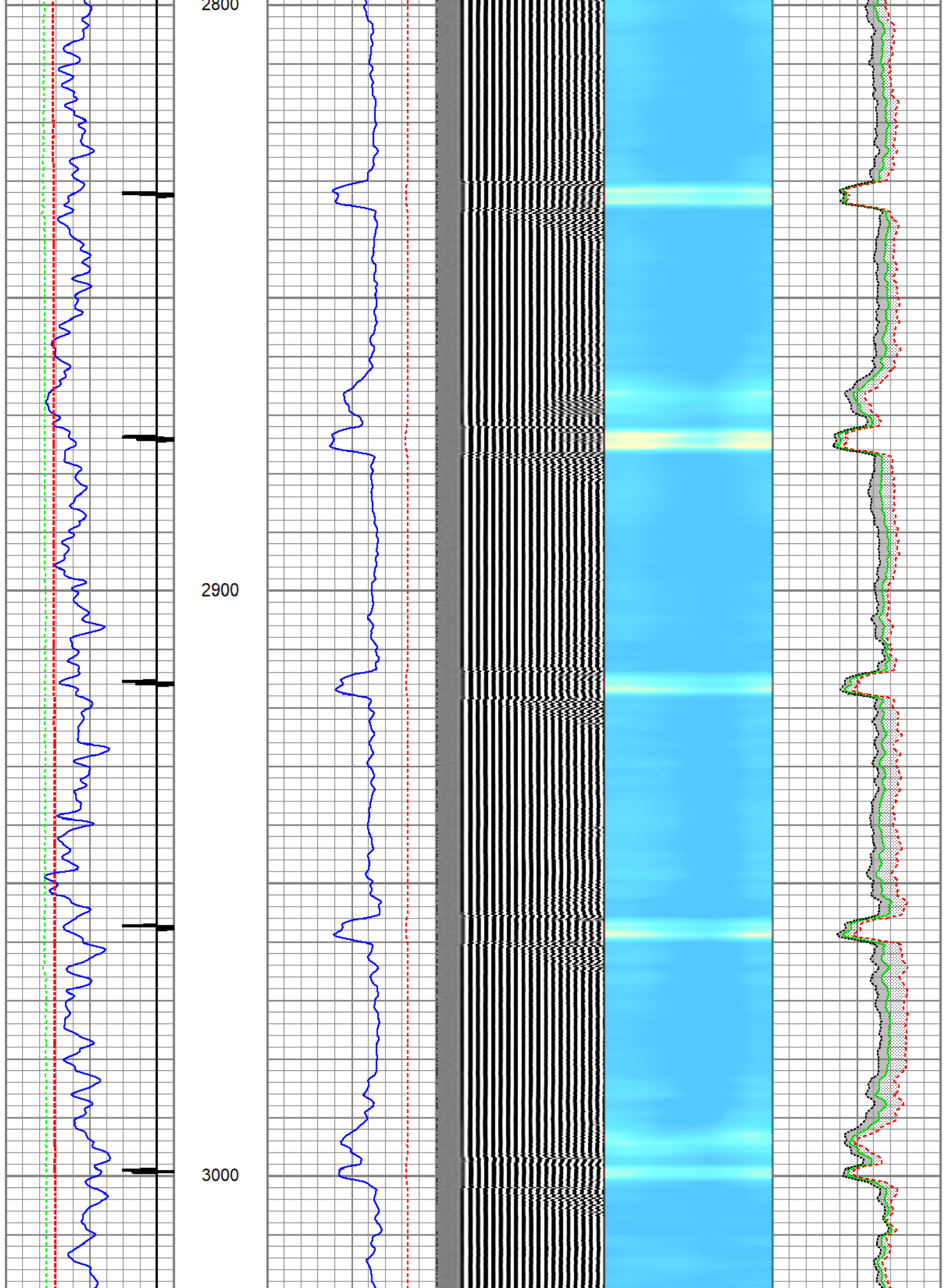


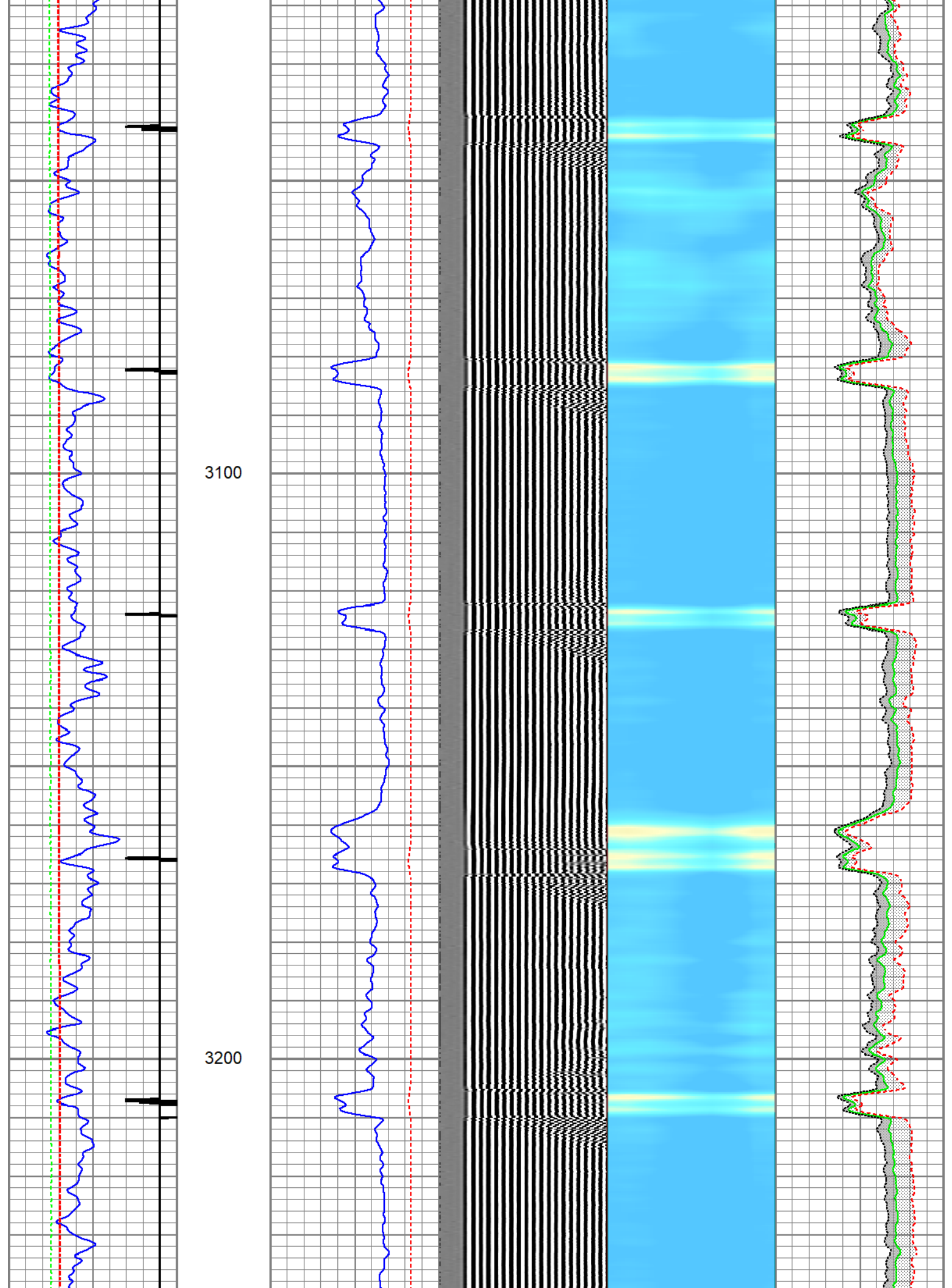


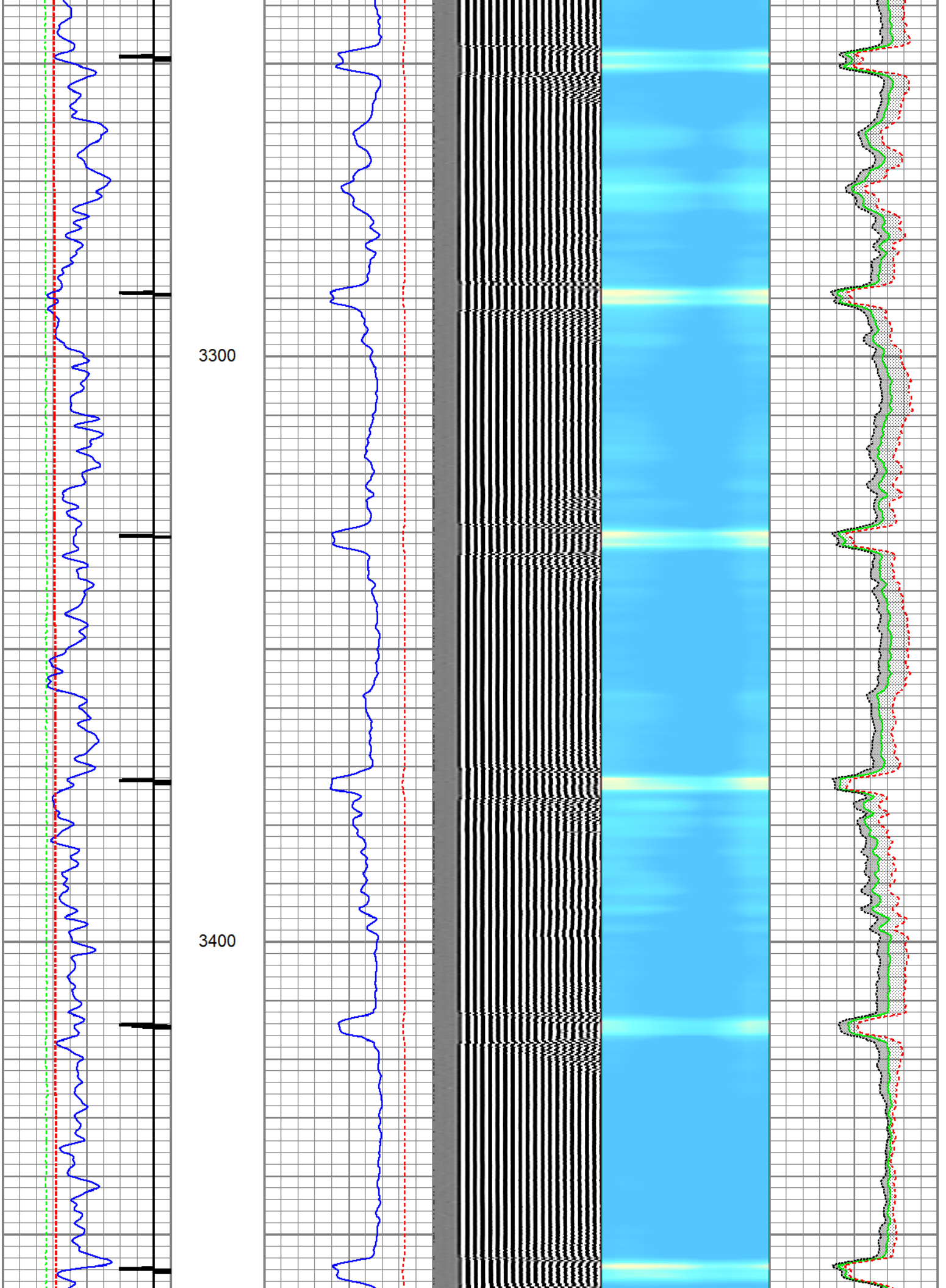
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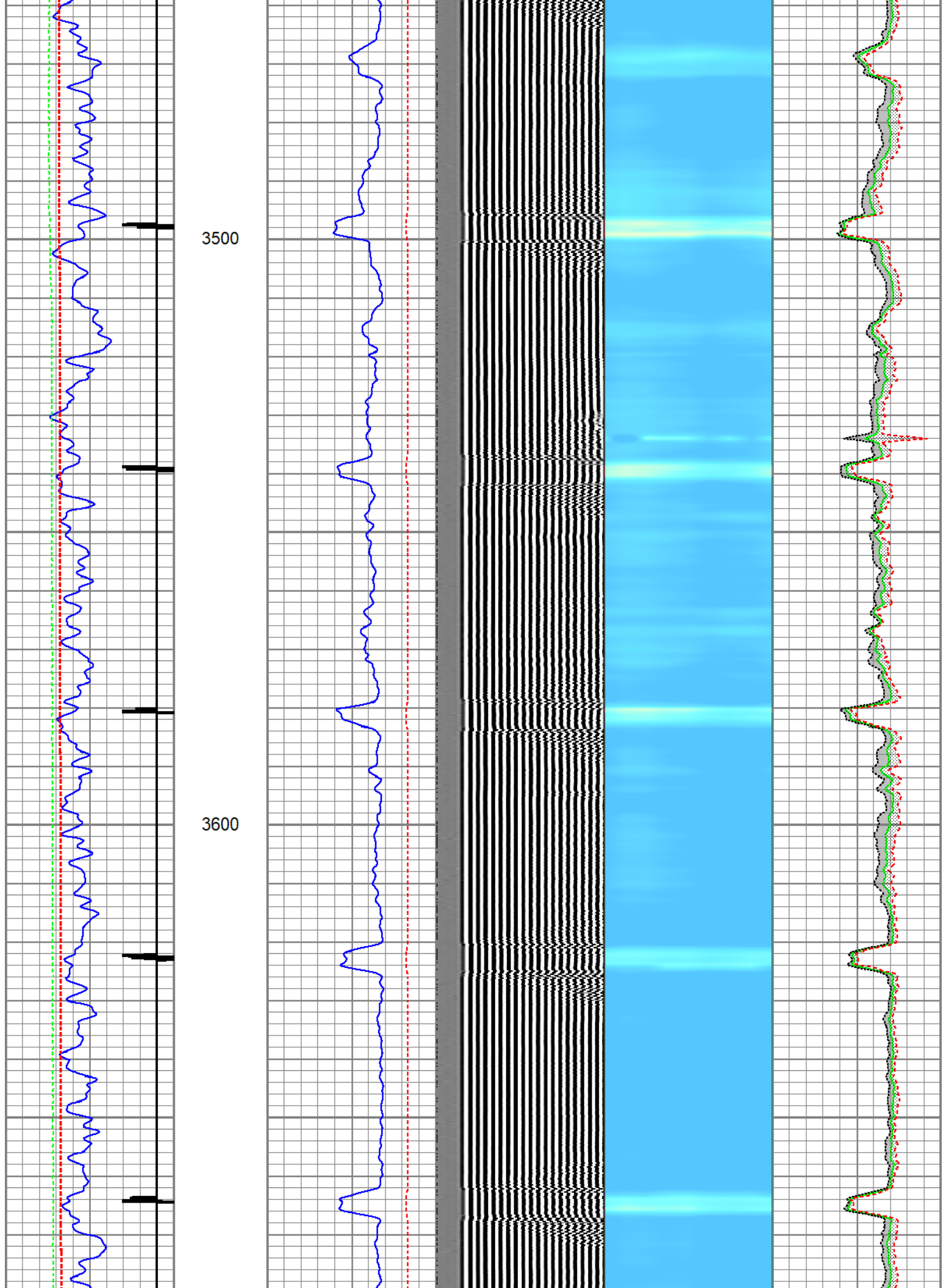
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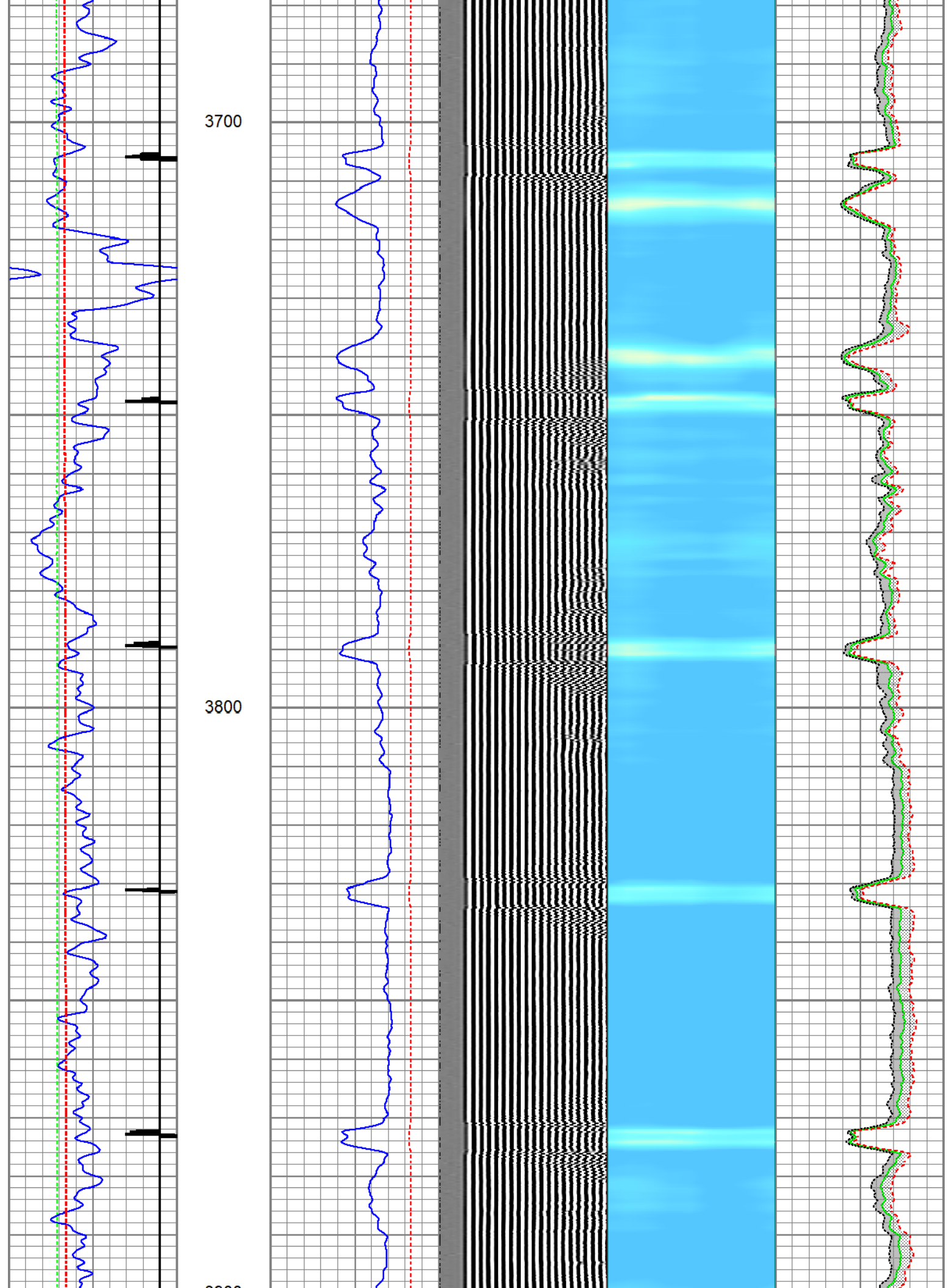
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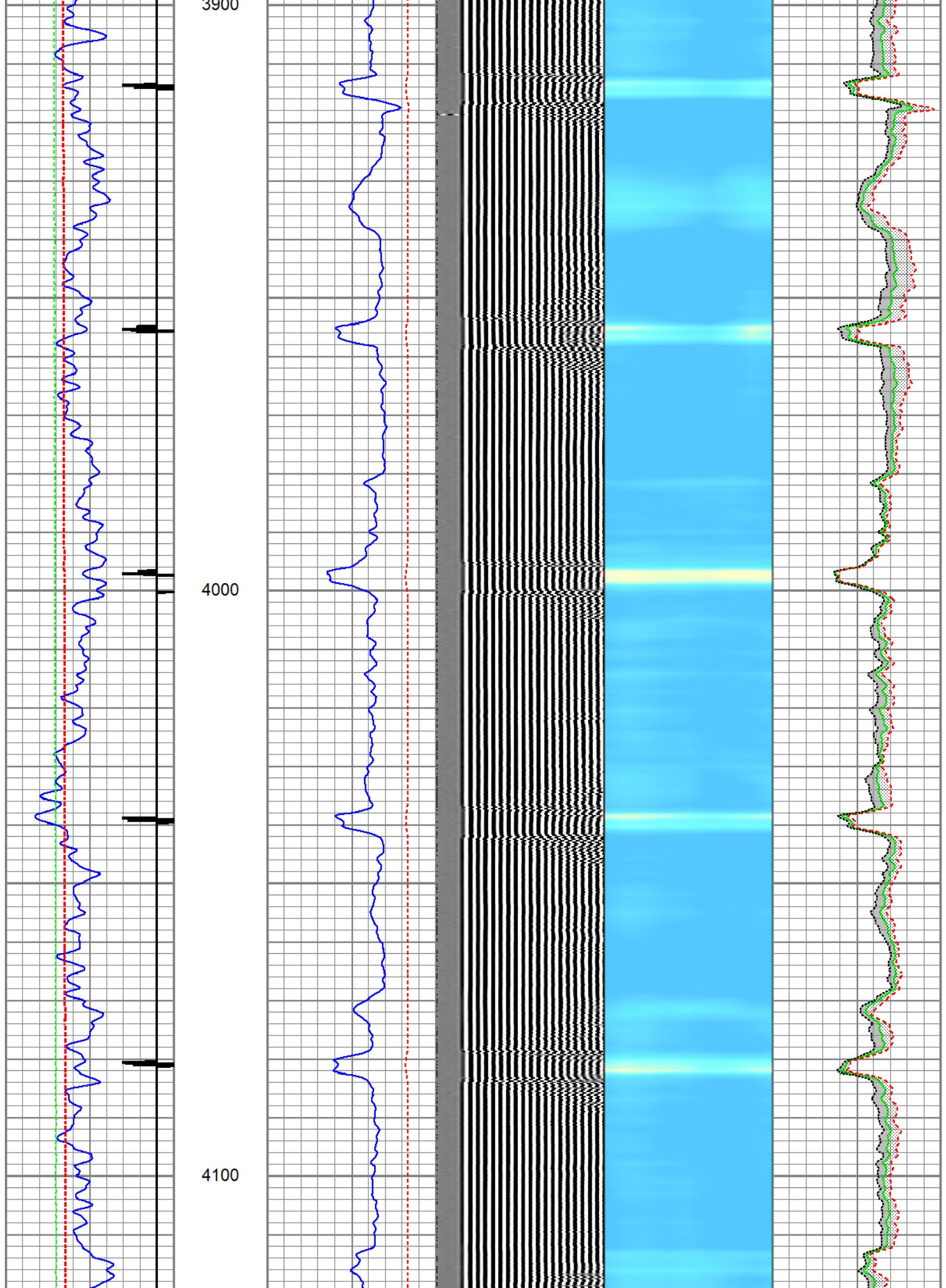


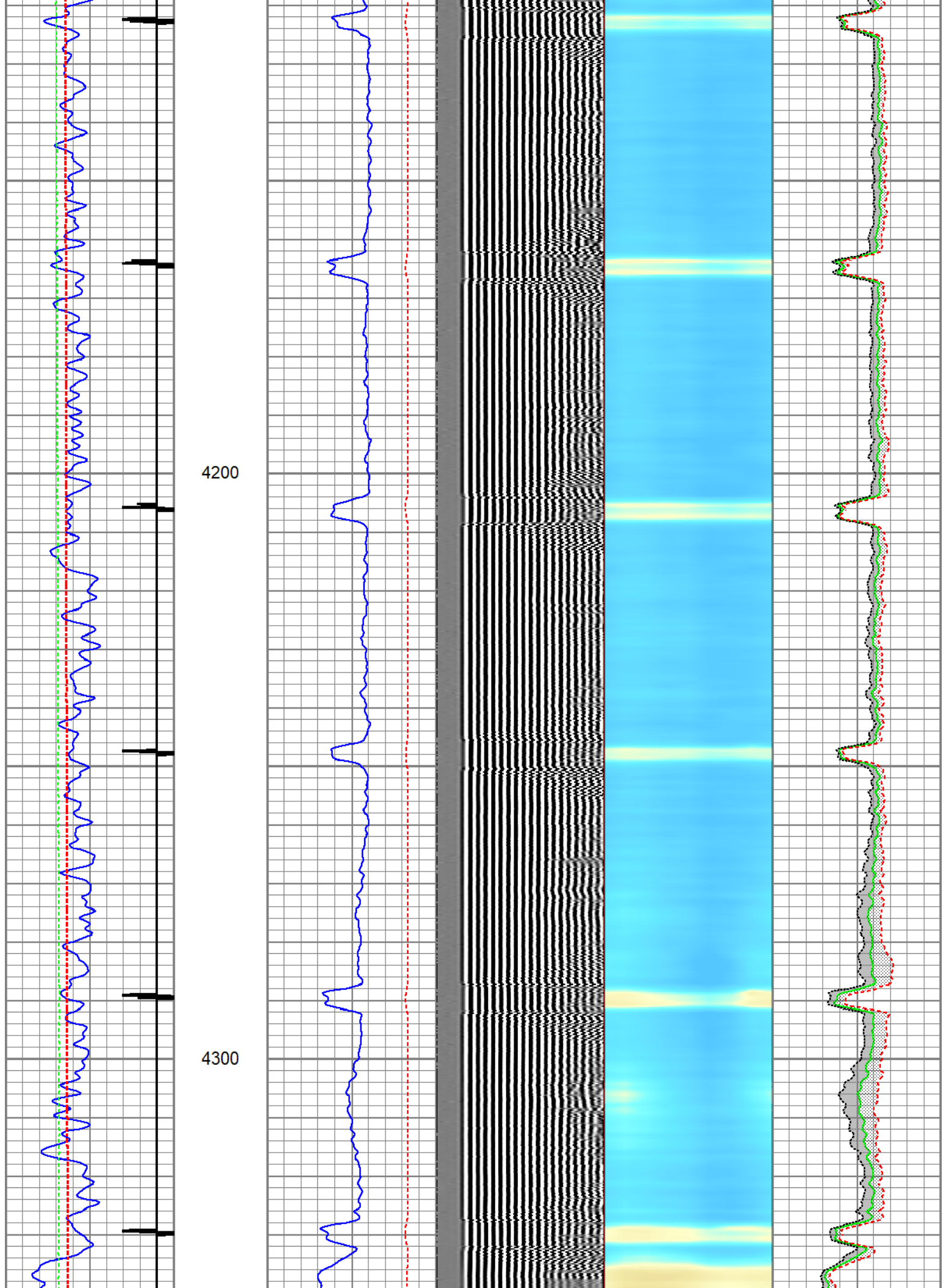


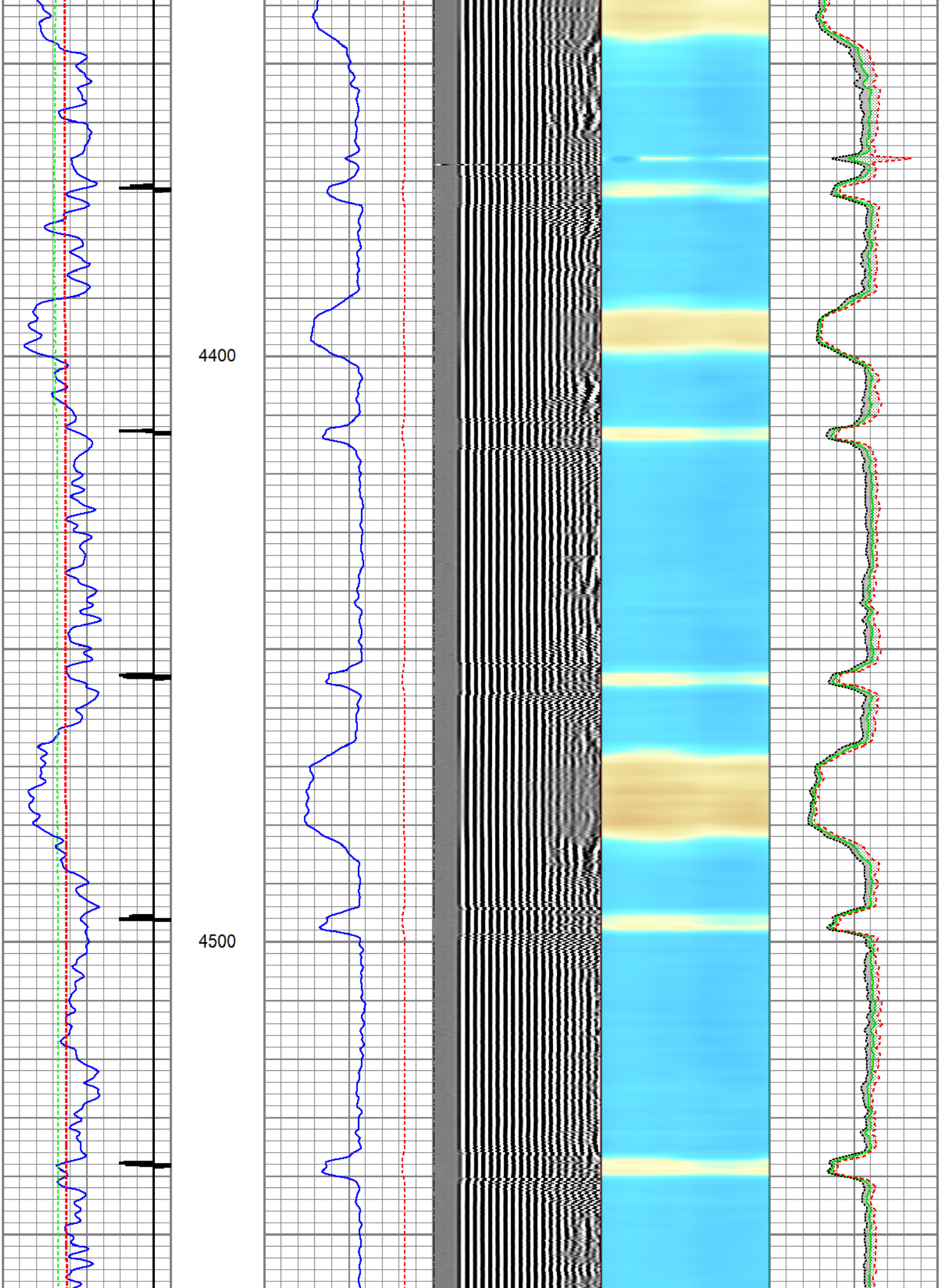
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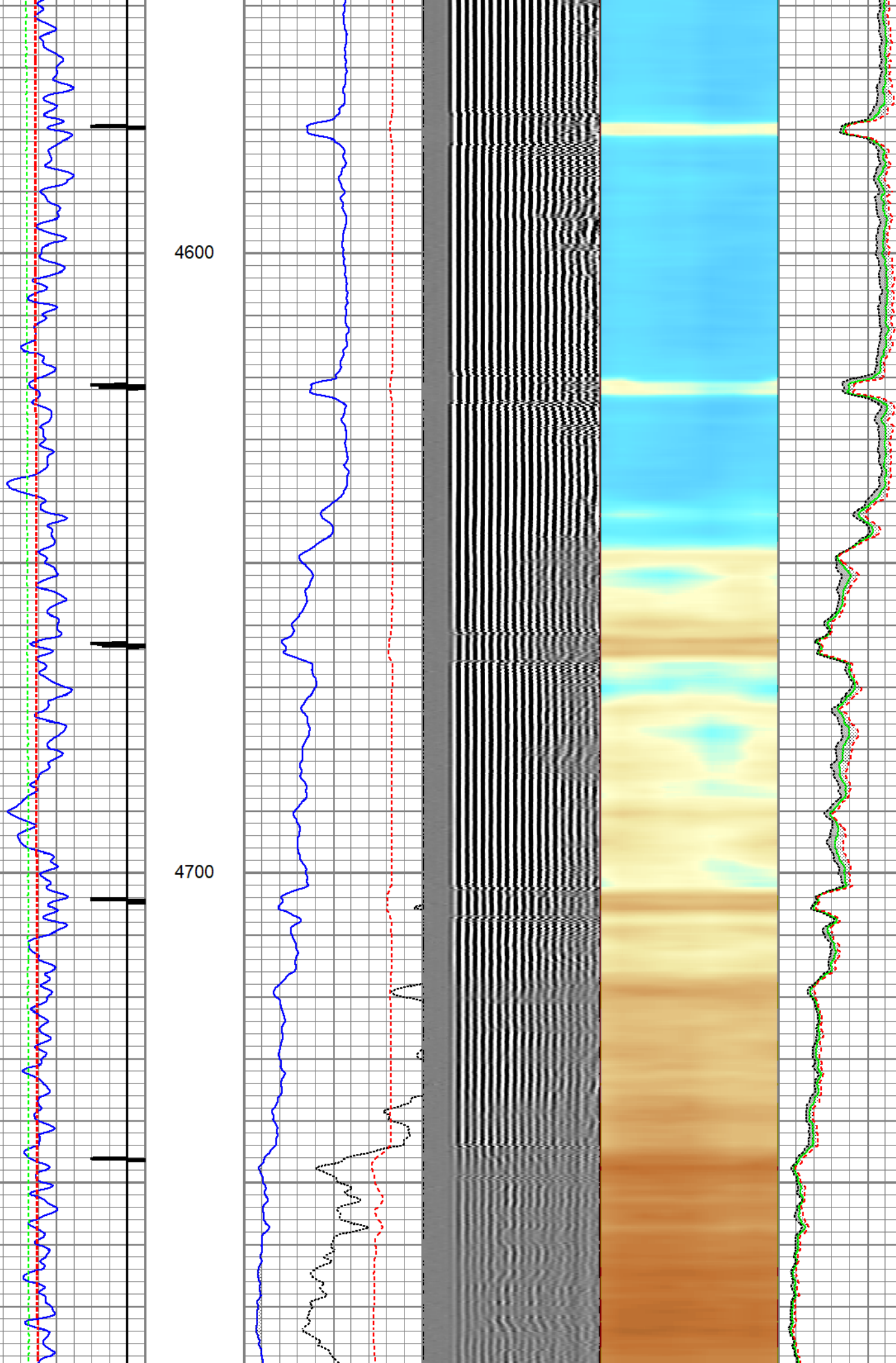






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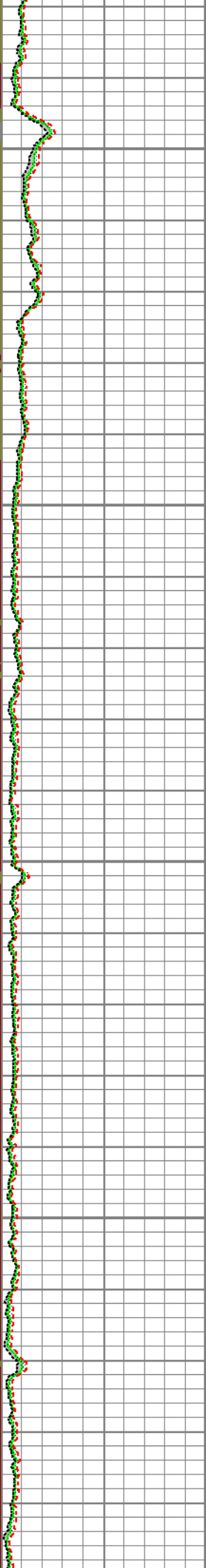
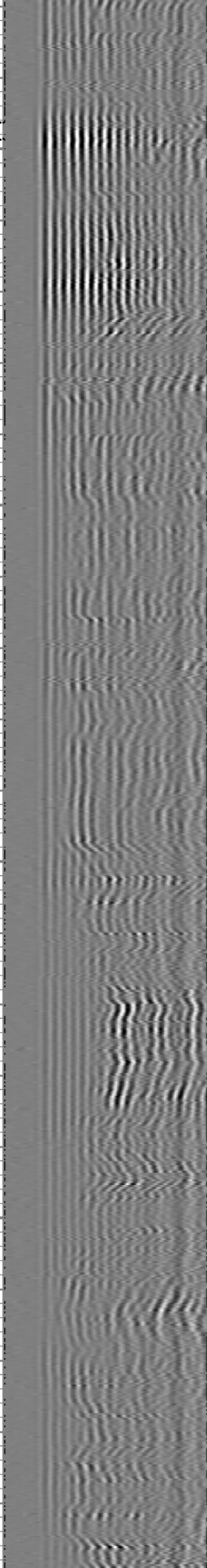
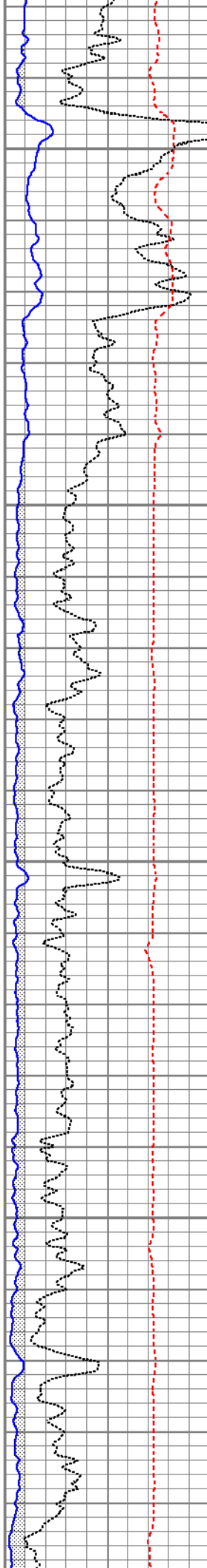
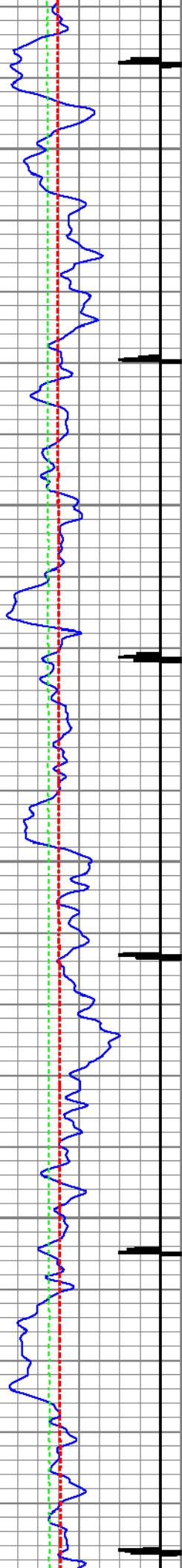
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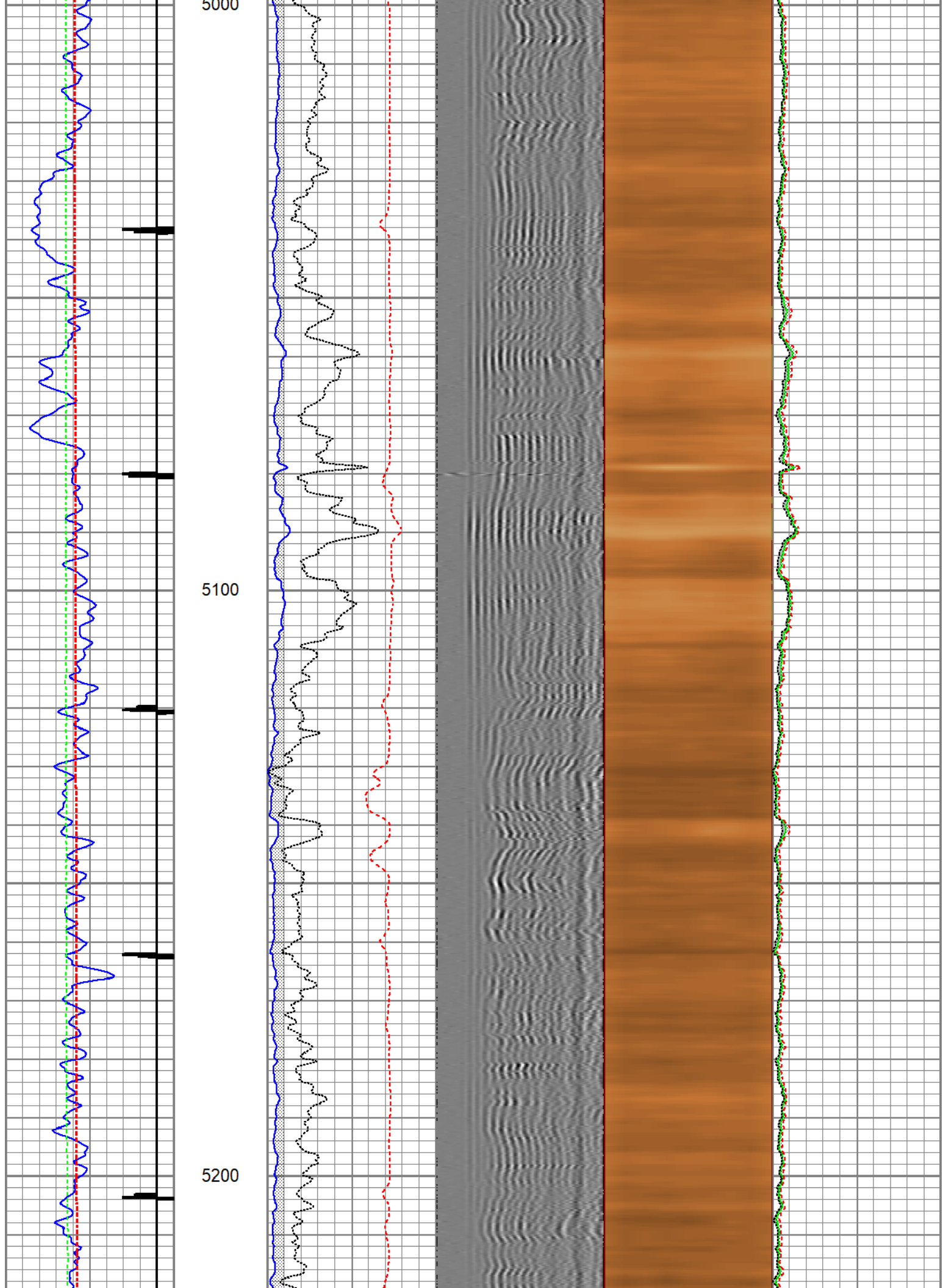
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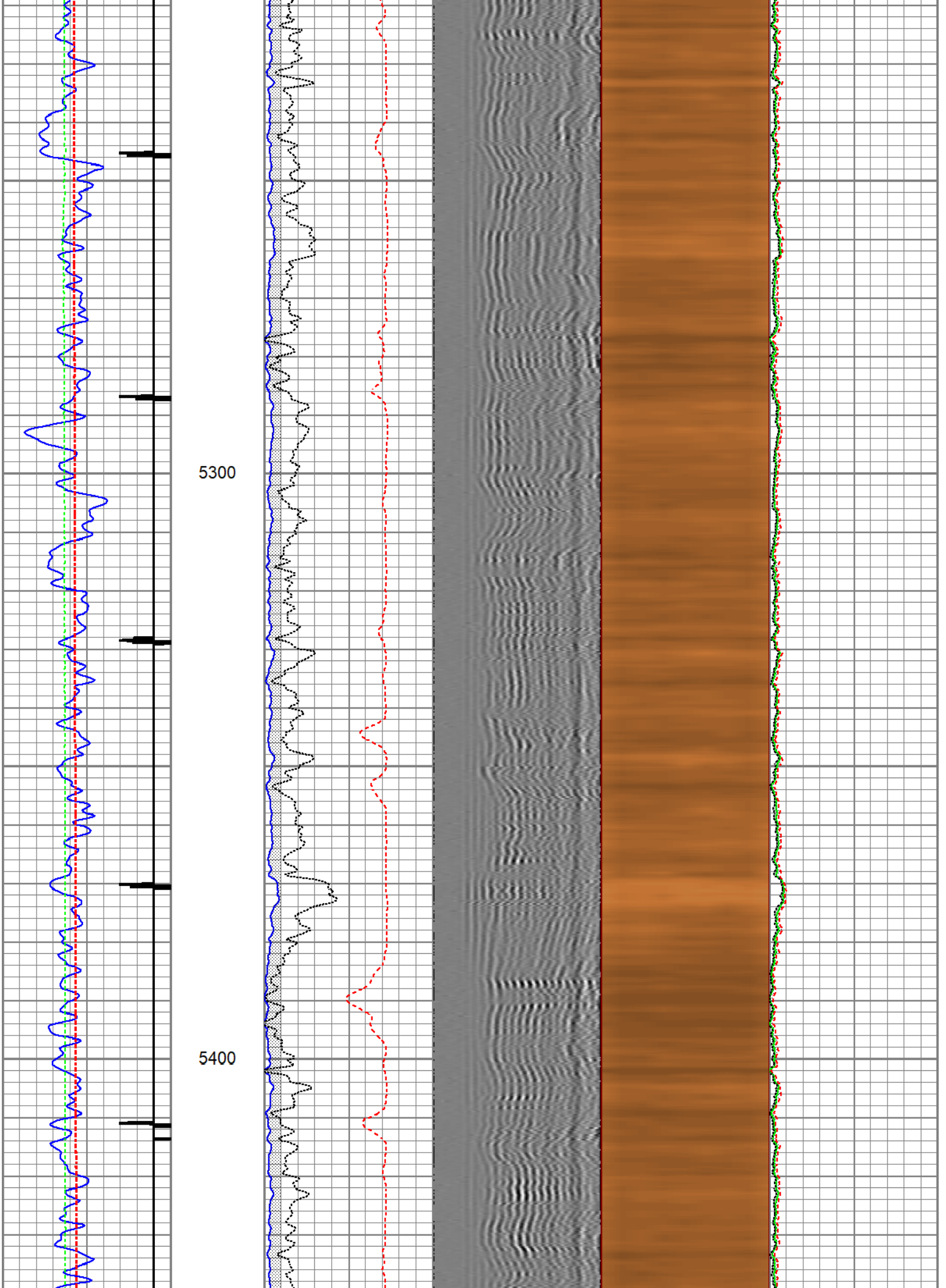


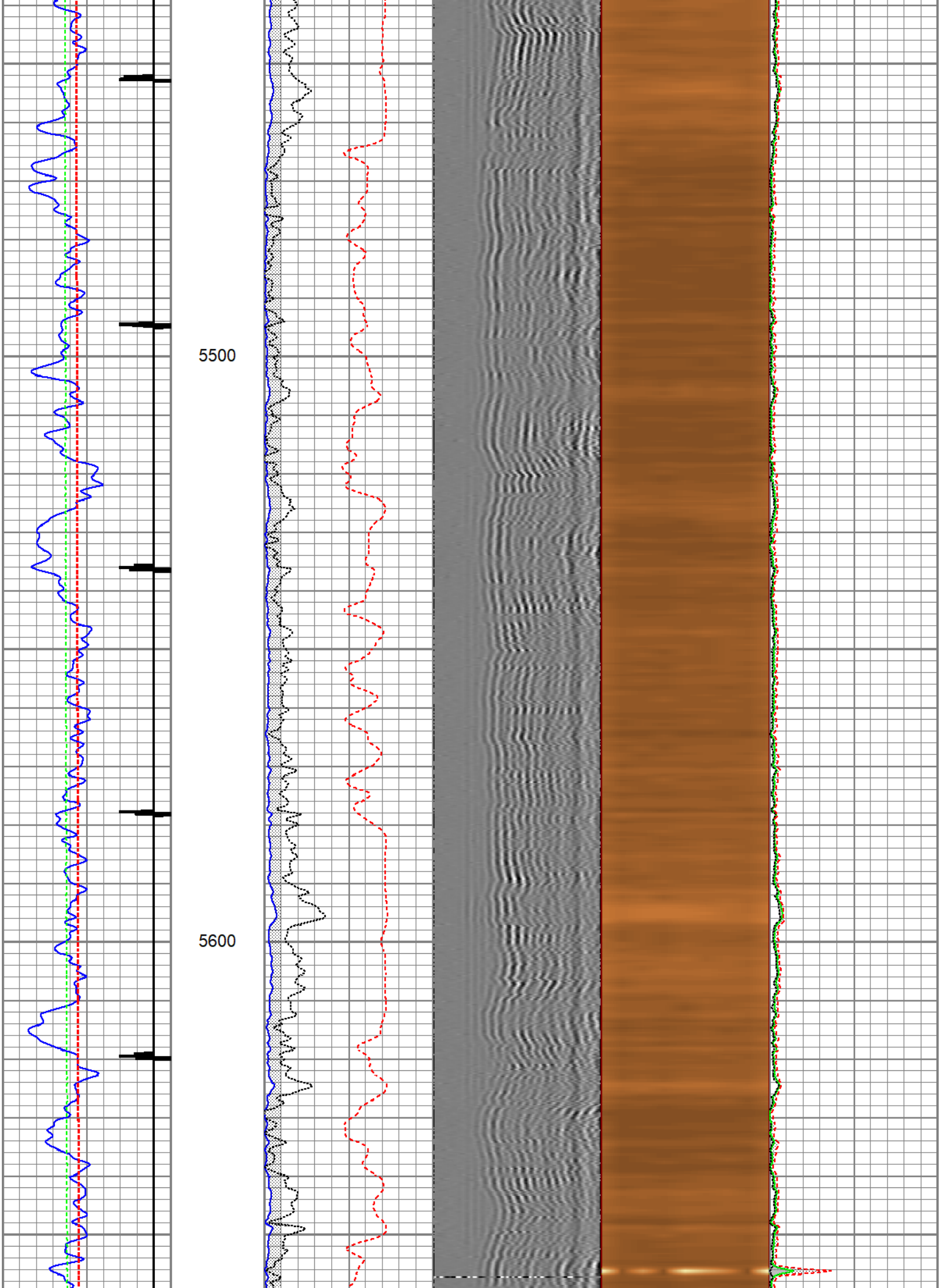
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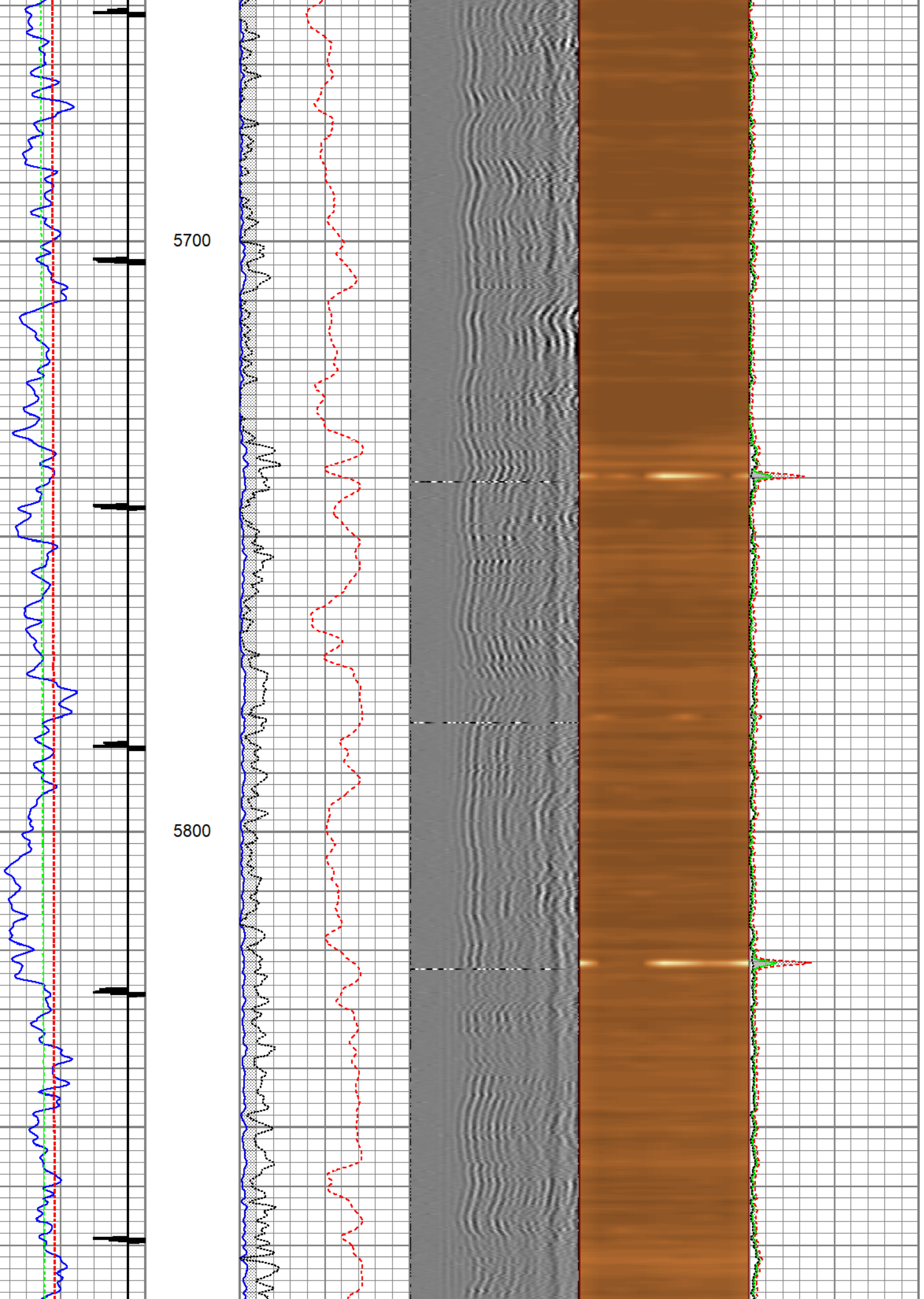






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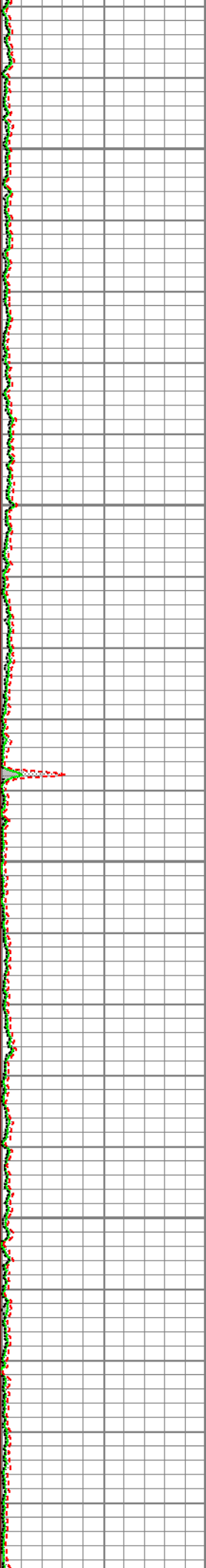
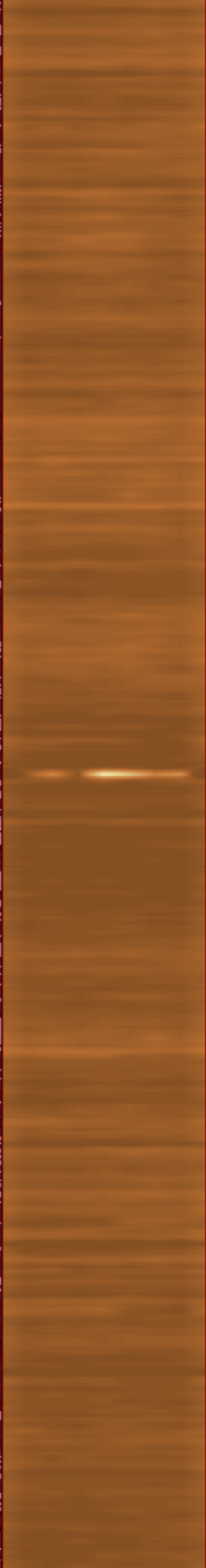
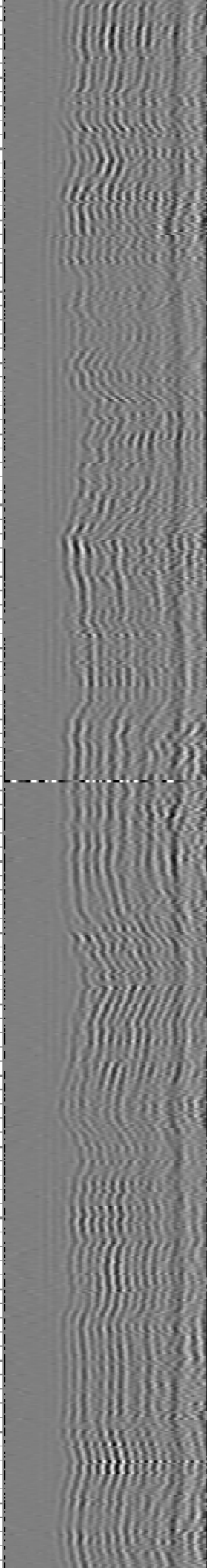
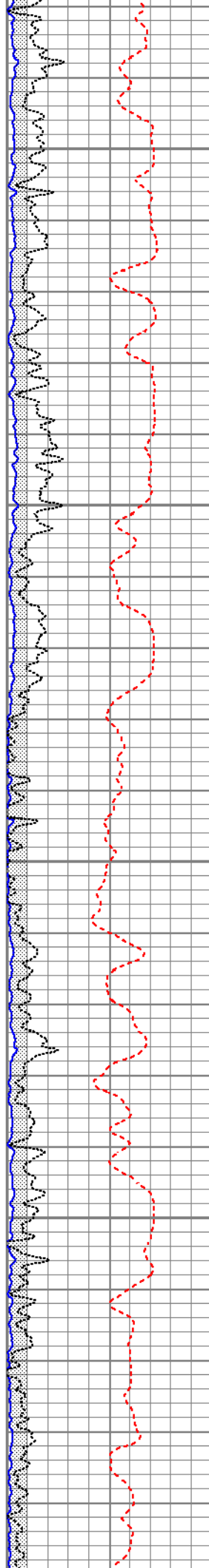
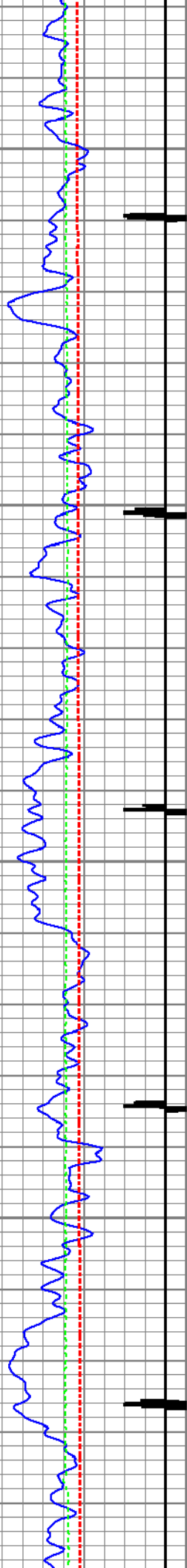
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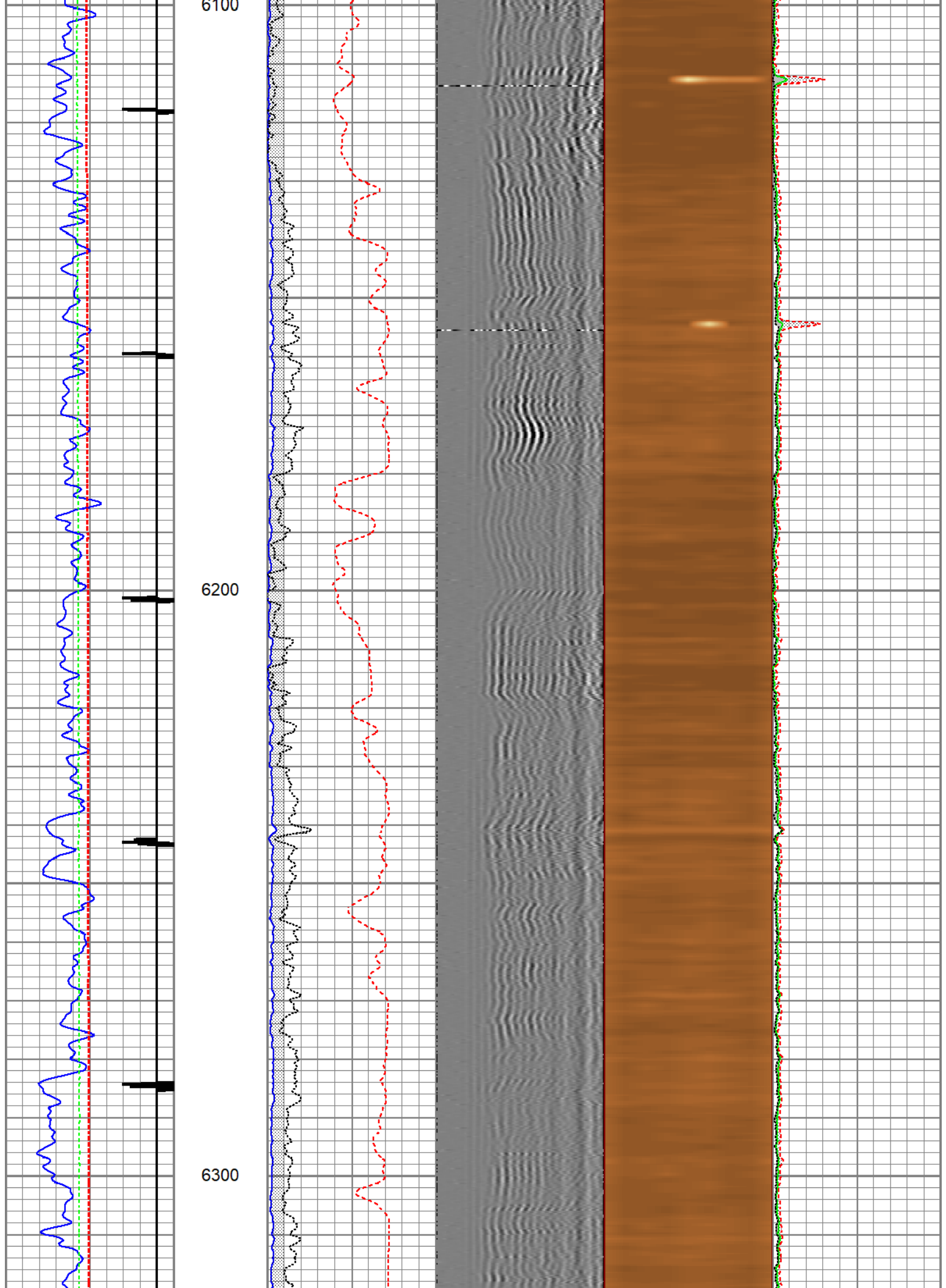
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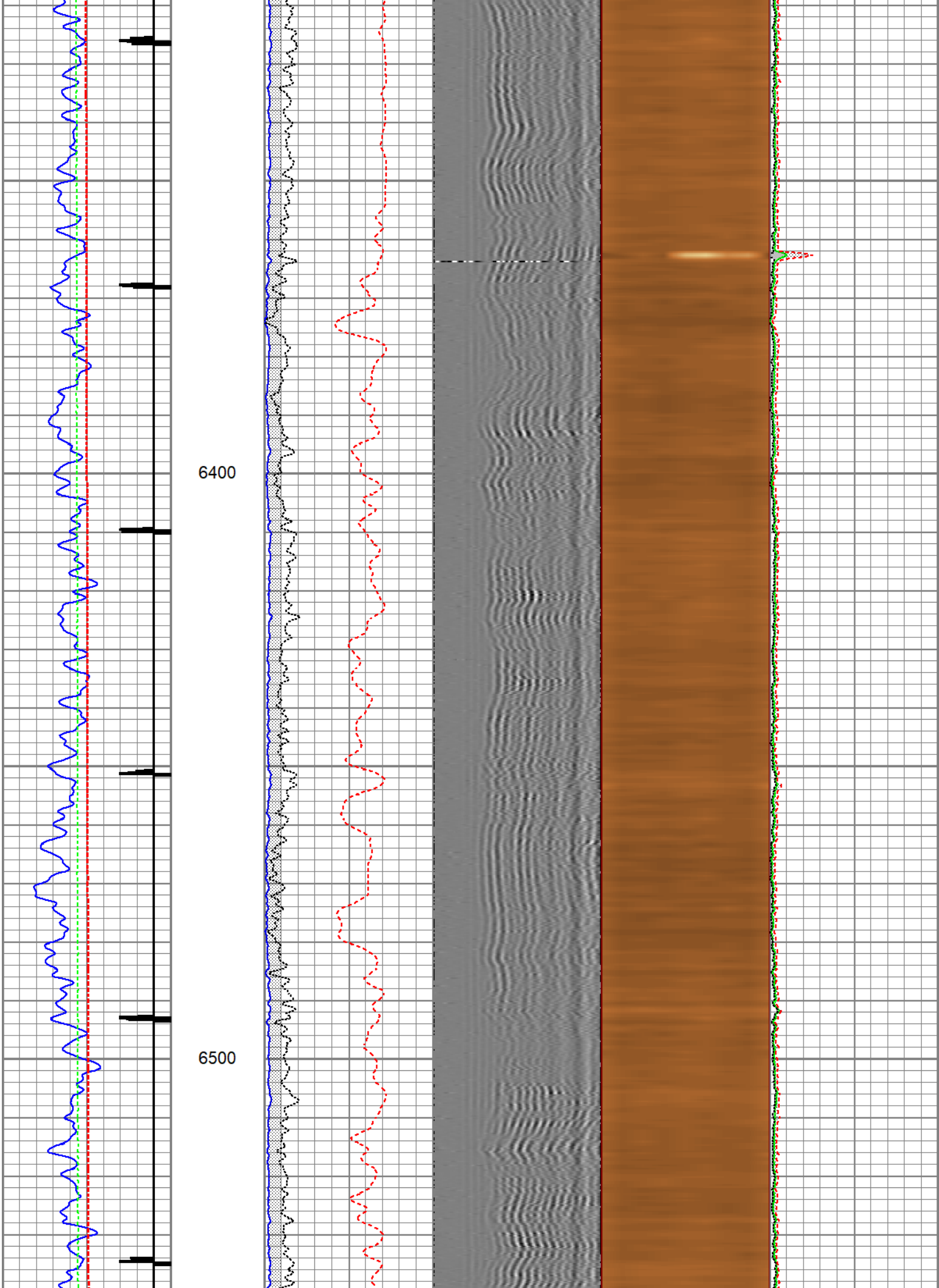


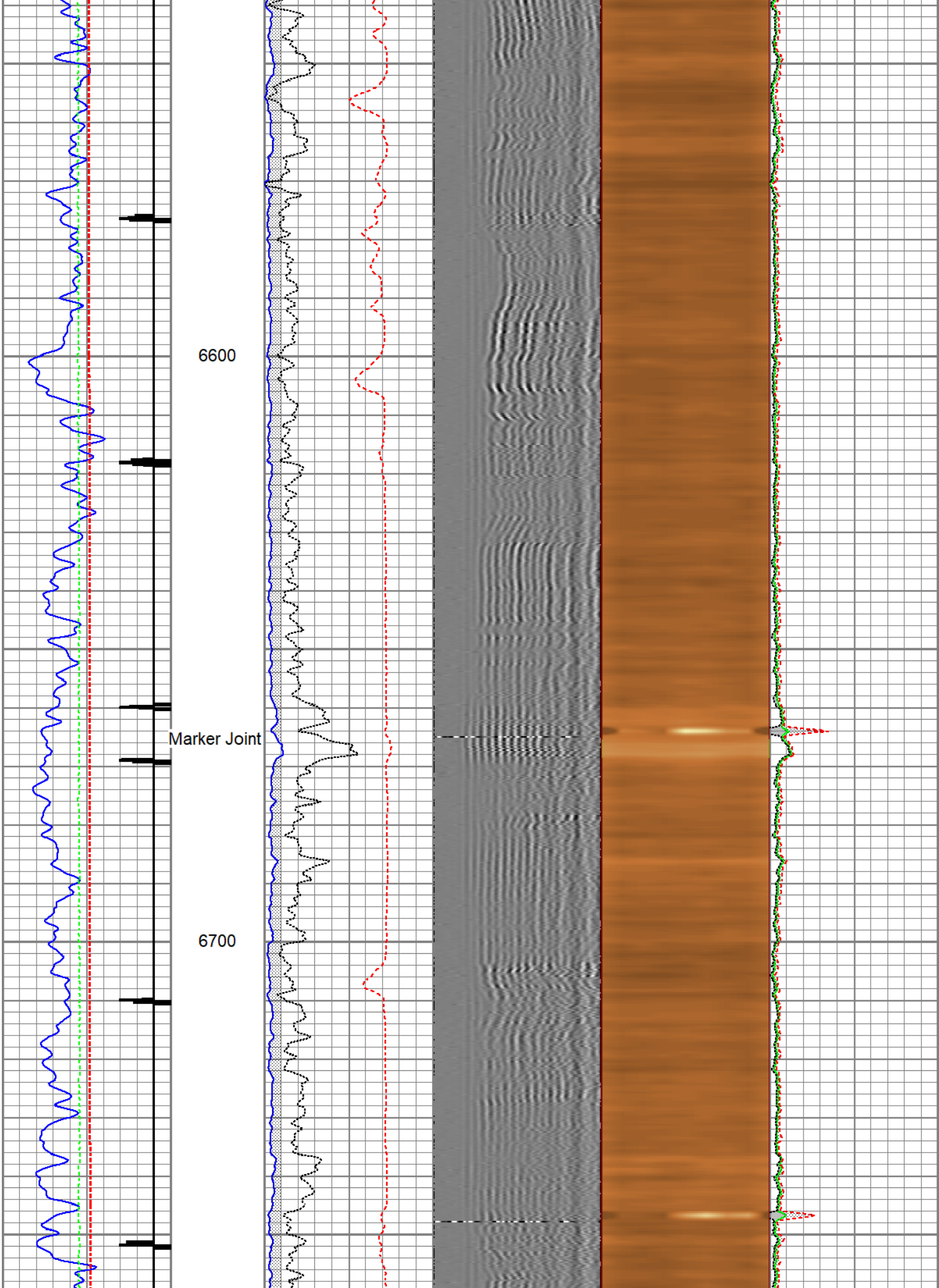
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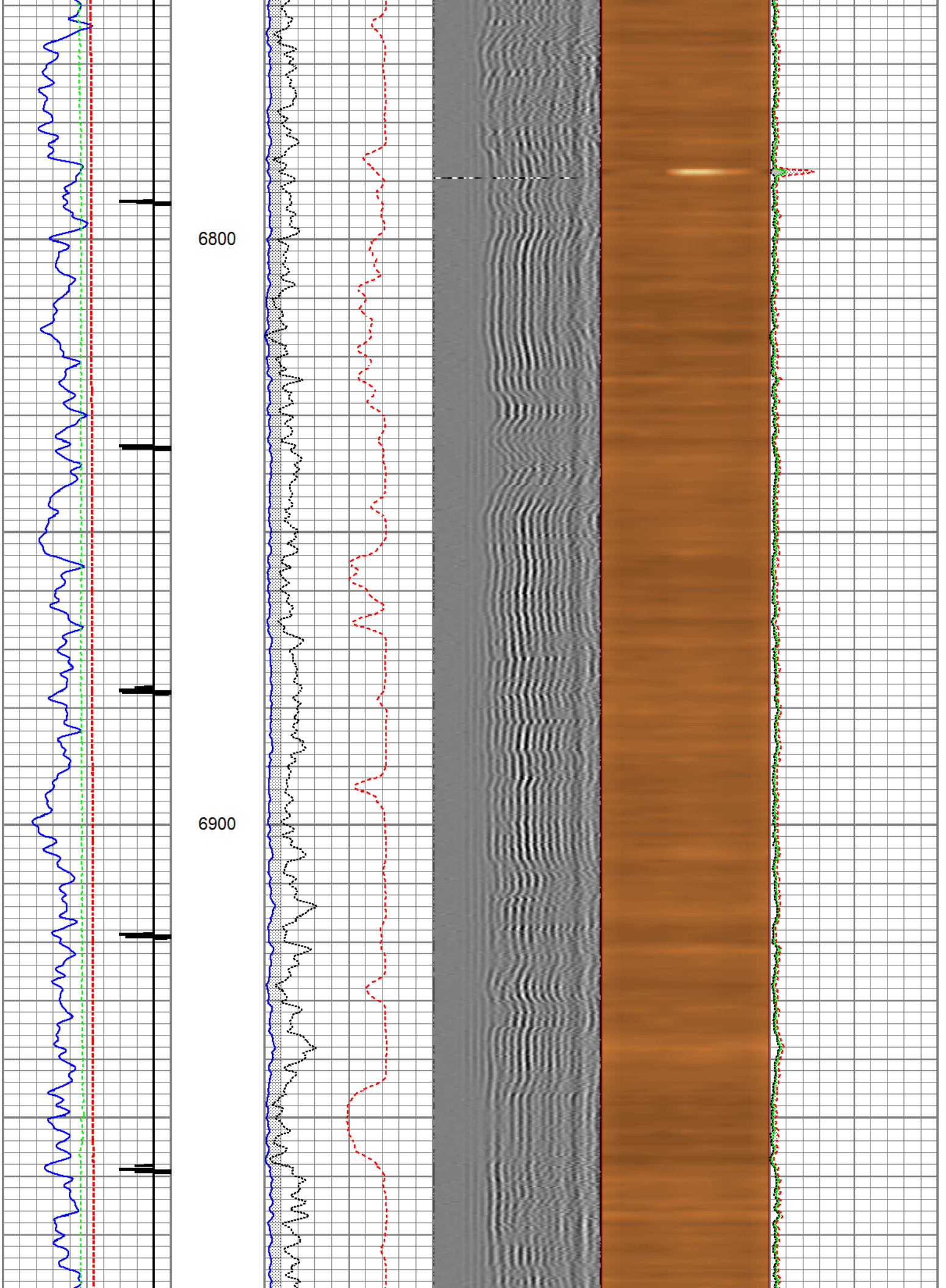
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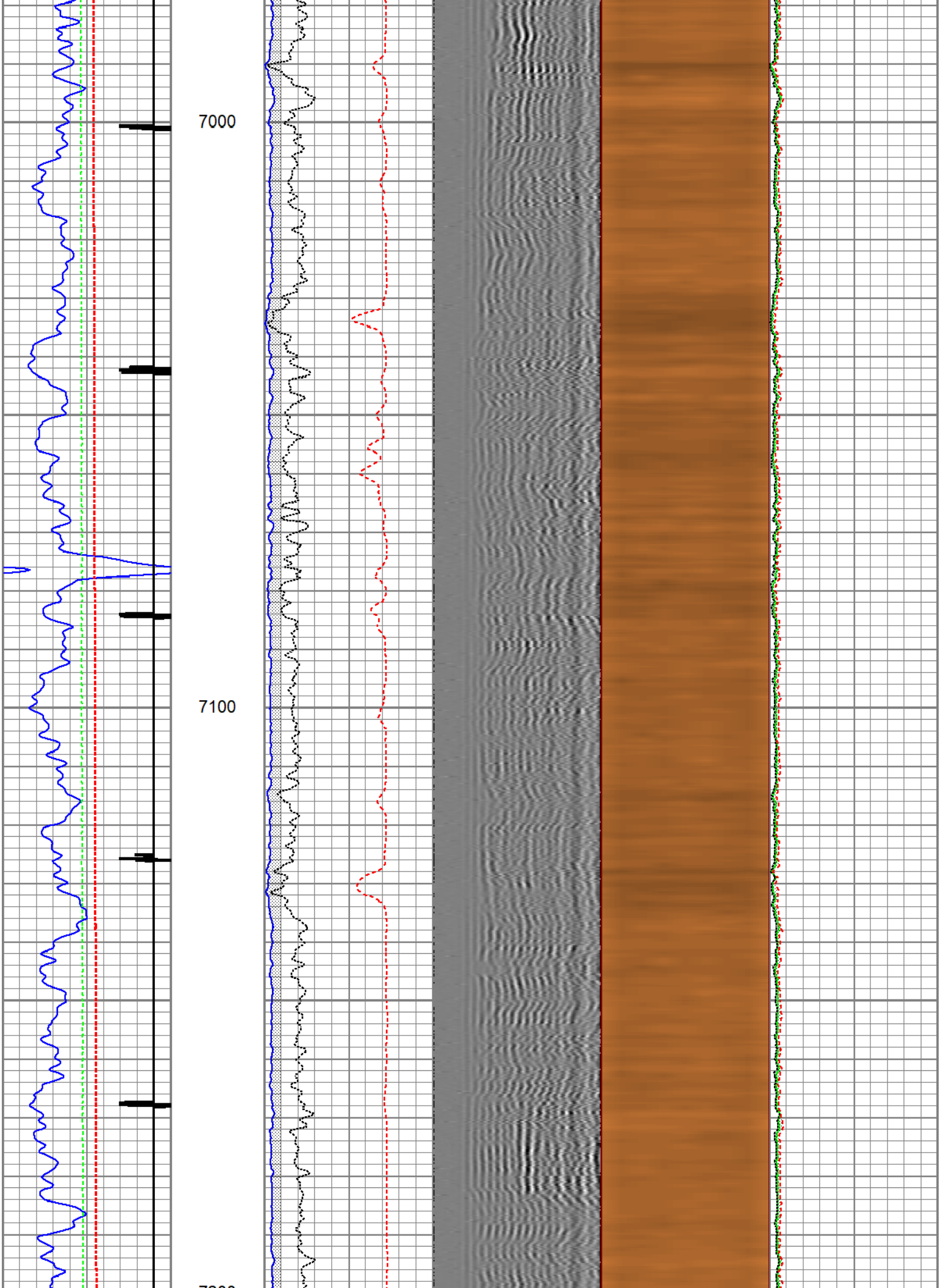
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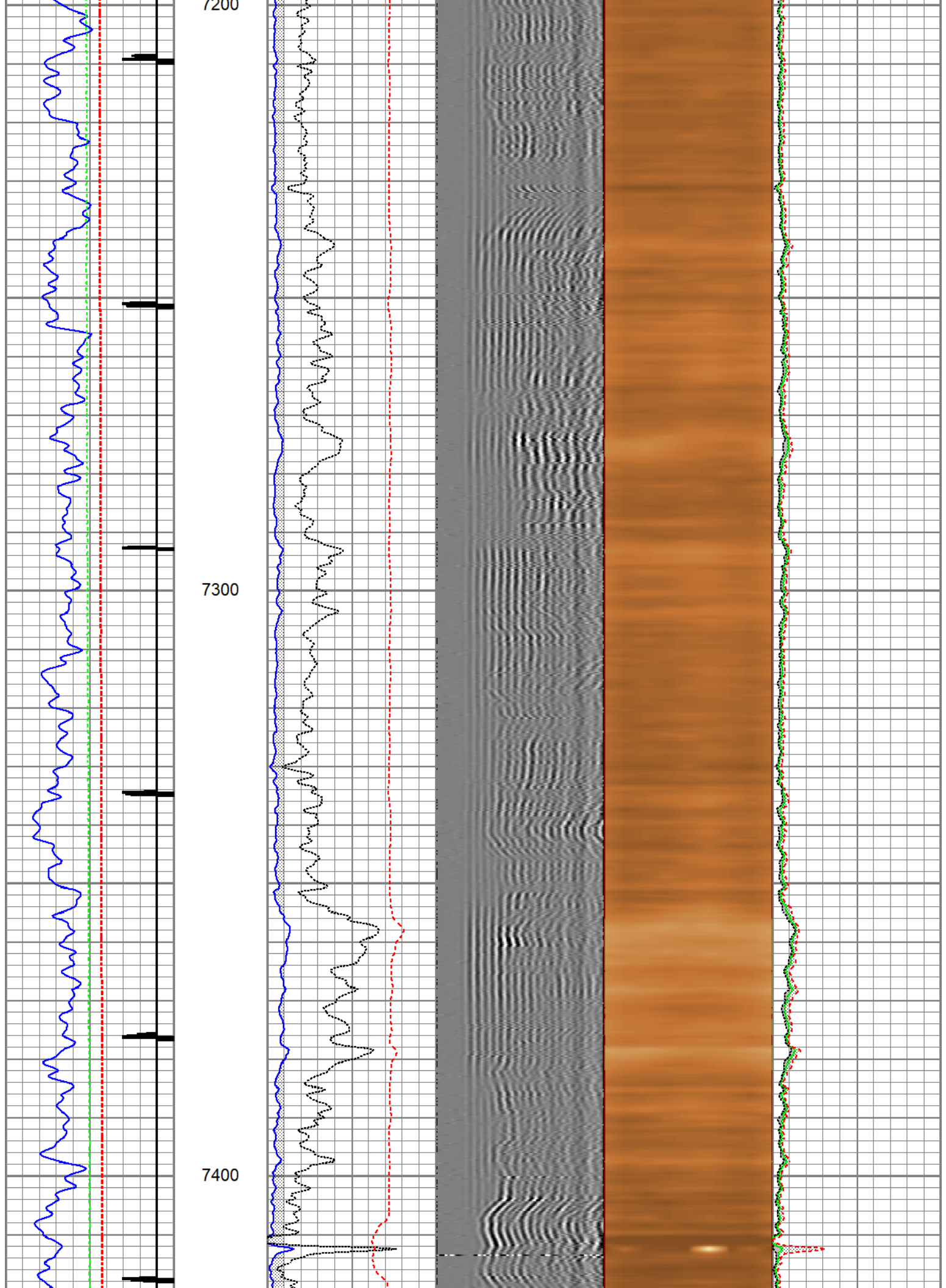


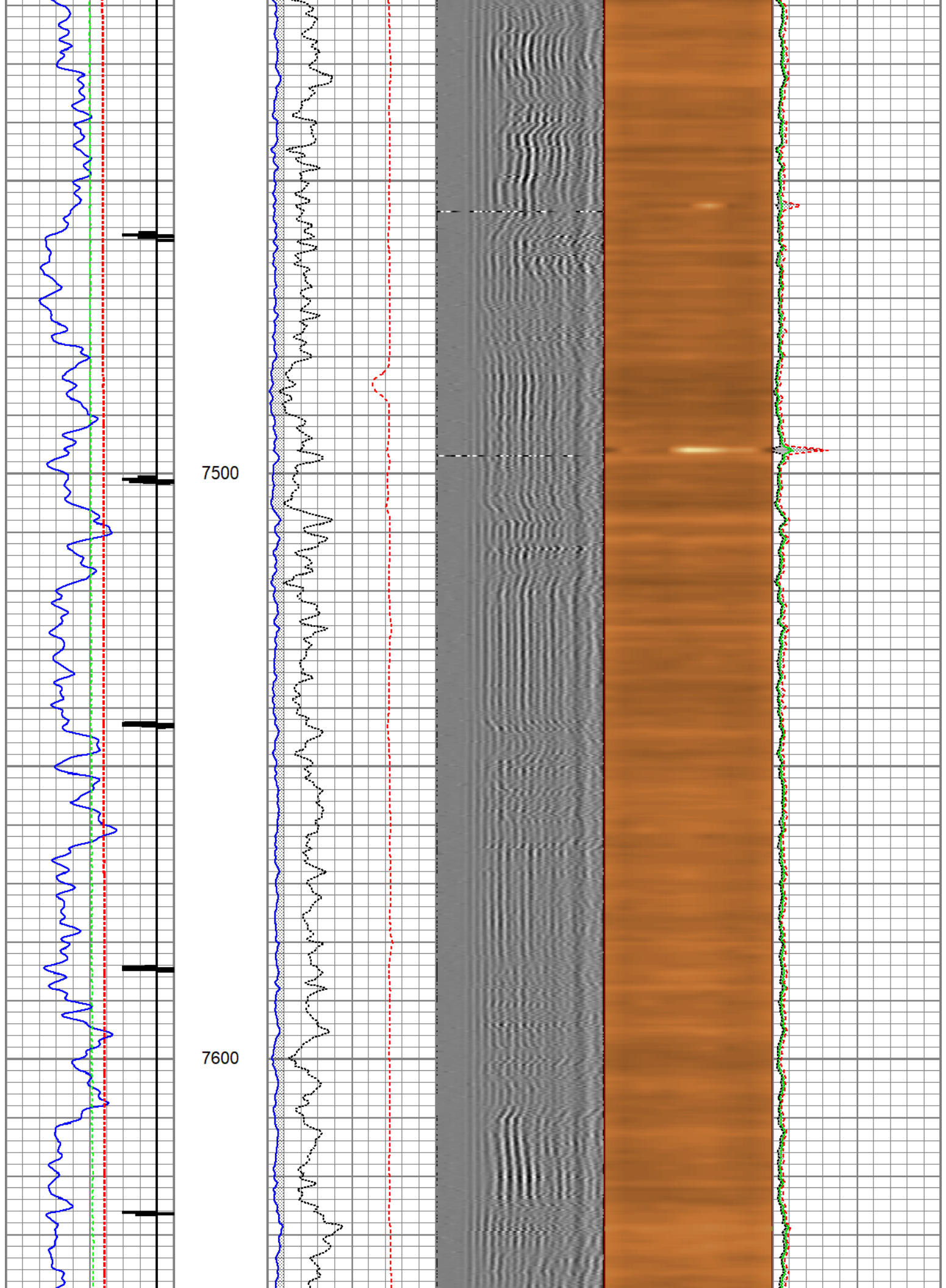


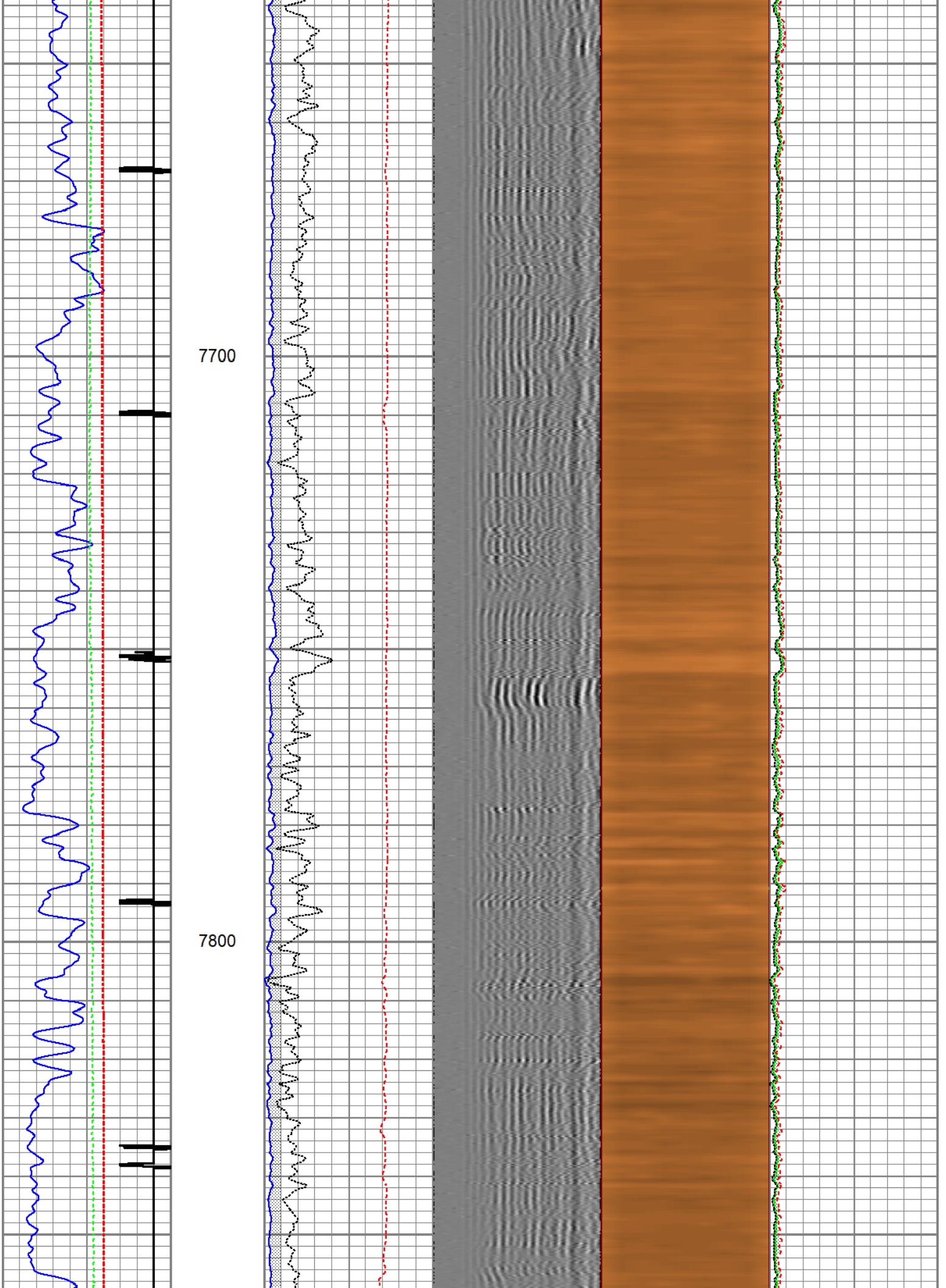
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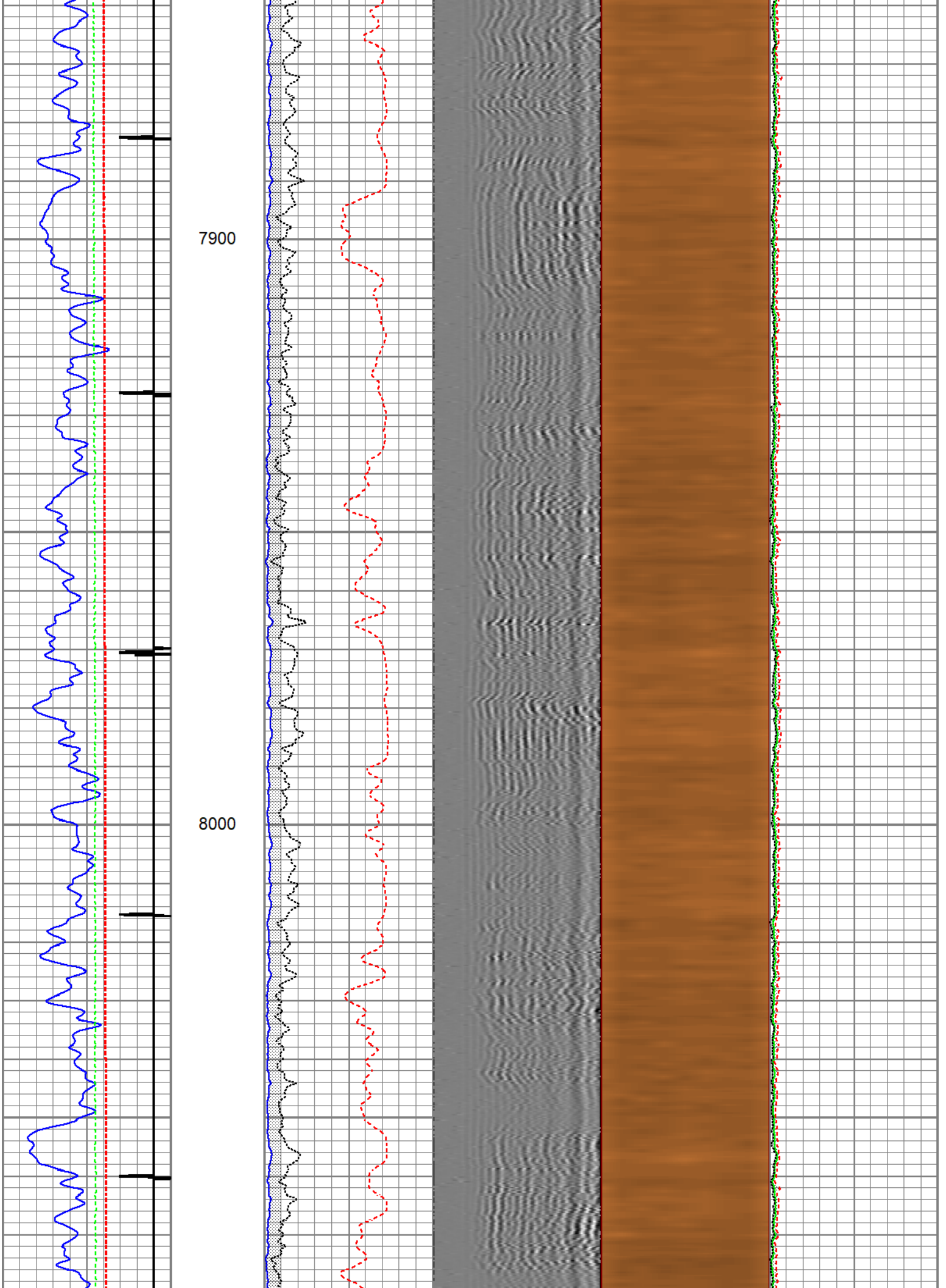
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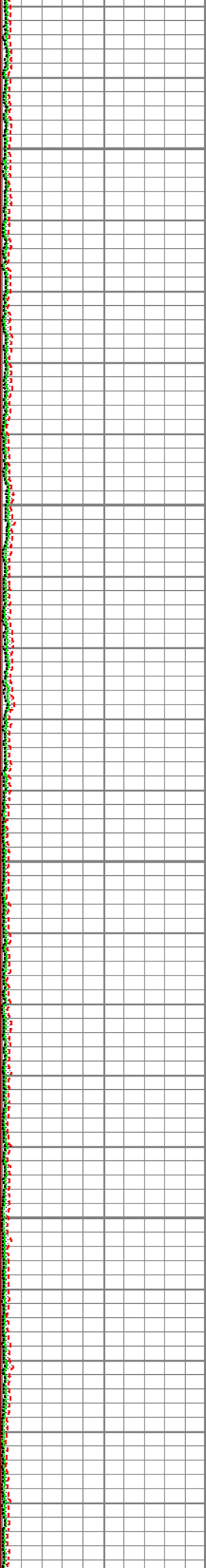
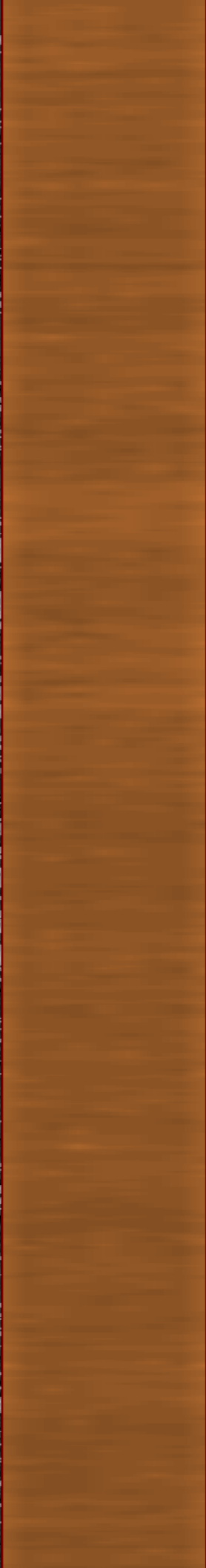
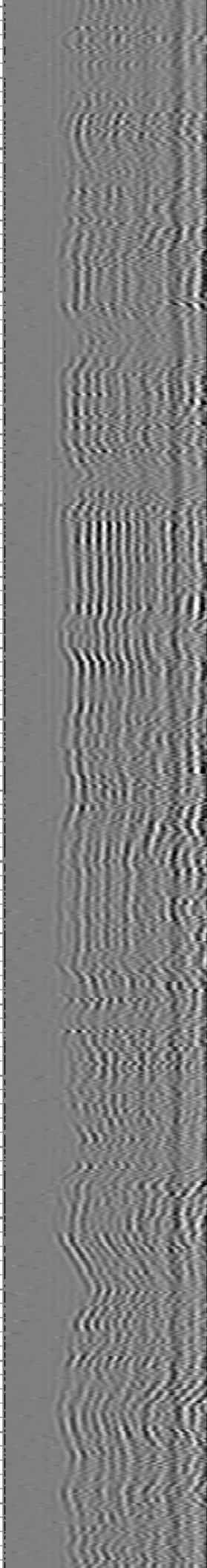
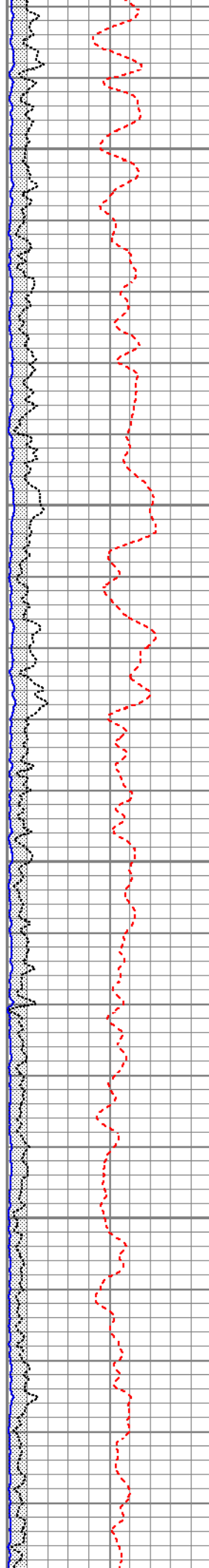
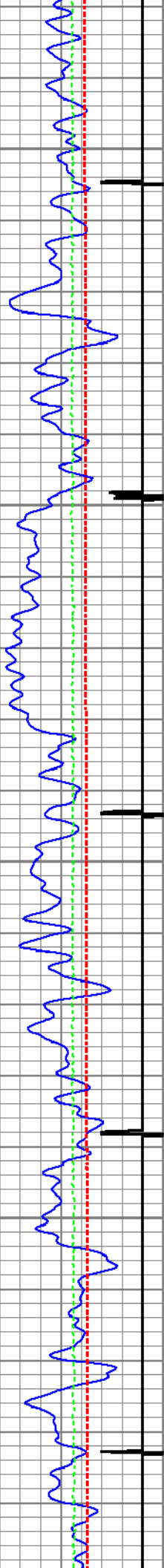




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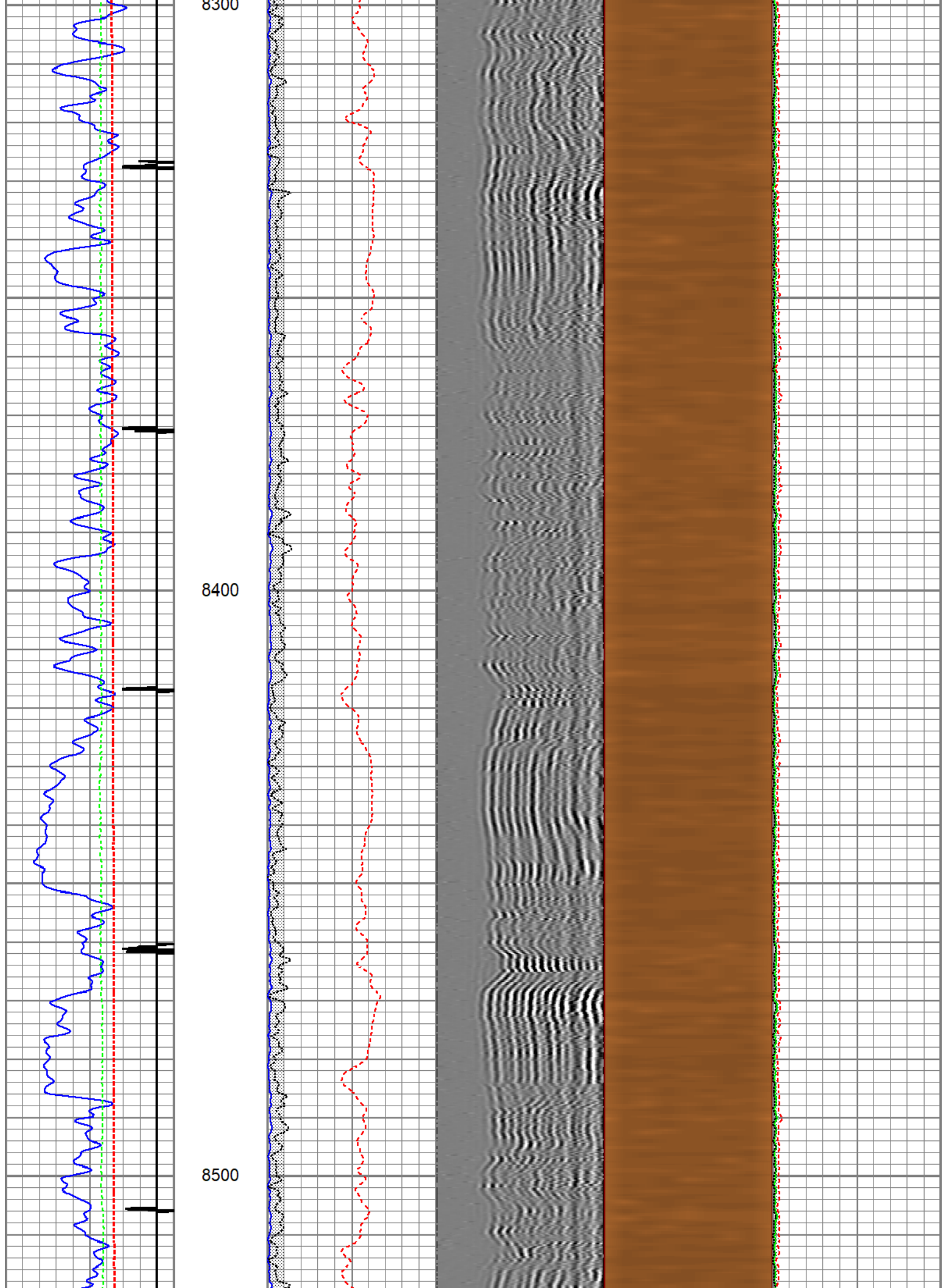
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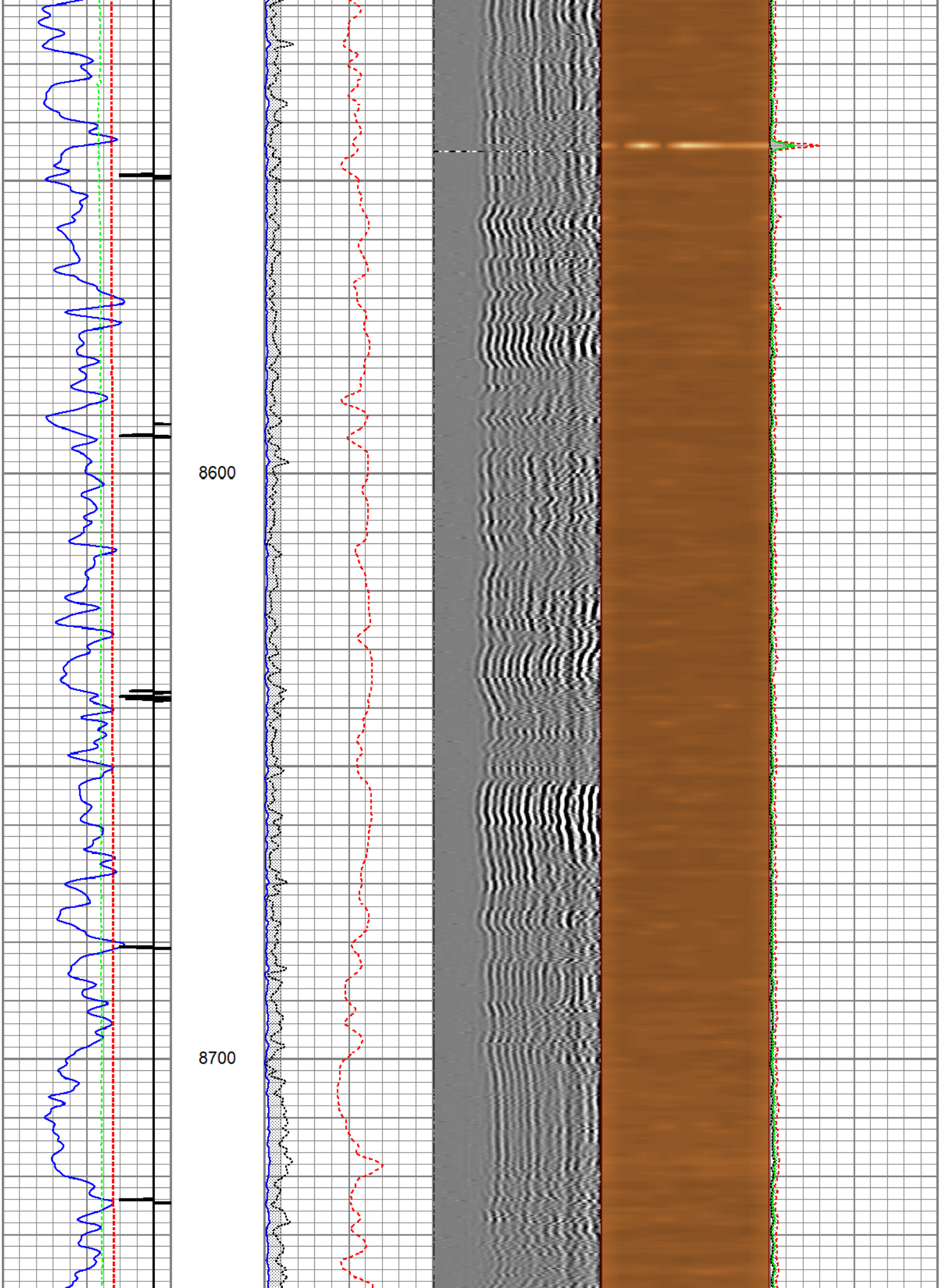


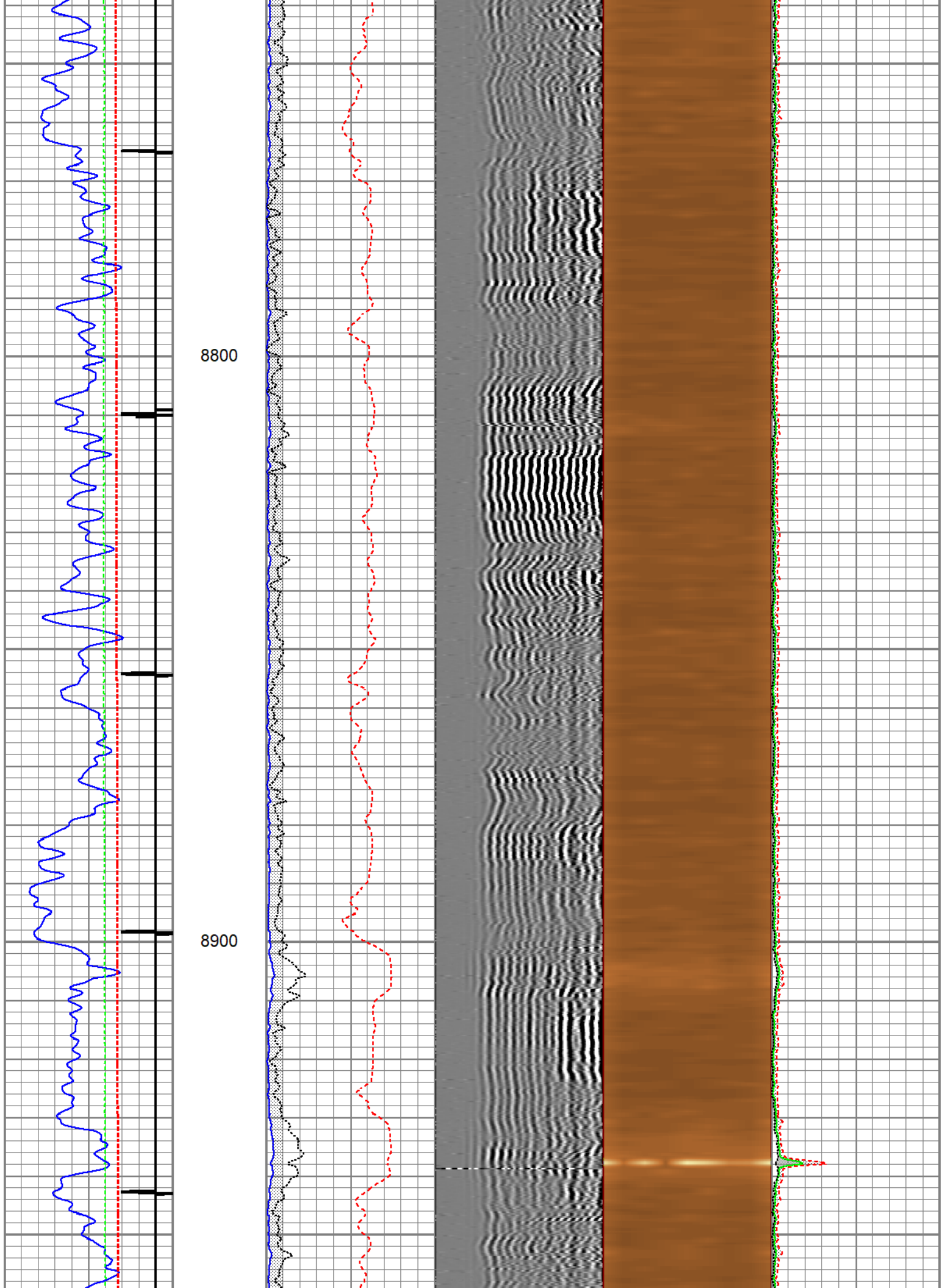
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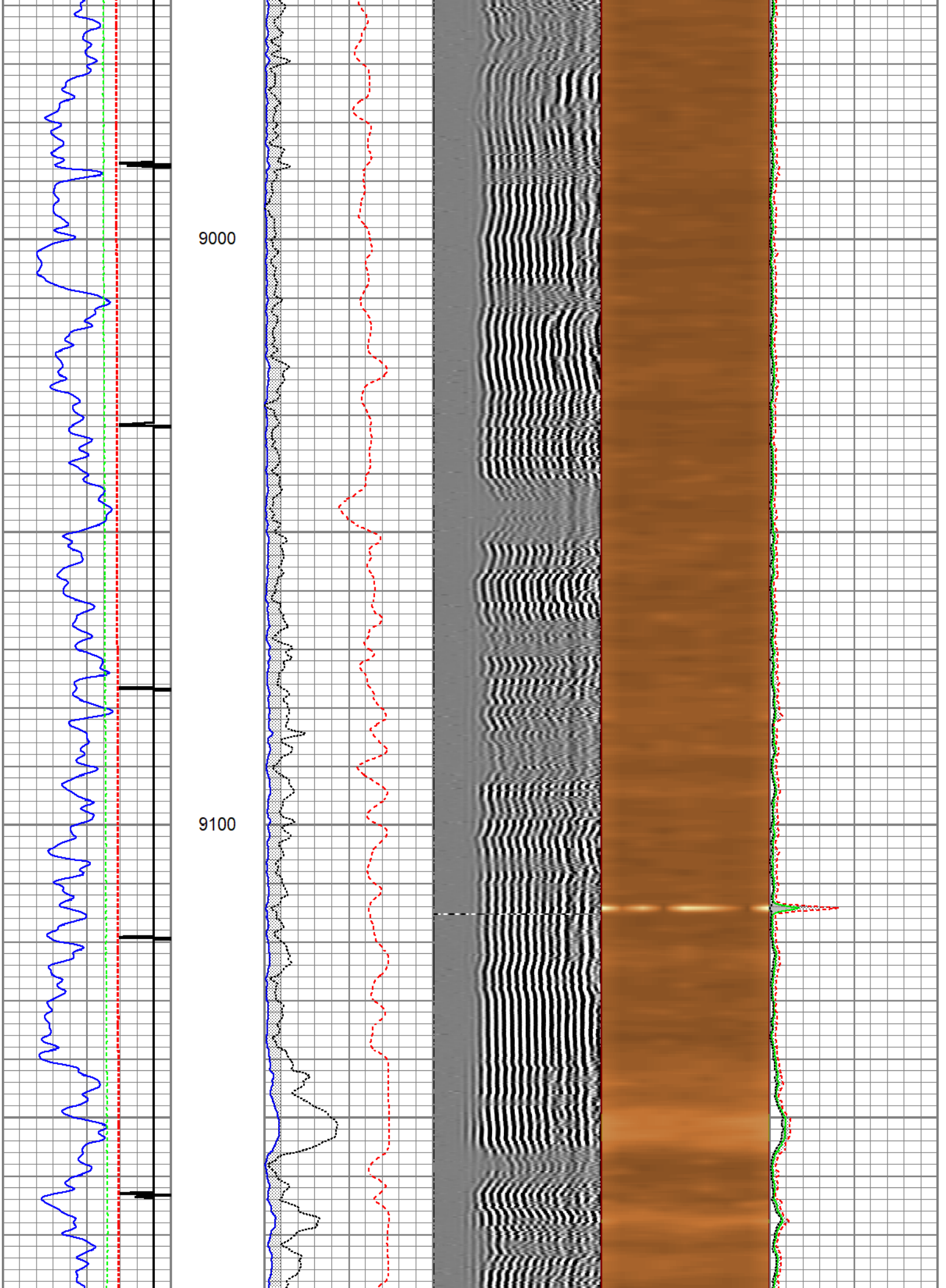
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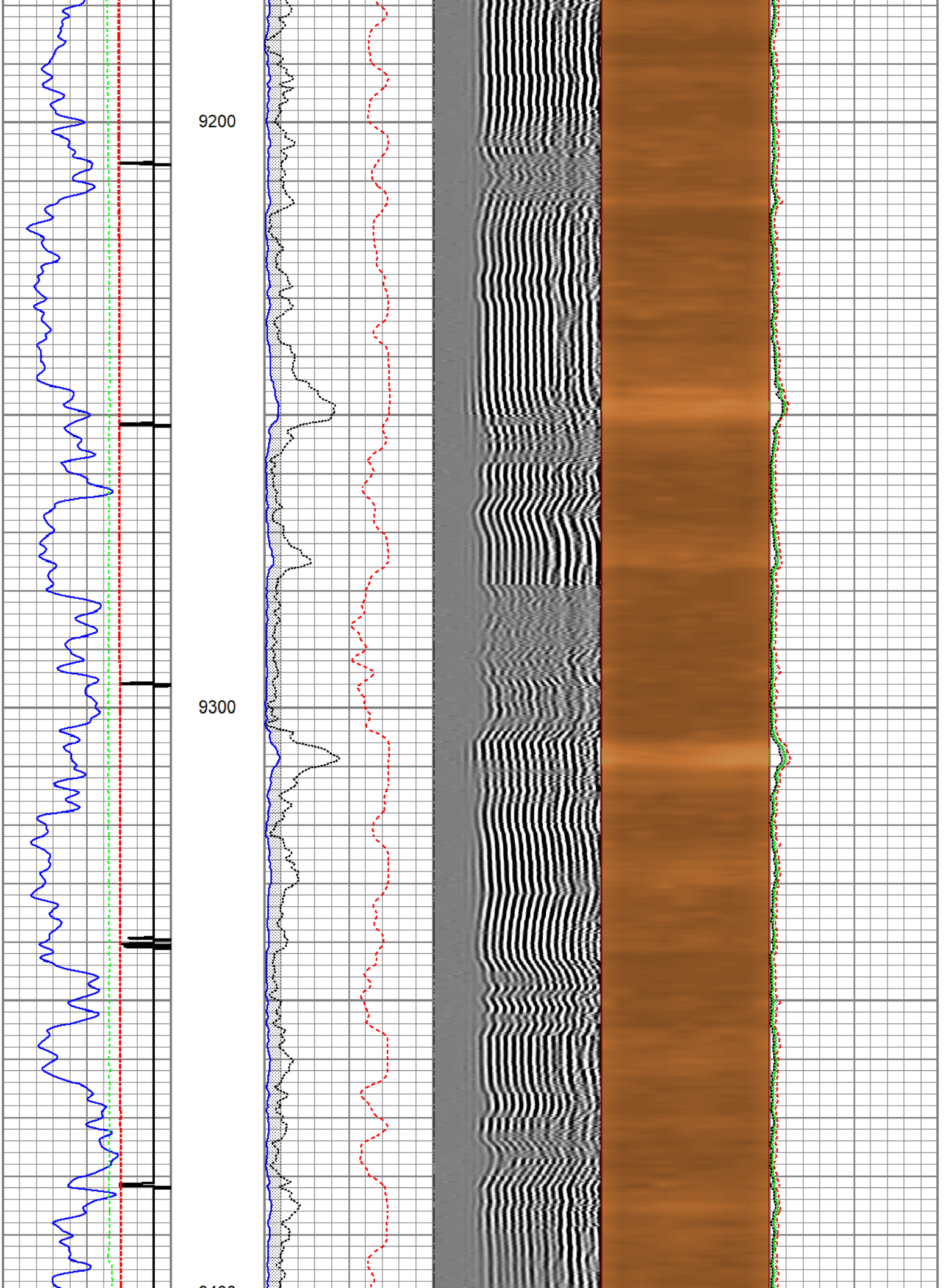




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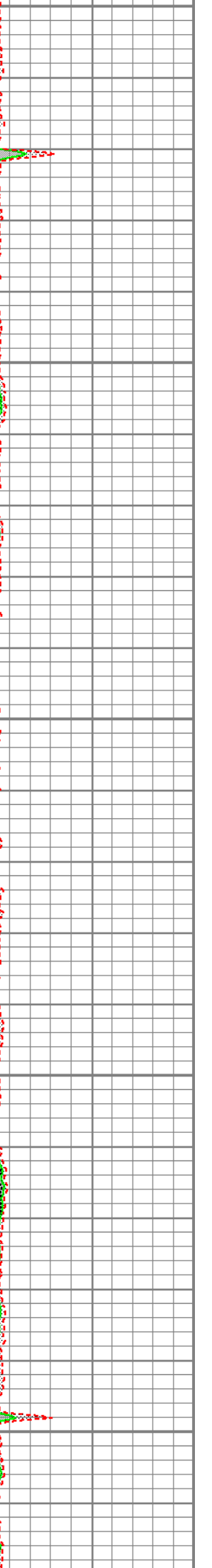
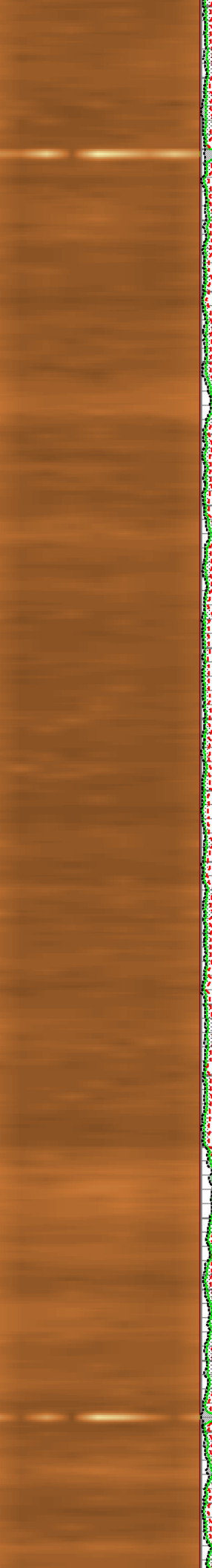
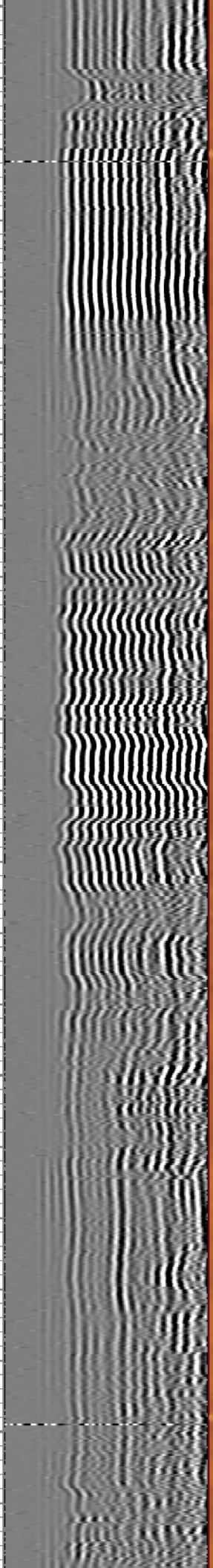
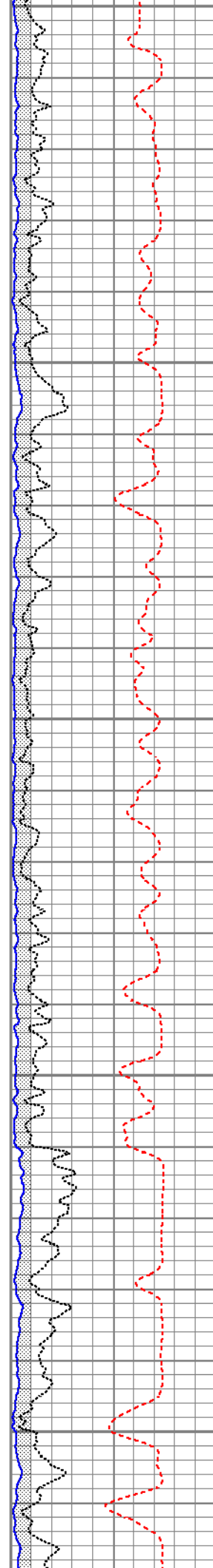
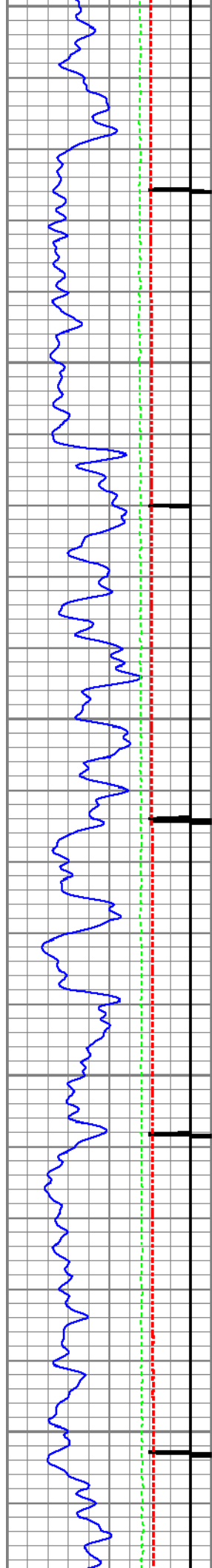
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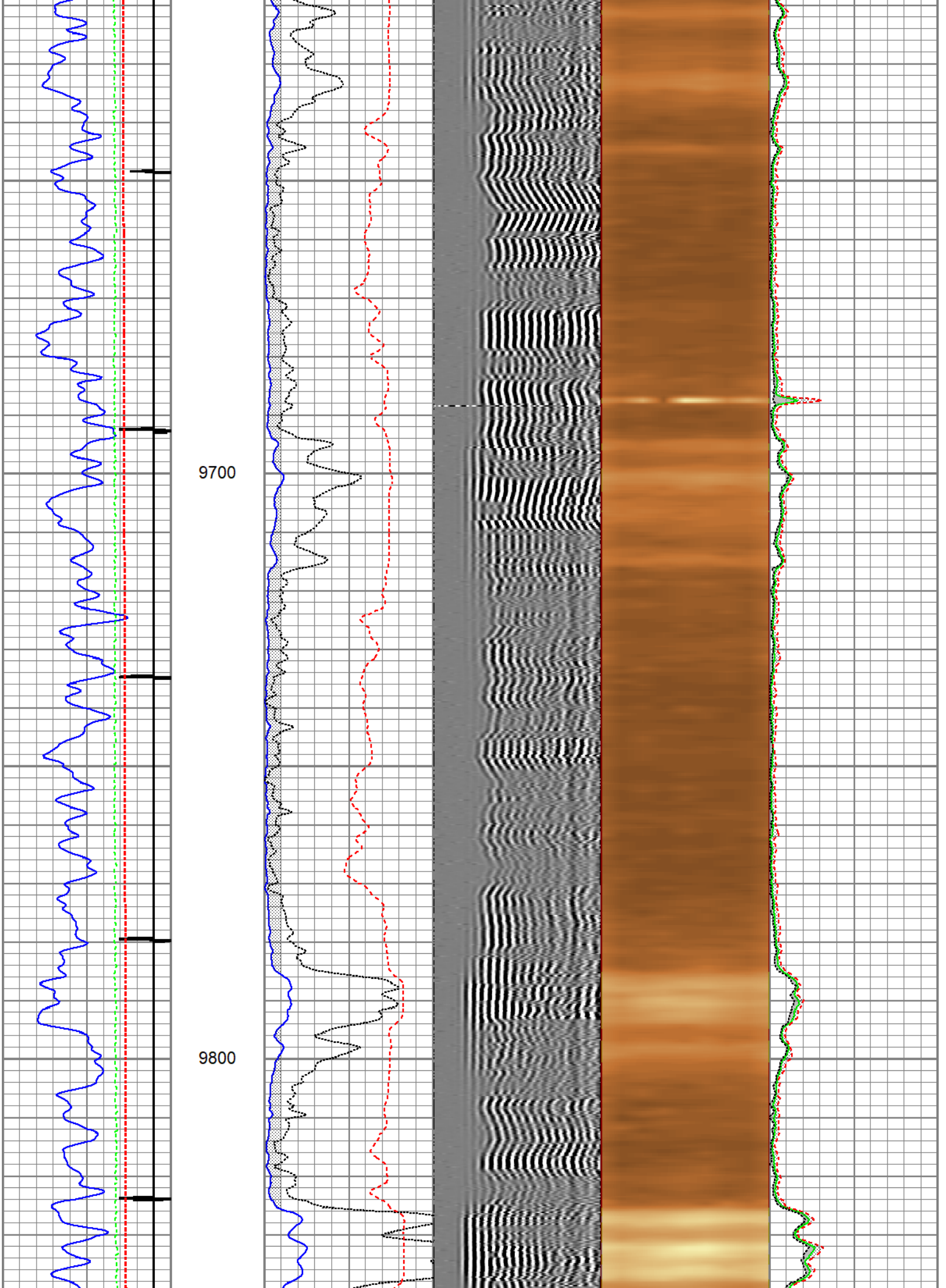


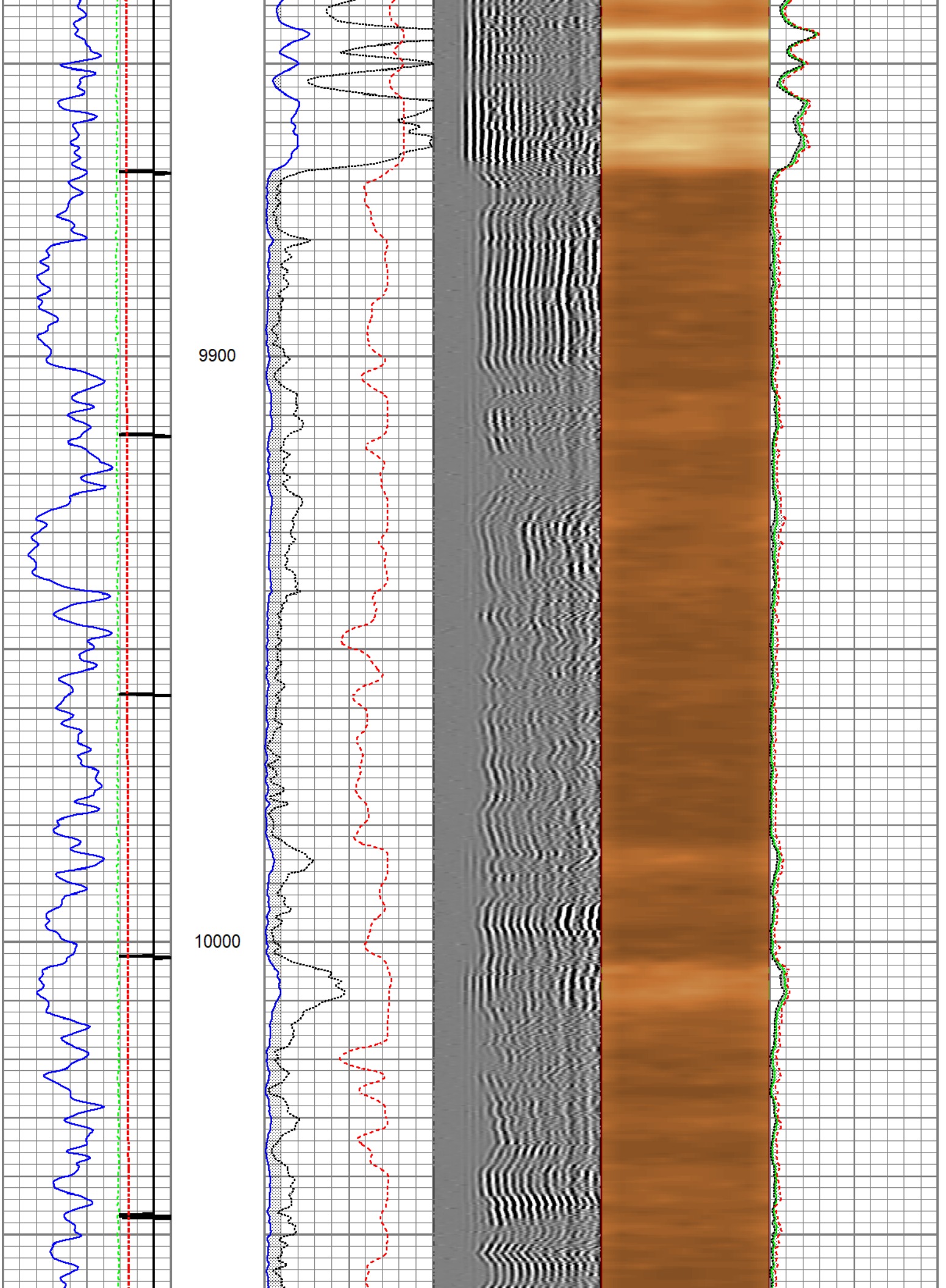
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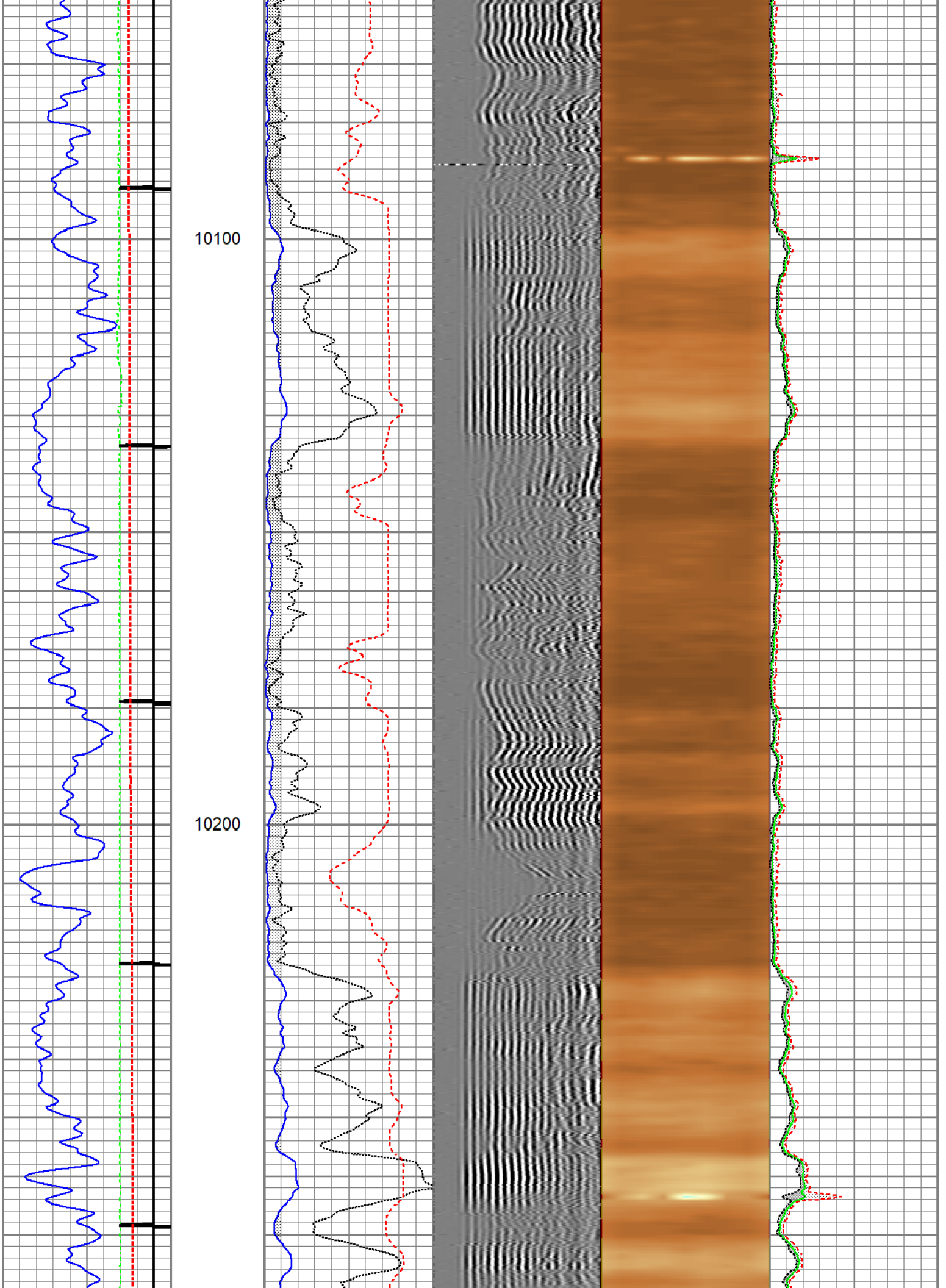
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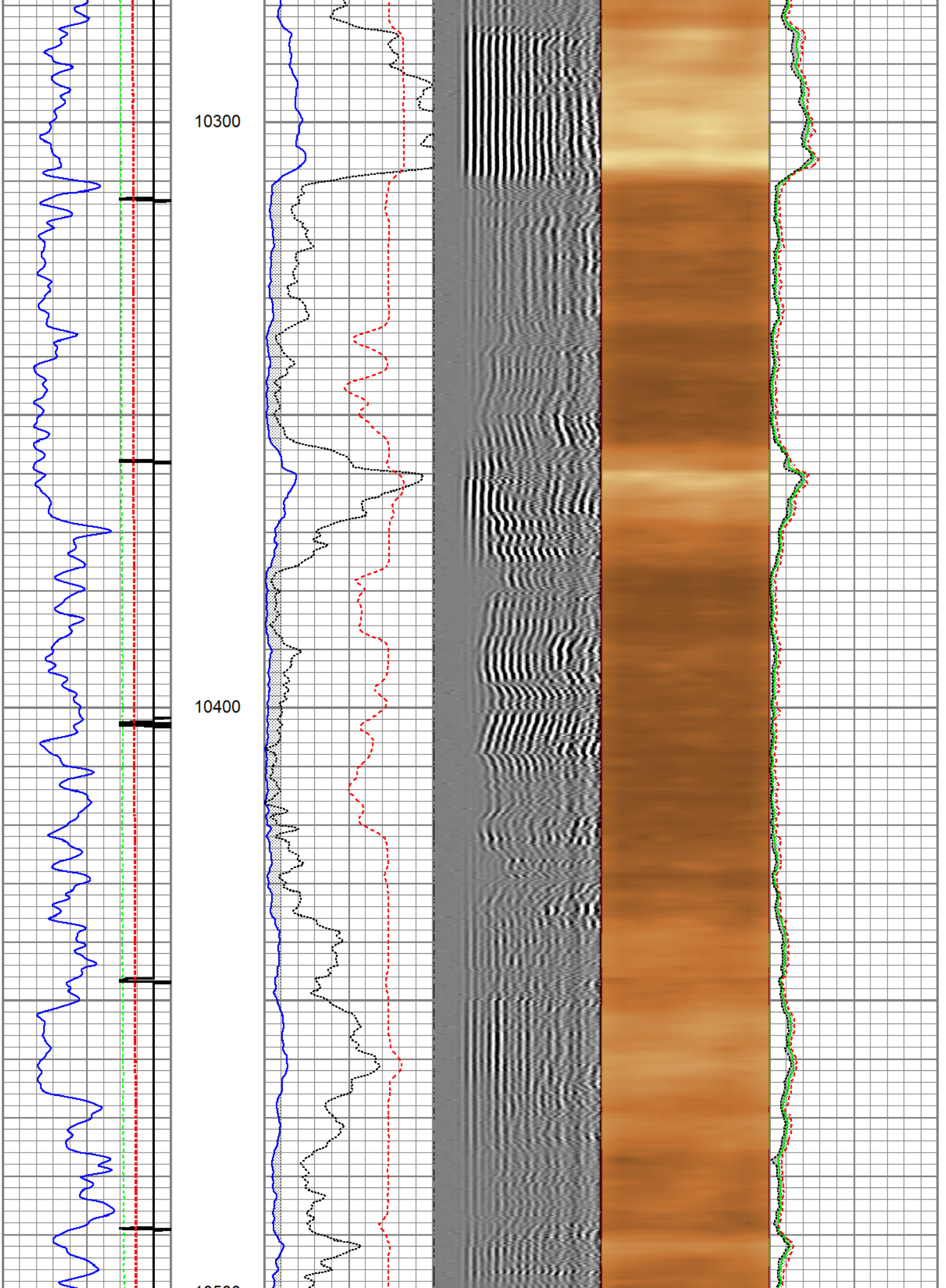




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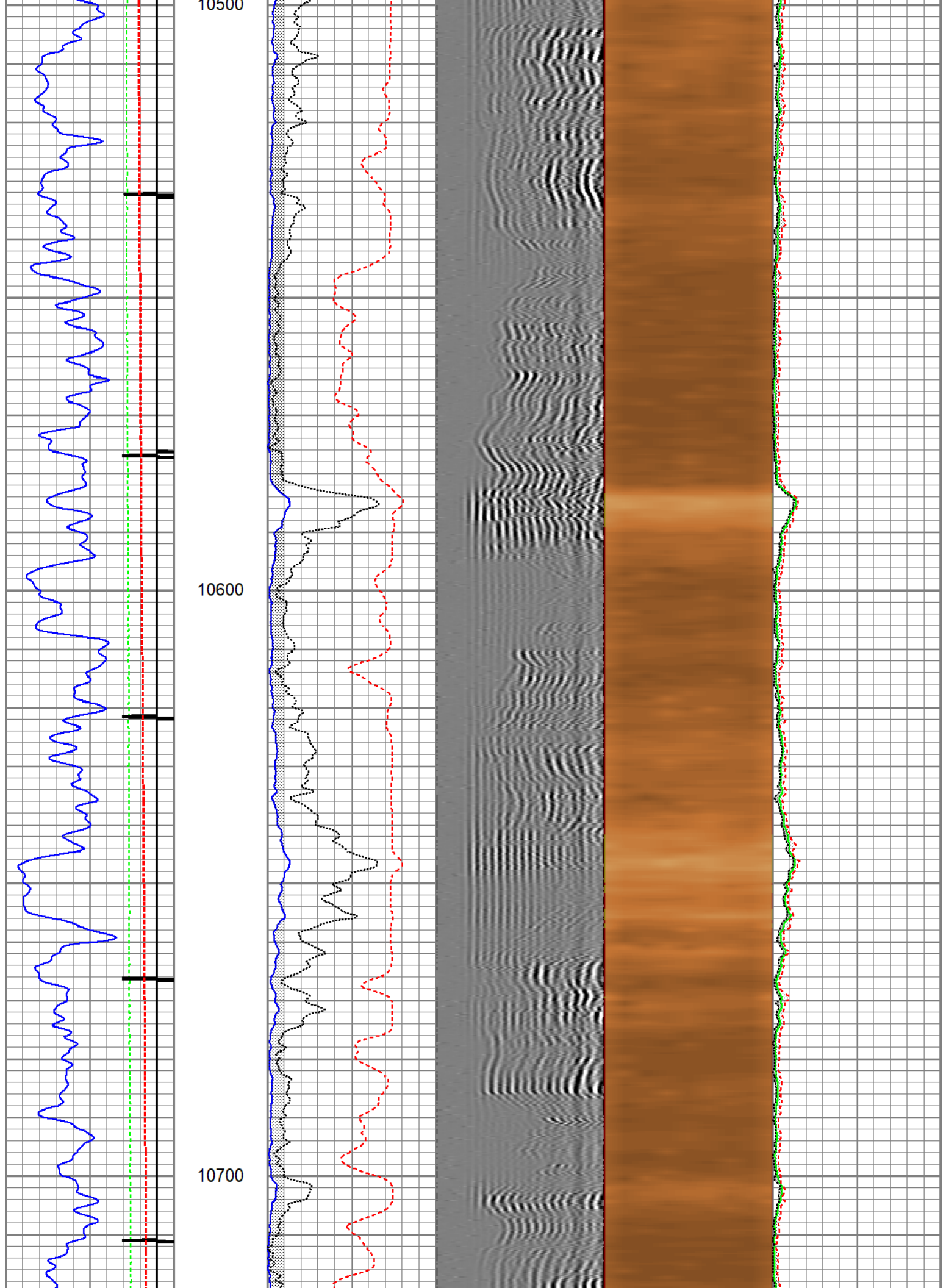
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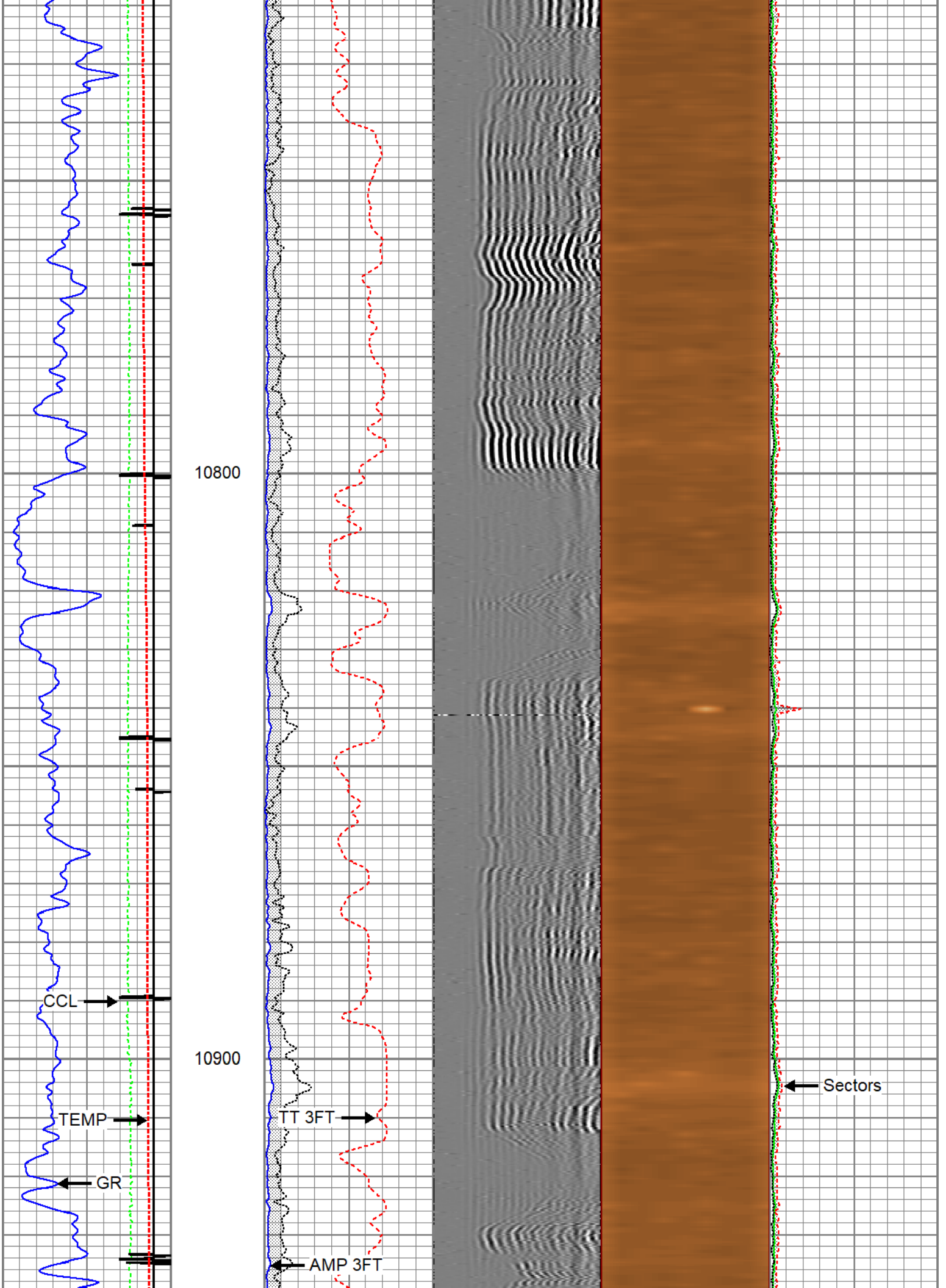


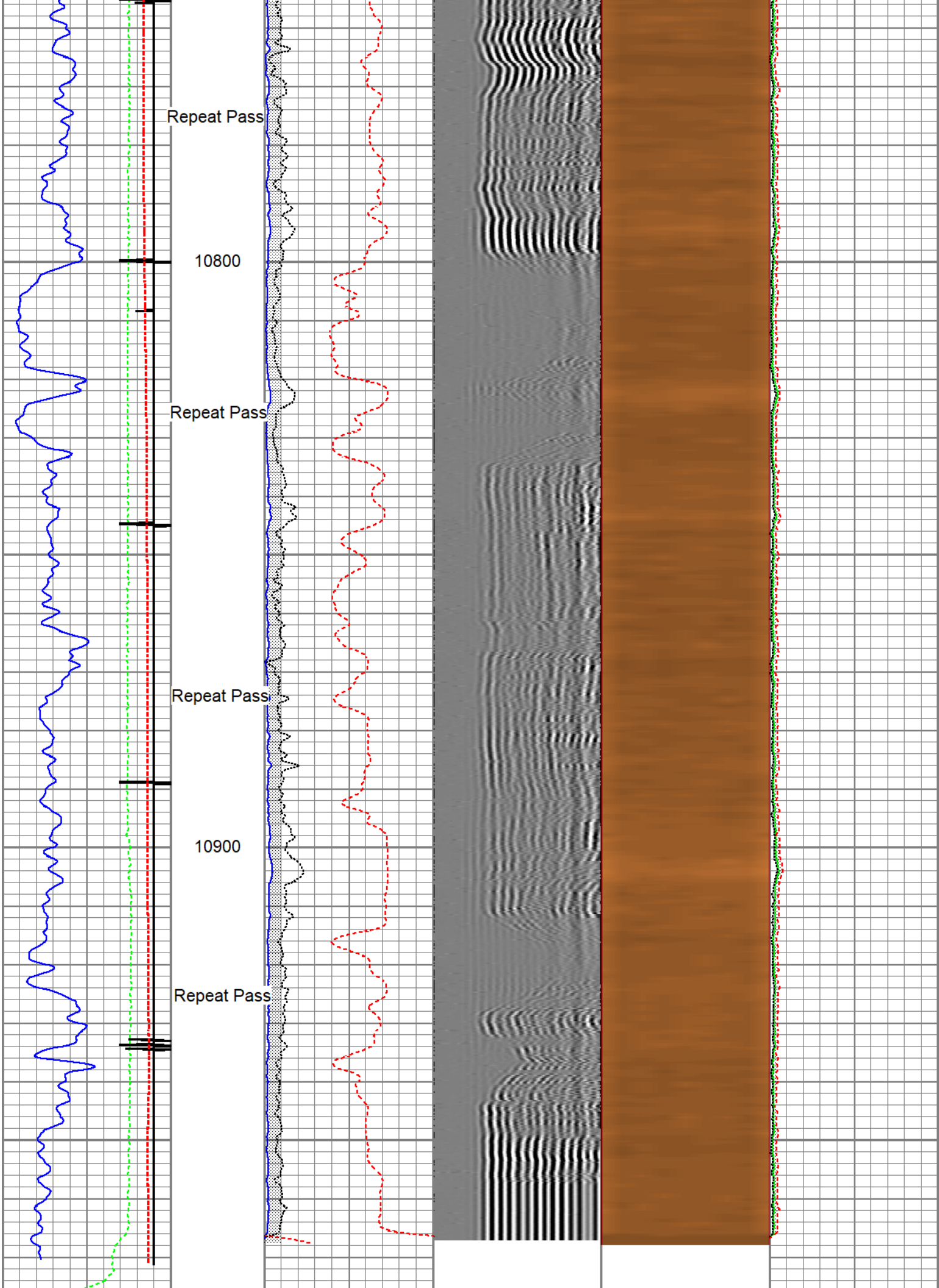
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Gamma Ray 0 (GAPI) 200	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 (usec) 1200	Sector Map	Average Amplitude 0 120
Line Tension 0 (lb) 3000	3' Amplitude x 5 0 (mV) 20			Minimum Amplitude 0 120
-9 CCL\$1 1	3' Travel Time 650 (usec) 150			Maximum Amplitude 0 120
0 Temp (degF) 300				

Calibration Report

Database File tep_fed wmc 411-20_rcbl_10-28-2022.db
Dataset Pathname main
Dataset Creation Fri Oct 28 11:35:44 2022

Gamma Ray Calibration Report

Serial Number: 110255
Tool Model: GCT275-0000
Performed: (Not Performed)

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1312-30
Tool Model: Probe275acc

Calibration Casing Diameter: 4.500 in
Calibration Depth: 27.817 ft

Master Calibration, performed Fri Oct 28 10:40:08 2022:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.794	0.000	81.196	103.175	-0.739
CAL	0.003	0.760				
5'	0.006	0.697	0.000	81.196	117.594	-0.759
SUM						
S1	0.021	0.775	0.000	100.000	132.632	-2.846
S2	0.008	0.758	0.000	100.000	133.340	-1.133
S3	0.008	0.770	0.000	100.000	131.118	-0.994
S4	0.008	0.765	0.000	100.000	132.097	-1.095
S5	0.007	0.772	0.000	100.000	130.733	-0.948
S6	0.007	0.742	0.000	100.000	135.996	-0.916
S7	0.007	0.755	0.000	100.000	133.681	-0.884
S8	0.006	0.761	0.000	100.000	132.467	-0.844

Internal Reference Calibration, performed (Not Performed):

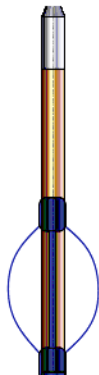
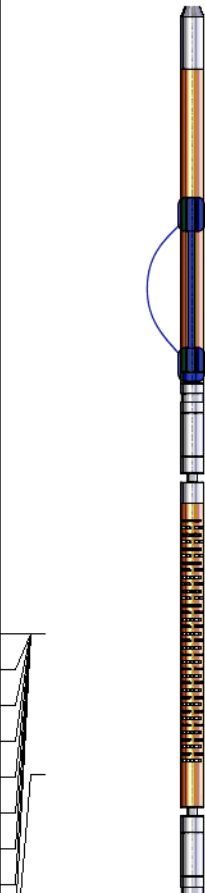
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.003	0.760	1.000	0.000

Air Zero Calibration, performed Fri Oct 28 10:39:19 2022:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Inclinometer Calibration Report

Performed:	Thu Jul 28 15:46:49 2022				
	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	-931.00	904.00	-1.00	1.00	gee
Y Accelerometer	-899.00	884.00	-1.00	1.00	gee
Z Accelerometer	1.47	886.18	0.00	1.00	gee

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			SO BS CENT-2750-4500 Slip Over 2-3/4" I.D. for 4-1/2" O.D. Casing Bow Spring Centralizer	1.33	3.25	10.00
WVFS8	9.02		RBT8acc-Probe275acc (FW1312-30) 2.75" Radial Corrosion with accelerometer	8.75	2.75	110.00
WVFS7	9.02					
WVFS6	9.02					
WVFS5	9.02					
WVFS4	9.02					
WVFS3	9.02					
WVFS2	9.02					
WVFS1	9.02					

