FMC Technologies

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well GE Powers 28N-26HZ
Field Wattenberg
County Weld
State Colorado

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County Weld State Colorado

Location: API # : 05-123-41913

SEC 23 TWP 2N RGE 65W

Other Services
Gauge Ring

Permanent Datum	Ground Level	Elevation	4890'
Log Measured From	Kelly Bushing	20 FT	
Drilling Measured From	Kelly Bushing		

Elevation
K.B. 4910'
D.F. 4909'
G.L. 4890'

Date	12-OCT-2015		
Run Number	Two		
Depth Driller	12584 FT		
Depth Logger	7238 FT		
Bottom Logged Interval	7215 FT		
Top Log Interval	Surface		
Open Hole Size	7.875"		
Type Fluid	Water		
Density / Viscosity	8.34 lbm/gal		
Max. Recorded Temp.	237°F		
Estimated Cement Top	Surface		
Time Well Ready	ROA		
Time Logger on Bottom	14:07		
Equipment Number	HD-0343		
Location	Fort Lupton, CO		
Recorded By	R.Fogarty		
Witnessed By	Levi McArthur		

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

Casing Record	Size (in)	Wgt (lbs/Ft)	Grade	Top	Bottom
Surface Casing	9 5/8	36	J-55 LT&C	Surface	1889 FT
Intermediate #1	5 1/2	17	HCP-110 LTC	Surface	12574 FT
Intermediate #2					
Liner					

Fold Here >>>
<<<

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
Log Correlated to 20 FT Kelly Bushing
Casing Tally Reported Marker Joint Top at 6590 FT
Log Recorded Marker Joint Top at 6581 FT
Gauge Ring Ran to 7238 FT
Log Ran as deep as possible to surface
Log was ran with 2800 PSI surface induced pressure
No debris found on logging tools upon completion of run

Thank you for choosing FMC Technologies Completion Services, Inc.!!

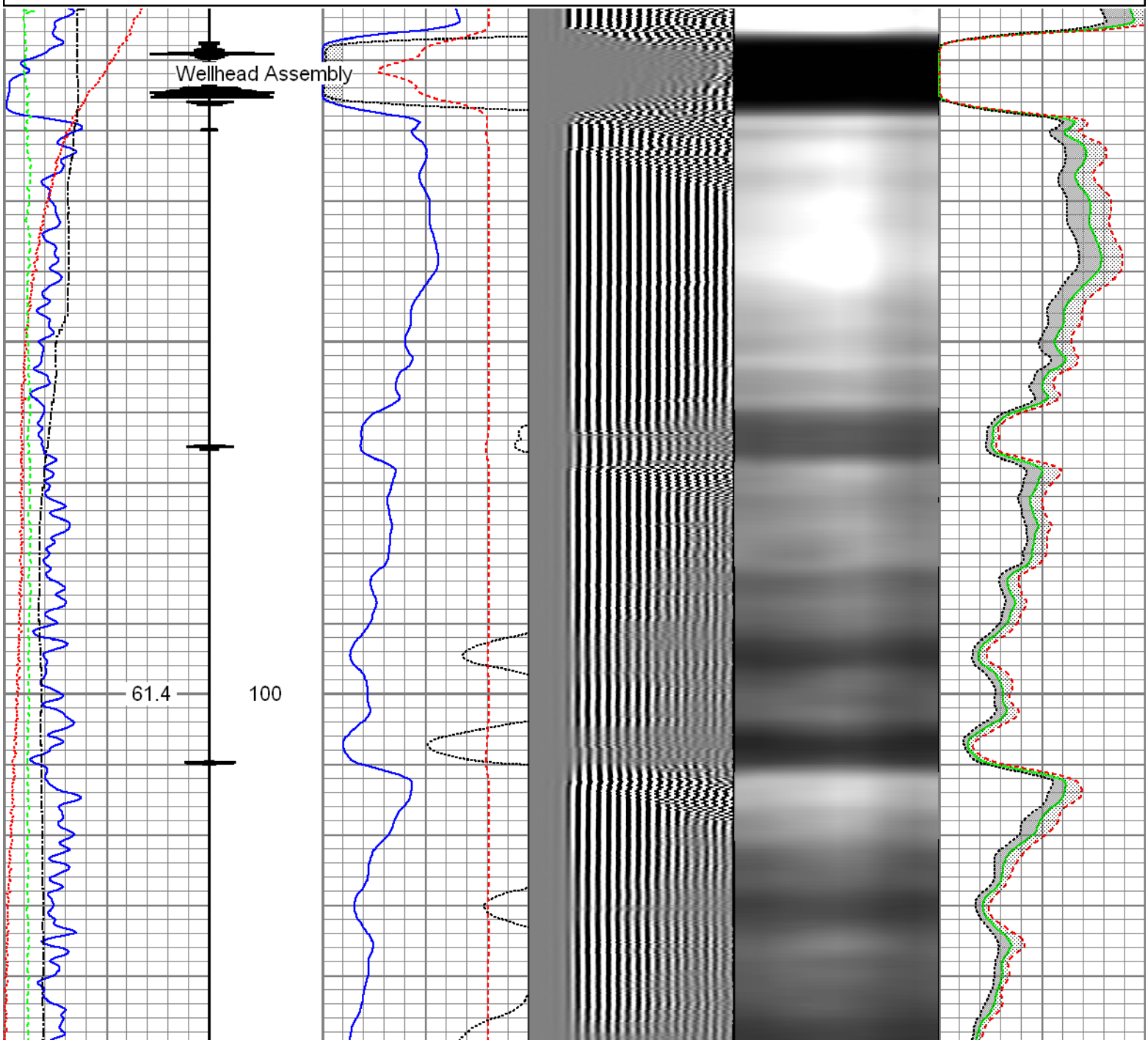
Main Pass

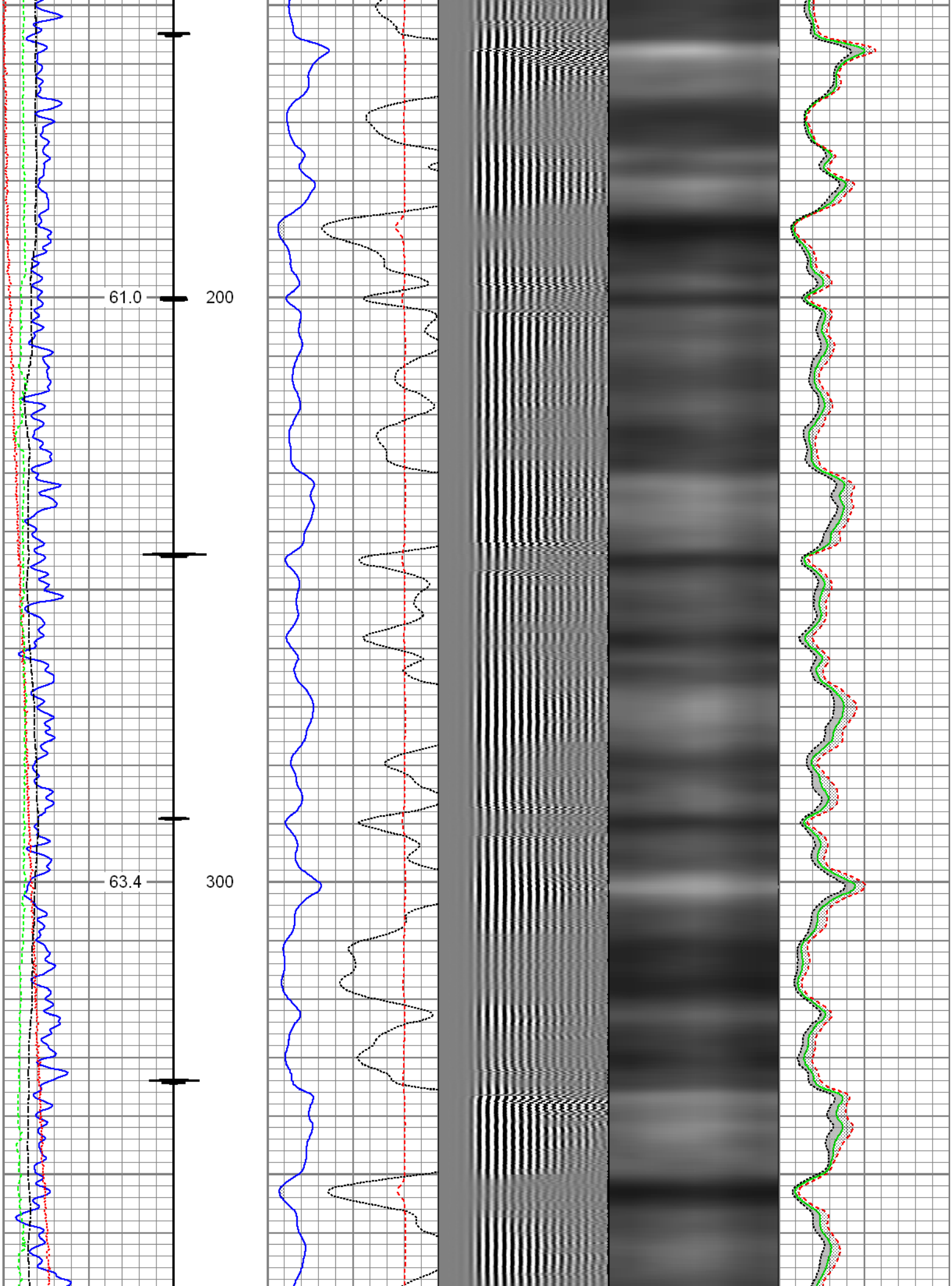
Recorded with 2800 PSI Surface Induced Pressure

FMC Technologies

Database File: c:\warrior\data\0512341913_anadarko_ge powers 28n-26hz_10-12-15_rbl\0512341913_anadarko_ge
Dataset Pathname: pass8
Presentation Format: radii
Dataset Creation: Mon Oct 12 14:06:26 2015 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 170	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150				
Line Tension				
0 (lb) 2000				

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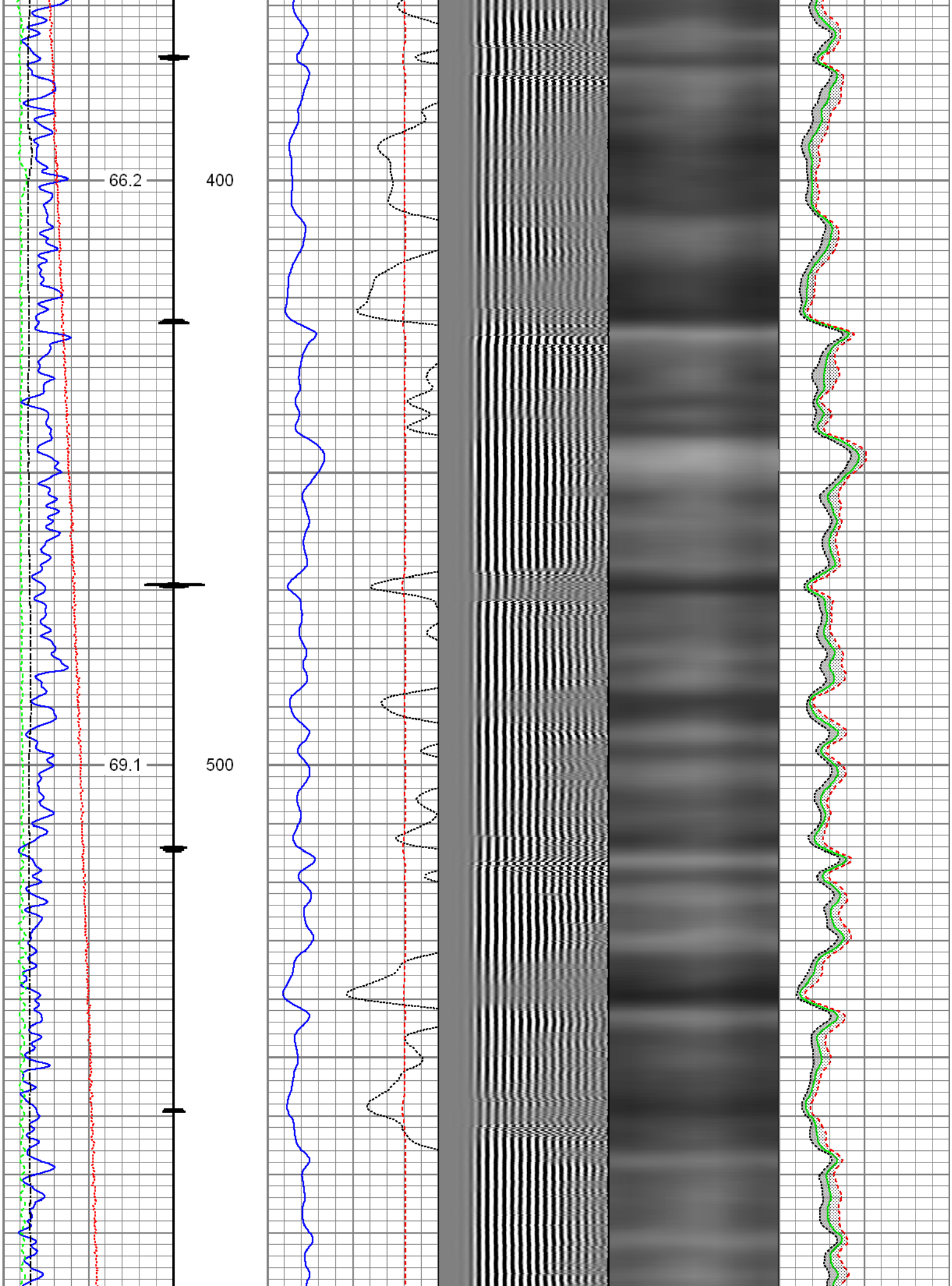
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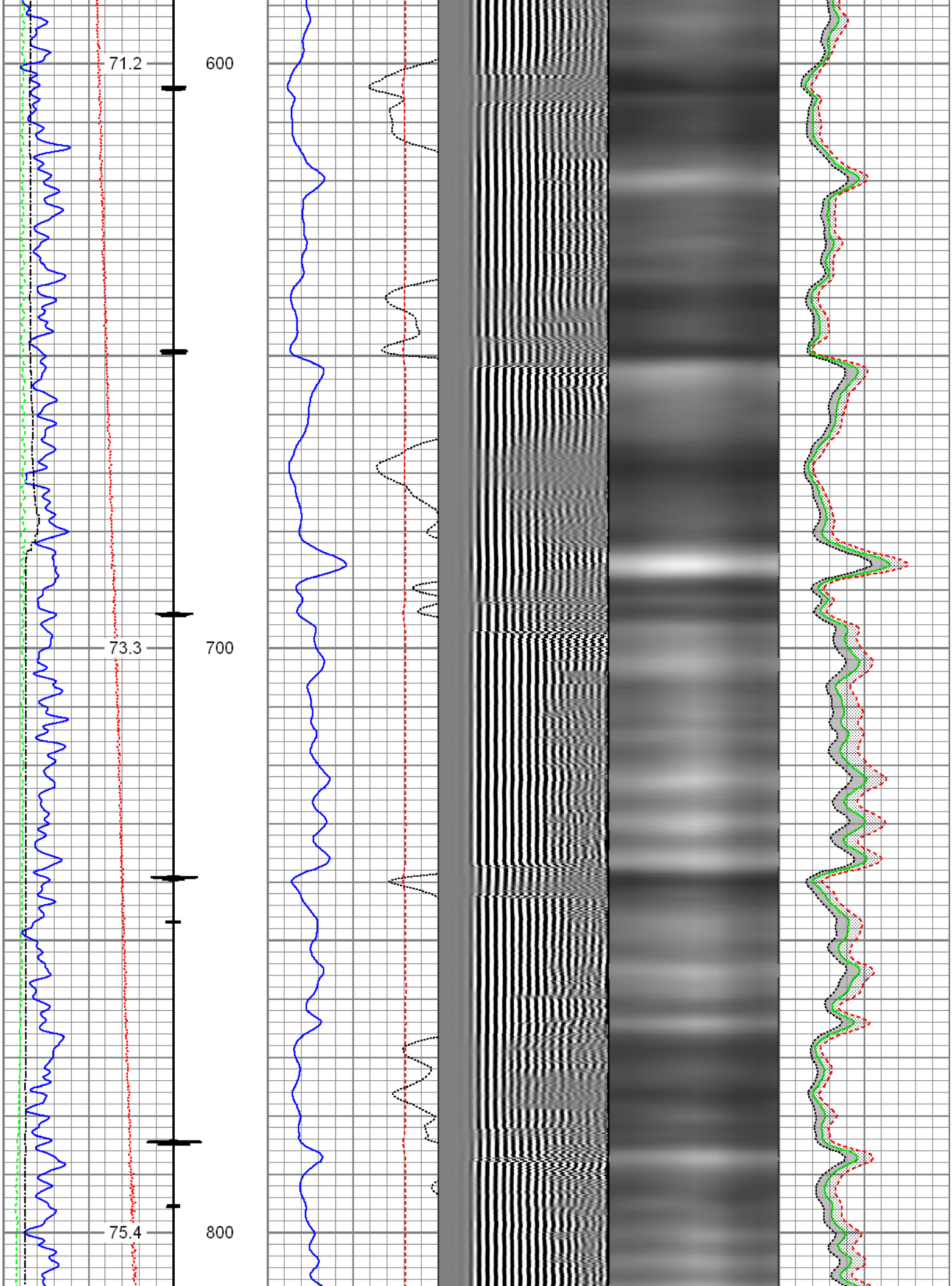
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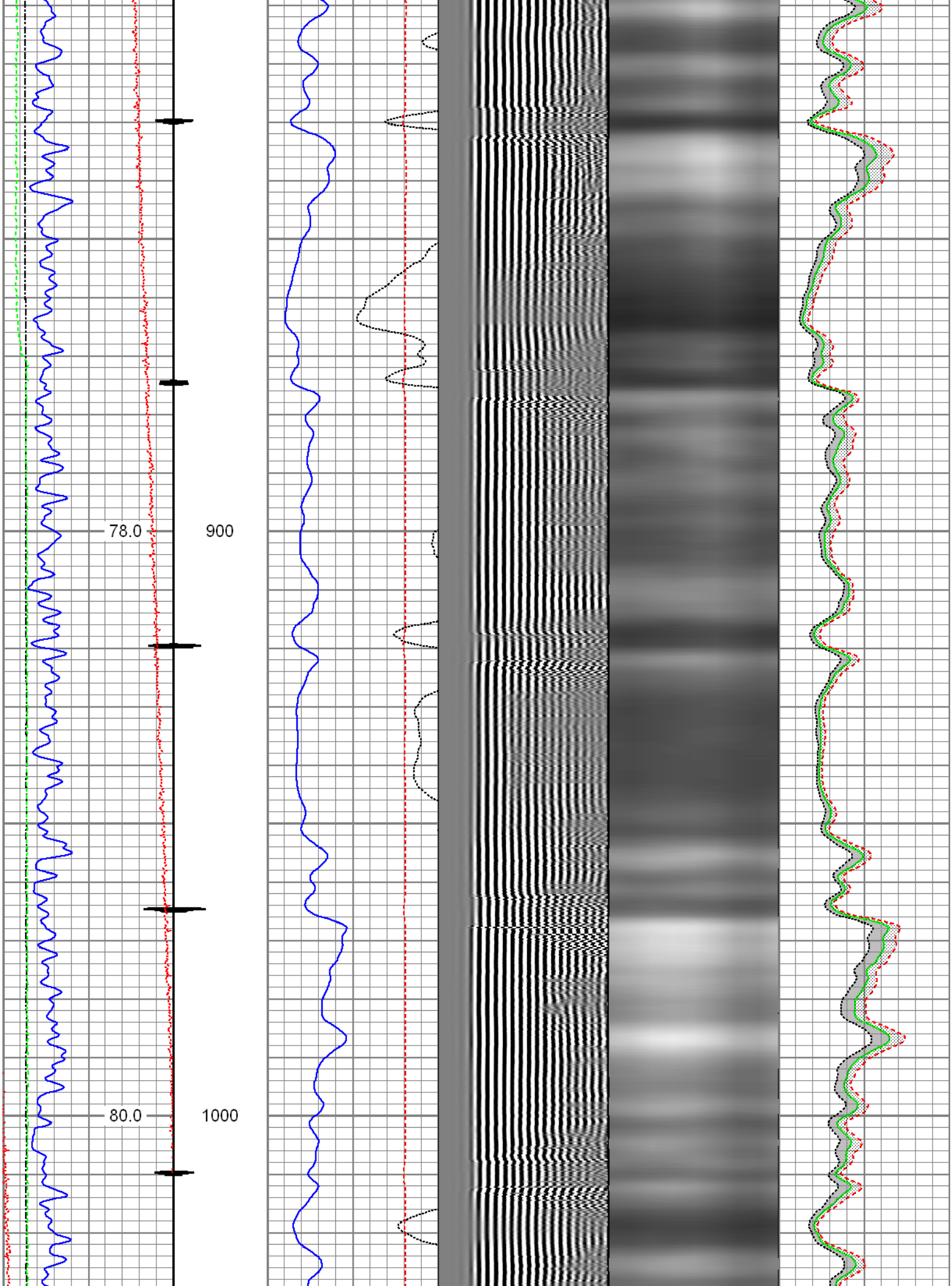
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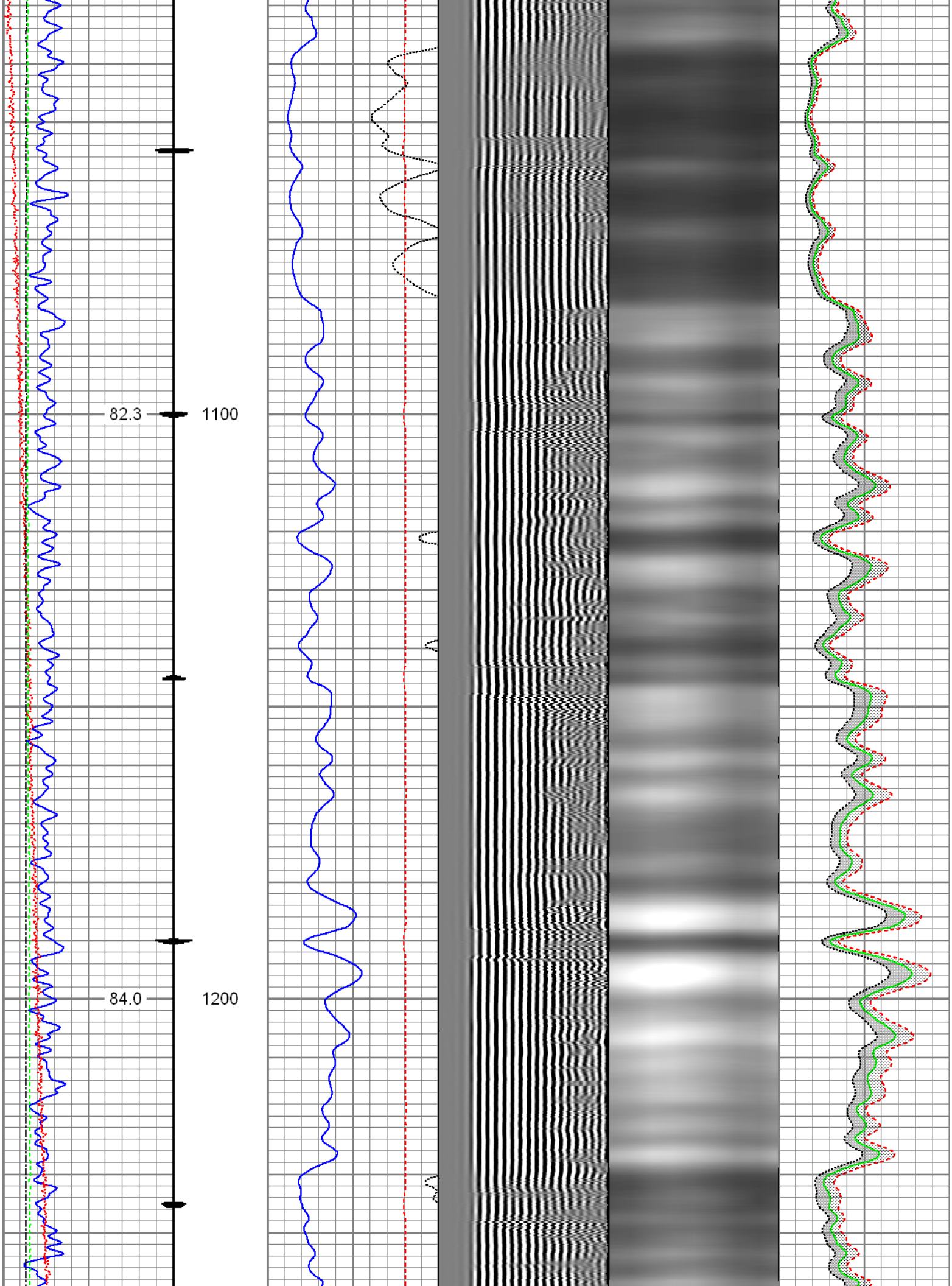
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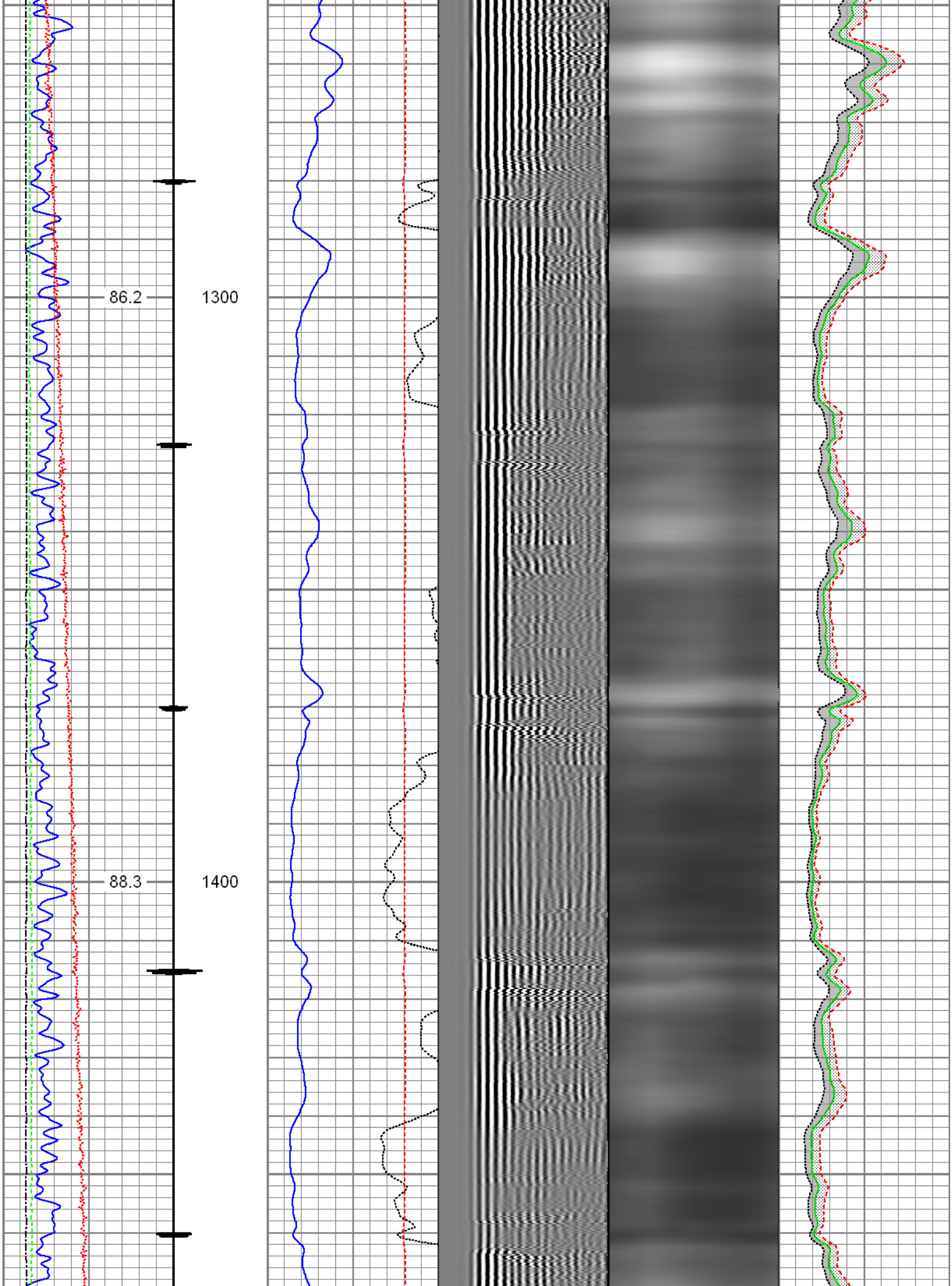
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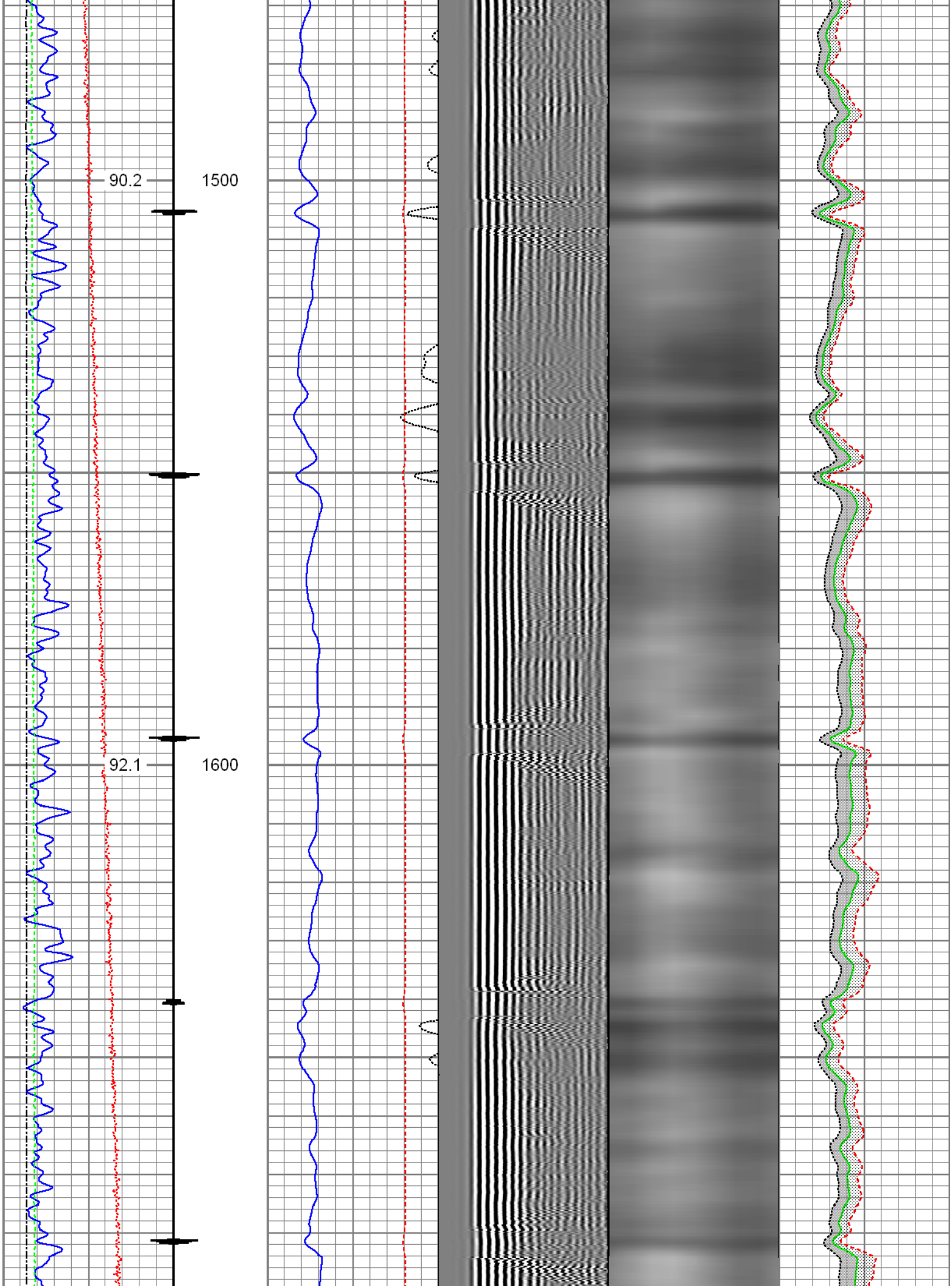
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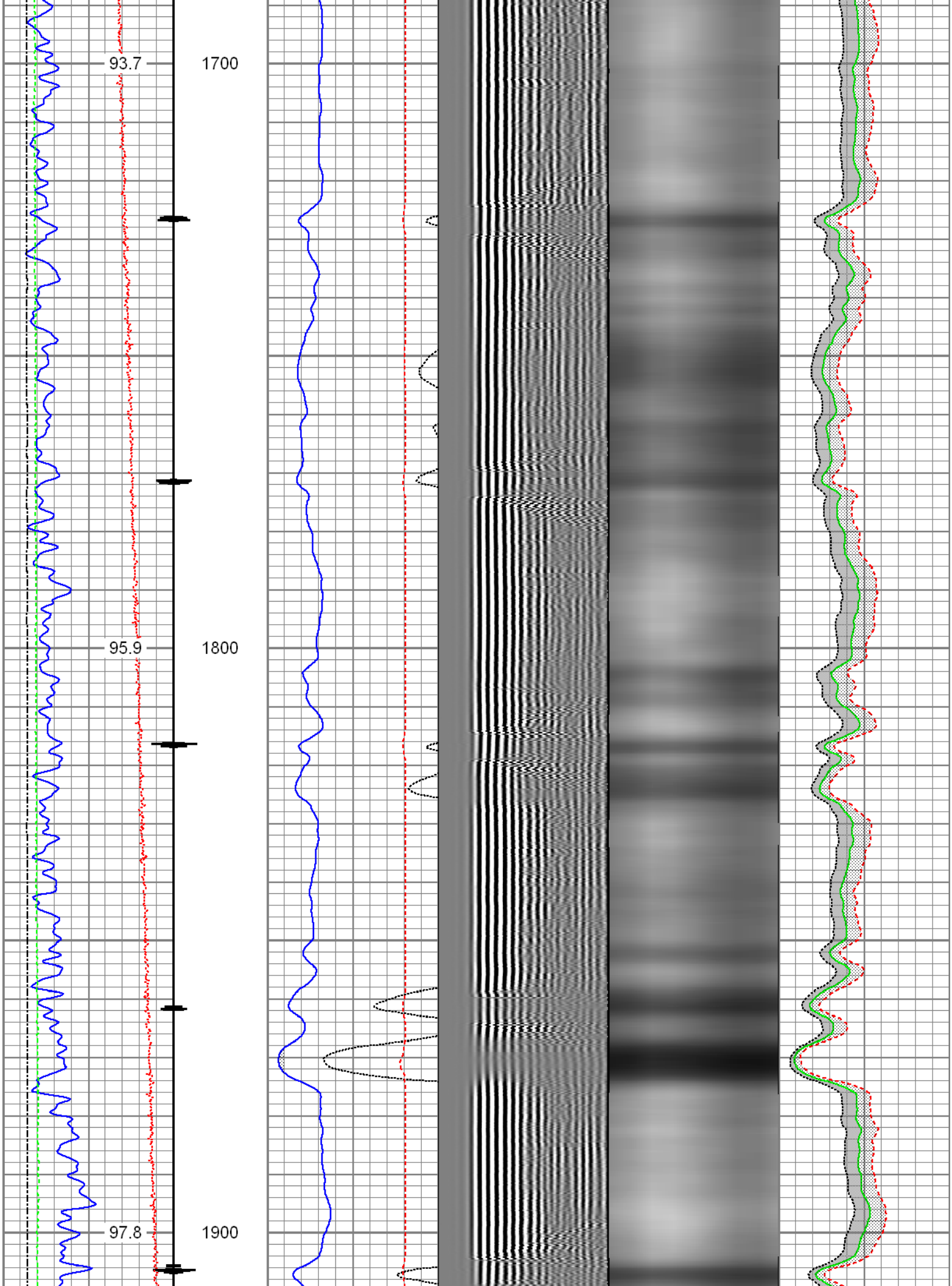
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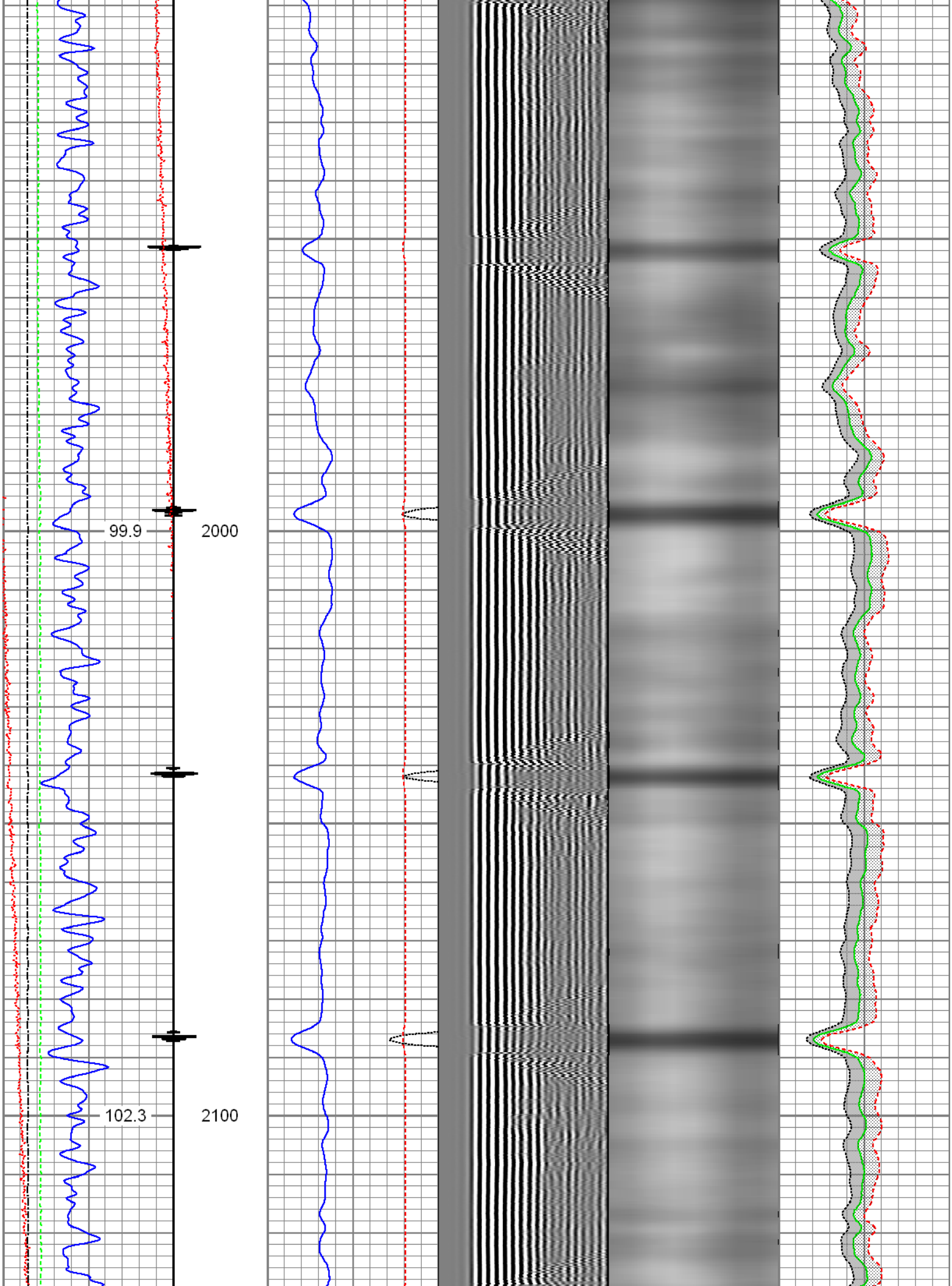
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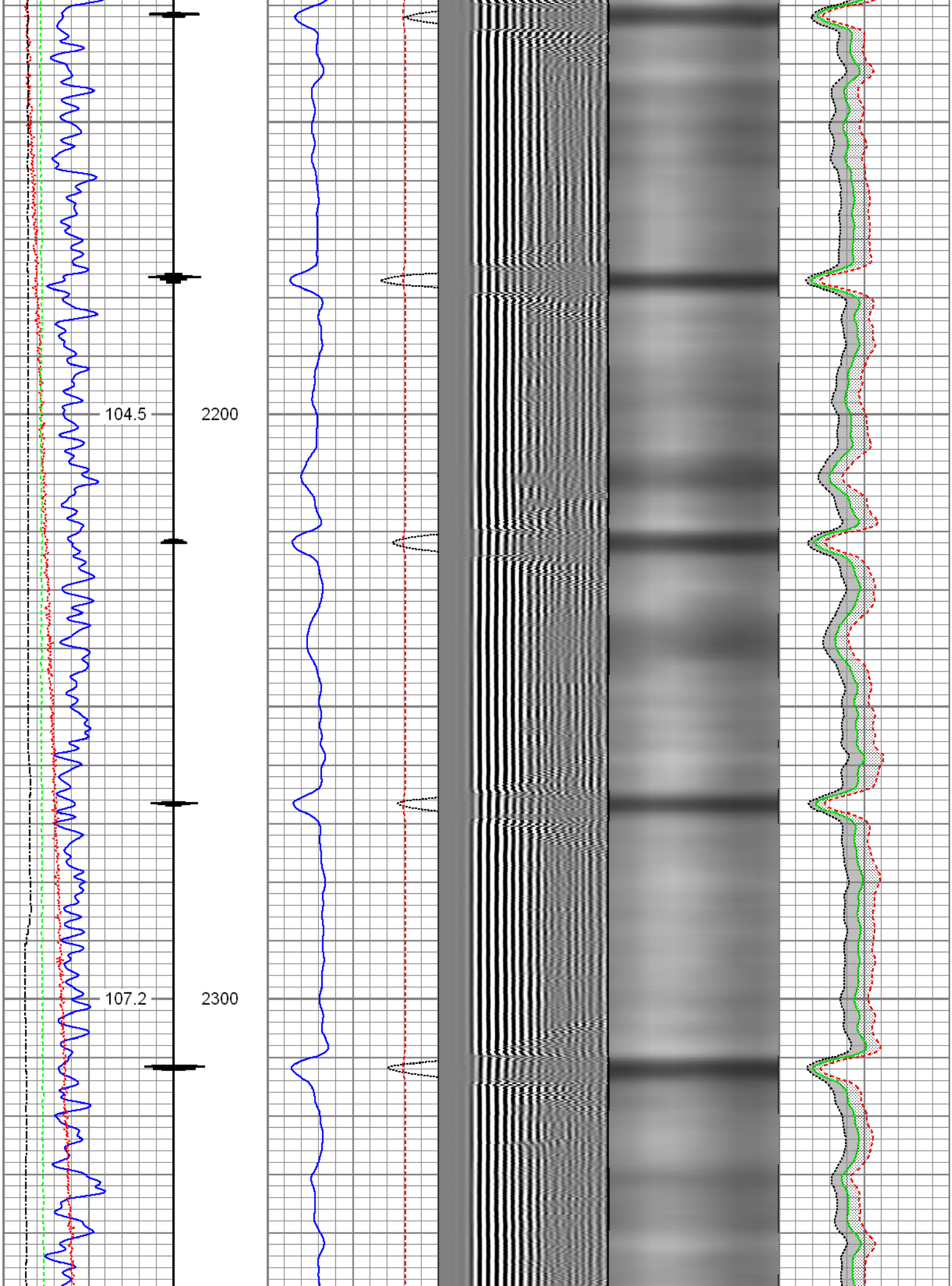
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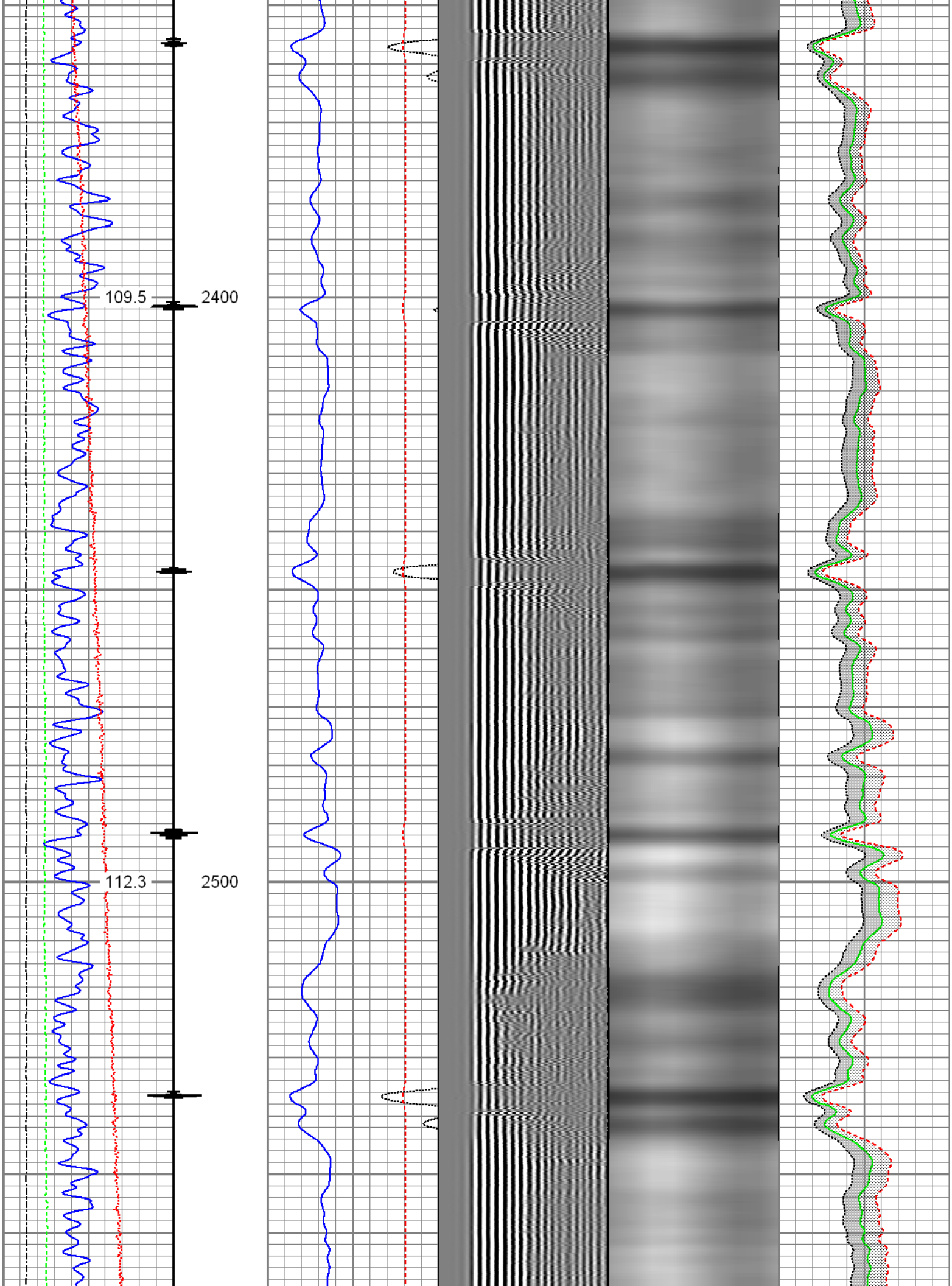
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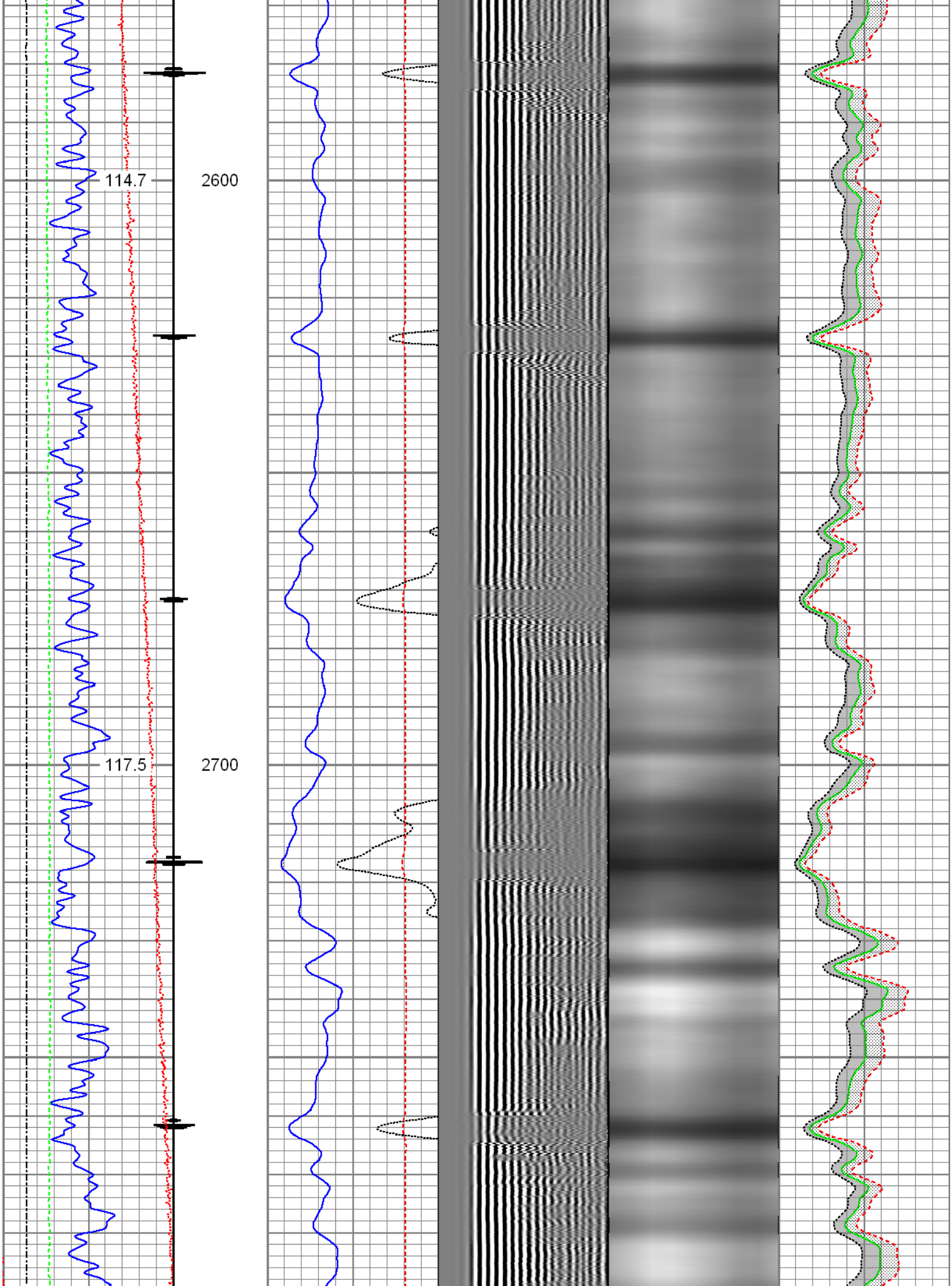
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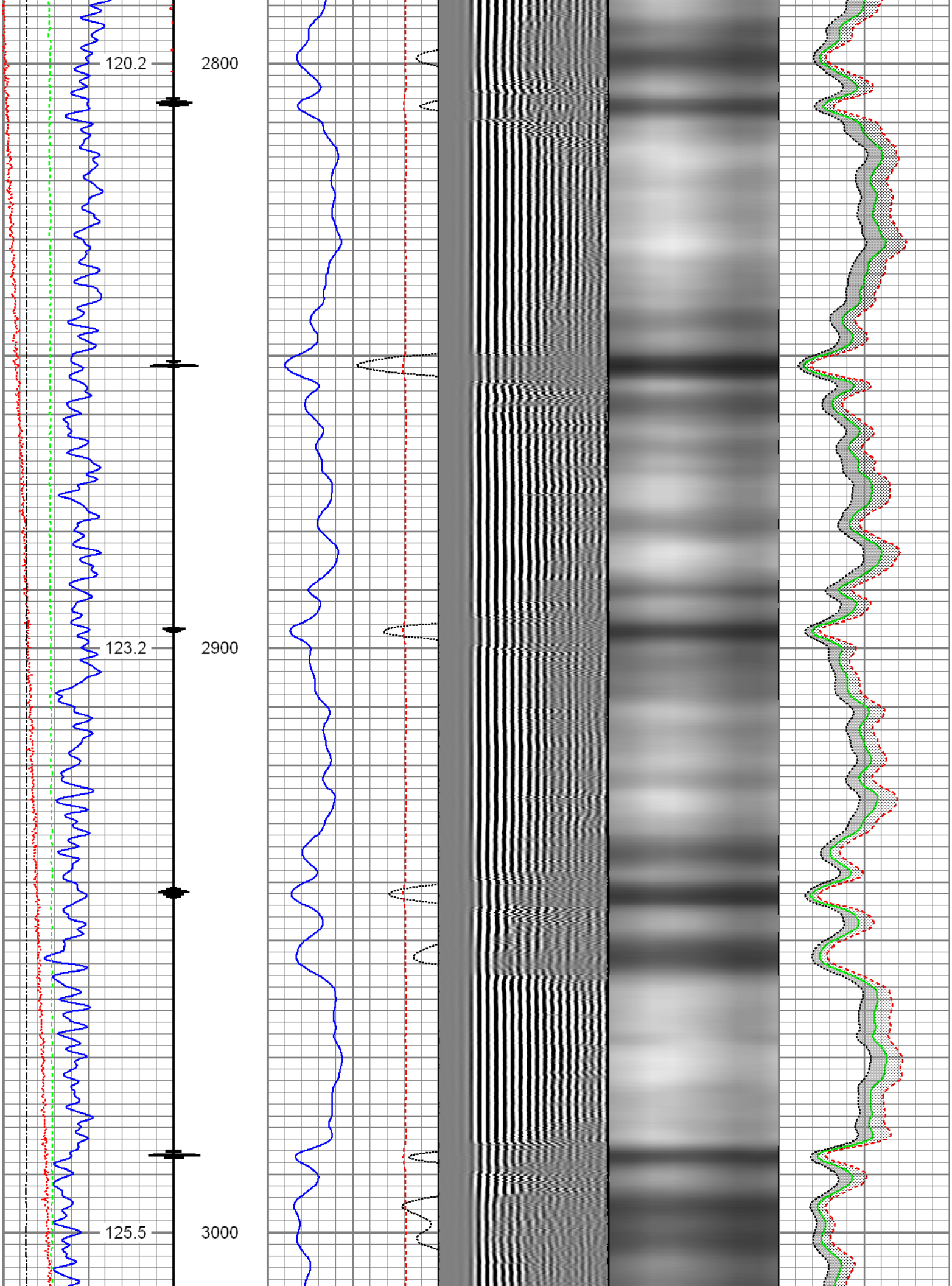
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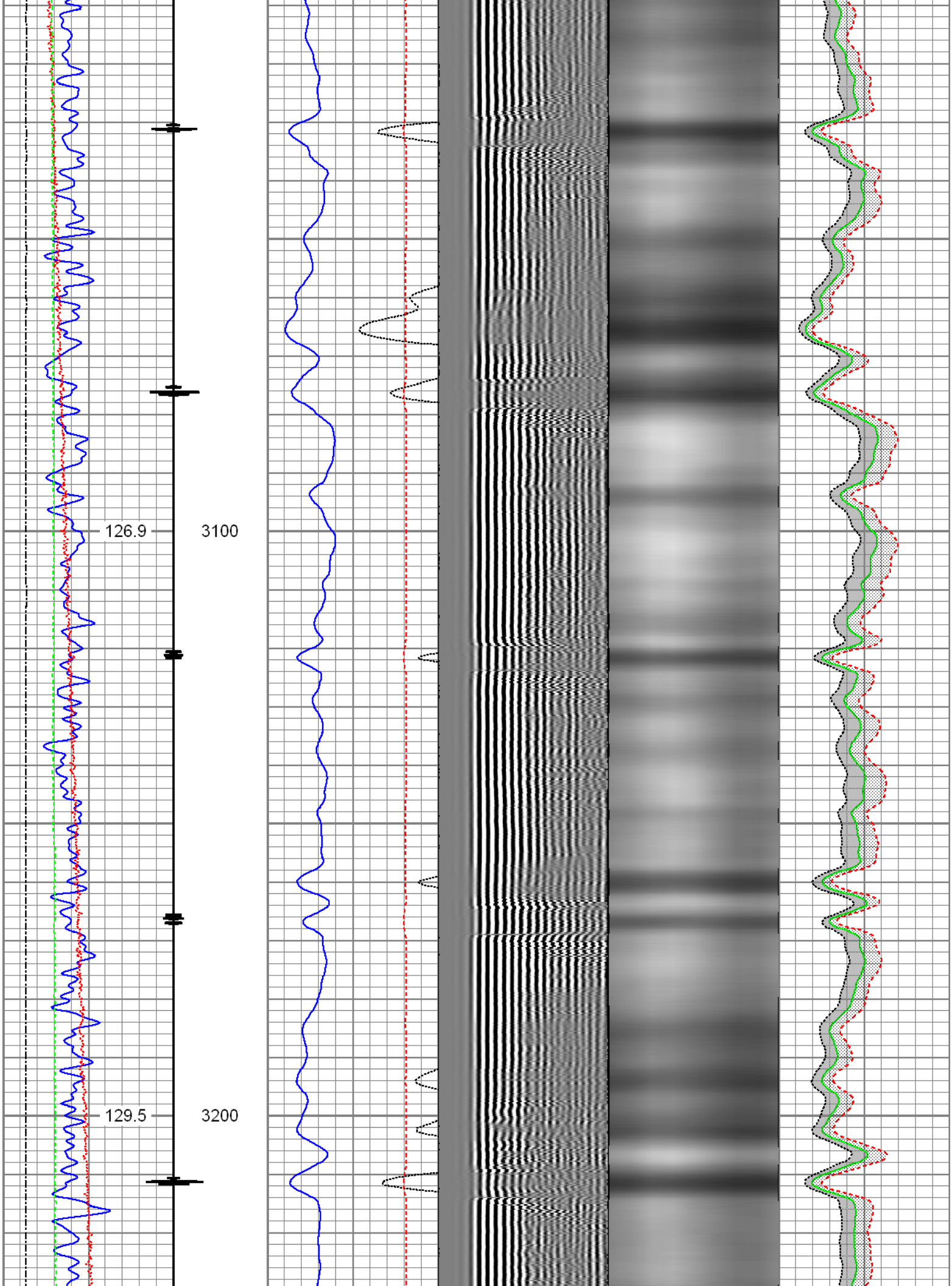
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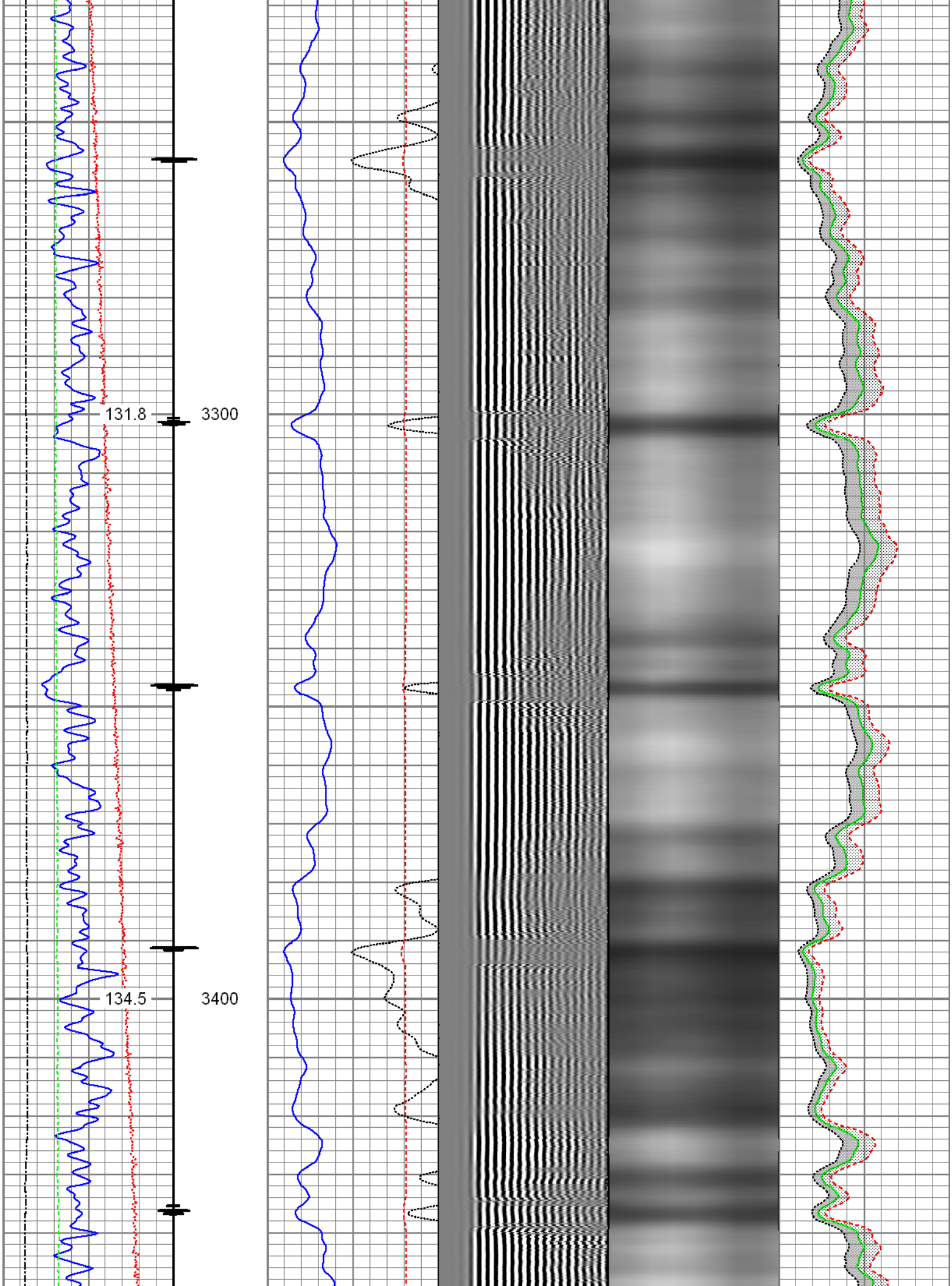
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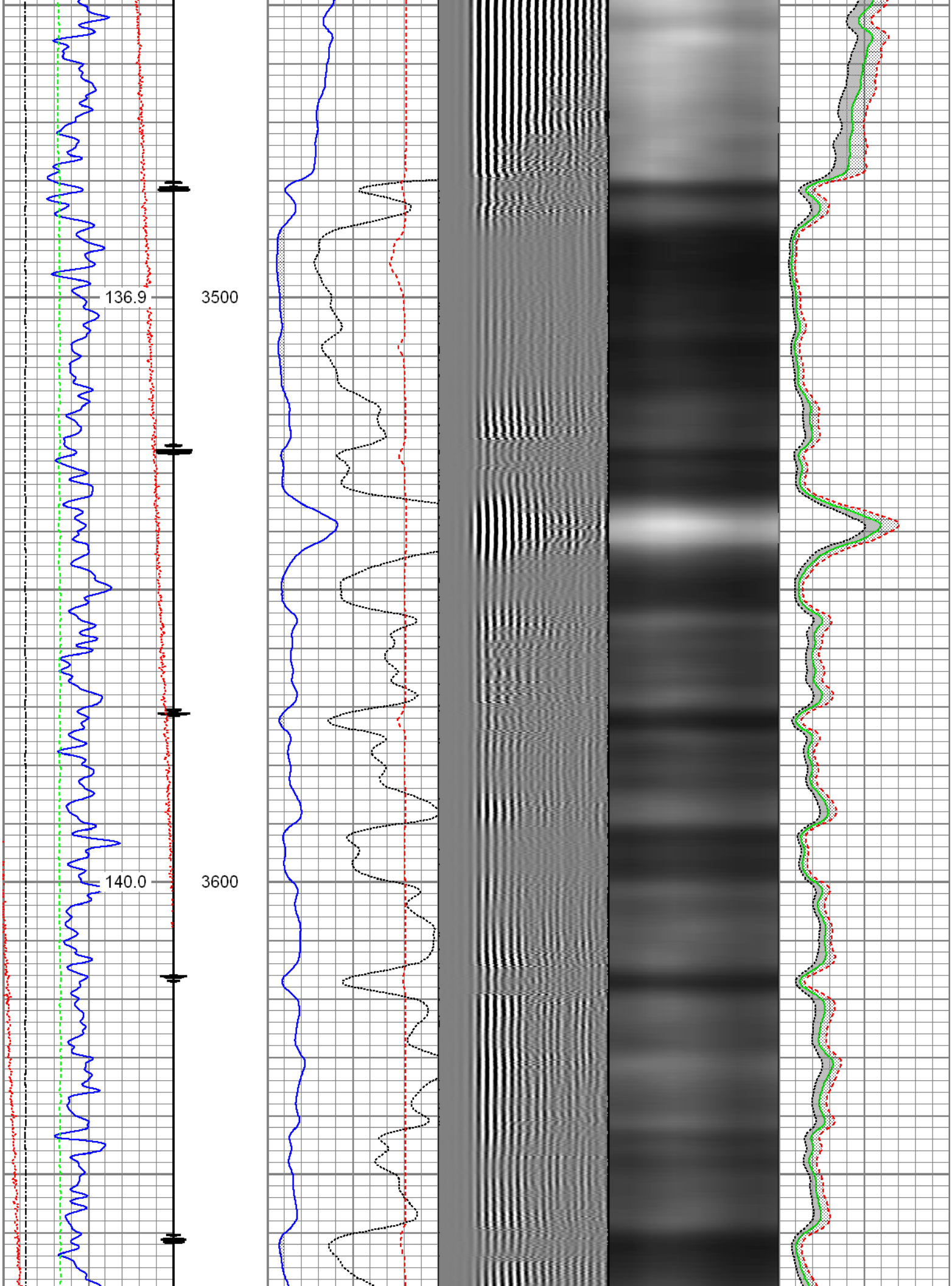
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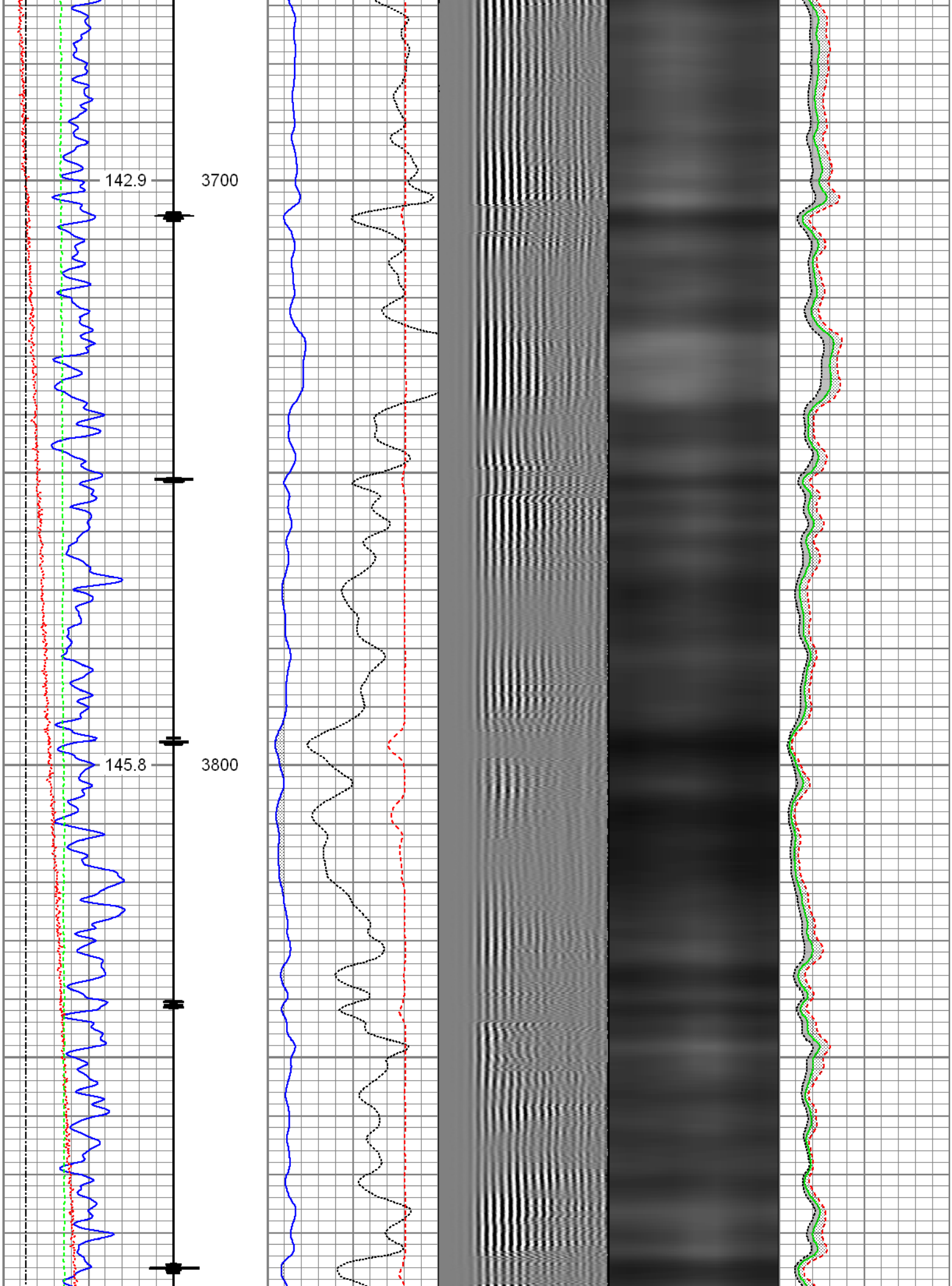
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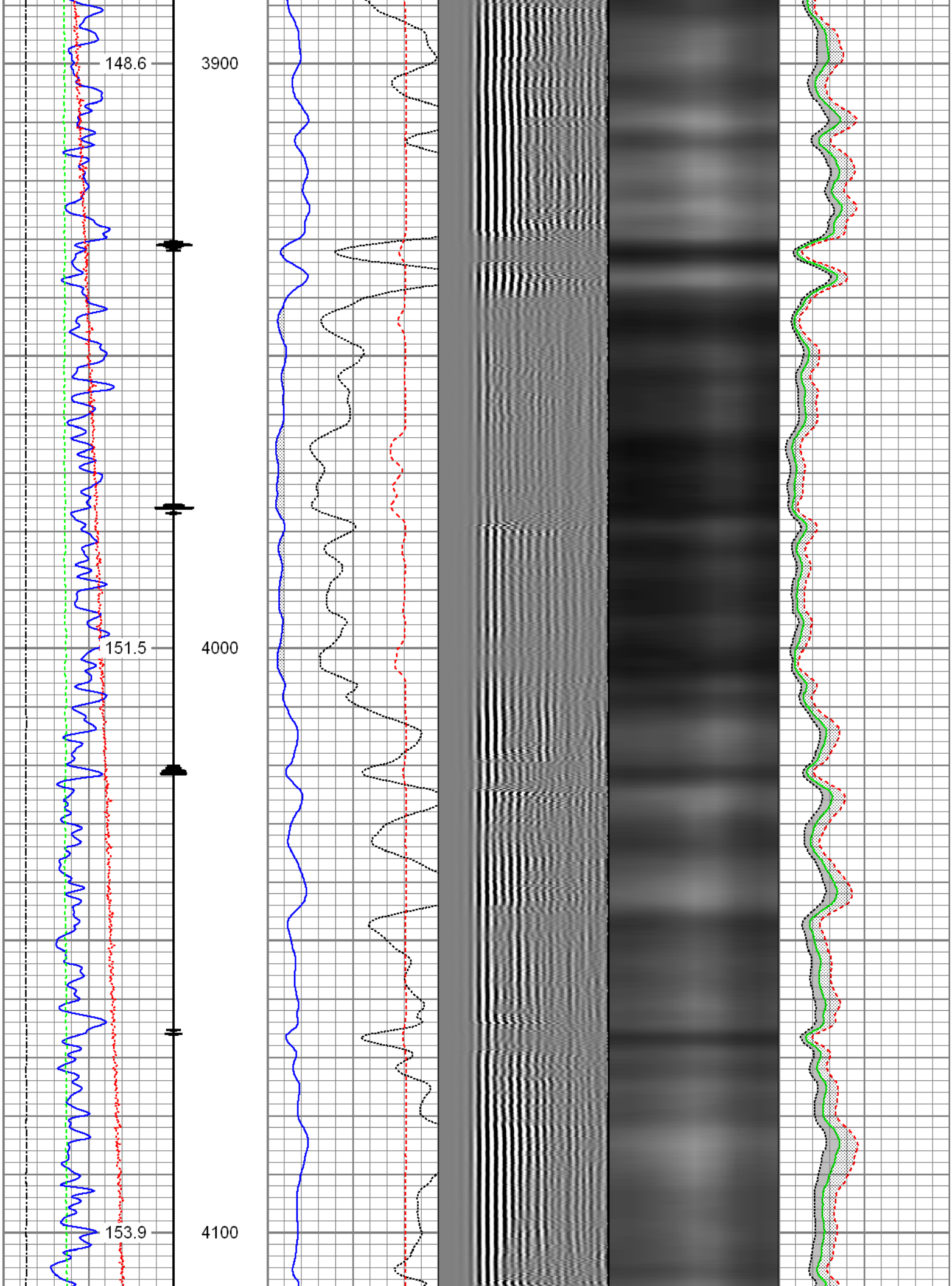
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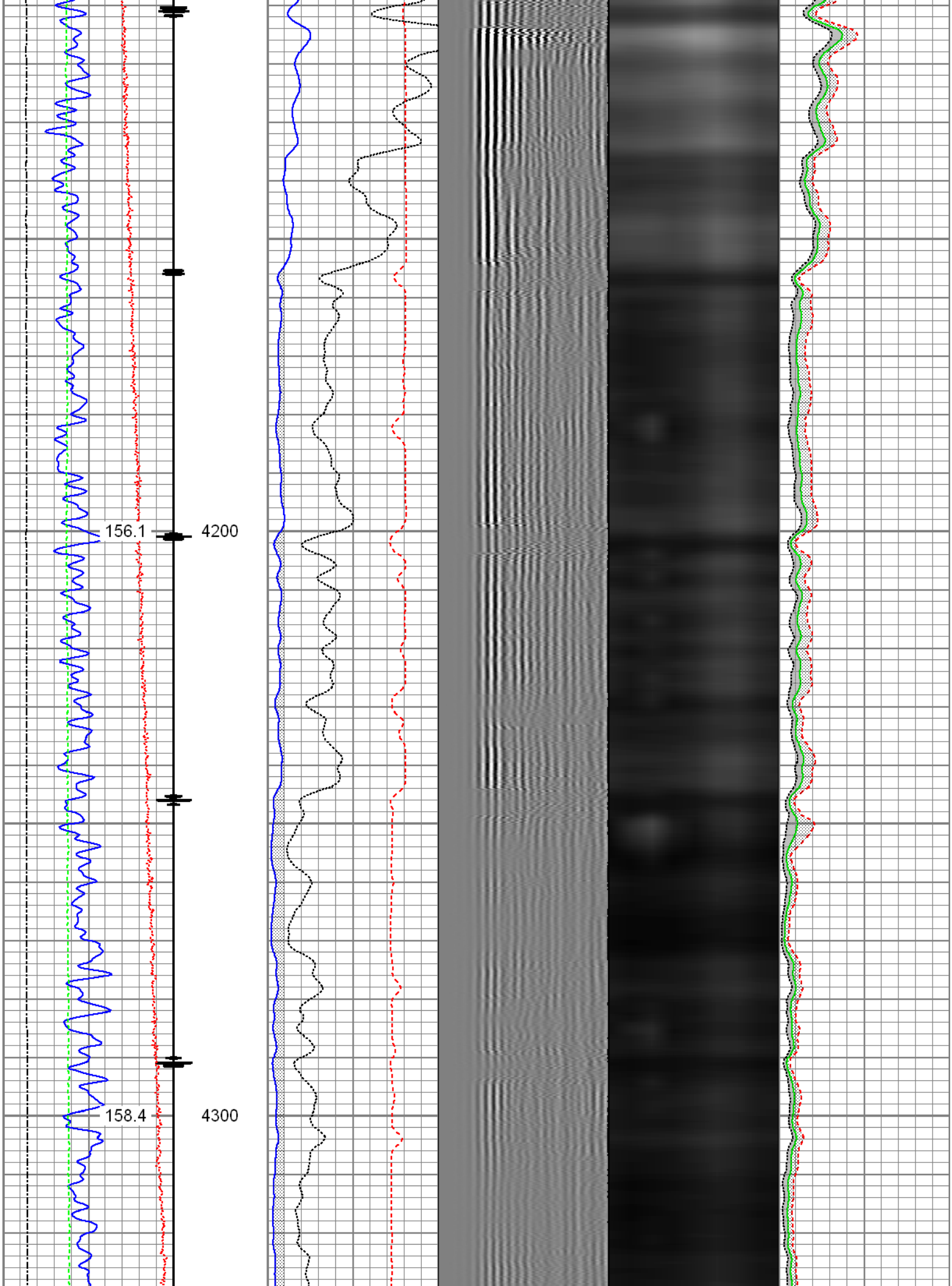
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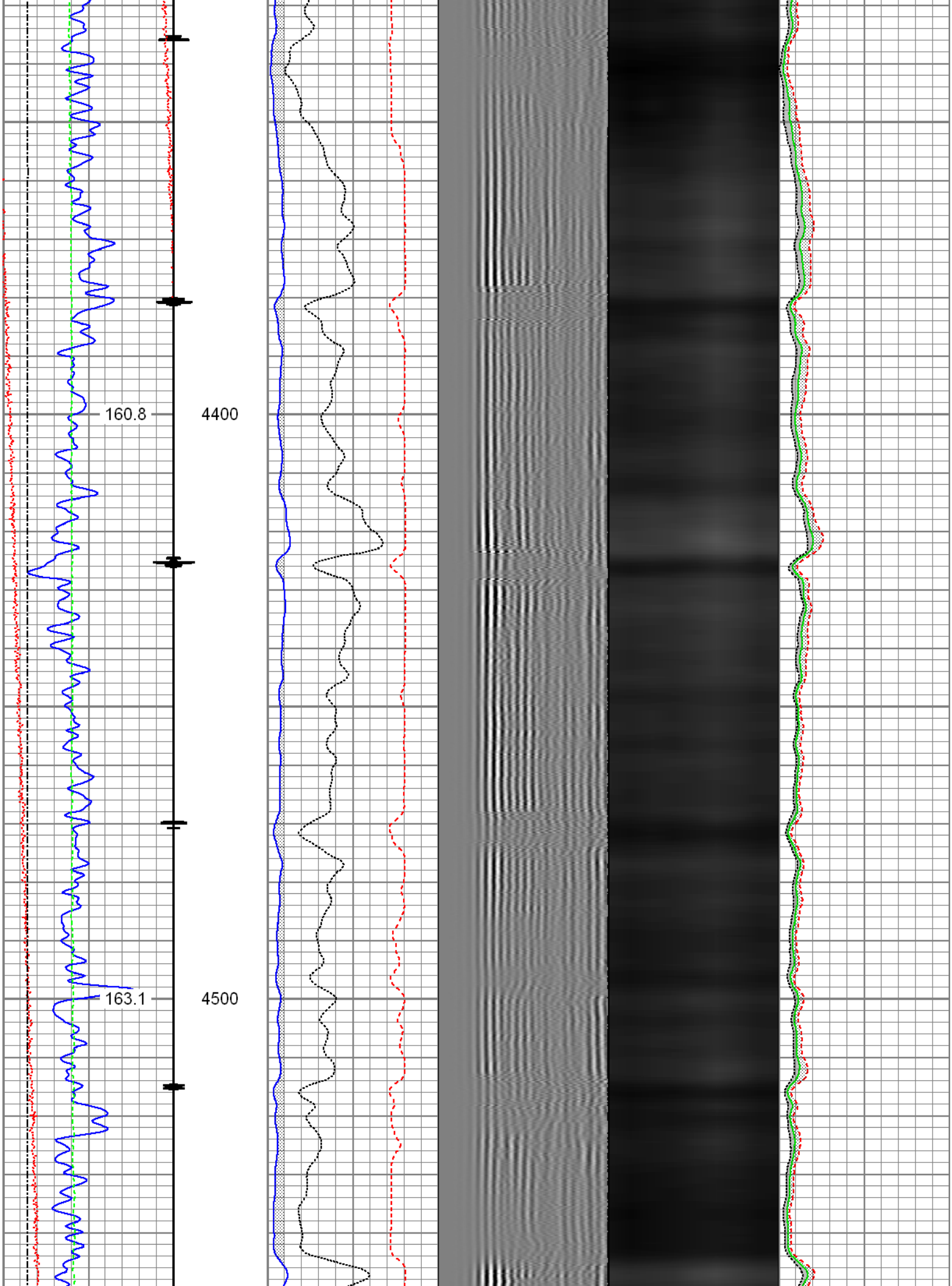
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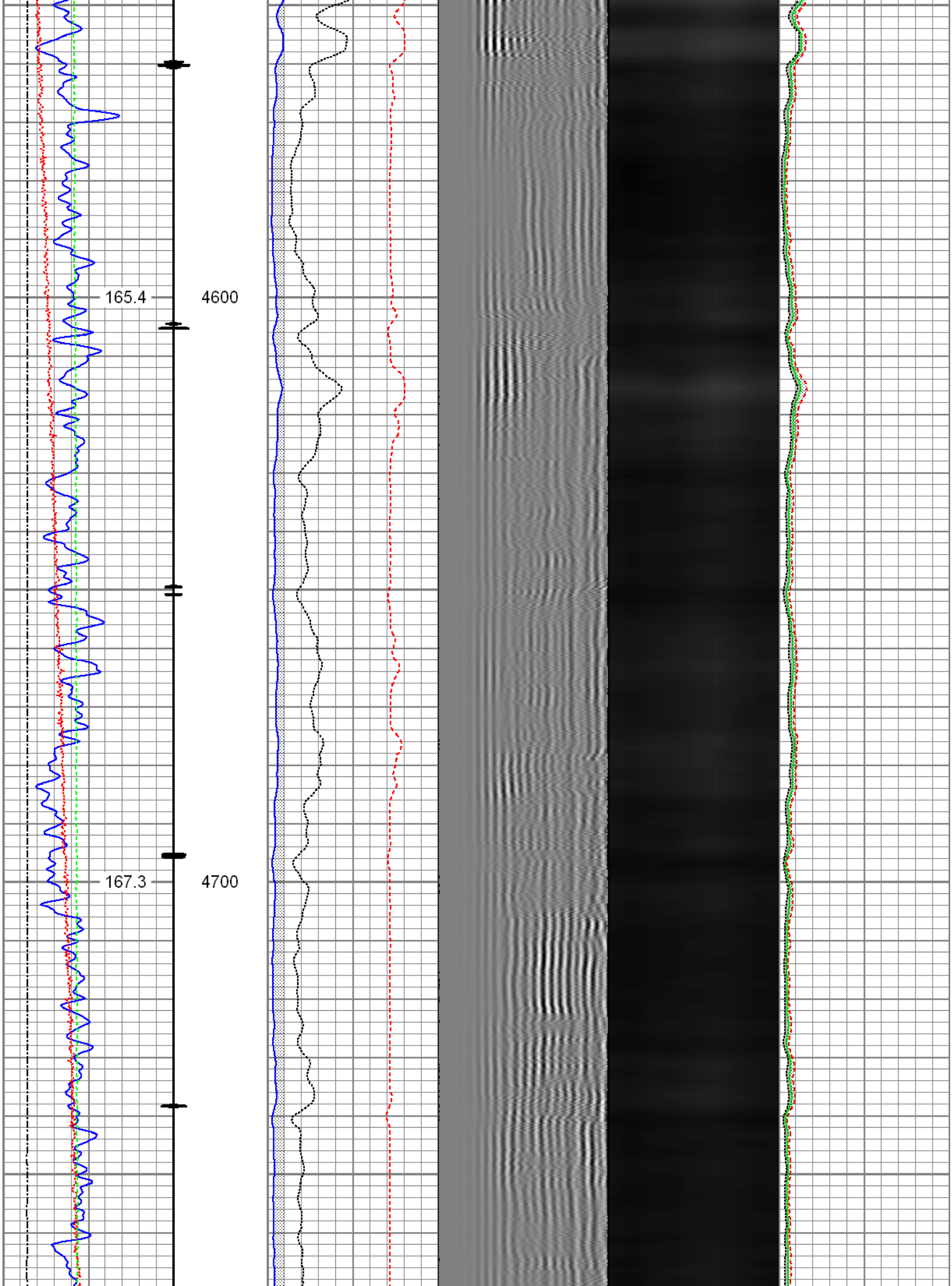
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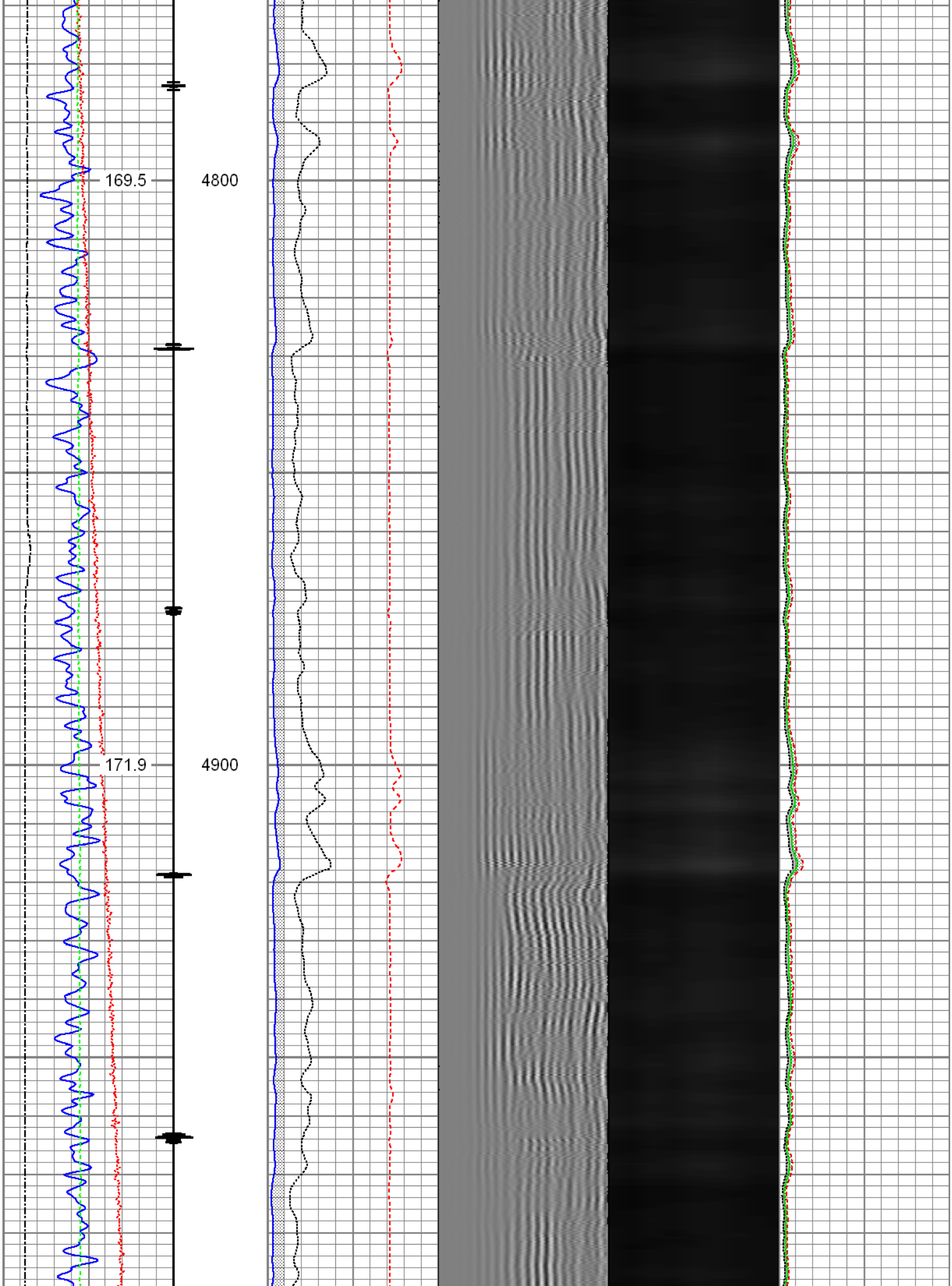
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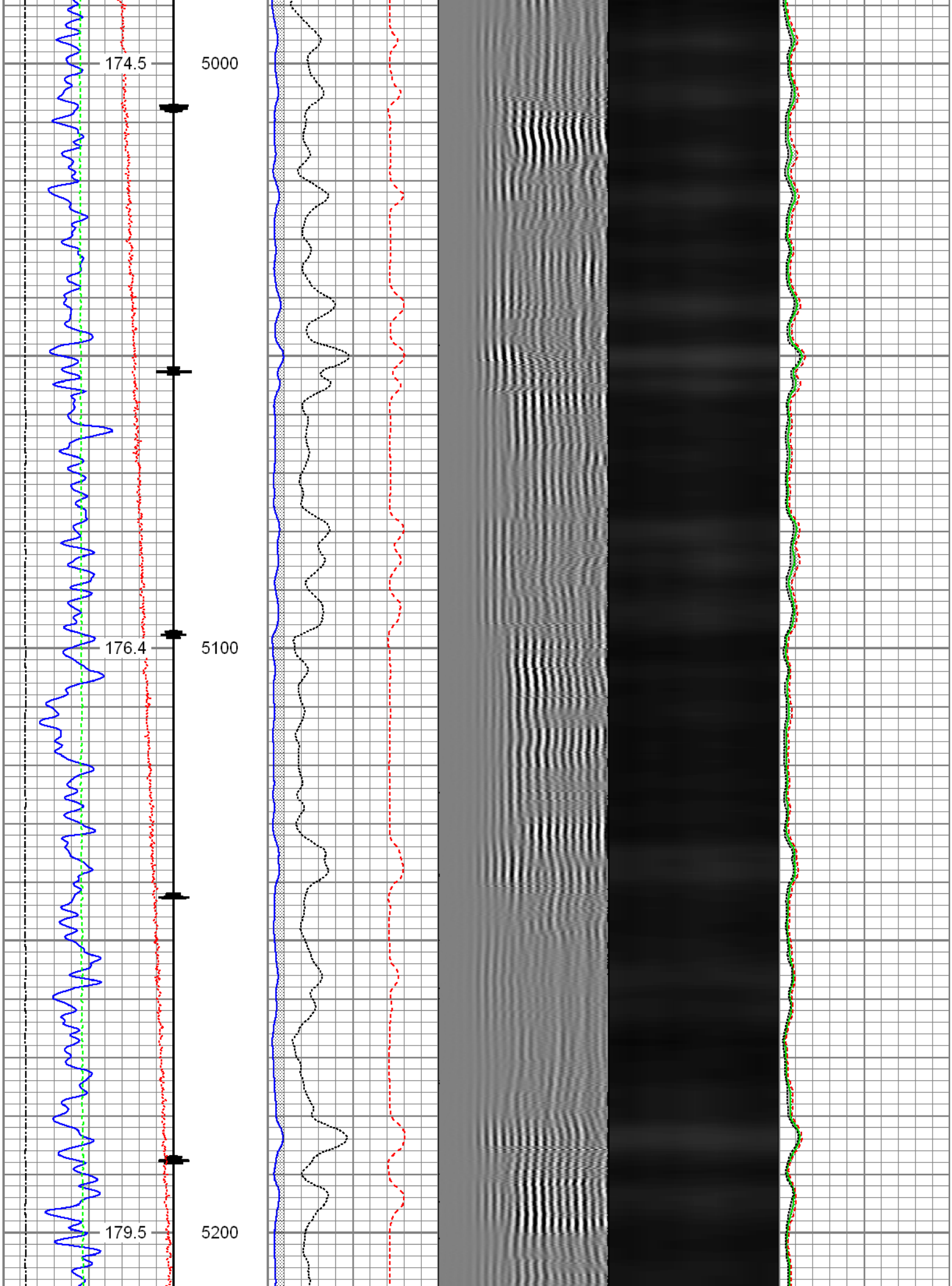
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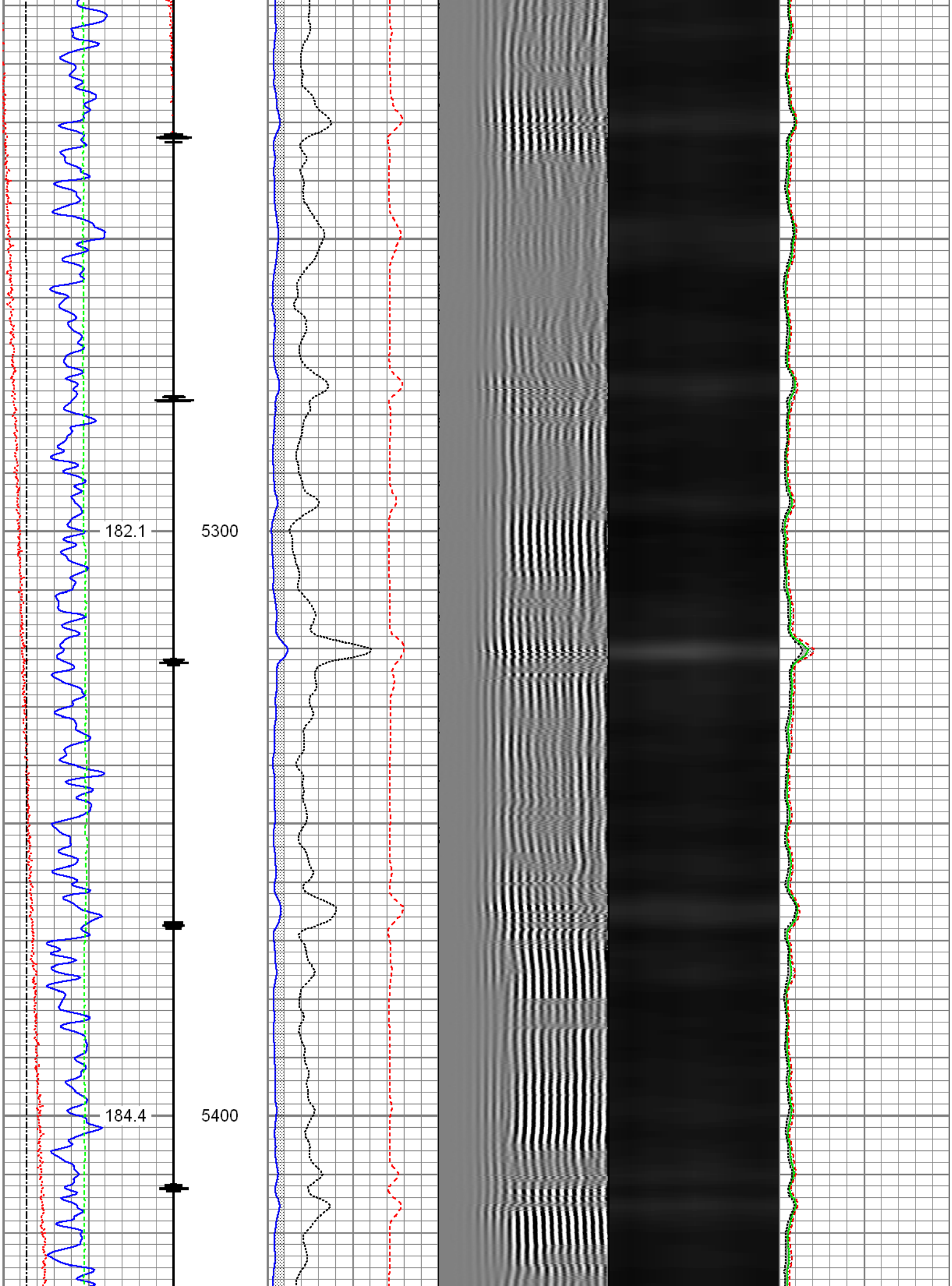
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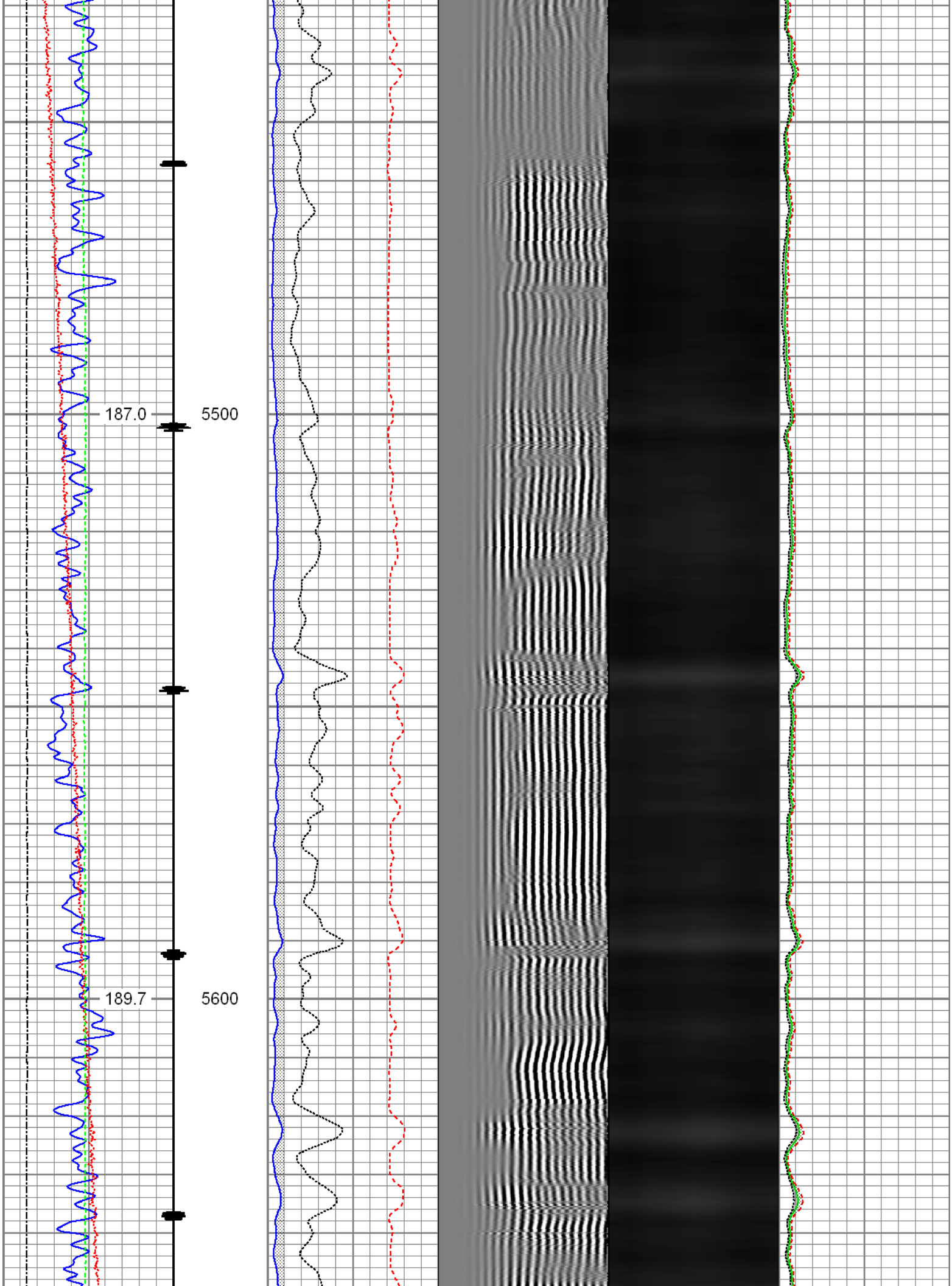
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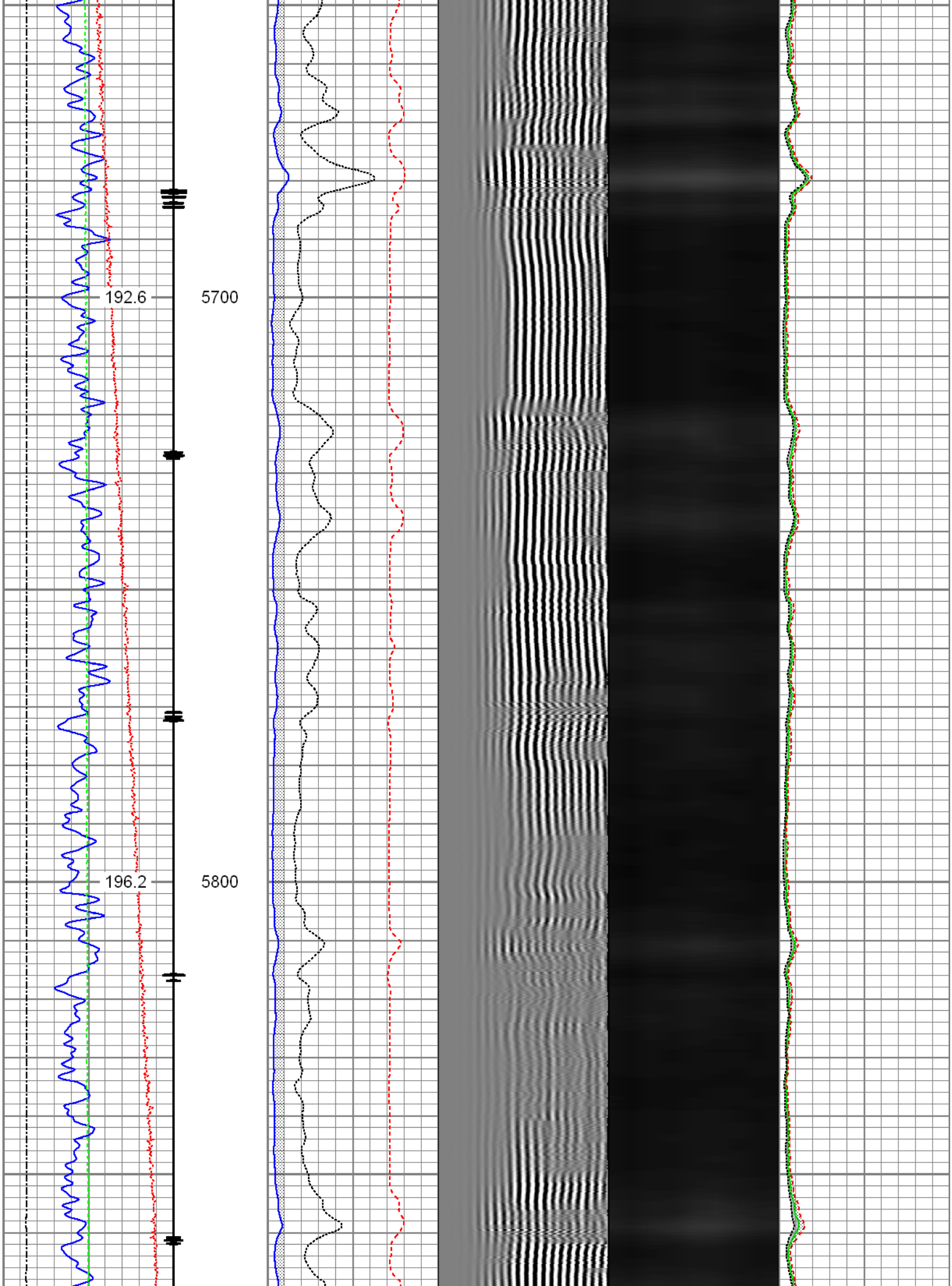
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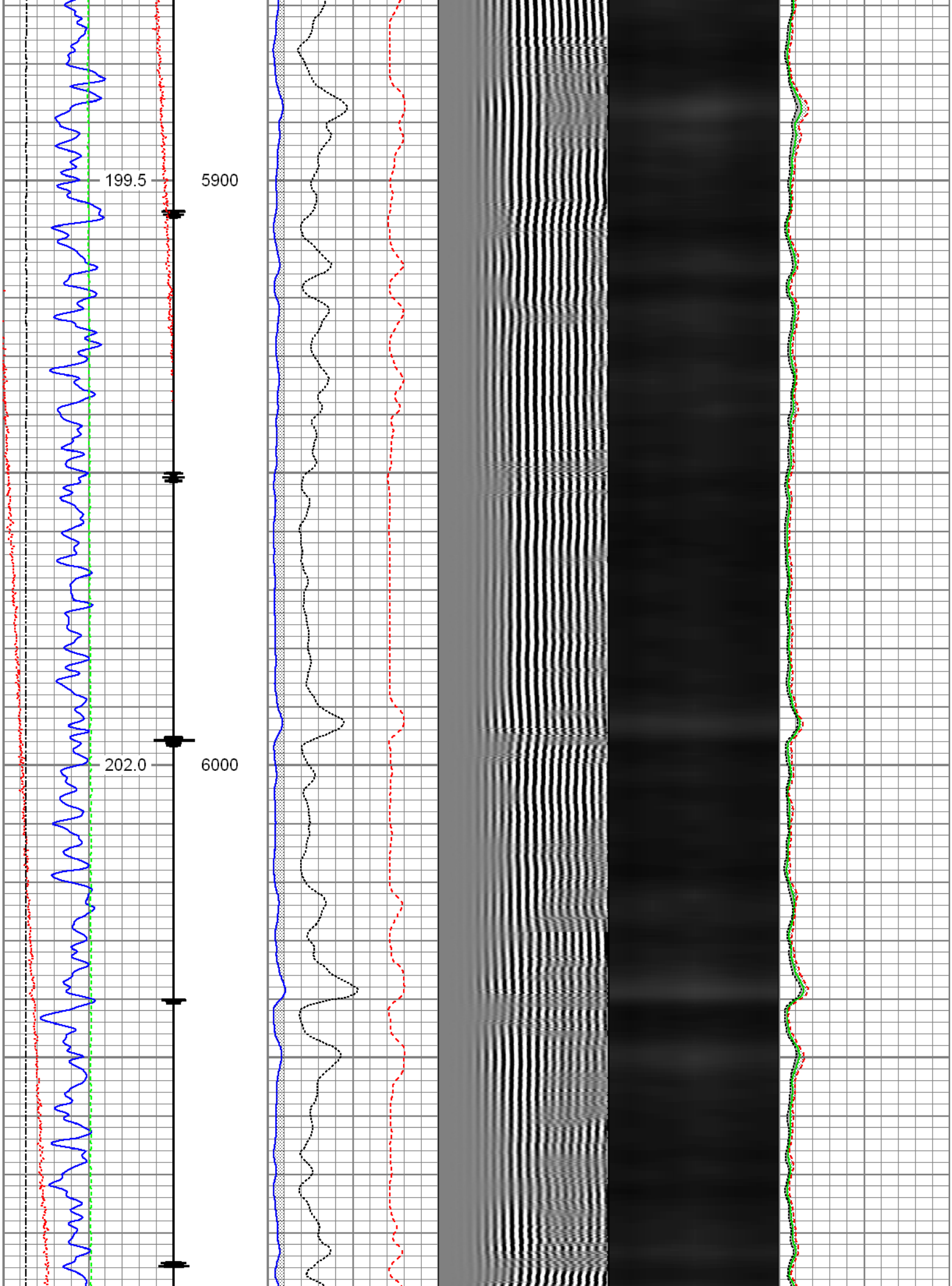
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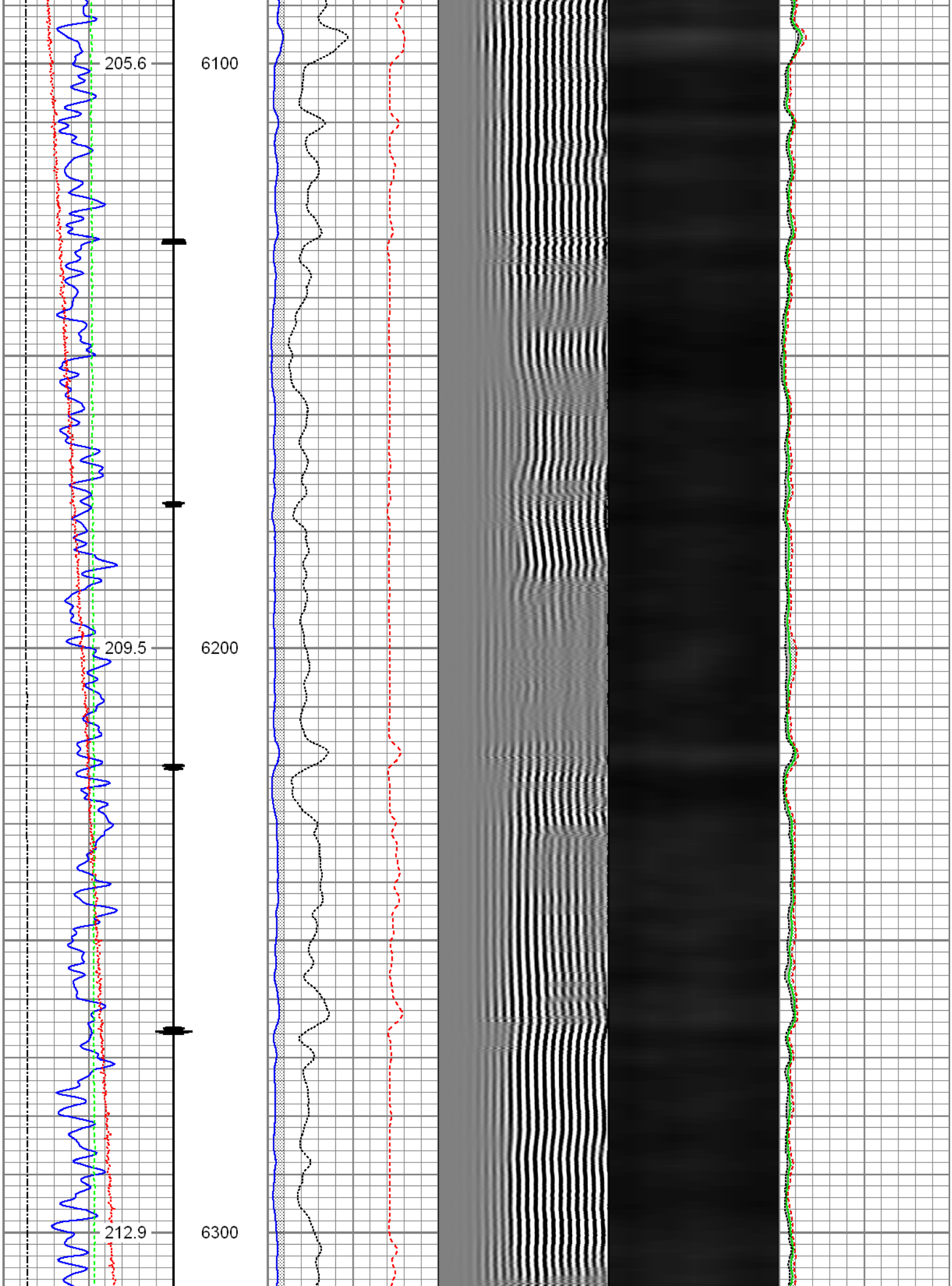
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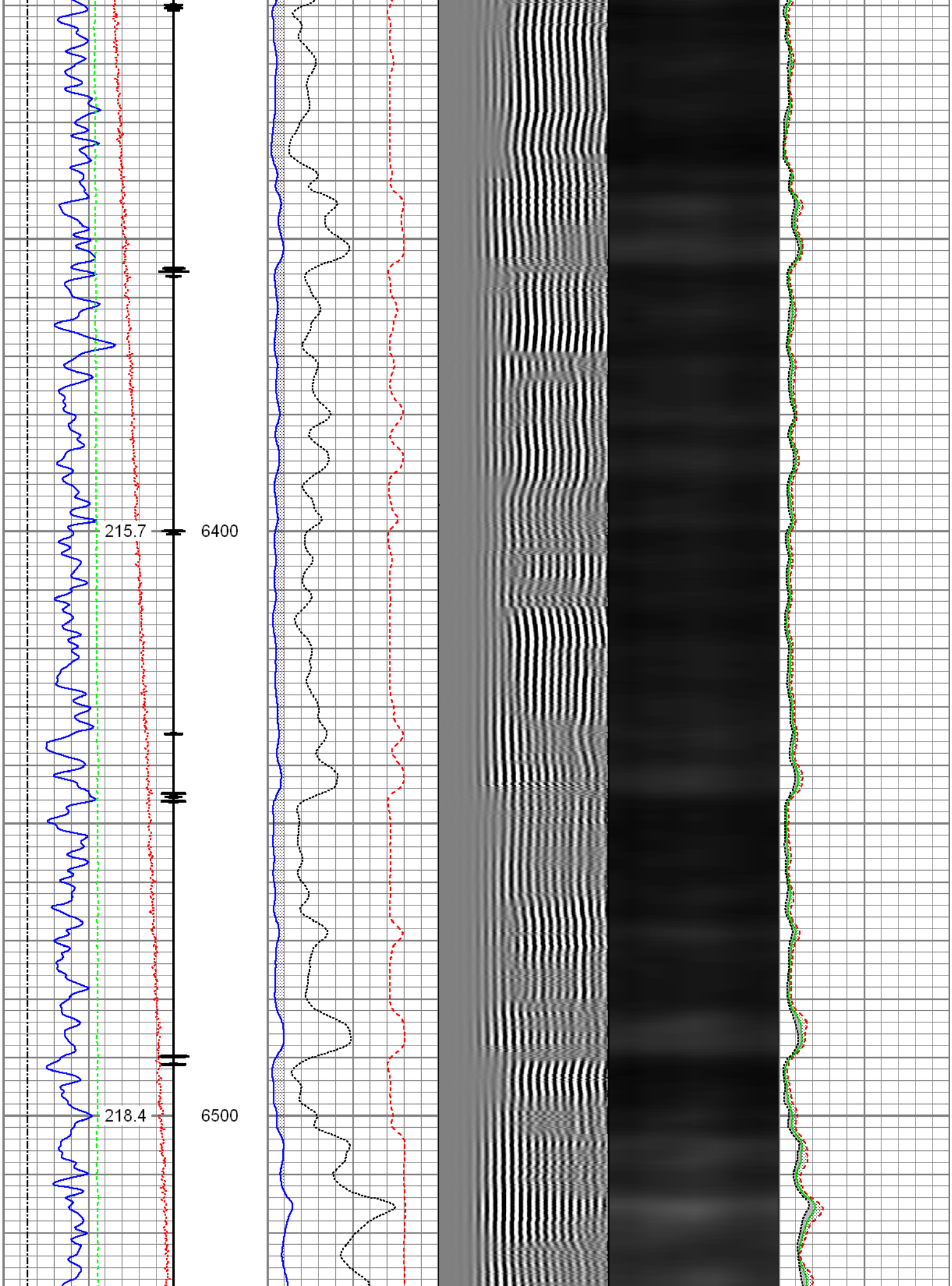
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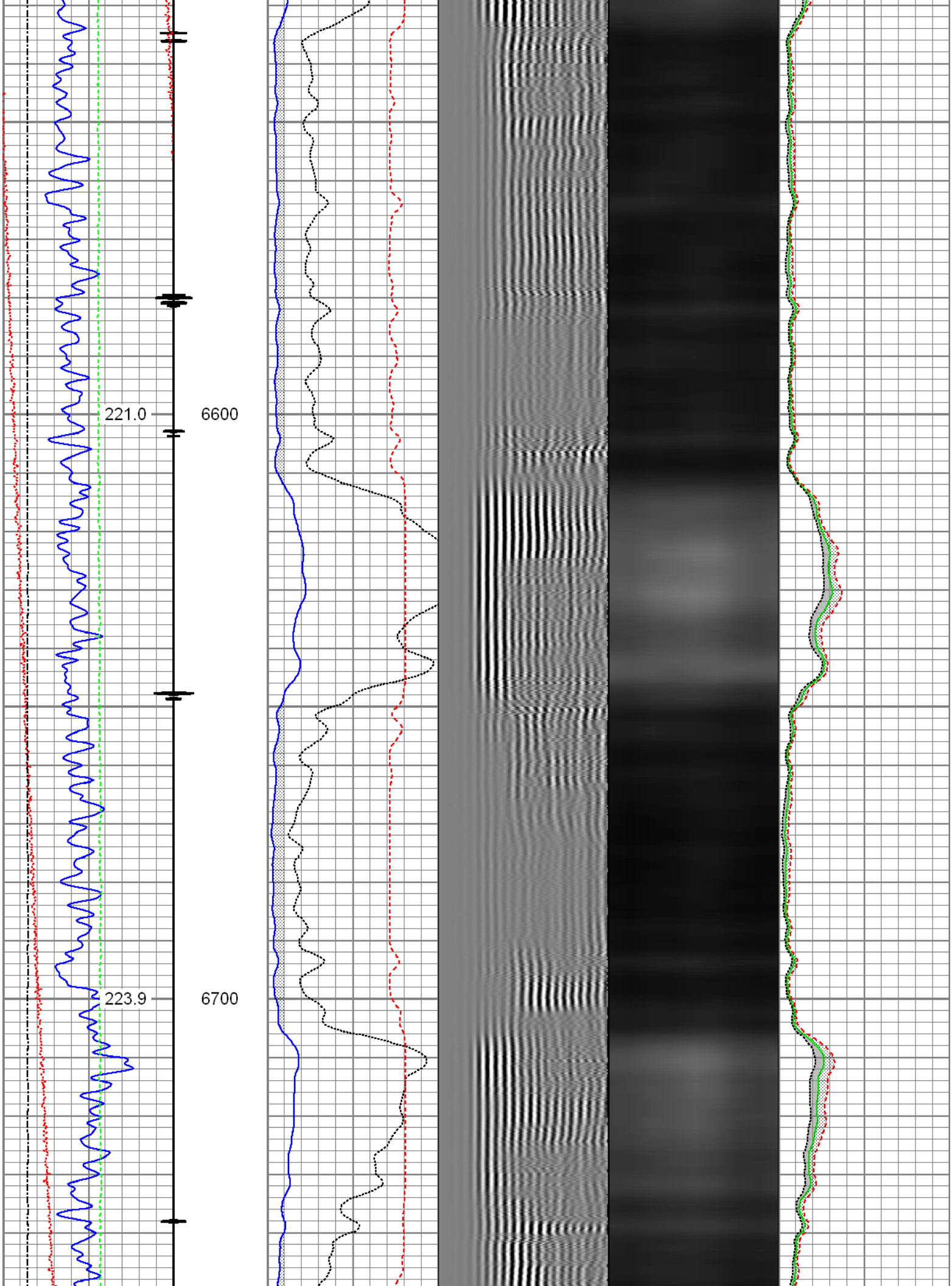
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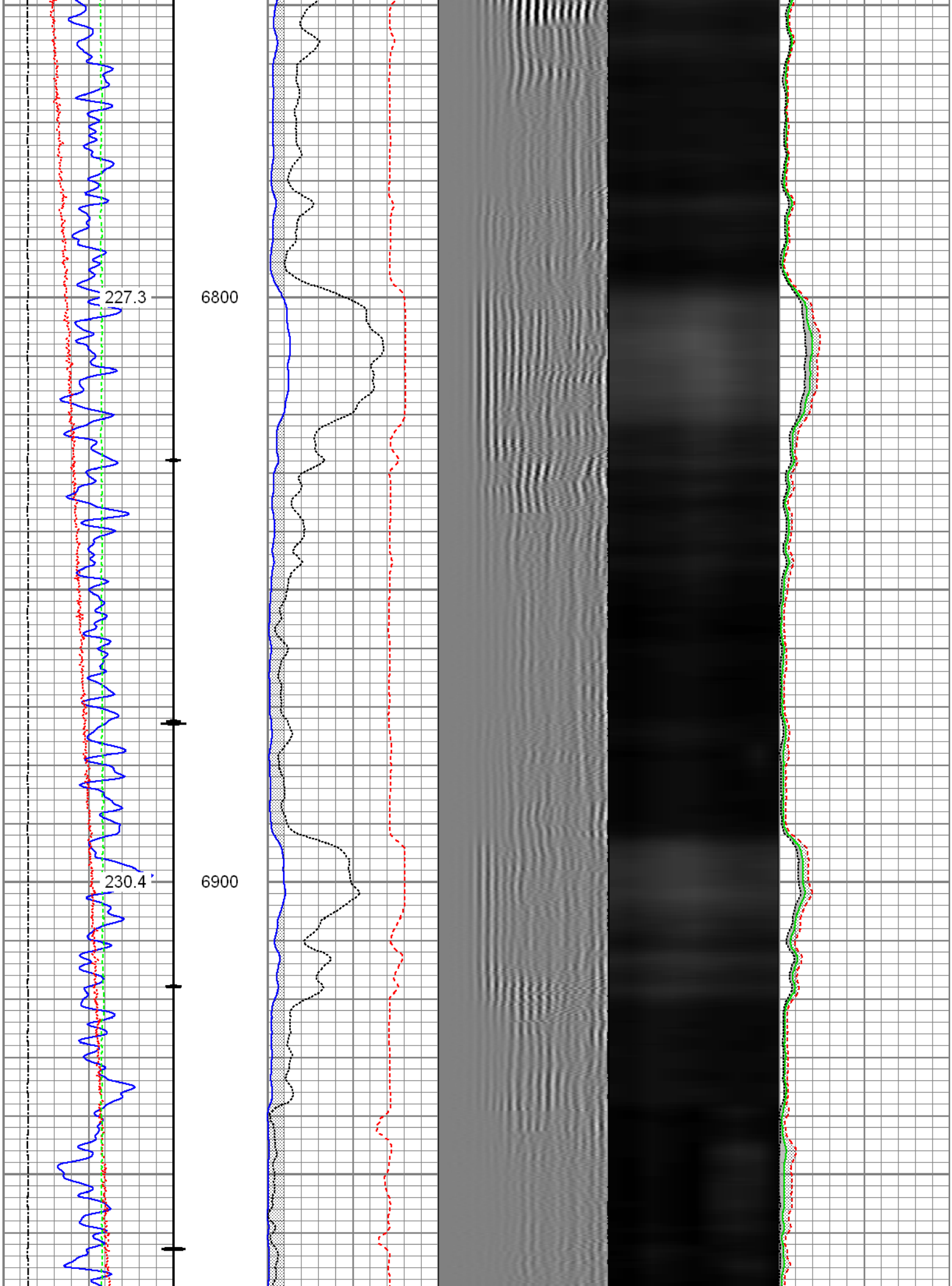
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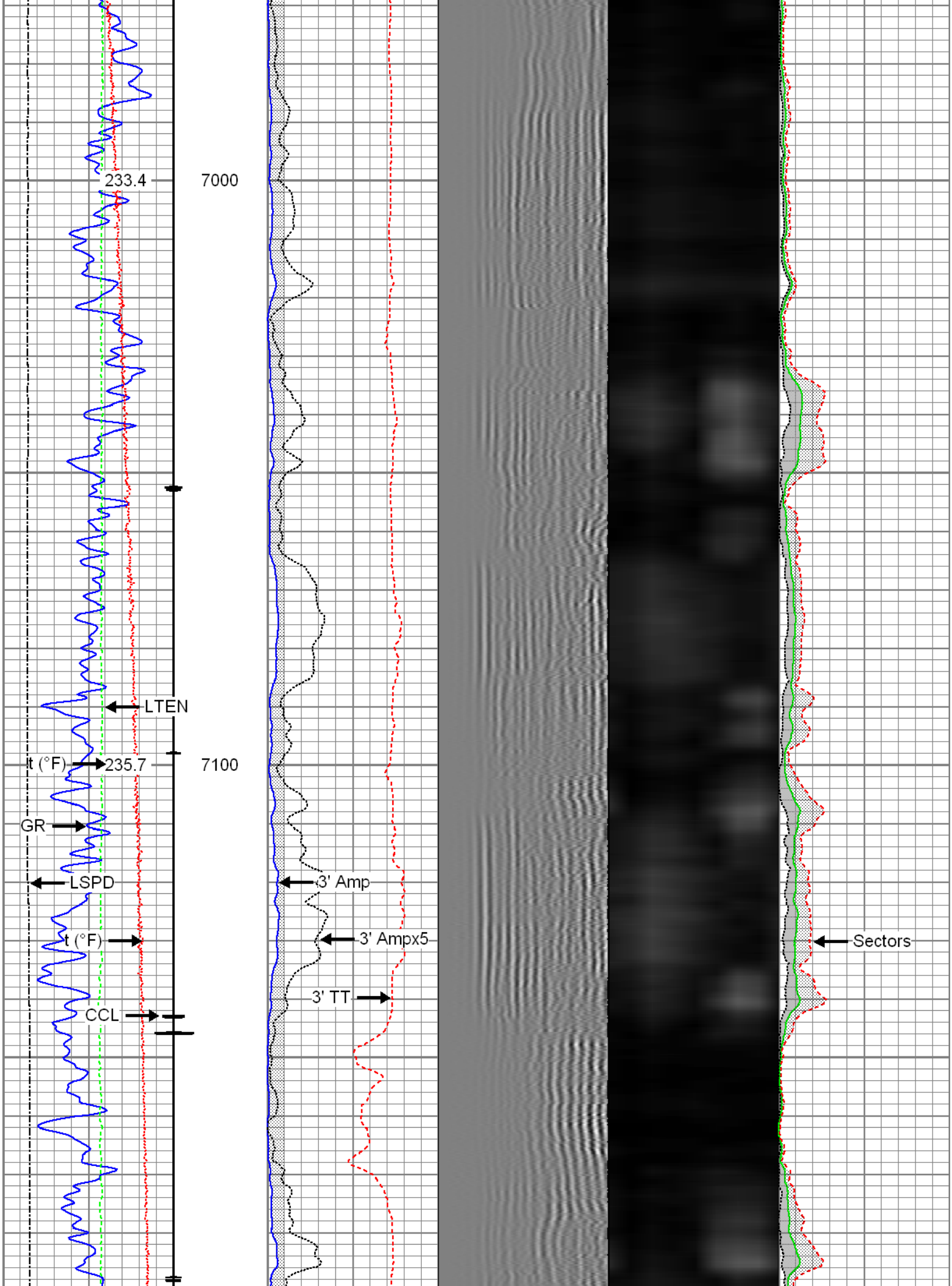
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3' Amp
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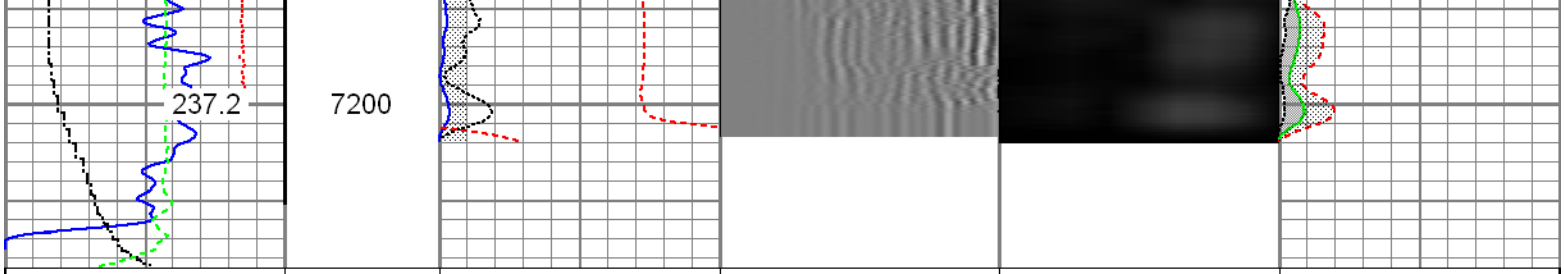
Sectors
3' TT
CCL



Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 170	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150				
Line Tension				
0 (lb) 2000				

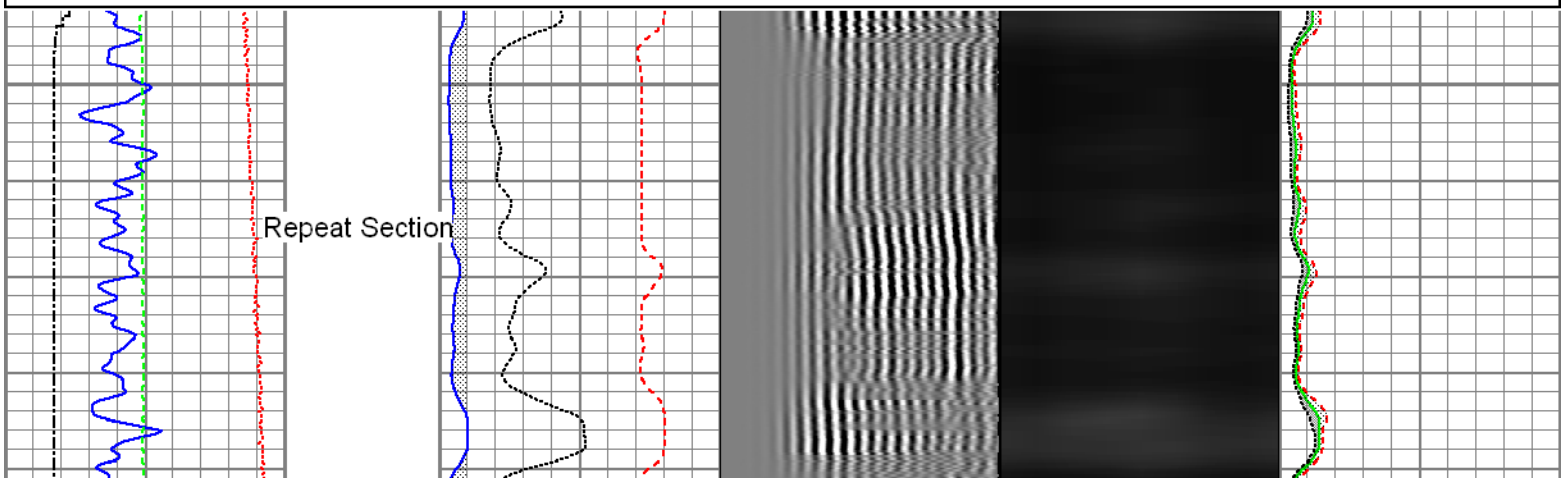
FMC Technologies

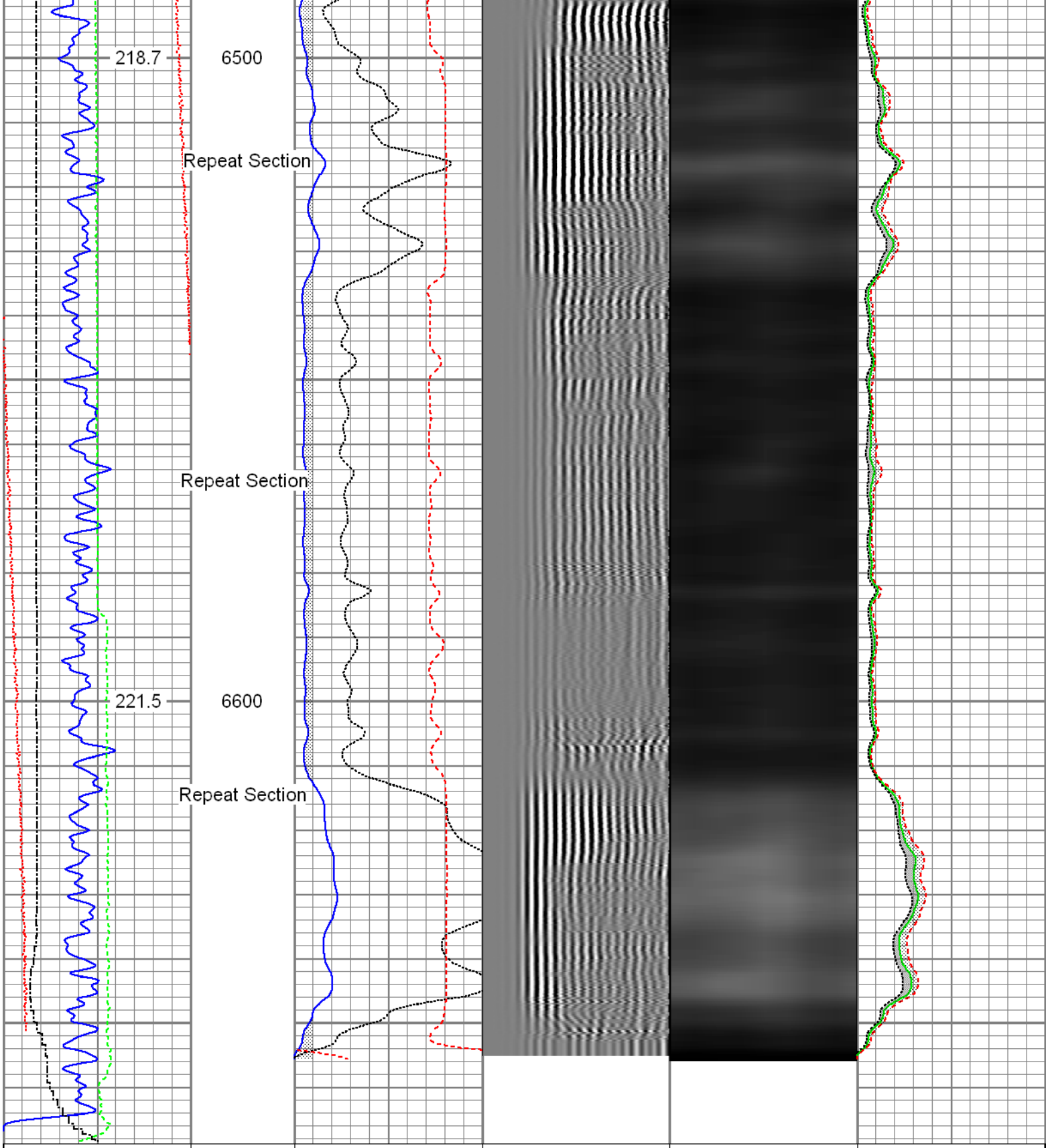
Repeat Pass

Recorded with 2800 PSI Surface Induced Pressure

Database File:	c:\warrior\data\0512341913_anadarko_ge powers 28n-26hz_10-12-15_rbl\0512341913_anadarko_ge
Dataset Pathname:	pass7
Presentation Format:	radii
Dataset Creation:	Mon Oct 12 14:00:06 2015 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 170	0 (mV) 100	200 1200		0 100
Temperature	3' Amplitude x 5			Mimimum Amplitude
0 (degF) 20	0 (mV) 20			0 100
Line Speed	3' Travel Time			Maximum Amplitude
-150 (ft/min) 150	650 (usec) 150			0 100
Line Tension				
0 (lb) 2000				





Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 170	0 (mV) 100	200 1200		0 100
Temperature	3' Amplitude x 5			Mimimum Amplitude
0 (degF) 20	0 (mV) 20			0 100
Line Speed	3' Travel Time			Maximum Amplitude
-150 (ft/min) 150	650 (usec) 150			0 100
Line Tension				
0 (lb) 2000				

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
HeadVolt	19.49					
Temp	16.72					
WVF3FT	14.55		**Probe_RADII-C-2-3/4" (FW1302-002)** Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.19	2.75	105.00
WVFCAL	14.55					
WVFS1	14.55					
WVFS2	14.55					
WVFS3	14.55					
WVFS4	14.55					
WVFS5	14.55					
WVFS6	14.55					
WVFS7	14.55					
WVFS8	14.55					
WVF5FT	13.55					
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
CCL	6.51					
DCCL	6.51					
			Probe_CCL_GR-2.75"Digital (FW1212-026) Probe 2-3/4" Digital CCL / Gamma Ray Combined	4.54	2.75	55.00
GR	3.77					
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00

Dataset: 0512341913_Anadarko_GE Powers 28N-26HZ_10-12-15_RBL.db: field/well/run1/pass8
Total Length: 23.40 ft

Total Length:	23.40 ft
Total Weight:	194.00 lb
O.D.	2.75 in

Calibration Report

Database File:	C:\Warrior\Data\0512341913_Anadarko_GE Powers 28N-26HZ_10-12-15_RBL\0512341913_Anadark
Dataset Pathname:	pass8
Dataset Creation:	Mon Oct 12 14:06:26 2015 by Log 7.0 B1

Gamma Ray Calibration Report

Serial Number:	FW1212-026	
Tool Model:	2.75"Digital	
Performed:	Thu Oct 01 08:00:30 2015	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6300	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1302-002	
Tool Model:	2-3/4"	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	25.840	ft

Master Calibration, performed Mon Oct 12 09:19:44 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.006	0.604	0.800	71.921	118.971	0.048
CAL	0.706	0.706				
5'	0.009	0.708	0.800	71.921	101.786	-0.133
SUM						
S1	0.005	0.600	0.000	100.000	168.152	-0.856
S2	0.004	0.560	0.000	100.000	179.870	-0.736
S3	0.005	0.550	0.000	100.000	183.316	-0.870
S4	0.004	0.561	0.000	100.000	179.500	-0.747
S5	0.003	0.588	0.000	100.000	170.927	-0.534
S6	0.003	0.628	0.000	100.000	160.041	-0.522
S7	0.004	0.683	0.000	100.000	147.187	-0.600
S8	0.004	0.683	0.000	100.000	147.177	-0.526

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.706	0.706	1.000	0.000

Air Zero Calibration, performed Mon Oct 12 11:22:06 2015:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset

3'	0.009	0.000	-0.002
5'	0.007	0.000	0.003
SUM			
S1	0.003	0.000	0.002
S2	0.009	0.000	-0.005
S3	0.004	0.000	0.001
S4	0.004	0.000	0.000
S5	0.003	0.000	-0.000
S6	0.003	0.000	0.001
S7	0.004	0.000	0.001
S8	0.003	0.000	0.001

FMC Technologies

Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	GE Powers 28N-26HZ
Field	Wattenberg
County	Weld
State	Colorado