RELIANCE OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.

Well Windsock 21-2HZ

Field Wattenberg

County Weld State Colorado

Location: API # : 05-123-50631

SEC 21 TWP 1N RGE 68W

Other Services
GR/JB
RBP

Permanent Datum	Ground Level	Elevation	5222'
Log Measured From	Kelly Bushing		20 FT
Drilling Measured From	Kelly Bushing		

Elevation
K.B. 5242'
D.F. ---
G.L. 5222'

Date	12-MAR-2020		
Run Number	Three		
Depth Driller	19017 FT		
Depth Logger	7400 FT		
Bottom Logged Interval	7385 FT		
Top Log Interval	Surface		
Open Hole Size	7.875"		
Type Fluid	Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	221°F		
Estimated Cement Top	See Log		
Time Well Ready	ROA		
Time Logger on Bottom	13:30		
Equipment Number	HD-363		
Location	Platteville, CO		
Recorded By	M. Hayes		
Witnessed By	John McCarthy		

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	Surface	1896 FT
Intermediate #1	5 1/2	17	HC P110	Surface	19006 FT
Intermediate #2					
Liner					

<<< Fold Here >>>

Comments

Log ran as per customer request
Depth referenced to Casing Tally reported Marker Joint at 7270 FT
Adjusted -7 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 8324 FT
Retrievable Bridge Plug set at 7437 FT
Log ran with 0 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations

Thank you for choosing Reliance Oilfield Services, LLC!!

Main Pass

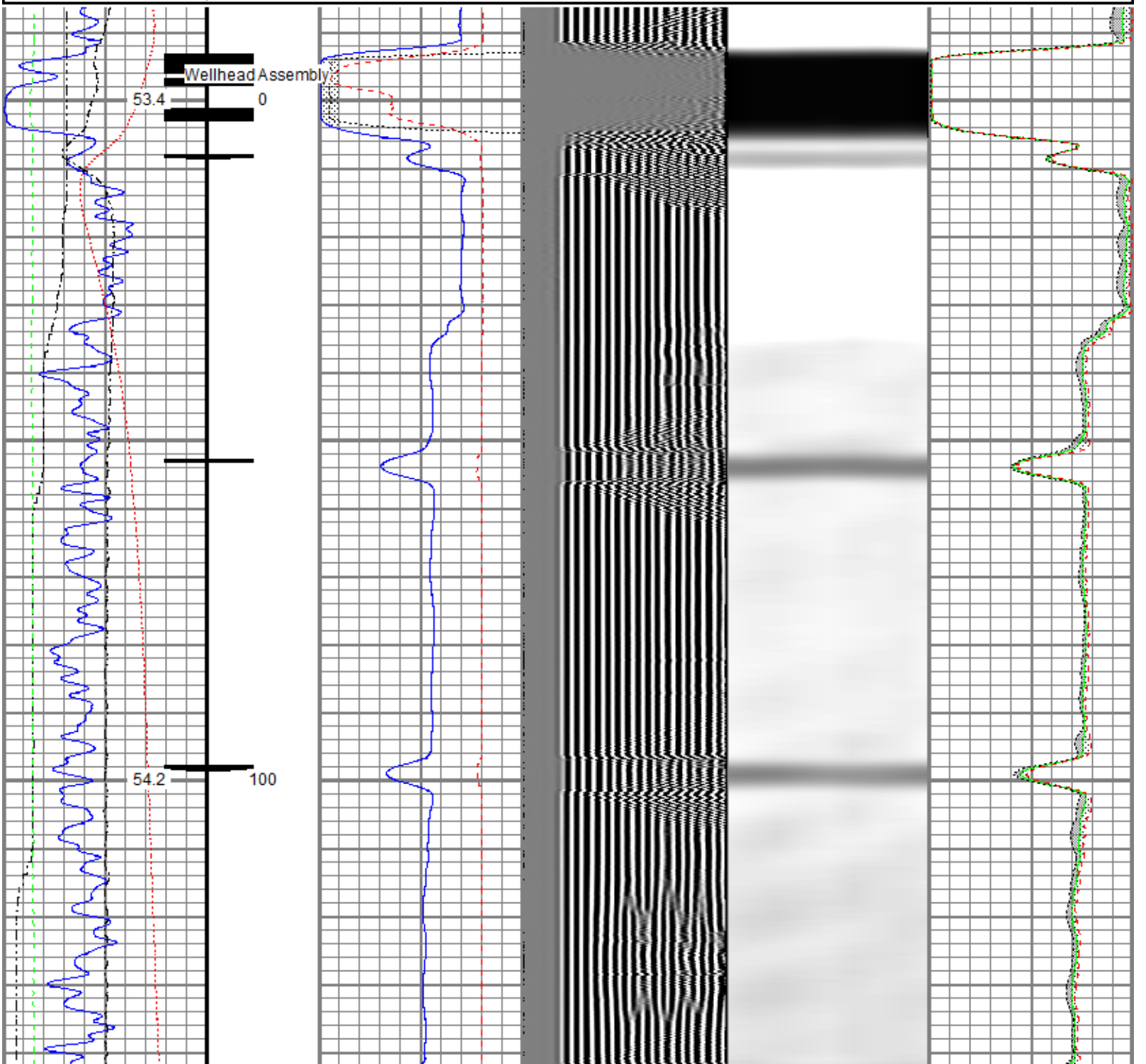
Recorded With 0 PSI Surface Induced Pressure

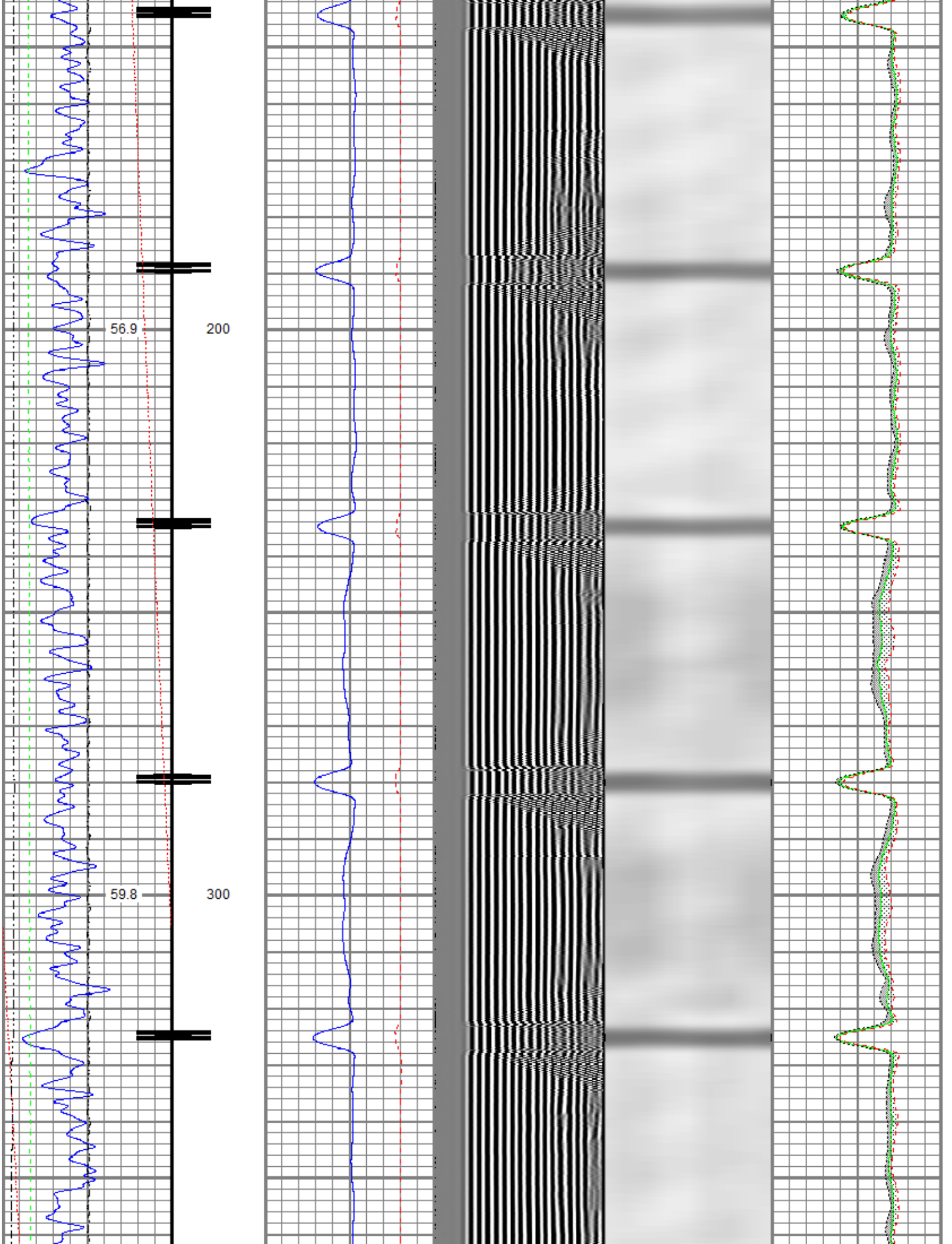
RELIANCE OILFIELD SERVICES

Recorded With 0 PSI Surface Induced Pressure

Database File	0512350631_oxy_windsock 21-2hz_rbl_03-12-20\0512350631_oxy_windsock 21-2hz_rbl_03-12-20.db
Dataset Pathname	pass4.2
Presentation Format	ros_radii
Dataset Creation	Sun Mar 15 08:02:55 2020
Charted by	Depth in Feet scaled 1:240

Gamma Ray	3' Amplitude (mV)	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 100	200 (usec) 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
0 Temperature (degF) 20	0 (mV) 20			0 100
Line Speed	3' Travel Time			Maximum Amplitude
-150 (ft/min) 150	650 (usec) 150			0 100
0 Line Tension (lb) 2000				
Differential Temperature				
-2 (degF) 2				

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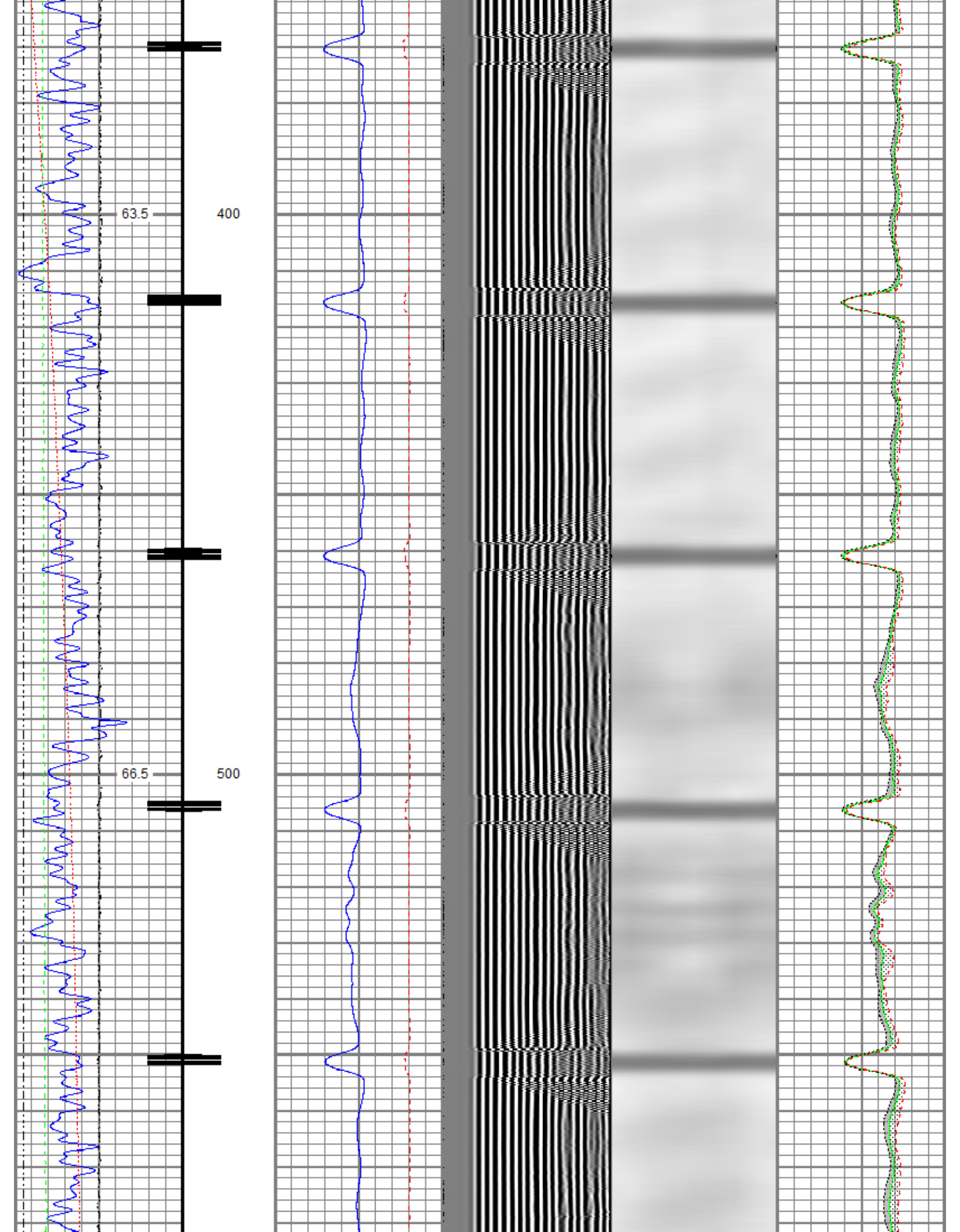
200
59.8
300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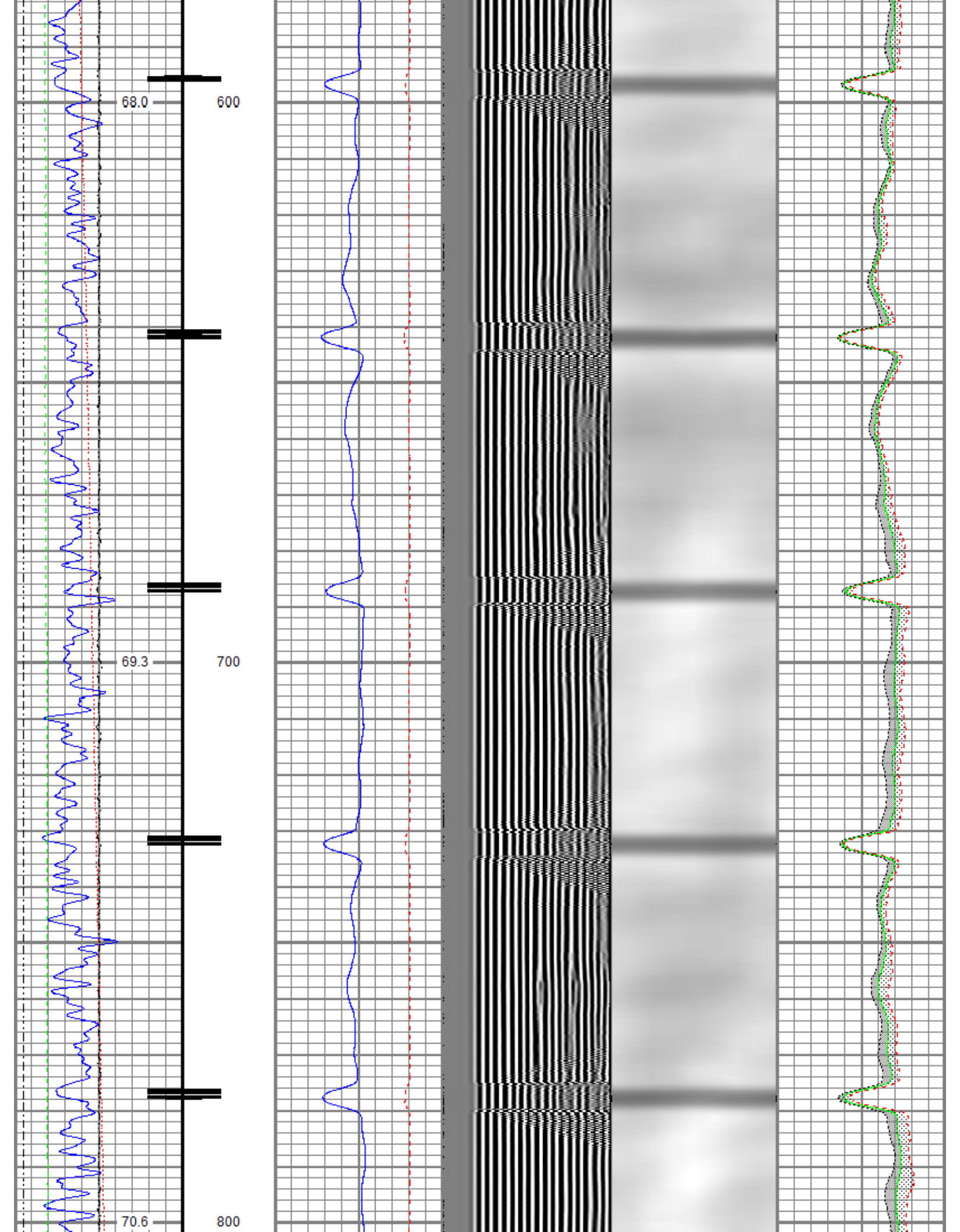
66.5
500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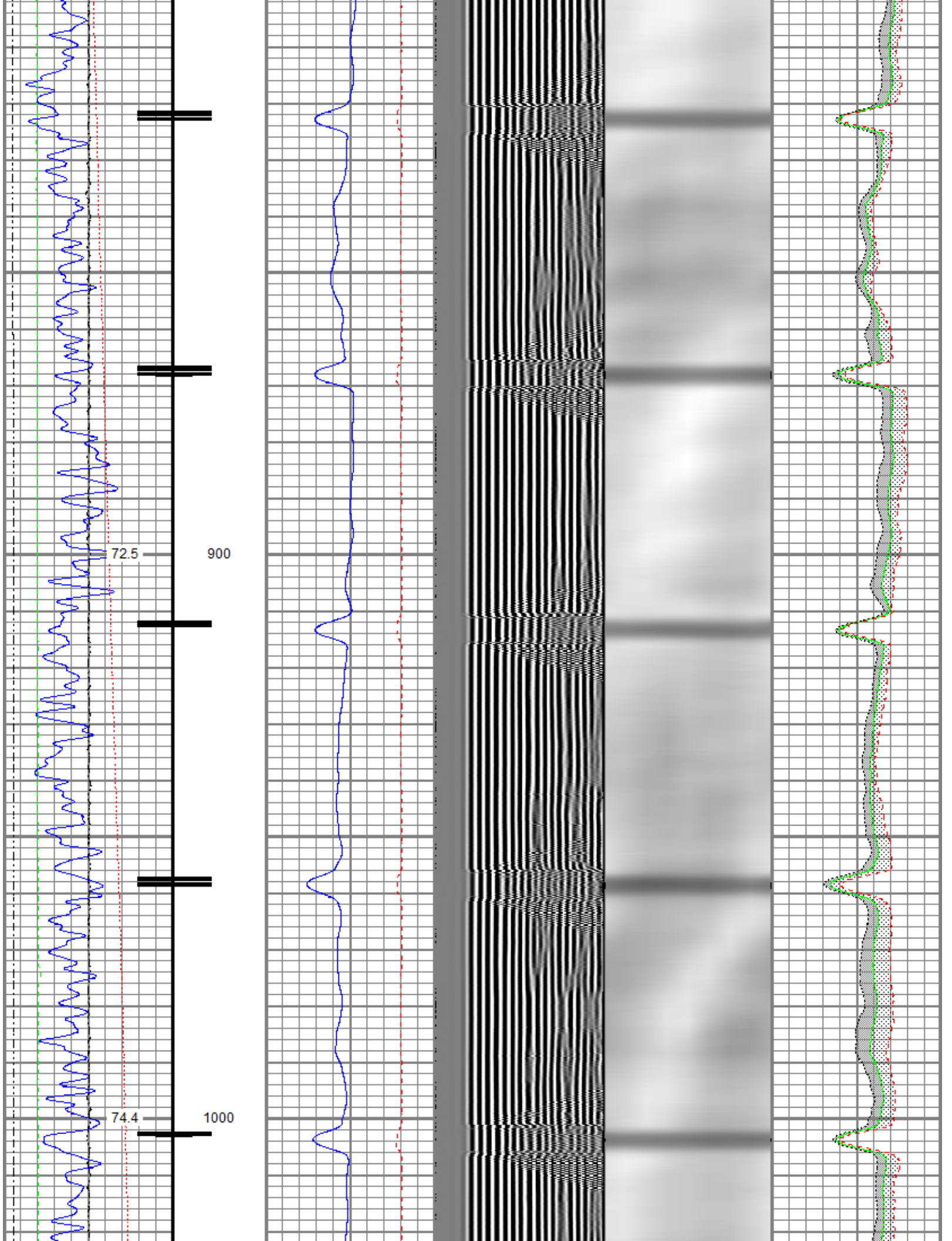
600
69.3
700
70.6
800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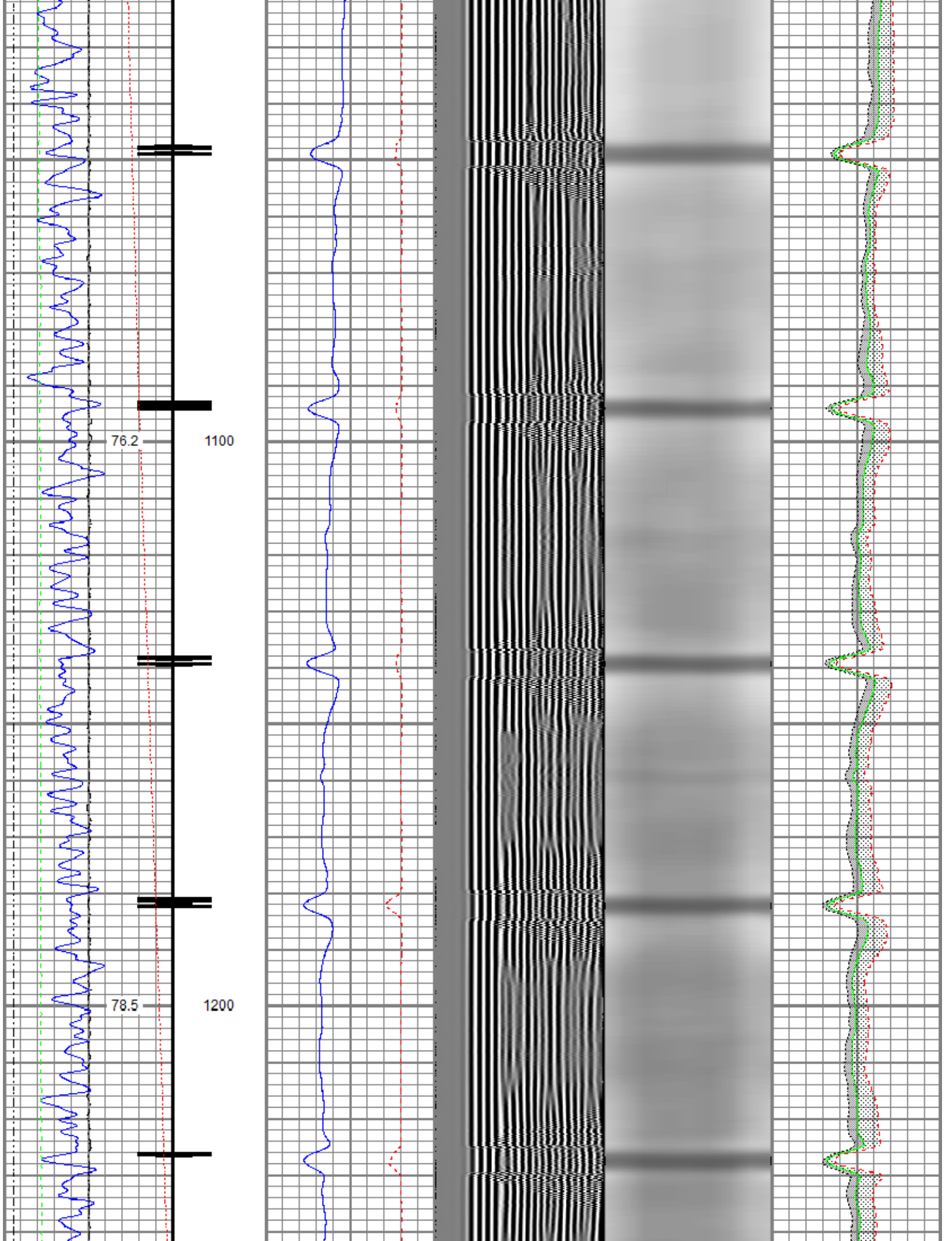
74.4
1000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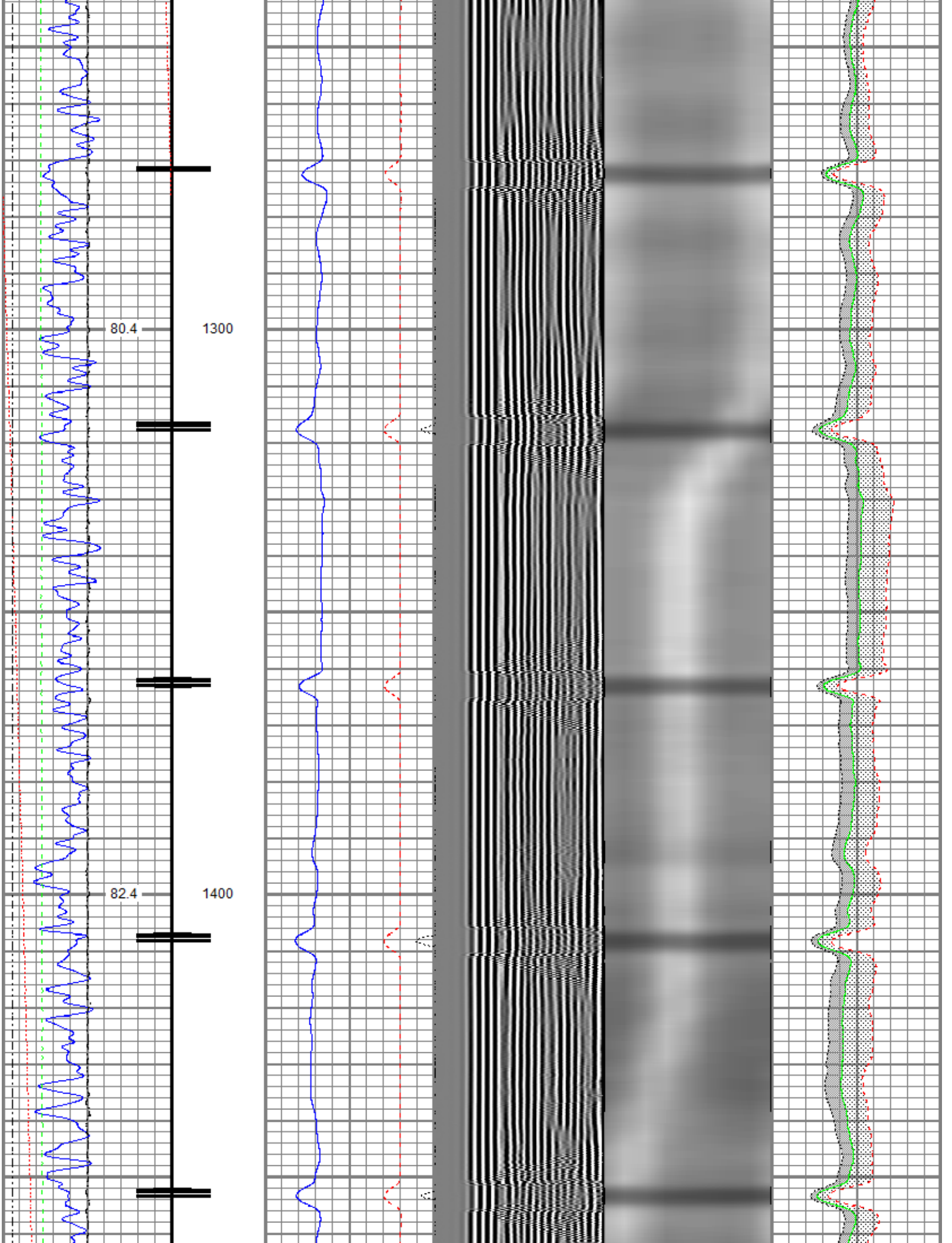
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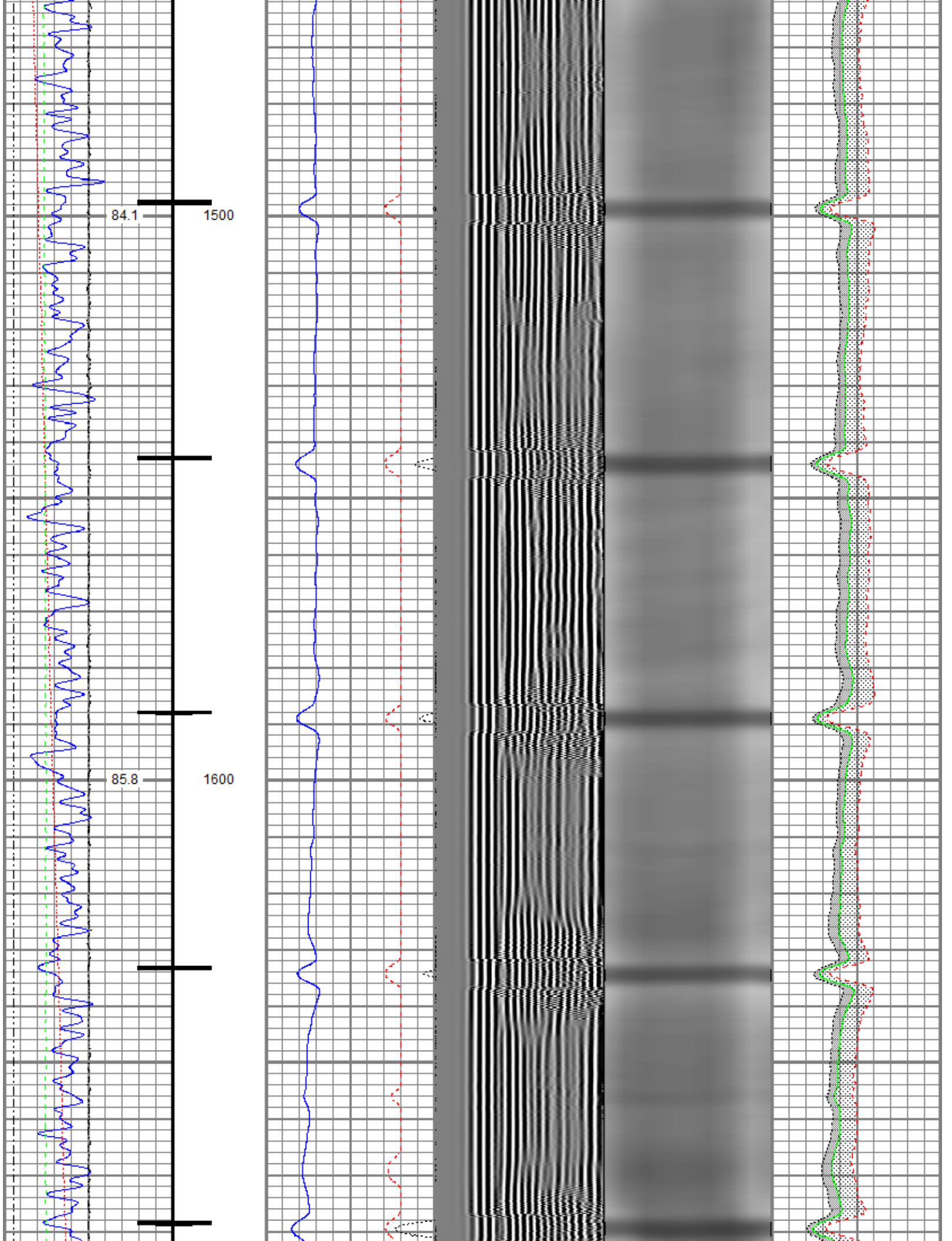
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85.8
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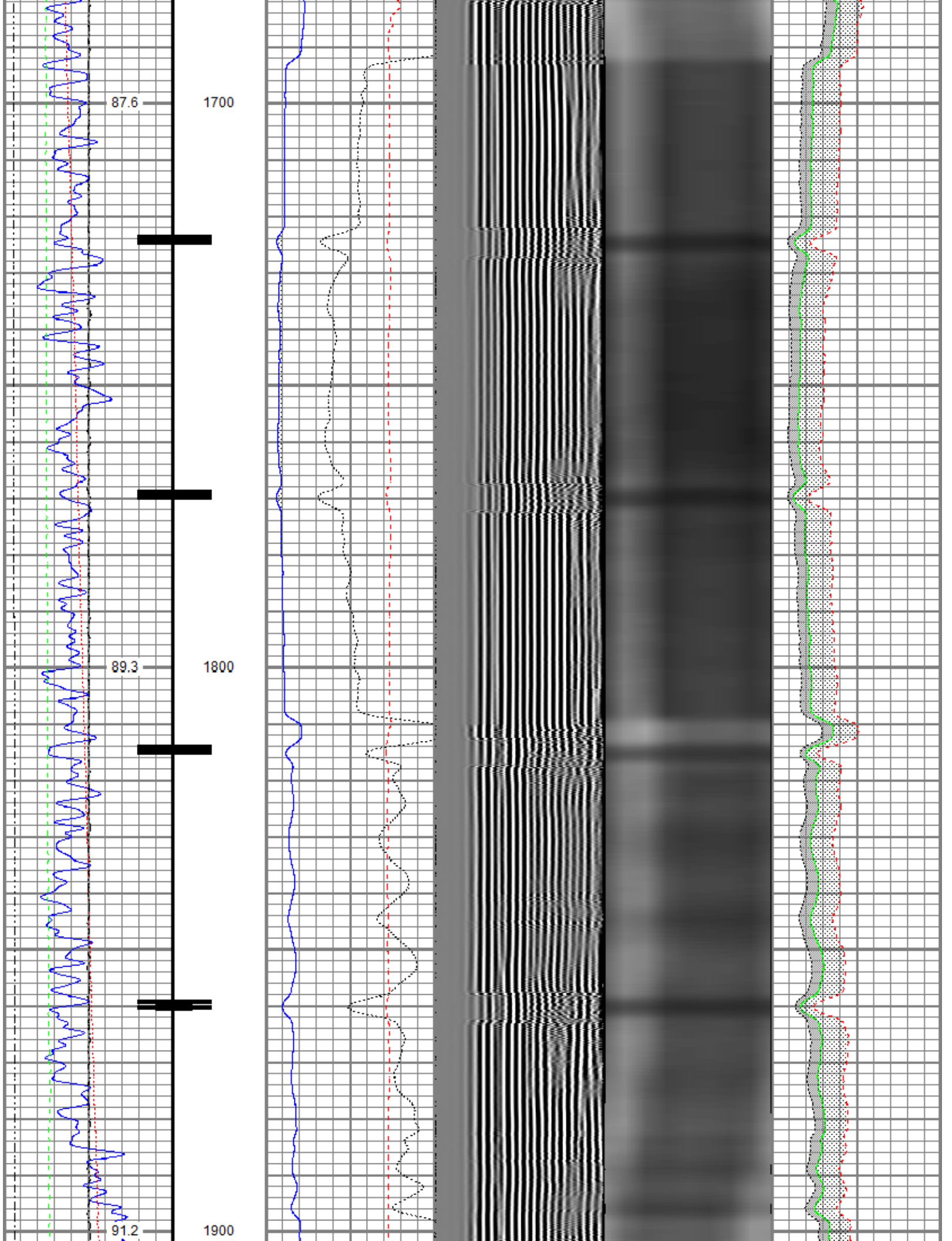
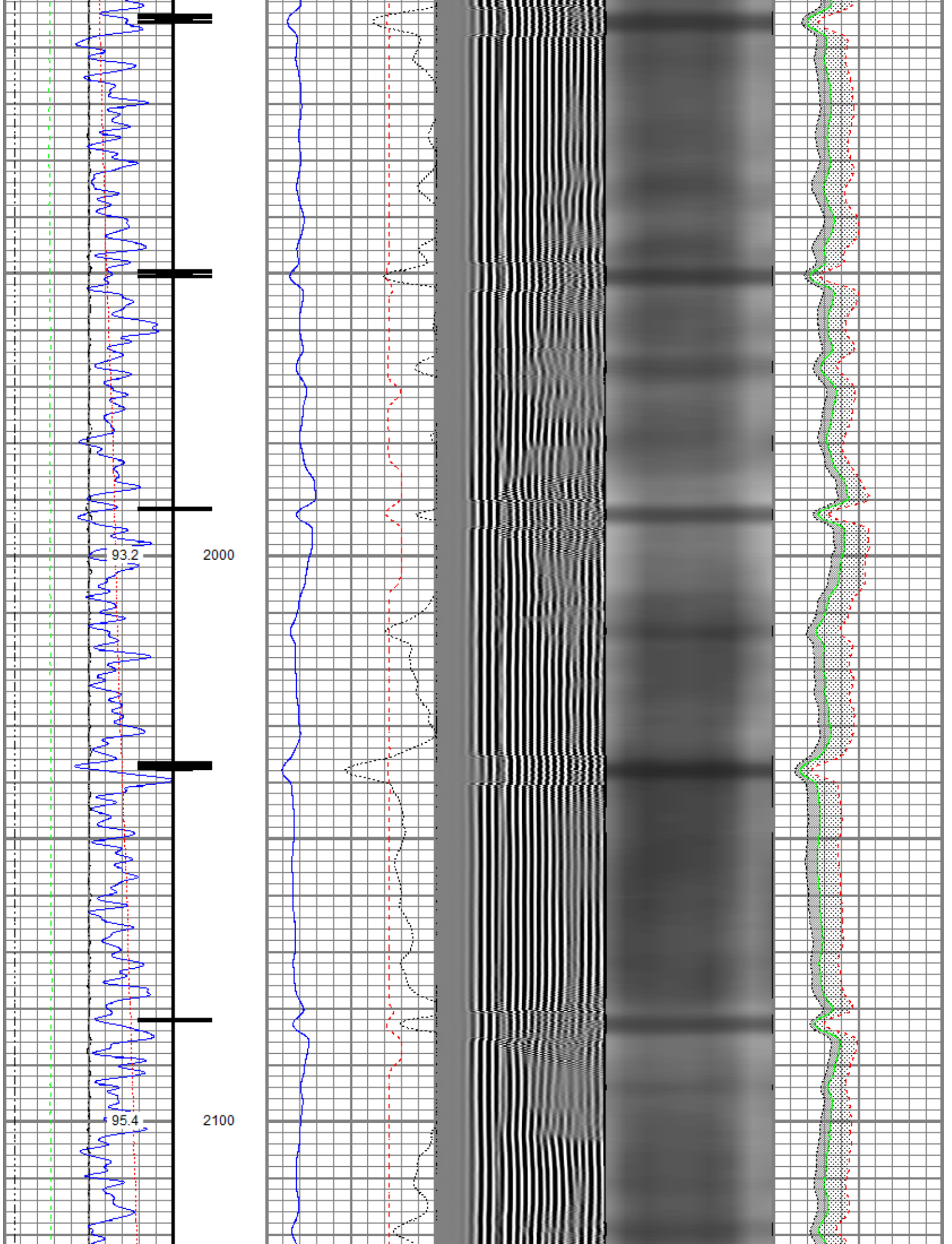

87.6
1700
89.3
1800
91.2
1900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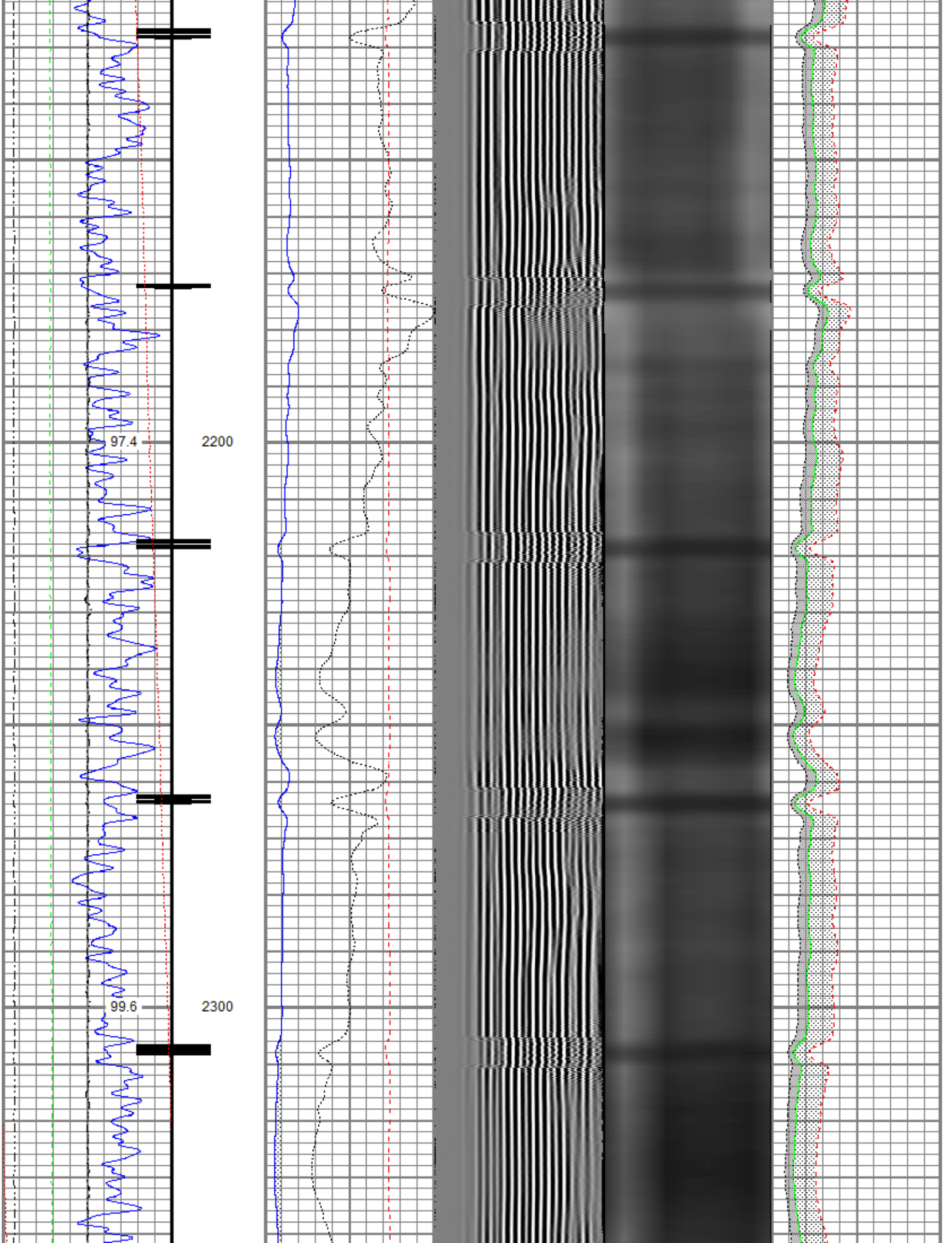
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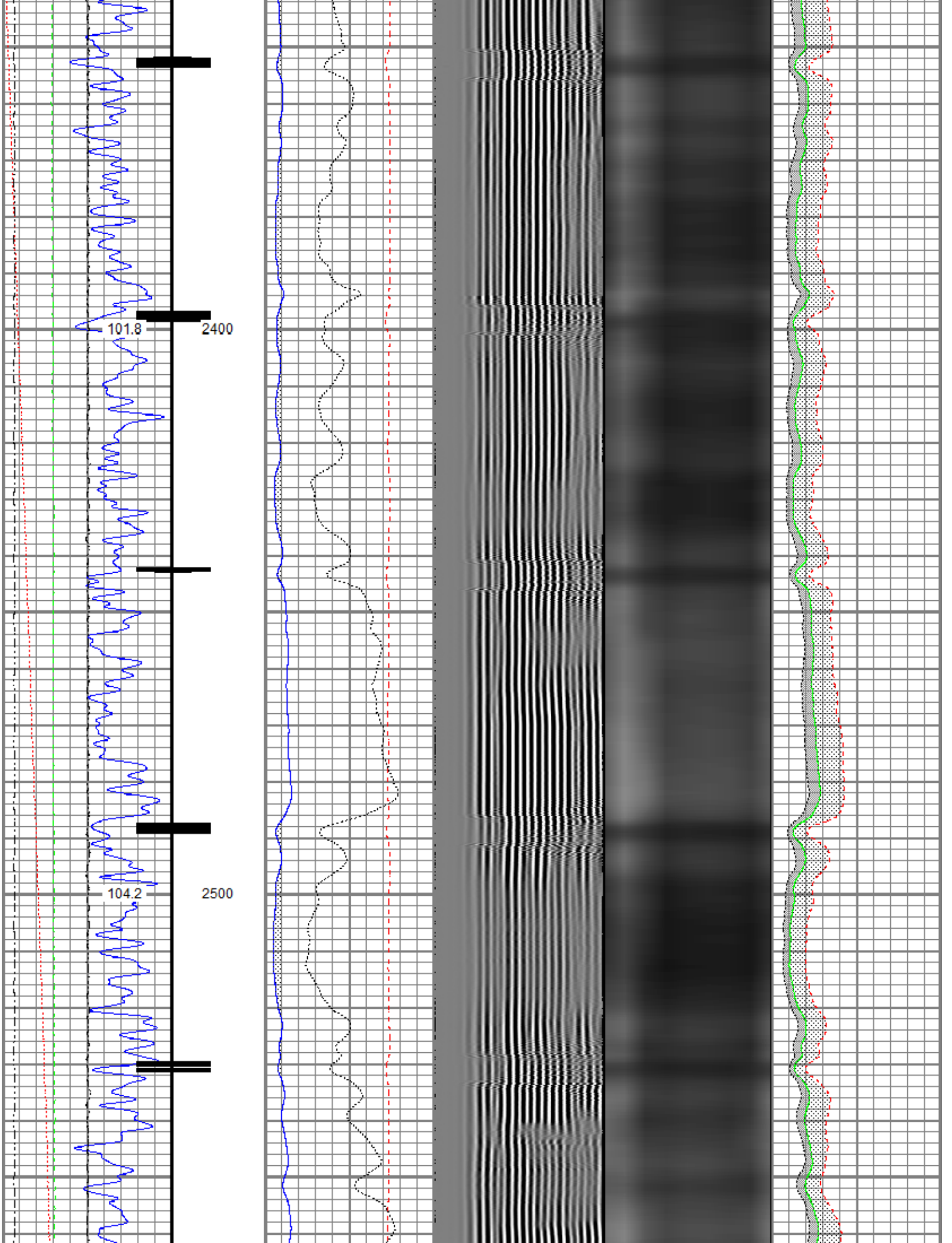
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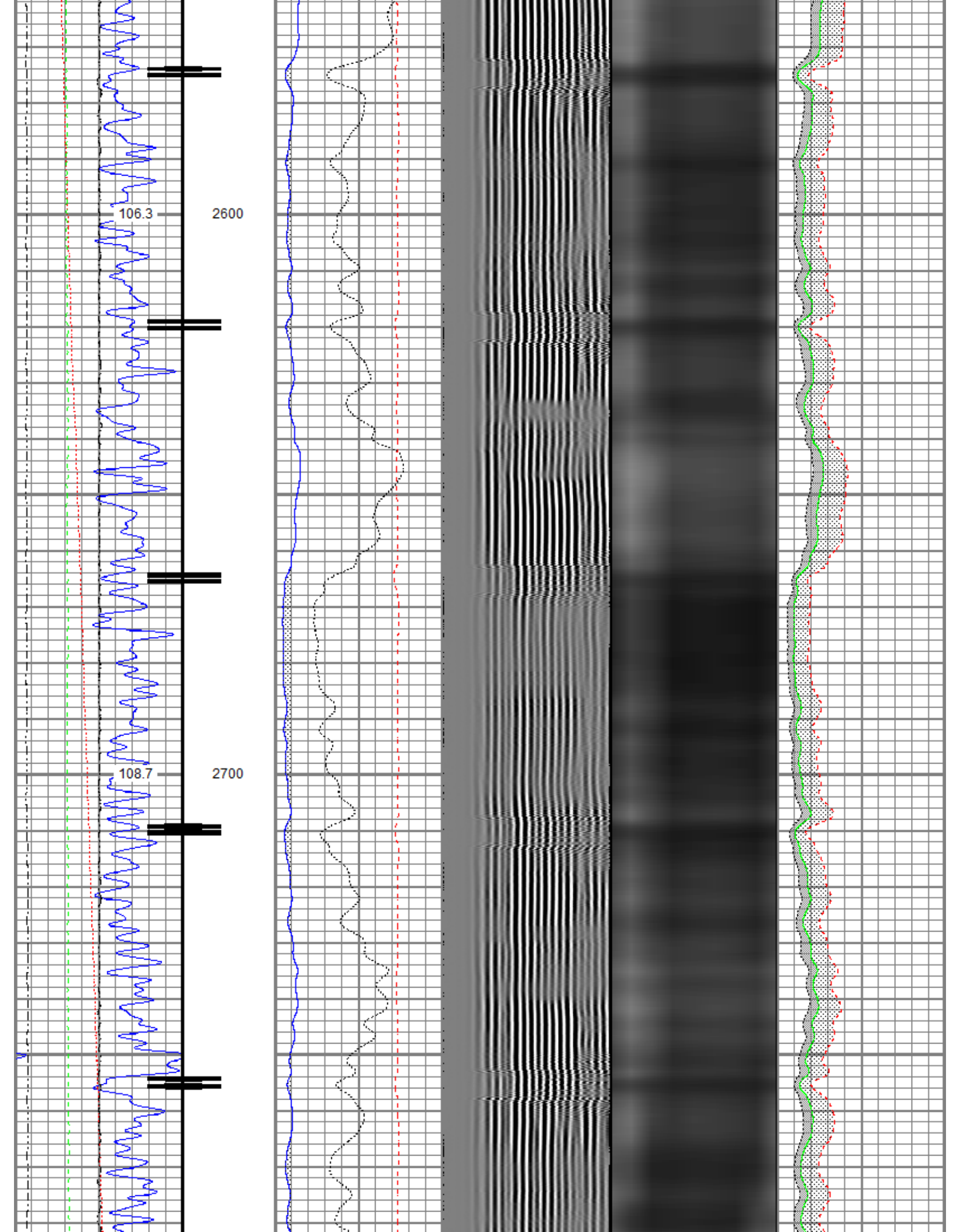
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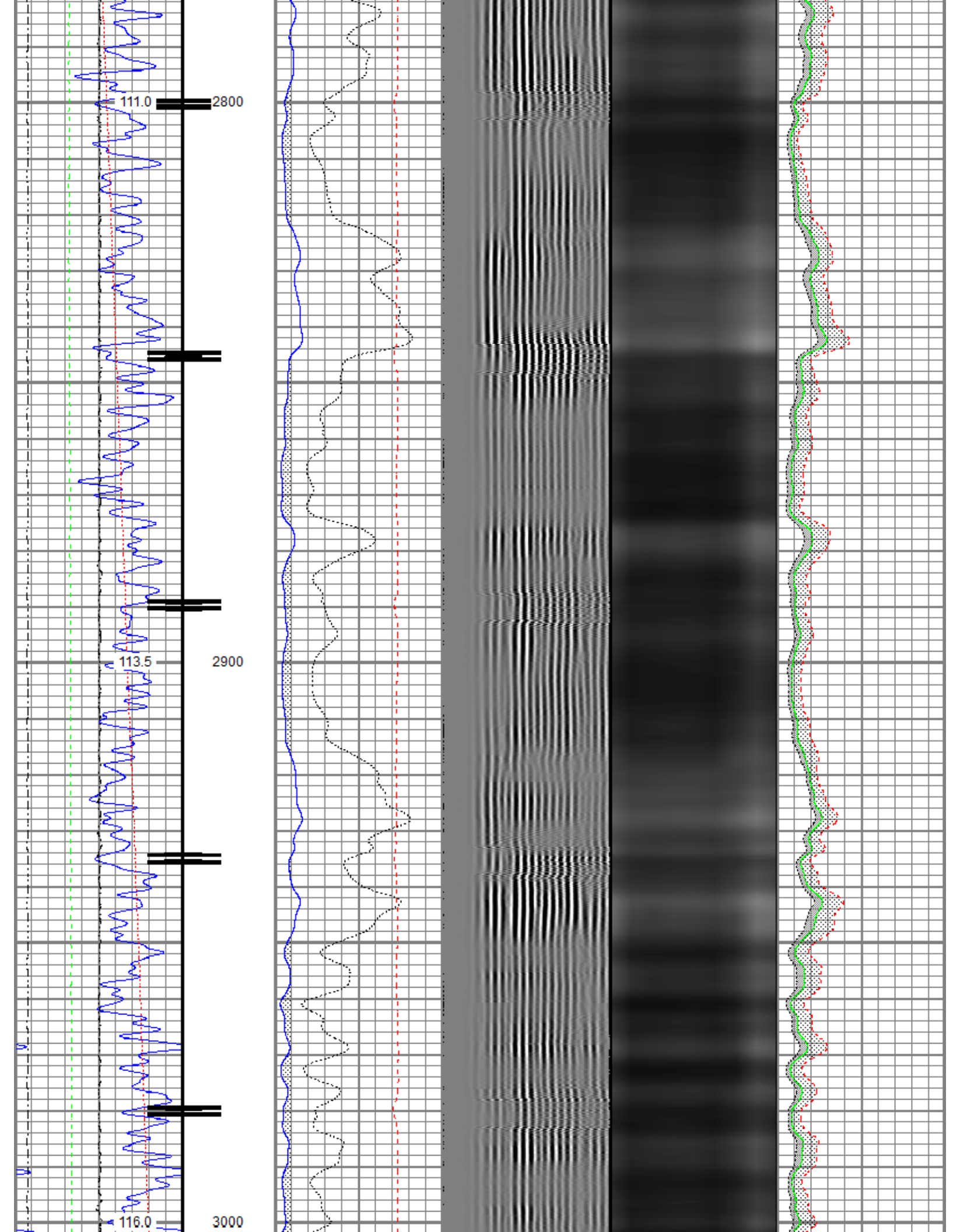
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2800
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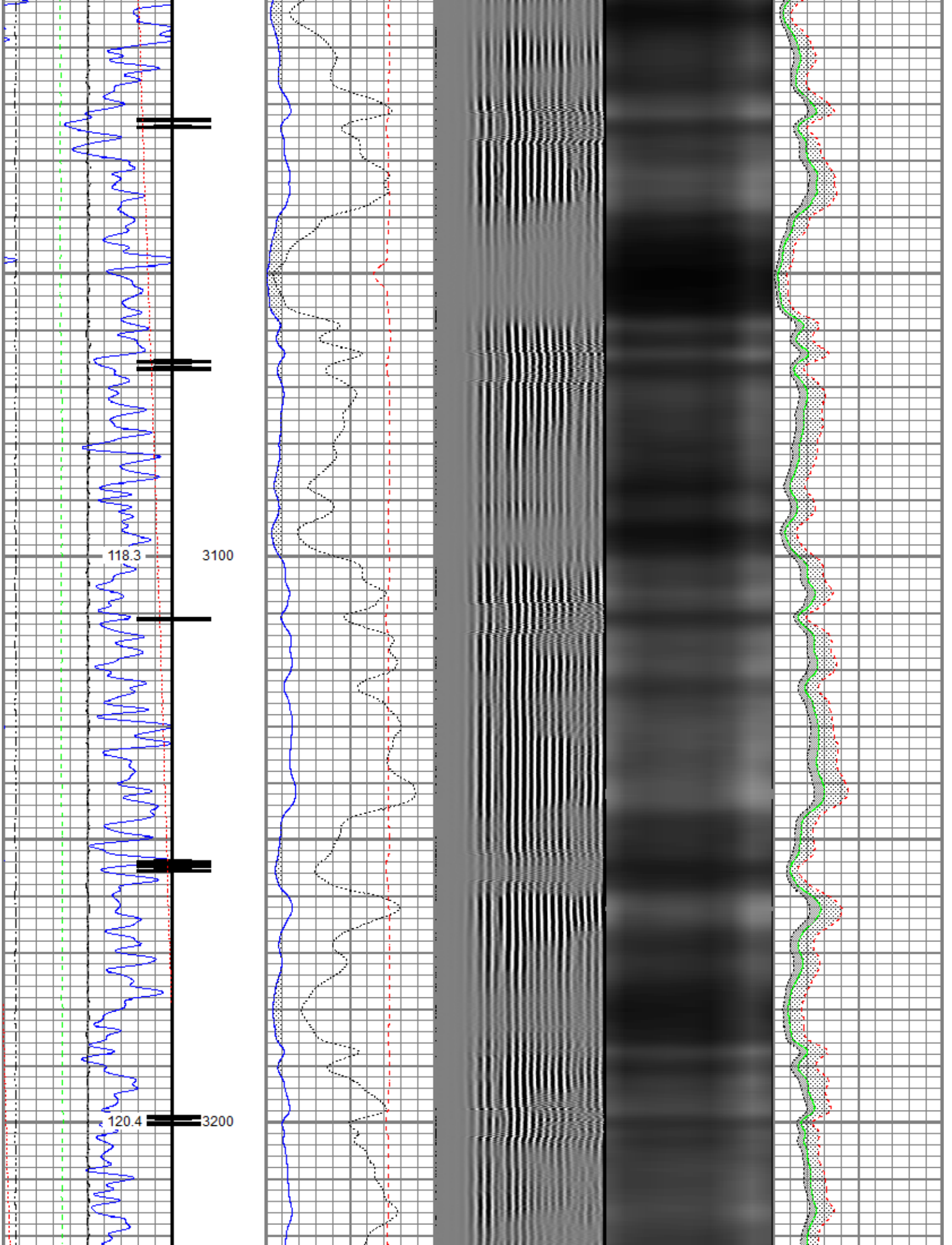
2900
116.0
3000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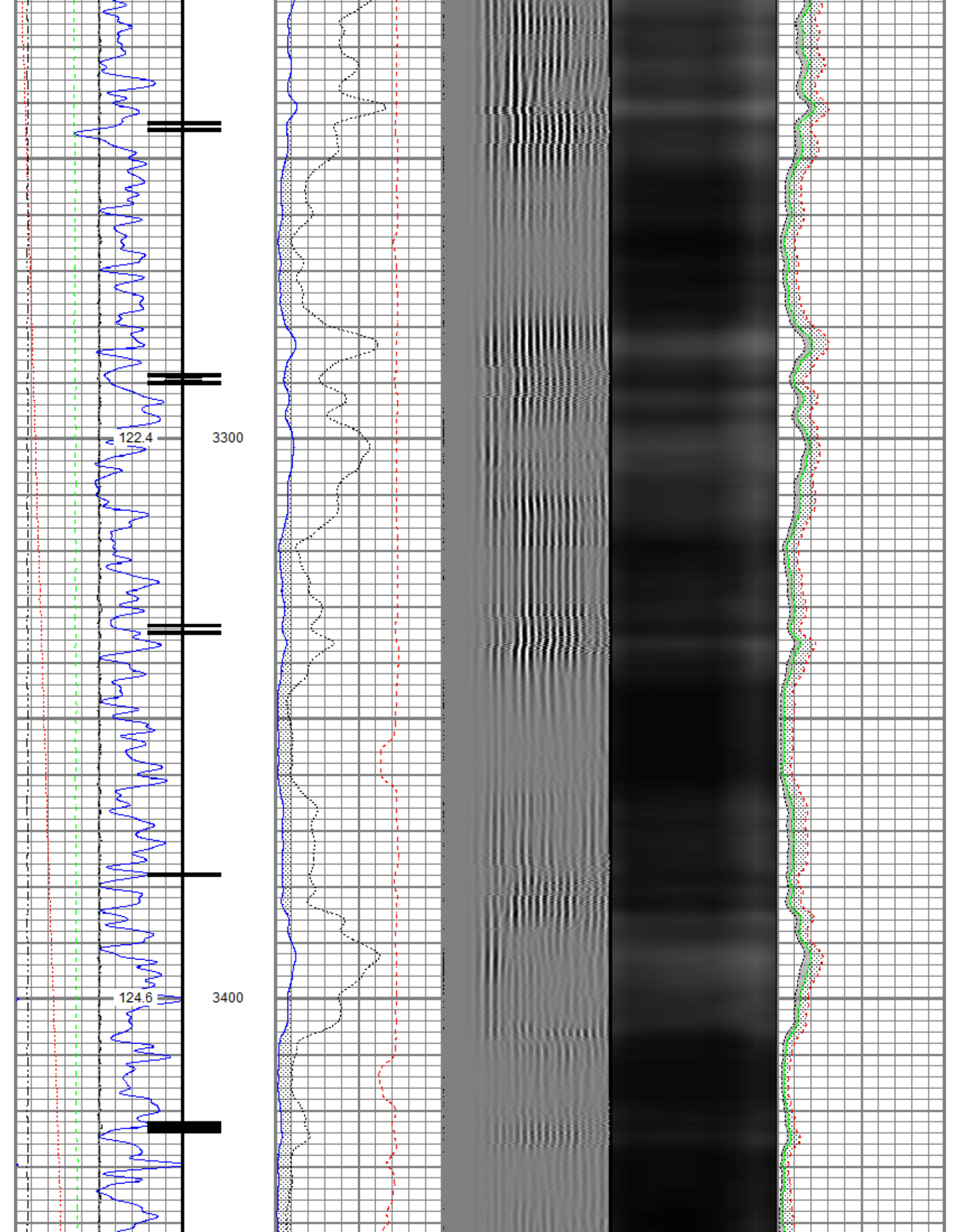
3100
120.4
3200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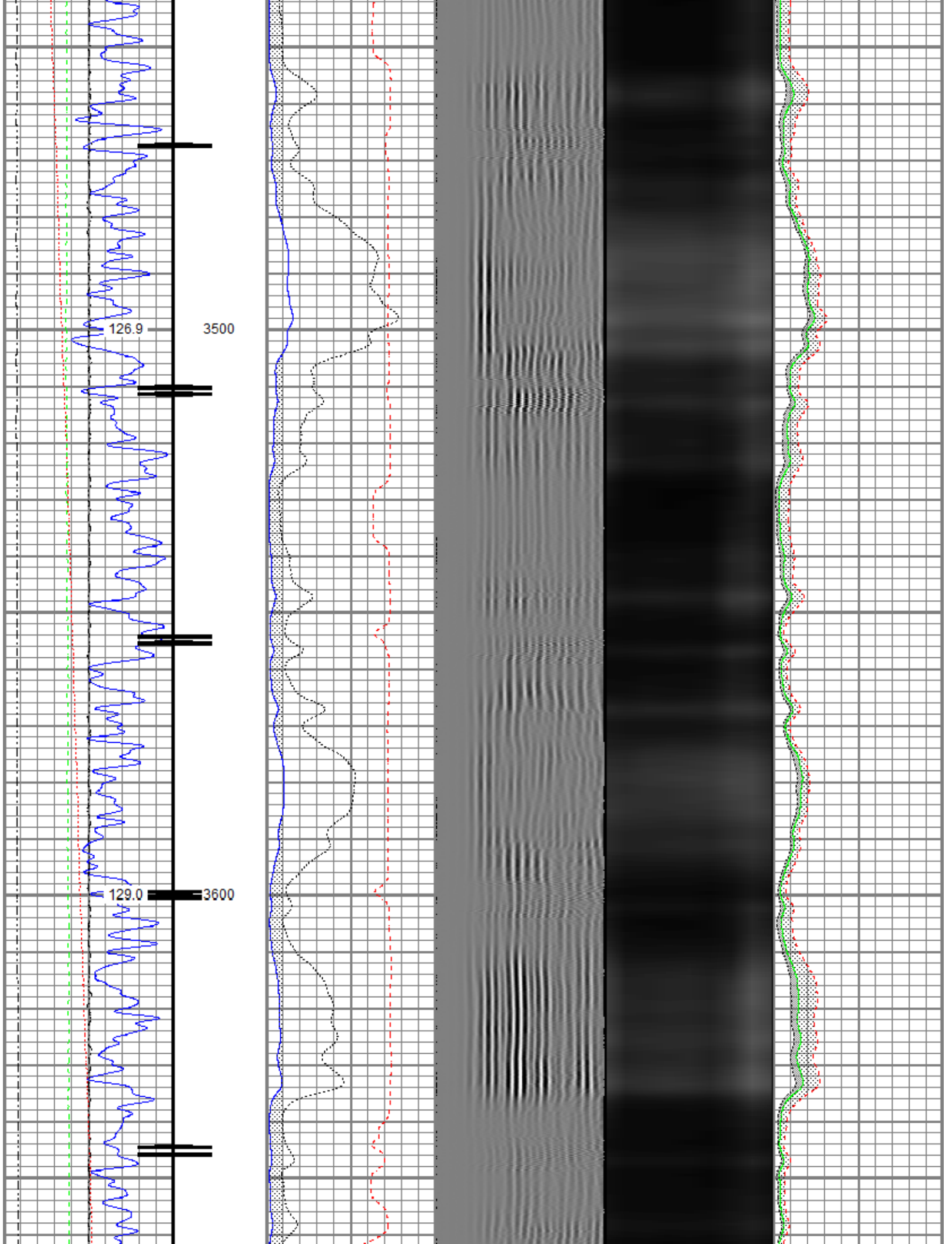
3300
124.6
3400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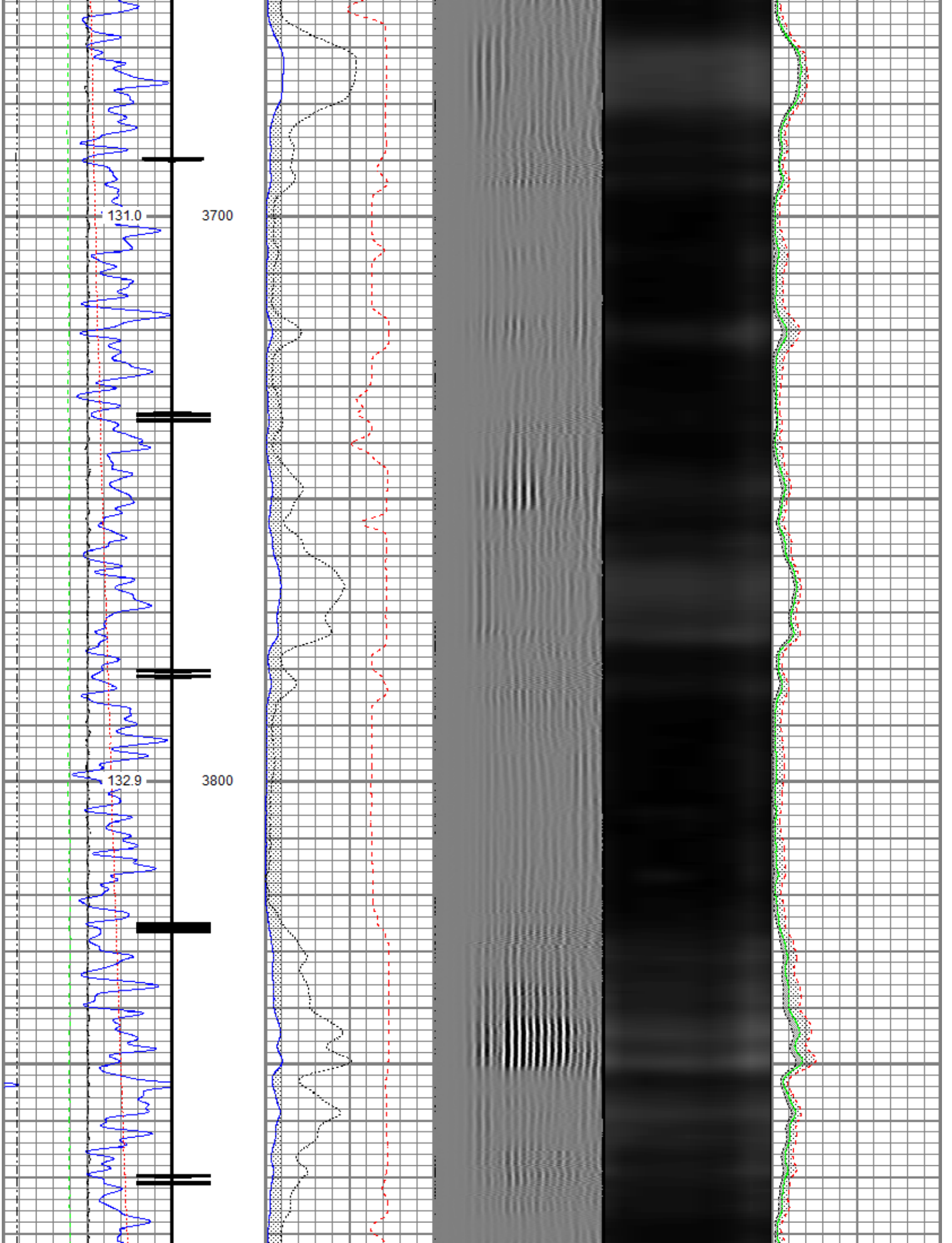
3500
129.0
3600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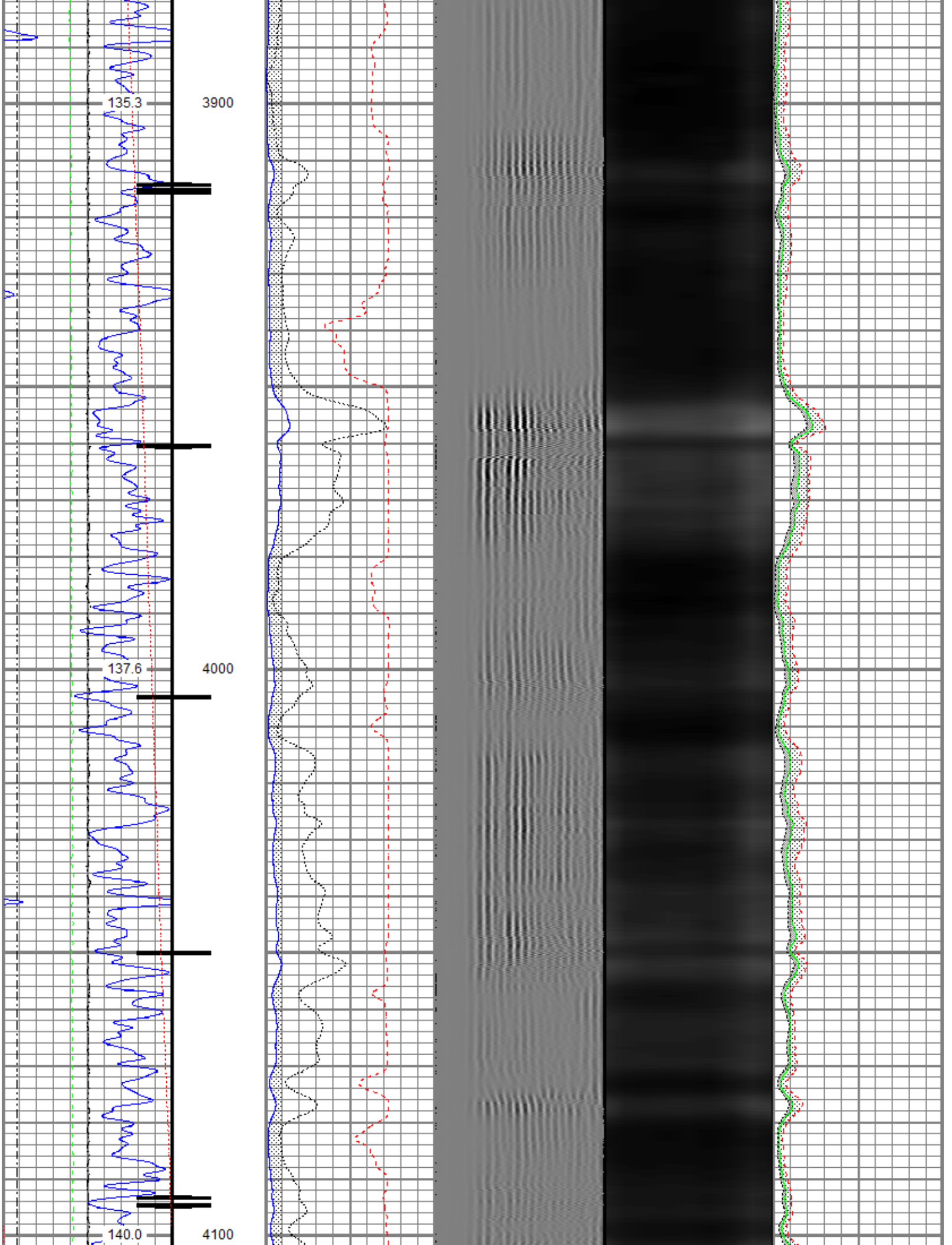
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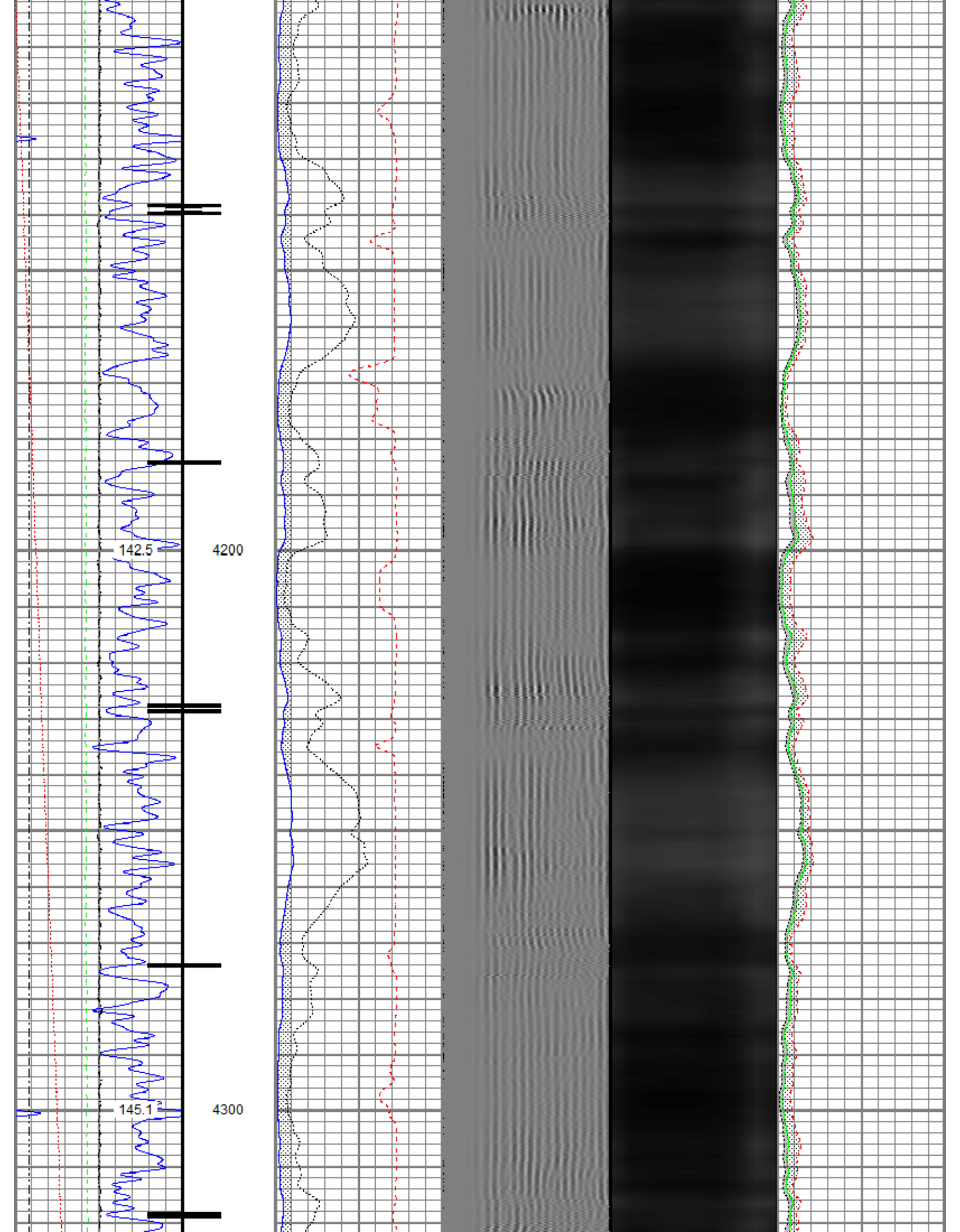
3900
137.6
4000
140.0
4100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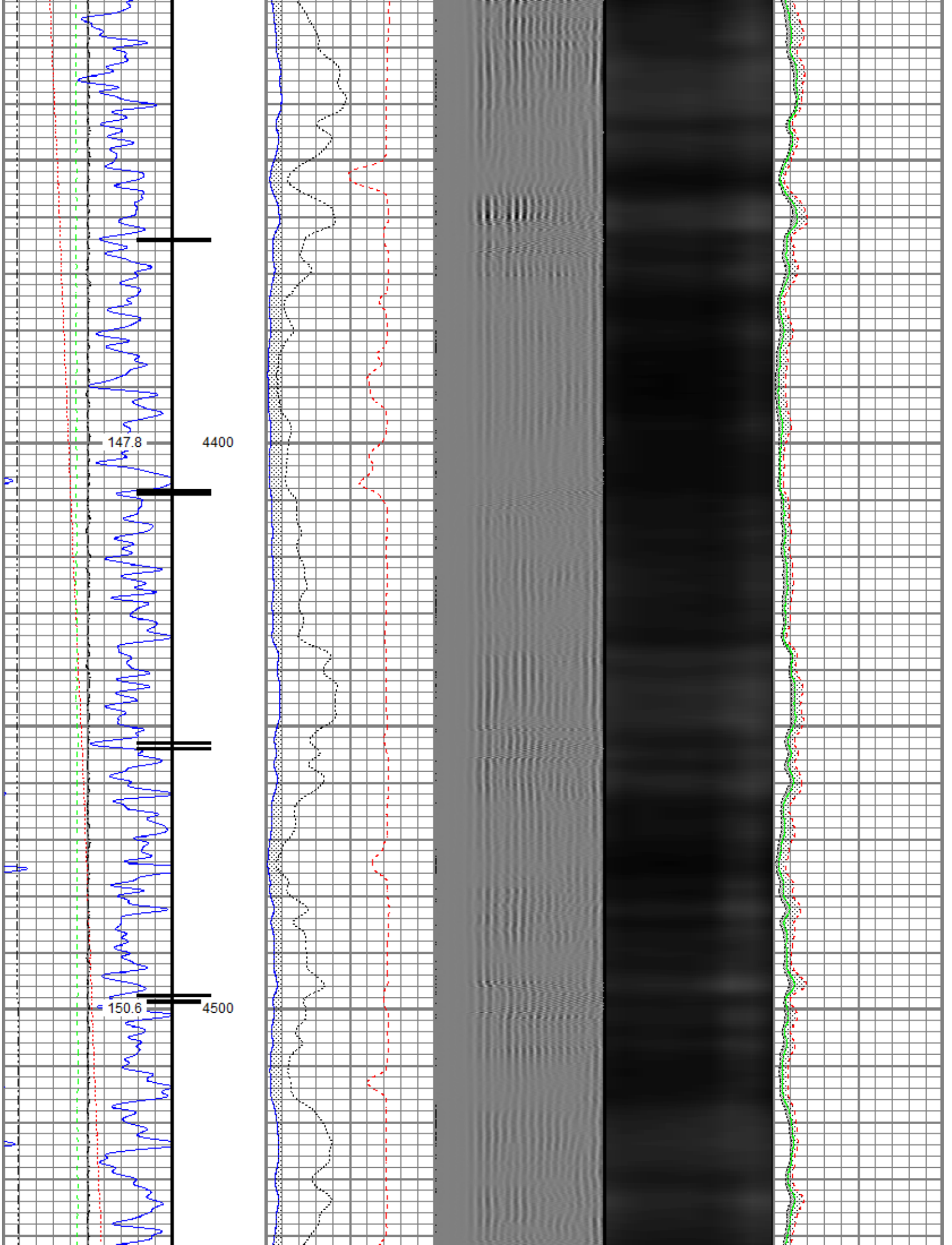
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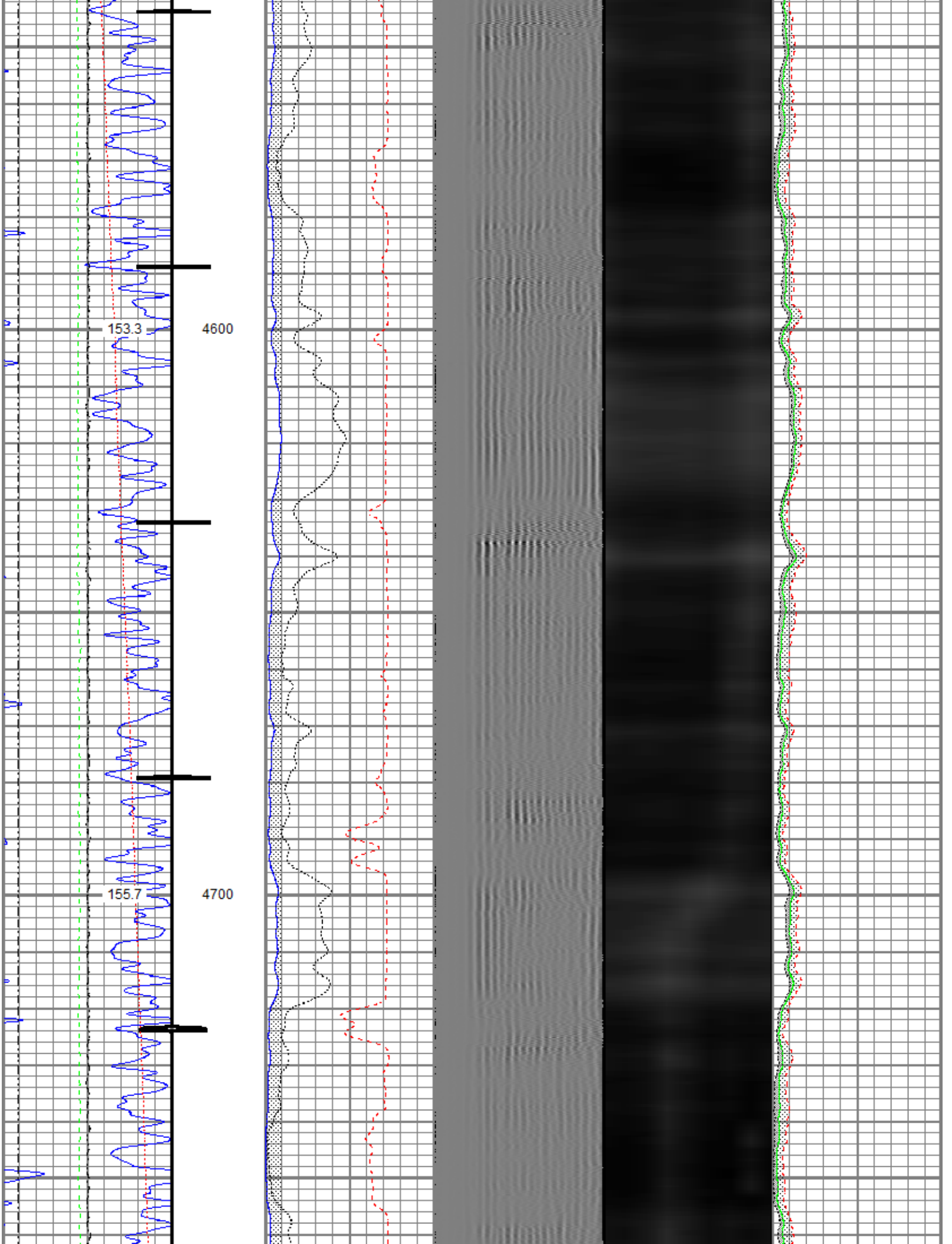
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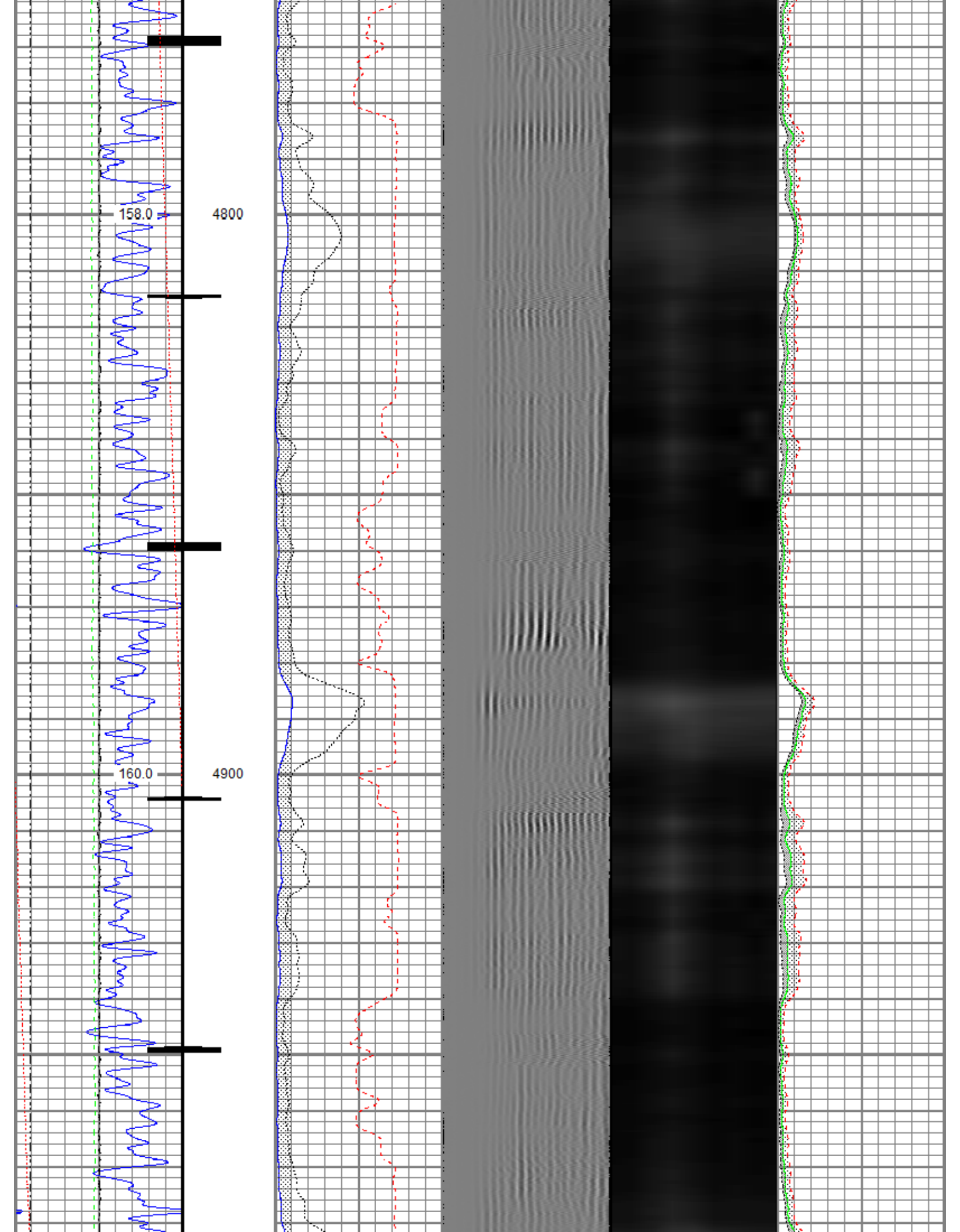
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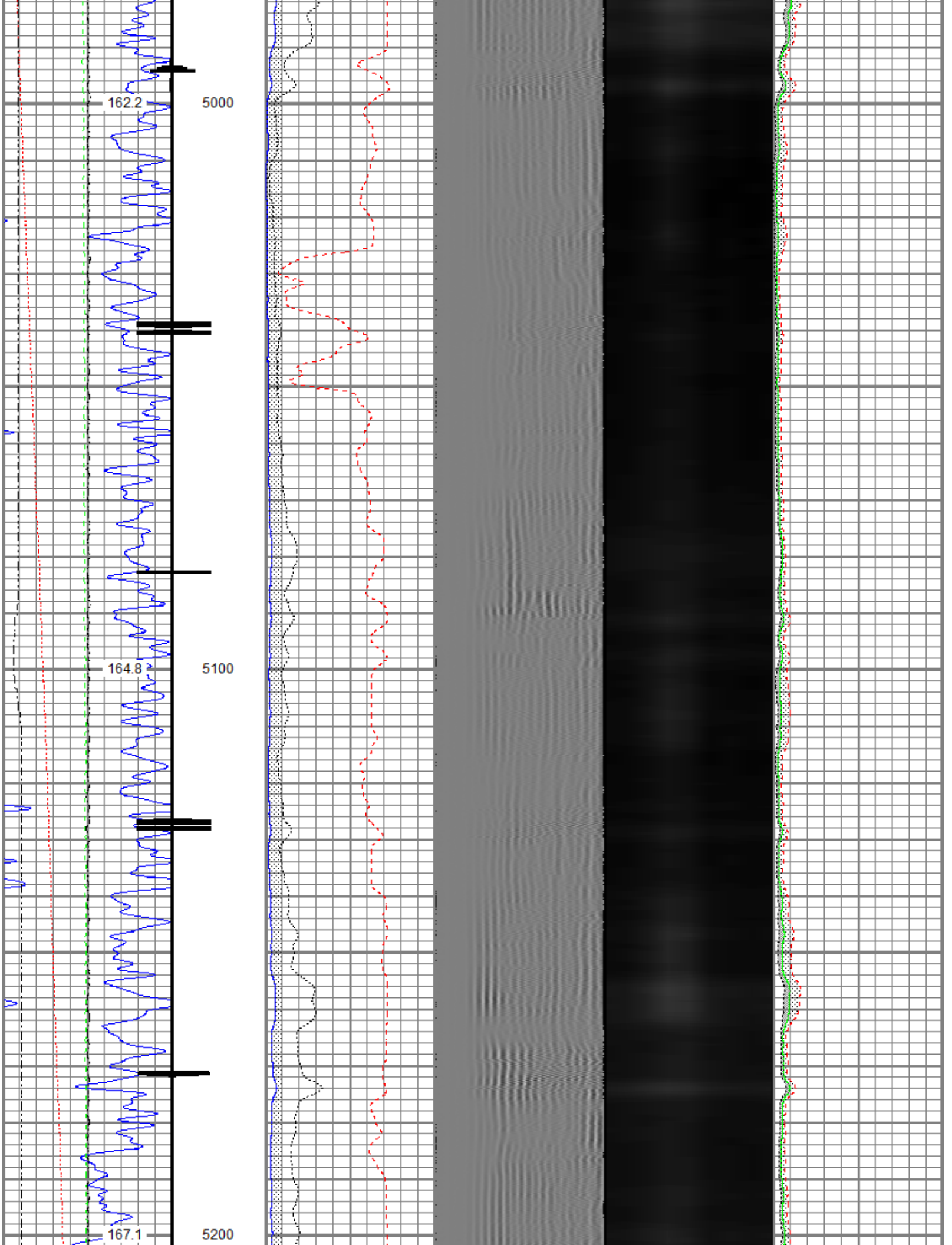
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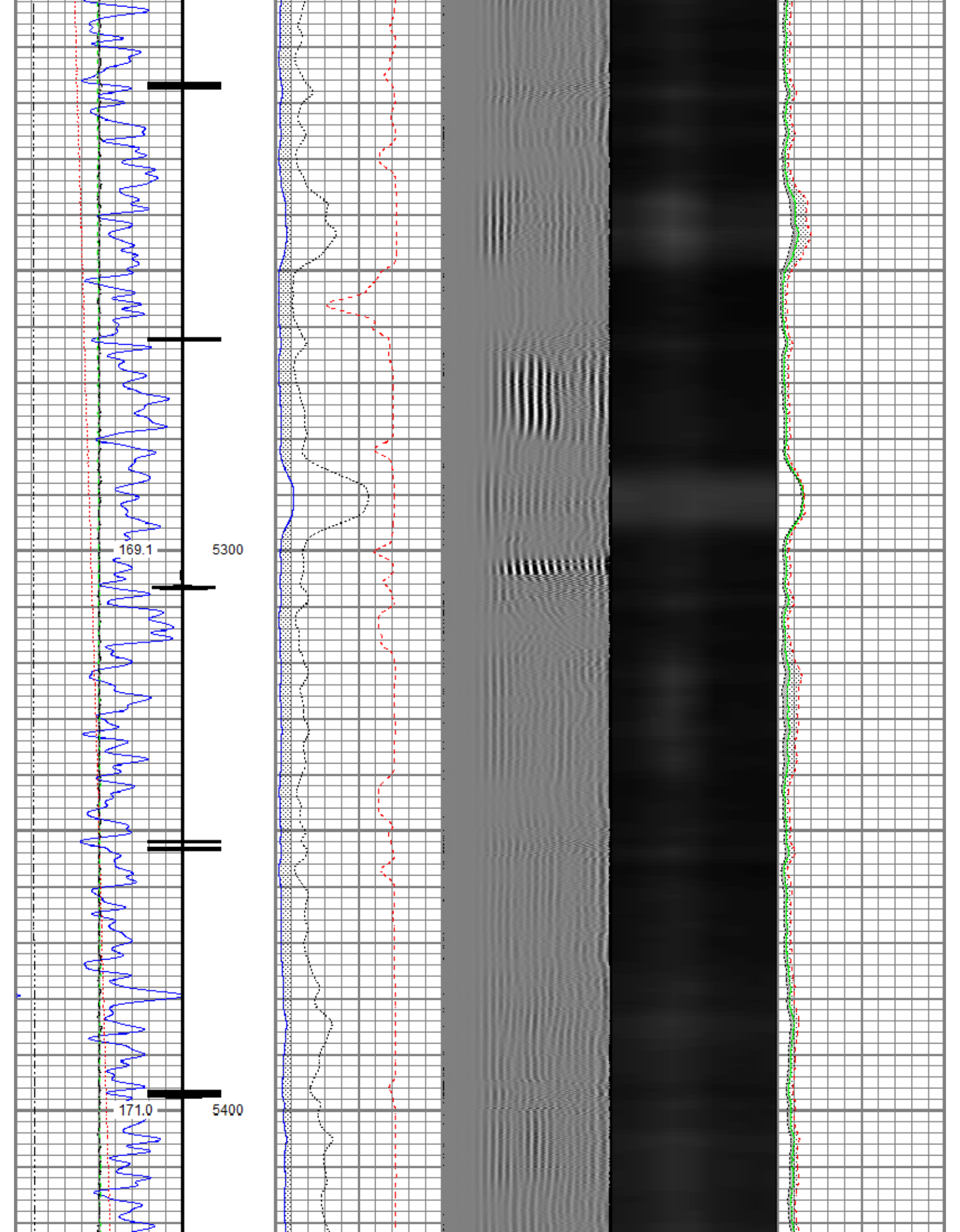
5000
164.8
5100
167.1
5200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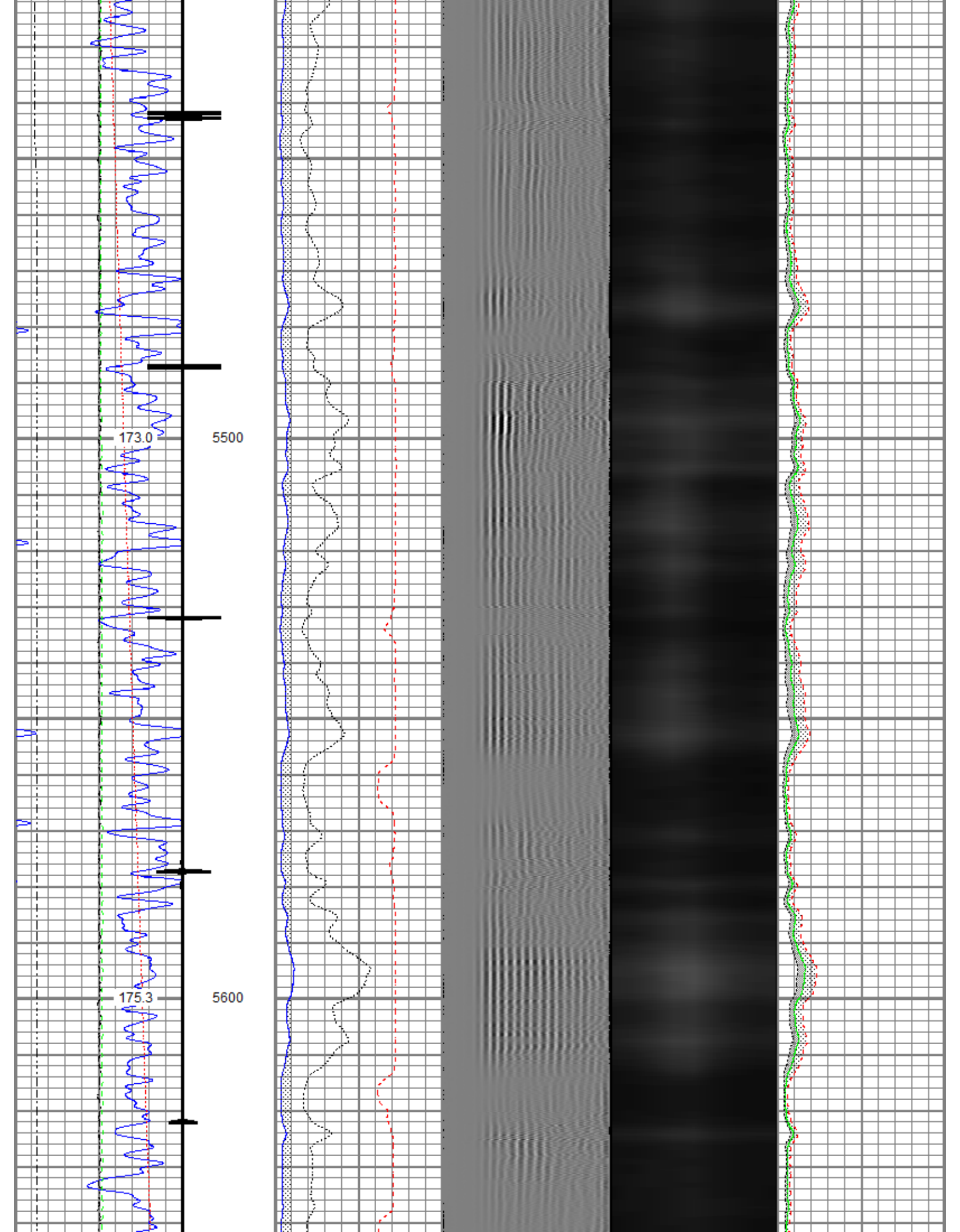
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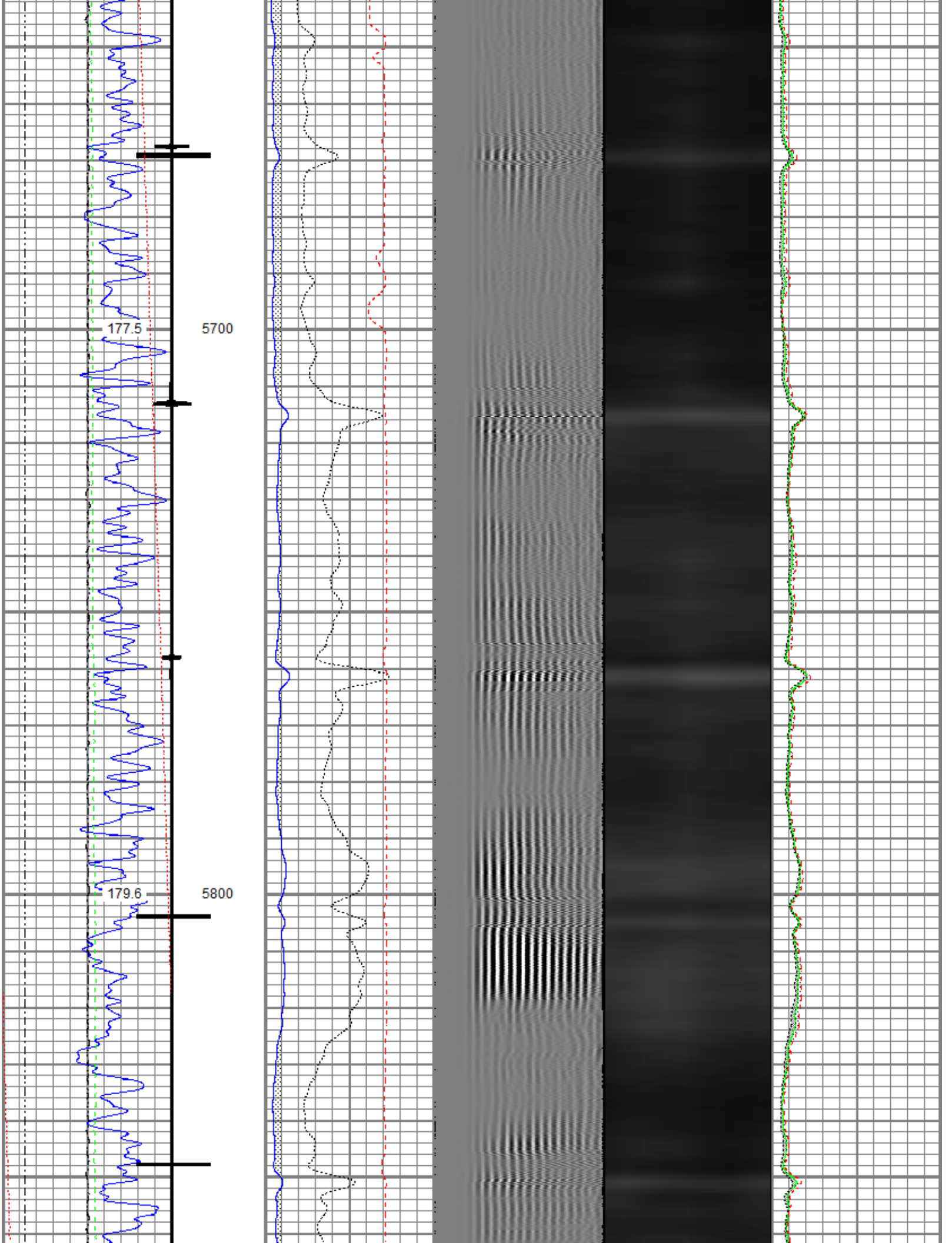
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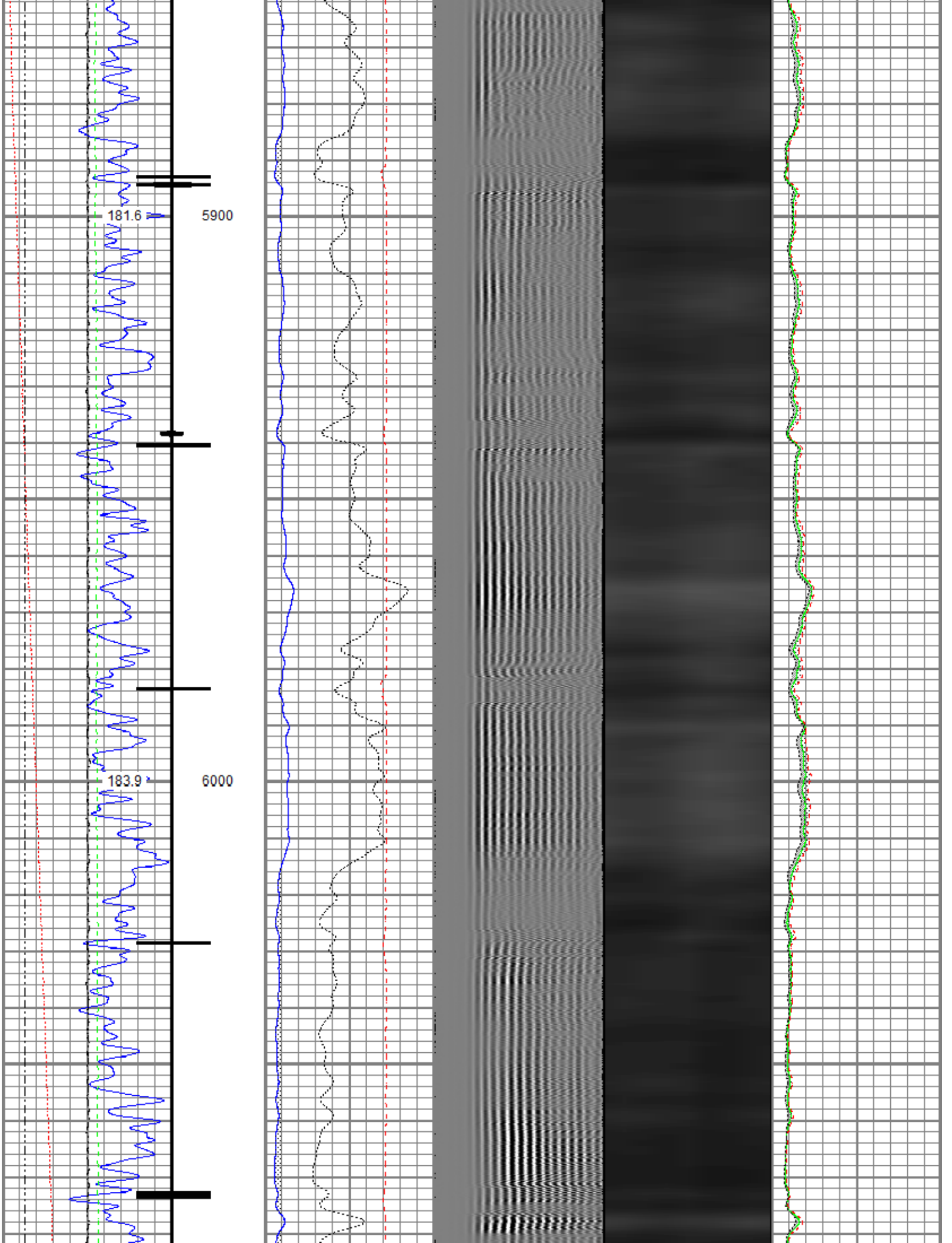
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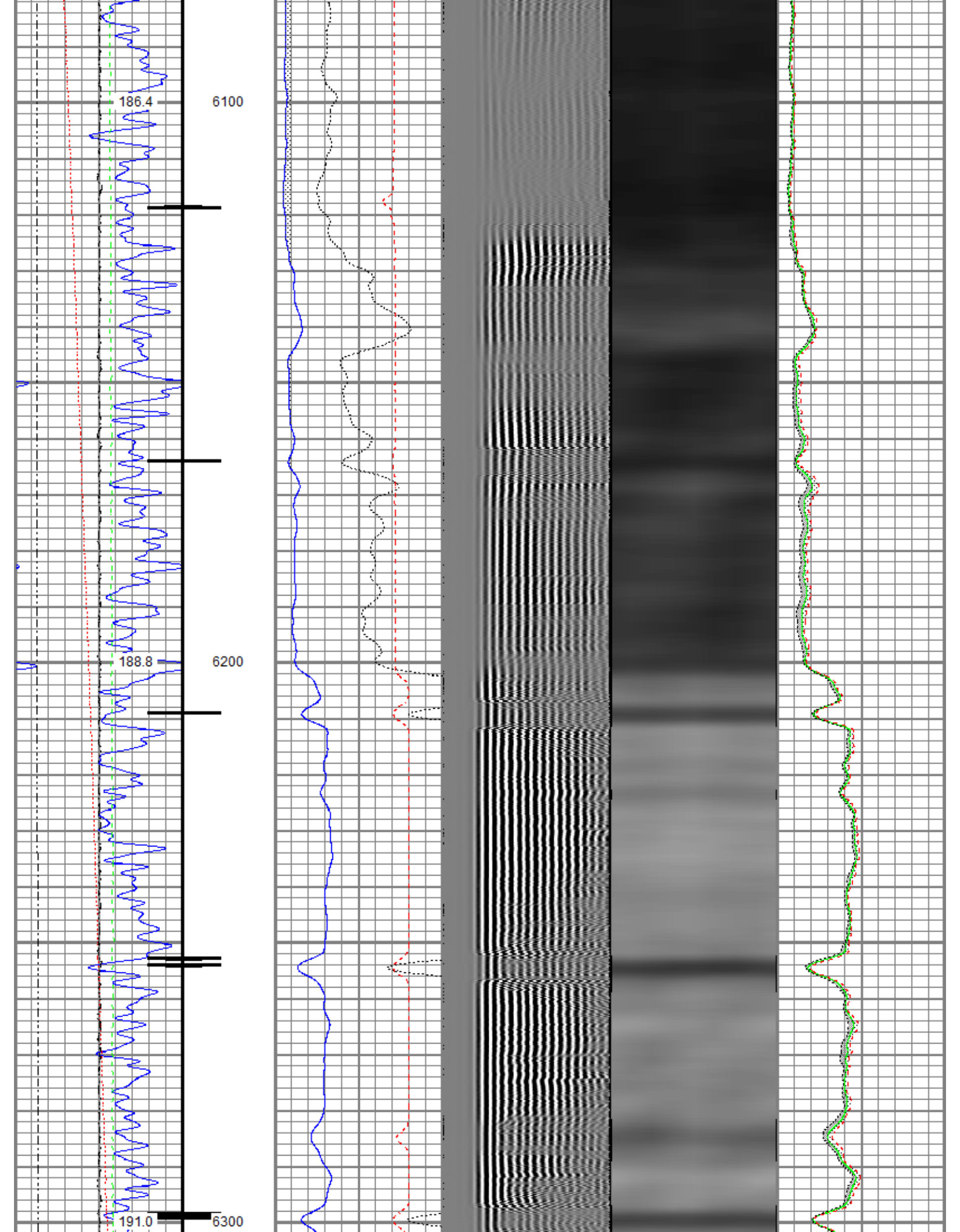
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188.8
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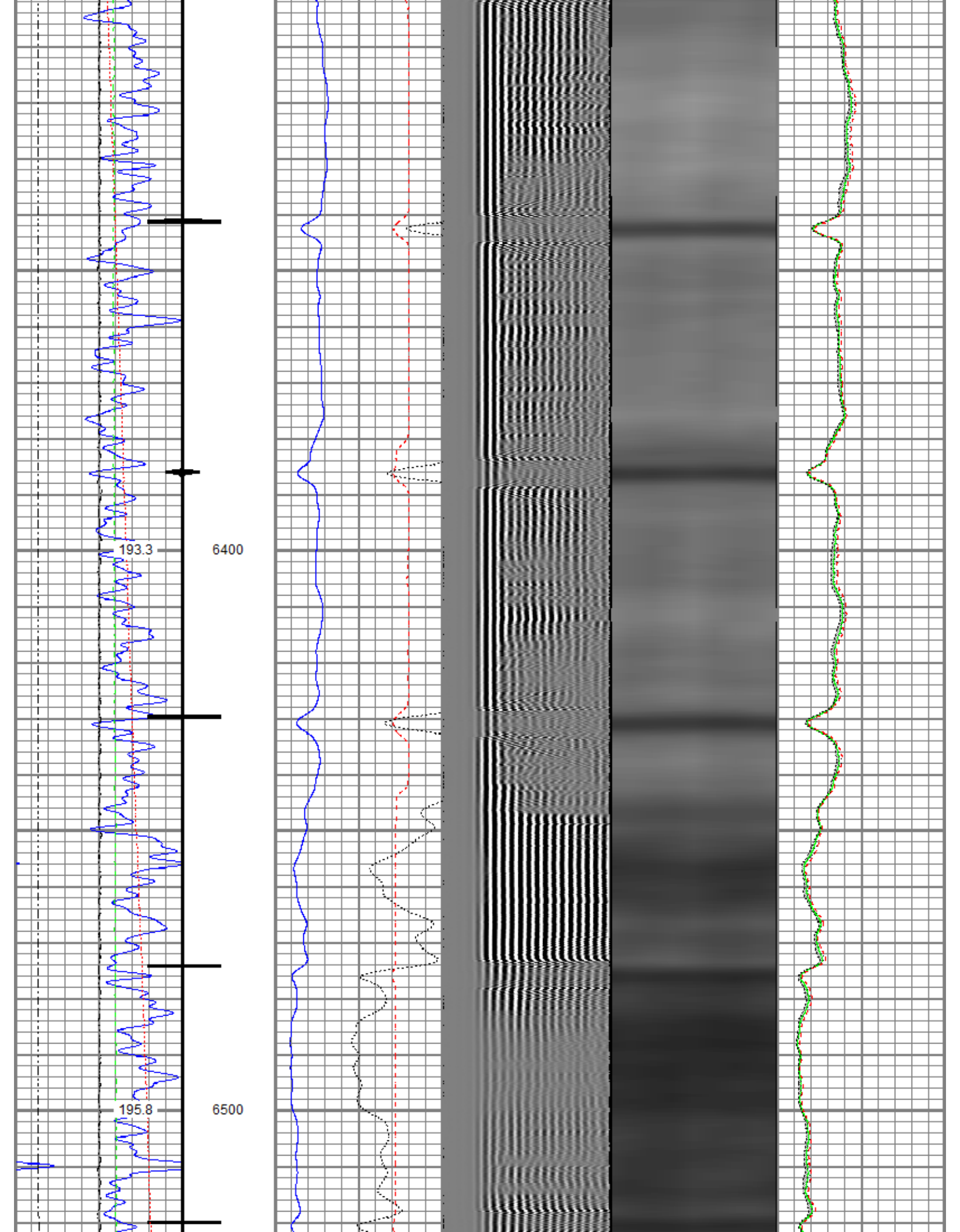
193.3
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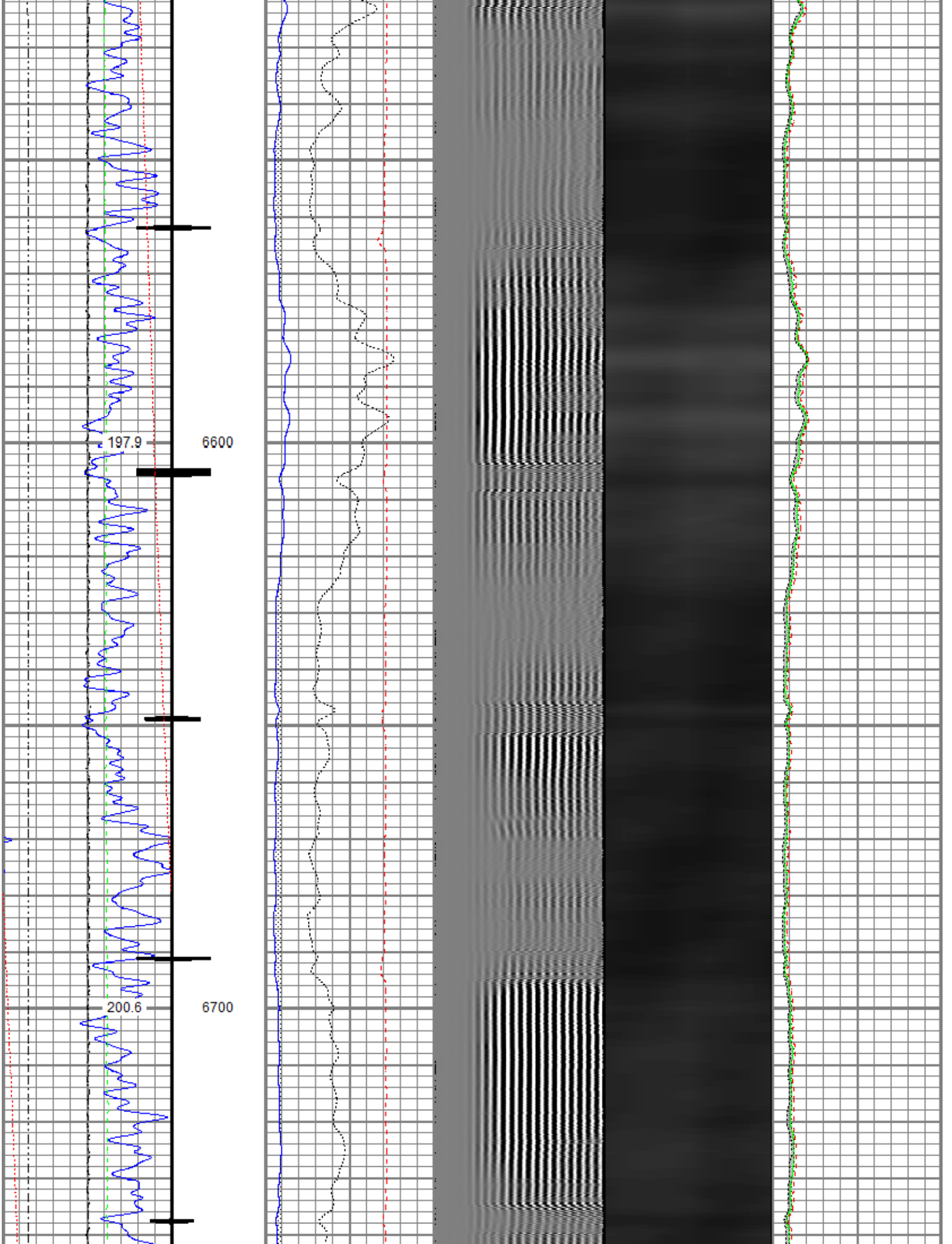
195.8
6500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200.6
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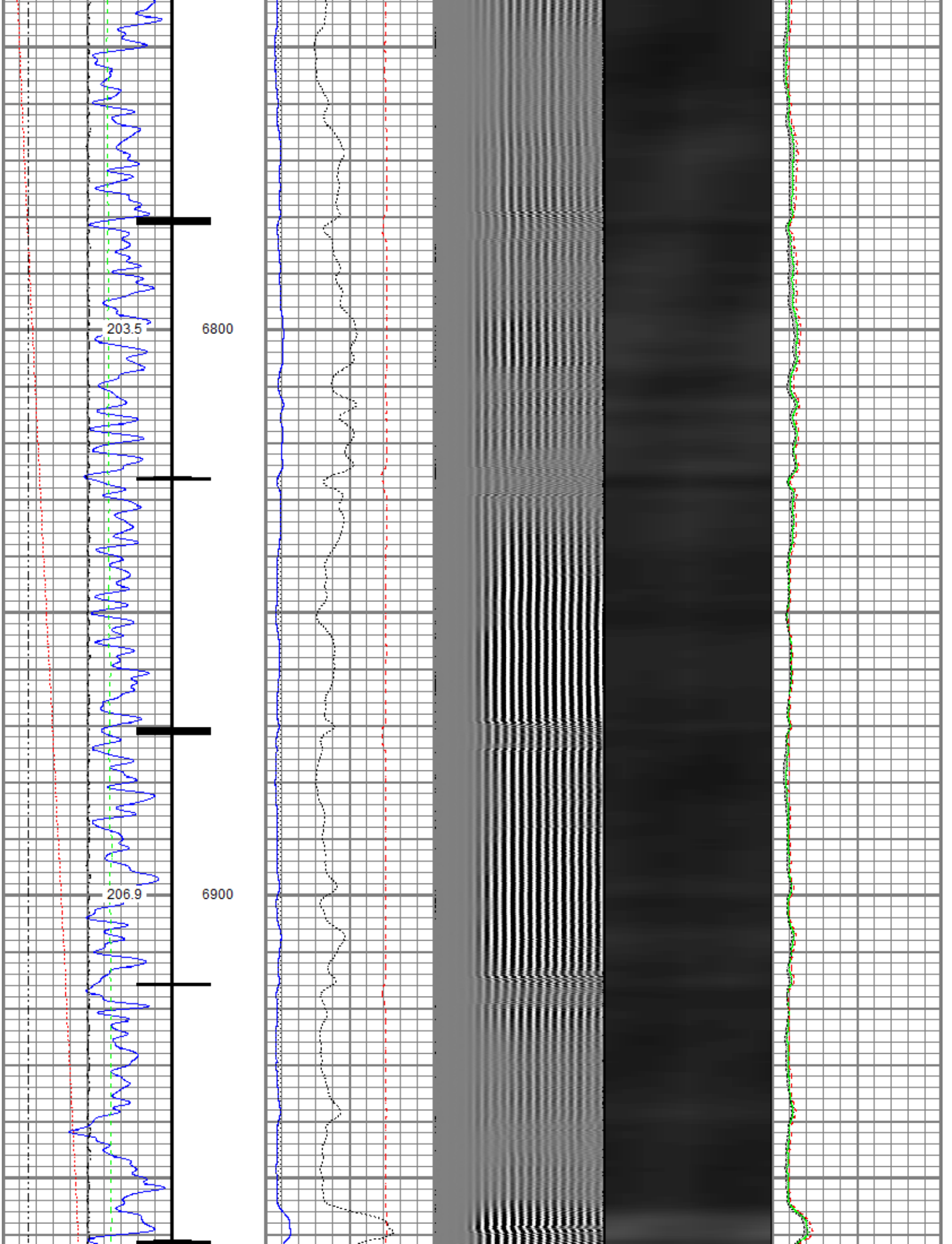
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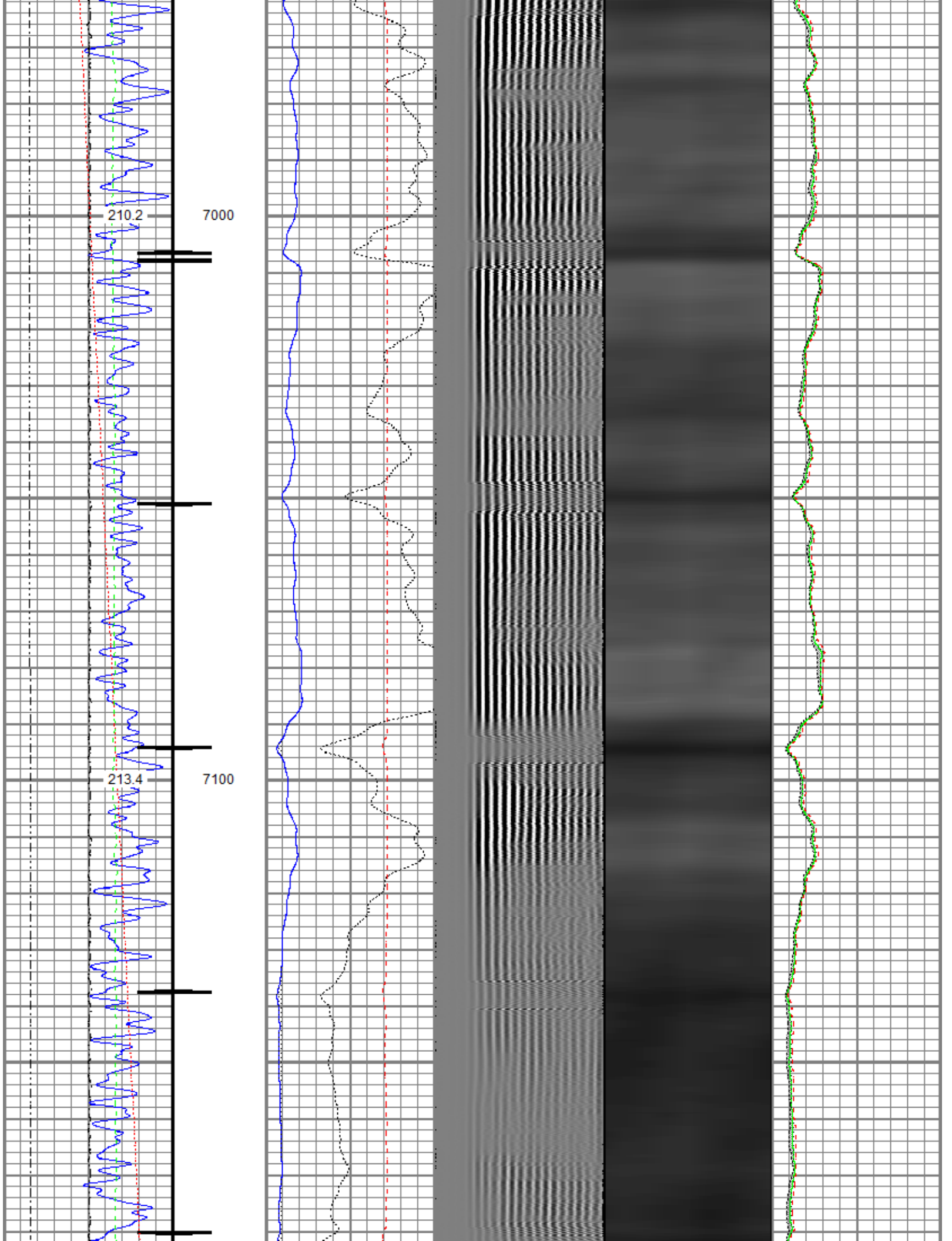
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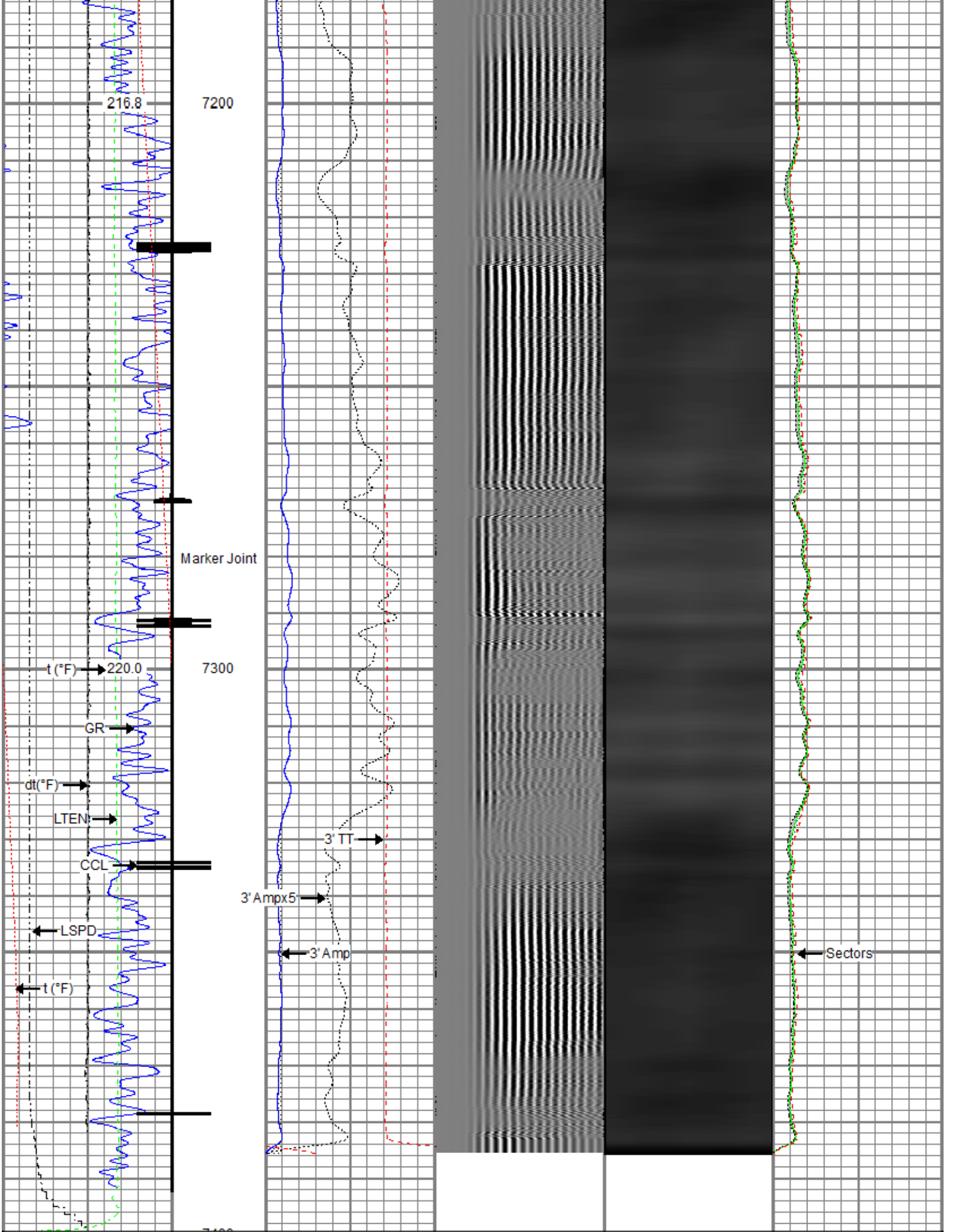
7000
213.4
7100


216.8
7200
Marker Joint
t (°F)
220.0
7300
GR
dt(°F)
LTEN
CCL
LSPD
t (°F)
3' TT
3' Ampx5
3' Amp
Sectors
Gamma Ray
0 3' Amplitude (mV) 100
5' Variable Density Log
Sector Map
0 Average Amplitude100

Gamma Ray			3' Amplitude (mV)		5' Variable Density Log			Sector Map	Average Amplitude	
0	(GAPI)	120	0		200	(usec)	1200			
	Casing Collar Locator		3' Amplitude x 5						Mimimum Amplitude	
0	Temperature (degF)	20	0	(mV) 20					0	100
	Line Speed		3' Travel Time						Maximum Amplitude	
-150	(ft/min)	150	650	(usec) 150					0	100
0	Line Tension (lb)	2000								
	Differential Temperature									
-2	(degF)	2								

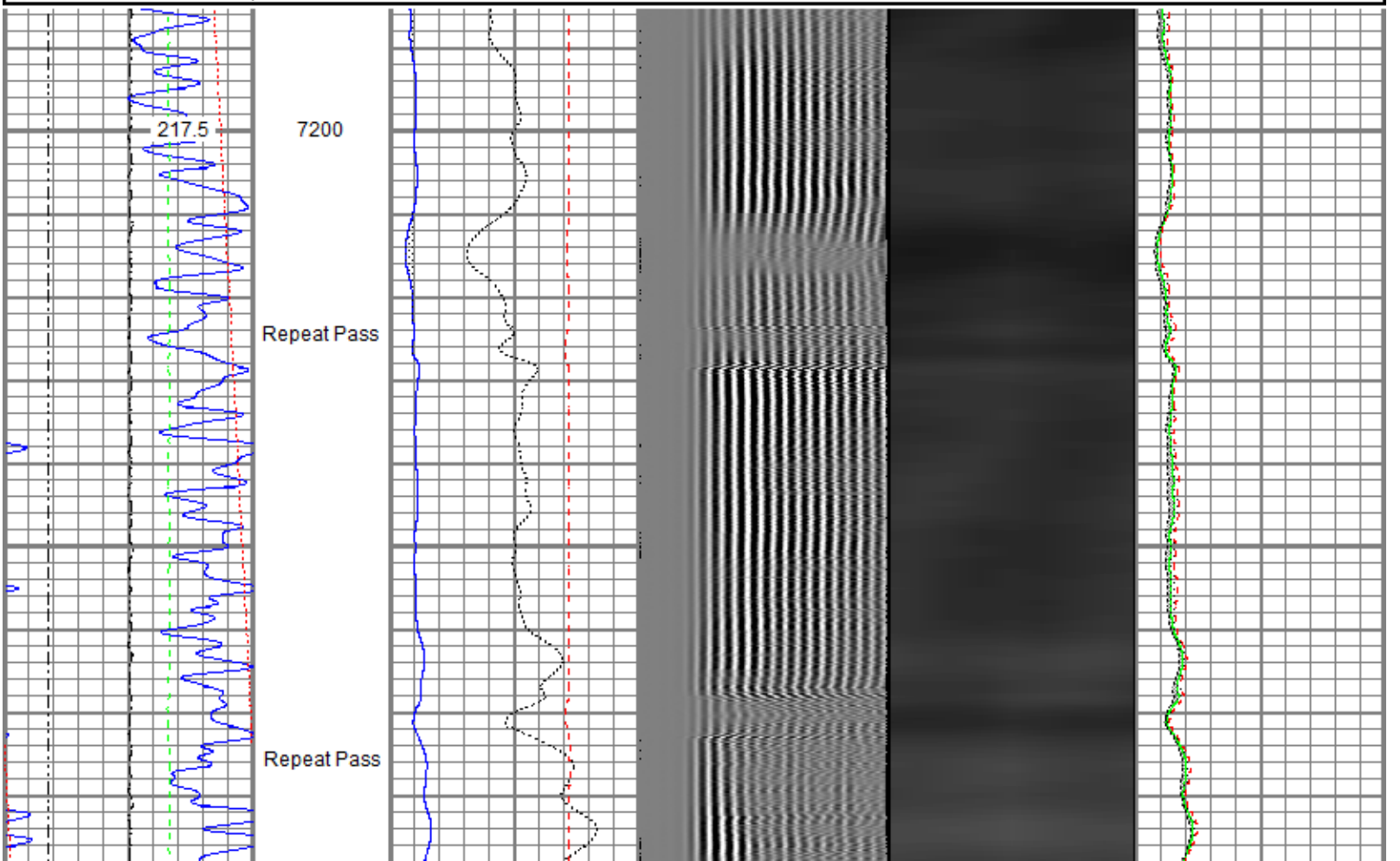
RELIANCE OILFIELD SERVICES

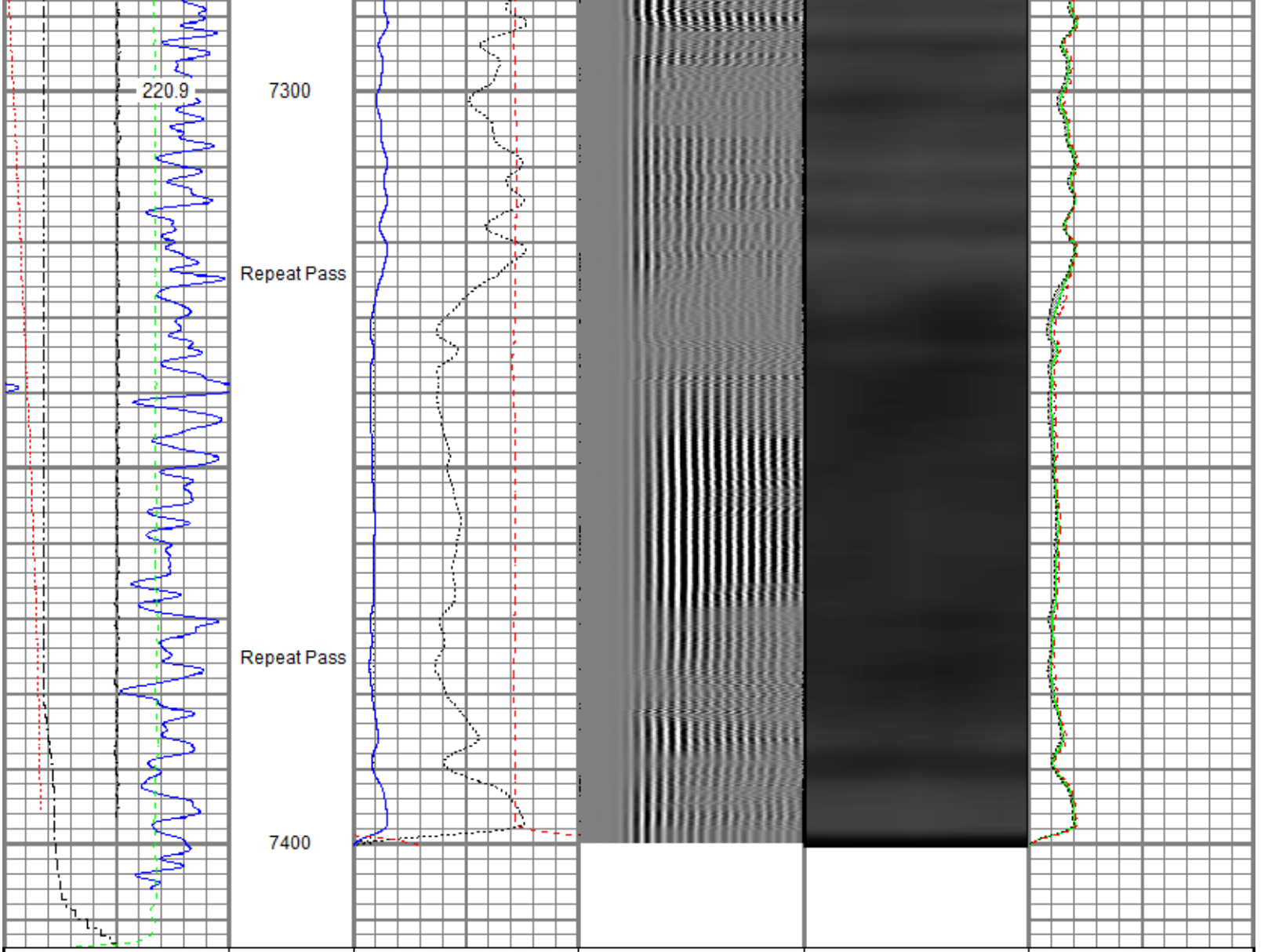
Repeat Pass

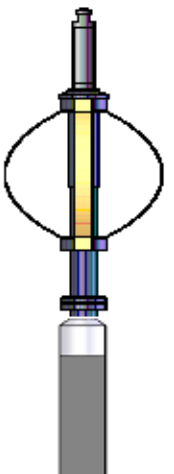
Recorded With 0 PSI Surface Induced Pressure

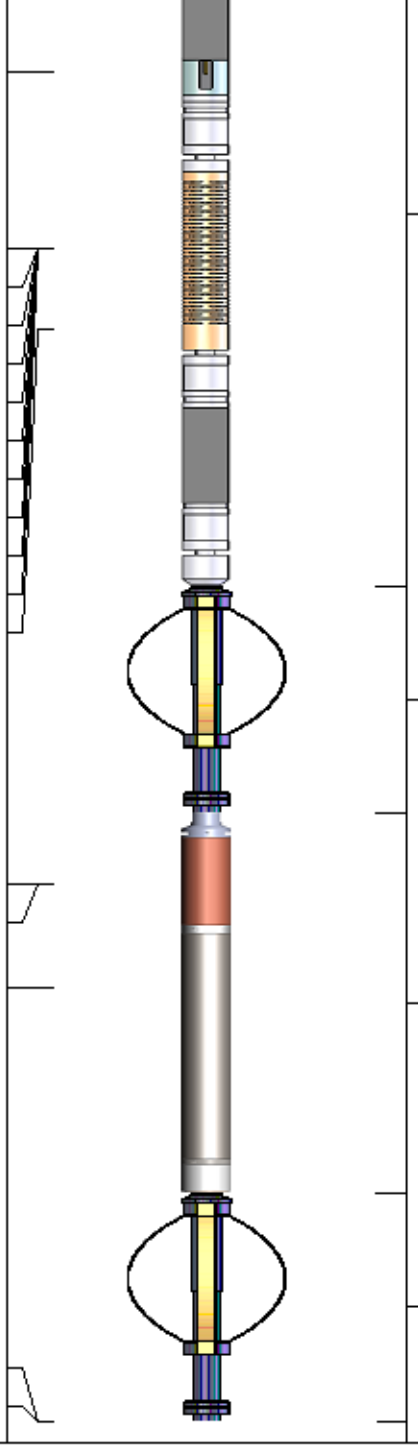
Database File	0512350631_oxy_windsock 21-2hz_rbl_03-12-20\0512350631_oxy_windsock 21-2hz_rbl_03-12-20.db
Dataset Pathname	pass2.2
Presentation Format	ros_radii
Dataset Creation	Sun Mar 15 08:09:30 2020
Charted by	Depth in Feet scaled 1:240

Gamma Ray			3' Amplitude (mV)		5' Variable Density Log			Sector Map	Average Amplitude	
0	(GAPI)	120	0		200	(usec)	1200			
			3' Amplitude x 5						Mimimum Amplitude	
0	Temperature (degF)	20	0	(mV) 20					0	100
	Line Speed		3' Travel Time						Maximum Amplitude	
-150	(ft/min)	150	650	(usec) 150					0	100
0	Line Tension (lb)	2000								
	Differential Temperature									
-2	(degF)	2								





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan CHD-14375 GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	3.60
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00



TEMP	17.04			
		Probe Radii-2750 RBT (120855) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
WVFS8	14.81			
WVFS7	14.81			
WVFS6	14.81			
WVFS5	14.81			
WVFS4	14.81			
WVFS3	14.81			
WVFS2	14.81			
WVFS1	14.81			
WVFCAL	14.81			
WVF3FT	14.81			
WVF5FT	13.81			
		Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL$2	6.80			
CCL$1	6.80			
GR	5.46			
		Probe GR-CCL-2750 6PB (101001) Probe 2-3/4" rev.1 Digital Scintillation Gamma Ray/CCL Combined with 6 Pin Bottom for CNT	4.80	2.75	55.00
		Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
LOCTIM	0.00			
UTCTIM	0.00			

Dataset:	0512350631_oxy_windsock 21-2hz_rbl_03-12-20.db: field/well/run1/pass4.2
Total length:	23.86 ft
Total weight:	223.60 lb
O.D.:	2.75 in

Calibration Report

Database File	c:\programdata\warrior\data\0512350631_oxy_windsock 21-2hz_rbl_03-12-20\0512350631_oxy_windsock 21-2hz_rbl_03-12-20
Dataset Pathname	pass4.2
Dataset Creation	Sun Mar 15 08:02:55 2020

Gamma Ray Calibration Report

Serial Number:	101001	
Tool Model:	2750 6PB	
Performed:	Tue Dec 03 09:24:53 2019	
Calibrator Value:	637.0	GAPI
Background Reading:	100.6	cps
Calibrator Reading:	981.1	cps

Sensitivity:	0.7235	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	120855	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	15.482	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.392	0.000	71.921	183.481	-0.019
CAL	0.004	0.395				
5'	-0.000	0.362	0.000	71.921	198.579	0.015
SUM						
S1	0.000	0.385	0.000	100.000	259.667	-0.006
S2	-0.001	0.405	0.000	100.000	246.402	0.248
S3	-0.002	0.416	0.000	100.000	239.477	0.415
S4	-0.002	0.412	0.000	100.000	241.547	0.414
S5	-0.002	0.401	0.000	100.000	247.739	0.548
S6	0.000	0.396	0.000	100.000	252.347	-0.018
S7	0.000	0.392	0.000	100.000	255.571	-0.086
S8	0.000	0.388	0.000	100.000	257.791	-0.024

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.004	0.395	1.000	0.000

Air Zero Calibration, performed Thu Mar 12 11:15:53 2020:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.004	0.000	0.000
5'	0.004	0.000	-0.000
SUM			
S1	0.004	0.000	-0.000
S2	0.004	0.000	-0.000
S3	0.004	0.000	0.000
S4	0.004	0.000	0.000
S5	0.004	0.000	0.000
S6	0.004	0.000	0.000
S7	0.003	0.000	0.000
S8	0.004	0.000	0.000

Temperature Calibration Report

Serial Number:	120855		
Tool Model:	2750 RBT		
Performed:	Wed Dec 18 13:34:18 2019		
	Reference	Reading	
Low Reference:	100.00	112.30	degF
High Reference:	350.00	394.75	degF
Gain:	0.89		
Offset:	0.60		
Delta Spacing	1		

RELIANCE
OILFIELD SERVICES

Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Windsock 21-2HZ
Field	Wattenberg
County	Weld
State	Colorado