PIONEER

Pioneer Energy Services

RADIAL SECTOR BOND LOG WITH GAMMA RAY

Company Anadarko Petroleum Corp.
Well Thomsen 2N-31HZ
Field Wattenberg
County Weld
State Colo.

Company **Anadarko Petroleum Corp.**
Well **Thomsen 2N-31HZ**
Field **Wattenberg**
County **Weld** State **Colo.**

Location: API # : 05123405470000

2370' FNL & 1461' FWL
SENW

SEC 7 TWP 2N RGE 65W

Other Services

NA

Permanent Datum	GL	Elevation	4948'
Log Measured From	KB	K.B.	4973'
Drilling Measured From	KB	D.F.	
		G.L.	4948'

Date of Service	3-4-15		
Run Number	1		
Depth Driller or PBTD	17574'		
Depth Logger	7522'		
Bottom Log Interval	7510'		
Top Log Interval	Surface		
Open Hole Size	8.75"		
Type Fluid	water		
Fluid Level	Surface		
Fluid Density	8.33 ppg		
Max. Recorded Temperature	232		
Max. Wellhead Pressure	2800		
Wellhead Connection	7 1/16" 10k flange		
Estimated Cement Top	Surface		
Unit Number	132		
Wireline Size	9/32"		
Location	Ft. Morgan		
Recorded By	N.Bivens		
Witnessed By	Rick Dunford		

	Size	Wt/Ft	Top	Bottom
Tubing Record				
Surface Casing				
Production Casing	7"	26#	surface	7812'
Liner Record				

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.
S.O. # 2-220125
LOG CORRECTED TO LINER TOP @ 6820'

THANK YOU FOR USING PIONEER Energy SERVICES

Tool Data - Services

Serial Number

Your Pioneer Energy Services Crew

Engineer: N.BIVENS
Operator: W.BRIGANTE
Operator: T.KRIEN
Operator: M.RAMIREZ

Calibration Report

Database File: 05123405470000_thomsen_2n_31_hz_rbl.db
Dataset Pathname: pass3
Dataset Creation: Wed Mar 04 11:37:16 2015

Temperature Calibration Report

Serial Number: P071024
Tool Model: Probe
Performed: Mon Jan 19 07:10:38 2015

	Reference		Reading
Low Reference:	56.00	degF	596.24 cps
High Reference:	100.00	degF	1200.00cps

Gain: 0.07
Offset: 10.96
Delta Spacing 1

Gamma Ray Calibration Report

Serial Number: 030606
Tool Model: Probe275
Performed: Thu Jul 03 10:46:52 2014

Calibrator Value: 138.0 GAPI

Background Reading: 35.9 cps
Calibrator Reading: 244.8 cps

Sensitivity: 0.7607 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: 4.5040904
Tool Model: Probe

Calibration Casing Diameter: 7.000 in
Calibration Depth: 626.792 ft

Master Calibration, performed Wed Mar 04 08:34:27 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.020	0.683	1.000	62.165	86.976	2.000
CAL	0.833	0.833				
5'	0.072	0.728	1.000	62.165	93.308	-5.720
SUM						
S1	0.012	0.697	0.000	95.000	138.652	-1.630
S2	0.008	0.736	0.000	95.000	130.614	-1.089
S3	0.007	0.733	0.000	95.000	130.946	-0.929
S4	0.007	0.702	0.000	95.000	136.668	-0.986
S5	0.006	0.673	0.000	95.000	142.428	-0.862
S6	0.007	0.644	0.000	95.000	149.080	-1.046
S7	0.007	0.634	0.000	95.000	151.438	-1.059
S8	0.006	0.660	0.000	95.000	145.343	-0.864

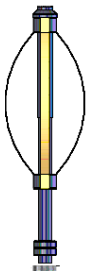
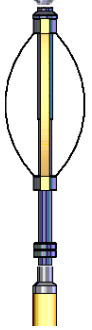
Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

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

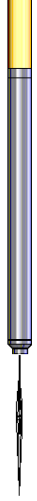
CAL	0.000	0.000	0.833	0.833	1.000	0.000

Air Zero Calibration, performed Tue Jan 27 10:16:17 2015:

	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

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			PTS275	2.83	2.75	
			RBT-Probe (4.5040904) Prototype Probe Radii Bond Tool with Digital Telemetry	8.88	2.75	90.00
WVF3FT	13.18					
WVFCAL	13.18					
WVFS1	13.18					
WVFS2	13.18					
WVFS3	13.18					
WVFS4	13.18					
WVFS5	13.18					
WVFS6	13.18					
WVFS7	13.18					
WVFS8	13.18					
WVF5FT	12.18					
			PTS275	2.83	2.75	

CCL	5.18					
GR	3.85		GR-Probe275 (030606)	4.54	2.75	57.00
			TEMP-Probe (P071024) Probe temp tool	1.55	1.69	5.00
TEMP	0.01					



Dataset: 05123405470000_thomsen_2n_31_hz_rbl.db: field/well/run1/pass3
Total Length: 20.63 ft
Total Weight: 152.00 lb
O.D. 2.75 in

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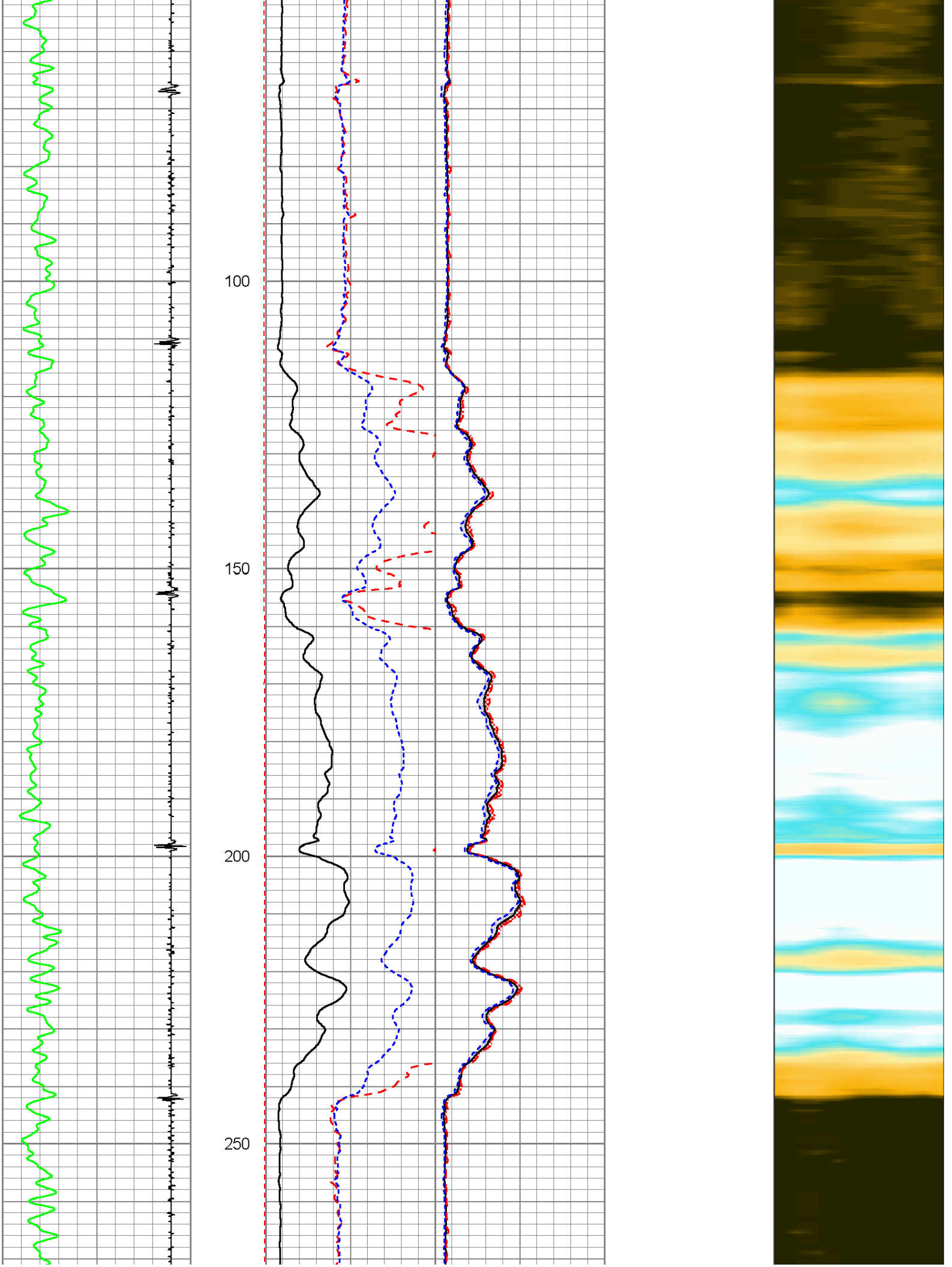
Main Pass Logged Under 2800# psi

Database File: 05123405470000_thomsen_2n_31_hz_rbl.db
Dataset Pathname: pass3
Presentation Format: colo_rad
Dataset Creation: Wed Mar 04 11:37:16 2015
Charted by: Depth in Feet scaled 1:240

-9 CCL 1	Line Tension	3' Amplitude 0 (mV) 100	Sector Amplitude Average 0 150		1 Sector Map 8 10 60
Gamma Ray 0 (GAPI) 150	0 (lI2000	3' Amplitude Amplutude X 5 0 (mV) 20	Sector Amplitude Maximum 0 150		
3' Travel Time 274 (usec) 174		1 Bond Index 0	Sector Amplitude Minimum 0 150		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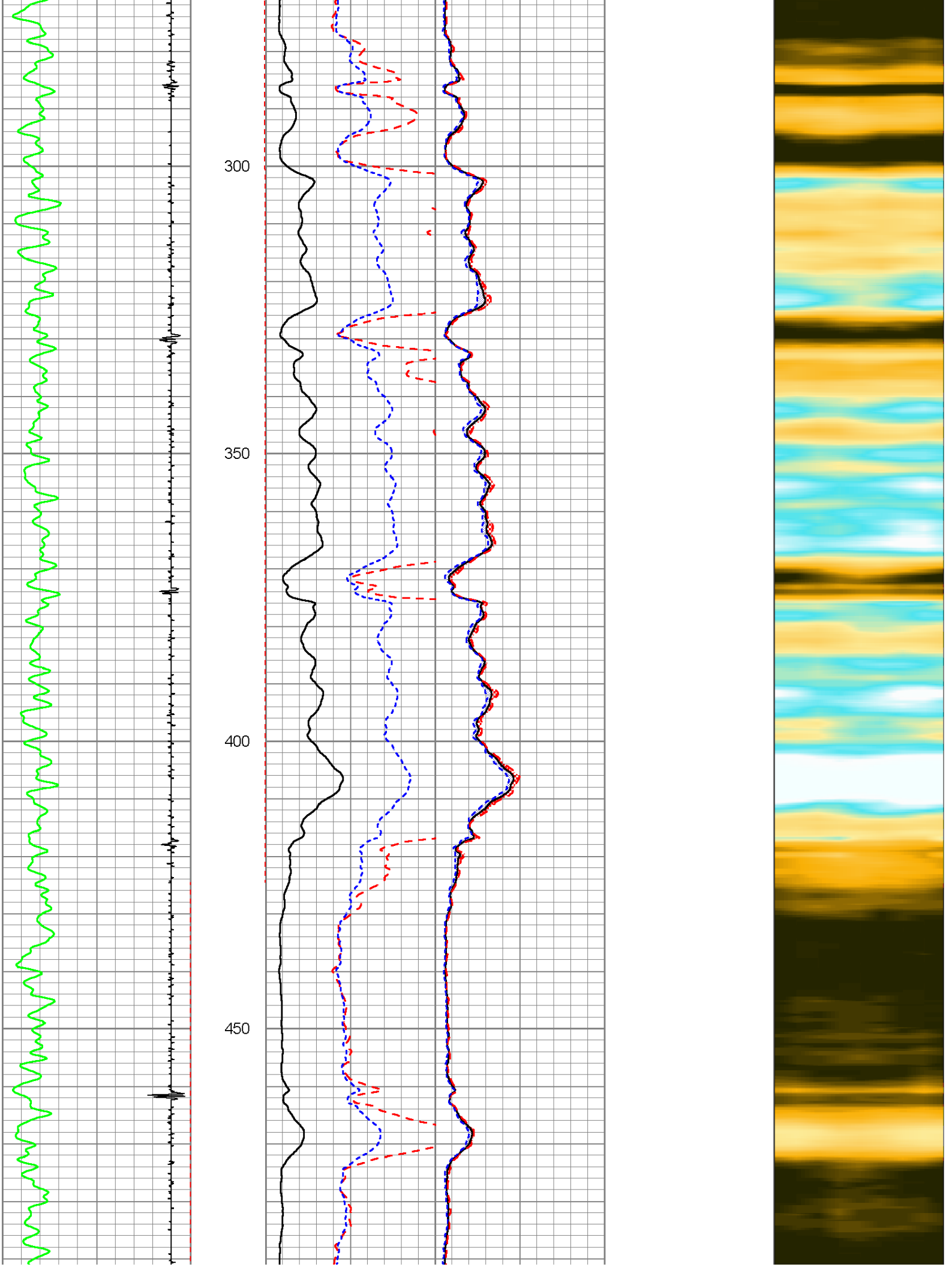
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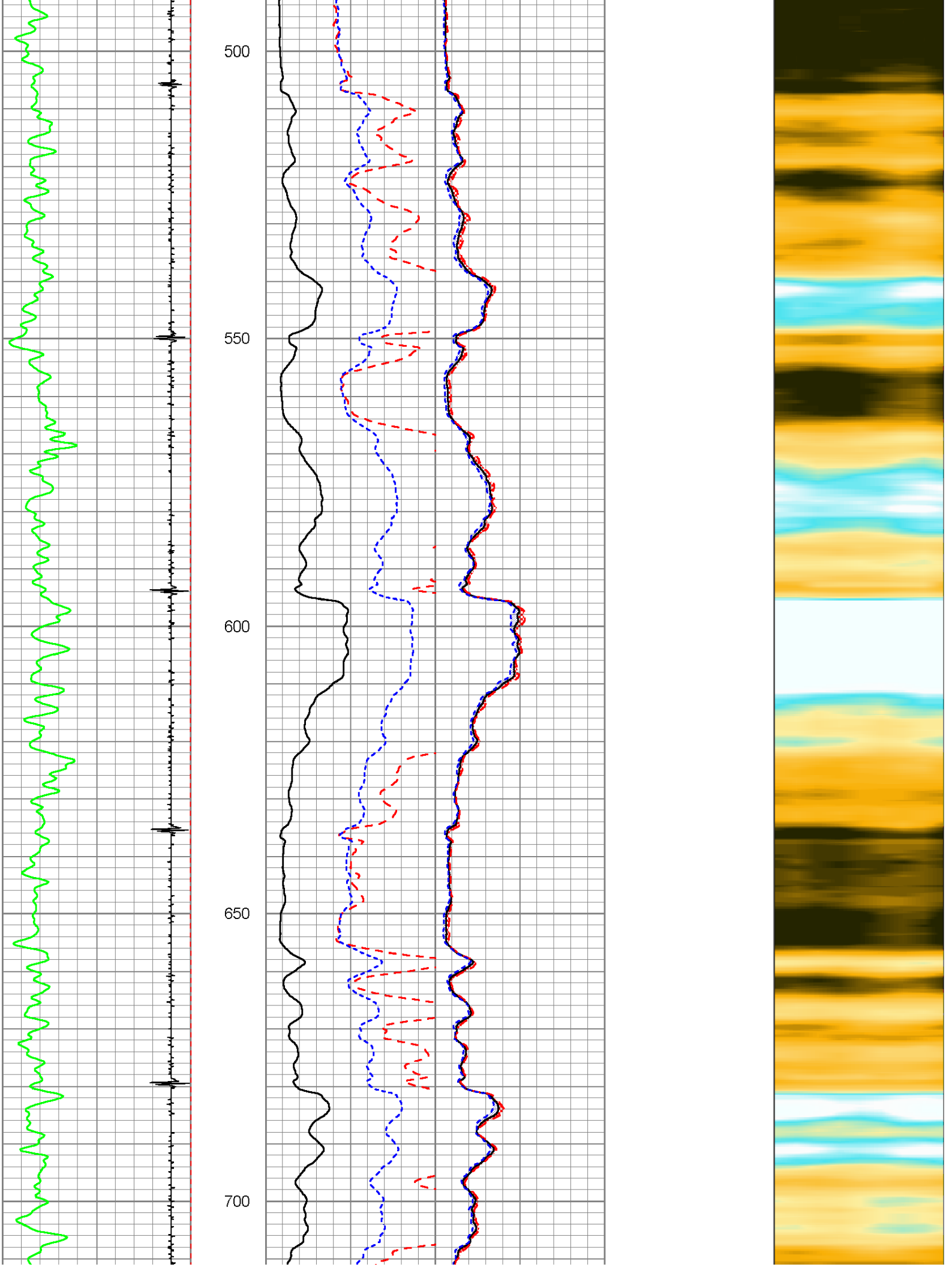
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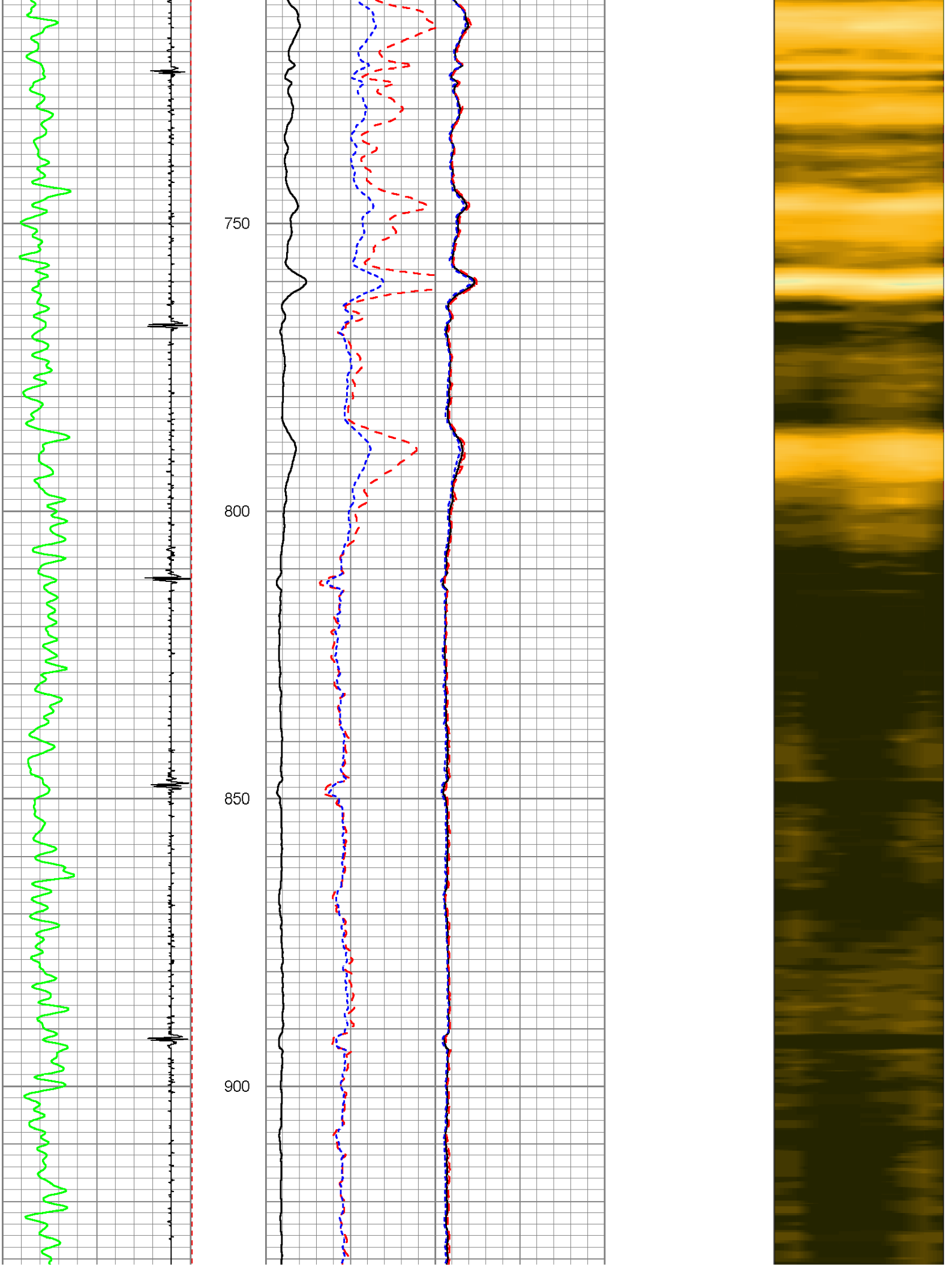
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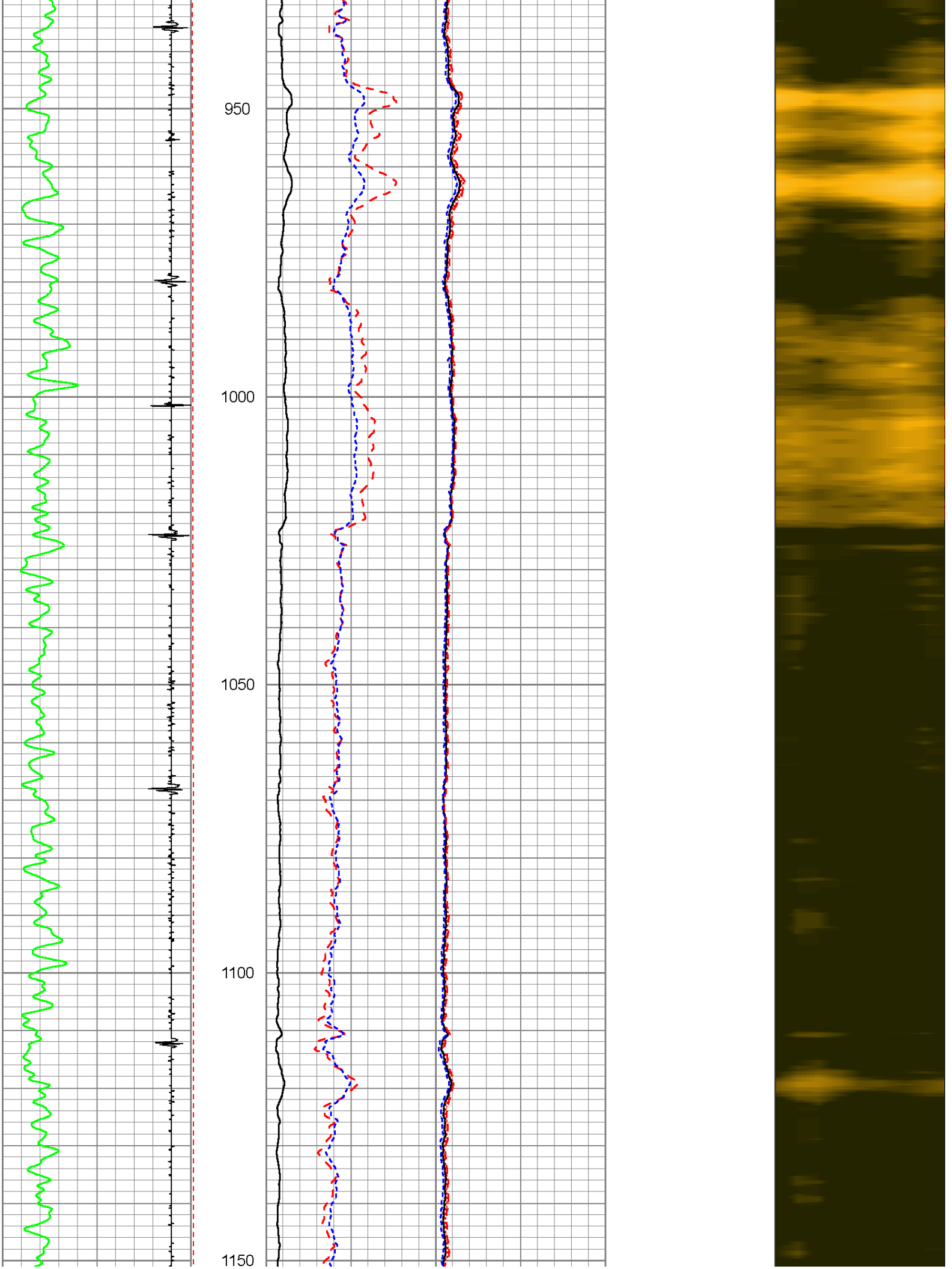
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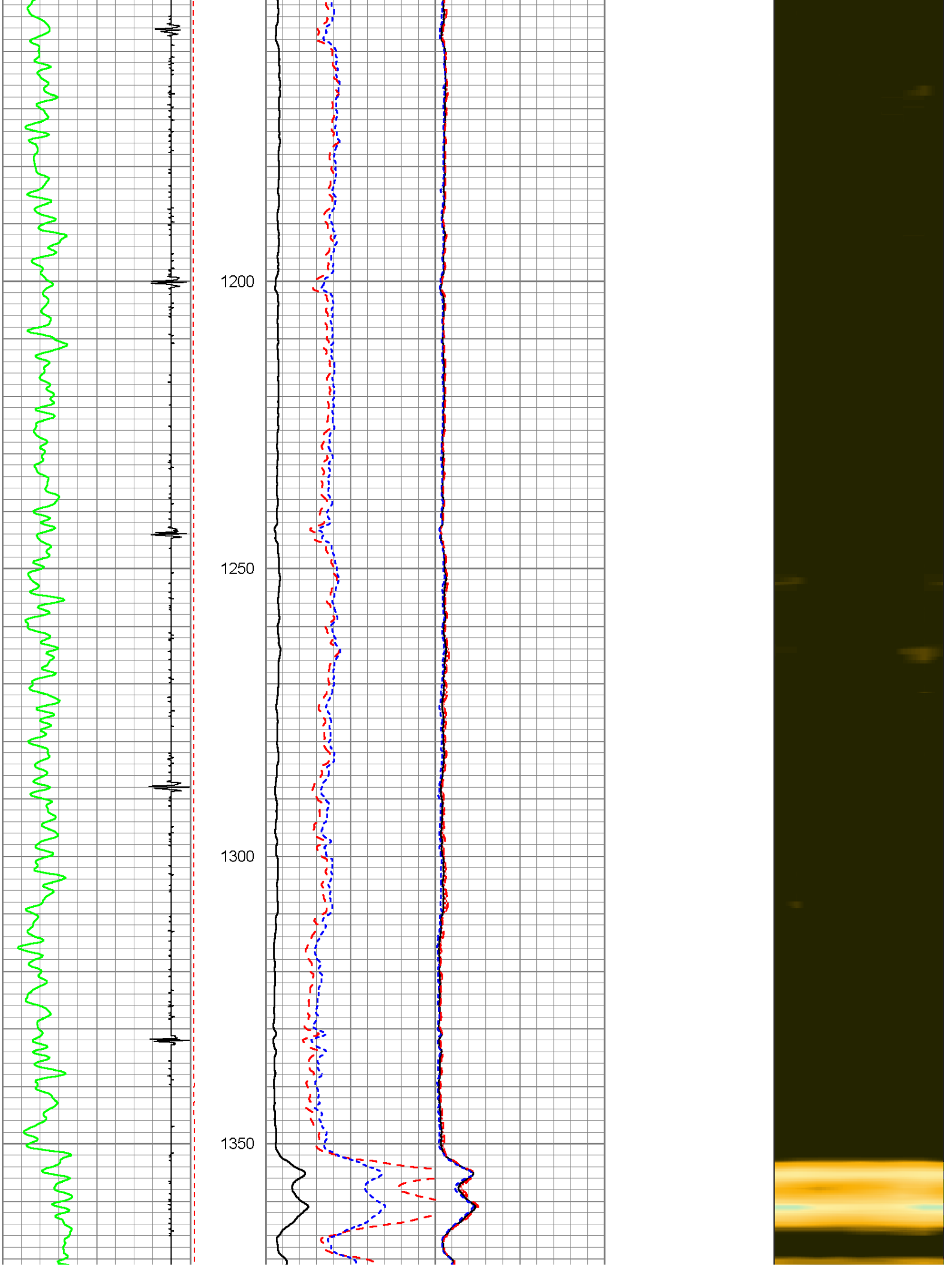
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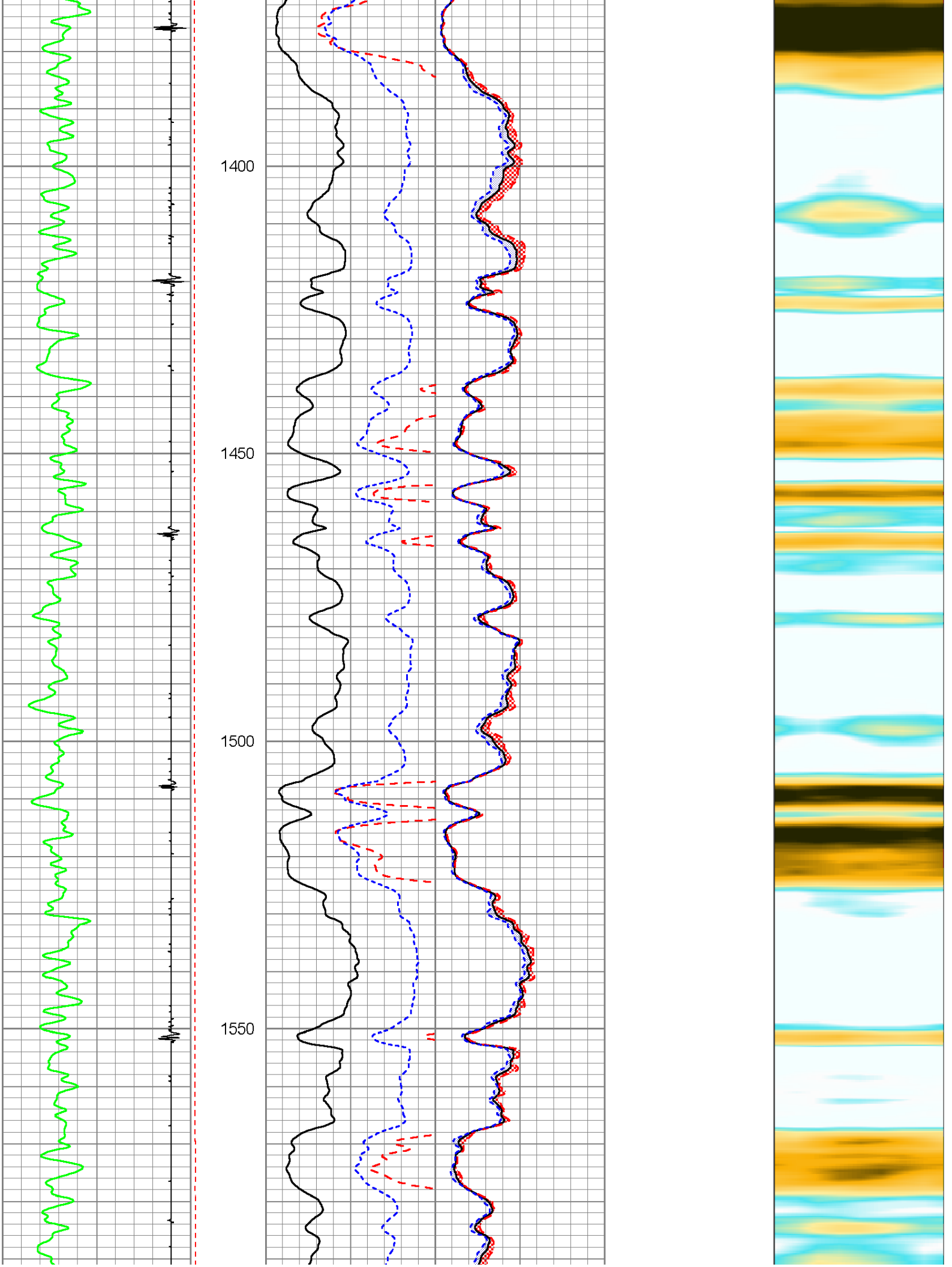
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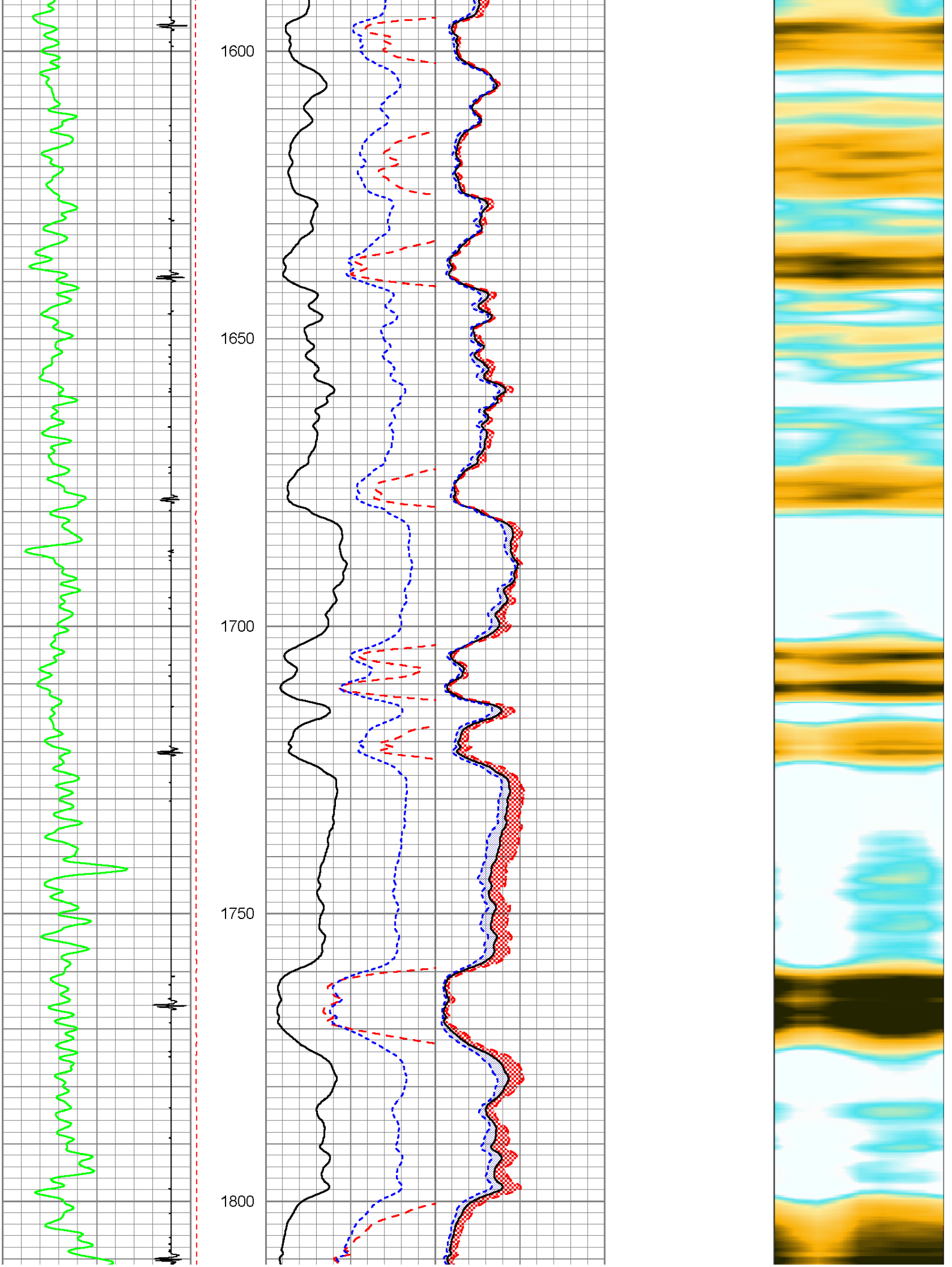
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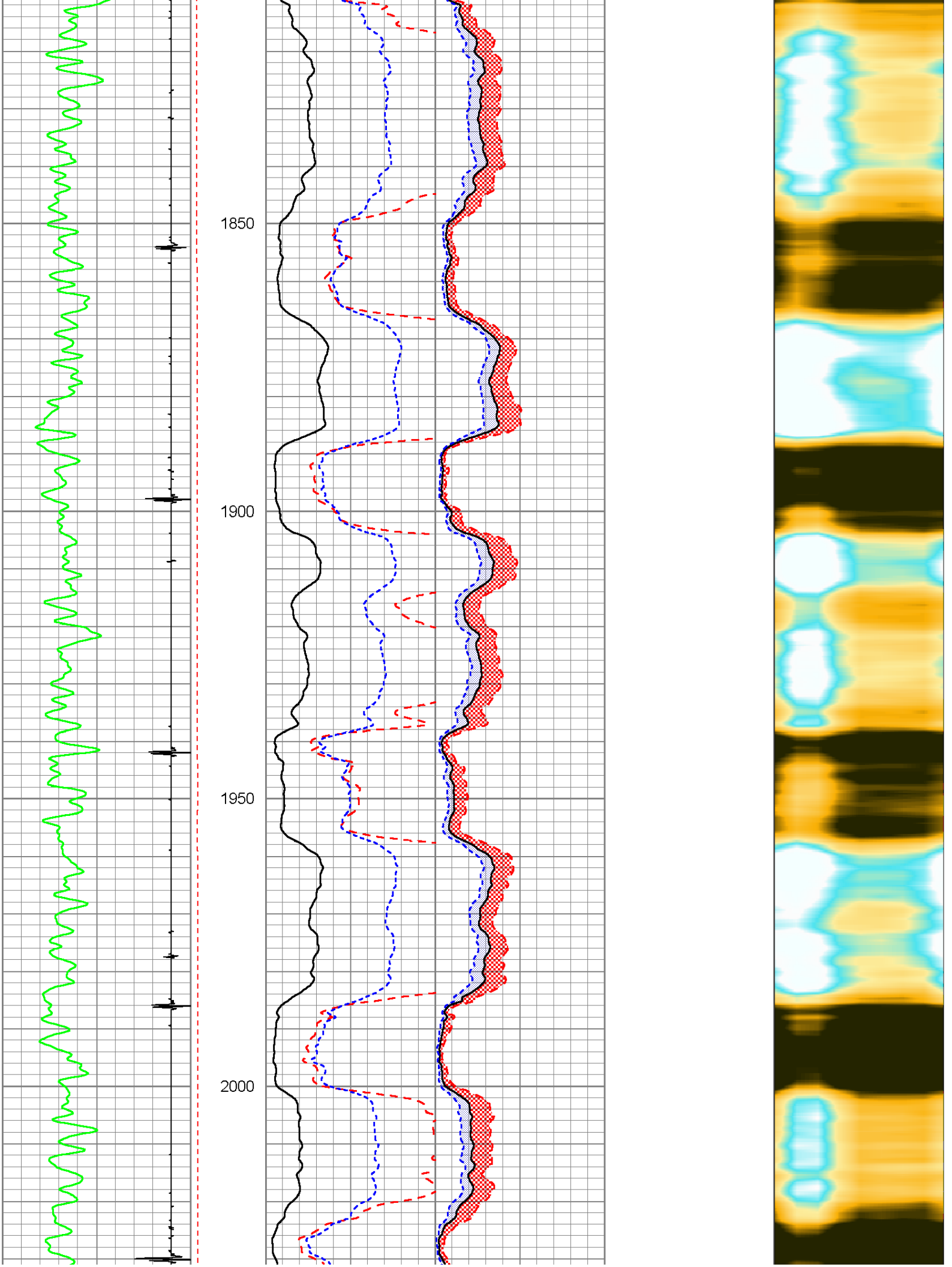
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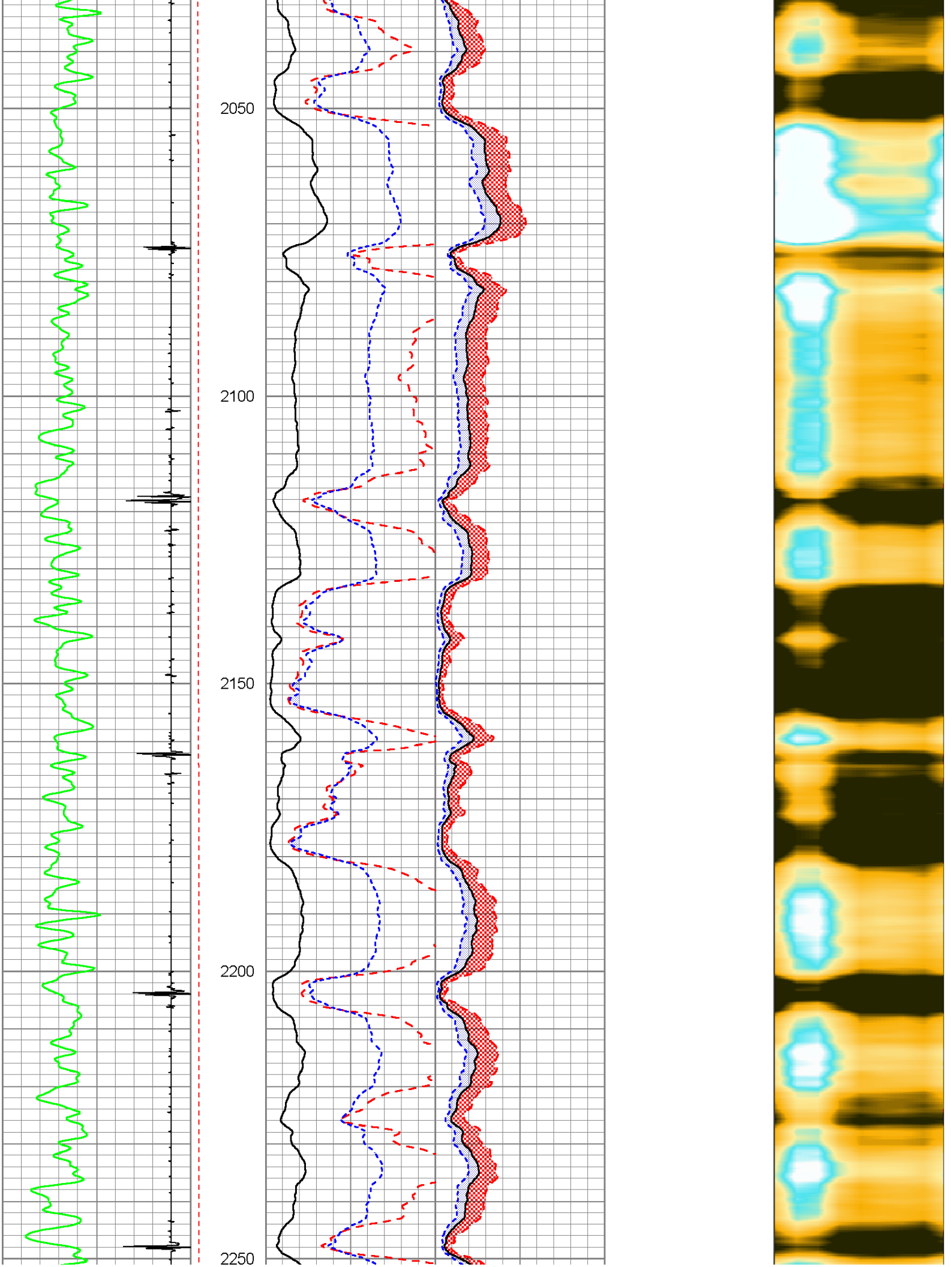
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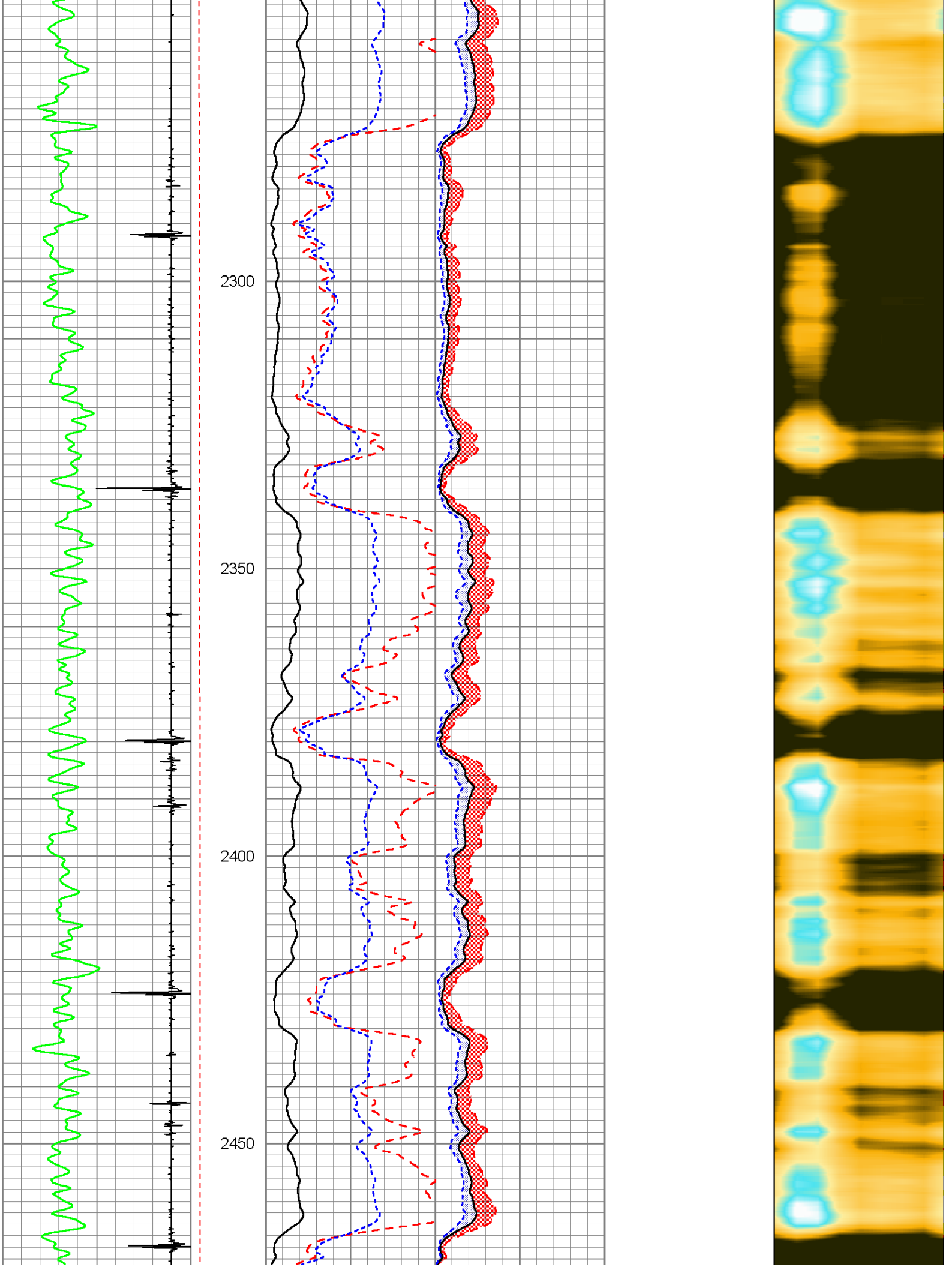
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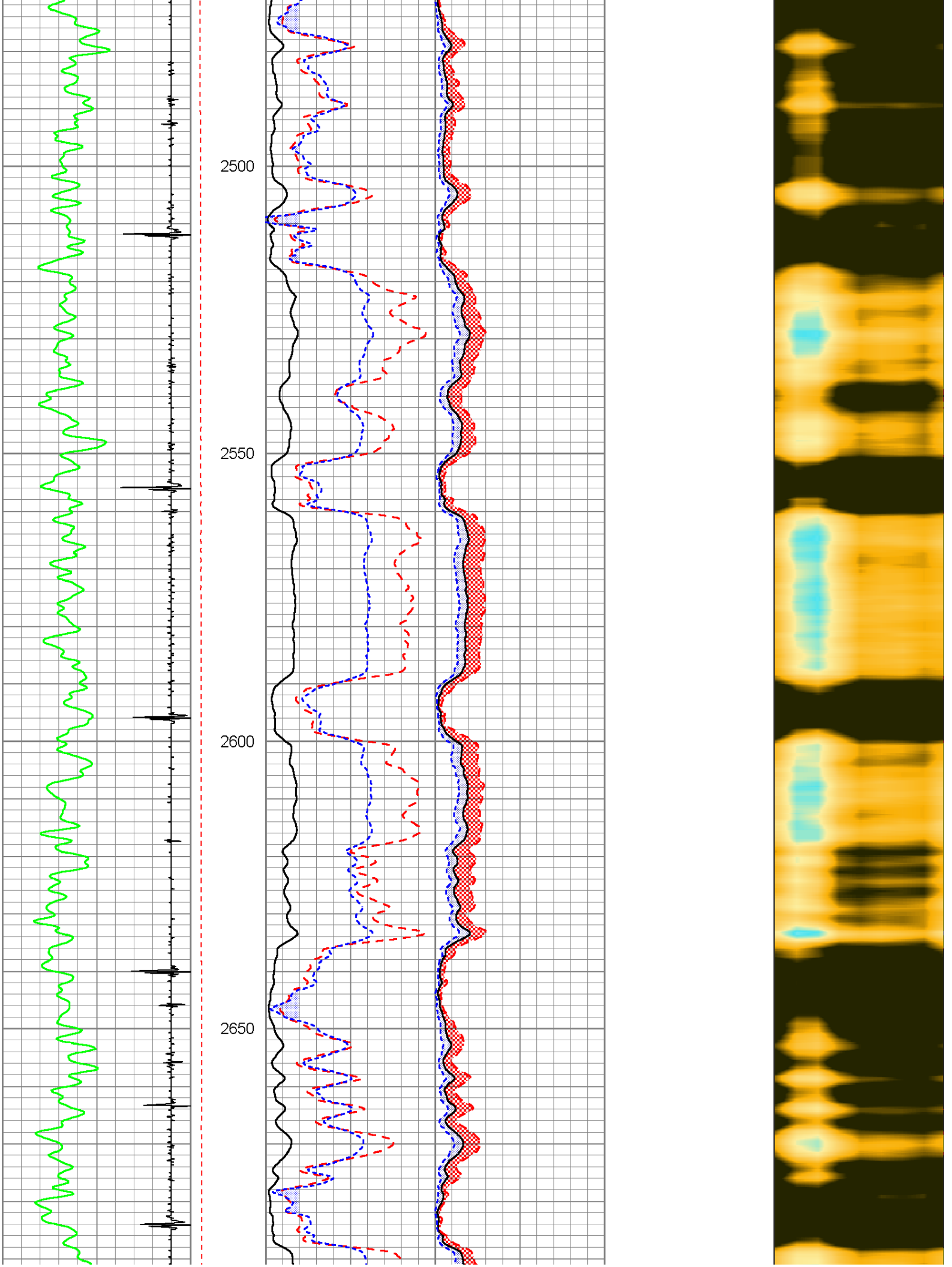
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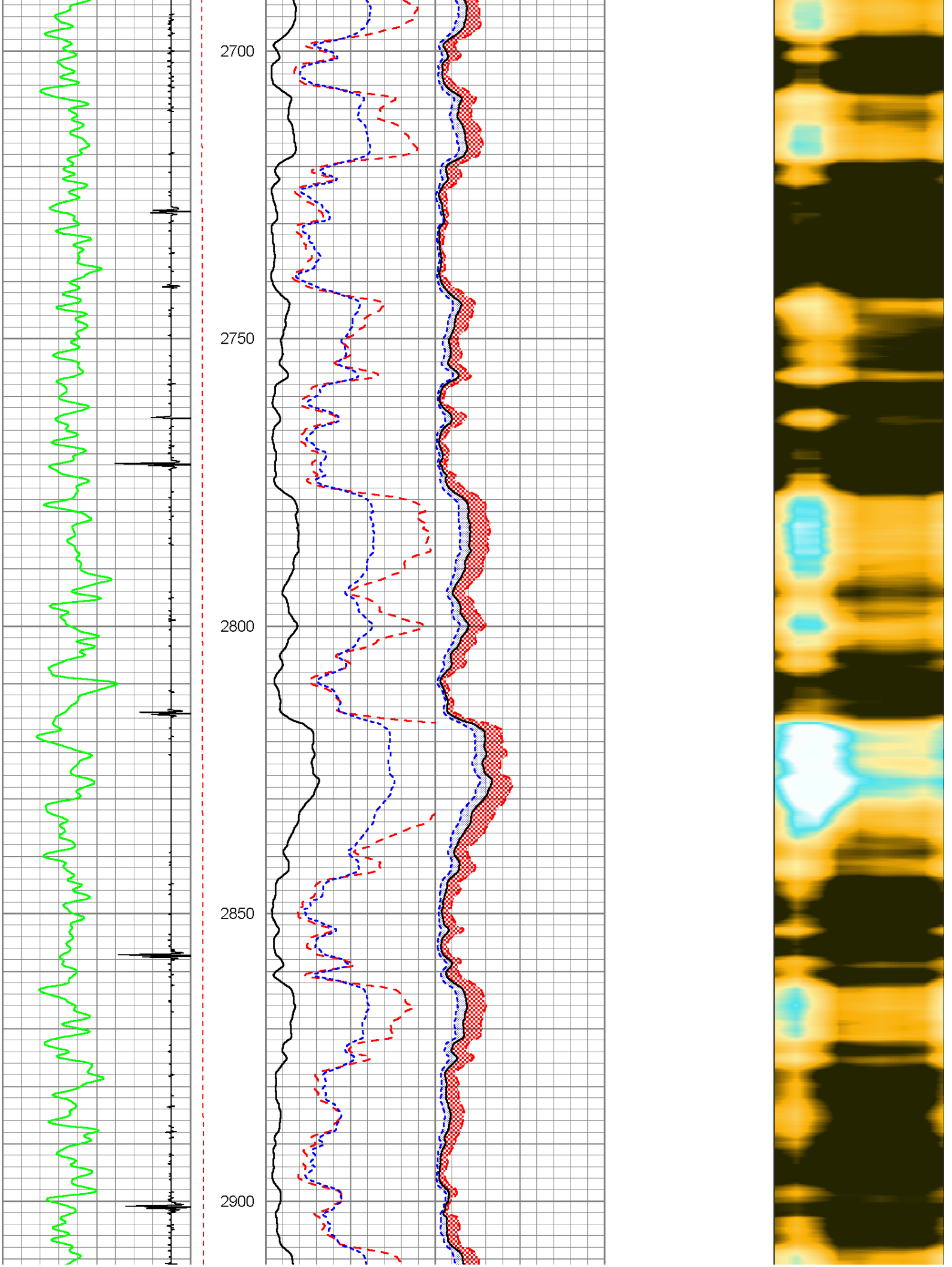
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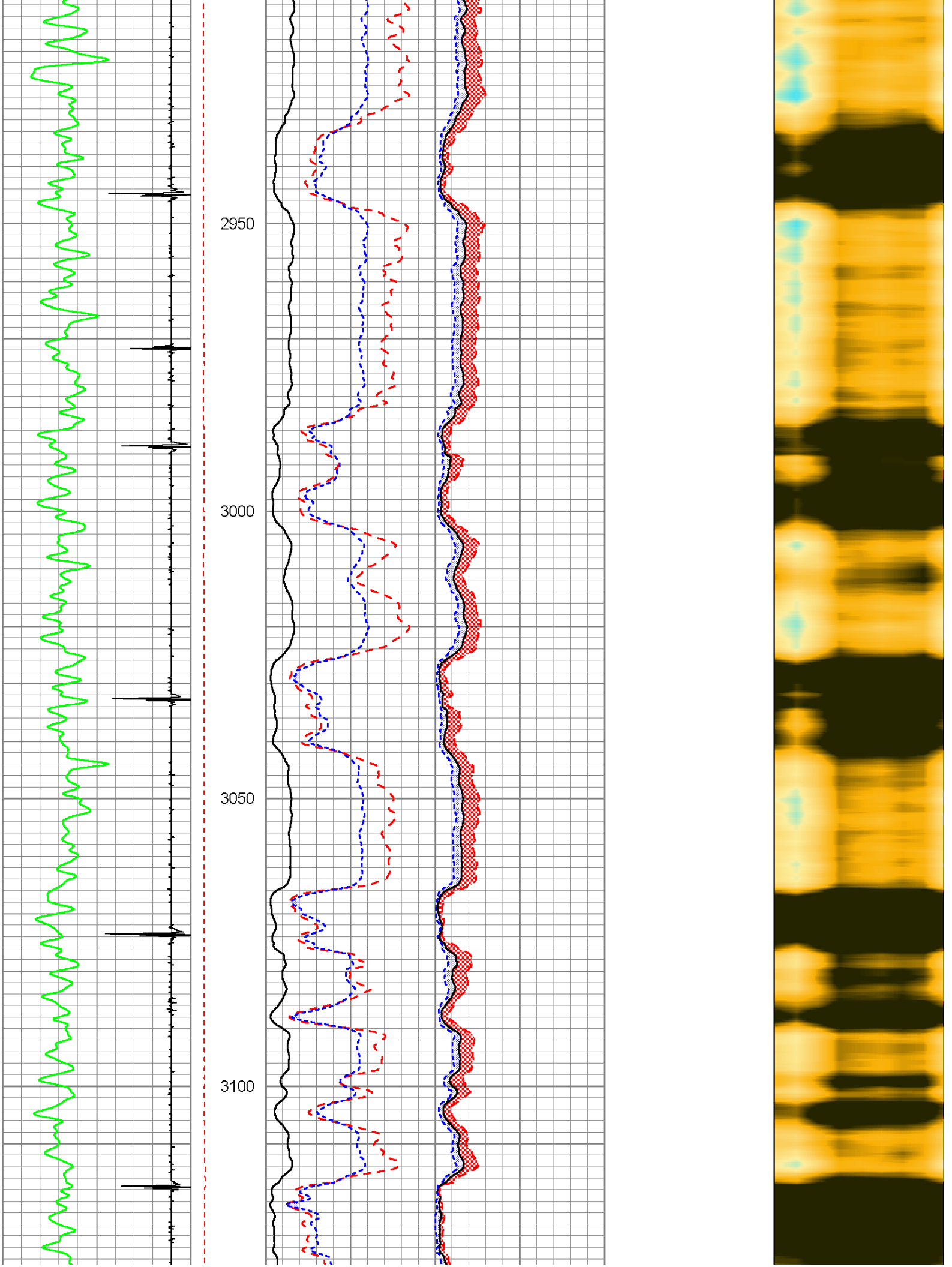
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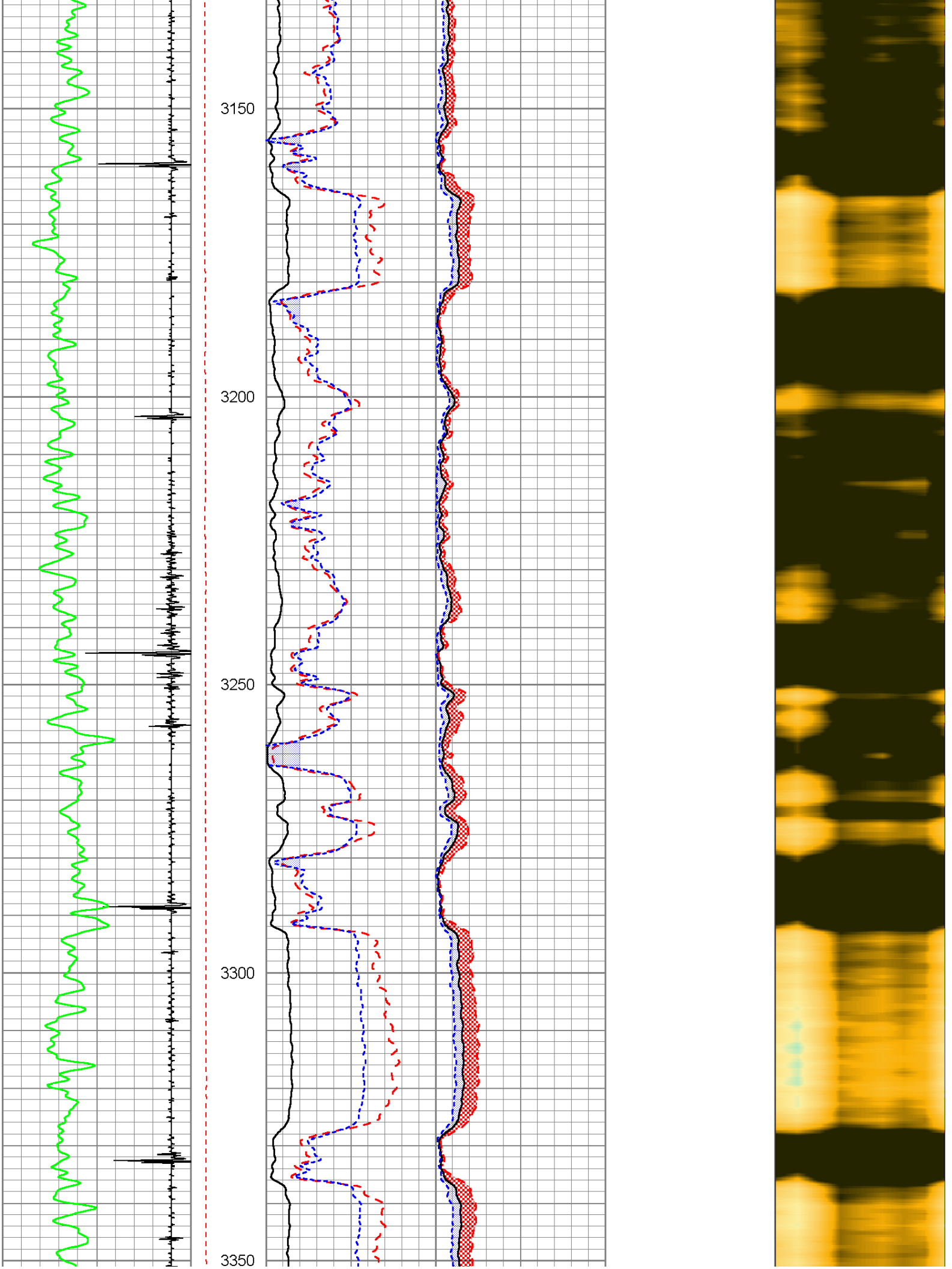
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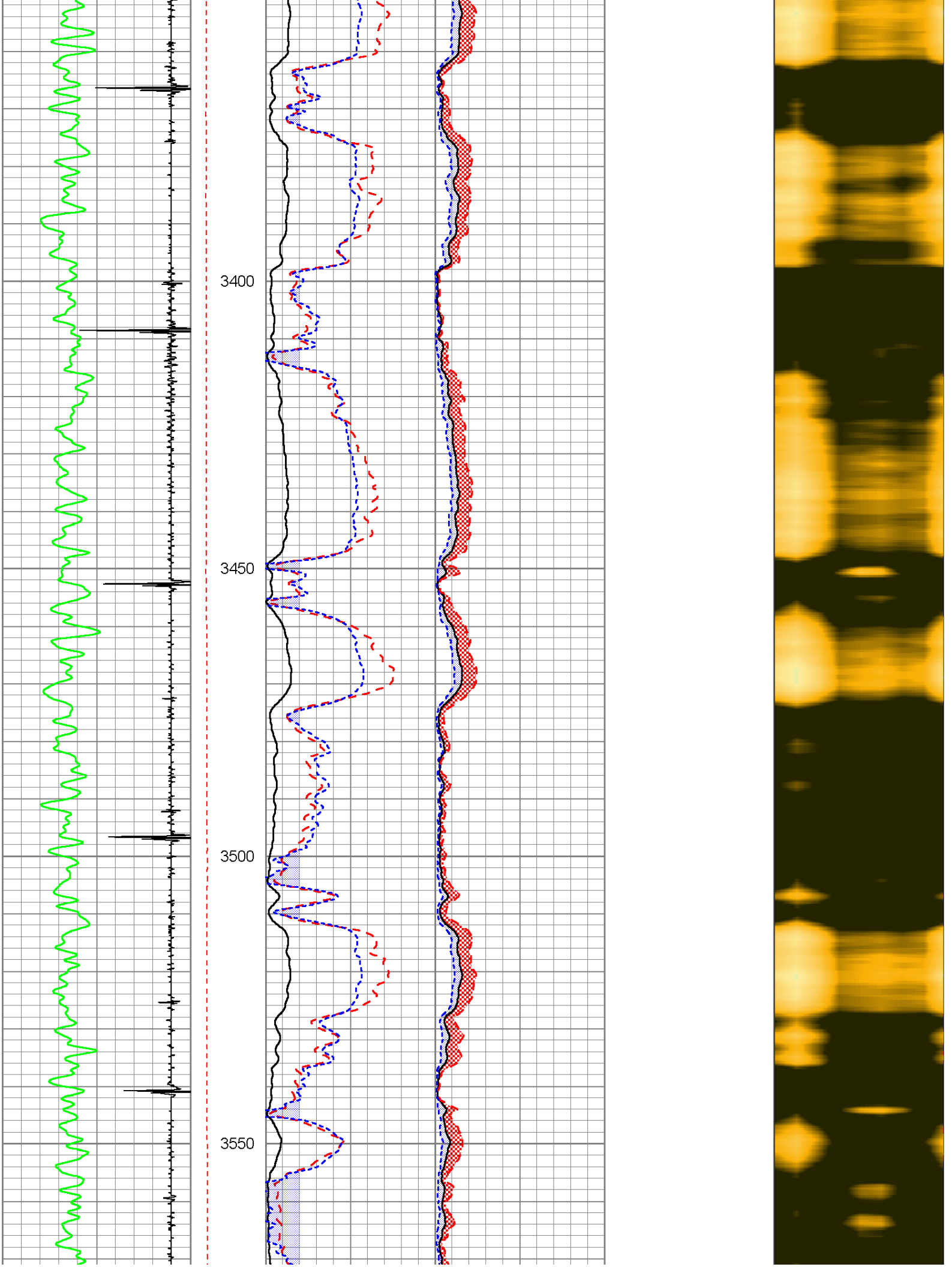
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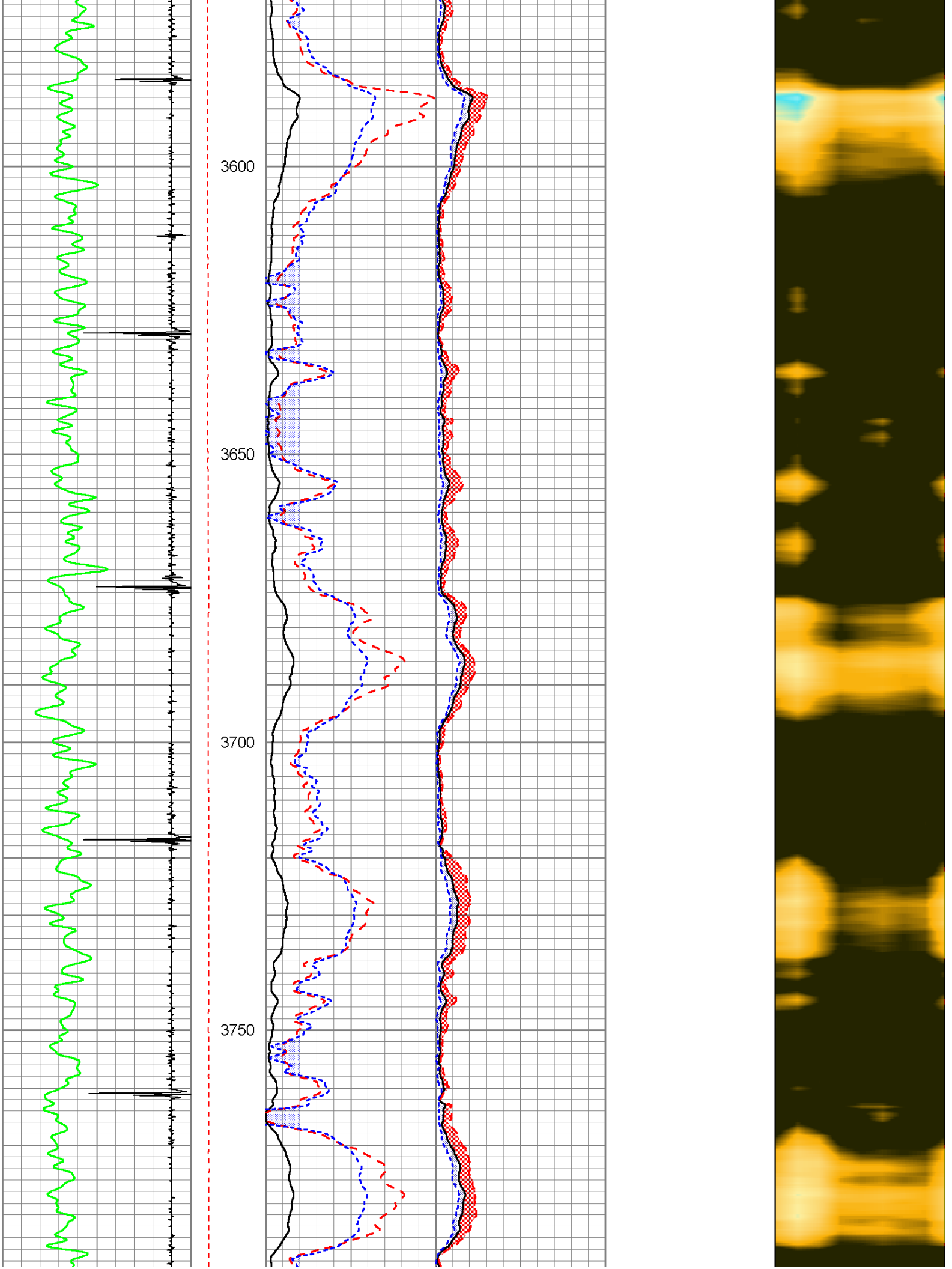
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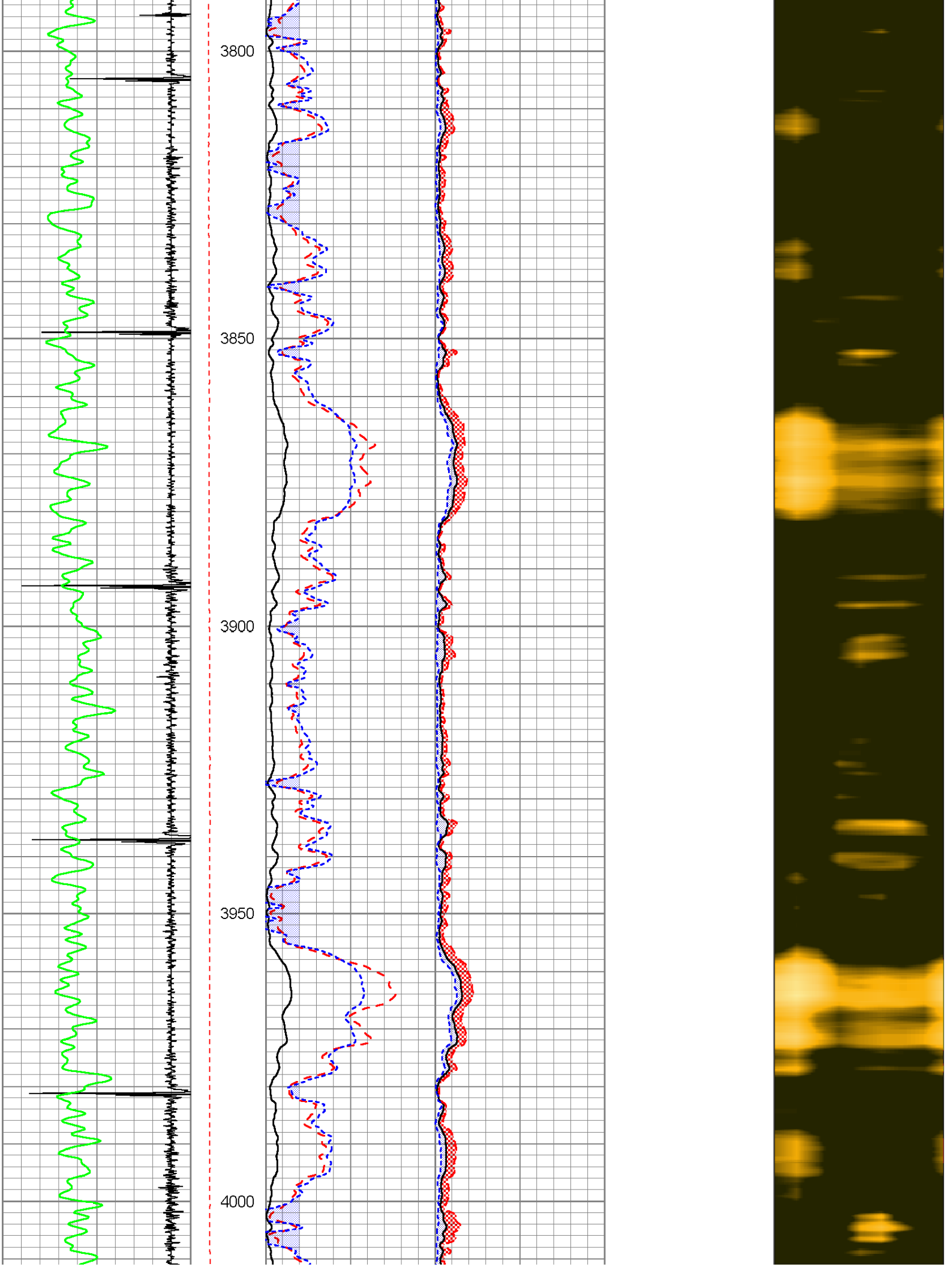
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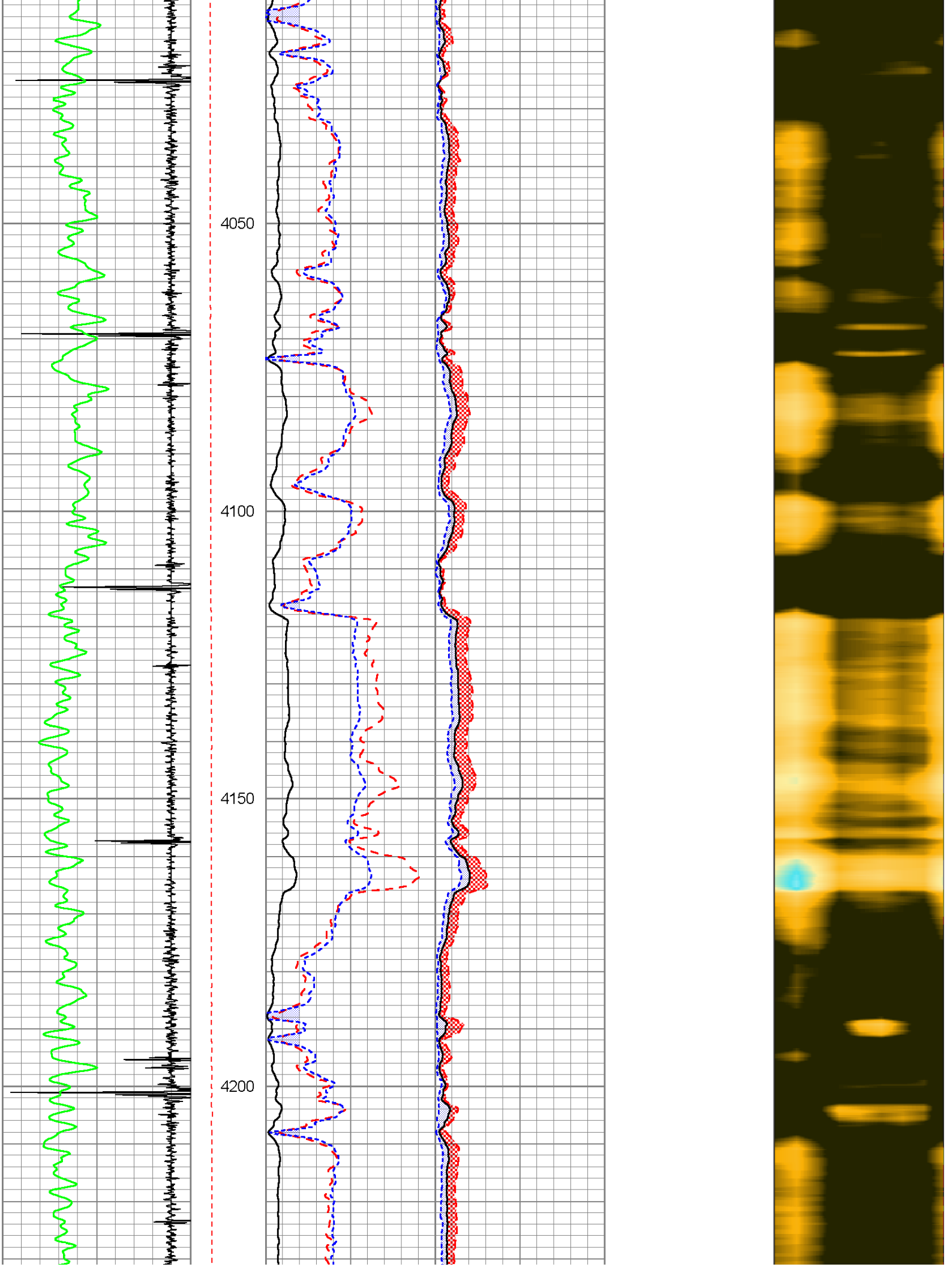
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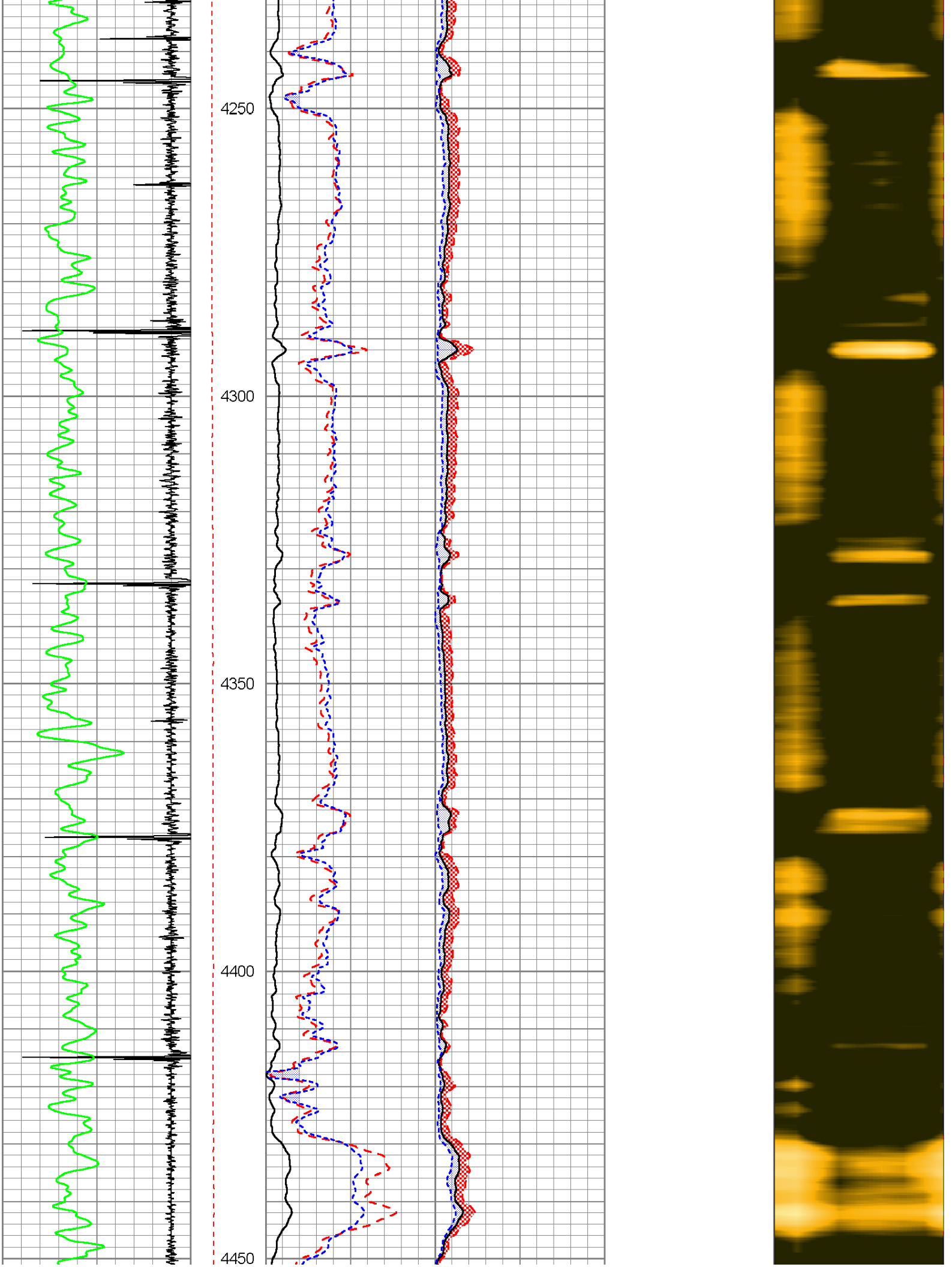
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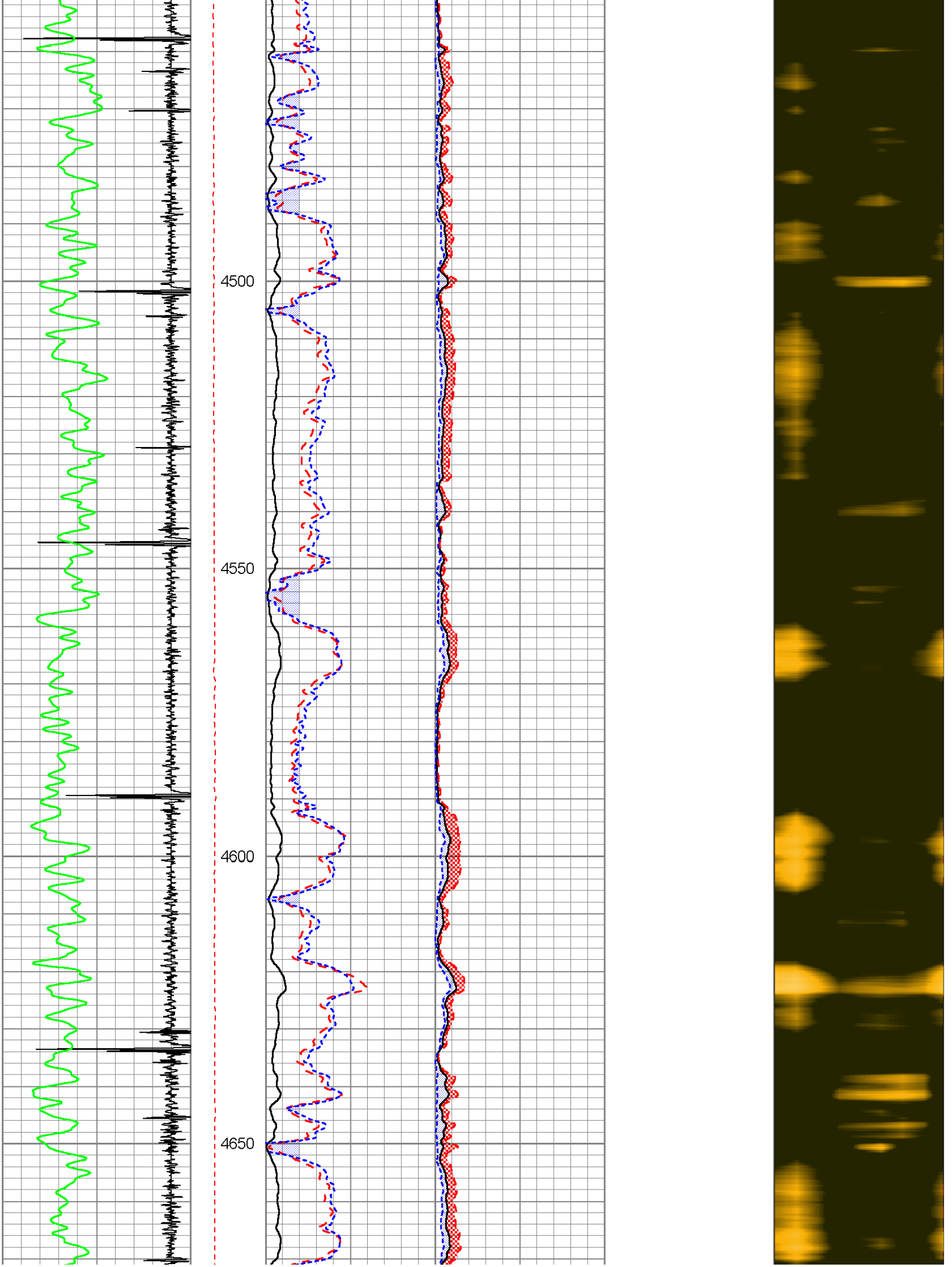
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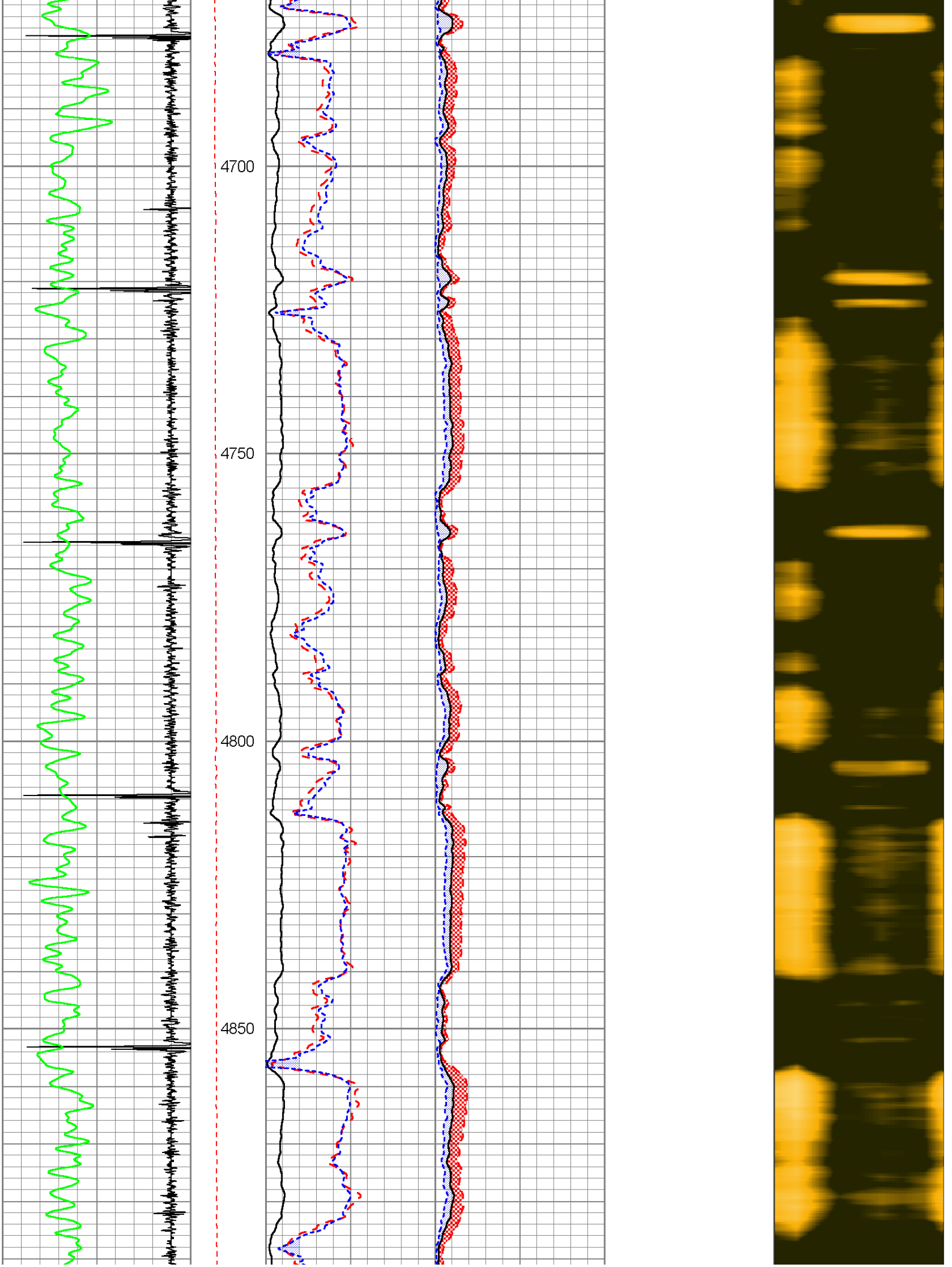
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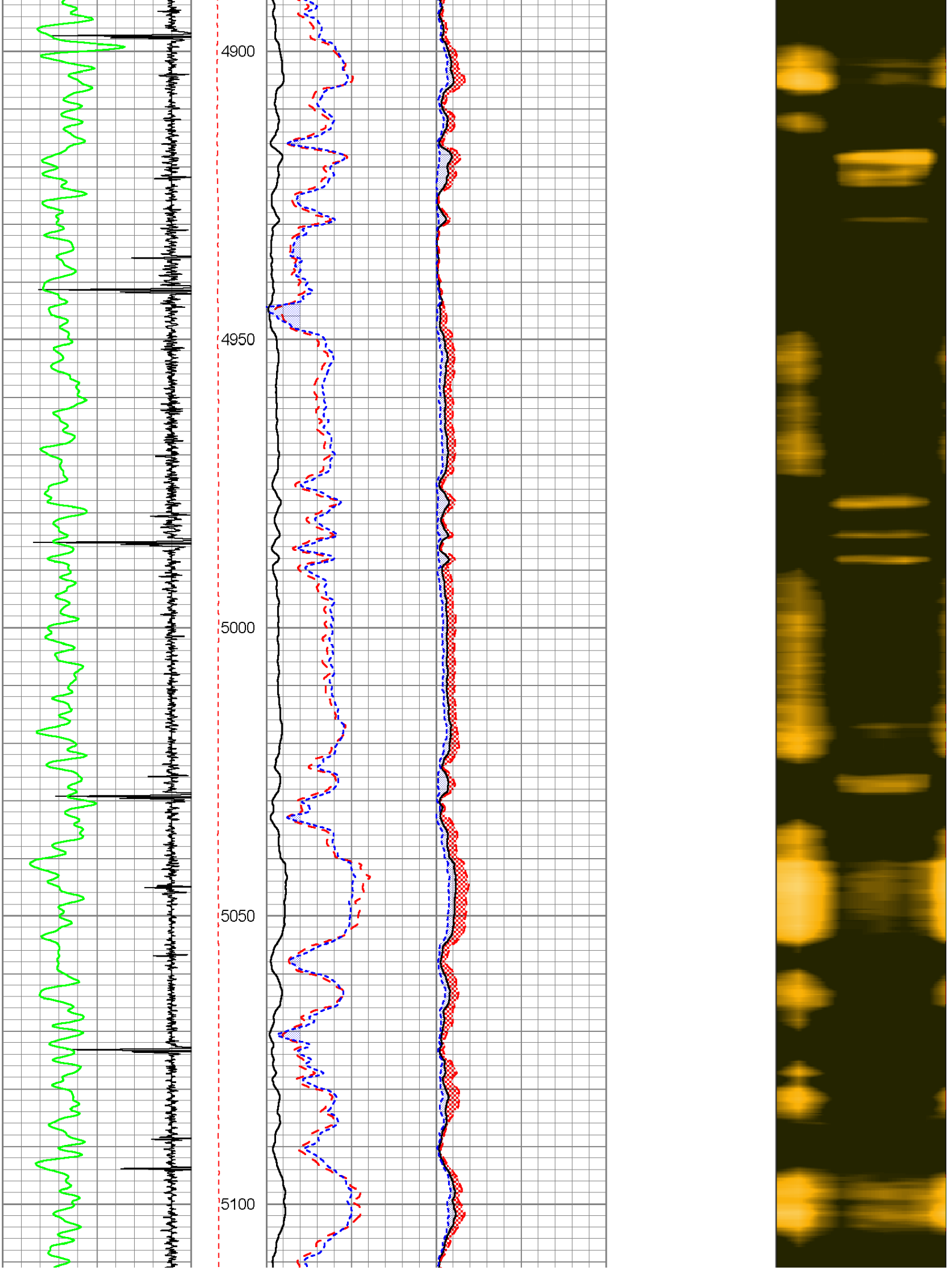
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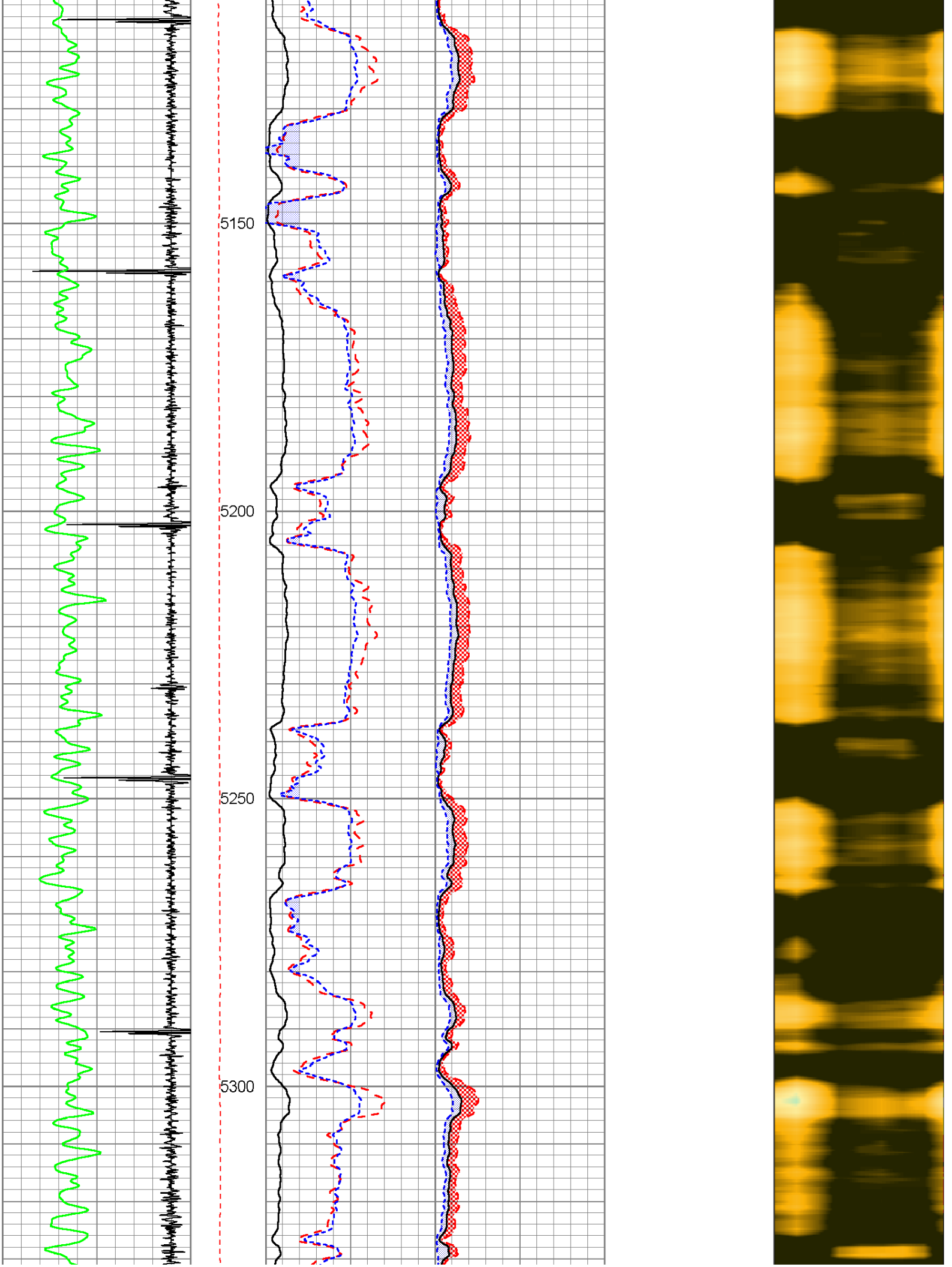
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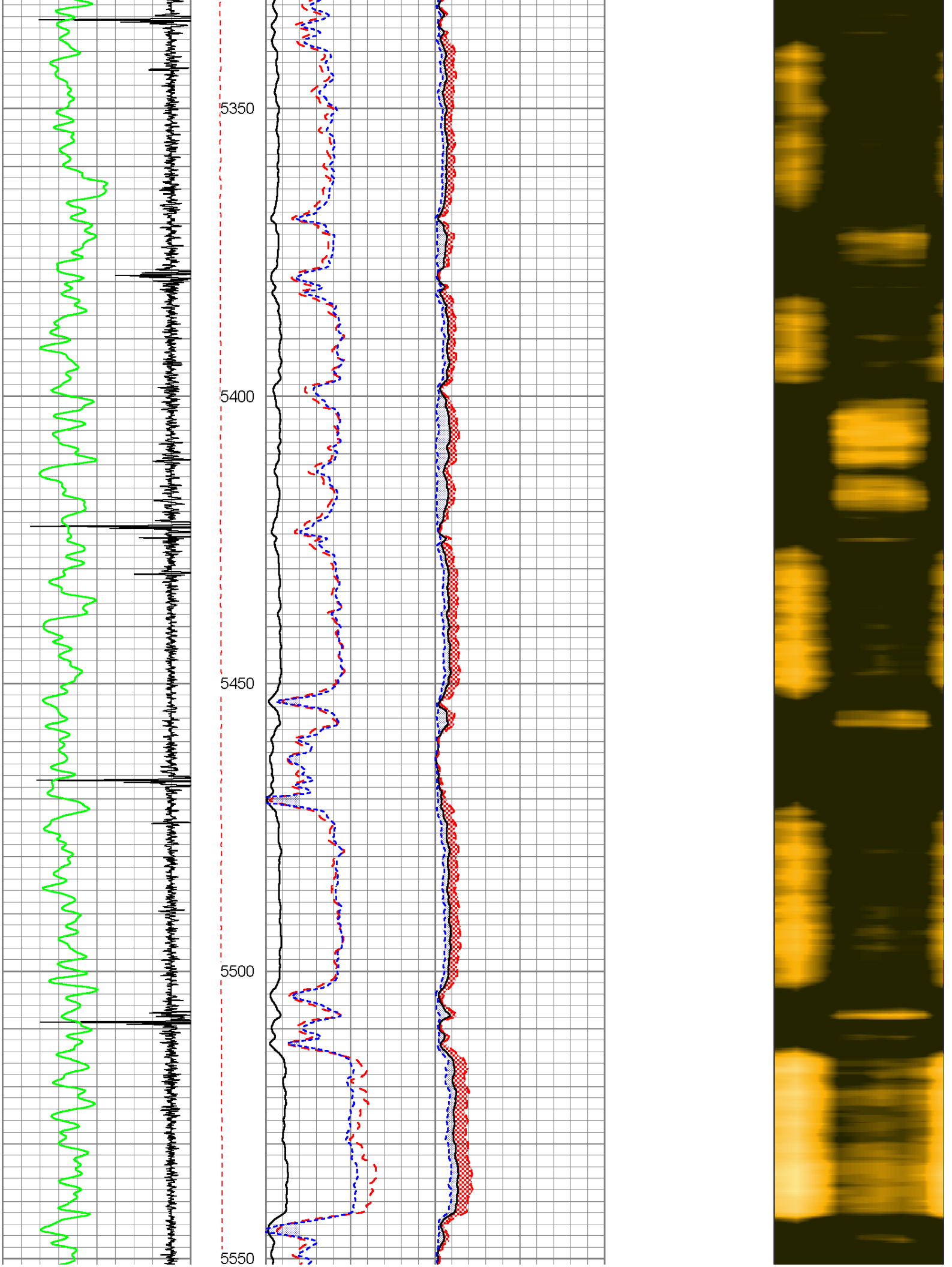
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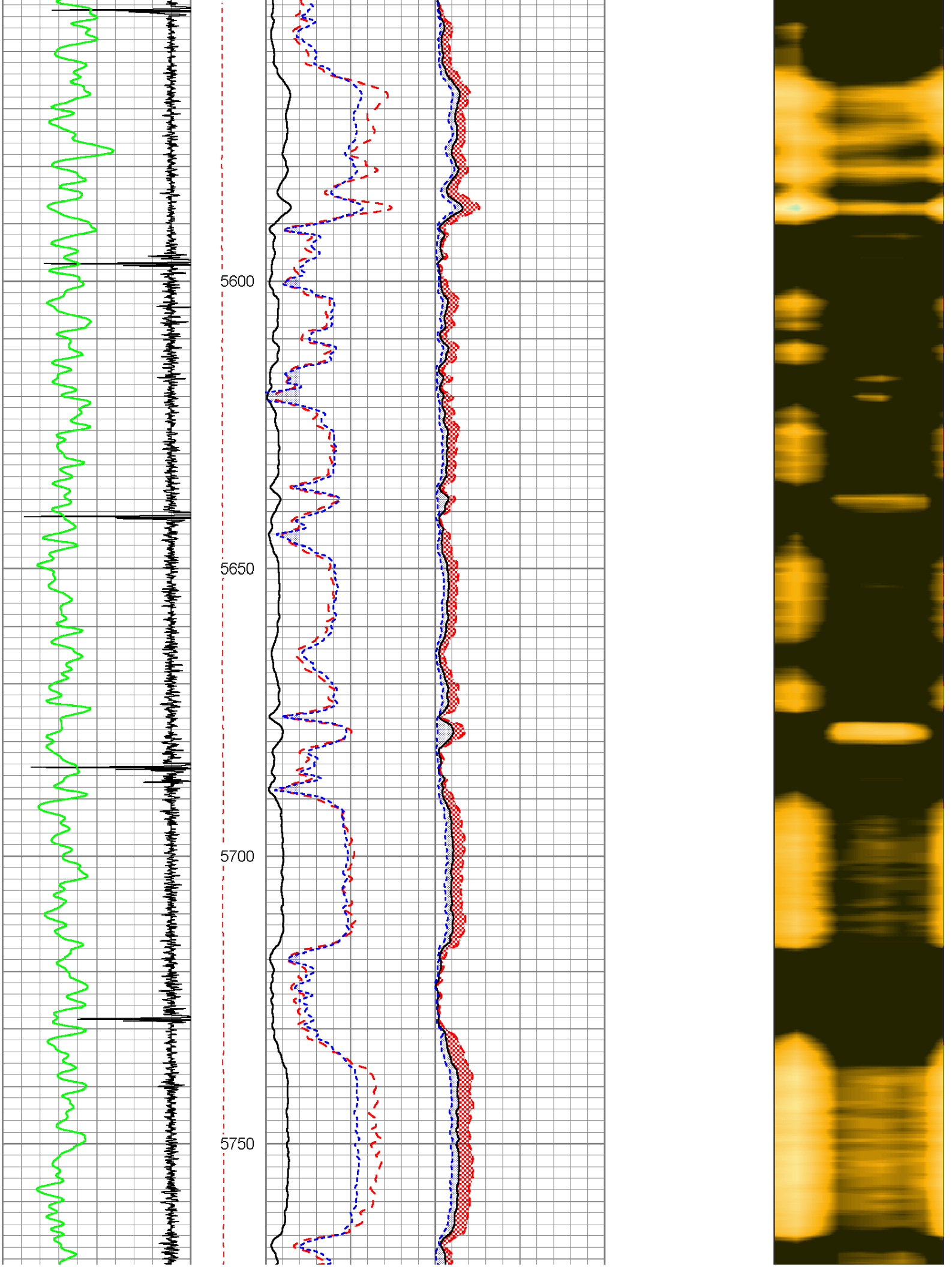
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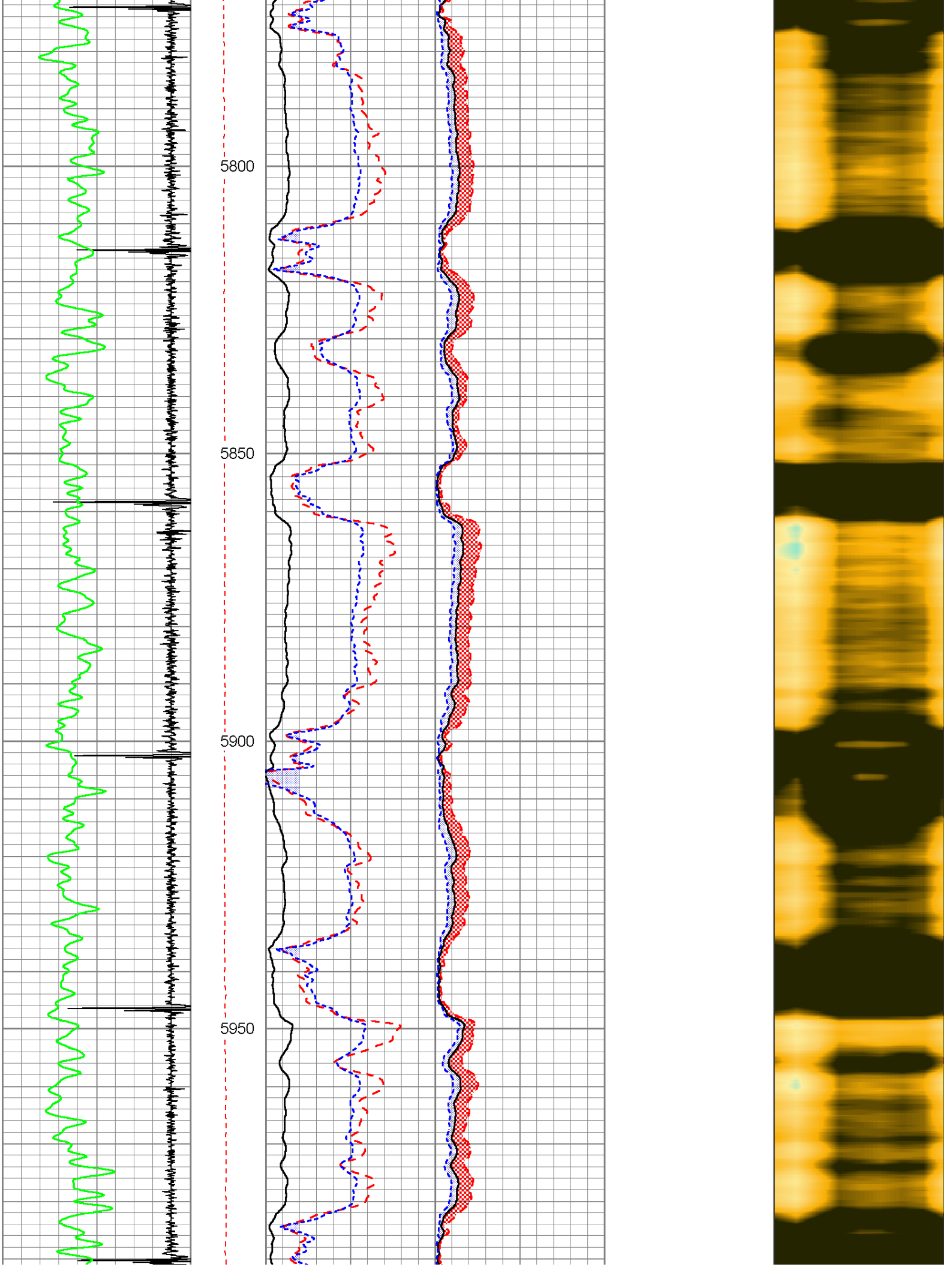
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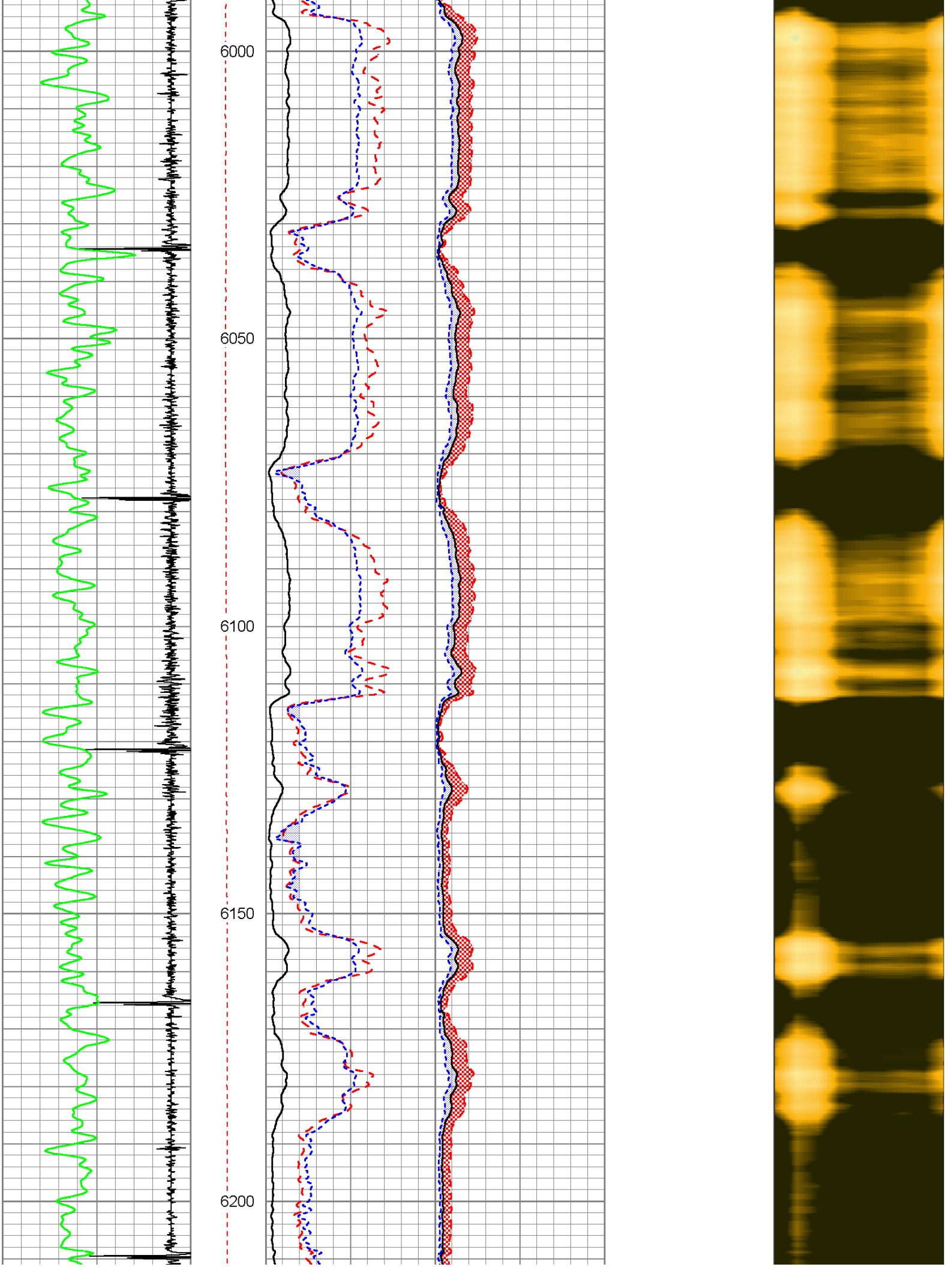
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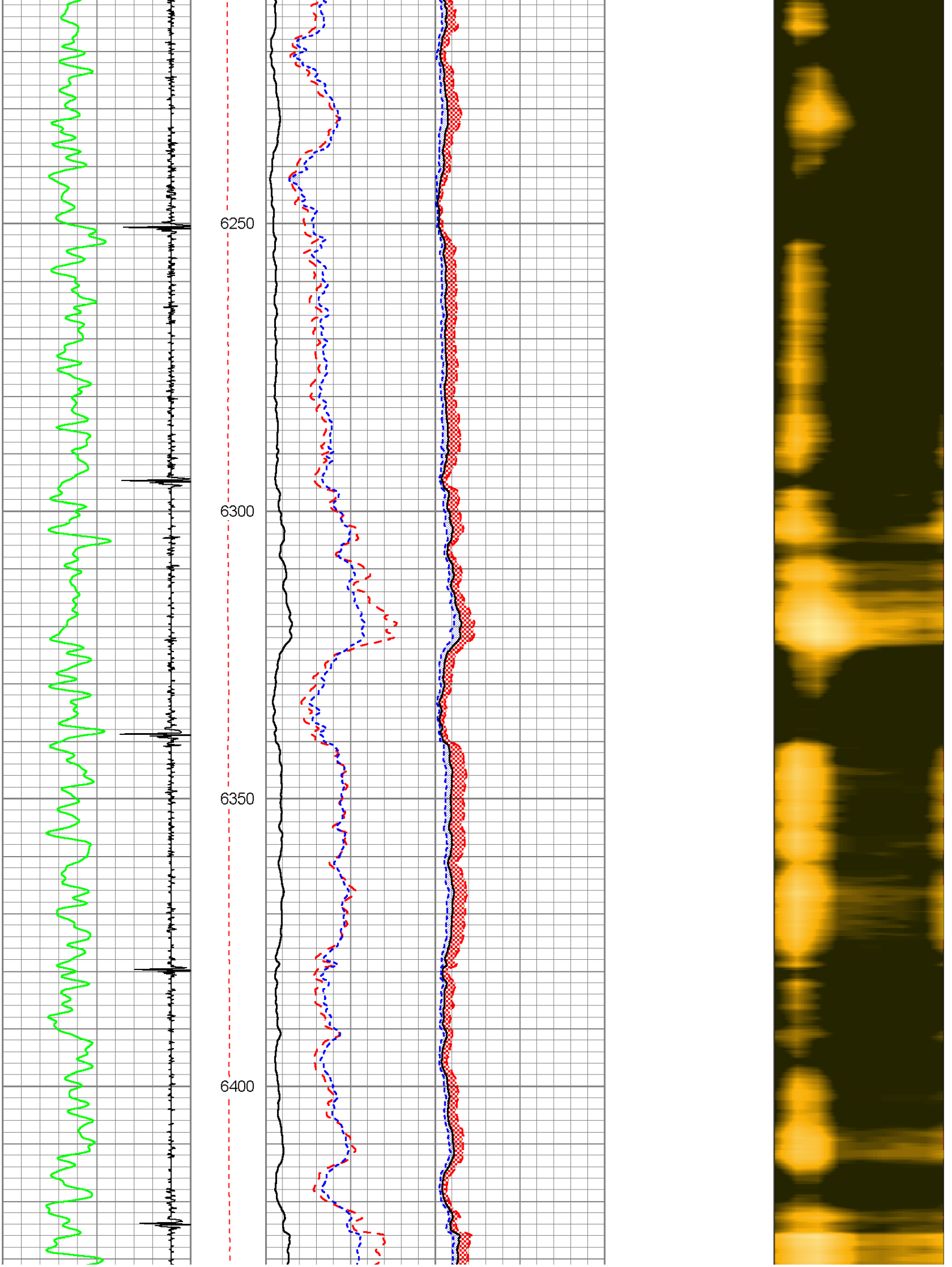
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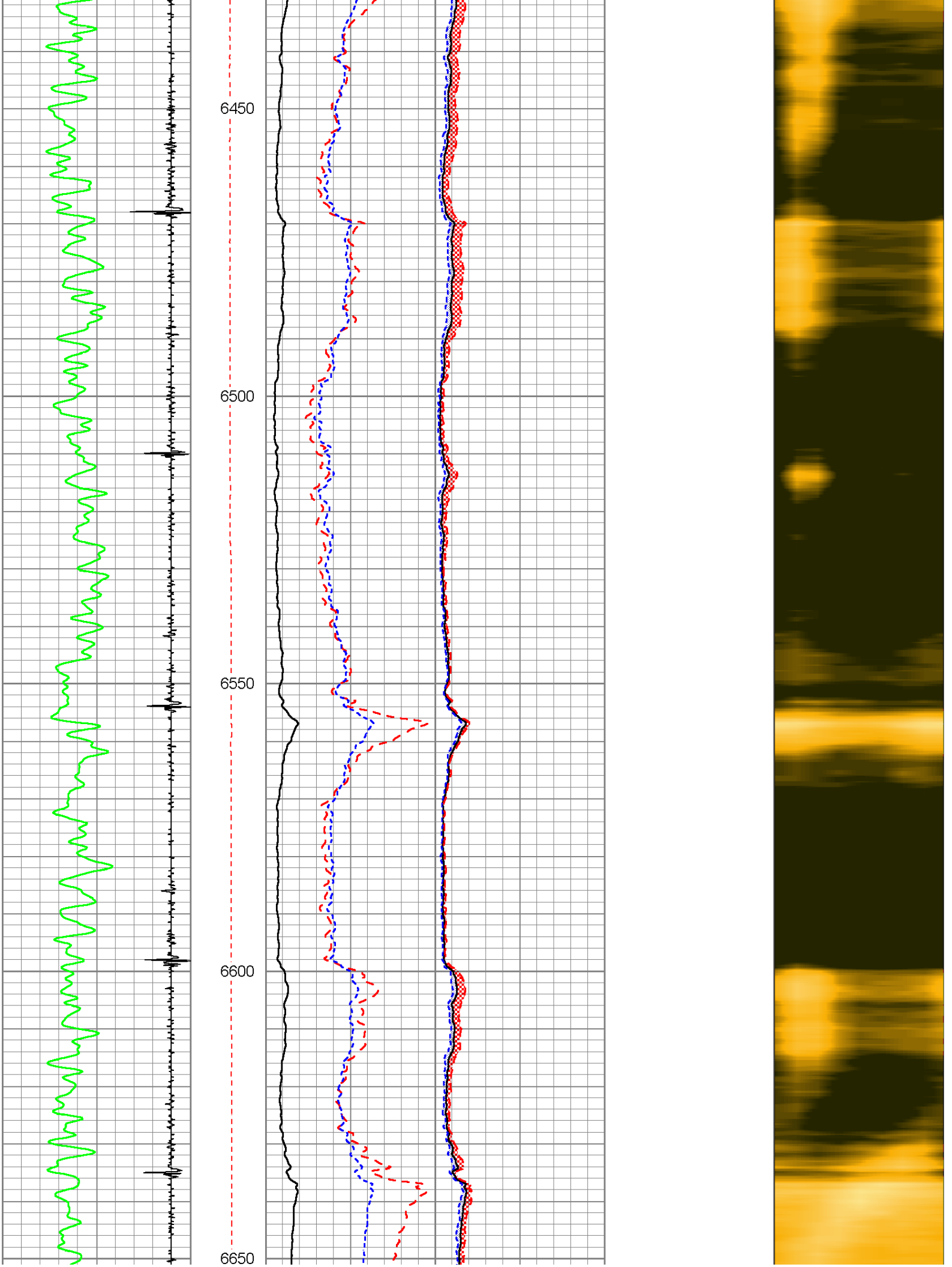
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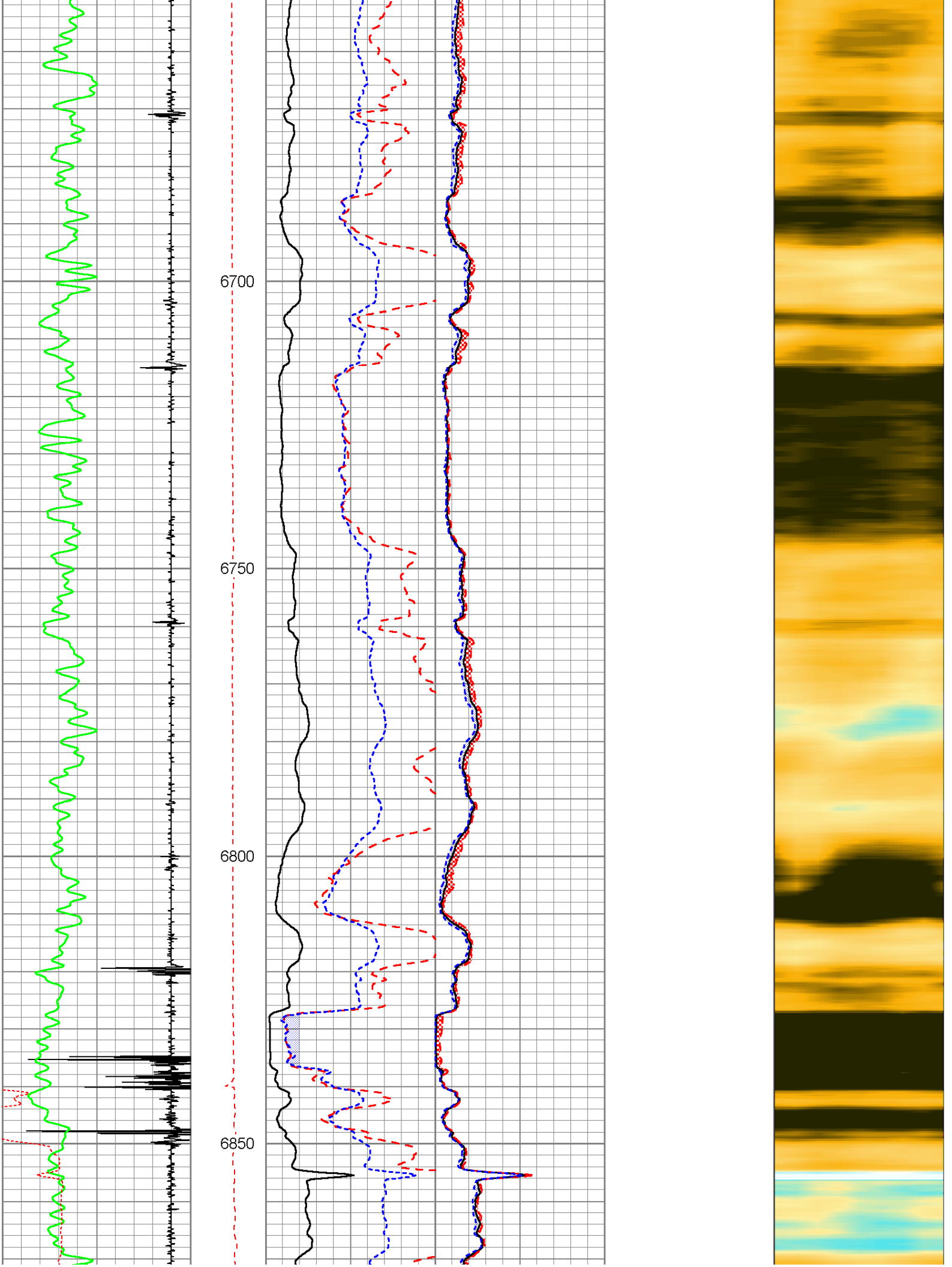
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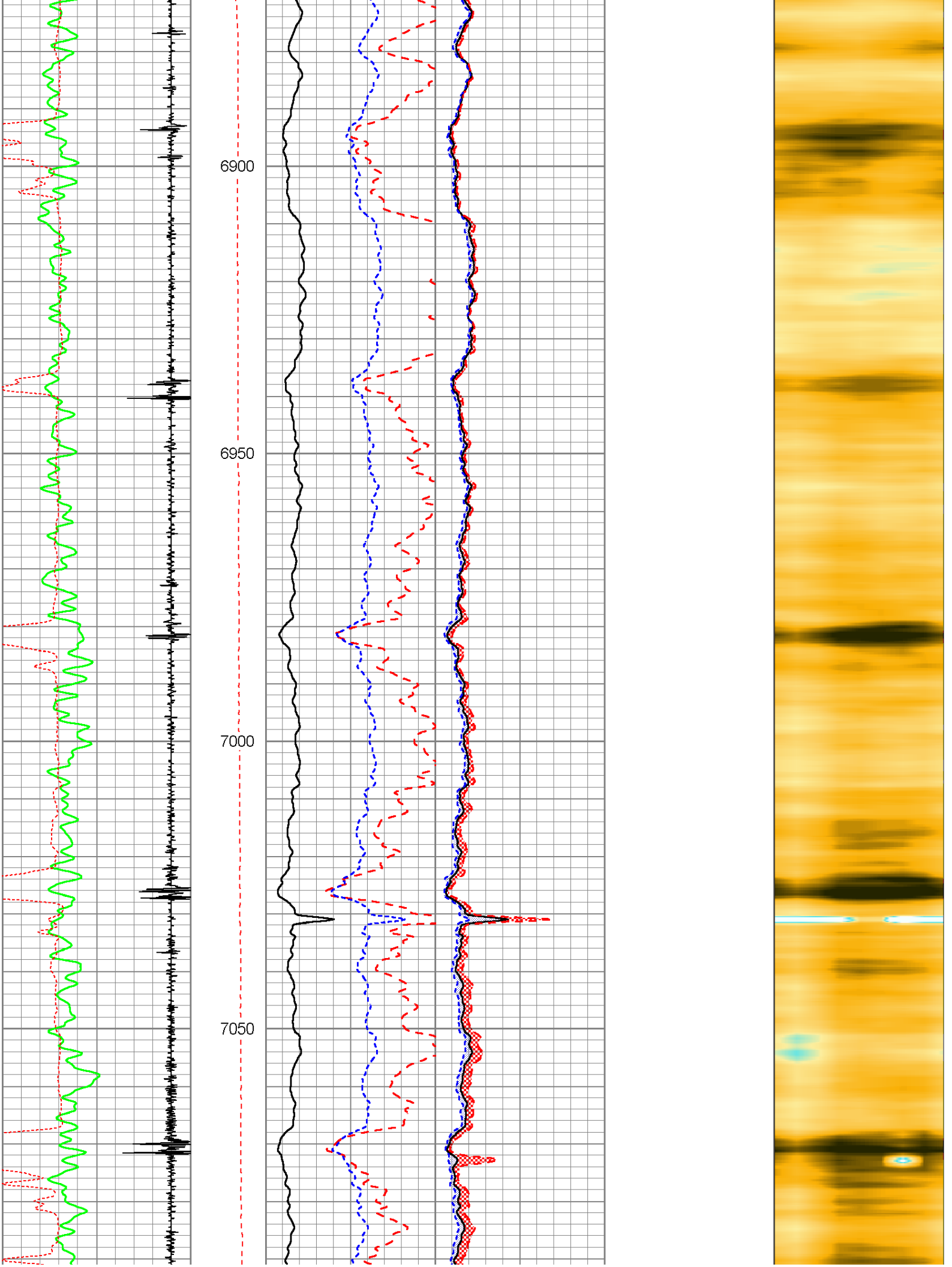
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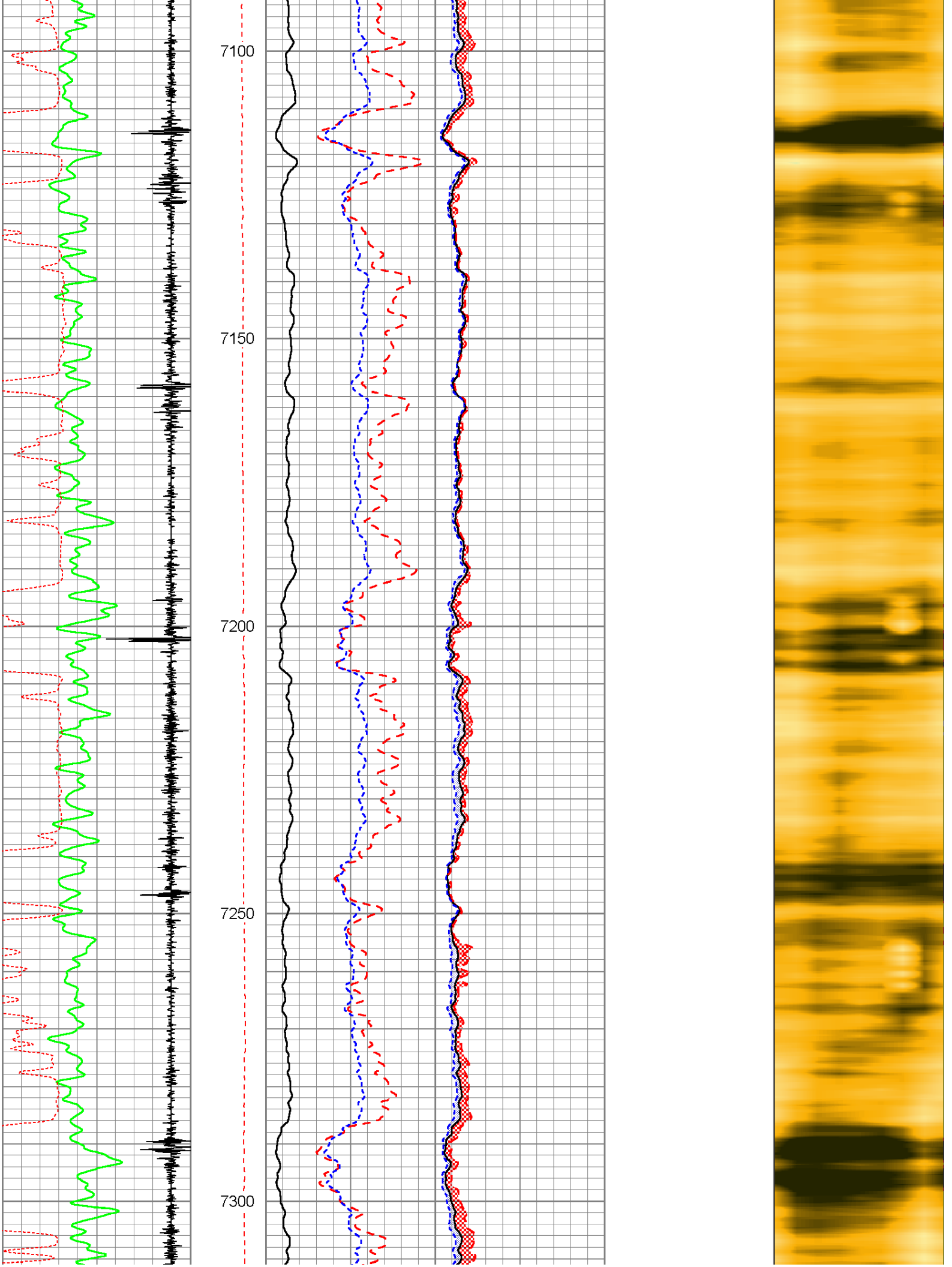
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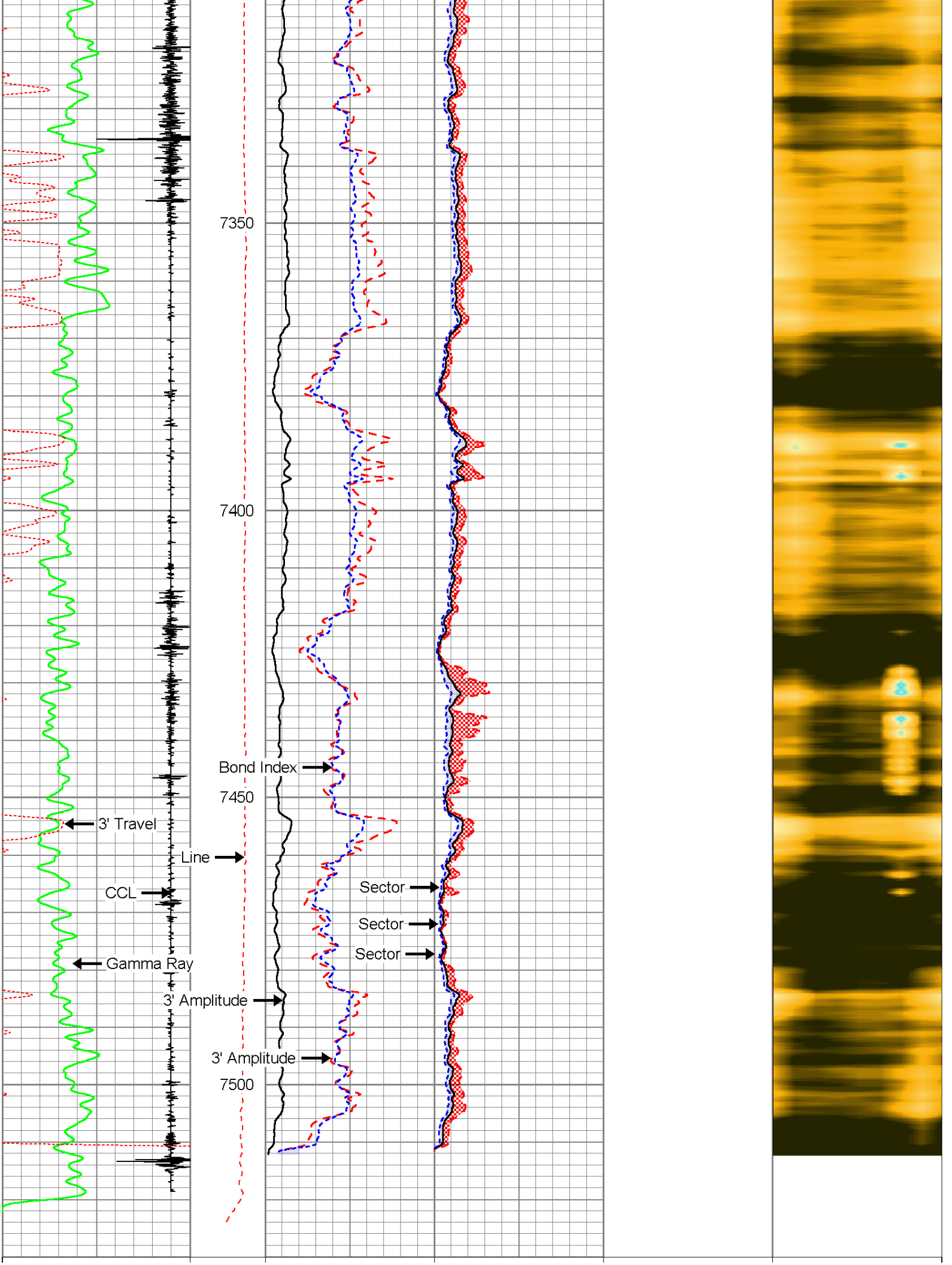
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Bond Index
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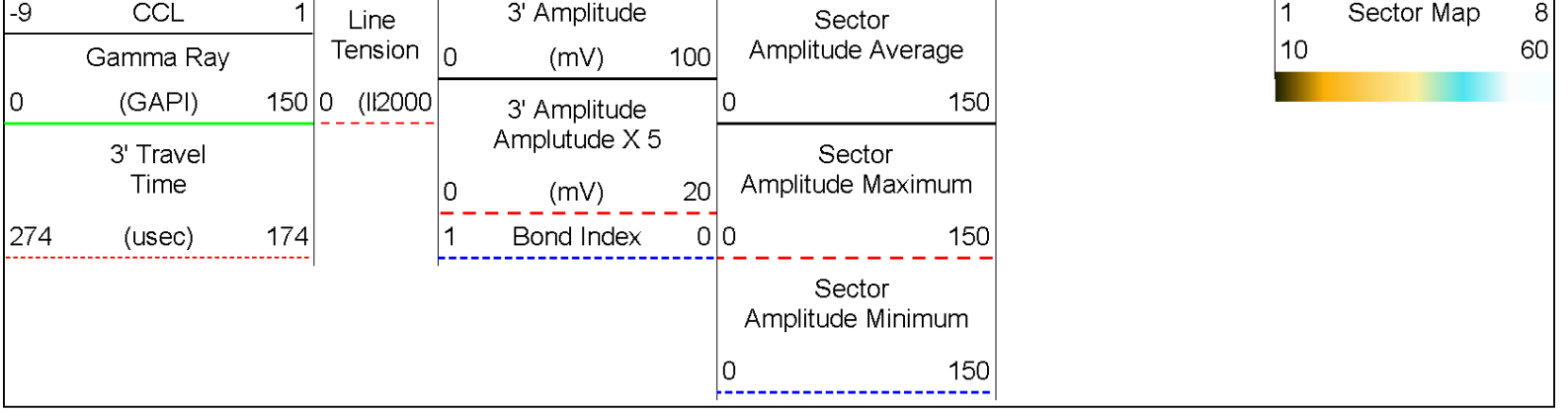
3' Travel
Line
CCL
Sector
Sector
Sector
Gamma Ray
3' Amplitude
3' Amplitude
7500

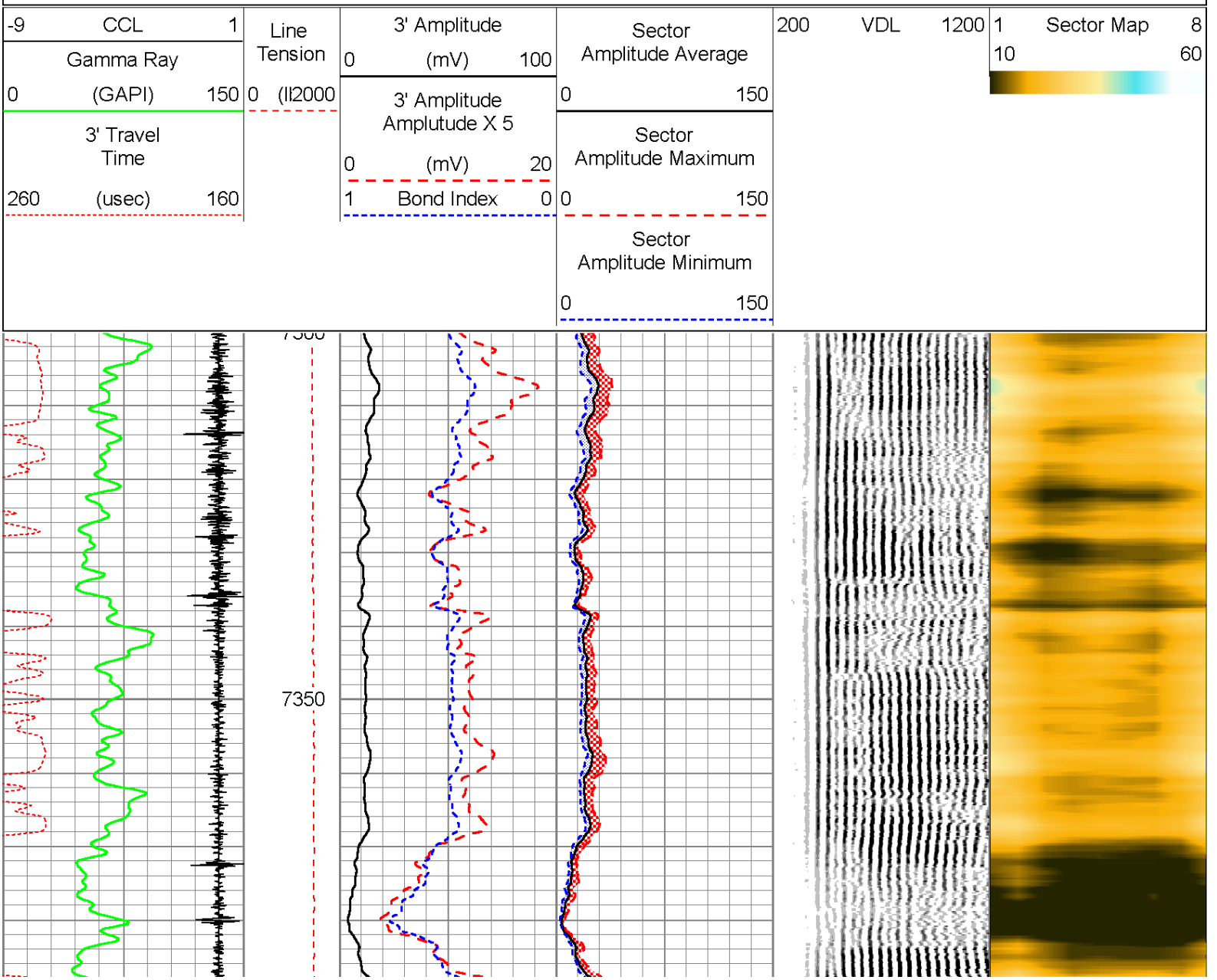


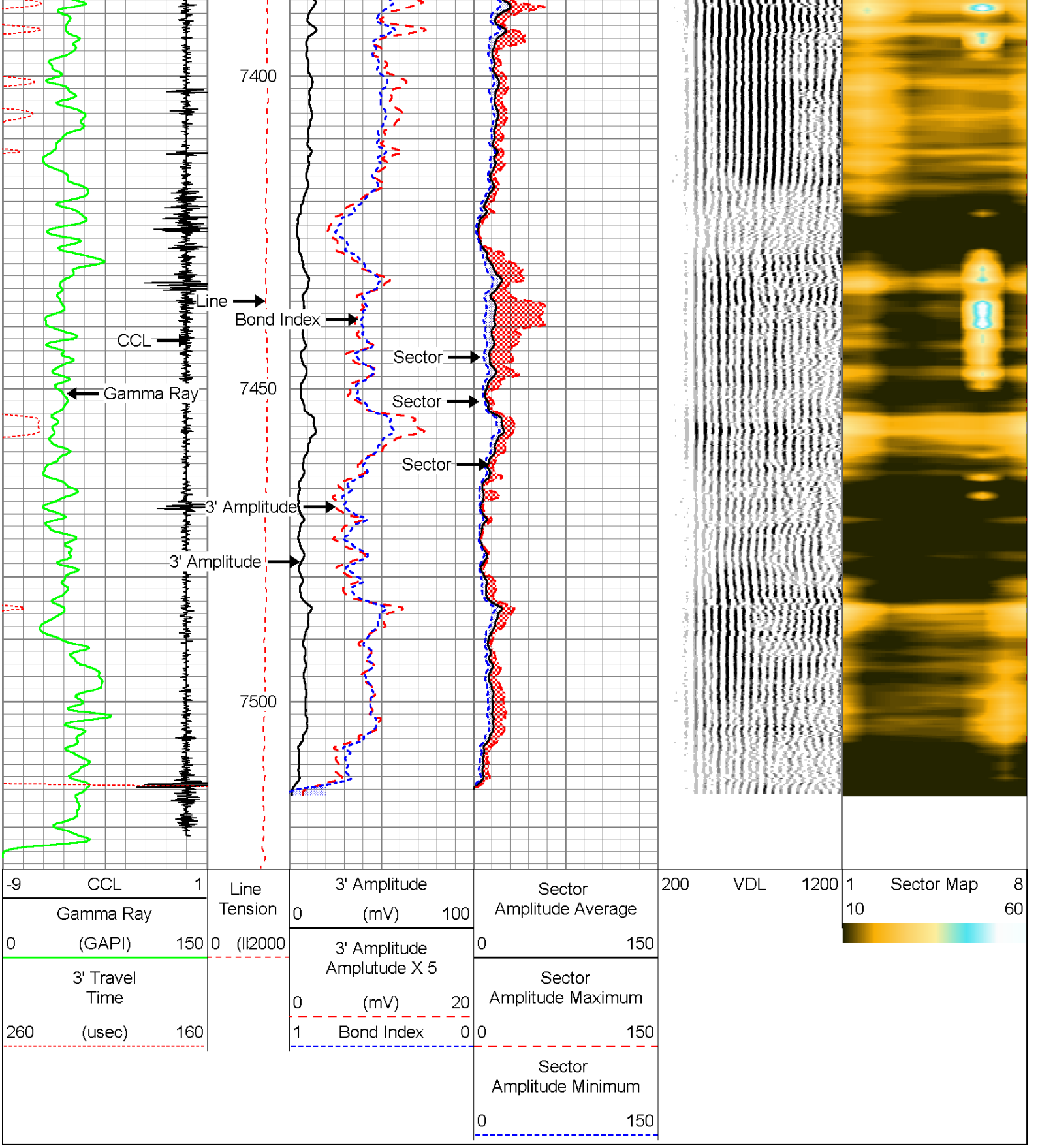
PIONEER

Pioneer Energy Services

Repeat Pass logged under 2800# psi

Database File:	05123405470000_thomsen_2n_31_hz_rbl.db
Dataset Pathname:	pass2
Presentation Format:	colo_rad
Dataset Creation:	Wed Mar 04 11:34:08 2015 by Calc 7.0 B1
Charted by:	Depth in Feet scaled 1:240





Company	Anadarko Petroleum Corp.
Well	Thomsen 2N-31HZ
Field	Wattenberg
County	Weld
State	Colo.