ALLIED WIRELINE

Radial Cement Bond
Variable Density Log
W/ Gamma Ray/ CCL/ Temp

Company Noble Energy
Well Nakagawa B13-65-1HN
Field Wattenberg
County Weld State Colorado
Location: API # : 05-123-36379
2310' FSL & 535' FEL
SEC 13 TWP 5N RGE 64W
Other Services
None
Permanent Datum Ground Level Elevation 4570'
Log Measured From Kelly Bushing 30' Above P.D.
Drilling Measured From Kelly Bushing
Elevation
K.B. 4600'
D.F. 4599'
G.L. 4570'

Company	Noble Energy
Well	Nakagawa B13-65-1HN
Field	Wattenberg
County	Weld
State	Colorado

Date	07-30-2013
Run Number	One
Depth Driller	11037'
Depth Logger	6900'
Bottom Logged Interval	6897'
Top Log Interval	Surface
Open Hole Size	N/A
Type Fluid	Fresh Water
Density / Viscosity	8.33
Max. Recorded Temp.	221 Deg F
Estimated Cement Top	1040'
Time Well Ready	11:00
Time Logger on Bottom	12:15
Equipment Number	12029
Location	Brighton
Recorded By	J.Morrison
Witnessed By	B. Mansfeild

Borehole Record

Run Number	Bit	From	To
1	13.75	130'	634'
2	8.75	634'	7085'
3	6.125	7085'	11037'

Tubing Record

Size	Weight	From	To
G. Lueck			

	Size	Wgt/Ft	Top	Bottom
Casing Record				
Surface String	9 5/8"	36#	30'	624'
Prot. String				
Production String	7"	26#	30'	7075'
Liner	4.5"	11.6#	6925'	11027'
	Short Joint		5624'-5638'	

<<< Fold Here >>>

Comments

Main and Repeat Passes Logged at (0) PSI

Well Logged Using 30' K.B.
Unable to fall through Liner Top
Short Joint At 5624'-5638'

Your Crew Today Was J. Morrison, G. Lueck, and R. Anderson

Thank You For Choosing Allied Wireline
(303) 659-4609

ALLIED WIRELINE

Main Pass (0) PSI

Database File:	noble_nakagawa_b13-65-1hn_cbl.db
Dataset Pathname:	pass9
Presentation Format:	scbl03
Dataset Creation:	Tue Jul 30 13:18:18 2013 by Calc SCH 120126
Charted by:	Depth in Feet scaled 1:240

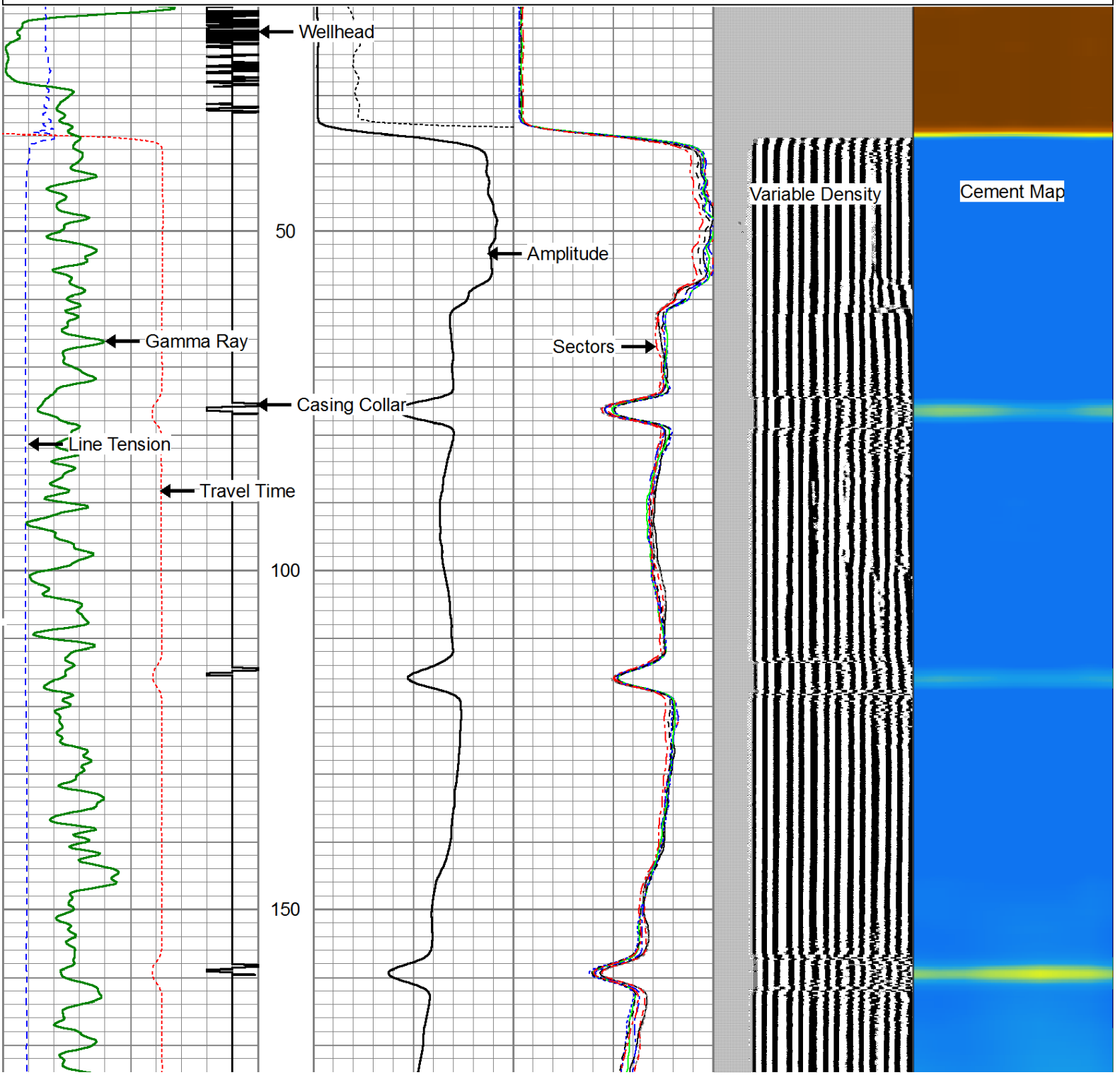
400	Travel Time (usec)	200
9	*Casing Collar*	-1
0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	2500

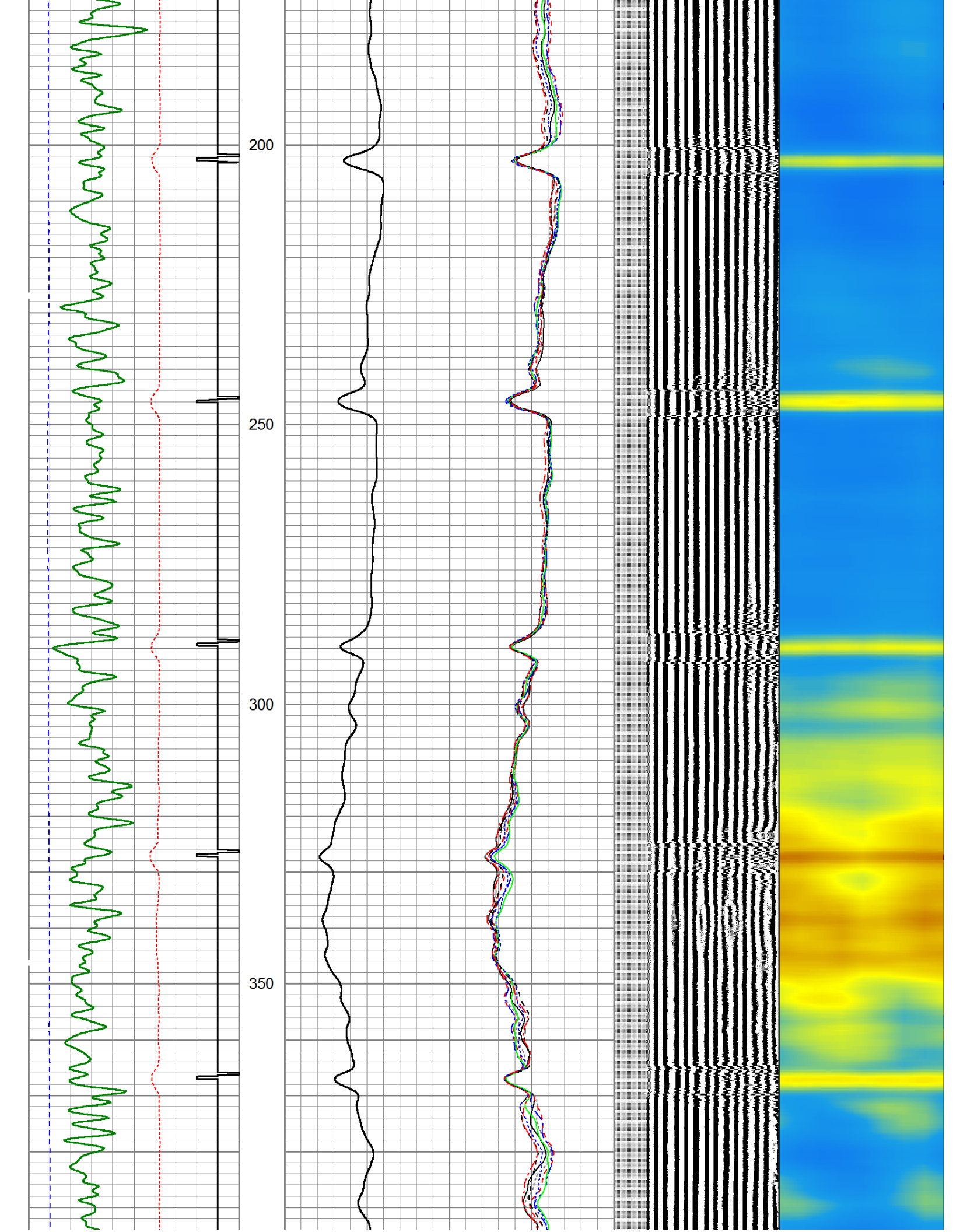
0	Amplitude (mV)	100
	Amplified Amplitude	
0	(mV)	10

-5	AMPS1	150
-5	AMPS2	150
-5	AMPS3	150
-5	AMPS4	150
-5	AMPS5	150
-5	AMPS6	150
-5	AMPS7	150
-5	AMPS8	150

	Variable Density	
200		1200

1	Cement Map	8
0		100

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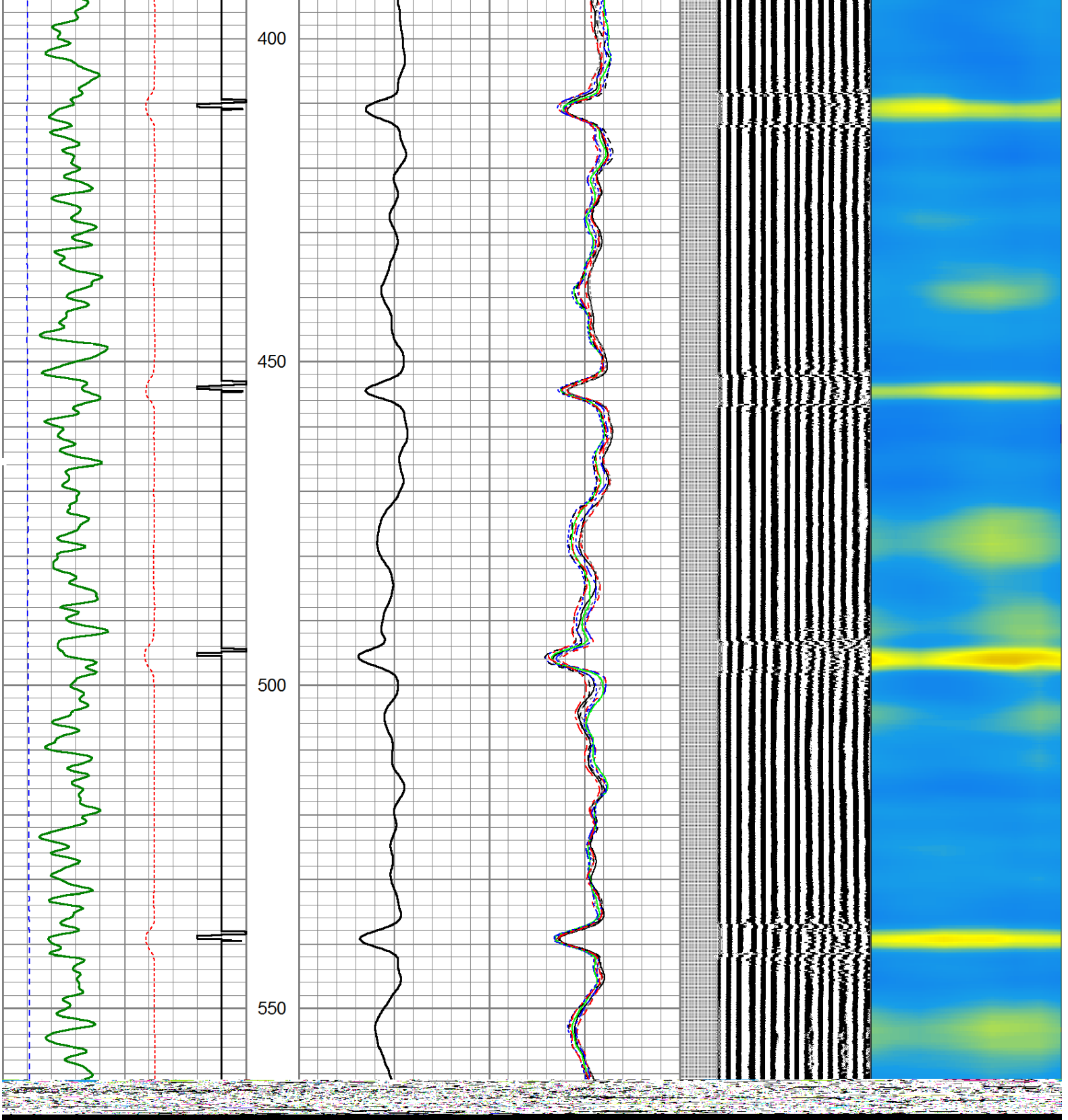
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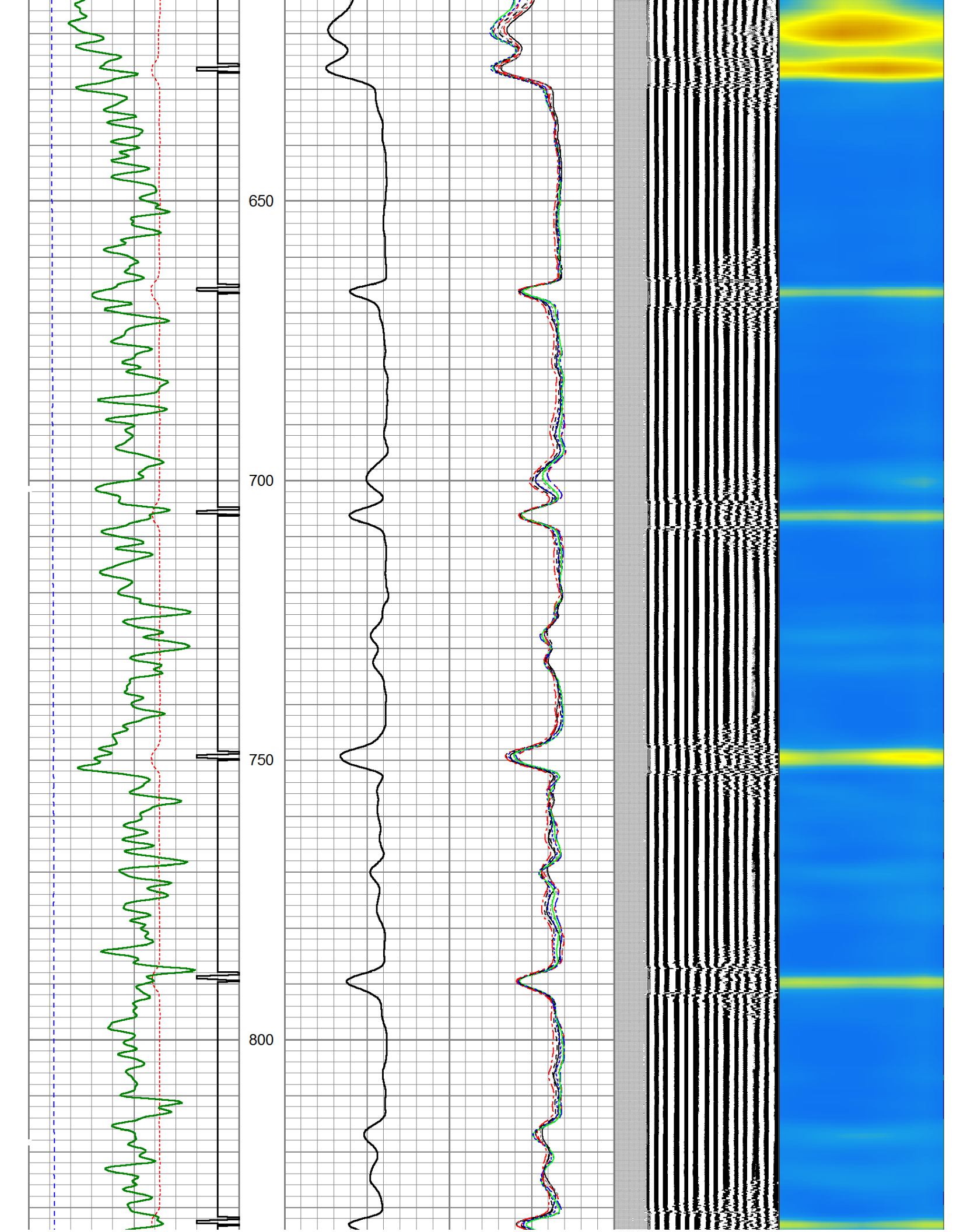
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750
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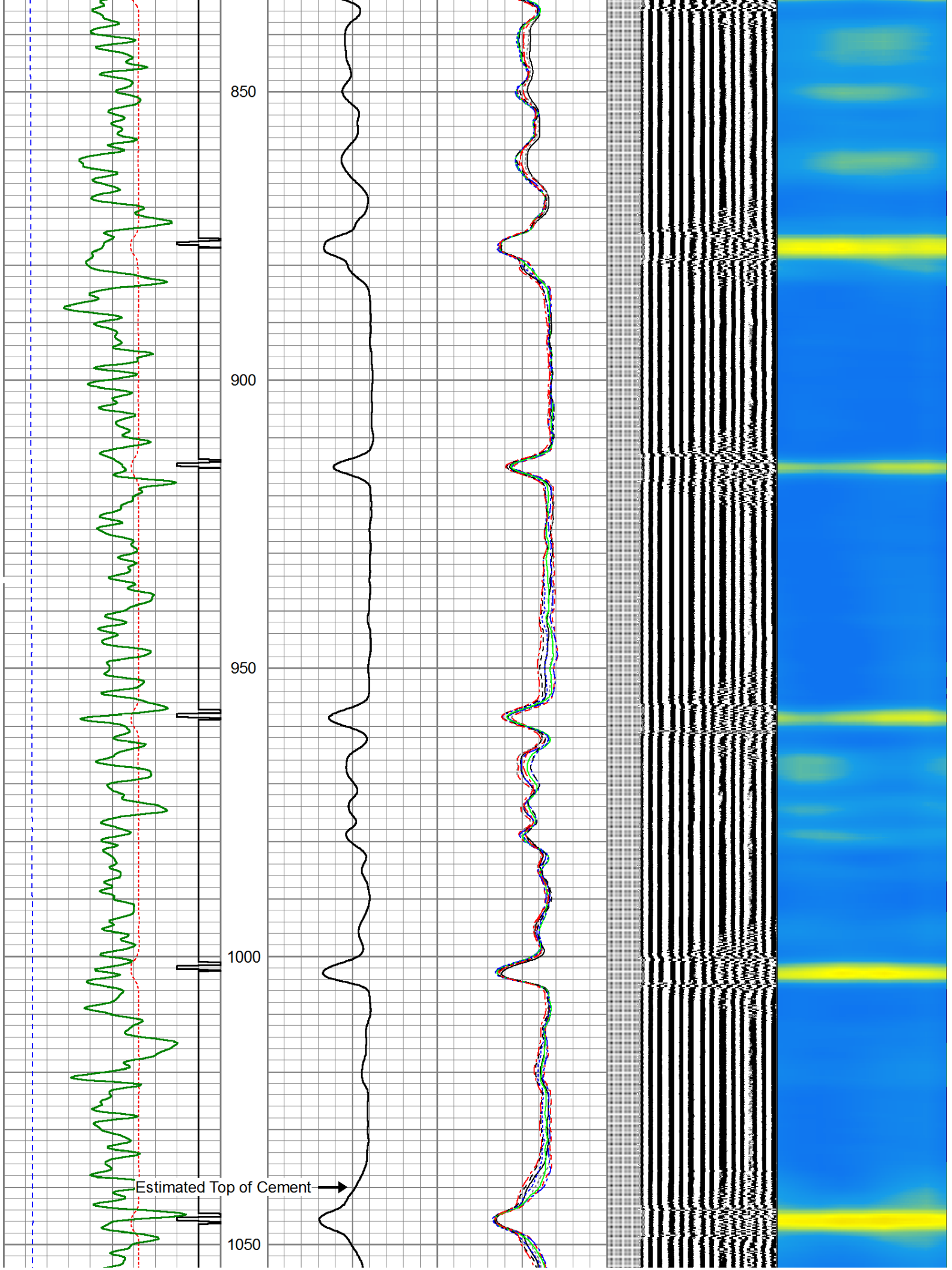
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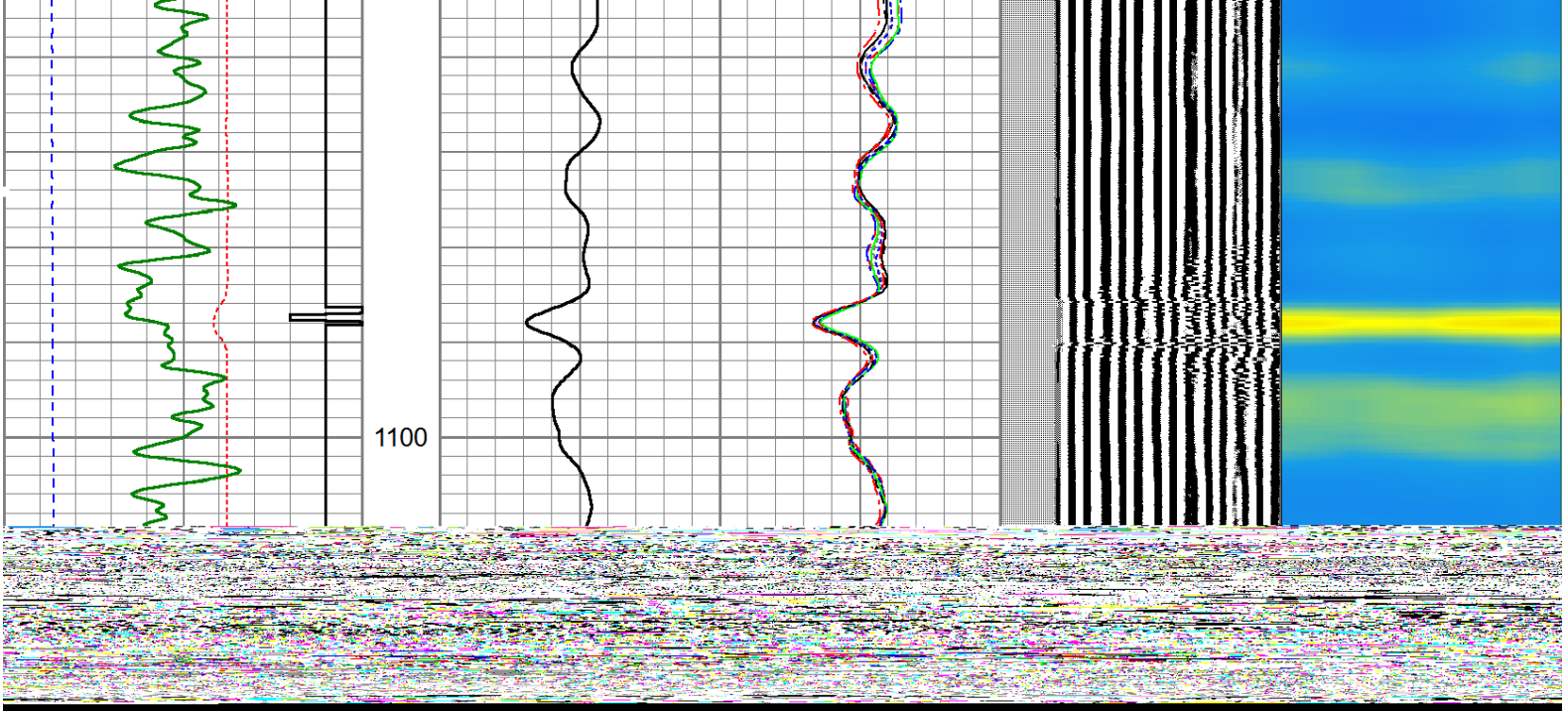
900
950
1000
Estimated Top of Cement
1050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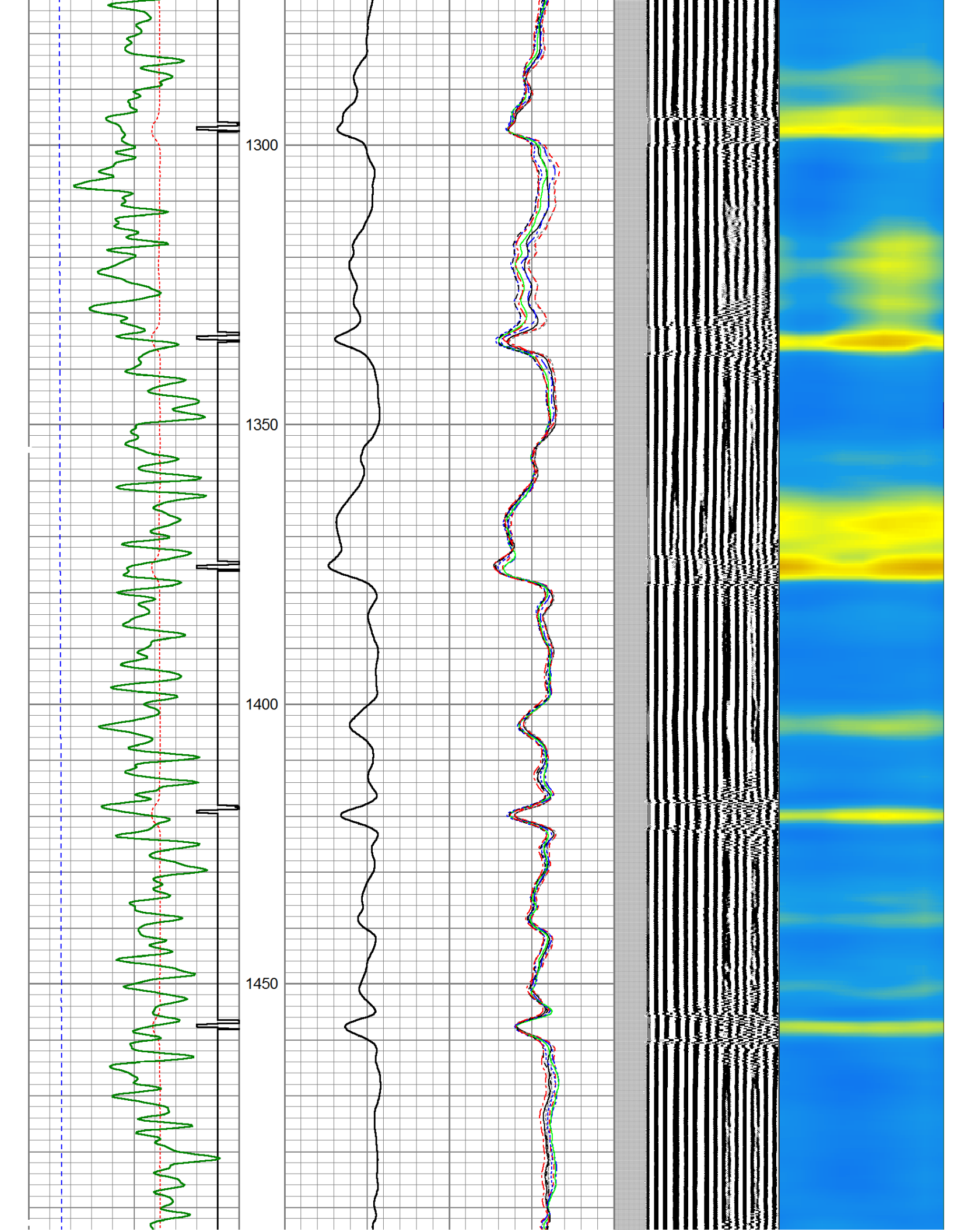
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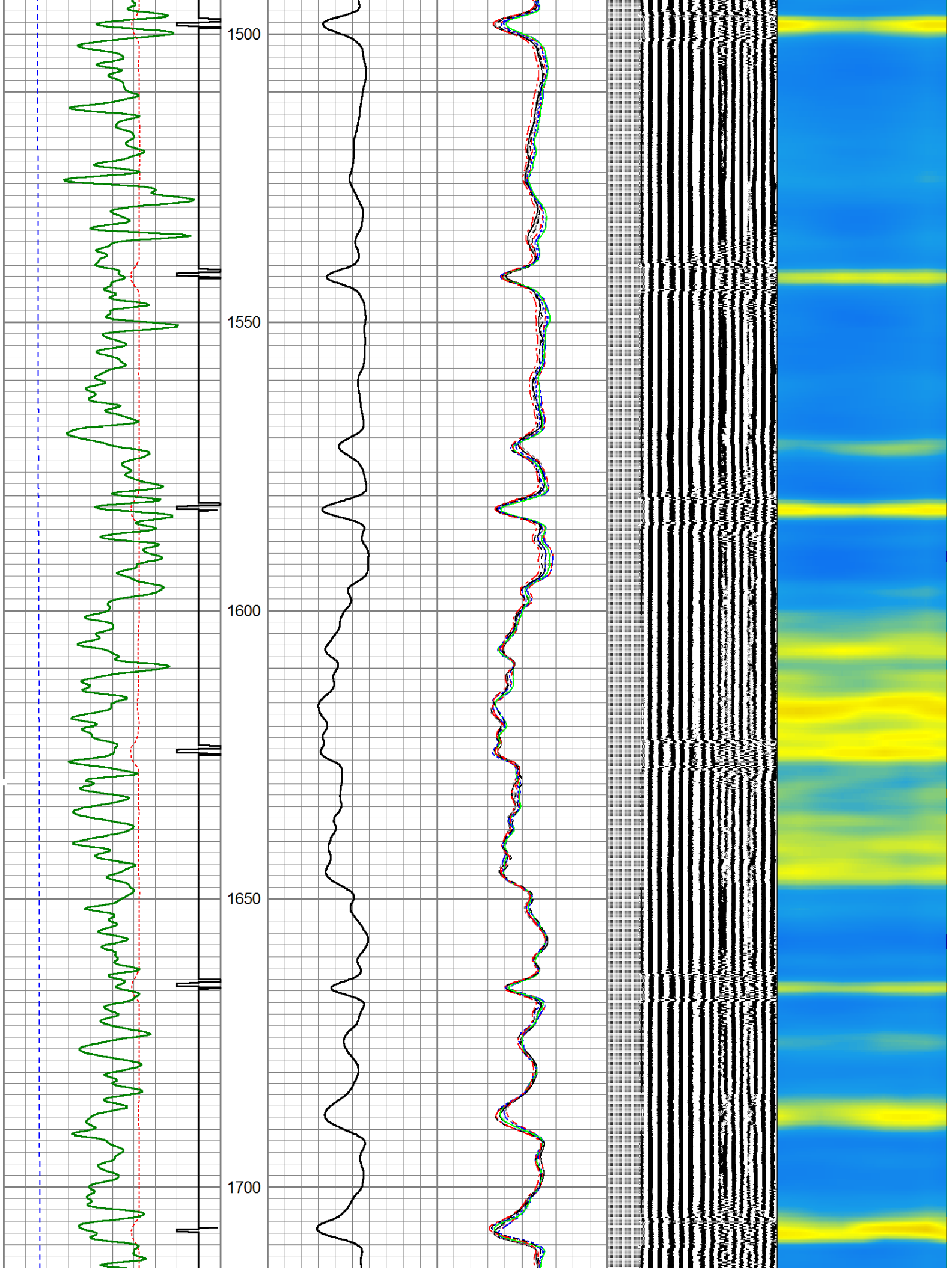
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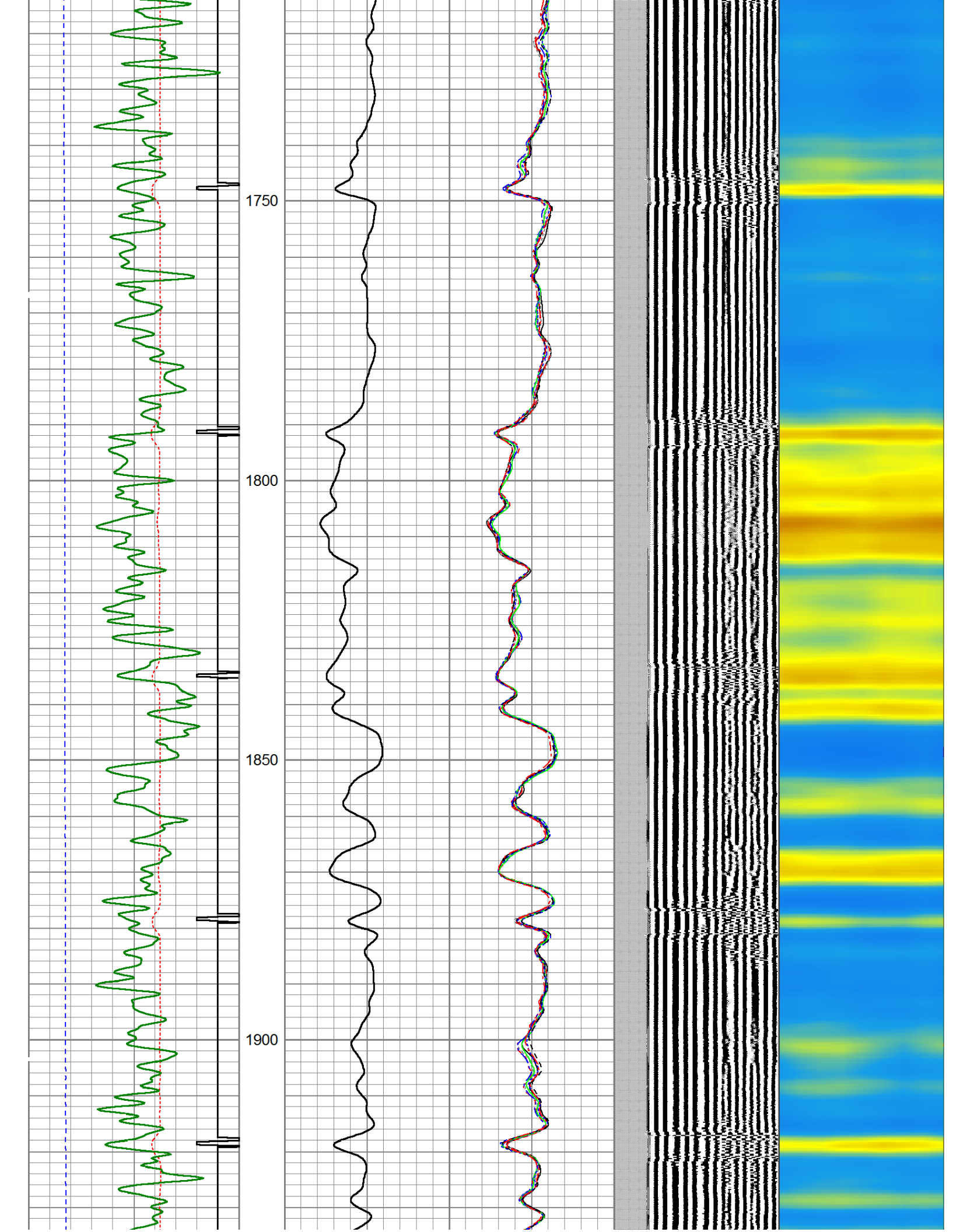
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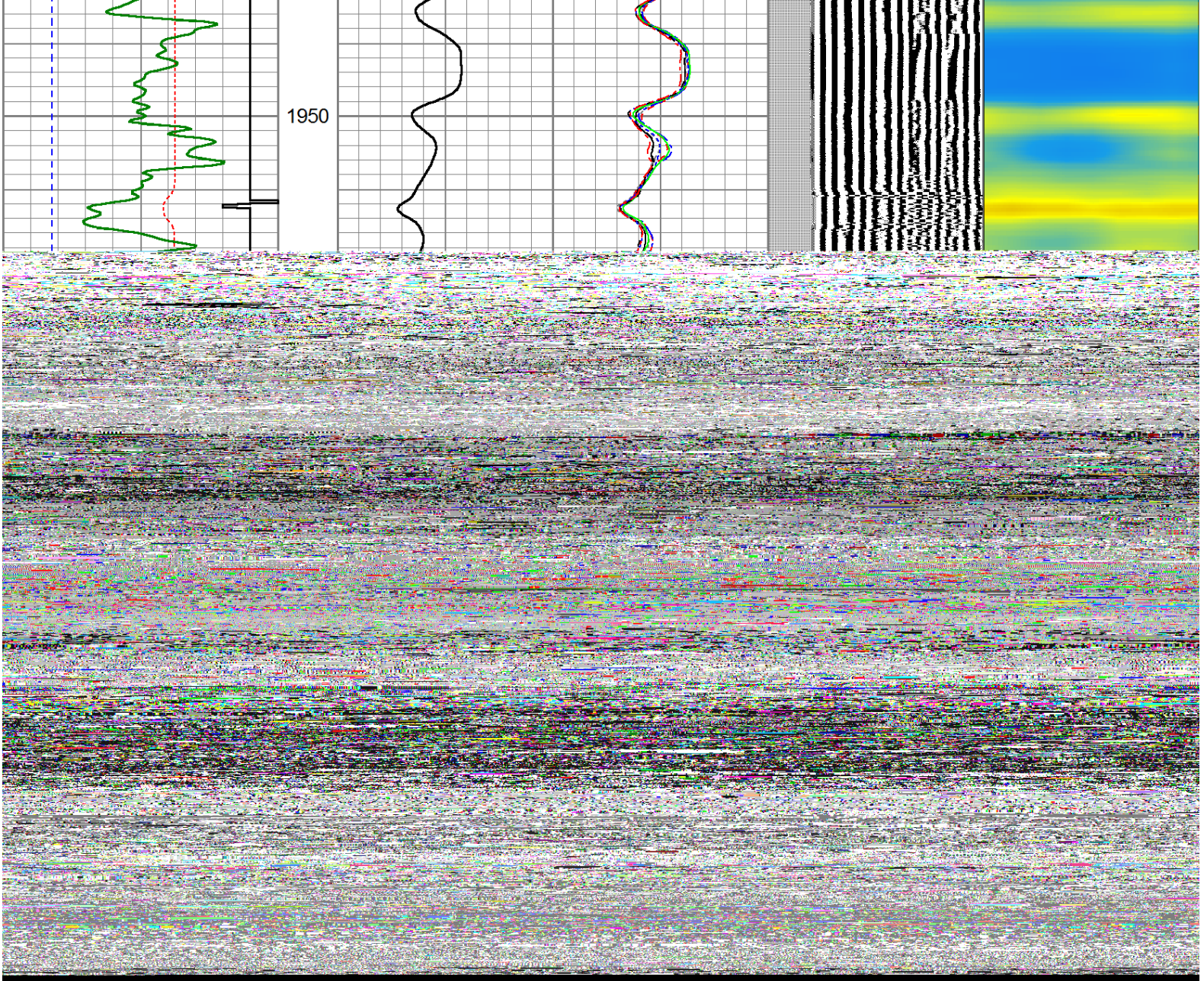
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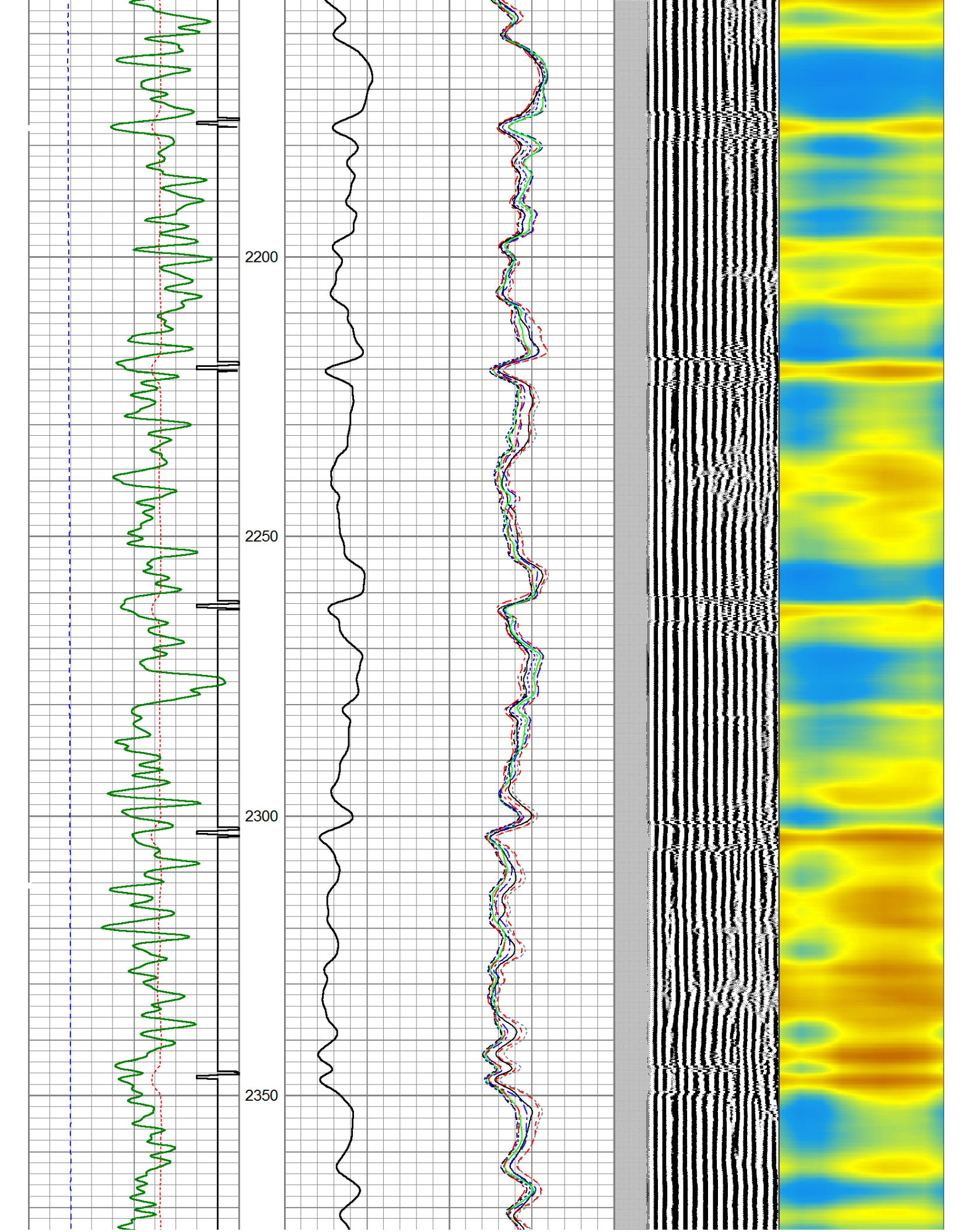
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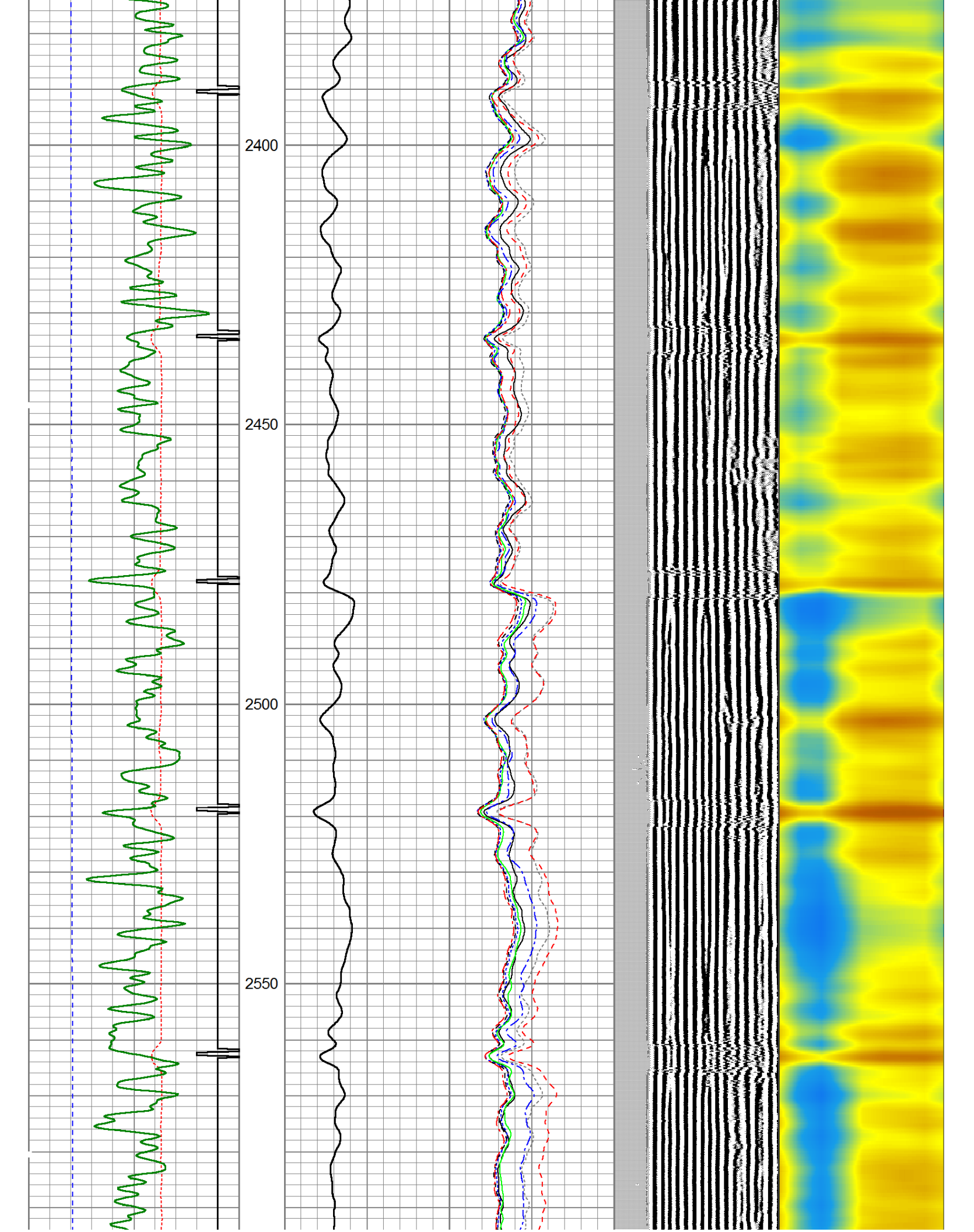
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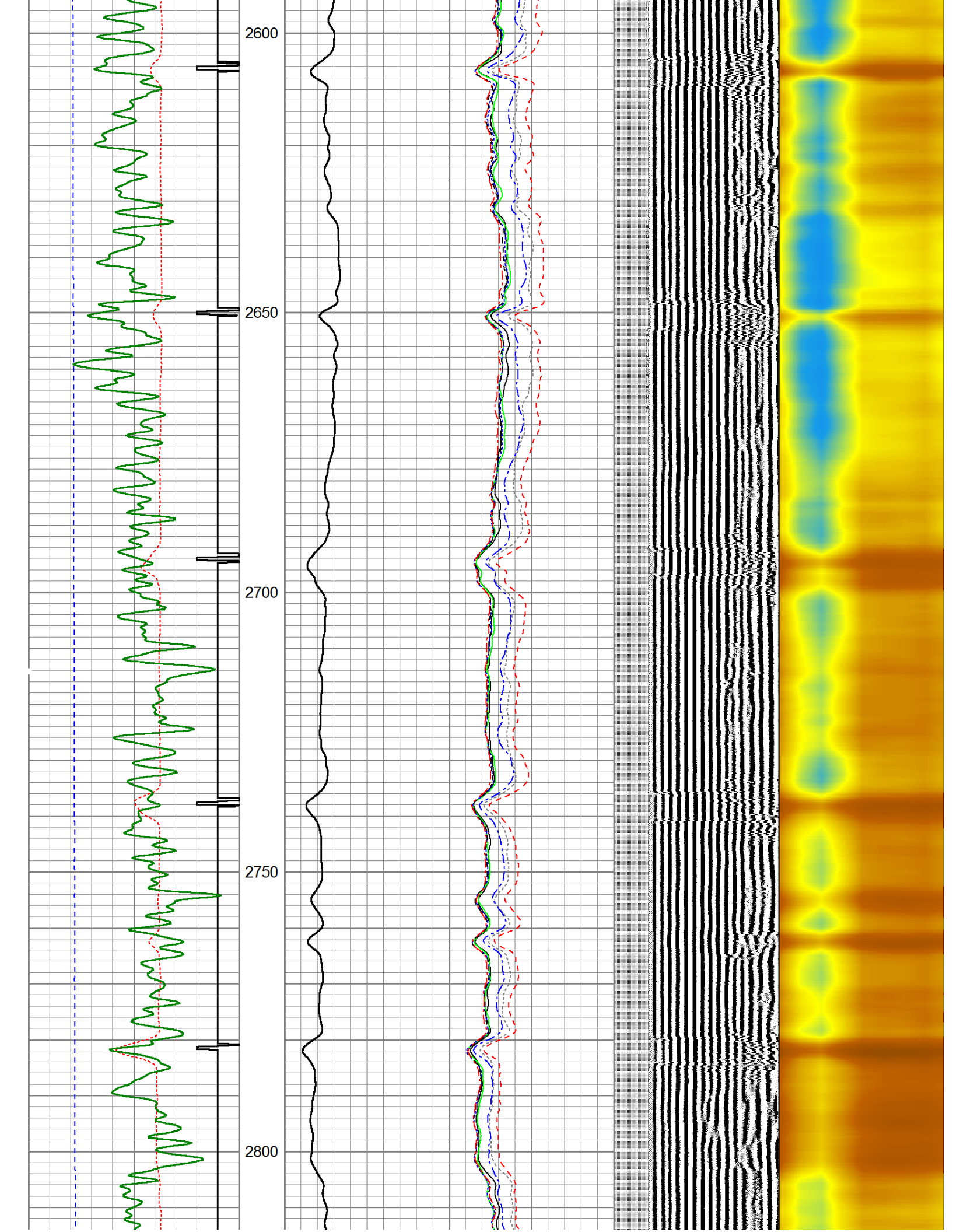
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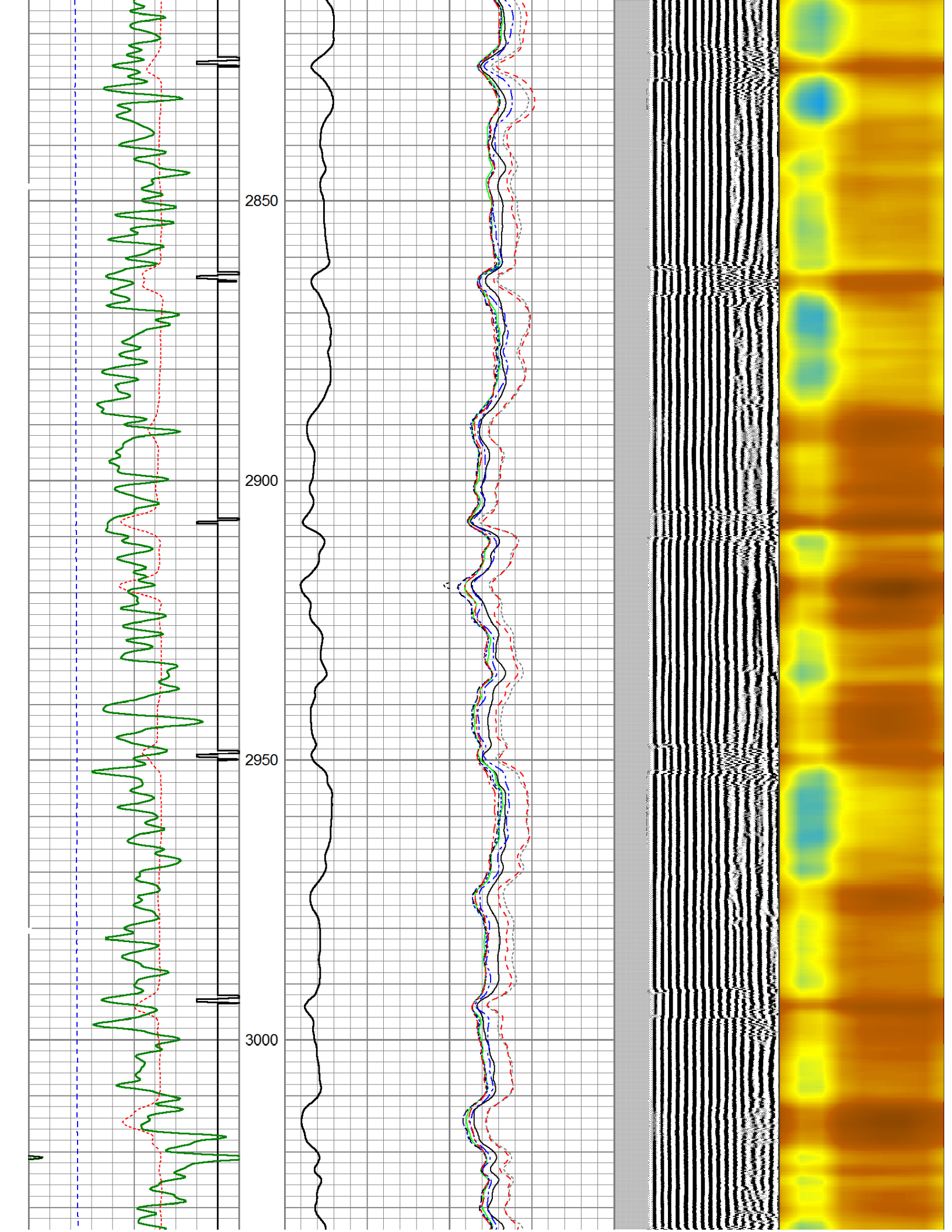
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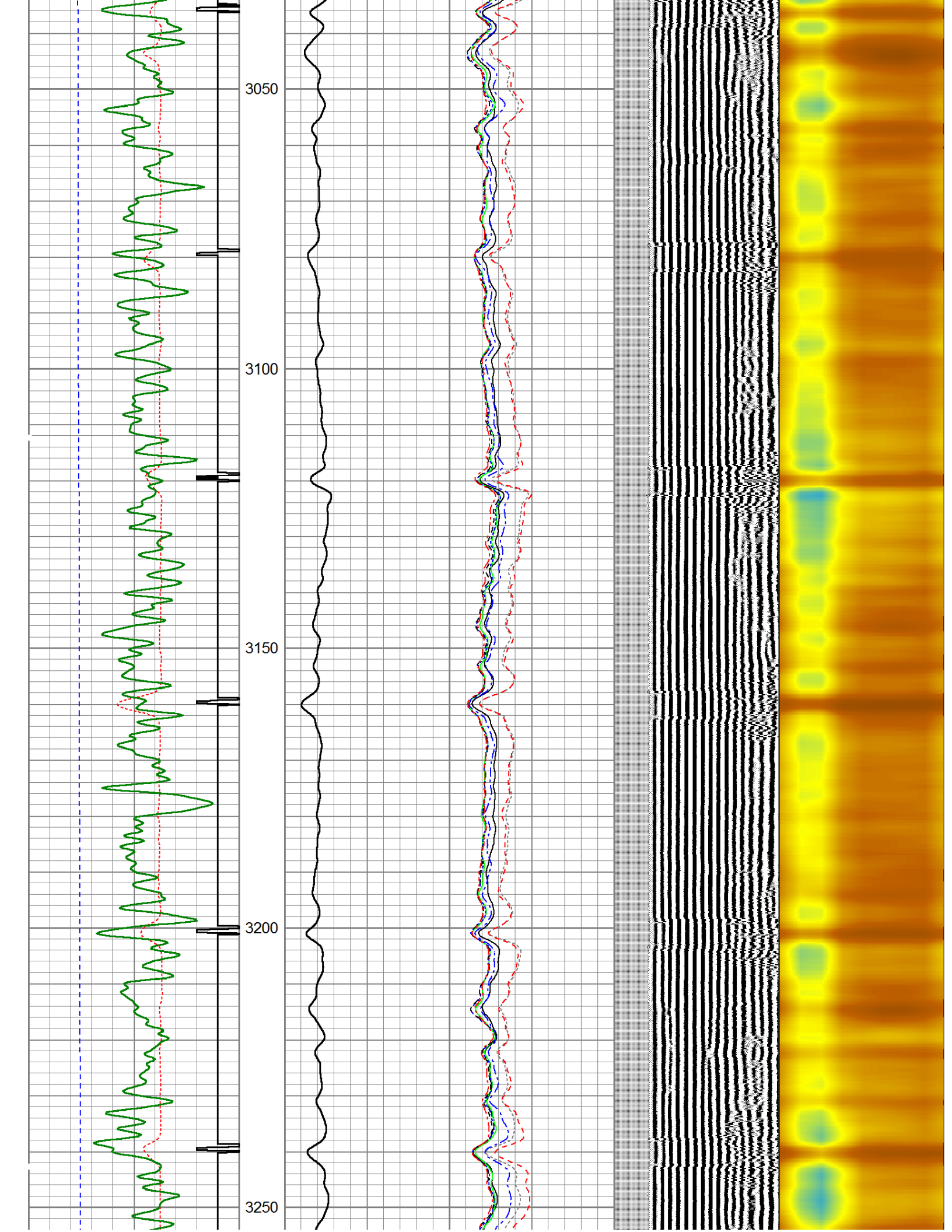
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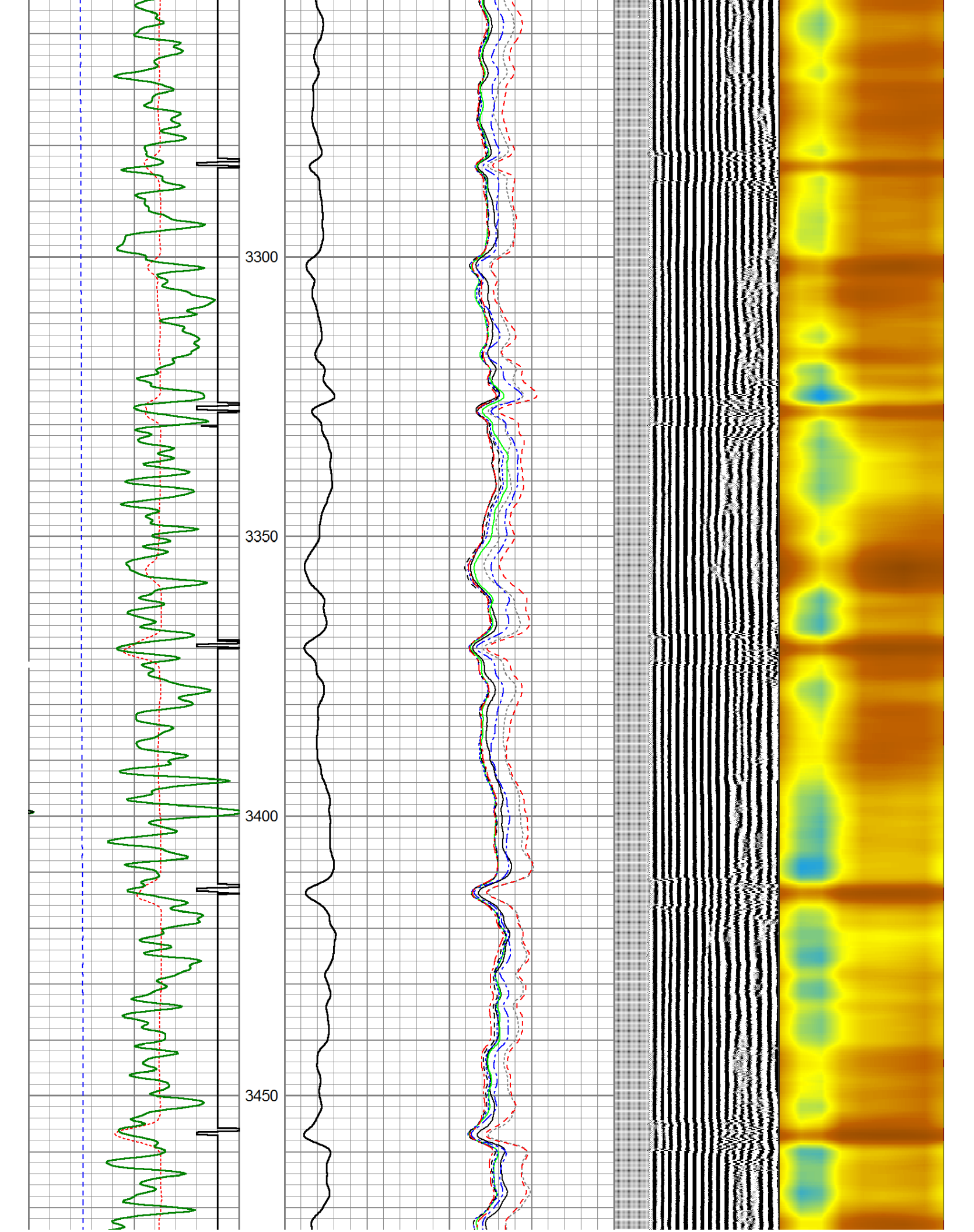
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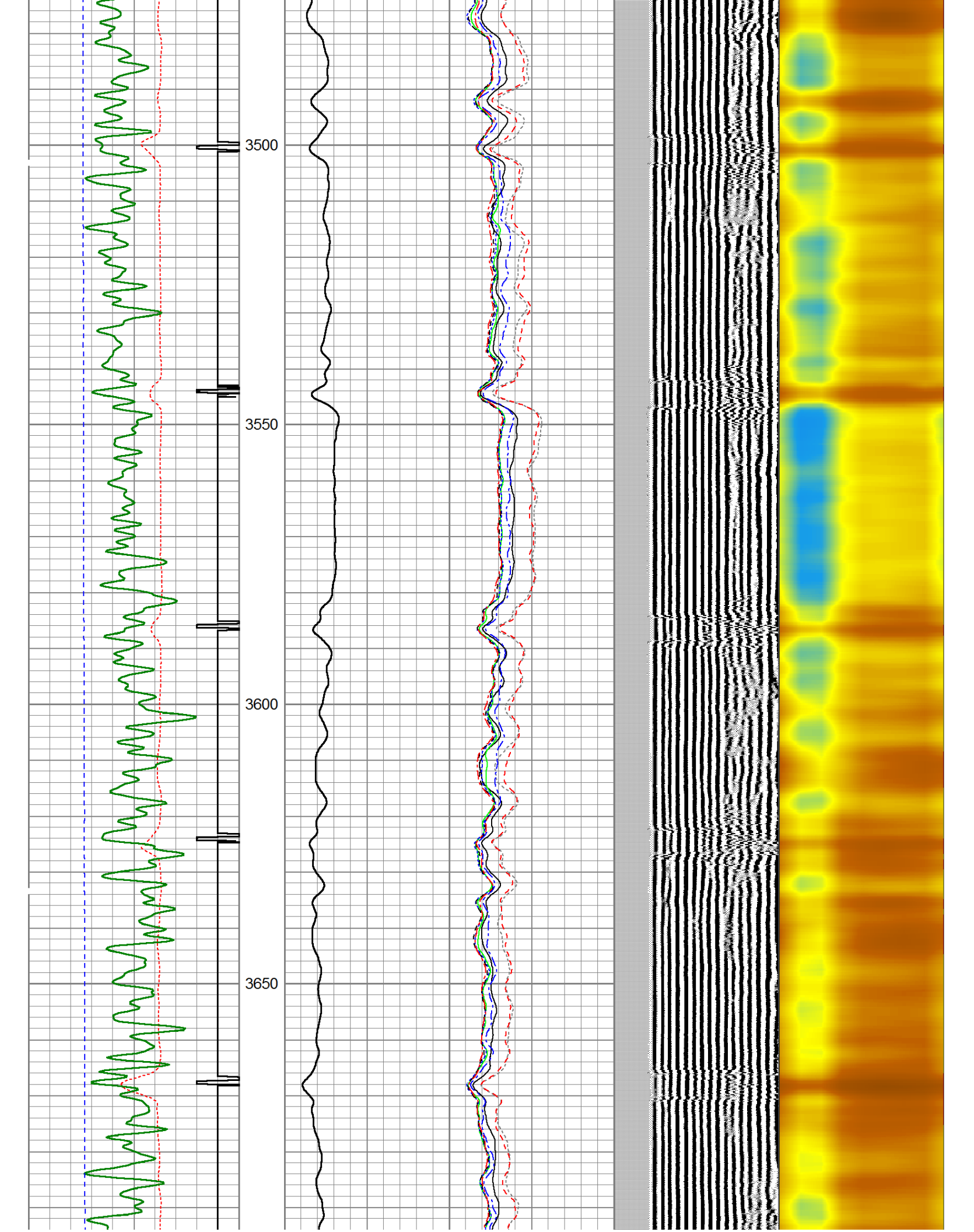
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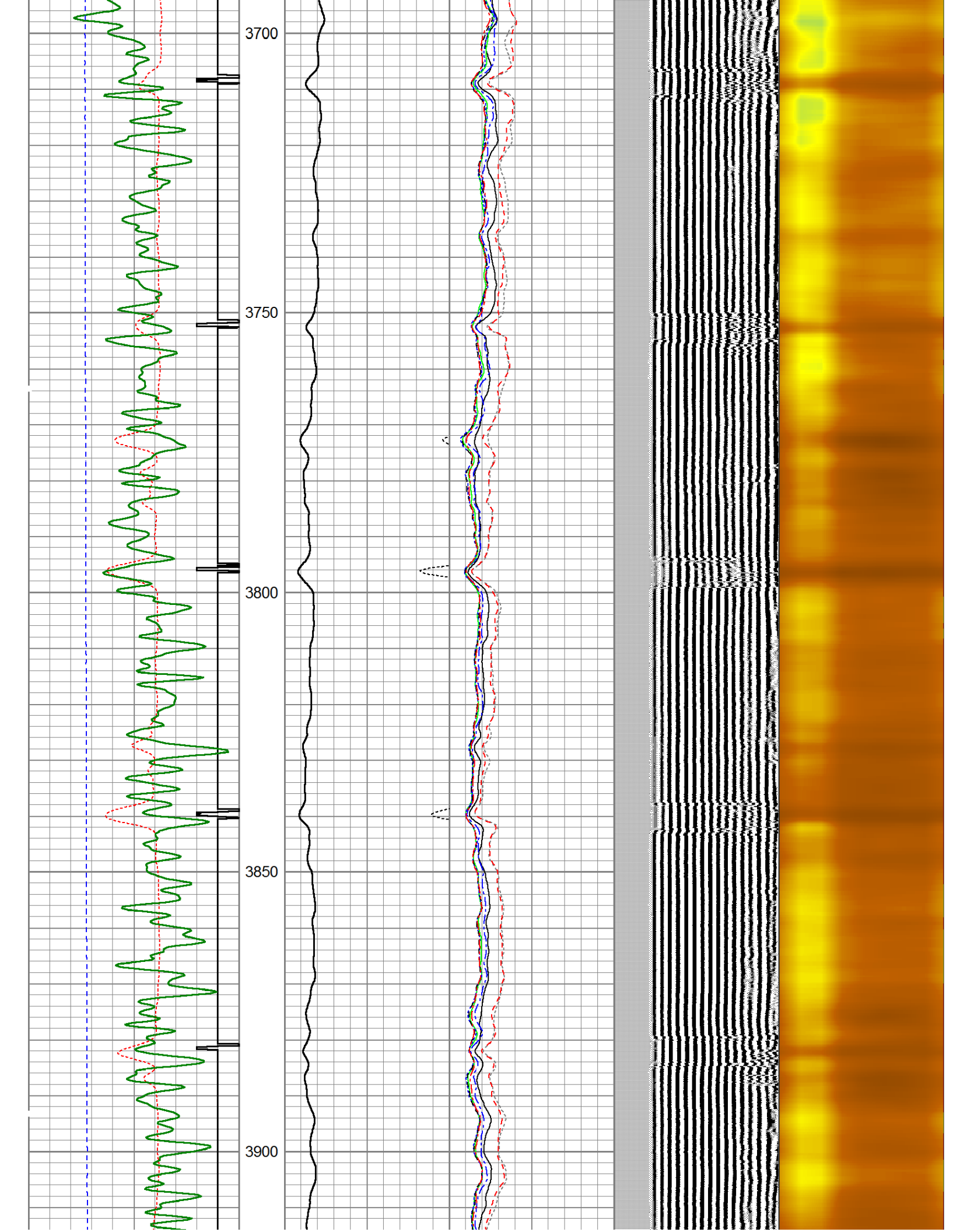
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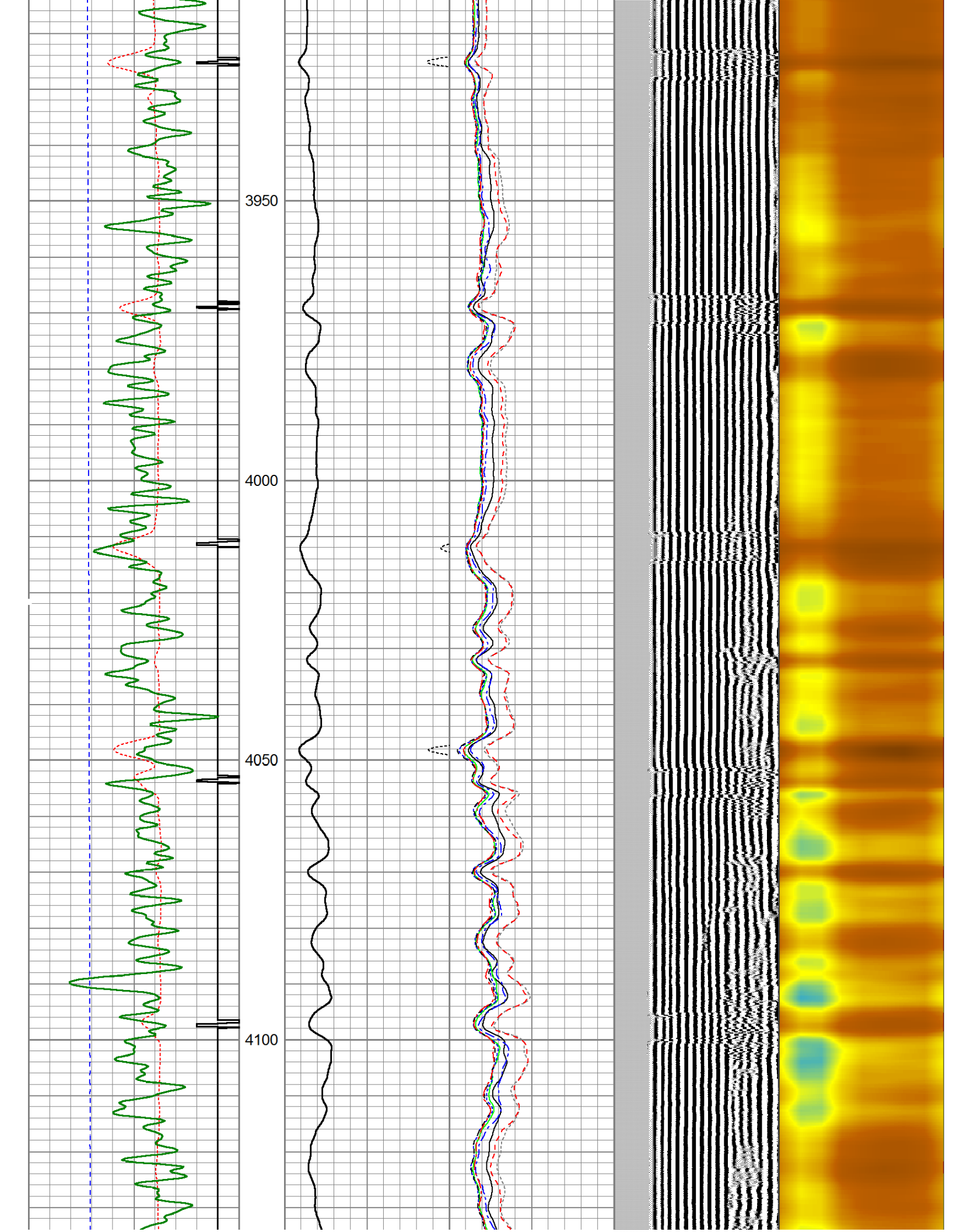
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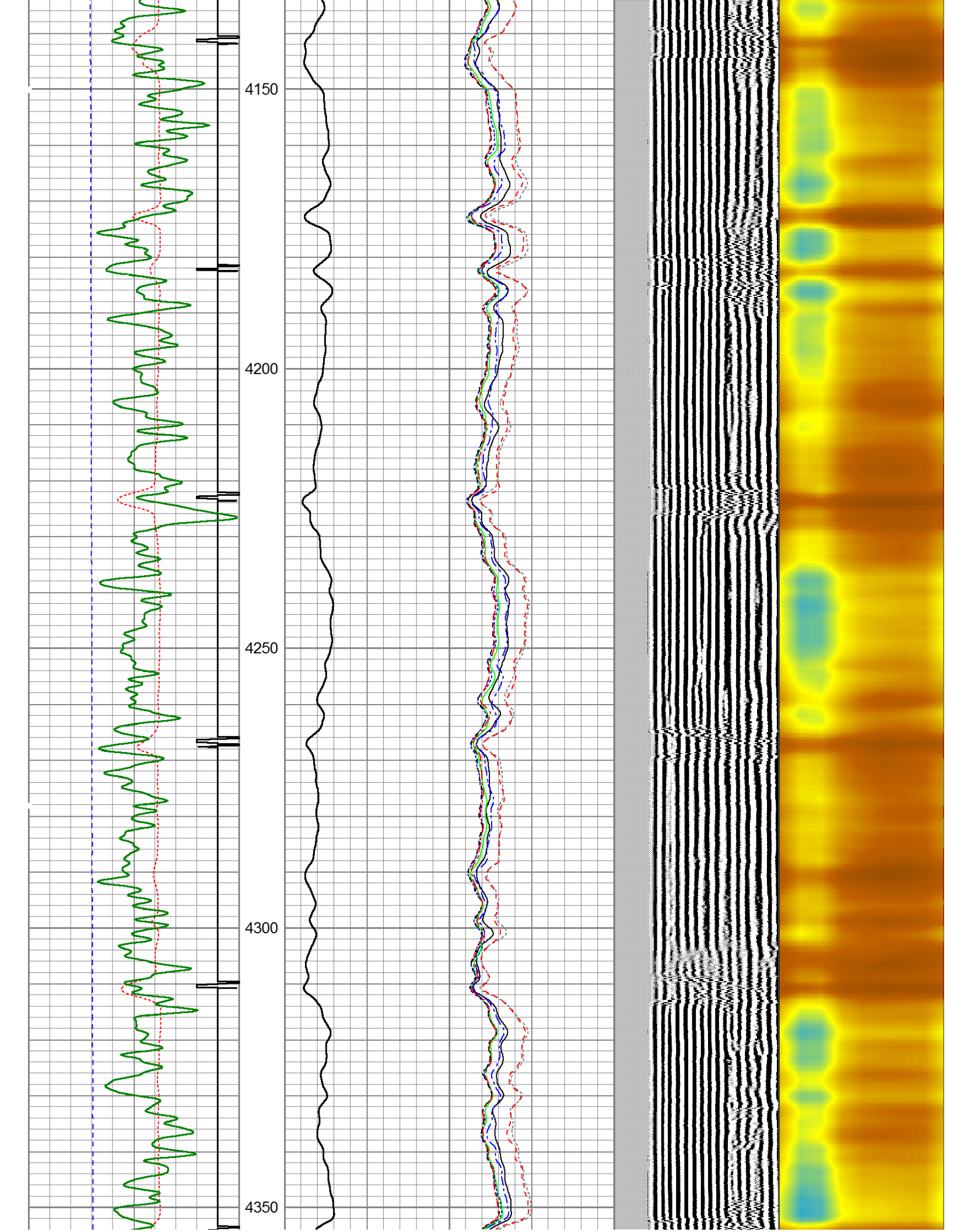
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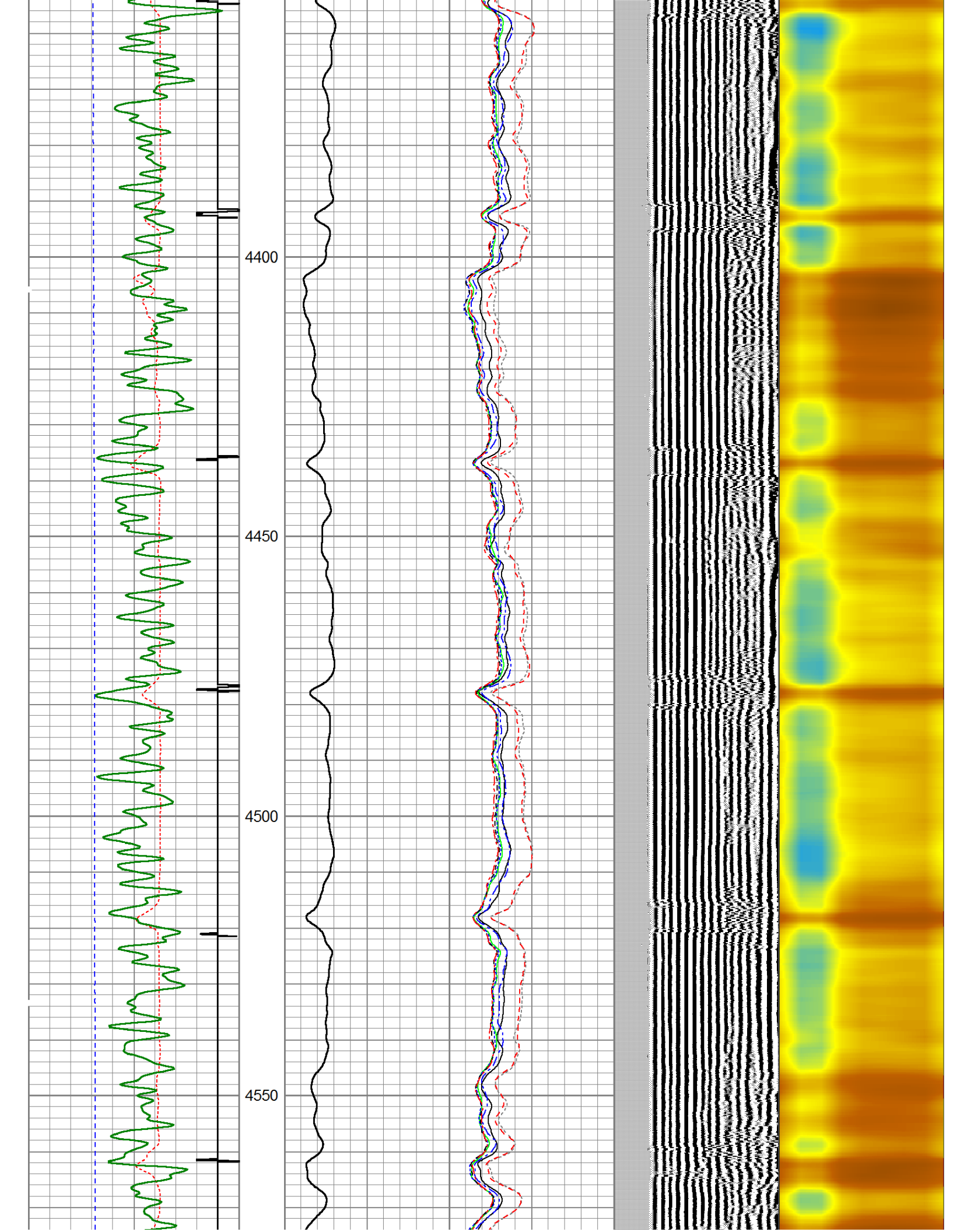
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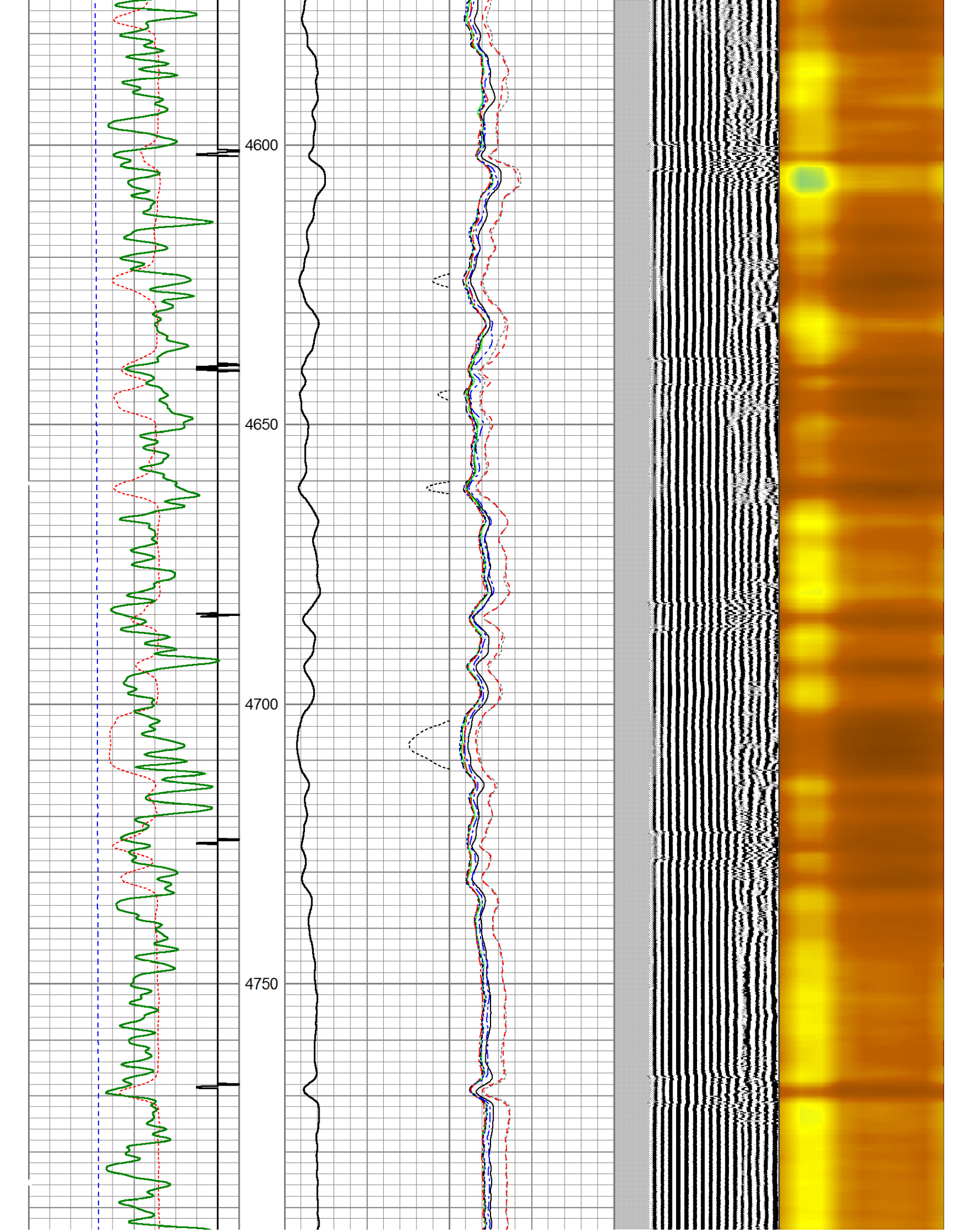
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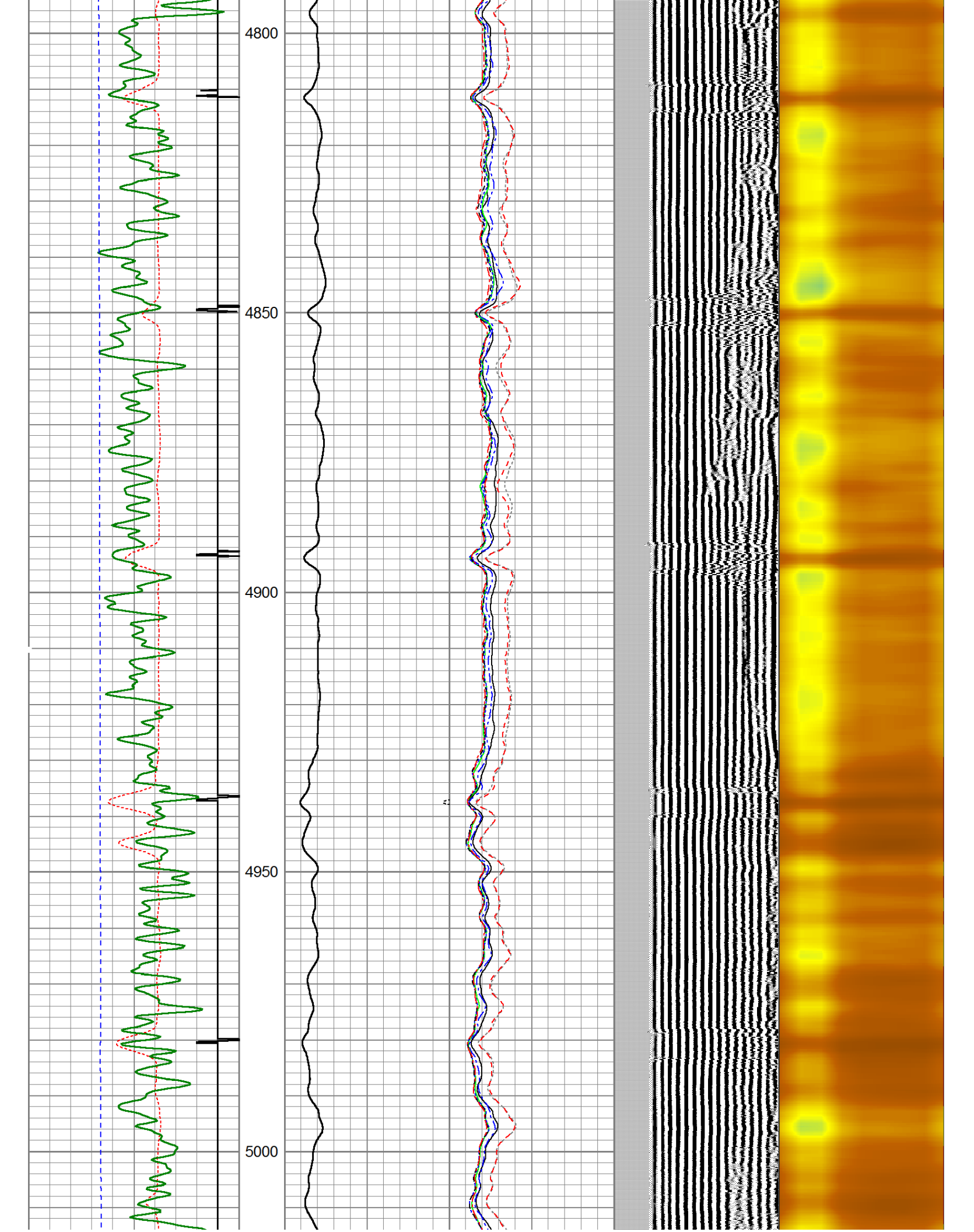
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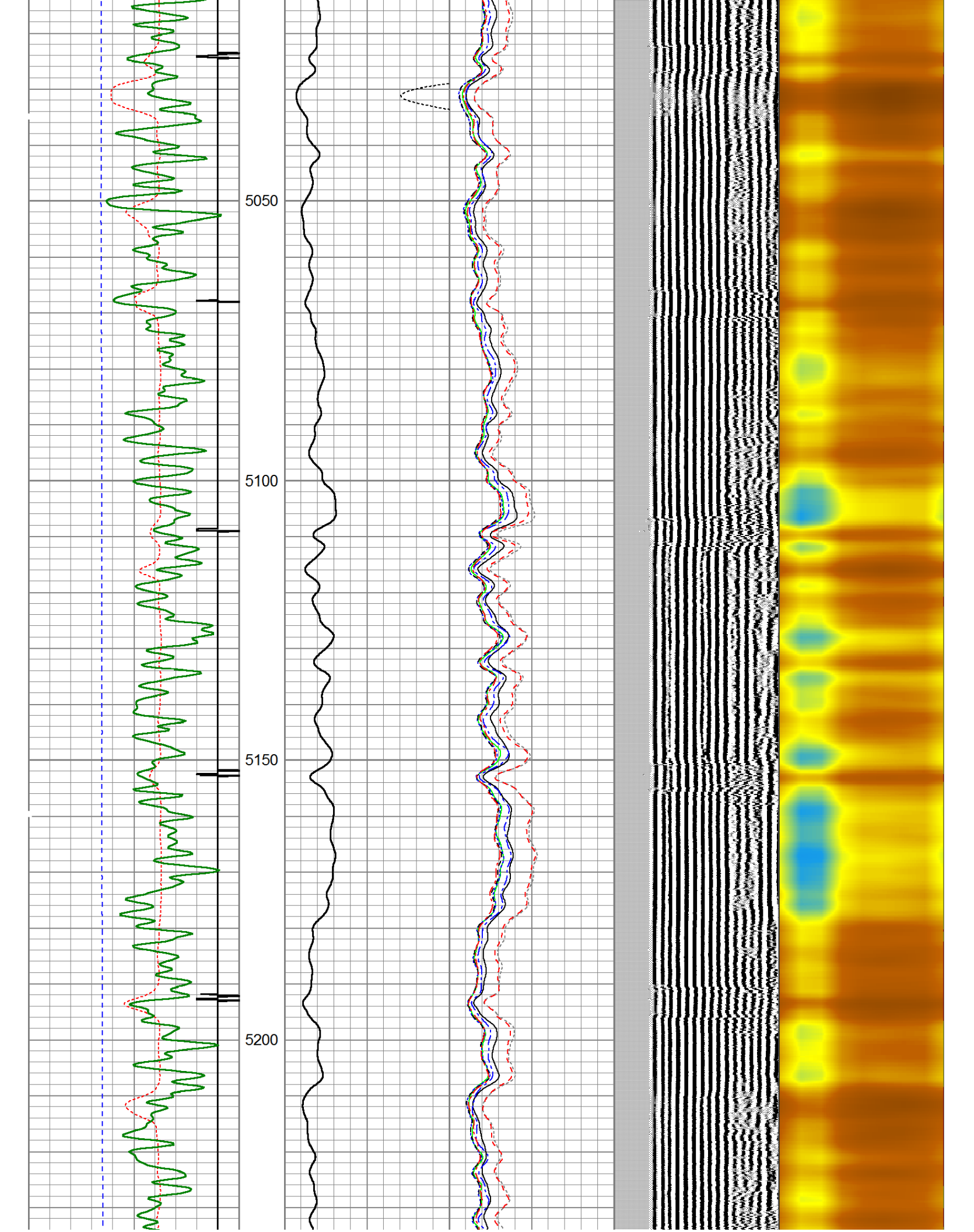
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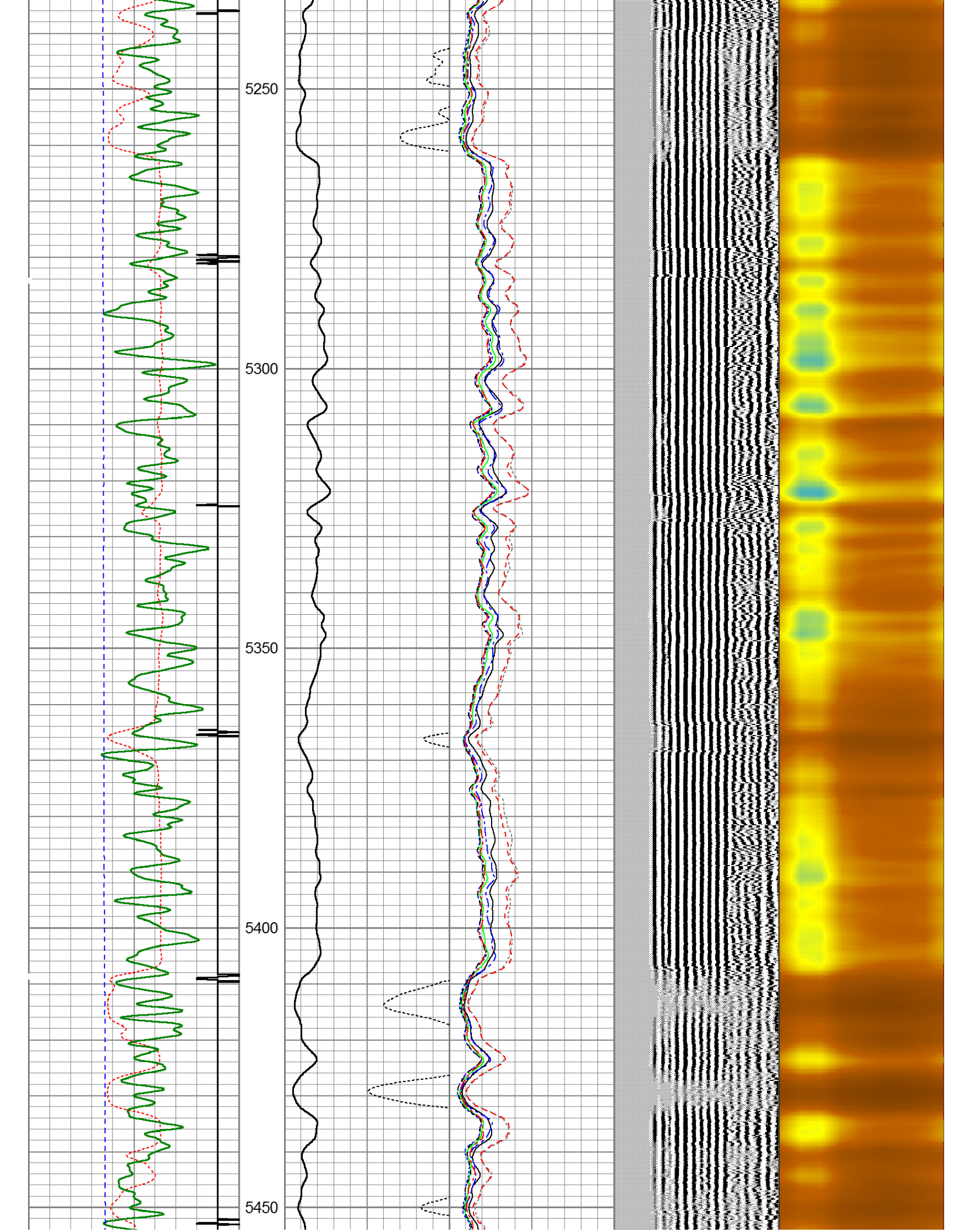
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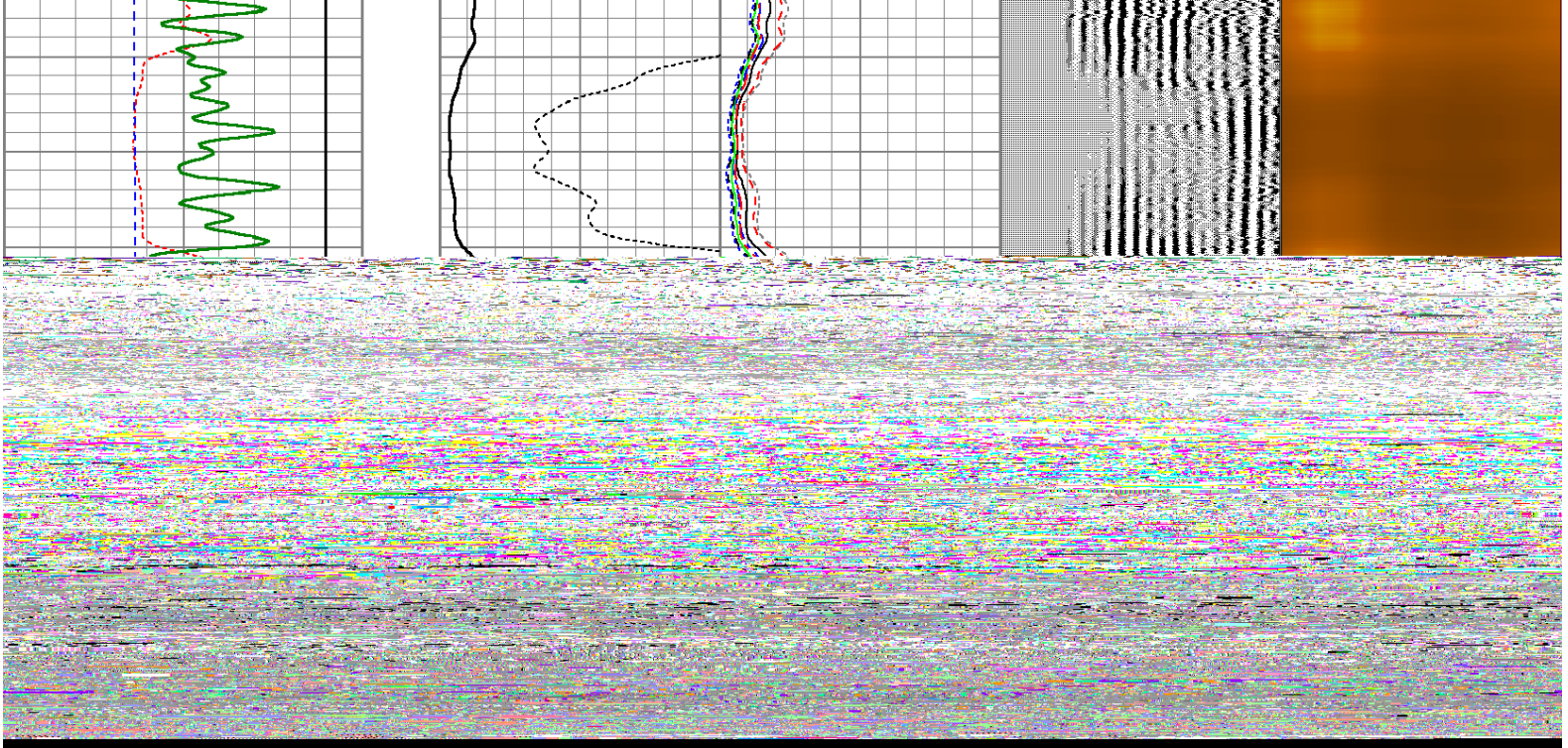

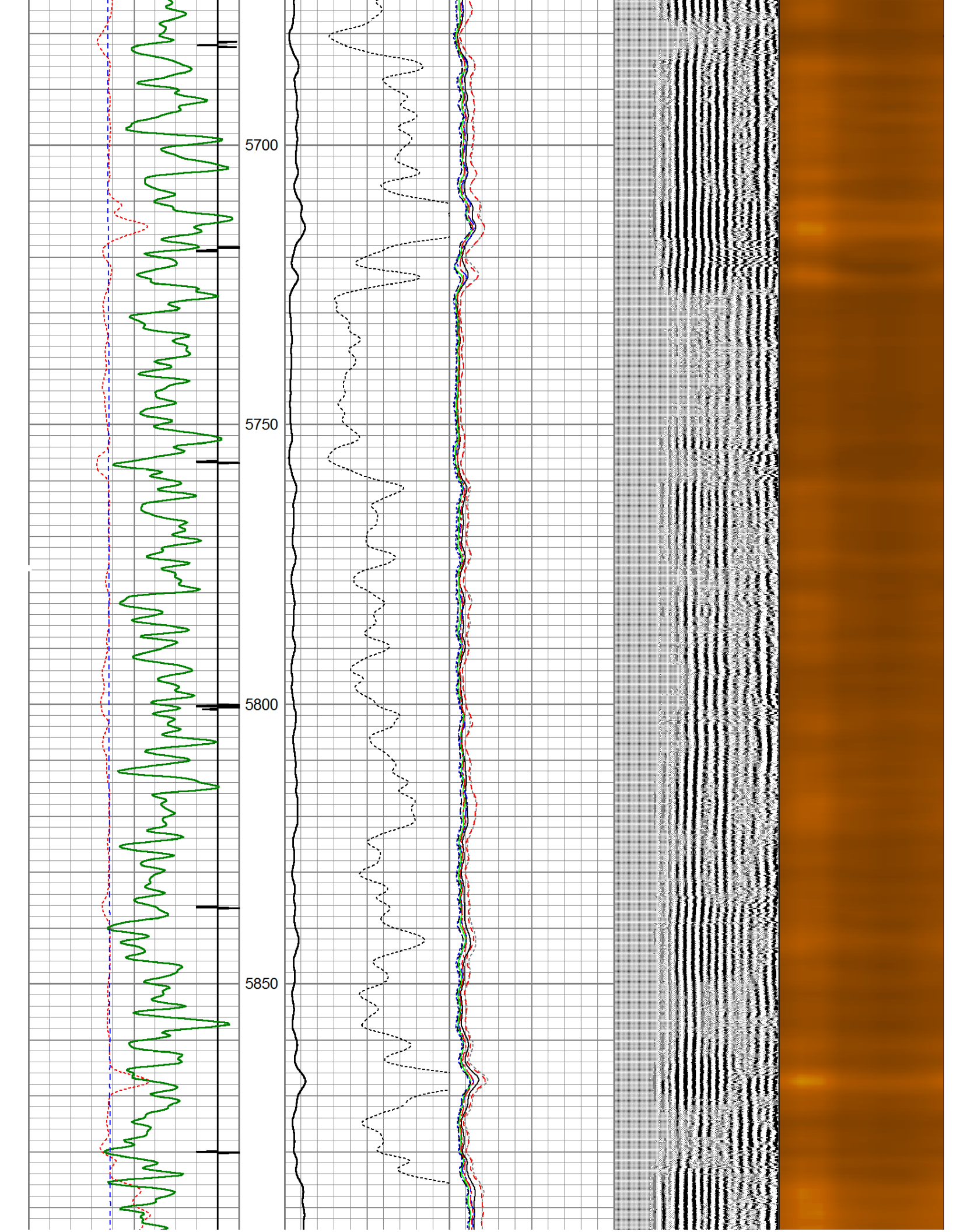
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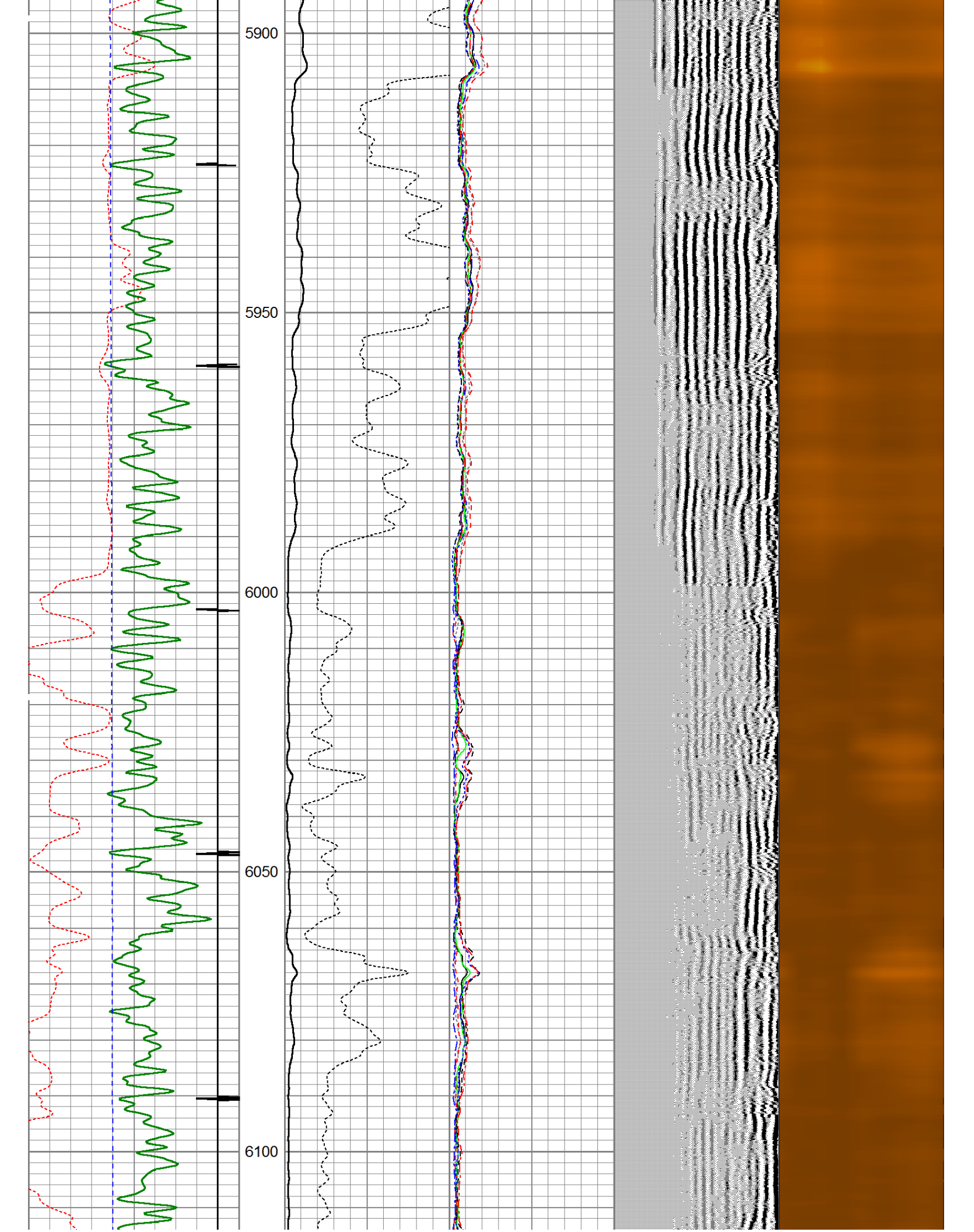
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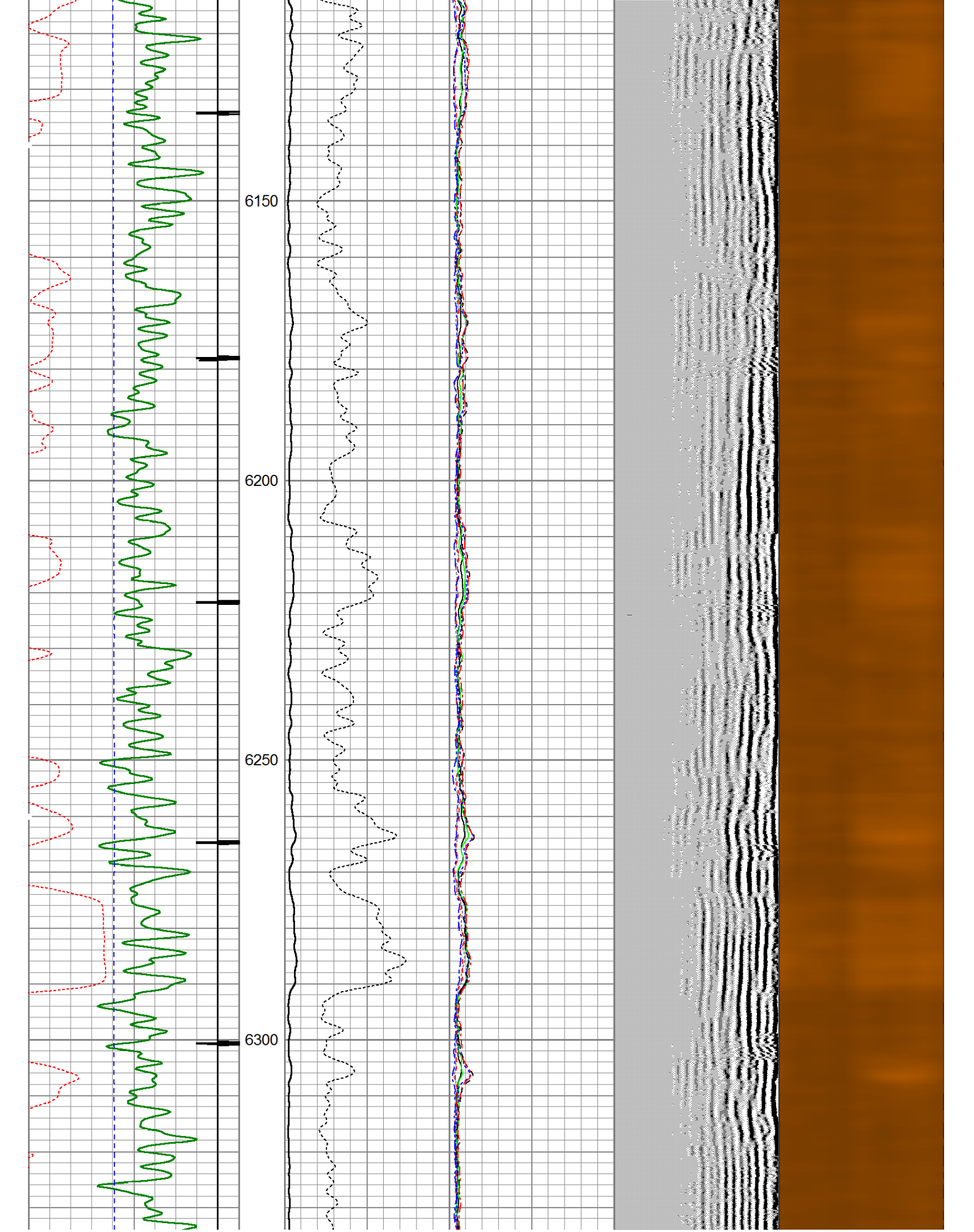
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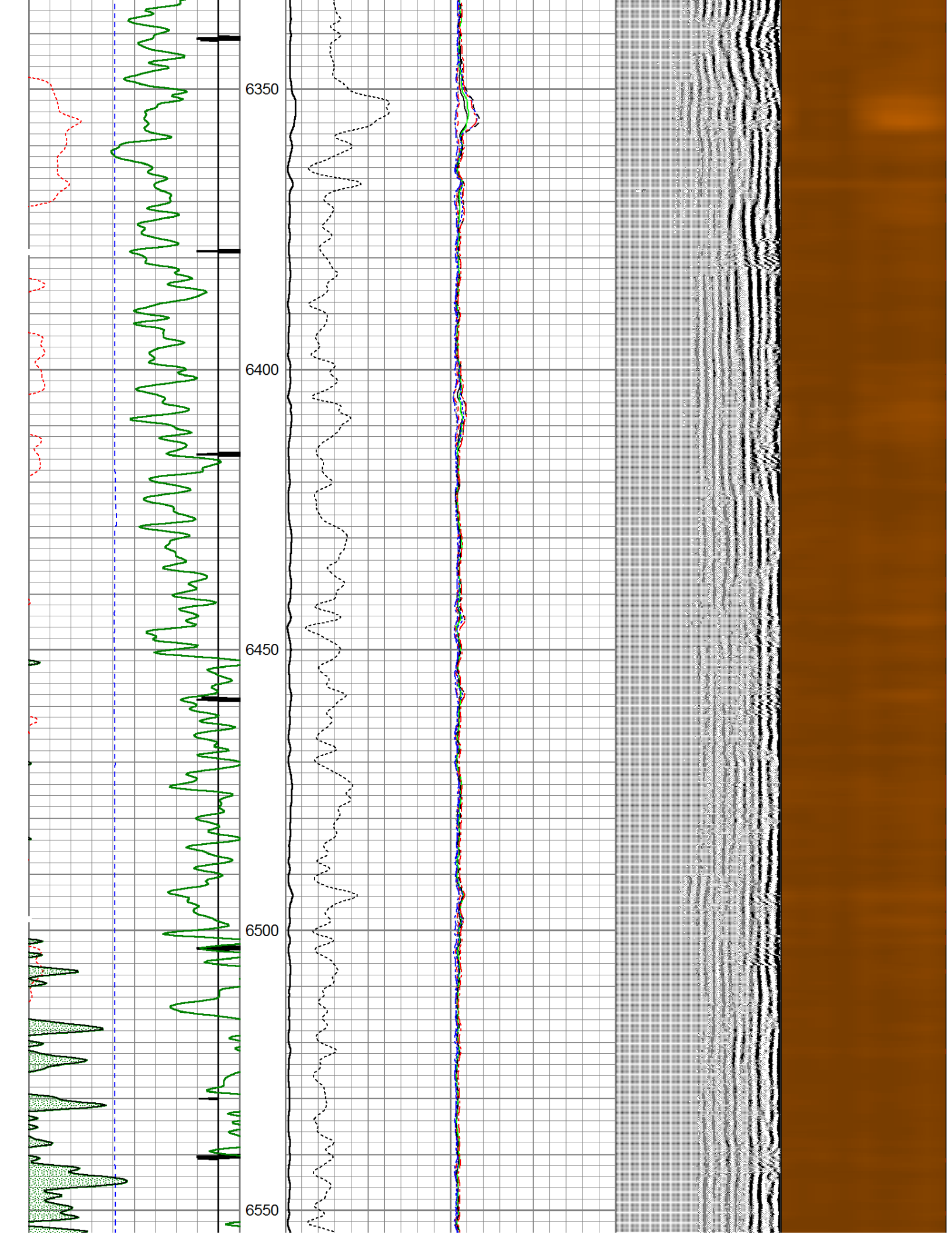
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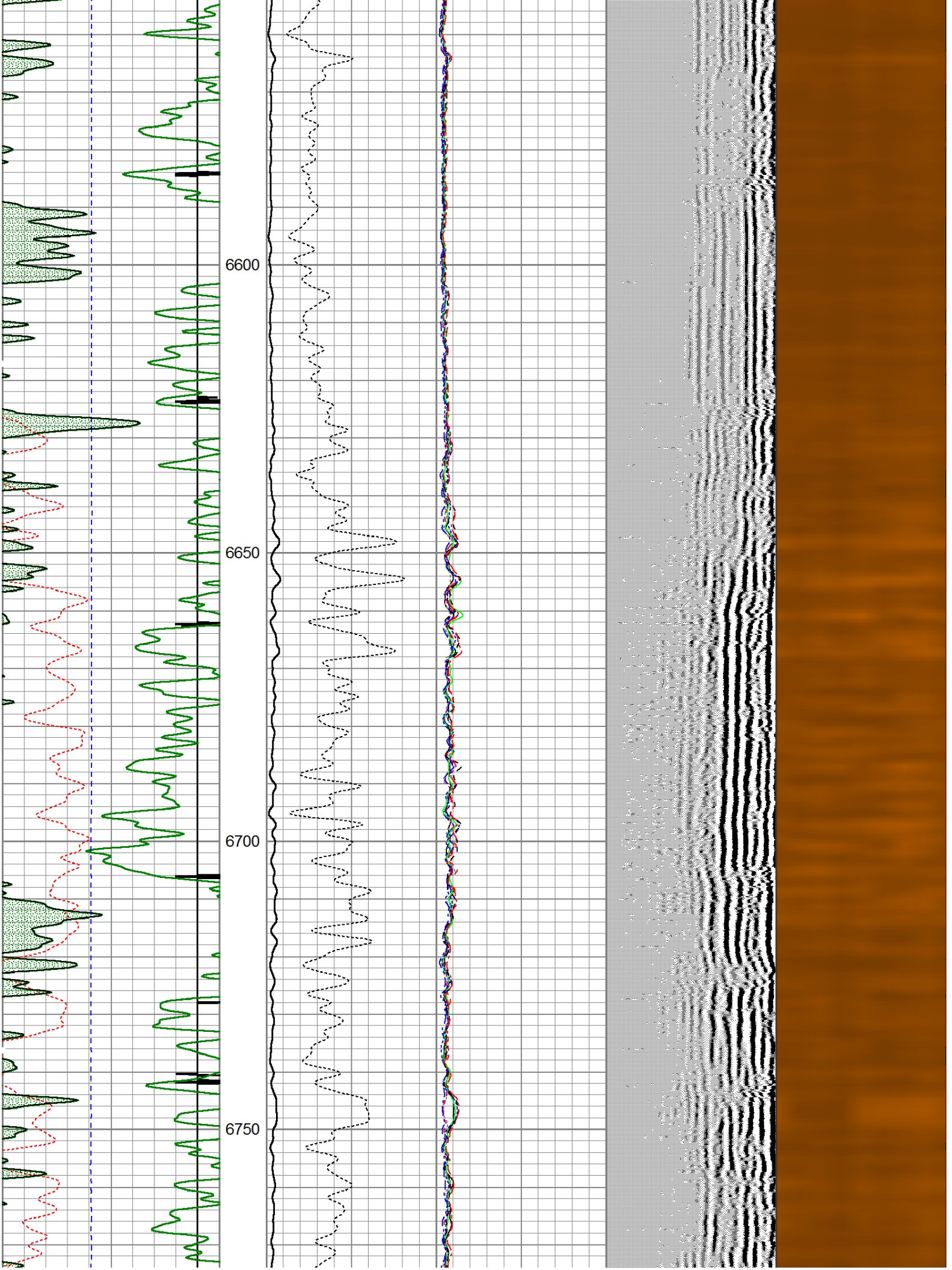
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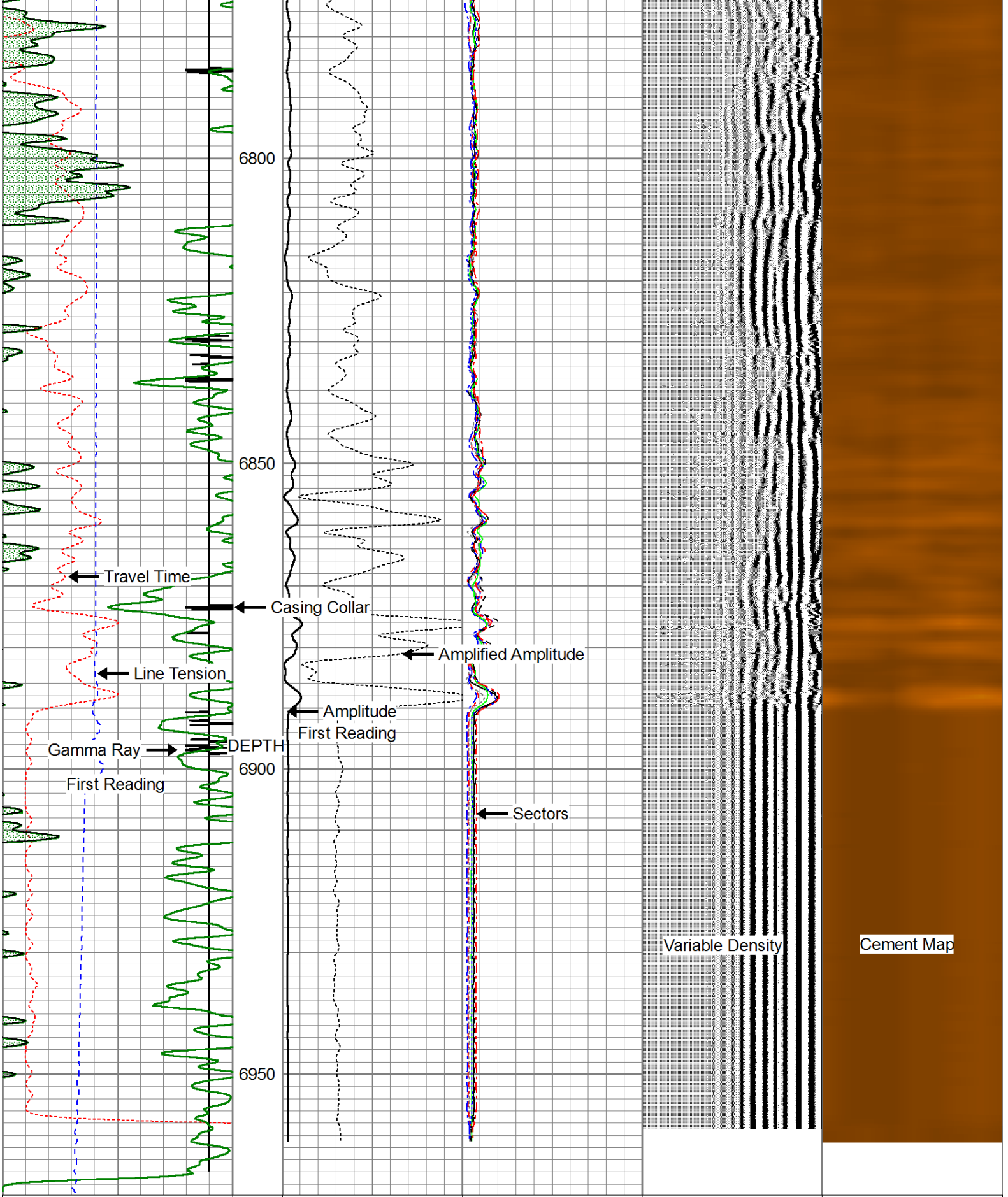
6800
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Travel Time
Casing Collar
Amplified Amplitude
Line Tension
Amplitude
First Reading
Gamma Ray
DEPTH
First Reading
Sectors
Variable Density
Cement Map
400 Travel Time (usec) 200
9 Casing Collar -1
0 Gamma Ray (GAPI) 150
0 Line Tension (lb) 2500
0 Amplitude (mV) 100
Amplified Amplitude
0 (mV) 10
-5 AMPS1 150
-5 AMPS2 150
-5 AMPS3 150
-5 AMPS4 150
-5 AMPS5 150
Variable Density
200 1200
1 Cement Map 8
0 100

-5	AMPS6	150
-5	AMPS7	150
-5	AMPS8	150

Repeat Pass (0) PSI

Database File:	noble_nakagawa_b13-65-1hn_cbl.db
Dataset Pathname:	pass6
Presentation Format:	scbl03
Dataset Creation:	Tue Jul 30 12:06:16 2013 by Log SCH 120126
Charted by:	Depth in Feet scaled 1:240

400	Travel Time (usec)	200
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	2500

0	Amplitude (mV)	100
	Amplified Amplitude	
0	(mV)	10

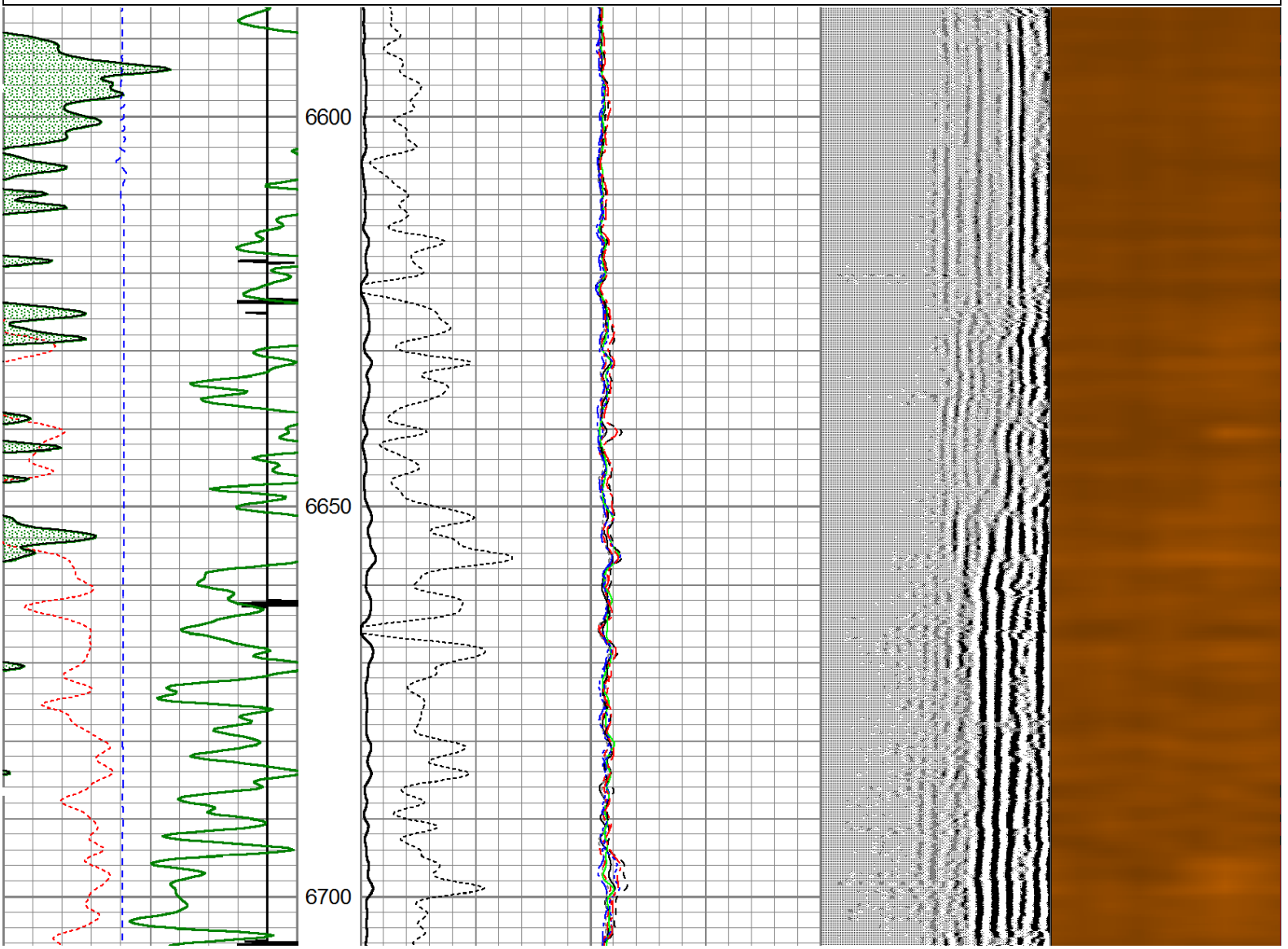
-5	AMPS1	150
-5	AMPS2	150
-5	AMPS3	150
-5	AMPS4	150
-5	AMPS5	150
-5	AMPS6	150
-5	AMPS7	150
-5	AMPS8	150

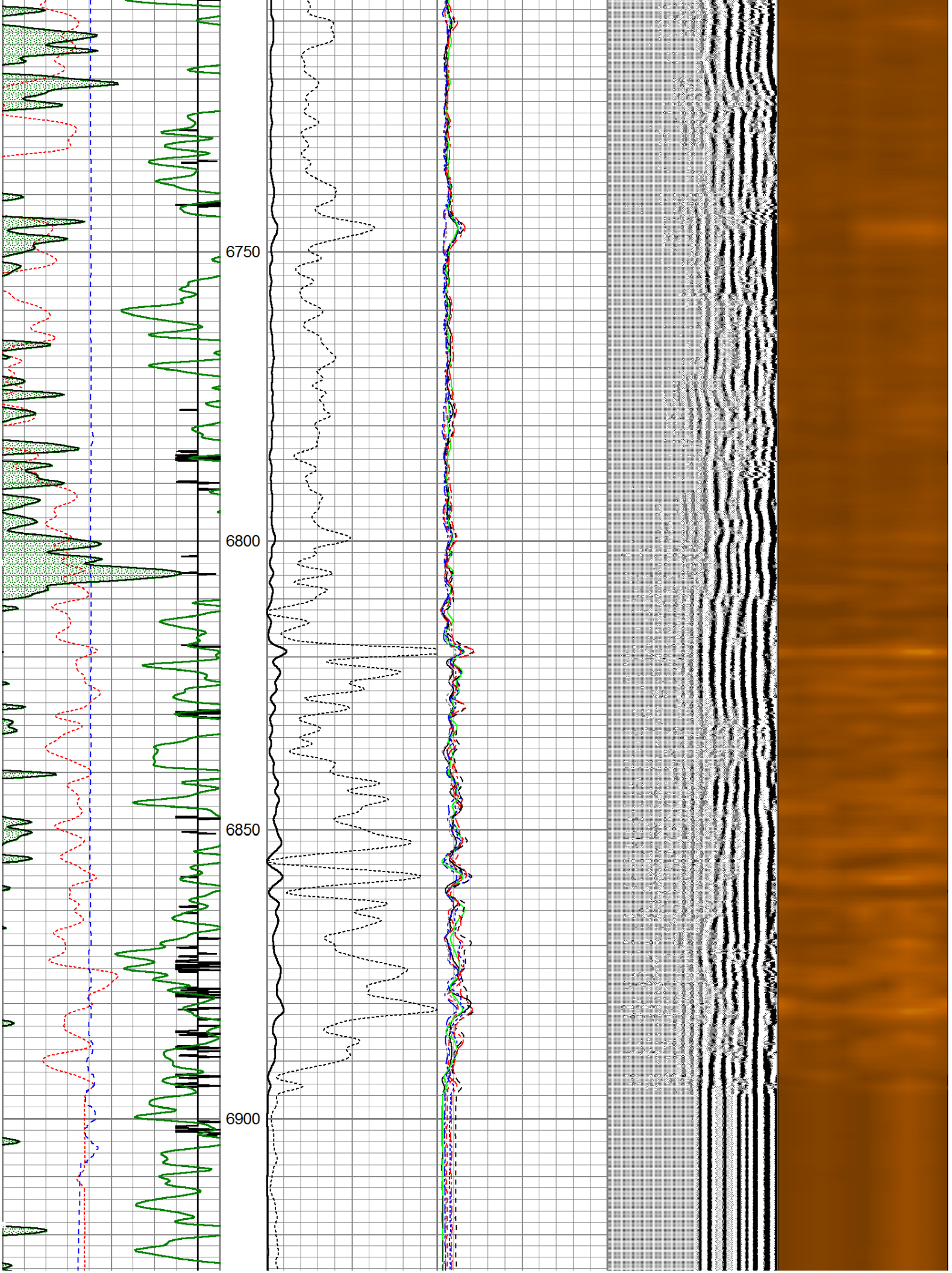
Variable Density

200 1200

1 Cement Map 8

0 100

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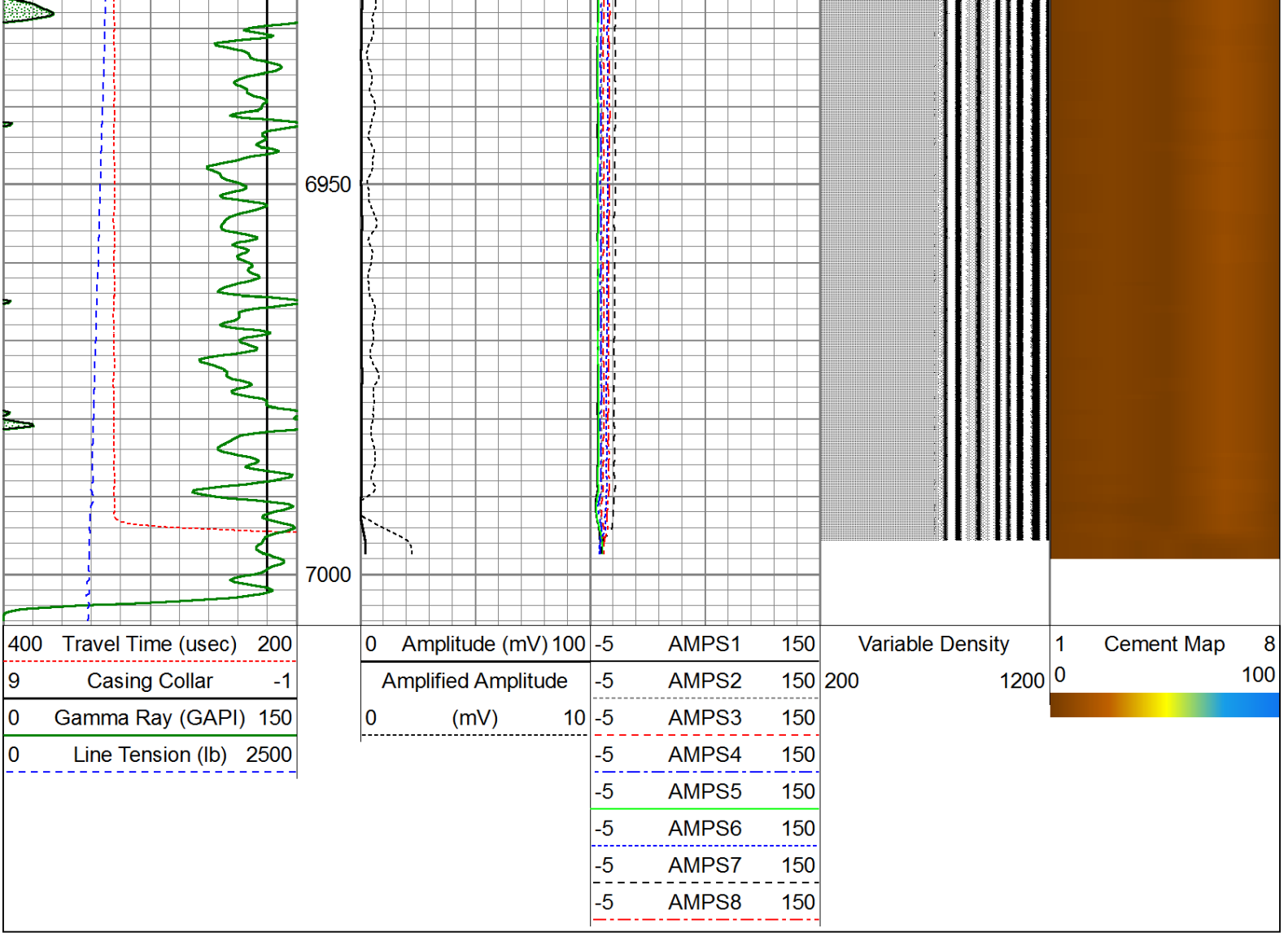


Calibration Report

Database File: noble_nakagawa_b13-65-1hn_cbl.db
Dataset Pathname: pass9
Dataset Creation: Tue Jul 30 13:18:18 2013 by Calc SCH 120126

Gamma Ray Calibration Report

Serial Number:	110108-Dig	
Tool Model:	Probe275	
Performed:	Wed Jul 10 19:14:22 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.8500	GAPI/cps

Temperature Calibration Report

Serial Number:	110108-Dig			
Tool Model:	Probe275			
Performed:	Sun Jun 13 13:33:21 1993			
	Reference		Reading	
Low Reference:	0.00	degF	0.00	cps
High Reference:	1.00	degF	1.00	cps
Gain:	1.00			

Gain:	1.00
Offset:	0.00
Delta Spacing	1

Segmented Cement Bond Log Calibration Report

Serial Number:	101224	
Tool Model:	Probe	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	0.075	ft

Master Calibration, performed Tue Jul 30 12:10:35 2013:

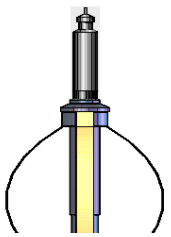
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	0.659	0.600	71.921	108.469	3.245
CAL	-0.012	0.669				
5'	0.104	0.733	0.600	71.921	113.374	-11.190
SUM						
S1	0.036	0.680	0.000	100.000	148.870	1.603
S2	-0.007	0.664	0.000	100.000	162.787	2.073
S3	0.007	0.643	0.000	100.000	178.307	3.120
S4	0.034	0.646	0.000	100.000	178.407	1.529
S5	0.044	0.661	0.000	100.000	166.785	3.172
S6	0.009	0.656	0.000	100.000	157.381	1.357
S7	0.022	0.652	0.000	100.000	147.036	2.529
S8	0.011	0.660	0.000	100.000	137.478	3.762

Internal Reference Calibration, performed Wed Jul 10 20:06:34 2013:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.012	0.669	1.000	0.000

Air Zero Calibration, performed Tue Jul 30 11:18:24 2013:

	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)
CHD	20.28		Titan Cable_head	1.00	1.44	10.00
CENT	19.28					
			Probe275	2.88	2.75	20.00

		2.75" Centralizer	2.68	2.75	20.00
WVF3FT	11.84	RBT-Probe (101224) Probe Radii Bond Tool with Digital Telemetry	8.75	2.75	90.00
WVFCAL	11.84				
WVFS1	11.84				
WVFS2	11.84				
WVFS3	11.84				
WVFS4	11.84				
WVFS5	11.84				
WVFS6	11.84				
WVFS7	11.84				
WVFS8	11.84				
WVF5FT	10.84				
CENT	7.66