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Pioneer Energy Services

RADIAL BOND LOG
WITH GAMMA RAY

Company **HIGHPOINT OPERATING CORP.**
Well **CRITTER CREEK 16-6203B**
Field **HEREFORD**
County **WELD** State **COLORADO**

Location: API # : 05-123-47297
575' FSL & 800' FWL
SW SW
SEC 16 TWP 11N RGE 63W

Other Services
NONE

Elevation
K.B. 5285.5'
D.F. N/A
G.L. 5269'

Comp. HIGHPOINT OPERATING CORP.
Well CRITTER CREEK 16-6203B
Field HEREFORD
Co. WELD
State COLORADO

Date of Service	04 DECEMBER			
Run Number	ONE			
Depth Driller or PBTD	7892'			
Depth Logger	7698'			
Bottom Log Interval	7698'			
Top Log Interval	SURFACE			
Open Hole Size	8.75"			
Type Fluid	WATER			
Fluid Level	FULL			
Fluid Density	N/A			
Max. Recorded Temperature	N/A			
Max. Wellhead Pressure	ZERO			
Wellhead Connection	OPEN			
Estimated Cement Top	N/A			
Unit Number	P-57			
Wireline Size	9/32"			
Location	FORT MORGAN			
Recorded By	SCHOENROGGE			
Witnessed By	MR. HUNTER			

Permanent Datum GL Elevation 5269'
Log Measured From KB 16.5' Above Perm. Datum
Drilling Measured From KB

	Size	Wt/Ft	Top	Bottom
Tubing Record				
Surface Casing	9.625"	36#	SURFACE	1557'
Production Casing	7"	23#	SURFACE	7937.75
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.
CORRELATED TO CUSTOMER MARKER JOINT

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew	Tool Data - Services Serial Number
Engineer: SCHOENROGGE Operator: JOHN Operator: GERARDO Operator:	SEE DIAGRAM + OVERBODIES

Log Variables

DatabaseC:\ProgramData\Warrior\Data\highpoint_critter creek 16-6203b_0512347297_201812
Dataset field/well/run1/pass5/_vars_

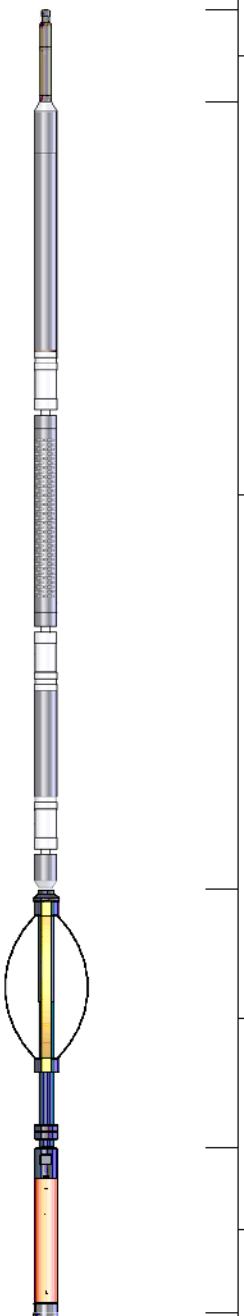
Top - Bottom

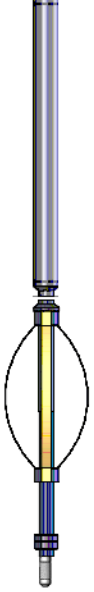
BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV
8.75	220	7	0.317	23	62.1	1

MINATTN db/ft	PERFS	PPT usec	SRFTEMP degF	TDEPTH ft
0.8	0	287	50	7900

Variable Description

BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
CASEWGHT : Casing Weight
MAXAMPL : Maximum Amplitude
MINAMPL : Minimum Amplitude
MINATTN : Minimum Attenuation
PERFS : Perforation Flag
PPT : Predicted Pipe Time
SRFTEMP : Surface Temperature
TDEPTH : Total Depth

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Cable Head-Titan_144 1 7/16" Titan Cable Head	1.03	1.44	2.00
			PROBE-RBT-DIGITAL-RBL-DC (FW1401-4 Probe 2 3/4" Radii Bond-Corrosion Package	8.75	2.75	100.00
WVFS8	15.47					
WVFS7	15.47					
WVFS6	15.47					
WVFS5	15.47					
WVFS4	15.47					
WVFS3	15.47					
WVFS2	15.47					
WVFS1	15.47					
WVFCAL	15.47					
WVF3FT	15.47					
WVF5FT	14.47					
HEADVOLT	11.29					
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00
CCL	7.26		CCL_Logging-275 TekCo_2 (TekCo-275) 2 3/4"	1.83	2.75	15.00

GR	4.03		GR-275 Probe (080629) Probe 2.75" Gamma Ray	3.36	2.75	40.00
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00
			Bullnose-PROBE Probe Go Pin Pressure Cap	0.33	1.38	1.00

Dataset: highpoint_critter creek 16-6203b_0512347297_20181204_scbl.db: field/well/run1/pass7
Total length: 21.07 ft
Total weight: 188.00 lb
O.D.: 2.75 in

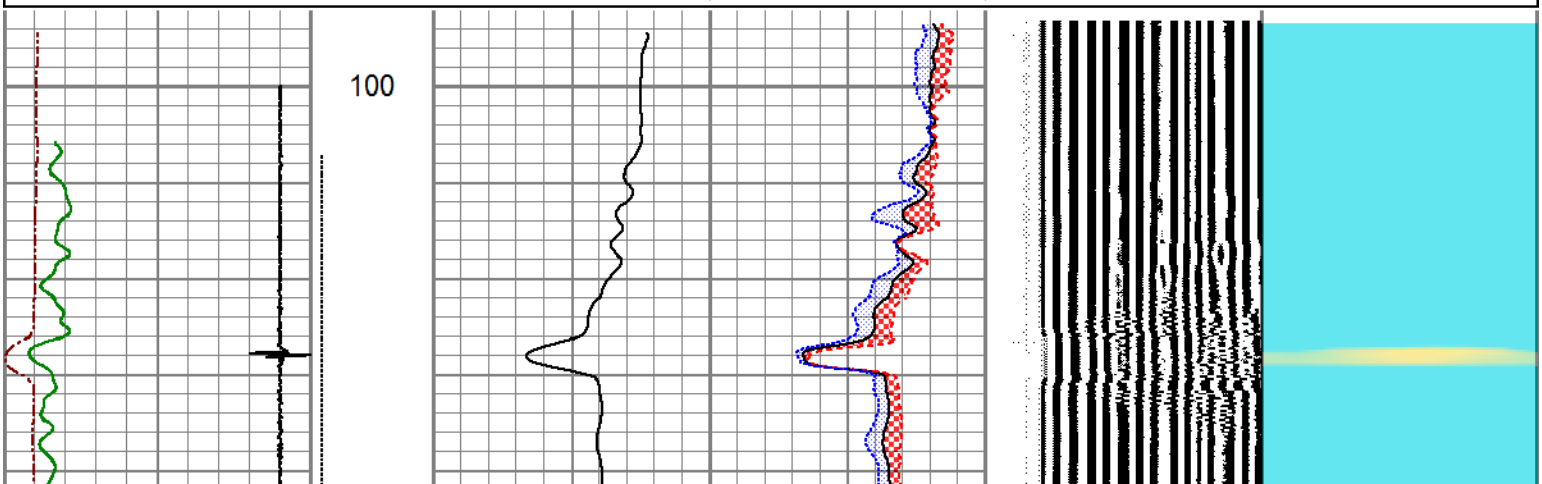
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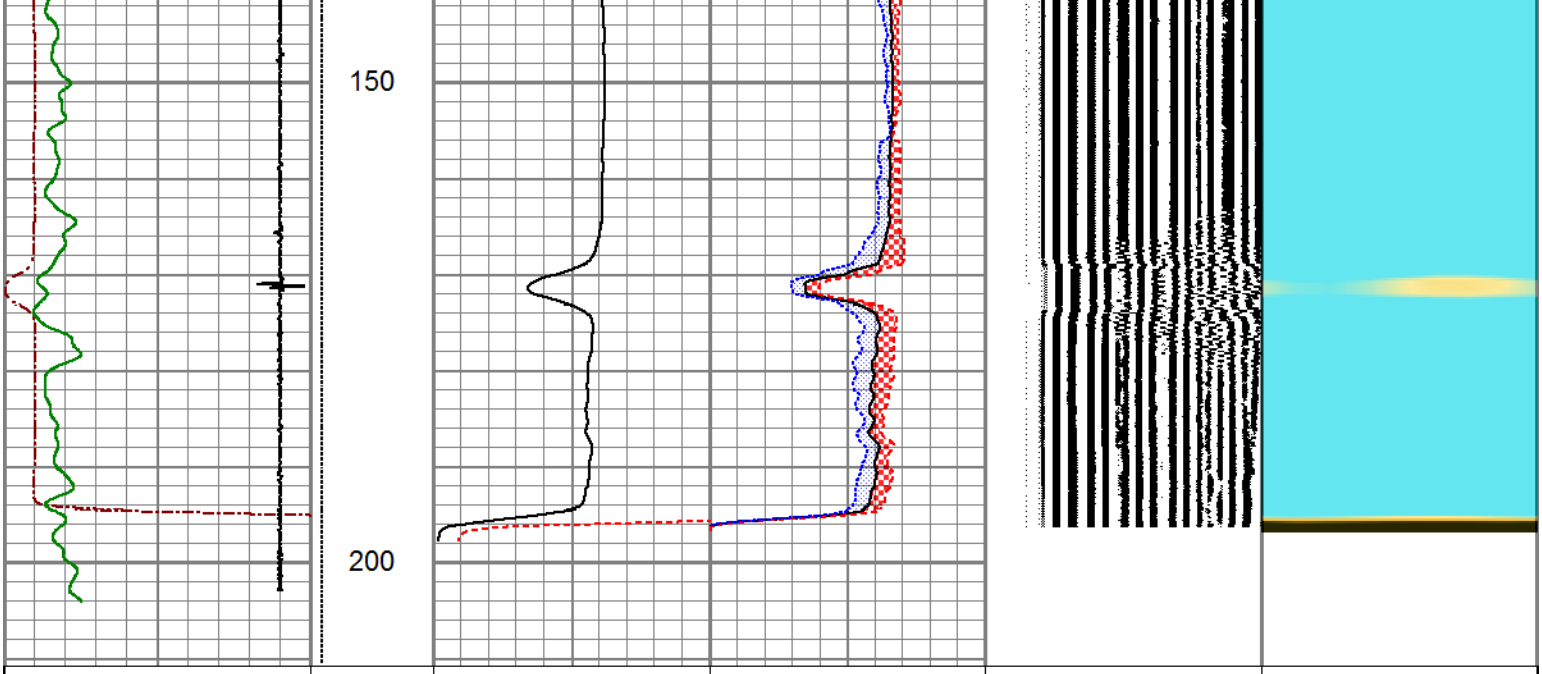
FREE PIPE SECTION

ZERO PSI APPLIED AT SURFACE

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Dataset Pathname: pass2
Presentation Format: pinr_scbl
Dataset Creation: Tue Dec 04 17:34:21 2018
Charted by: Depth in Feet scaled 1:240

3Ft Travel Time	LTEN	3' Amplitude	Sector Amplitude Average	VDL	Sector Map
300 (usec) 200	(lb)	0 (mV) 100	0 150	200 (usec) 1200	1 8
-9 Collar Locator 1	0 4000	3' Amplified Amplitude X 5	Sector Amplitude Maximum		
Gamma Ray		0 (mV) 20	0 150		
0 (GAPI) 150			Sector Amplitude Minimum		
			0 150		





3Ft Travel Time	LTEN	3' Amplitude	Sector Amplitude Average	VDL	1 Sector Map 8
300 (usec) 200	(lb)	0 (mV) 100	0 150	200 (usec) 1200	
-9 Collar Locator 1	0 4000	3' Amplified Amplitude X 5	Sector Amplitude Maximum		
Gamma Ray		0 (mV) 20	0 150		
0 (GAPI) 150			Sector Amplitude Minimum		
			0 150		

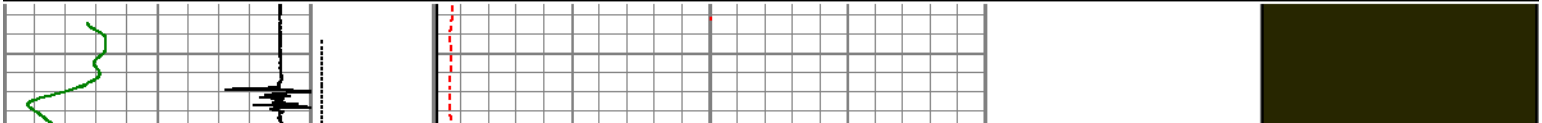
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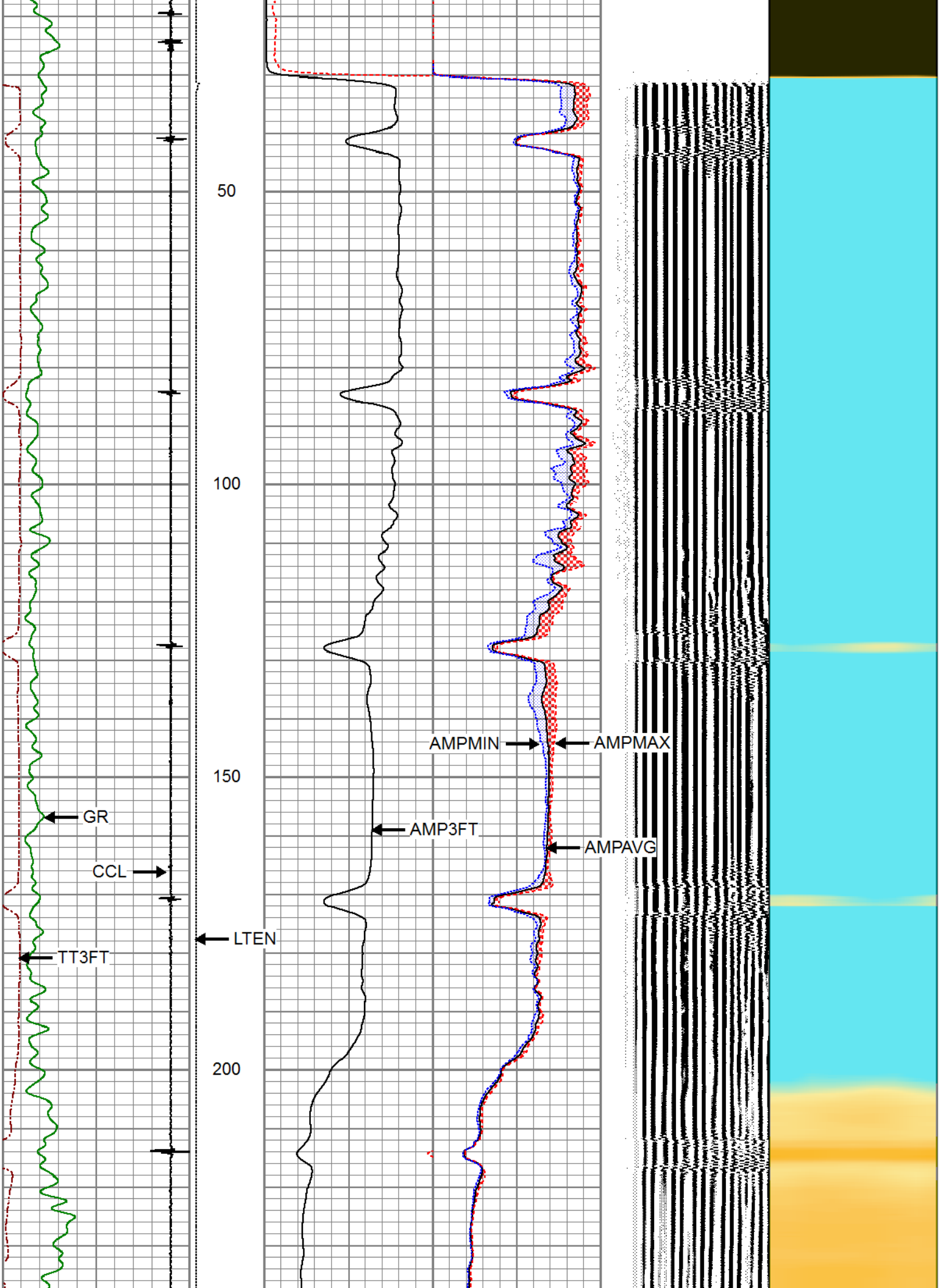
MAIN LOG

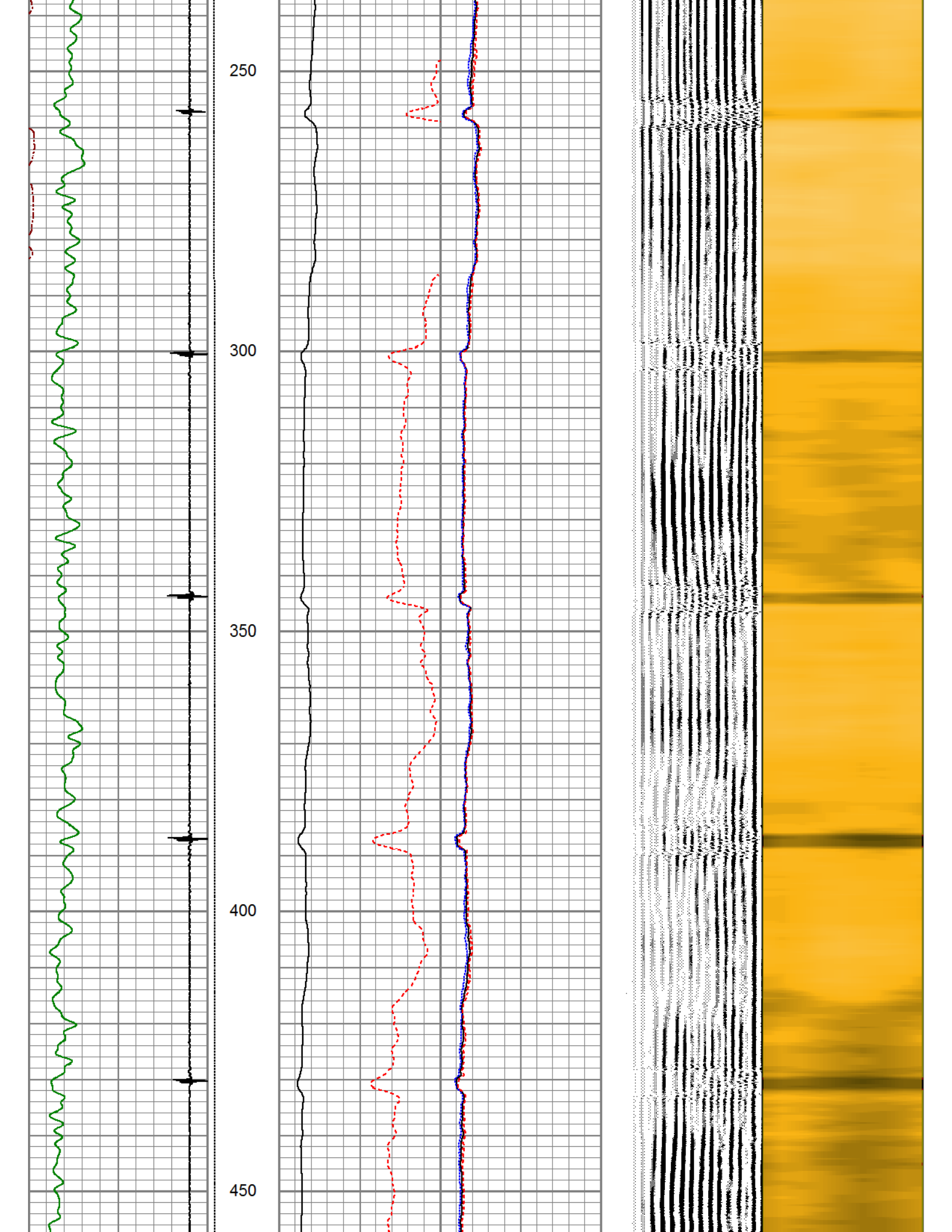
ZERO PSI APPLIED AT SURFACE

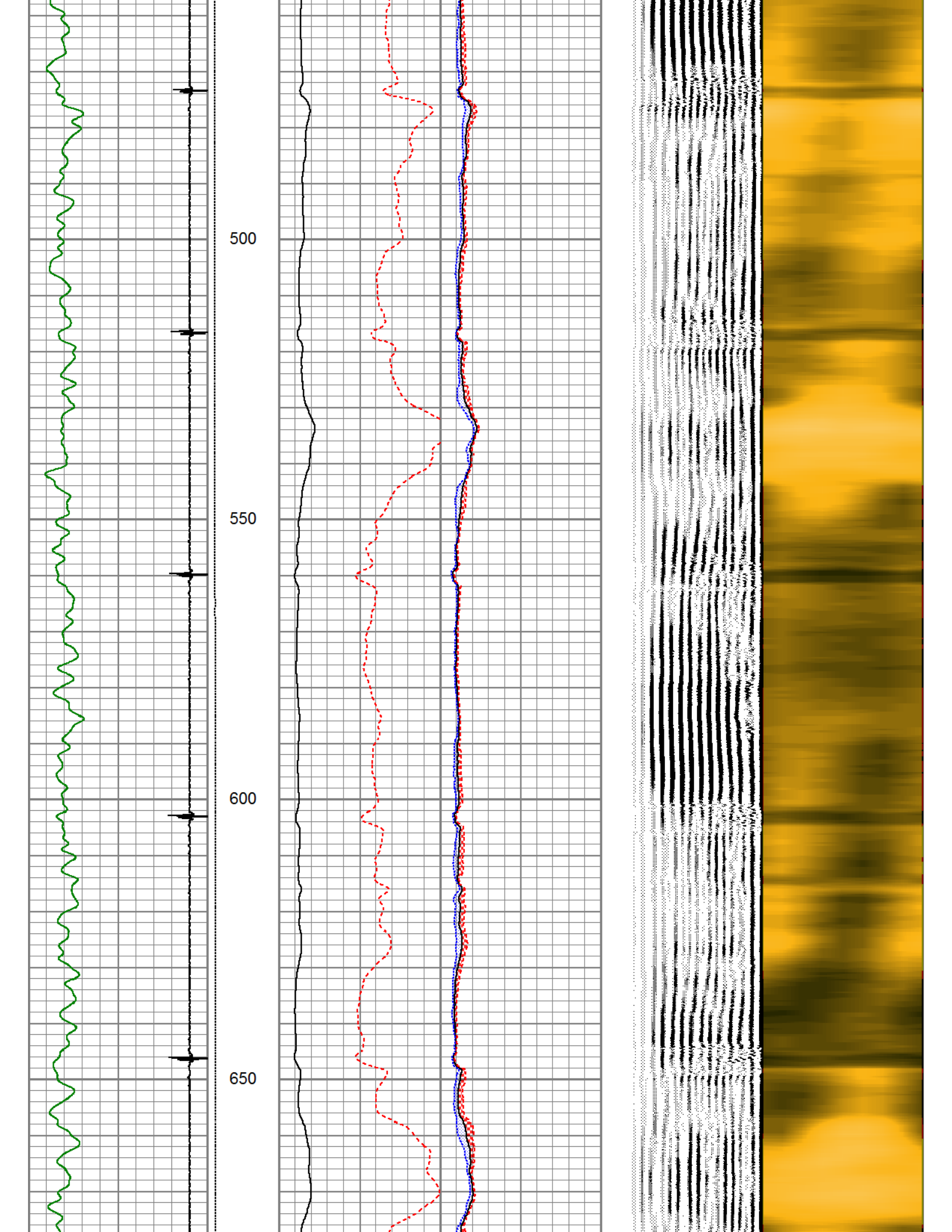
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Presentation Format	pinr_scbl
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Charted by	Depth in Feet scaled 1:240

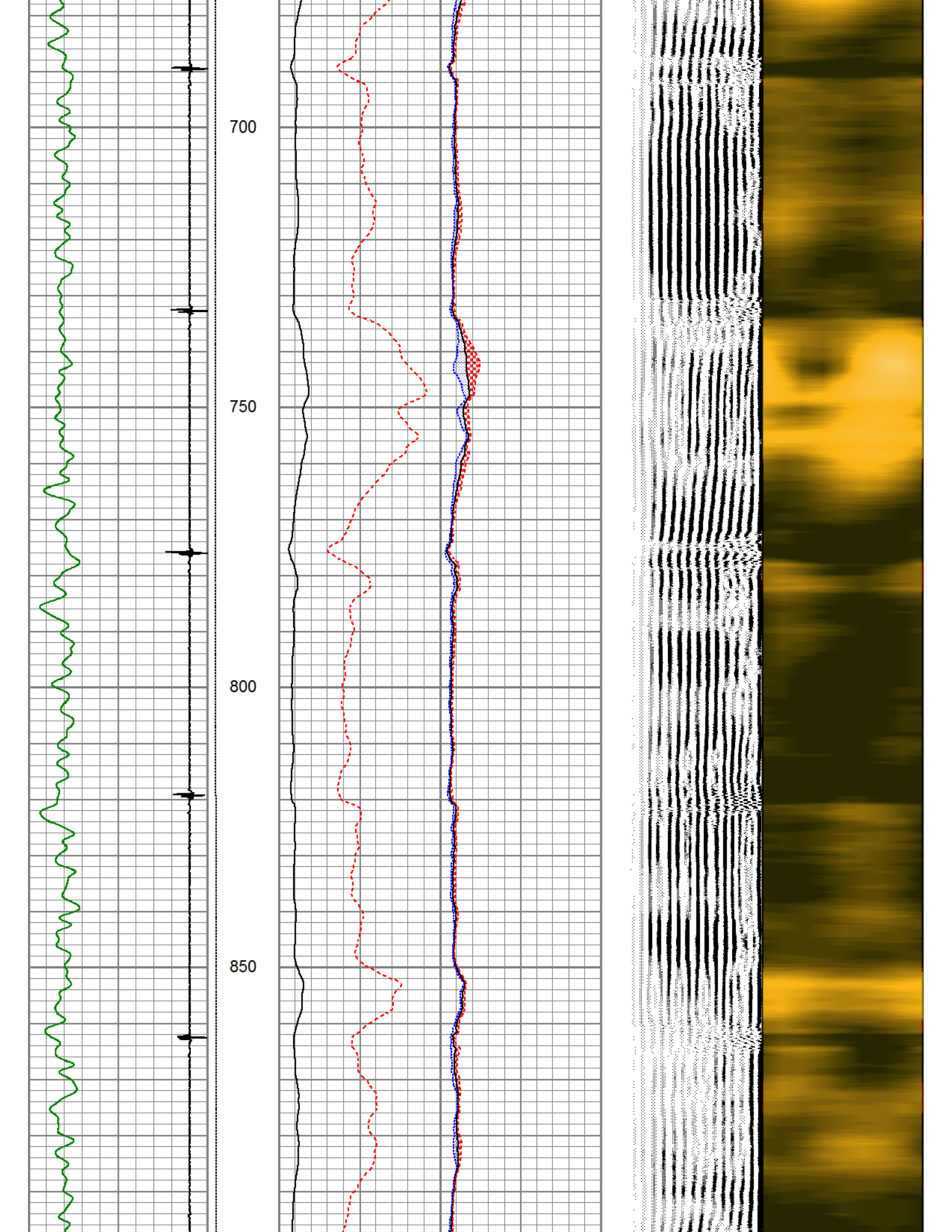
3Ft Travel Time	LTEN	3' Amplitude	Sector Amplitude Average	VDL	1 Sector Map 8
300 (usec) 200	(lb)	0 (mV) 100	0 150	200 (usec) 1200	
-9 Collar Locator 1	0 4000	3' Amplified Amplitude X 5	Sector Amplitude Maximum		
Gamma Ray		0 (mV) 20	0 150		
0 (GAPI) 150			Sector Amplitude Minimum		
			0 150		

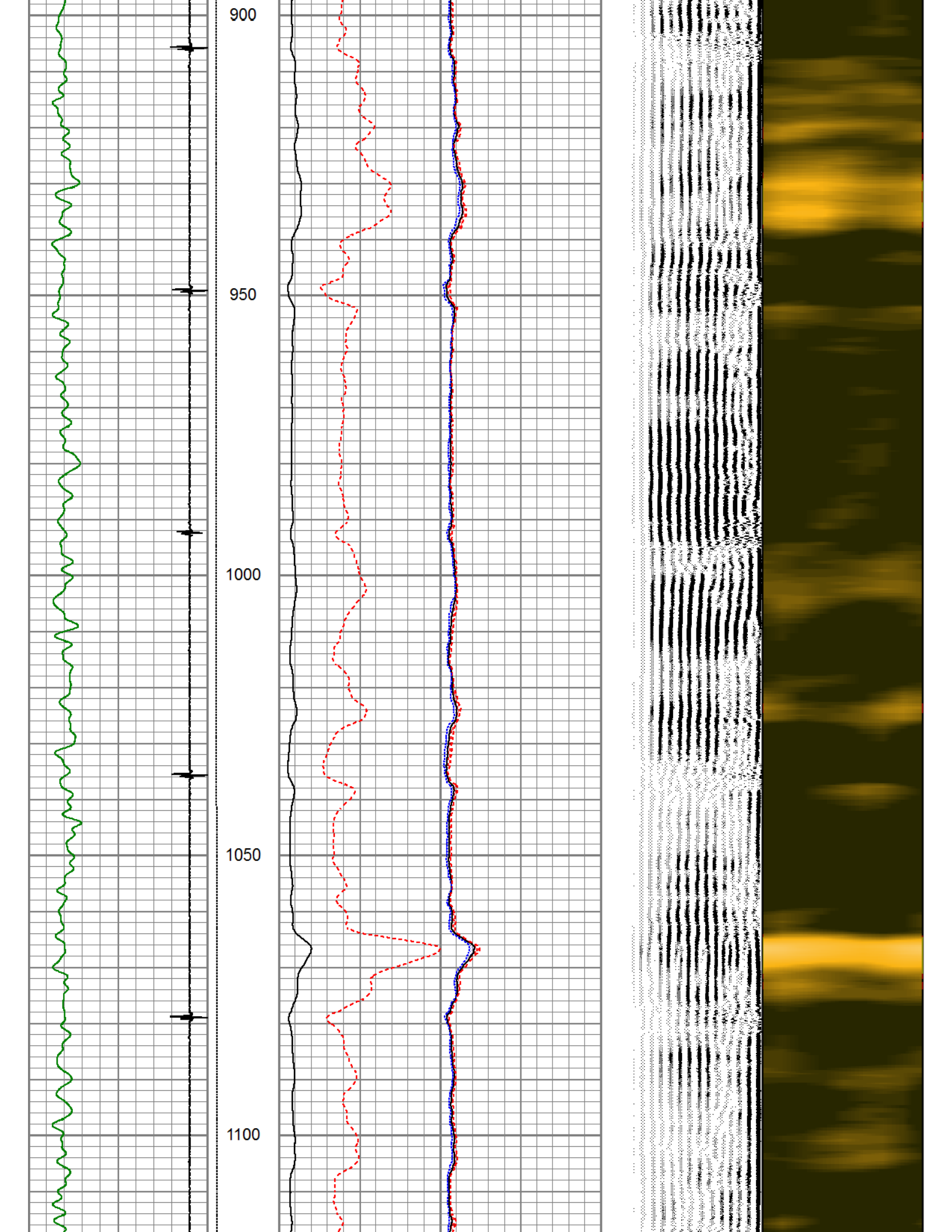


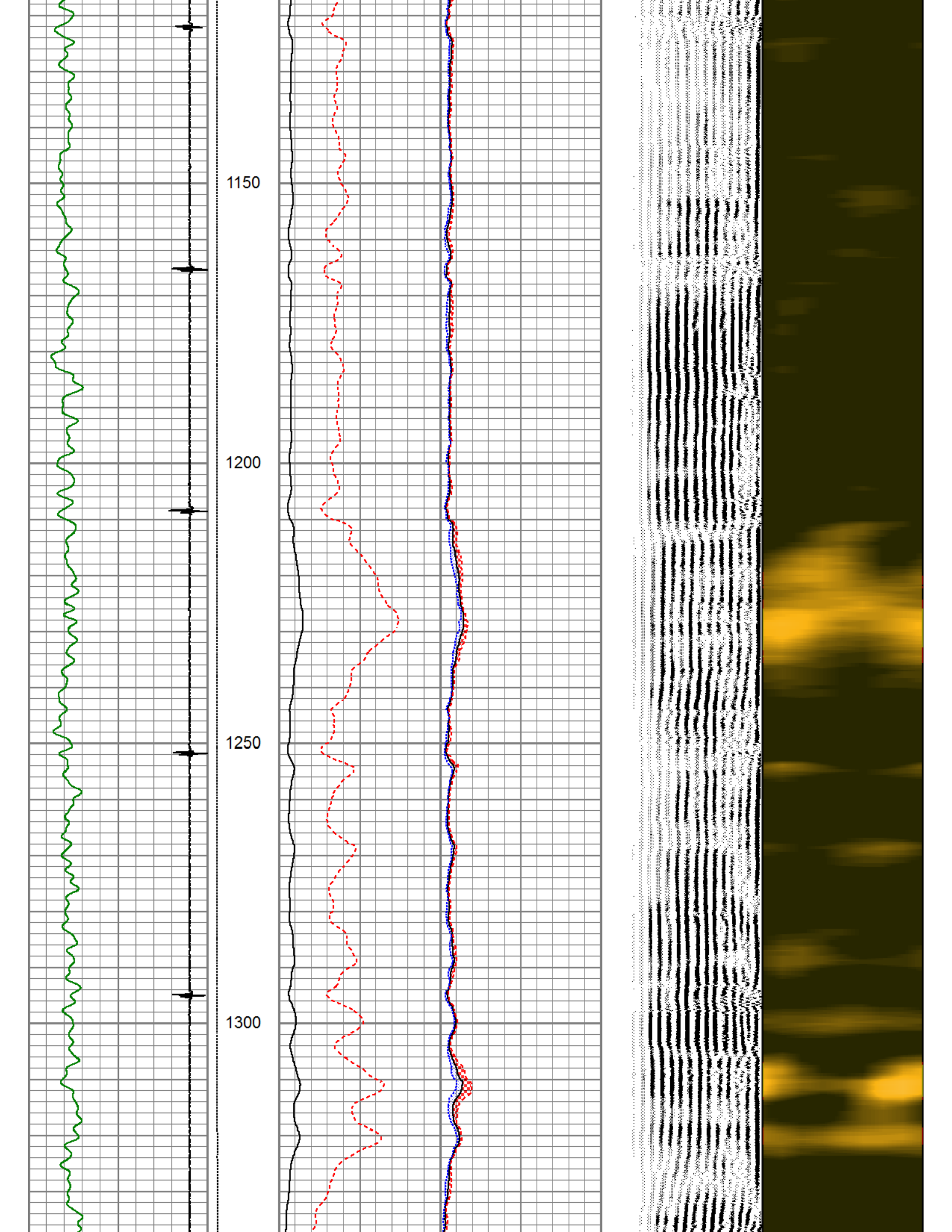

50
100
150
200
GR
CCL
TT3FT
LTEN
AMPMIN
AMPMAX
AMP3FT
AMPAVG

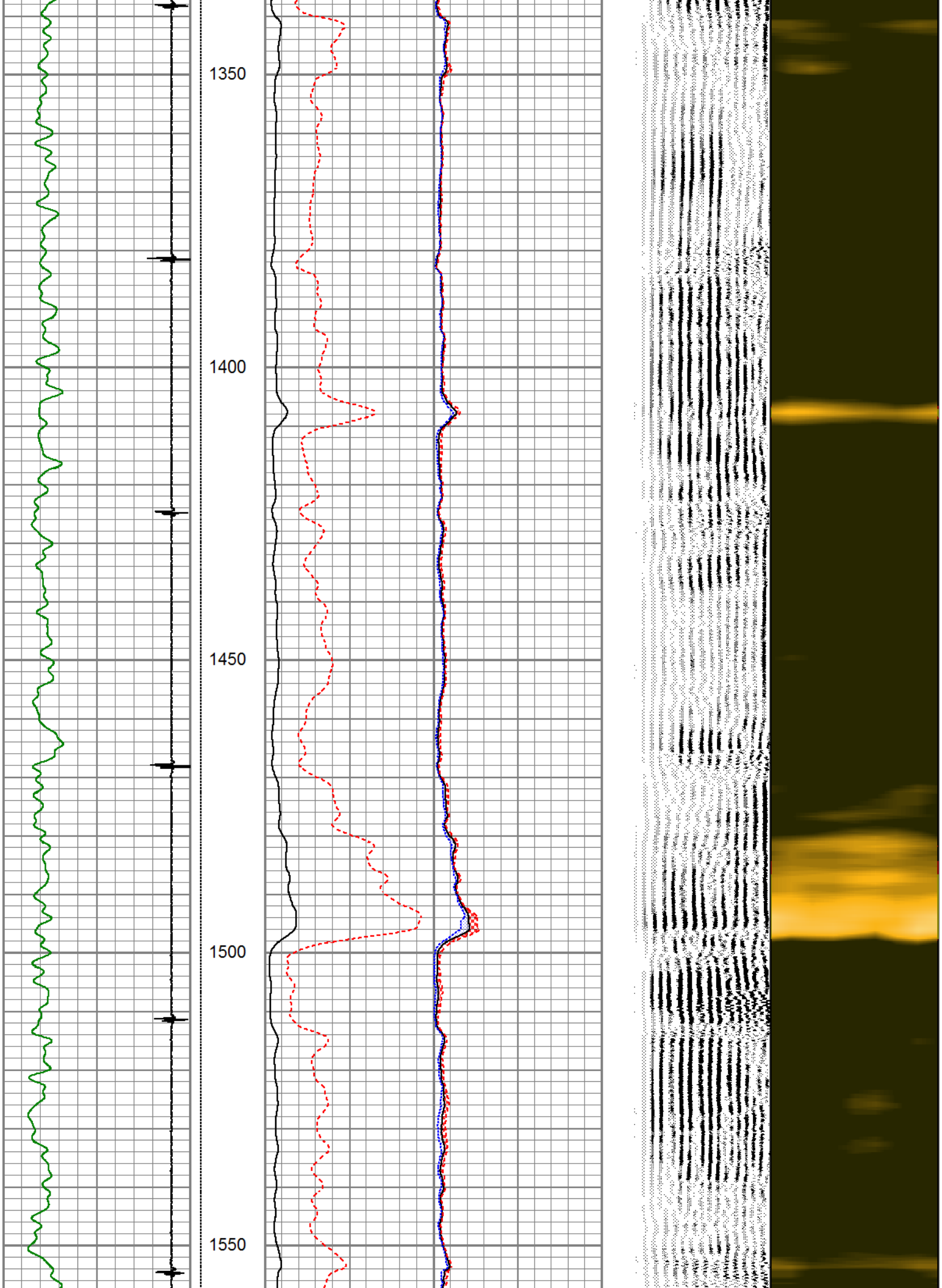

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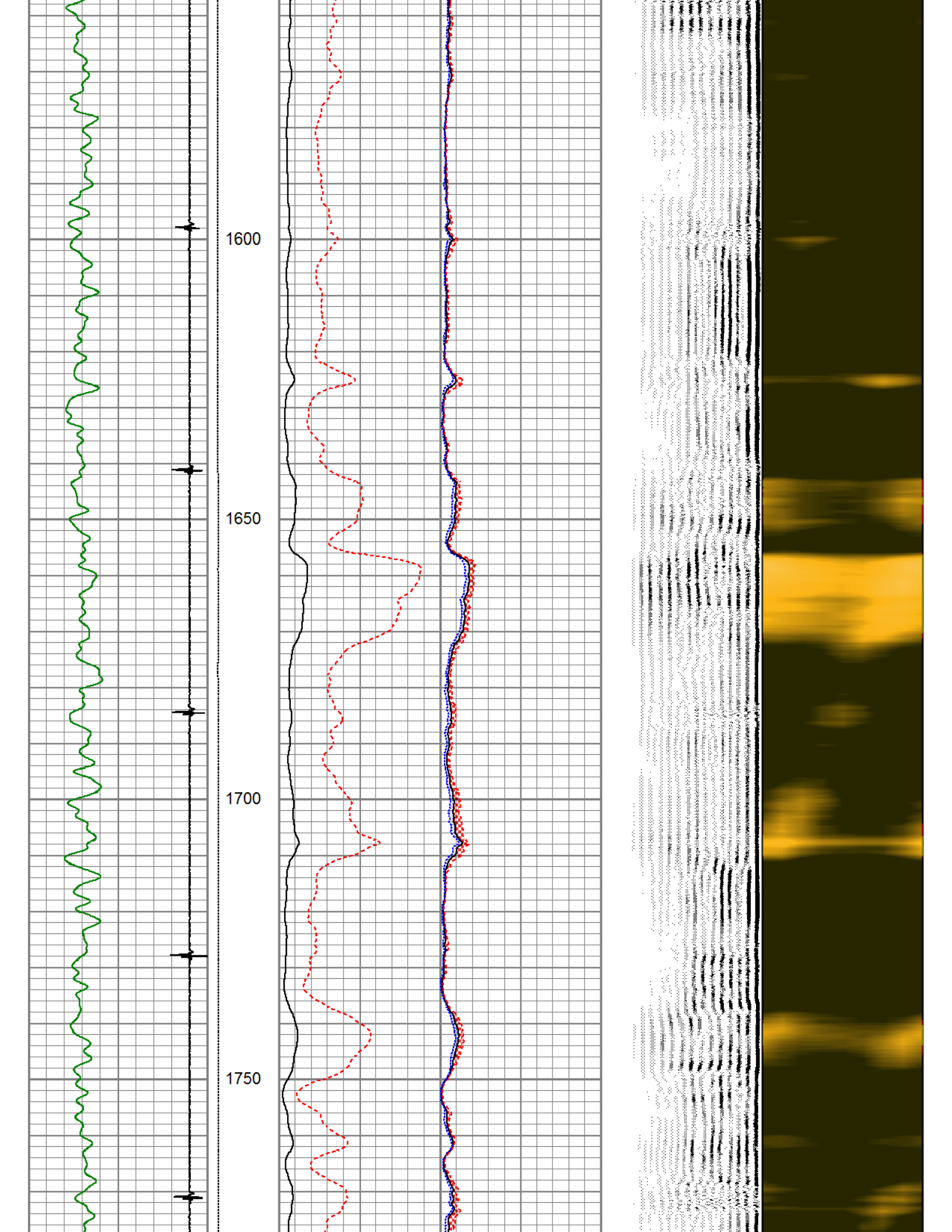

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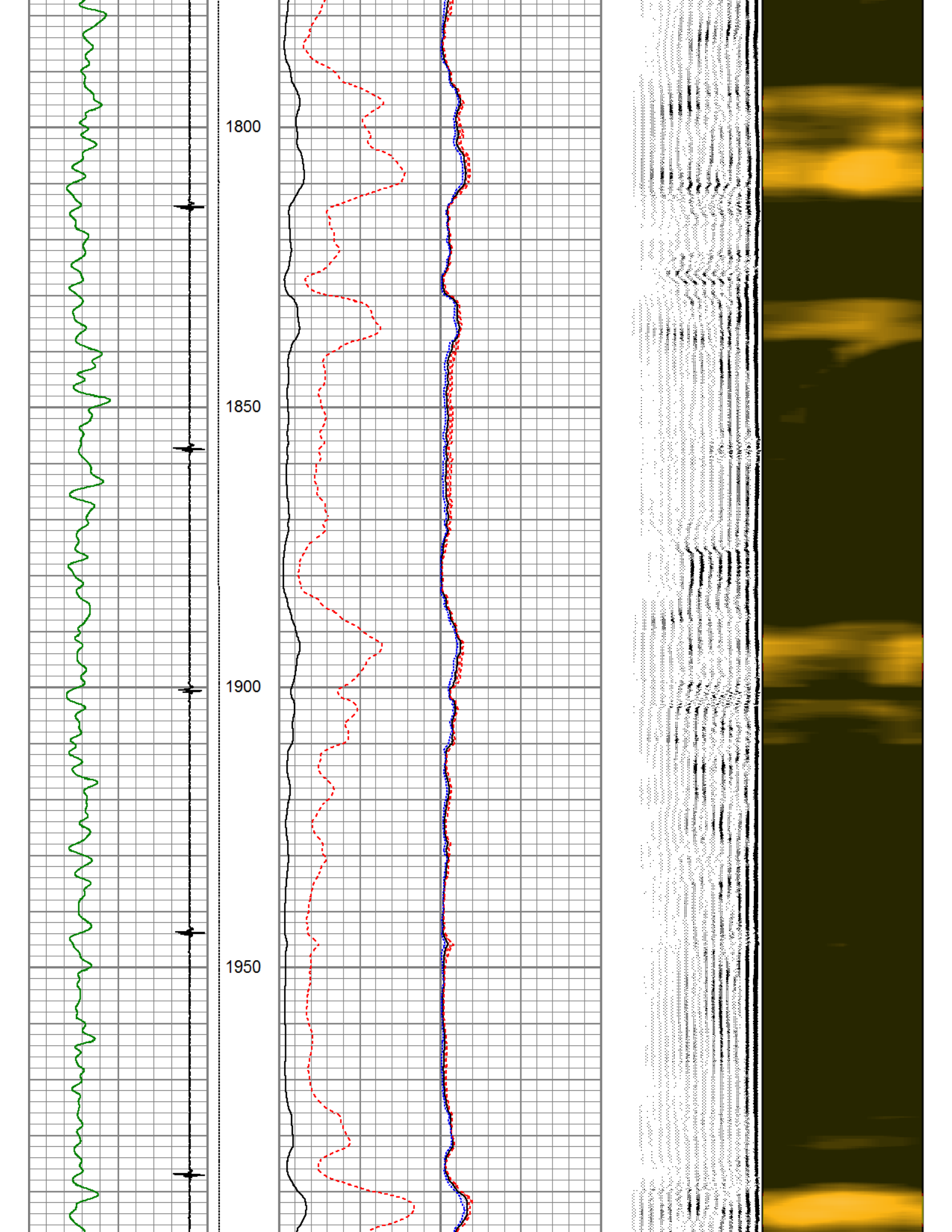

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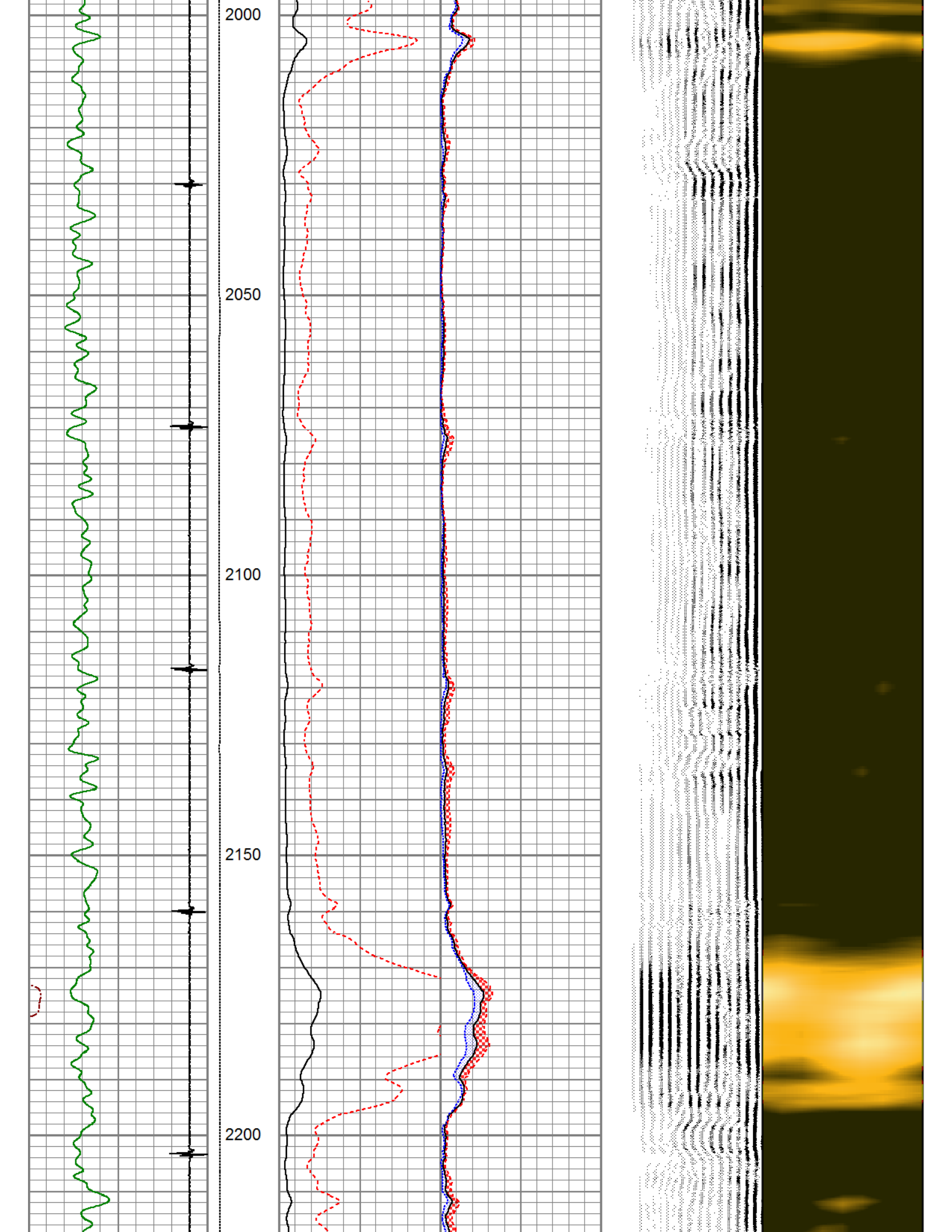

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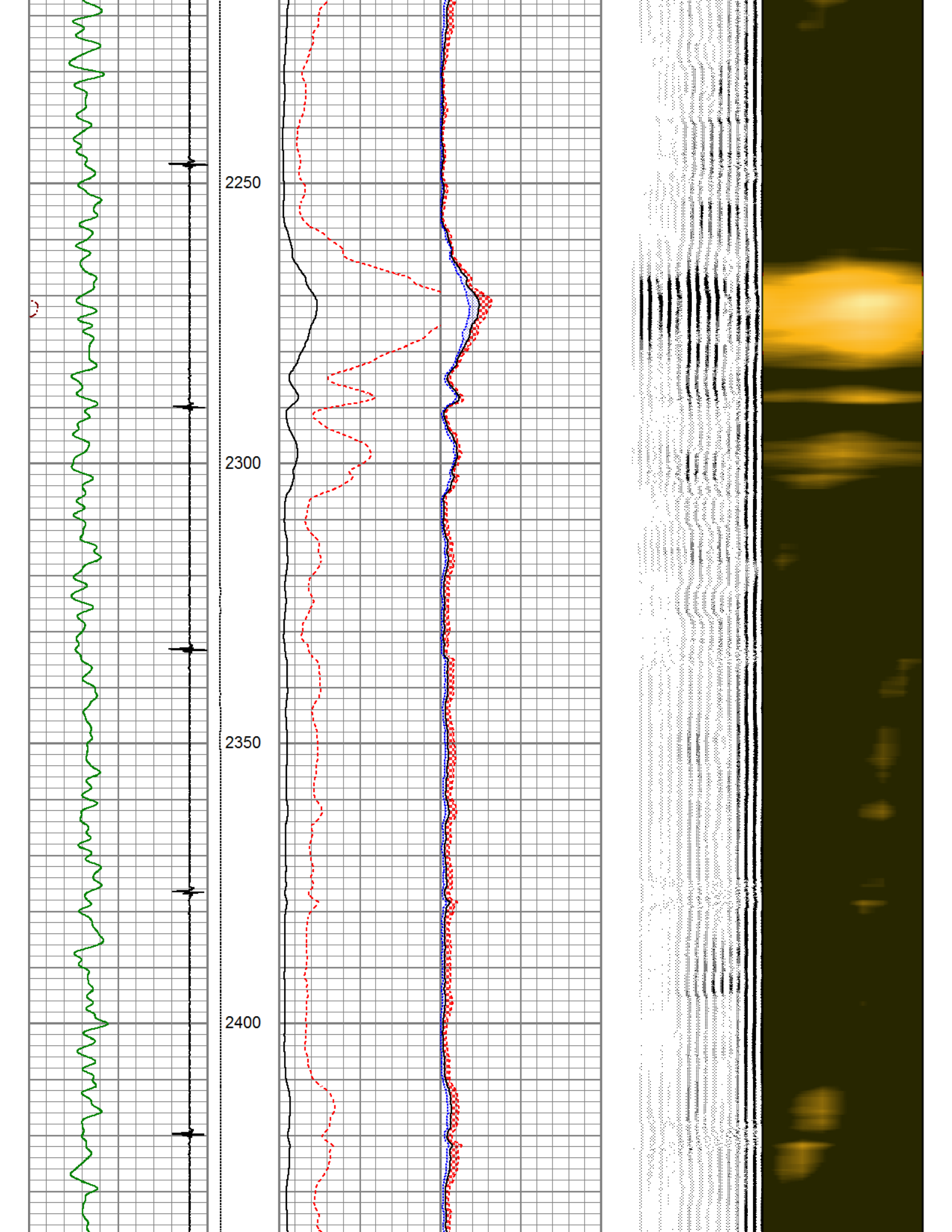

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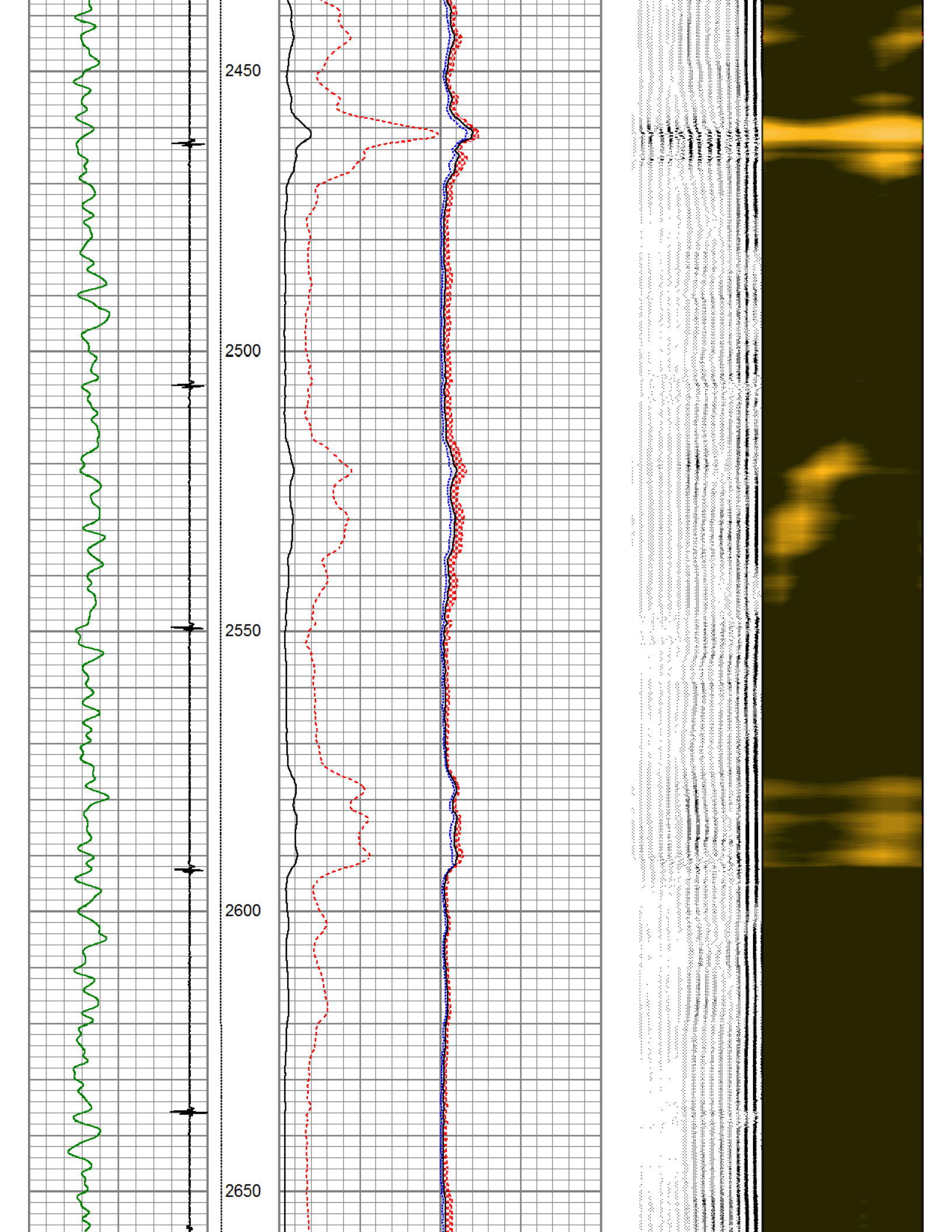

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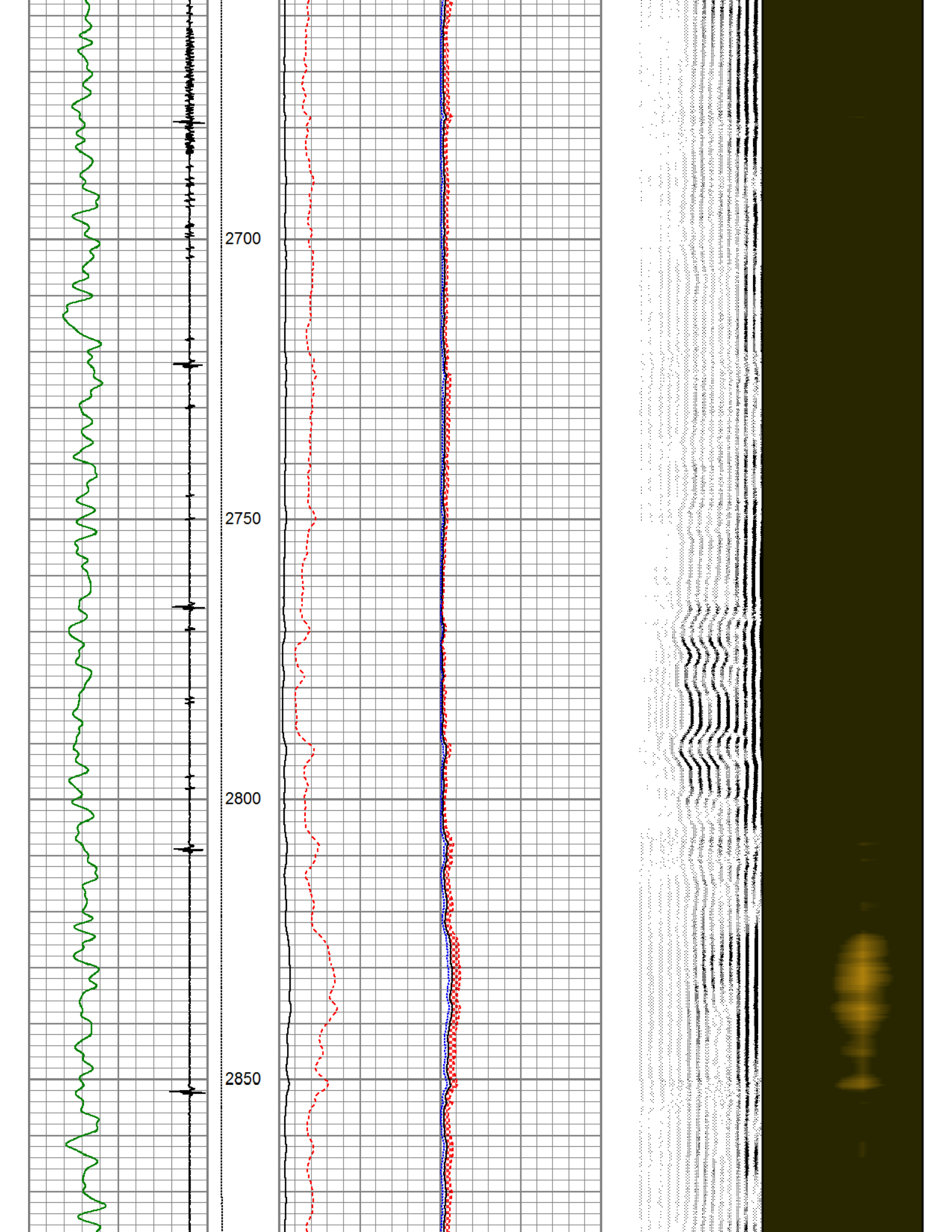

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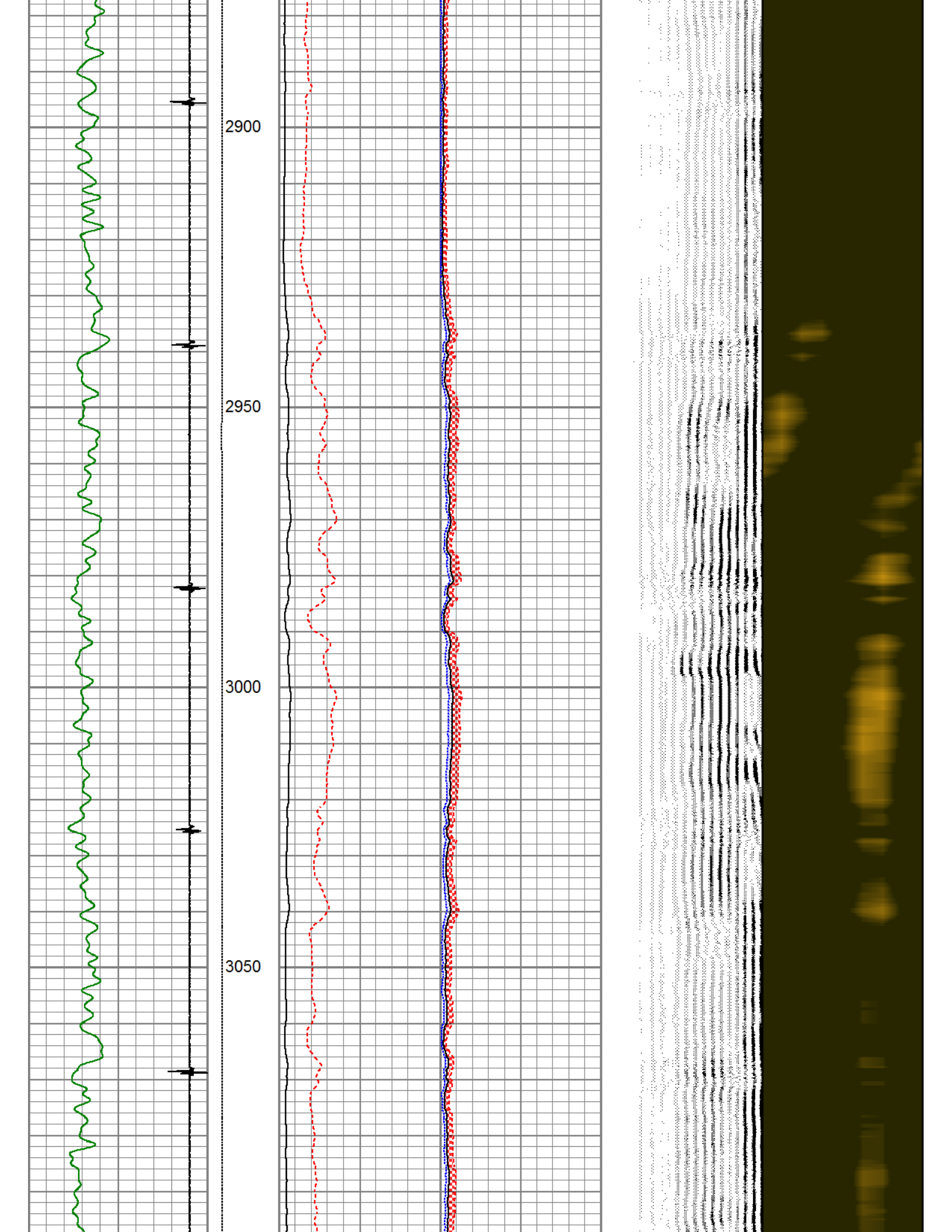

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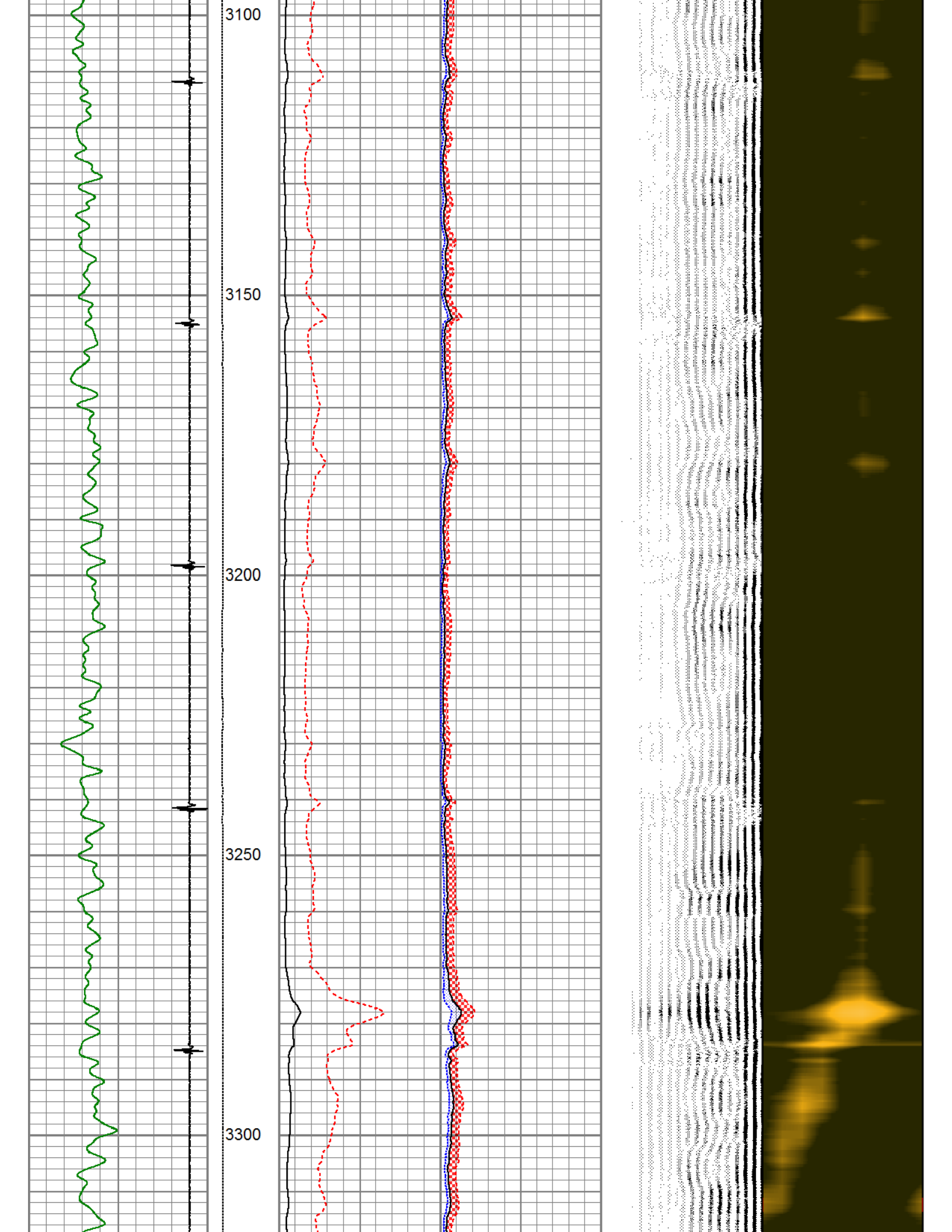

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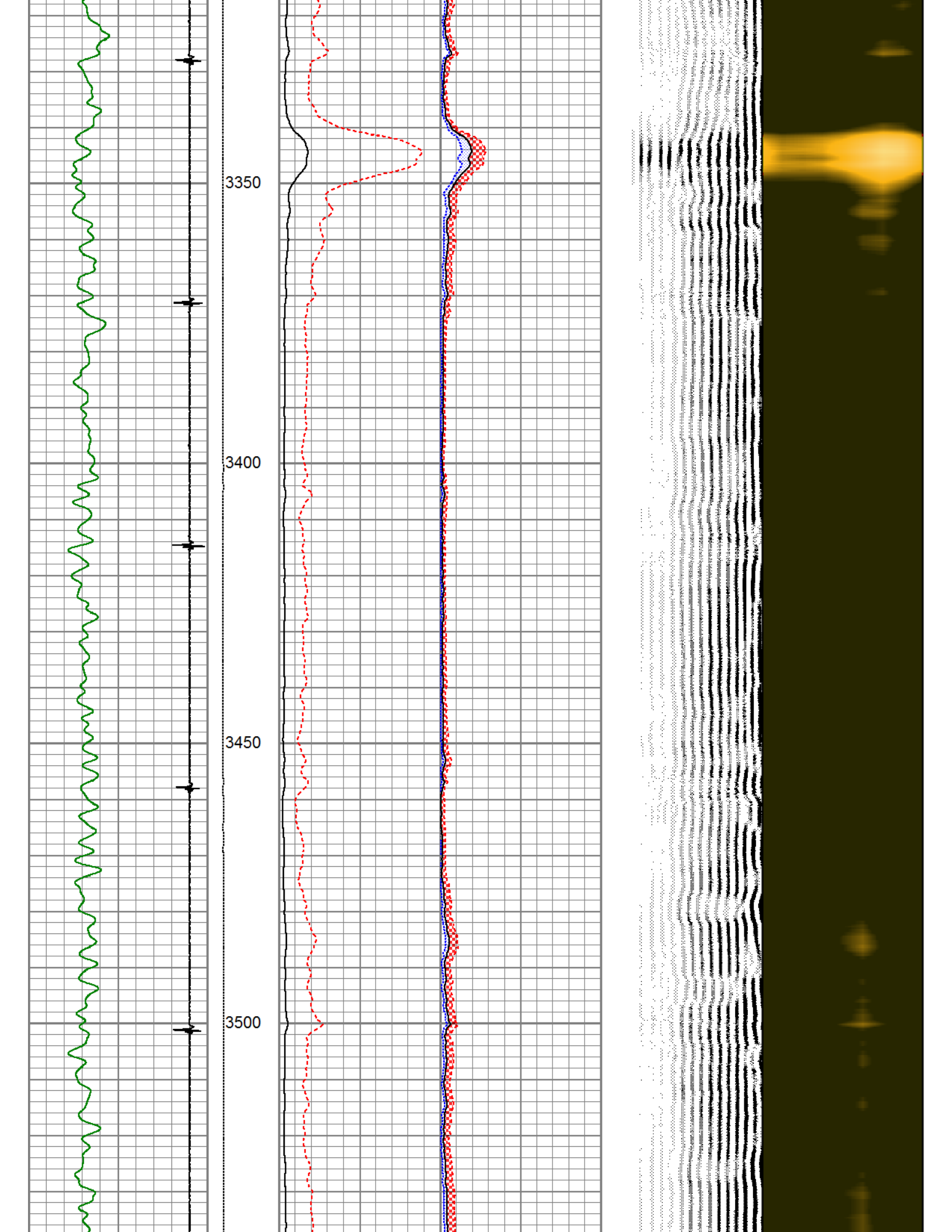

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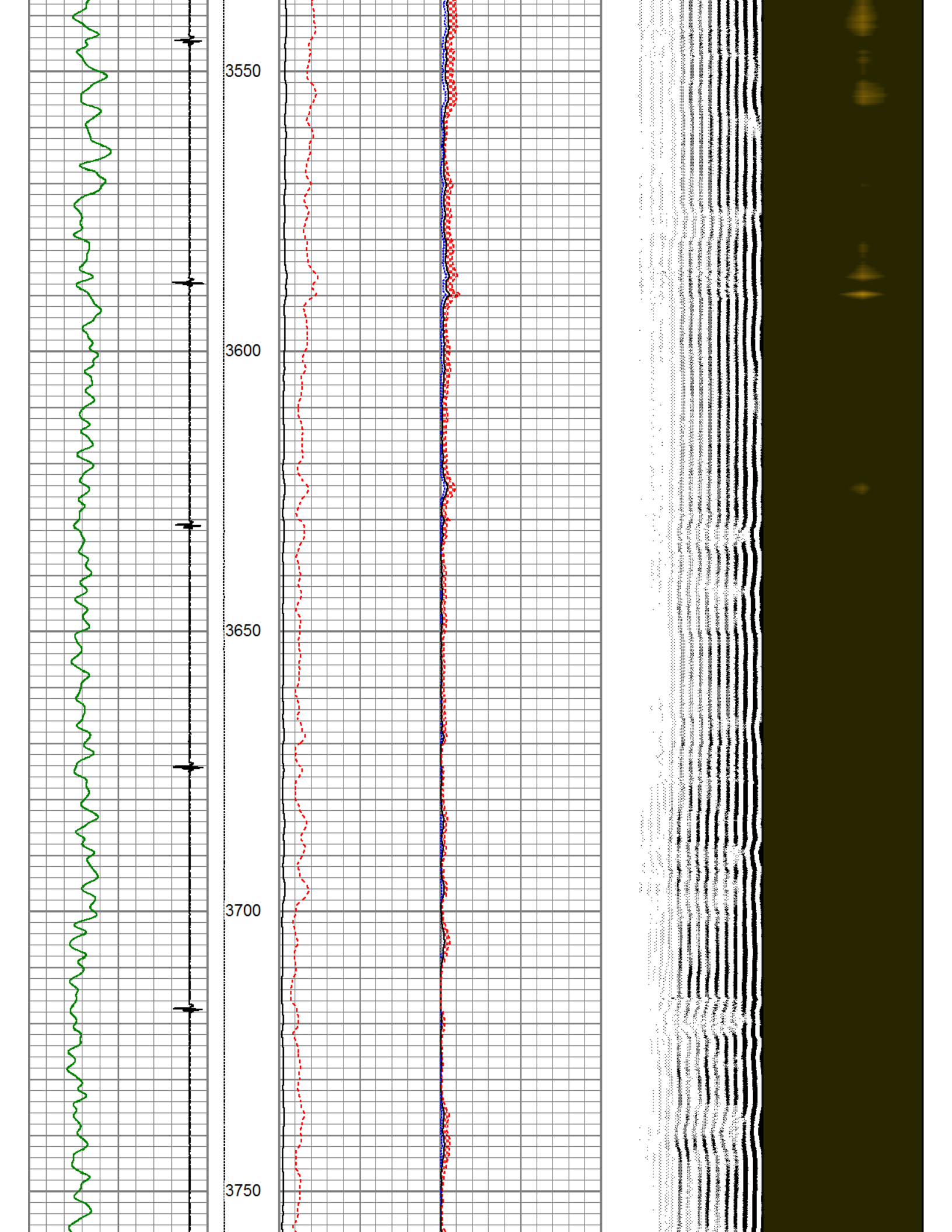

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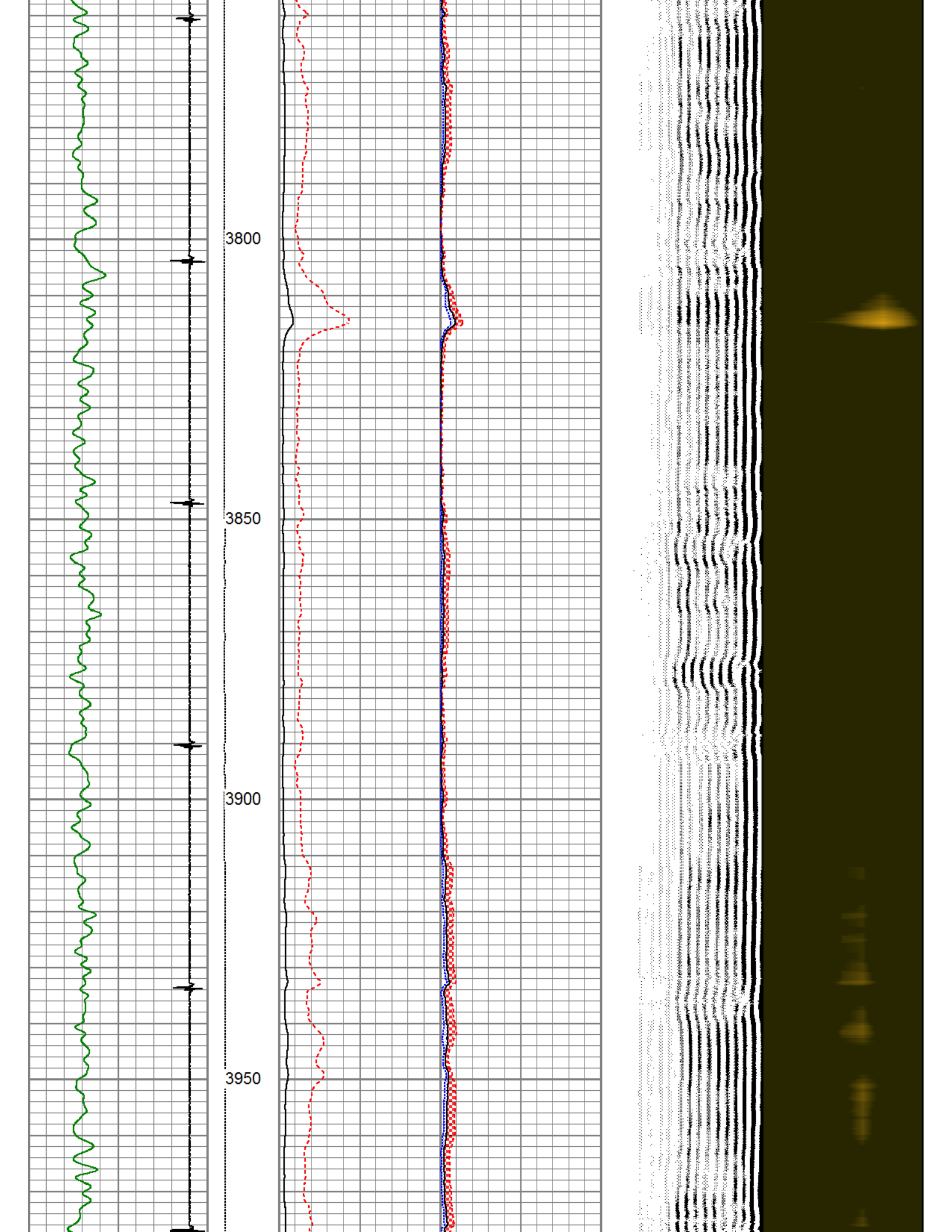

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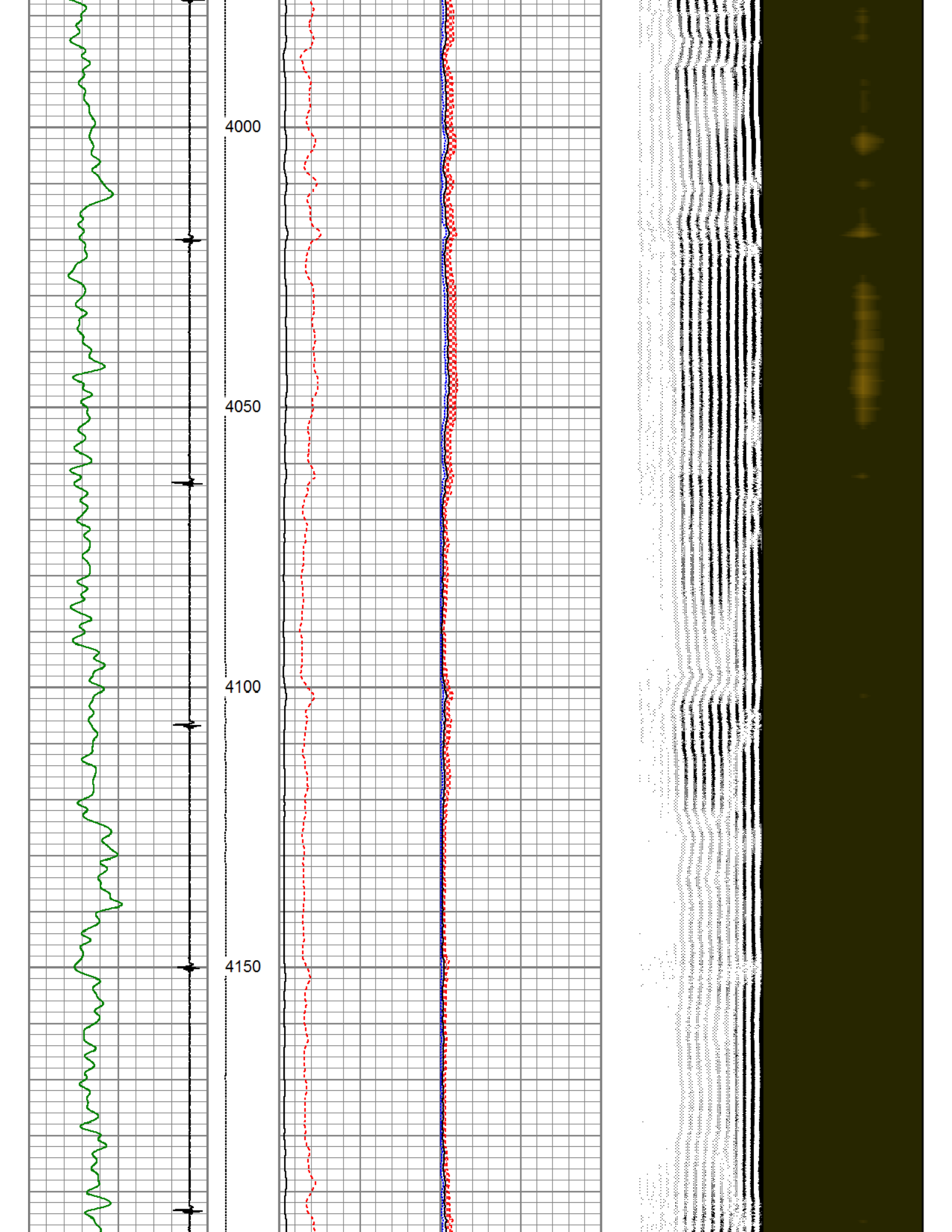

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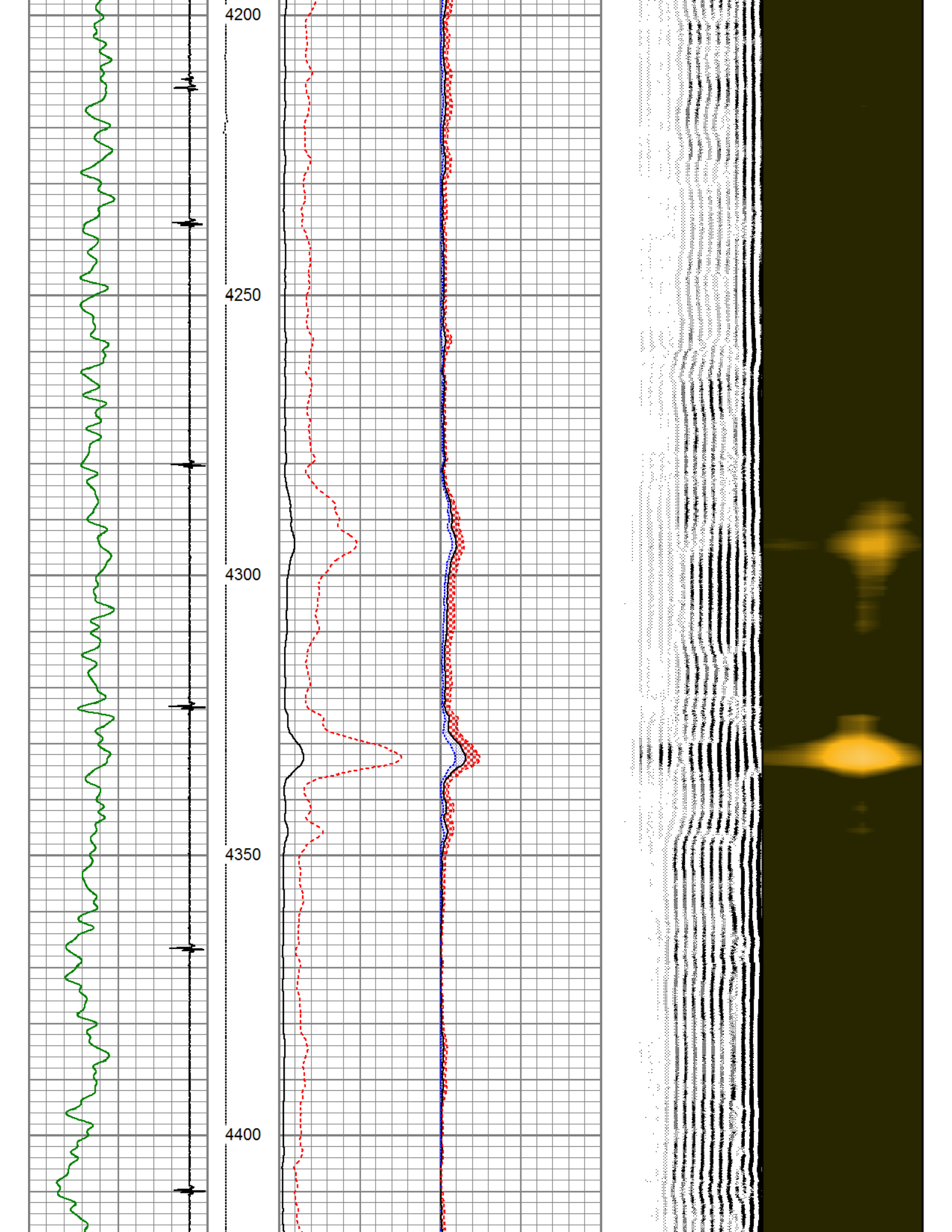

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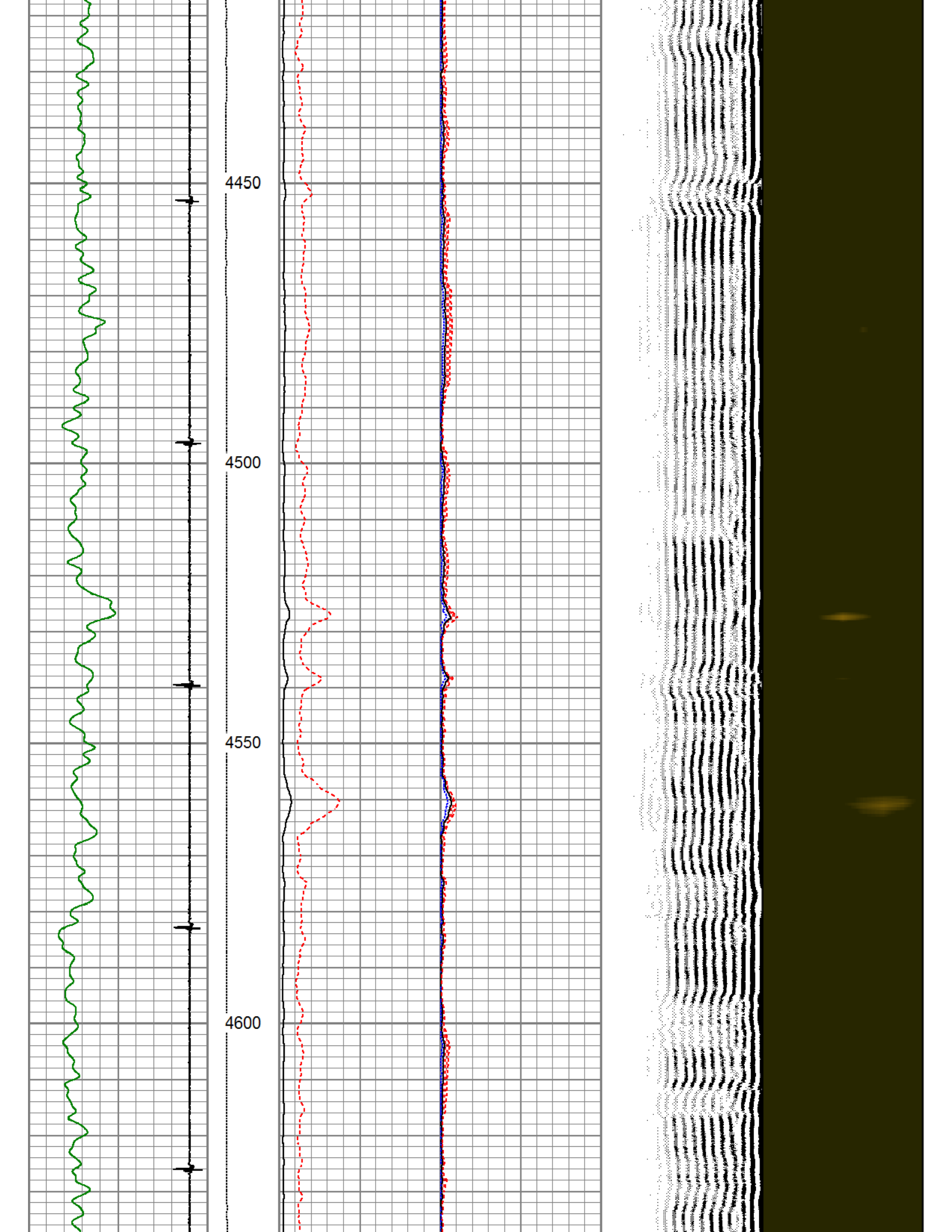

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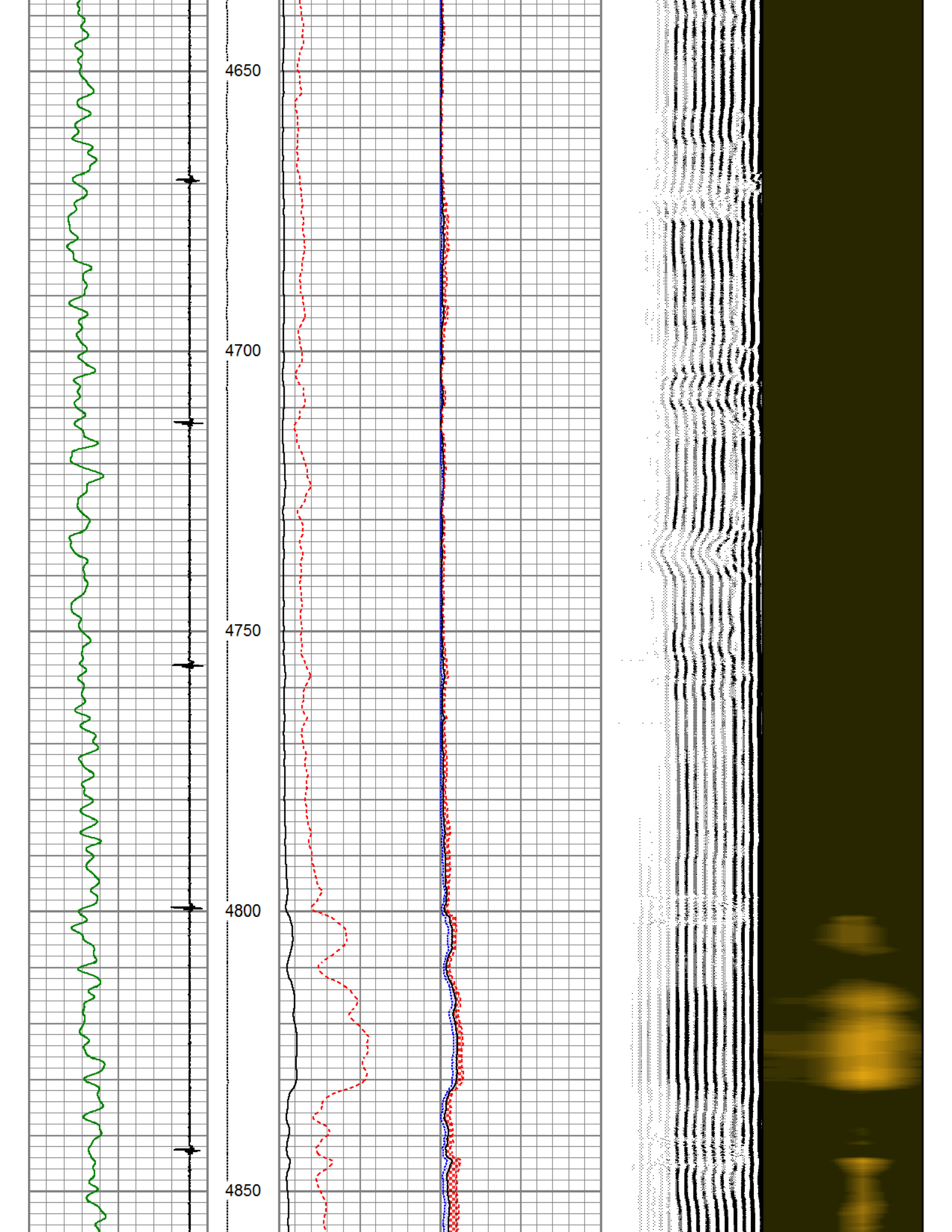

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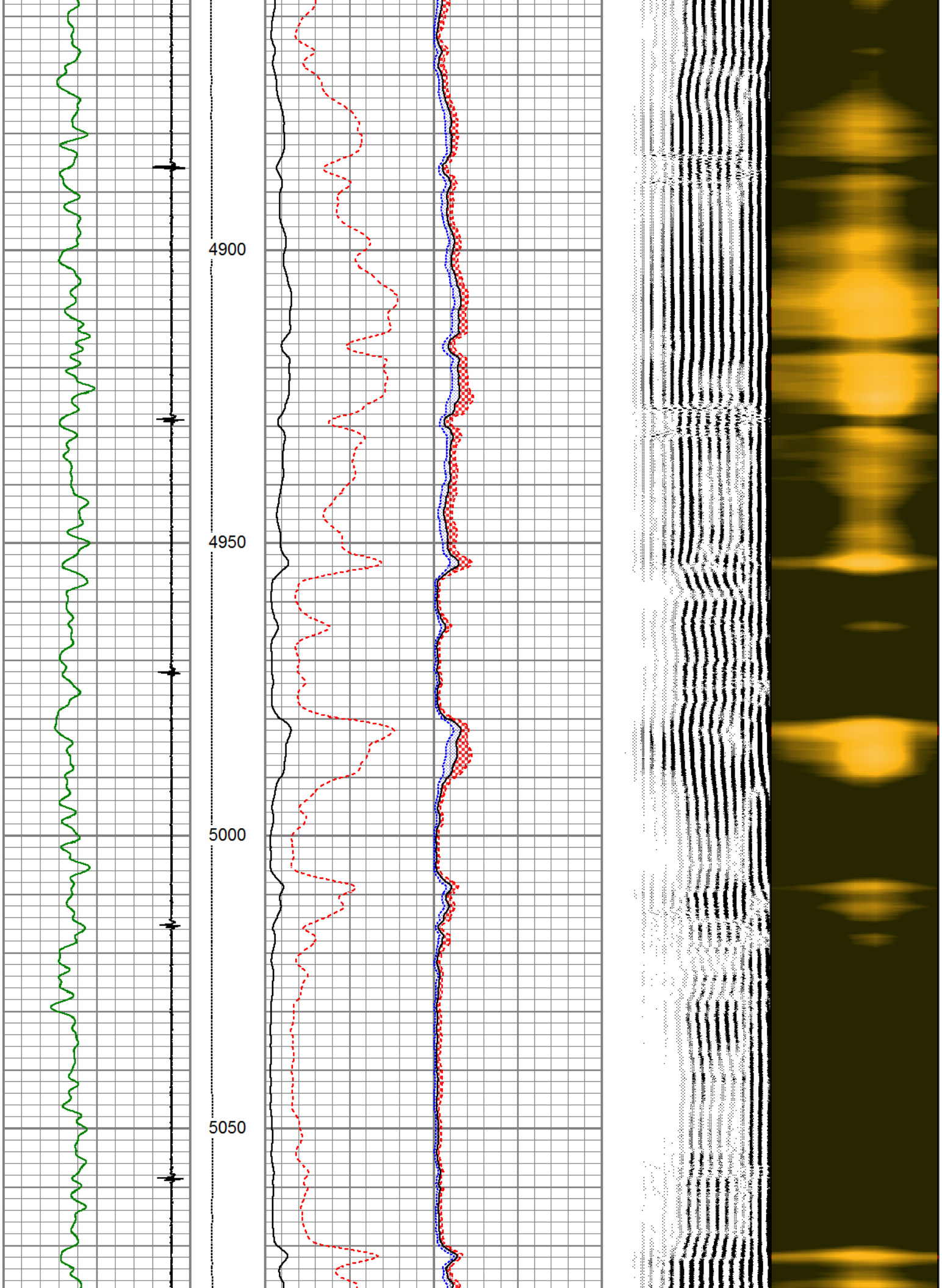

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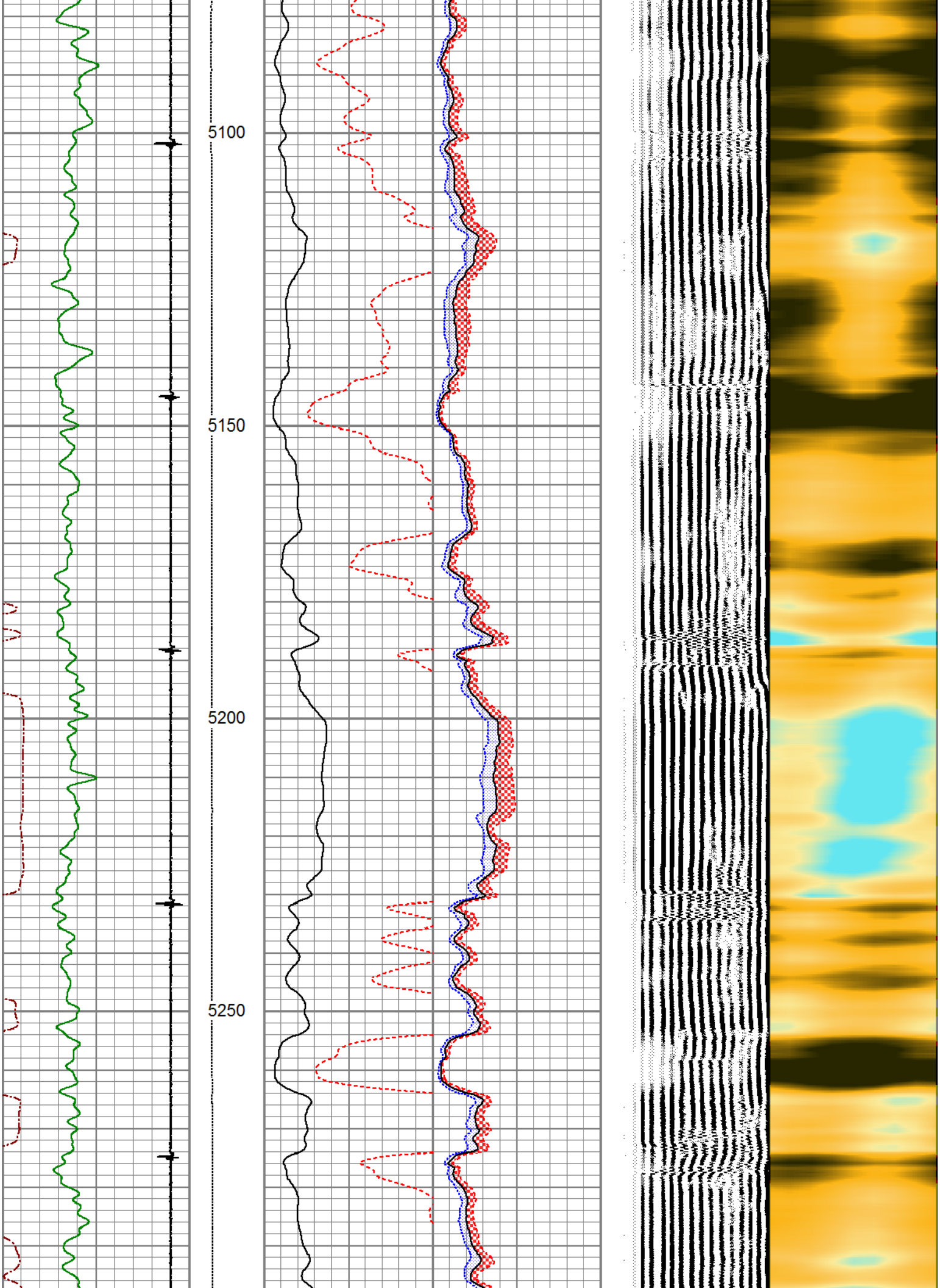

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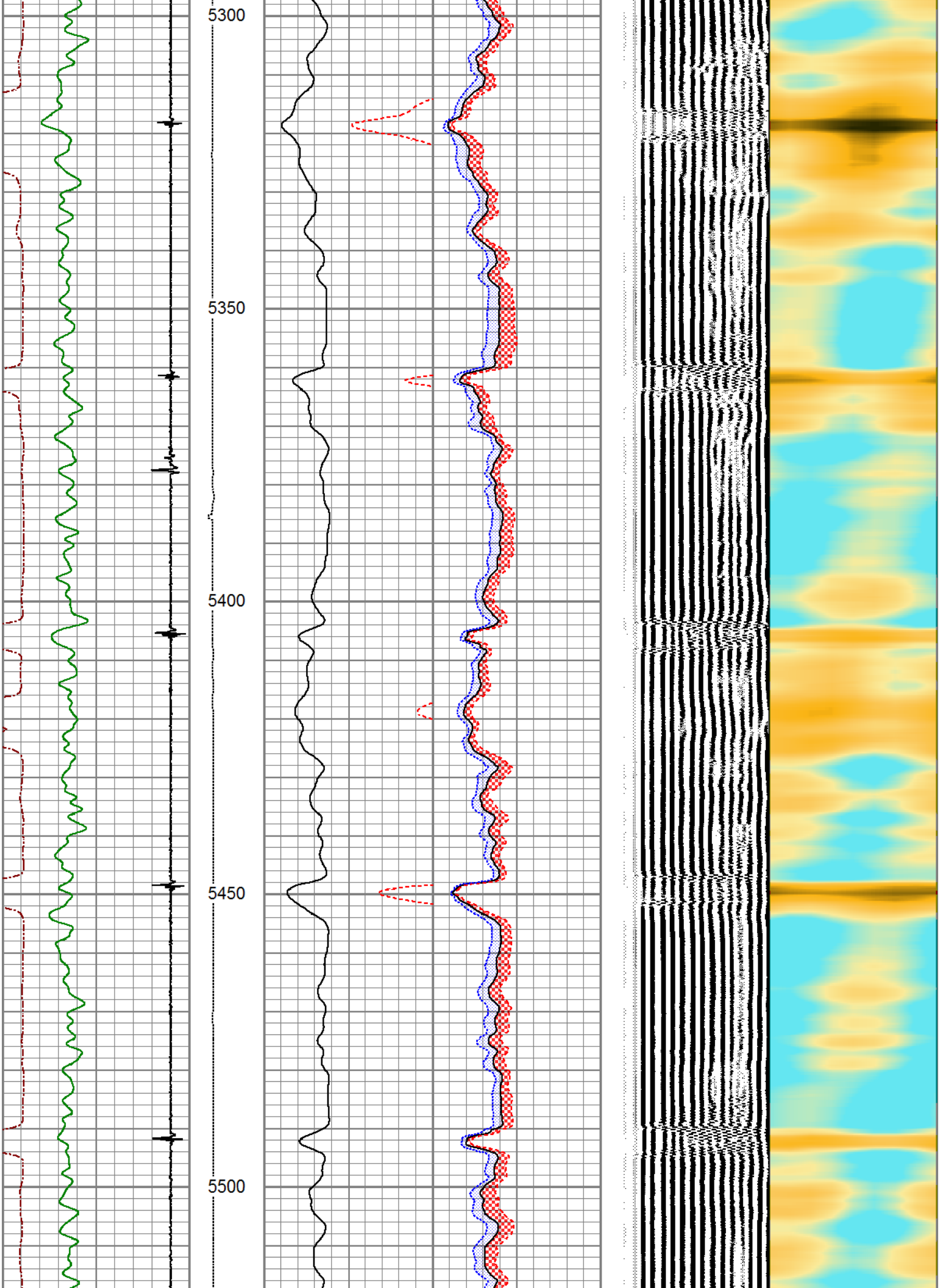

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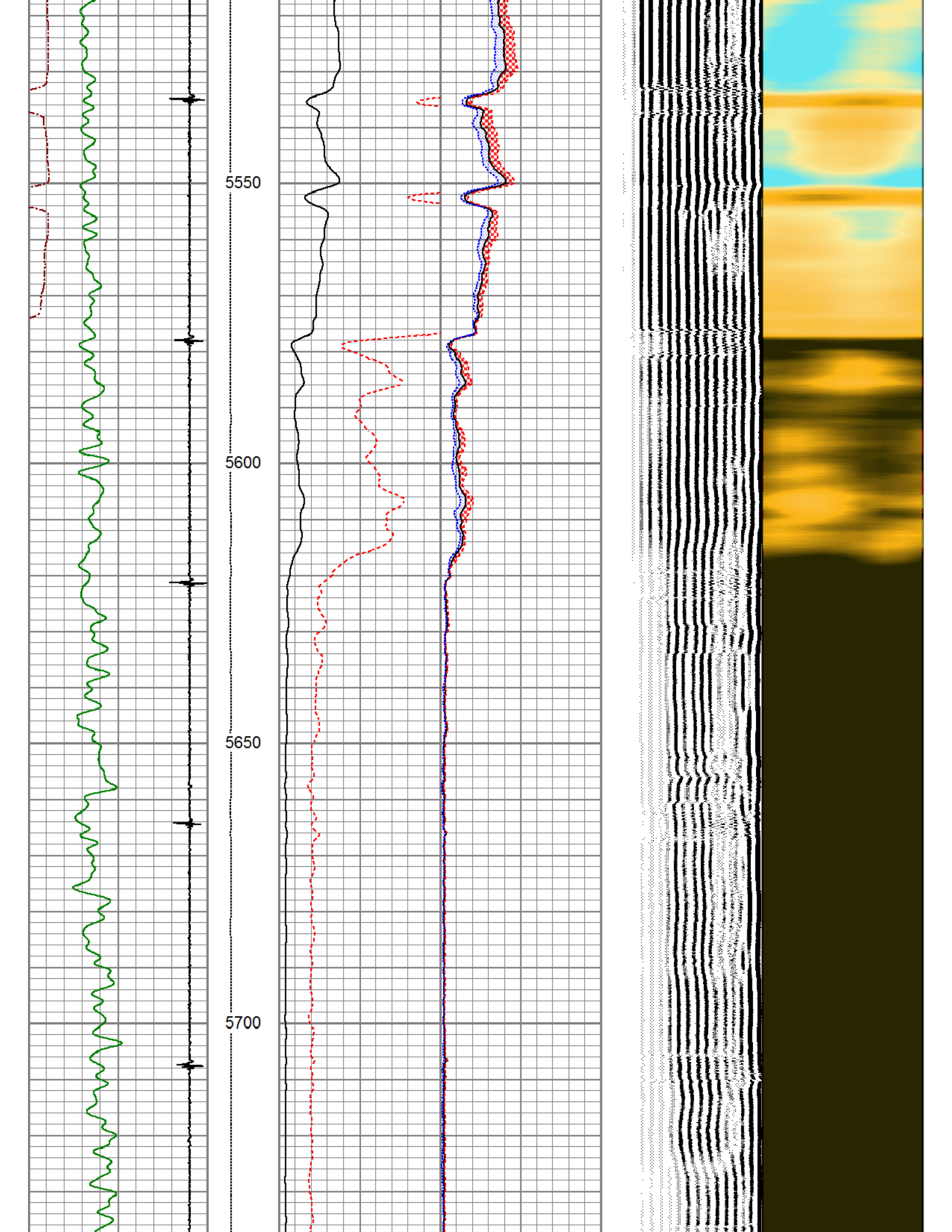

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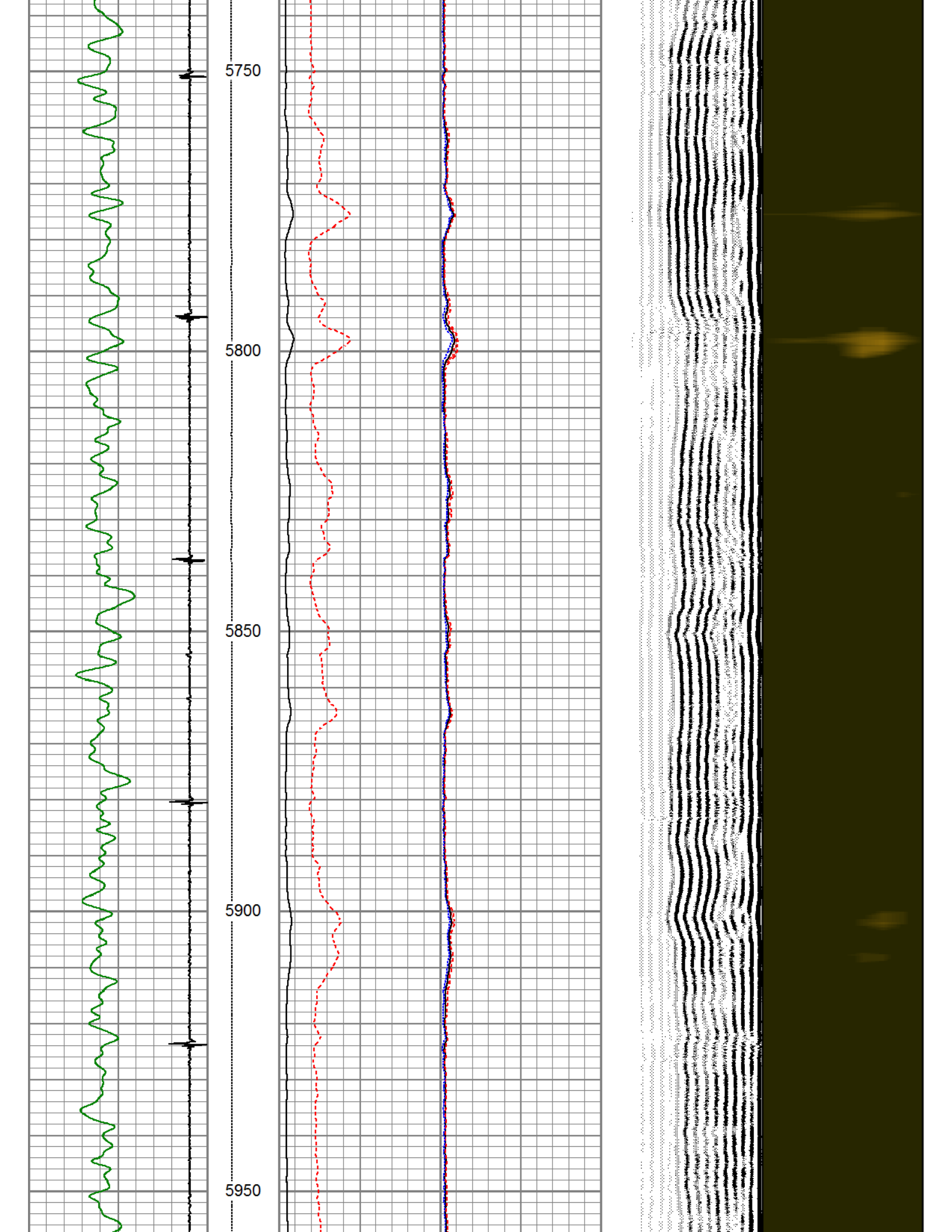

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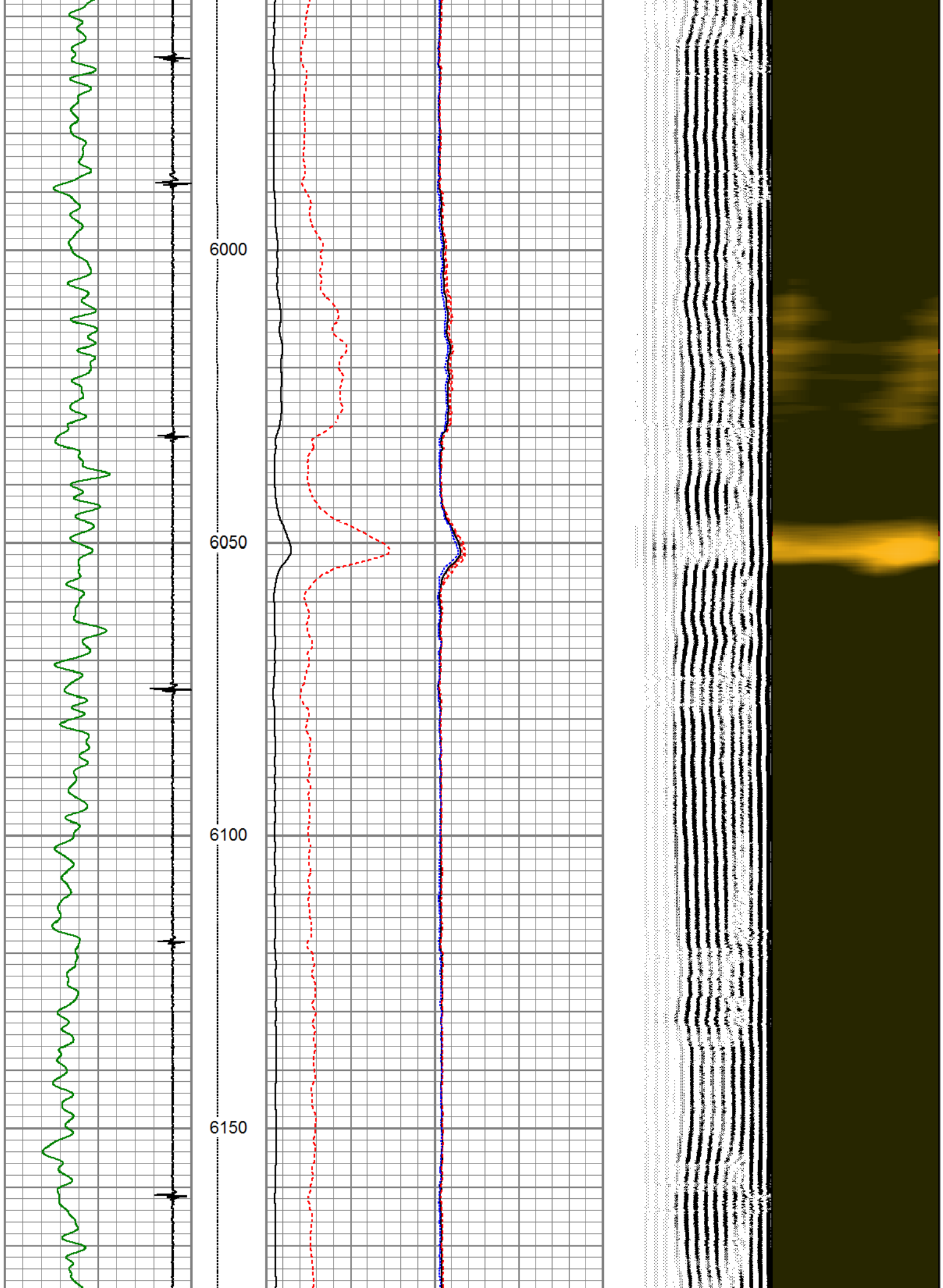

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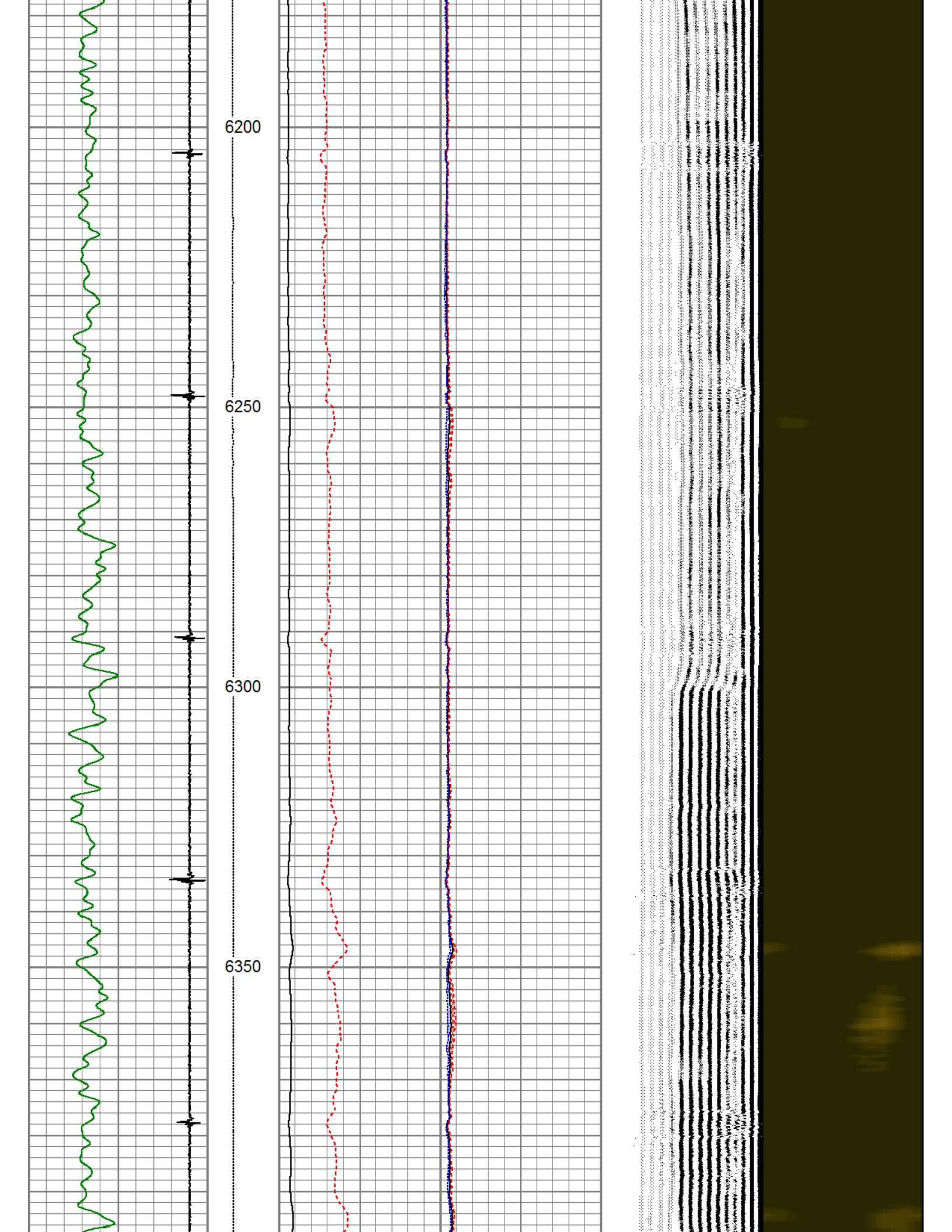

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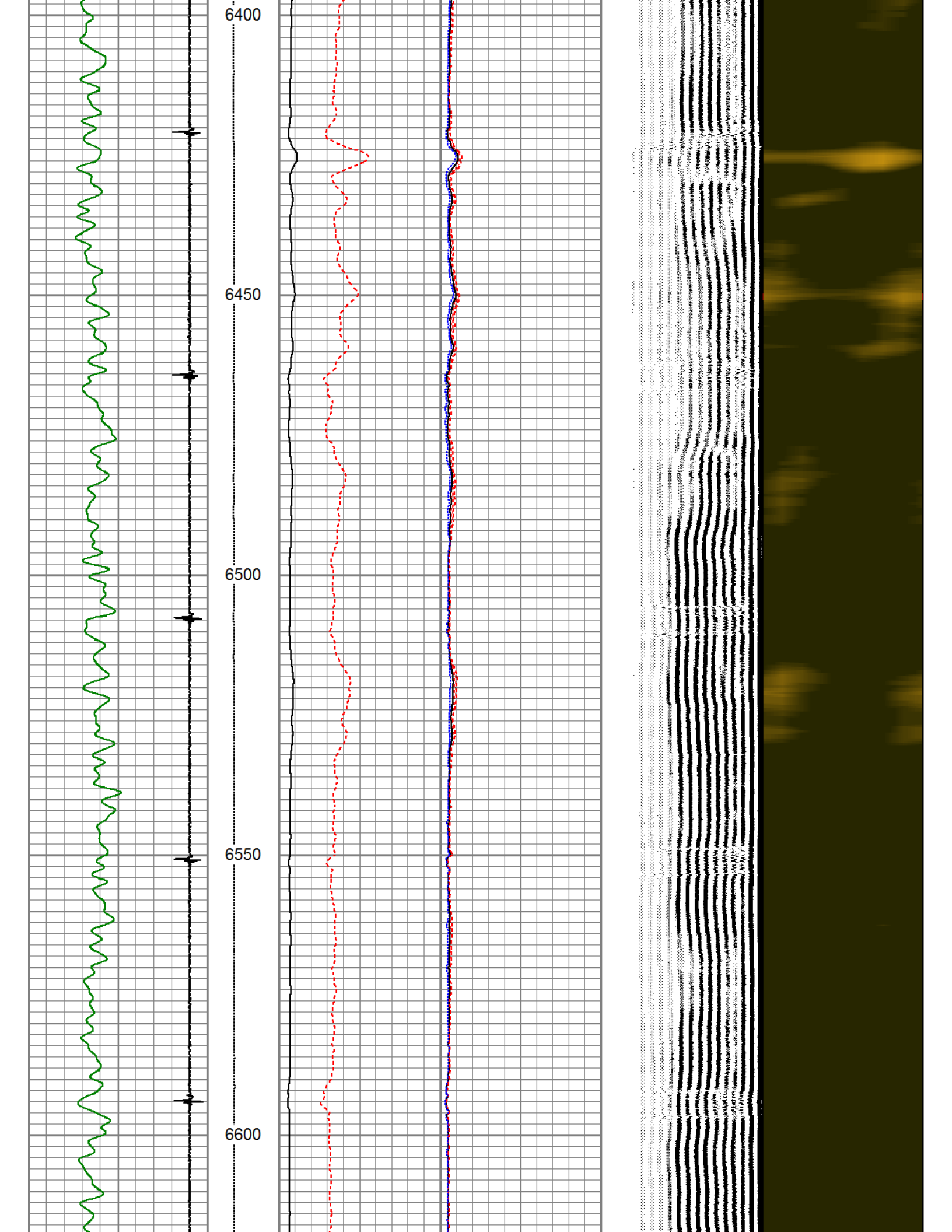

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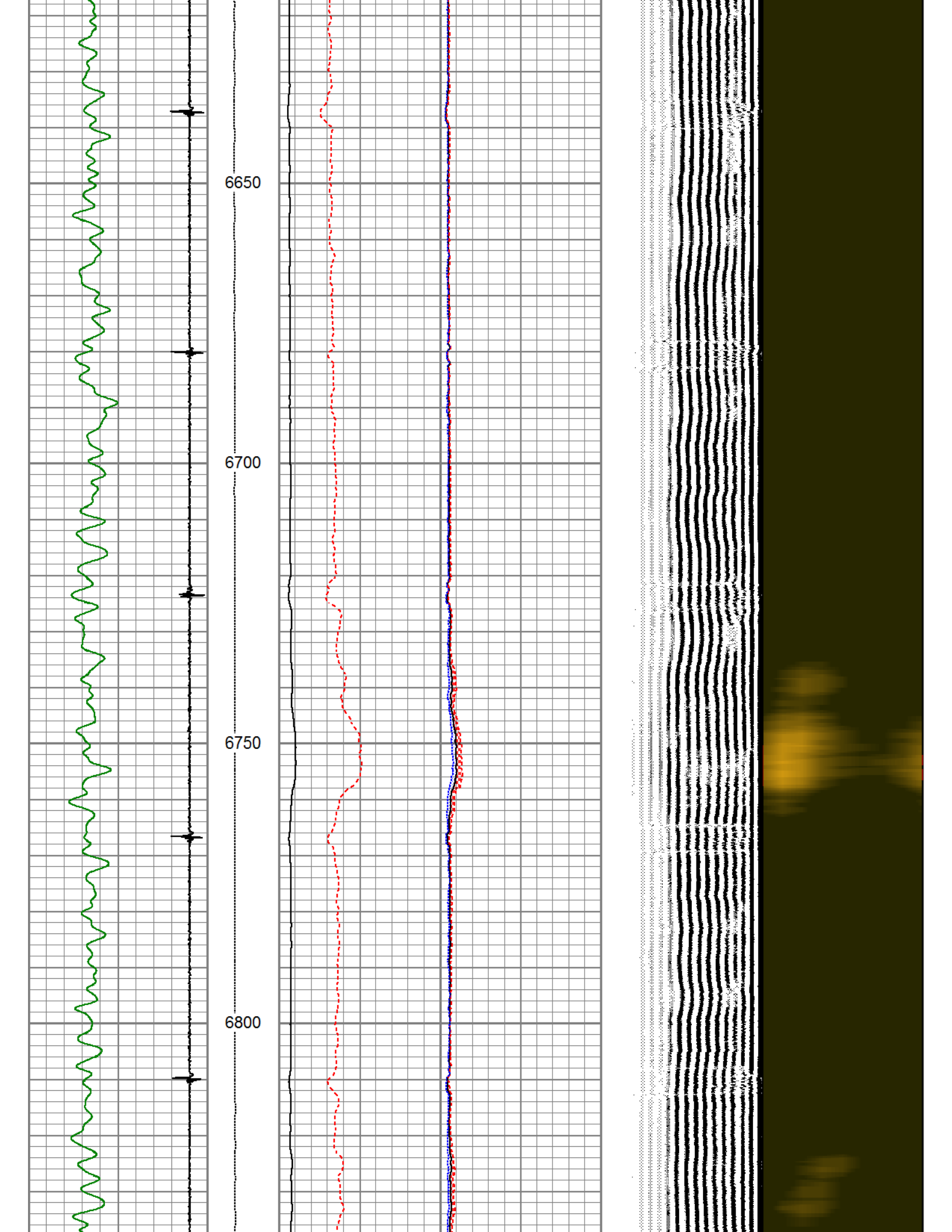

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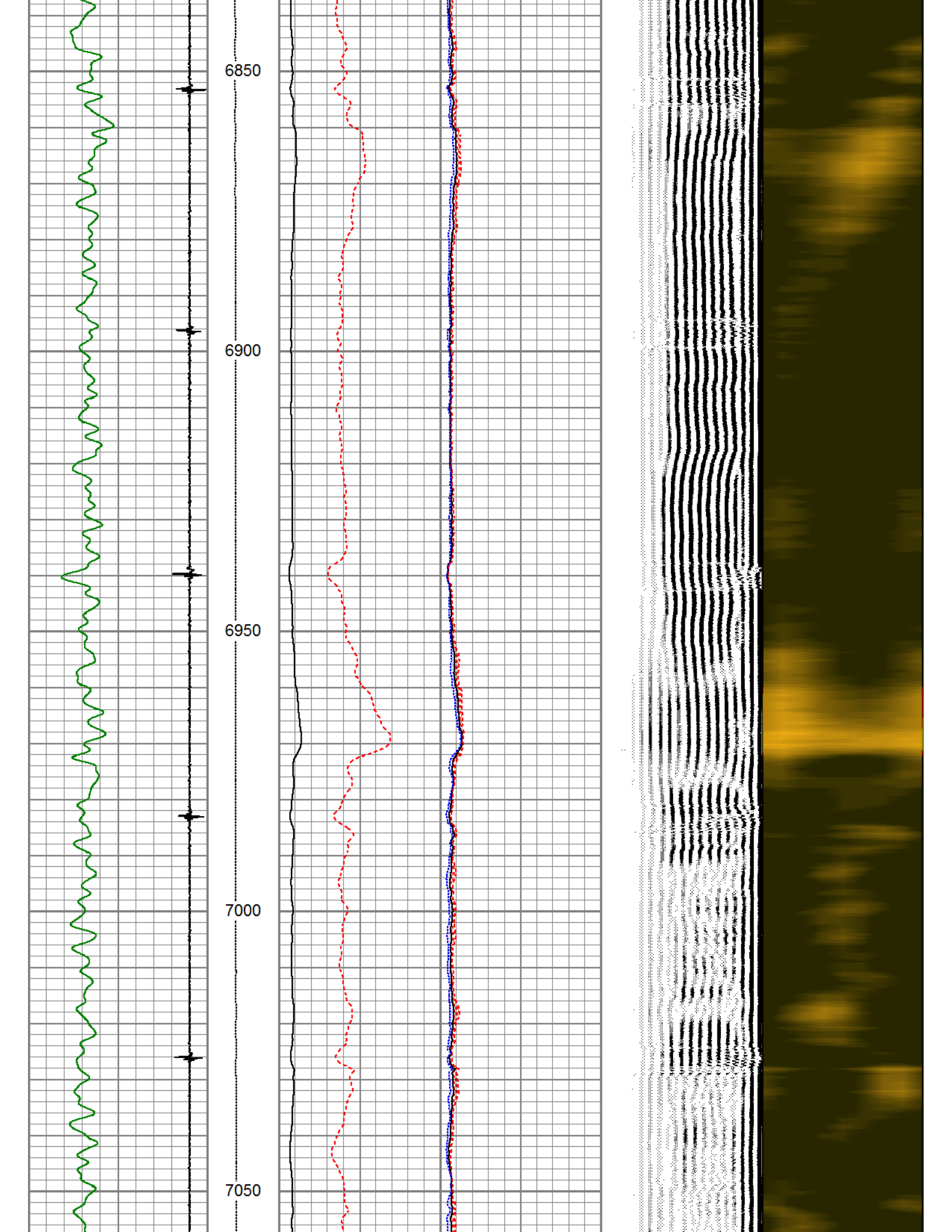

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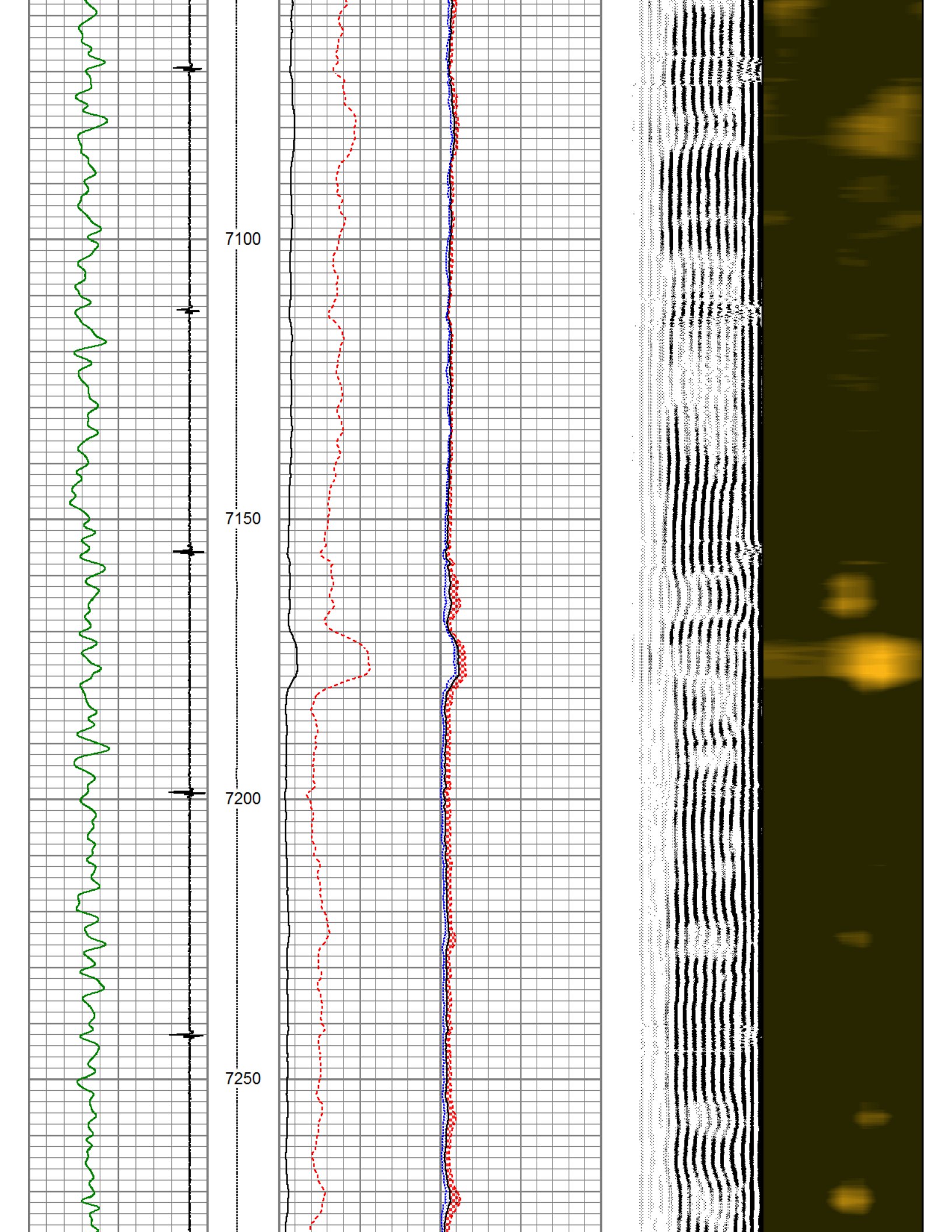

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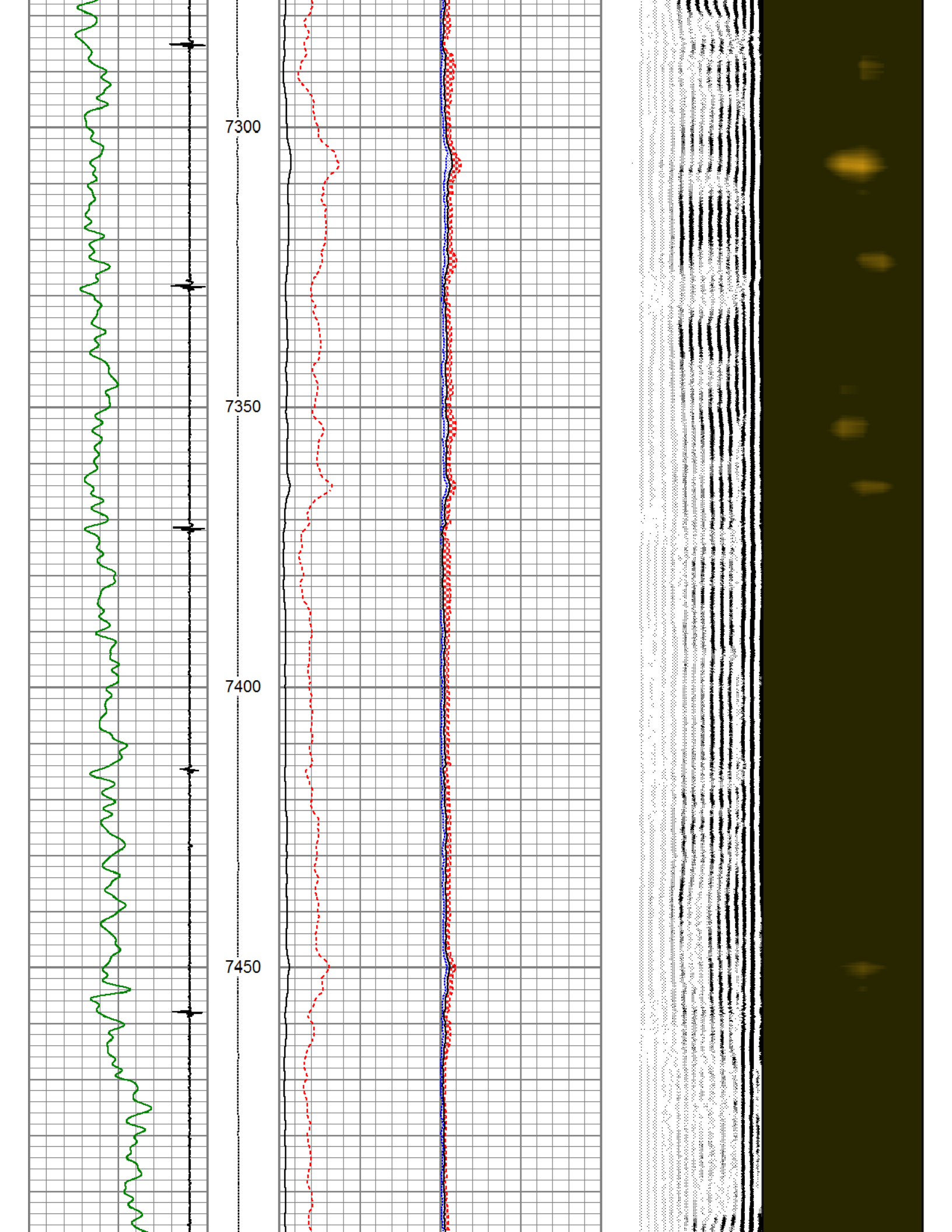

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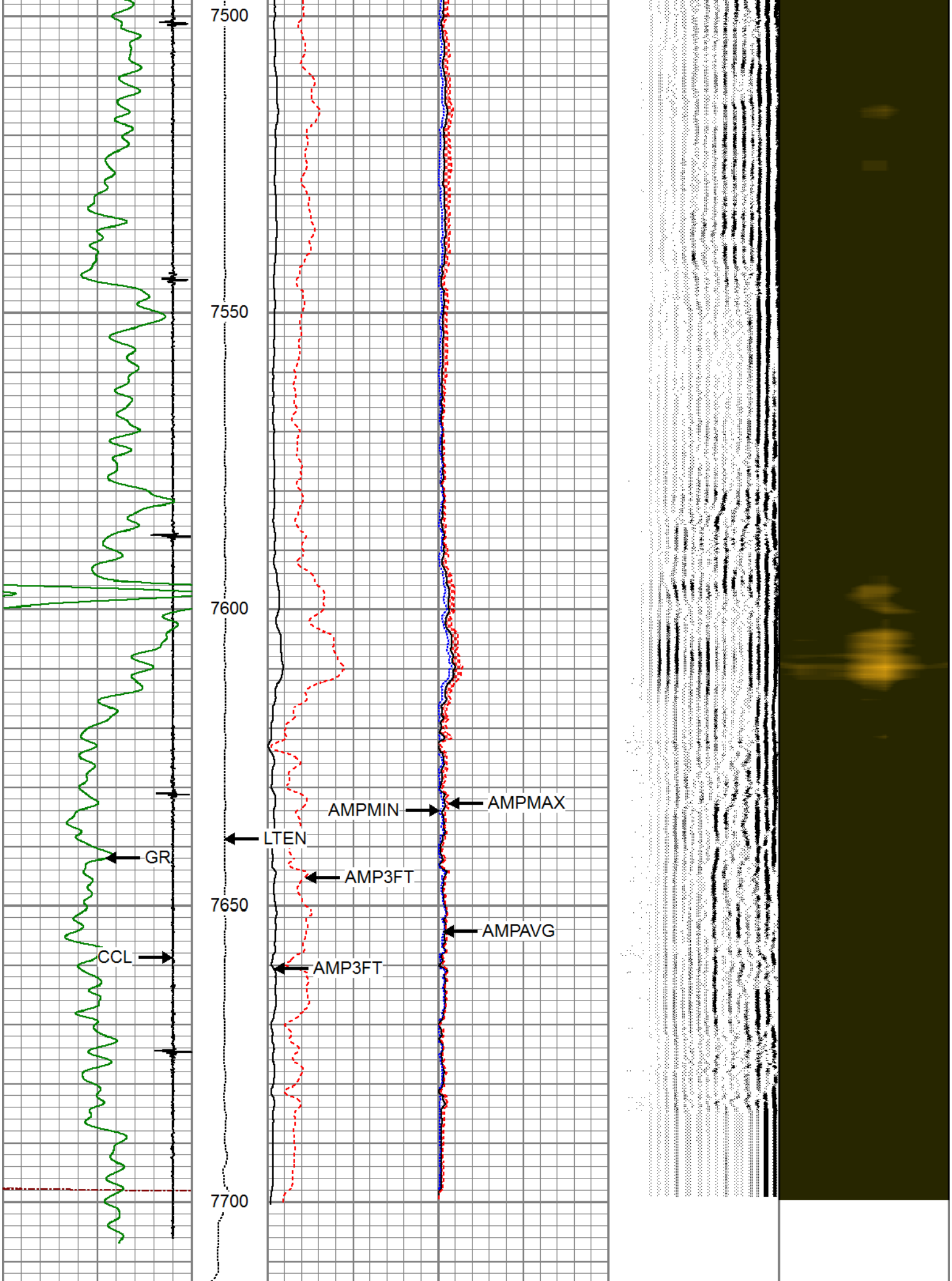

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6750
6800


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7050


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7300
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7450


7500
7550
7600
7650
7700
AMPMIN
AMPMAX
LTEN
GR
AMP3FT
AMPAVG
CCL
AMP3FT
3Ft Travel Time
LTEN
3' Amplitude
Sector
VDL
1
Sector Map
8

300 (usec) 200
-9 Collar Locator 1
Gamma Ray
0 (GAPI) 150

LTEN
(lb)
0 4000

0 (mV) 100
3' Amplified Amplitude X 5
0 (mV) 20

Amplitude Average
0 150
Sector Amplitude Maximum
0 150
Sector Amplitude Minimum
0 150

200 (usec) 1200

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MAIN LOG

ZERO PSI APPLIED AT SURFACE

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REPEAT SECTION

ZERO PSI APPLIED AT SURFACE

Database File	highpoint_critter creek 16-6203b_0512347297_20181204_scbl.db
Dataset Pathname	pass4
Presentation Format	pinr_scbl
Dataset Creation	Tue Dec 04 18:03:21 2018
Charted by	Depth in Feet scaled 1:240

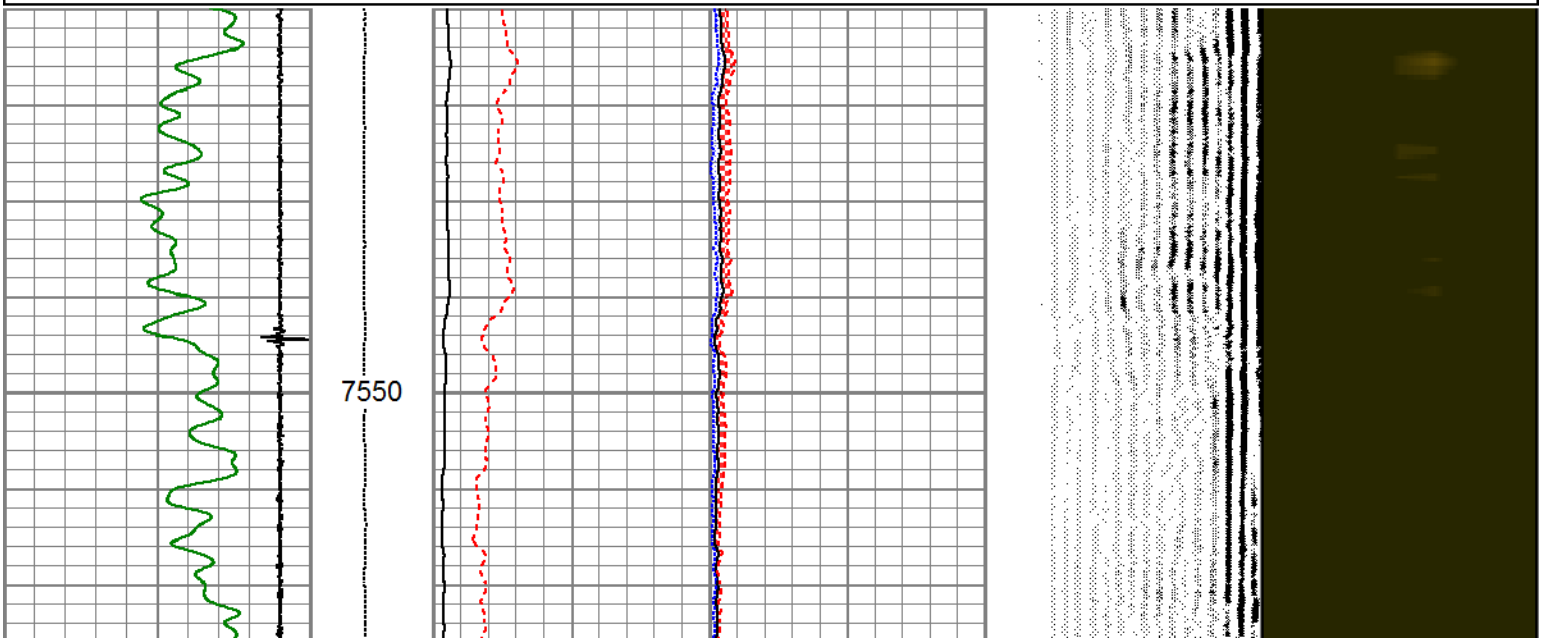
3Ft Travel Time
300 (usec) 200
-9 Collar Locator 1
Gamma Ray
0 (GAPI) 150

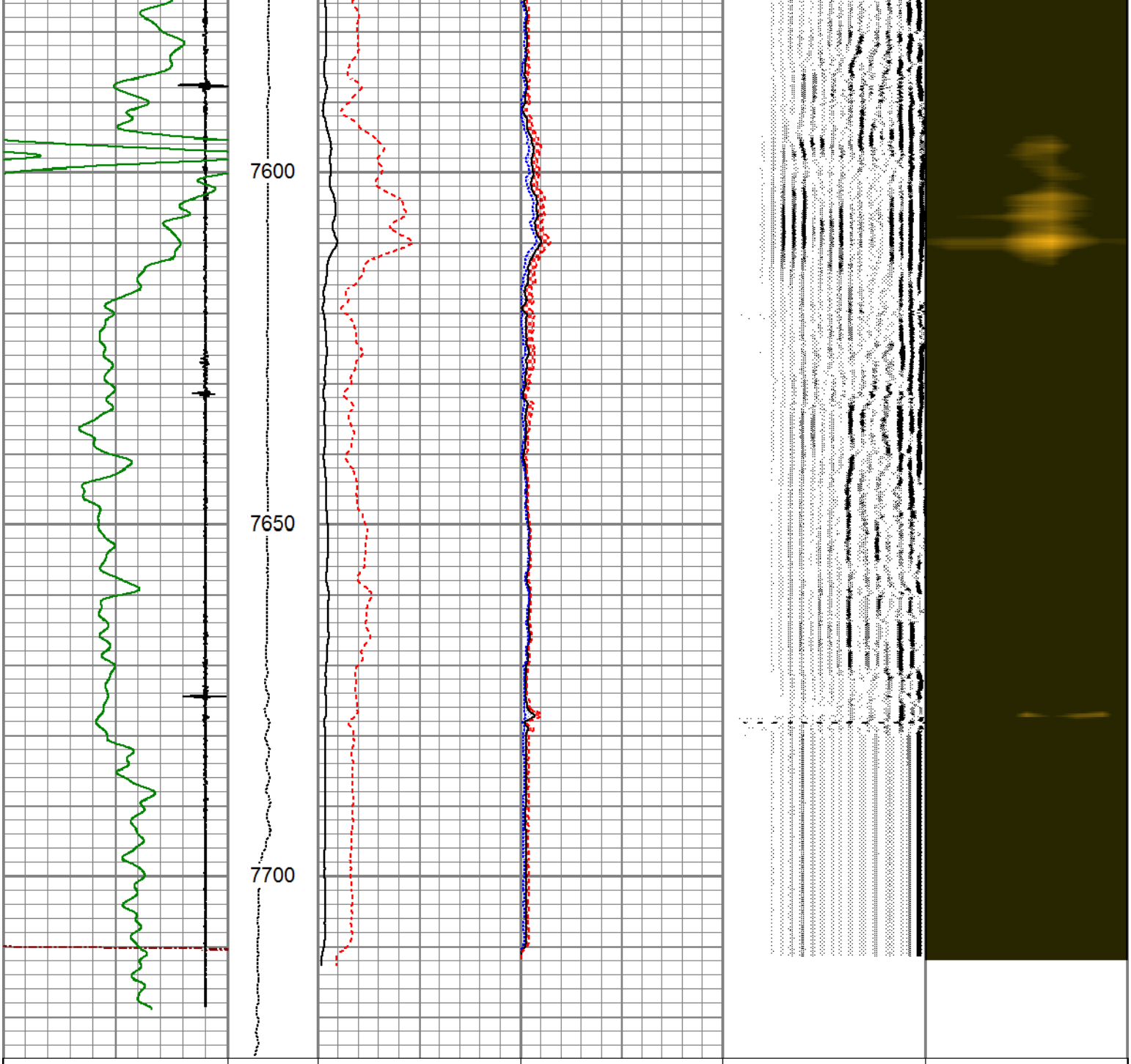
LTEN
(lb)
0 4000

3' Amplitude
0 (mV) 100
3' Amplified Amplitude X 5
0 (mV) 20

Sector Amplitude Average
0 150
Sector Amplitude Maximum
0 150
Sector Amplitude Minimum
0 150

VDL
200 (usec) 1200
1 Sector Map 8





Calibration Report

Database File	highpoint_critter creek 16-6203b_0512347297_20181204_scbl.db
Dataset Pathname	pass2
Dataset Creation	Tue Dec 04 17:34:21 2018

Gamma Ray Calibration Report

Serial Number:	080629	
Tool Model:	275 Probe	
Performed:	Mon Dec 03 02:24:27 2018	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6800	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1401-41-T	
Tool Model:	RBL-DC	
Calibration Casing Diameter:	7.000	in
Calibration Depth:	166.189	ft

Master Calibration, performed Tue Dec 04 17:33:58 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.013	0.979	1.000	62.165	61.654	1.796
CAL	-0.006	1.499				
5'	0.037	1.118	1.000	62.165	56.584	-1.075
SUM						
S1	0.030	0.990	0.000	100.000	104.262	-3.172
S2	0.001	0.974	0.000	100.000	102.764	-0.056
S3	0.002	0.976	0.000	100.000	102.693	-0.201
S4	0.002	0.976	0.000	100.000	102.730	-0.242
S5	0.001	0.983	0.000	100.000	101.907	-0.126
S6	0.003	0.985	0.000	100.000	101.821	-0.306
S7	0.004	0.989	0.000	100.000	101.484	-0.378
S8	0.004	0.987	0.000	100.000	101.748	-0.448

Air Zero Calibration, performed Thu Nov 29 15:24:07 2018:

	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

Company	HIGHPOINT OPERATING CORP.
Well	CRITTER CREEK 16-6203B
Field	HEREFORD

PIONEER

Pioneer Energy Services

County	WELD
State	COLORADO