



**RADIAL BOND LOG  
WITH GAMMA RAY**

Comp. HIGHPOINT OPERATING CORP.  
Well LION CREEK 23-0164B  
Field HEREFORD  
Co. WELD  
State COLORADO

Company **HIGHPOINT OPERATING CORP.**  
Well **LION CREEK 23-0164B**  
Field **HEREFORD**  
County **WELD** State **COLORADO**

Location: API #: 05-123-47385  
300' FNL & 1320' FWL  
NW NW  
SEC 23 TWP 11N RGE 64W  
Permanent Datum GL Elevation 5391'  
Log Measured From KB 20' Above Perm. Datum  
Drilling Measured From KB  
Other Services  
NONE  
Elevation  
K.B. 5411'  
D.F. N/A  
G.L. 5391'

Date of Service	19 SEPTEMBER 2018			
Run Number	ONE			
Depth Driller or P8TD	N/A			
Depth Logger	7910'			
Bottom Log Interval	7910'			
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	4" 10-02			
Estimated Cement Top	N/A			
Unit Number	P-133			
Wireline Size	9/32"			
Location	FORT MORGAN			
Recorded By	SCHOENROGGE			
Witnessed By	MR. BEHRENDT			
	Size	WVft	Top	Bottom
Tubing Record				
Surface Casing	9.625"	36#	SURFACE	1541'
Production Casing	7"	23#	SURFACE	8217.4'
Liner Record	4.5"	11.6#	7897'	18169'

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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.  
USED COLLAPSIBLE CENTRALIZERS DUE TO WELL ACCESS  
  
NO FREE PIPE PASS RAN CALS FROM LAST WELL ON PAD  
  
CORRELATED TO CUSTOMER LINER TOP

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: CRAIG Operator: KYLE Operator: TYSON Operator:	SEE DIAGRAM	

# Log Variables

DatabaseC:\ProgramData\Warrion\Data\highpoint\_lion creek 23-0164b\_0512347385\_2018091  
Dataset field/well/run1/pass3.1/\_vars\_

## Top - Bottom

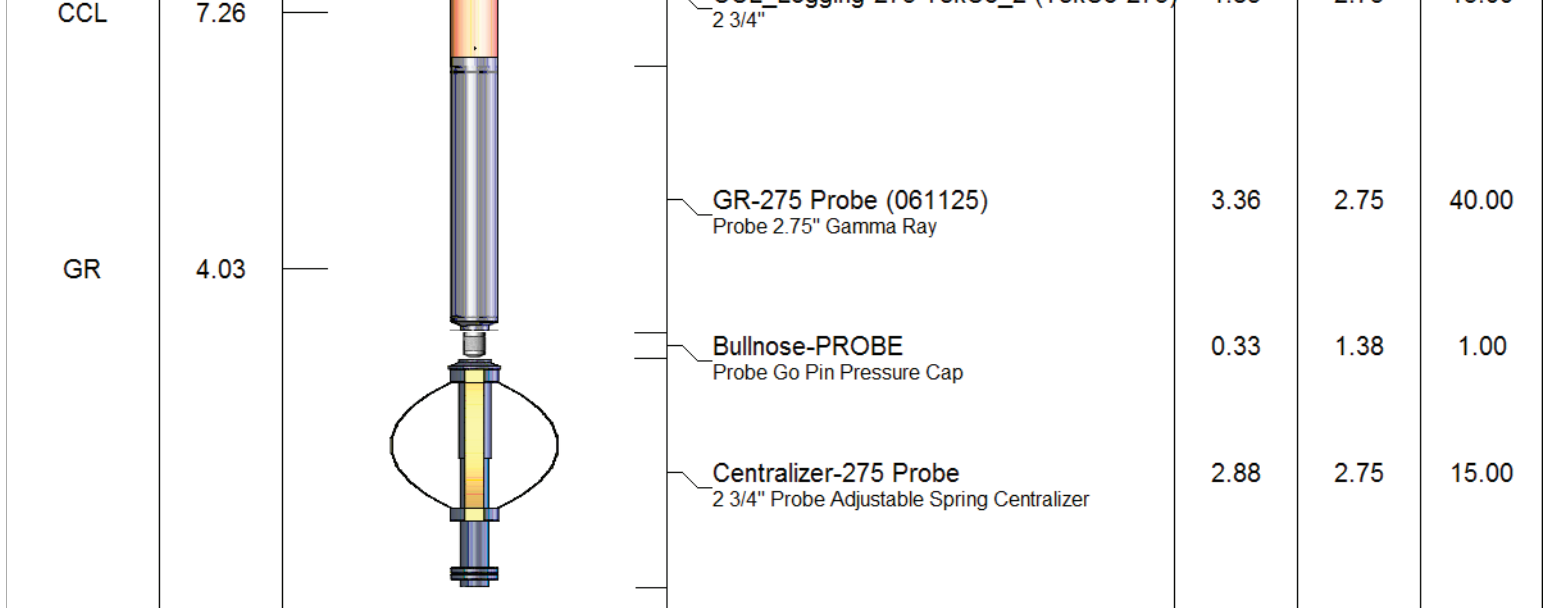
BOREID in 8.75	BOTTEMP degF 200	CASEOD in 7	CASETHCK in 0.317	CASEWGHT lb/ft 23	MAXAMPL mV 0	MINAMPL mV 1
MINATTN db/ft 0.08	PERFS 0	PPT usec 287	SRFTEMP degF 50	TDEPTH ft 7900		

## 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	
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00	
			PROBE-RBT-DIGITAL-RBL-DC (FW1304-38.75) Probe 2 3/4" Radii Bond-Corrosion Package	38.75	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						
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00	
			CCI Logging-275 TekCo 2 (TekCo-275)	1.83	2.75	15.00	



Dataset: highpoint\_lion creek 23-0164b\_0512347385\_20180919\_scbl.db: field/well/run1/pass3.1  
 Total length: 23.94 ft  
 Total weight: 203.00 lb  
 O.D.: 2.75 in

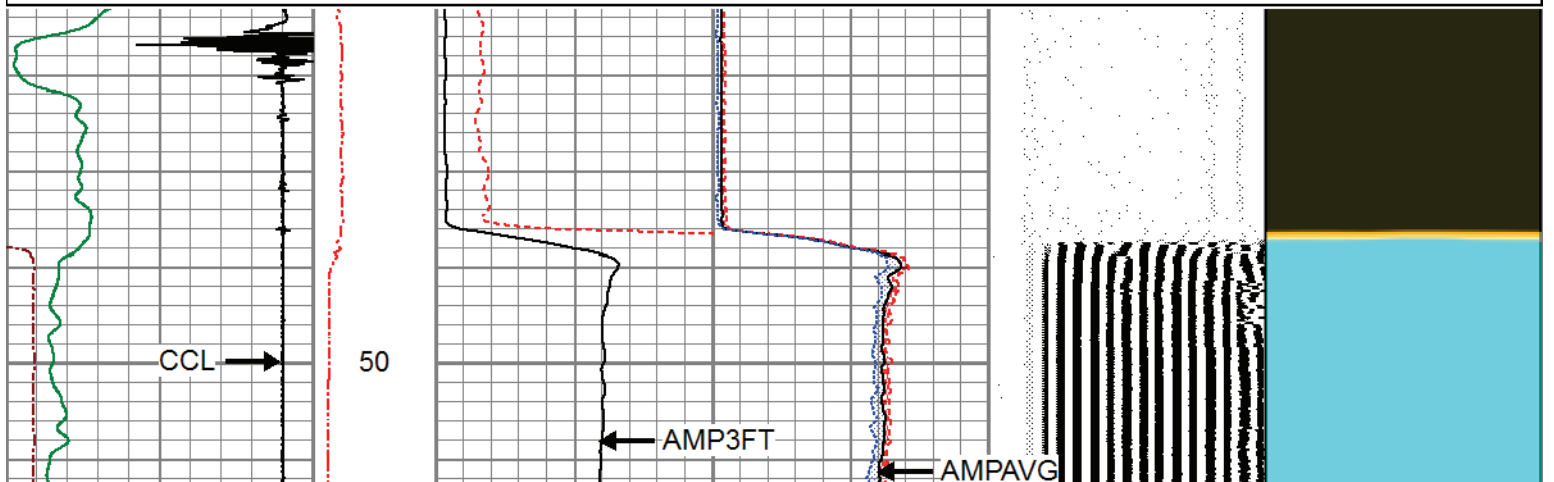


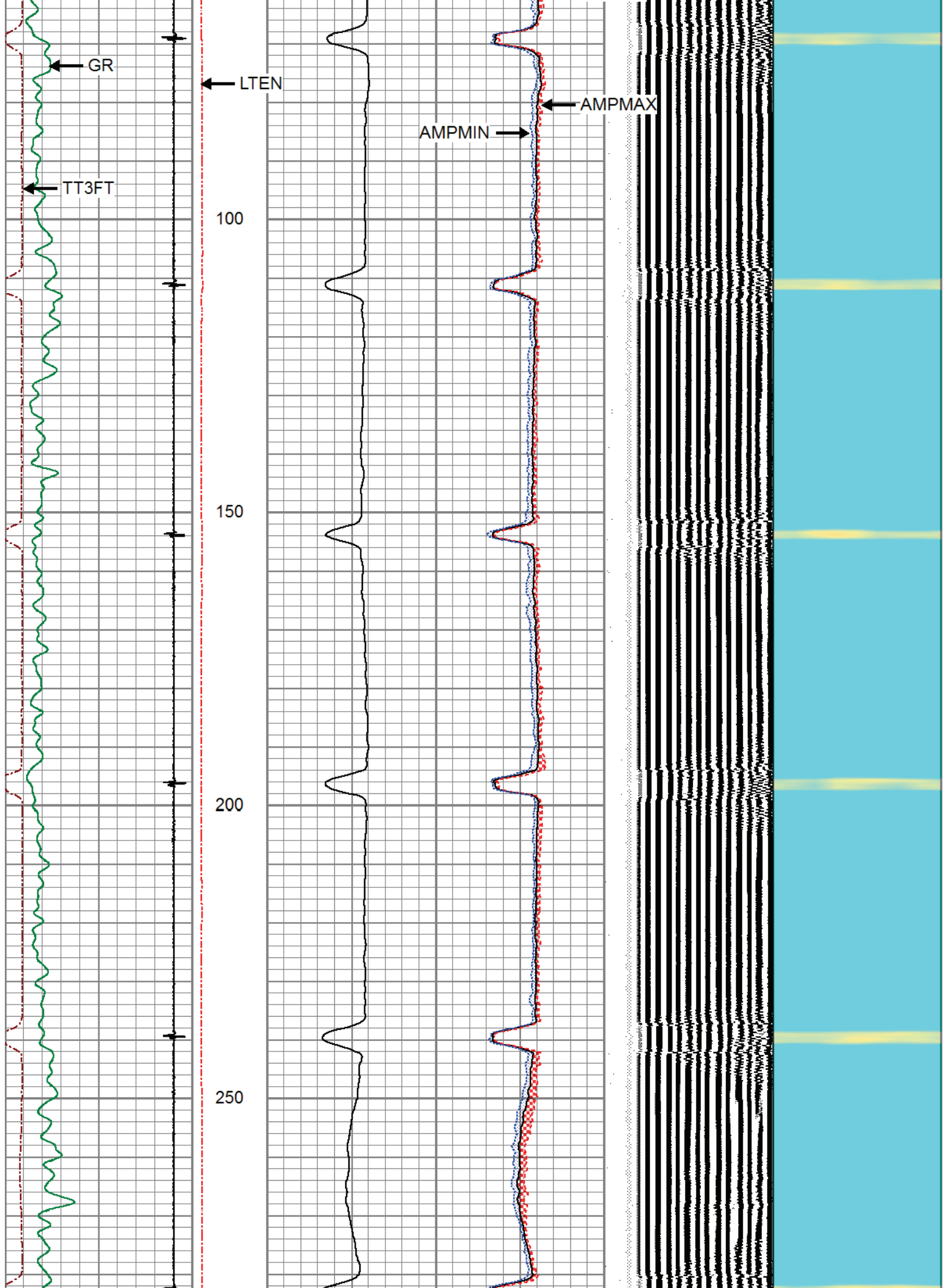
## MAIN LOG

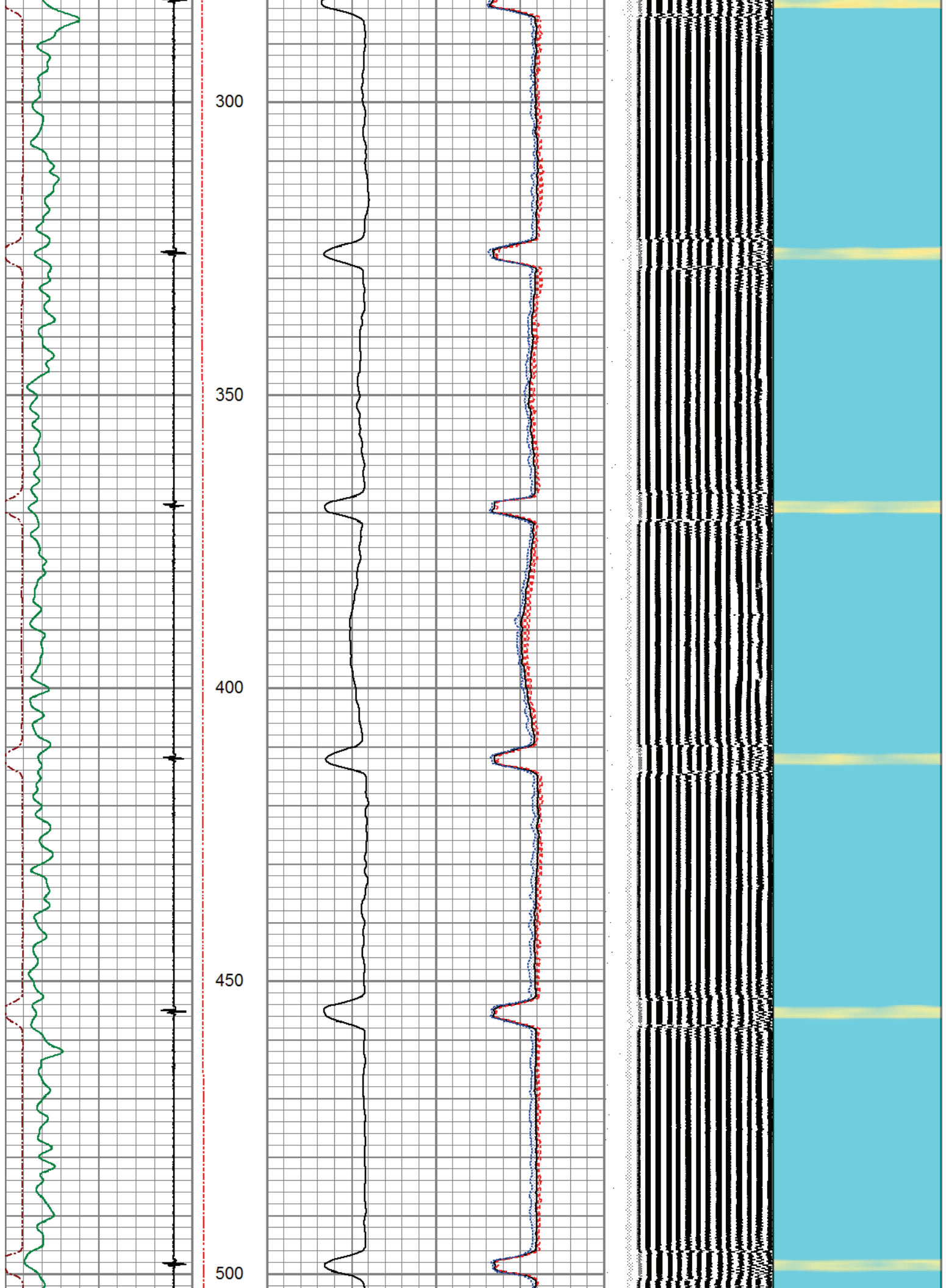
### ZERO PSI APPLIED AT SURFACE

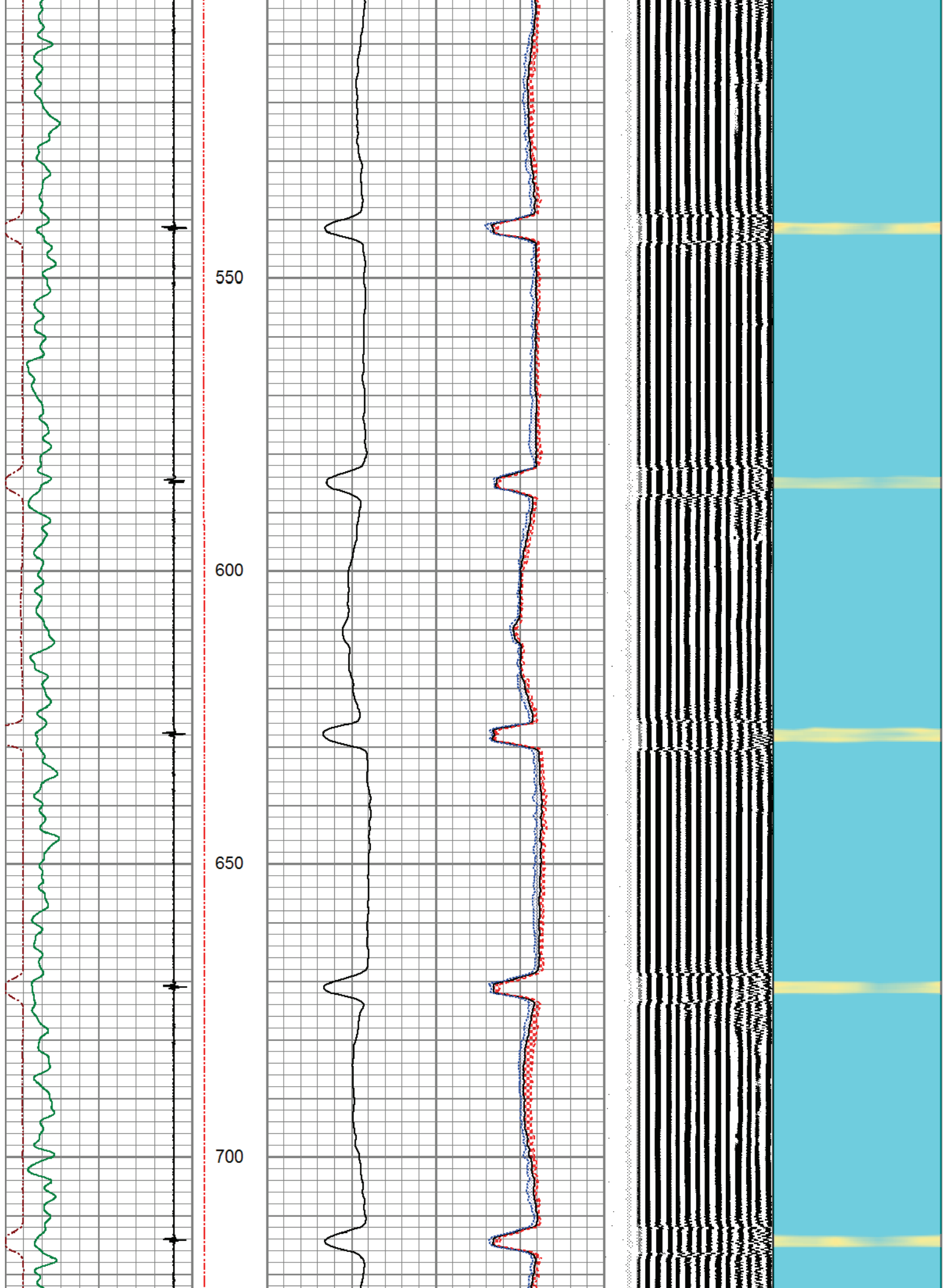
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 Dataset Pathname: pass3.1  
 Presentation Format: pinr\_scbl  
 Dataset Creation: Wed Sep 19 17:05:56 2018  
 Charted by: Depth in Feet scaled 1:240

3Ft Travel Time	ineTensio	3' Amplitude	Sector	VDL	1	Sector Map	8
297 (usec) 197	(lb)	0 (mV) 100	Amplitude Average	200 (usec) 1200			
-9 Collar Locator 1	0 2000	3' Amplified Amplitude X 5	0 150				
Gamma Ray		0 (mV) 20	Sector Amplitude Maximum				
0 (GAPI) 150			0 150				
			Sector Amplitude Minimum				
			0 150				

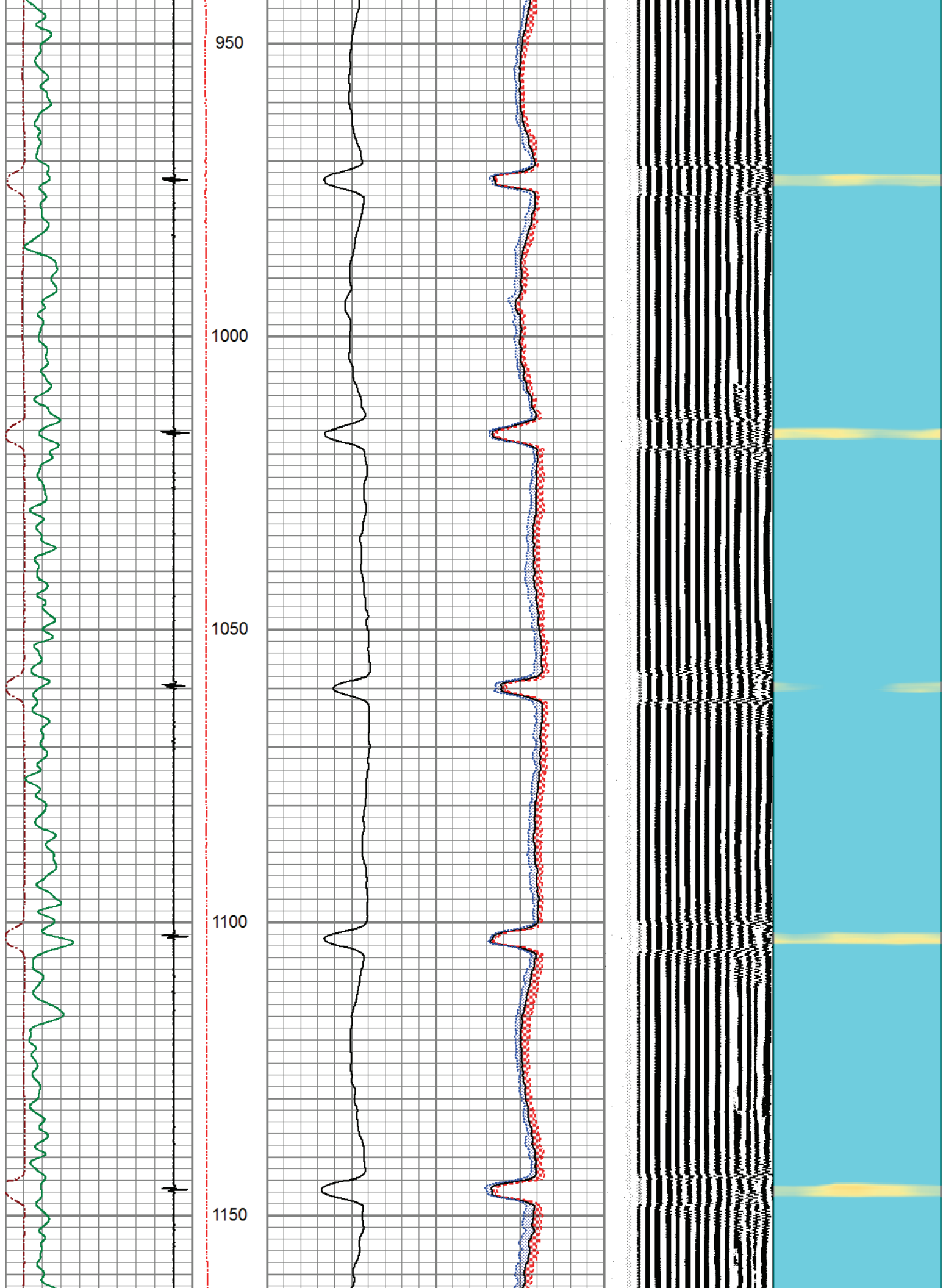


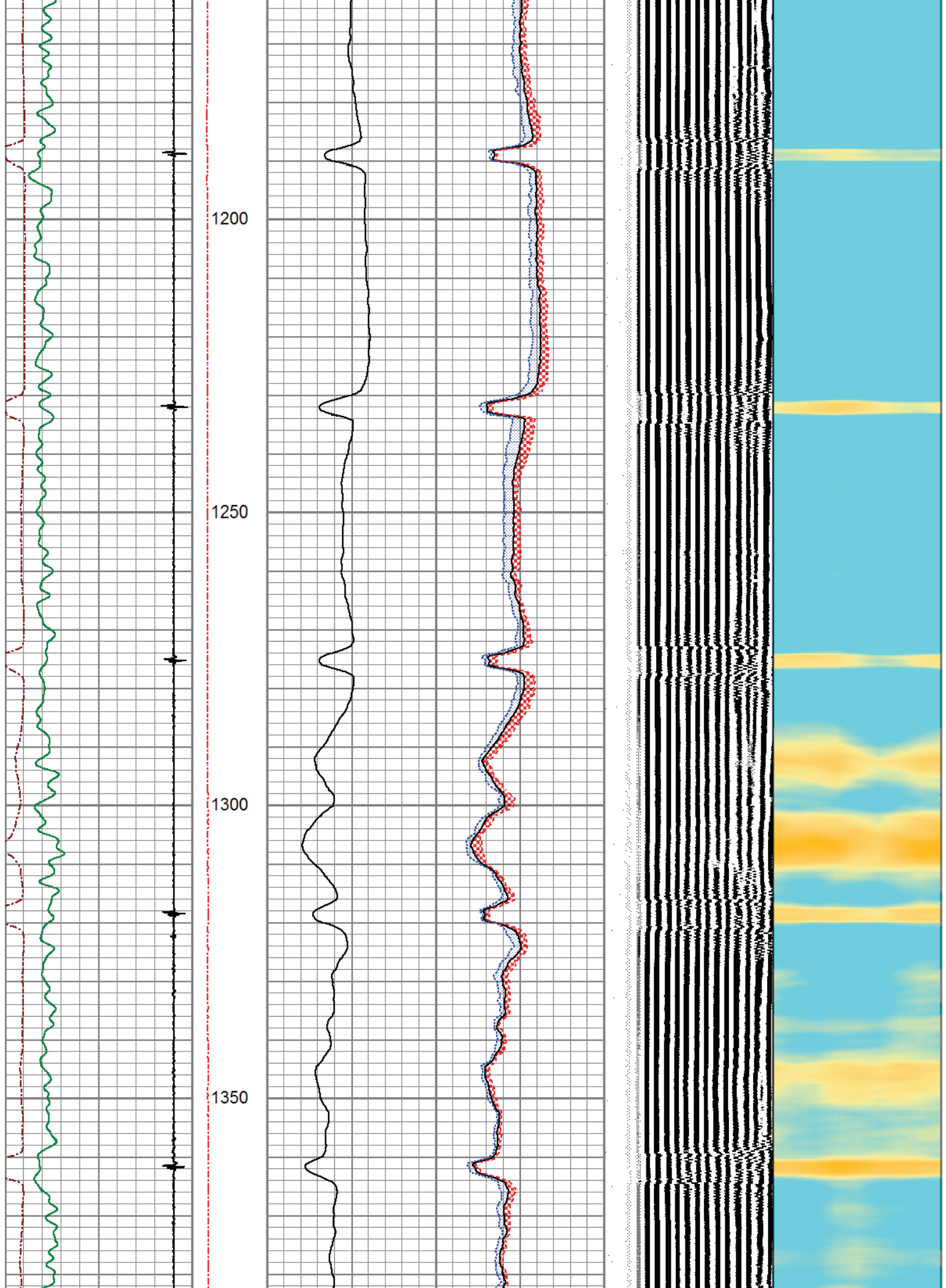


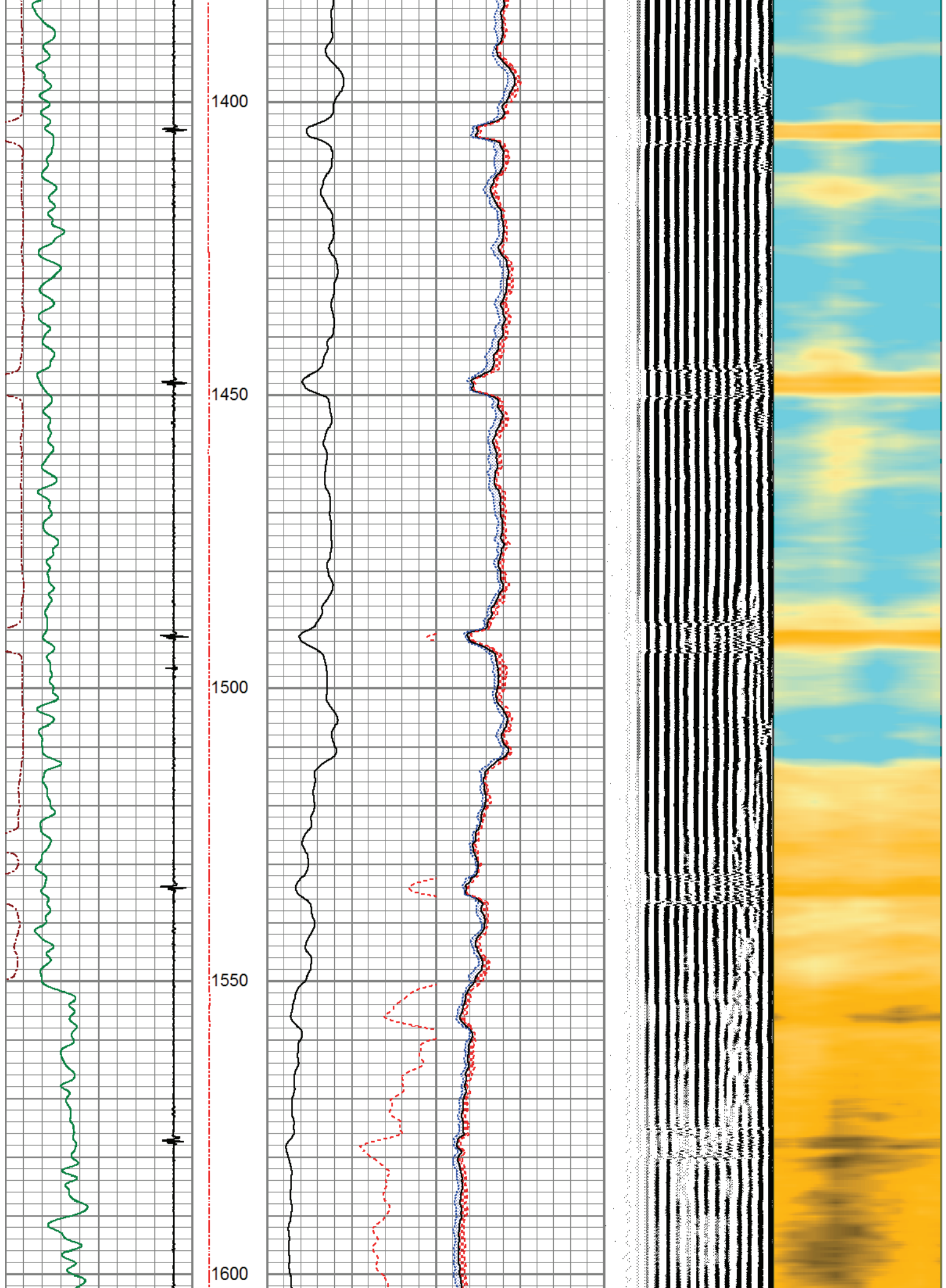


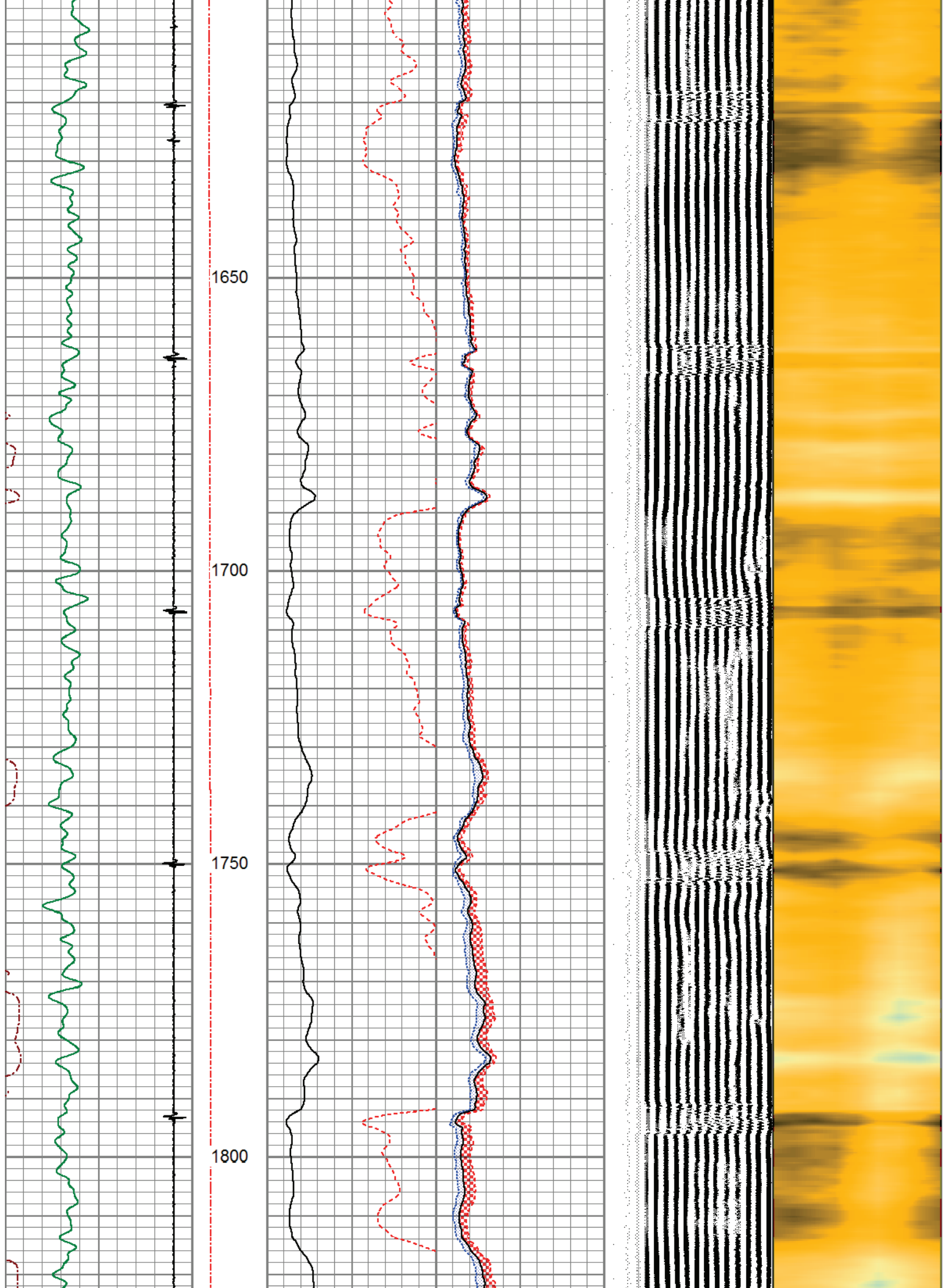


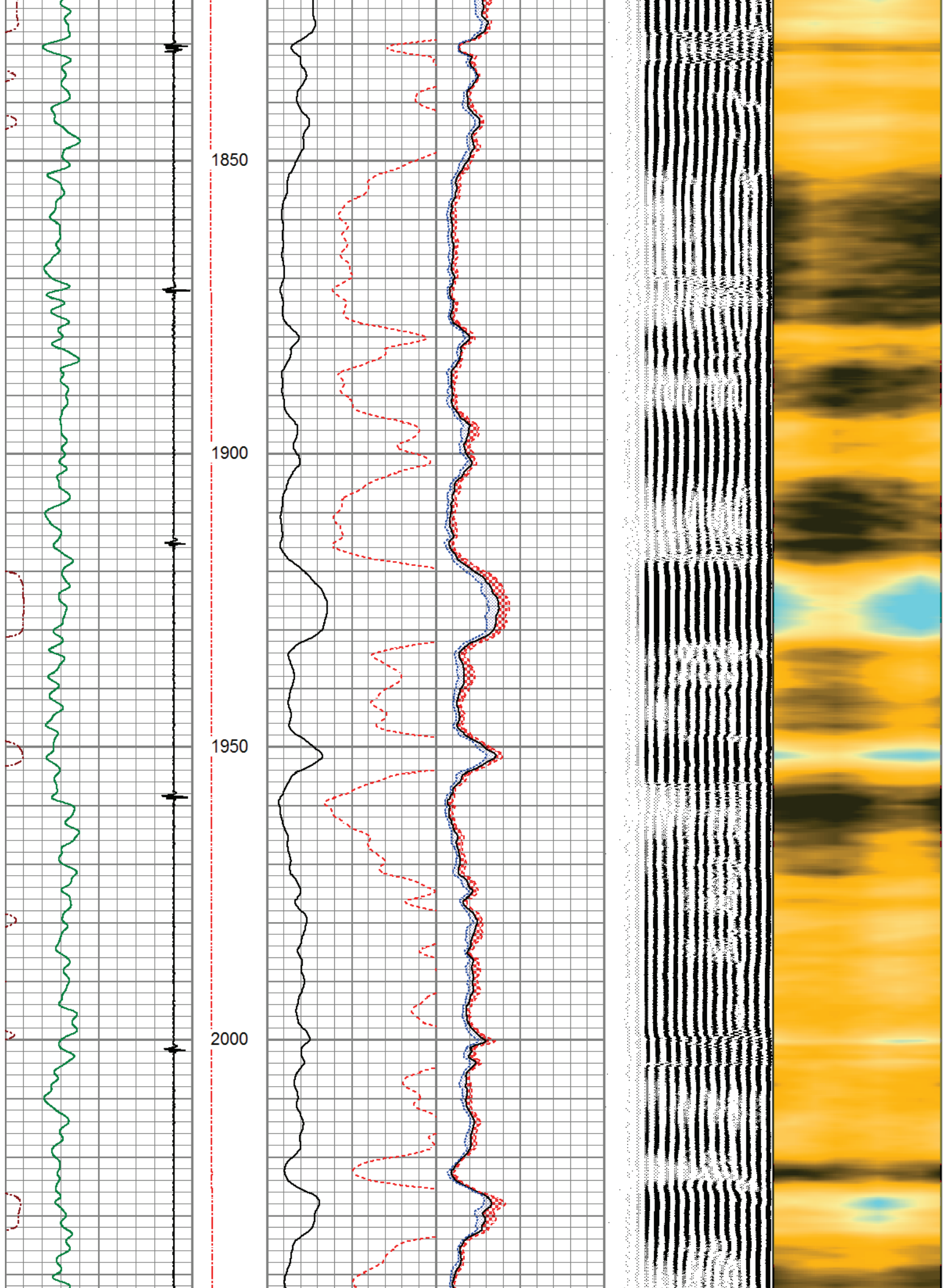


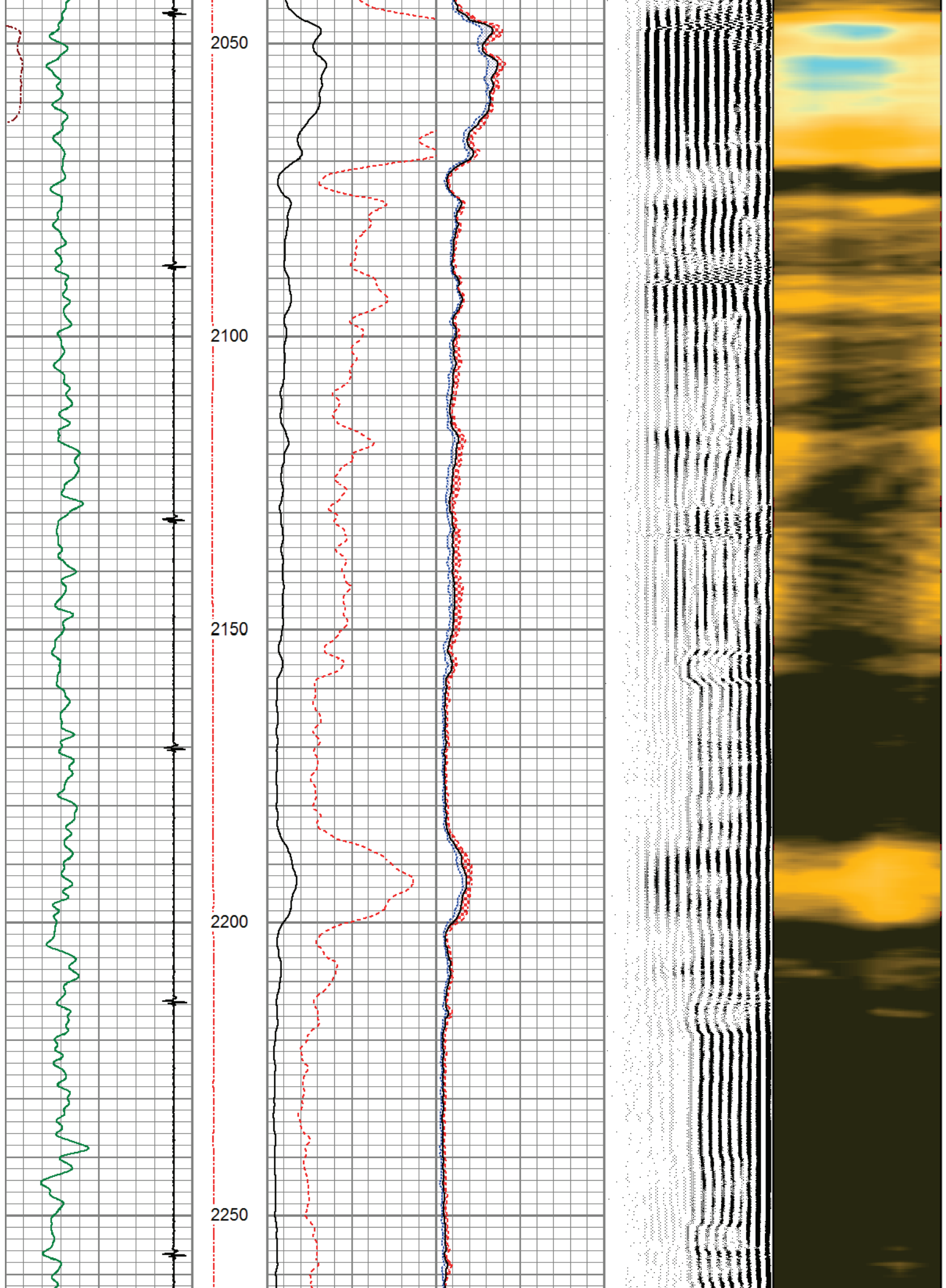


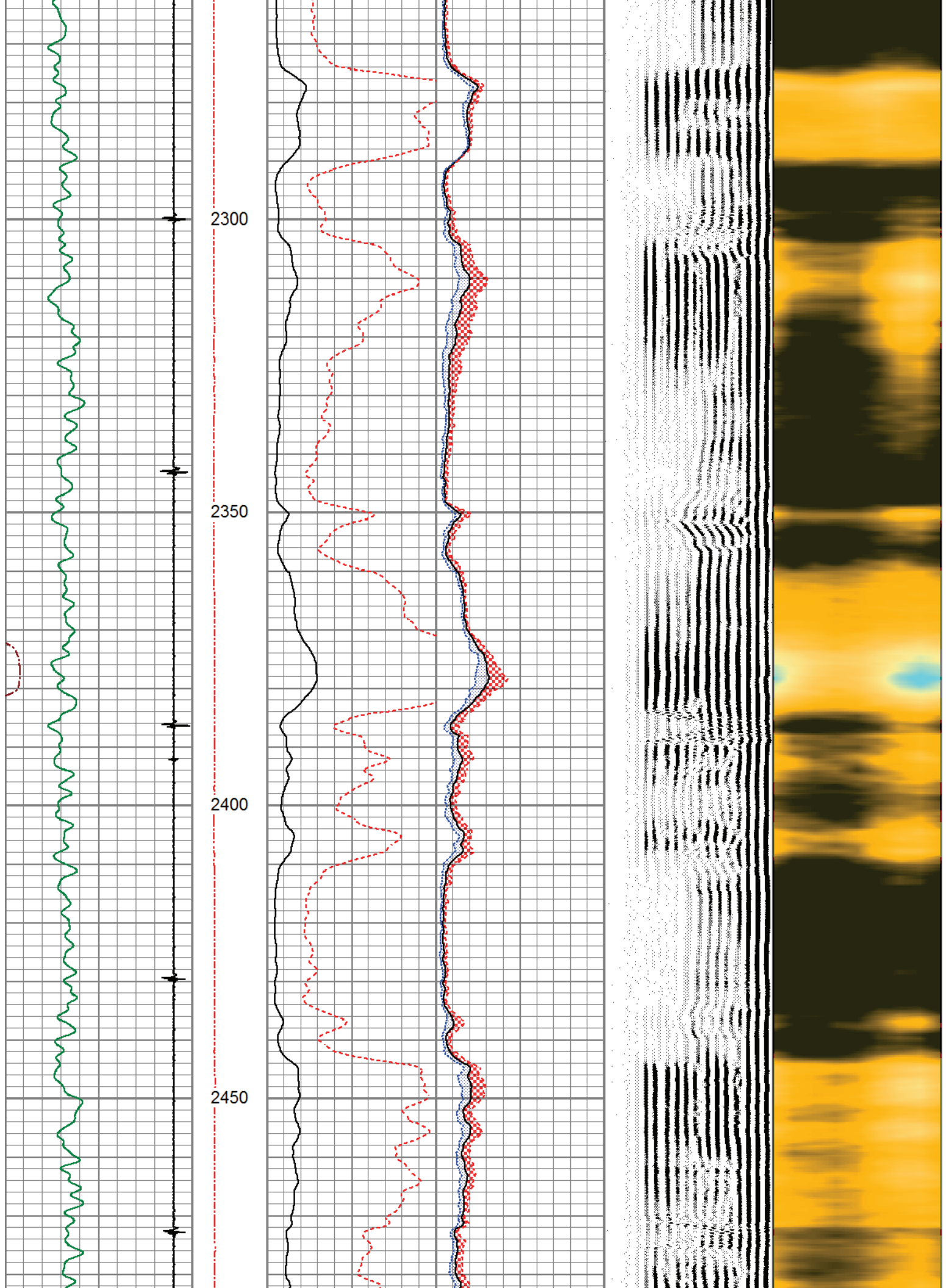


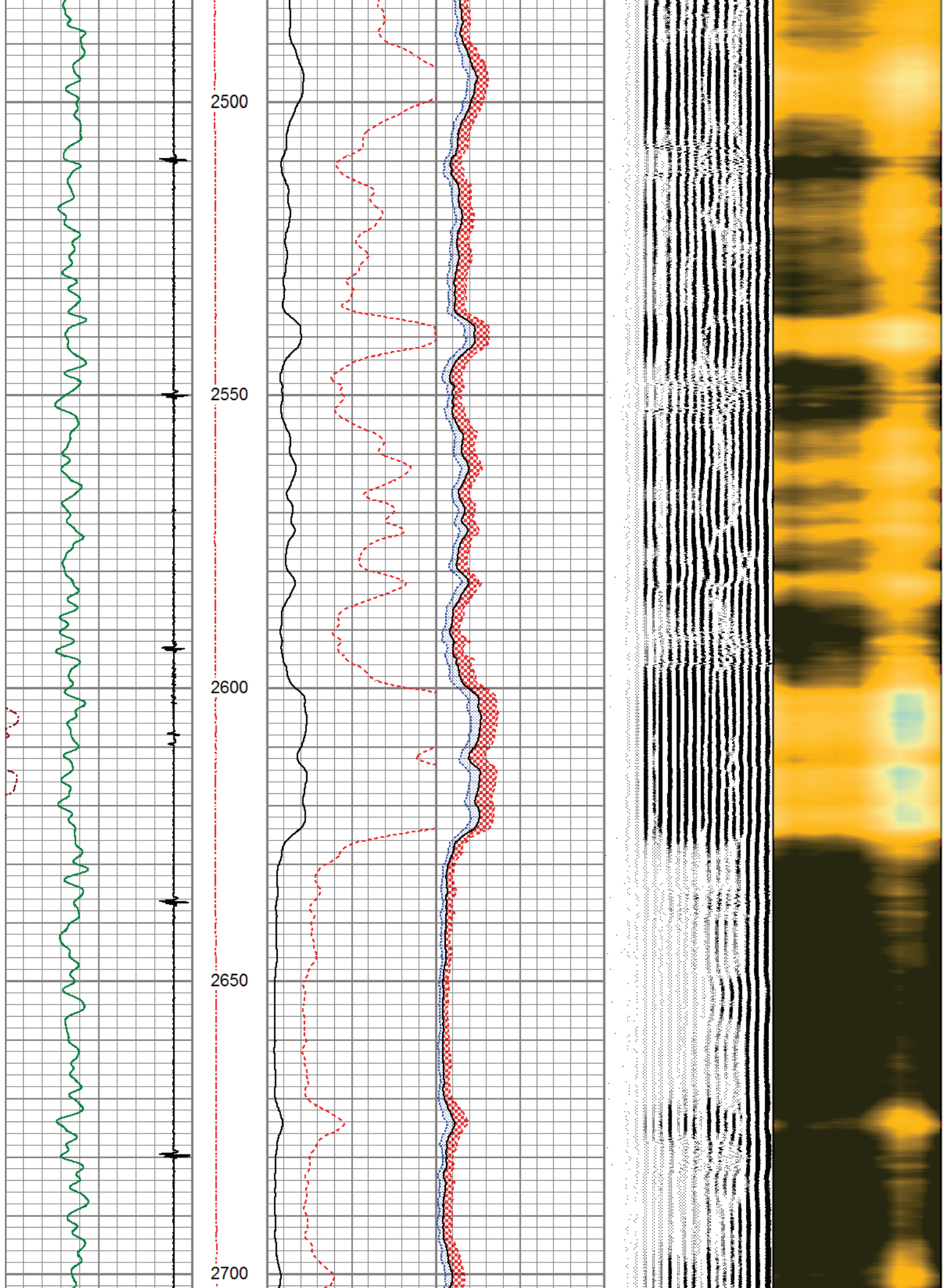


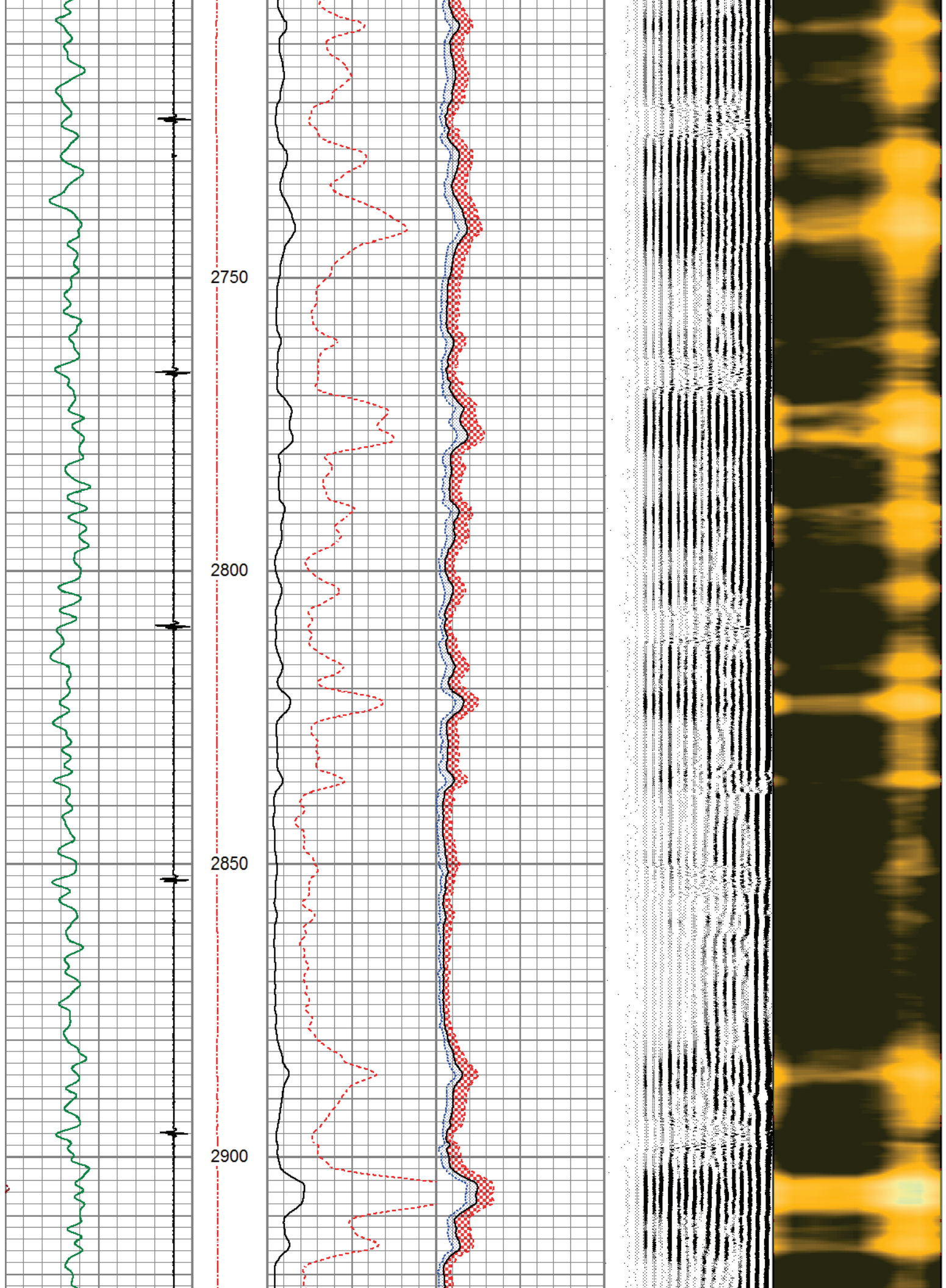


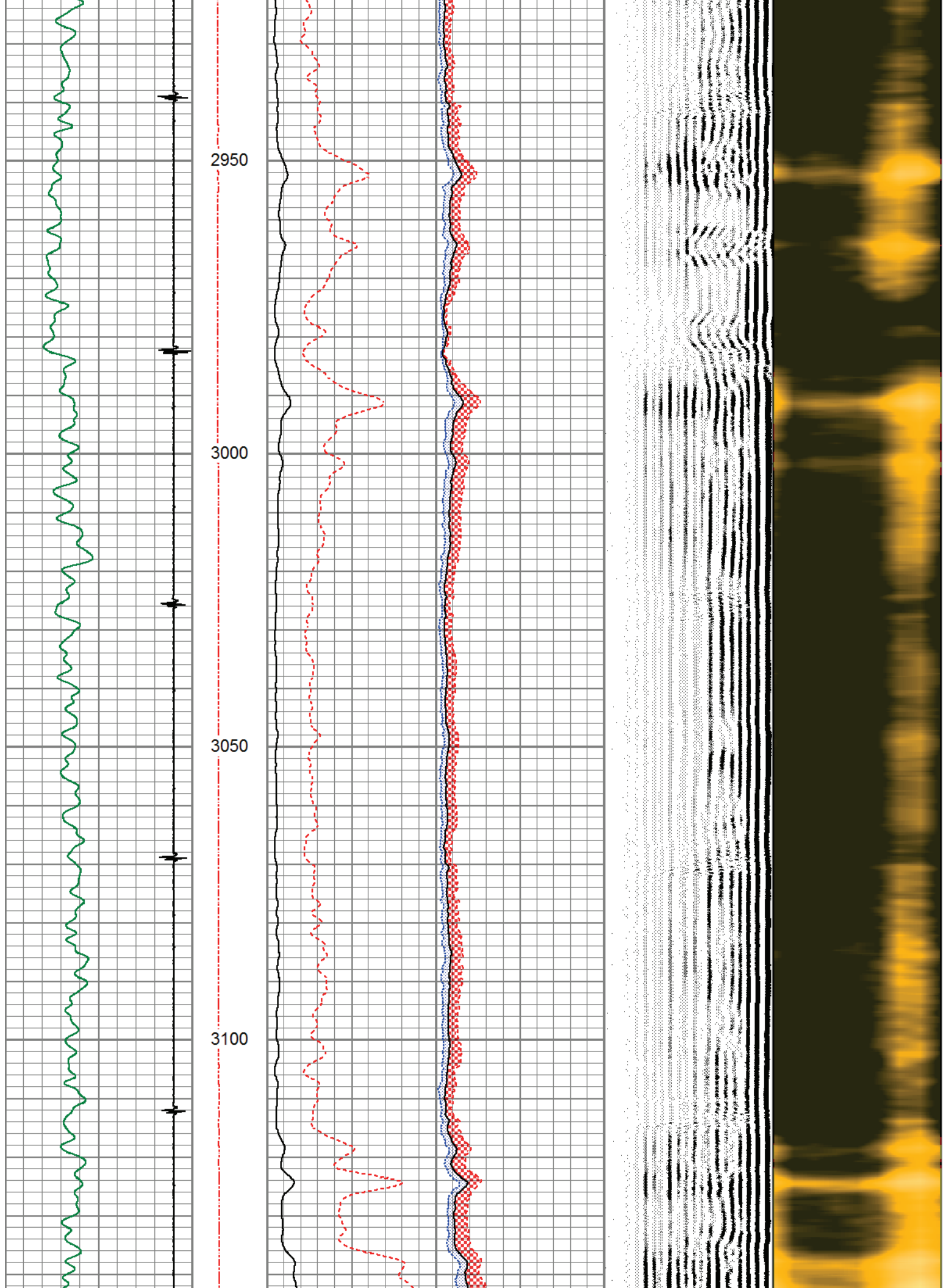


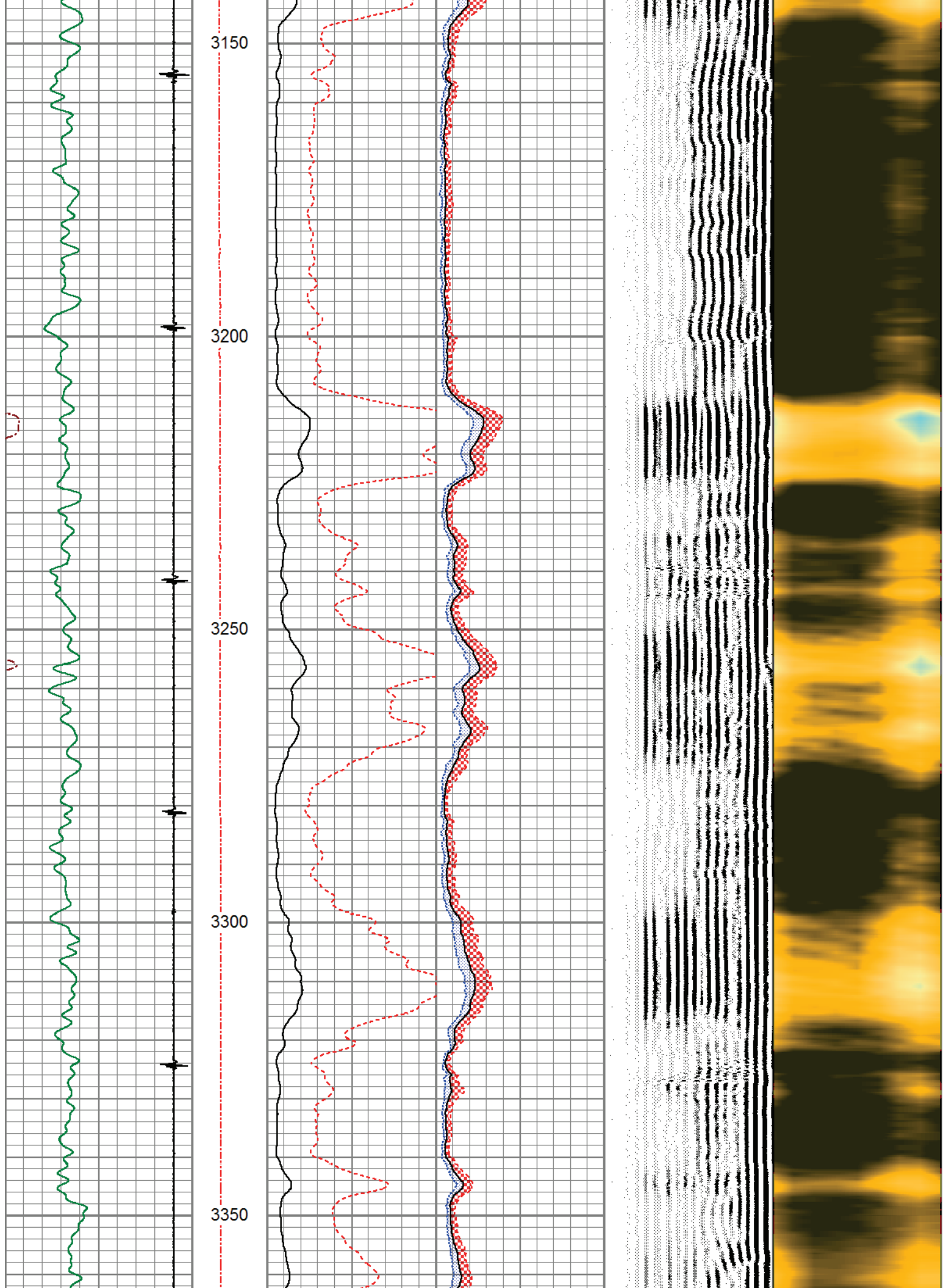


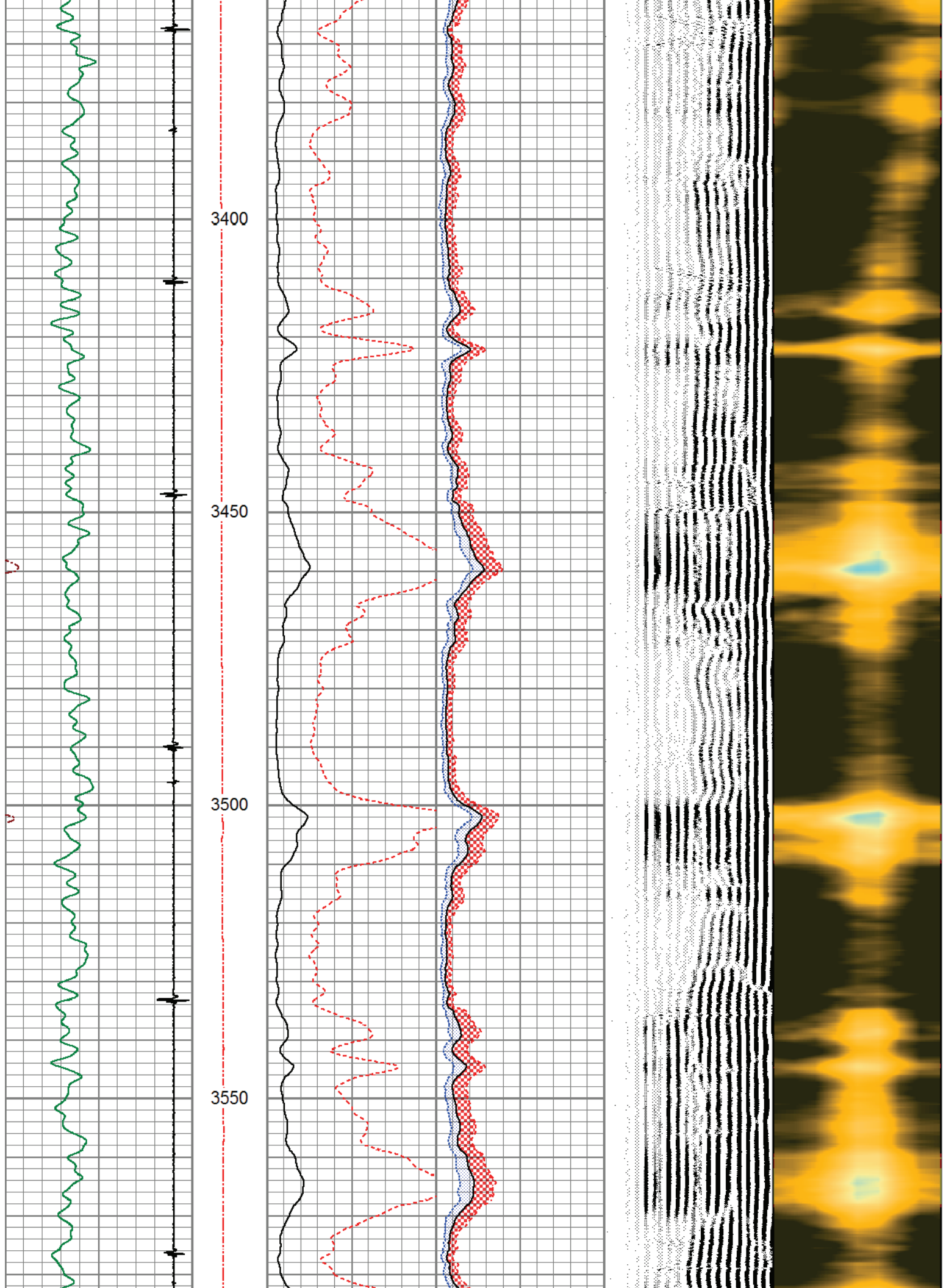


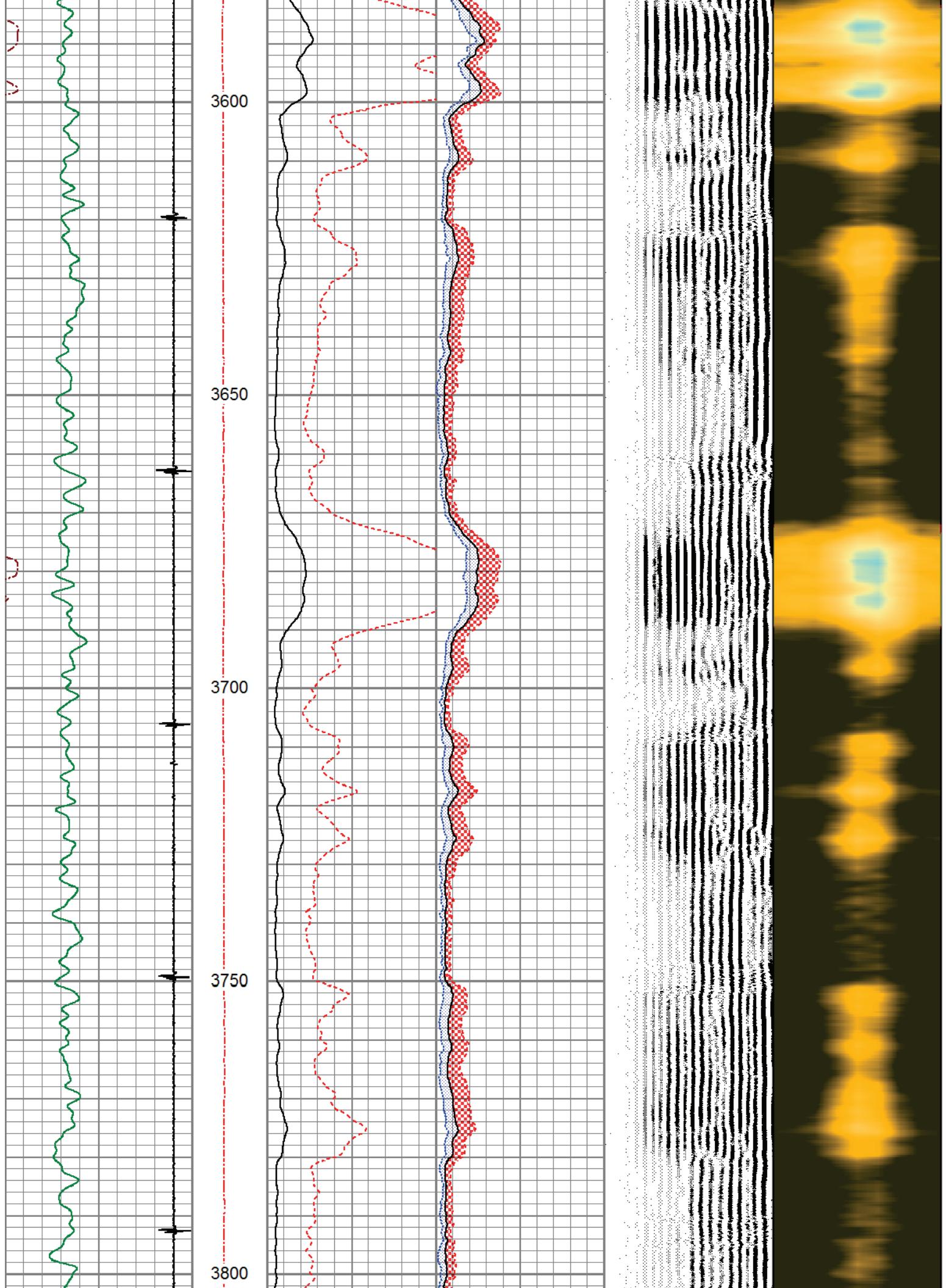


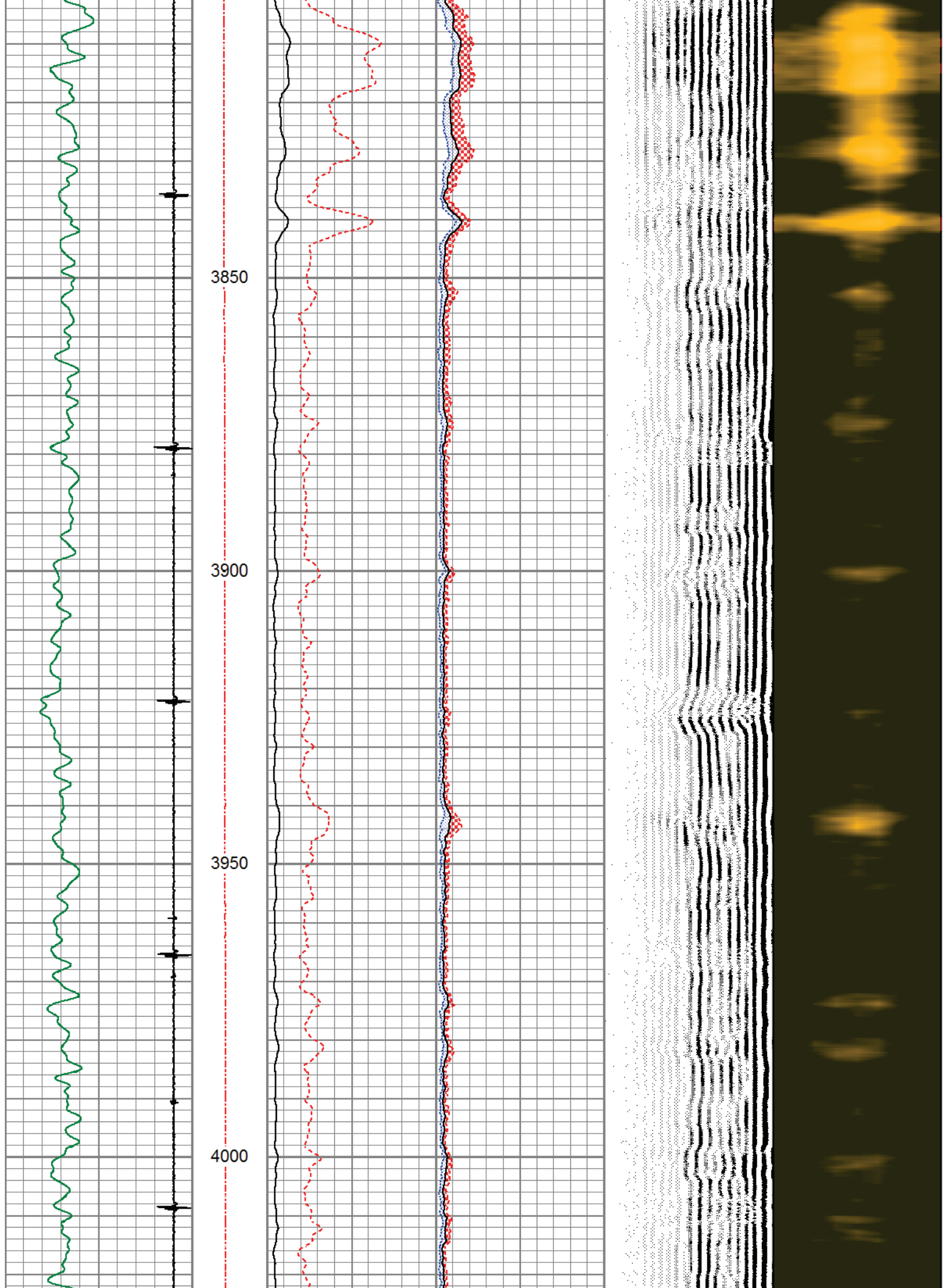


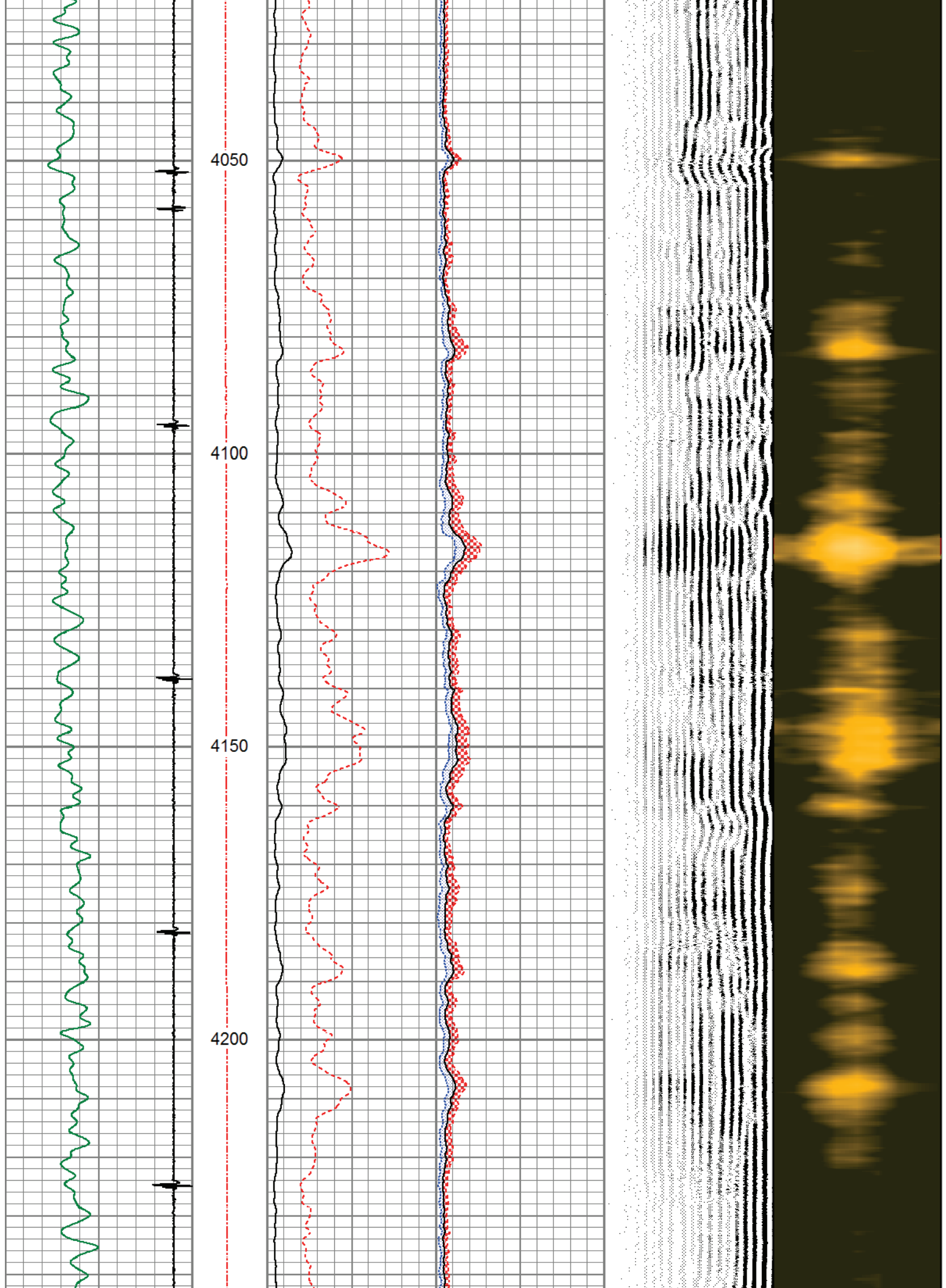


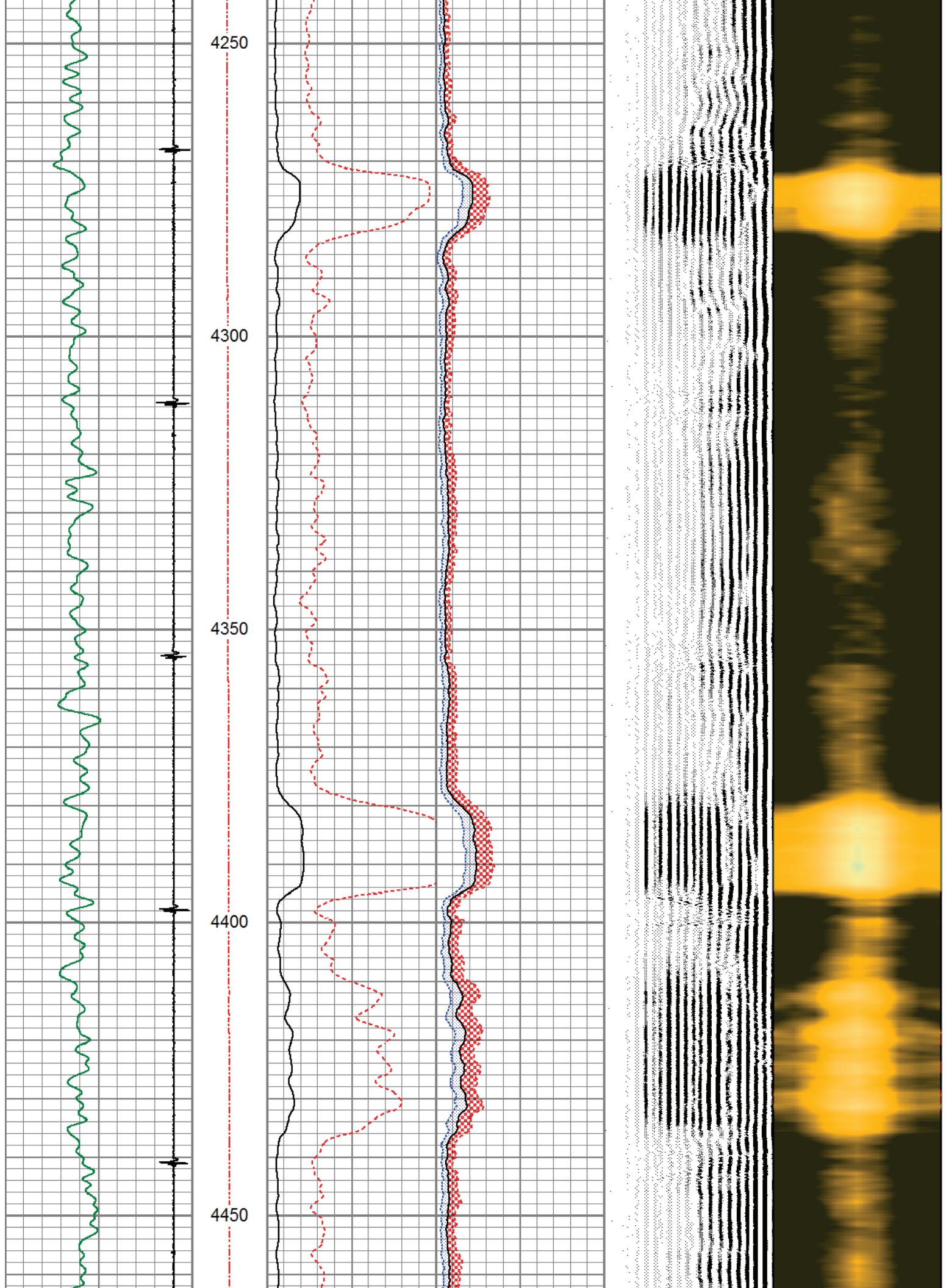


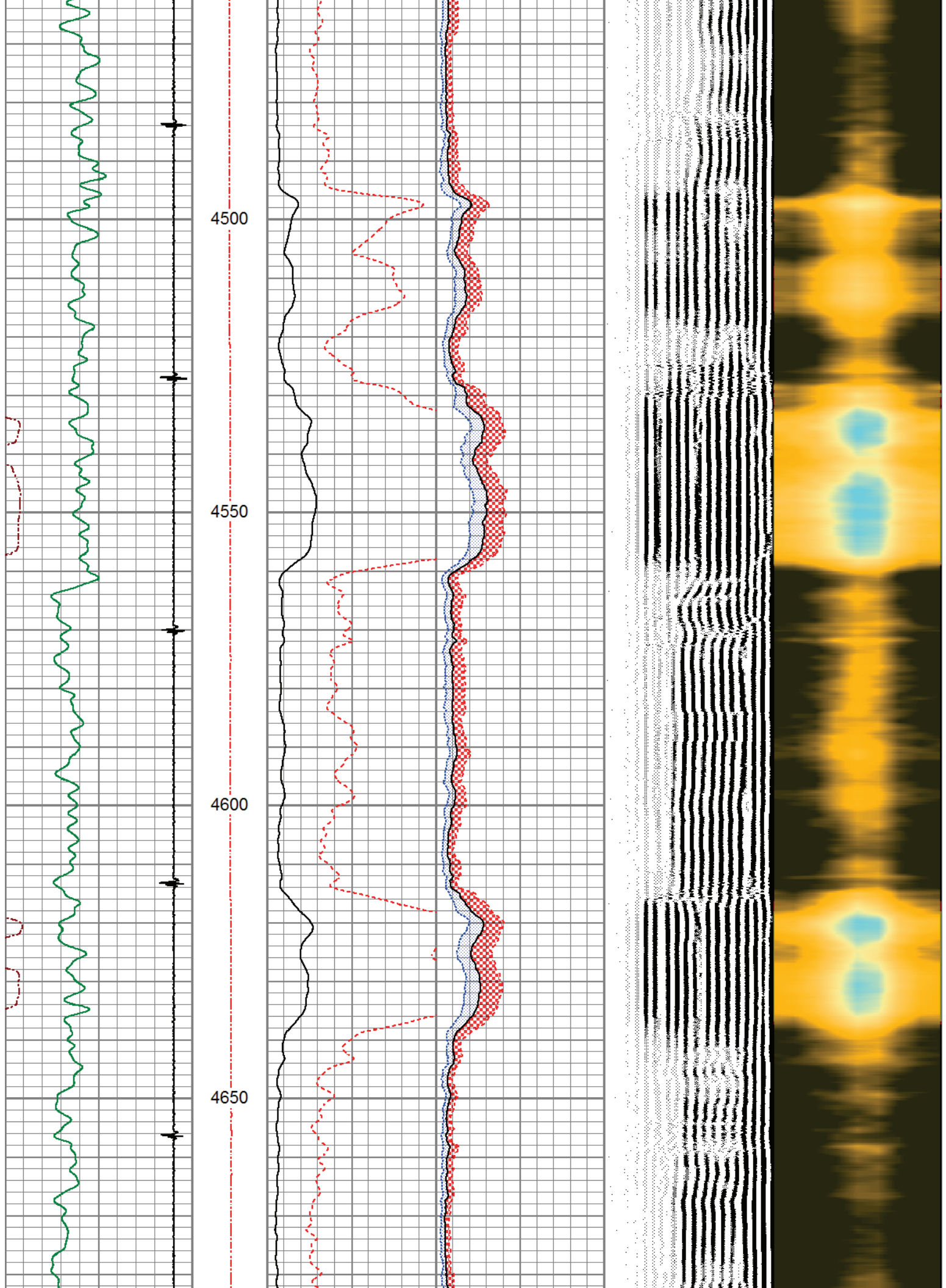


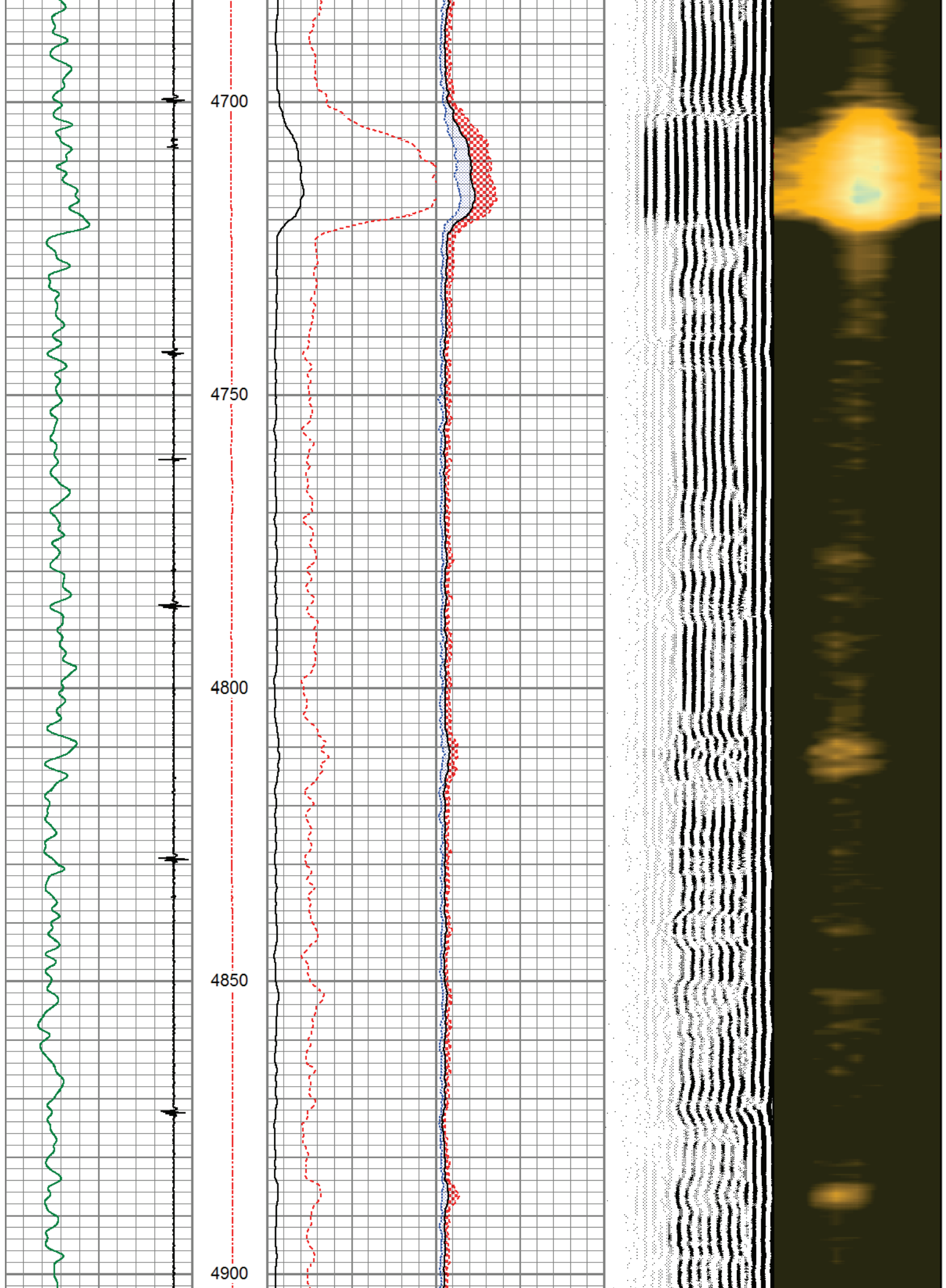


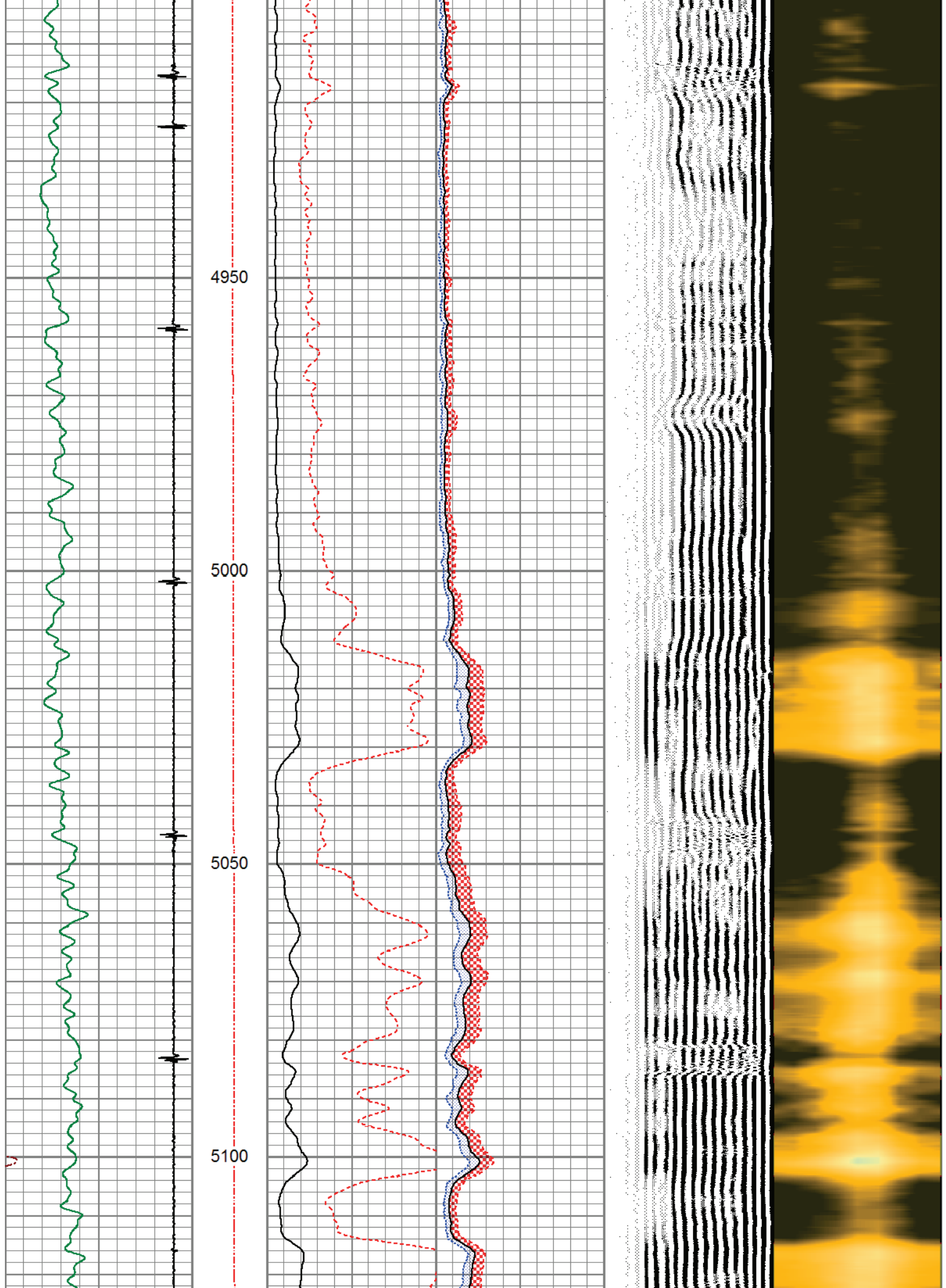


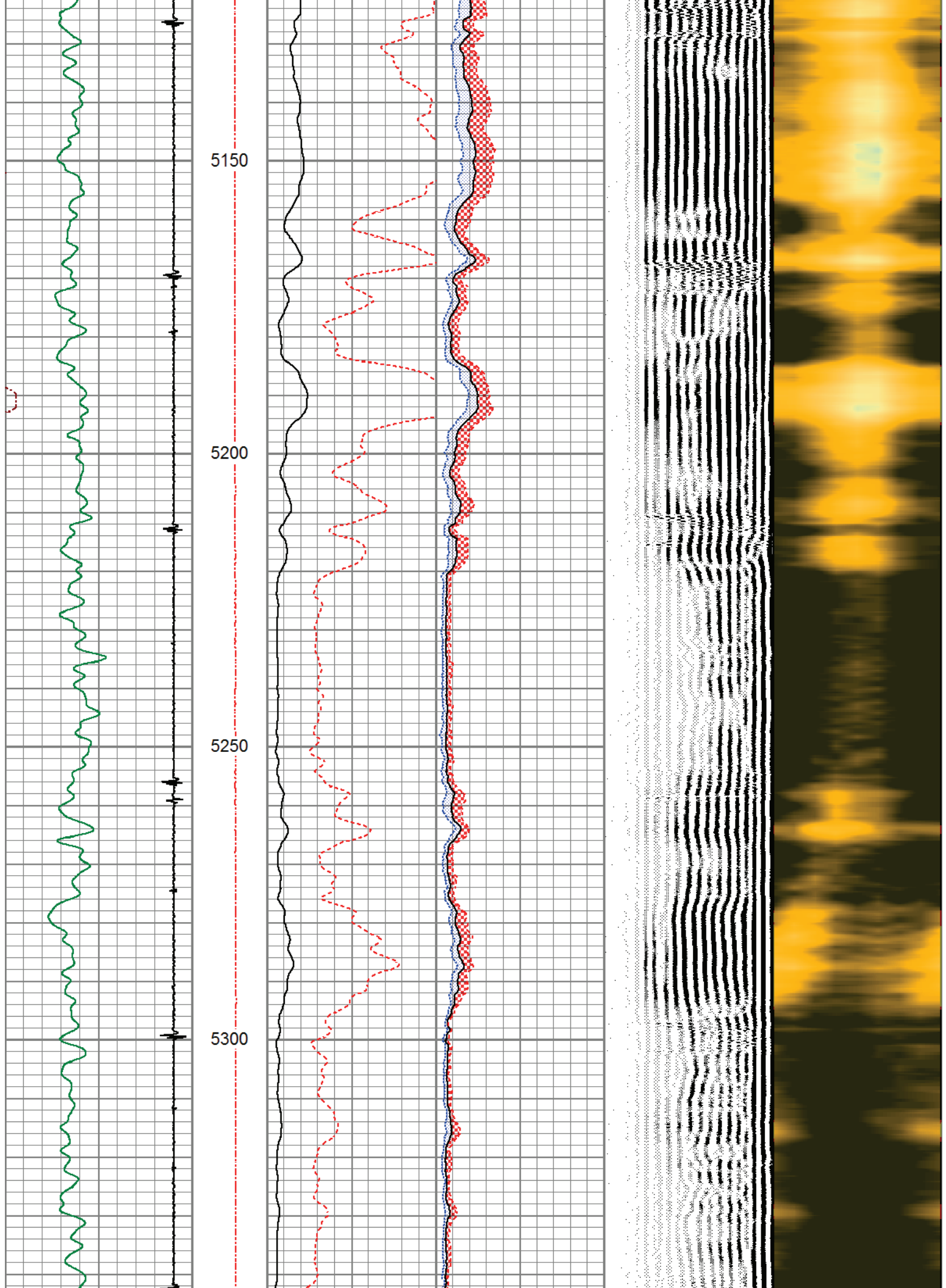


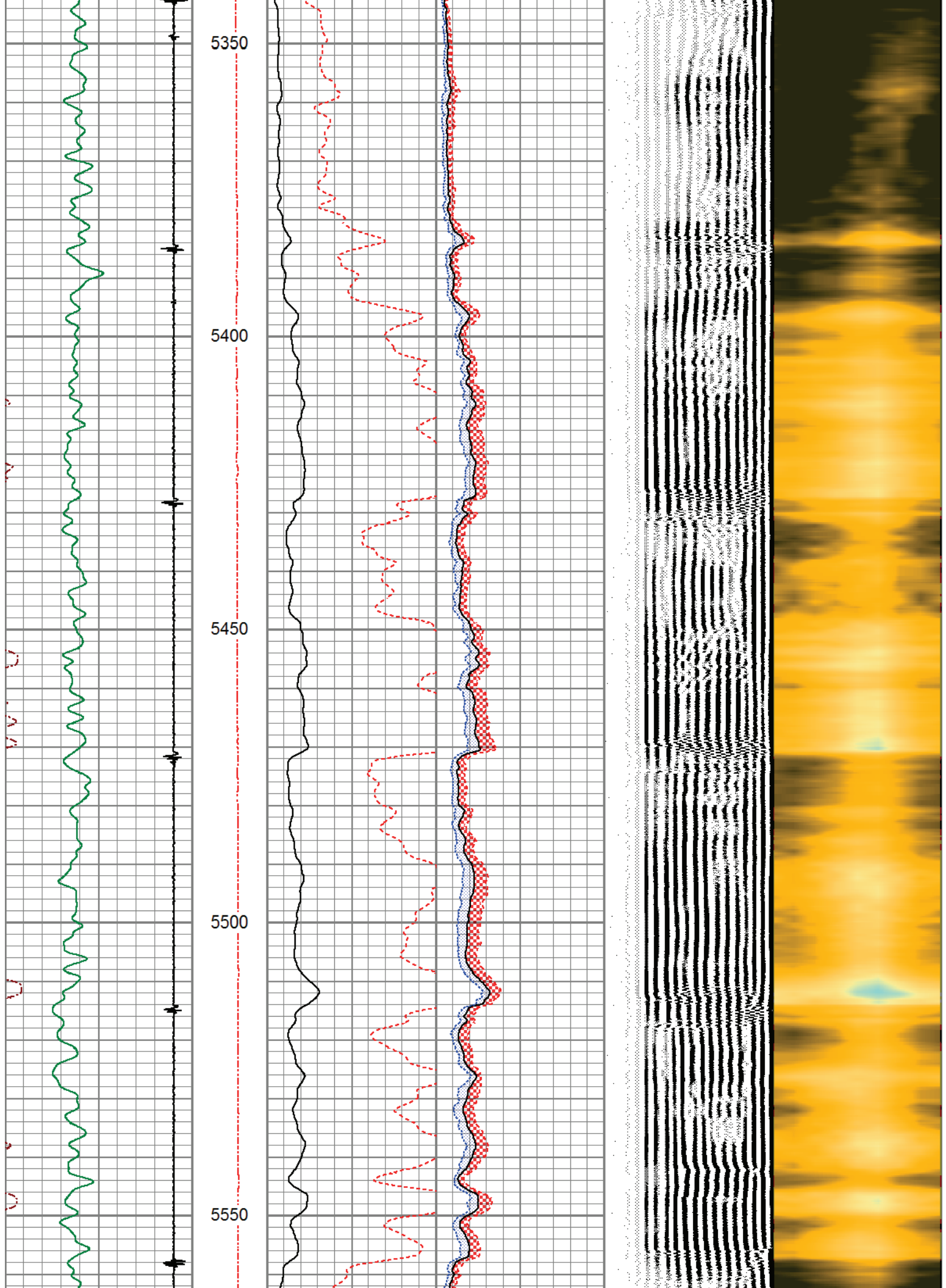


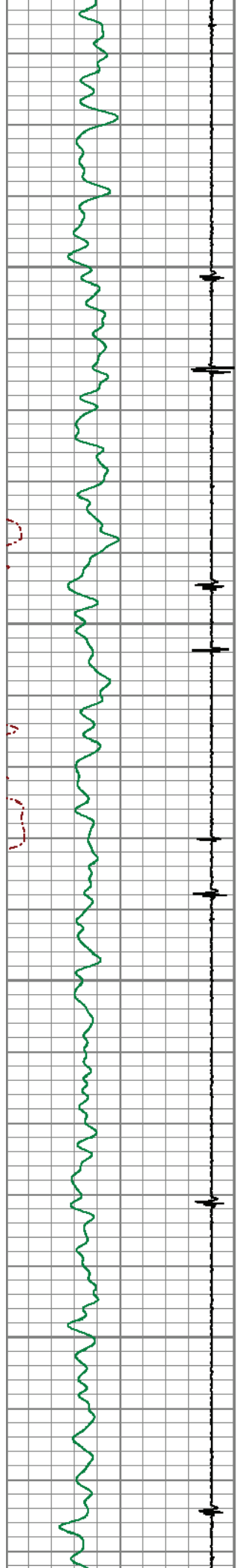










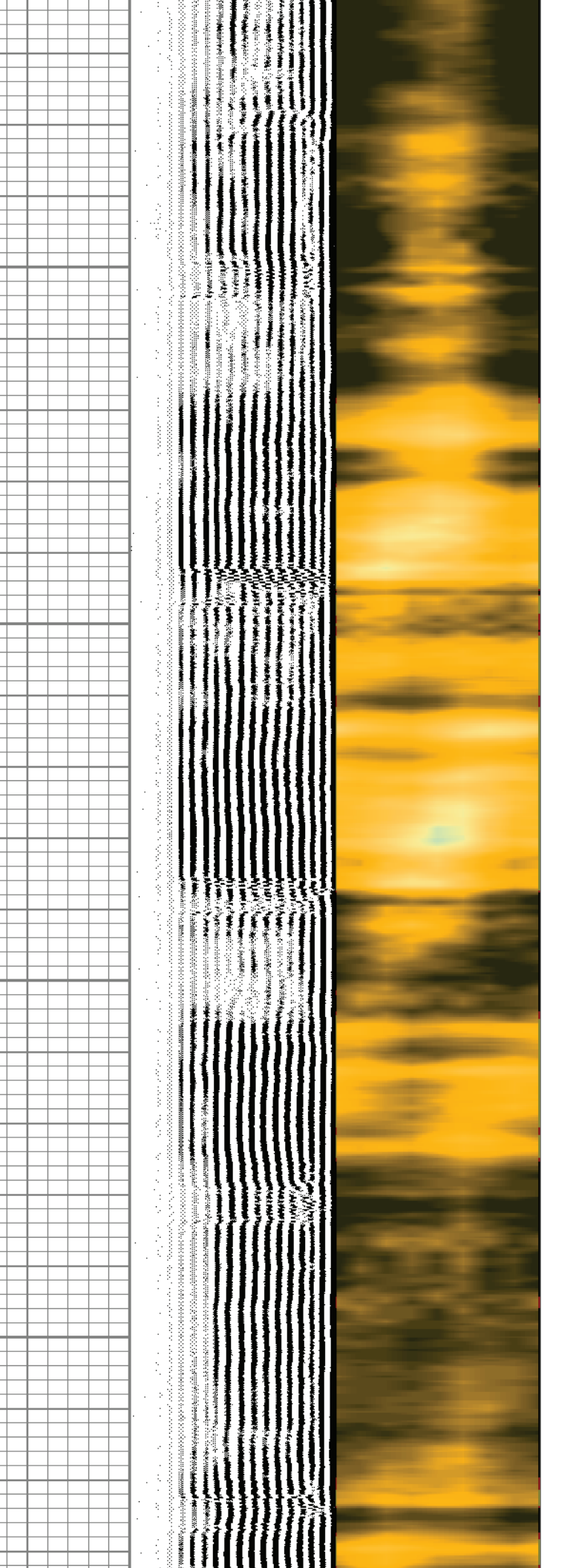
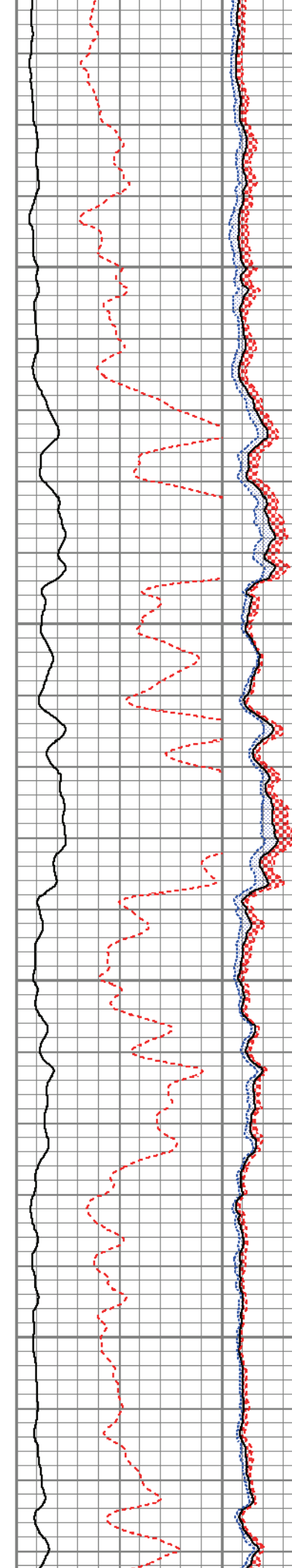


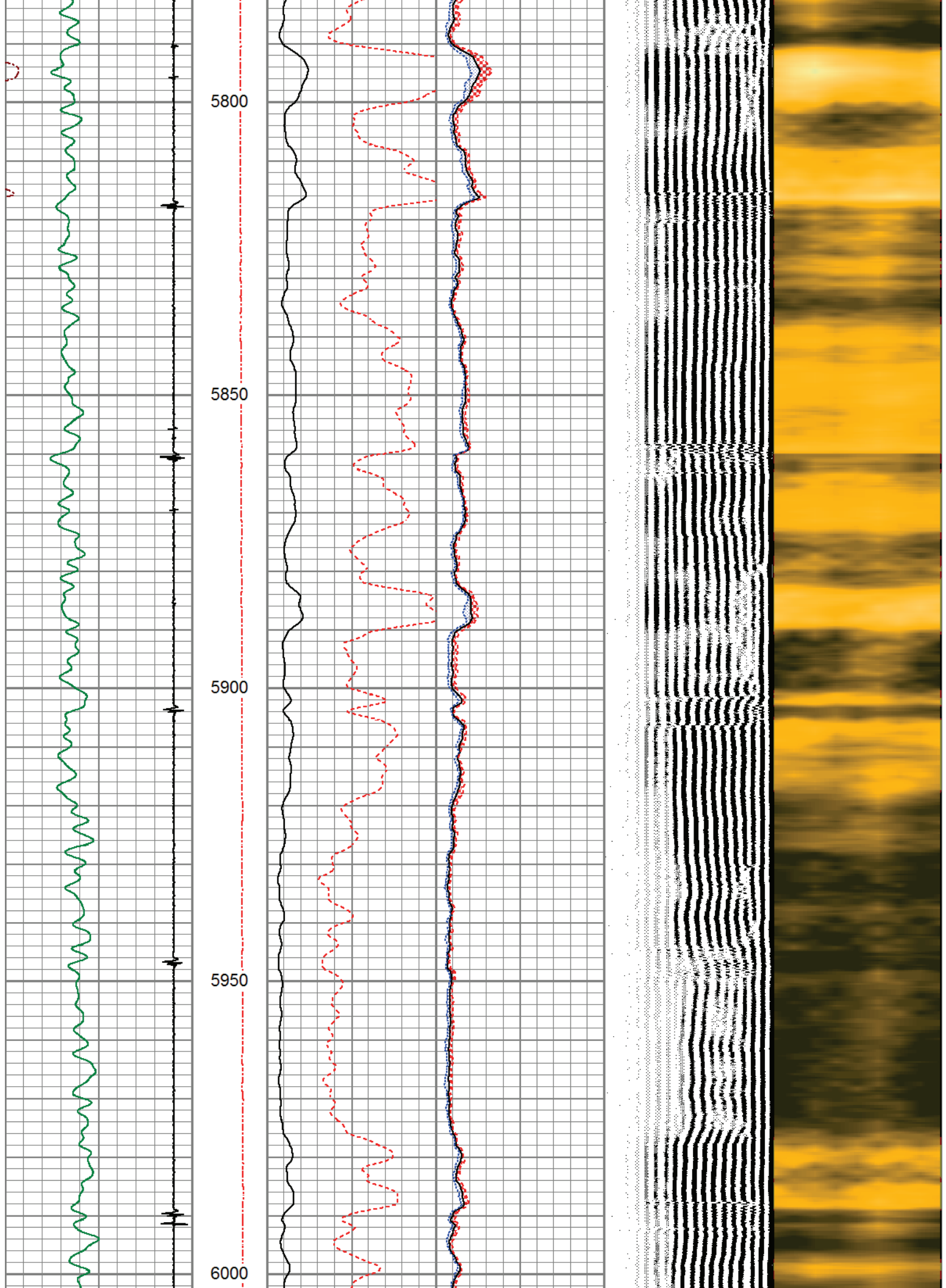
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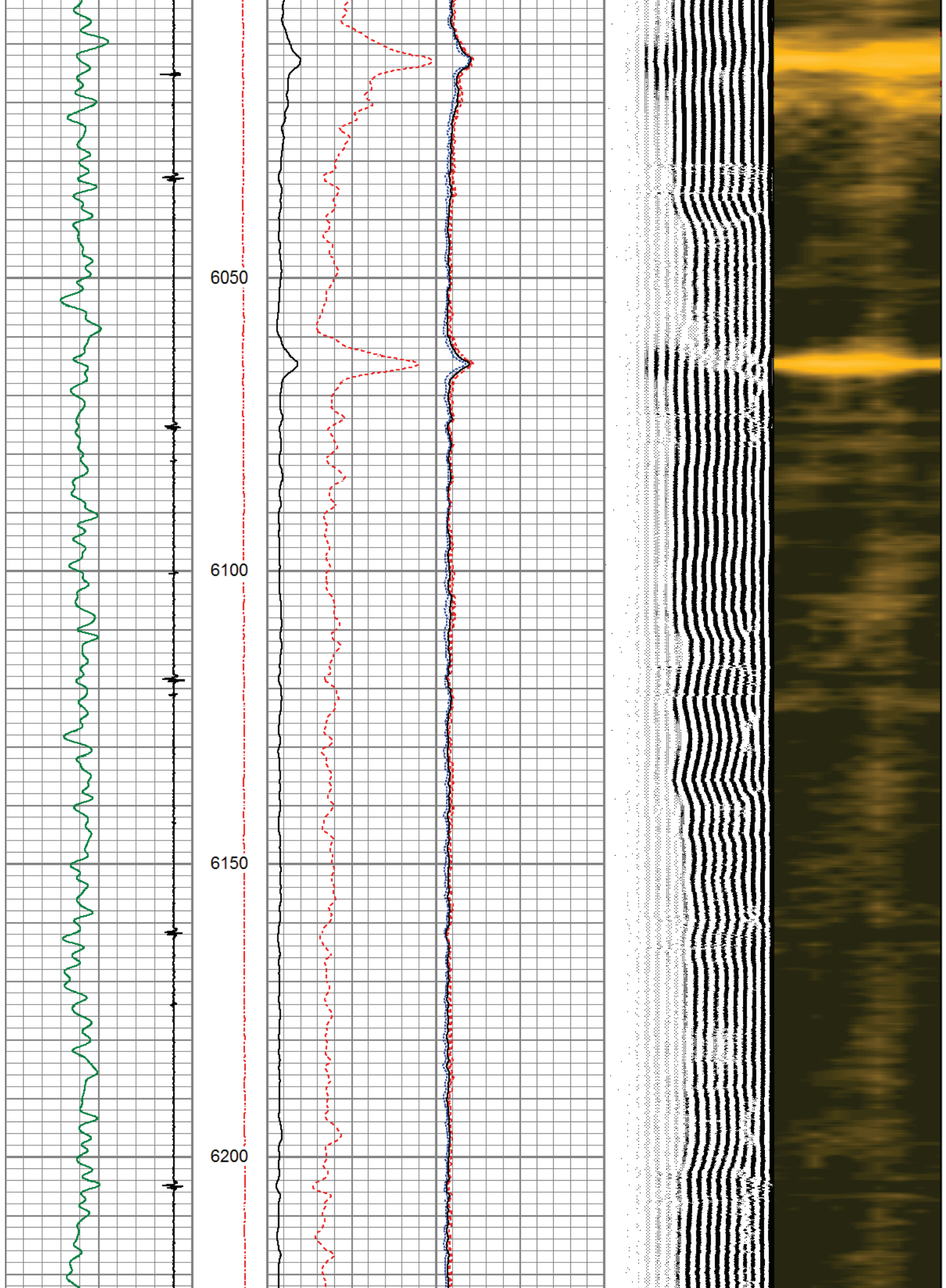
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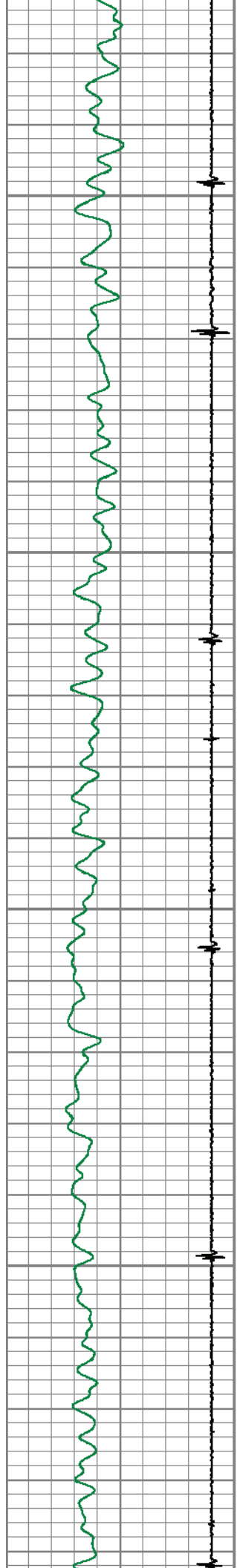
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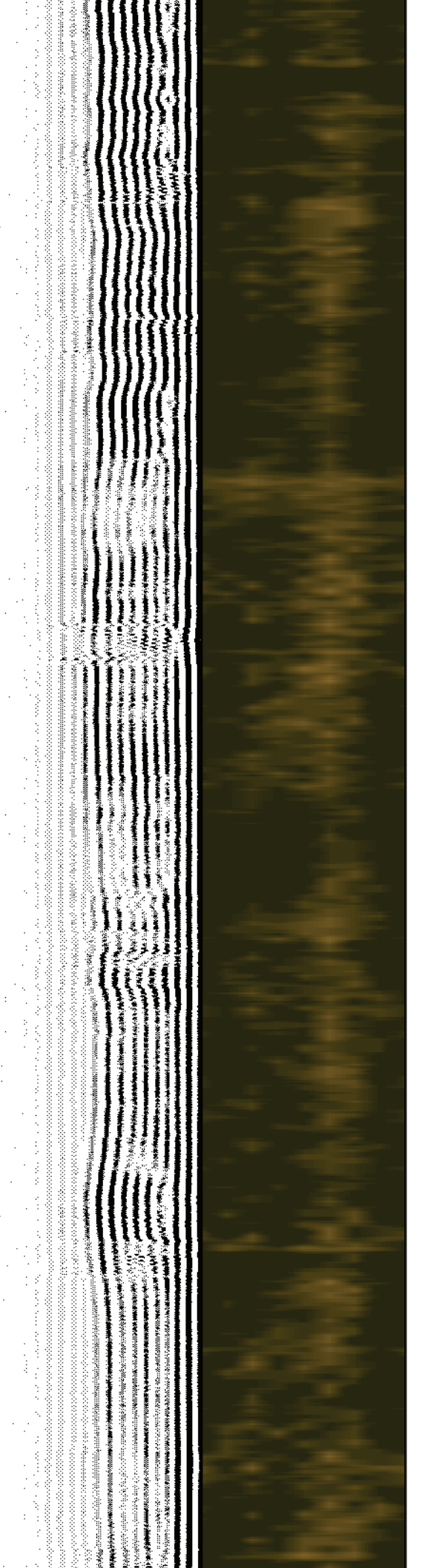
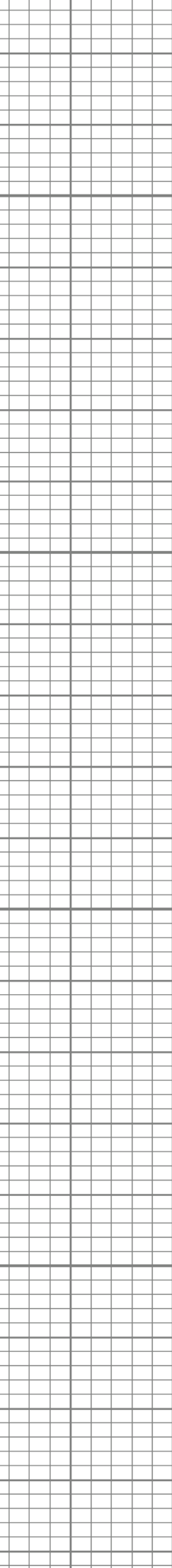
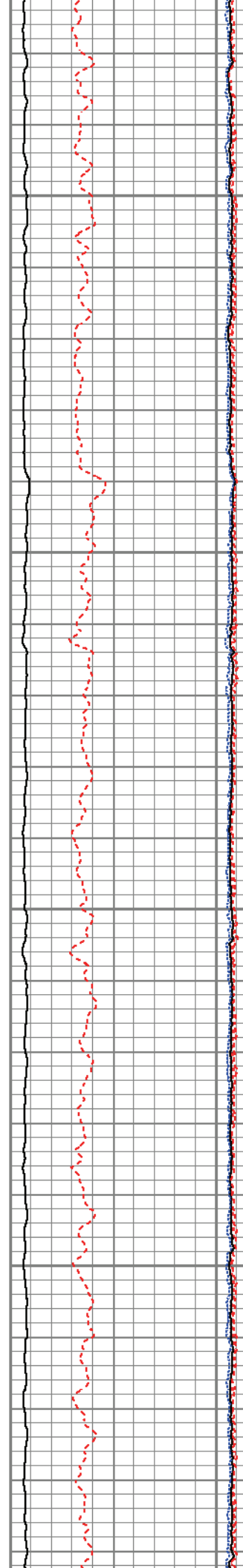




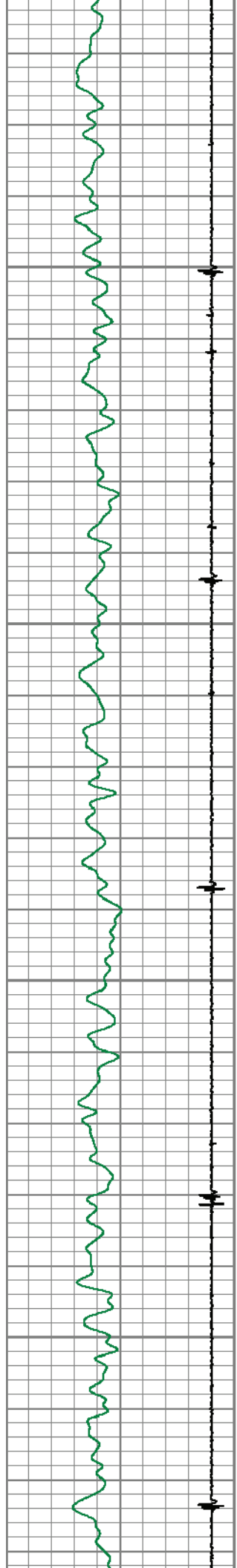




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6300  
6350  
6400





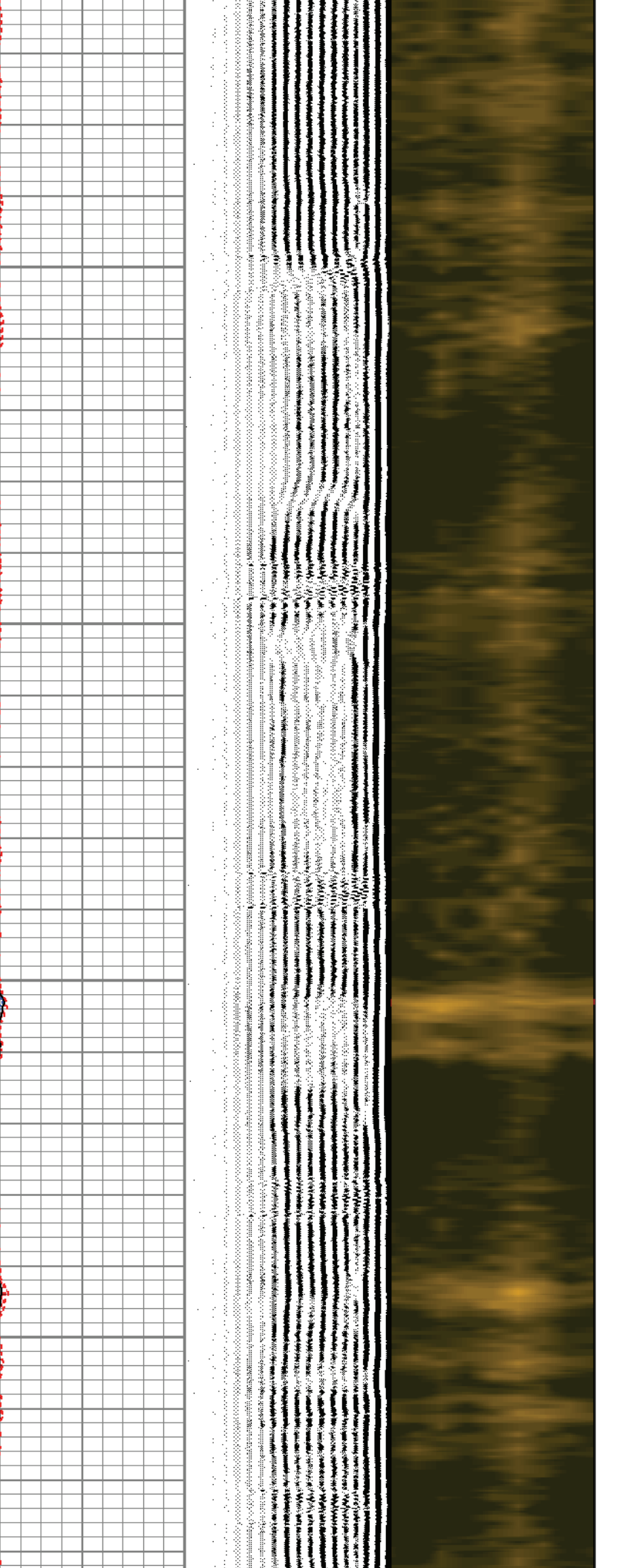
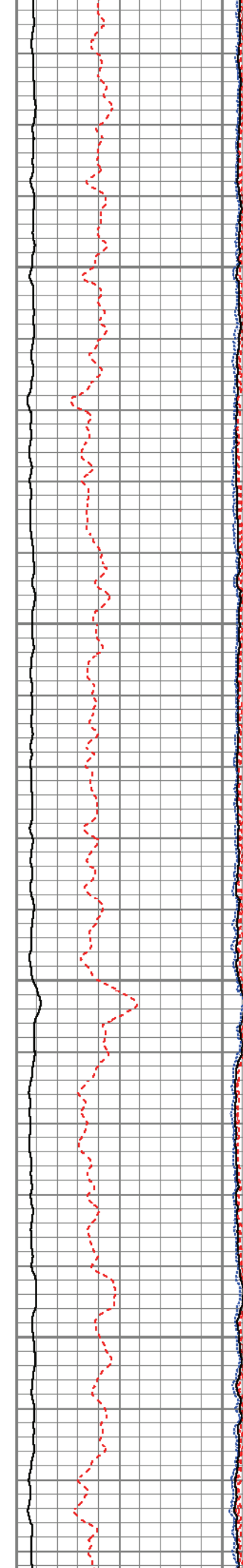


6700

6750

6800

6850



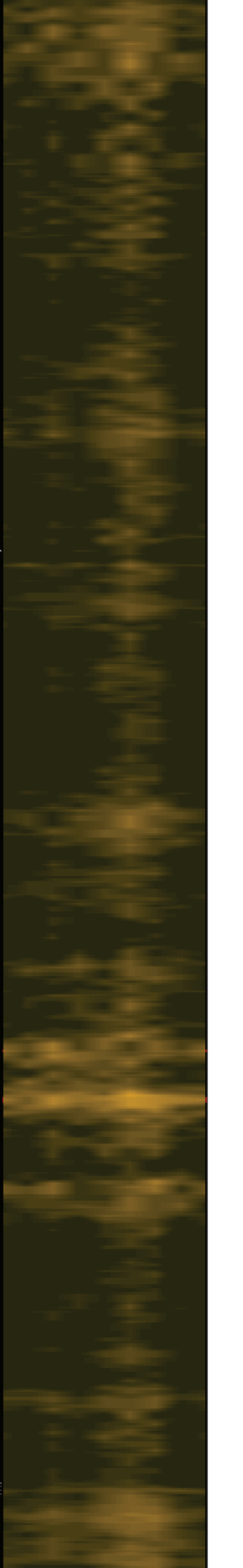
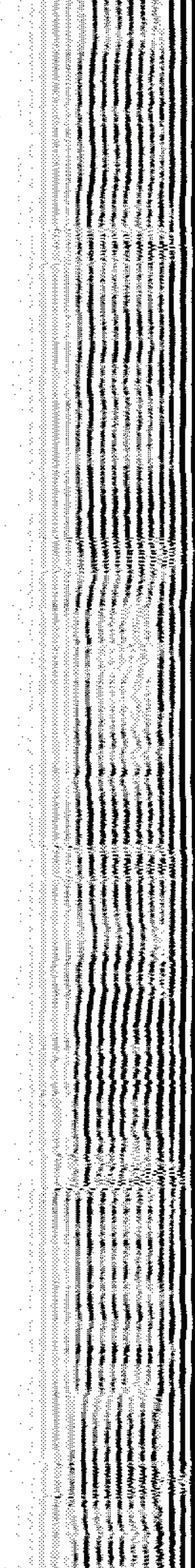
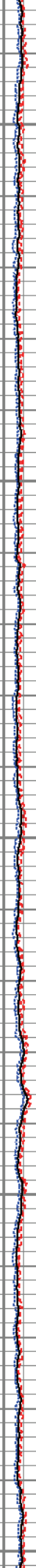
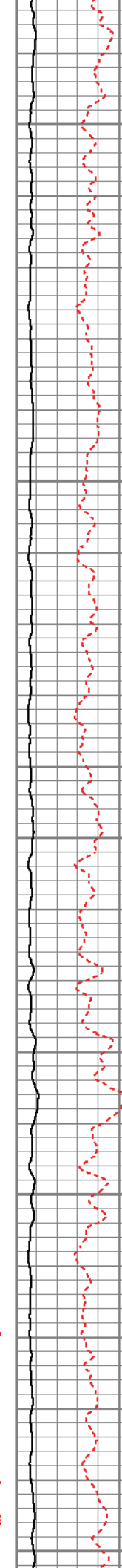
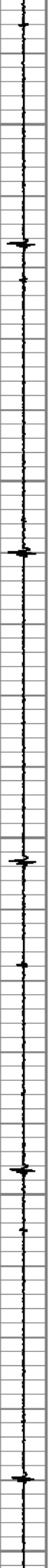
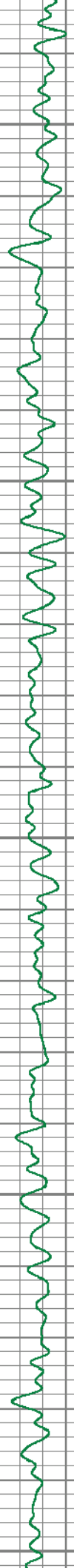
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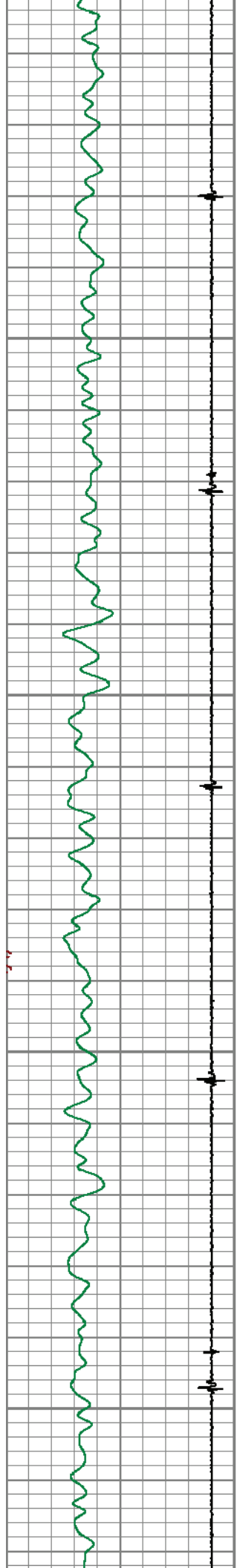
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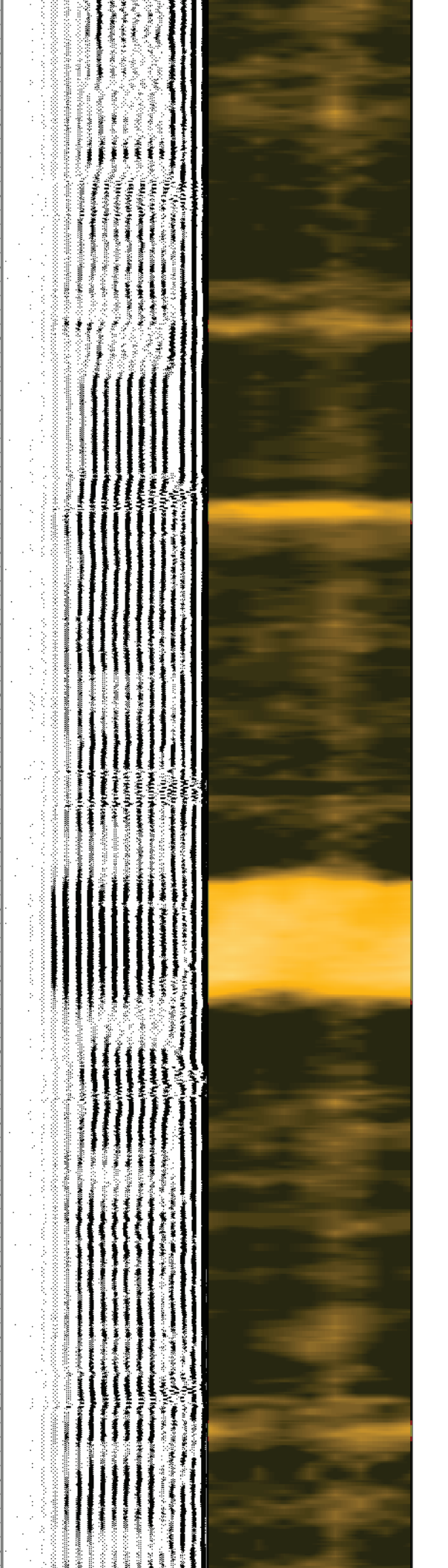


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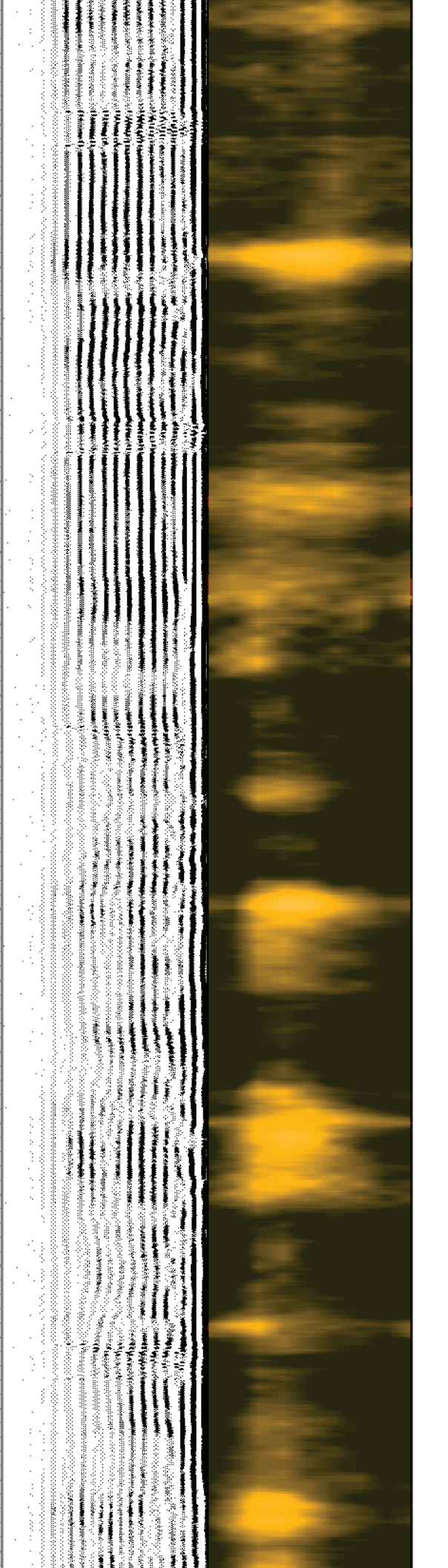
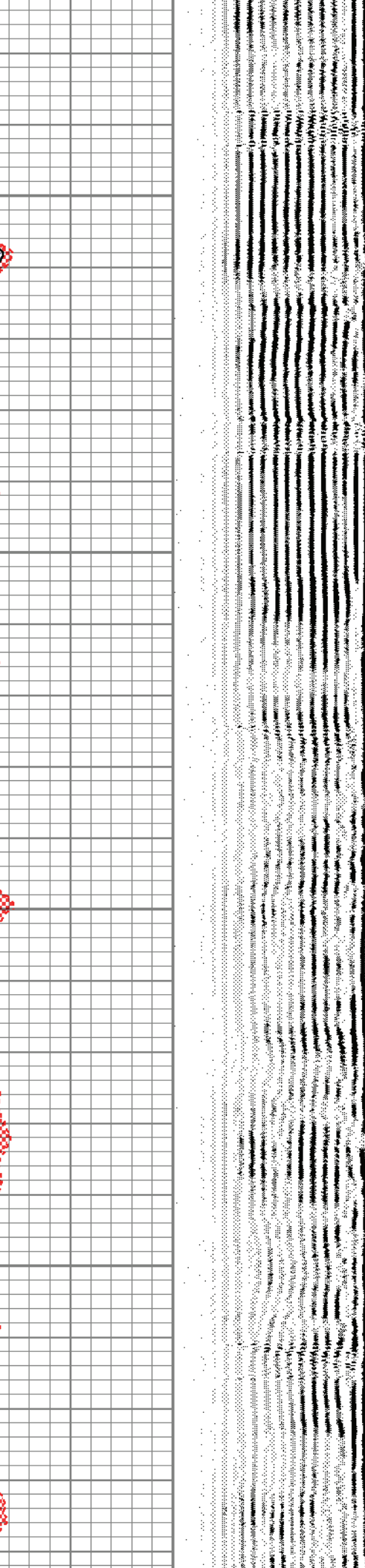
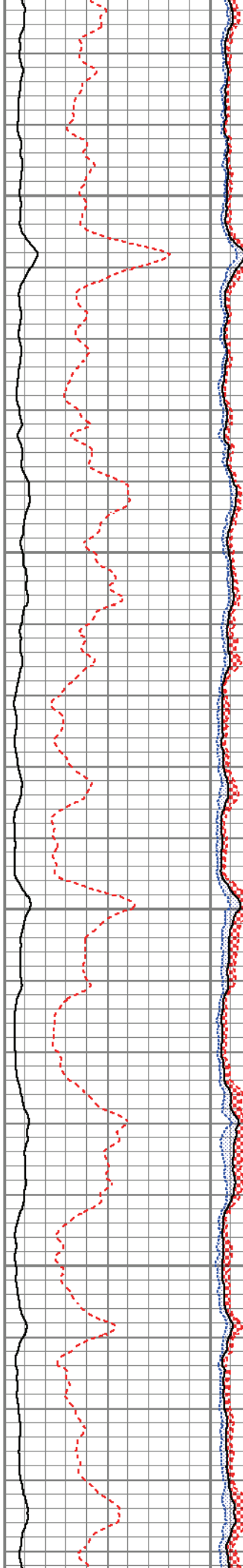
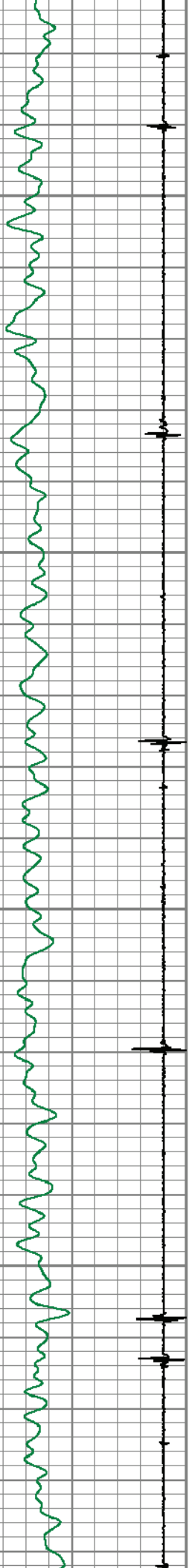


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7400

7450

7500



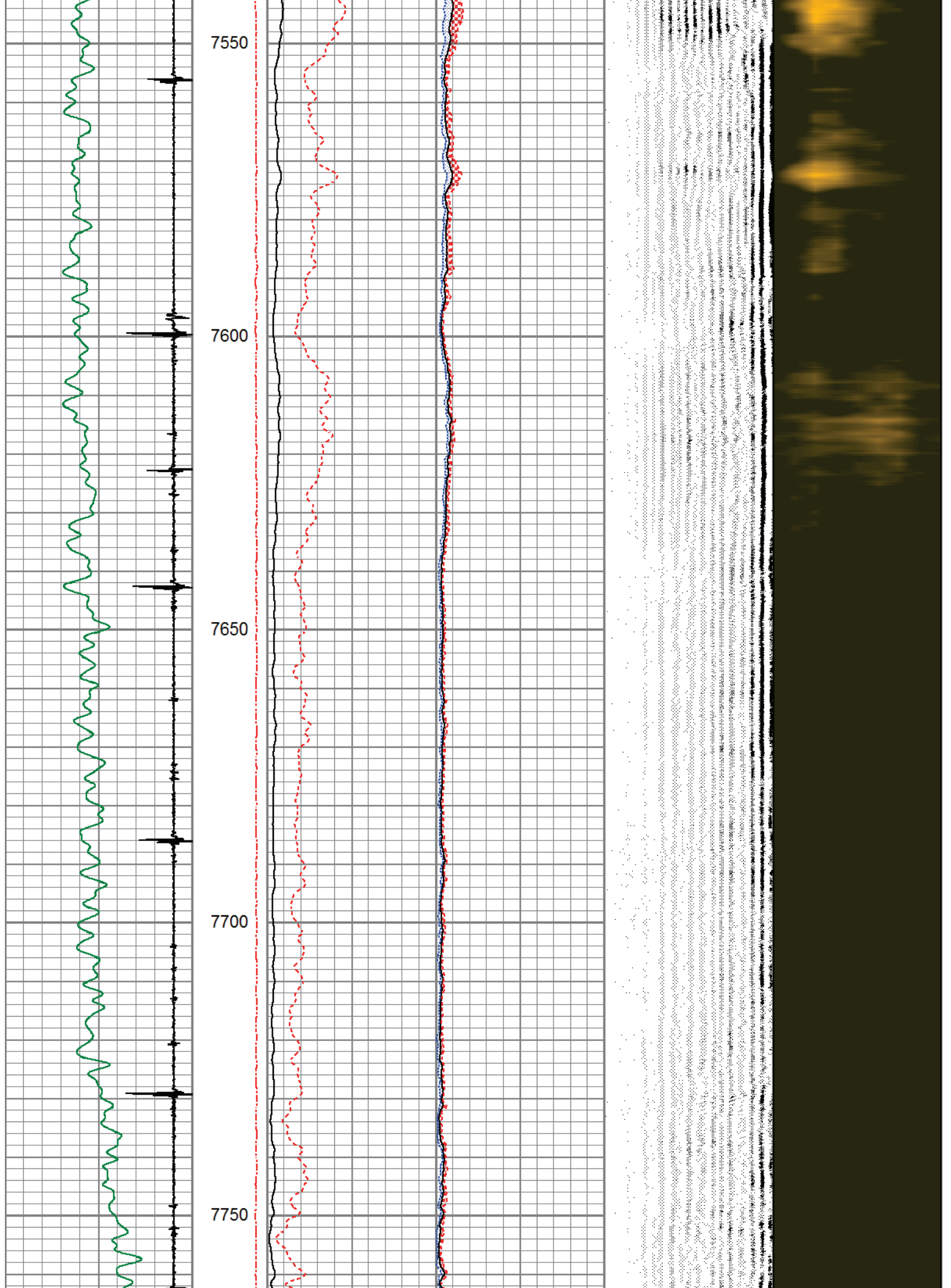
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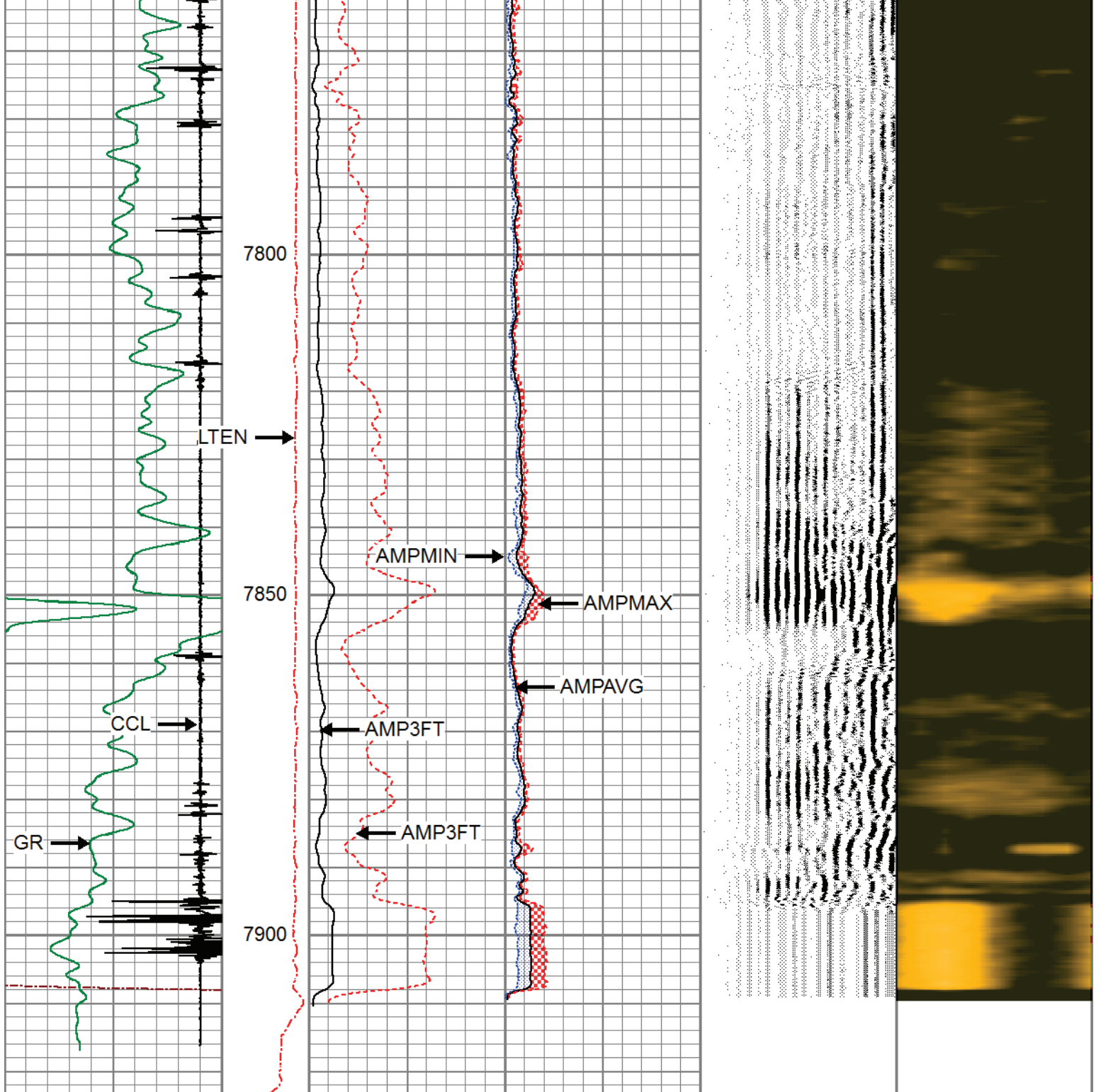
7600

7650

7700

7750





3Ft Travel Time 297 (usec) 197	Line Tension (lb) 0 2000	3' Amplitude (mV) 0 100	Sector Amplitude Average 0 150	VDL (usec) 200 1200	1 Sector Map 8
-9 Collar Locator 1		3' Amplified Amplitude X 5 (mV) 0 20	Sector Amplitude Maximum 0 150		
Gamma Ray (GAPI) 0 150			Sector Amplitude Minimum 0 150		



# MAIN LOG

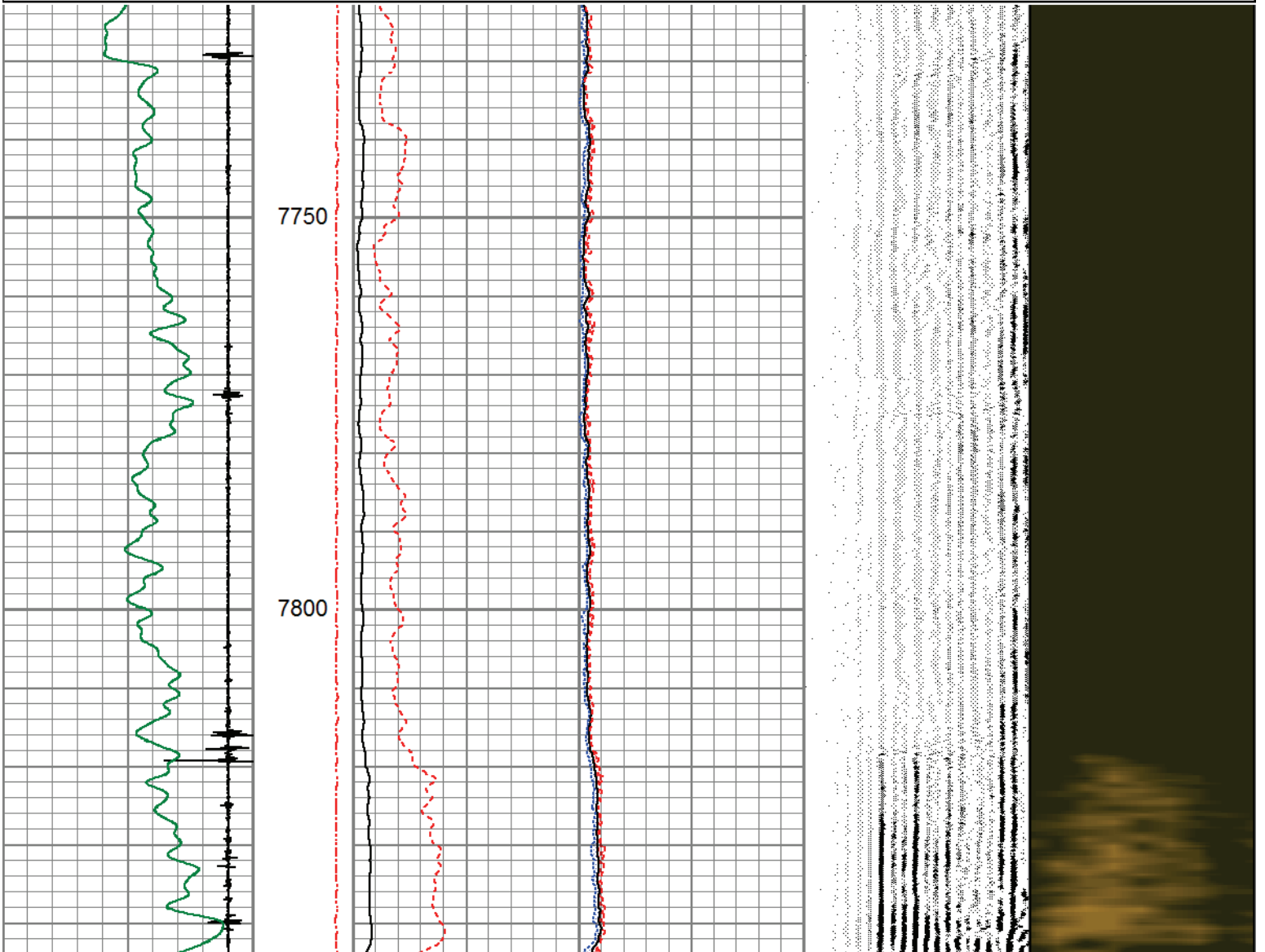


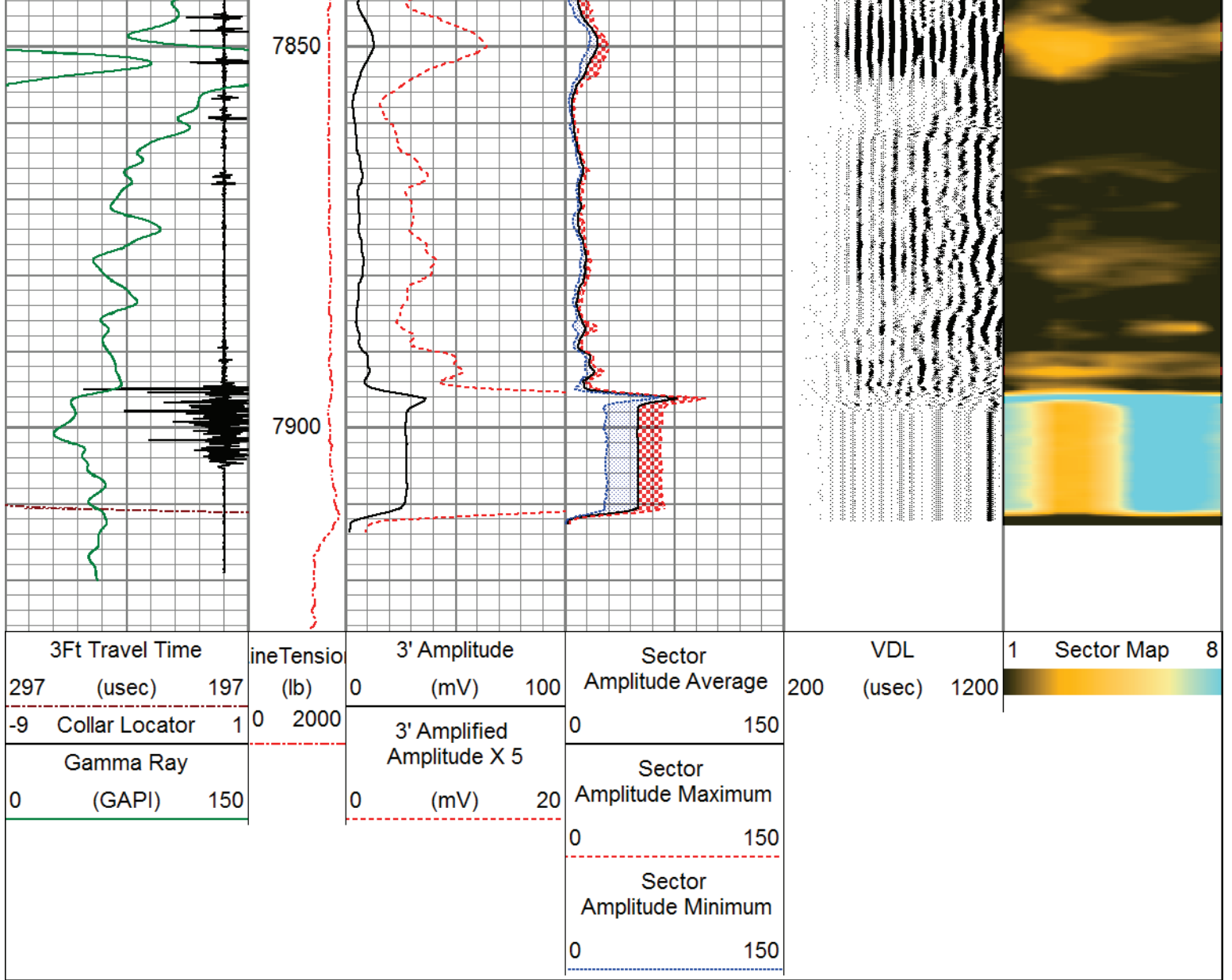
**REPEAT SECTION**

ZERO PSI APPLIED AT SURFACE

Database File highpoint\_lion creek 23-0164b\_0512347385\_20180919\_scbl.db  
 Dataset Pathname pass2.1  
 Presentation Format pinr\_scbl  
 Dataset Creation Wed Sep 19 17:11:43 2018  
 Charted by Depth in Feet scaled 1:240

3Ft Travel Time 297 (usec) 197	ineTensio (lb) 0 2000	3' Amplitude (mV) 100	Sector Amplitude Average 200	VDL (usec) 1200	1 Sector Map 8
-9 Collar Locator 1		3' Amplified Amplitude X 5	0 150		
Gamma Ray 0 (GAPI) 150		0 (mV) 20	Sector Amplitude Maximum 0 150		
			Sector Amplitude Minimum 0 150		





### Calibration Report

Database File highpoint\_lion creek 23-0164b\_0512347385\_20180919\_scbl.db  
 Dataset Pathname pass3  
 Dataset Creation Wed Sep 19 15:42:33 2018

### Gamma Ray Calibration Report

Serial Number: 061125  
 Tool Model: 275 Probe  
 Performed: Wed Sep 19 09:50:27 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: FW1304-33  
 Tool Model: RBL-DC

Calibration Casing Diameter: 7.000 in  
 Calibration Depth: 969.869 ft

Master Calibration, performed Wed Sep 19 15:02:07 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.041	0.916	1.000	62.165	69.892	-1.837
CAL	0.021	1.497				
5'	0.108	1.144	1.000	62.165	59.033	-5.397
SUM						
S1	0.047	0.934	0.000	100.000	112.690	-5.285
S2	0.022	0.948	0.000	100.000	107.906	-2.347
S3	0.013	0.879	0.000	100.000	115.484	-1.524
S4	0.017	0.855	0.000	100.000	119.222	-1.991
S5	0.016	0.850	0.000	100.000	119.926	-1.887
S6	0.017	0.877	0.000	100.000	116.288	-1.979
S7	0.016	0.882	0.000	100.000	115.499	-1.861
S8	0.023	0.957	0.000	100.000	107.089	-2.513

Air Zero Calibration, performed Wed Sep 19 09:47:12 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	



**PIONEER**

Pioneer Energy Services

Company HIGHPOINT OPERATING CORP.  
 Well LION CREEK 23-0164B  
 Field HEREFORD  
 County WELD  
 State COLORADO