



PIONEER

Pioneer Energy Services

**RADIAL BOND LOG
WITH GAMMA RAY**

Company **HIGHPOINT OPERATING CORP.**

Well **LION CREEK 23-0362B**

Field **HEREFORD**

County **WELD** State **COLORADO**

Location: API # : 05-123-47399

300' FNL & 1356' FWL
NE NW

SEC 23 TWP 11N RGE 64W

NONE

Permanent Datum GL Elevation

Log Measured From KB 20' Above Perm. Datum

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 7814'

Bottom Log Interval 7814'

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-0133

Wireline Size 9/32"

Location FORT MORGAN

Recorded By SCHOENROGGE

Witnessed By MR. BEHRENDT

Size

Wt/Ft

Top

Bottom

Tubing Record

Surface Casing

Production Casing

Liner Record

9.625"

7"

4.5"

36#

23#

11.6#

SURFACE

SURFACE

7781.2'

1538'

8063.5'

18091'

<<< Fold Here >>>

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

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

Top - Bottom

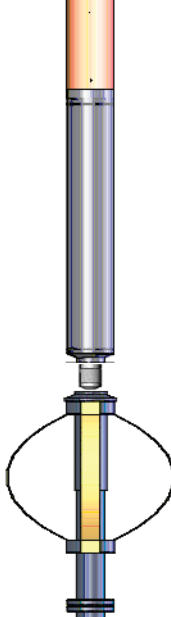
BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL
TEMP	in 8.75	degF 200	in 7	in 0.317	lb/ft 23	mV 0
MINAMPL	MINATTN	PERFS	PPT	SRFTEMP	TDEPTH	
mV 1	db/ft 0.08	0	usec 287	degF 50	ft 7000	



Variable Description

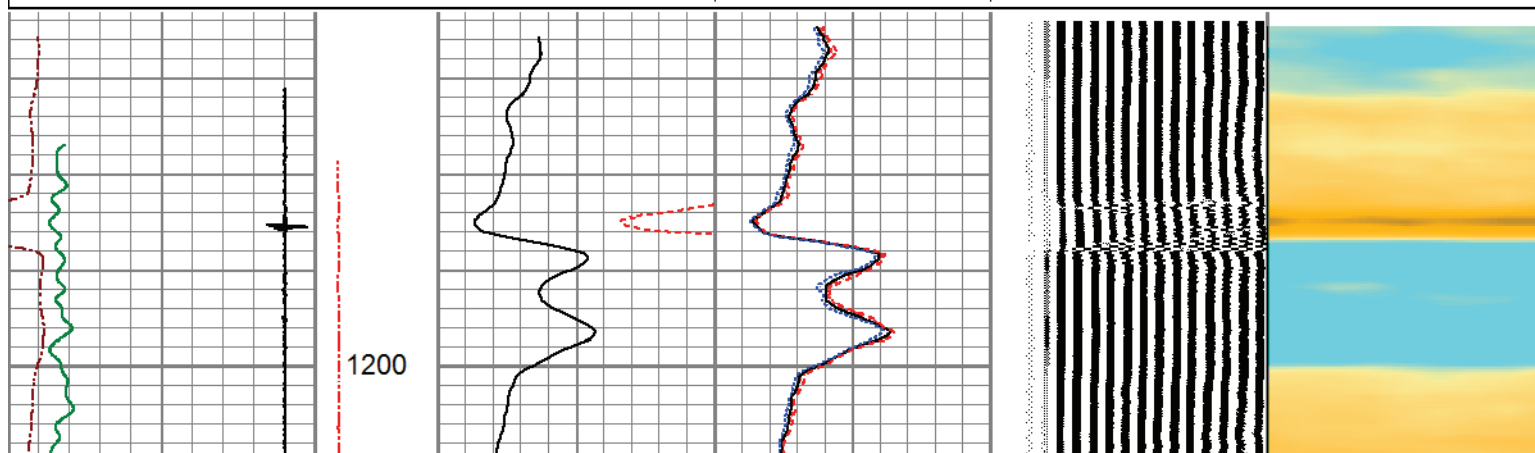
BHTEMP_Src : BHTEMP Input Source Selector
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
CASEWGHT : Casing Weight
MAXAMPL : Maximum Amplitude

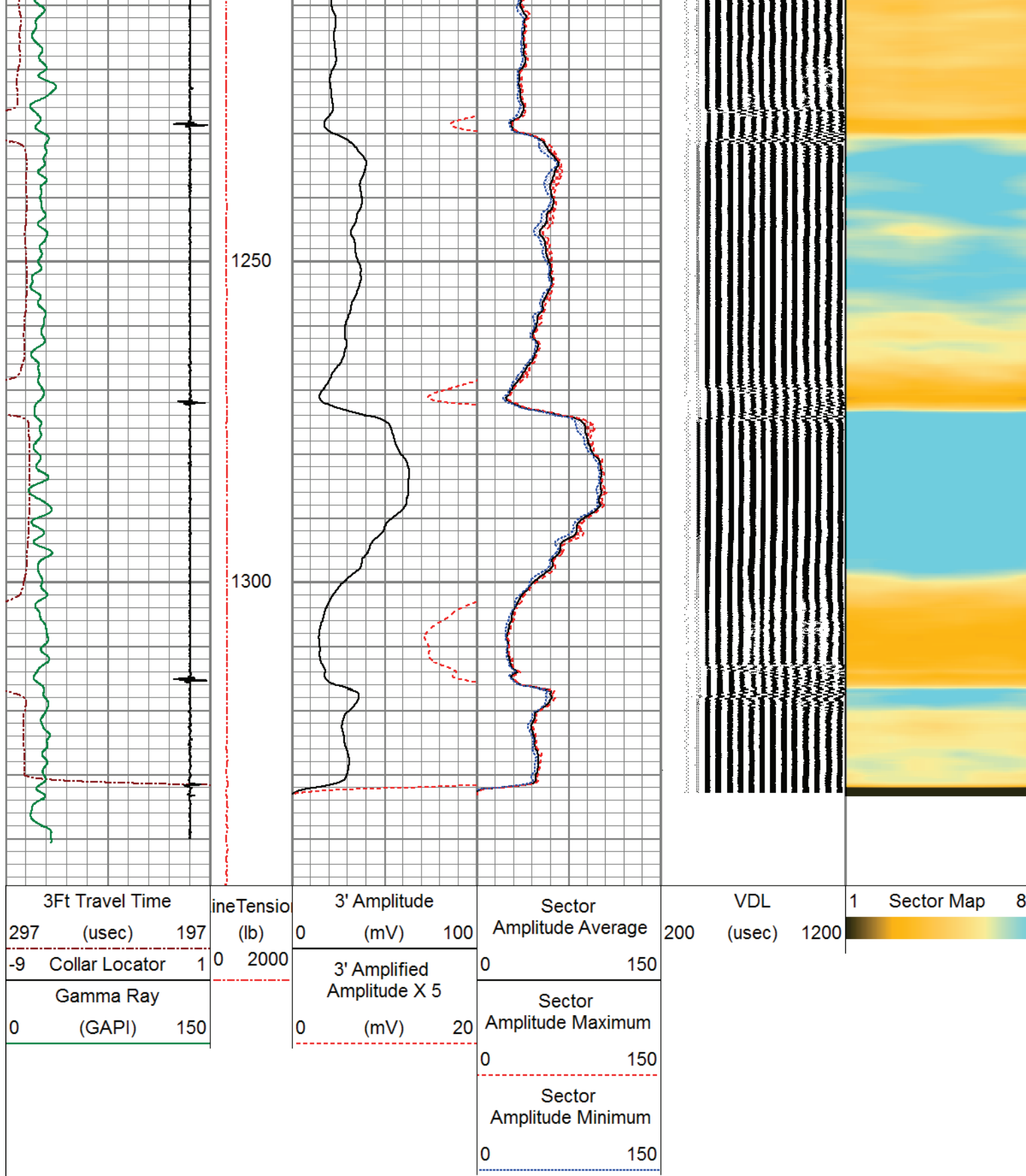
MINAMPL : Minimum Amplitude
MINATTN : Minimum Attenuation
PERFS : Perforation Flag
PPT : Predicted Pipe Time
SRFTEMP : Surface Temperature
TDEPTH : Total Depth

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
WVFS8	15.47		PROBE-RBT-DIGITAL-RBL-DC (FW1304-38.75 Probe 2 3/4" Radii Bond-Corrosion Package	38.75	2.75	100.00
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

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 (061125) Probe 2.75" Gamma Ray	3.36	2.75	40.00
			Bullnose-PROBE Probe Go Pin Pressure Cap	0.33	1.38	1.00
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00
Dataset: highpoint_lion creek 23-0362b_05123_20180919_scbl.db: field/well/run1/pass9.3 Total length: 23.94 ft Total weight: 203.00 lb O.D.: 2.75 in						

		FREE PIPE SECTION ZERO PSI APPLIED AT SURFACE				
Database File Dataset Pathname Presentation Format Dataset Creation Charted by		highpoint_lion creek 23-0362b_05123_20180919_scbl.db pass5 pinr_scbl Wed Sep 19 10:36:19 2018 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			






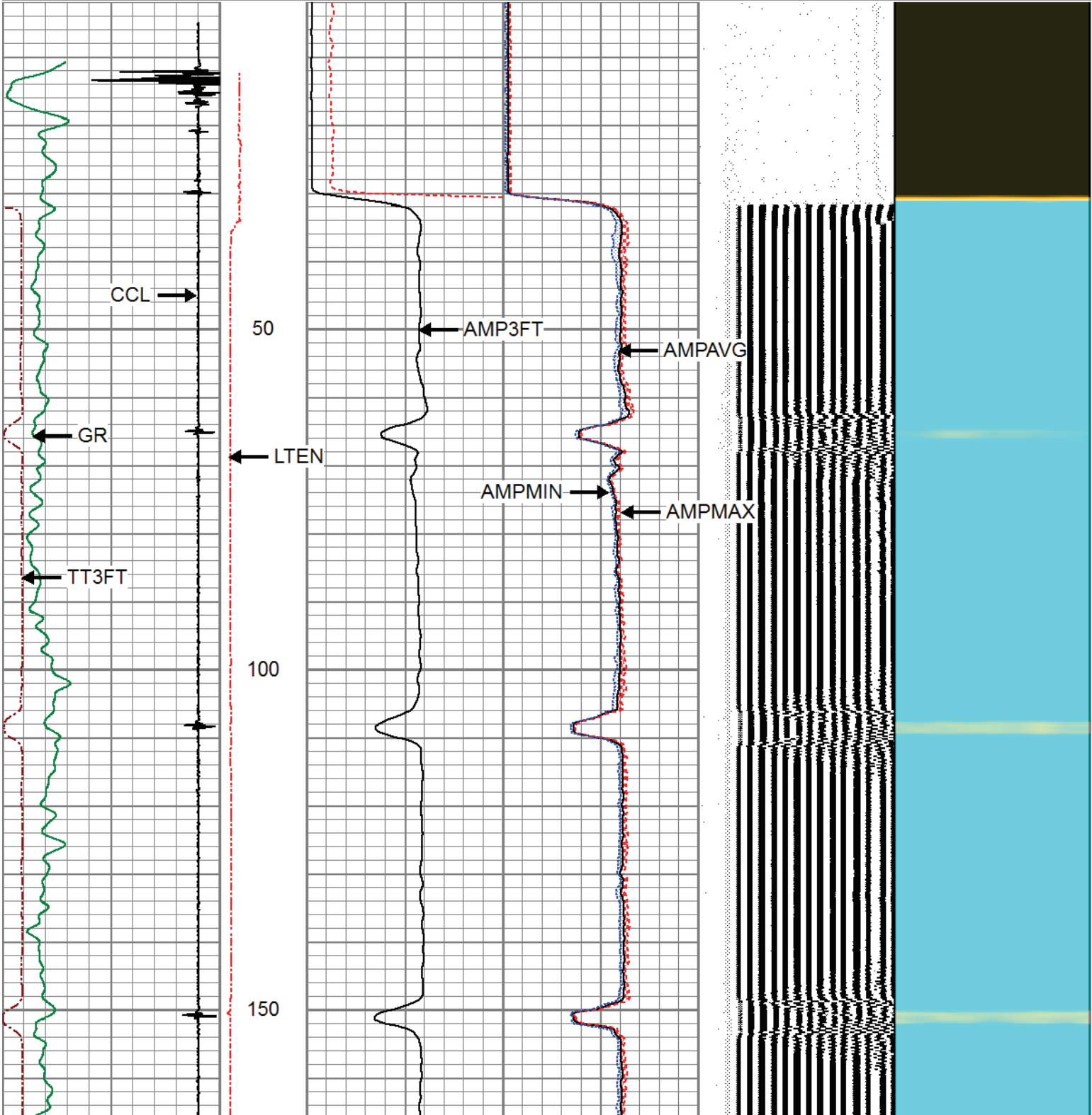
MAIN LOG

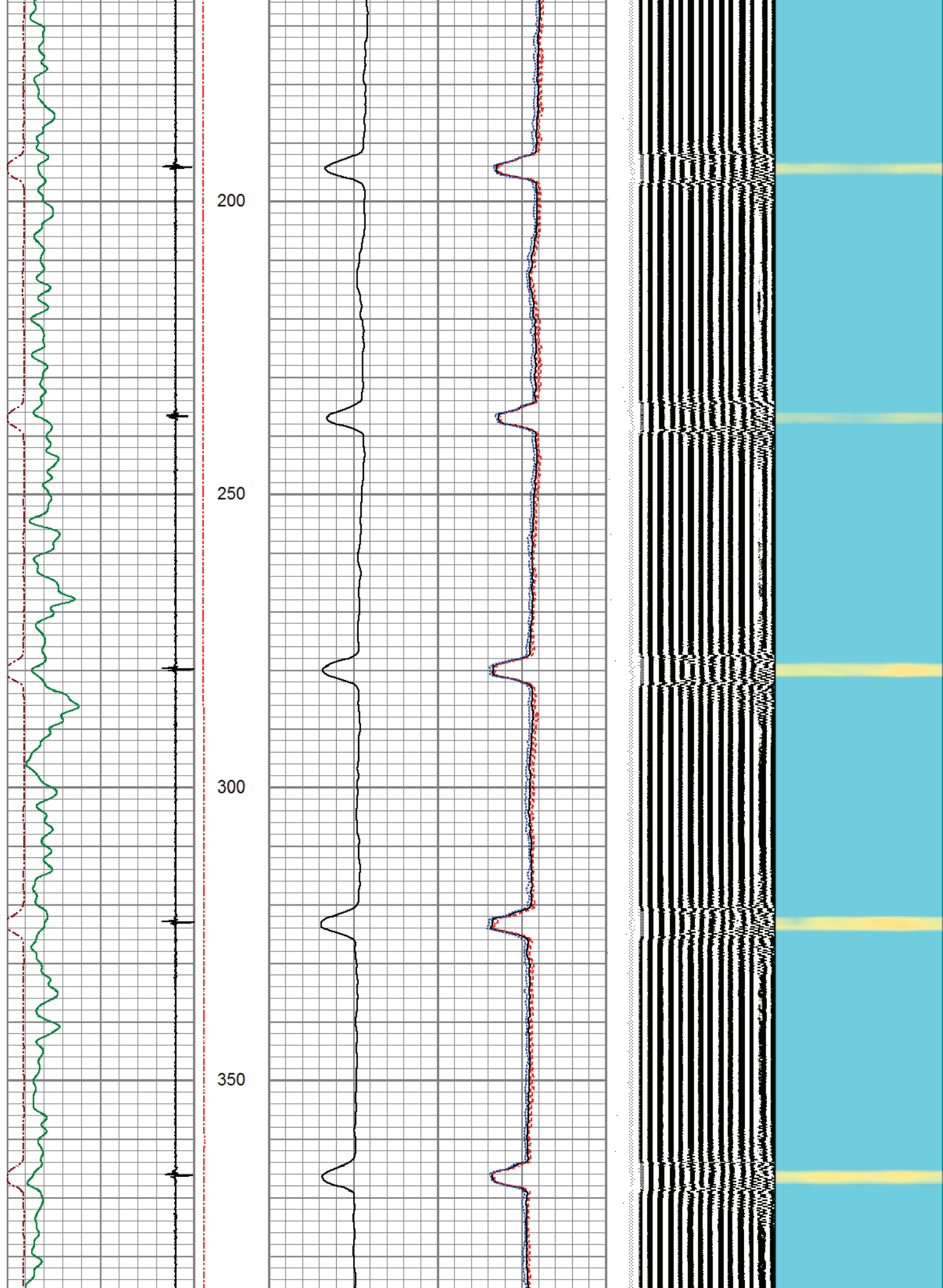
ZERO PSI APPLIED AT SURFACE

Database File
Dataset Pathname
Presentation Format

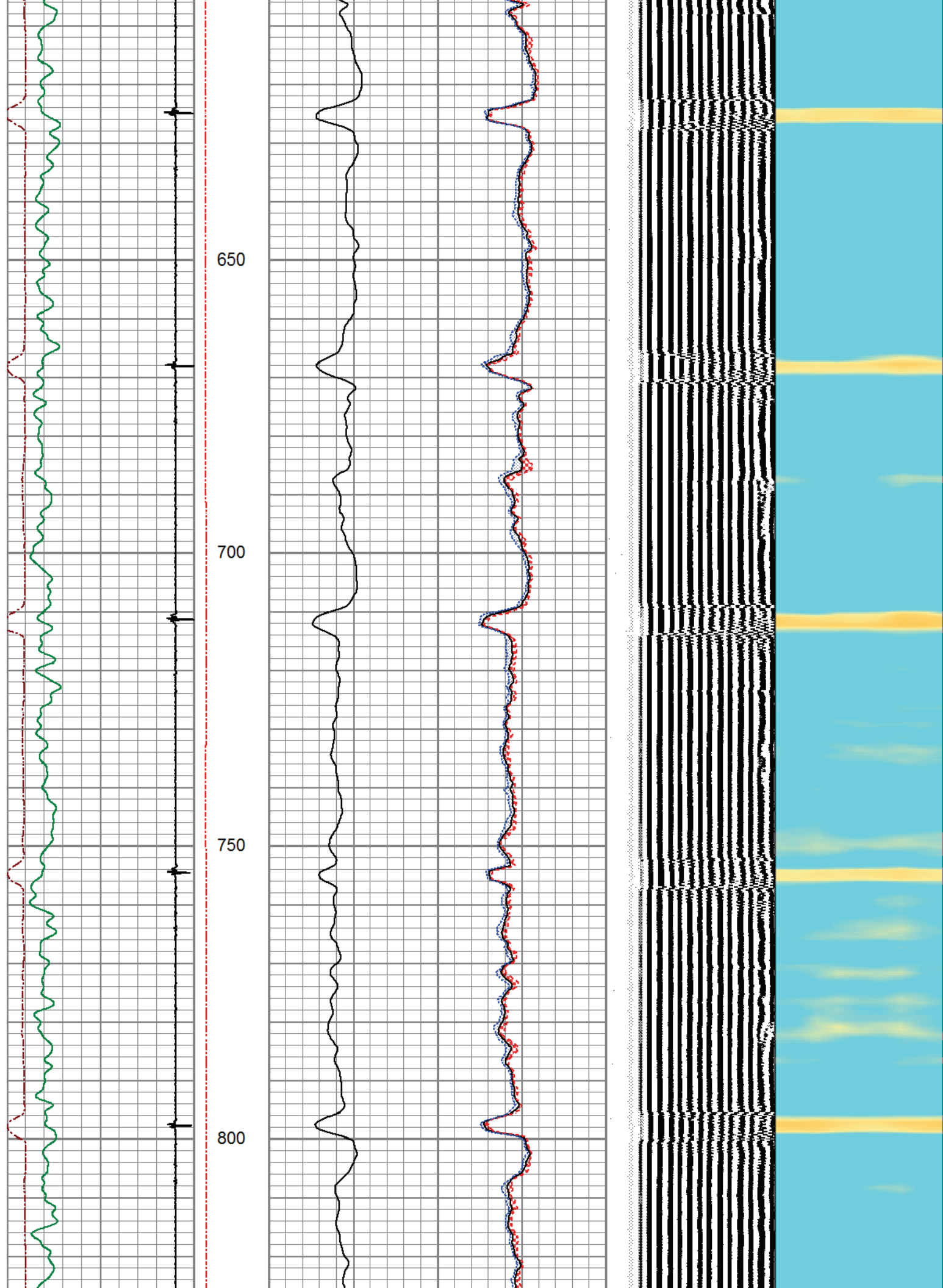
highpoint_lion creek 23-0362b_05123_20180919_scbl.db
pass9.3
pnr_scbl

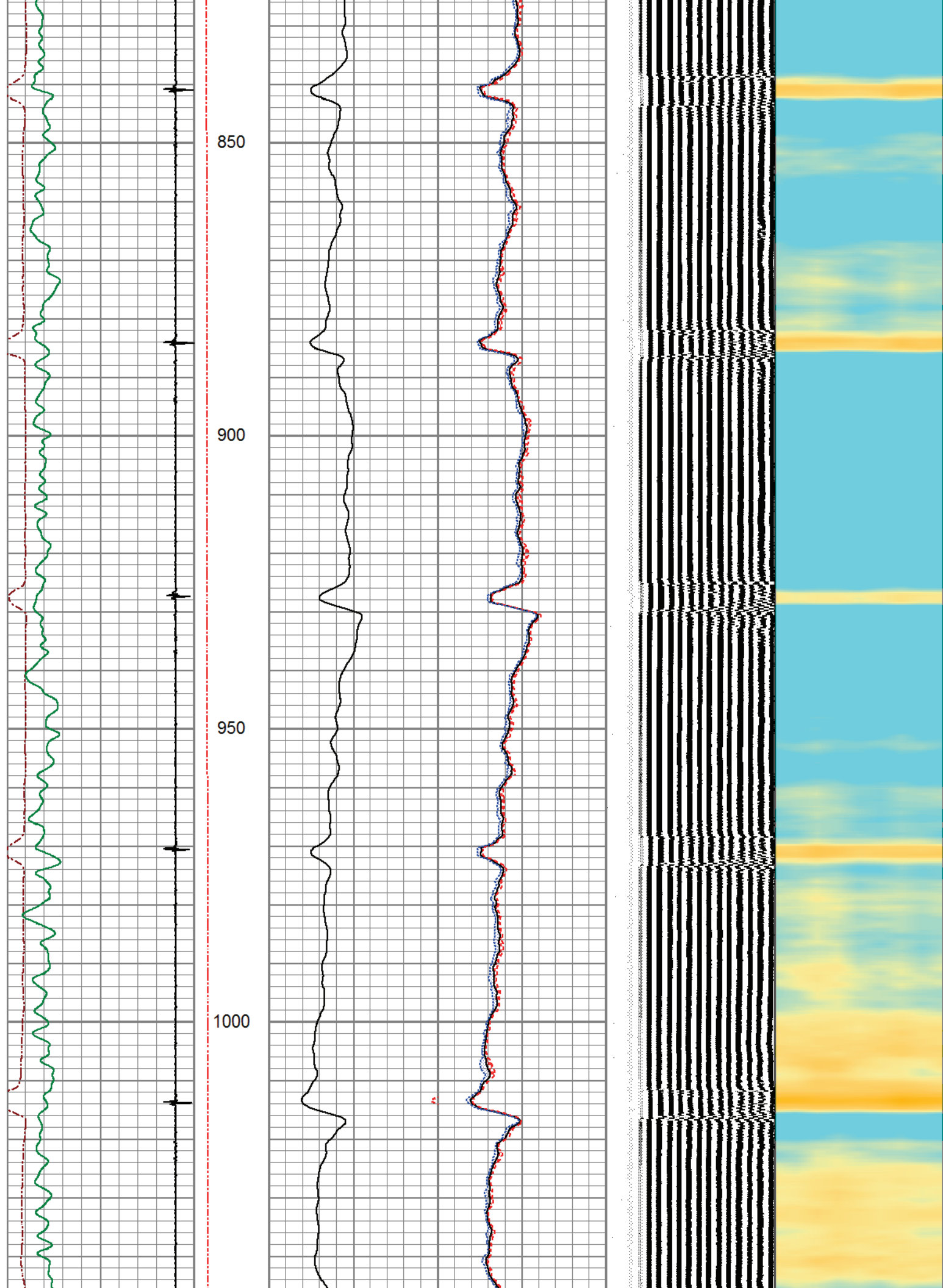
3Ft Travel Time			ineTensio	3' Amplitude			Sector			VDL			1 Sector Map 8		
297	(usec)	197		0	(mV)	100	Amplitude Average			200	(usec)	1200			
-9	Collar Locator	1		0			0	150							
Gamma Ray				3' Amplified			Sector								
0	(GAPI)	150		0	(mV)	20	Amplitude Maximum								
							0	150							
								Sector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

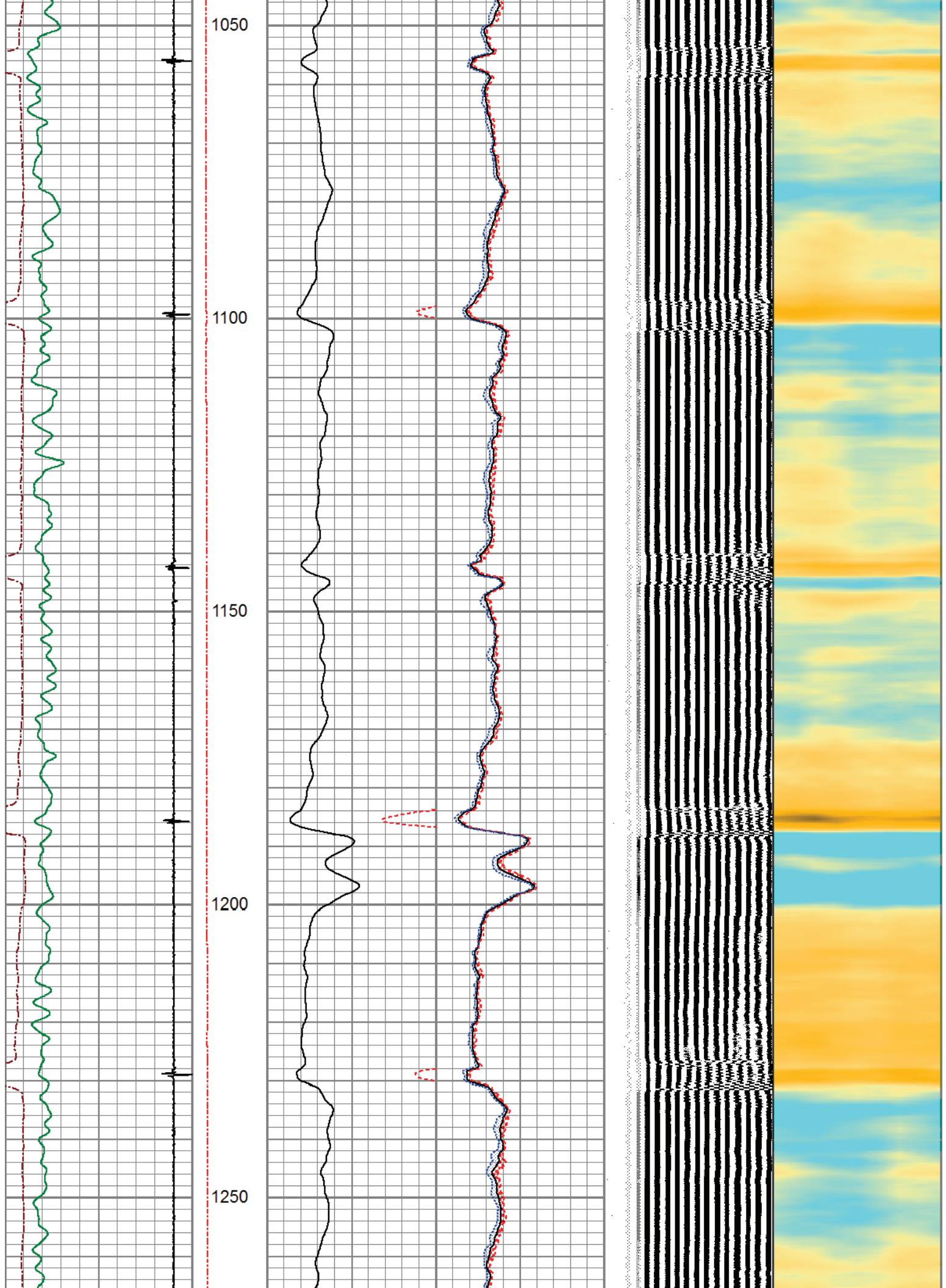


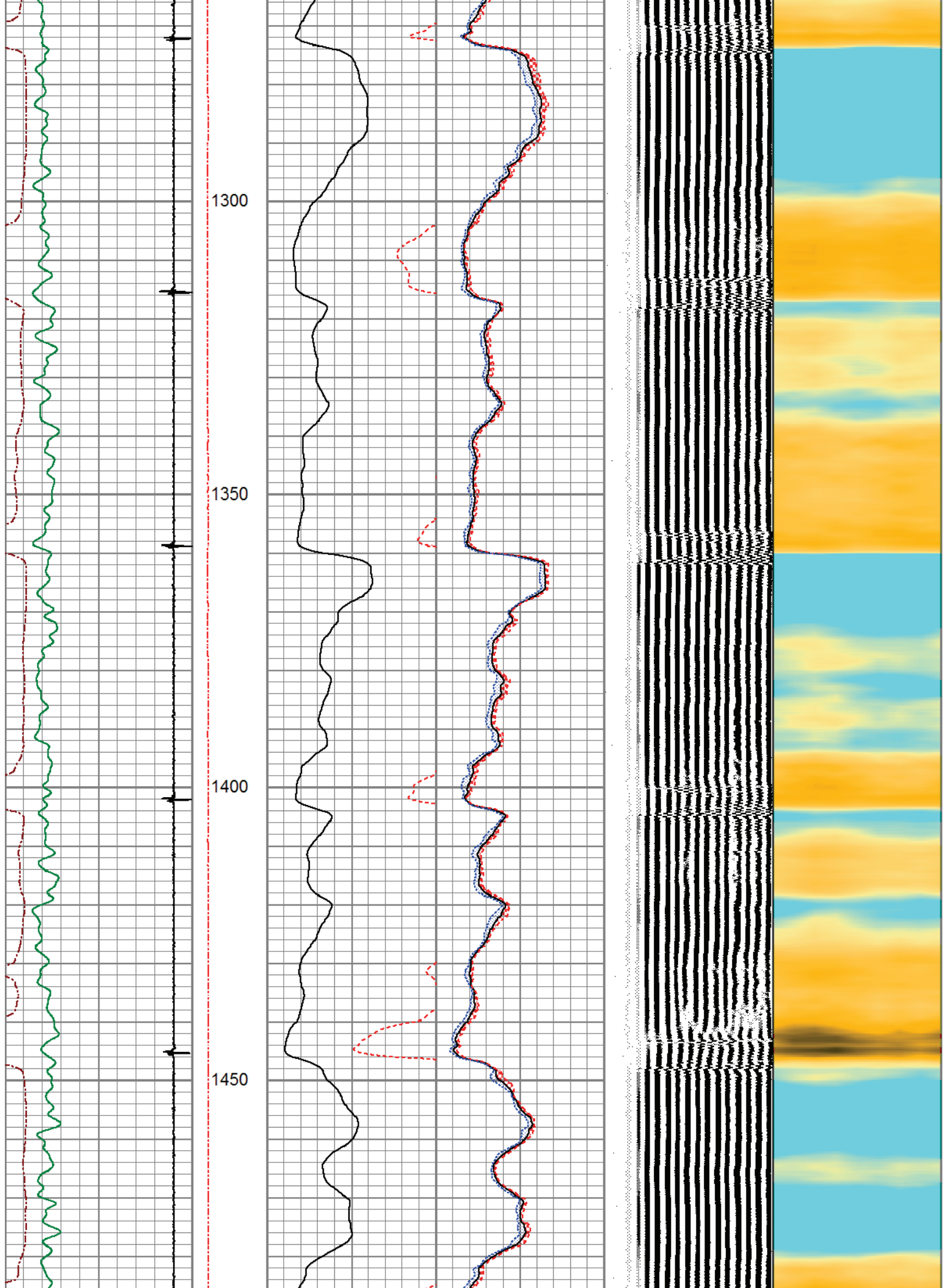


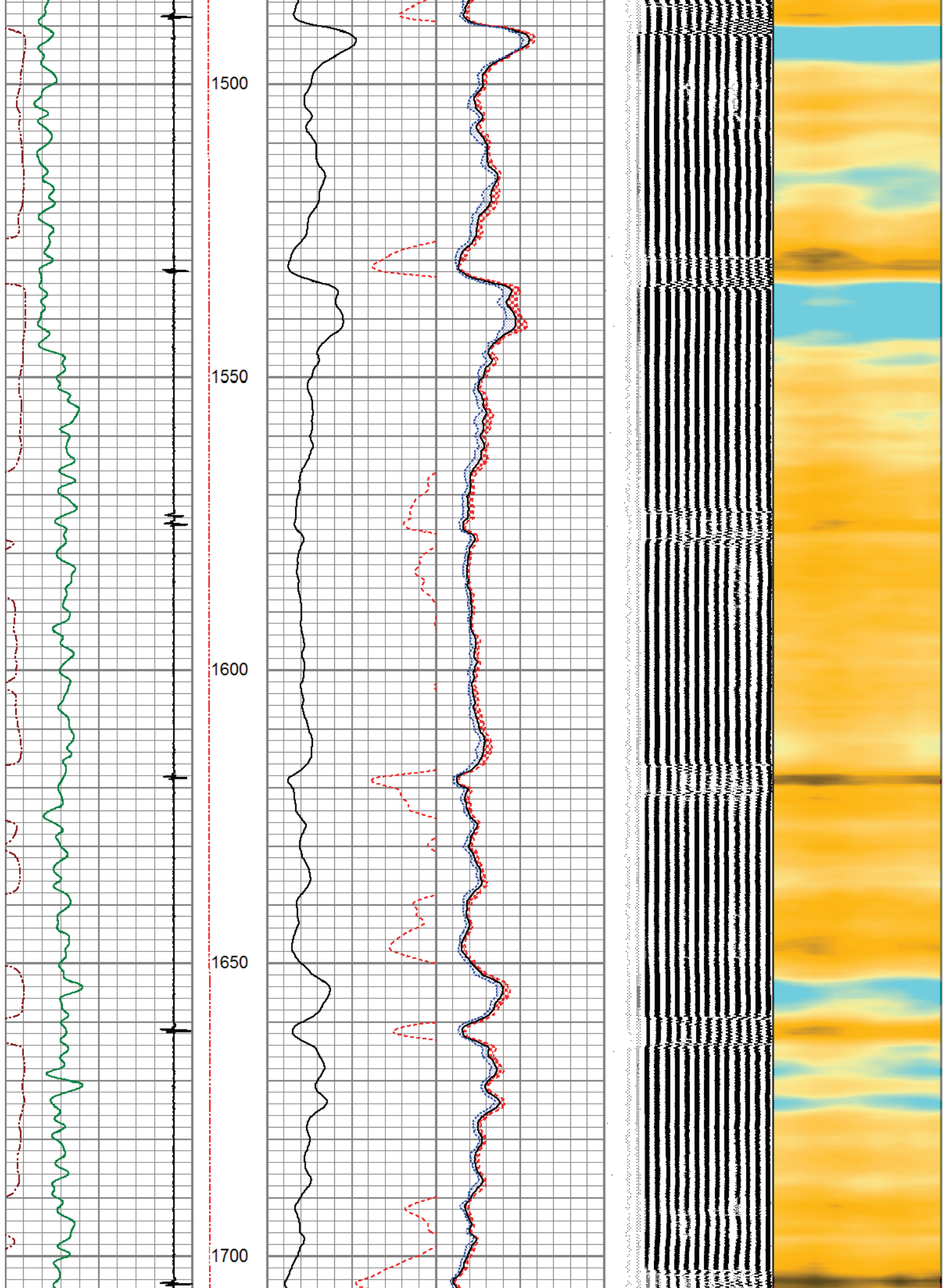


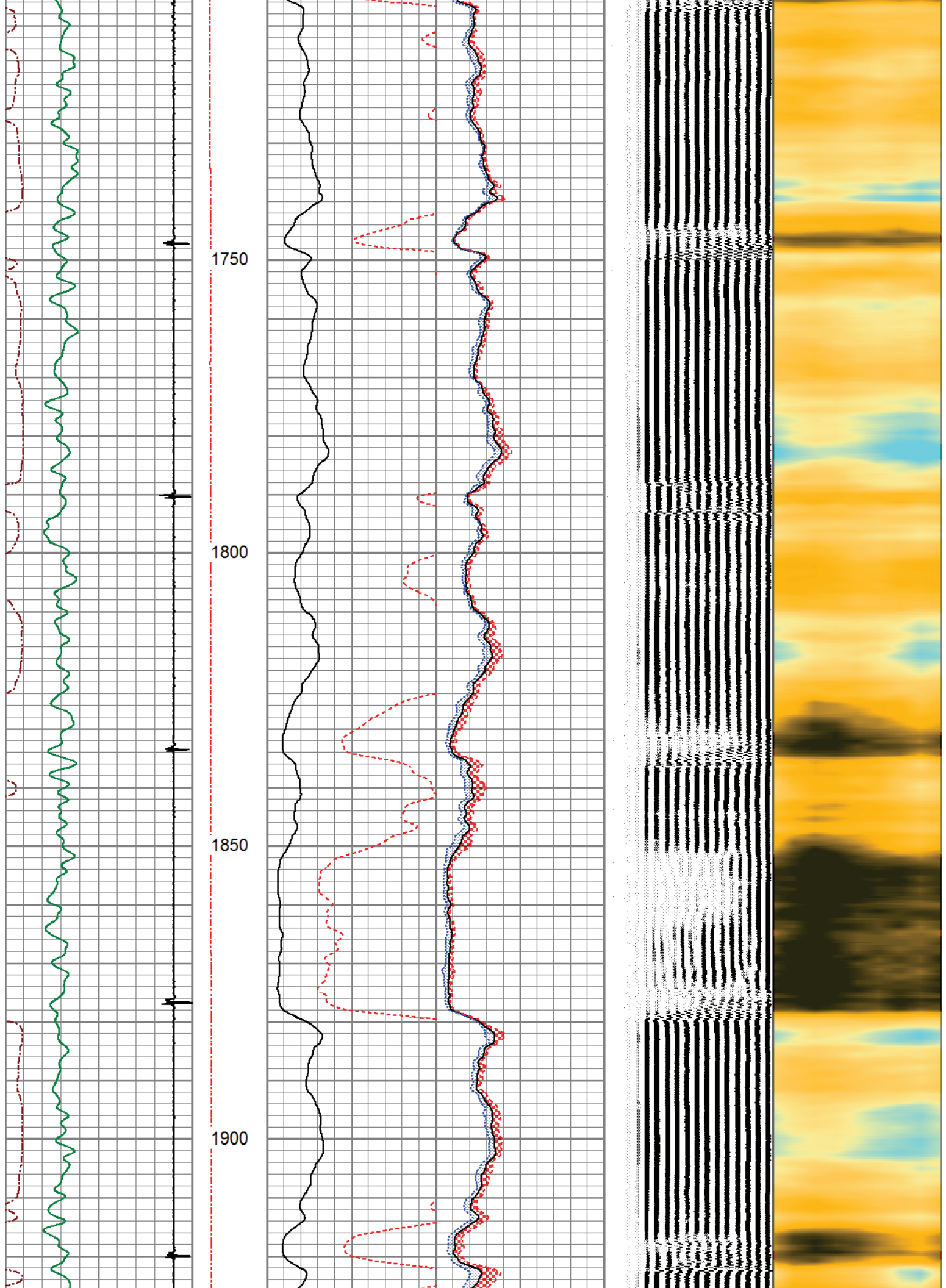


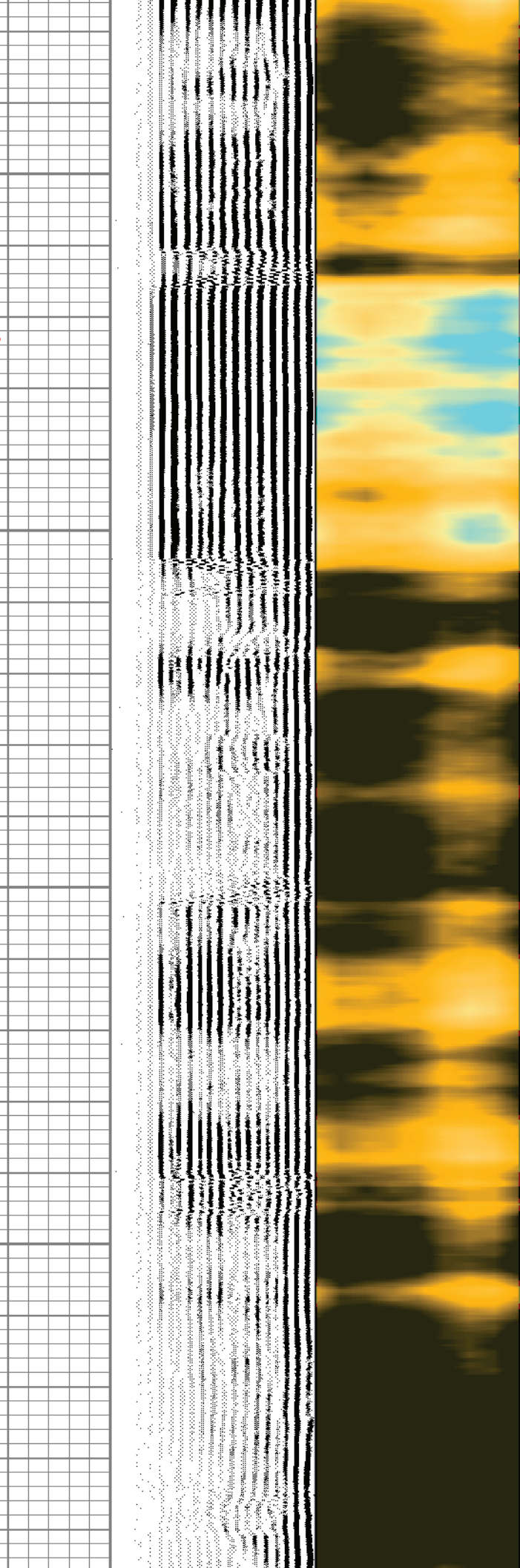
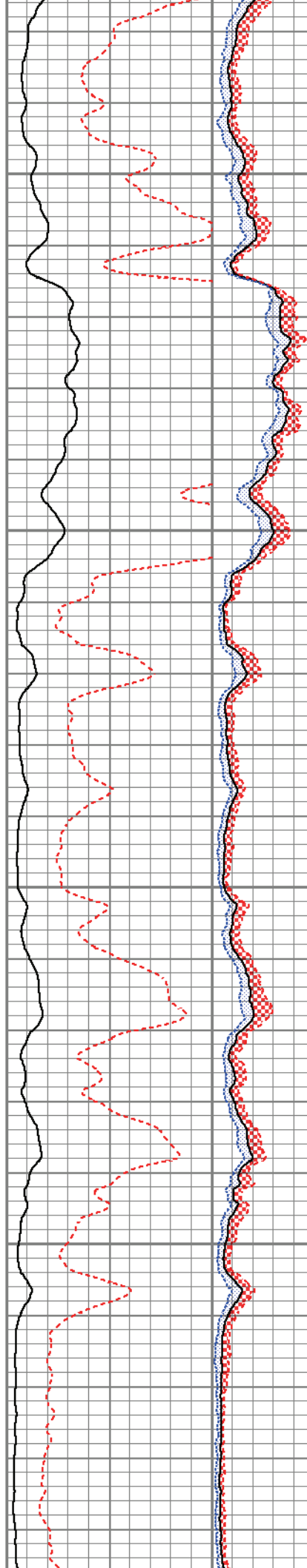
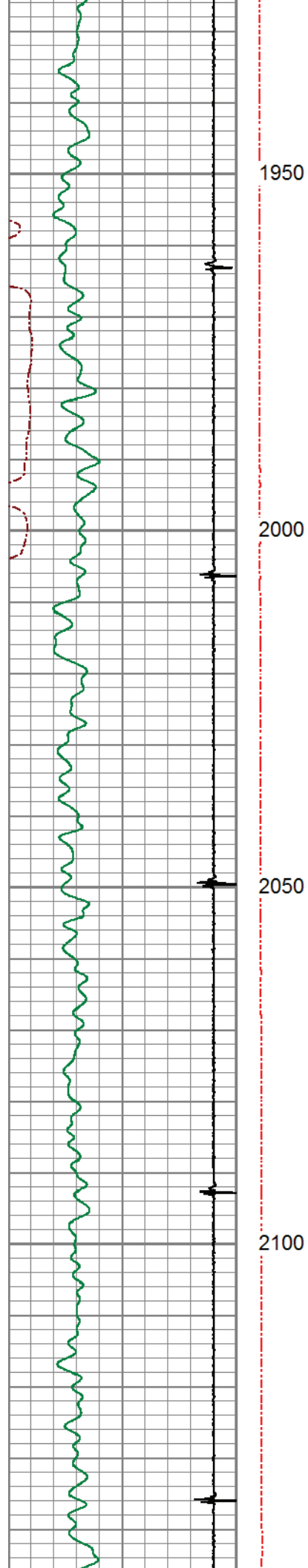












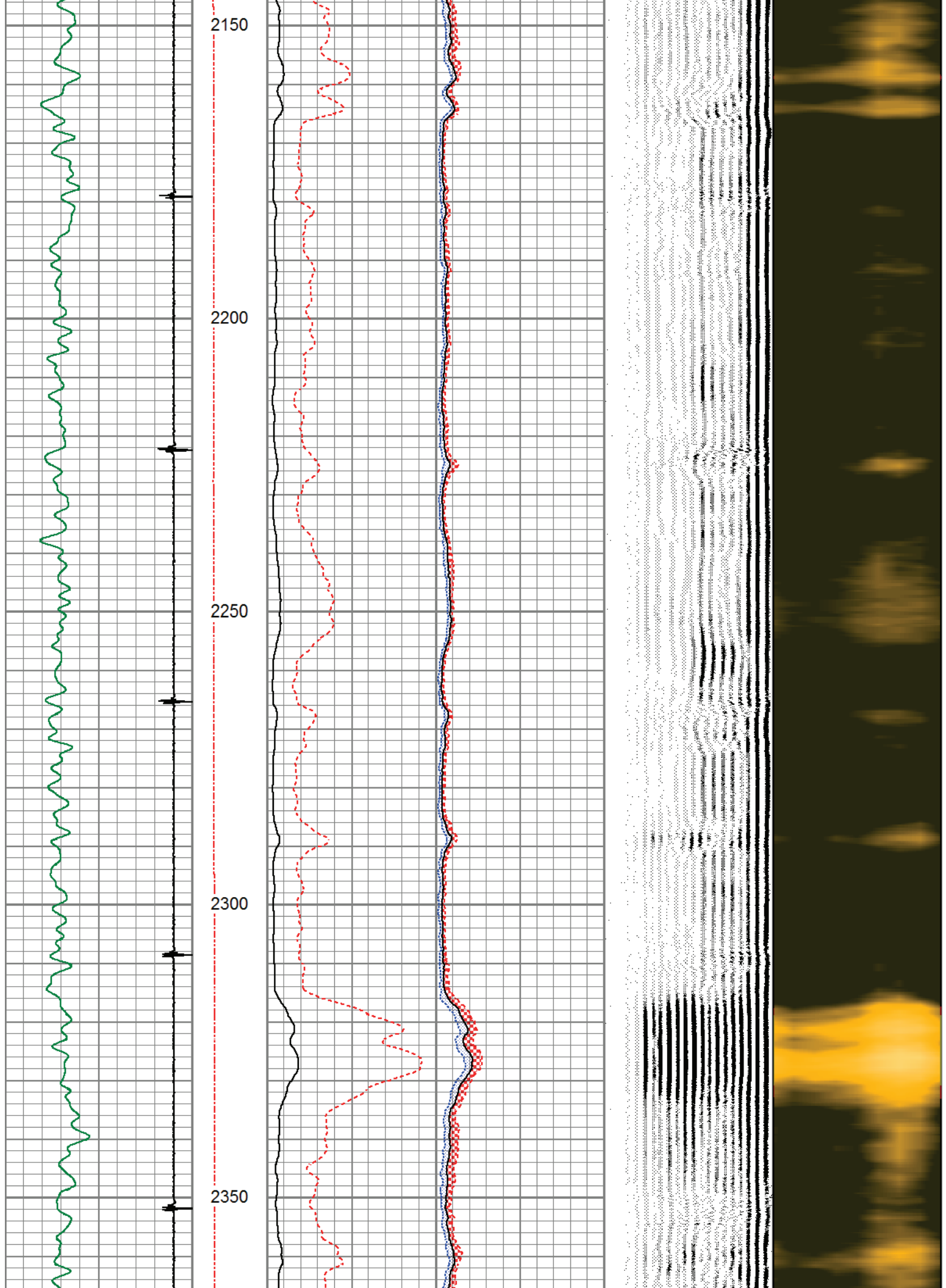
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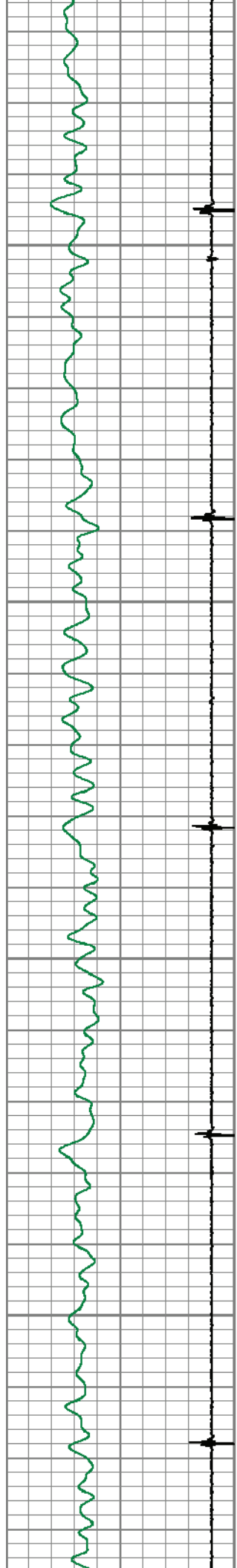
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2250

2300

2350



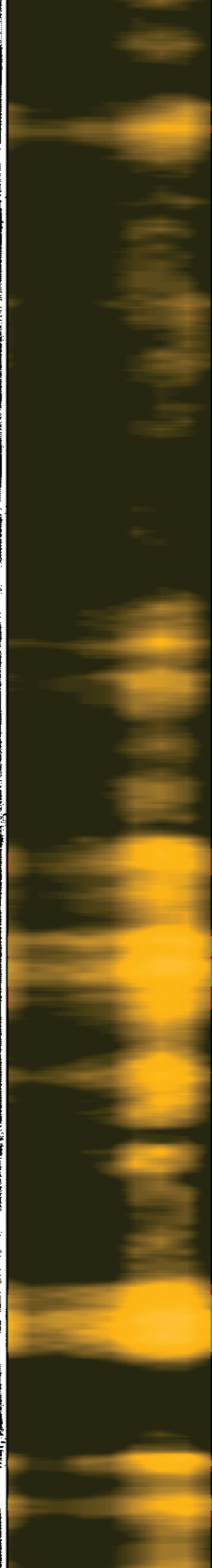
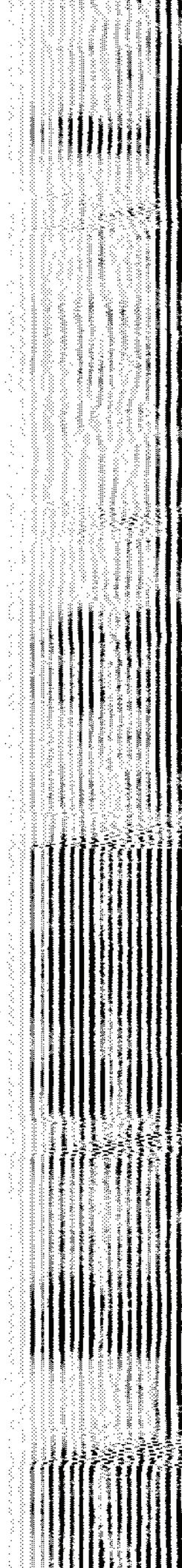
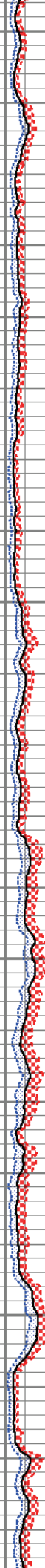
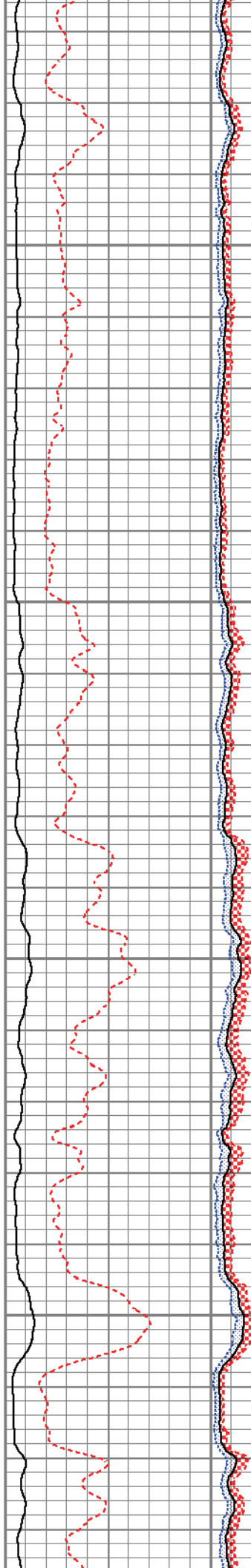


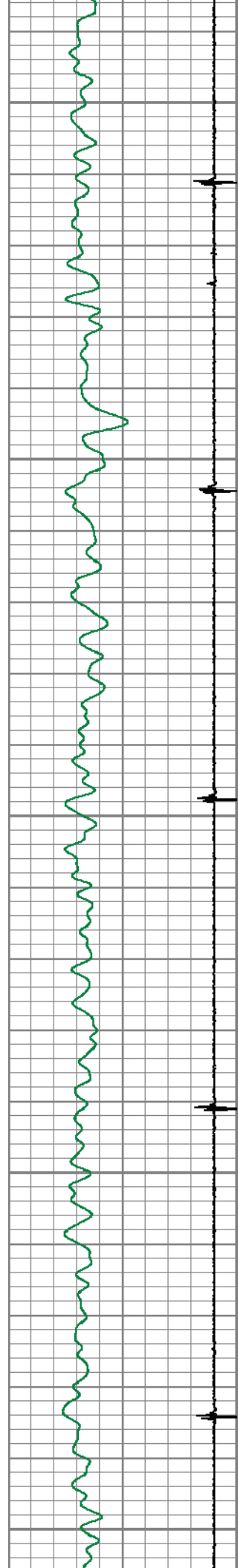
2400

2450

2500

2550





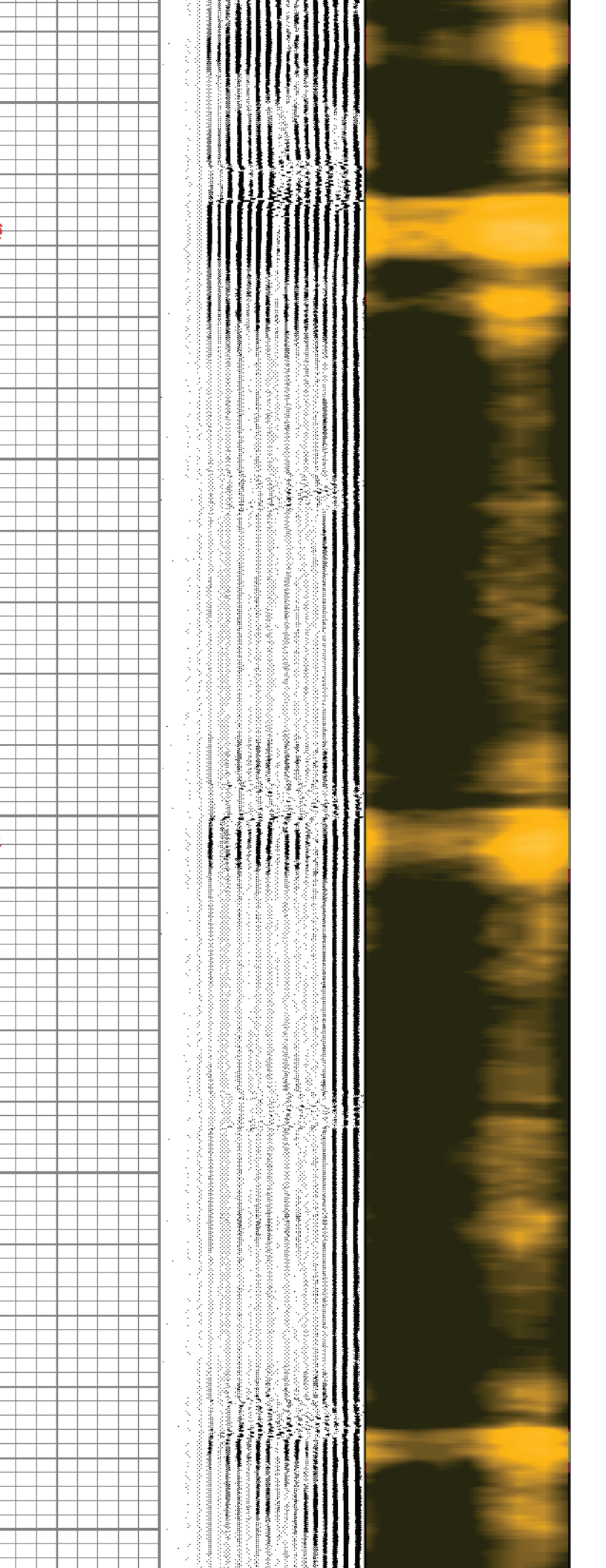
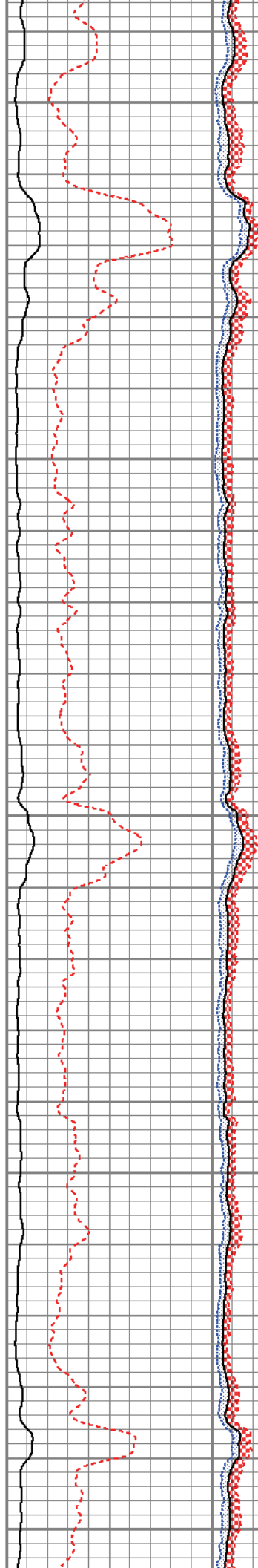
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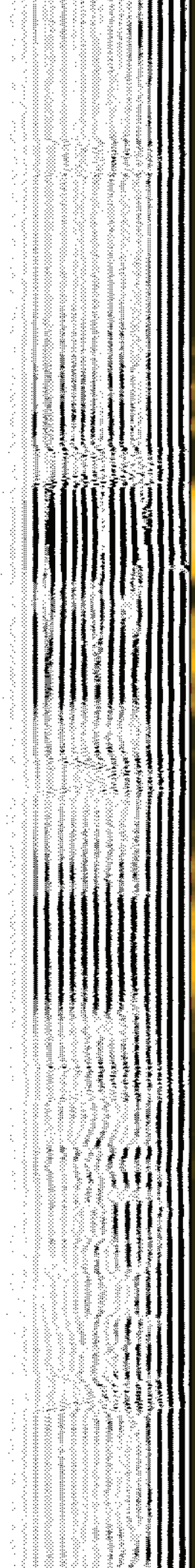
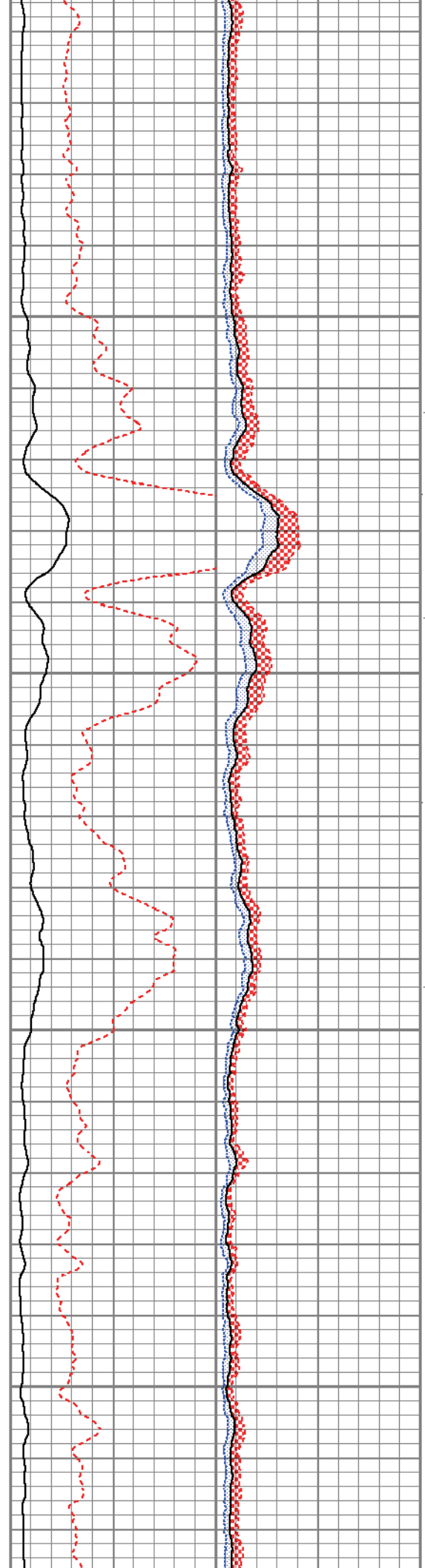
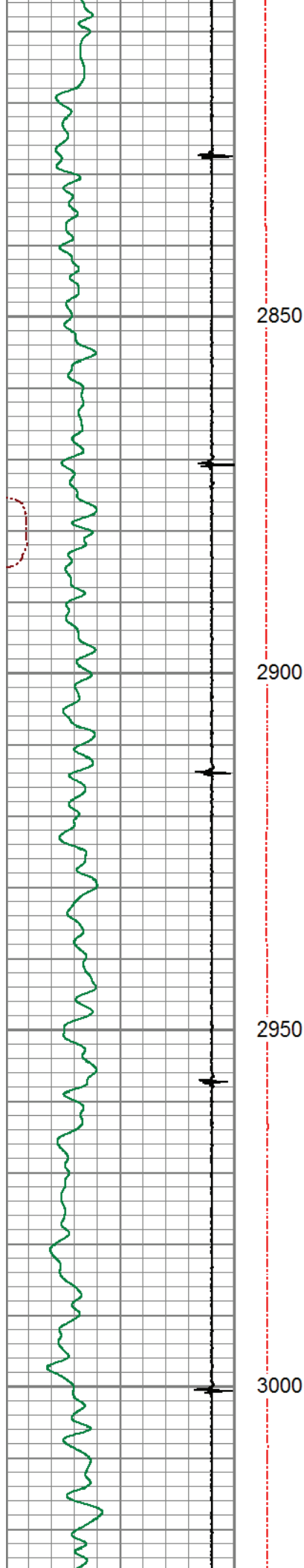
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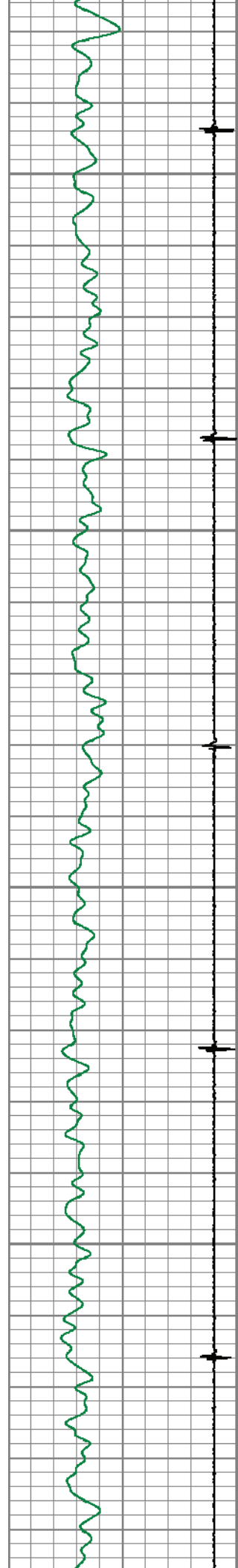
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2750

2800





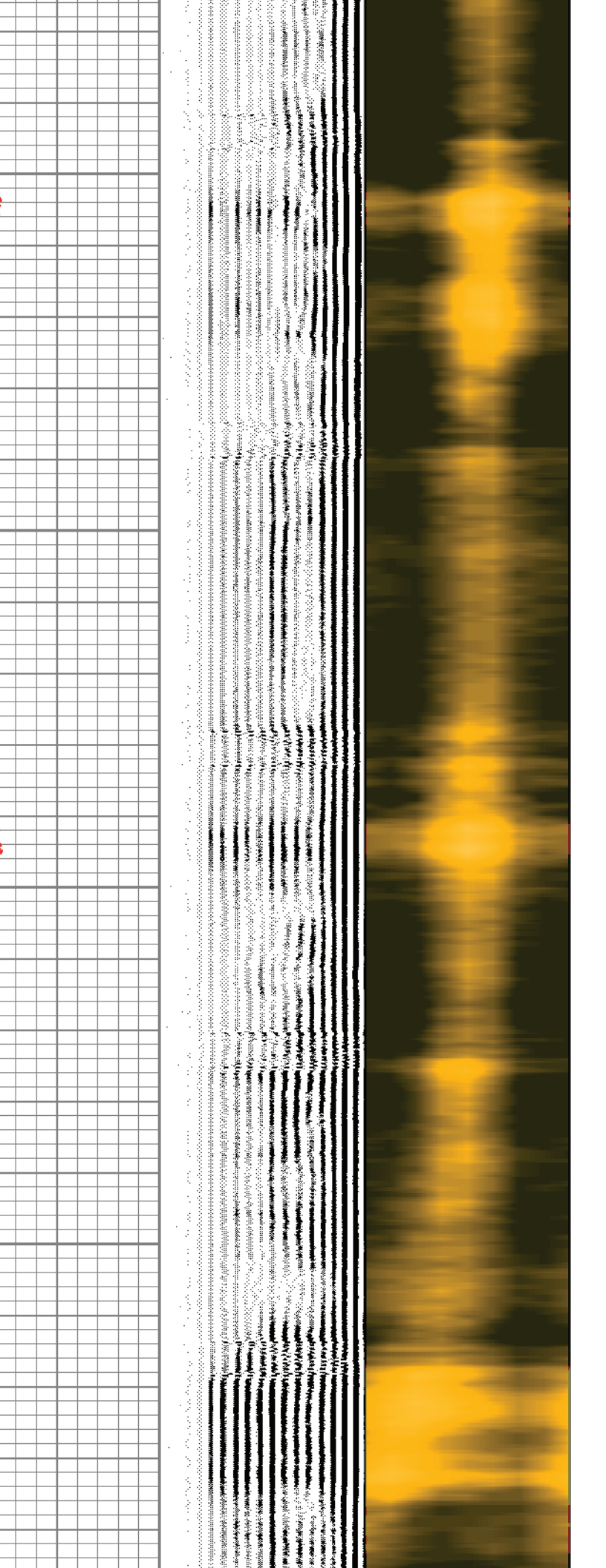
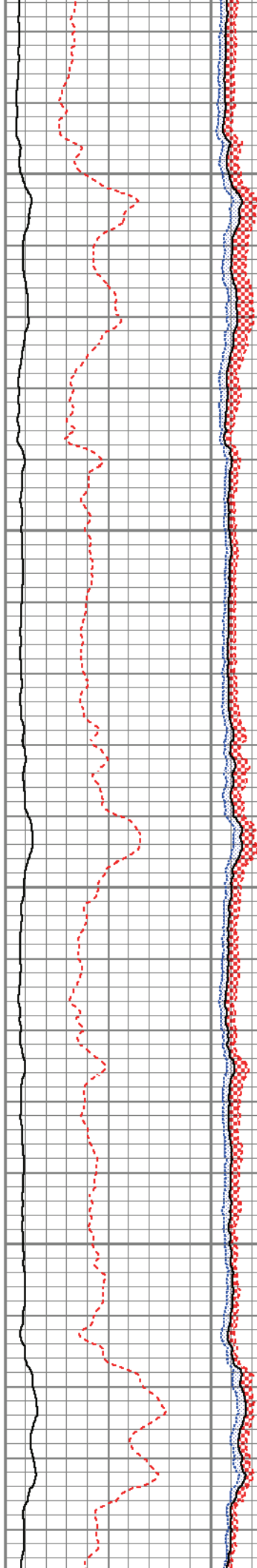


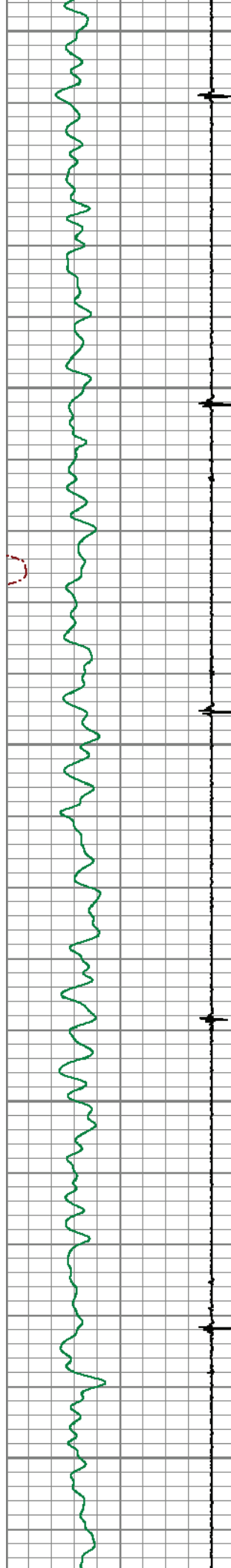
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3100

3150

3200





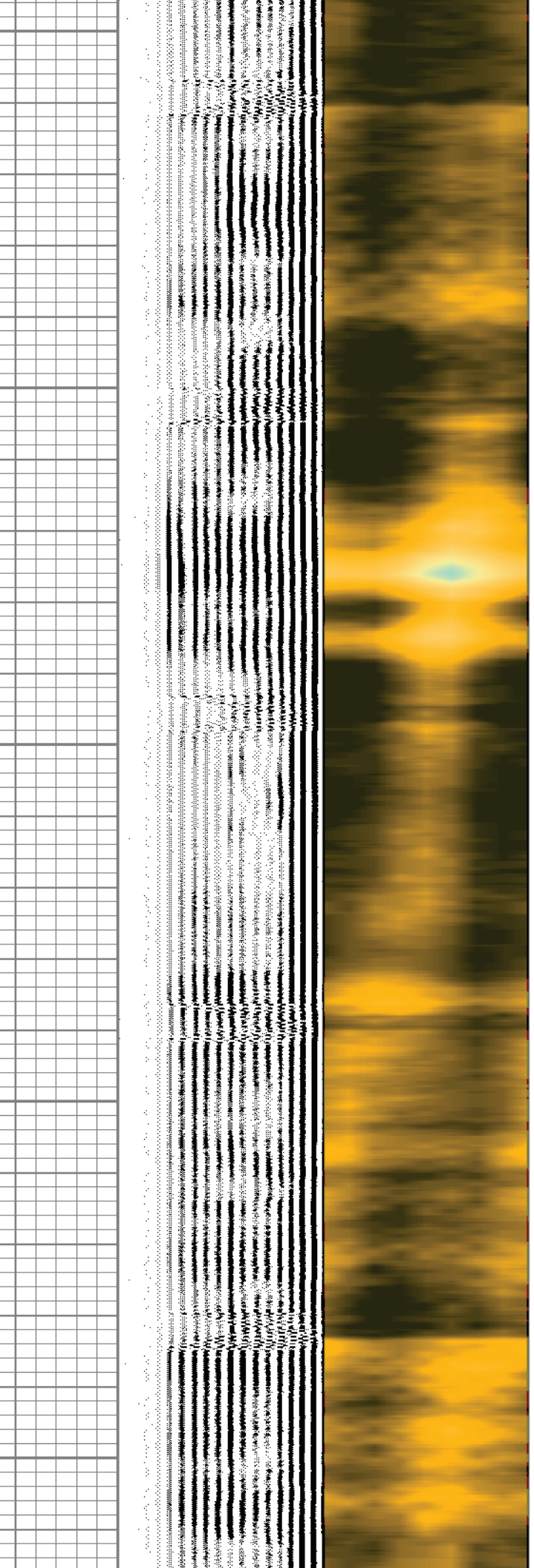
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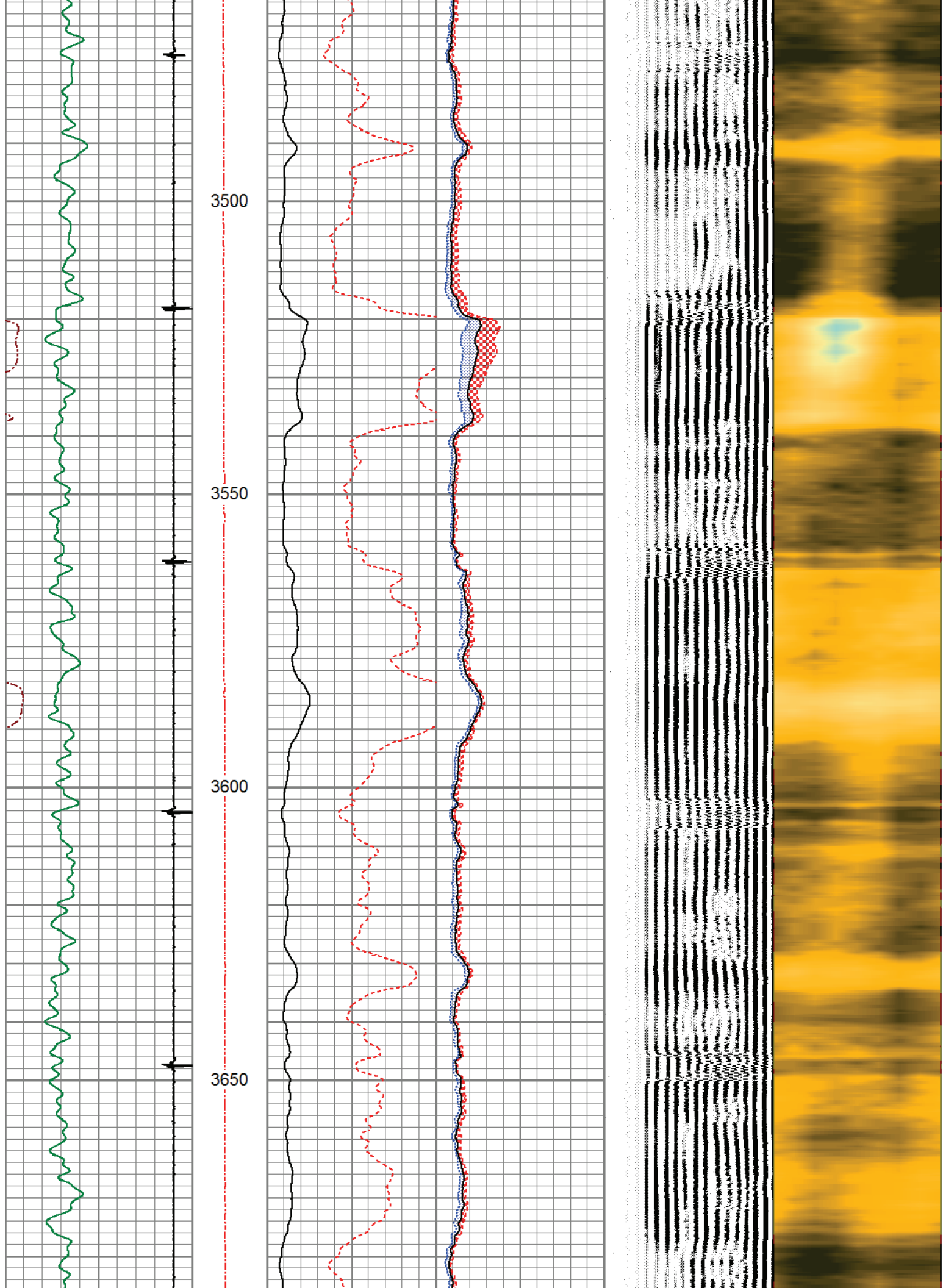
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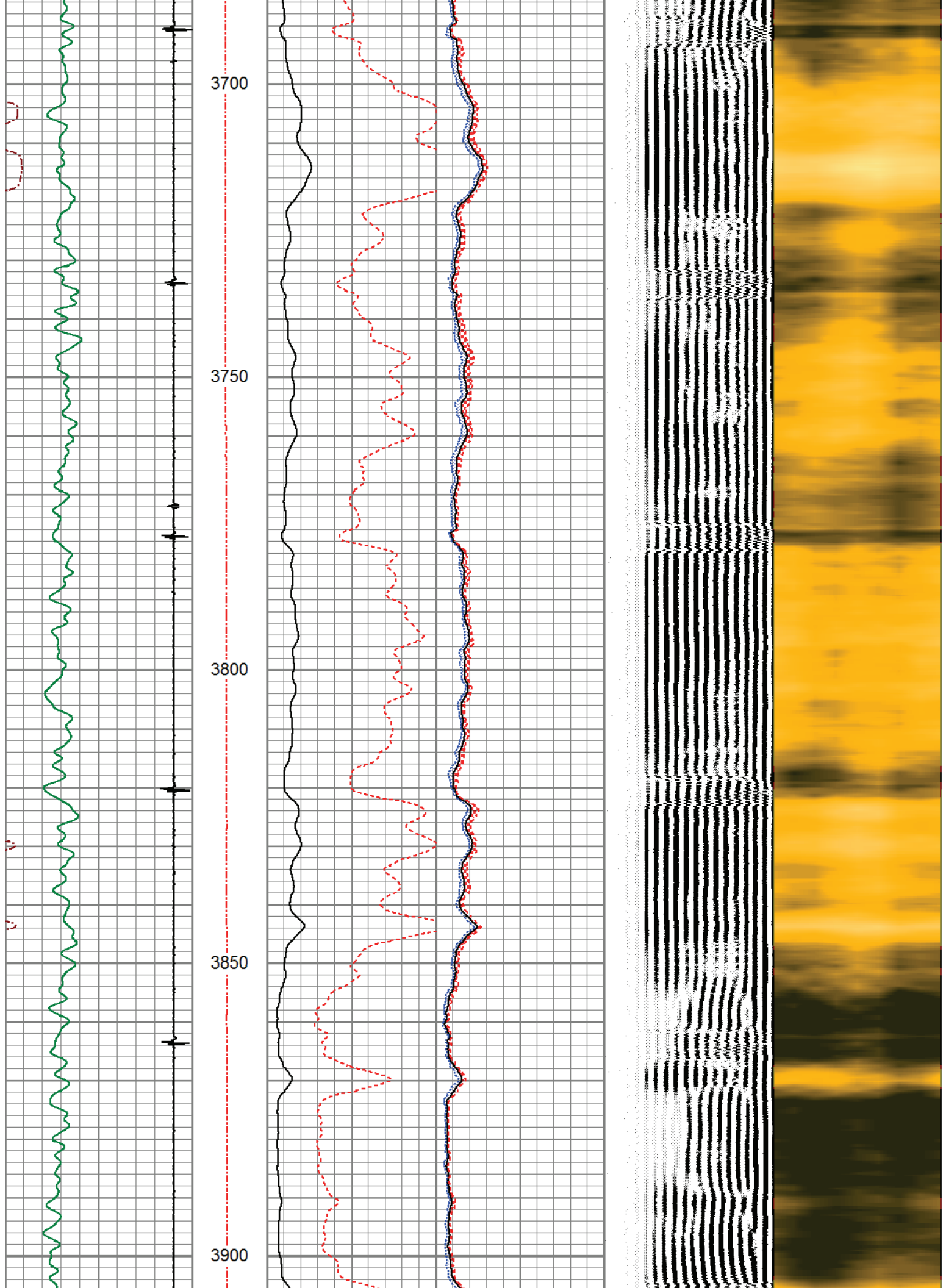
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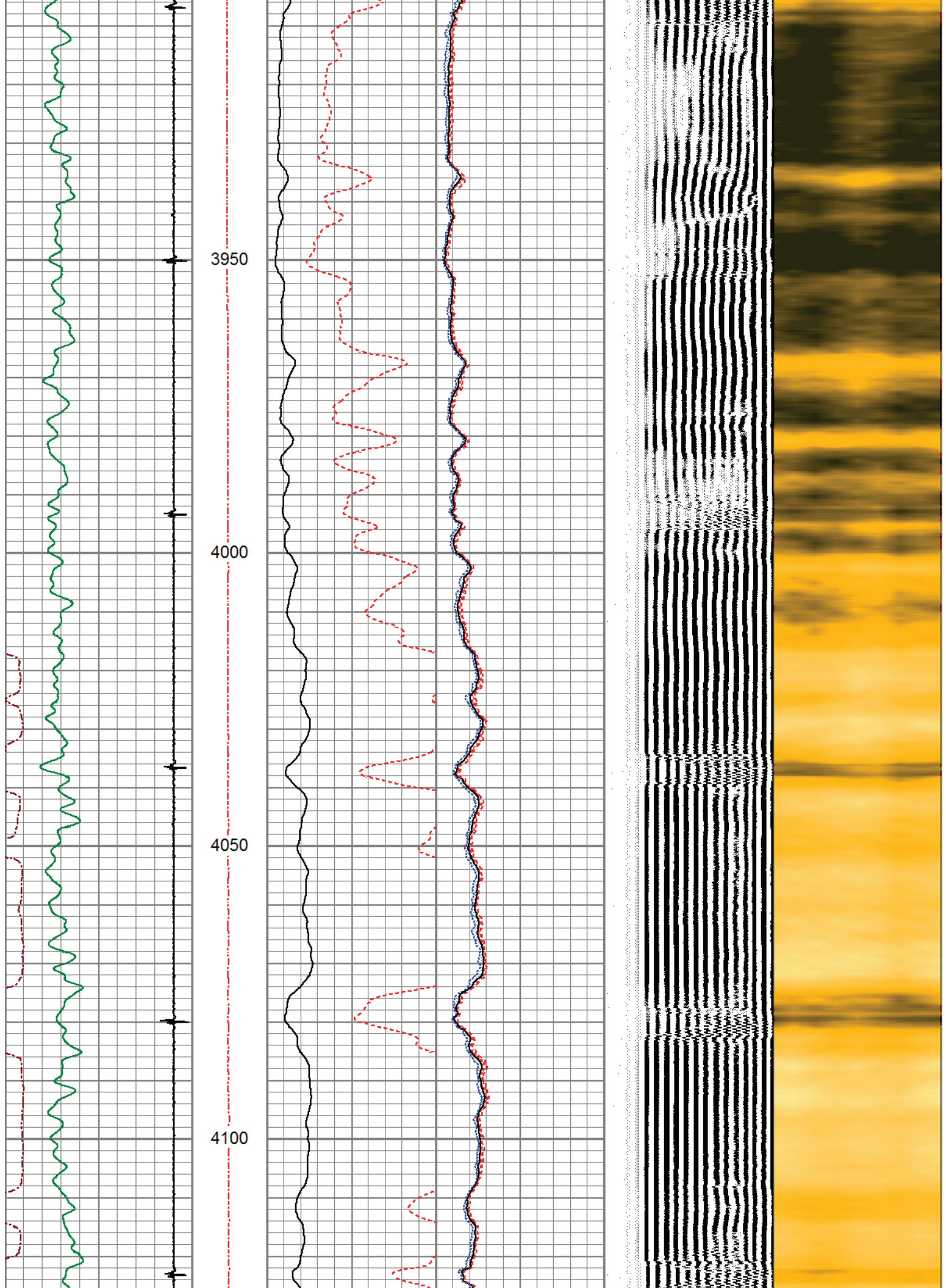
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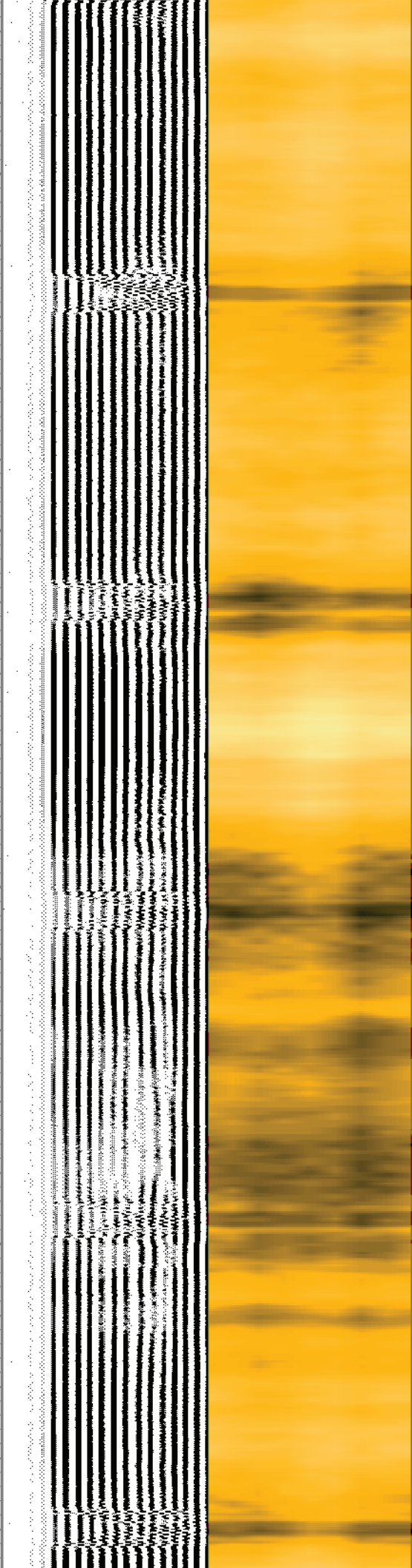
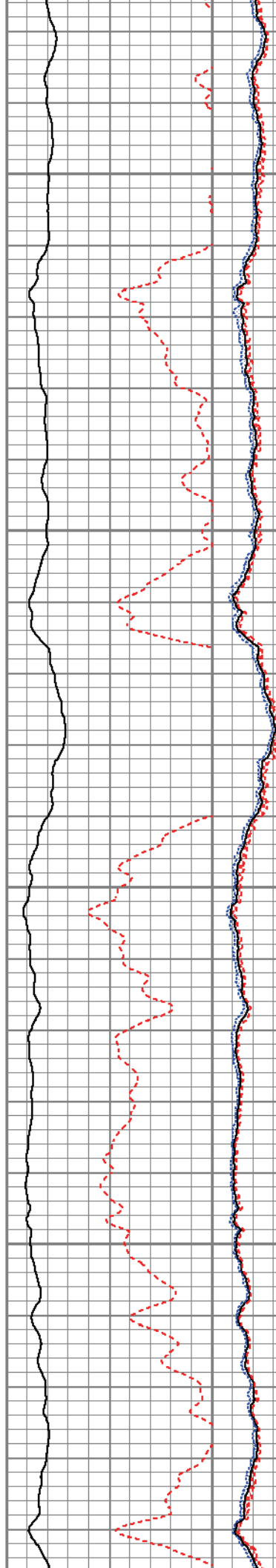
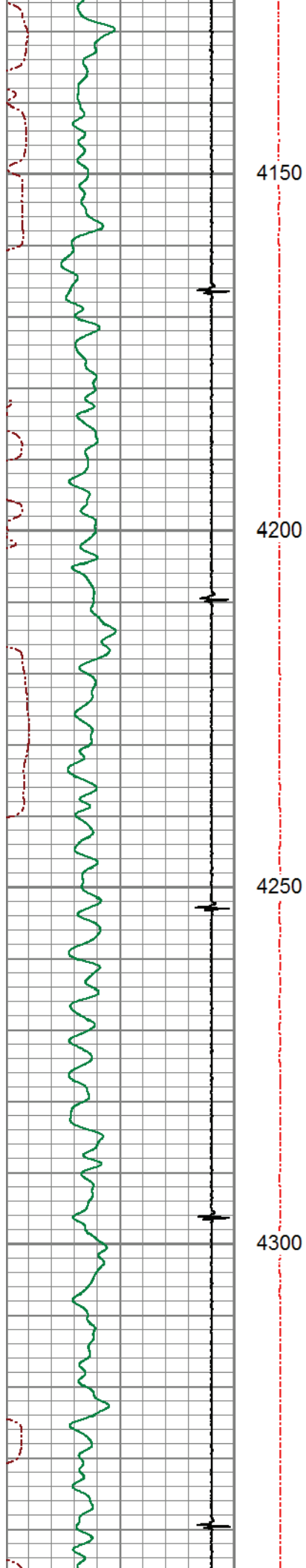
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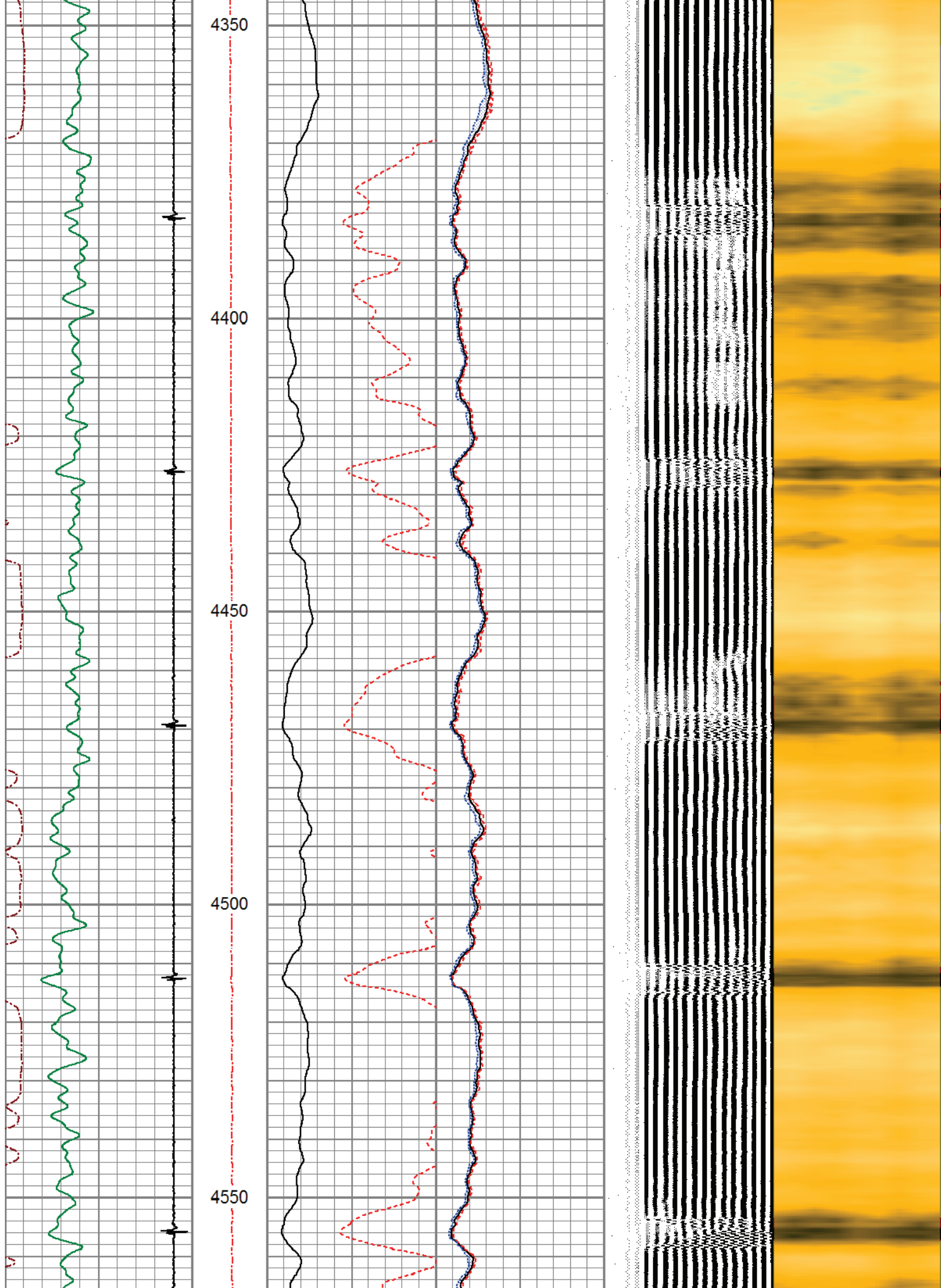


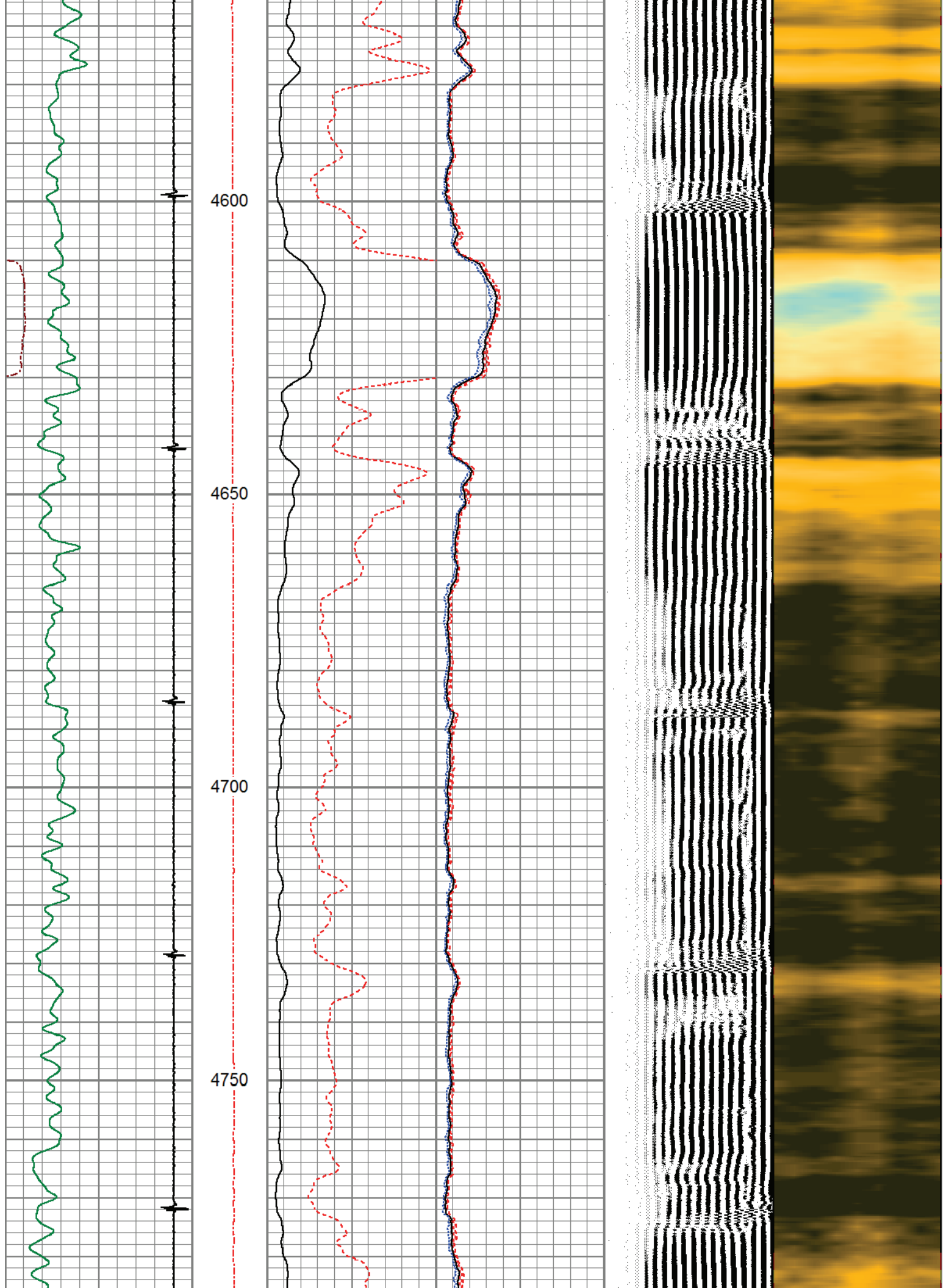


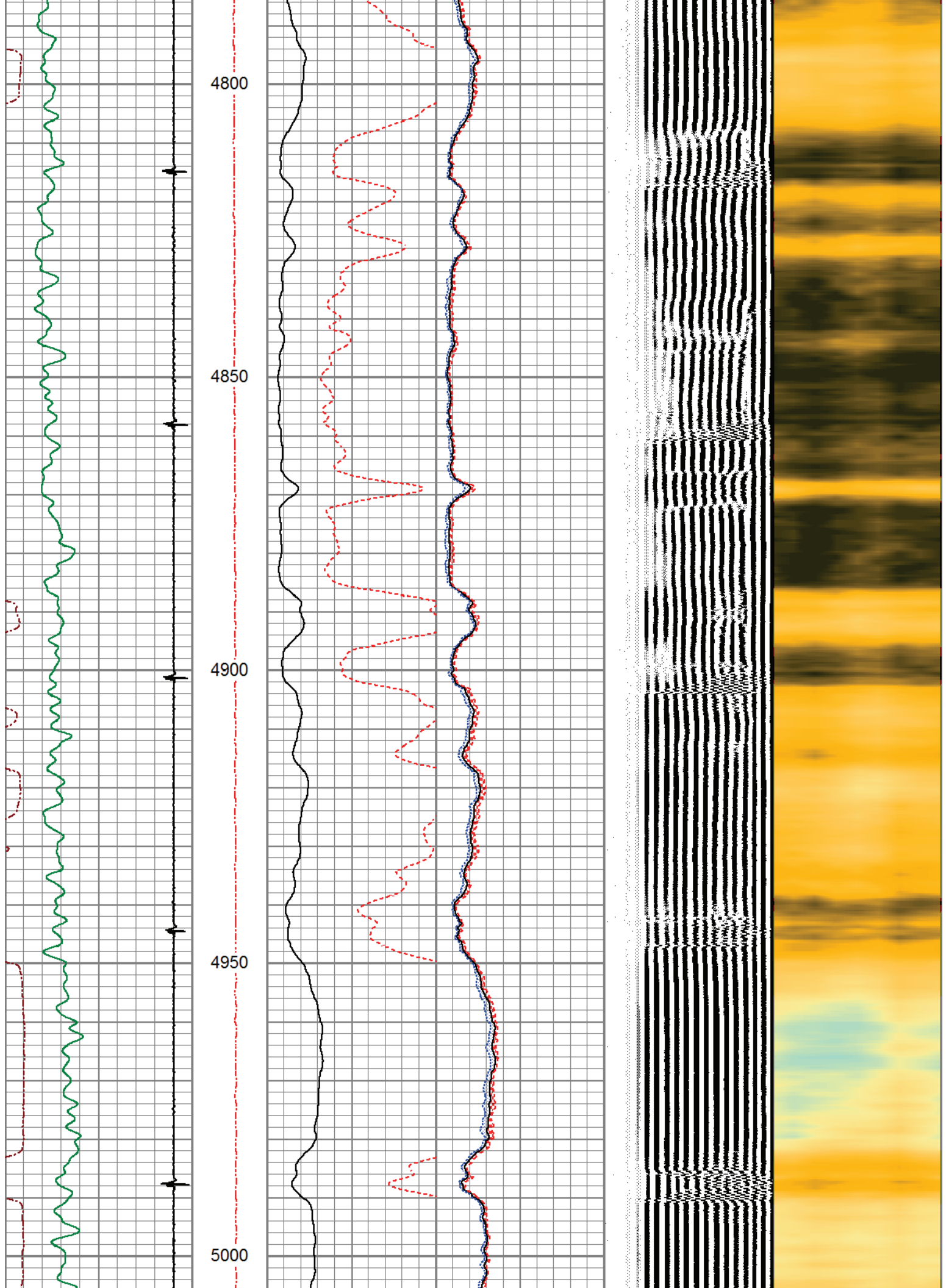


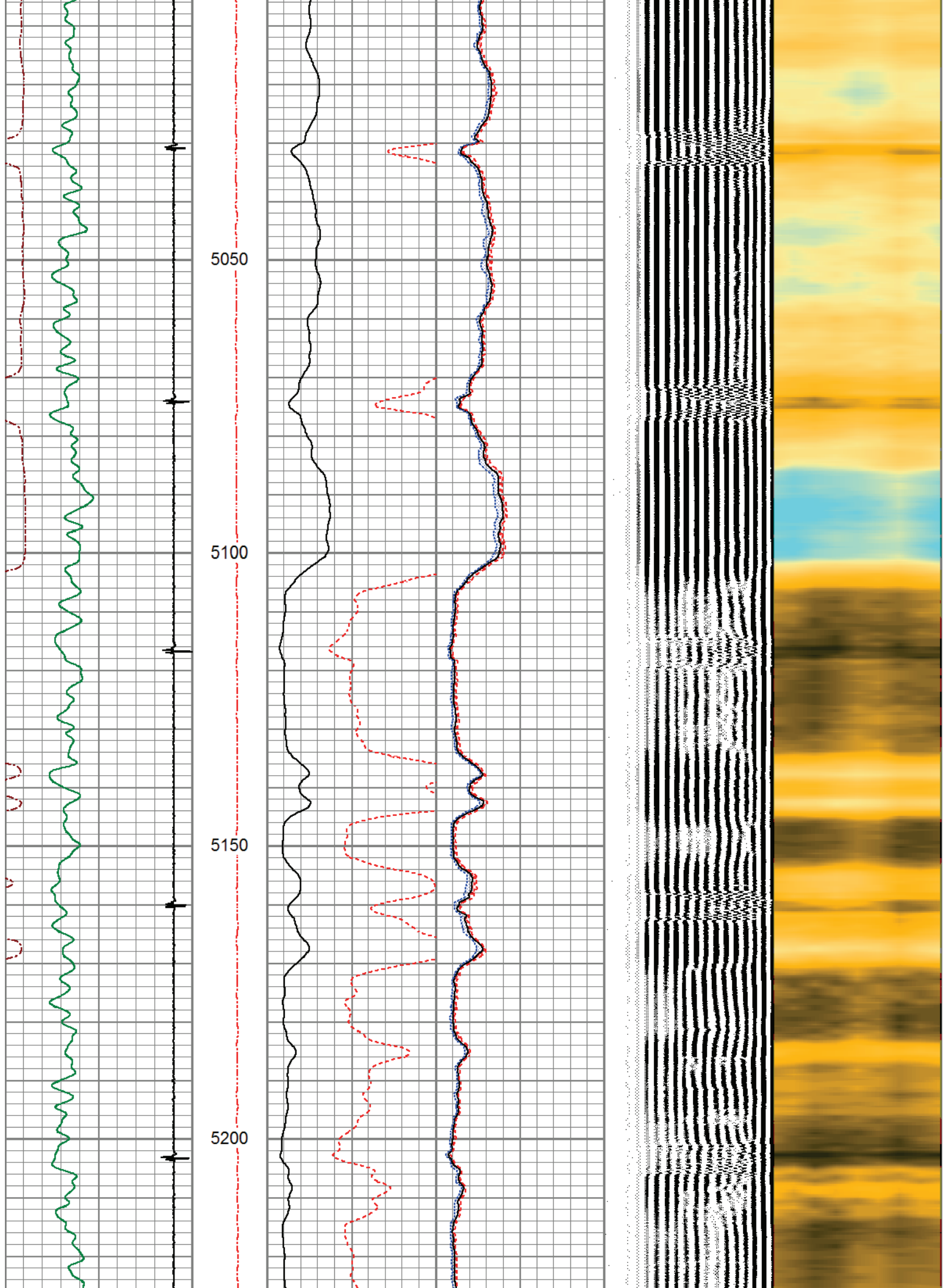


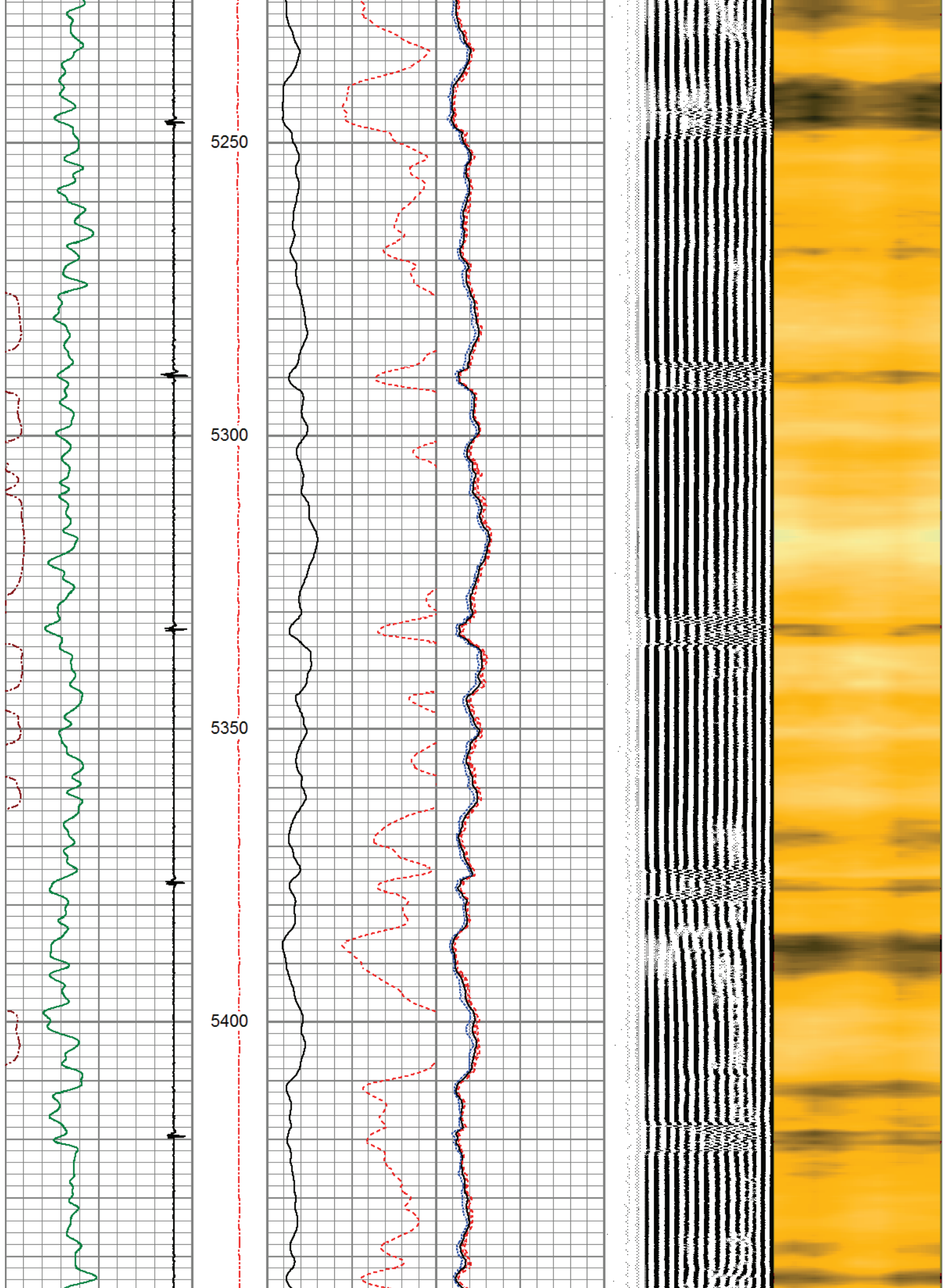


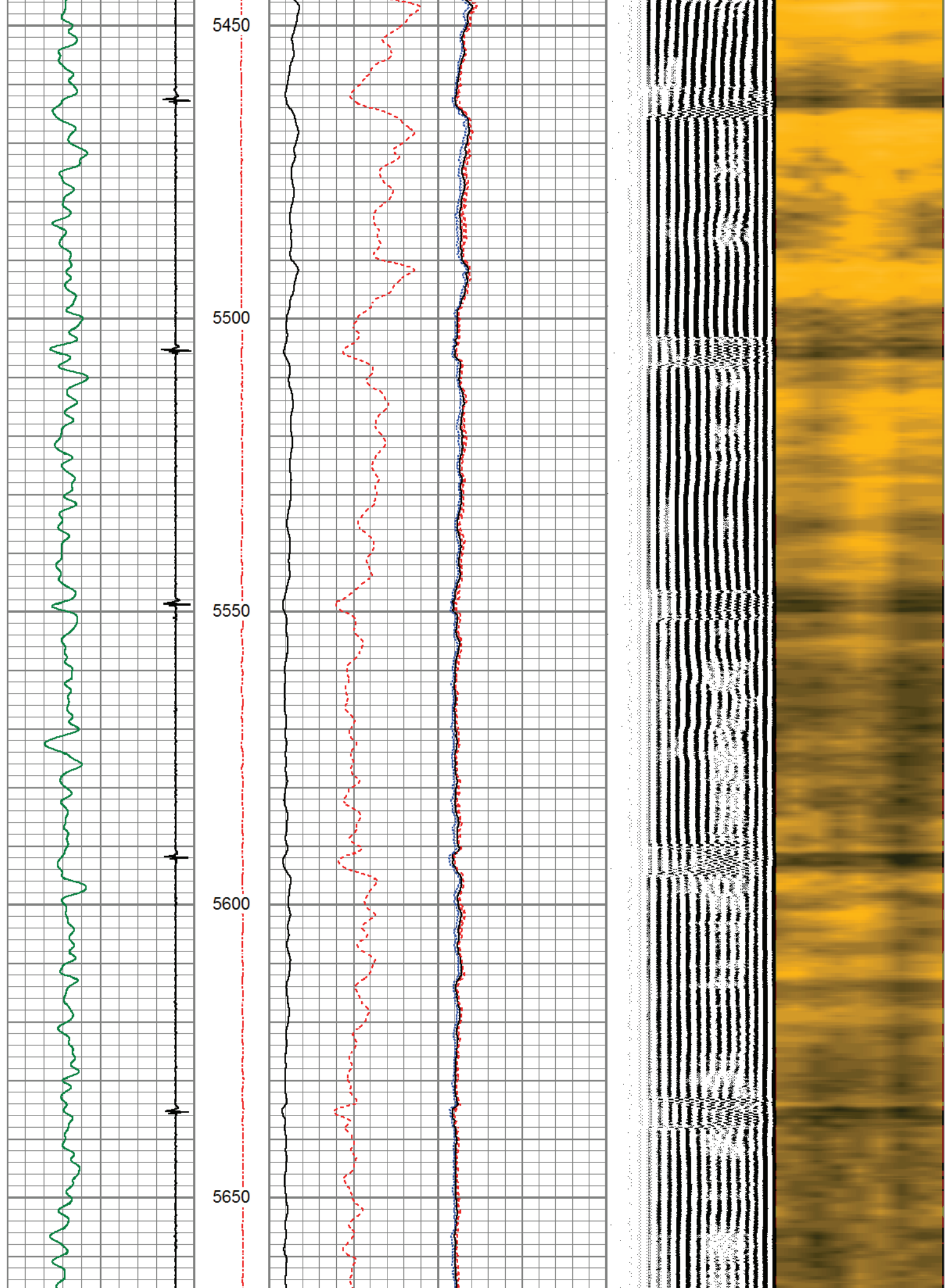


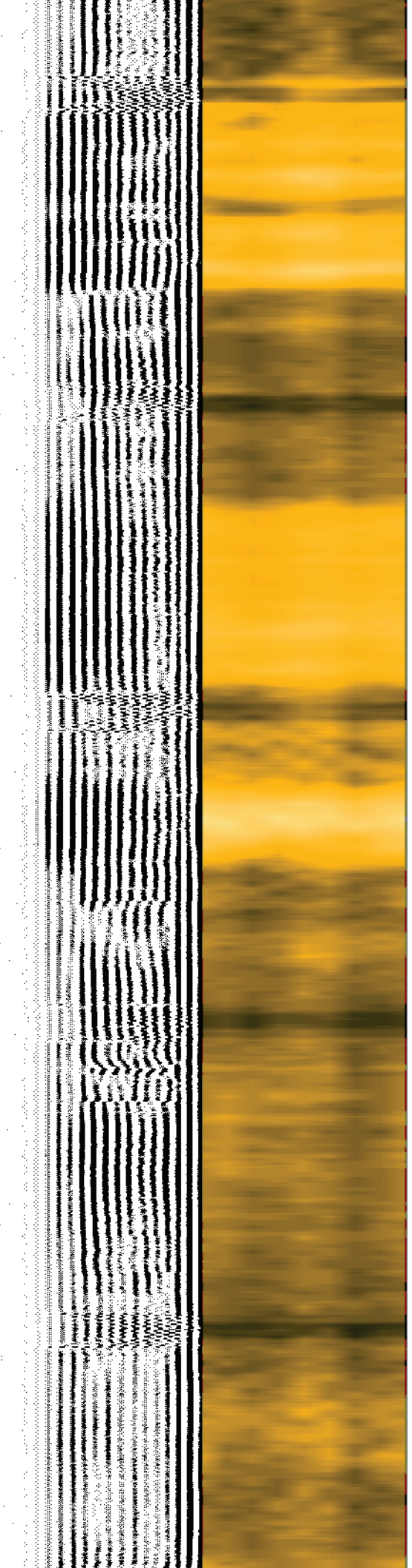
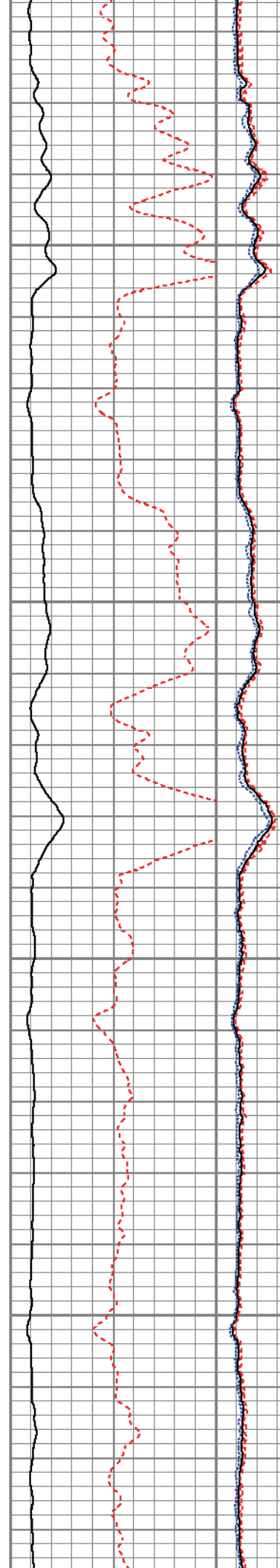
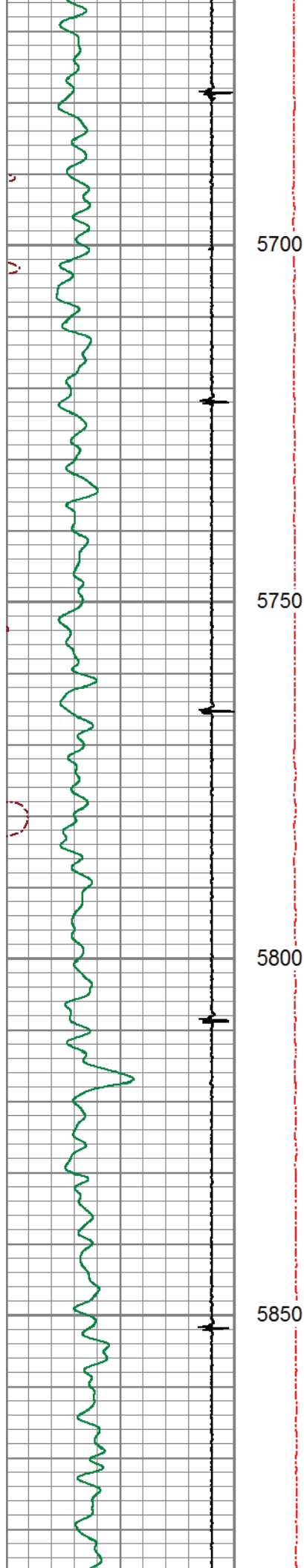


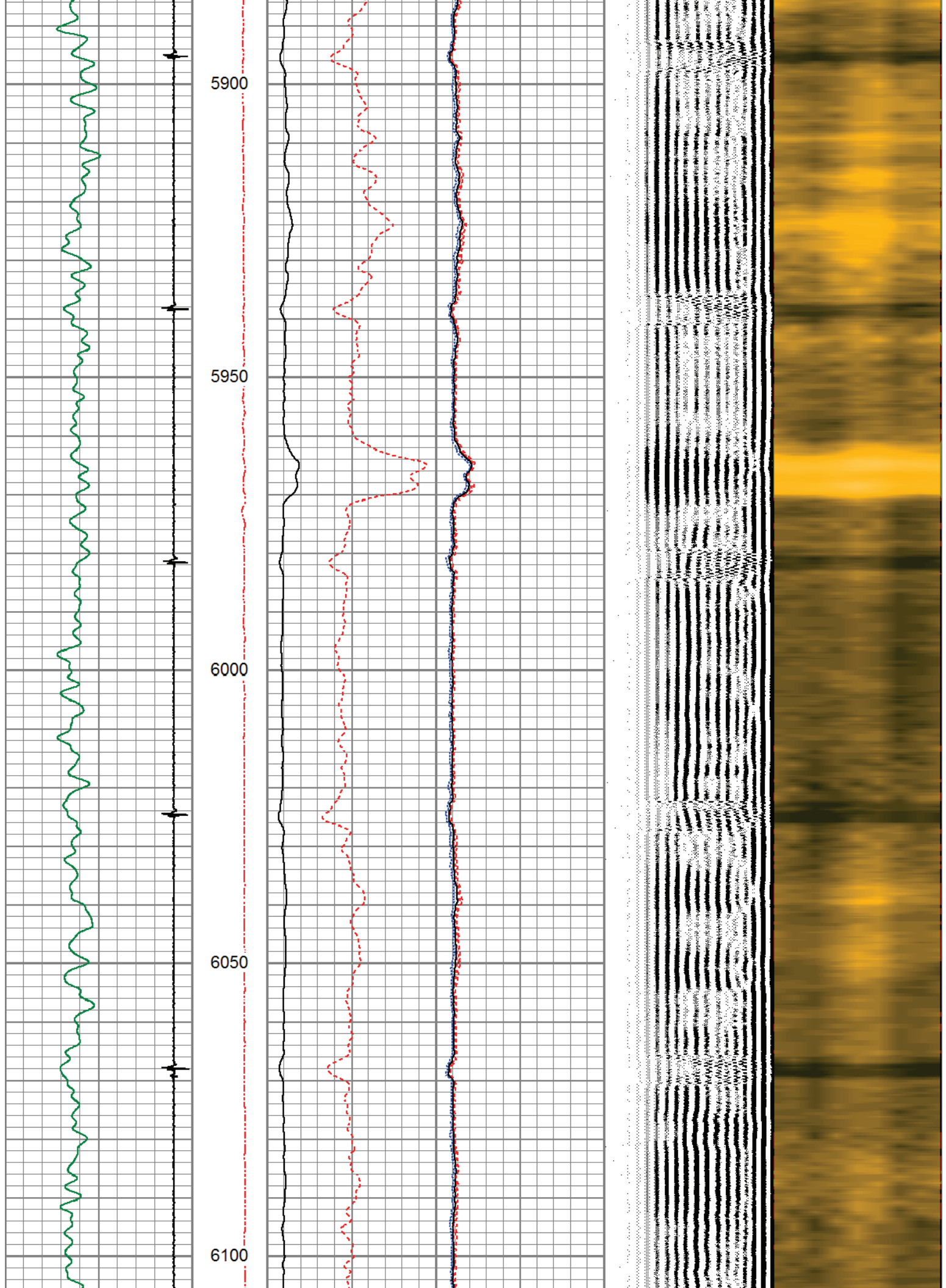


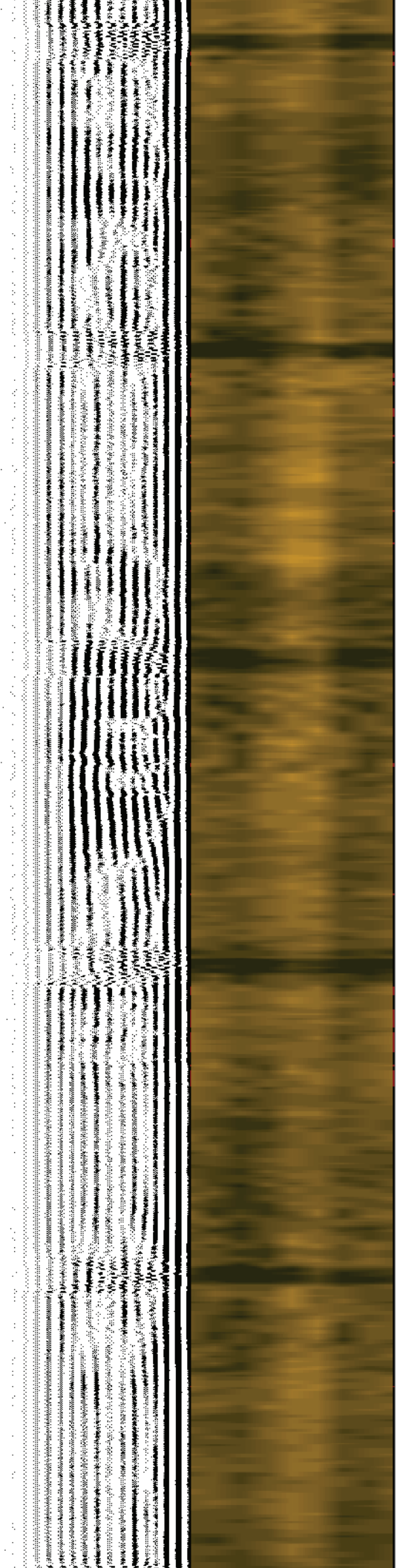
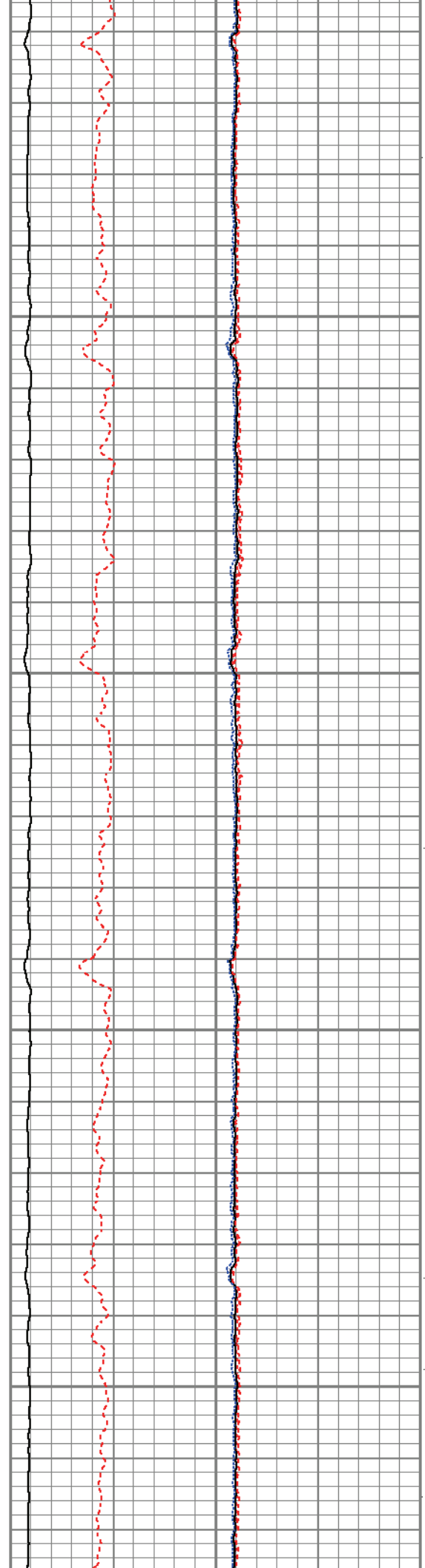
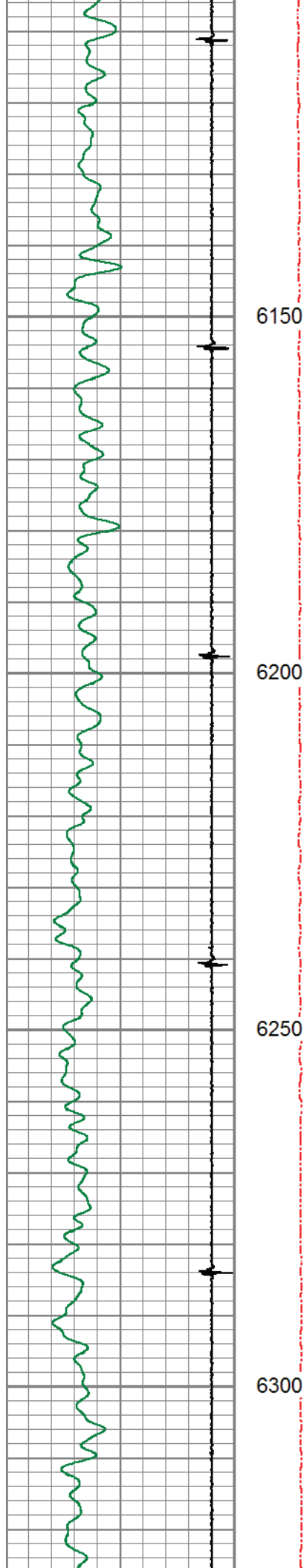


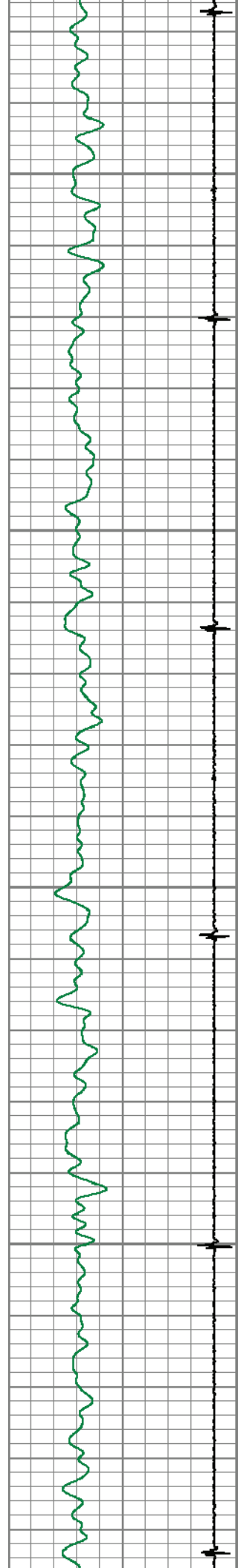










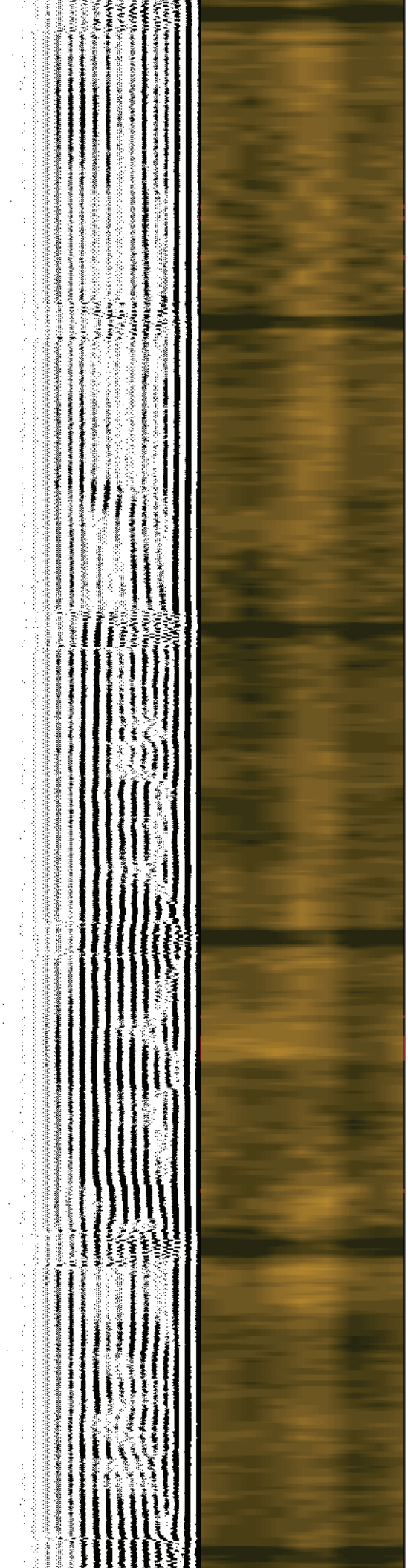
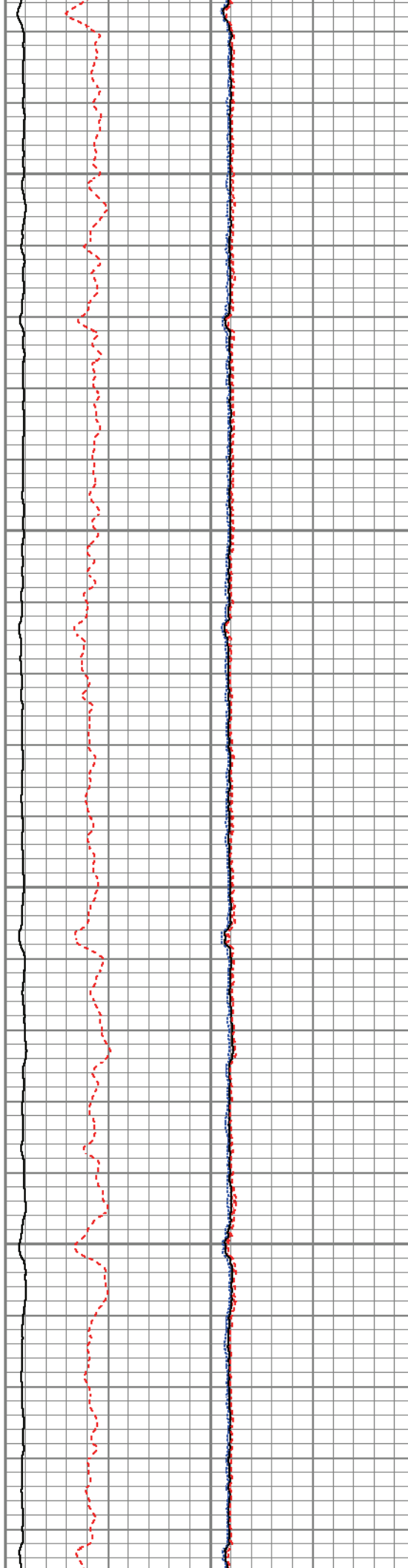


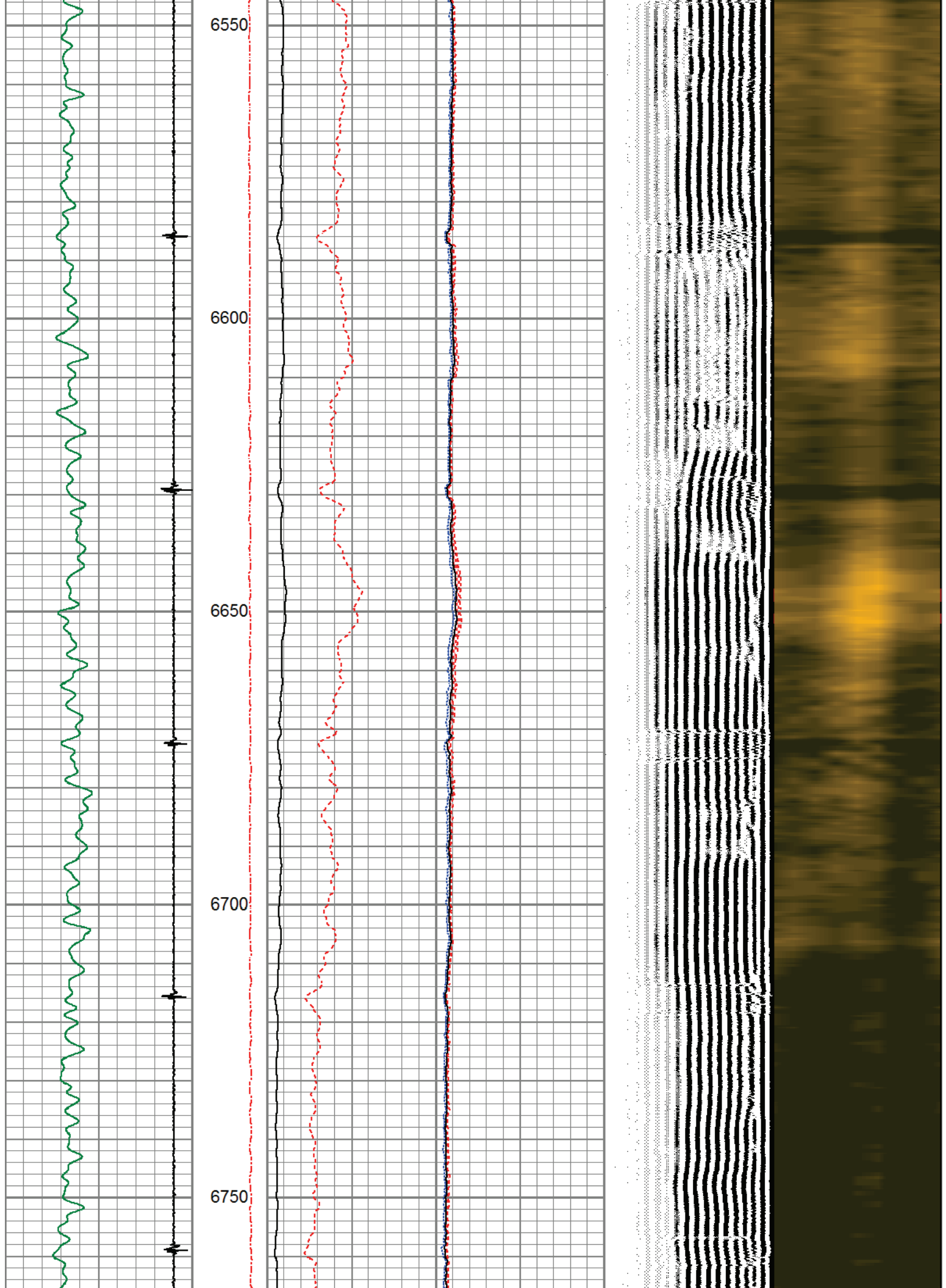
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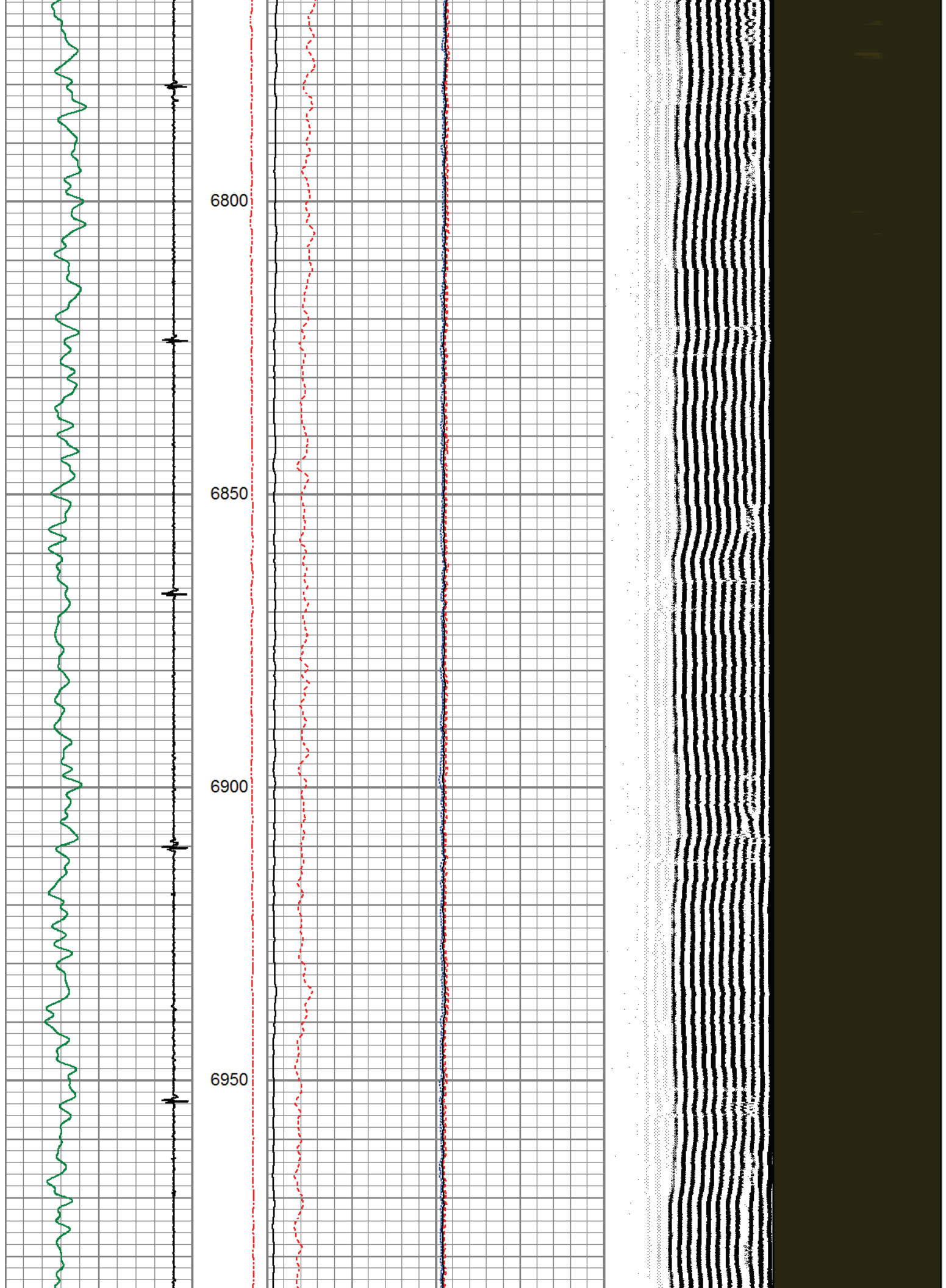
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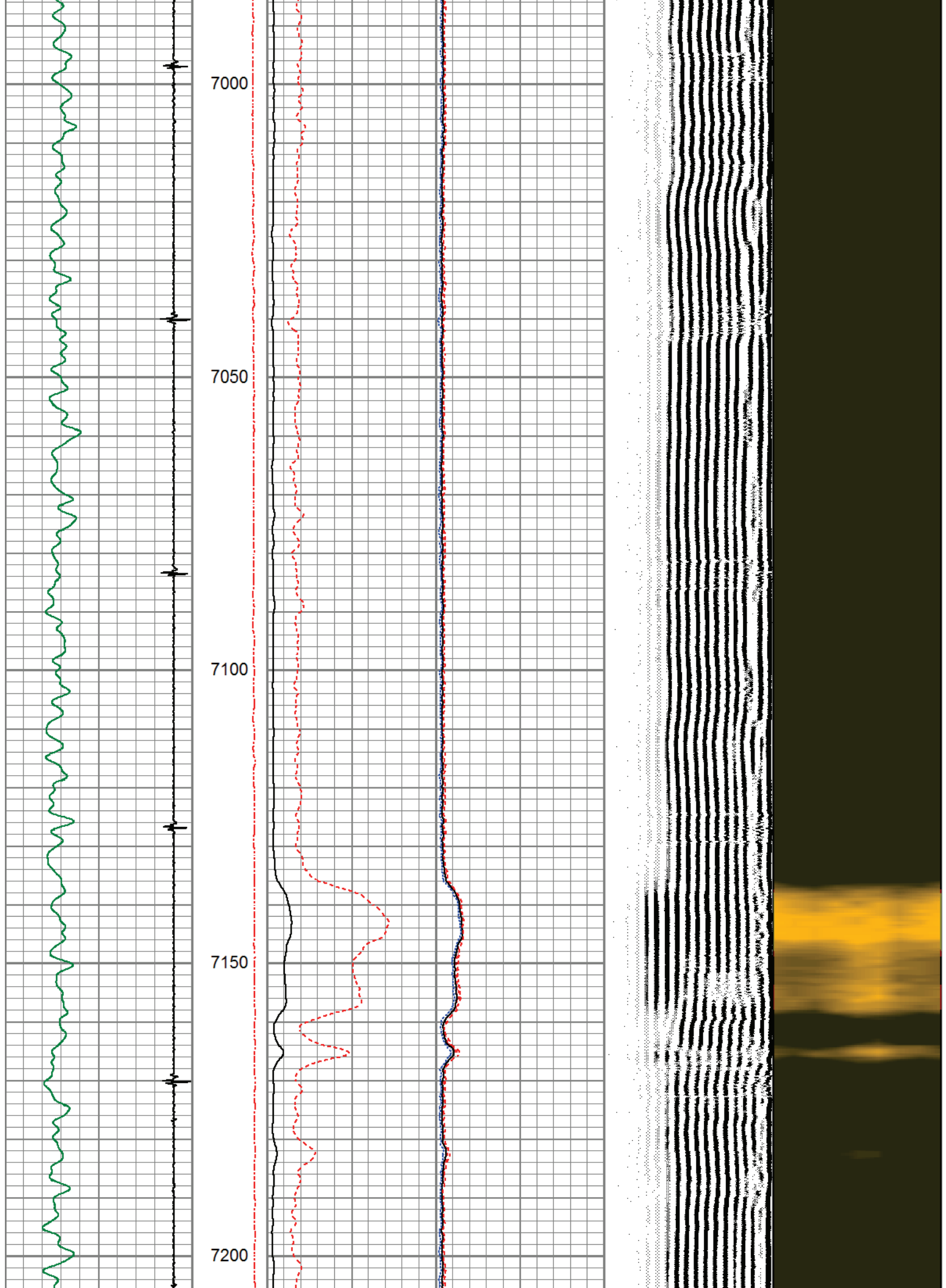
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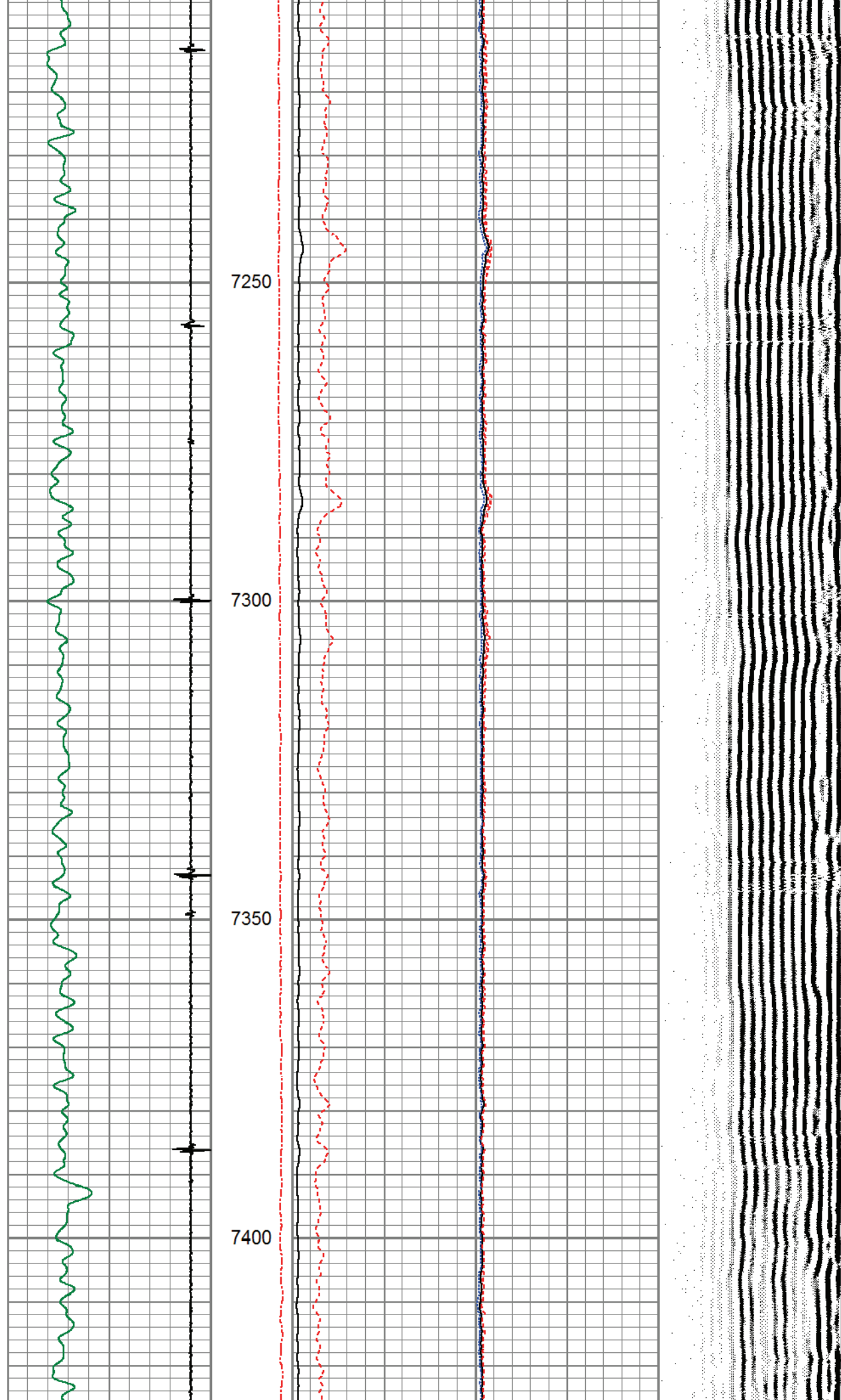
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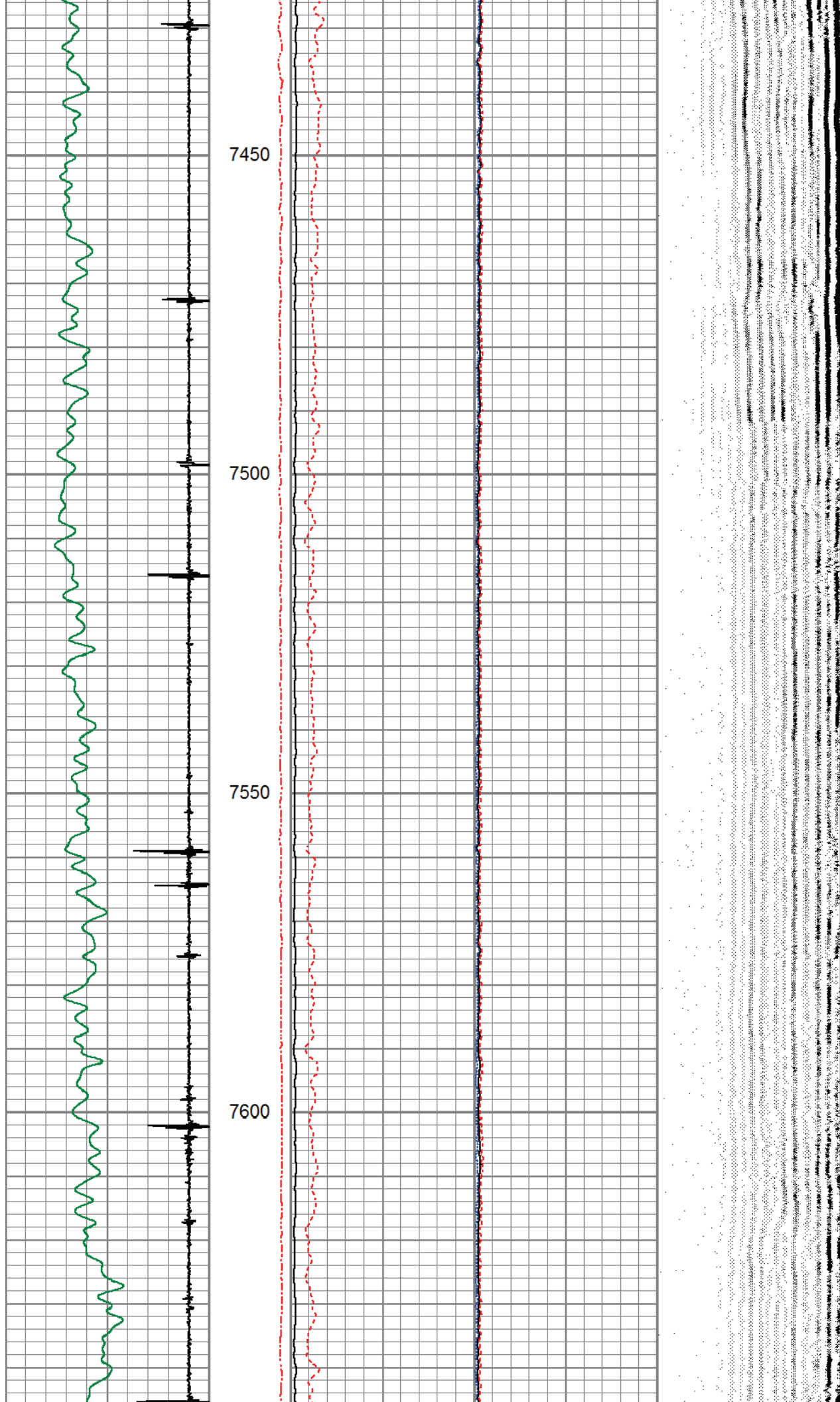


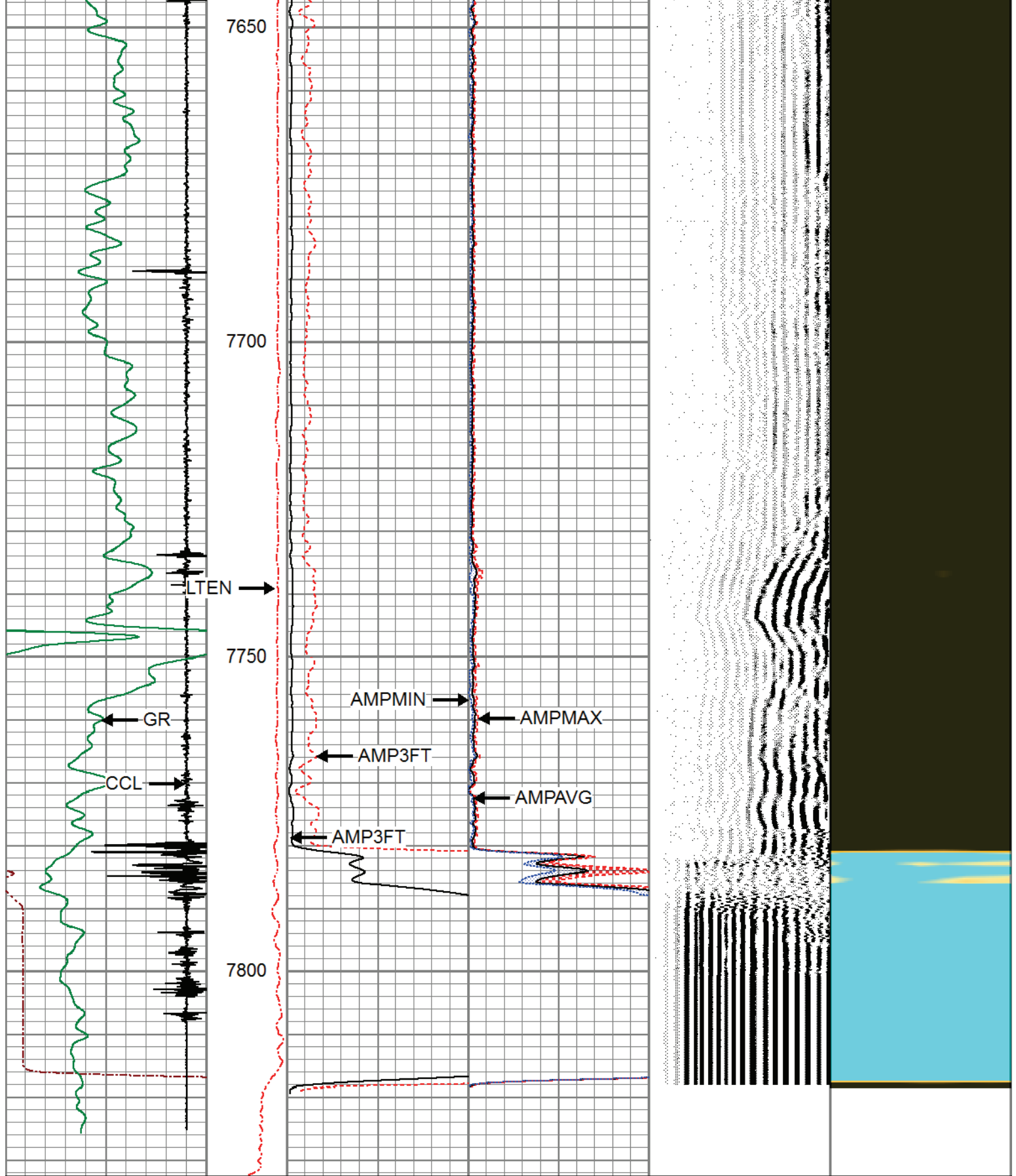
7450

7500

7550

7600





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

Sector
Amplitude Minimum
0 150



MAIN LOG

ZERO PSI APPLIED AT SURFACE

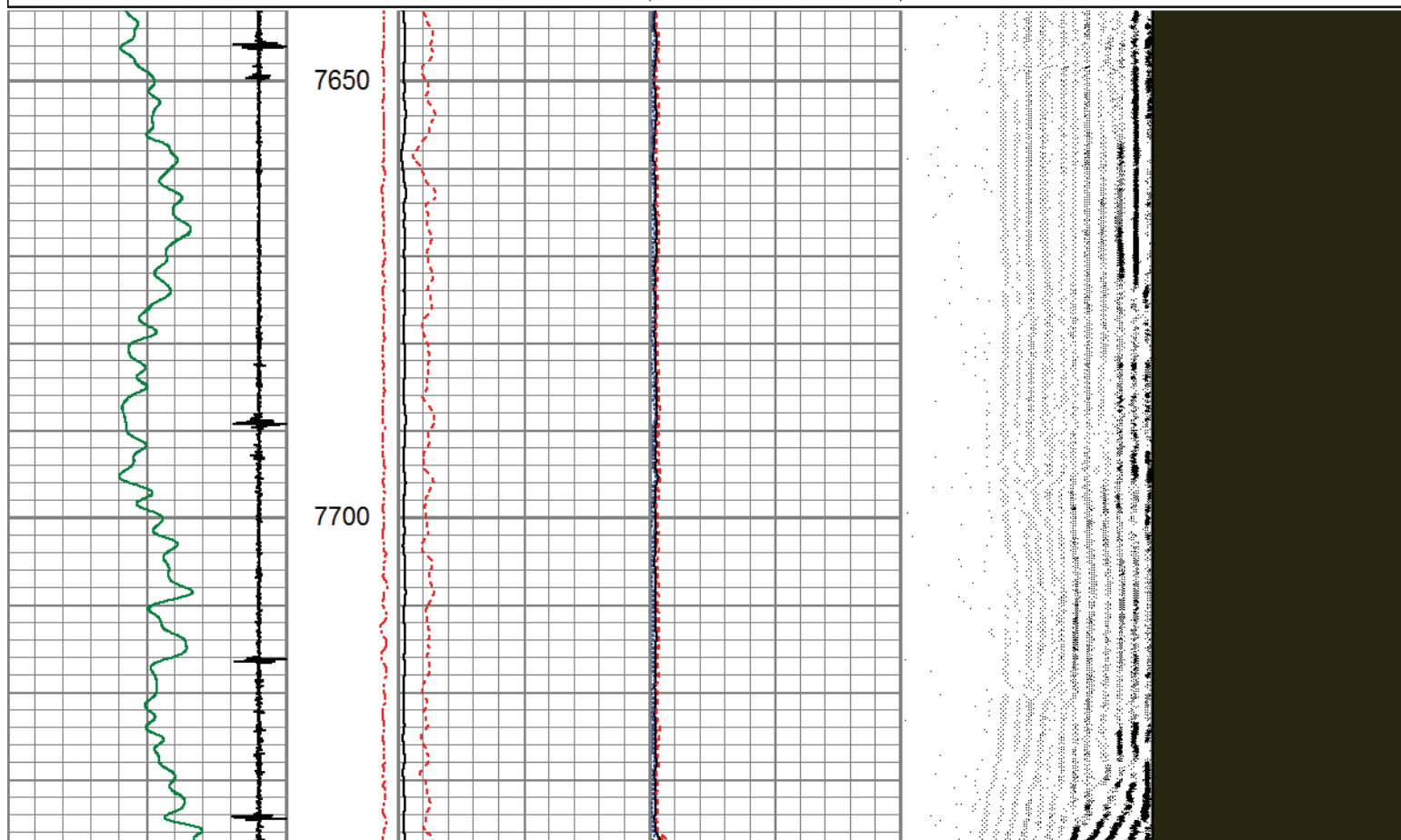


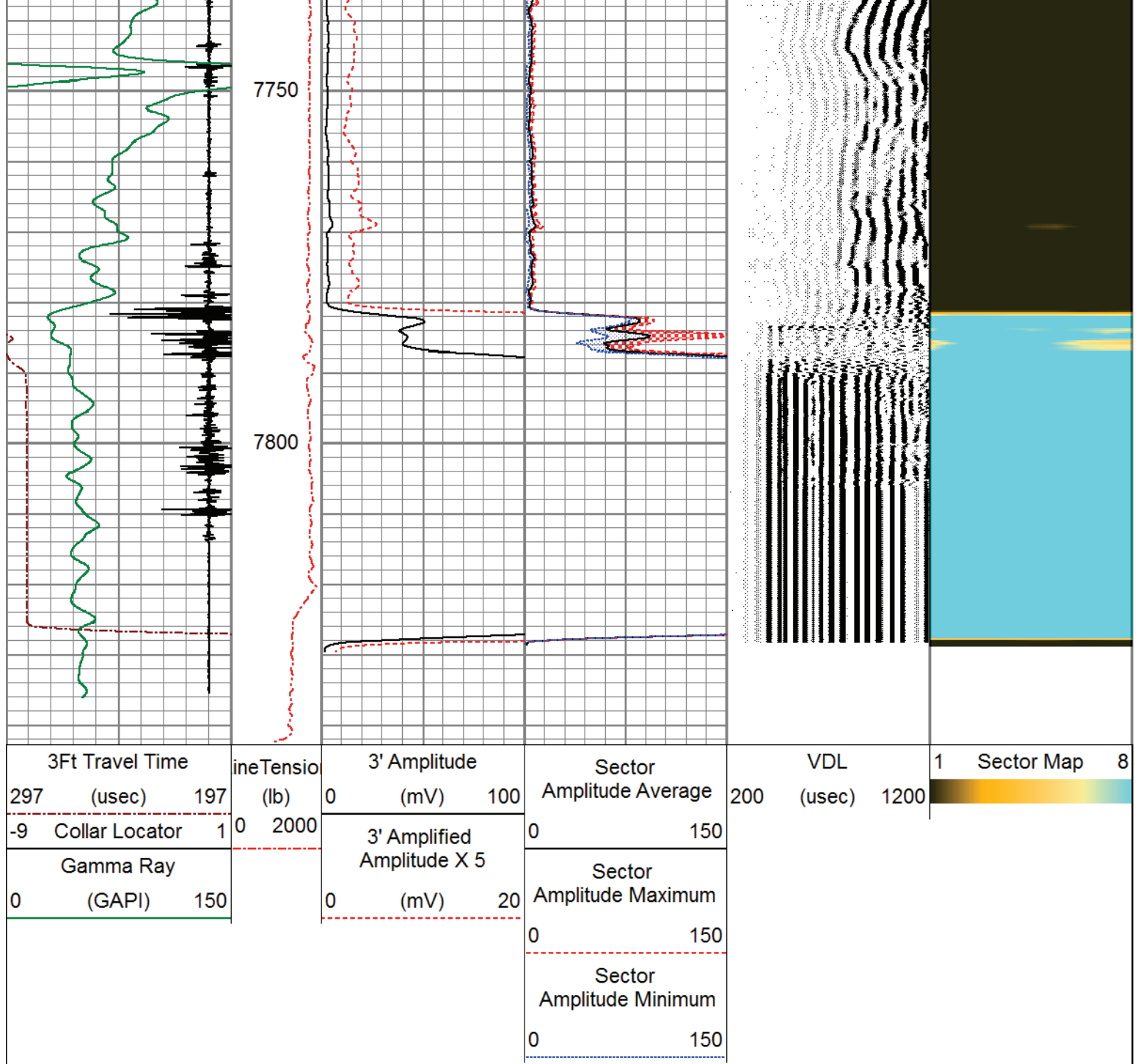
REPEAT SECTION

ZERO PSI APPLIED AT SURFACE

Database File highpoint_lion creek 23-0362b_05123_20180919_scbl.db
Dataset Pathname pass8.1
Presentation Format pinr_scbl
Dataset Creation Wed Sep 19 13:25:19 2018
Charted by Depth in Feet scaled 1:240

3Ft Travel Time			ineTensio	3' Amplitude		Sector Amplitude Average	VDL		1	Sector Map	8
297	(usec)	197		(lb)	(mV)		100	200			
-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			
							Sector Amplitude Minimum				
							0	150			





Calibration Report		
Database File	highpoint_lion creek 23-0362b_05123_20180919_scbl.db	
Dataset Pathname	pass9	
Dataset Creation	Wed Sep 19 11:12:56 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

Serial Number: FW1304-33
 Tool Model: RBL-DC
 Calibration Casing Diameter: 7.000 in
 Calibration Depth: 7495.050 ft

Master Calibration, performed Wed Sep 19 11:02:50 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.024	1.026	1.000	62.165	61.022	-0.465
CAL	0.010	1.500				
5'	0.025	1.228	1.000	62.165	50.854	-0.261
SUM						
S1	0.035	1.070	0.000	100.000	96.576	-3.382
S2	0.025	1.048	0.000	100.000	97.738	-2.433
S3	0.036	0.948	0.000	100.000	109.576	-3.900
S4	0.042	0.924	0.000	100.000	113.395	-4.795
S5	0.047	0.921	0.000	100.000	114.450	-5.368
S6	0.039	0.967	0.000	100.000	107.730	-4.186
S7	0.029	1.005	0.000	100.000	102.545	-3.024
S8	0.020	1.110	0.000	100.000	91.726	-1.792

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



Company HIGHPOINT OPERATING CORP.
 Well LION CREEK 23-0362B
 Field HEREFORD
 County WELD
 State COLORADO