



PIONEER

Pioneer Energy Services

**CEMENT BOND LOG
WITH GAMMA RAY**

Company **GRIZZLY OPERATING LLC**
Well **GOZA 18-2Ae**
Field **WATTENBERG**
County **WELD** State **COLORADO**

Comp. **GRIZZLY OPERATING LLC**
Well **GOZA 18-2Ae**
Field **WATTENBERG**
Co. **WELD**
State **COLORADO**

Location: **API # : 05-123-38401**
SHL: 1728' FSL X 711' FEL NESE SEC18 T6N R65W
BHL: 5' FNL X 1312' FEL NENE SEC19 T6N R65W
SEC **TWP** RGE **NONE**
Permanent Datum **GROUND LEVEL** Elevation **4756'**
Log Measured From **KB** Above Perm. Datum
Drilling Measured From **KB** G.L. **4756'**

Date of Service	1/5/16		
Run Number	ONE		
Depth Driller or PBTD	7640'		
Depth Logger	7572'		
Bottom Log Interval	7570'		
Top Log Interval	SURFACE		
Open Hole Size	7 7/8"		
Type Fluid	FSW		
Fluid Level	SURFACE		
Fluid Density	NA		
Max. Recorded Temperature	NA		
Max. Wellhead Pressure	0# PSI		
Wellhead Connection	PACK OFF		
Estimated Cement Top	SEE LOG		
Unit Number	1		
Wireline Size	9/32"		
Location	FORT MORGAN		
Recorded By	SCHUMAN	SCHMIDT	
Witnessed By	JEFF REALE		
	Size	Wt/Ft	Top
Tubing Record			Bottom
Surface Casing	8 5/8"	24#	SURFACE 564'
Production Casing	4.5"	11.6#	SURFACE NA
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 OPEN HOLE LOG NOV 11/2015


THANK YOU FOR USING PIONEER ENERGY SERVICES!


Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: S SCHUMAN; J SCHMIDT Operator: J DAS Operator: G JOJOLA Operator:	CBL GR	070132 111211

Top - Bottom

BHTEMP_Src TEMP	PPT usec 0	CASEWGHT lb/ft 11.6	MAXAMPL mV 0	MINAMPL mV 1	MINATTN db/ft 0.08	SRFTEMP degF 0
CASETHCK in 0	CASEOD in 4.5	PERFS 0	TDEPTH ft 0	BOTTEMP degF 100	BOREID in 7.875	

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CHD-STNDRD Standard Cable Head	1.00	1.69	10.00
			CENT-PTS275	2.83	2.75	
WVFS8	11.71		RBT-Probe (070132_4in) Probe Radii Bond Tool with Digital Telemetry	8.92	2.75	90.00
WVFS7	11.71					
WVFS6	11.71					
WVFS5	11.71					
WVFS4	11.71					
WVFS3	11.71					
WVFS2	11.71					
WVFS1	11.71					
WVFCAL	11.71					
WVF3FT	11.71					
WVF5FT	10.63					
HEADVOLT	7.38					
			CENT-PTS275	2.83	2.75	
CCL	3.63					

GR	2.30		GR_CCL-Probe (111211) Probe Gamma CCL	4.54	2.75	100.00
Dataset: GOZA 18-2Ae_CBL.db: field/well/run1/pass4 Total length: 20.13 ft Total weight: 200.00 lb O.D.: 2.75 in						

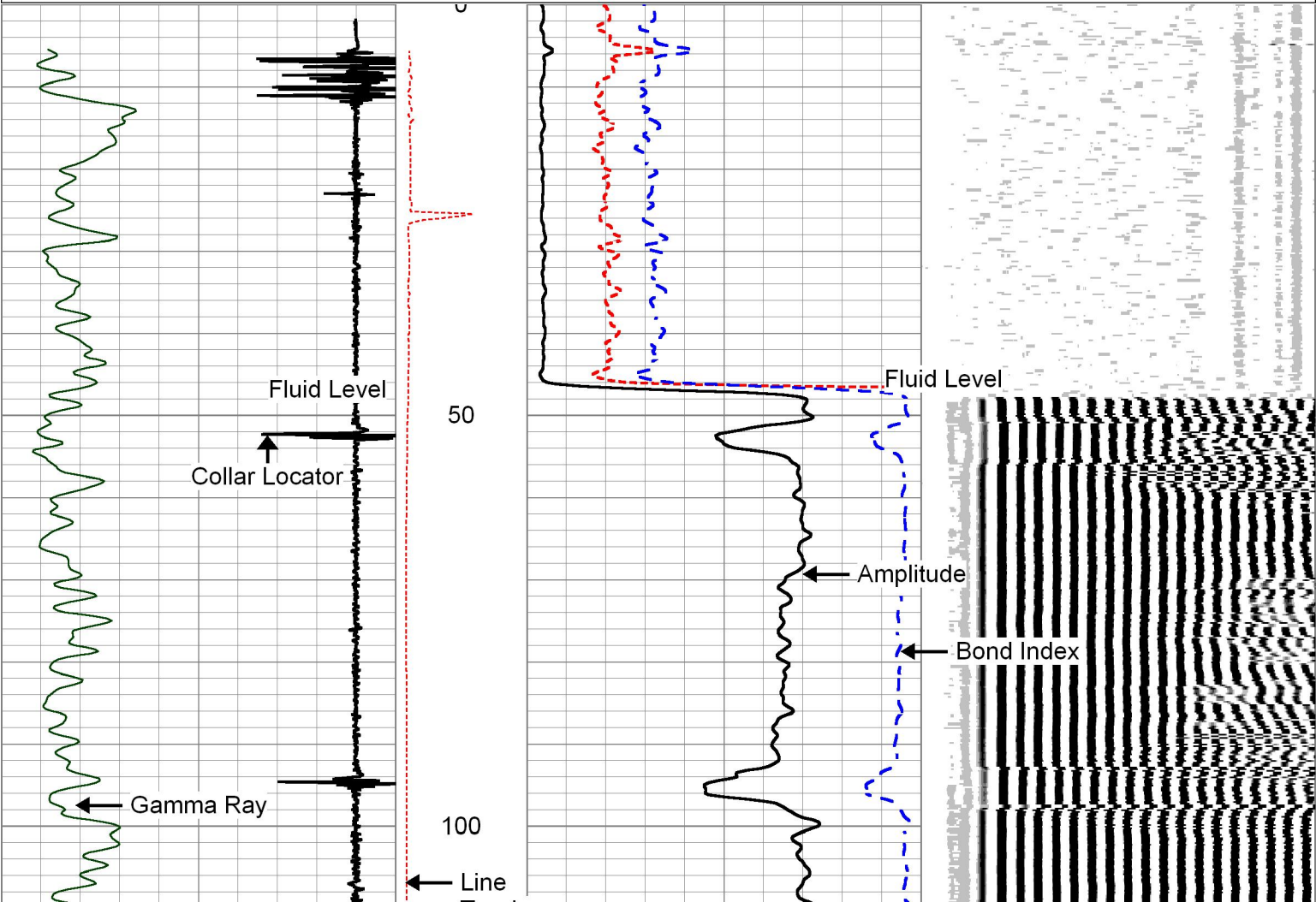


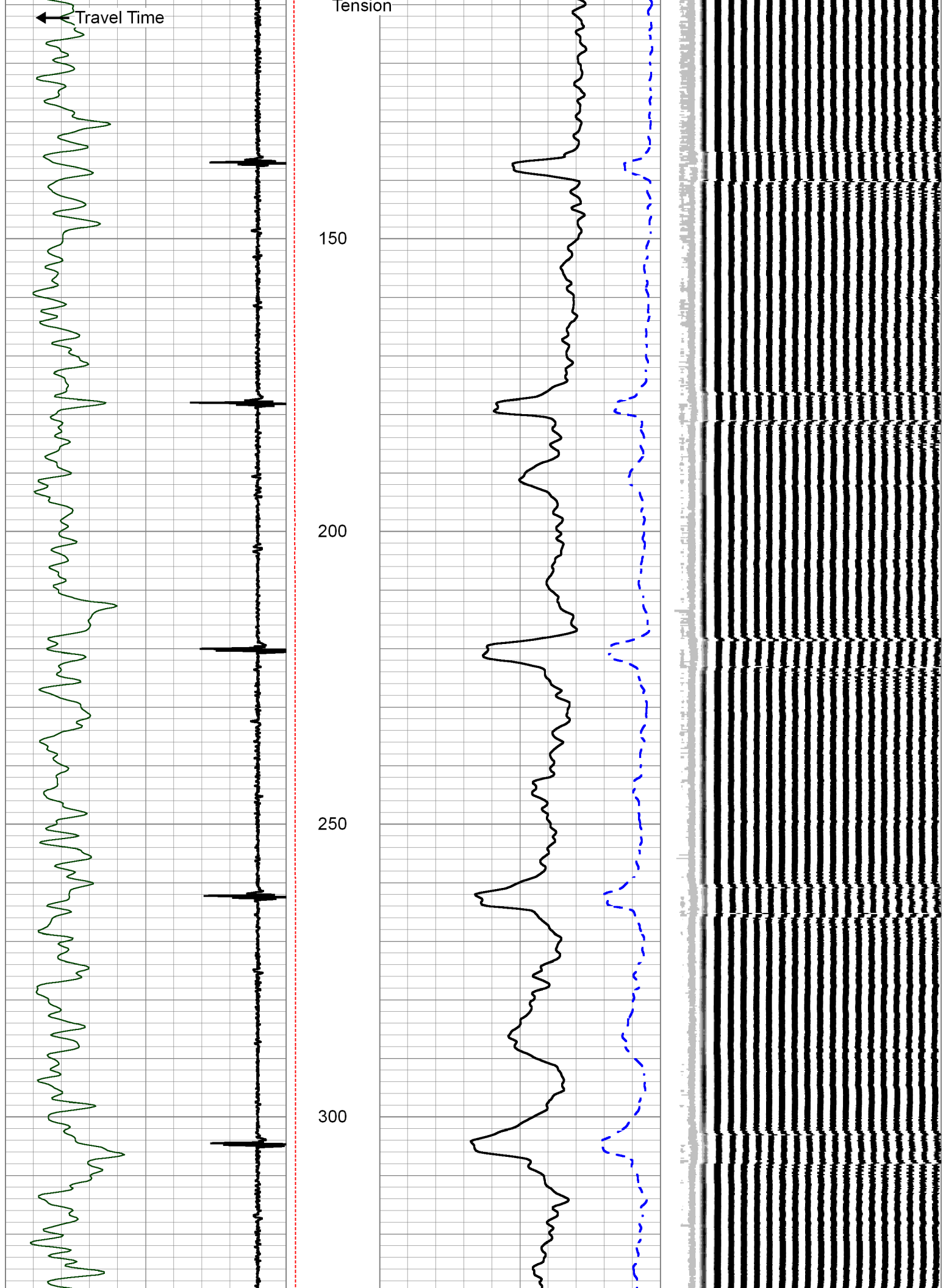
MAIN LOG

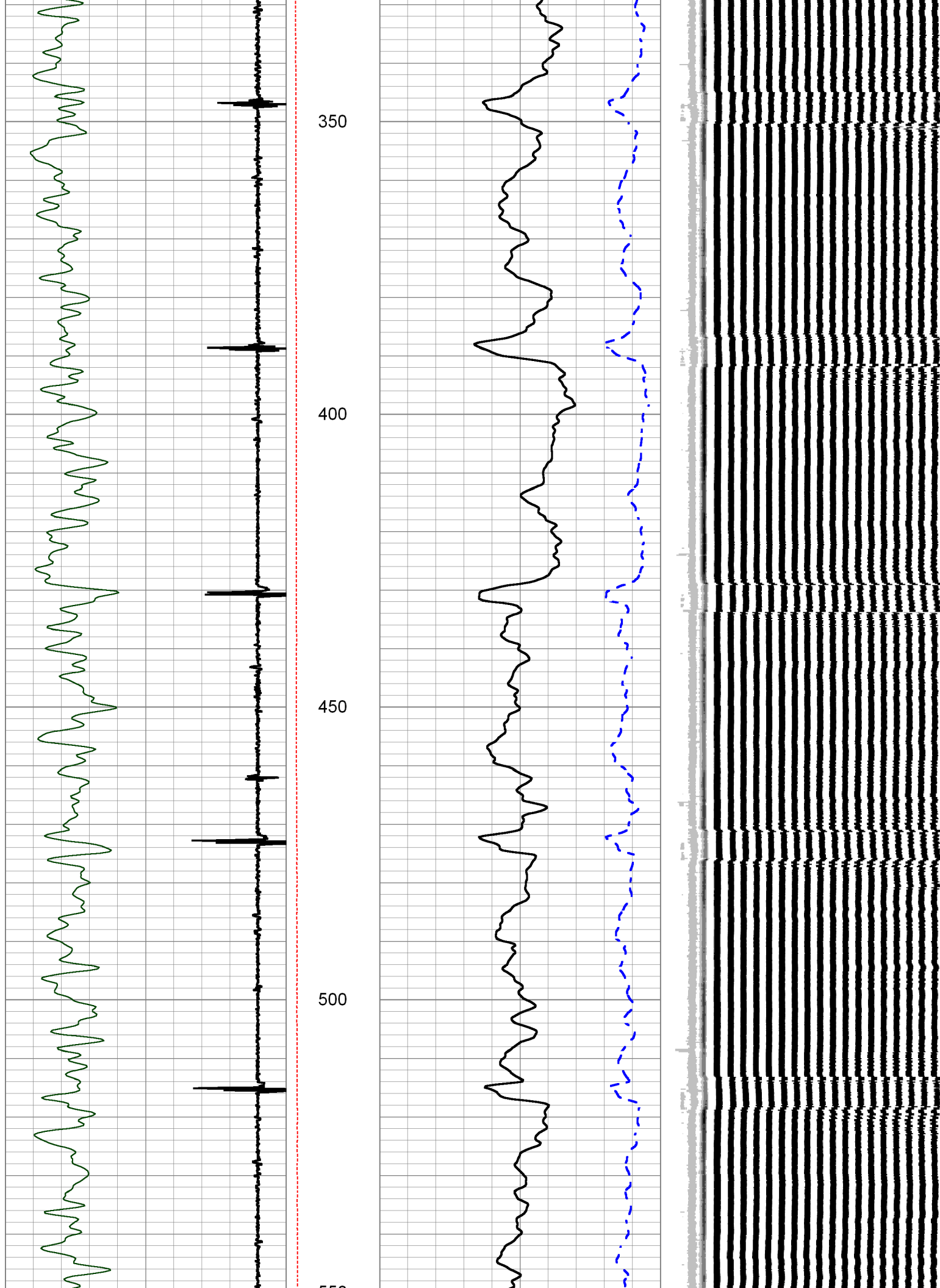
Zero PSI APPLIED AT SURFACE

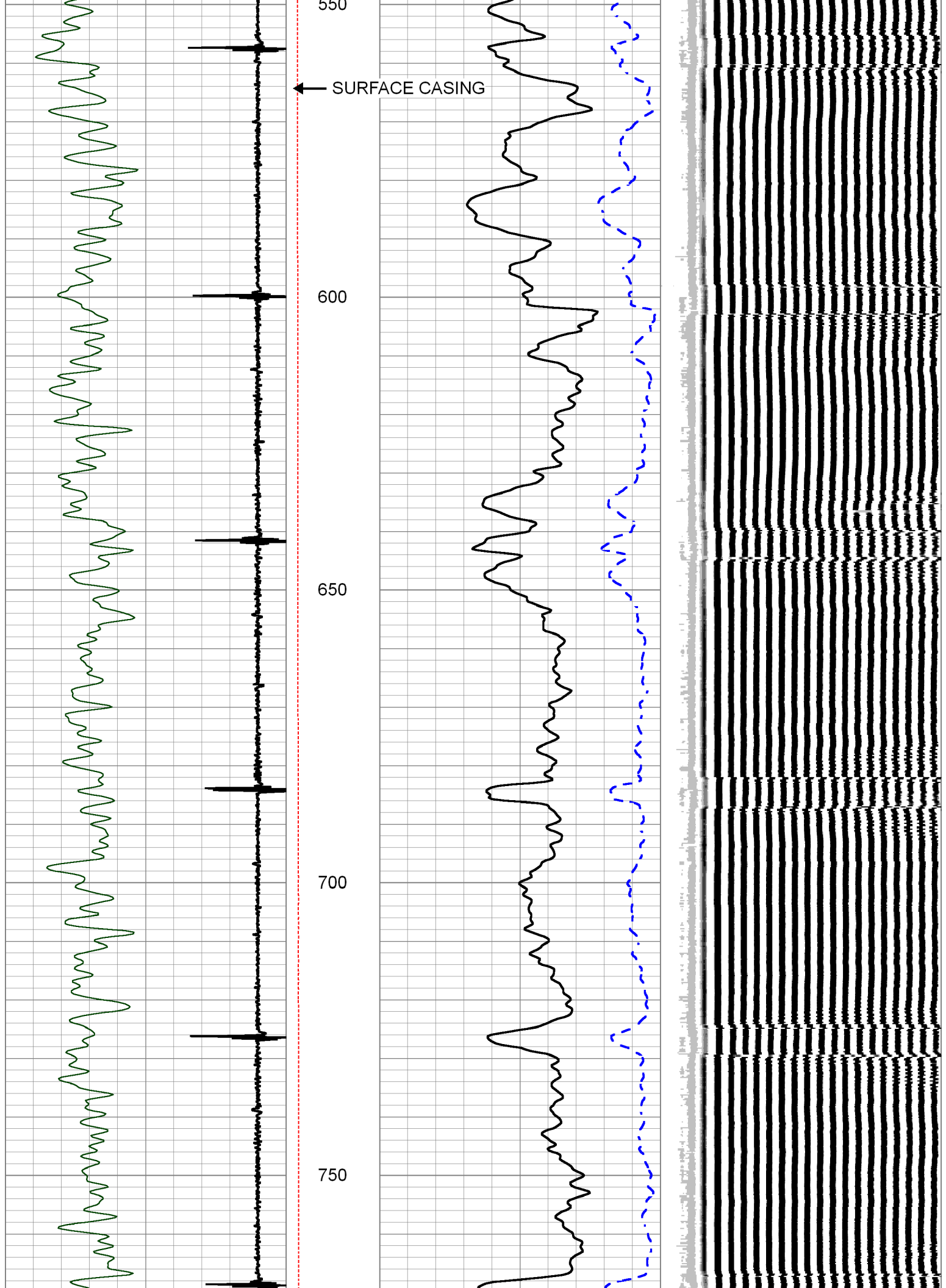
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Dataset Pathname	pass4.2
Presentation Format	pinr_cbl
Dataset Creation	Tue Jan 05 16:21:24 2016
Charted by	Depth in Feet scaled 1:240

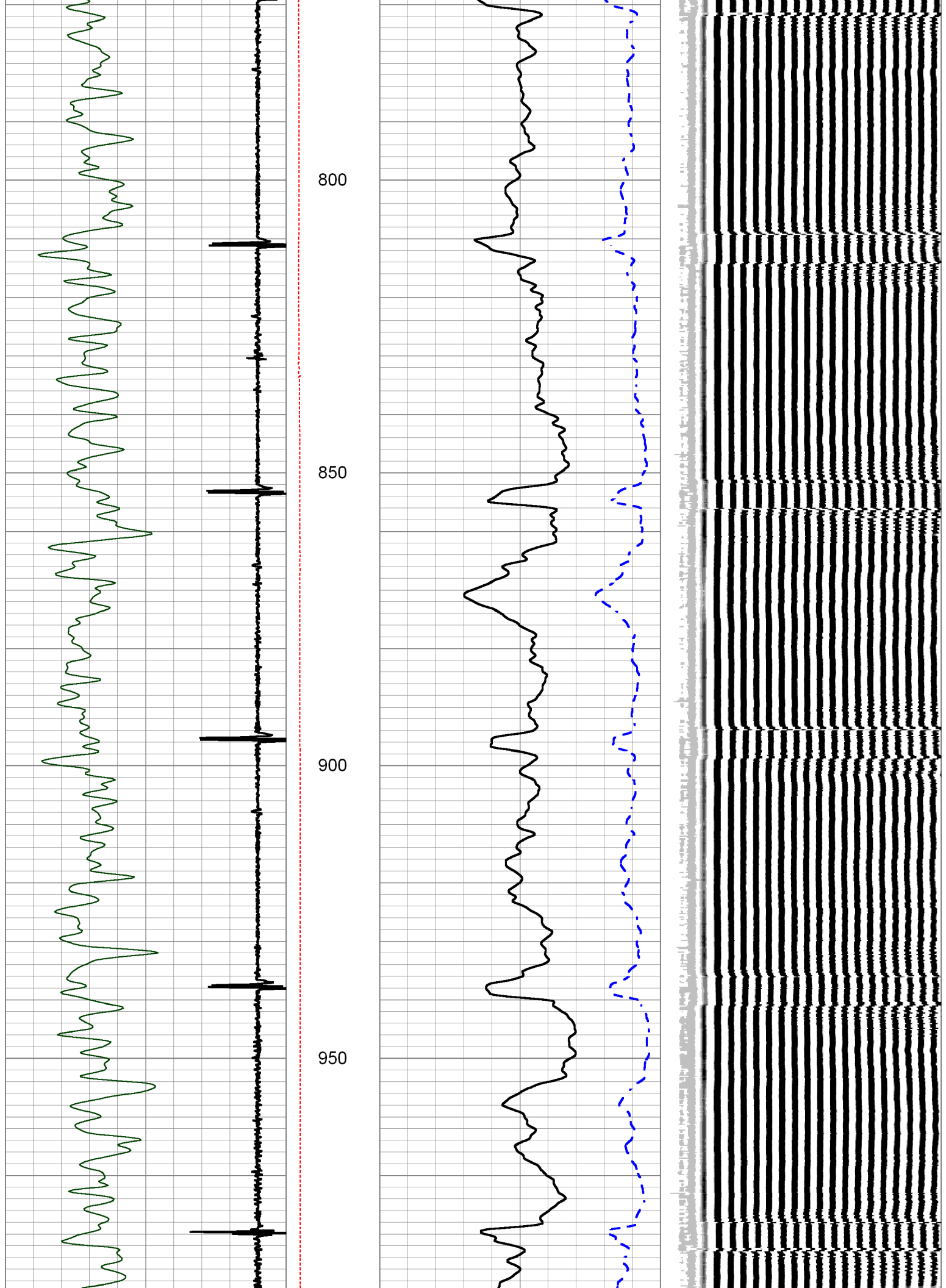
290	Travel Time (db/ft)	190	Line	0	Amplitude (mV)	100	200	VDL	1200
-9	Collar Locator	1	Tension	1	Bond Index	0			
0	Gamma Ray (GAPI)	200	0 (lb2000)						

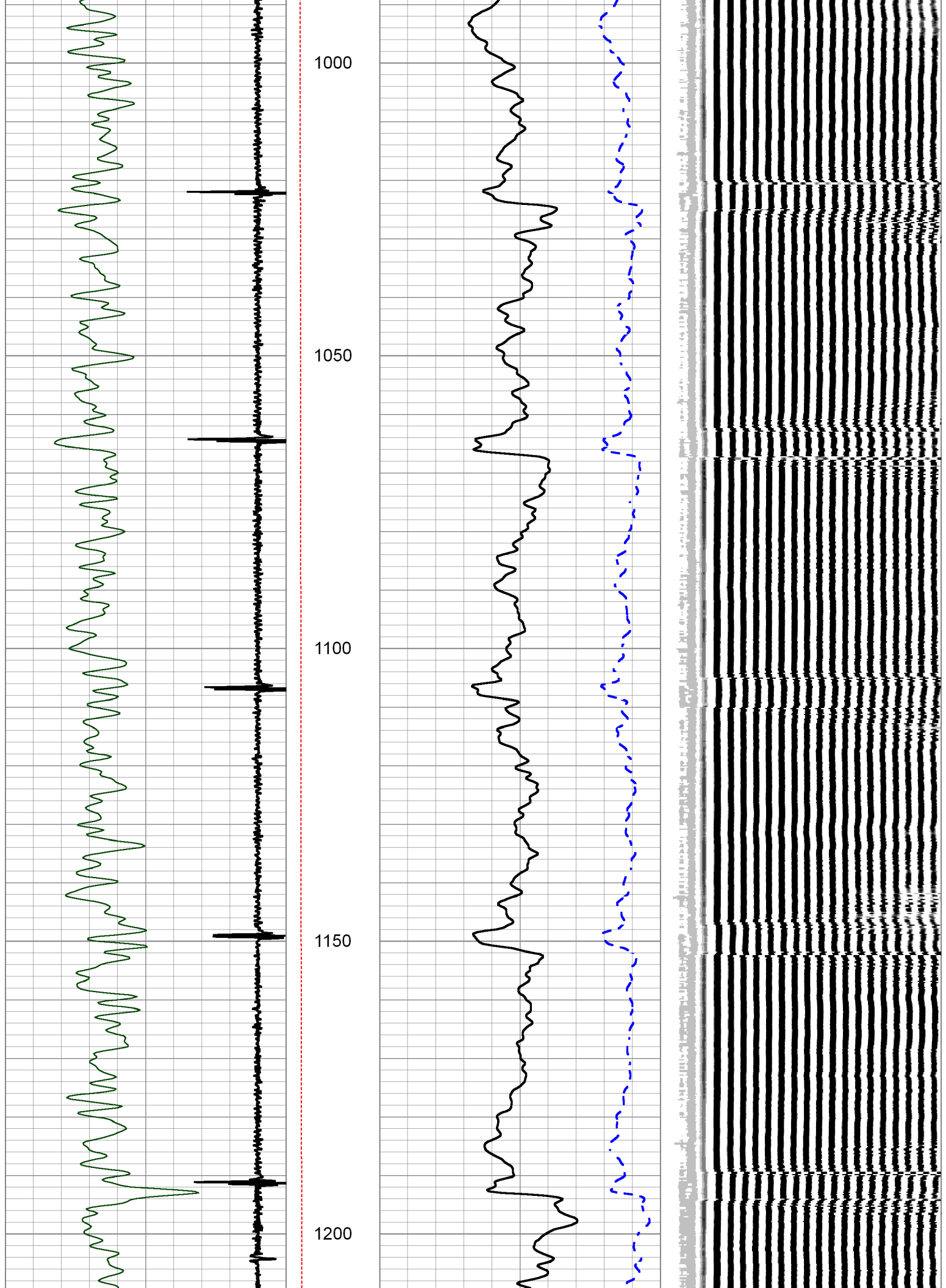


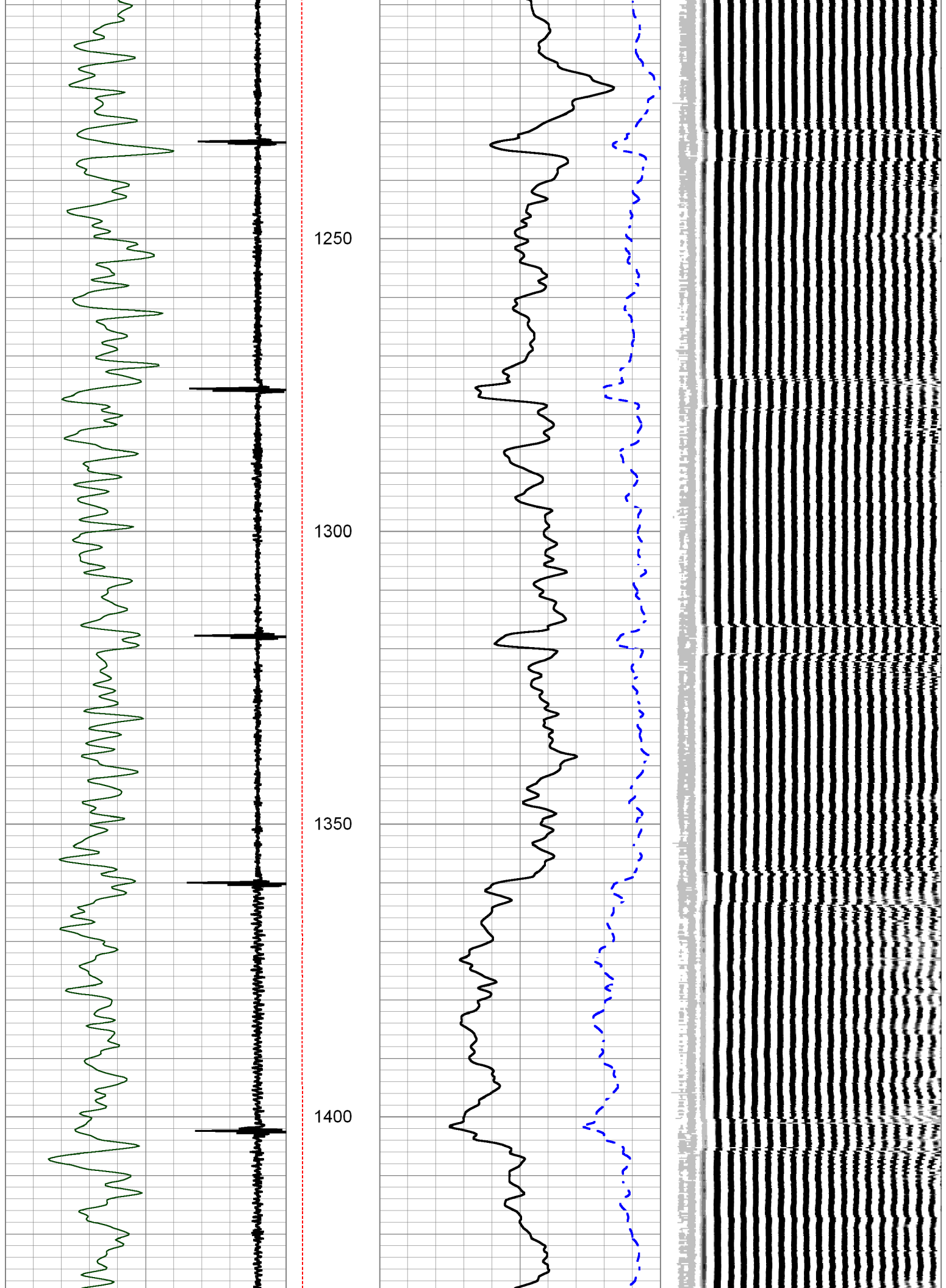


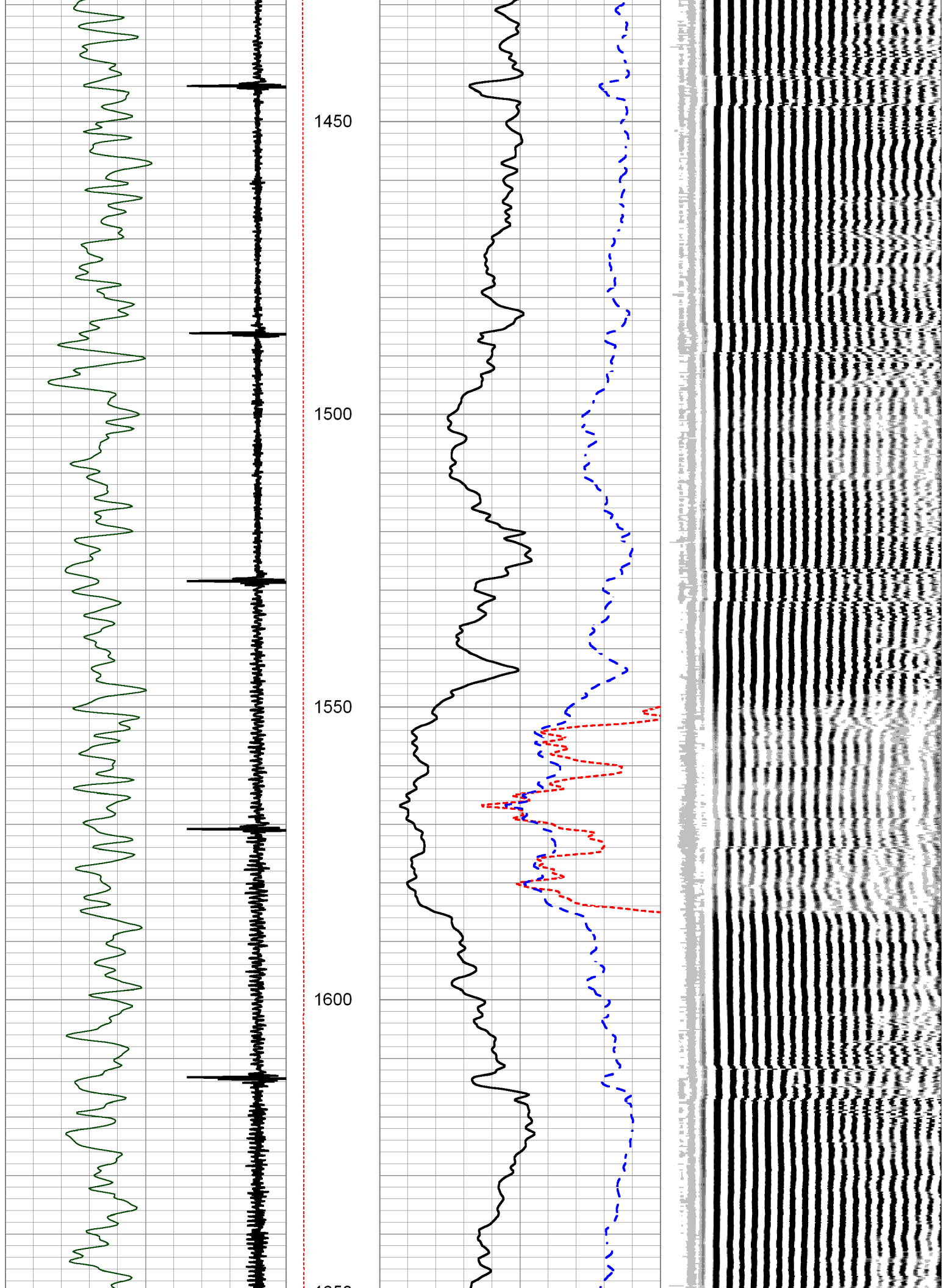


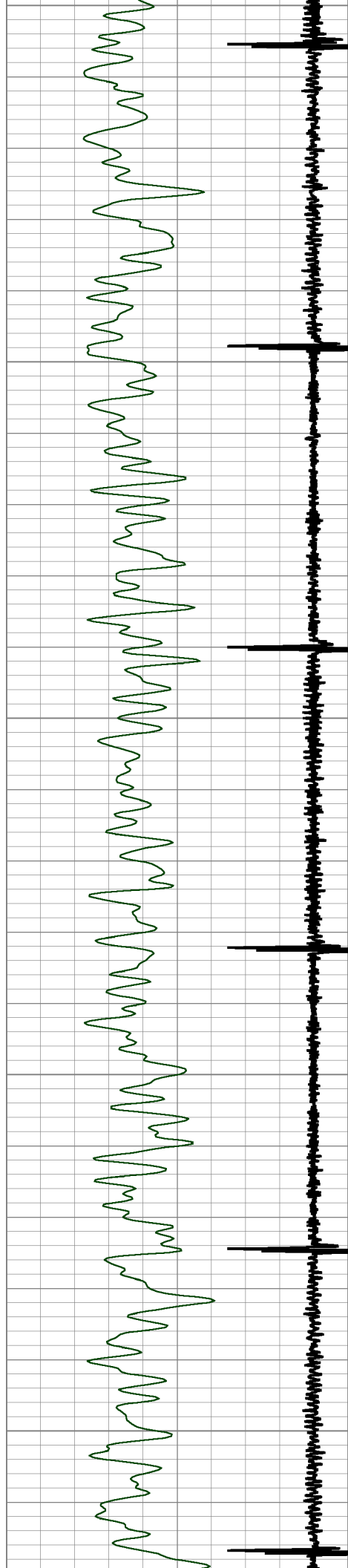




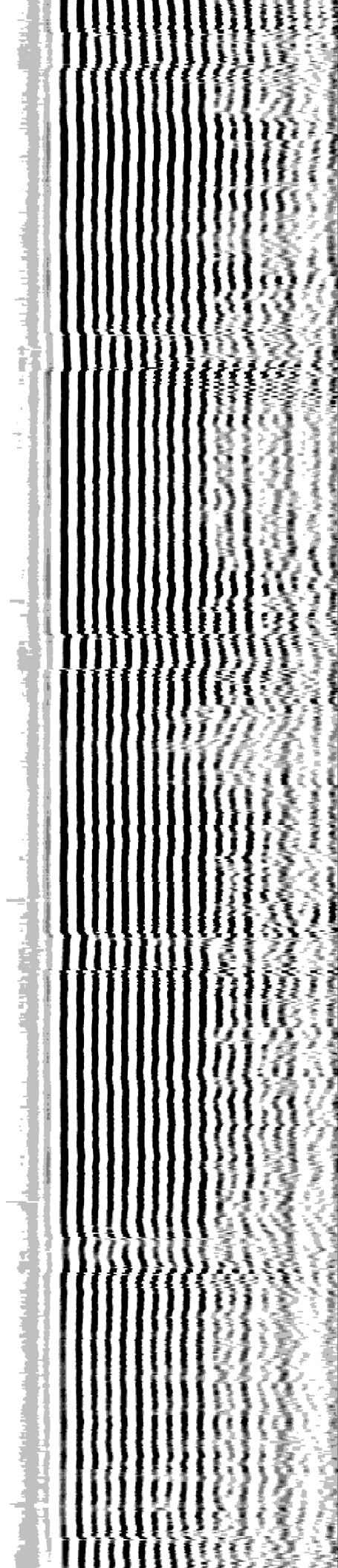
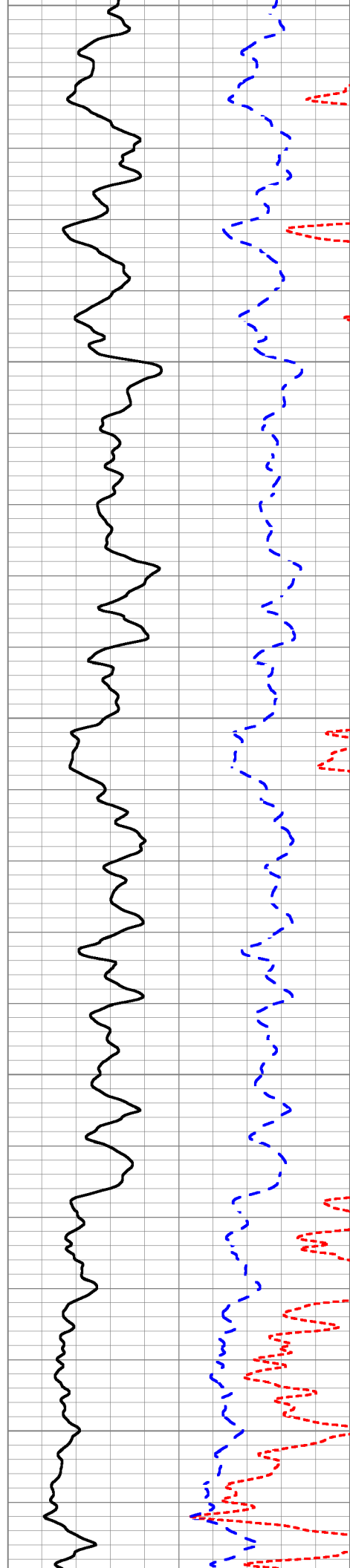


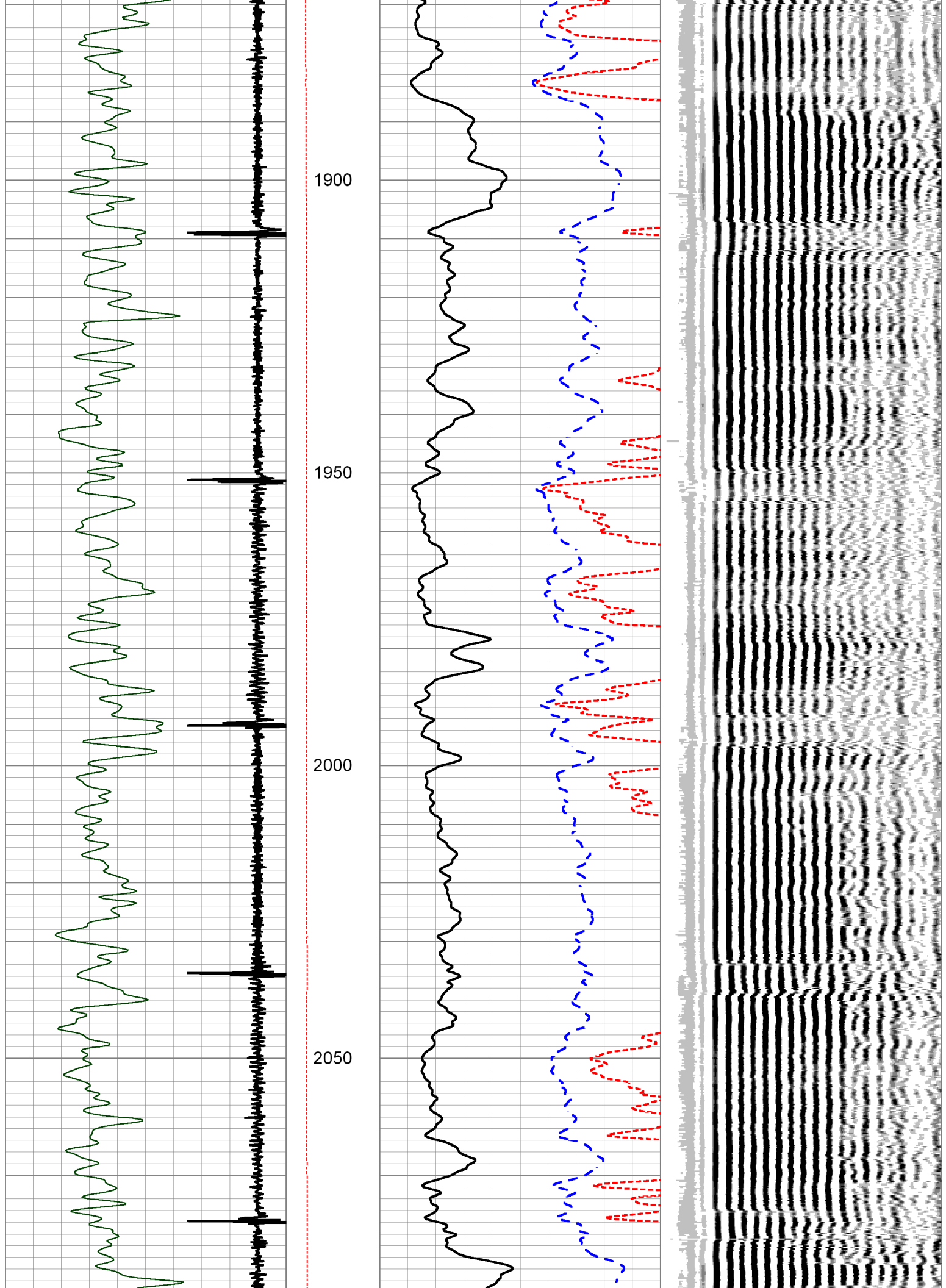


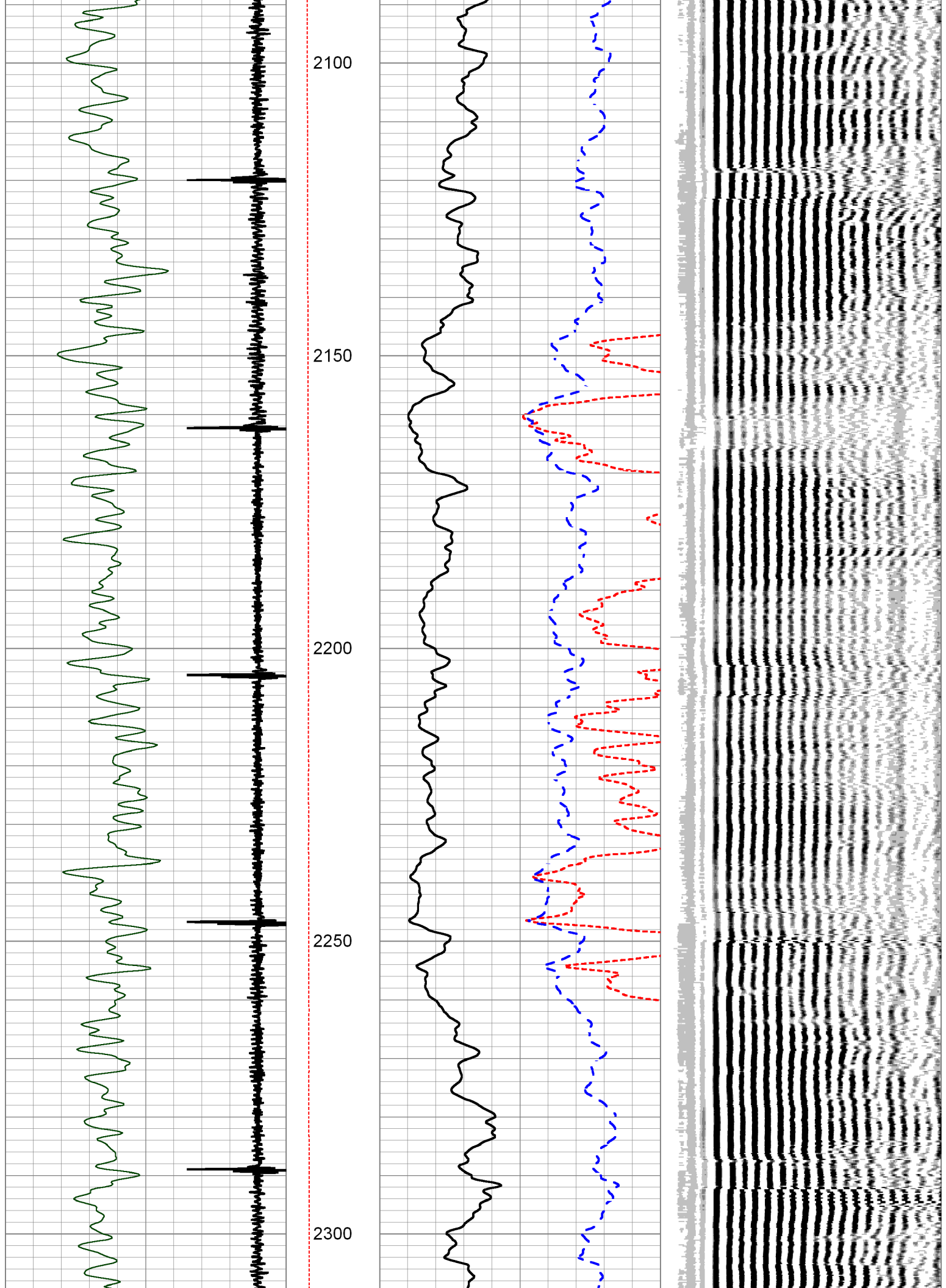


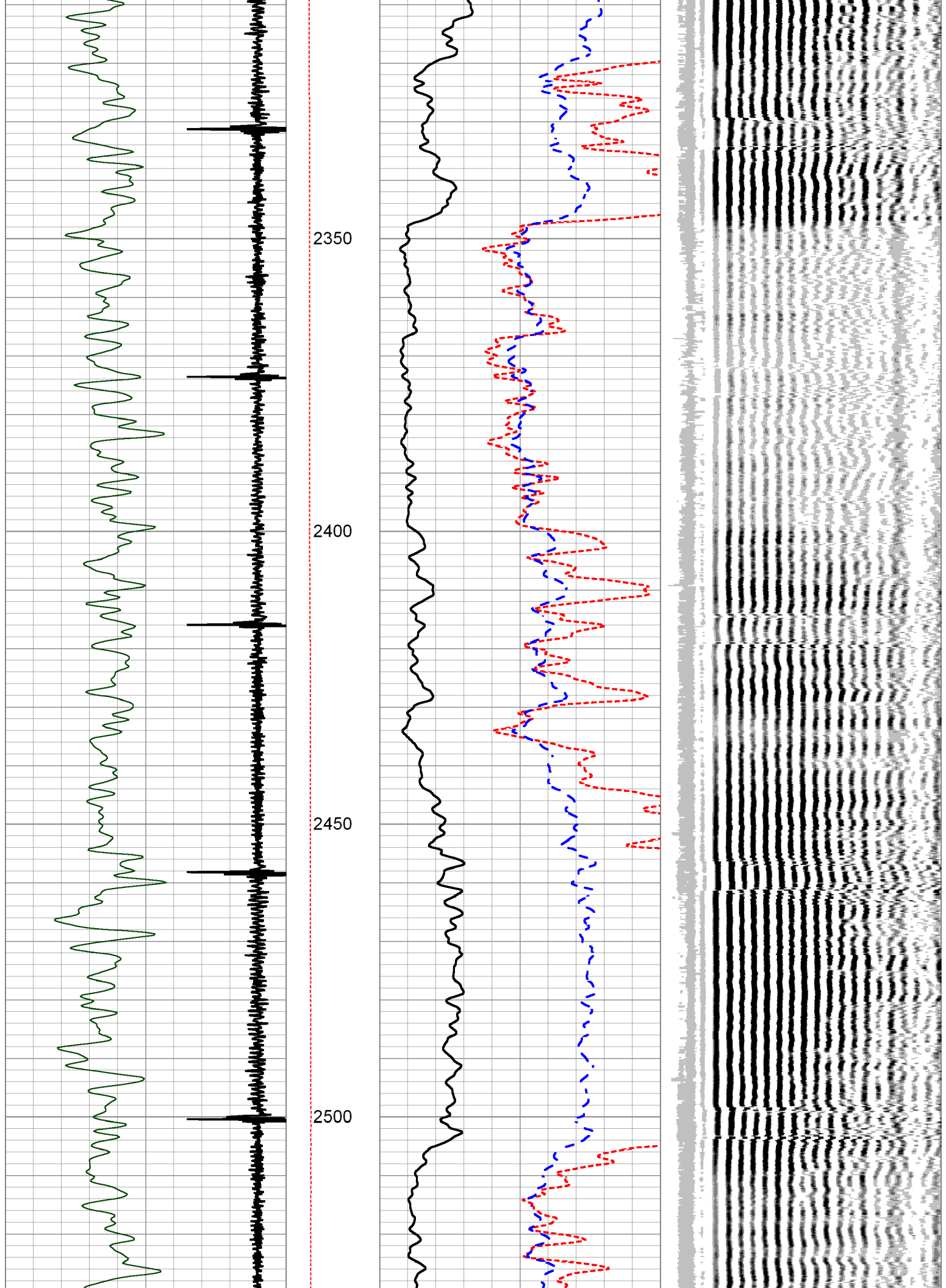


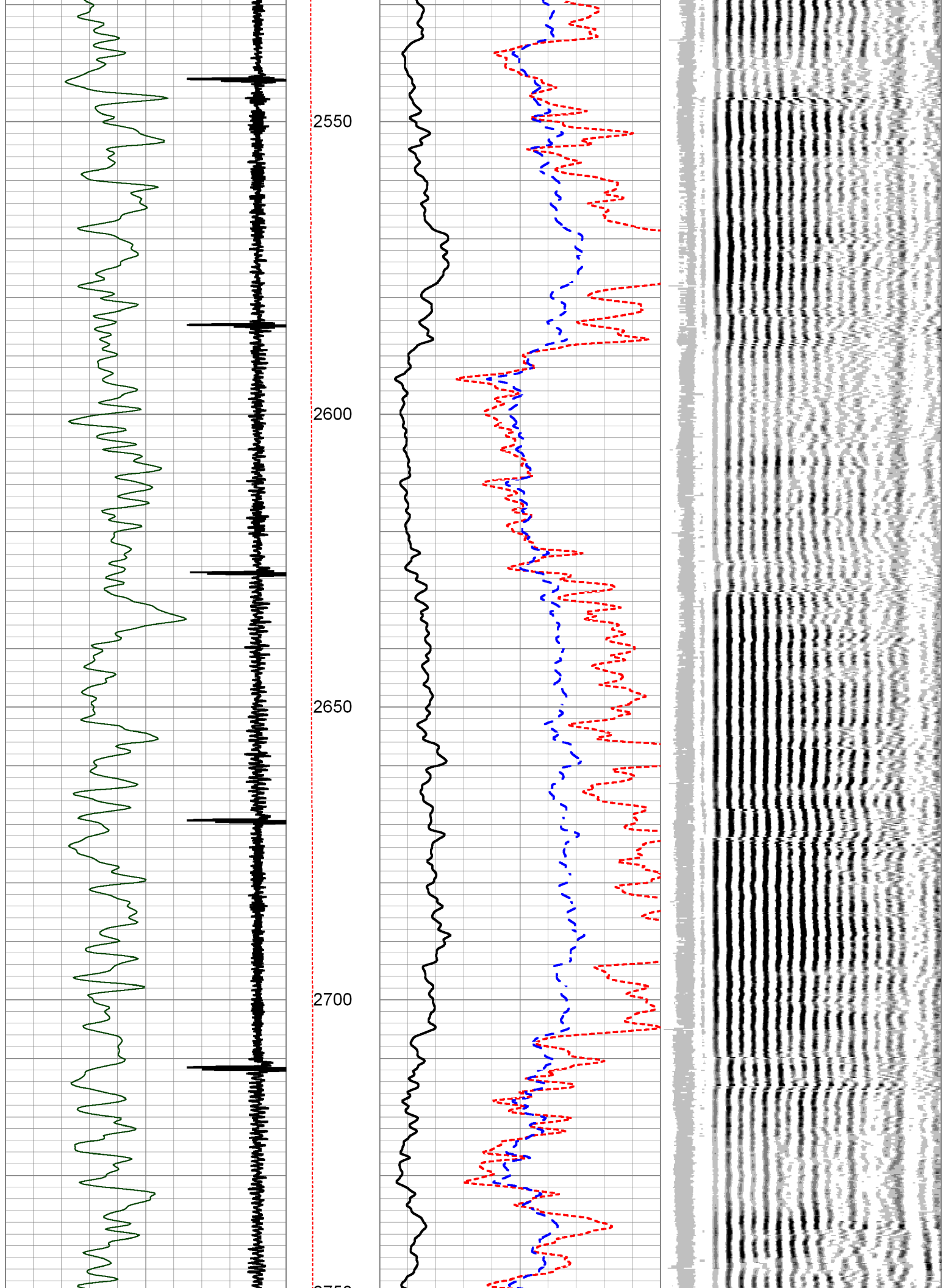
1650
1700
1750
1800
1850

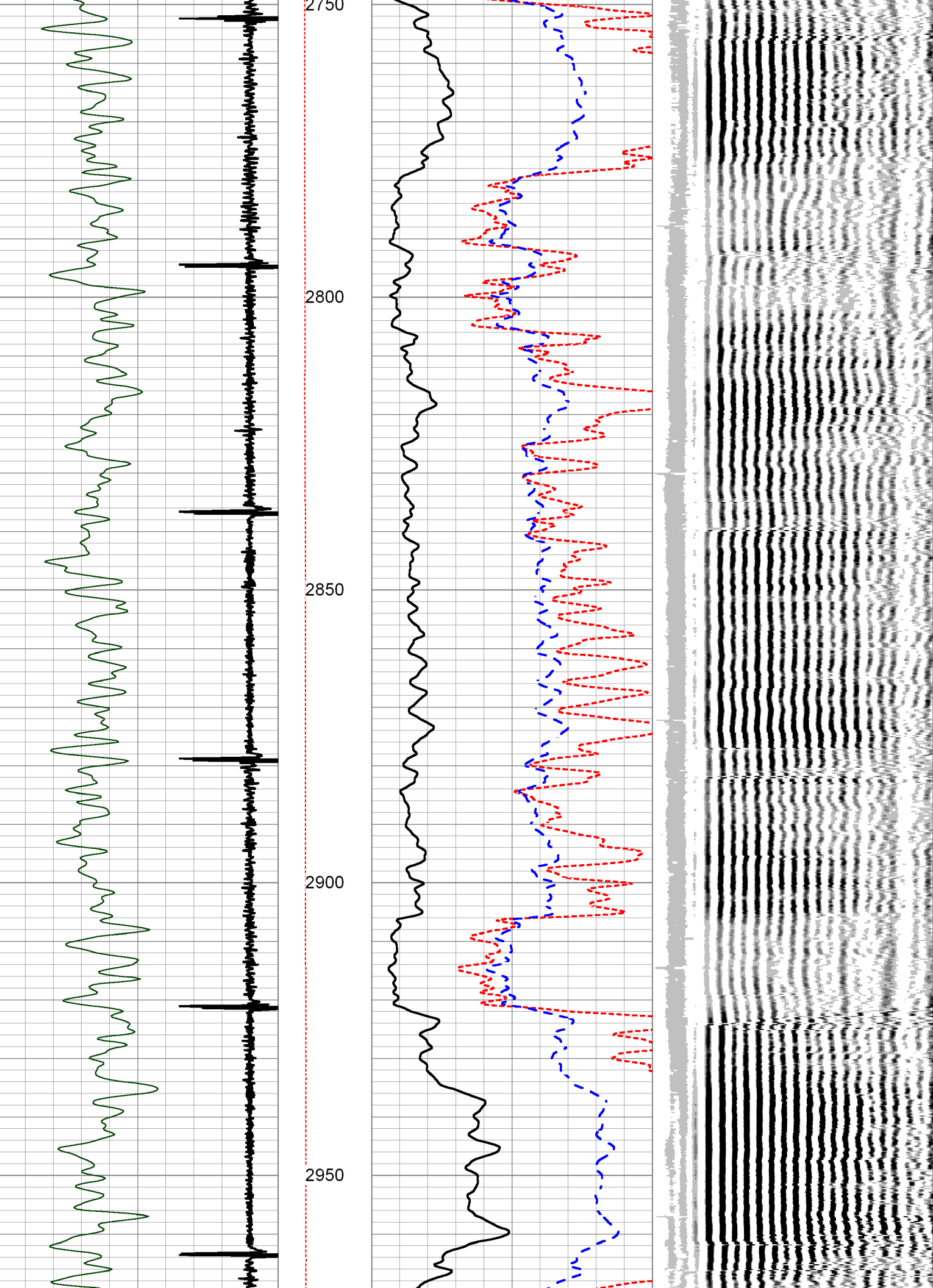


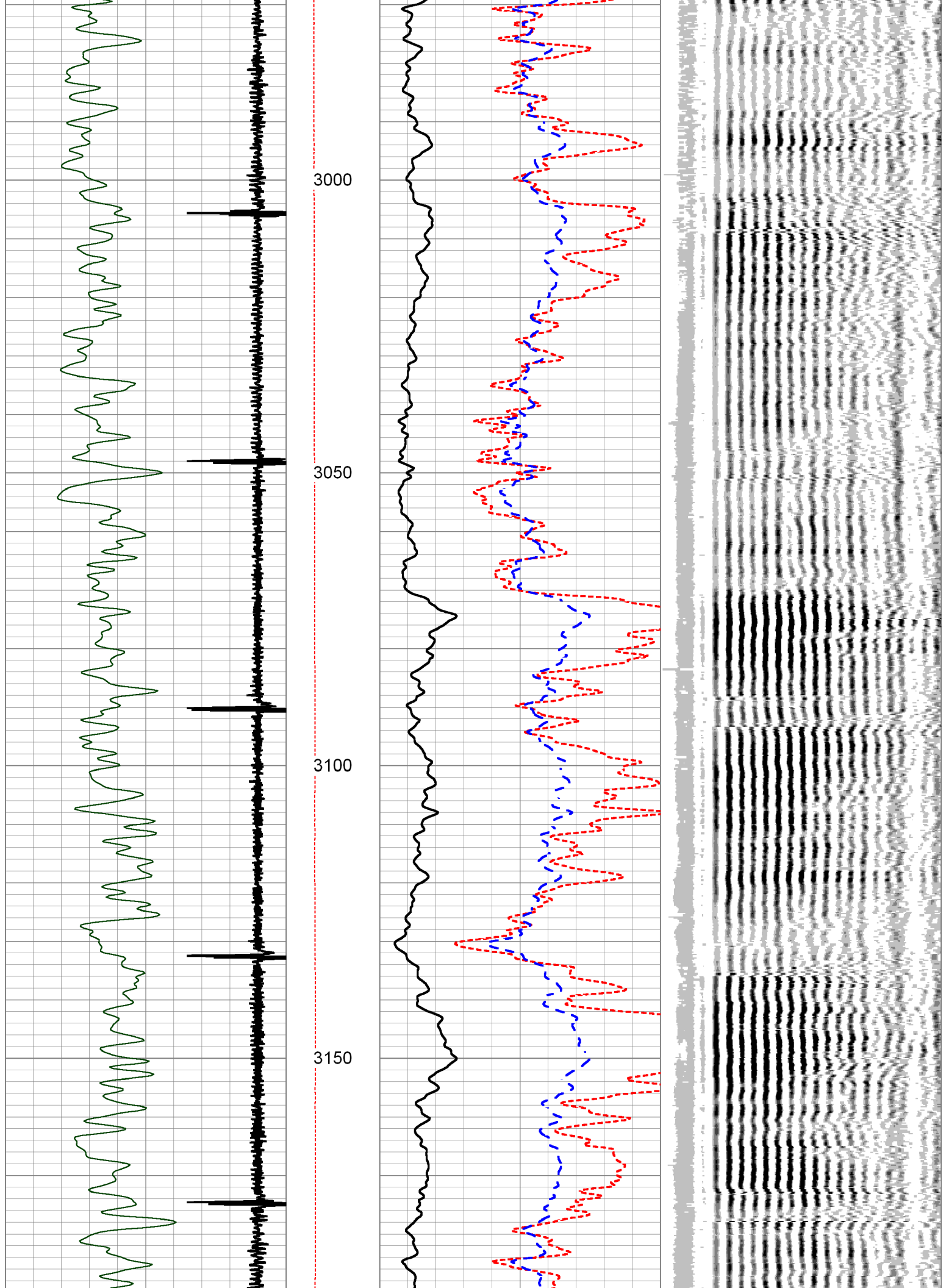


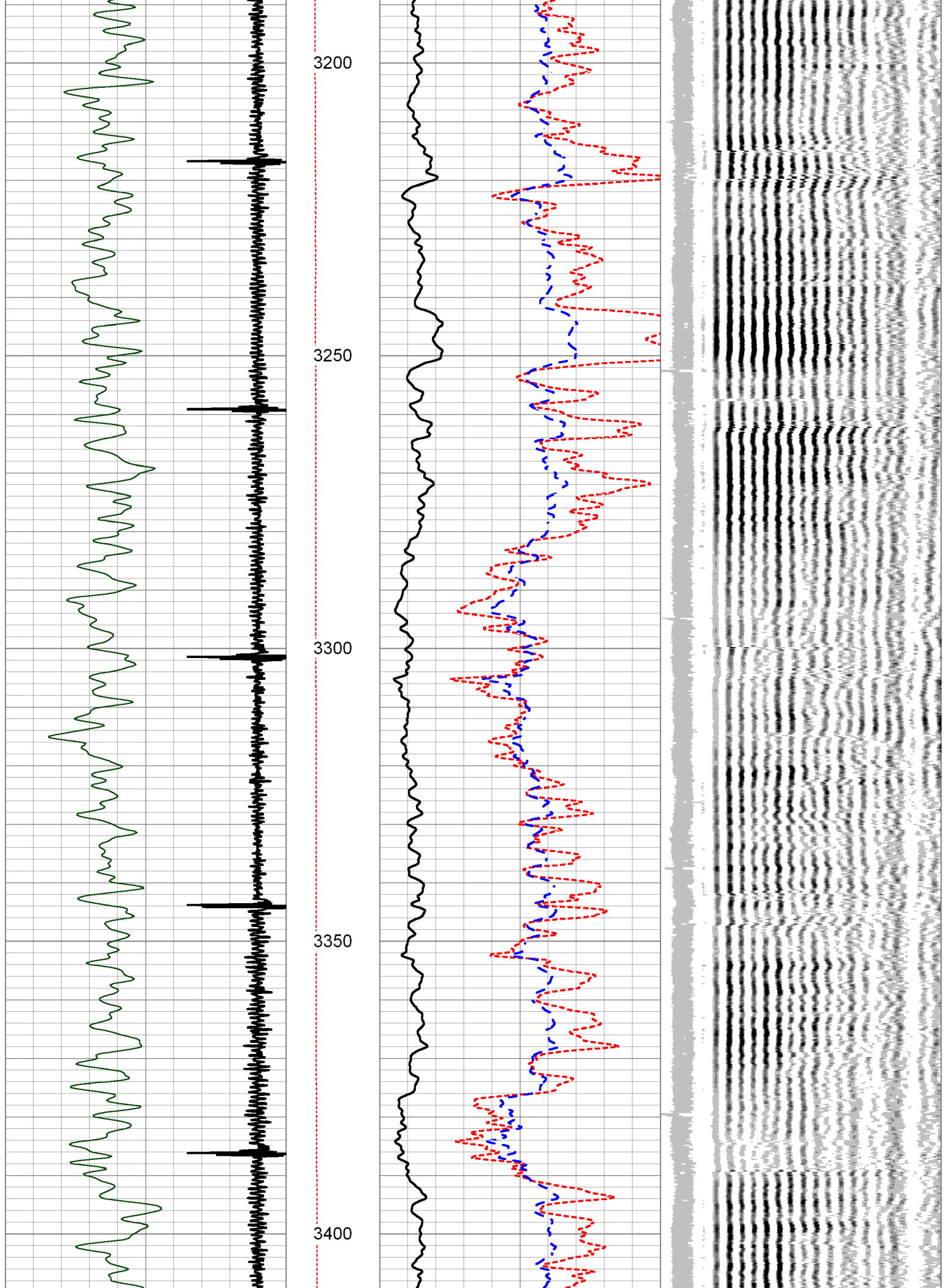


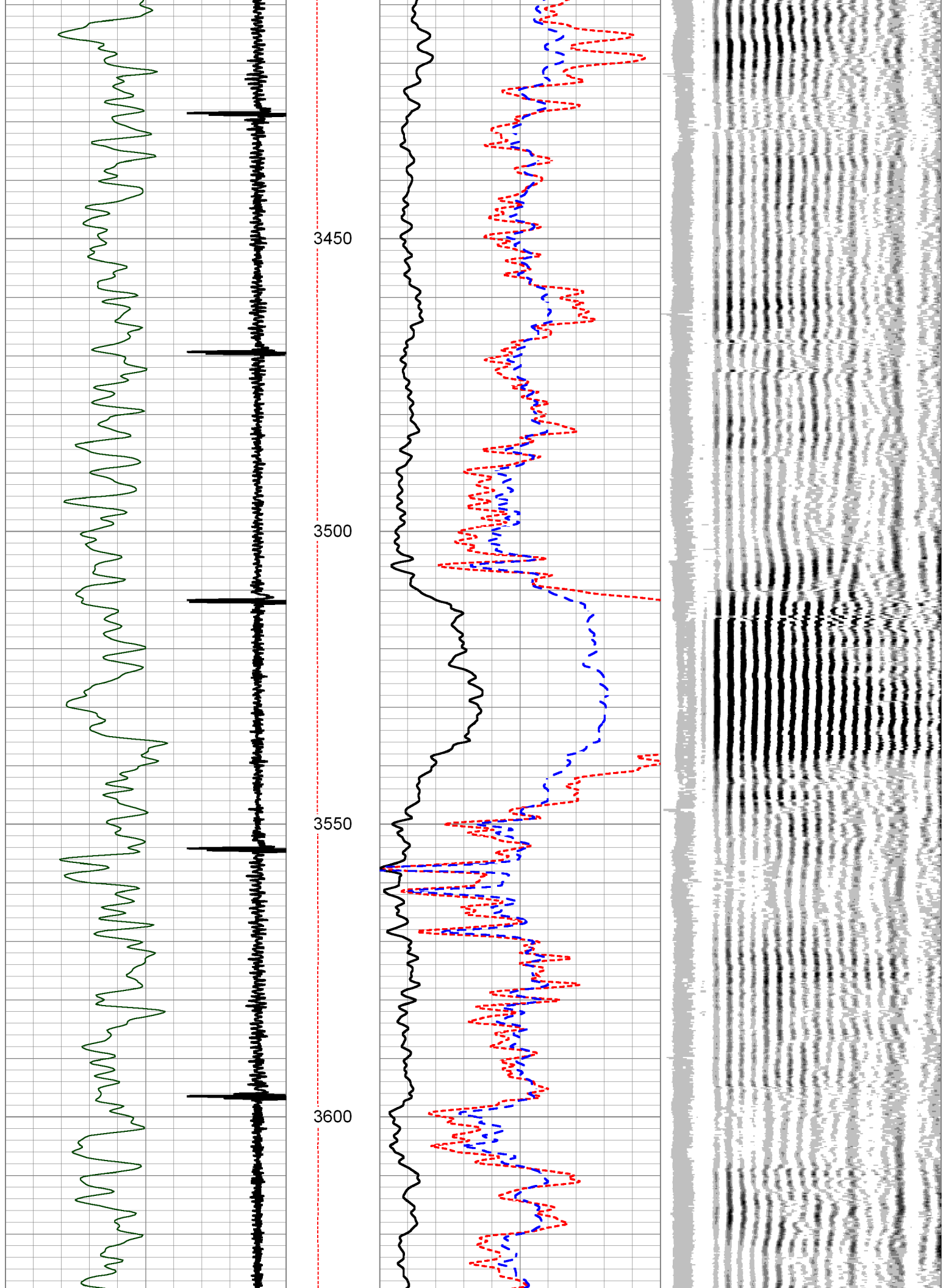


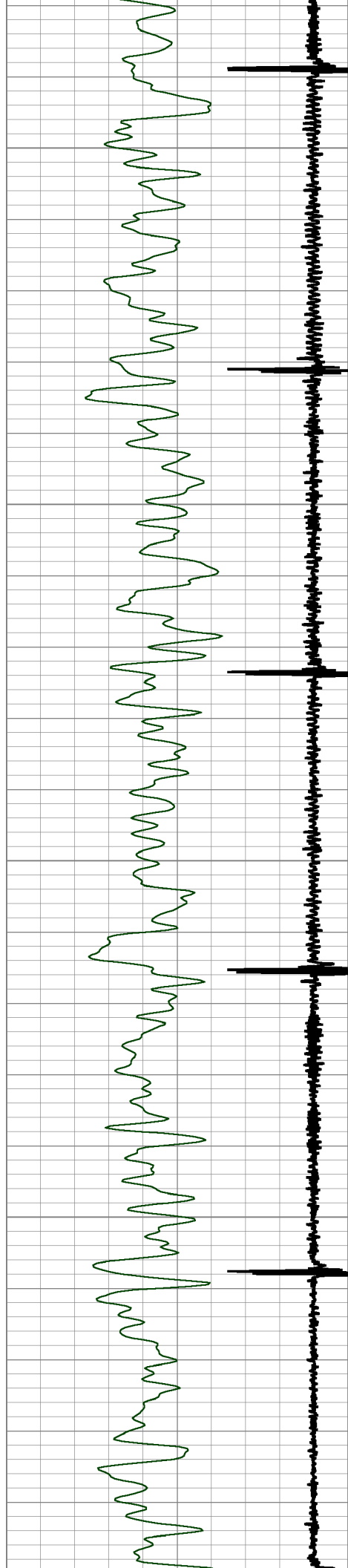












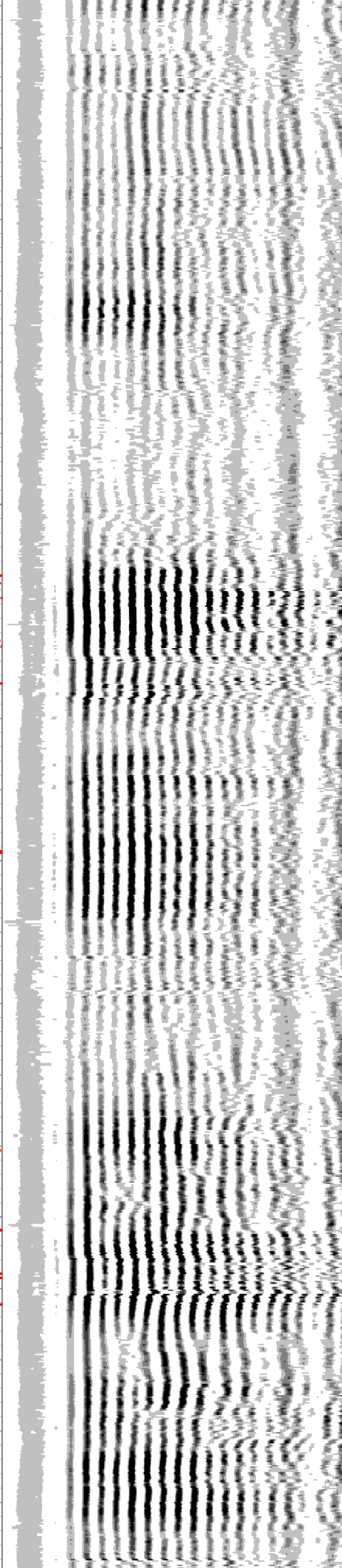
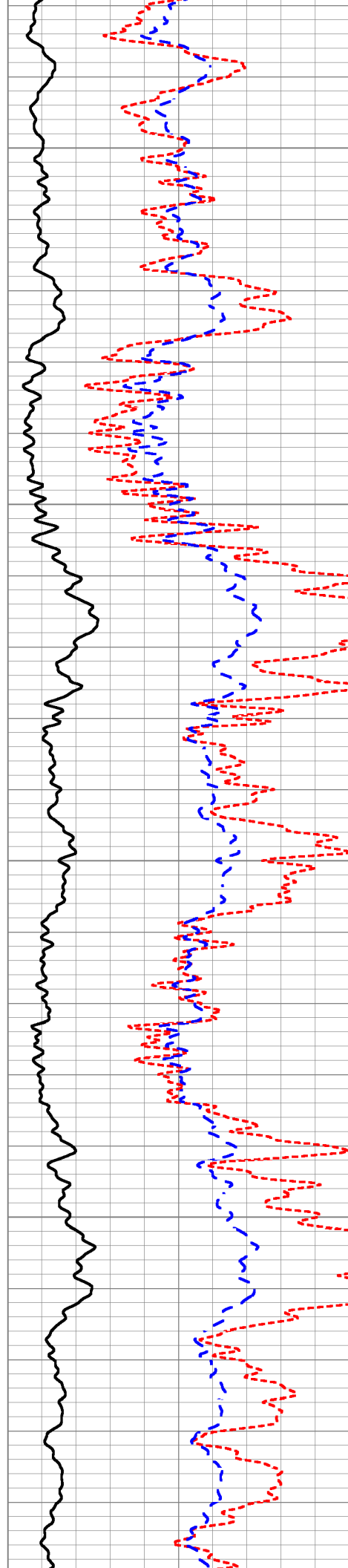
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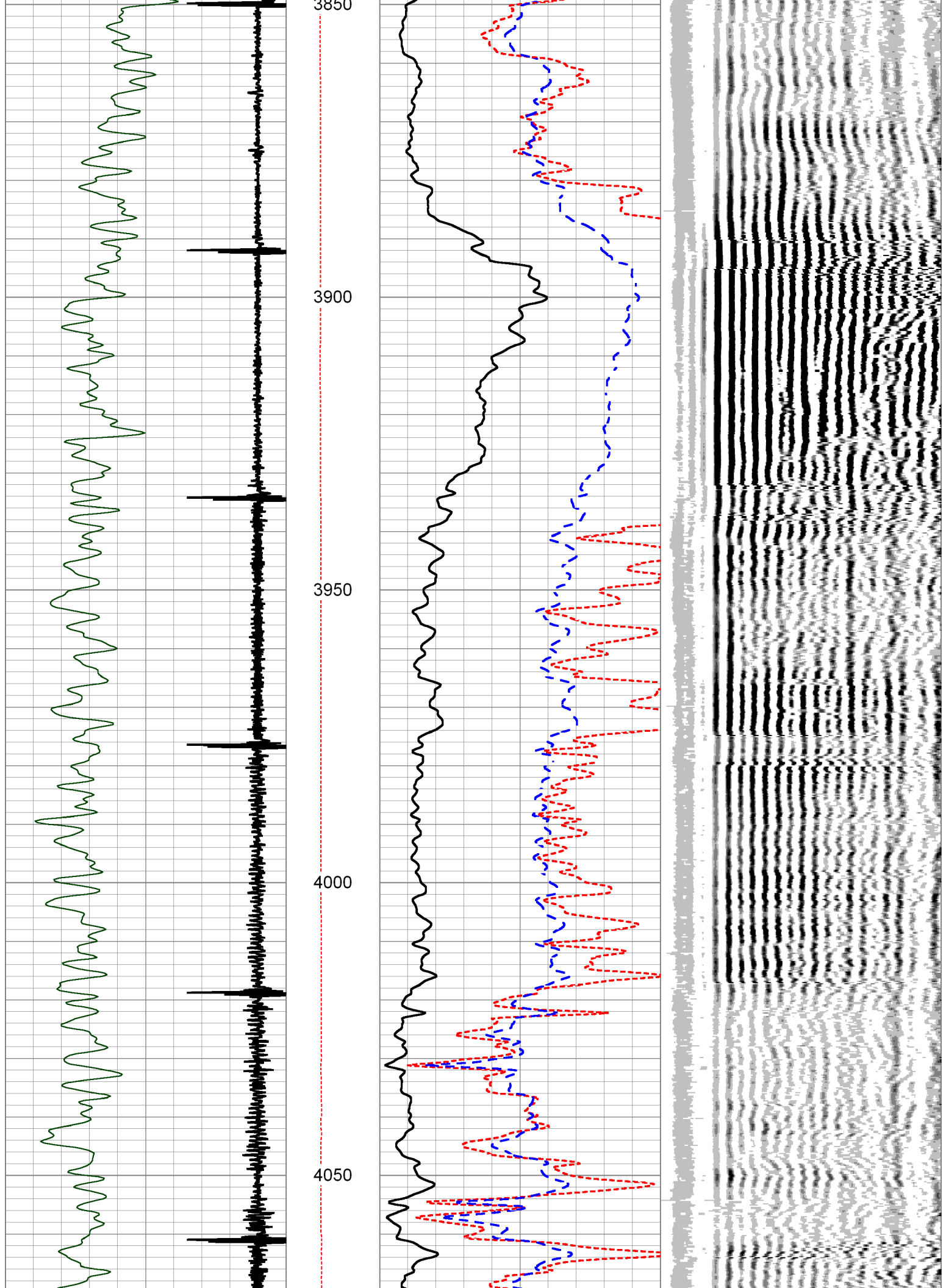
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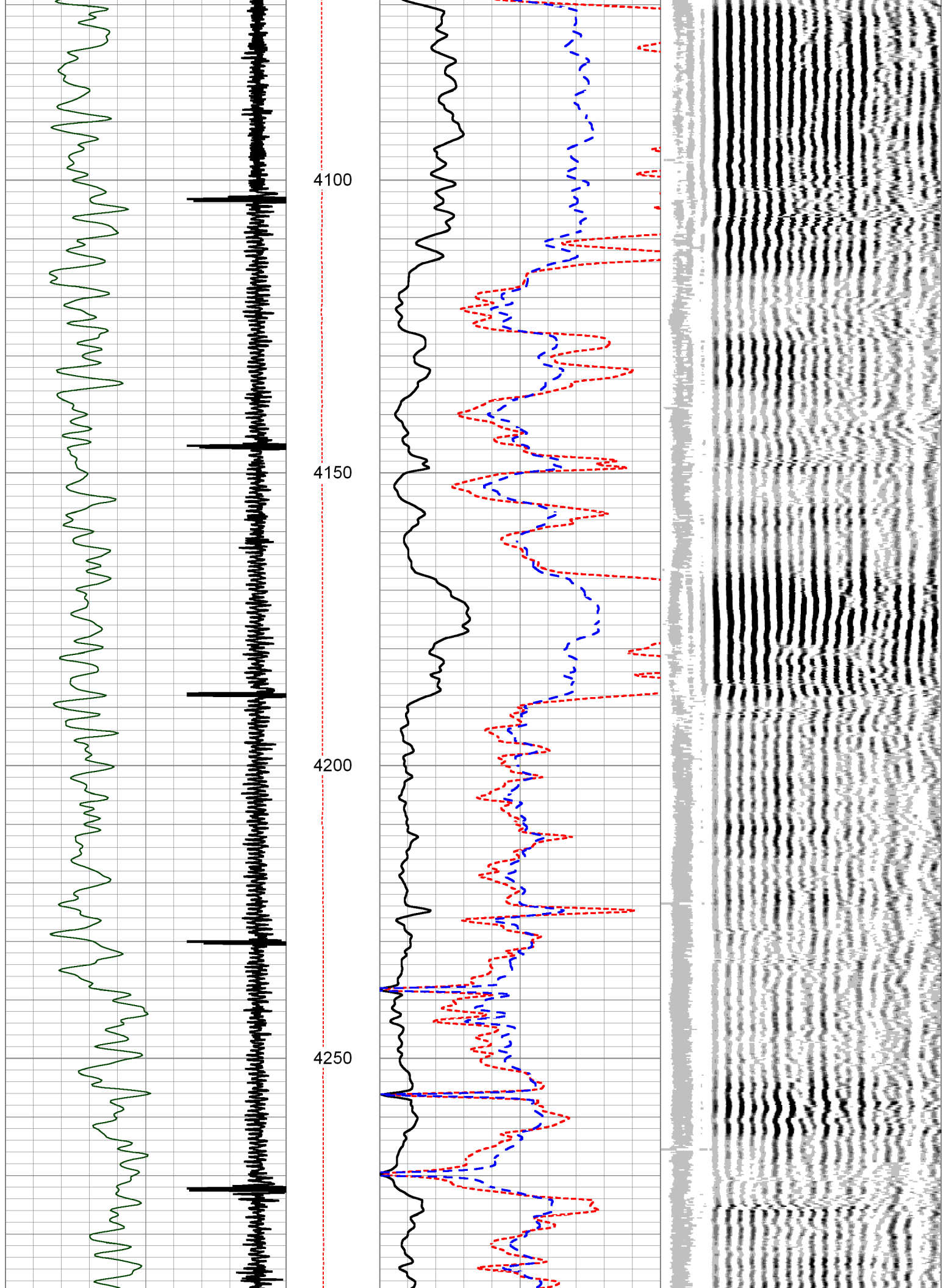
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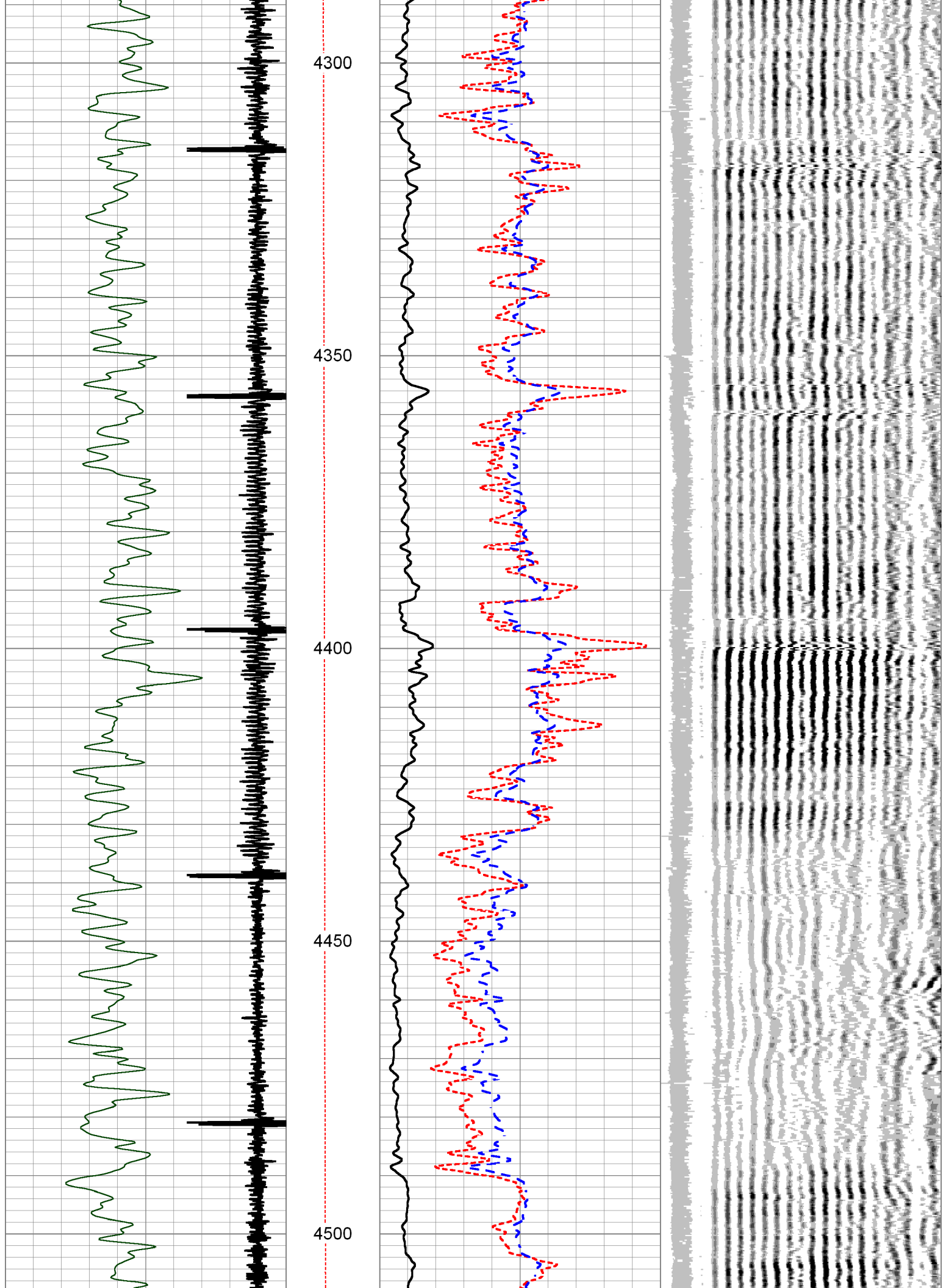
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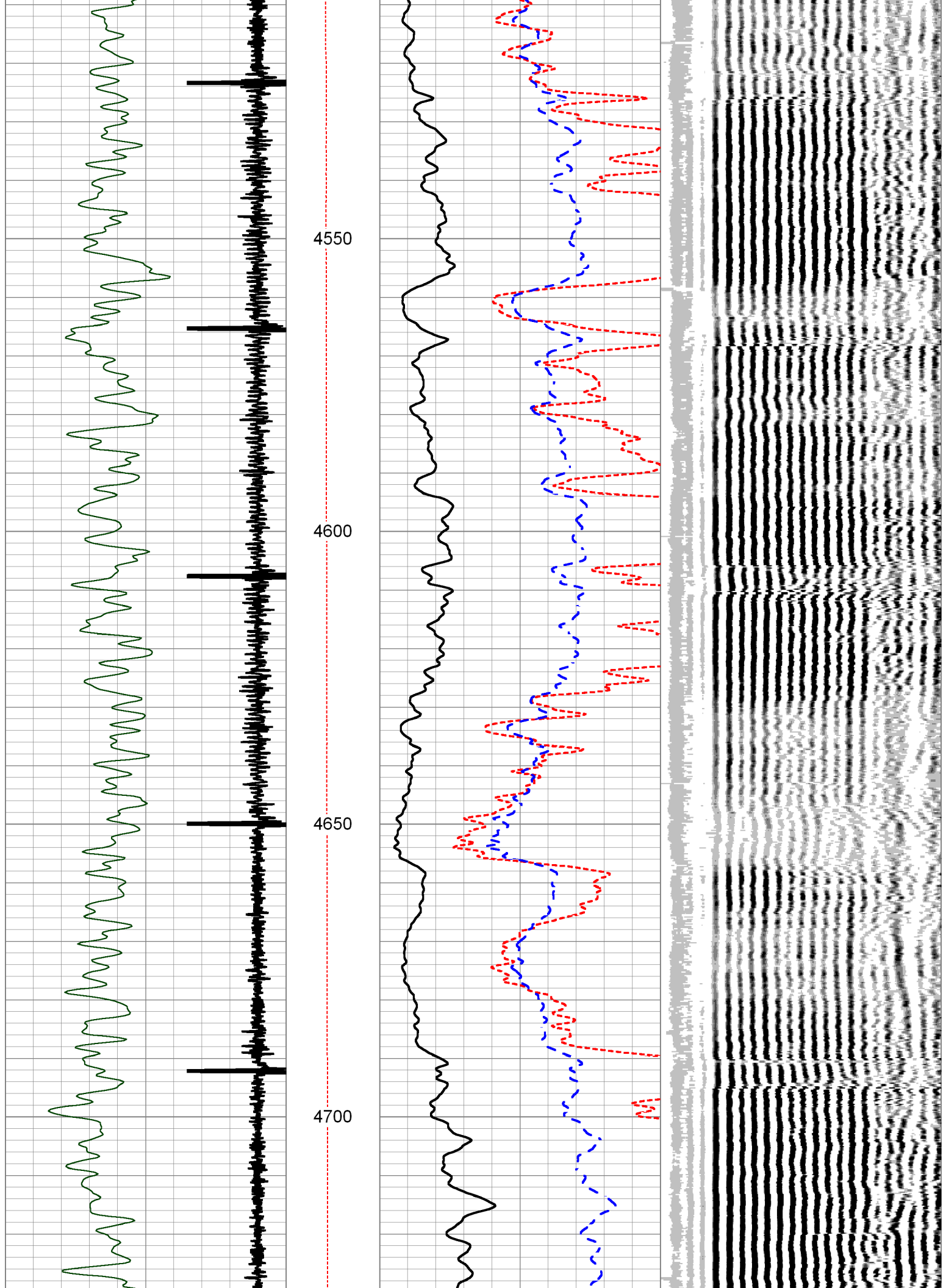
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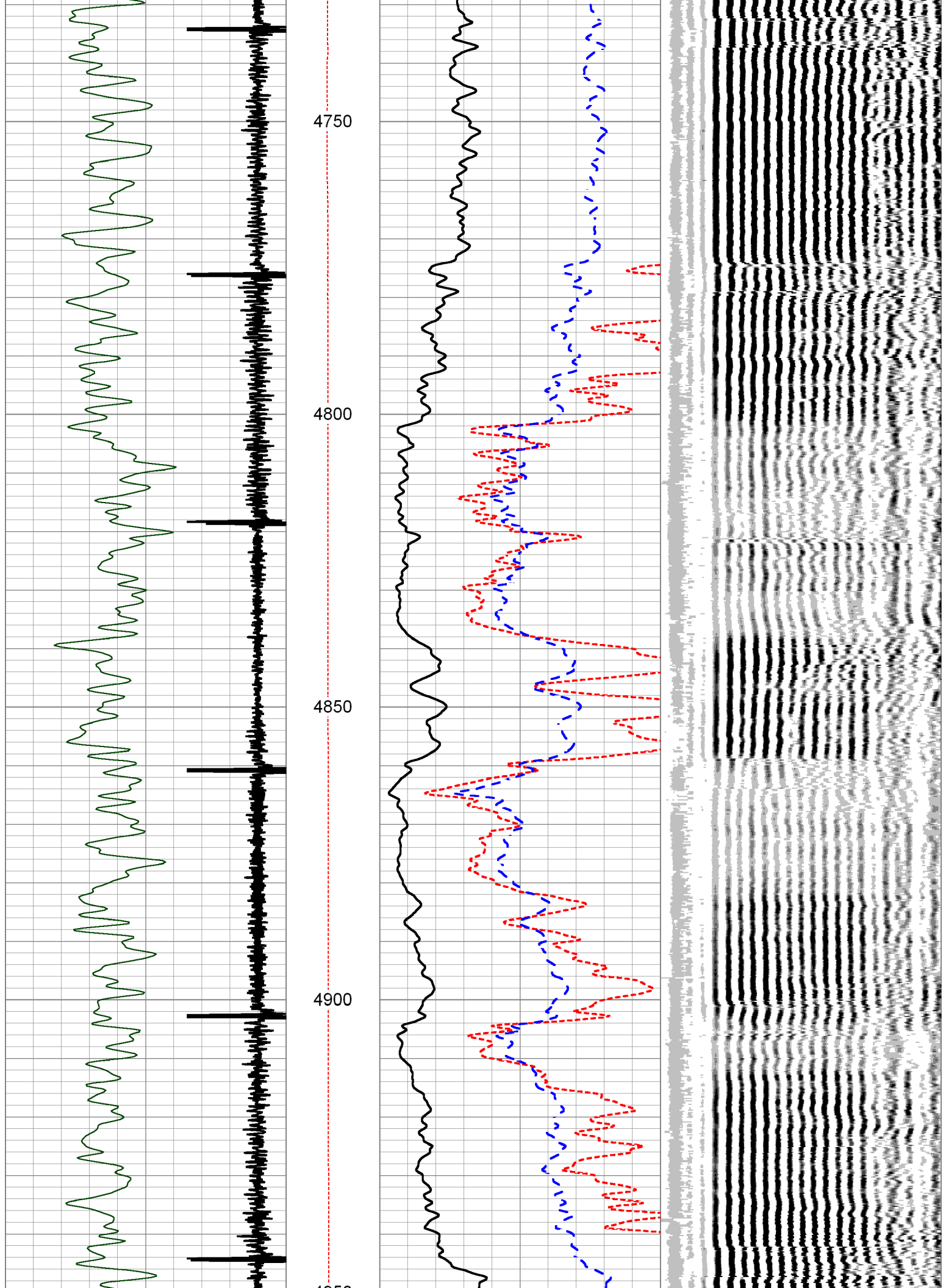


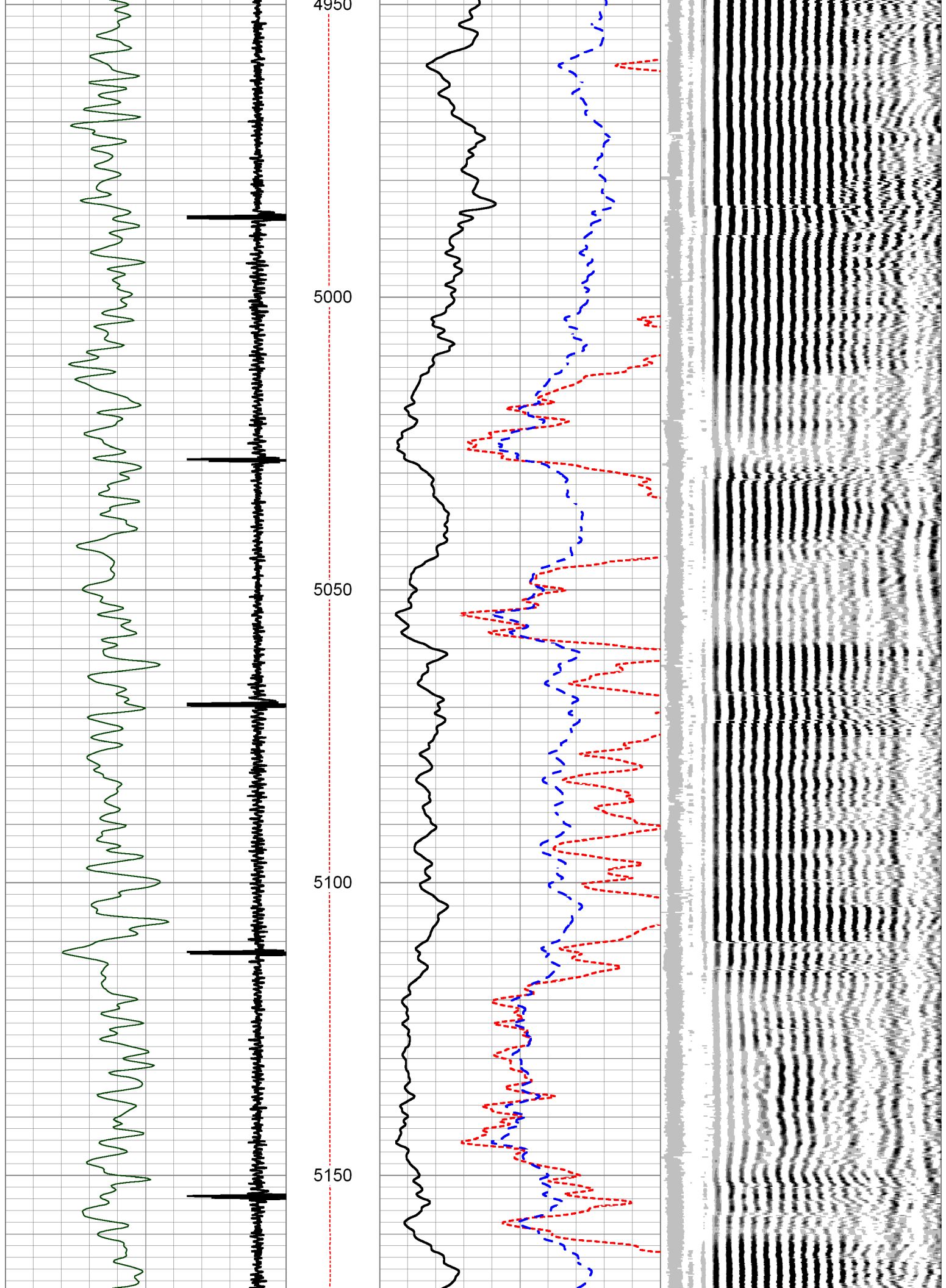


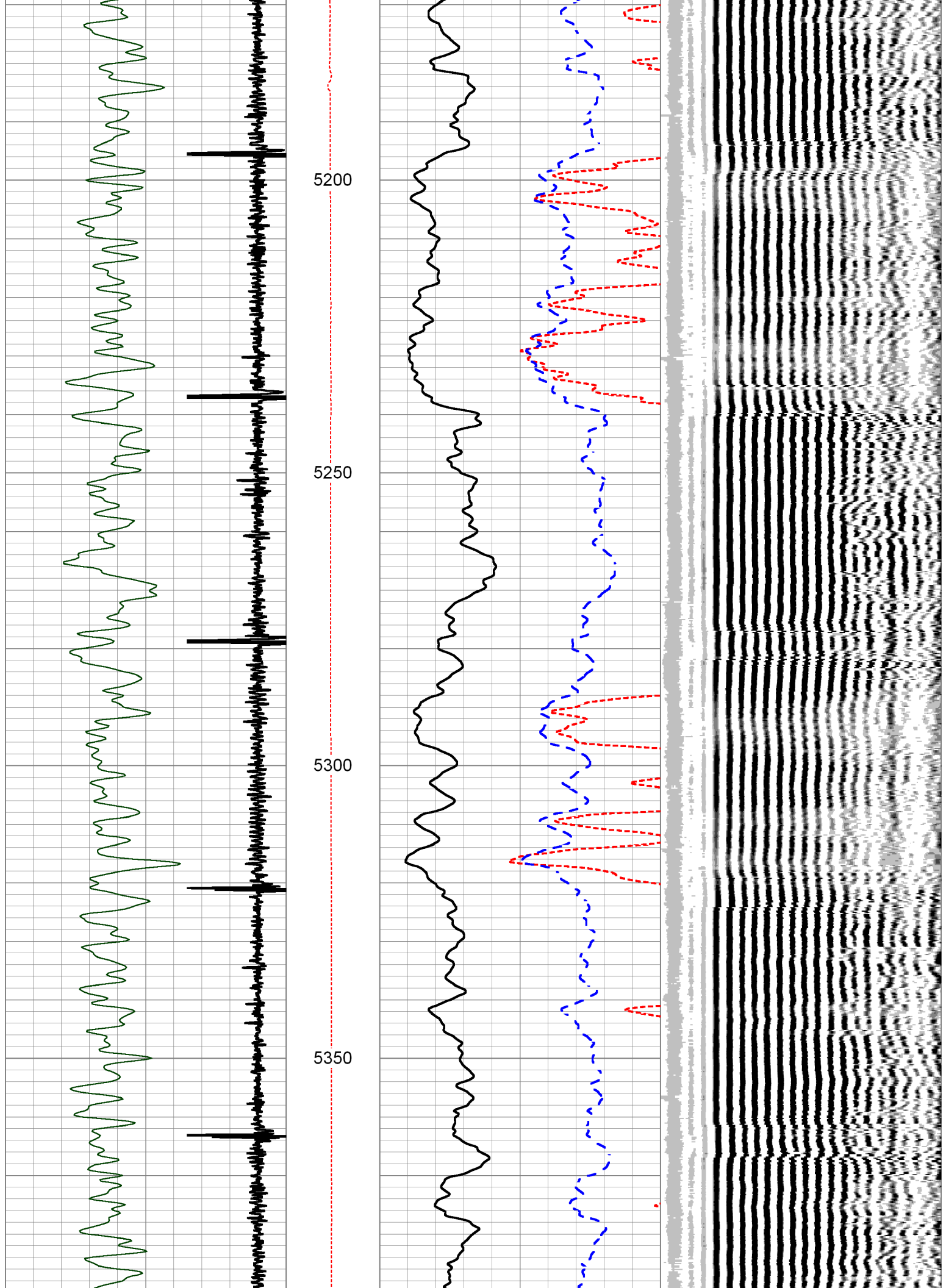


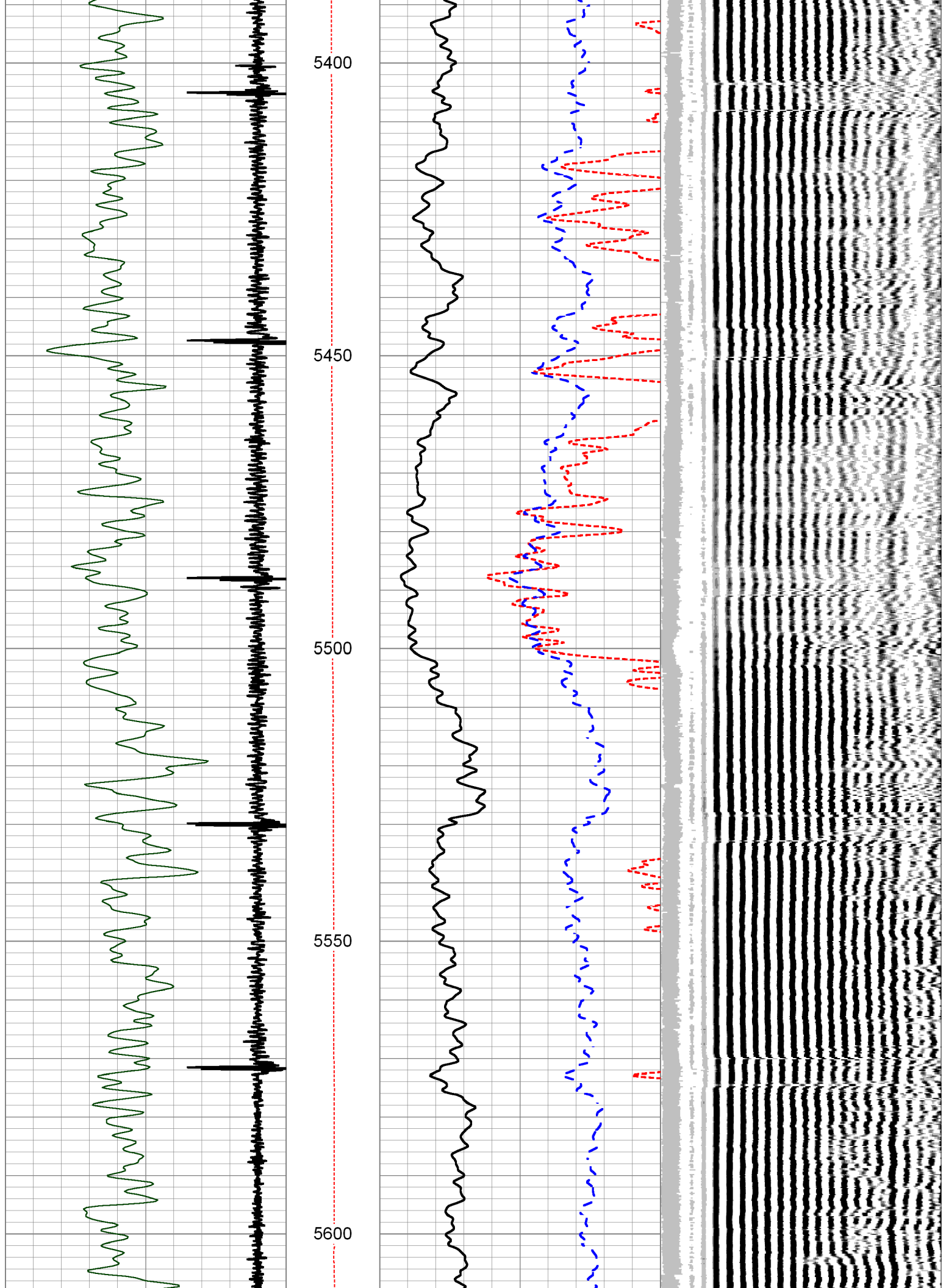


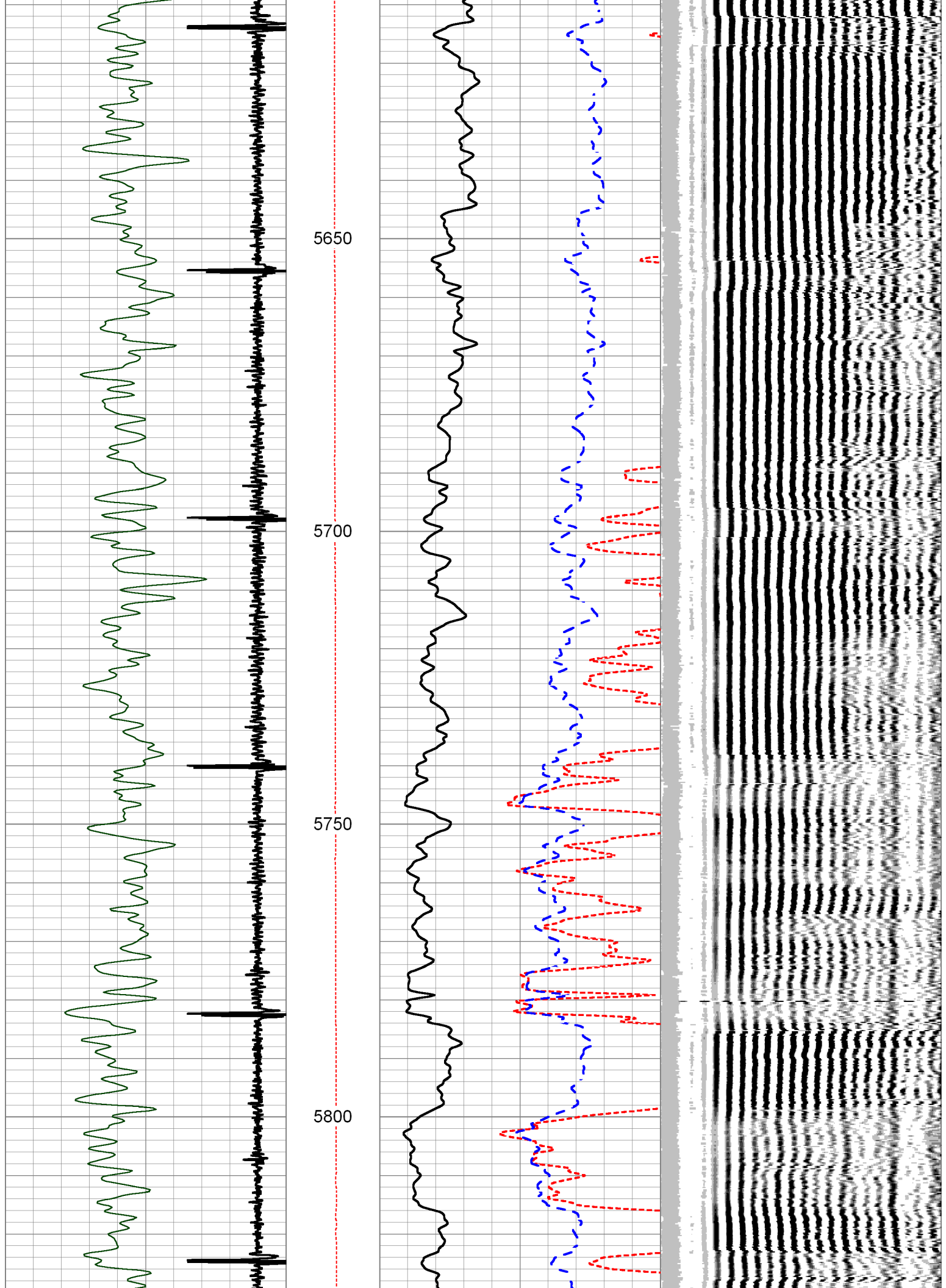


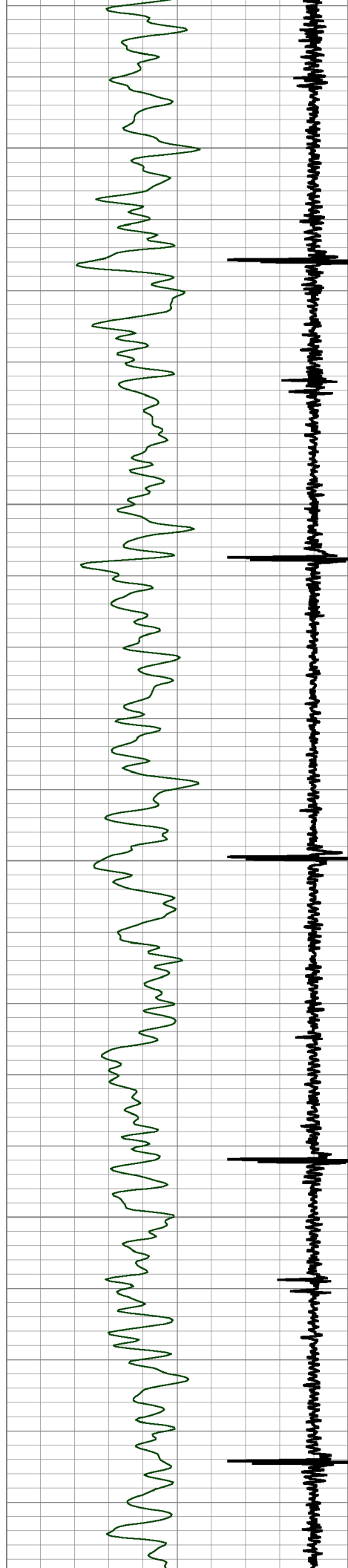












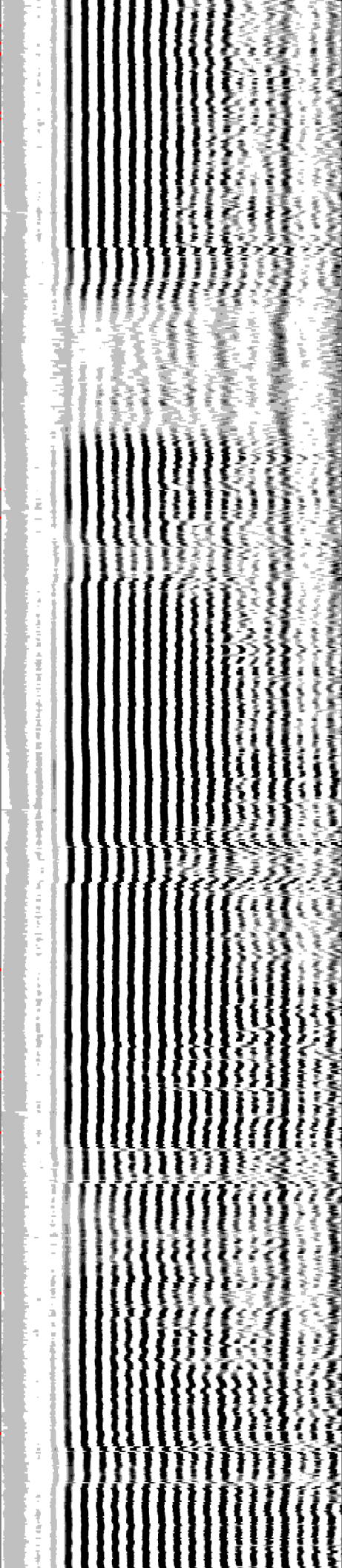
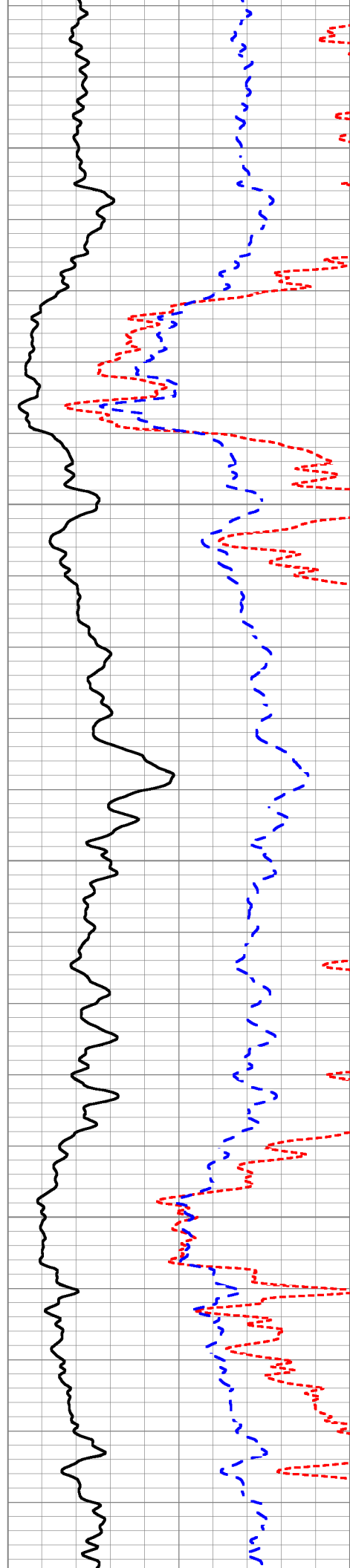
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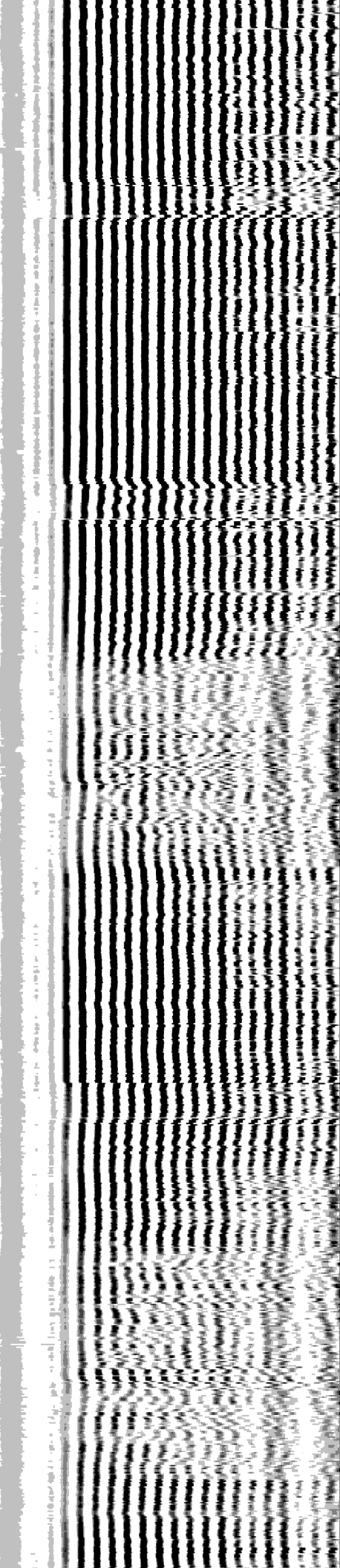
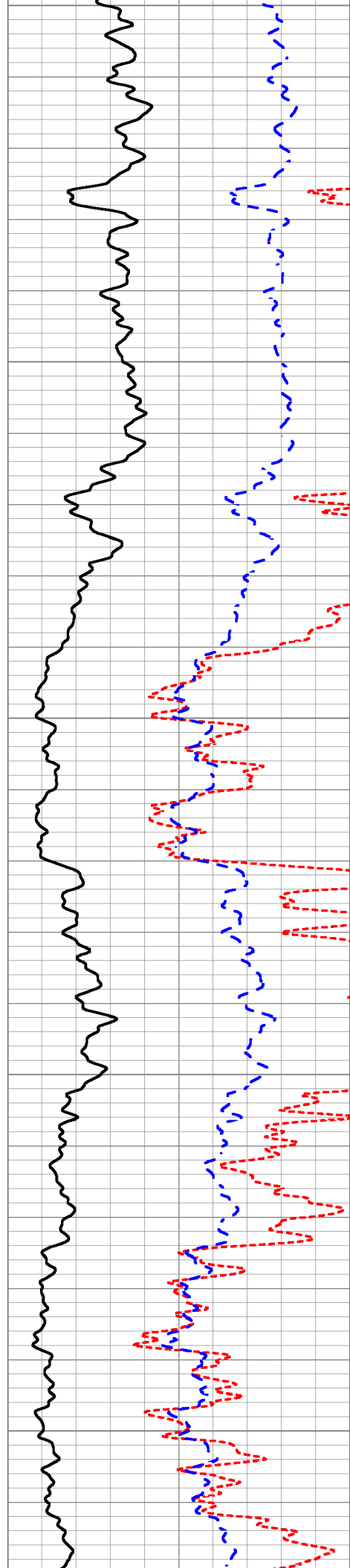
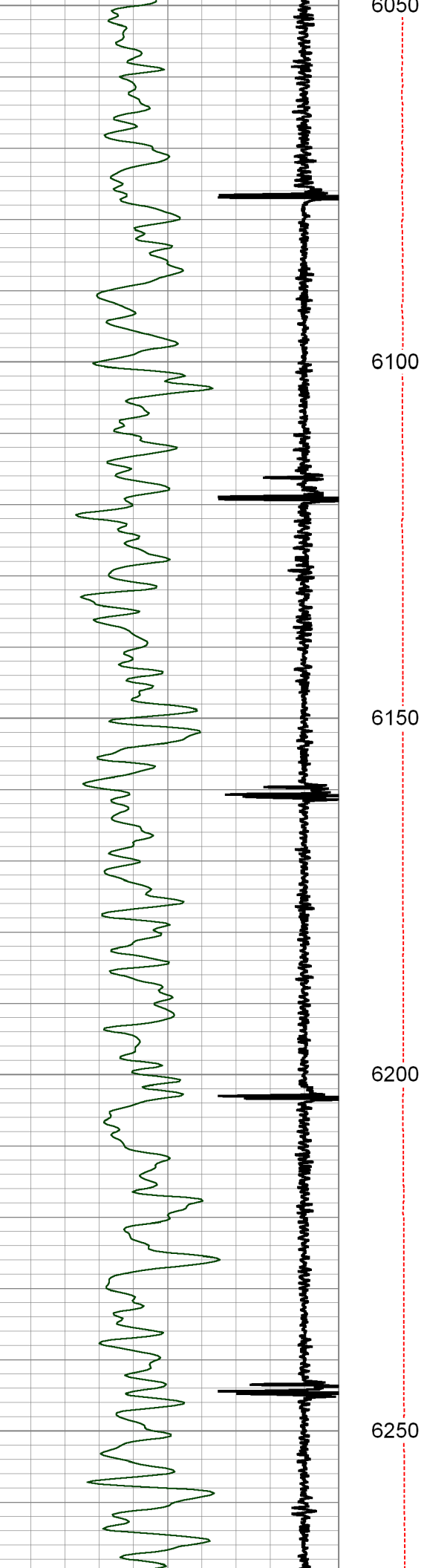
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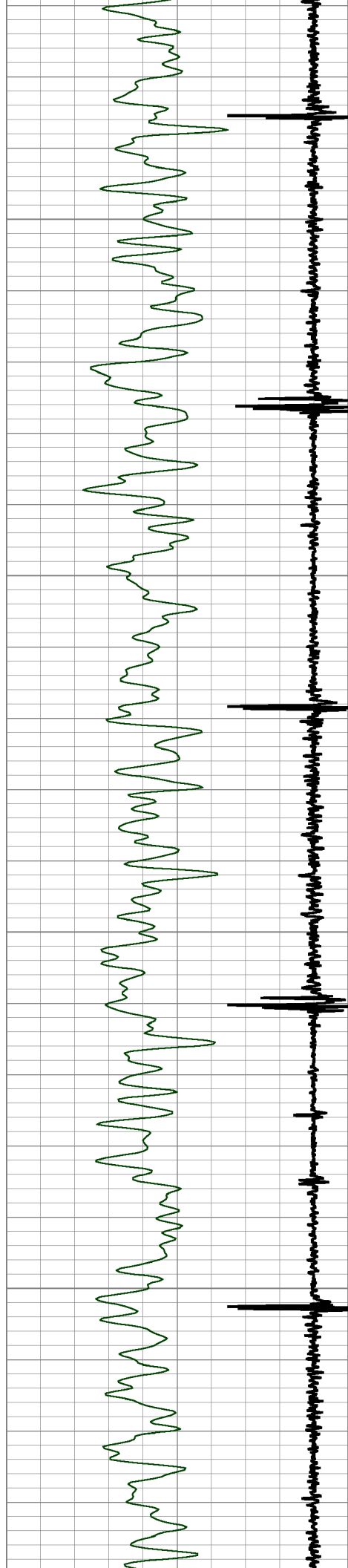
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6000

6050





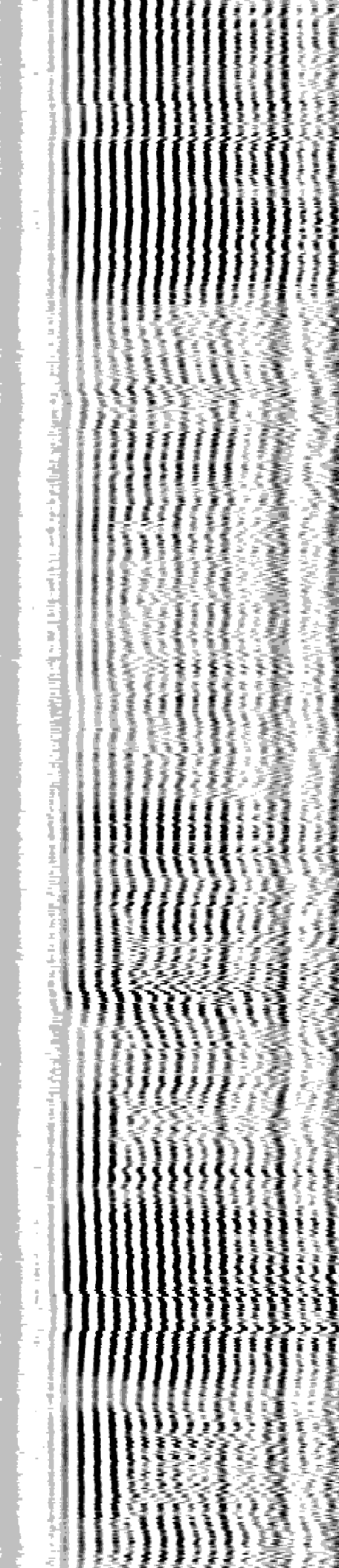
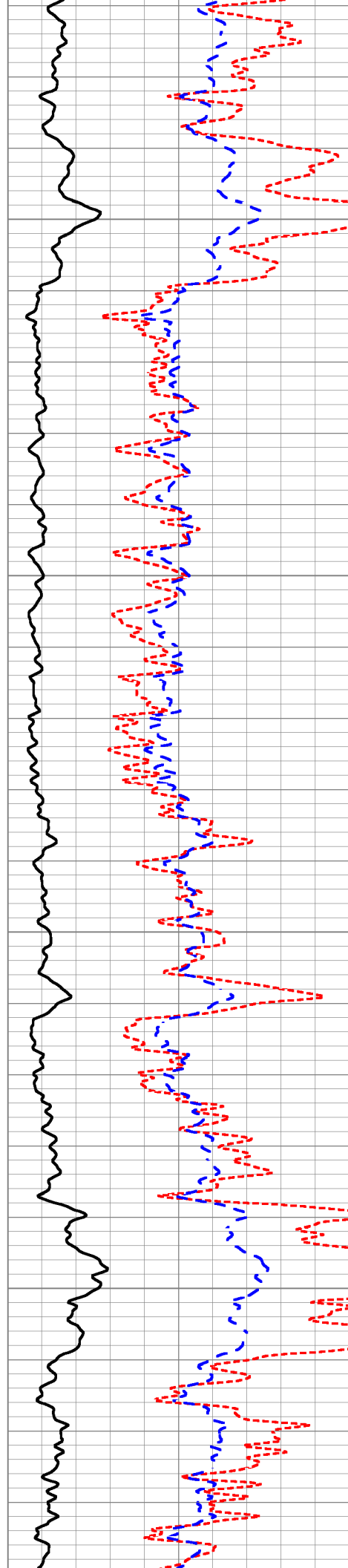


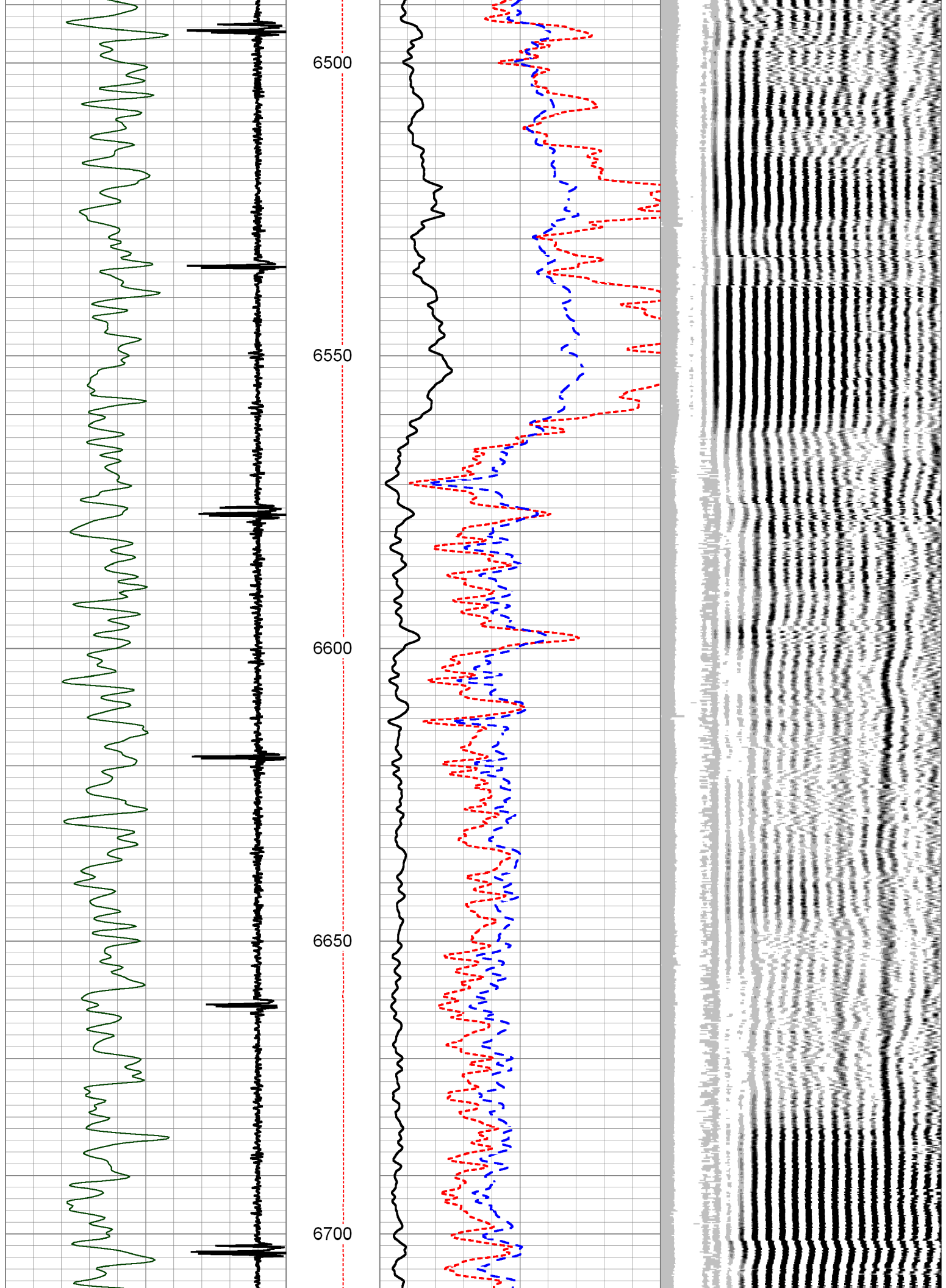
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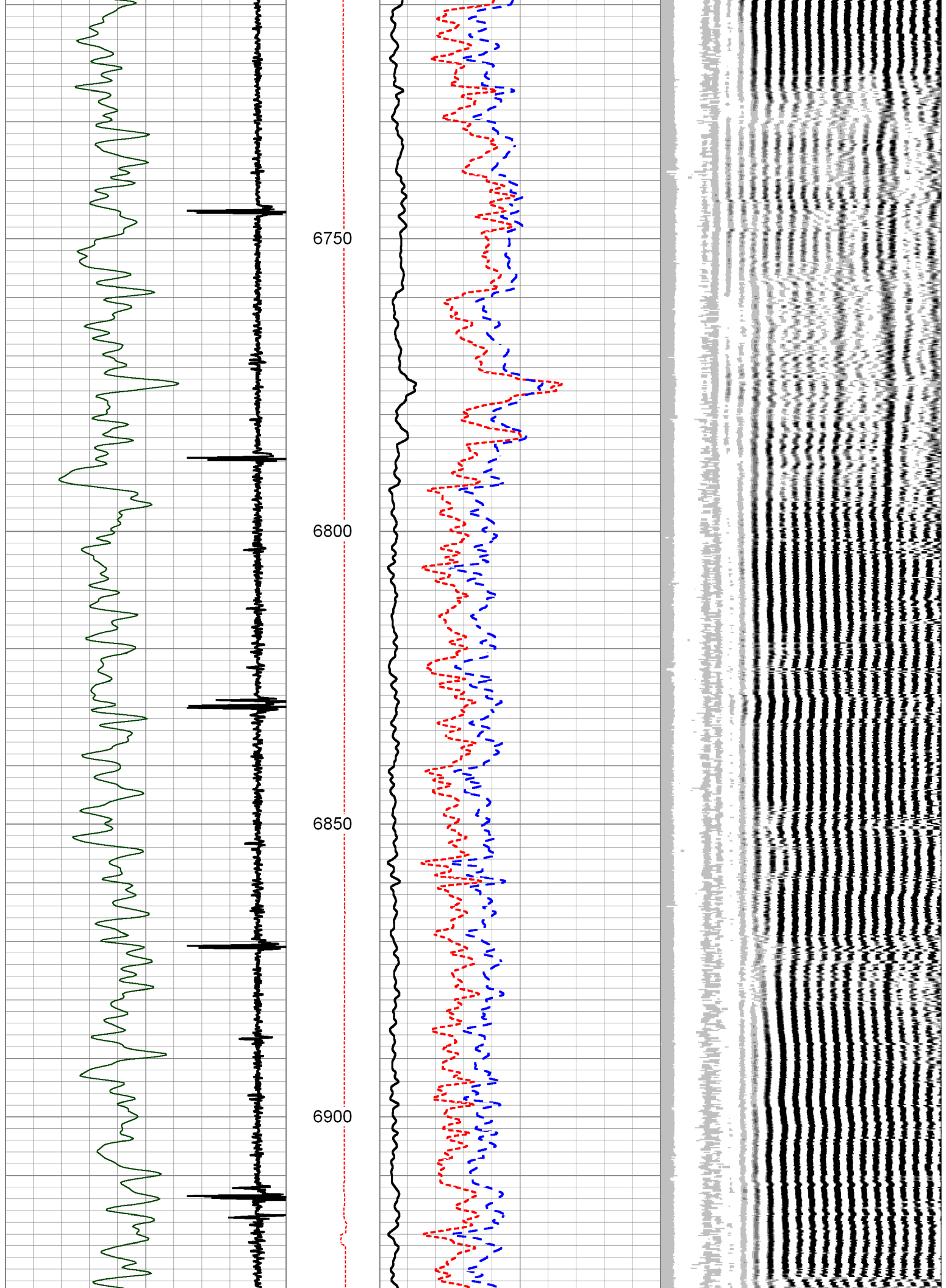
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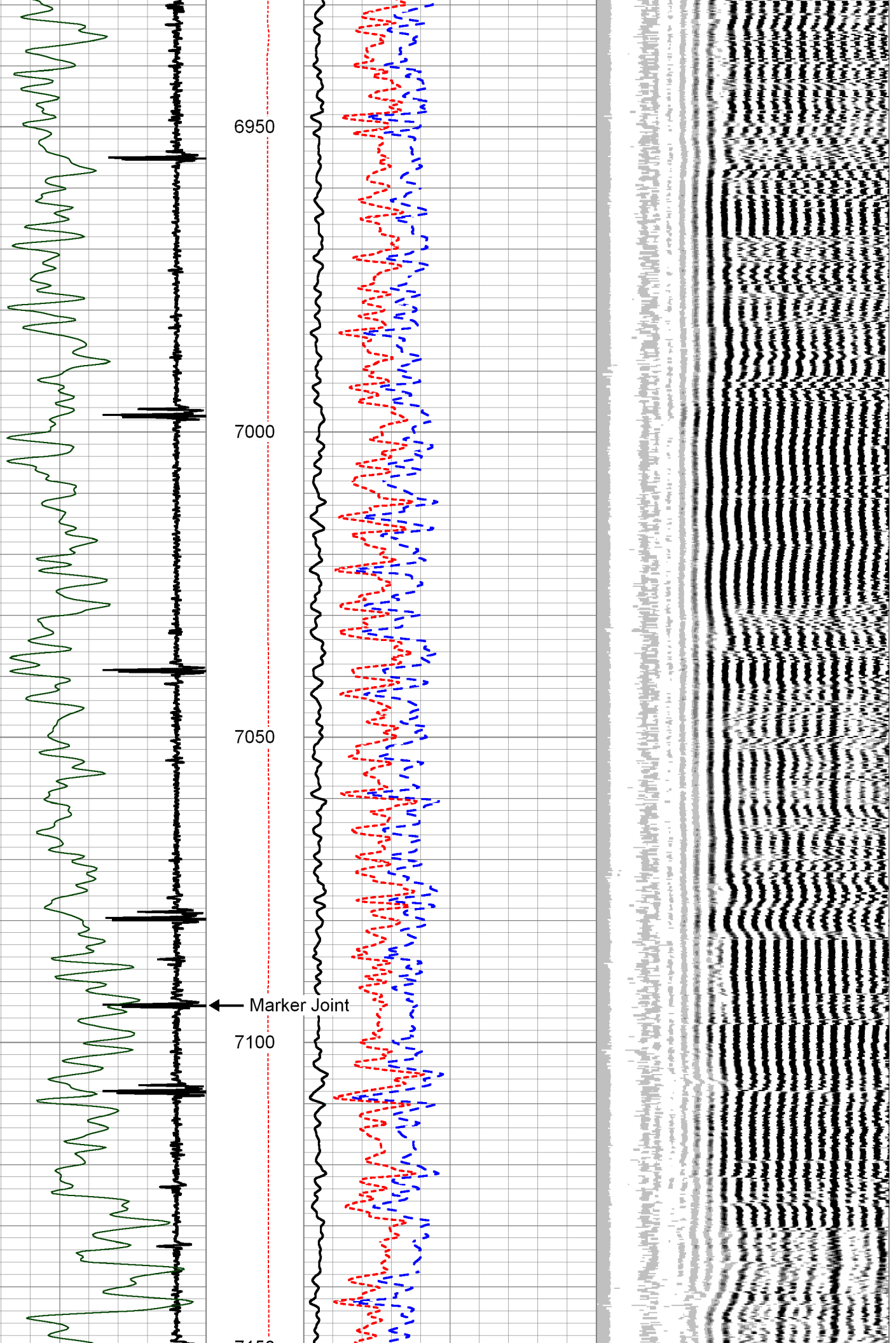
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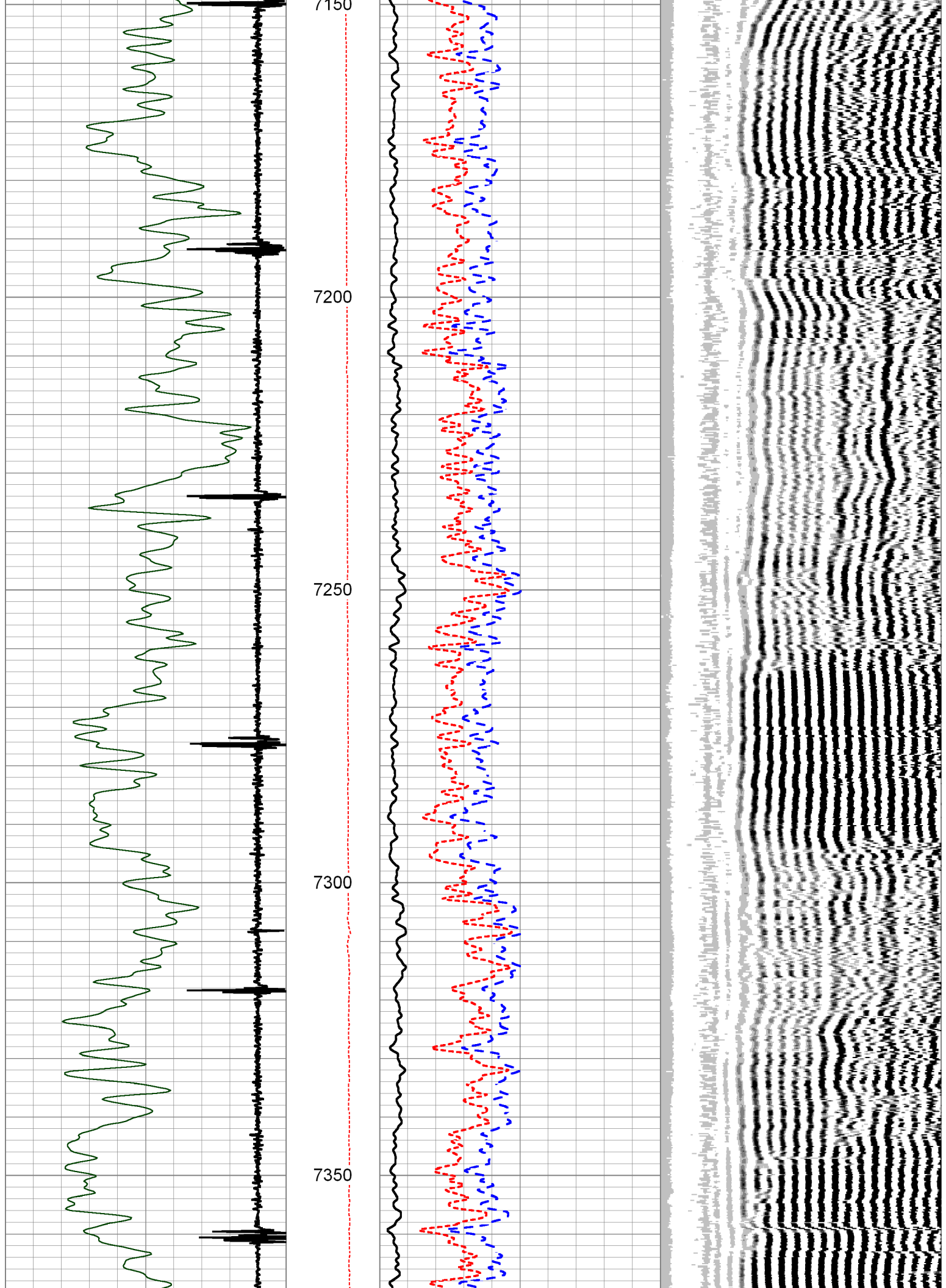
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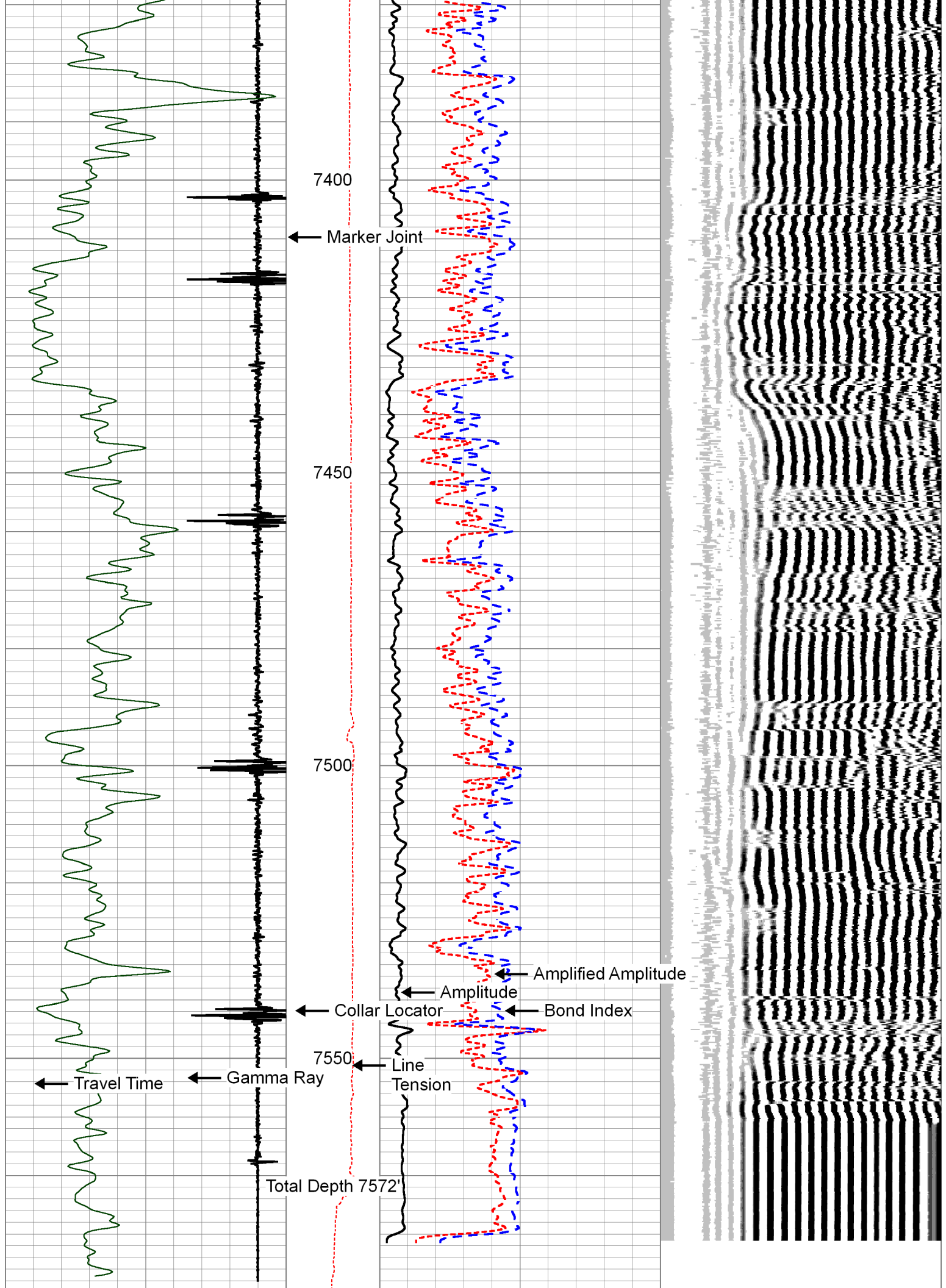












290	Travel Time (db/ft)	190	Line	0	Amplitude (mV)	100	200	VDL	1200
-9	Collar Locator	1	Tension	1	Bond Index	0			
0	Gamma Ray (GAPI)	200	0 (lb2000)						

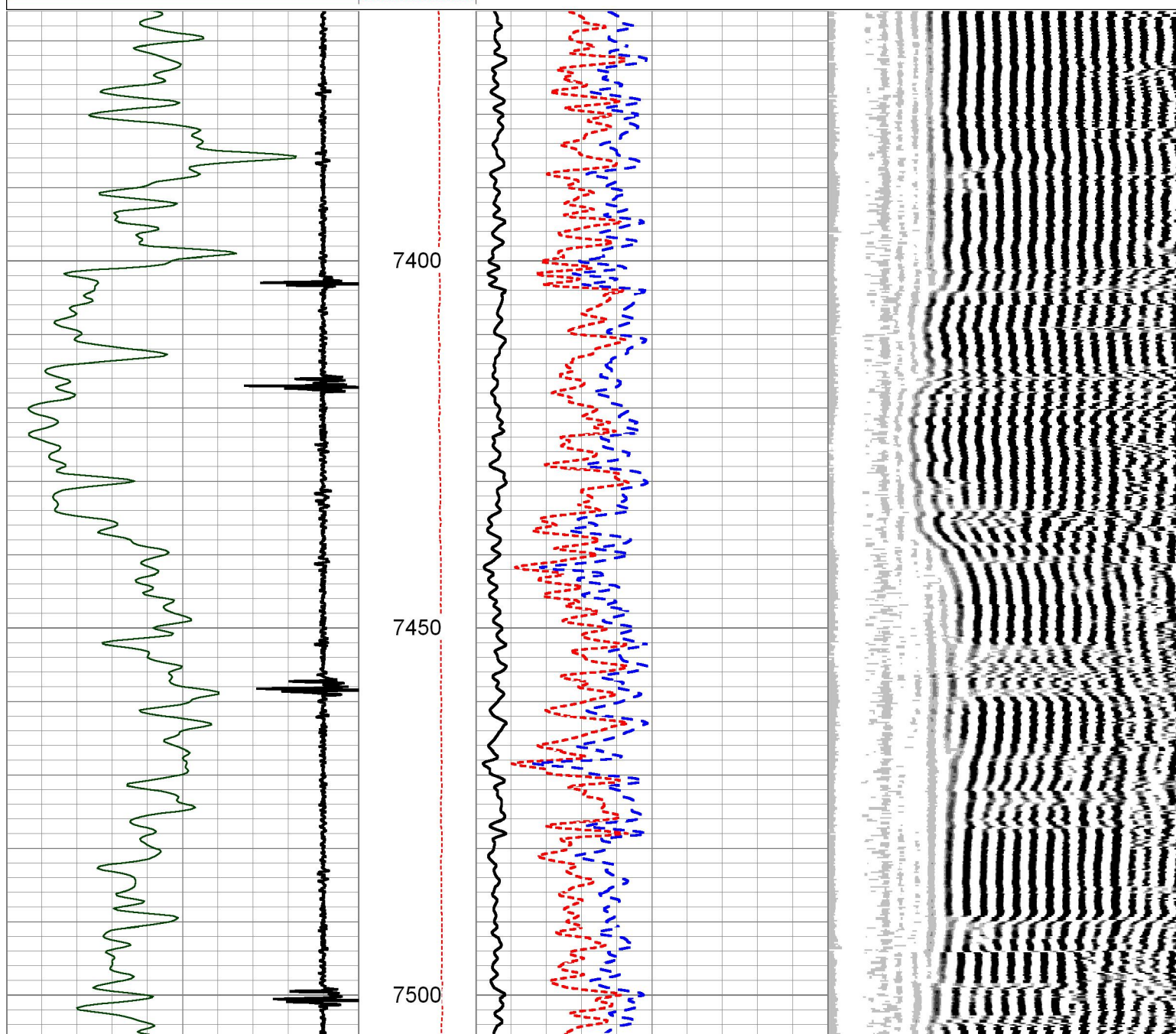


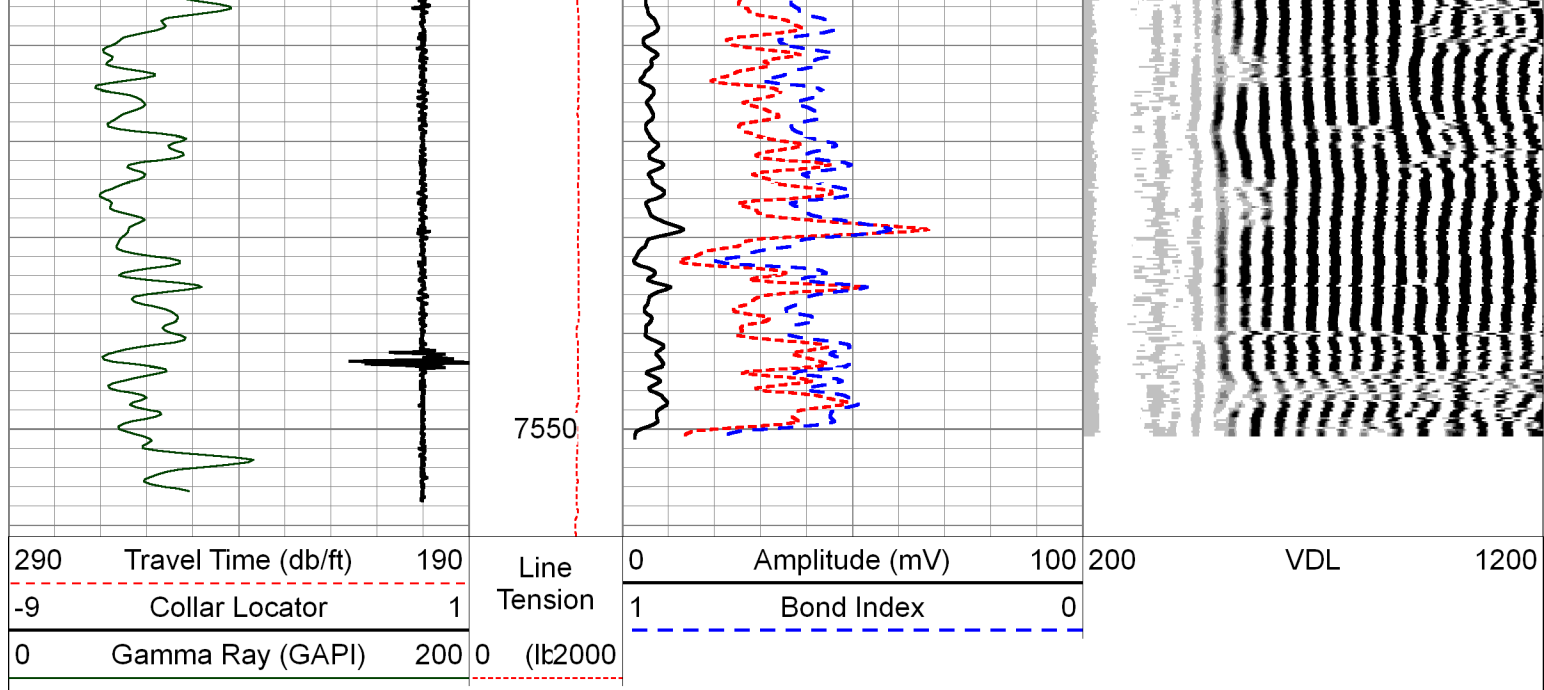
REPEAT SECTION

Zero PSI APPLIED AT SURFACE

Database File goza 18-2ae_cbl.db
Dataset Pathname pass3.2
Presentation Format pinr_cbl
Dataset Creation Tue Jan 05 16:25:35 2016
Charted by Depth in Feet scaled 1:240

290	Travel Time (db/ft)	190	Line	0	Amplitude (mV)	100	200	VDL	1200
-9	Collar Locator	1	Tension	1	Bond Index	0			
0	Gamma Ray (GAPI)	200	0 (lb2000)						





Calibration Report

Database File GOZA 18-2Ae_CBL.db
 Dataset Pathname pass3.1
 Dataset Creation Tue Jan 05 14:59:26 2016

Gamma Ray Calibration Report

Serial Number: 111211
 Tool Model: Probe
 Performed: Fri Dec 11 07:20:48 2015

Calibrator Value: 693.0 GAPI

Background Reading: 338.5 cps
 Calibrator Reading: 1057.0 cps

Sensitivity: 1.1000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: 070132_4in
 Tool Model: Probe

Calibration Casing Diameter: 4.500 in
 Calibration Depth: 1242.000 ft

Master Calibration, performed Tue Jan 05 13:34:19 2016:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.018	1.264	1.000	81.196	73.000	2.200
CAL	0.014	1.746				
5'	0.036	0.819	1.000	81.196	102.416	-2.684
SUM						
S1	0.175	1.349	0.000	100.000	85.184	-14.946
S2	0.013	1.270	0.000	100.000	79.578	-1.033
S3	0.012	1.243	0.000	100.000	81.231	-0.972
S4	0.023	1.245	0.000	100.000	81.832	-1.905
S5	0.028	1.245	0.000	100.000	82.186	-2.292

S6	0.027	1.275	0.000	100.000	80.133	-2.131
S7	0.029	1.360	0.000	100.000	75.162	-2.204
S8	0.022	1.400	0.000	100.000	72.583	-1.622

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.014	1.746	1.000	0.000

Air Zero Calibration, performed Tue Jan 05 12:50:16 2016:

	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	GRIZZLY OPERATING LLC
Well	GOZA 18-2Ae
Field	WATTENBERG
County	WELD
State	COLORADO

Country	USA
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