

HALLIBURTON										CEMENT BOND LOG									
Company URSA OPERATING COMPANY LLC Well TOMPKINS 42C-08-07-95 Field PARACHUTE County GARFIELD State CO										Company URSA OPERATING COMPANY LLC Well TOMPKINS 42C-08-07-95 Field PARACHUTE County GARFIELD State CO									
API No.: 05045224740000 Serv #: 903518402 Location: SHL: 200' FSL & 535' FEL BHL: 2090' FNL & 660' FEL										Other Services									
Sec: 11 Twp: 6S Rge: 92W										RMT-1									
Permanent Datum GROUND LEVEL Elevation 5532'										Elevation									
Log Measured From KB 17' Ft. above perm. datum										K.B. 5549'									
Drilling Measured From KB										D.F. 5549'									
										G.L. 5532'									
Date @ Time Logged 07 SEPT 2016 @ 00:00										Type Fluid in Hole FRESH WATER									
Run No. ONE										Density of Fluid 8.4 PPG									
Depth - Driller 7599'										Fluid Level SURFACE									
Depth - Logger 7350'										Cement Top Est. Logged 1500'									
Bottom - Logged Interval 7350'										Equipment / Location 11808537 / RS. WY									
Top - Log Interval 1747'										Recorded by S. BURGLE									
Max. Recorded Temp. 198 degF										Witnessed by N/A									
CEMENTING DATA										Protection									
Surface String										String									
Date / Time Cemented N/A										String N/A									
Primary / Squeeze N/A										N/A									
Expected Compressive Strength N/A										psi@ N/A hrs									
Cement Volume N/A										N/A									
Cement Type / Weight N/A										N/A									
Formulation N/A										N/A									
Mud Type / Mud Wgt. N/A										N/A									
Borehole Record										Casing & Tubing Record									
Run Number										Bit									
ONE										24" SURFACE									
TWO										12.25" 60' 1847' 7599'									
THREE										7.875" 1847' 7599'									

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HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

Comments

ESTIMATED TOP OF CEMENT : 1500'
GAMMA BLANKET : 223 GAPI
FREE PIPE CALIBRATION DEPTH : 500'

MAIN PASS SPLICED AT 6812'

GAMMA RAY HIGH FROM 6760' - 6810' DUE TO NUETRON ACTIVATION

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SVCS.
YOUR CREW TODAY : SONNY BURGIE, BLAKE RIDDEL, DANIEL FLINDERS, CHUCK SIMONS, BRAD BRUDERER

No.	FROM	TO	Pressure	Gamma	Beam			
ONE	7350'	7100'	0 PSI	20	REPEAT			
TWO	7350'	1747'	0 PSI	20	MAIN			
	GAMMA RAY		SIGMA		AMPLITUDE			
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	200	60	0	0	100		
TWO	0	200	60	0	0	100		
DIRECTIONAL INFORMATION								
Maximum Deviation			deg. @		KOP			

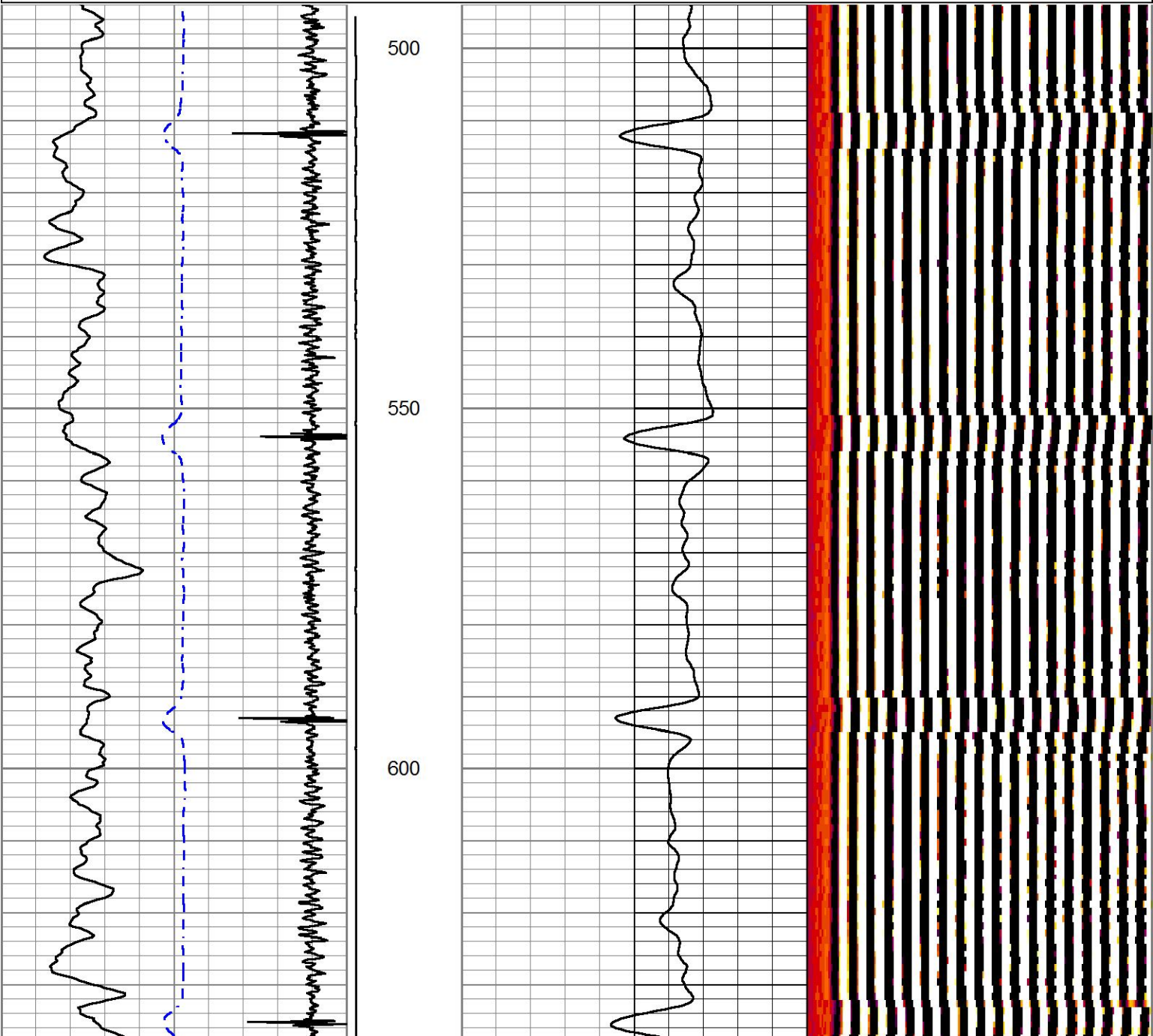
HALLIBURTON

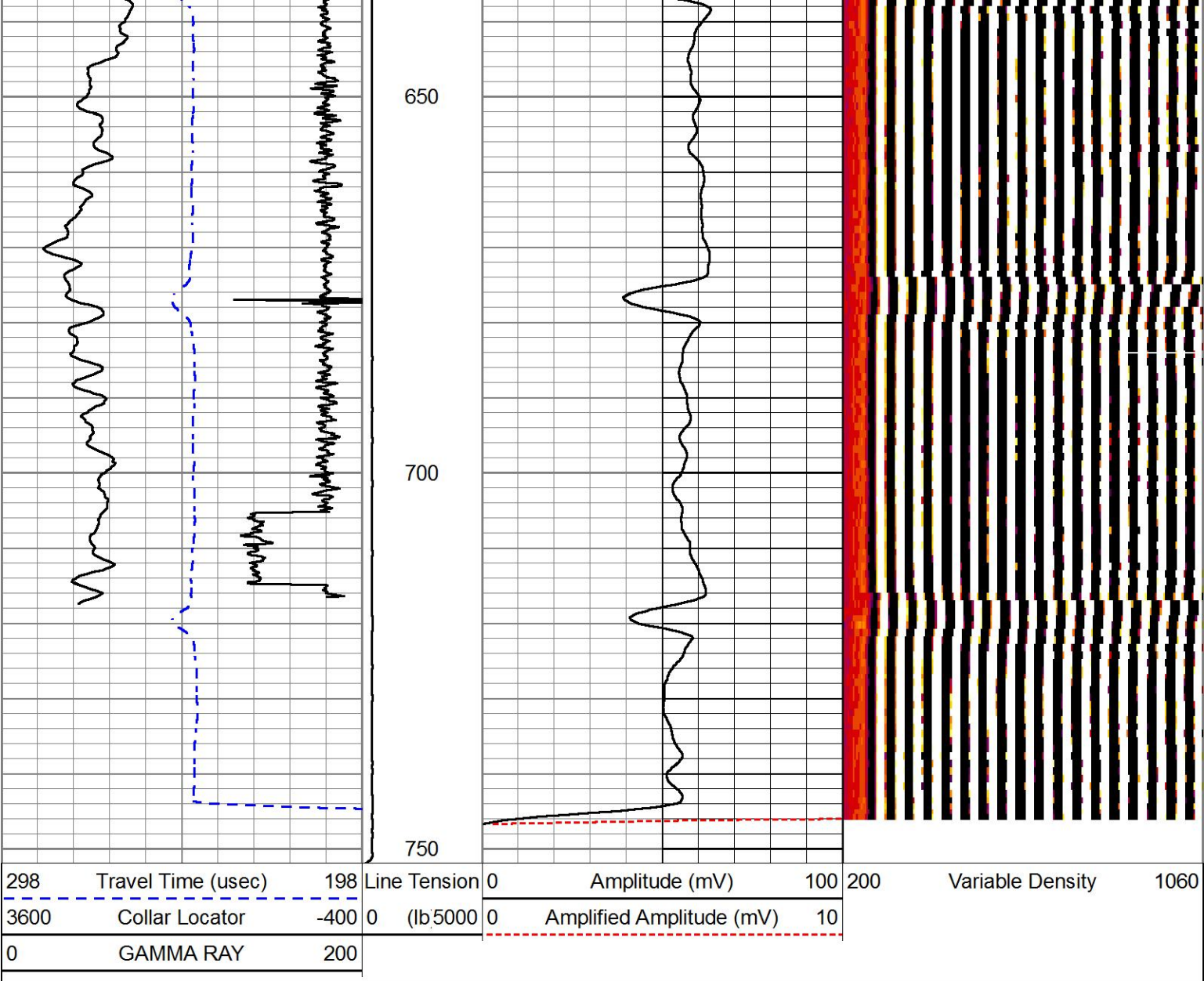
FREE PIPE SECTION

5" = 100'

Database File	thompkins_42c_08_07_95.db									
Dataset Pathname	rmti1/pass10									
Presentation Format	!1!!cbl_rmti									
Dataset Creation	Wed Sep 07 02:20:35 2016									
Charted by	Depth in Feet scaled 1:240									

298	Travel Time (usec)	198	Line Tension	0	Amplitude (mV)	100	200	Variable Density	1060
3600	Collar Locator	-400	0 (lb/5000	0	Amplified Amplitude (mV)	10			
0	GAMMA RAY	200							





FREE PIPE SECTION

HALLIBURTON

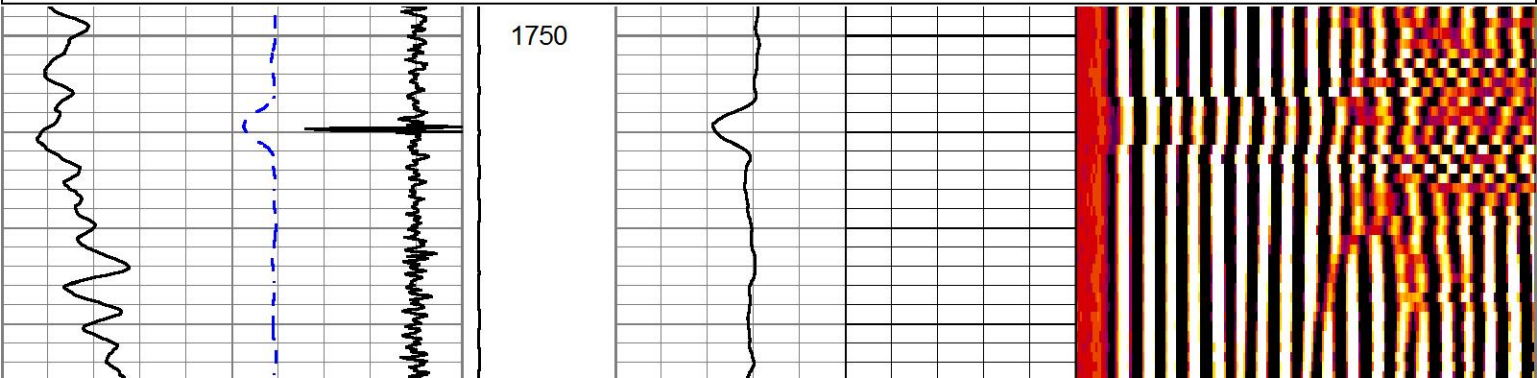
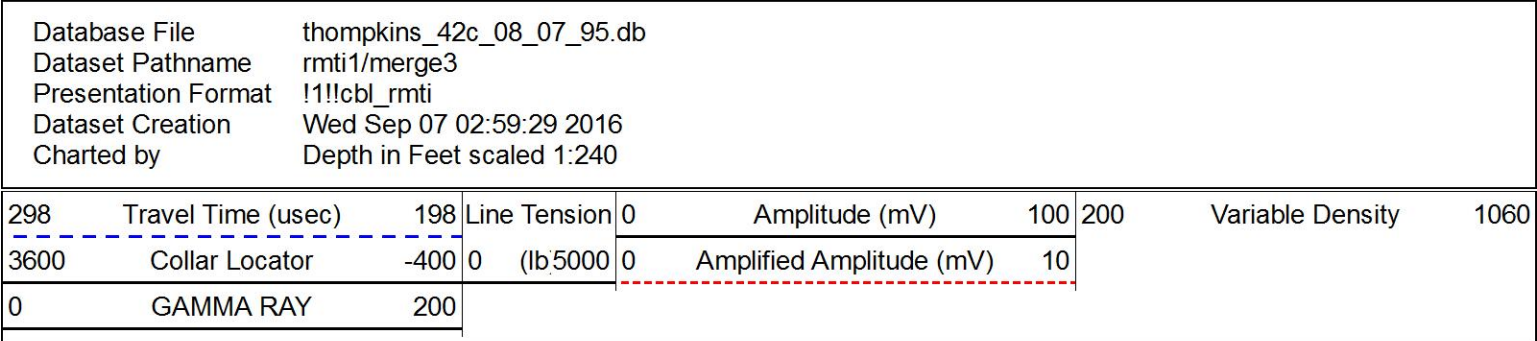
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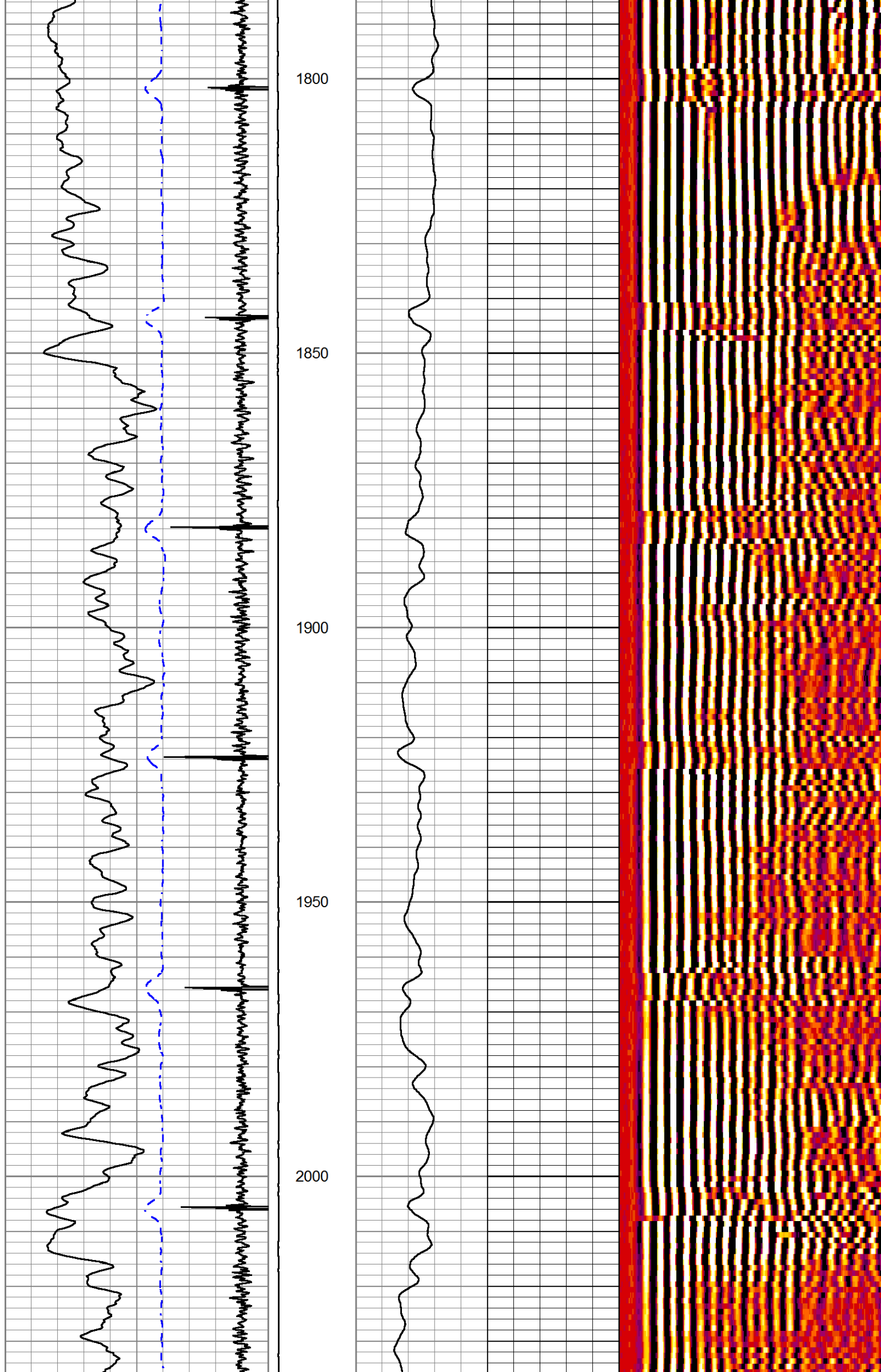


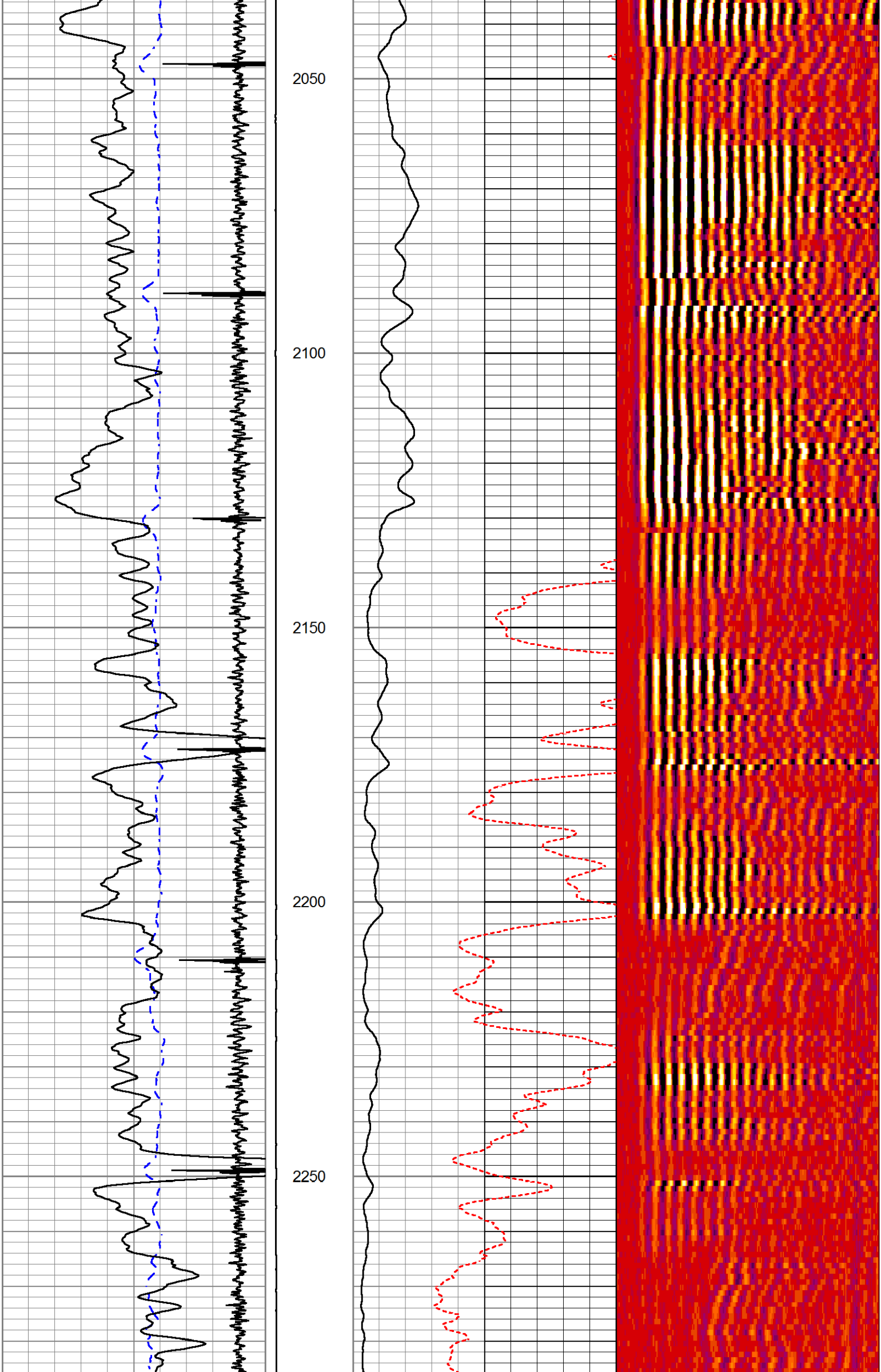
MAIN PASS

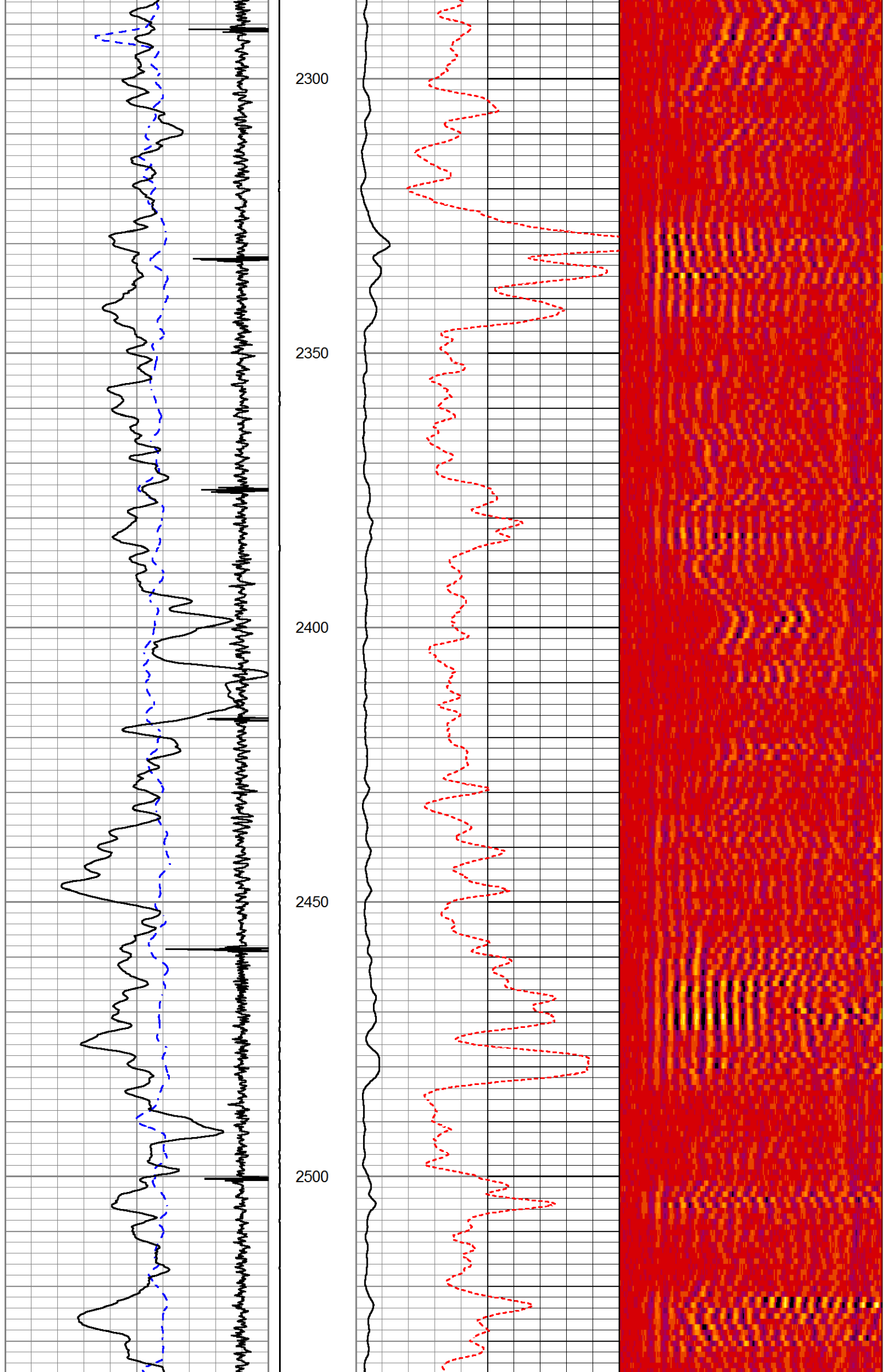
HALLIBURTON

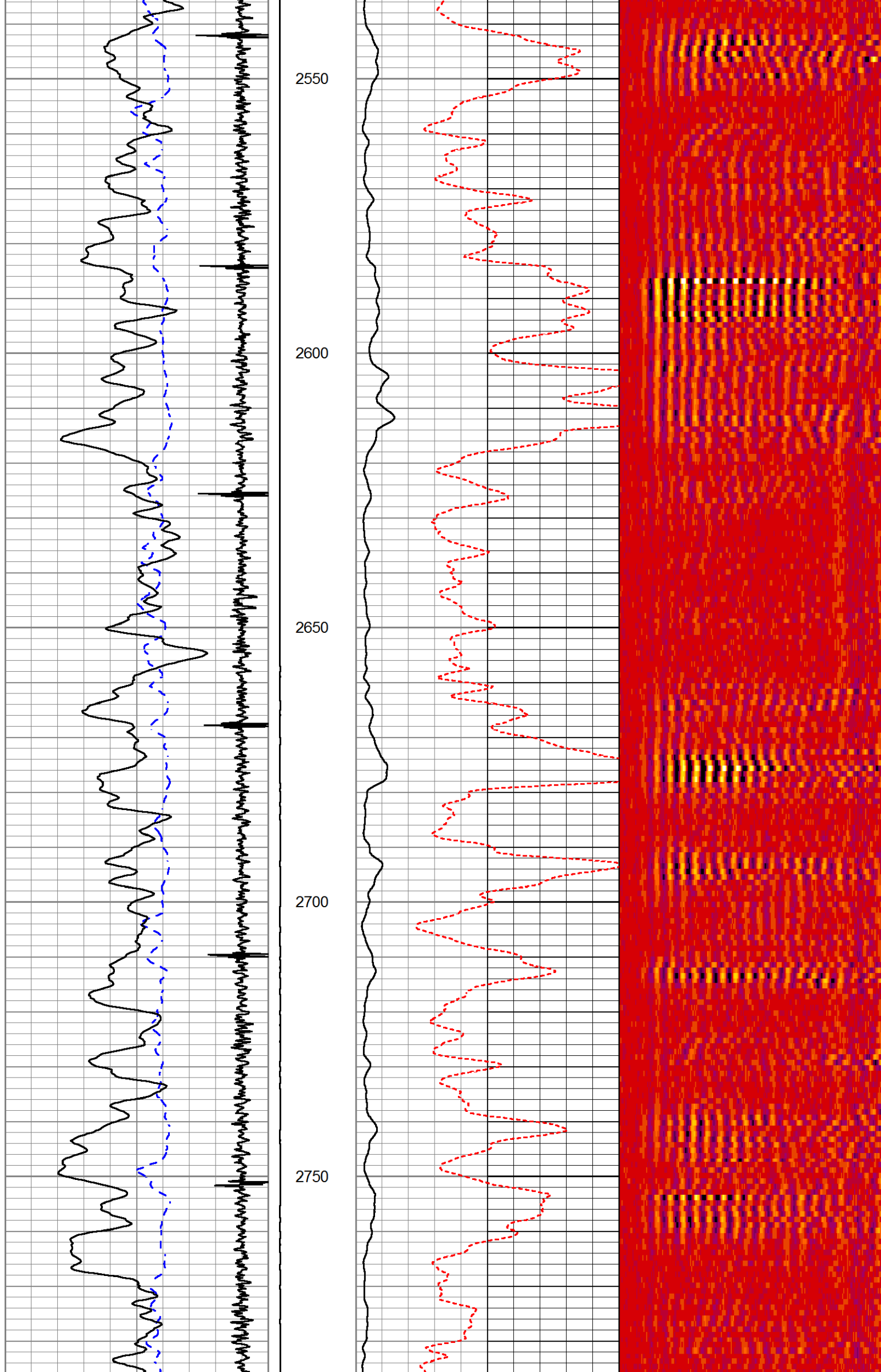
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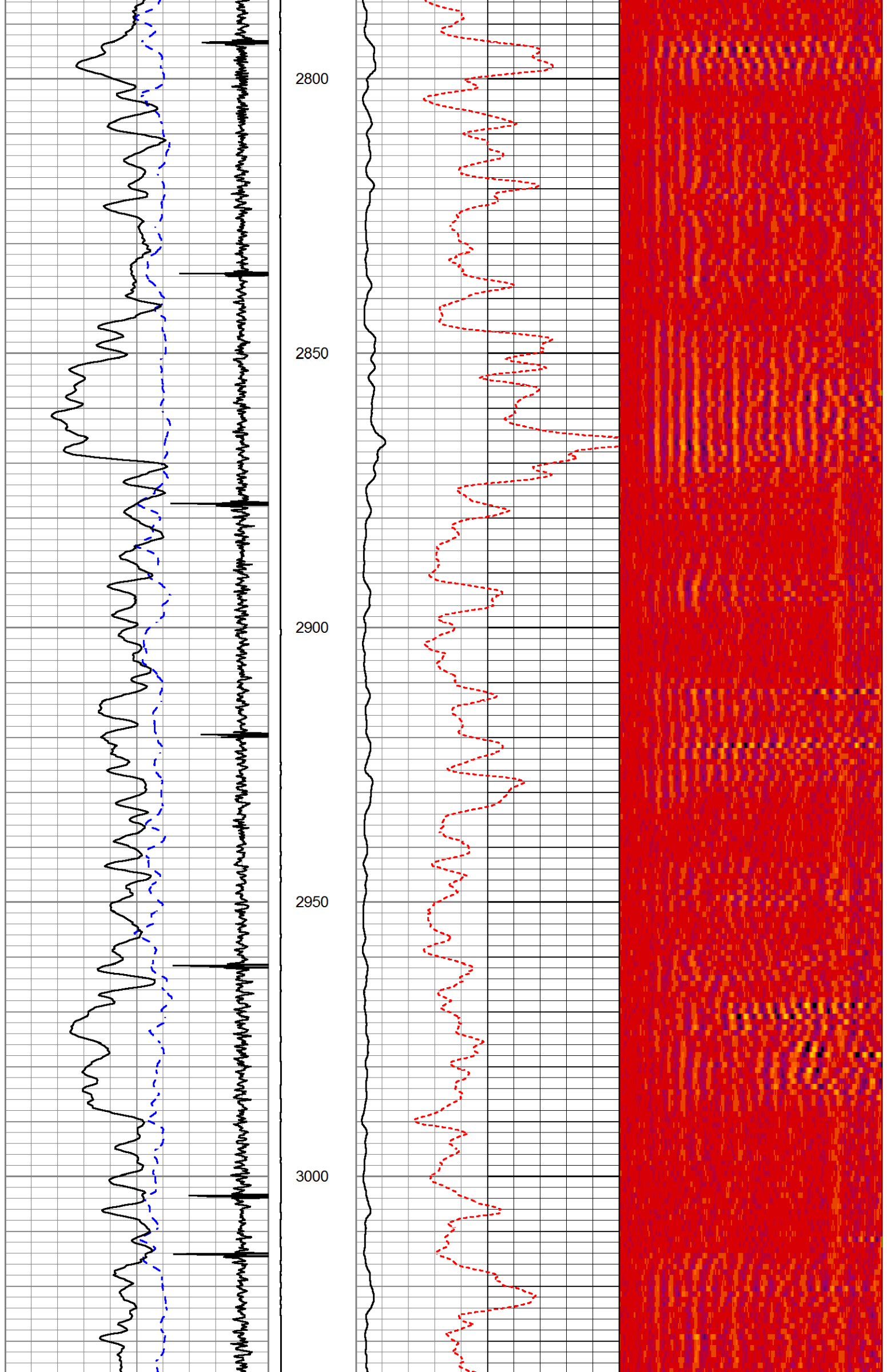


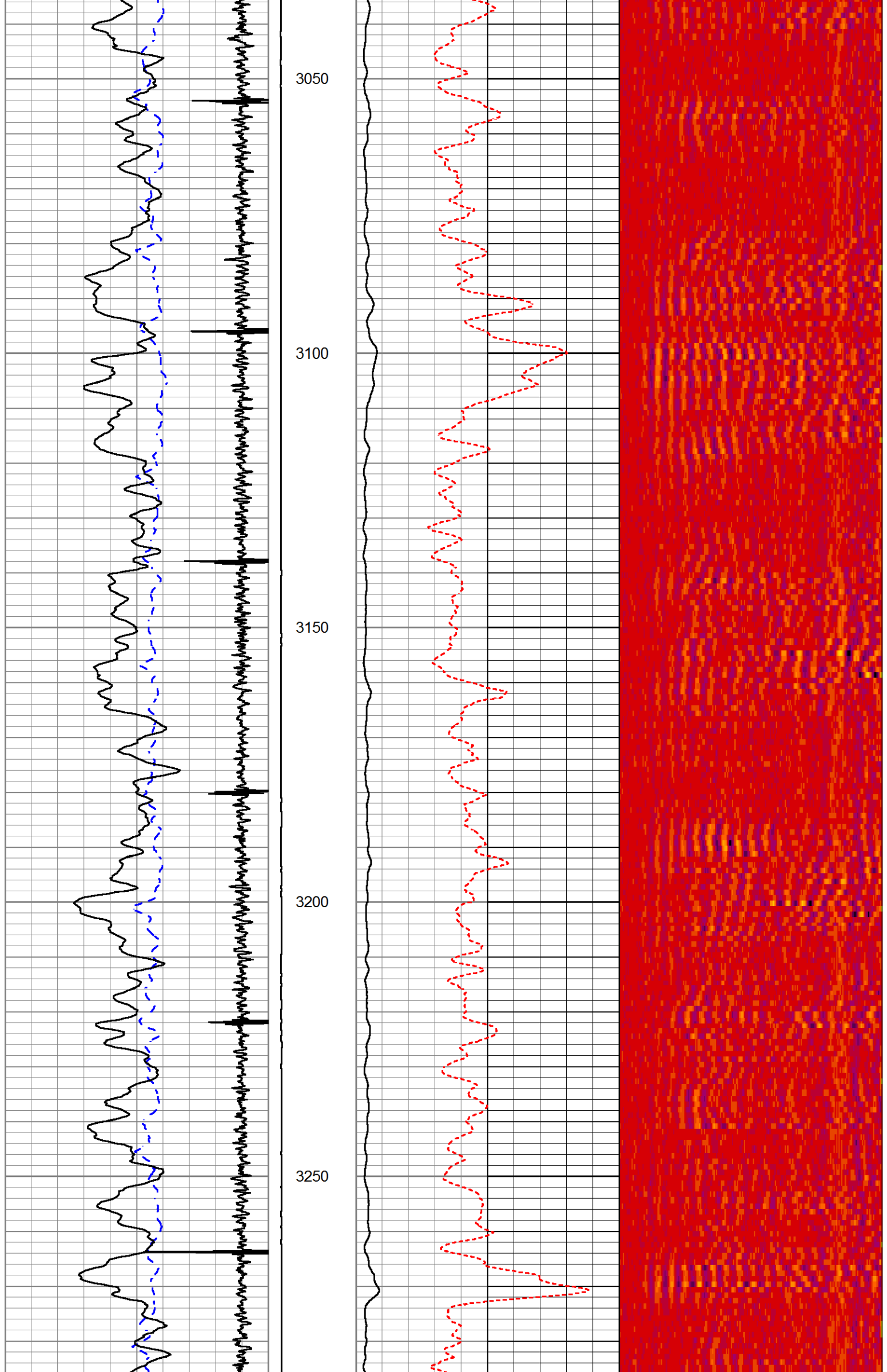


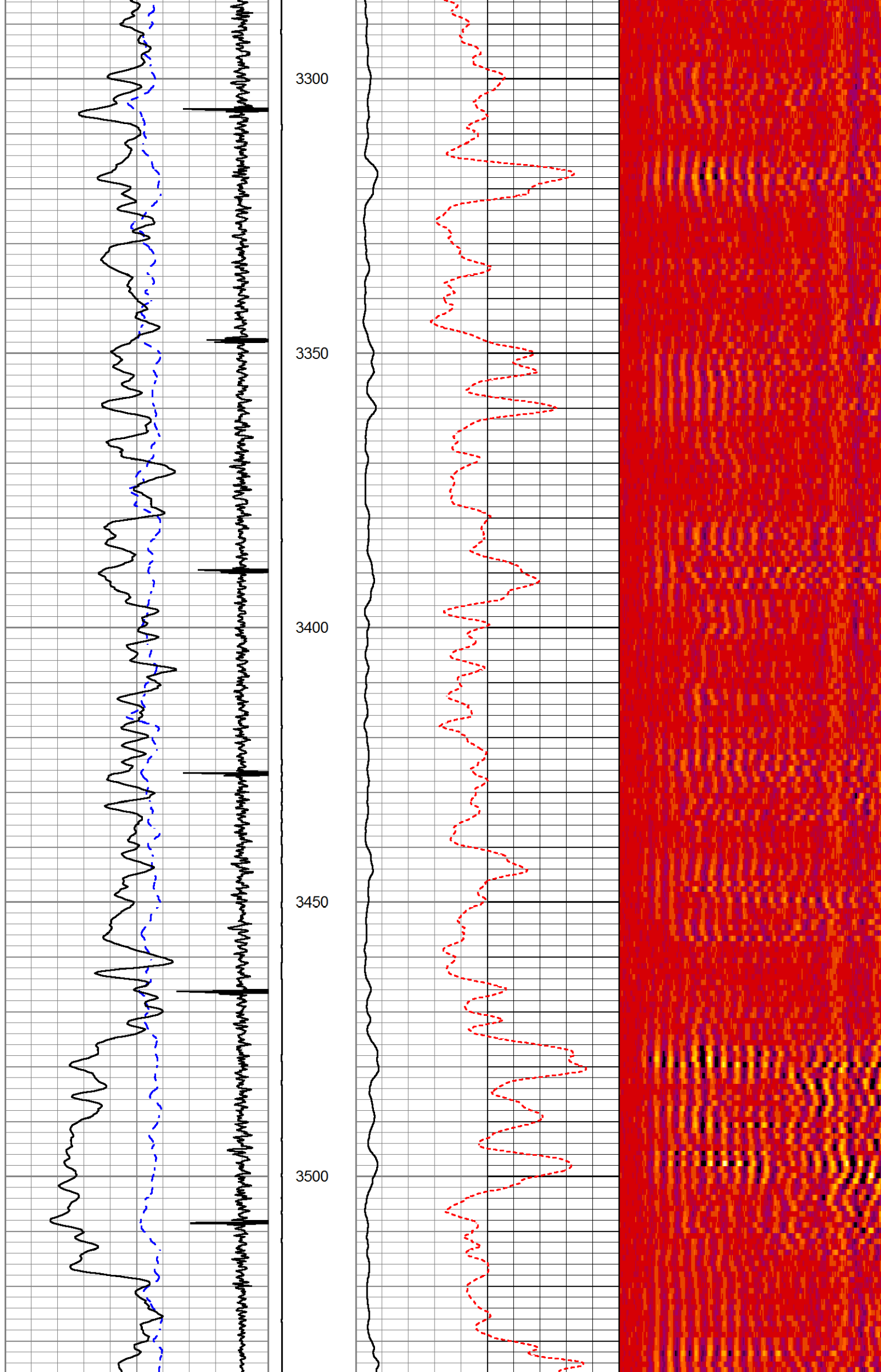


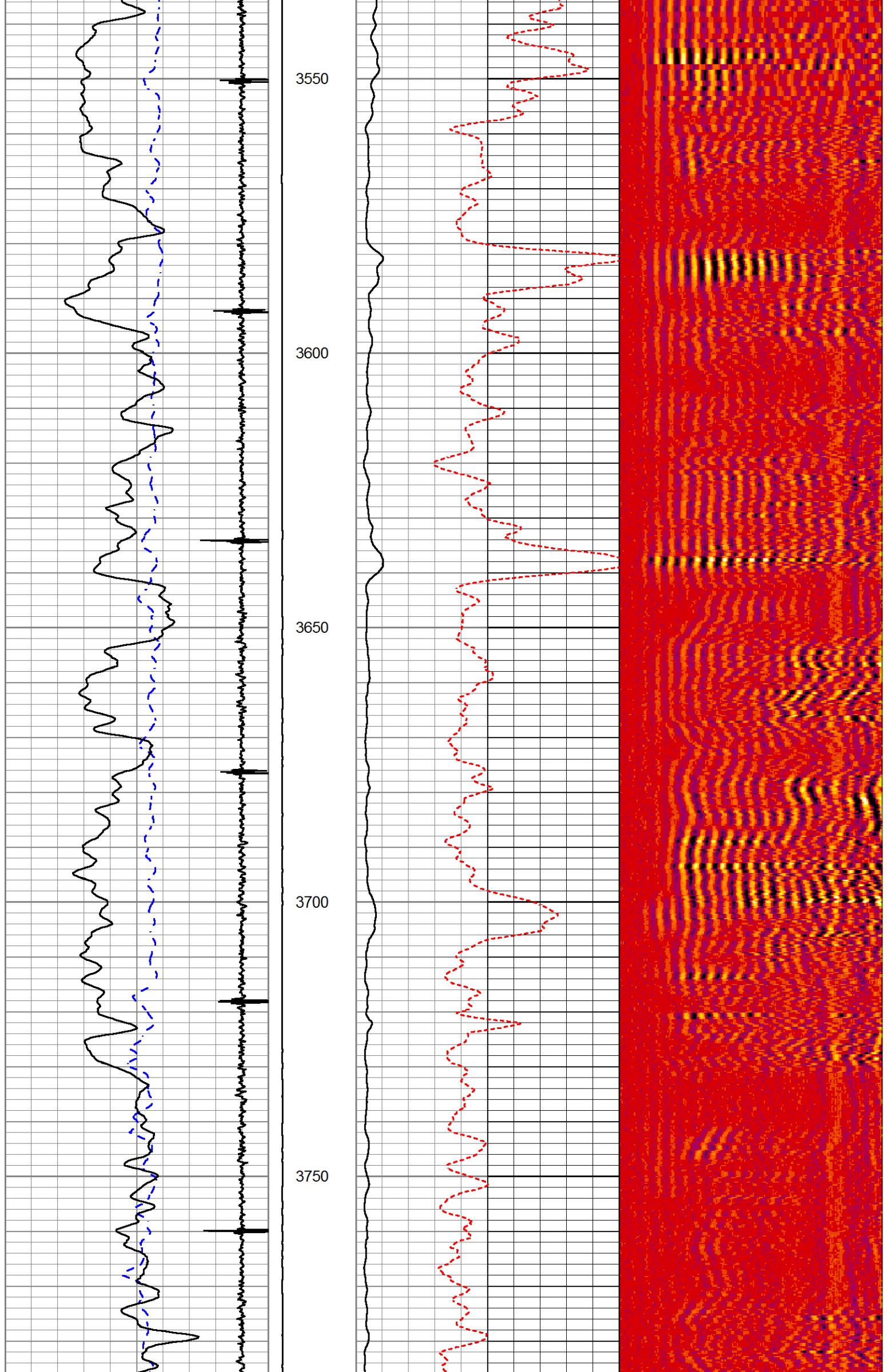


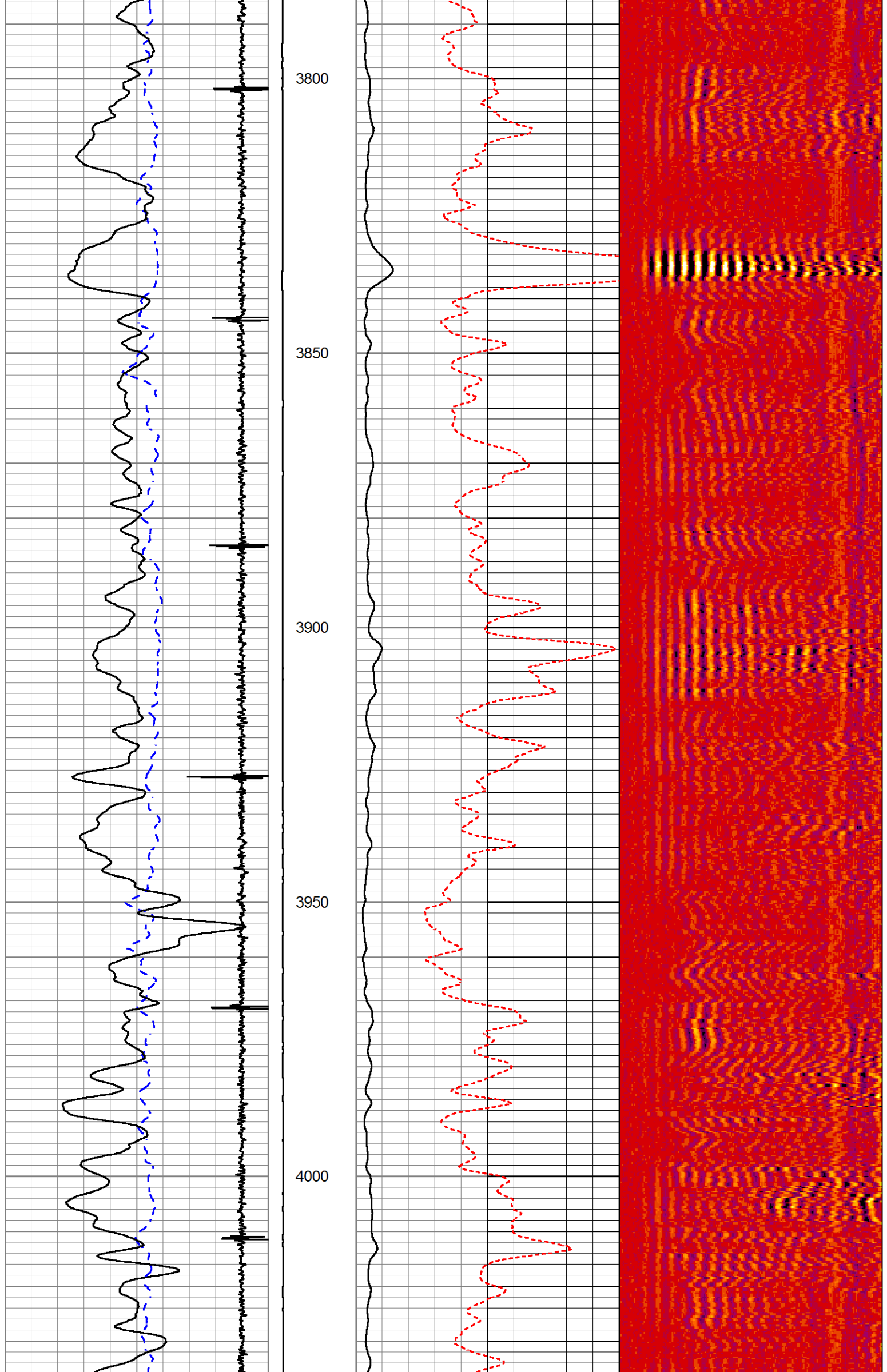


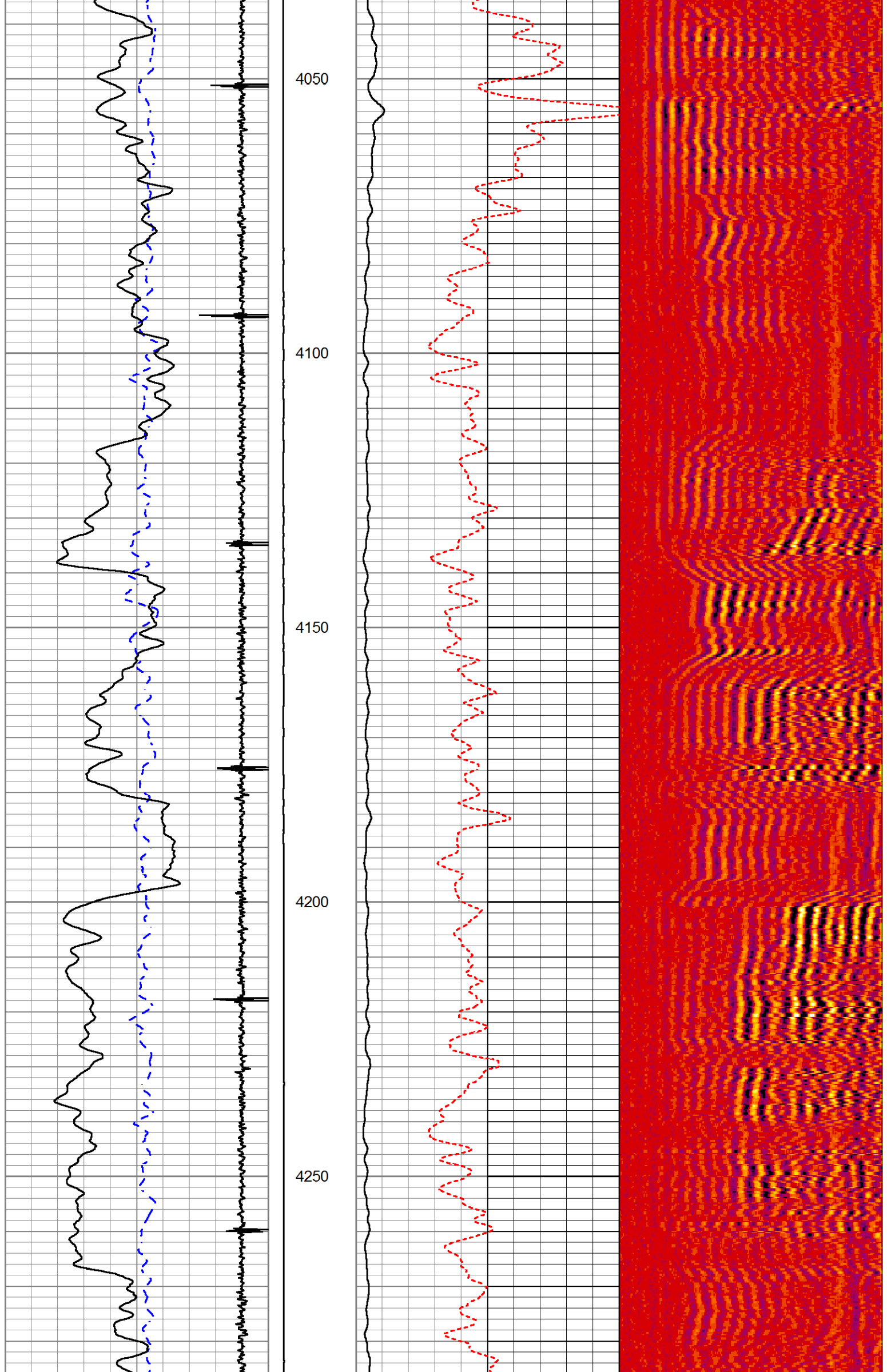


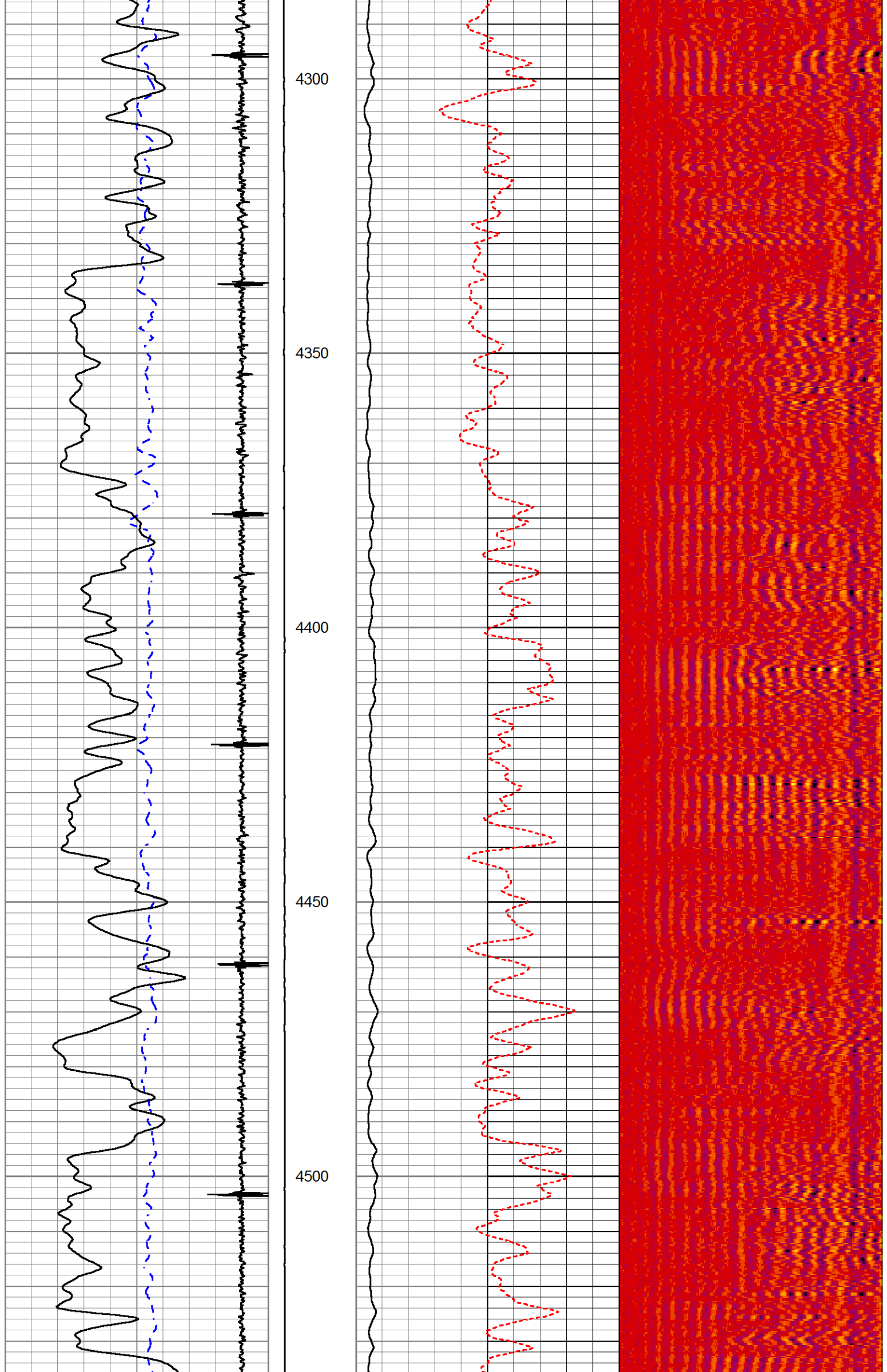


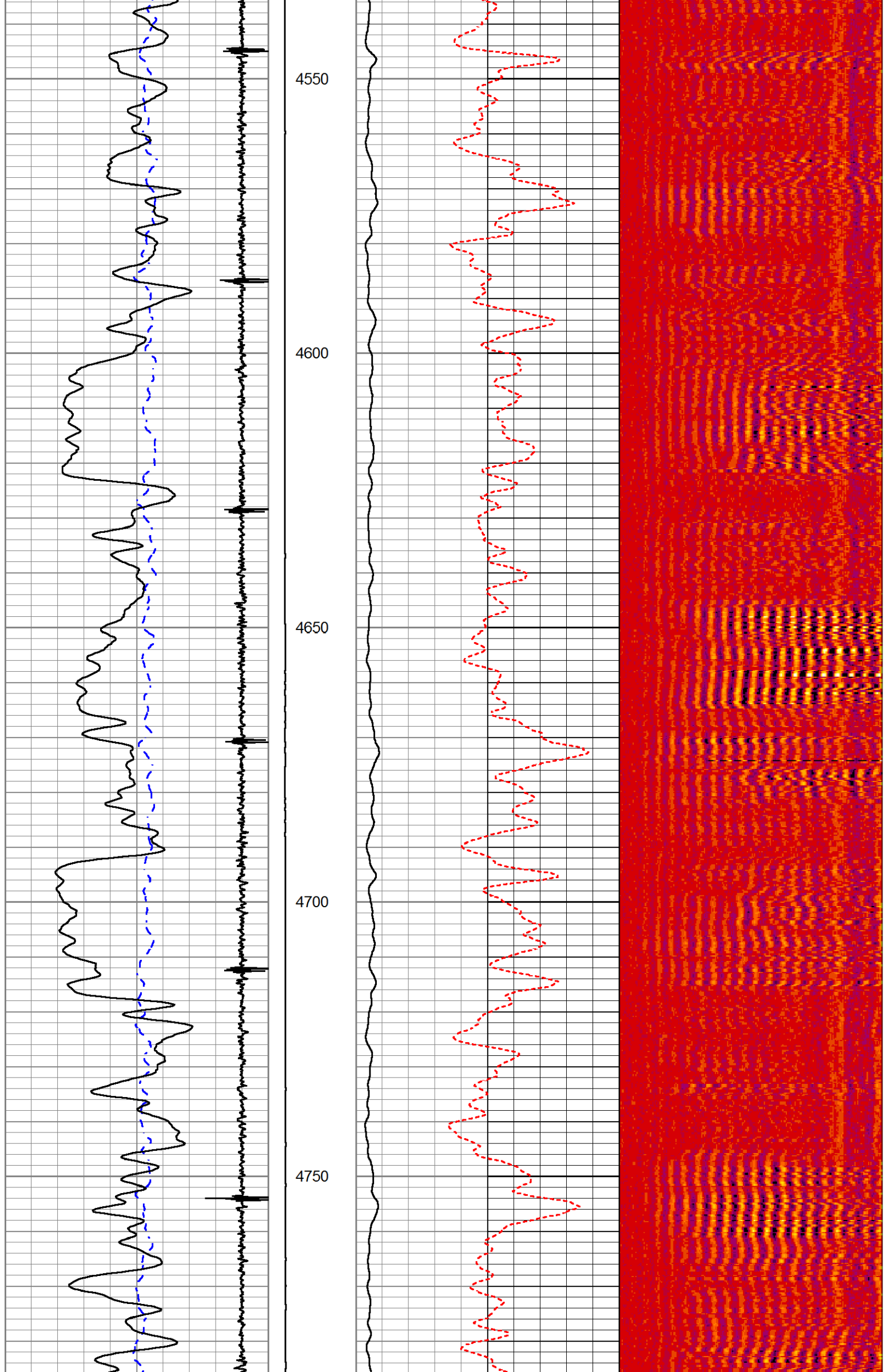


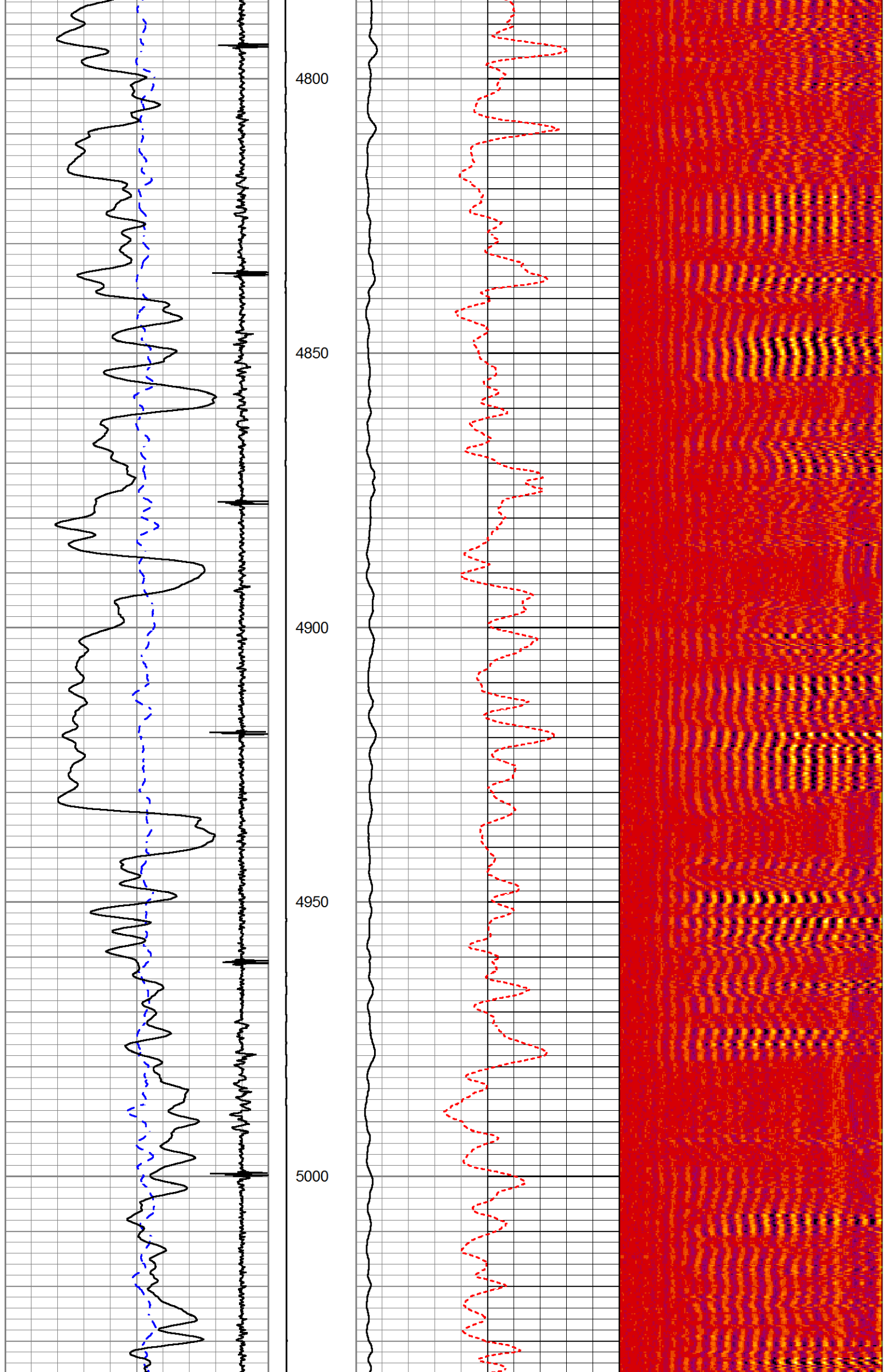


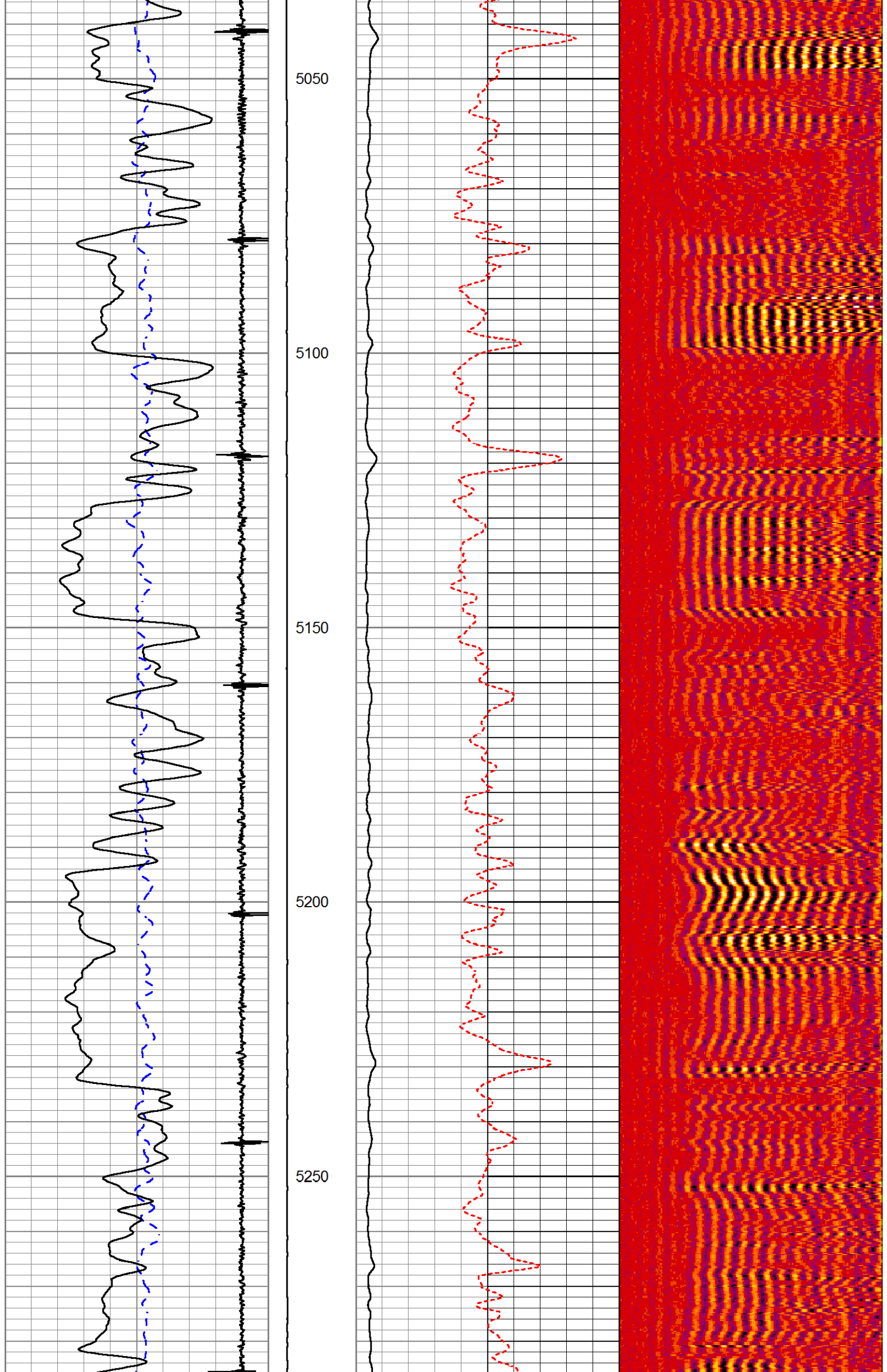


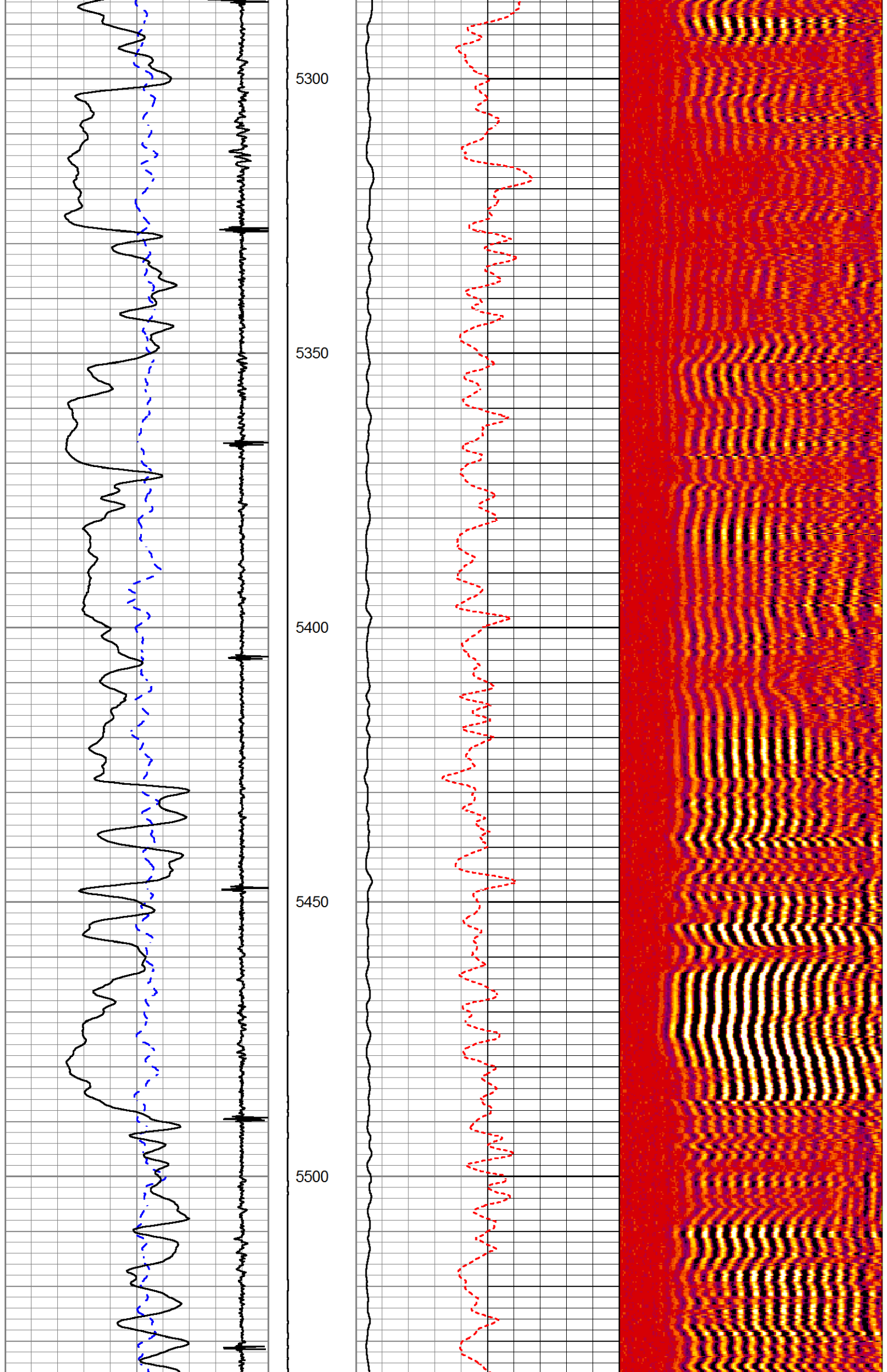


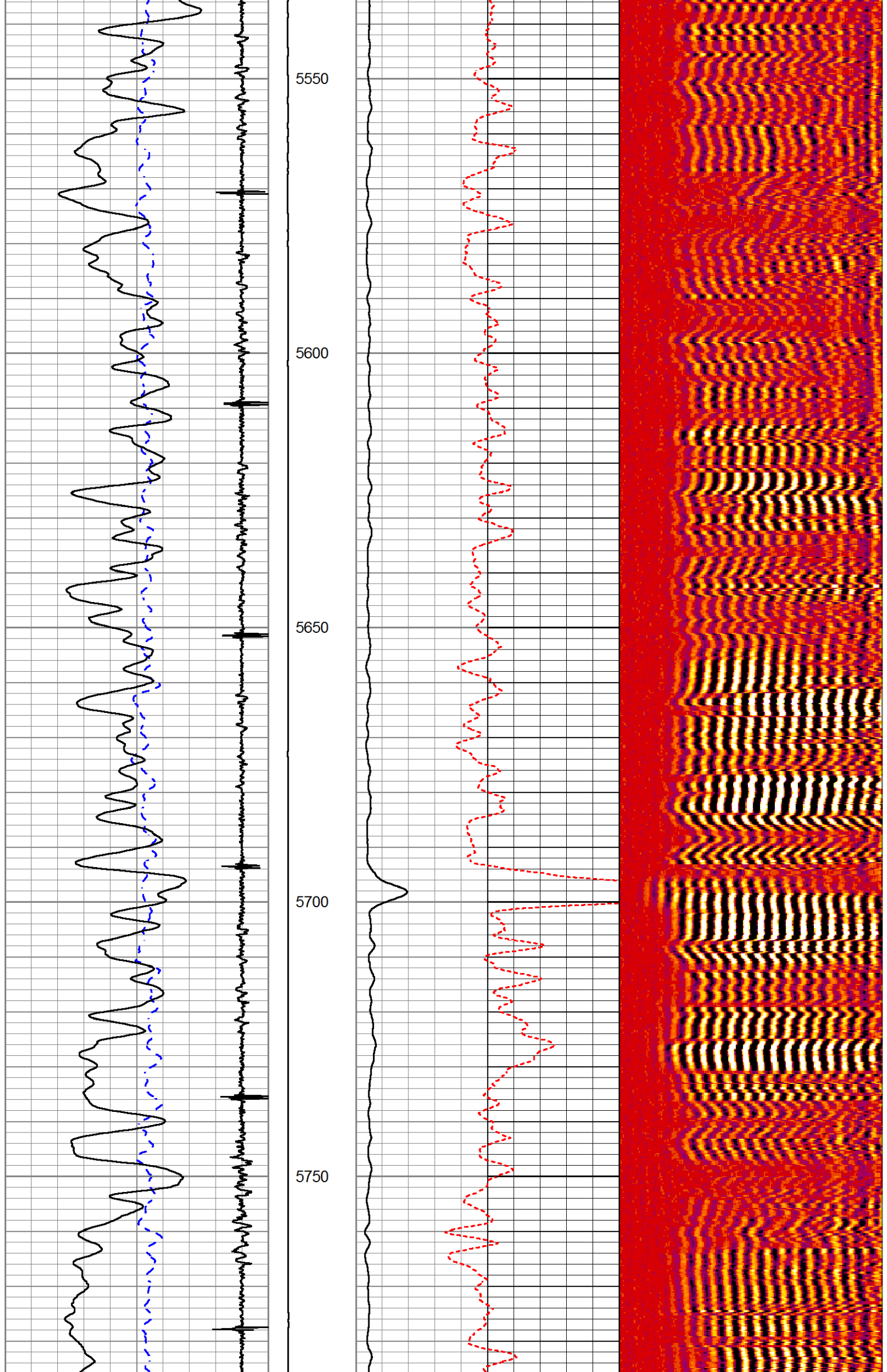


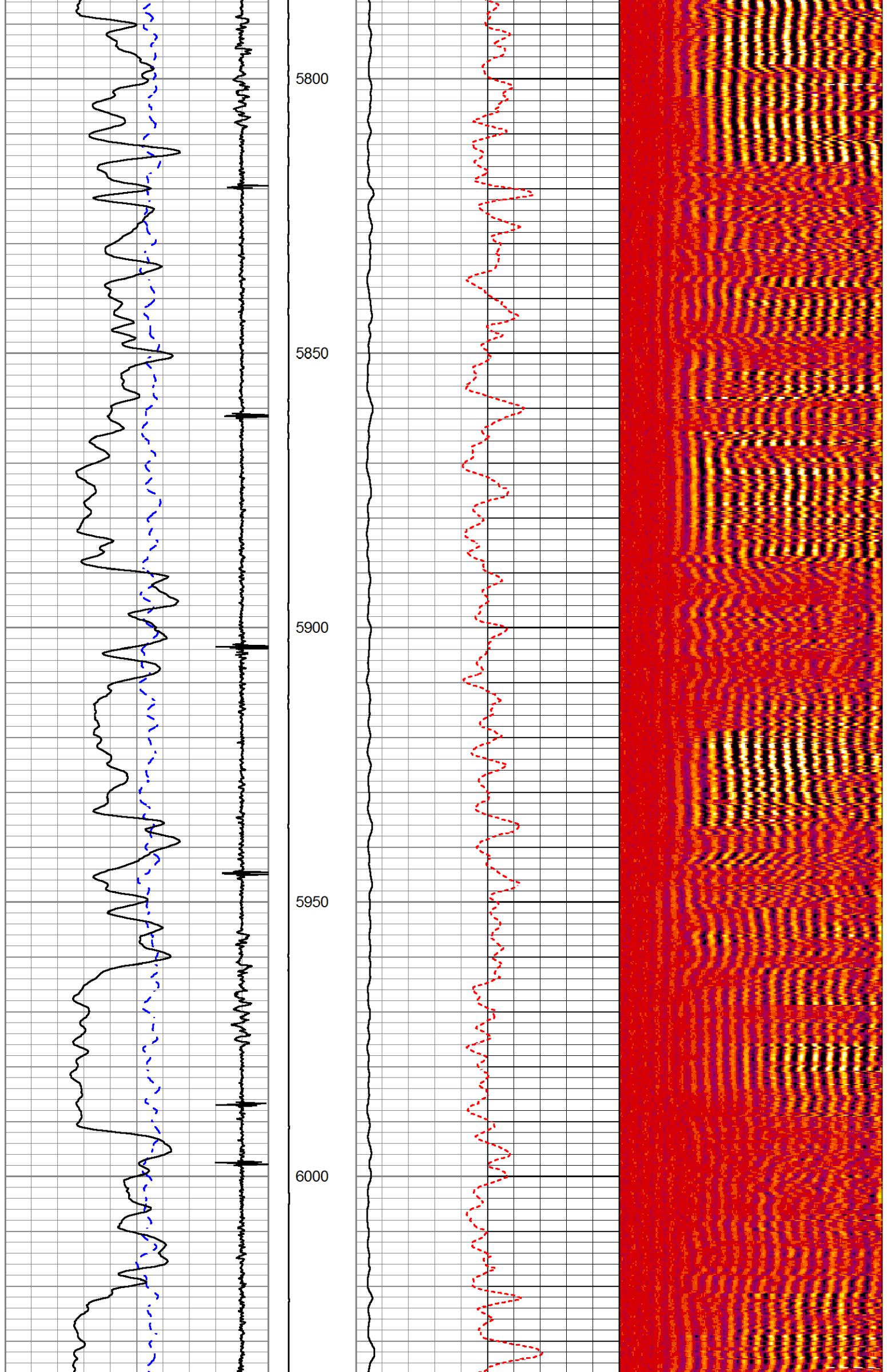


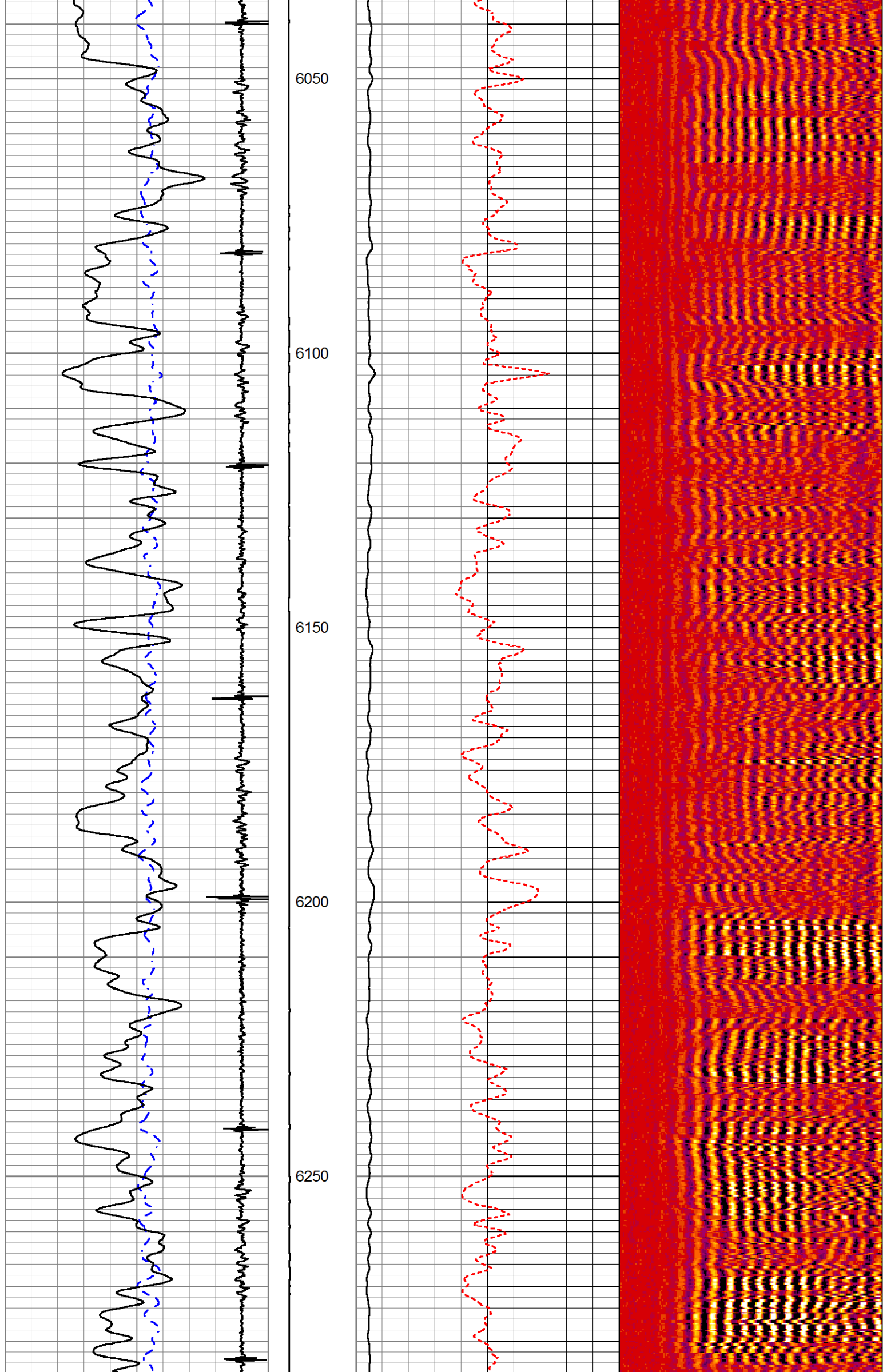


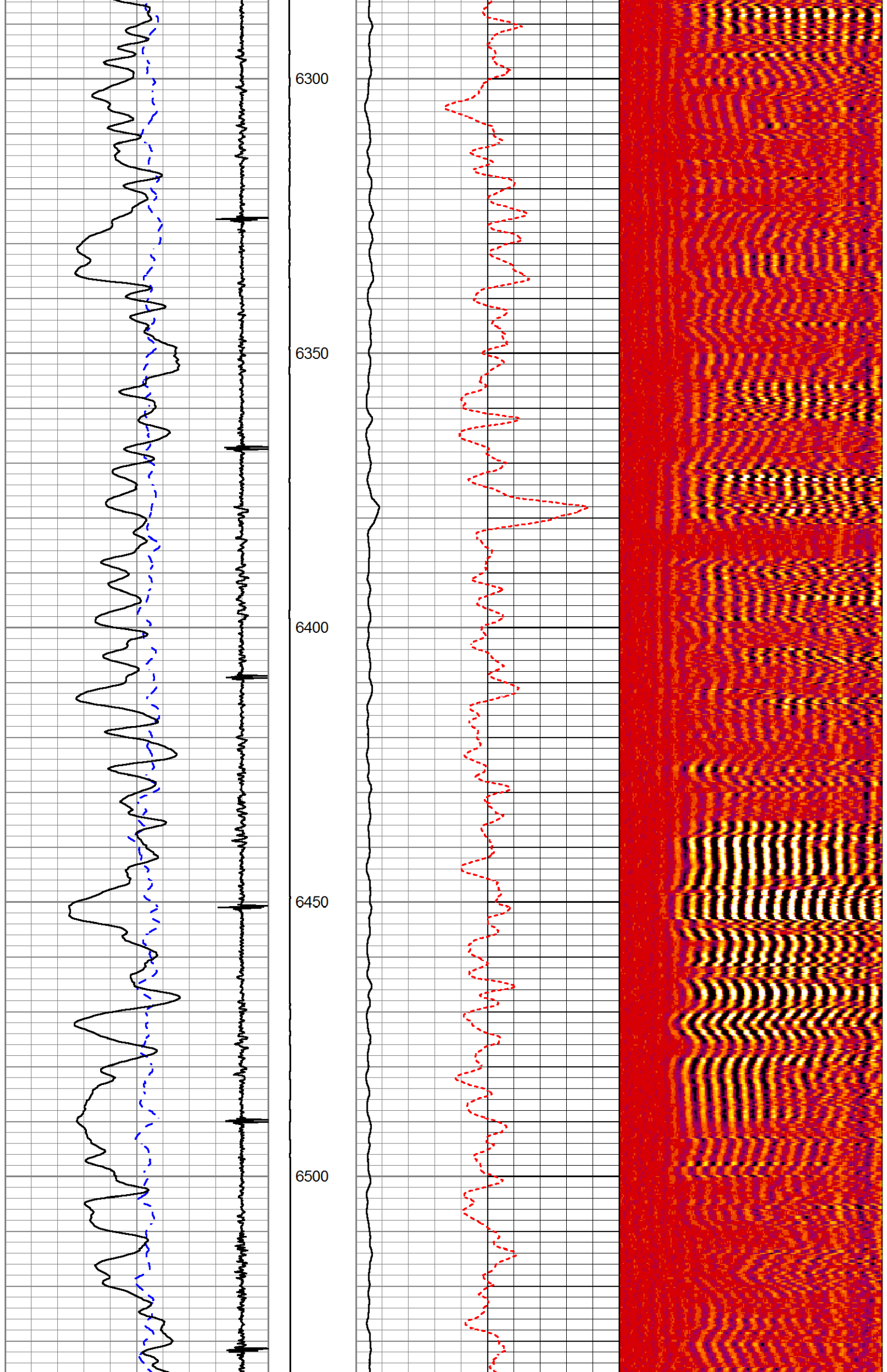


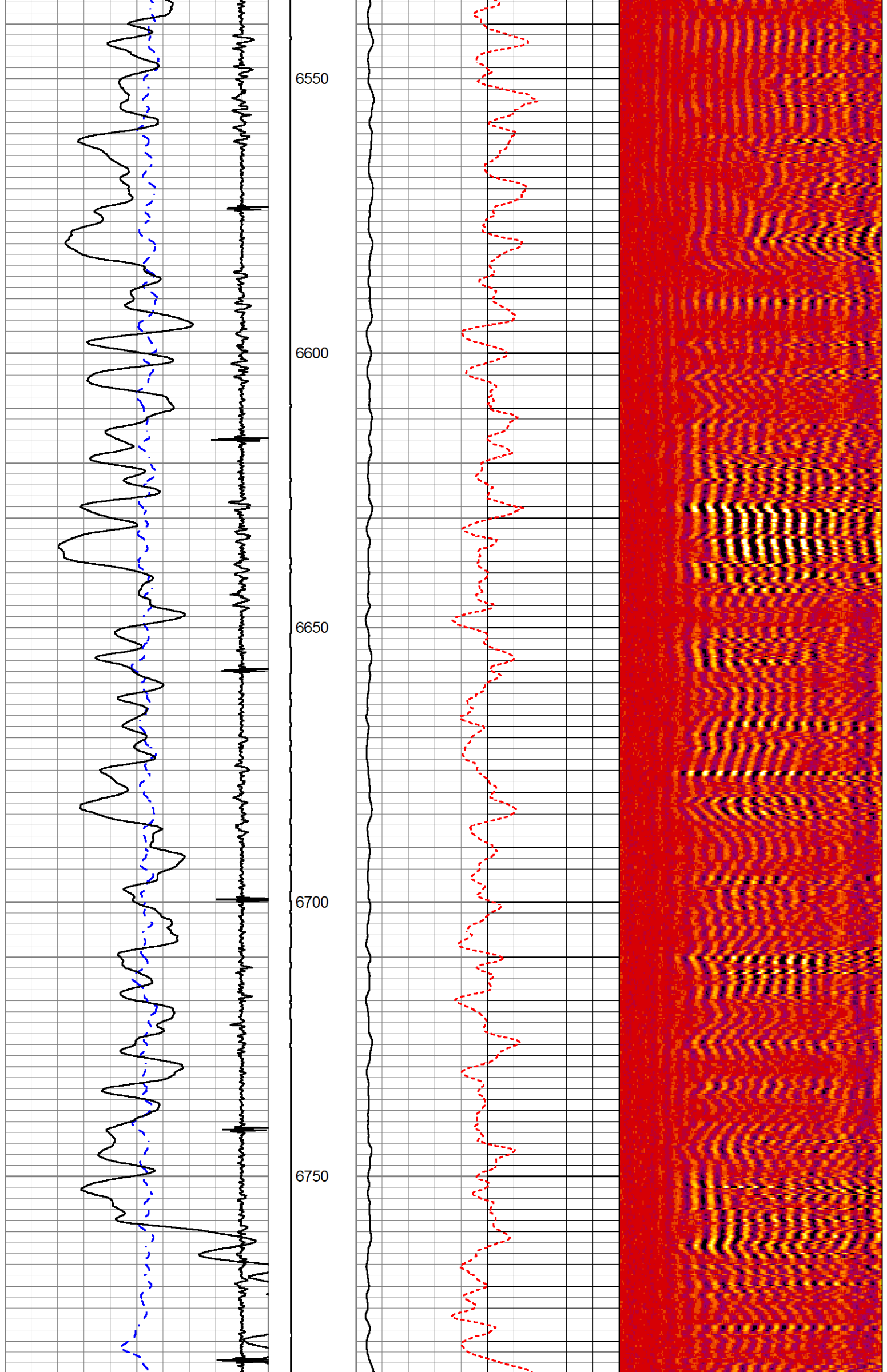


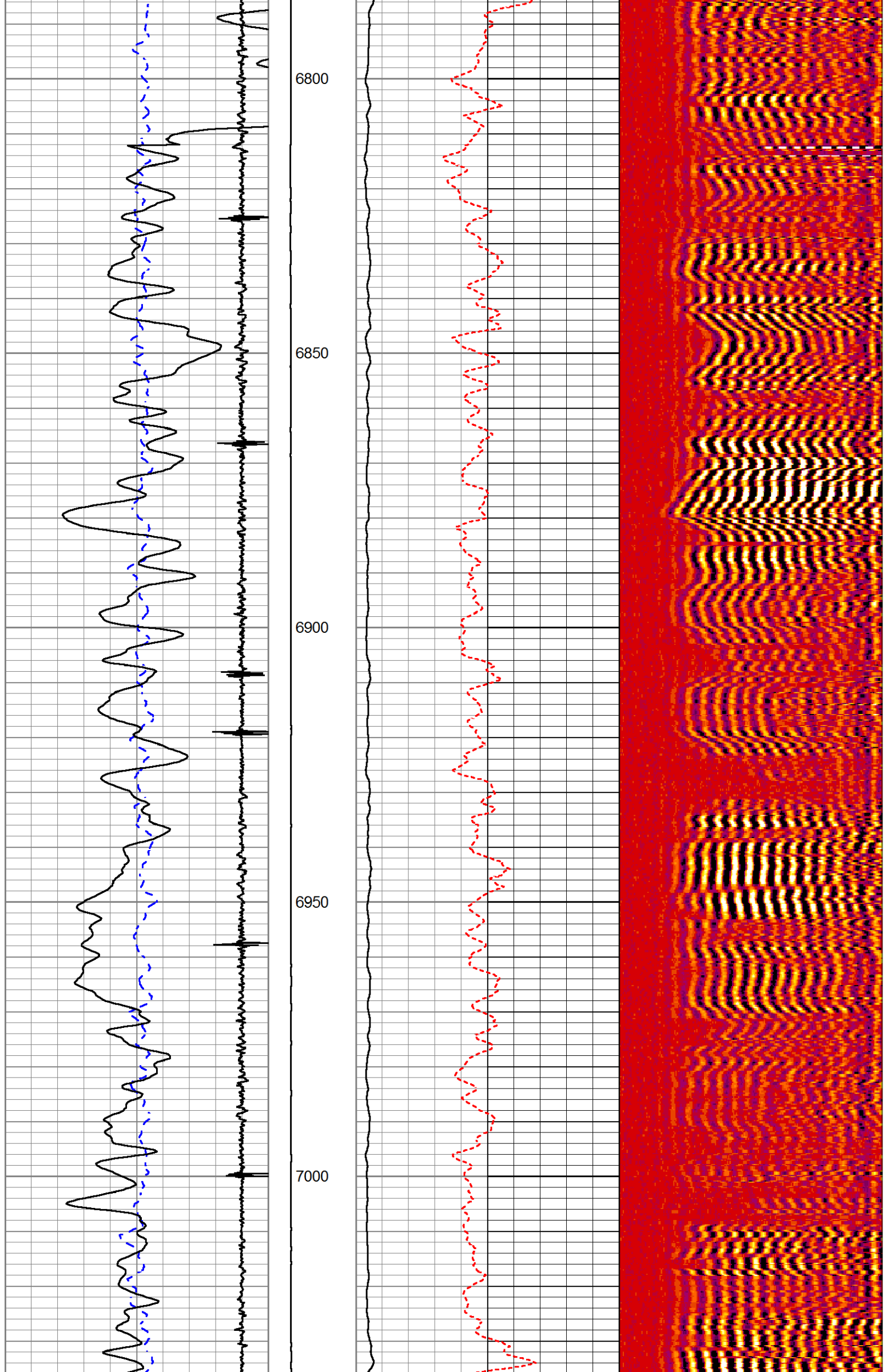


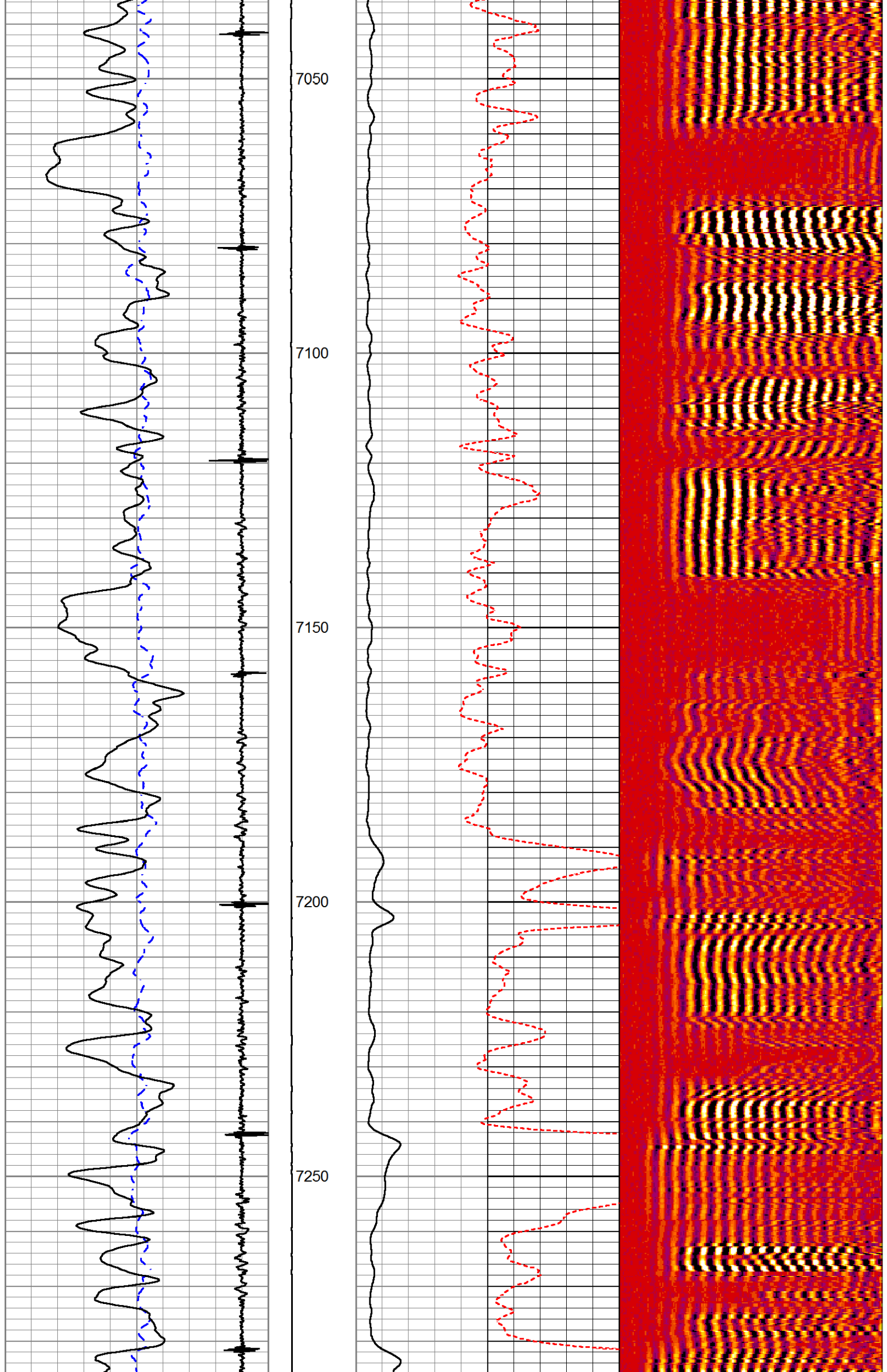


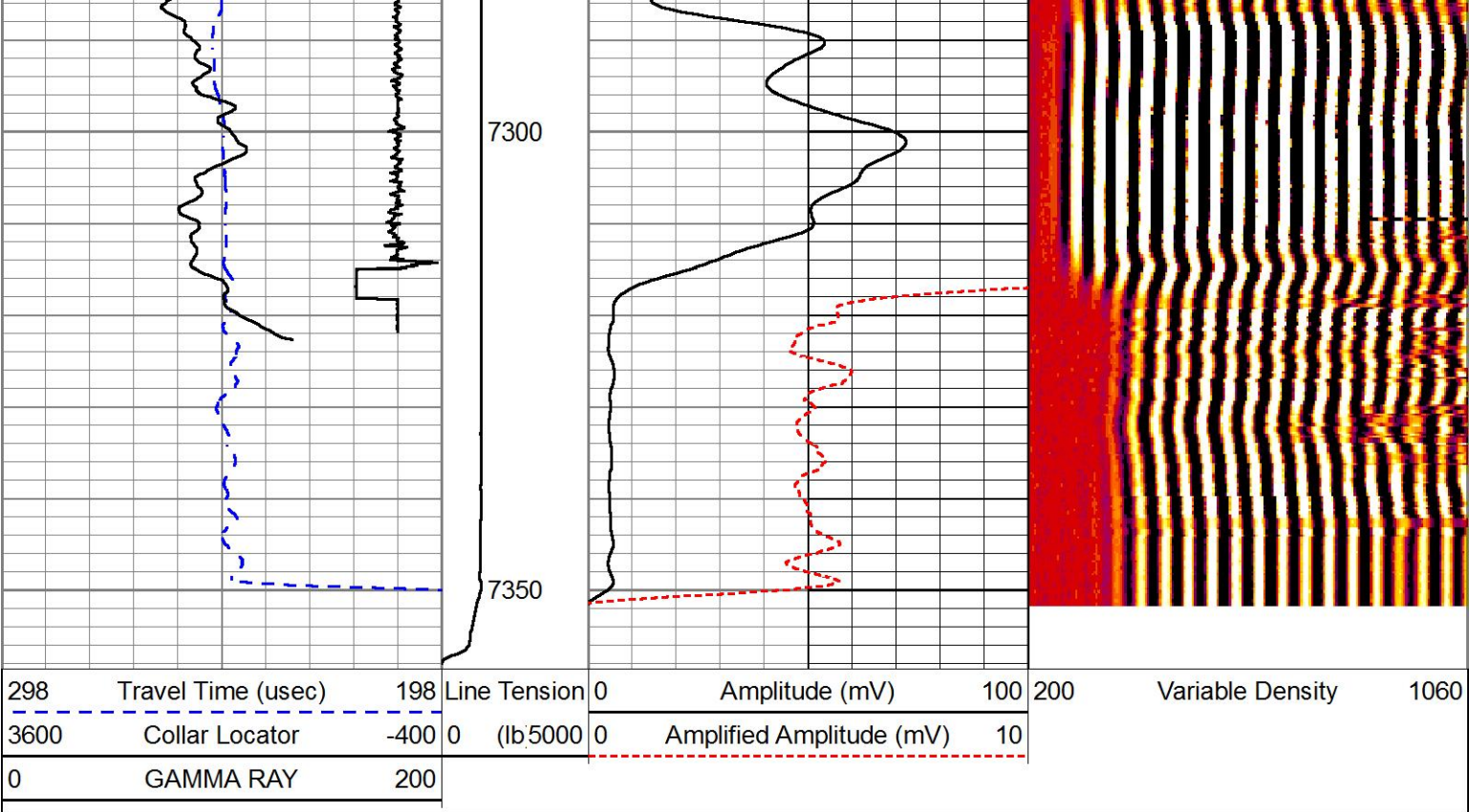






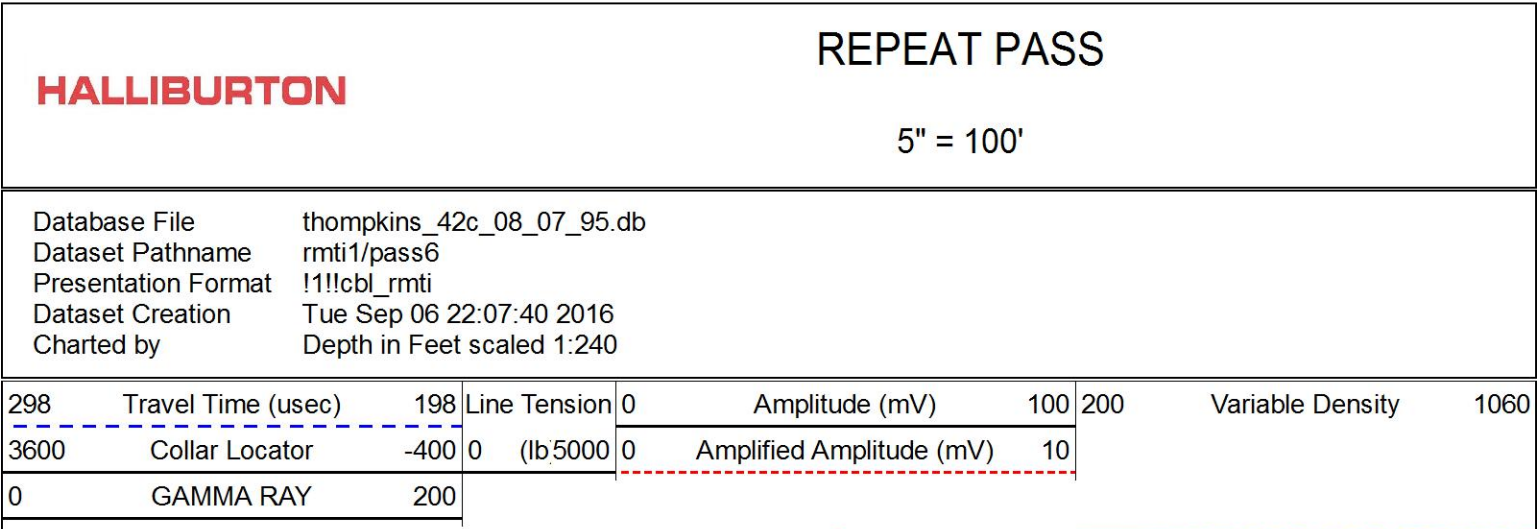






MAIN PASS

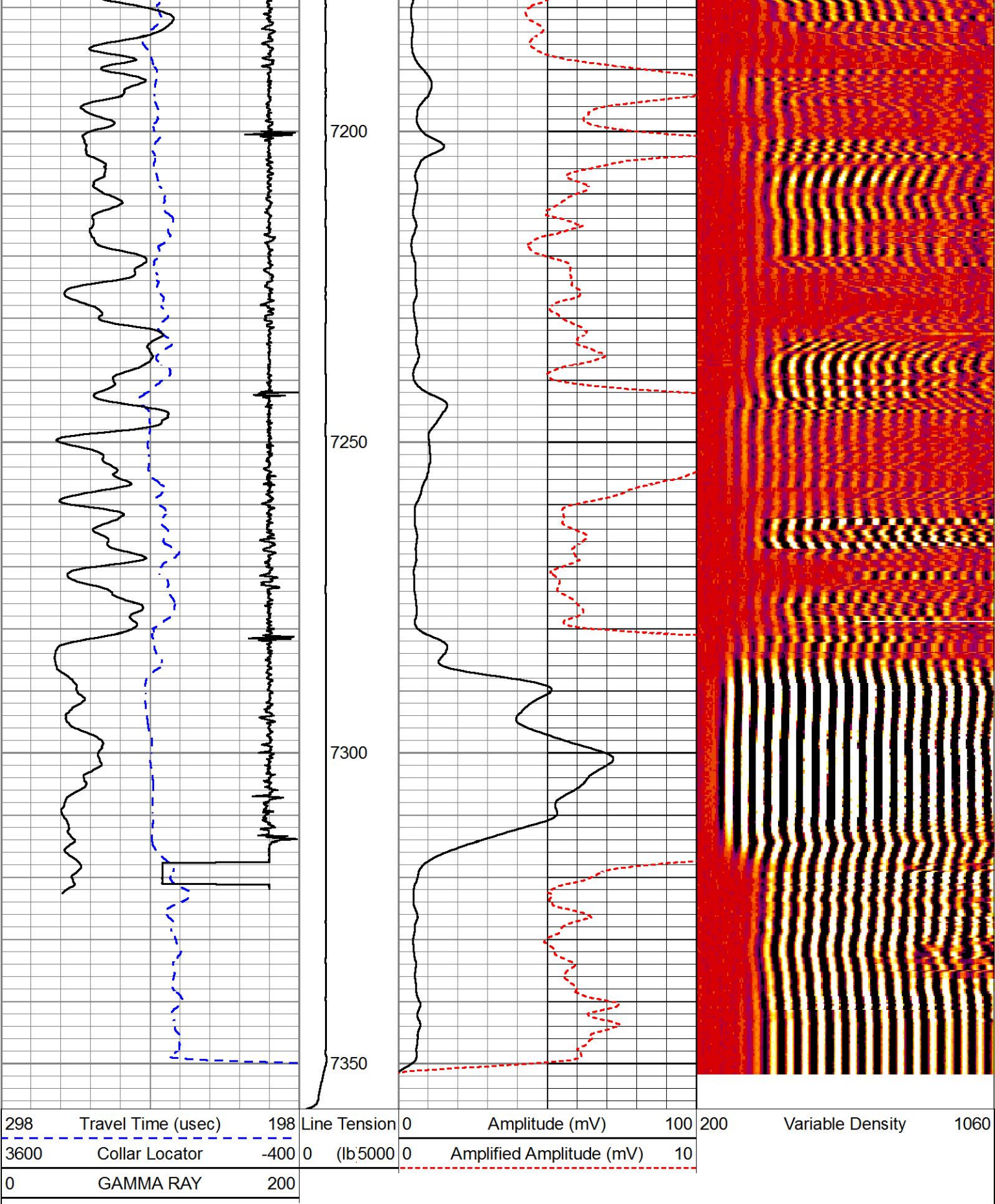
5" = 100'



REPEAT PASS

5" = 100'

Database File thompkins_42c_08_07_95.db
Dataset Pathname rmti1/pass6
Presentation Format !1!!cbl_rmti
Dataset Creation Tue Sep 06 22:07:40 2016
Charted by Depth in Feet scaled 1:240



REPEAT PASS

5" = 100'

Log Variables

DatabaseC:\ProgramData\Warrior\Data\thompkins_42c_08_07_95.db
Dataset field/well/rmti1/pass9/_vars_

Top - Bottom

BHSAL1	BHSAL2	BHTEMP_Src	BITSIZE in	BORSAL kppm	BOTTEMP degF	CASED?	CASEOD in
1	0	TEMP	7.875	150	100	Yes	4.5

CASETHCK in 0	CASEWGH lb/ft 11.6	LTH Sandstone	MSGGN 1	MudWgt lb/gal 8.4	PERFS 0	POROS1 1	POROS2 0
RHO�F 0.25	SO in 0	SRFTEMP degF 0	TDEPTH ft 7590	UHSGC NONE	USERFTT usec/ft 0	ZREF MRayl 1.7	

Calibration Report		
Database File	thompkins_42c_08_07_95.db	
Dataset Pathname	rmti1/merge3	
Dataset Creation	Wed Sep 07 02:59:29 2016	
Cement Bond Log Shop Calibration Report		
Serial-Model:	1-A	
Calibration Performed:	Tue Sep 06 21:29:22 2016	
Free Pipe Calibration		
TT	Measured	Units
	245.0	usec
Amplitude	739.0	mV
Log Base Line	8.0	mV
Calibration References and Gain		
Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp.	80.0	mV
Amp. Gain	0.109	

Reservoir Monitor Tool I Calibration Report	
Serial-Model:	11680597-A
Shop Calibration Performed:	Sat Aug 27 18:21:57 2016

Carbon/Oxygen Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	84.00	80.00	4.00	+/-15.00	V
ITCR2	3130	3250	-120	+/-250	cps
Near Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0278	5.69	<6.00
Fe	207	206 +/-2	0.0967	-----	-----
NGAIN = 0.992	NZOFF = 0.8				
Far Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0382	5.90	<6.50
Fe	209	208 +/-2	0.0926	-----	-----
FGAIN = 0.992	FZOFF = 0.8				
Flask Temperature	57.6 degF				
Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.44	0.45	-0.01	+/-0.02	
LIRI2	1.37	1.36	0.01	+/-0.05	

TCCR2	3766	4000	-234	+/-1000	cps
ITCR2	3102	3200	-98	+/-250	cps


Sigma Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	84.00	80.00	4.00	+/-15.00	V
FCAP	9744	10000	-256	+/-500	cps
Horizontal Water Tank					
Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.92	0.95	-0.03		
N/F Inel Norm	0.60	0.61	-0.01		
RNF	1.09	1.07	0.02	+/-0.12	
RINC	1.68	1.64	0.04	+/-0.18	
SGFN	24.13	24.00	0.13	+/-0.50	cu
SGFF	22.93	22.85	0.08	+/-0.50	cu
FSIN	23037	24000	-963	+/-2000	cps
FCAP	9704	10000	-296	+/-1000	cps
NFTR	0.80			<5.00	
FFTR	0.91			<5.00	
NBKG	216			<500	cps
FBKG	105			<500	cps
RTN	0.37	0.40	-0.03	+/-0.10	usec
RTF	0.42	0.40	0.02	+/-0.10	usec

Calibration Software Modules	
HRMTI Module	2015.5.4.0
RMTI Module	2015.10.16.1
Log Data Acquisition Software Modules	
HRMTI Module	2015.5.4.0
RMTI Module	2015.10.16.1

Gamma Ray Calibration Report

Type / Serial:002 / 12105780

SHOP CALIBRATION		Mon Sep 05 10:59:30 2016			
Background Calibrator	Counts/Sec.	Gain	Offset	Jig	Units
	28.5				cps
	160.5	1.6899			cps GAPI/cps
PRIMARY VERIFICATION					
Background Calibrator Difference	46.0				cps
	265.1				cps
				219.0	GAPI
BEFORE SURVEY VERIFICATION					
Background Calibrator Difference	0.0				cps
	0.0				cps
				0.0	GAPI
AFTER SURVEY VERIFICATION					
Background Calibrator Difference	0.0				cps
	0.0				cps
				0.0	GAPI

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			STANDARD LENGTH	4.50	4.44	1.00

Company	URSA OPERATING COMPANY LLC		
Well	TOMPKINS 42C-08-07-95		
Field	PARACHUTE		
County	GARFIELD	State	CO
HALLIBURTON	GAMMAY RAY COLLAR RESERVOIR MONITOR LOG CEMENT BOND LOG		