

HALLIBURTON				CEMENT BOND LOG			
Company		URSA OPERATING COMPANY LLC		Company URSA OPERATING COMPANY LLC			
Well		TOMPKINS 32C-08-07-95		Well TOMPKINS 32C-08-07-95			
Field		PARACHUTE		Field PARACHUTE			
County		GARFIELD State CO		County GARFIELD State CO			
Permanent Datum		GROUND LEVEL		Elevation 5532'			
Log Measured From		KB		K.B. 5549'			
Drilling Measured From		KB		D.F. 5549'			
Date @ Time Logged		07 SEPT 2016 @ 18:00		Type Fluid in Hole			
Run No.		ONE		Density of Fluid			
Depth - Driller		7774'		Fluid Level			
Depth - Logger		7505'		Cement Top Est. Logged			
Bottom - Logged Interval		7505'		Equipment / Location			
Top - Log Interval		1743'		Recorded by			
Max. Recorded Temp.		200 degF		Witnessed by			
CEMENTING DATA		Surface		Protection		Production	
Date / Time Cemented		String		String		String	
Primary / Squeeze		N/A		N/A		N/A	
Expected Compressive Strength		N/A		psi@ N/A hrs		psi@ N/A hrs	
Cement Volume		N/A		N/A		N/A	
Cement Type / Weight		N/A		N/A		N/A	
Formulation		N/A		N/A		N/A	
Mud Type / Mud Wgt.		N/A		N/A		N/A	
Run Number		Bit		From		To	
ONE		24"		SURFACE		60'	
TWO		12.25"		60'		1842'	
THREE		7.875"		1842'		7698'	

<<< Fold Here >>>

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 : 215'

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

Service Ticket No.	903515776	API No.	05045224720000	PGM Ver	15.10.29001
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client					
EQUIPMENT DATA					
XHU		GAMMA		RMTI	
Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	00000001	Serial No.	12105780	Serial No.	11680597
Model No.	XHU-3	Model No.	TTTC-U2	Model No.	RMTI
Diameter	1 11/16"	Diameter	1 11/16"	Diameter	2.25"
LOGGING DATA					
General Data					
Pass	Depths		Well Head	Speed	Logging Run Comments
No	From	To	Pressure	Ft/Min	

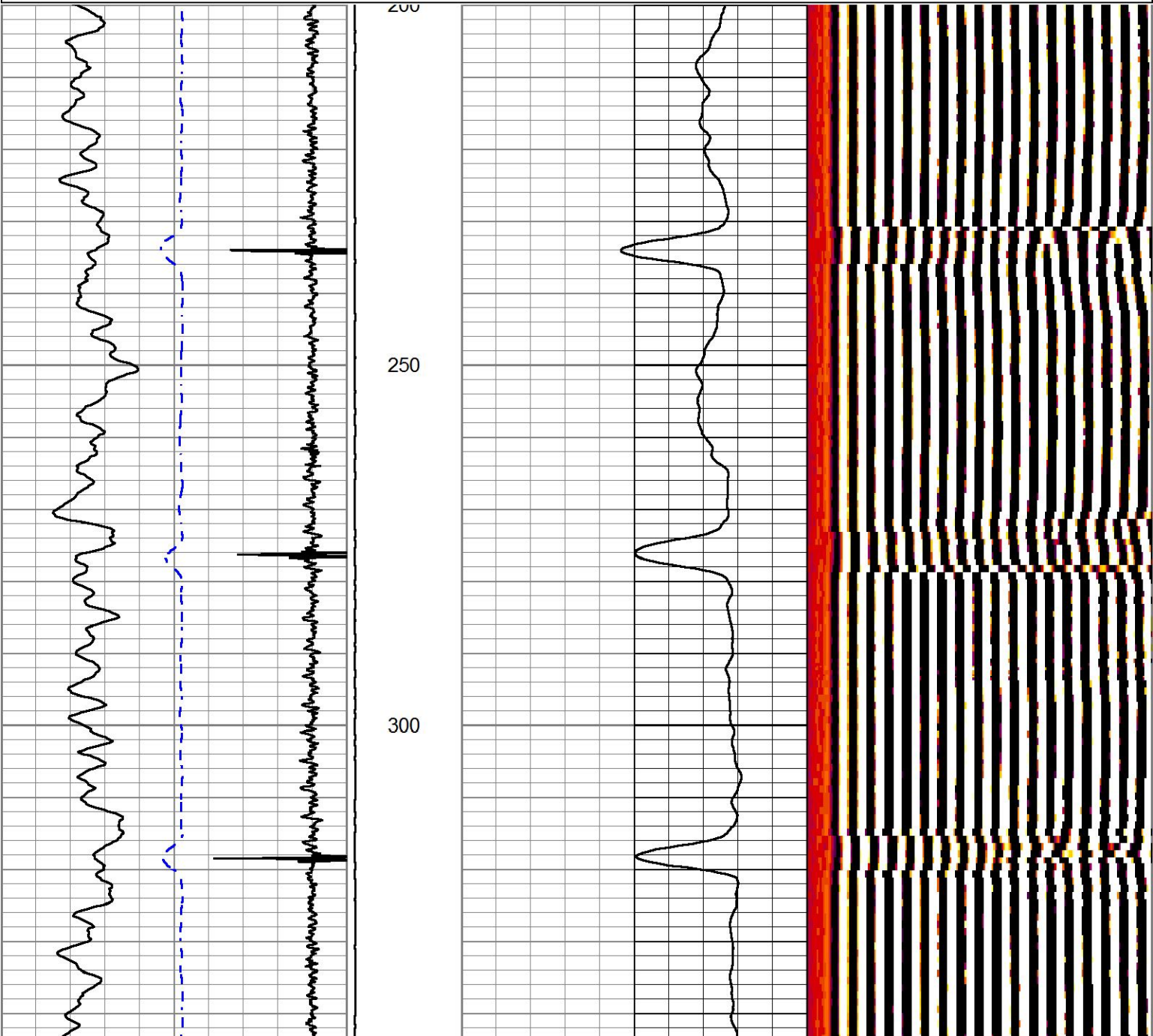
ONE	3860'	4065'	0 PSI	20	REPEAT			
TWO	7505'	1743'	0 PSI	20	MAIN			
	GAMMA RAY		SIGMA		AMPLITUDE			
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	200	60	0	0	100		
TWO	0	200	60	0	0	100		
DIRECTIONAL INFORMATION								
Maximum Deviation			deg. @		KOP			

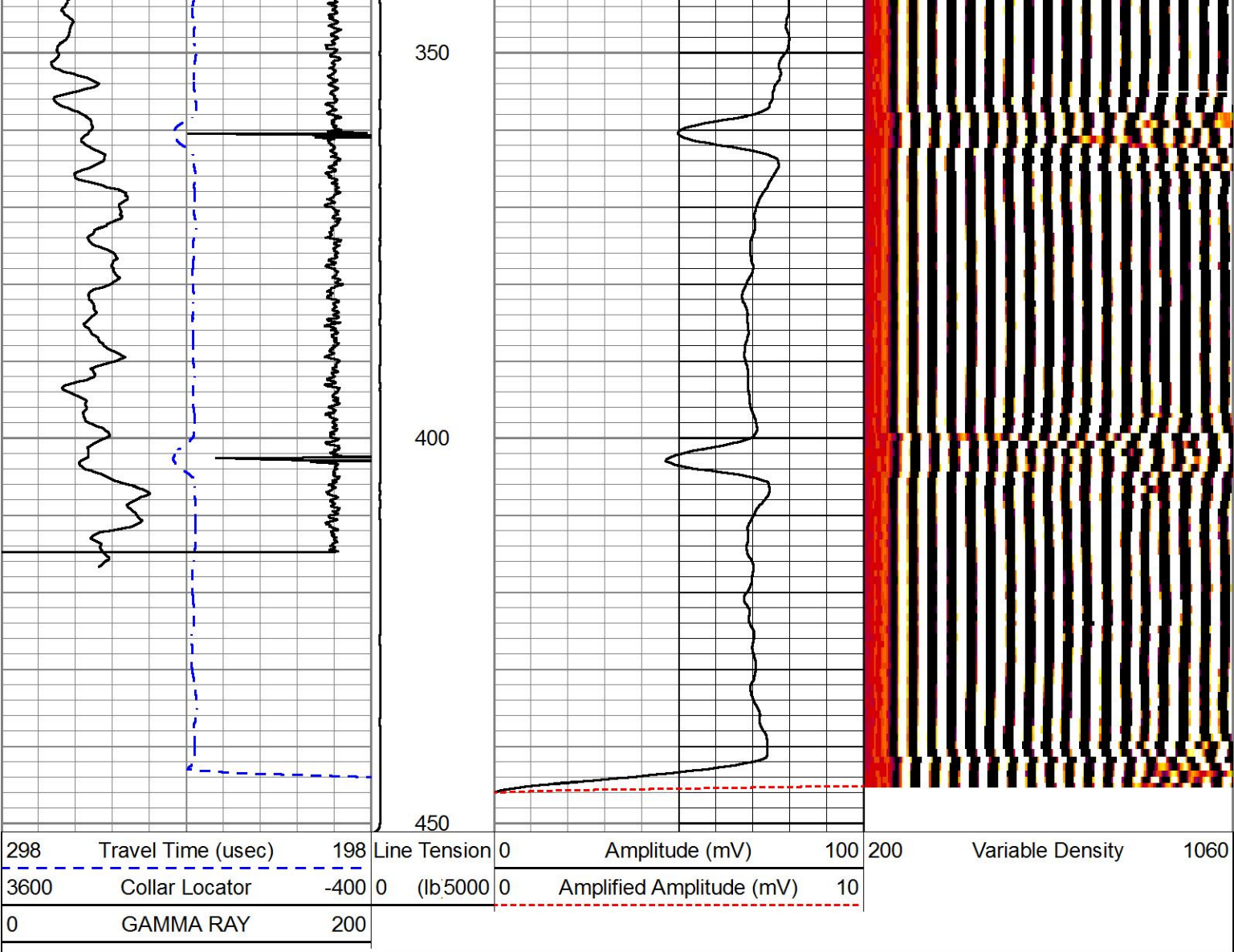
HALLIBURTON

FREE PIPE SECTION

5" = 100'

Database File		thompkins_32c_08_07_95.db							
Dataset Pathname		pass9							
Presentation Format		!1!!CB~1							
Dataset Creation		Wed Sep 07 19:07:30 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 (lb5000	0	Amplified Amplitude (mV)	10			
0	GAMMA RAY	200							





FREE PIPE SECTION

HALLIBURTON

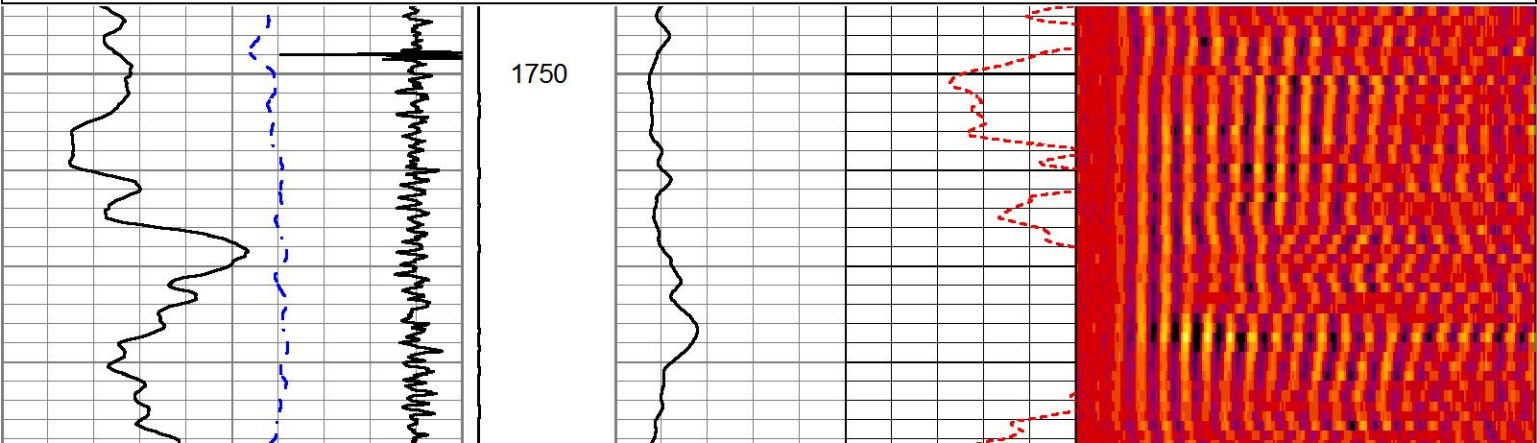
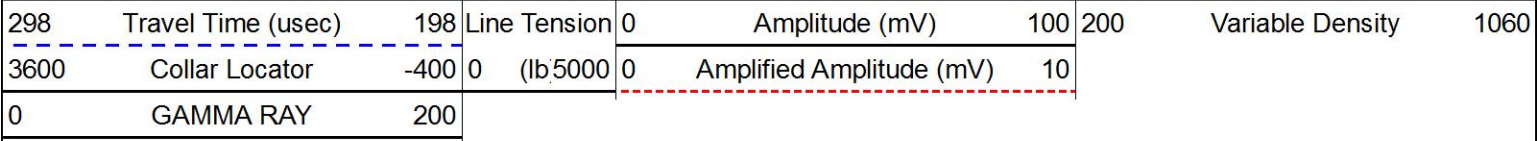
5" = 100'

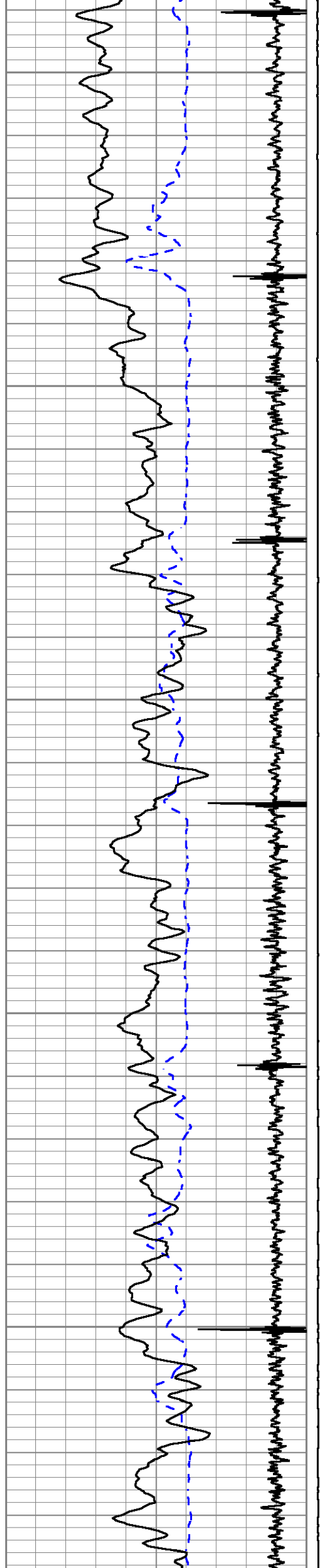
MAIN PASS

HALLIBURTON

5" = 100'

Database File thompkins_32c_08_07_95.db
Dataset Pathname merge1
Presentation Format !1!!cbl_rmti
Dataset Creation Thu Sep 08 01:19:26 2016
Charted by Depth in Feet scaled 1:240





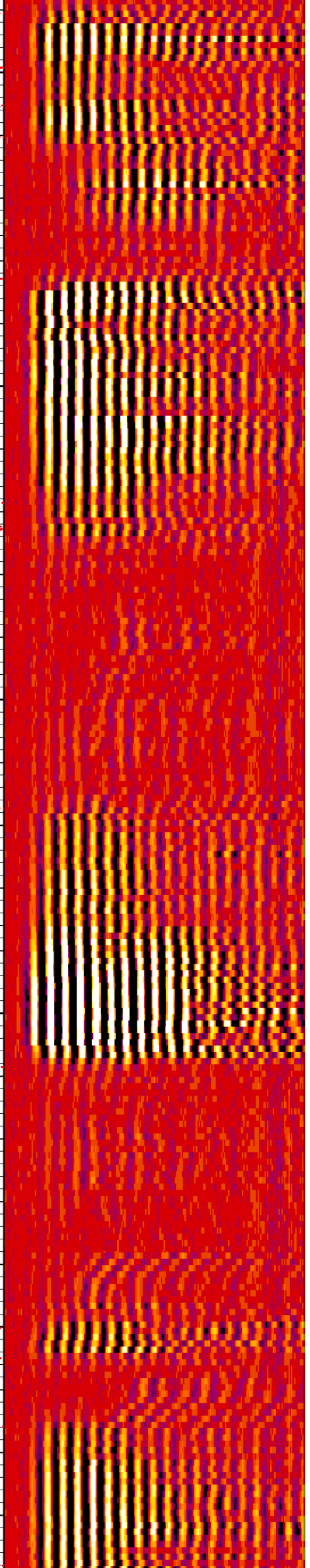
1800

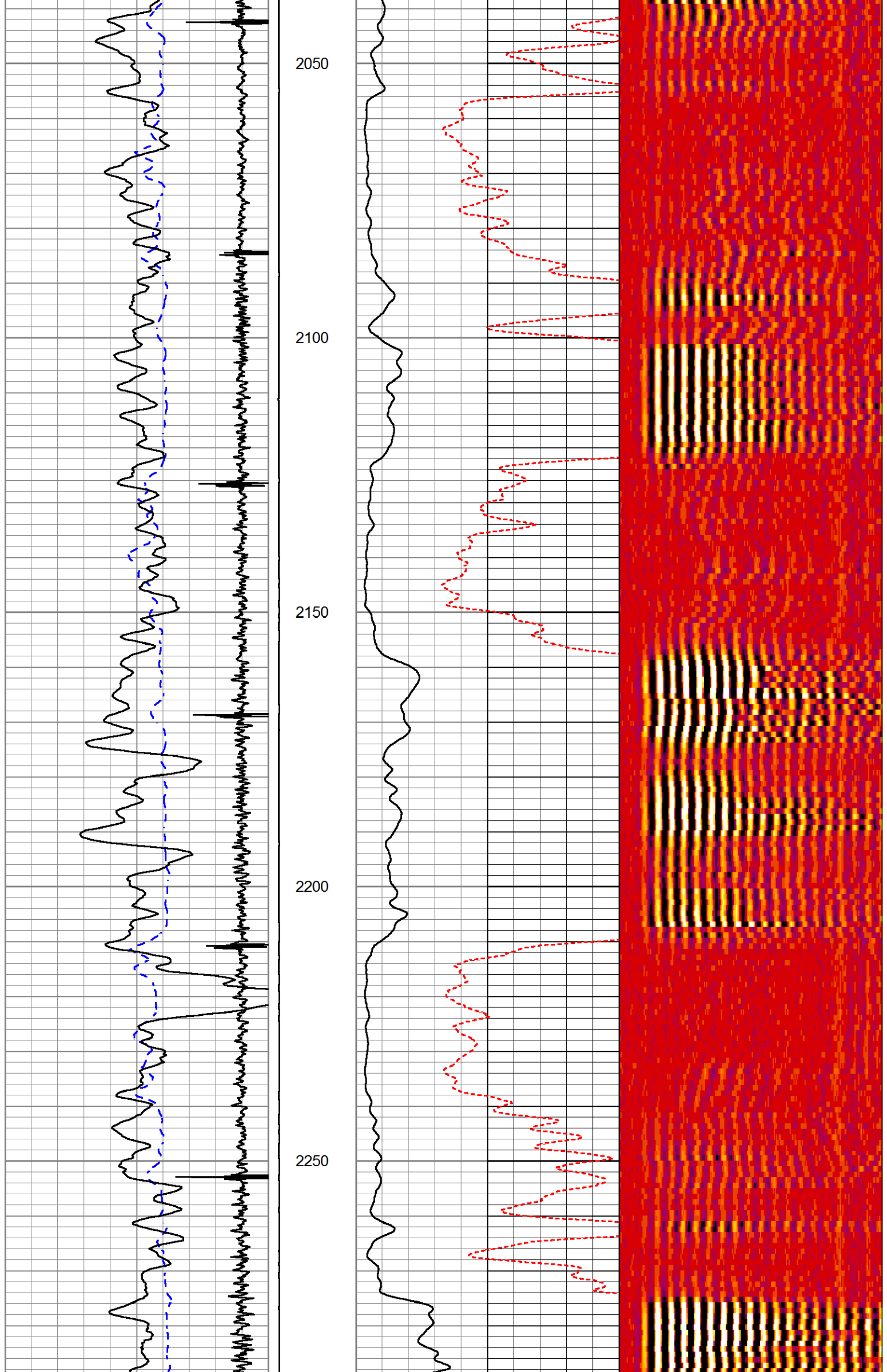
1850

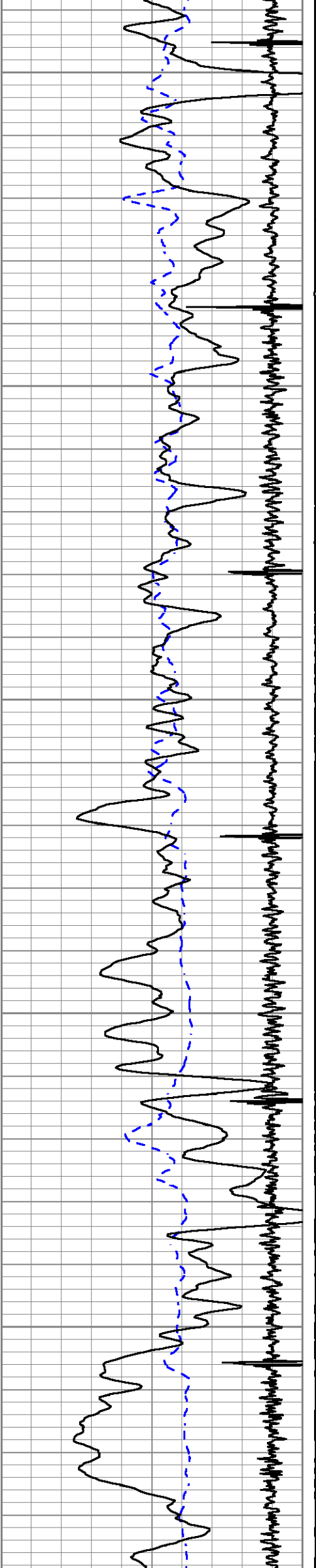
1900

1950

2000







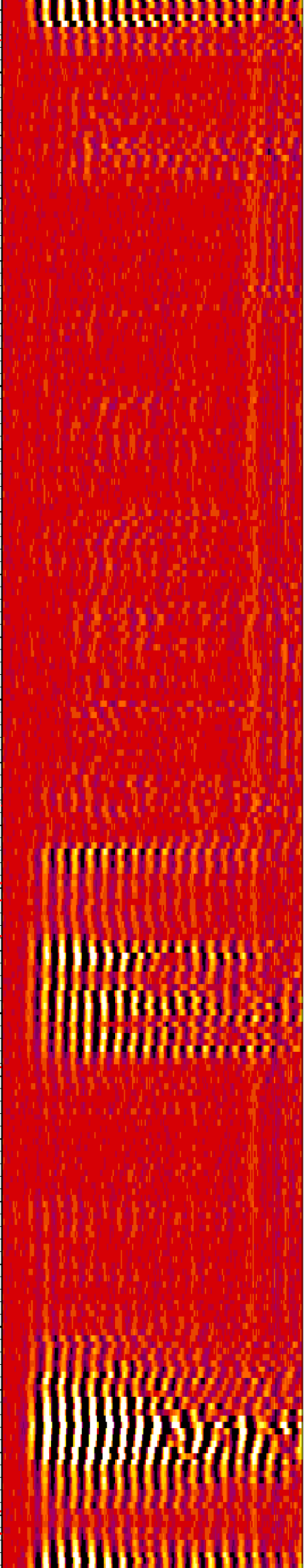
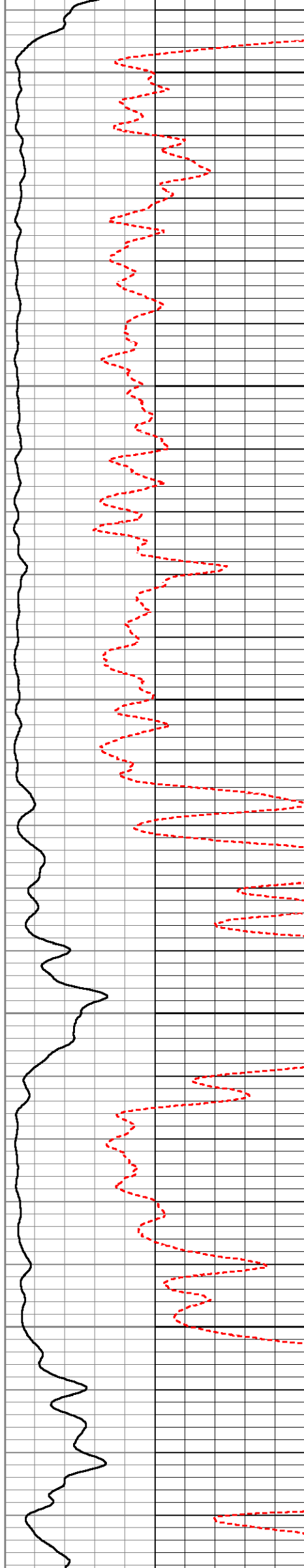
2300

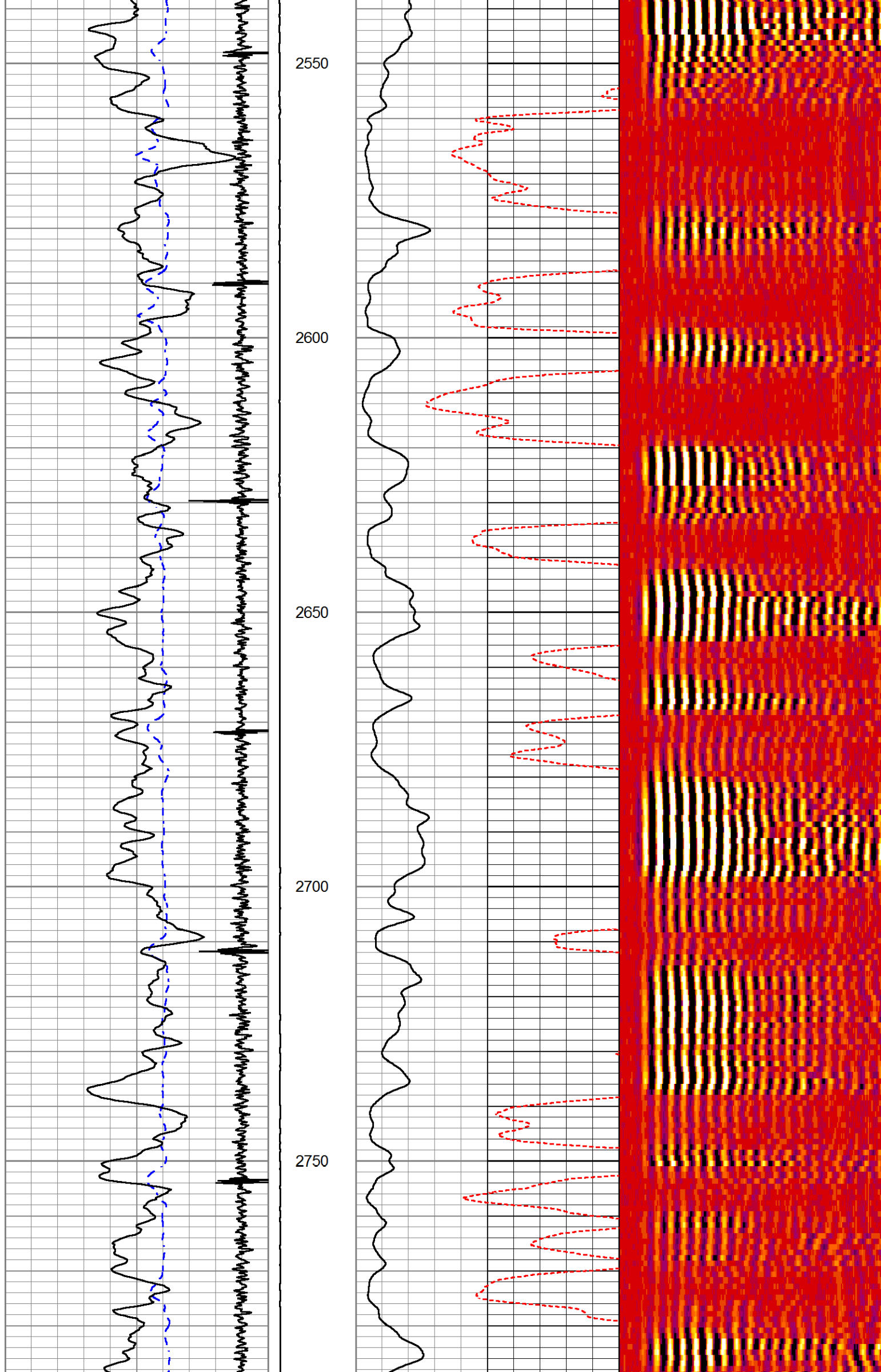
2350

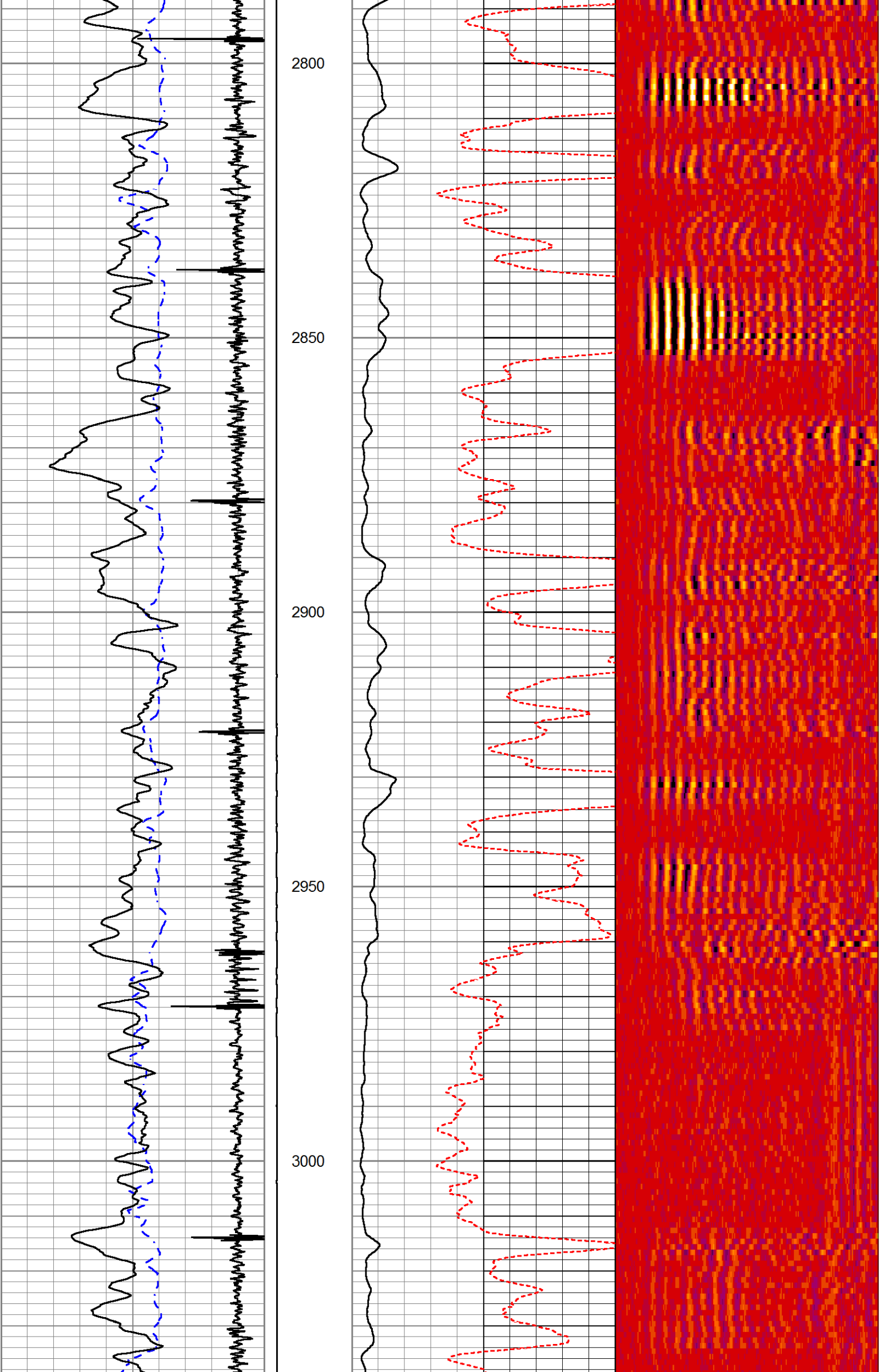
2400

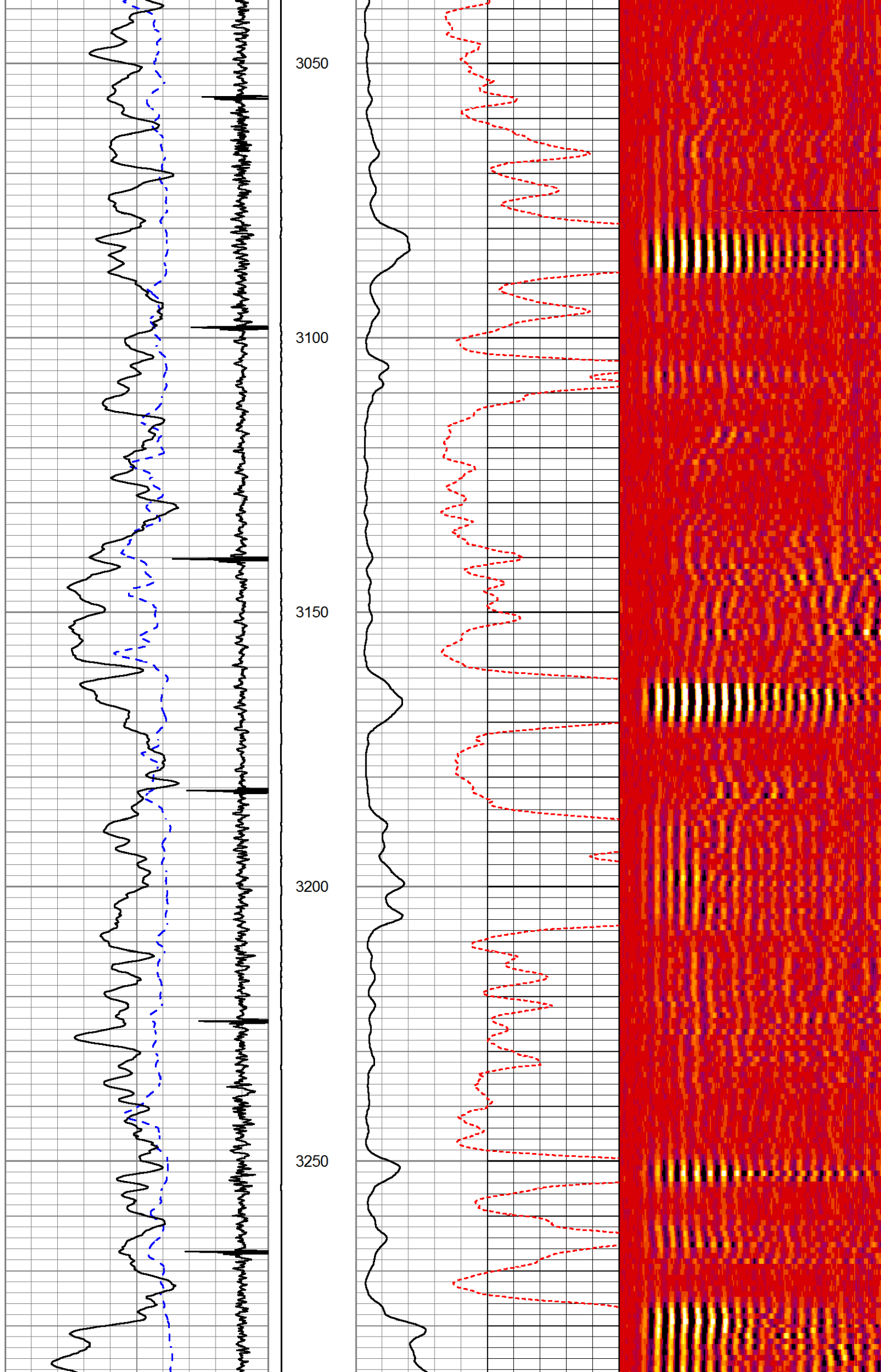
2450

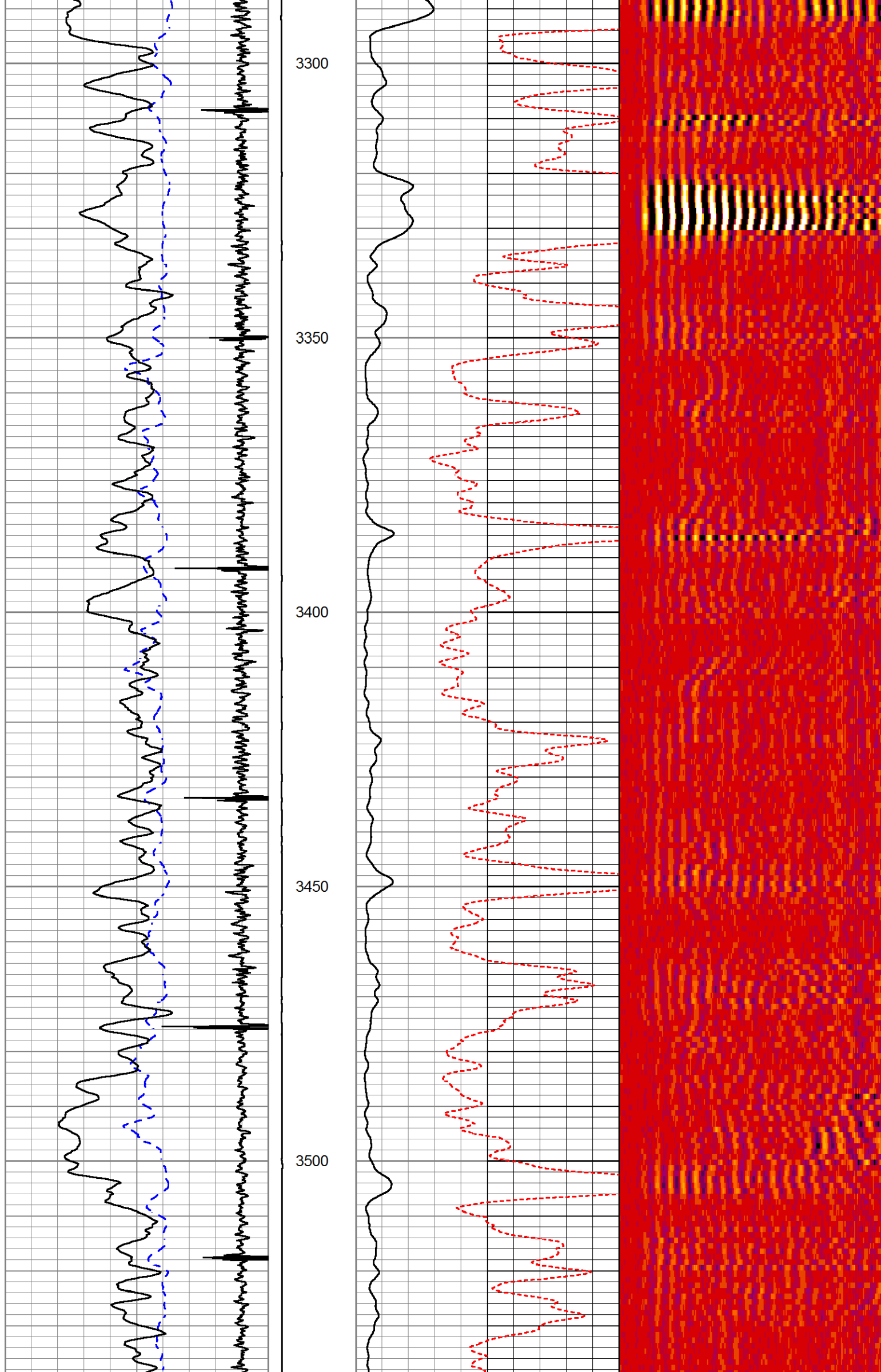
2500

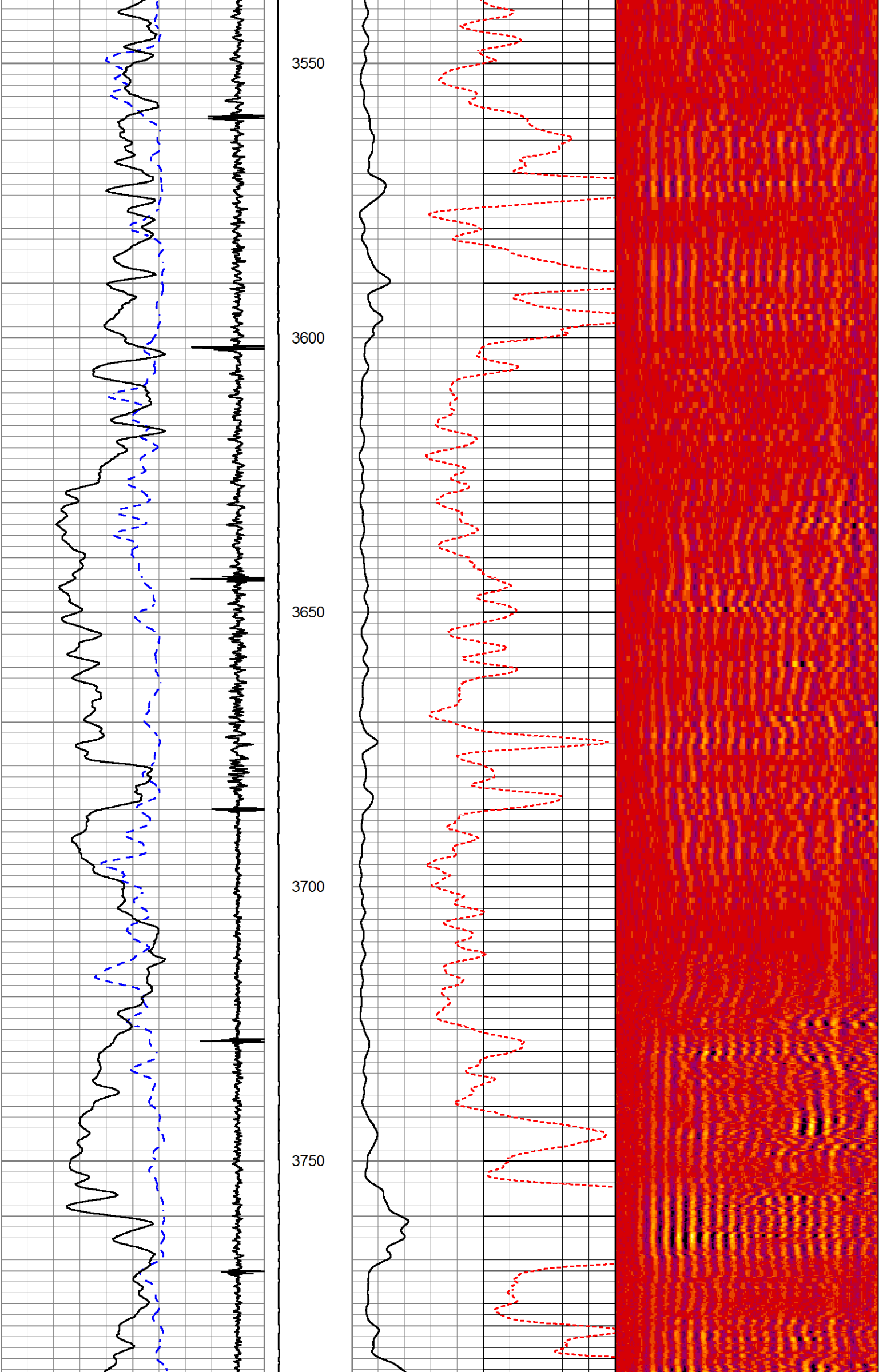


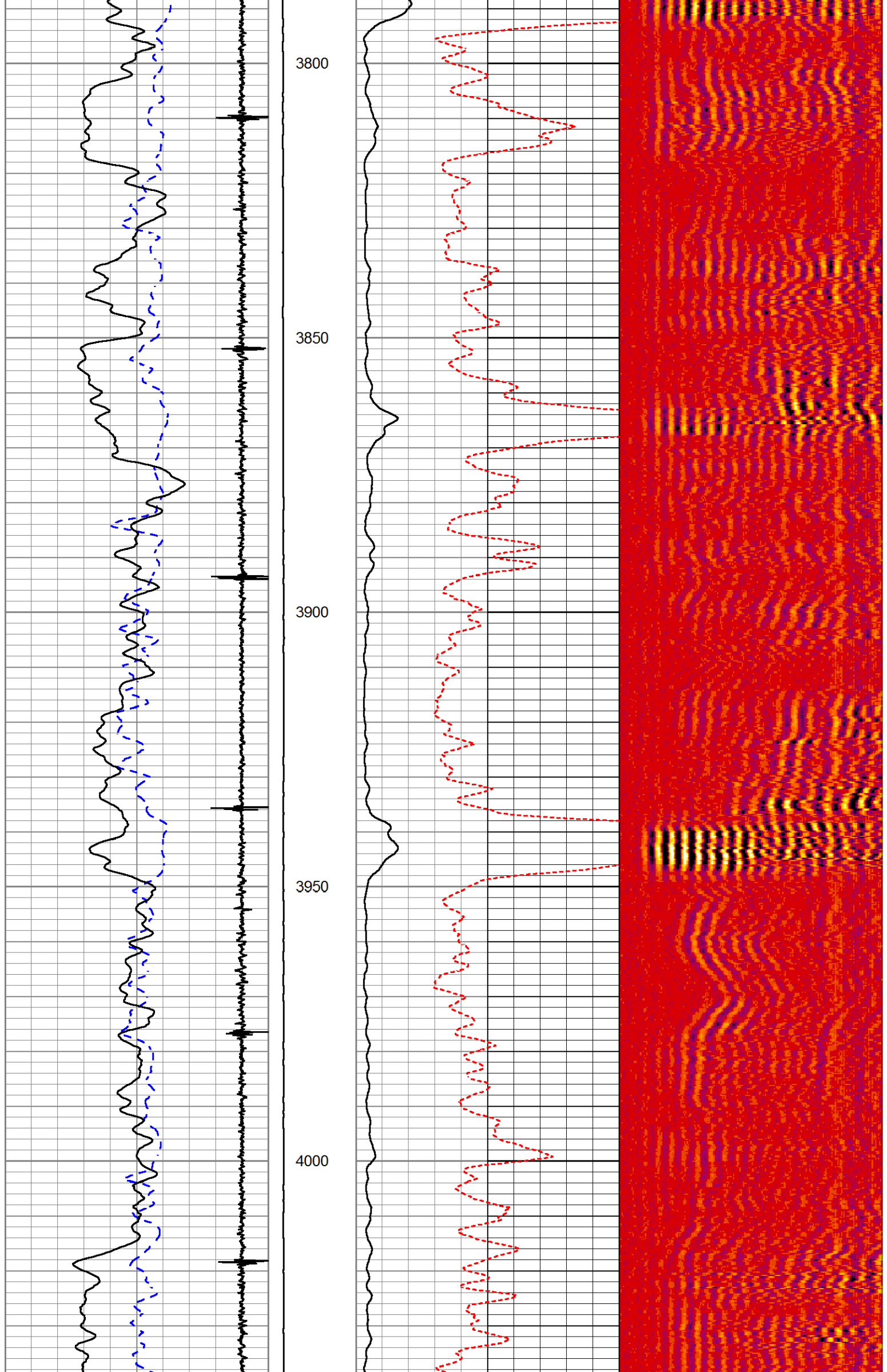


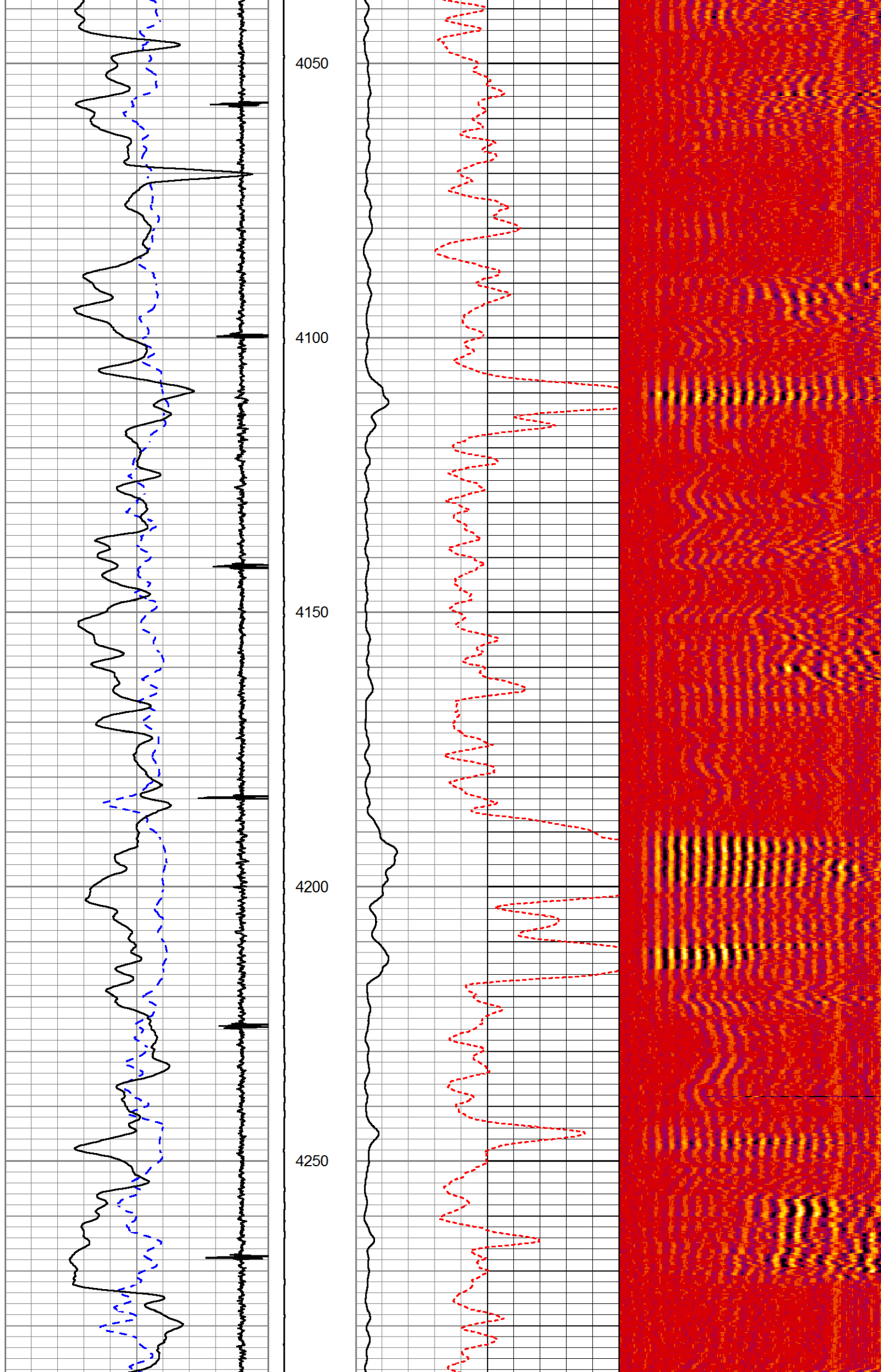


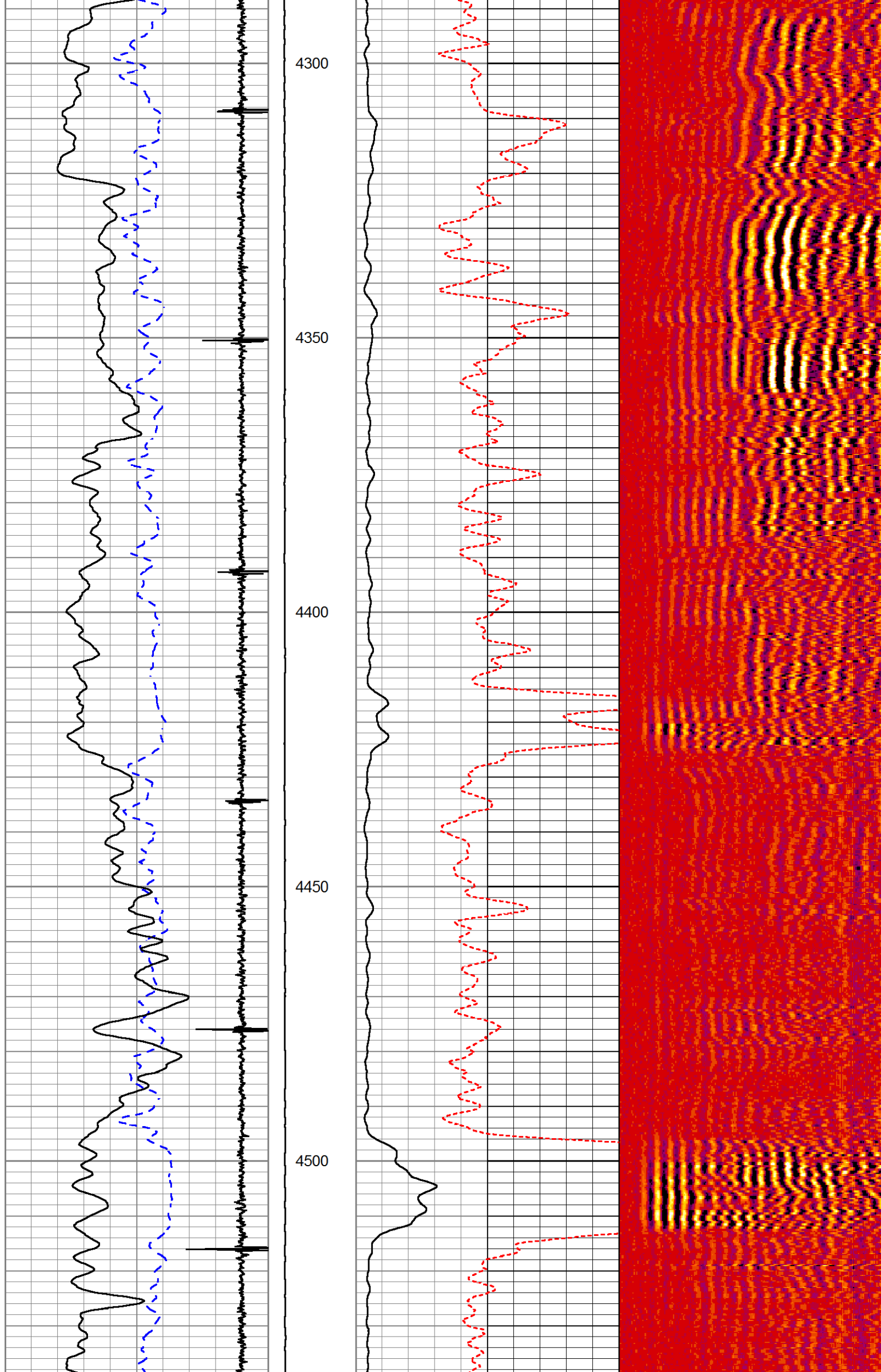


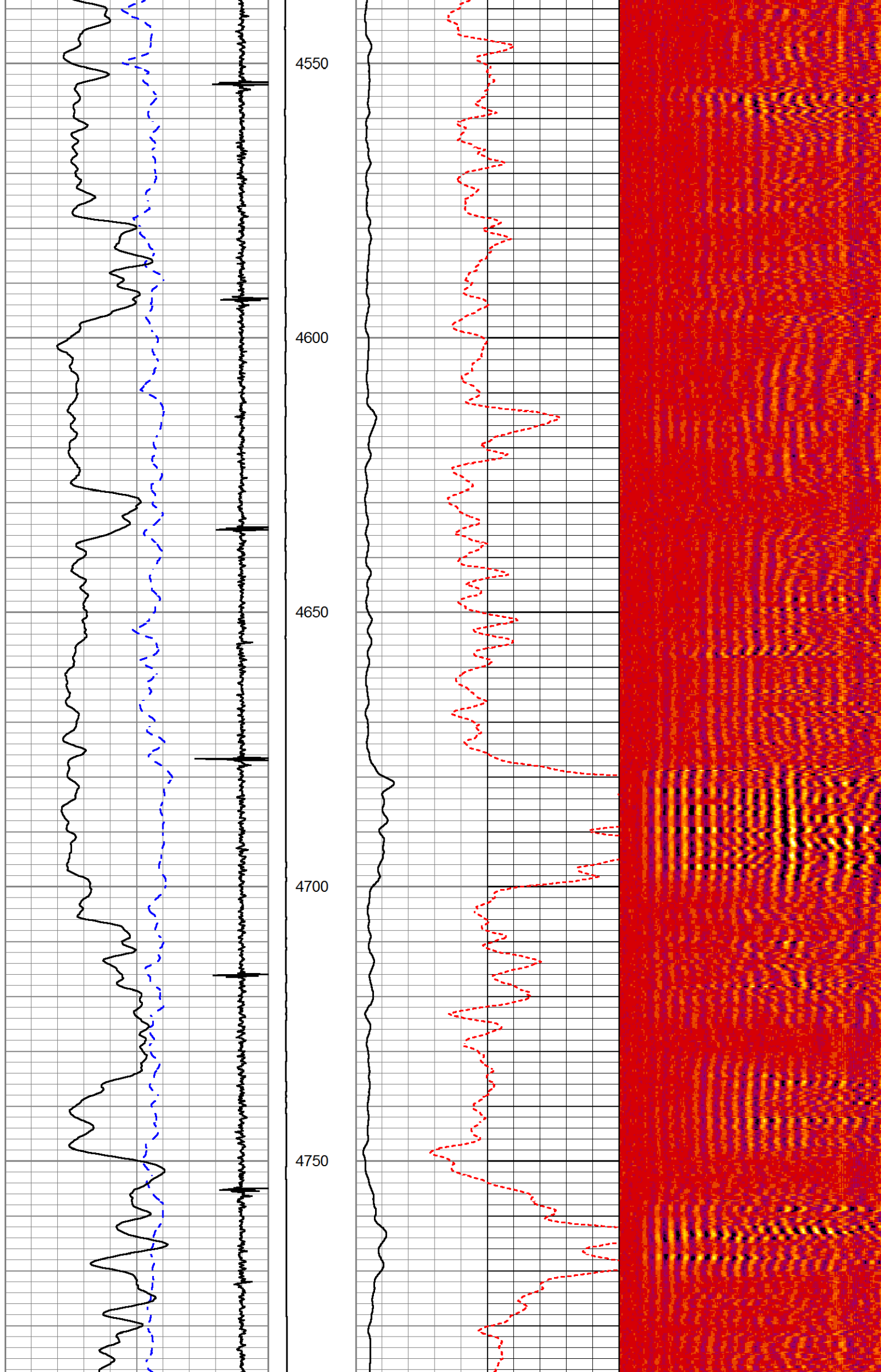


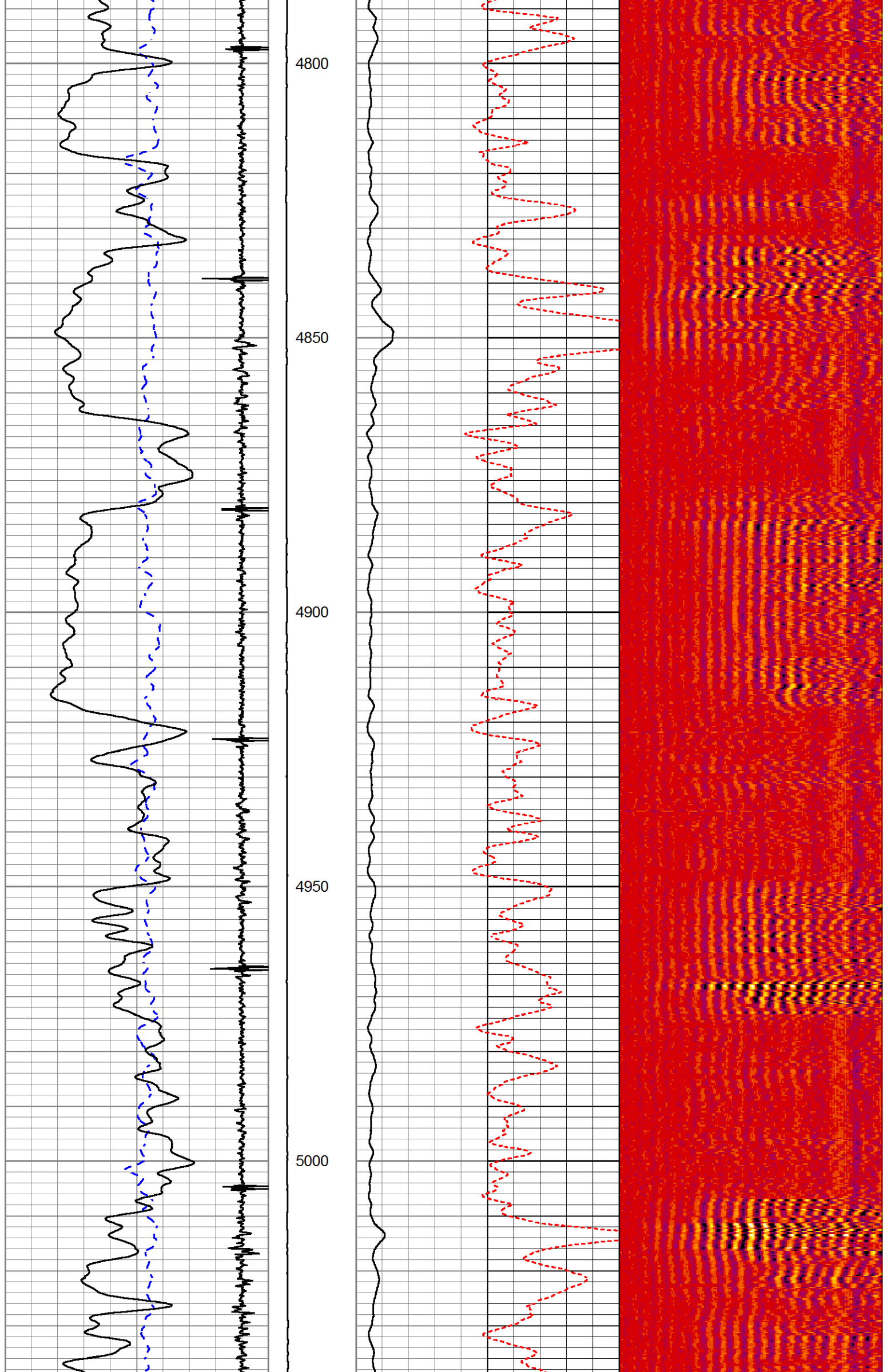


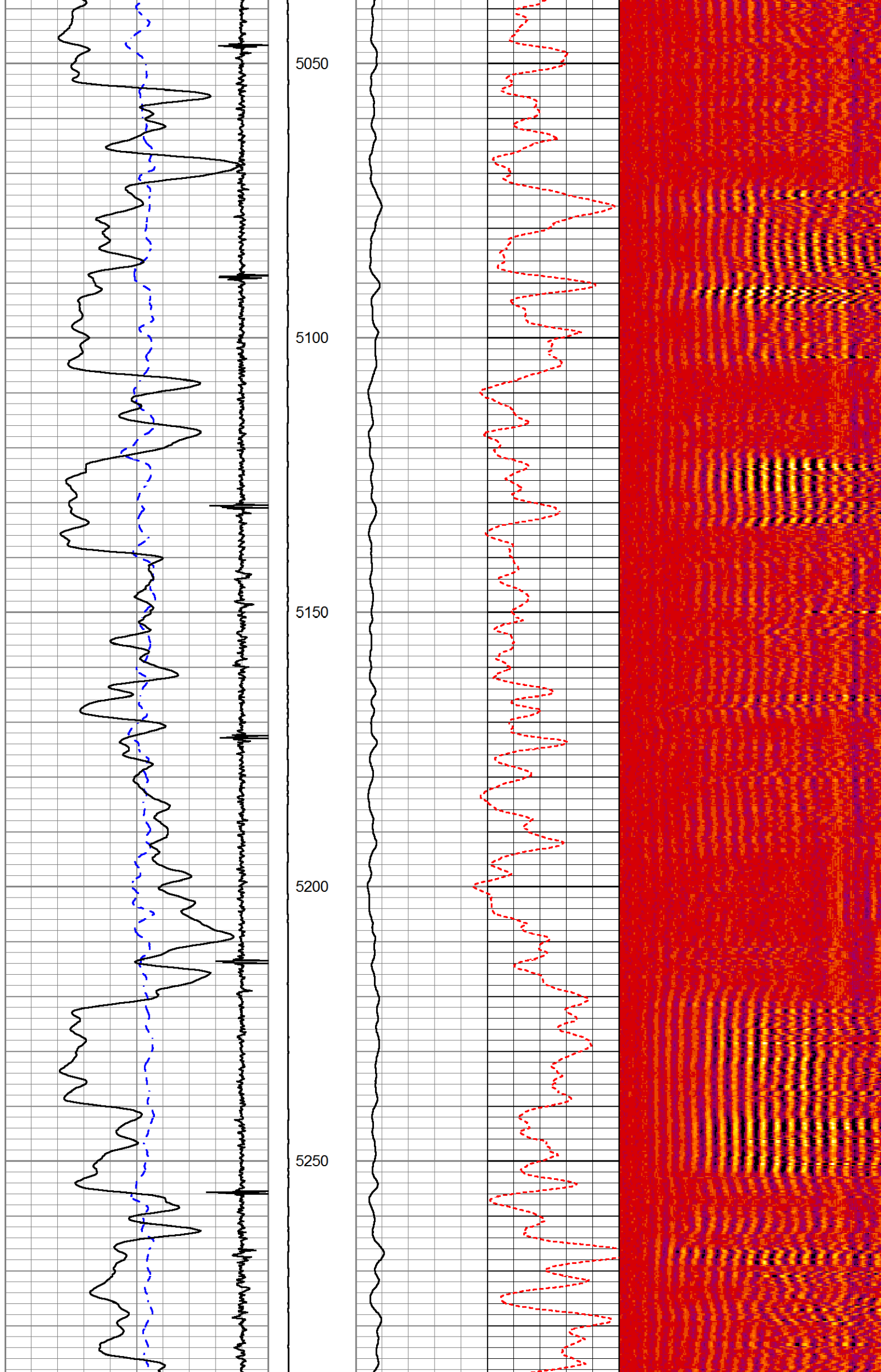


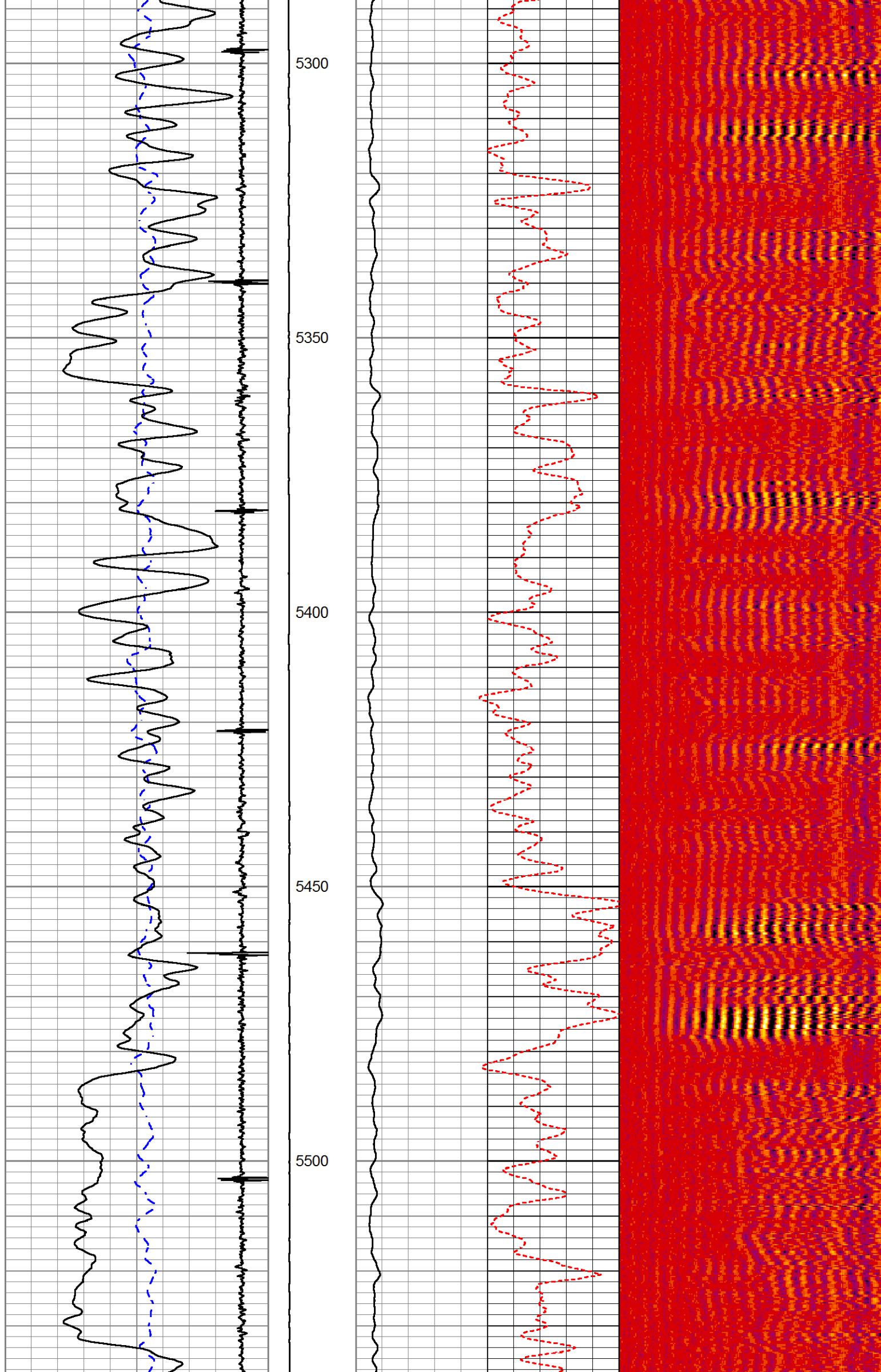


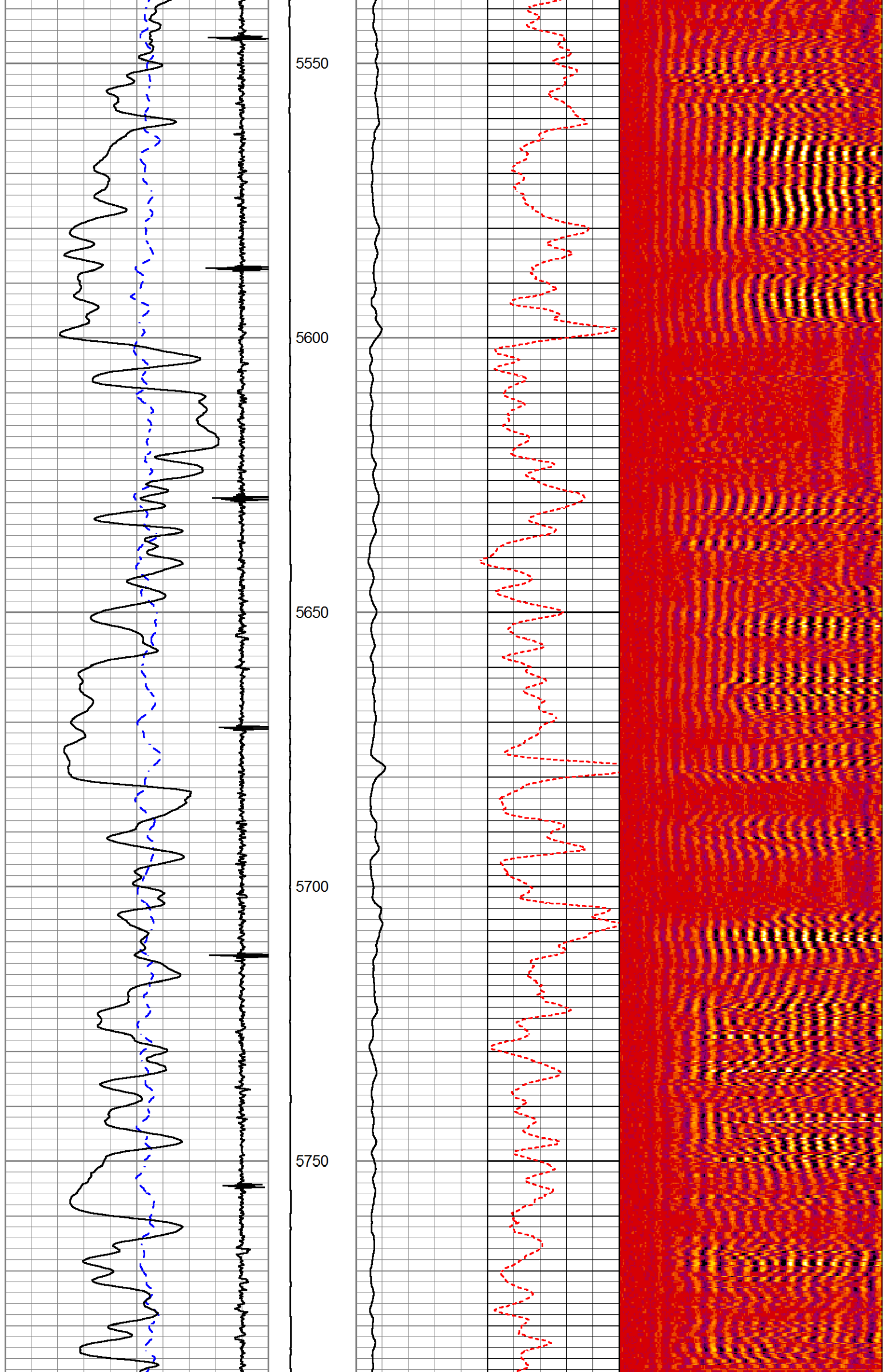


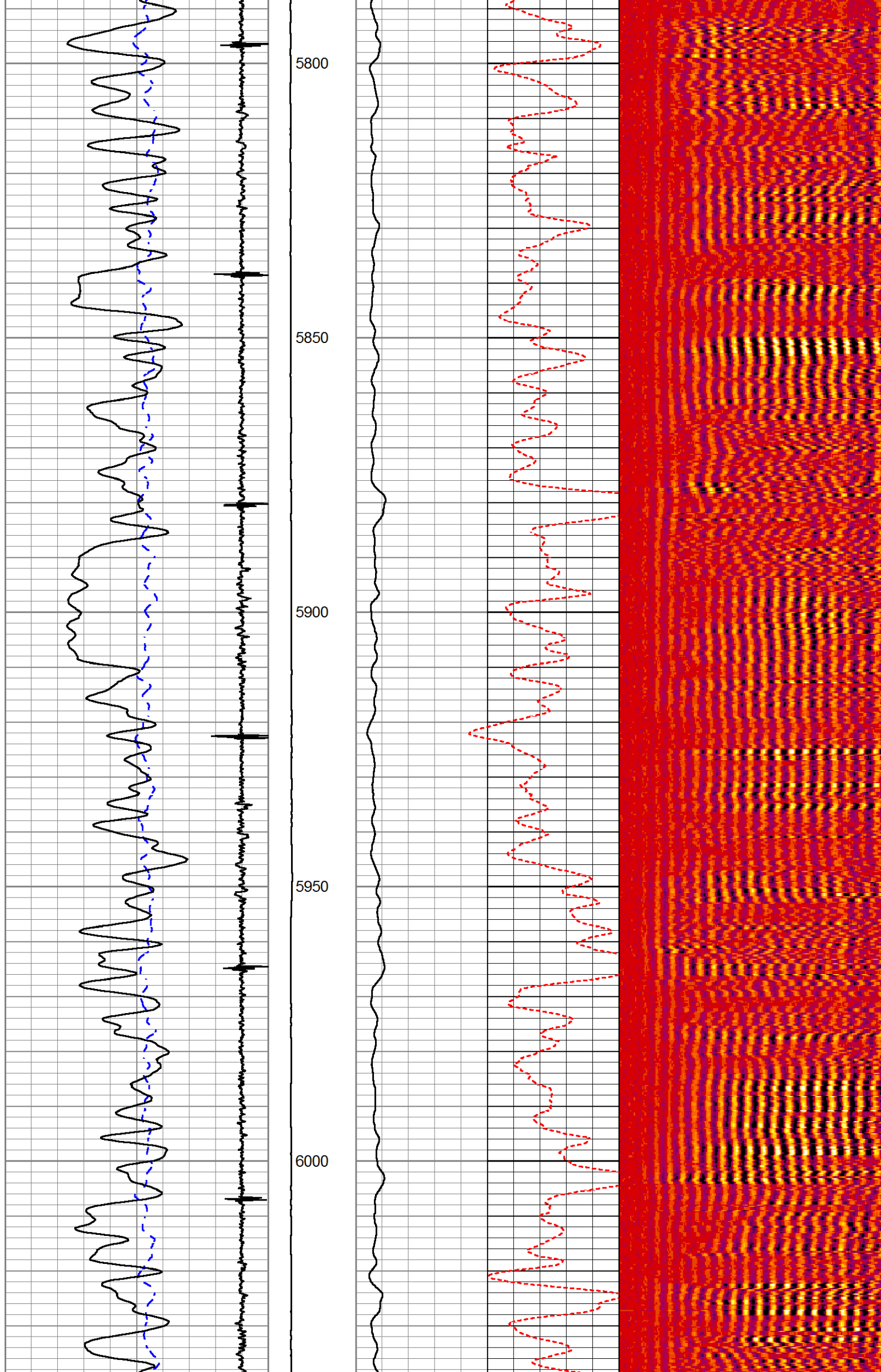


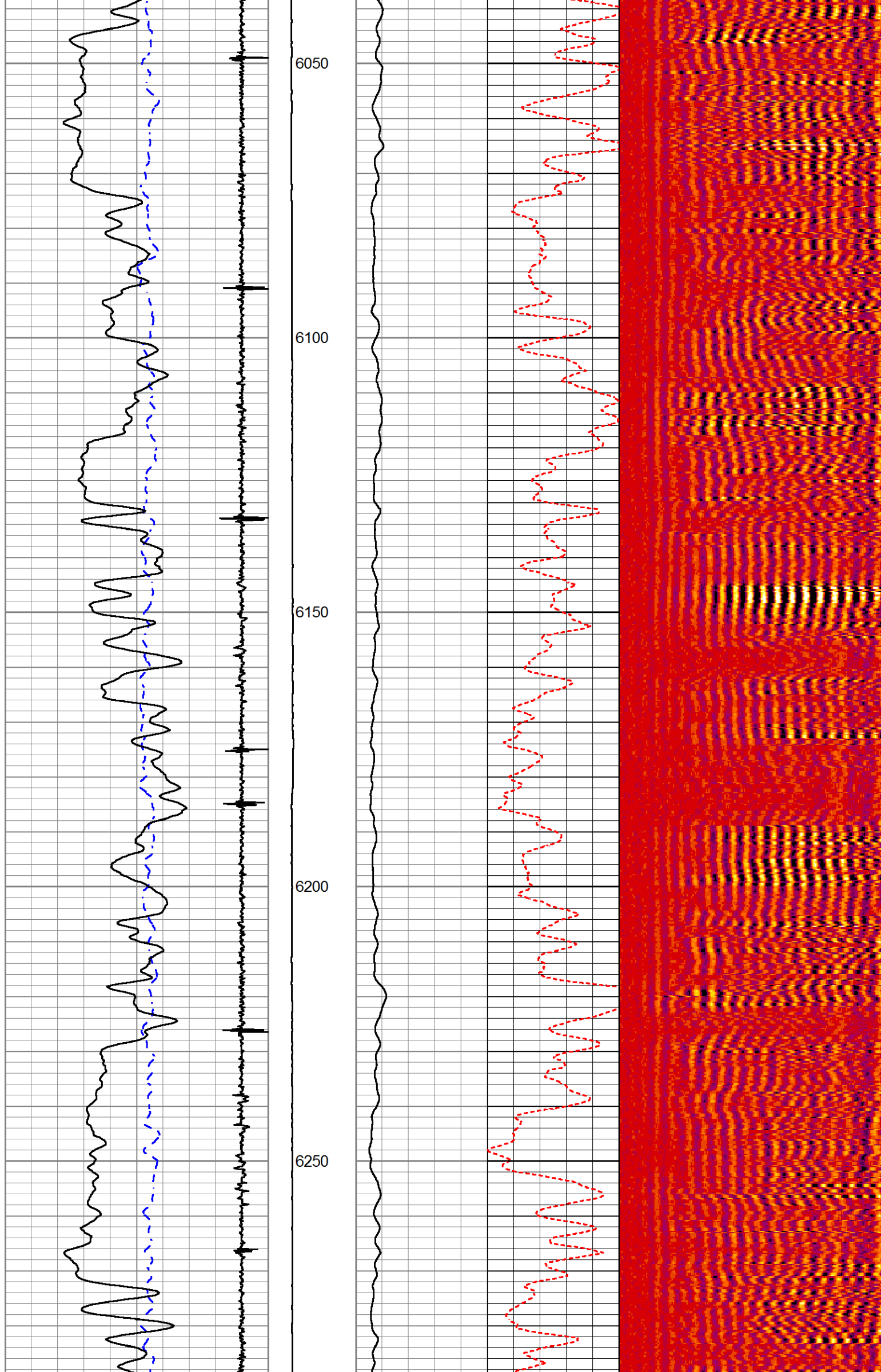


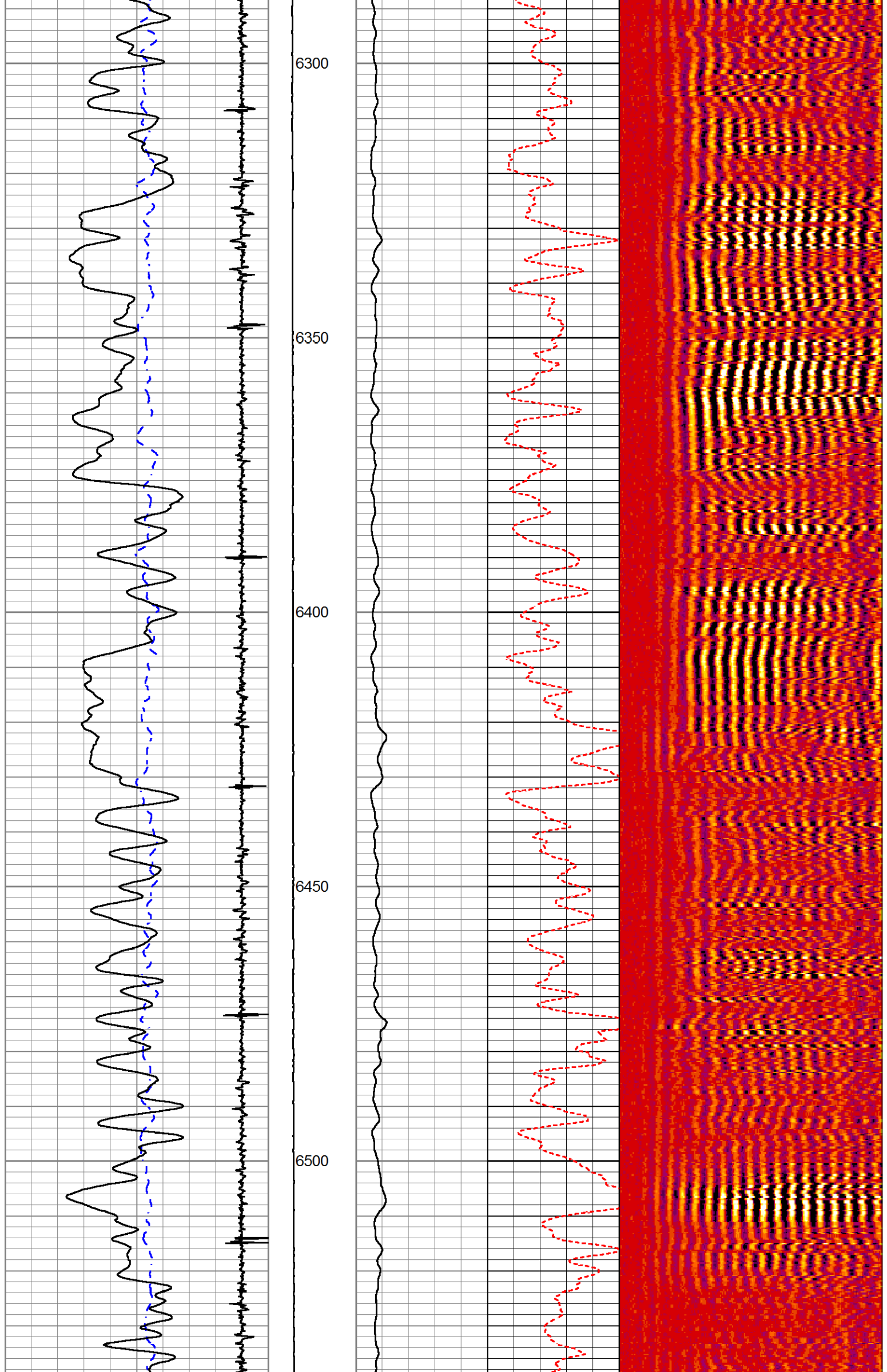


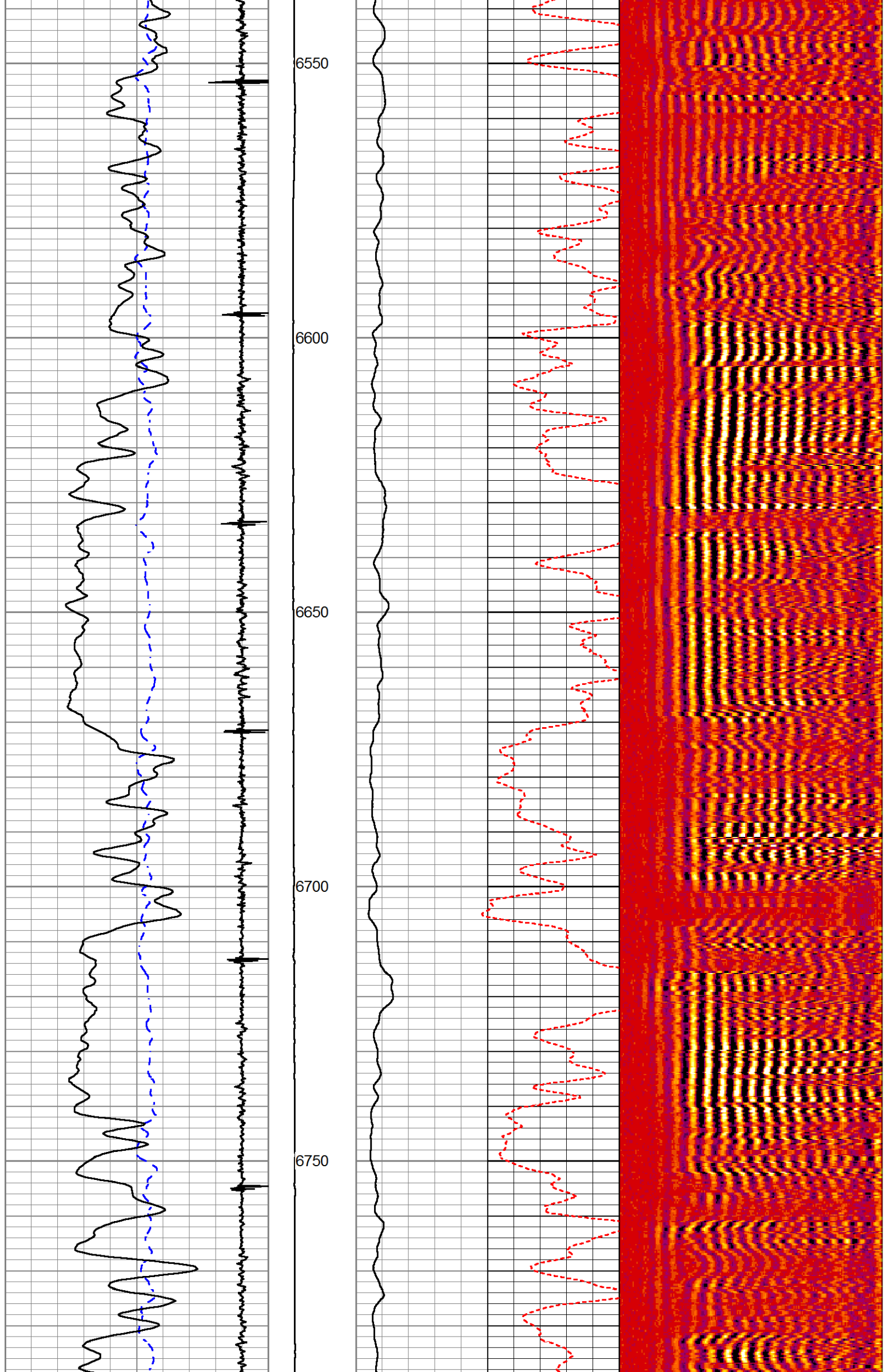


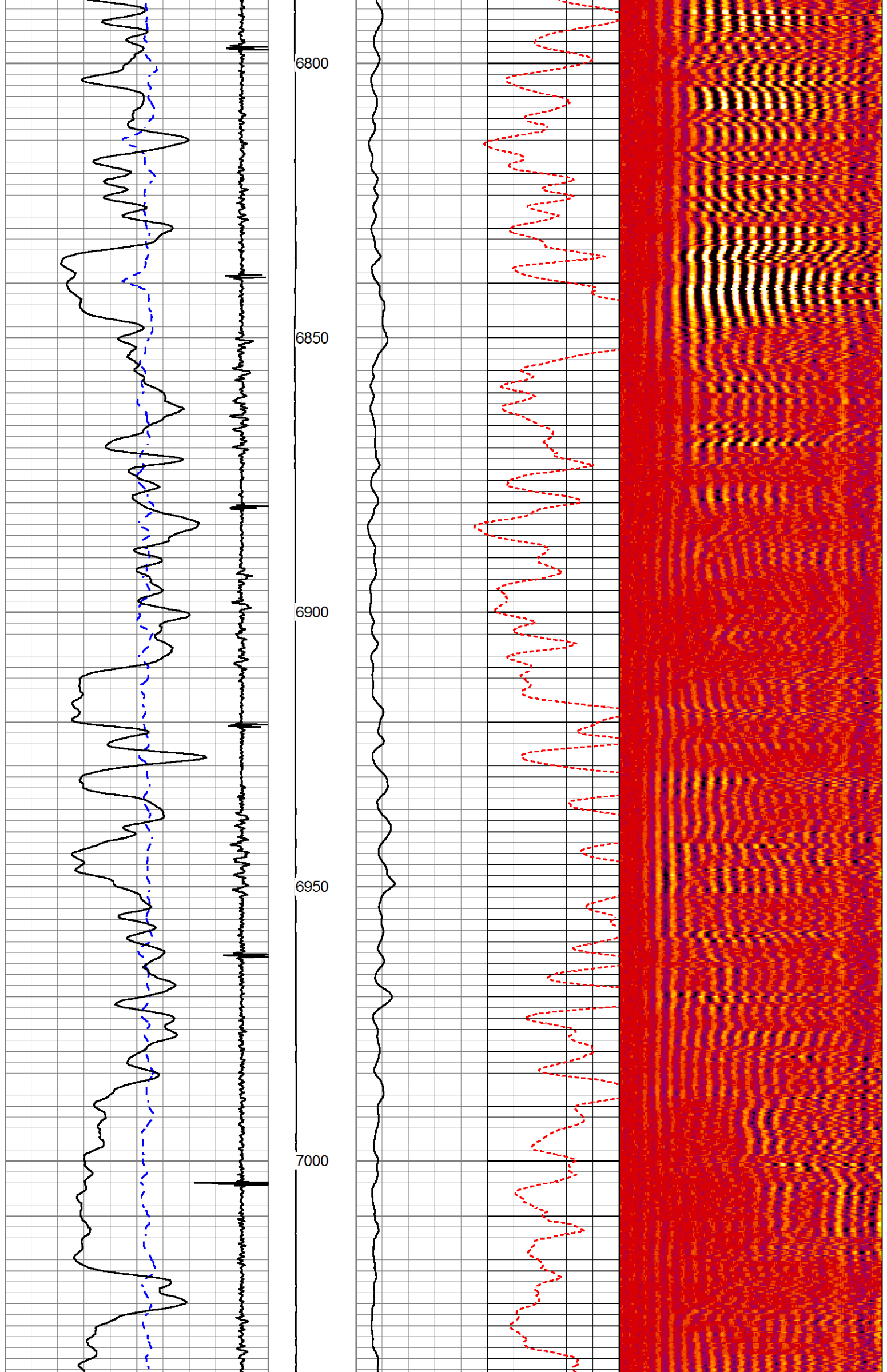


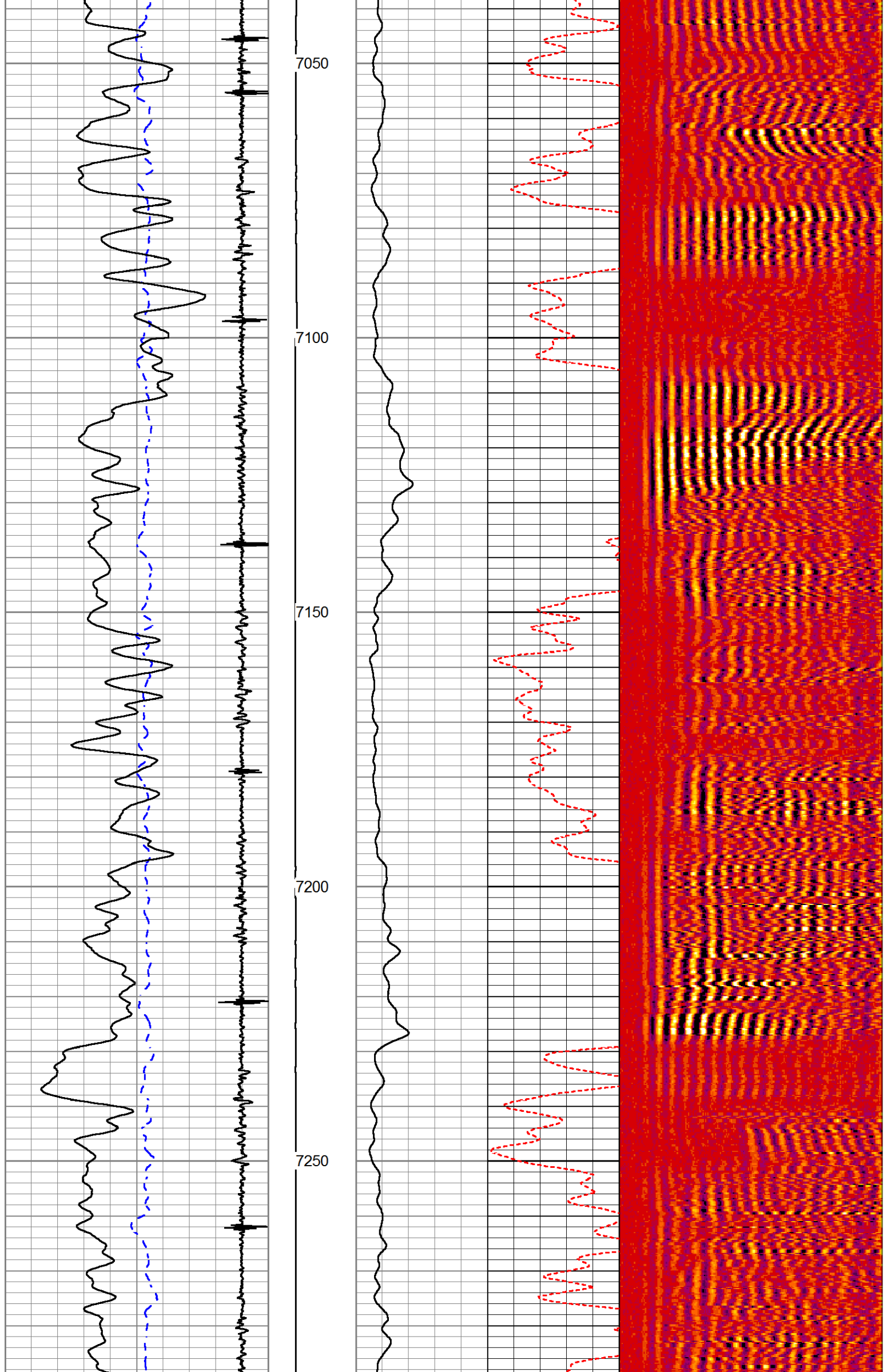


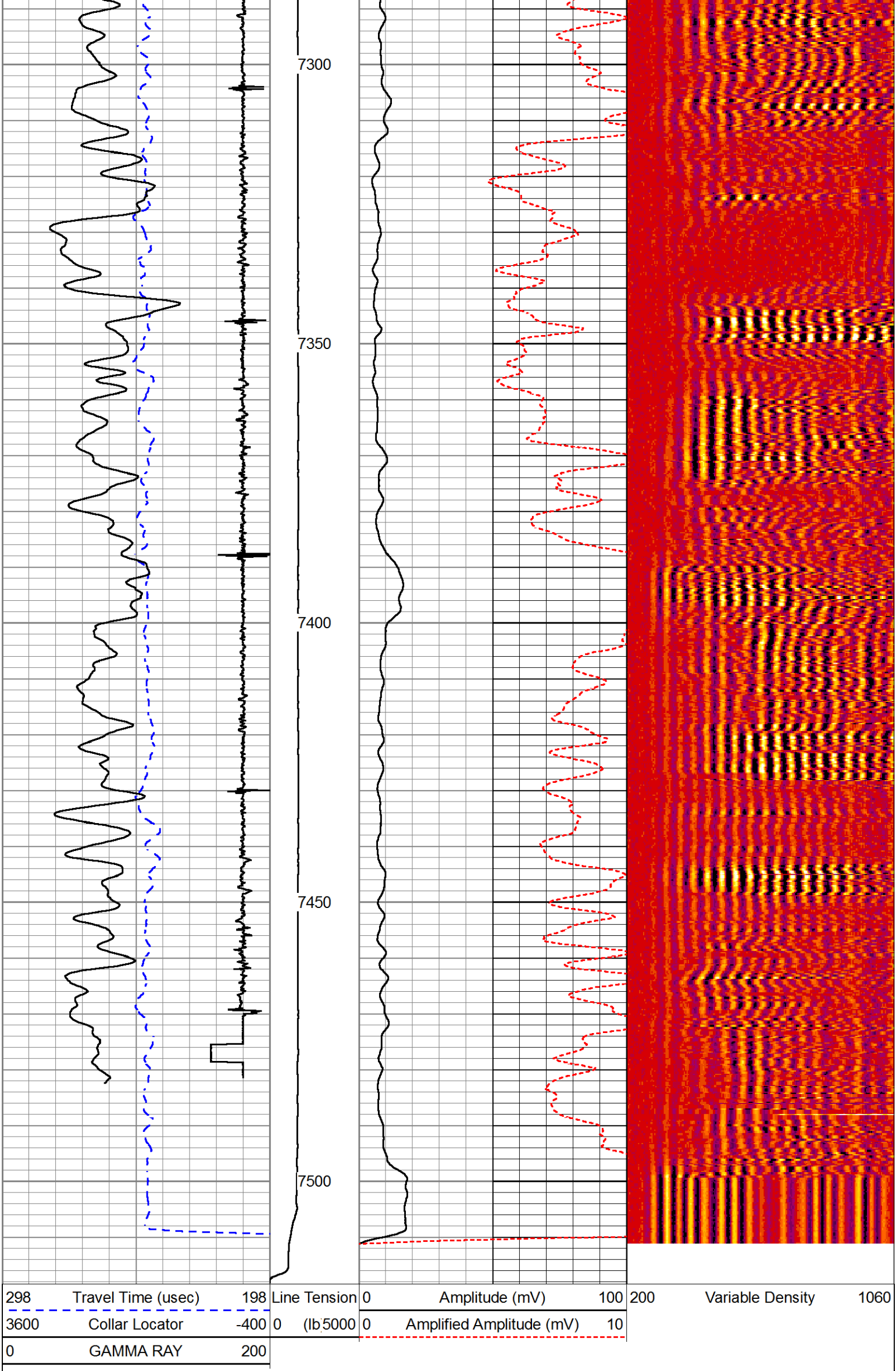








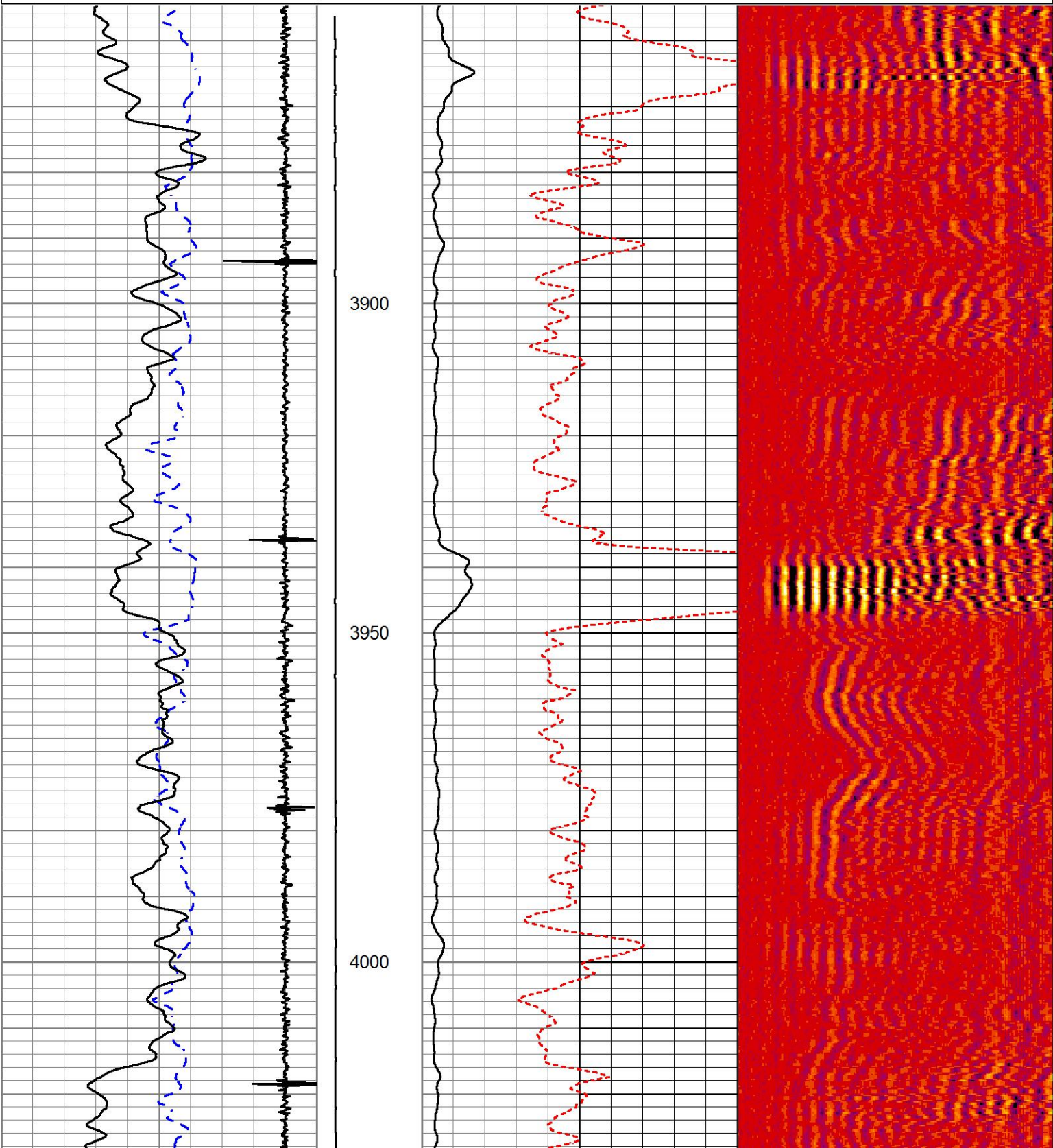


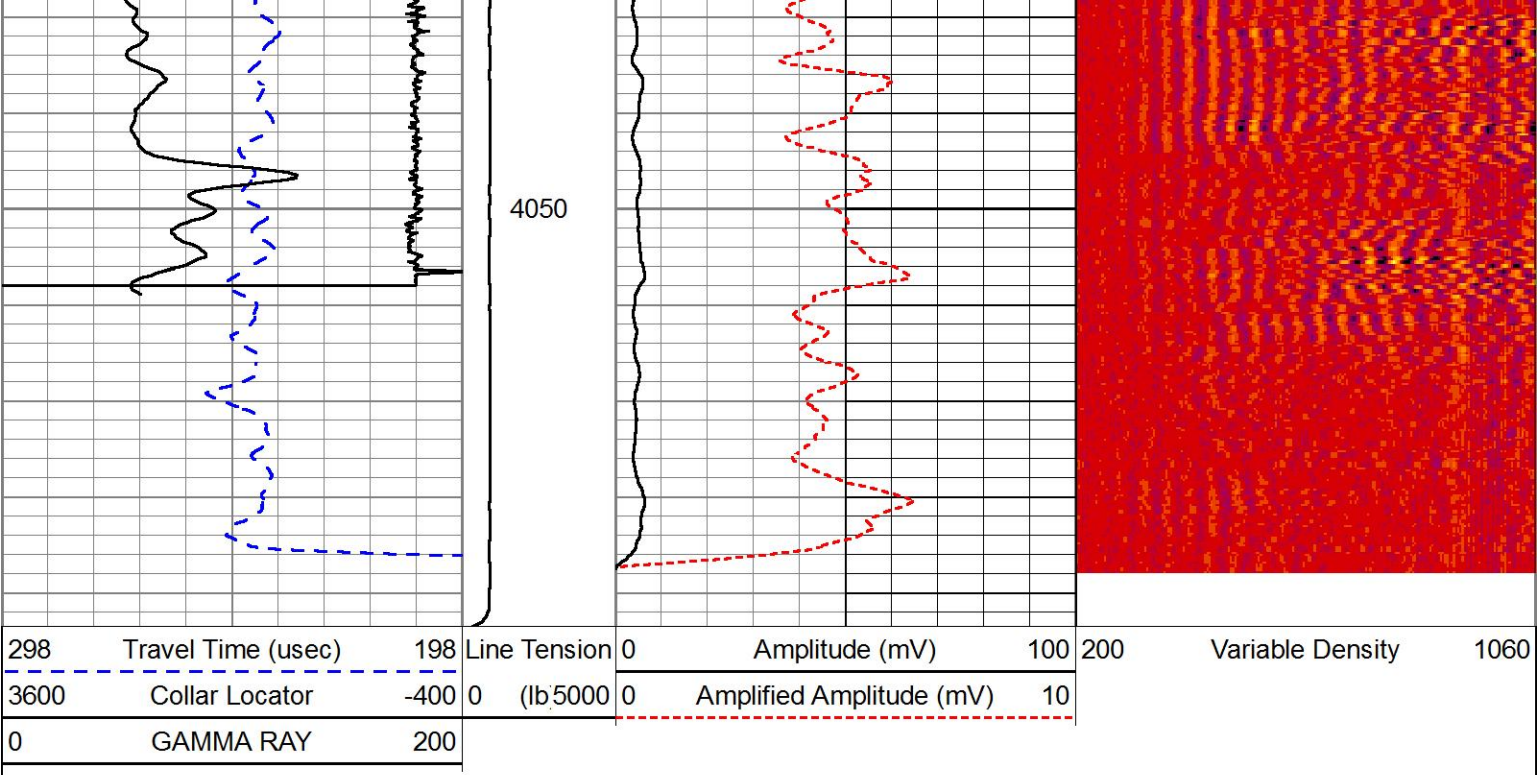


REPEAT PASS

Database File thompkins_32c_08_07_95.db
Dataset Pathname pass2
Presentation Format !1!!CB~1
Dataset Creation Wed Sep 07 14:00:03 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							





REPEAT PASS

HALLIBURTON

5" = 100'

Log Variables

DatabaseC:\ProgramData\Warrior\Data\thompkins_32c_08_07_95.db
Dataset field/well/run1/pass5/_vars_

Top - Bottom

BHSAL1	BHSAL2	BHTEMP_Src	BITSIZE	BORSAL	BOTTEMP	CASED?	CASEOD
1	0	TEMP	in 10	kppm 150	degF 100	Yes	in 4.5
CASETHCK	CASEWGHT	LTH	MSGGN	MudWgt	PERFS	POROS1	POROS2
in 0	lb/ft 11.6	Sandstone	1	lb/gal 8.4	0	1	0
RHOFC	SO	SRFTEMP	TDEPTH	UHSGC	USERFTT	ZREF	
0.25	in 0	degF 0	ft 7698	NONE	usec/ft 0	MRayl 1.7	

Calibration Report

Database File thompkins_32c_08_07_95.db
Dataset Pathname pass5
Dataset Creation Wed Sep 07 14:28:34 2016

Cement Bond Log Shop Calibration Report

Serial-Model: 1-A
Calibration Performed: Wed Sep 07 13:35:44 2016

Free Pipe Calibration

	Measured	Units
TT	245.3	usec
Amplitude	585.8	mV
Log Base Line	7.8	mV


Calibration References and Gain

Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref A	24.2	mV

Pipe Ref. Amp.		81.2	mv		
Amp. Gain		0.140			
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

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				
	Counts/Sec.	Gain	Offset	Jig	Units	
Background Calibrator	28.5				cps	
	160.5				cps	
		1.6899			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)
CCL	35.14		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
GR	32.88		TTTCU-002 (12105780) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
			XHU-003 (000001) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
RmtTFGT	22.23					
RmtTNGT	21.73		RMTI-A (11680597) Halliburton RMTI Tool	14.00	2.13	77.00

Tool Joint		Tool Joint		Tool Joint		Tool Joint		Tool Joint	
Tool Joint	Length (ft)	Weight (lb)	Length (ft)	Weight (lb)	Length (ft)	Weight (lb)	Length (ft)	Weight (lb)	Length (ft)
RmtFP5V	13.98		X-OVER-GoxSondex	0.27	1.69	1.00			
RmtNFwvMcsPI	13.98		Go Box x Sondex Pin CrossOver						
RmtCommFWa	13.98		CENT-CASTM-CENT	2.16	3.13	25.00			
			CAST M INLINE CENTRALIZER						
Temp	8.89								
TT3FT	6.64		HCBLM-A (1)	9.38	2.75	116.00			
AMP3FT	6.64		Halliburton HCBLM Tool						
WVF5FT	5.68								
WVF3FT	2.16								
LLMTEN	0.00		CENT-CASTM-CENT	2.16	3.13	25.00			
			CAST M INLINE CENTRALIZER						
Dataset: thompkins_32c_08_07_95.db: field/well/run1/pass5 Total length: 38.71 ft Total weight: 352.00 lb O.D.: 3.13 in									