

HALLIBURTON				CEMENT BOND LOG			
Company		URSA OPERATING COMPANY LLC		Company		URSA OPERATING COMPANY LLC	
Well		TOMPKINS 32B-08-07-95		Well		TOMPKINS 32B-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'	
		KB		G.L.		5532'	
Date @ Time Logged		08 SEPT 2016 @ 02:00		Type Fluid in Hole		FRESH WATER	
Run No.		ONE		Density of Fluid		8.4 PPG	
Depth - Driller		7698'		Fluid Level		SURFACE	
Depth - Logger		7461'		Cement Top Est. Logged		2840'	
Bottom - Logged Interval		7461'		Equipment / Location		11808537 / RS. WY	
Top - Log Interval		1708'		Recorded by		S. BURGLE	
Max. Recorded Temp.		201 degF		Witnessed by		N/A	
CEMENTING DATA		Surface		Protection		Liner	
		String		String			
Date / Time Cemented		N/A		N/A		N/A	
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		24"		From		To	
ONE		SURFACE		60'		16"	
TWO		12.25"		60'		8.625"	
THREE		7.875"		1808'		4.5"	

ONE	3850'	4060'	0 PSI	20	REPEAT			
TWO	7461'	1708'	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			

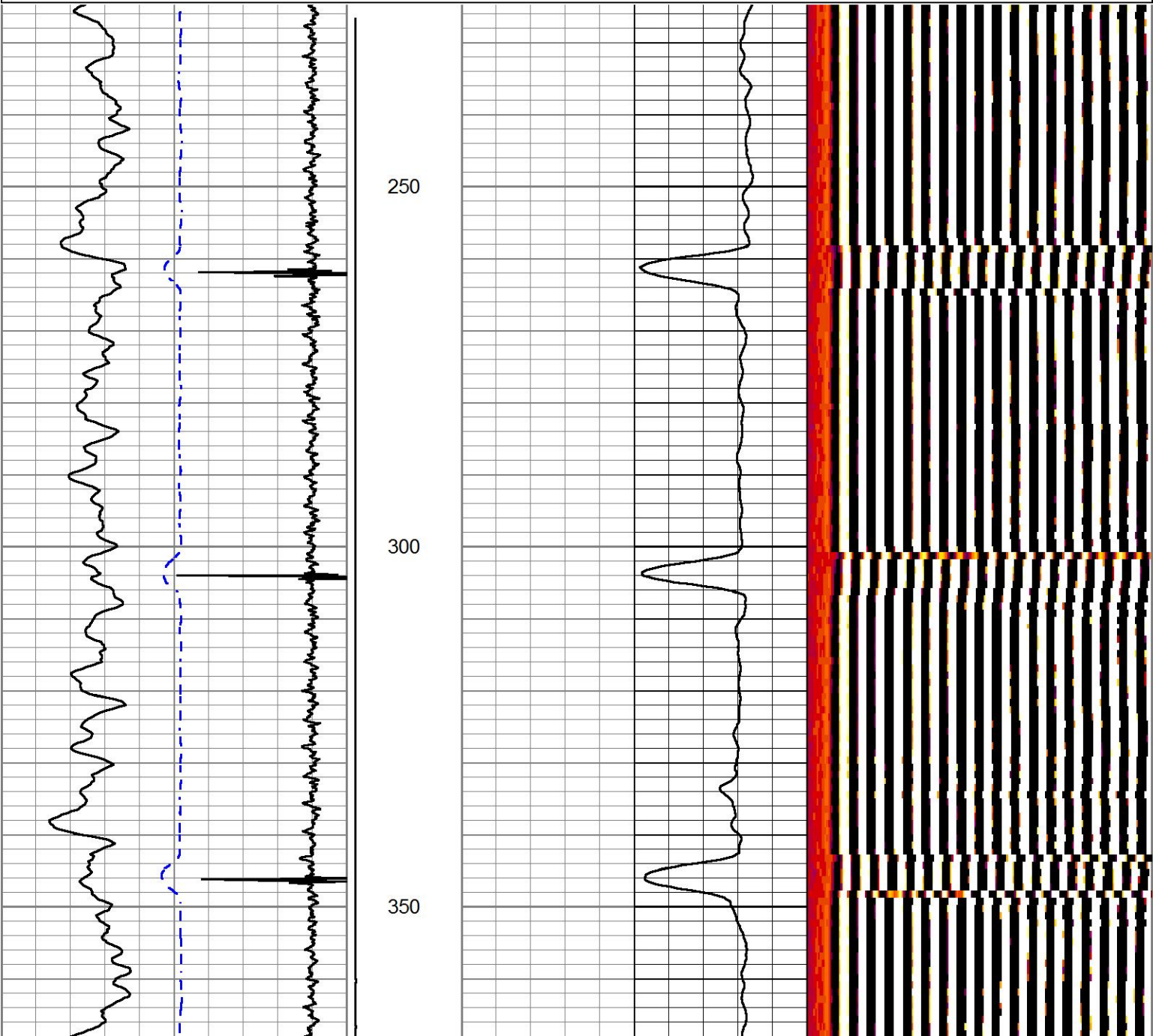
HALLIBURTON

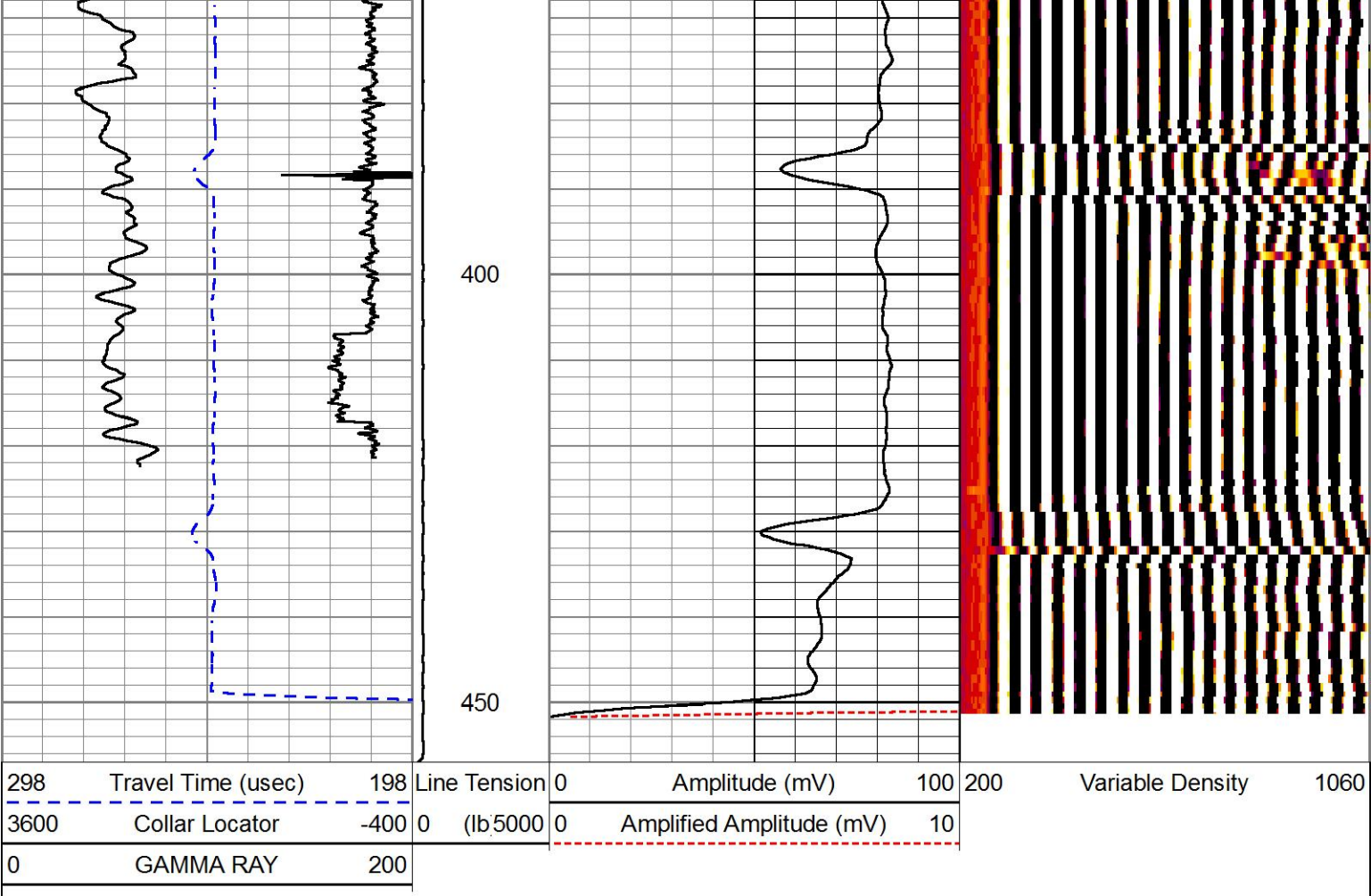
FREE PIPE SECTION

5" = 100'

Database File	thompkins_32b_08_07_95.db									
Dataset Pathname	pass6									
Presentation Format	!1!!CB~1									
Dataset Creation	Thu Sep 08 03:52:21 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

5" = 100'

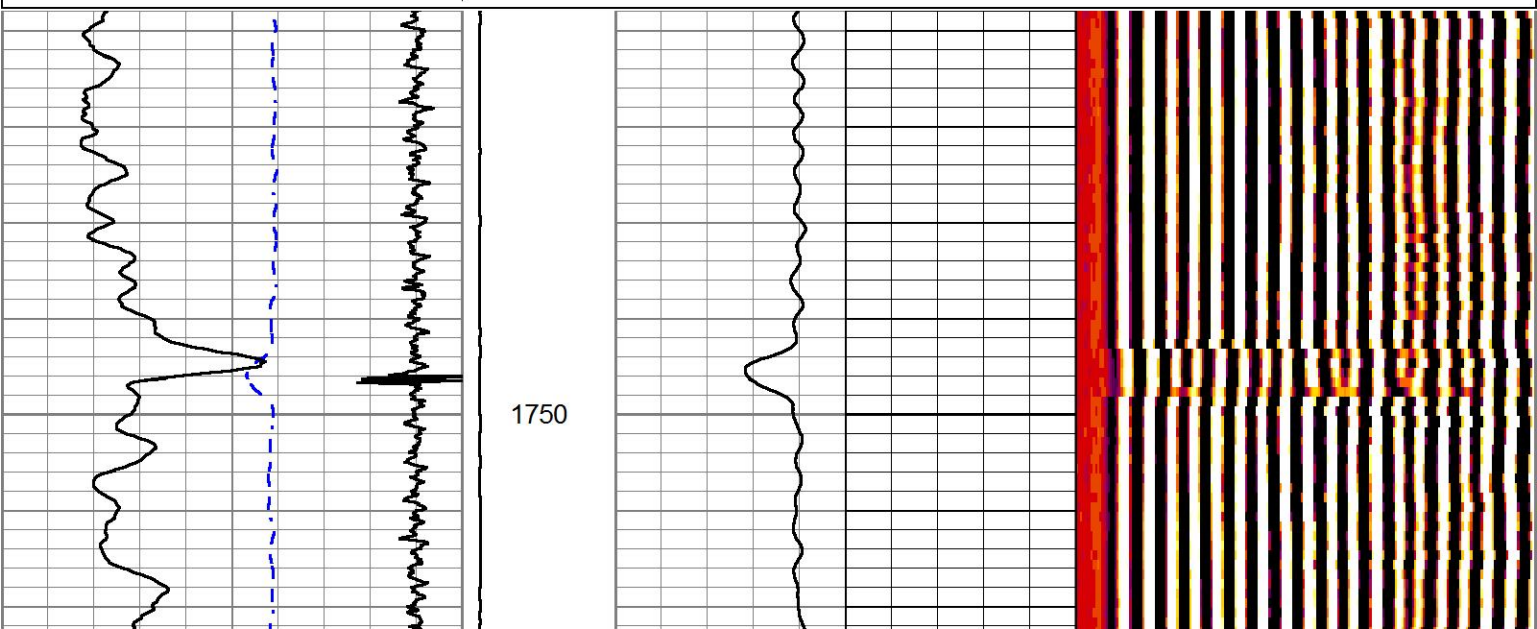
MAIN PASS

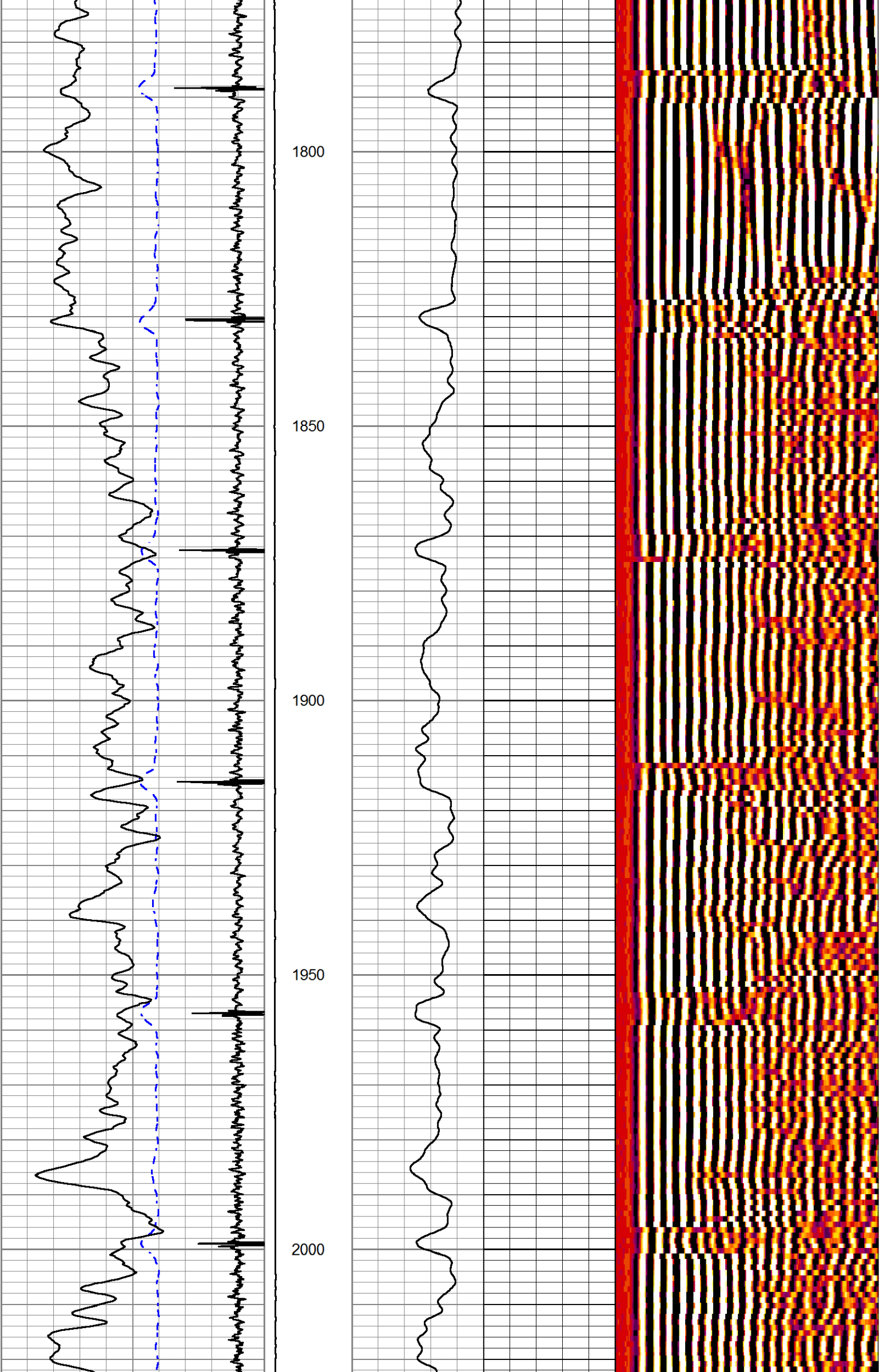
HALLIBURTON

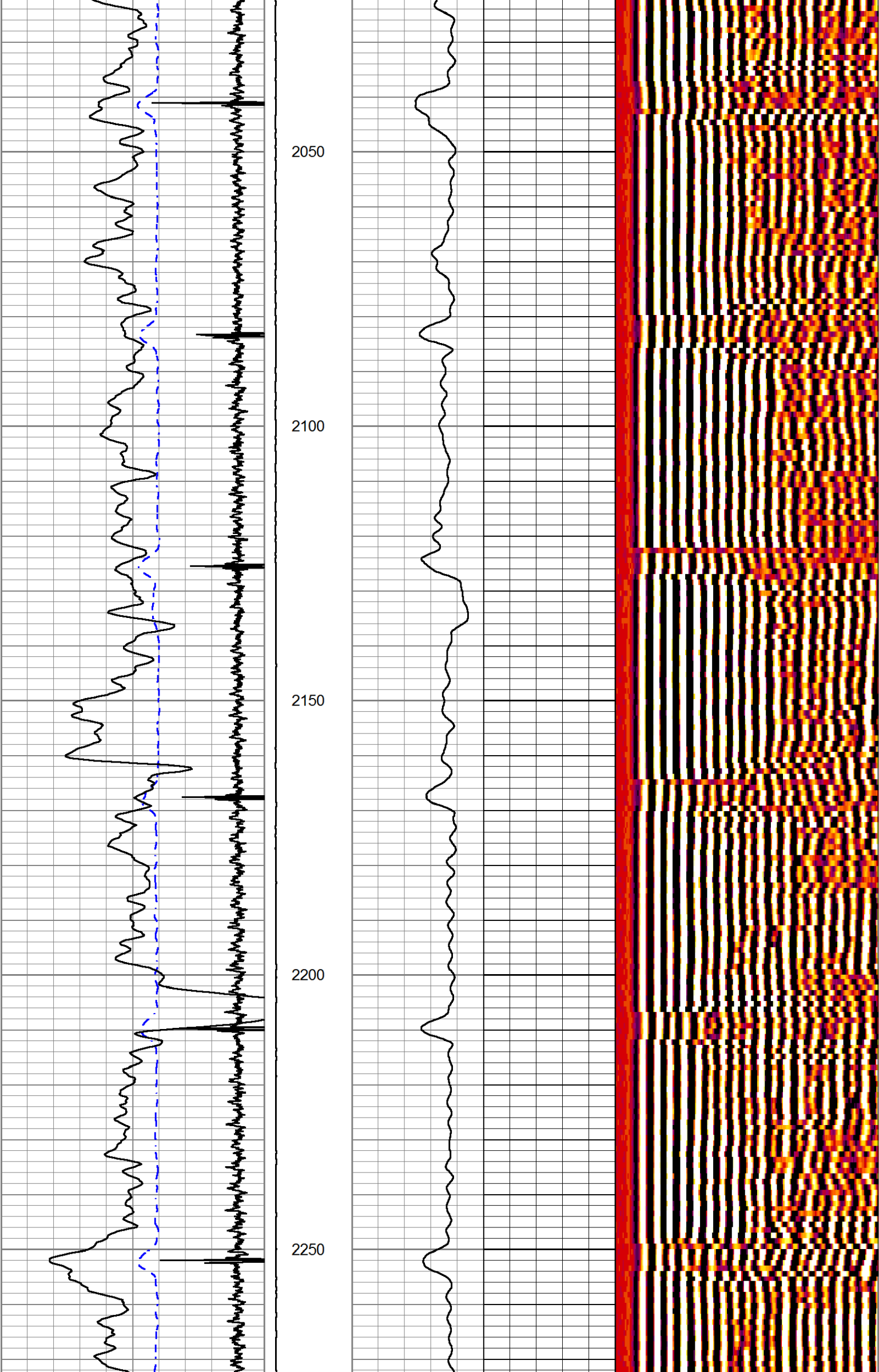
5" = 100'

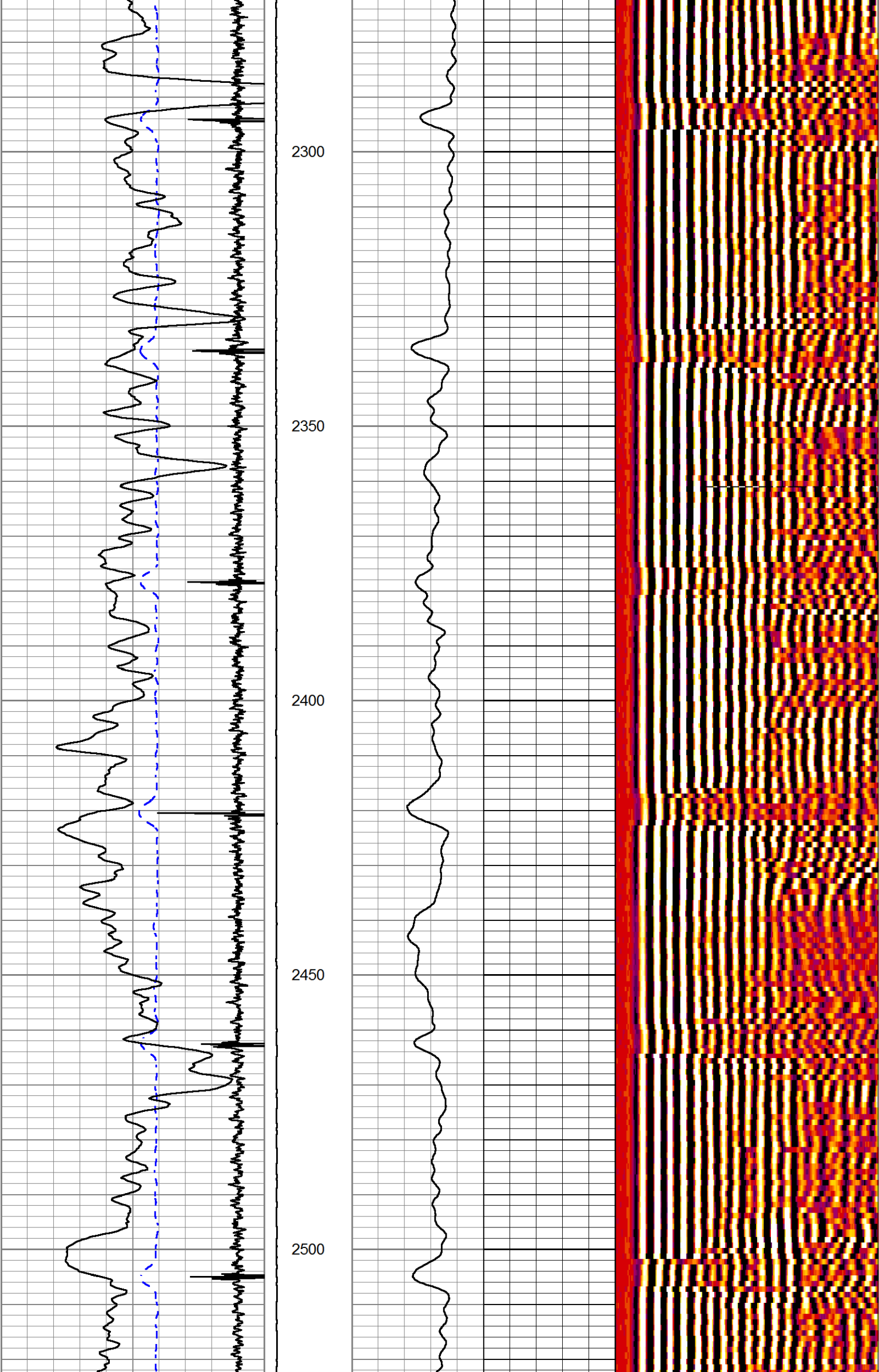
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Dataset Pathname	merge2
Presentation Format	!1!!CB~1
Dataset Creation	Thu Sep 08 04:26:42 2016
Charted by	Depth in Feet scaled 1:240

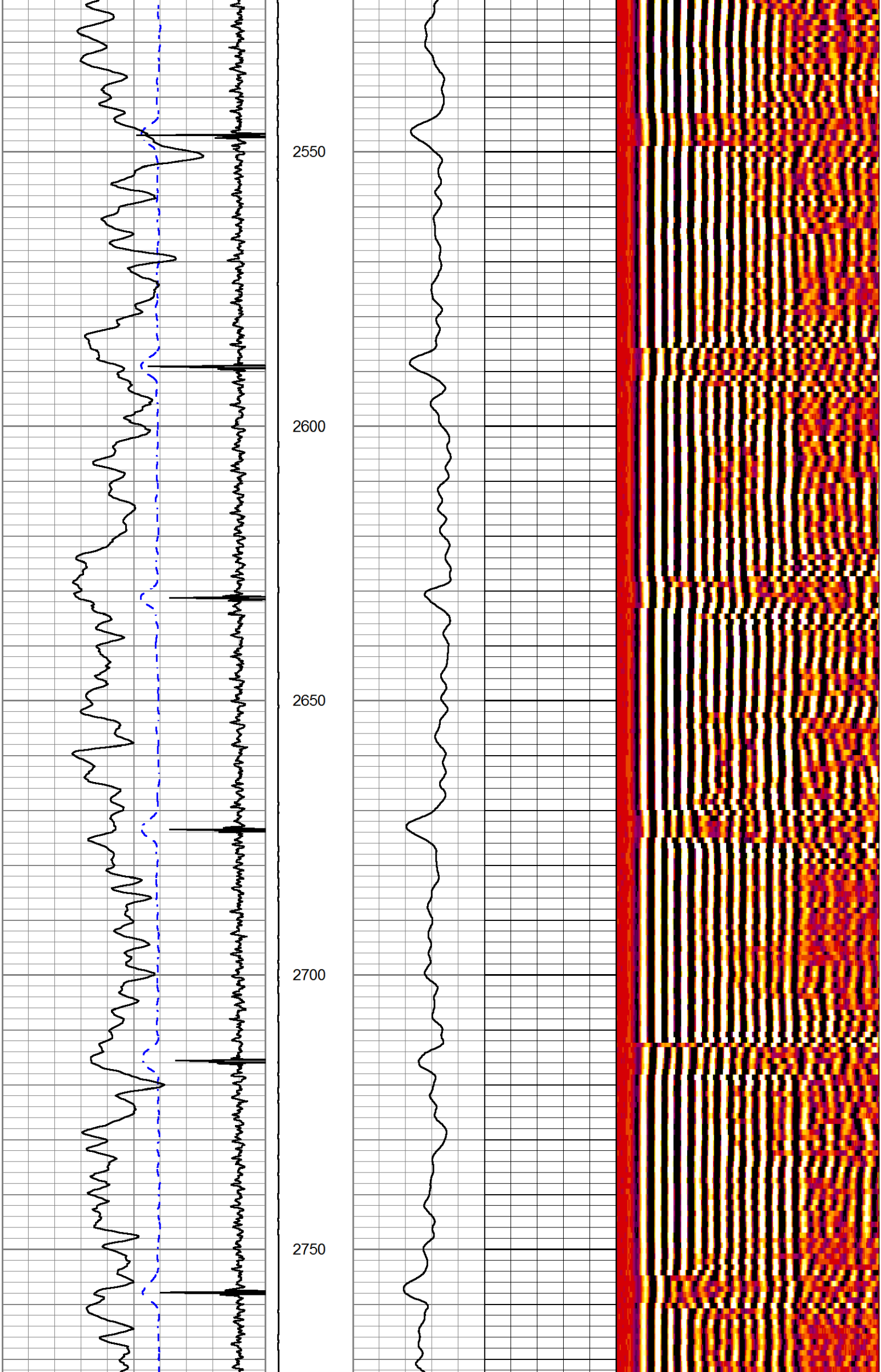
298	Travel Time (usec)	198	Line Tension	0	Amplitude (mV)	100	200	Variable Density	1060
3600	Collar Locator	-400	0 (lb,5000)	0	Amplified Amplitude (mV)	10			
0	GAMMA RAY	200							

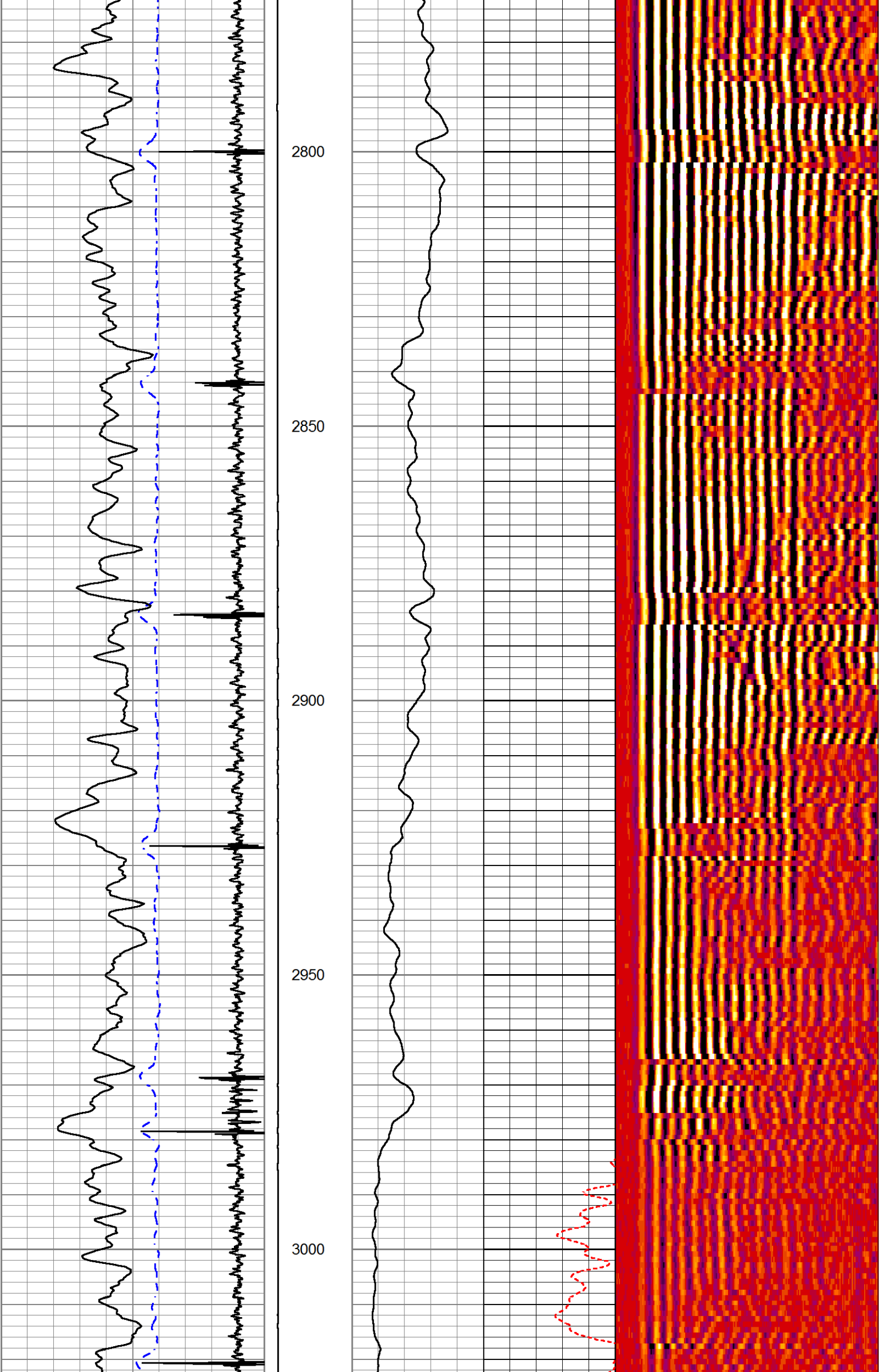


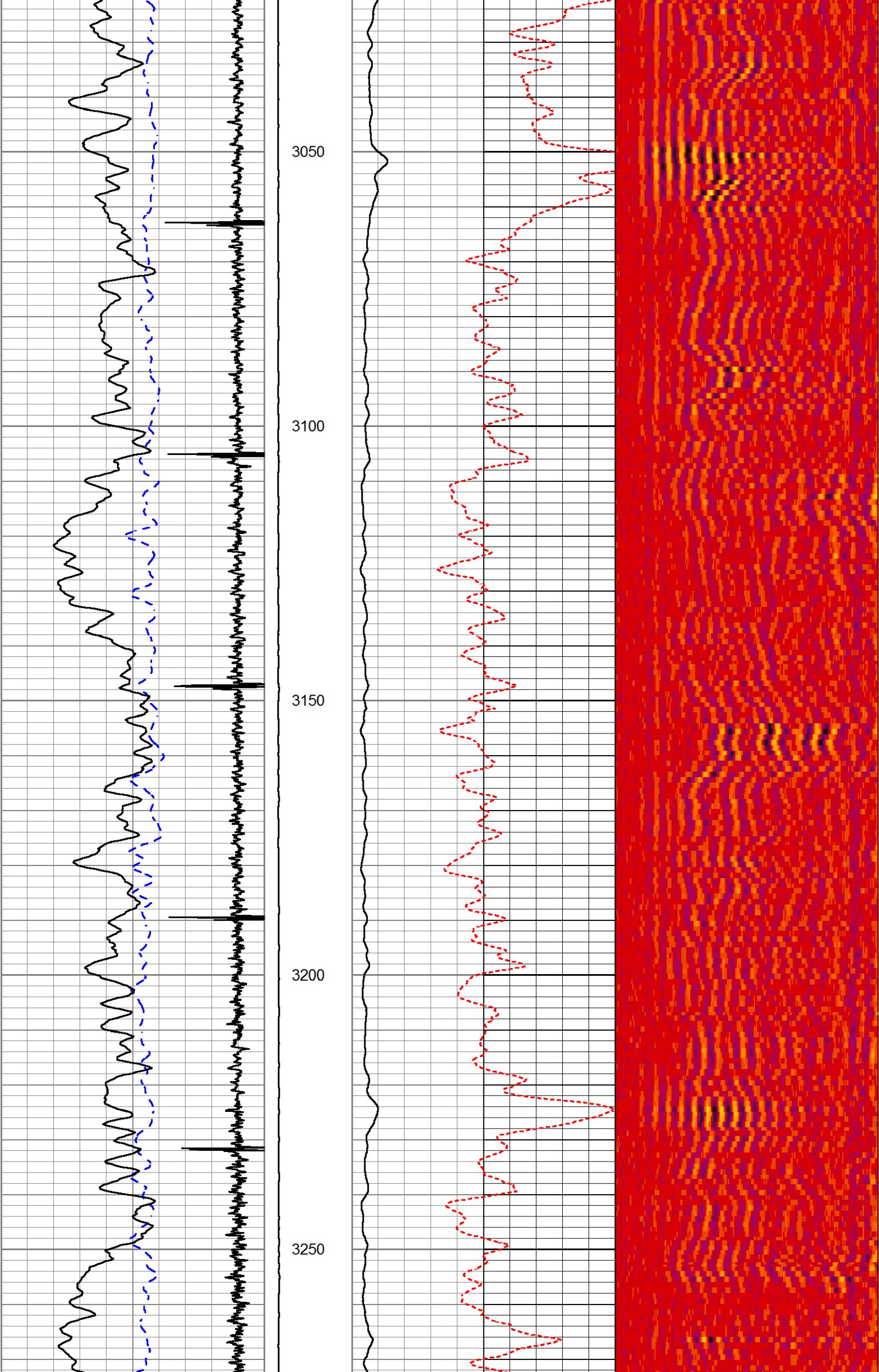


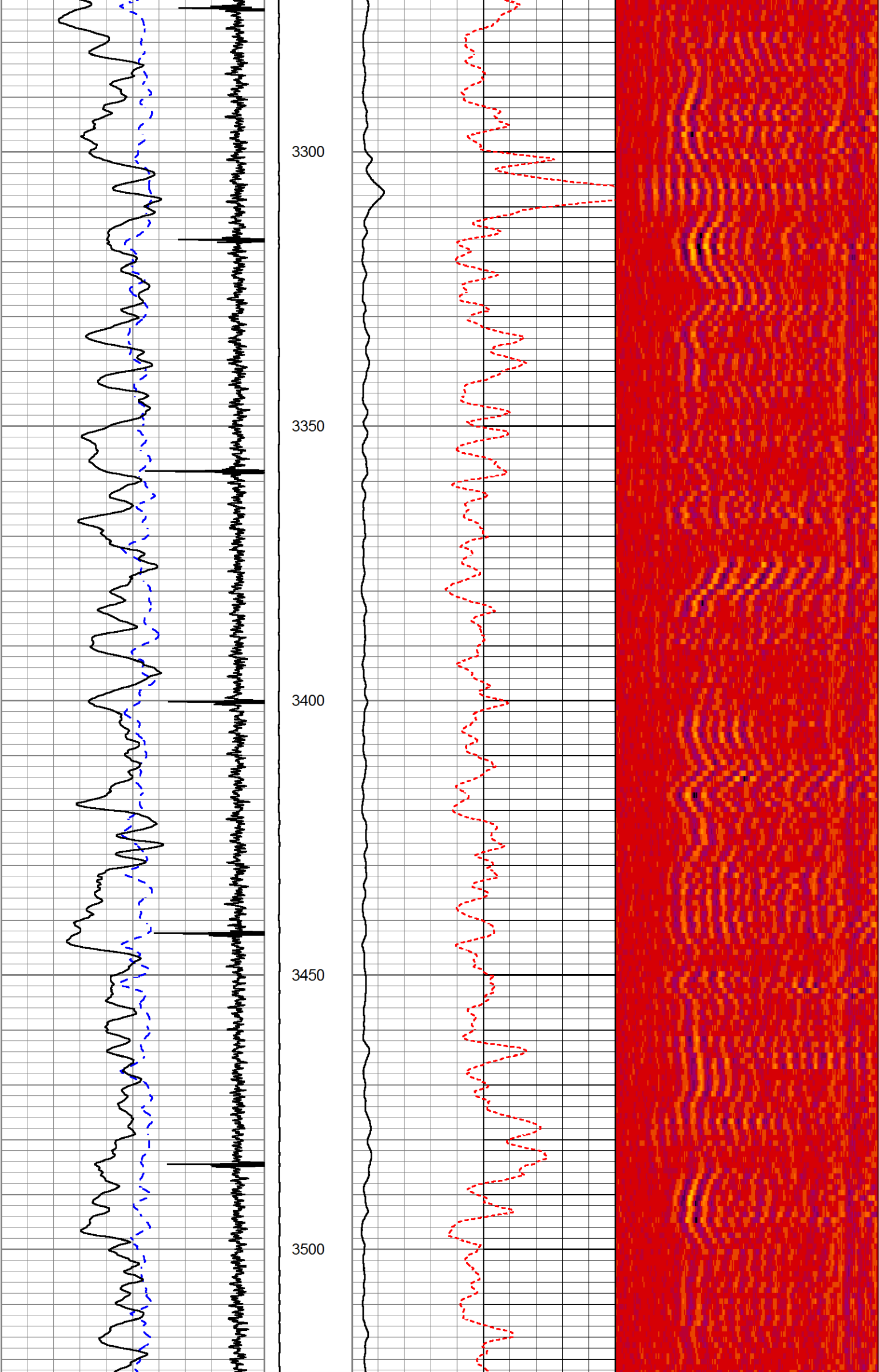


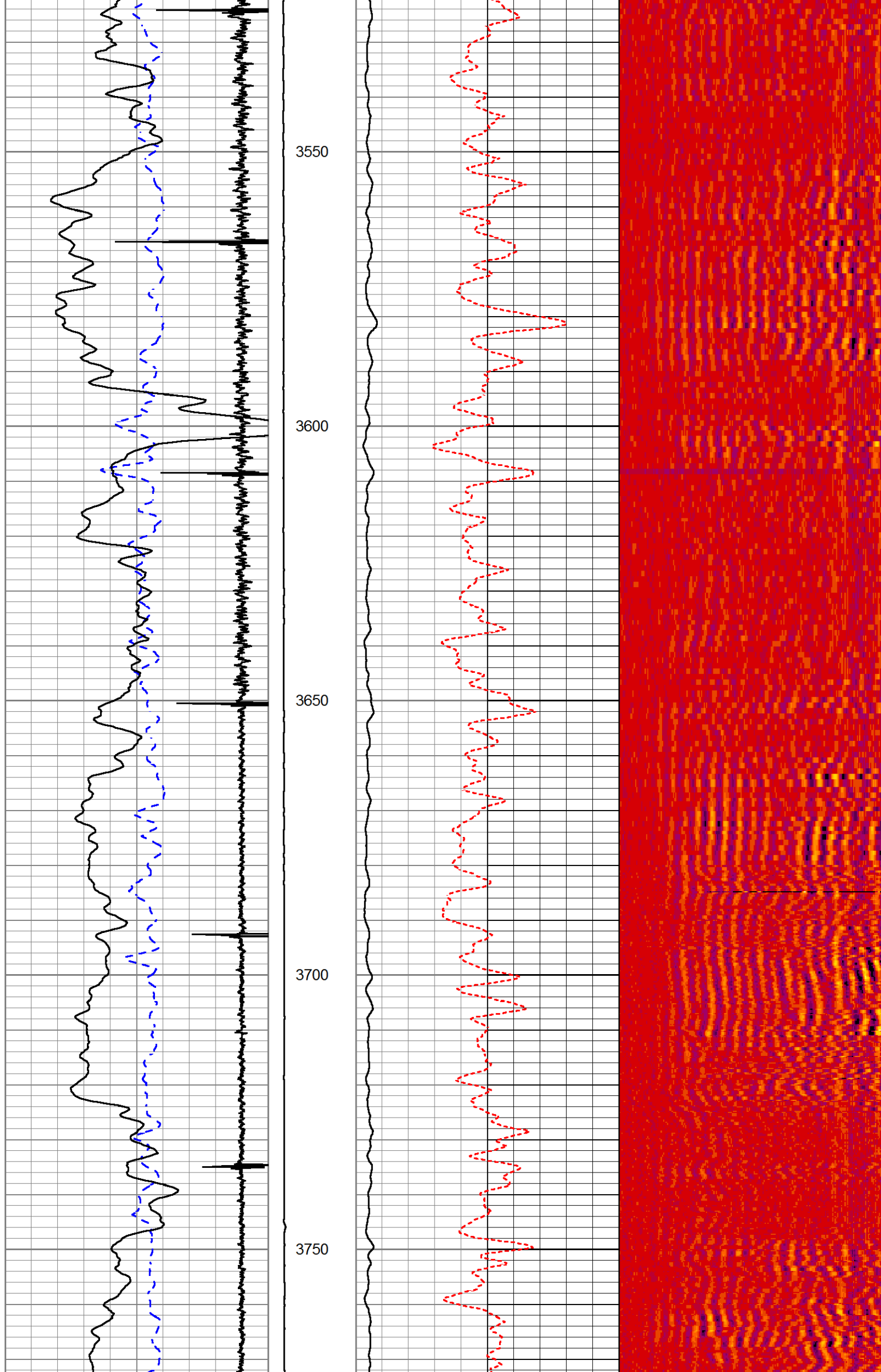


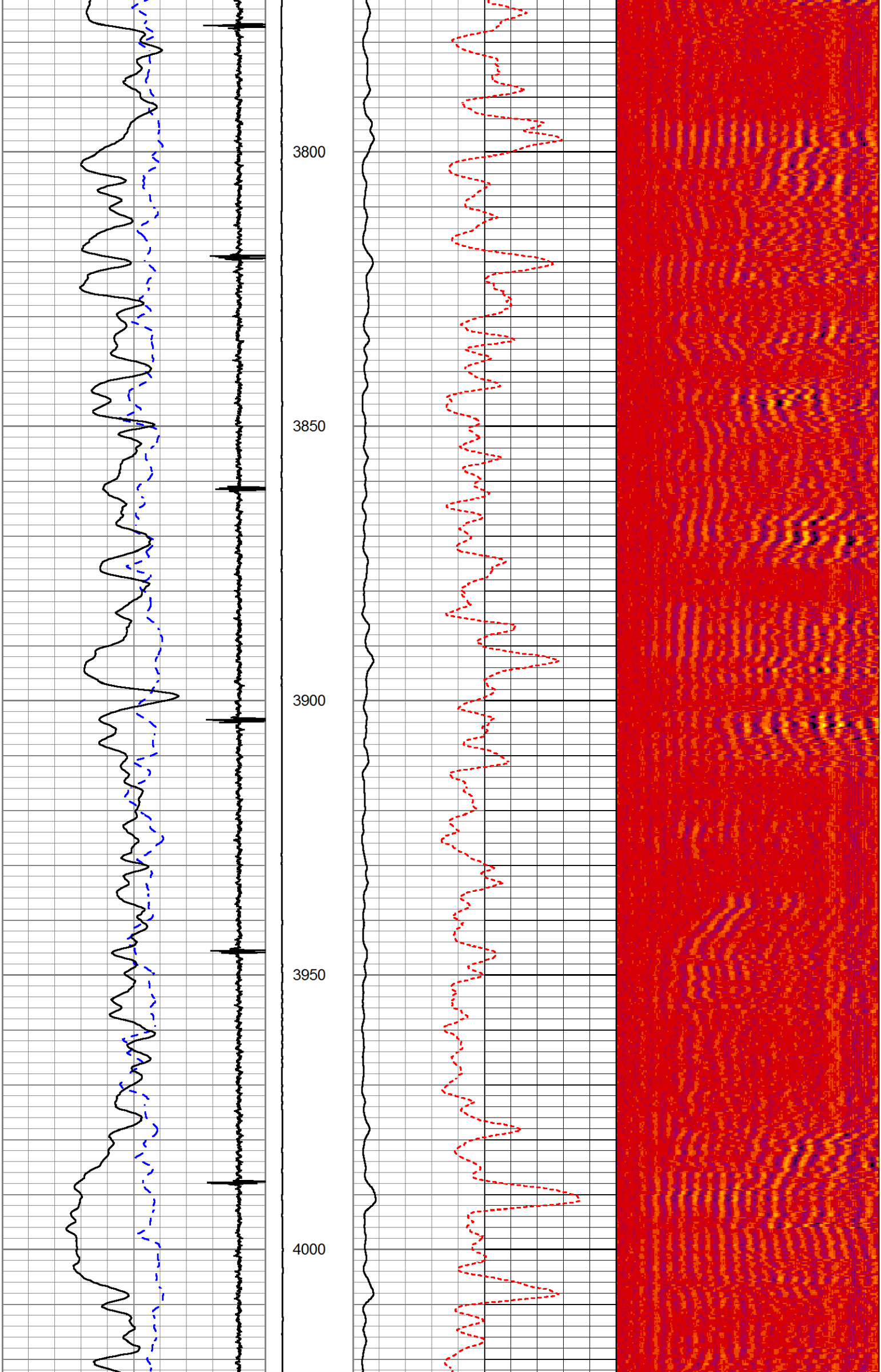


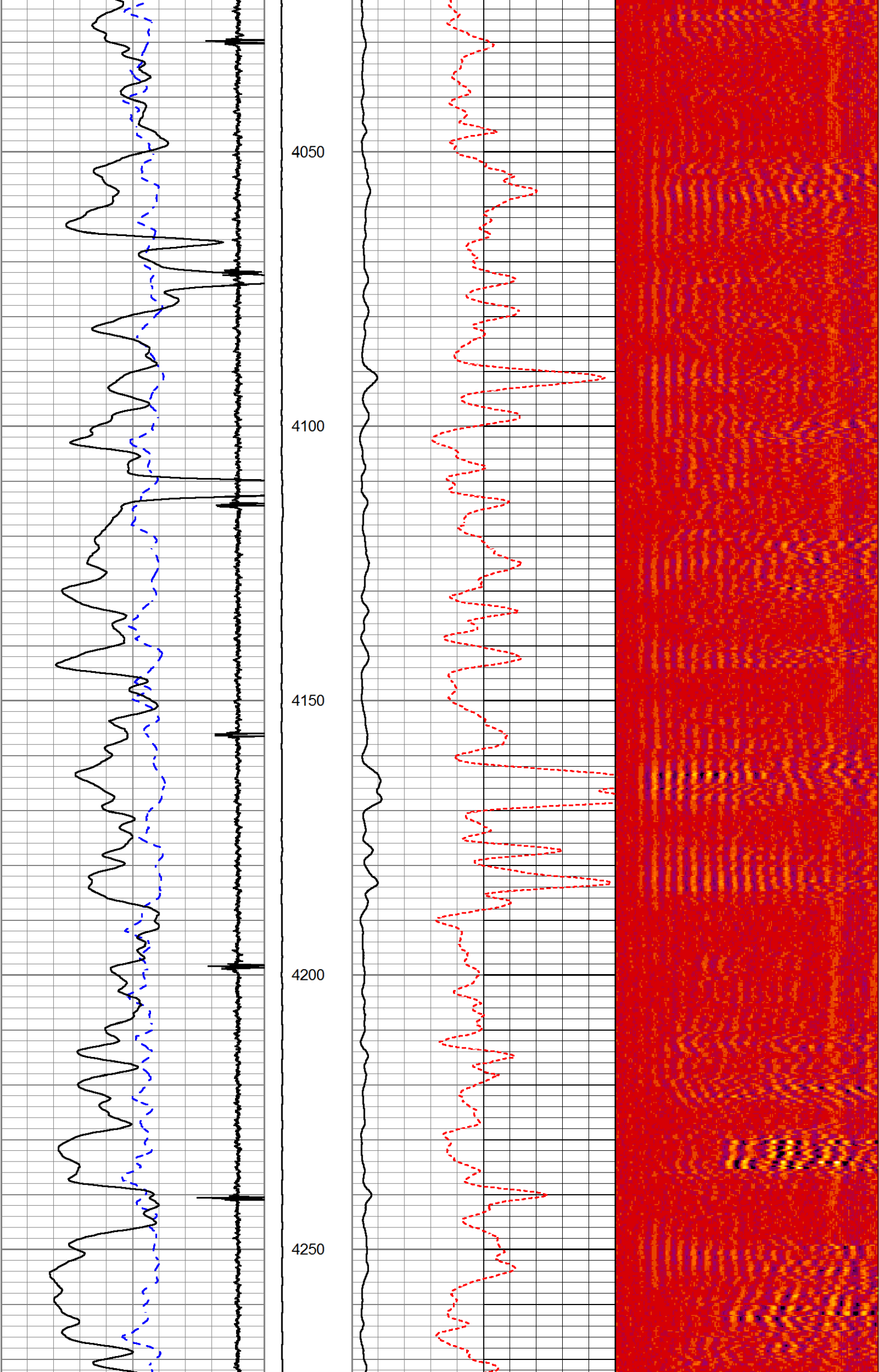


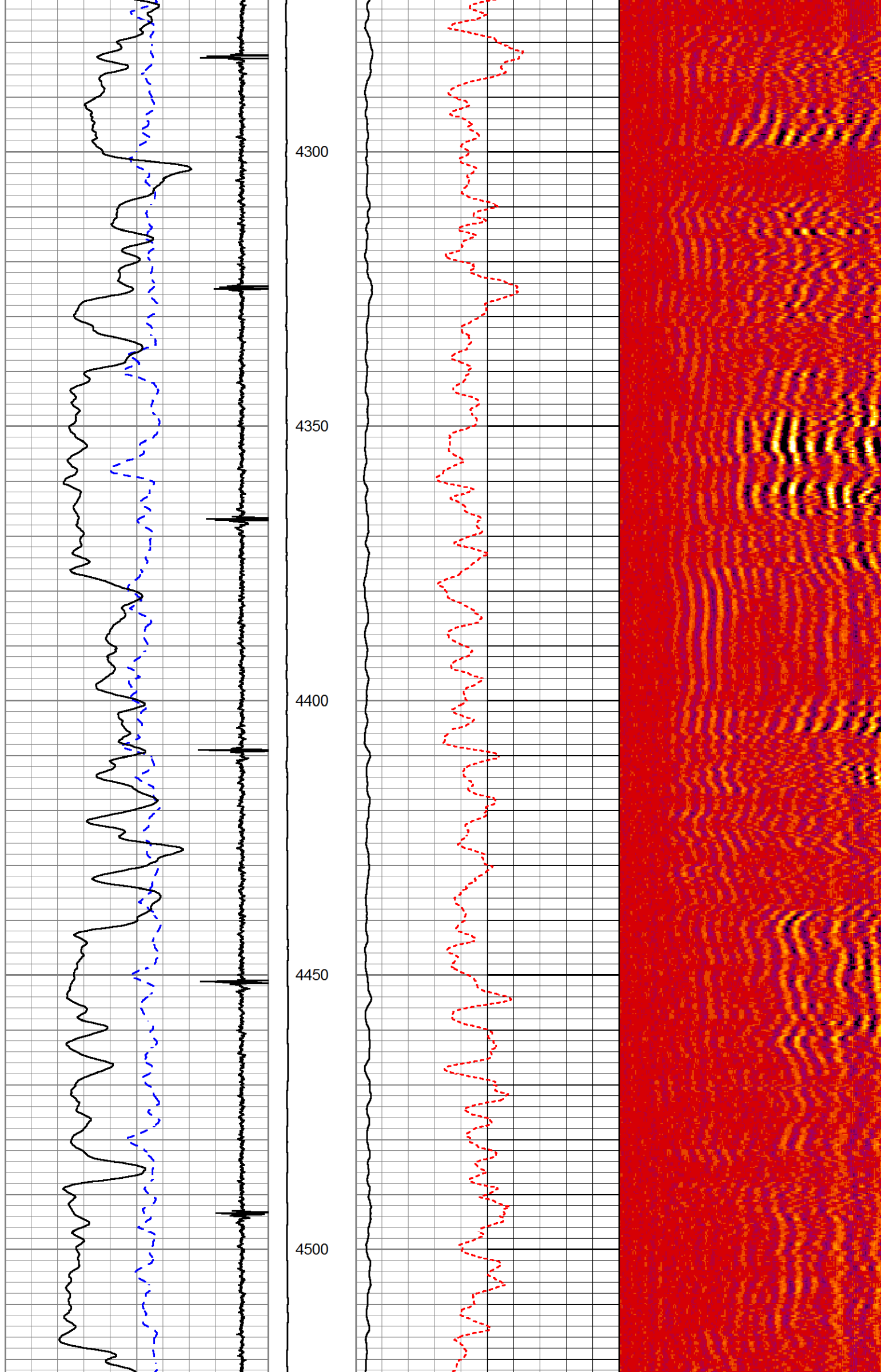


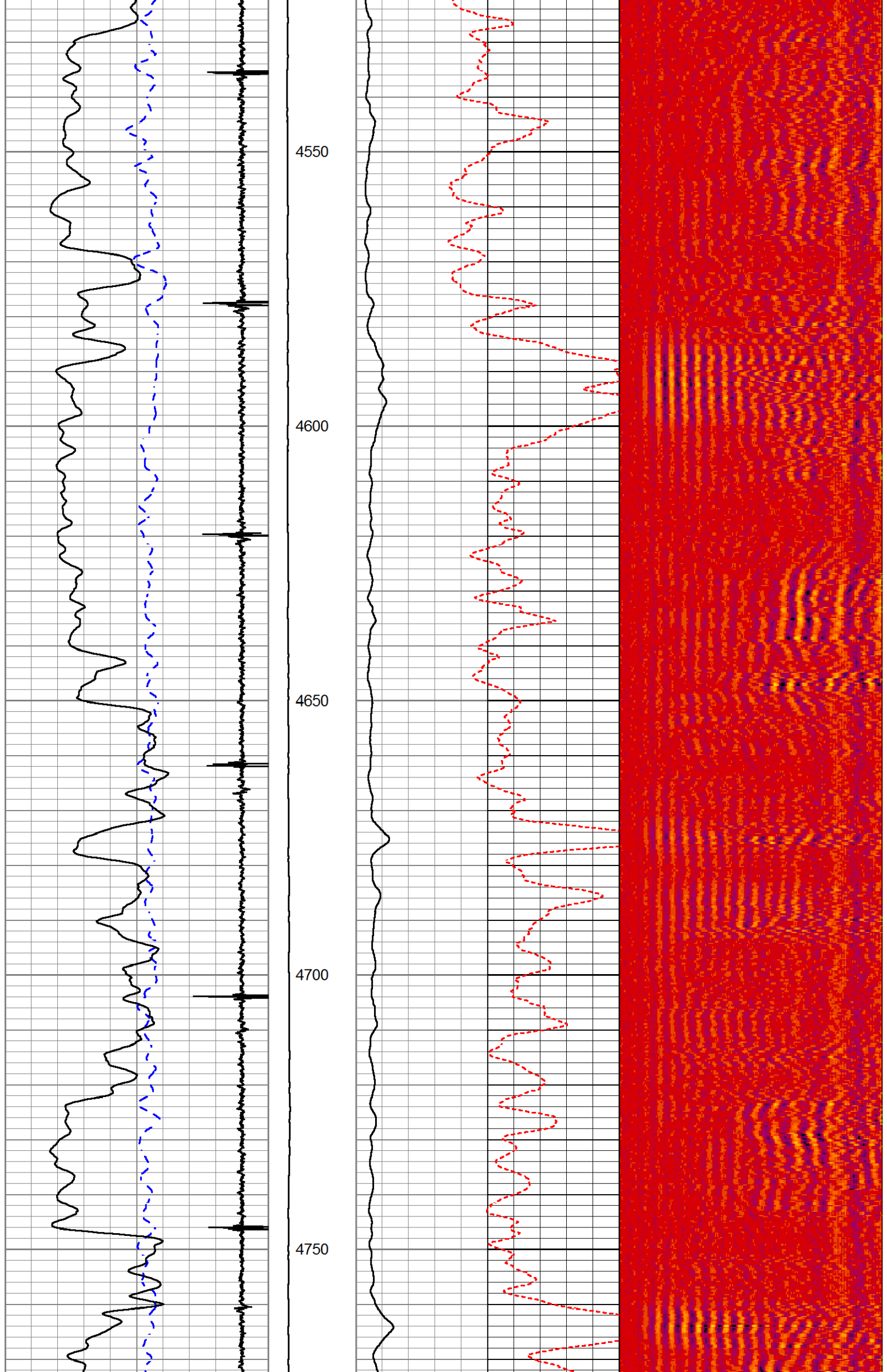


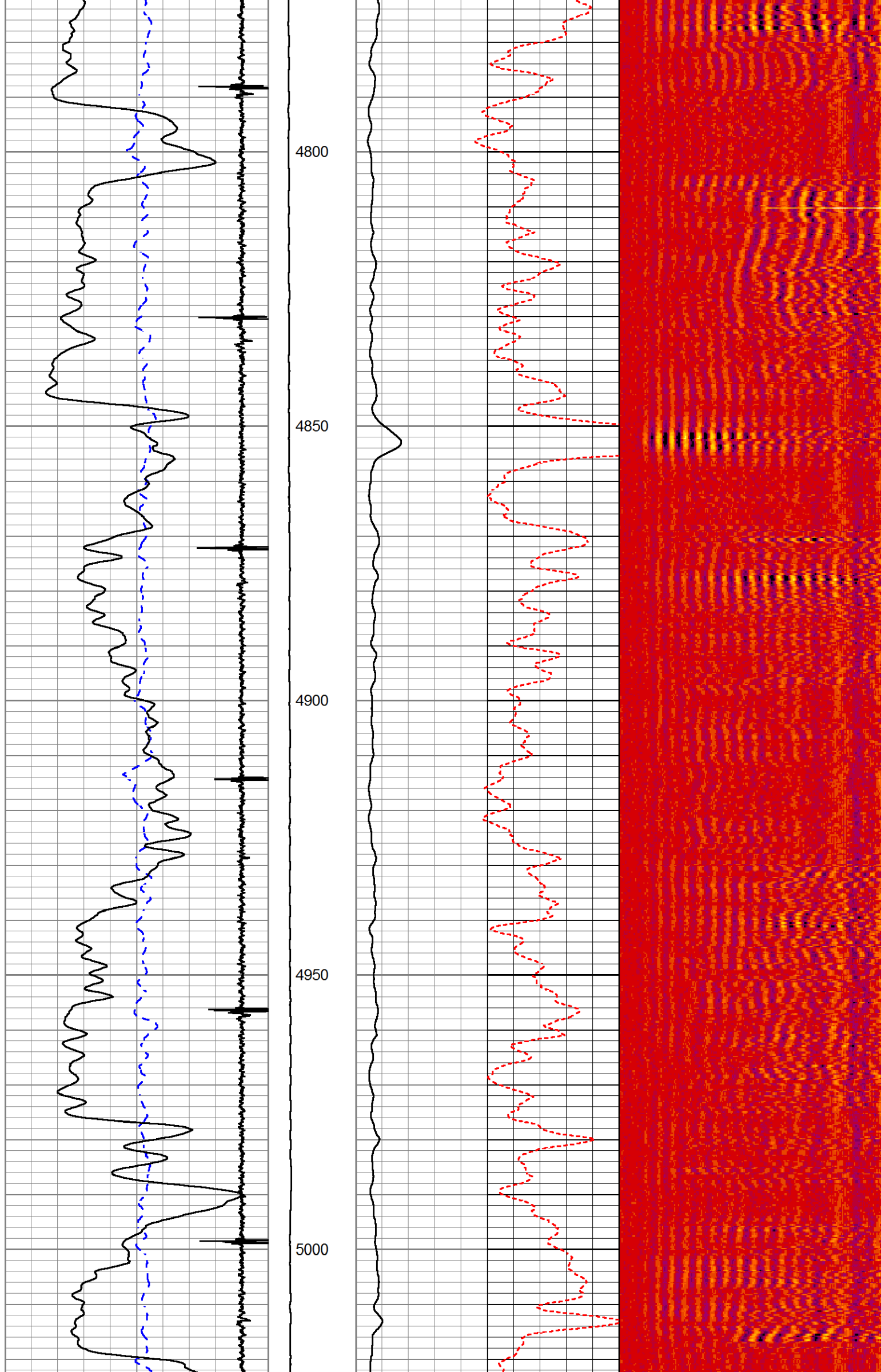


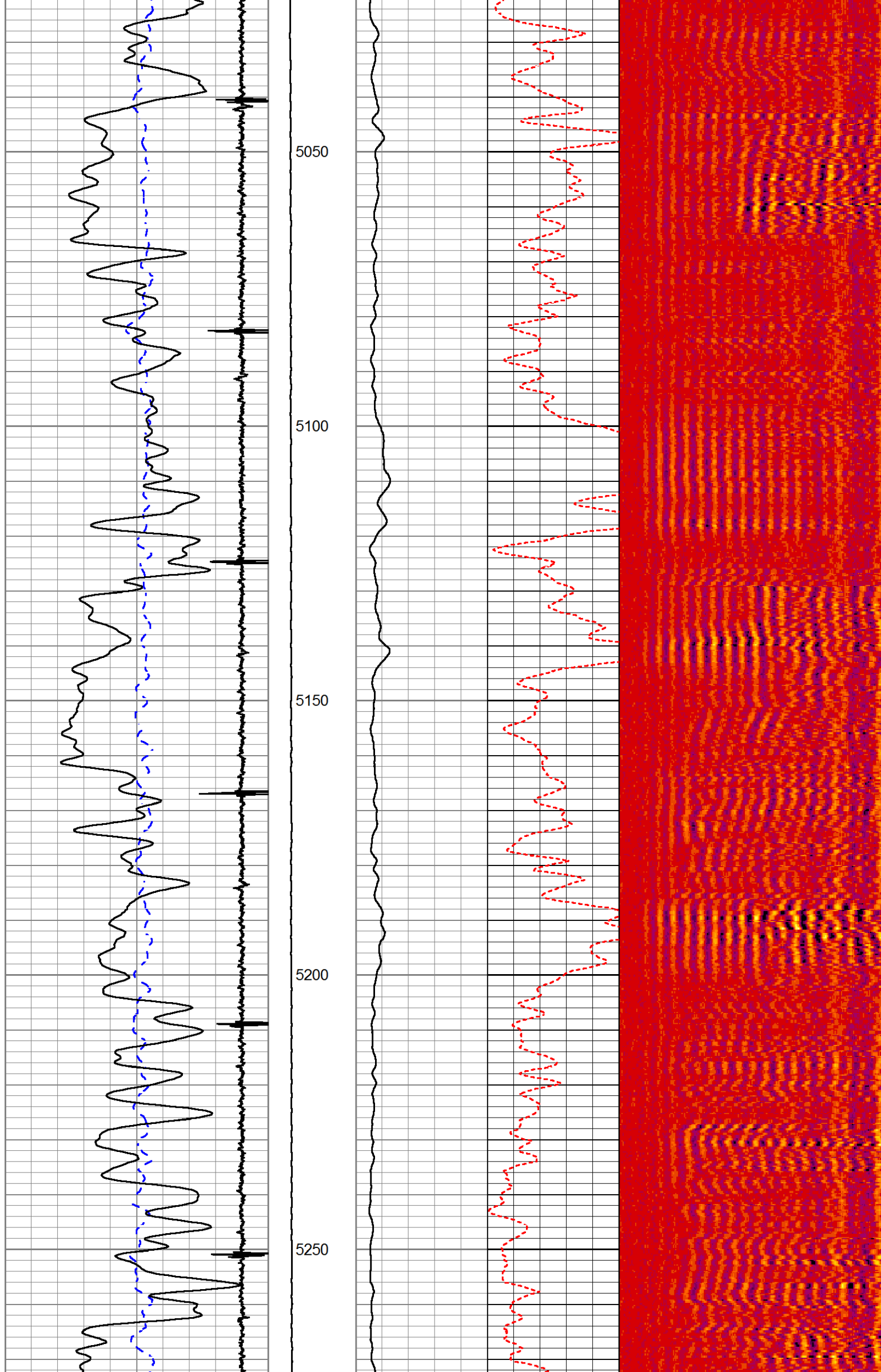


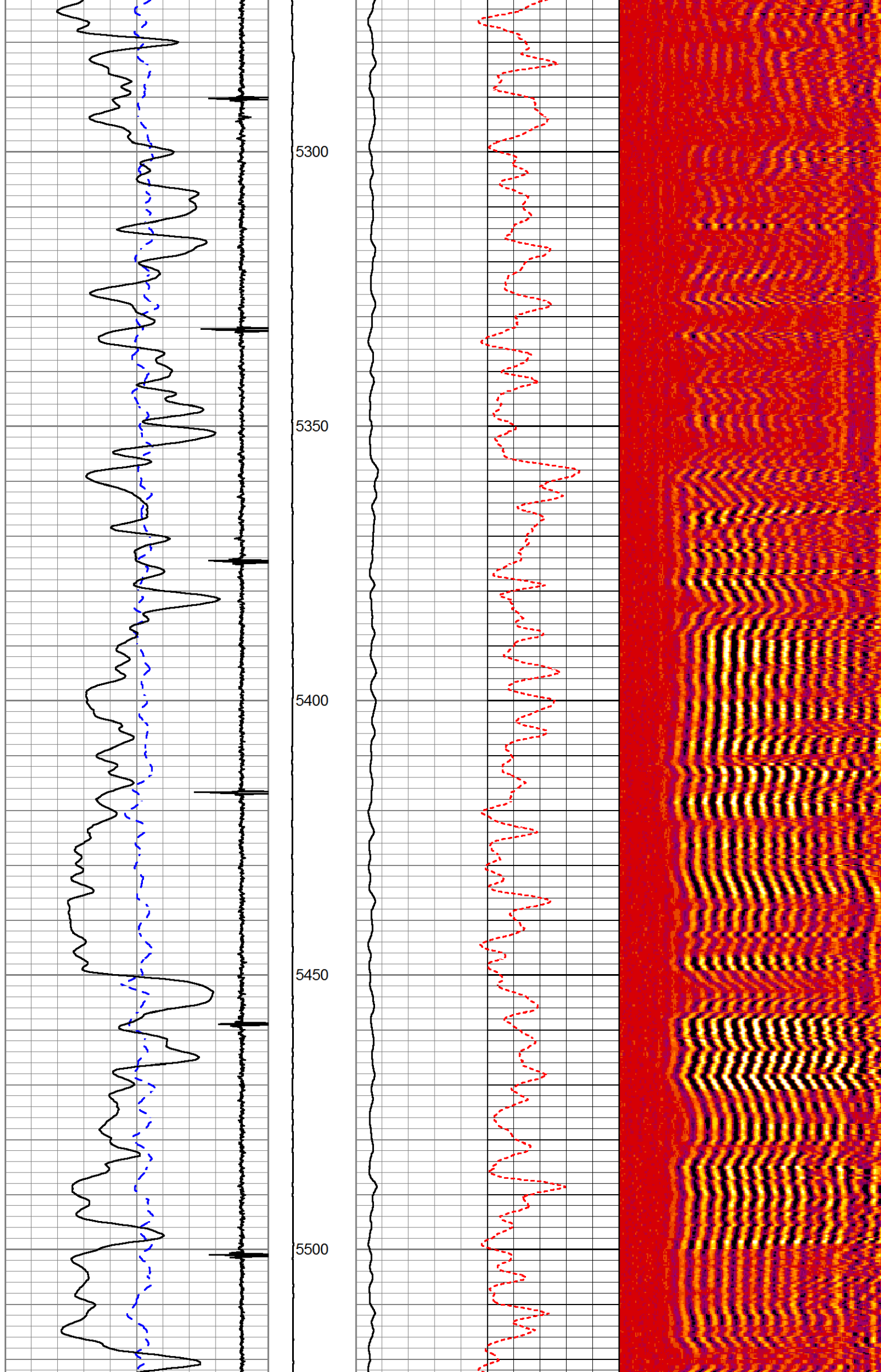


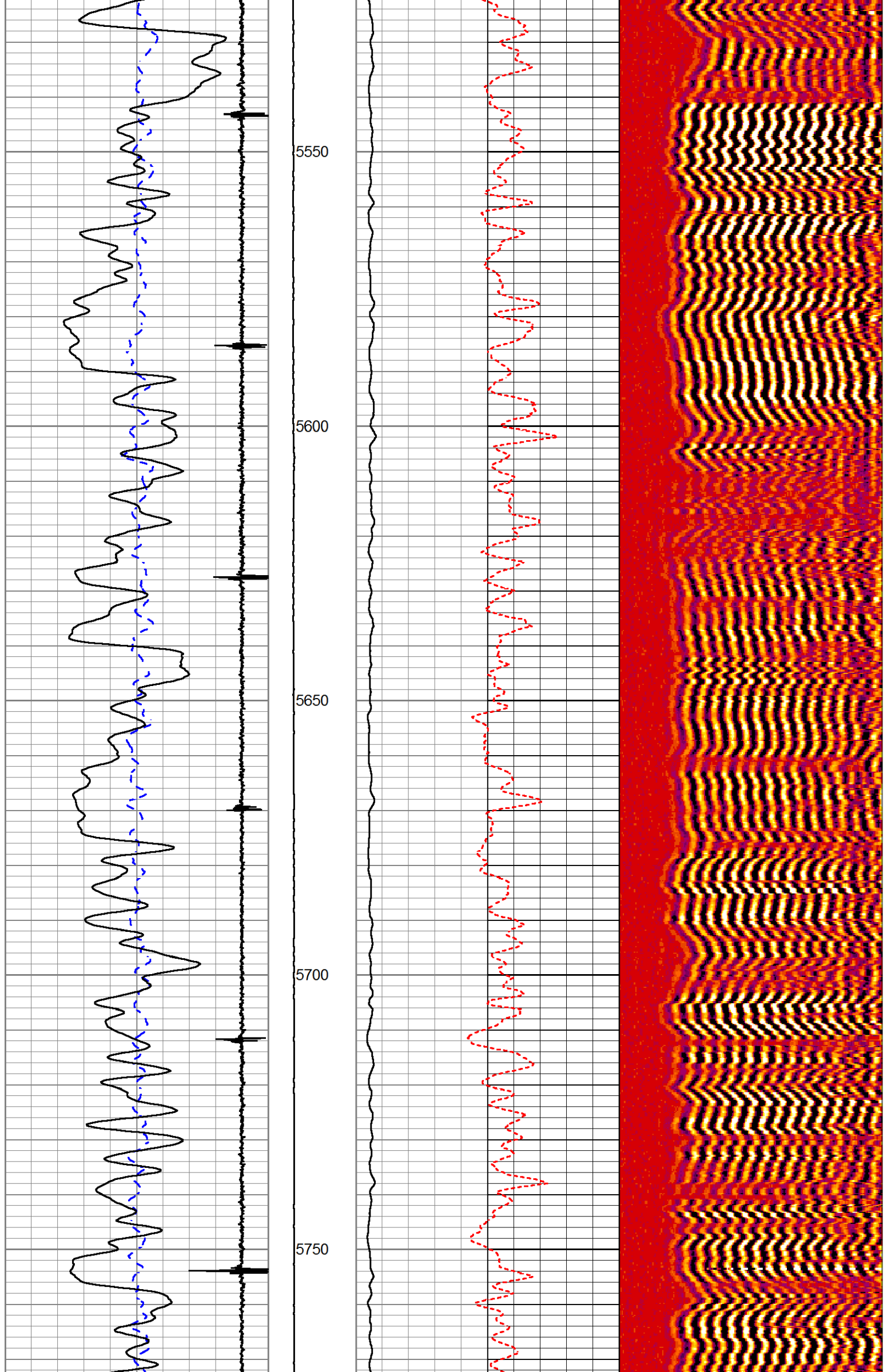


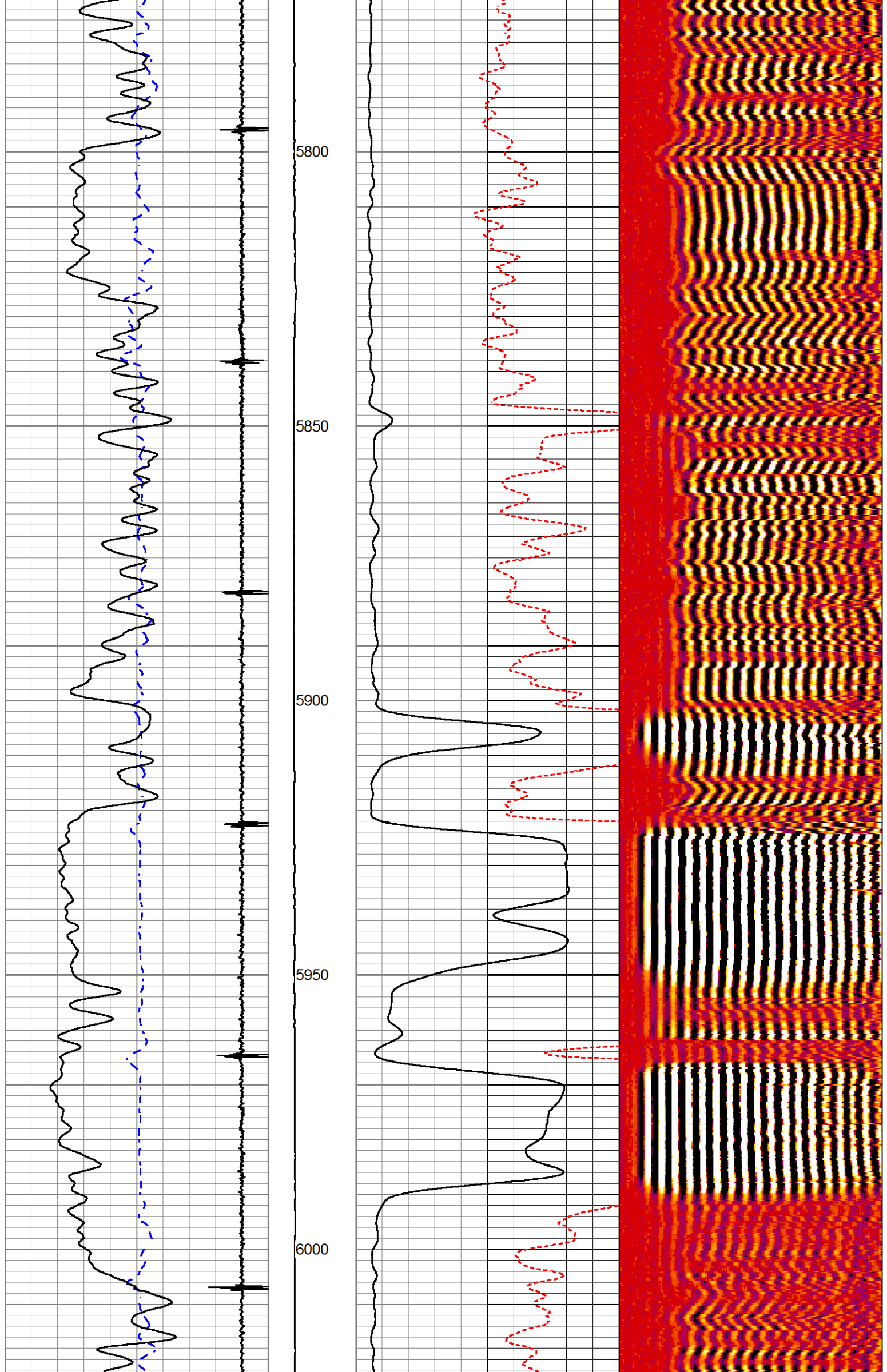


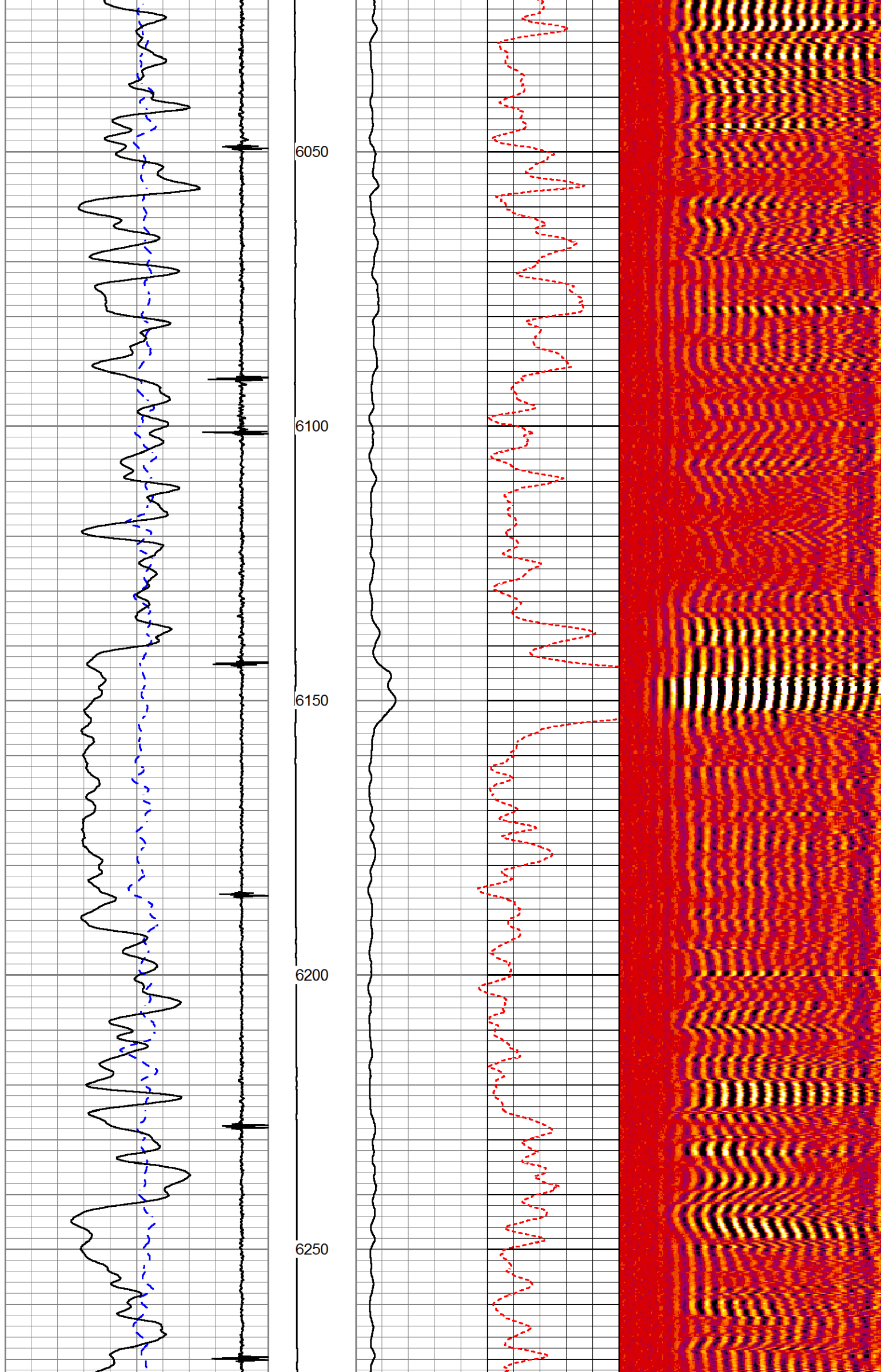


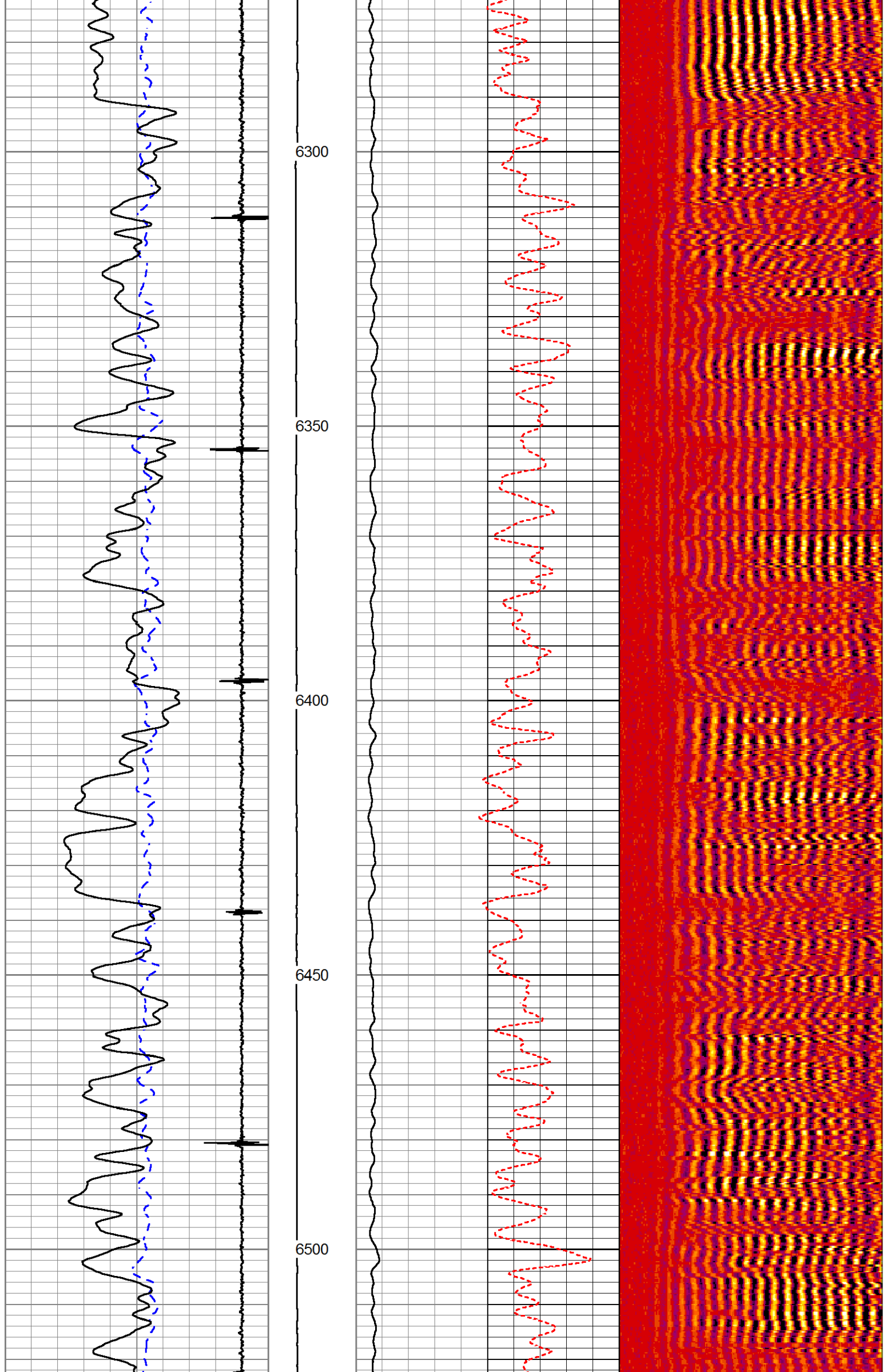


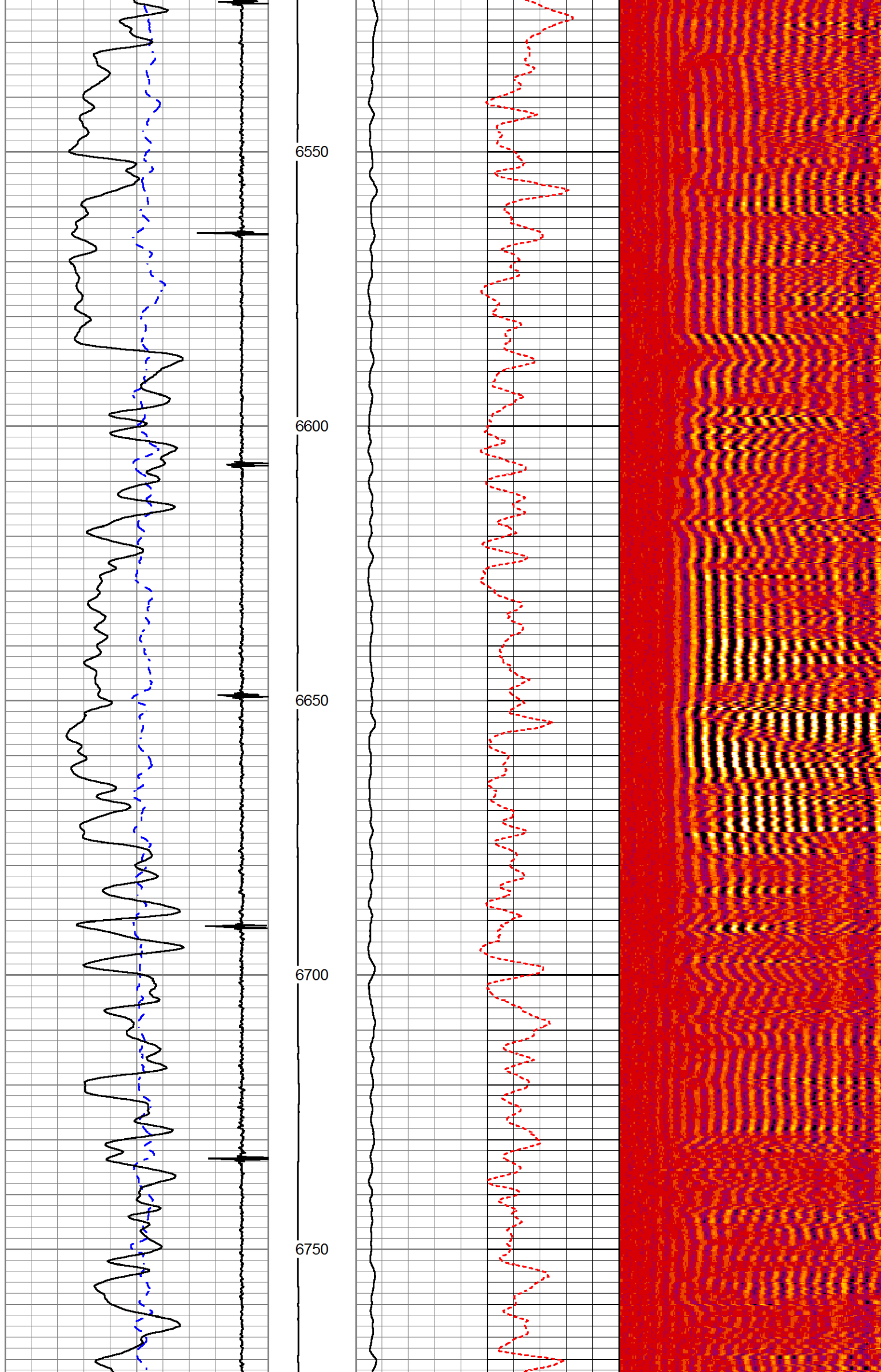


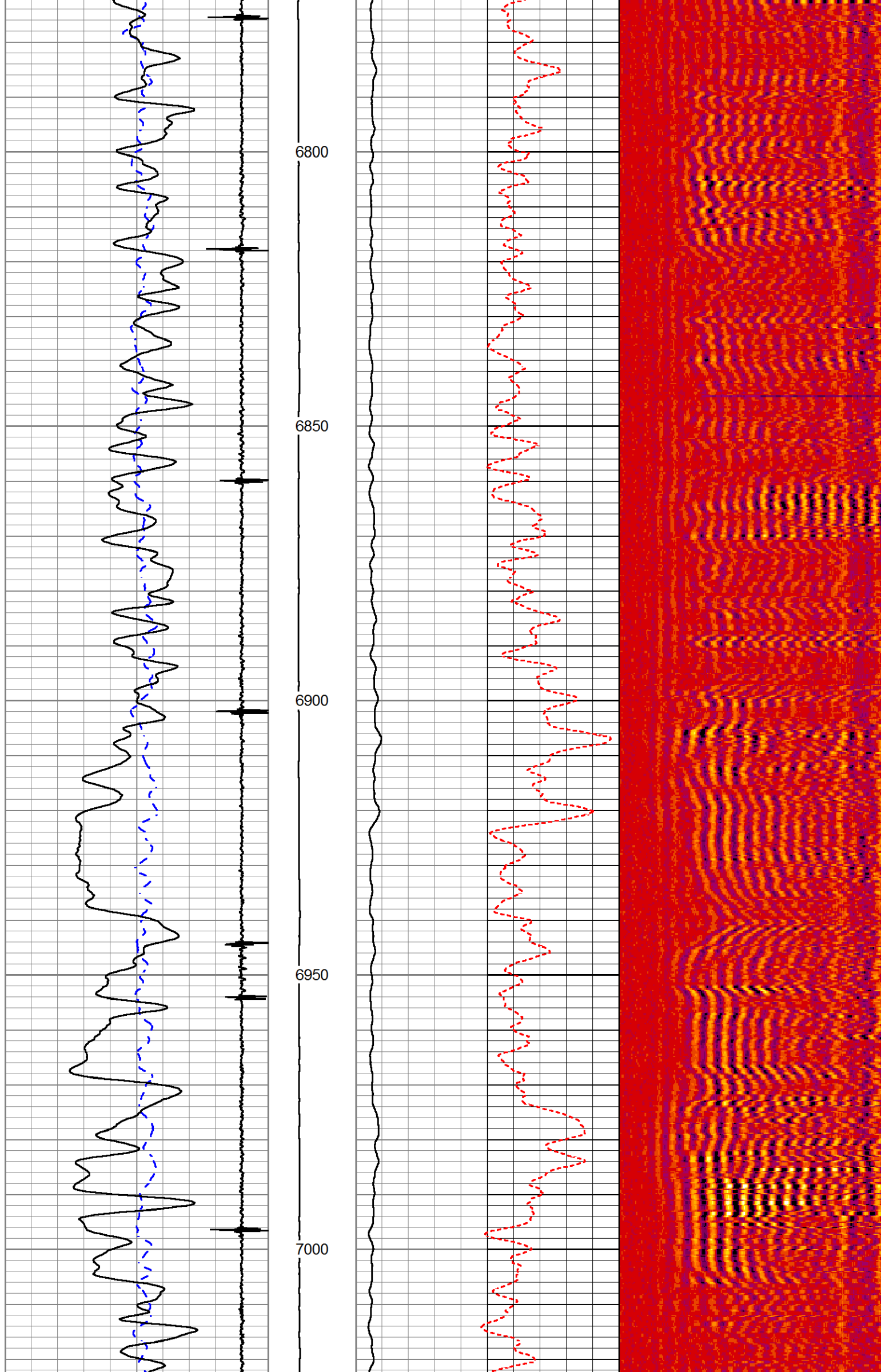


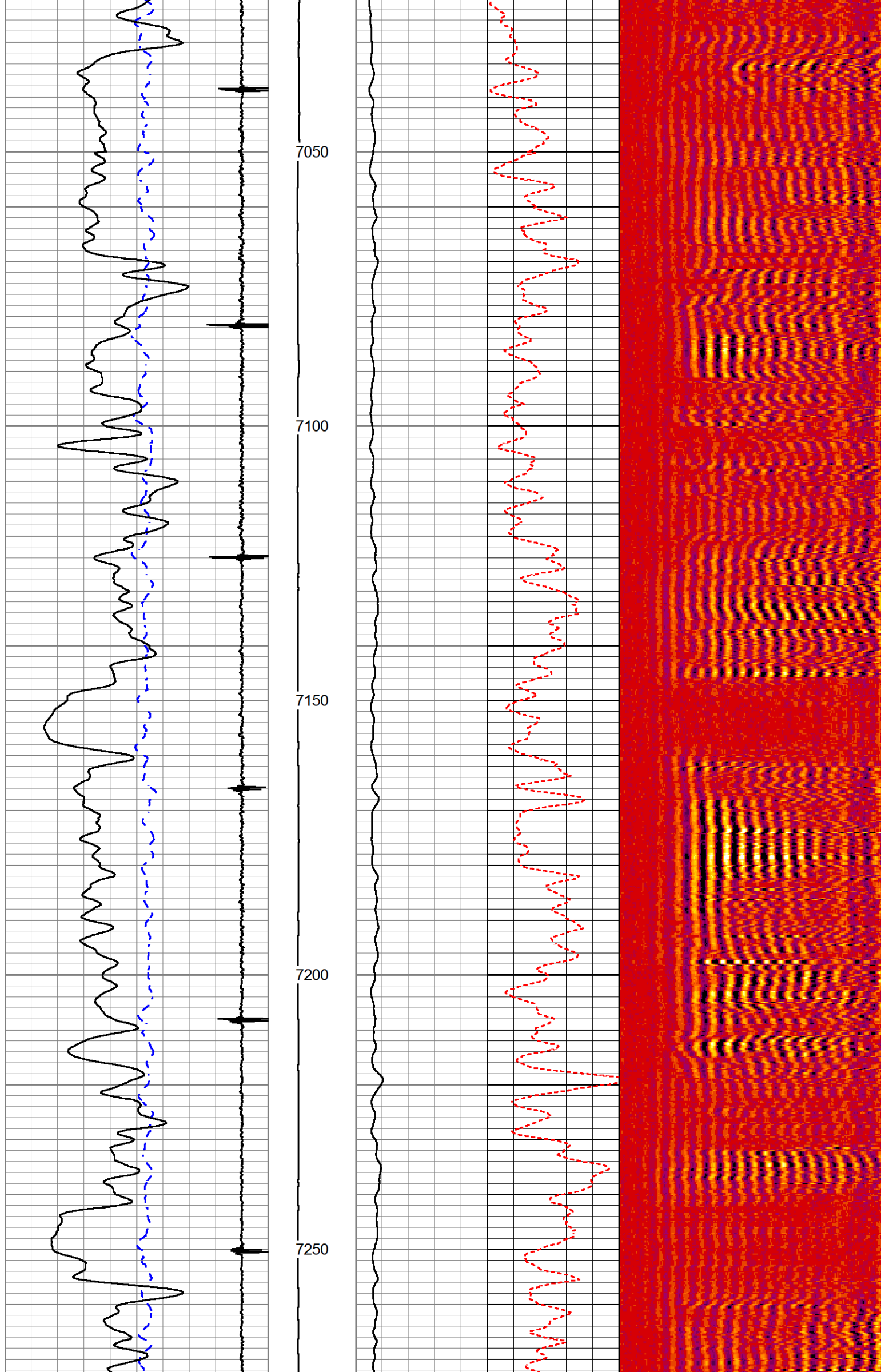


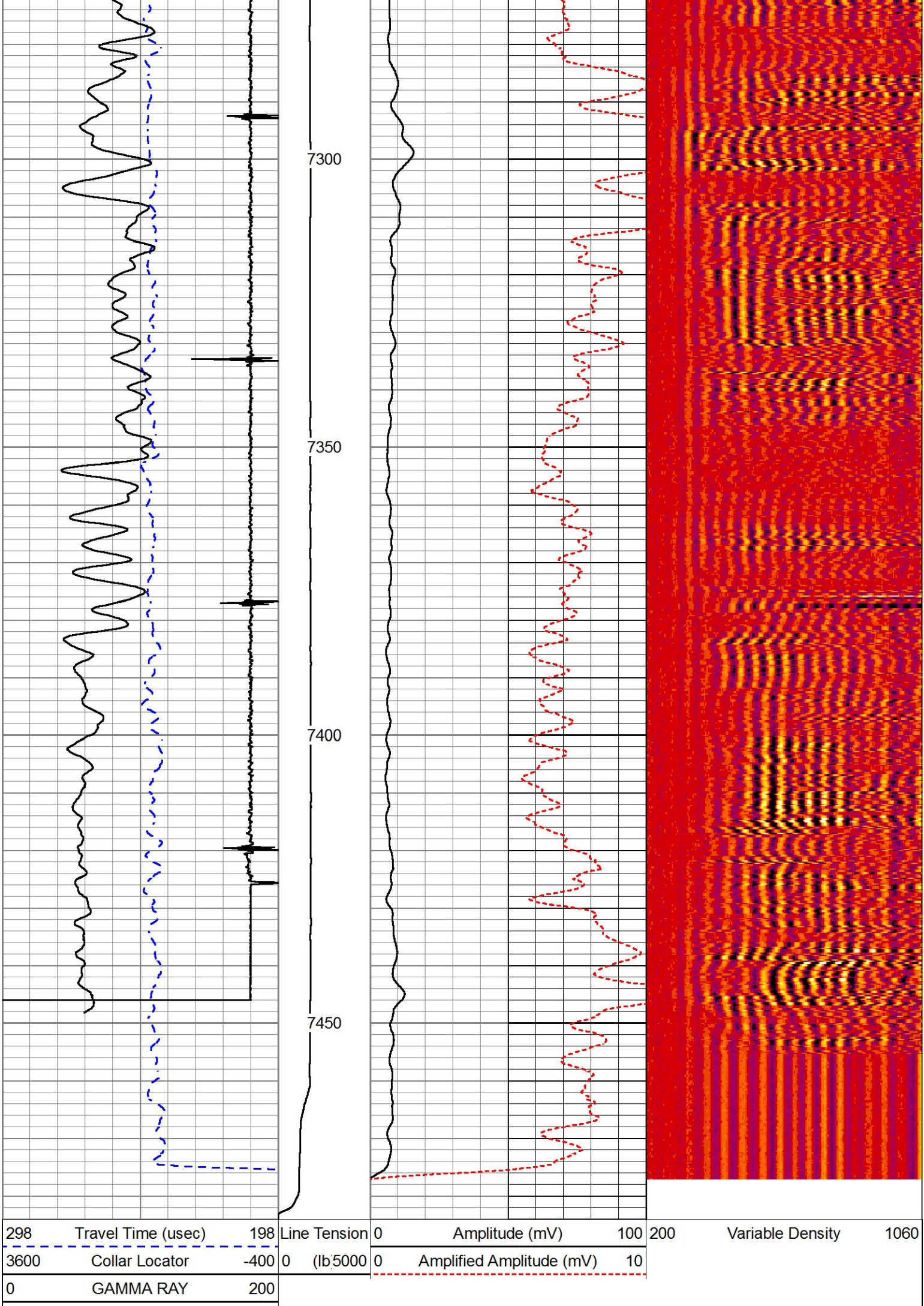












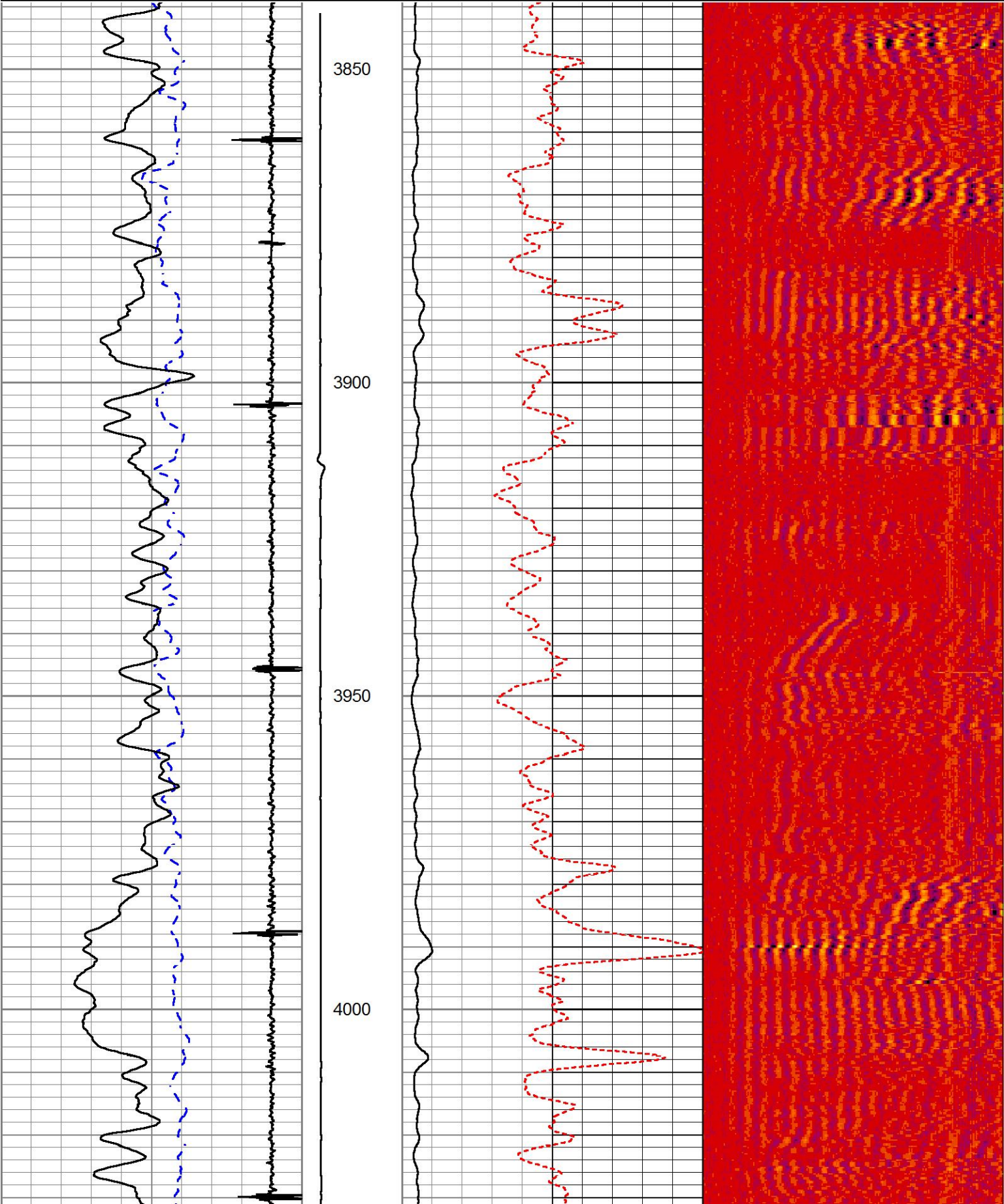
MAIN PASS

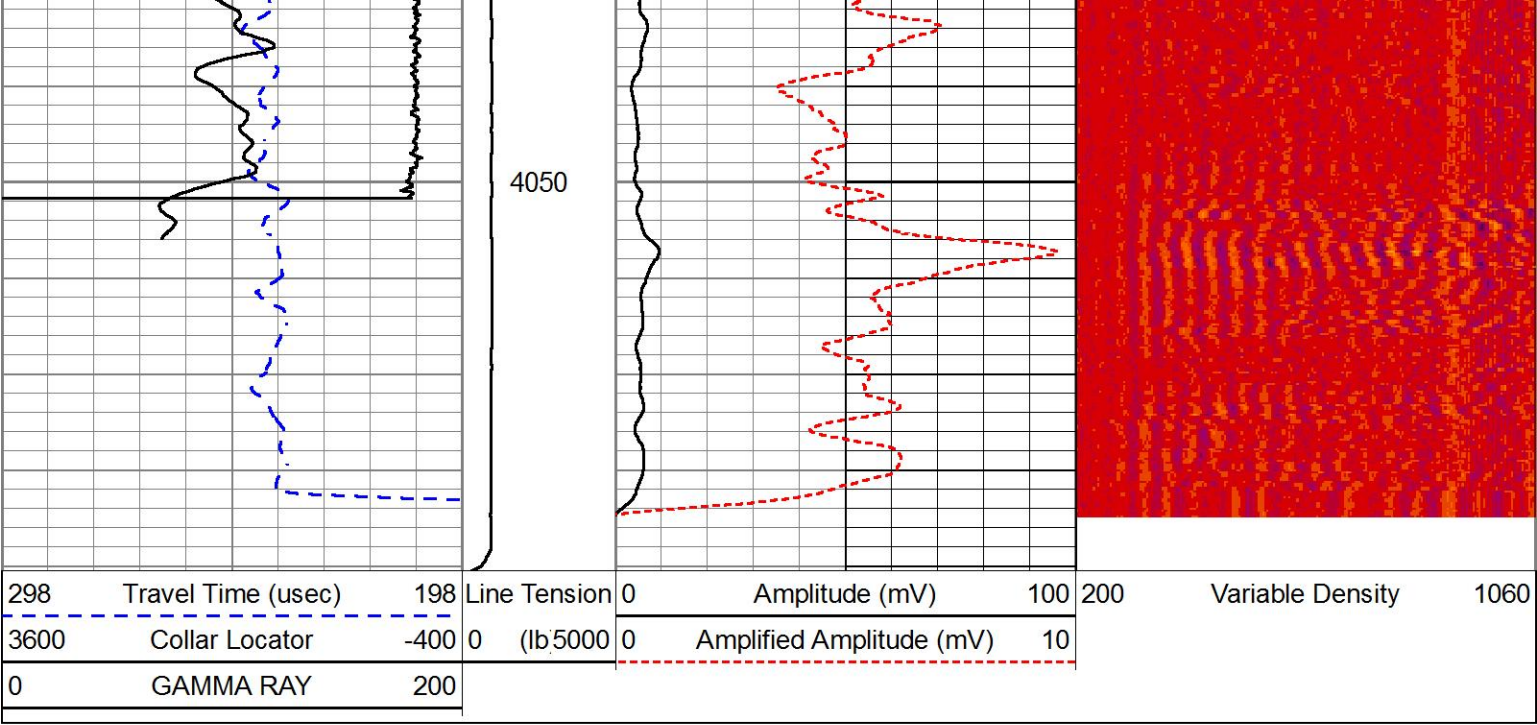
HALLIBURTON

5" = 100'

Database File thompkins_32b_08_07_95.db
Dataset Pathname pass2
Presentation Format !1!!cbl_rmti
Dataset Creation Wed Sep 07 22:57:07 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_32b_08_07_95.db
Dataset field/well/run1/pass4/_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
RHO�F	SO	SRFTEMP	TDEPTH	UHSGC	USERFTT	ZREF	
0.25	in 0	degF 0	ft 0	NONE	usec/ft 0	MRayl 1.7	

Calibration Report

Database File thompkins_32b_08_07_95.db
Dataset Pathname pass4
Dataset Creation Wed Sep 07 23:34:51 2016

Cement Bond Log Shop Calibration Report

Serial-Model: 1-A
Calibration Performed: Wed Sep 07 22:29:12 2016

Free Pipe Calibration

TT	Measured	Units
Amplitude	245.6	usec
Log Base Line	615.7	mV
	6.2	mV

Calibration References and Gain

Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp.	81.2	mV
Amp. Gain	0.133	


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			
	Counts/Sec.	Gain	Offset	Jig	Units
Background	28.5				cps
Calibrator	160.5				cps
		1.6899			GAPI/cps
PRIMARY VERIFICATION					
Background	46.0				cps
Calibrator	265.1				cps
Difference				219.0	GAPI
BEFORE SURVEY VERIFICATION					
Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI
AFTER SURVEY VERIFICATION					
Background	0.0				cps
Calibrator	0.0				cps
Difference				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
RmtTFGT RmtTNGT	22.23		XHU-003 (000001) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
	21.73					
			RMTI-A (11680597) Halliburton RMTI Tool	14.00	2.13	77.00

RmtFP5V	13.98		X-OVER-GoxSondex Go Box x Sondex Pin CrossOver	0.27	1.69	1.00
RmtNFwvMcsPI	13.98		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
RmtCommFWa	13.98					
Temp	8.89					
TT3FT	6.64		HCBLM-A (1) Halliburton HCBLM Tool	9.38	2.75	116.00
AMP3FT	6.64					
WVF5FT	5.68					
WVF3FT	2.16					
LLMTEN	0.00		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
Dataset: thompkins_32b_08_07_95.db: field/well/run1/pass5 Total length: 38.71 ft Total weight: 352.00 lb O.D.: 3.13 in						

Company	URSA OPERATING COMPANY LLC				
Well	TOMPKINS 32B-08-07-95				
Field	PARACHUTE				
County	GARFIELD		State	CO	
HALLIBURTON	CEMENT BOND LOG				