

HALLIBURTON										CEMENT BOND LOG									
Company URSA OPERATING COMPANY LLC Well MONUMENT RIDGE B 31B-17-7-95 Field PARACHUTE County GARFIELD State CO										Company URSA OPERATING COMPANY LLC Well MONUMENT RIDGE B 31B-17-7-95 Field PARACHUTE County GARFIELD State CO									
API No.: 05045229000000    Serv #: 903682721    Other Services										Location: SHL: 910' FSL & 144' FEL BHL: 666' FNL & 1987' FEL									
Sec: 8    Twp: 7S    Rge: 95W										RMT-1									
Permanent Datum GROUND LEVEL    Elevation    5702'										Elevation									
Log Measured From KB    ,    17' Ft. above perm. datum										K.B. 5719' D.F. 5719' G.L. 5702'									
Drilling Measured From KB																			
Date @ Time Logged 1 DEC 2016 @ 02:00										Type Fluid in Hole FRESH WATER									
Run No. ONE										Density of Fluid 8.4 PPG									
Depth - Driller 7755'										Fluid Level SURFACE									
Depth - Logger 7571'										Cement Top Est. Logged 1920'									
Bottom - Logged Interval 7564'										Equipment / Location 11808537 / RS. WY									
Top - Log Interval 3778'										Recorded by P. DIMPFL									
Max. Recorded Temp. 225 degF										Witnessed by R. TOLLE									
CEMENTING DATA										Protection String									
Date / Time Cemented String										Production String									
Primary / Squeeze N/A										N/A									
Expected Compressive Strength N/A										psi@ N/A hrs									
Cement Volume N/A										psi@ N/A hrs									
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										To									
ONE 24" SURFACE										60' 16" 75.5 # SURFACE 60'									
TWO 12.25" 60'										1843' 8.625" 32.0 # SURFACE 1843'									
THREE 7.875" 1843'										7755' 4.5" 11.6 # SURFACE 7744'									

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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 : 1920'  
GAMMA BLANKET : 408 GAPI  
FREE PIPE CALIBRATION DEPTH : 340'  
  
DATA SPLICED AT 3860'  
  
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SVCS.  
YOUR CREW TODAY: P. DIMPFL, T. HOWELL, B. RICHARDSON

Service Ticket No.	903682721	API No.	05045229000000	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.	12146425	Serial No.	11224503	Serial No.	12095949
Model No.	XHU-3	Model No.	TTTCU-02	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	3850'	3620'	0 PSI	20	REPEAT			
TWO	7571'	1793'	0 PSI	20	MAIN			
	GAMMA		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			

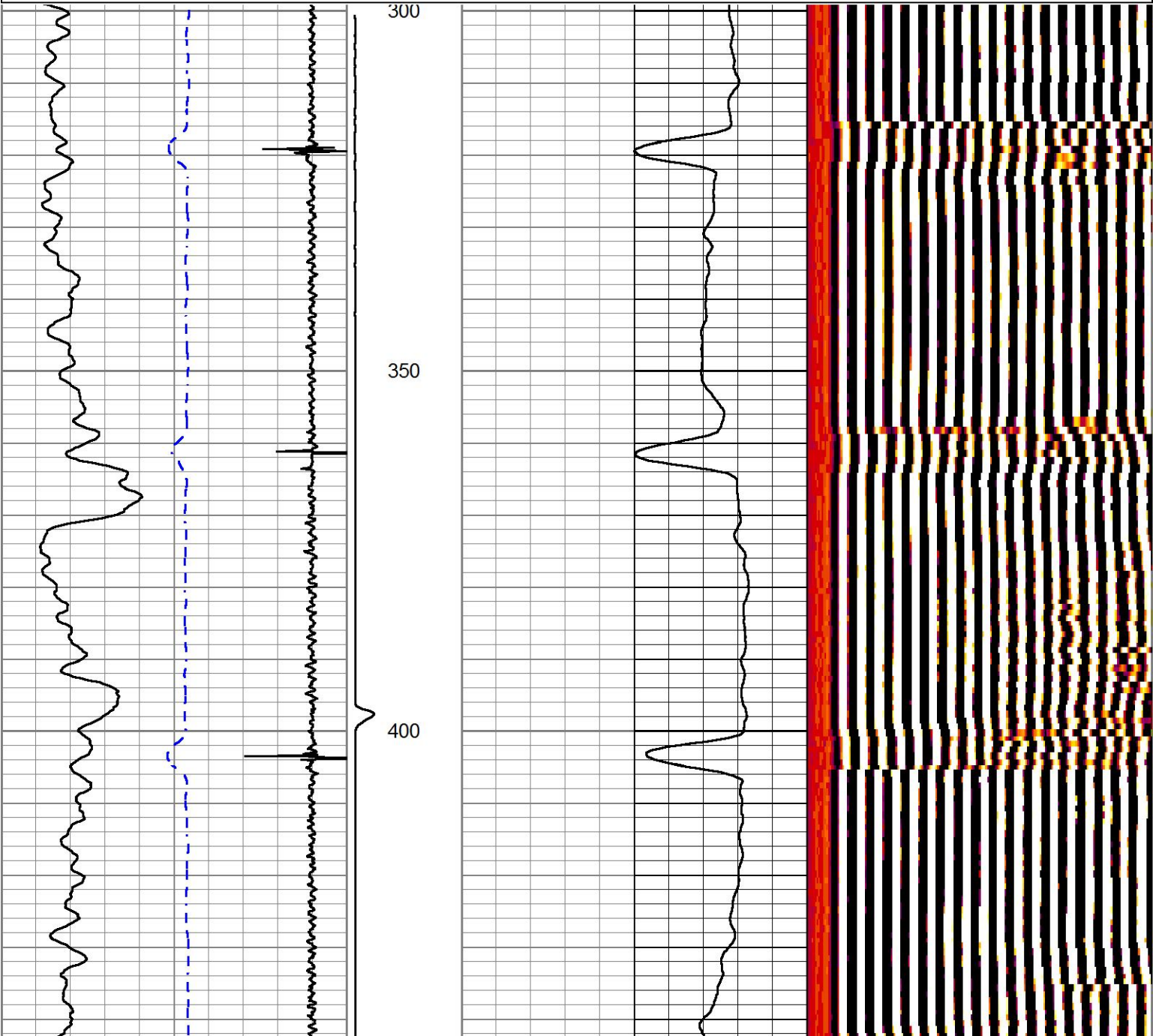
FREE PIPE PASS

HALLIBURTON

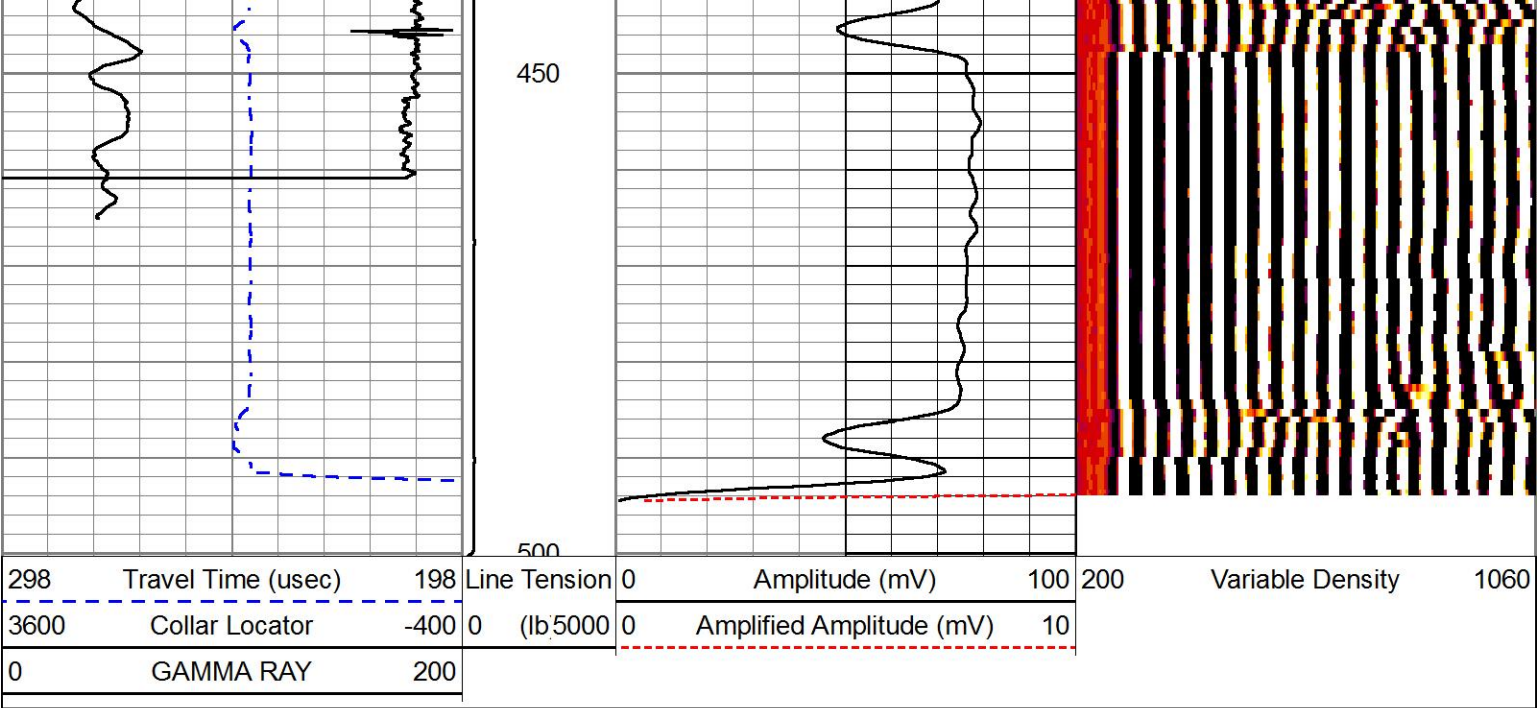
5" = 100'

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Dataset Pathname FREE1  
Presentation Format !1!!cbl\_rmti  
Dataset Creation Thu Dec 01 02:18:40 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							



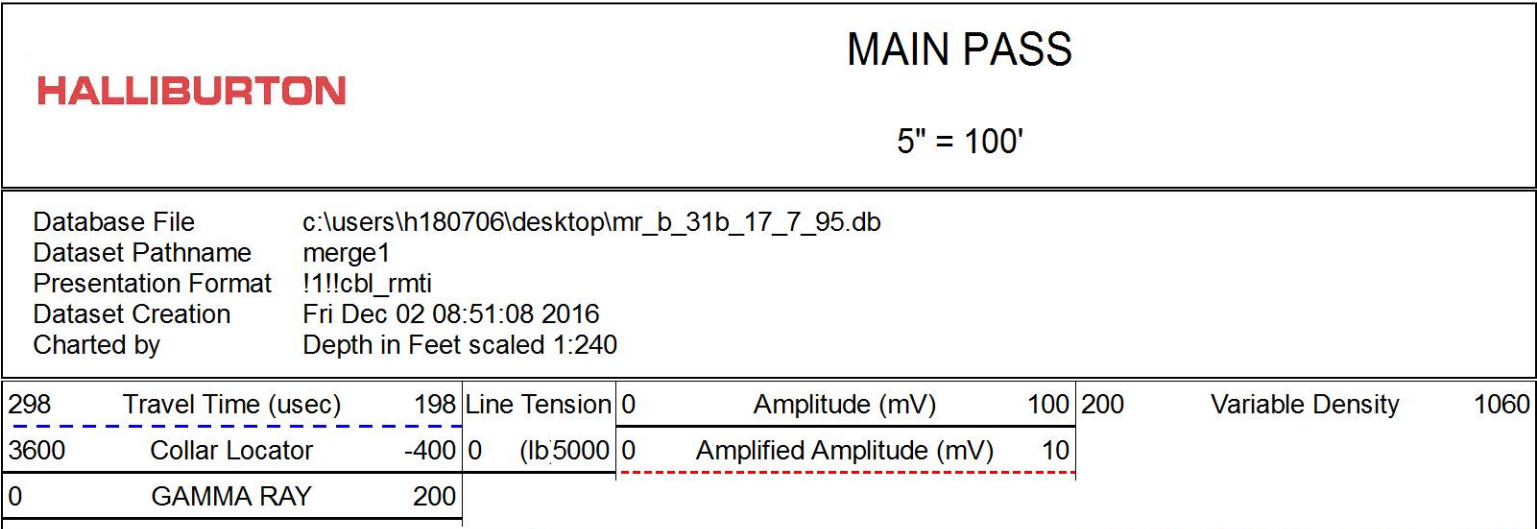




FREE PIPE PASS

5" = 100'

HALLIBURTON

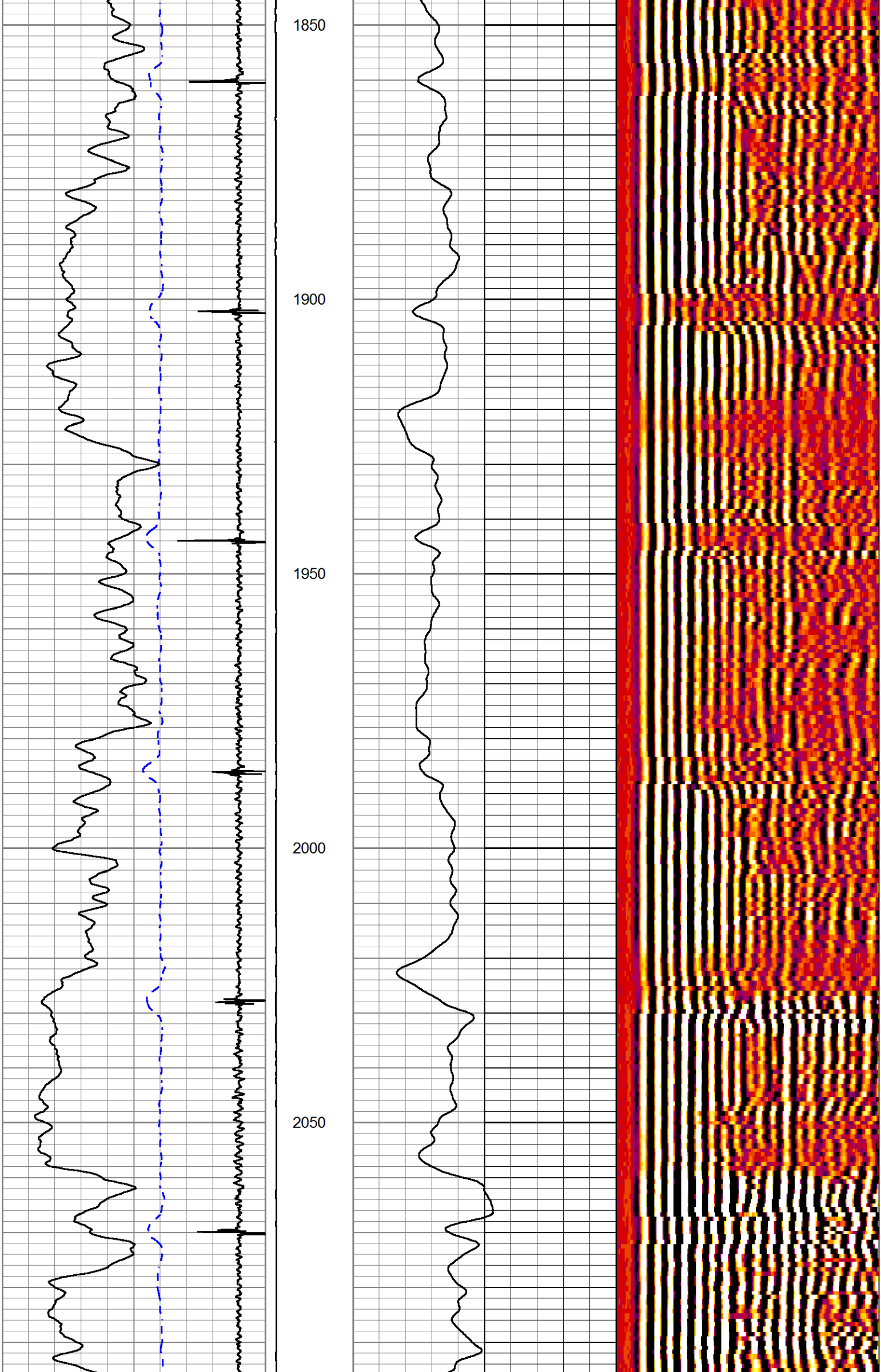


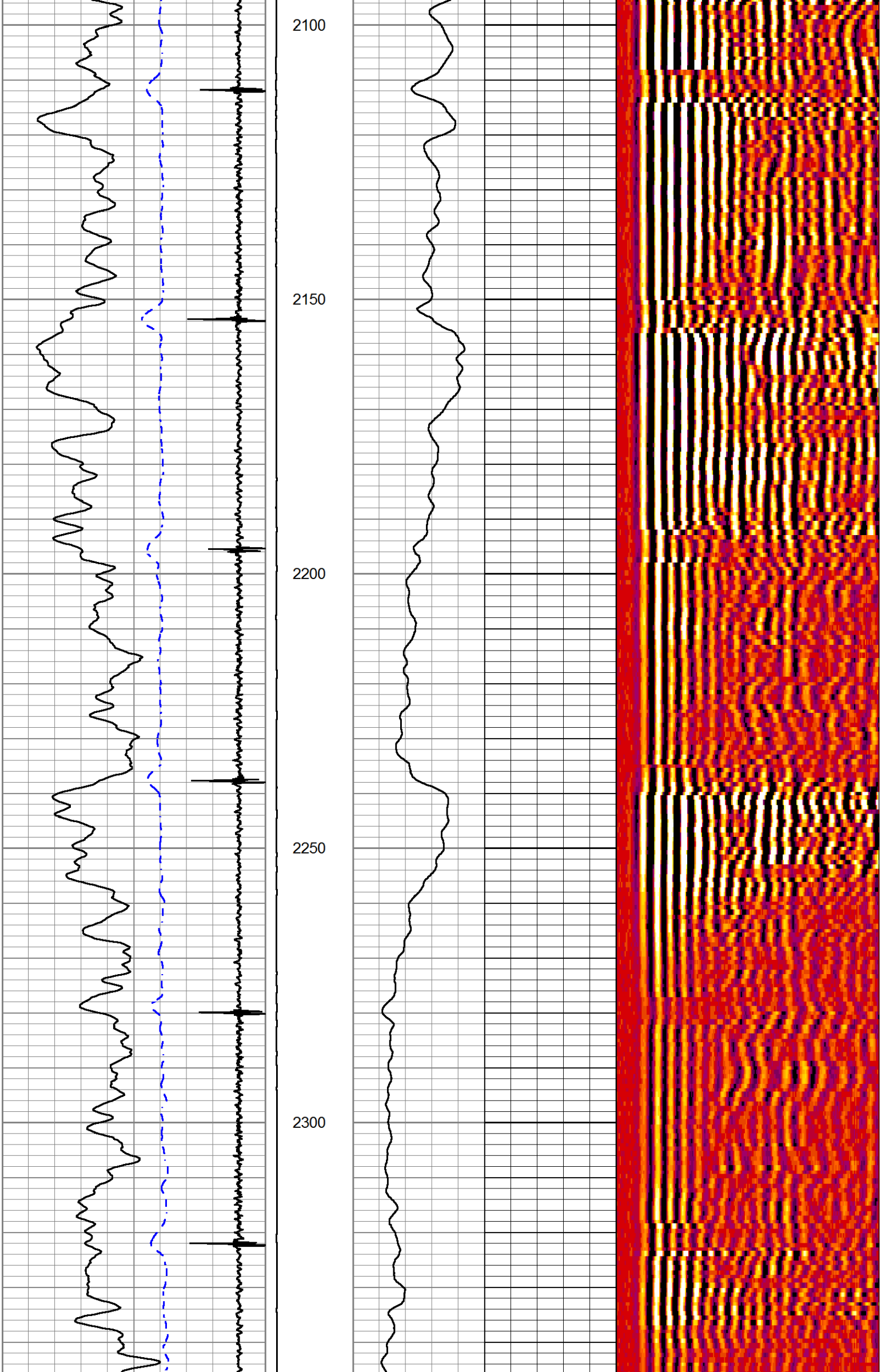
MAIN PASS

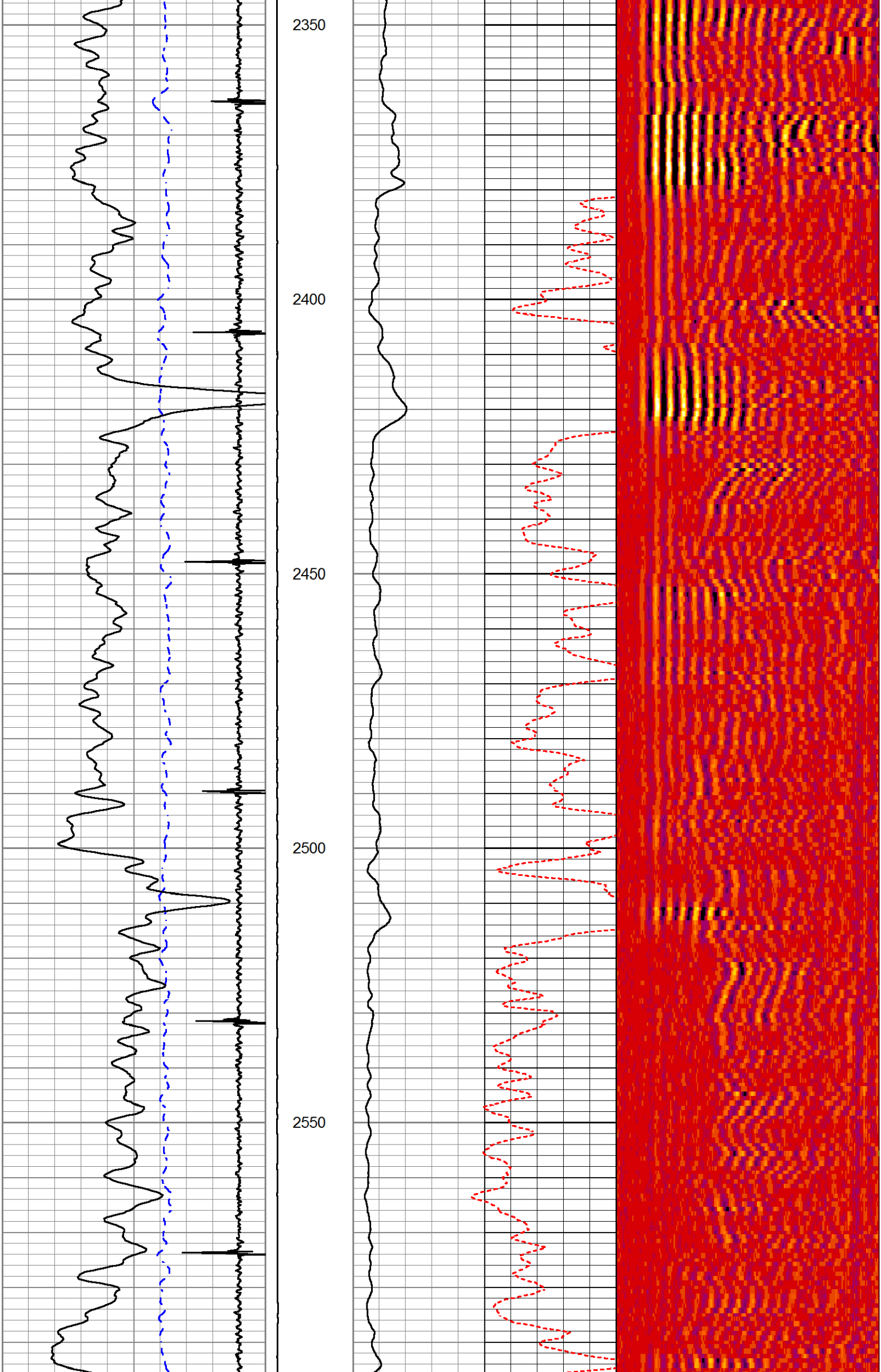
5" = 100'

HALLIBURTON

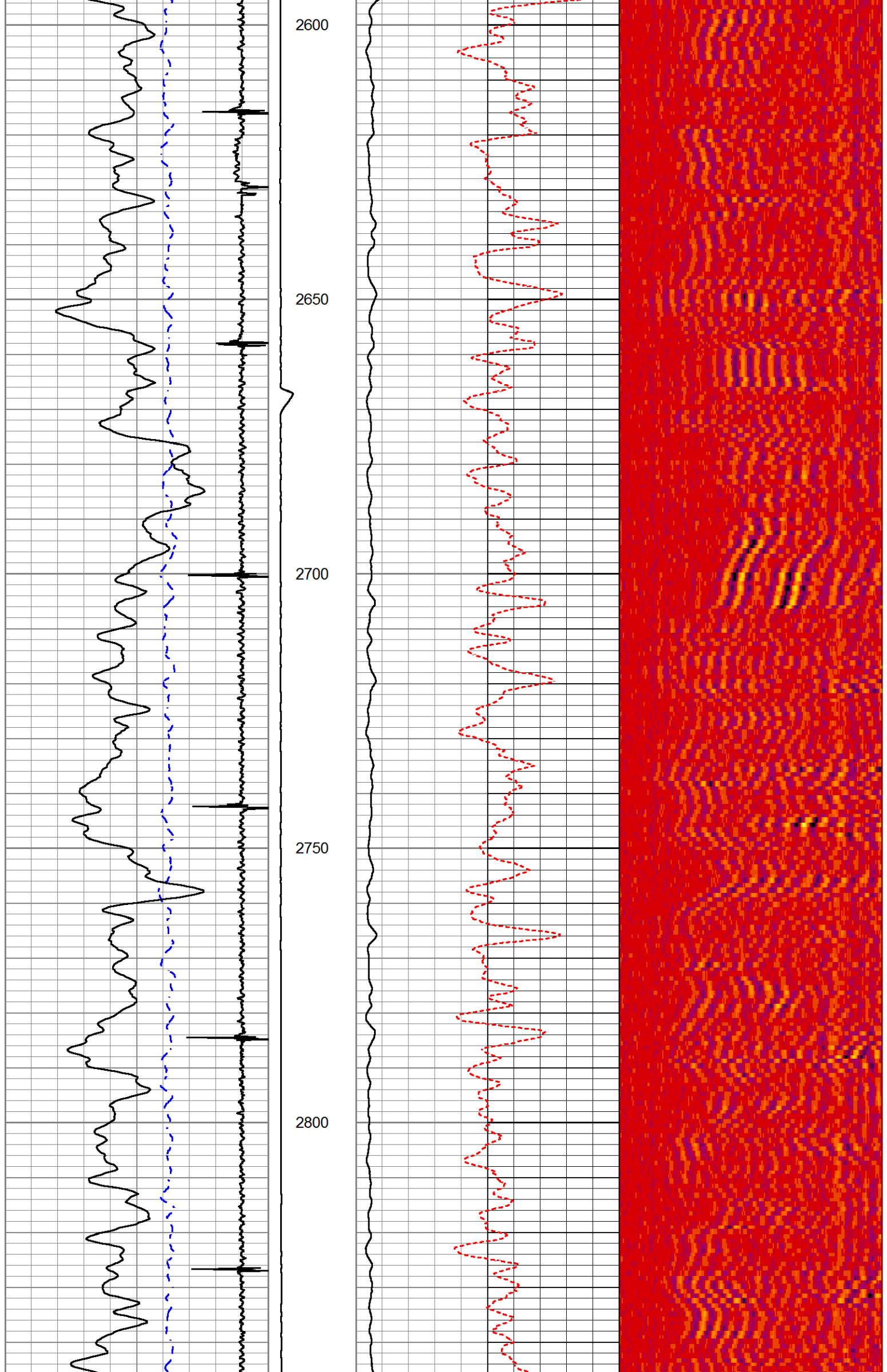
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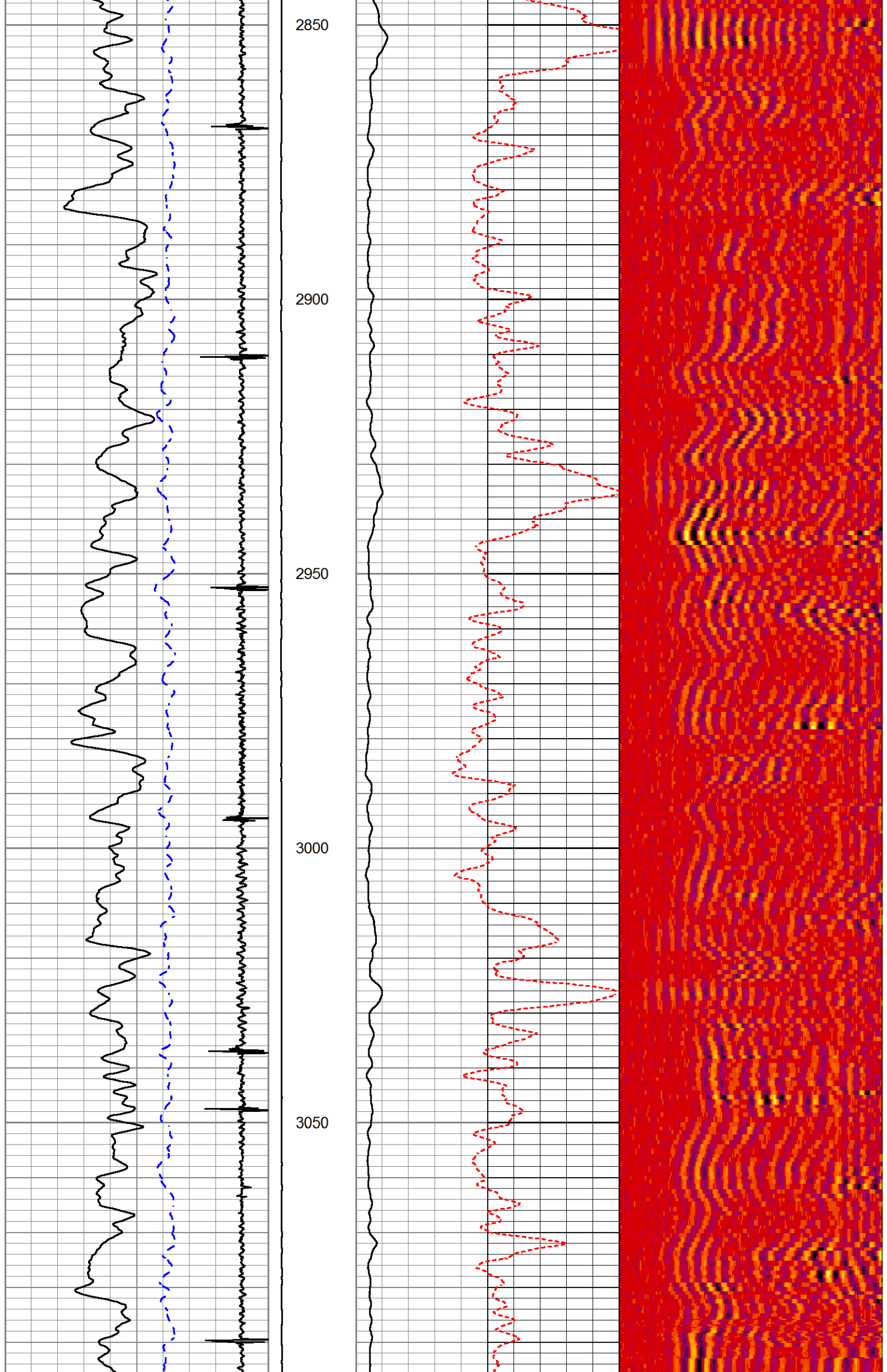




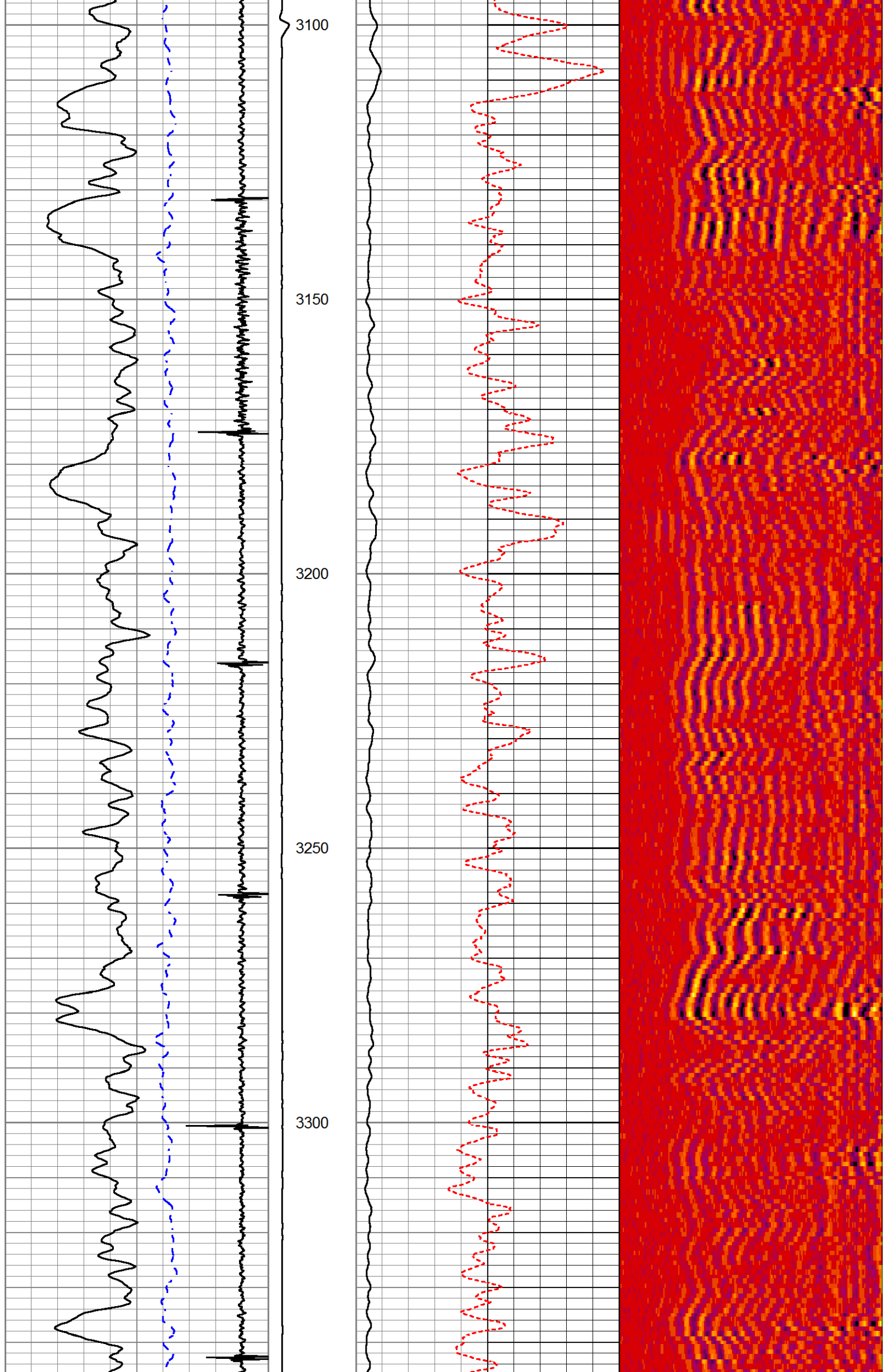


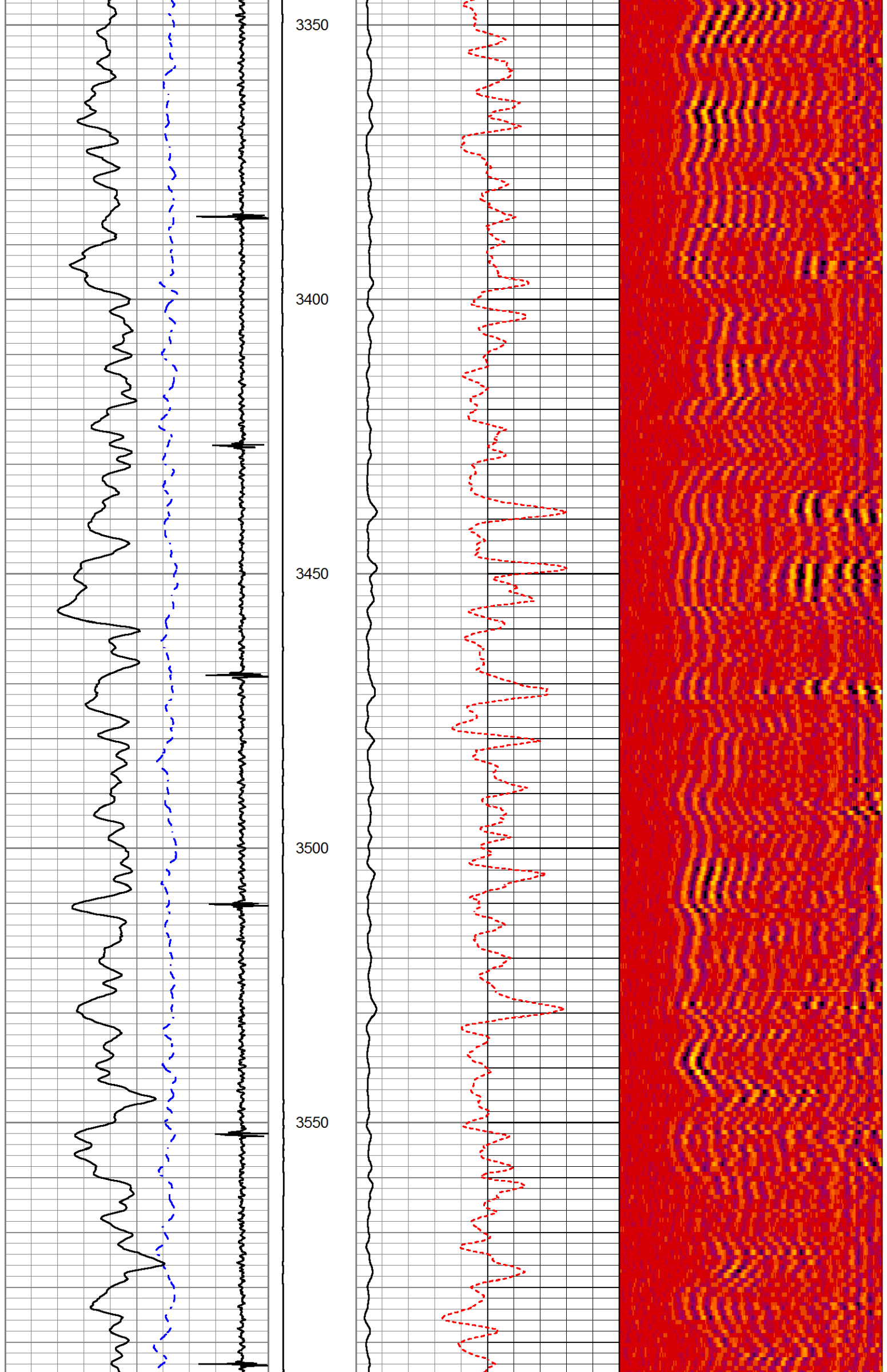


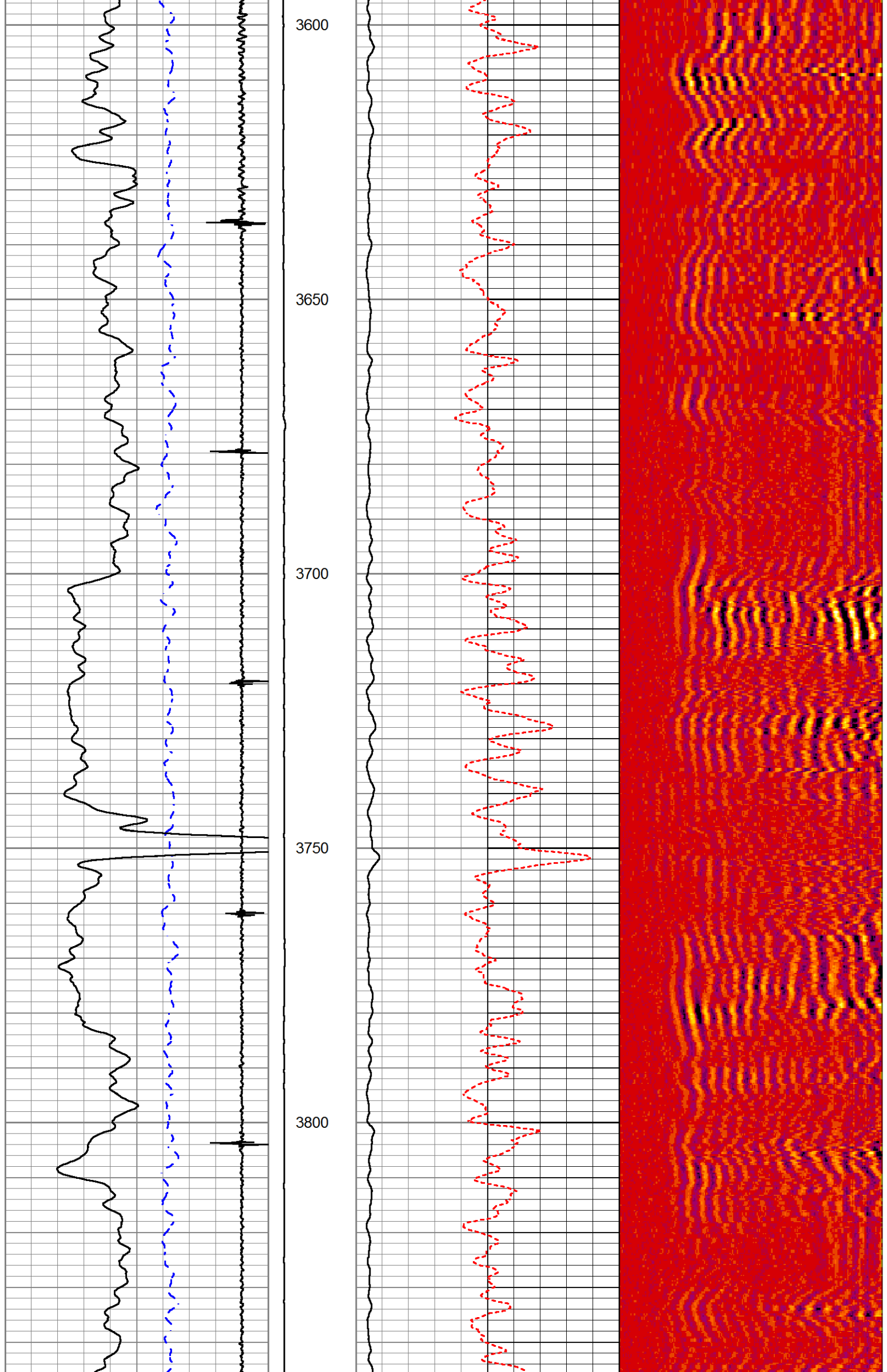




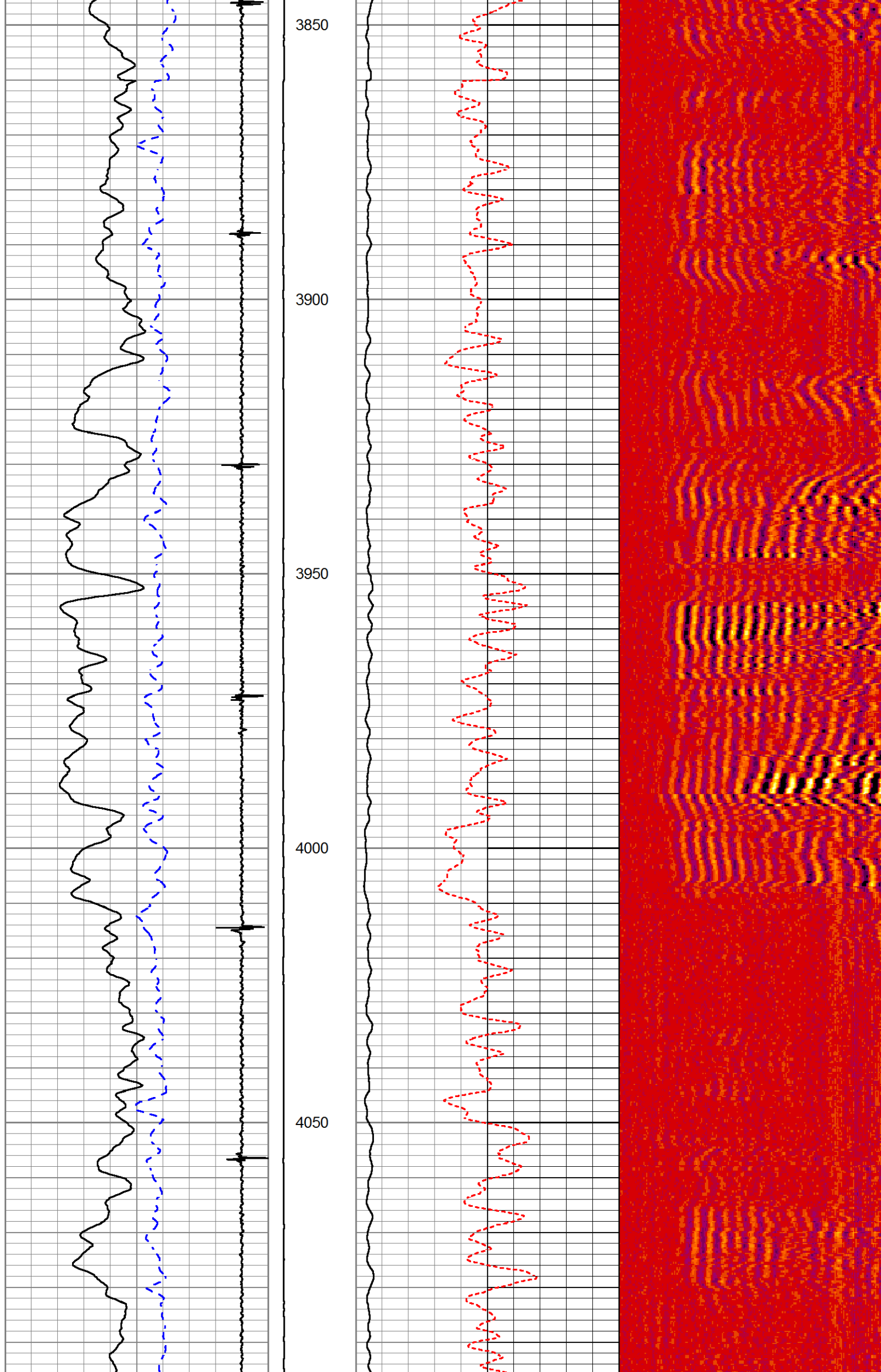


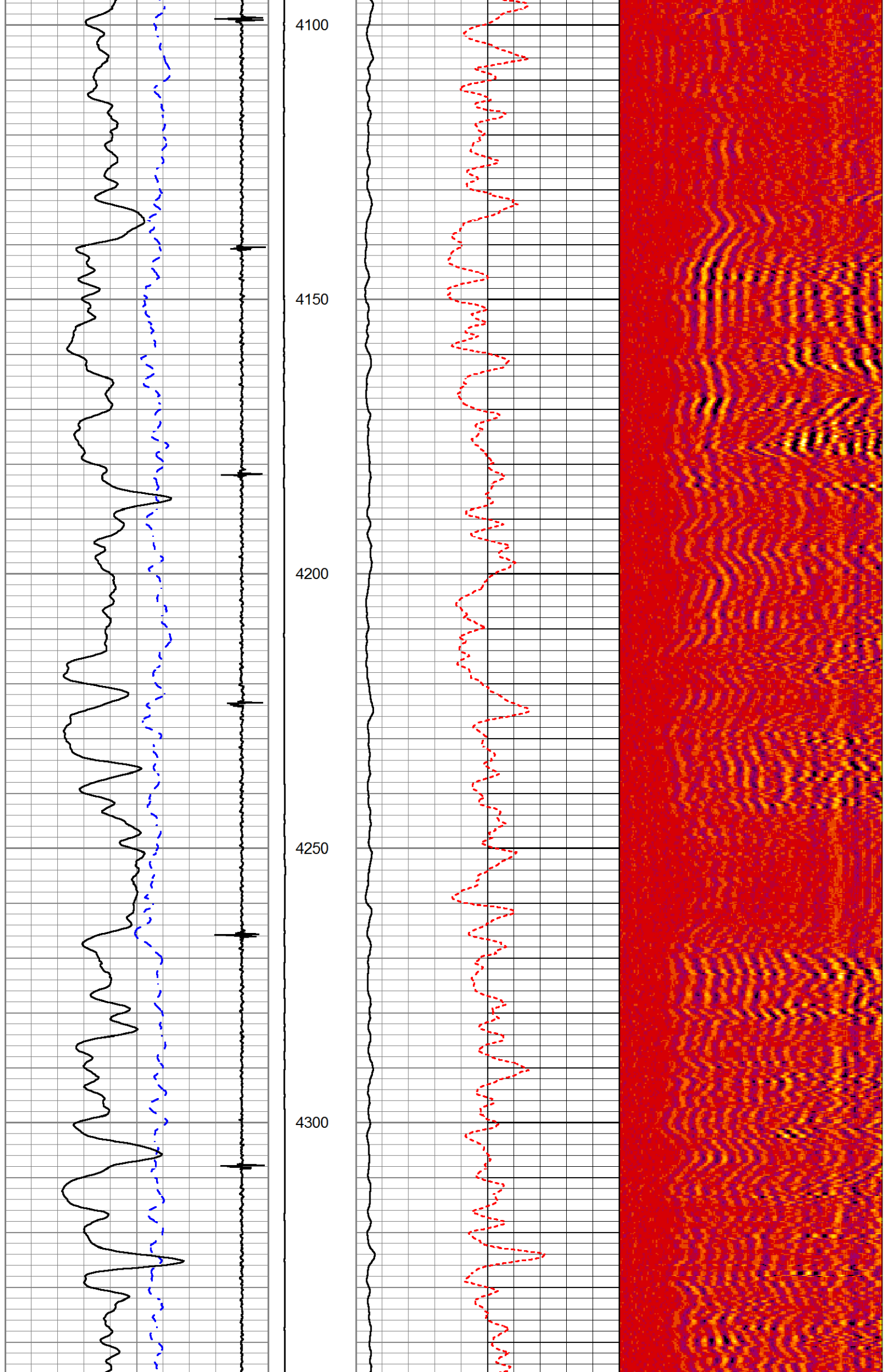


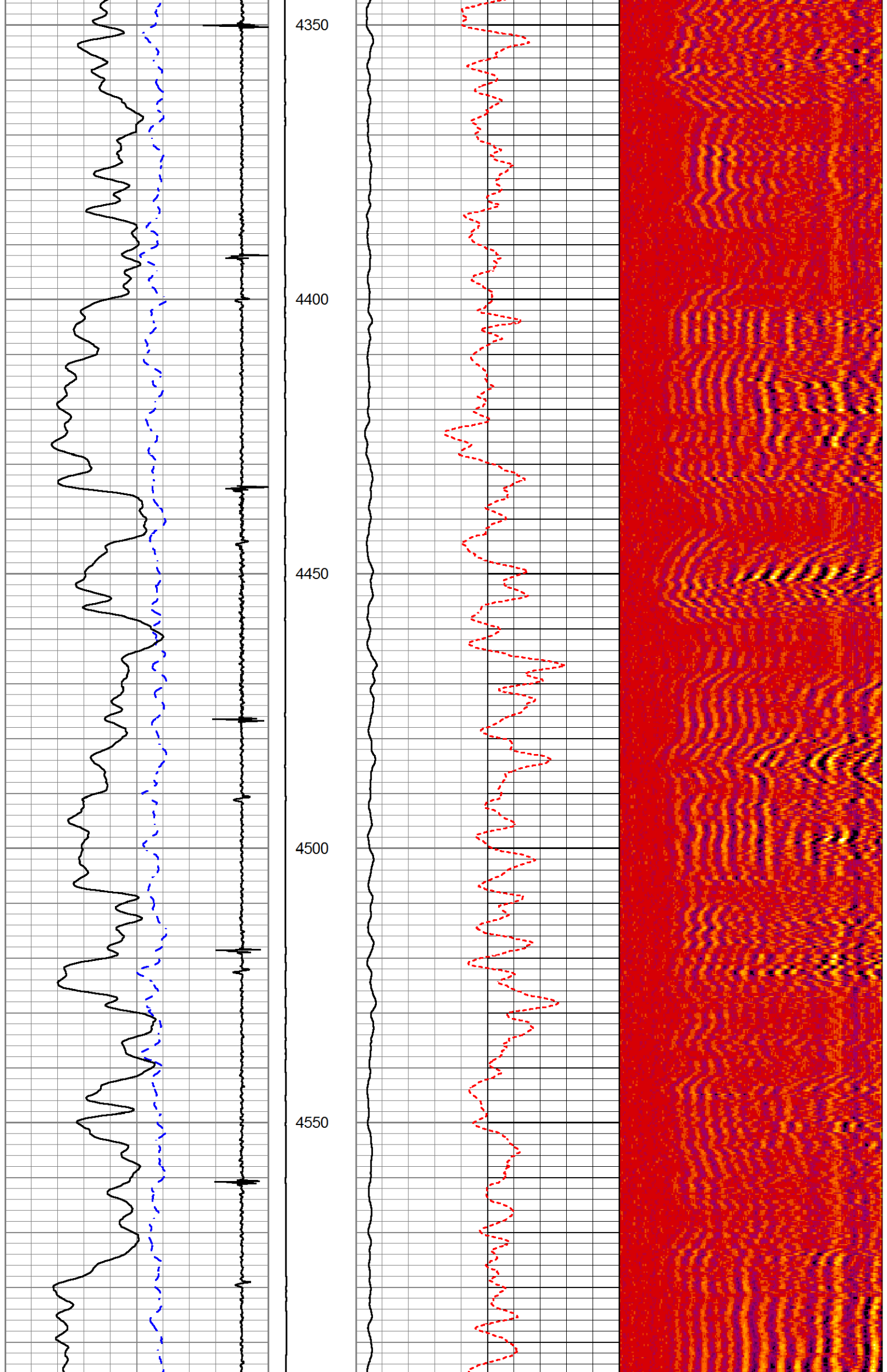




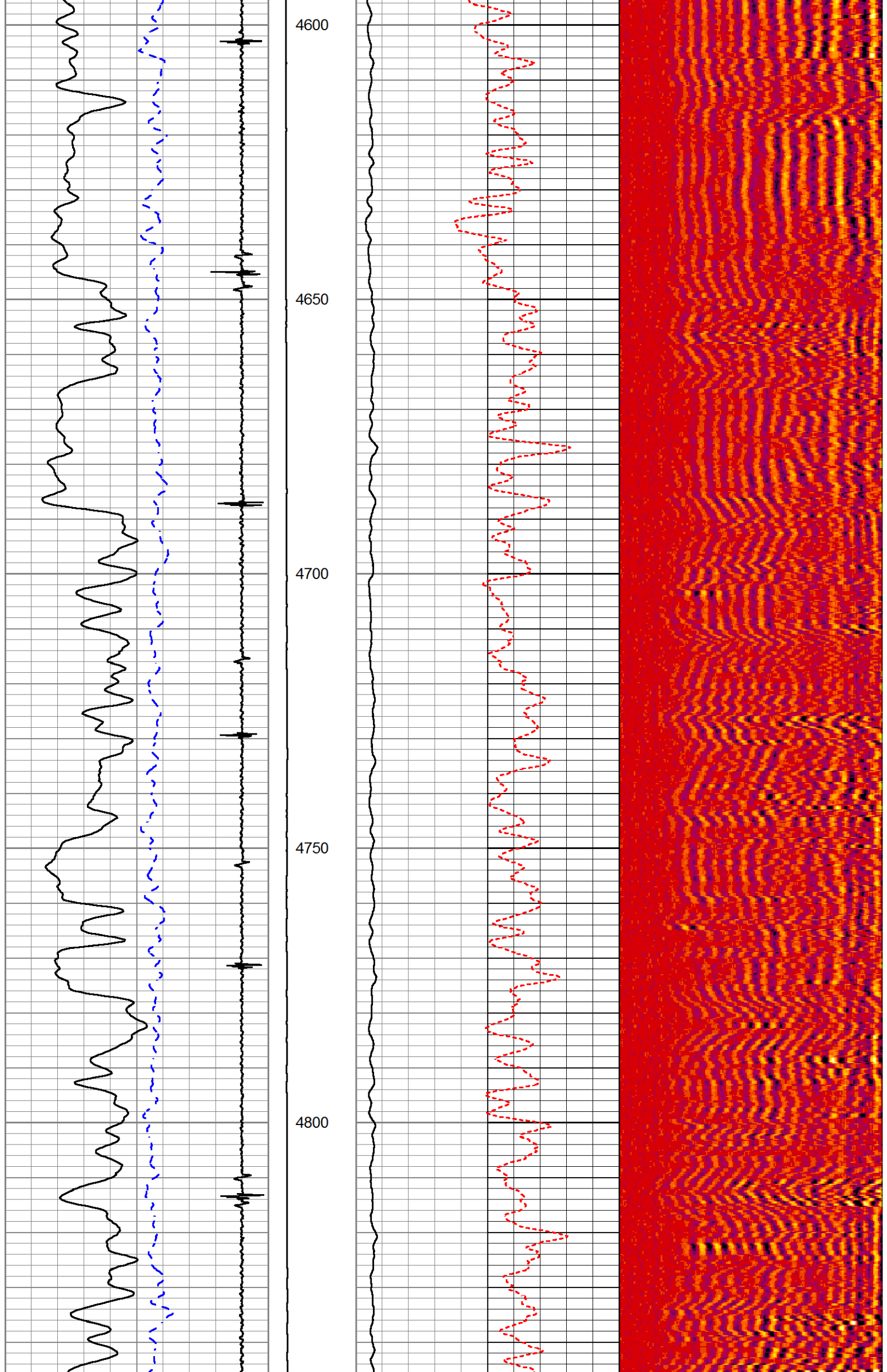


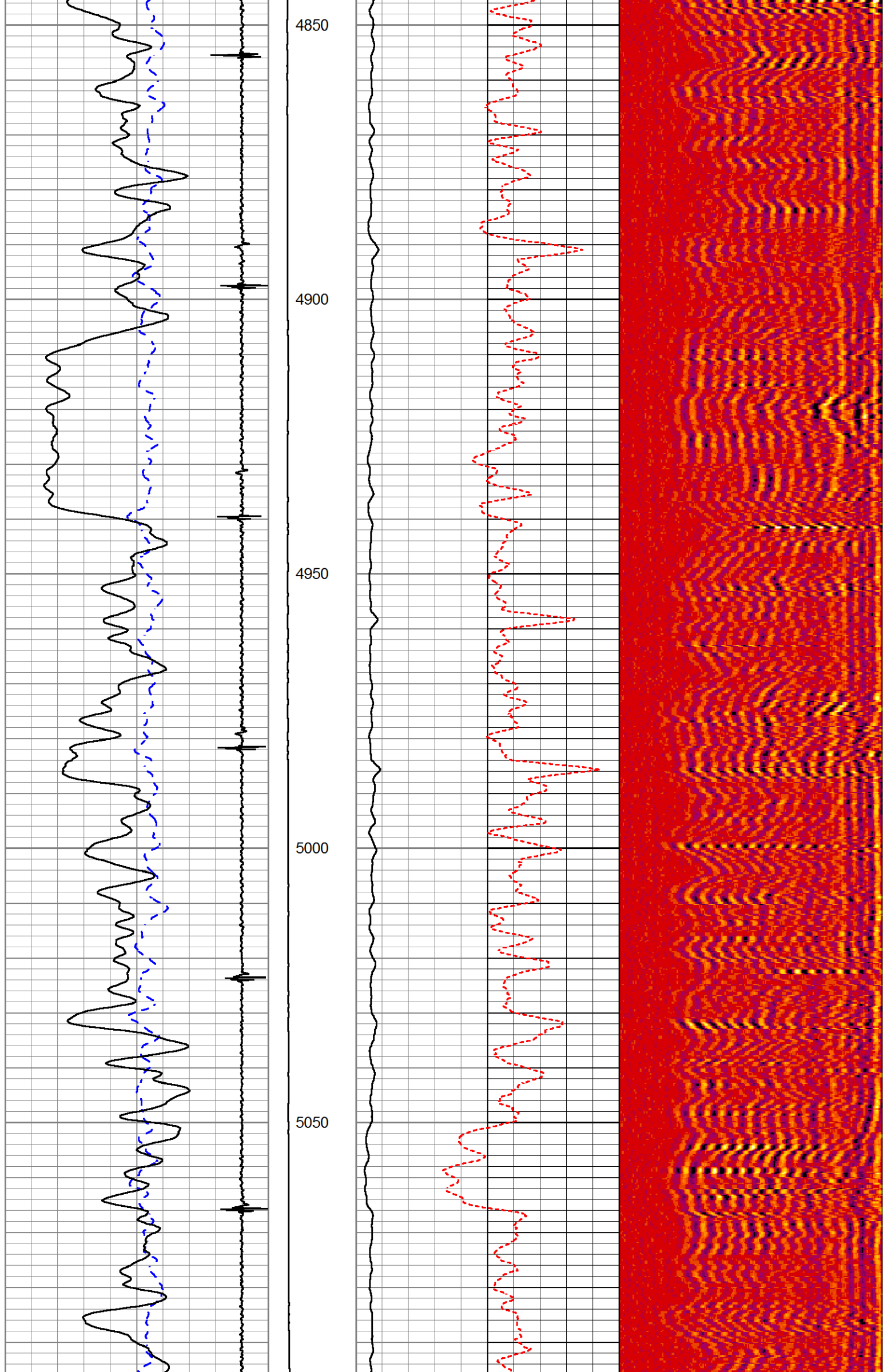


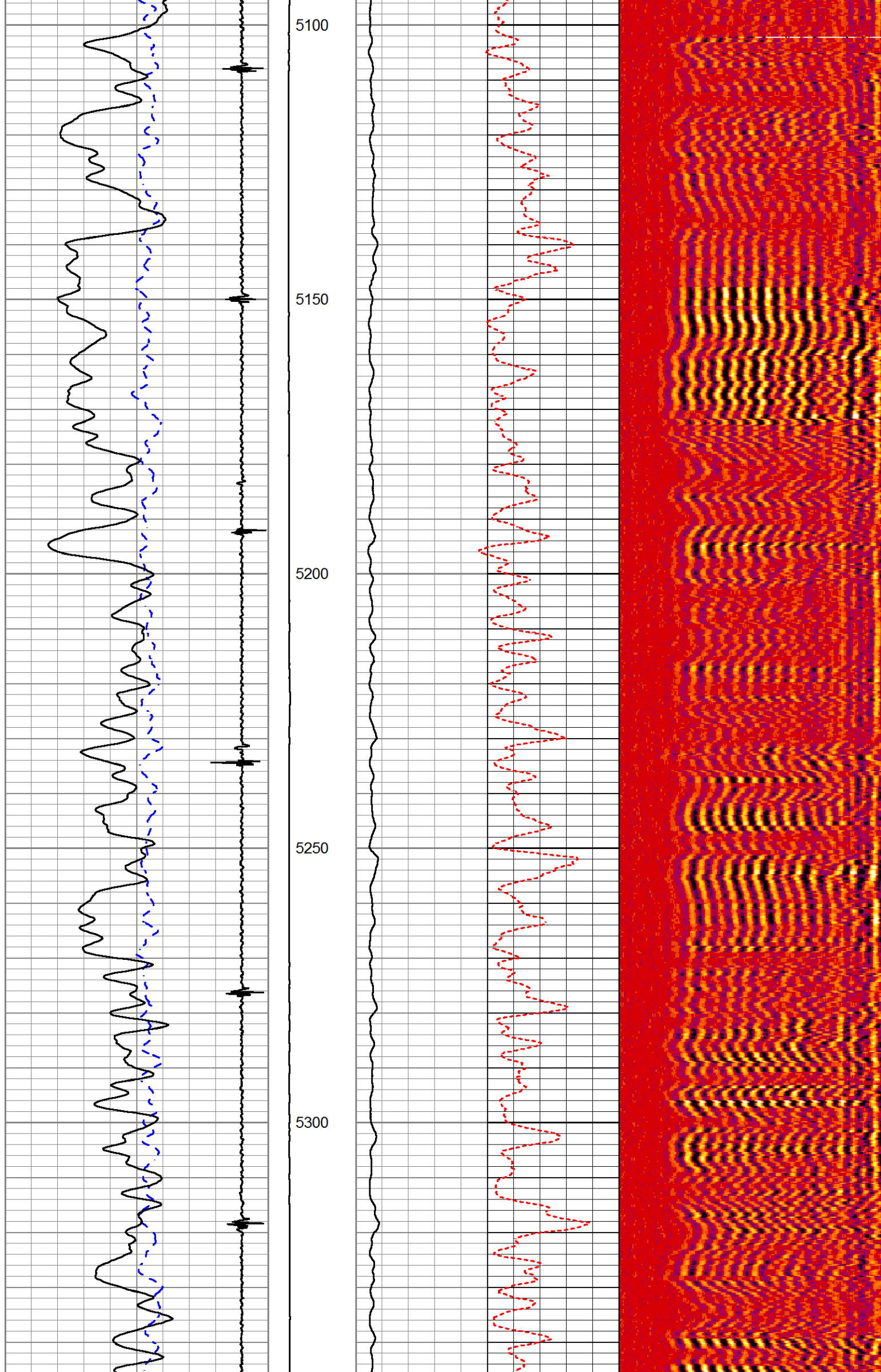




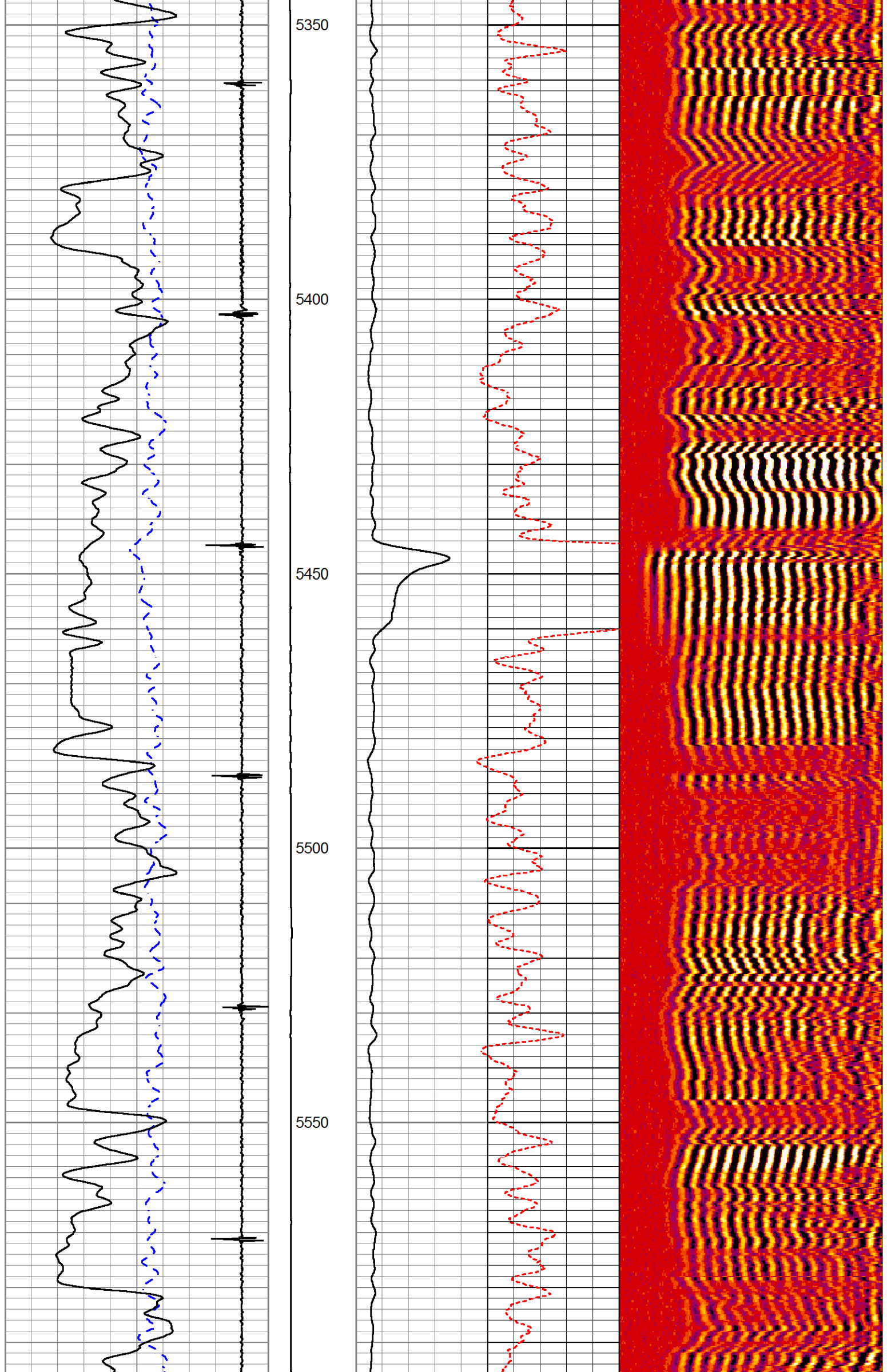


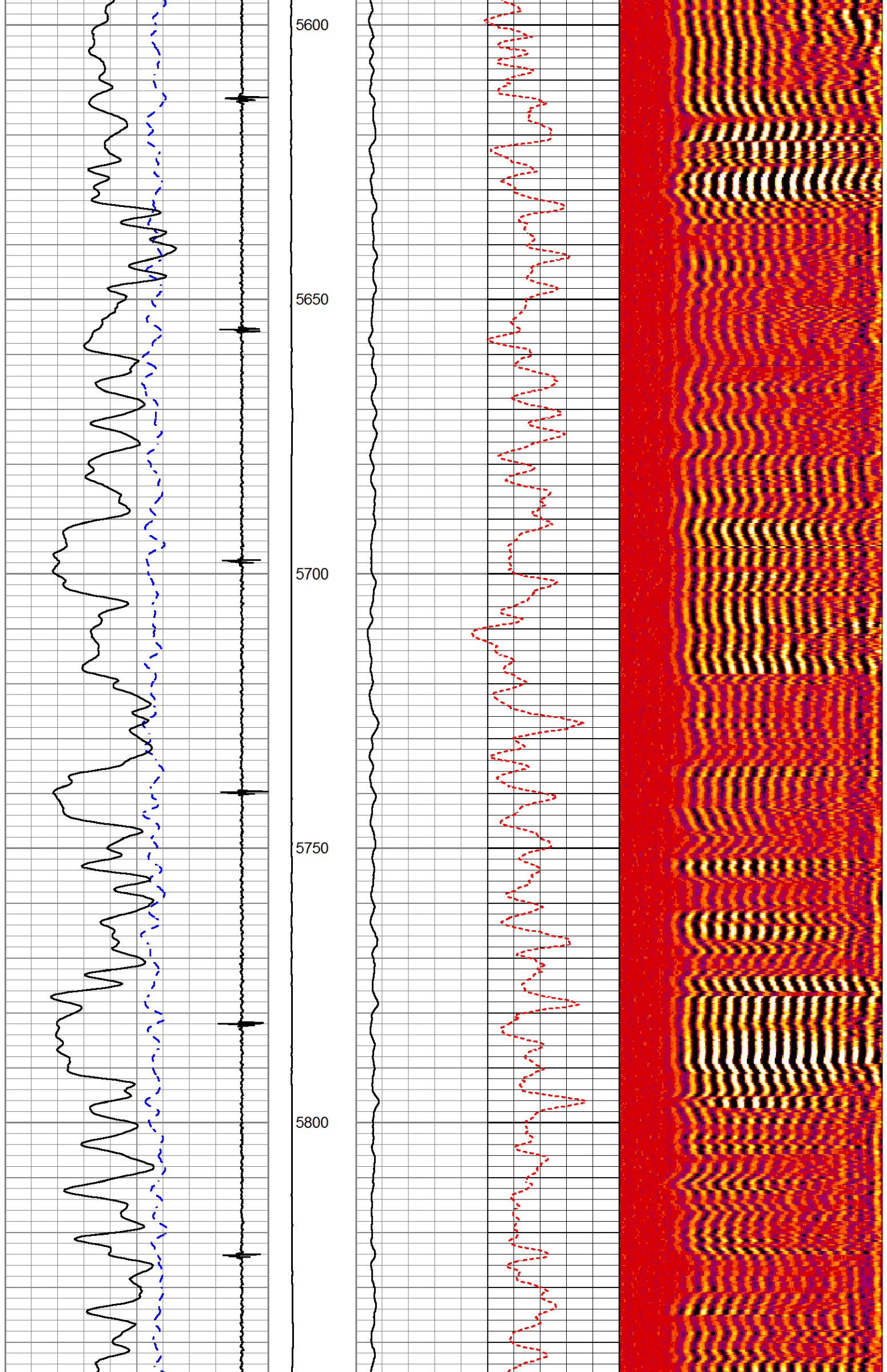


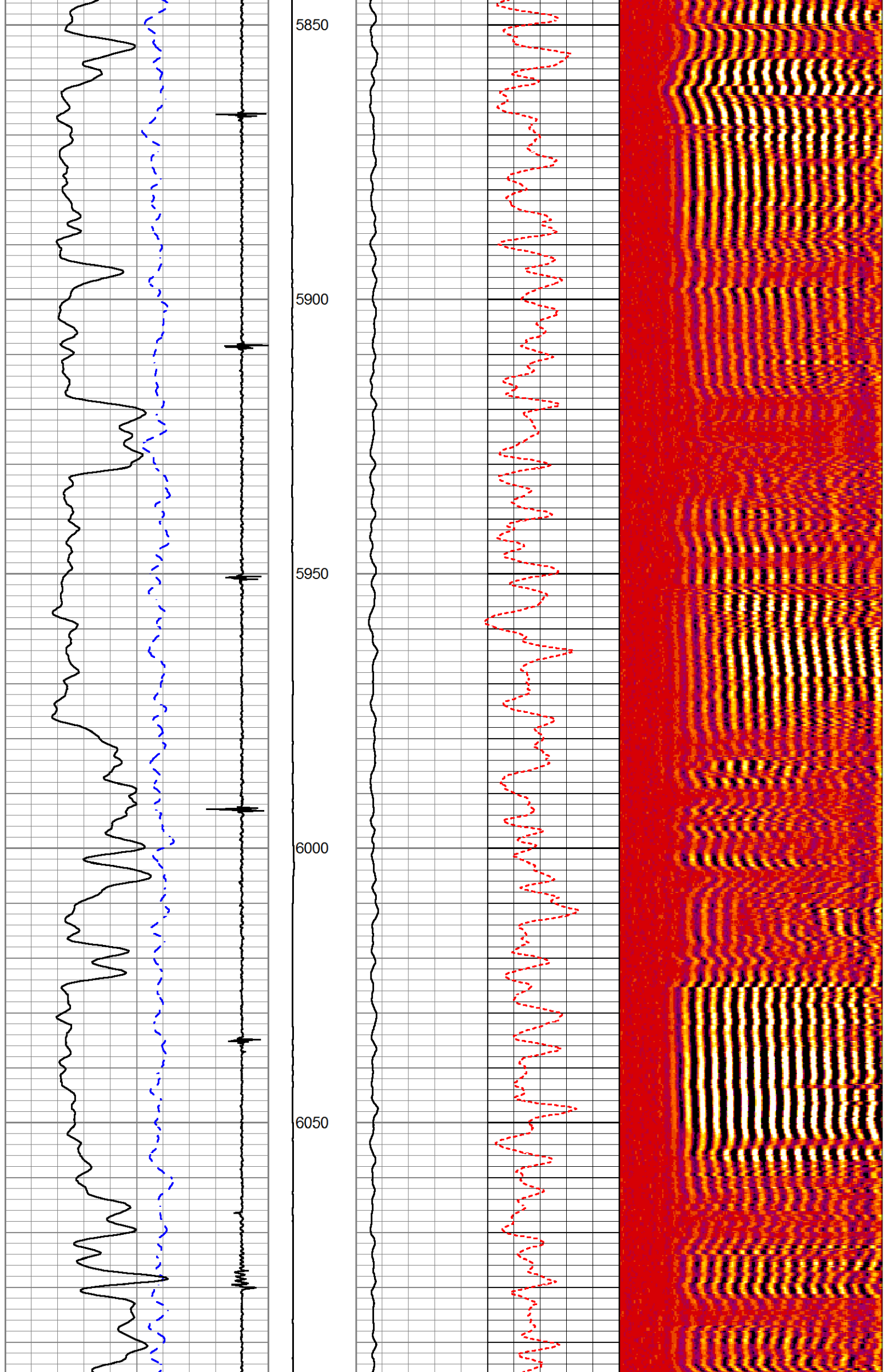




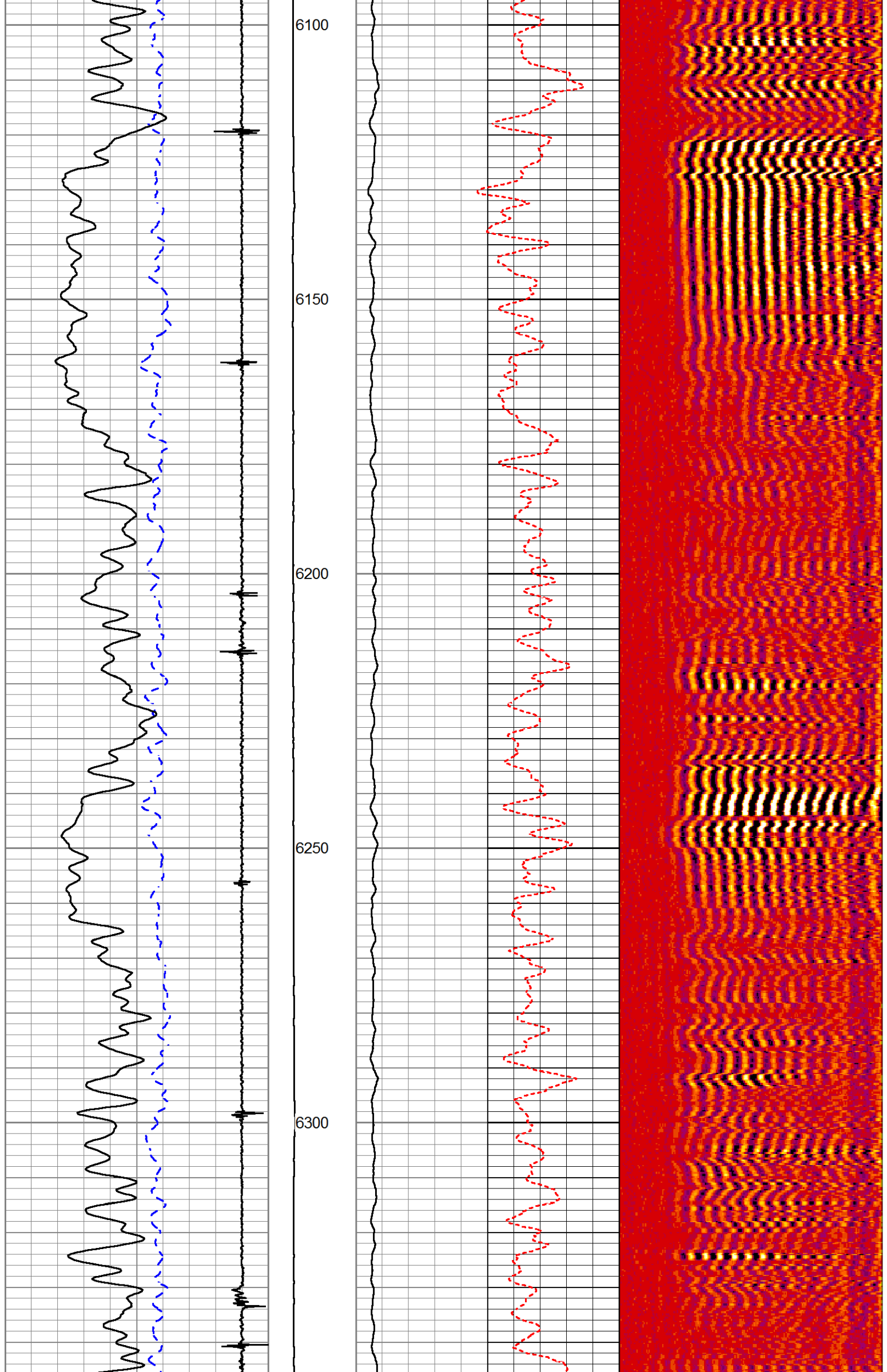


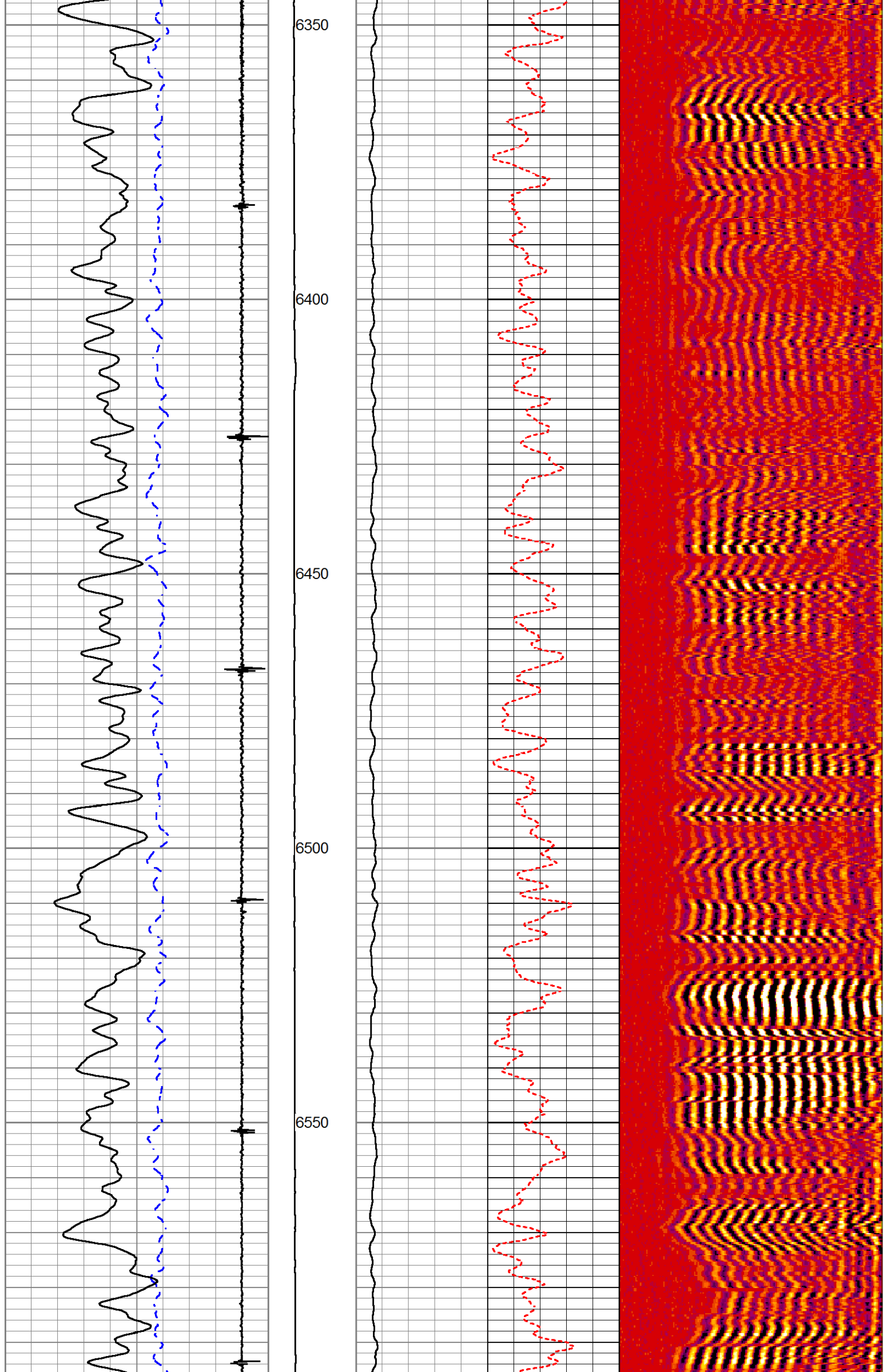


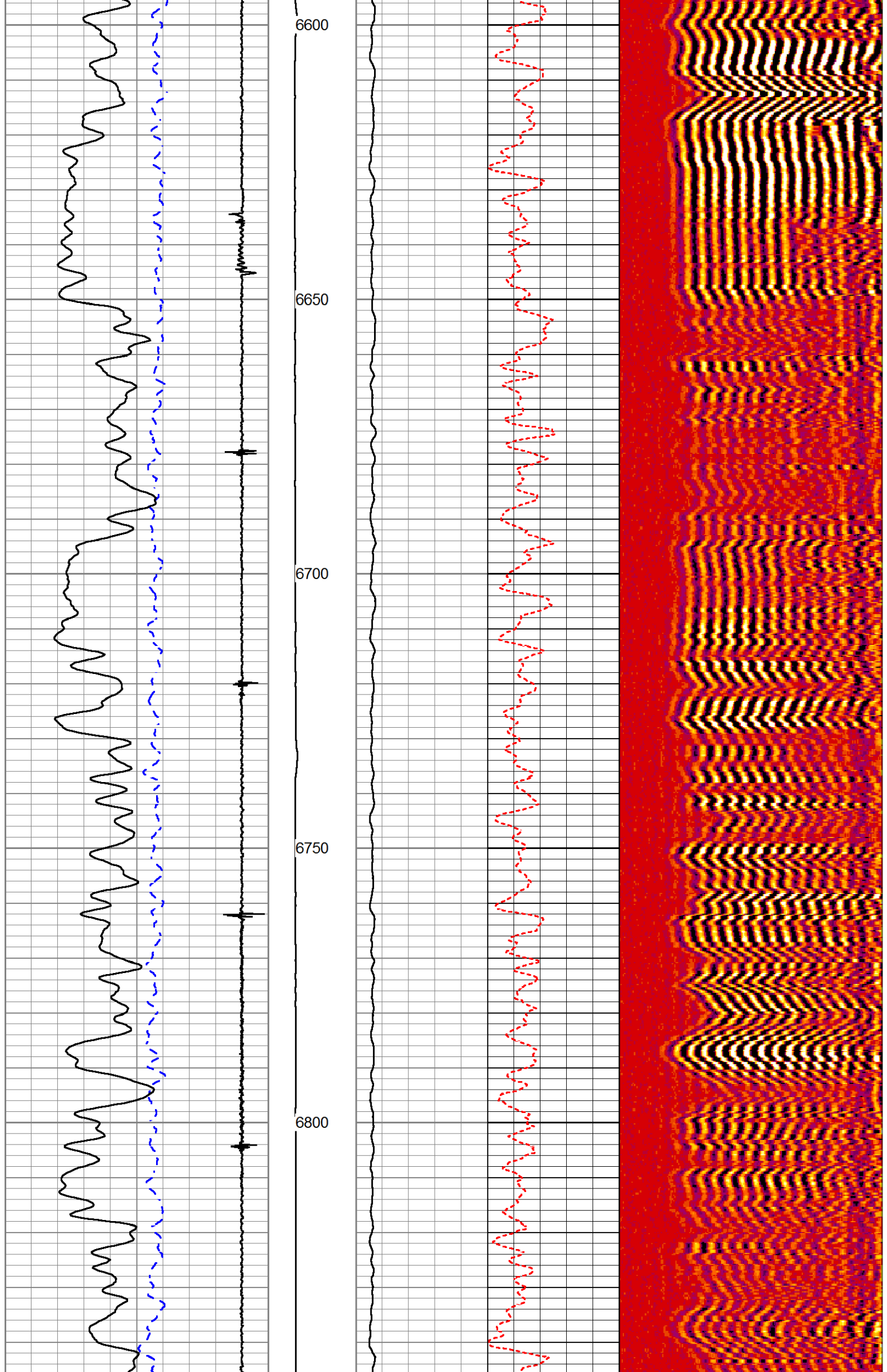




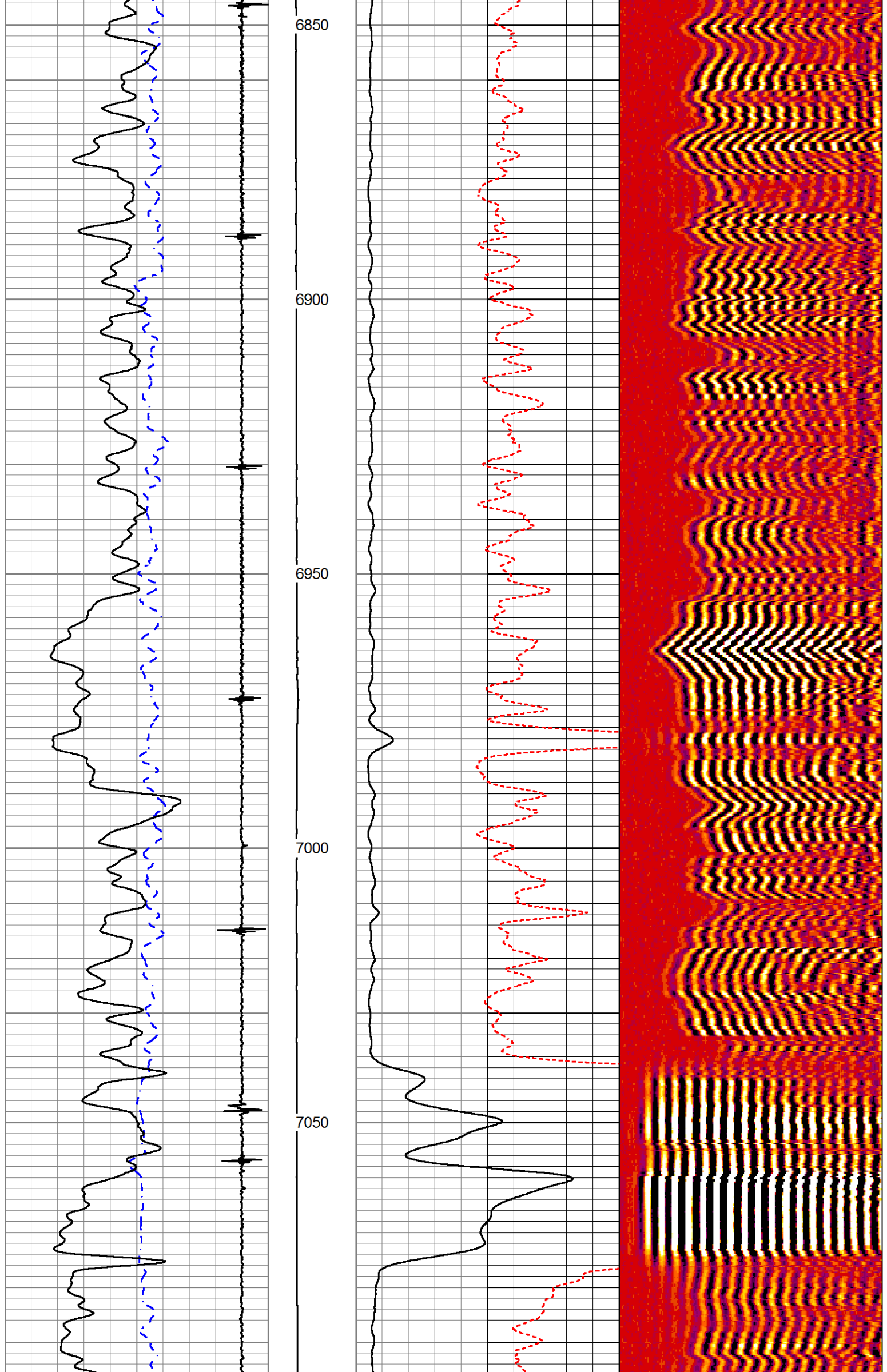


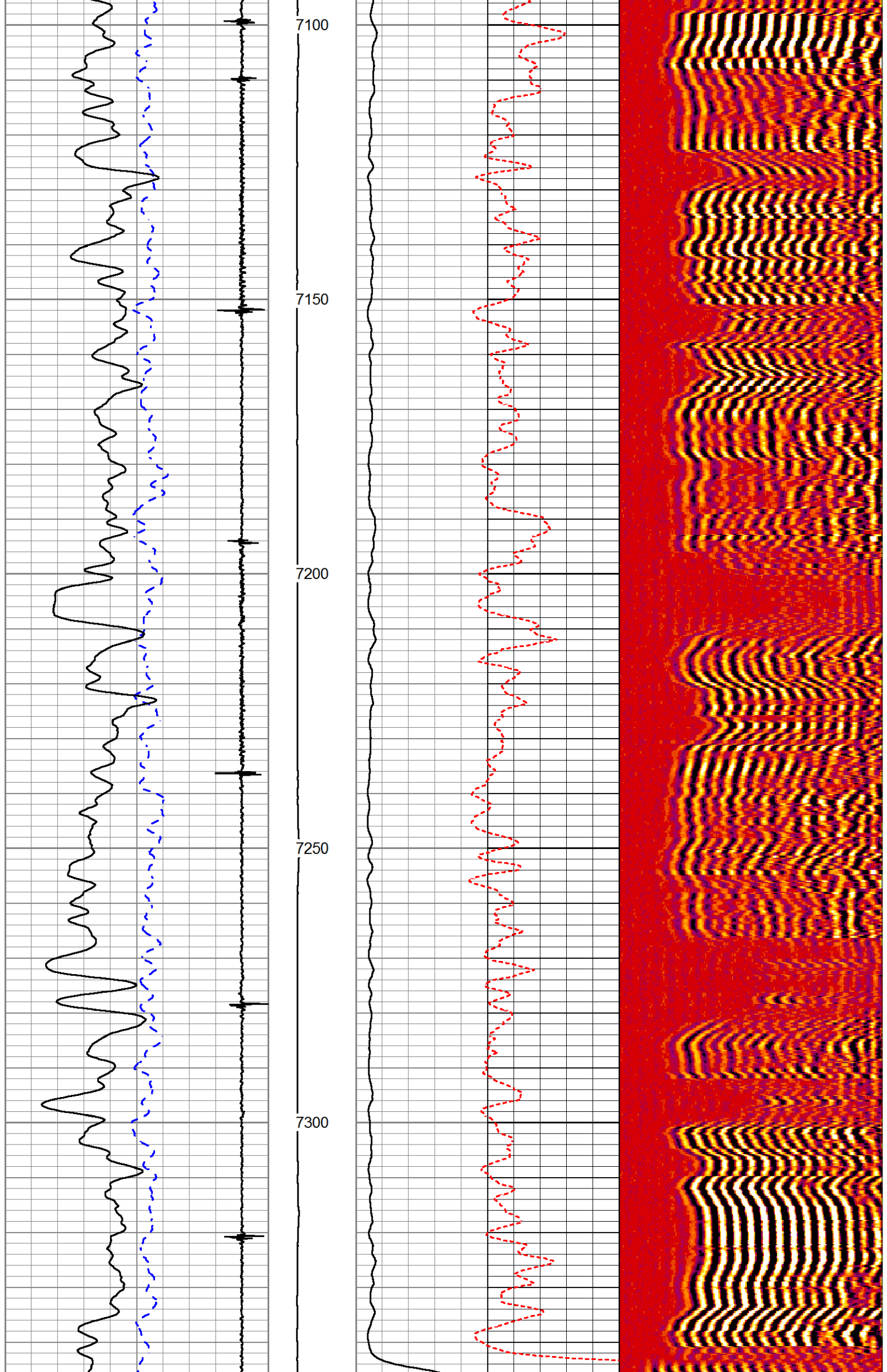


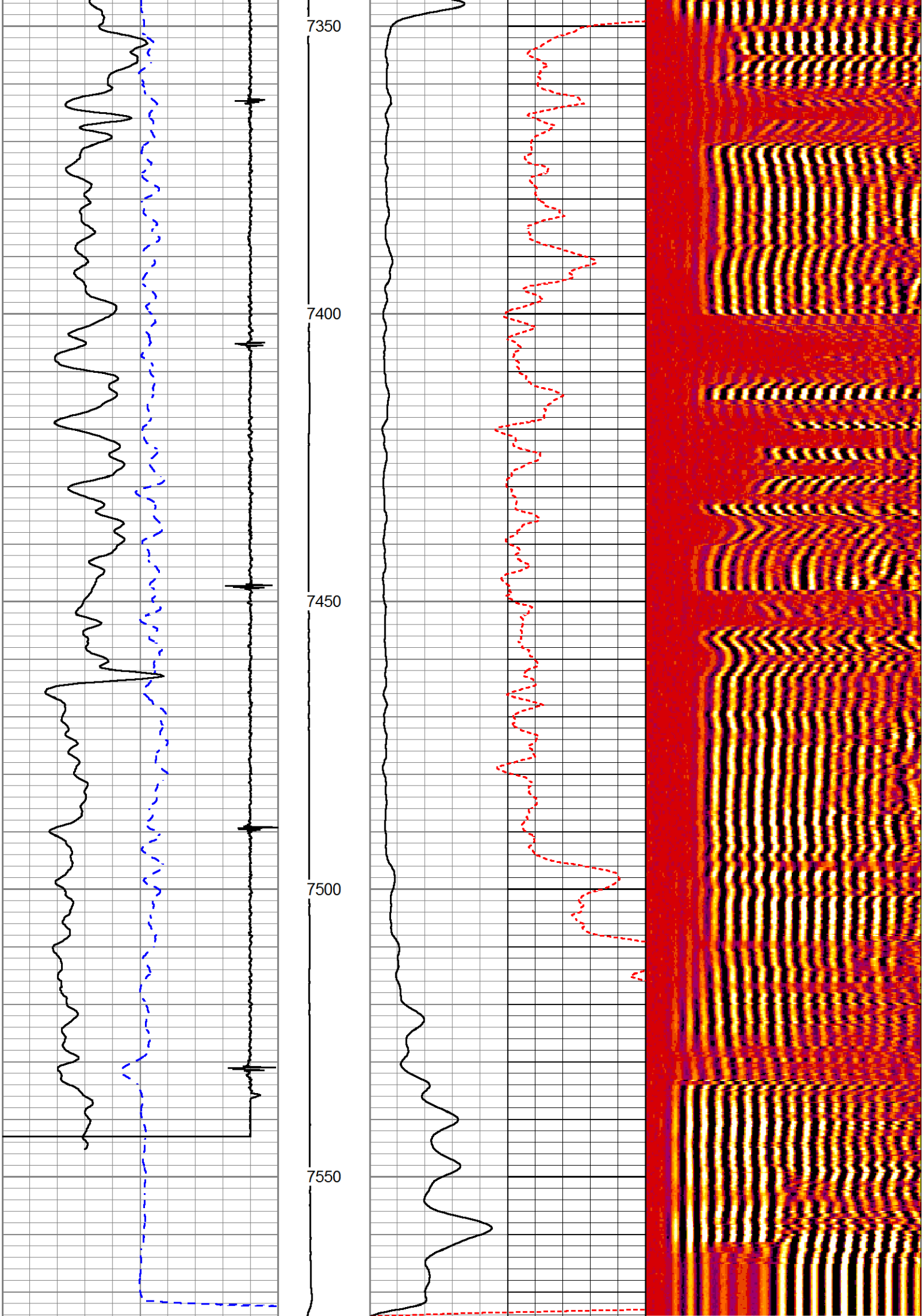












298	Travel Time (usec)	198	Line Tension	0	Amplitude (mV)	100	200	Variable Density	1060
3600	Collar Locator	-400	0 (lb/5000)	0	Amplified Amplitude (mV)	10			
0	GAMMA RAY	200							



HALLIBURTON

MAIN PASS

5" = 100'

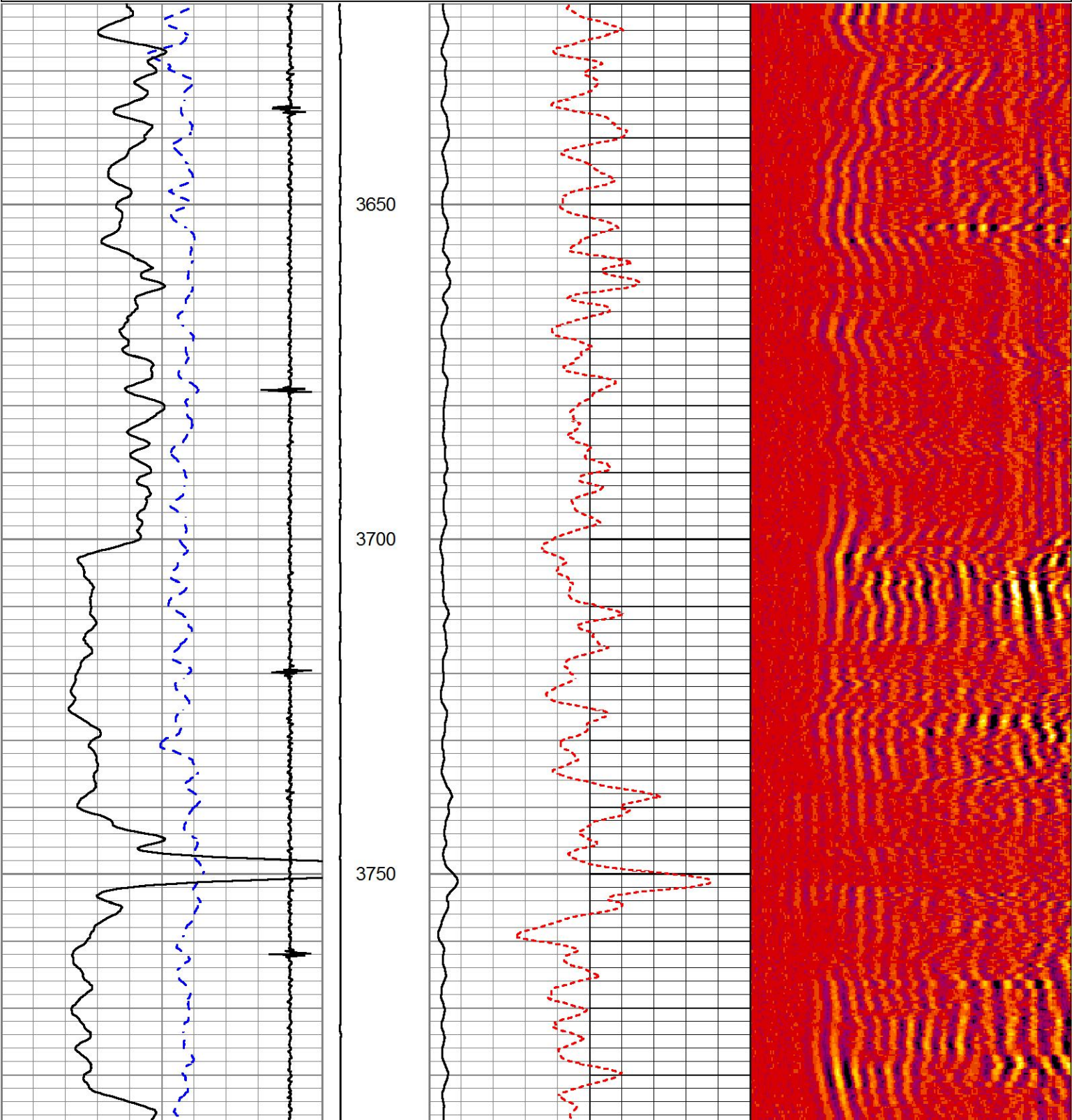
HALLIBURTON

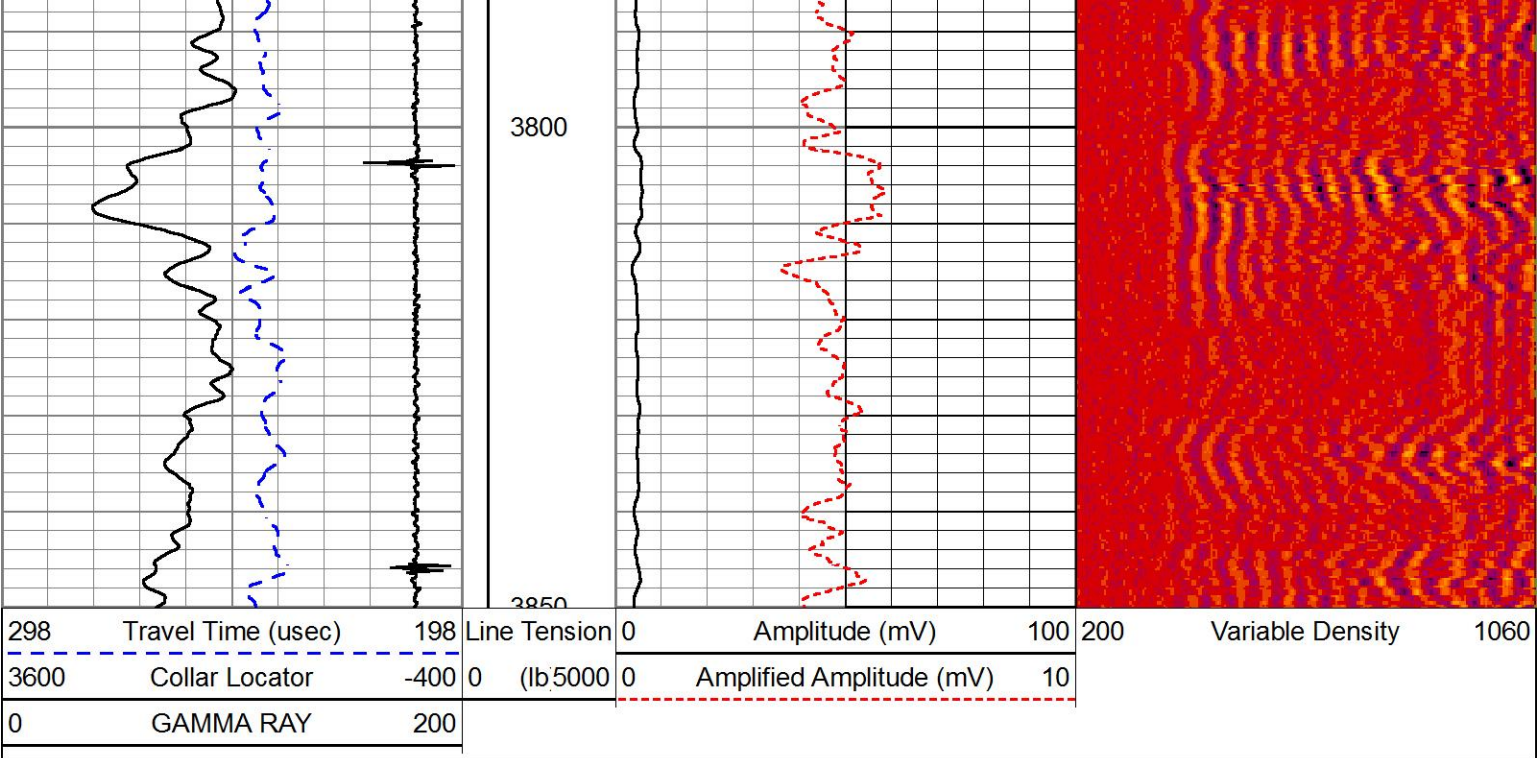
REPEAT PASS

5" = 100'

Database File c:\users\h180706\desktop\mr\_b\_31b\_17\_7\_95.db  
Dataset Pathname MAIN1  
Presentation Format !1!!cbl\_rmti  
Dataset Creation Thu Dec 01 16:57:01 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

Database:c:\users\h180706\desktop\mr\_b\_31b\_17\_7\_95.db

Dataset field/well/run1/MAIN1/\_vars\_

Top - Bottom

BHSAL1	BHSAL2	BHTEMP_Src	BITSIZE	BORSAL	BOTTEMP	CASED?	CASEOD
1	0	TEMP	in 7.875	kppm 150	degF 220	Yes	in 4.5
CASETHCK	CASEWGHT	LTH	MSGGN	MudWgt	PERFS	POROS1	POROS2
in 0.25	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 20	ft 7400	NONE	usec/ft 0	MRayl 1.7	

Calibration Report	
Database File	c:\users\h180706\desktop\mr_b_31b_17_7_95.db
Dataset Pathname	MAIN1
Dataset Creation	Thu Dec 01 16:57:01 2016
Cement Bond Log Shop Calibration Report	
Serial-Model:	12091451-A
Calibration Performed:	Thu Dec 01 13:19:47 2016
Free Pipe Calibration	
TT	Measured 244.6 Units usec
Amplitude	552.0 mV
Log Base Line	5.9 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		0.149			
Reservoir Monitor Tool I Calibration Report					
Serial-Model:		12095949-A			
Shop Calibration Performed:		Thu Nov 24 11:32:44 2016			
Carbon/Oxygen Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	90.00	80.00	10.00	+/-15.00	V
ITCR2	3153	3250	-97	+/-250	cps
Near Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0259	5.51	<6.00
Fe	206	206 +/-2	0.0966	-----	-----
NGAIN = 0.996		NZOFF = 0.5			
Far Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0356	5.76	<6.50
Fe	210	208 +/-2	0.0903	-----	-----
FGAIN = 0.990		FZOFF = 0.5			
Flask Temperature		50.0 degF			
Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.36	1.36	0.00	+/-0.05	
TCCR2	5059	5000	59	+/-1000	cps
ITCR2	3123	3200	-77	+/-250	cps
Sigma Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	90.00	80.00	10.00	+/-15.00	V
FCAP	9856	10000	-144	+/-500	cps
Horizontal Water Tank					
Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.96	0.95	0.01		
N/F Inel Norm	0.62	0.61	0.01		
RNF	1.04	1.07	-0.03	+/-0.12	
RINC	1.61	1.64	-0.03	+/-0.18	
SGFN	24.07	24.00	0.07	+/-0.50	cu
SGFF	22.92	22.85	0.07	+/-0.50	cu
FSIN	23621	24000	-379	+/-2000	cps
FCAP	9956	10000	-44	+/-1000	cps
NFTR	0.82			<5.00	
FFTR	0.92			<5.00	
NBKG	190			<500	cps
FBKG	97			<500	cps
RTN	0.40	0.40	-0.00	+/-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 / 11214503			
SHOP CALIBRATION			Wed Nov 09 16:25:32 2016			
Background Calibrator	Counts/Sec.		Gain	Offset	Jig	Units
	34.1					cps
	297.9		1.3950			cps GAPI/cps
PRIMARY VERIFICATION						
Background Calibrator Difference	42.3					cps
	413.8					cps
					371.5	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	35.82		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00	
			TTTCU-002 (11214503) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00	
GR	33.56		XHU-003 (000001) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00	
			RMTI-A (12095949) Halliburton RMTI Tool	14.00	2.13	77.00	
RmtTFGT	22.91						
RmtTNGT	22.41						

RmtFP5V	14.66		X-OVER-GoxSondex	0.27	1.69	1.00
RmtNFwvMcsPI	14.66		Go Box x Sondex Pin CrossOver			
RmtCommFWa	14.66		CENT-CASTM-CENT	2.16	3.13	25.00
			CAST M INLINE CENTRALIZER			
Temp	9.57					
TT3FT	7.32		HCBLM-A (12091451)	9.38	2.75	116.00
AMP3FT	7.32		Halliburton HCBLM Tool			
WVF5FT	6.36					
WVF3FT	2.84		CENT-CASTM-CENT	2.16	3.13	25.00
			CAST M INLINE CENTRALIZER			
			AUH-001 (11072111)	0.38	1.69	3.00
			Adaptor Ultrawire/Halliburton			
LLMTEN	0.00		BUL-001 (000001)	0.30	1.69	1.50
			Bullnose			
Dataset: mr_b_31b_17_7_95.db: field/well/run1/MAIN1						
Total length: 39.39 ft						
Total weight: 356.50 lb						
O.D.: 3.13 in						

Company	URSA OPERATING COMPANY LLC				
Well	MONUMENT RIDGE B 31B-17-7-95				
Field	PARACHUTE				
County	GARFIELD		State	CO	
HALLIBURTON	CEMENT BOND LOG				