

HALLIBURTON										CEMENT BOND LOG									
Company URSA OPERATING COMPANY LLC Well MONUMENT RIDGE B 31C-17-7-95 Field PARACHUTE County GARFIELD State CO										Company URSA OPERATING COMPANY LLC Well MONUMENT RIDGE B 31C-17-7-95 Field PARACHUTE County GARFIELD State CO									
API No.: 05045228970000    Serv #: 903682184 Location: SHL: 900' FSL & 144' FEL BHL: 976' FNL & 1985' FEL										Other Services									
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 @ 22:00										Type Fluid in Hole FRESH WATER									
Run No. ONE										Density of Fluid 8.4 PPG									
Depth - Driller 7857'										Fluid Level SURFACE									
Depth - Logger 7661'										Cement Top Est. Logged 1986'									
Bottom - Logged Interval 7654'										Equipment / Location 11808537 / RS. WY									
Top - Log Interval 1862'										Recorded by B. RIDDEL									
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 Bit From To Size Weight From To																			
ONE 24" SURFACE 60' 16" 75.5 # SURFACE 60'																			
TWO 12.25" 60' 1829' 8.625" 32.0 # SURFACE 1829'																			
THREE 7.875" 1829' 7857' 4.5" 11.6 # SURFACE 7750'																			
<<< 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 : 1986' GAMMA BLANKET : 408 GAPI FREE PIPE CALIBRATION DEPTH : 340'  TENSION PULLED: 4795' & 4542'  THANK YOU FOR CHOOSING HALLIBURTON ENERGY SVCS. YOUR CREW TODAY: B. RIDDEL, D. FLINDERS, B. BURDERER																			

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GAMMA BLANKET : 408 GAPI  
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TENSION PULLED: 4795' & 4542'  
  
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SVCS.  
YOUR CREW TODAY: B. RIDDEL, D. FLINDERS, B. BURDERER

Service Ticket No.		903682184		API No.		05045228970000		PGM Ver		15.10.29001	
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client											
EQUIPMENT DATA											
XHU		GAMMA		RMTI		CBL					
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE				
Serial No.	12146425	Serial No.	11224503	Serial No.	12095949	Serial No.	12091451				
Model No.	XHU-3	Model No.	TTTCU-02	Model No.	RMTI	Model No.	CBLM				
Diameter	1 11/16"	Diameter	1 11/16"	Diameter	2.25"	Diameter	2.75"				
LOGGING DATA											
General Data											
Pass	Depths		Well Head	Speed	Logging Run Comments						
No	From	To	Pressure	Ft/Min							

ONE	4250'	3990'	0 PSI	20	REPEAT			
TWO	7661'	1779'	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			

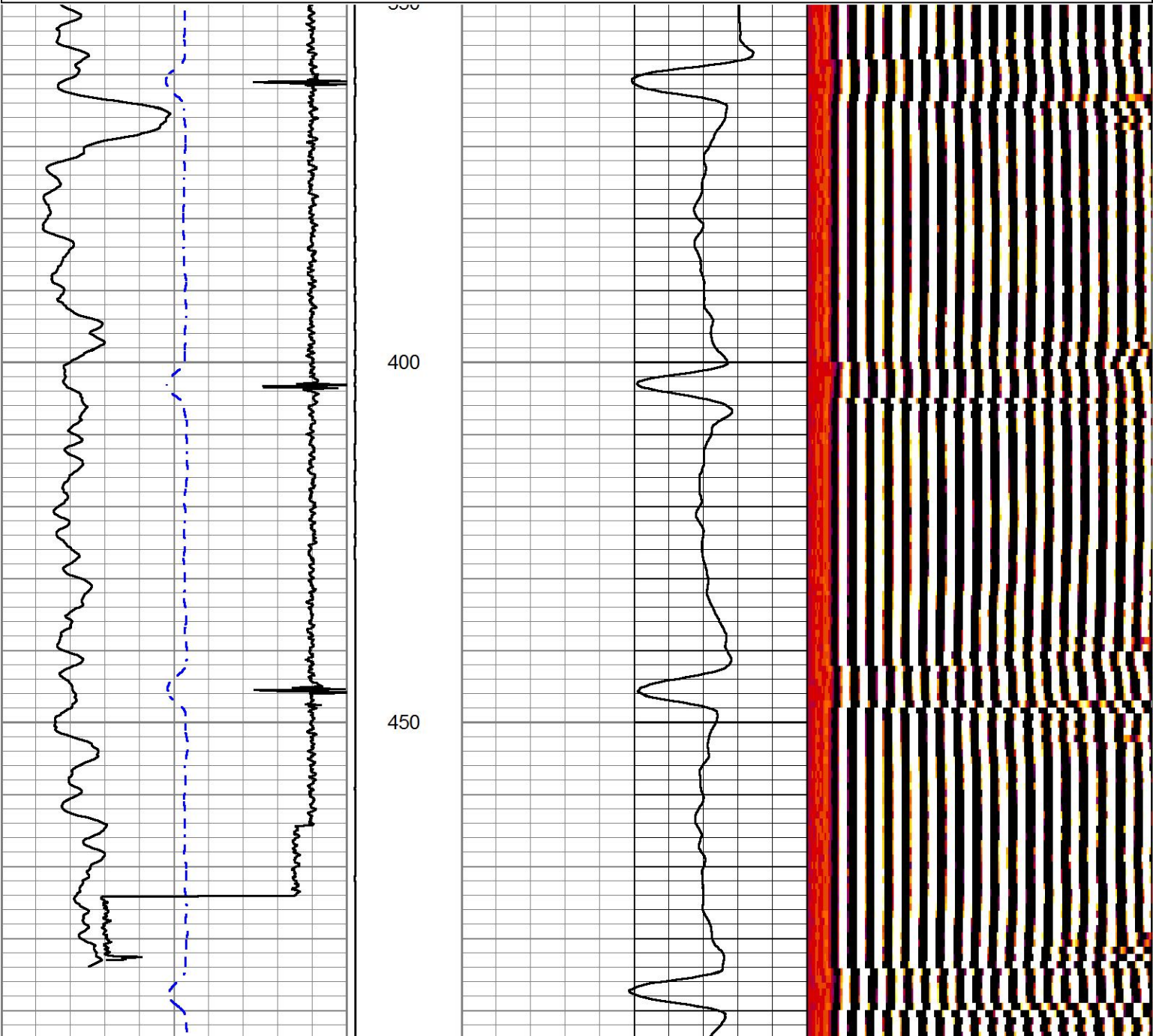
HALLIBURTON

FREE PIPE SECTION

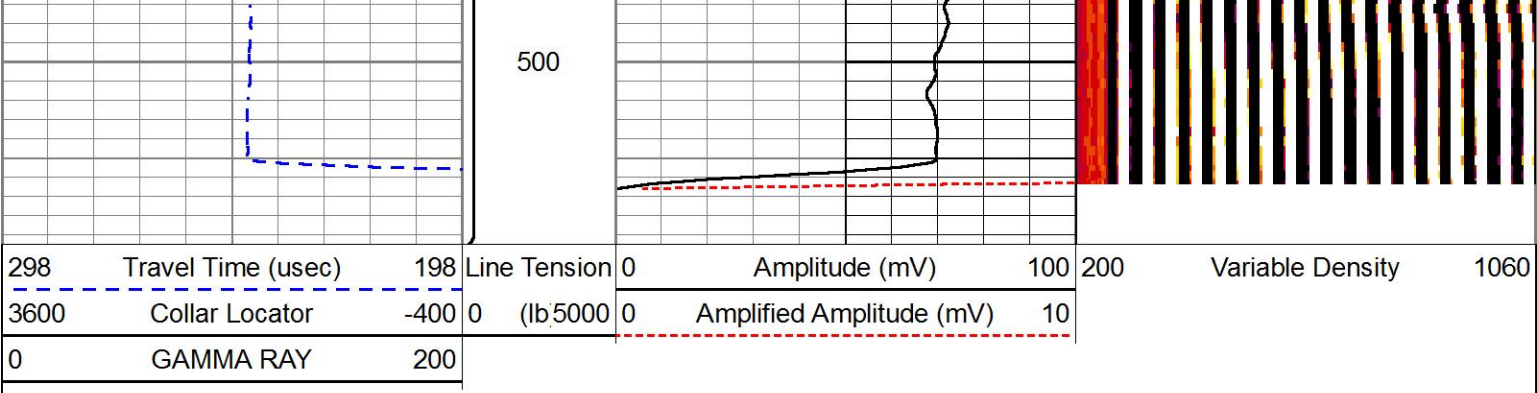
5" = 100'

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Dataset Pathname	FREE
Presentation Format	!1!!cbl_rmti
Dataset Creation	Thu Dec 01 20:53:09 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							







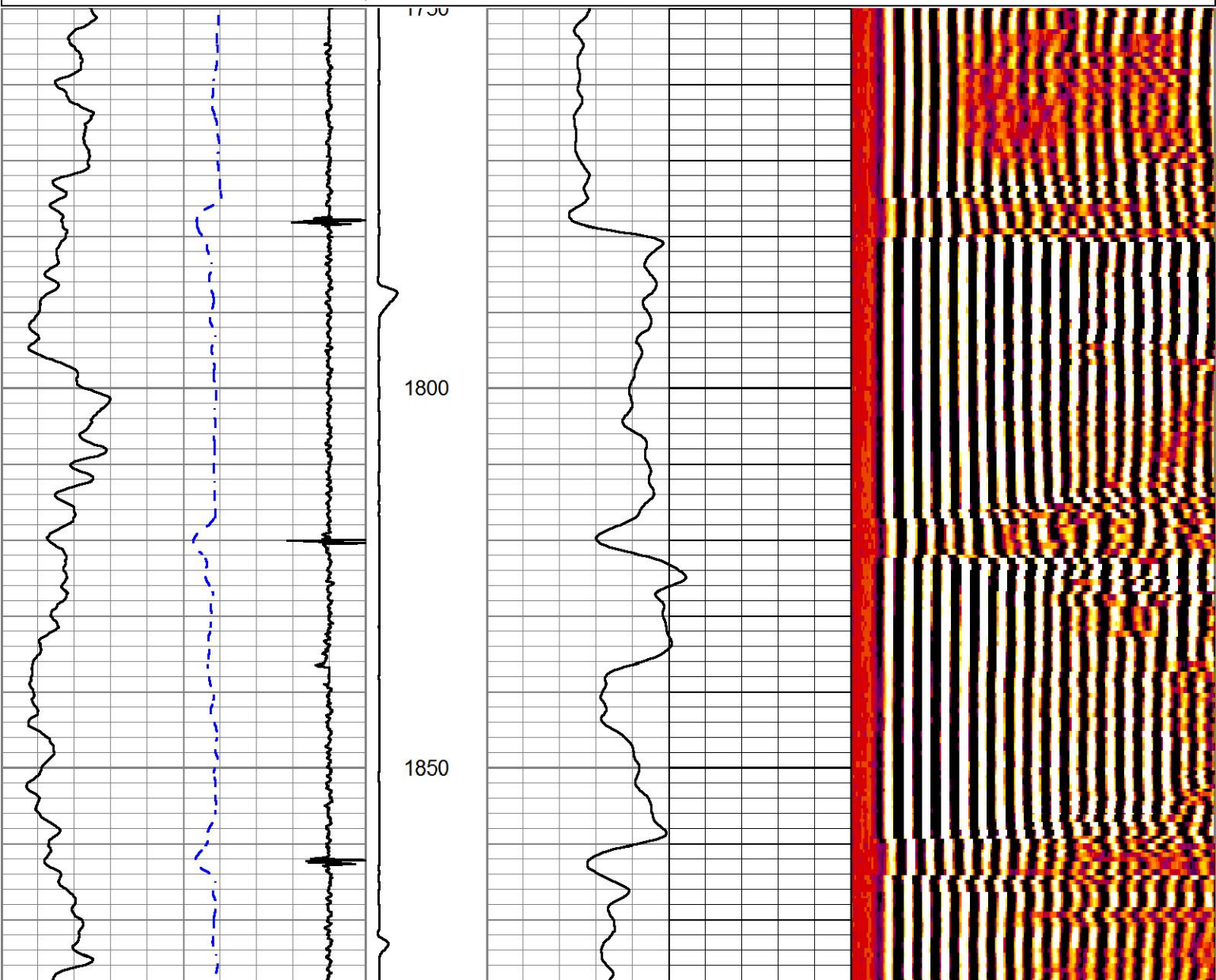
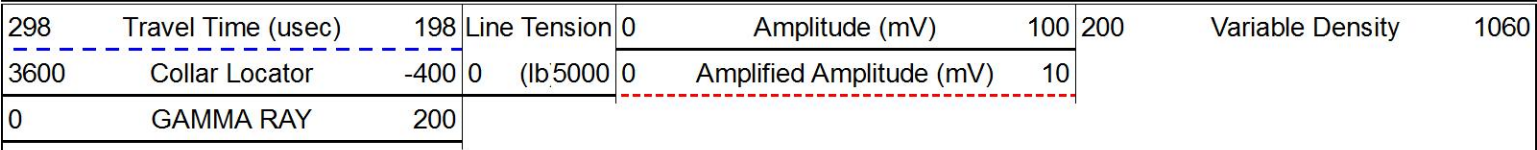
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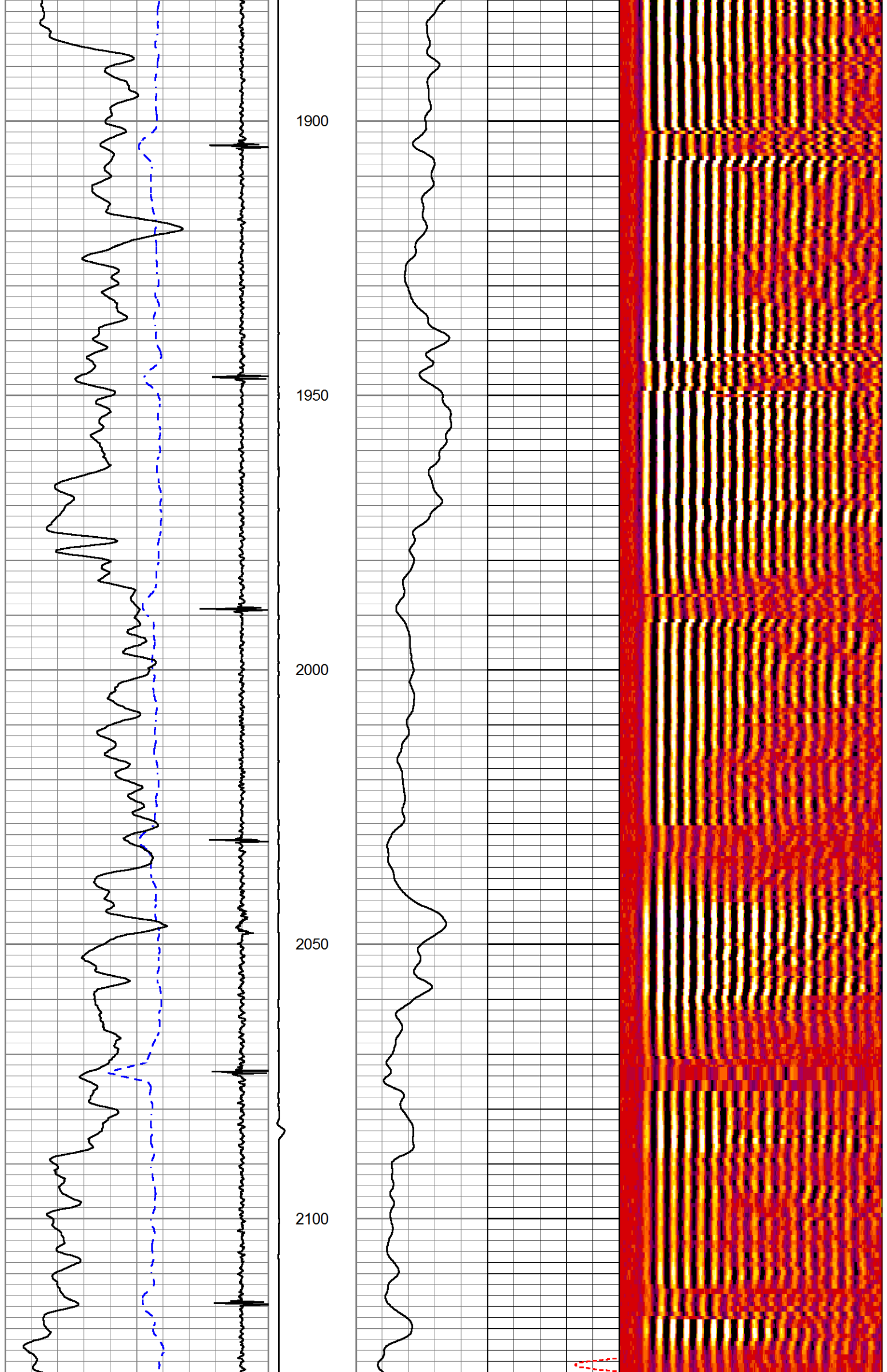
HALLIBURTON

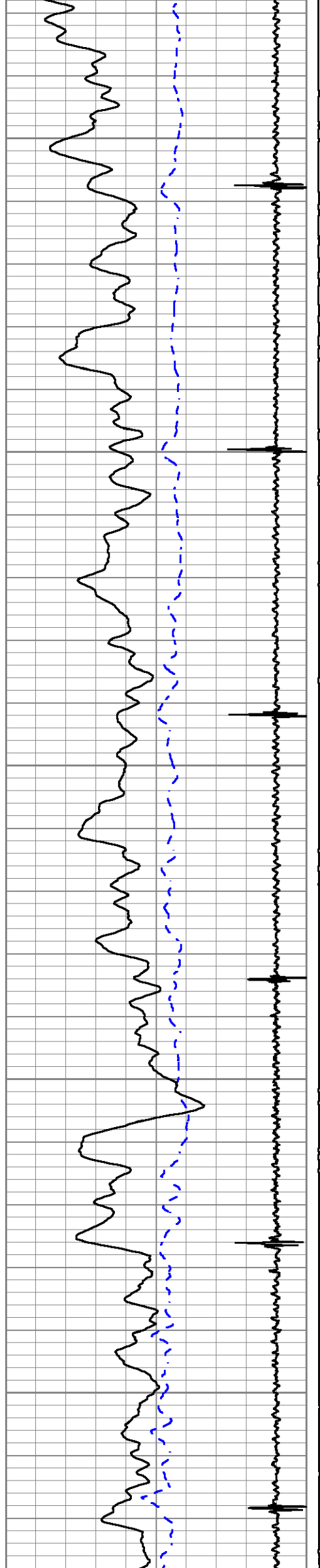
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Presentation Format	!1!!CB~1
Dataset Creation	Thu Dec 01 22:44:44 2016
Charted by	Depth in Feet scaled 1:240







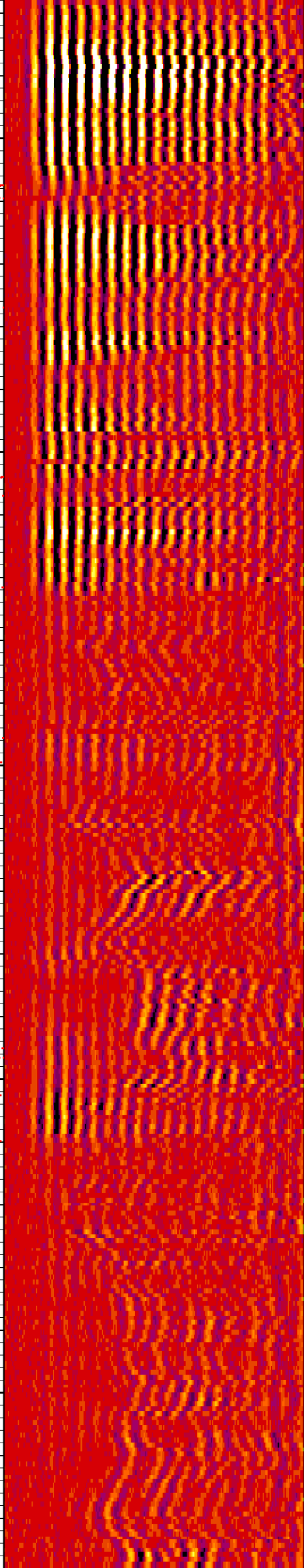
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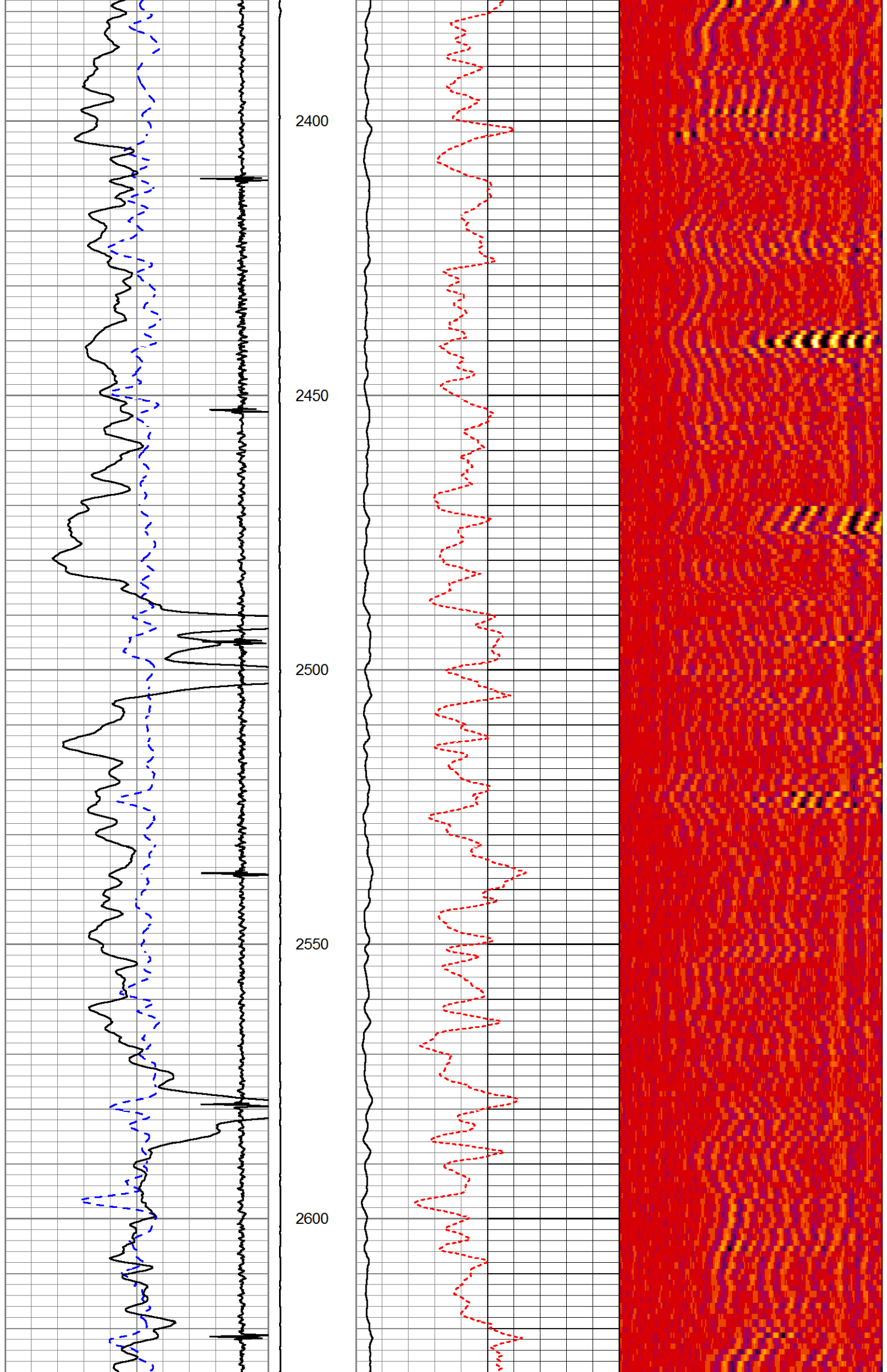
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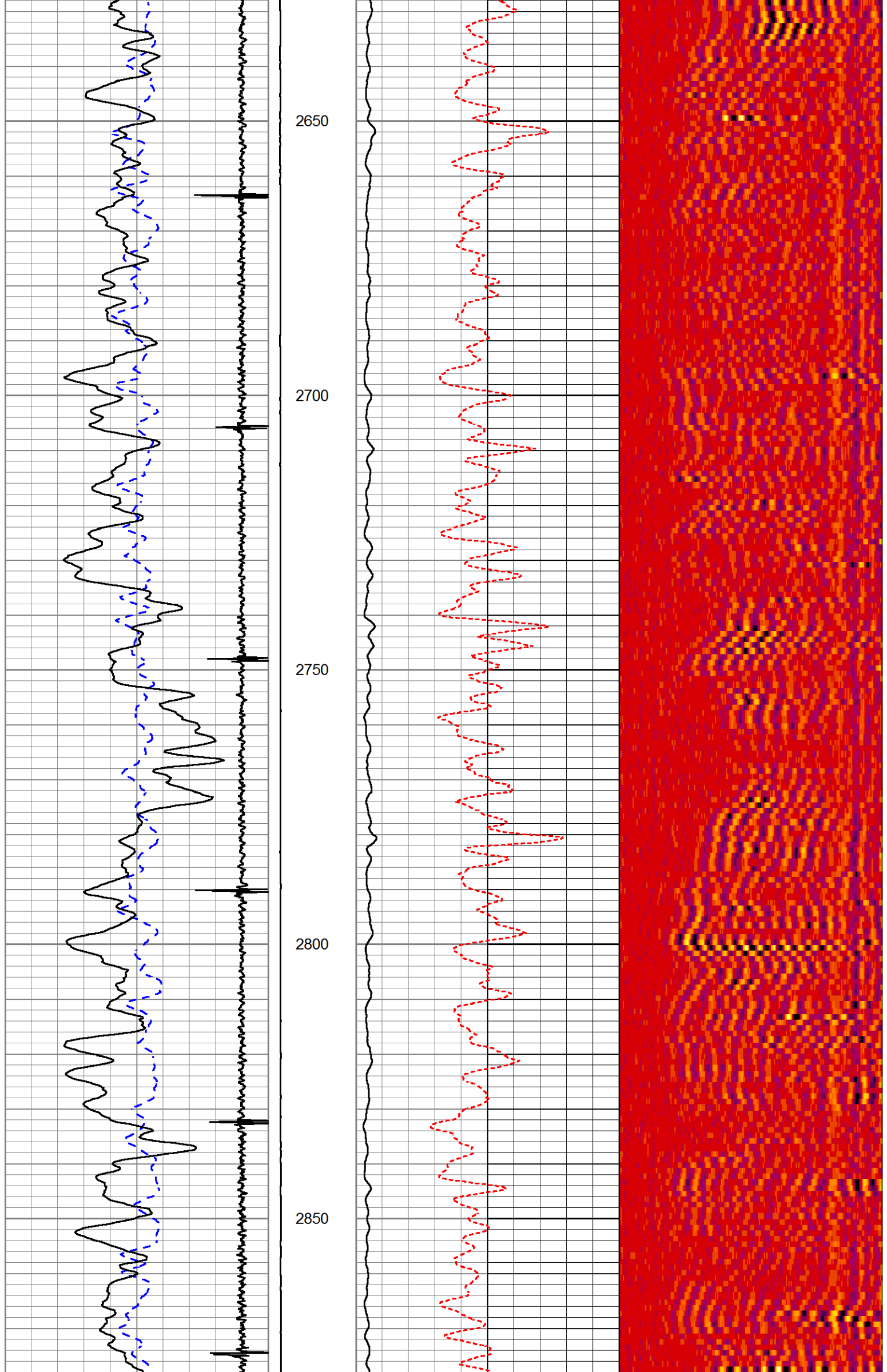
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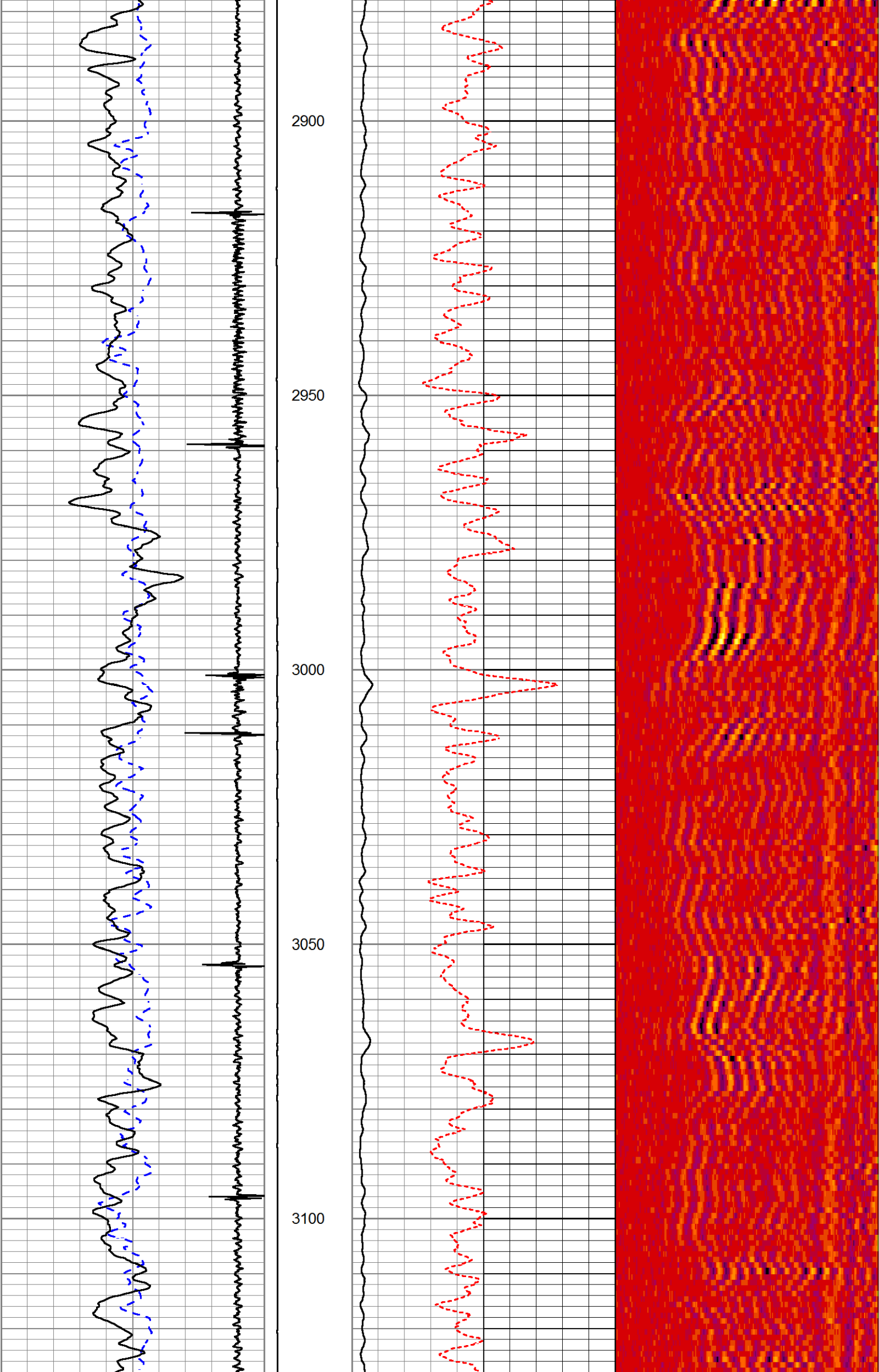
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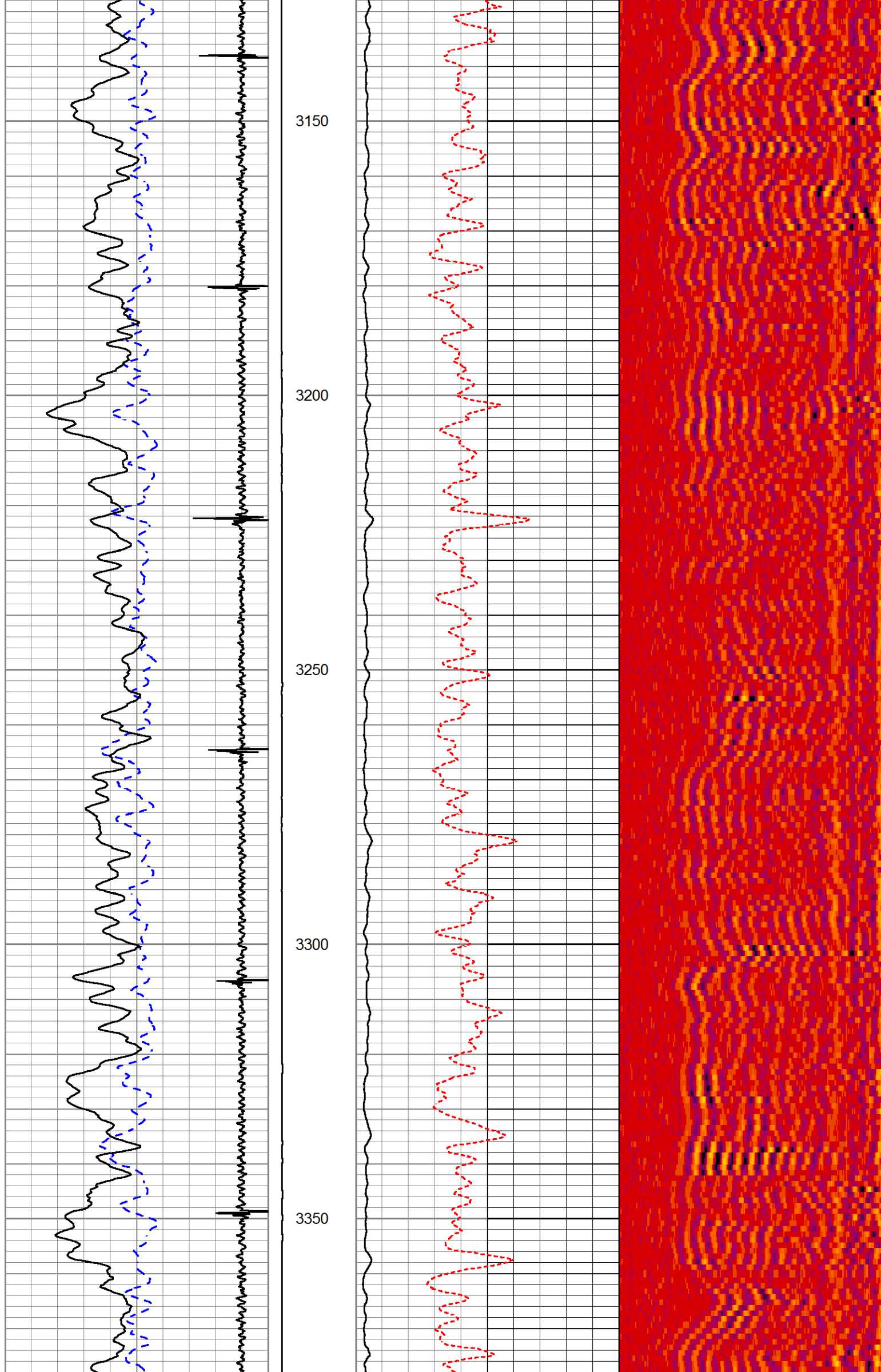


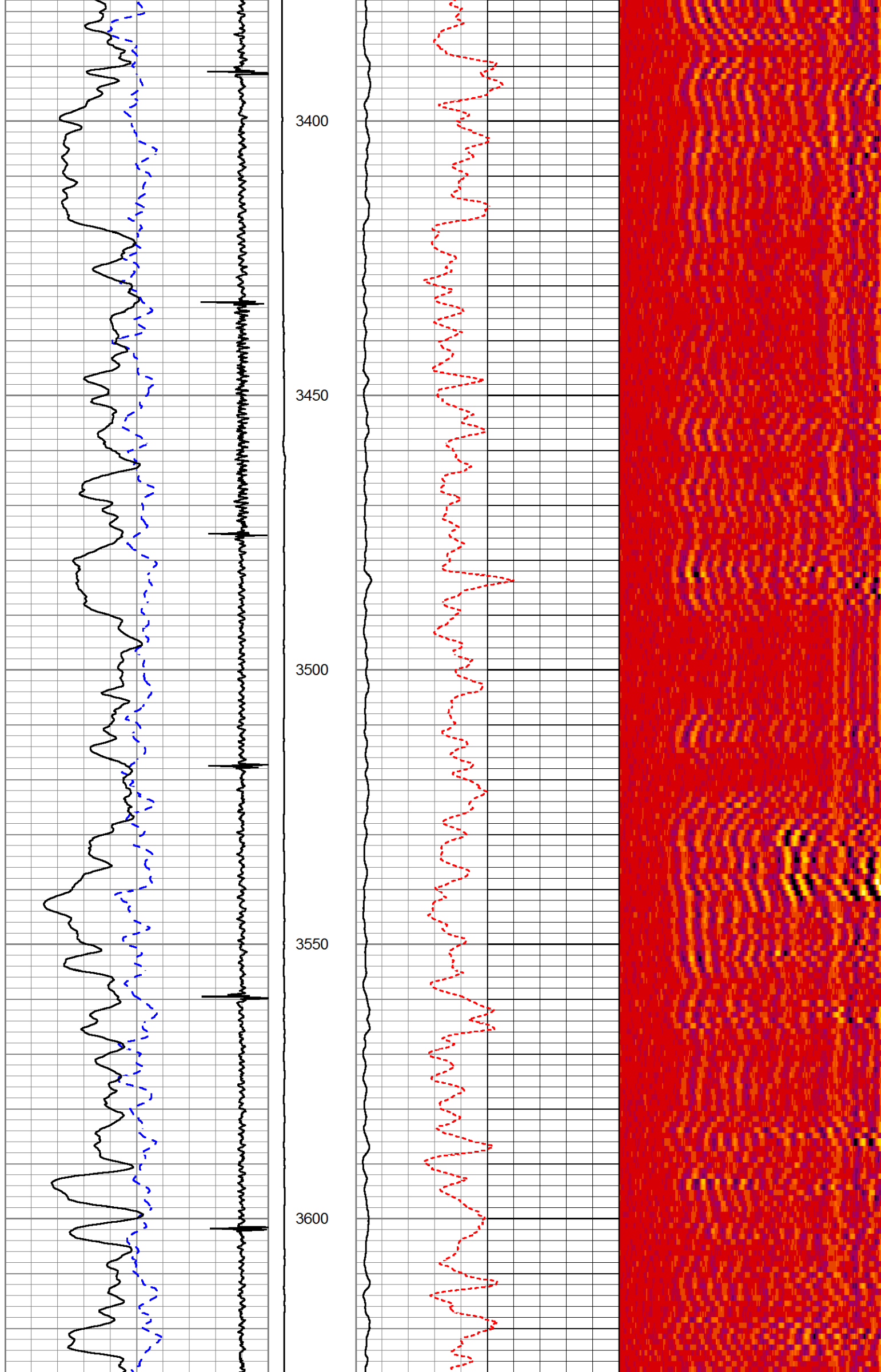


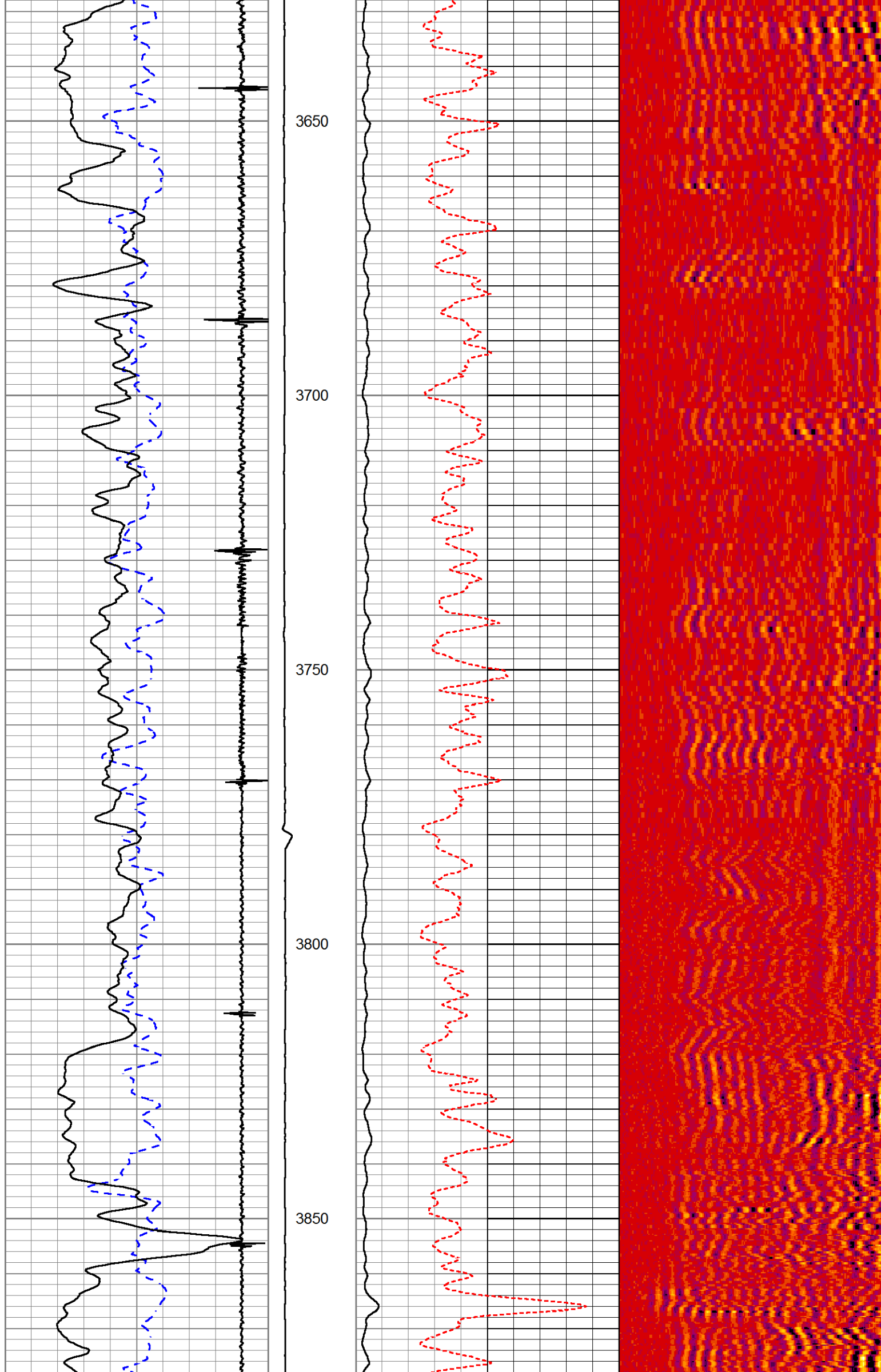




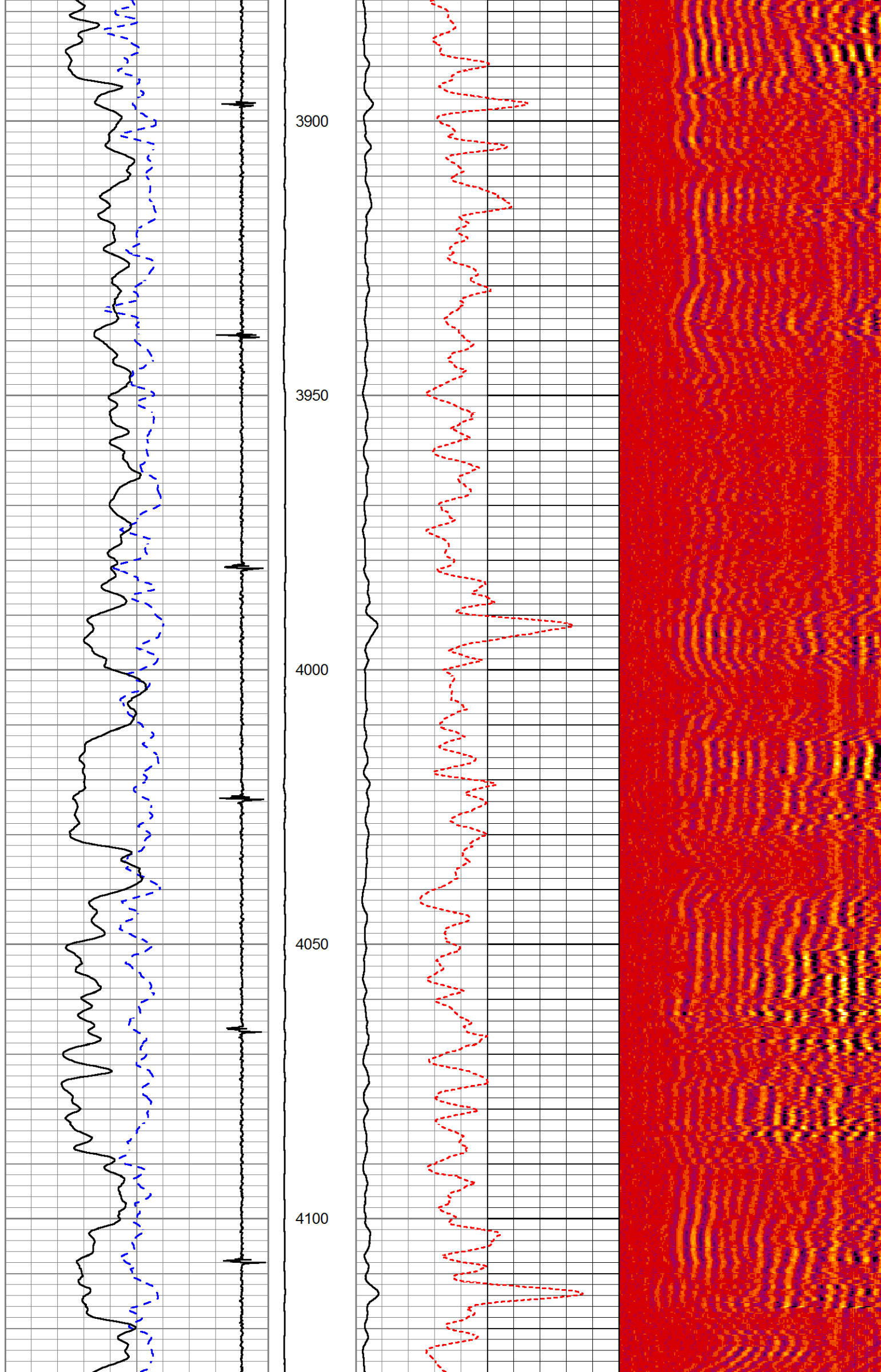


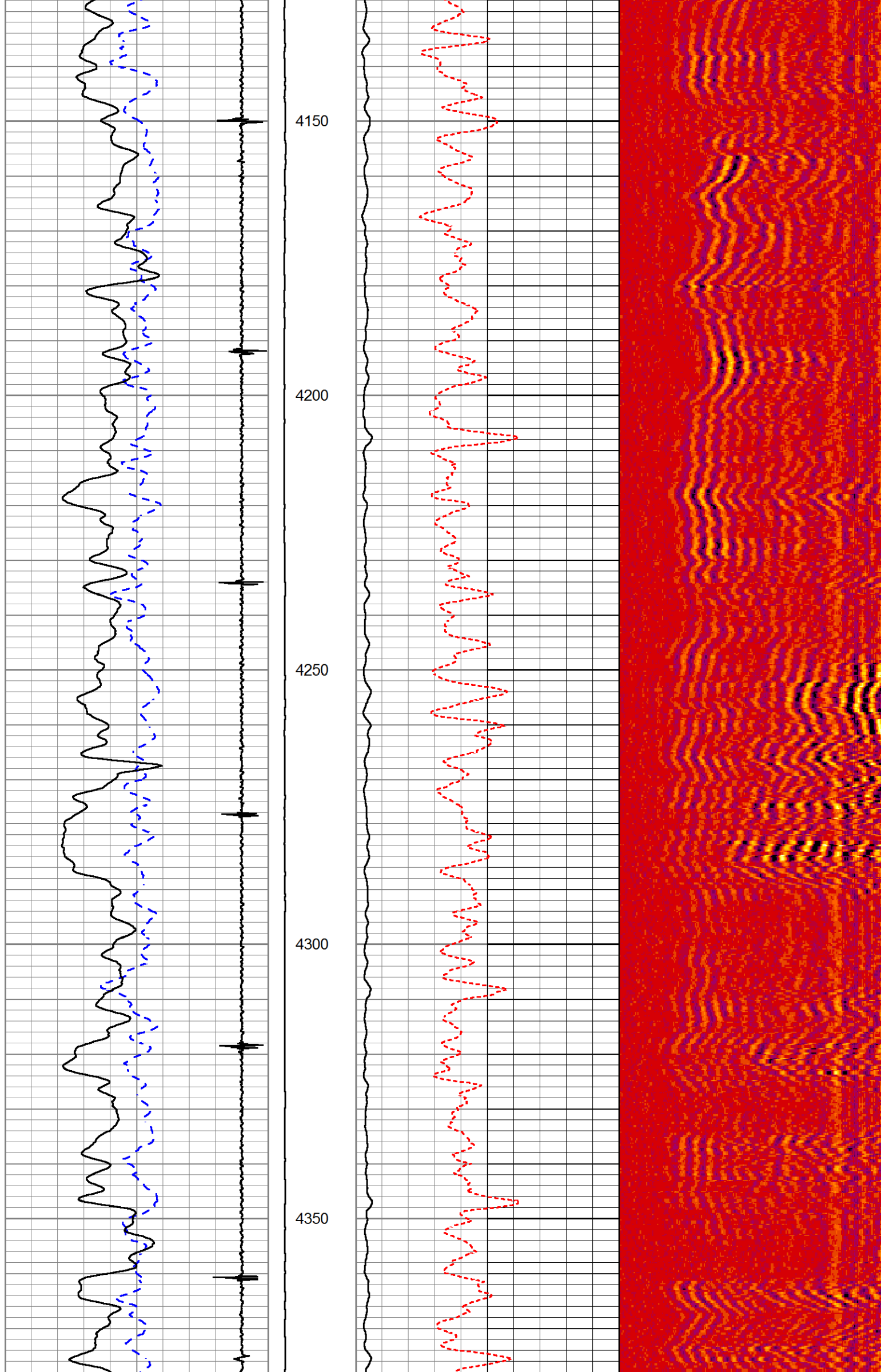


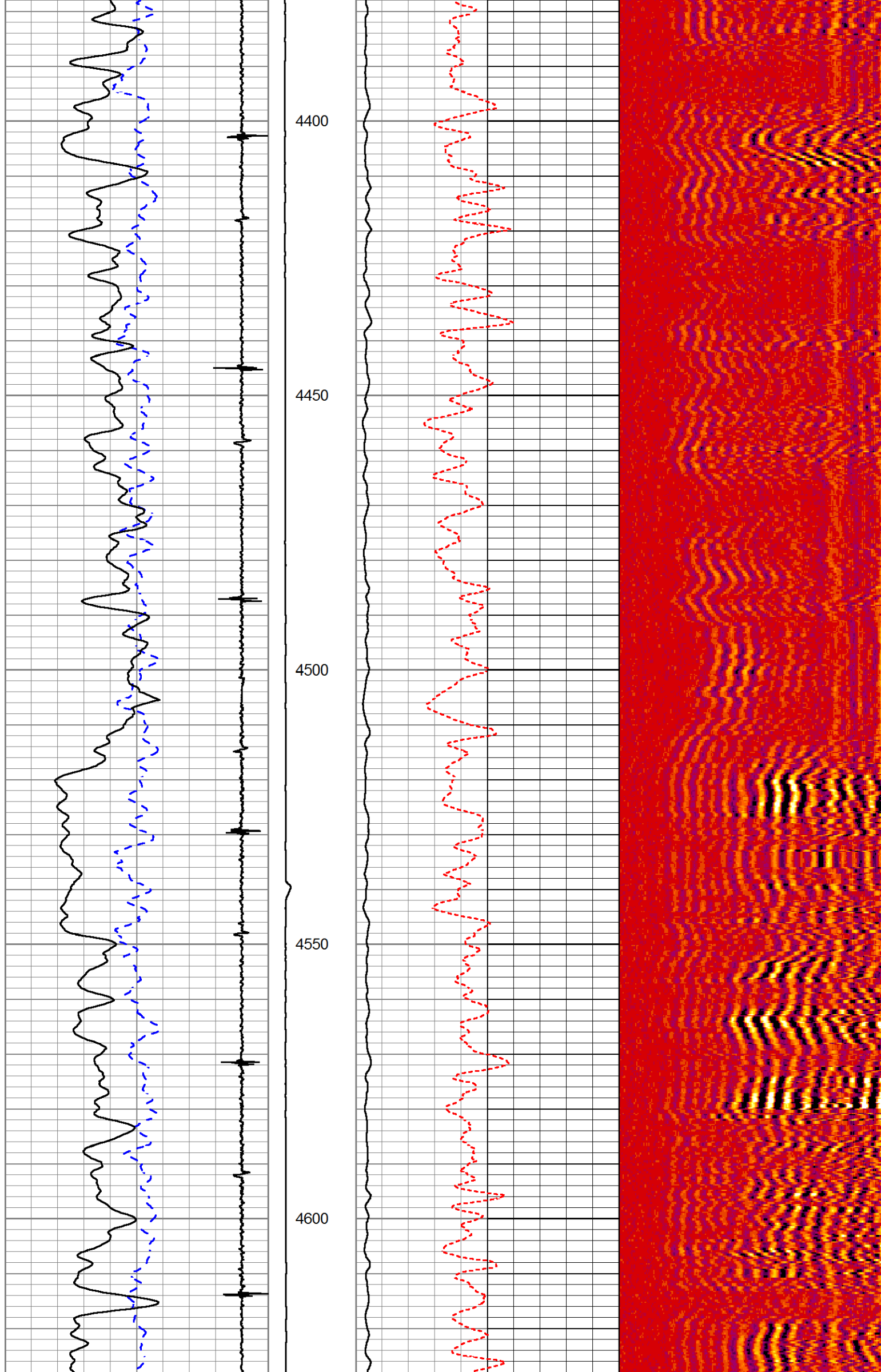




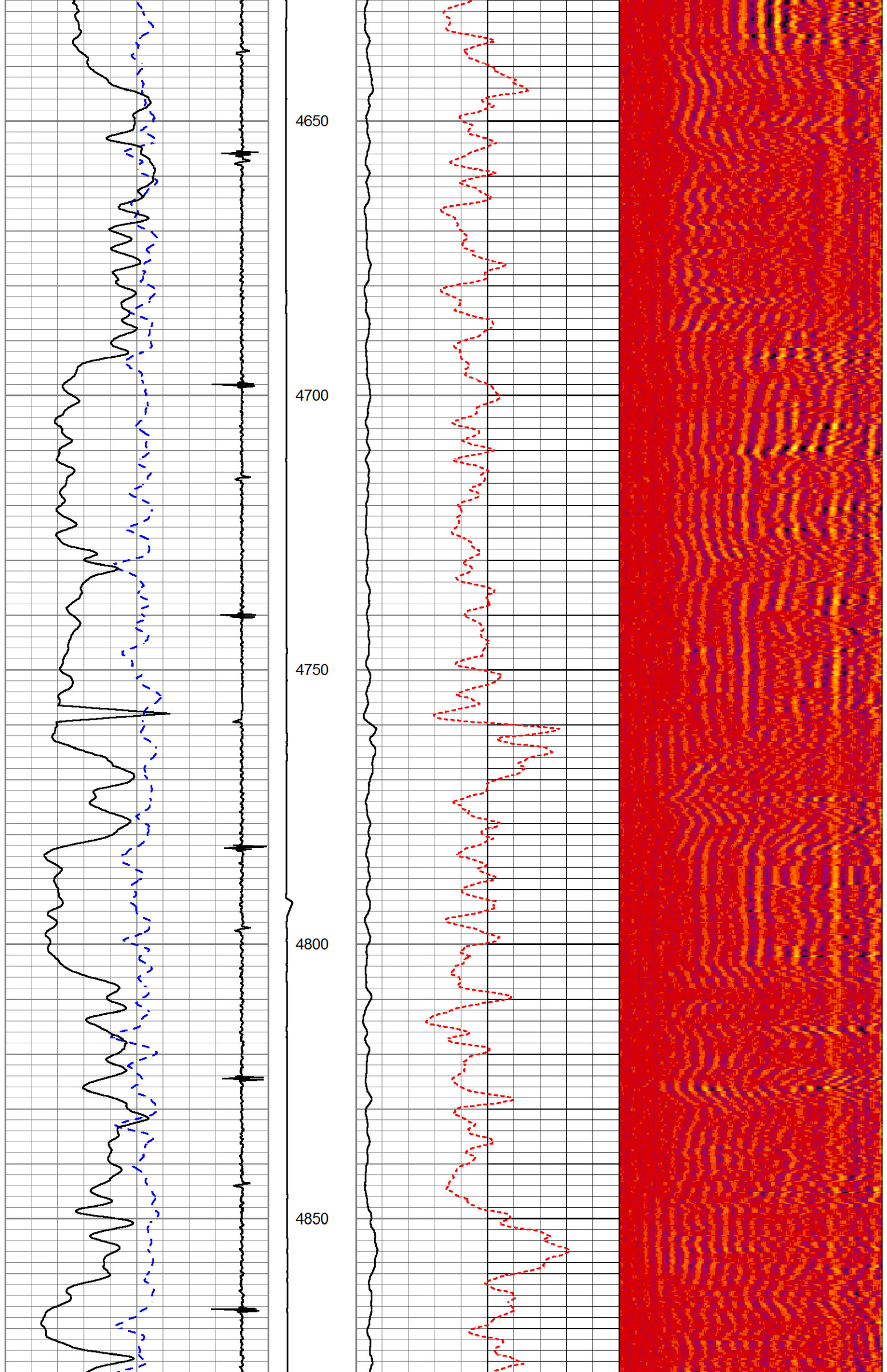


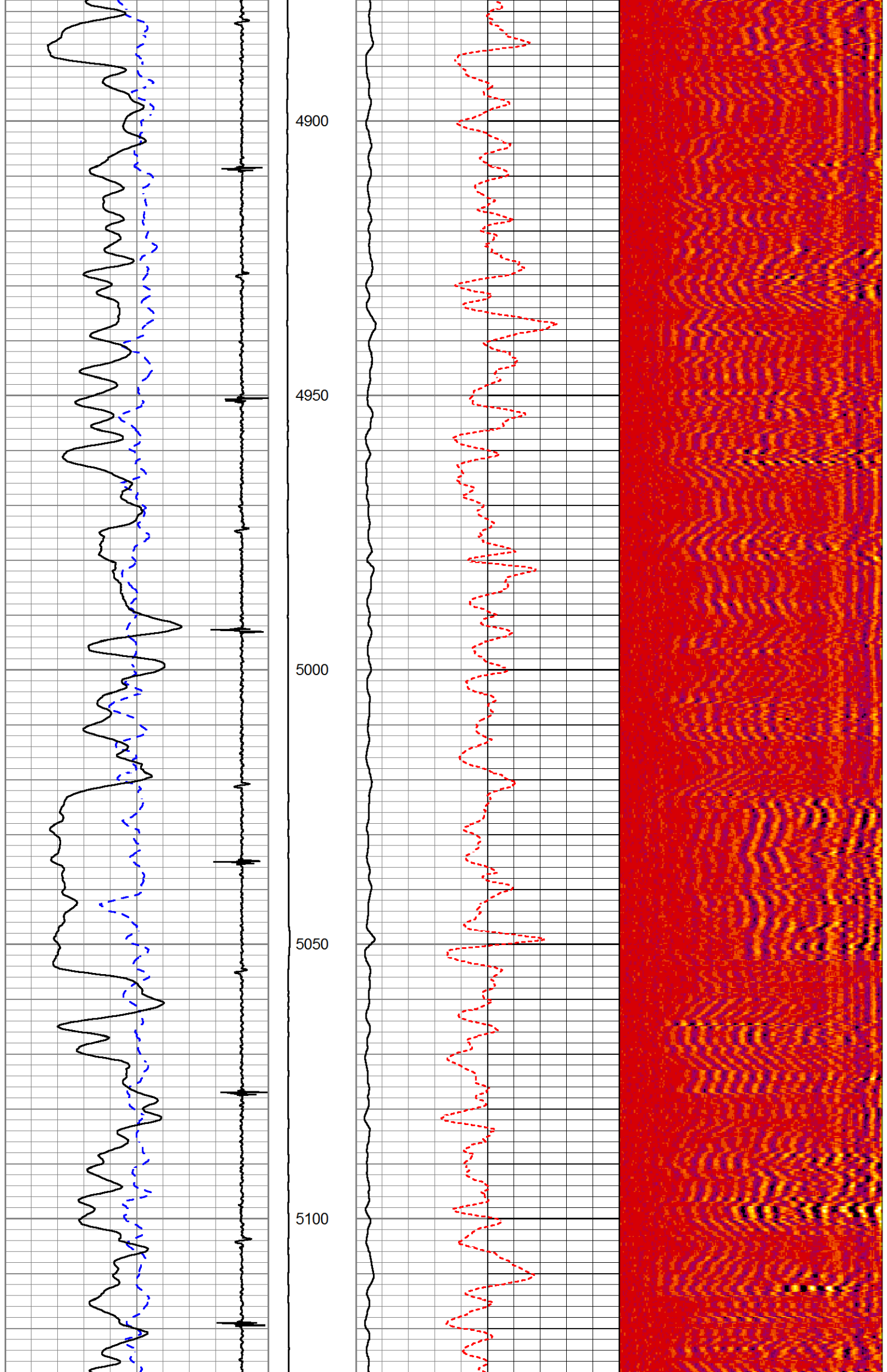


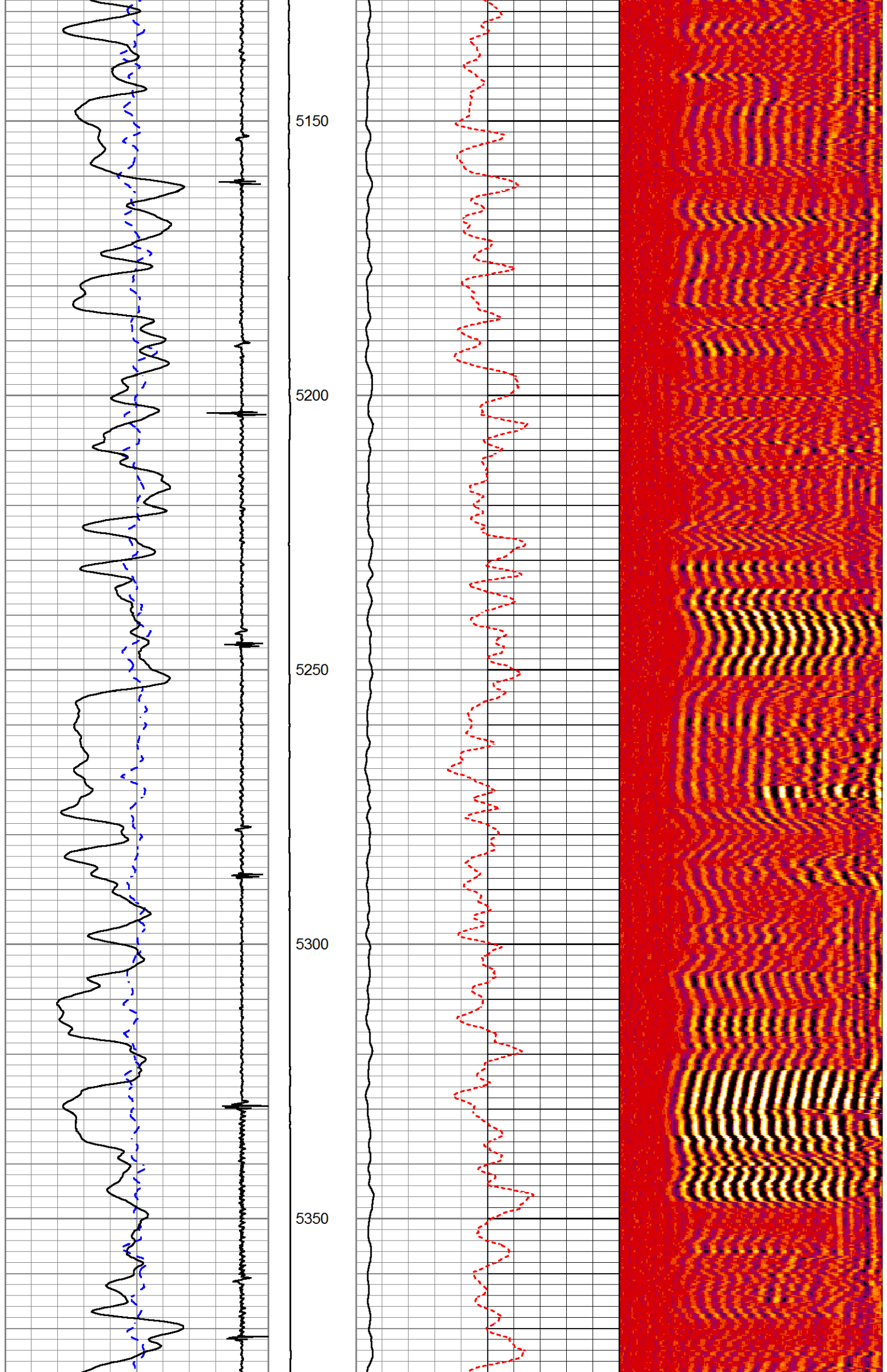




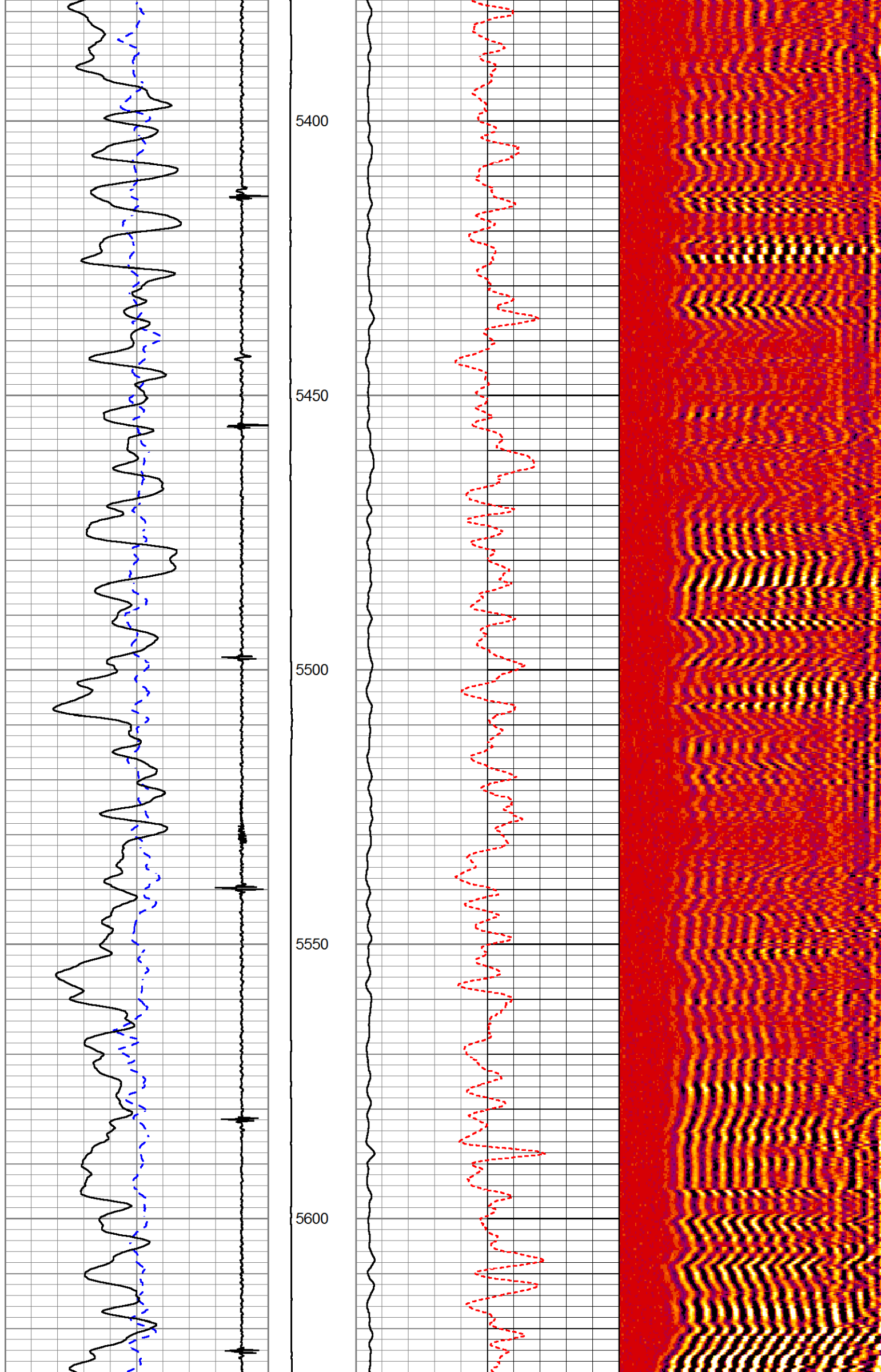


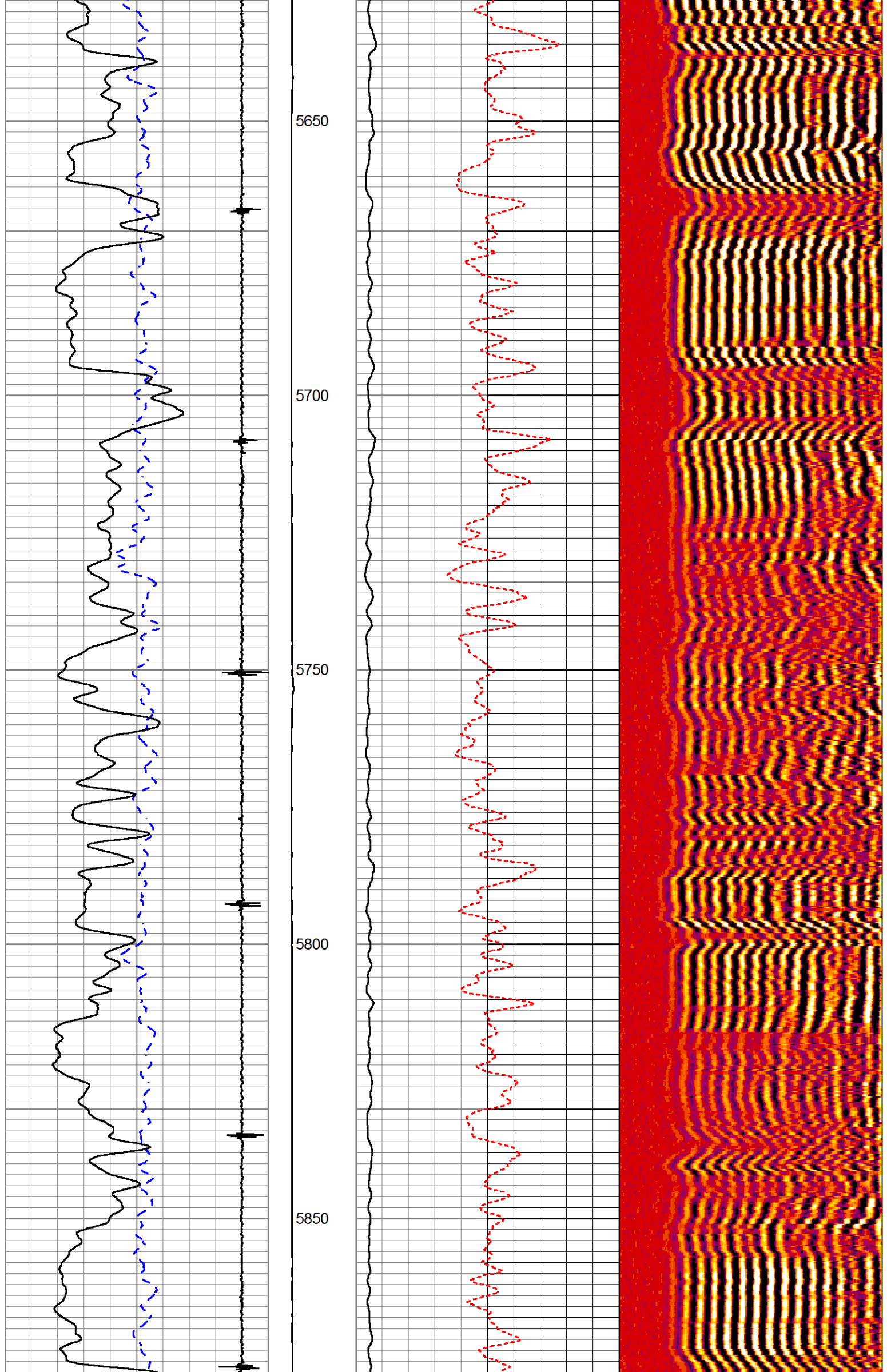


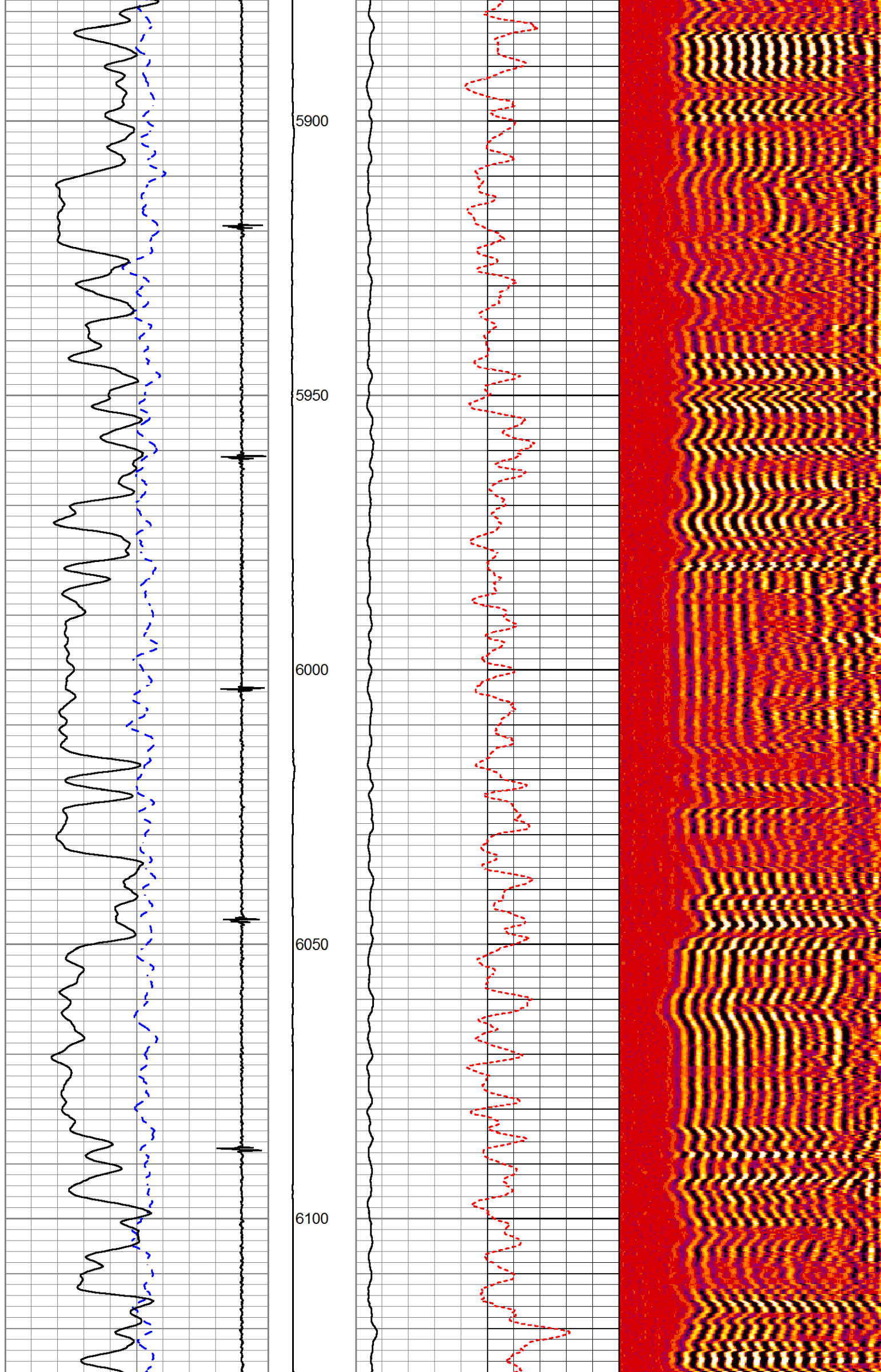




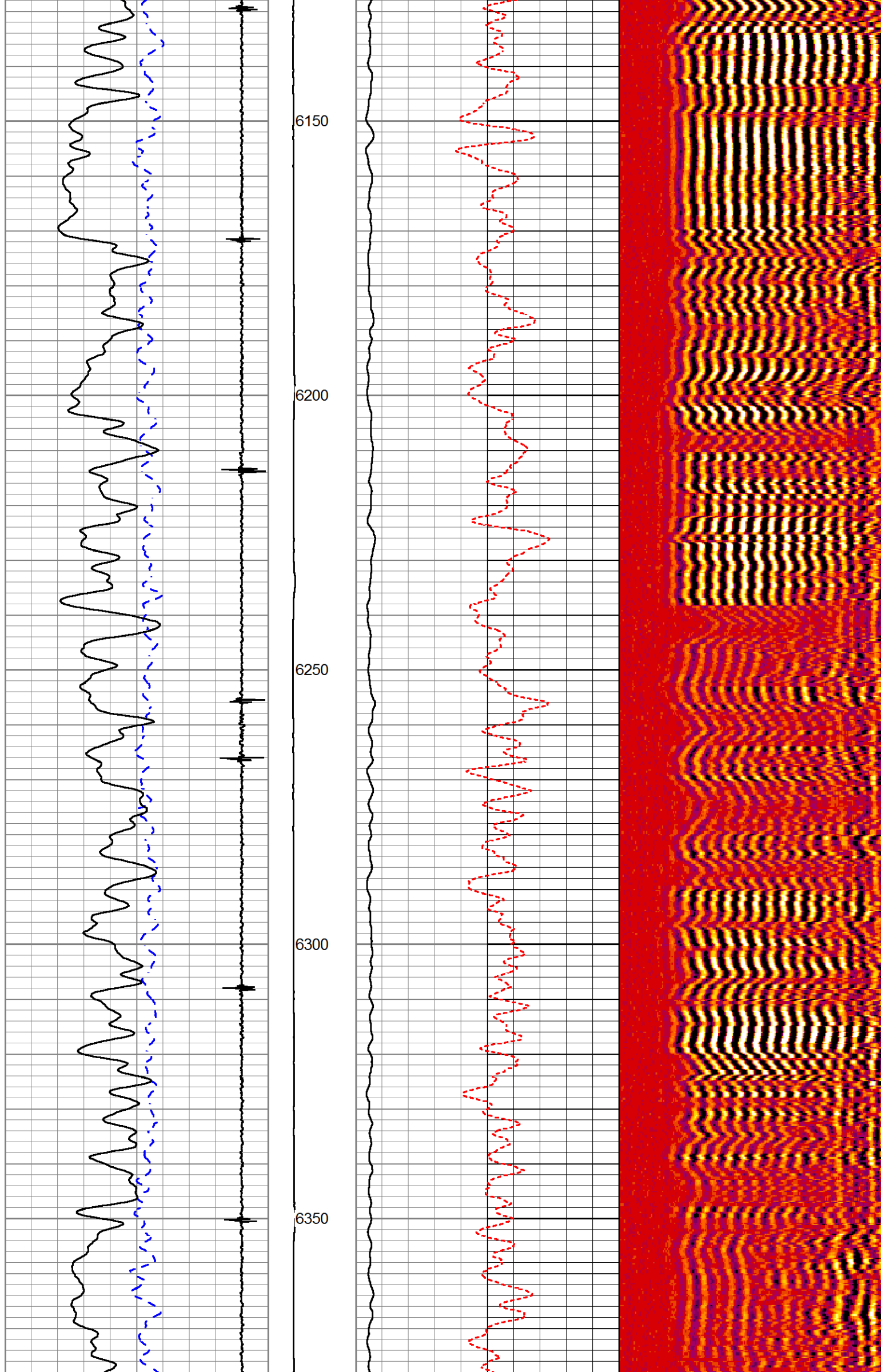


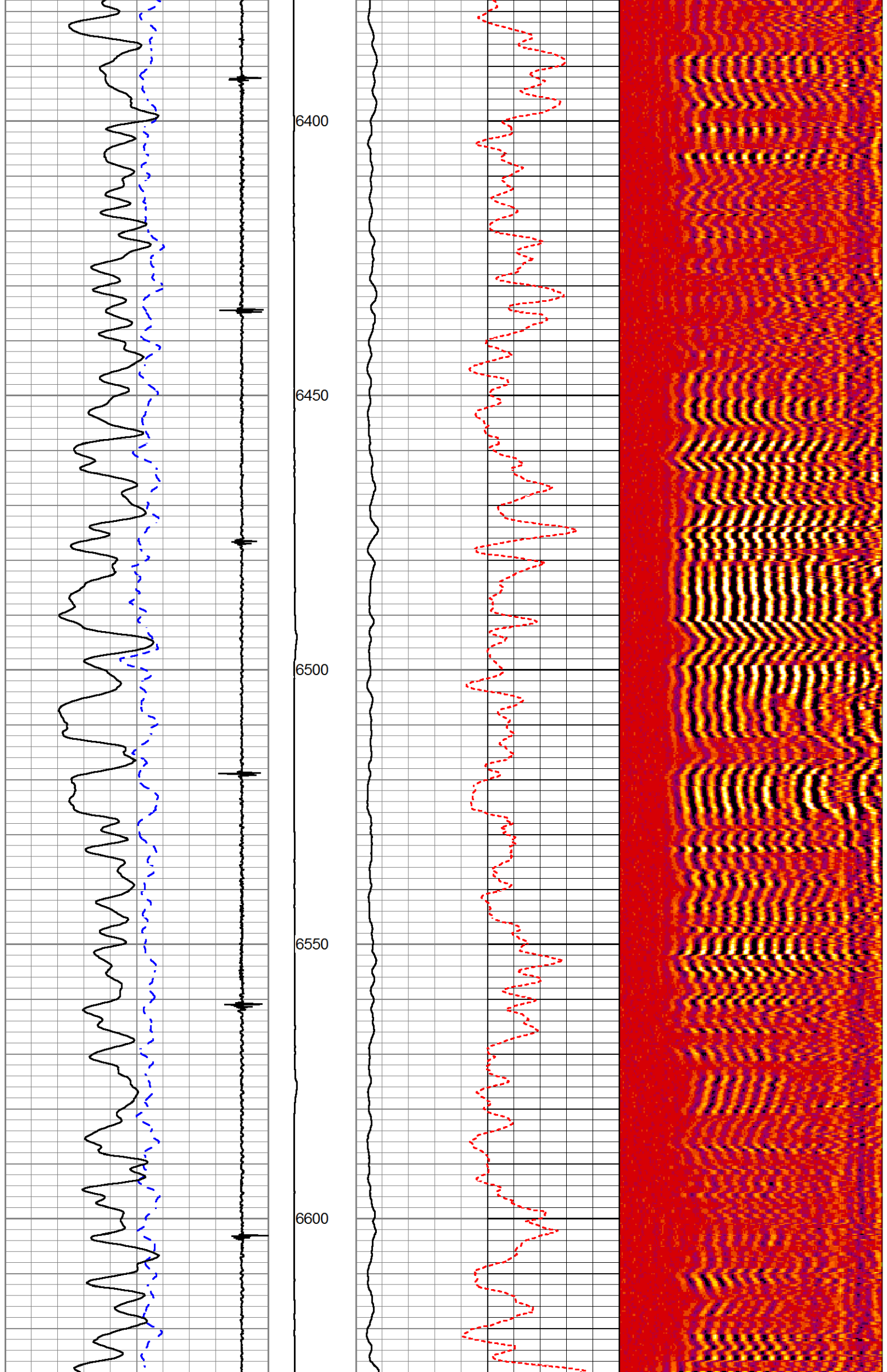


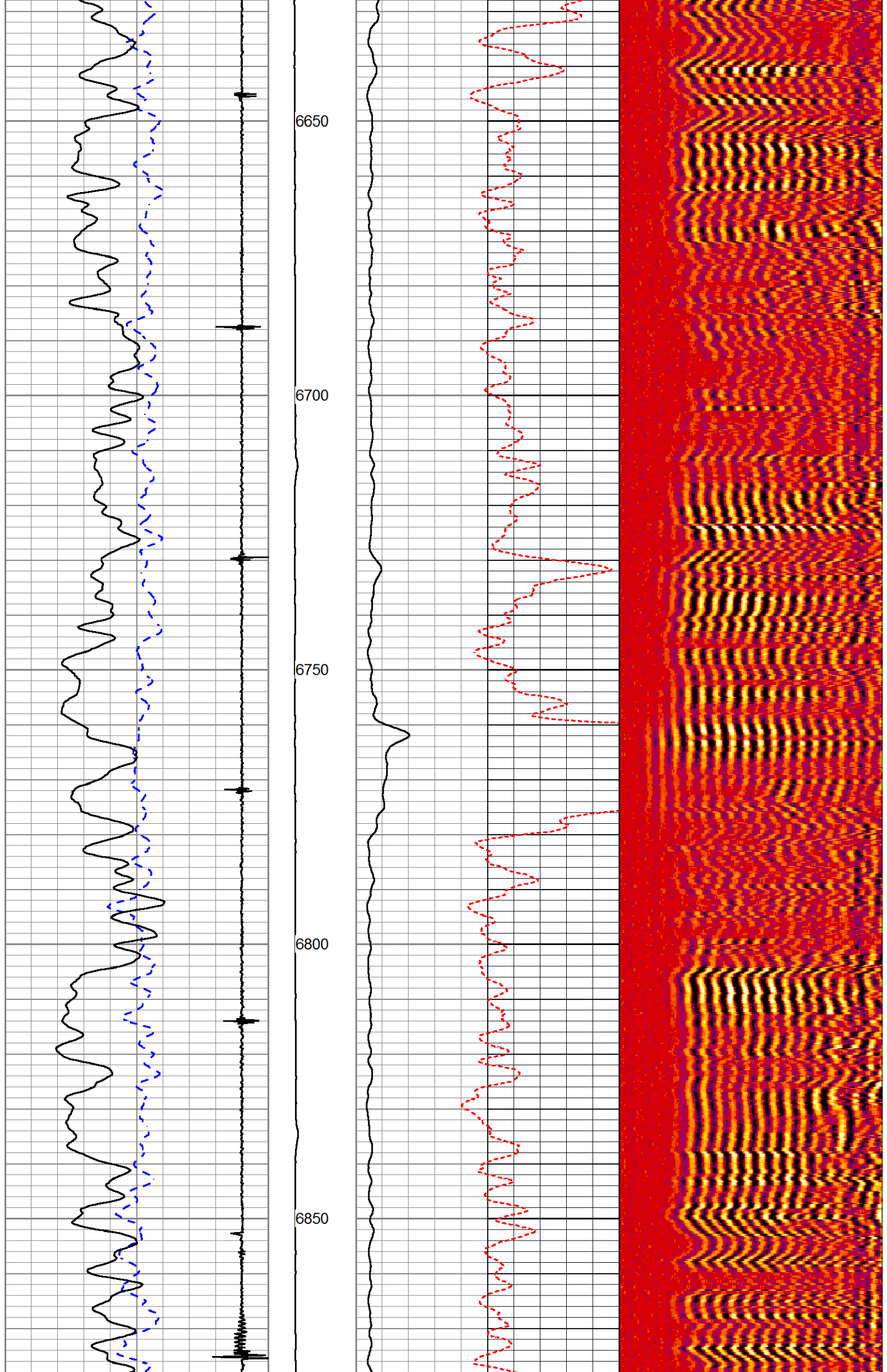




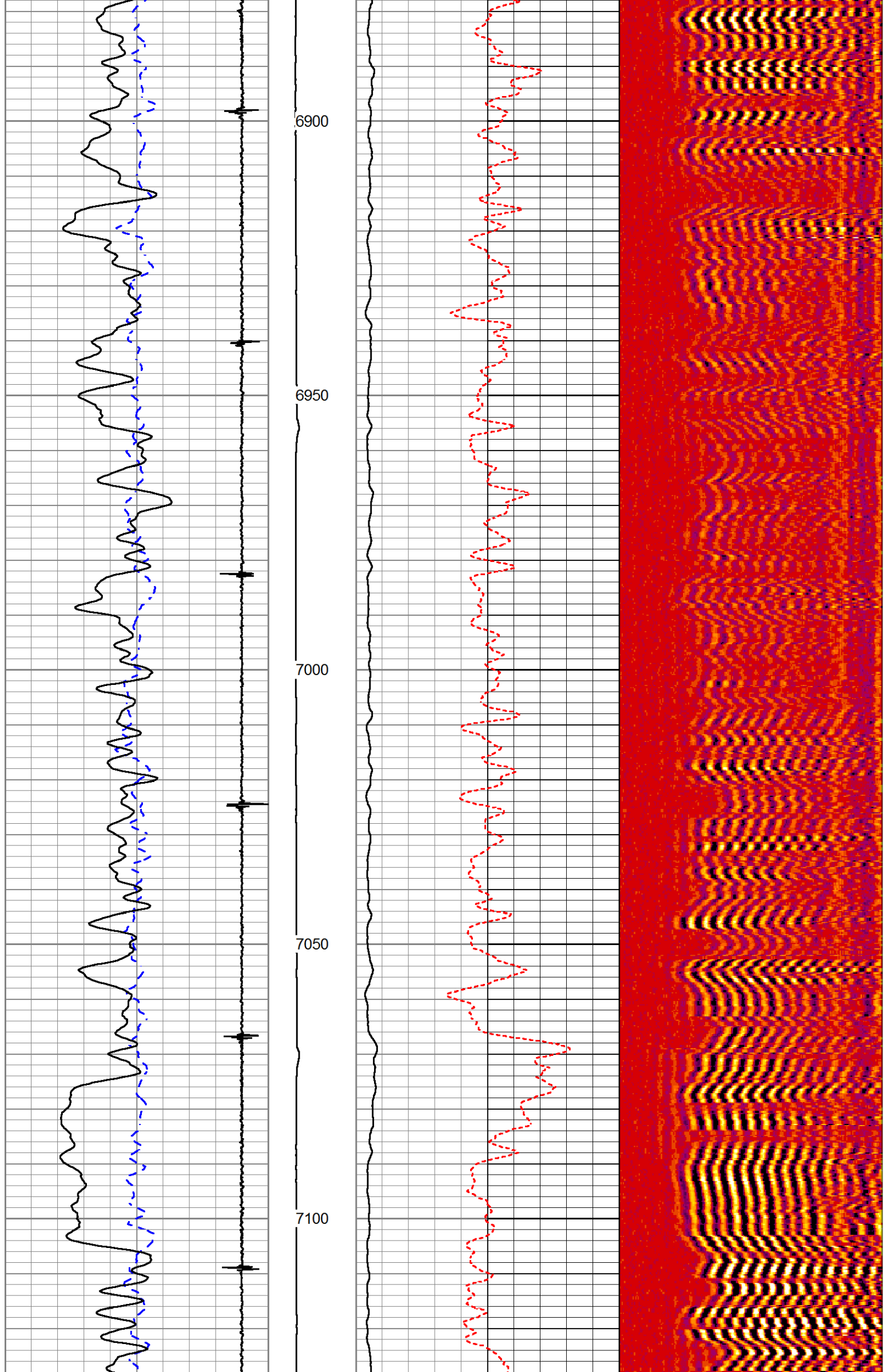


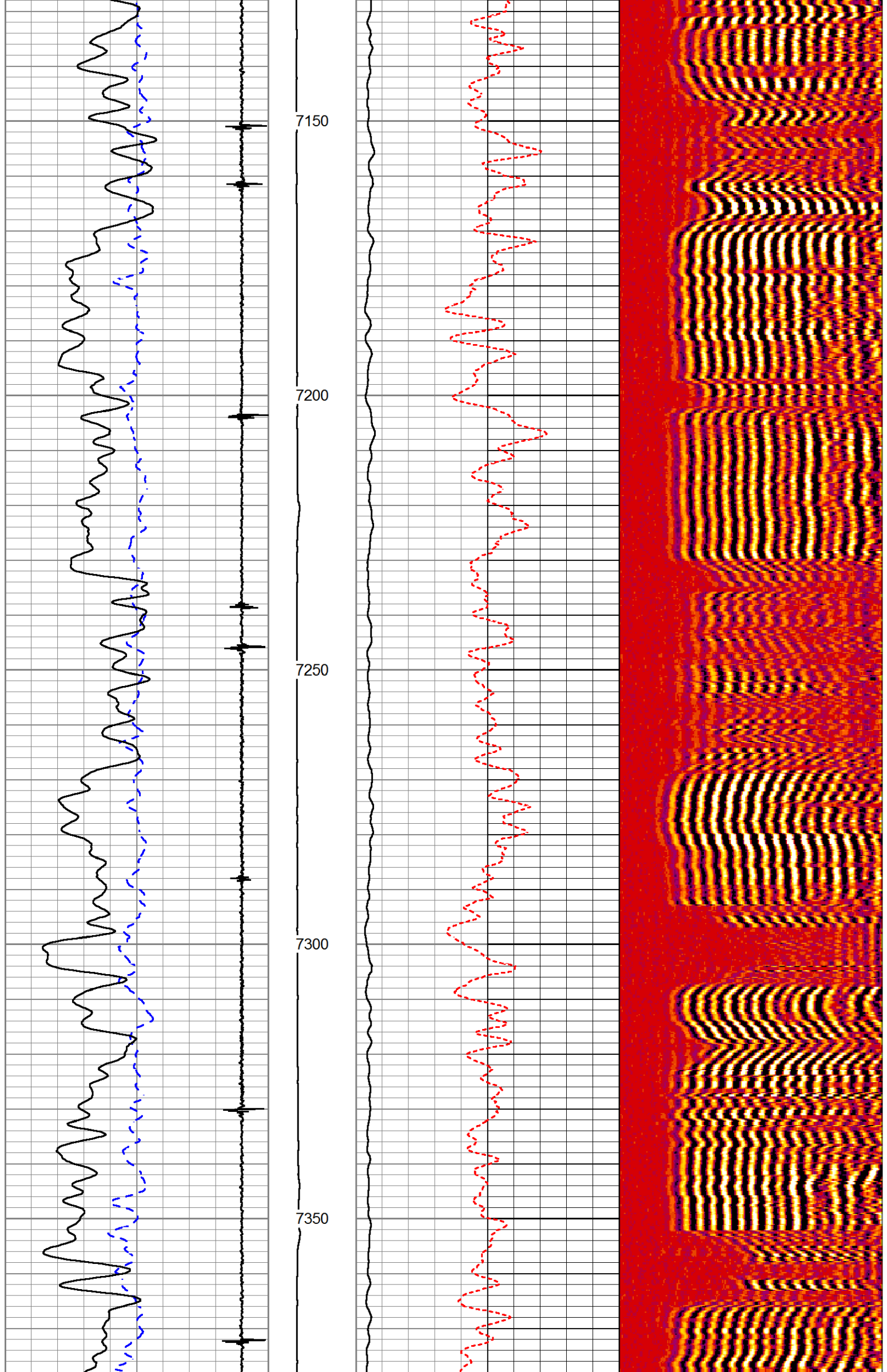


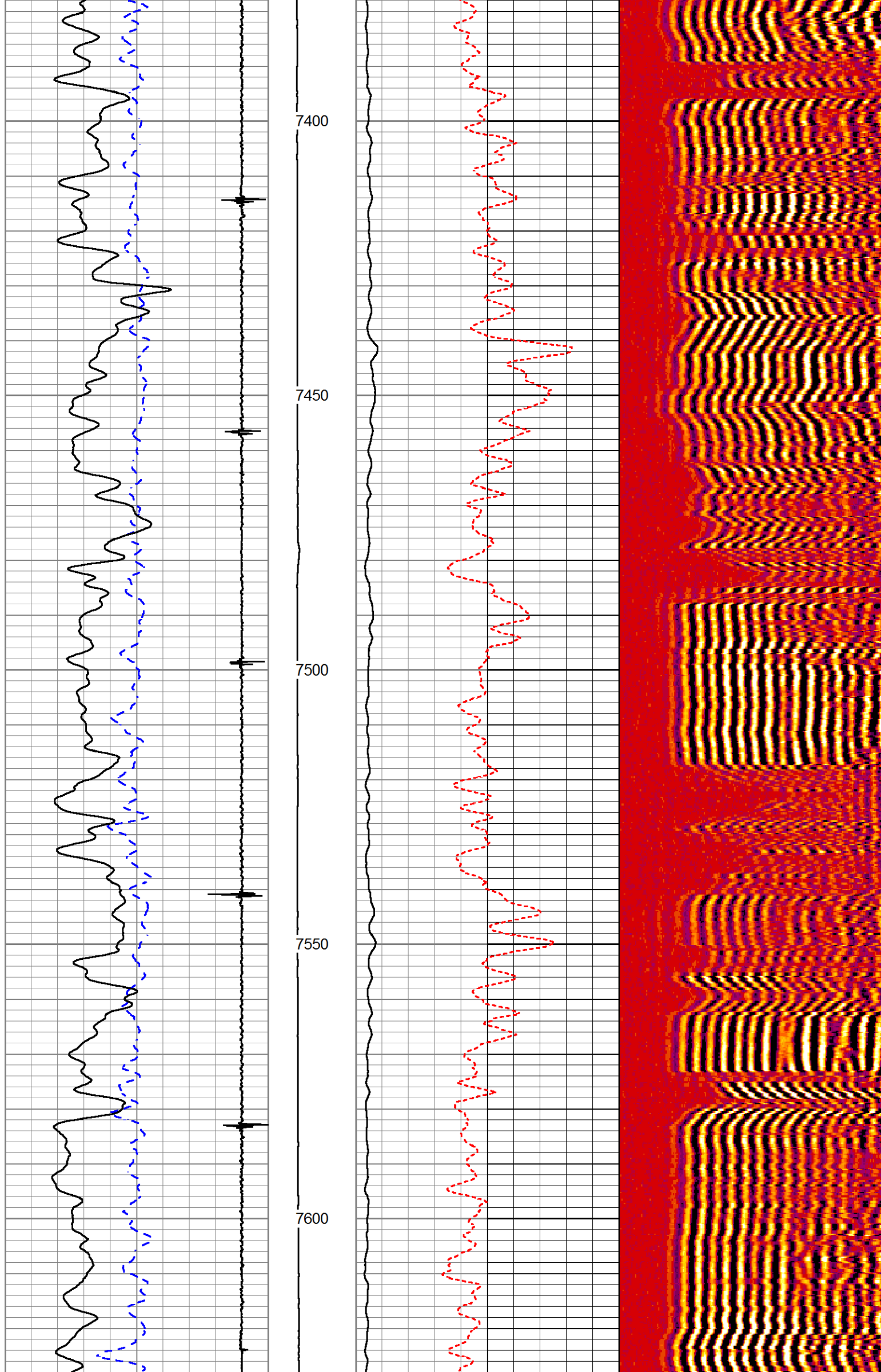




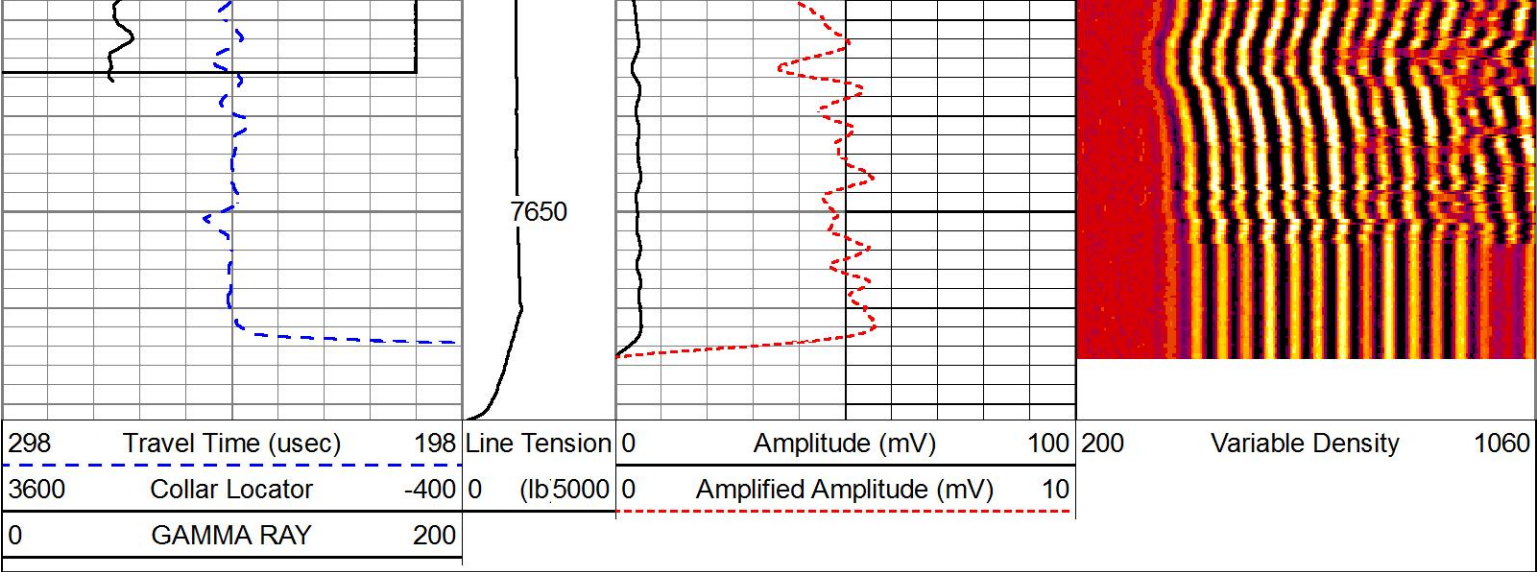








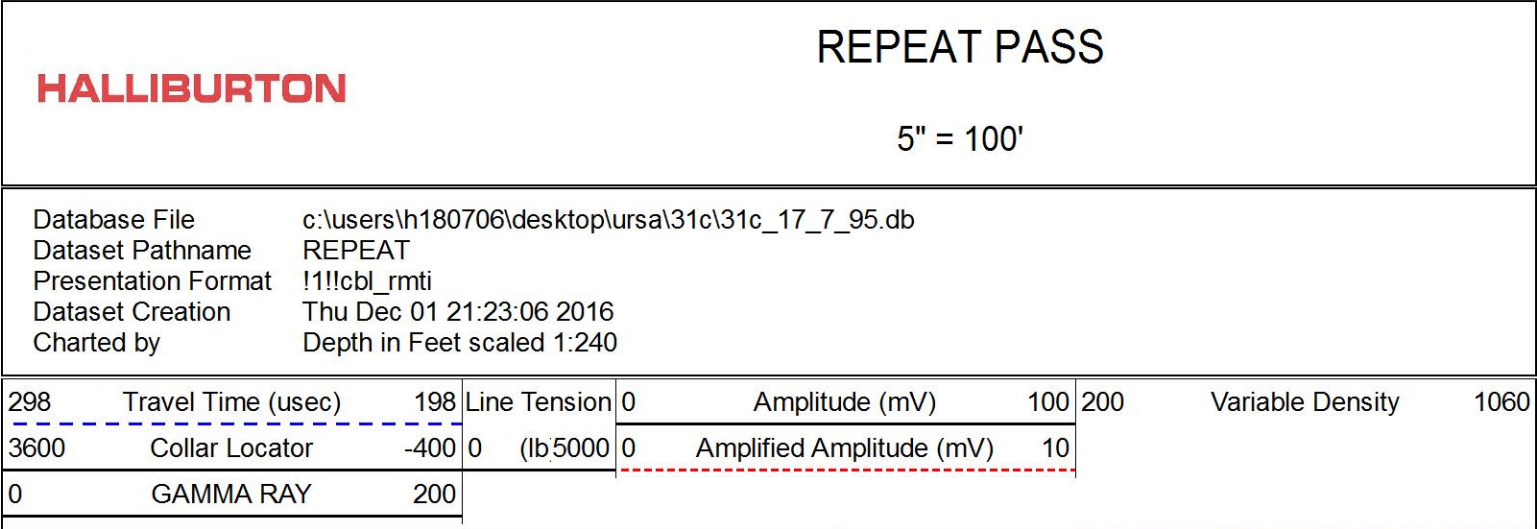




MAIN PASS

HALLIBURTON

5" = 100'



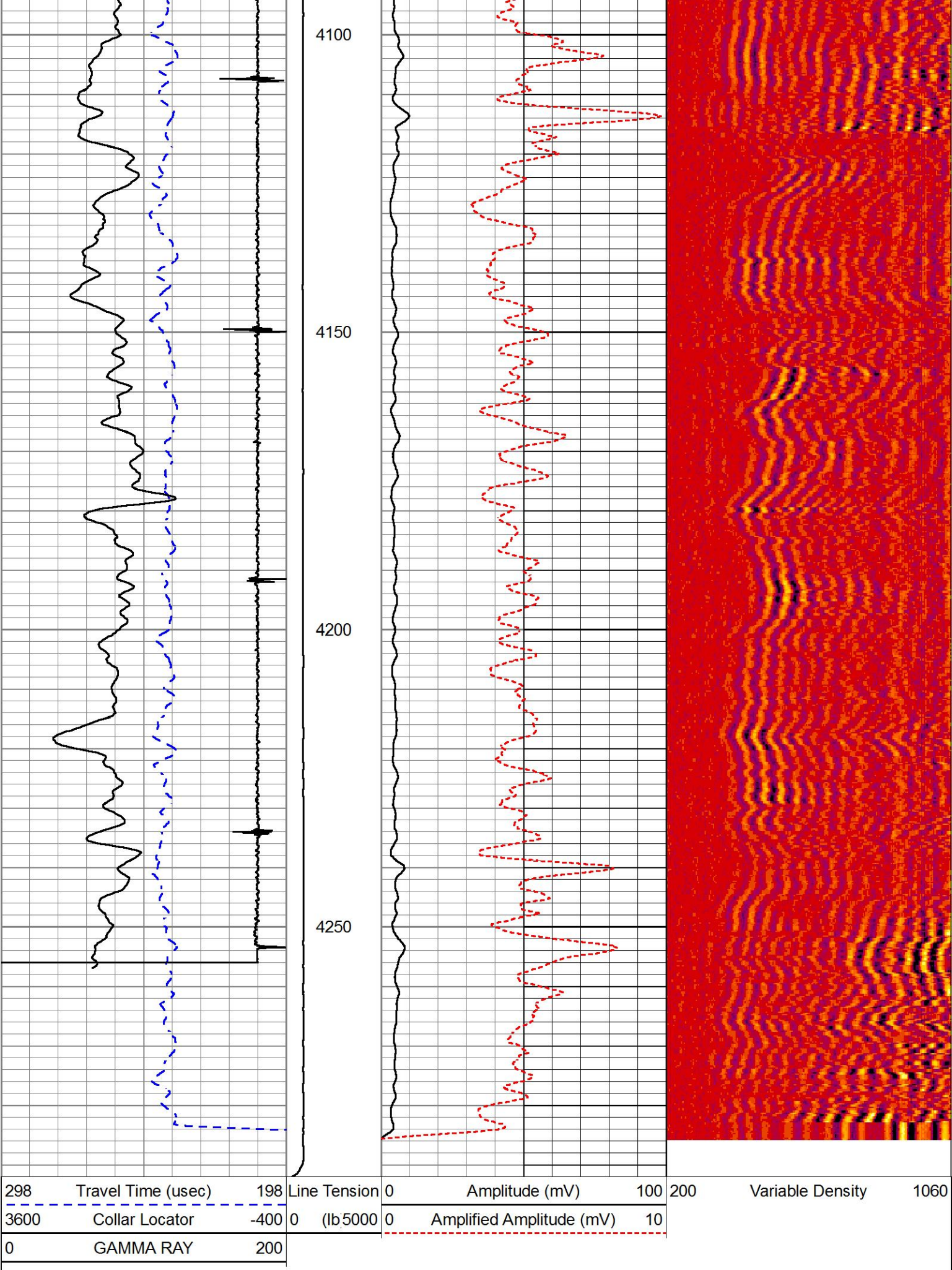
REPEAT PASS

HALLIBURTON

5" = 100'

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Dataset Pathname REPEAT  
Presentation Format !1!!cbl\_rmti  
Dataset Creation Thu Dec 01 21:23:06 2016  
Charted by Depth in Feet scaled 1:240





REPEAT PASS

HALLIBURTON

5" = 100'

BHSAL1 1	BHSAL2 0	BHTEMP_Src TEMP	BITSIZE in 7.875	BORSAL kppm 150	BOTTEMP degF 220	CASED? Yes	CASEOD in 4.5
CASETHCK in 0.25	CASEWGHT lb/ft 11.6	LTH  Sandstone	MSGGN  1	MudWgt lb/gal 8.4	PERFS  0	POROS1  1	POROS2  0
RHOCF  0.25	SO in 0	SRFTEMP degF 20	TDEPTH ft 7400	UHSGC  NONE	USERFTT usec/ft 0	ZREF MRayl 1.7	

<div> <div>Database File</div> <div>Dataset Pathname</div> <div>Dataset Creation</div> </div> <div> <div>c:\users\h180706\desktop\ursal\31c\31c_17_7_95.db</div> <div>MAIN1</div> <div>Thu Dec 01 22:44:44 2016</div> </div>	
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Cement Bond Log Shop Calibration Report

Serial-Model:

12091451-A

Calibration Performed:

Thu Dec 01 13:19:47 2016

Free Pipe Calibration

TT	Measured	Units
Amplitude	244.6	usec
Log Base Line	552.0	mV
	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
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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

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
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Type / Serial:	002 / 11214503
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SHOP CALIBRATION		Wed Nov 09 16:25:32 2016			
	Counts/Sec.	Gain	Offset	Jig	Units
Background	34.1				cps
Calibrator	297.9				cps
		1.3950			GAPI/cps
PRIMARY VERIFICATION					
Background	42.3				cps
Calibrator	413.8				cps
Difference				371.5	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

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
GR	33.56		TTTCU-002 (11214503) 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 RmtTNGT	22.91 22.41		RMTI-A (12095949) Halliburton RMTI Tool	14.00	2.13	77.00
RmtFP5V RmtNFwvMcsP RmtCommFWa	14.66 14.66 14.66		X-OVER-GoxSondex Go Box x Sondex Pin CrossOver	0.27	1.69	1.00
			CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
Temp	9.57					
TT3FT AMP3FT WVF5FT	7.32 7.32 6.36		HCBLM-A (12091451) Halliburton HCBLM Tool	9.38	2.75	116.00
WVF3FT	2.84	CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00	
		AUH-001 (11072111) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00	
LLMTEN	0.00	BUL-001 (000001) Bullnose	0.30	1.69	1.50	

Total length:	39.39 ft
Total weight:	356.50 lb
O.D.:	3.13 in

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