

HALLIBURTON										CEMENT BOND LOG									
Company URSA OPERATING COMPANY LLC Well MONUMENT RIDGE B 34D-08-7-95 Field PARACHUTE County GARFIELD State CO										Company URSA OPERATING COMPANY LLC Well MONUMENT RIDGE B 34D-08-7-95 Field PARACHUTE County GARFIELD State CO									
API No.: 05045229590000 Serv #: 903683273 Other Services										RMT-1									
Location: SHL: 950' FSL & 144' FEL BHL: 57' FSL & 1977' FEL																			
Sec: 8 Twp: 7S Rge: 95W																			
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 29 NOV 2016 @ 14:45										Type Fluid in Hole FRESH WATER									
Run No. ONE										Density of Fluid 8.4 PPG									
Depth - Driller 7578'										Fluid Level SURFACE									
Depth - Logger 7405'										Cement Top Est. Logged 1608'									
Bottom - Logged Interval 7389'										Equipment / Location 11808537 / RS. WY									
Top - Log Interval 1741'										Recorded by B. RIDDEL									
Max. Recorded Temp. 220 degF										Witnessed by R. TOLLE									
CEMENTING DATA										Protection String Production Liner									
String										String									
Date / Time Cemented N/A										N/A									
Primary / Squeeze N/A										N/A									
Expected Compressive Strength N/A										psi@ N/A hrs N/A									
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 From To Size Weight From To																			
ONE 24" SURFACE 60' 16" 75.5 # SURFACE 60'																			
TWO 12.25" 60' 1791' 8.625" 32.0 # SURFACE 1791'																			
THREE 7.875" 1791' 7578' 4.5" 11.6 # SURFACE 7570'																			
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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 : 1608' GAMMA BLANKET : 408 GAPI FREE PIPE CALIBRATION DEPTH : 434'																			
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SVCS. YOUR CREW TODAY: B. RIDDEL, DANIEL FLINDERS, BRAD BURDERER																			

Service Ticket No.	903683273	API No.	05045229590000	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.	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	3920'	3750'	0 PSI	20	REPEAT			
TWO	7398'	1741'	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			

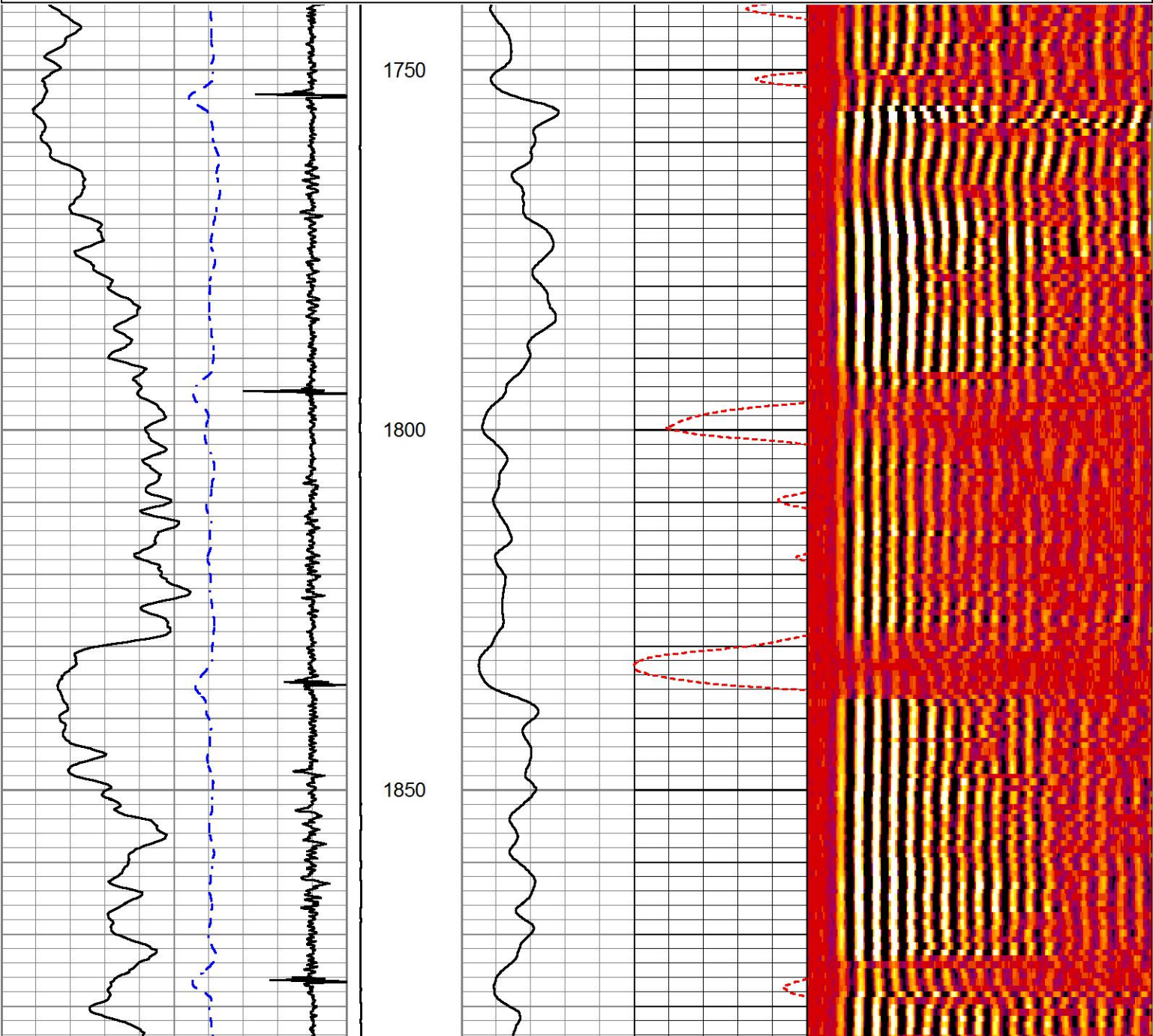
MAIN PASS

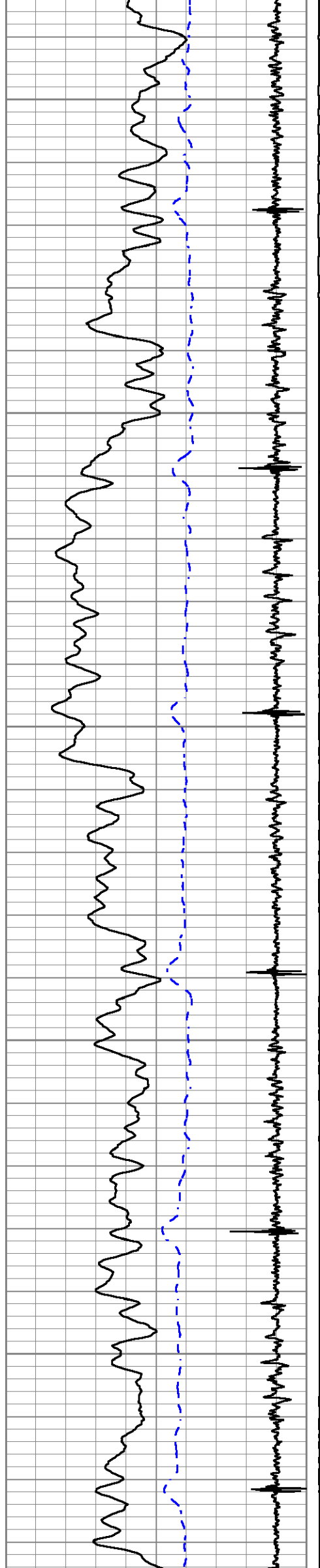
HALLIBURTON

5" = 100'

Database File mr_b_34d_08_7_95.db
Dataset Pathname MAIN1
Presentation Format !1!!CB~1
Dataset Creation Tue Nov 29 15:02:51 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							





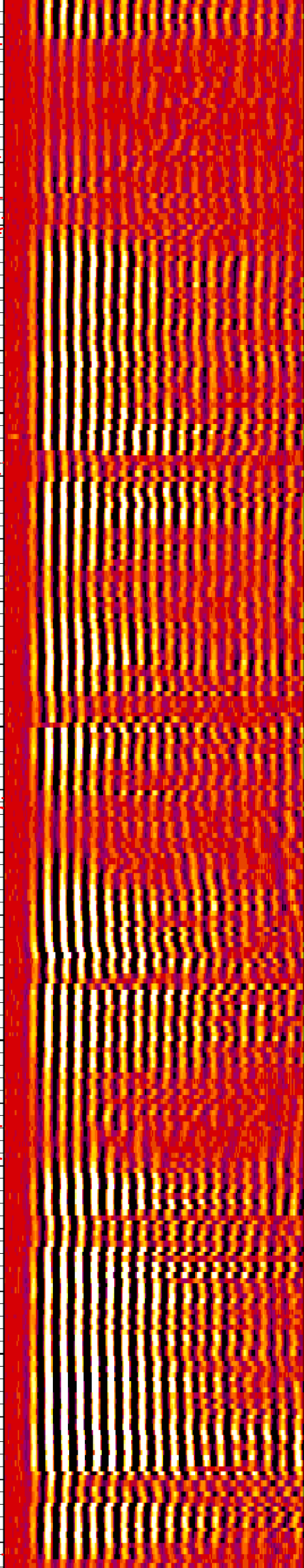
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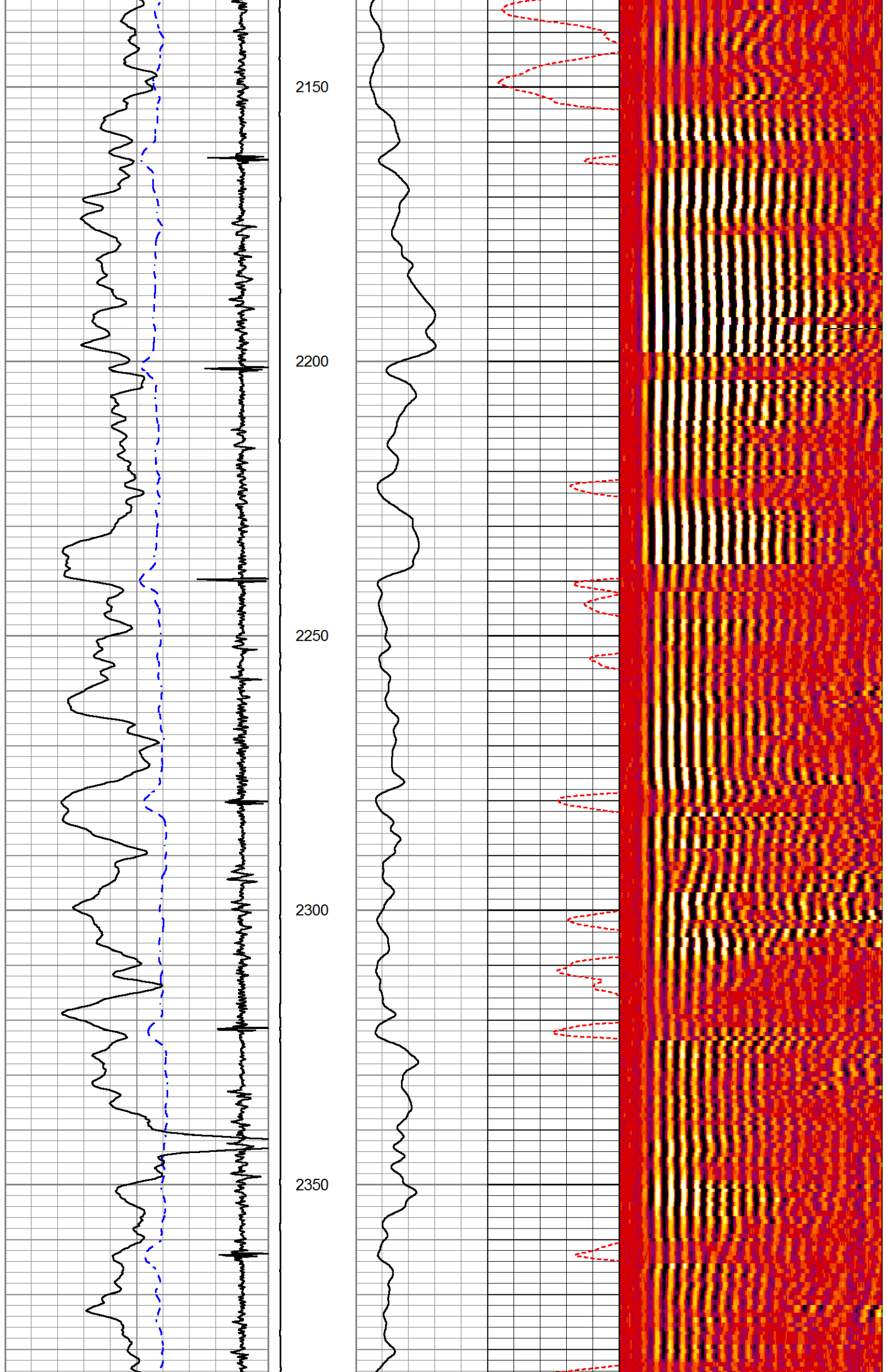
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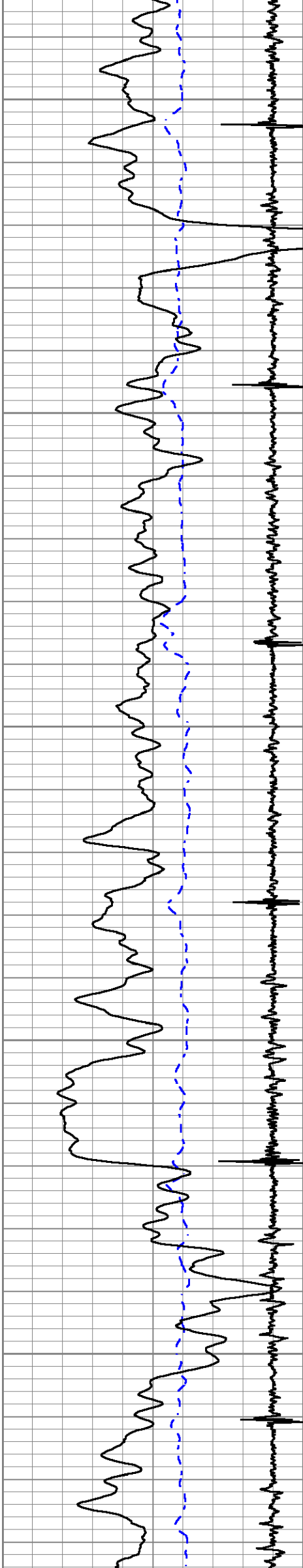
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2050

2100







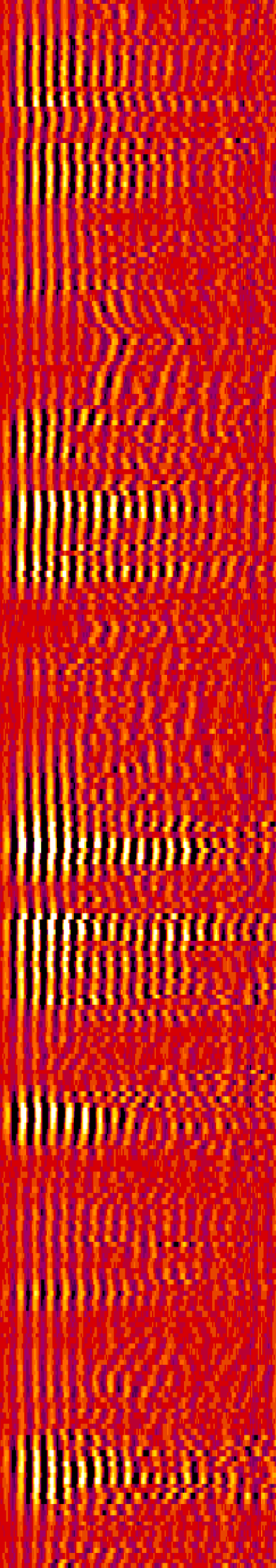
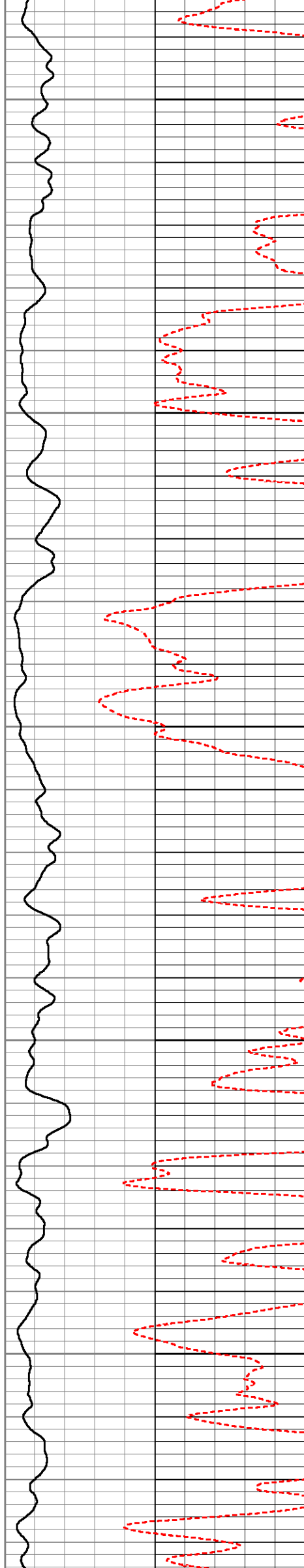
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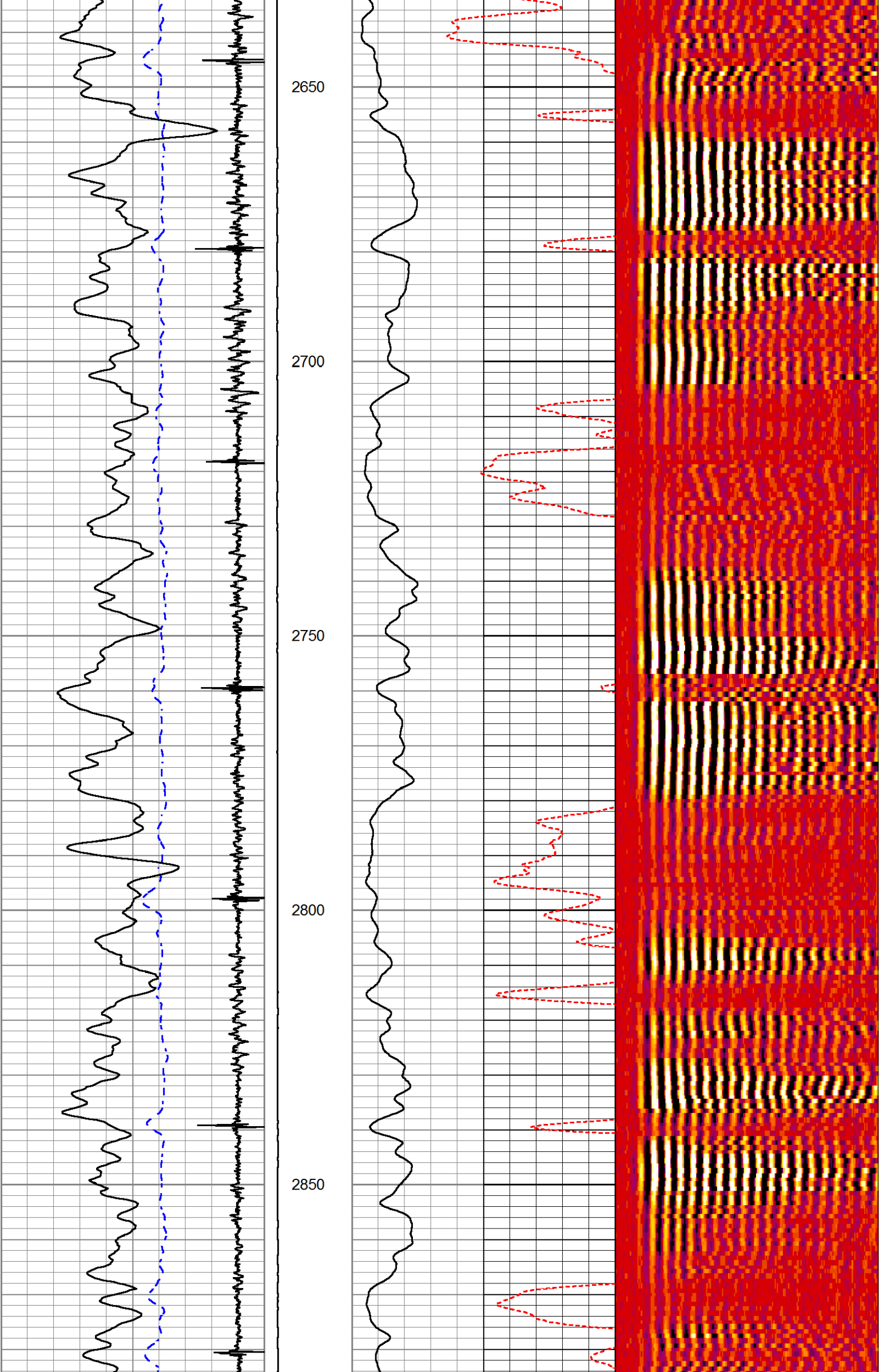
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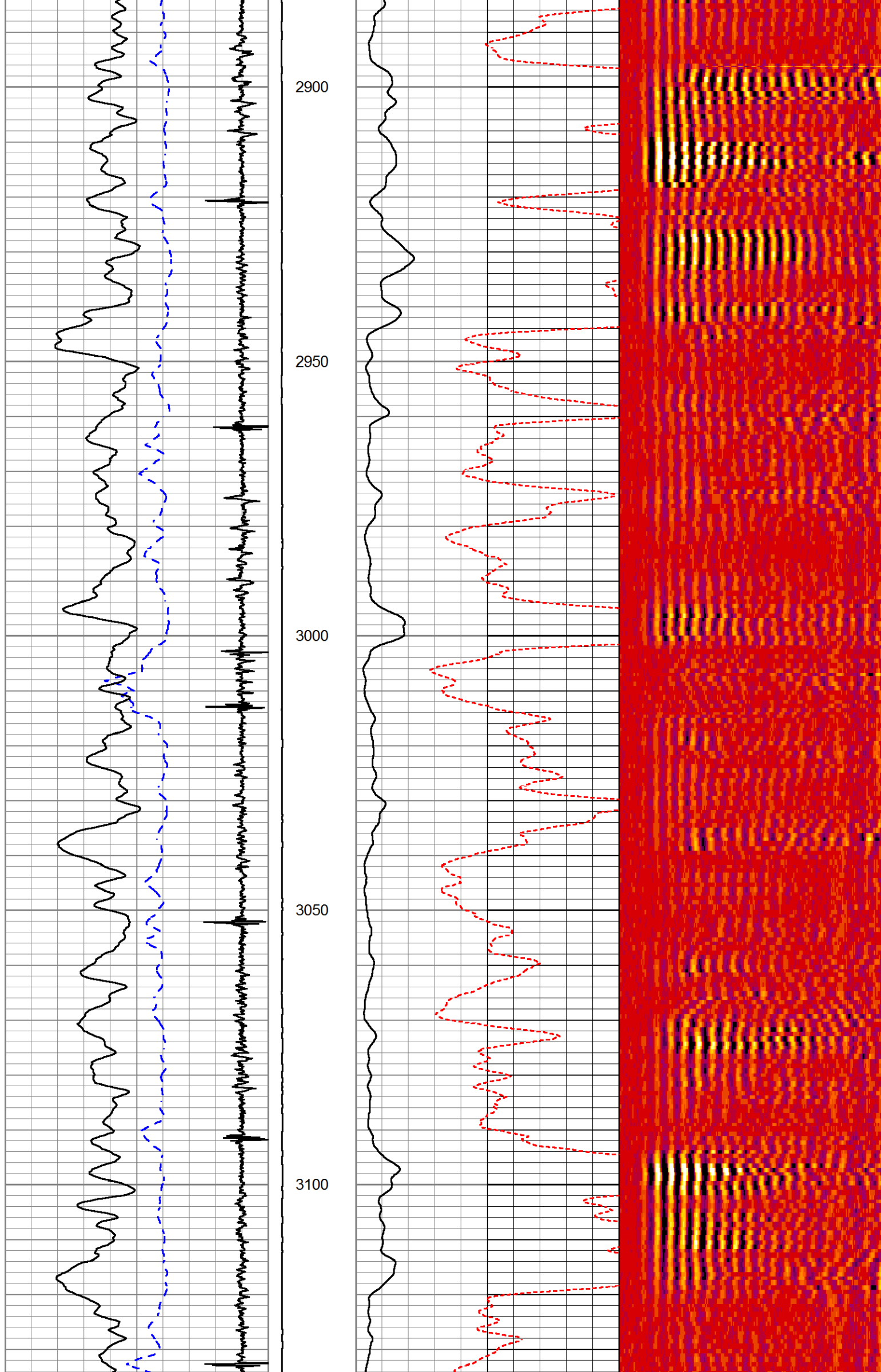
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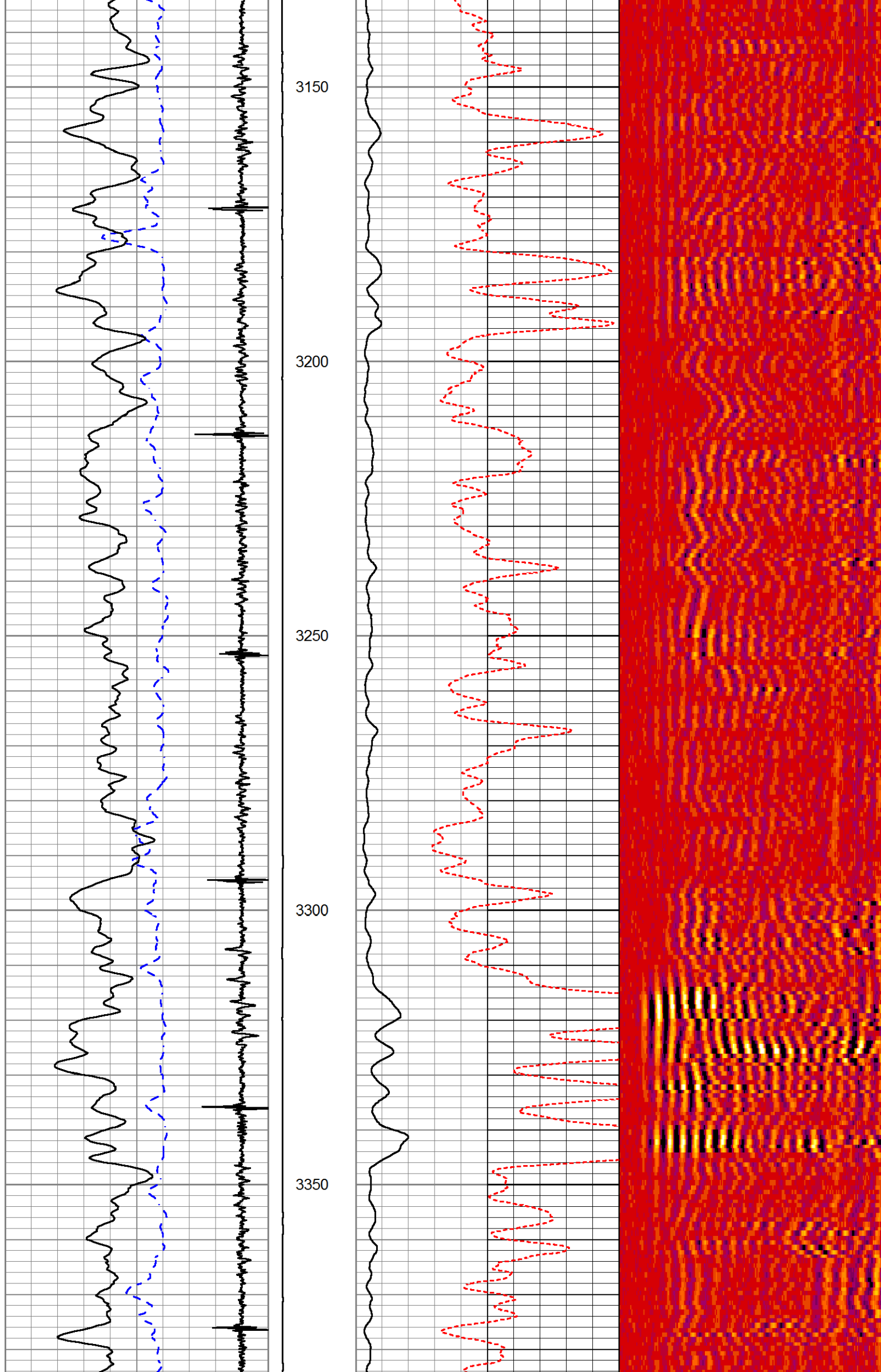
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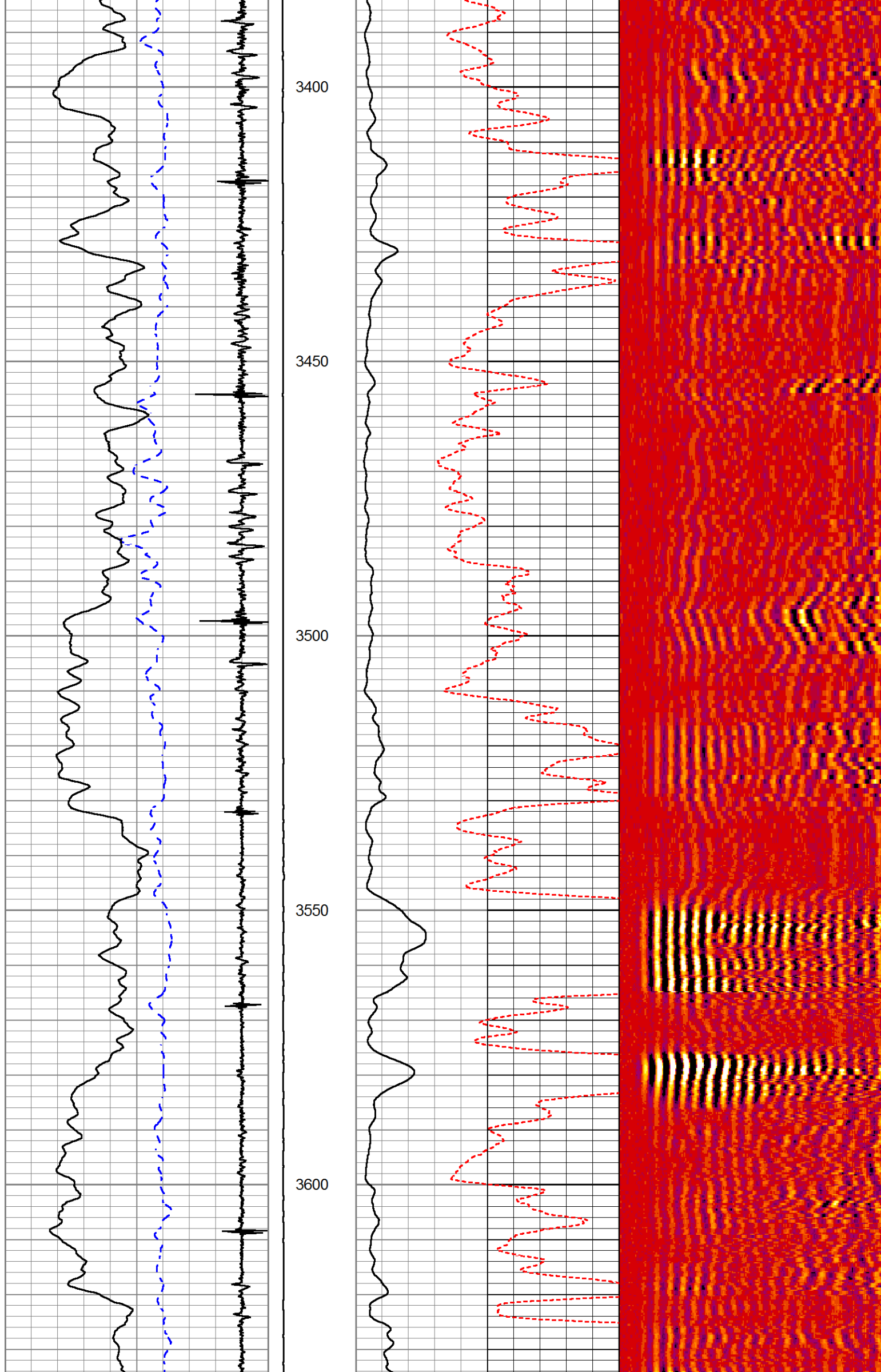
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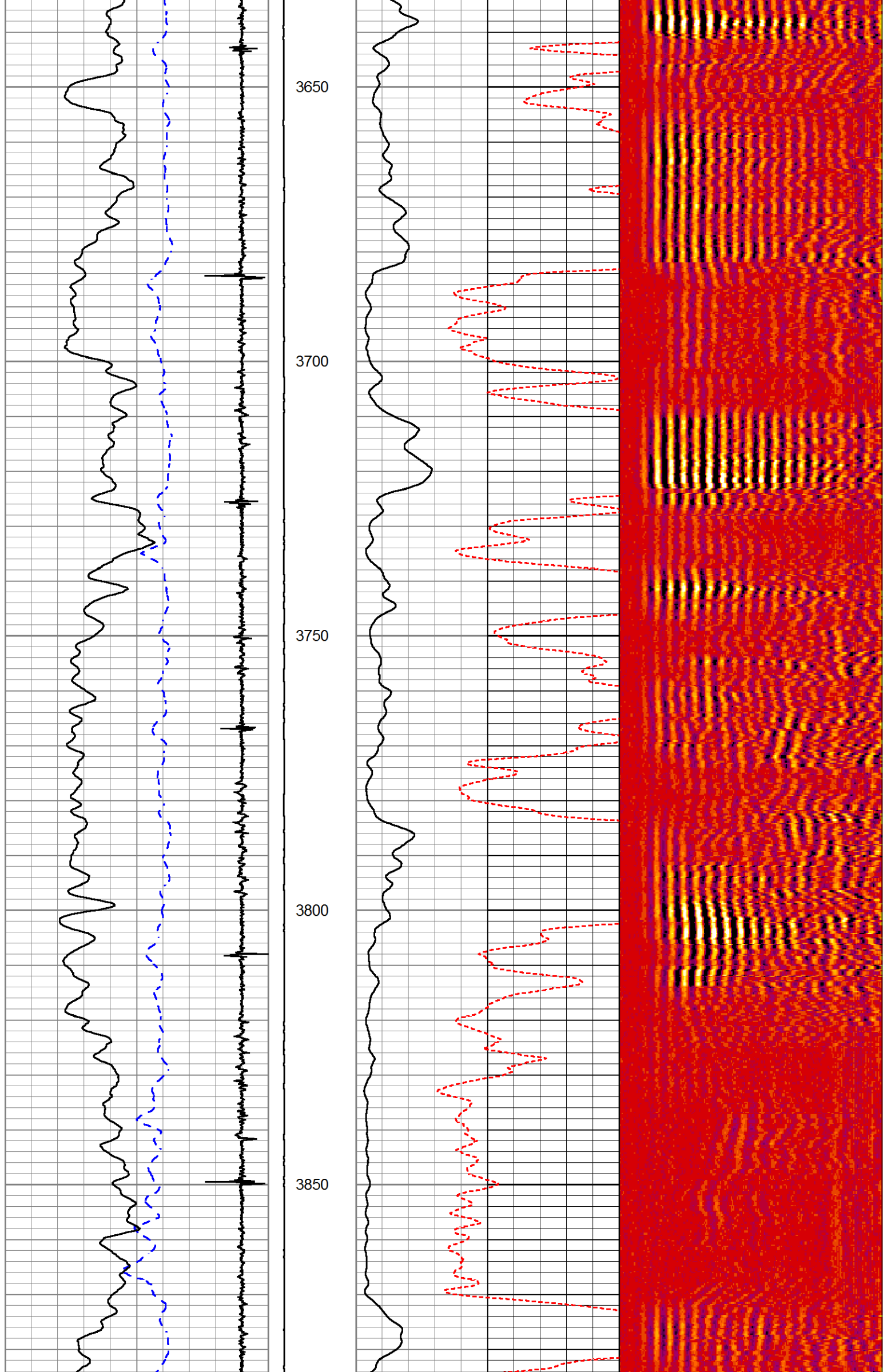


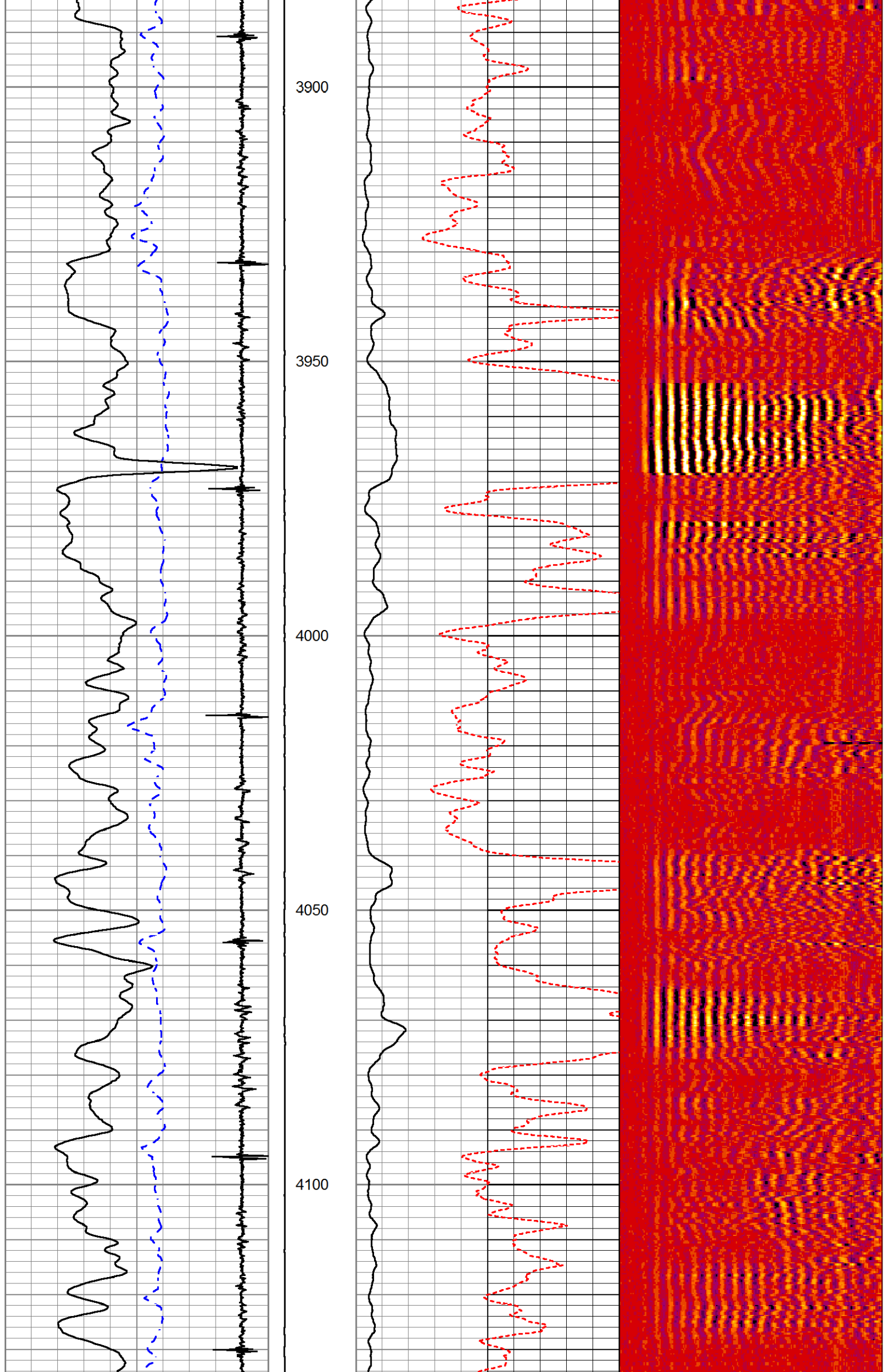


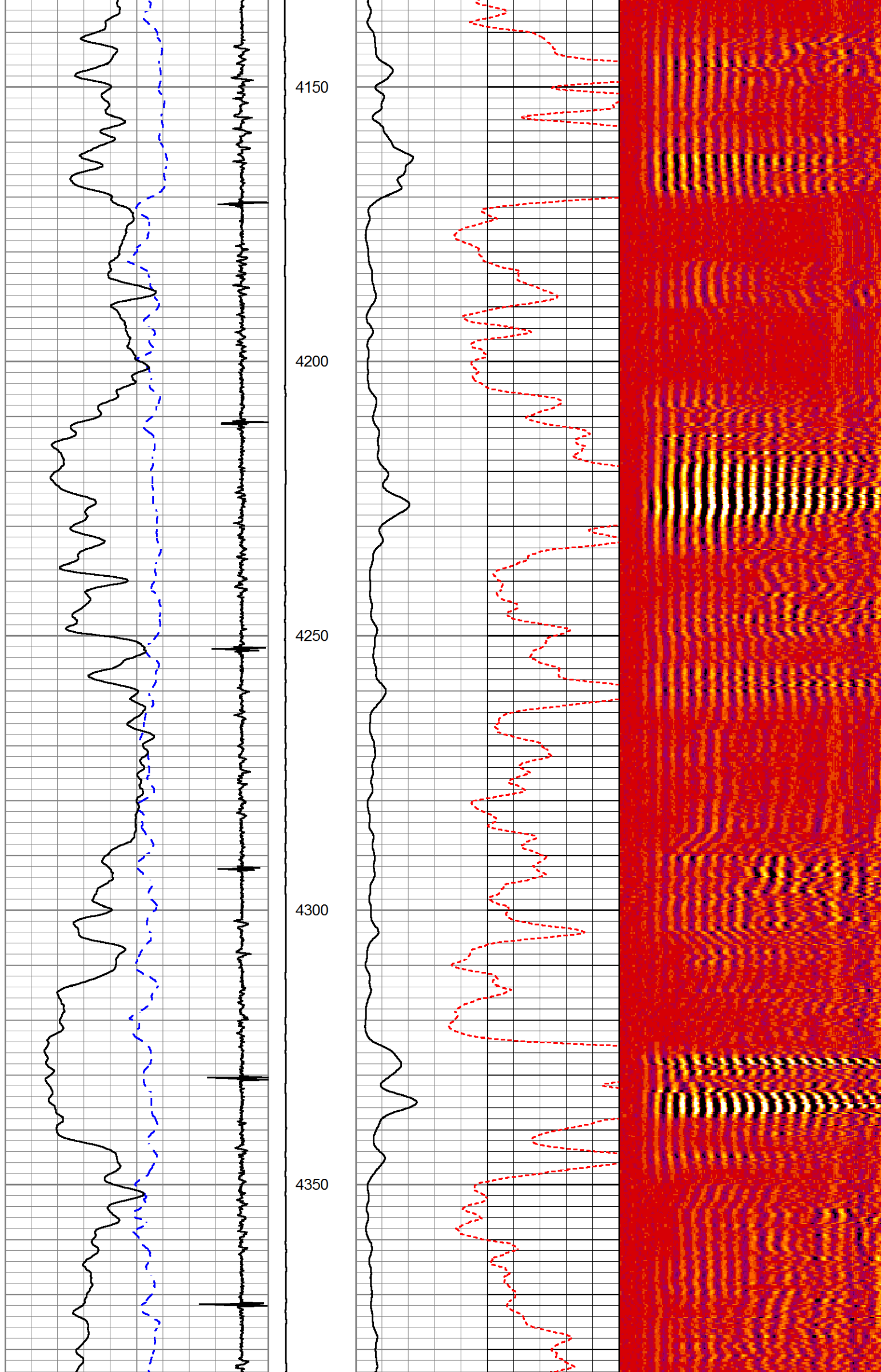


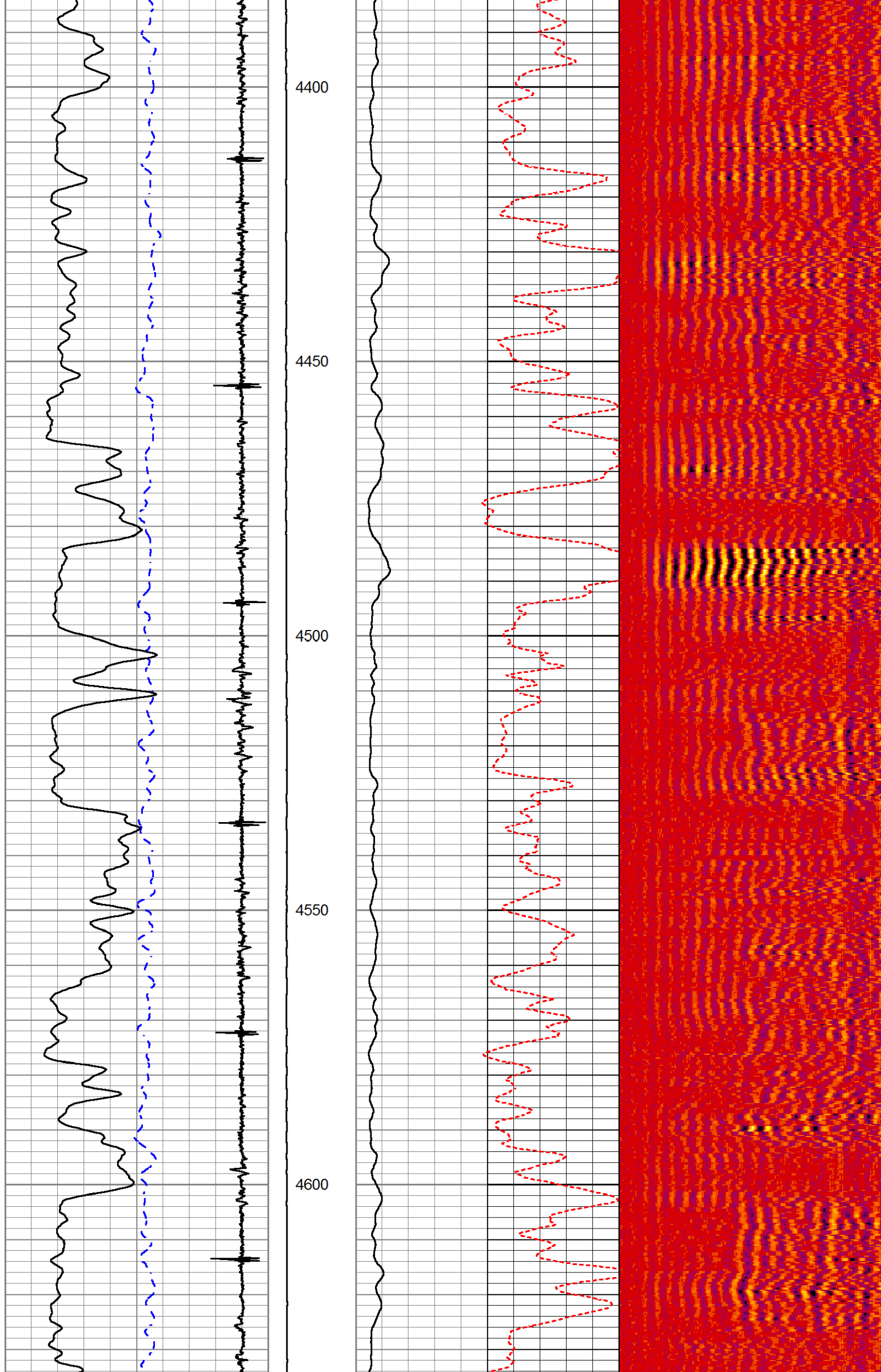


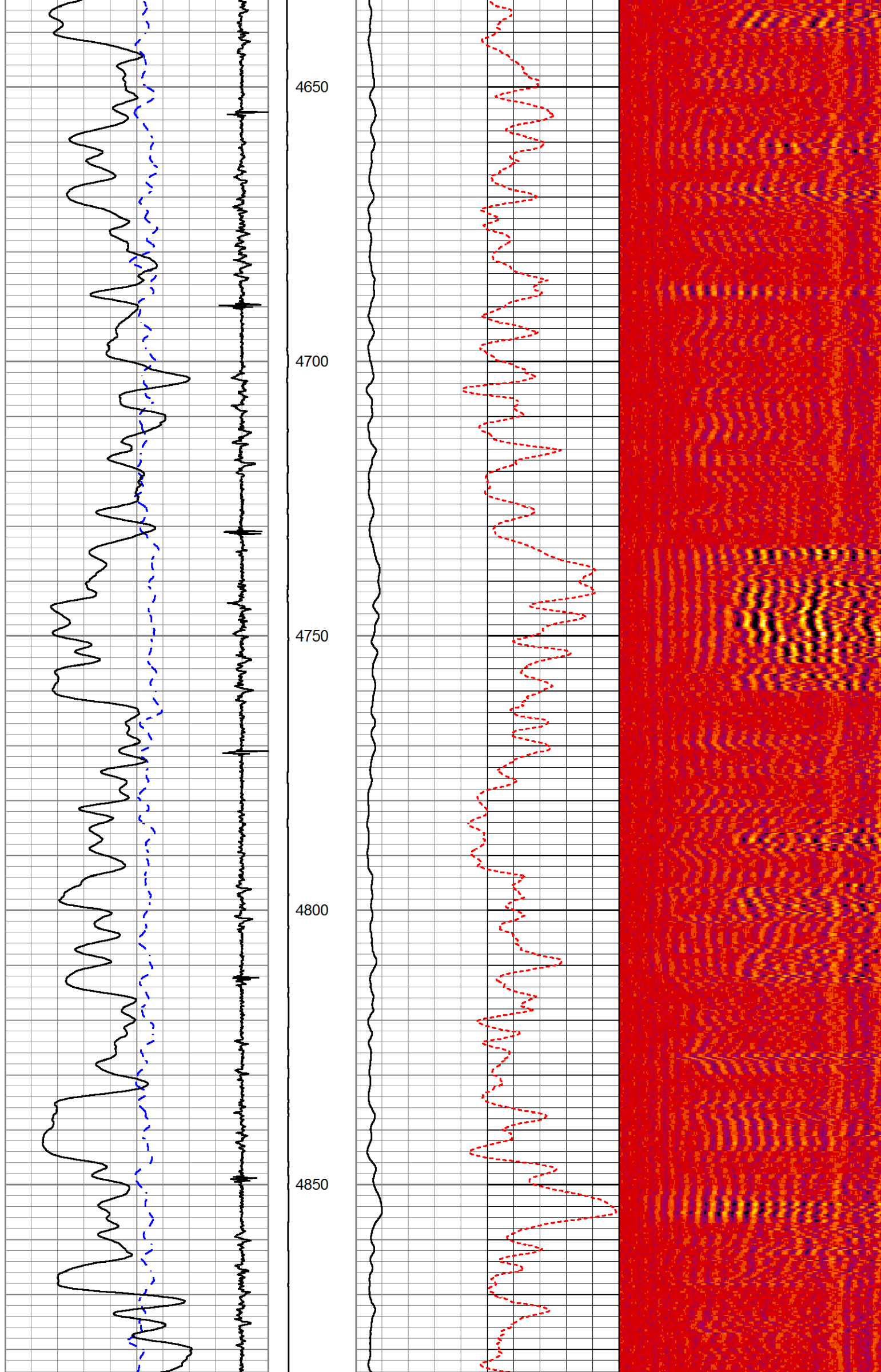


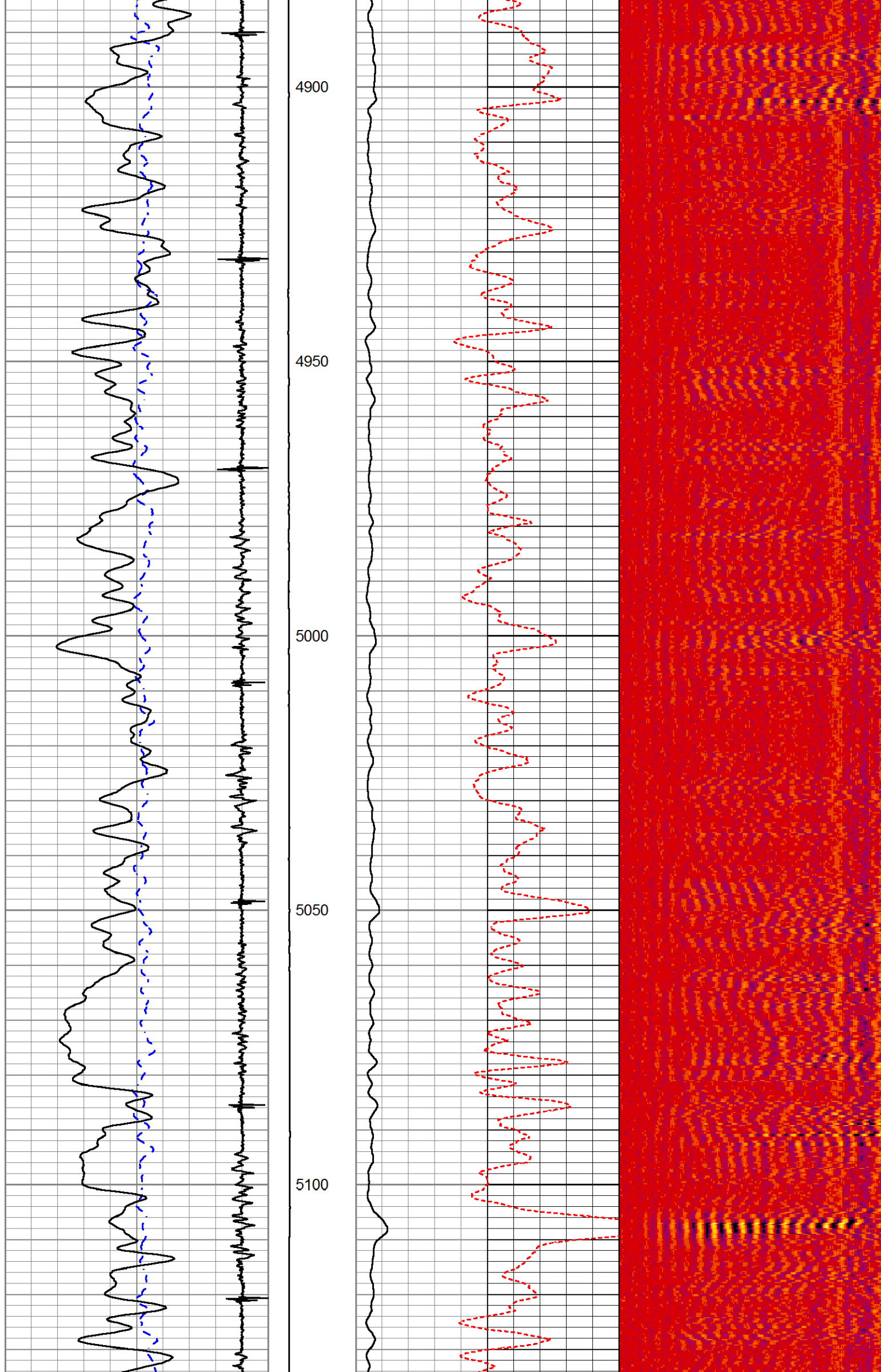


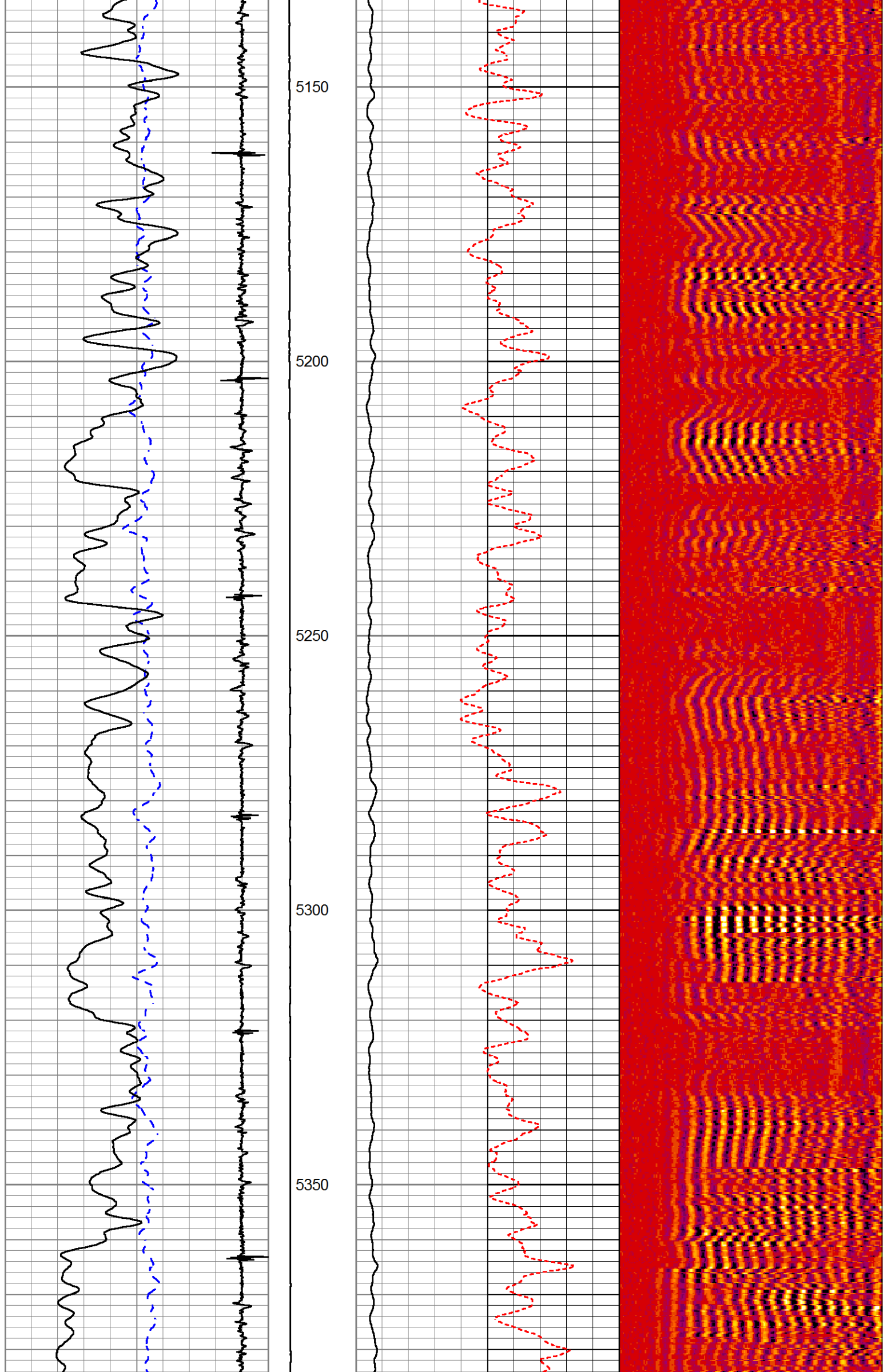


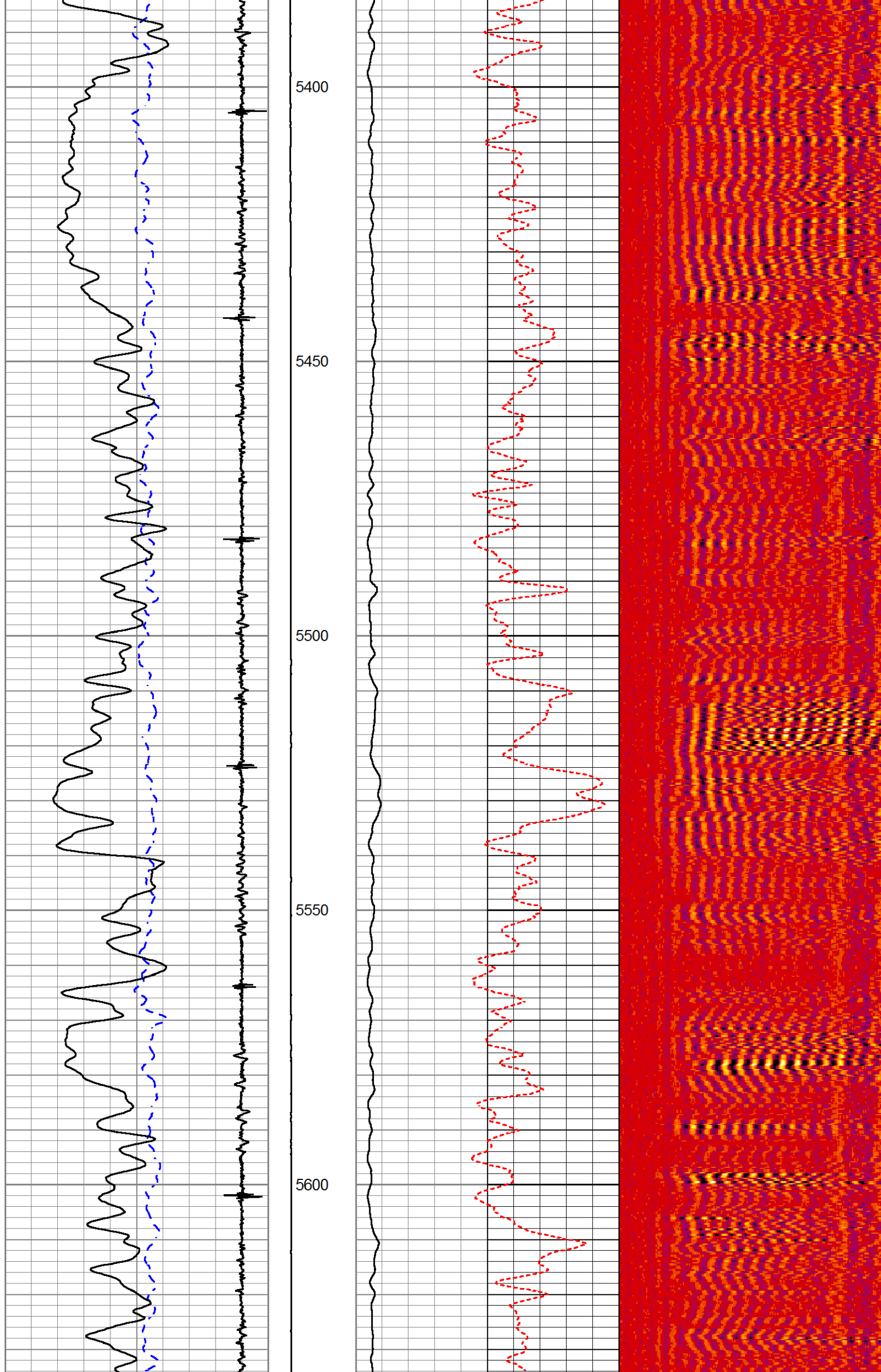


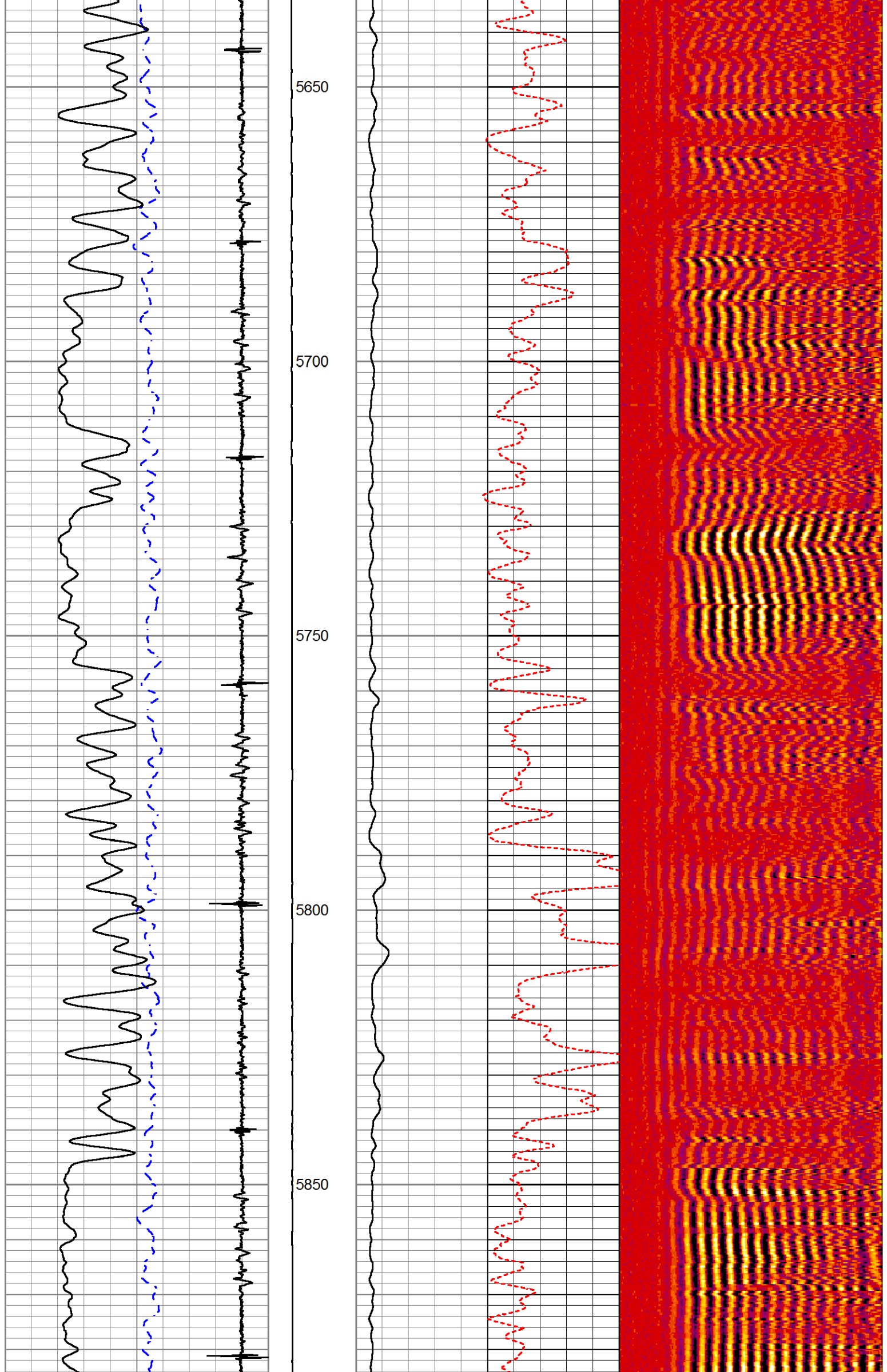


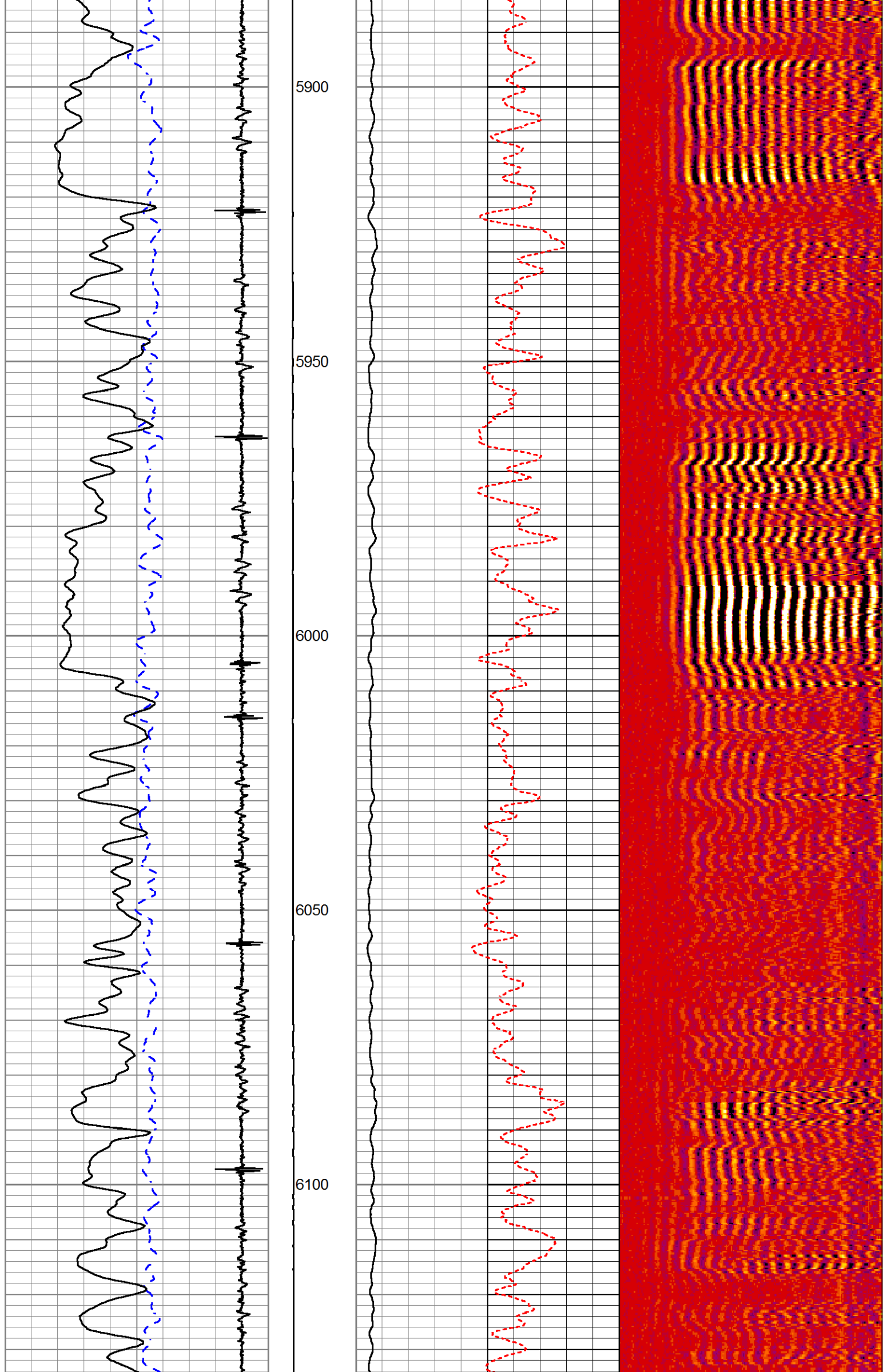


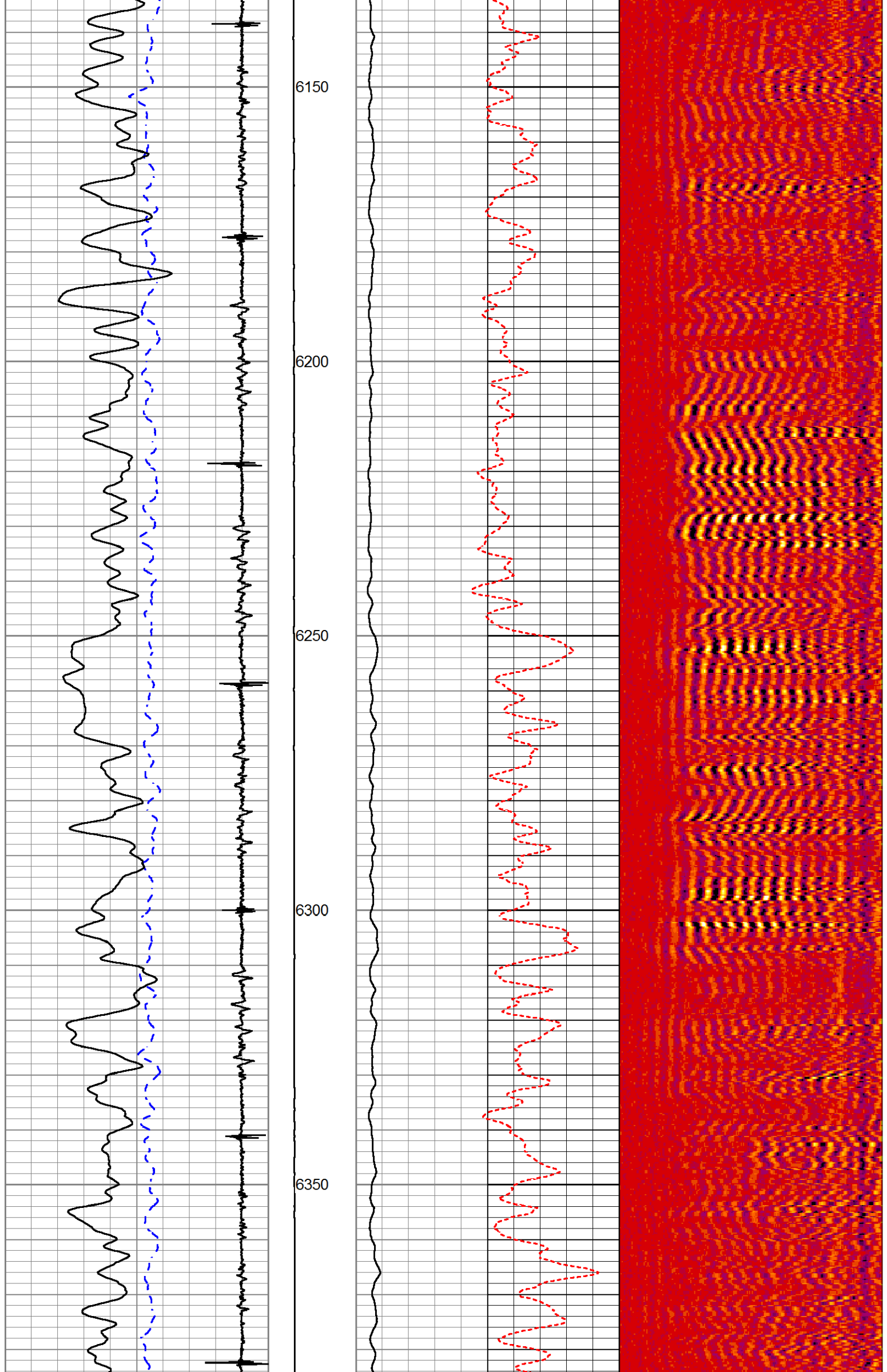


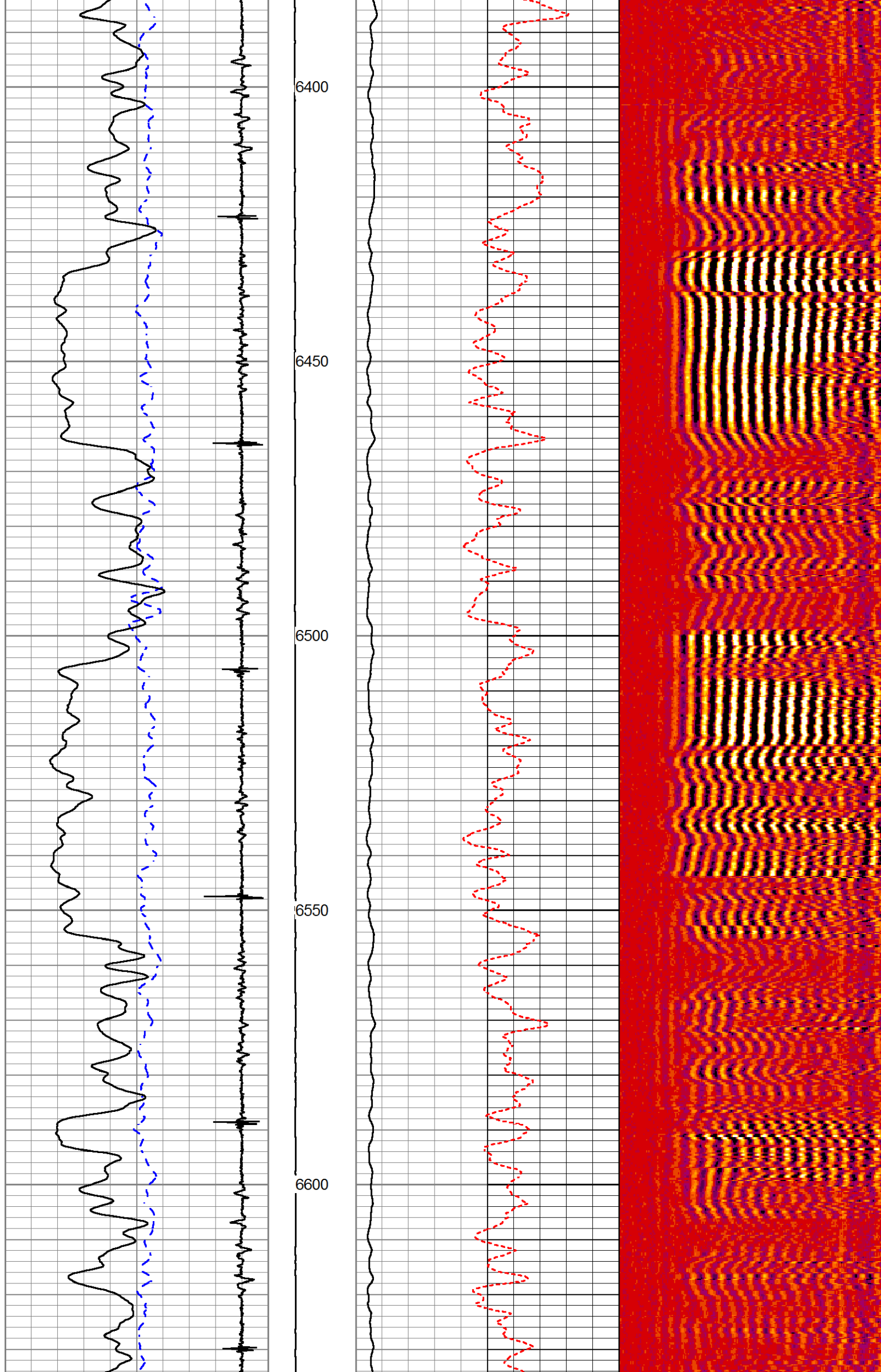


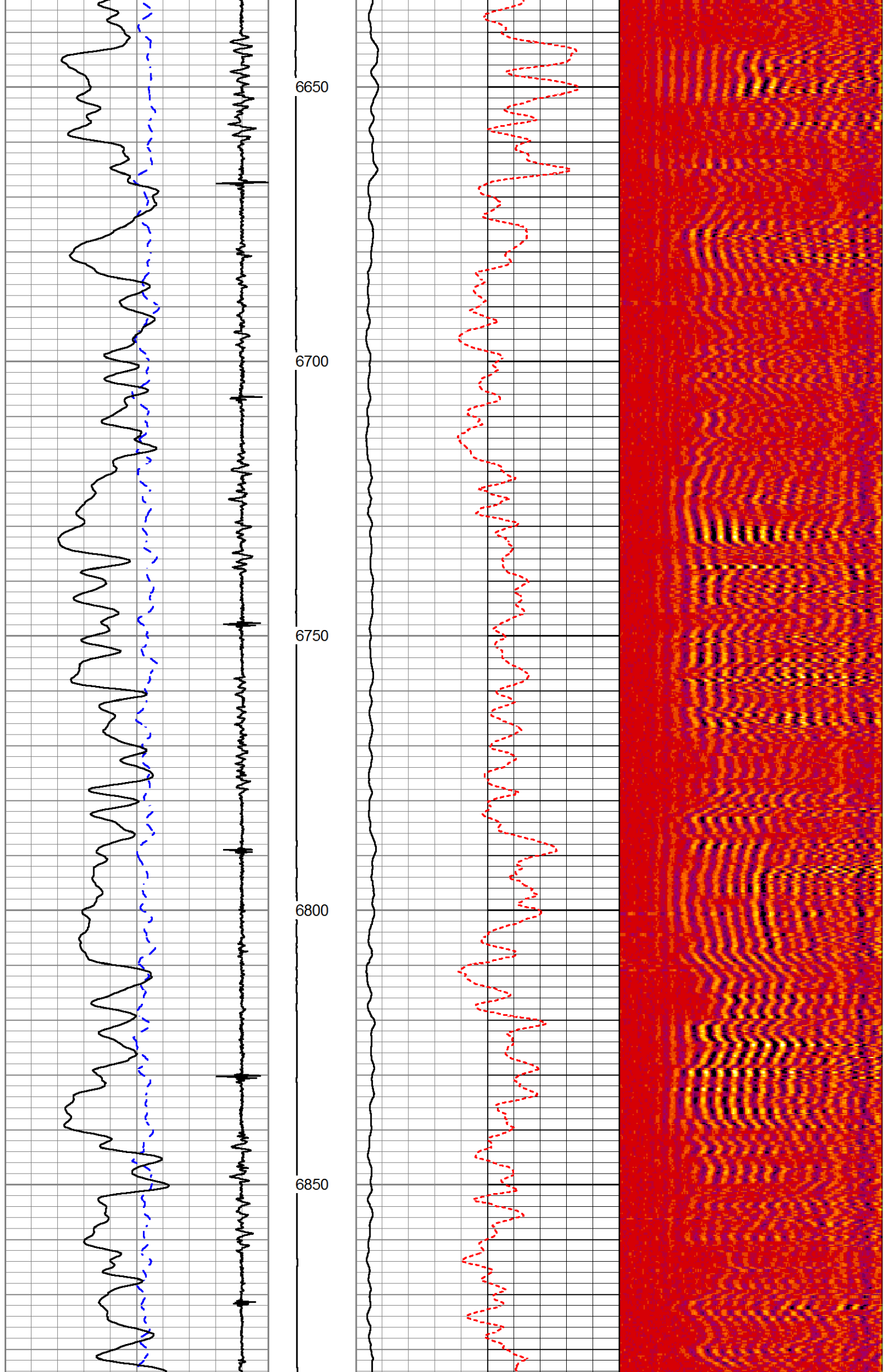


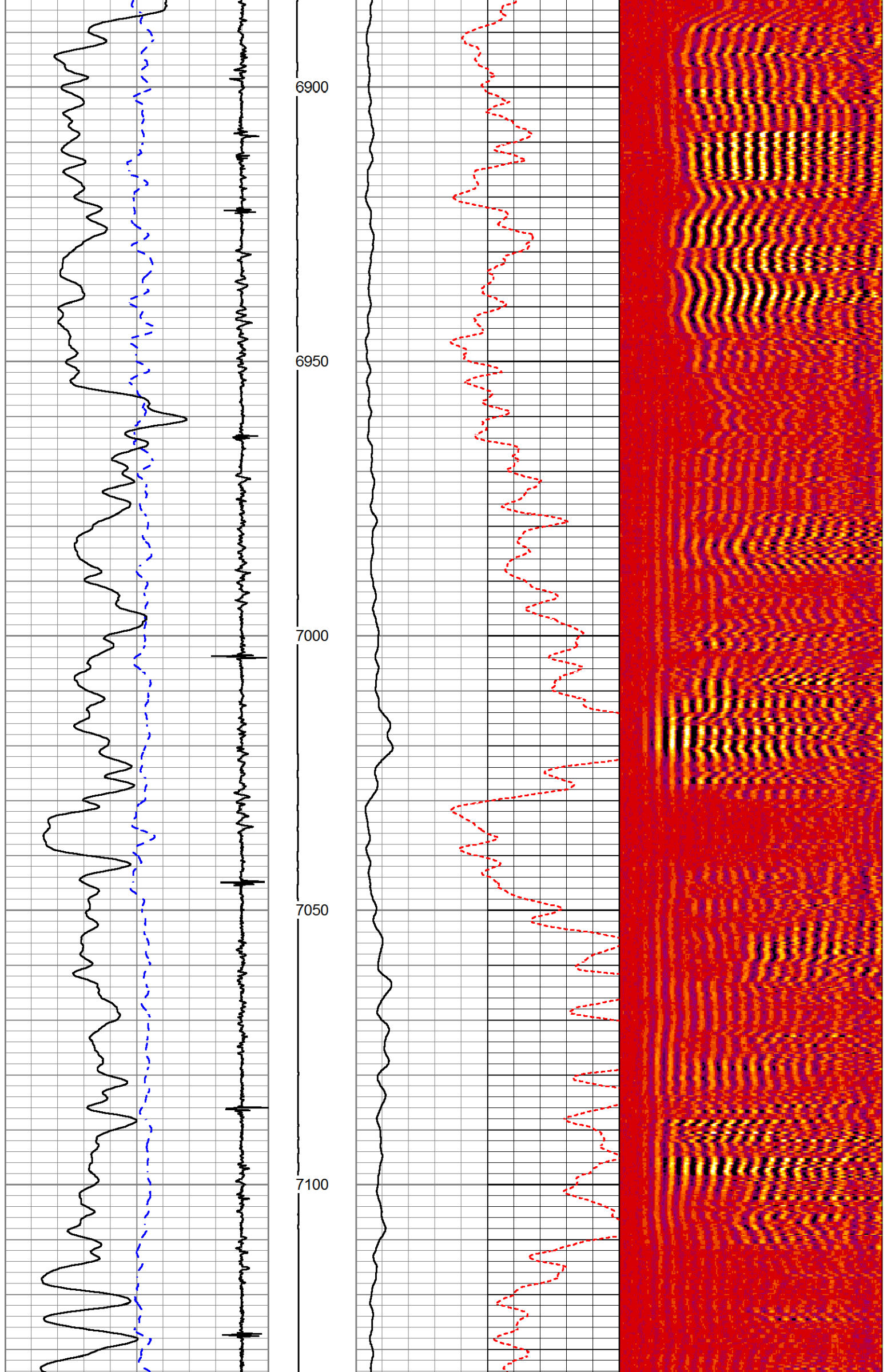


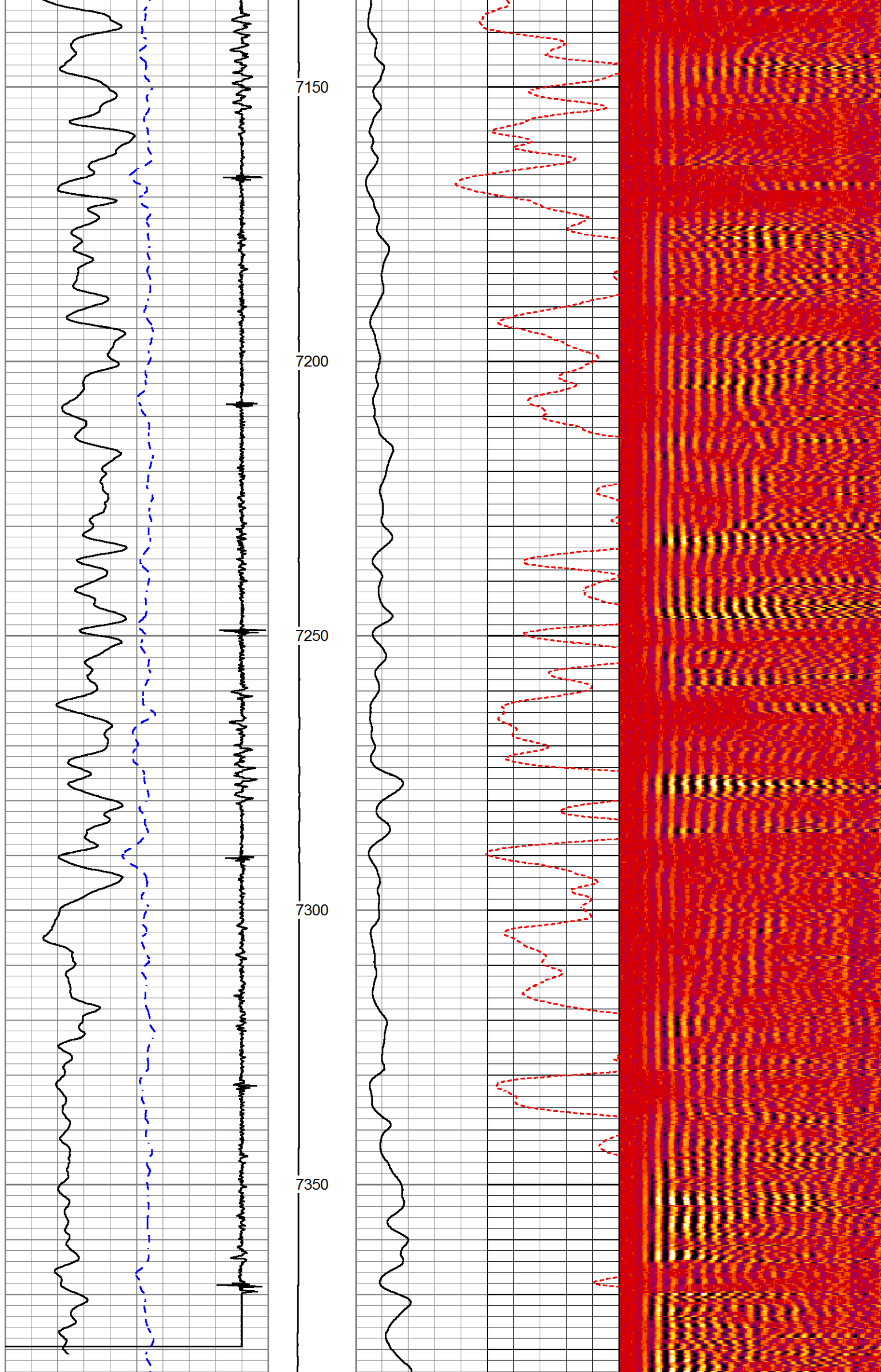


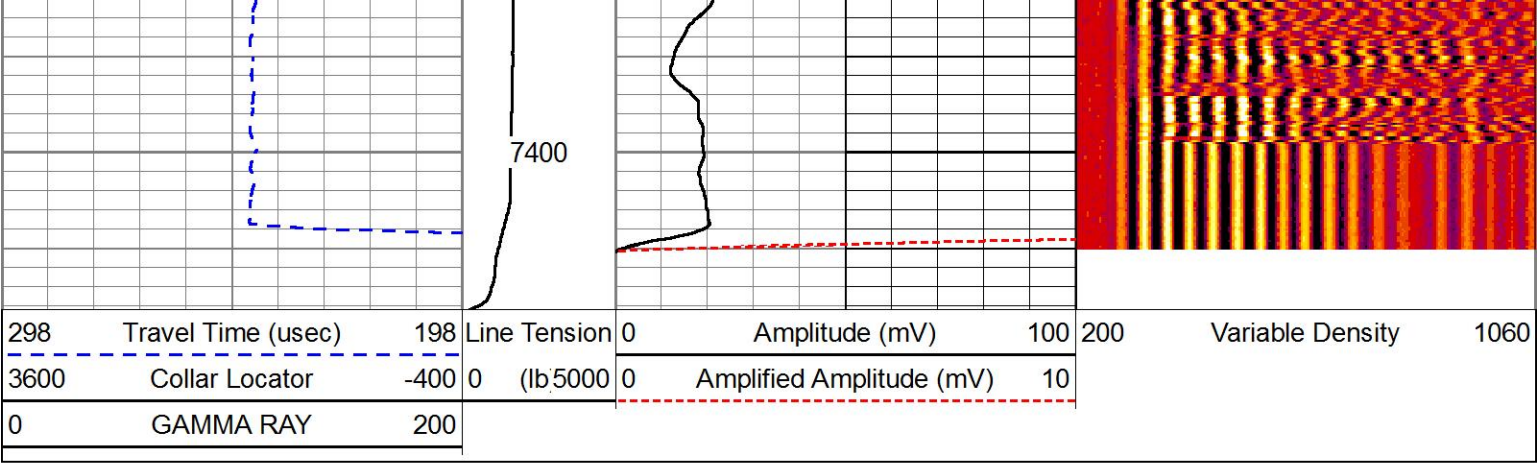












MAIN PASS

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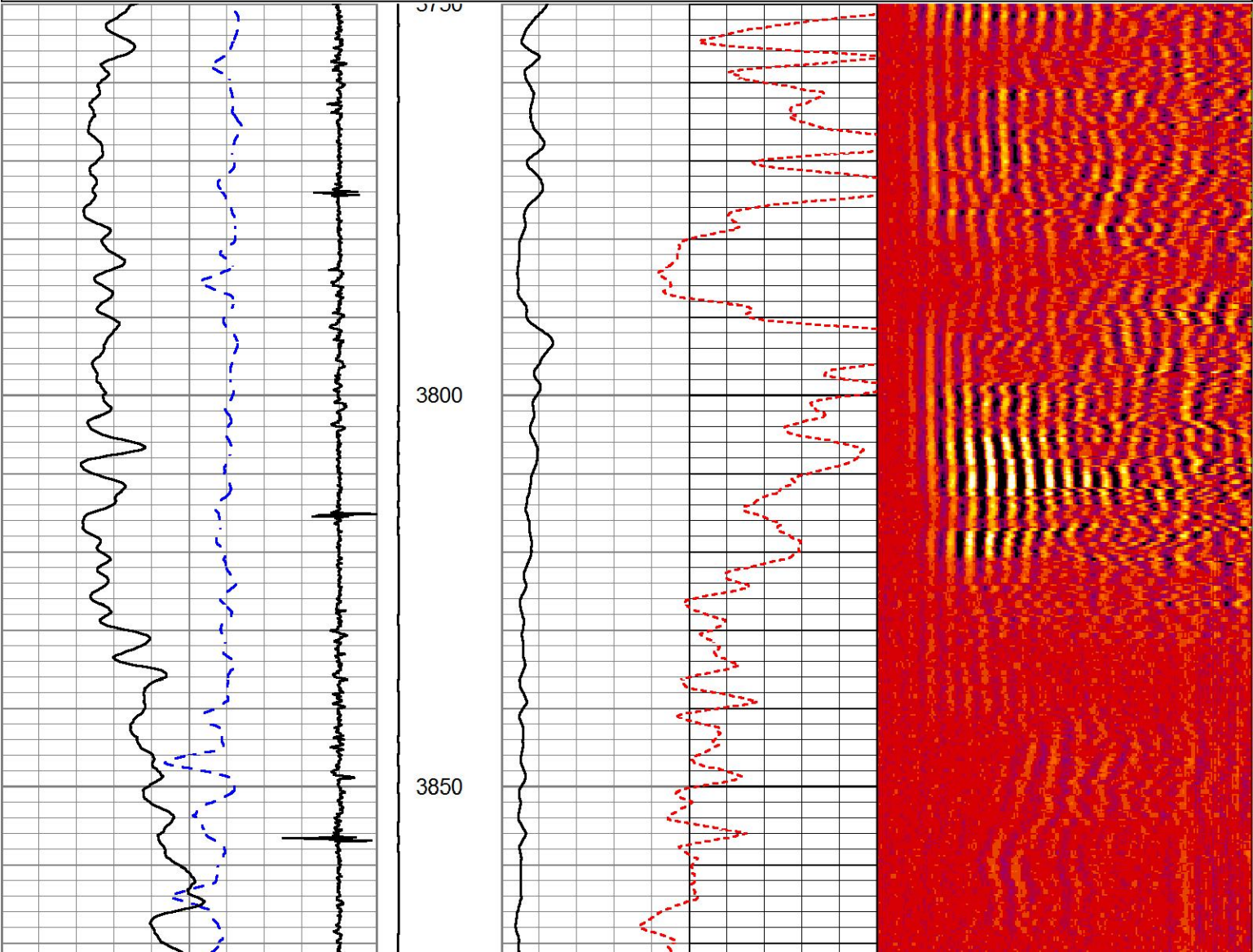
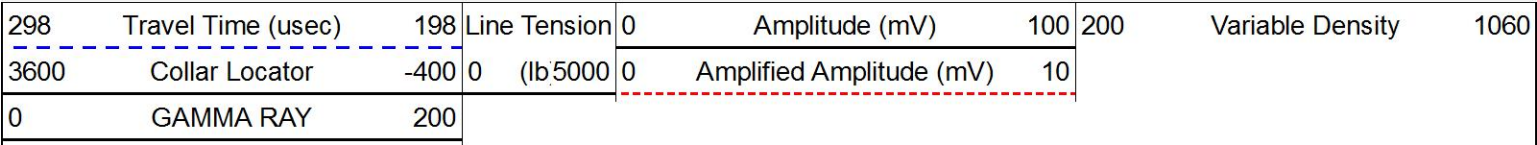
5" = 100'

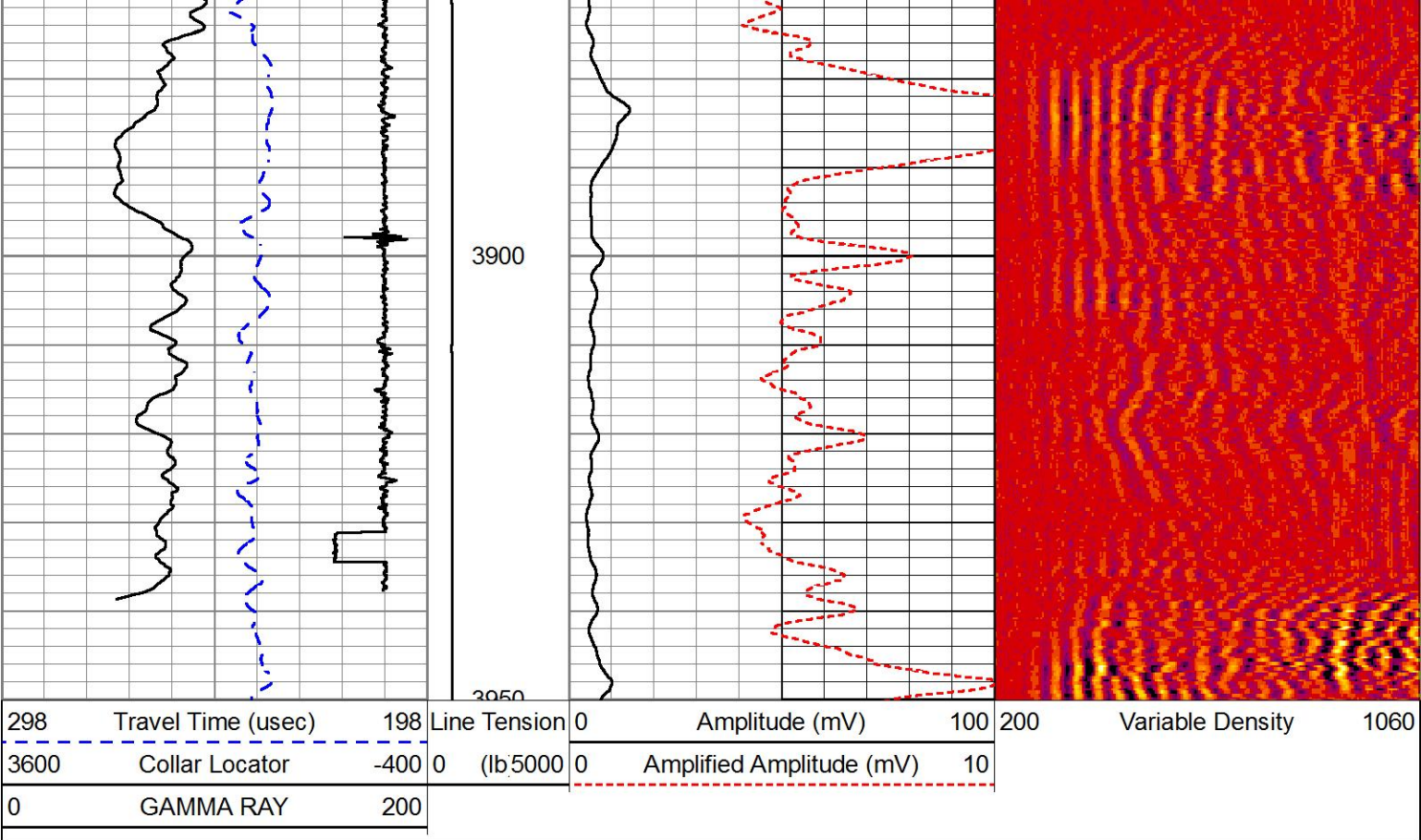
REPEAT PASS

HALLIBURTON

5" = 100'

Database File mr_b_34d_08_7_95.db
Dataset Pathname REPEAT
Presentation Format !1!!CB~1
Dataset Creation Tue Nov 29 14:18:49 2016
Charted by Depth in Feet scaled 1:240





REPEAT PASS

HALLIBURTON

5" = 100'

Log Variables

DatabaseC:\ProgramData\Warrior\Data\mr_b_34d_08_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 215	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 0	ft 7200	NONE	usec/ft 0	MRayl 1.7	

Calibration Report

Database File mr_b_34d_08_7_95.db
Dataset Pathname MAIN1
Dataset Creation Tue Nov 29 15:02:51 2016

Cement Bond Log Shop Calibration Report

Serial-Model: 12091451-A
Calibration Performed: Tue Nov 29 13:50:34 2016

Free Pipe Calibration

	Measured	Units
TT	244.8	usec
Amplitude	560.2	mV
Log Base Line	6.4	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	0.147	

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
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 / 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	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
Difference				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)	14.00	2.13	77.00	
RmtTFGT	22.91						
RmtTNGT	22.41						

				Halliburton RMTI Tool			
RmtFP5V	14.66						
RmtNFwvMcsPI	14.66			X-OVER-GoxSondex Go Box x Sondex Pin CrossOver	0.27	1.69	1.00
RmtCommFWa	14.66			CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
Temp	9.57						
TT3FT	7.32			HCBLM-A (12091451) Halliburton HCBLM Tool	9.38	2.75	116.00
AMP3FT	7.32						
WVF5FT	6.36						
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
Dataset: mr_b_34d_08_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 34D-08-7-95		
Field	PARACHUTE		
County	GARFIELD	State	CO
HALLIBURTON	CEMENT BOND LOG		