

Company URSA OPERATING COMPANY LLC  
 Well MONUMENT RIDGE B 44C-08-7-95  
 Field PARACHUTE  
 County GARFIELD State CO

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 Field PARACHUTE  
 County GARFIELD State CO

API No.: 05045229640000    Serv. #: 903669012  
 Location: SHL: 1000' FSL & 144' FEL  
 BHL: 576' FSL & 670' FEL

Sec: 8    Twp: 7S    Rge: 95W

RMT-1

Permanent Datum GROUND LEVEL    Elevation 5702'  
 Log Measured From KB    17' Ft. above perm. datum  
 Drilling Measured From KB

Date @ Time Logged	27 NOV 2016 @ 17:00	Type Fluid in Hole	FRESH WATER
Run No.	ONE	Density of Fluid	8.4 PPG
Depth - Driller	7098'	Fluid Level	SURFACE
Depth - Logger	6832'	Cement Top Est. Logged	1405'
Bottom - Logged Interval	6828'	Equipment / Location	11808537 / RS, WY
Top - Log Interval	1662'	Recorded by	B. RIDDEL
Max. Recorded Temp.	208 degF	Witnessed by	R. TOLLE

CEMENTING DATA		Surface	Protection	Production	Liner
Date / Time Cemented	String	String	String	String	
Primary / Squeeze	N/A	N/A	N/A	N/A	N/A
Expected Compressive Strength	N/A	psi@ N/A hrs	N/A	psi@ N/A hrs	psi@ N/A hrs
Cement Volume	N/A	N/A	N/A	N/A	N/A
Cement Type / Weight	N/A	/ N/A	/ N/A	/ N/A	/ N/A
Formulation	N/A	N/A	N/A	N/A	N/A
Mud Type / Mud Wgt.	N/A	/ N/A	/ N/A	/ N/A	/ N/A

Run Number	Borehole Record			Casing & Tubing Record			
	Bit	From	To	Size	Weight	From	To
ONE	24"	SURFACE	60'	16"	75.5 #	SURFACE	60'
TWO	12.25"	60'	1712'	8.625"	32.0 #	SURFACE	1712'
THREE	7.875"	1712'	7098'	4.5"	11.6 #	SURFACE	7098'

<<< 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 : 1405'  
 GAMMA BLANKET : 408 GAPI  
 FREE PIPE CALIBRATION DEPTH : 253'

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

Service Ticket No. 903669012      API No. 05045229640000      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.	11680606	Serial No.	11836468
Model No.	XHU-3	Model No.	TTTC-U2	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	4000'	3750'	0 PSI	20	REPEAT	
TWO	6832'	1662'	0 PSI	20	MAIN	
	GAMMA		SIGMA		AMPLITUDE	
Pass	Scale		Scale		Scale	
No.	L	R	L	R	L	R
ONE	0	200	60	0	0	100
TWO	0	200	60	0	0	100
DIRECTIONAL INFORMATION						
Maximum Deviation		deg. @		KOP		

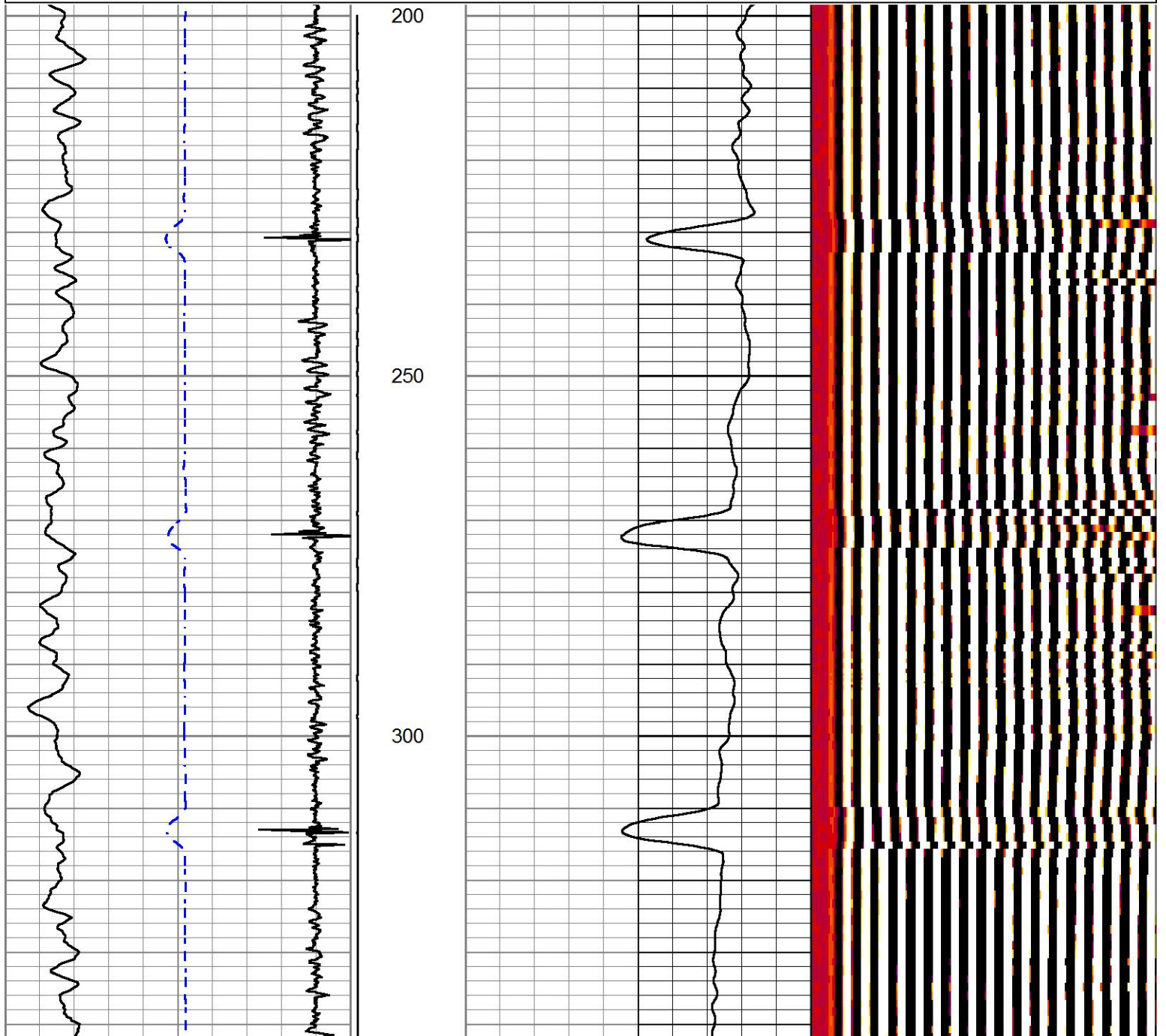
**HALLIBURTON**

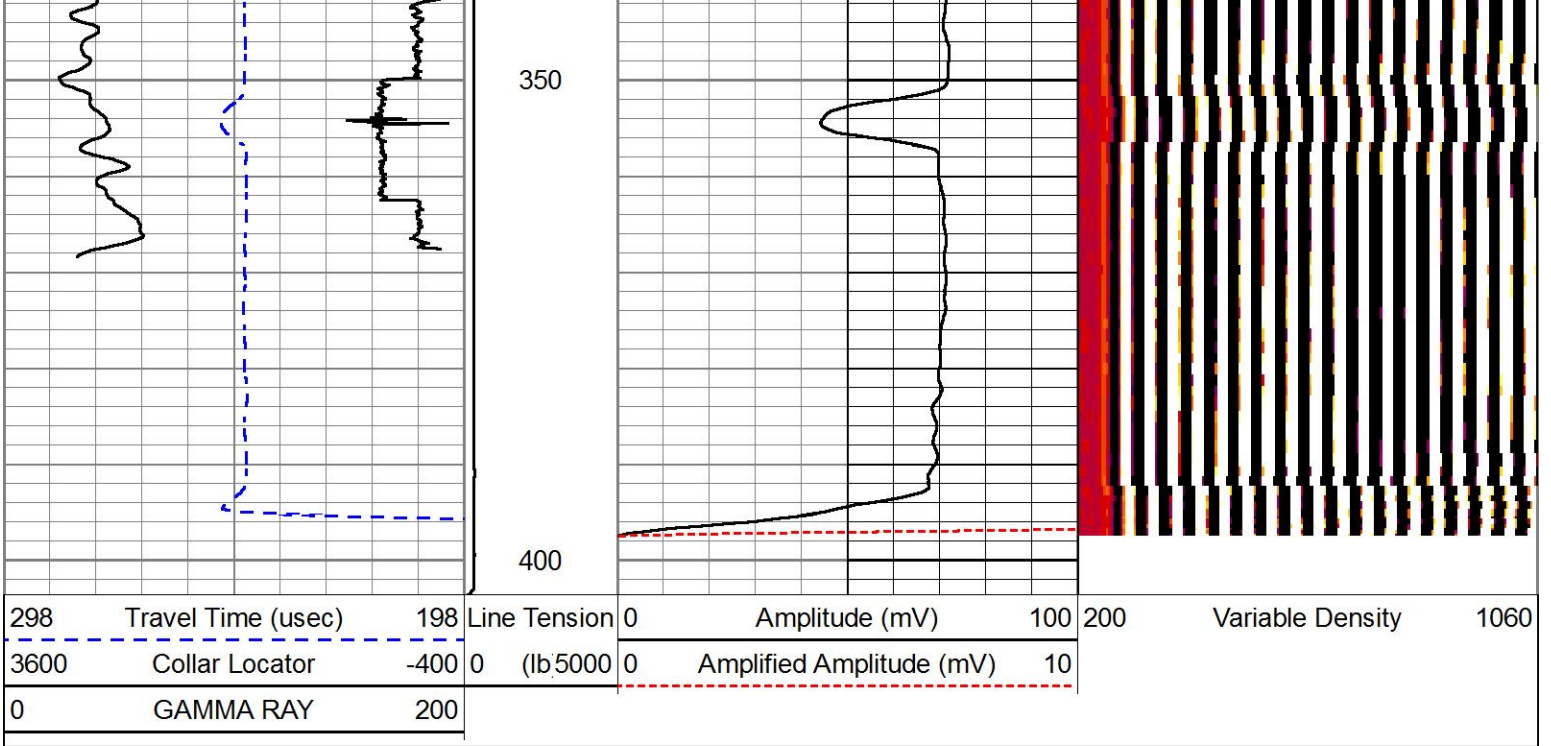
**FREE PIPE SECTION**

5" = 100'

Database File      mr\_b\_44c\_08\_7\_95.db  
Dataset Pathname    pass3  
Presentation Format   !!!!cbl\_rmti  
Dataset Creation     Sun Nov 27 16:49:03 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							





### FREE PIPE SECTION

**HALLIBURTON**

5" = 100'

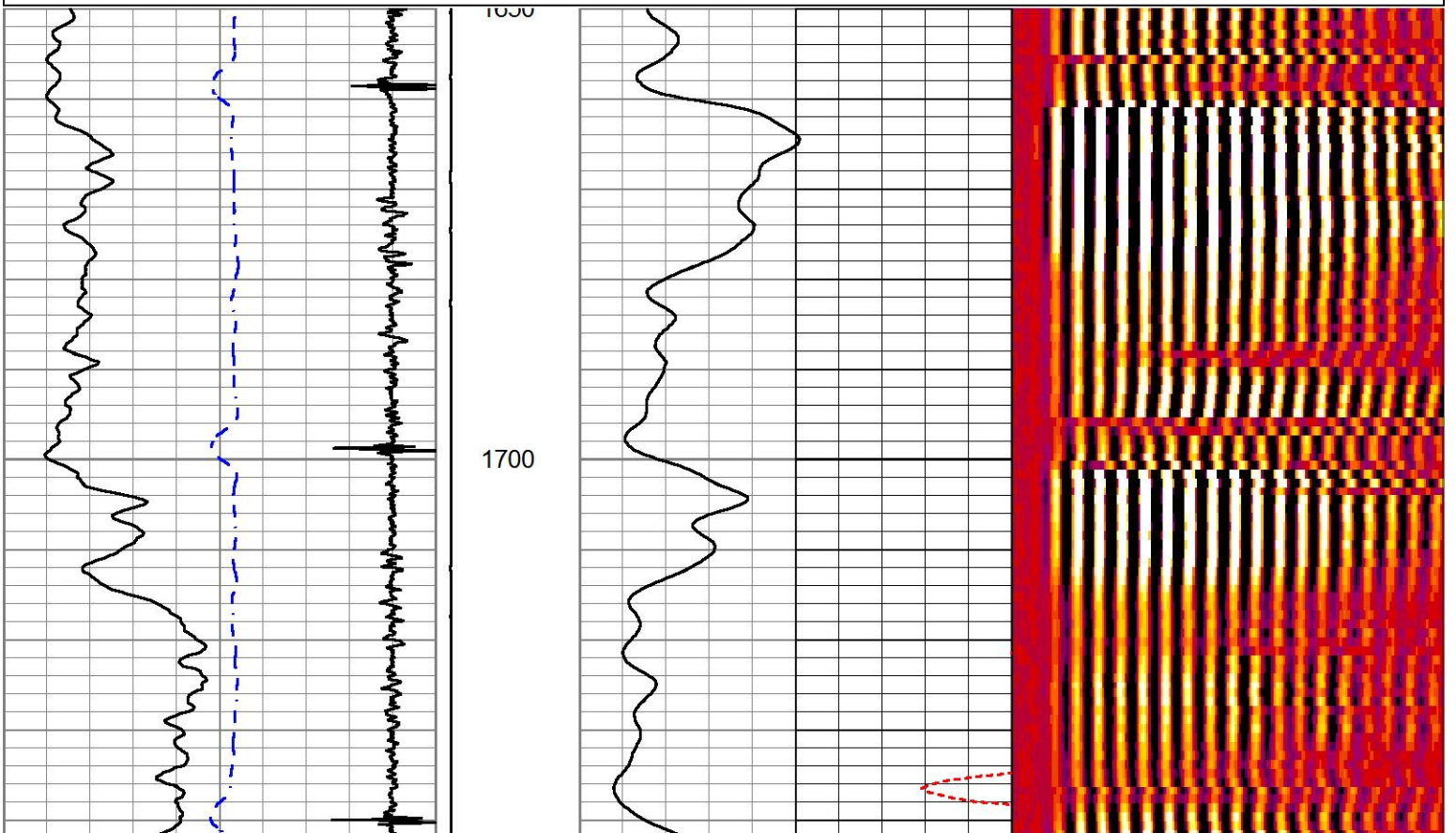
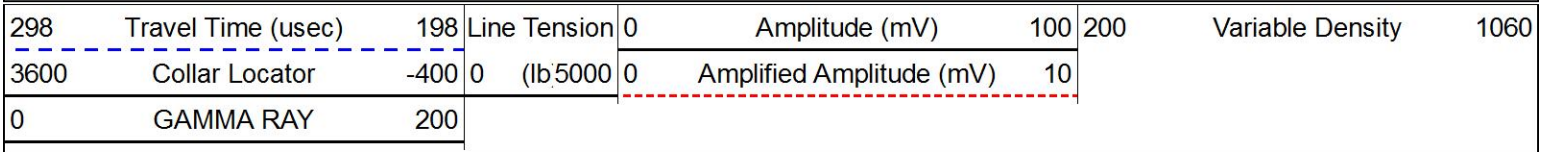


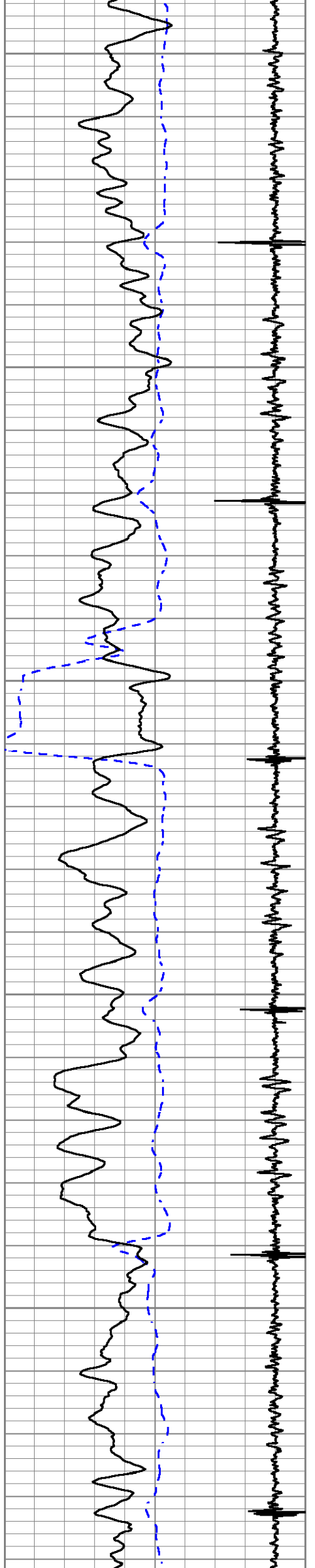
### MAIN PASS

**HALLIBURTON**

5" = 100'

Database File mr\_b\_44c\_08\_7\_95.db  
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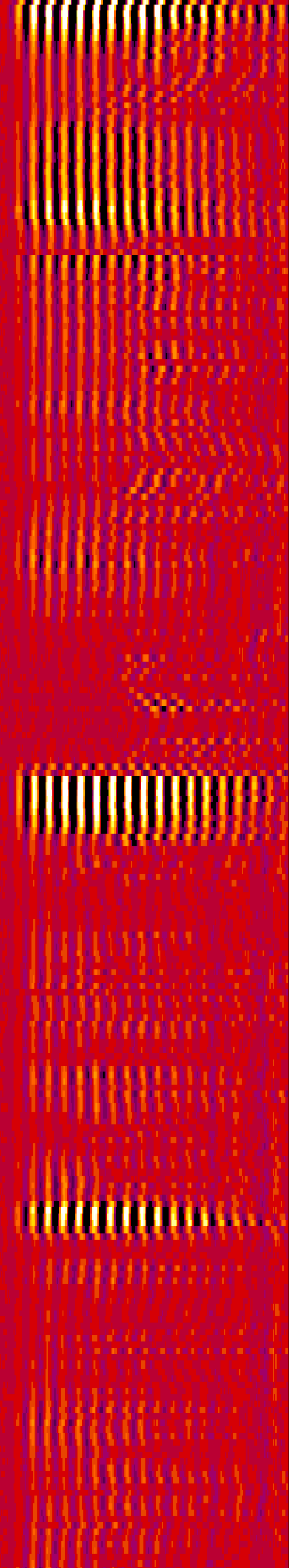
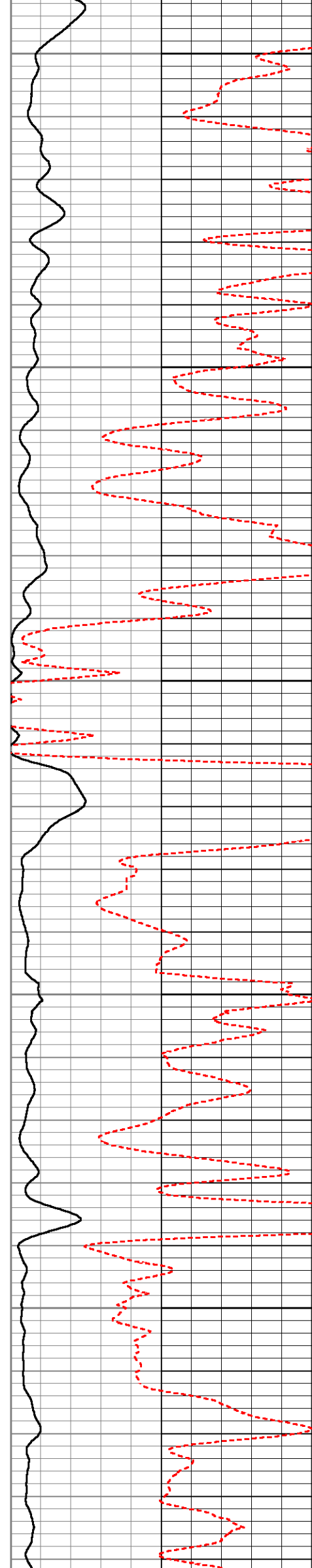
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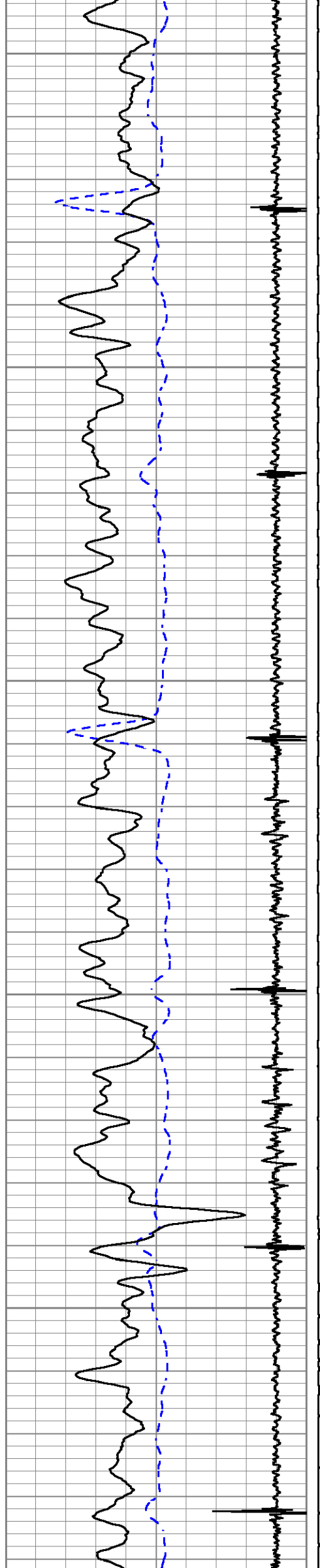
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1900

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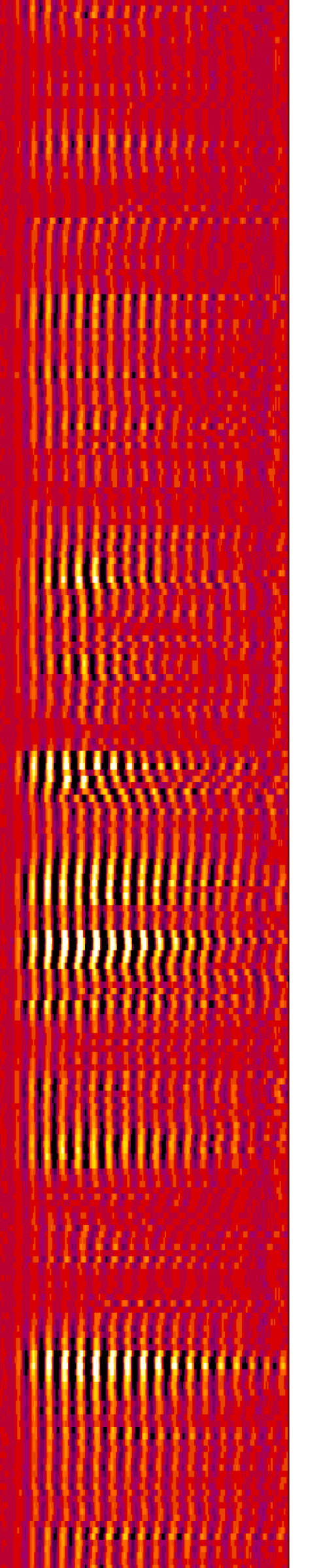
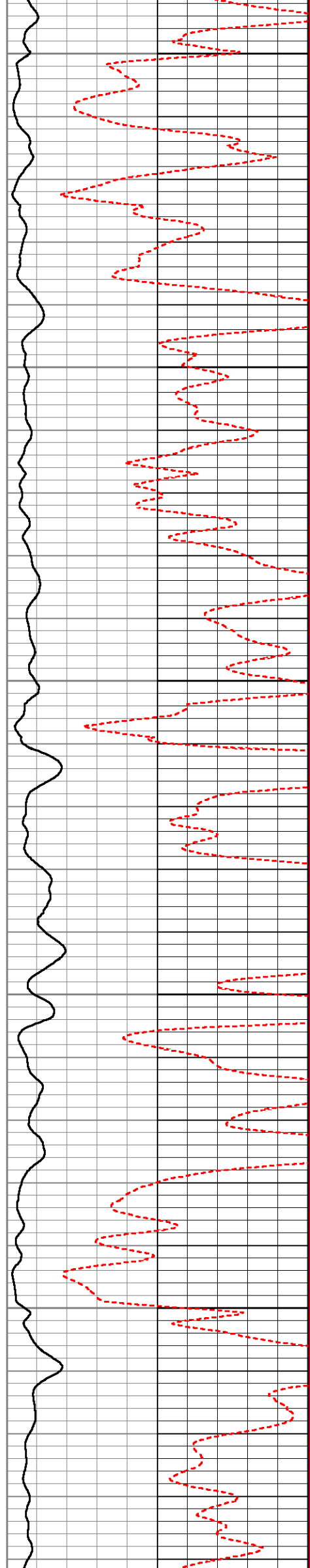
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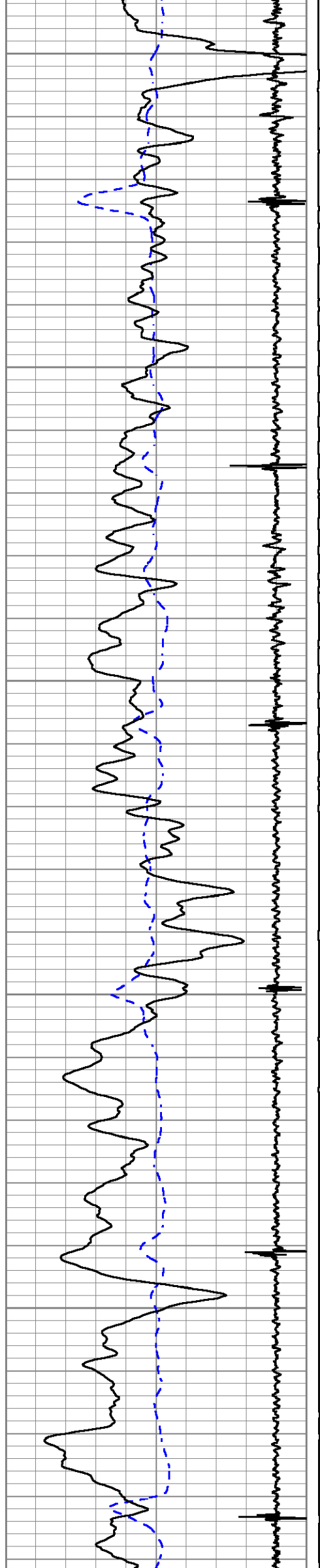
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2100

2150

2200





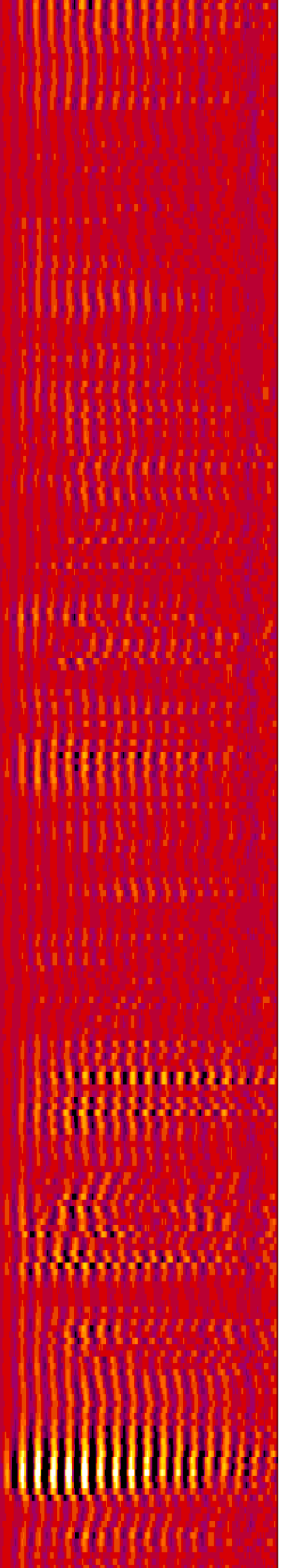
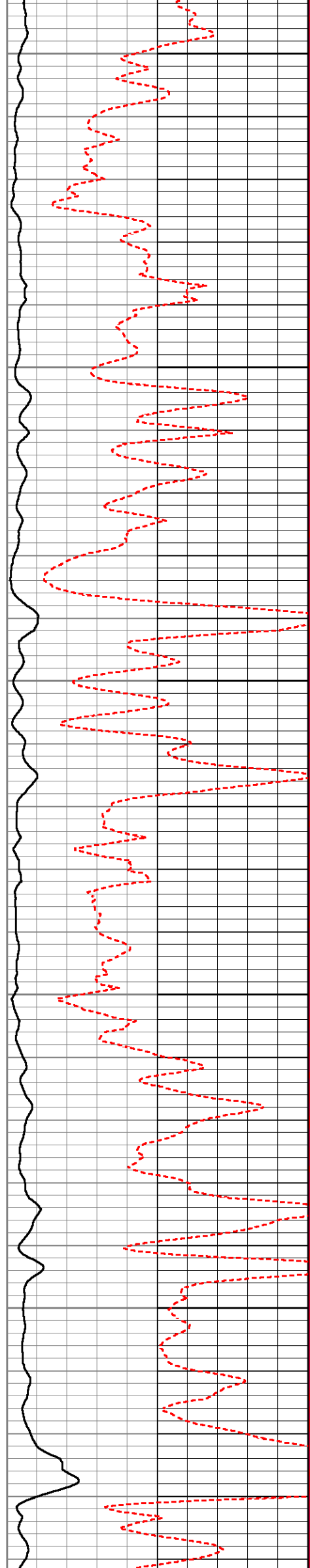
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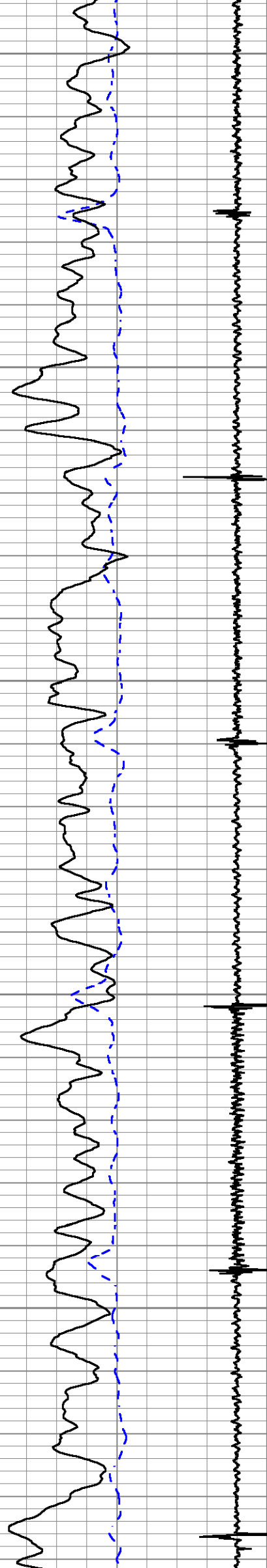
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2350

2400

2450





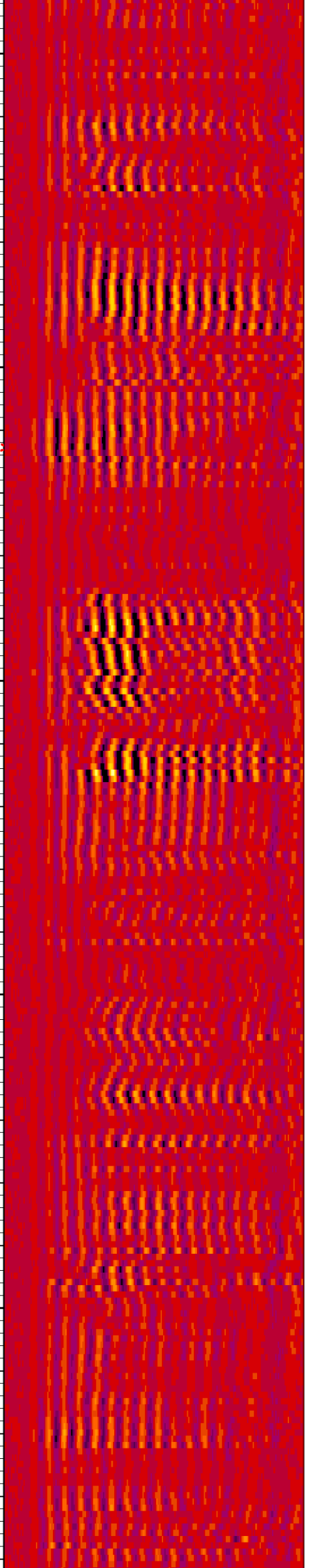
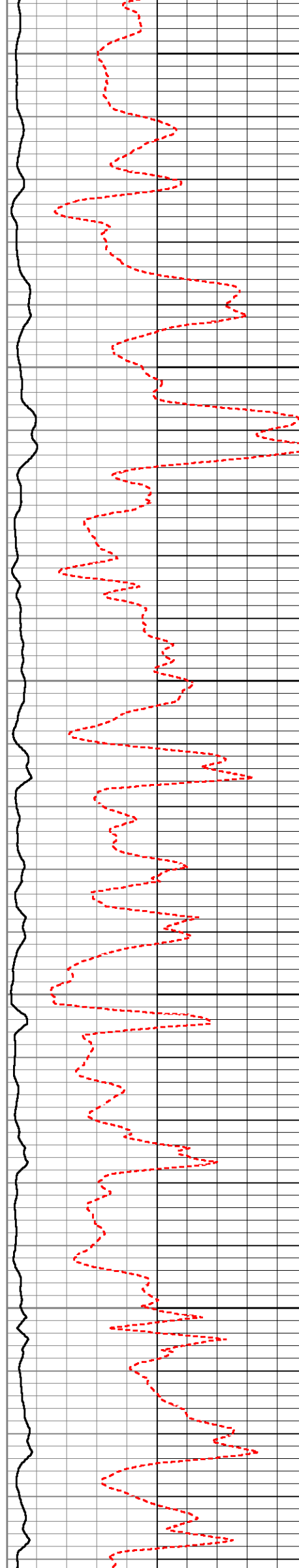
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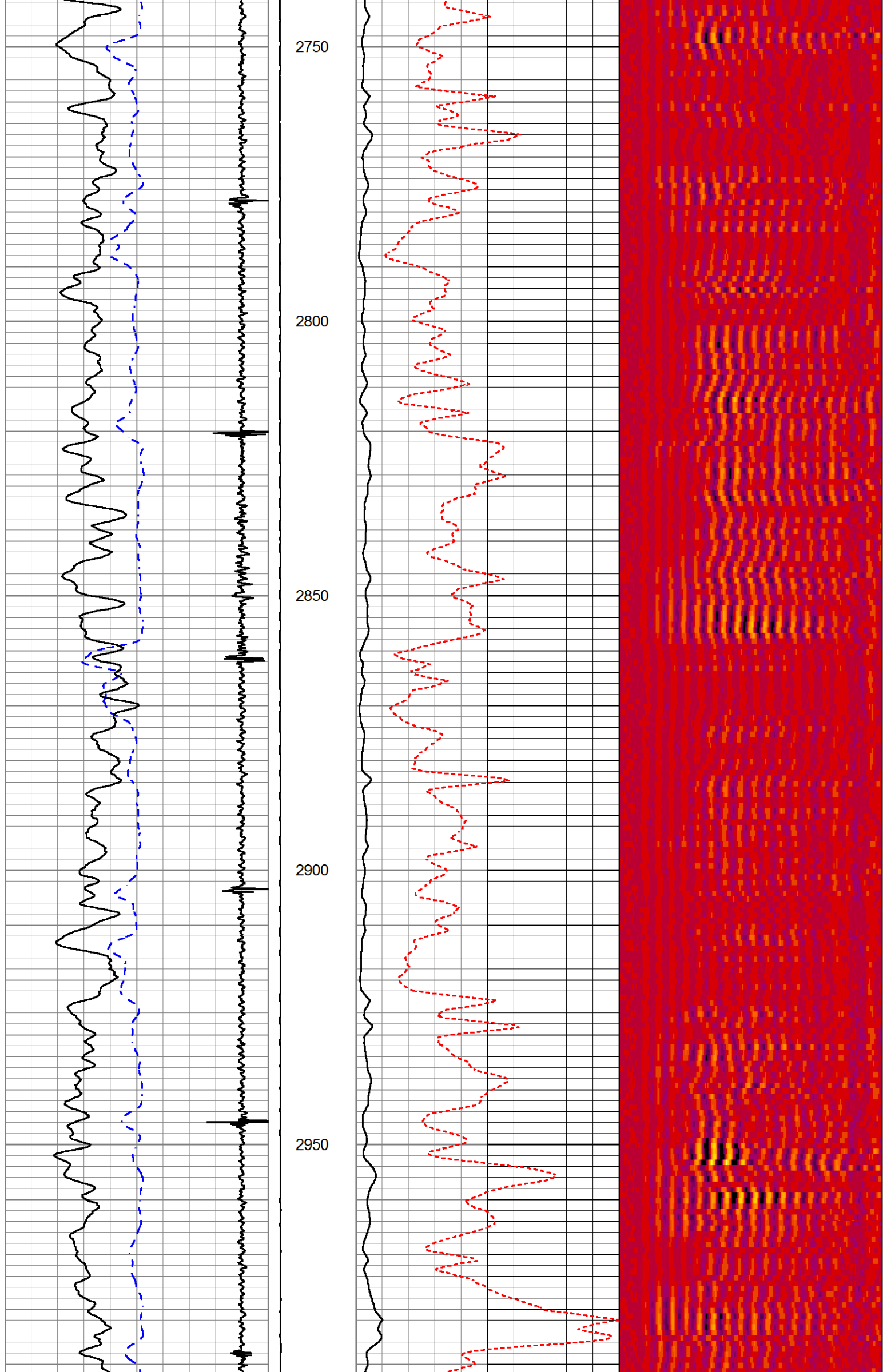
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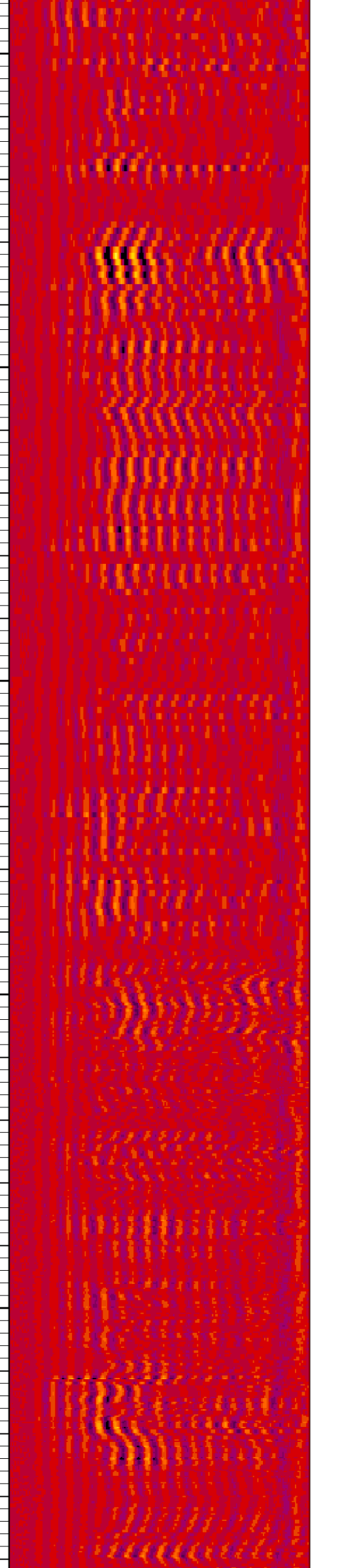
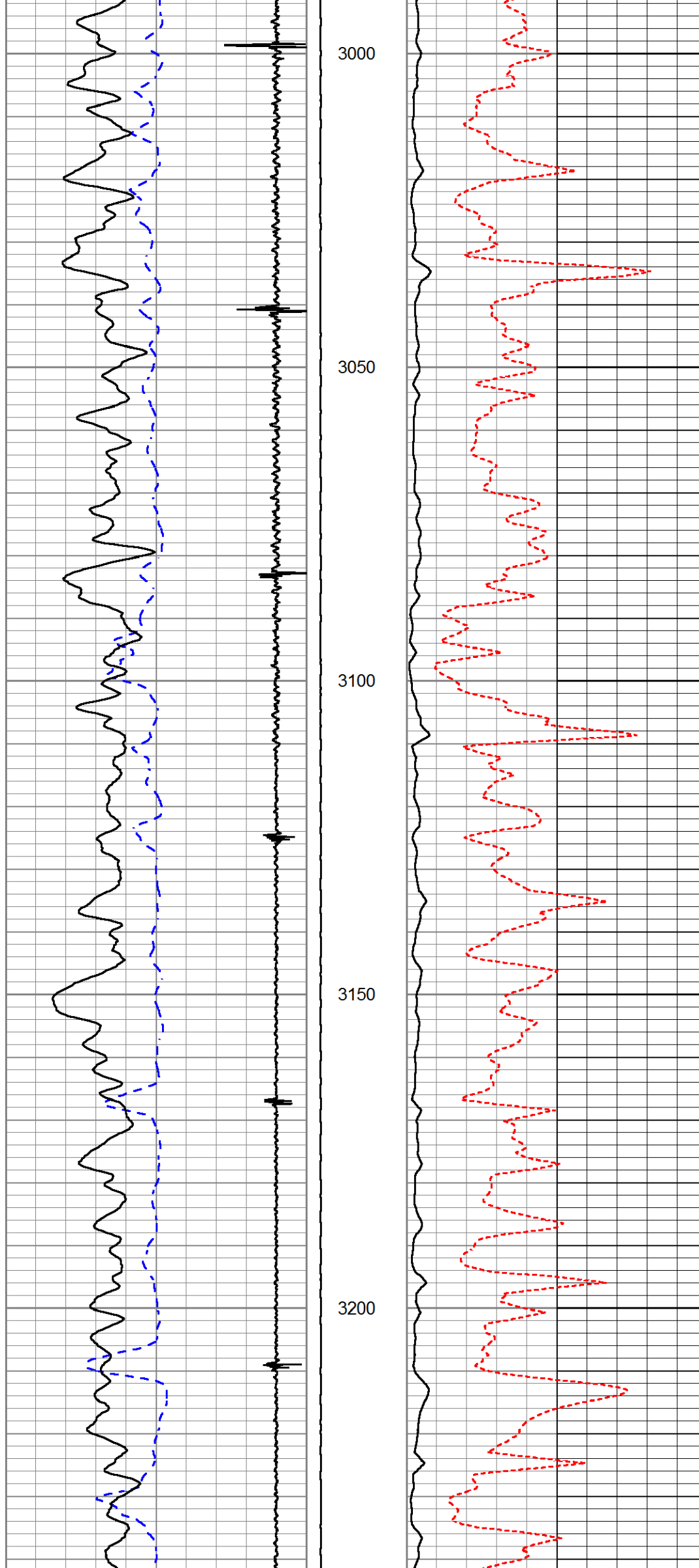
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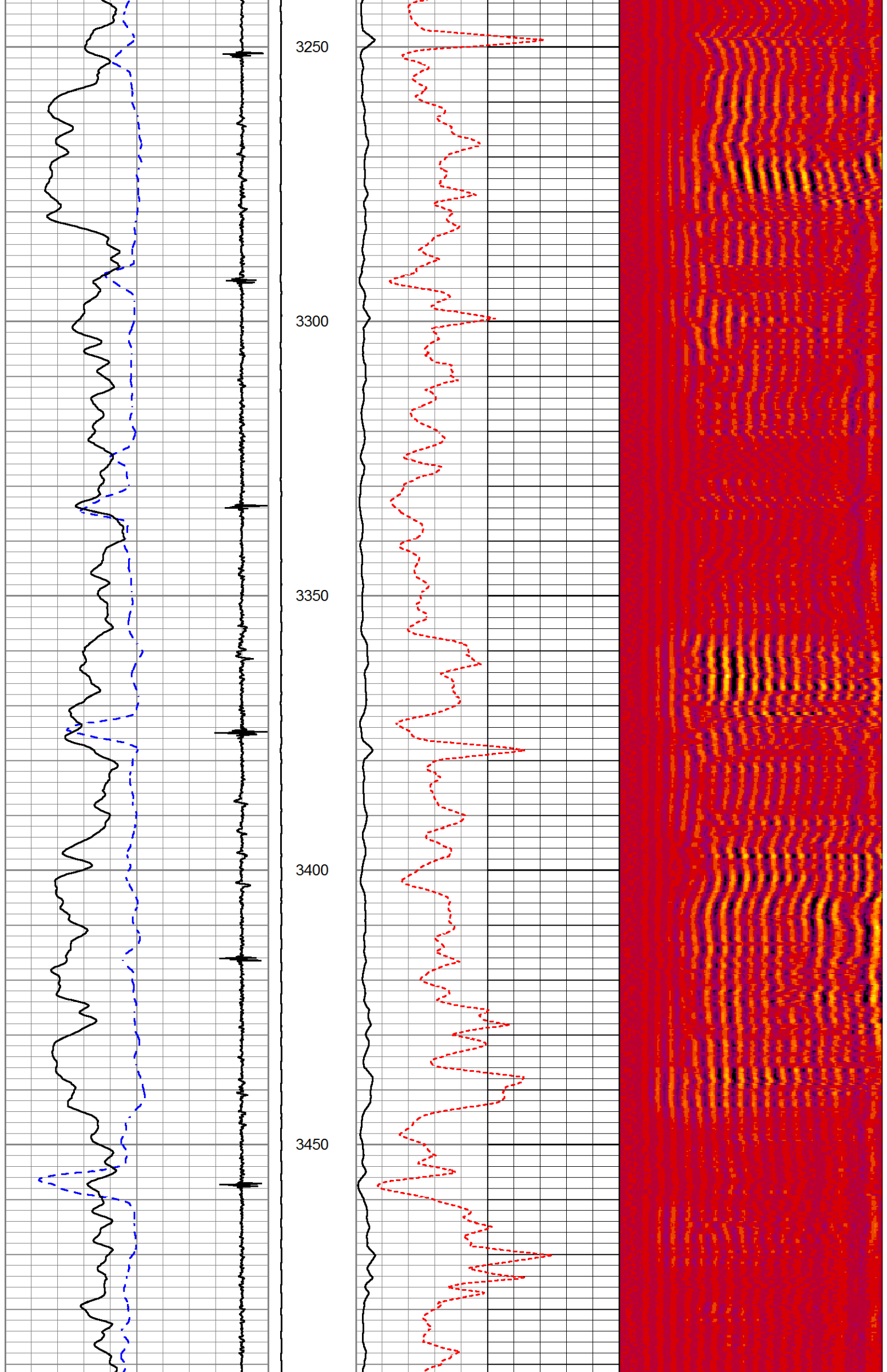
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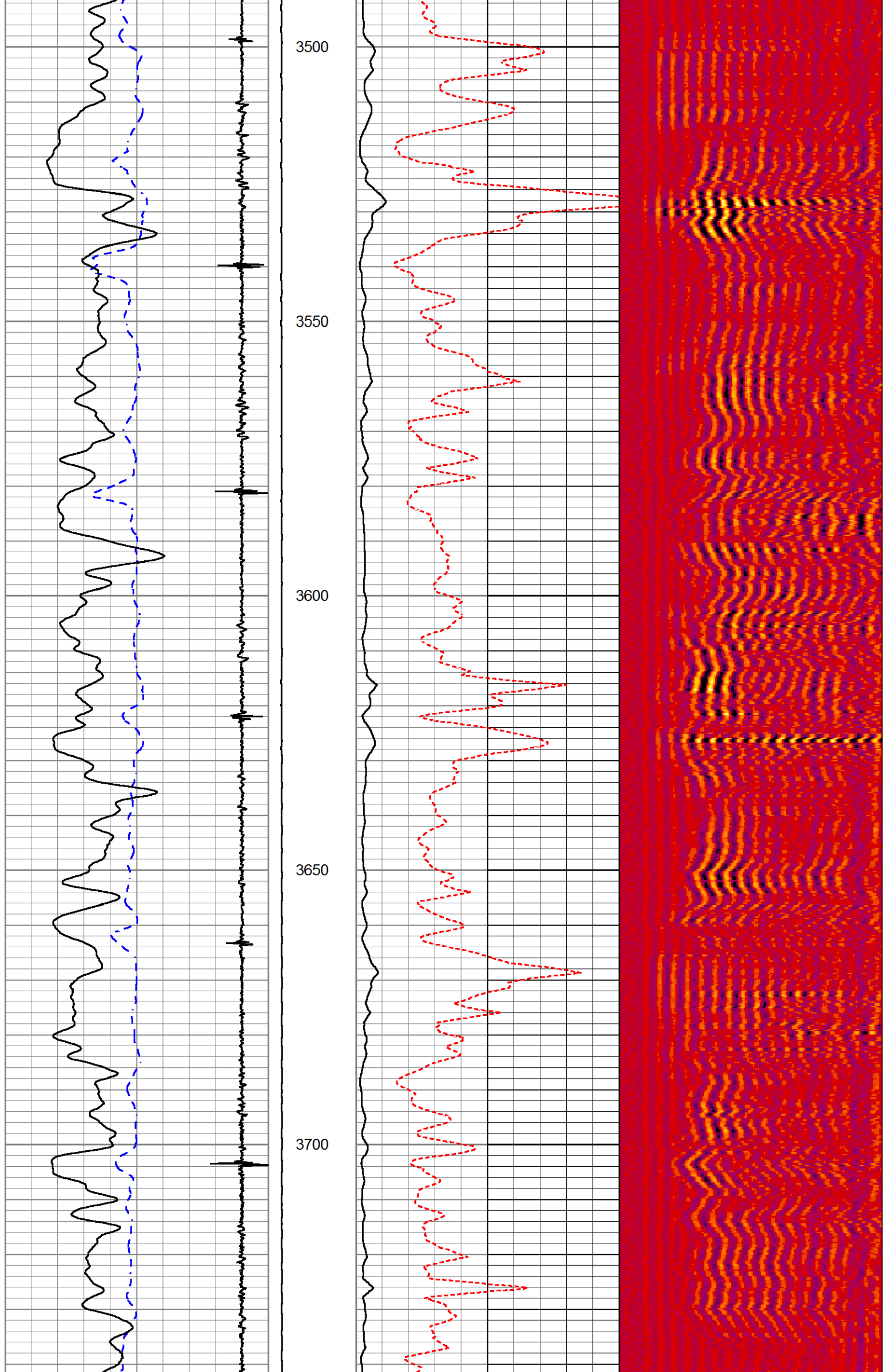
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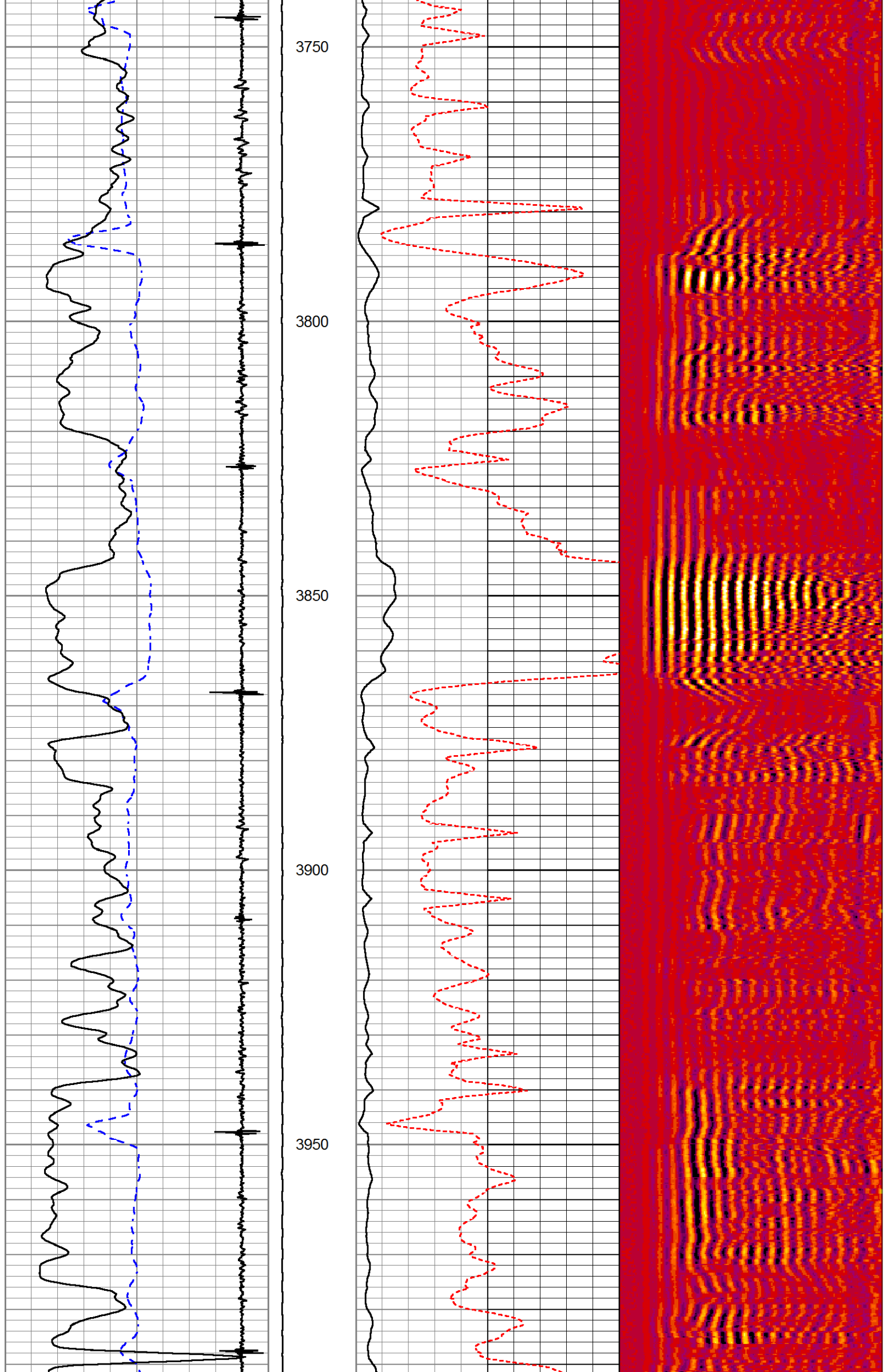


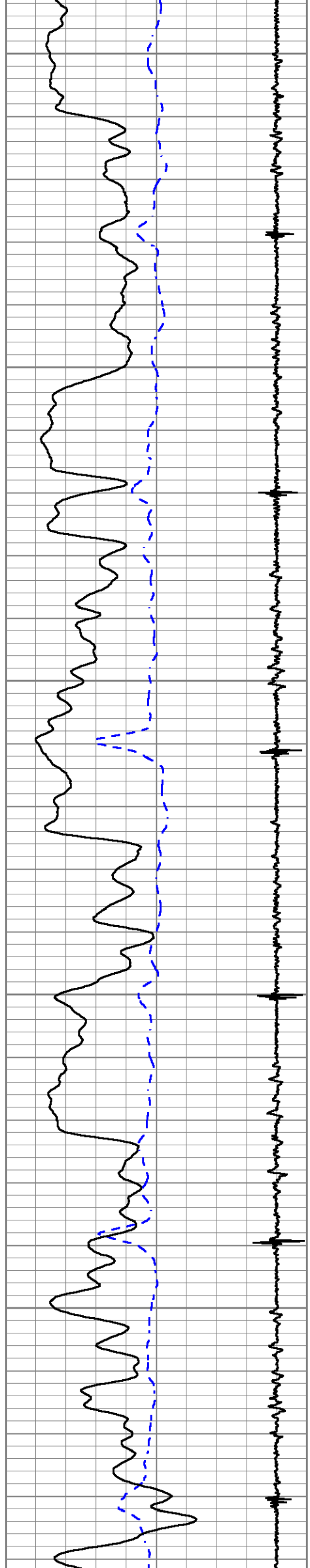












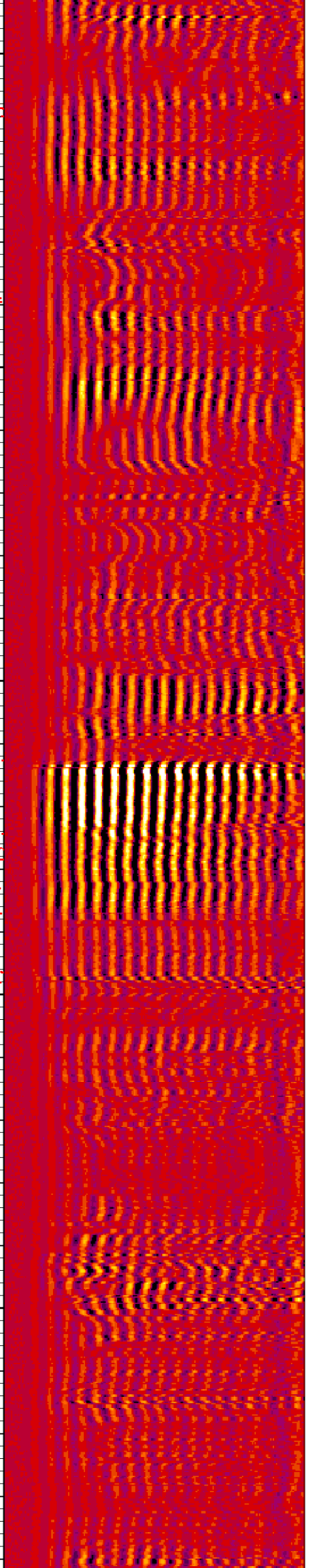
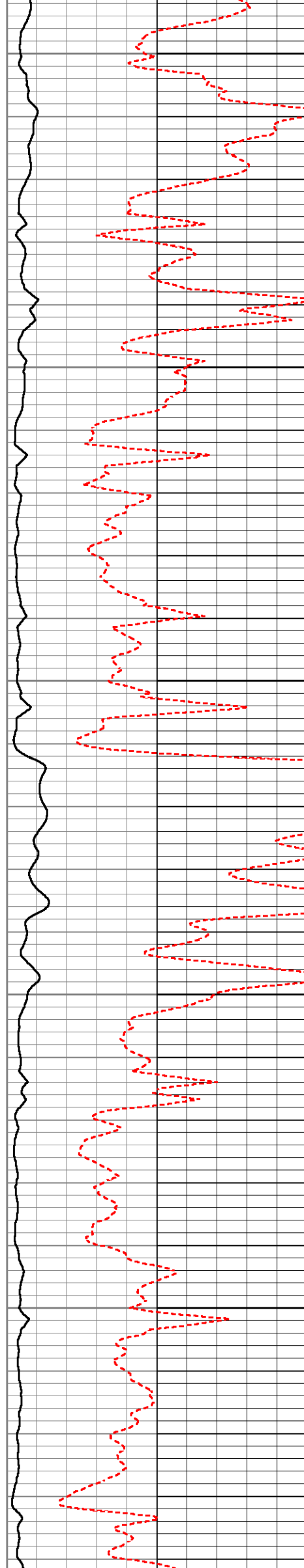
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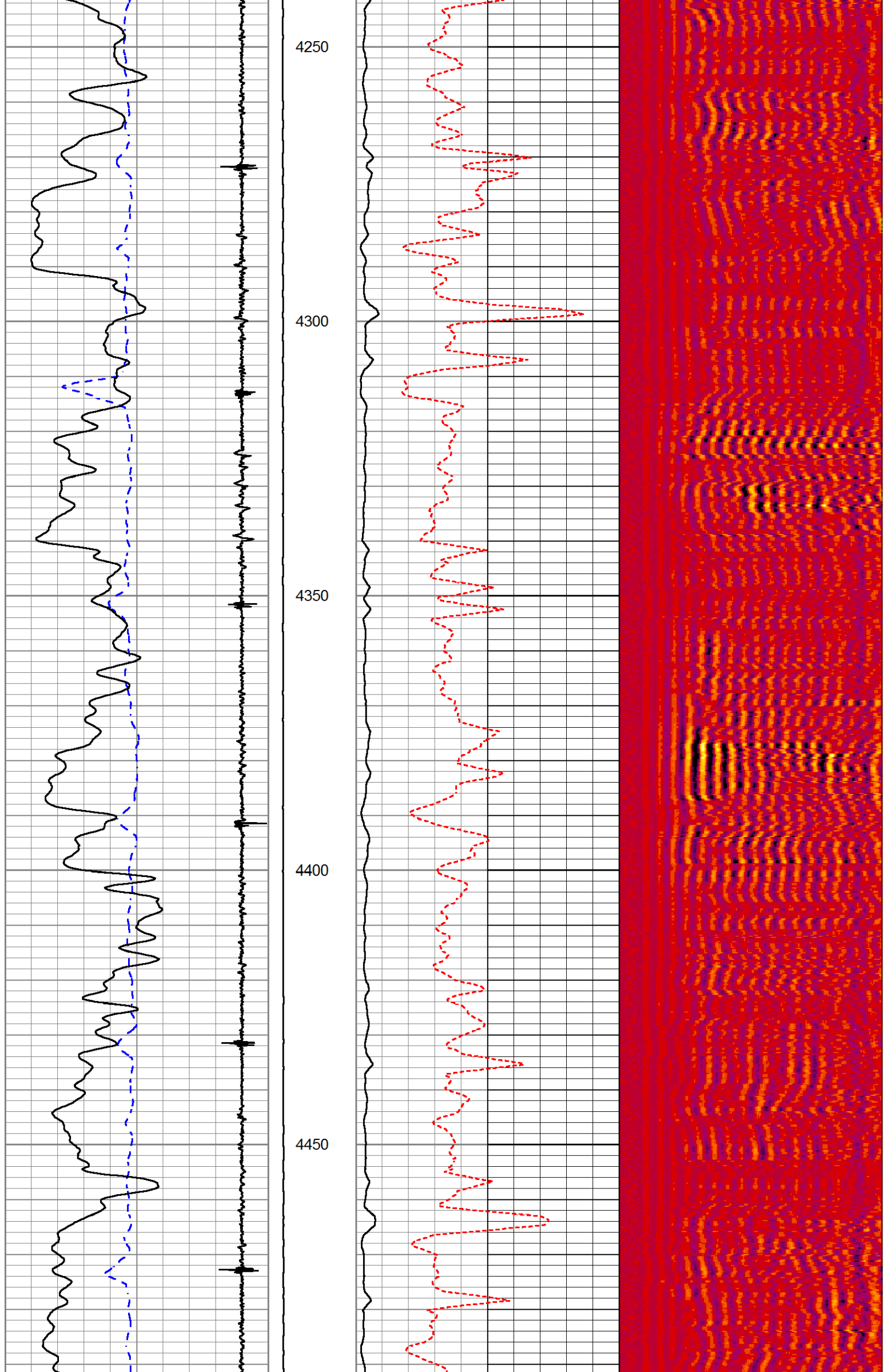
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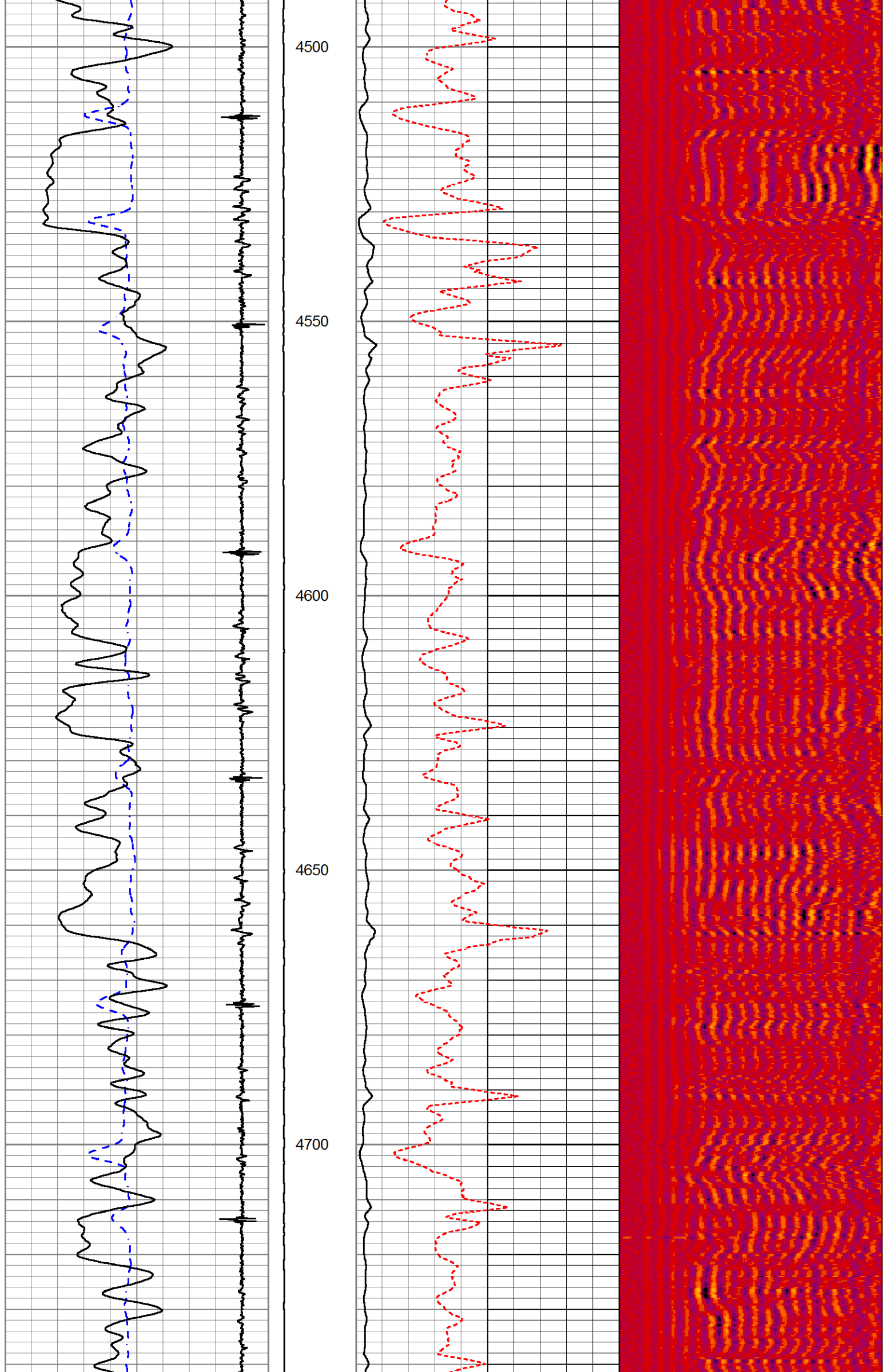
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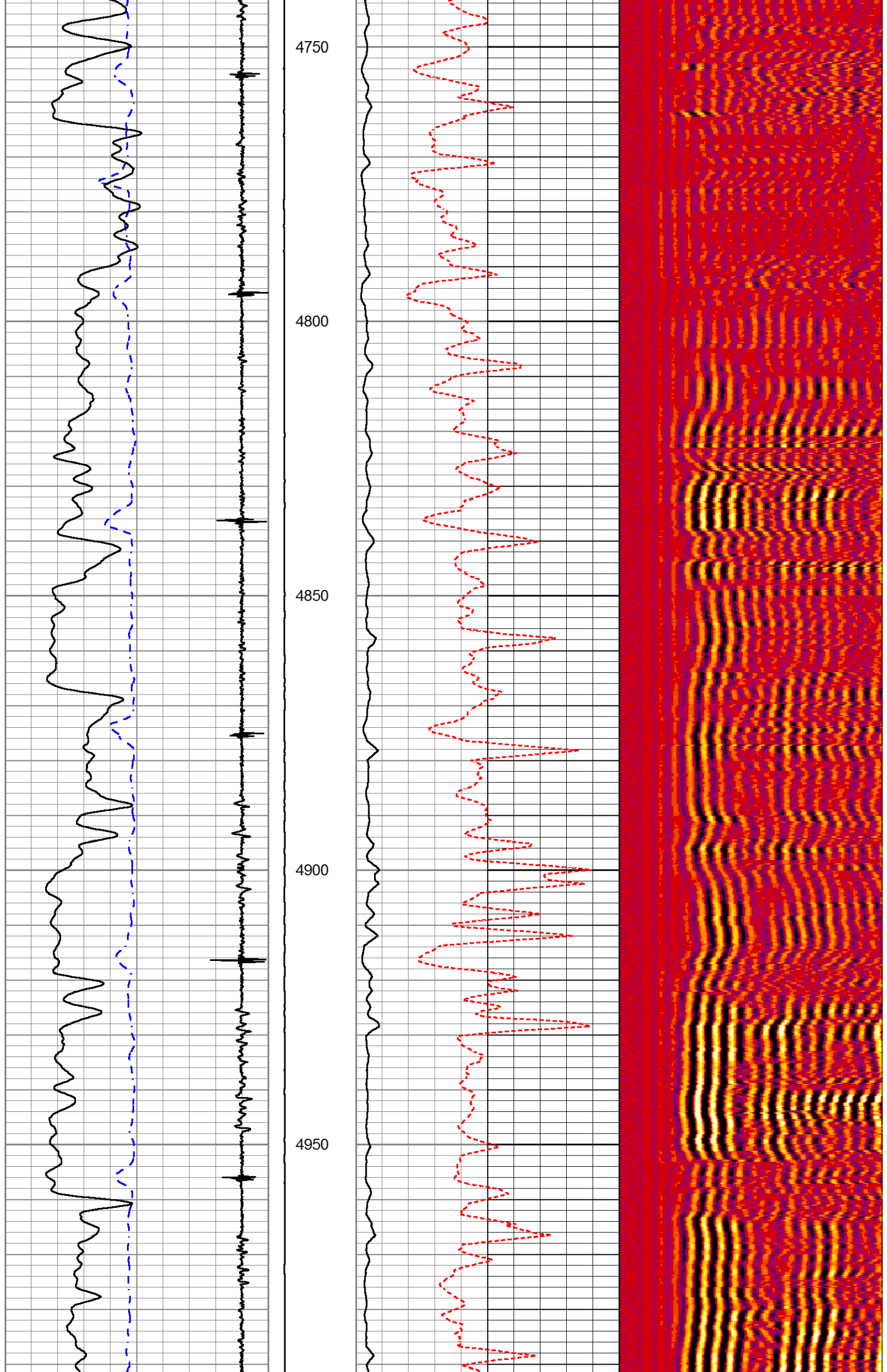
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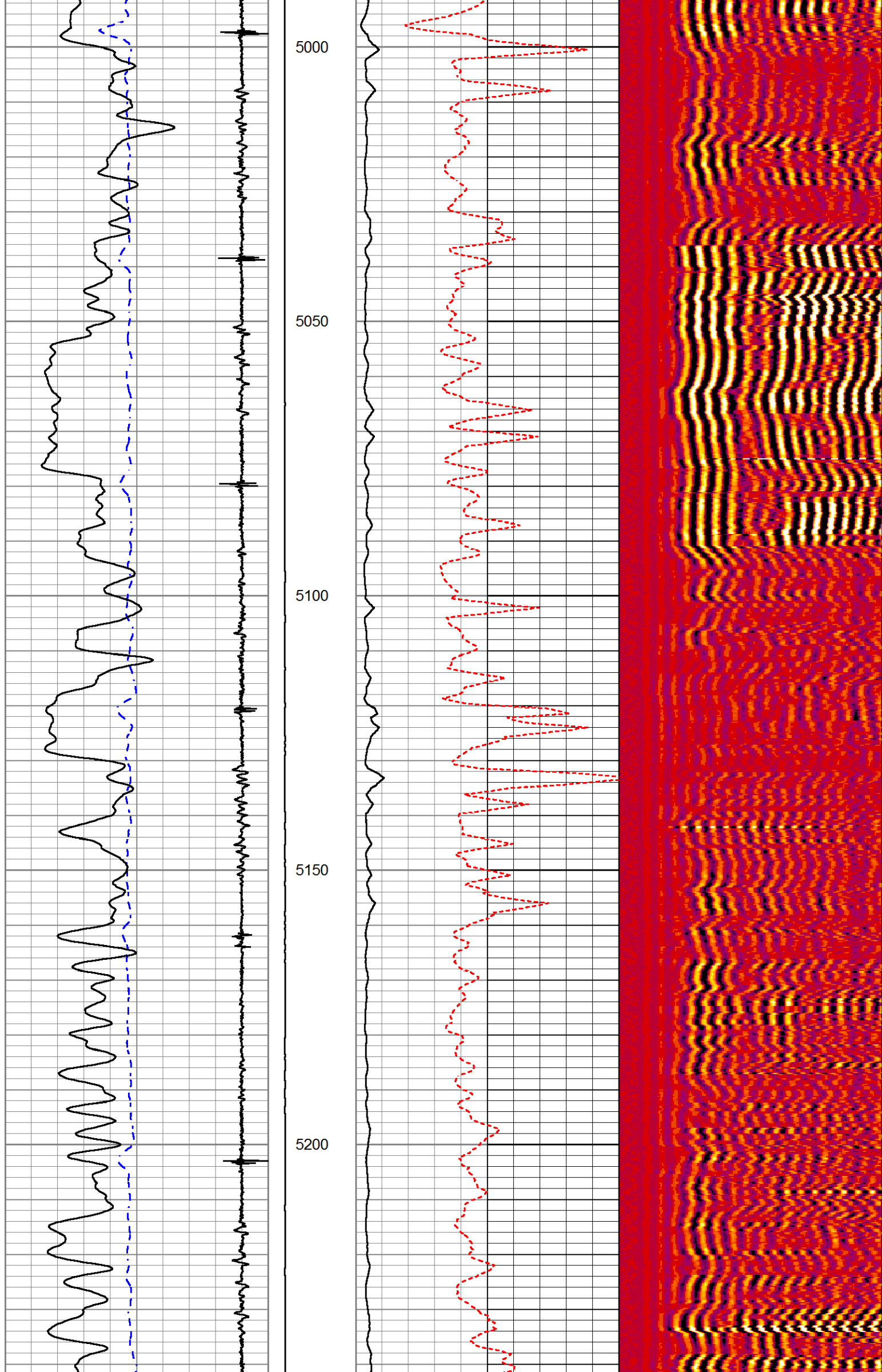
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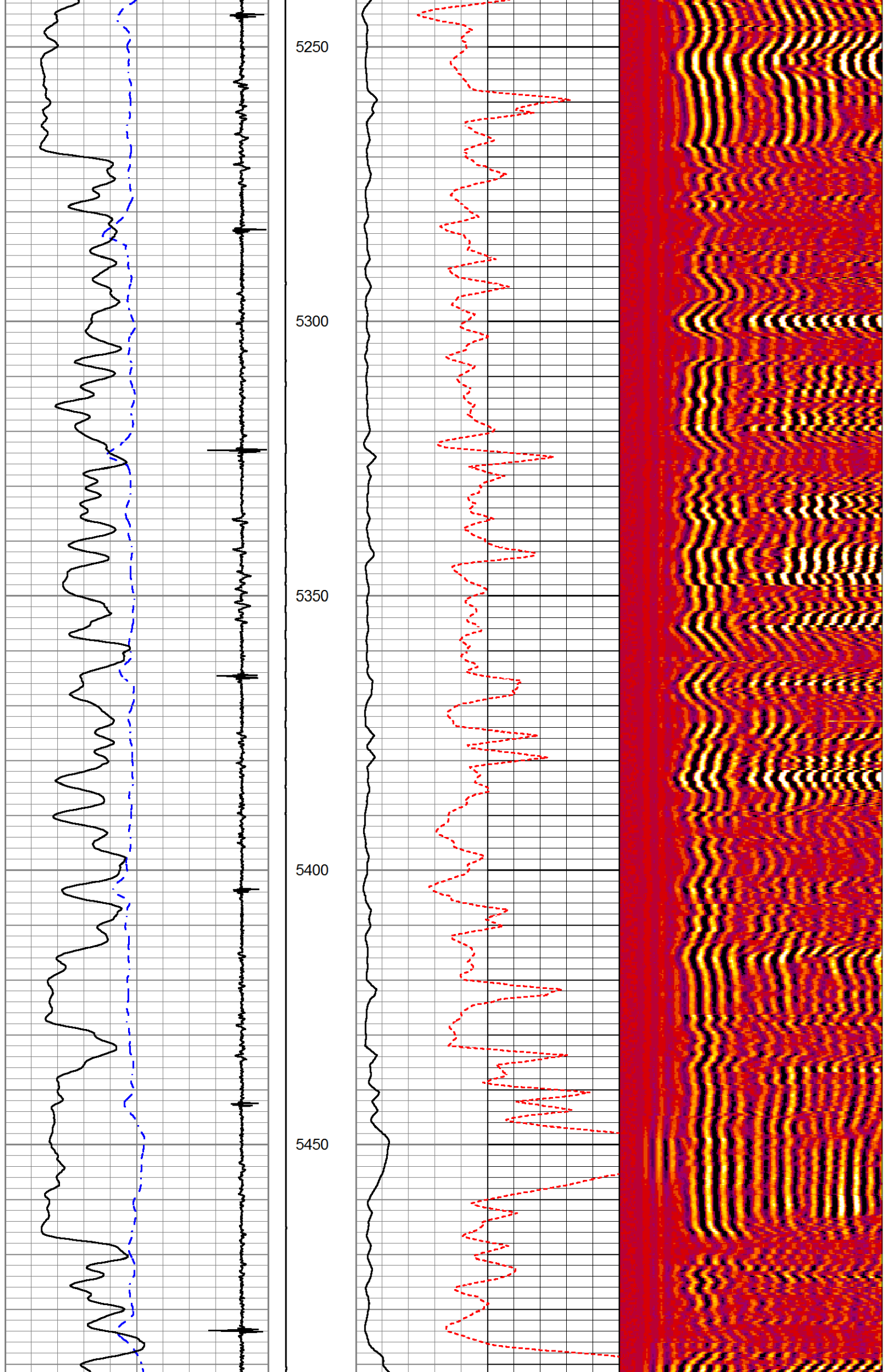


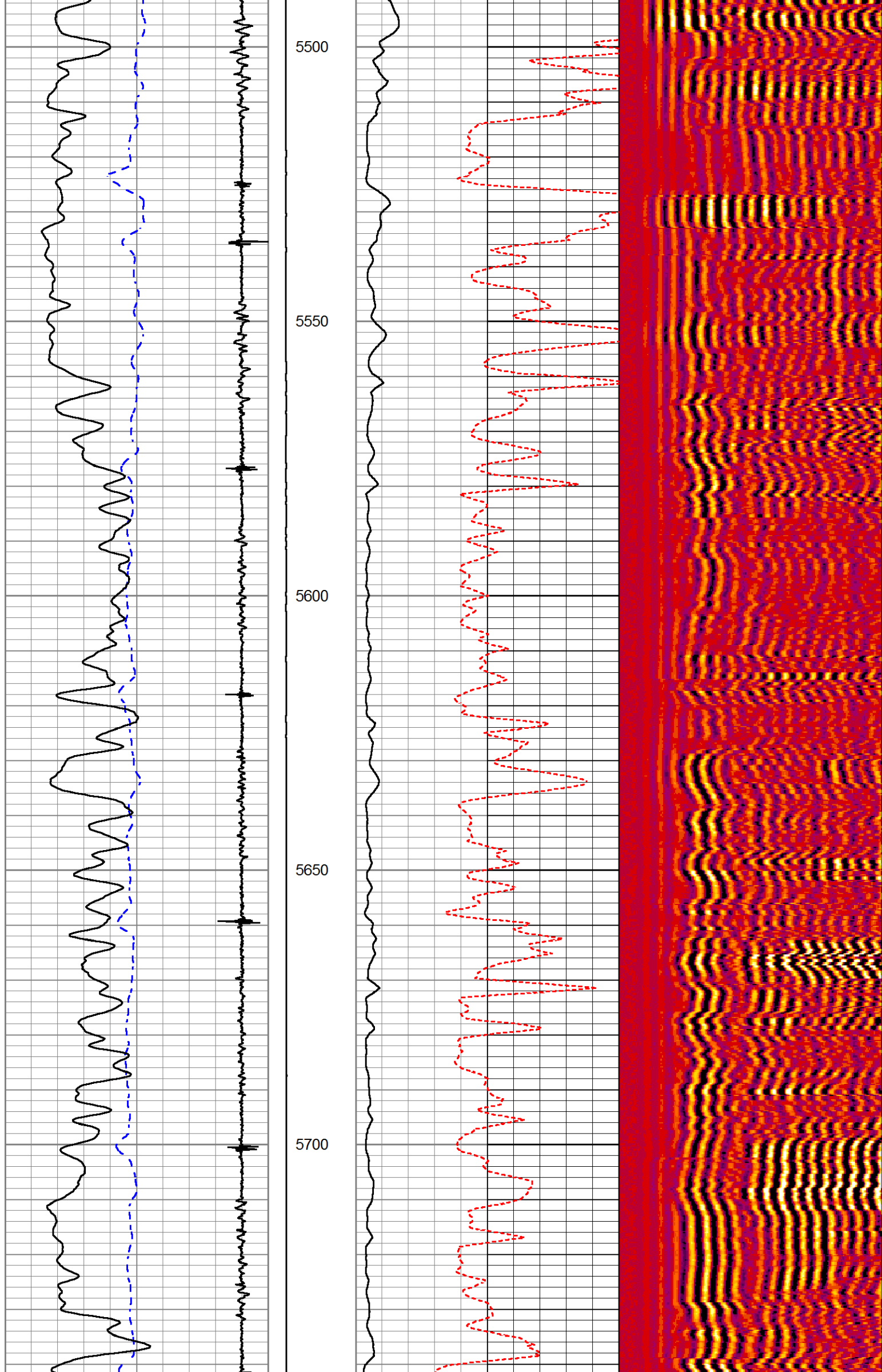


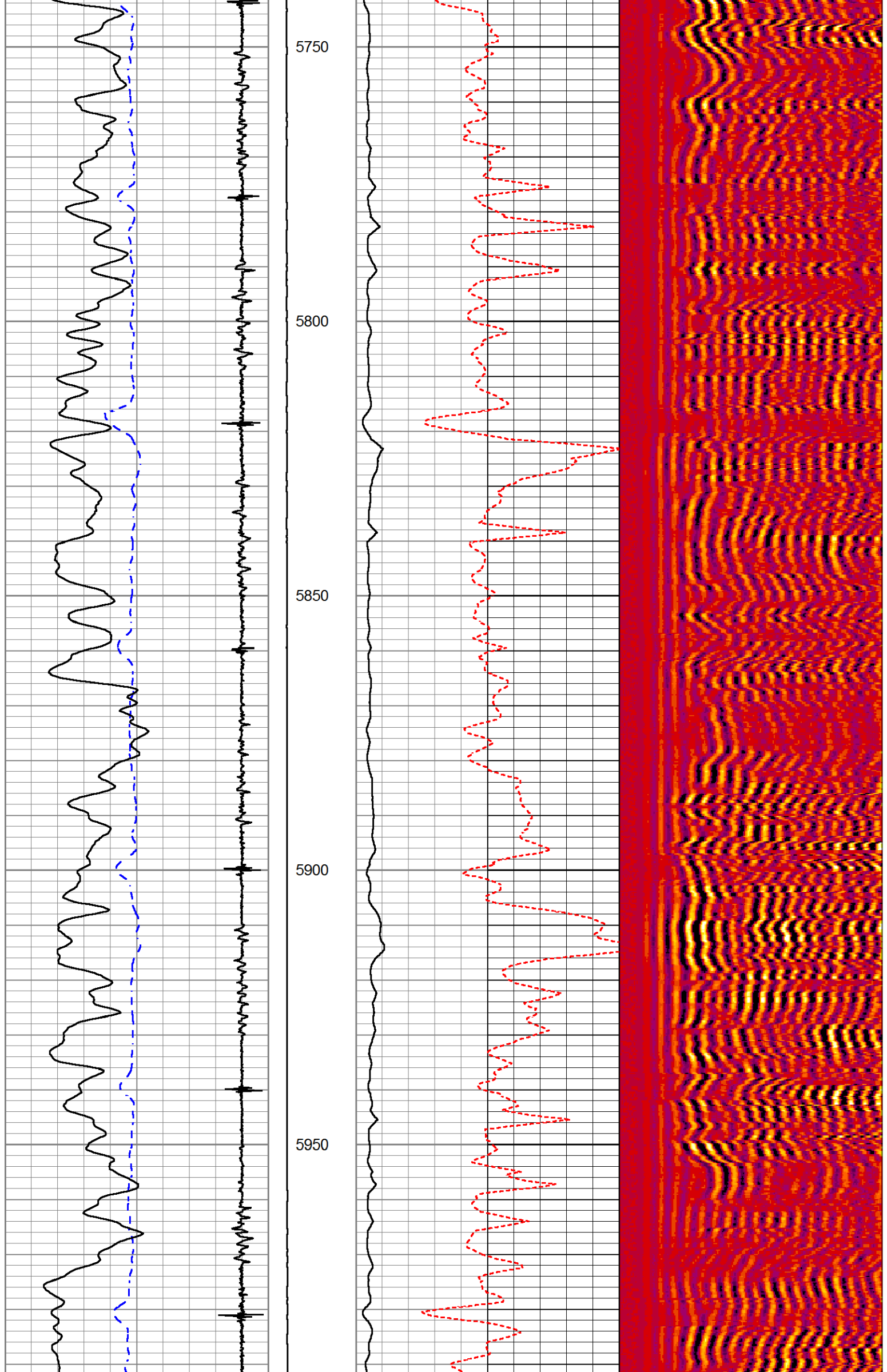


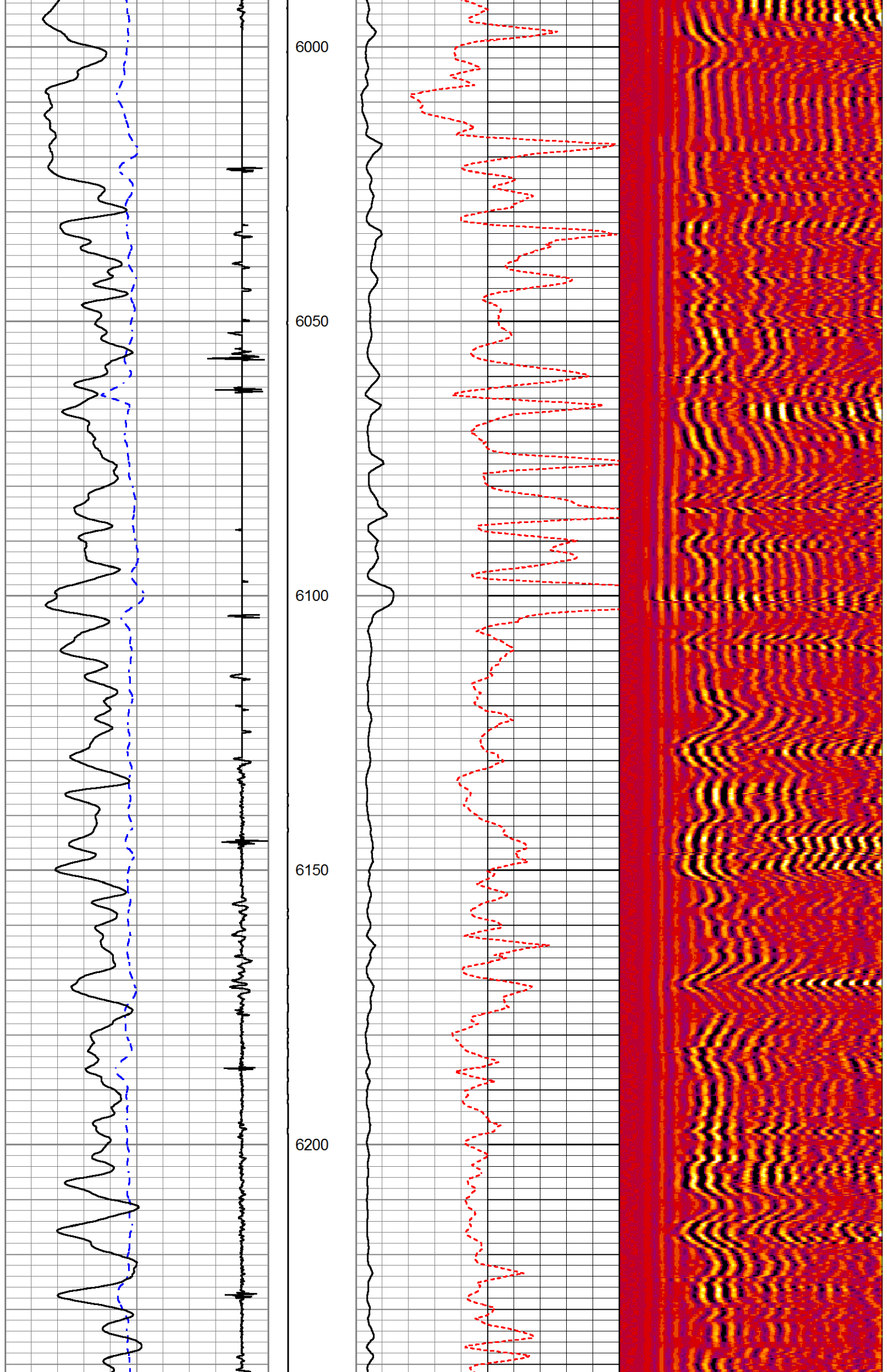


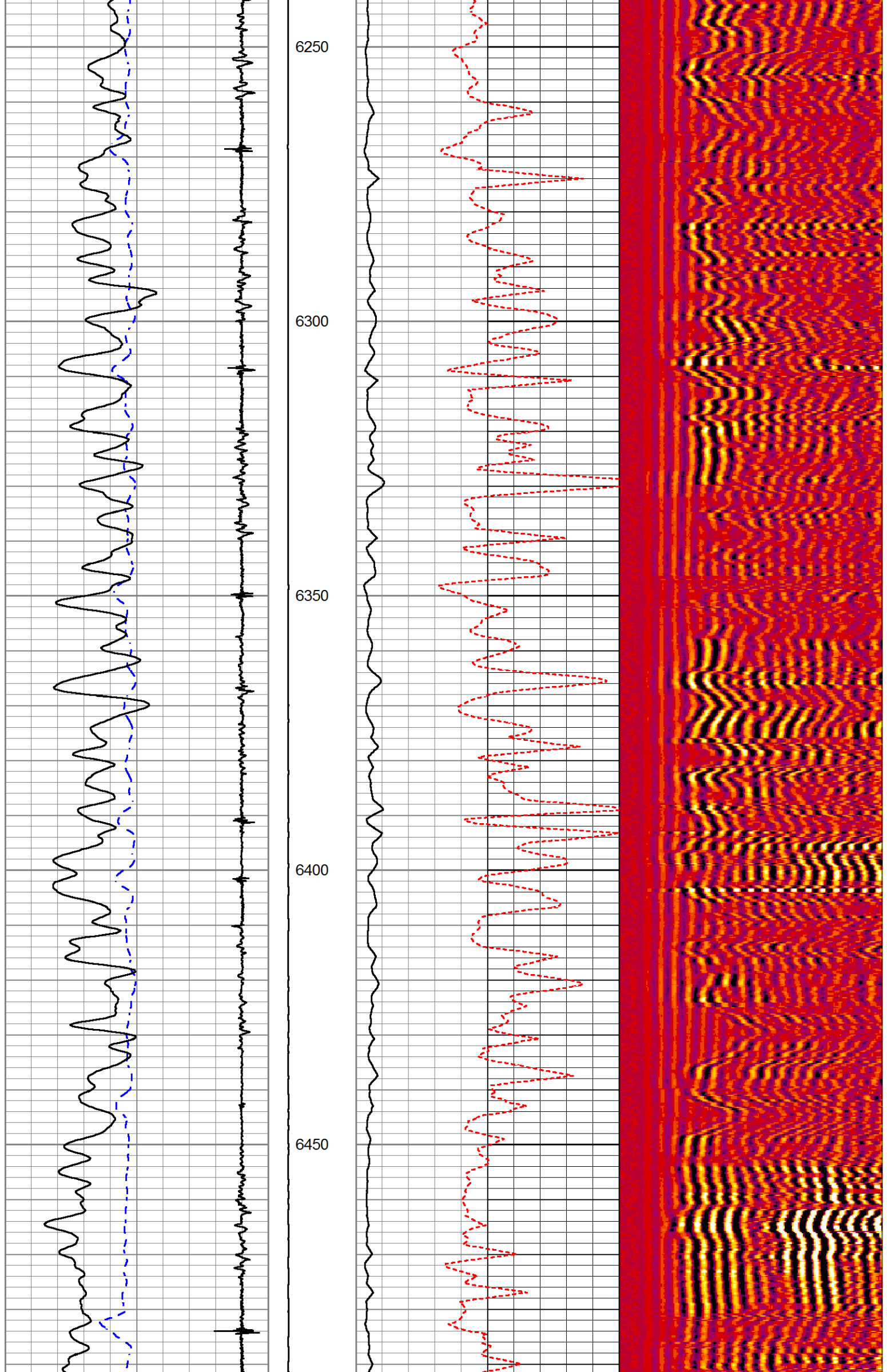


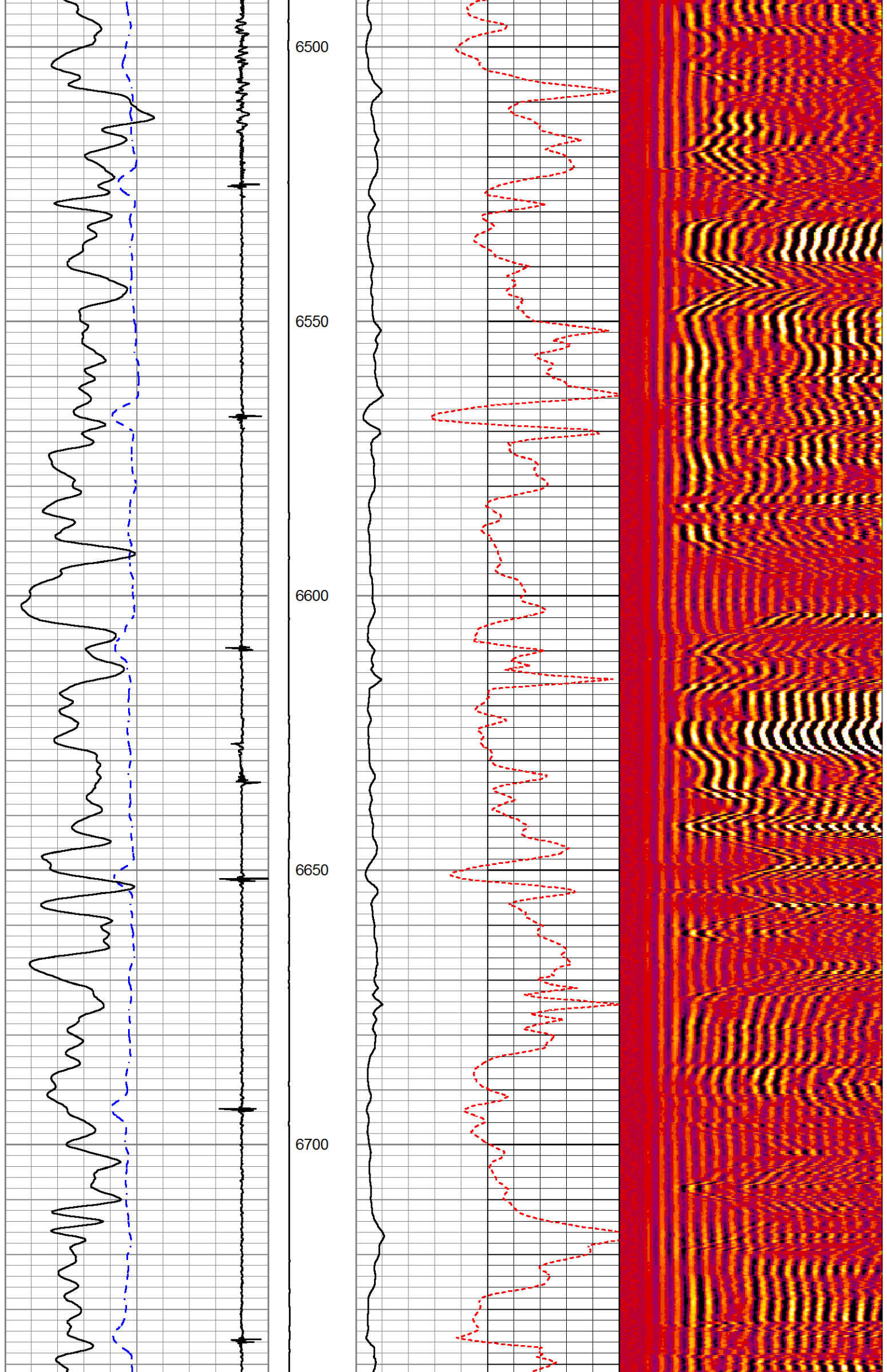


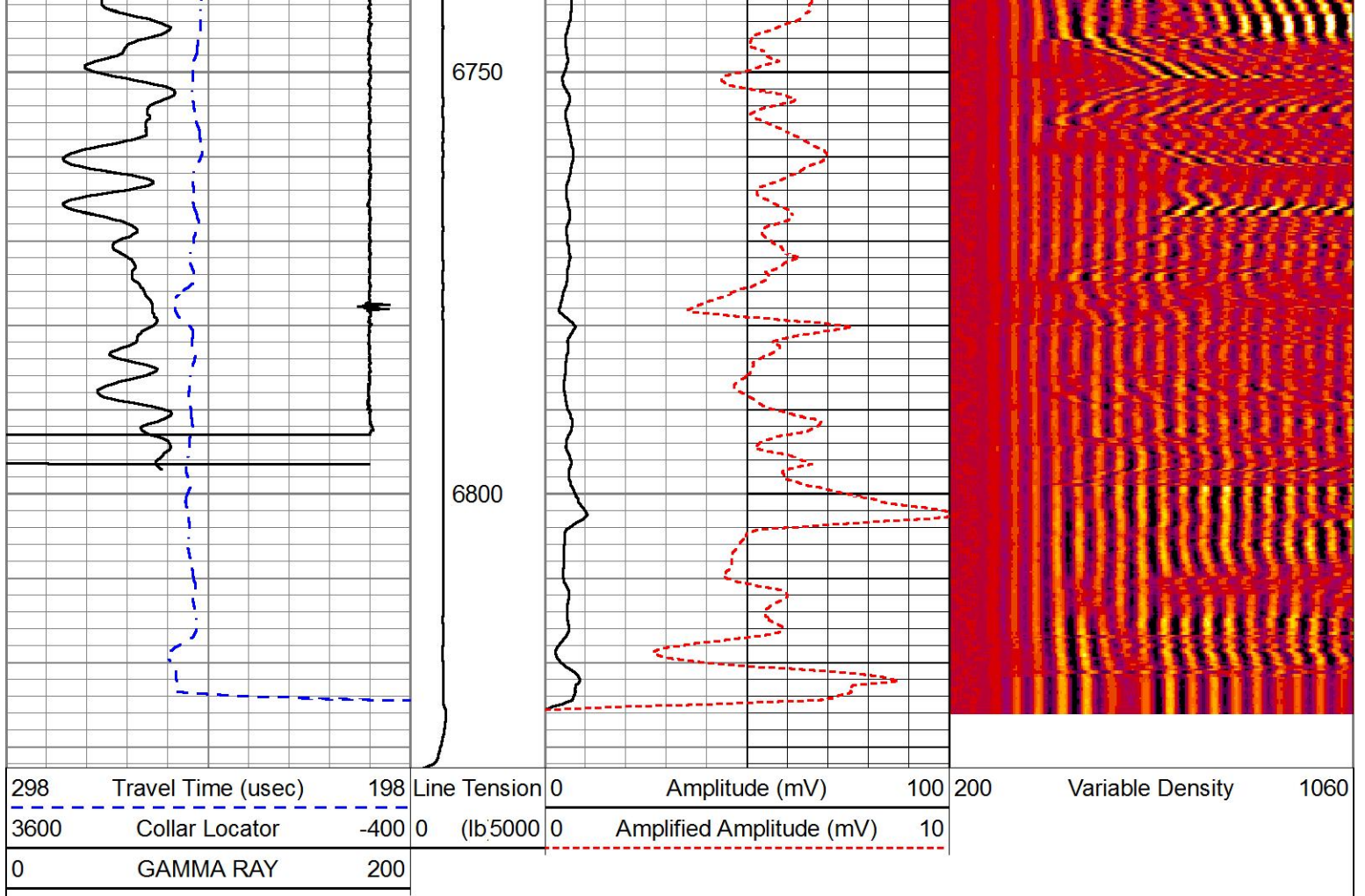












### MAIN PASS

**HALLIBURTON**

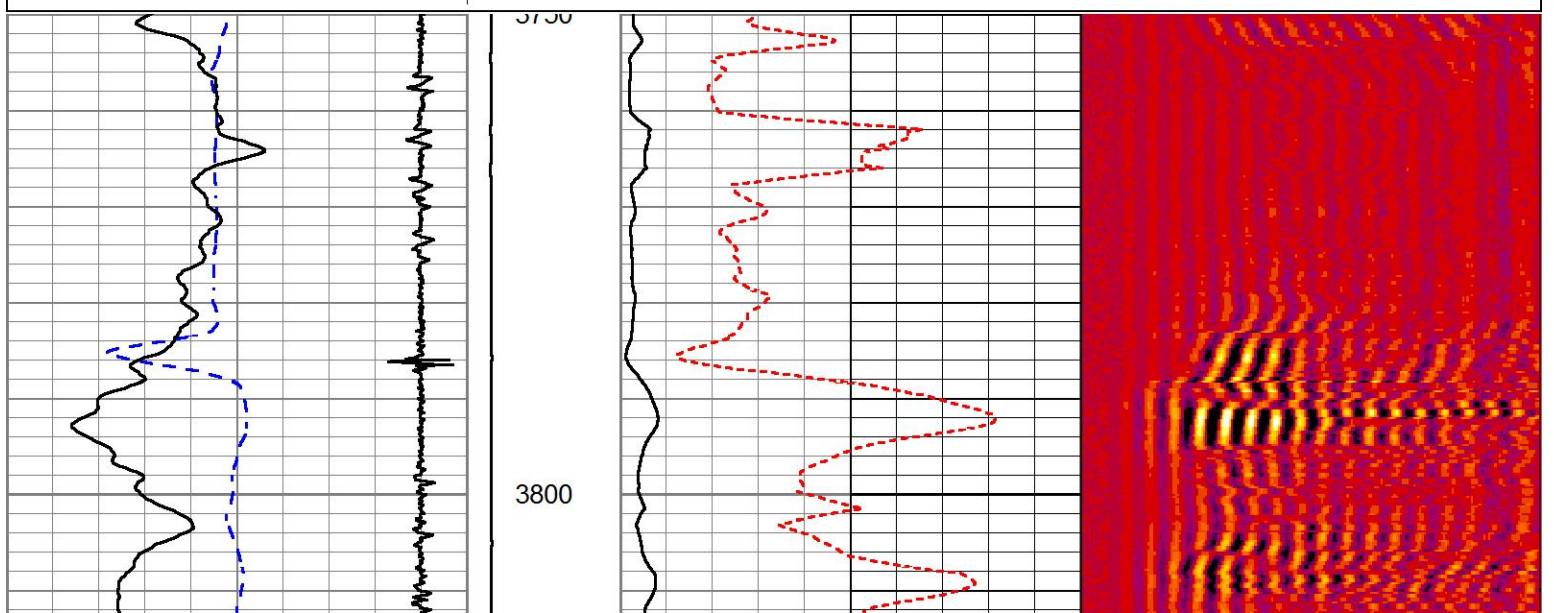
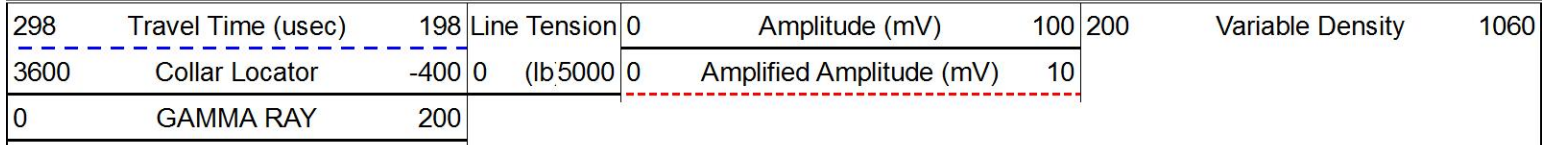
5" = 100'

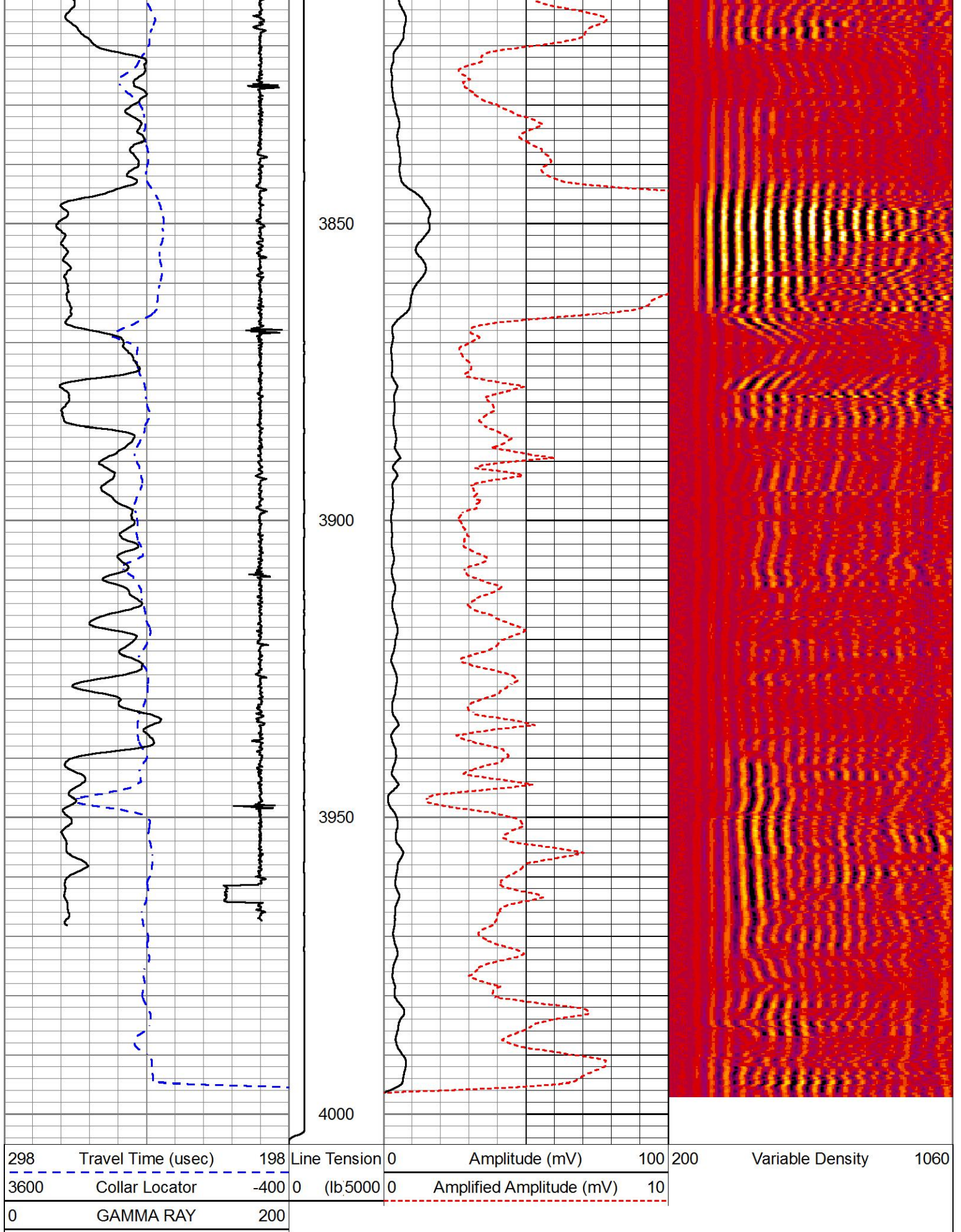
### REPEAT PASS

**HALLIBURTON**

5" = 100'

Database File mr\_b\_44c\_08\_7\_95.db  
 Dataset Pathname pass11  
 Presentation Format !1!!cbl\_rmti  
 Dataset Creation Sun Nov 27 22:11:22 2016  
 Charted by Depth in Feet scaled 1:240





**HALLIBURTON**

**REPEAT PASS**

5" = 100'

**Log Variables**

Database: C:\ProgramData\Warrior\Data\mr\_b\_44c\_08\_7\_95.db  
 Dataset: field/well/run1/pass11/\_vars\_

Top - Bottom

RUCAL1	RUCAL2	RUTEMP_C	RUTSIZE	RUCAL	RUTEMP	CASEP2	CASEOP
--------	--------	----------	---------	-------	--------	--------	--------

BHSAL1	BHSAL2	BHTEMP_Src	BITSIZE in	BORSAL kppm	BOTTEMP degF	CASED? Yes	CASEOD in
1	0	TEMP	7.875	150	210		4.5
CASETHCK in	CASEWGHT lb/ft	LTH Sandstone	MSGGN 1	MudWgt lb/gal	PERFS 0	POROS1 1	POROS2 0
0.625	11.6			8.4			
RHOFC	SO in	SRFTEMP degF	TDEPTH ft	UHSGC	USERFTT usec/ft	ZREF MRayl	
0.25	0	50	7098	NONE	0	1.7	

### Calibration Report

Database File mr\_b\_44c\_08\_7\_95.db  
Dataset Pathname pass11  
Dataset Creation Sun Nov 27 22:11:22 2016

### Cement Bond Log Shop Calibration Report

Serial-Model: 11836468-A  
Calibration Performed: Sun Nov 27 16:47:31 2016

### Free Pipe Calibration

	Measured	Units
TT	246.0	usec
Amplitude	505.7	mV
Log Base Line	19.1	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	0.167	

### Reservoir Monitor Tool I Calibration Report

Serial-Model: 11680606-A  
Shop Calibration Performed: Wed Nov 23 17:48:39 2016

### Carbon/Oxygen Mode

#### Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	73.00	80.00	-7.00	+/-15.00	V
ITCR2	3224	3250	-26	+/-250	cps

#### Near Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0234	5.86	<6.00
Fe	206	206 +/-2	0.0940	----	----
NGAIN = 0.998		NZOFF = 0.4			

#### Far Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0349	5.88	<6.50
Fe	210	208 +/-2	0.0908	----	----
FGAIN = 0.989		FZOFF = 0.7			

Flask Temperature 53.0 degF

Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.37	1.36	0.01	+/-0.05	
TCCR2	5216	5000	216	+/-1000	cps
ITCR2	3271	3200	71	+/-250	cps

Sigma Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	73.00	80.00	-7.00	+/-15.00	V
FCAP	10194	10000	194	+/-500	cps

Horizontal Water Tank

Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.97	0.95	0.02		
N/F Inel Norm	0.64	0.61	0.03		
RNF	1.03	1.07	-0.04	+/-0.12	
RINC	1.57	1.64	-0.07	+/-0.18	
SGFN	24.09	24.00	0.09	+/-0.50	cu
SGFF	22.92	22.85	0.07	+/-0.50	cu
FSIN	24310	24000	310	+/-2000	cps
FCAP	10233	10000	233	+/-1000	cps
NFTR	0.79			<5.00	
FFTR	0.85			<5.00	
NBKG	140			<500	cps
FBKG	108			<500	cps
RTN	0.42	0.40	0.02	+/-0.10	usec
RTF	0.45	0.40	0.05	+/-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

	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
Difference				0.0	GAPI

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)	
			STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00	
CCL	35.82						
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 (11680606) Halliburton RMTI Tool	14.00	2.13	77.00
RmtFP5V RmtNFwMcsP 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 (11836468) 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

Dataset: mr\_b\_44c\_08\_7\_95.db: field/well/run1/pass11  
Total length: 39.39 ft  
Total weight: 356.50 lb

Company	URSA OPERATING COMPANY LLC		
Well	MONUMENT RIDGE B 44C-08-7-95		
Field	PARACHUTE		
County	GARFIELD	State	CO

**HALLIBURTON**

CEMENT BOND  
LOG