

HALLIBURTON				ACOUSTIC CEMENT BOND LOG			
Company		CAERUS OIL & GAS, LLC.		Company		CAERUS OIL & GAS, LLC.	
Well		NOLTE 44C-14		Well		NOLTE 44C-14	
Field		GRAND VALLEY		Field		GRAND VALLEY	
County		GARFIELD State CO		County		GARFIELD State CO	
Permanent Datum		GROUND LEVEL		Elevation		5088'	
Log Measured From		KB		K.B.		5112'	
Drilling Measured From		KB		D.F.		5111'	
				G.L.		5088'	
Date @ Time Logged		29 MAY 2014		Type Fluid in Hole		WATER	
Run No.		ONE		Density of Fluid		8.4#	
Depth - Driller		5744'		Fluid Level		66'	
Depth - Logger		5599'		Cement Top Est. Logged		SEE LOG	
Bottom - Logged Interval		5599'		Equipment / Location		10971668 / G.J.	
Top - Log Interval		SURFACE		Recorded by		D. SOLIS	
Max. Recorded Temp.		N/A		Witnessed by		B. STEWART	
CEMENTING DATA		Surface		Protection		Liner	
		String		String			
Date / Time Cemented		N/A		N/A		N/A	
Primary / Squeeze							
Expected Compressive Strength		psi@ hrs		psi@ hrs		psi@ hrs	
Cement Volume							
Cement Type / Weight		/		/		/	
Formulation							
Mud Type / Mud Wgt.		/		/		/	
Borehole Record		Casing & Tubing Record					
Run Number		Bit From To		Size Weight From To			
ONE		N/A SURFACE 1023'		9.25" 36.0# SURFACE 1023'			
TWO		8.75" 1023' 5744'		4.5" 11.6# SURFACE 5744'			

<<< 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

HES CBL LOG DATED: 29 MAY 2014 IS THE PRIMARY DEPTH REFERENCE FOR THIS WELL.

GR-RMT-CBL RAN IN COMBINATION.

LOG INTERVALS PER CUSTOMER REQUEST.

SHORT JOINTS @:3940' - 3950' AND 5394' - 5404'.

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.

<<< 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

HES CBL LOG DATED: 29 MAY 2014 IS THE PRIMARY DEPTH REFERENCE FOR THIS WELL.

GR-RMT-CBL RAN IN COMBINATION.

LOG INTERVALS PER CUSTOMER REQUEST.

SHORT JOINTS @:3940' - 3950' AND 5394' - 5404'.

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.

Service Ticket No.	901364265	API No.	05-045-22306-0000	PGM Ver	14.02.28001
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client					
EQUIPMENT DATA					
TELEMETRY		CEMENT BOND TOOL		RESERVOIR MONITOR TOOL	
Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	12105786	Serial No.	11002212	Serial No.	12270693
Model No.	TTTC-U-002	Model No.	RBT-004	Model No.	RMTI-A
Diameter	1.688"	Diameter	3.125"	Diameter	2.125"
LOGGING DATA					
General Data					
Pass	Depths		Well Head	Speed	Logging Run Comments
No	From	To	Pressure	Ft/Min	

ONE	5599'	SURFACE	0	25	MAIN LOG SECTION			
	GAMMA RAY		TRAVEL TIME		AMPLITUDE		MSG	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	150	370	170	0	100	200	1200
DIRECTIONAL INFORMATION								
Maximum Deviation		N/A	deg. @	N/A	KOP	N/A		

HALLIBURTON

MAIN LOG SECTION

5" = 100'

Database File

Dataset Pathname

Presentation Format

Dataset Creation

Charted by

nolte_44c14_cmb.db

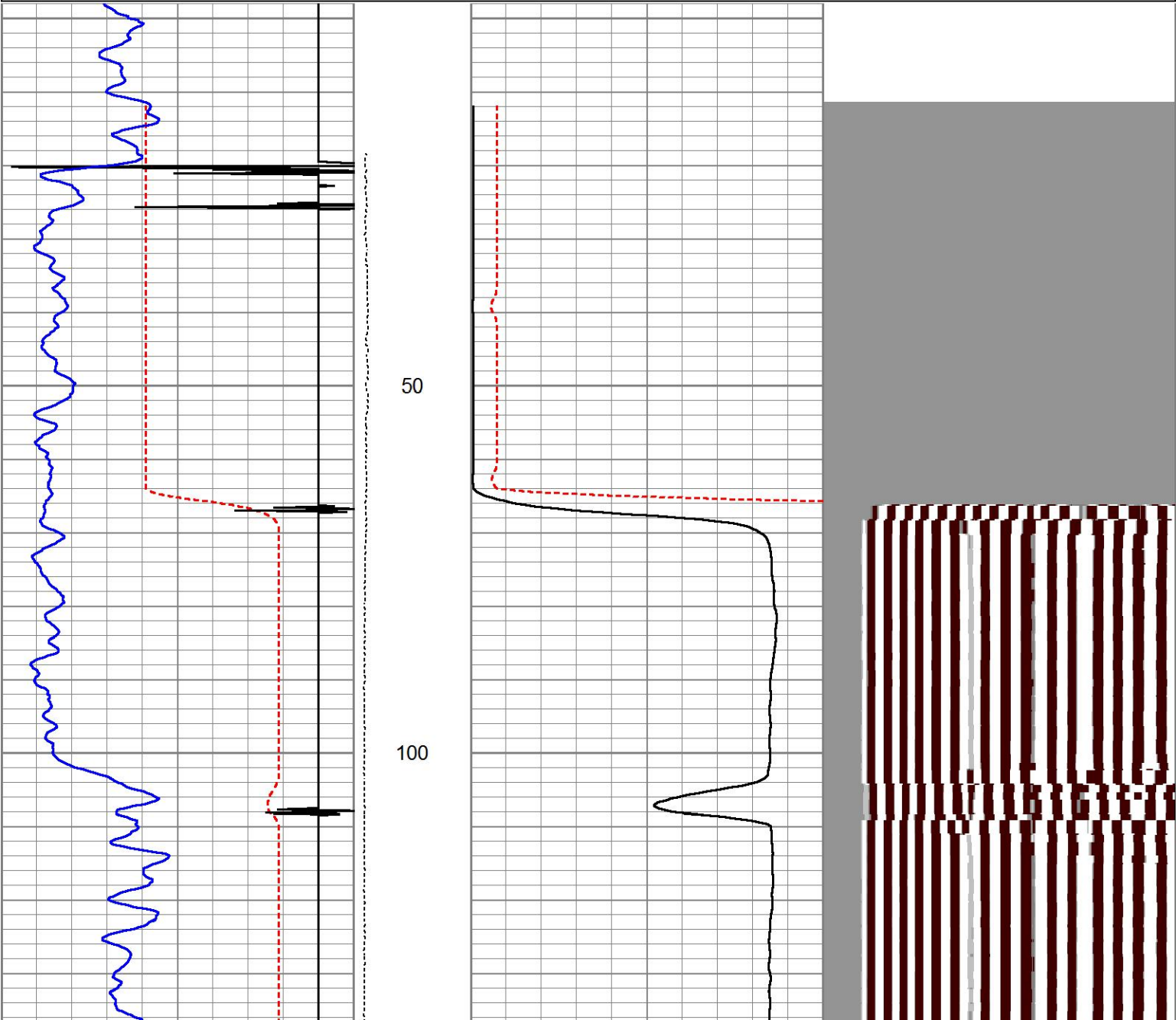
44c=14/run1/MAIN1

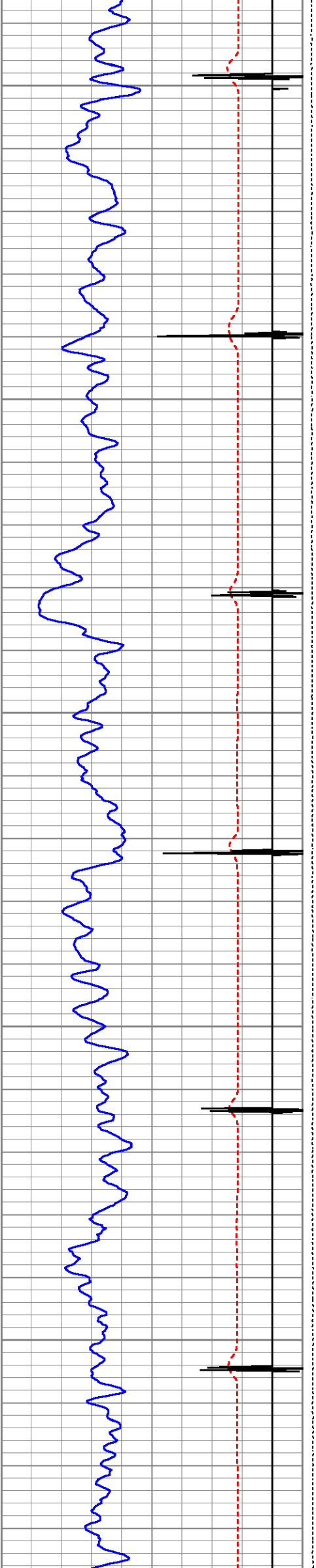
cbl-radi

Thu May 29 15:23:03 2014

Depth in Feet scaled 1:240

370	TT3FT (usec)	170	LTEN	0	AMP3FT (mV)	100	200	VDL	1200
-2700	COLLARS	300	0	(lb4000	0	AMPLIFIED AMPLITUDE (mV) 10	<div></div>		
0	GAMMA RAY (GAPI)	150							





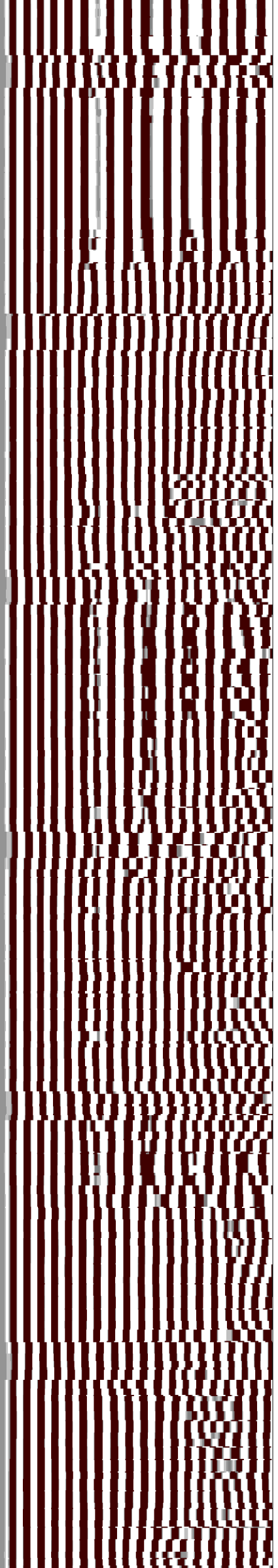
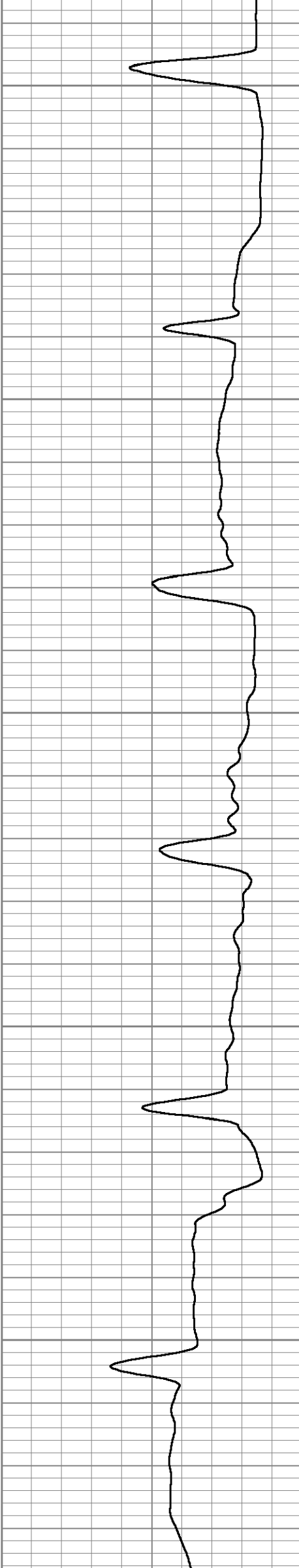
150

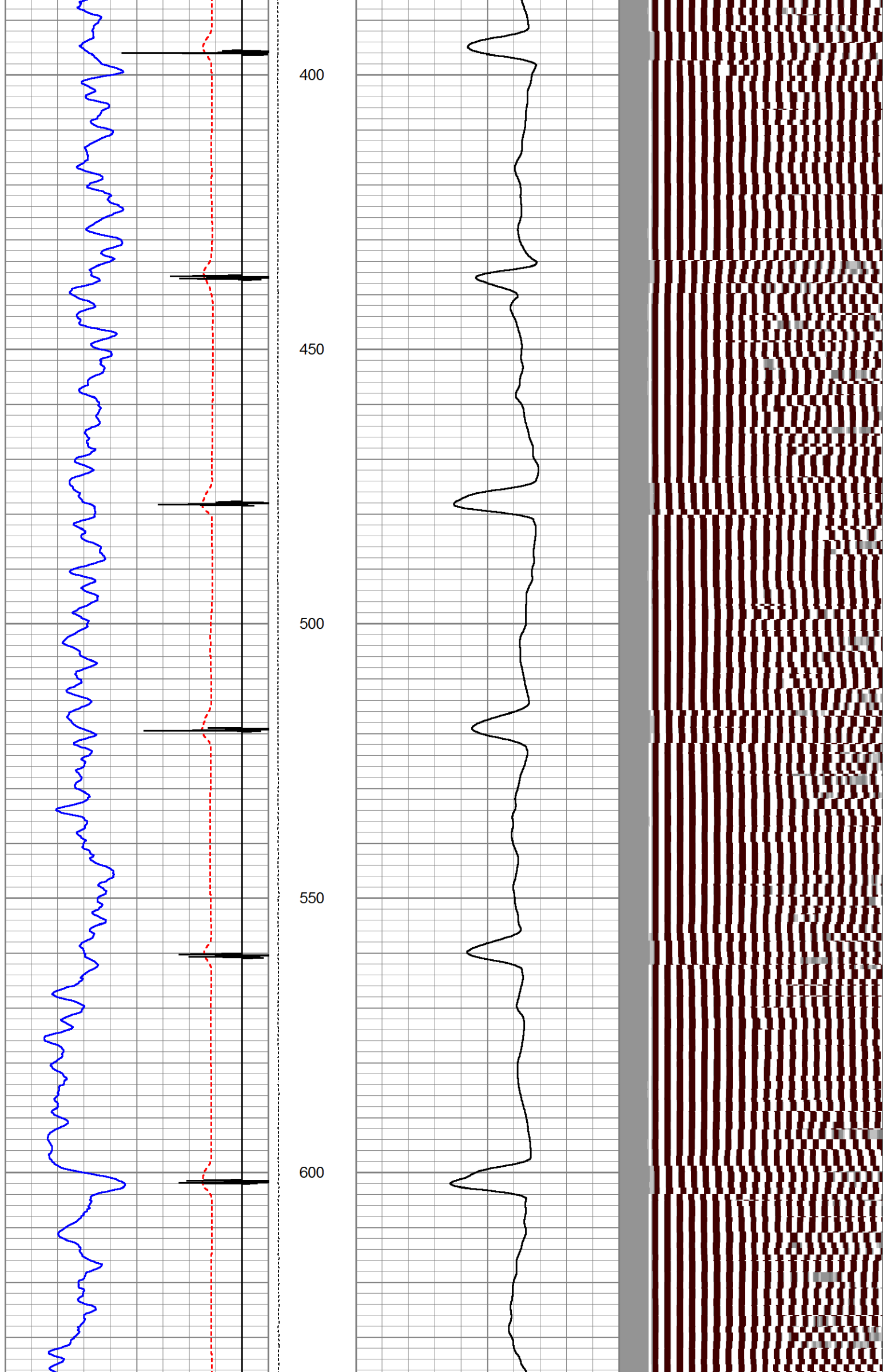
200

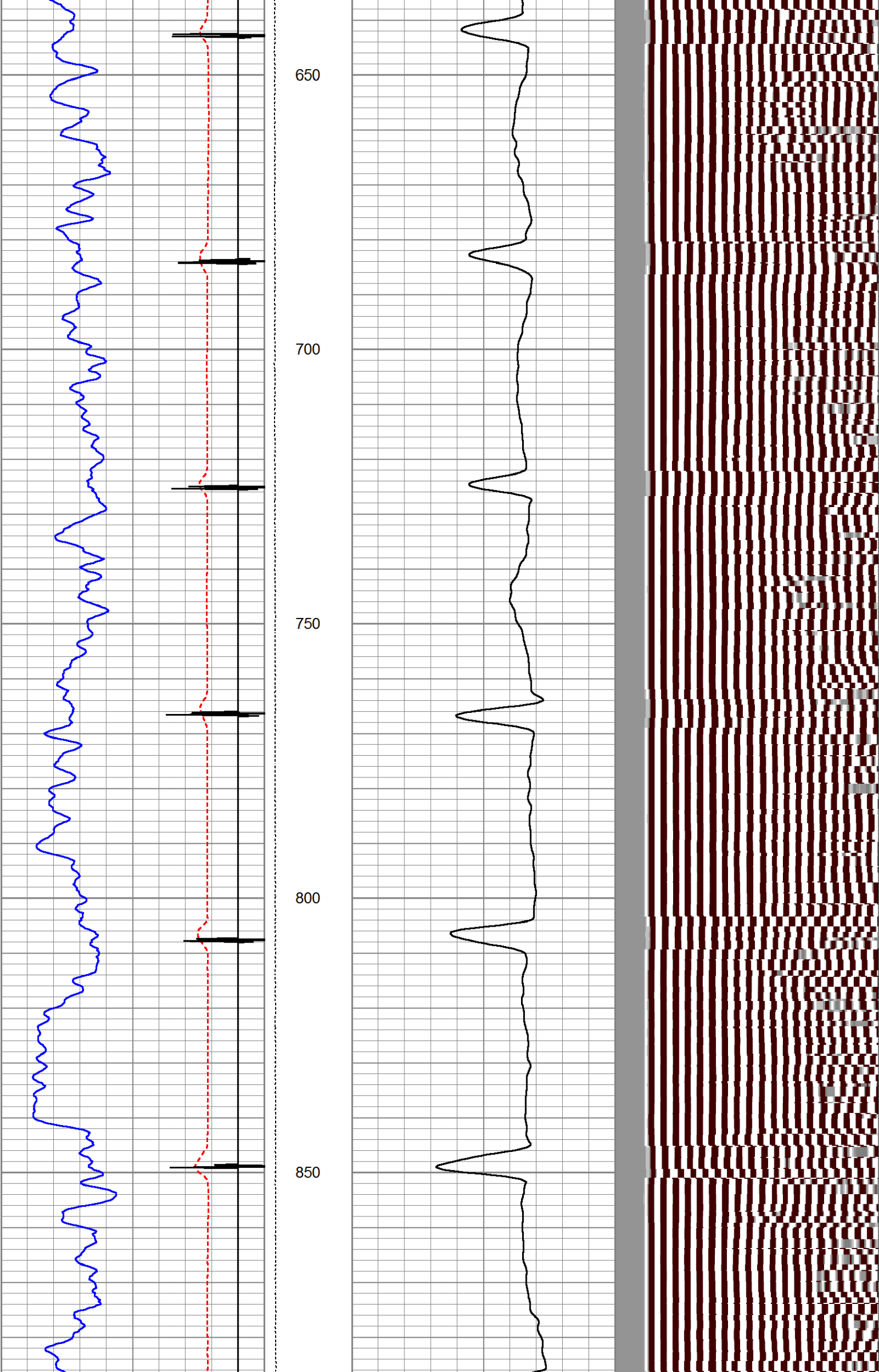
250

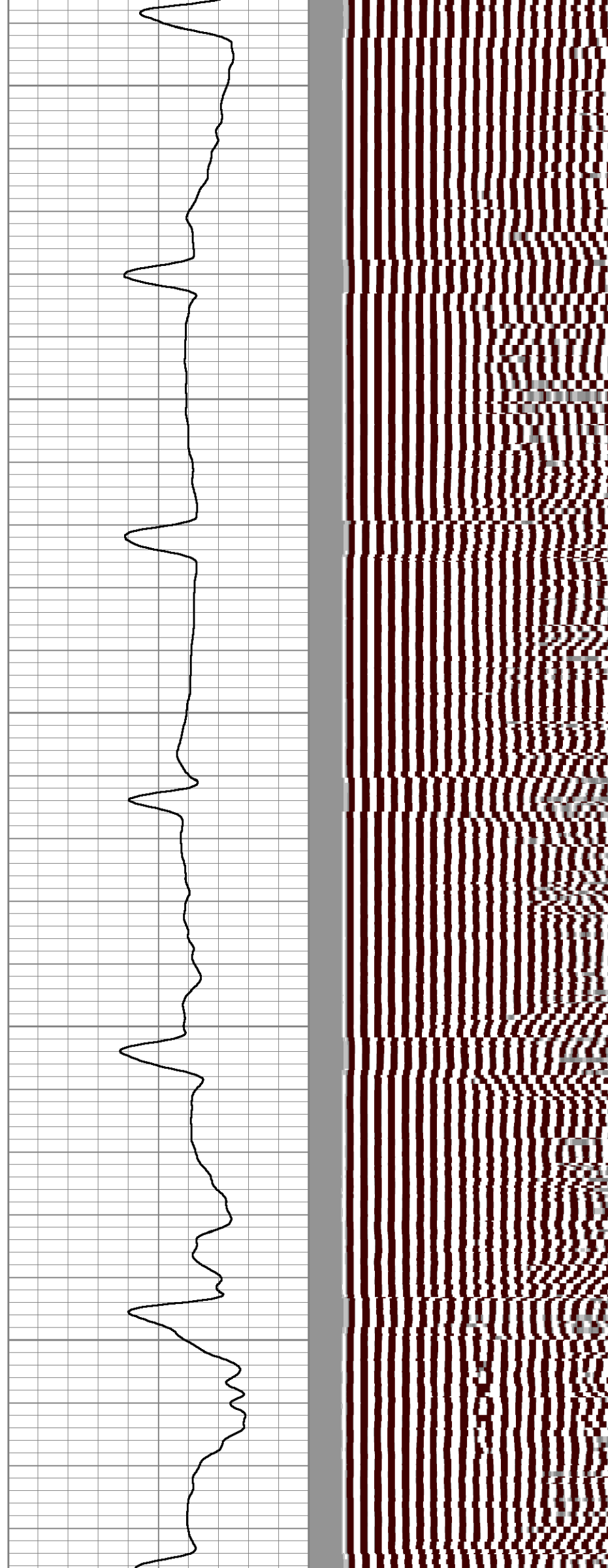
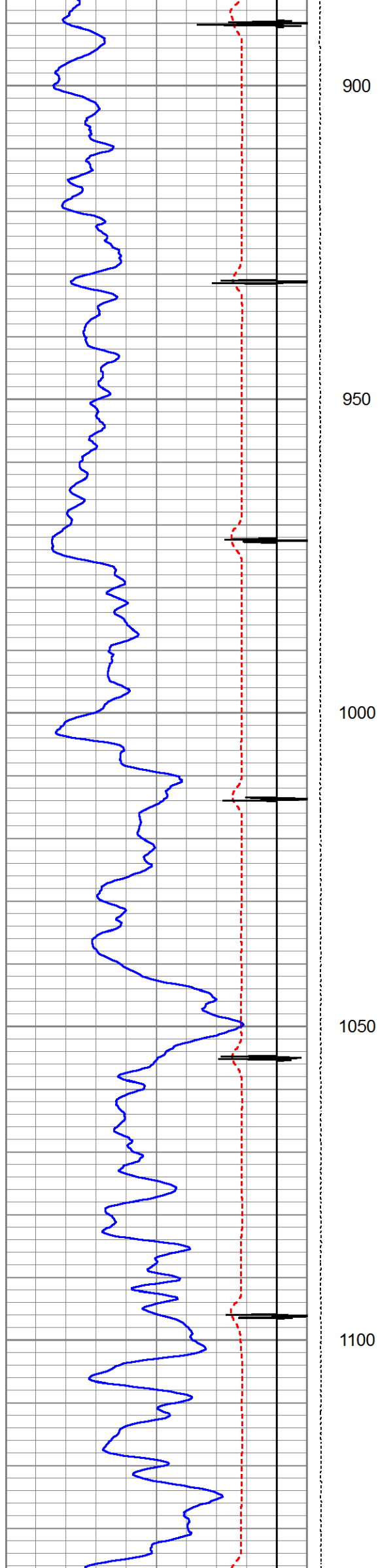
300

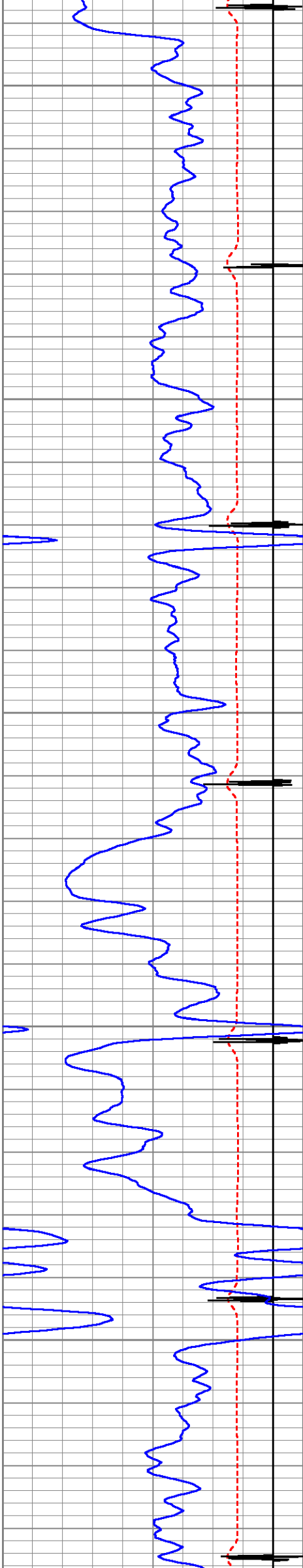
350











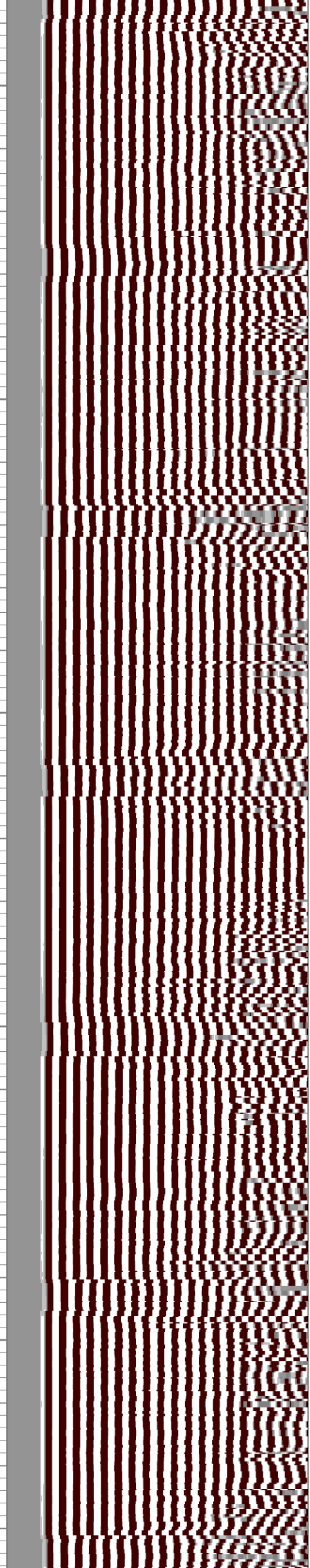
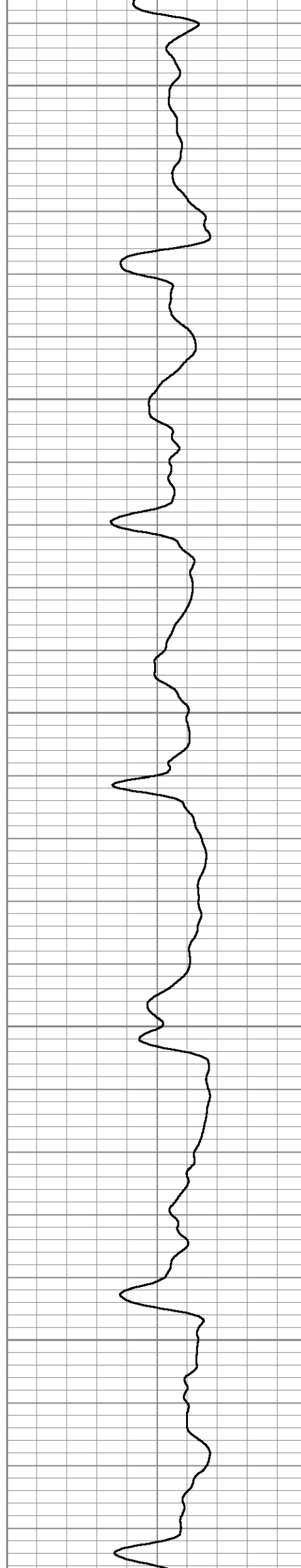
1150

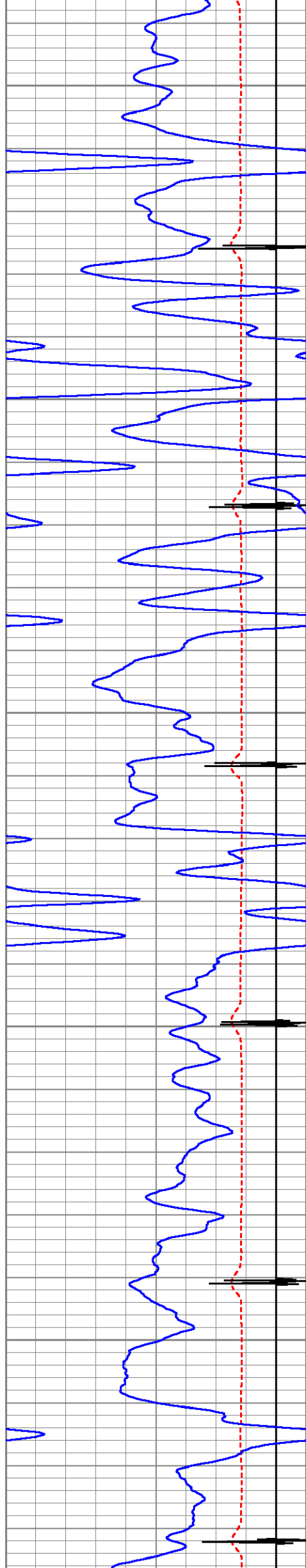
1200

1250

1300

1350





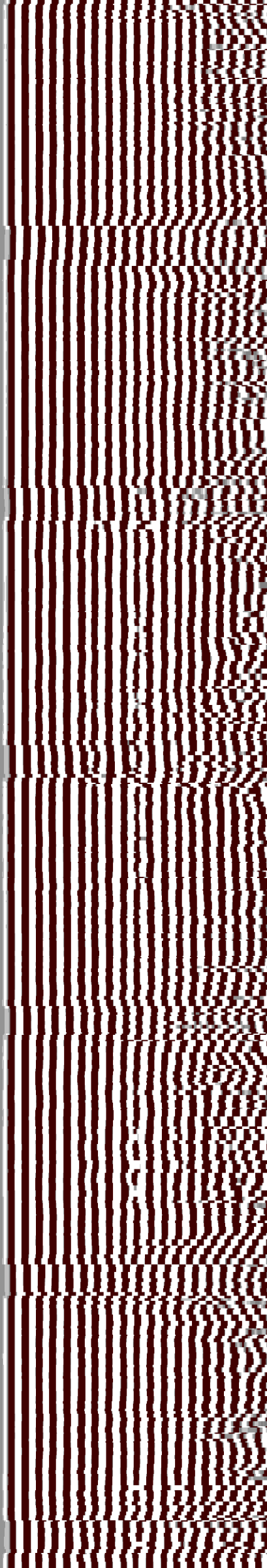
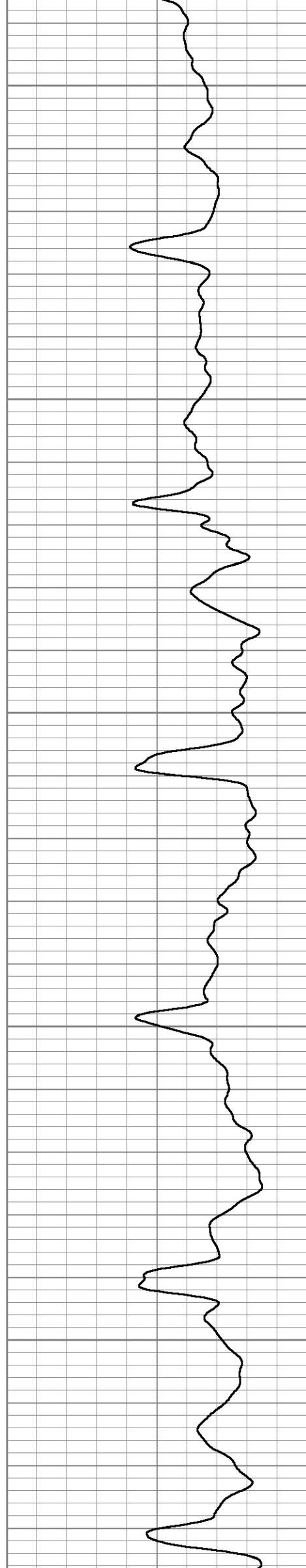
1400

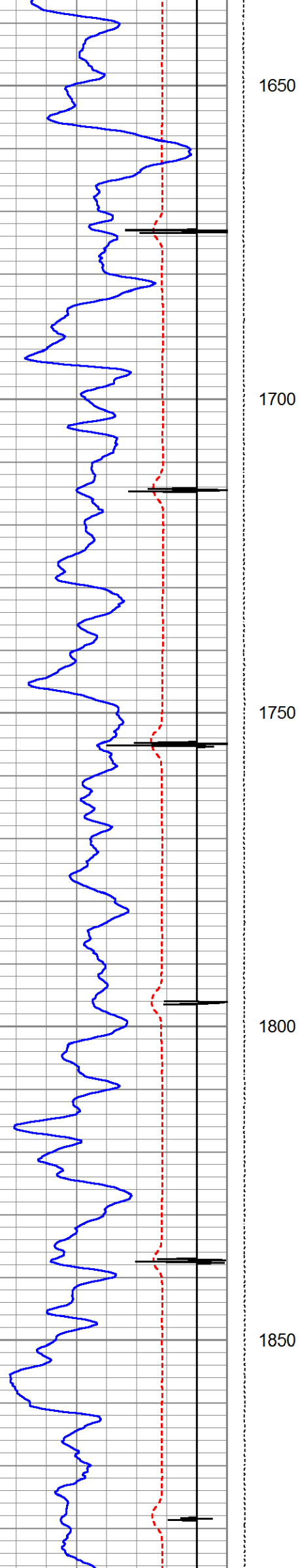
1450

1500

1550

1600





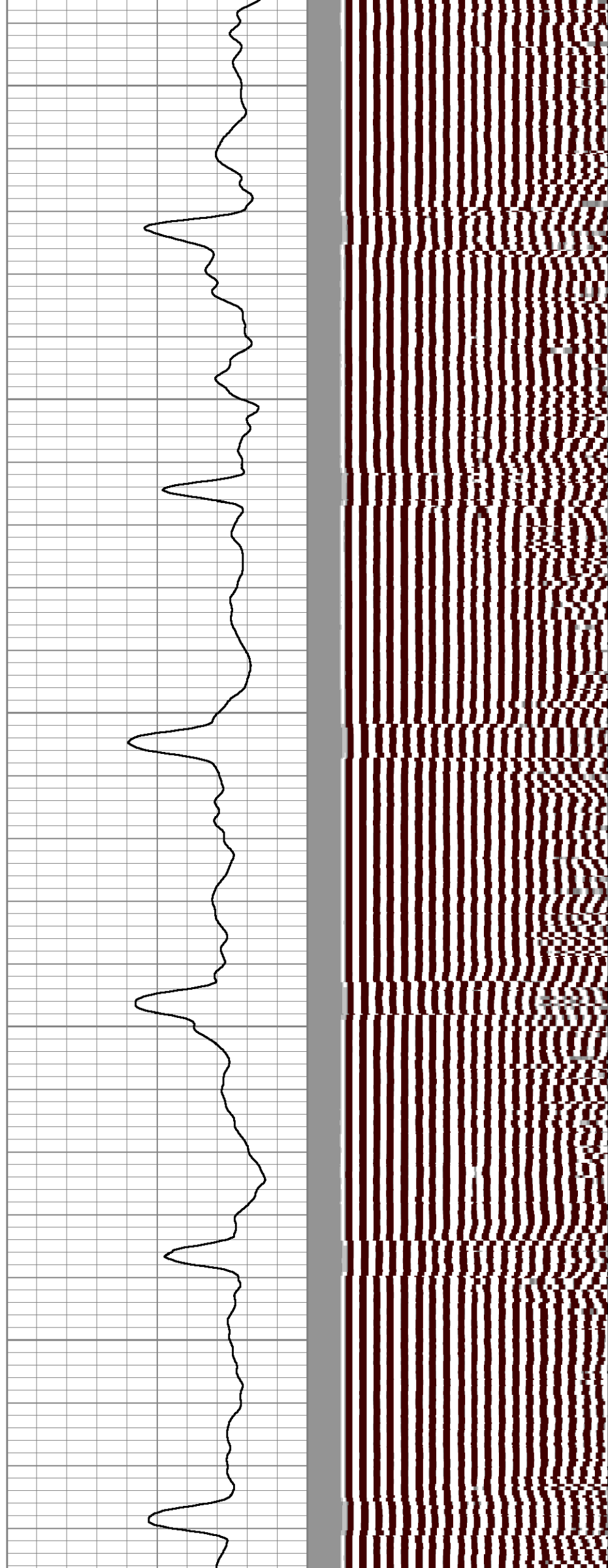
1650

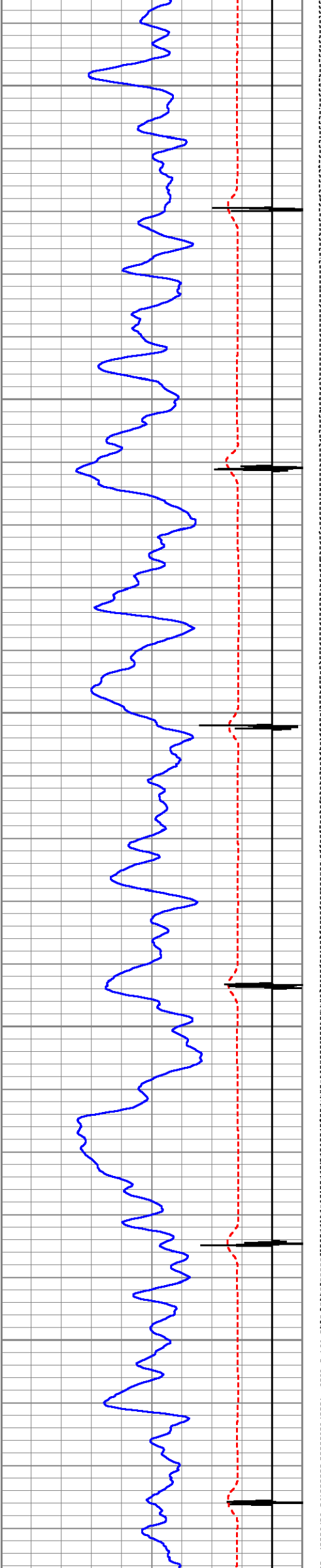
1700

1750

1800

1850





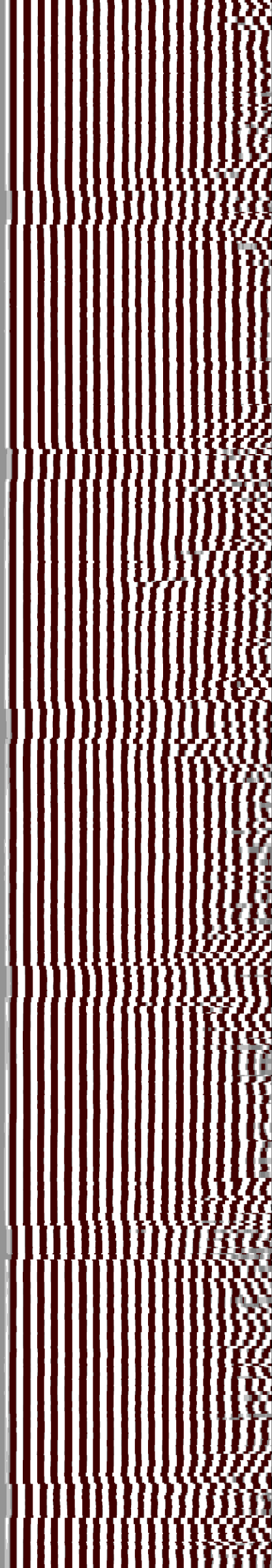
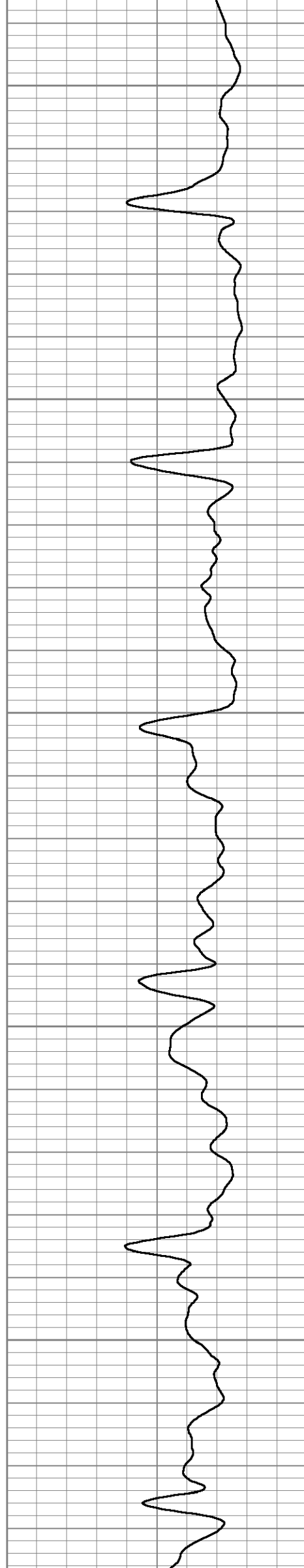
1900

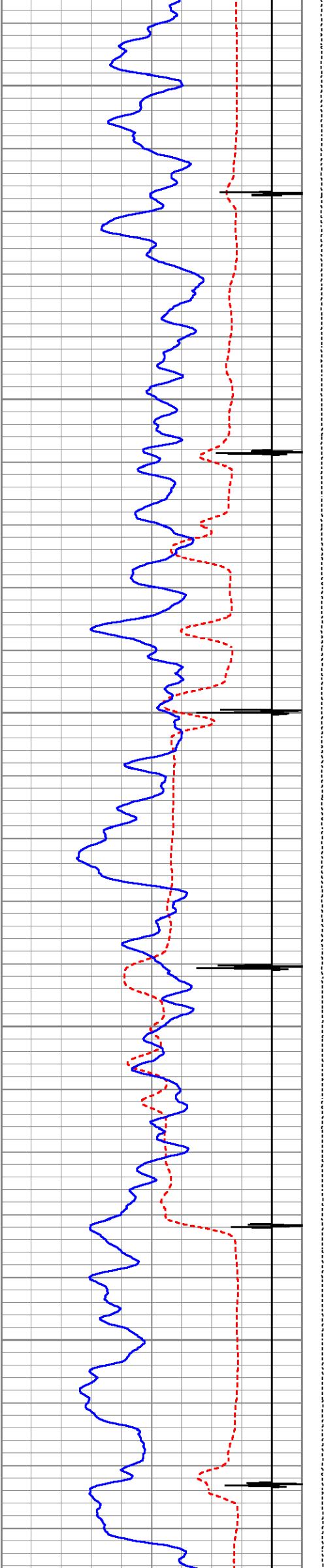
1950

2000

2050

2100





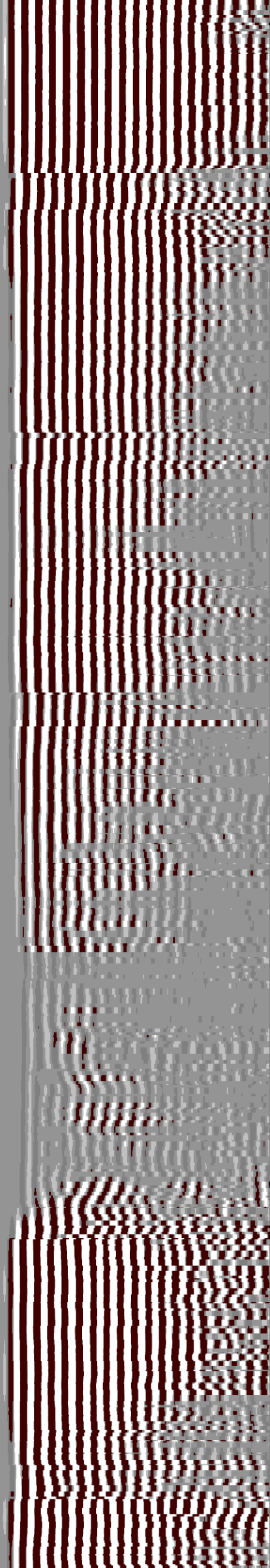
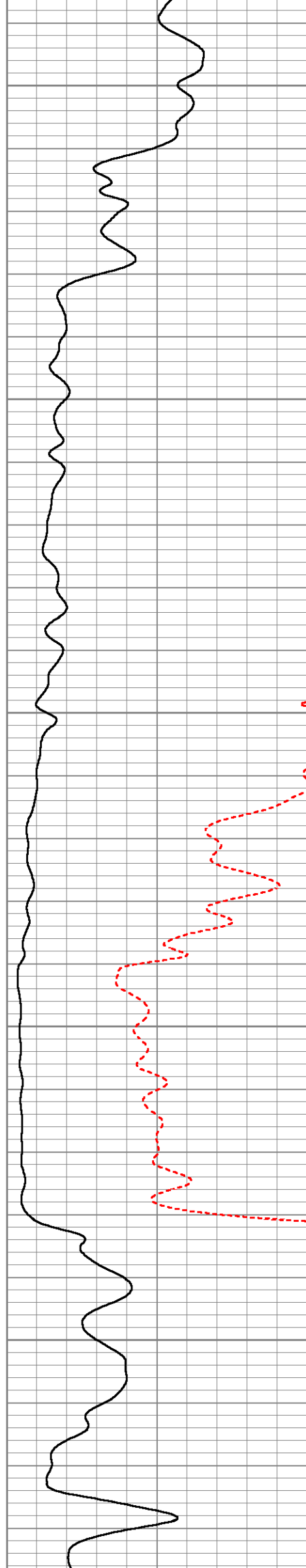
2150

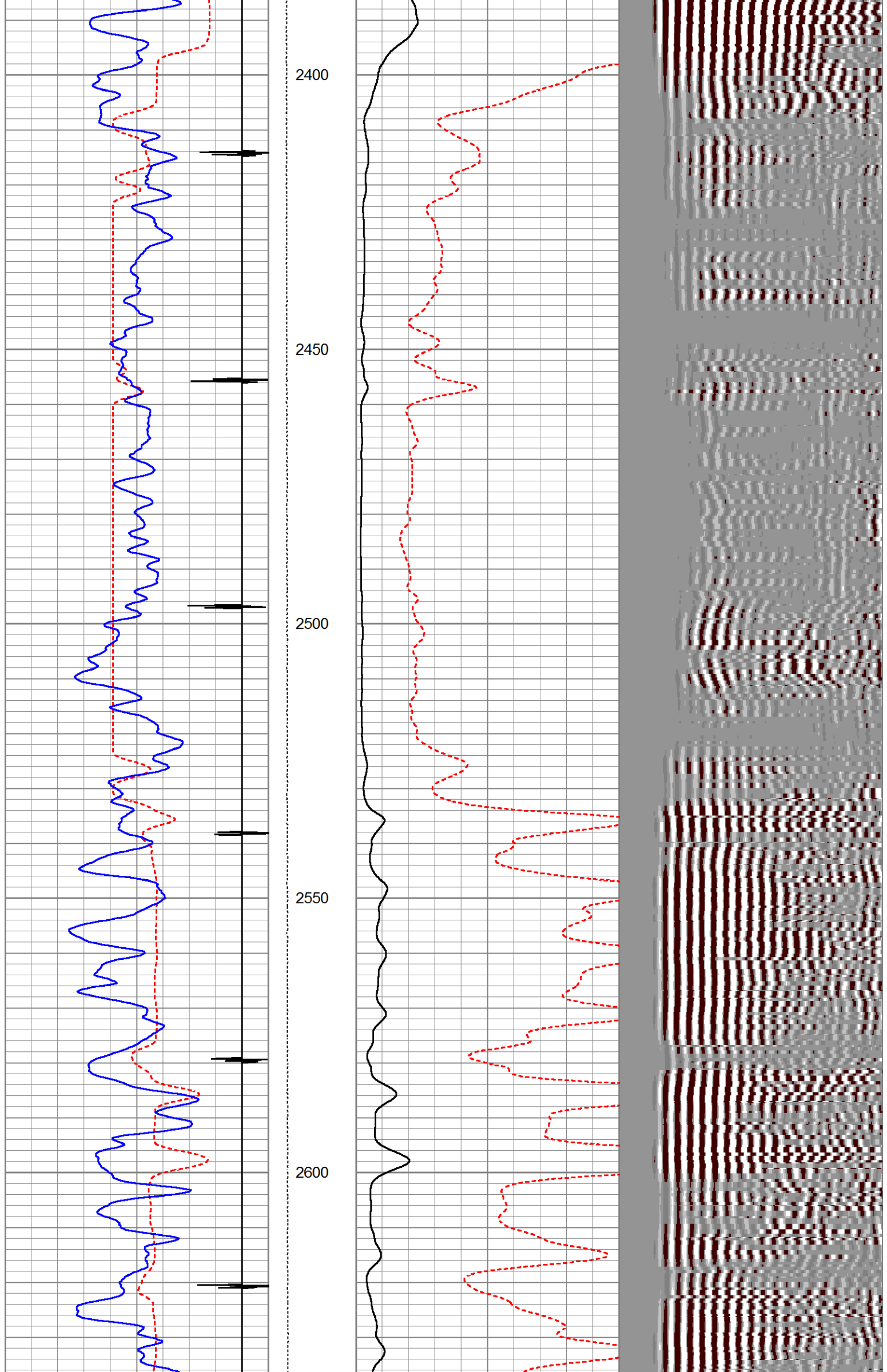
2200

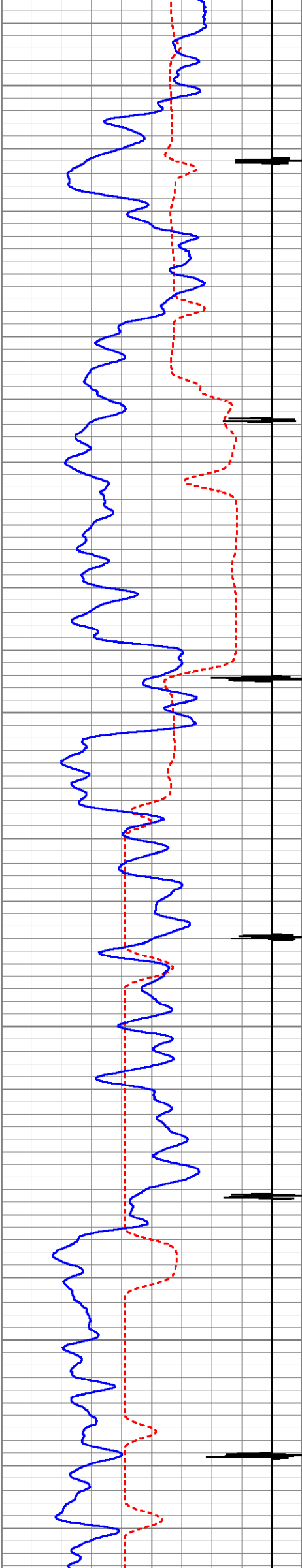
2250

2300

2350







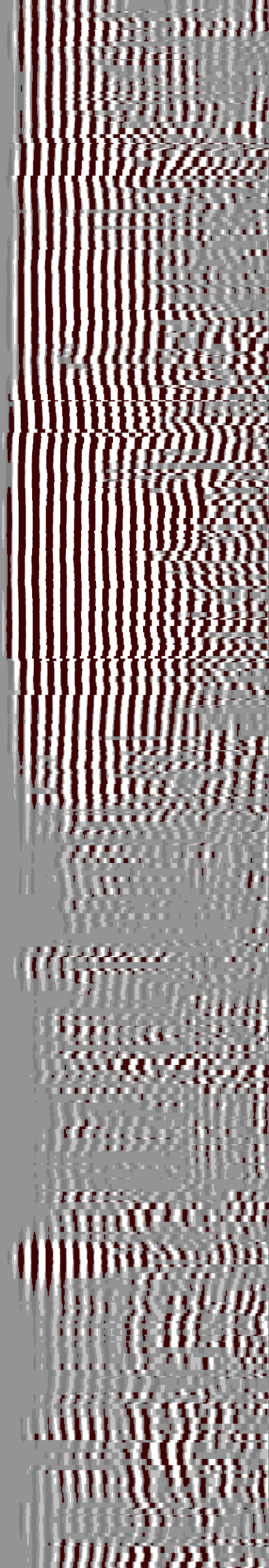
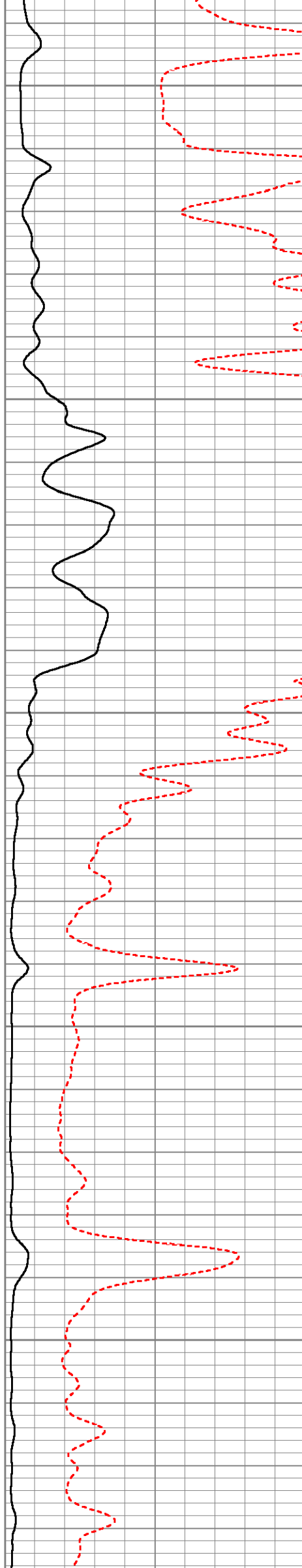
2650

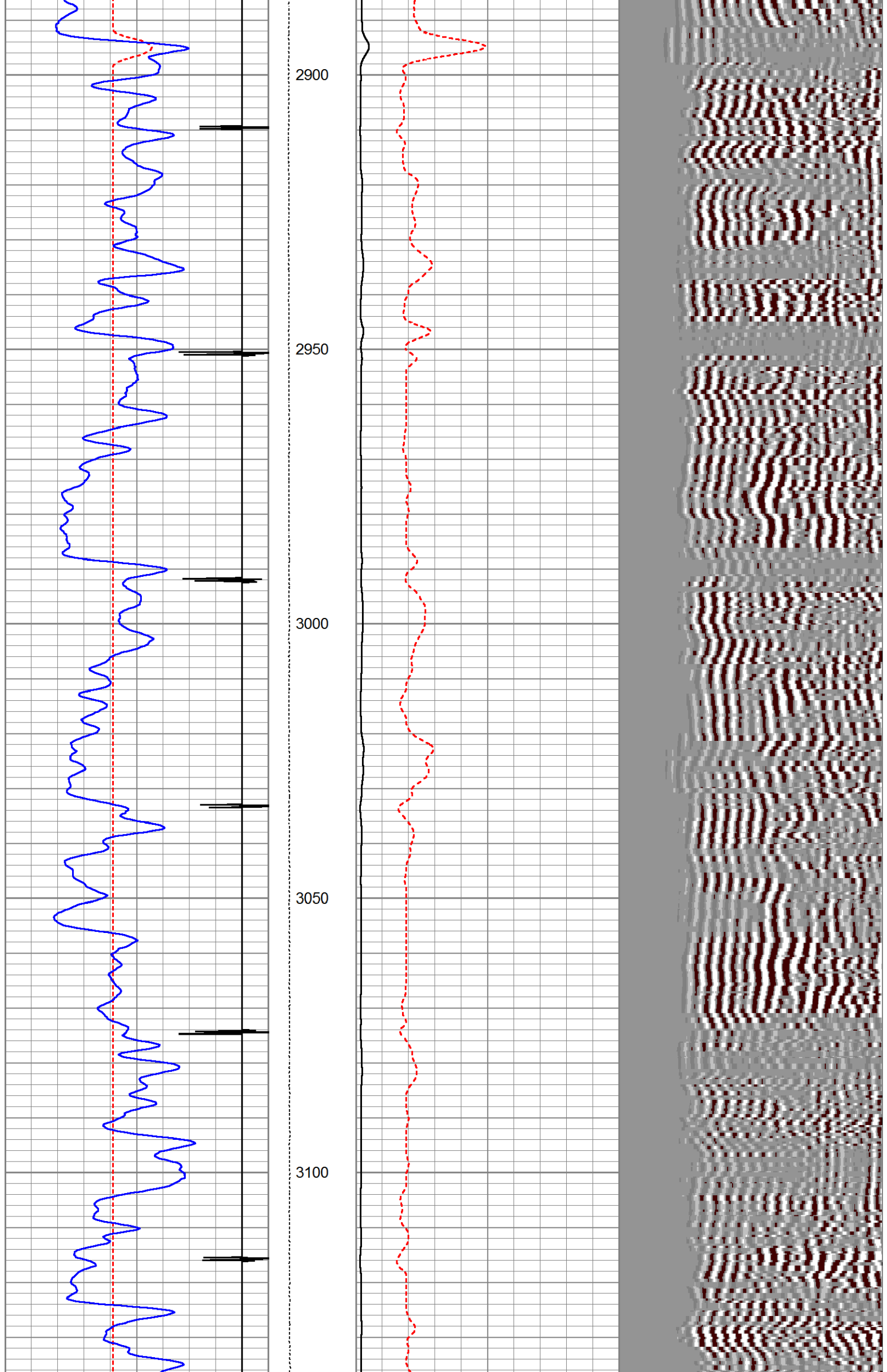
2700

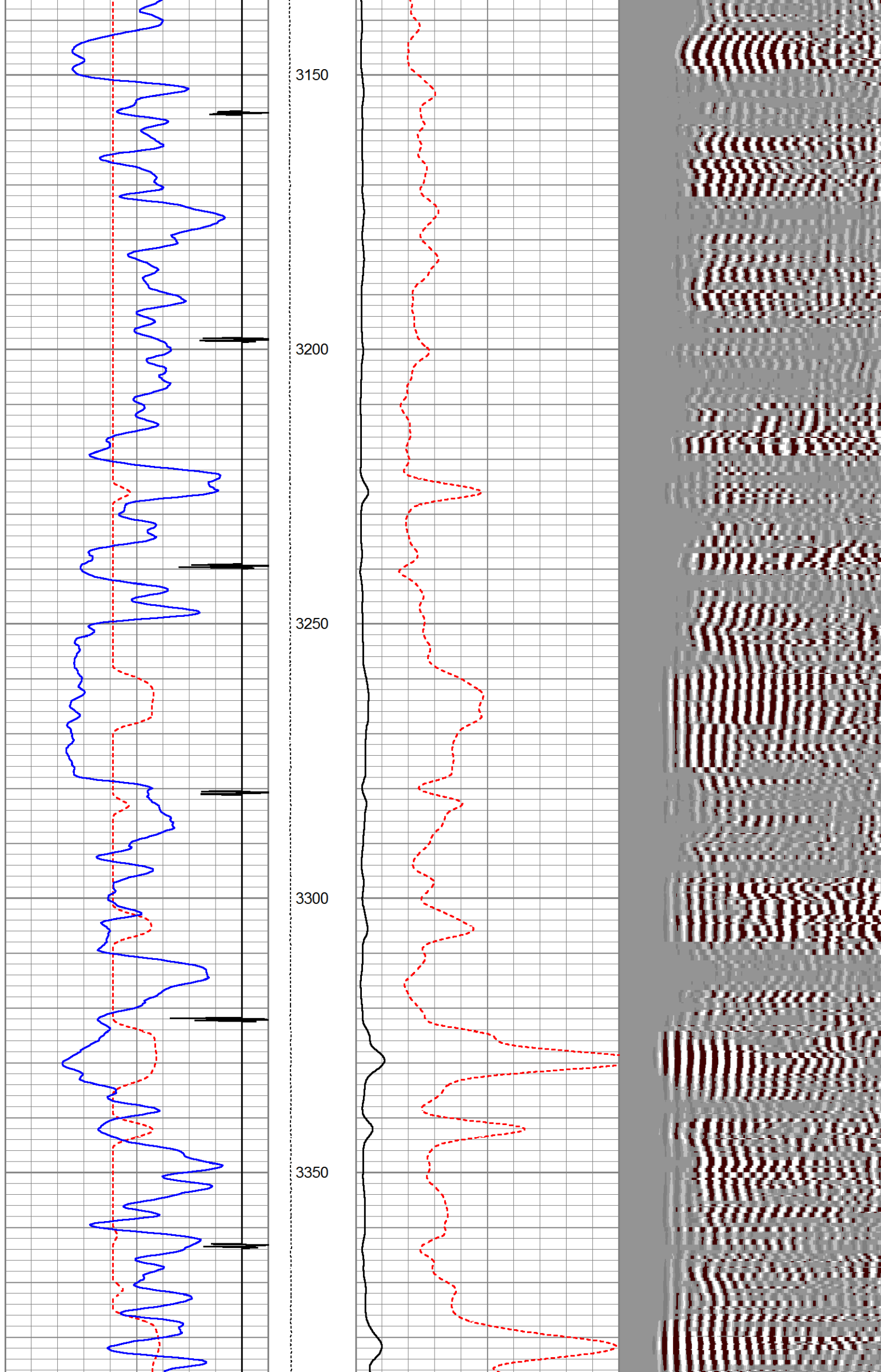
2750

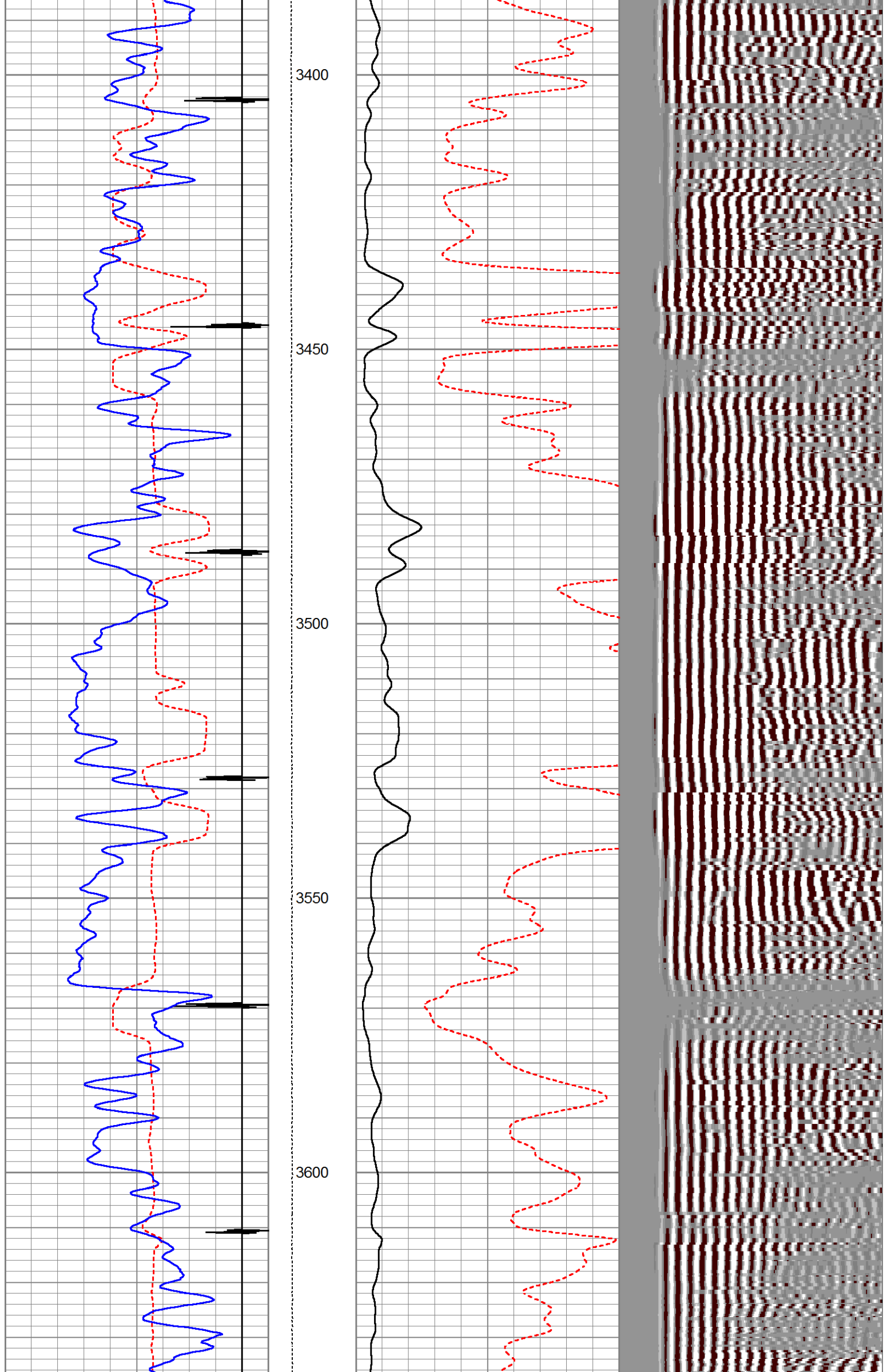
2800

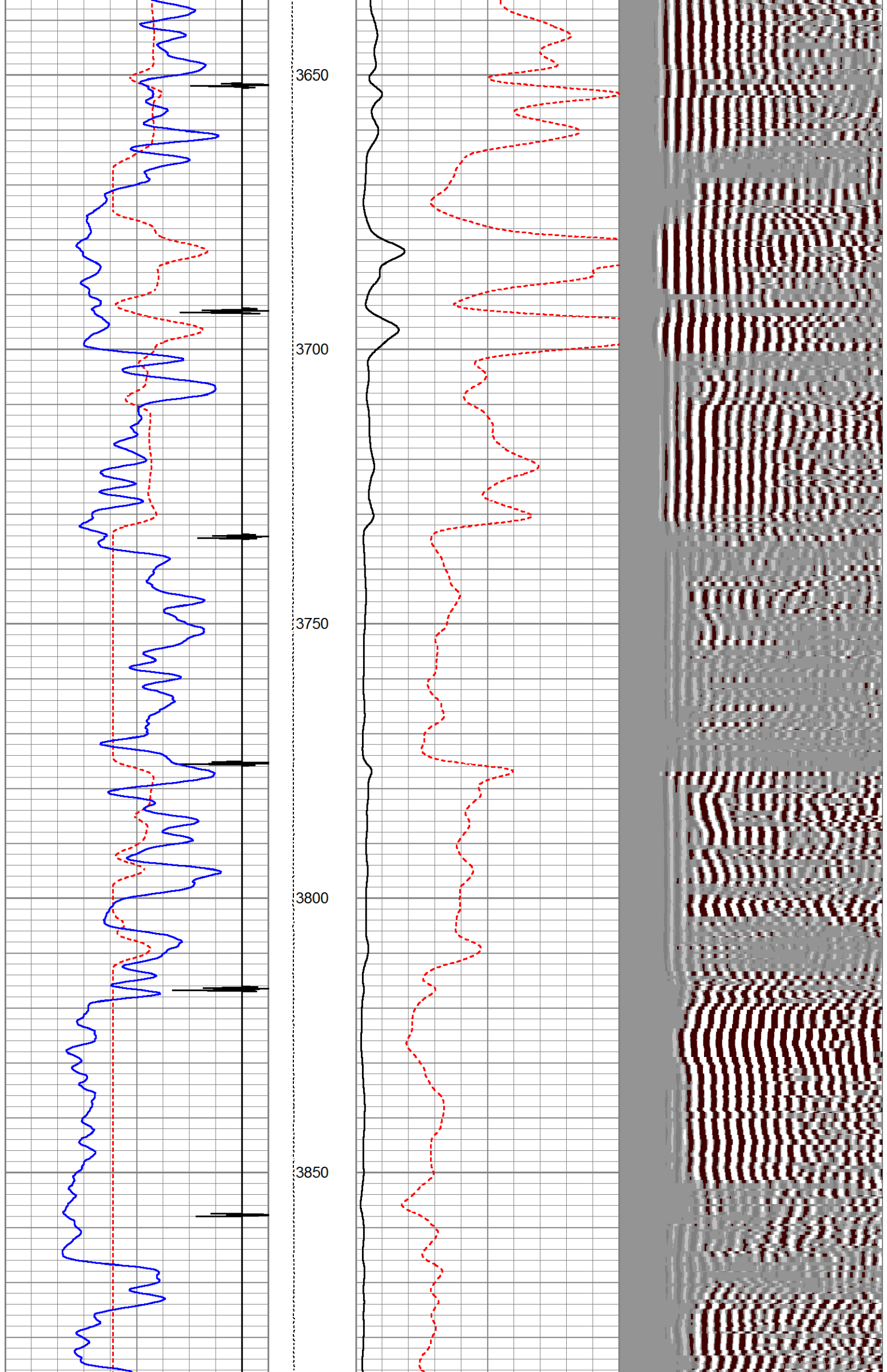
2850

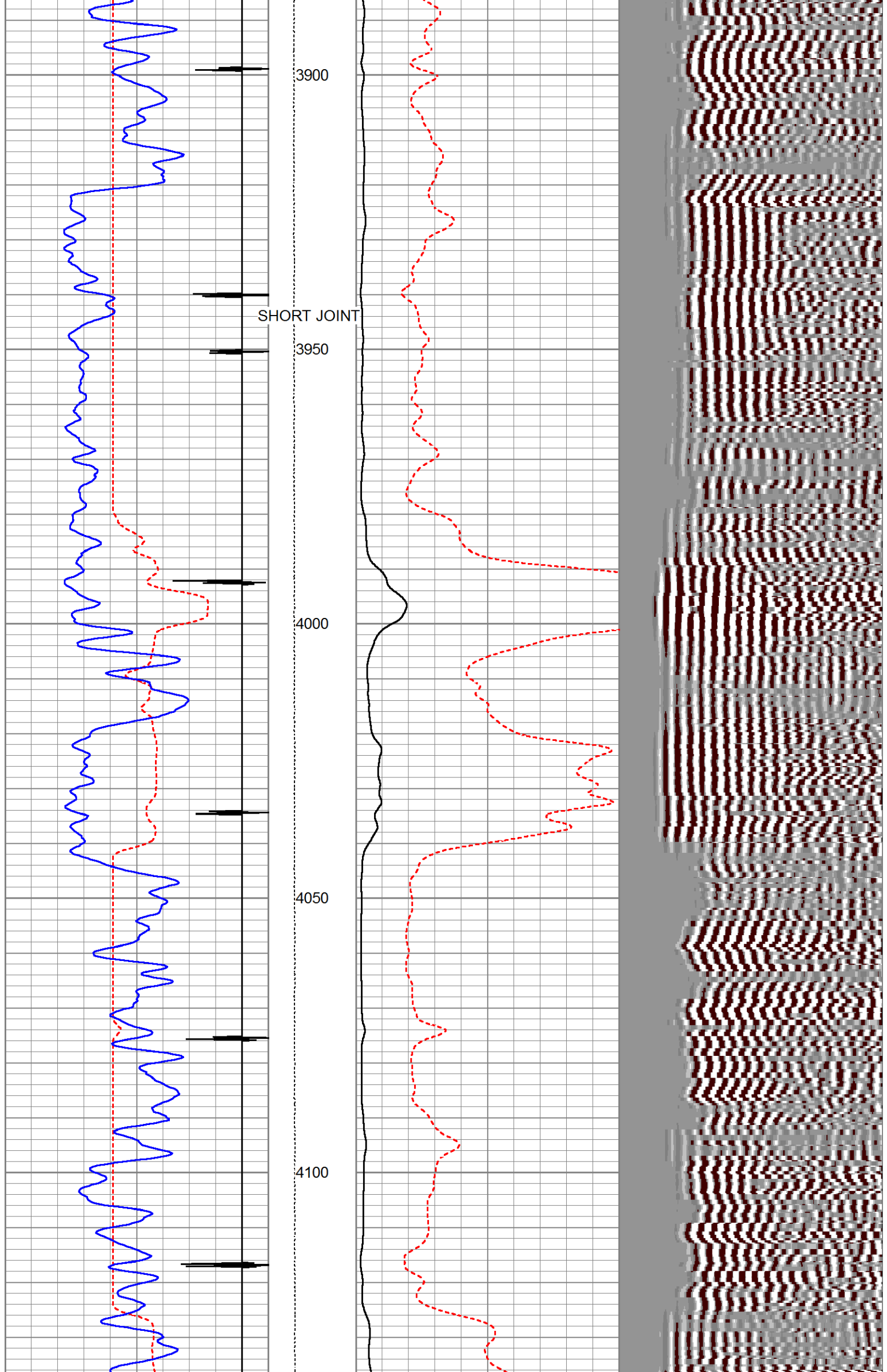


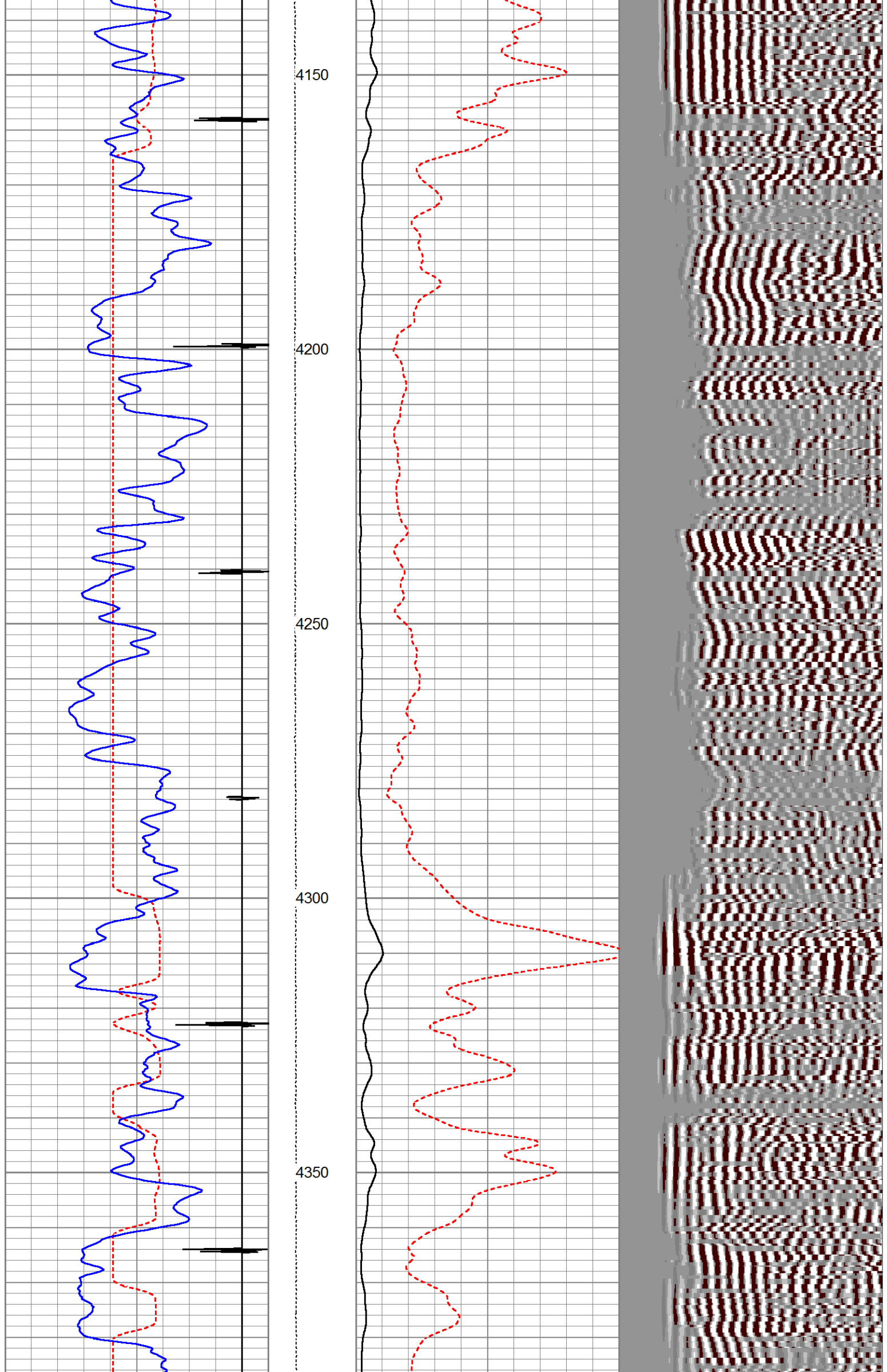


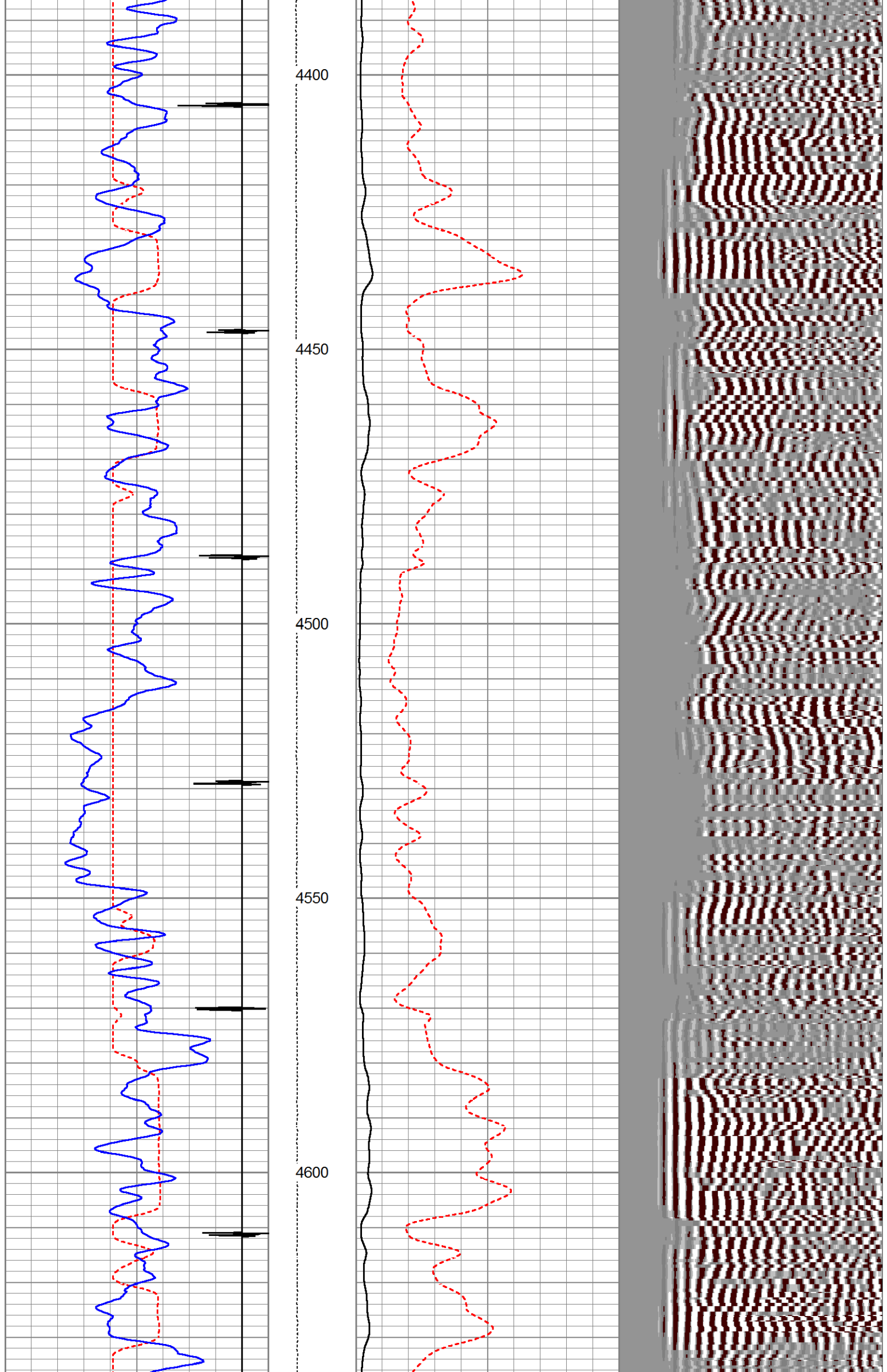


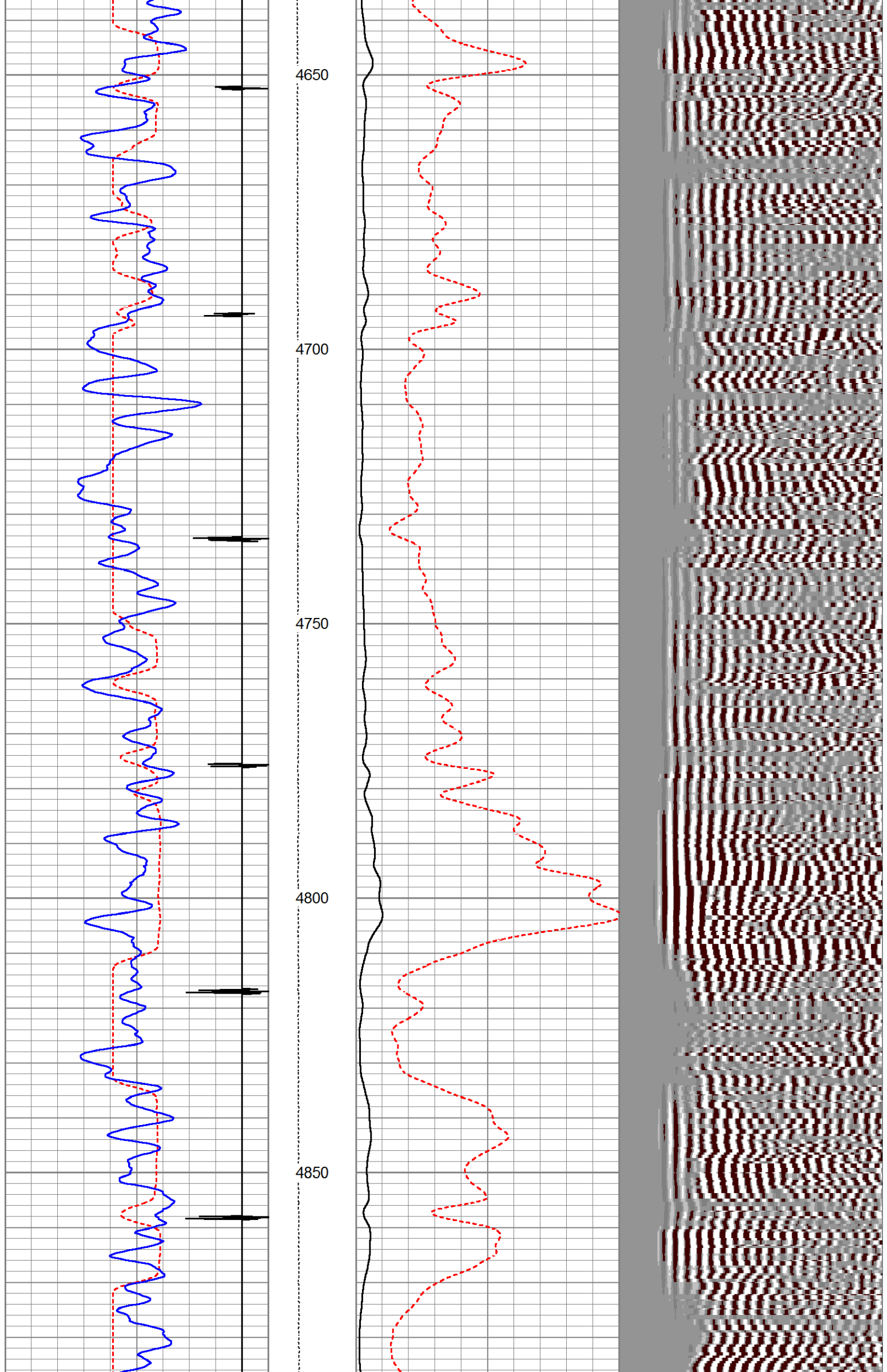


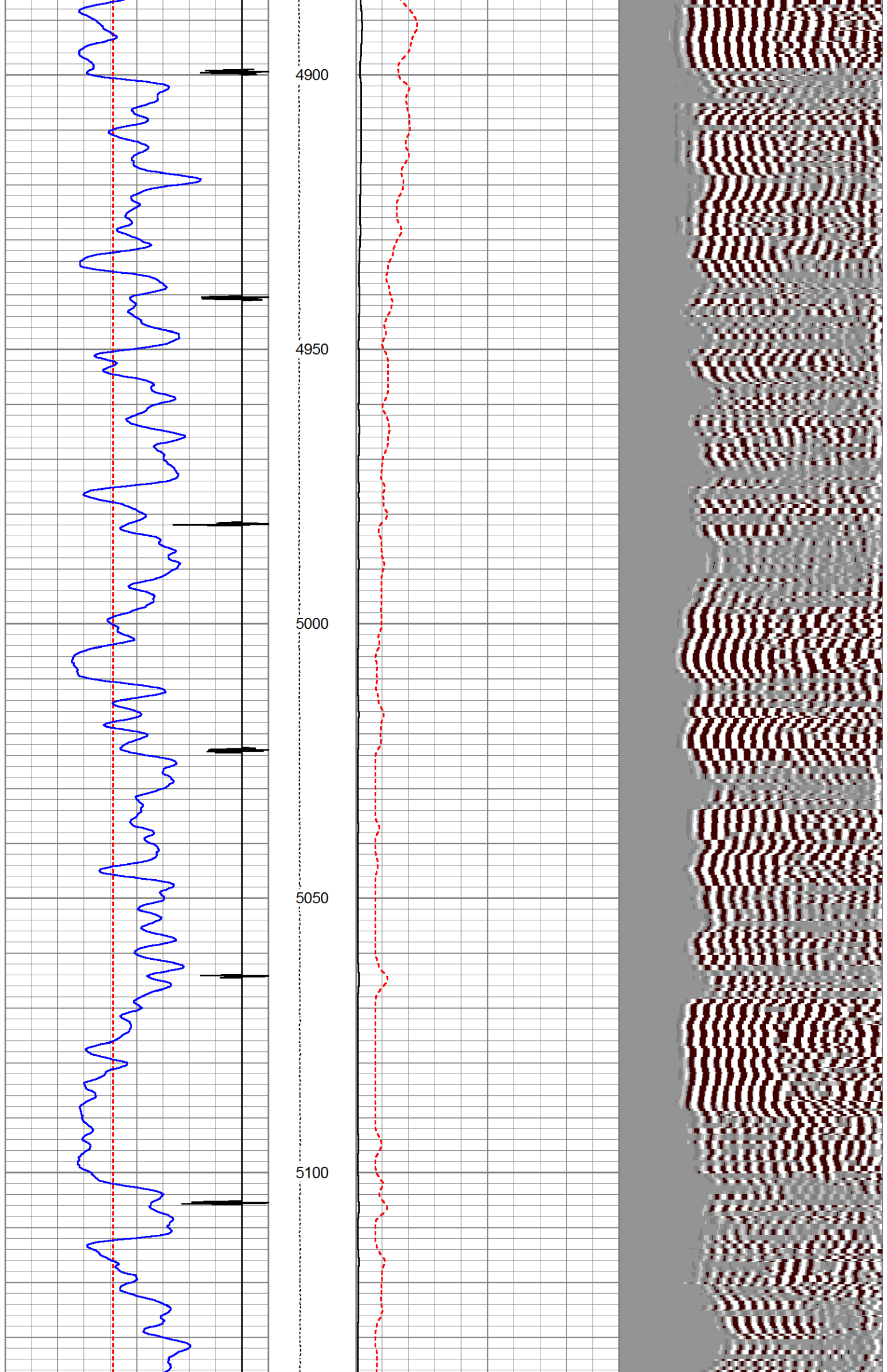


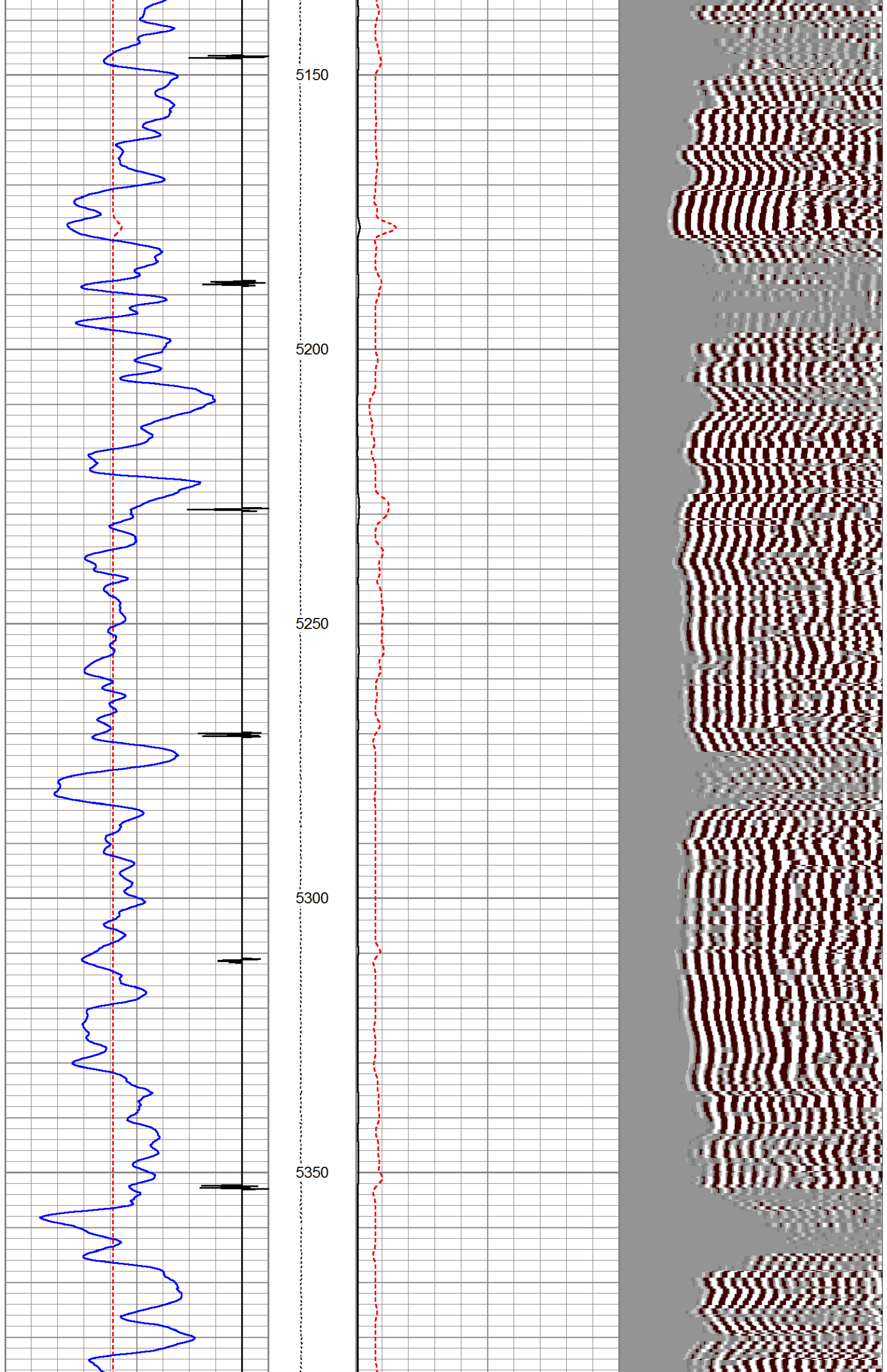


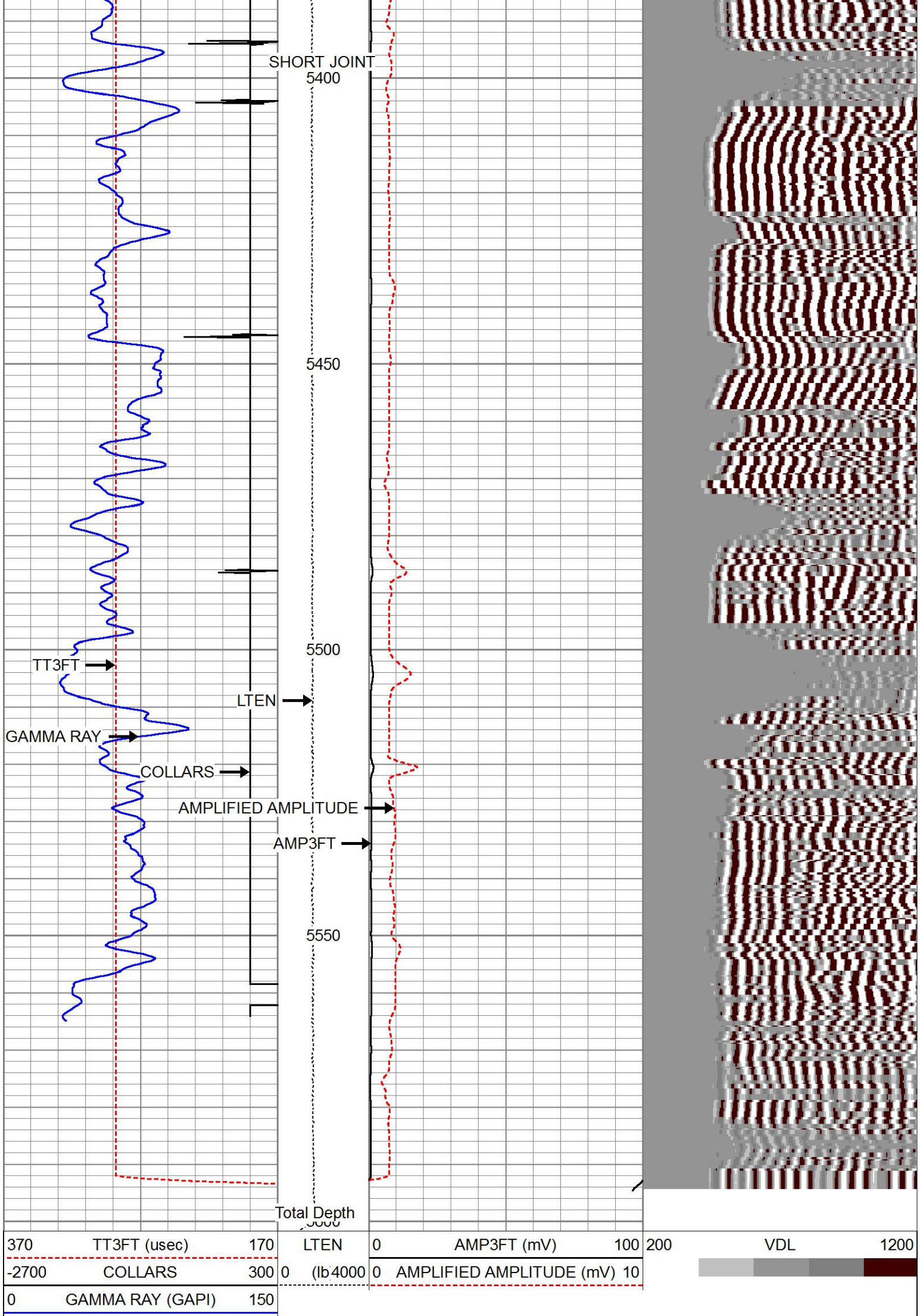












MAIN LOG SECTION

5" = 100'

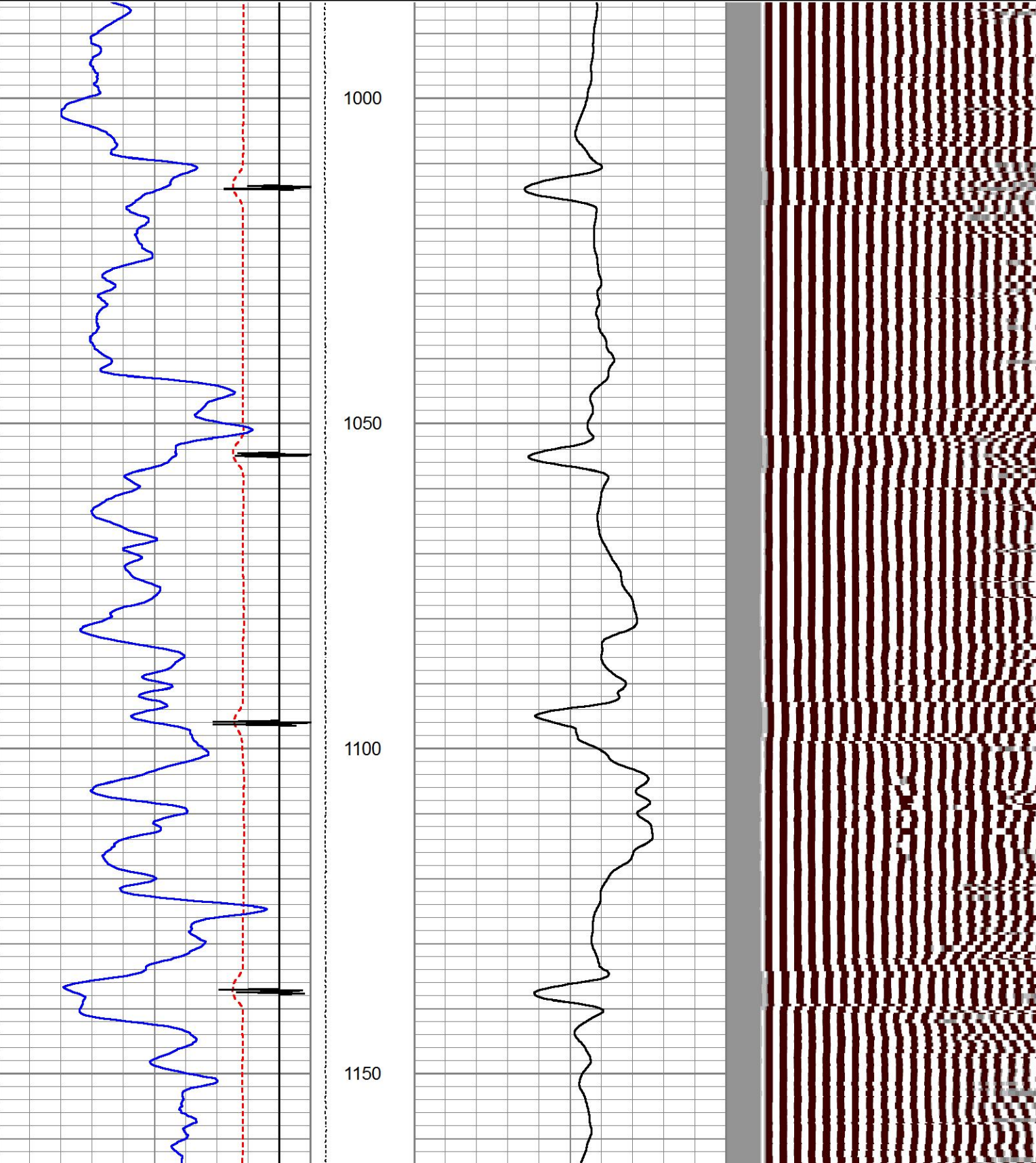
REPEAT LOG SECTION

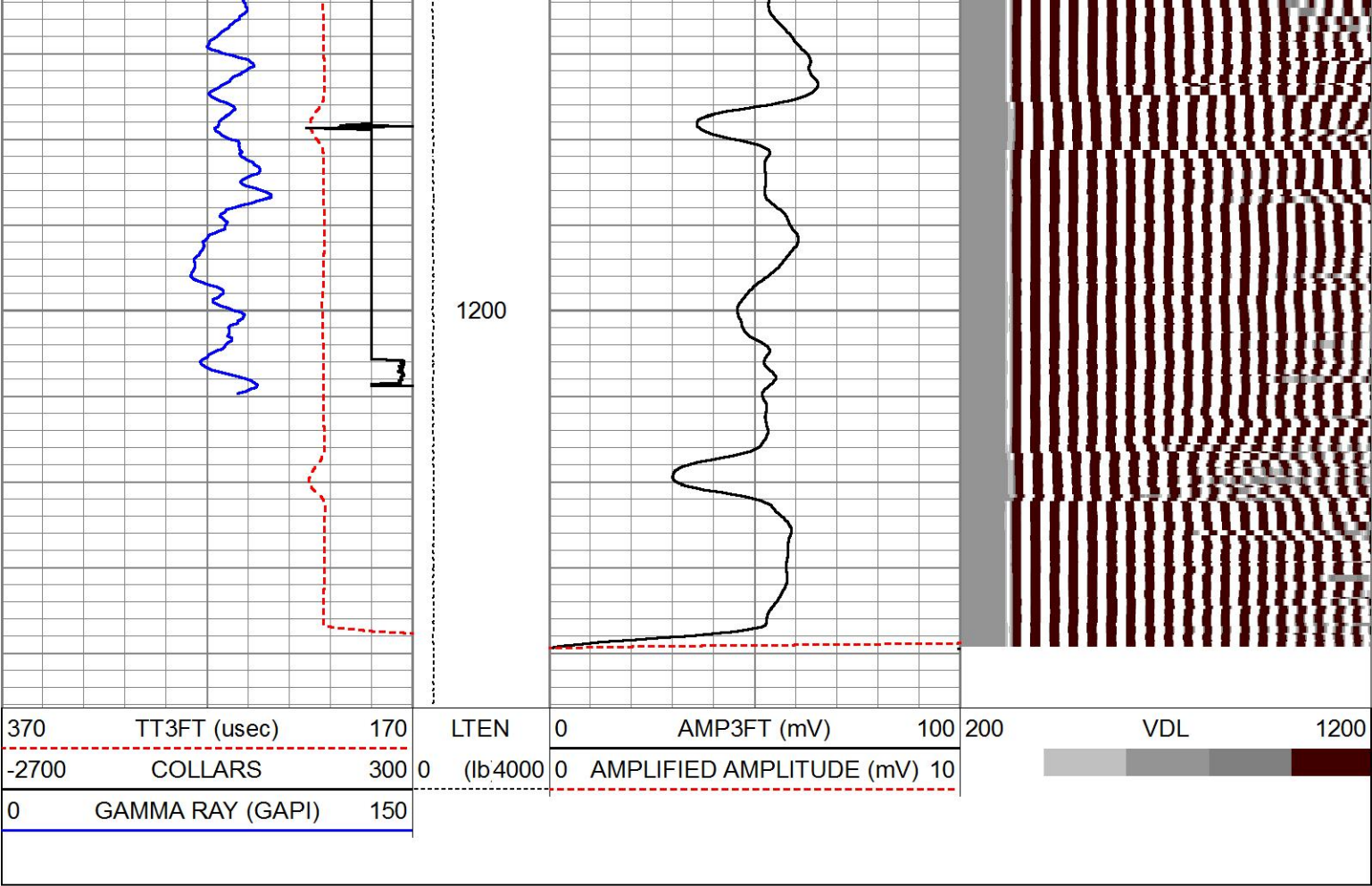
HALLIBURTON

5" = 100'

Database File nolte_44c14_cmb.db
Dataset Pathname 44c=14/run1/RPT1
Presentation Format cbl-radi
Dataset Creation Thu May 29 14:45:13 2014
Charted by Depth in Feet scaled 1:240

370	TT3FT (usec)	170	LTEN	0	AMP3FT (mV)	100	200	VDL	1200
-2700	COLLARS	300	0	(lb 4000	0	AMPLIFIED AMPLITUDE (mV) 10			
0	GAMMA RAY (GAPI)	150							

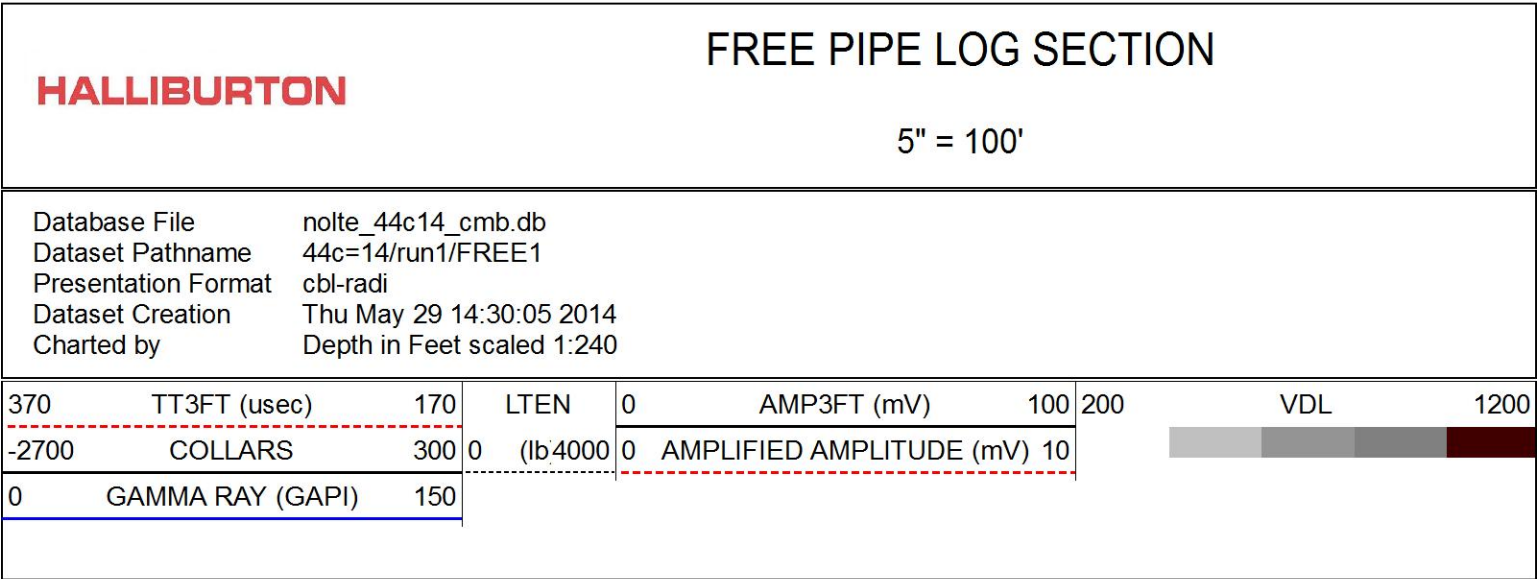




REPEAT LOG SECTION

HALLIBURTON

5" = 100'

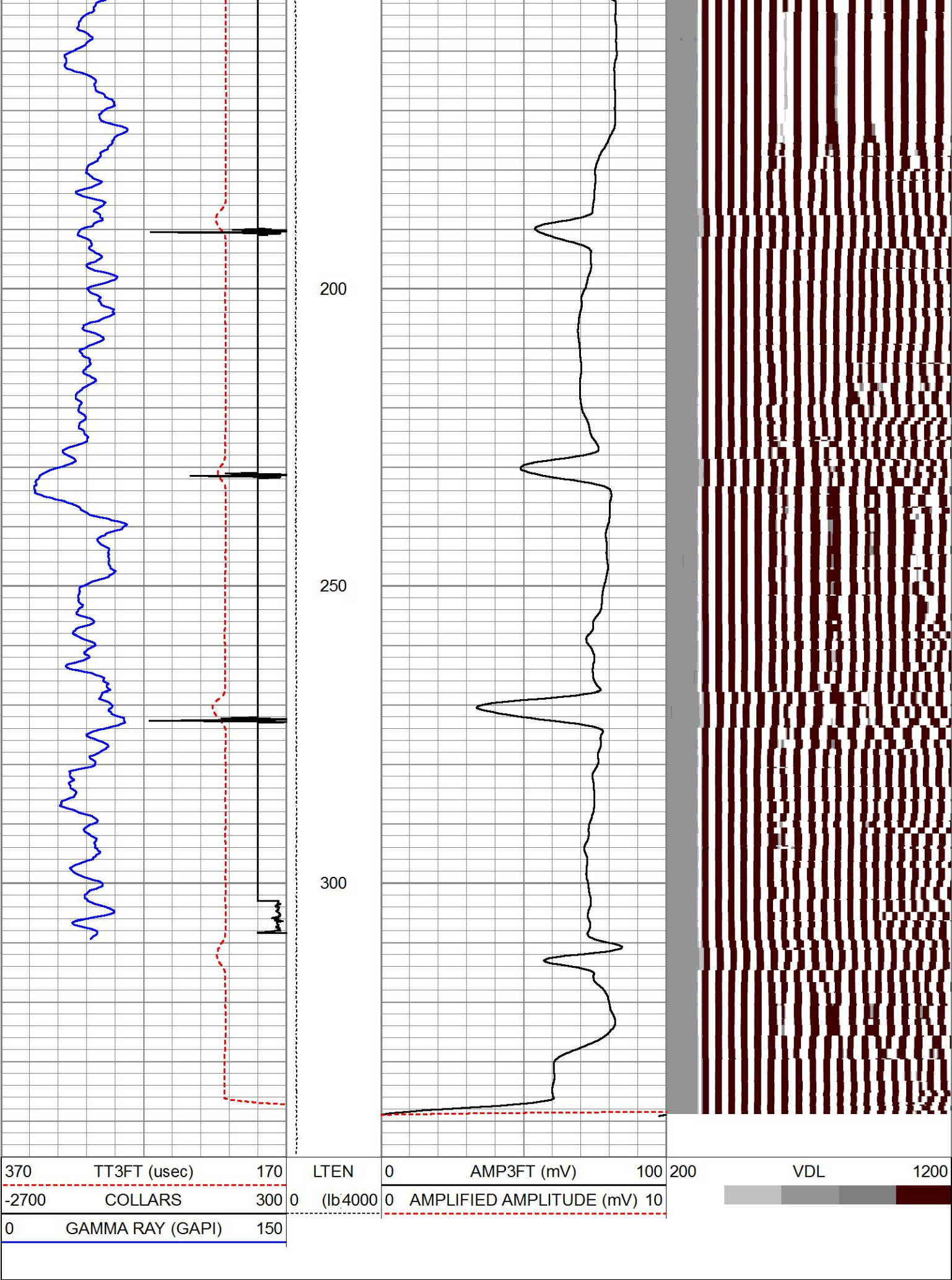


FREE PIPE LOG SECTION

HALLIBURTON

5" = 100'

Database File nolte_44c14_cmb.db
Dataset Pathname 44c=14/run1/FREE1
Presentation Format cbl-radi
Dataset Creation Thu May 29 14:30:05 2014
Charted by Depth in Feet scaled 1:240



FREE PIPE LOG SECTION

HALLIBURTON

5" = 100'

GAINCO 0	RINOR 0.971547	RTF 0.916631	RTN 0.93876	RNOR 4.66536	BHSAL2 0	BHSAL1 1	POROS2 0
POROS1 1	LTH Sandstone	UHSGC 1	RHO CF 0.33	SO in 0	BORSAL kppm 100	CASED? Yes	PPT usec 0
CASEWGHT lb/ft 11.6	MAXAMPL mV 0	MINAMPL mV 1	MINATTN db/ft 0.8	SRFTEMP degF 0	MudWgt lb/gal 8.4	CASETHCK in 0.25	CASEOD in 4.5
PERFS 0	TDEPTH ft 0	BOTTEMP degF 100	BITSIZE in 8.75				

Calibration Report

Database File nolte_44c14_cmb.db
Dataset Pathname 44c=14/run1/MAIN1
Dataset Creation Thu May 29 15:23:03 2014

Segmented Cement Bond Log Calibration Report

Serial Number: 11002212
Tool Model: 004

Calibration Casing Diameter: 4.500 in
Calibration Depth: 112.505 ft

Master Calibration, performed Thu May 29 14:28:05 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.030	0.445	1.500	81.196	191.925	-4.177
5FT	0.017	0.877	1.500	81.196	92.636	-0.077
S1	0.037	0.713	0.000	100.000	147.772	-5.412
S2	0.035	0.736	0.000	100.000	142.696	-5.017
S3	0.029	0.414	0.000	100.000	260.097	-7.560
S4	0.034	0.724	0.000	100.000	144.933	-4.954
S5	0.028	0.333	0.000	100.000	328.324	-9.298
S6	0.026	0.263	0.000	100.000	422.378	-11.132
S7	0.027	0.199	0.000	100.000	579.105	-15.347
S8	0.026	0.183	0.000	100.000	636.125	-16.330

Calibration Report

Serial Number: 11002212
Tool Model: 004
Performed:

Reference (degF) Reading ()
Low: 0.000 0.000
High: 1.000 1.000
Gain = 1.000 Offset = 0.000

Reservoir Monitor Tool I Calibration Report

Serial-Model: 12270693-A

Shop Calibration Performed: Thu May 22 09:21:35 2014

Carbon/Oxygen Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	83.00	80.00	3.00	+/-15.00	V
ITCR2	3146	3250	-104	+/-250	cps
Near Detector					
H	Channel 60	Expected Value 60 +/-2	Amplitude 0.0275	FWHM 5.23	Tol. <6.00
Fe	206	206 +/-2	0.0955	-----	-----
NGAIN = 0.998	NZOFF = 0.1				
Far Detector					
H	Channel 60	Expected Value 60 +/-2	Amplitude 0.0352	FWHM 5.81	Tol. <6.50
Fe	210	208 +/-2	0.0904	-----	-----
FGAIN = 0.990	FZOFF = 0.5				
Flask Temperature	56.9 degF				
Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.64	1.64	-0.00	+/-0.05	
TCCR2	5149	5000	149	+/-1000	cps
ITCR2	3213	3200	13	+/-250	cps

Sigma Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	83.00	80.00	3.00	+/-15.00	V
FCAP	10276	10000	276	+/-500	cps
Horizontal Water Tank					
Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	1.00	0.95	0.05	+/-0.10	
N/F Inel Norm	0.65	0.61	0.04	+/-0.06	
RNF	1.00	1.07	-0.07	+/-0.12	
RINC	1.55	1.64	-0.09	+/-0.18	
SGFN	24.07	24.00	0.07	+/-0.50	cu
SGFF	22.93	22.85	0.08	+/-0.50	cu
FSIN	24745	24000	745	+/-2000	cps
FCAP	10432	10000	432	+/-1000	cps
NFTR	0.82			<5.00	
FFTR	0.95			<5.00	
NBKG	191			<500	cps
FBKG	98			<500	cps
RTN	0.41	0.40	0.01	+/-0.10	usec
RTF	0.43	0.40	0.03	+/-0.10	usec

Calibration Software Modules					
HRMTI Module	2013.11.14.0				
RMTI Module	2014.4.24.99				
Log Data Acquisition Software Modules					
HRMTI Module	2013.11.14.0				
RMTI Module	2014.4.24.99				

Gamma Ray Calibration Report					
------------------------------	--	--	--	--	--


Type / Serial:	002 / 12105786				
----------------	----------------	--	--	--	--

SHOP CALIBRATION	Thu May 29 09:17:14 2014				
	Counts/Sec	Gain	Offset	lig	Units

Background	41.8				
Calibrator	330.9				
		1.4114			
PRIMARY VERIFICATION		Thu May 29 09:20:32 2014			
Background	58.3				
Calibrator	473.6				
Difference			415.2		
BEFORE SURVEY VERIFICATION					
Background	0.0				
Calibrator	0.0				
Difference			0.0		
AFTER SURVEY VERIFICATION					
Background	0.0				
Calibrator	0.0				
Difference			0.0		

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
CCL	37.31		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.10	1.44	1.00
GR	35.05					
RmtTFGT	24.39					
RmtFBACK	24.39					
RmtFCAPT	24.39					
RmtFINEL	24.39					
RmtTNGT	23.89					
RmtNBACK	23.89		TTTCU-002 (12105786) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
RmtNCAPT	23.89					
RmtNINEL	23.89					
TLINITCNT	16.14					
RImpBTEST	16.14					
RImpBCYC	16.14					
RImpBRGW	16.14		XHU-003 (12218041) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
RImpBRGO	16.14					
RImpState	16.14					
RImpPhase	16.14					
RImpCyc	16.14					
RmtGenClamp	16.14					
RmtFTemp	16.14					
RmtFP5V	16.14					
RmtFPMHV	16.14					
RmtFPMI	16.14					
RmtFPrgSt1	16.14					
RmtFDetStat	16.14		RMTI-A (12270693) Halliburton RMTI Tool	14.00	2.13	77.00
RmtNTemp	16.14					
RmtNPMHV	16.14					
RmtNPMI	16.14					
RmtNPrgSt1	16.14					
RmtNDetStat	16.14					
RmtGenIonl	16.14					
RmtGen15Bus	16.14					
RmtGenLvdsV	16.14					
RmtGenSyncV	16.14					
RmtGenClamp	16.14		X-OVER-SondexxGo Sondex Box x Go Pin Cross Over	0.31	1.69	1.00
RmtGenP5V	16.14					
RmtGenP33V	16.14		AUH-001 (11072111) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00
RmtGen200V	16.14					
RmtGenP15VI	16.14		CENT-Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
RmtGenTemp	16.14					
RmtGenP5VI	16.14					
RmtGenI	16.14					
RmtGenP	16.14					

RmtGenPv	16.14					
RmtGenCmd	16.14					
RmtGenSpl	16.14					
RmtGenSpPv	16.14					
RmtGenIsPCmc	16.14					
RmtGenRepPv	16.14					
RmtGenRepV	16.14					
RmtGenRepSv	16.14					
RmtGenContSt	16.14					
RmtCommFWa	16.14					
RmtCommFlash	16.14					
CBLROT	8.23					
CBLTEMP	8.23					
WVFS8	8.23					
WVFS7	8.23					
WVFS6	8.23					
WVFS5	8.23					
WVFS4	8.23					
WVFS3	8.23					



RBT-004 (11002212) Radial Bond Tool (UW 3 1/8) 20K Rated	9.48	3.13	140.00
CENT-Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20

Dataset: nolte_44c14_cmb.db: field/44c=14/run1/MAIN1

Total length: 40.48 ft

Total weight: 370.20 lb

O.D.: 3.13 in

Company	CAERUS OIL & GAS, LLC.				
Well	NOLTE 44C-14				
Field	GRAND VALLEY				
County	GARFIELD		State	CO	
HALLIBURTON	ACOUSTIC CEMENT BOND LOG				