

HALLIBURTON

CEMENT BOND LOG  
GR-CCL

Company				BILL BARRETT CORPORATION			
Well				FIDUCIAL 06-62-34-4956BH2			
Field				WATTENBERG			
County				WELD		State CO	
Company				BILL BARRETT CORPORATION		Company	
Well				FIDUCIAL 06-62-34-4956BH2		Well	
Field				WATTENBERG		Field	
County				WELD		County	
State				CO		State	
CO						CO	
API No.:				05-123-392970000		Serv #: 901783573	
Location:						Other Services	
Permanent Datum				GROUND LEVEL		Elevation	
Log Measured From				KB		K.B.	
Drilling Measured From				KB		D.F.	
Date @ Time Logged				29-OCT-2014		Type Fluid in Hole	
Run No.				ONE		Density of Fluid	
Depth - Driller				16200'		Fluid Level	
Depth - Logger				5680'		Cement Top Est. Logged	
Bottom - Logged Interval				5608'		Equipment / Location	
Top - Log Interval				surface		Recorded by	
Max. Recorded Temp.				N/A		Witnessed by	
CEMENTING DATA				Surface		Protection	
Date / Time Cemented				String		Production	
Primary / Squeeze							
Expected Compressive Strength				psi@		hrs	
Cement Volume				psi@		hrs	
Cement Type / Weight				/		/	
Formulation							
Mud Type / Mud Wgt.				/		/	
Borehole Record				Casing & Tubing Record			
Run Number		Bit		From		To	
				9.625"		36#	
				7"		26#	
				4.5"		11.6#	

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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

HES RMTi-CBL LOG CORRELATED BY KB HEIGHT OF 22'  
LOG INTERVAL PER CUSTOMER REQUEST

CREW : Charles Simons, Bradley Bruderer  
THANK YOU FOR CHOOSING HALLIBURTON ENERGY ROCK SPRING WY

Service Ticket No.	901783573	API No.	05-123-392970000	PGM Ver	warrior_8
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client					
EQUIPMENT DATA					
TELEMETRY		XHU		RESRVOIR MONITOR TOOL	CEMENT BOND TOOL
Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	10000538	Serial No.	10008856	Serial No.	12253831
Model No.	TTTC-U002	Model No.	XHU003	Model No.	RMTi
Diameter	1.69"	Diameter	1.69"	Diameter	2.13"
LOGGING DATA					
General Data					
Pass	Depths		Well Head	Speed	Logging Run Comments
No	From	To	Pressure	Ft/Min	

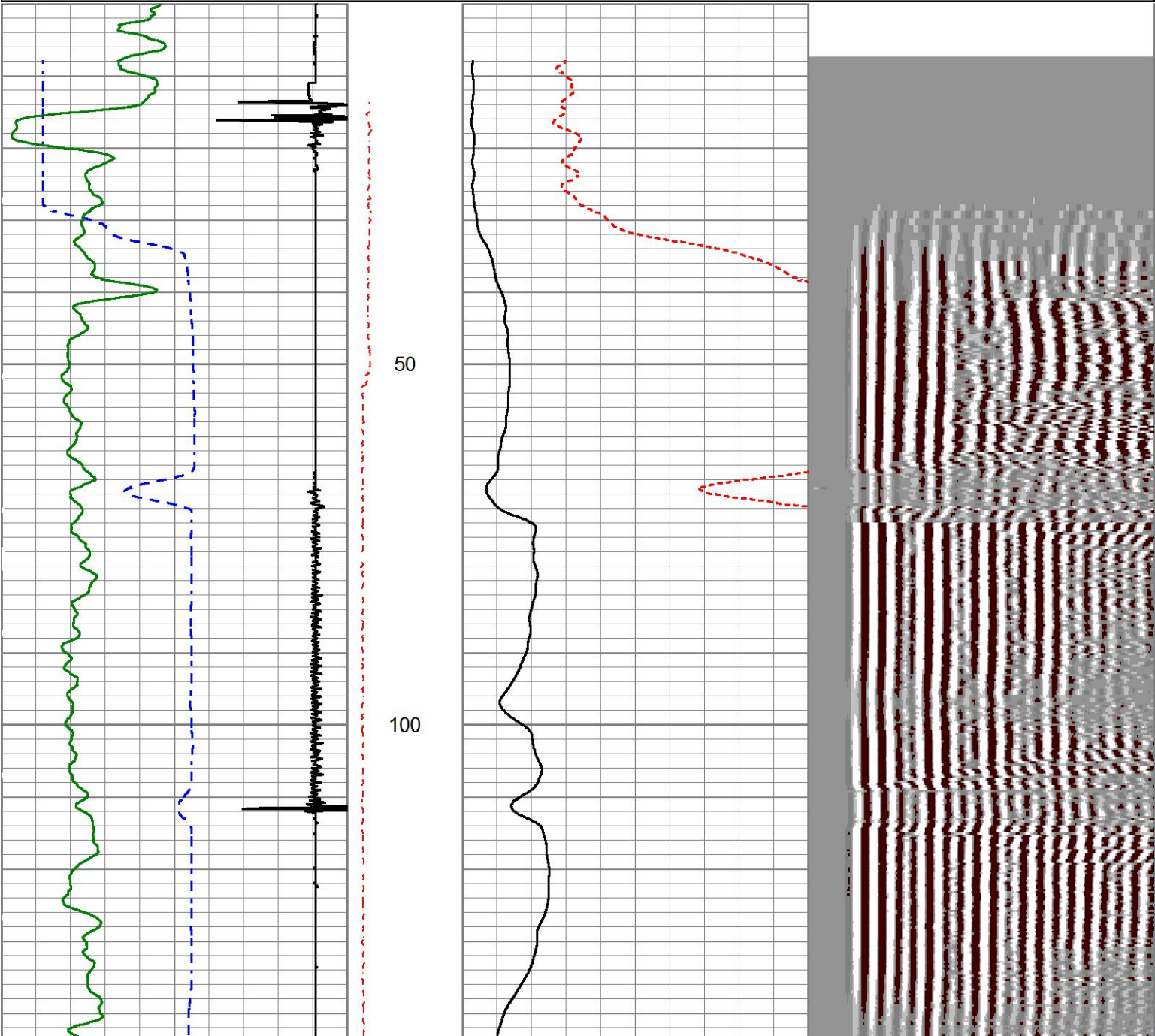
No.	MAIN	5608'	200'	0				
		FSIN		SIGMA		GAMMA RAY		AMP (mV)
Pass		Scale		Scale		Scale		Scale
No.		L	R	L	R	L	R	L
		100000	0	0	60	0	150	0
								100
DIRECTIONAL INFORMATION								
Maximum Deviation			deg. @		KOP			

MAIN PASS

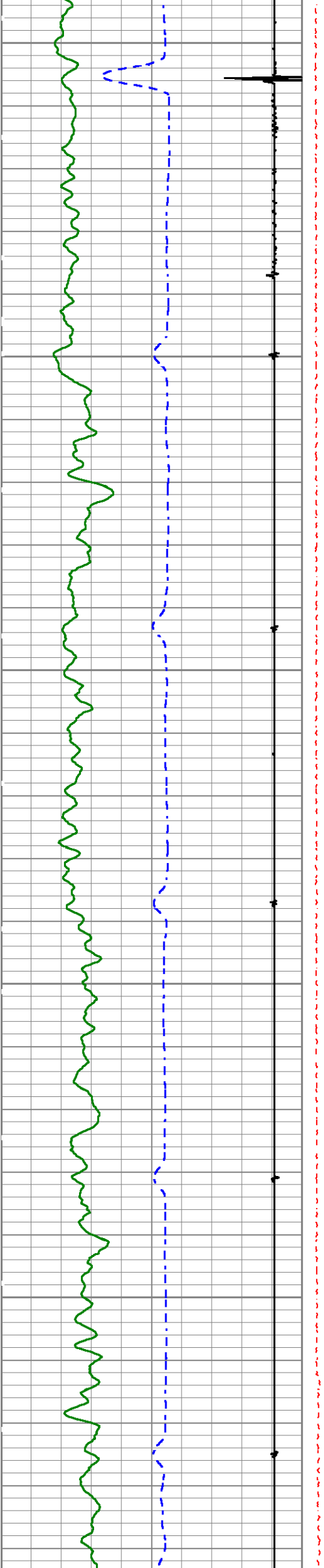
HALLIBURTON

5"=100'

Database File	old jobs\fiducial 06-62-34-4956bh2.db							
Dataset Pathname	WATTENBURG/Fiducial_06-62-34-4956BH2/run1/MAIN2							
Presentation Format	cbl_main							
Dataset Creation	Wed Oct 29 17:55:52 2014							
Charted by	Depth in Feet scaled 1:240							
400	TRAVEL TIME (usec)	200	LTEN	0	AMP AMPLITUDE (mV)	10	200	MSG
-2500	Collar Locator	250	0	(lb2200	0	AMPLITUDE (mV)	100	1160
0	Gamma Ray (GAPI)	150						







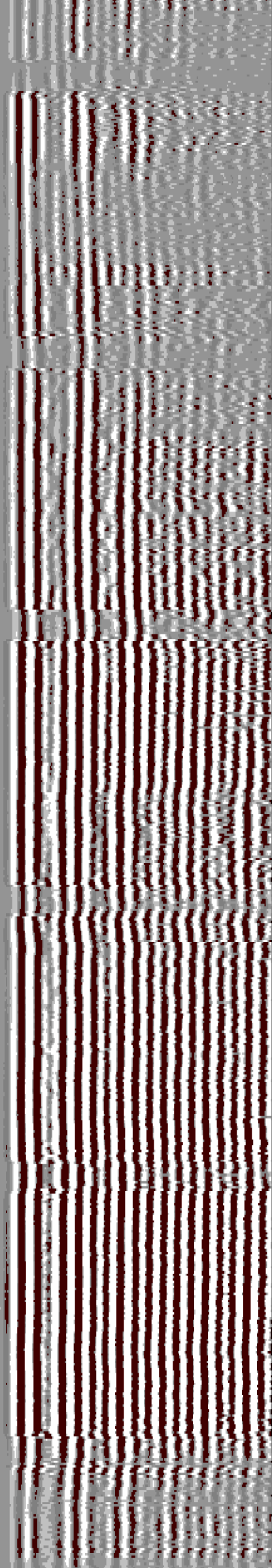
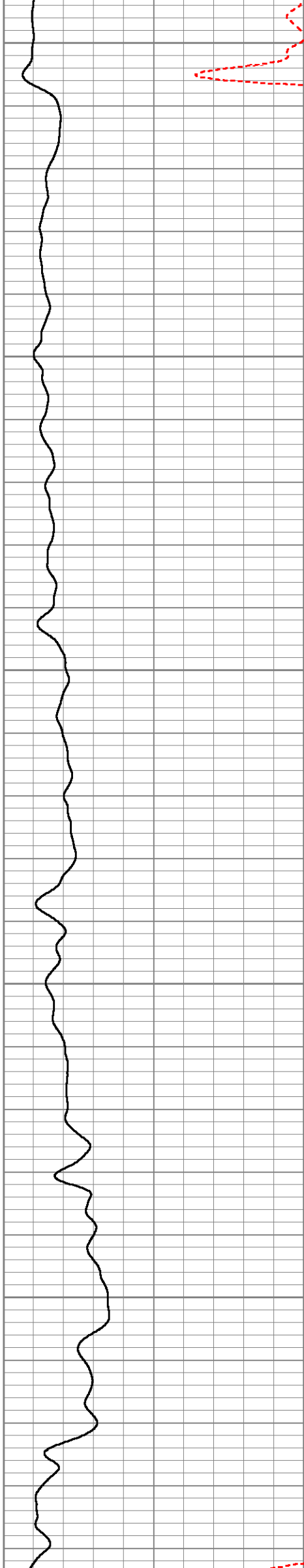
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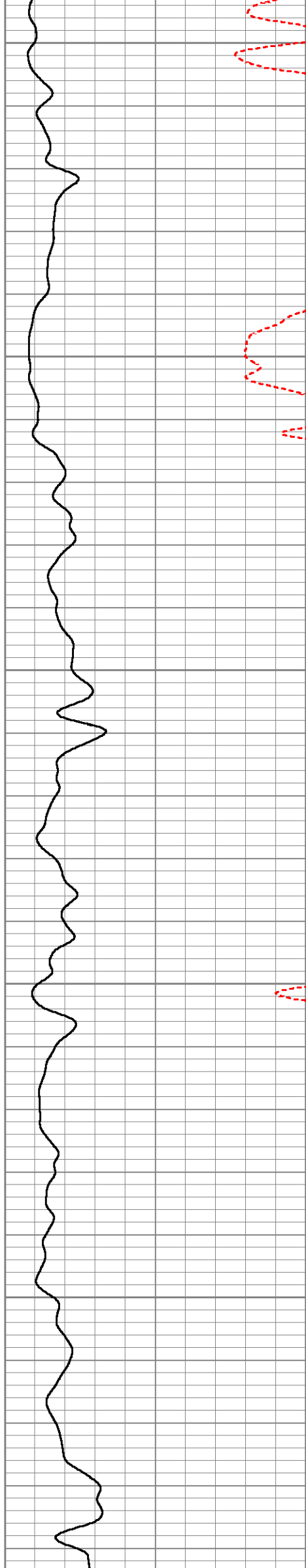
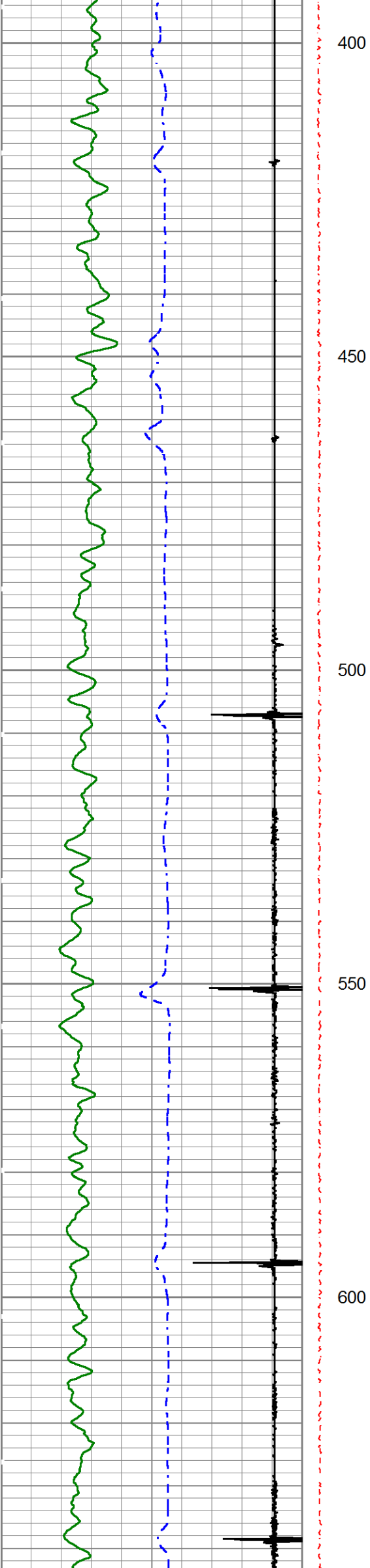
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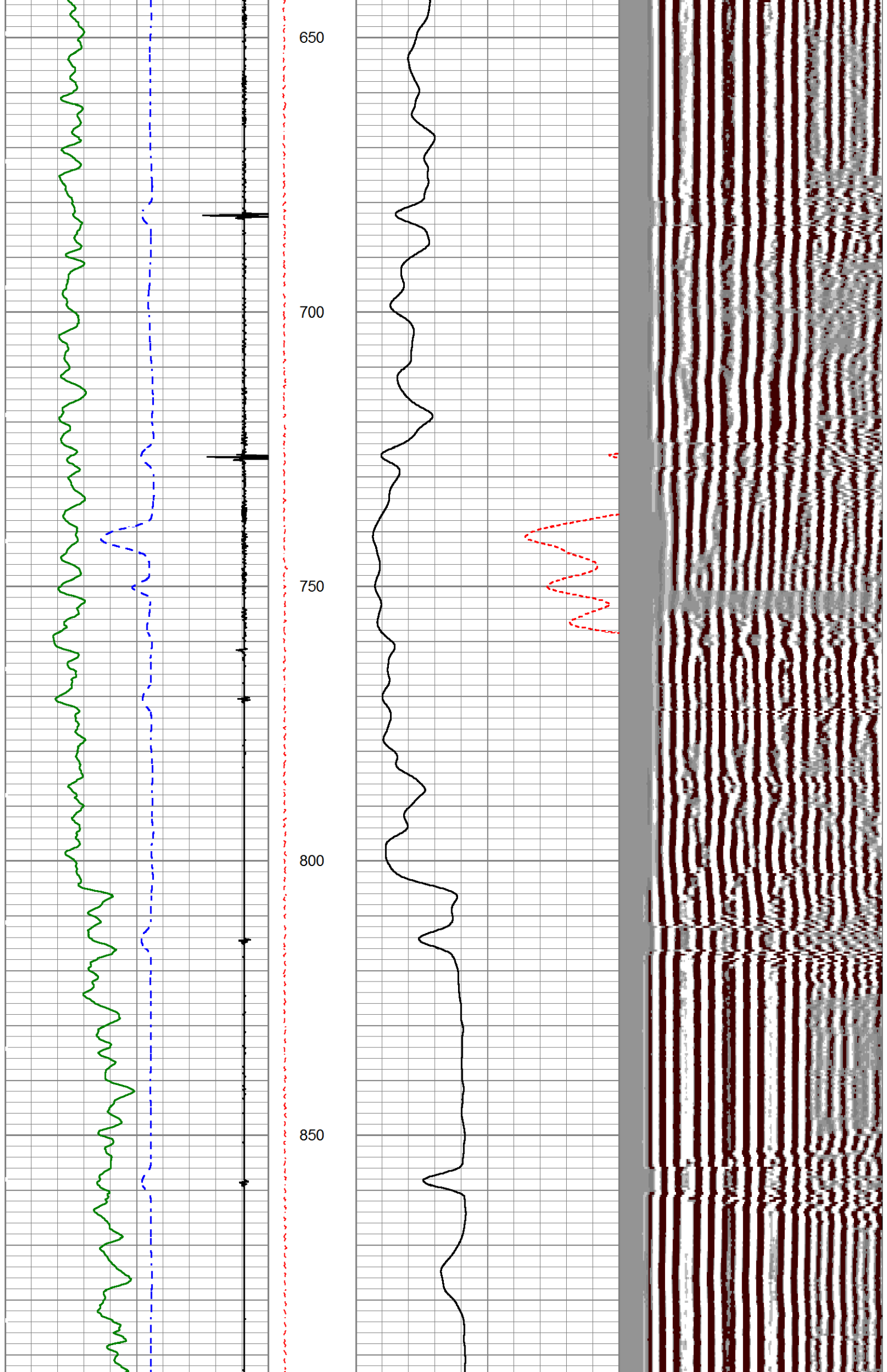
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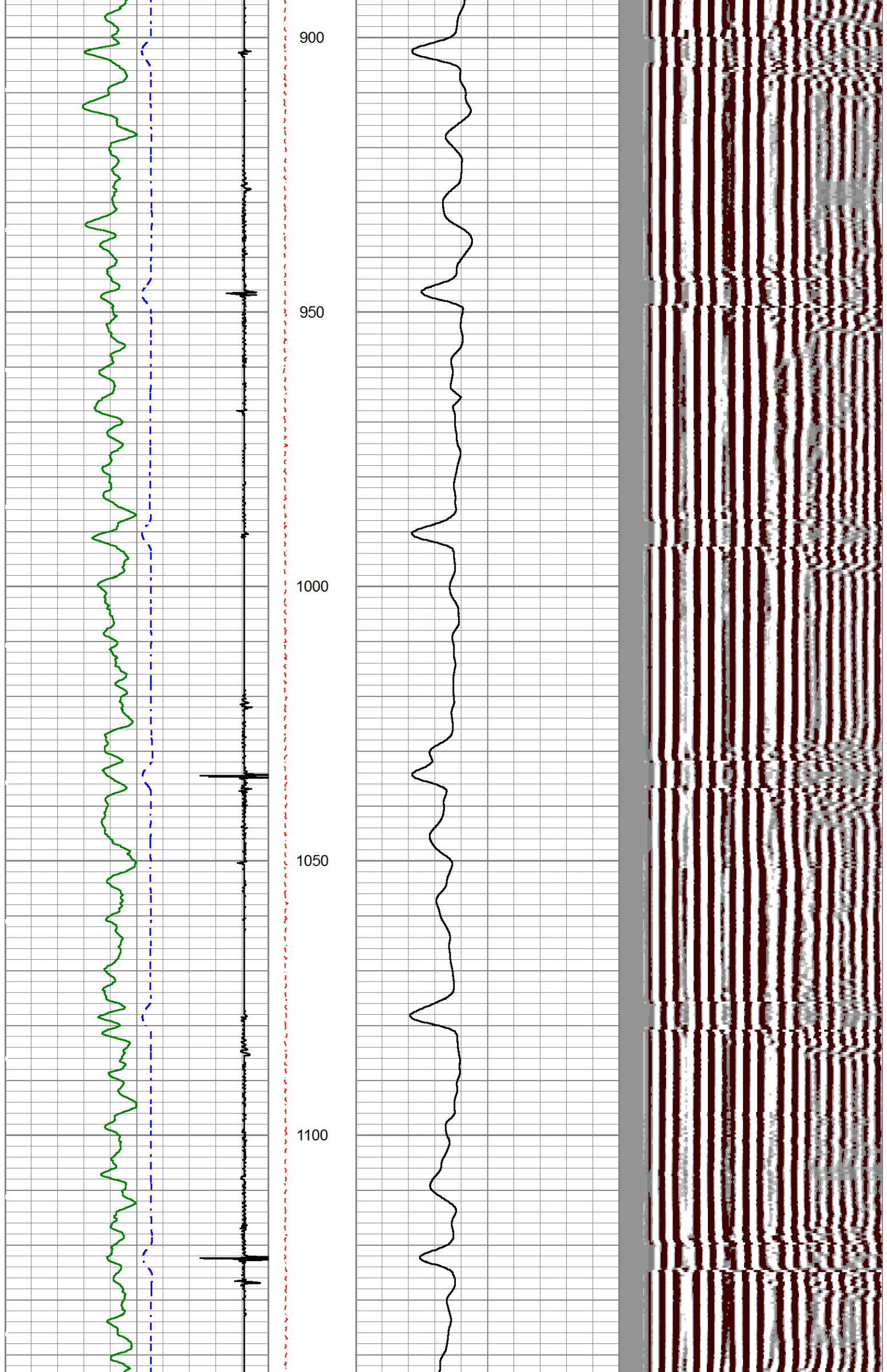
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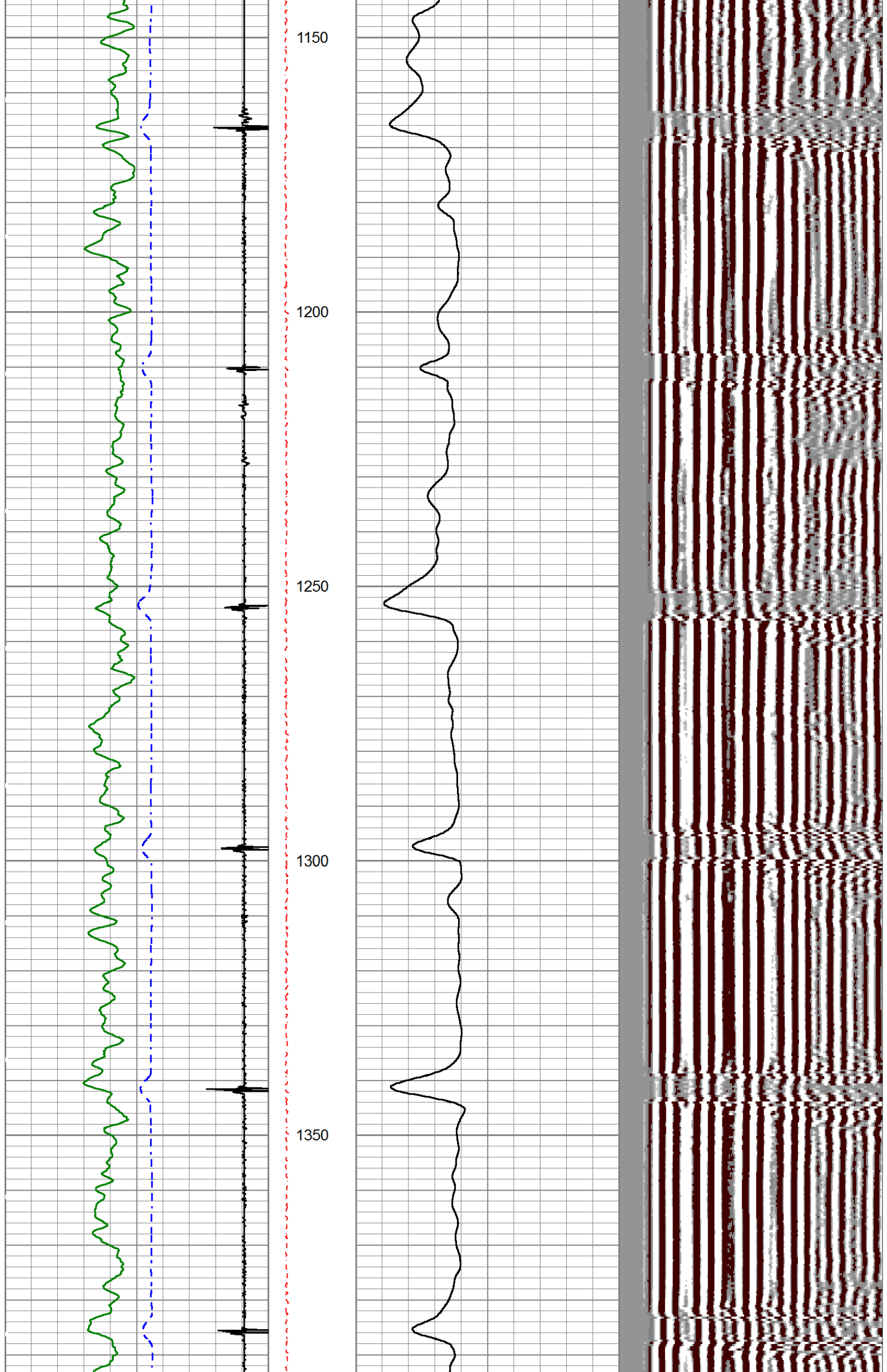
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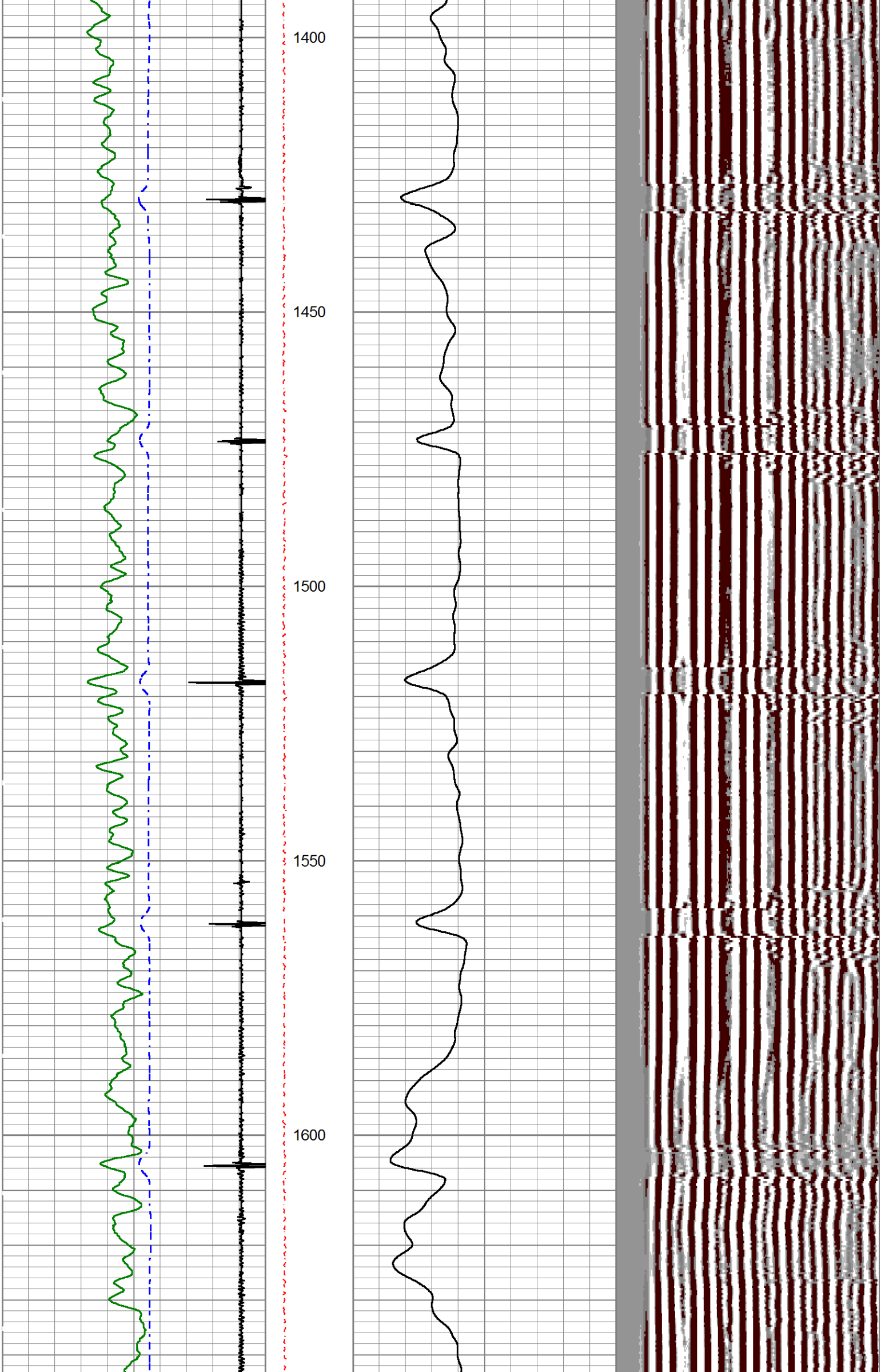




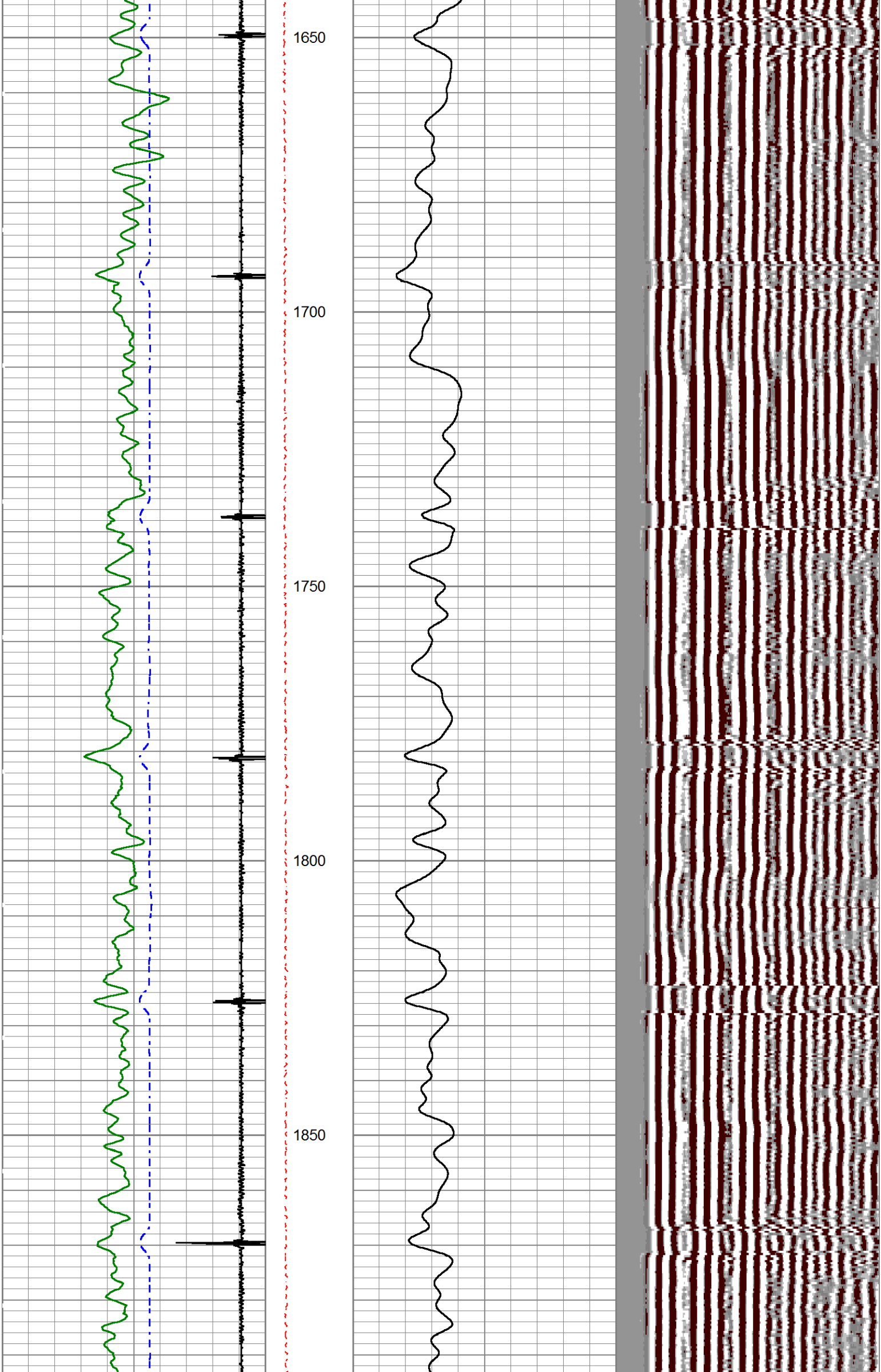


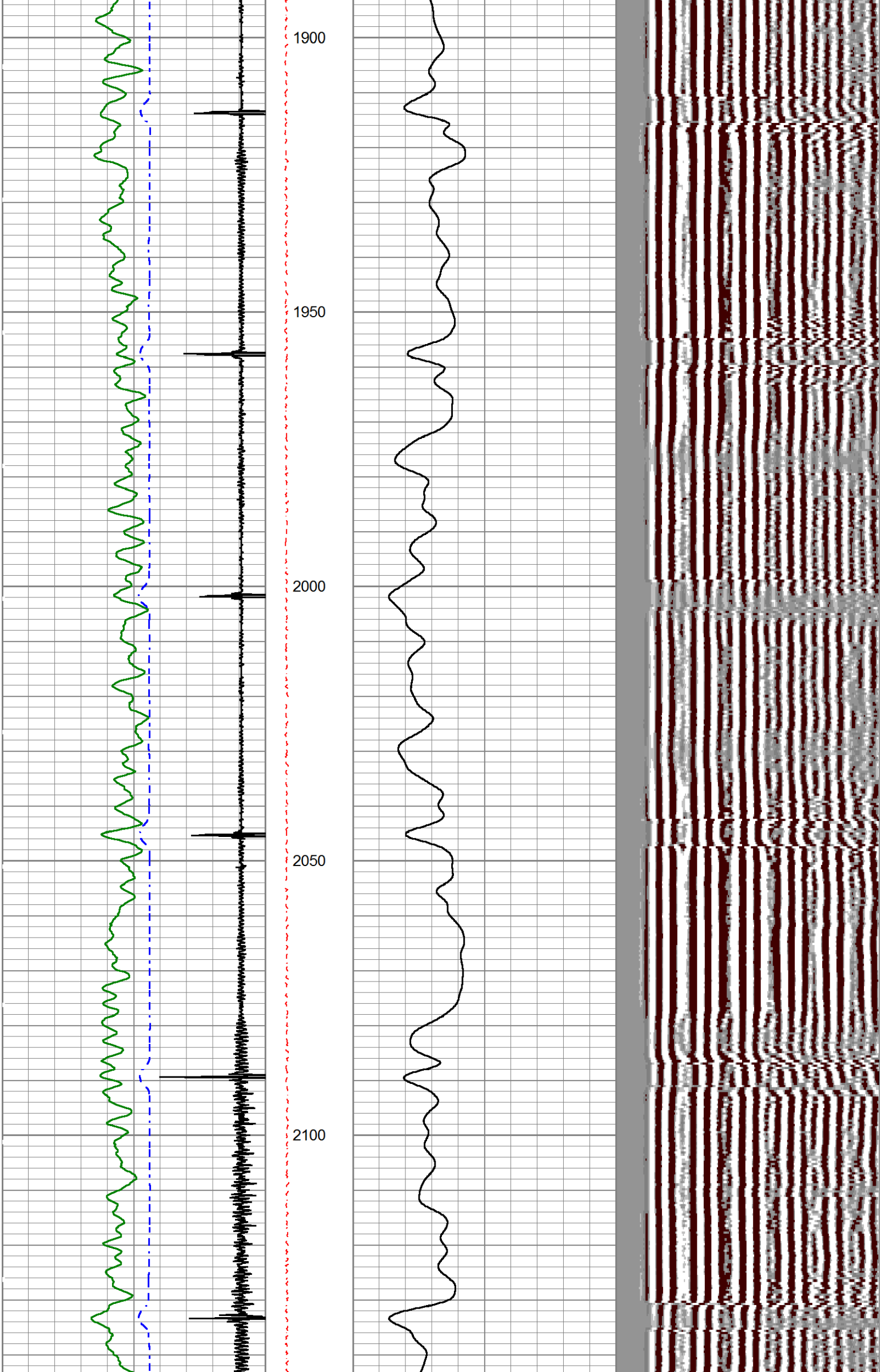


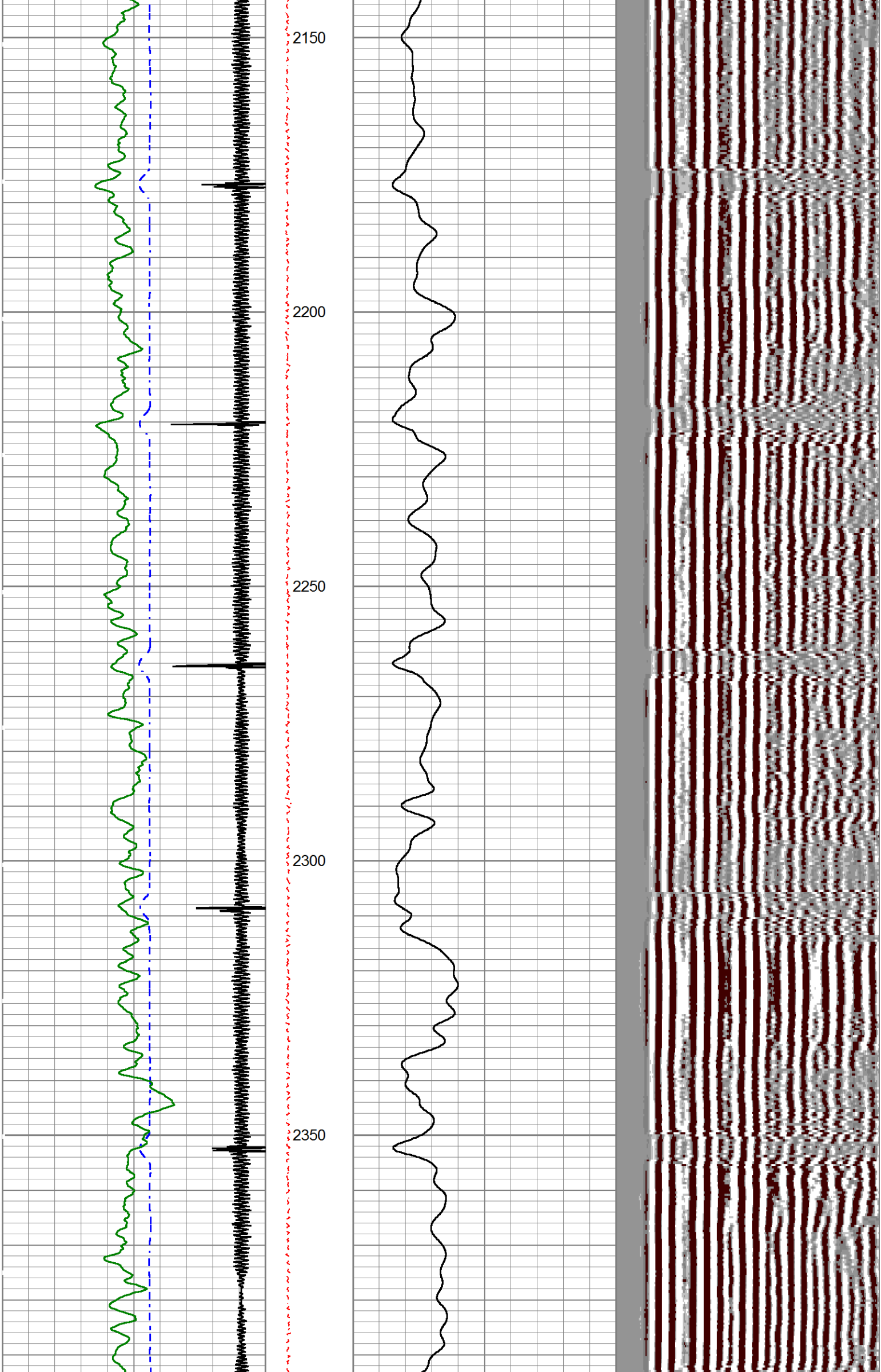


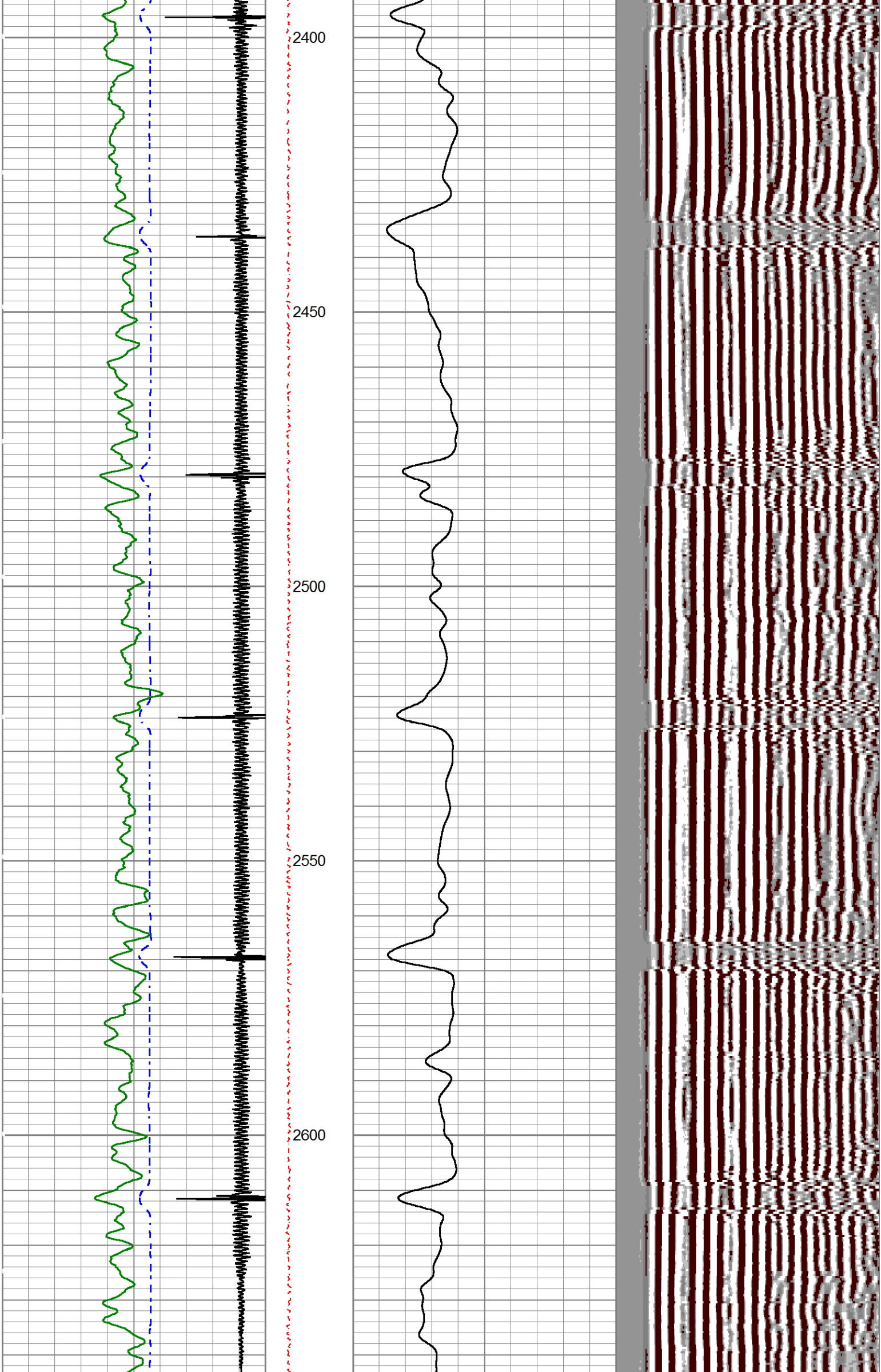




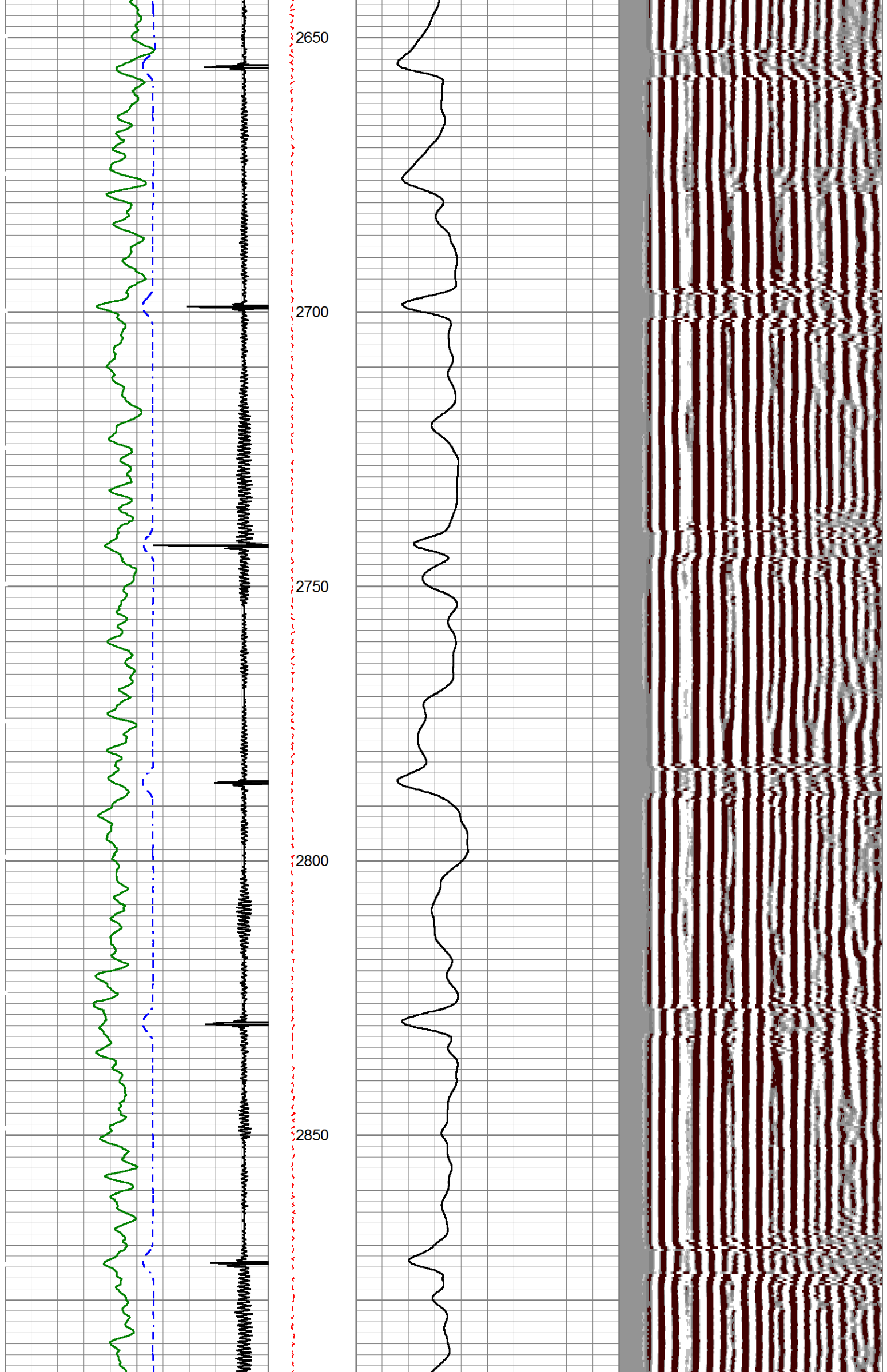


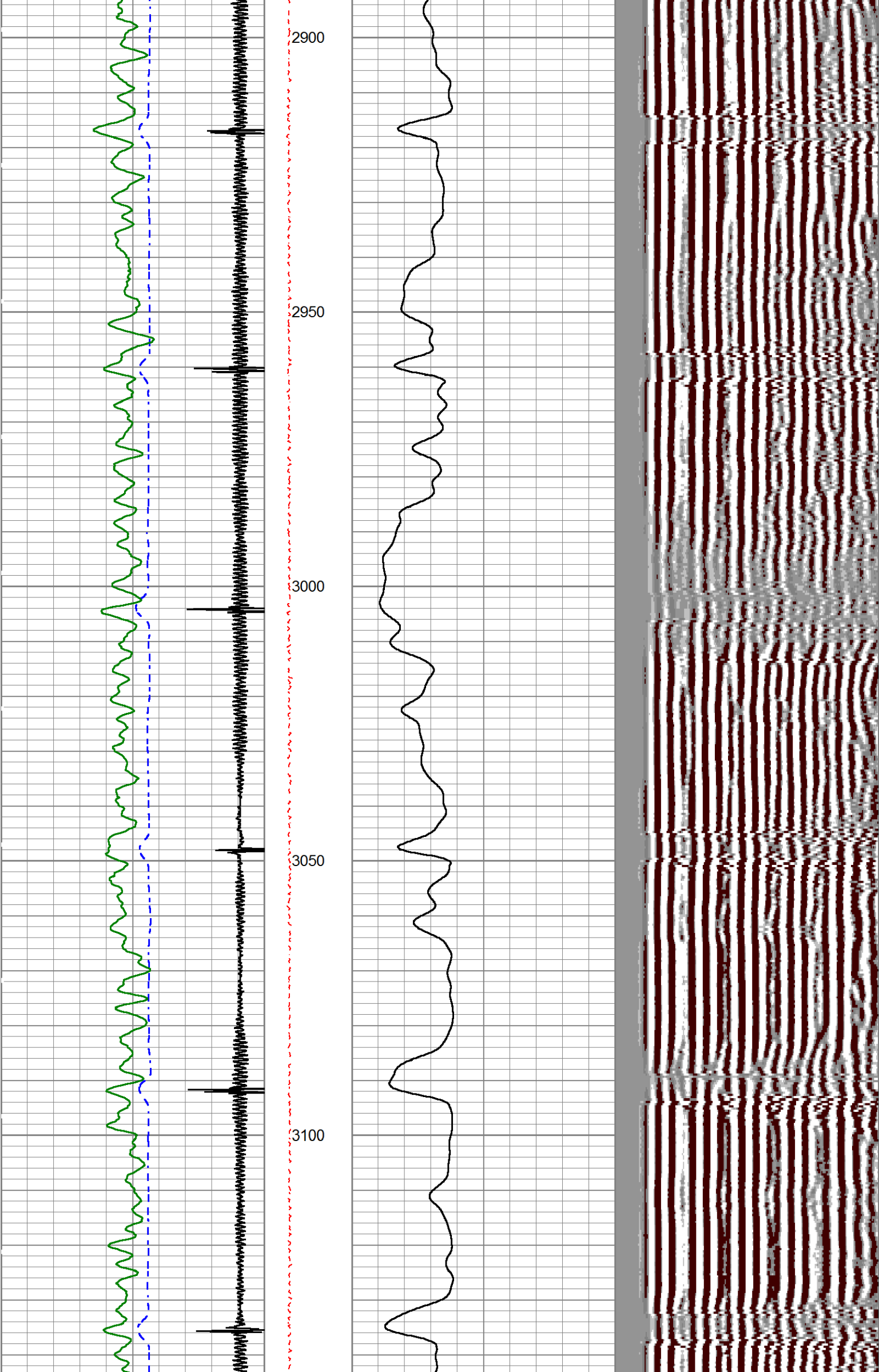


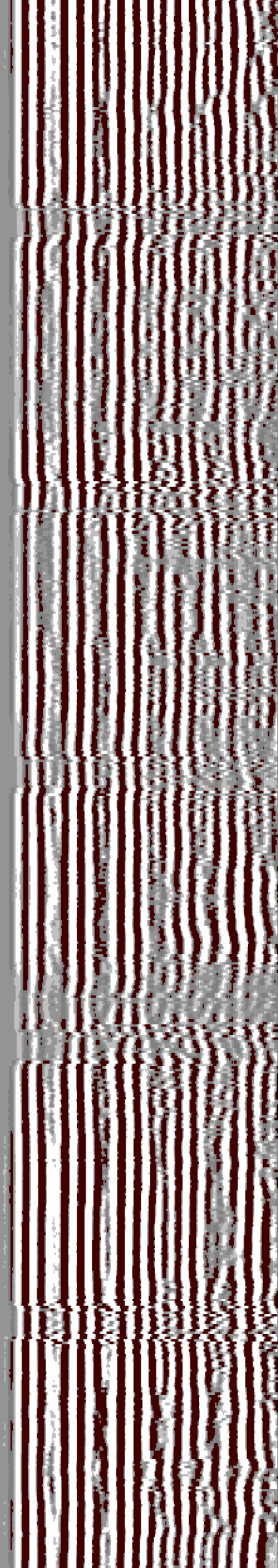
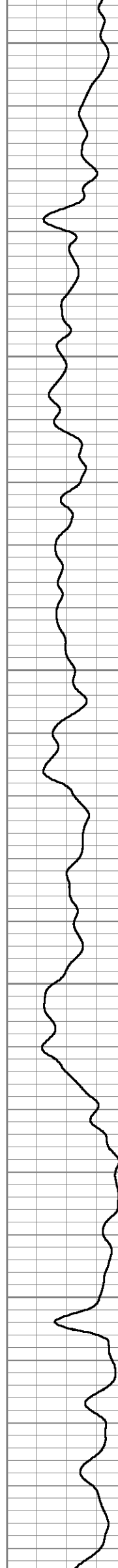
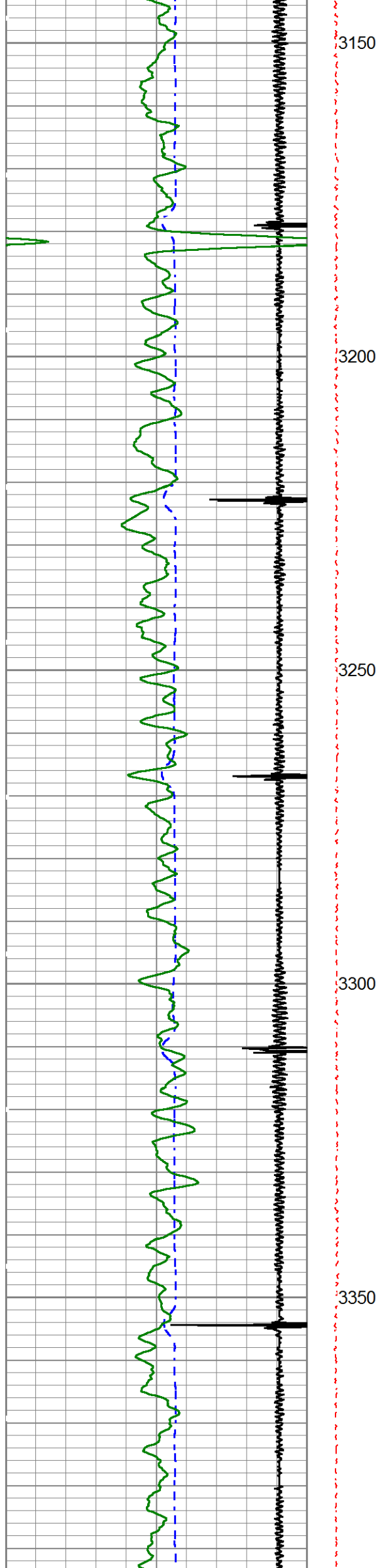


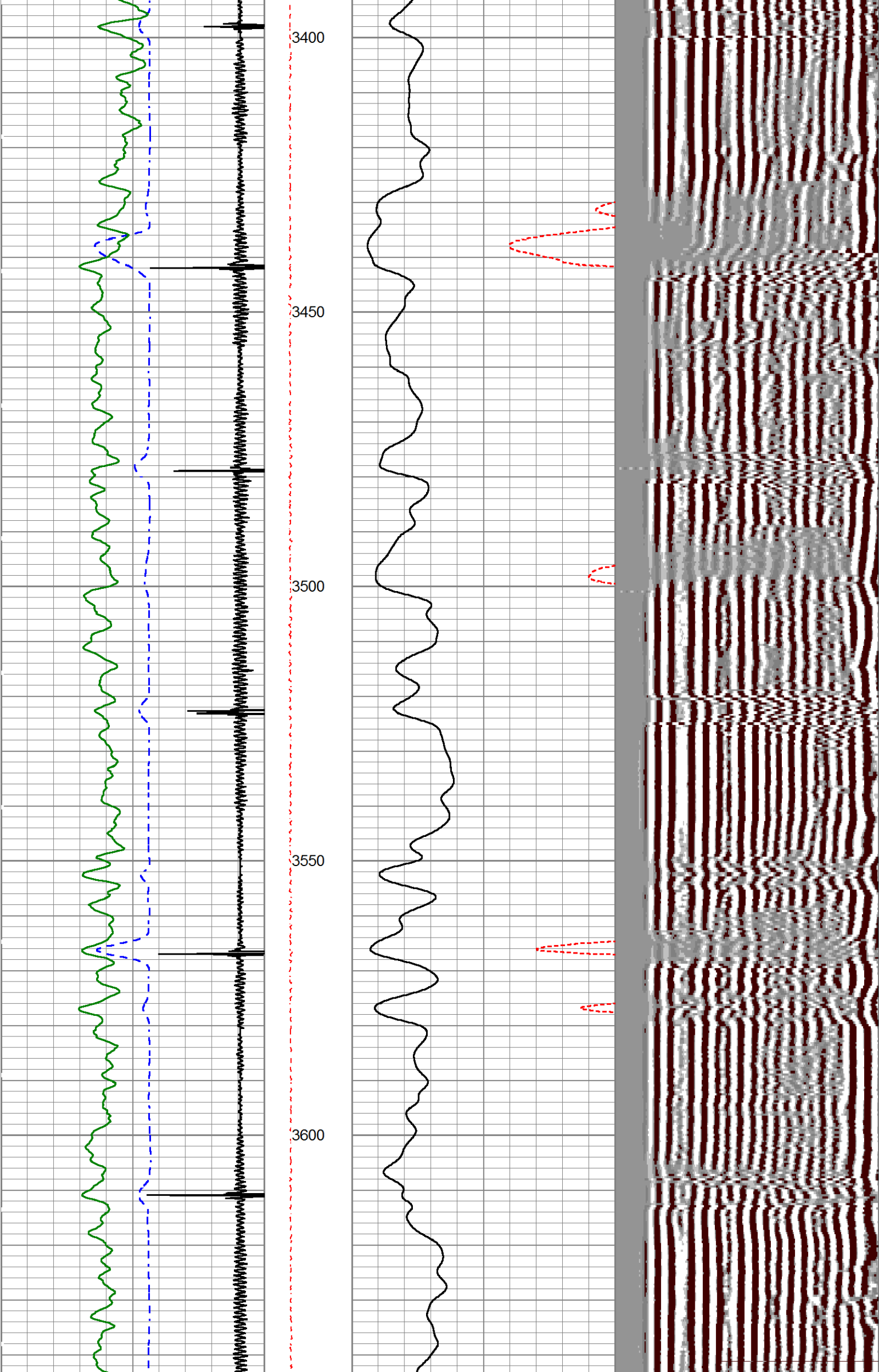




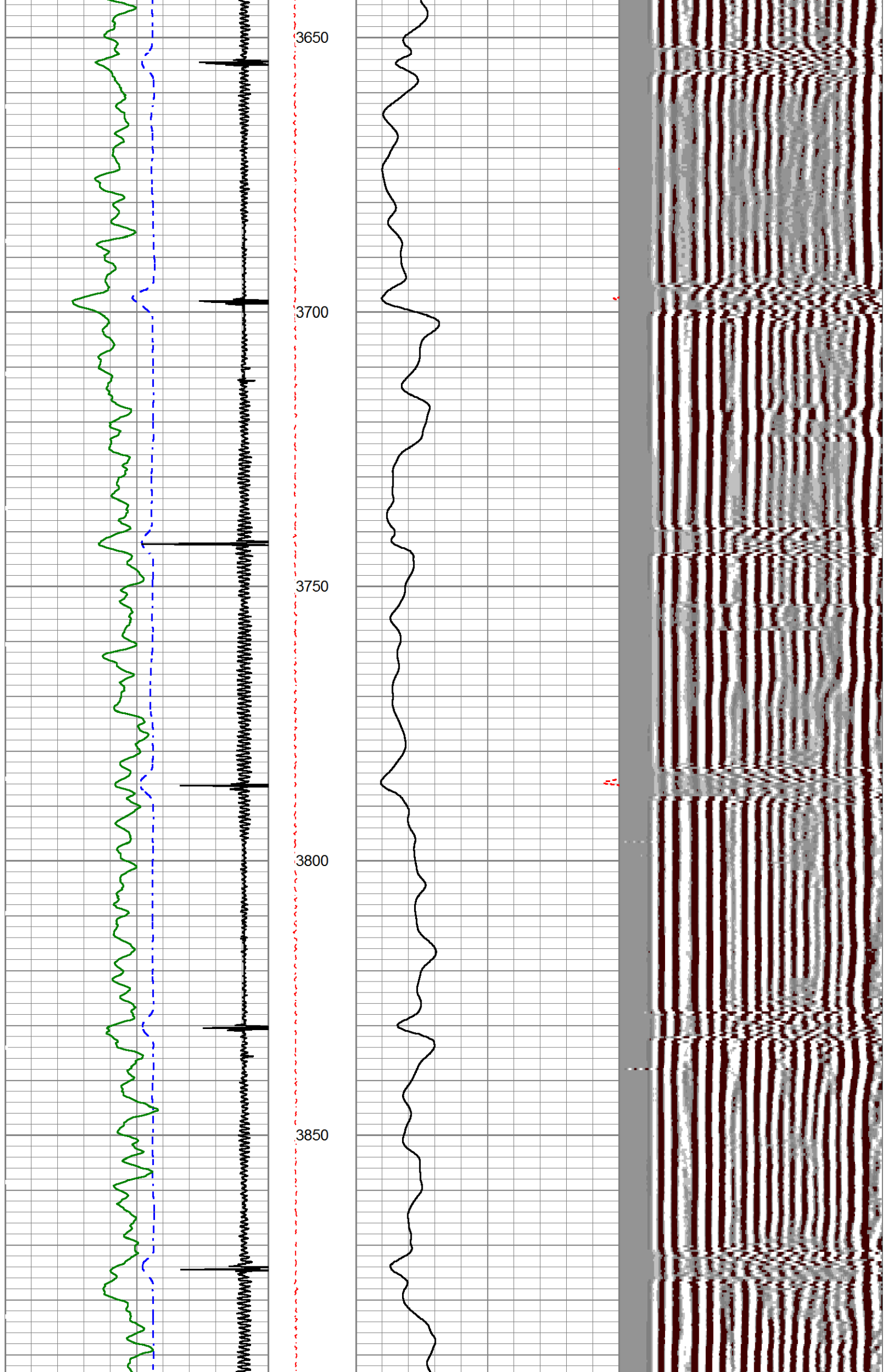


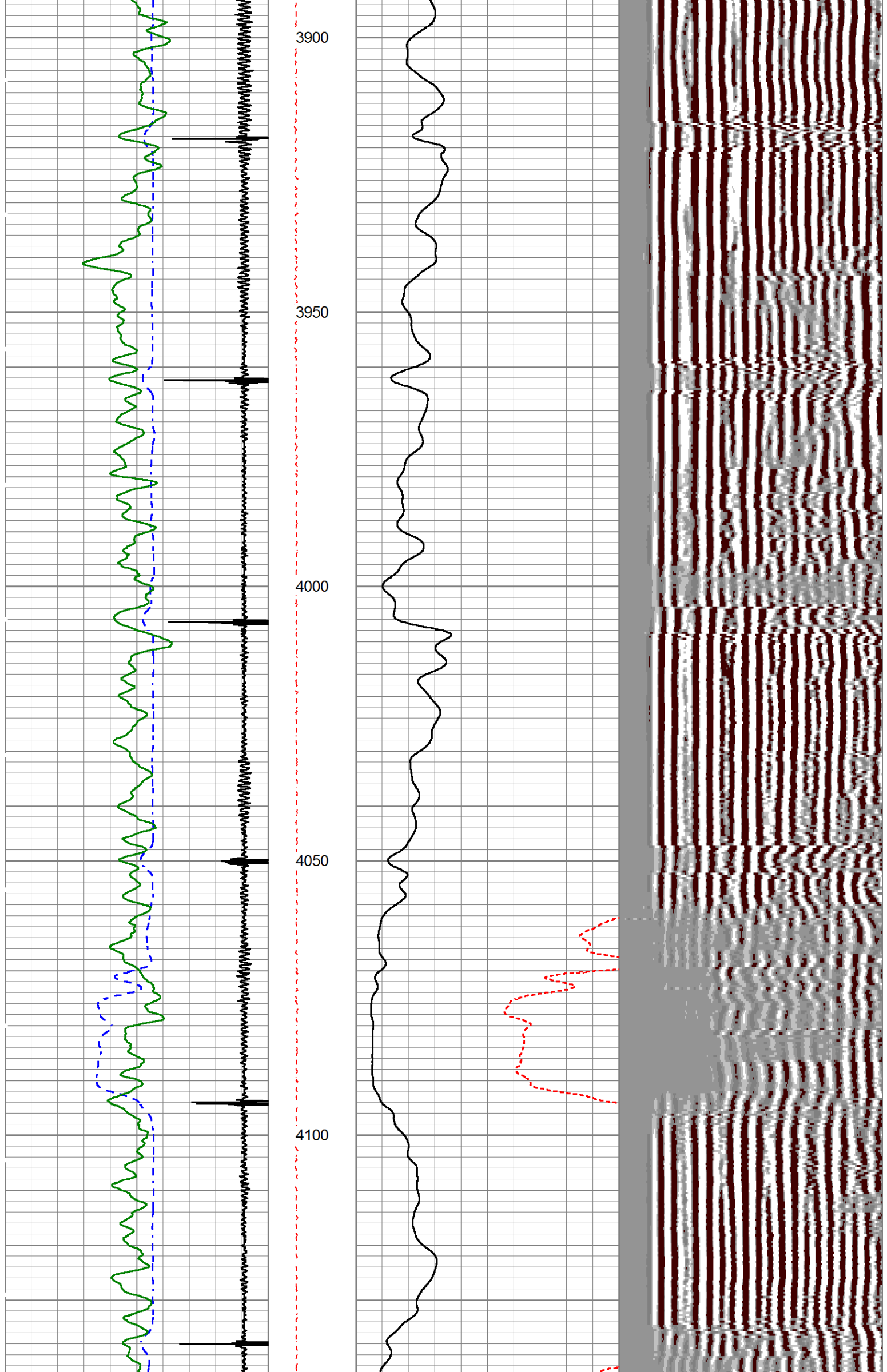


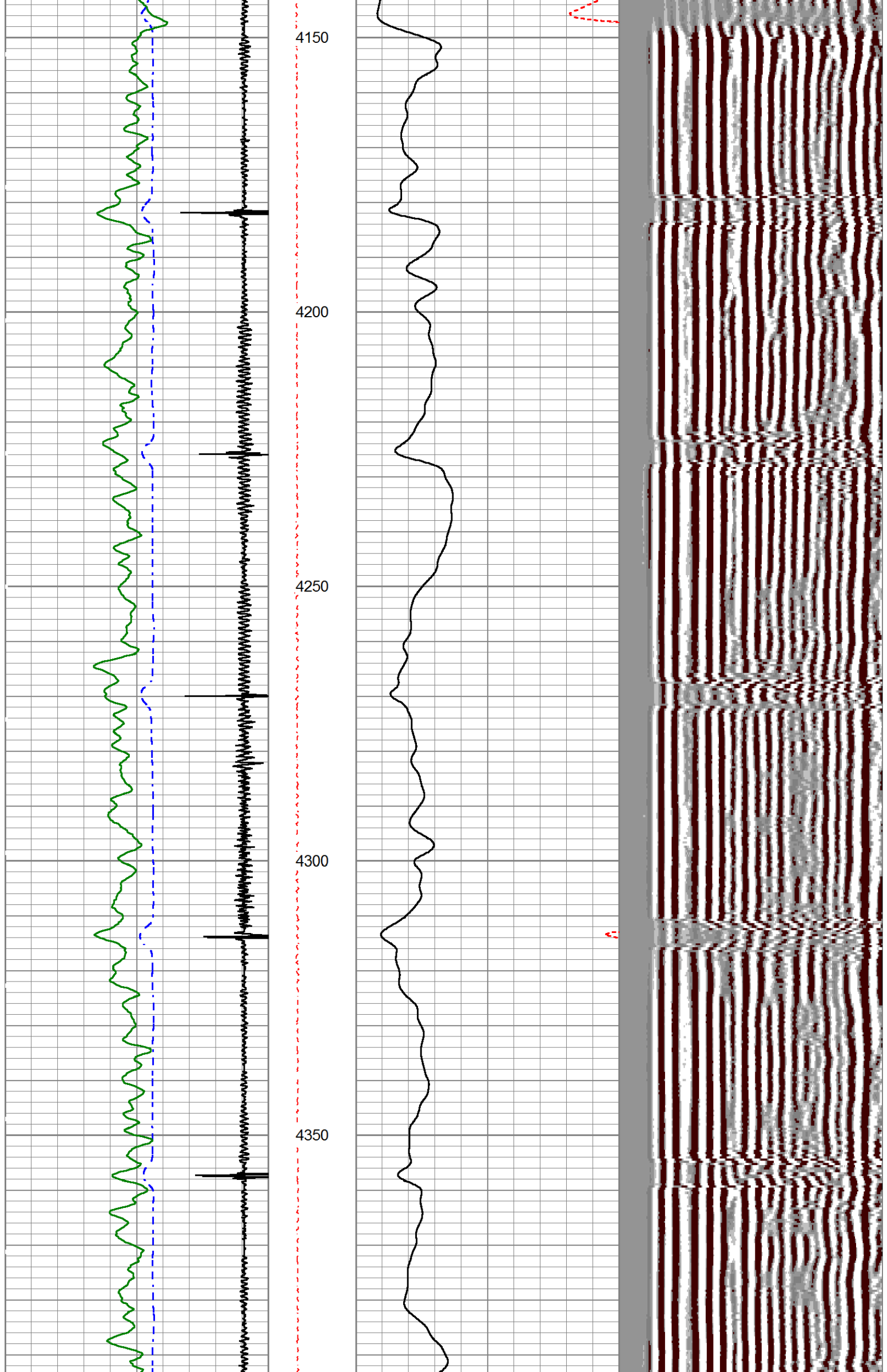


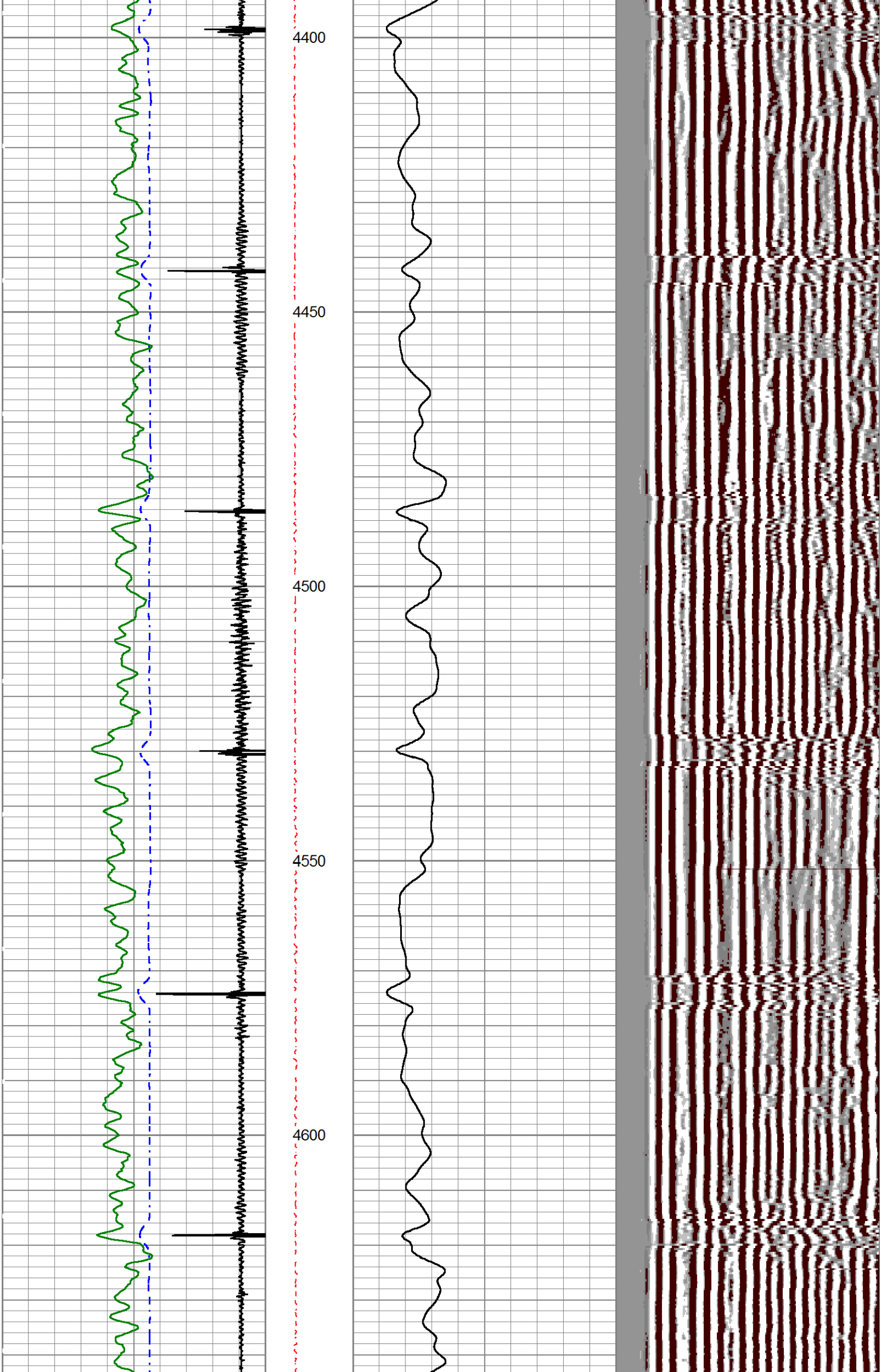




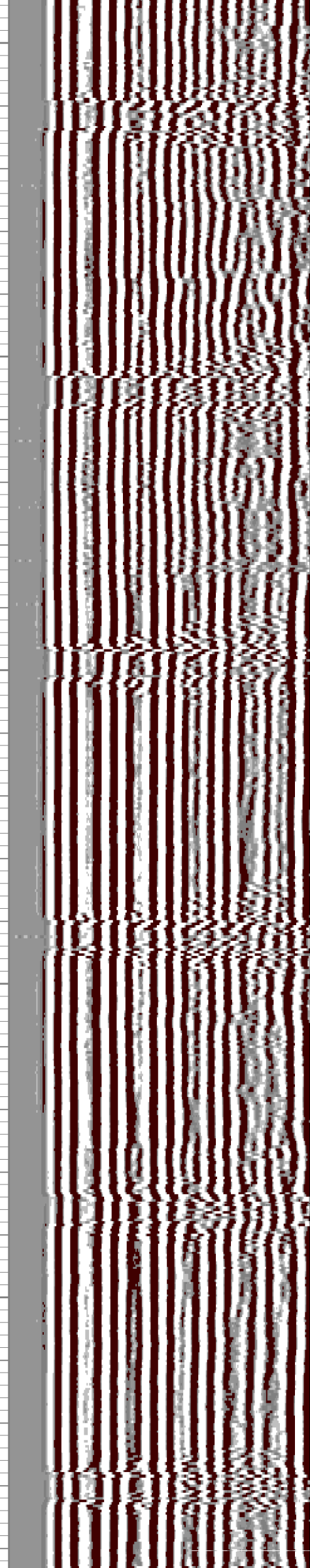
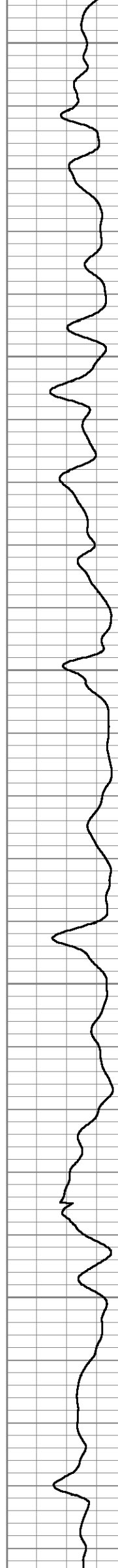
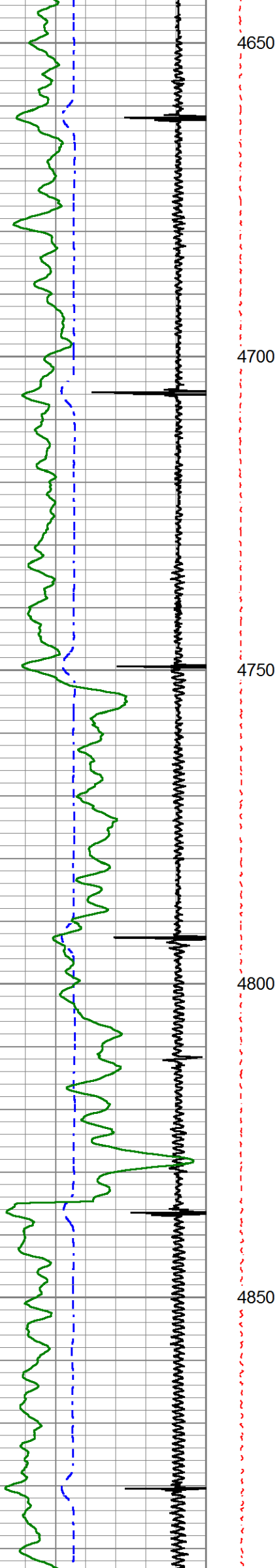


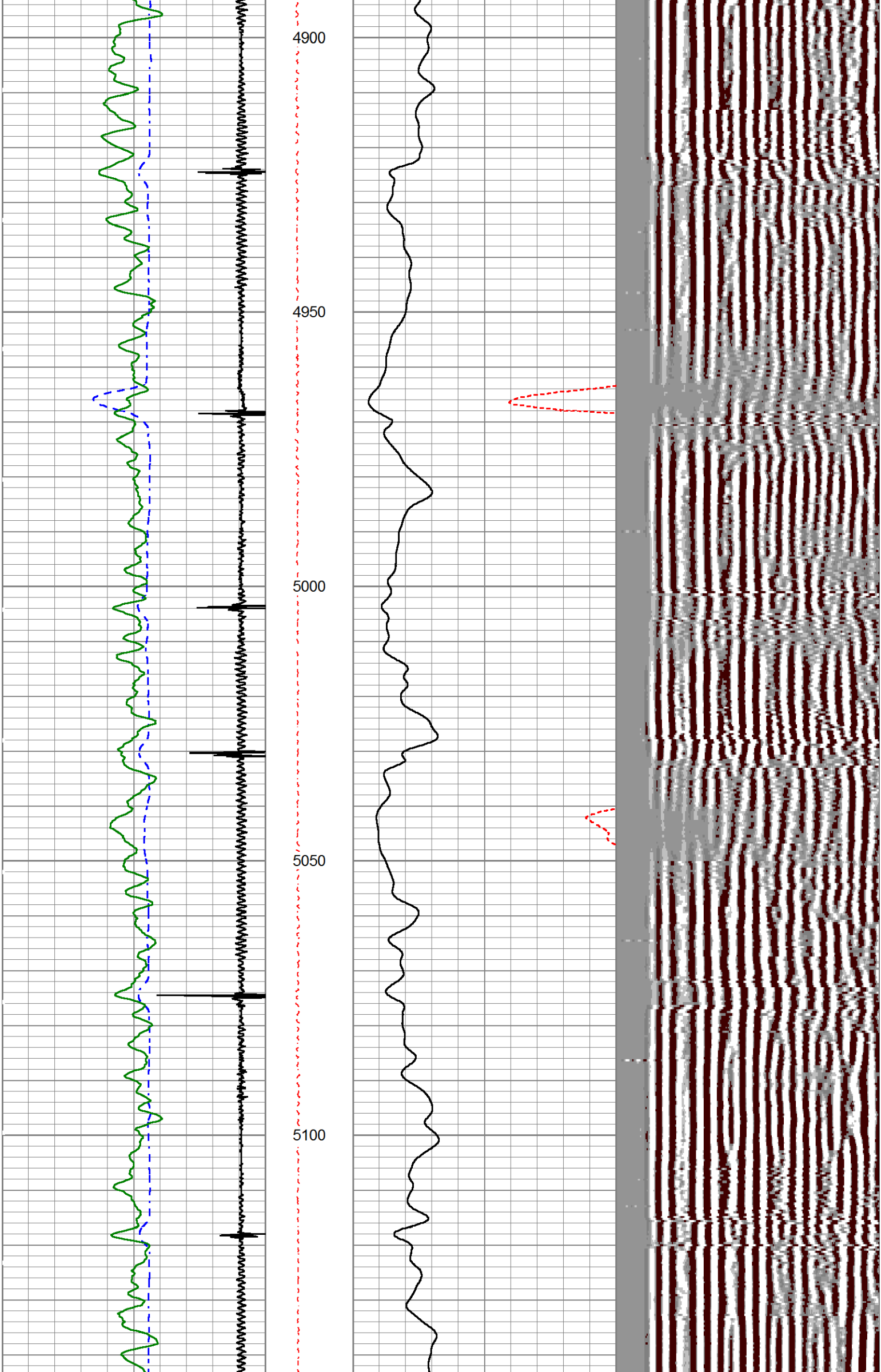


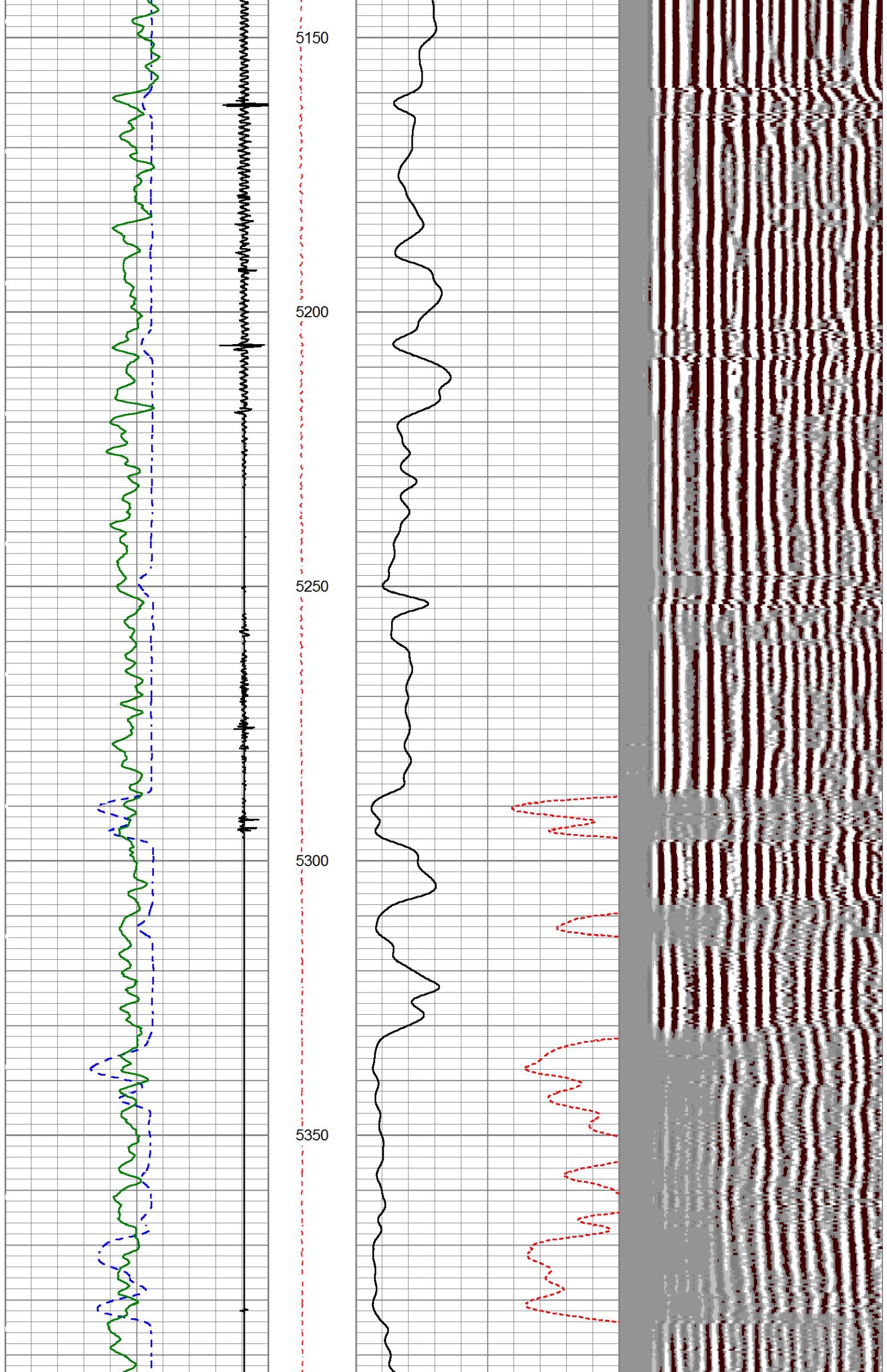


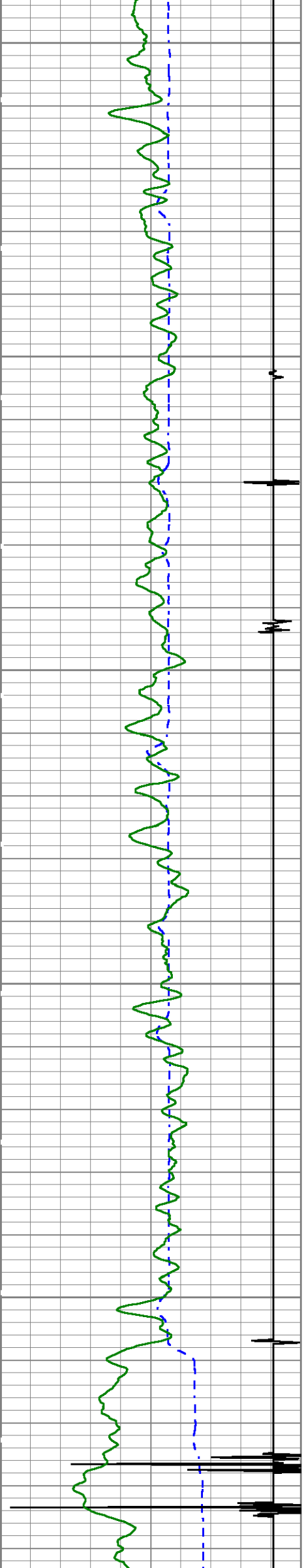












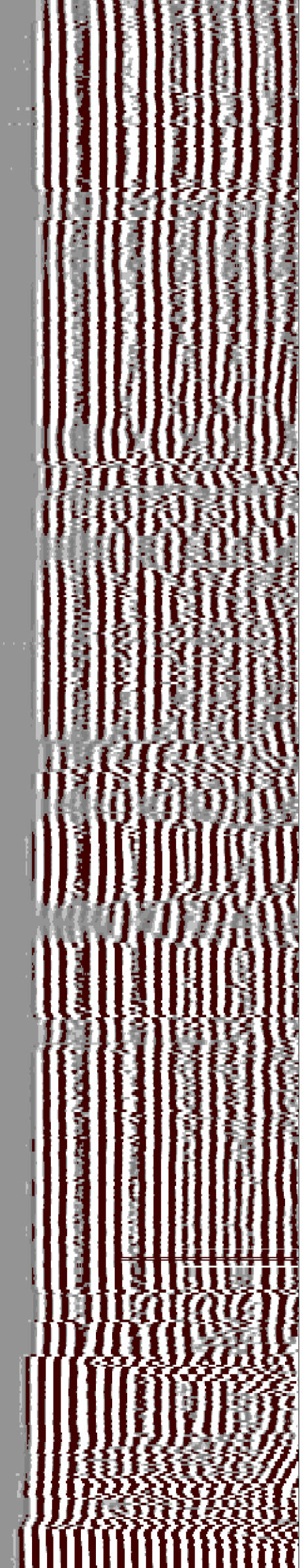
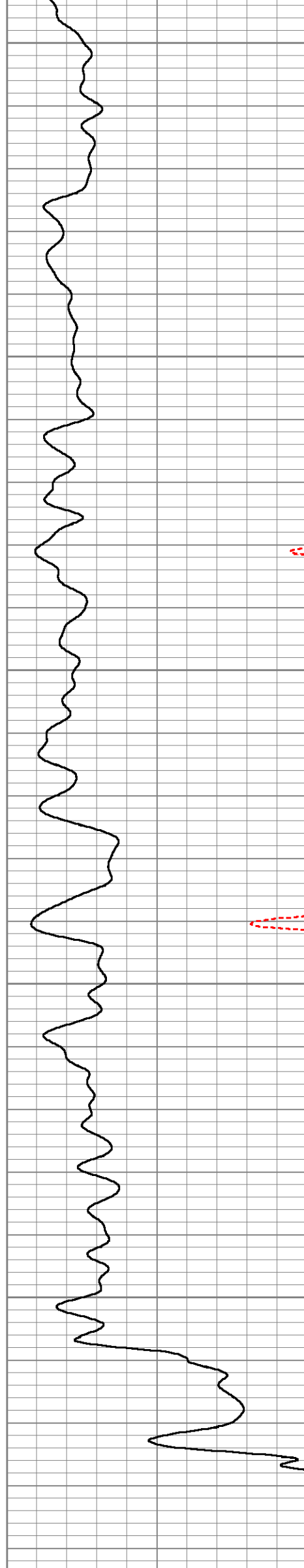
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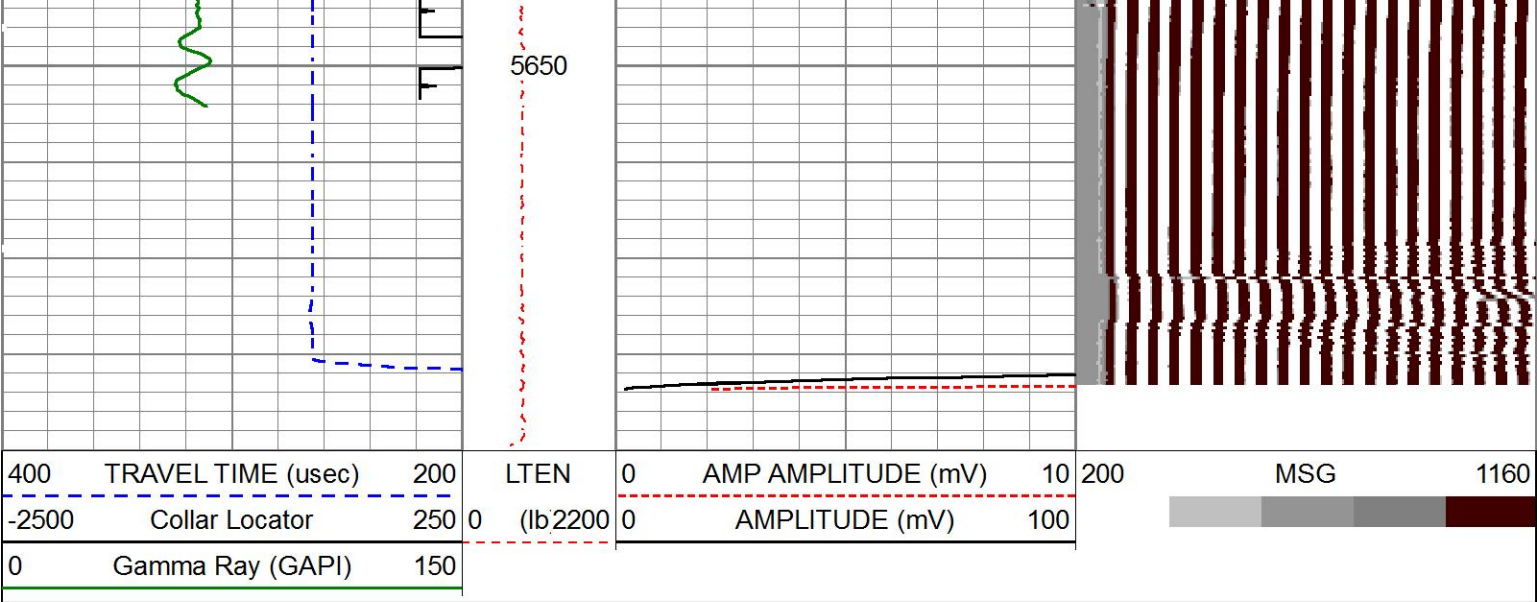
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5600



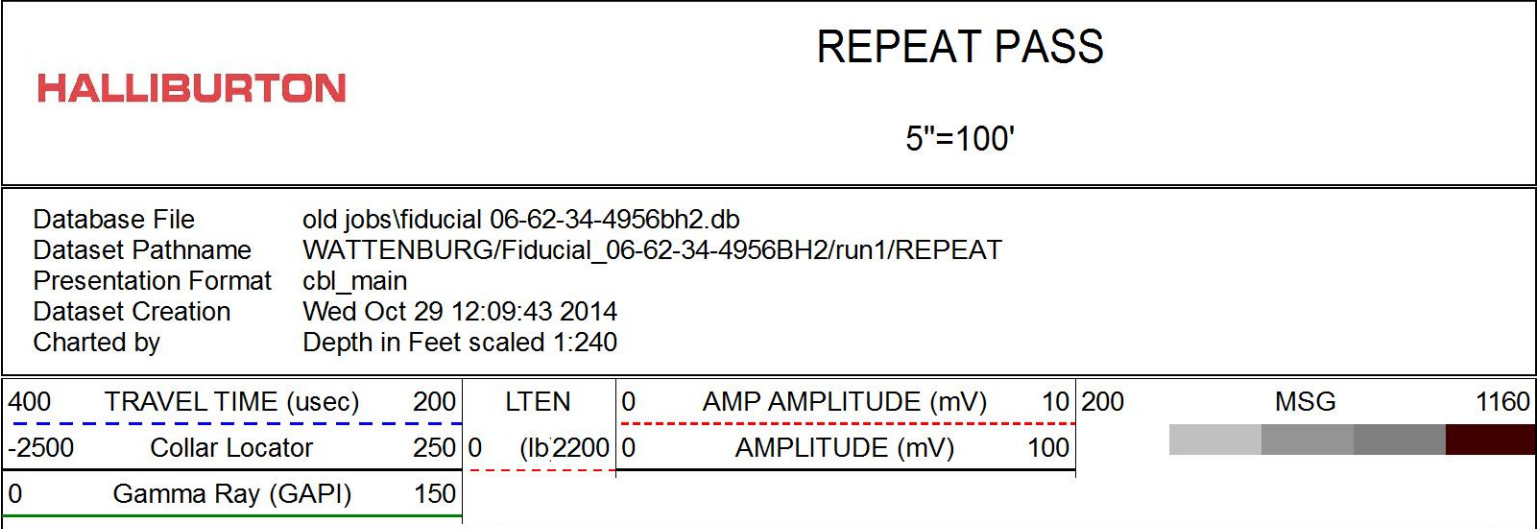




MAIN PASS

5"=100'

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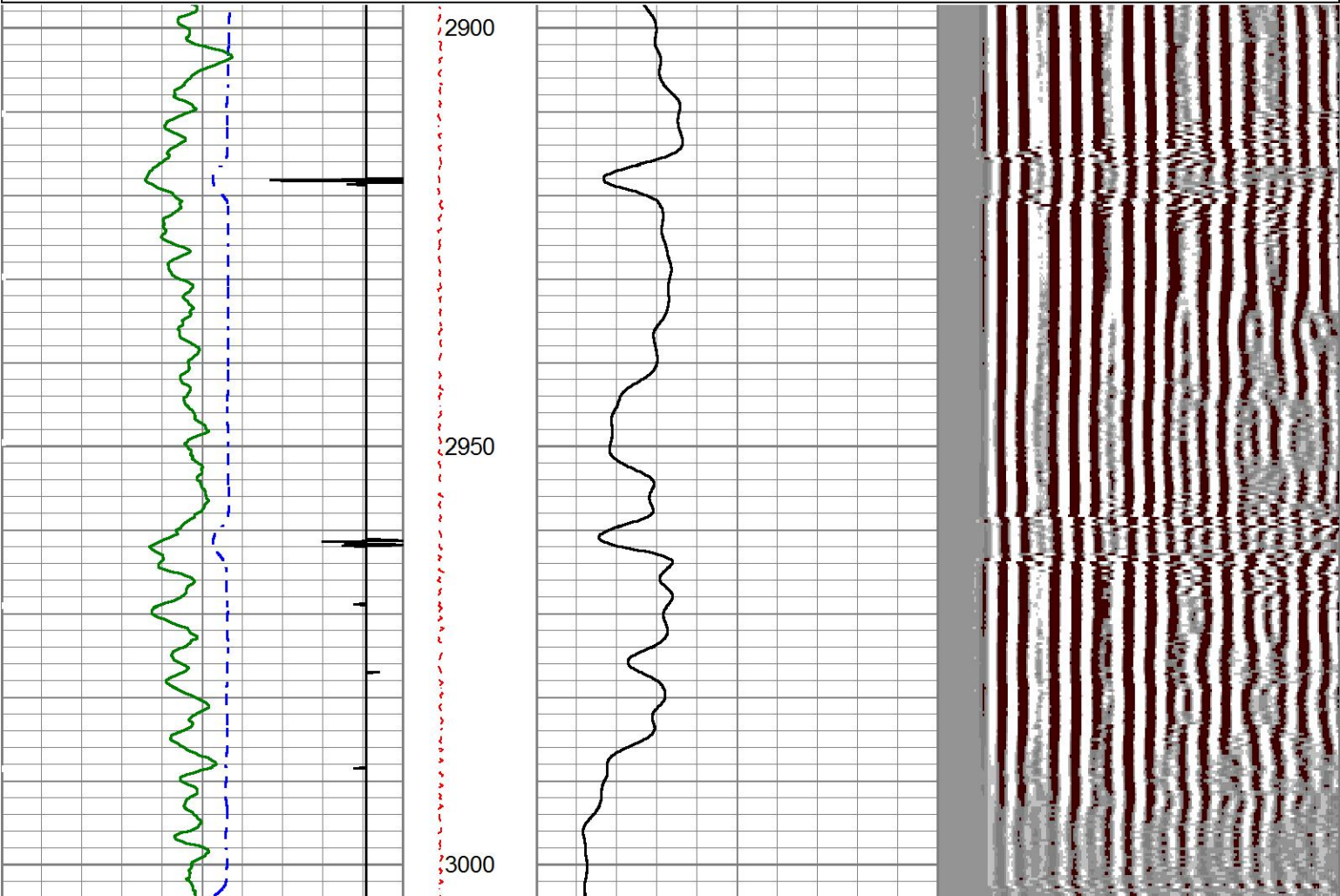


REPEAT PASS

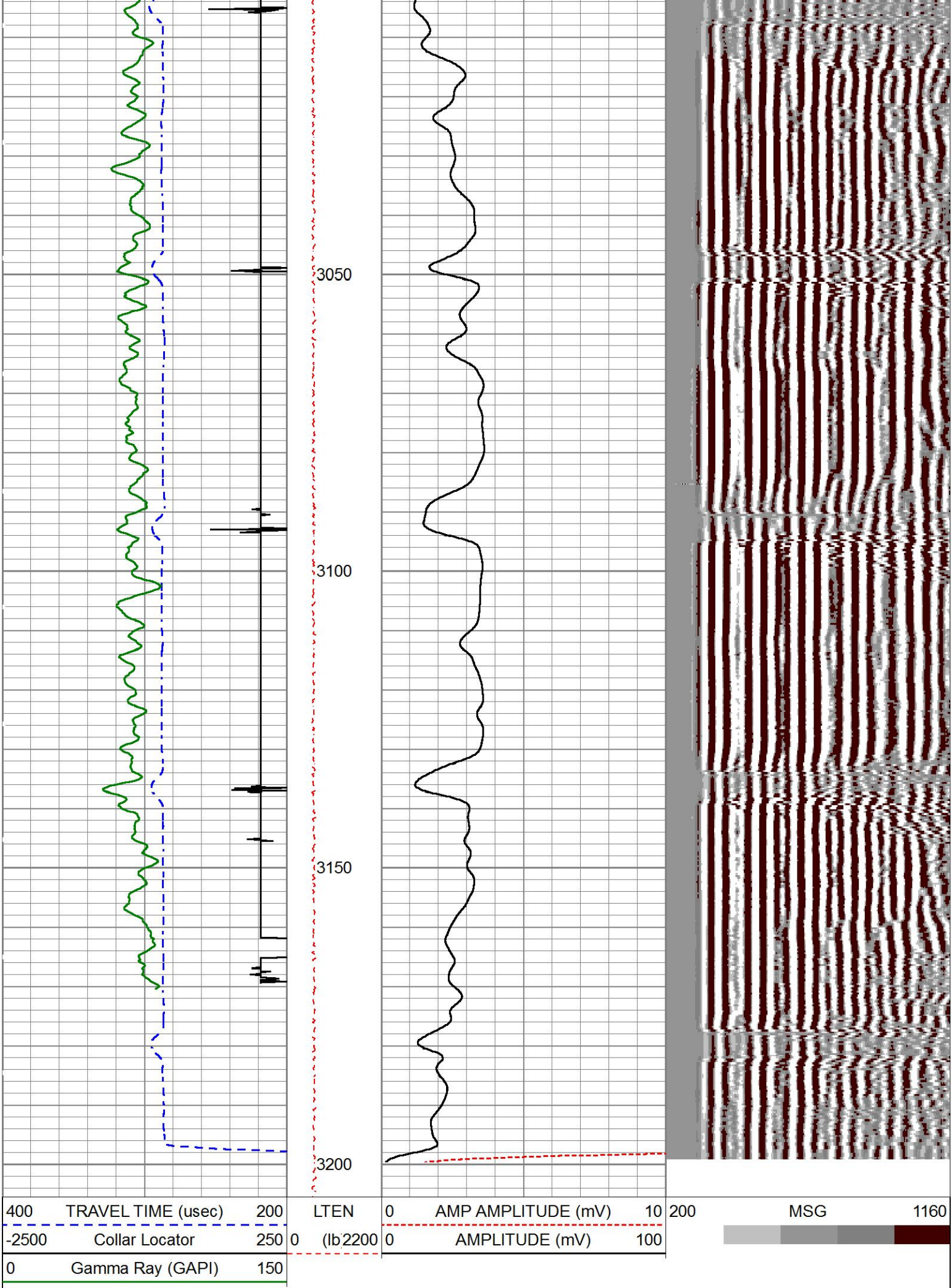
5"=100'

HALLIBURTON

Database File old jobs\fiducial 06-62-34-4956bh2.db  
Dataset Pathname WATTENBURG/Fiducial\_06-62-34-4956BH2/run1/REPEAT  
Presentation Format cbl\_main  
Dataset Creation Wed Oct 29 12:09:43 2014  
Charted by Depth in Feet scaled 1:240







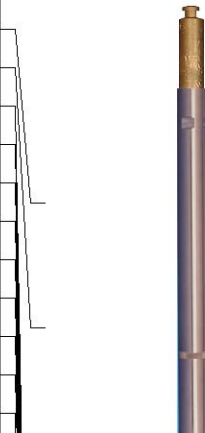
REPEAT PASS

HALLIBURTON

5"=100'

Dataset Pathname	WATTENBURG/Fiducial_06-62-34-4956BH2/run1/MAIN2				
Dataset Creation	Wed Oct 29 17:55:52 2014				
Cement Bond Log Shop Calibration Report					
Serial-Model:		12253831-A			
Calibration Performed:		Sat Aug 16 09:11:10 2014			
Free Pipe Calibration					
TT	Measured	Units			
	261.0	usec			
Amplitude	558.1	mV			
Log Base Line	-11.7	mV			
Calibration References and Gain					
Name	Value	Units			
Pipe O.D.	5.500	in			
Pipe Weight	17.0	lb/ft			
Pipe Ref. Amp.	71.9	mV			
Amp. Gain	0.126				
Reservoir Monitor Tool I Calibration Report					
Serial-Model:		12270693-A			
Shop Calibration Performed:		Mon Oct 27 16:09:06 2014			
Carbon/Oxygen Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	80.00	80.00	0.00	+/-15.00	V
ITCR2	3348	3250	98	+/-250	cps
Near Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0279	5.18	<6.00
Fe	207	206 +/-2	0.0950	-----	-----
NGAIN = 0.994	NZOFF = 0.1				
Far Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0350	5.90	<6.50
Fe	210	208 +/-2	0.0905	-----	-----
FGAIN = 0.989	FZOFF = 0.5				
Flask Temperature	55.4 degF				
Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.65	1.64	0.01	+/-0.05	
TCCR2	5136	5000	136	+/-1000	cps
ITCR2	3310	3200	110	+/-250	cps
Sigma Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	80.00	80.00	0.00	+/-15.00	V
ECAP	10167	10000	167	+/- 500	cps

Horizontal Water Tank						
Result	Logged	Expected Value		Diff.	Tol.	Units
N/F Normalizer	1.00	0.95		0.05		
N/F Inel Norm	0.65	0.61		0.04		
RNF	1.00	1.07		-0.07	+/-0.12	
RINC	1.55	1.64		-0.09	+/-0.18	
SGFN	24.09	24.00		0.09	+/-0.50	cu
SGFF	22.90	22.85		0.05	+/-0.50	cu
FSIN	24261	24000		261	+/-2000	cps
FCAP	10213	10000		213	+/-1000	cps
NFTR	0.86				<5.00	
FFTR	0.98				<5.00	
NBKG	174				<500	cps
FBKG	99				<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	2013.11.14.0					
RMTI Module	2014.5.9.1					
Log Data Acquisition Software Modules						
HRMTI Module	2013.11.14.0					
RMTI Module	2014.5.9.1					
Gamma Ray Calibration Report						
Type / Serial:		002 / 10000538				
SHOP CALIBRATION		Mon Oct 27 16:34:54 2014				
	Counts/Sec.	Gain	Offset	Jig	Units	
Background	29.0				cps	
Calibrator	179.7				cps	
		1.6128			GAPI/cps	
PRIMARY VERIFICATION						
Background	48.4				cps	
Calibrator	292.6				cps	
Difference				244.1	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	35.74		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
GR	33.48					
RmtTFGT	22.83					
RmtFBACK	22.83					
RmtFCAPT	22.83					
RmtFINEL	22.83					
RmtTNGT	22.33					
RmtNBACK	22.33		TTTCU-002 (10000538) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
RmtNCAPT	22.33					
RmtNINEL	22.33					
TLINITCNT	14.58					



RImpBTEST	14.58								
RImpBCYC	14.58								
RImpBRGW	14.58								
RImpBRGO	14.58								
RImpState	14.58								
RImpPhase	14.58								
RImpCyc	14.58								
RmtGenClamp	14.58								
RmtFTemp	14.58								
RmtFP5V	14.58								
RmtFPMHV	14.58								
RmtFPMI	14.58								
RmtFPrgSt1	14.58								
RmtFDetStat	14.58								
RmtNTemp	14.58								
RmtNPMHV	14.58								
RmtNPMI	14.58								
RmtNPrgSt1	14.58								
RmtNDetStat	14.58								
RmtGenIonl	14.58								
RmtGen15Bus	14.58								
RmtGenLvdsV	14.58								
RmtGenSyncV	14.58								
RmtGenClamp	14.58								
RmtGenP5V	14.58								
RmtGenP33V	14.58								
RmtGen200V	14.58								
RmtGenP15VI	14.58								
RmtGenTemp	14.58								
RmtGenP5VI	14.58								
RmtGenI	14.58								
RmtGenPv	14.58								
RmtGenCmd	14.58								
RmtGenIspl	14.58								
RmtGenIsPv	14.58								
RmtGenIsPcmc	14.58								
RmtGenRepPv	14.58								
RmtGenRepV	14.58								
RmtGenRepSv	14.58								
RmtGenContSt	14.58								
RmtCommFWa	14.58								
RmtCommFlask	14.58								
Temp	9.49								
TT3FT	7.24								
AMP3FT	7.24								
WVF5FT	6.28								
FrameCnt	276								
TLINICNT	Dataset:	fiducial 06-62-34-4956bh2.db: WATTENBURG/Fiducial_06-62-34-4956BH2/run1/MAIN2							
CbICTT	Total length:	39.31 ft							
CbICCSgWgt	Total weight:	356.20 lb							
	O.D.:76	3.13 in							



XHU-003 (10008856) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
RMTI-A (12270693) Halliburton RMTI Tool	14.00	2.13	77.00
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
HCBLM-A (12253831) Halliburton HCBLM Tool	9.38	2.75	116.00
CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
AUH-001 (000001) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00
BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20

Company	BILL BARRETT CORPORATION			
Well	FIDUCIAL 06-62-34-4956BH2			
Field	WATTENBERG			
County	WELD	State	CO	
HALLIBURTON	CEMENT BOND LOG GR-CCL			