



**CEMENT BOND LOG W/
VARIABLE DENSITY,
GAMMA RAY, CCL, TEMP**

Company		GREAT WESTERN OIL & GAS					
Well		OTTESEN LE 09-368HN					
Field		Wattenberg					
County		Weld					
State		Colorado					
Location:		API # : 05-123-44330					
Permanent Datum		GL					
Log Measured From		KB					
Drilling Measured From		KB					
SEC 33 TWP 1N RGE 66W		NWSE 33 1N 66W 40.0046/-104.7777789					
Elevation		5076.5'					
Other Services		4.50" G.R. J.B.					
Date		31-JAN-2019					
Run Number		TWO					
Depth Driller		17,745'					
Depth Logger		7800'					
Bottom Logged Interval		7795'					
Top Log Interval		Surface					
Open Hole Size		NA					
Type Fluid		Fresh Water					
Density / Viscosity		8.4					
Max. Recorded Temp.		249°					
Estimated Cement Top		SEE LOG					
Time Well Ready		ROA					
Time Logger on Bottom		06:28 AM					
Equipment Number		80					
Location		Platteville, CO					
Recorded By		JOSEPH FRESQUEZ					
Witnessed By		ETHANSAVOYA					
Borehole Record		Tubing Record					
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record	Size			Wgt/Ft		Top	Bottom
Surface String	9-5/8"			36#		SURFACE	1775'
Prot. String							
Production String	5-1/2"			17#		SURFACE	17,745'
Liner							

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Cement Bond Log ran as per customer request
Depth Correlated to Casing Tally reported Marker Joint @ 7542 FT
Adjusted log +21 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 7885 FT with no debris
Log ran from 7795 FT to surface
Log ran with 0 PSI Surface Induced Pressure.

Thank you for choosing KLX Energy Services!!

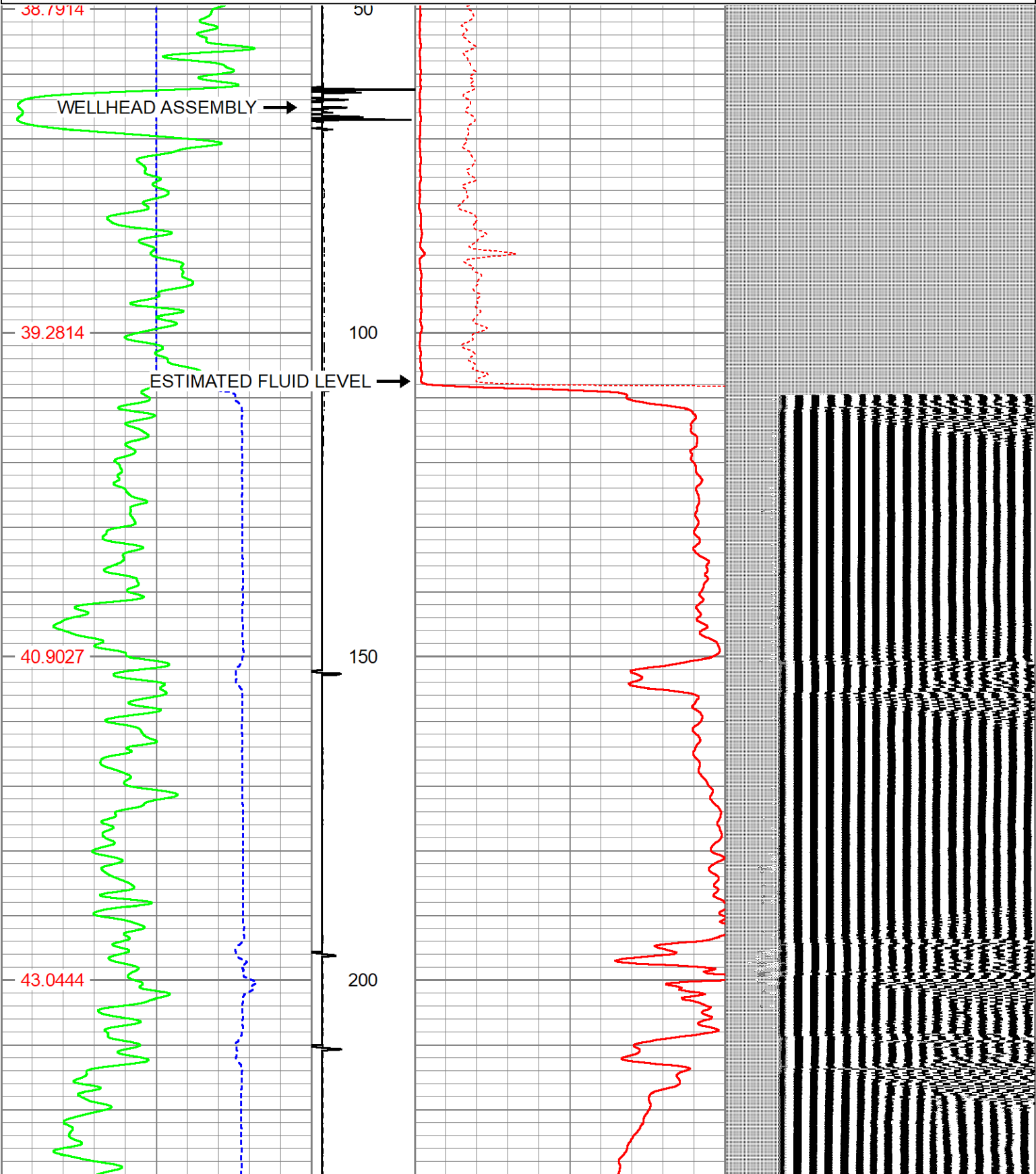


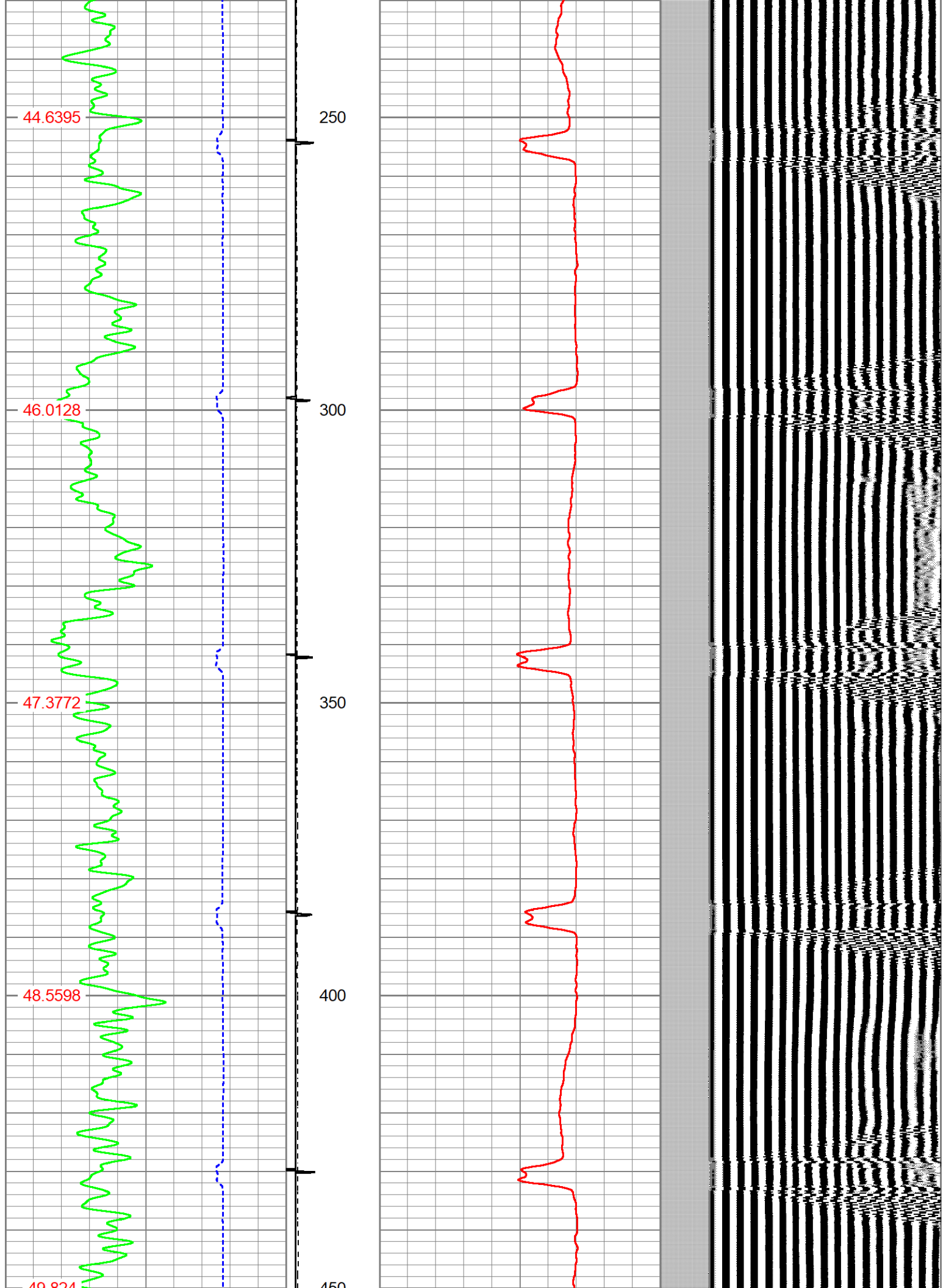
MAIN PASS

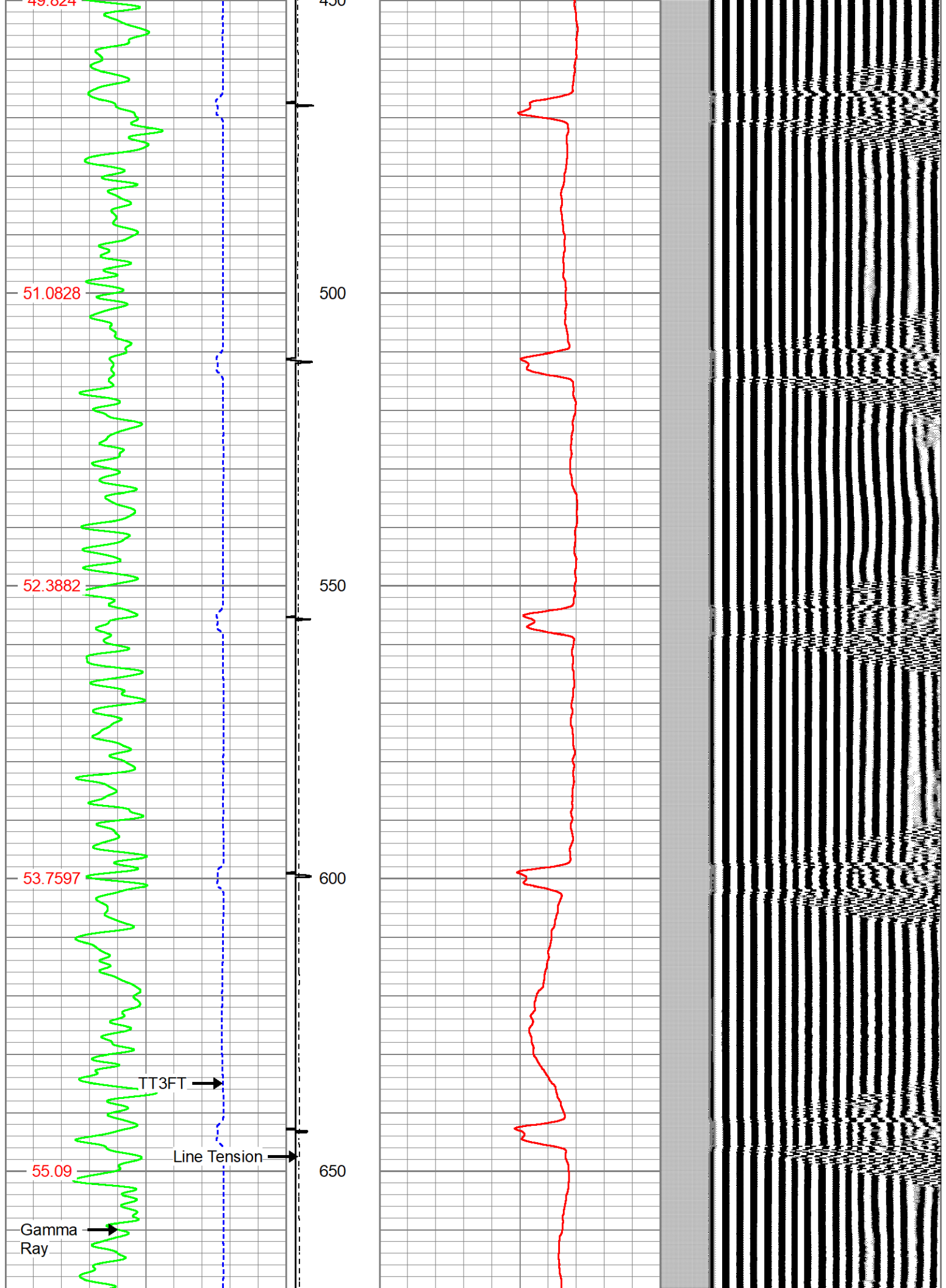
RECORDED WITH 0 PSI SURFACE INDUCED PRESSURE.

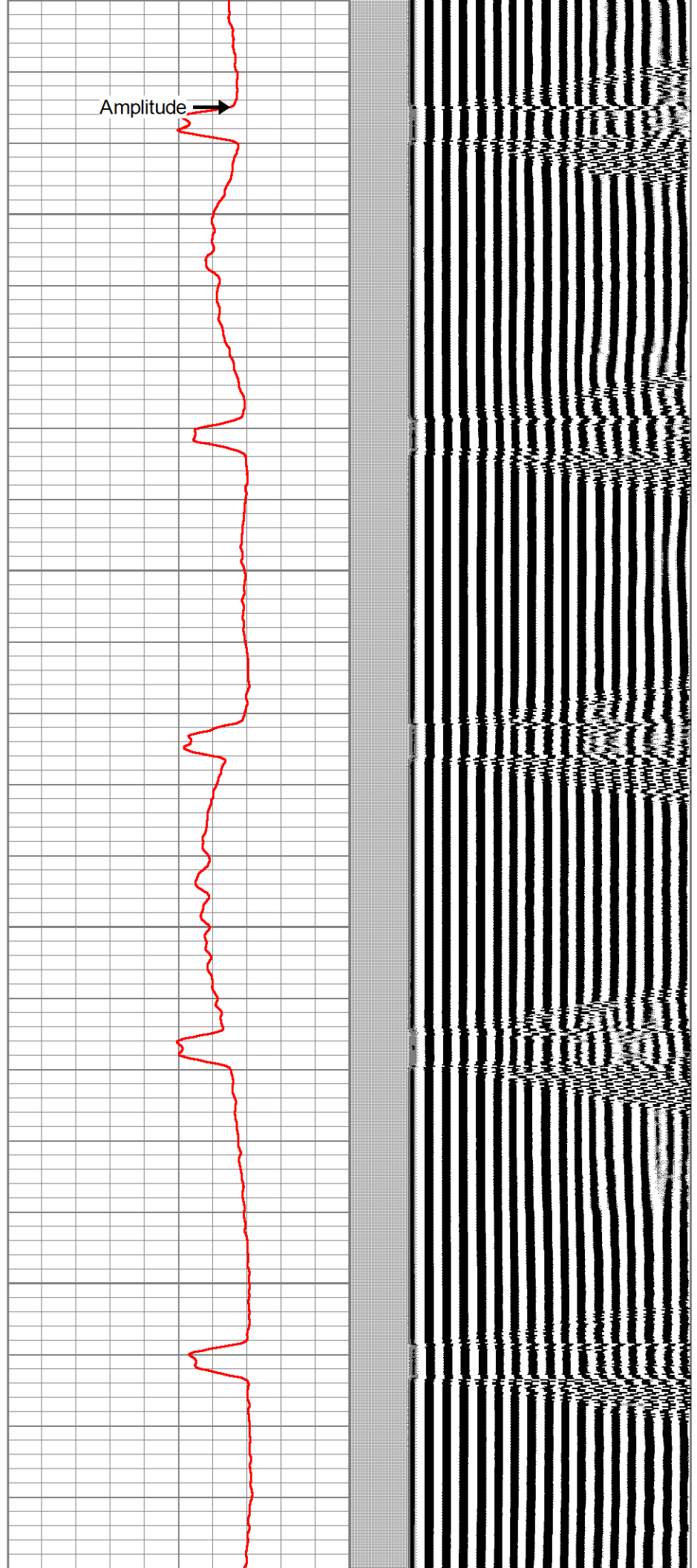
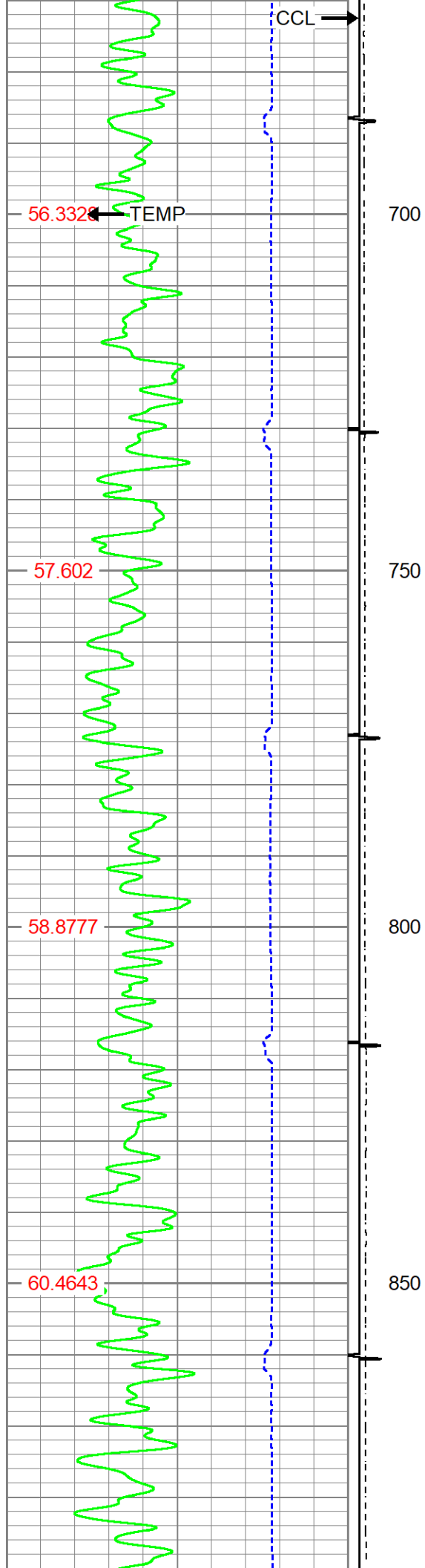
Database File	gwottesen_le_09-368hn_31_2019.db
Dataset Pathname	368hn/run1/pass5
Presentation Format	cbl_cs
Dataset Creation	Thu Jan 31 06:28:28 2019
Charted by	Depth in Feet scaled 1:240

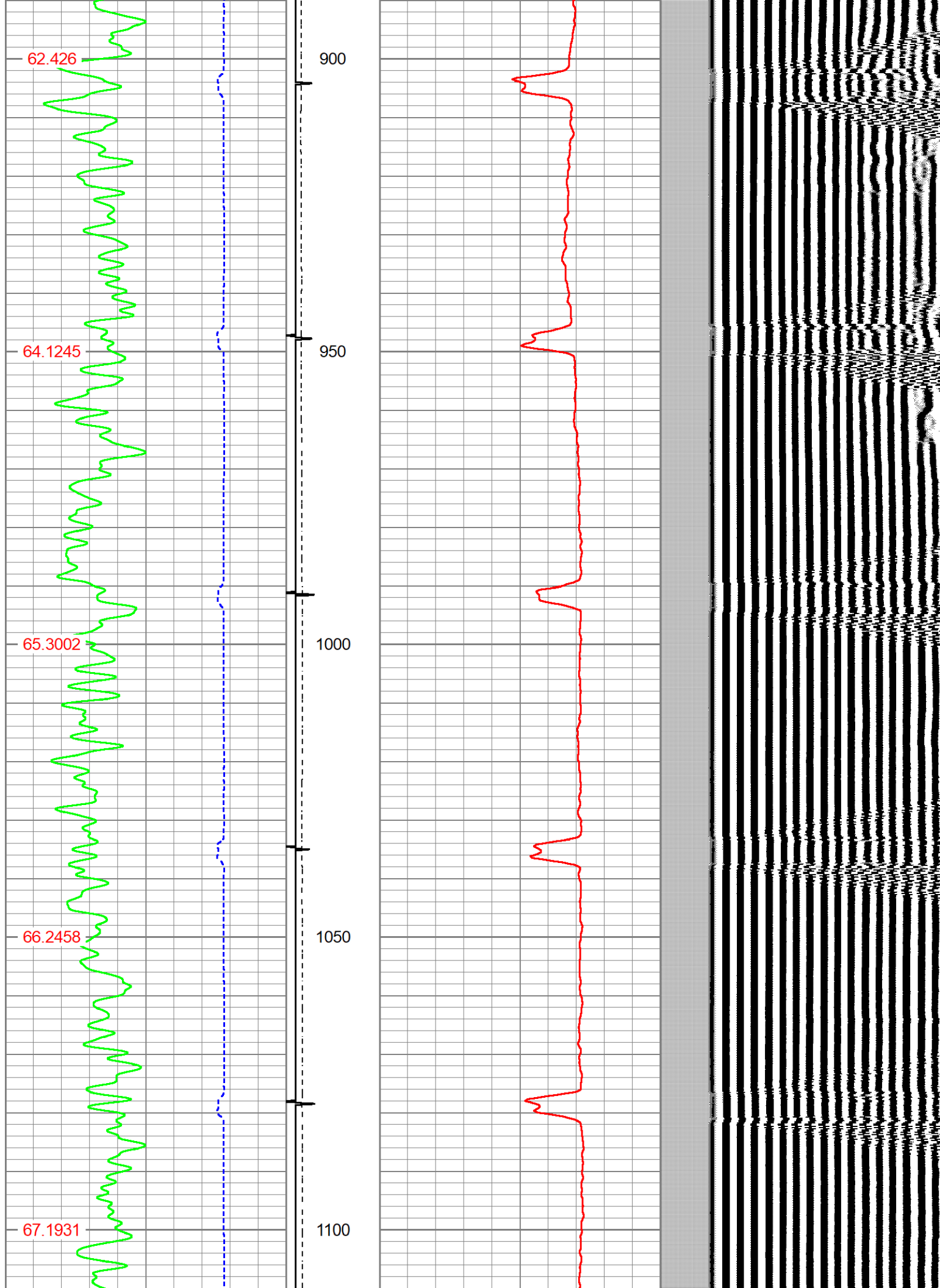
420	TT3FT (usec)	220	CCL	0	Amplitude (mV)	100	200	Variable Density (usec)	1200
0	Gamma Ray (GAPI)	150	Line Tension	0	Amplified Amplitude (mV)	10			
TEMP		0	(lb/2000						
(degF)									

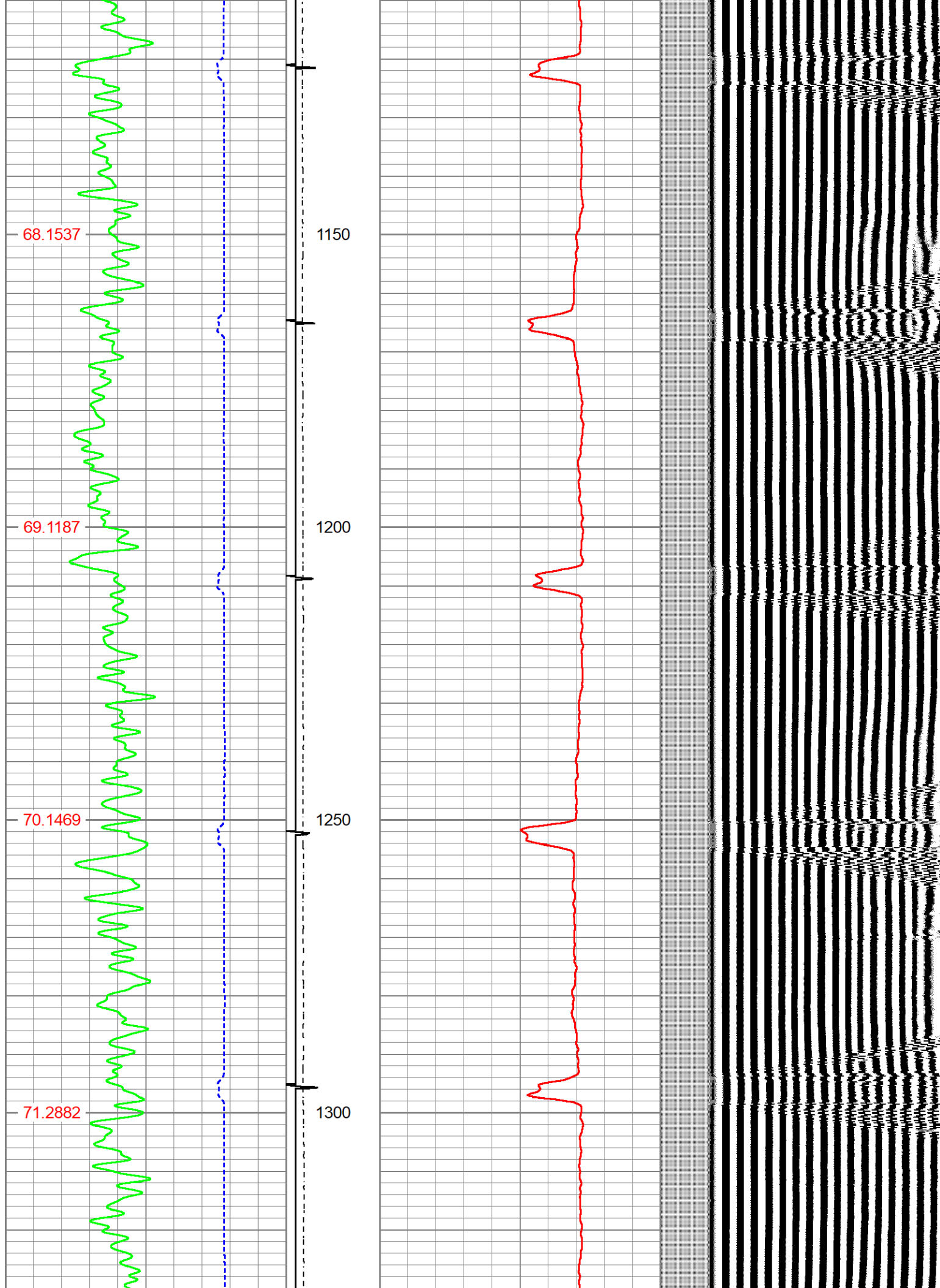


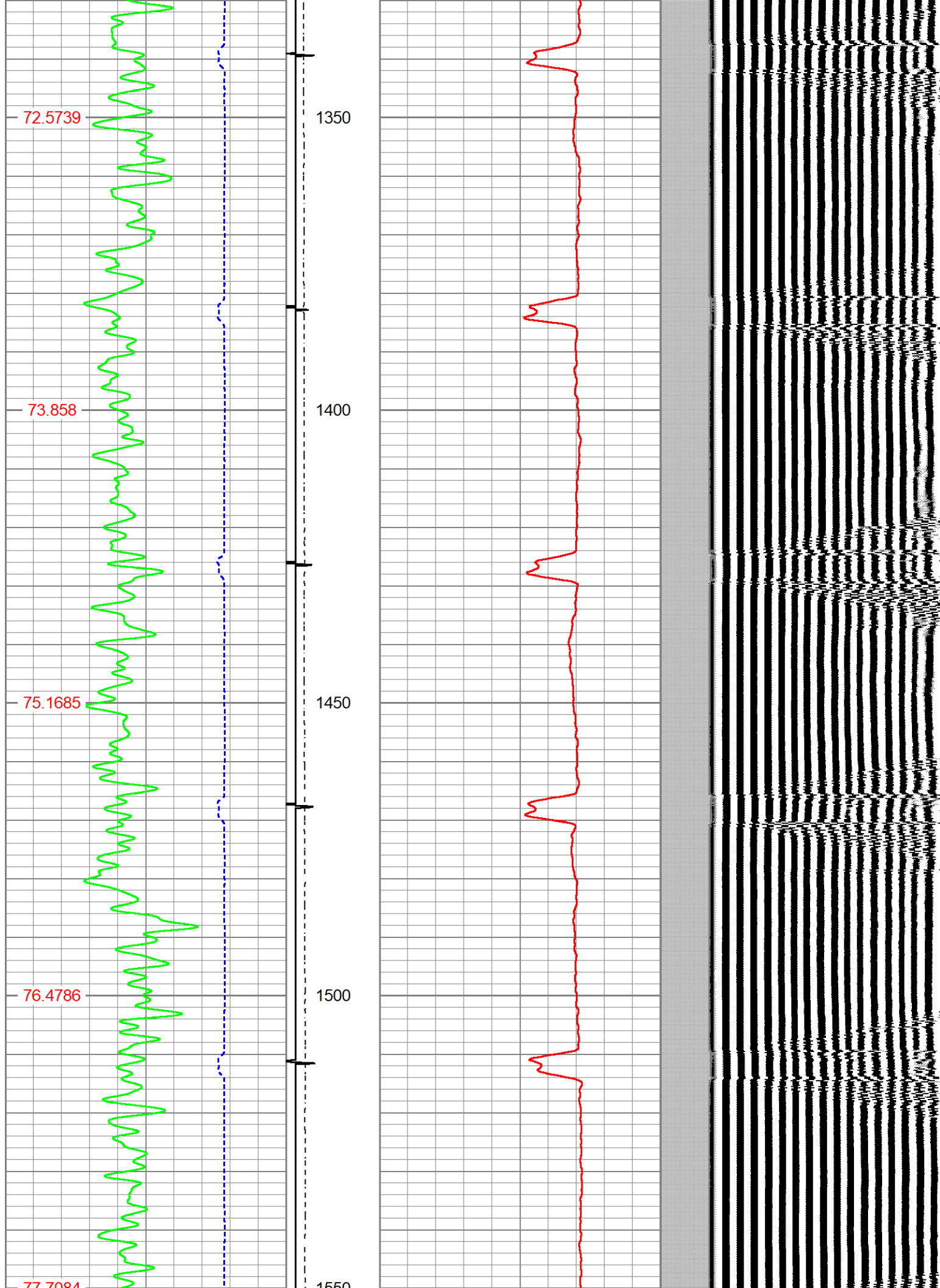


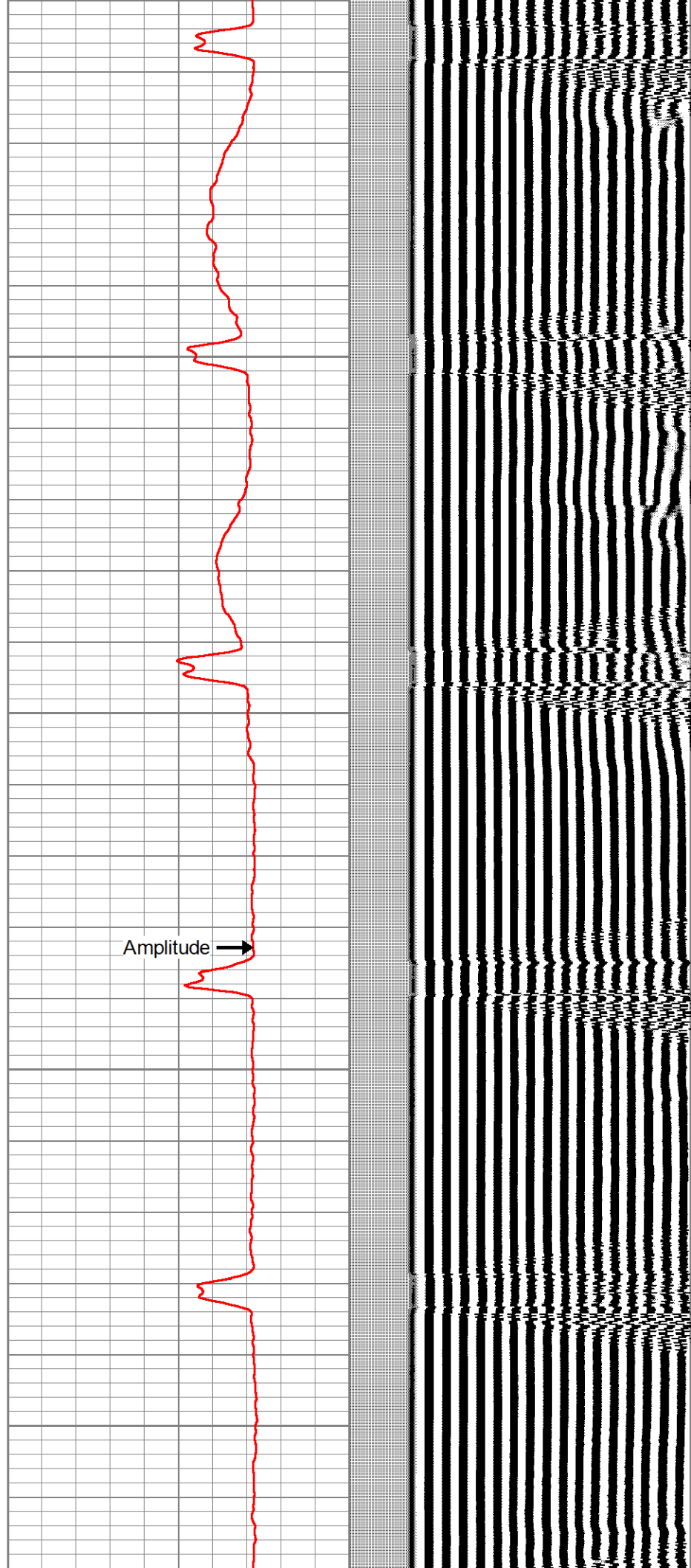
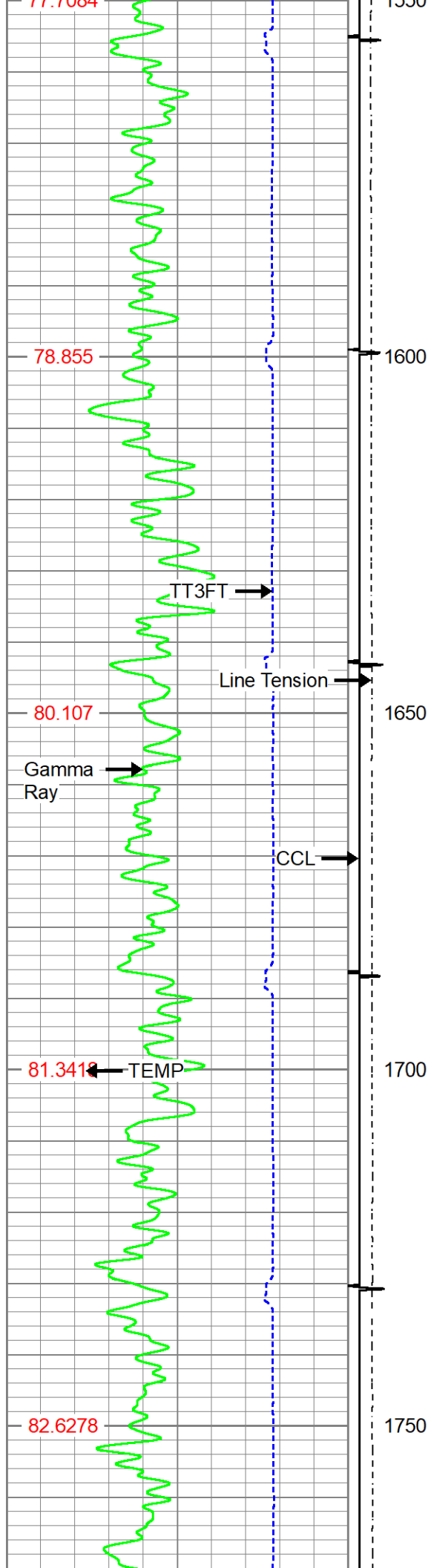


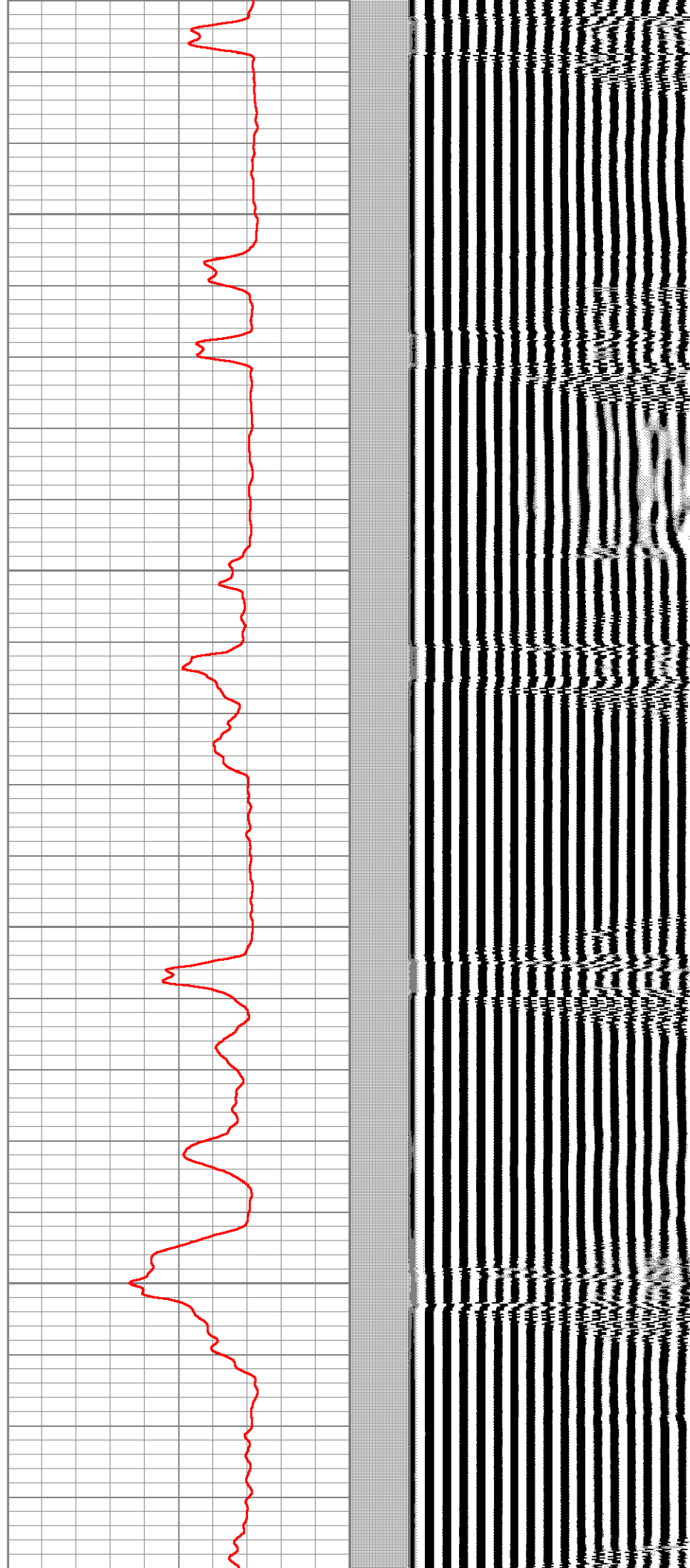
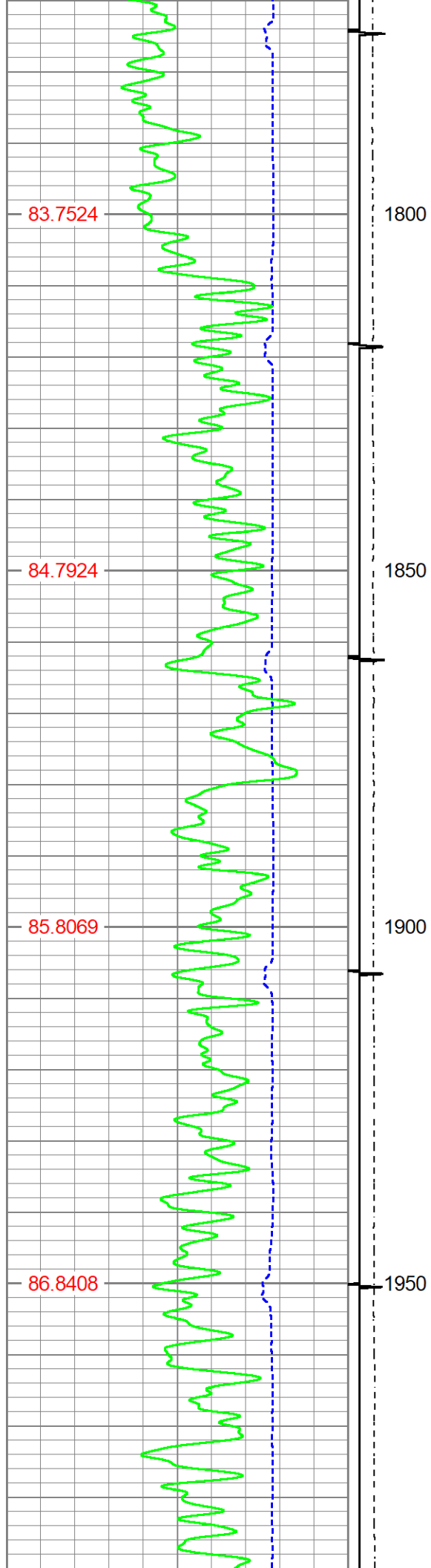


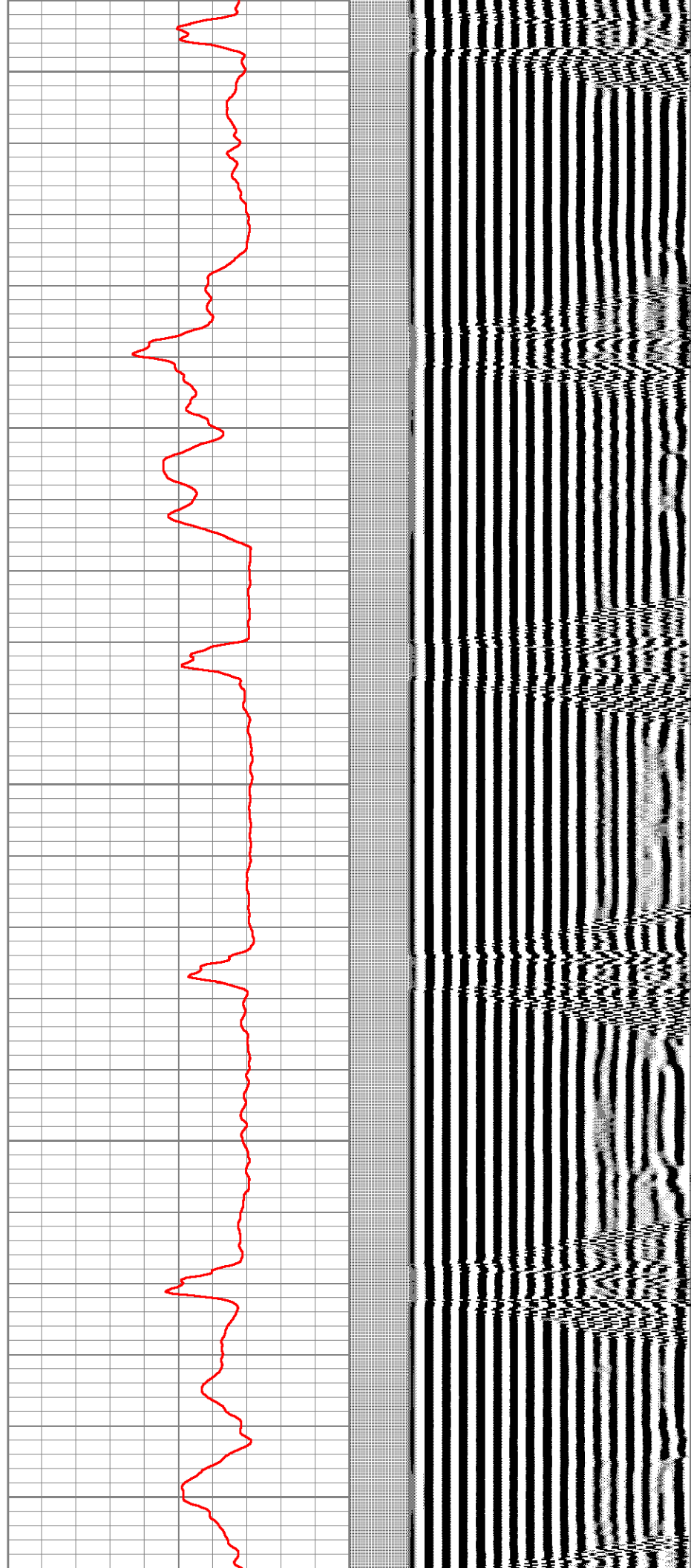
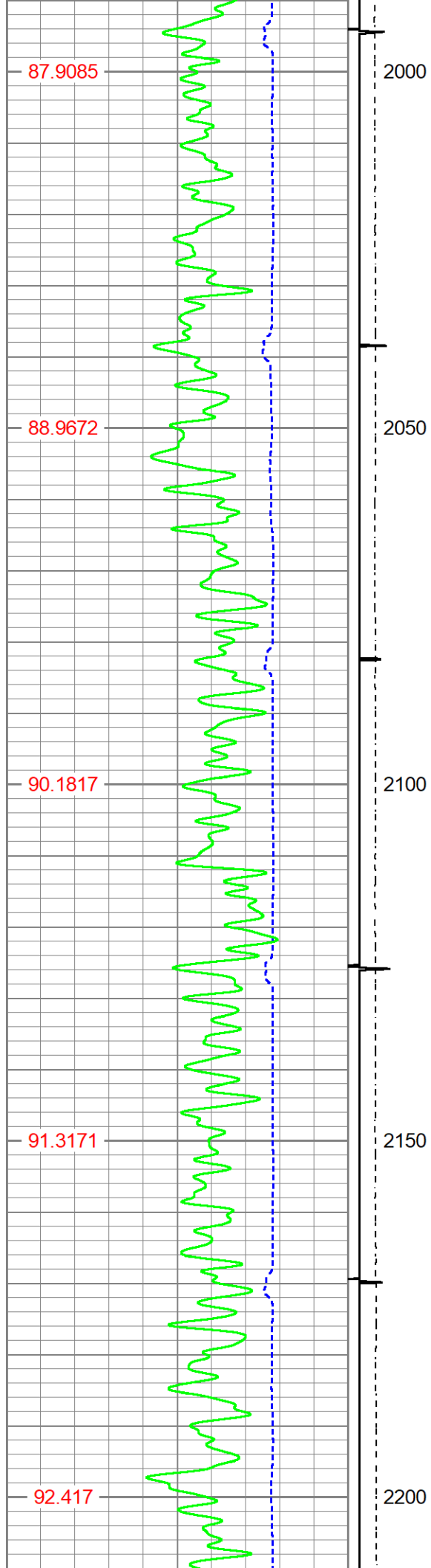


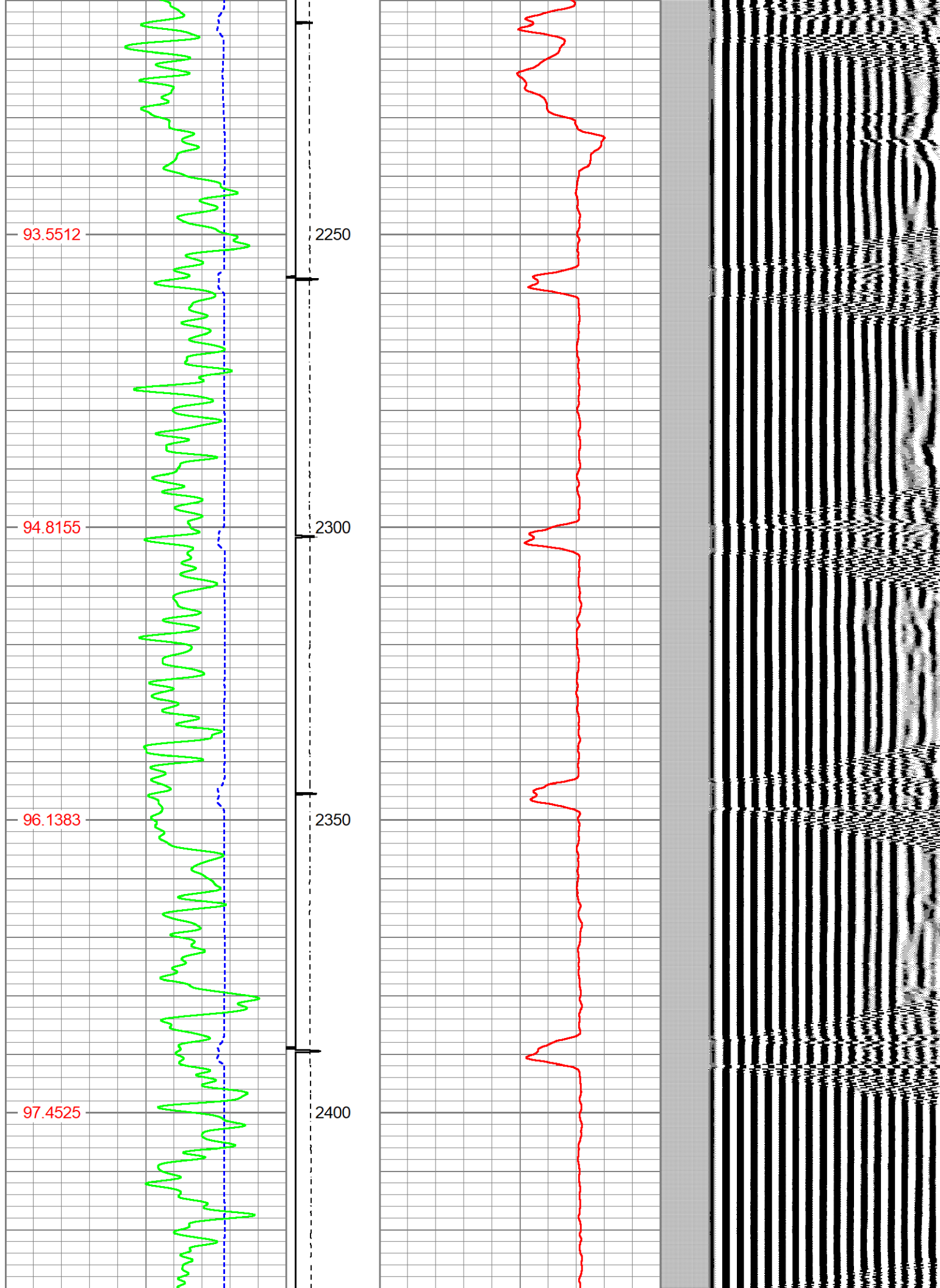


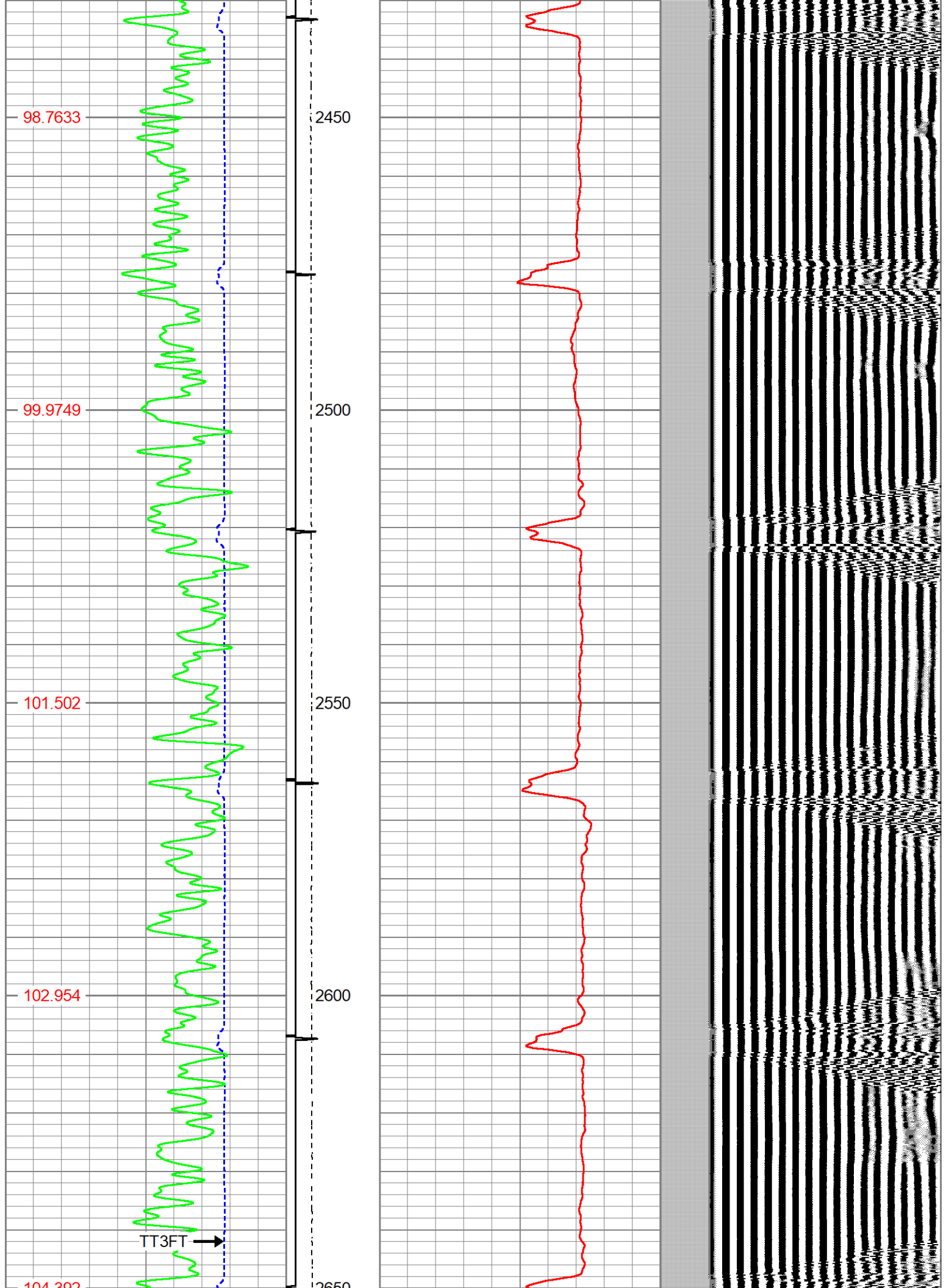


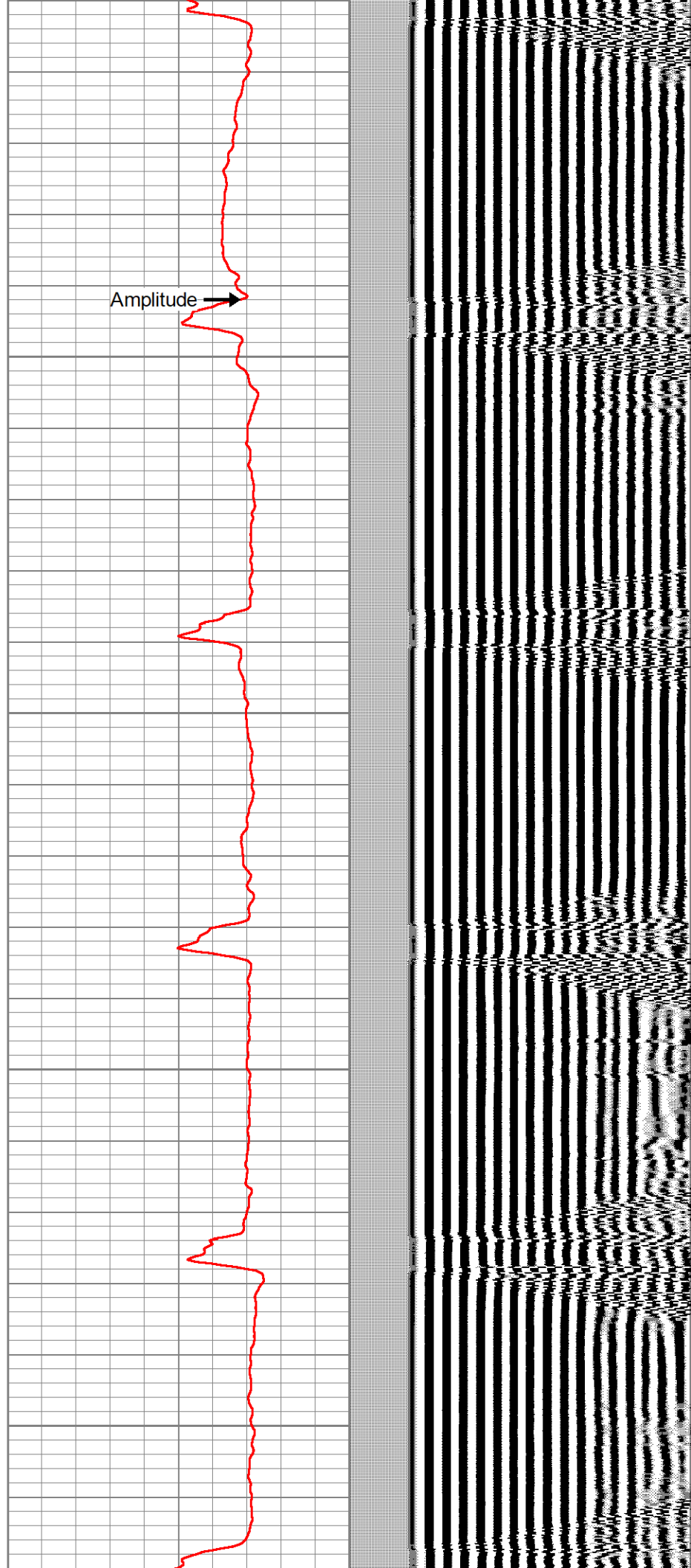
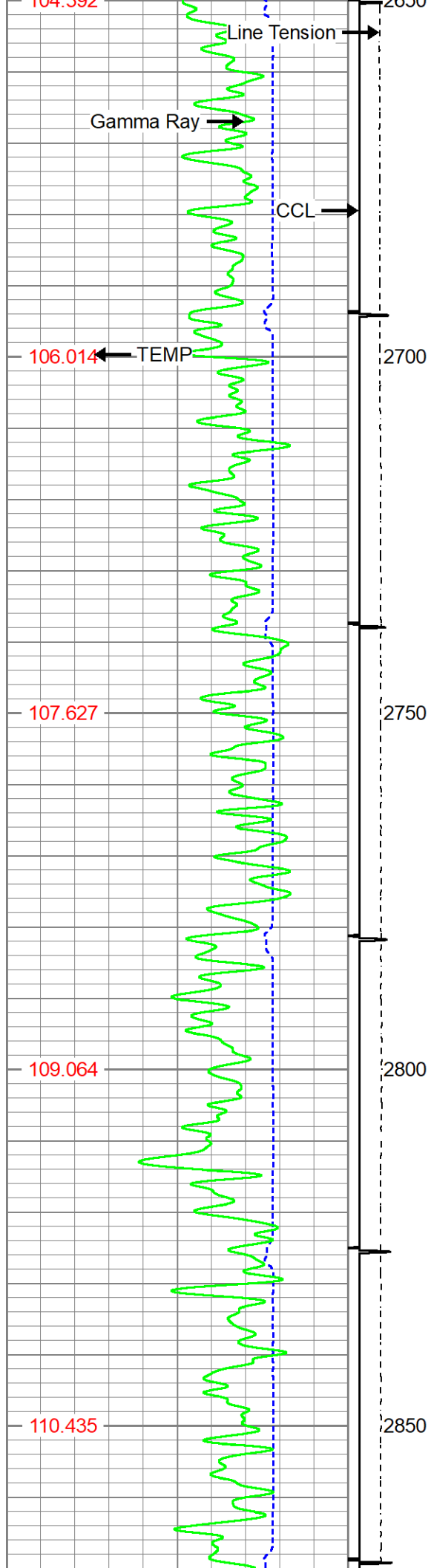


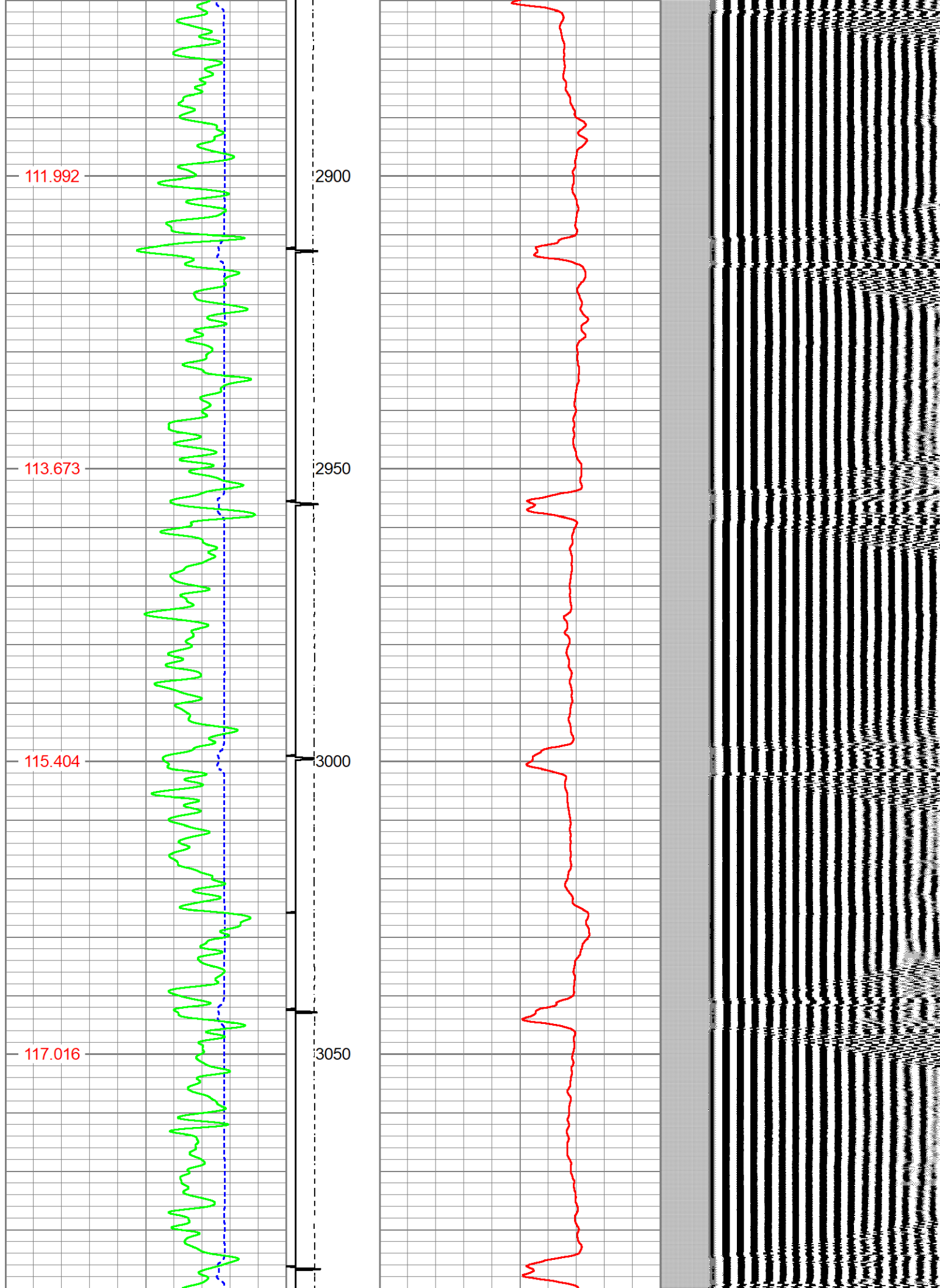


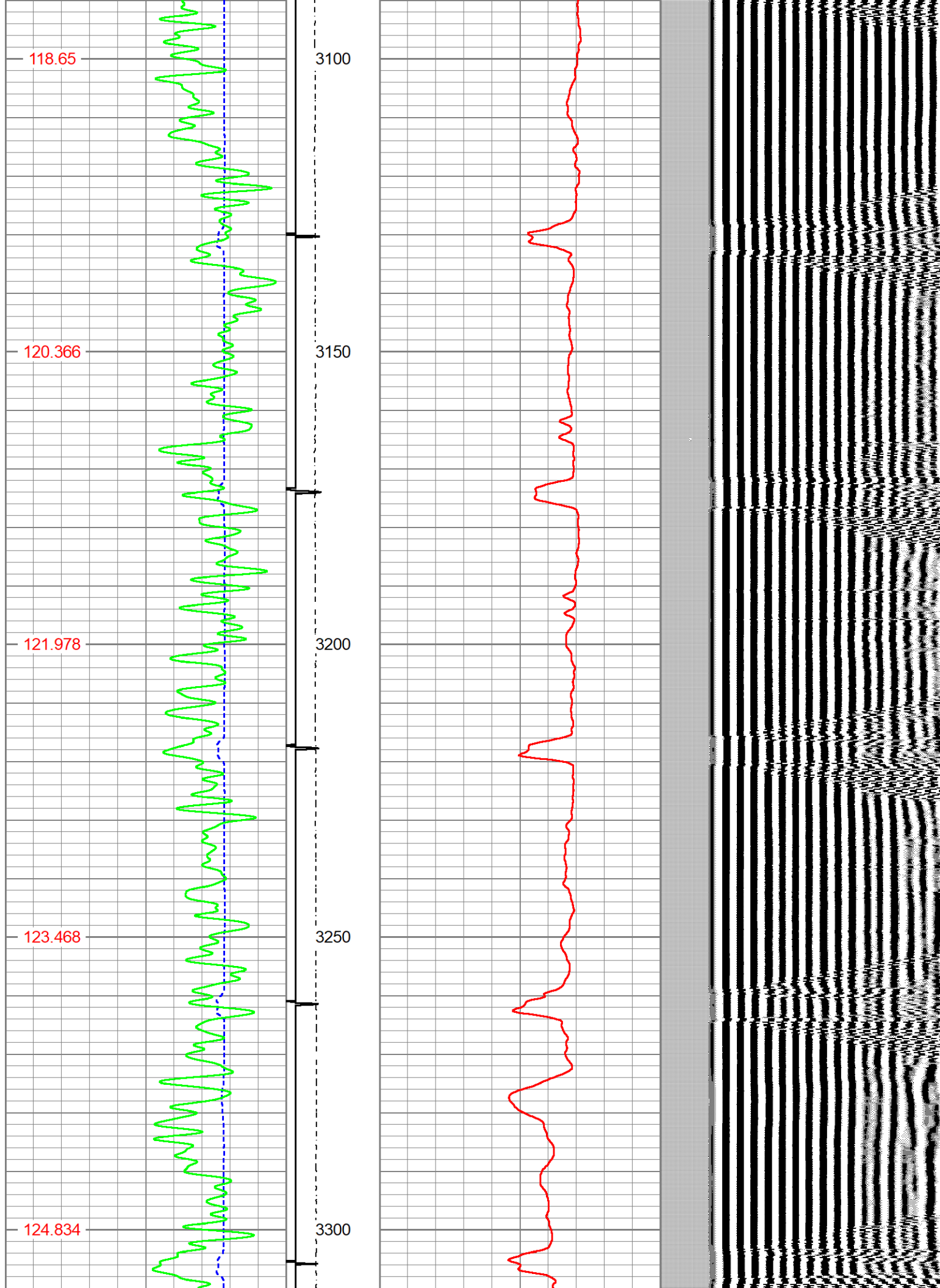


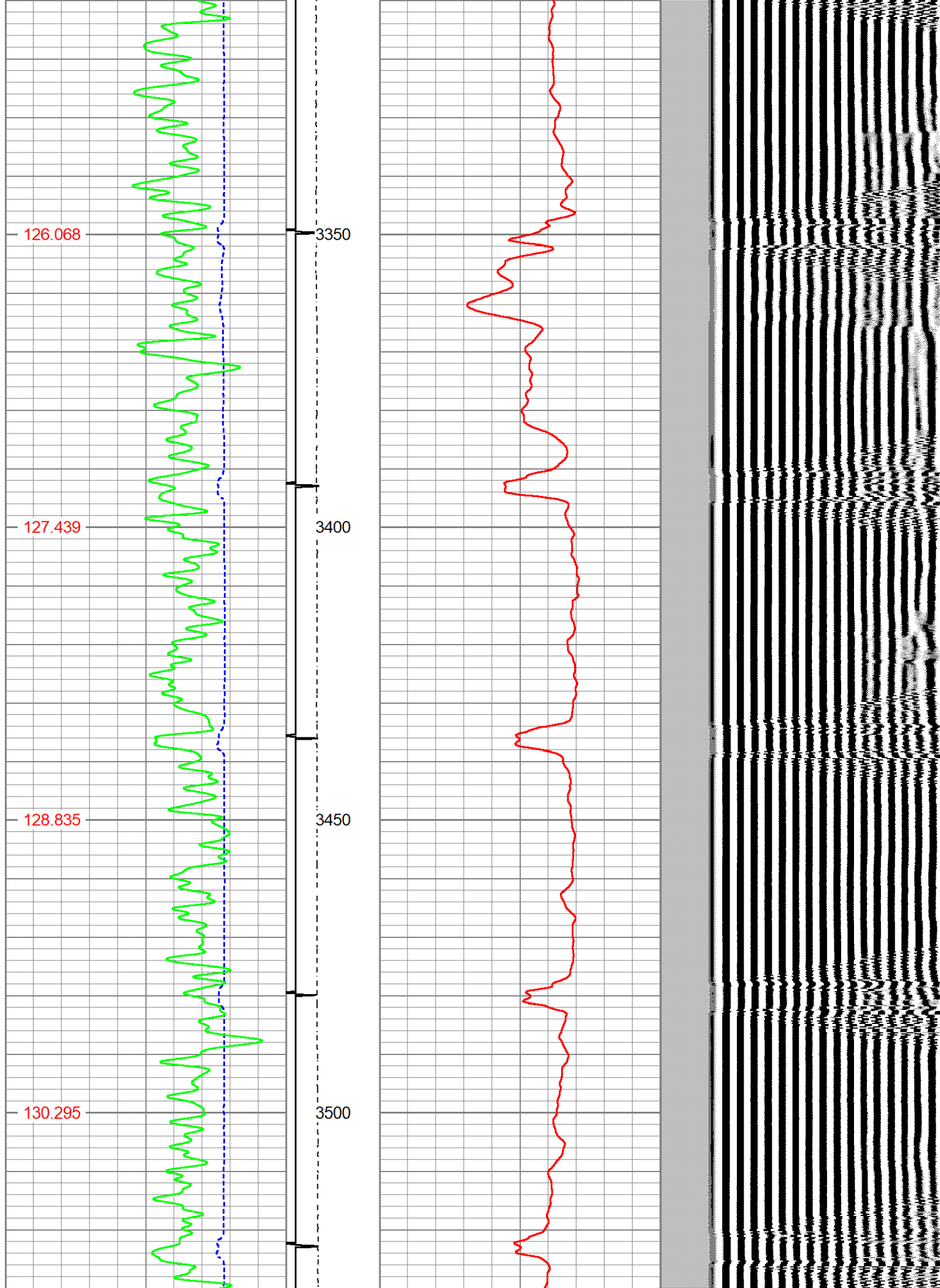


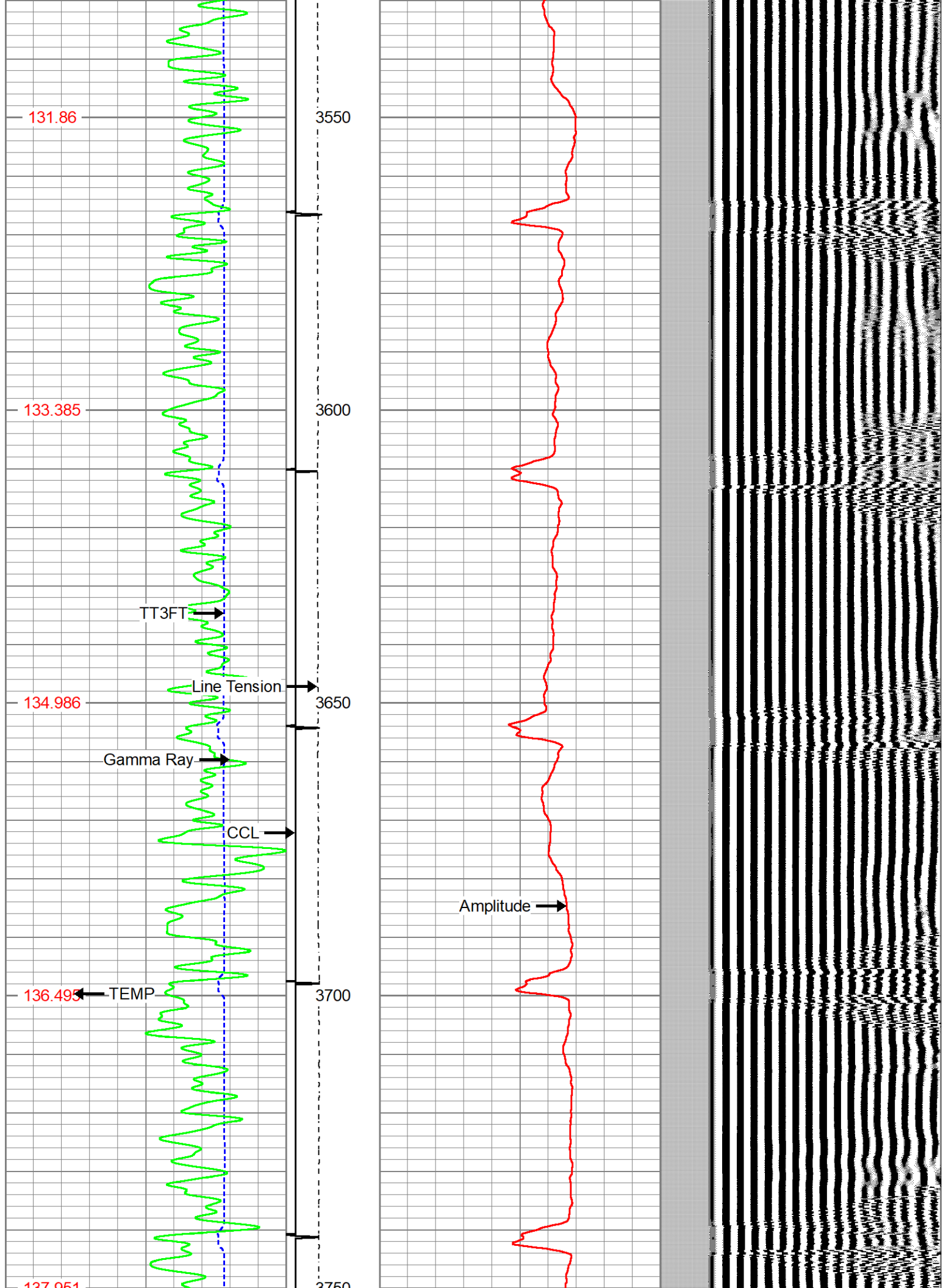


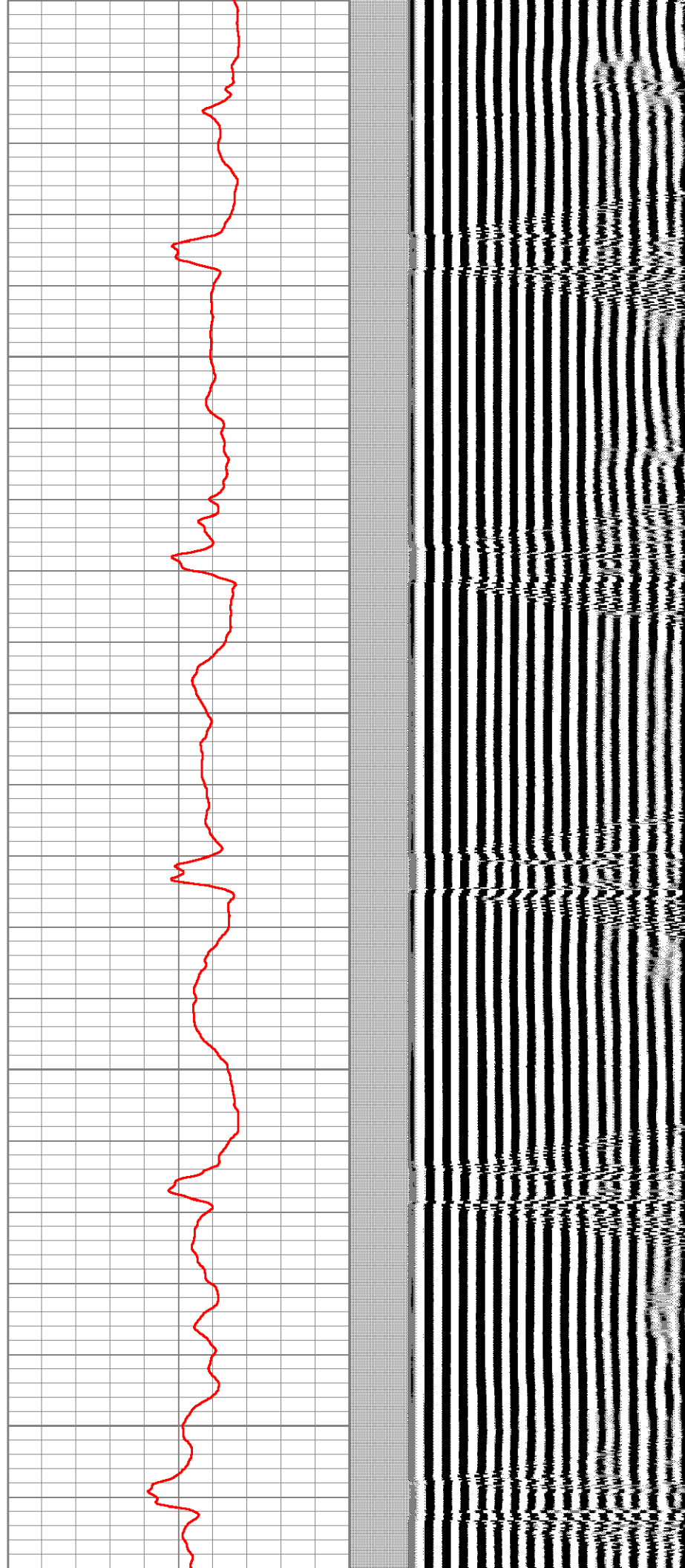
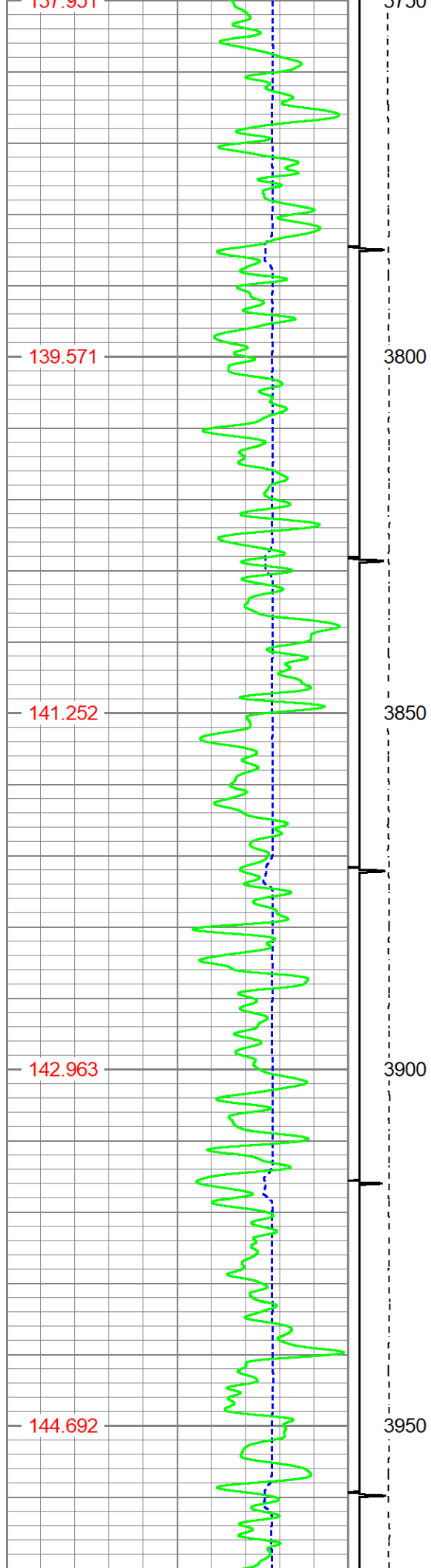


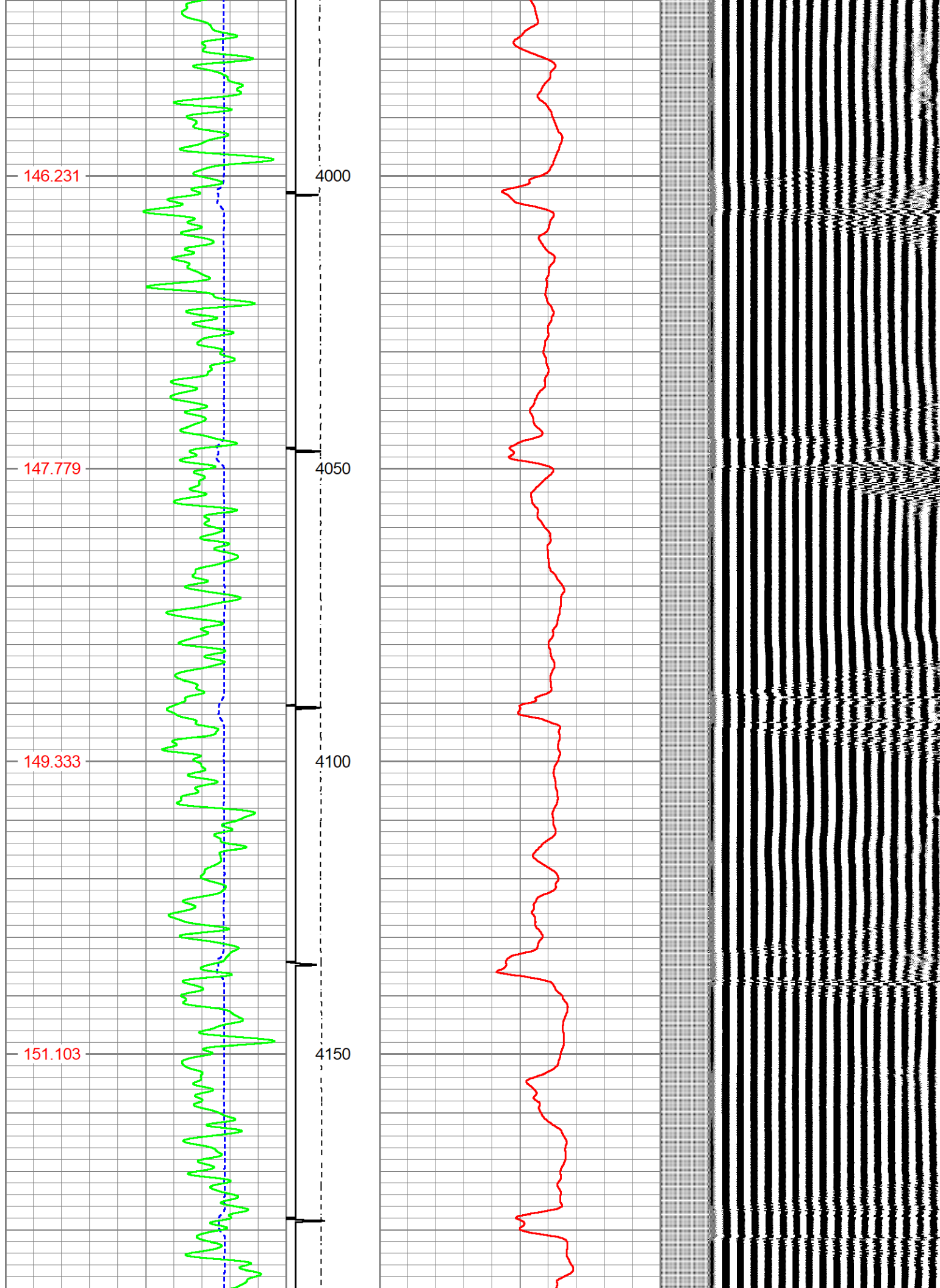


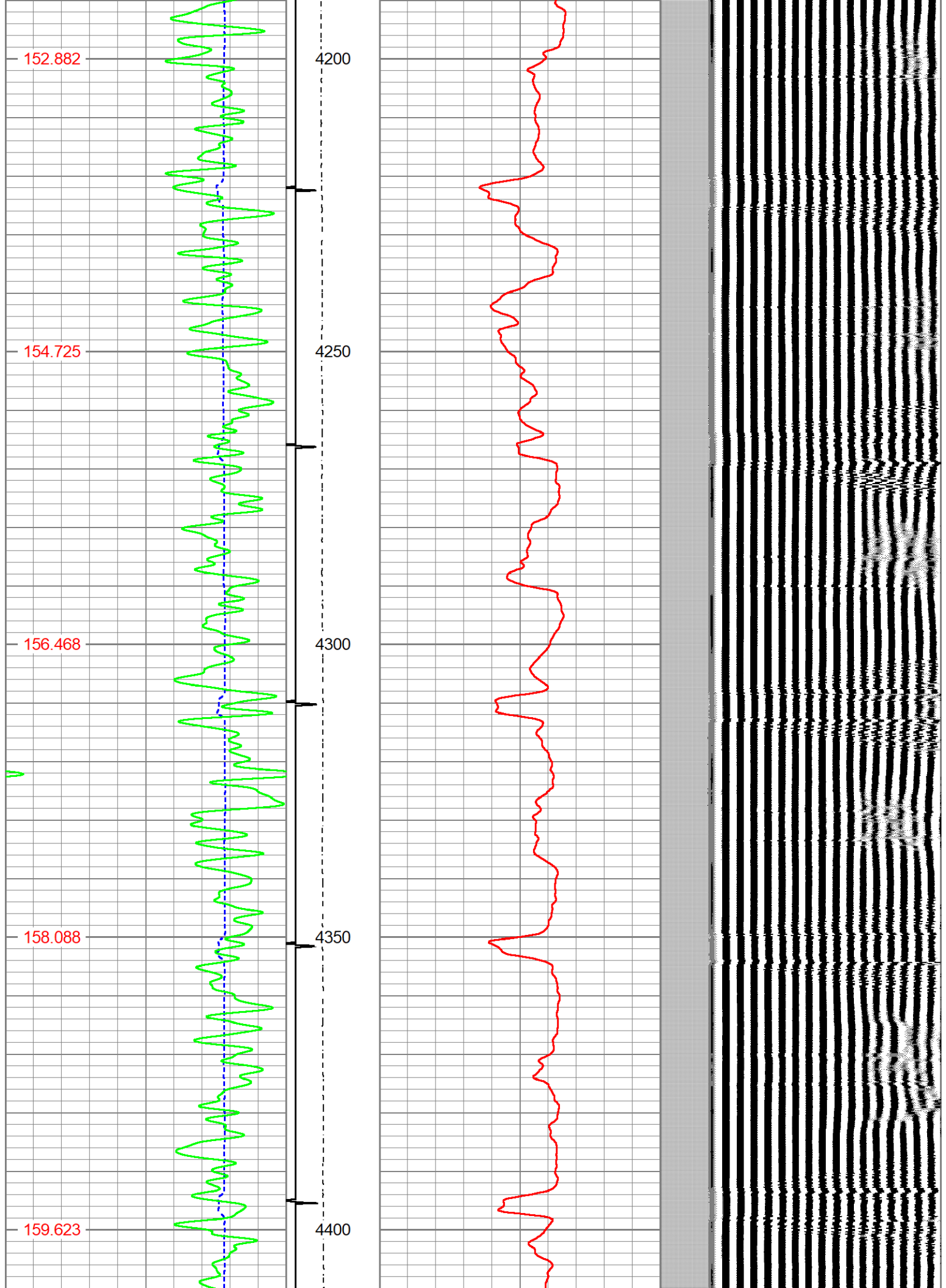


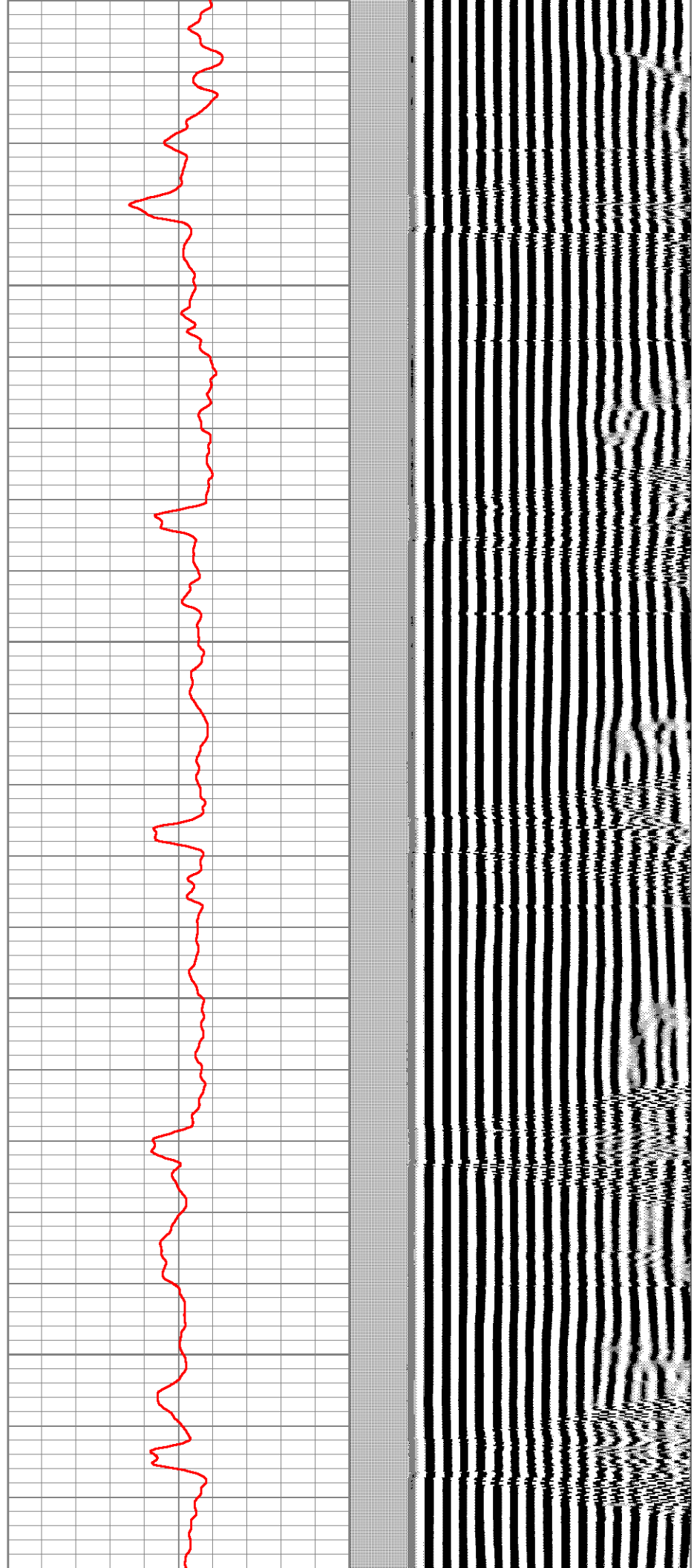
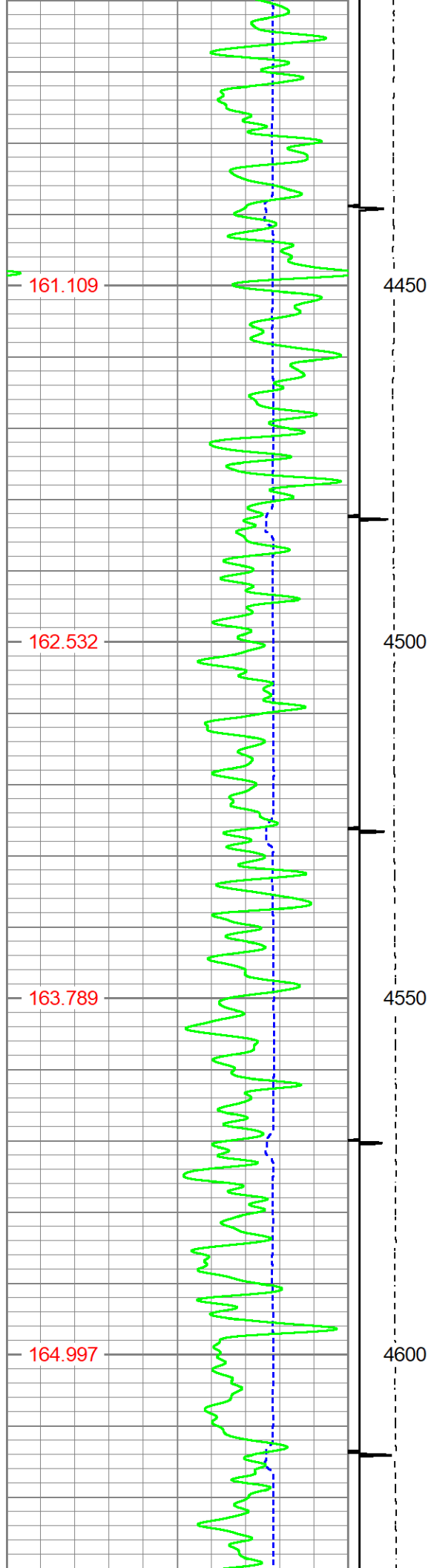


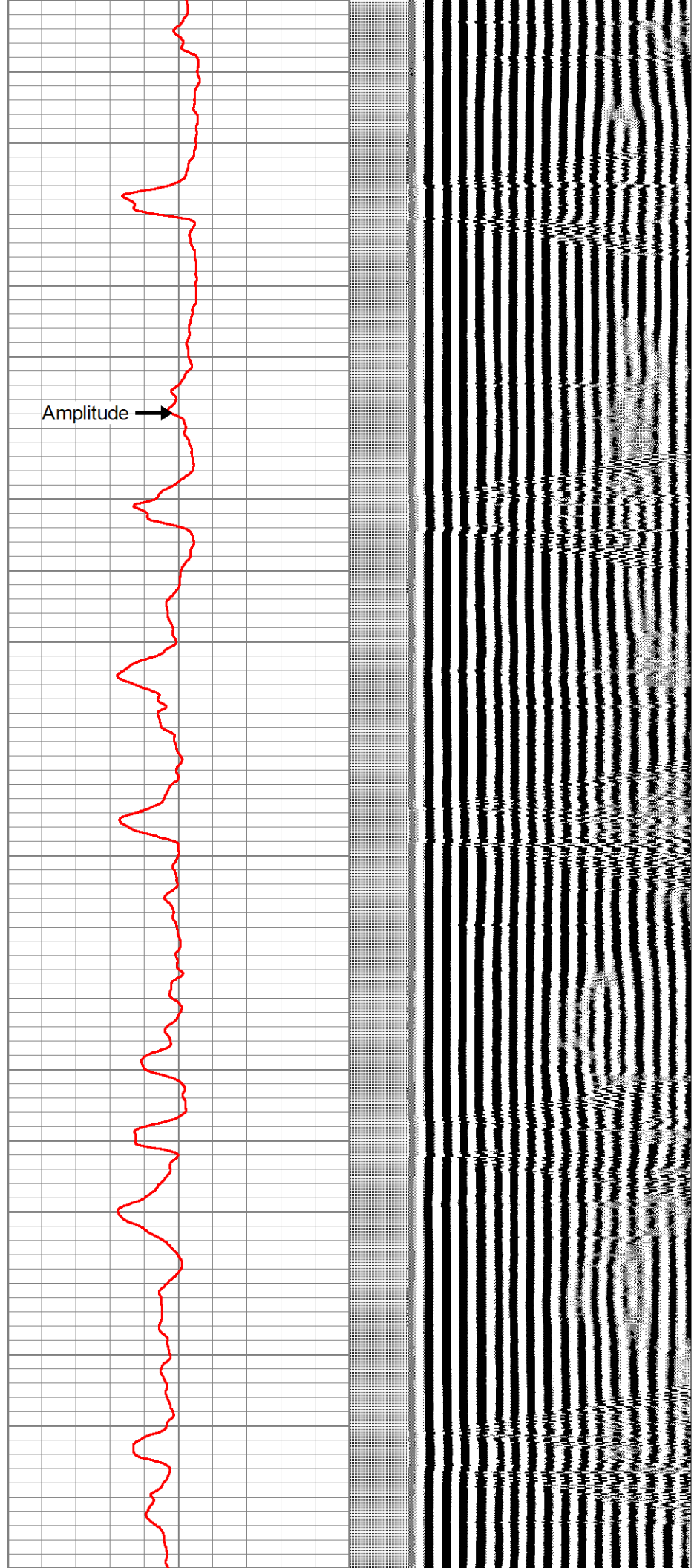
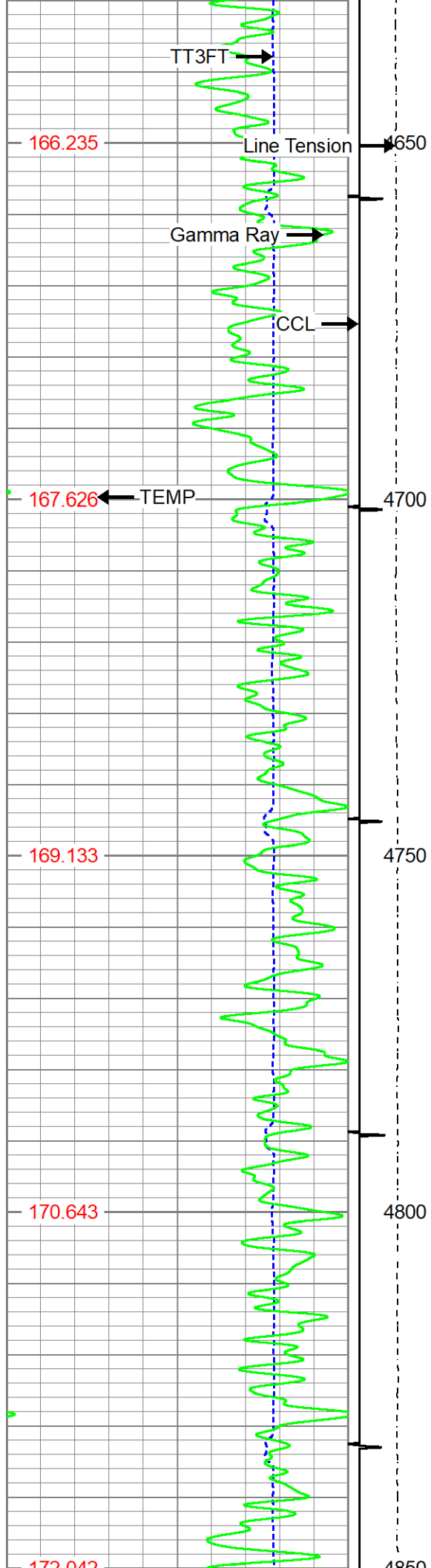


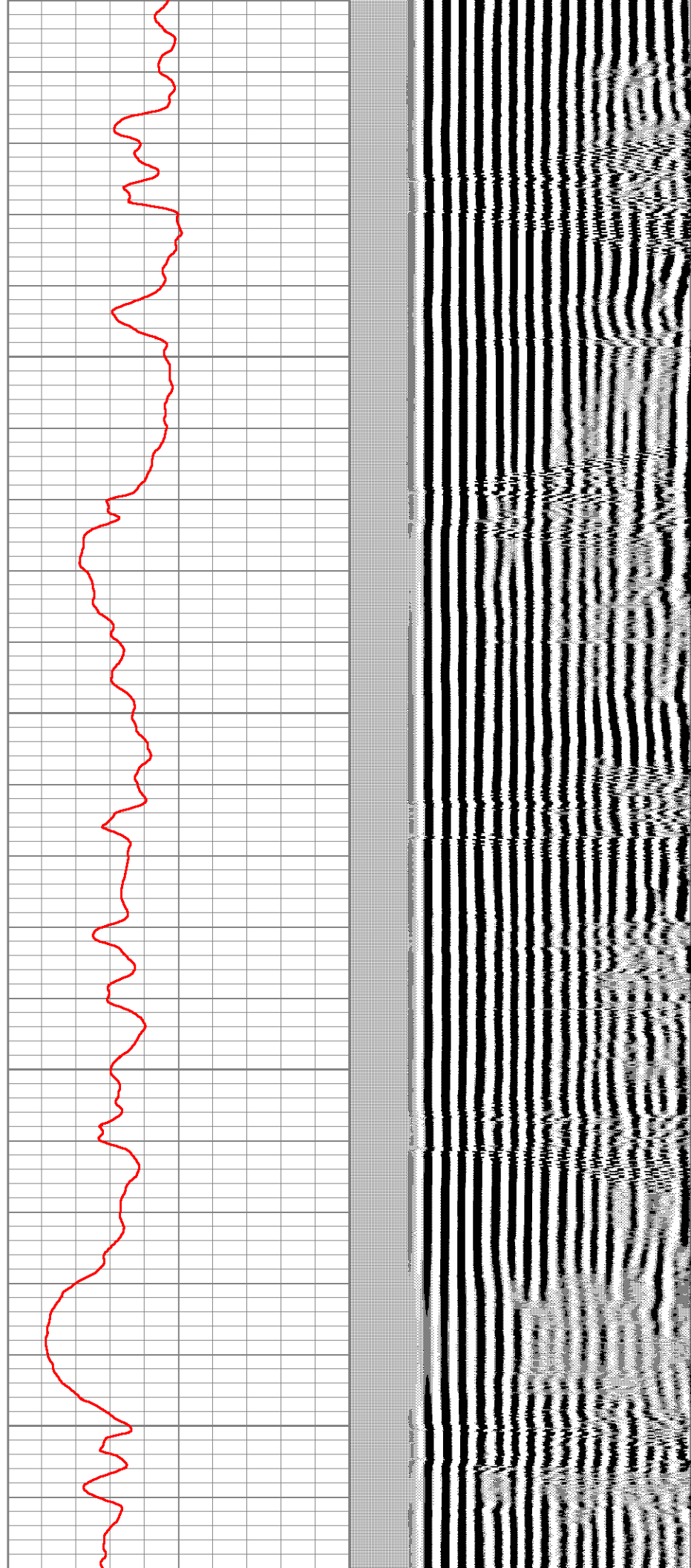
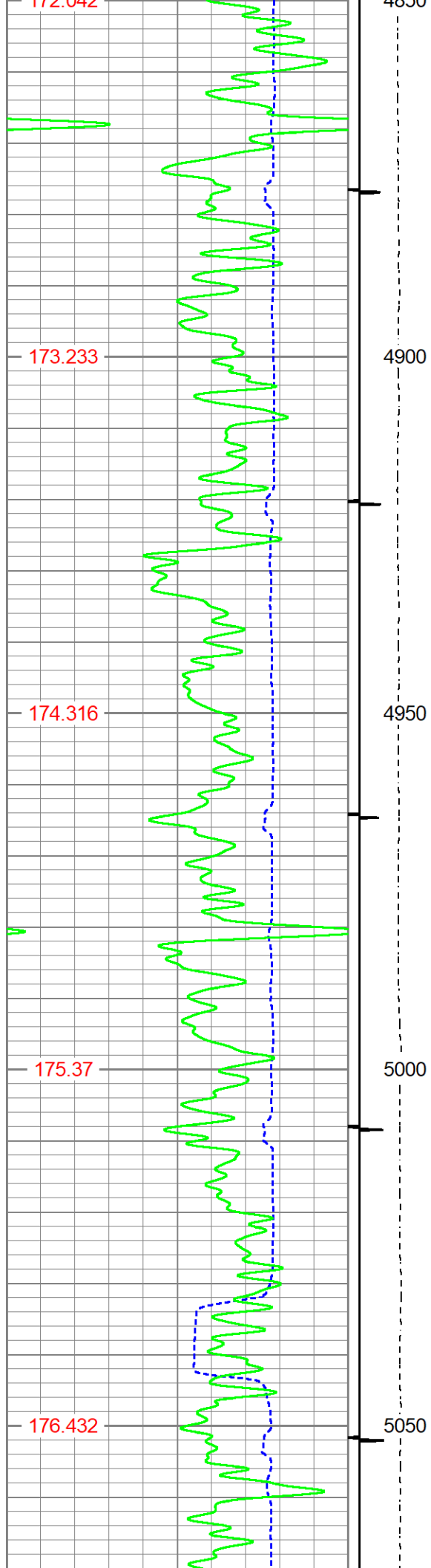


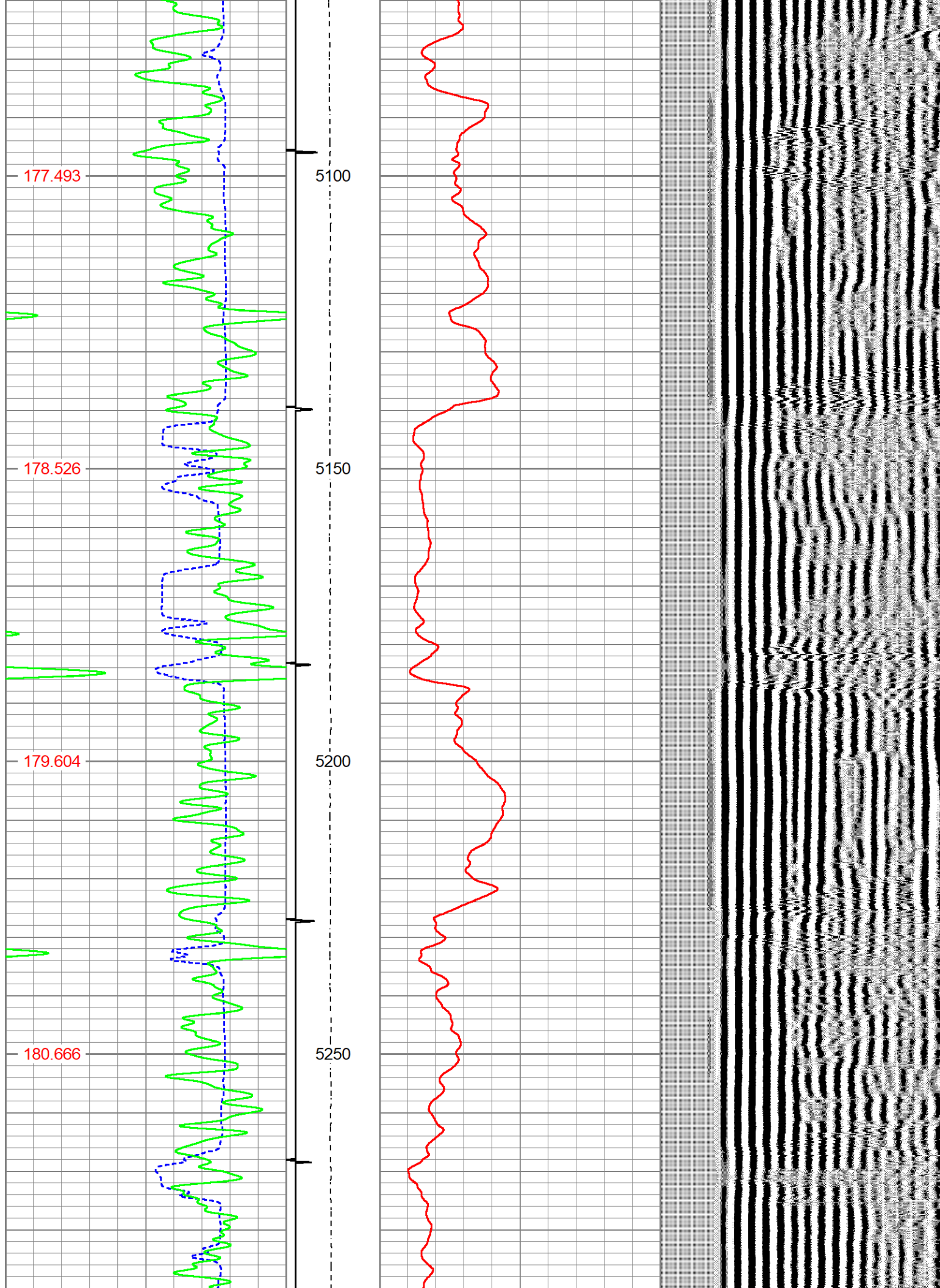


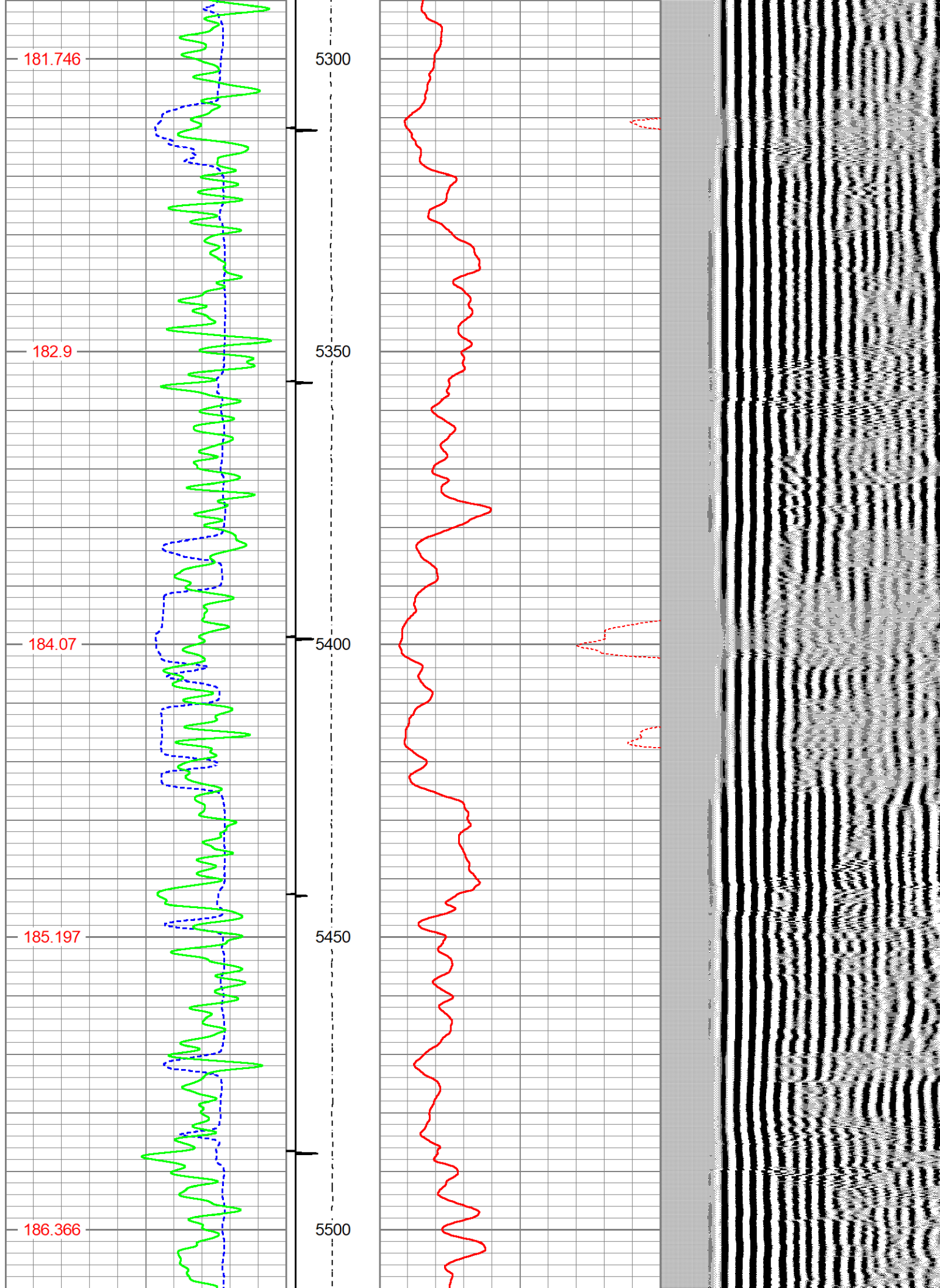


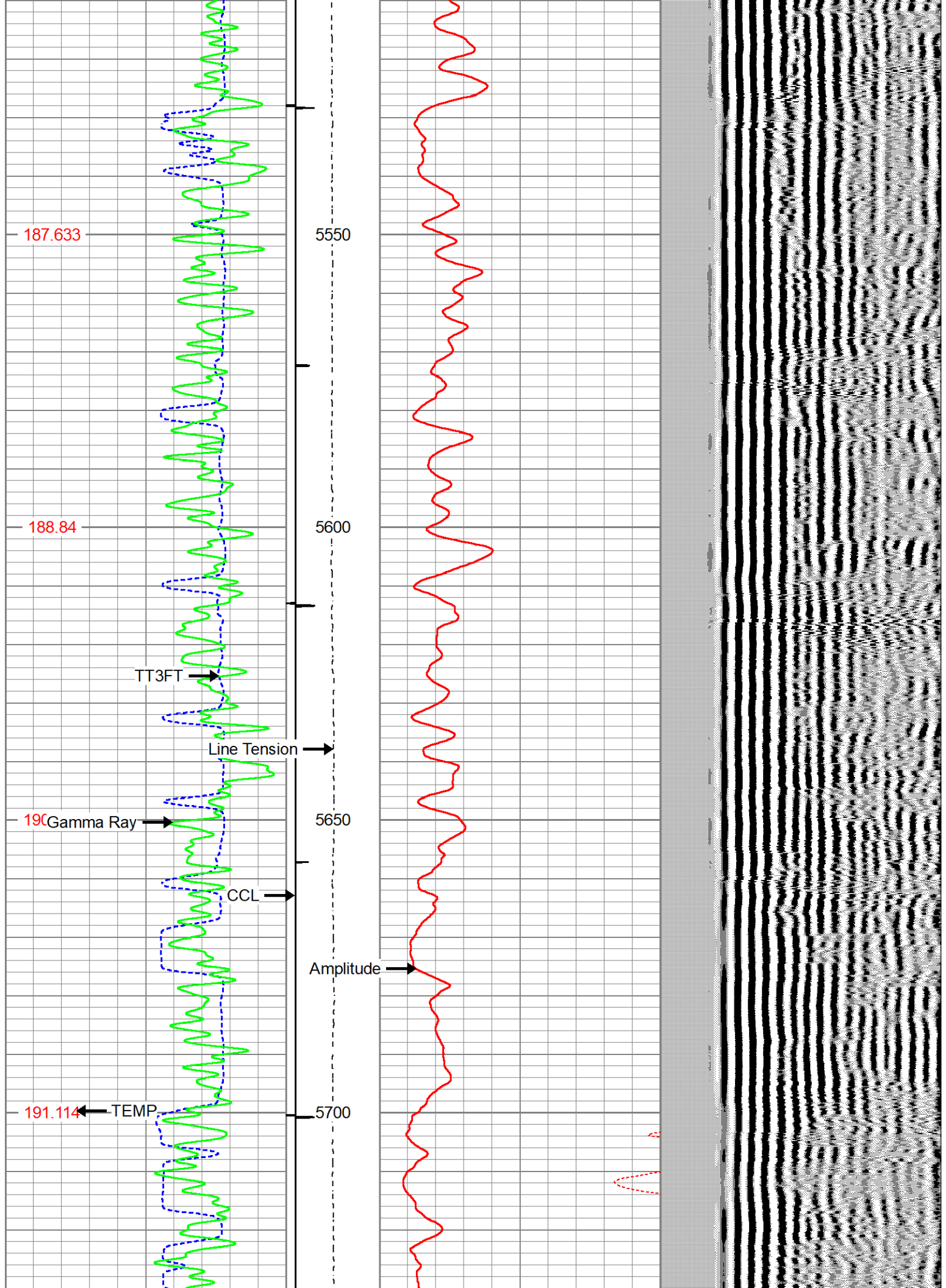


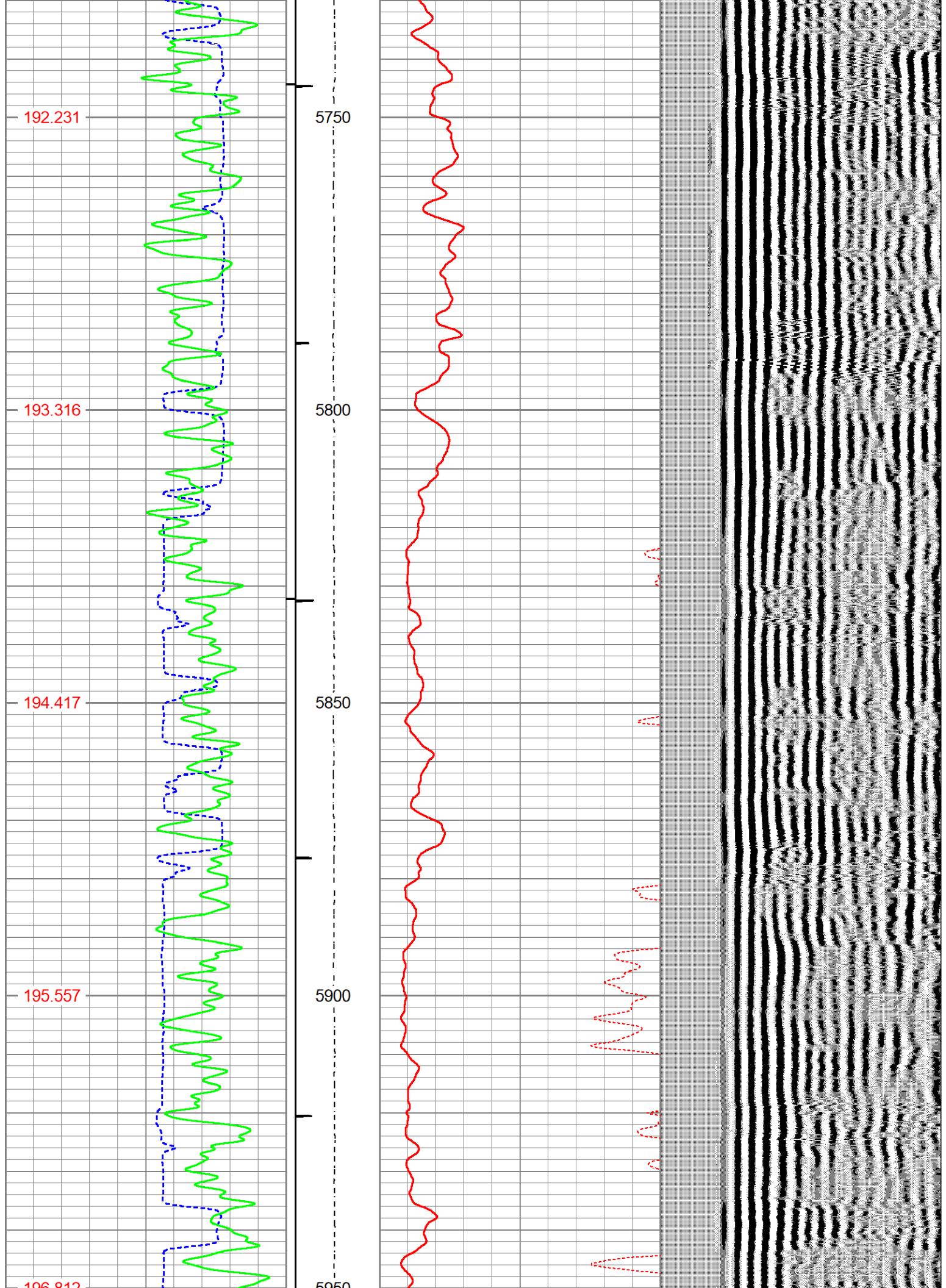


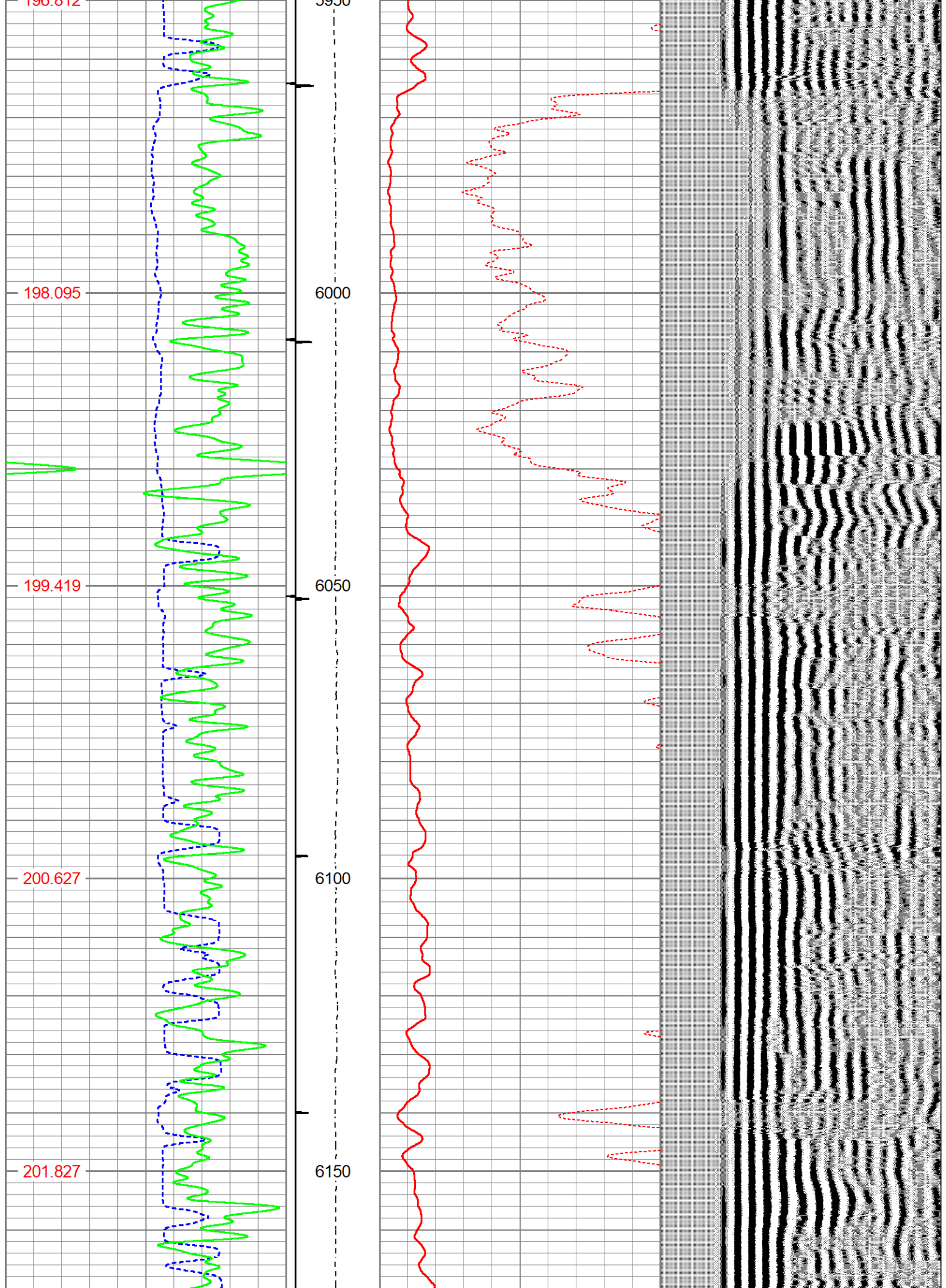


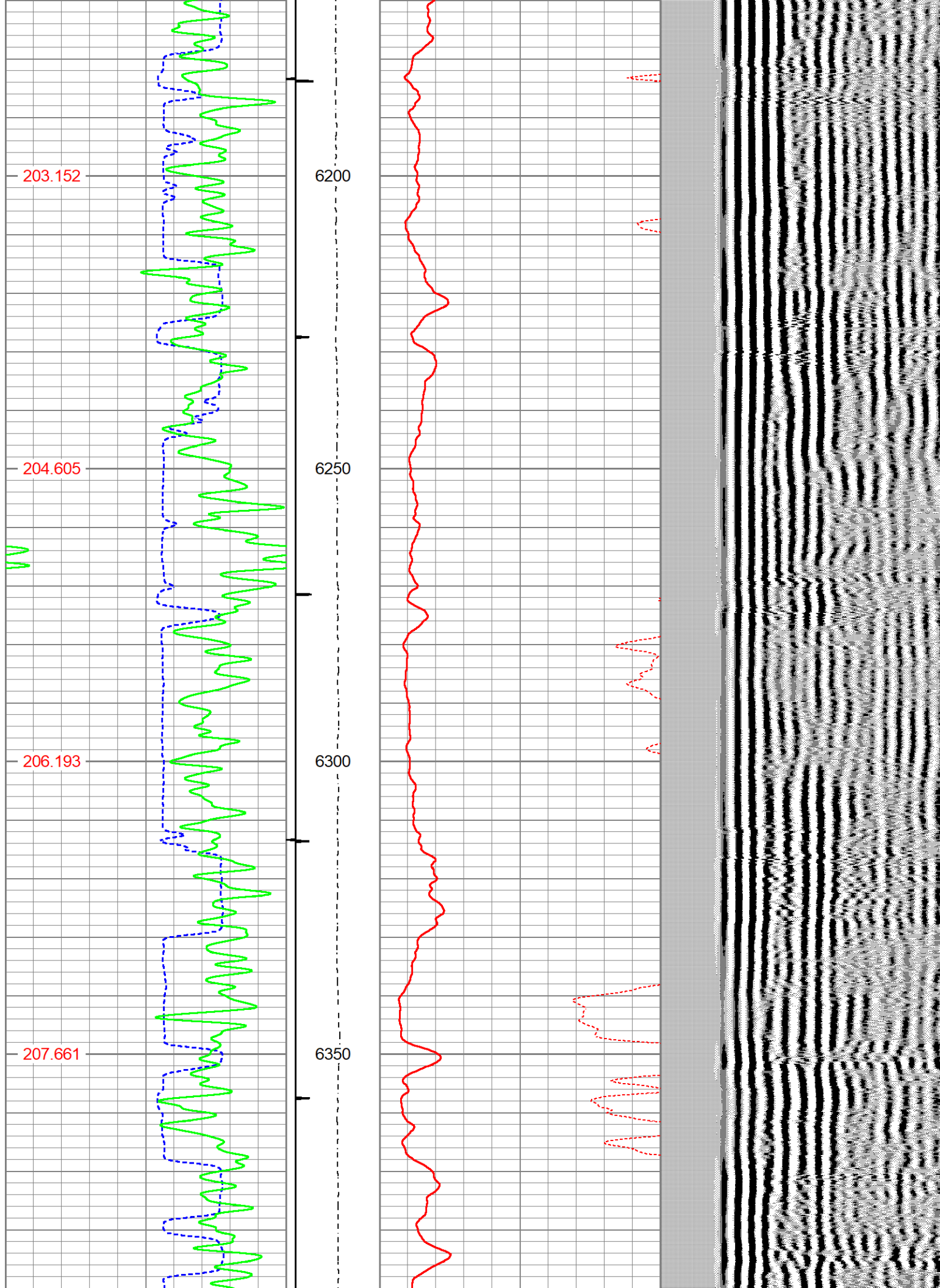


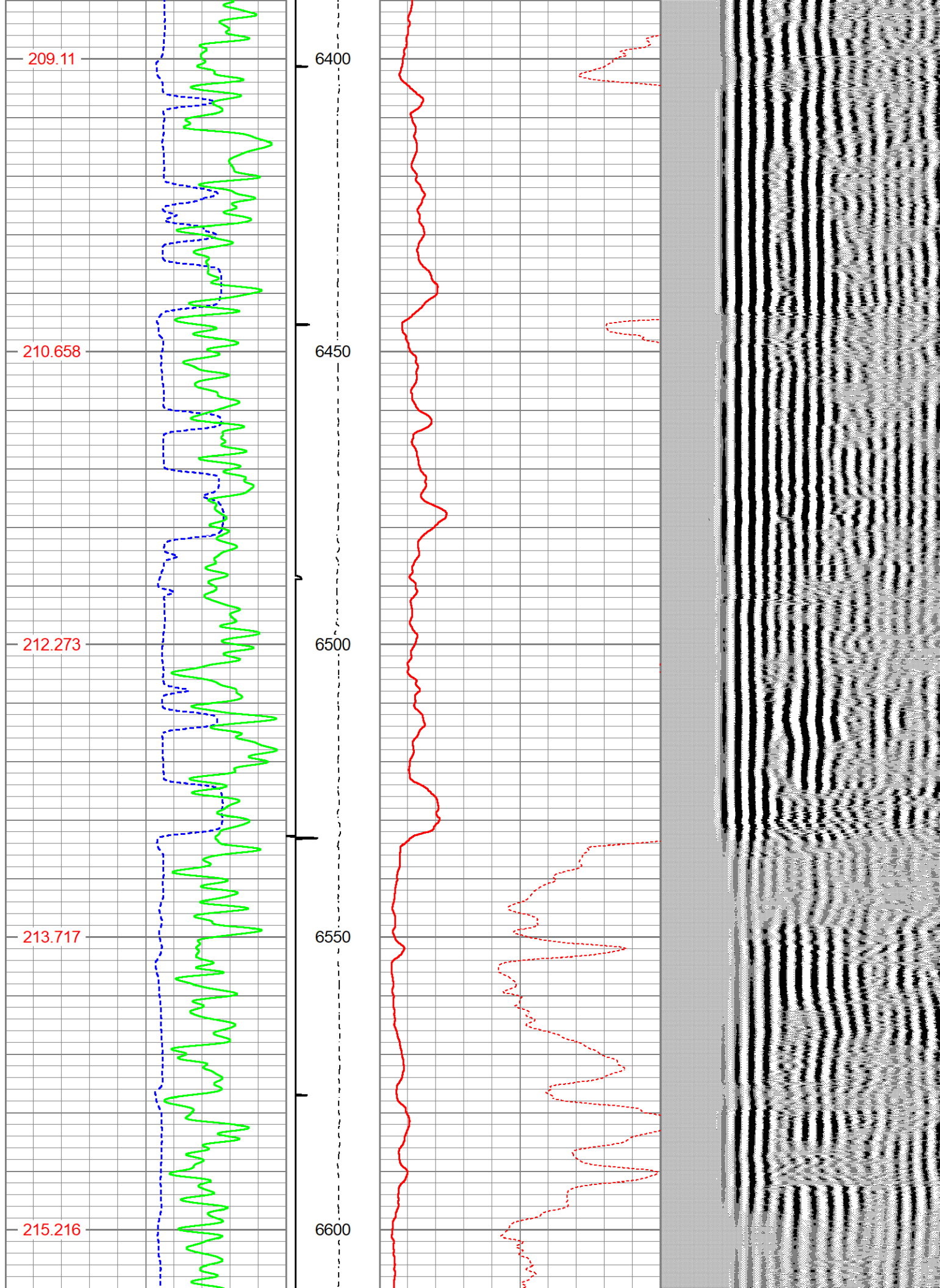


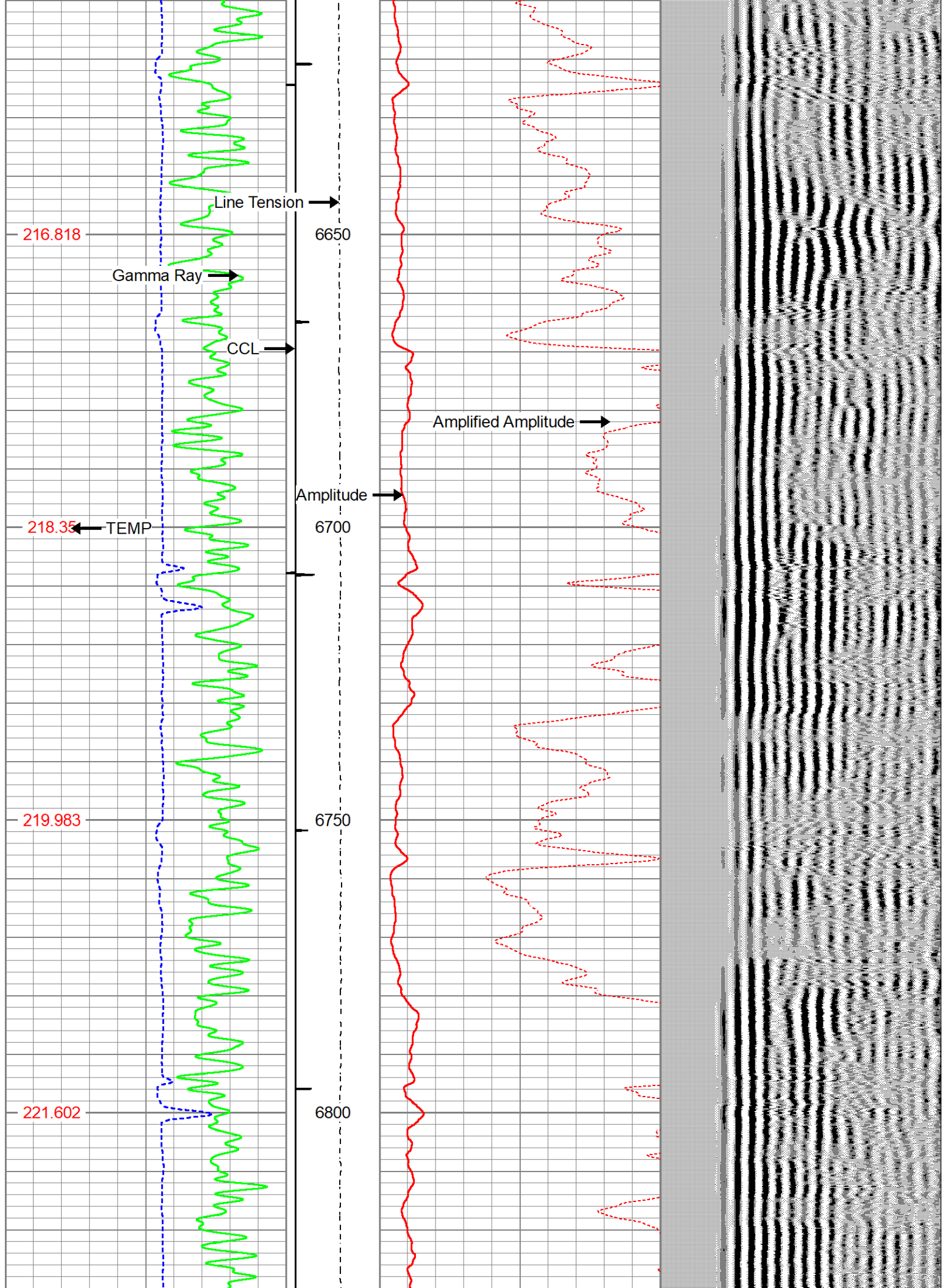


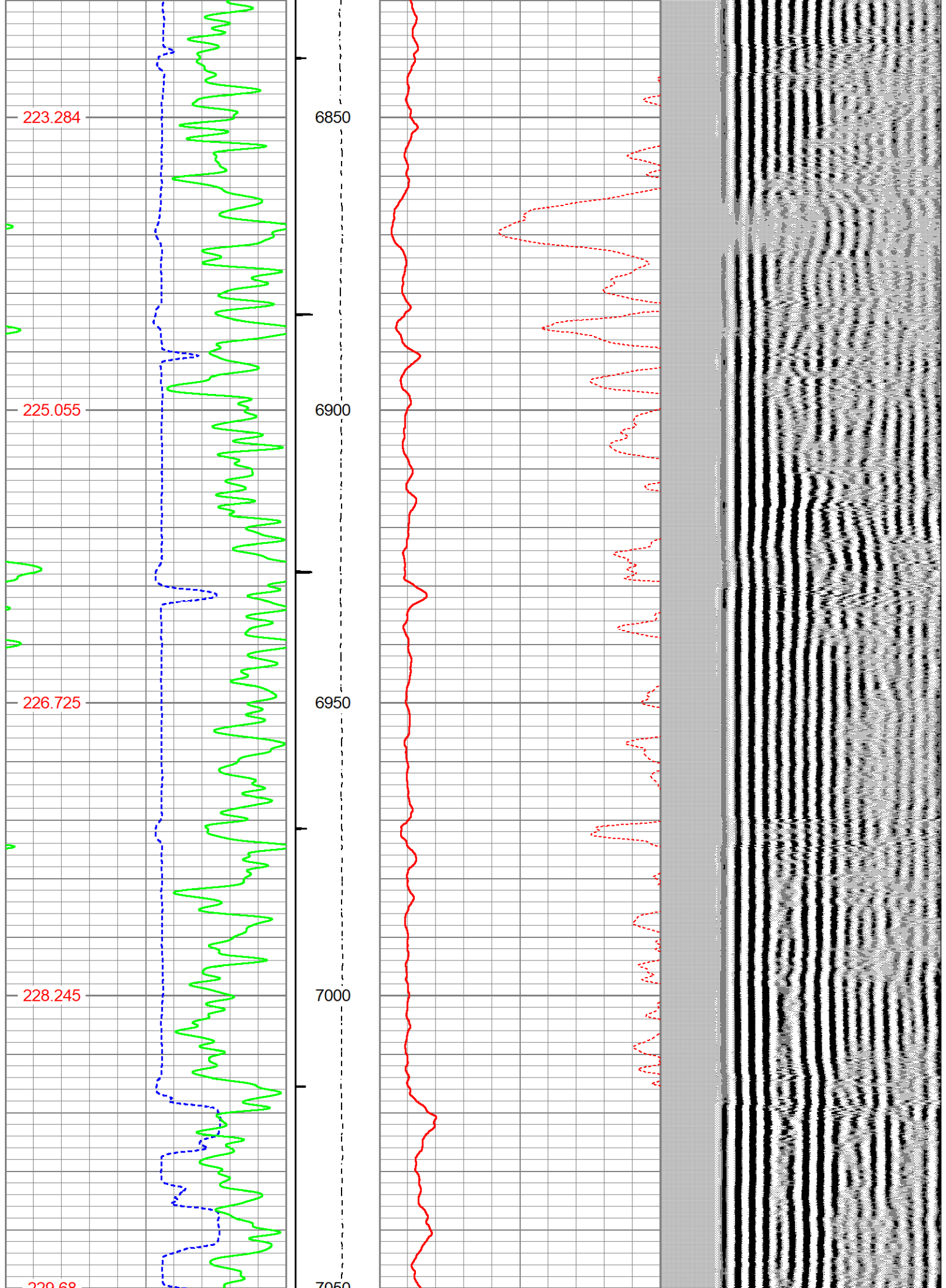


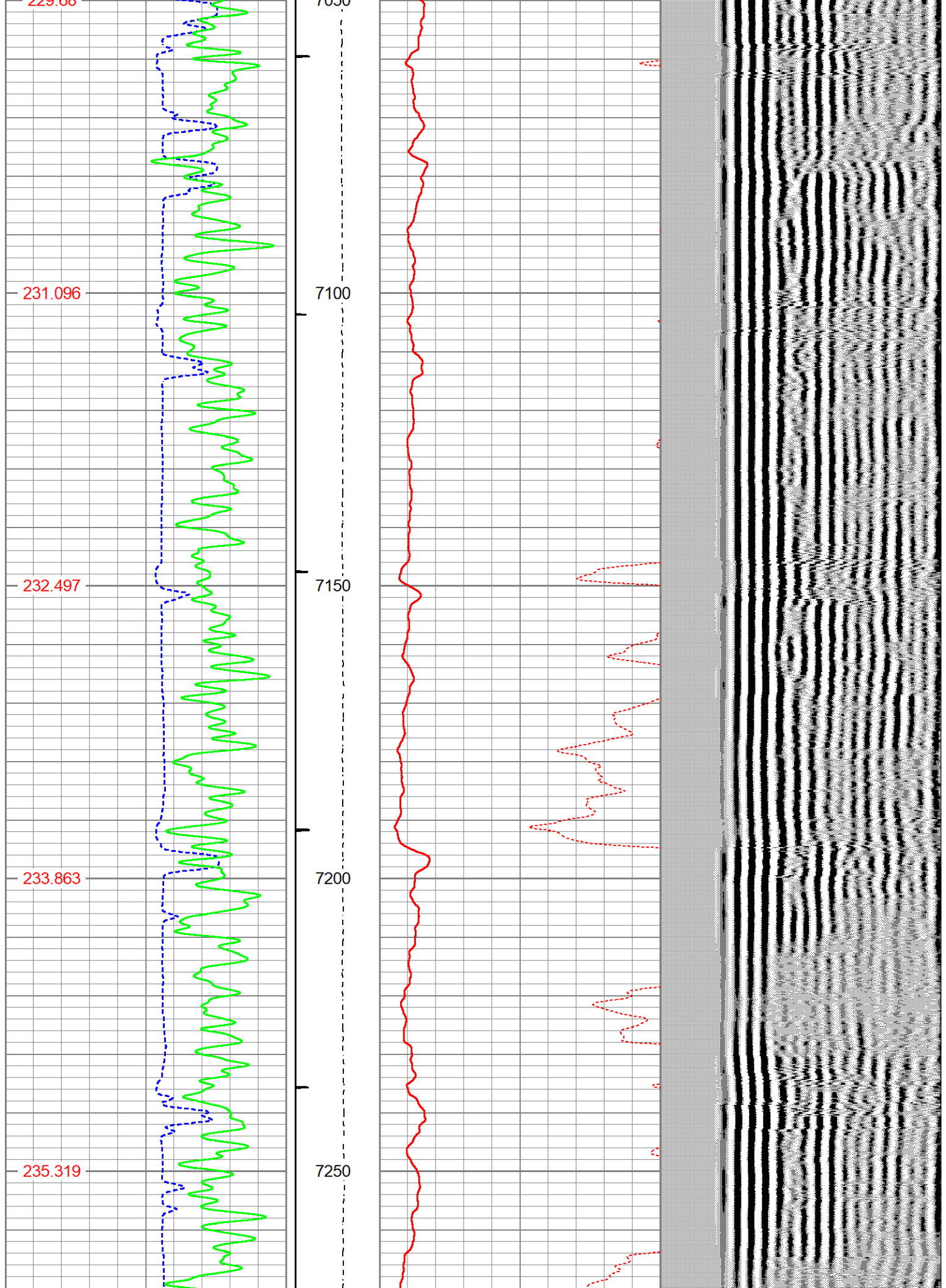


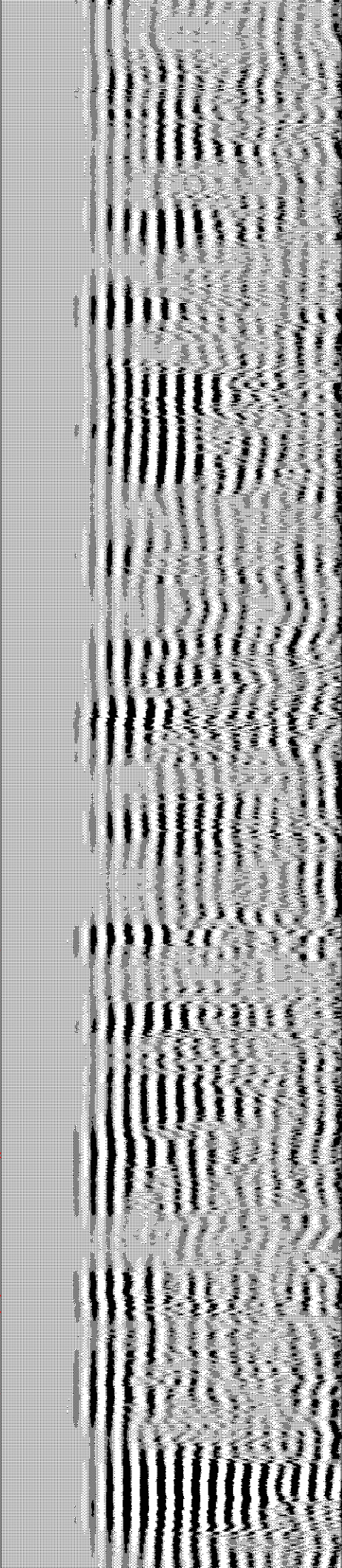
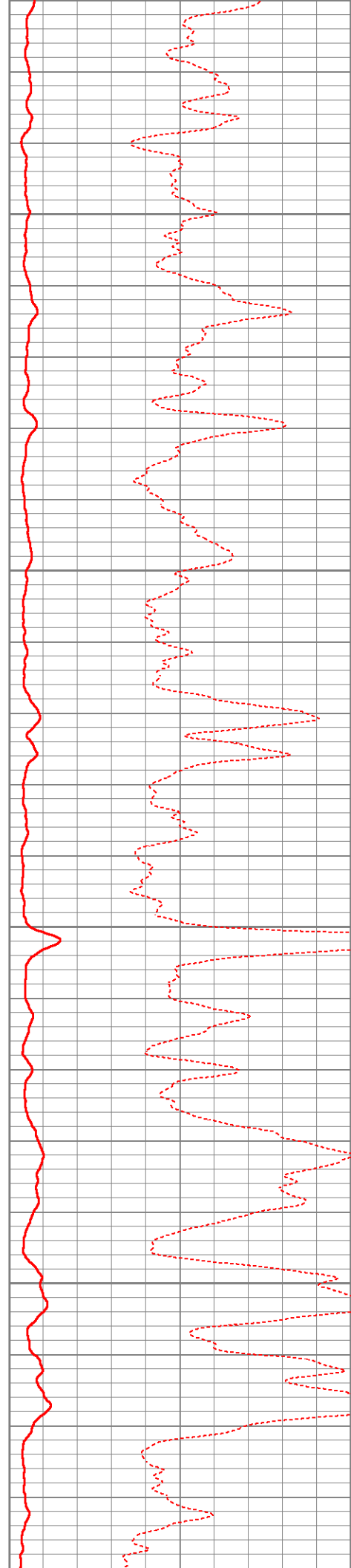
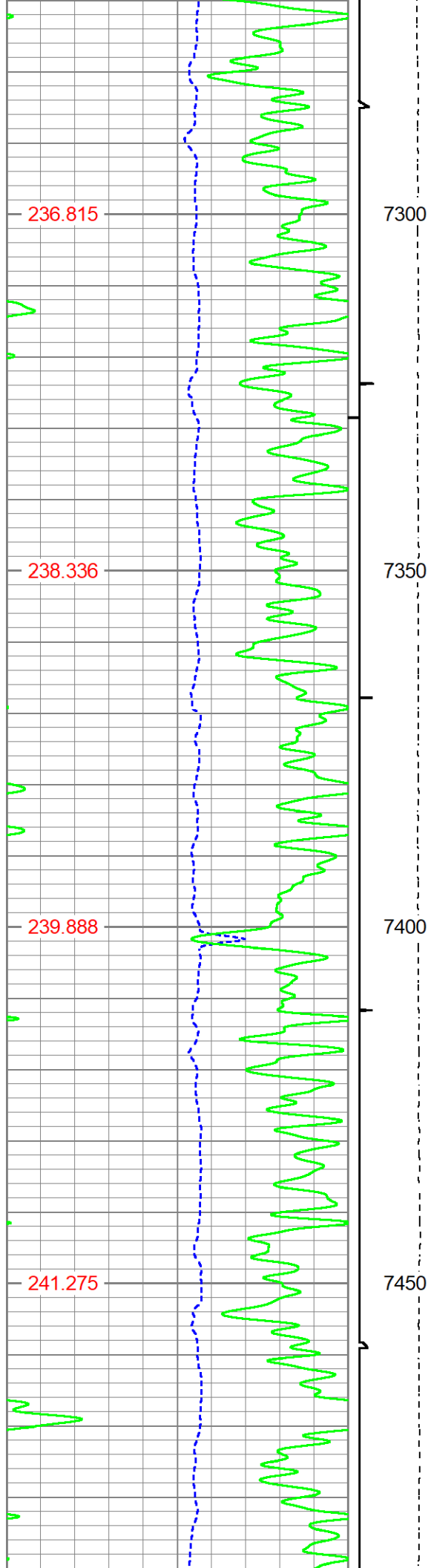


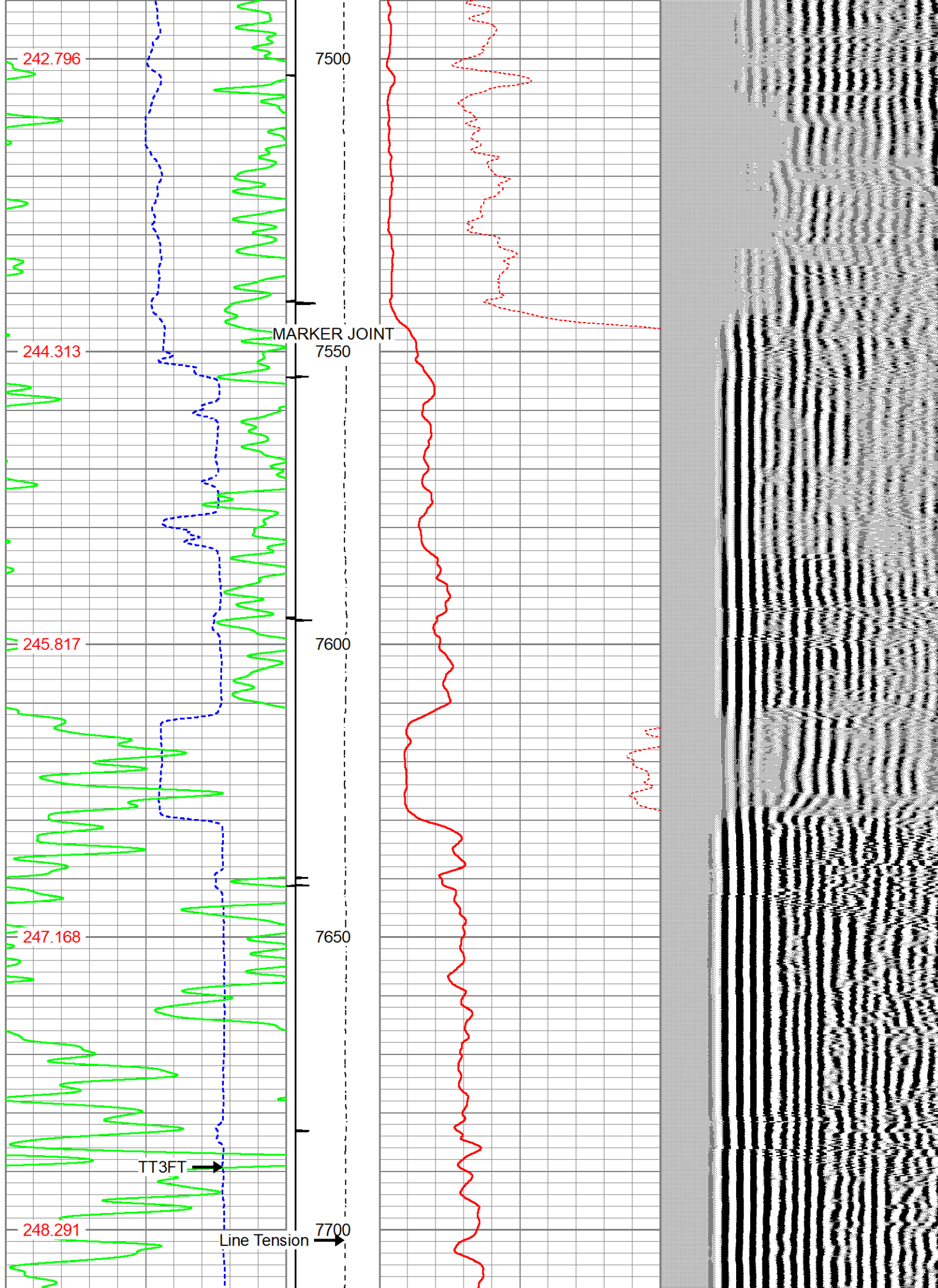


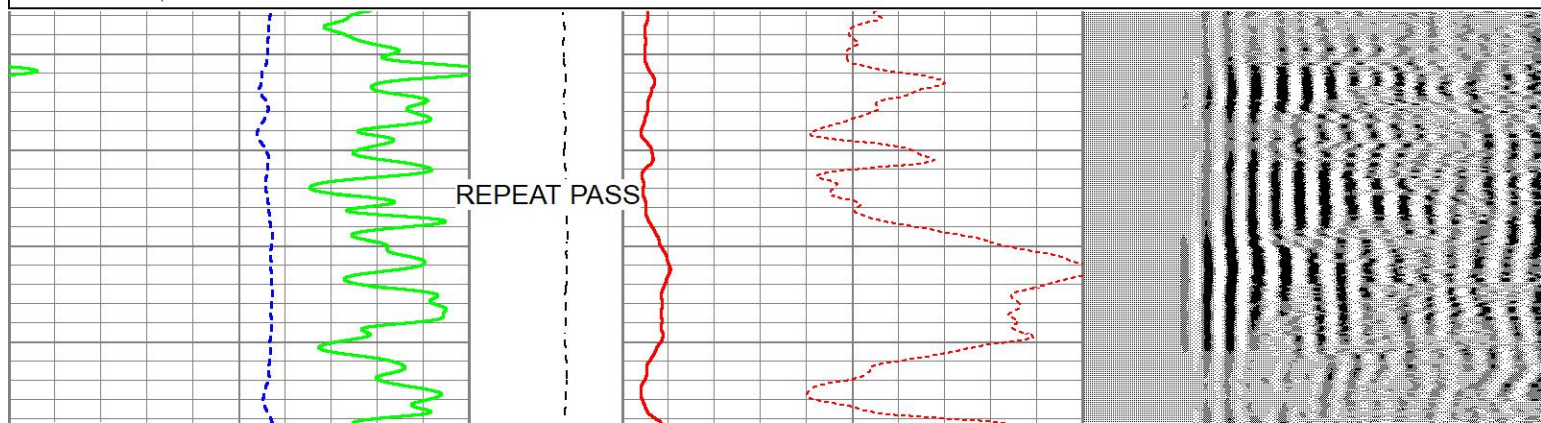
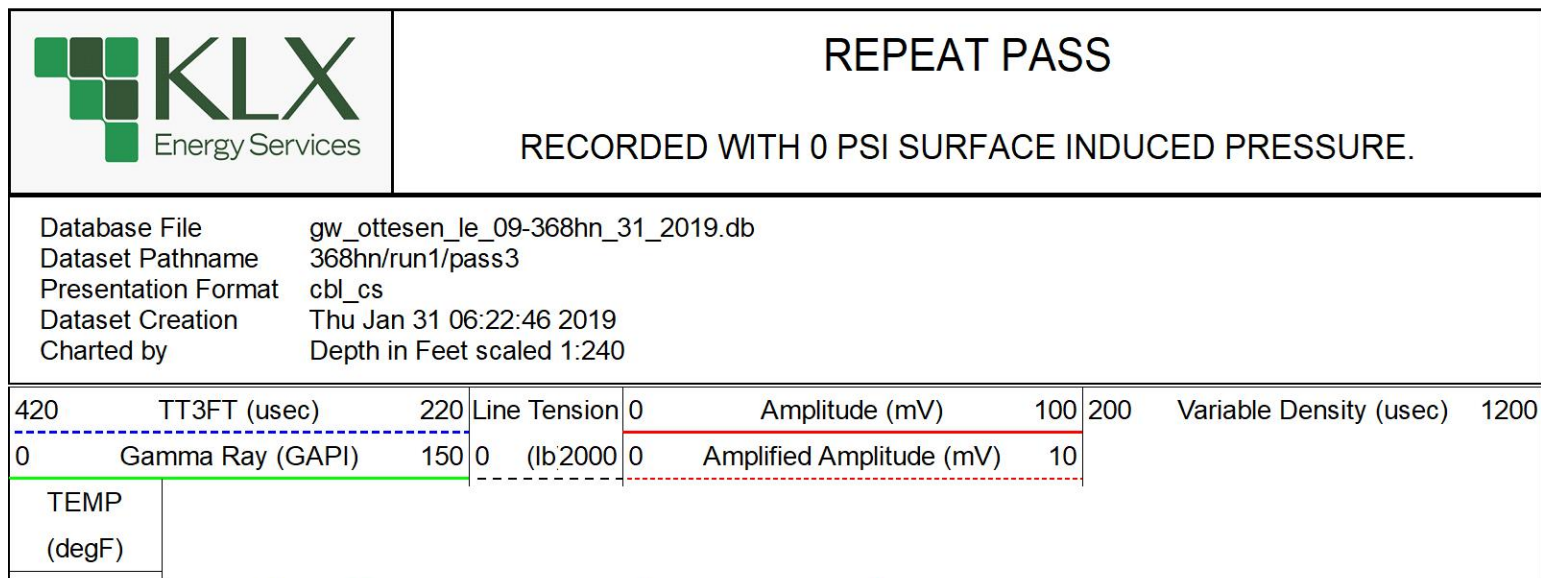
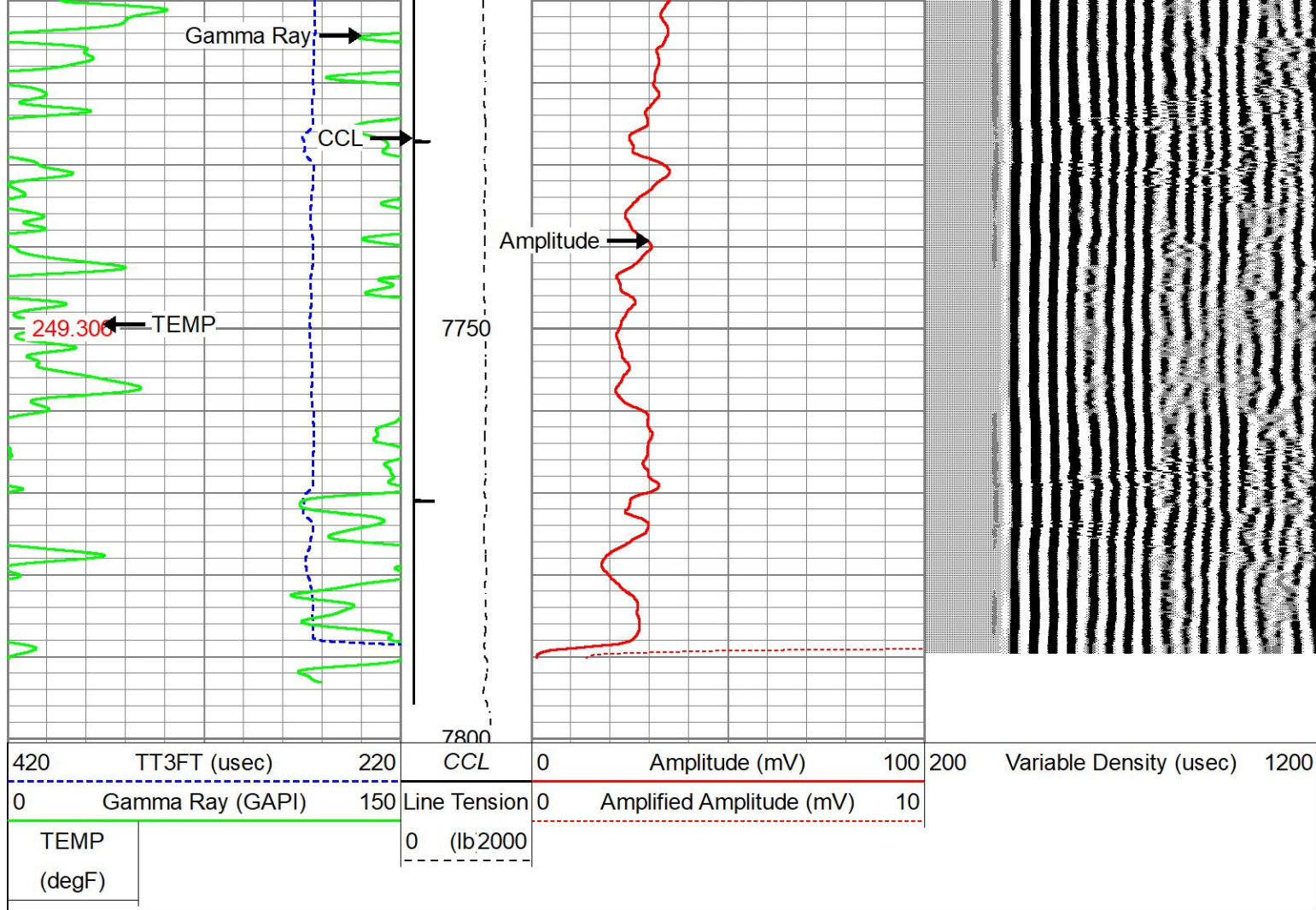


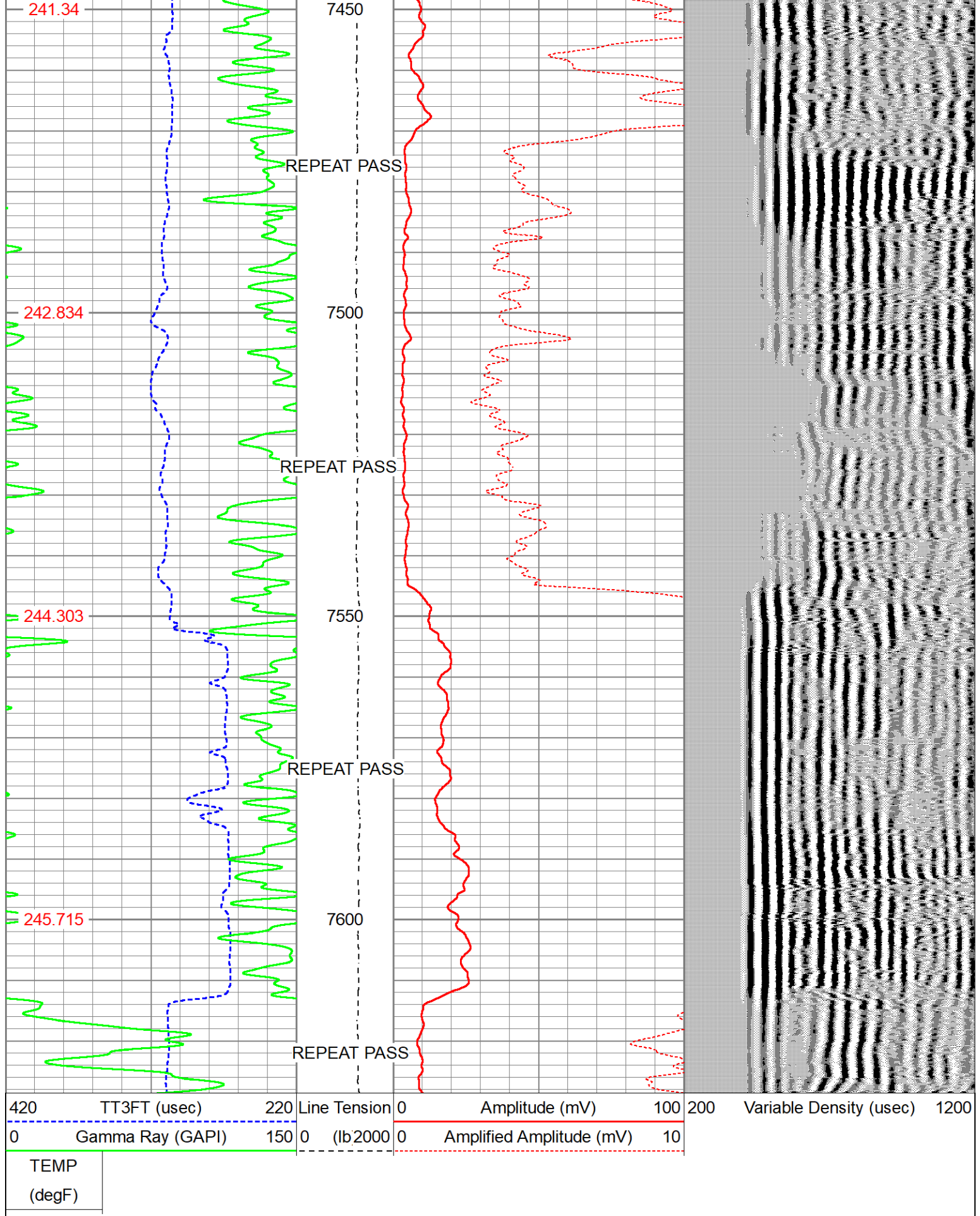












Log Variables

DatabaseC:\ProgramData\Warrior\Data\gw_ottesen_le_09-368hn_31_2019.db
Dataset field/368hn/run1/pass5/_vars_

Top - Bottom

BOREID in 7.875	BOTTEMP degF 250	CASEOD in 5.5	CASETHCK in 0	CASEWGHT lb/ft 17	MAXAMPL mV 719	MINAMPL mV 1	MINATTN db/ft 0.8
PERFS No	PPT usec 262	SRFTEMP degF 0	TDEPTH ft 0				
Variable Description							
BOREID : Borehole I.D.		CASEWGHT : Casing Weight		PERFS : Perforation Flag			
BOTTEMP : Bottom Hole Temperature		MAXAMPL : Maximum Amplitude		PPT : Predicted Pipe Time			
CASEOD : Casing O.D.		MINAMPL : Minimum Amplitude		SRFTEMP : Surface Temperature			
CASETHCK : Casing Thickness		MINATTN : Minimum Attenuation		TDEPTH : Total Depth			

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
ErrCt	18.89		RBT-Probe 2.75 Radii HT (FW1307-48) RADII HT	11.28	2.75	130.00
WVFS8	11.79					
WVFS7	11.79					
WVFS6	11.79					
WVFS5	11.79					
WVFS4	11.79					
WVFS3	11.79					
WVFS2	11.79					
WVFS1	11.79					
WVFCAL	11.79					
WVF3FT	11.79					
WVF5FT	10.79					
CCL\$2	6.64					
CCL\$1	6.64					
GCT_Temp	6.09		GC-GCT275-0000 (GCT275 0000_base) Probe GCT275-0000 w/Temp	4.77	2.75	55.00
GR	5.22					



Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.002	0.516	1.000	0.000

Air Zero Calibration, performed Thu Jan 31 05:45:12 2019:

	Raw (v)		Calibrated (v)		Results
	Zero		Zero		Offset
3'	0.000		0.000		0.000
5'	0.000		0.000		0.000
SUM					
S1	0.000		0.000		0.000
S2	0.000		0.000		0.000
S3	0.000		0.000		0.000
S4	0.000		0.000		0.000
S5	0.000		0.000		0.000
S6	0.000		0.000		0.000
S7	0.000		0.000		0.000
S8	0.000		0.000		0.000



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County	Weld	
State	Colorado	Country