



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

Company	GREAT WESTERN OIL & GAS		
Well	OTTESEN LE 06-351HNX		
Field	WATTENBERG		
County	WELD	State	COLORADO
Location:	API #: 05-123-48287		Other Services
	NWSE, 40.004325 / -104.778644		4.5" GR
Permanent Datum	GL	Elevation	5076.5'
Log Measured From	KB		
Drilling Measured From	KB		
	SEC 33	TWP 1N	RGE 66W

Date	26-JAN-2019
Run Number	ONE
Depth Driller	17750'
Depth Logger	10138'
Bottom Logged Interval	10136'
Top Log Interval	SURFACE
Open Hole Size	NA
Type Fluid	WATER
Density / Viscosity	8.4PPG
Max. Recorded Temp.	251 F
Estimated Cement Top	SEE LOG
Time Well Ready	13:00
Time Logger on Bottom	14:00
Equipment Number	34
Location	PLATTEVILLE
Recorded By	C. SCHAAF
Witnessed By	D. POZAS

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	1862'
Prot. String							
Production String	5-1/2"			17#		SURFACE	17691'
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

TOOLS RUN AS PER TOOL DIAGRAM
TOOLSTRING CENTRALIZED VIA 2 X GEMCO CENTRALIZERS
LOG CORRELATED TO MARKER JOINT @ 9647' - 9657'
MAIN PASS LOGGED UNDER 2800 PSI

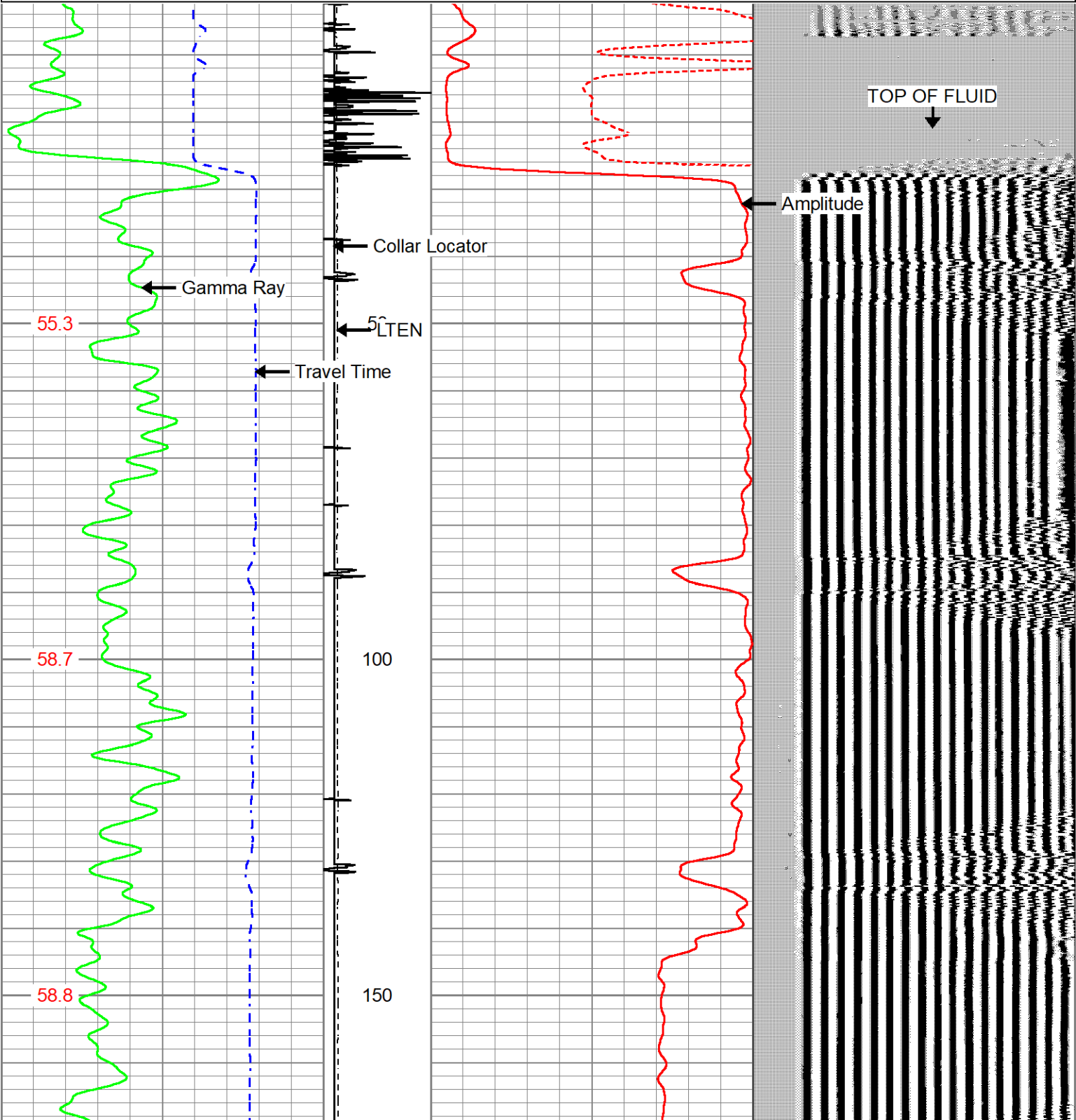
THANK YOU FOR CHOOSING KLX ENERGY SERVICES

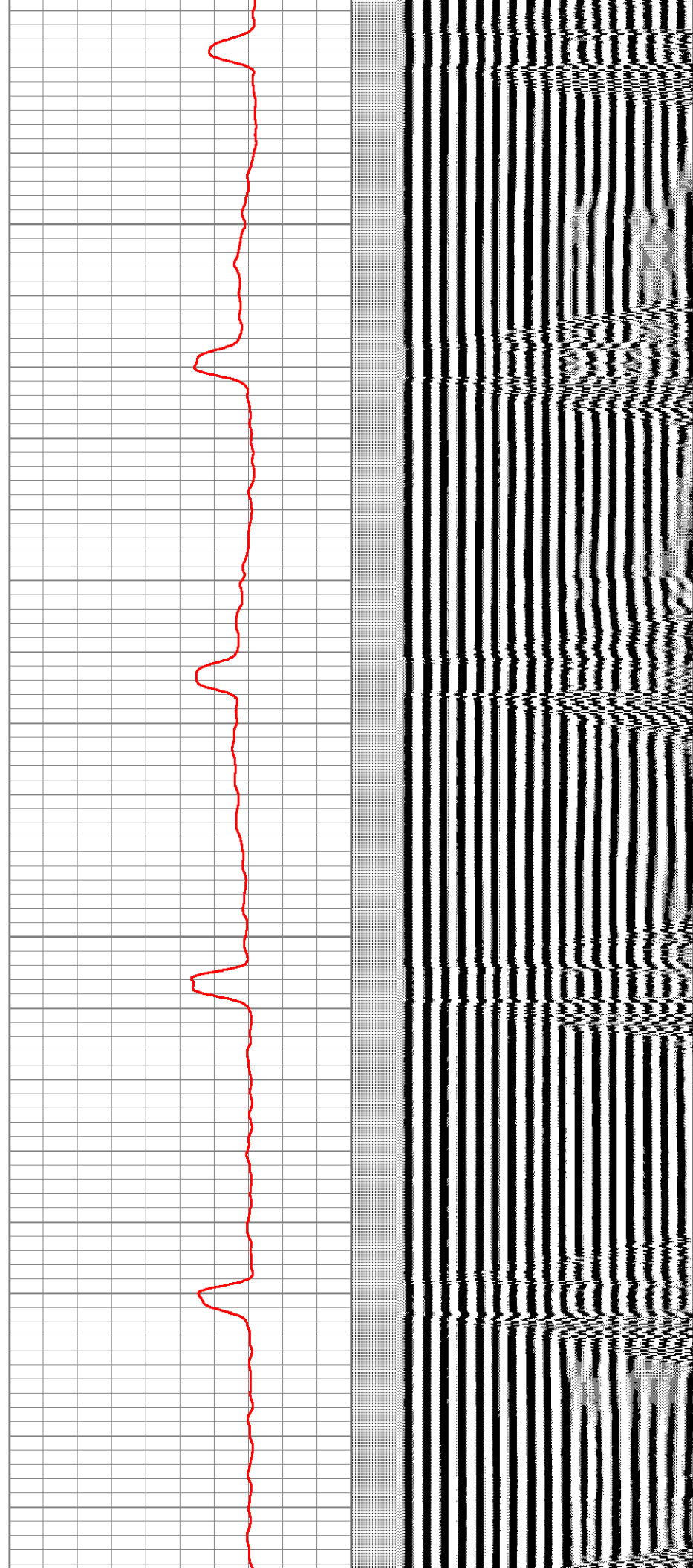
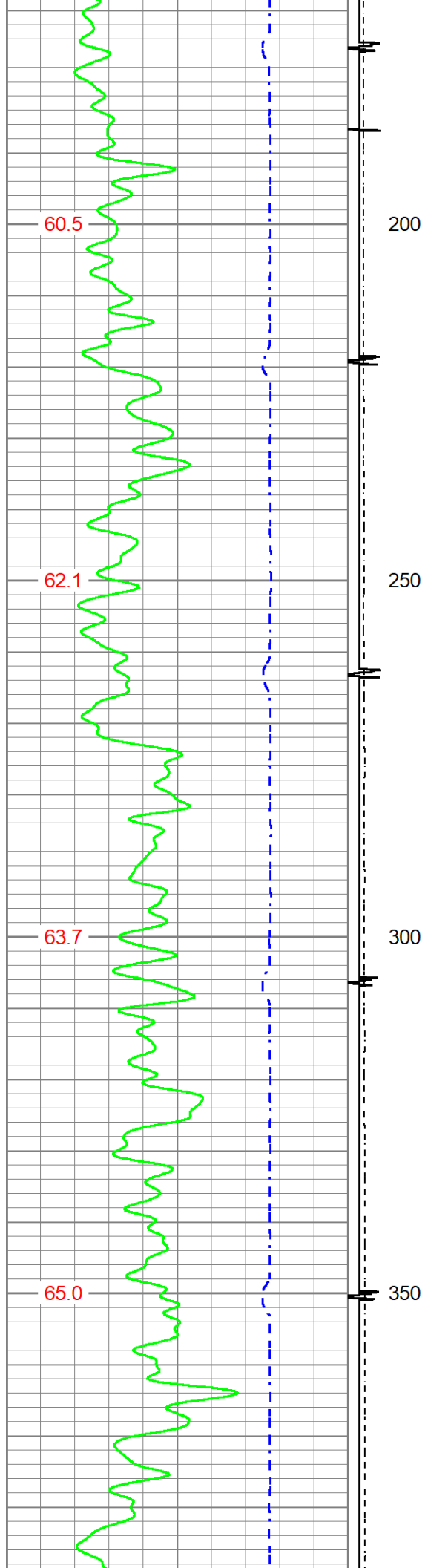


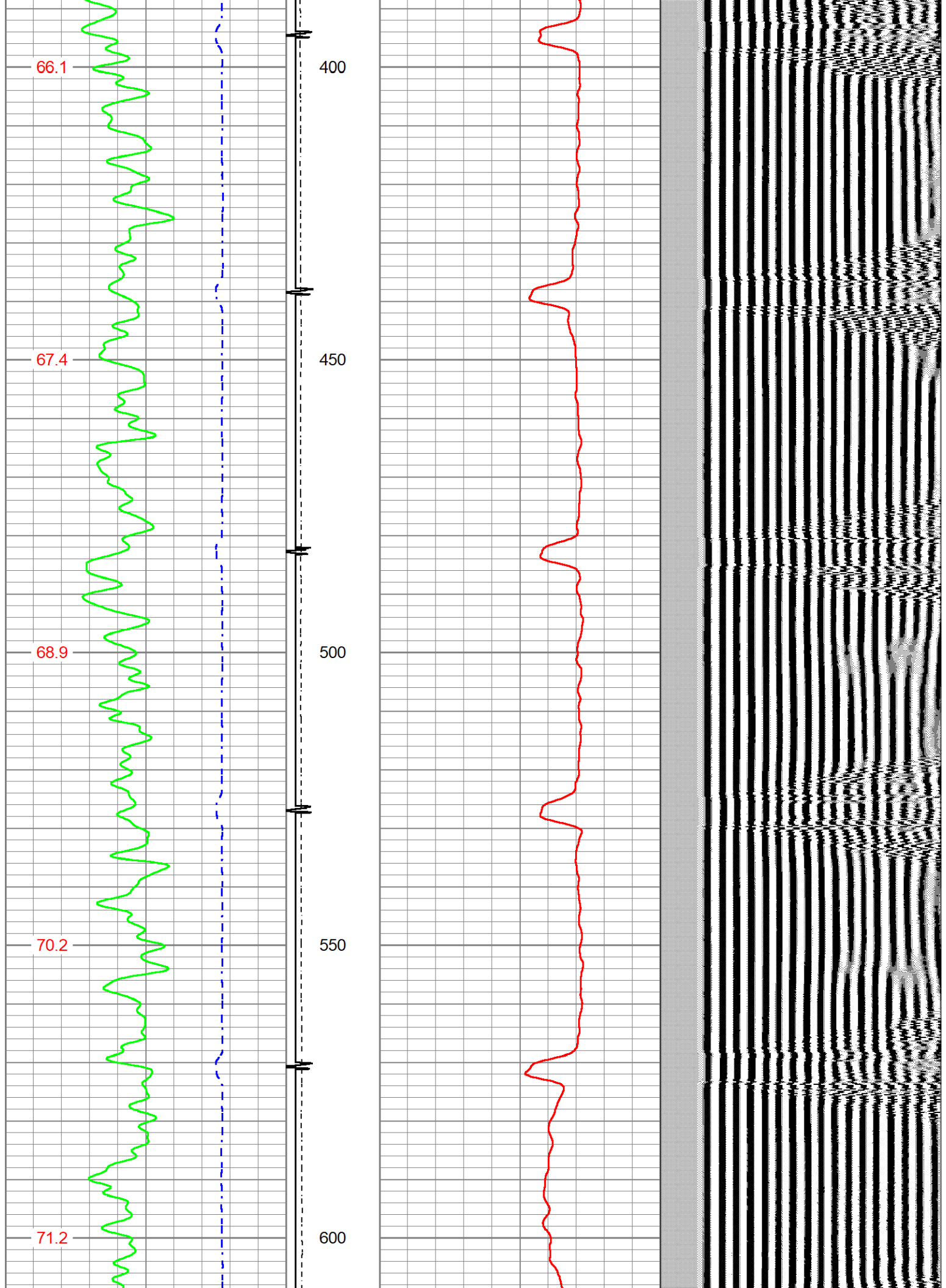
MAIN PASS - 5 INCH

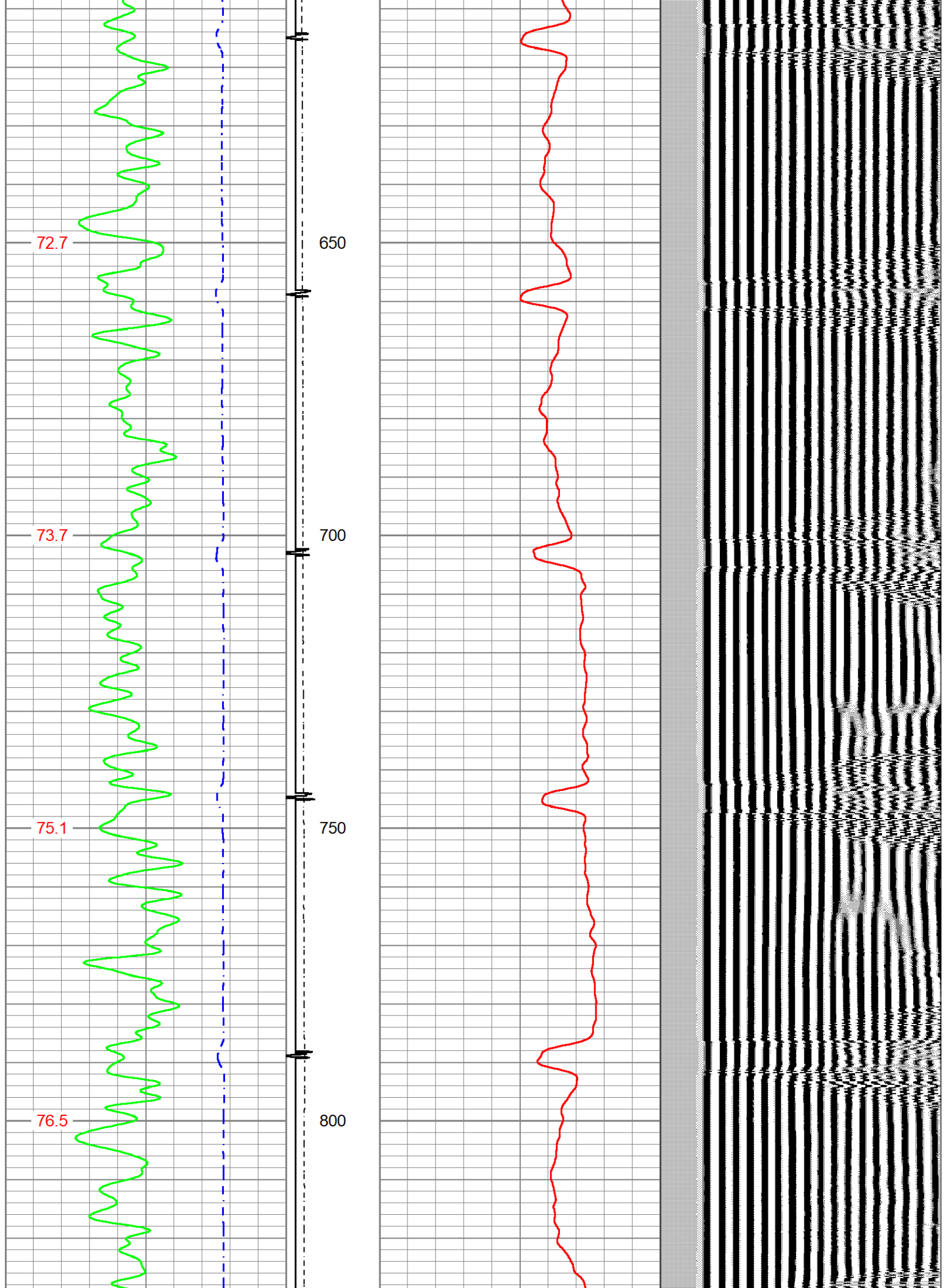
2800 PSI

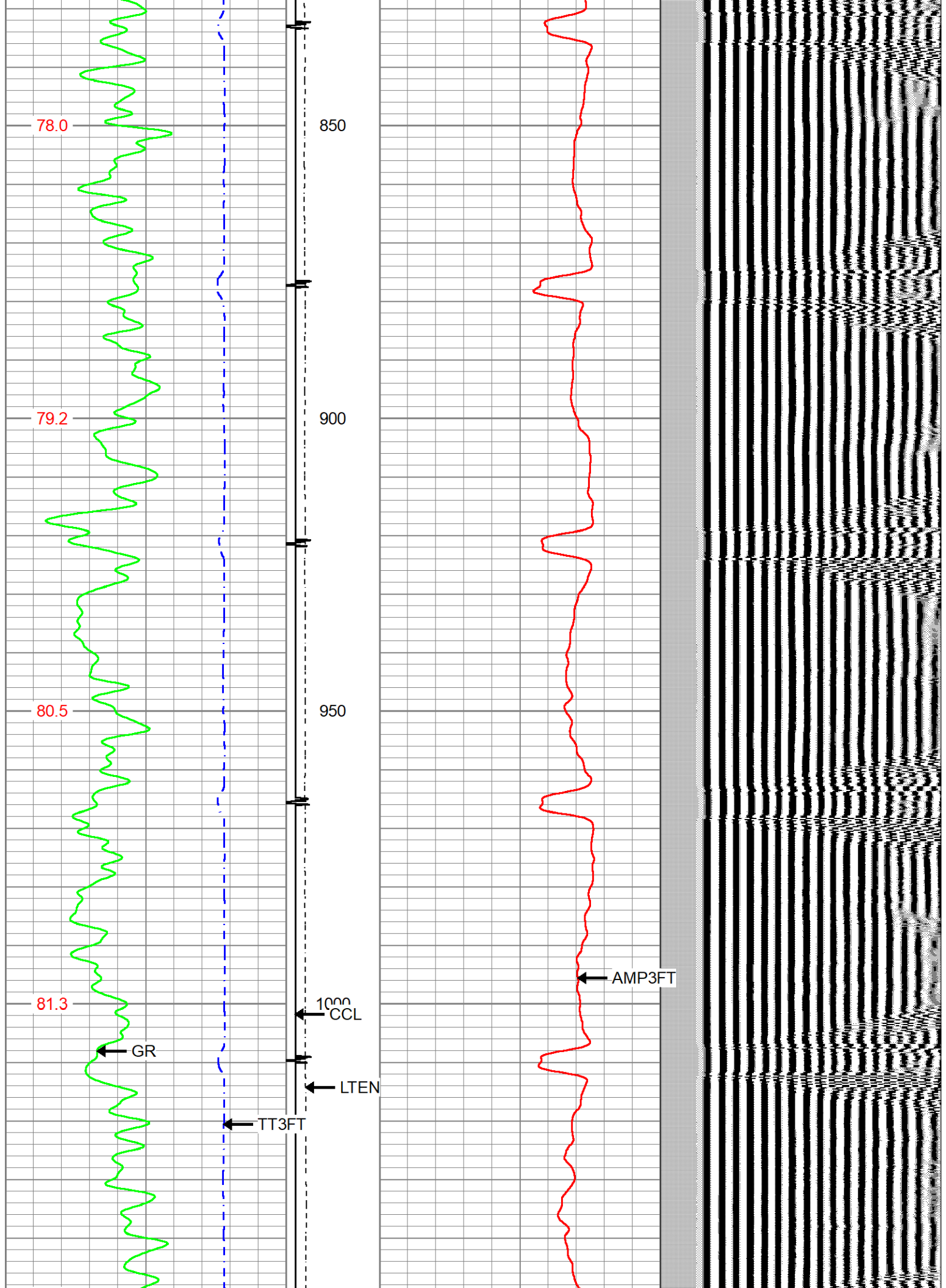
420	Travel Time (usec)	220	Collar Locator	0	Amplified Amplitude (mV)	10	200	Variable Density (usec)	1200
0	Gamma Ray (GAPI)	150	-1	9	0	Amplitude (mV)	100		
Temp (degF)		Line Speed (ft/min)							
		0	200						
		LTEN							
		0	(lb2000)						

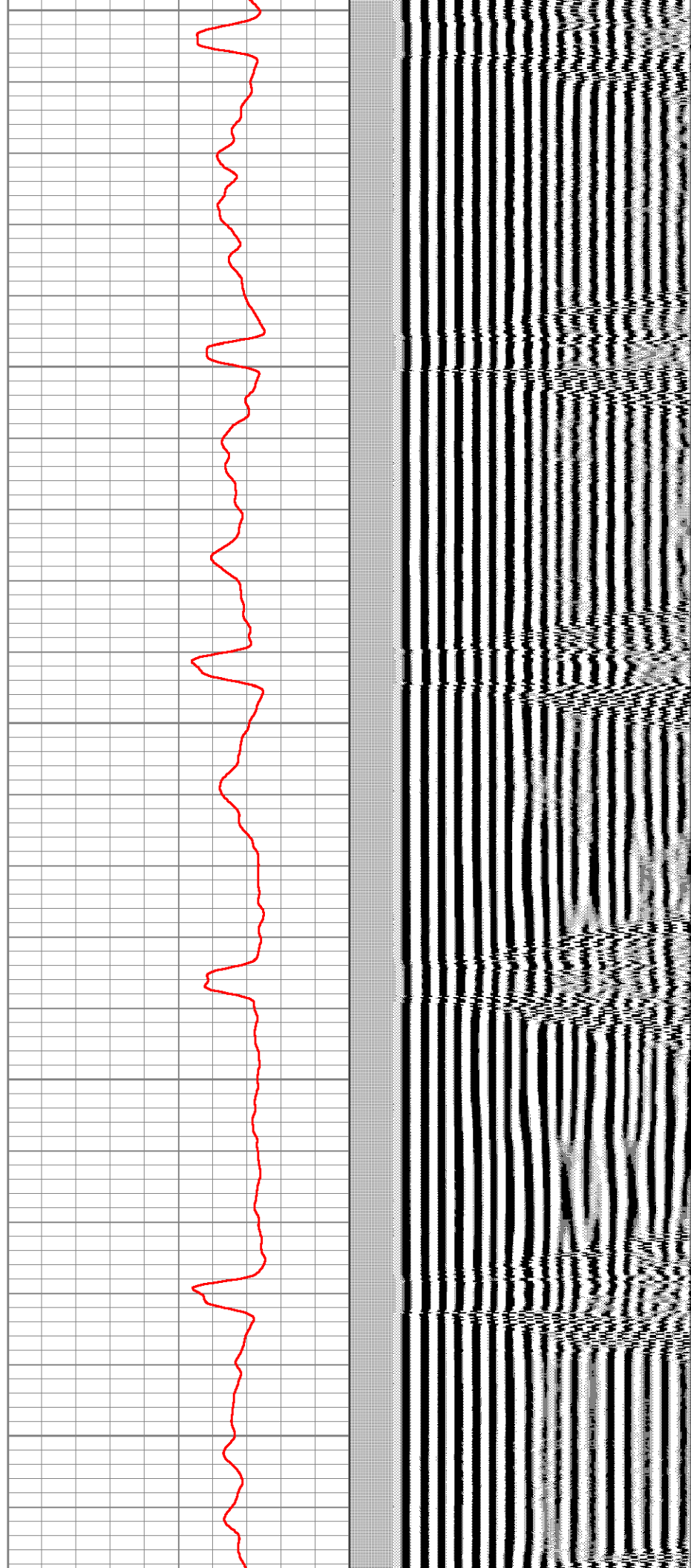
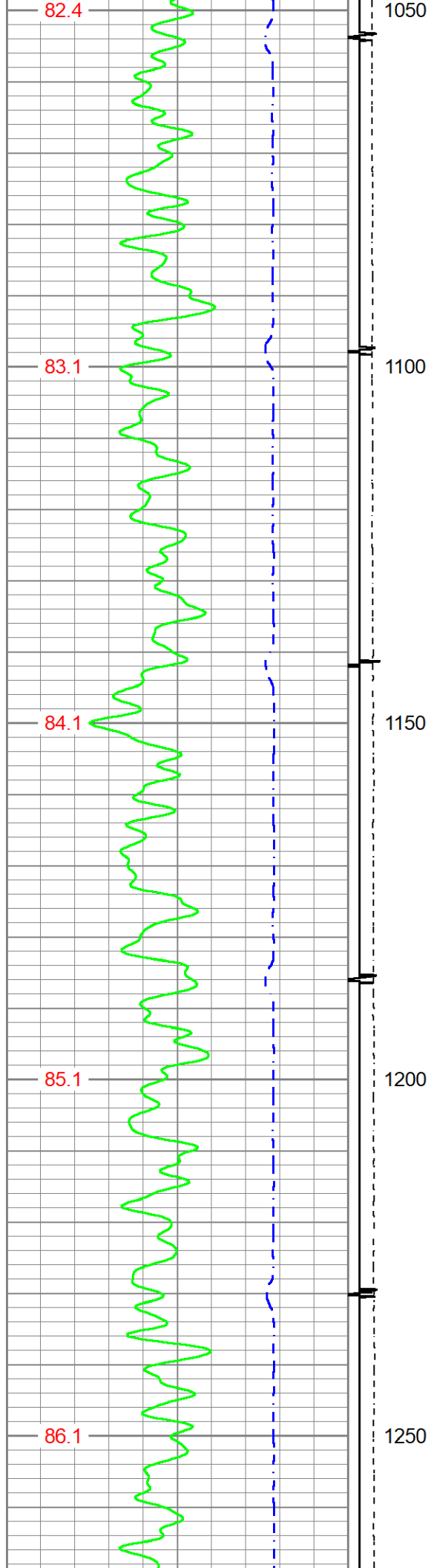


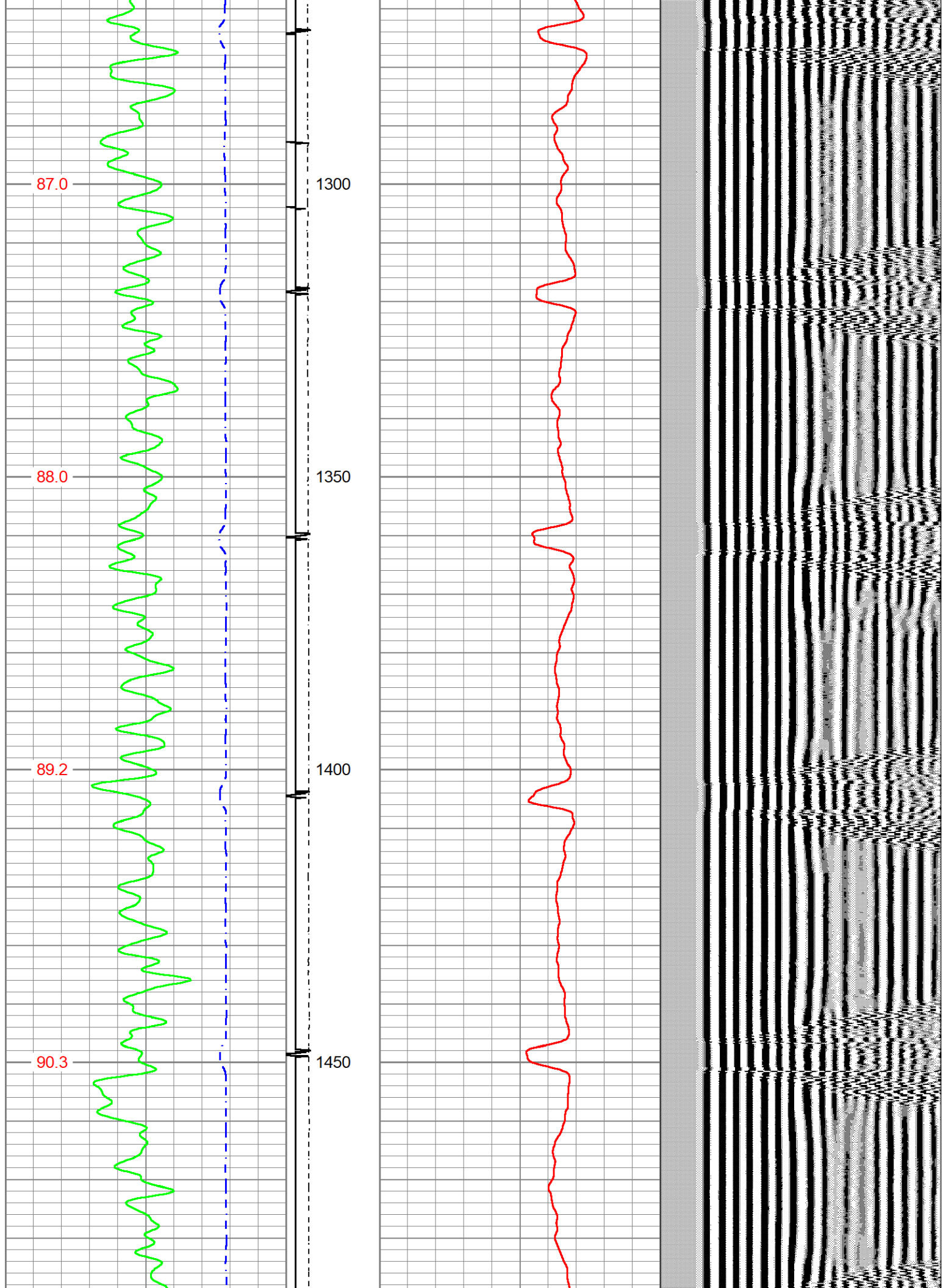


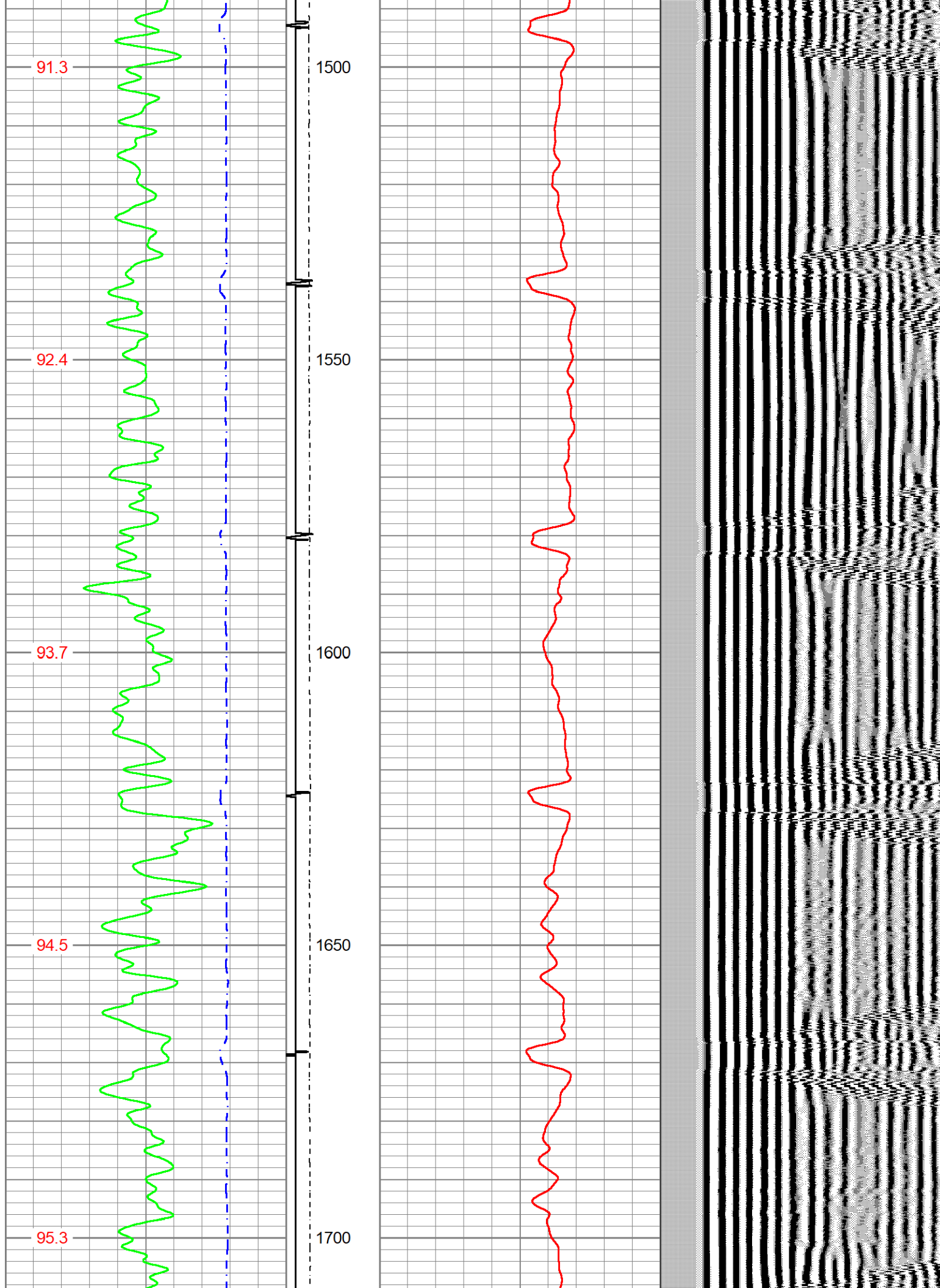


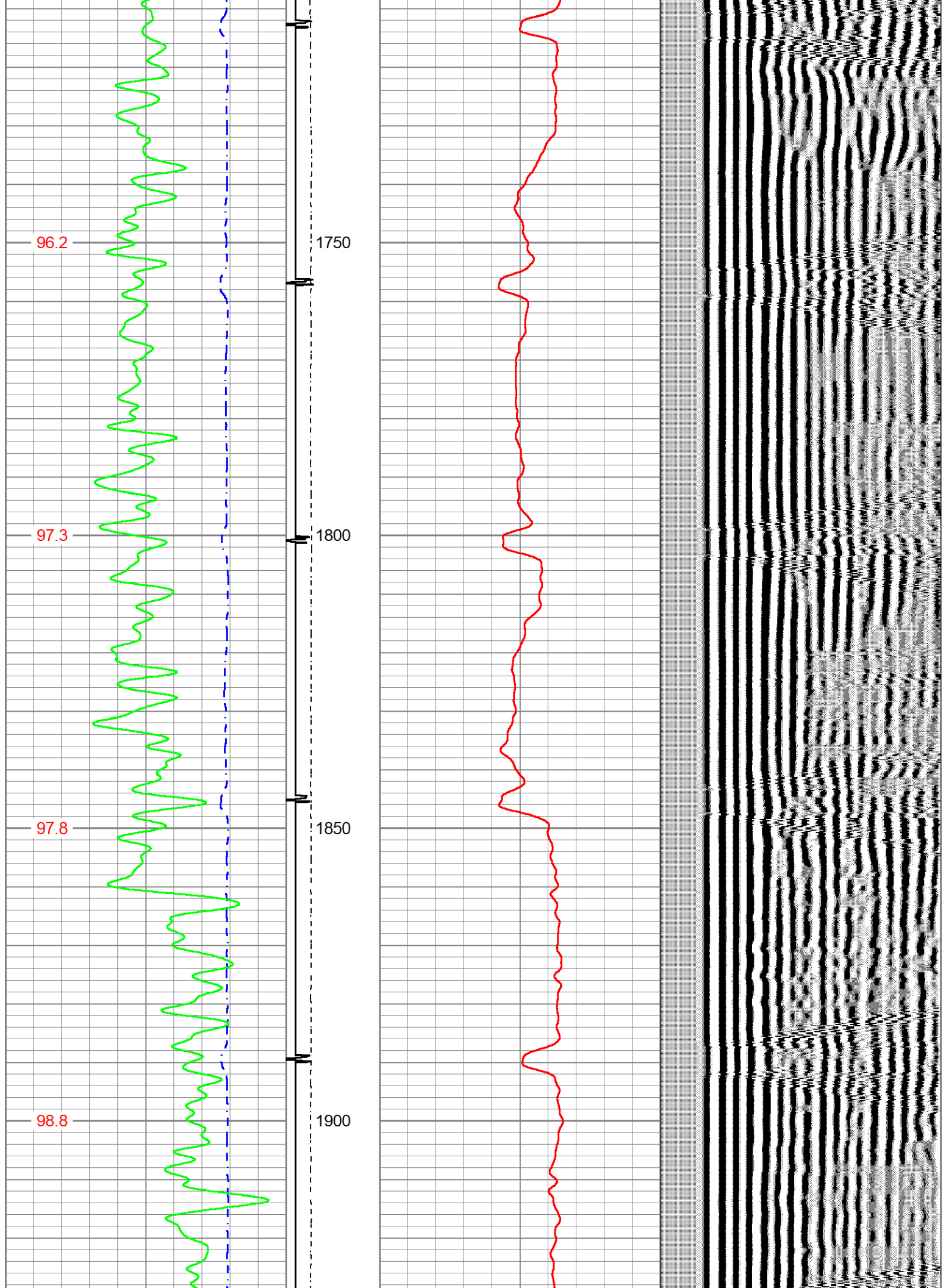


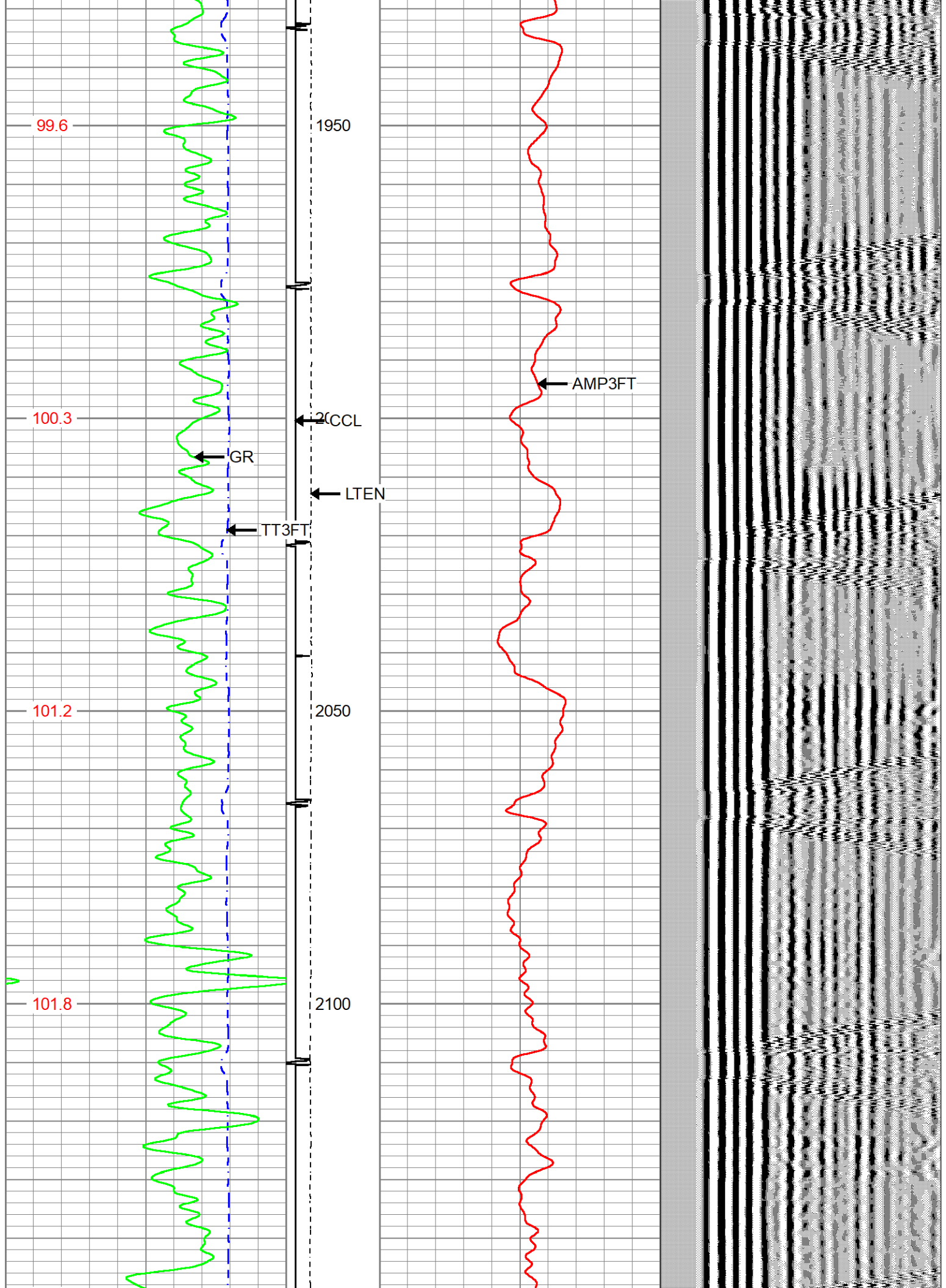


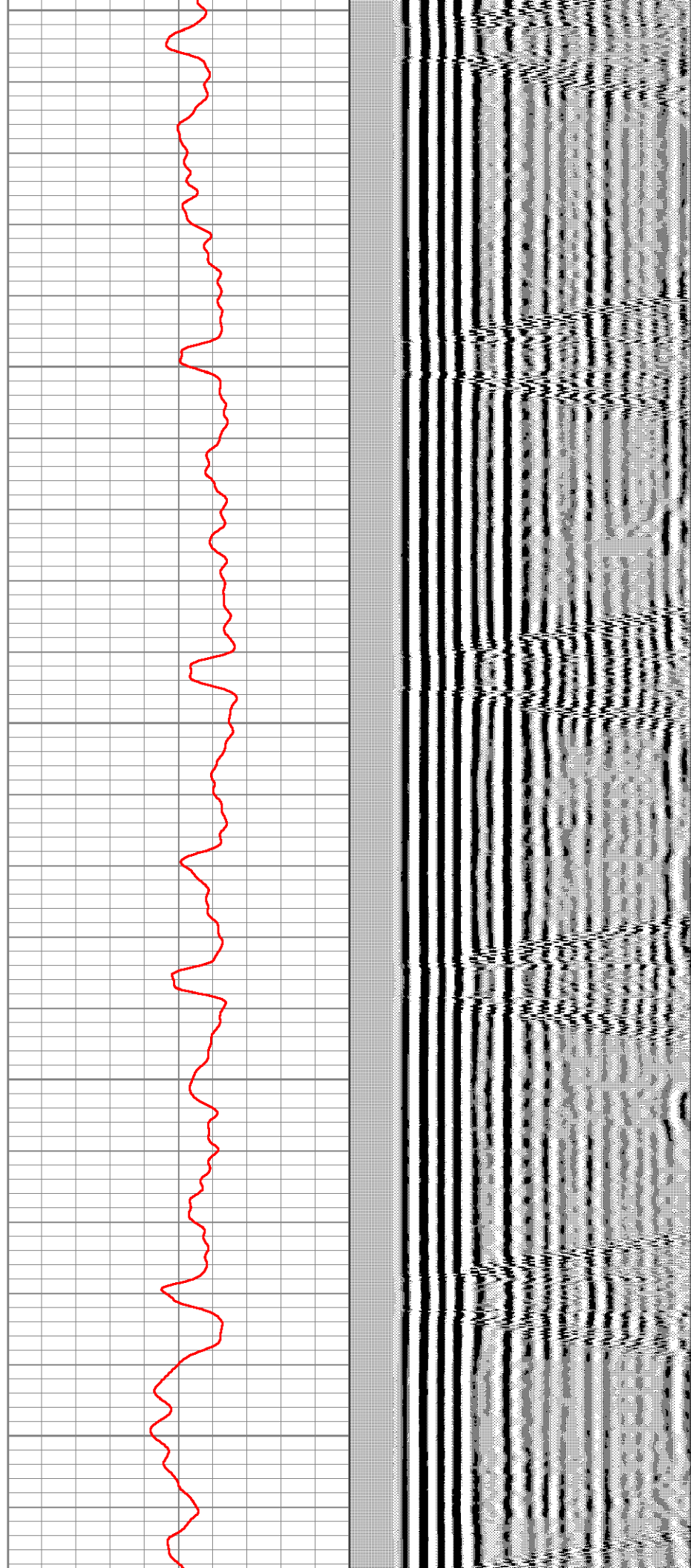
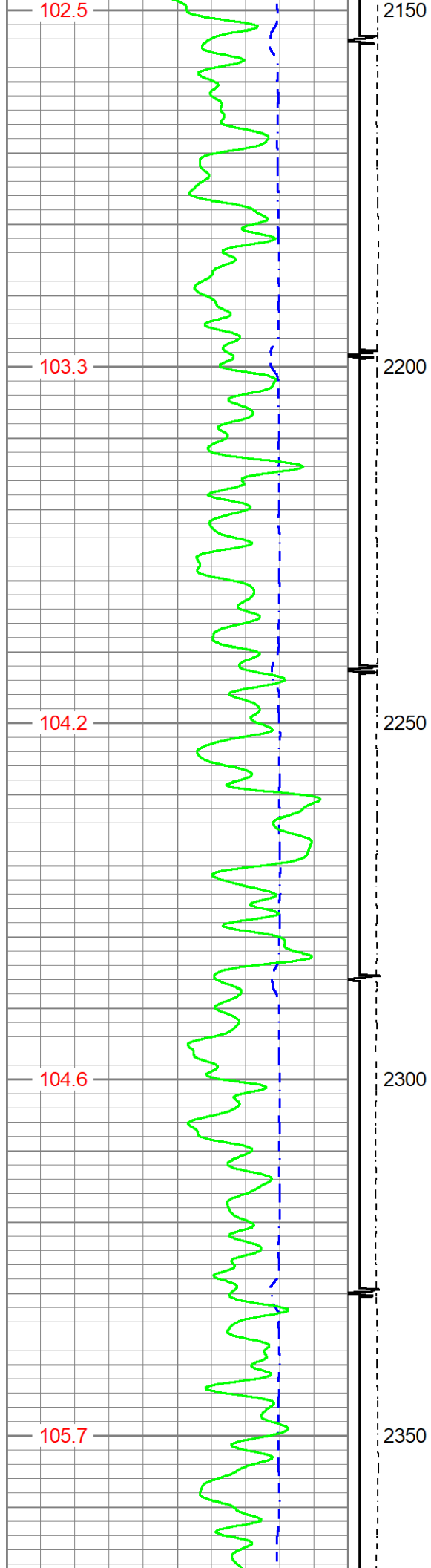


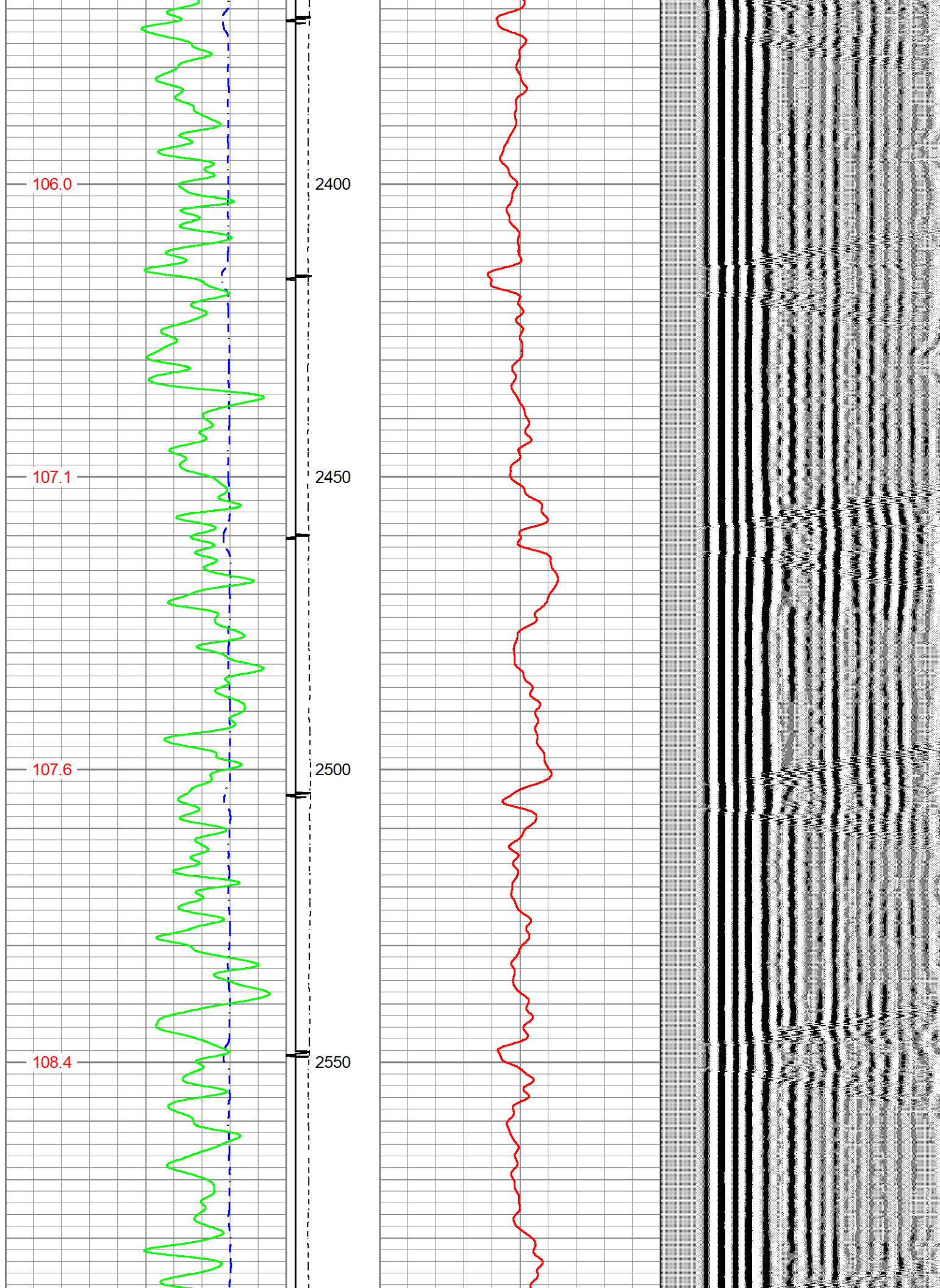


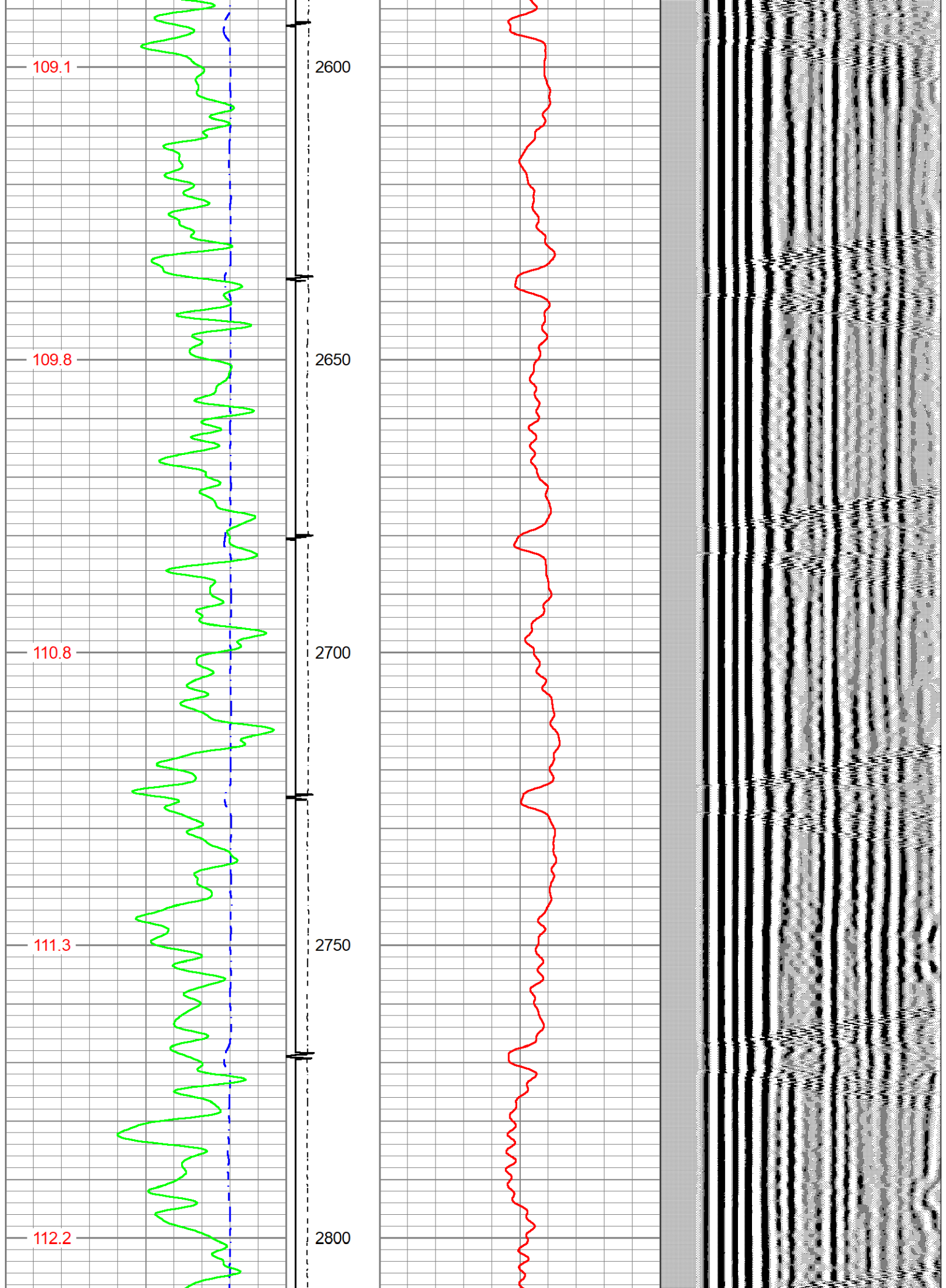


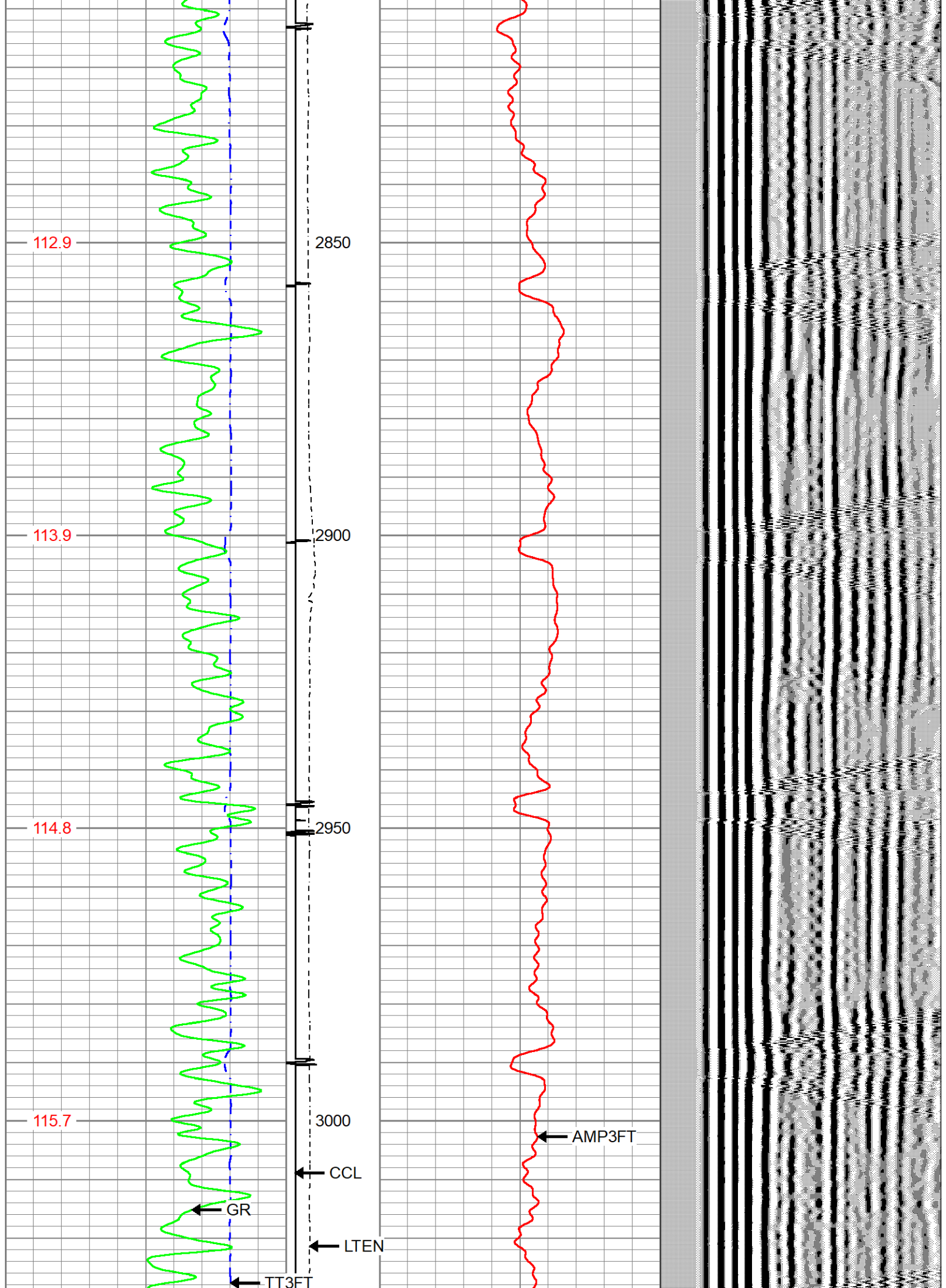


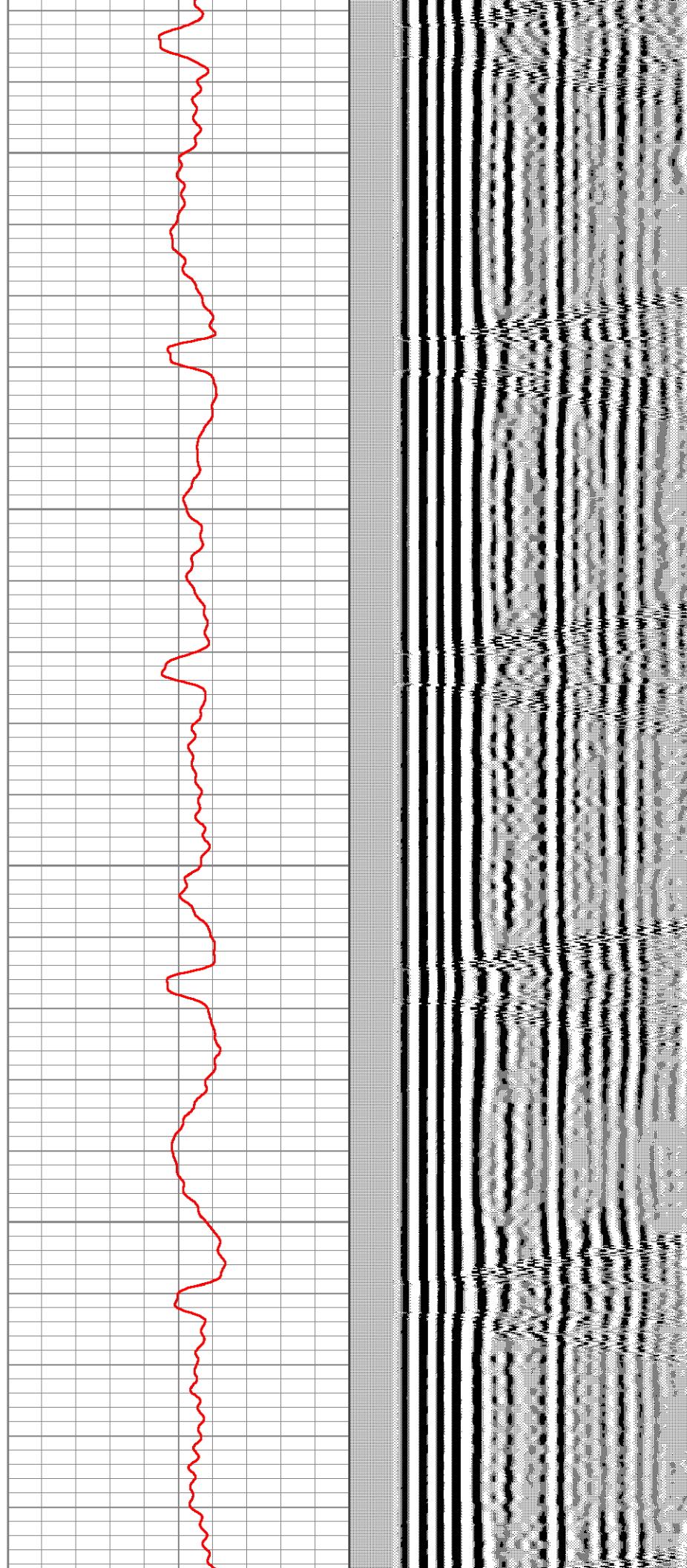
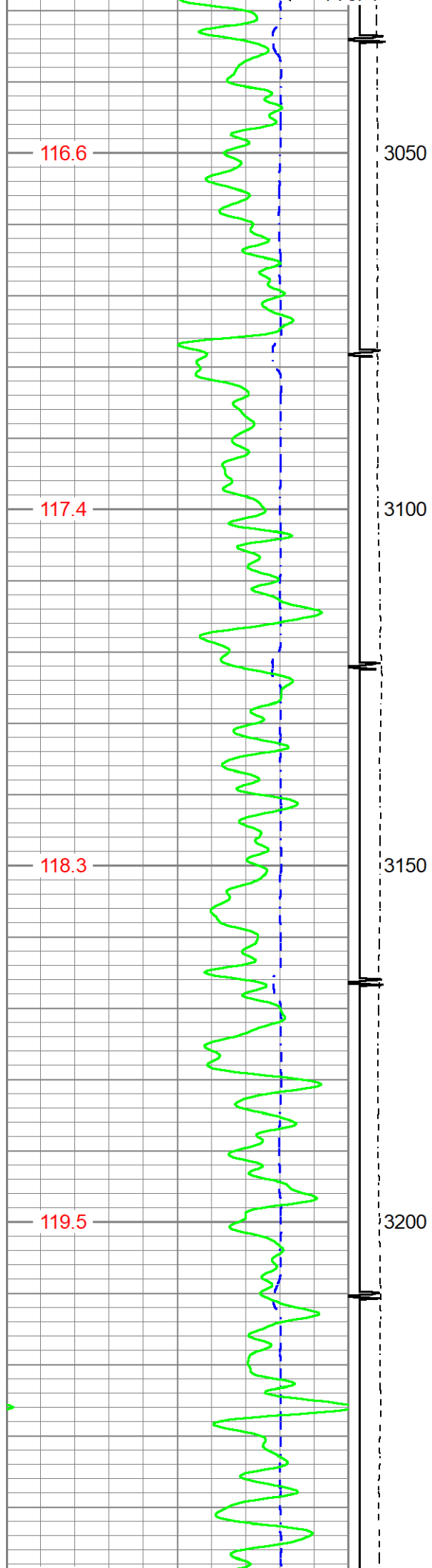


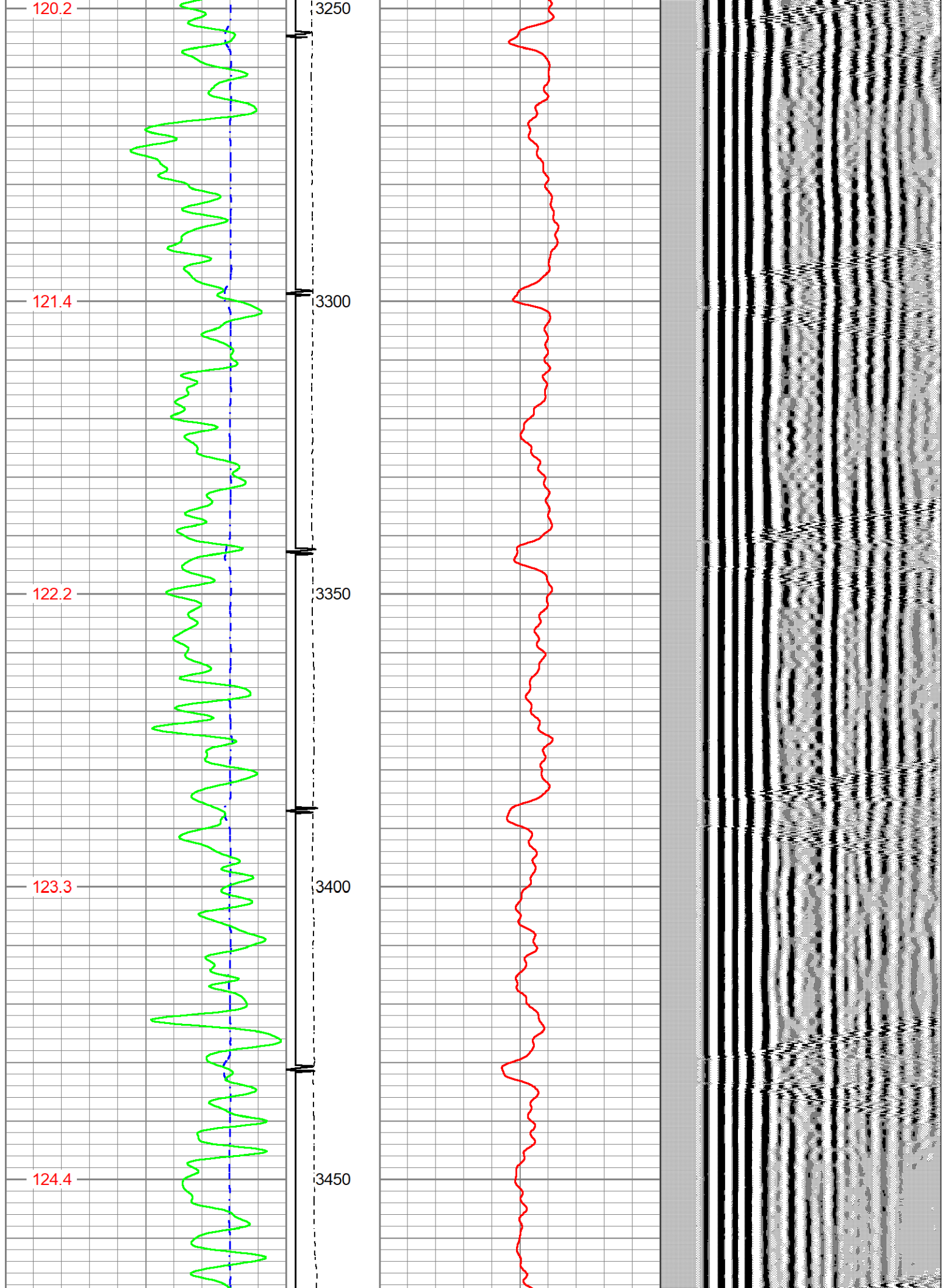


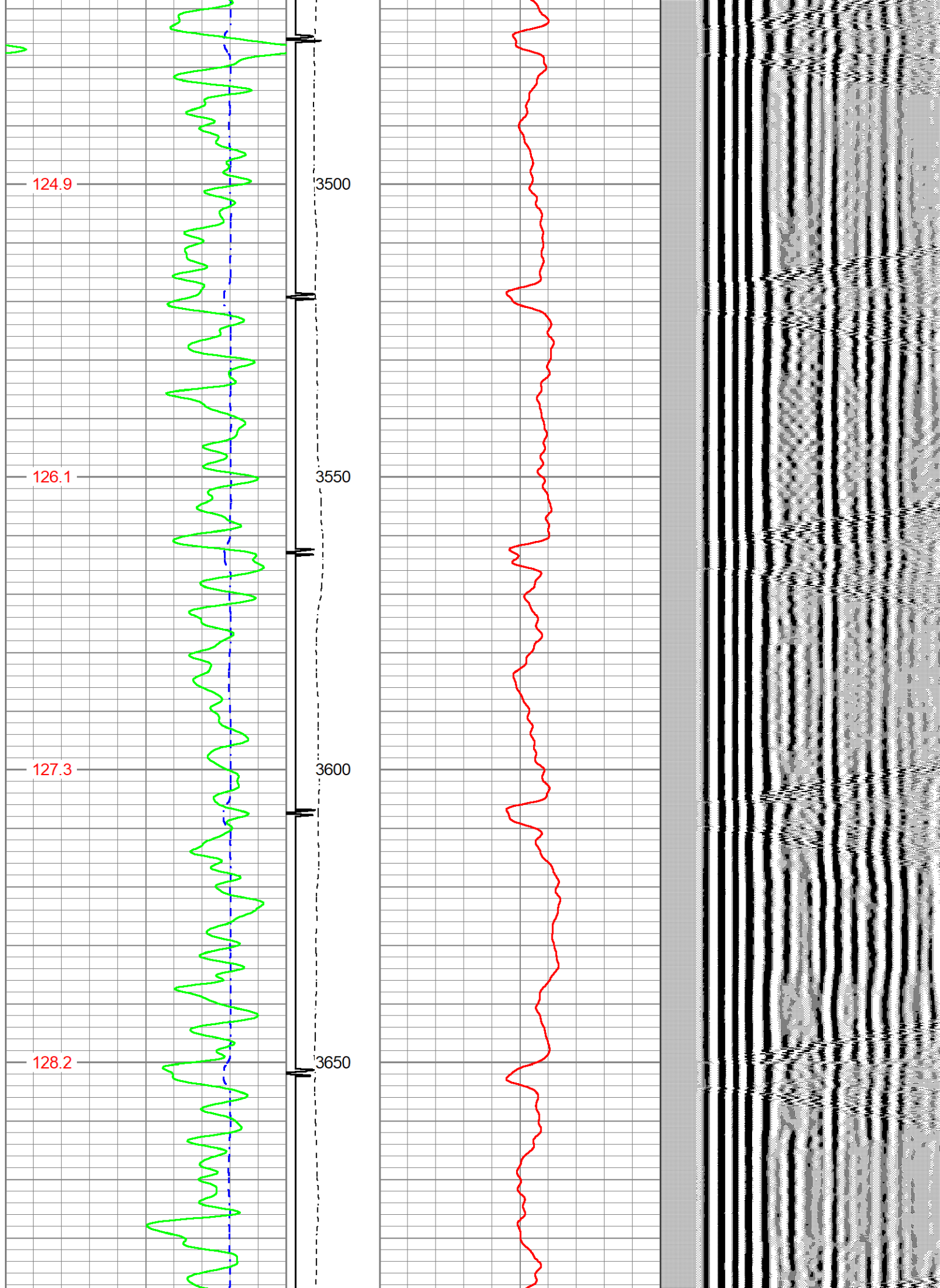


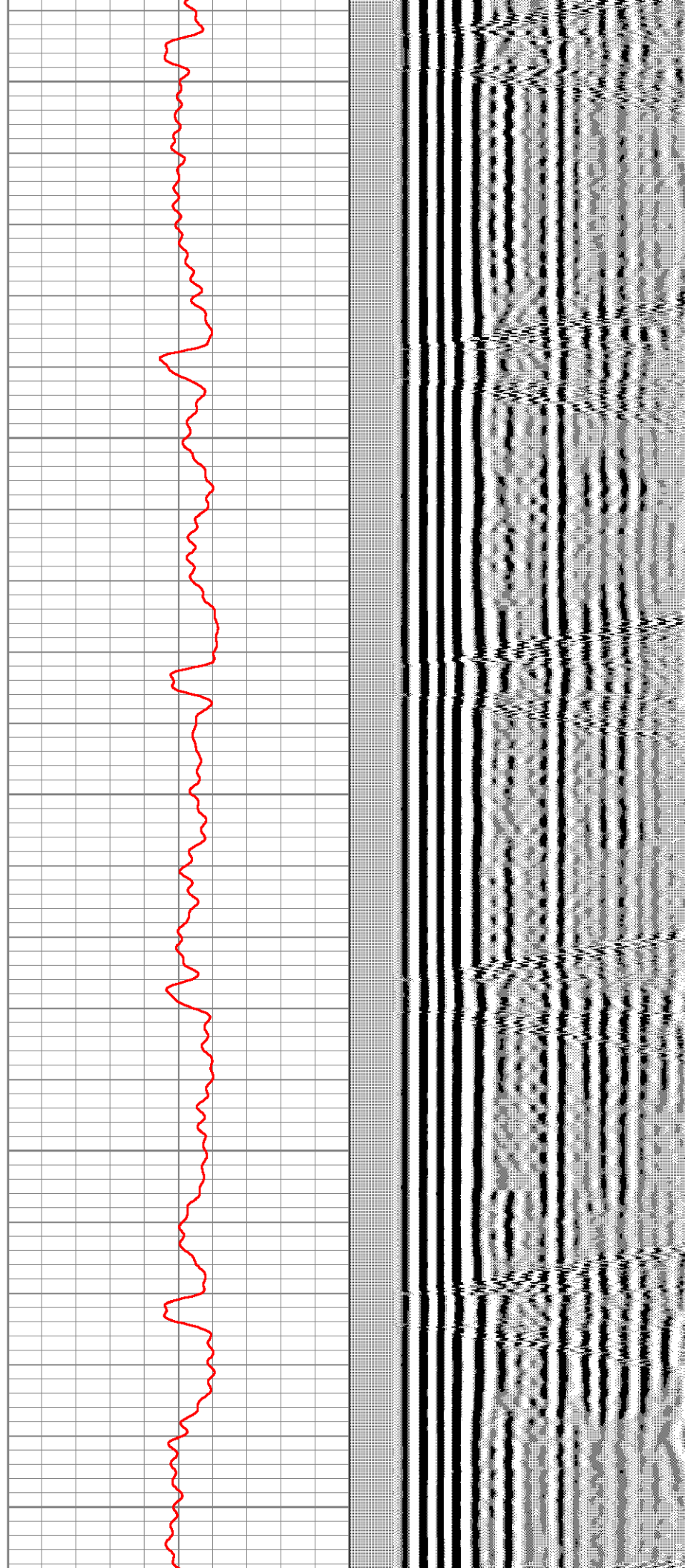
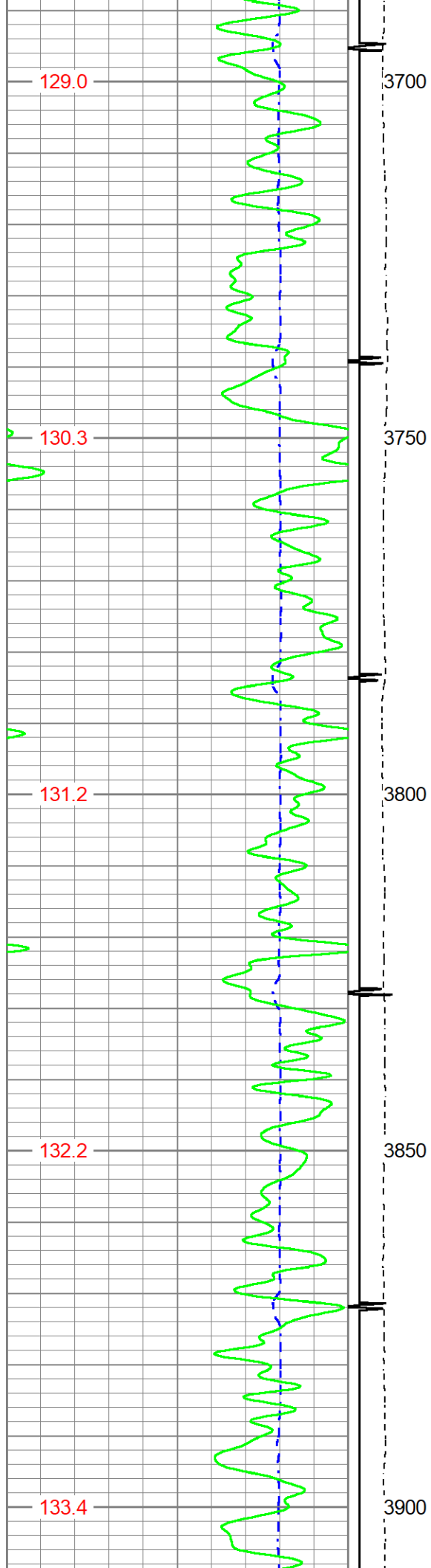


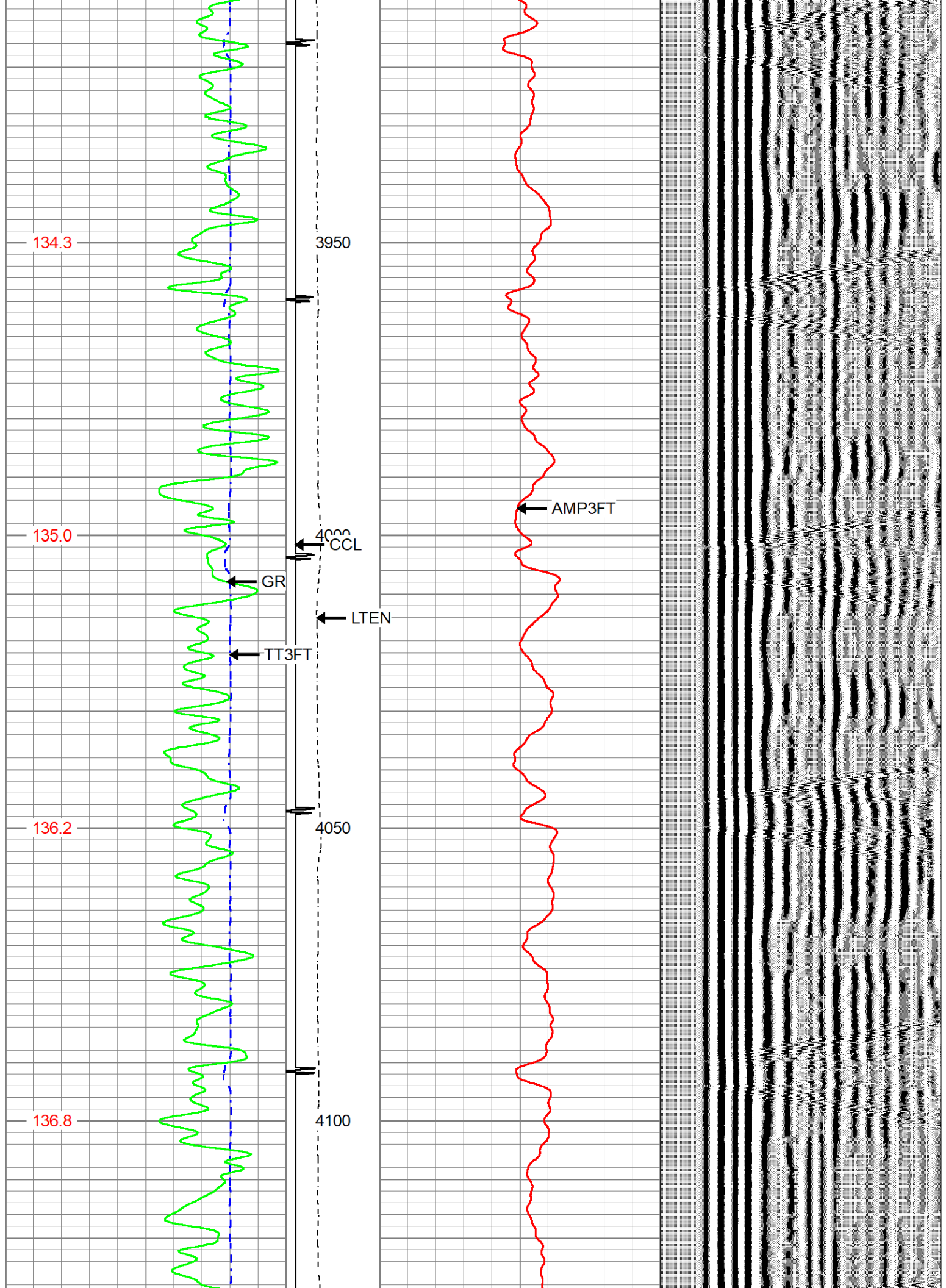


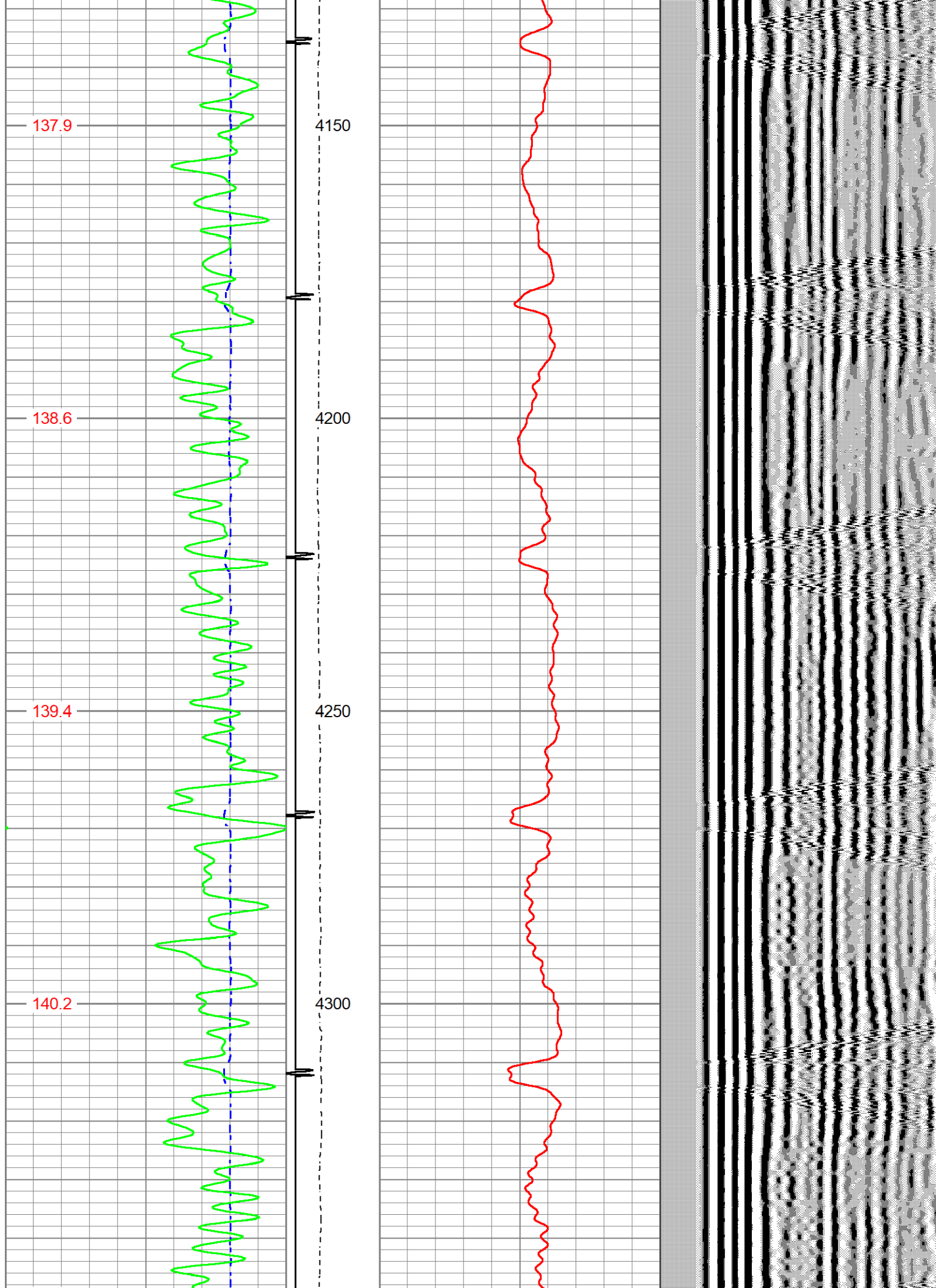


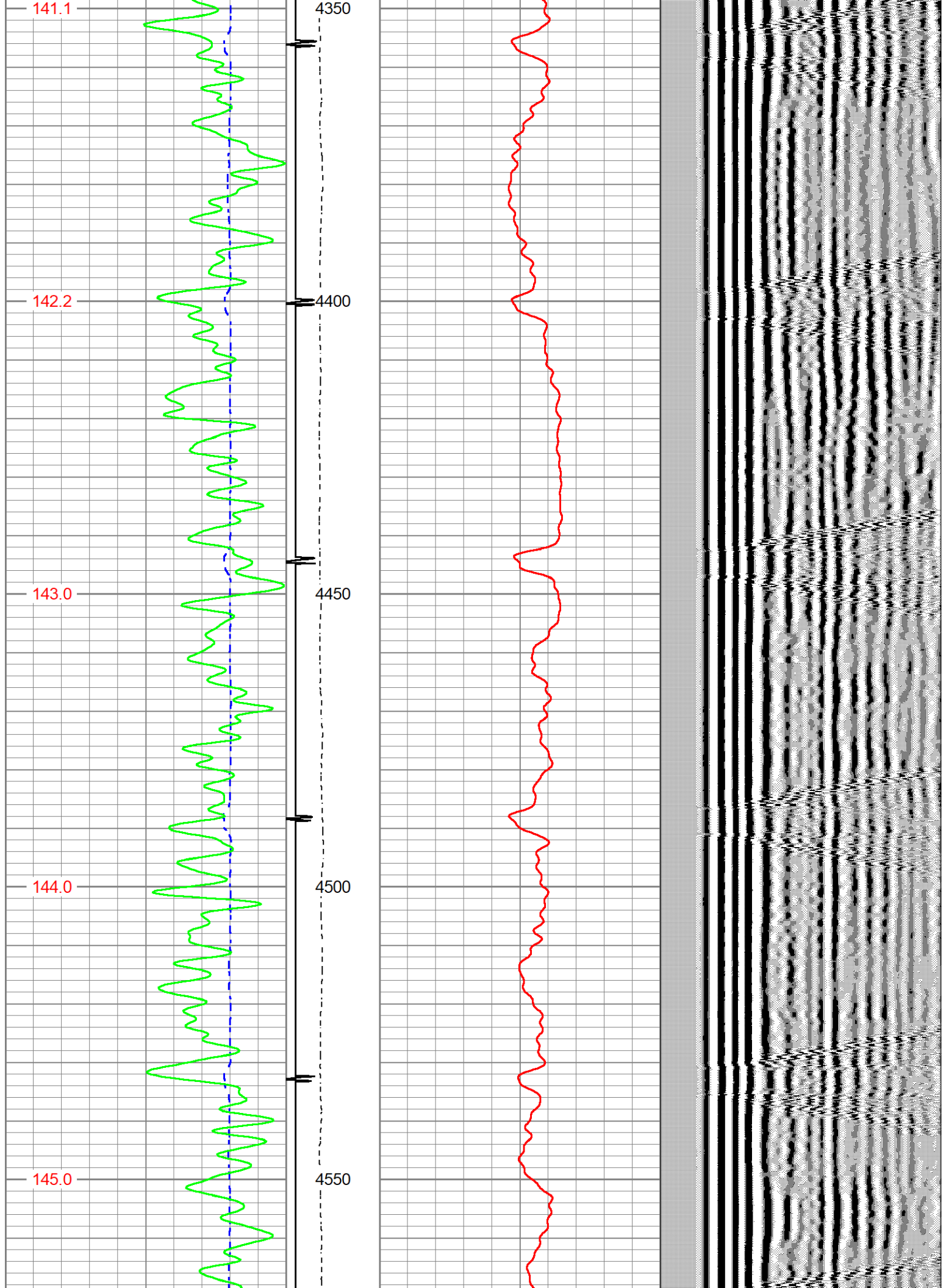


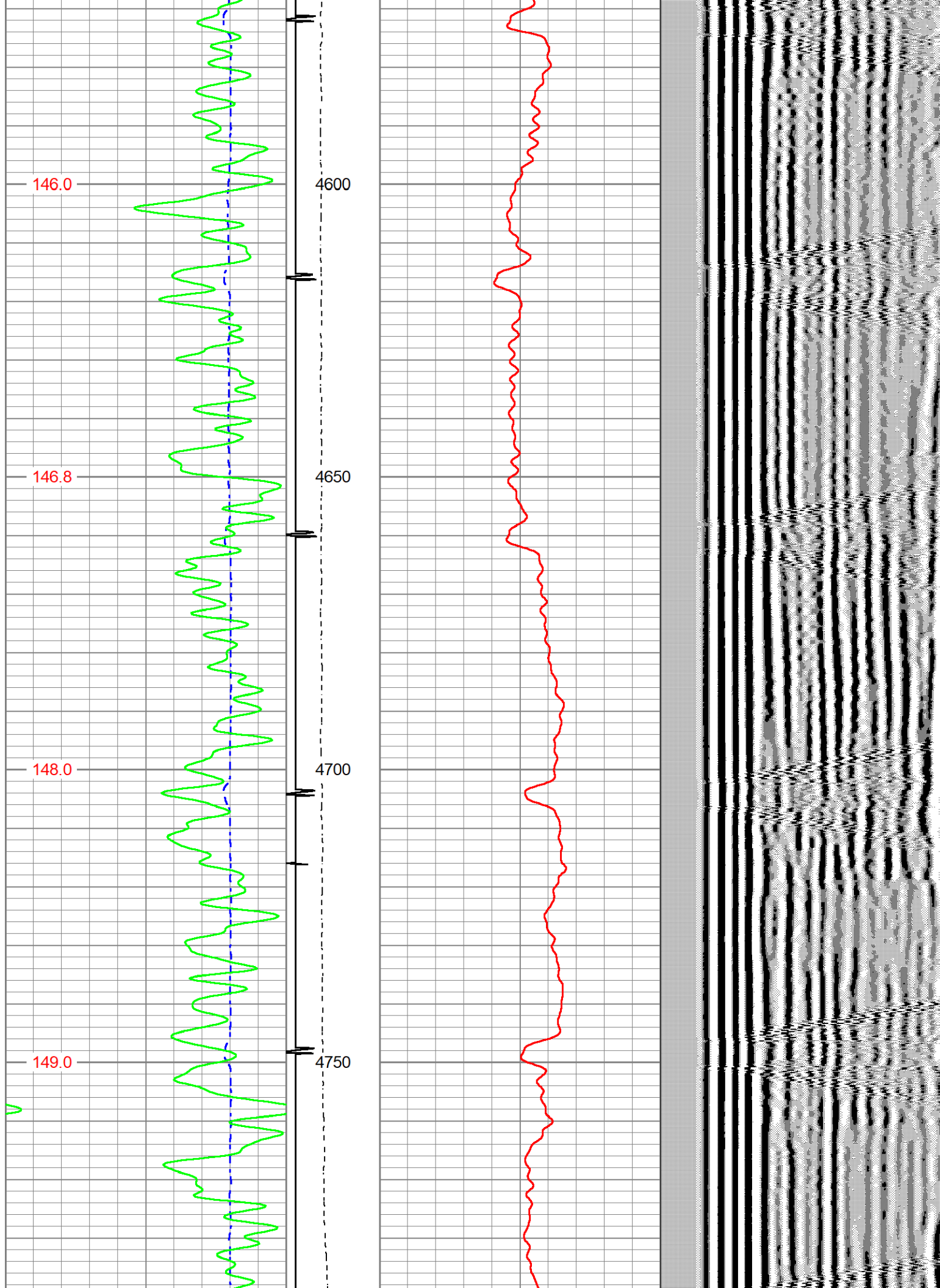


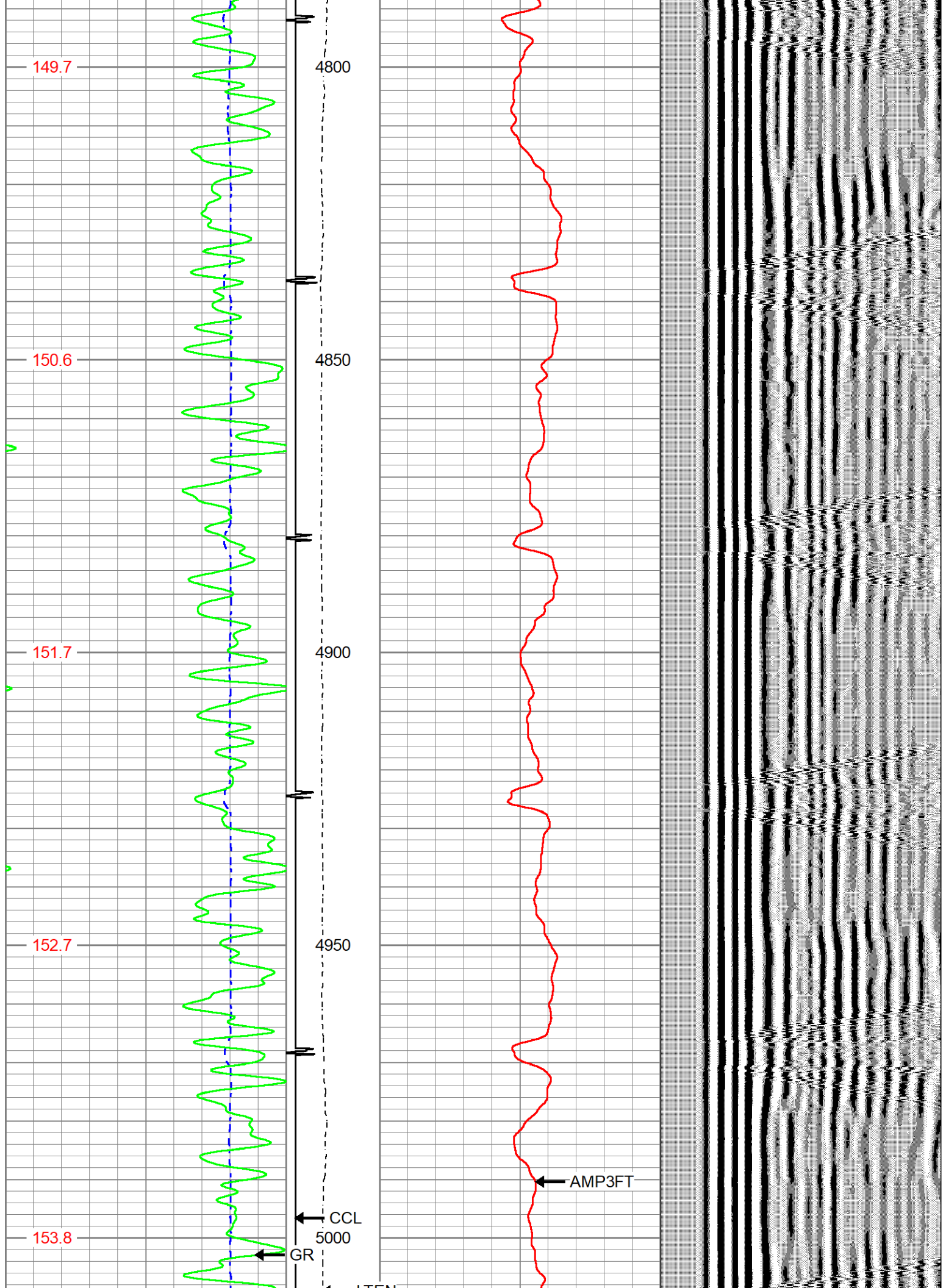


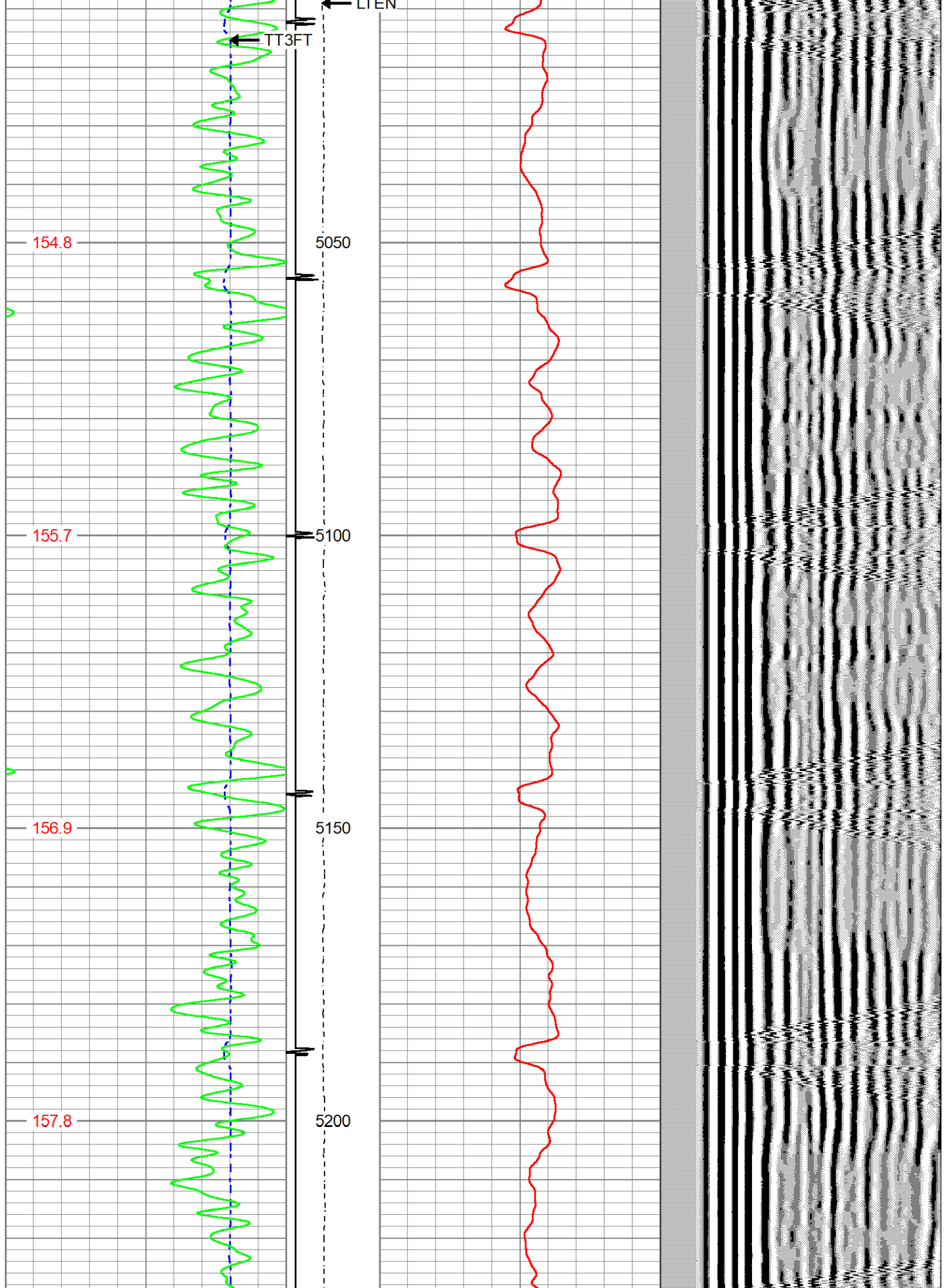


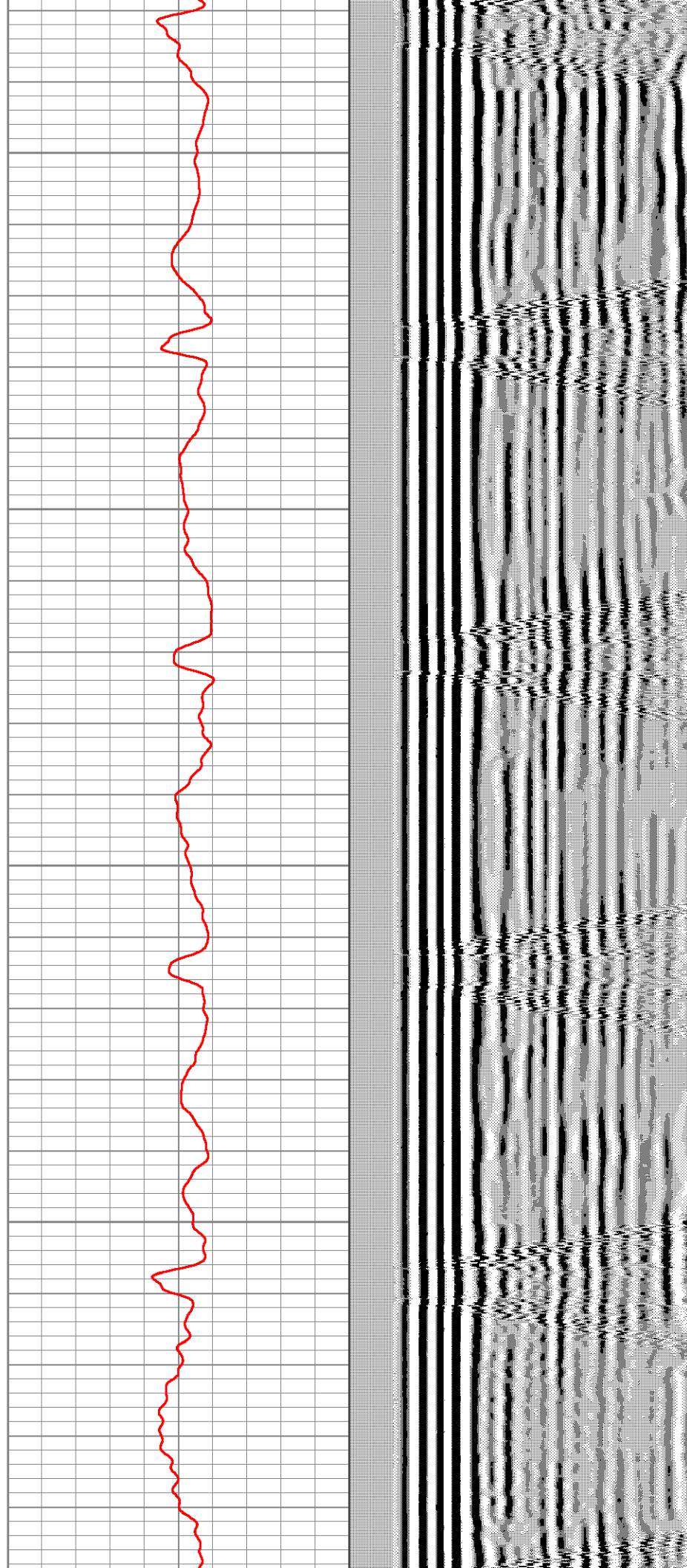
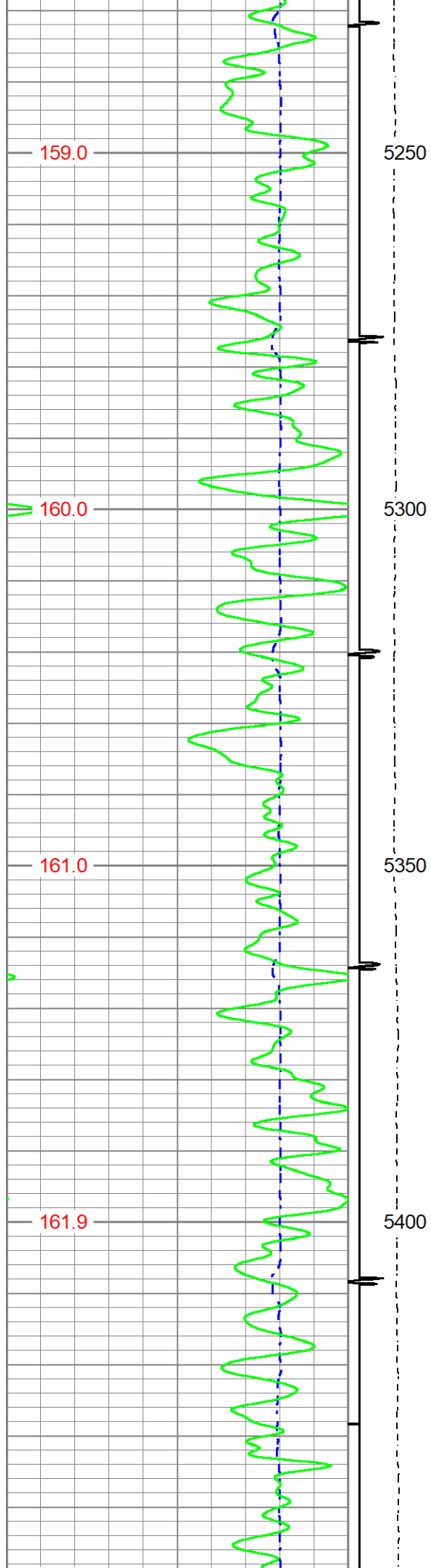


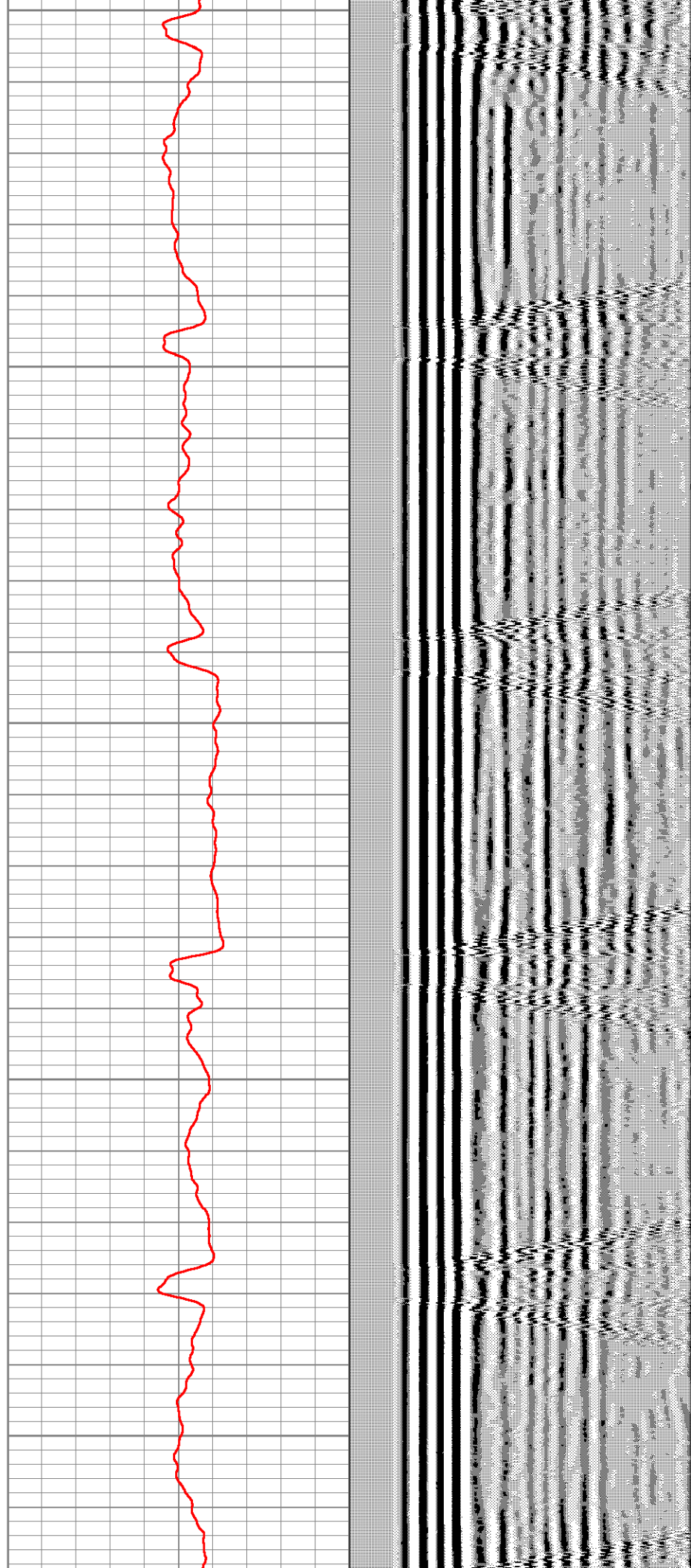
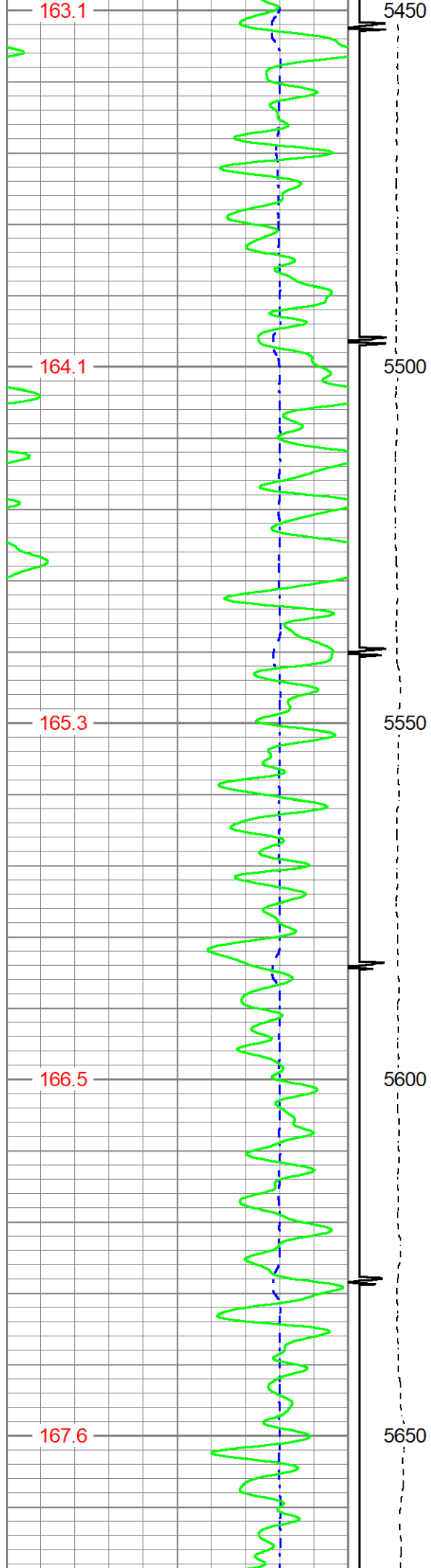


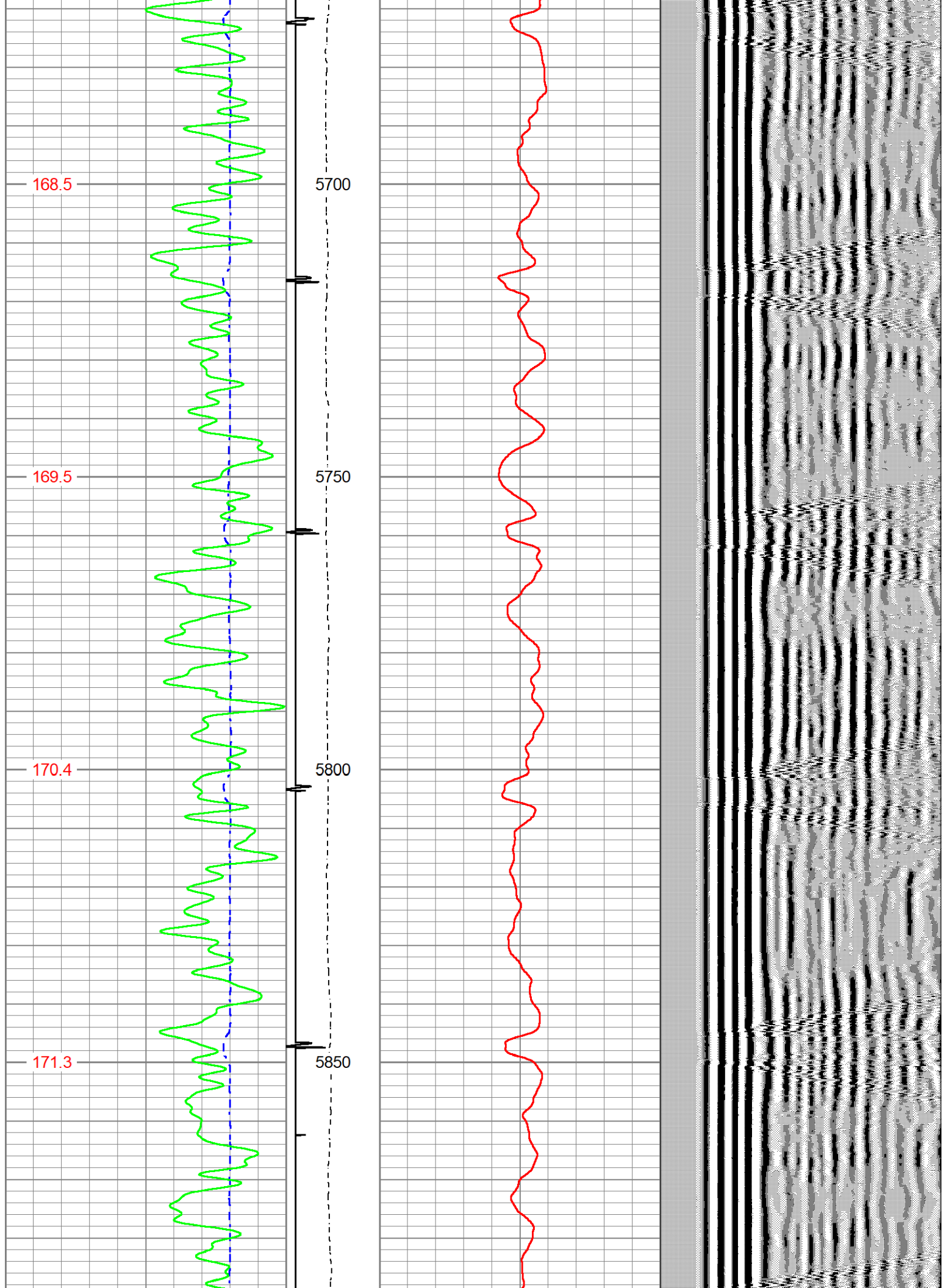


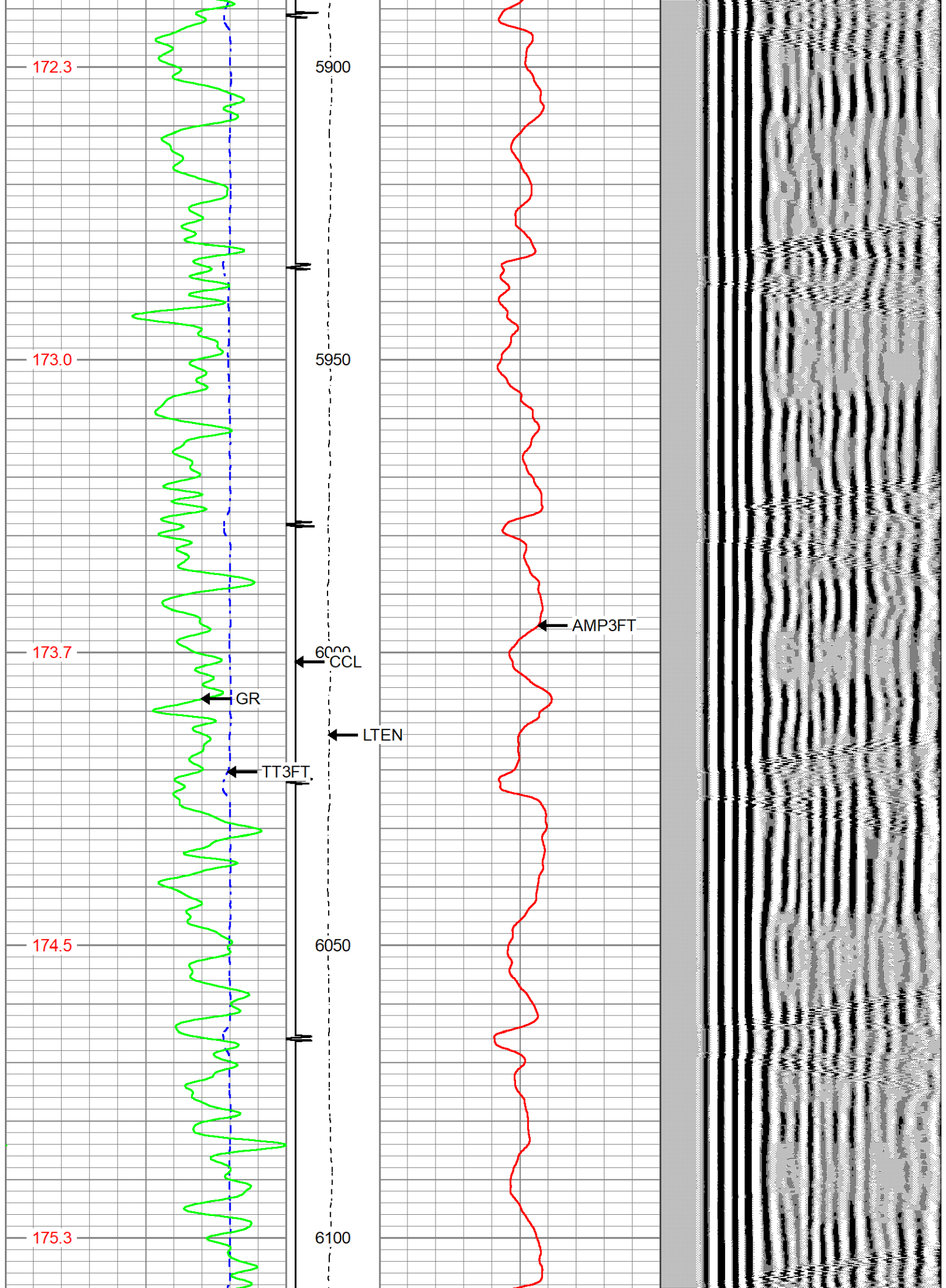


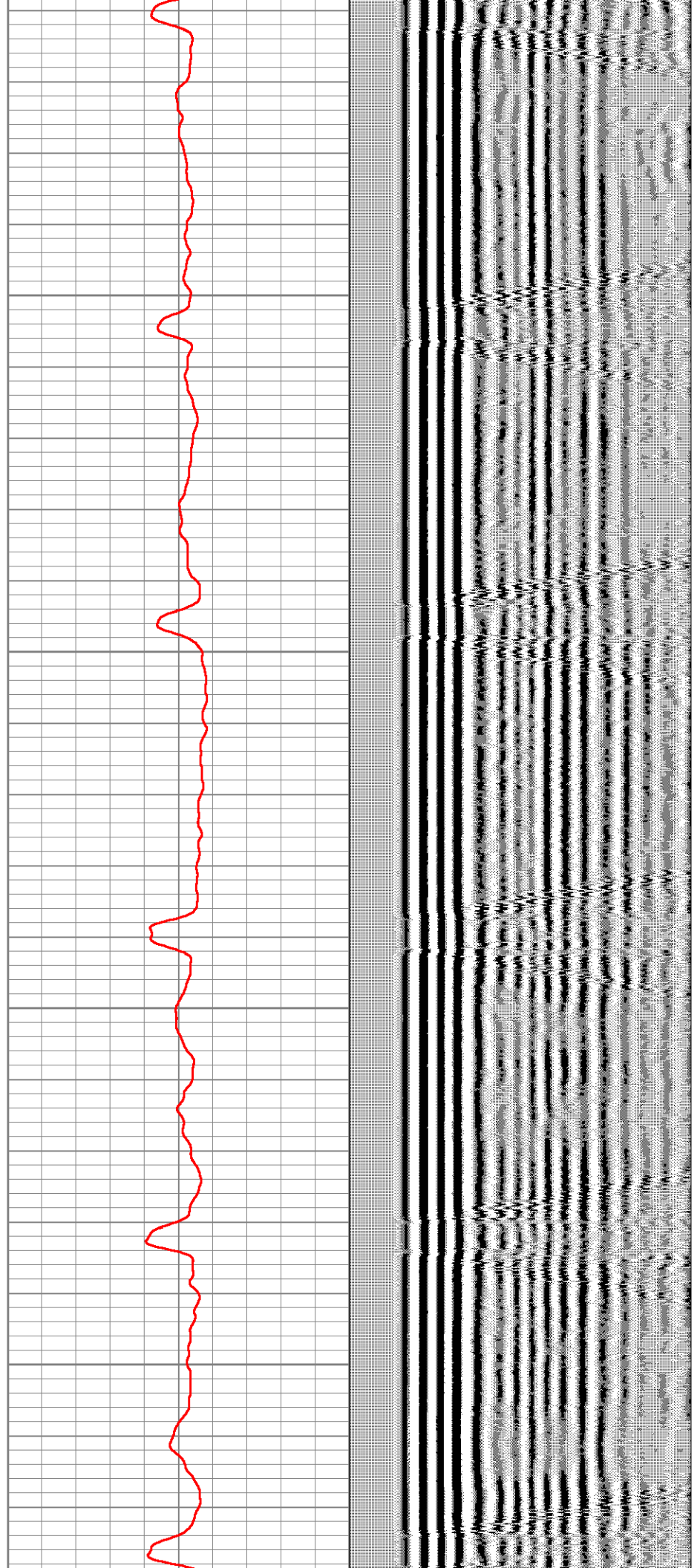
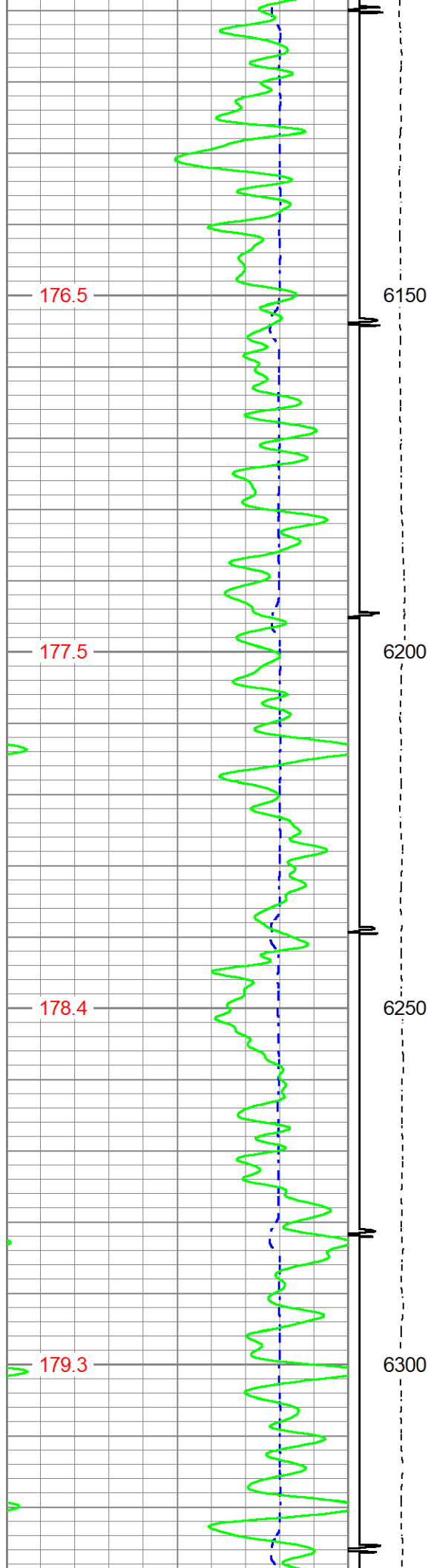


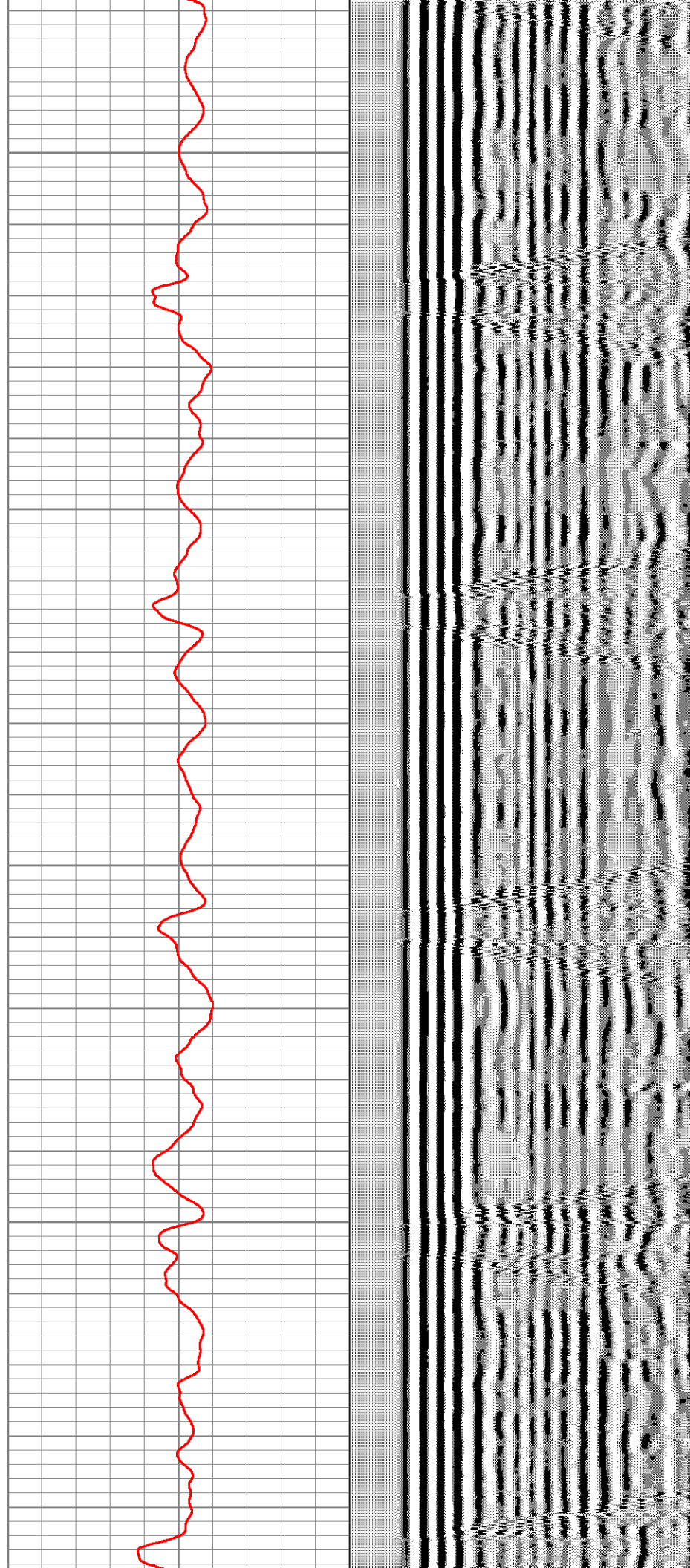
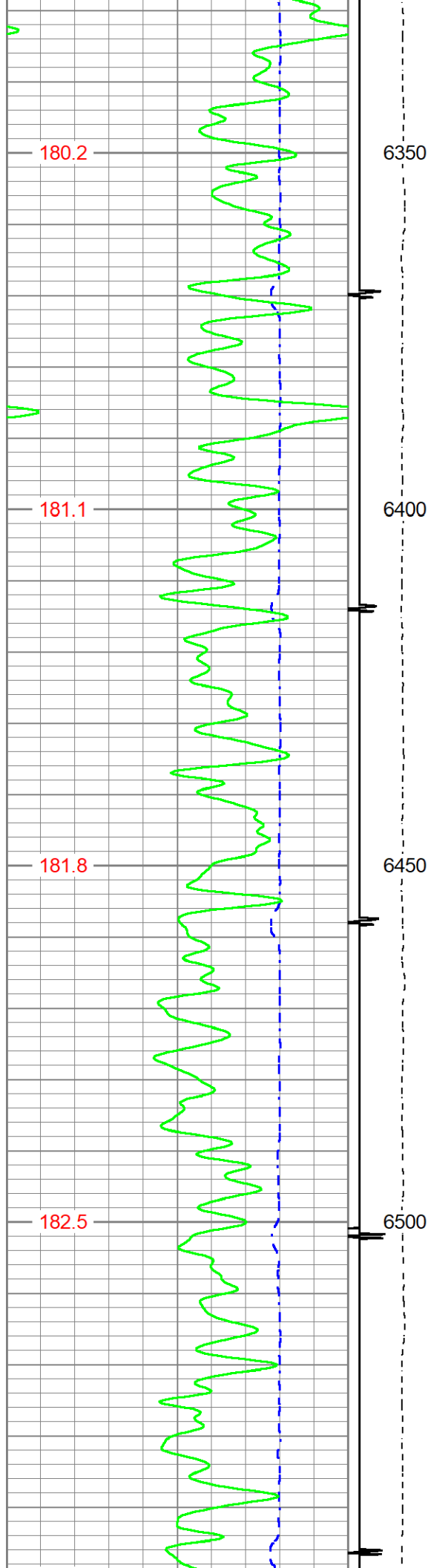


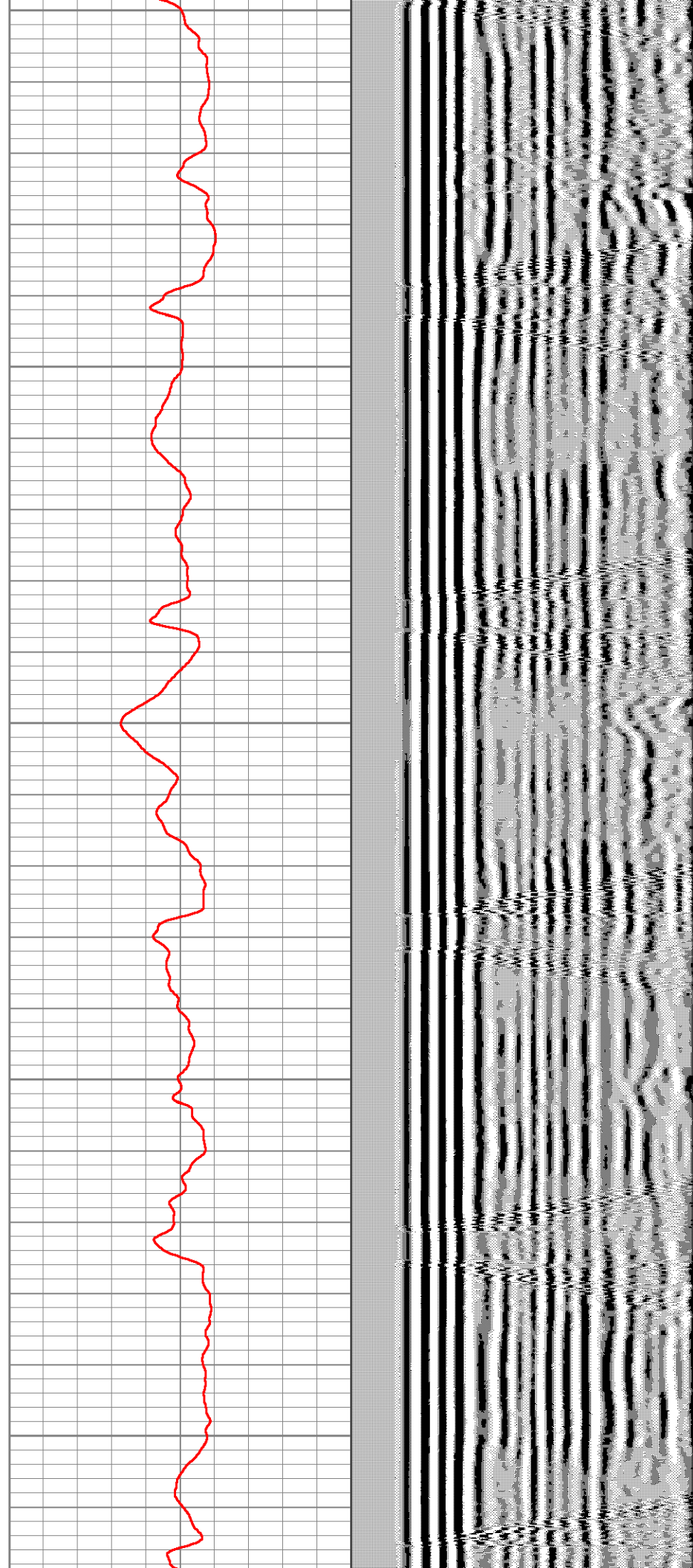
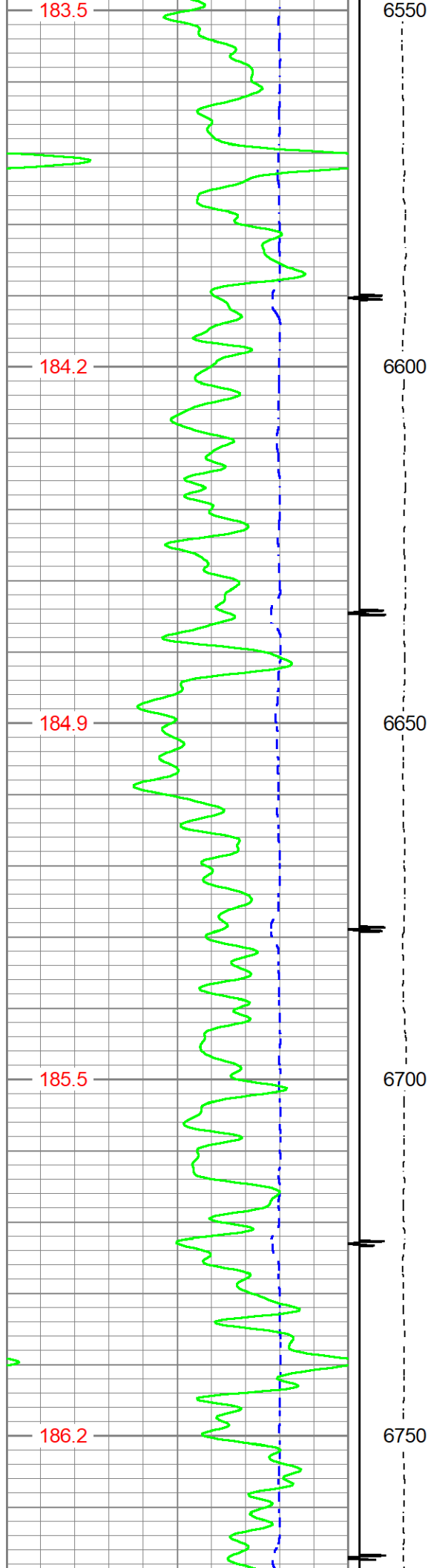


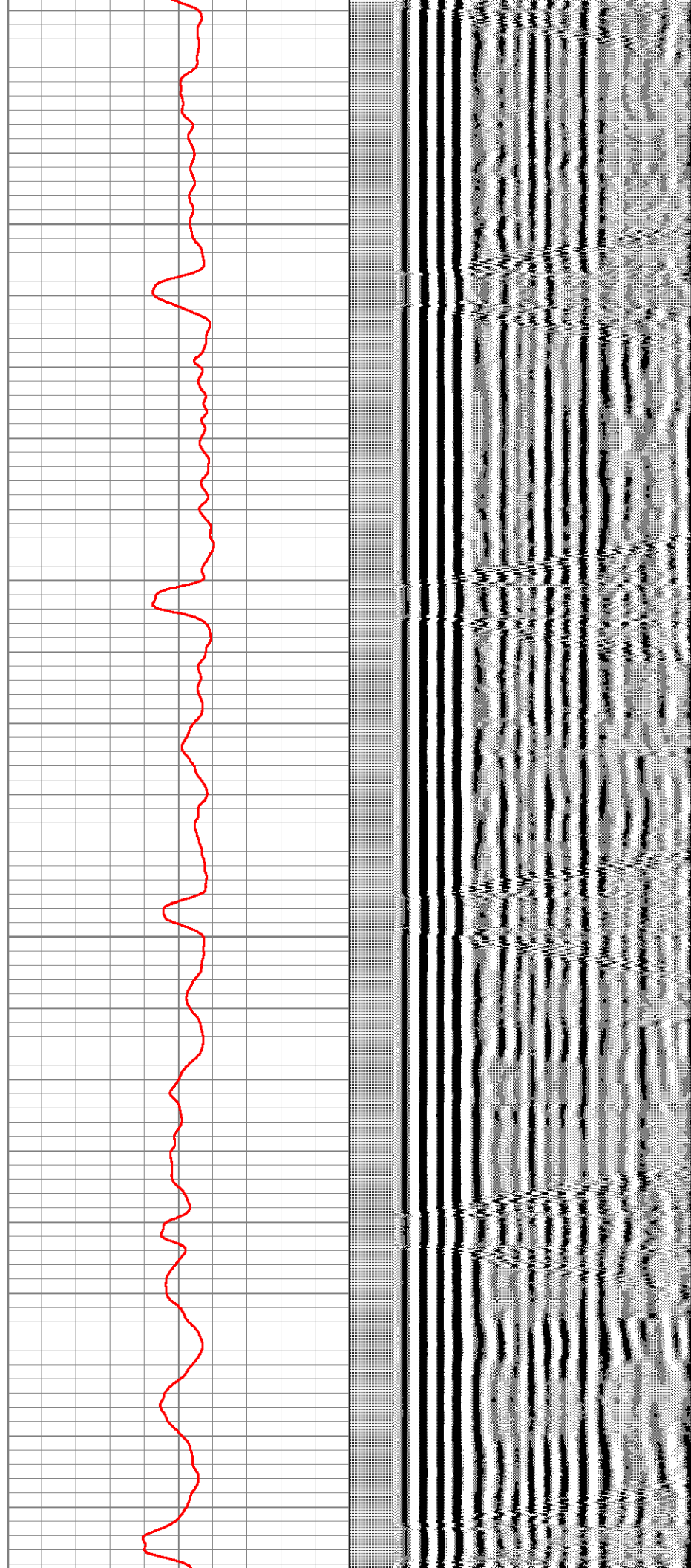
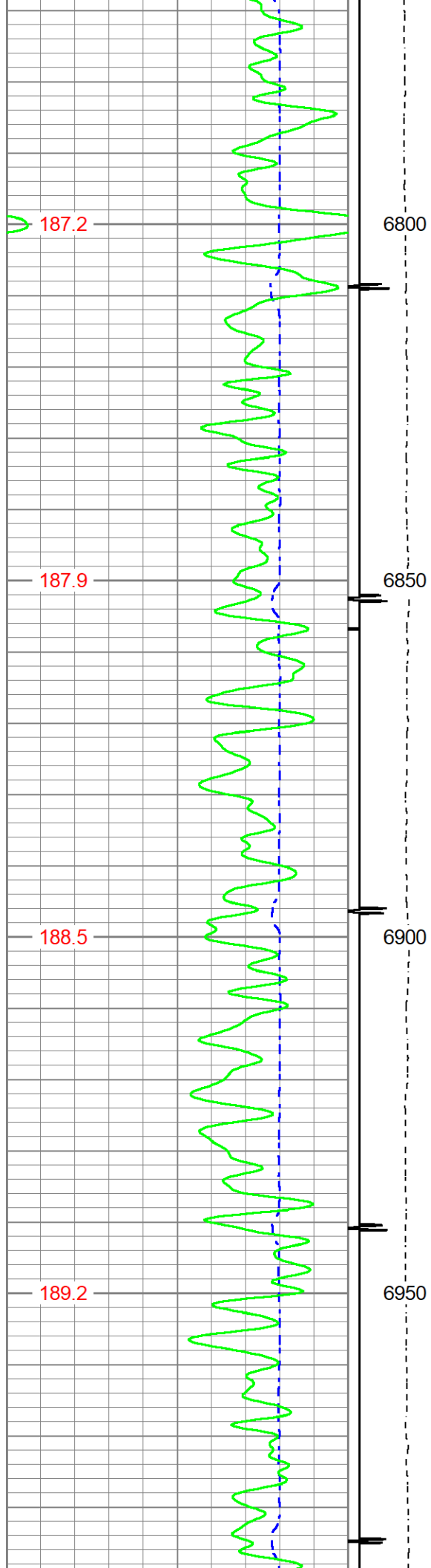


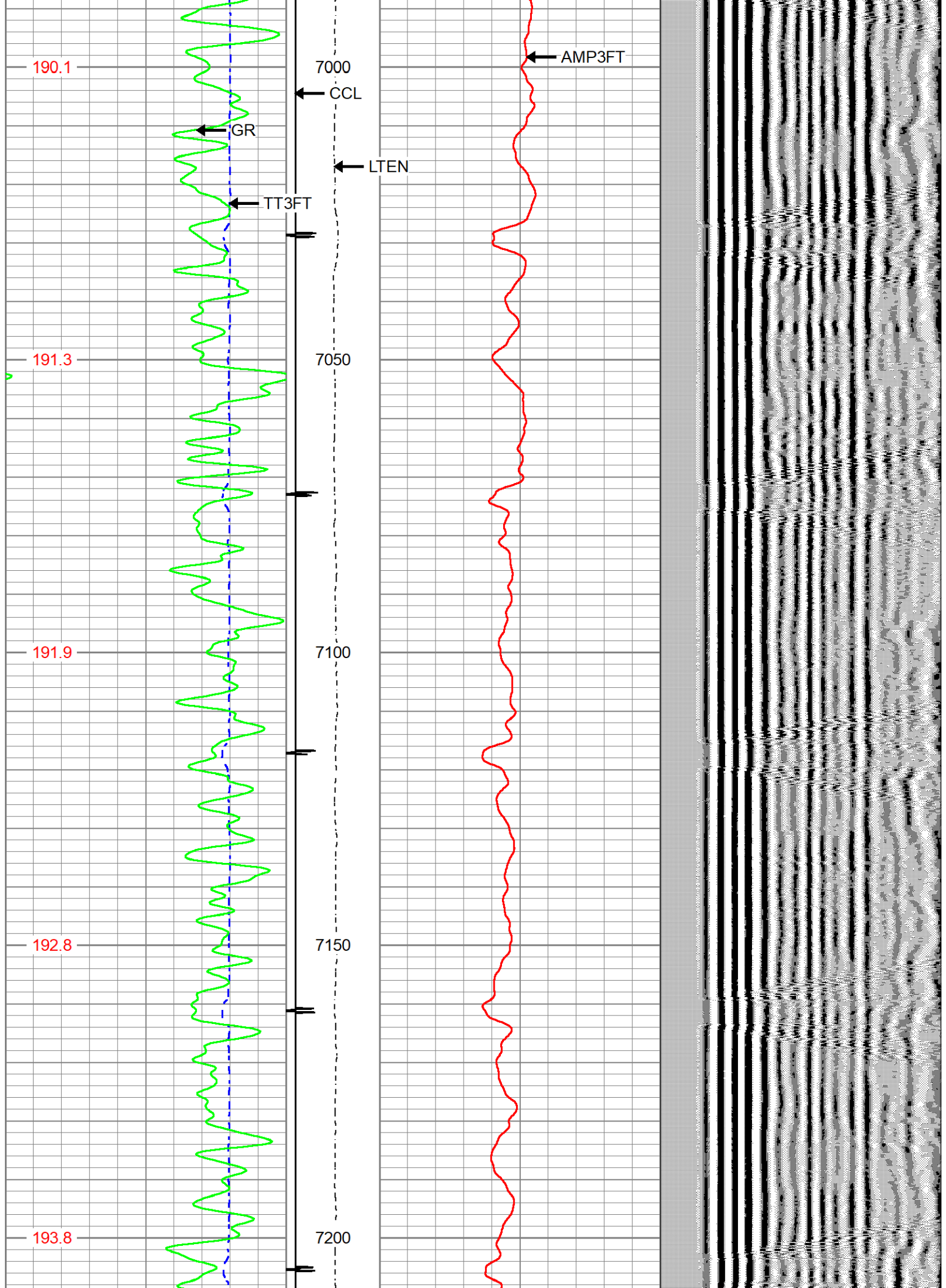


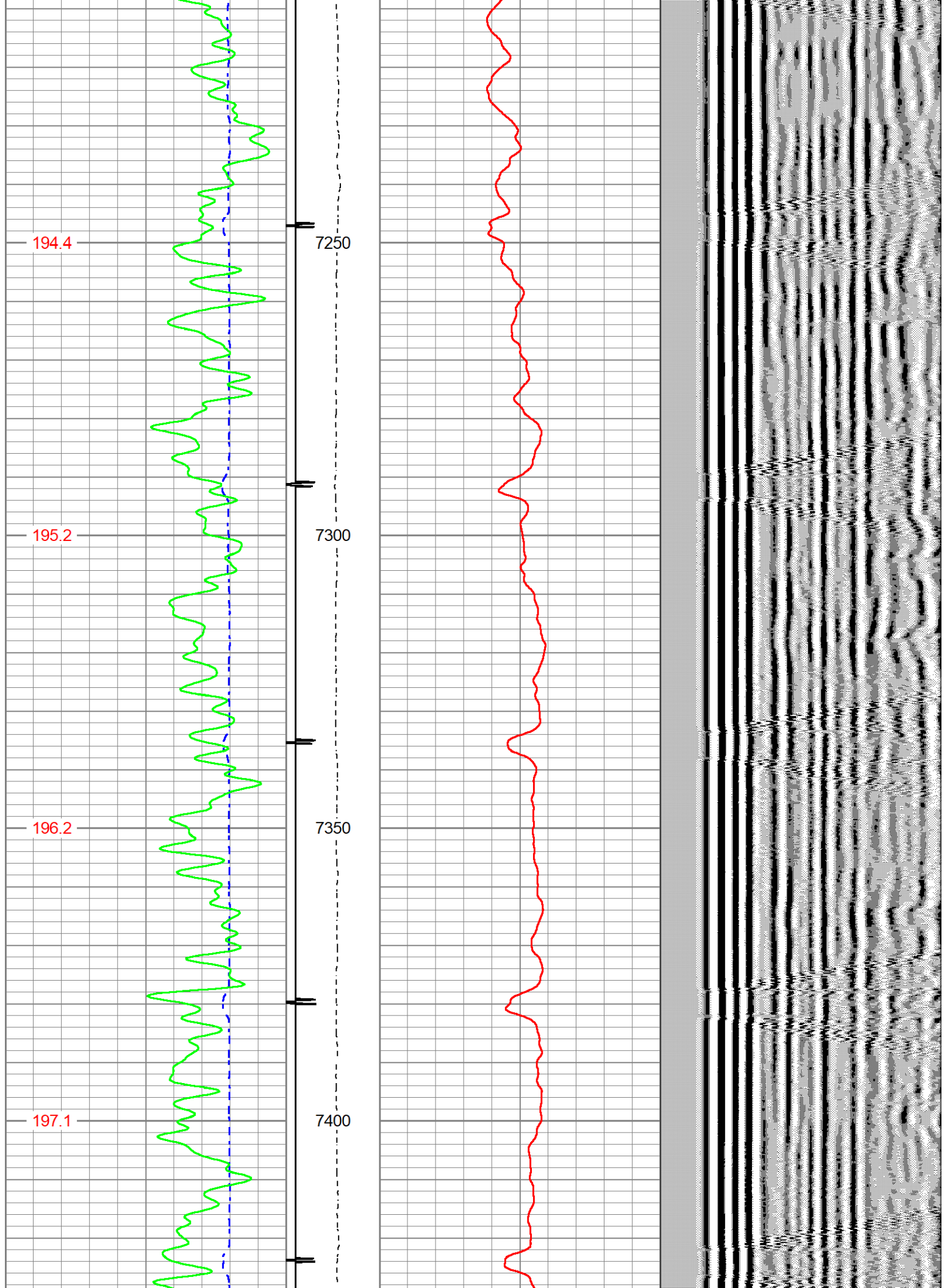


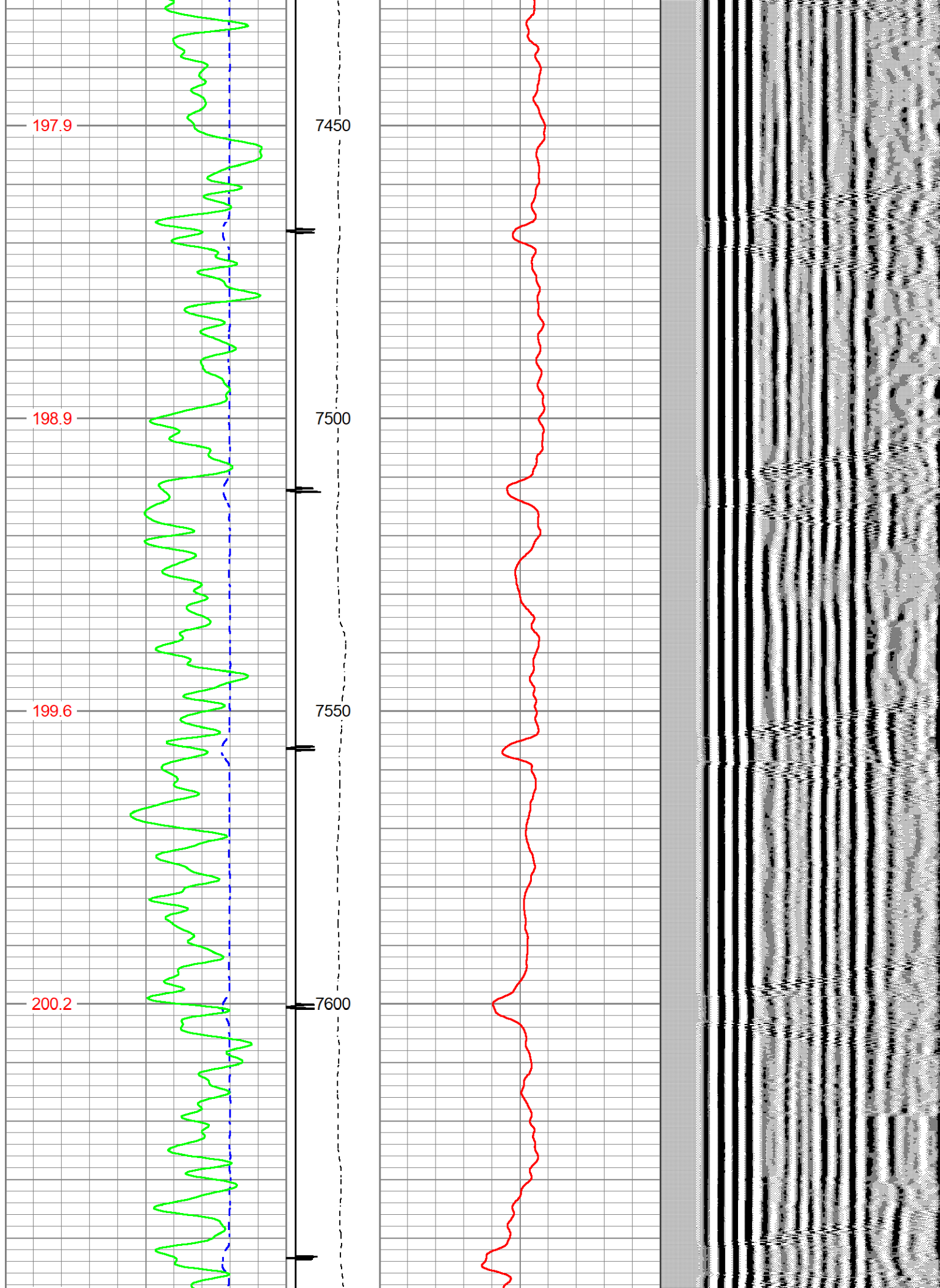


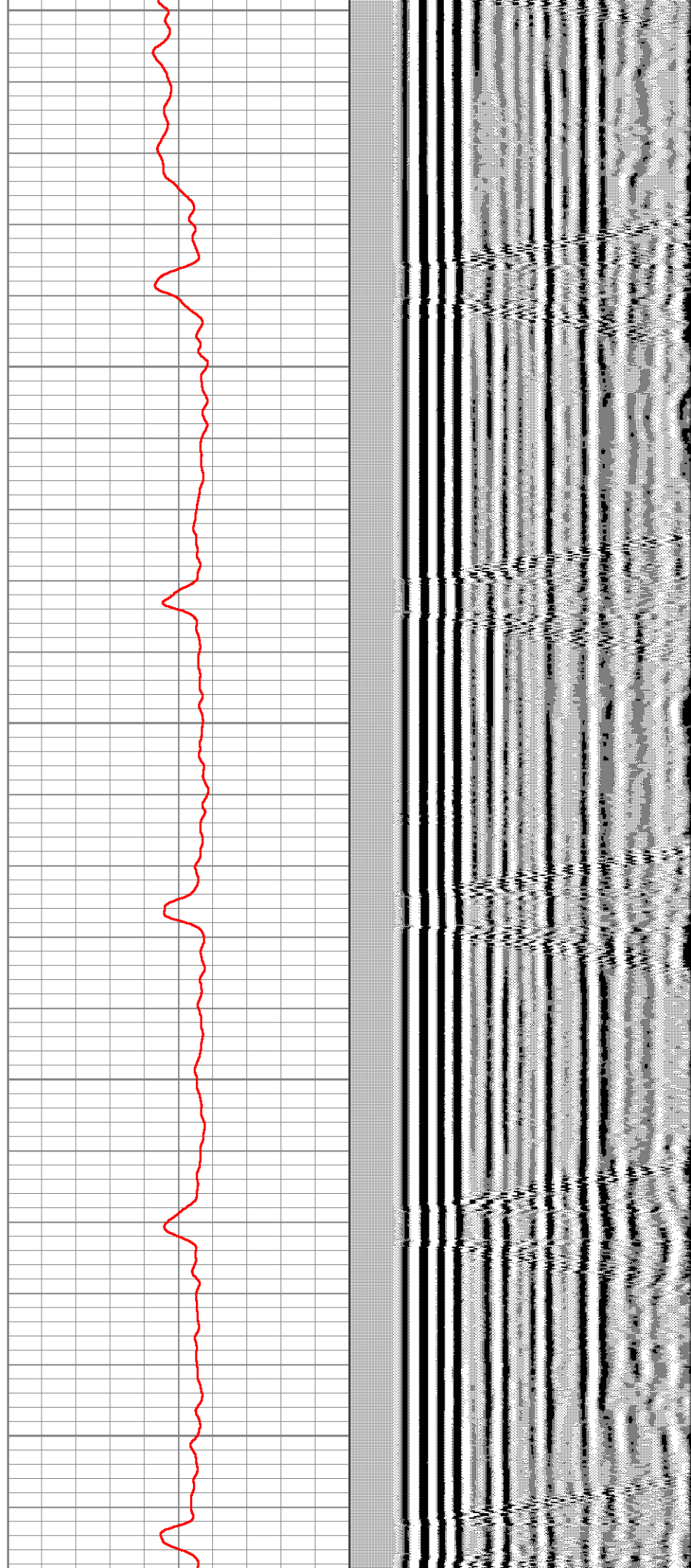
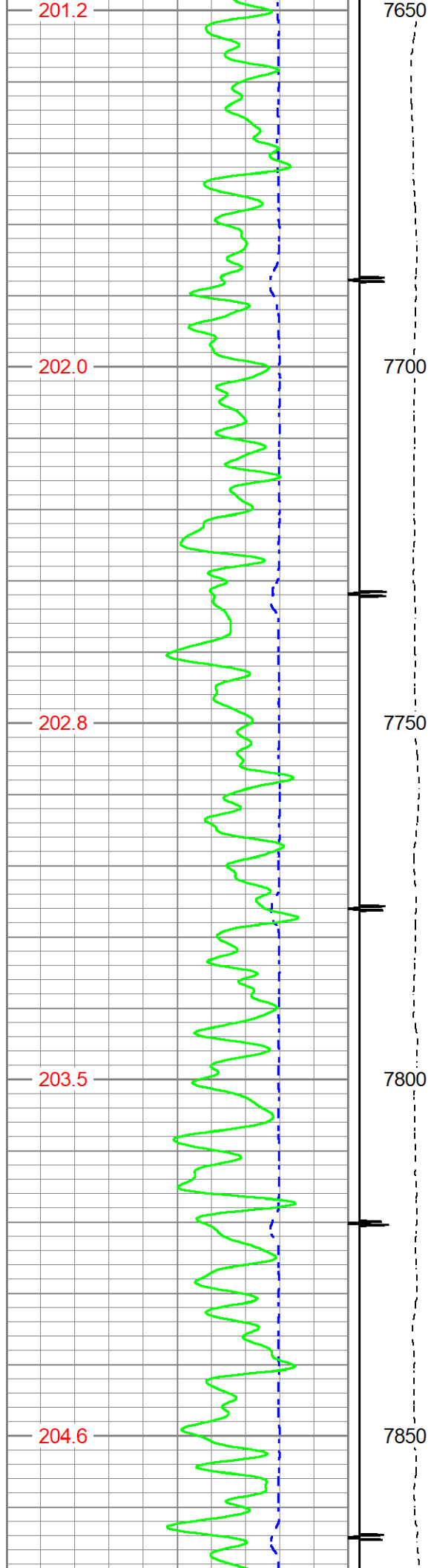


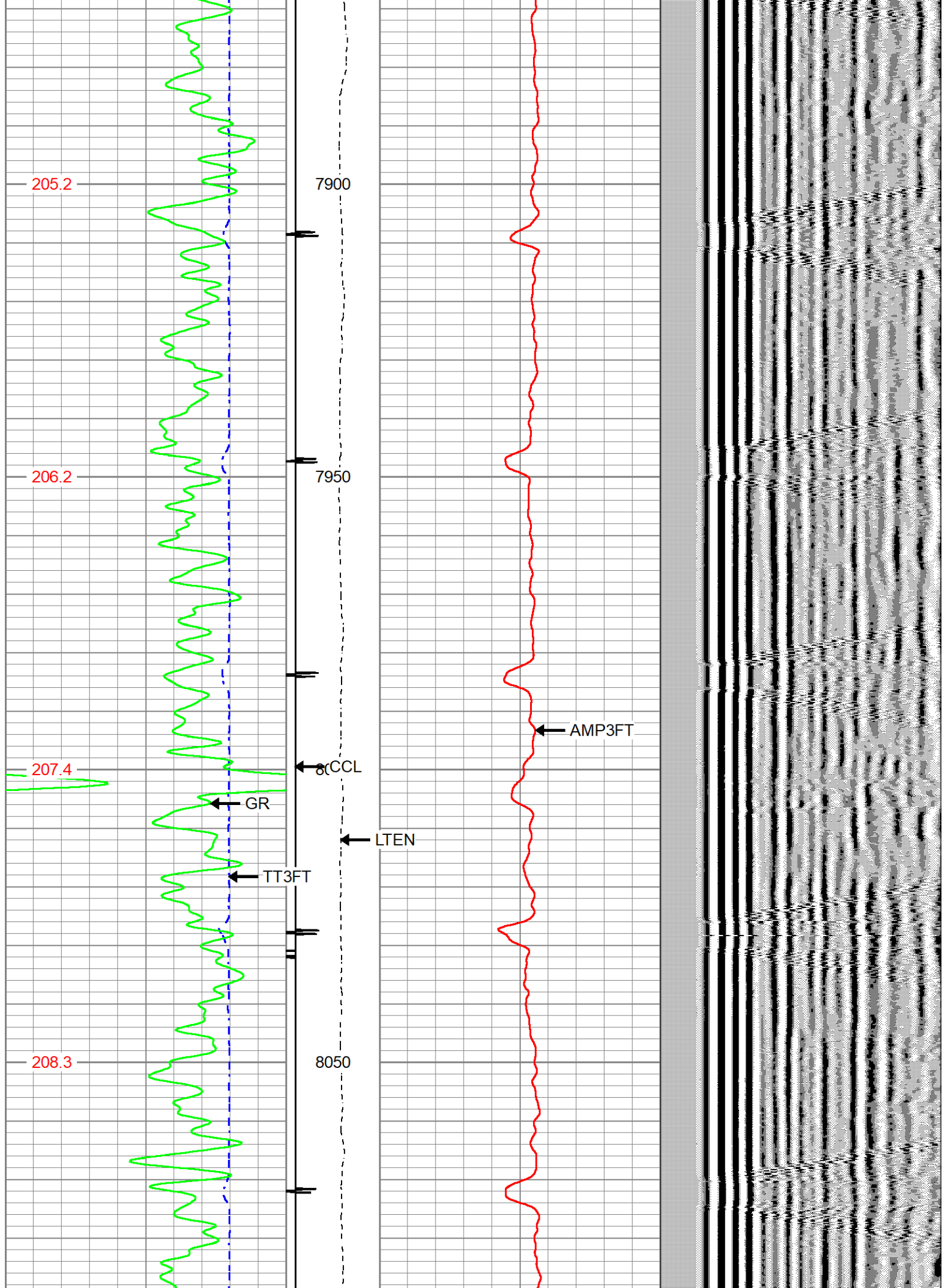


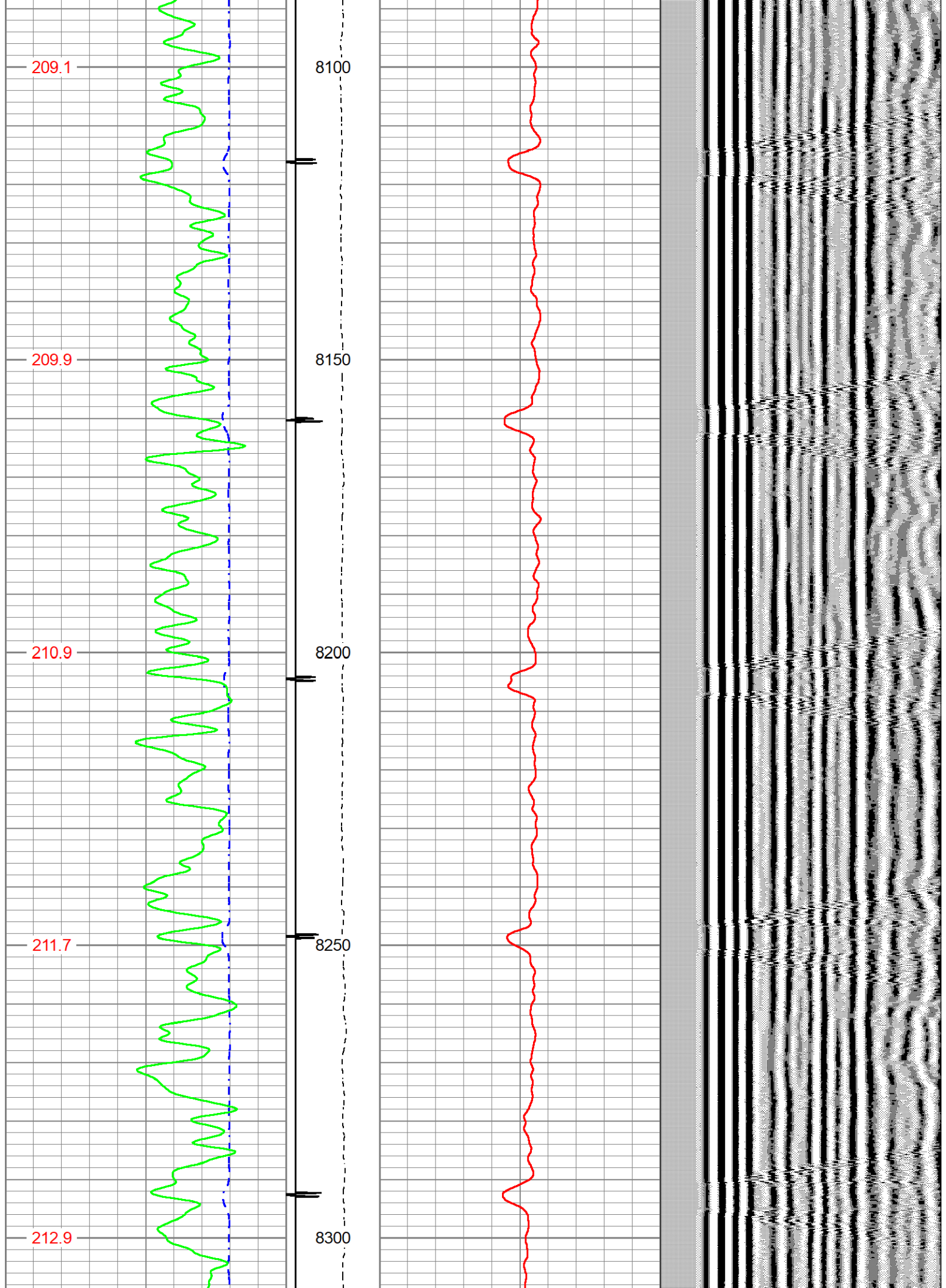


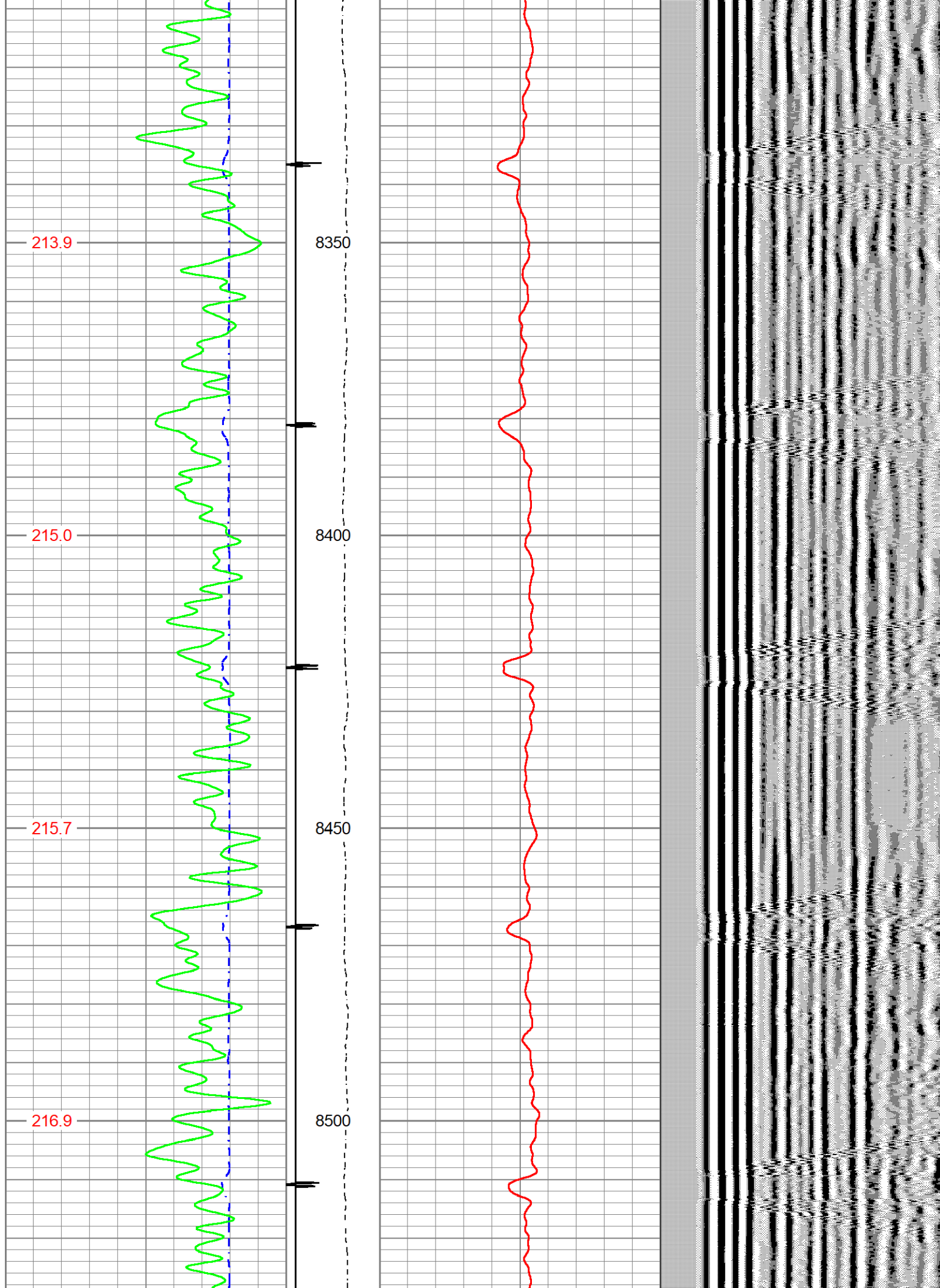


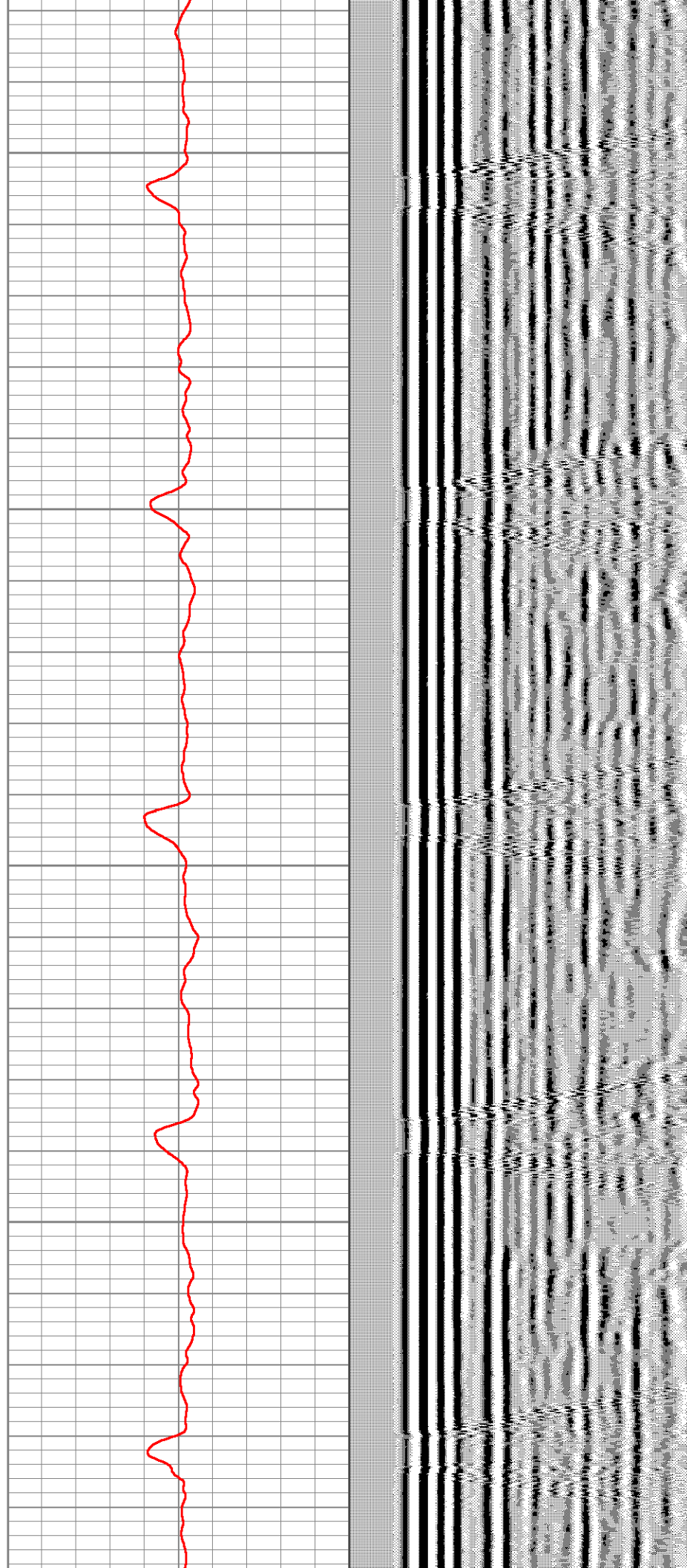
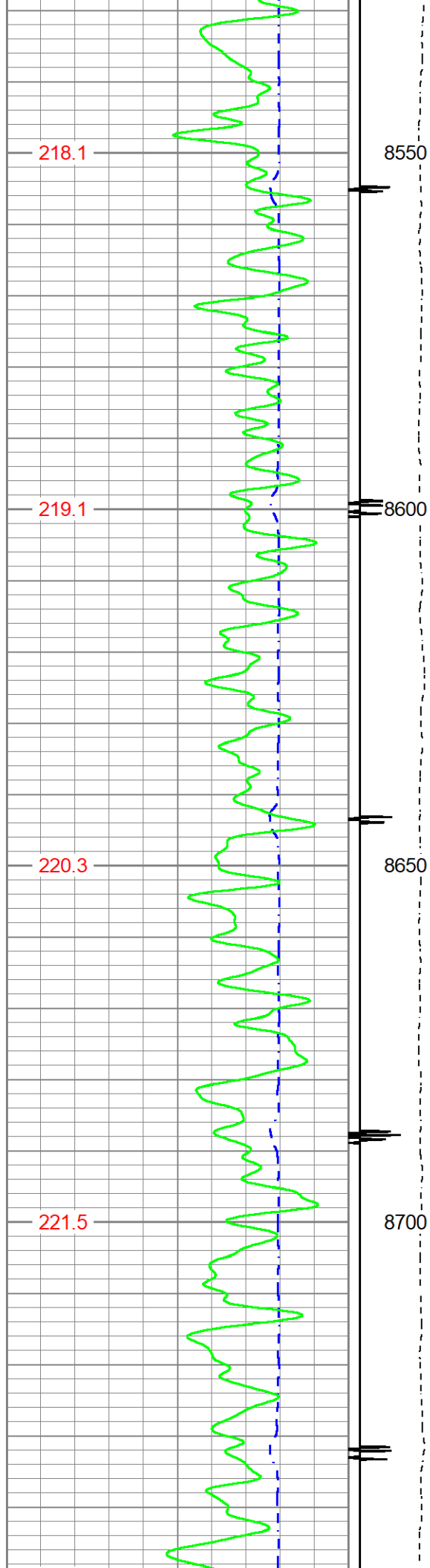


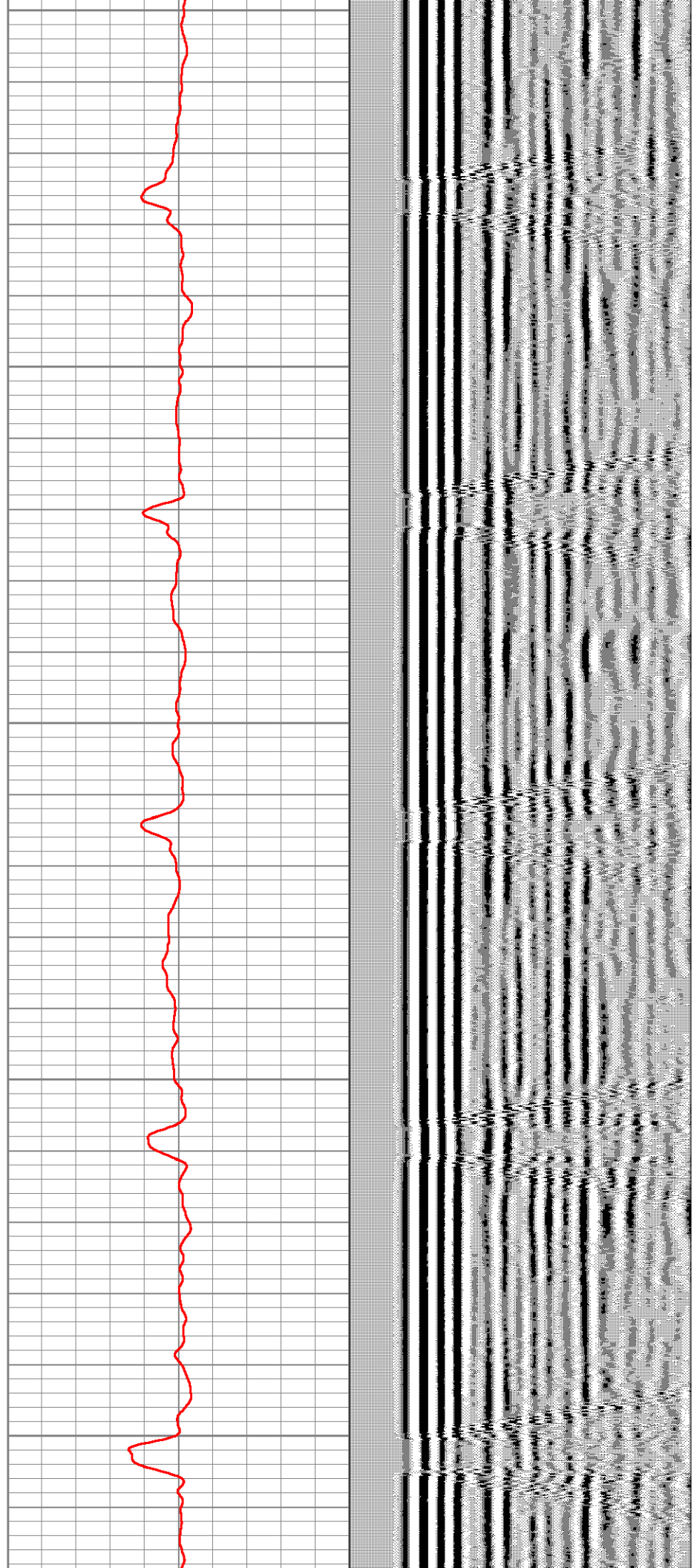
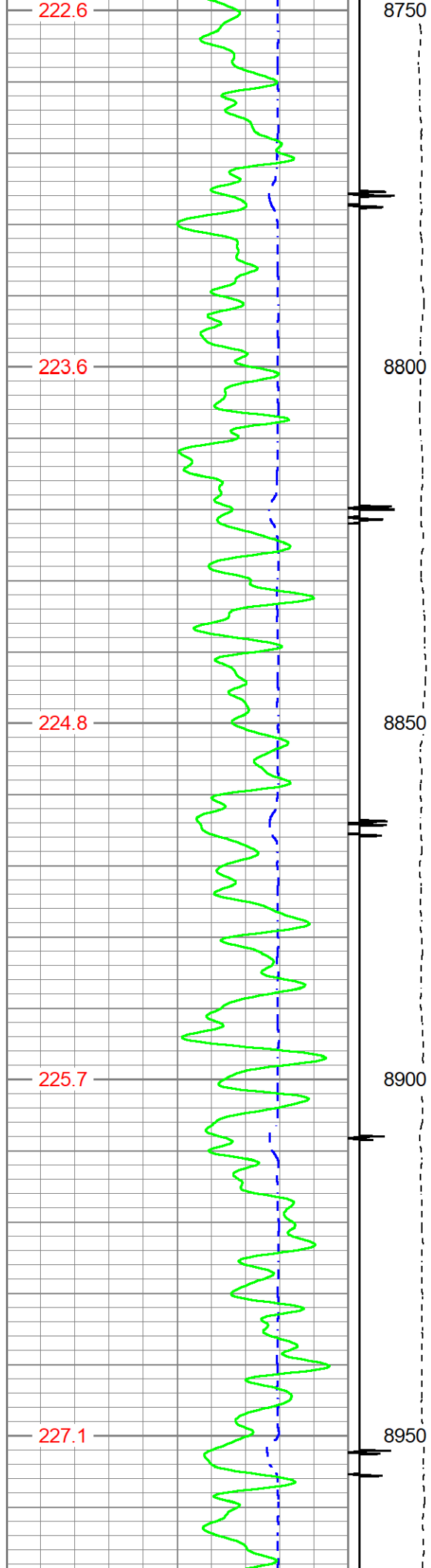


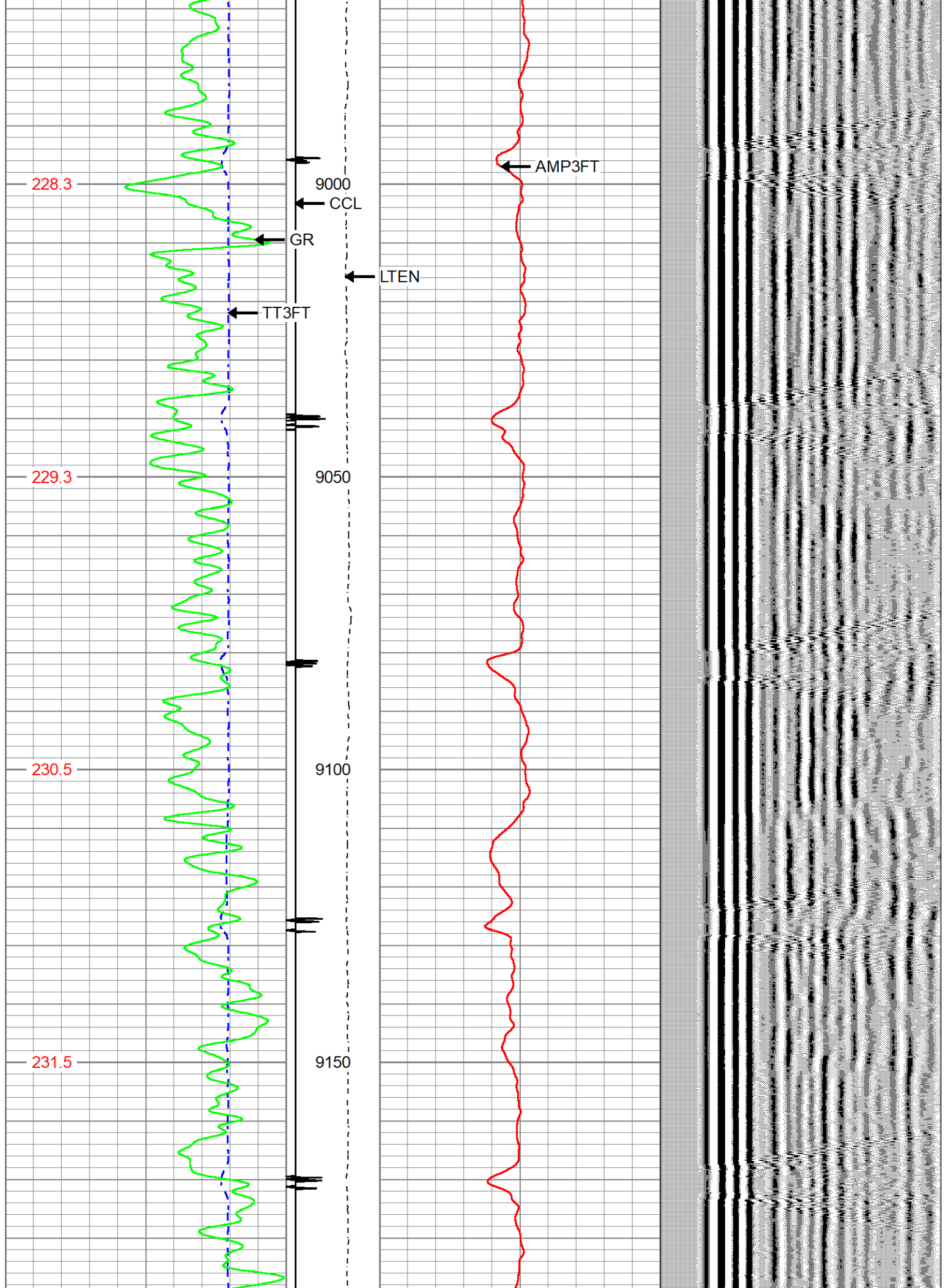


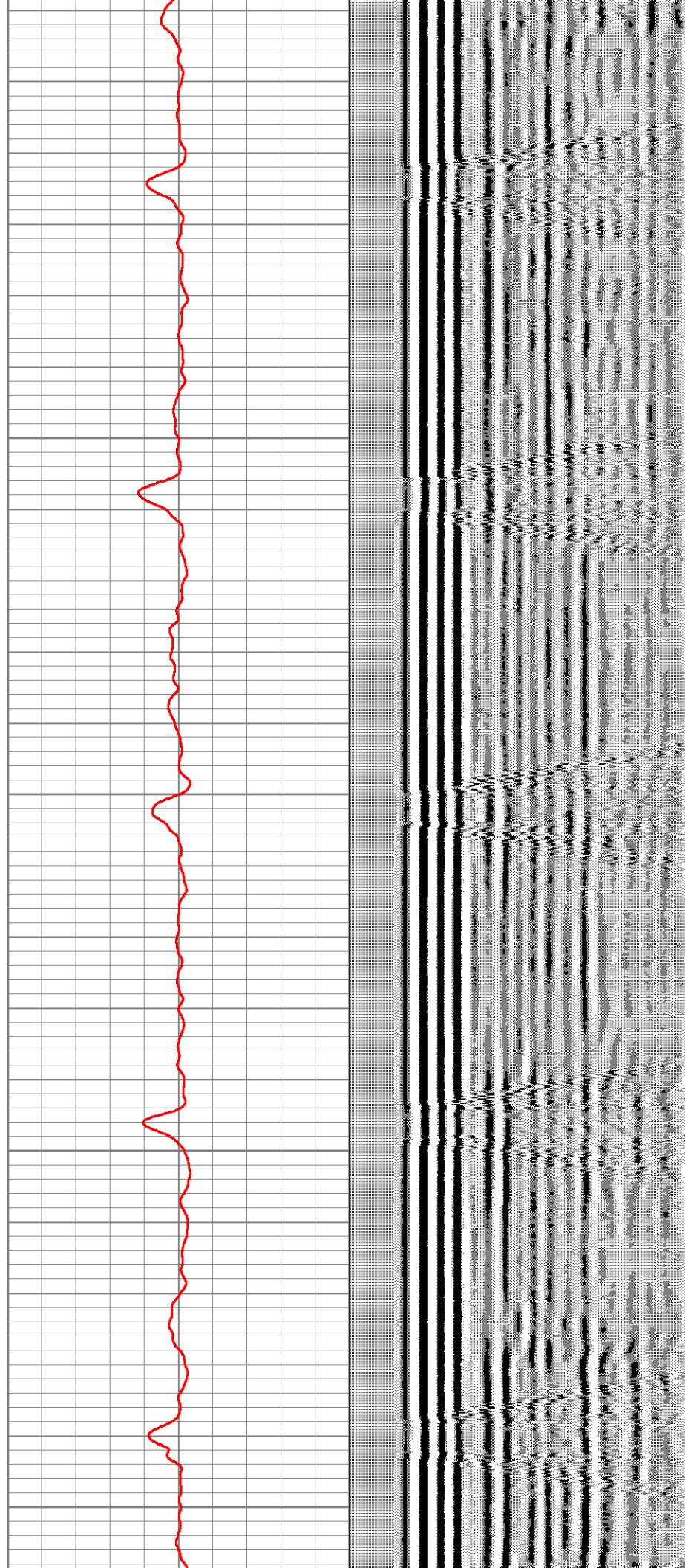
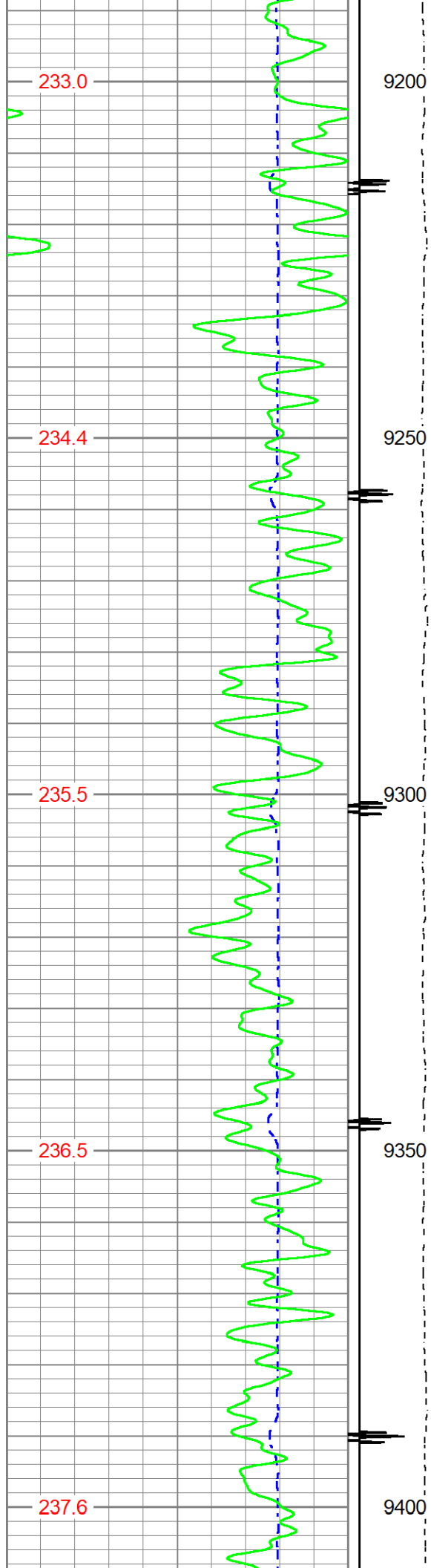


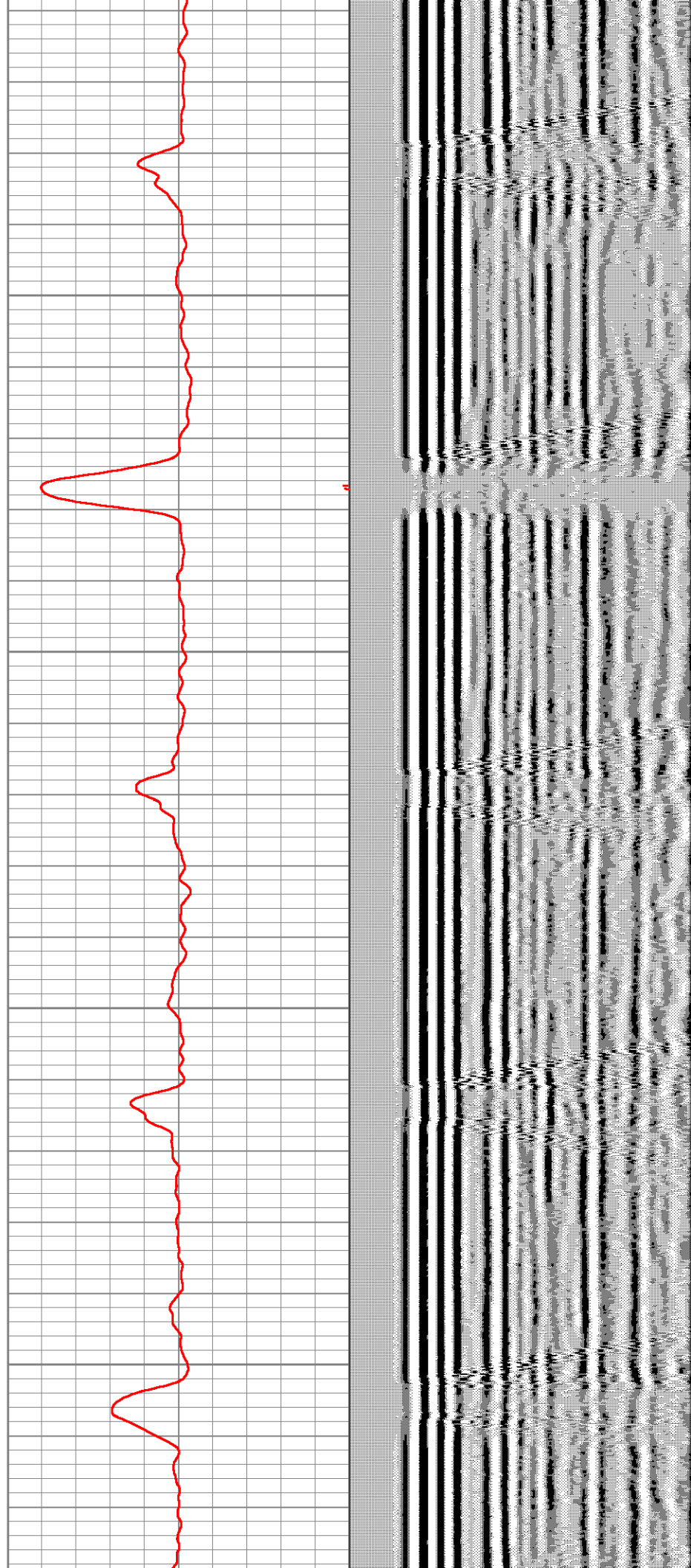
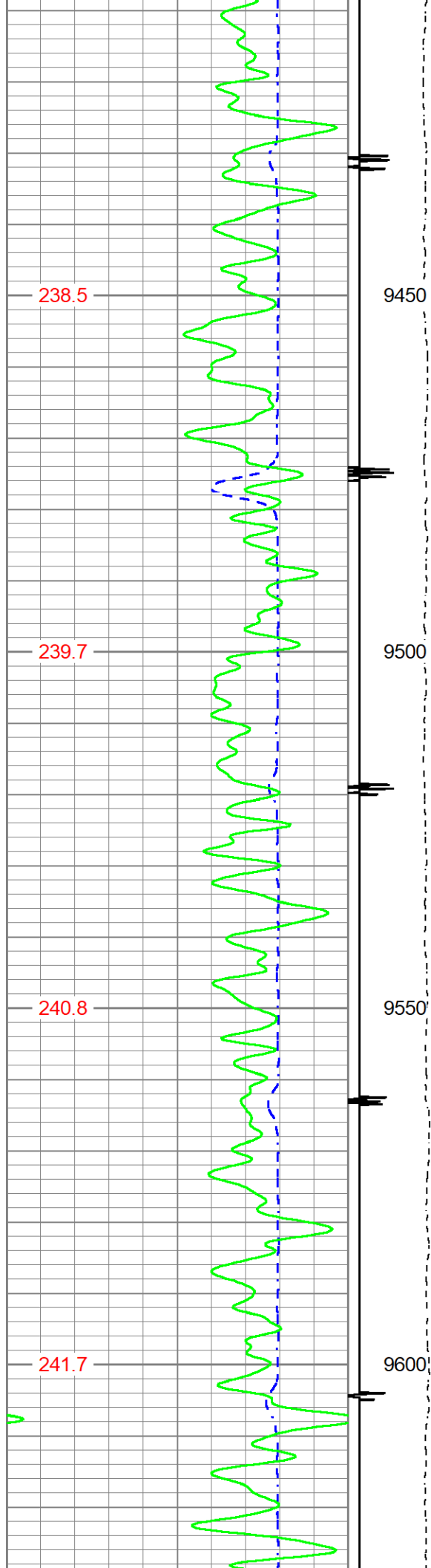


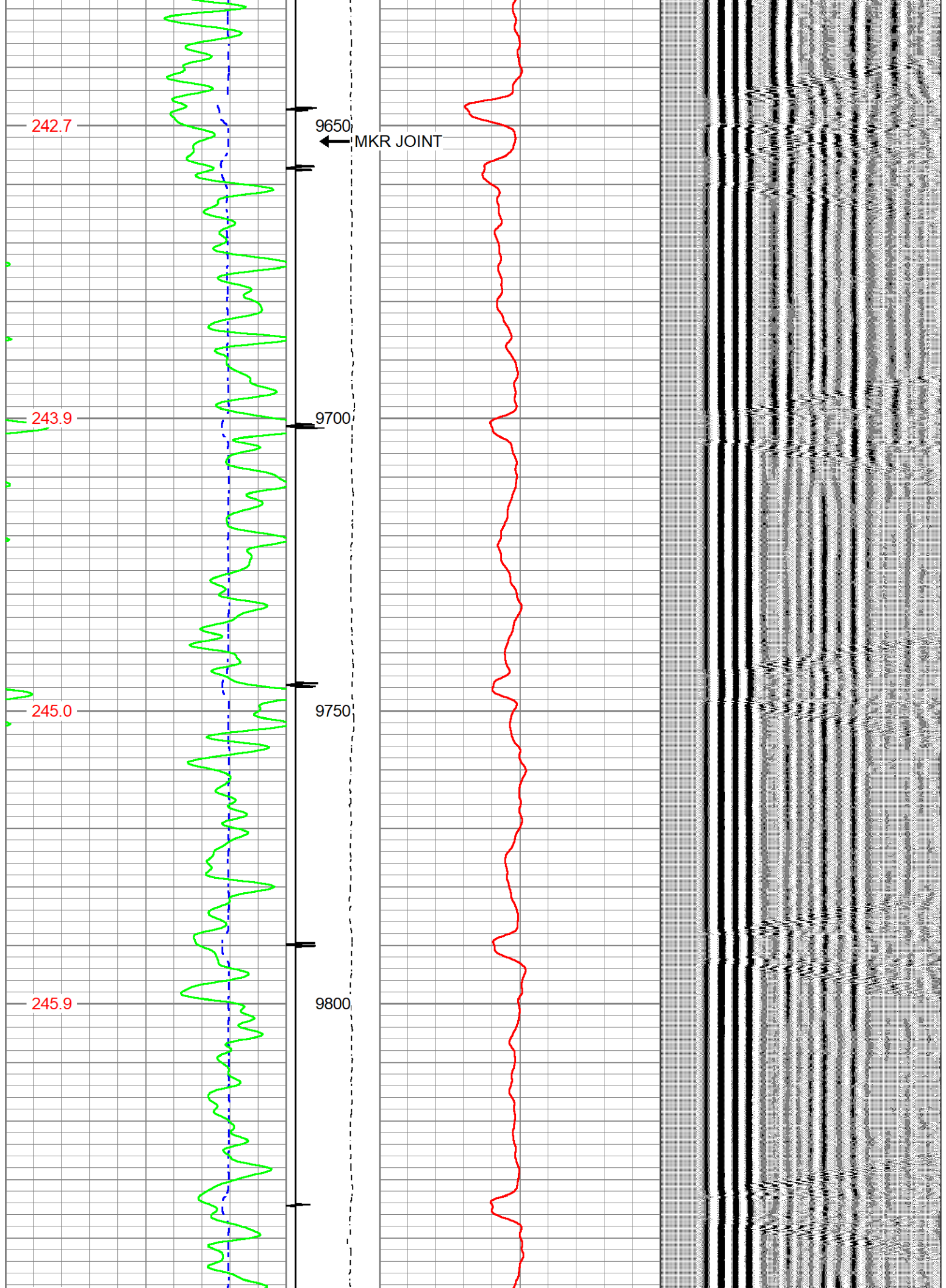


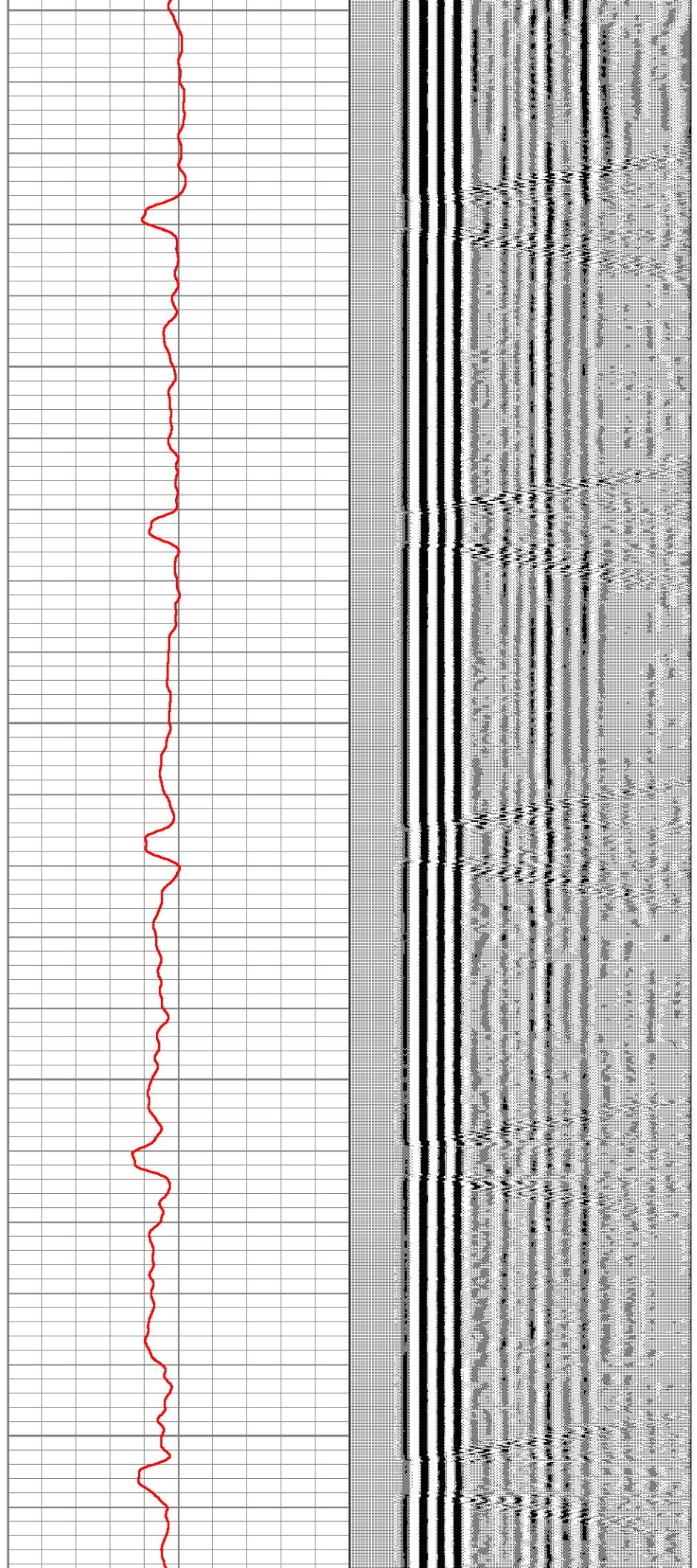
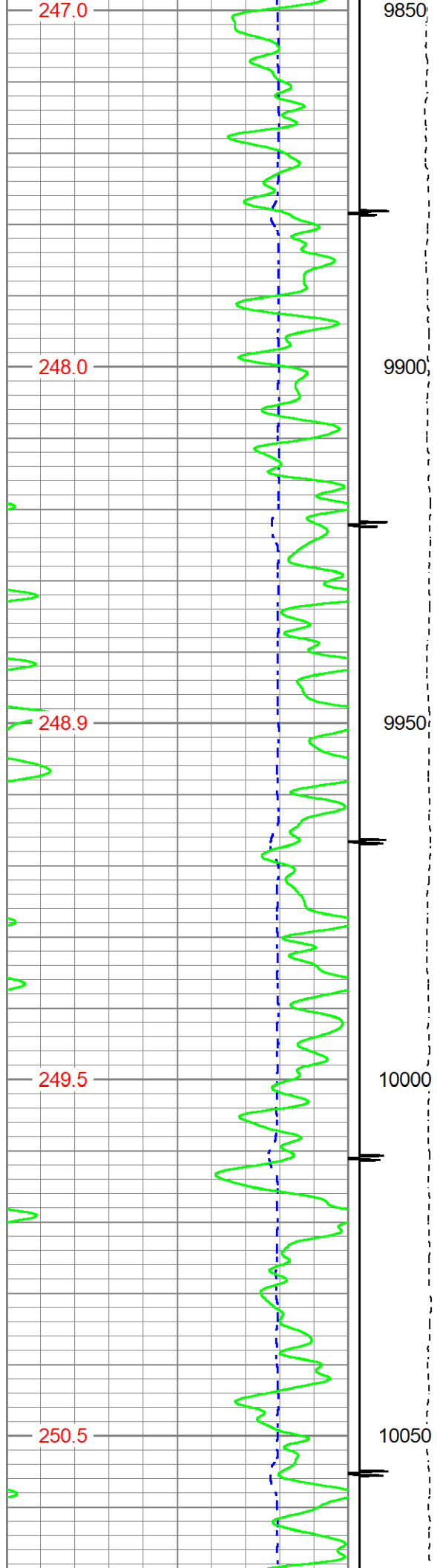


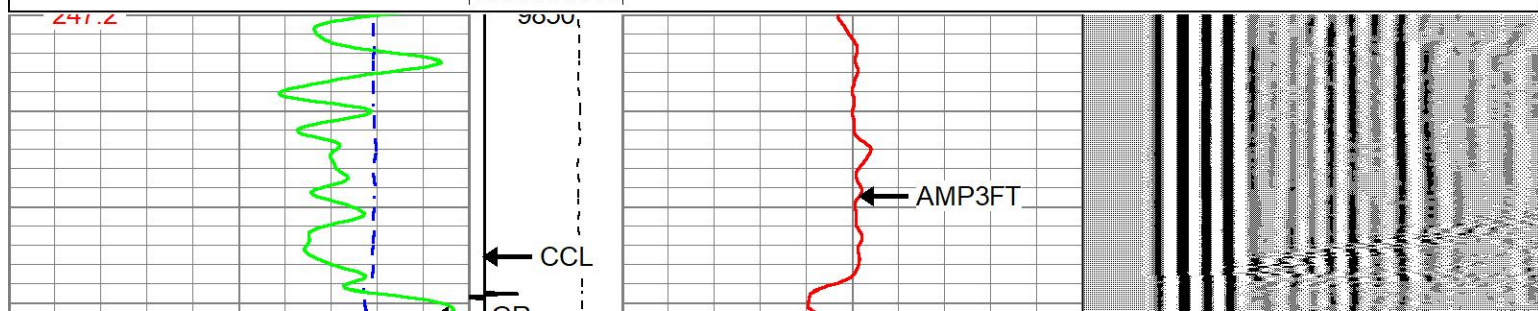
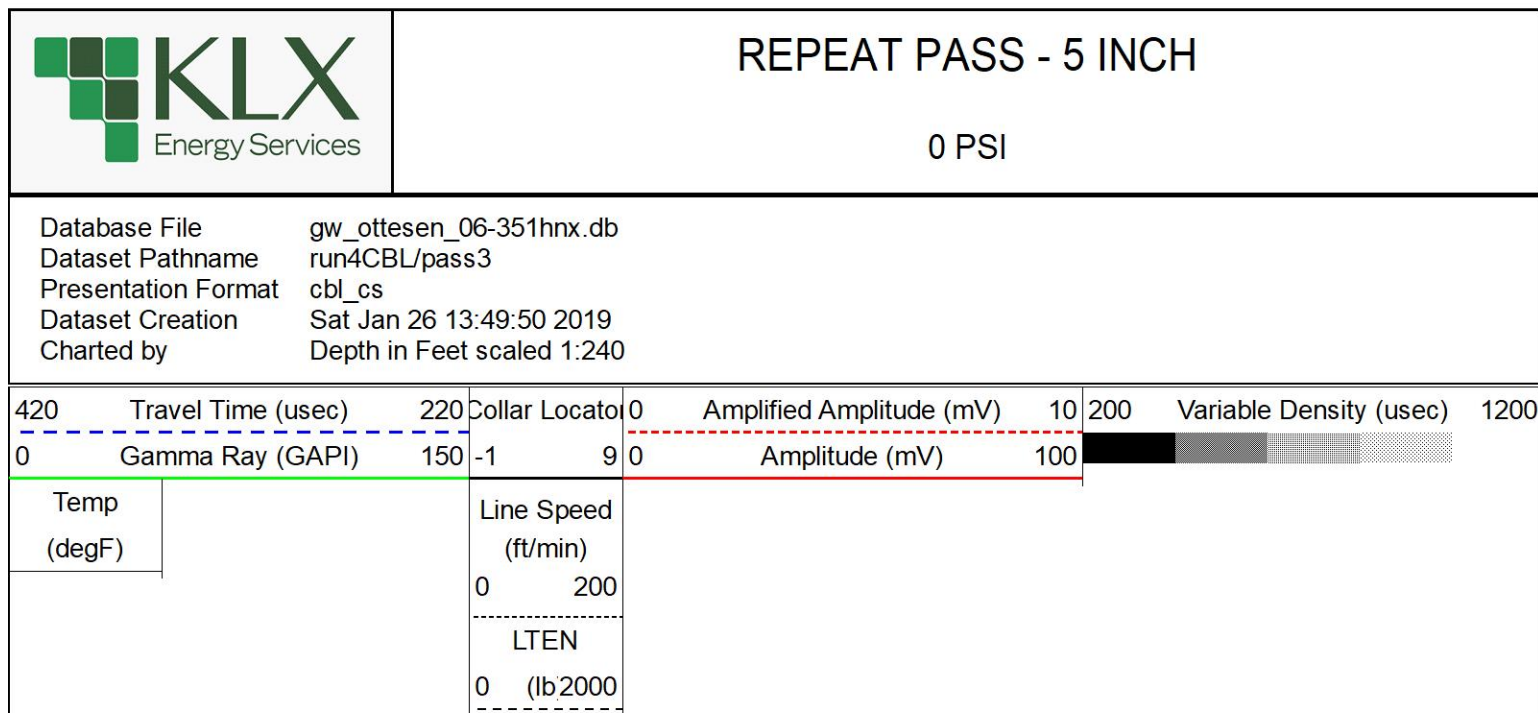
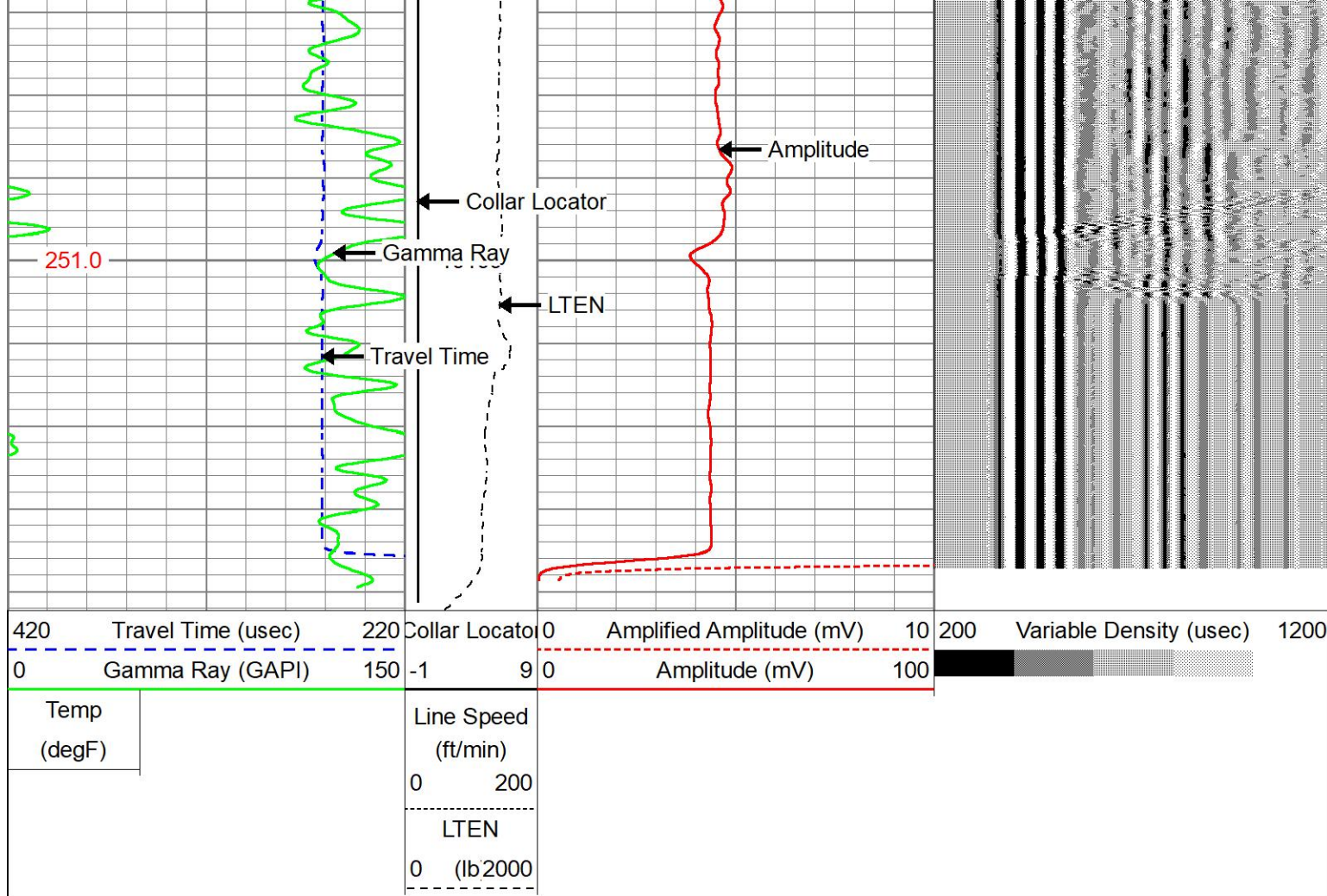


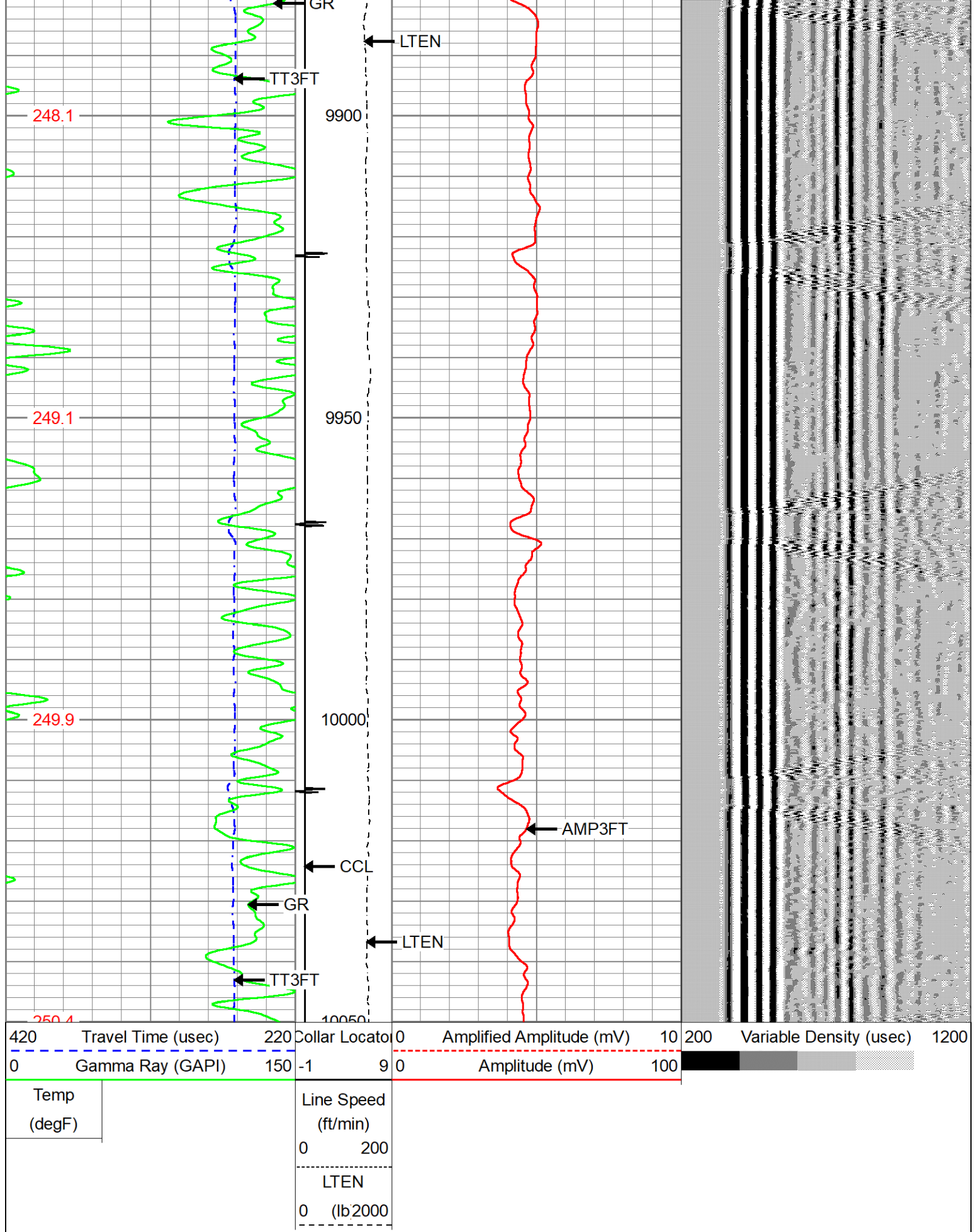












Log Variables

Database: C:\ProgramData\Warrior\Data\gw_ottesen_06-351hnx.db
 Dataset: field/well/run4CBL/pass5/_vars_

BHTEMP_Src TEMP	BOREID in 7.875	BOTTEMP degF 260	CASEOD in 5.5	CASETHCK in 0	CASEWGHT lb/ft 17	MAXAMPL mV 71.9	MINAMPL mV 1
MINATTN db/ft 0.8	PERFS No	PPT usec 0	SRFTEMP degF 30	TDEPTH ft 10000			

Variable Description

BHTEMP_Src : BHTEMP Input Source Selector
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
CASEWGHT : Casing Weight
MAXAMPL : Maximum Amplitude

MINAMPL : Minimum Amplitude
MINATTN : Minimum Attenuation
PERFS : Perforation Flag
PPT : Predicted Pipe Time
SRFTEMP : Surface Temperature
TDEPTH : Total Depth

Calibration Report

Database File gw_ottesen_06-351hnx.db
Dataset Pathname run4CBL/pass5
Dataset Creation Sat Jan 26 13:55:41 2019

Gamma Ray Calibration Report

Serial Number: FW1304-44
Tool Model: Probe275
Performed: (Not Performed)

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 GAPI/cps

Segmented Cement Bond Log Calibration Report

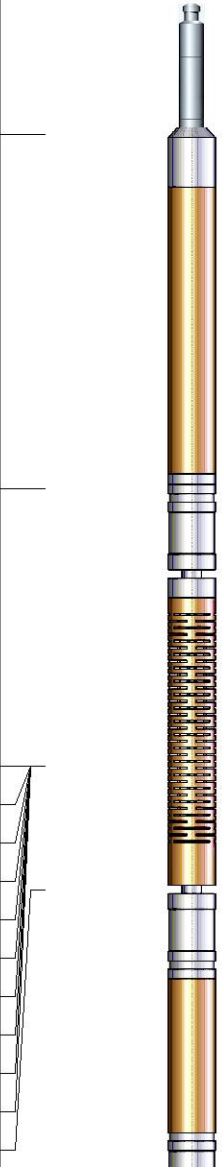
Serial Number: FW1808-069
Tool Model: Probe 2.75 Radii W/Temp

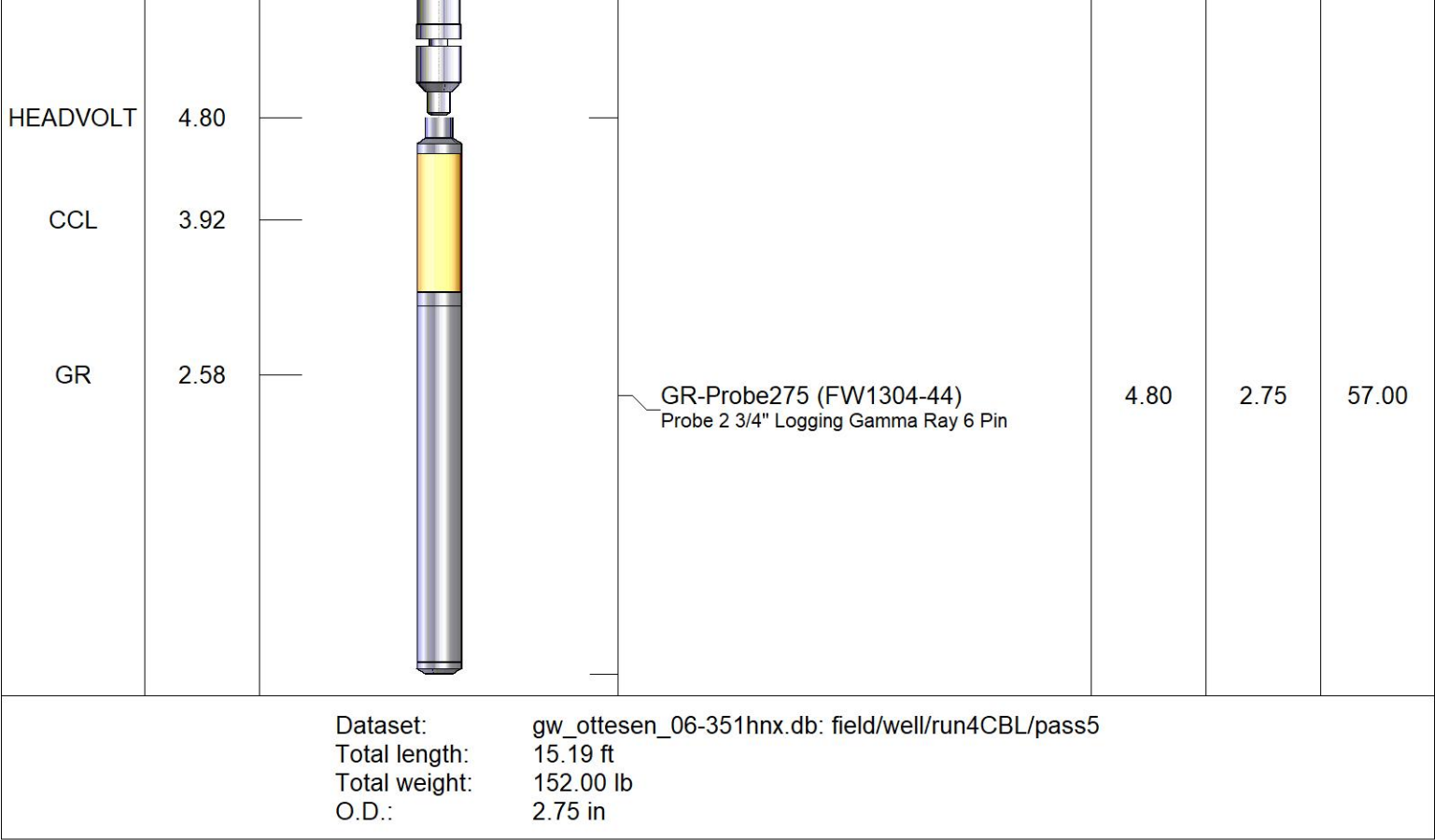
Calibration Casing Diameter: 5.500 in
Calibration Depth: 769.475 ft


Master Calibration, performed Sat Jan 26 13:10:15 2019:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.002	0.348	1.000	71.921	205.041	0.559
CAL	0.004	0.679				
5'	0.004	0.316	1.000	71.921	227.045	0.072
SUM						
S1	0.000	0.402	0.000	71.921	179.027	-0.044
S2	-0.003	0.346	0.000	71.921	206.316	0.604
S3	0.001	0.343	0.000	71.921	210.782	-0.298
S4	0.001	0.333	0.000	71.921	216.514	-0.135
S5	-0.002	0.326	0.000	71.921	218.838	0.505
S6	0.000	0.317	0.000	71.921	226.790	-0.080
S7	-0.000	0.327	0.000	71.921	219.776	0.078
S8	0.001	0.329	0.000	71.921	218.952	-0.118

Internal Reference Calibration, performed (Not Performed):						
CAL	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
	0.000	0.000	0.004	0.679	1.000	0.000
Air Zero Calibration, performed (Not Performed):						
	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	

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
HeadVolt	14.13		CHD-Titan Titan 1 7/16" GO Cablehead	1.00	1.44	5.00
Temp	11.28					
WVFS8	9.05		RBT-Probe 2.75 Radii W/Temp (FW1808-c9.39) Probe 2.75" Radial with Integral Temperature Sub		2.75	90.00
WVFS7	9.05					
WVFS6	9.05					
WVFS5	9.05					
WVFS4	9.05					
WVFS3	9.05					
WVFS2	9.05					
WVFS1	9.05					
WVFCAL	9.05					
WVF3FT	9.05					
WVF5FT	8.05					





Company

Well

Field

County

State

GREAT WESTERN OIL & GAS

OTTESSEN LE 06-351HNX

WATTENBERG

WELD

COLORADO

Country

USA