



**Cement Bond Log
w/ Variable Density
Gamma/CCL
Temp**

Company	Great Western Operating Co	
Well	B-Farm LD 18-389HN	
Field	Wattenberg	
County	Adams	
State	Colorado	
Company	Great Western Operating Co	
Well	B-Farm LD 18-389HN	
Field	Wattenberg	
County	Adams	State Colorado
Location:	API # : 05-001-10262 39.98359900 LAT -104.93367200 LONG SEC 7 TWP 1S RGE 67W	Other Services
Permanent Datum	GL	Elevation 5124.5
Log Measured From	KB	K.B. 5144.5
Drilling Measured From	KB	D.F. 5142.5 G.L. 5124.5
Date	25-MAR-2019	
Run Number	TWO	
Depth Driller	18,310'	
Depth Logger	8071'	
Bottom Logged Interval	8070'	
Top Log Interval	Surface	
Open Hole Size	8.50	
Type Fluid	Water	
Density / Viscosity	8.4 PPG	
Max. Recorded Temp.	235°	
Estimated Cement Top	See Log	
Time Well Ready	ROA	
Time Logger on Bottom	17:14 PM	
Equipment Number	80	
Location	Platteville, CO	
Recorded By	J. Fresquez	
Witnessed By	D.Pozas	
Borehole Record		
Run Number	Bit From To	Size Weight From To
Casing Record	Size	Wgt/Ft Top Bottom
Surface String	9.625"	36# Surface 1,783
Prot. String		
Production String	5.5"	17# Surface 18,310
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 Bong Log ran as per customer request
Depth Correlation to Casing Tally reported Marker Joint @7201'
Adjusted log +3 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 8114' with no debris prior to initial CBL w/ 0 PSI
Log ran from 8070 FT to Surface
Log ran with 4000PSI surface induced pressure
Centralized with 2 over tool Gemco Centralizers
Bled down surface induced pressure at 2800 ft while logging.
Thank you for using KLX Energy Services

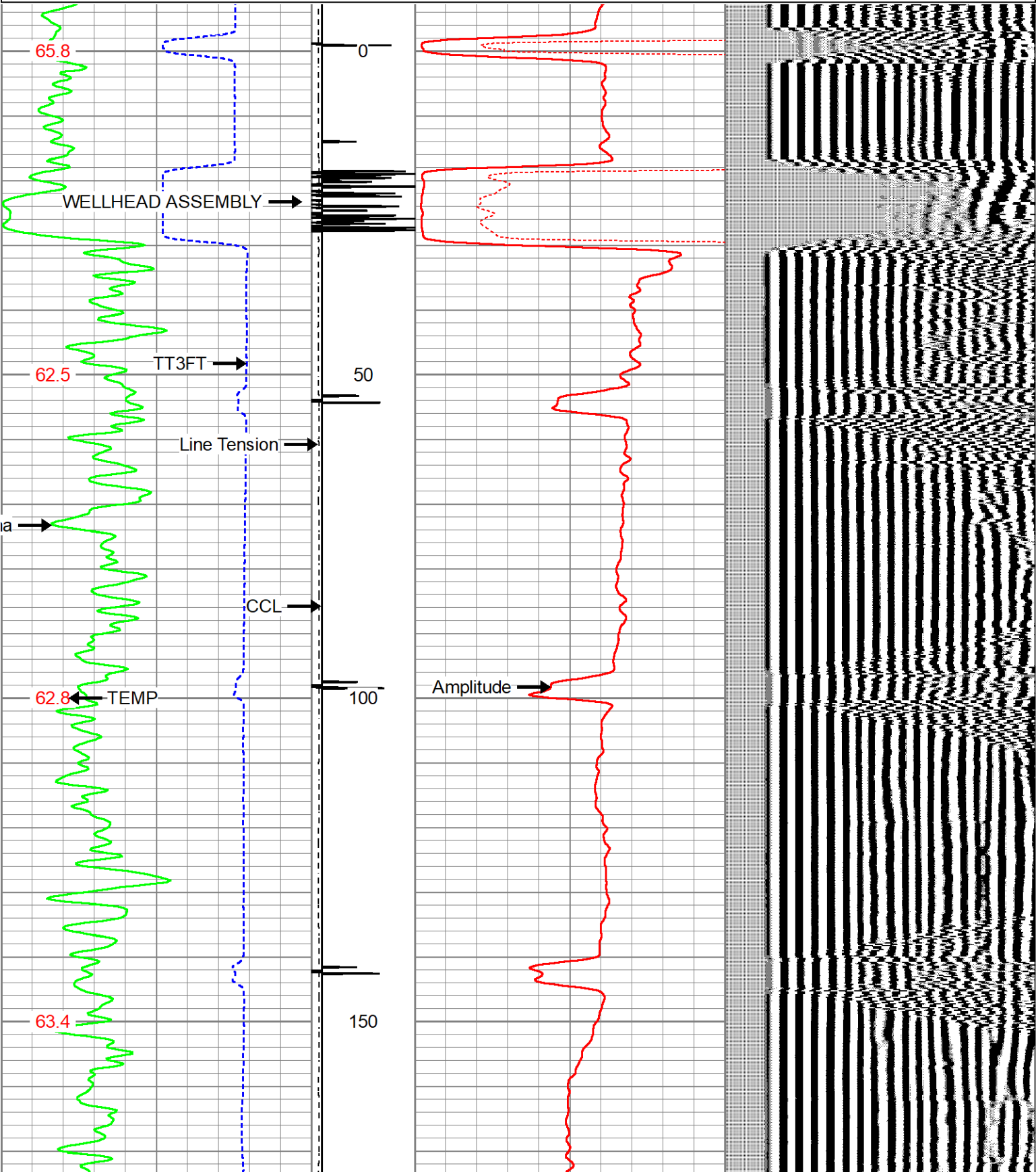


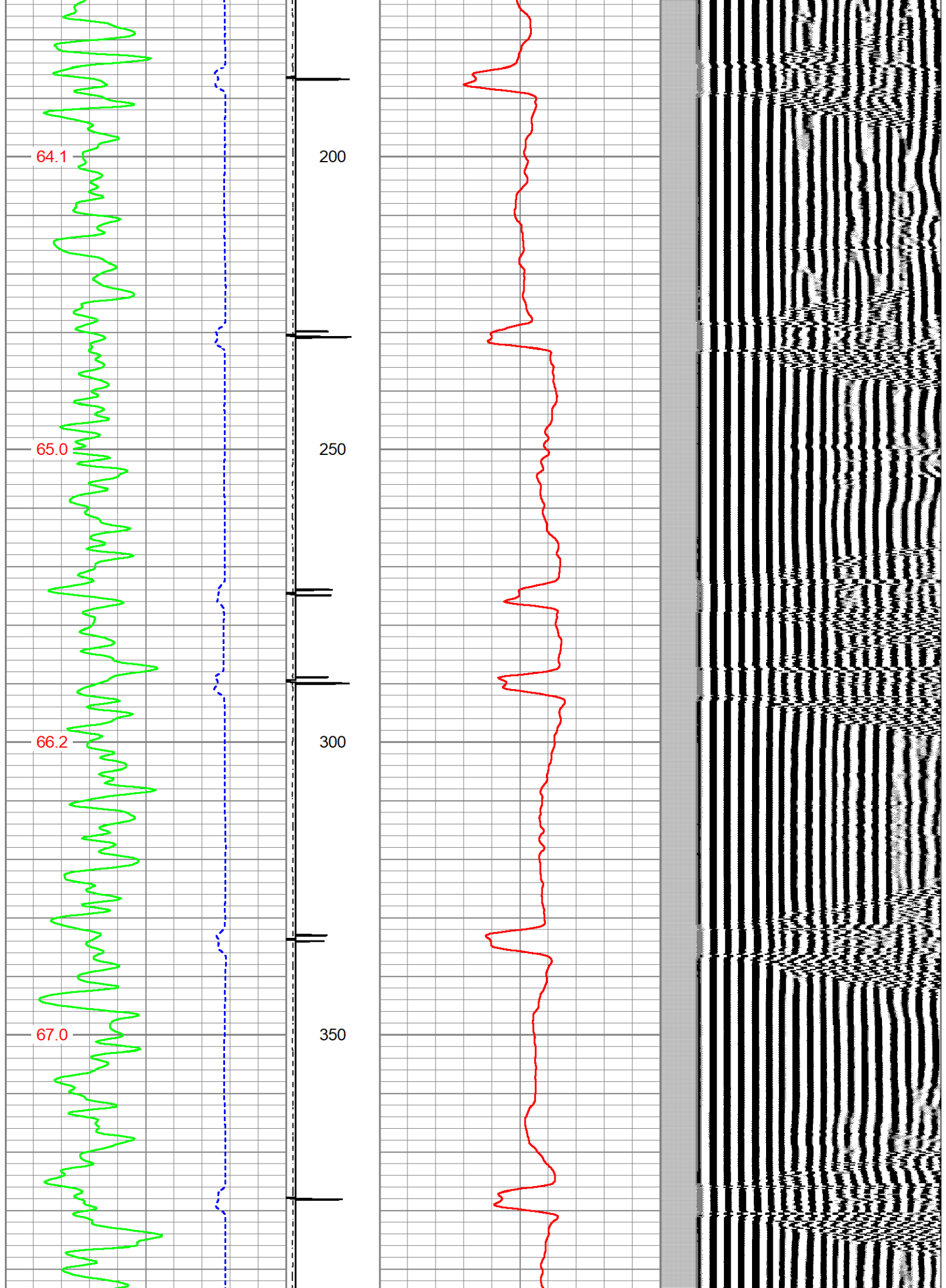
MAIN PASS

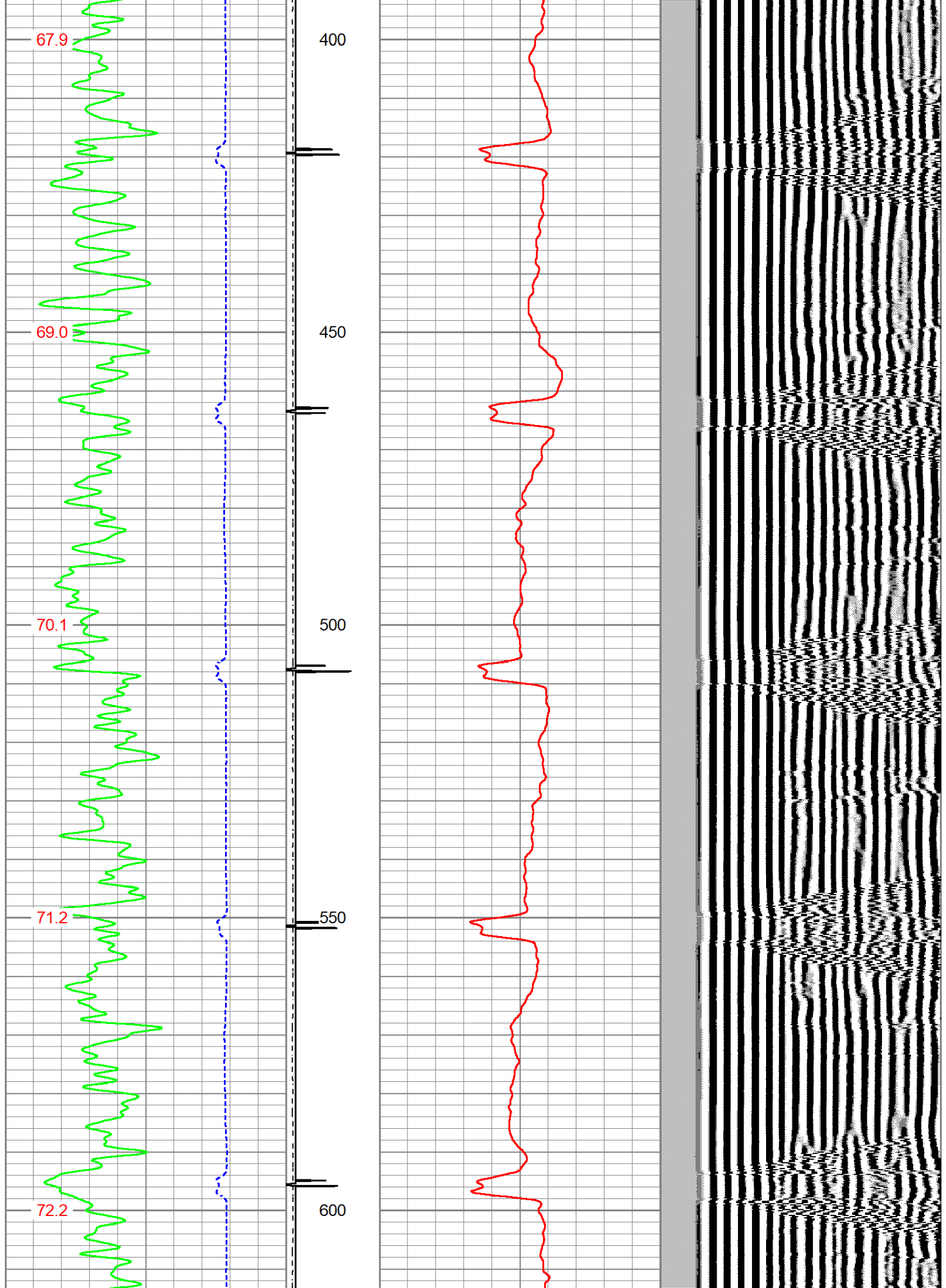
RECORDED WITH 4000 PSI SURFACE INDUCED PRESSURE.

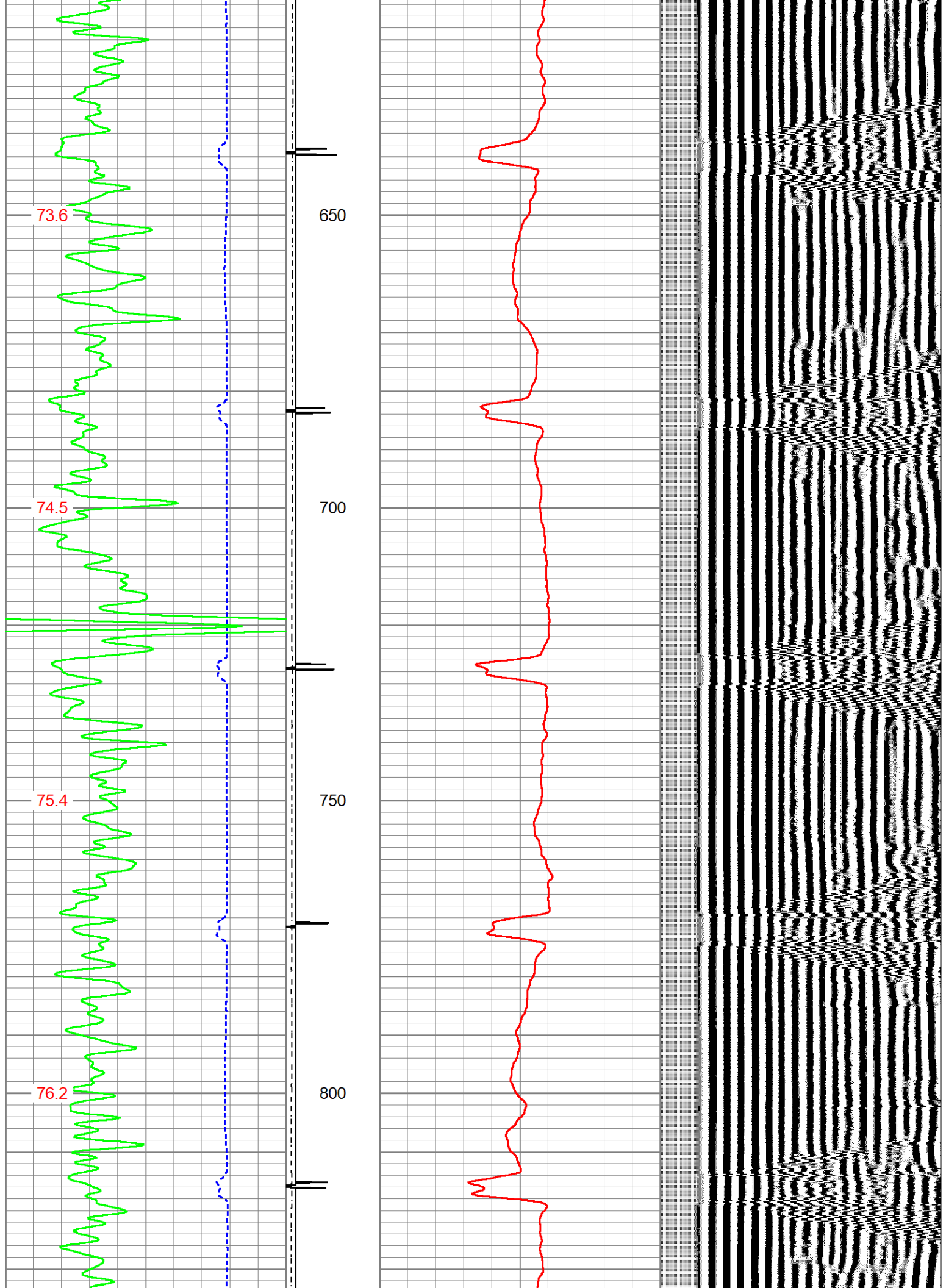
Database File	gw_bfarm_ld18-389hn.db
Dataset Pathname	389hn/CBLpsi/pass8
Presentation Format	cbl_cs
Dataset Creation	Mon Mar 25 17:14:00 2019
Charted by	Depth in Feet scaled 1:240

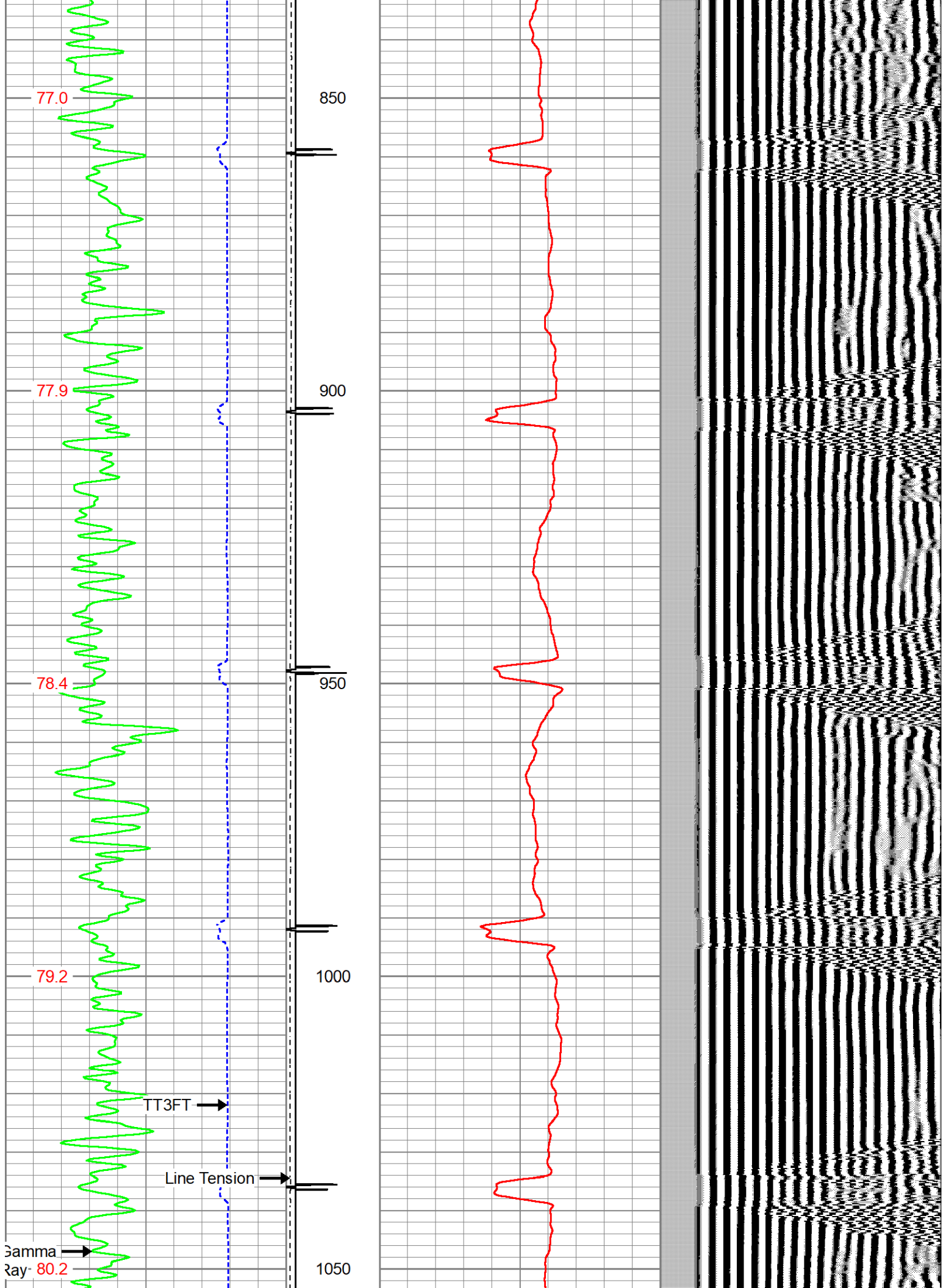
420	TT3FT (usec)	220	CCL	0	Amplitude (mV)	100	200	Variable Density (usec)	1200
0	Gamma Ray (GAPI)	150	Line Tension	0	Amplified Amplitude (mV)	10			
Temp		0	(lb)2000						
(degF)									

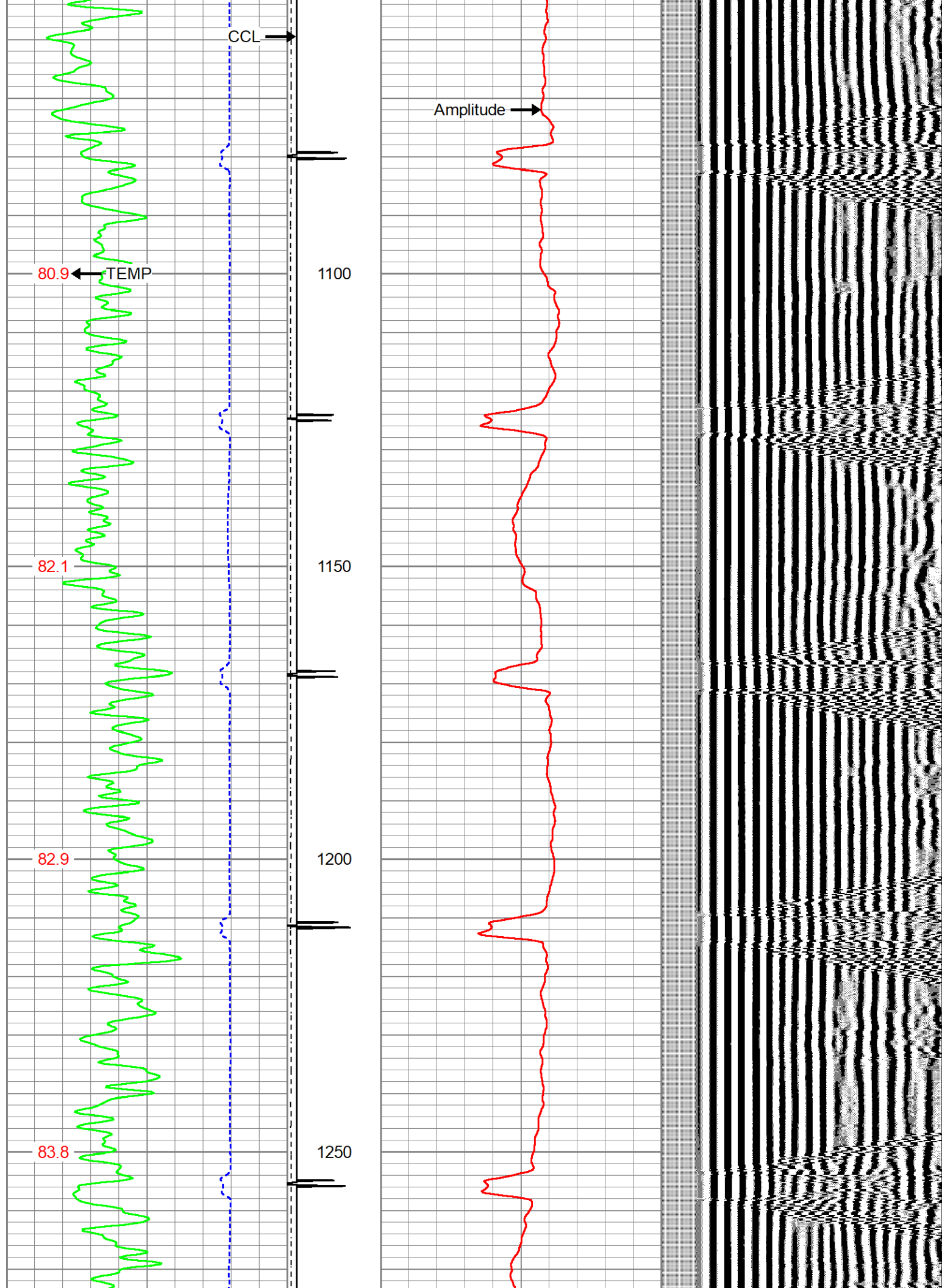


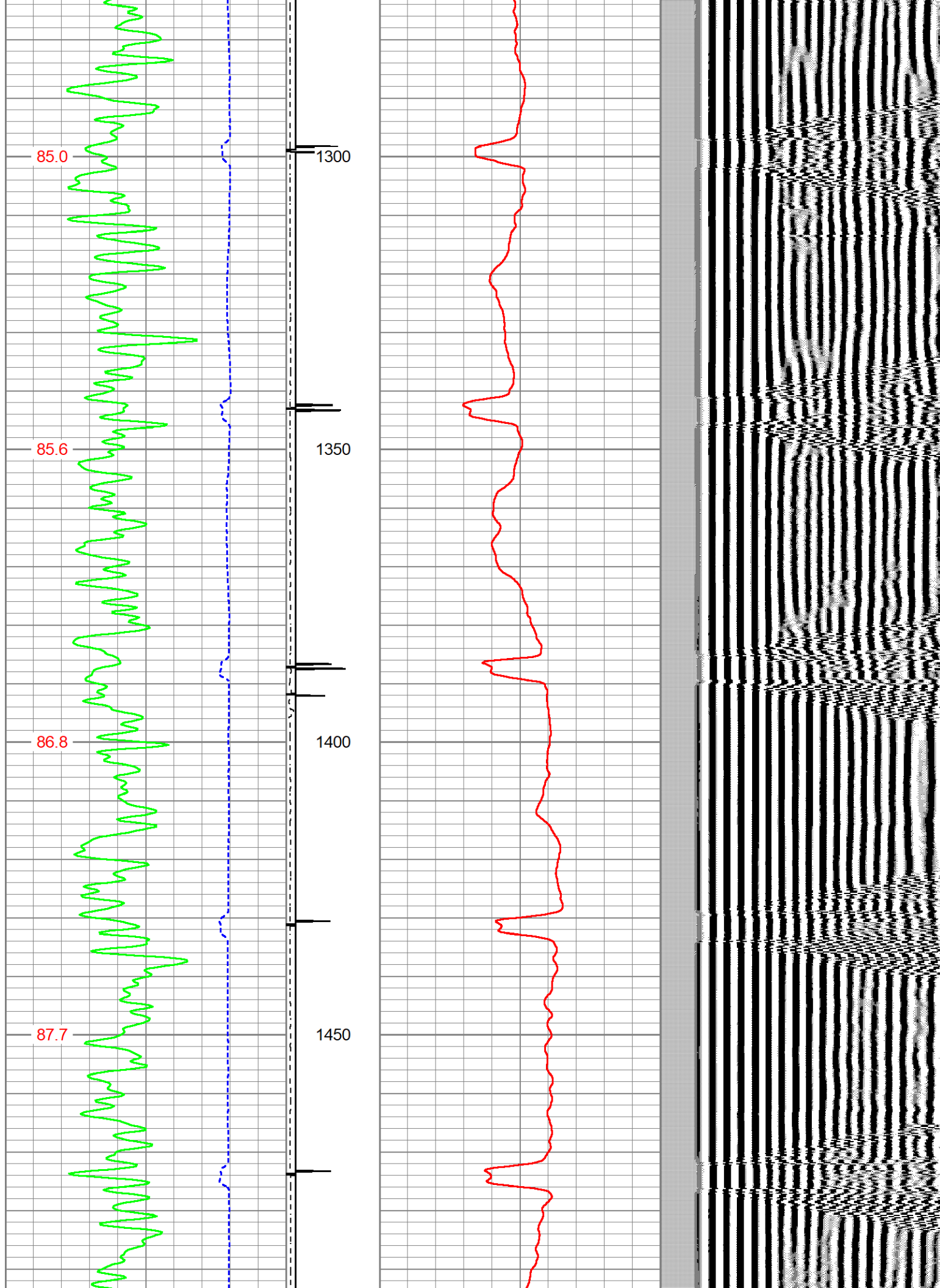


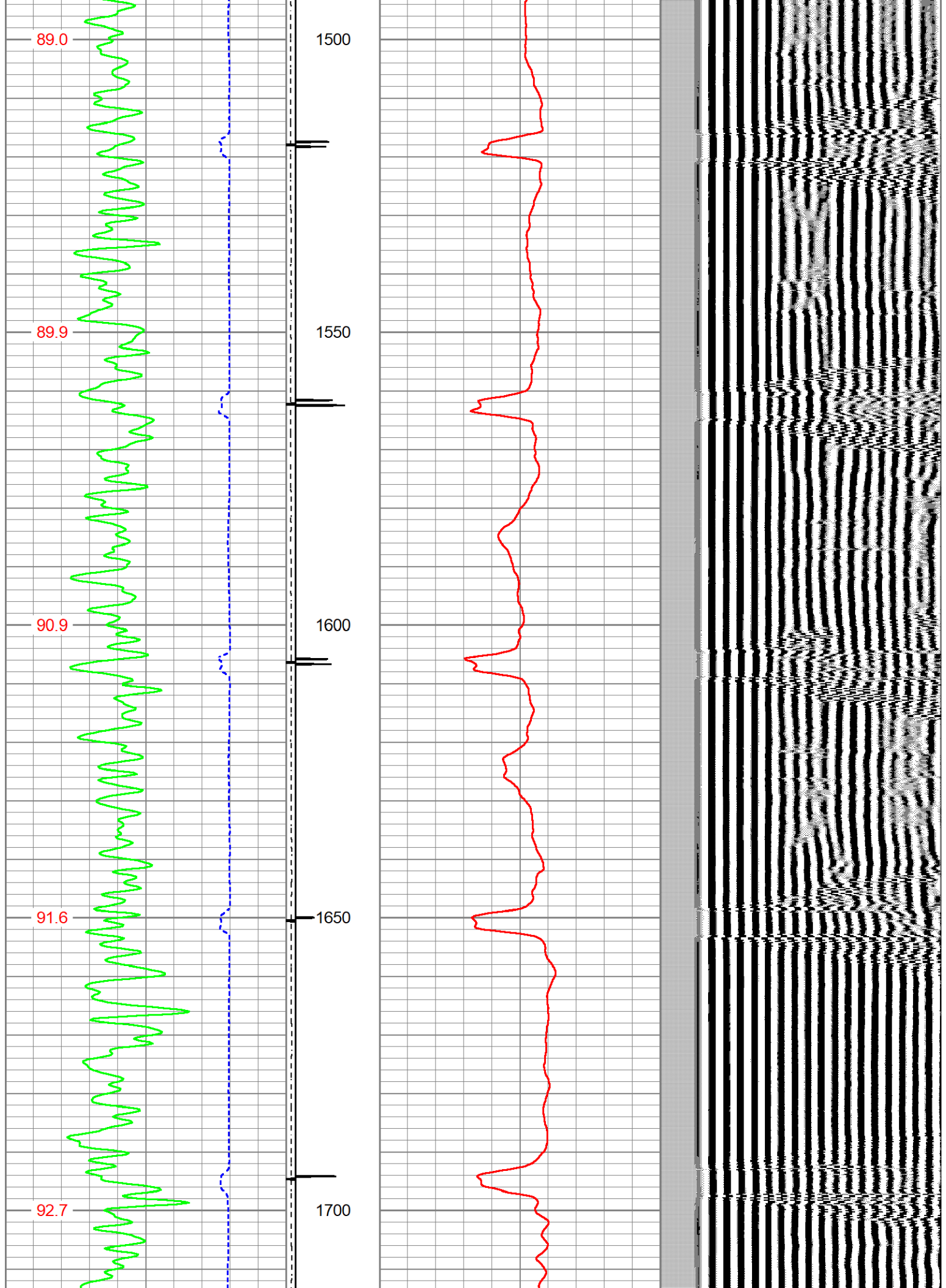


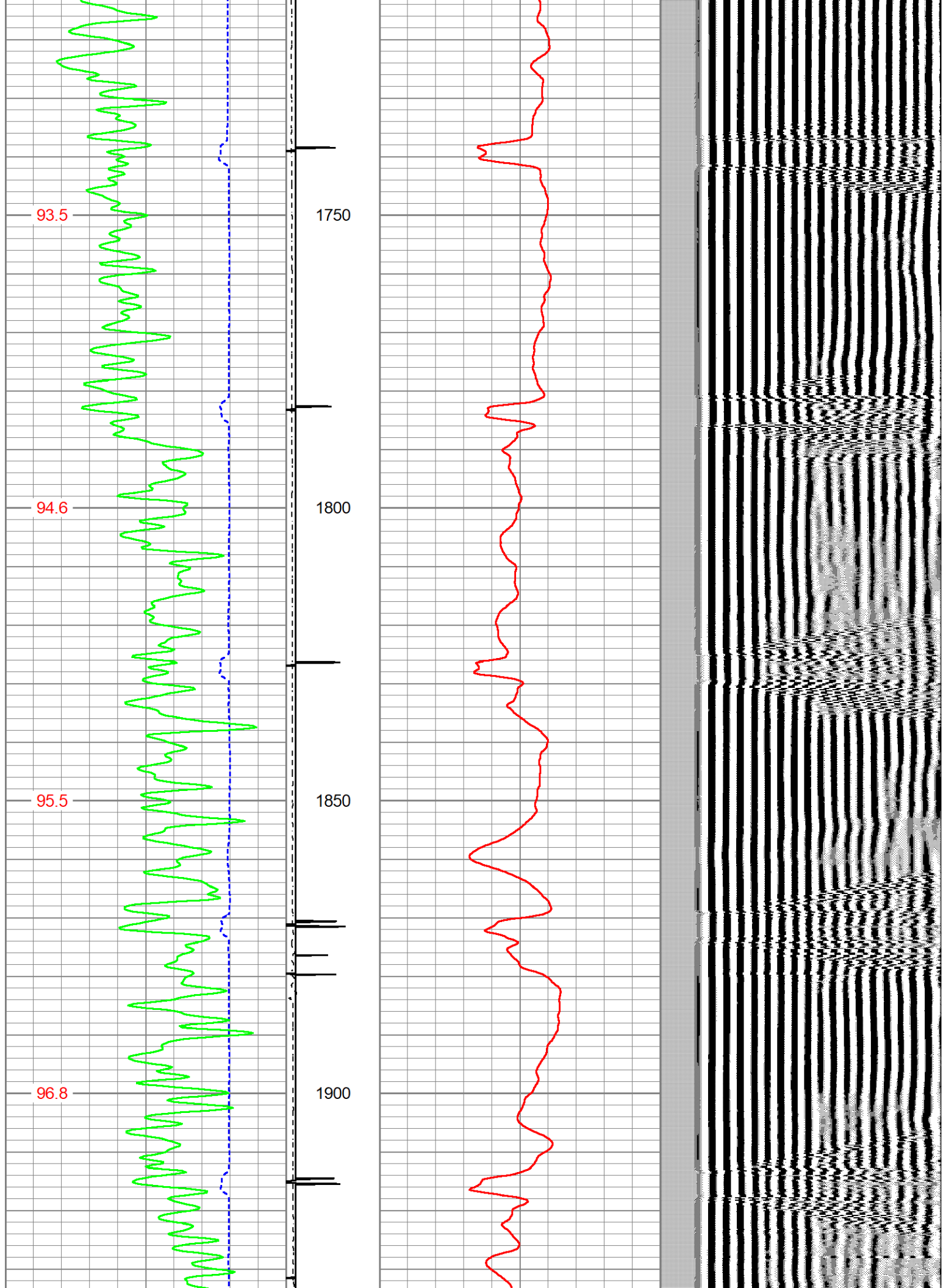


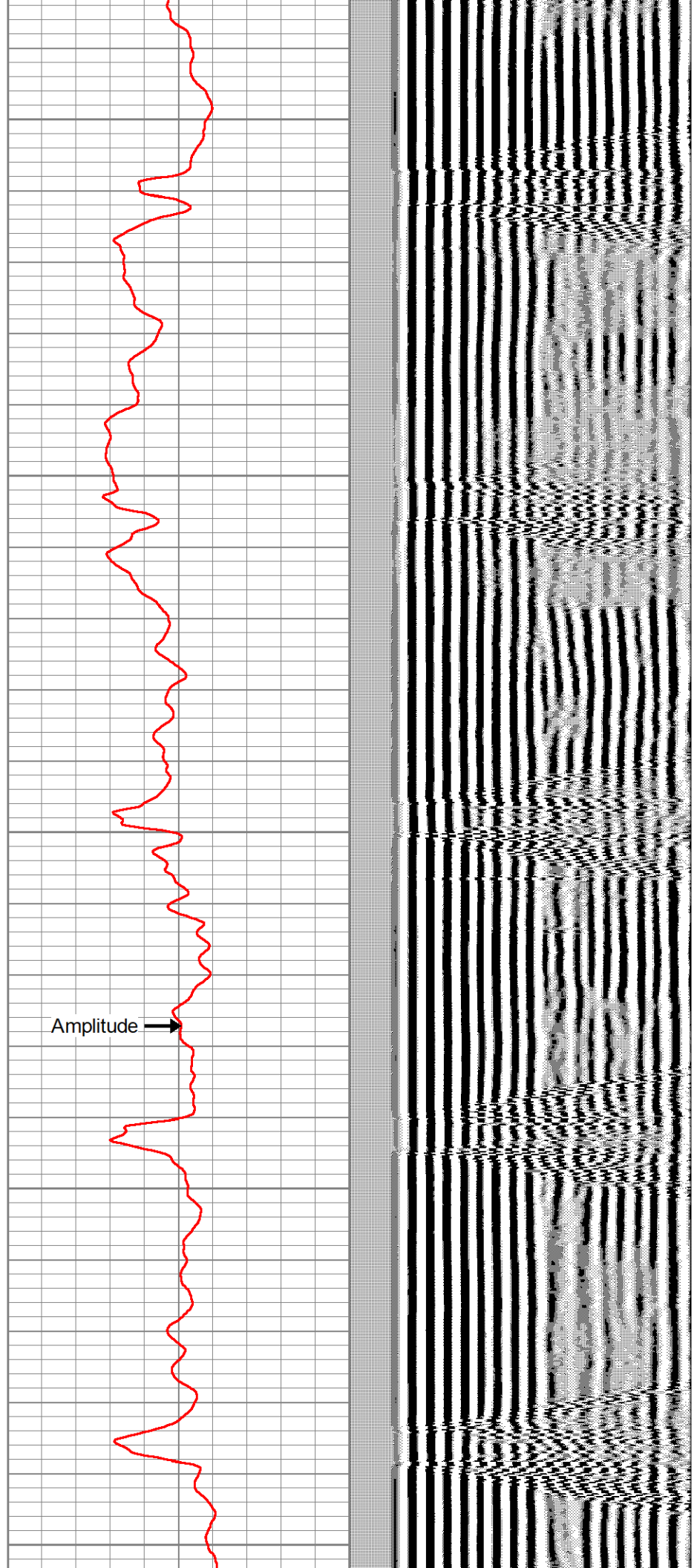
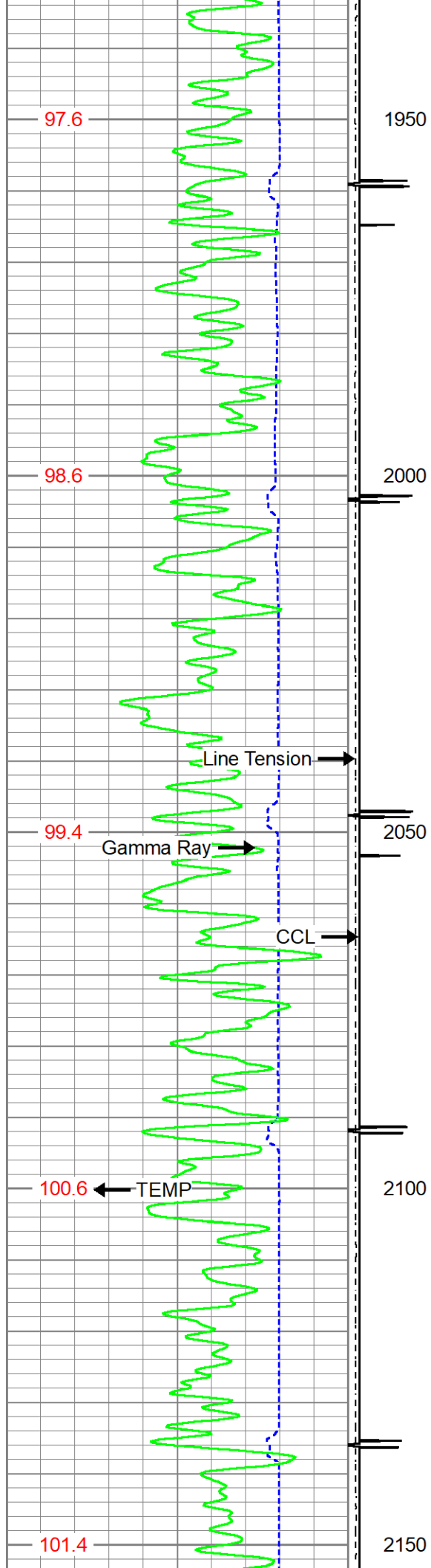


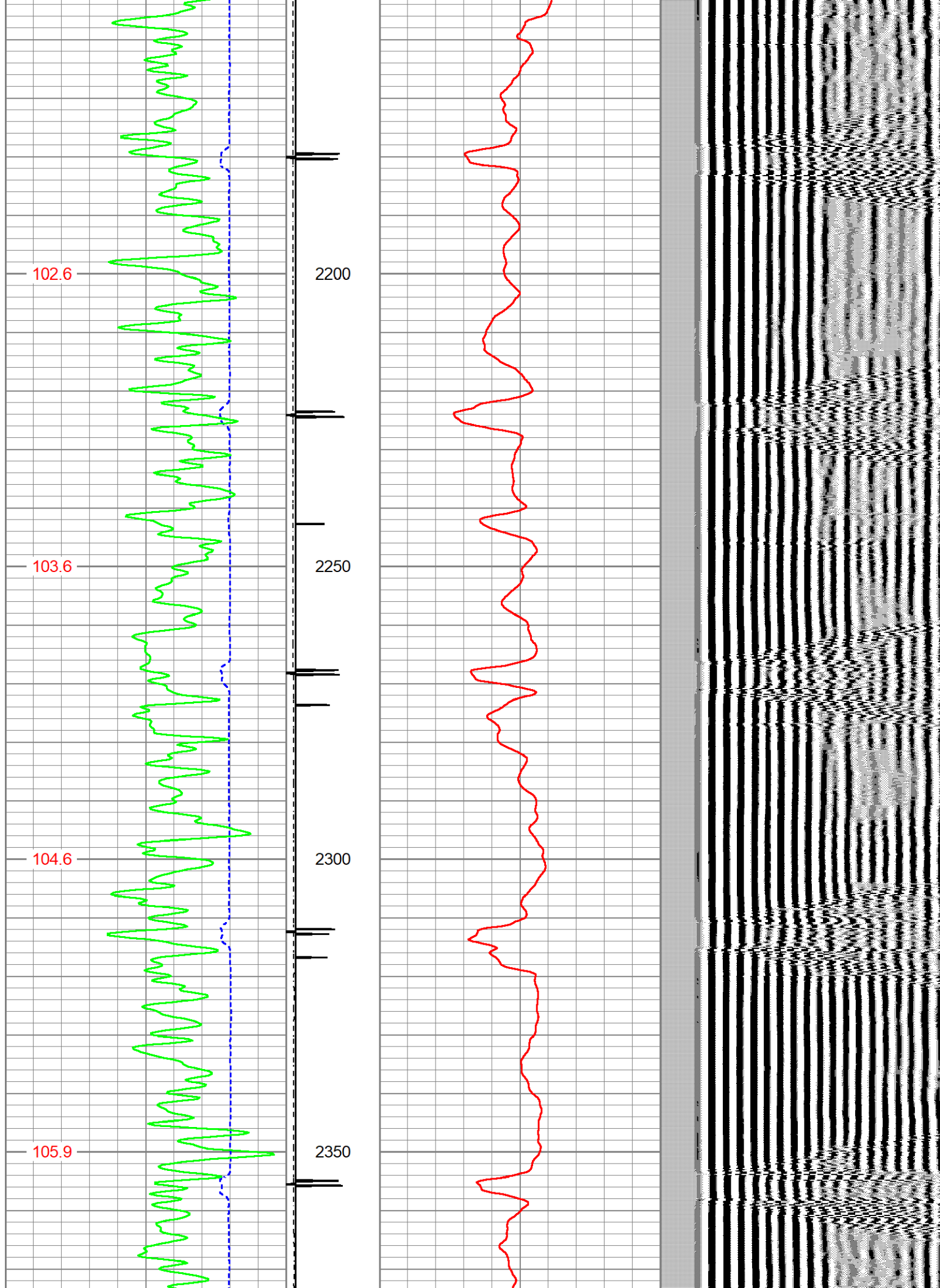


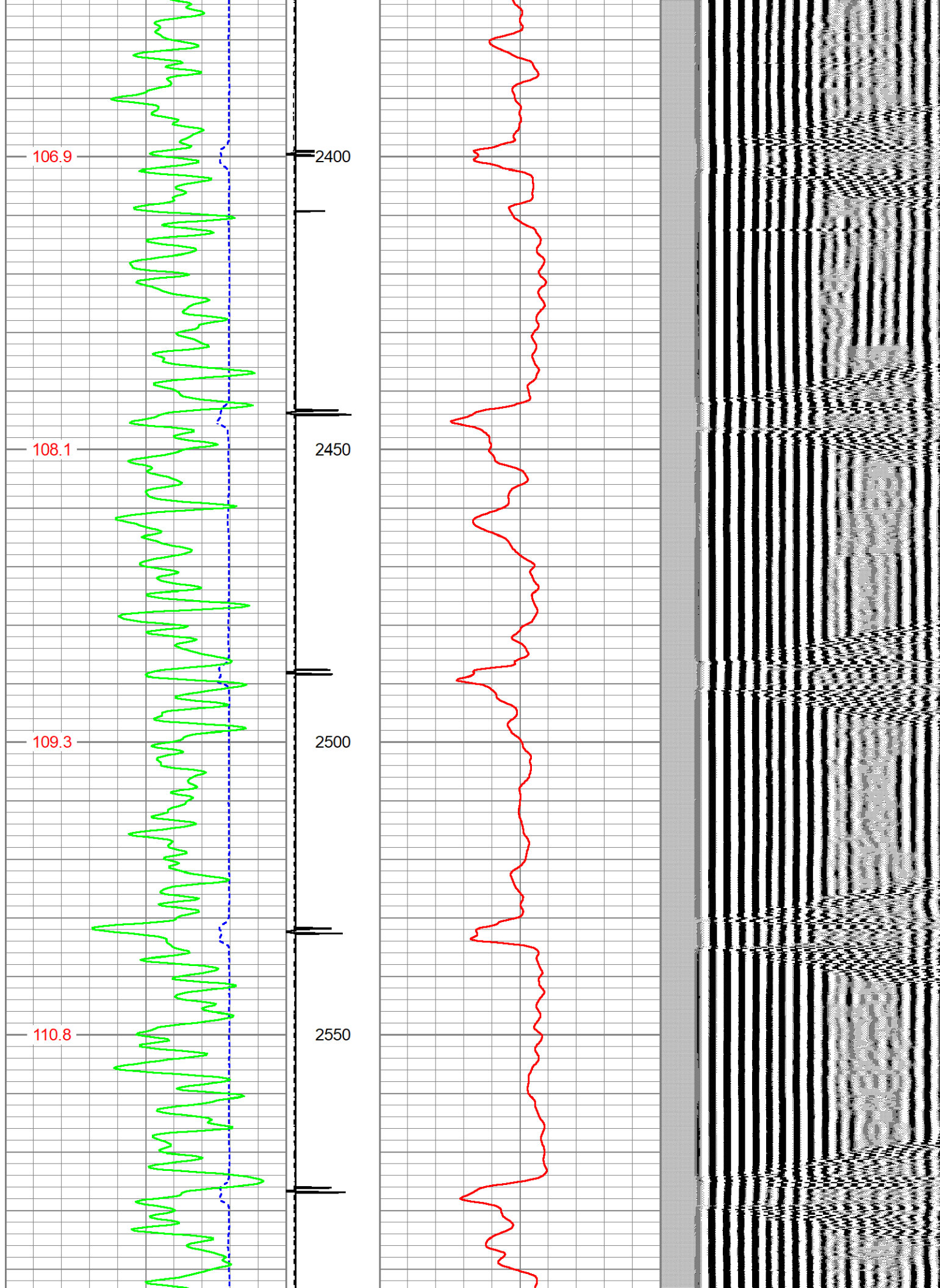


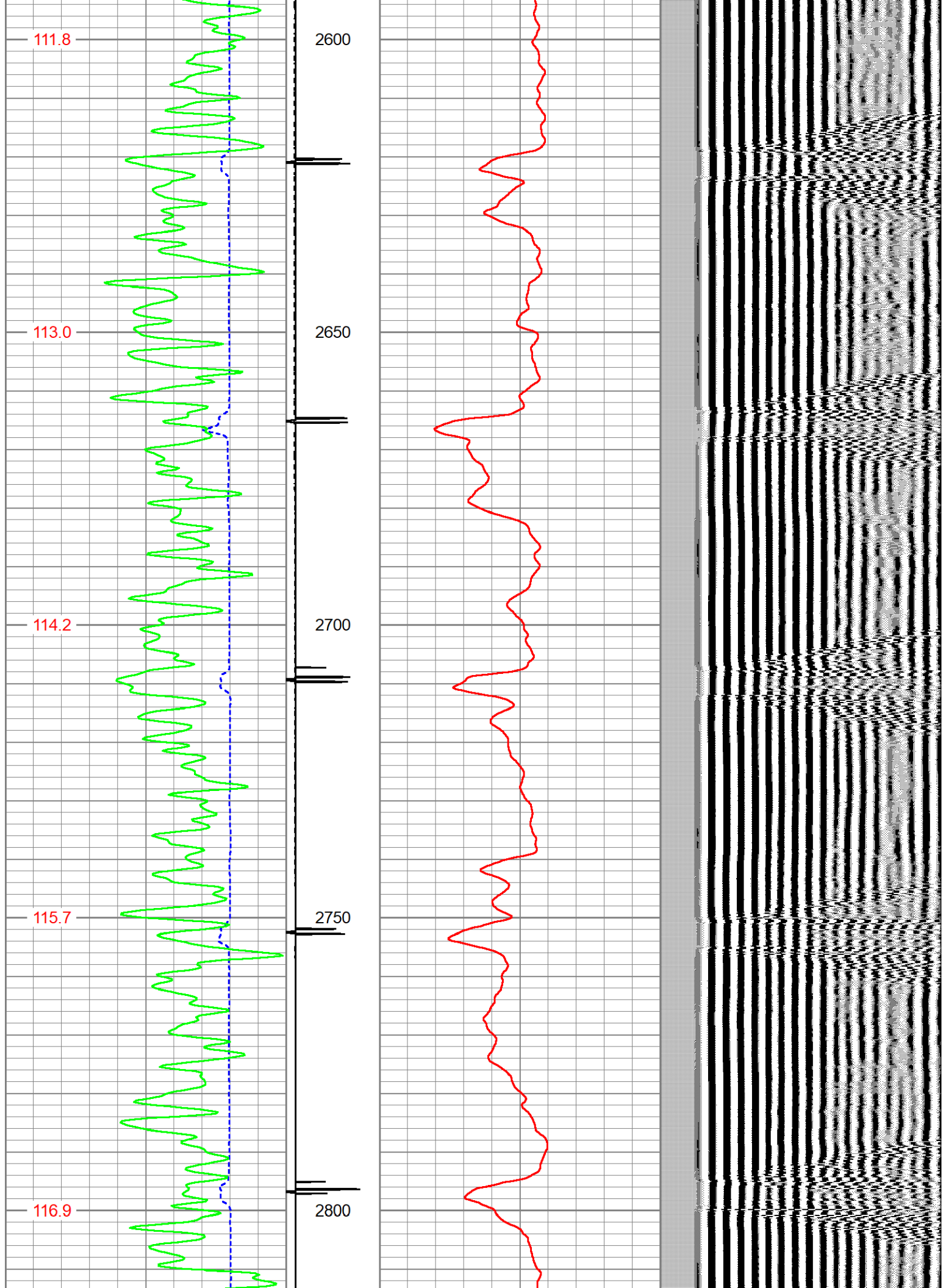


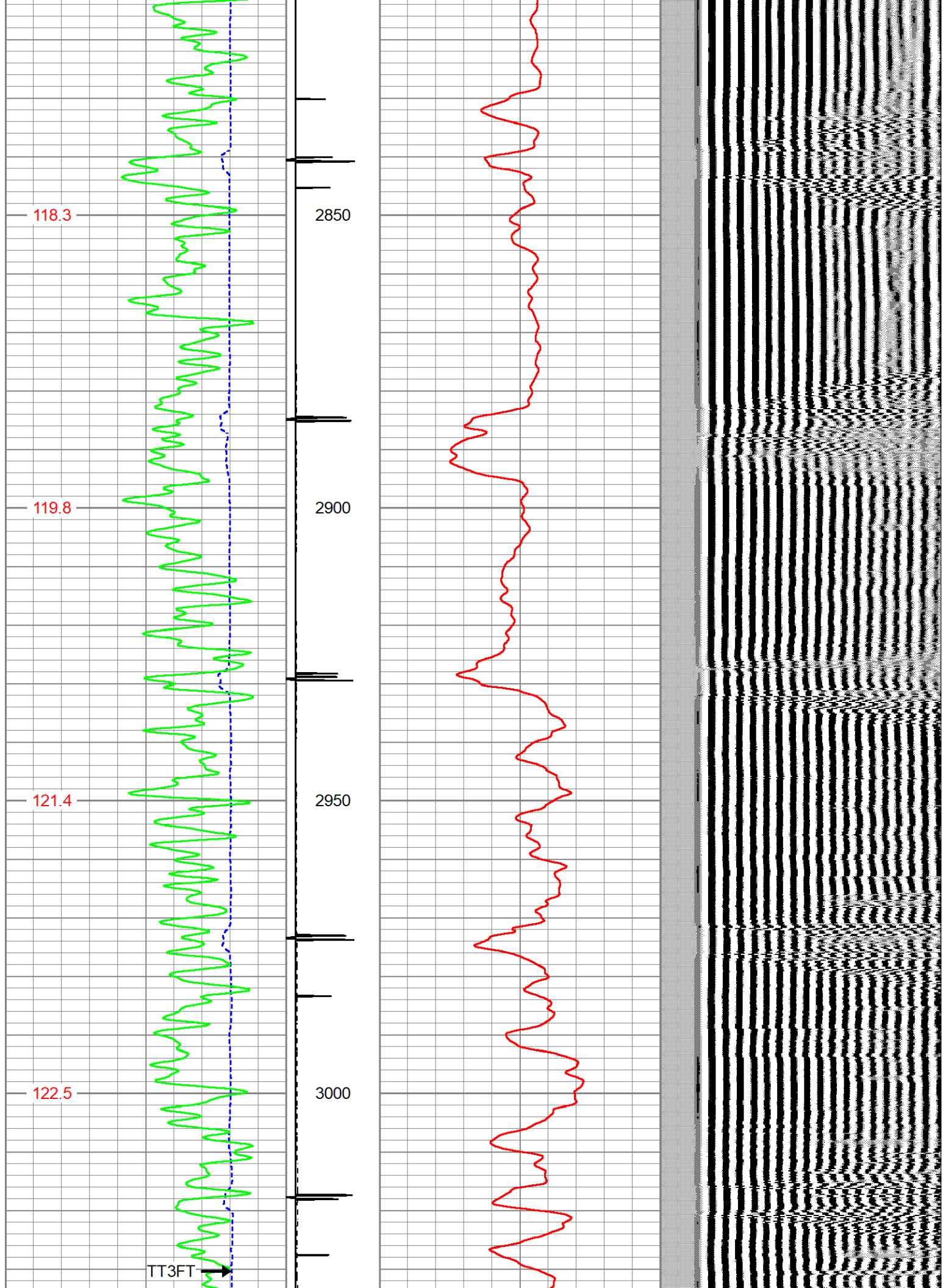


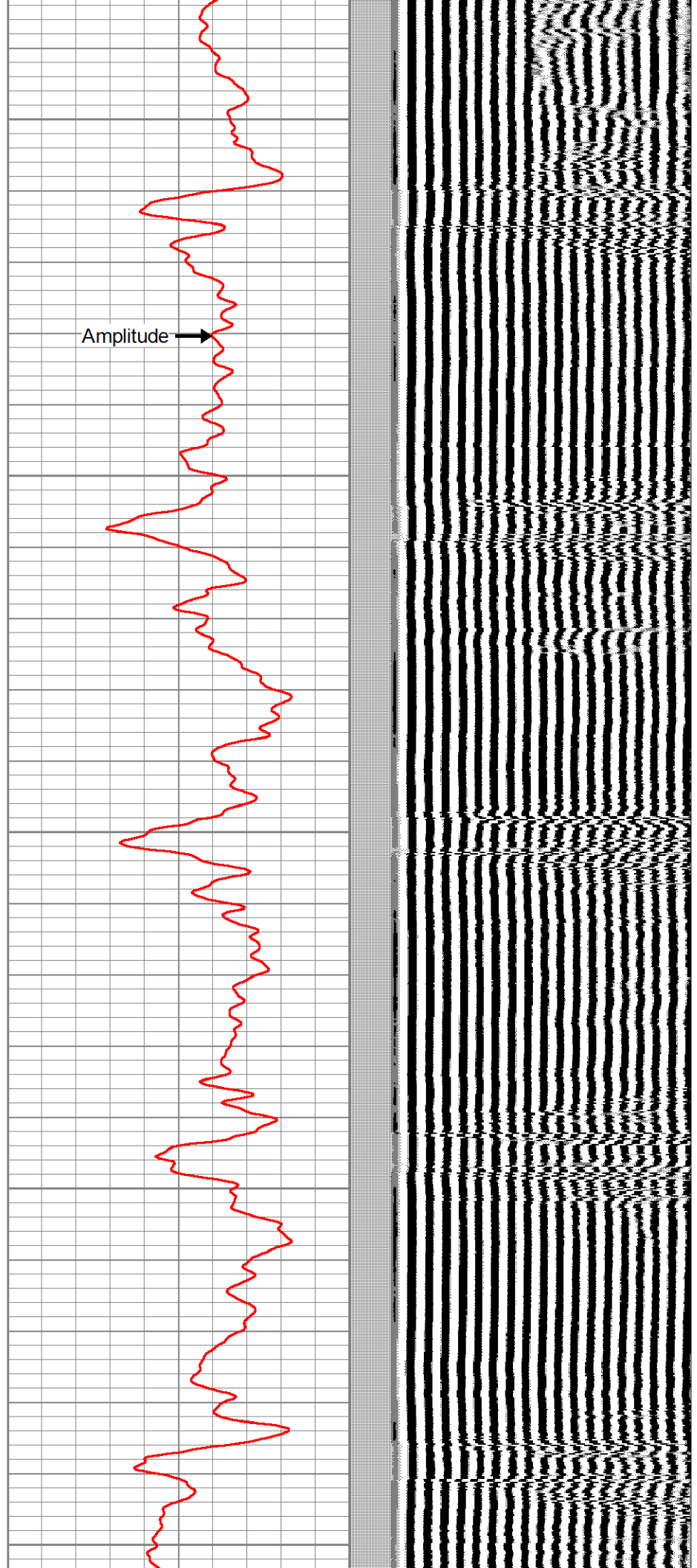
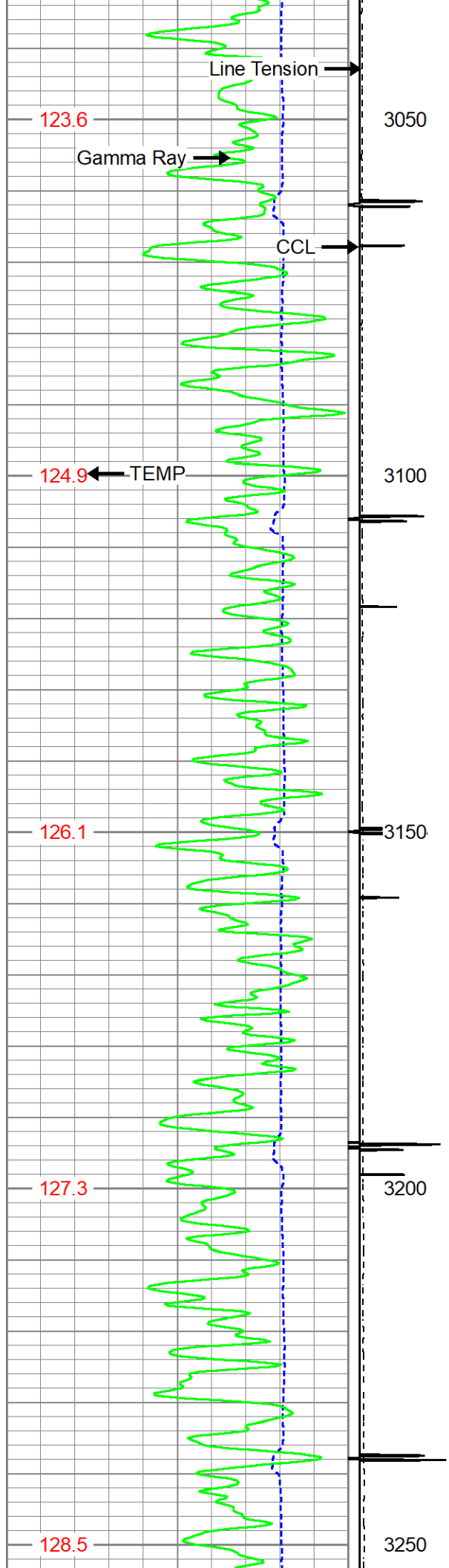


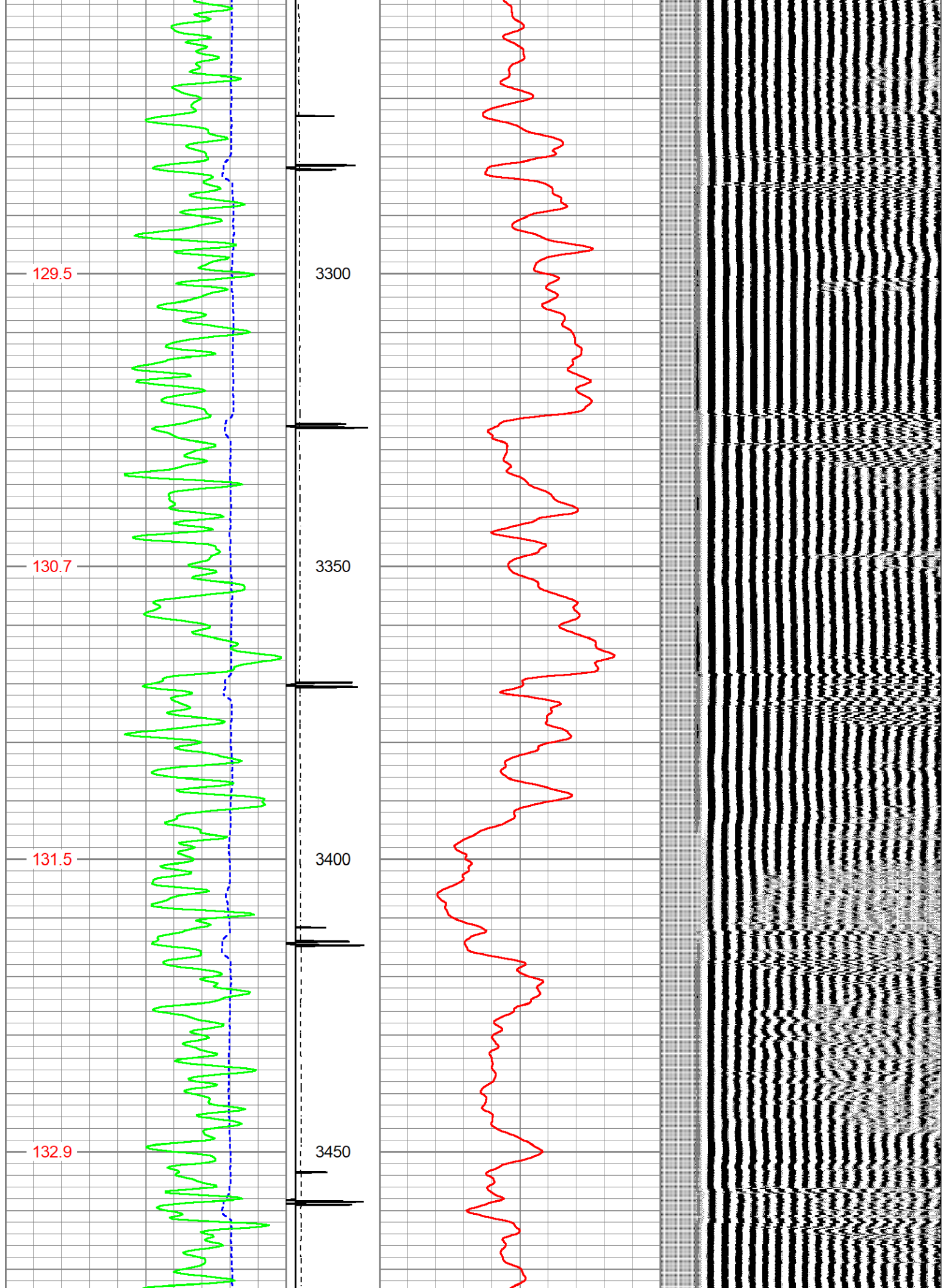


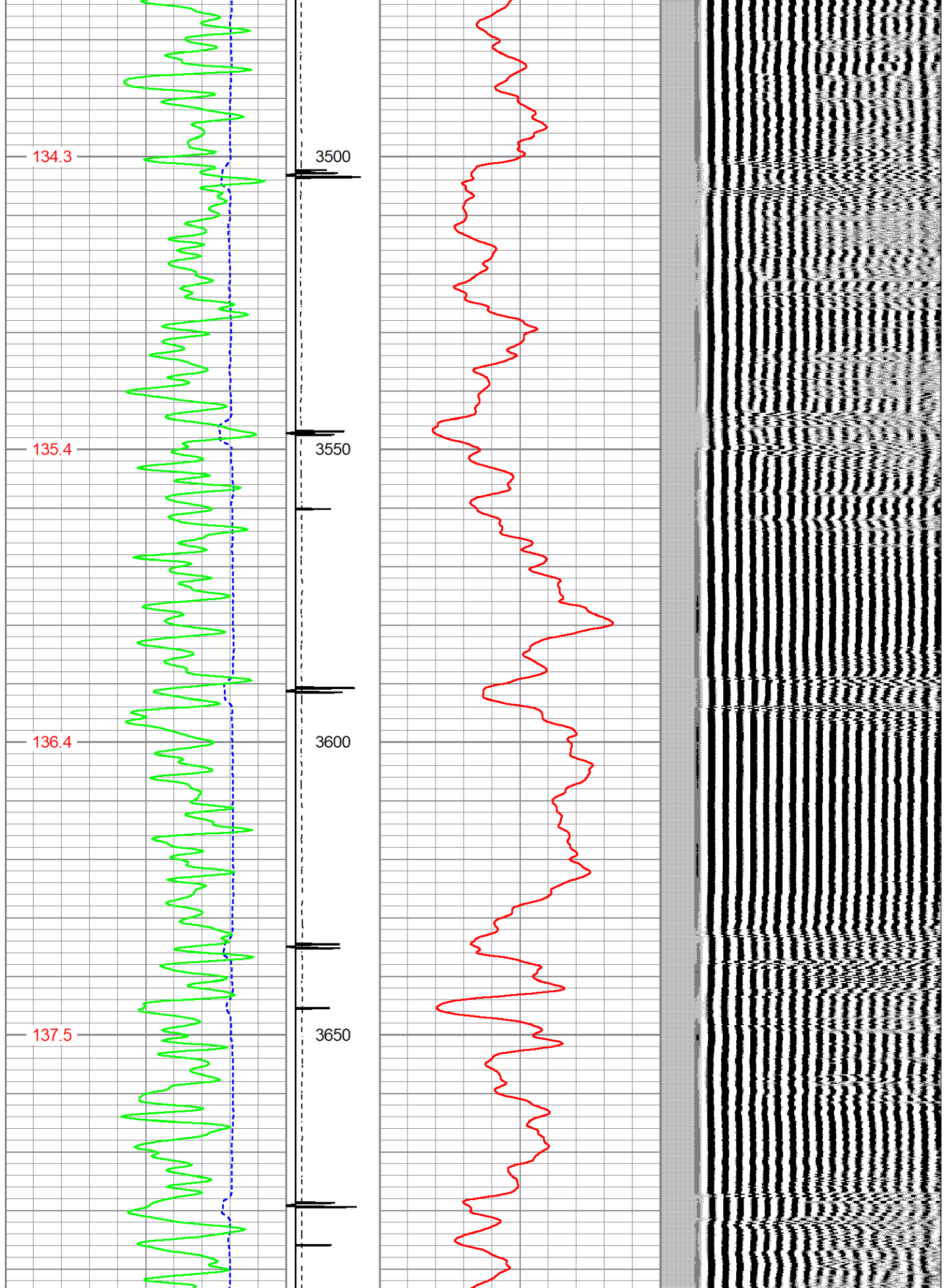


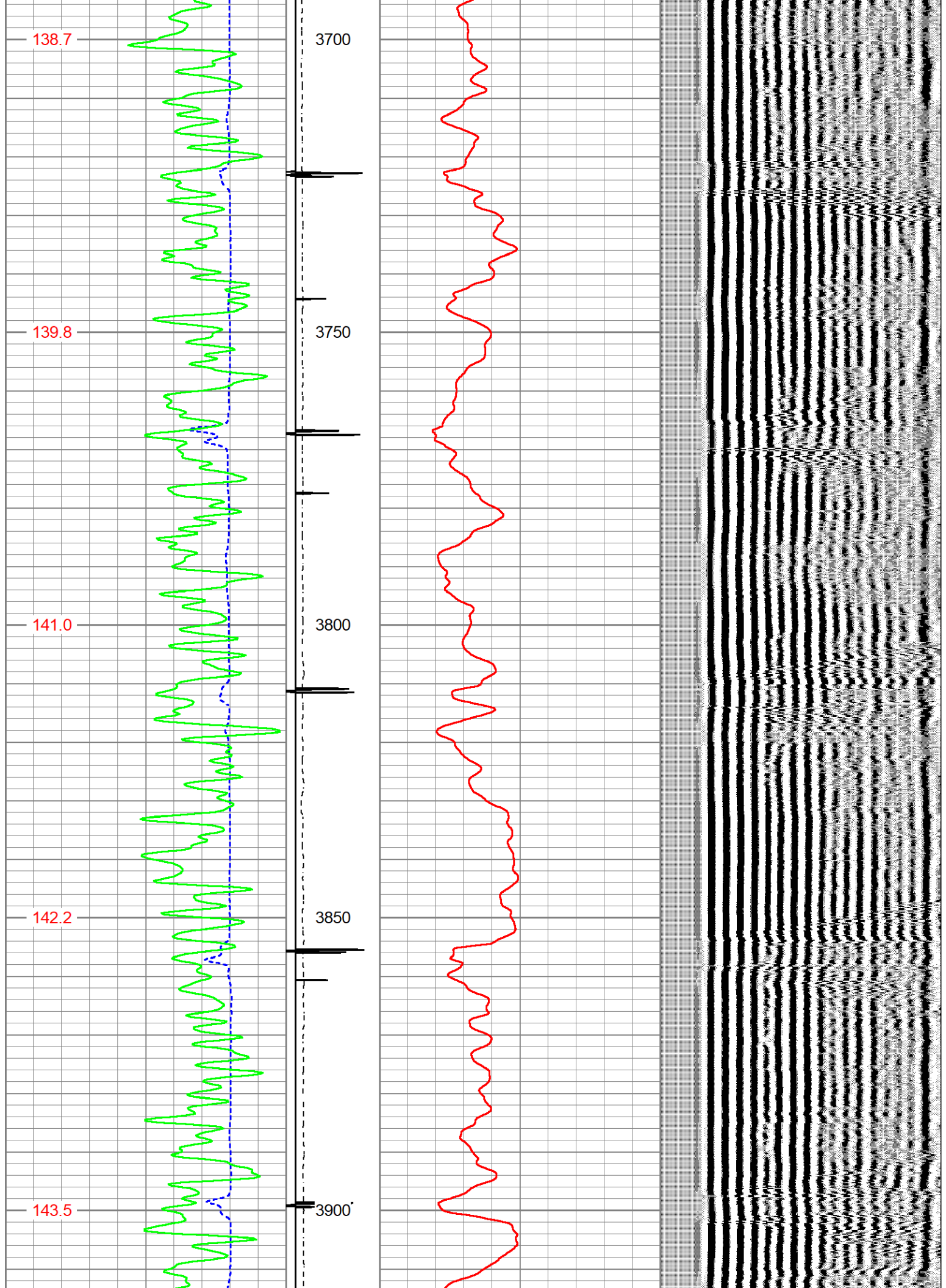


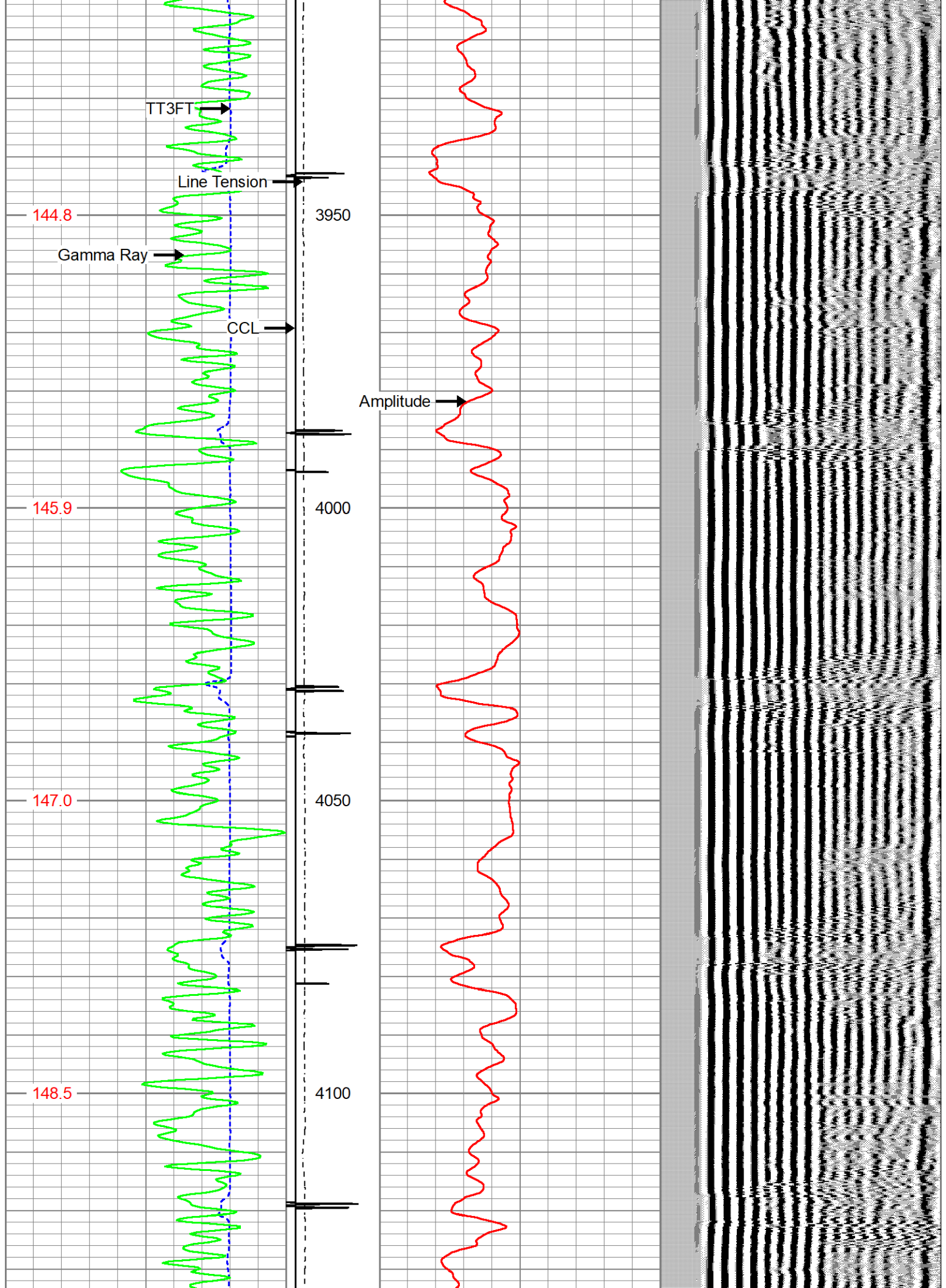


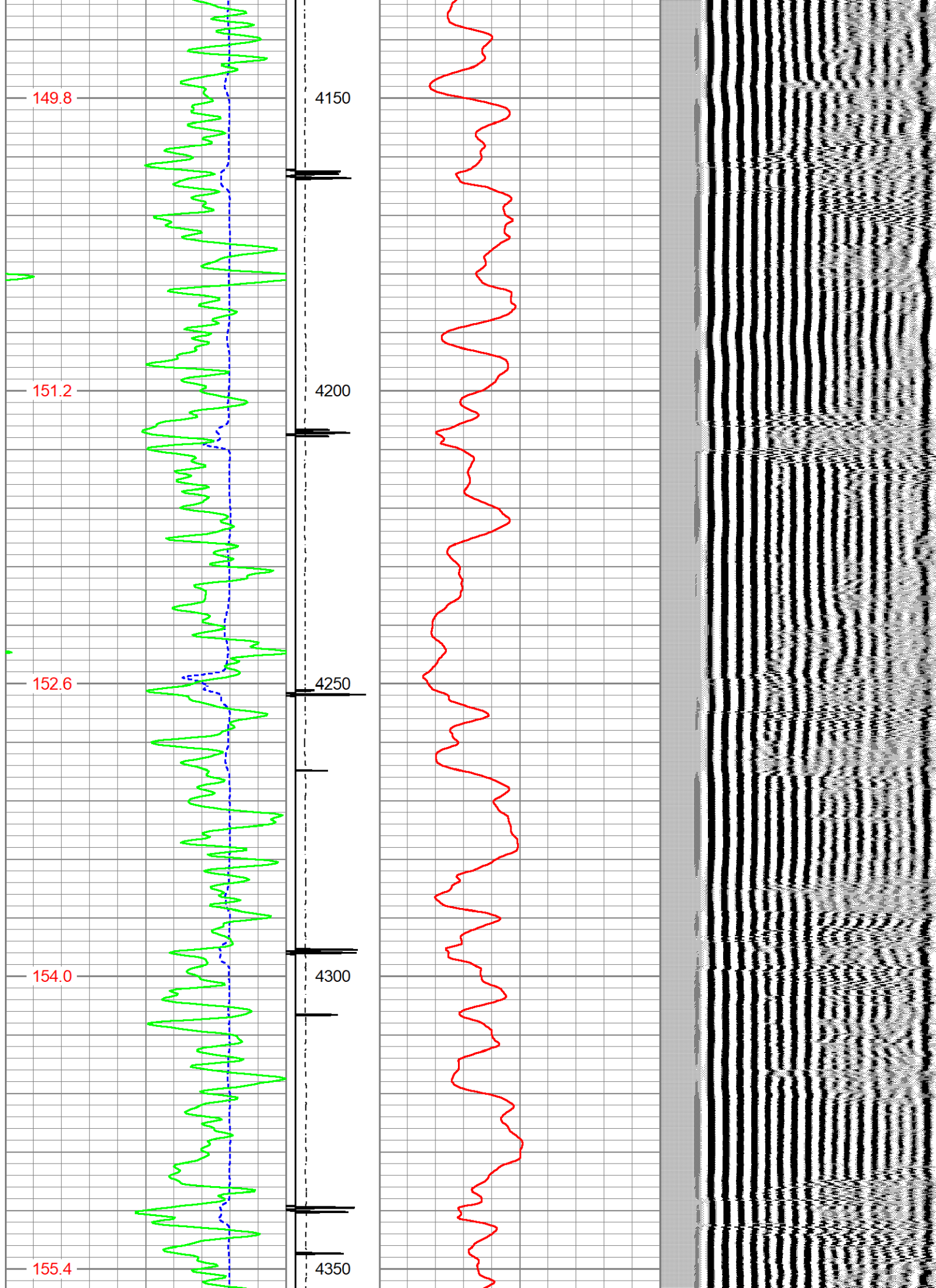


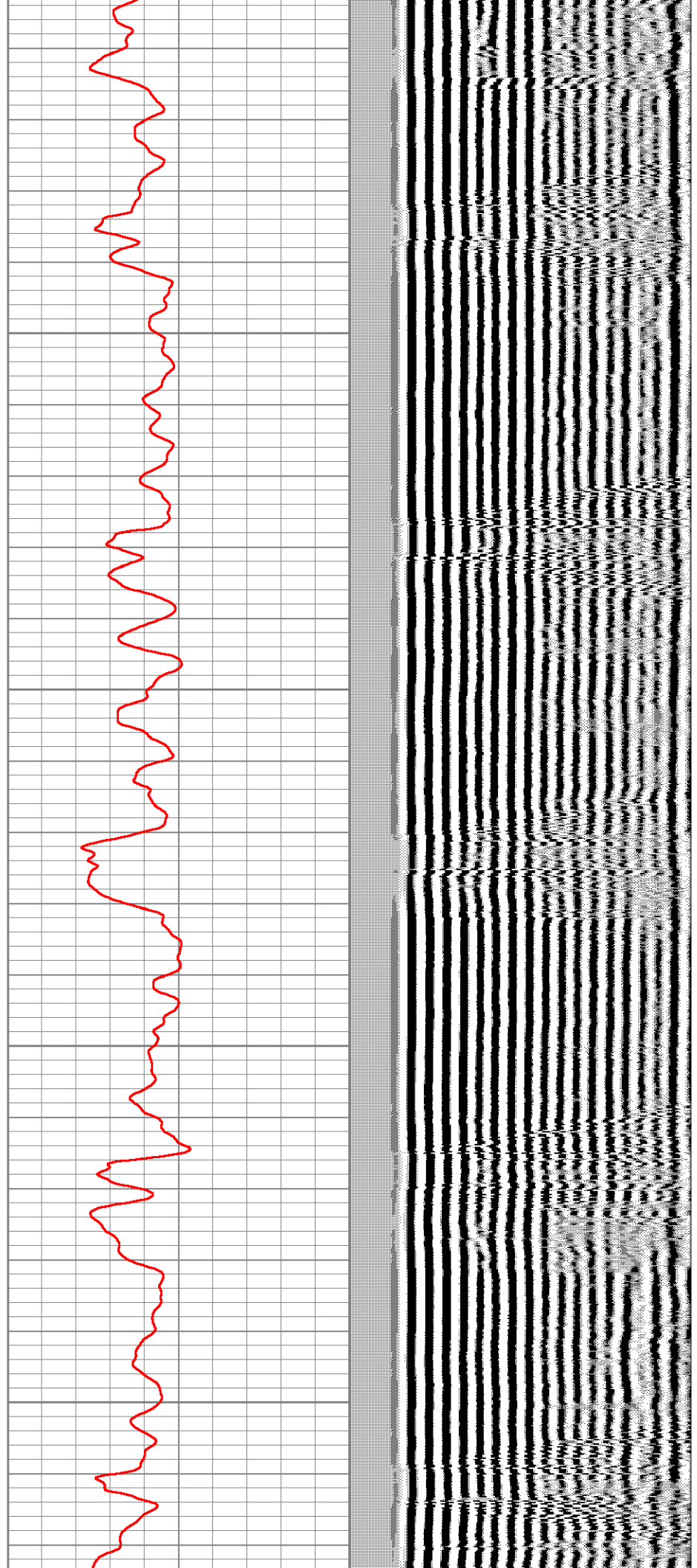
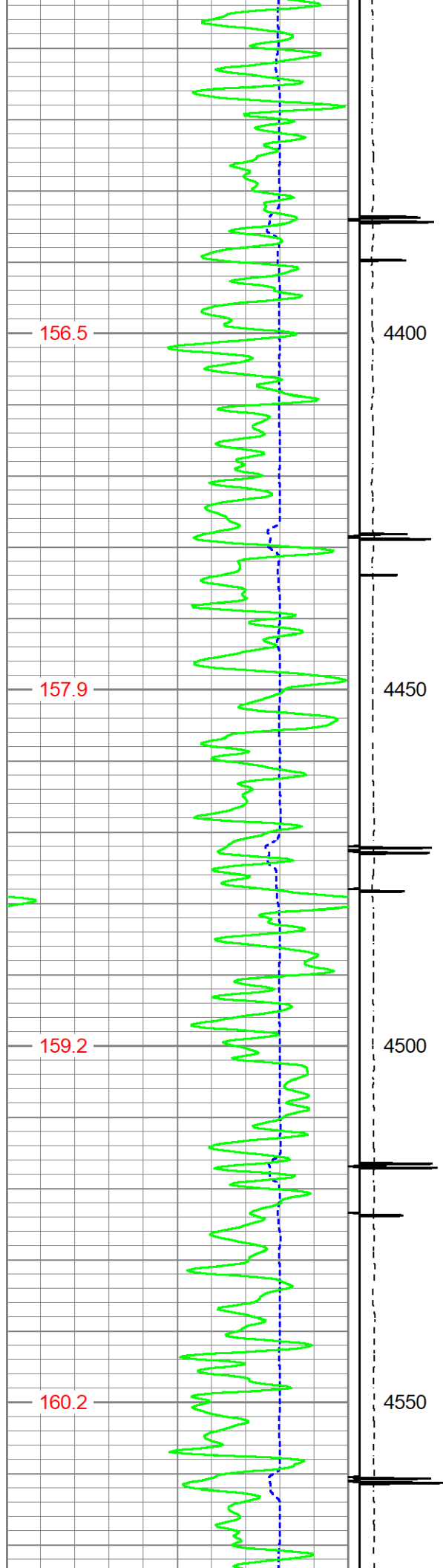


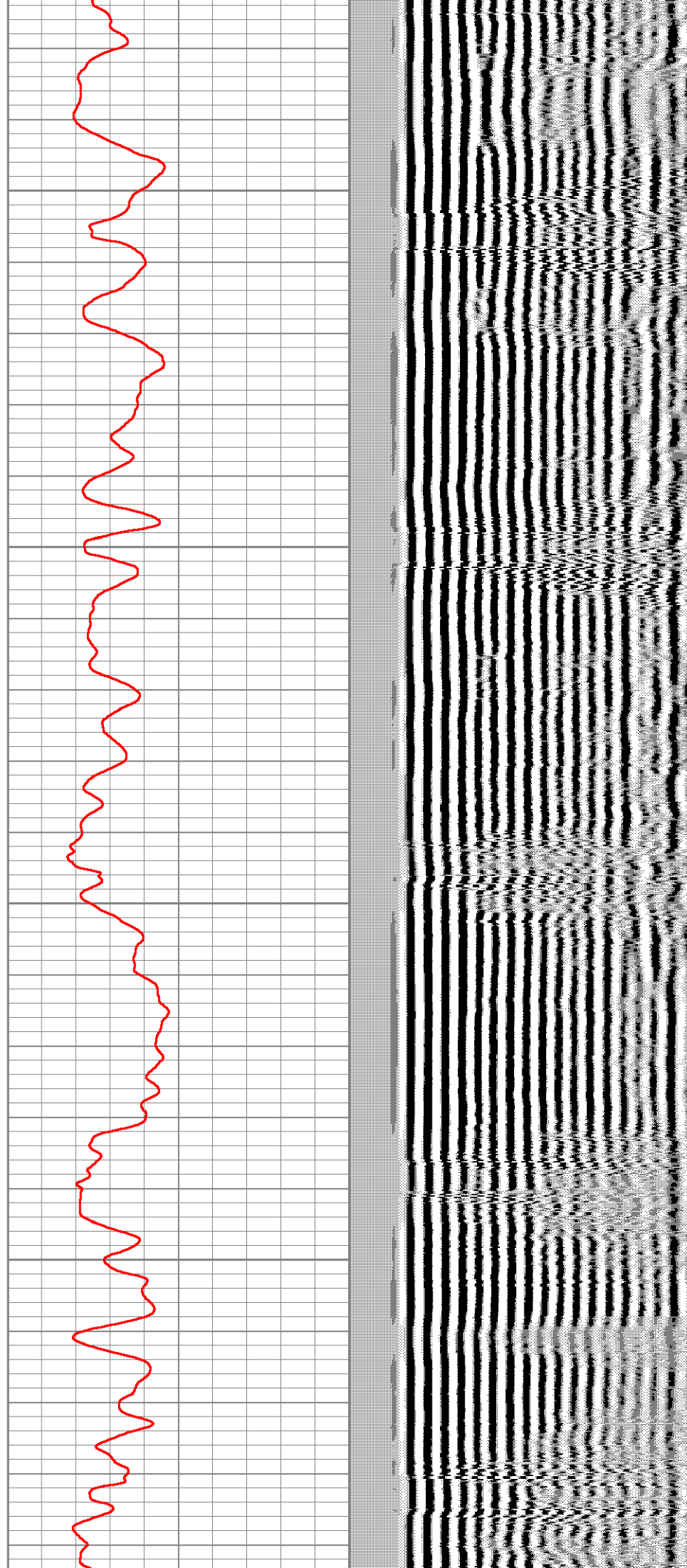
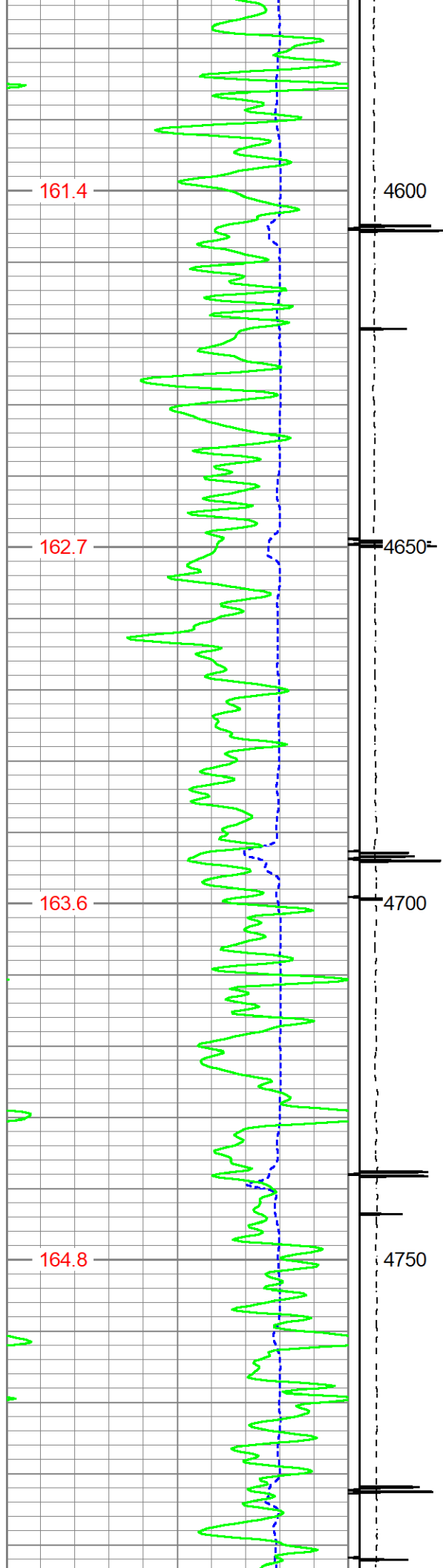


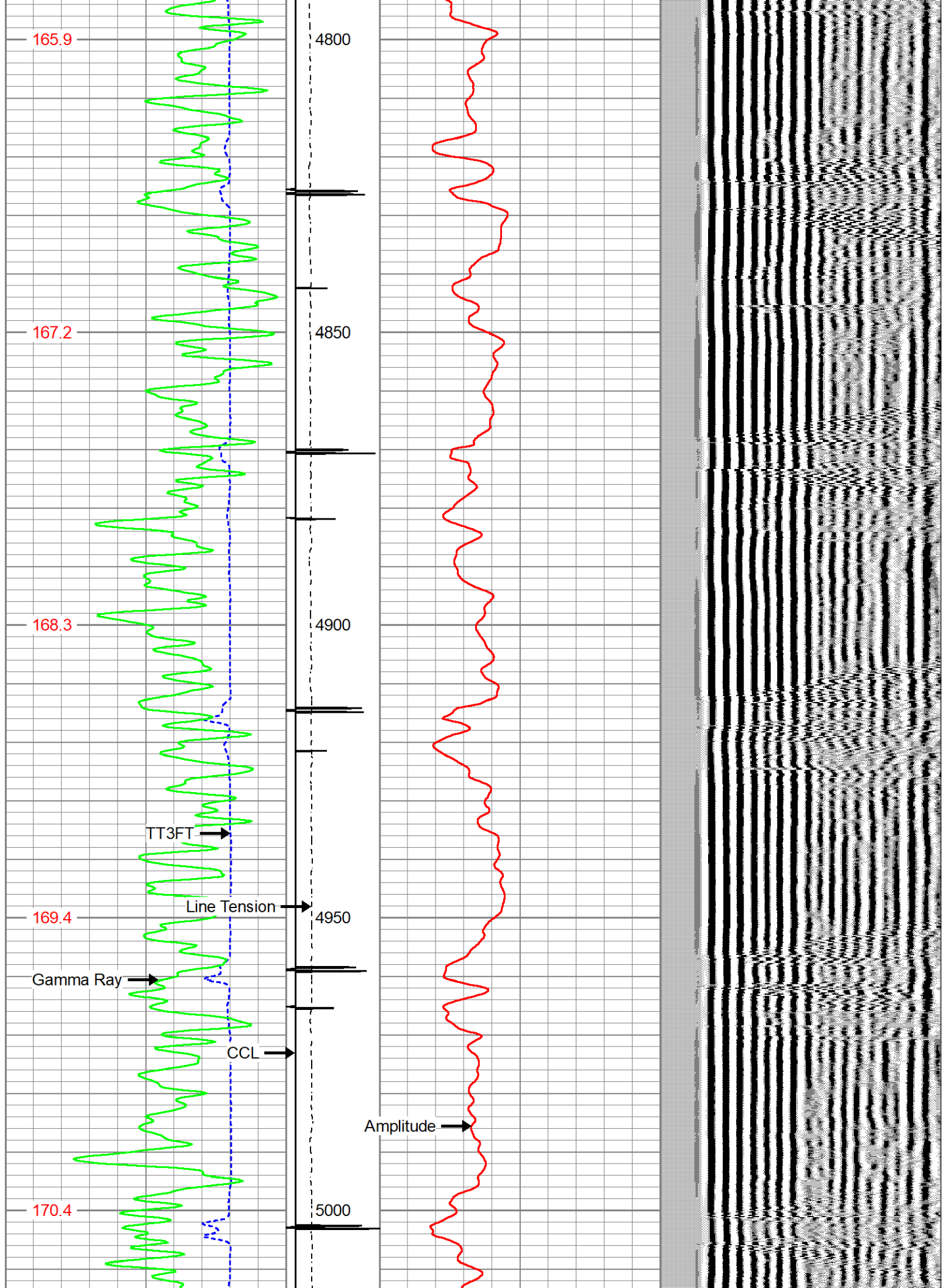


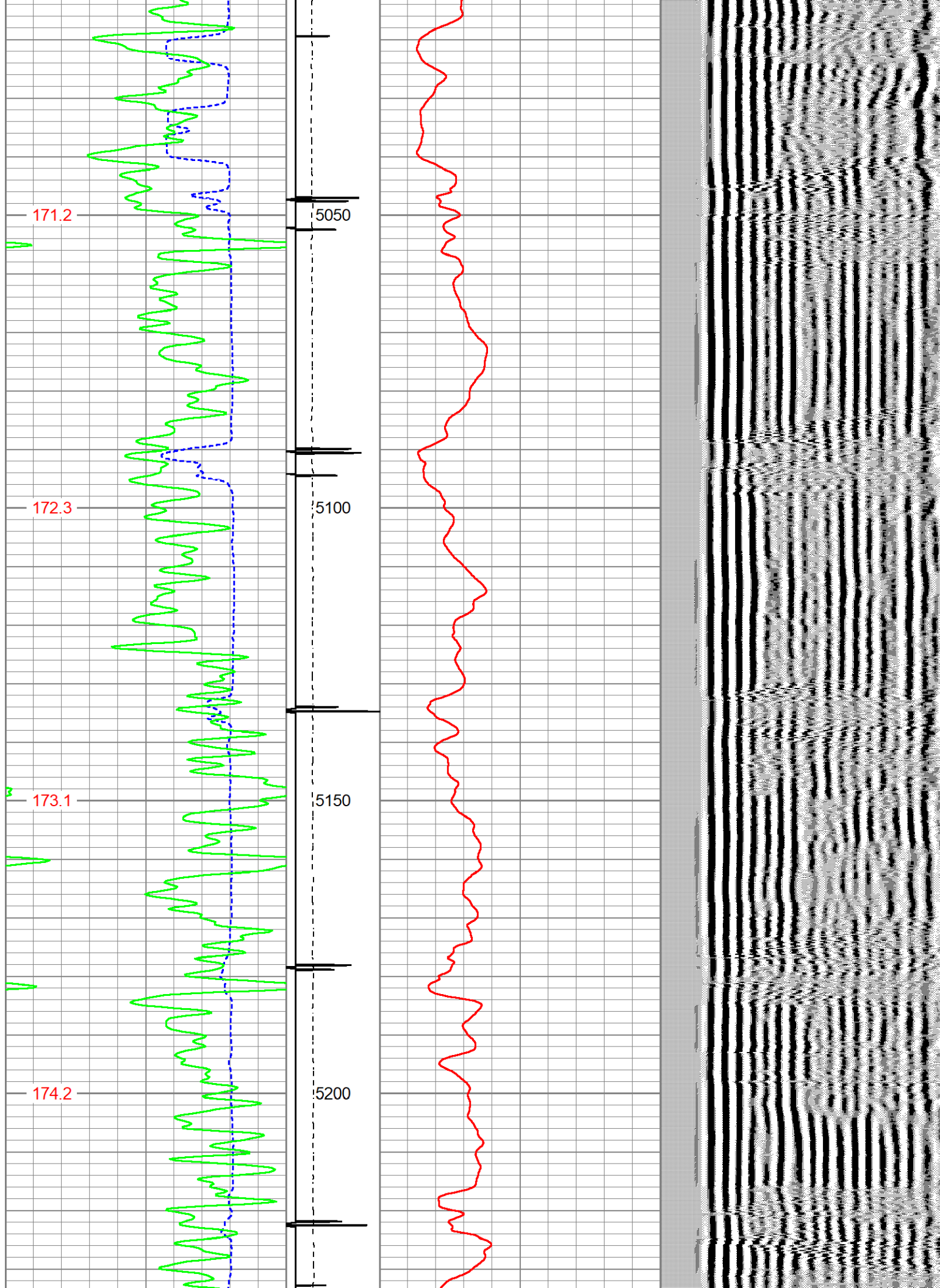


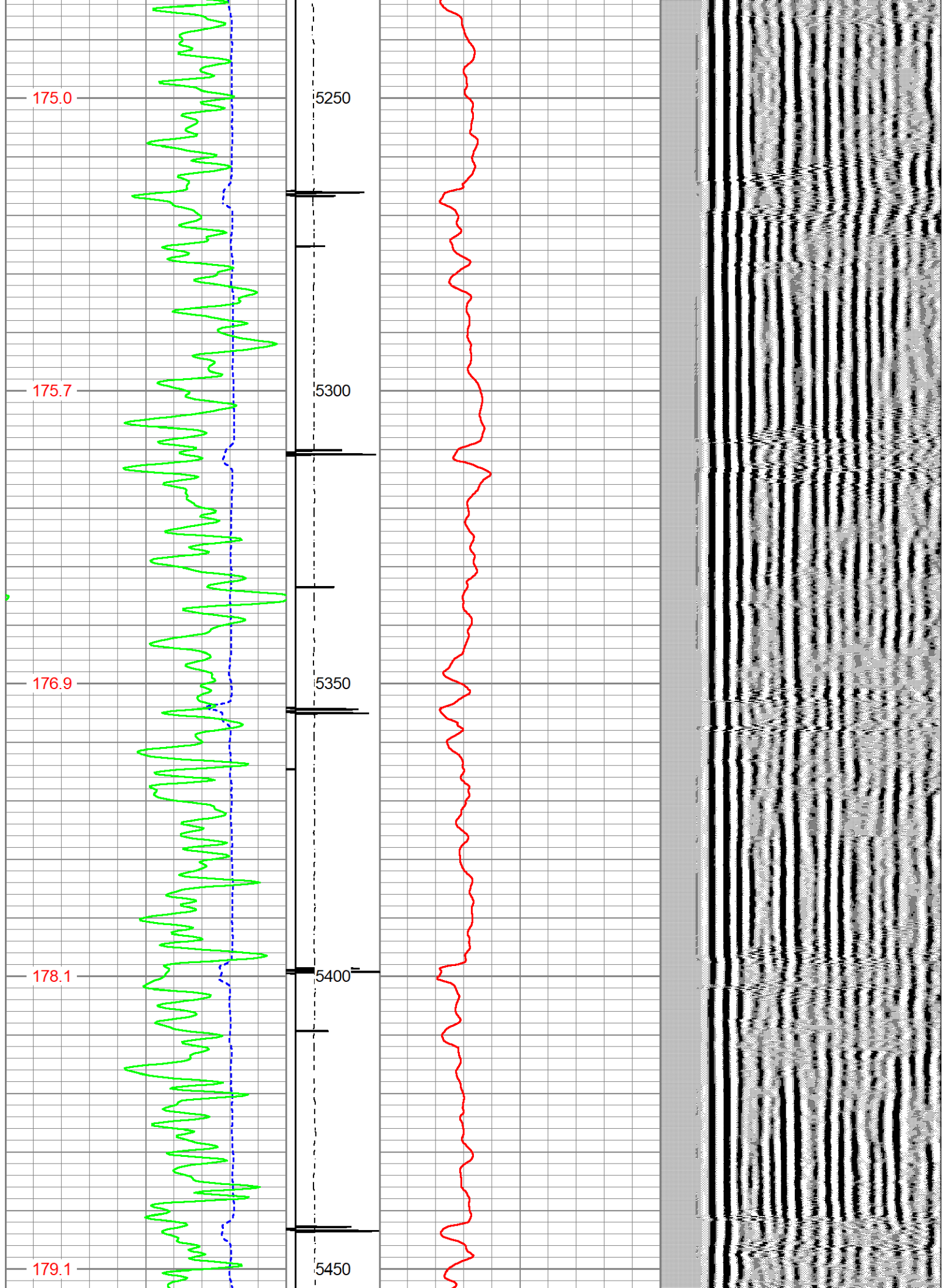


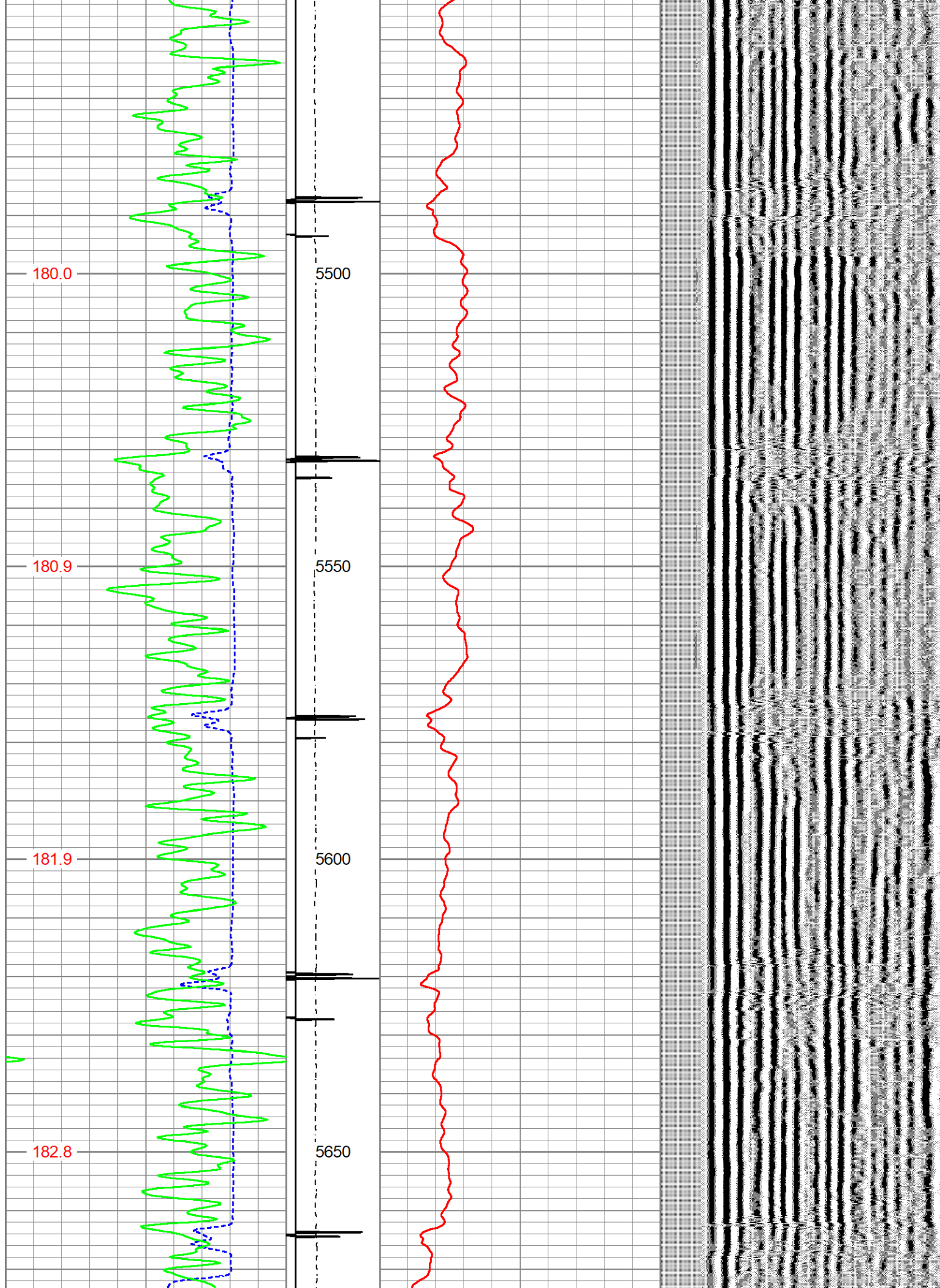


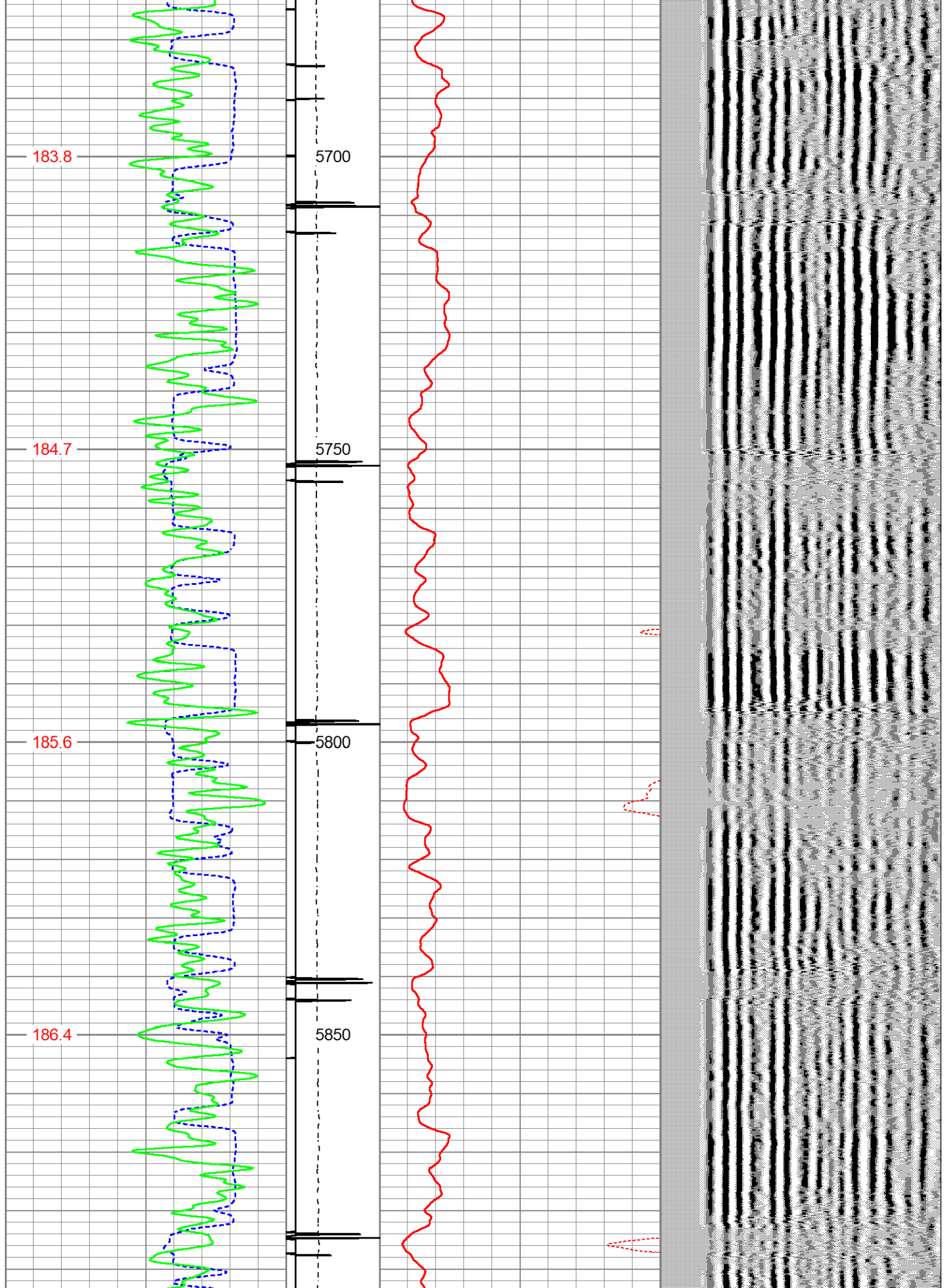


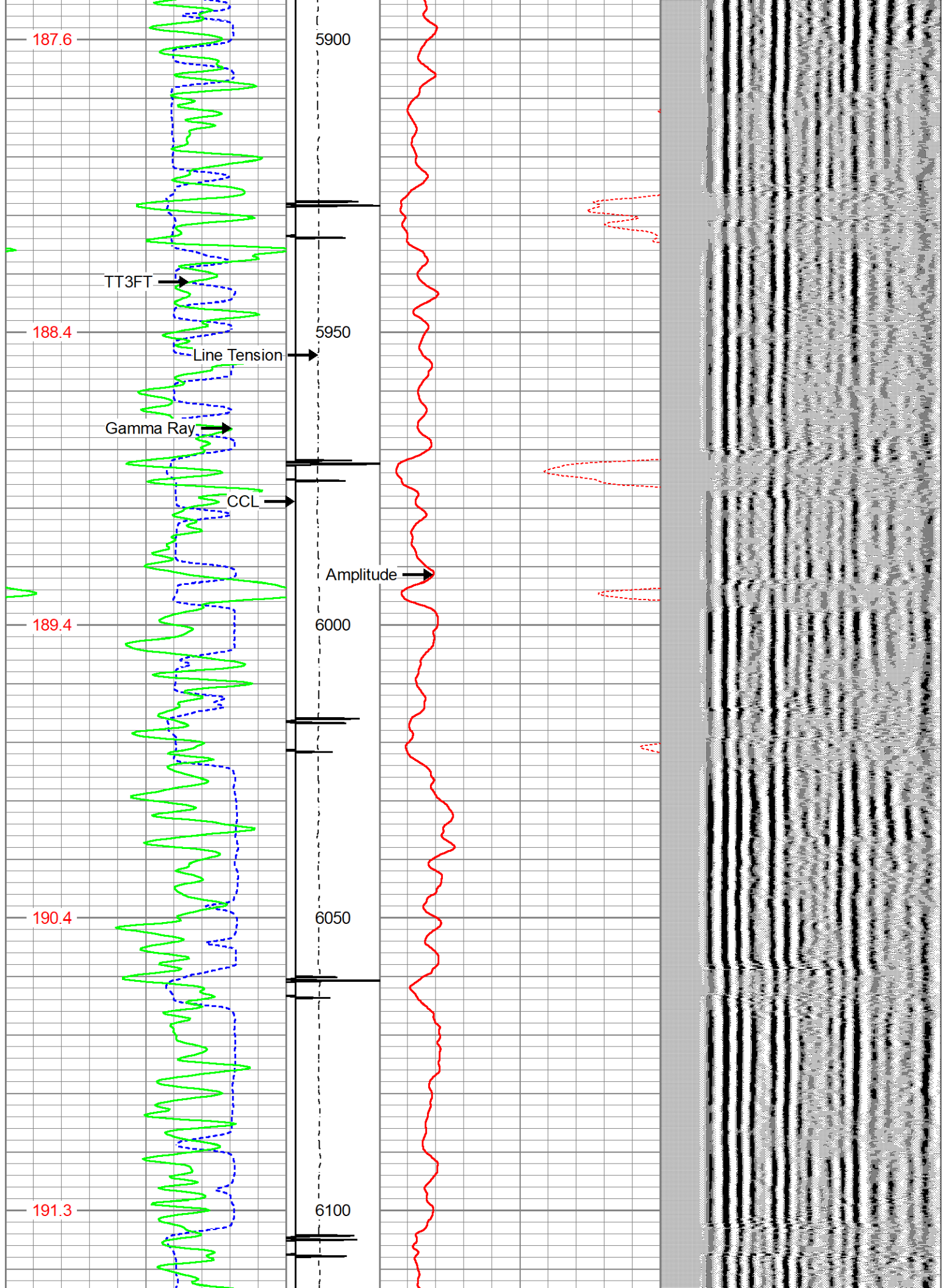


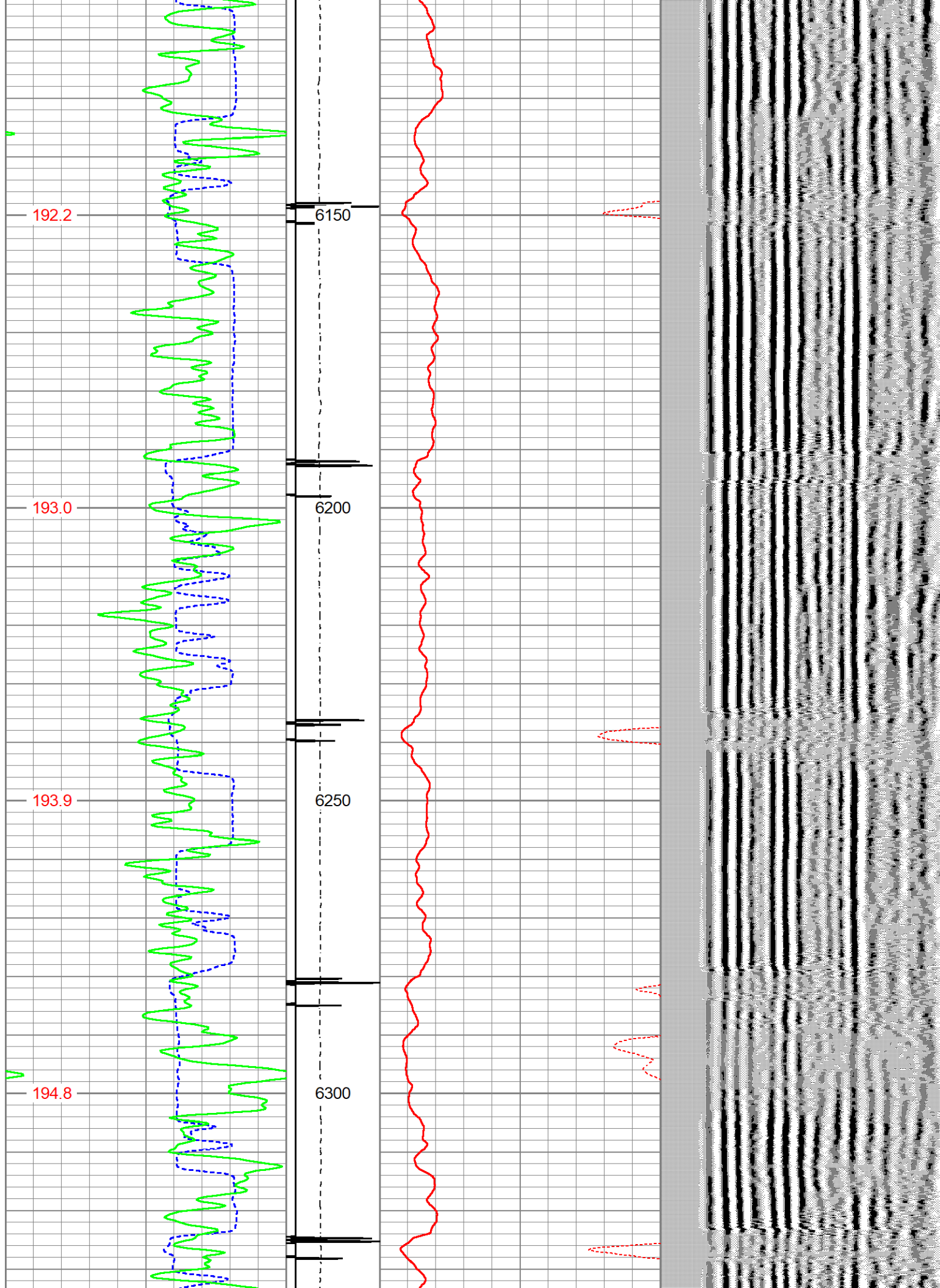


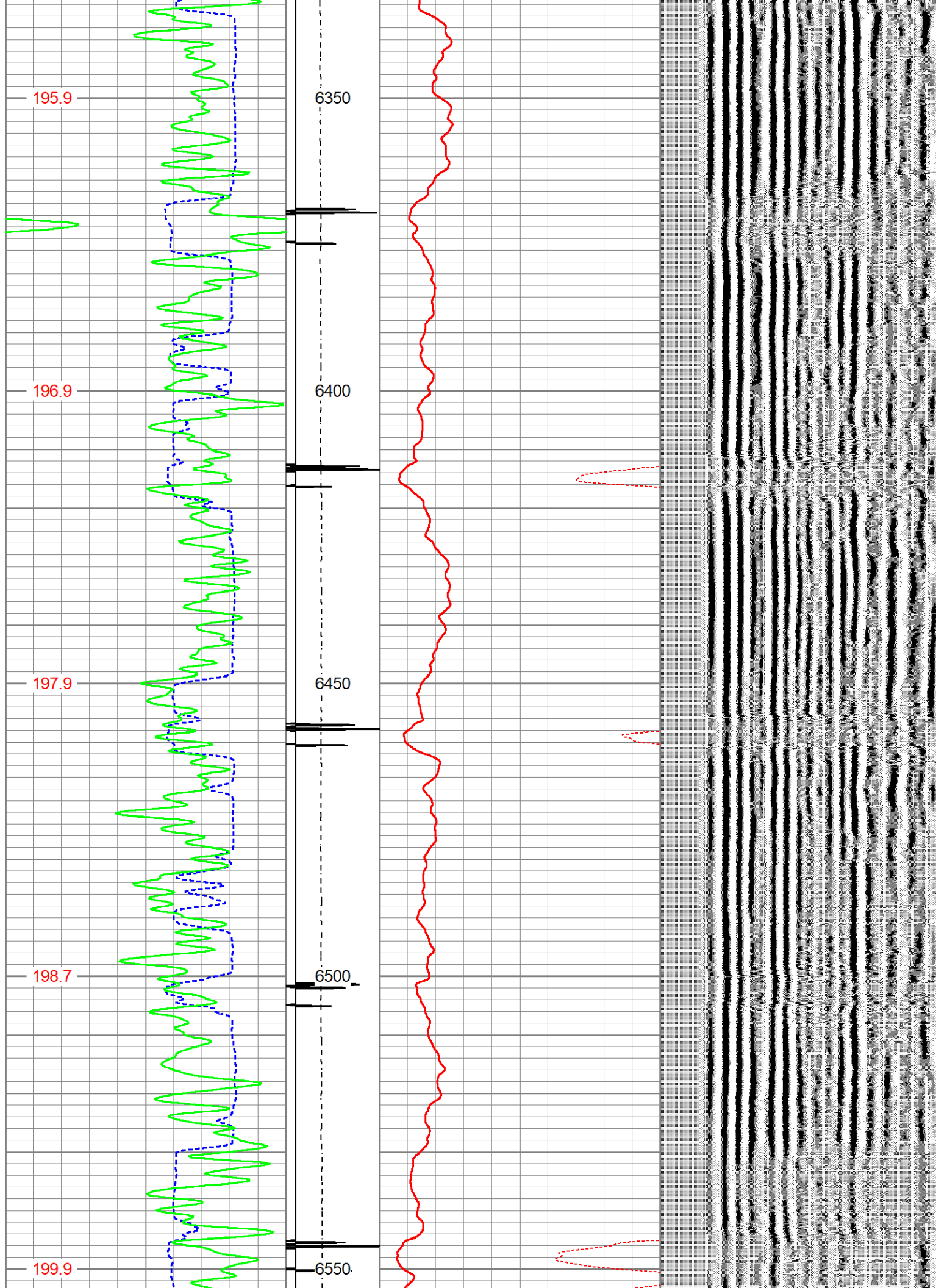


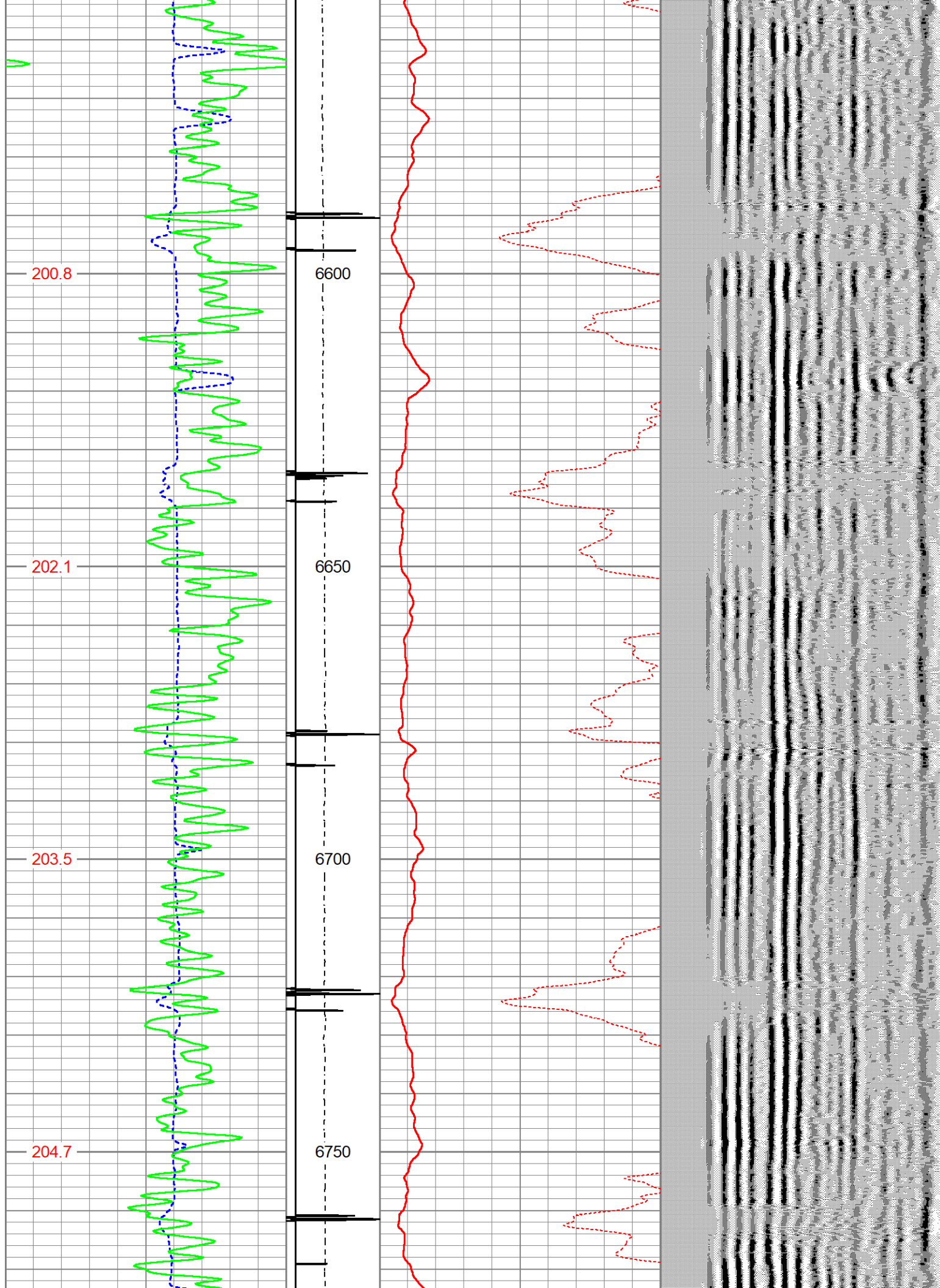


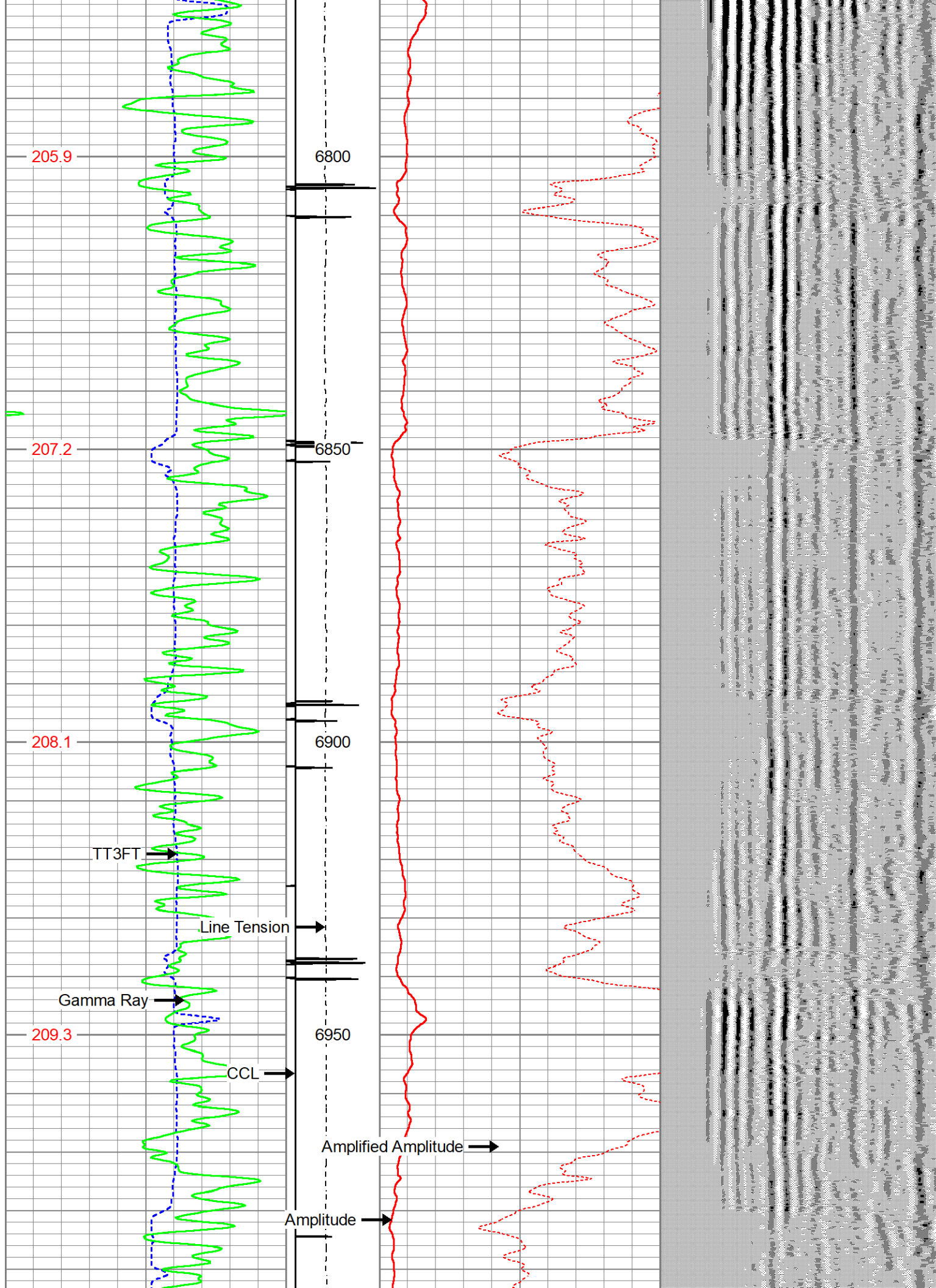


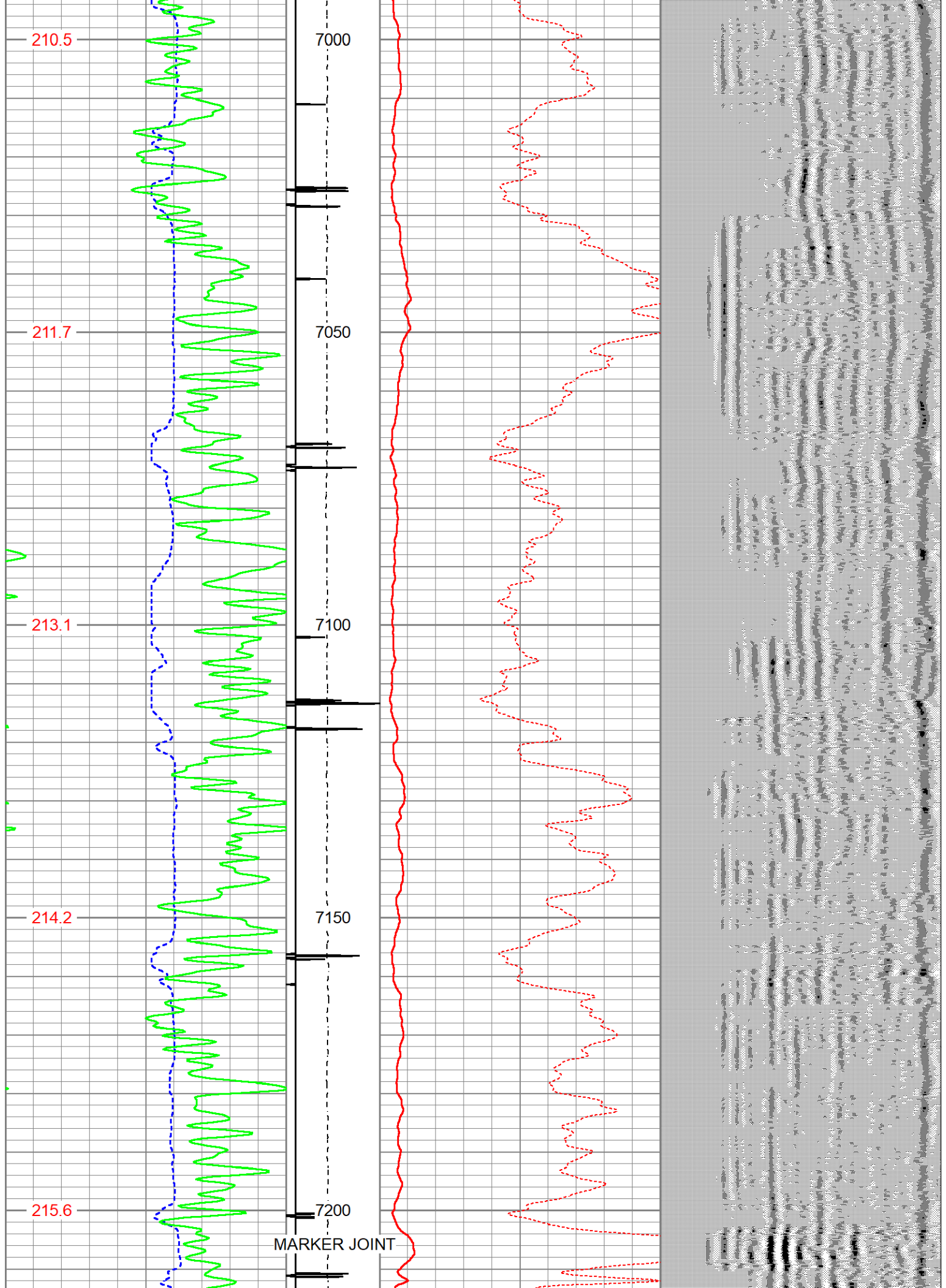


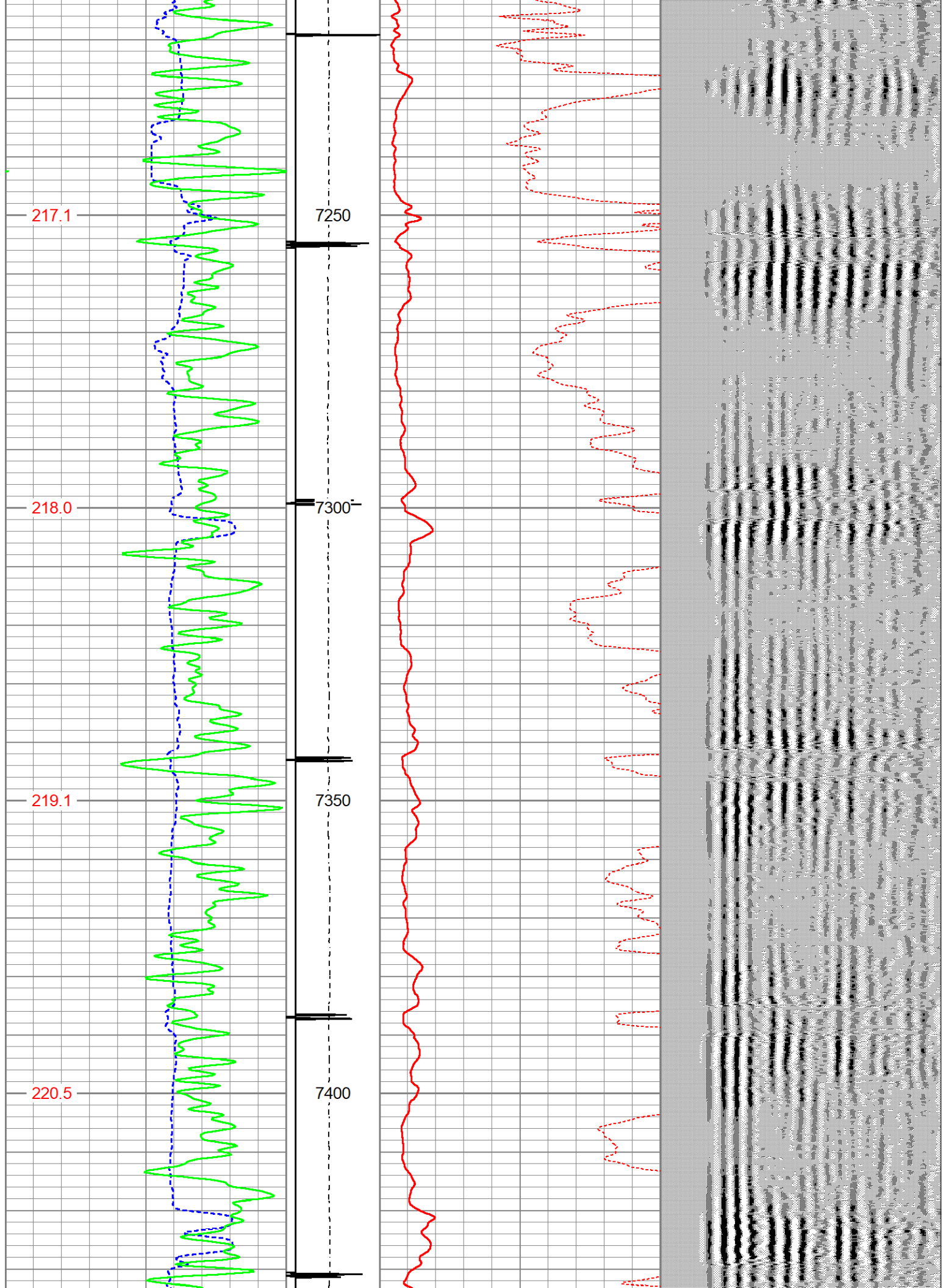


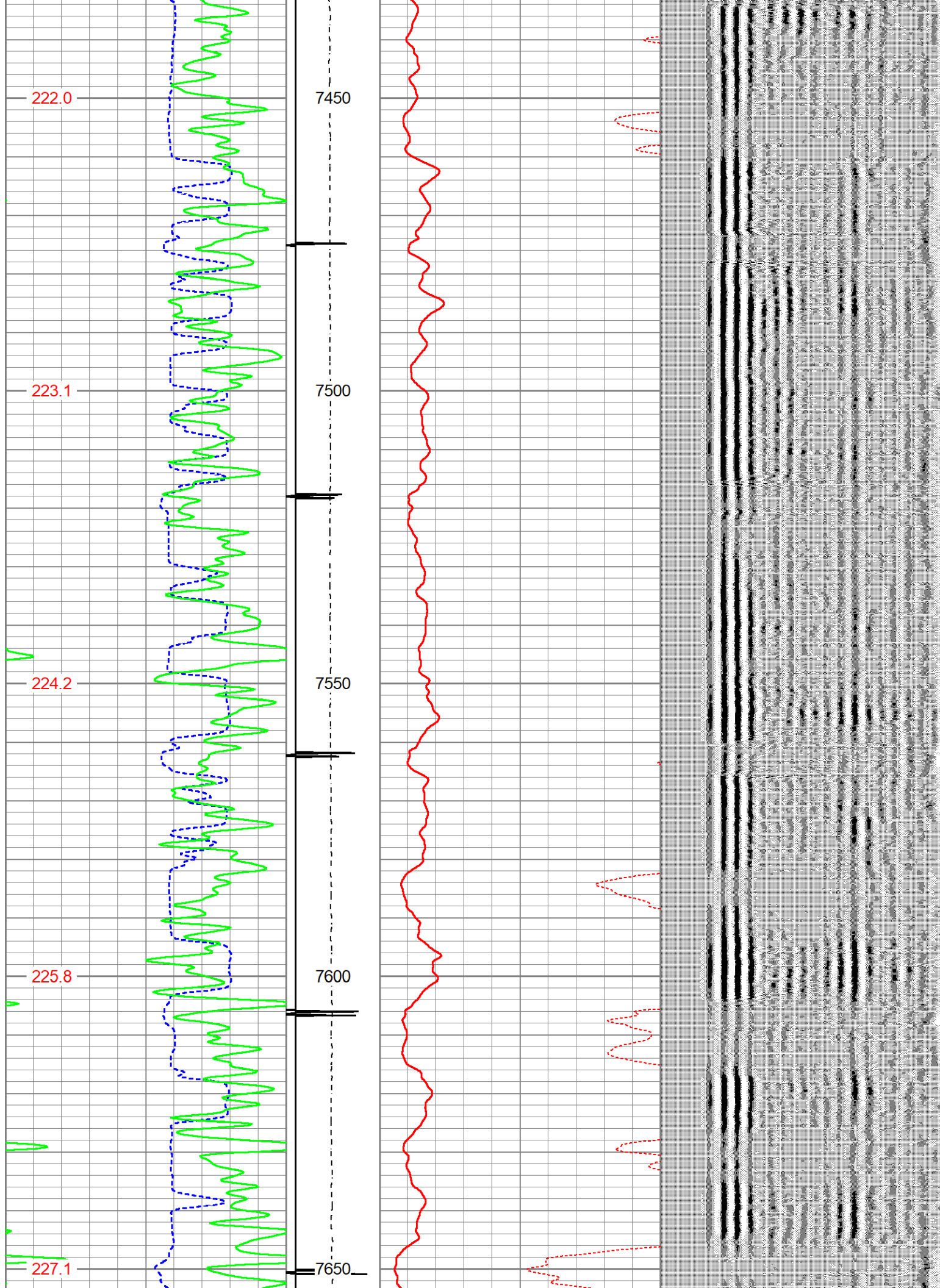


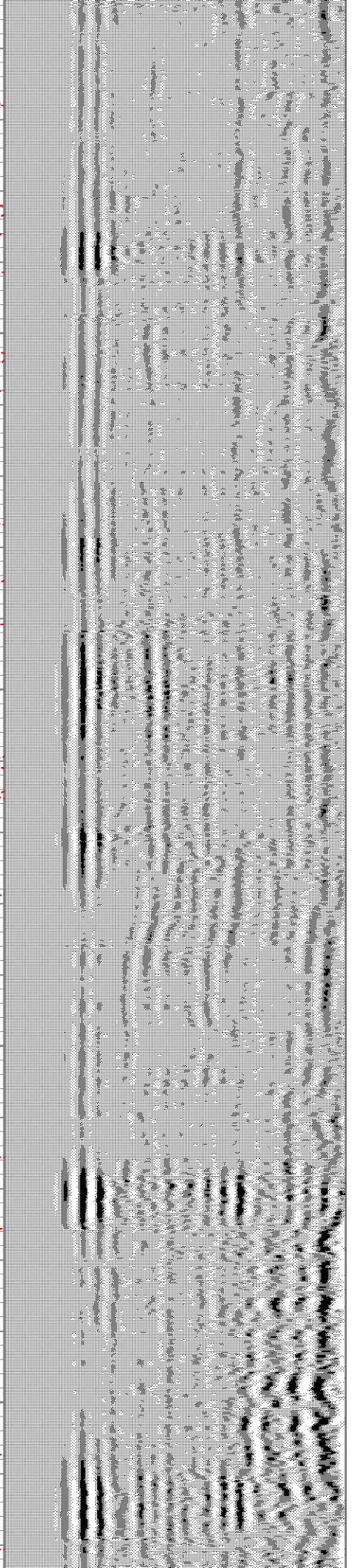
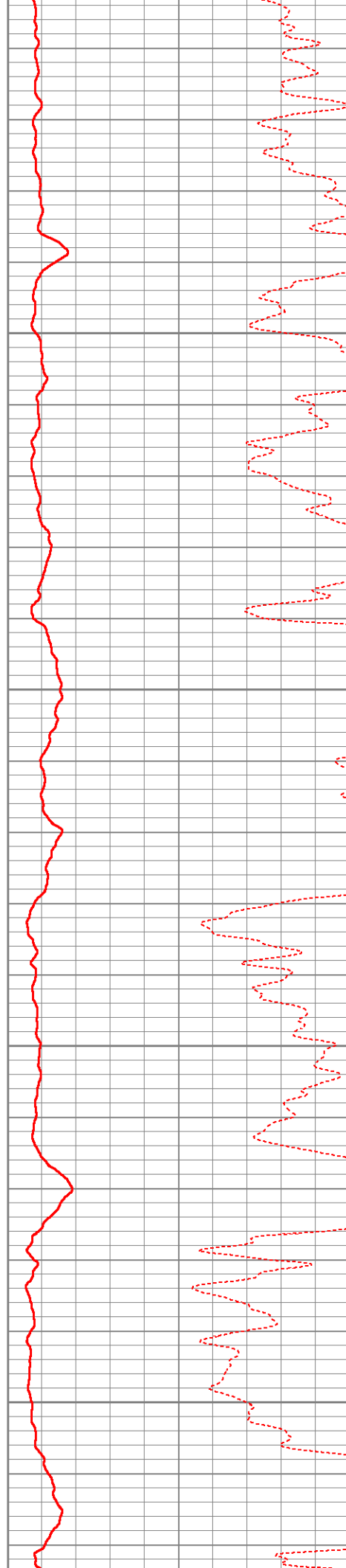
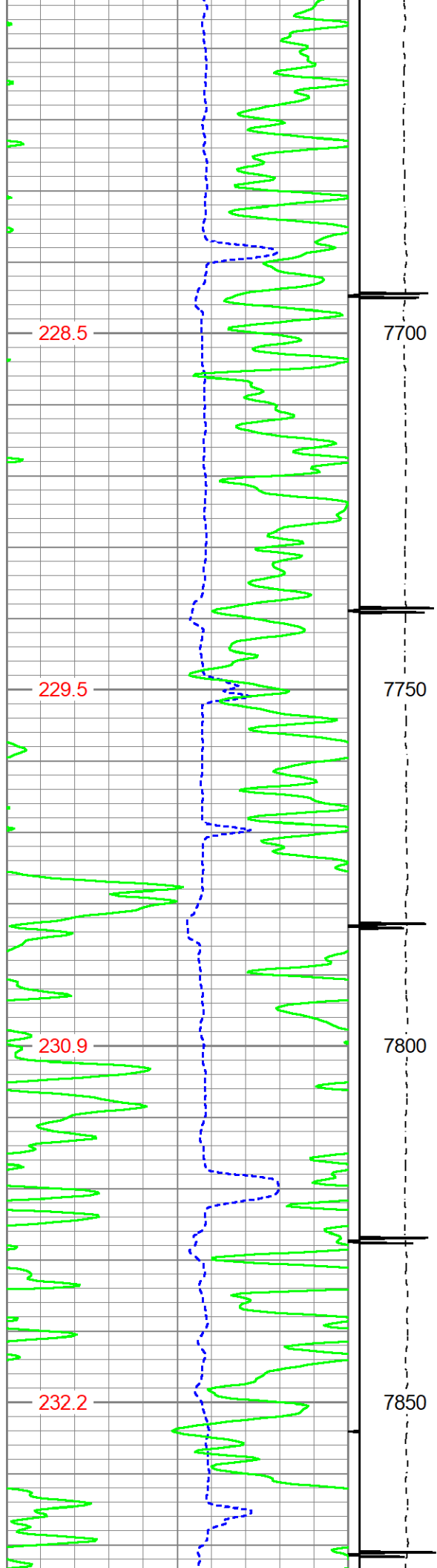


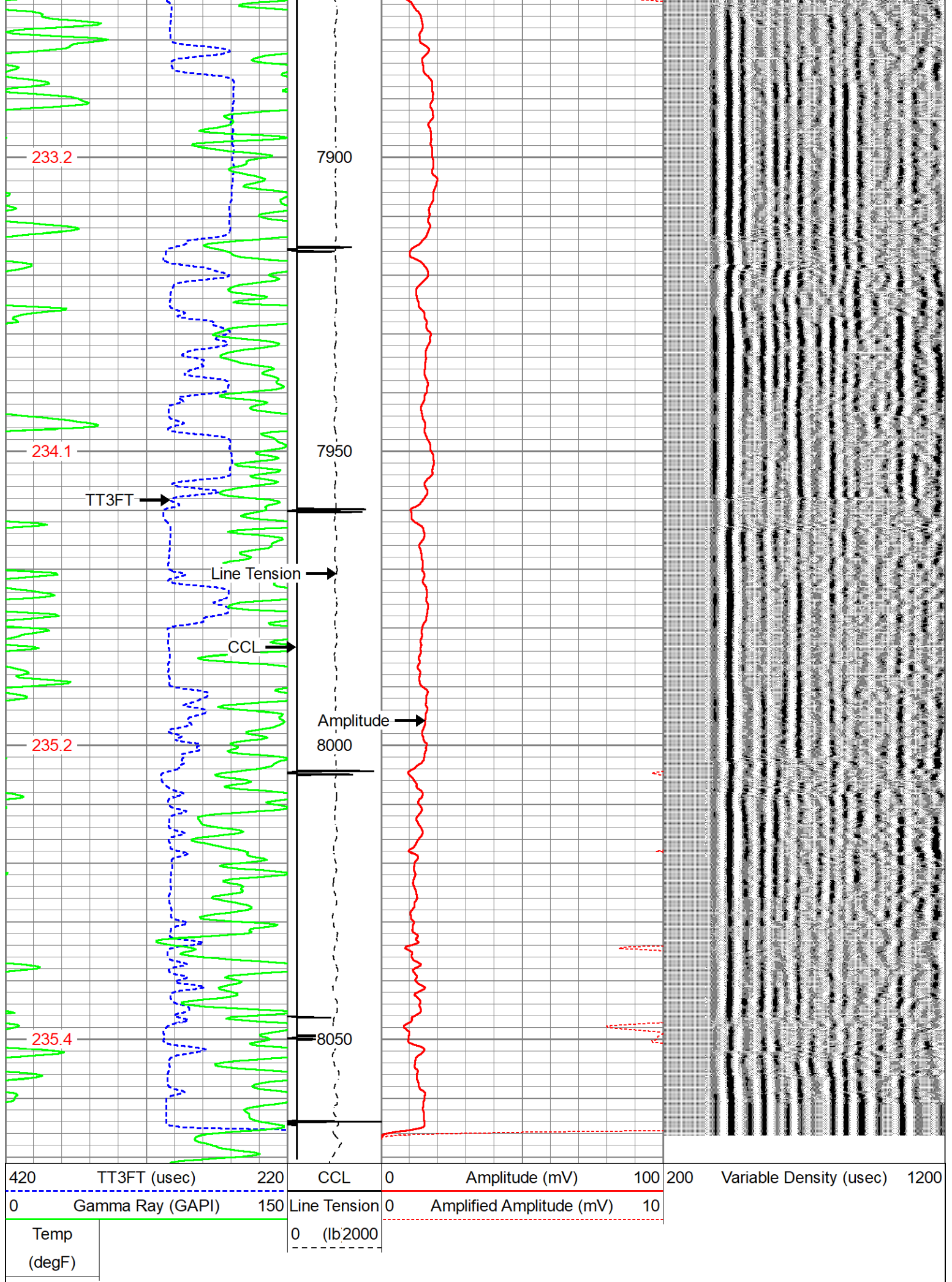












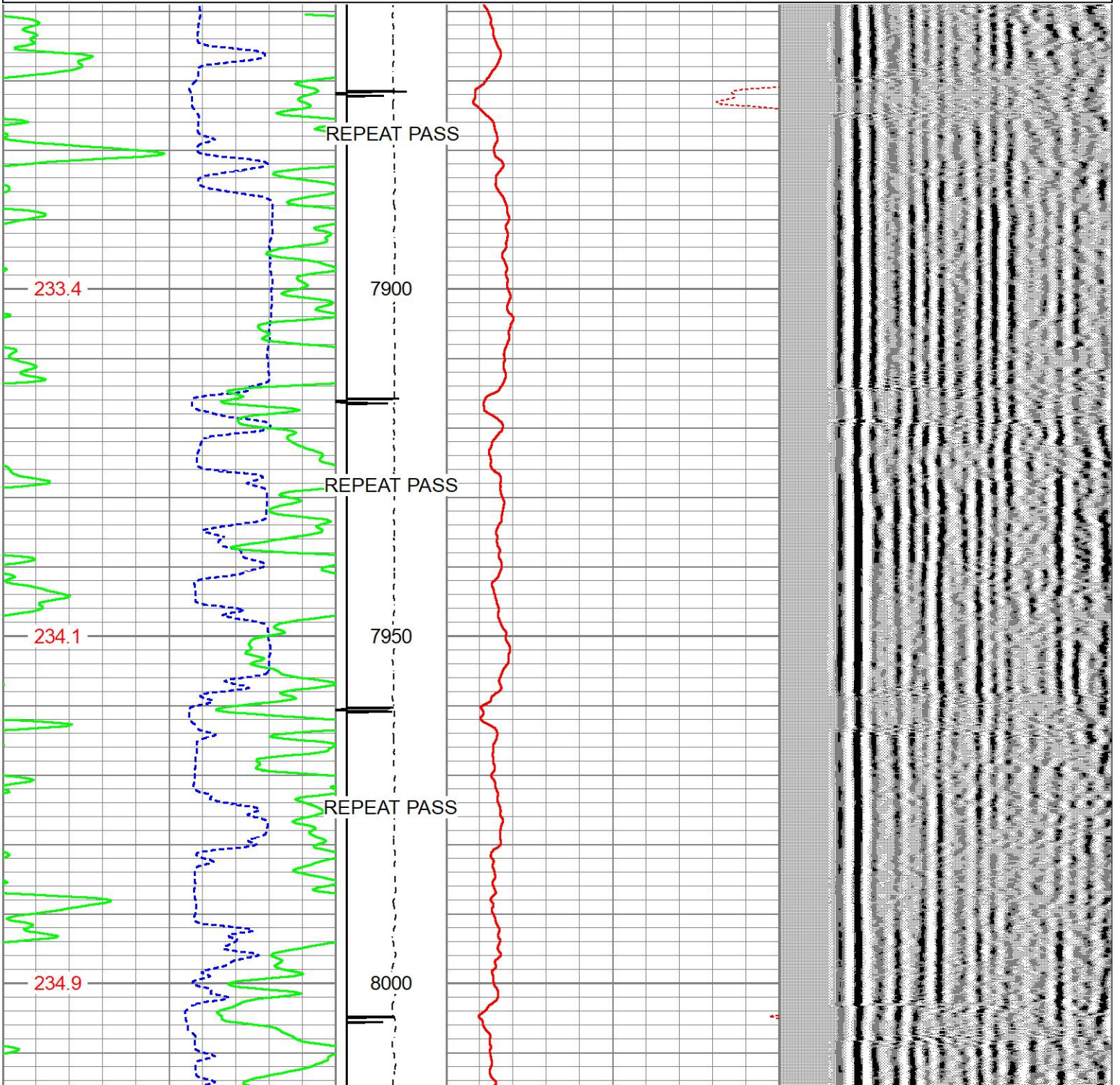


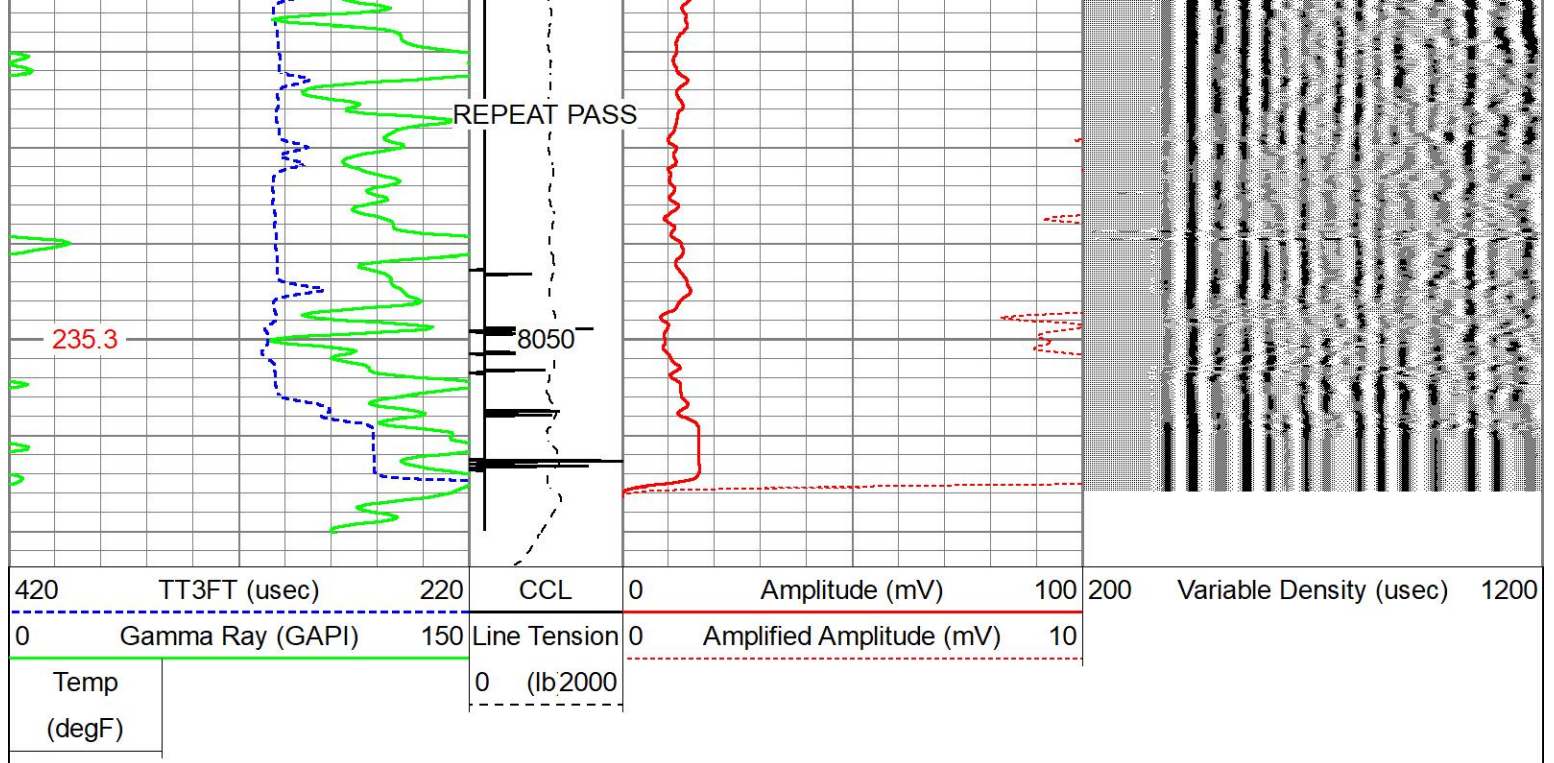
REPEAT PASS

RECORDED WITH 4000 PSI SURFACE INDUCED PRESSURE.


Database File gw_bfarm_ld18-389hn.db
Dataset Pathname 389hn/CBLpsi/pass6
Presentation Format cbl_cs
Dataset Creation Mon Mar 25 17:09:14 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 (degF)			0 (lb/2000)						





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
HeadVolt	13.67		CHD-Titan Titan 1 7/16" GO Cablehead	1.00	1.44	5.00
Temp	10.82					
			RBT-Probe 2.75 Radii W/Temp (FW1306-47) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00
WVFS8	8.58					
WVFS7	8.58					
WVFS6	8.58					
WVFS5	8.58					
WVFS4	8.58					
WVFS3	8.58					
WVFS2	8.58					
WVFS1	8.58					
WVFCAL	8.58					
WVF3FT	8.58					
WVF5FT	7.58					

HEADVOLT	4.33		GR-Probe (081054) Probe 2.75" 4 Channel Pulse	4.33	2.75	30.00
CCL	3.64					
GR	0.90					
Dataset: gw_bfarm_id18-389hn.db: field/389hn/CBLpsi/pass8 Total length: 14.73 ft Total weight: 125.00 lb O.D.: 2.75 in						

Calibration Report						
Database File	gw_bfarm_Id18-389hn.db					
Dataset Pathname	389hn/CBLpsi/pass8					
Dataset Creation	Mon Mar 25 17:14:00 2019					
Gamma Ray Calibration Report						
Serial Number:	081054					
Tool Model:	Probe					
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:	FW1306-47					
Tool Model:	Probe 2.75 Radii W/Temp					
Calibration Casing Diameter:	5.500	in				
Calibration Depth:	345.083	ft				
Master Calibration, performed Mon Mar 25 17:56:12 2019:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.005	0.298	1.000	71.921	200.743	-0.071
CAL	0.002	0.536				
5'	0.016	0.280	1.000	71.921	221.904	-3.199
SUM						
S1	0.033	0.316	0.000	72.000	254.147	-8.426
S2	0.000	0.300	0.000	72.000	240.479	-0.097
S3	0.002	0.310	0.000	72.000	233.742	-0.554

S4	0.002	0.306	0.000	72.000	236.526	-0.401
S5	0.002	0.303	0.000	72.000	238.998	-0.406
S6	0.002	0.297	0.000	72.000	243.457	-0.407
S7	0.002	0.287	0.000	72.000	252.364	-0.422
S8	0.051	0.279	0.000	72.000	315.870	-16.241

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.002	0.536	1.000	0.000

Air Zero Calibration, performed Mon Mar 25 06:30:30 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



Company Great Western Operating Co

Well B-Farm LD 18-389HN

Field Wattenberg

County Adams

State Colorado

Country USA