

Radial Cement Bond Gamma Ray Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.

Well Kodak 34-43

Field Wattenberg

County Weld

State Colorado

Location:

API #: 05-123-22259

Other Services

SEC 34 TWP 6N RGE 67W

Permanent Datum Ground Level Elevation 4739'

Elevation

Log Measured From Ground Level 0 FT

K.B. 4749'

Drilling Measured From Kelly Bushing

D.F. ---

G.L. 4739'

Date

Run Number

Depth Driller

Depth Logger

Bottom Logged Interval

Top Log Interval

Open Hole Size

Type Fluid

Density / Viscosity

Max. Recorded Temp.

Estimated Cement Top

Time Well Ready

Time Logger on Bottom

Equipment Number

Location

Recorded By

Witnessed By

Run Number

Bit

From

To

Size

Weight

From

To

Grade

Top

Bottom

Surface

Surface

Intermediate #1

Intermediate #2

Liner

<<< Fold Here >>>

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.

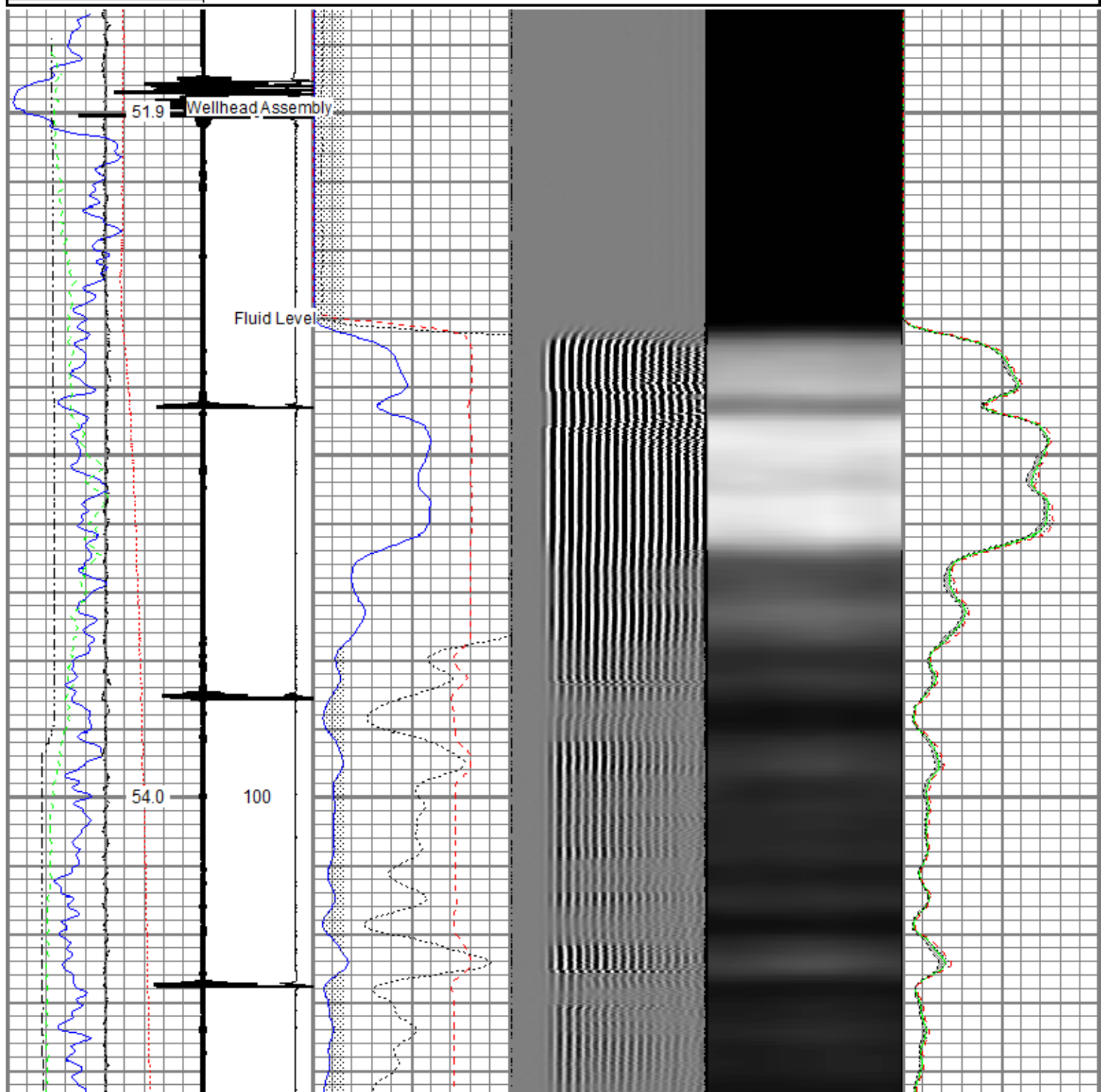
Comments

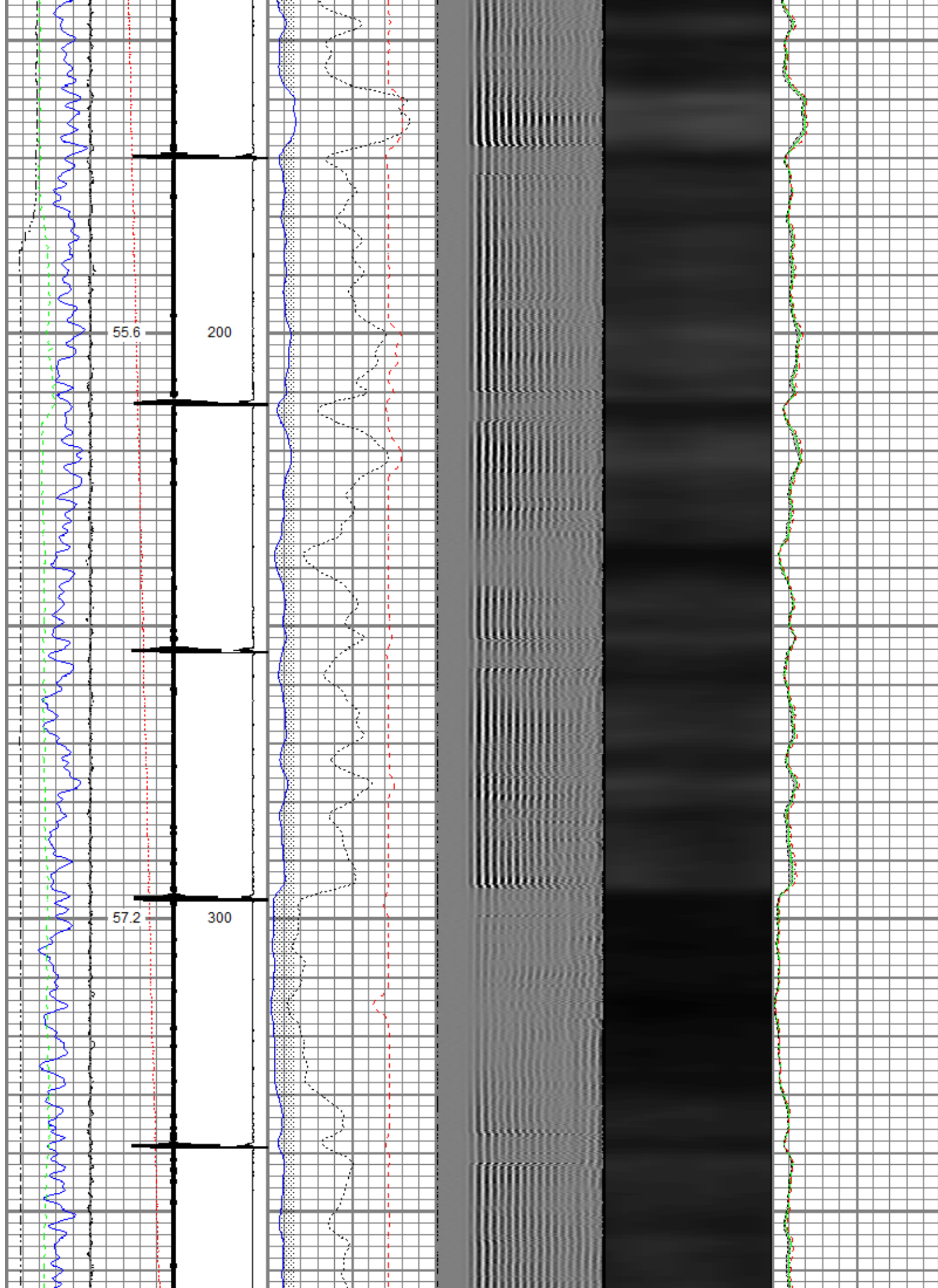
Log ran as per customer request
Depth referenced to Ground Level at 0 FT
Adjusted -24 FT to correlate with Ground Level
Shop calibrations preformed on the RBL Tool on 17-Dec-2019
Free Pipe Calibration at 4173 FT.
GOBO indicates 80% Bond Index for 4.5-inch casing (16.24 mV)
Log ran with 0 PSI surface induced pressure
Logging tools were clean and free of debris upon completion of operations
Thank you for choosing Reliance Oilfield Services, LLC!!

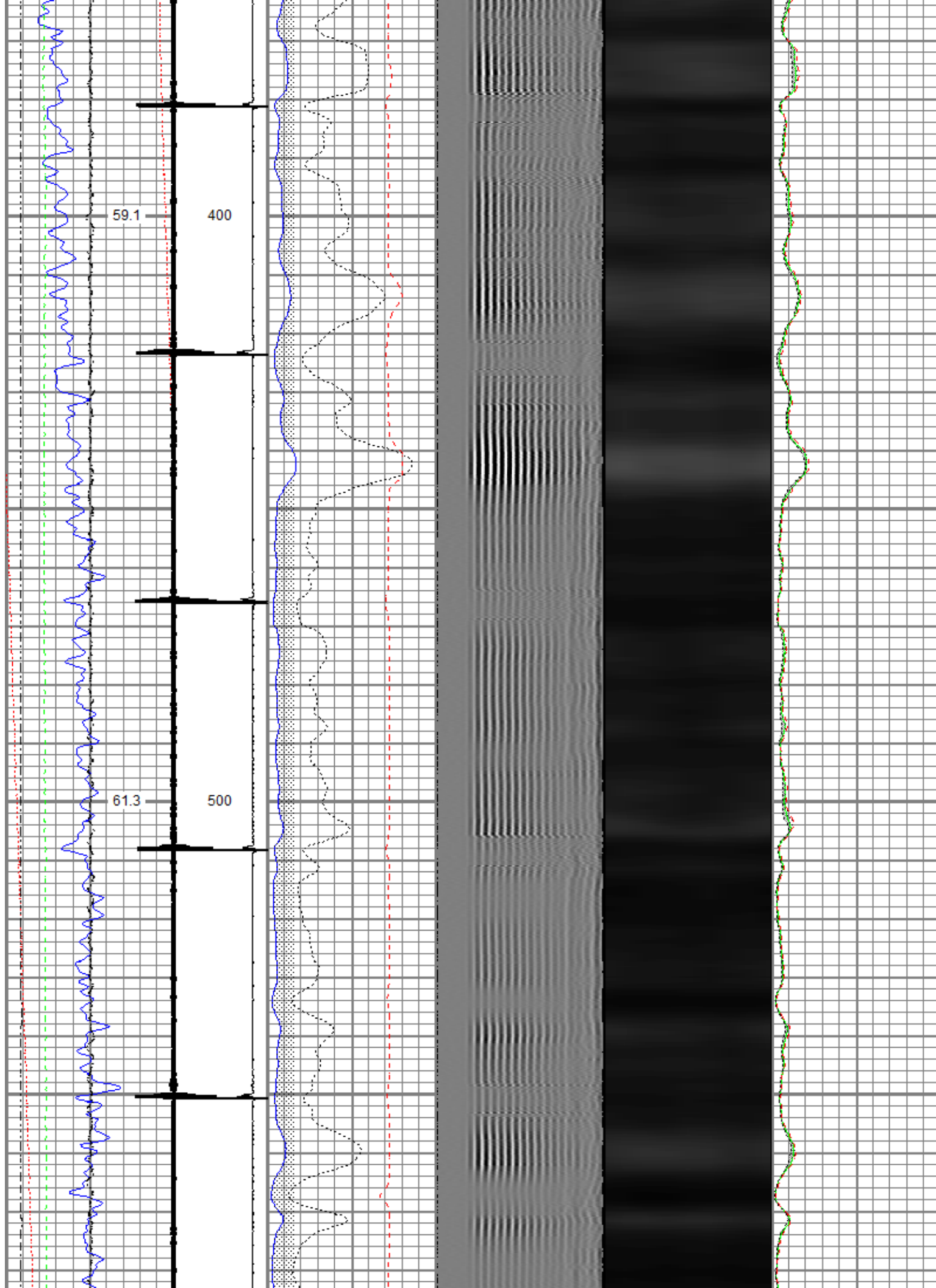
Main Pass

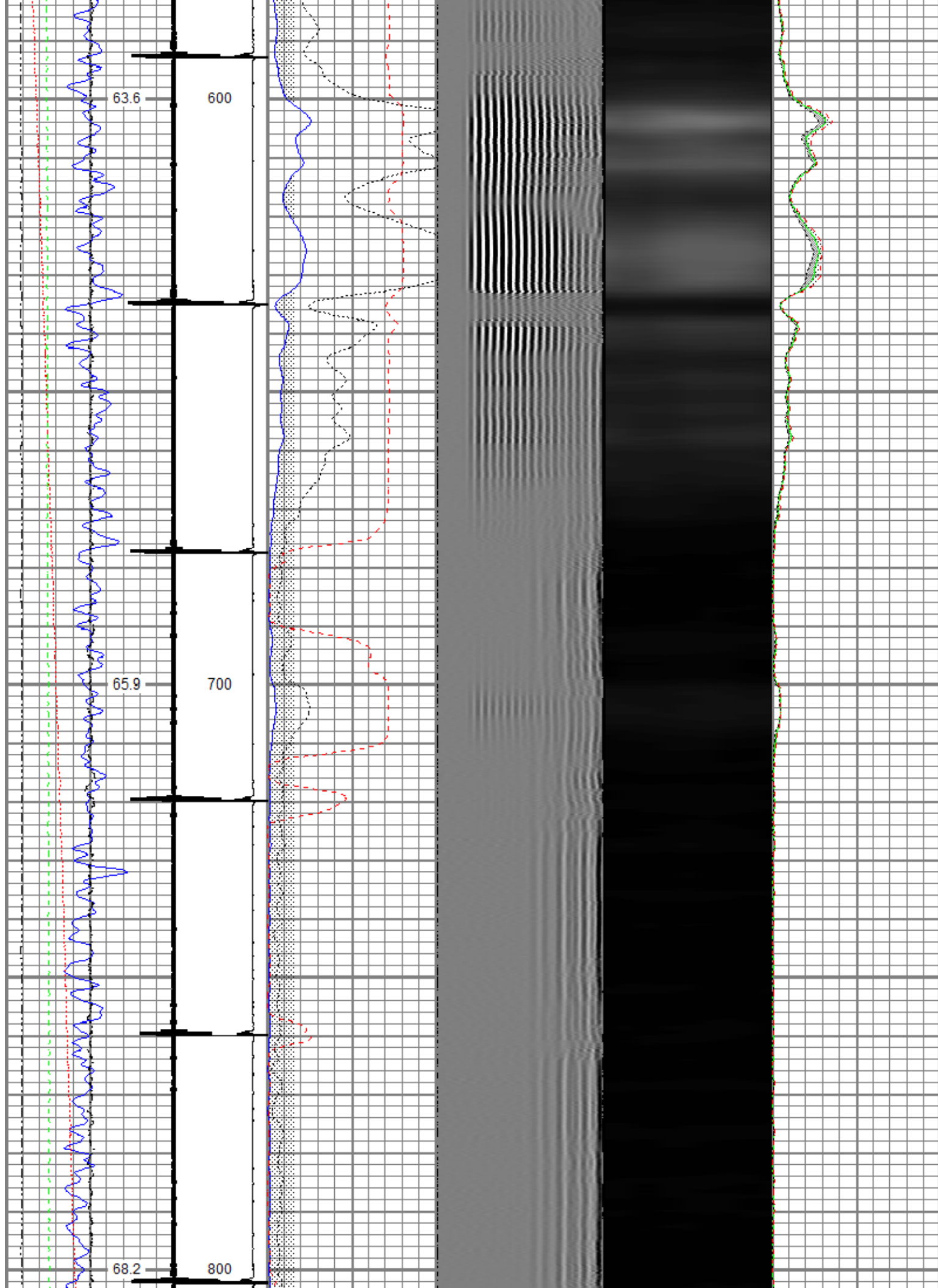
Database File oxy_kodak_34_43_dec17_2019_rcbl.db
 Dataset Pathname 34-43/rcbl1/pass10
 Presentation Format ros_radli_oxv_vert_gobo_45
 Dataset Creation Tue Dec 17 08:04:38 2019
 Charted by Depth in Feet scaled 1:240

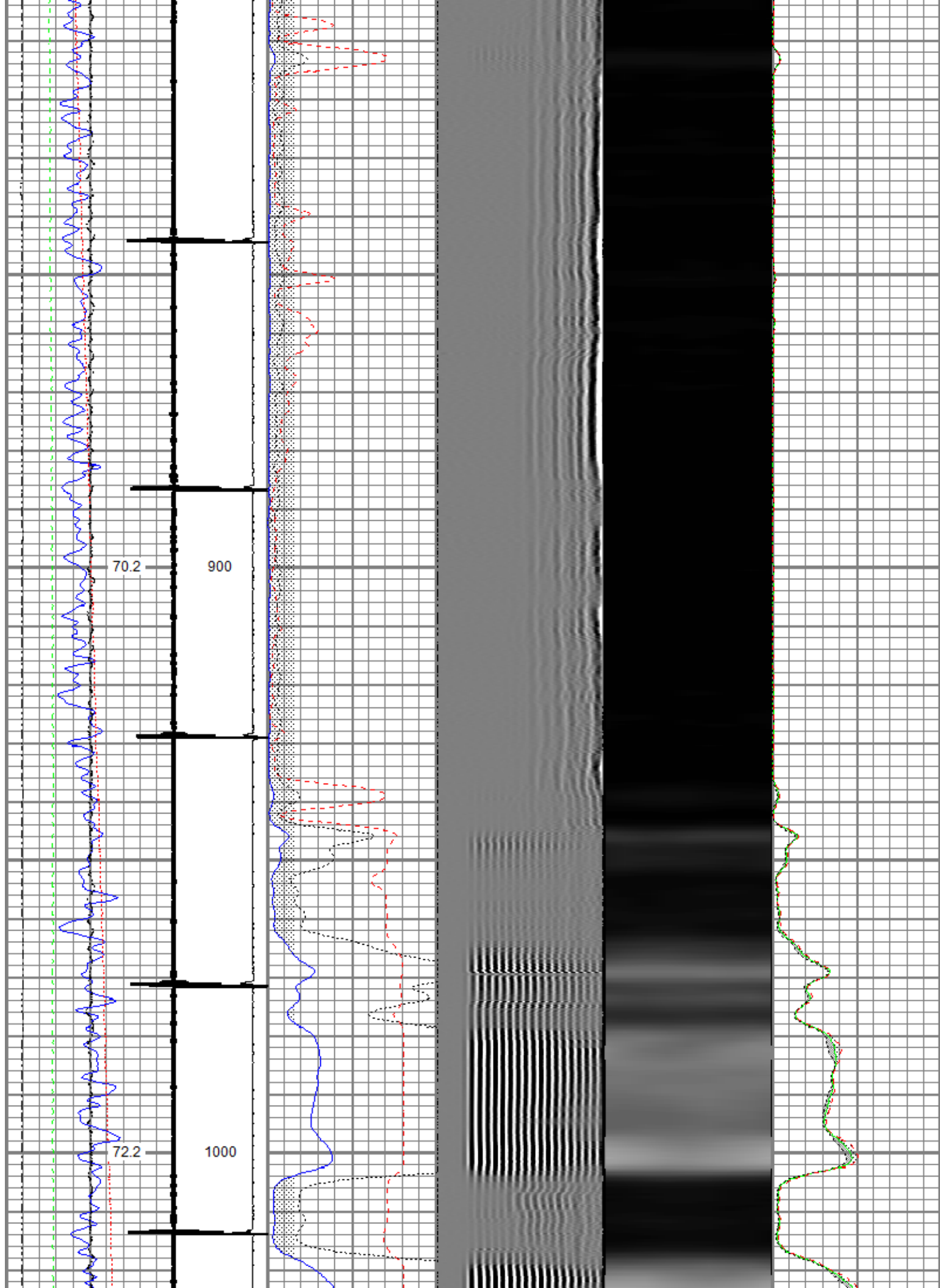
Gamma Ray	5	CCL\$2	0	0	3' Amplitude (mV)	100	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI)	120				3' Amplitude x 5	200	(usec)	1200	0 100
Temperature					0 (mV)	20			Minimum Amplitude
0 (degF)	20				3' Travel Time				0 100
Line Speed					650 (usec)	150			Maximum Amplitude
-150 (ft/min)	150								0 100
0 Line Tension (lb)	000								
Differential Temperature									
-2 (degF)	2								
Casing Collar Locator									

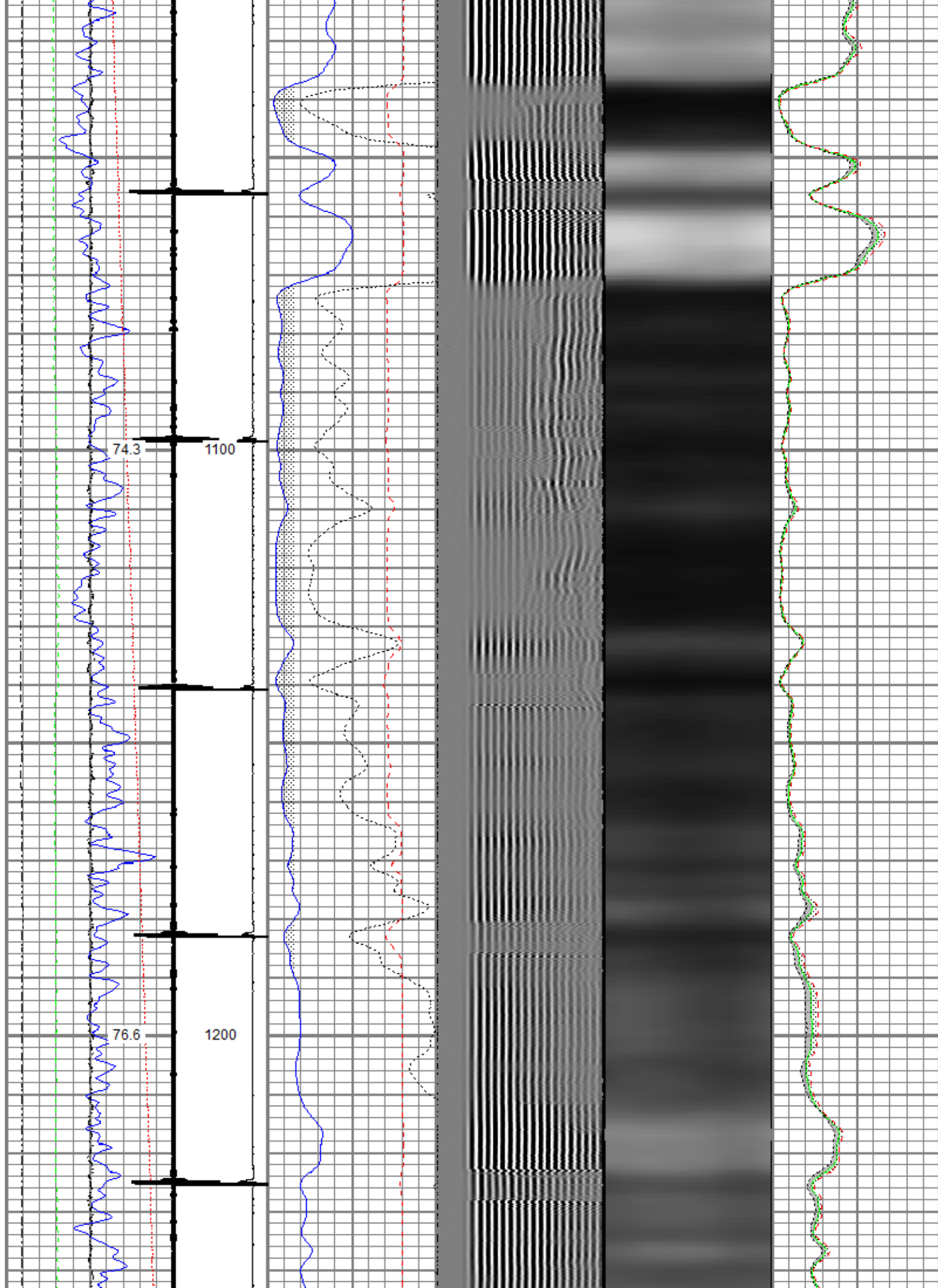


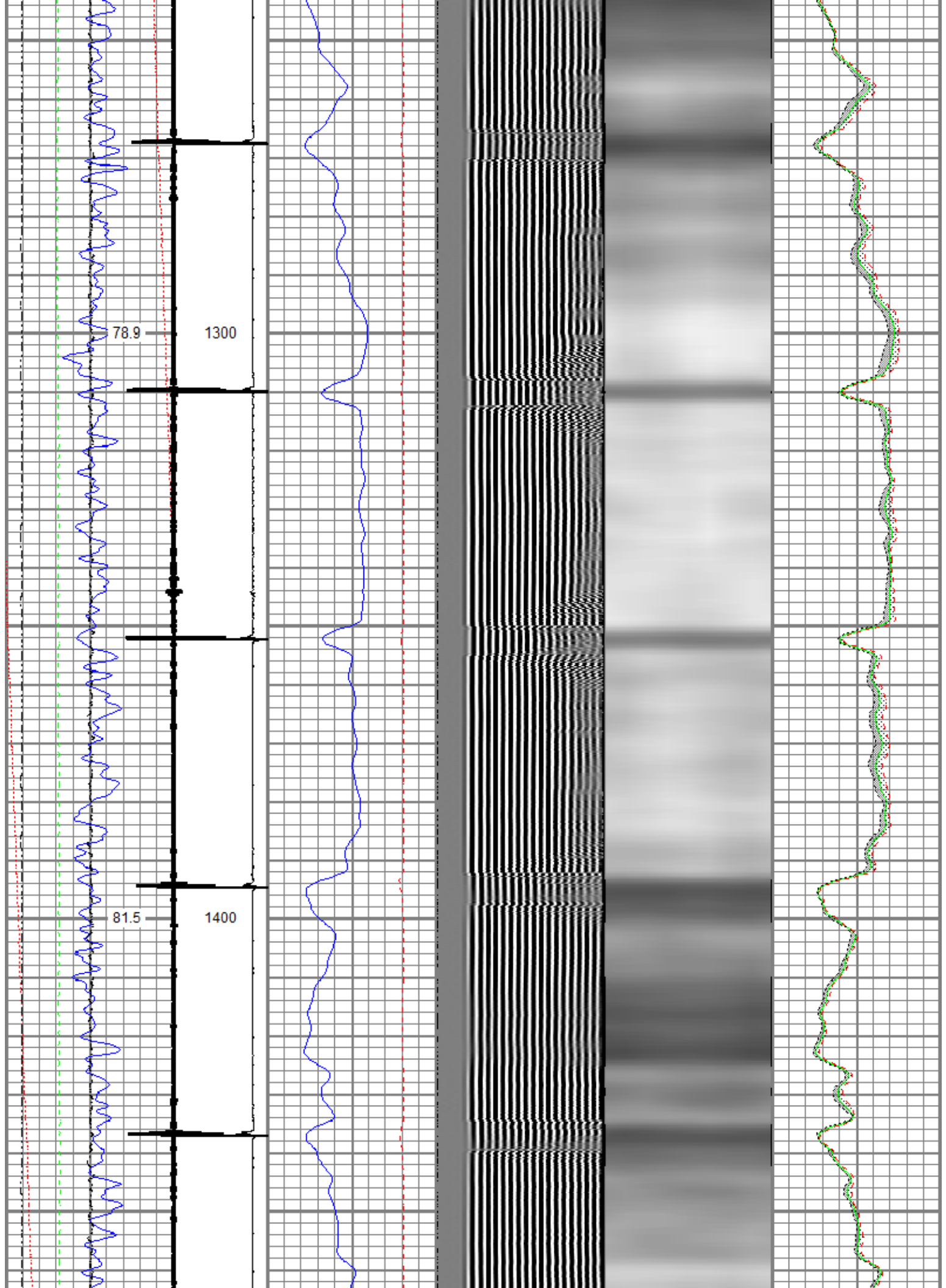


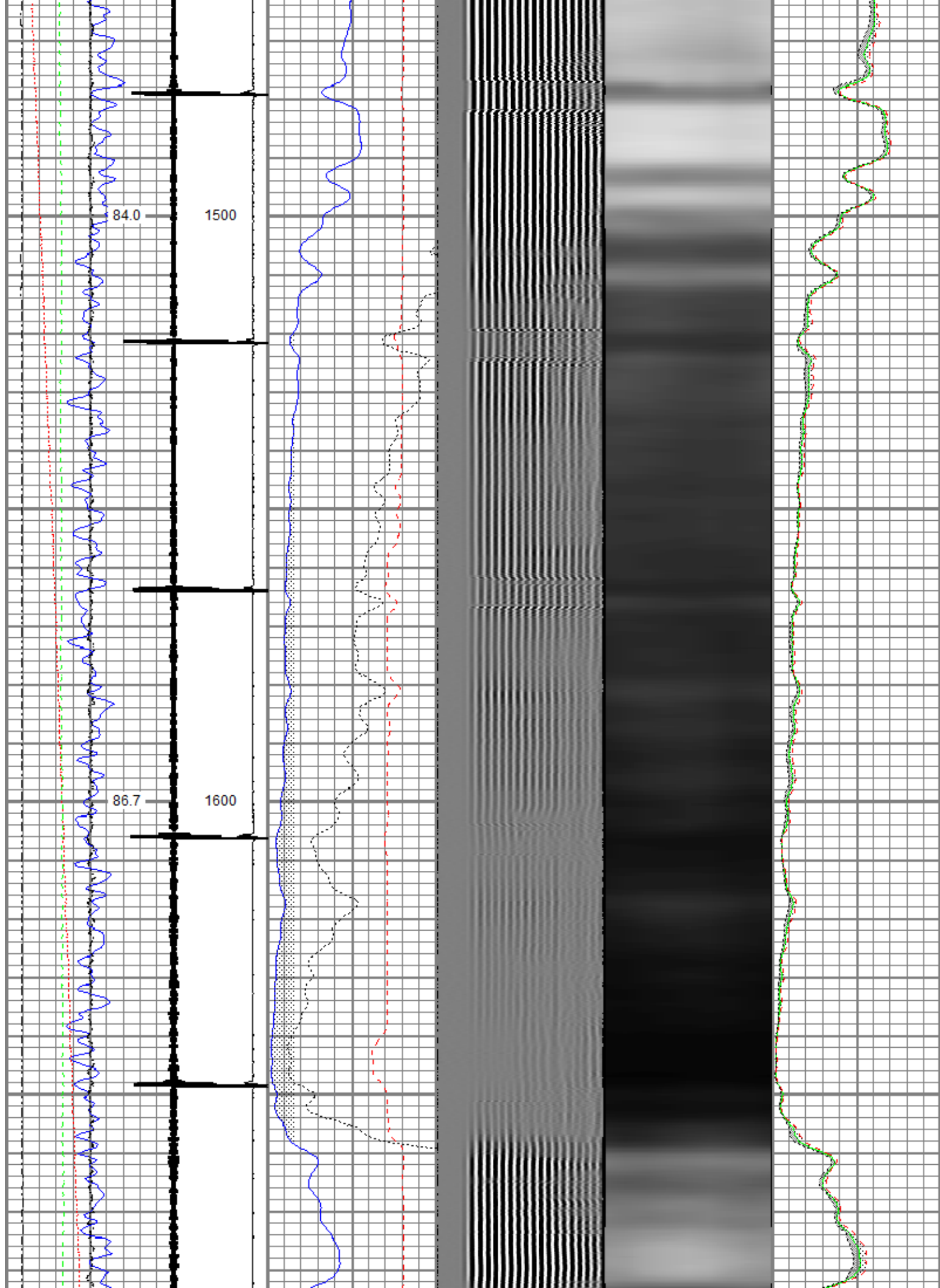


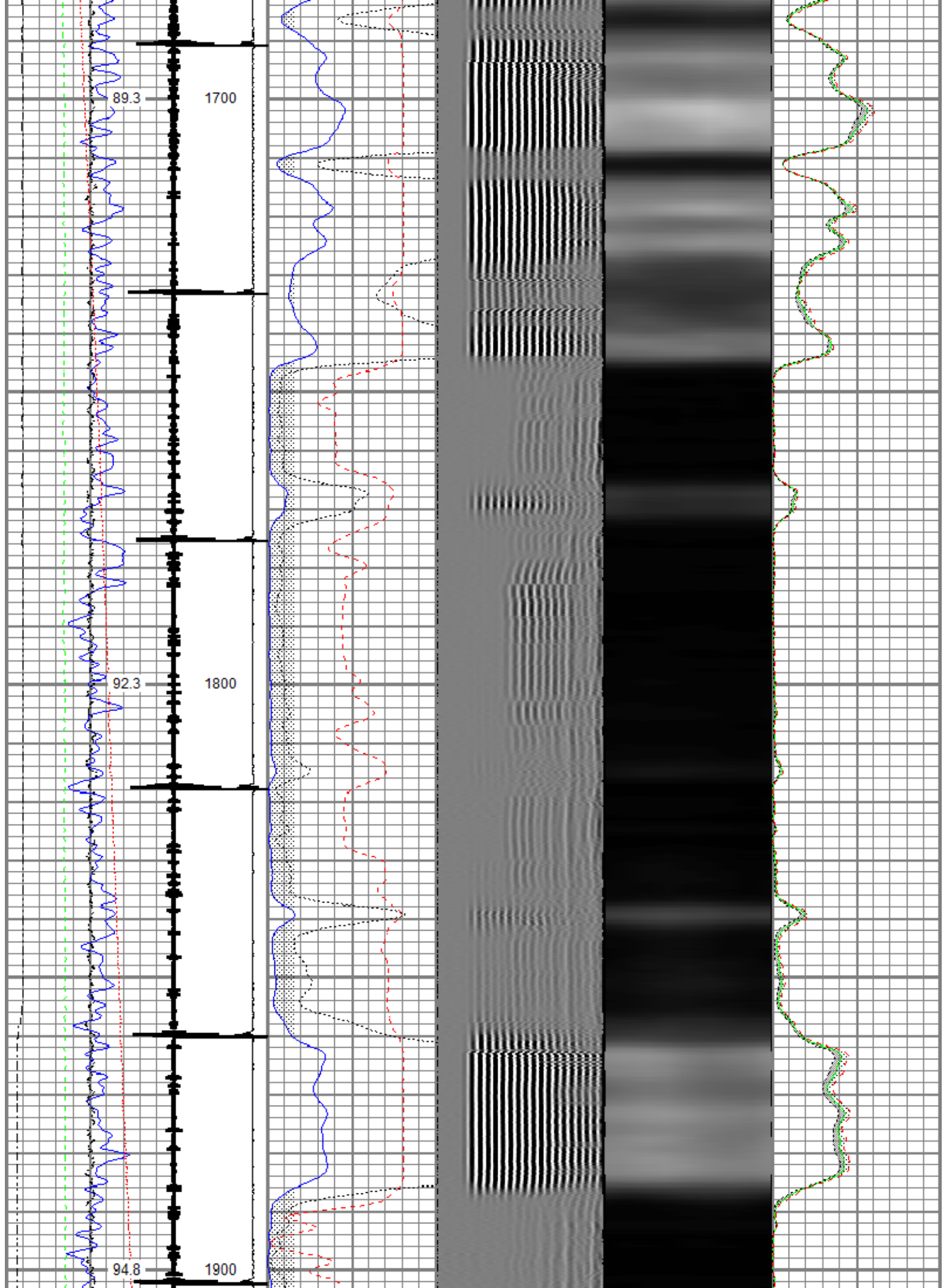


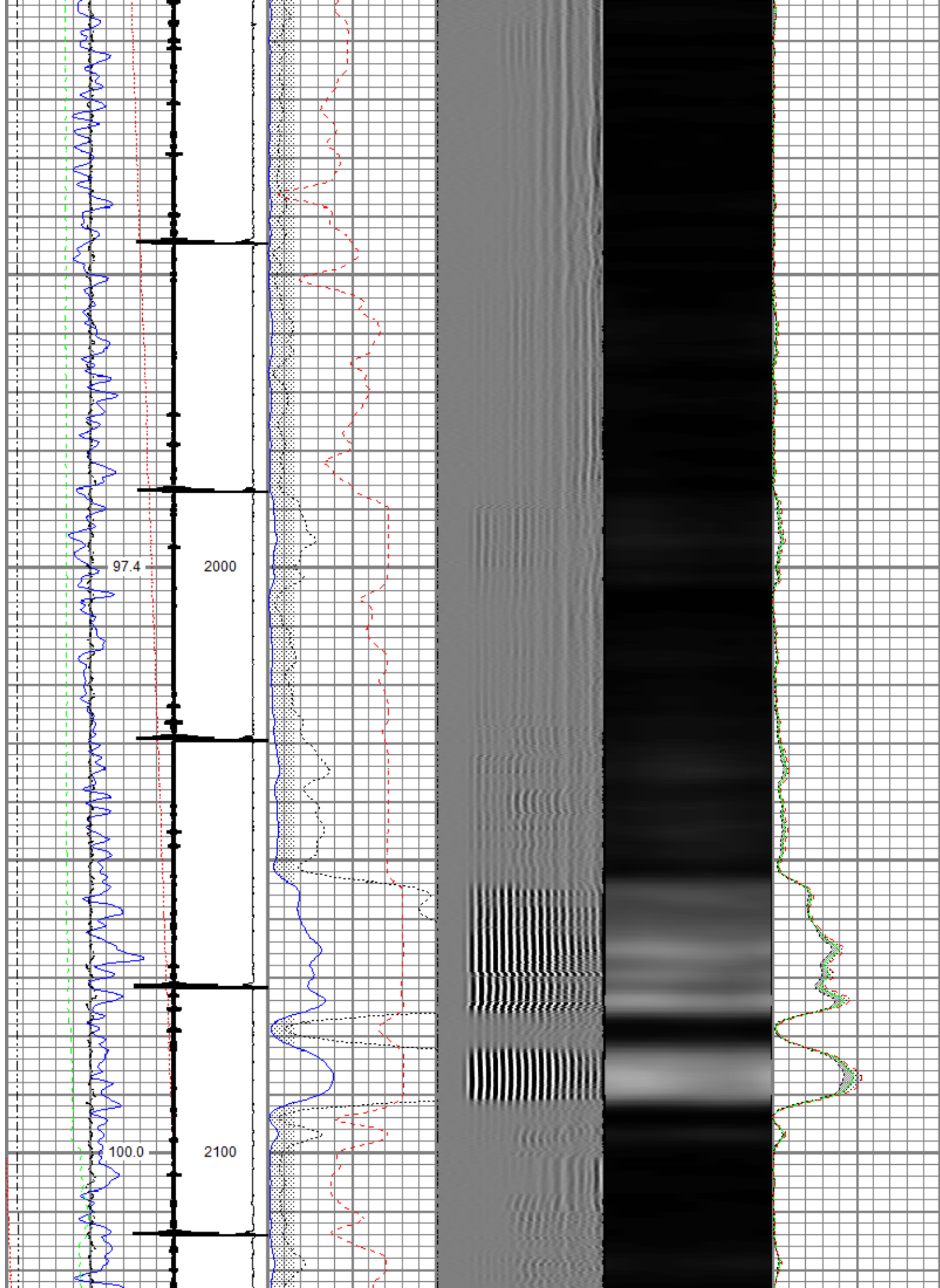


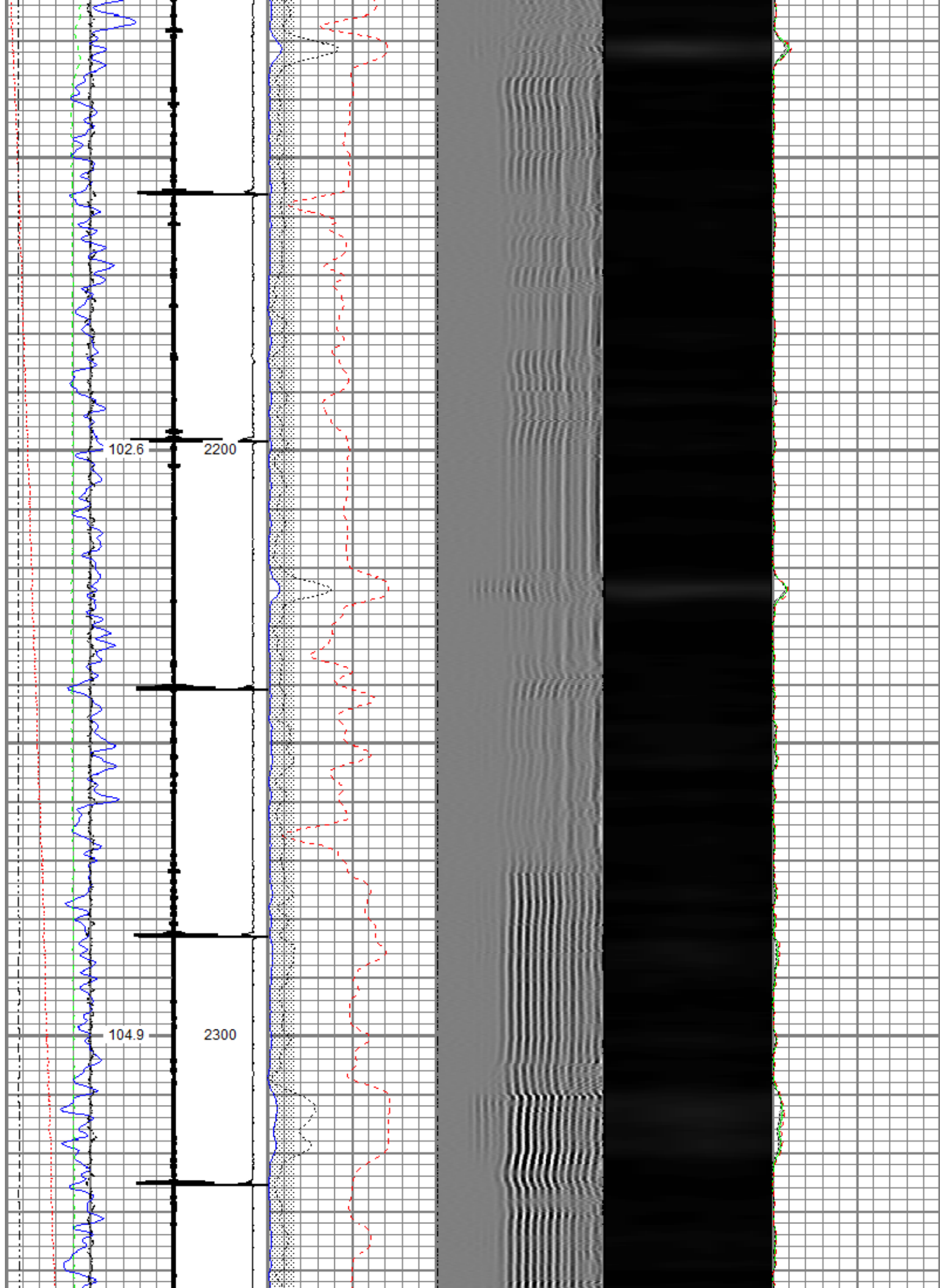


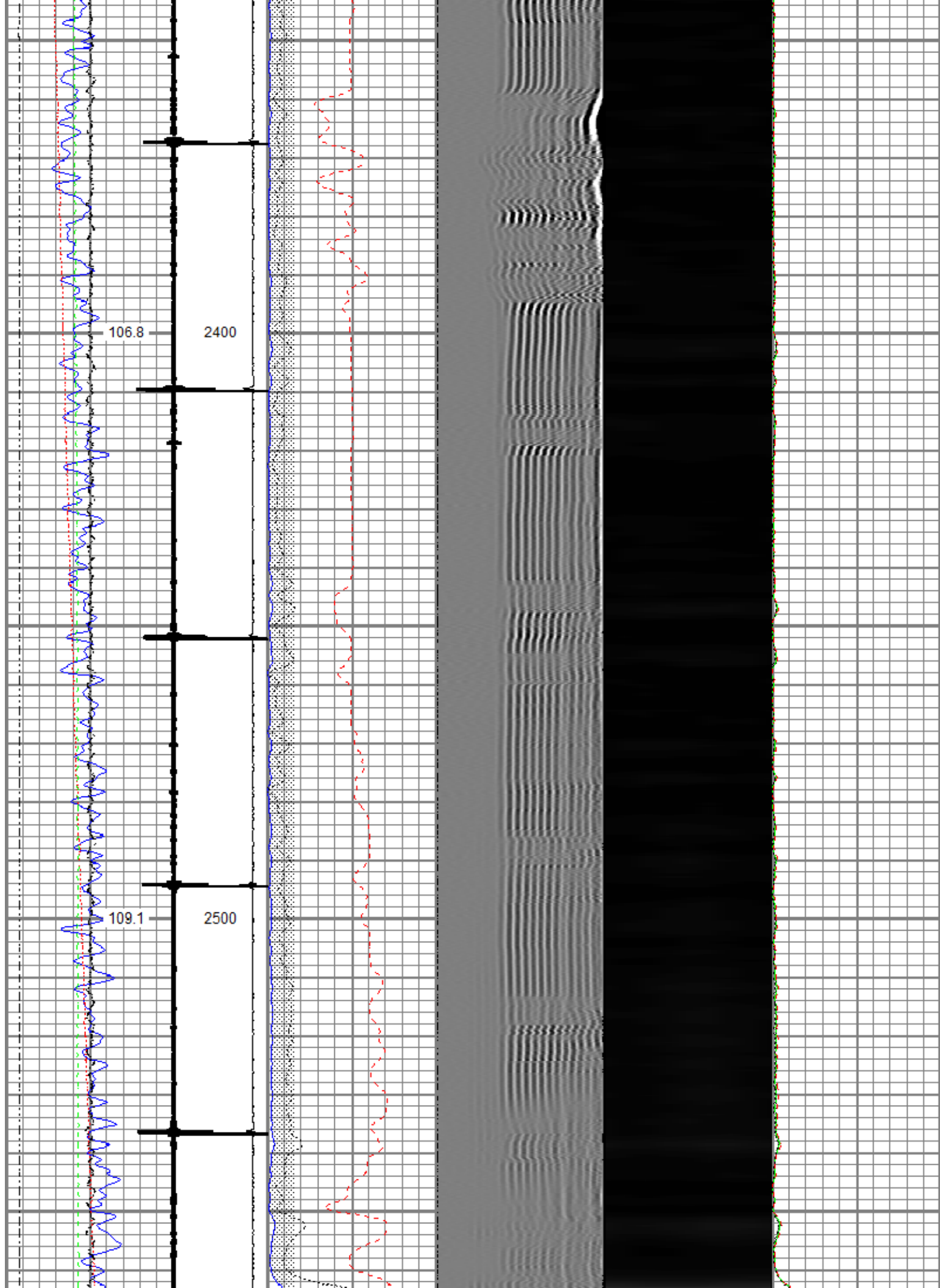


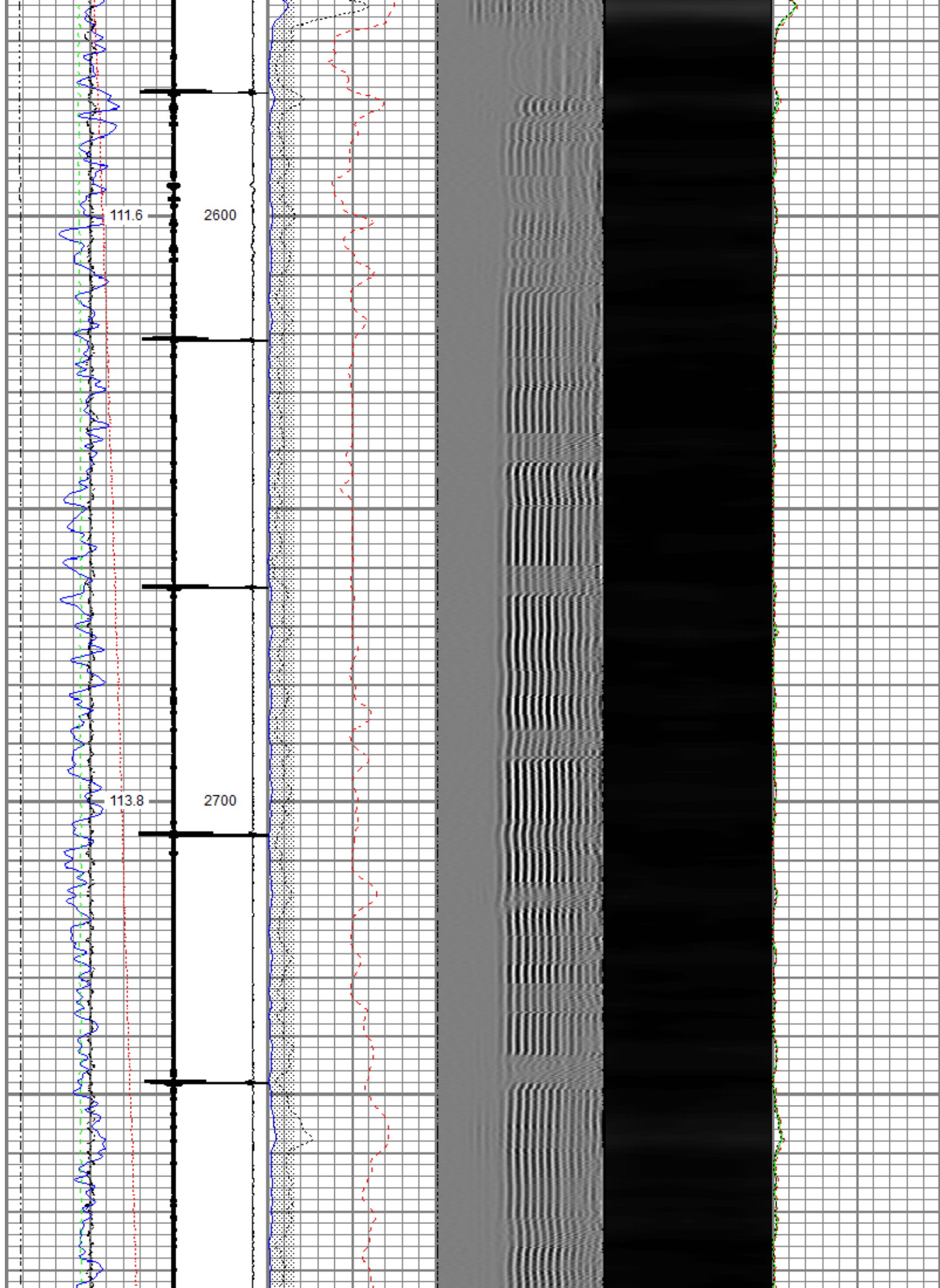


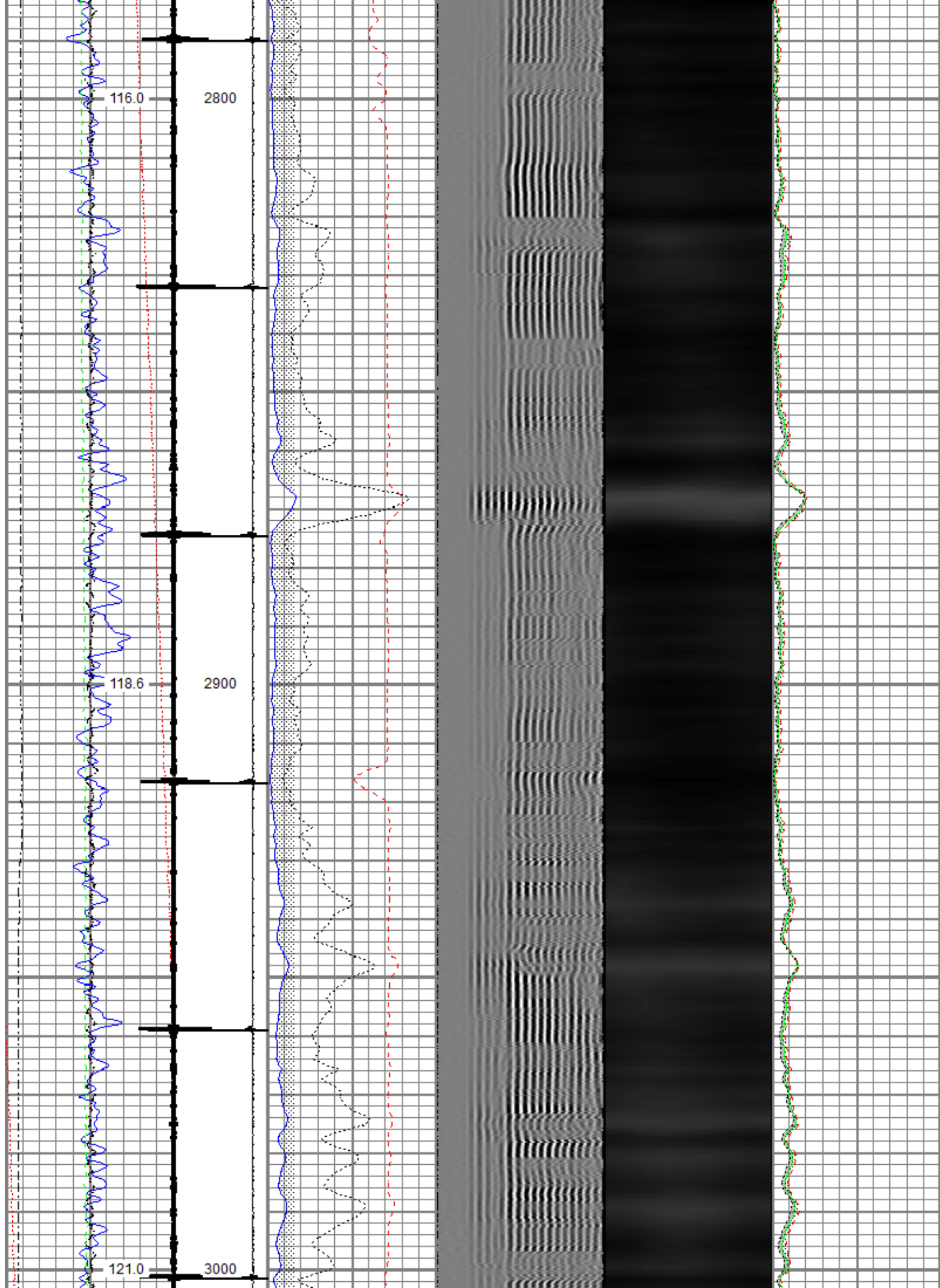


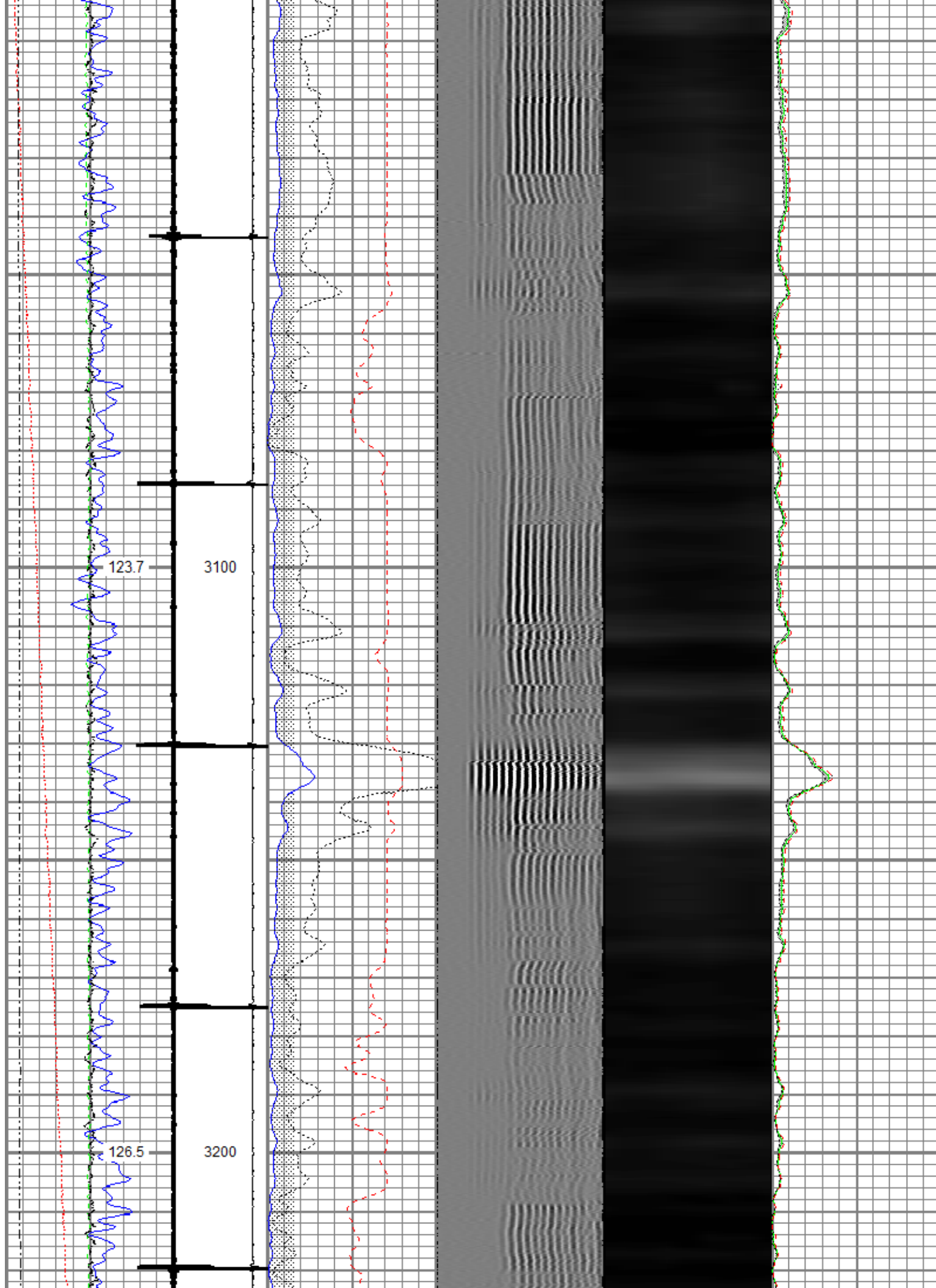


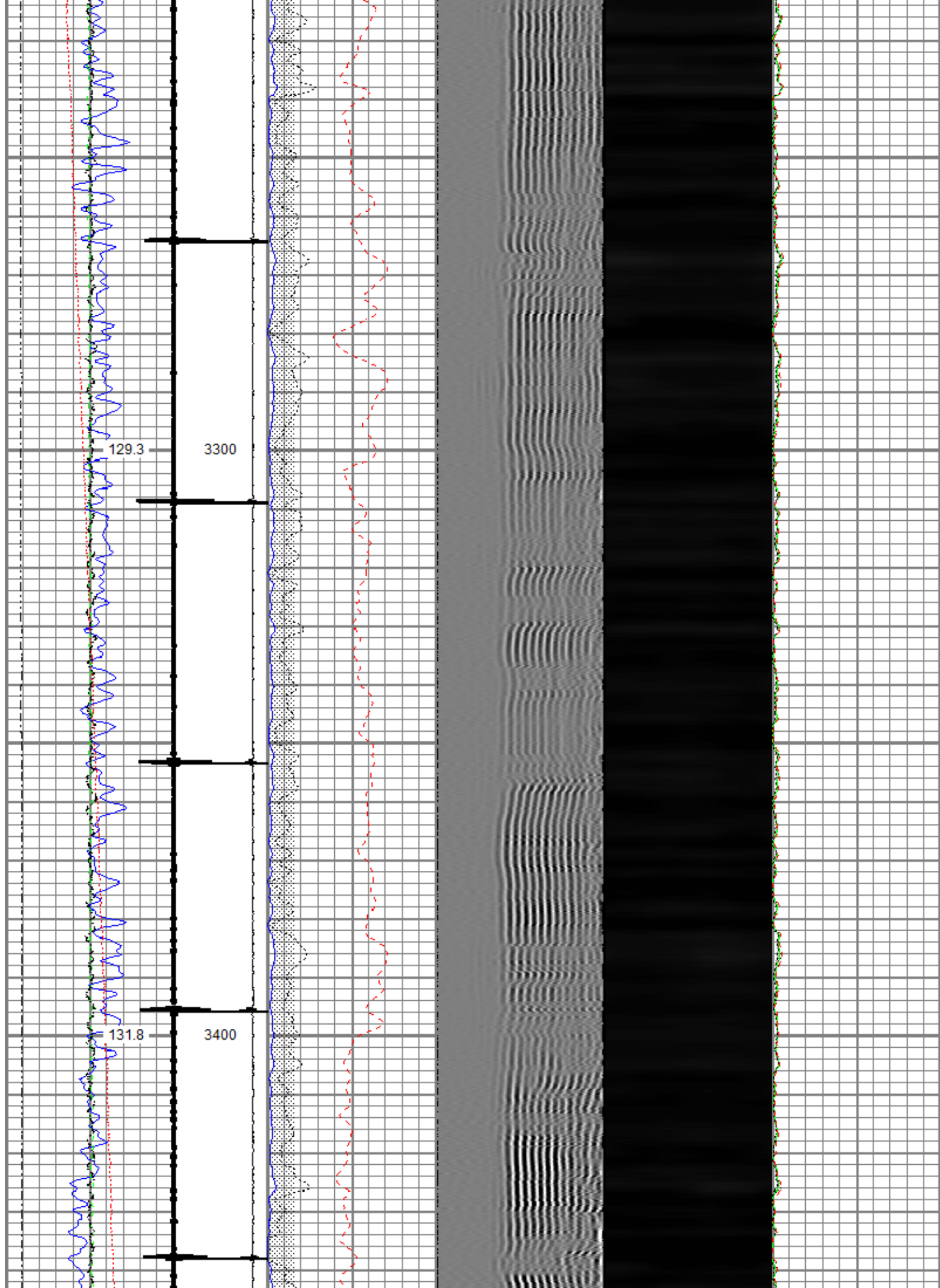


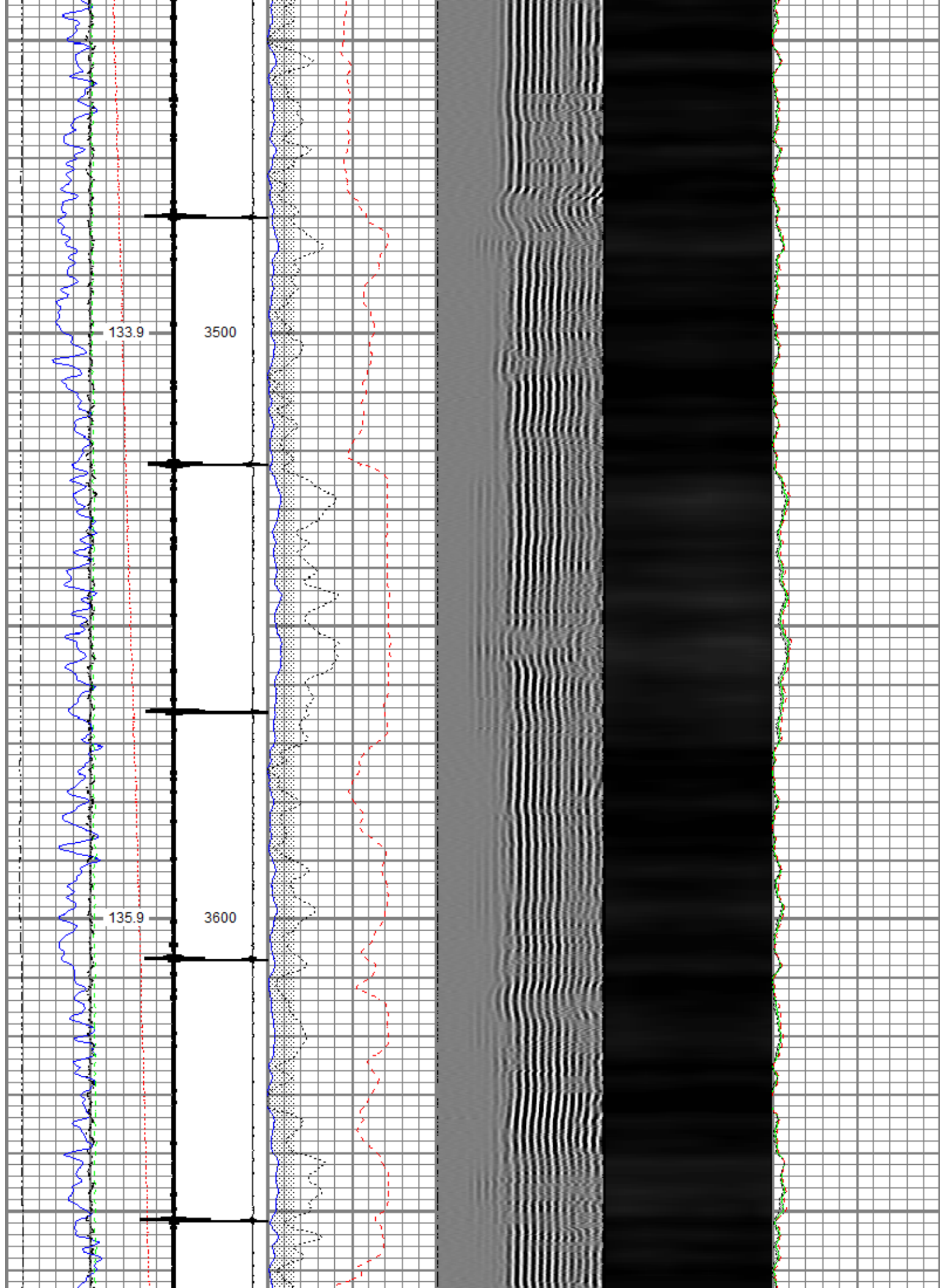


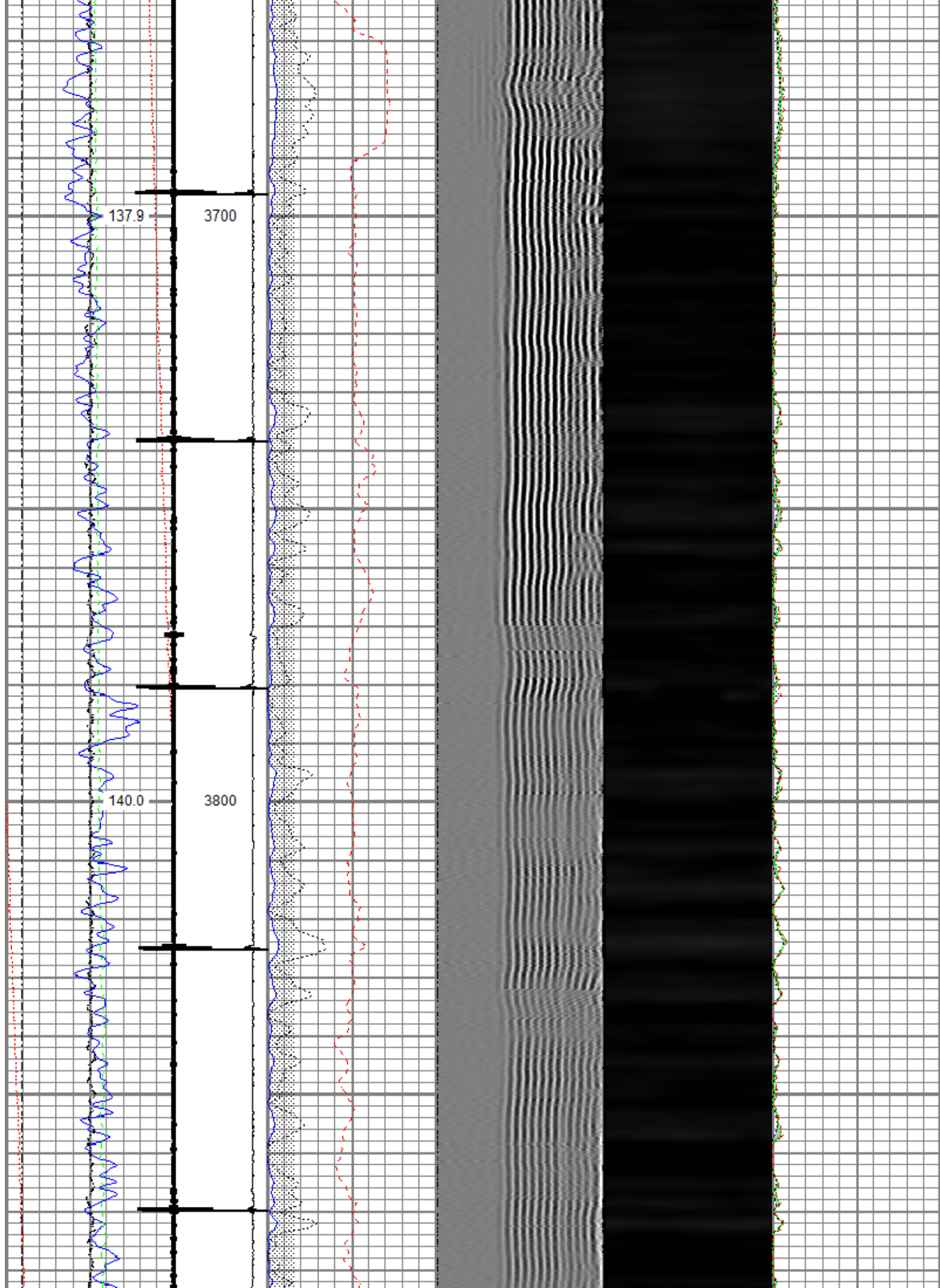


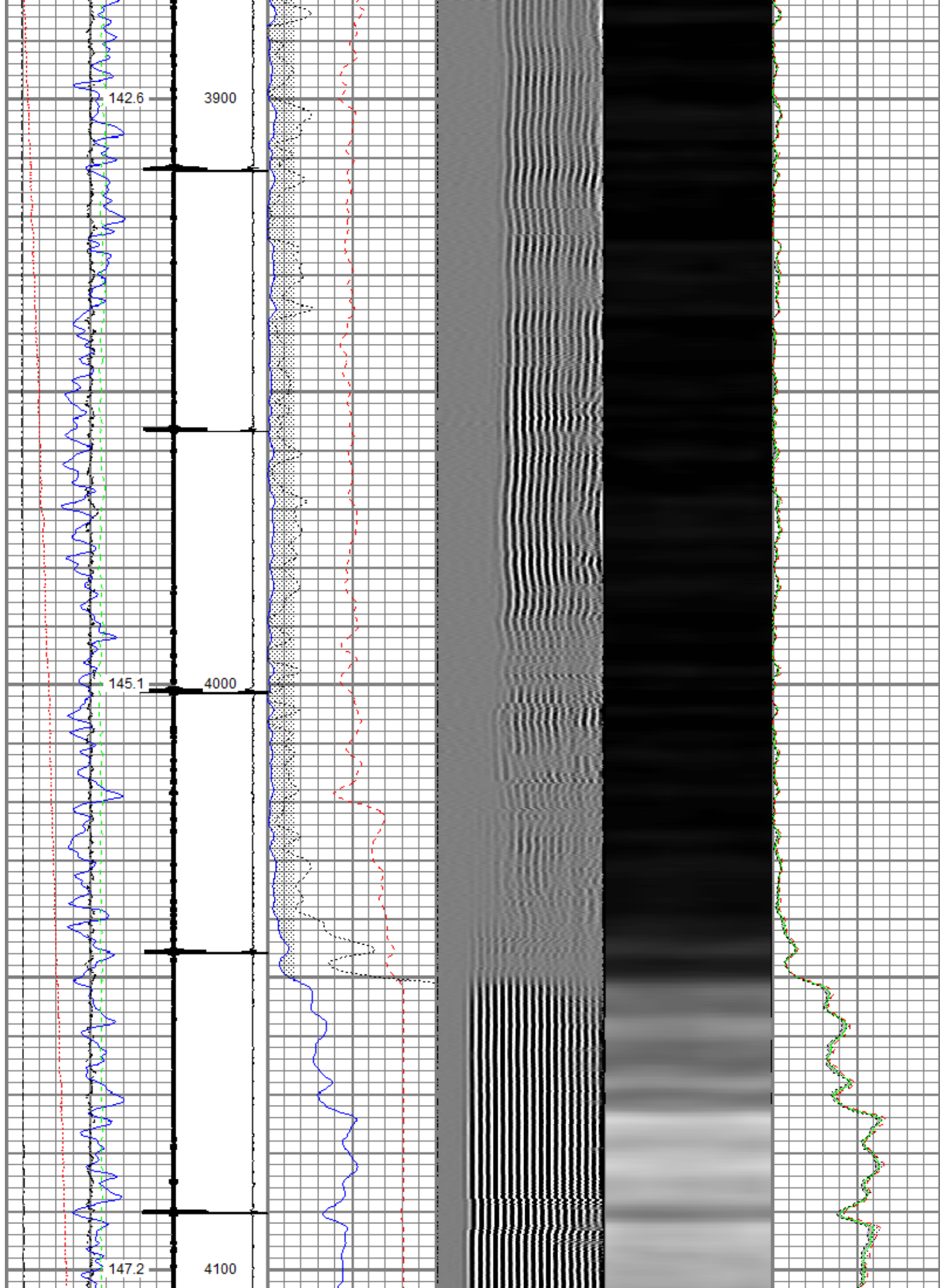


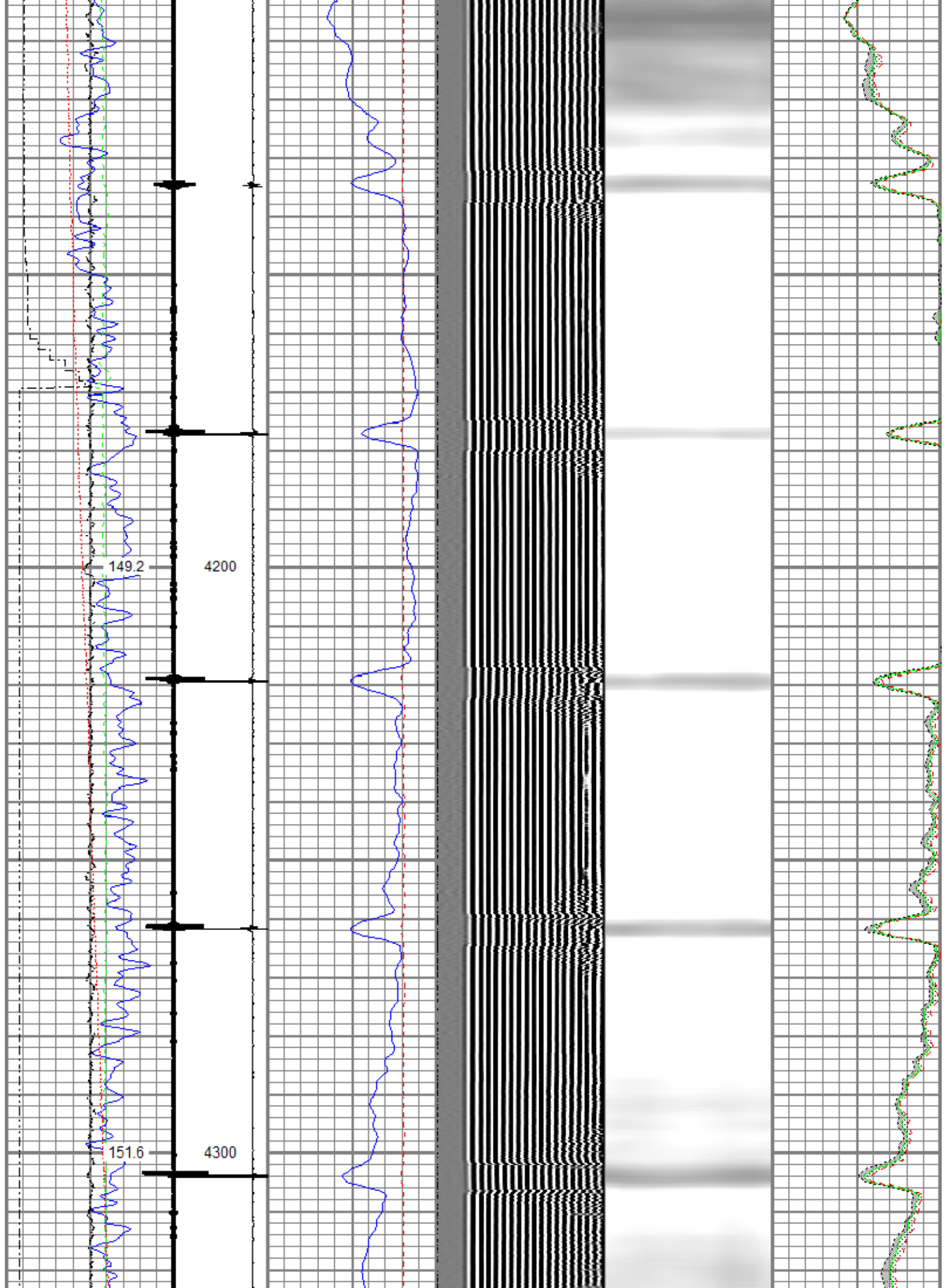


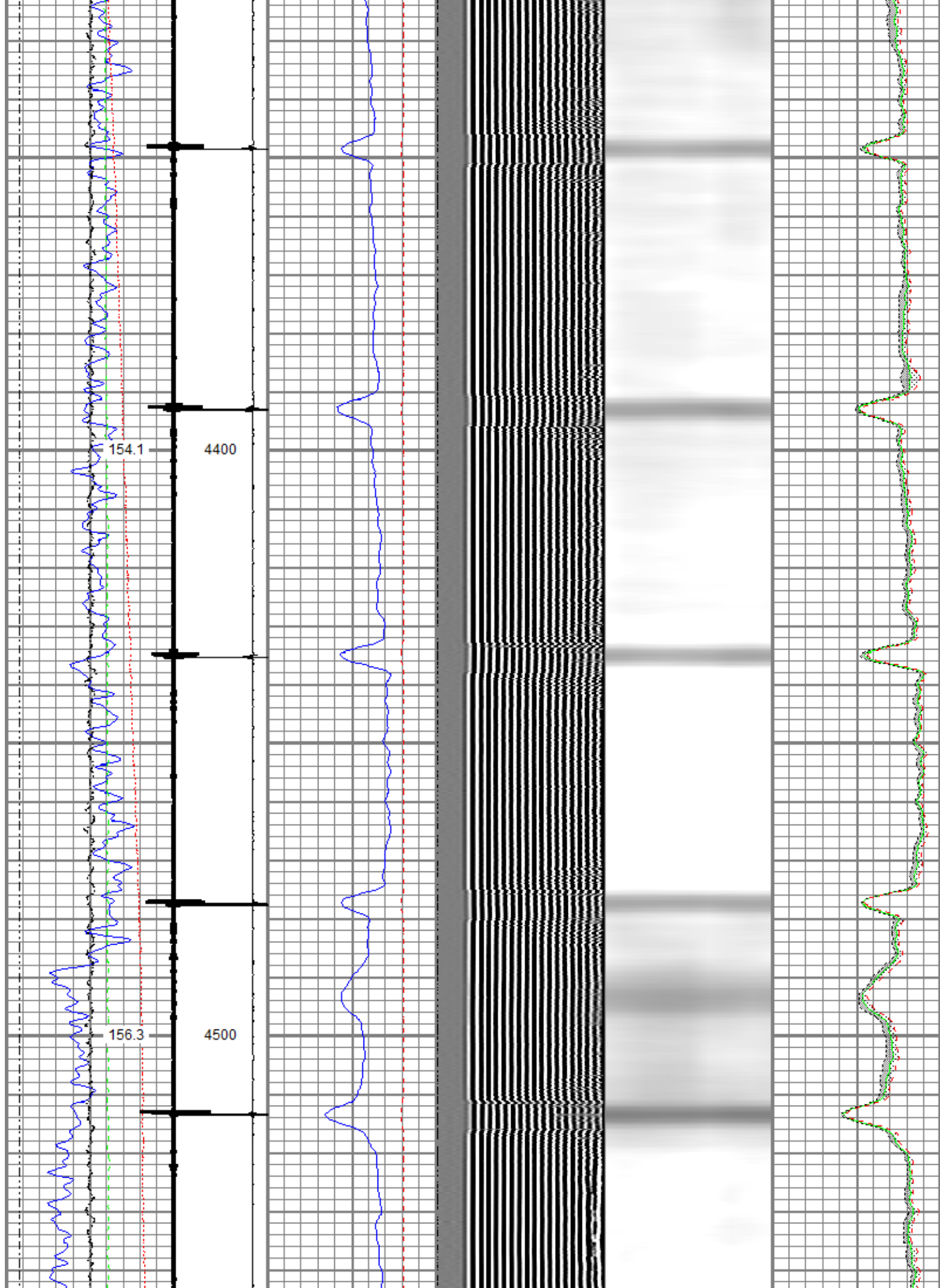


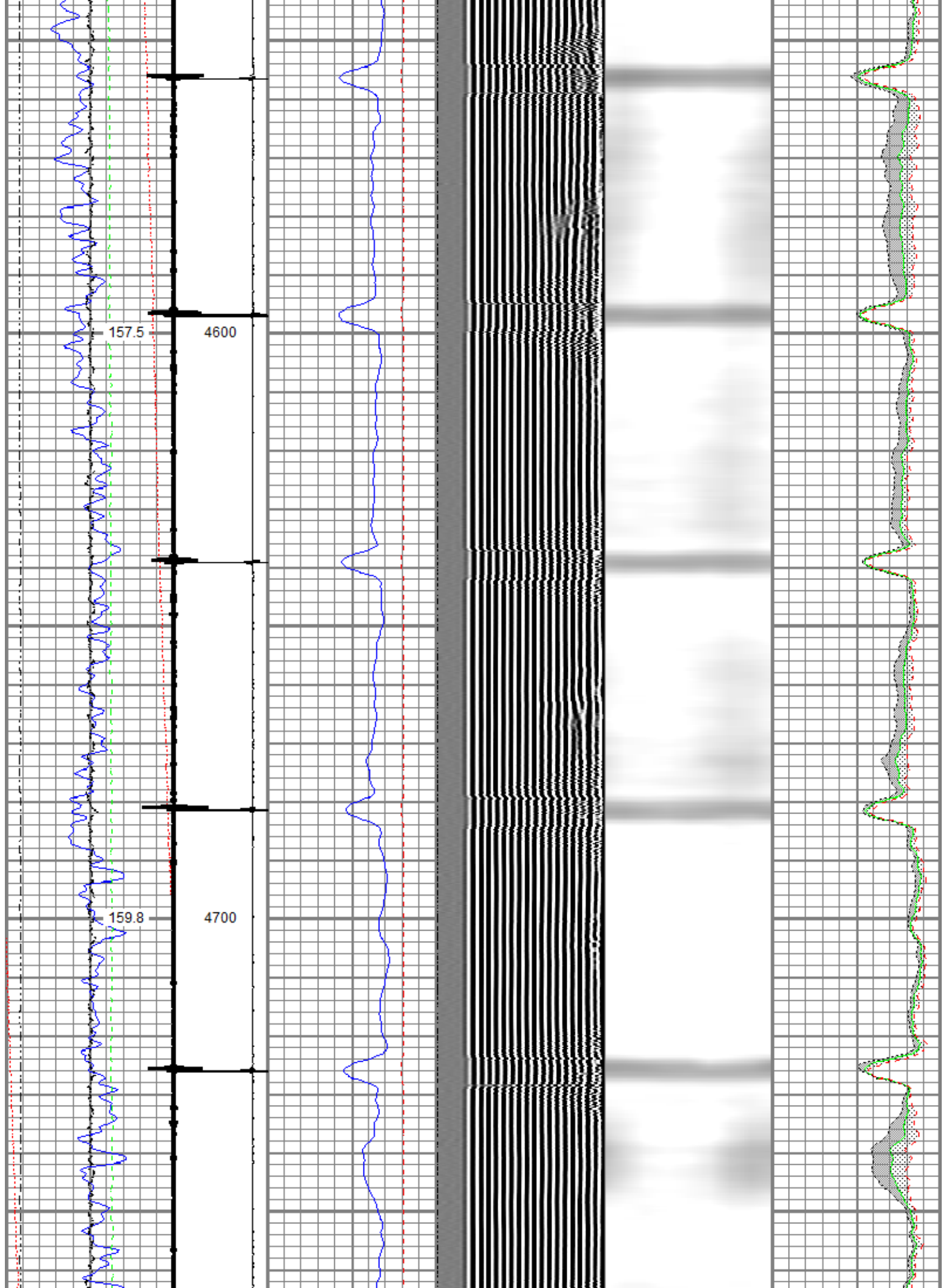


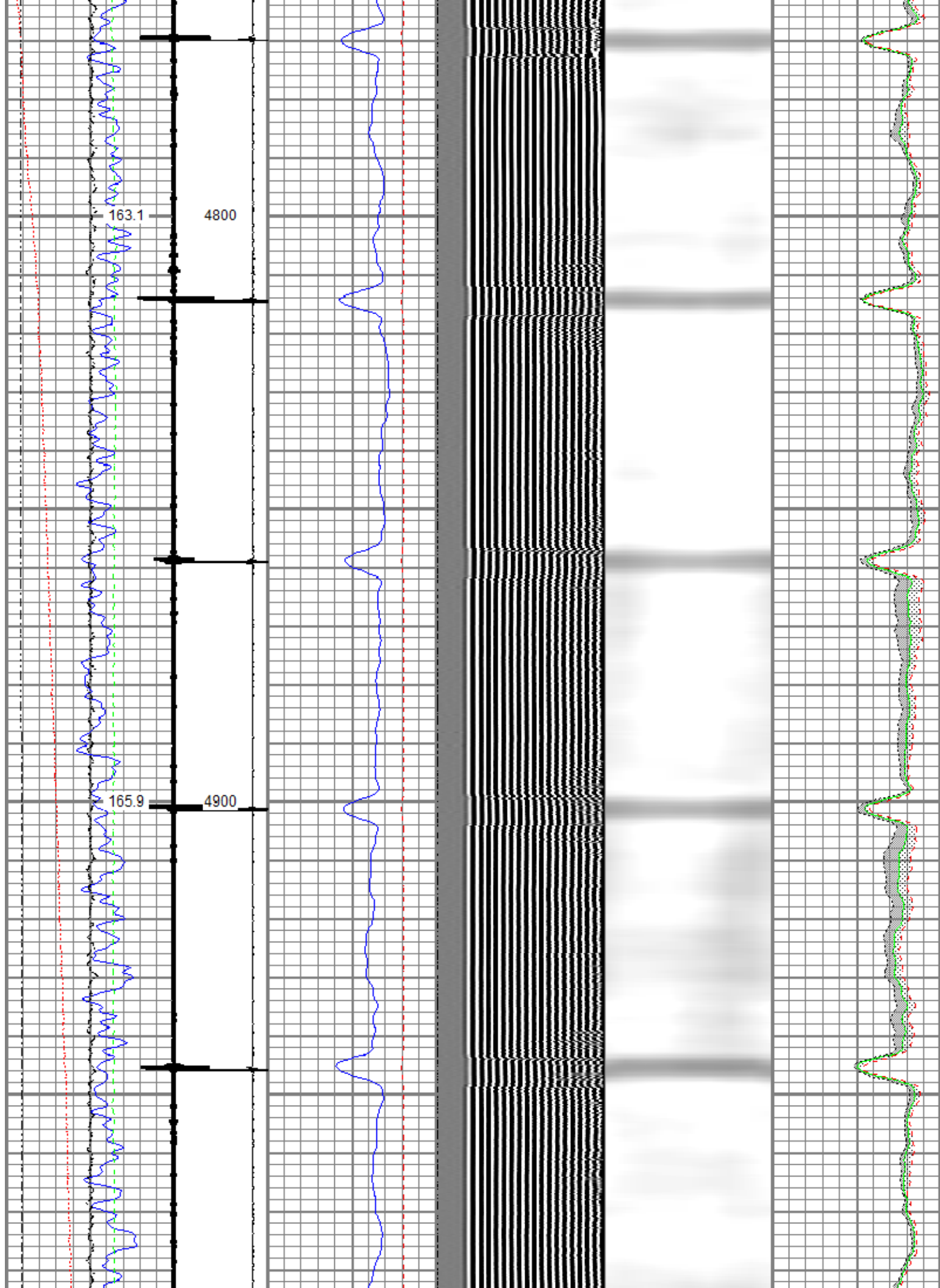


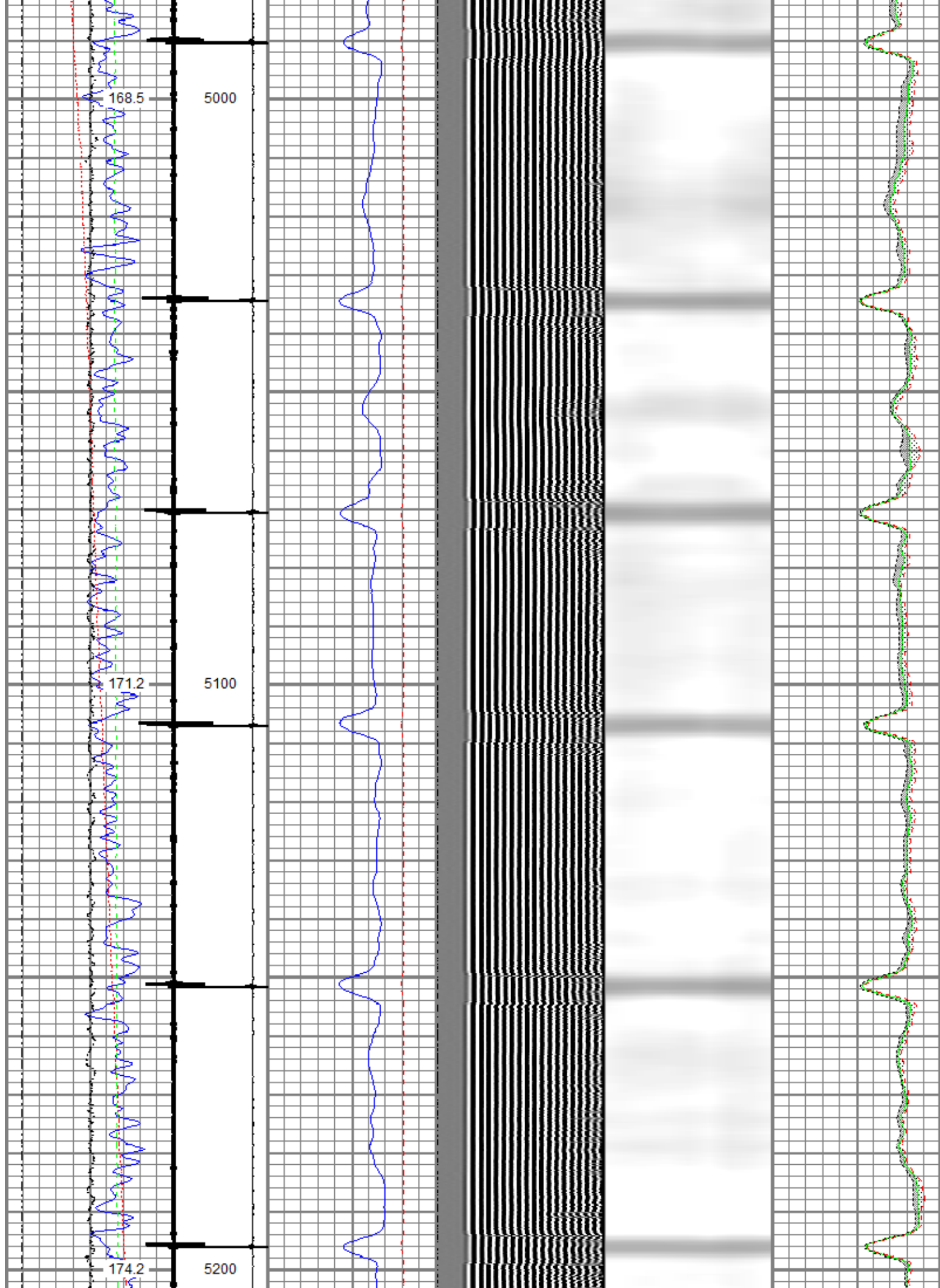


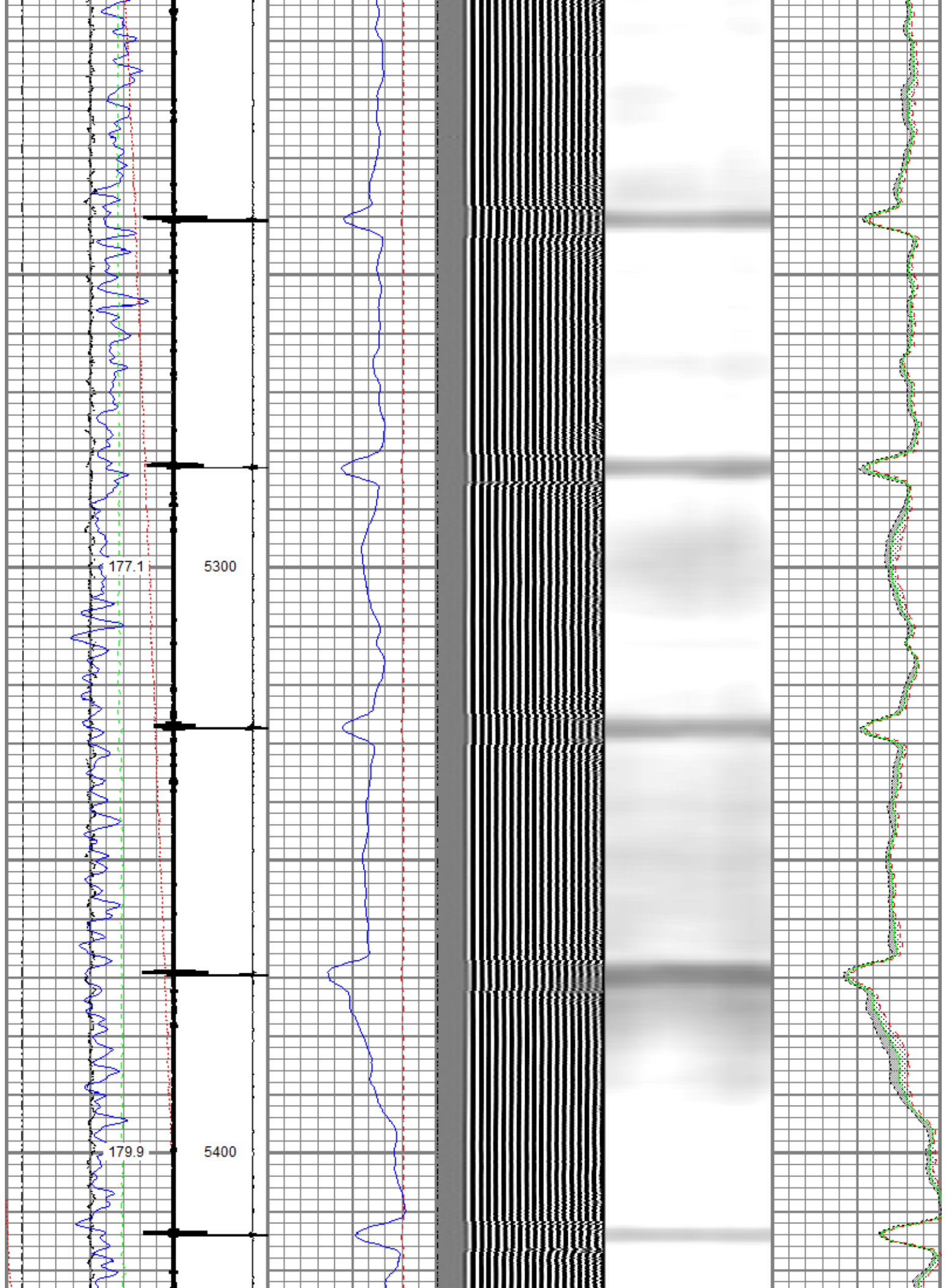


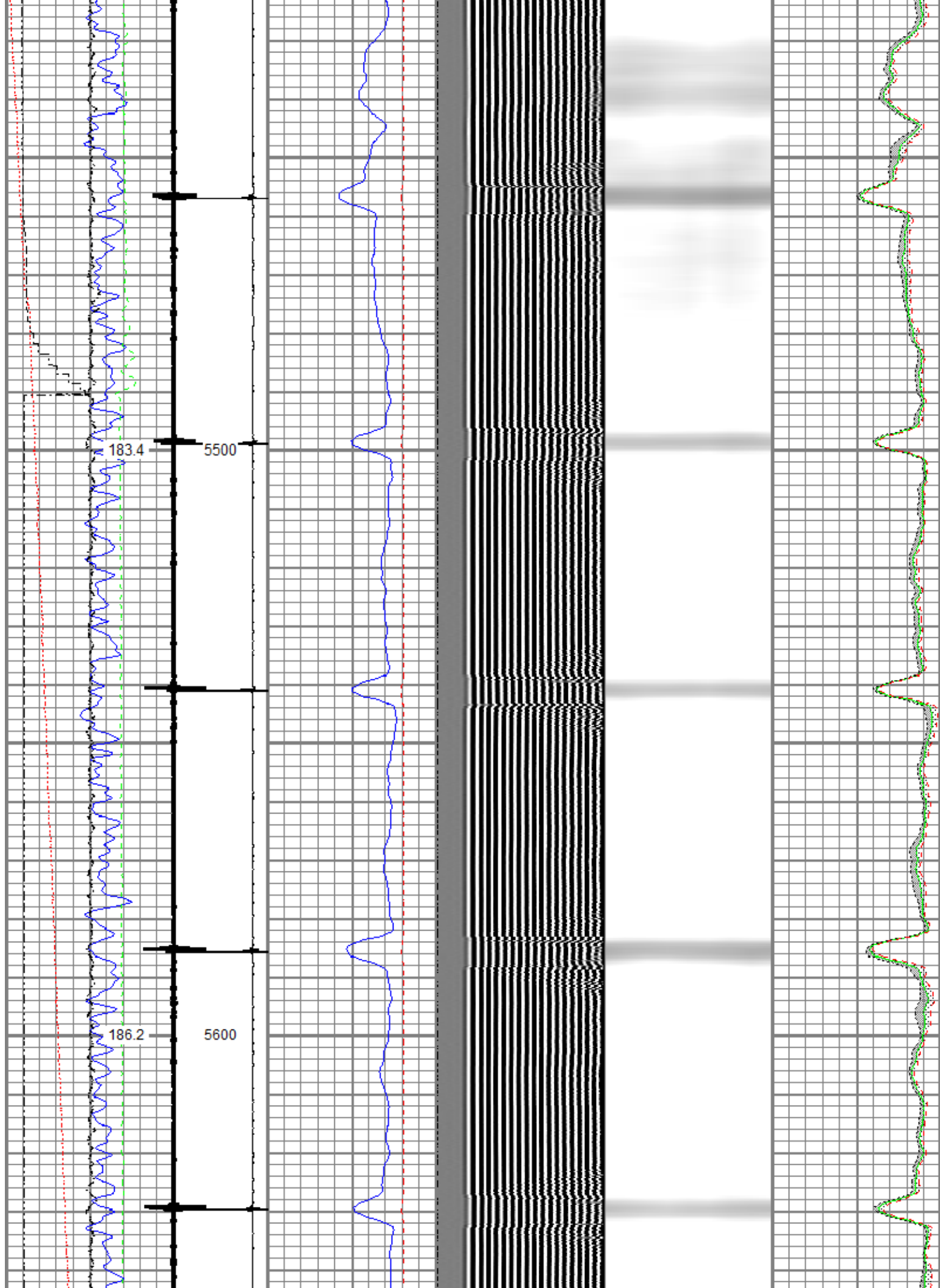


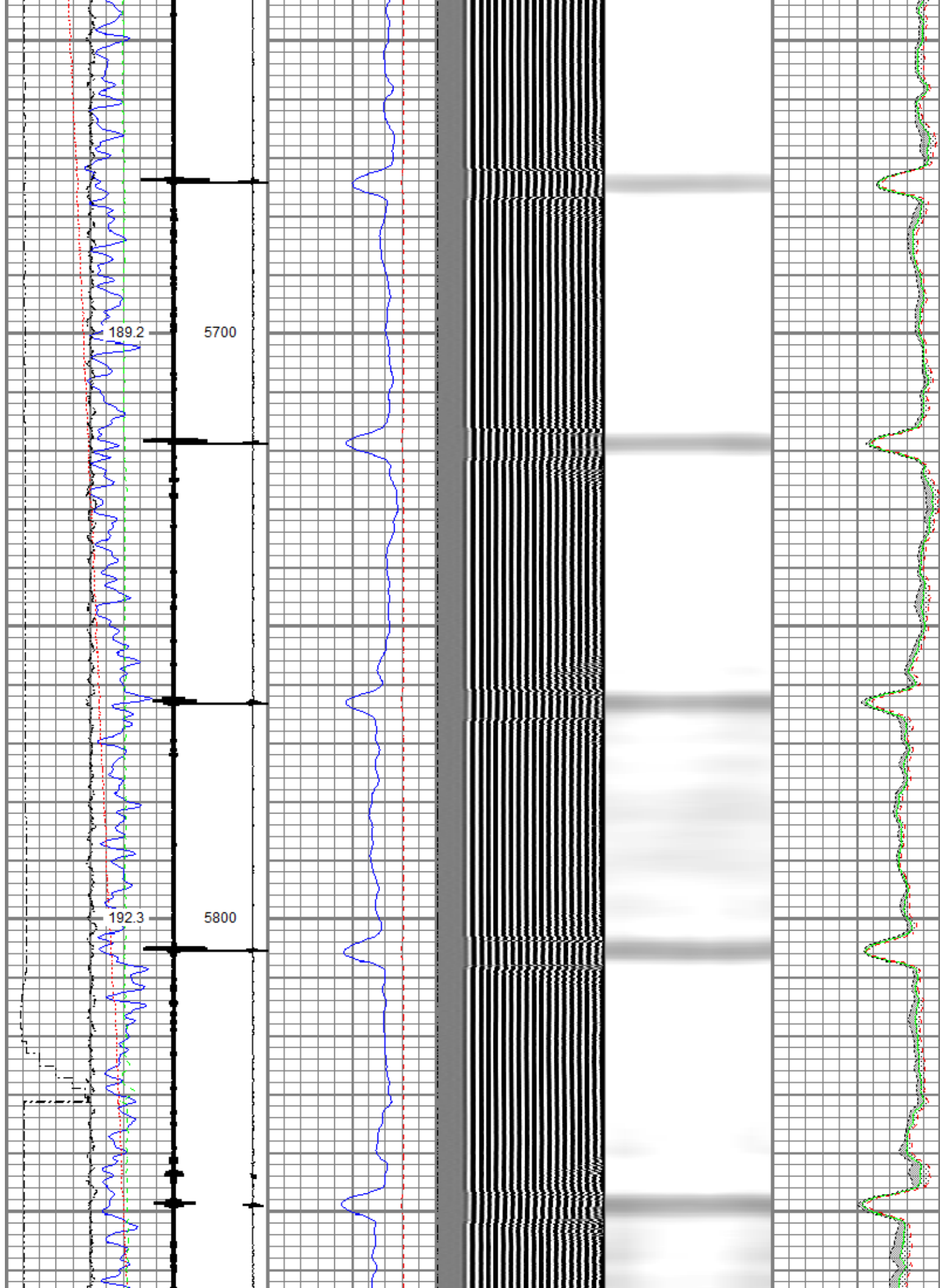


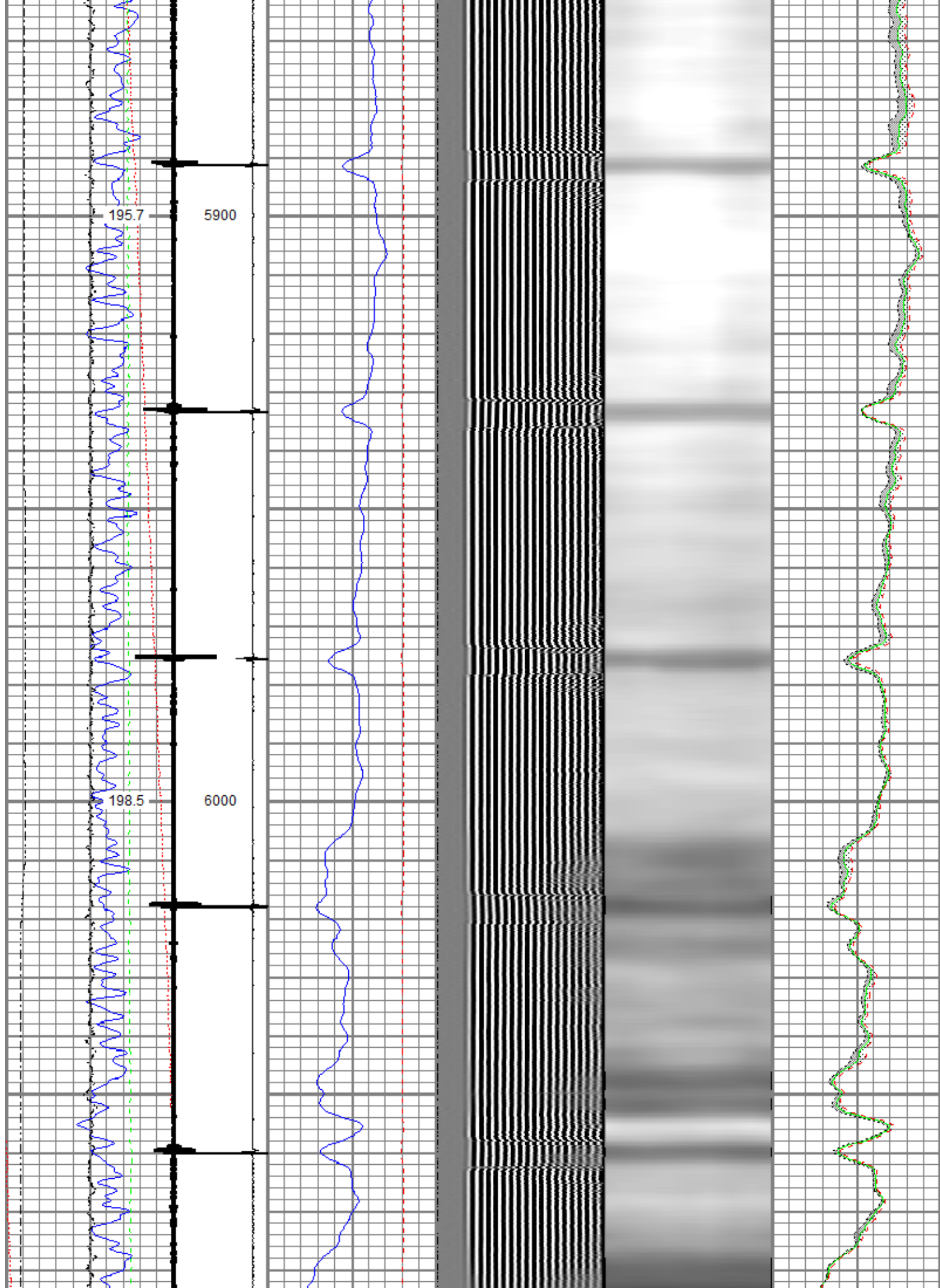


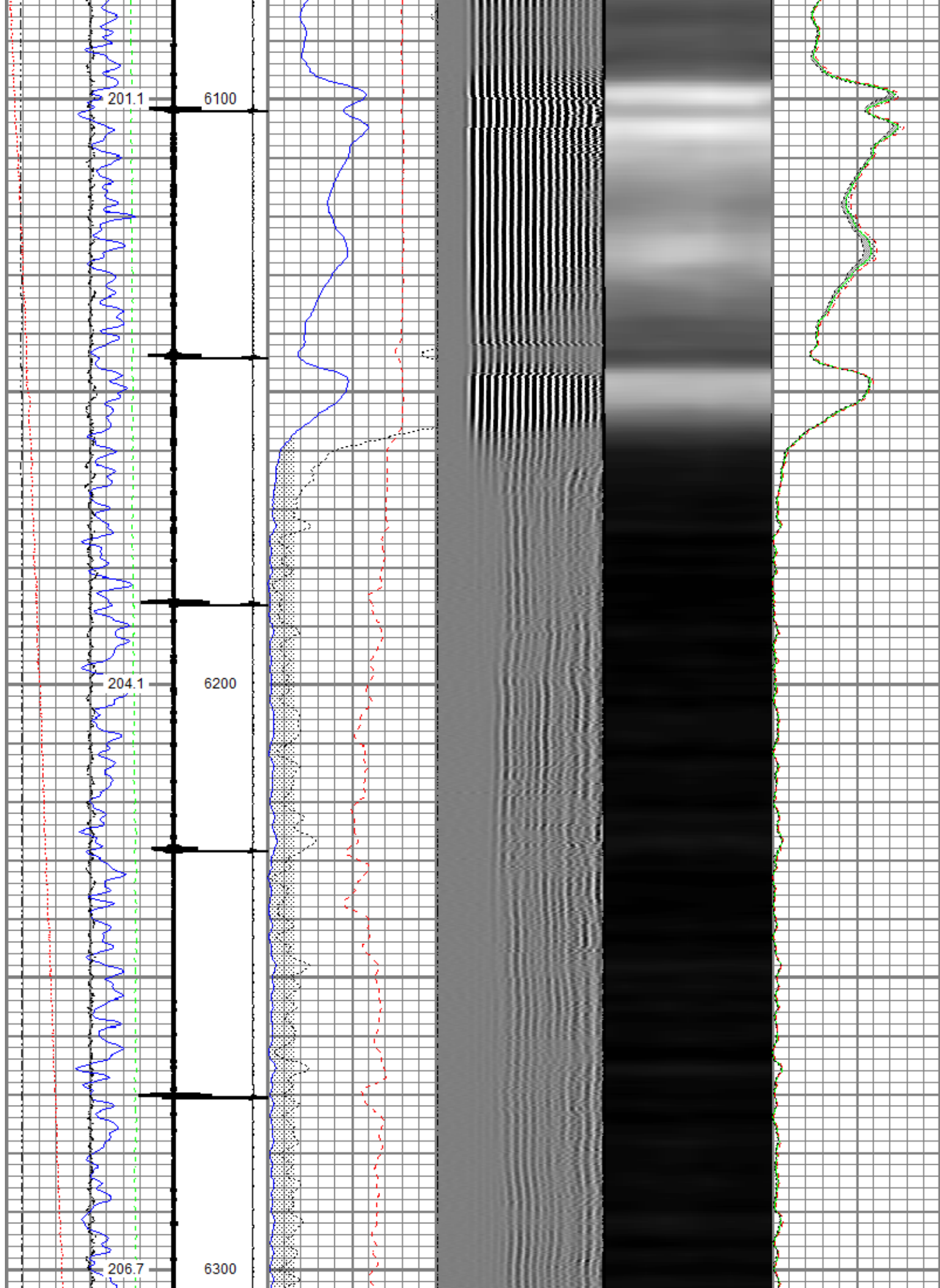


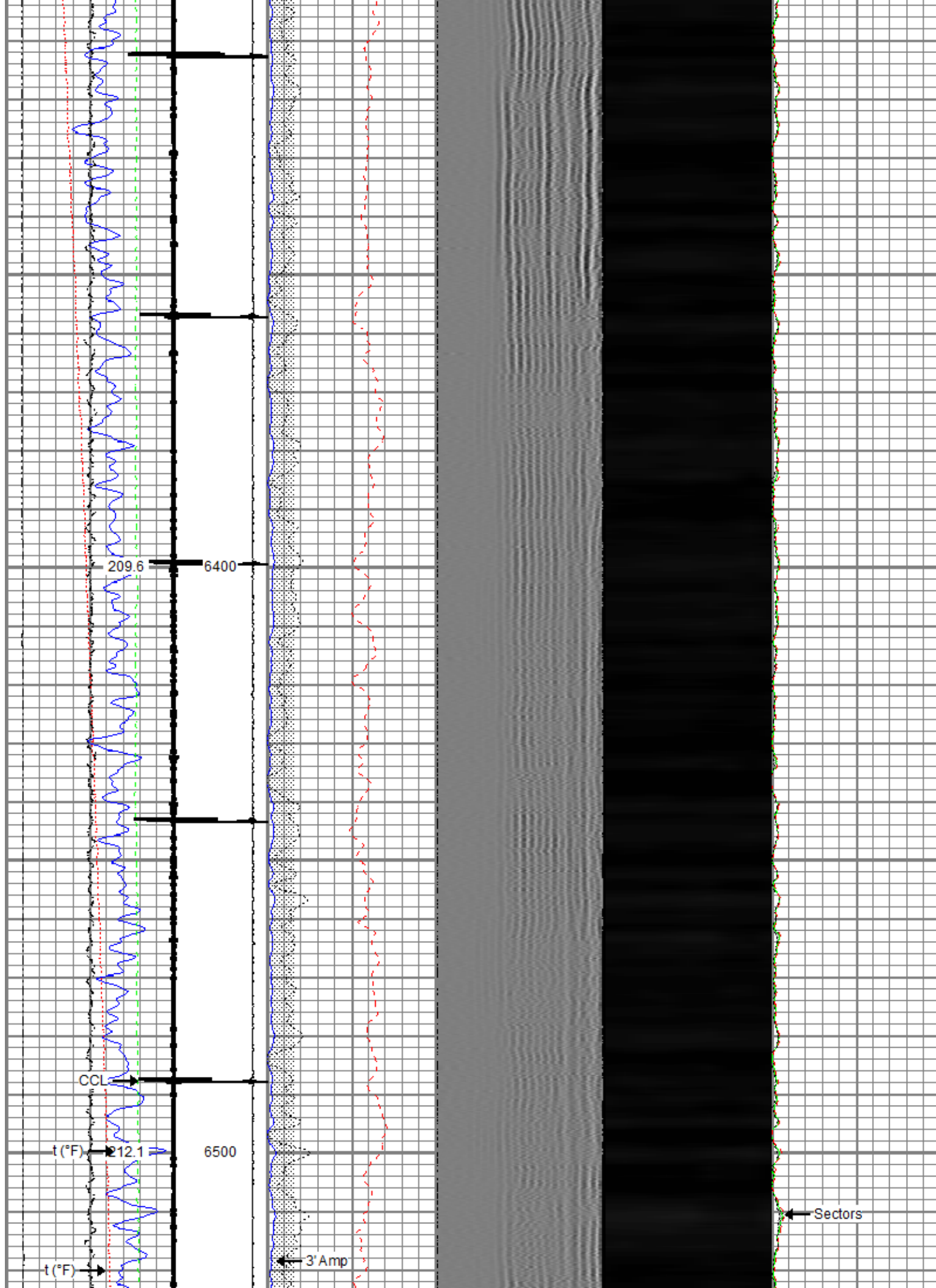


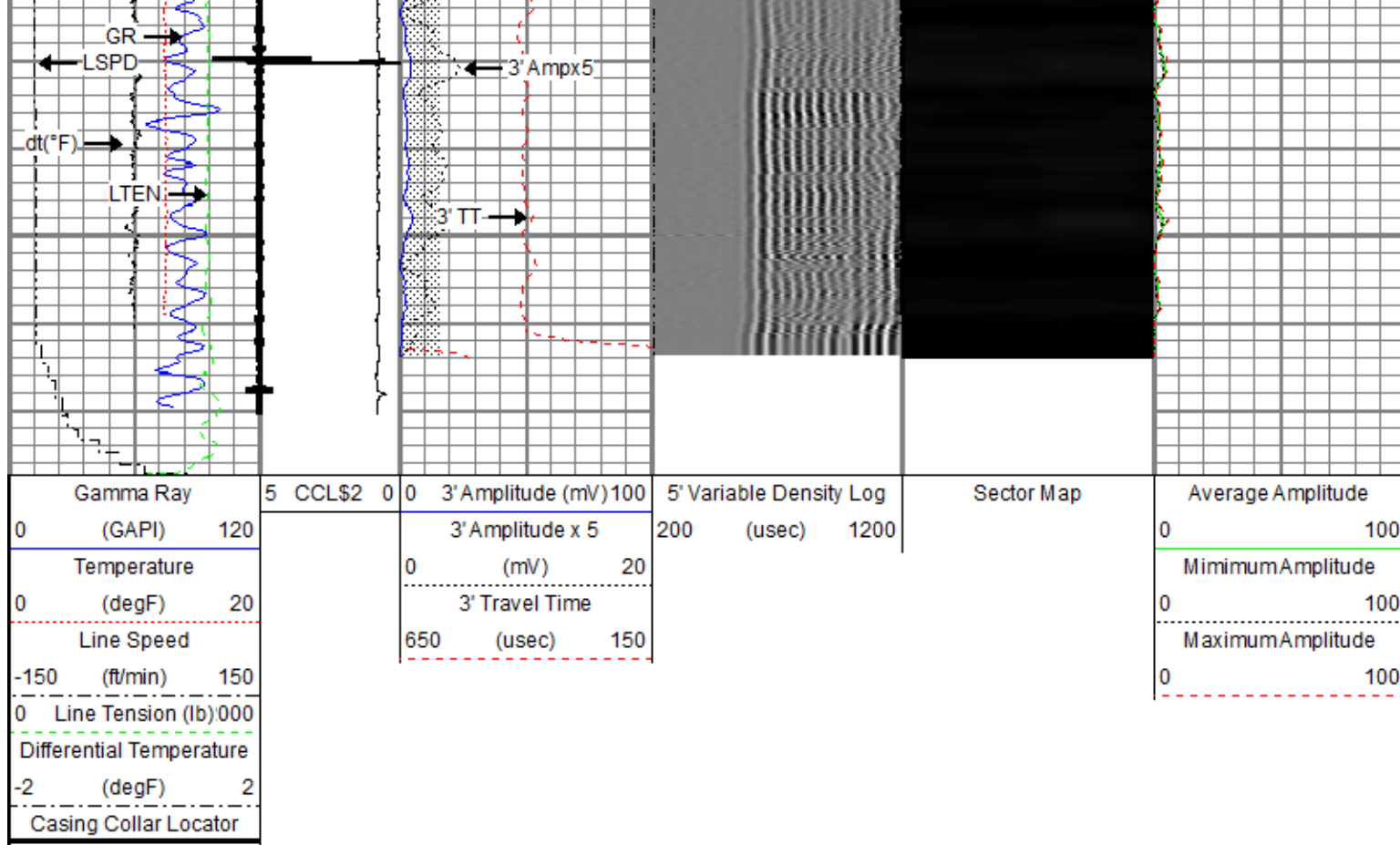








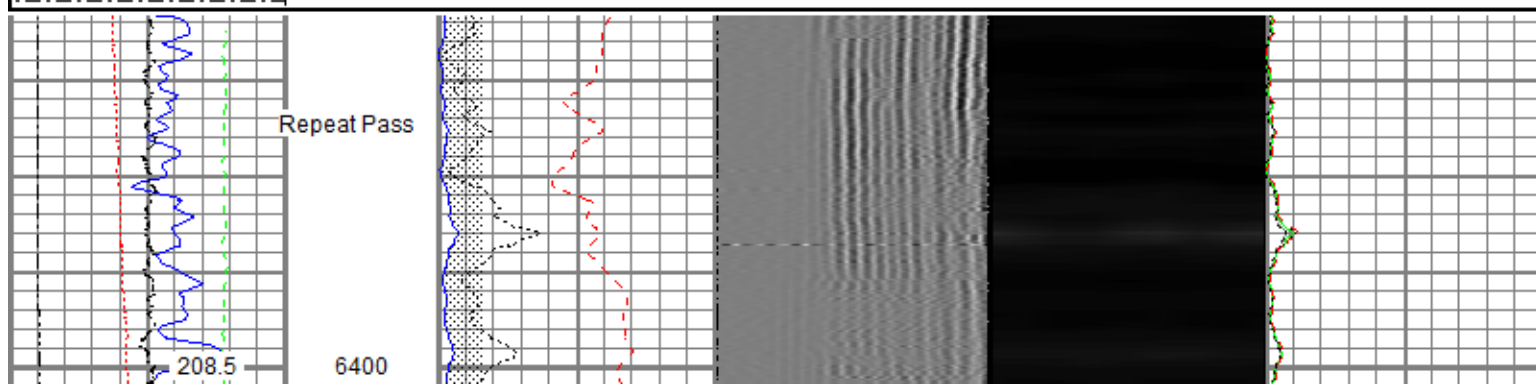
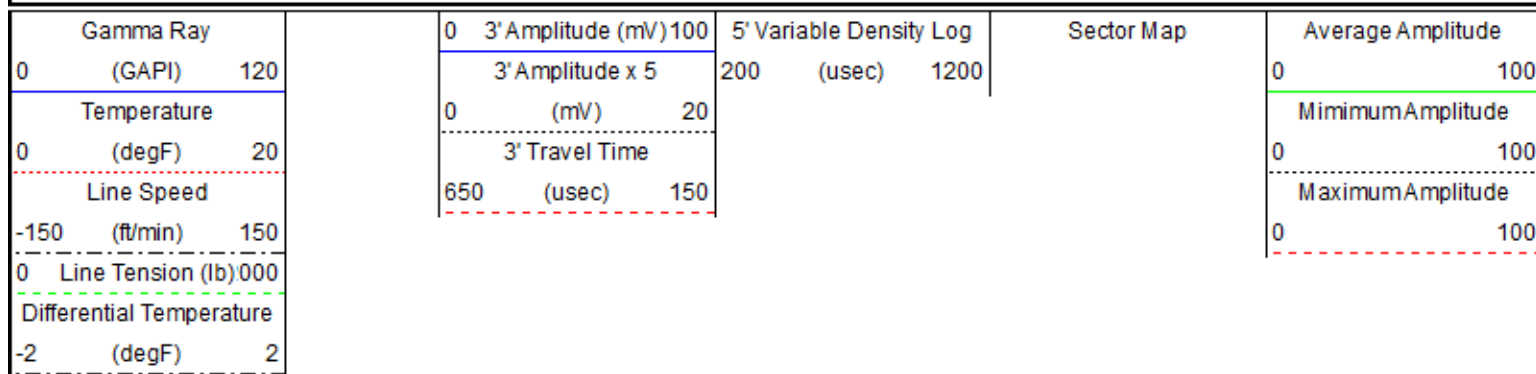


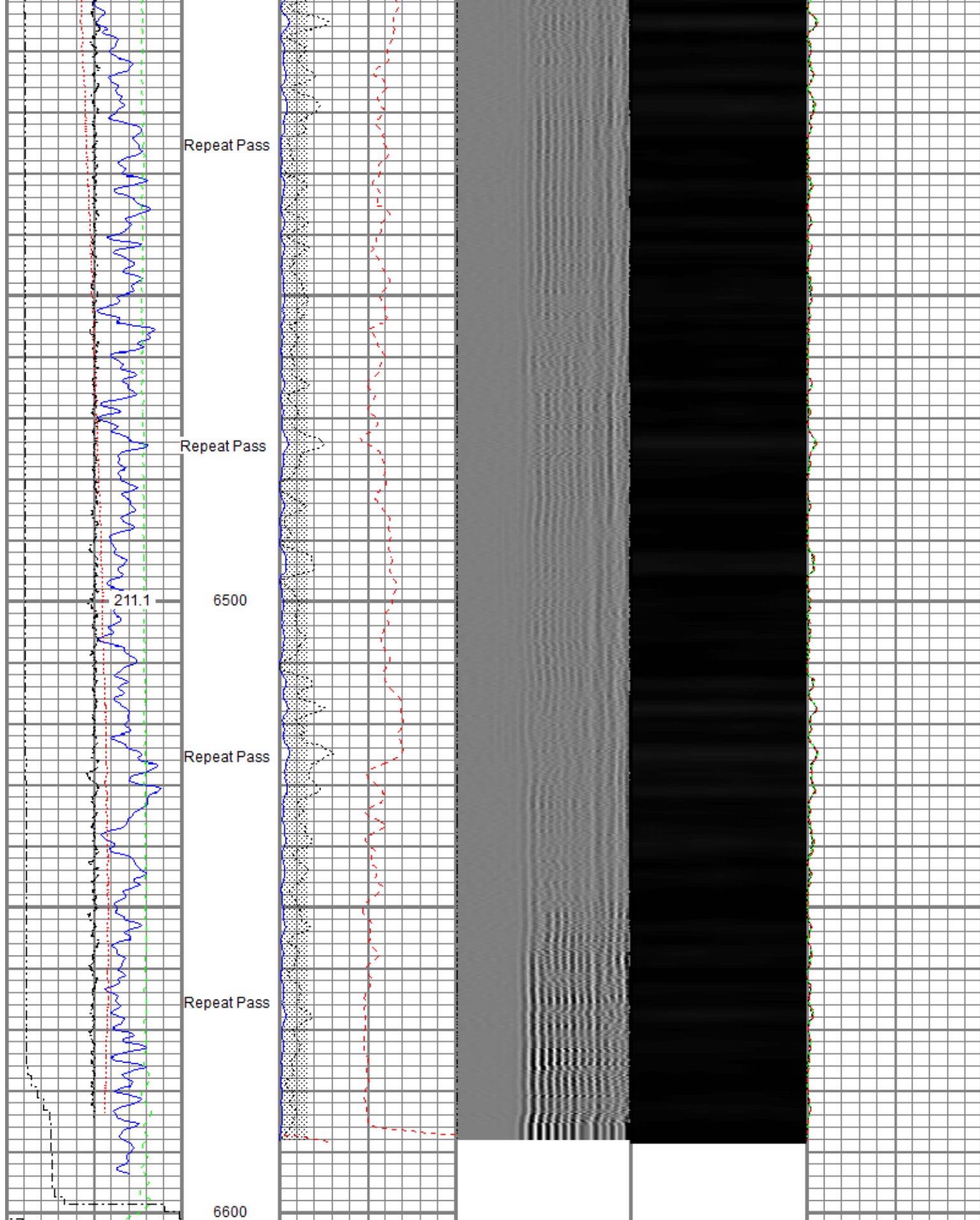


Repeat Pass

Recorded With 0 PSI Surface Induced Pressure.

Database File oxy_kodak_34_43_dec17_2019_rcbl.db
 Dataset Pathname 34-43/rcbl1/pass8
 Presentation Format ros_radai_oxy_vert_gobo_45
 Dataset Creation Tue Dec 17 08:00:30 2019
 Charted by Depth in Feet scaled 1:240






Gamma Ray (GAPI)	0	120
Temperature (degF)	0	20
Line Speed	650	150
3' Amplitude (mV)	0	100
3' Amplitude x 5 (mV)	0	20
3' Travel Time (usec)	650	150
5' Variable Density Log	200	1200
Sector Map		
Average Amplitude	0	100
Minimum Amplitude	0	100
Maximum Amplitude	0	100

-150	(ft/min)	150	0	100
0	Line Tension (lb)000			
	Differential Temperature			
-2	(degF)	2		

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
ErrCt	23.86		Titan CHD-16875 GO Titan 1-11/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.69	5.40
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
RBT_HV	19.95					
TEMP	17.04					
			Probe Radii ACC-2750 RBTa (FW1302-001) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub and Accelerometer	9.39	2.75	105.00
RBT_ACCZ	14.81					
RBT_ACCY	14.81					
RBT_ACCX	14.81					
WVFSYNC	14.81					
WVFS8	14.81					
WVFS7	14.81					
WVFS6	14.81					
WVFS5	14.81					
WVFS4	14.81					
WVFS3	14.81					
WVFS2	14.81					
WVFS1	14.81					
WVFCAL	14.81		Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
WVF3FT	14.81					
WVF5FT	13.81					
CCL\$2	6.80					
CCL\$1	6.80					
GR	5.46		Probe GR-CCL-2750 6PB (FW1810-044) Probe 2-3/4" rev.1 Digital Scintillation Gamma Ray/CCL Combined with 6 Pin Bottom for CNT	4.80	2.75	55.00
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00

LOCTIM UTCTIM	0.00				
Dataset: oxy_kodak_34_43_dec17_2019_rcbl.db: field/34-43/rcbl1/pass10 Total length: 23.86 ft Total weight: 225.40 lb O.D.: 2.75 in					

Calibration Report		
Database File	oxy_kodak_34_43_dec17_2019_rcbl.db	
Dataset Pathname	34-43/rcbl1/pass10	
Dataset Creation	Tue Dec 17 08:04:38 2019	
Gamma Ray Calibration Report		
Serial Number:	FW1810-044	
Tool Model:	2750 6PB	
Performed:	Tue Dec 03 09:24:53 2019	
Calibrator Value:	637.0	GAPI
Background Reading:	105.3	cps
Calibrator Reading:	1221.0	cps
Sensitivity:	0.5709	GAPI/cps

Segmented Cement Bond Log Calibration Report					
Serial Number:	FW1302-001				
Tool Model:	2750 RBTa				
Calibration Casing Diameter:	4.500	in			
Calibration Depth:	4173.622	ft			

Master Calibration, performed Tue Dec 17 07:50:53 2019:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.006	0.846	0.800	81.196	95.698	0.198
CAL	0.007	0.890				
5'	0.007	0.625	0.800	81.196	130.108	-0.066
SUM						
S1	0.007	0.879	0.000	100.000	114.593	-0.778
S2	0.007	0.840	0.000	100.000	119.978	-0.786
S3	0.007	0.785	0.000	100.000	128.498	-0.845
S4	0.007	0.769	0.000	100.000	131.185	-0.863
S5	0.006	0.806	0.000	100.000	125.006	-0.783
S6	0.006	0.851	0.000	100.000	118.387	-0.731
S7	0.006	0.885	0.000	100.000	113.835	-0.739
S8	0.006	0.902	0.000	100.000	111.614	-0.725

Air Zero Calibration, performed Tue Dec 17 07:17:33 2019:			
	Raw (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

Inclinometer Calibration Report

Performed:	Tue Dec 03 09:24:53 2019				
	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	-900.00	892.00	-1.00	1.00	gee
Y Accelerometer	-922.00	893.00	-1.00	1.00	gee
Z Accelerometer	7.38	894.40	0.00	1.00	gee

Temperature Calibration Report

Serial Number:	FW1302-001			
Tool Model:	2750 RBTa			
Performed:	Tue Dec 03 09:24:53 2019			
	Reference	Reading		
Low Reference:	100.00 degF	107.47	degF	
High Reference:	350.00 degF	404.08	degF	
Gain:	0.84			
Offset:	9.42			
Delta Spacing	1			



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Kodak 34-43
Field	Wattenberg
County	Weld
State	Colorado