



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Noble Energy Inc
Well Guttersen YY06-785
Field Wattenberg
County Weld State Colorado

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Location: API #: 05-123-48640
SEC 30 TWP 3N RGE 63W
Permanent Datum Ground Level Elevation 4791'
Log Measured From Kelly Bushing 30 FT
Drilling Measured From Kelly Bushing
Other Services
Elevation
K.B. 4821'
D.F. ---
G.L. 4791'

Date	01-SEP-2020
Run Number	One
Depth Driller	17514 FT
Depth Logger	7072 FT
Bottom Logged Interval	7060 FT
Top Log Interval	Surface
Open Hole Size	8.5"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	220°F
E. estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	13:45
E equipment Number	HD-361
Location	Platteville, CO
Recorded By	G. Lueck
Witnessed By	Andy Dawkins
Borehole Record	
Run Number	Bit From To
Size (in)	Wgt (lbs/ft)
Grade	Size
Weight	From To
Top	Bottom
Surface Casing	9 5/8 36 J-55 Surface 1930.5 FT
Intermediate #1	5 1/2 17 P-110 CYHP Surface 15263.6 FT
Intermediate #2	
Inner	

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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

Log ran as per customer request
Depth referenced to Casing Tally reported Marker Joint at 4416.1 FT
Adjusted -29 FT to correlate to Marker Joint
Log ran with 2500 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations
Thank you for choosing Reliance Oilfield Services, LLC!!

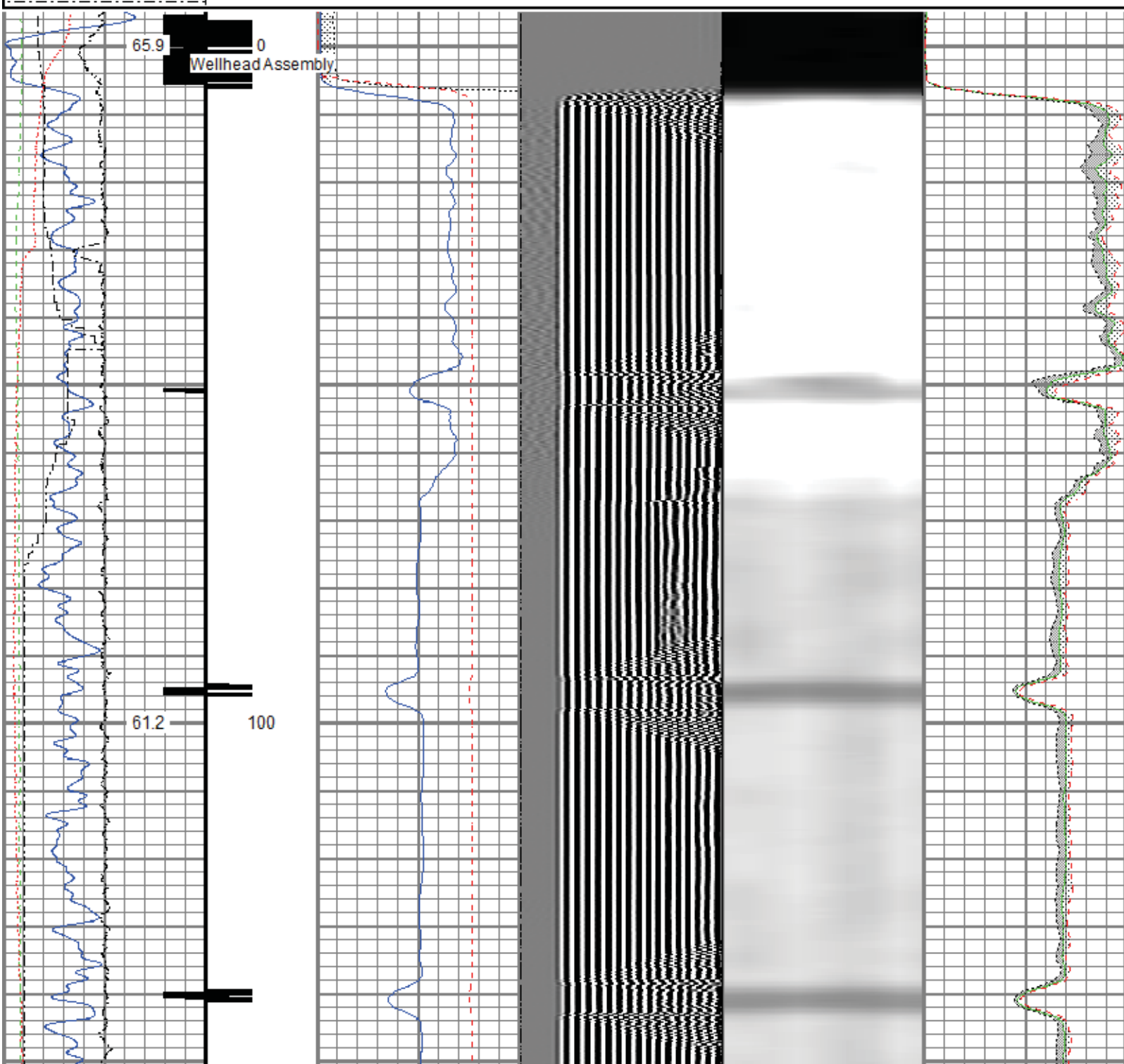
Main Pass

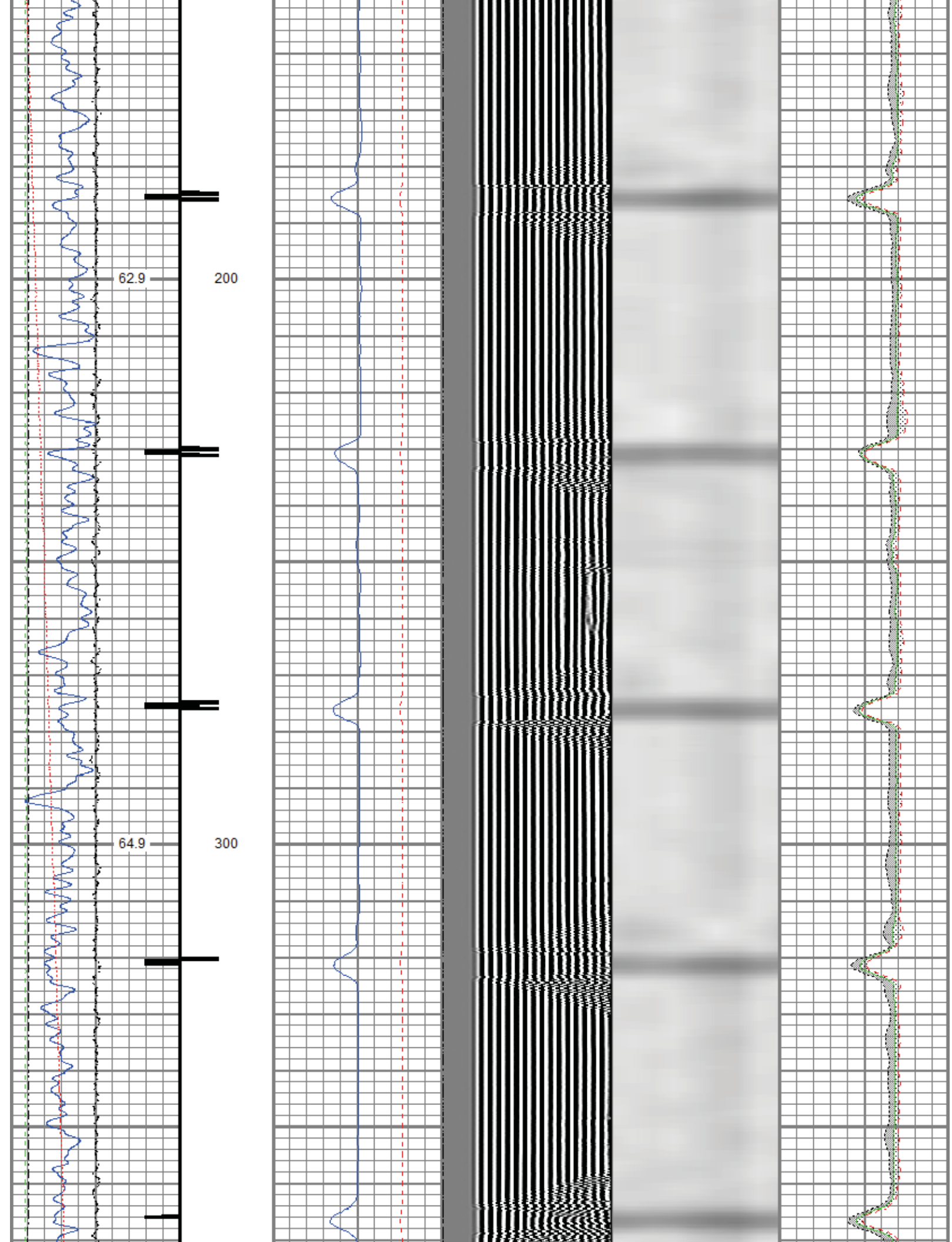


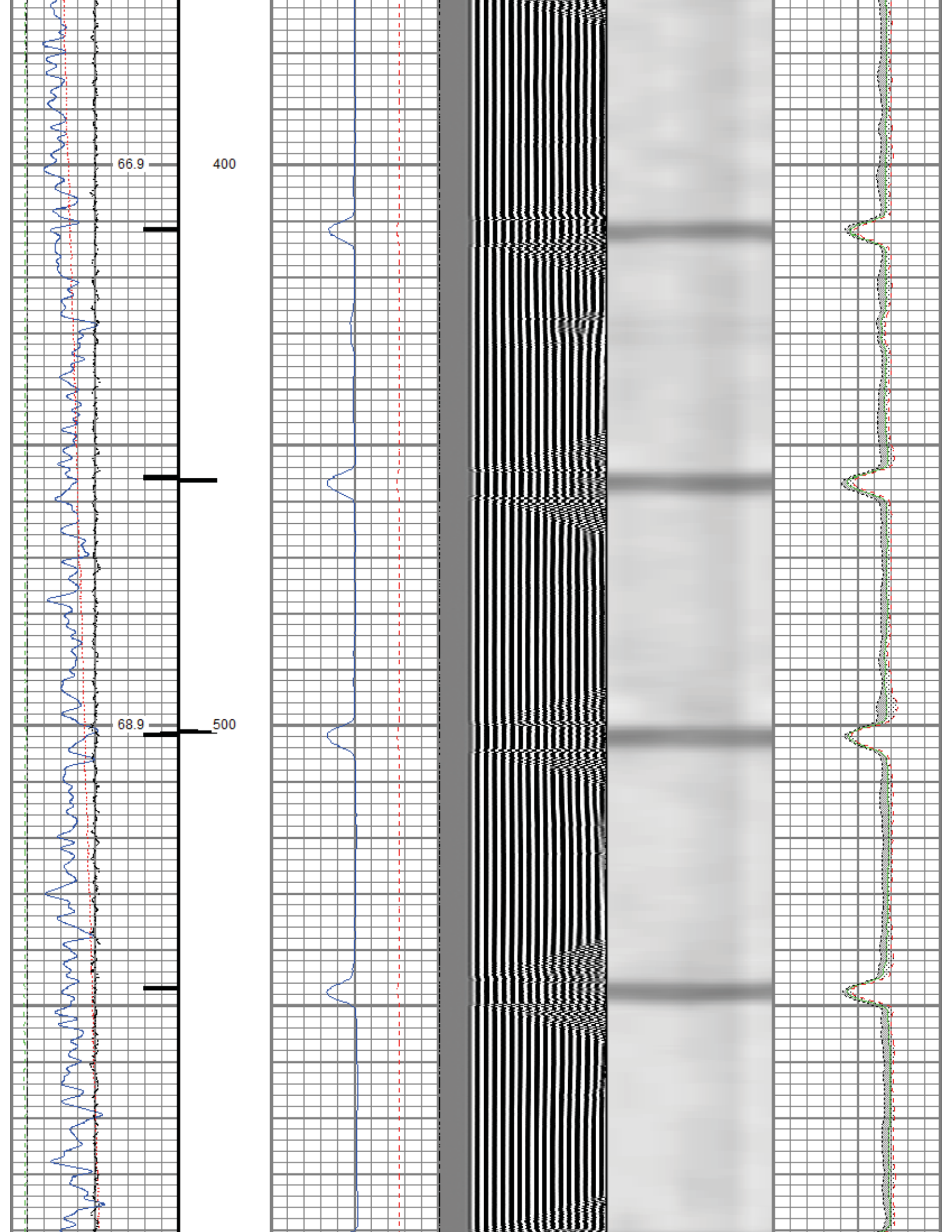
Recorded With 2500 PSI Surface Induced Pressure

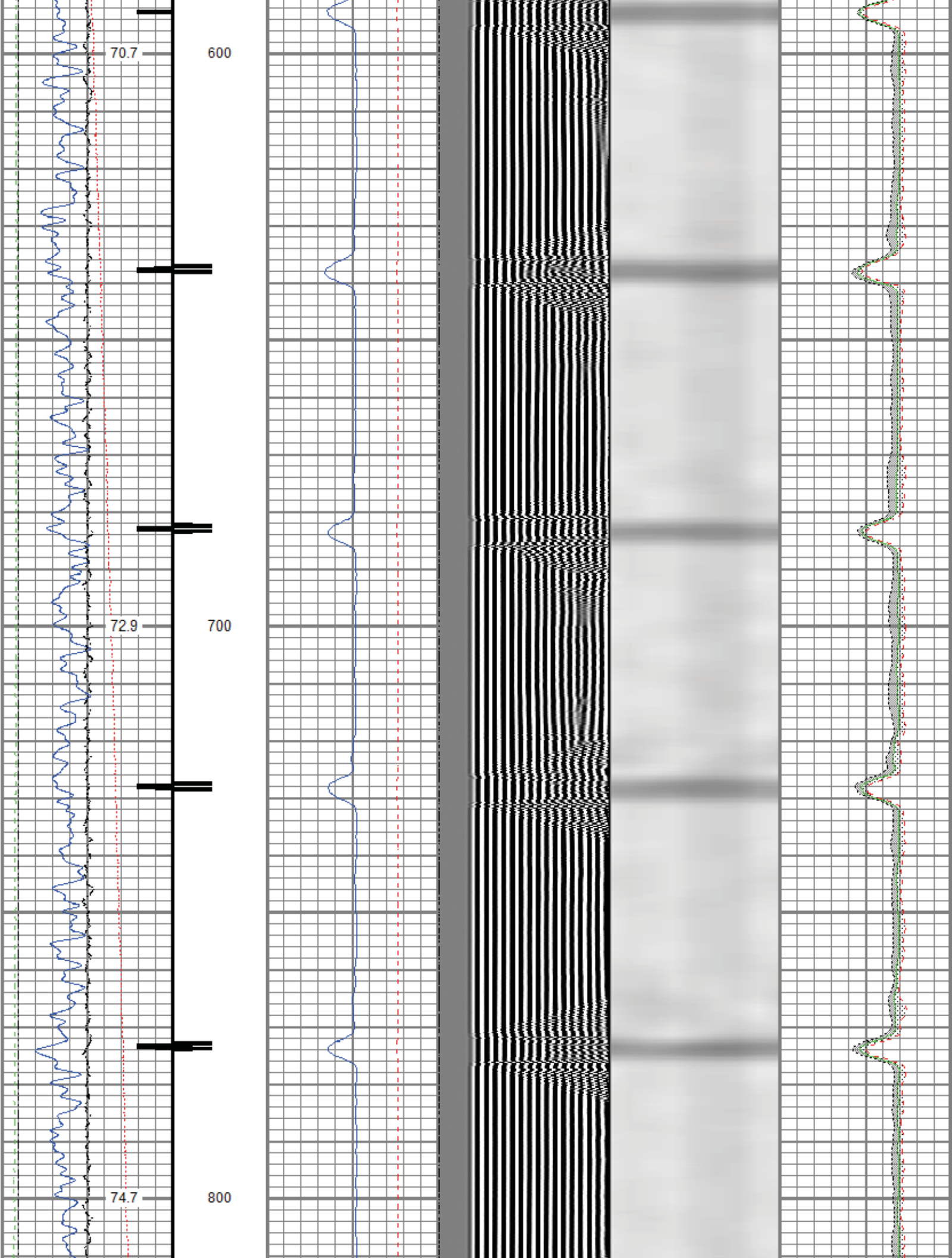
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Dataset Pathname	pass6.1
Presentation Format	ros_radri_noble
Dataset Creation	Tue Sep 01 14:58:17 2020
Charted by	Depth in Feet scaled 1:240

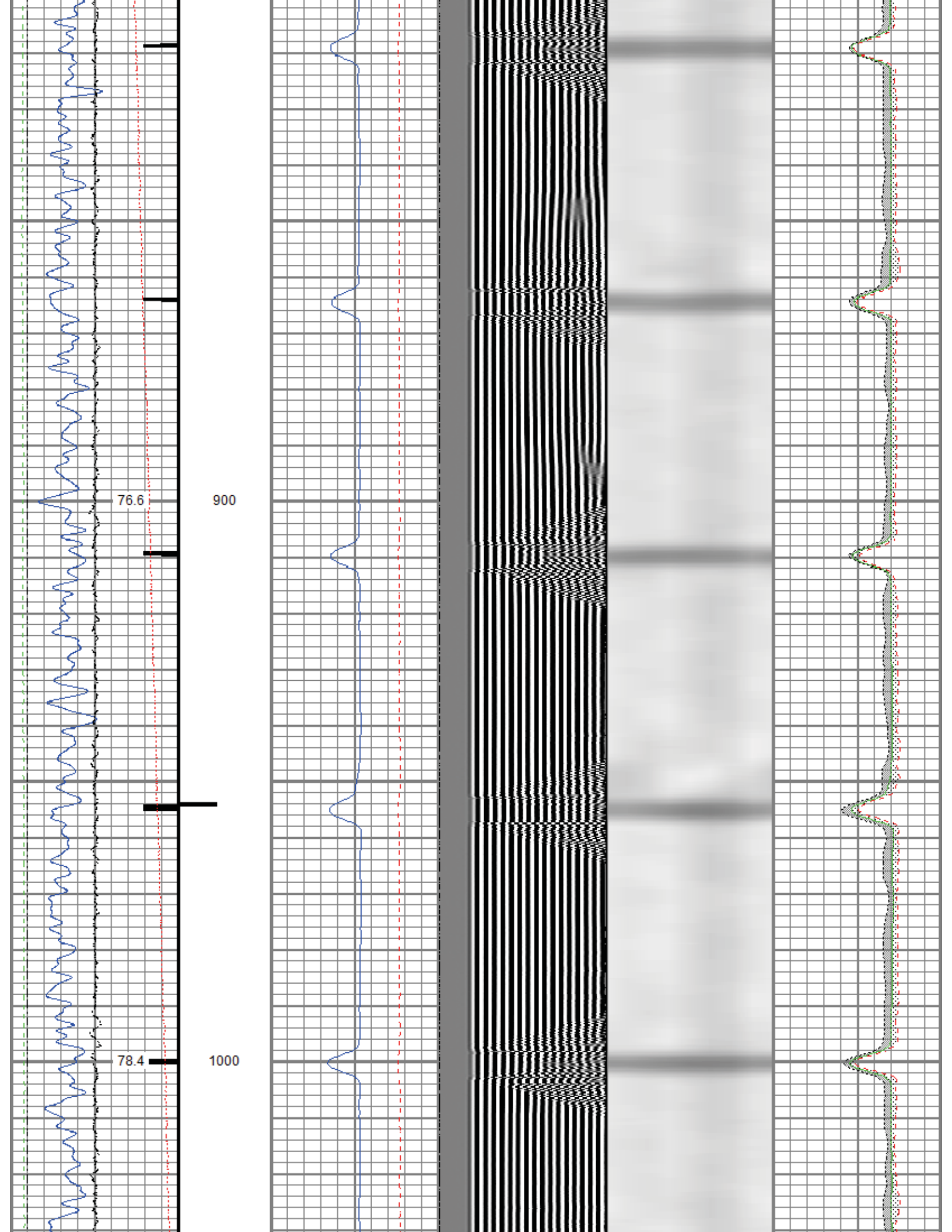
Gamma Ray	0	3' Amplitude (mV)	100	5' Variable Density Log	Sector Map	0	Average Amplitude	100
(GAPI)	120	3' Amplitude x 5		200	(usec)	1200	Minimum Amplitude	
Casing Collar Locator		0	(mV)	20			0	100
Temperature (degF)	20	3' Travel Time					Maximum Amplitude	
Line Speed		650	(usec)	150			0	100
-150	(ft/min)	150						
Line Tension (lb)	2000							
Differential Temperature								
-2	(degF)	2						

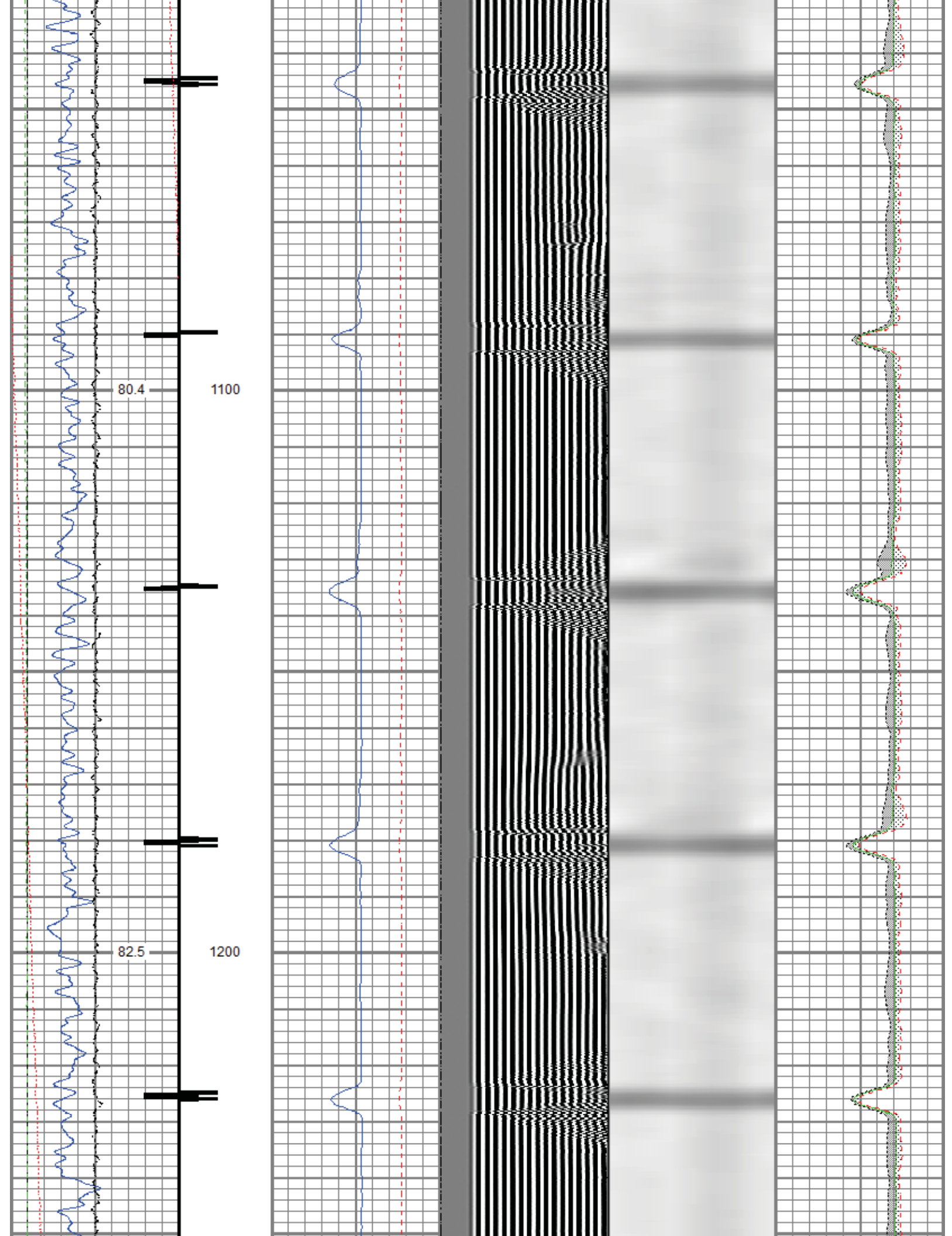


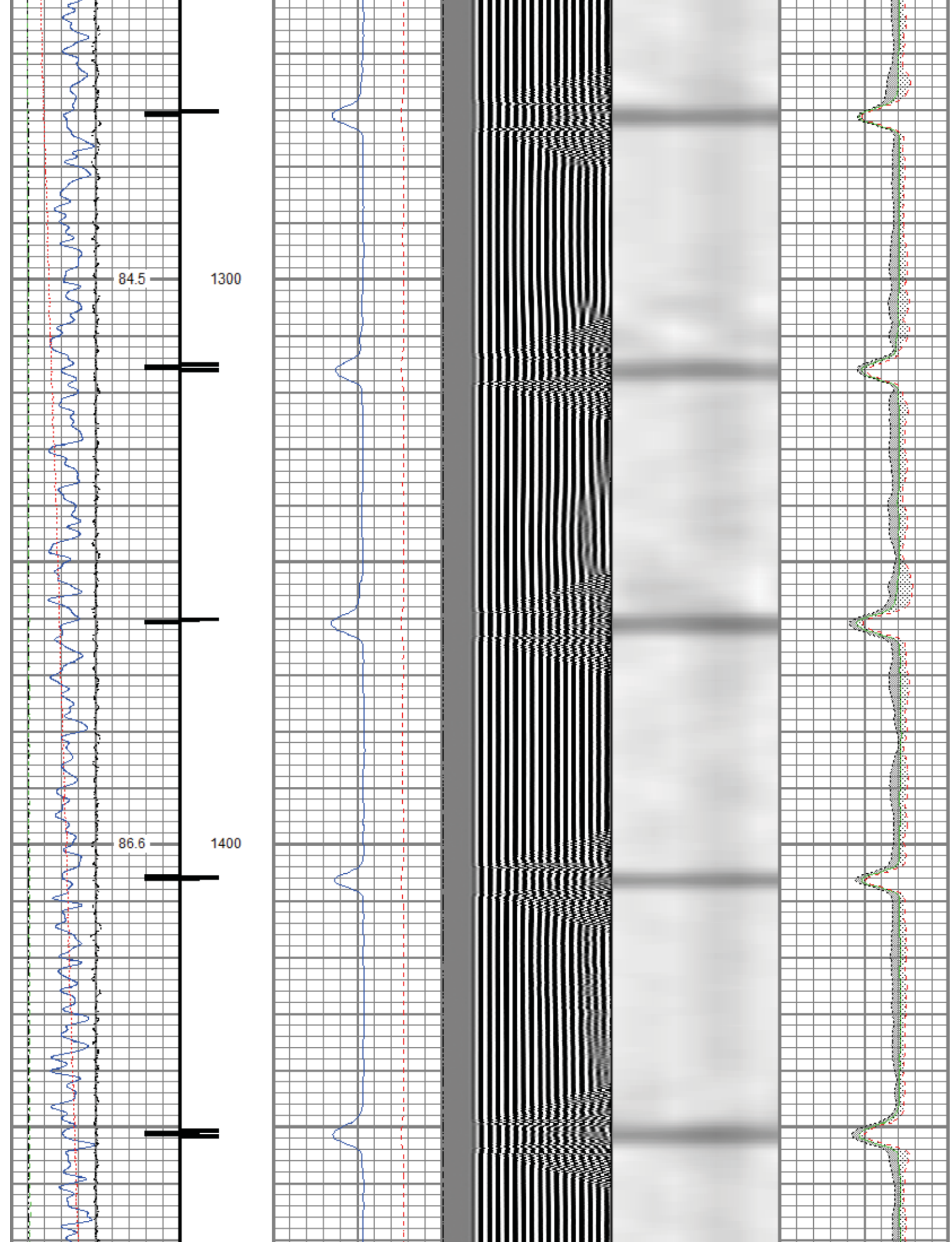


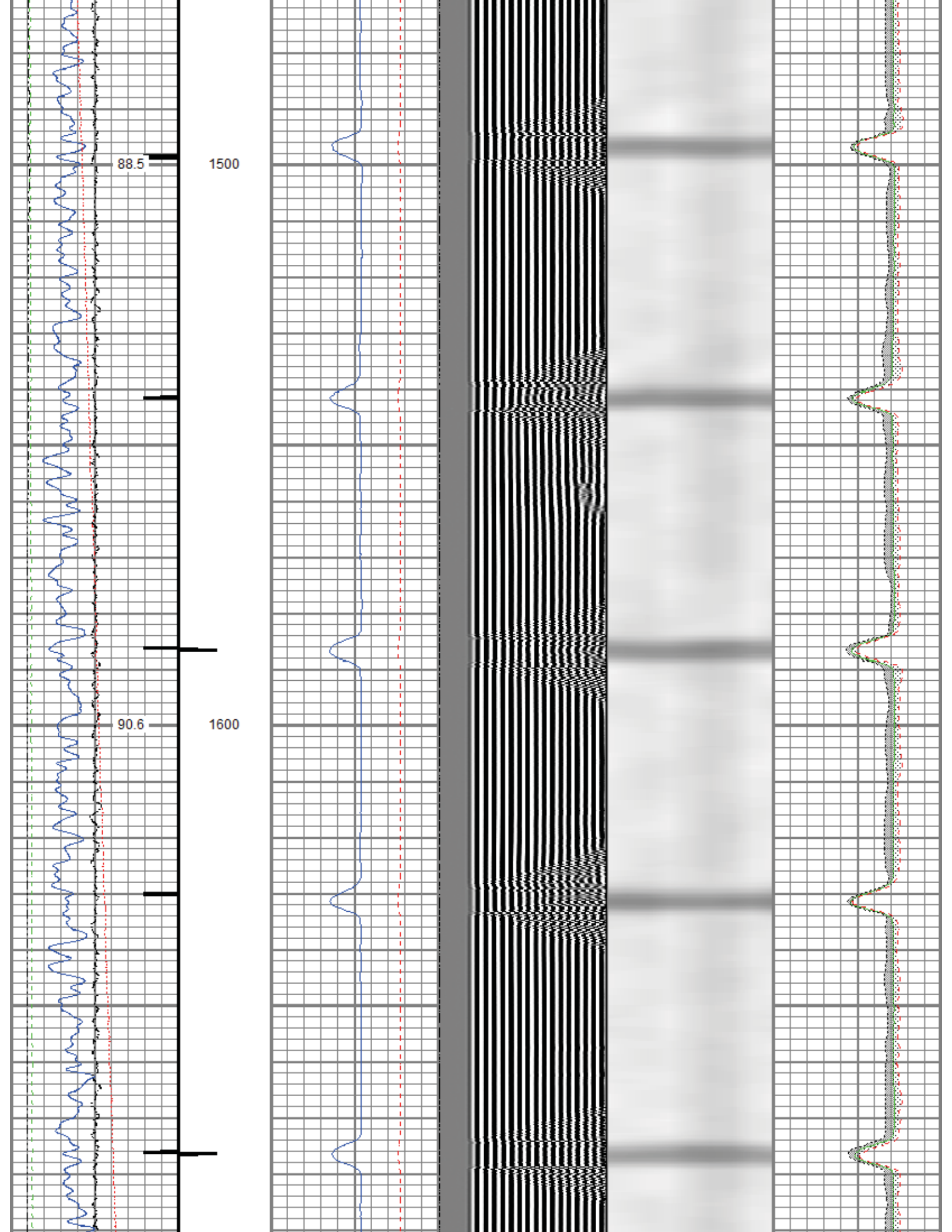


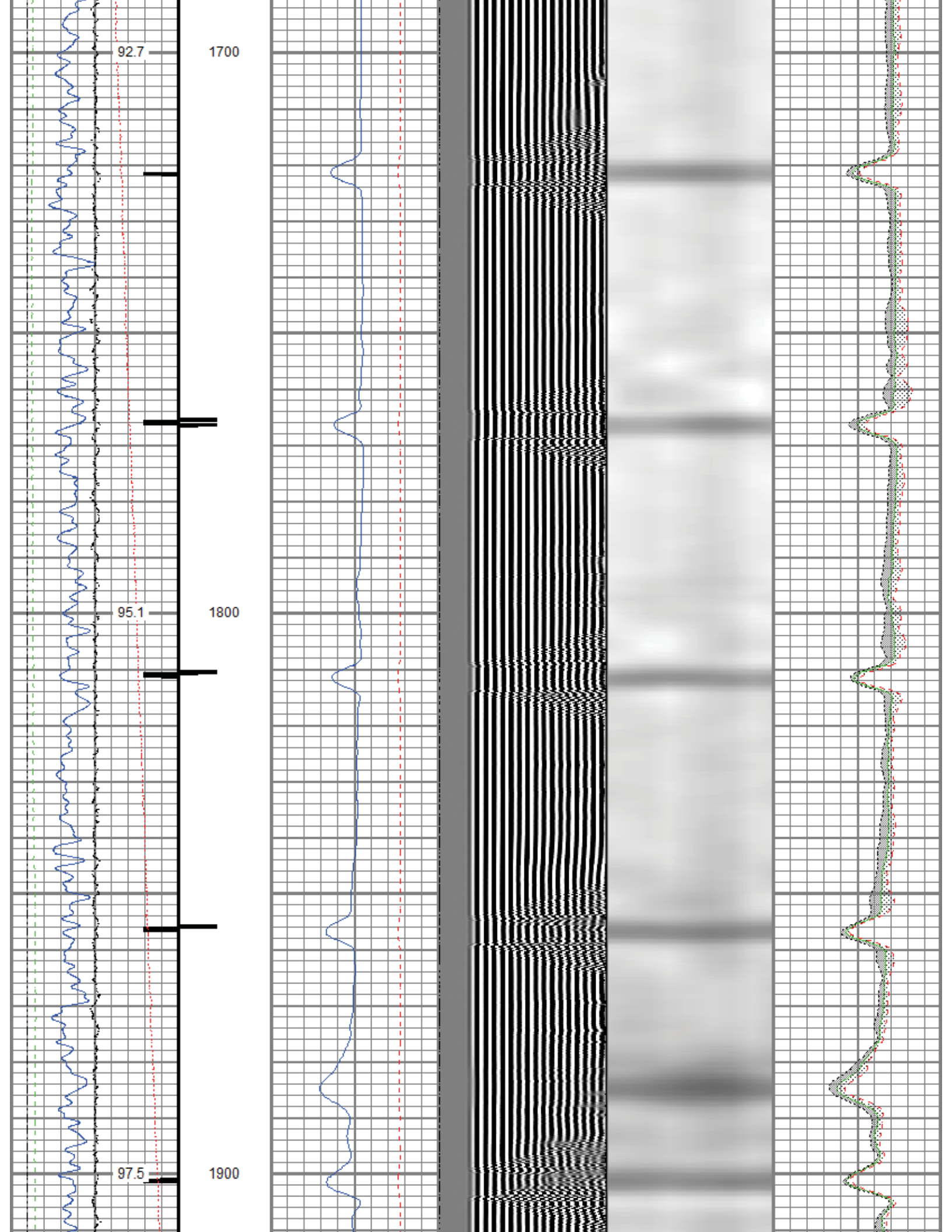


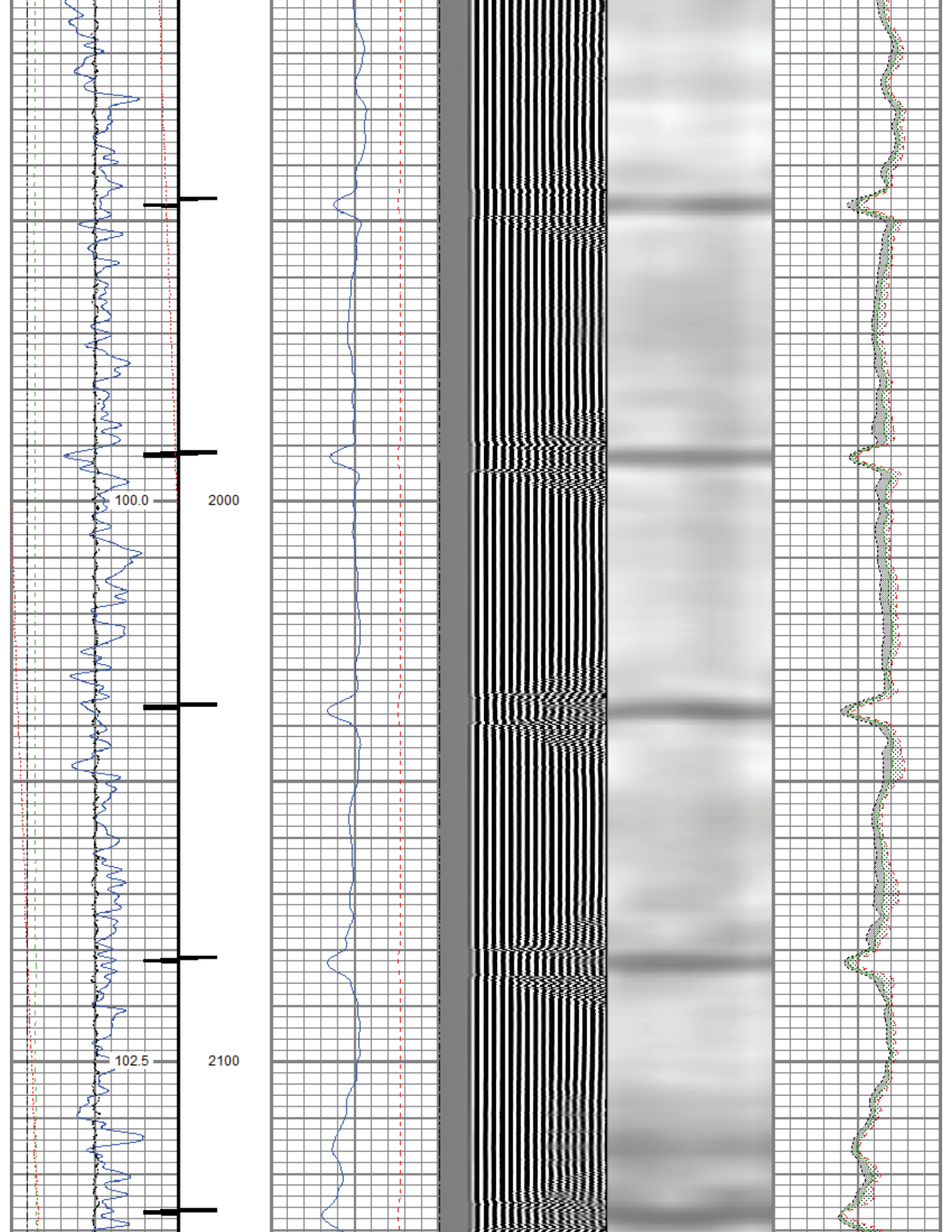


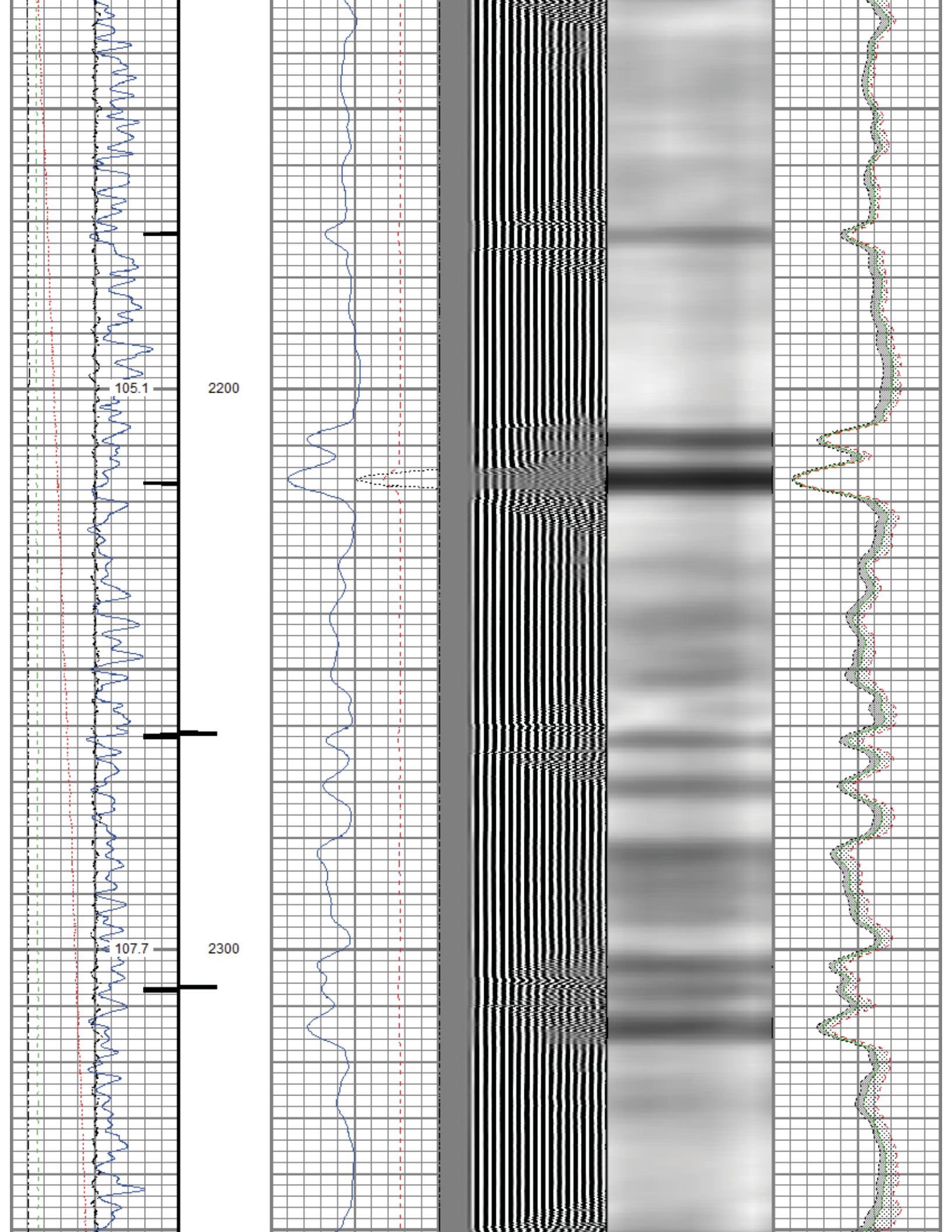


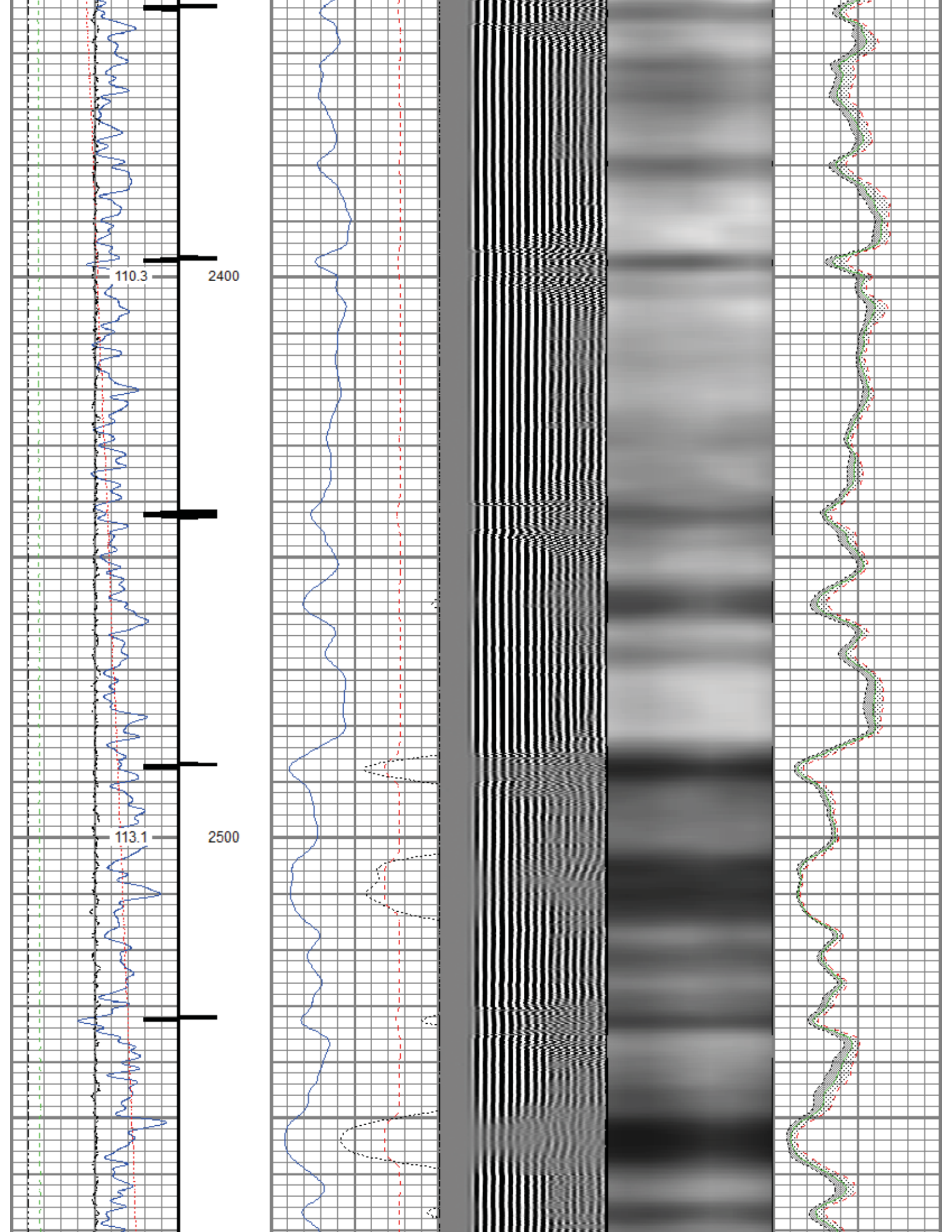


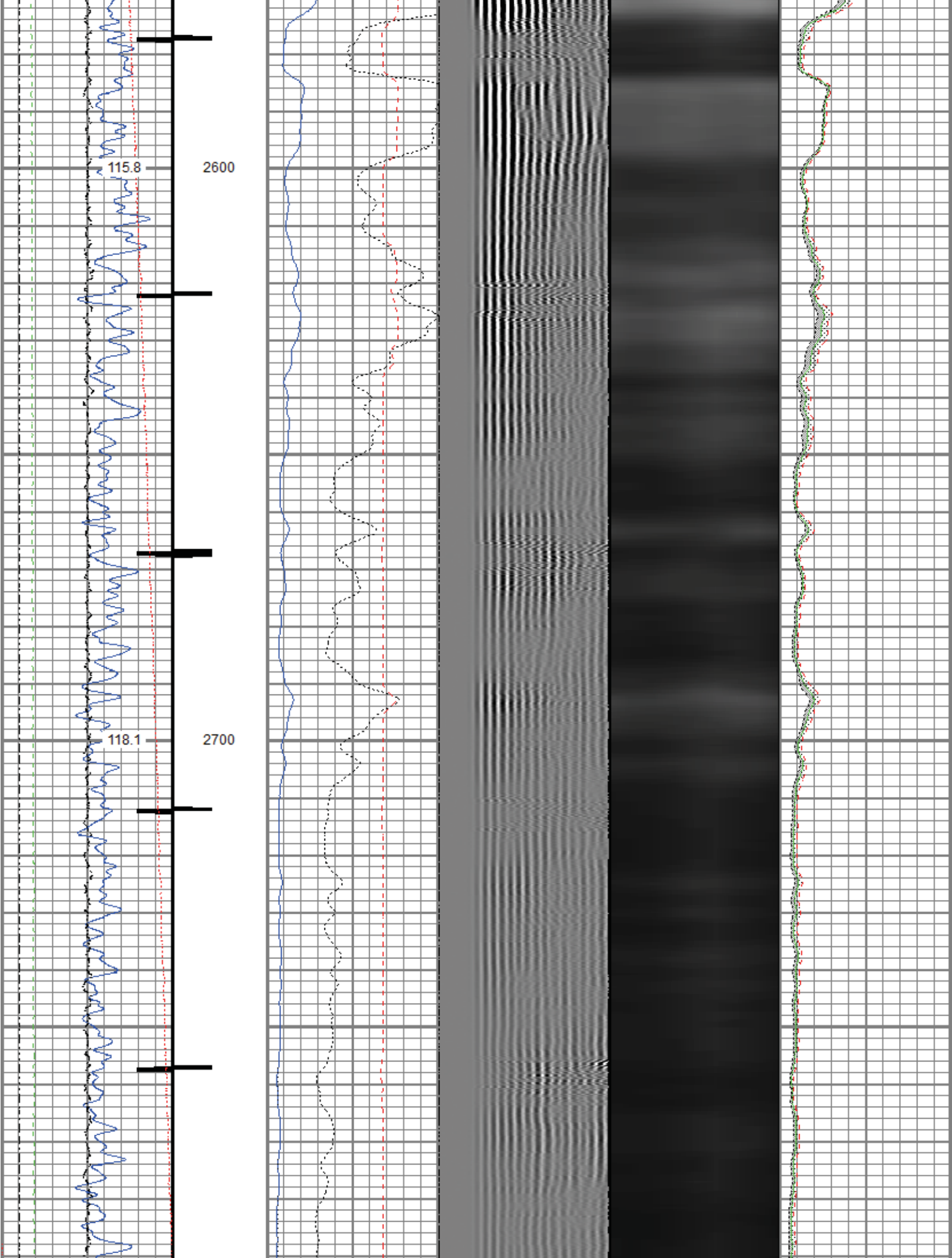


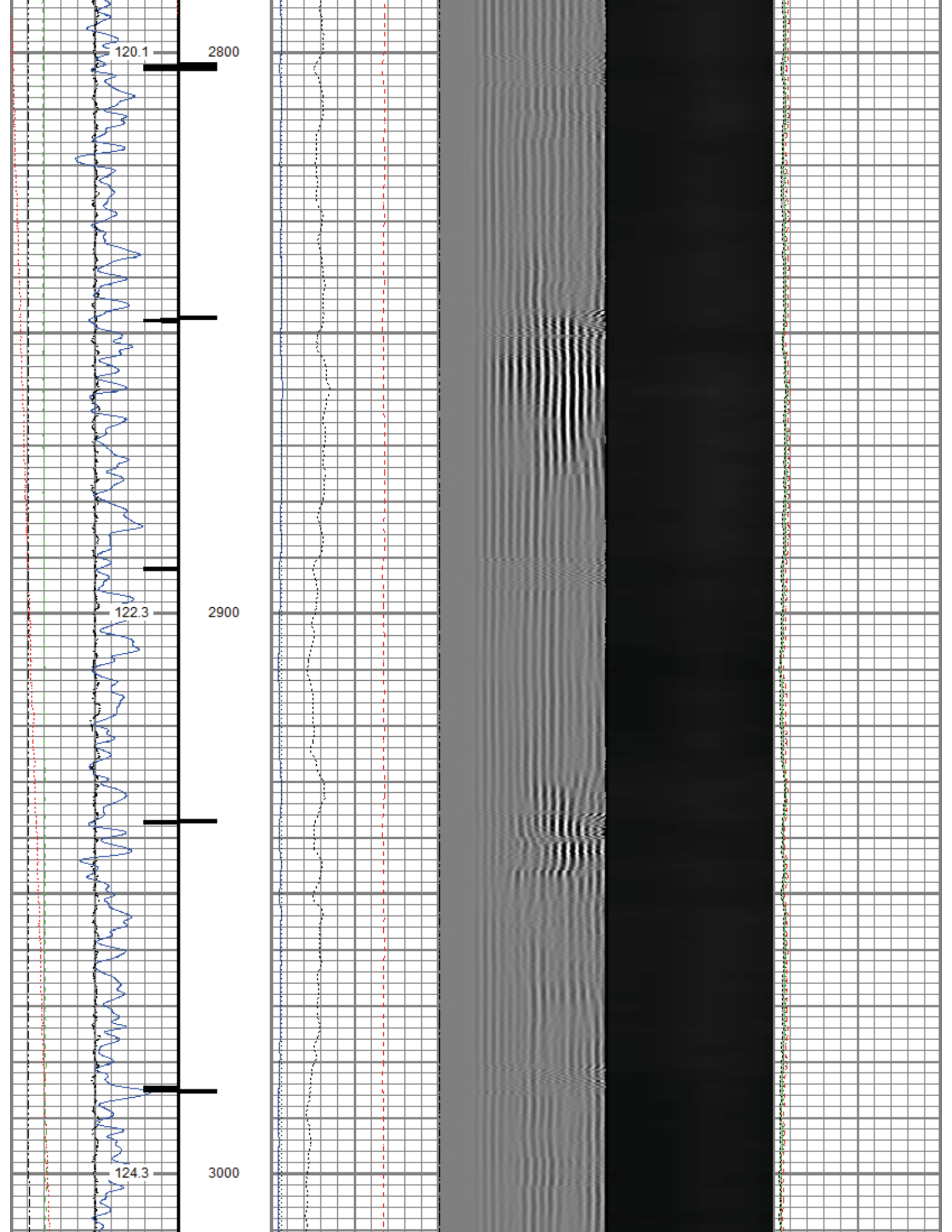


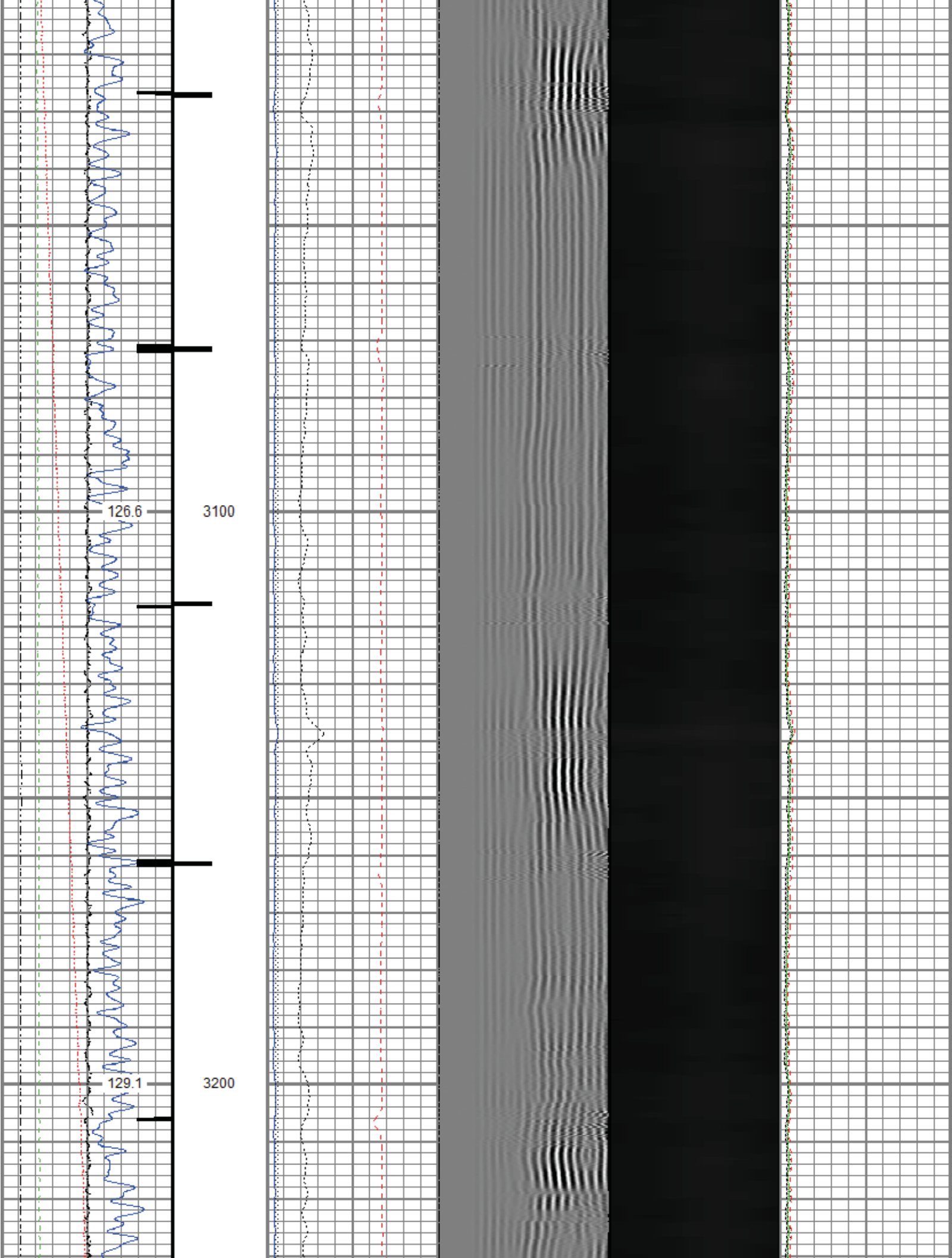


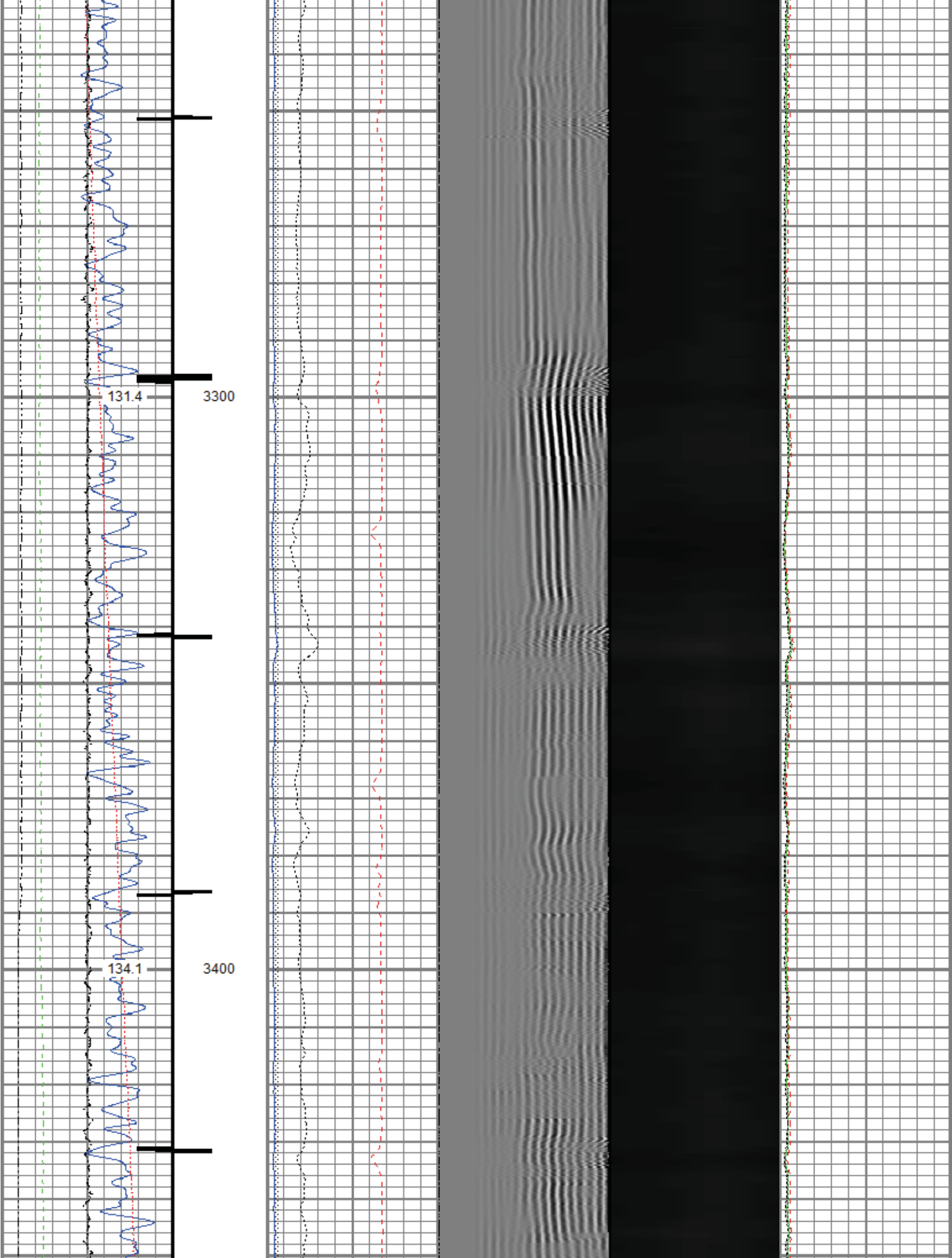


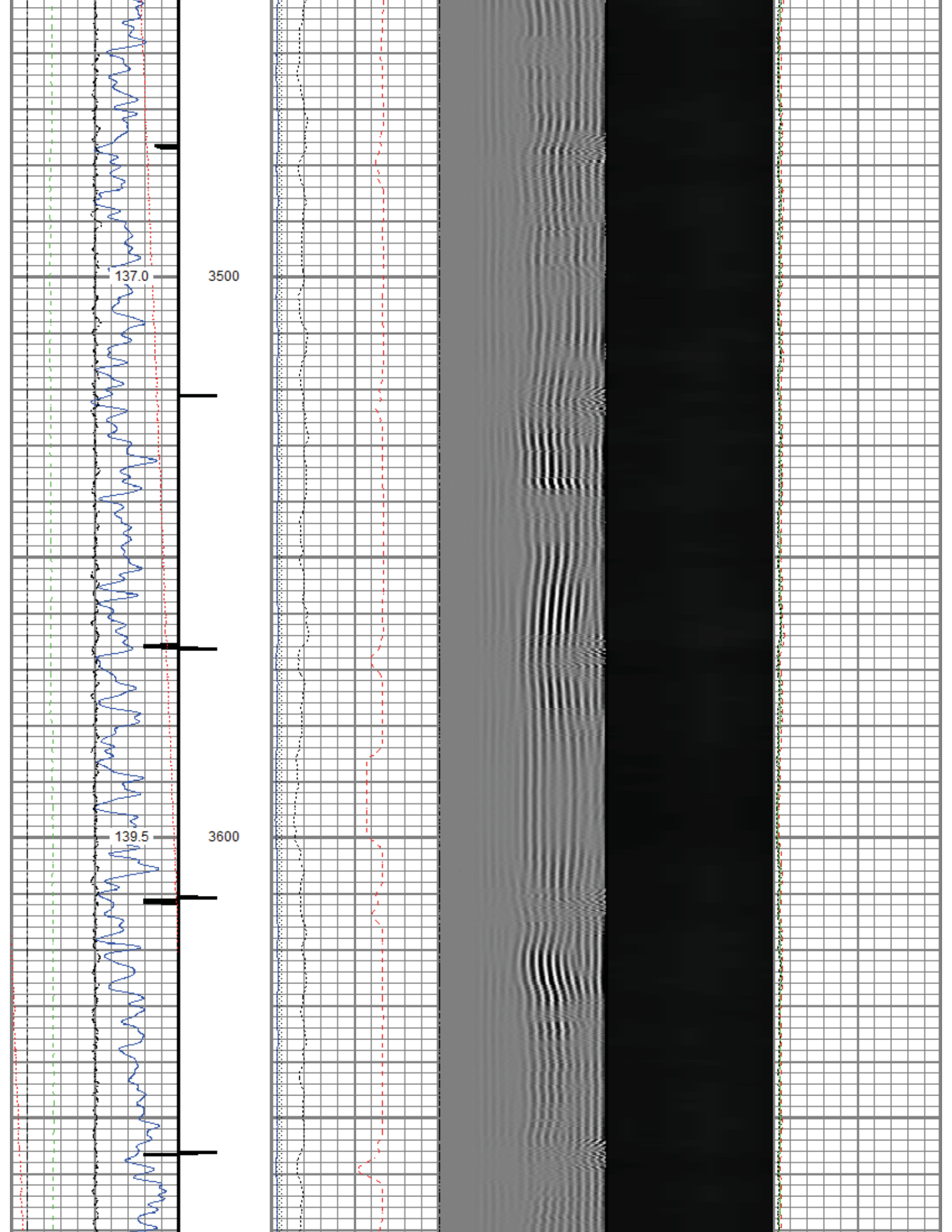


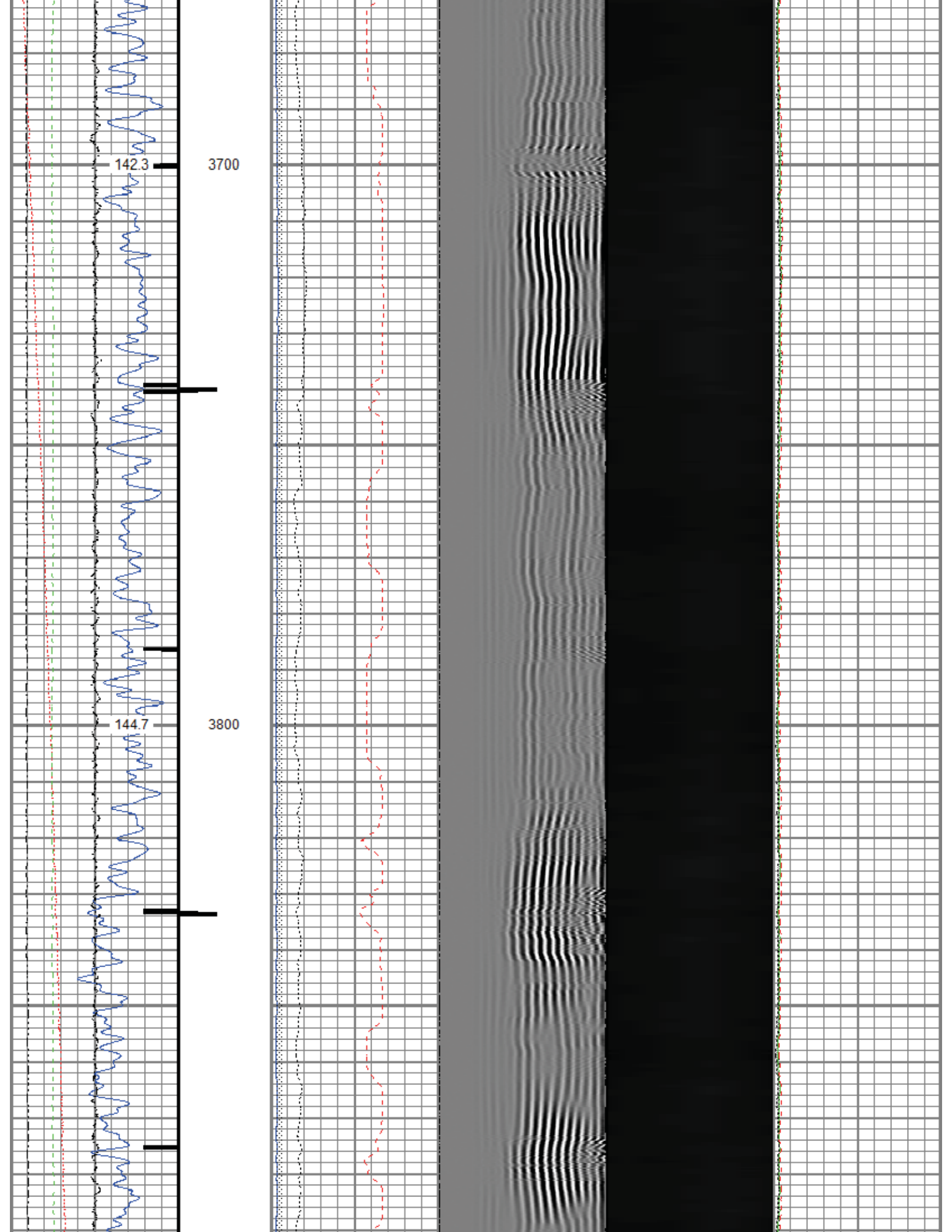


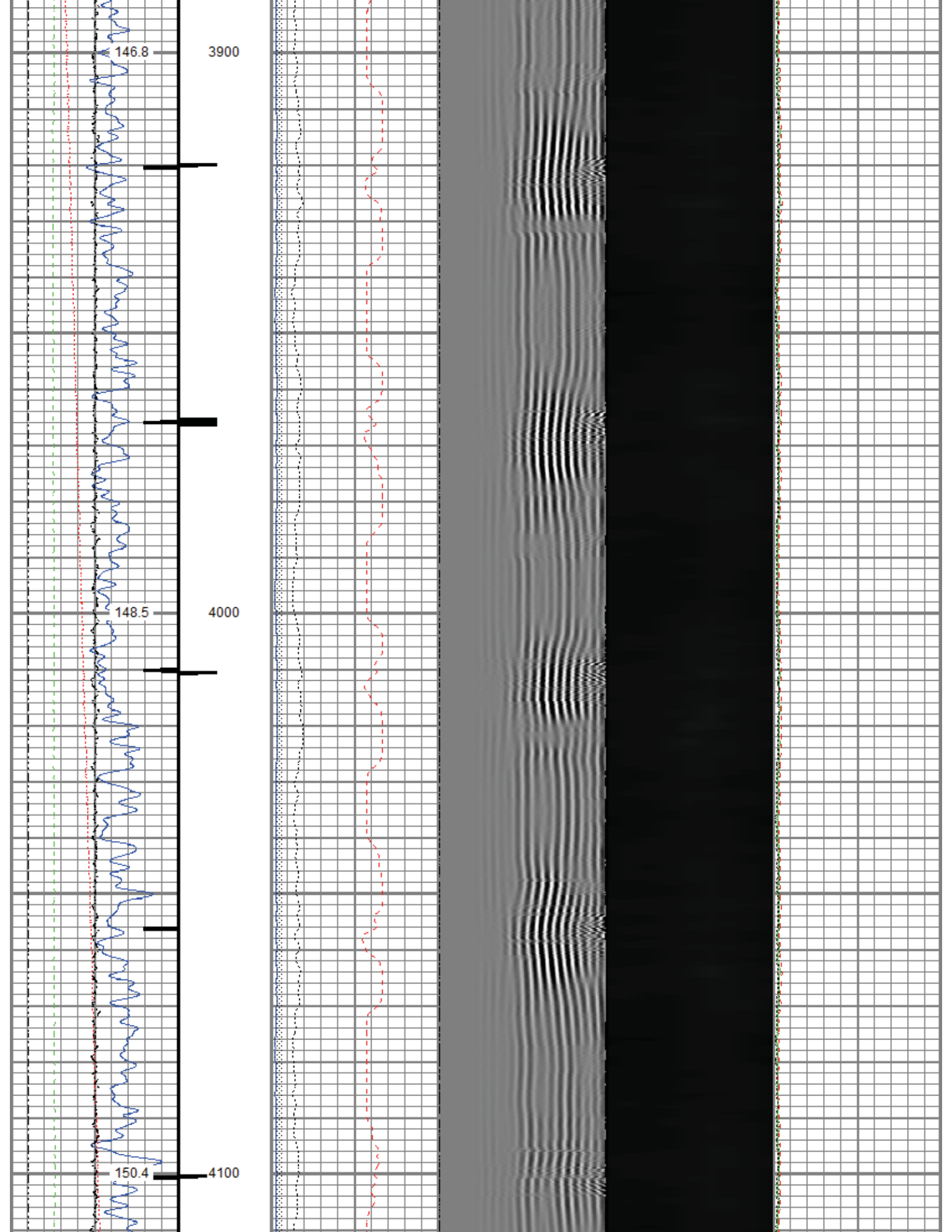


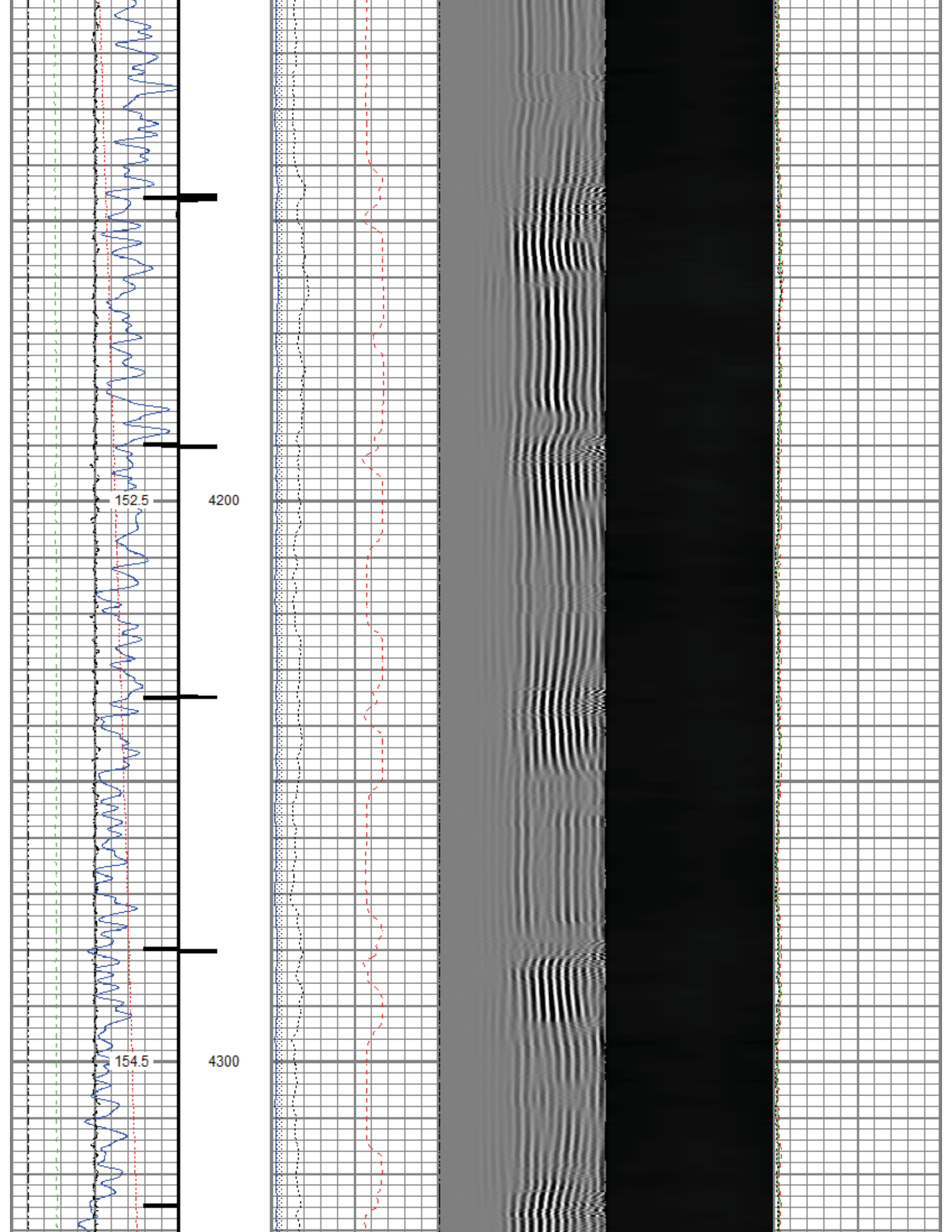


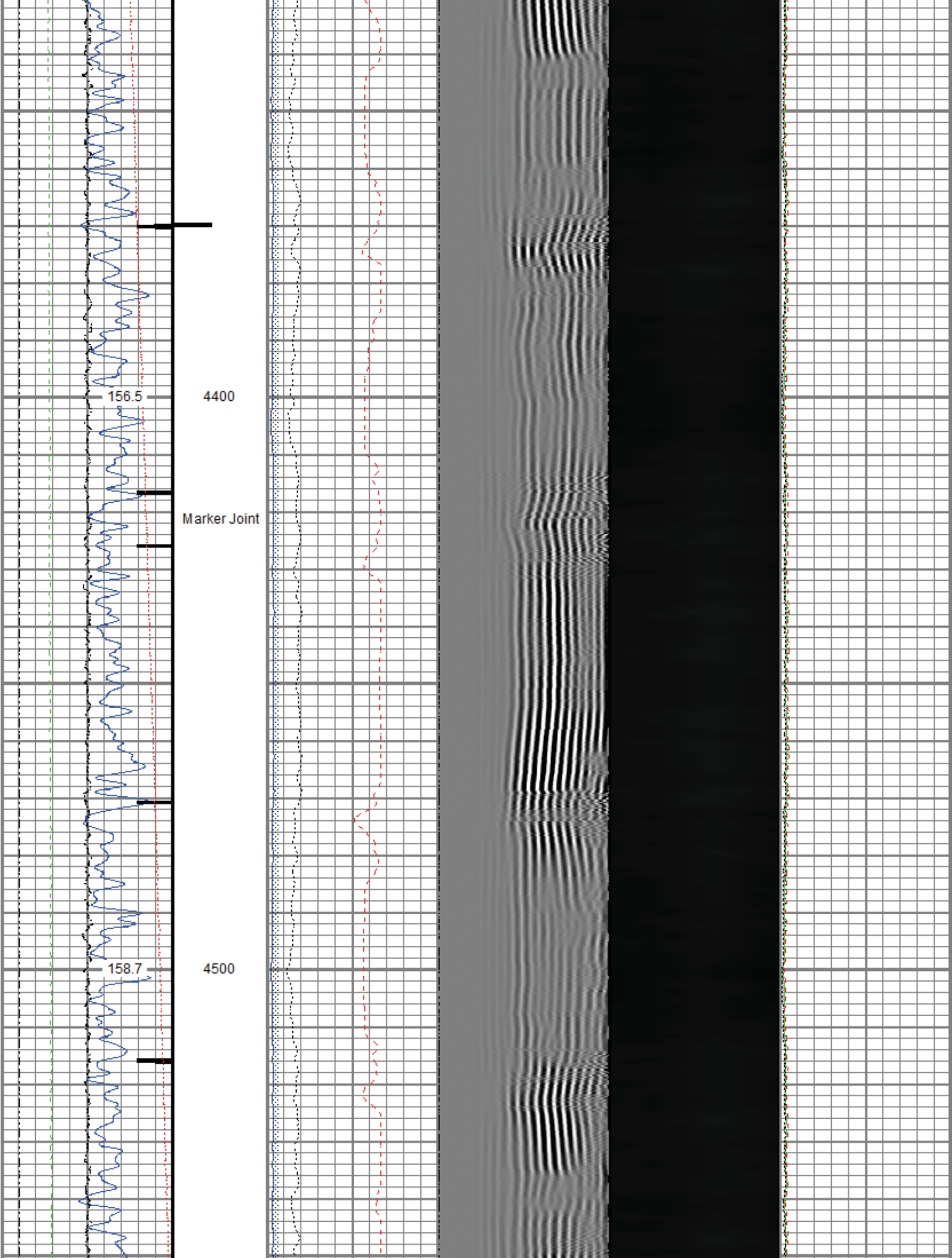


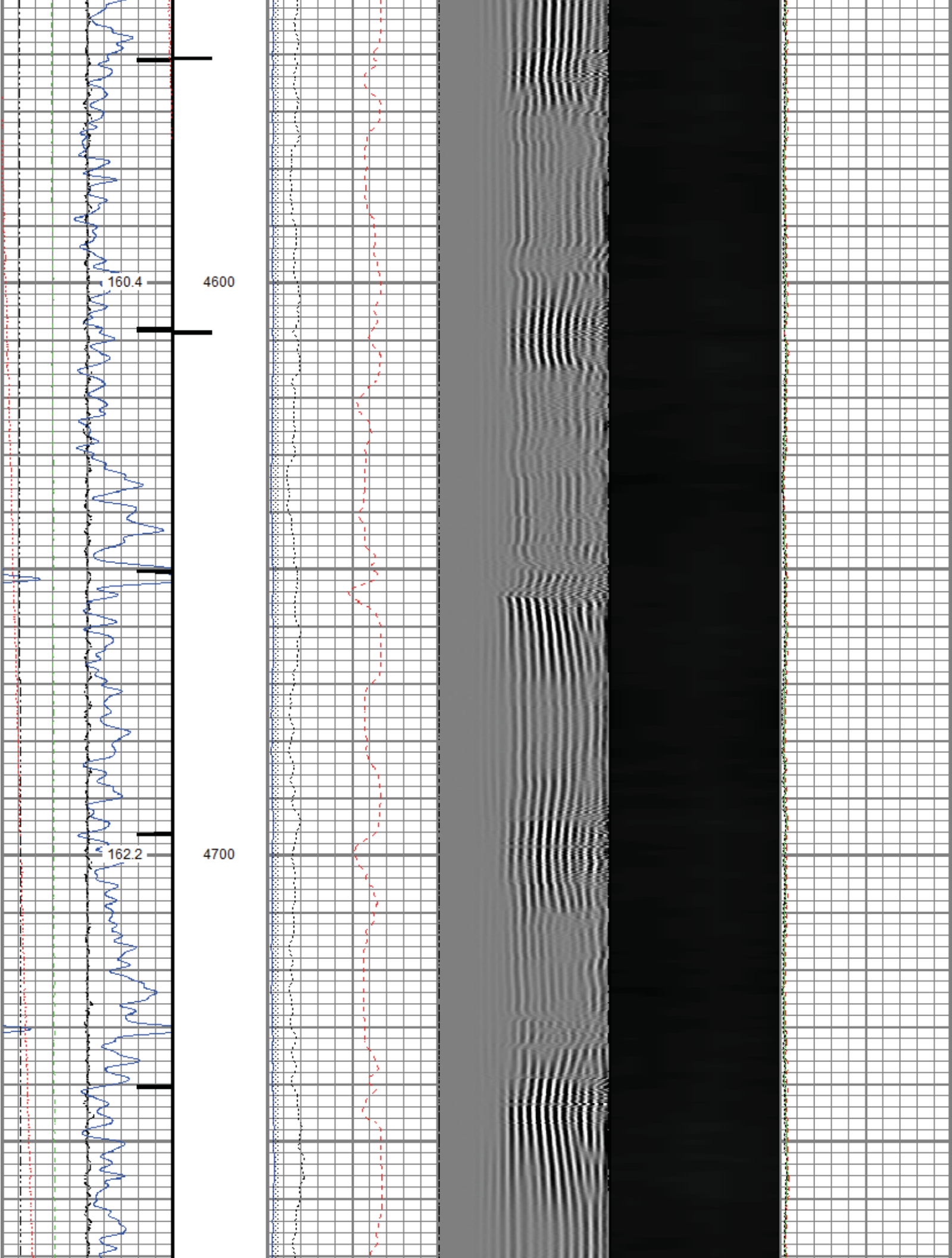


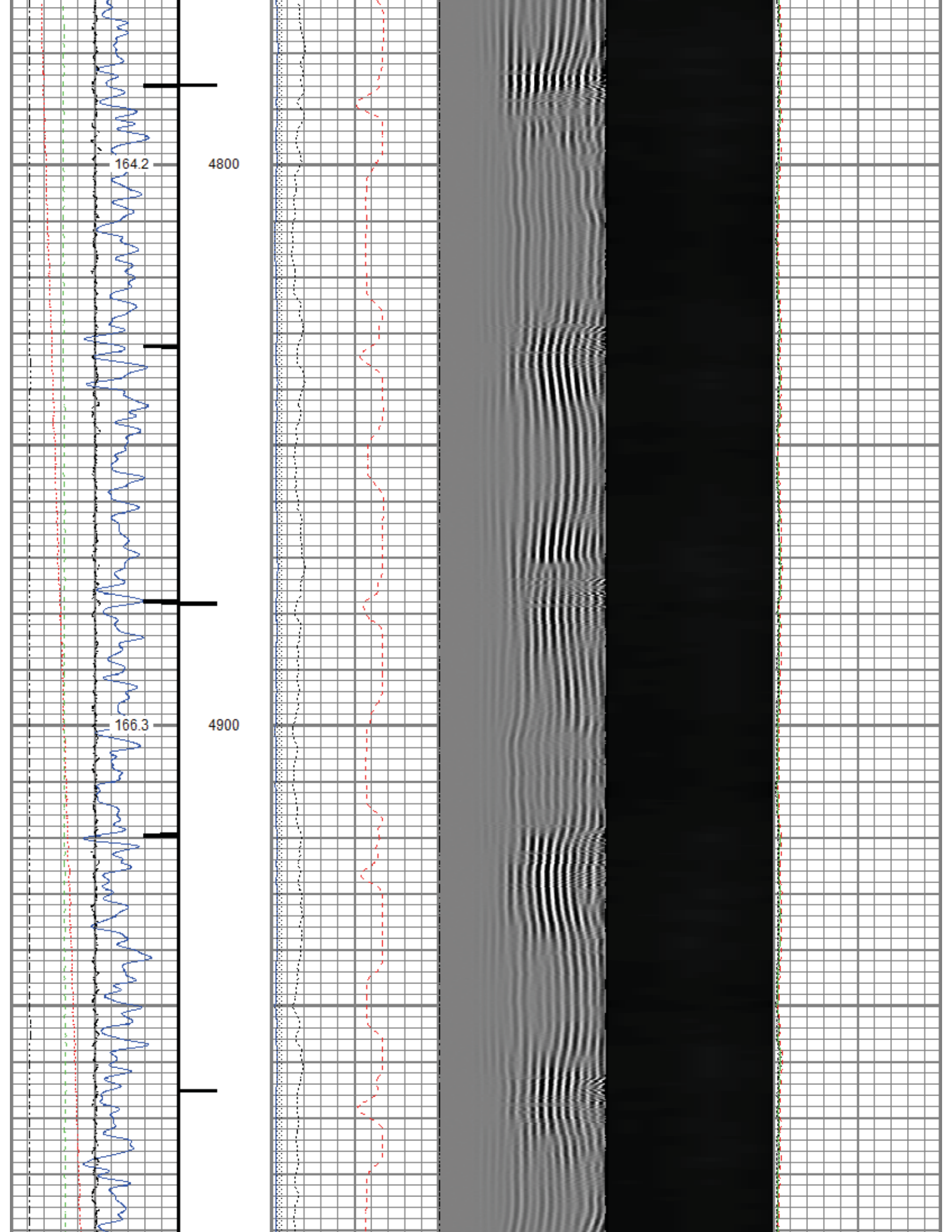


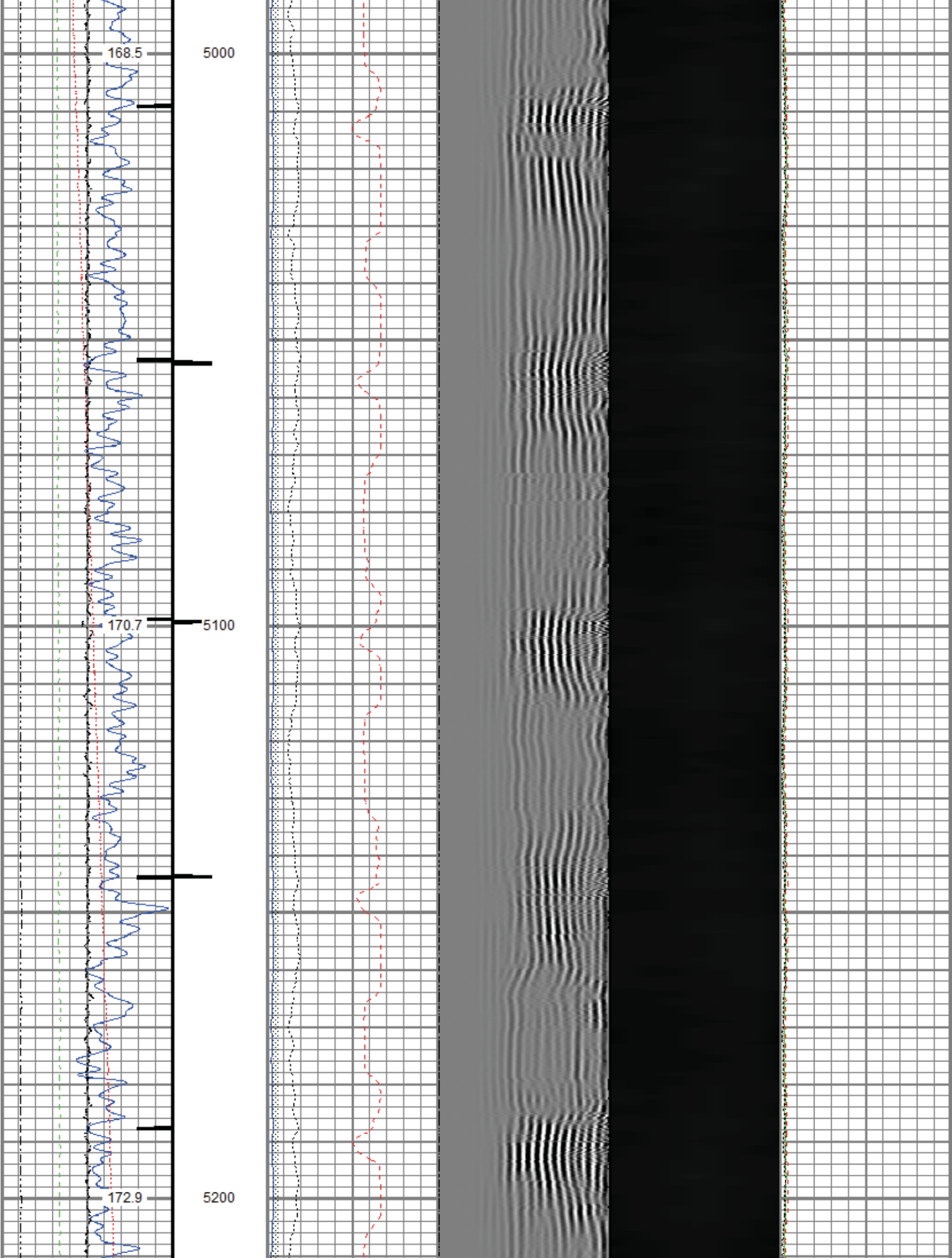


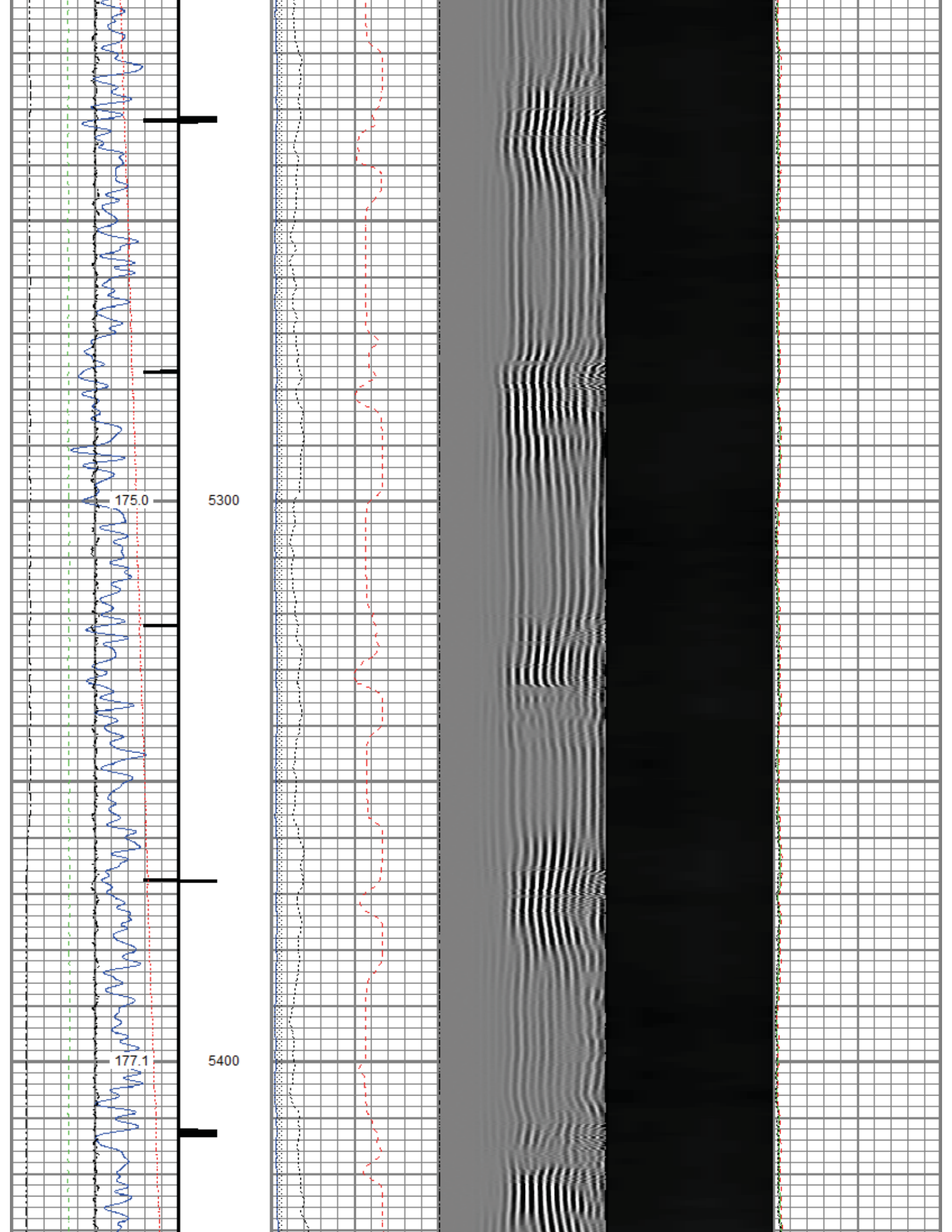


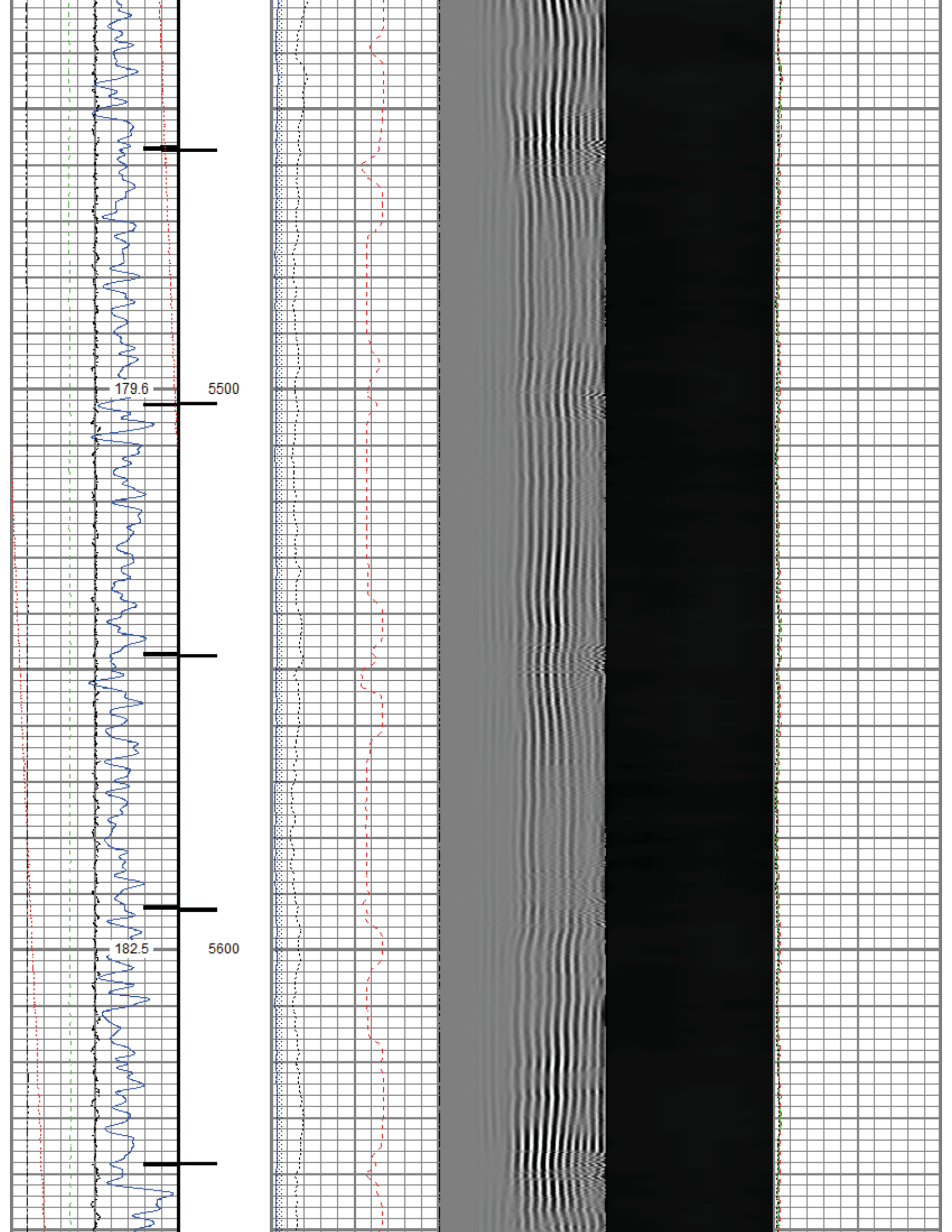


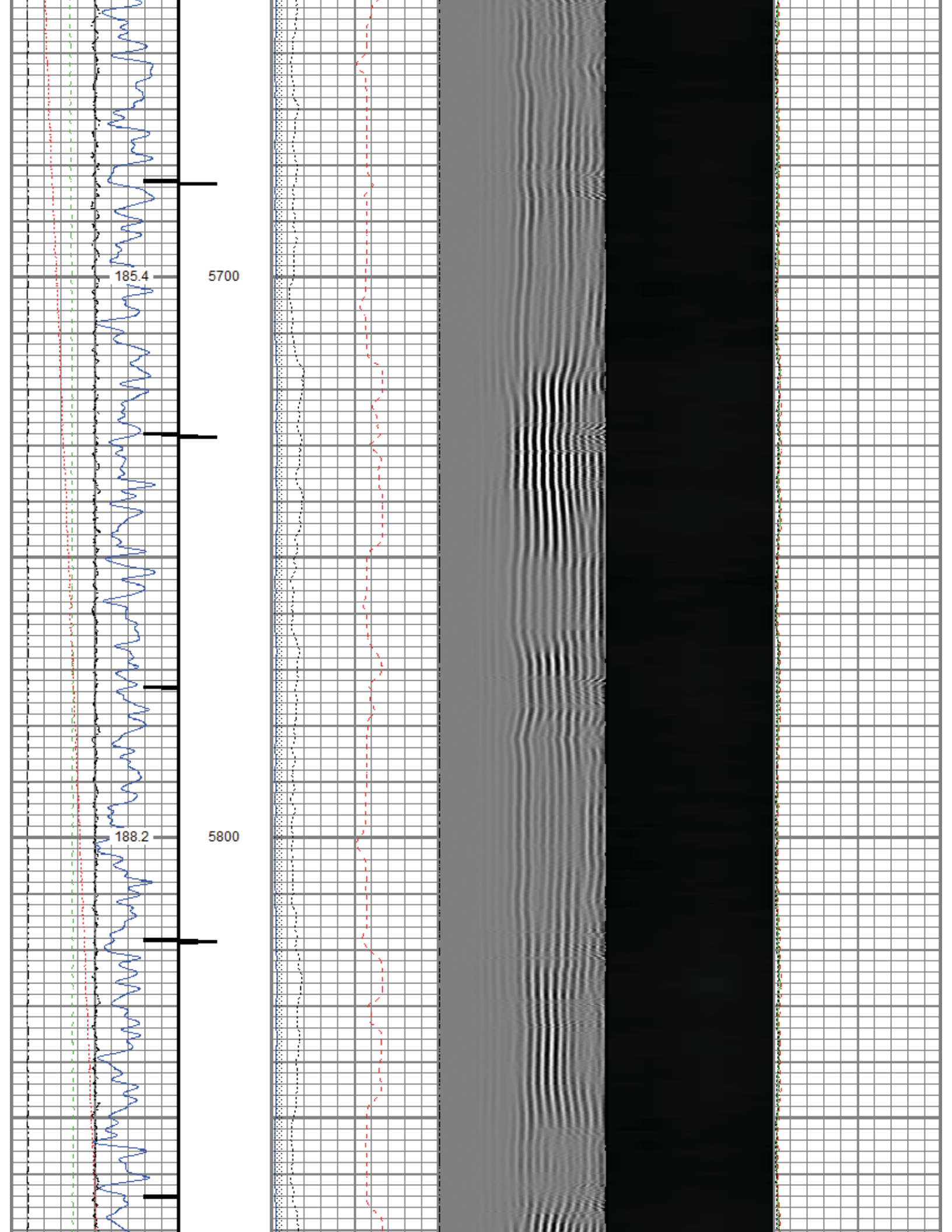


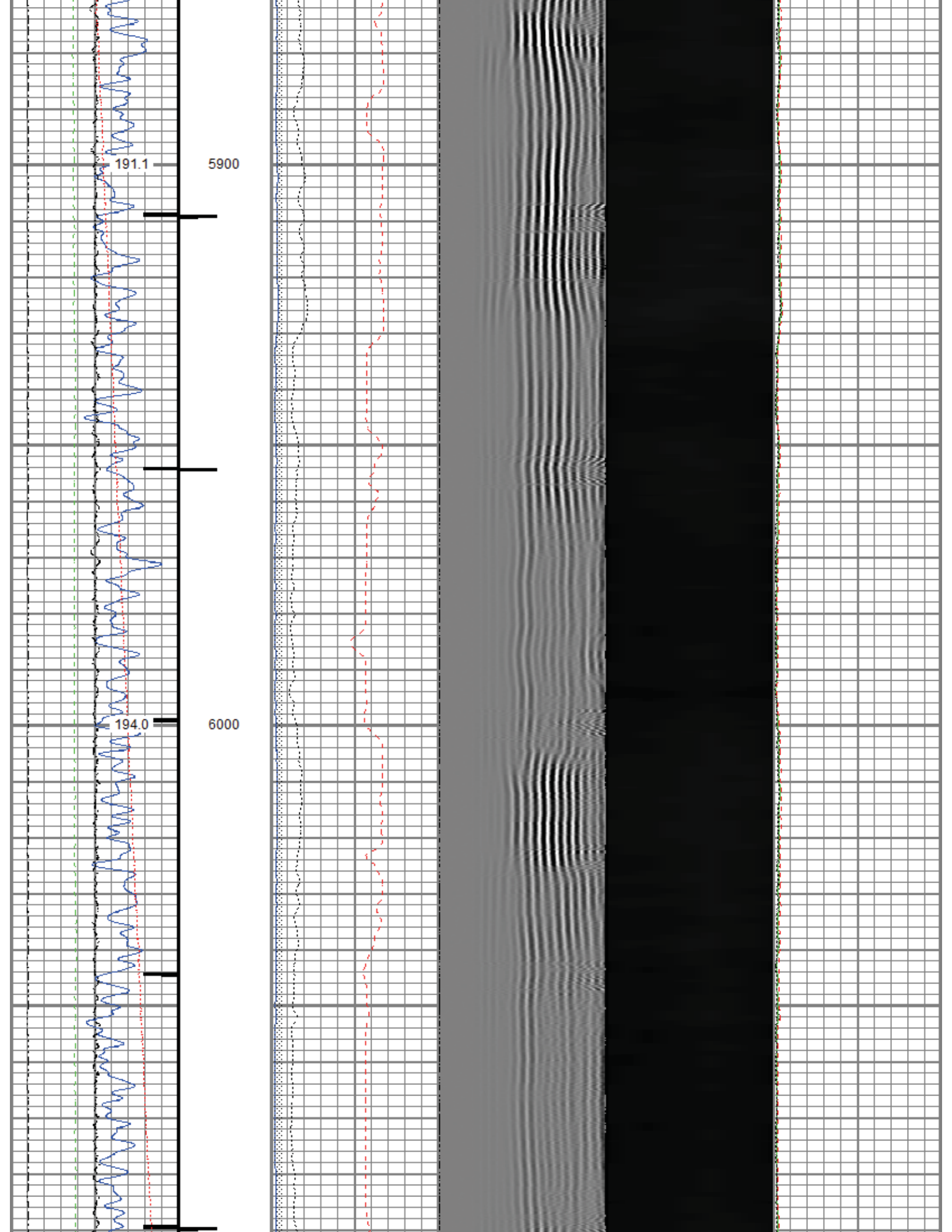


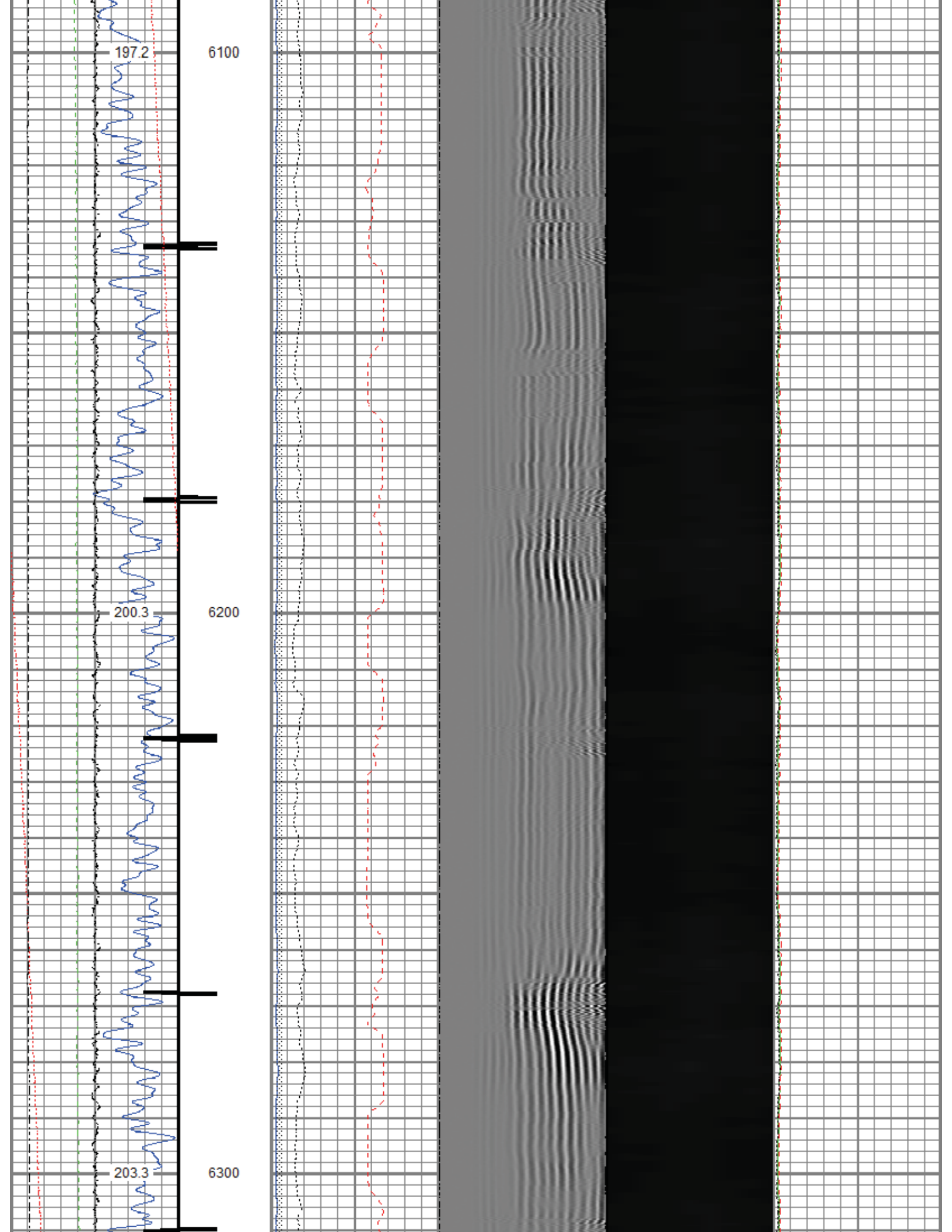


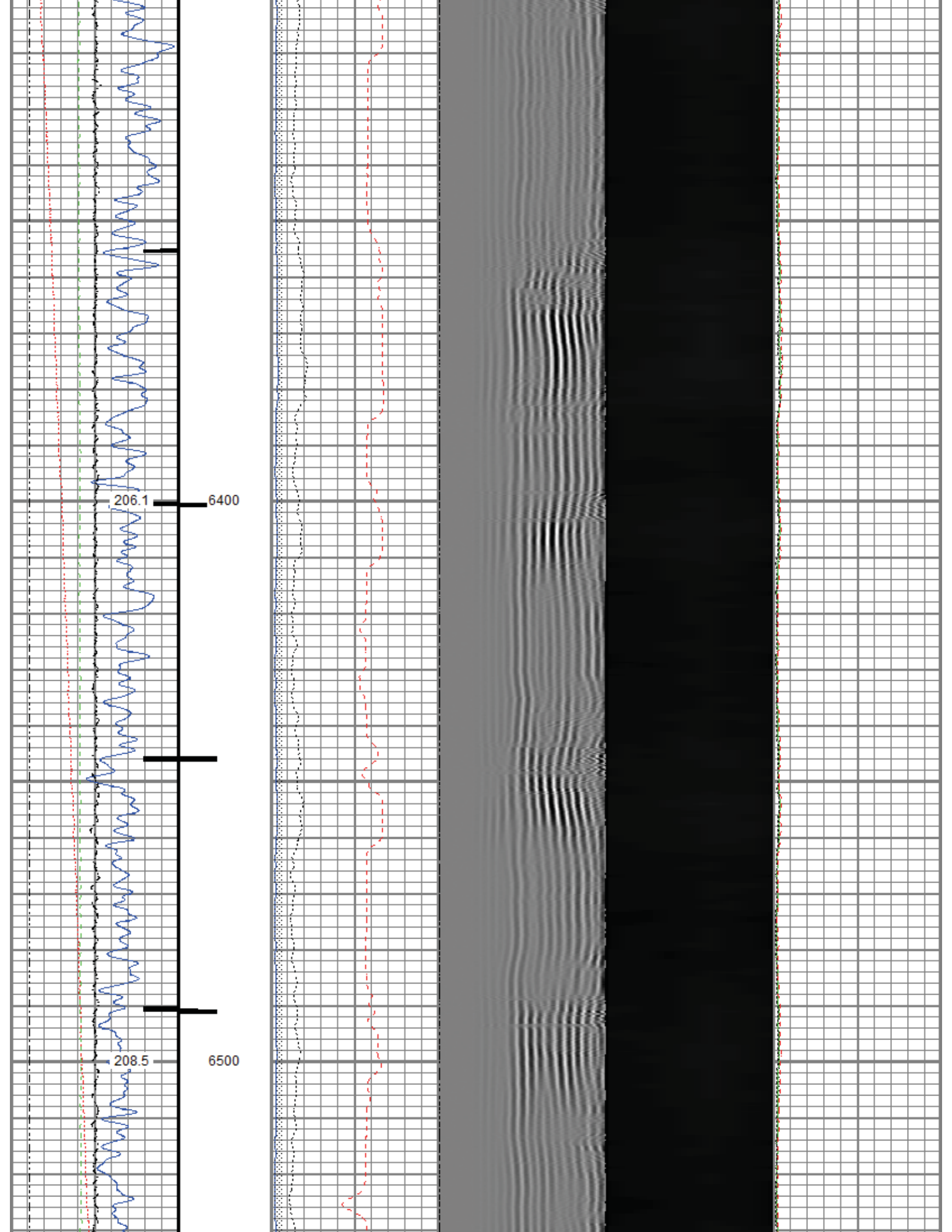


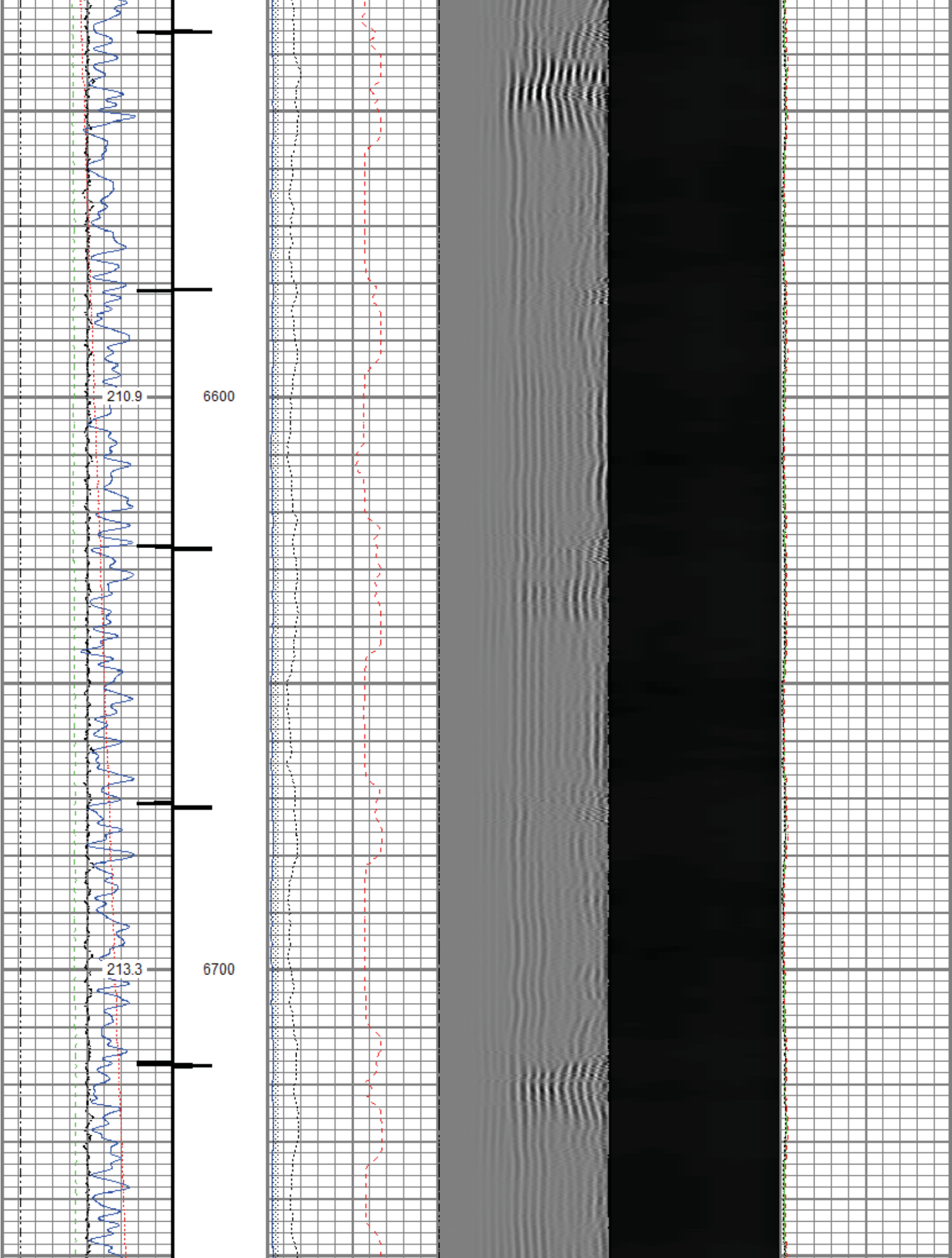


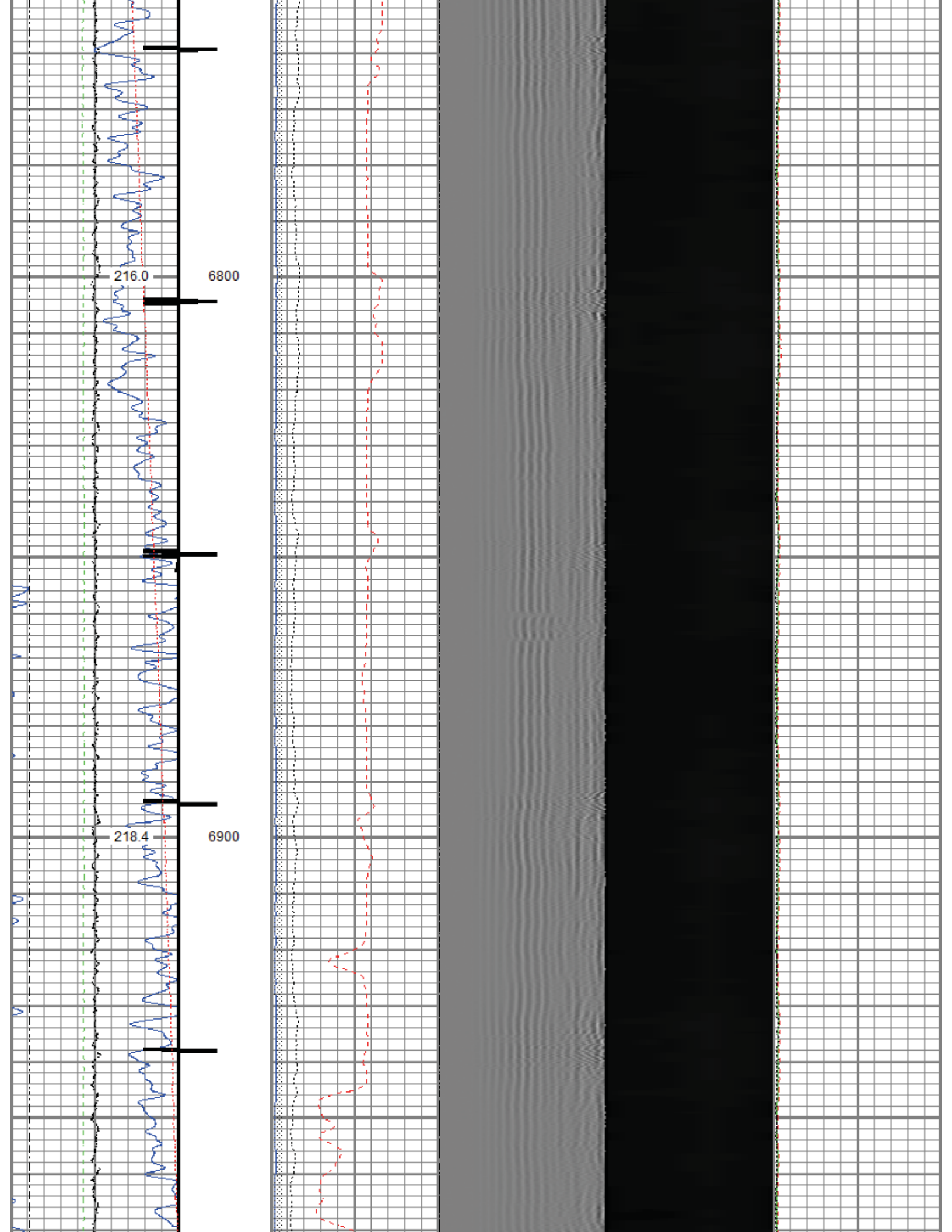


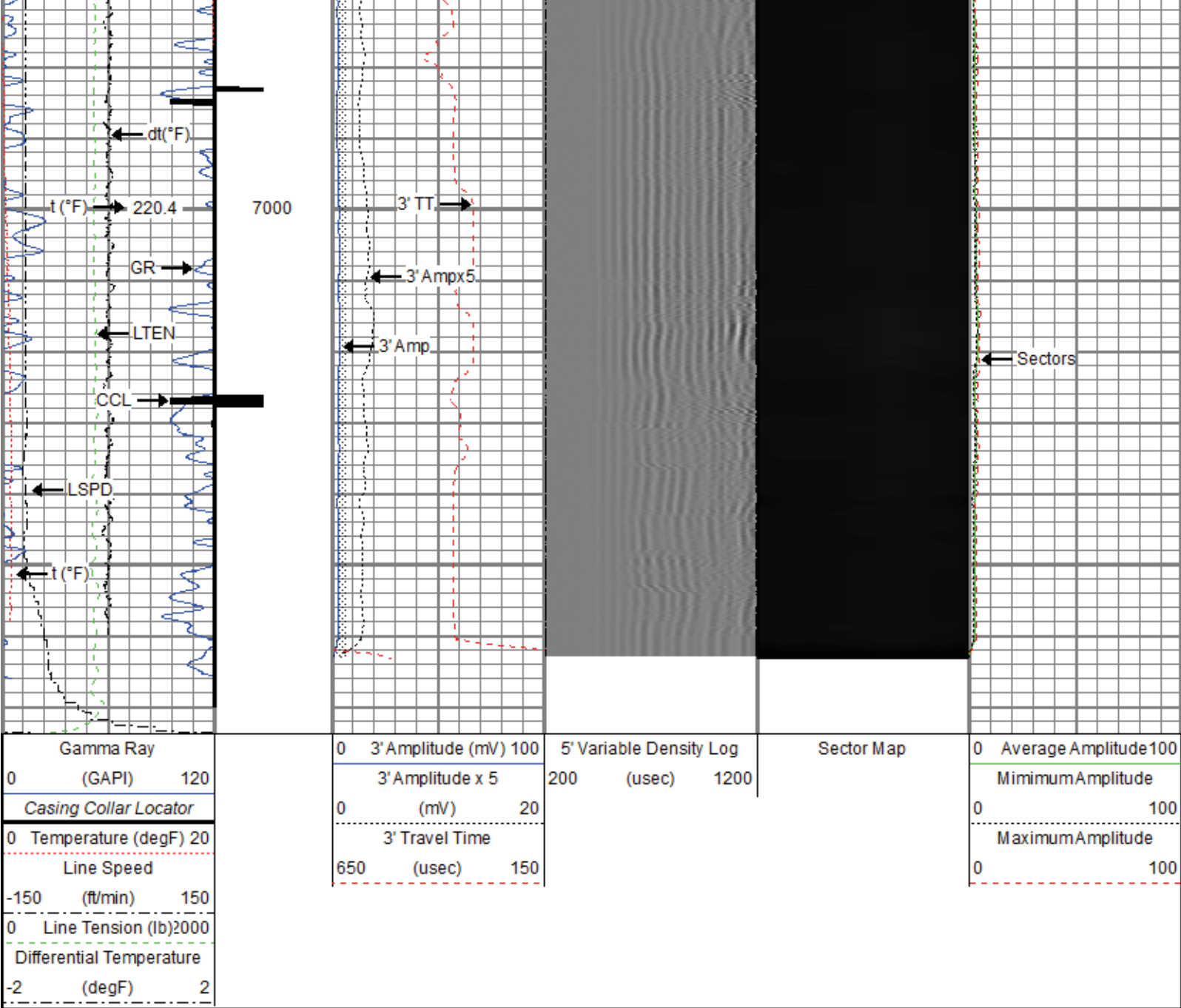











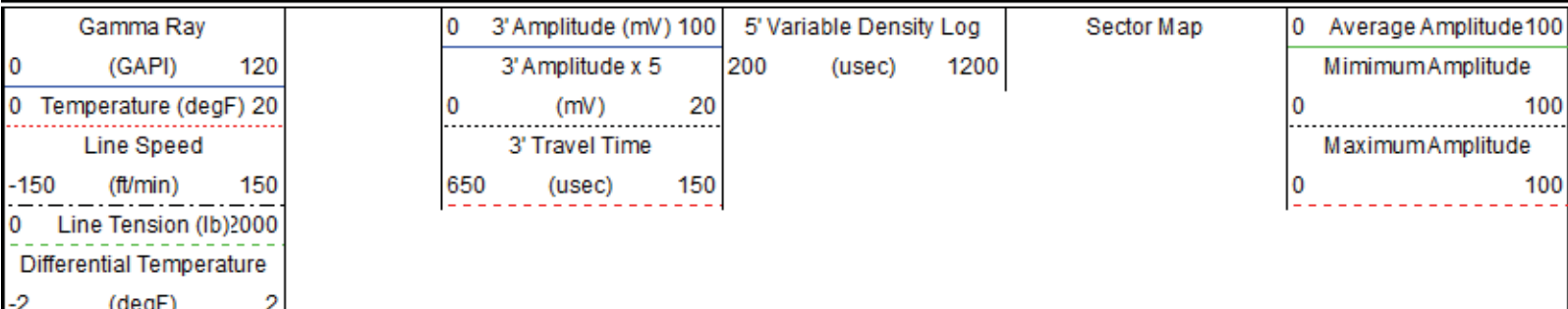


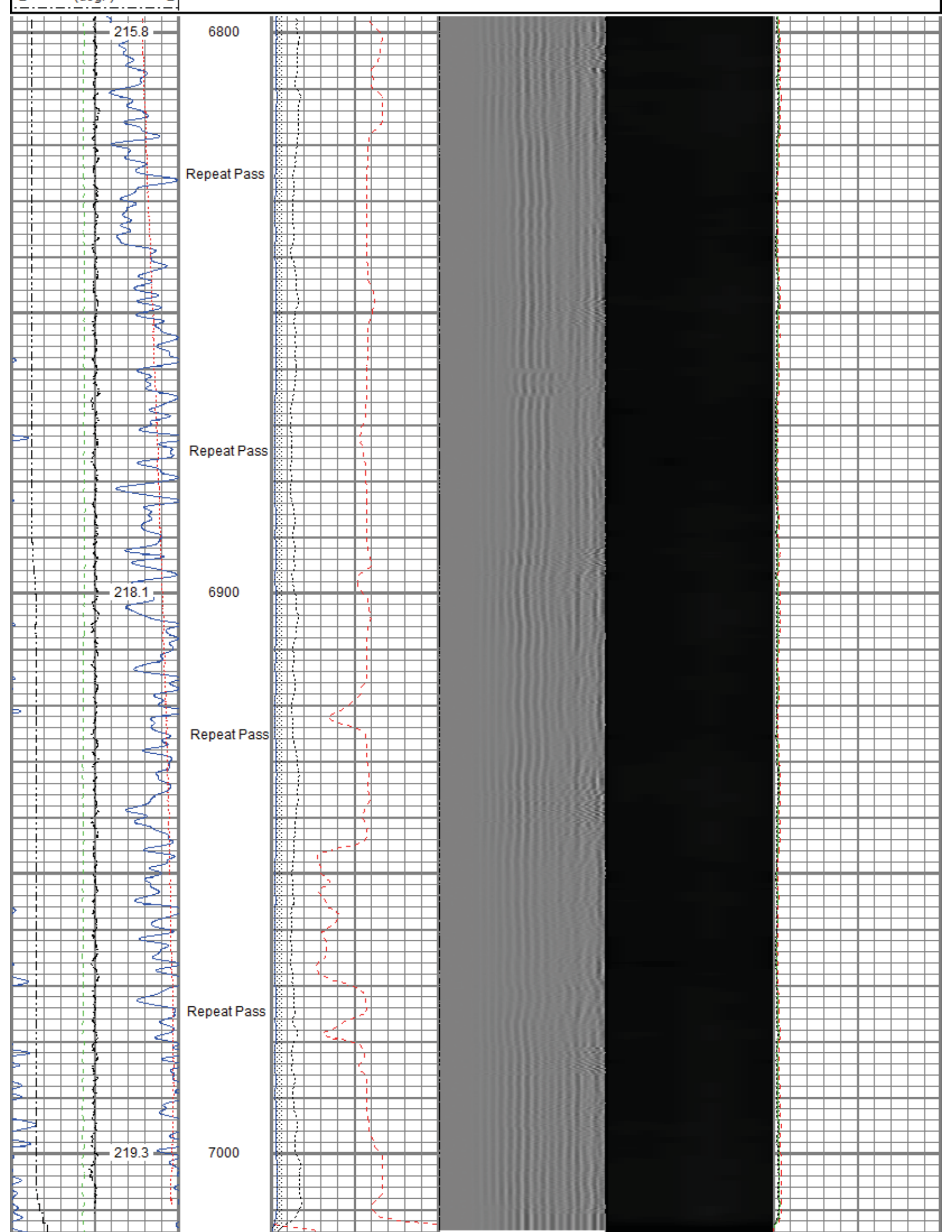





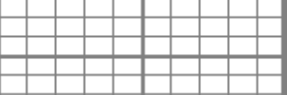
Repeat Pass

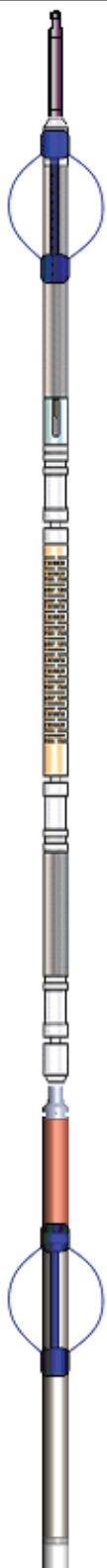
Recorded With 2500 PSI Surface Induced Pressure

Database File	noble\noble_guttersen yy06-785_rbl_09-01-20\processed_noble_guttersen yy06-785_rbl_09-01-20.db
Dataset Pathname	pass4.2
Presentation Format	ros_radii_noble
Dataset Creation	Wed Sep 02 13:27:10 2020
Charted by	Depth in Feet scaled 1:240



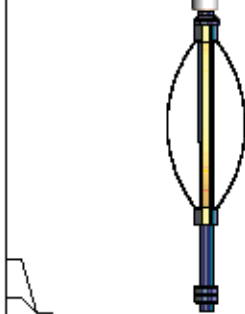


							
Gamma Ray 0 (GAPI) 120		0 3' Amplitude (mV) 100 3' Amplitude x 5 0 (mV) 20		5' Variable Density Log 200 (usec) 1200		Sector Map 0 Average Amplitude 100 Minimum Amplitude 0 100 Maximum Amplitude 0 100	
0 Temperature (degF) 20 Line Speed -150 (ft/min) 150		0 3' Travel Time 650 (usec) 150					
0 Line Tension (lb) 2000 Differential Temperature -2 (degF) 2							

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
ErrCt	18.10		Titan CHD-16875 GO	1.03	1.69	5.40
RBT_HV	17.07		Titan 1-11/16" Assembled Electric Cable Head with 1" Fishing Neck			
			SO BS CENT-2750-5500	1.50	3.25	11.00
			Slip Over 2-3/4" I.D. for 5-1/2" O.D. Casing Bow Spring Centralizer			
TEMP	14.16					
			Probe Radii ACC-2750 RBTa (FW1302-002)	9.39	2.75	105.00
			Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub and Accelerometer			
RBT_ACCZ	11.93					
RBT_ACCY	11.93					
RBT_ACCX	11.93					
WVFSYNC	11.93					
WVFS8	11.93					
WVFS7	11.93					
WVFS6	11.93					
WVFS5	11.93					
WVFS4	11.93					
WVFS3	11.93					
WVFS2	11.93					
WVFS1	11.93					
WVFCAL	11.93					
WVF3FT	11.93					
WVF5FT	10.93					
CCL\$2	6.80					
CCL\$1	6.80					
			SO BS CENT-2750-5500	1.50	3.25	11.00
			Slip Over 2-3/4" I.D. for 5-1/2" O.D. Casing Bow Spring Centralizer			
GR	5.46		Probe GR-CCL-2750 6PB (101001)	4.80	2.75	55.00
			Probe 2-3/4" rev.1 Digital Scintillation Gamma Ray/CCL Combined with 6 Pin Bottom for CNT			

LOCTIM
UTCTIM

0.00
0.00



Probe CENT-2750
Probe 2-3/4" Electric Inline Bowspring Centralizer

2.88

2.75

20.00

Dataset: processed_noble_guttersen yy06-785_rbl_09-01-20.db: field/well/run1/pass6.1
Total length: 18.10 ft
Total weight: 229.40 lb
O.D.: 3.25 in

Calibration Report

Database File C:\ProgramData\Warrior\Data\Noble\Noble_Guttersen YY06-785_RBL_09-01-20\PROCESSED_Noble_Guttersen YY06-785_RB
Dataset Pathname pass6.1
Dataset Creation Tue Sep 01 14:58:17 2020

Gamma Ray Calibration Report

Serial Number: 101001
Tool Model: 2750 6PB
Performed: Tue Dec 03 09:24:53 2019

Calibrator Value: 637.0 GAPI

Background Reading: 100.6 cps
Calibrator Reading: 981.1 cps

Sensitivity: 0.7235 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1302-002
Tool Model: 2750 RBTa

Calibration Casing Diameter: 5.500 in
Calibration Depth: 5.882 ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.691	0.800	71.921	103.045	0.759
CAL	0.006	0.667				
5'	0.000	0.678	0.800	71.921	104.981	0.784
SUM						
S1	0.000	0.674	0.000	100.000	148.384	-0.048
S2	0.000	0.727	0.000	100.000	137.549	-0.048
S3	0.000	0.763	0.000	100.000	131.085	-0.049
S4	0.000	0.742	0.000	100.000	134.750	-0.050
S5	0.000	0.753	0.000	100.000	132.978	-0.066
S6	0.001	0.749	0.000	100.000	133.531	-0.070
S7	0.001	0.731	0.000	100.000	136.878	-0.072
S8	0.000	0.672	0.000	100.000	148.824	-0.063

Air Zero Calibration, performed Mon Aug 31 10:03:14 2020:

	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

Inclinometer Calibration Report

Performed:	Tue Dec 03 09:24:53 2019				
	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	-891.00	891.00	-1.00	1.00	gee
Y Accelerometer	-899.00	877.00	-1.00	1.00	gee
Z Accelerometer	-7.47	873.36	0.00	1.00	gee

Temperature Calibration Report

Serial Number:	FW1302-002			
Tool Model:	2750 RBTa			
Performed:	Tue Dec 03 09:24:53 2019			
	Reference		Reading	
Low Reference:	100.00	degF	110.72	degF
High Reference:	350.00	degF	409.18	degF
Gain:	0.84			
Offset:	7.26			
Delta Spacing	1			



Company	Noble Energy Inc
Well	Guttersen YY06-785
Field	Wattenberg
County	Weld
State	Colorado