RELIANCE OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Noble Energy Inc
Well Guttersen YY06-775
Field Wattenberg
County Weld State Colorado

Location: API # : 05-123-48642

SEC 30 TWP 3N RGE 63W

Other Services

Permanent Datum	Ground Level	Elevation	4791'
Log Measured From	Kelly Bushing	30 FT	
Drilling Measured From	Kelly Bushing		

Elevation
K.B. 4821'
D.F. ---
G.L. 4791'

Date	01-SEP-2020		
Run Number	One		
Depth Driller	17480 FT		
Depth Logger	7057 FT		
Bottom Logged Interval	7045 FT		
Top Log Interval	Surface		
Open Hole Size	8.5"		
Type Fluid	Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	225°F		
Estimated Cement Top	See Log		
Time Well Ready	ROA		
Time Logger on Bottom	12:05		
Equipment Number	HD-361		
Location	Platteville, CO		
Recorded By	G. Lueck		
Witnessed By	Andy Dawkins		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size (in)	Wgt (lbs/Ft)	Grade	Top	Bottom
Surface Casing	9 5/8	36	J-55	Surface	1931.3 FT
Intermediate #1	5 1/2	17	P-110 CYHP	Surface	17464.7 FT
Intermediate #2					
Liner					

<<< Fold Here >>>

Comments

Log ran as per customer request
Depth referenced to Casing Tally reported Marker Joint at 6411.5 FT
Adjusted -32 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!!

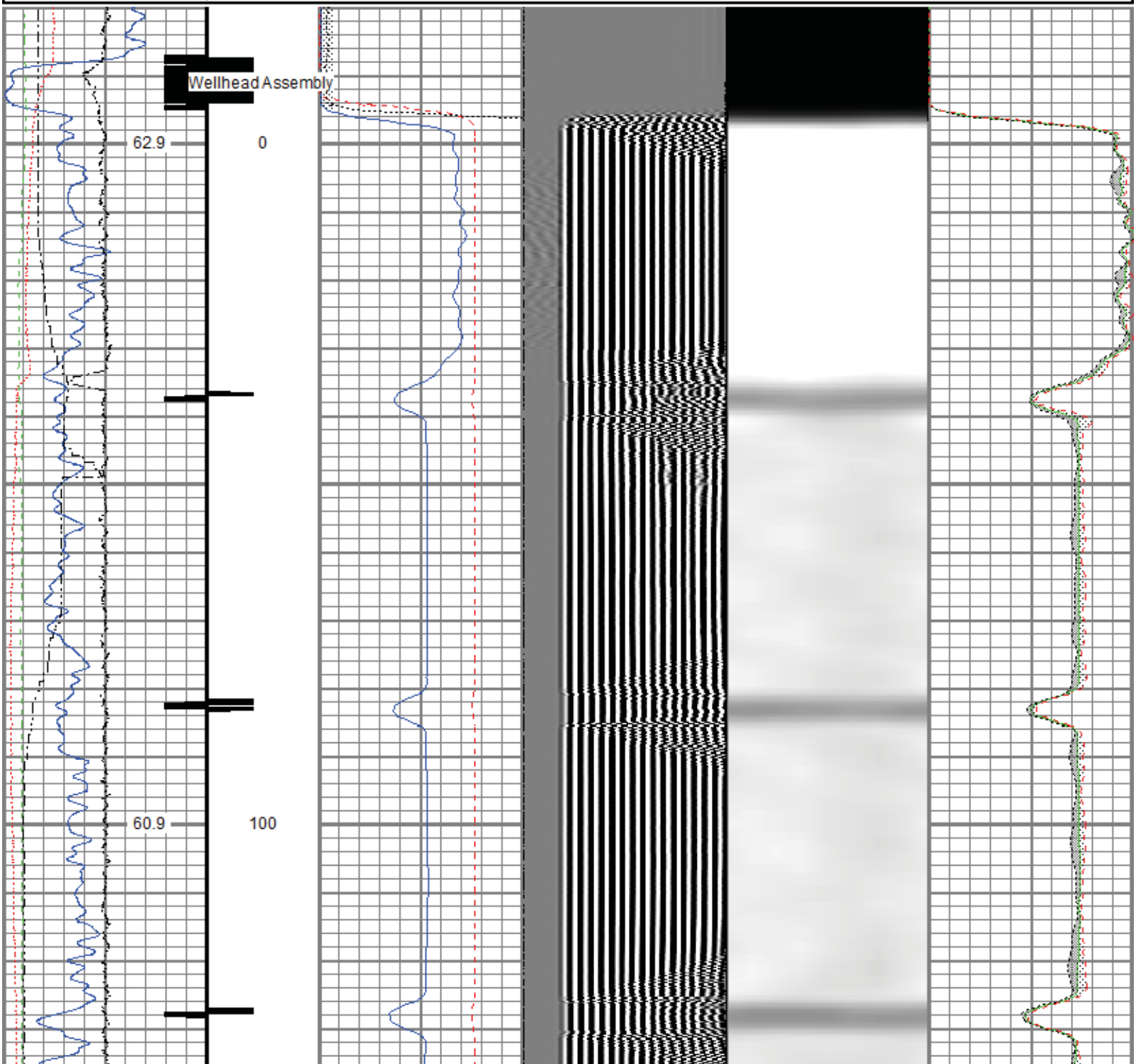
Main Pass

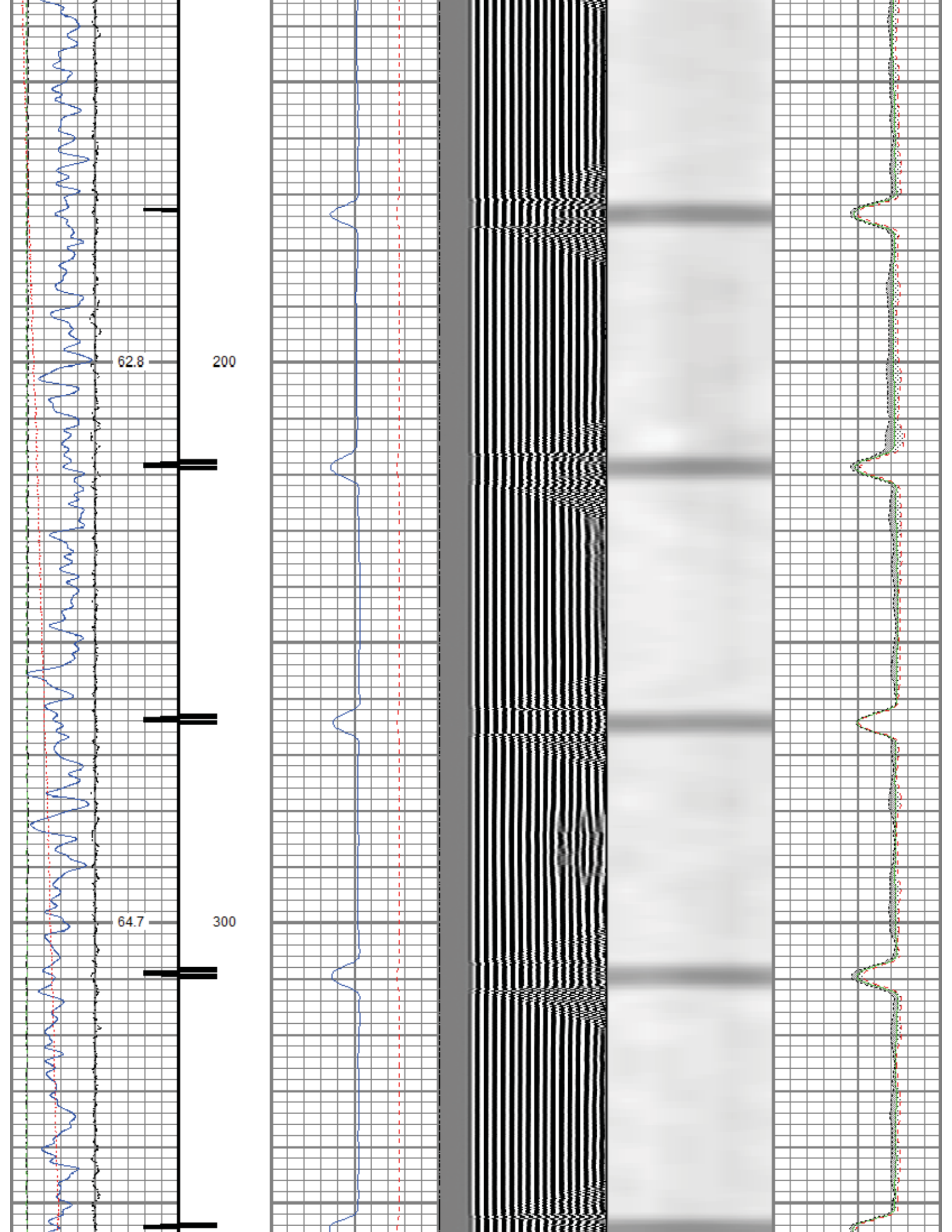
RELIANCE OILFIELD SERVICES

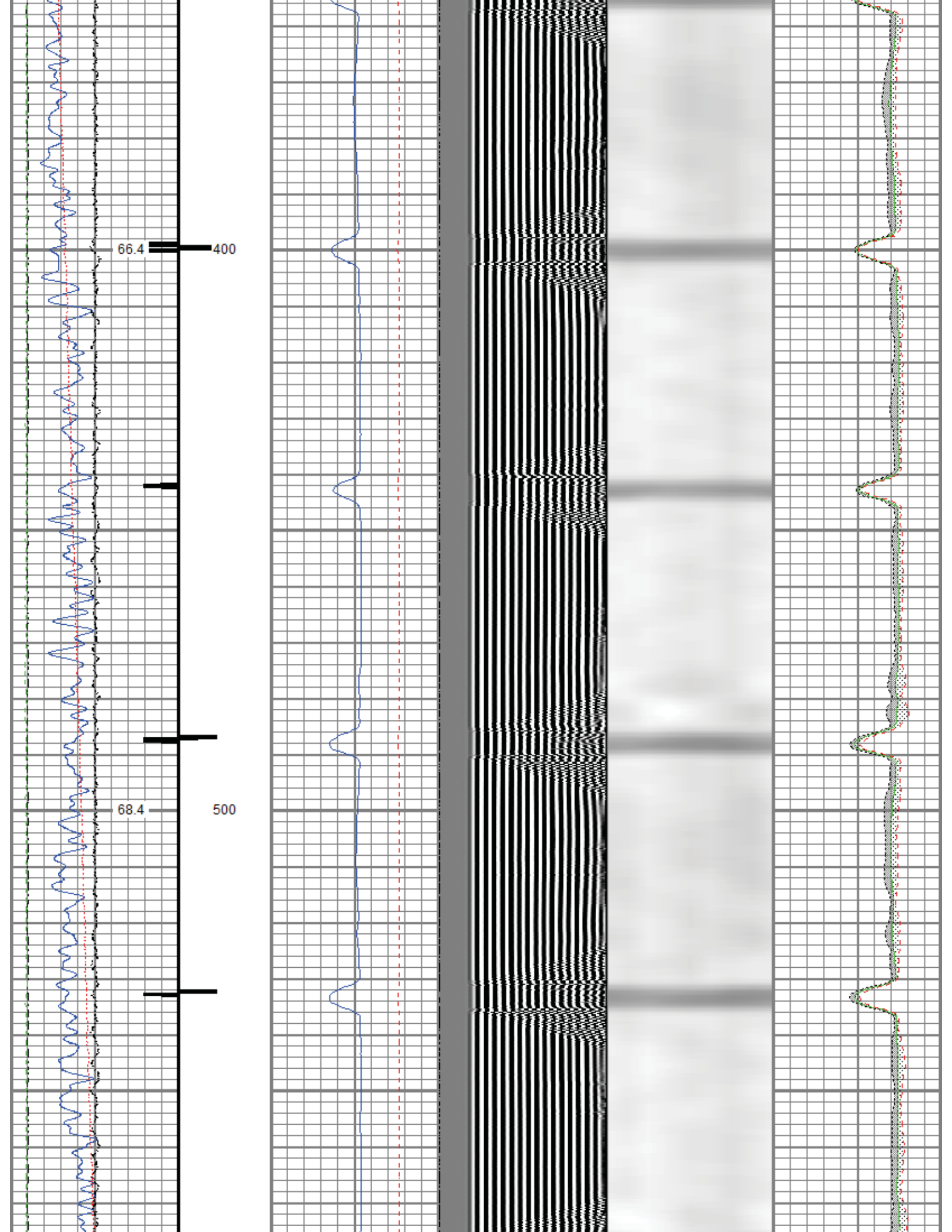
Recorded With 2500 PSI Surface Induced Pressure

Database File	noble_guttersen yy06-775_rbl_09-01-20\noble_guttersen yy06-775_rbl_09-01-20.db
Dataset Pathname	pass6.1
Presentation Format	ros_radii_noble
Dataset Creation	Wed Sep 02 11:54:39 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
0	(GAPI)	120	3' Amplitude x 5	200 (usec) 1200		Mimimum Amplitude
Casing Collar Log			0 (mV) 20			0 100
0 Temperature (degF) 20			3' Travel Time			Maximum Amplitude
Line Speed			650 (usec) 150			0 100
-150	(ft/min)	150				
0 Line Tension (lb) 2000						
Differential Temperature						
-2	(degF)	2				




62.8
200
64.7
300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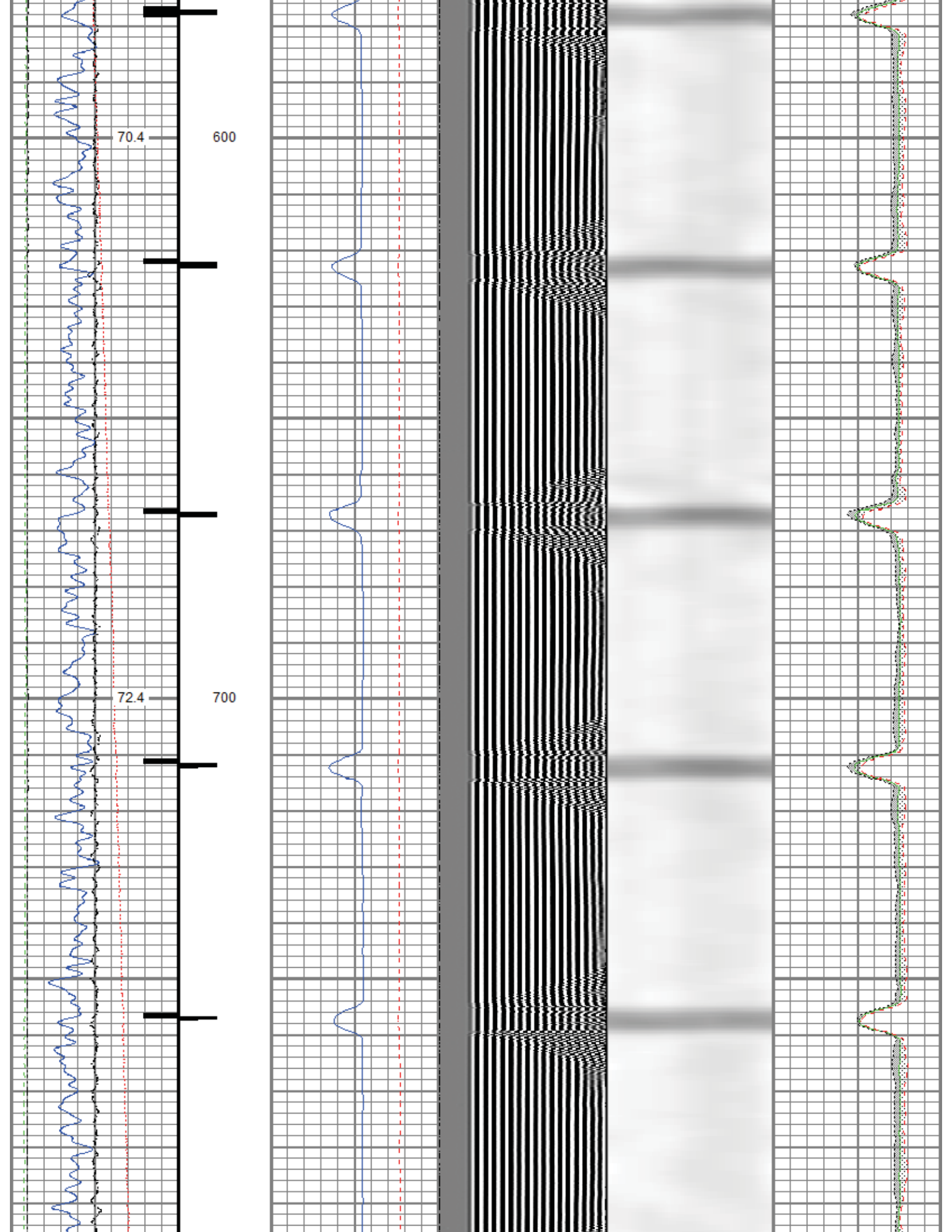
400
68.4
500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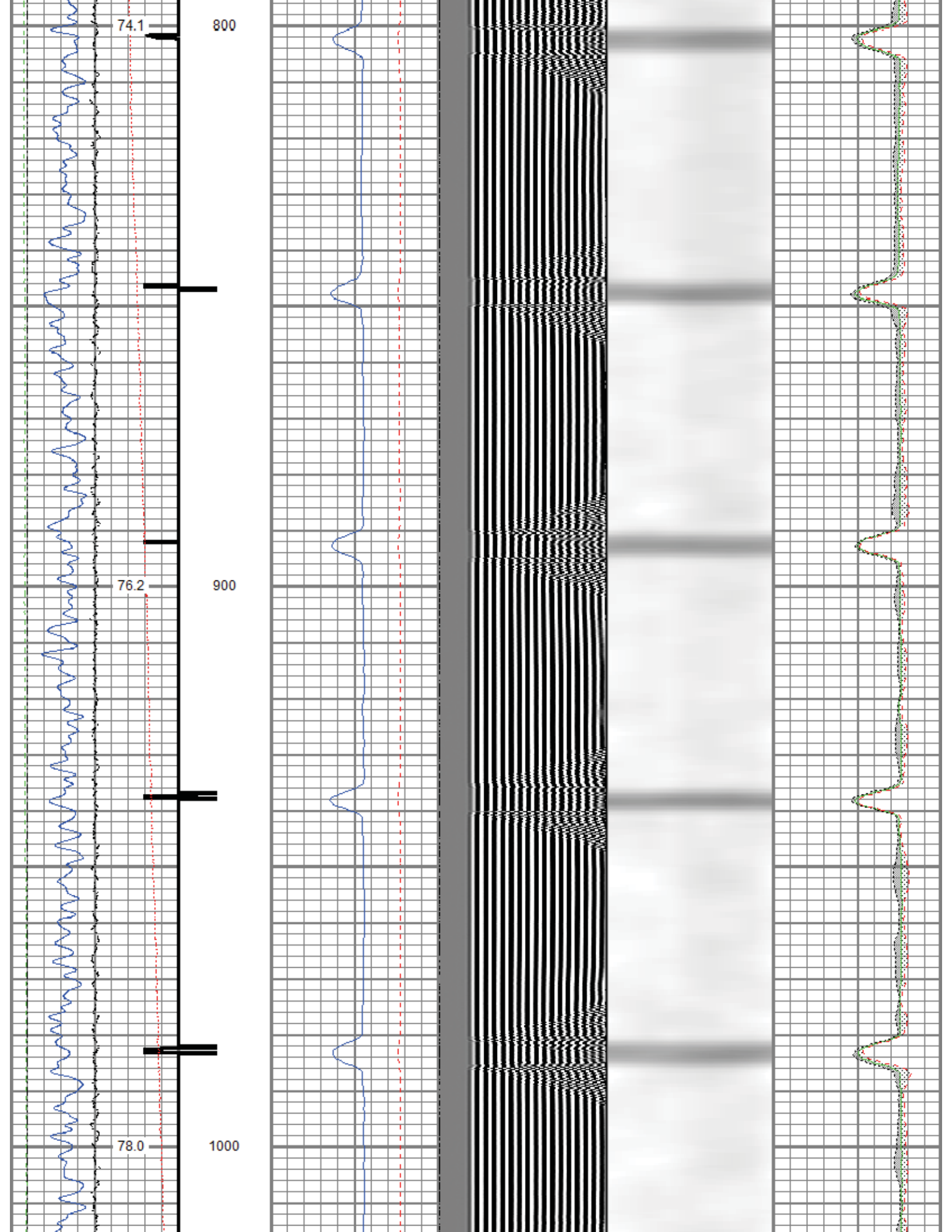
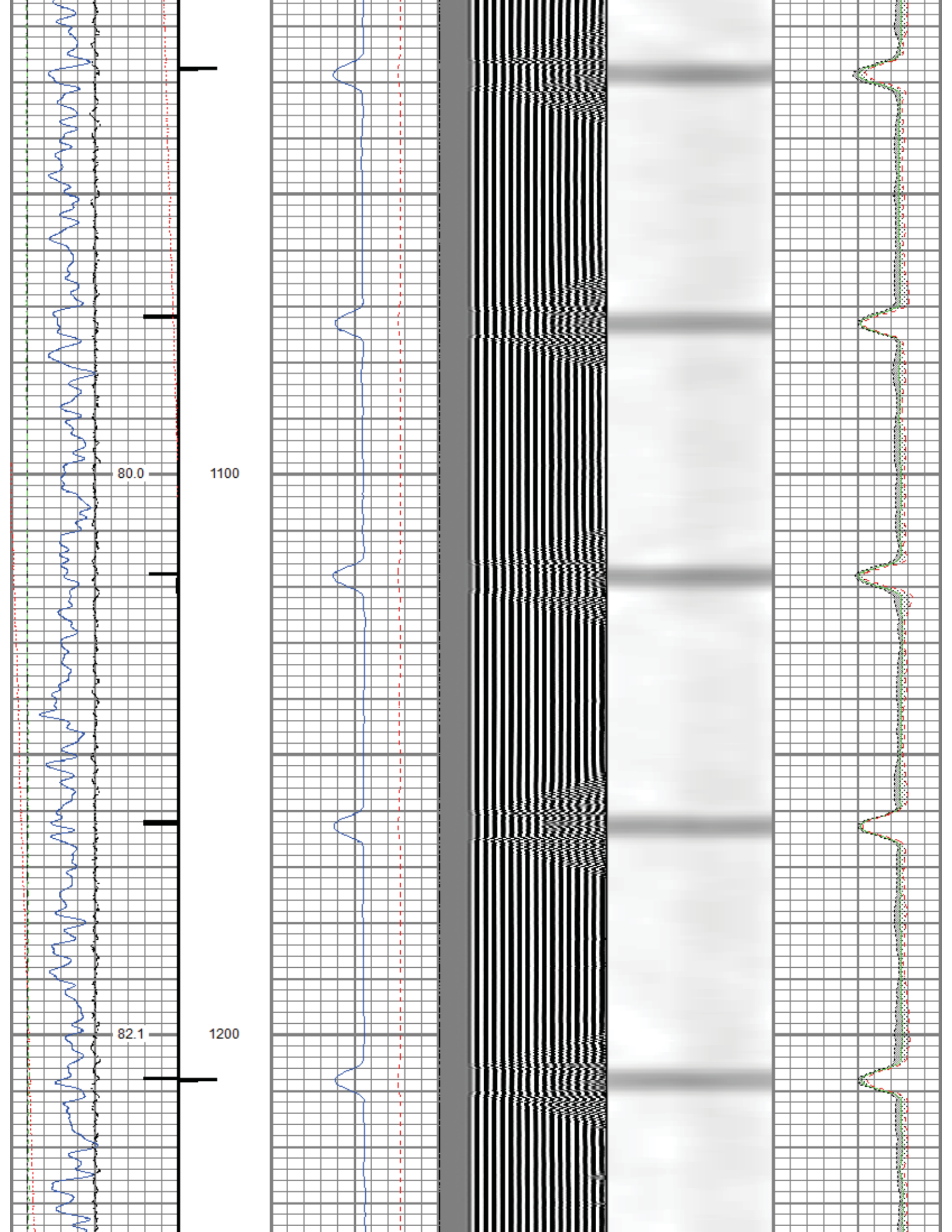
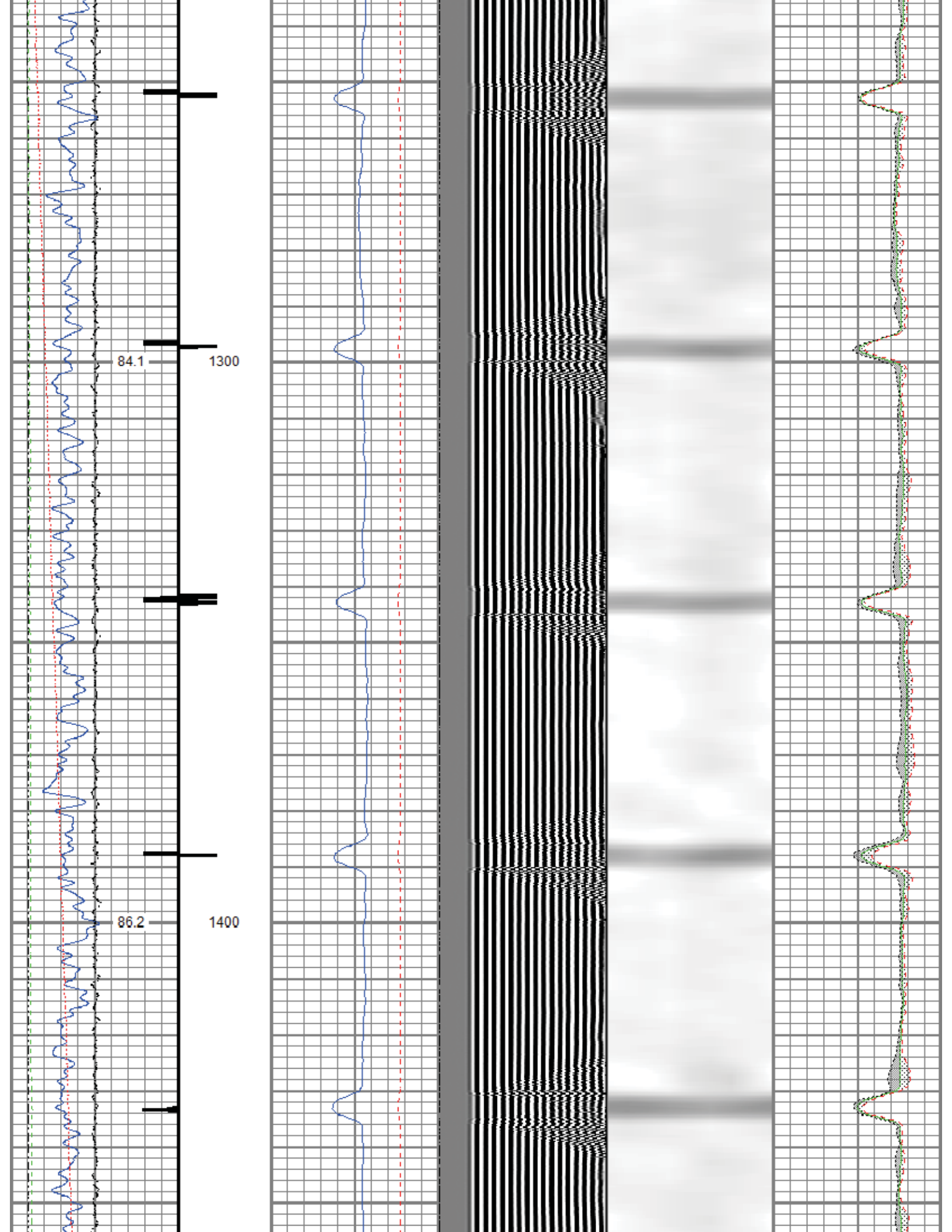
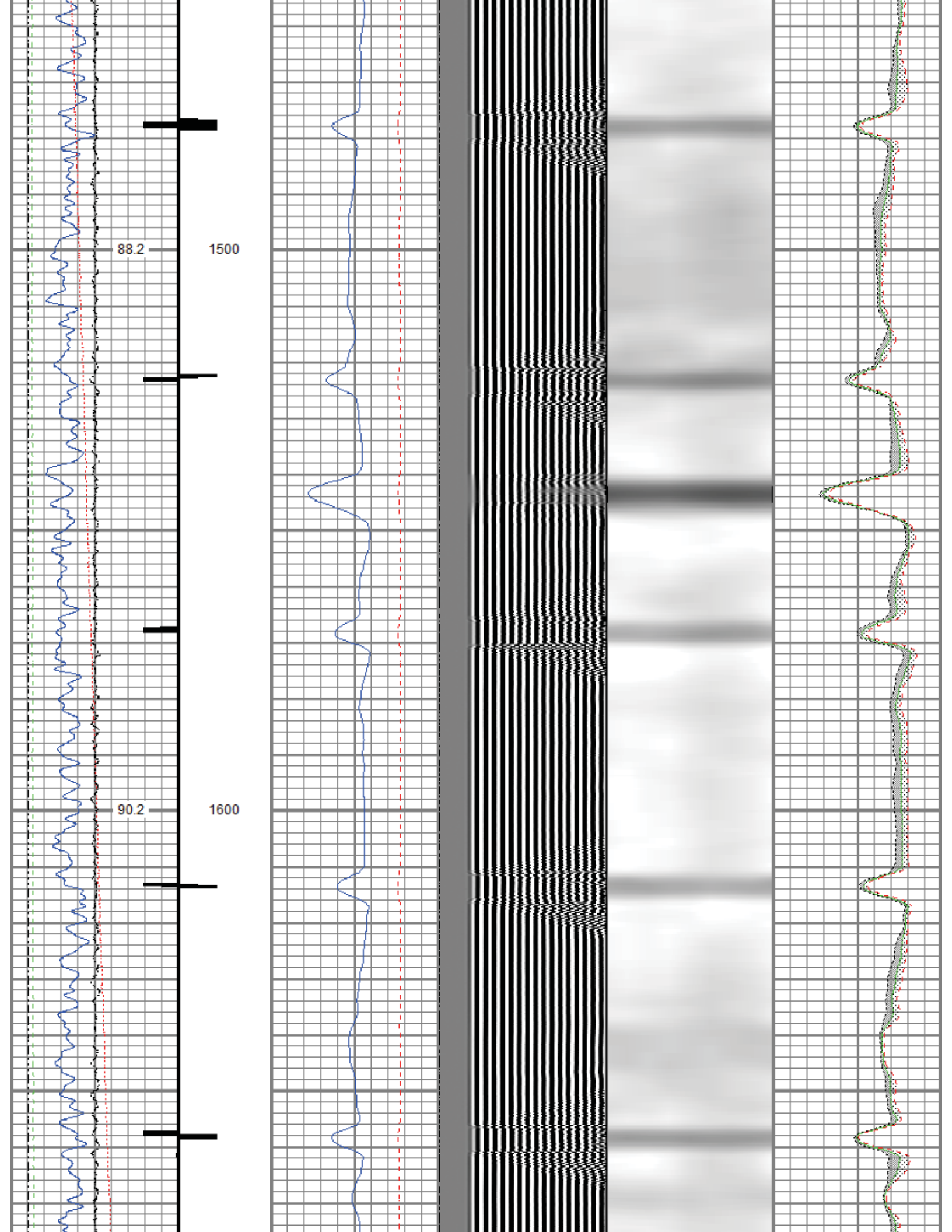
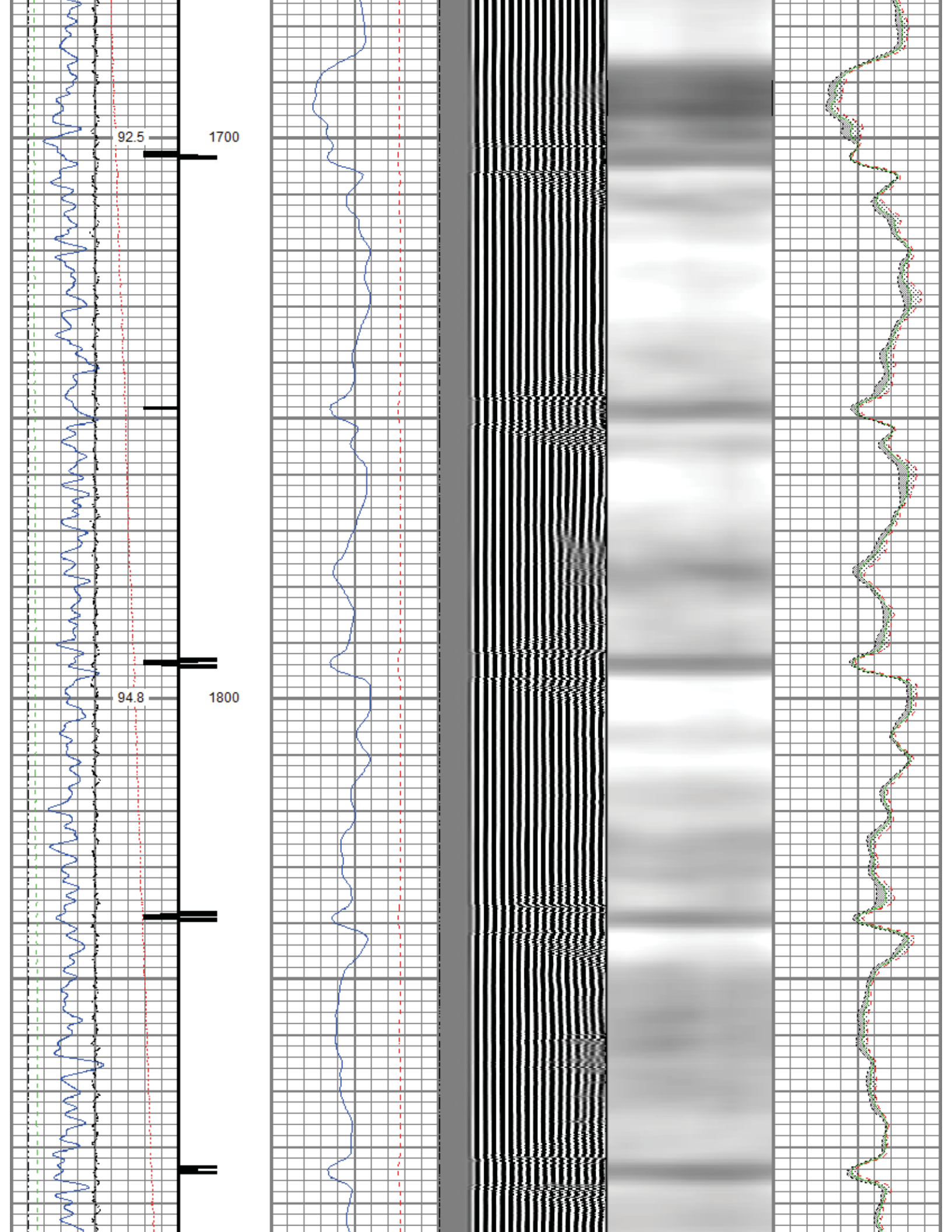
600
72.4
700

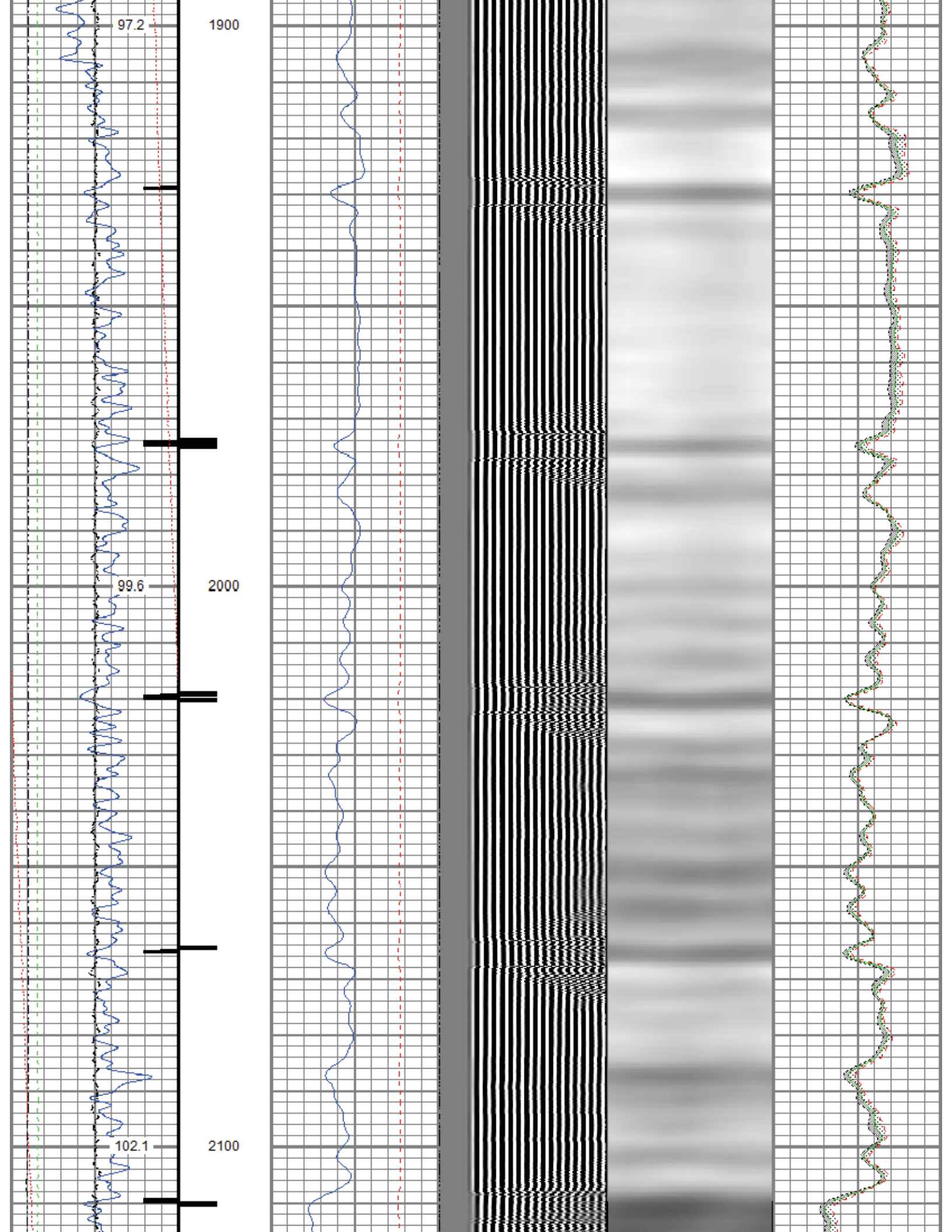

74.1
800
76.2
900
78.0
1000

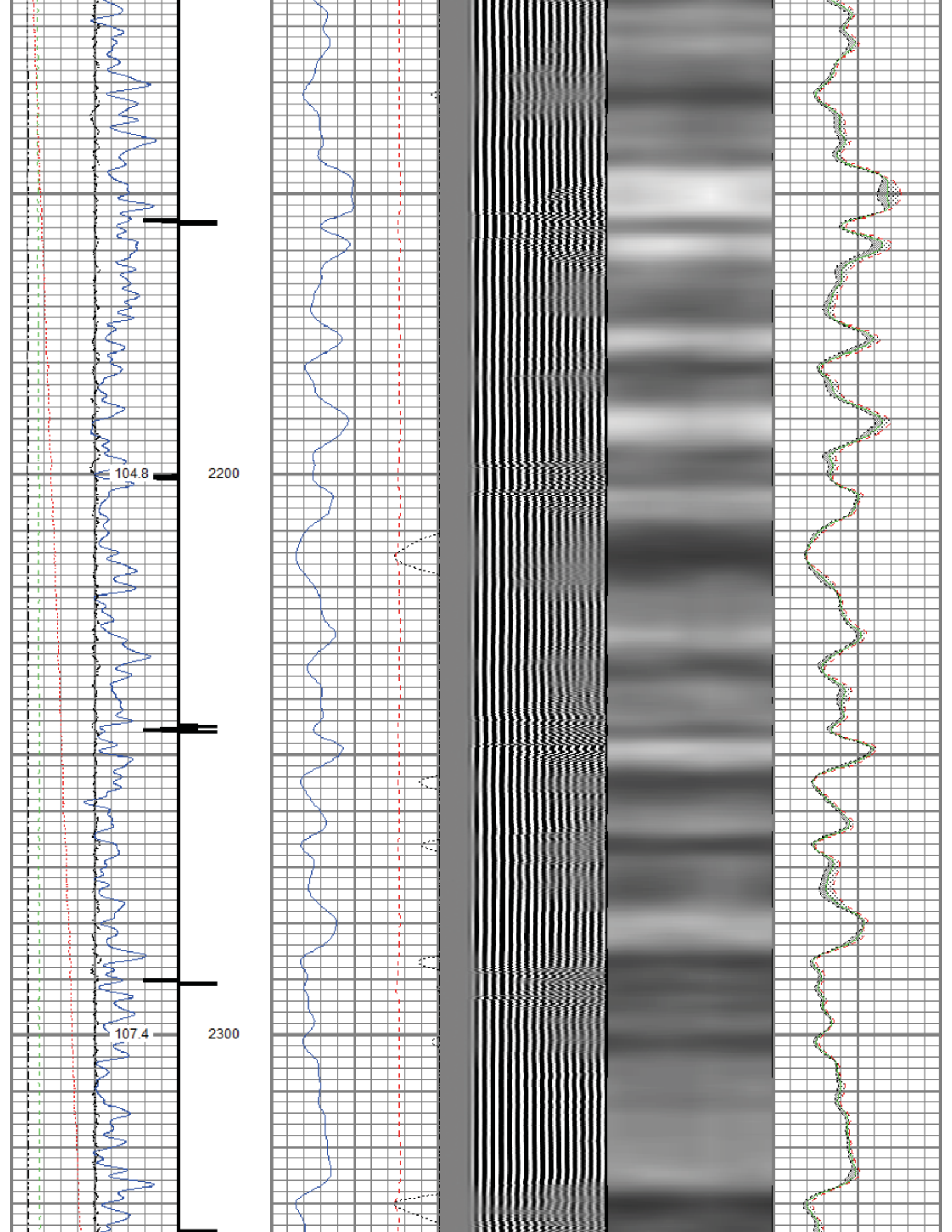

80.0
1100
82.1
1200


84.1
1300
86.2
1400


88.2
1500
90.2
1600


92.5
1700
94.8
1800


97.2
1900
99.6
2000
102.1
2100


104.8
2200
107.4
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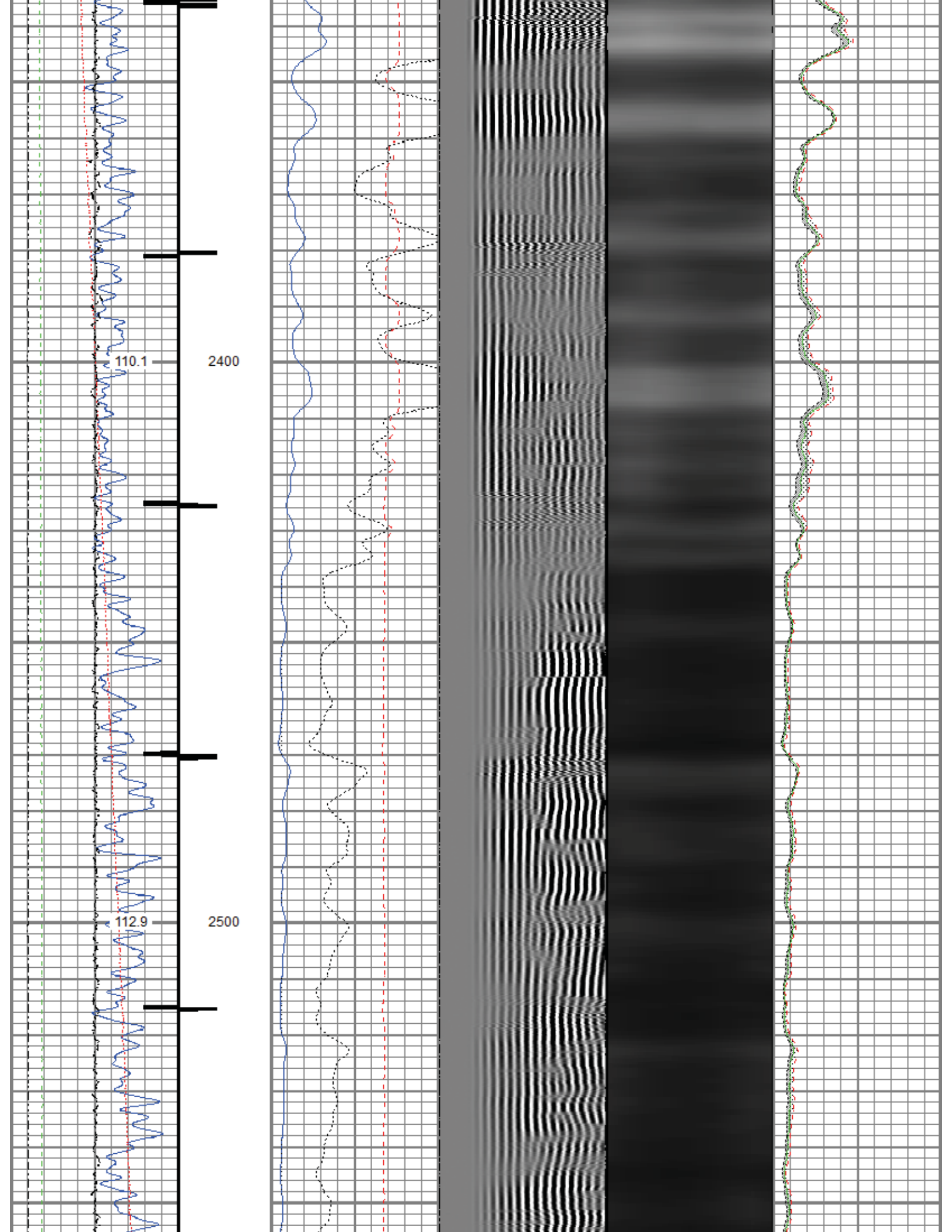
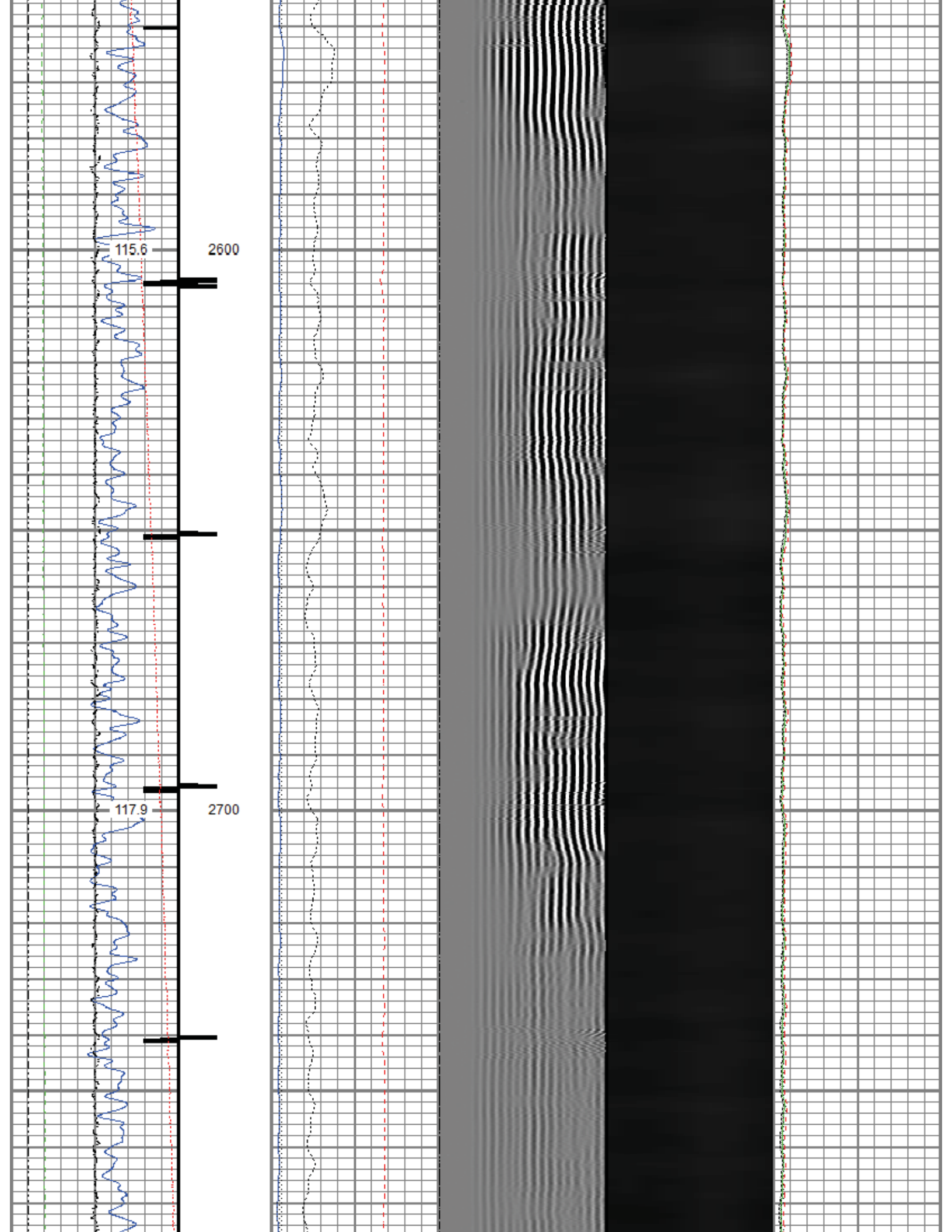
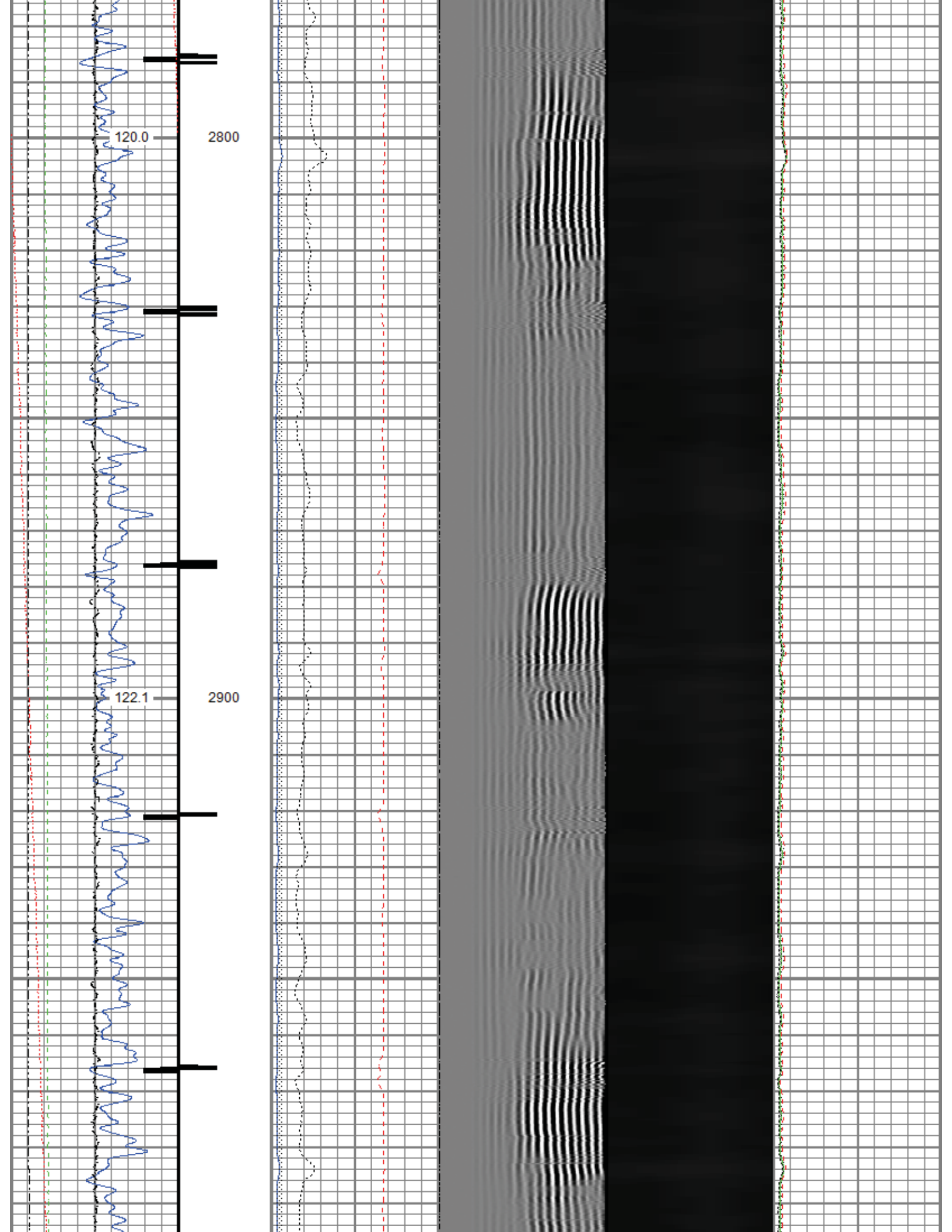
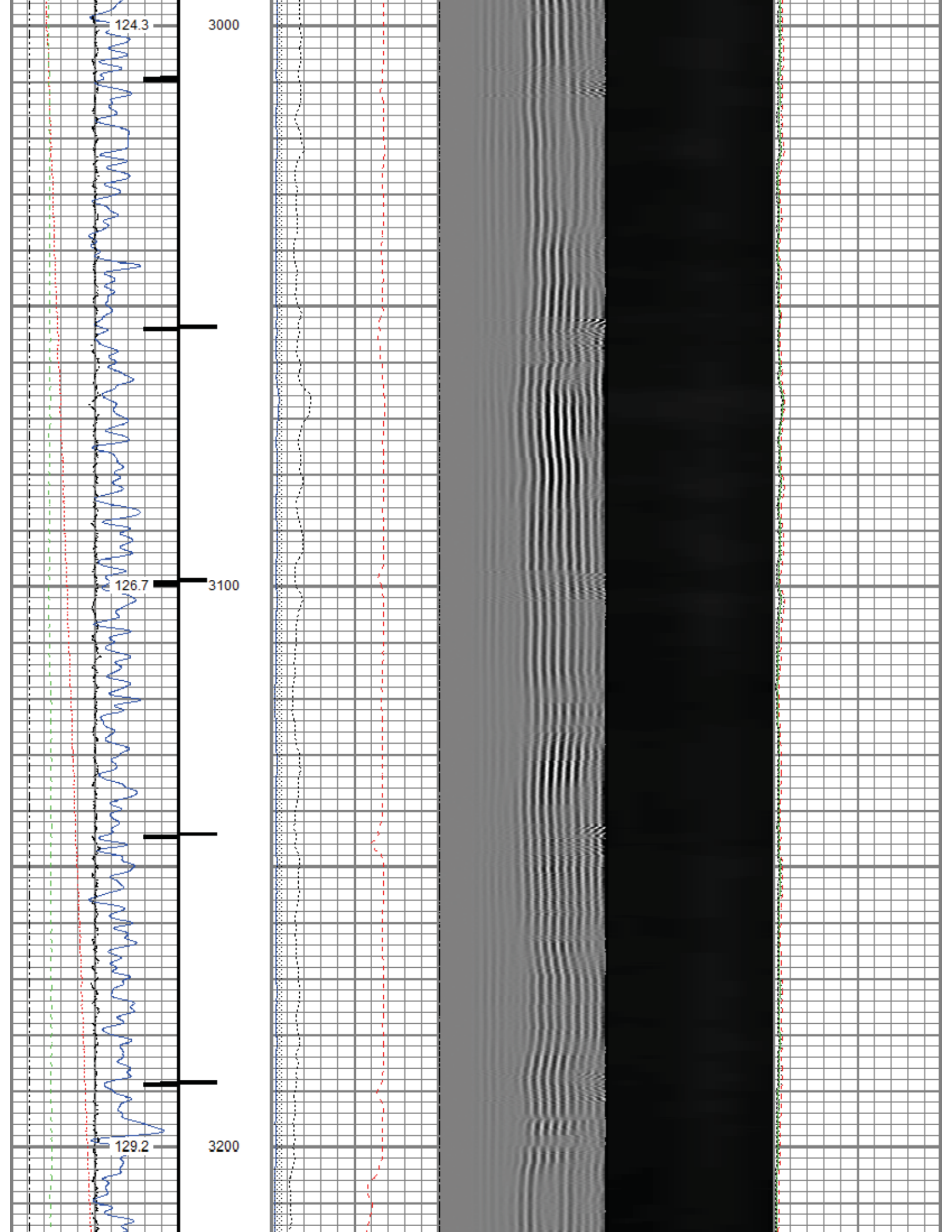
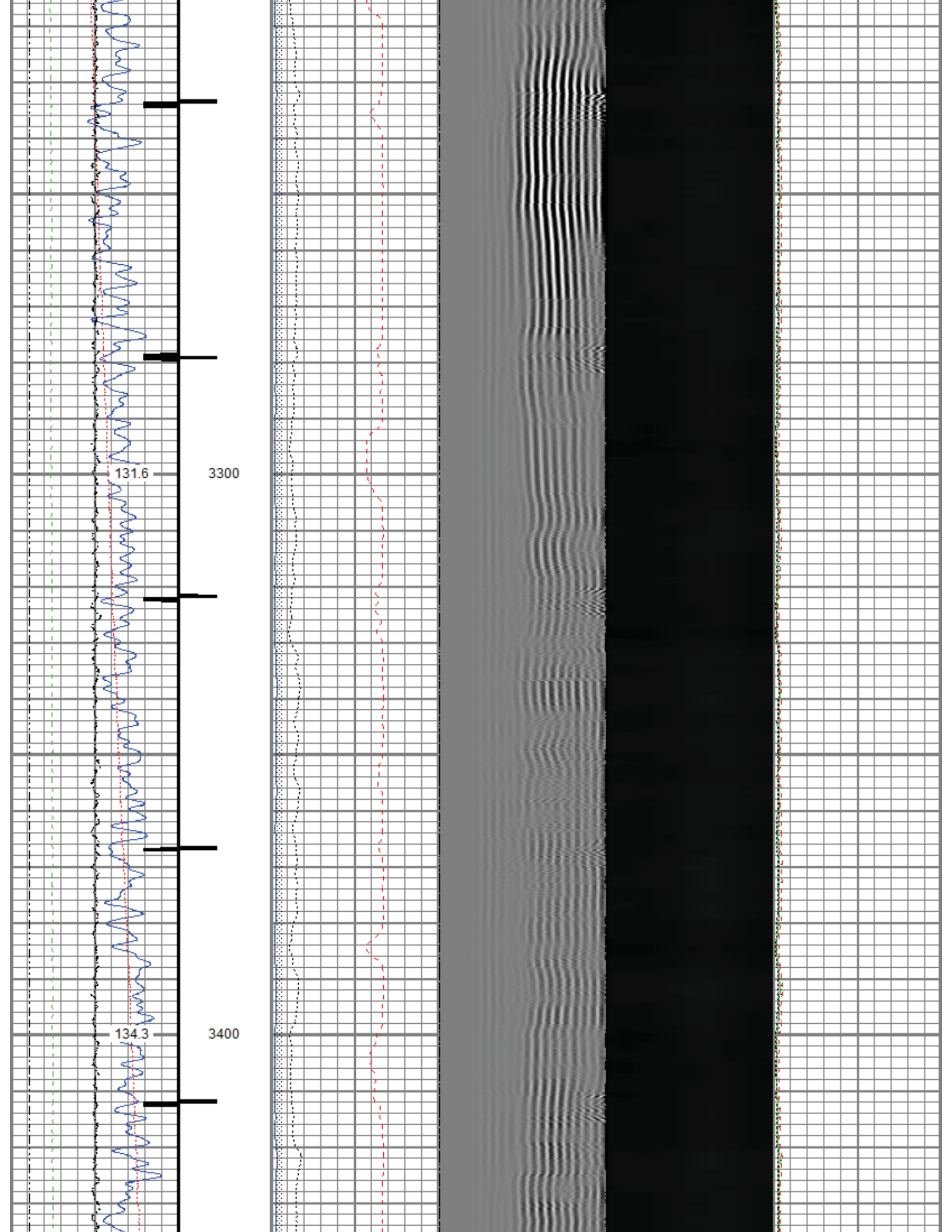
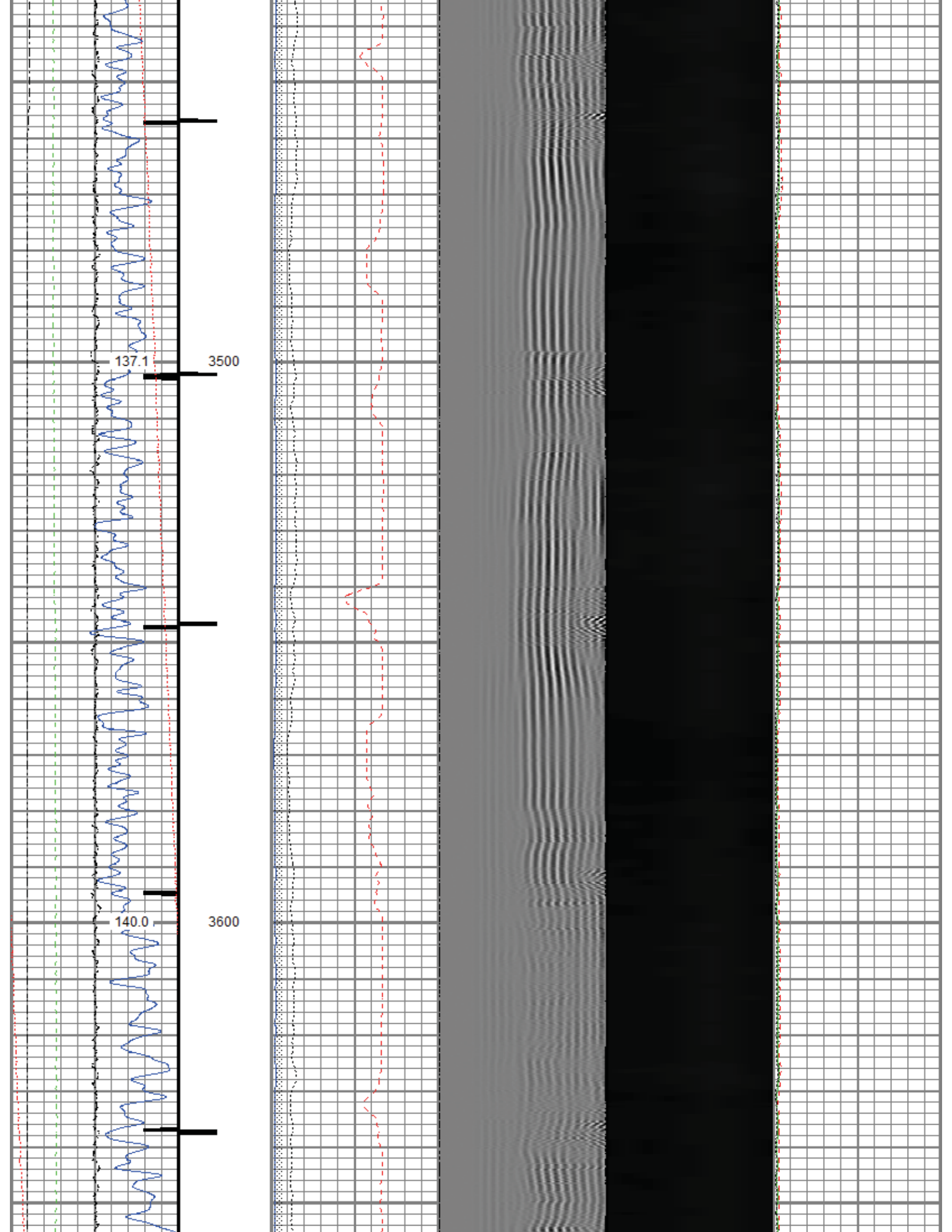

110.1
2400
112.9
2500

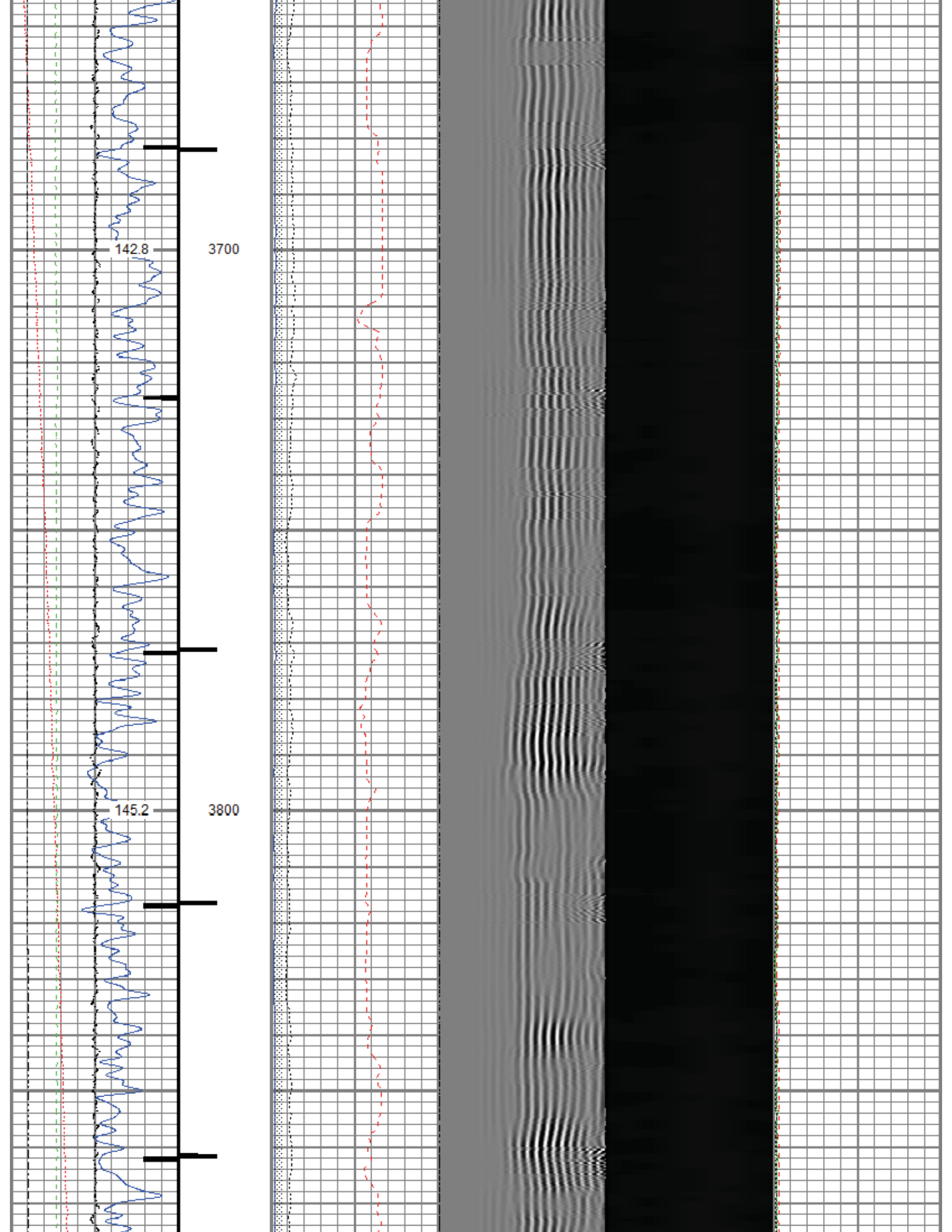

115.6
2600
117.9
2700

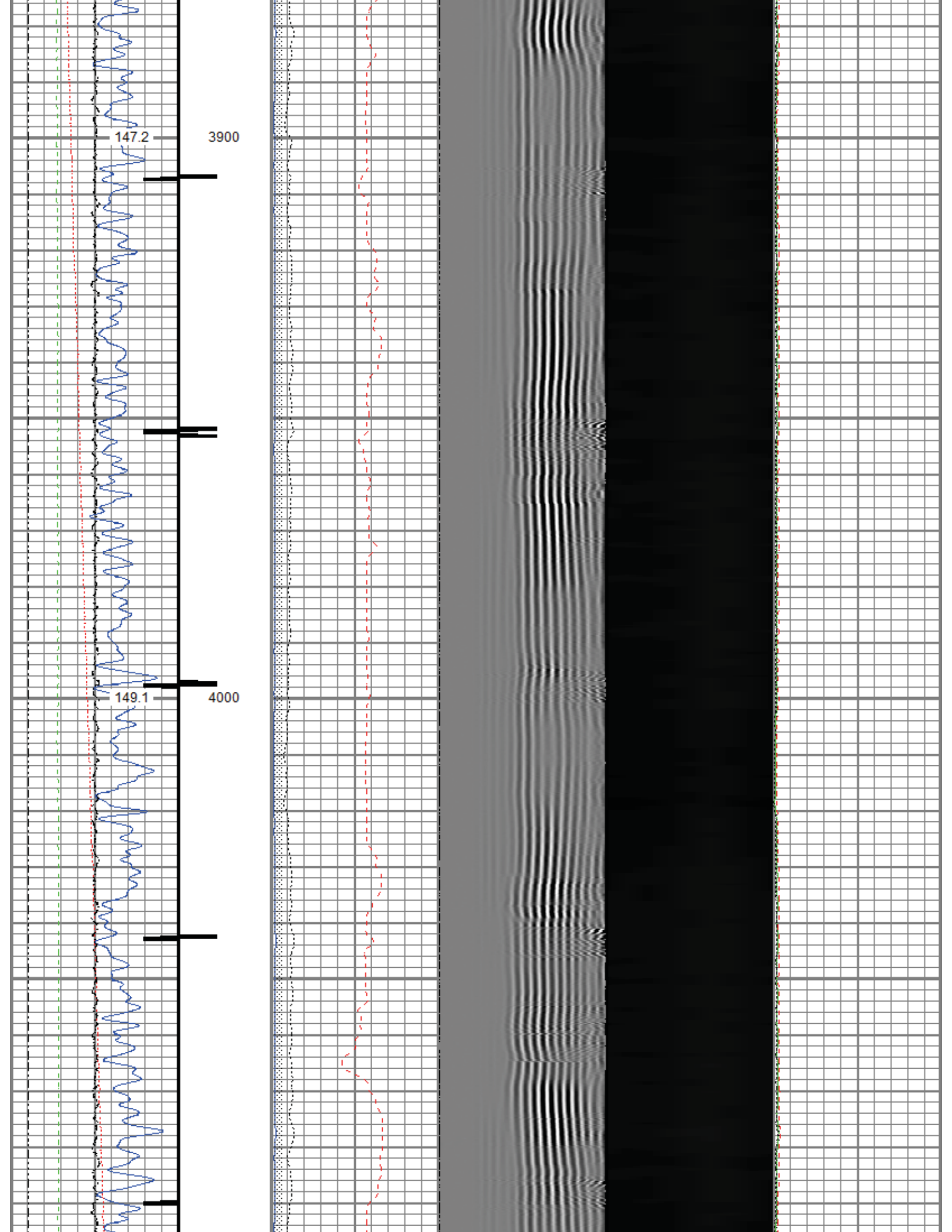

120.0
2800
122.1
2900


124.3
3000
126.7
3100
129.2
3200


131.6
3300
134.3
3400


137.1
3500
140.0
3600


142.8
3700
145.2
3800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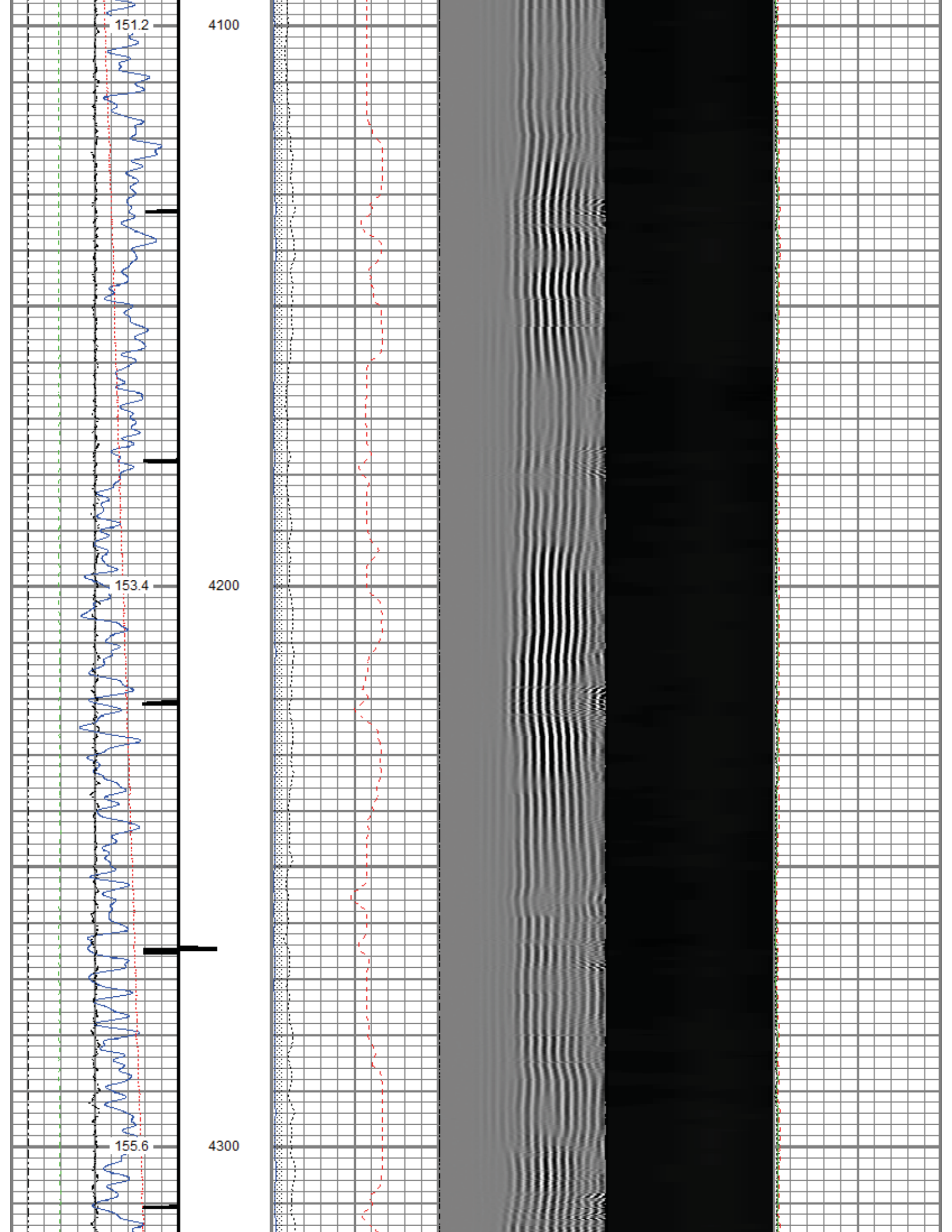
3900
149.1
4000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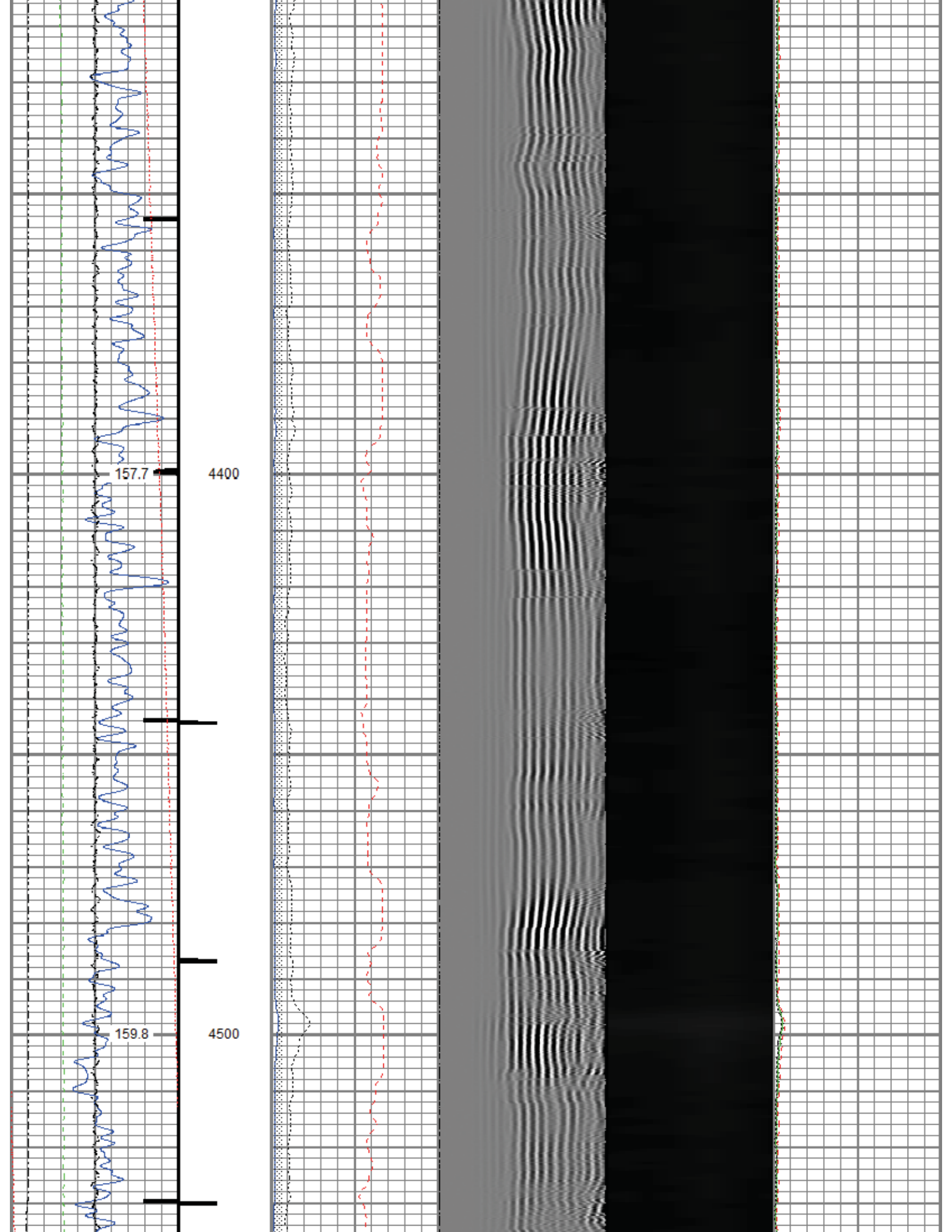
4100
153.4
4200
155.6
4300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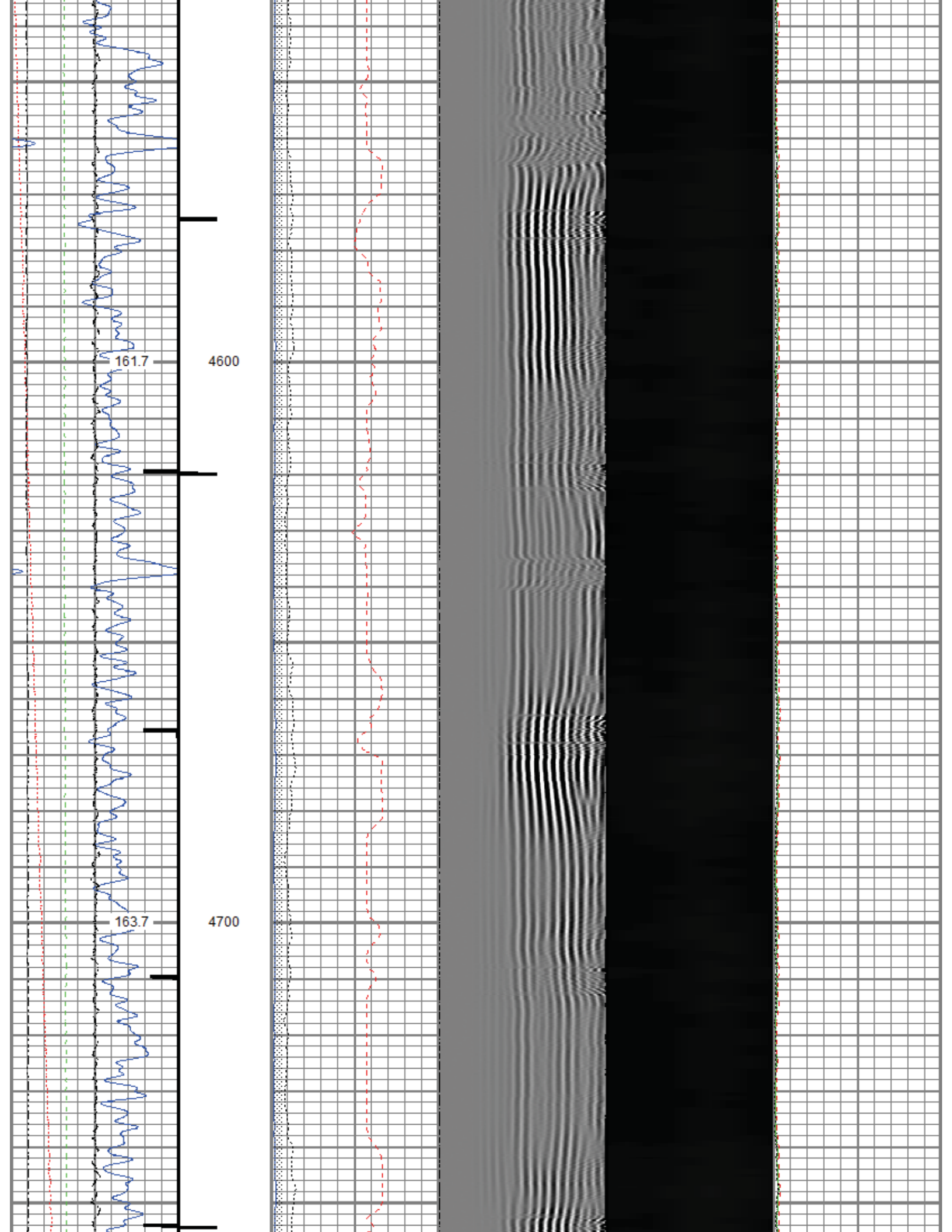
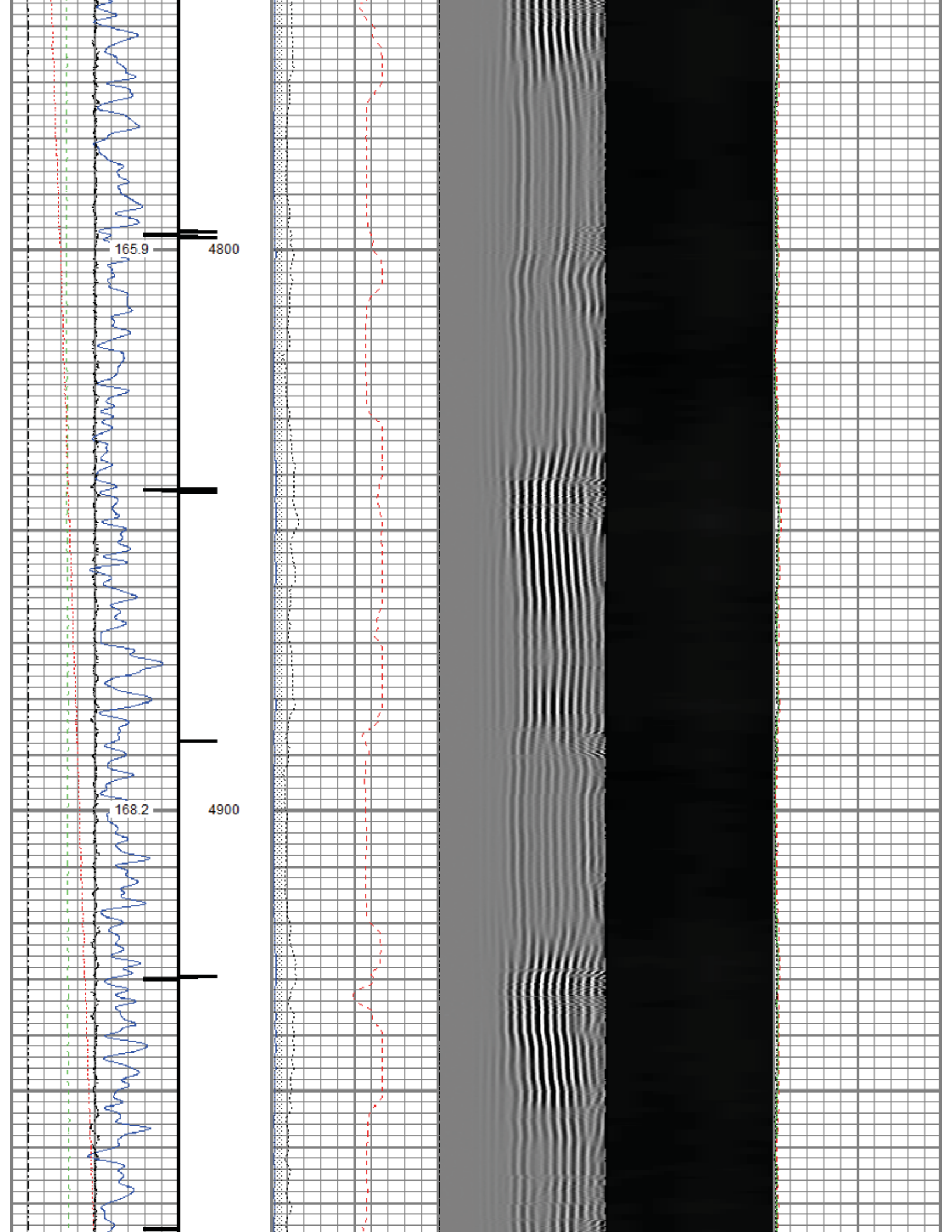
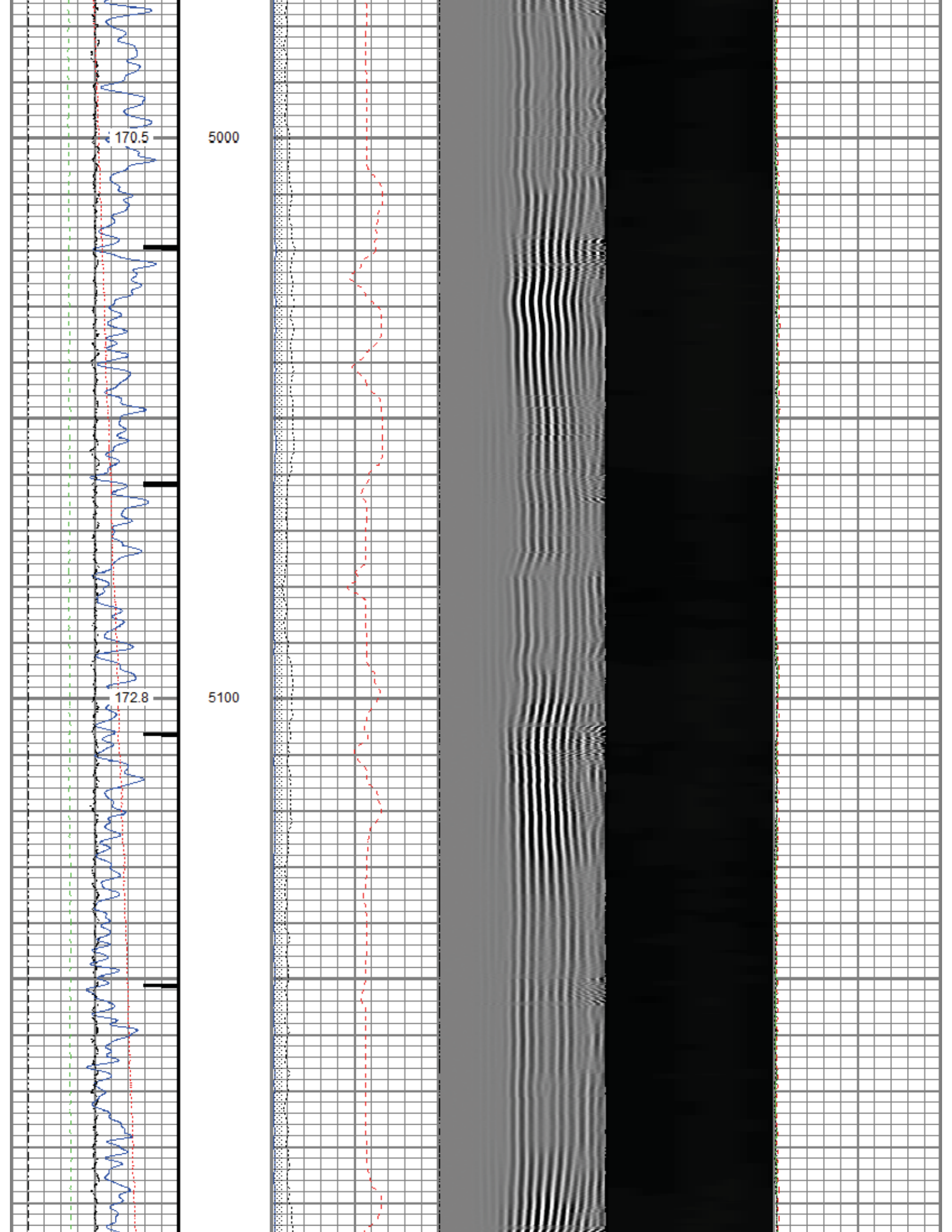
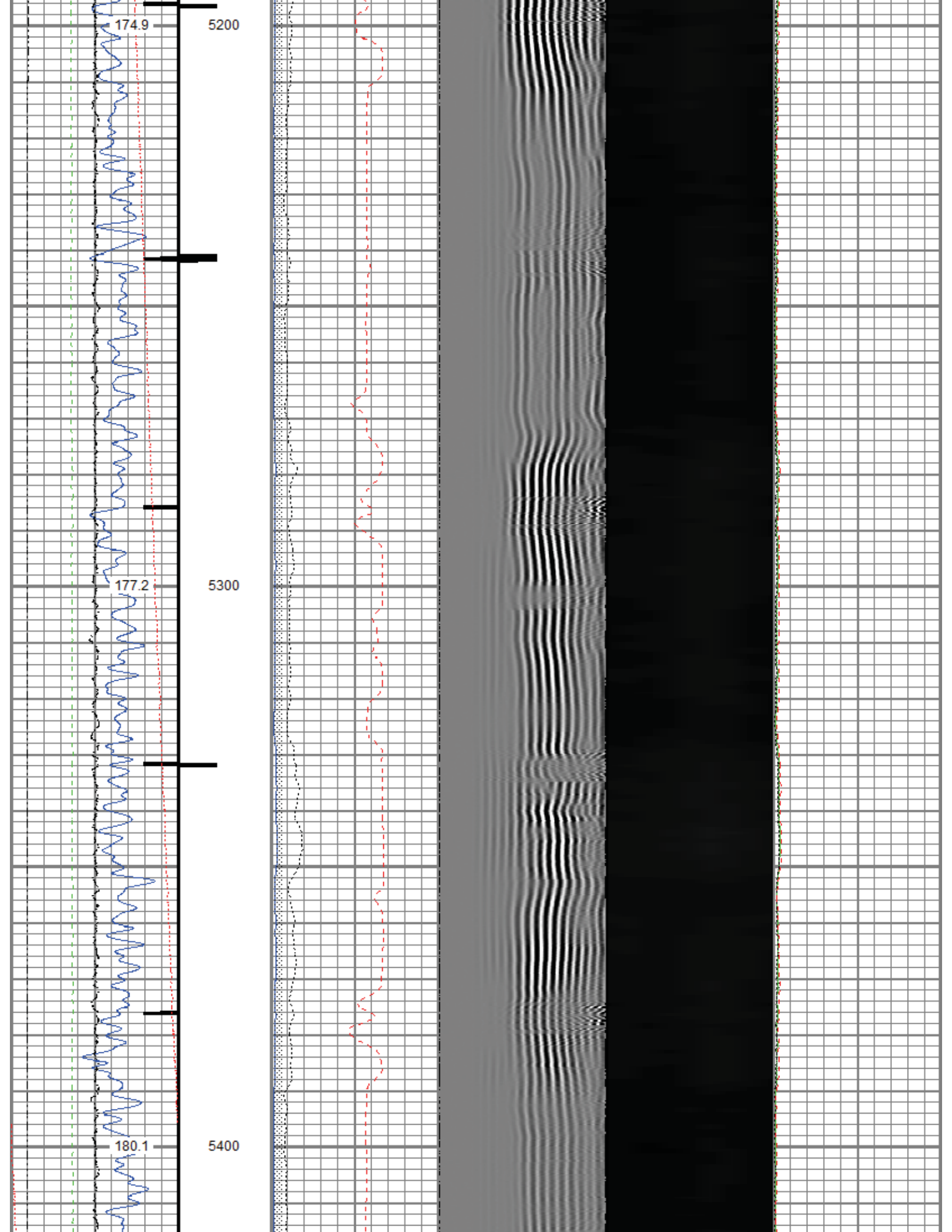
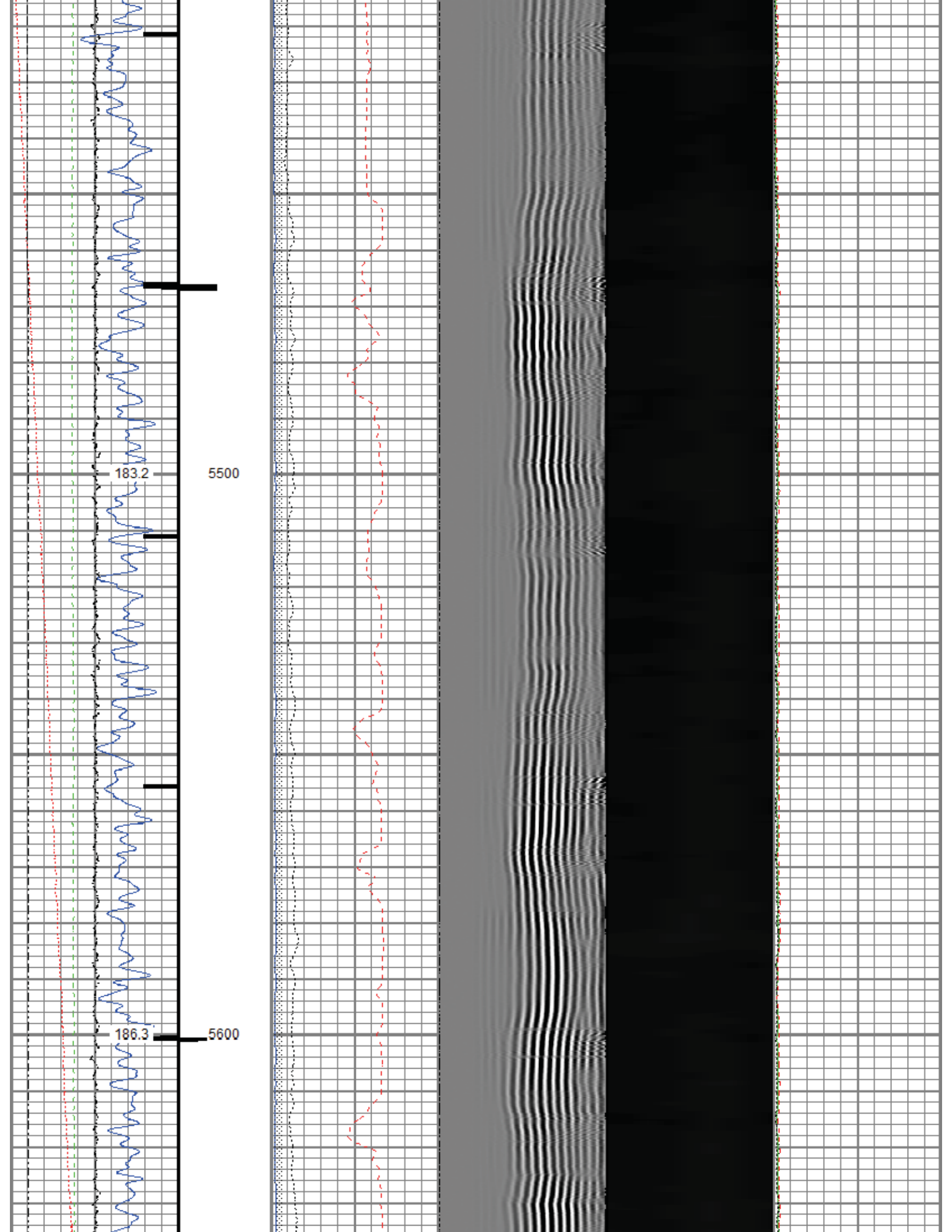
4400
159.8
4500

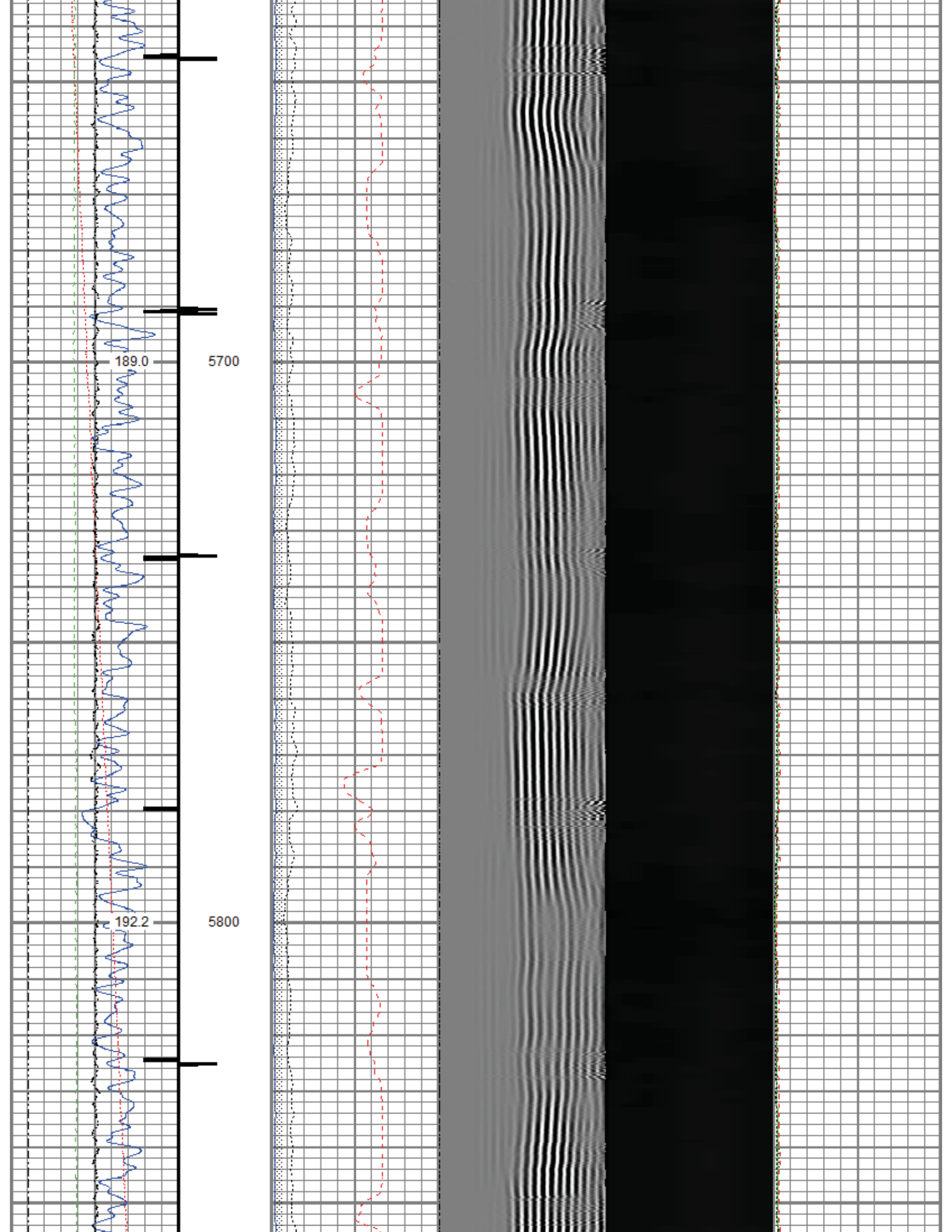

161.7
4600
163.7
4700

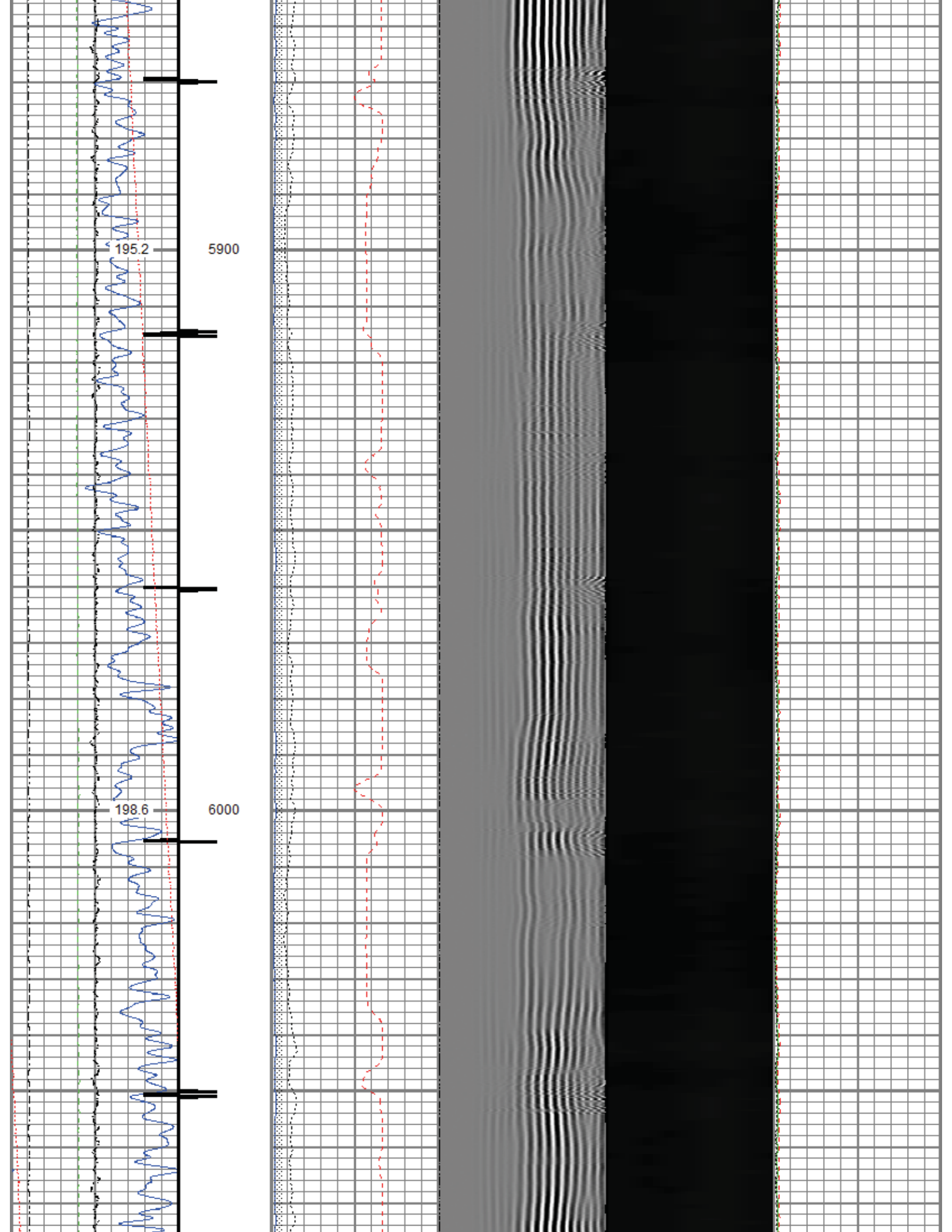

165.9
4800
168.2
4900

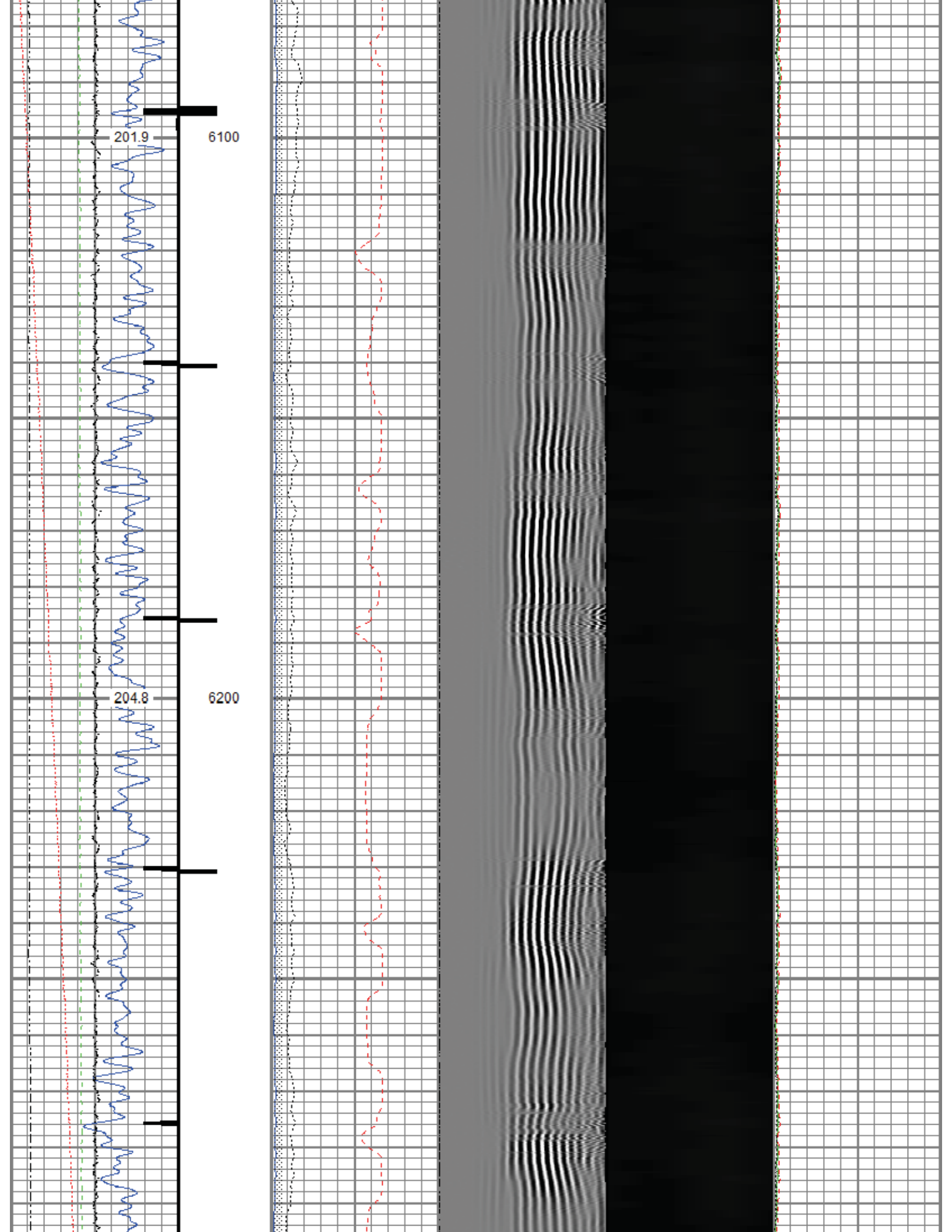

170.5
5000
172.8
5100

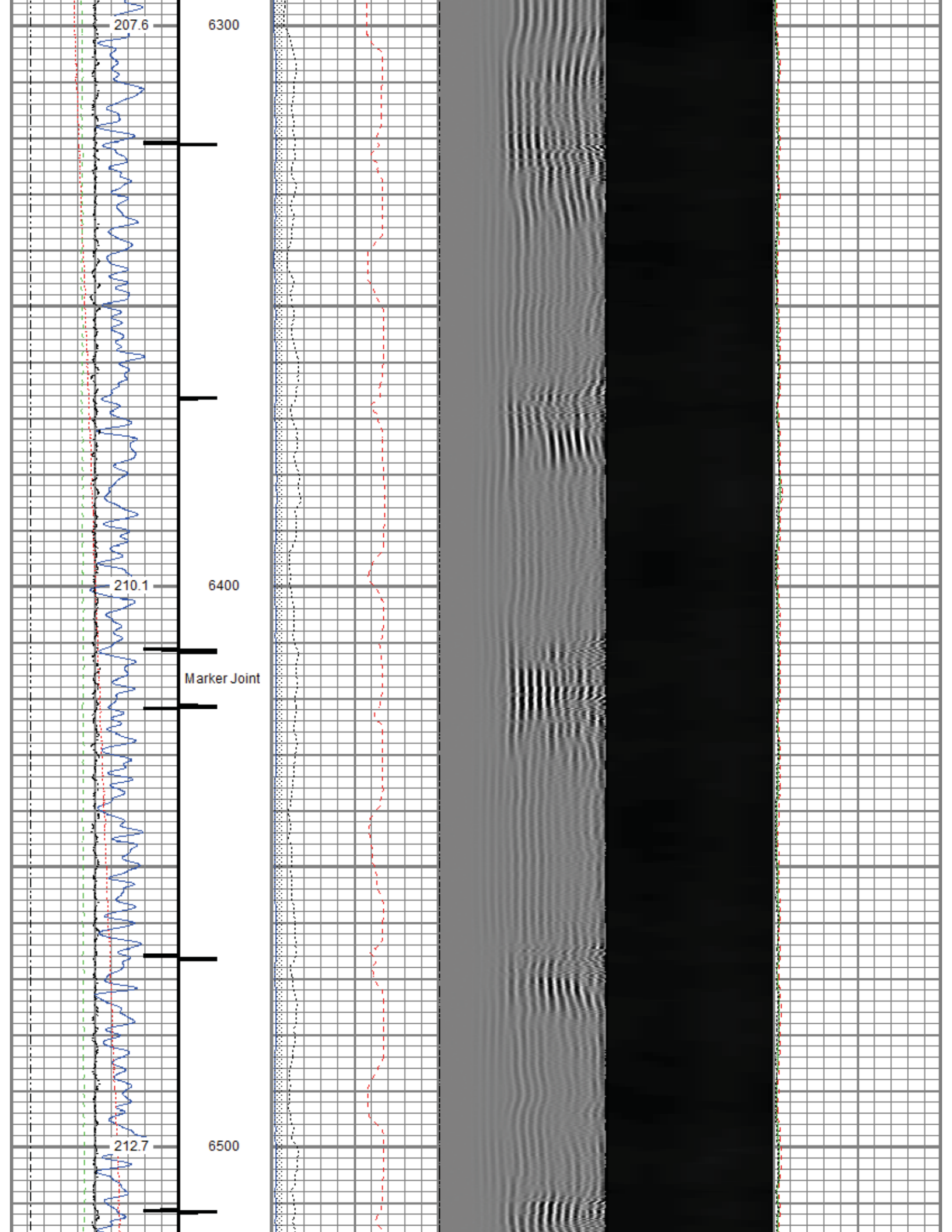

174.9
5200
177.2
5300
180.1
5400

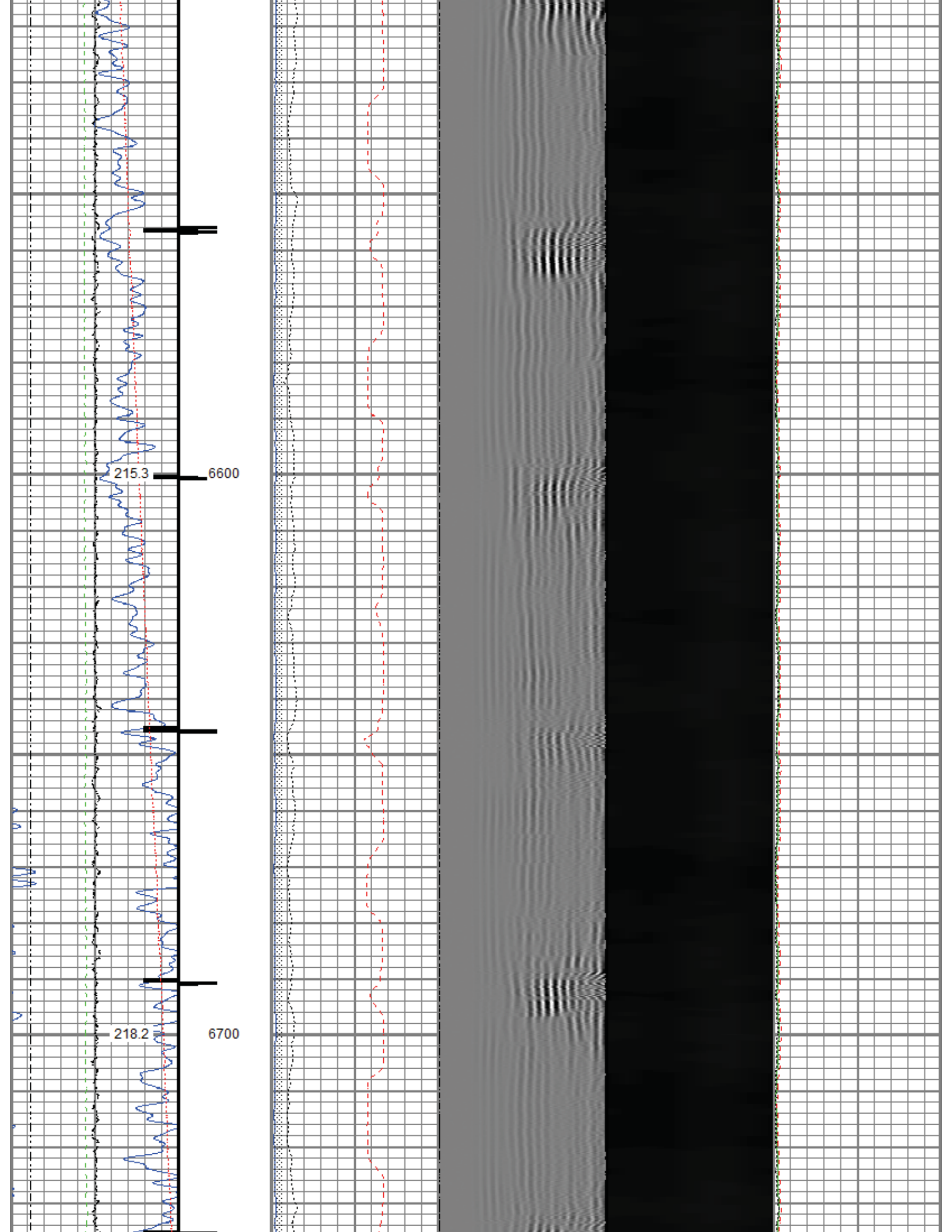

183.2
5500
186.3
5600

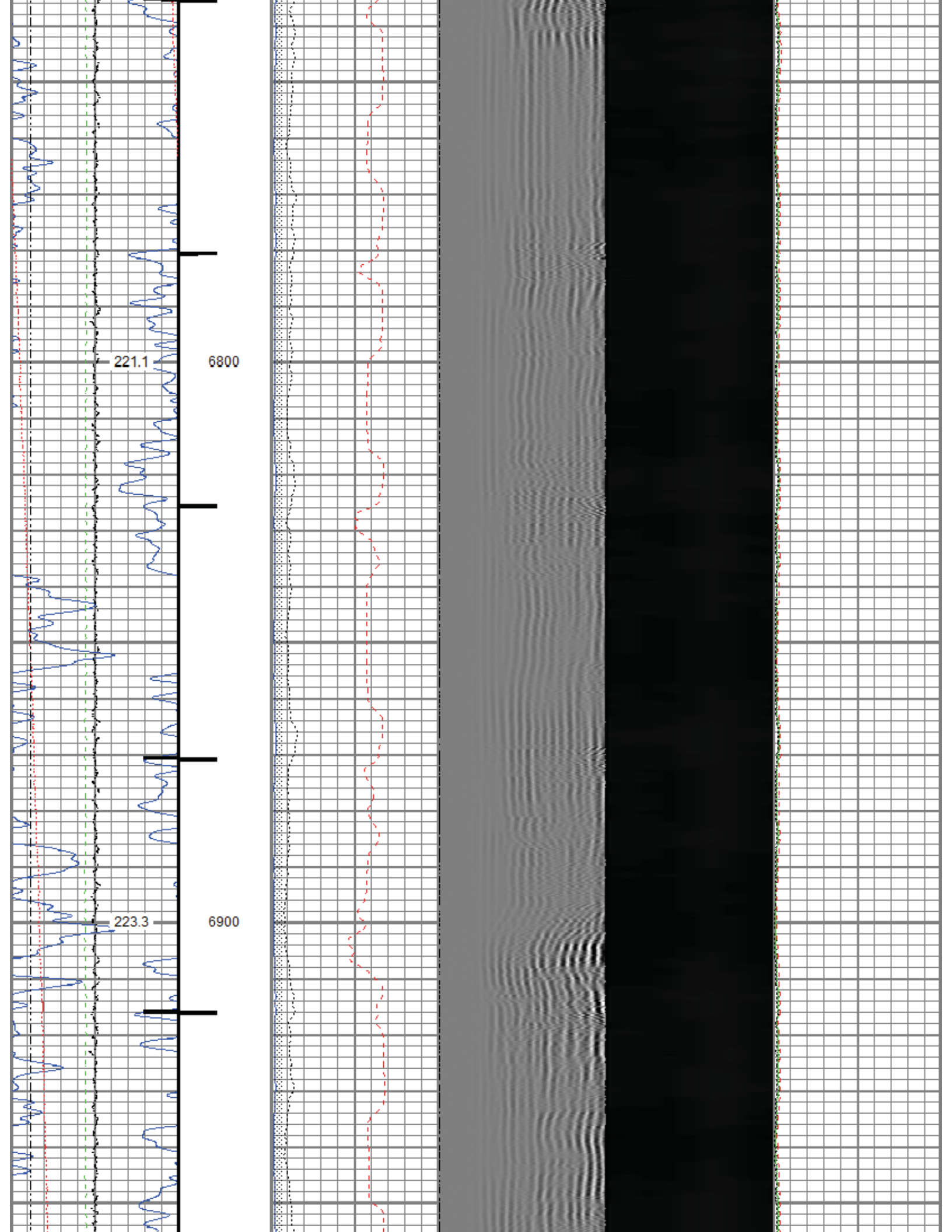

189.0
5700
192.2
5800

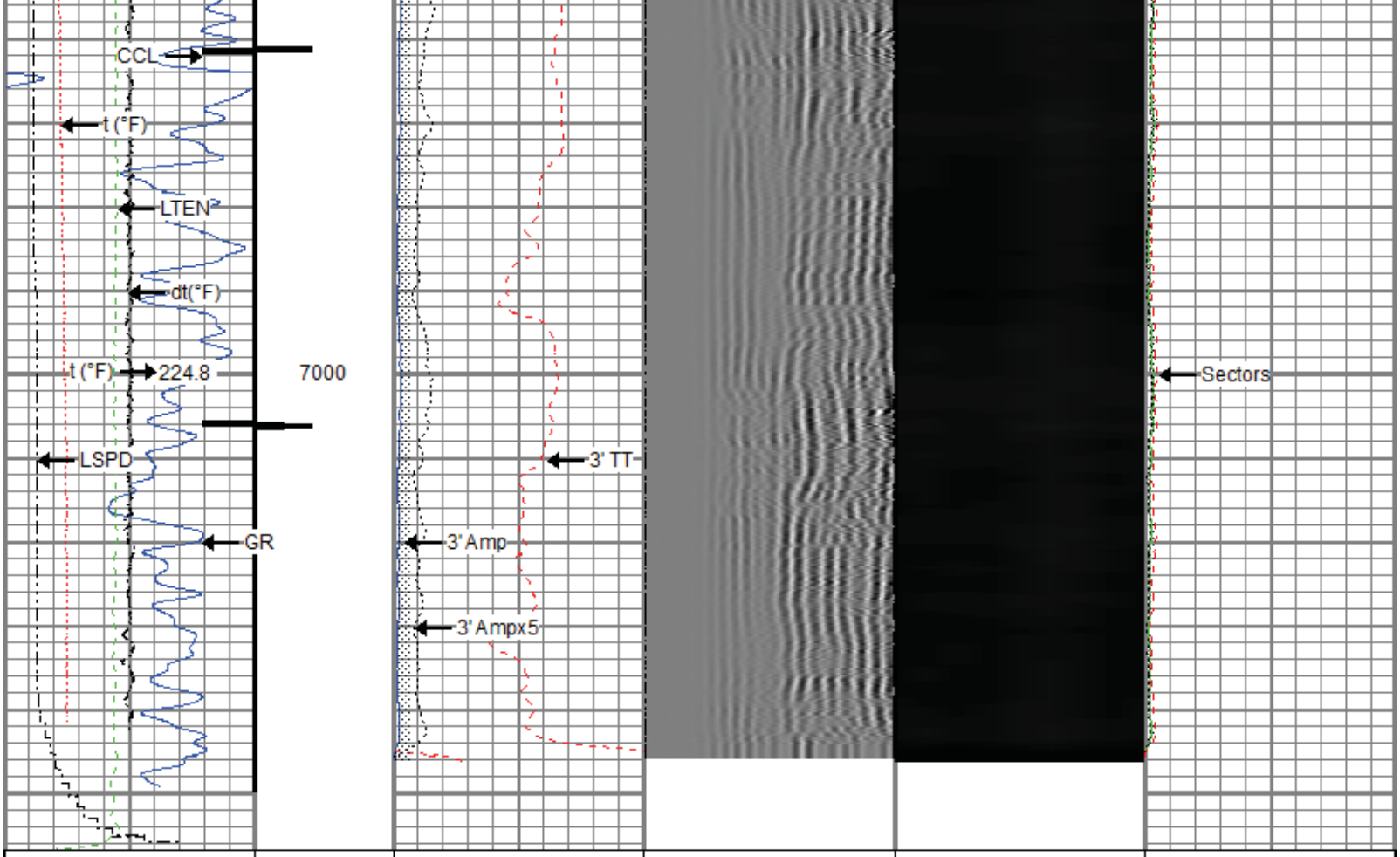

195.2
5900
198.6
6000


201.9
6100
204.8
6200


207.6
6300
210.1
6400
Marker Joint
212.7
6500


215.3
6600
218.2
6700


221.1
6800
223.3
6900

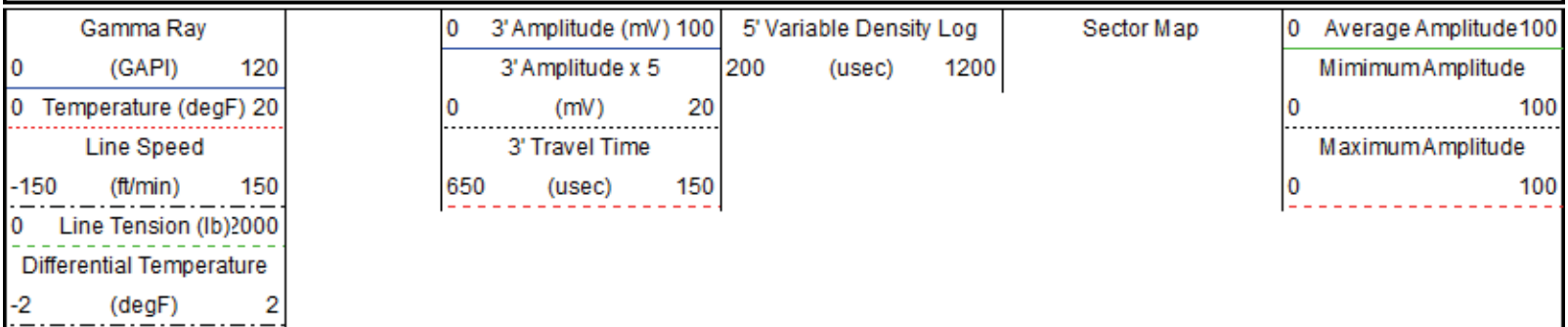


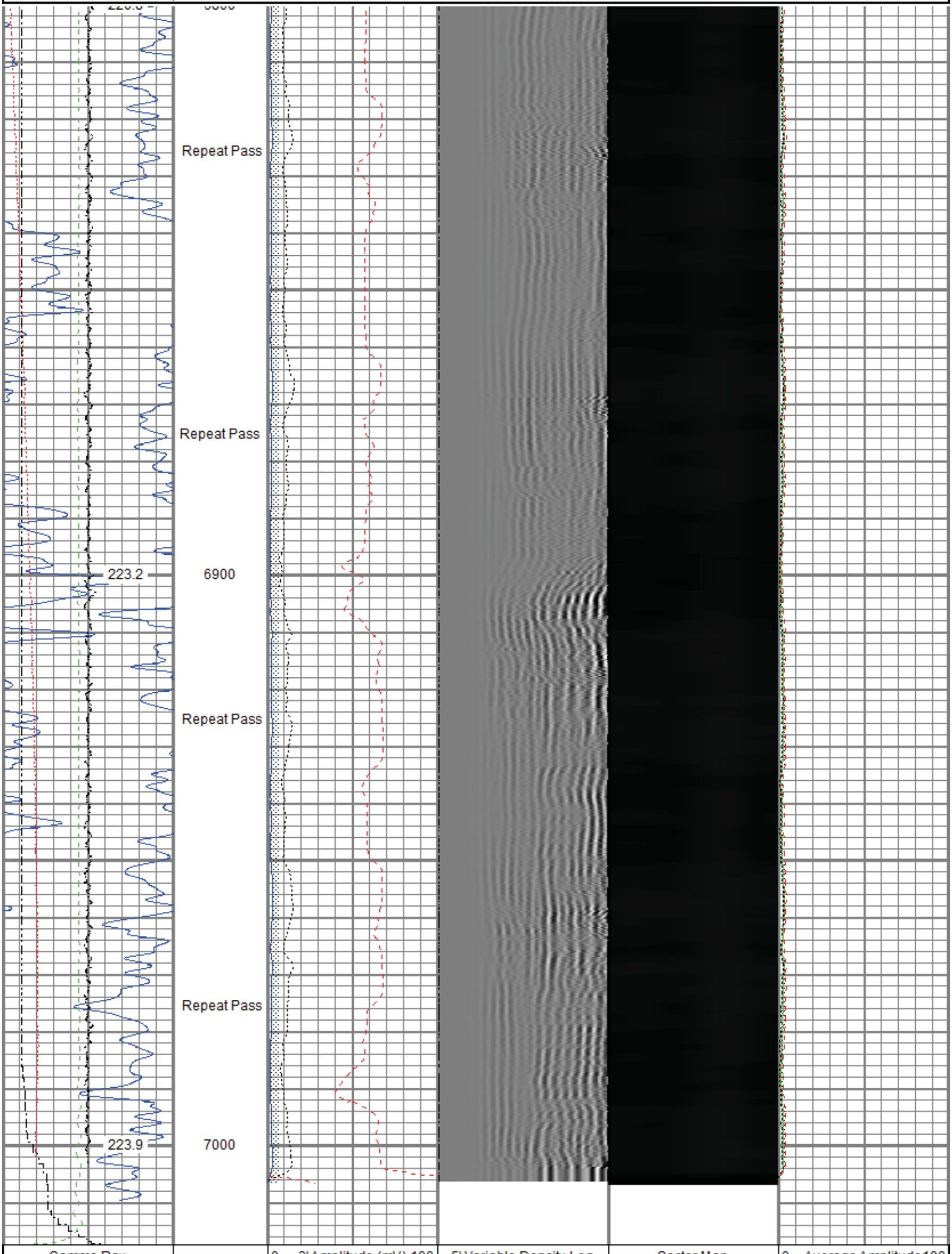
RELIANCE OILFIELD SERVICES

Repeat Pass

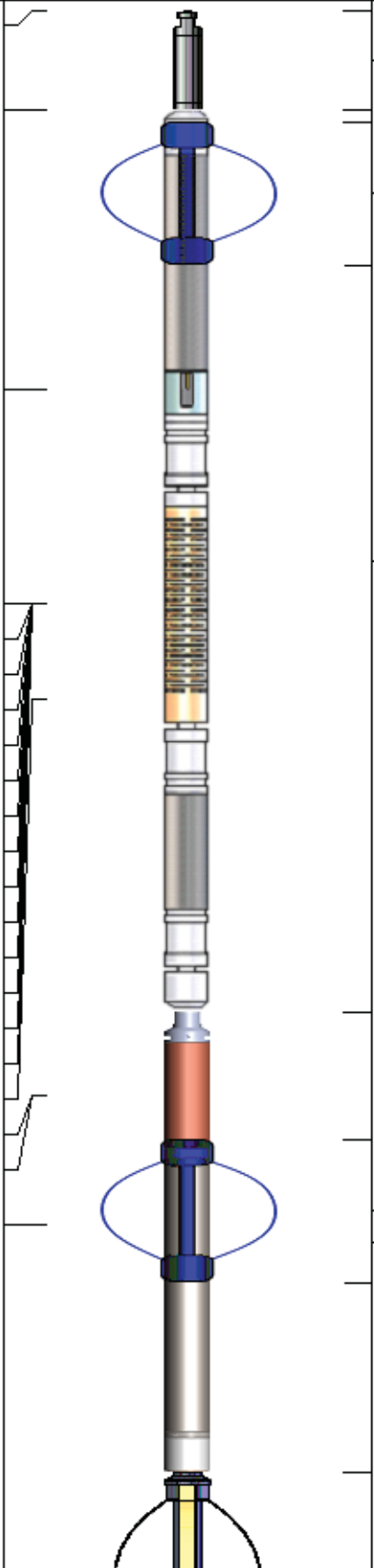
Recorded With 2500 PSI Surface Induced Pressure

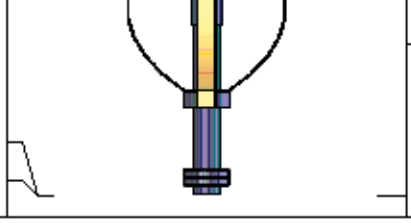
Database File	noble_guttersen yy06-775_rbl_09-01-20\noble_guttersen yy06-775_rbl_09-01-20.db
Dataset Pathname	pass4.1
Presentation Format	ros_radii_noble
Dataset Creation	Wed Sep 02 11:58:50 2020
Charted by	Depth in Feet scaled 1:240




Repeat Pass
Repeat Pass
223.2
6900
Repeat Pass
Repeat Pass
223.9
7000

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

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
ErrCt	18.10		Titan CHD-16875 GO Titan 1-11/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.69	5.40
RBT_HV	17.07		SO BS CENT-2750-5500 Slip Over 2-3/4" I.D. for 5-1/2" O.D. Casing Bow Spring Centralizer	1.50	3.25	11.00
TEMP	14.16		Probe Radii ACC-2750 RBTa (FW1302-002) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub and Accelerometer	9.39	2.75	105.00
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					
GR	5.46		SO BS CENT-2750-5500 Slip Over 2-3/4" I.D. for 5-1/2" O.D. Casing Bow Spring Centralizer	1.50	3.25	11.00
			Probe GR-CCL-2750 6PB (101001) 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	0.00					
UTCTIM	0.00					

Dataset: noble_guttersen yy06-775_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_guttersen yy06-775_rbl_09-01-20\noble_guttersen yy06-775_rbl_09-01-20.db
Dataset Pathname pass6.1
Dataset Creation Wed Sep 02 11:54:39 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'	0.010	0.663	0.800	71.921	108.888	-0.236
CAL	0.006	0.667				
5'	0.008	0.623	0.800	71.921	115.724	-0.172
SUM						
S1	0.006	0.633	0.000	100.000	159.486	-0.922
S2	0.008	0.674	0.000	100.000	149.983	-1.151
S3	0.008	0.705	0.000	100.000	143.558	-1.212
S4	0.009	0.699	0.000	100.000	144.873	-1.285
S5	0.008	0.700	0.000	100.000	144.620	-1.175
S6	0.009	0.678	0.000	100.000	149.445	-1.277
S7	0.007	0.667	0.000	100.000	151.573	-1.137
S8	0.008	0.649	0.000	100.000	156.013	-1.286

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.006	0.667	1.000	0.000

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

RELIANCE
OILFIELD SERVICES

Company	Noble Energy Inc
Well	Guttersen YY06-775
Field	Wattenberg
County	Weld
State	Colorado