



Radial Cement Bond
Gamma Ray
Casing Collar Log

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

Well Newby 28N-33HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-44567

SEC 33 TWP 3N RGE 68W

Permanent Datum Ground Level Elevation 4895'

Log Measured From Kelly Bushing 32 FT

Drilling Measured From Kelly Bushing

Other Services
MIT
JBGR

Elevation

K.B. 4927'
D.F. ---
G.L. 4895'

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Newby 28N-33HZ
Field Wattenberg
County Weld
State Colorado

Date	12-MAR-2018			
Run Number	Two			
Depth Driller	12842 FT			
Depth Logger	7595 FT			
Bottom Logged Interval	7579 FT			
Top Log Interval	Surface			
Open Hole Size	---			
Type Fluid	Water			
Density / Viscosity	8.34 lb/gal			
Max. Recorded Temp.	229°F			
Estimated Cement Top	See Log			
Time Well Ready	ROA			
Time Logger on Bottom	08:20			
Equipment Number	HD-363			
Location	Fort Lupton, CO			
Recorded By	Greg Lueck			
Witnessed By	John McCarthy			
Borehole Record				
Run Number	Bit	From	To	Size
				Weight
				From
				To
Tubing Record				
Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top
Surface Casing	9 5/8	36	J-55	Surface
Intermediate #1	7	---	HCP-110	Surface
Intermediate #2				
Inner	4 1/2	11.6	HCP-110	5942 FT
				12837 FT

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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 Liner Top at 5942 FT
Adjusted -3 FT to correlate with Liner Top
Gauge Ring/Junk Basket ran to 7650 FT with no debris
Log ran from as deep as possible in heel to Surface
Recorded with 2800 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations

Thank you for choosing Reliance Oilfield Services, LLC!!

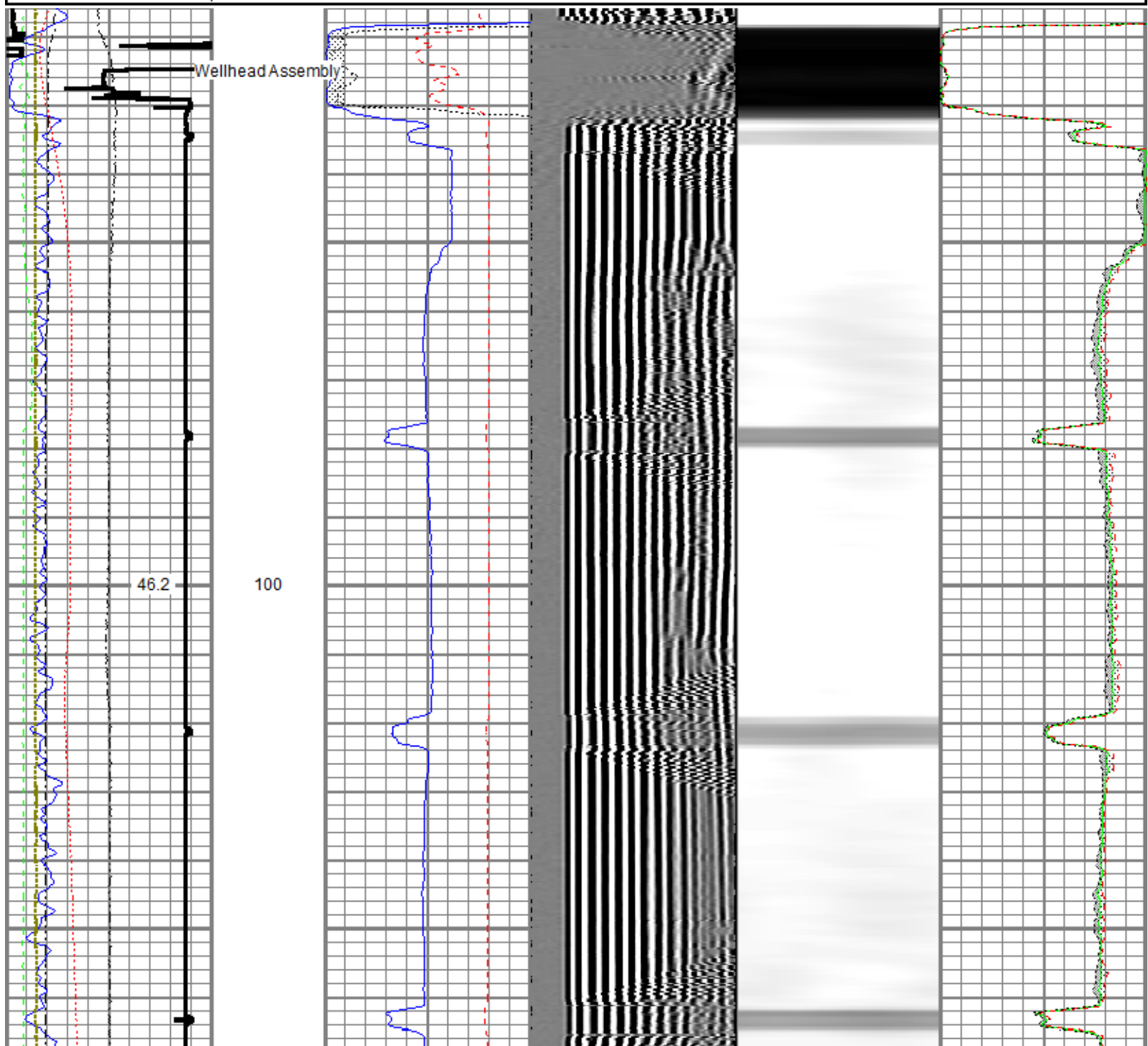
Main Pass

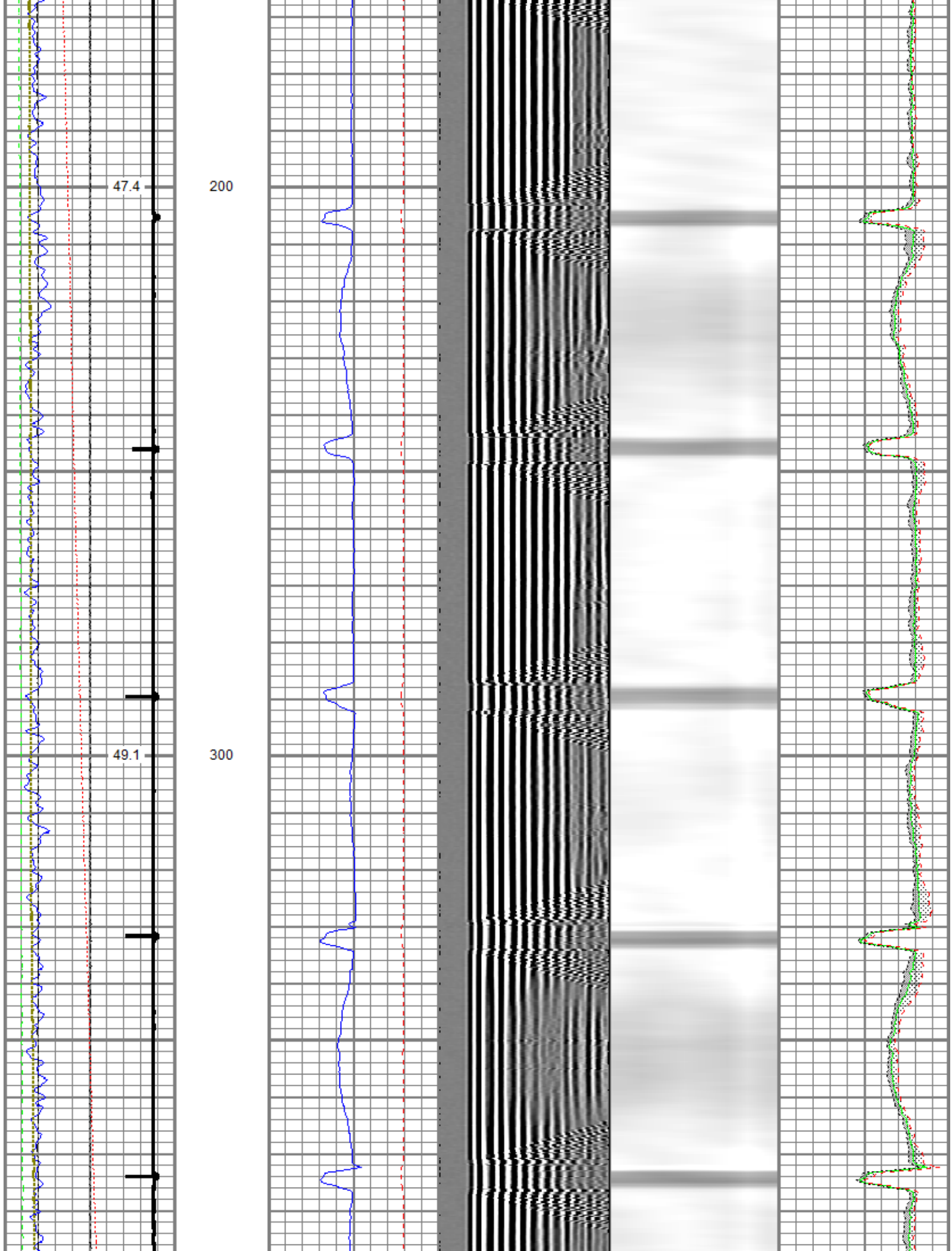


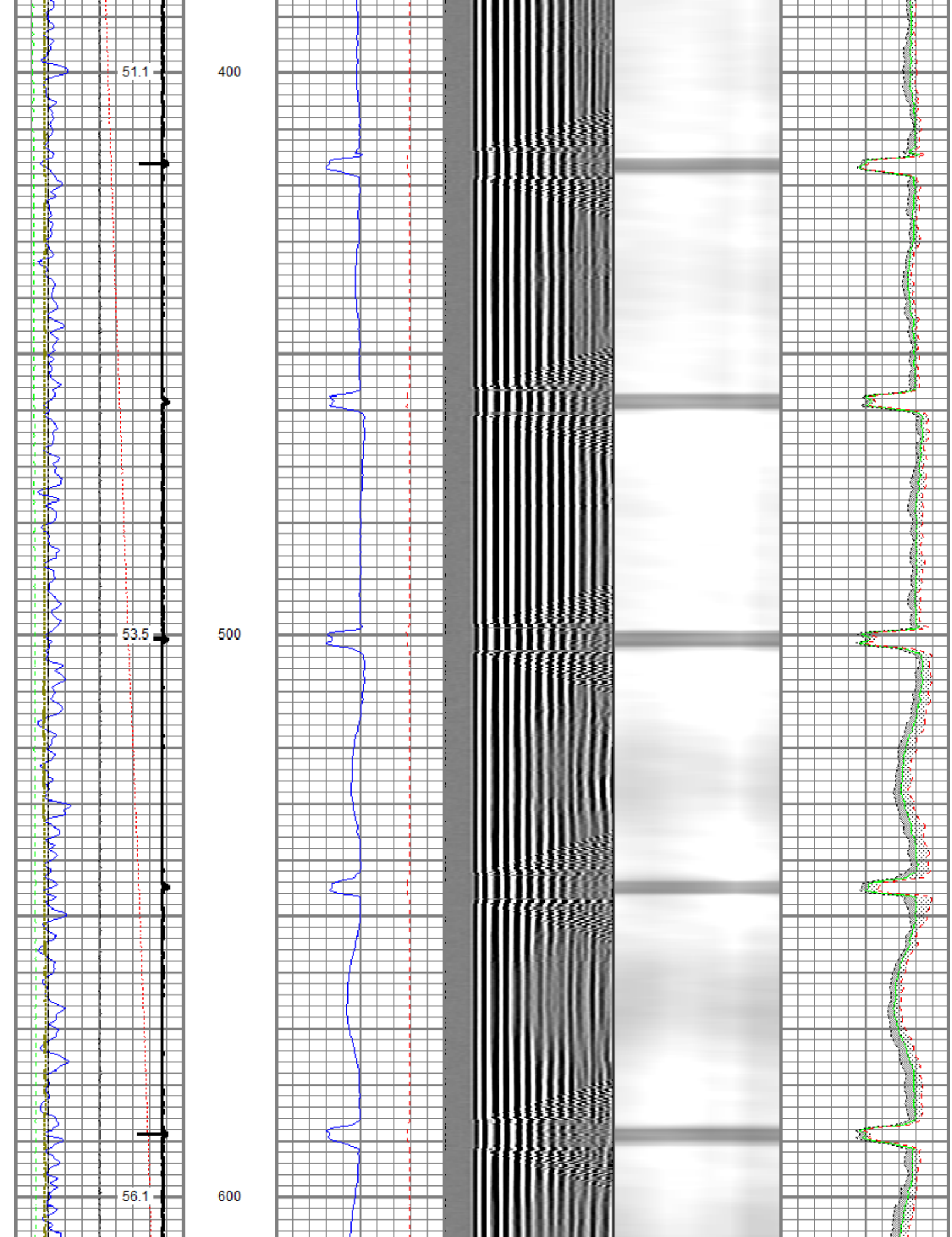
Recorded With 2800 PSI Surface Induced Pressure

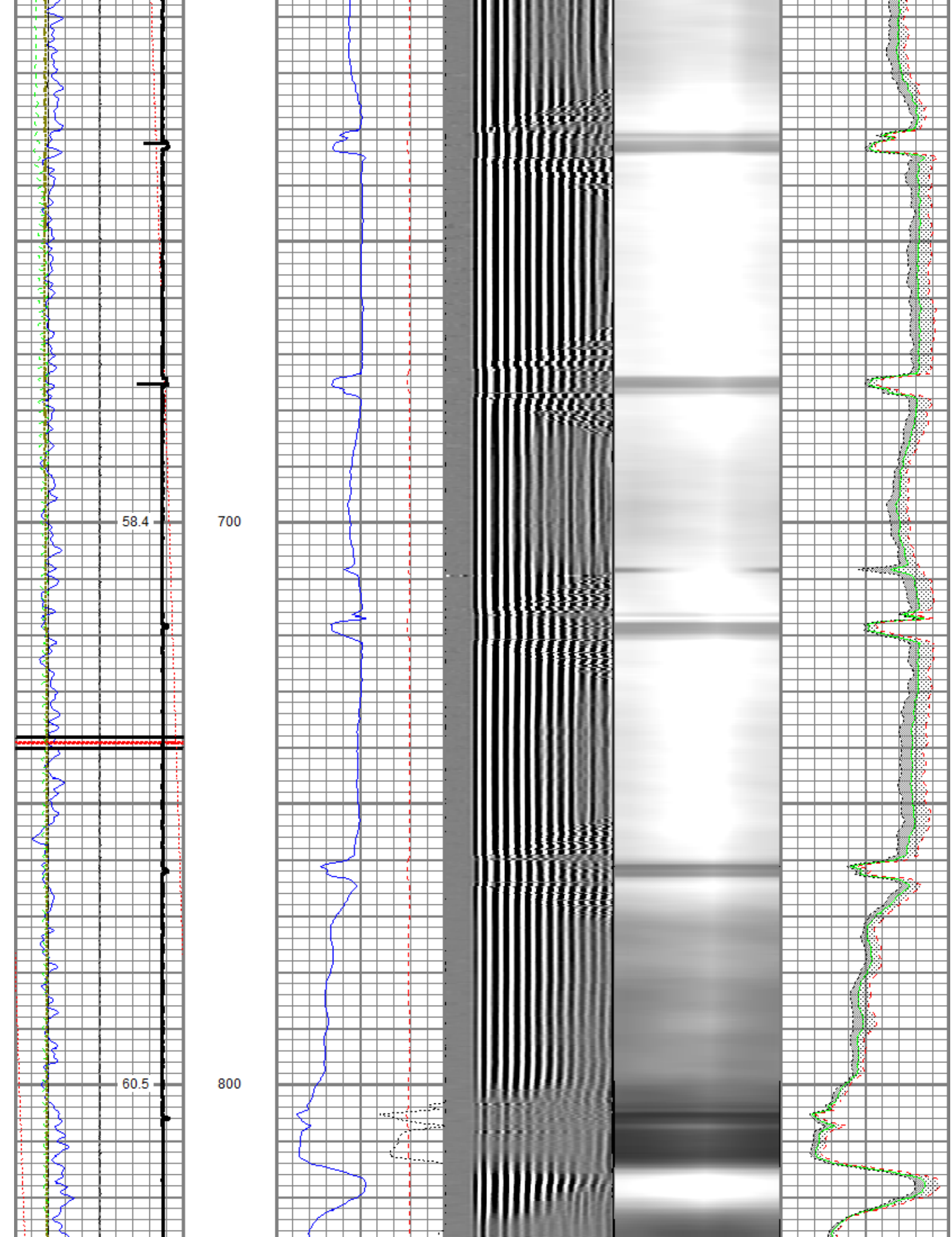
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Dataset Pathname	log/pass7.1
Presentation Format	ros_rbt_mit_sx
Dataset Creation	Tue Mar 13 13:57:21 2018
Charted by	Depth in Feet scaled 1:240

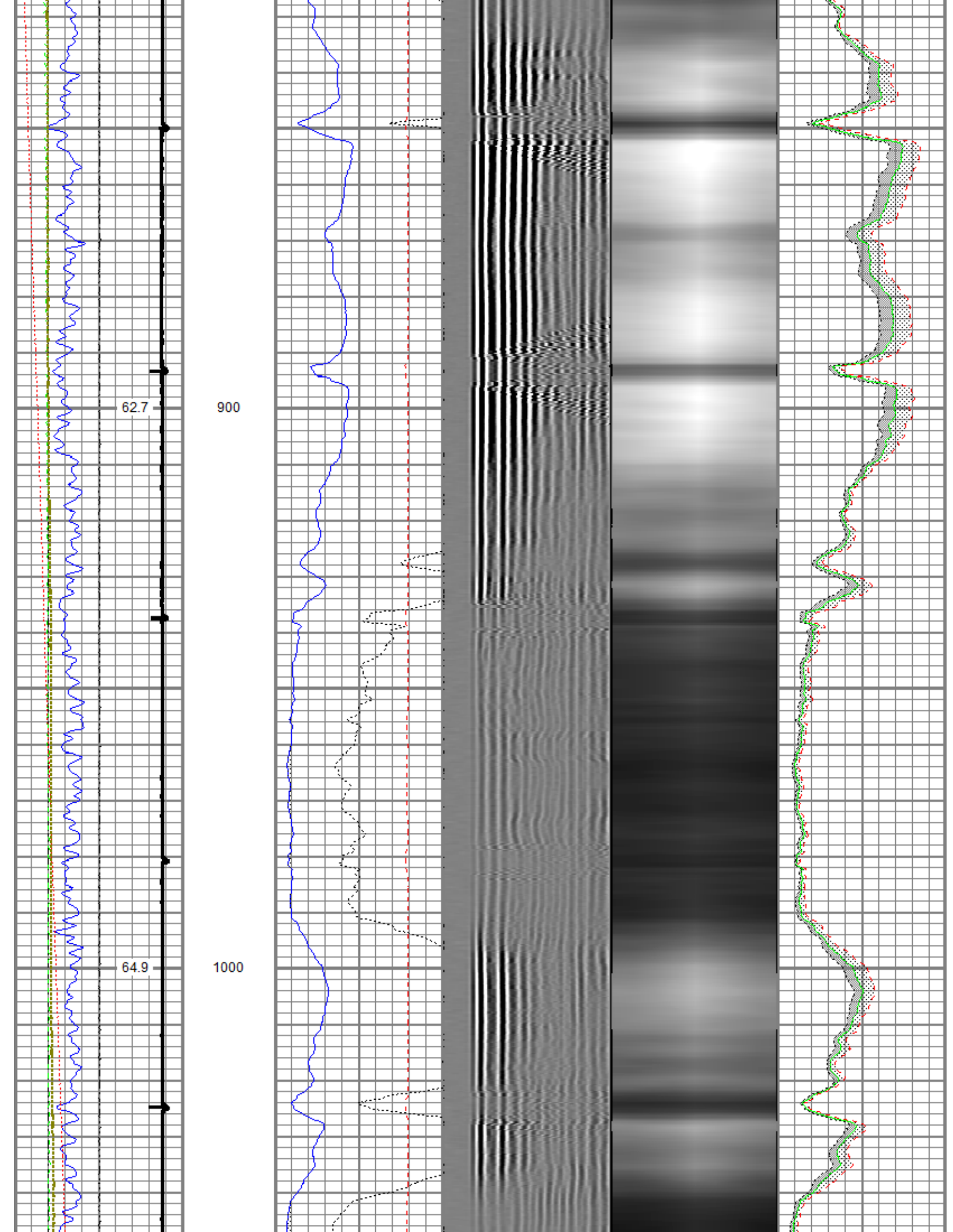
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Line Speed	0	(mV) 20			0	100
(ft/min) 100		3' Travel Time				Maximum Amplitude
Line Tension (lb) 2000	0	650 (usec) 150			0	100
Differential Temperature						
(degF) 2						
Temperature (degF) 20						
Casing Collar Locator						
Deviation (deg) 90						

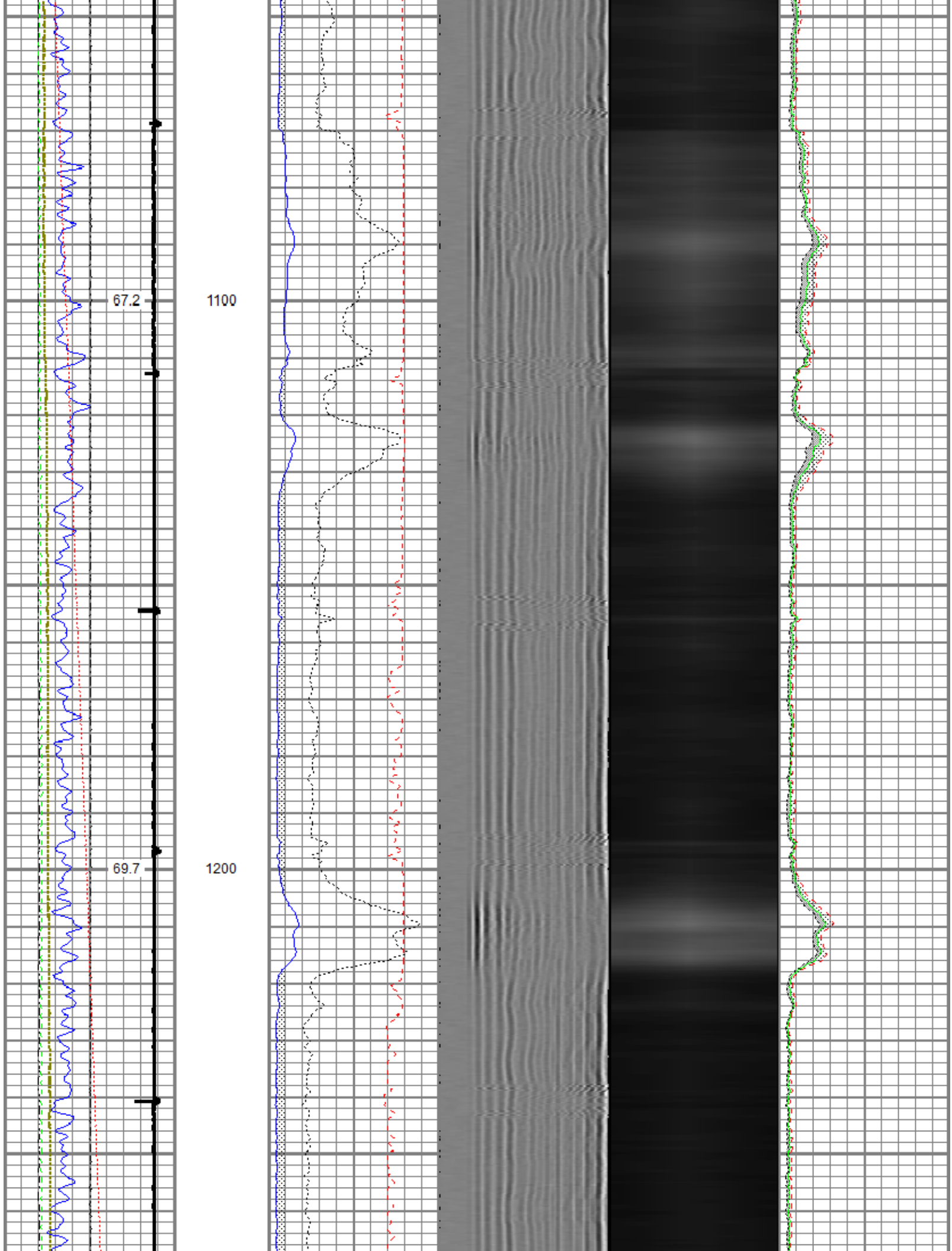


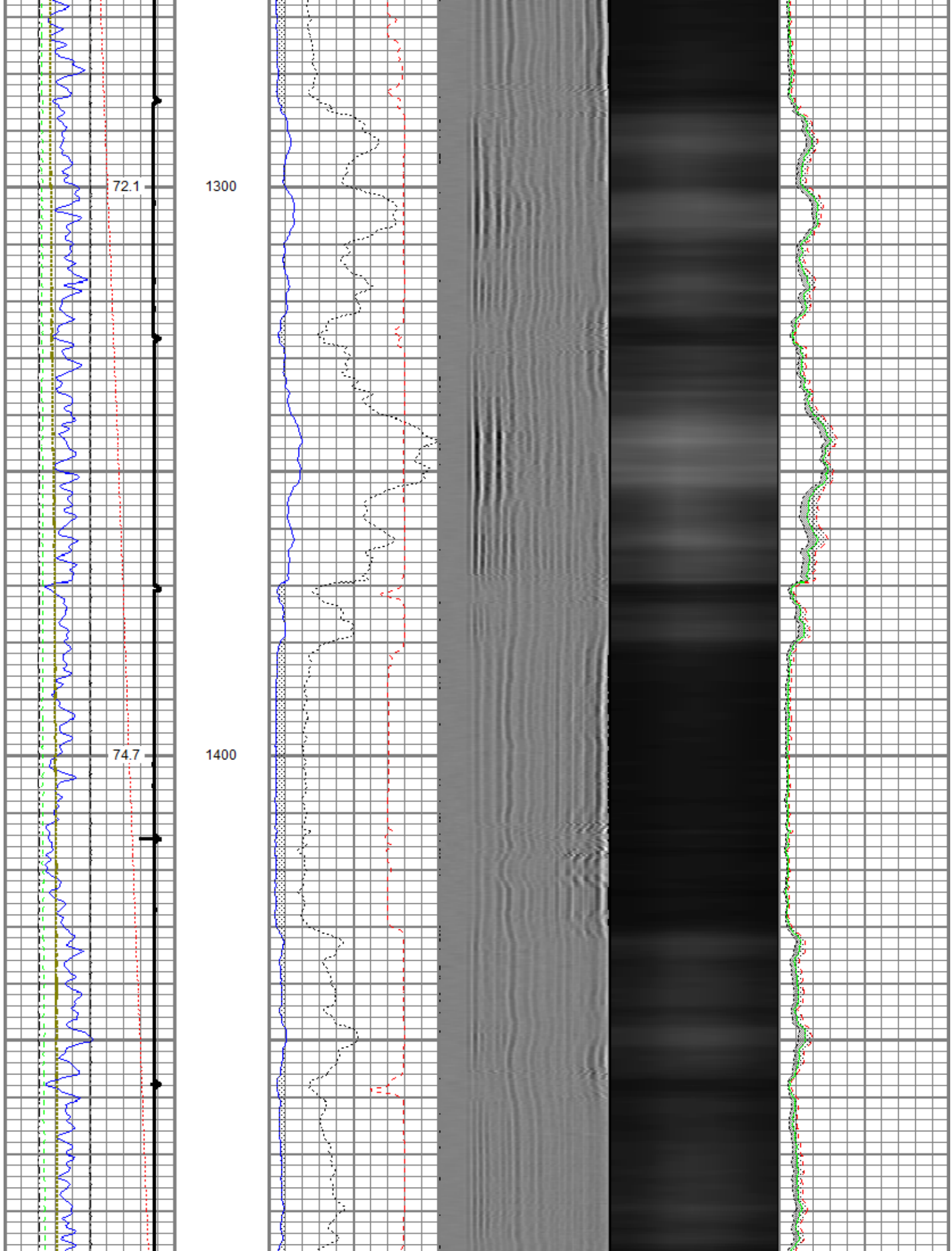


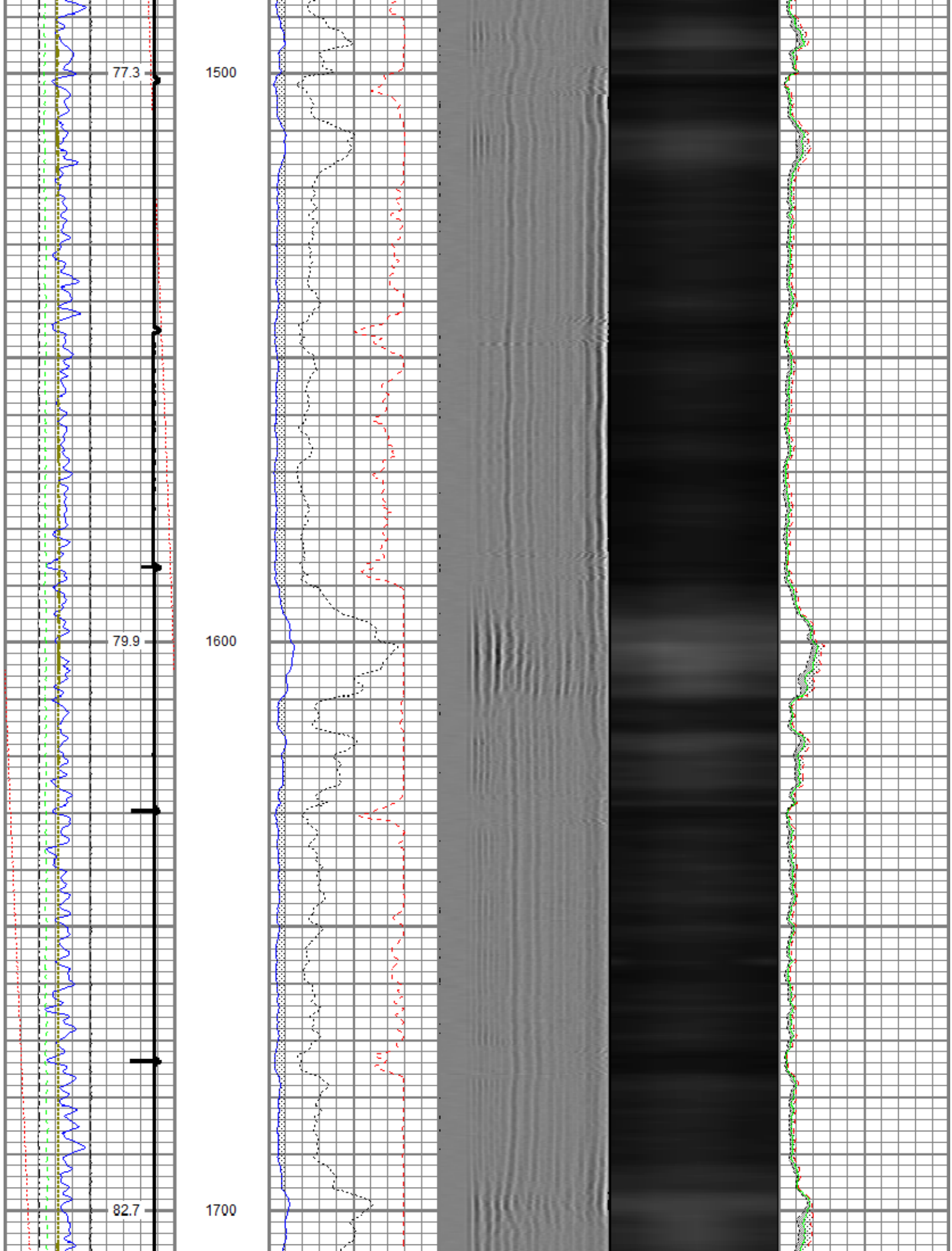


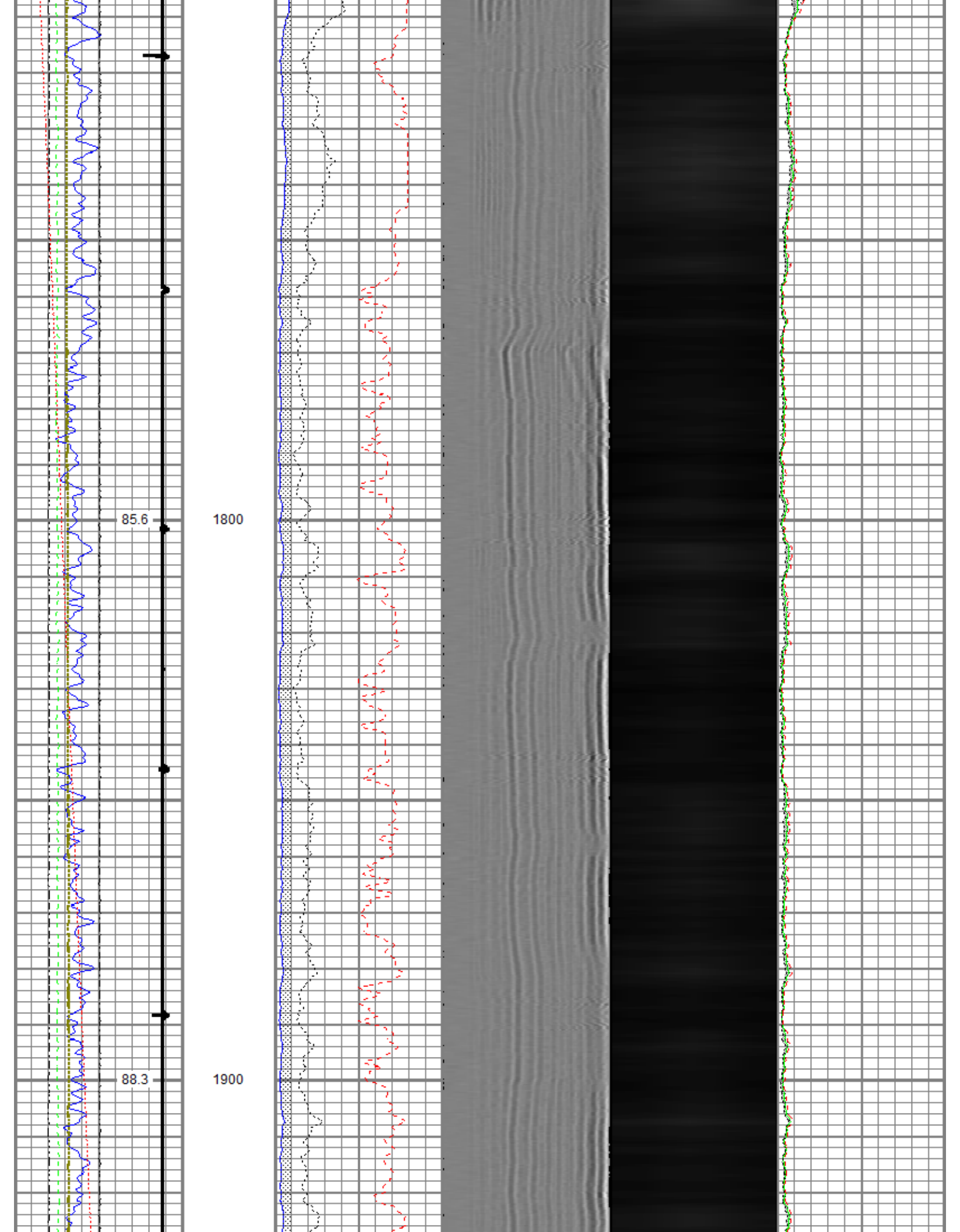


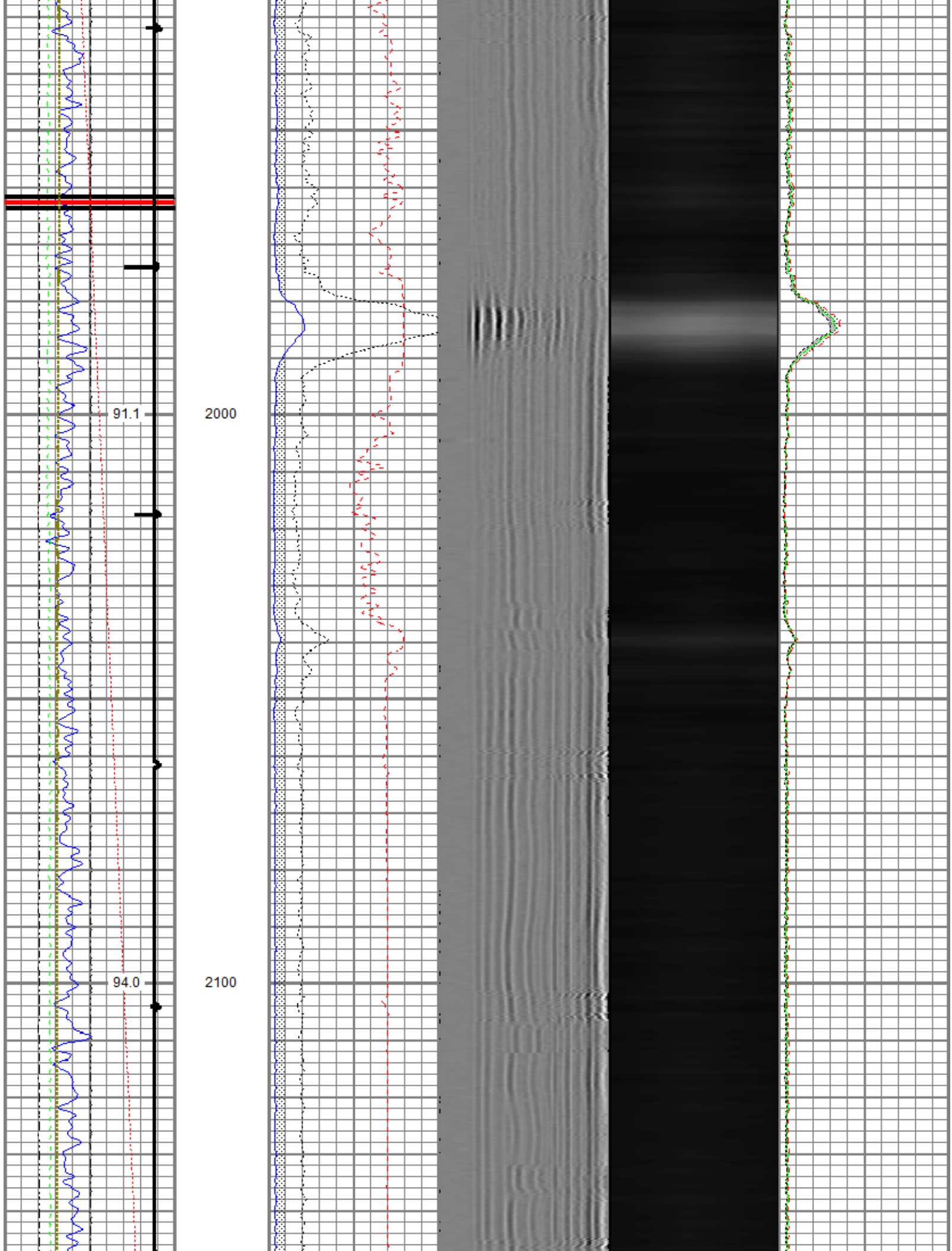


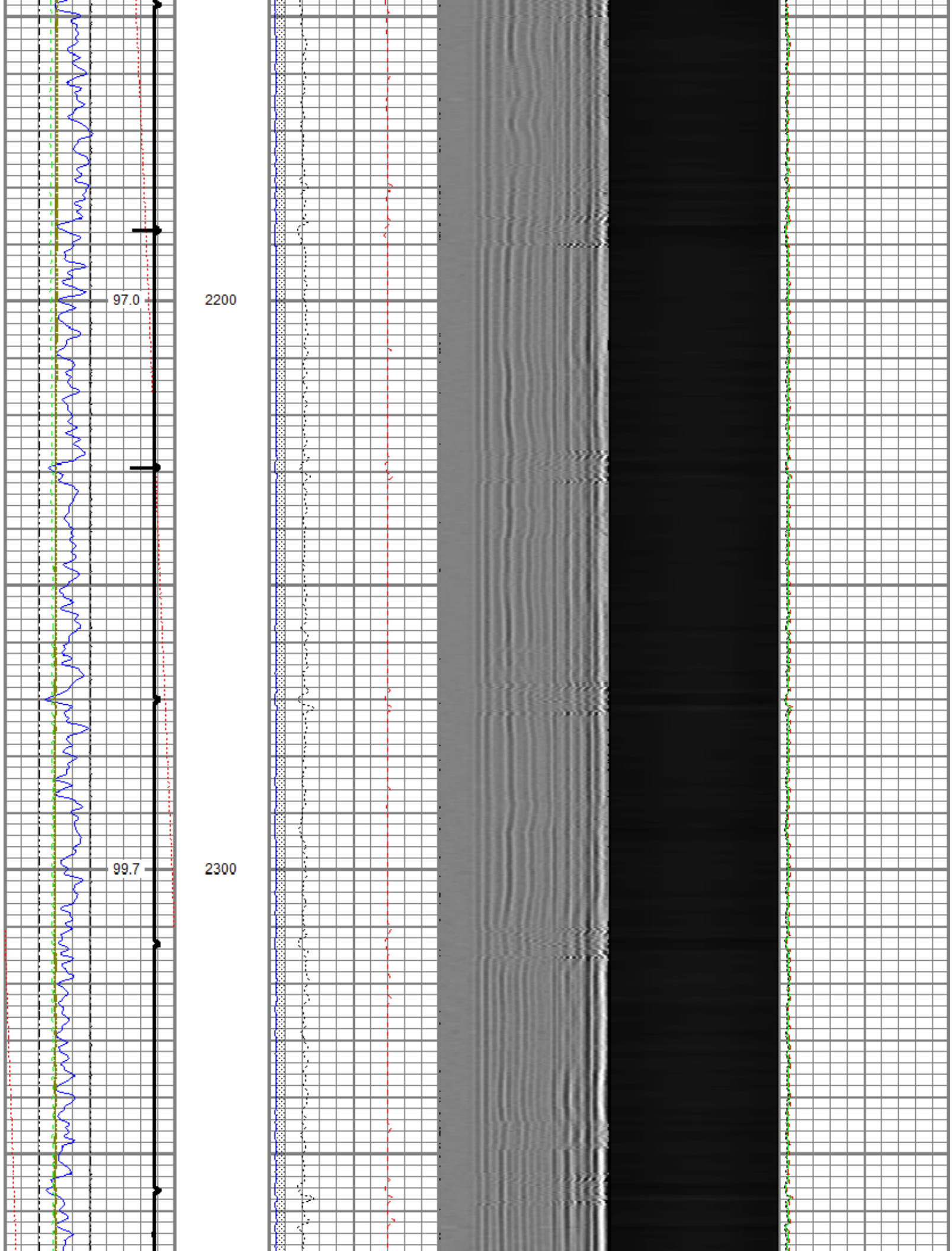


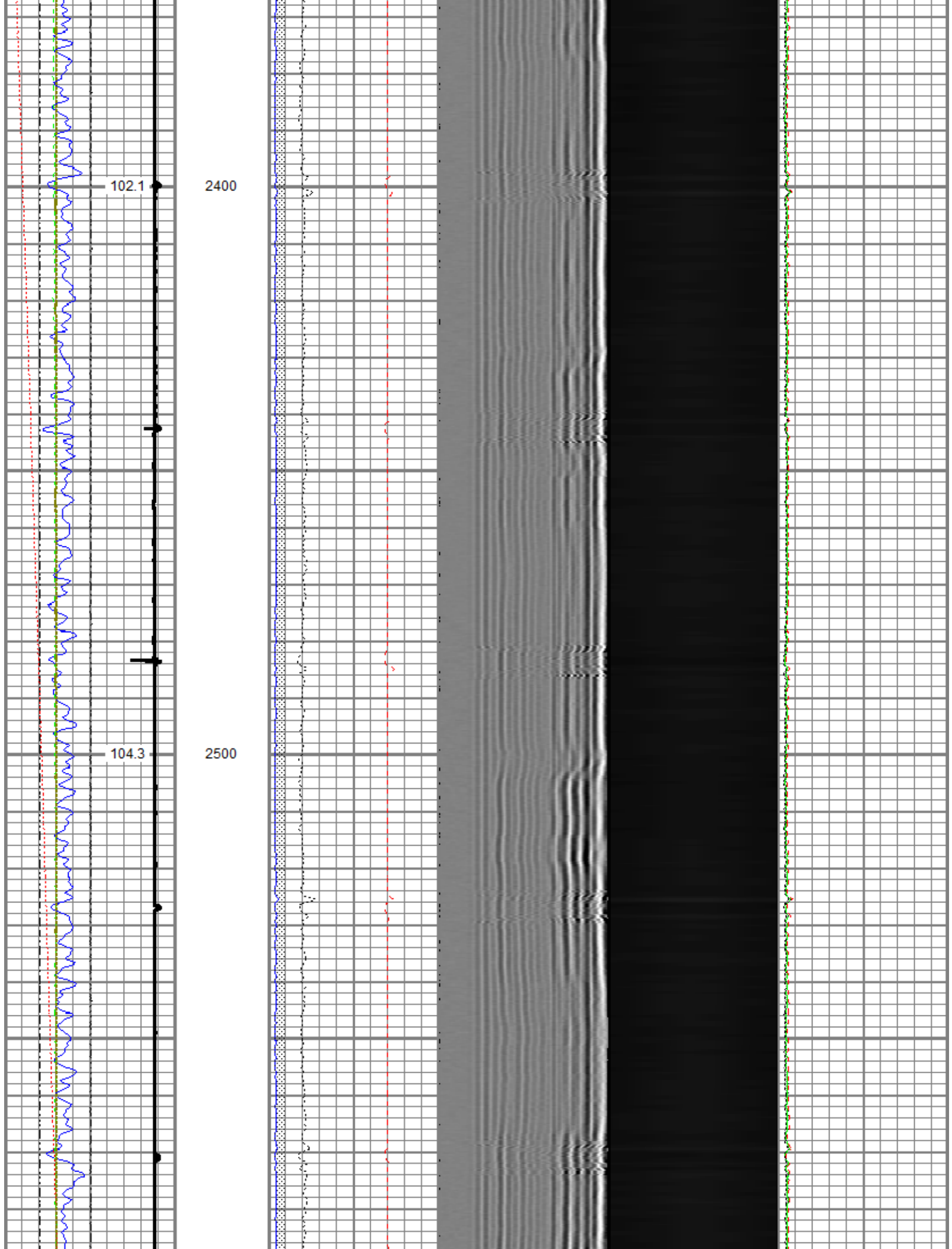


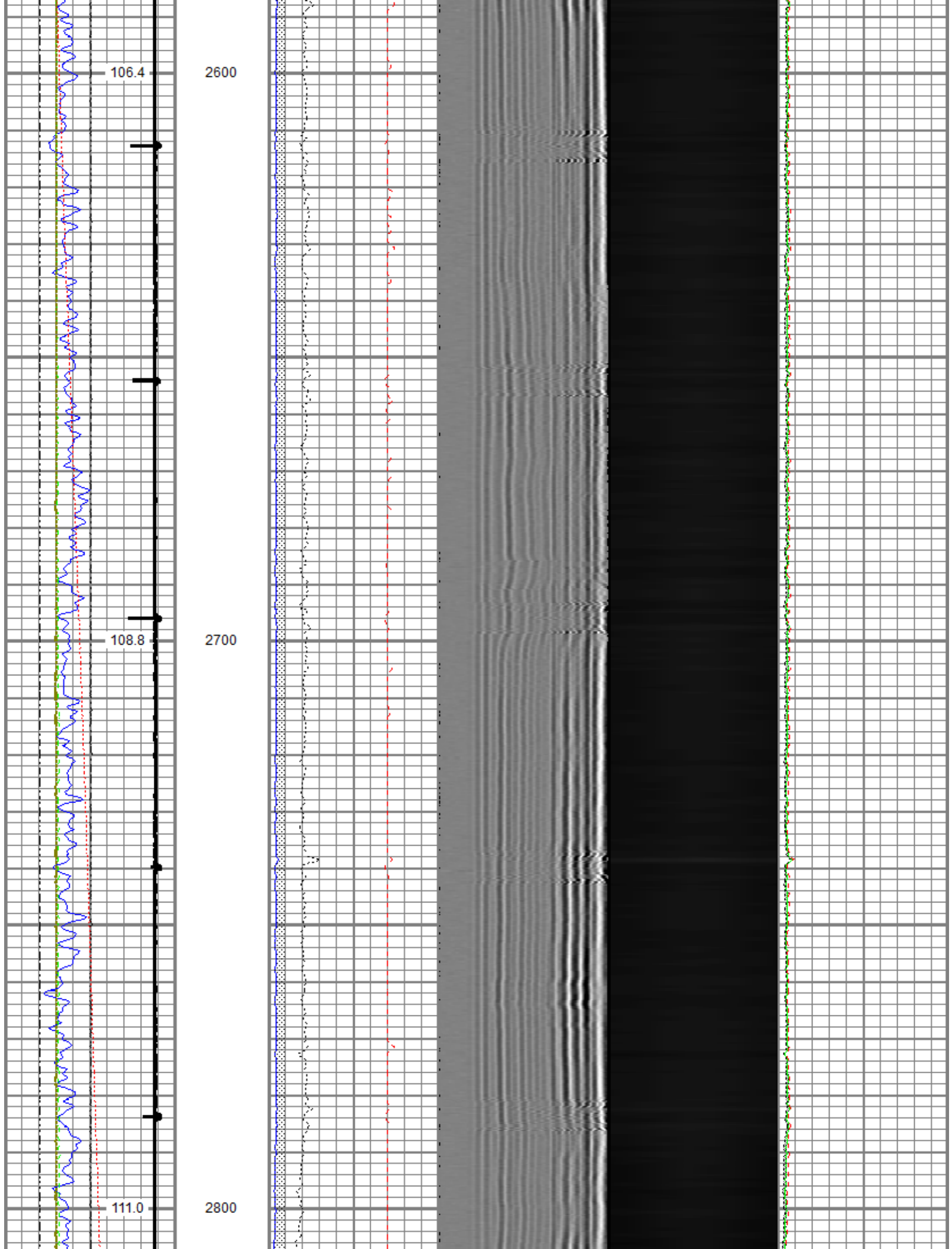


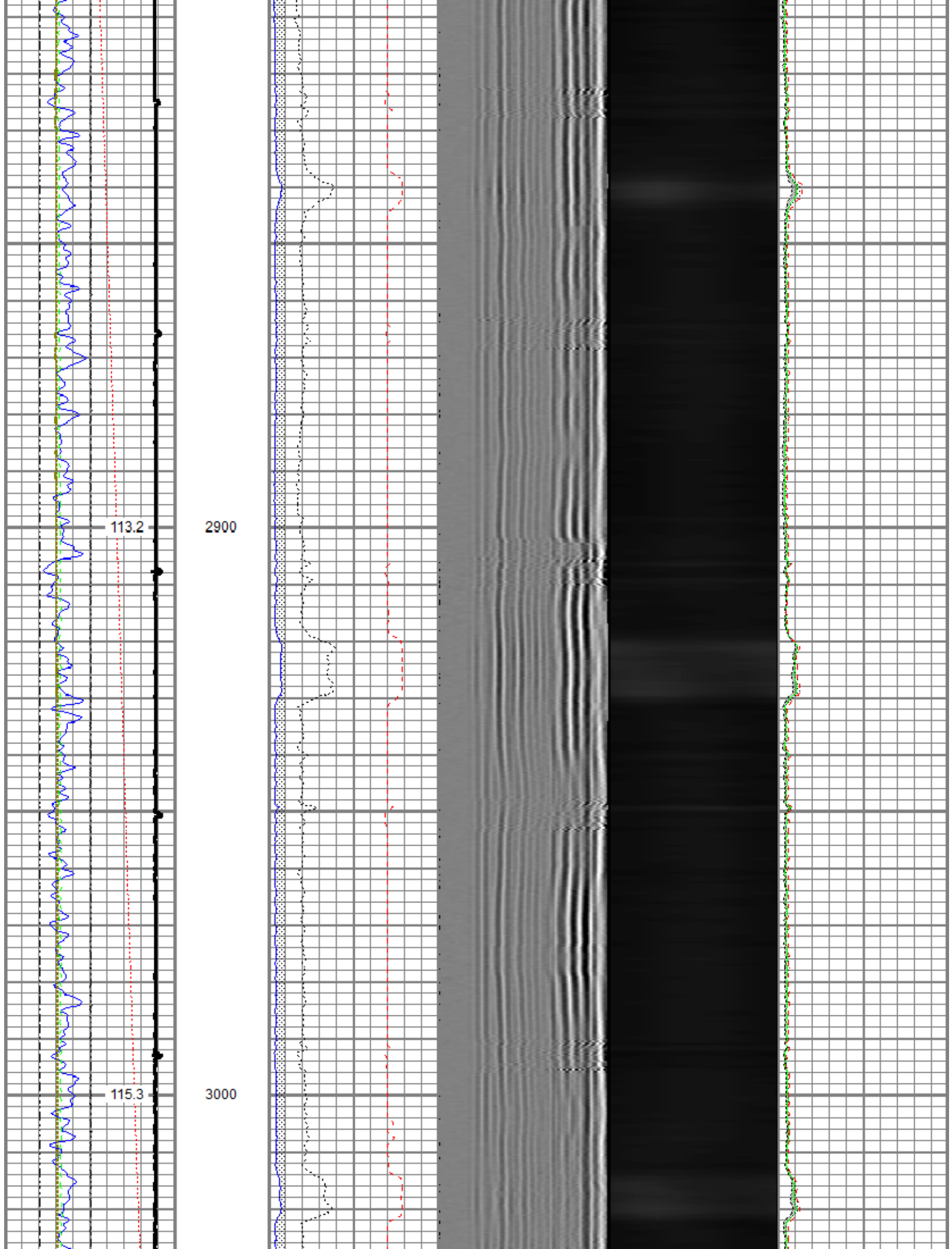


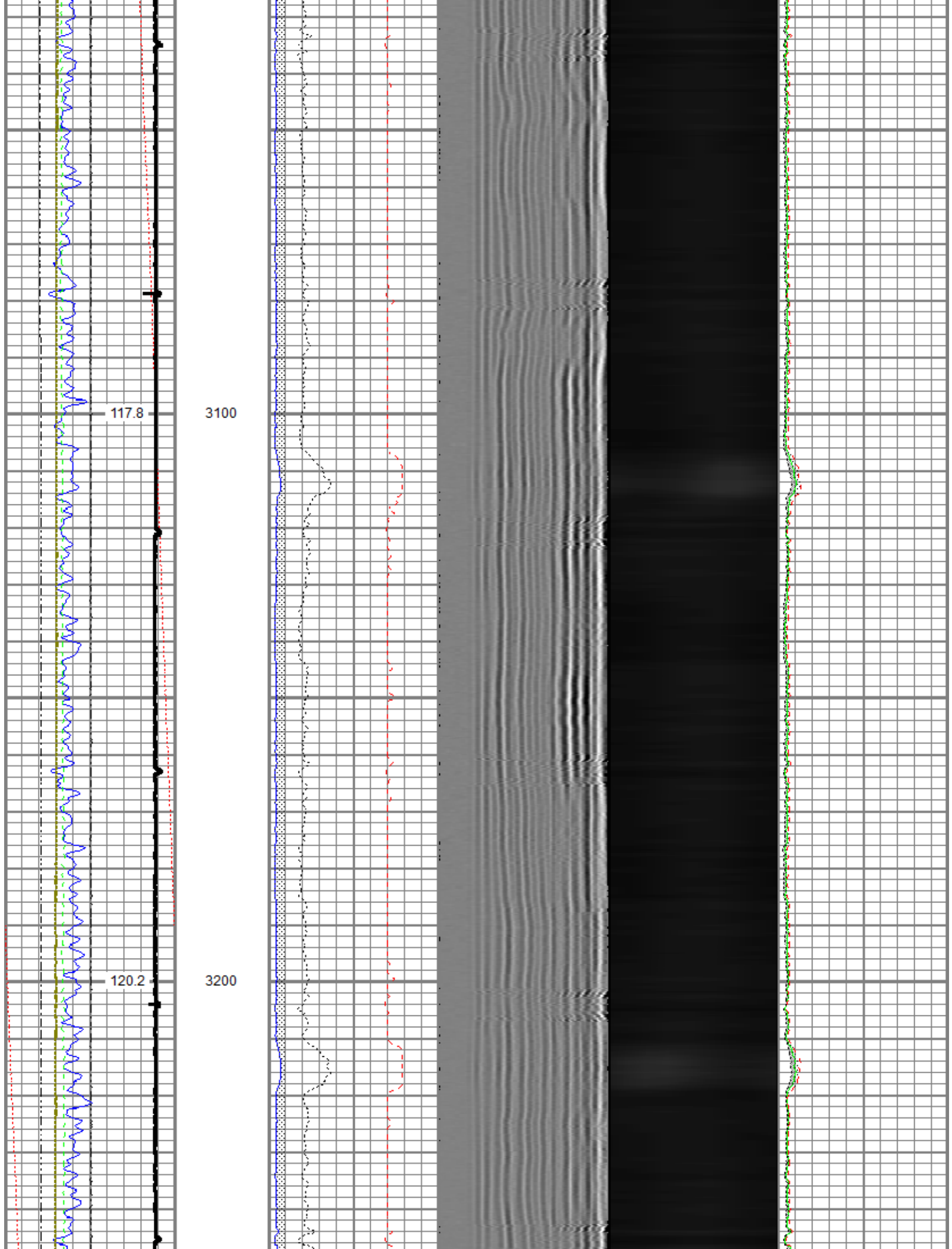


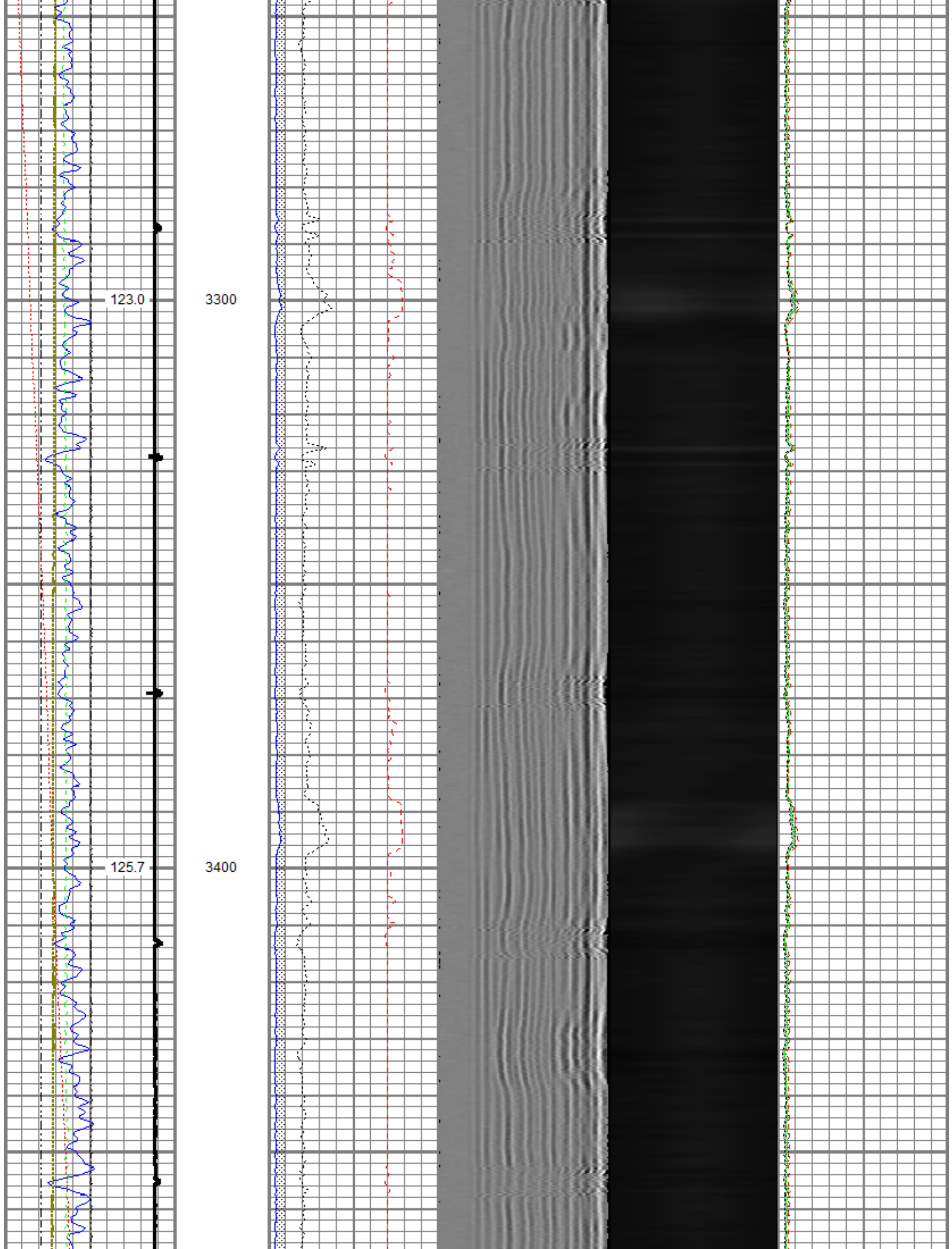


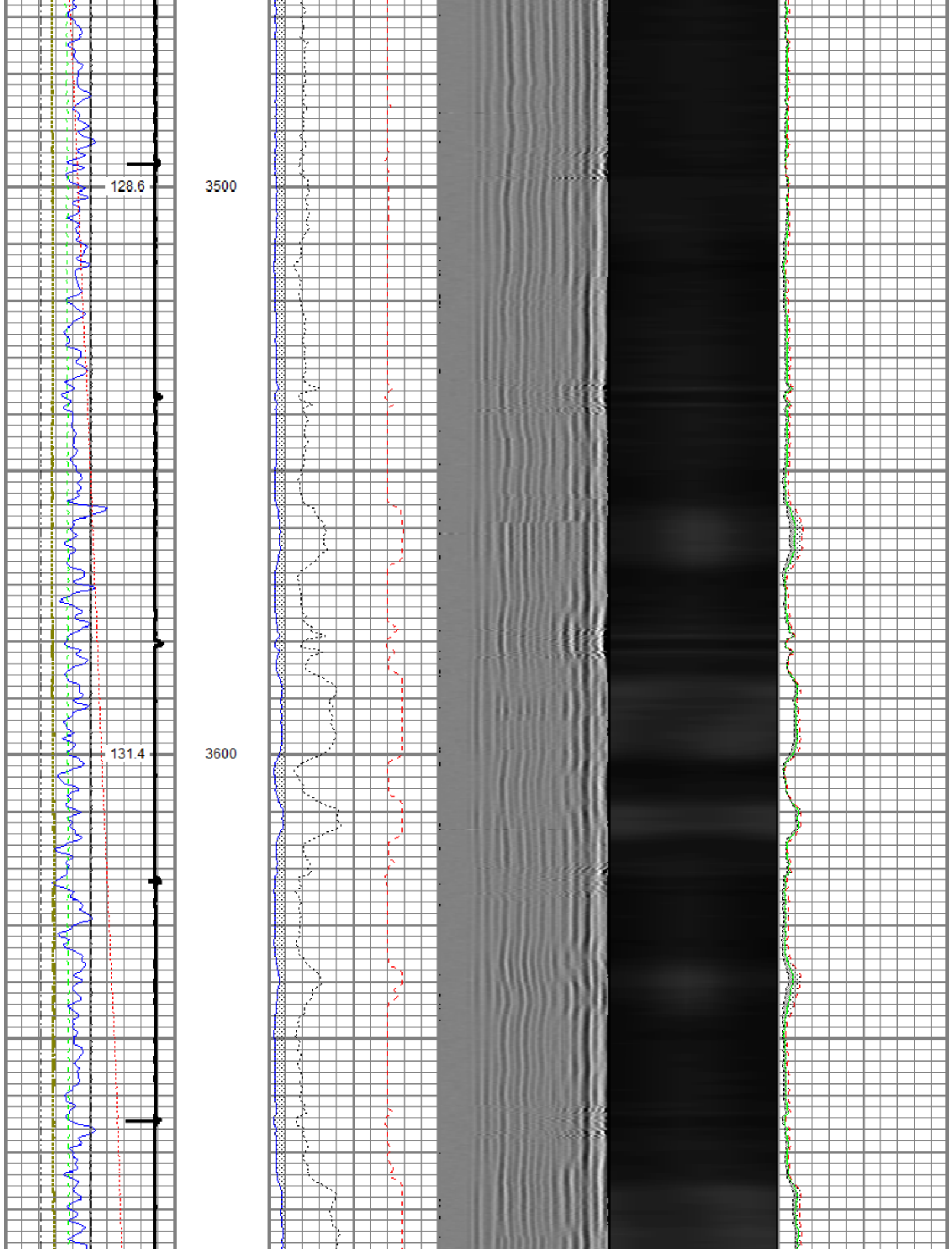


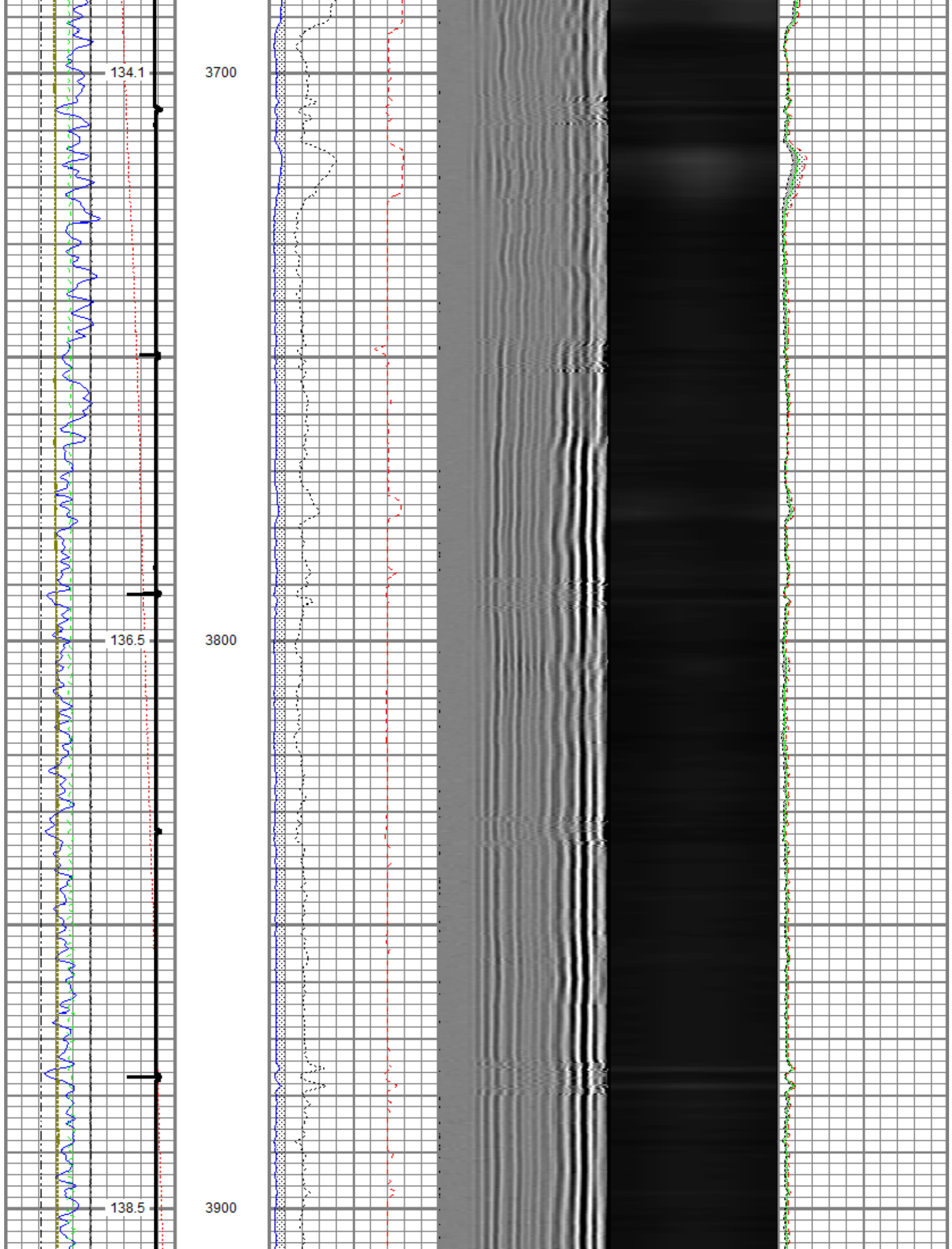


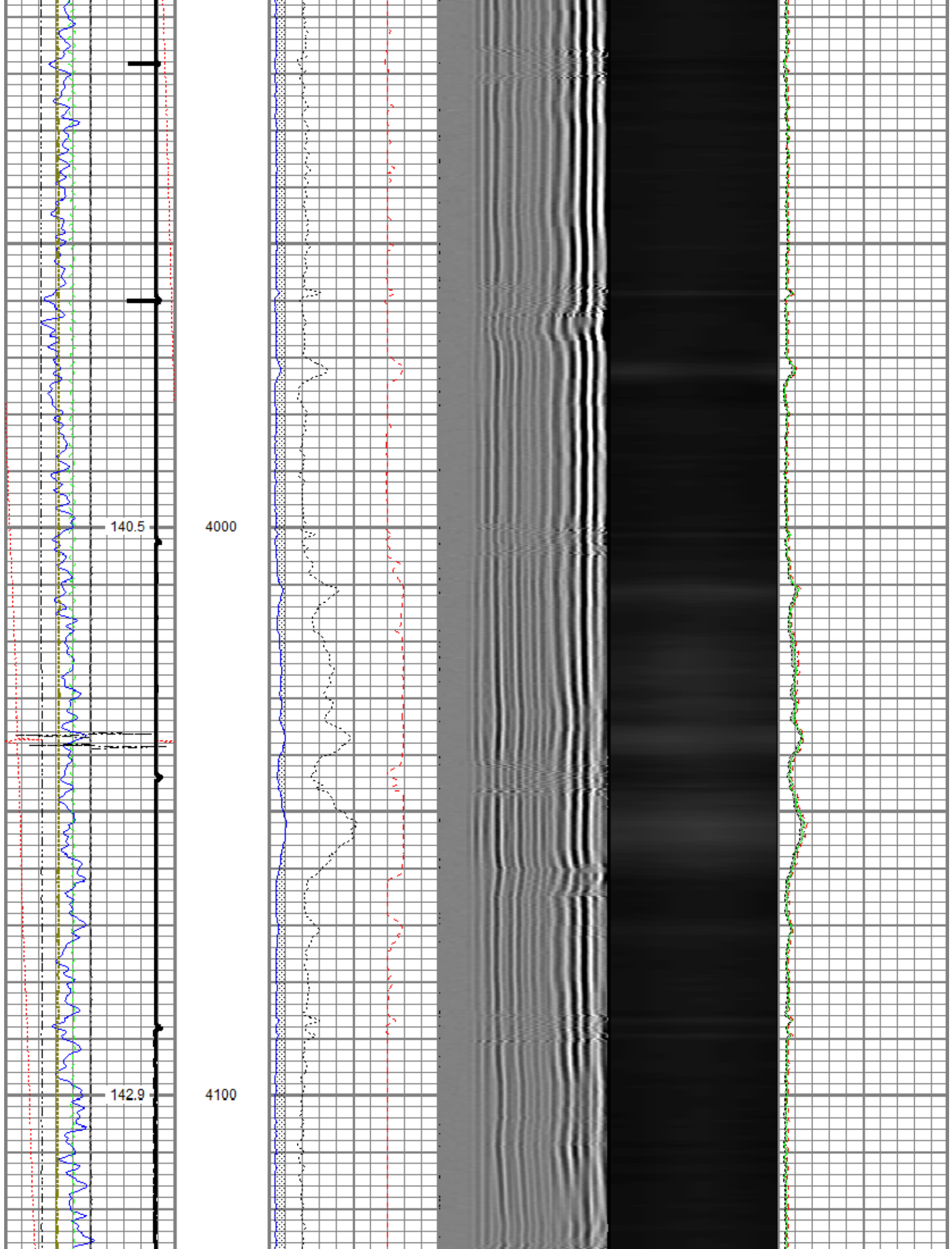


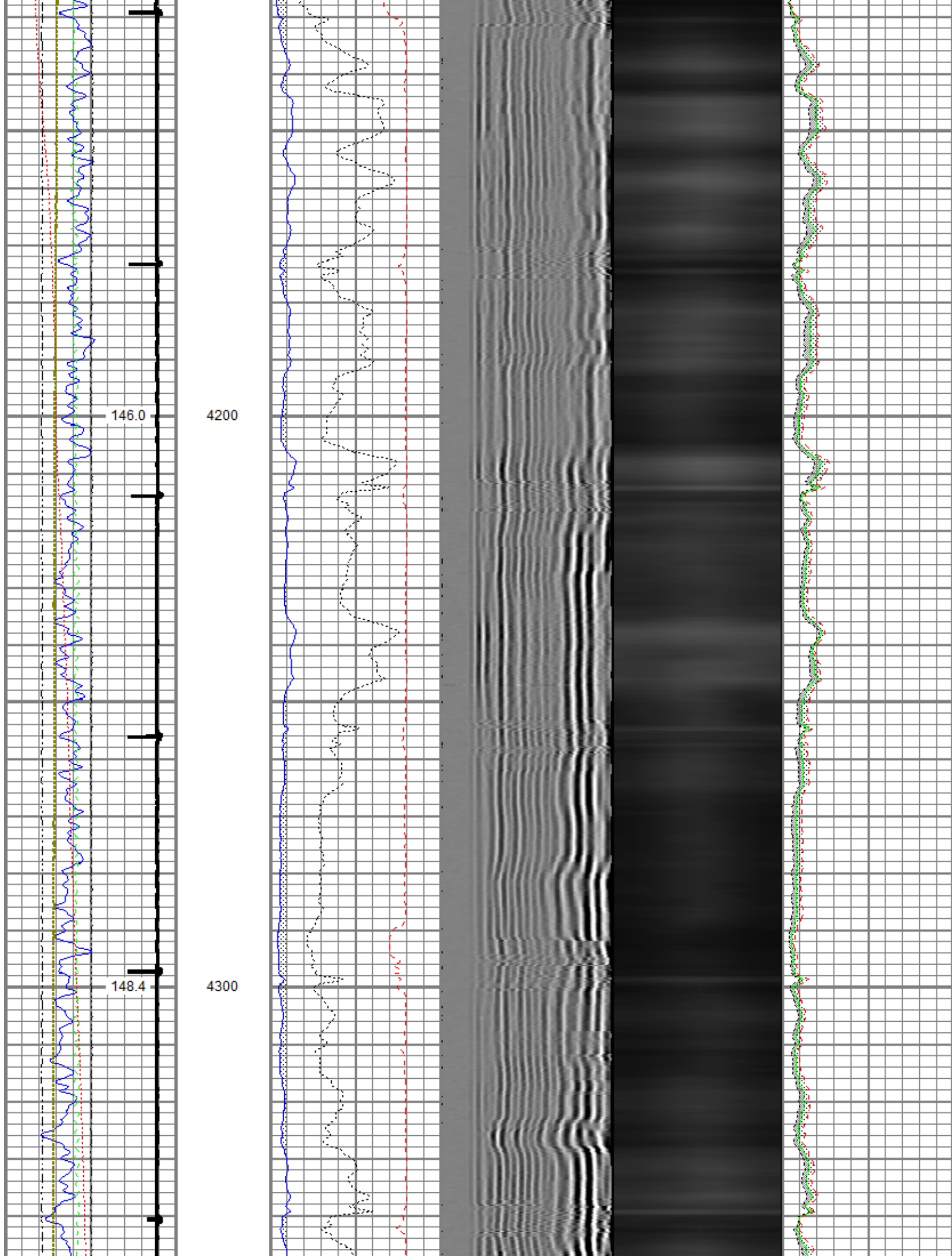


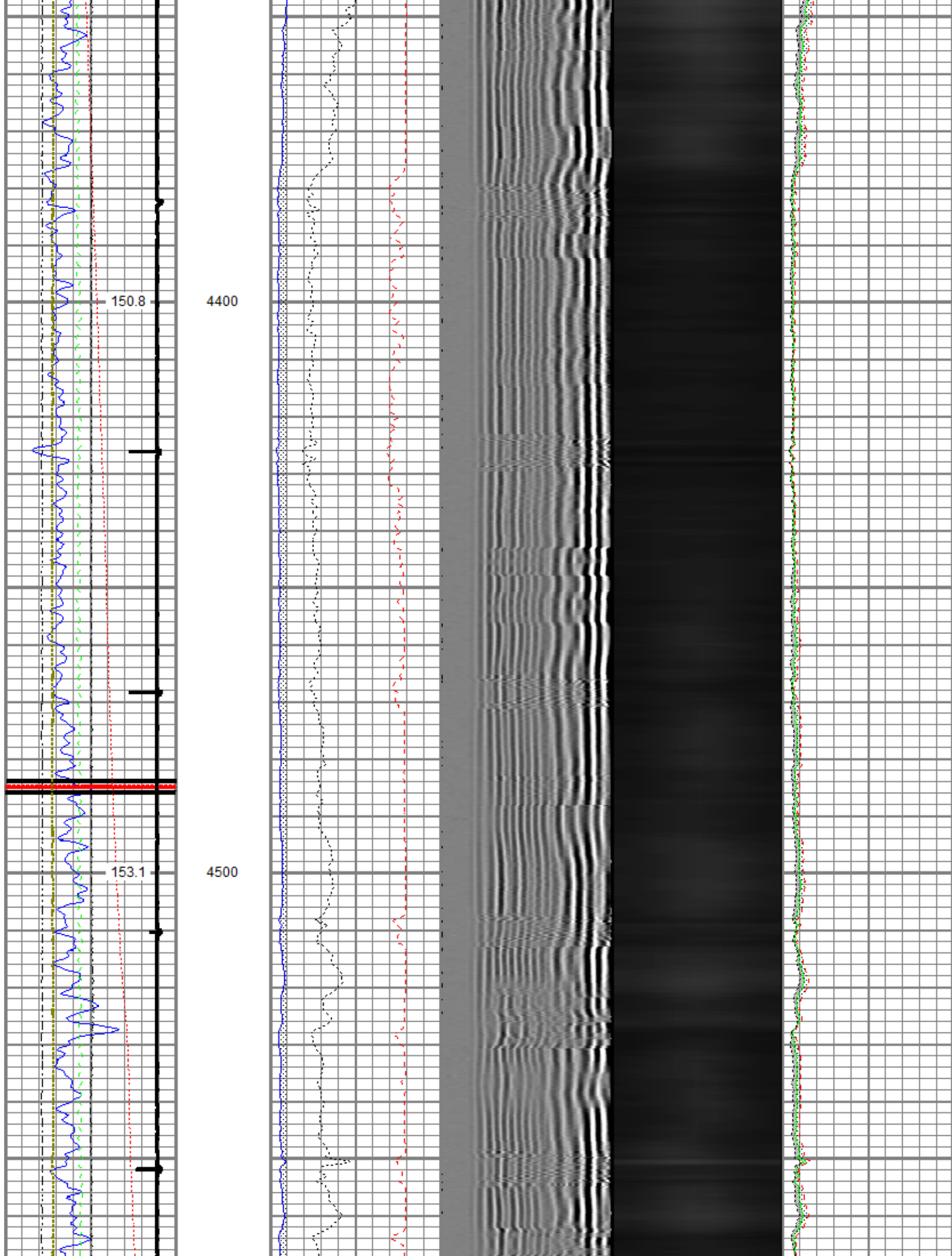


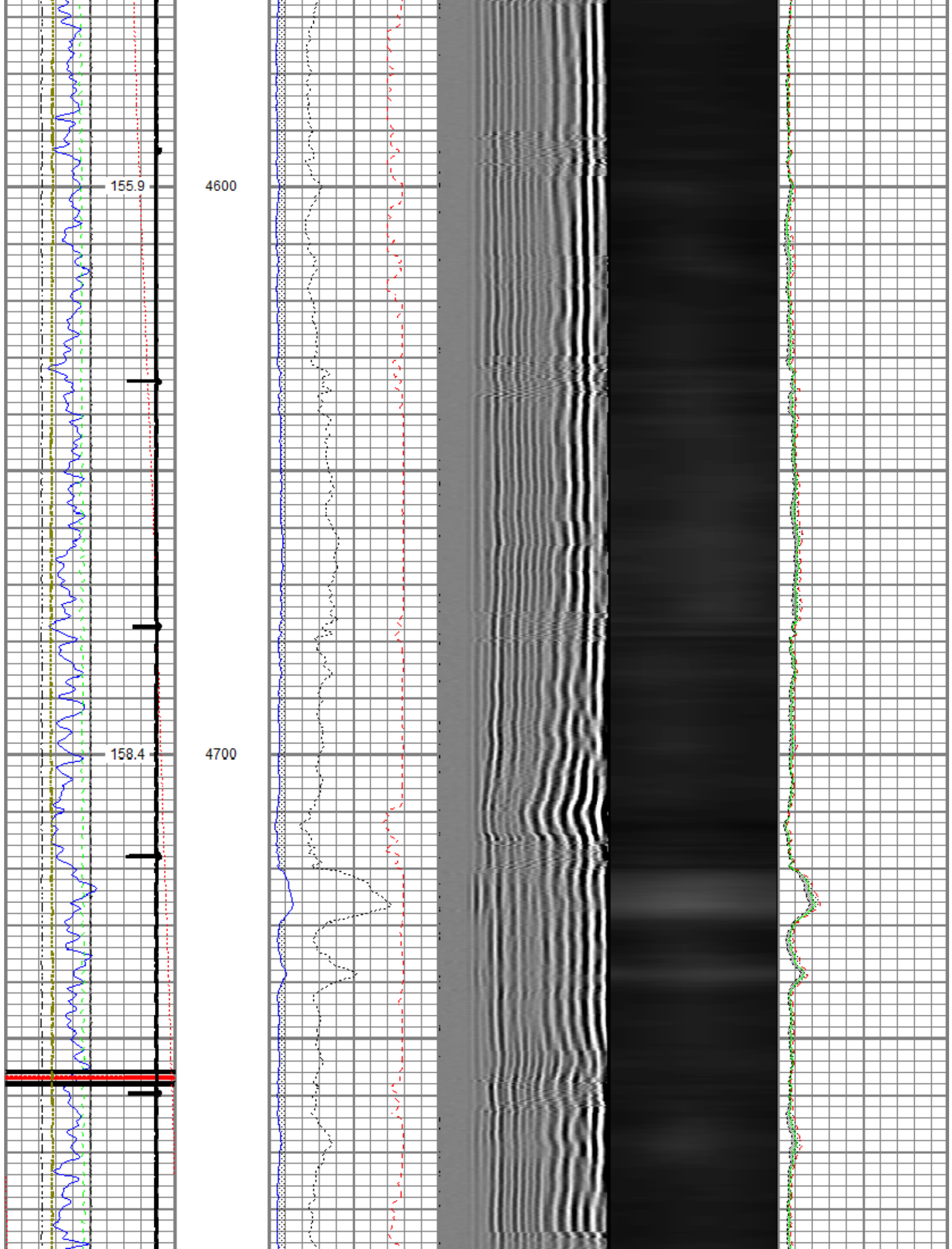


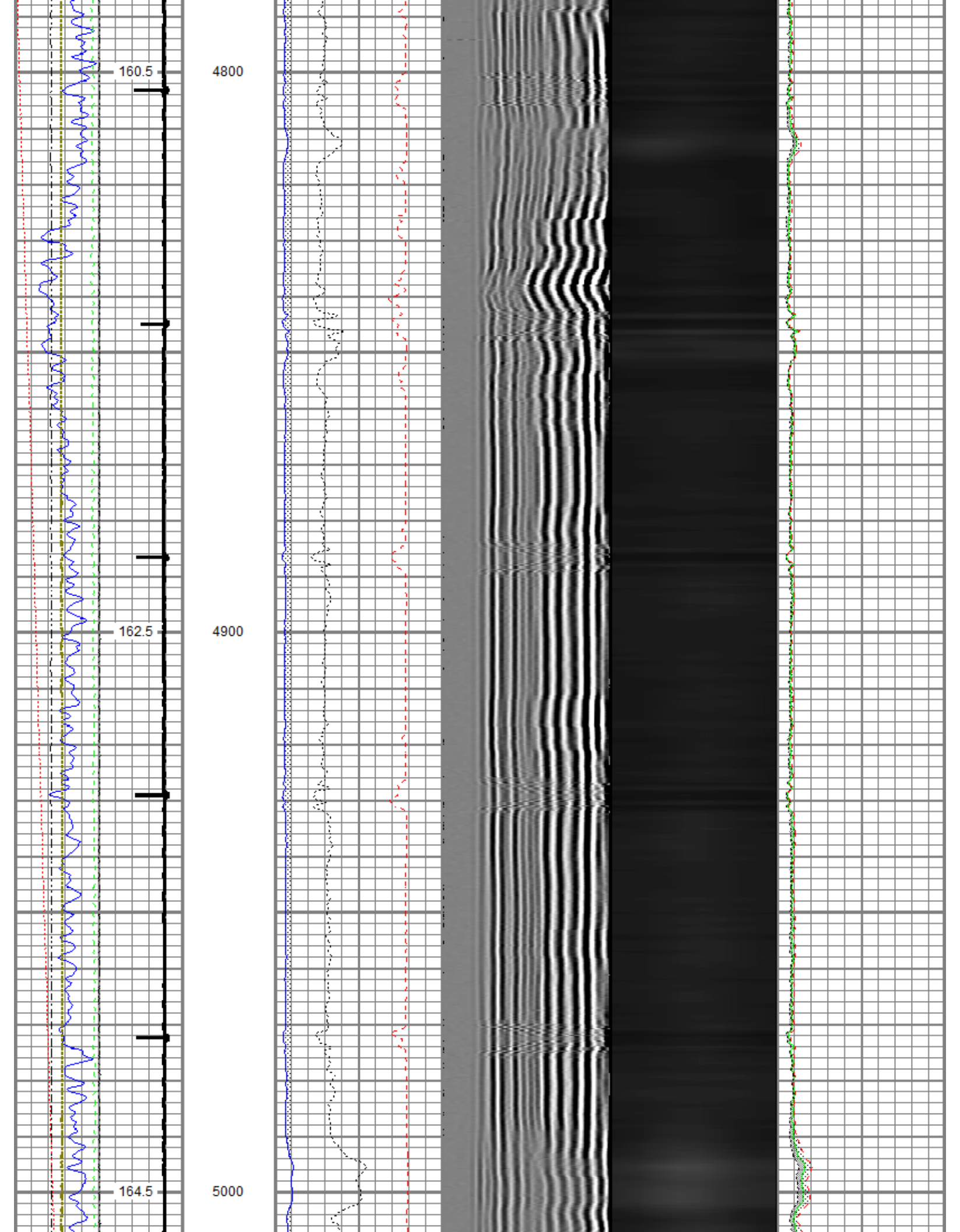


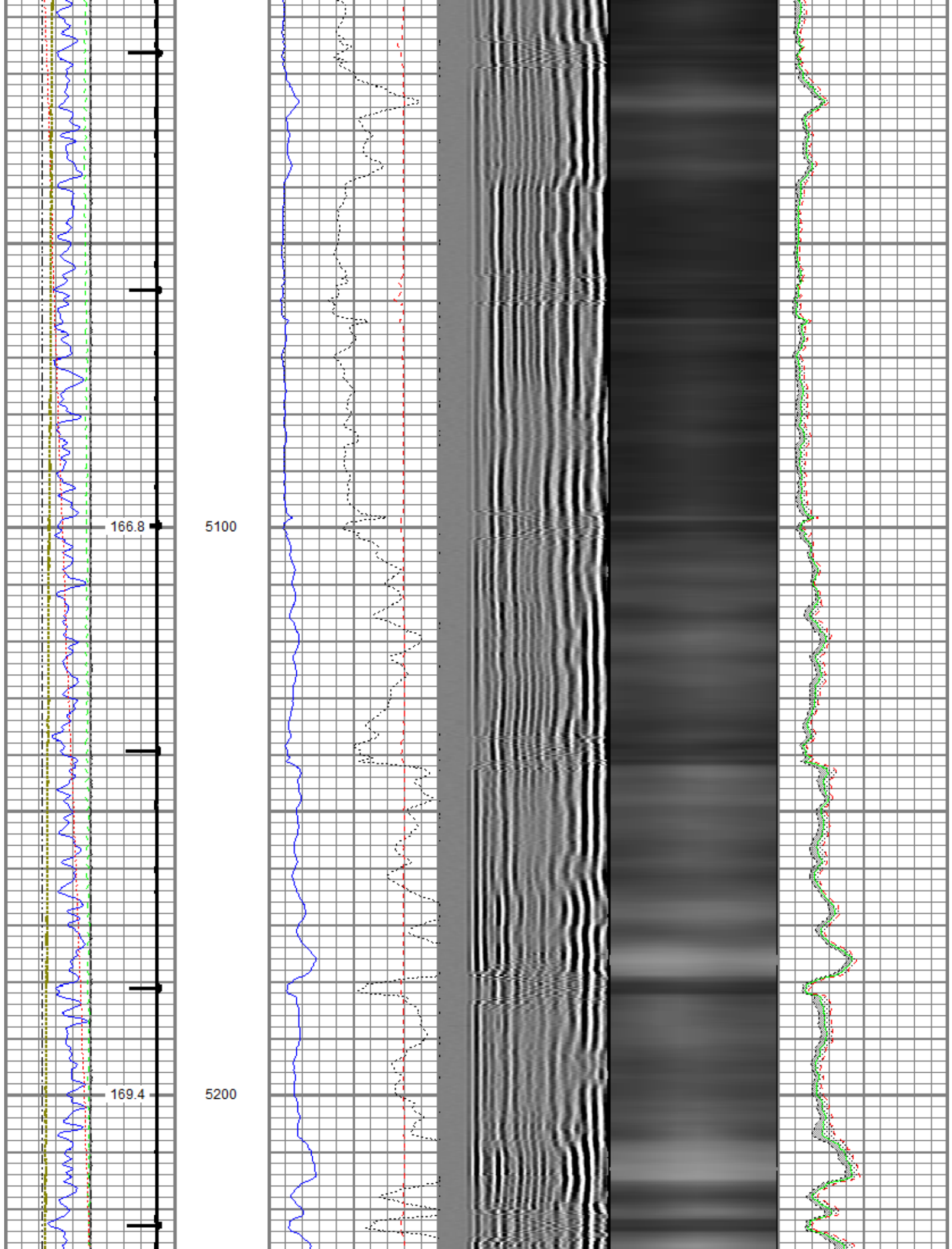


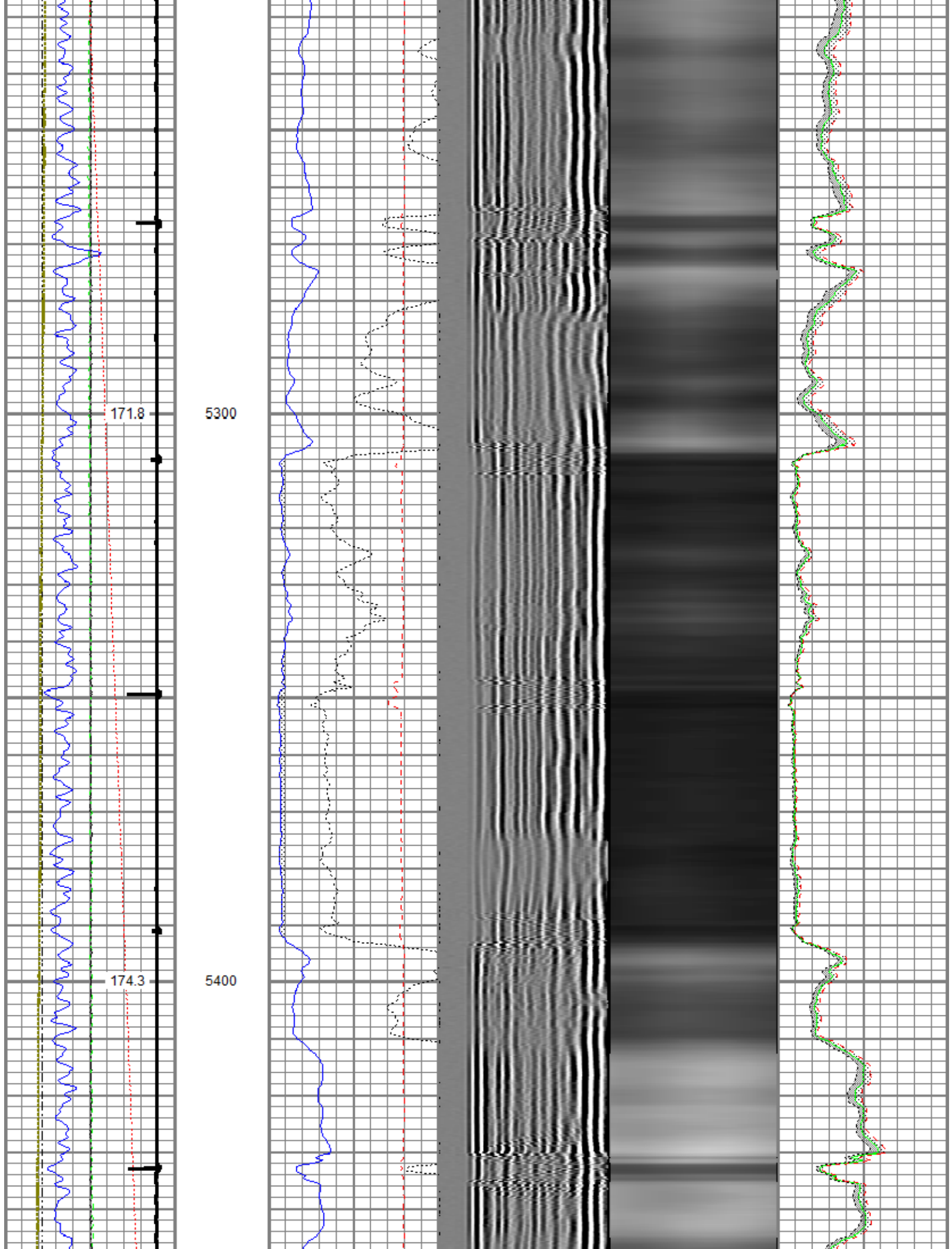


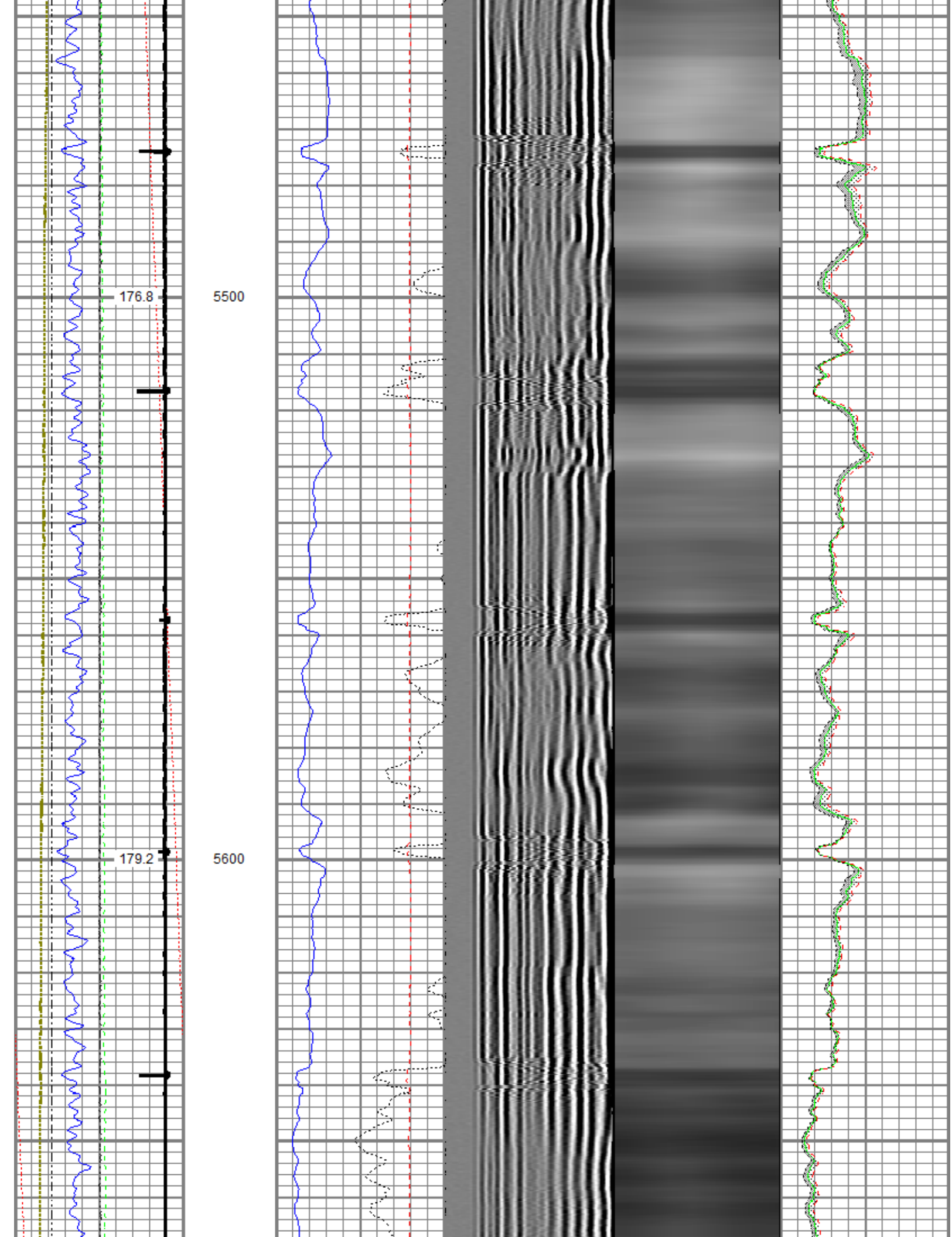


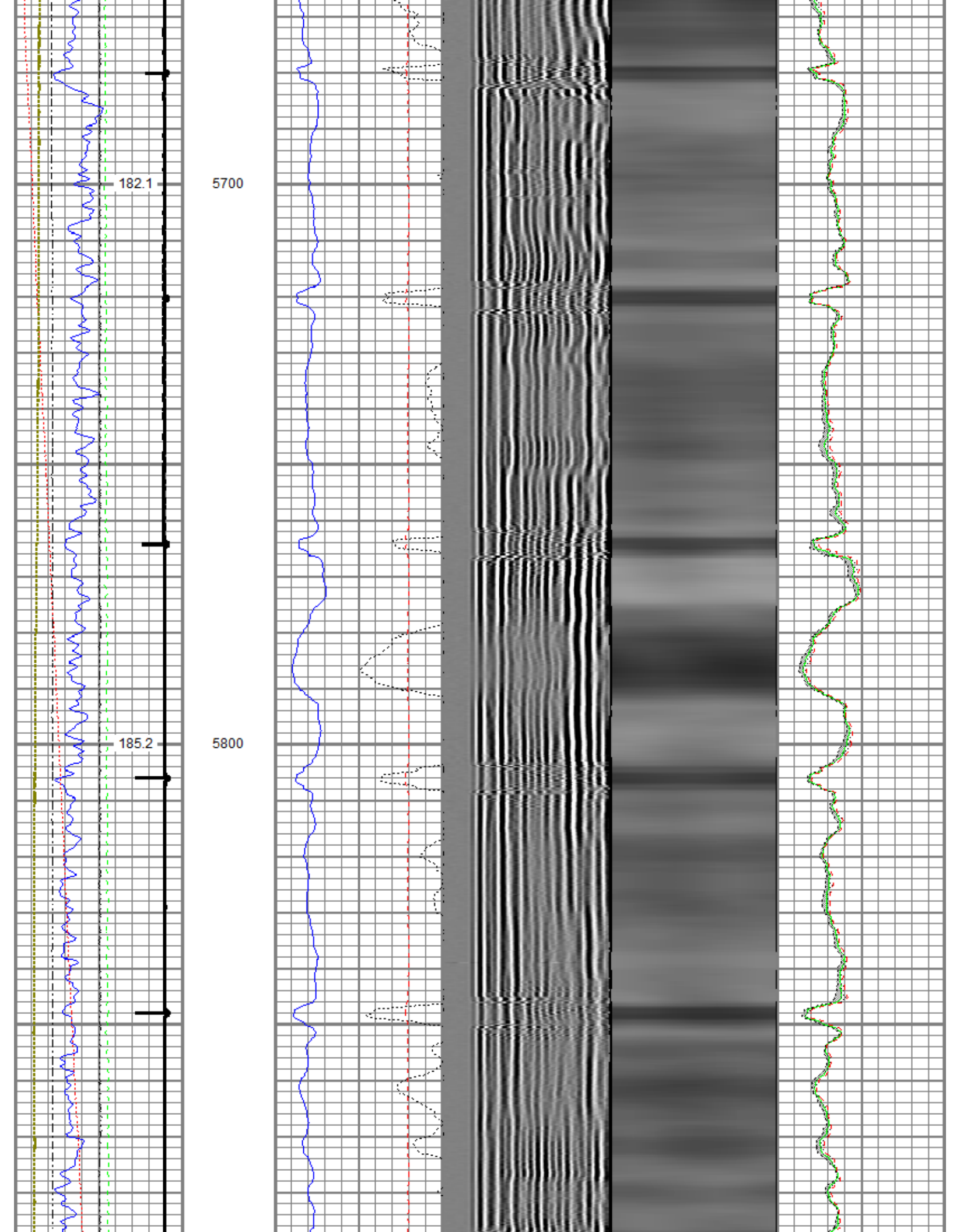


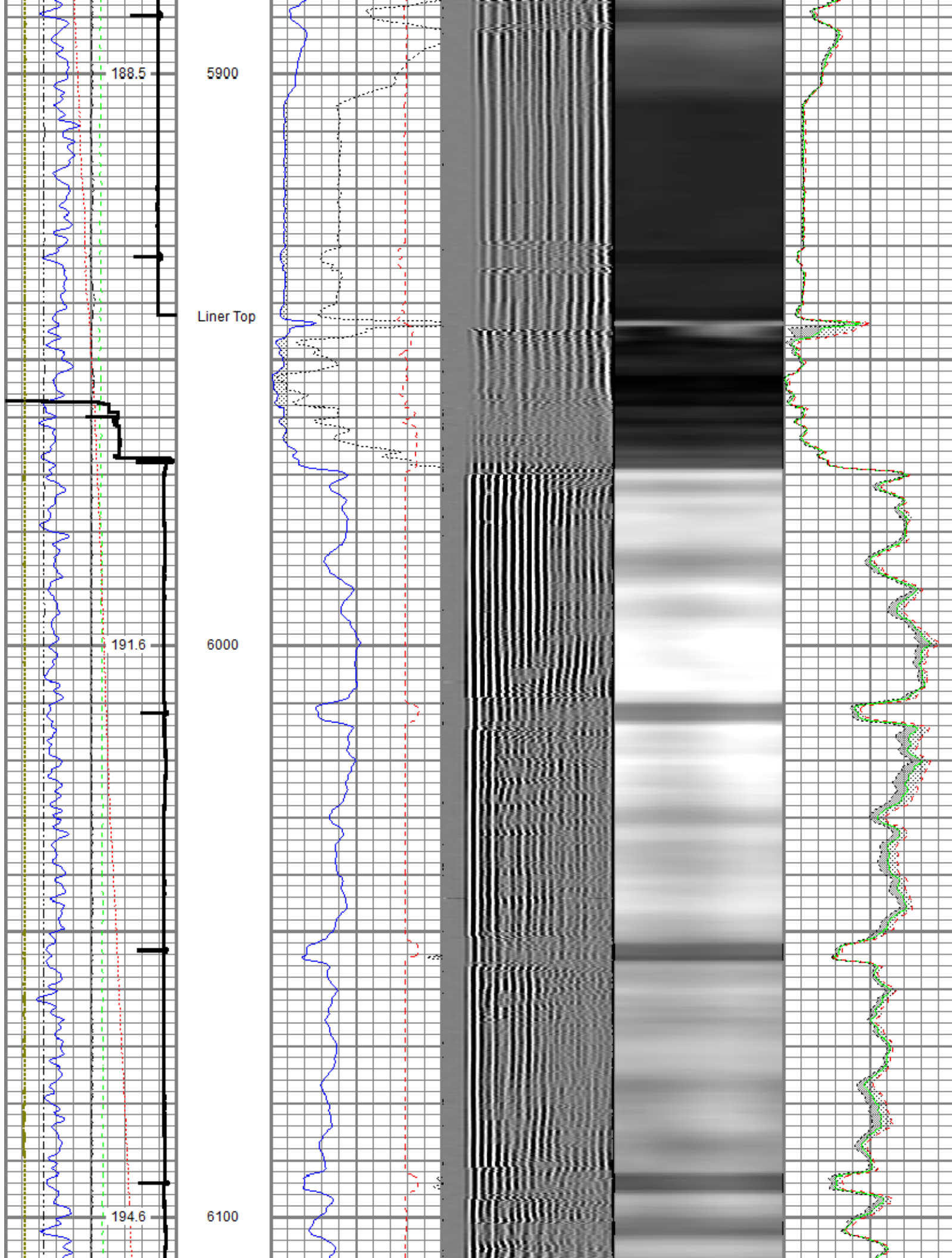


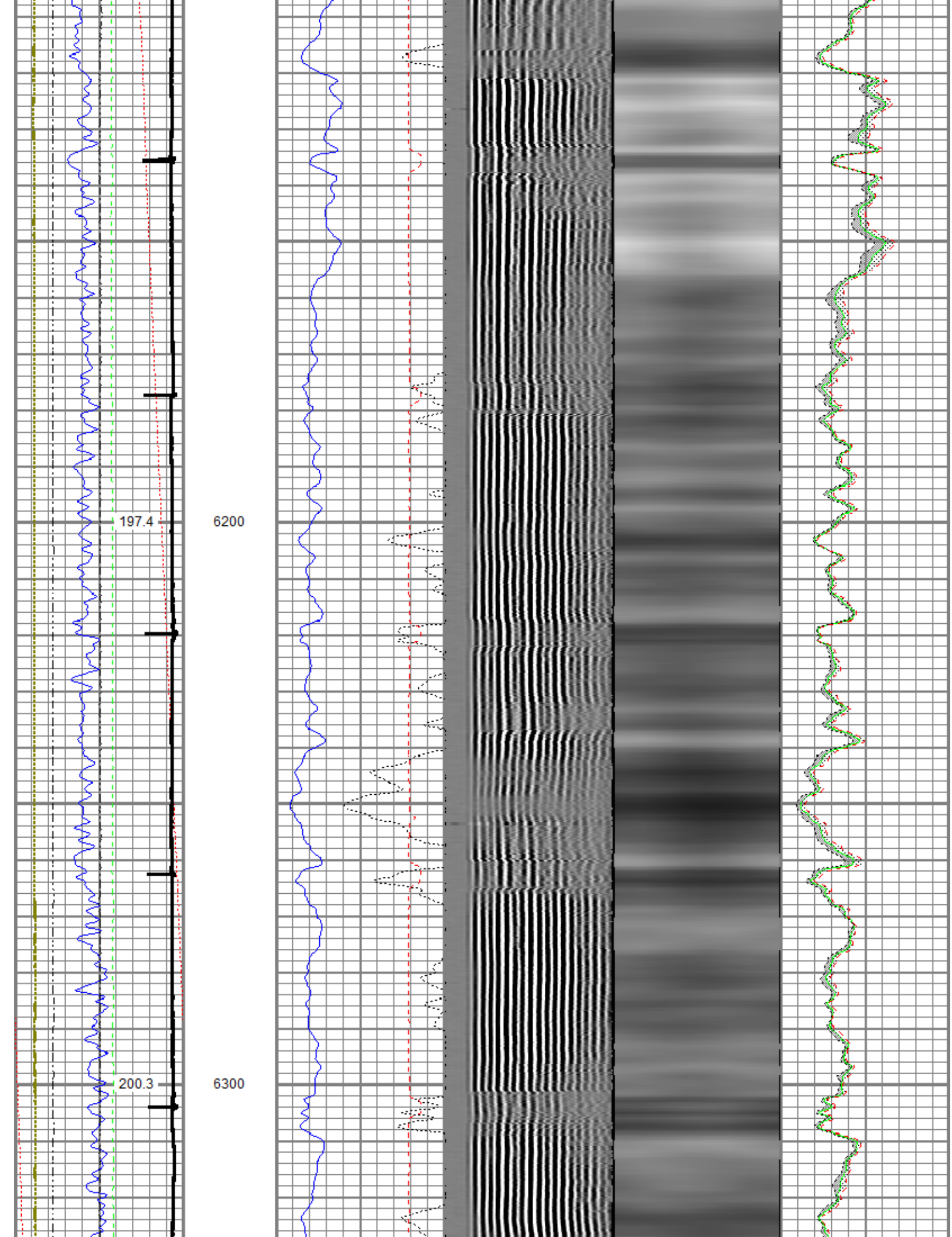


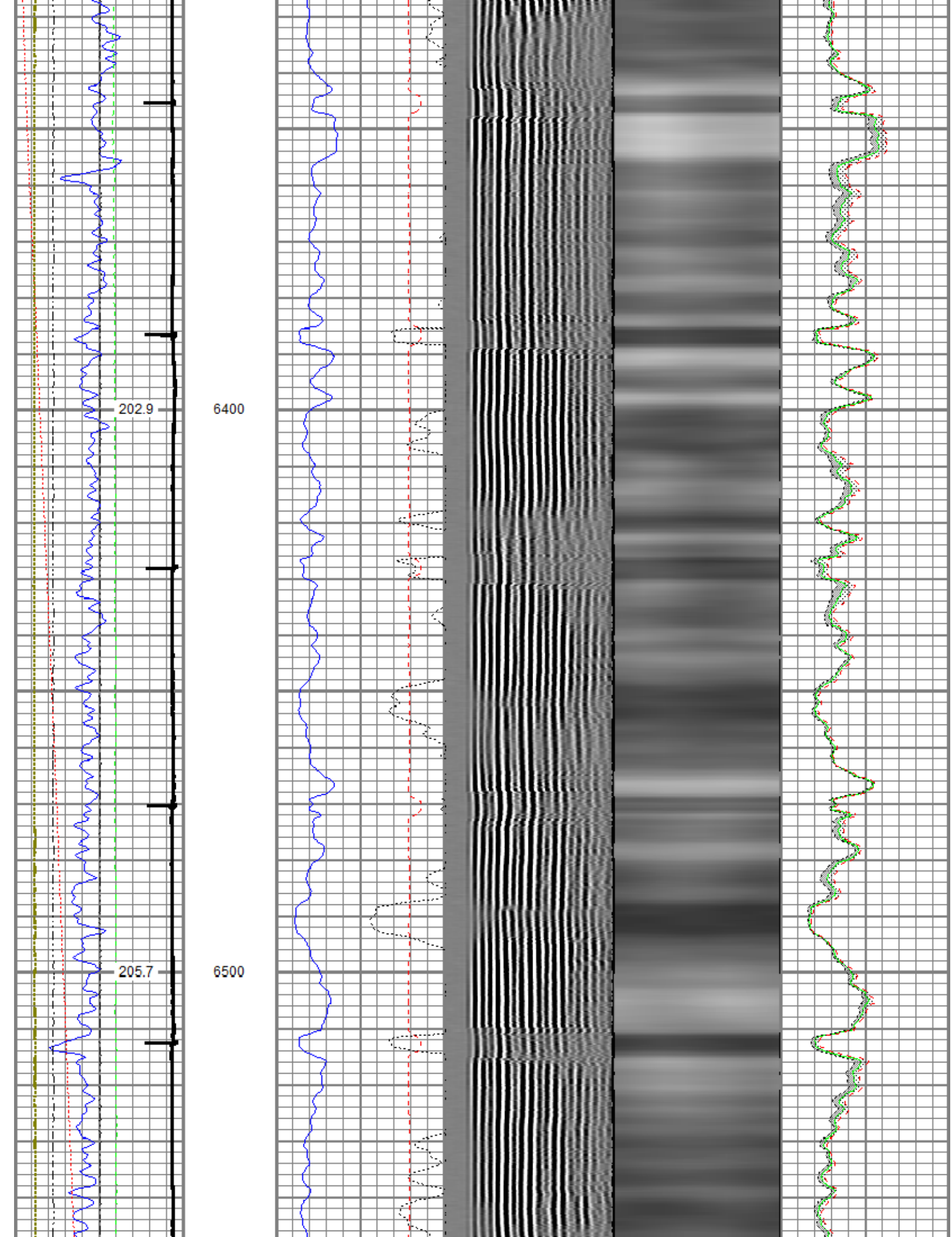


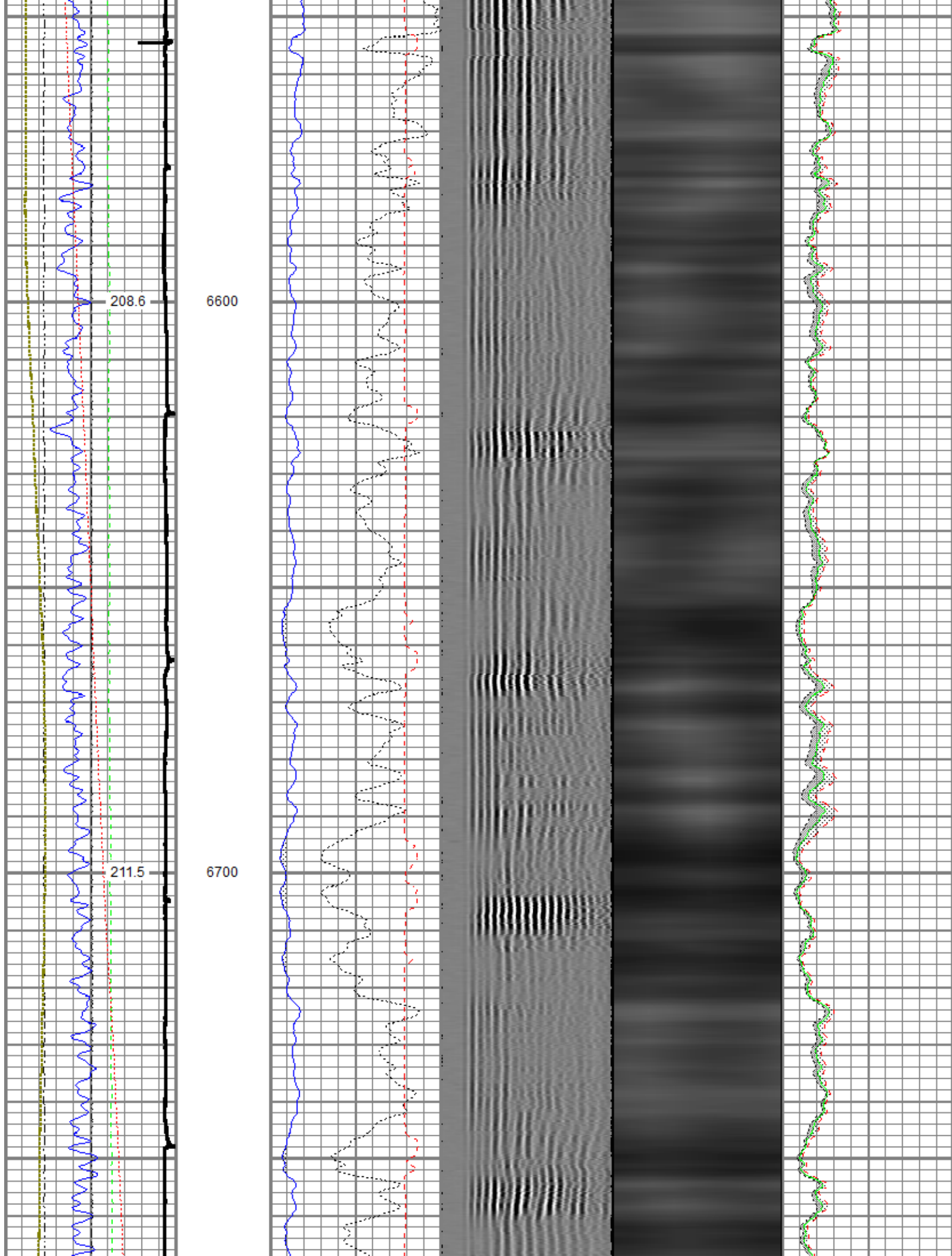


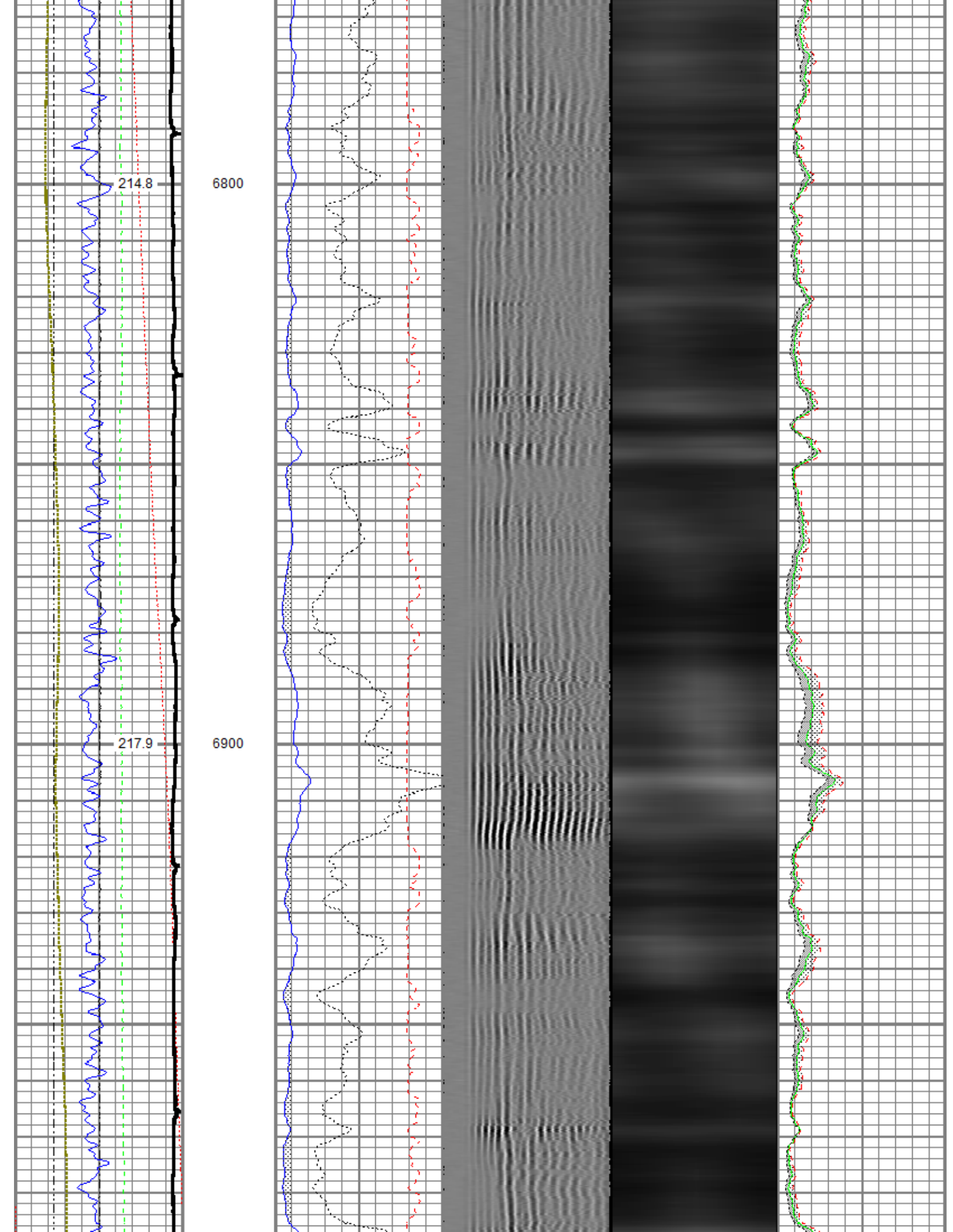


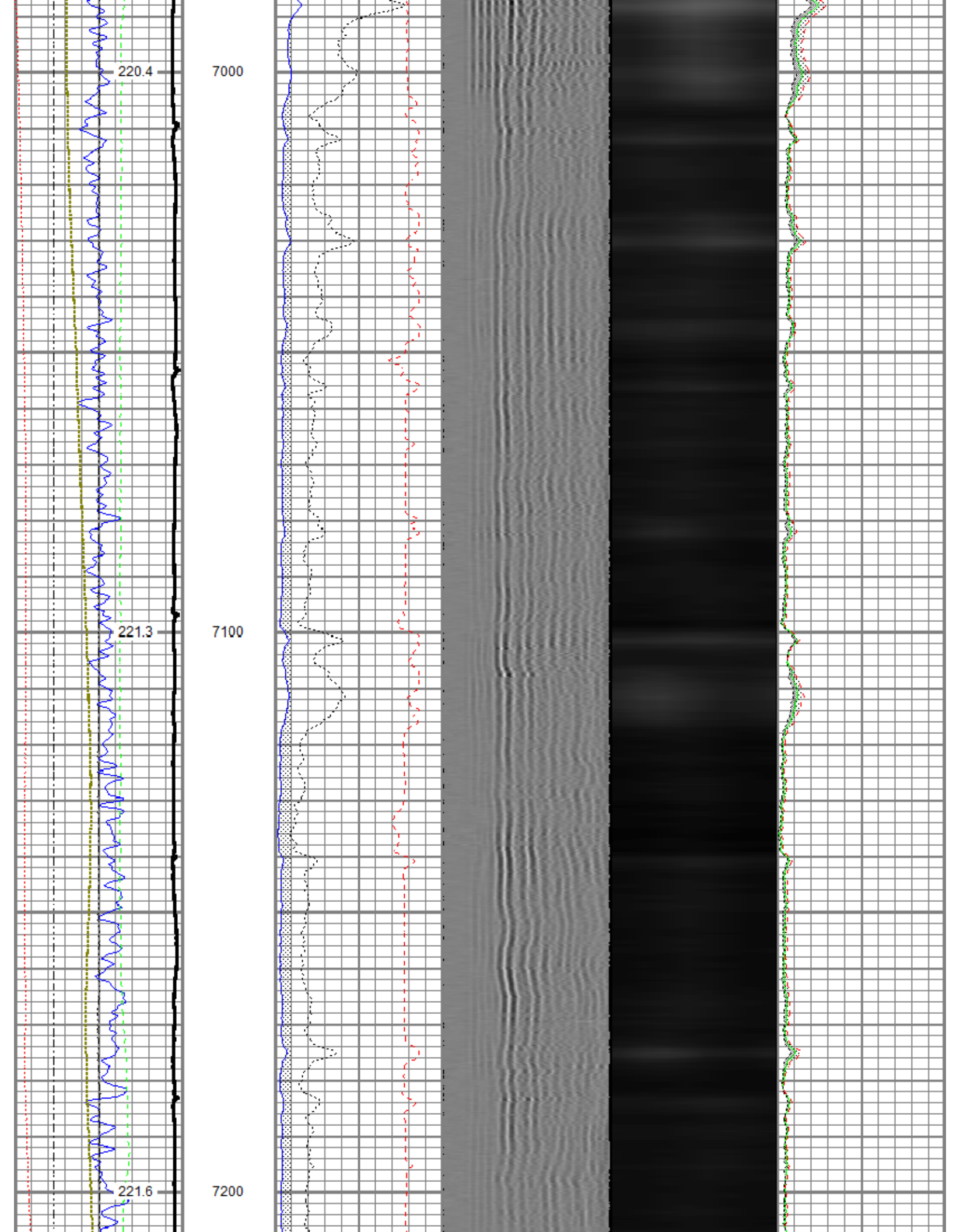


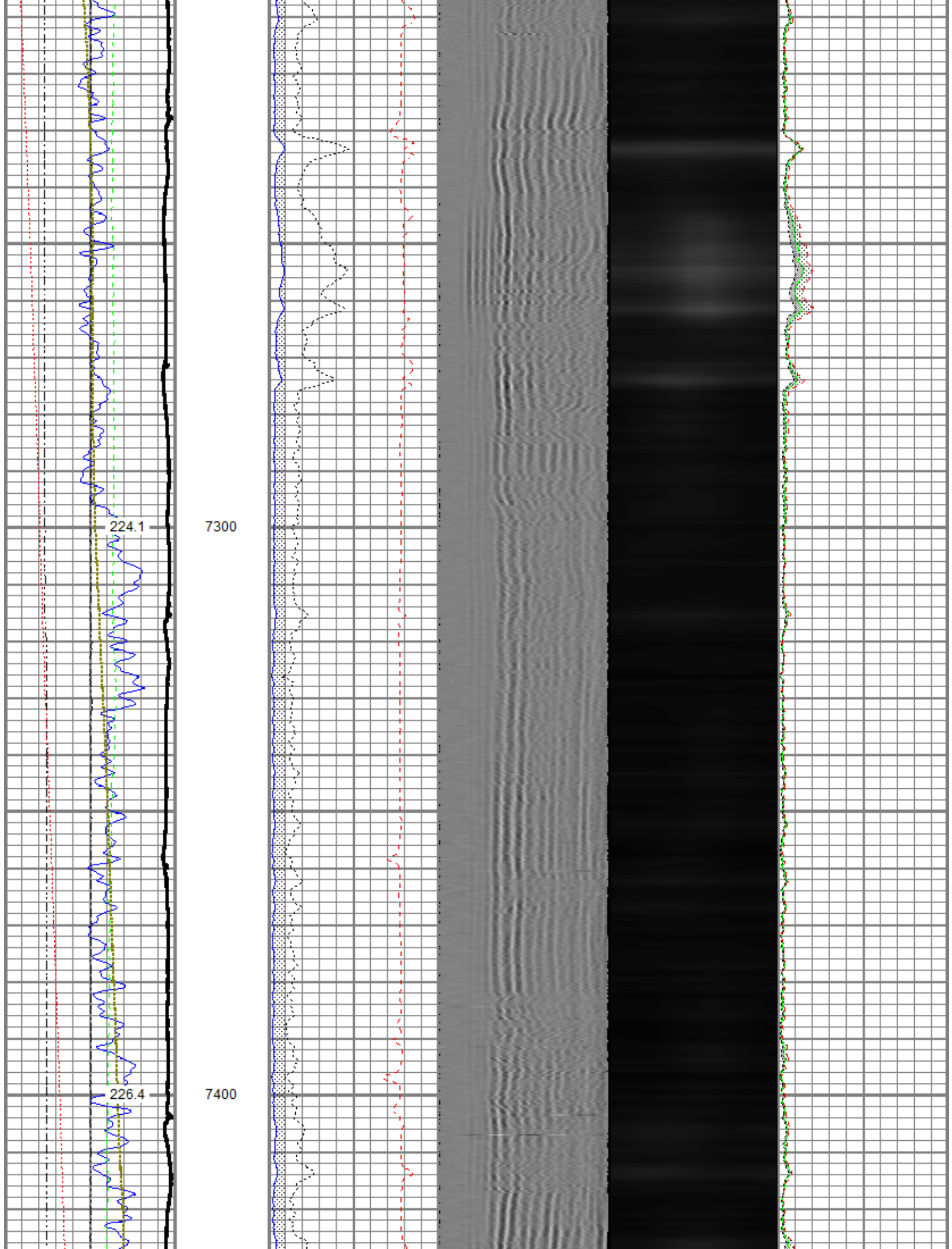


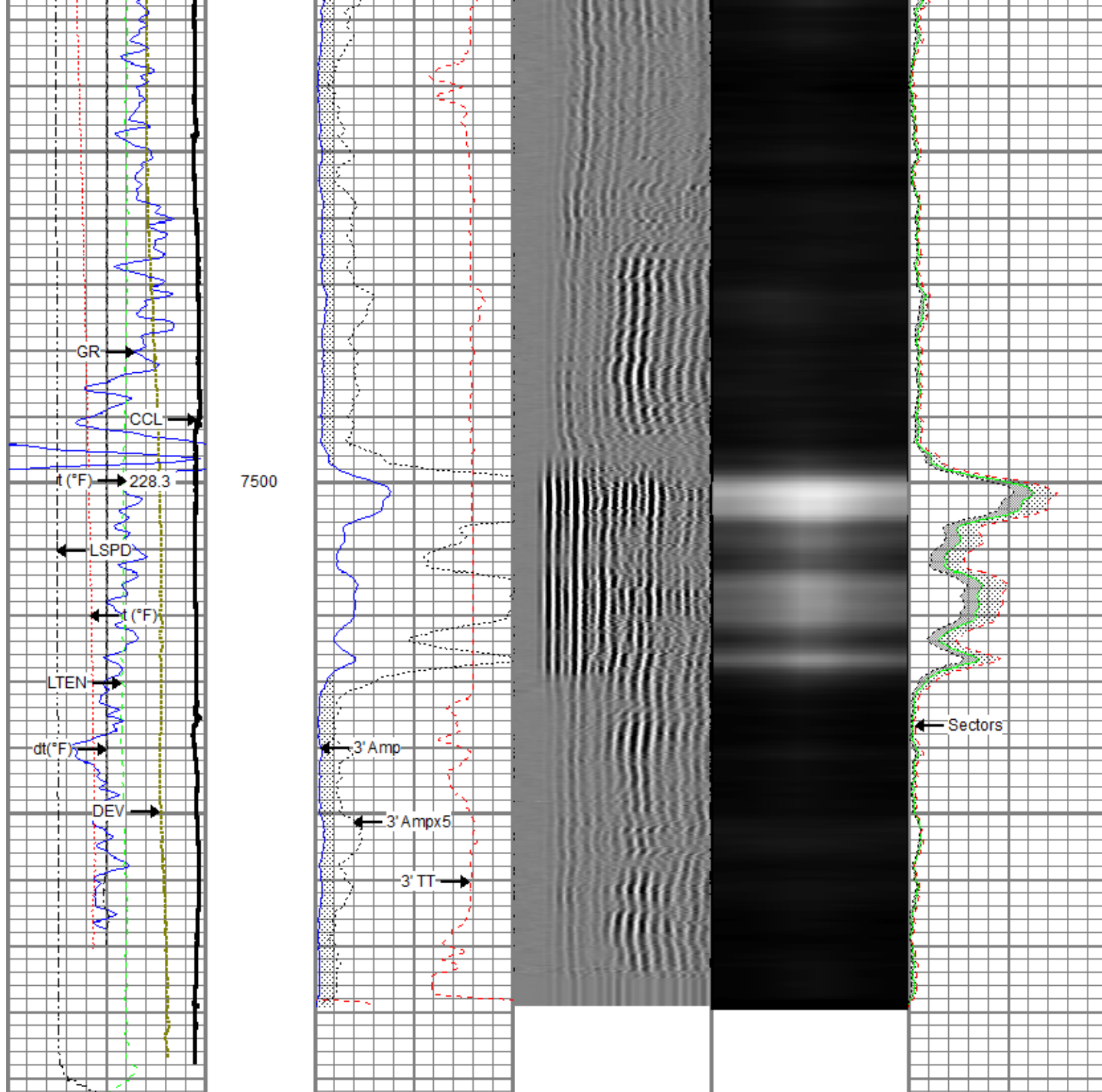












Gamma Ray (GAPI)	0	120
Line Speed (ft/min)	-100	100
Line Tension (lb)	0	2000
Differential Temperature (degF)	-2	2
Temperature (degF)	0	20
Casing Collar Locator		
Deviation (deg)	-10	90

3' Amplitude (mV)	0	100
3' Amplitude x 5 (mV)	0	20
3' Travel Time (uSec)	650	150

5' Variable Density Log (uSec)	200	1200
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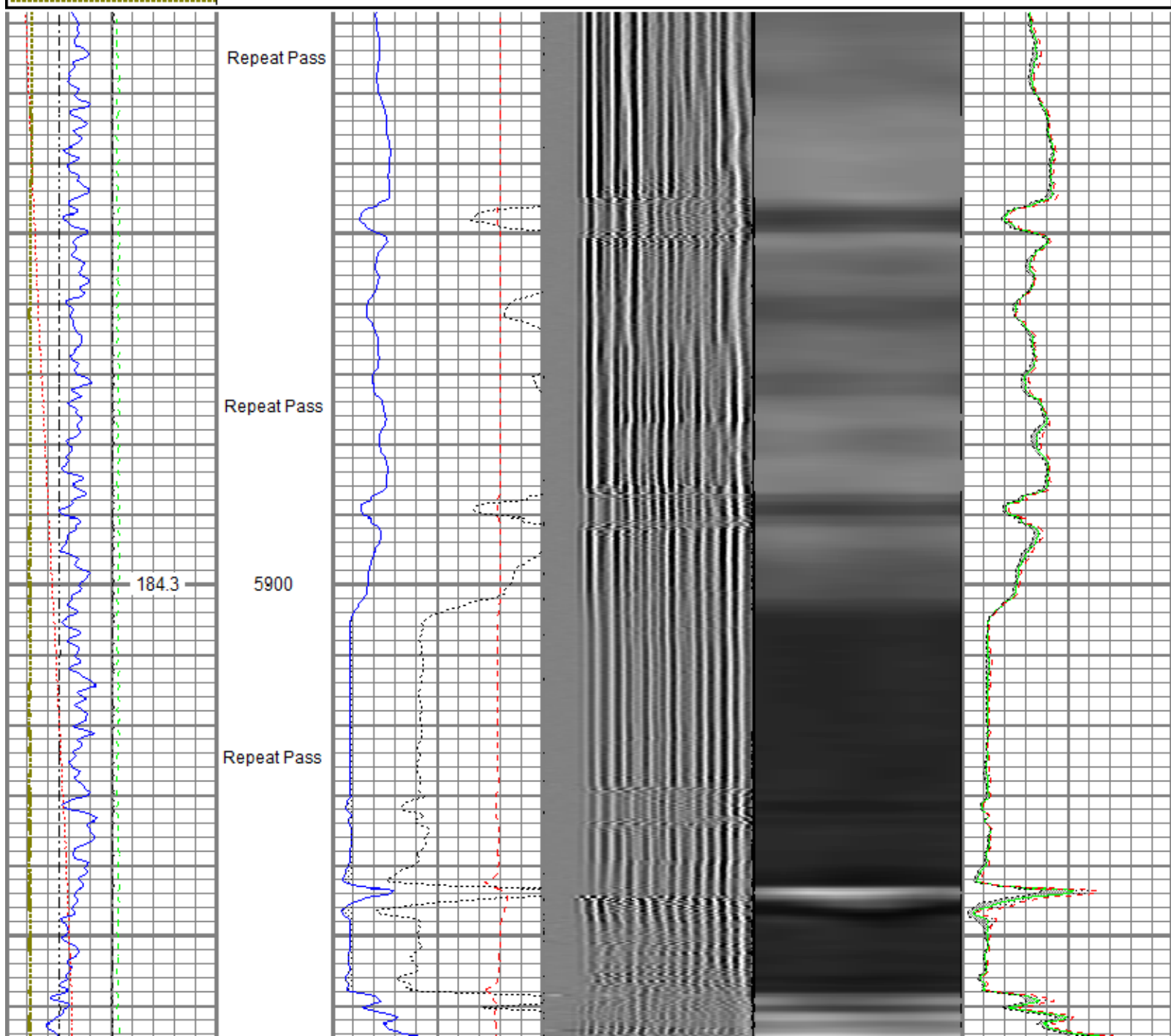
Sector Map		
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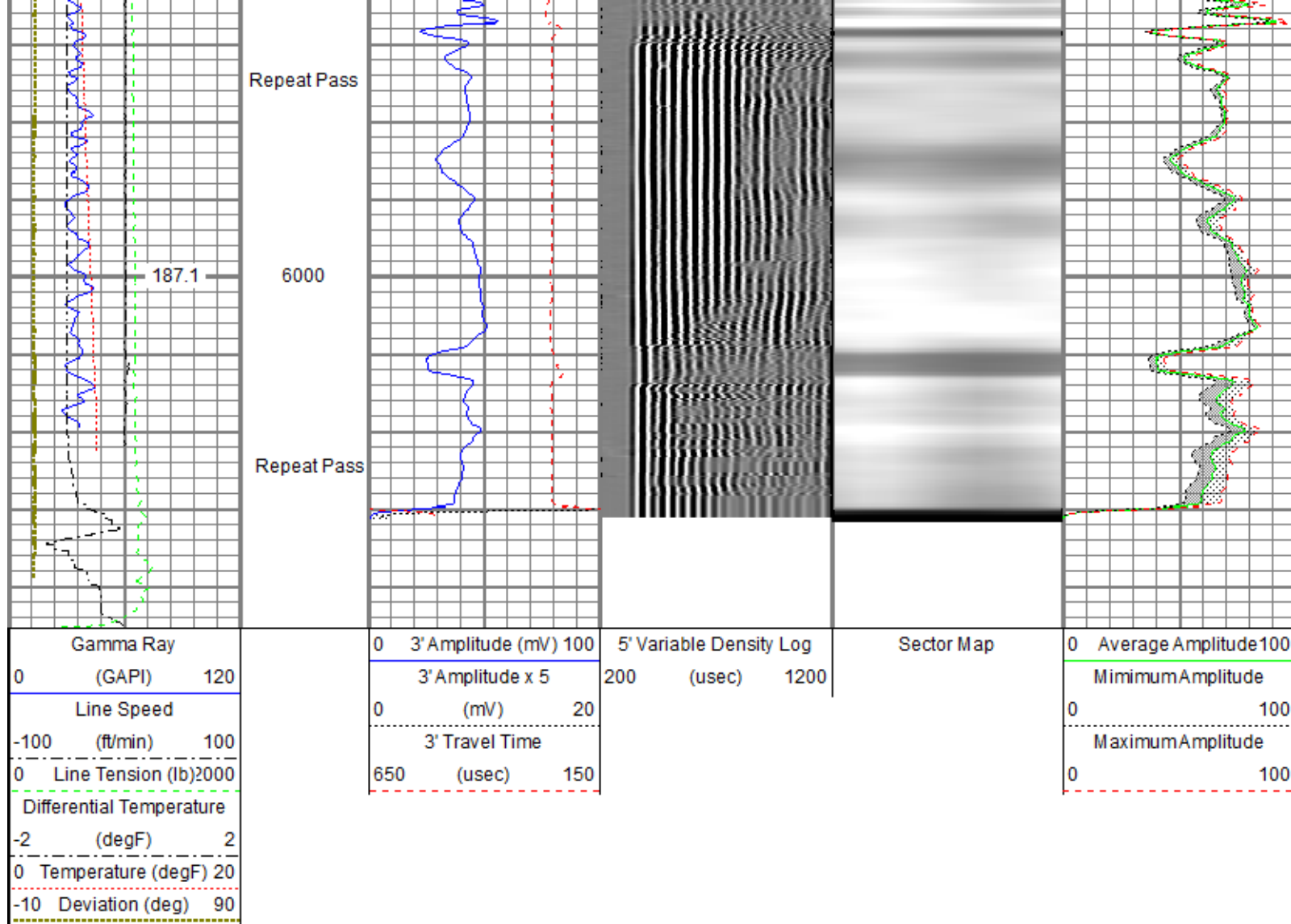
Average Amplitude	0	100
Minimum Amplitude	0	100
Maximum Amplitude	0	100

Recorded With 2800 PSI Surface Induced Pressure

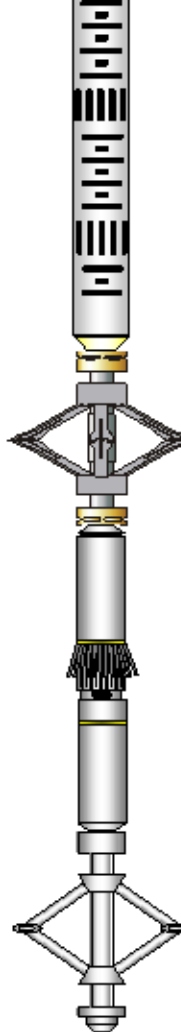
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 Dataset Pathname log/pass4.2
 Presentation Format ros_rbt_mit_sx
 Dataset Creation Tue Mar 13 14:22:48 2018
 Charted by Depth in Feet scaled 1:240

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
Line Speed	0	(mV) 20			0	100
(ft/min) 100		3' Travel Time				Maximum Amplitude
Line Tension (lb) 2000	0	650 (usec) 150			0	100
Differential Temperature						
(degF) 2						
Temperature (degF) 20						
Deviation (deg) 90						





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	23.58		Titan CHD-14375 GO	1.03	1.44	3.60
			Titan 1-7/16" Assembled Electric Cable Head w/ 1" Fishing Neck			
			UW AGS-001 (211461) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW XTU-002 (10017430) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW PGR-020 (211727) Production Gamma Ray	1.92	1.69	9.50
			UW PRT-016 (10025100) Platinum Resistance Thermometer	1.04	1.69	5.20
TEMP	22.18		UW CENT-DSS RAC 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
GR/ROT	15.15					

CBLRO1	15.15		UW RBT-004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.48	3.13	140.00
WVFS8	15.15					
WVFS7	15.15					
WVFS6	15.15					
WVFS5	15.15					
WVFS4	15.15					
WVFS3	15.15					
WVFS2	15.15					
WVFS1	15.15					
WVF3FT	15.15					
WVF5FT	14.15					
CBLTEMP	10.02		UW CENT-DSS RAC 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
MIT	5.27		UW MIT-40 042 E (10014703) 40 Multifinger Imaging Tool Ext.	4.54	2.75	65.00
			UW CENT-PRC 057 4 Arm 2-3/4" Production Roller Centralizer	2.71	2.75	32.00
TSTAMP	0.00		UW BUL-006 (031422) Sondex Ultrawire Bullnose Terminator Sub	0.22	1.69	1.20
Dataset: 0512344567_anadarko_newby 28n-33hz_mit_rbl_03-12-18.db: field/well/log/pass7.1						
Total length: 27.83 ft						
Total weight: 328.00 lb						
O.D.: 3.13 in						

Calibration Report						
Database File	c:\programdata\warrior\data\anadarko\newby state 28n-33hz\0512344567_anadarko_newby 28n-33hz_mit_rbl_03-12-18.db					
Dataset Pathname	log/pass7.1					
Dataset Creation	Tue Mar 13 13:57:21 2018					
Multifinger Imaging Tool Calibration Report						
Serial Number:			10014703			
Number of Fingers:			40			
Tool Model:			40 042 E			
Inclinometer Calibration Report						
Performed:			Fri Sep 20 11:47:48 2013			
Calibration Angle:			45			
			Inc X	Inc Y		
Vertical:			1963	1960		
Finger 1 up:			1748	1727		
Finger 31 up:			2195	1742		
Finger 21 up:			2178	2188		
Finger 11 up:			1727	2173		
Sensitivity ratio:			1.00706			
X-axis angle:			132.825			
Deviation const.:			317.775			
Finger Calibration Report						
Performed:			Mon Mar 12 15:03:02 2018			
Ring size:	4	5	6	7		

(in)		Sens		Sens		Sens	
Finger 01:	1074	373.0	1447	379.0	1826	404.0	2230
Finger 02:	1076	391.0	1467	402.0	1869	434.0	2303
Finger 03:	1074	379.0	1453	391.0	1844	419.0	2263
Finger 04:	1021	387.0	1408	413.0	1821	454.0	2275
Finger 05:	1063	365.0	1428	380.0	1808	418.0	2226
Finger 06:	1067	381.0	1448	399.0	1847	436.0	2283
Finger 07:	1073	376.0	1449	393.0	1842	428.0	2270
Finger 08:	1049	378.0	1427	405.0	1832	441.0	2273
Finger 09:	1135	377.0	1512	391.0	1903	412.0	2315
Finger 10:	1083	366.0	1449	394.0	1843	422.0	2265
Finger 11:	1061	364.0	1425	398.0	1823	431.0	2254
Finger 12:	1154	355.0	1509	373.0	1882	390.0	2272
Finger 13:	1092	351.0	1443	393.0	1836	426.0	2262
Finger 14:	1062	361.0	1423	412.0	1835	441.0	2276
Finger 15:	1019	355.0	1374	417.0	1791	447.0	2238
Finger 16:	1067	346.0	1413	402.0	1815	429.0	2244
Finger 17:	1106	338.0	1444	388.0	1832	406.0	2238
Finger 18:	1125	338.0	1463	393.0	1856	413.0	2269
Finger 19:	1085	345.0	1430	404.0	1834	419.0	2253
Finger 20:	989	344.0	1333	411.0	1744	432.0	2176
Finger 21:	1069	333.0	1402	399.0	1801	414.0	2215
Finger 22:	1059	339.0	1398	403.0	1801	419.0	2220
Finger 23:	1088	339.0	1427	405.0	1832	412.0	2244
Finger 24:	1069	309.0	1378	370.0	1748	381.0	2129
Finger 25:	1074	344.0	1418	417.0	1835	409.0	2244
Finger 26:	1009	332.0	1341	399.0	1740	412.0	2152
Finger 27:	1175	358.0	1533	411.0	1944	411.0	2355
Finger 28:	1042	328.0	1370	383.0	1753	402.0	2155
Finger 29:	1013	343.0	1356	399.0	1755	418.0	2173
Finger 30:	998	342.0	1340	405.0	1745	421.0	2166
Finger 31:	1214	372.0	1586	414.0	2000	424.0	2424
Finger 32:	983	347.0	1330	390.0	1720	403.0	2123
Finger 33:	1080	380.0	1460	416.0	1876	432.0	2308
Finger 34:	964	361.0	1325	389.0	1714	423.0	2137
Finger 35:	1123	386.0	1509	415.0	1924	429.0	2353
Finger 36:	1048	353.0	1401	375.0	1776	397.0	2173
Finger 37:	1127	392.0	1519	410.0	1929	432.0	2361
Finger 38:	1104	367.0	1471	382.0	1853	404.0	2257
Finger 39:	1048	351.0	1399	362.0	1761	390.0	2151
Finger 40:	987	383.0	1370	408.0	1778	440.0	2218

Segmented Cement Bond Log Calibration Report						
Serial Number:		10013454				
Tool Model:		004				
Calibration Casing Diameter:		7.000	in			
Calibration Depth:		-23.563	ft			
Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.000	0.893	0.800	62.165	68.734	0.782
5FT	-0.003	0.985	0.800	62.165	62.082	1.009
S1	-0.000	0.918	0.000	100.000	108.863	0.030
S2	0.000	0.916	0.000	100.000	109.204	-0.006
S3	-0.000	0.893	0.000	100.000	112.021	0.007
S4	0.000	0.896	0.000	100.000	111.605	-0.023
S5	-0.000	0.880	0.000	100.000	113.585	0.036
S6	-0.001	0.893	0.000	100.000	111.955	0.079
S7	-0.002	0.898	0.000	100.000	111.124	0.188
S8	-0.001	0.893	0.000	100.000	111.896	0.075

Temperature Calibration Report							
		Serial Number:		10025100			
		Tool Model:		016			
		Performed:		Sun Nov 12 14:30:03 2017			

Point #	Reading		Reference	
1	13249.00	cps	68.00	degF
2	18454.00	cps	104.00	degF
3	29735.00	cps	176.00	degF
4	41457.00	cps	248.00	degF
5	52851.00	cps	320.00	degF
6	59128.00	cps	356.00	degF
7		cps		degF
8		cps		degF
9		cps		degF
10		cps		degF

Gamma Ray Calibration Report

Serial Number: 211727
 Tool Model: 020
 Performed: Sun Nov 12 06:37:04 2017

 Calibrator Value: 637.0 GAPI

 Background Reading: 78.8 cps
 Calibrator Reading: 1069.9 cps

 Sensitivity: 0.6427 GAPI/cps



Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Newby 28N-33HZ
Field Wattenberg
County Weld
State Colorado