



Radial Cement Bond
Gamma Ray
Casing Collar Log

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

Well Newby 1N-33HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-44564

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'

Date 15-MAR-2018

Run Number Two

Depth Driller 12773 FT

Depth Logger 7300 FT

Bottom Logged Interval 7285 FT

Top Log Interval Surface

Open Hole Size ---

Type Fluid Water

Density / Viscosity 8.34 lb/gal

Max. Recorded Temp. 223°F

Estimated Cement Top See Log

Time Well Ready ROA

Time Logger on Bottom 10:05

Equipment Number HD-363

Location Fort Lupton, CO

Recorded By Greg Lueck

Witnessed By John McCarthy

Run Number

Bit From To Size Weight From To

<<< 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 Casing Tally reported Liner Top at 5923 FT
Adjusted -6 FT to correlate with Liner Top
Gauge Ring/Junk Basket ran to 7350 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!!

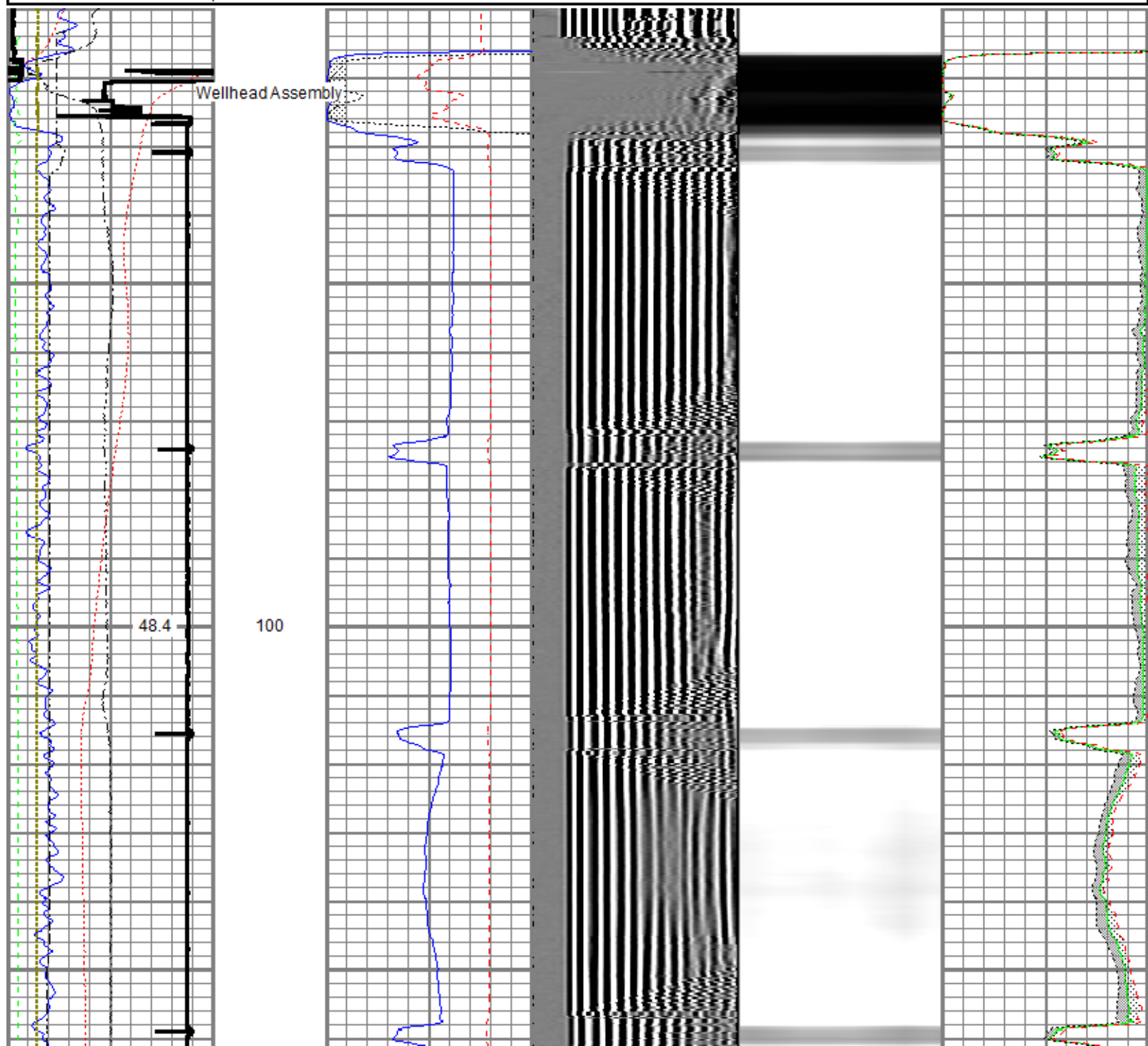
Main Pass

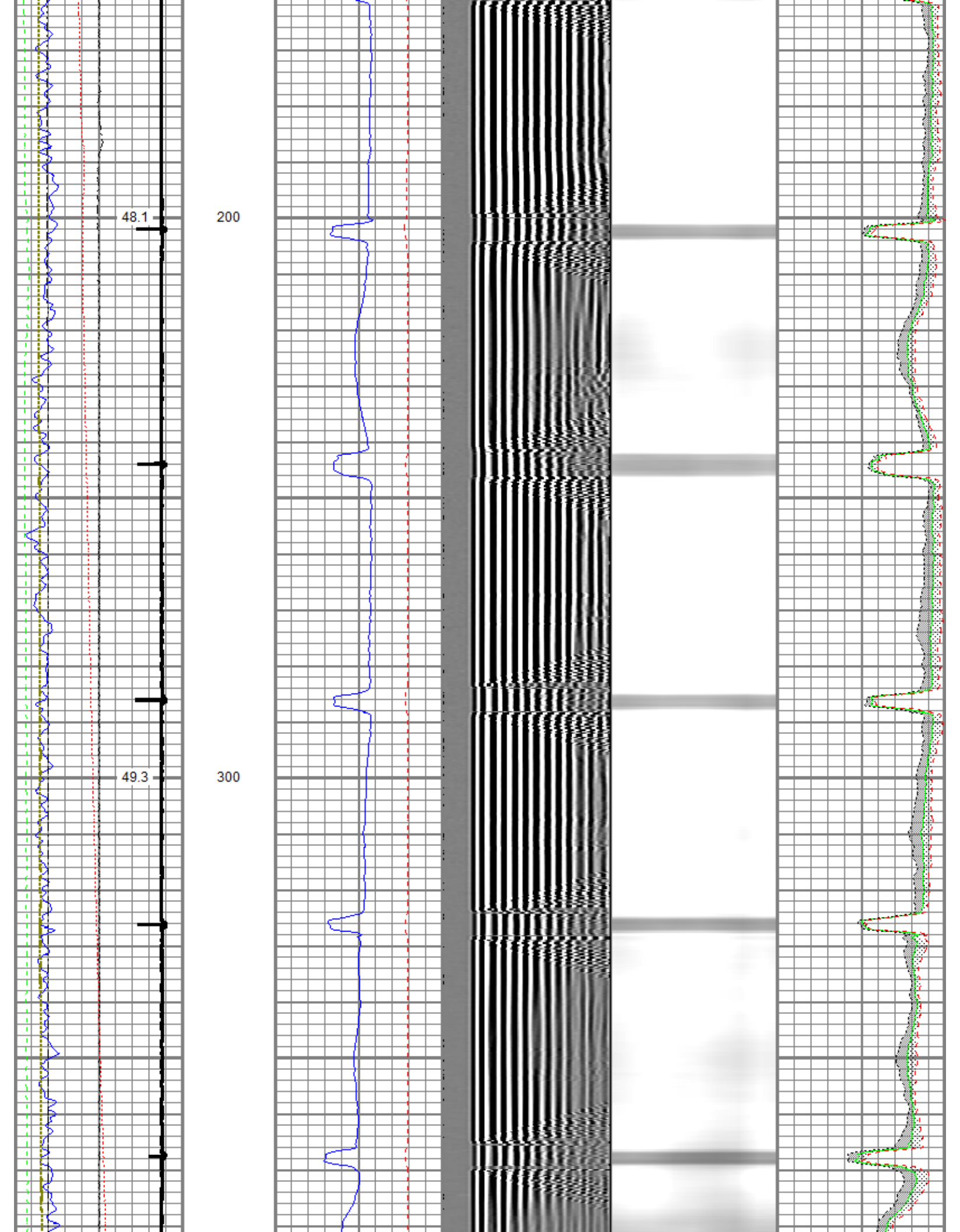


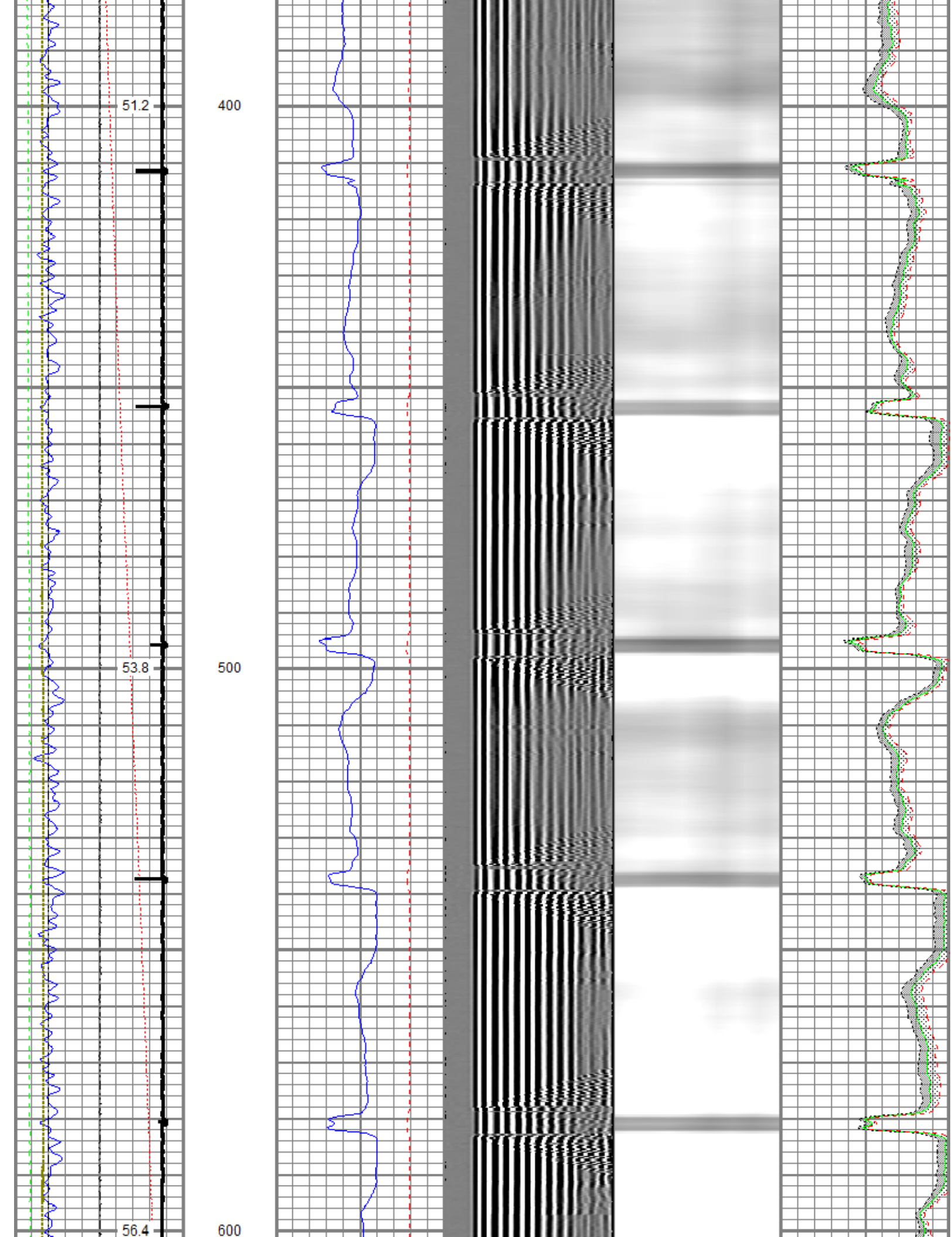
Recorded With 2800 PSI Surface Induced Pressure

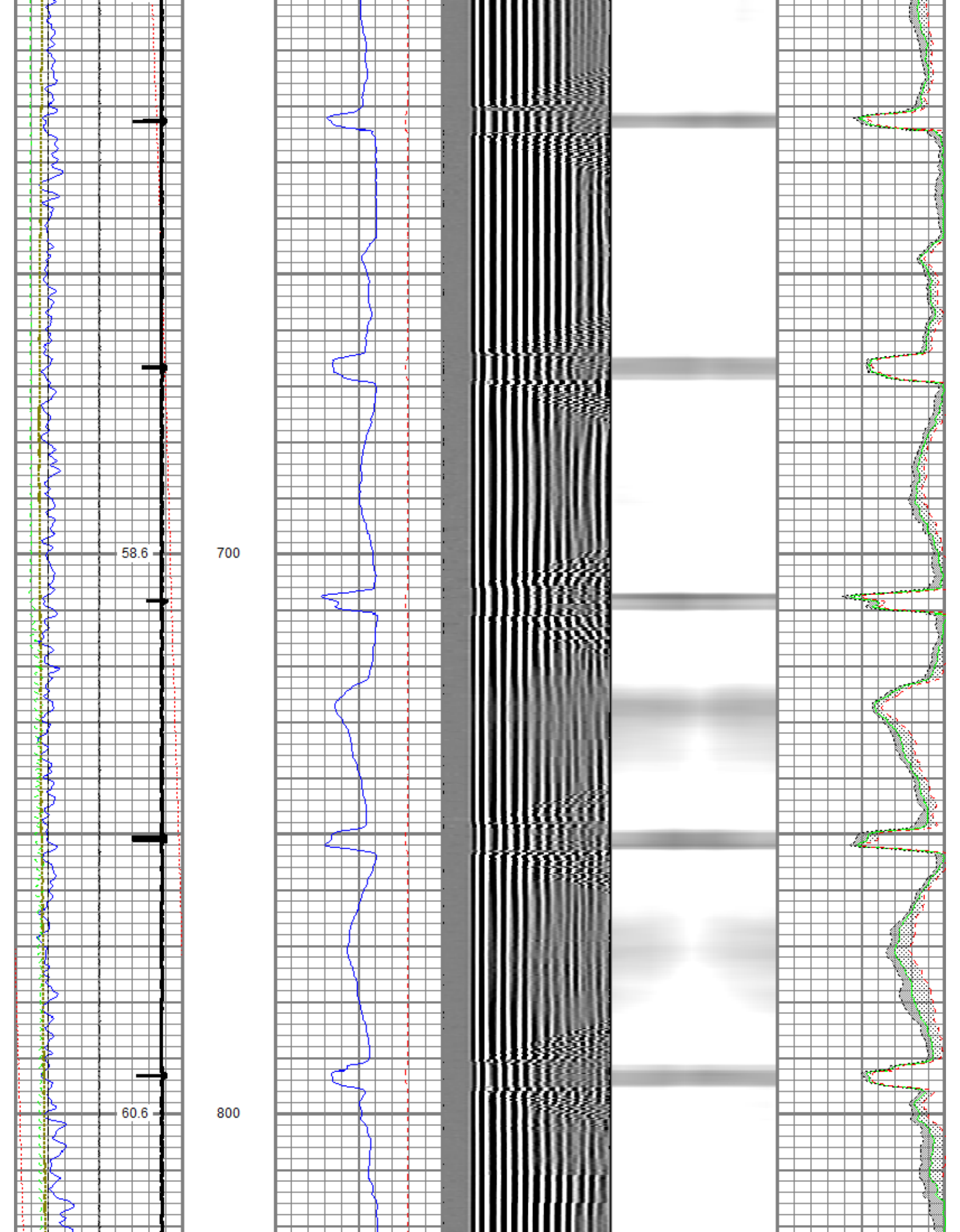
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 Dataset Pathname log/merge5
 Presentation Format ros_rbt_mit_sx
 Dataset Creation Thu Mar 15 13:48:51 2018
 Charted by Depth in Feet scaled 1:240

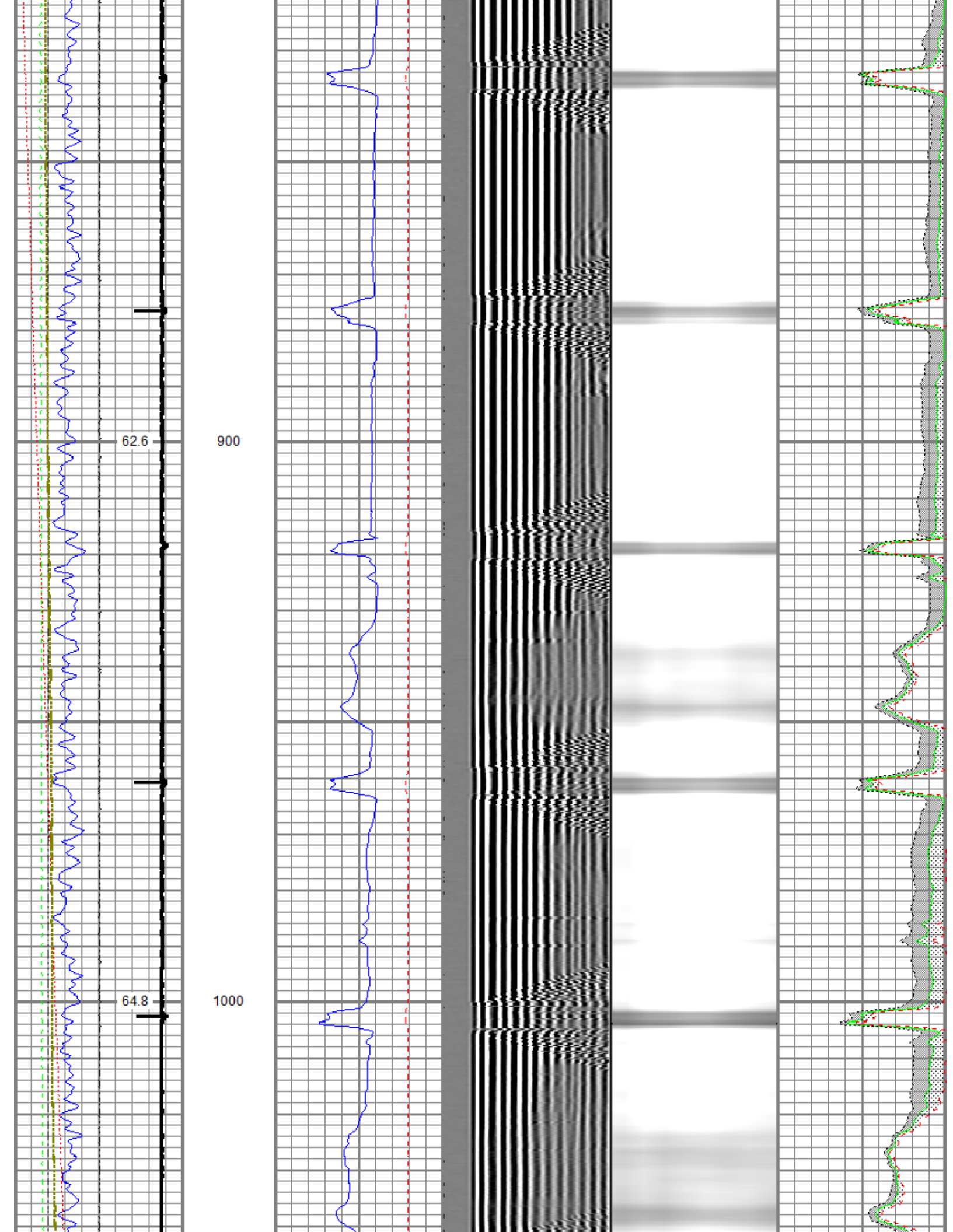
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Line Speed	0	(mV) 20			0	100
(ft/min) 100		3' Travel Time				Maximum Amplitude
Line Tension (lb) 2000	0	650 (usec) 150			0	100
Differential Temperature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

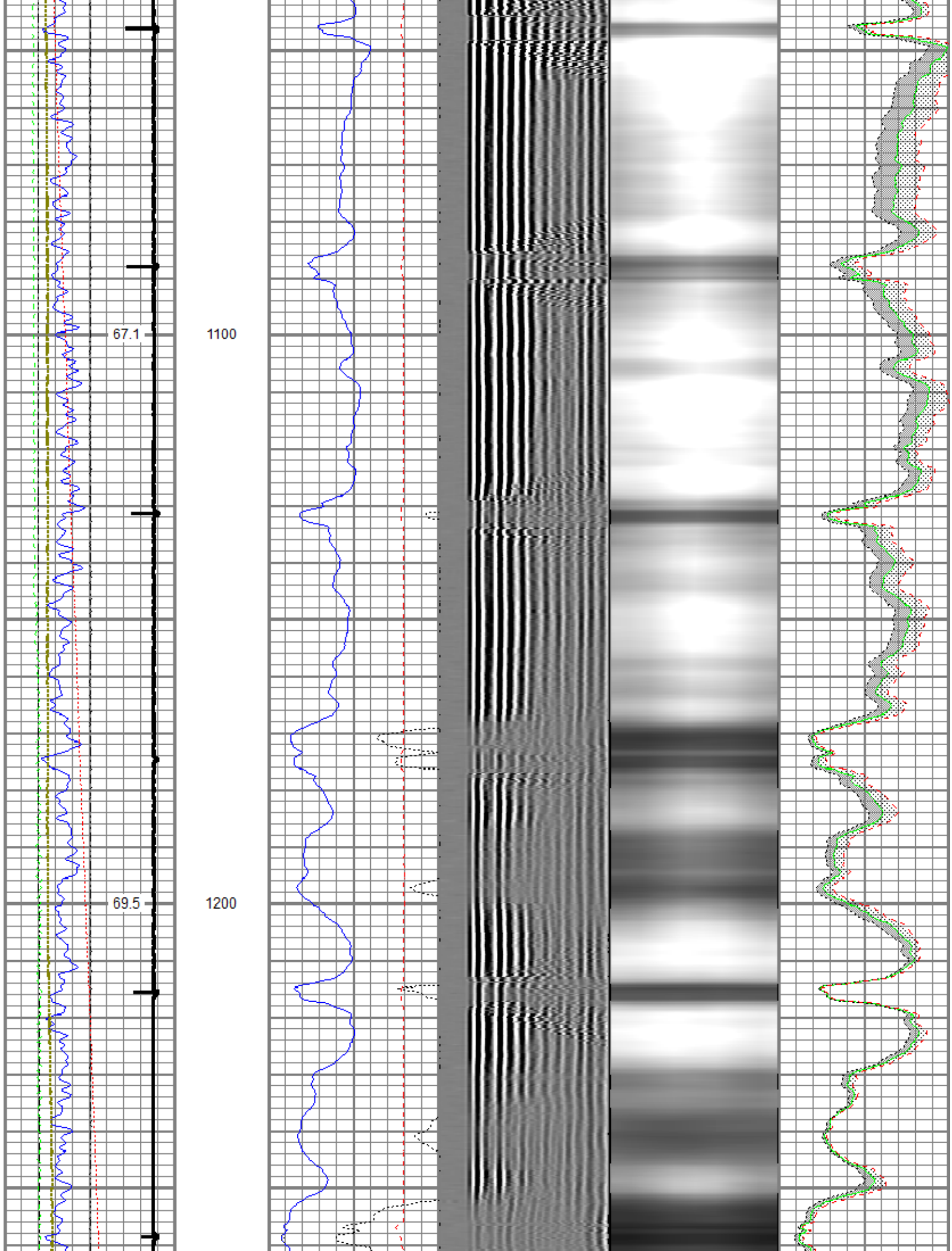


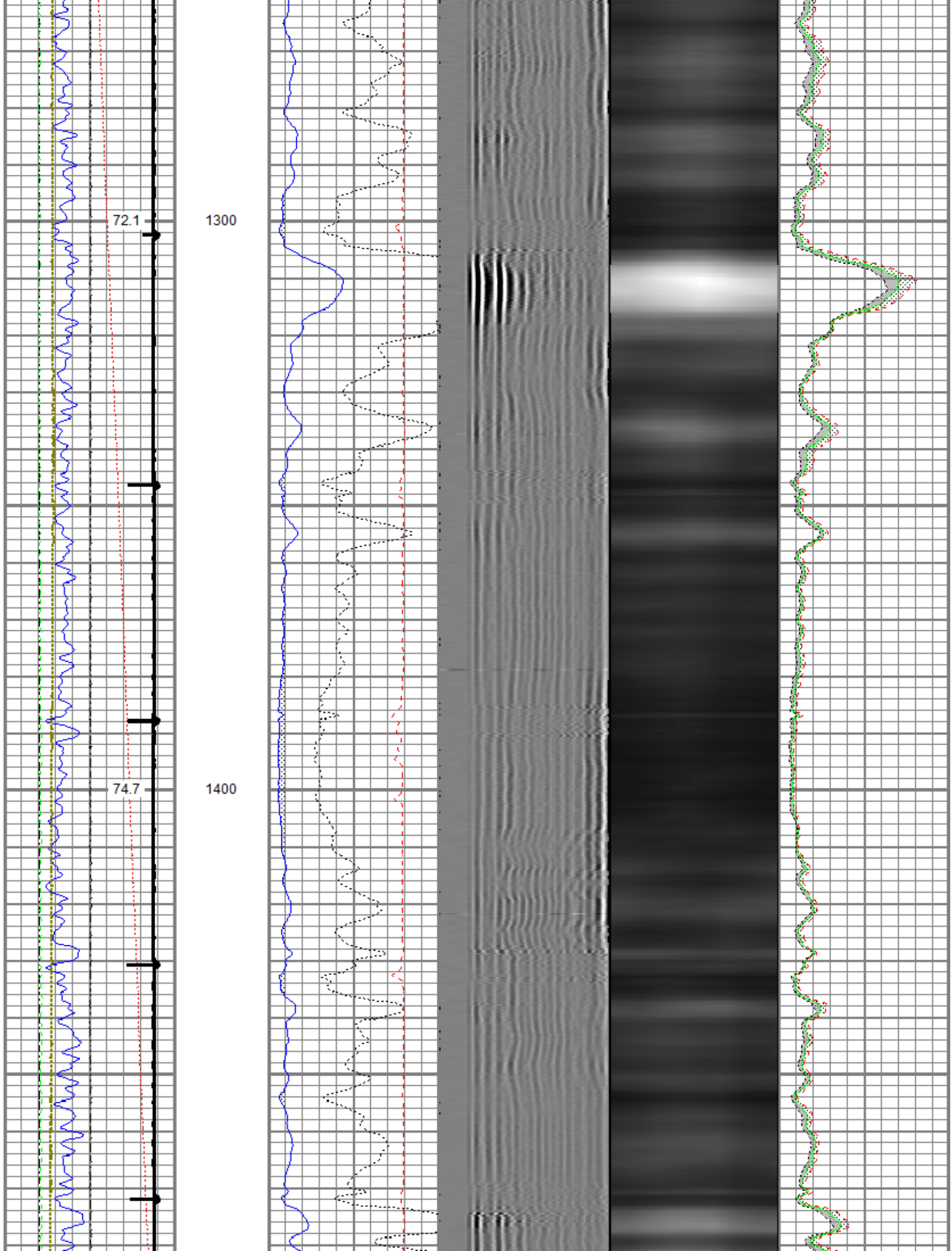


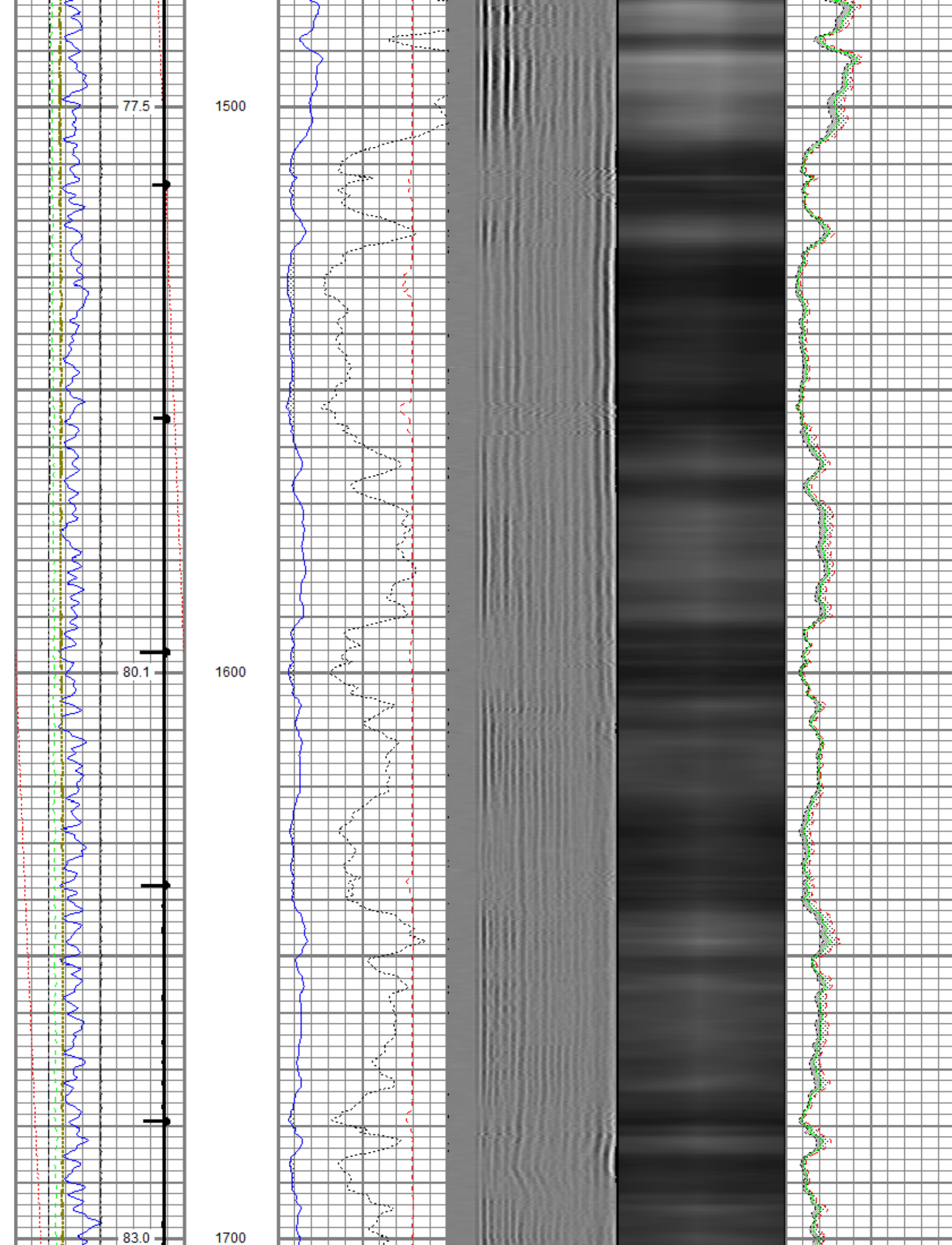


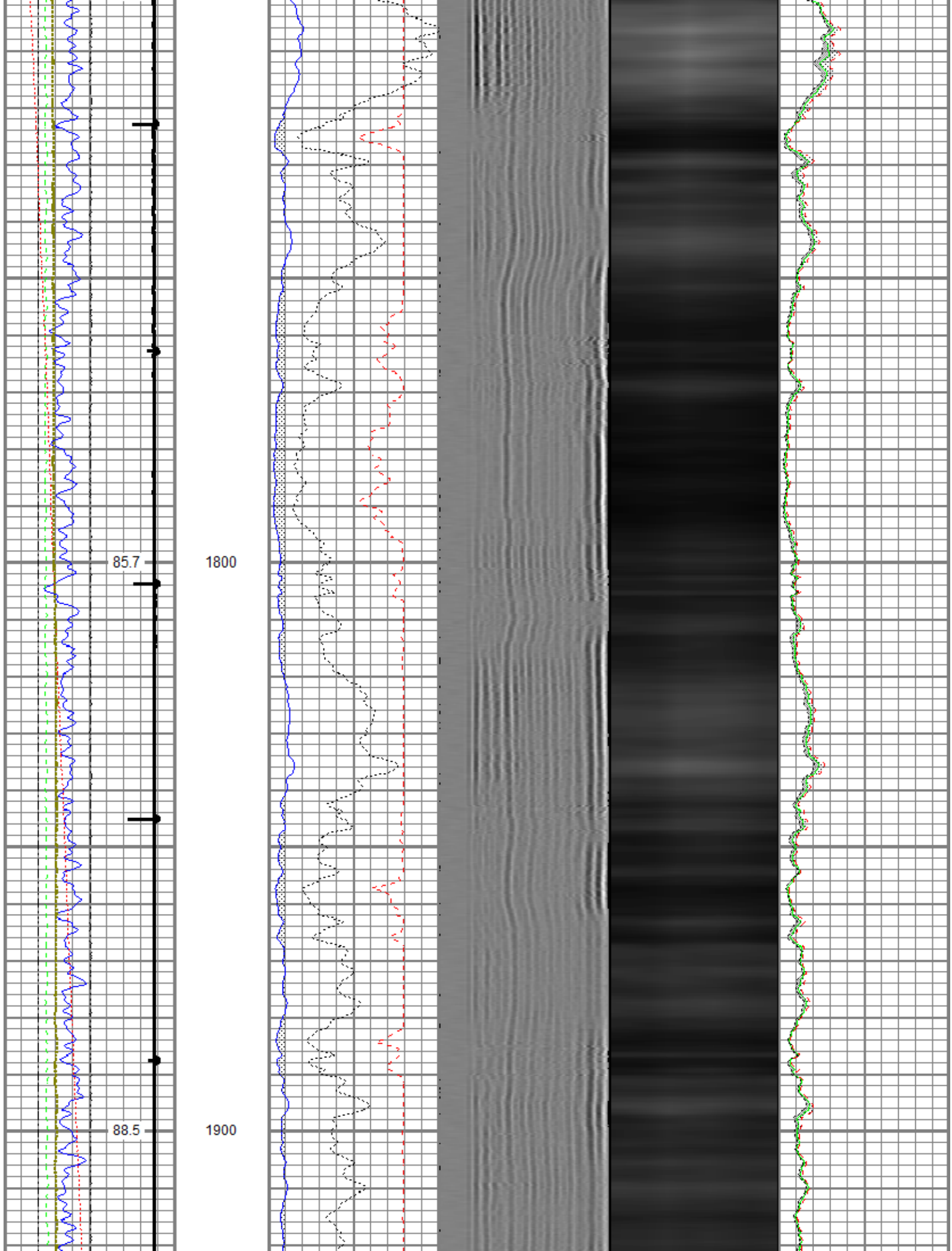


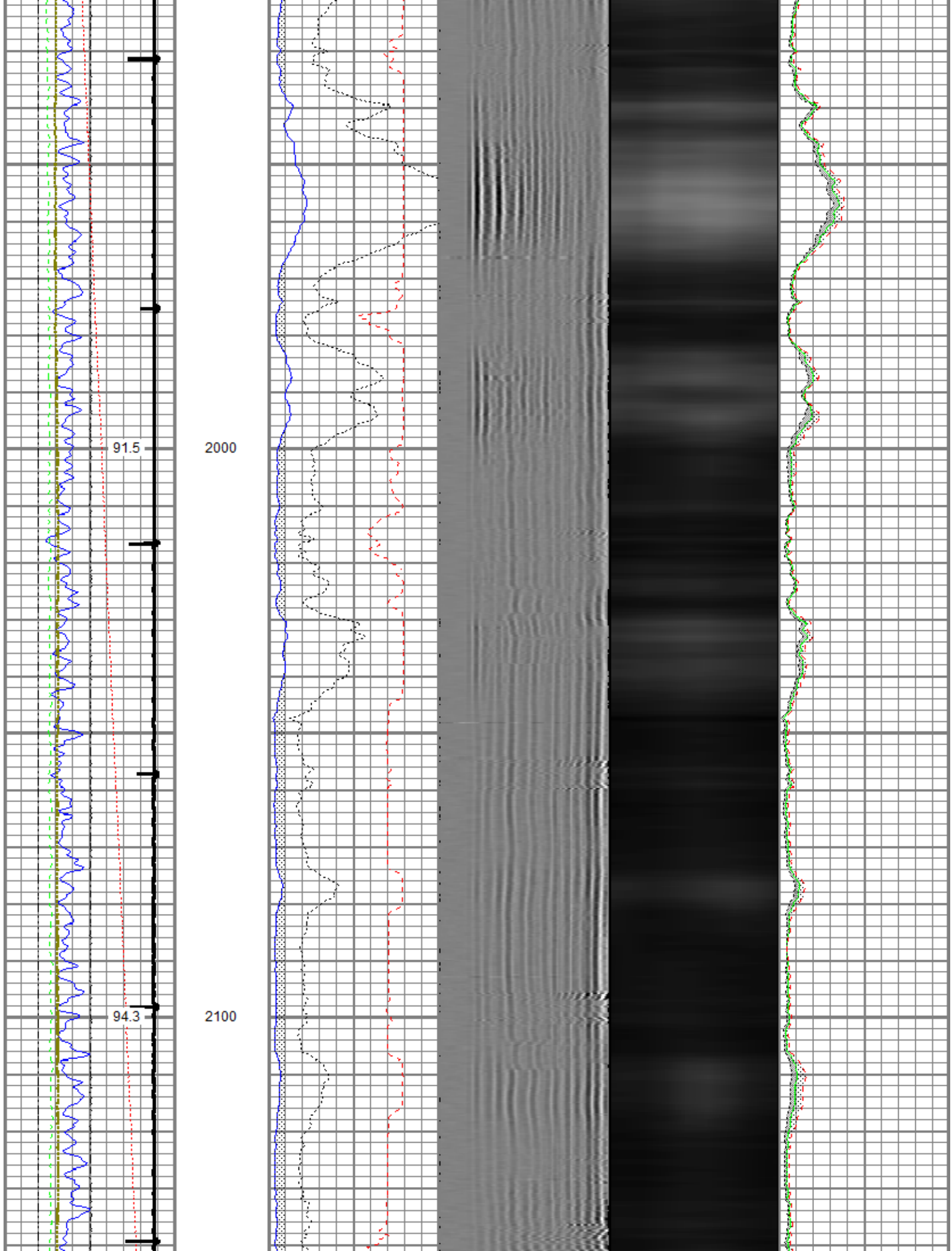


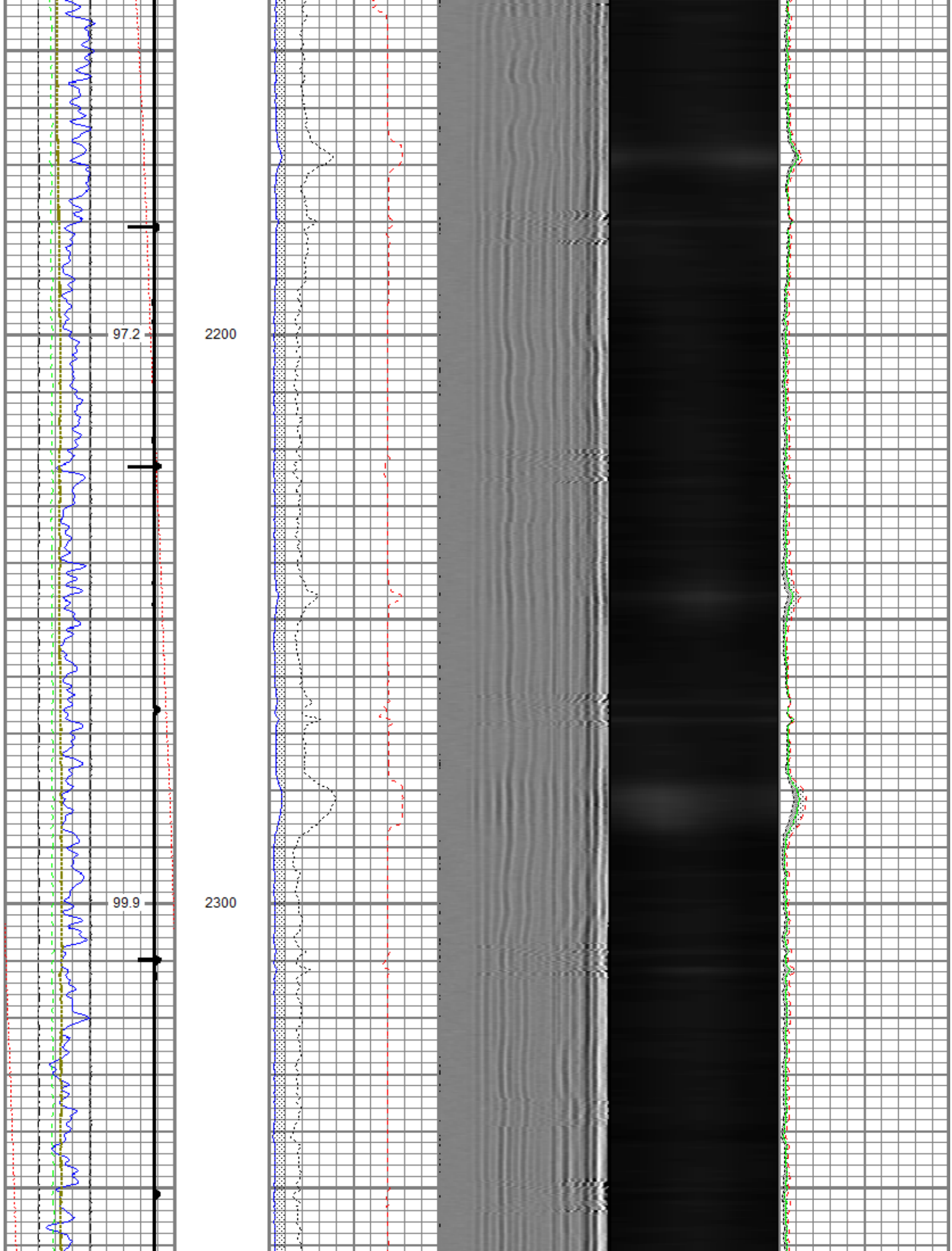


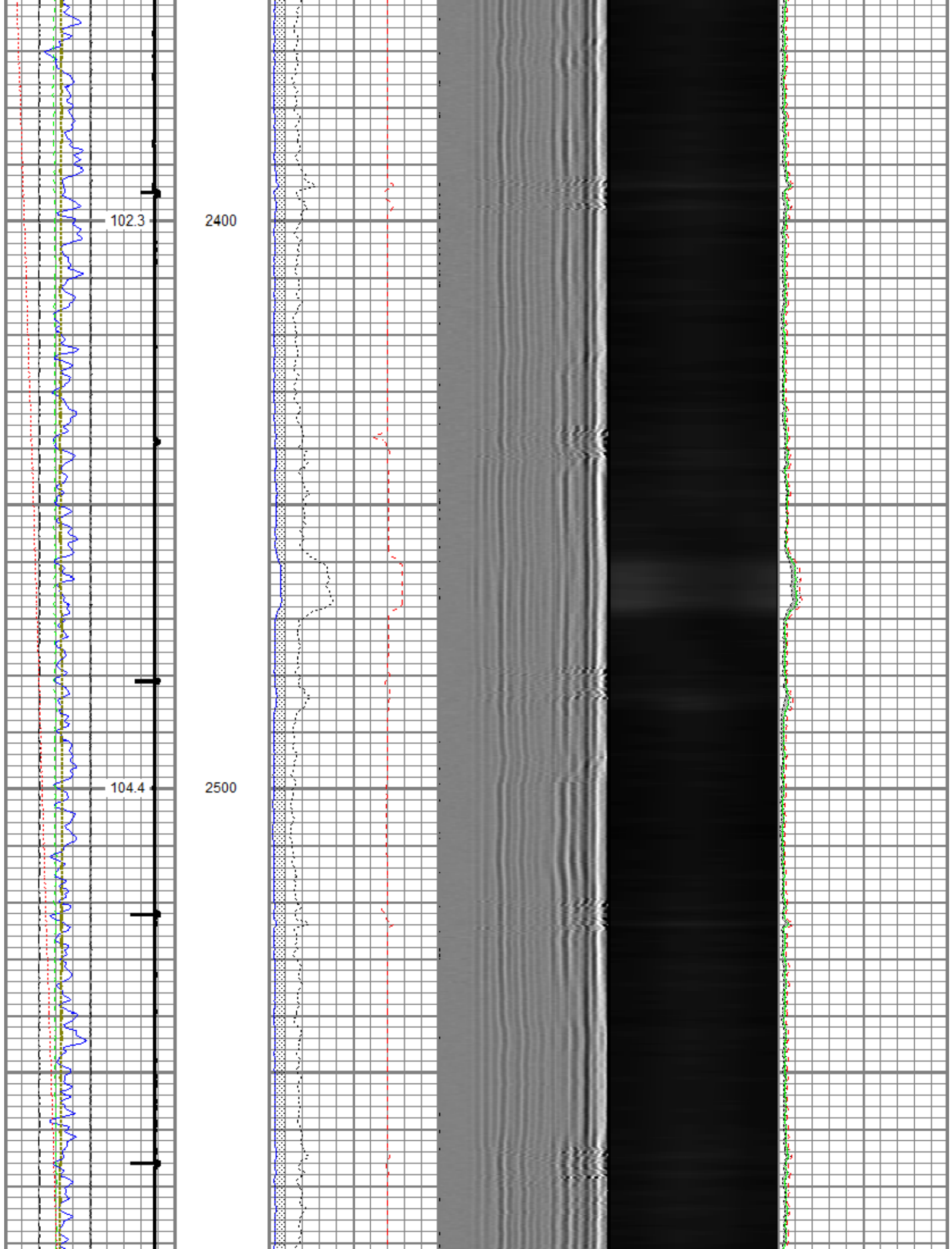


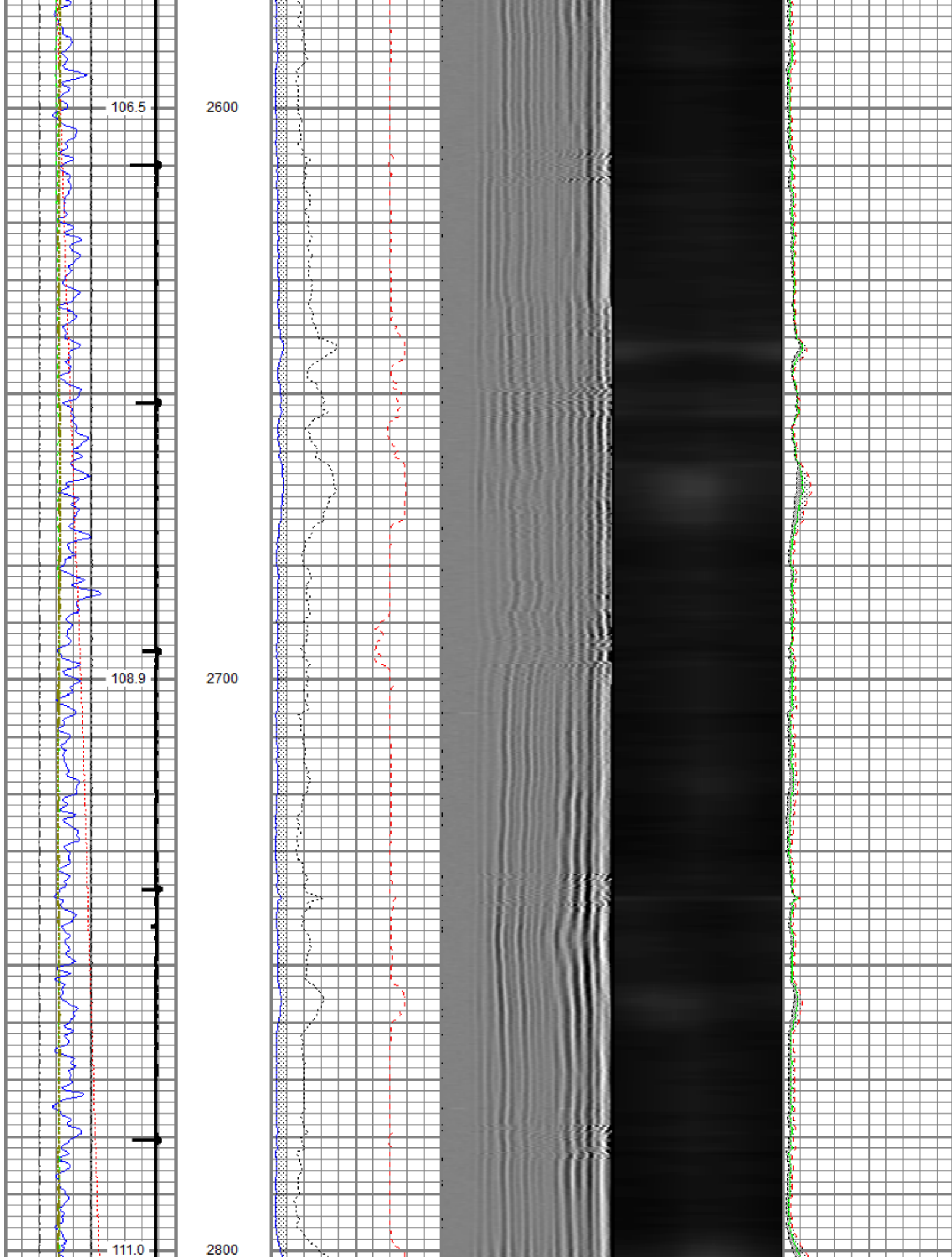


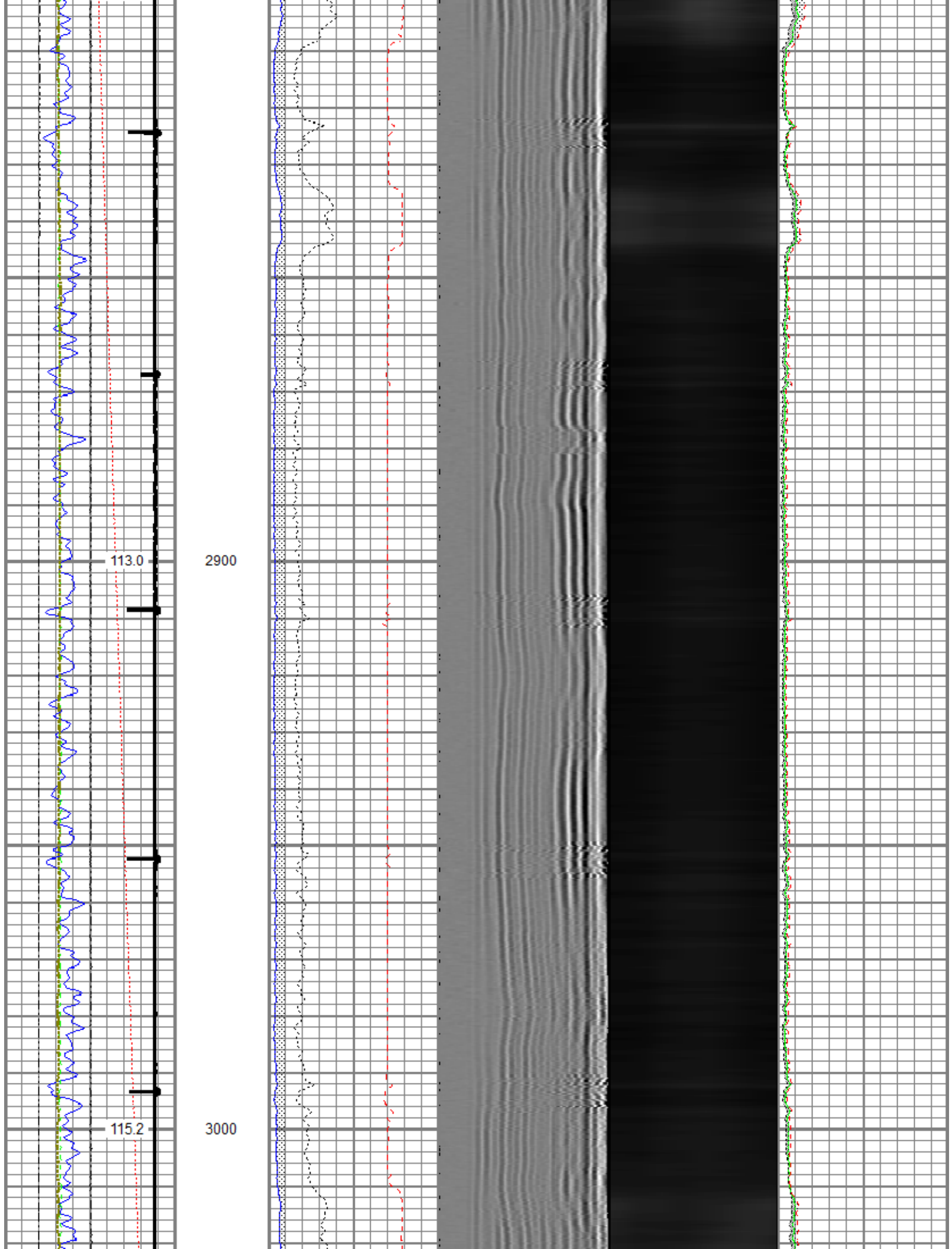


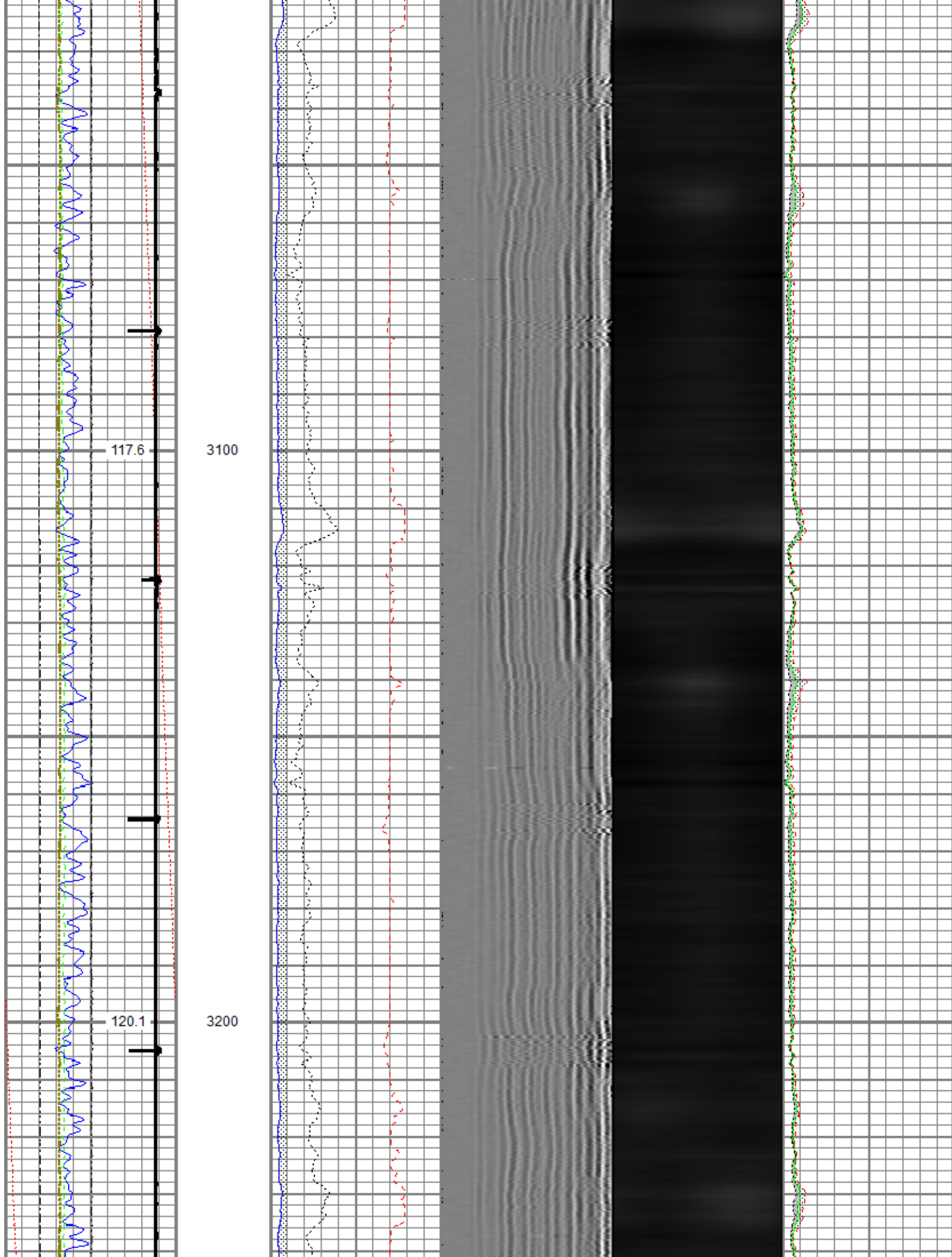


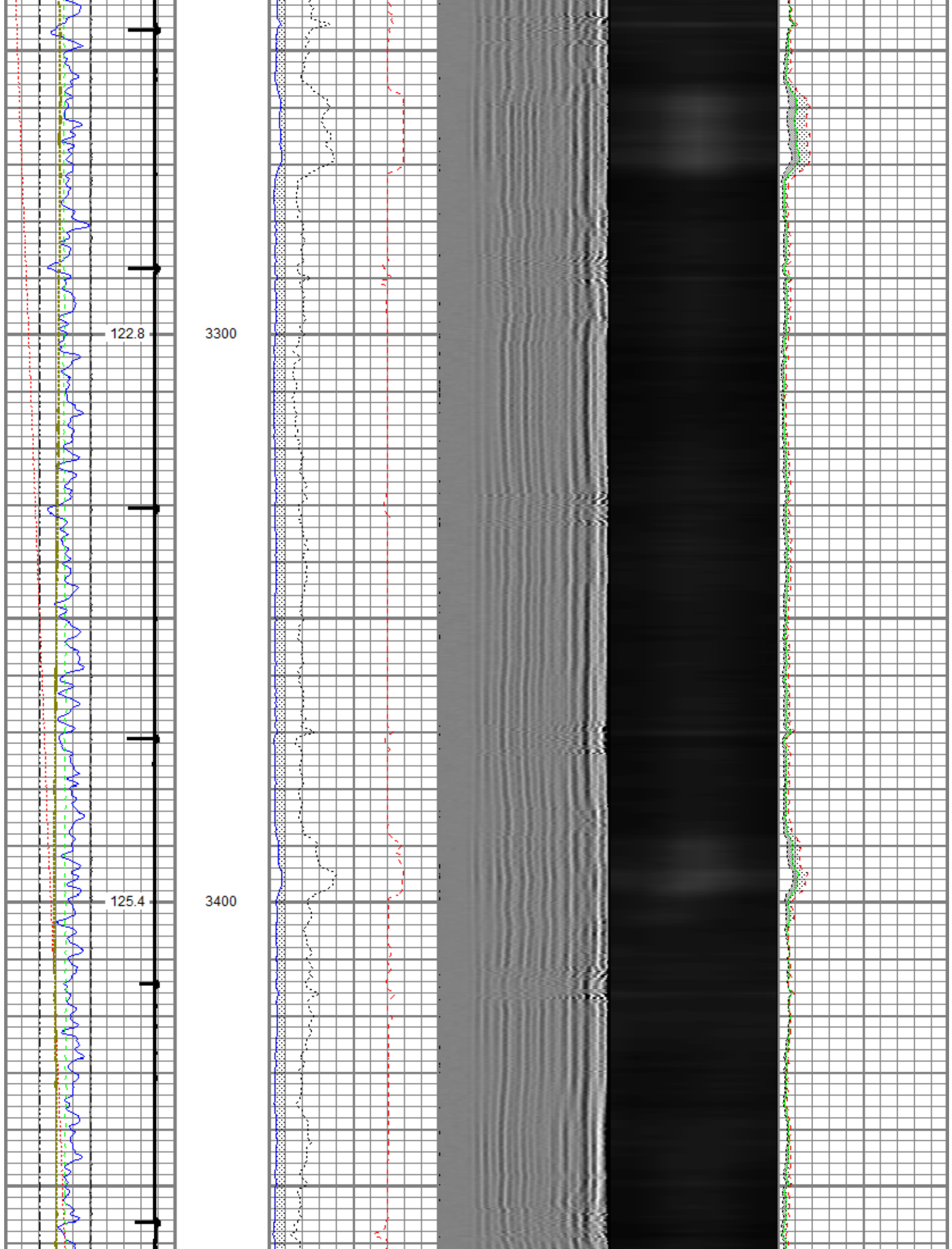


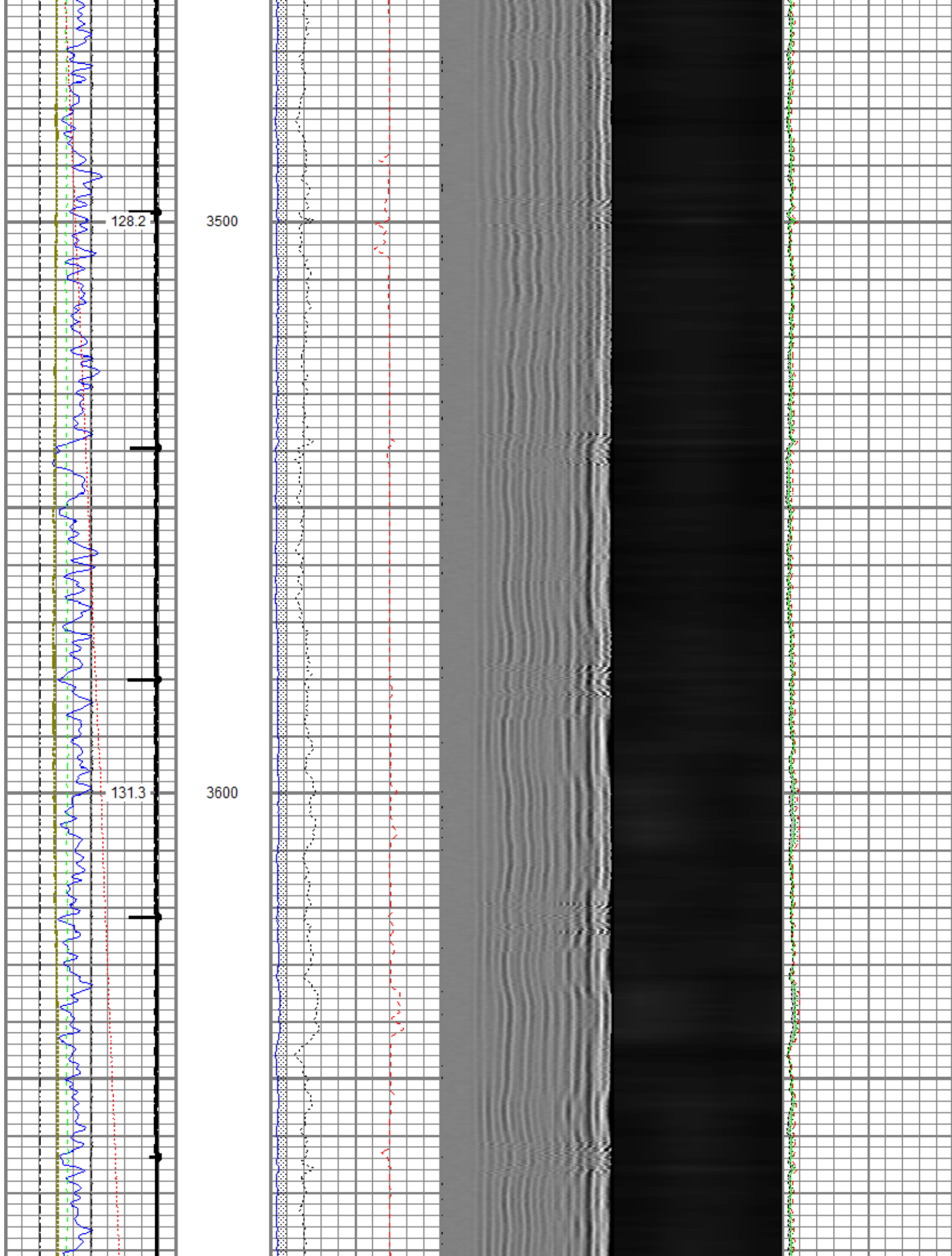


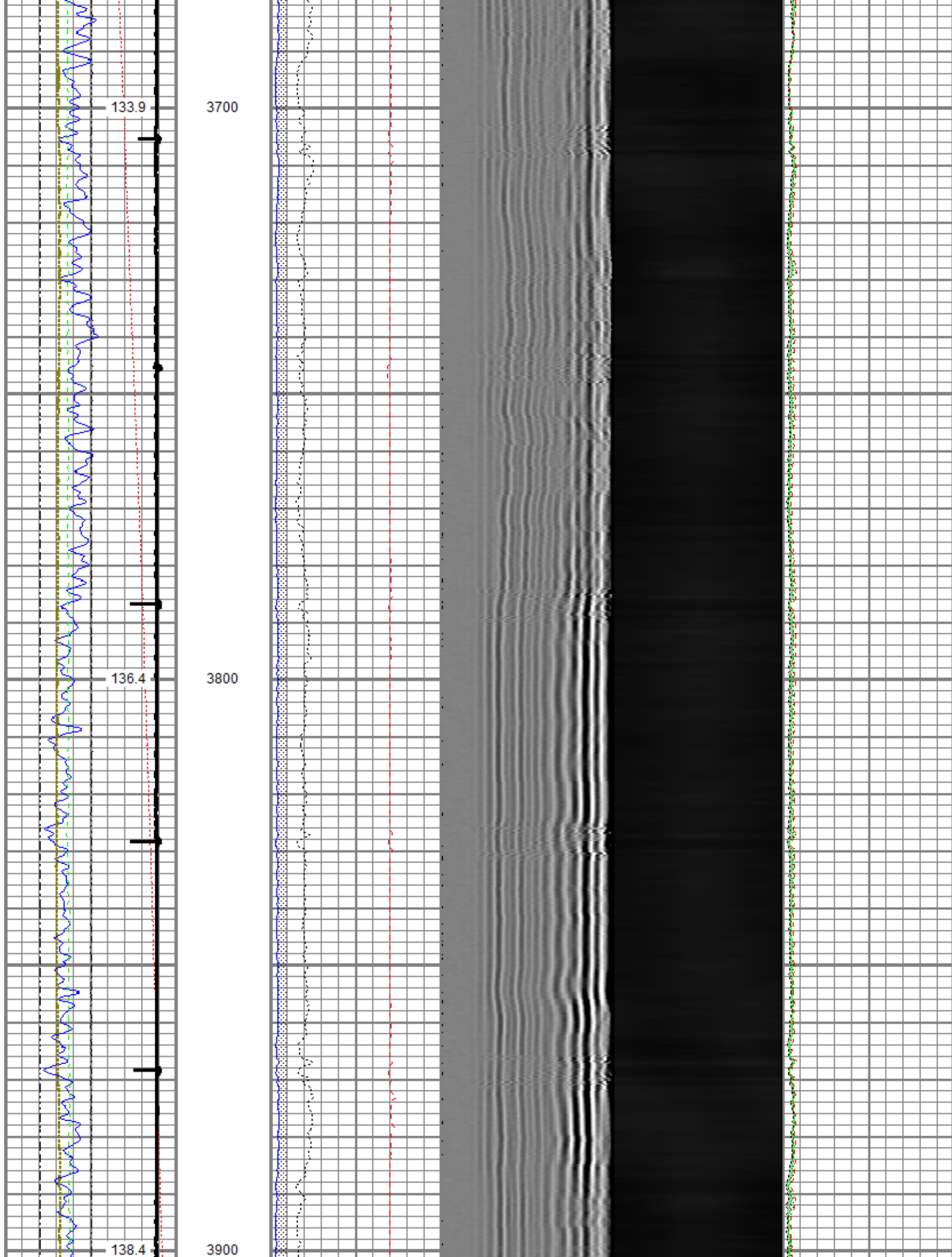


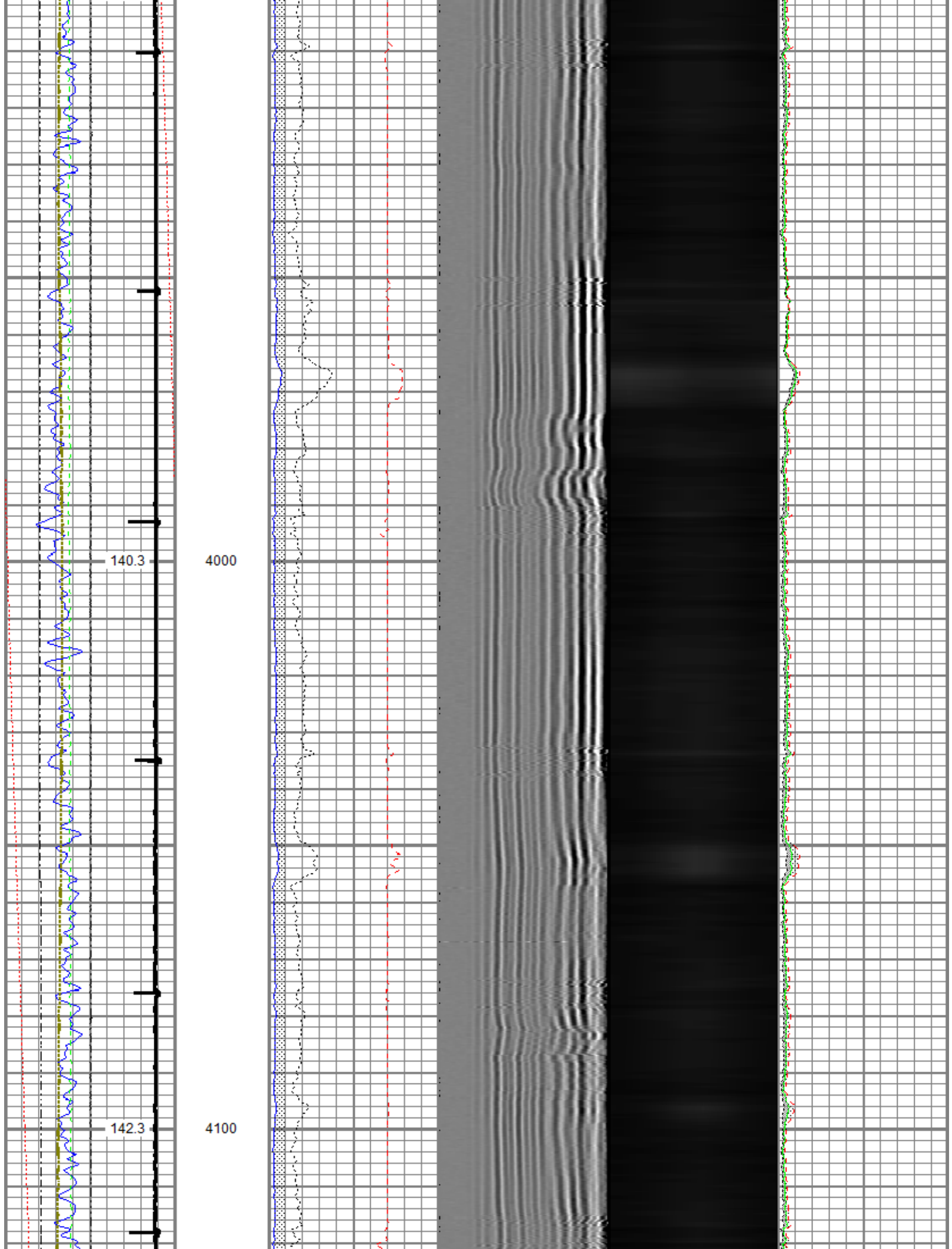


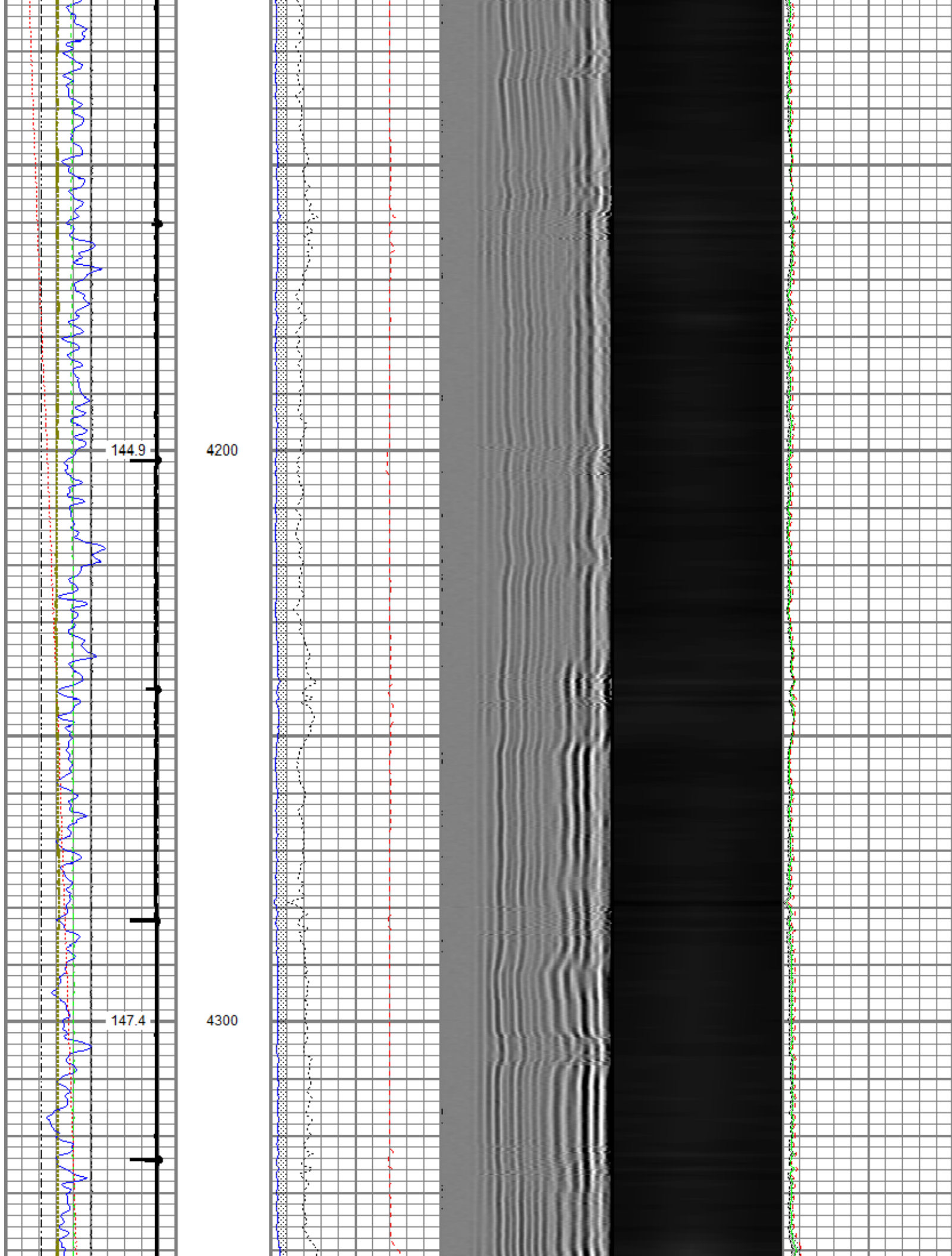


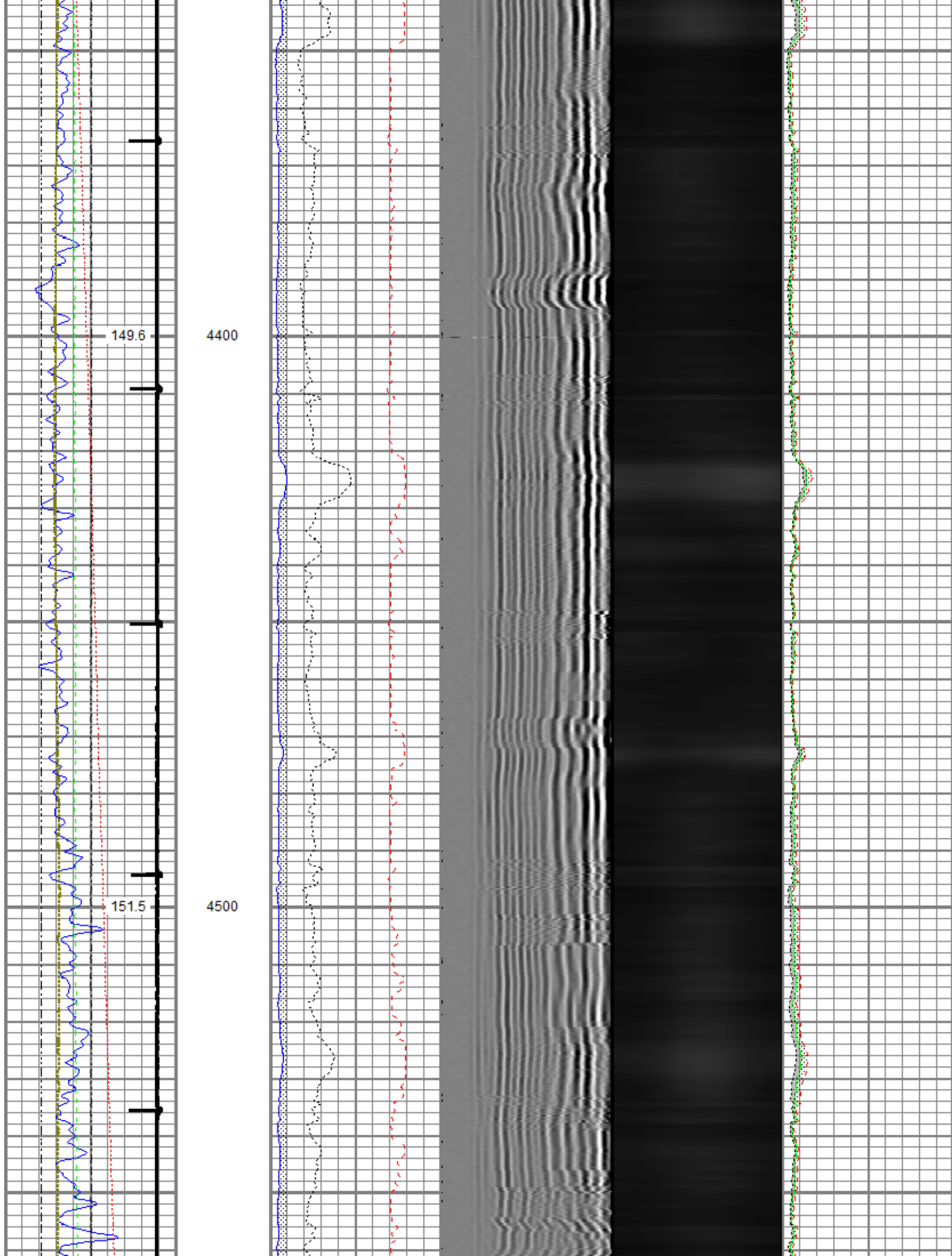


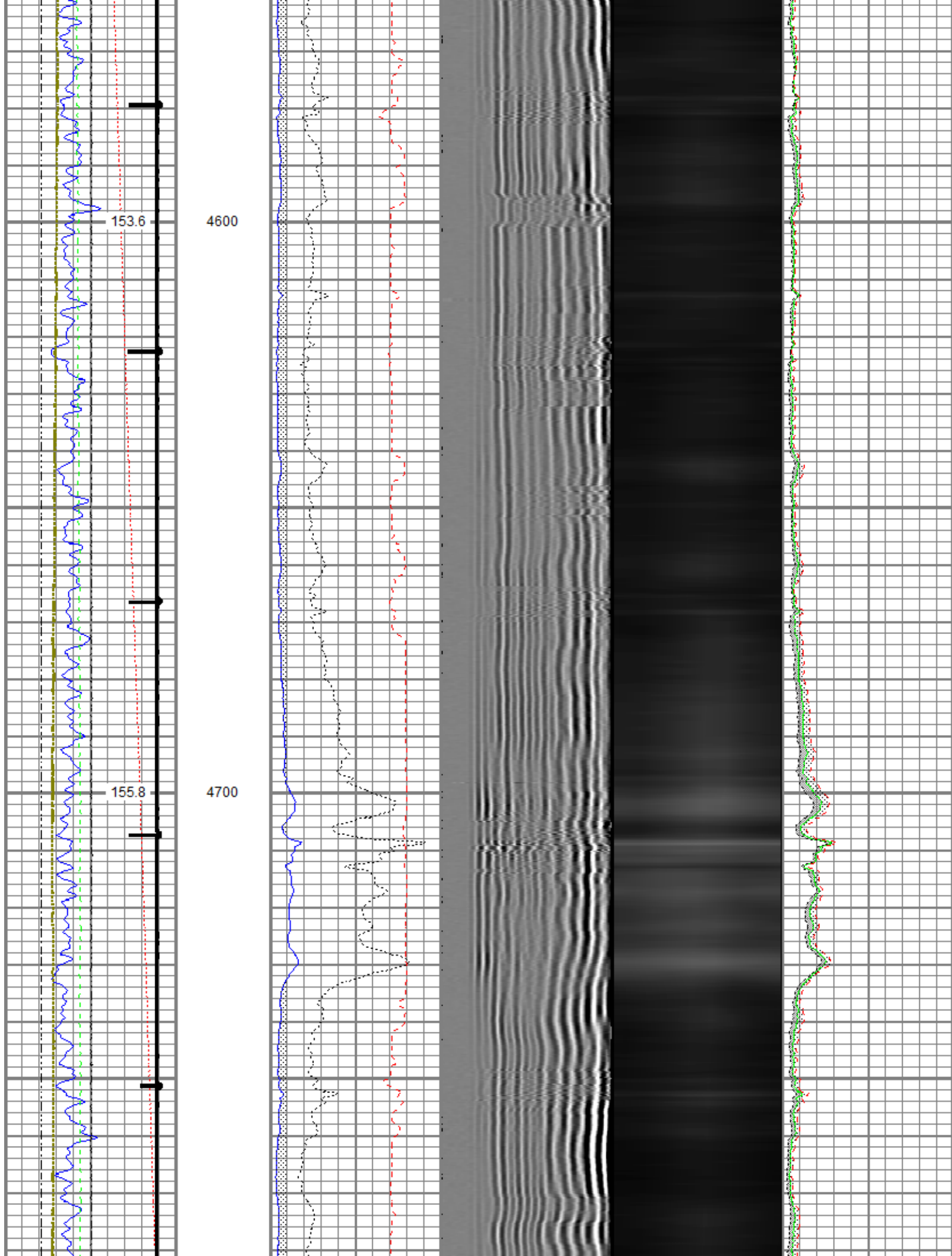


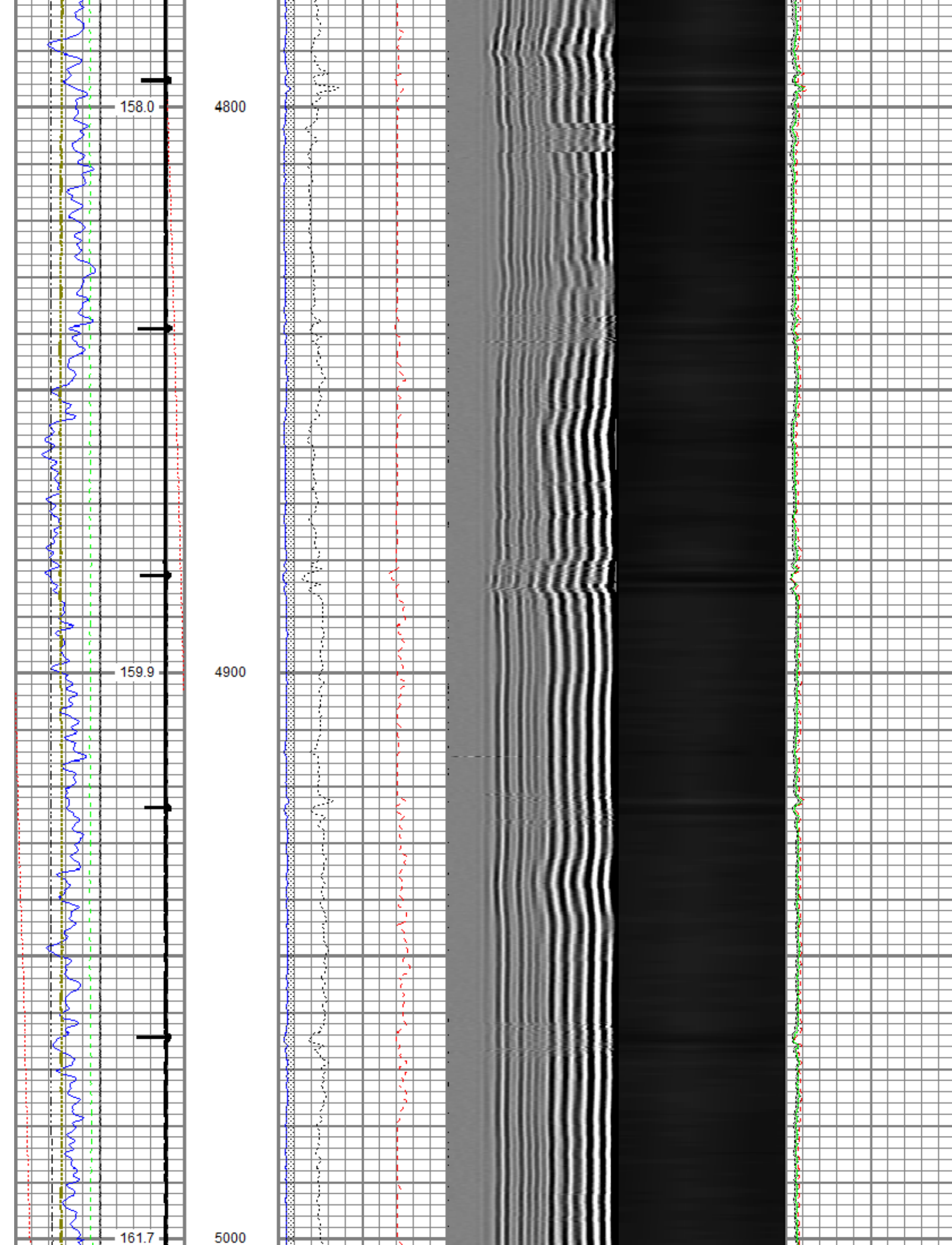


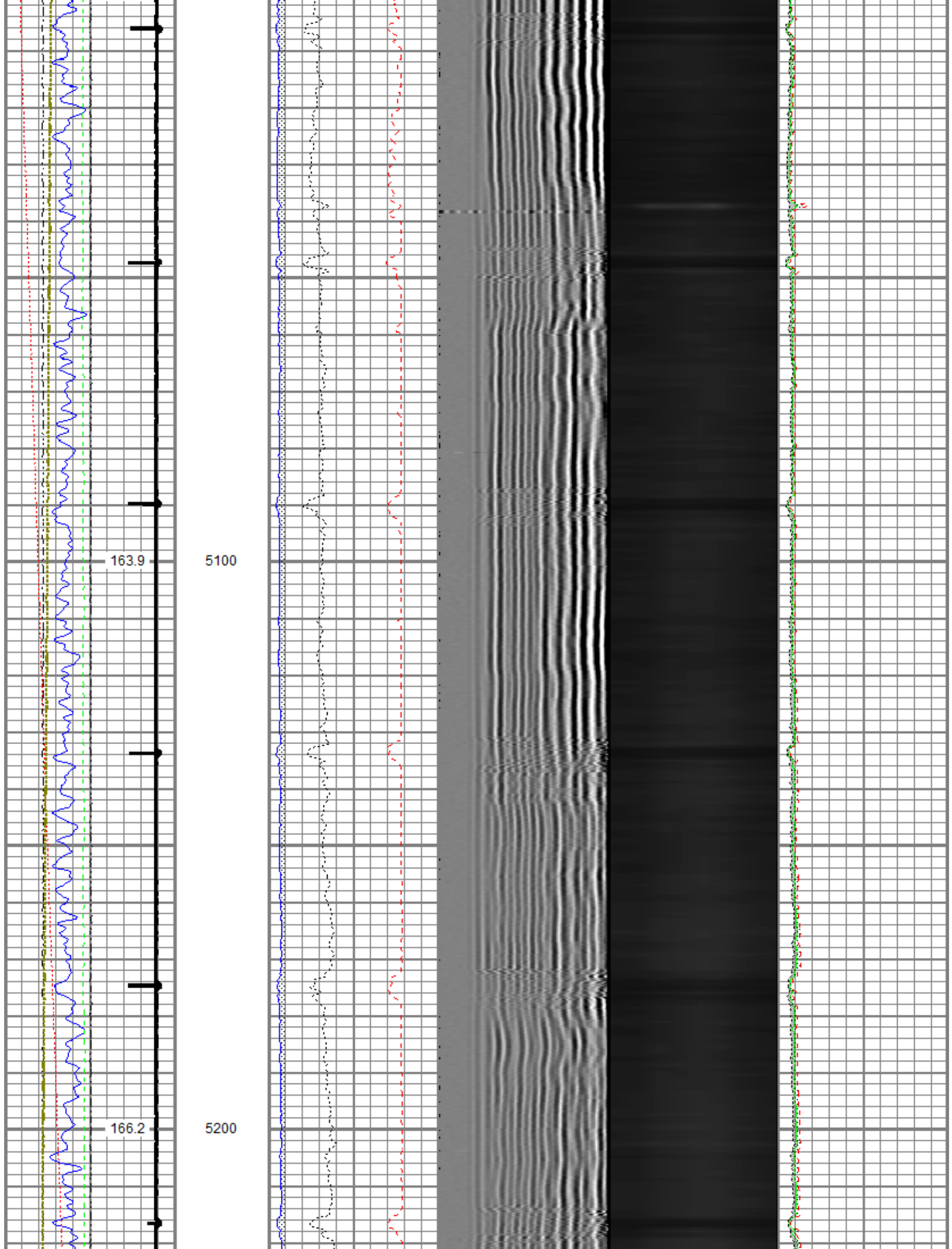


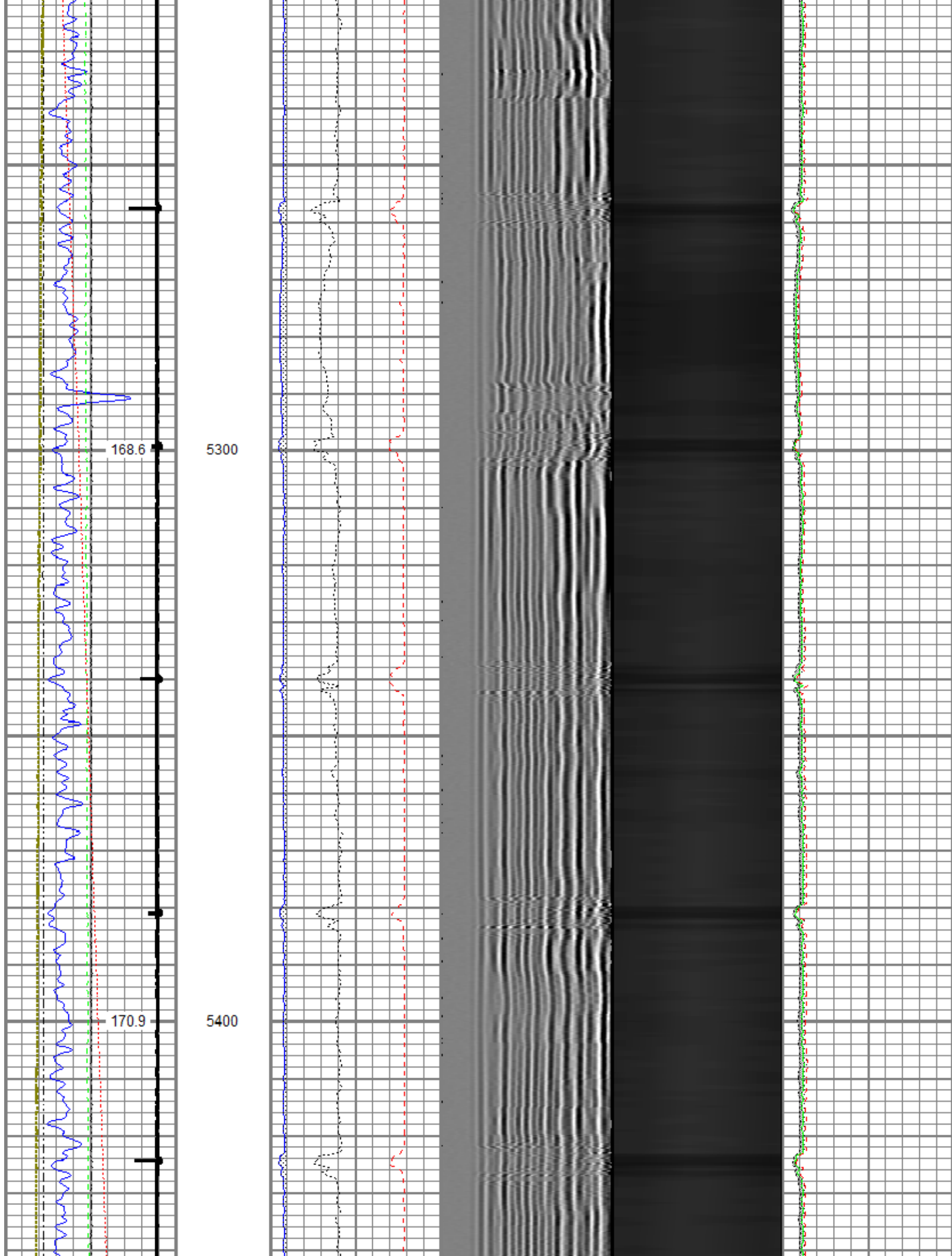


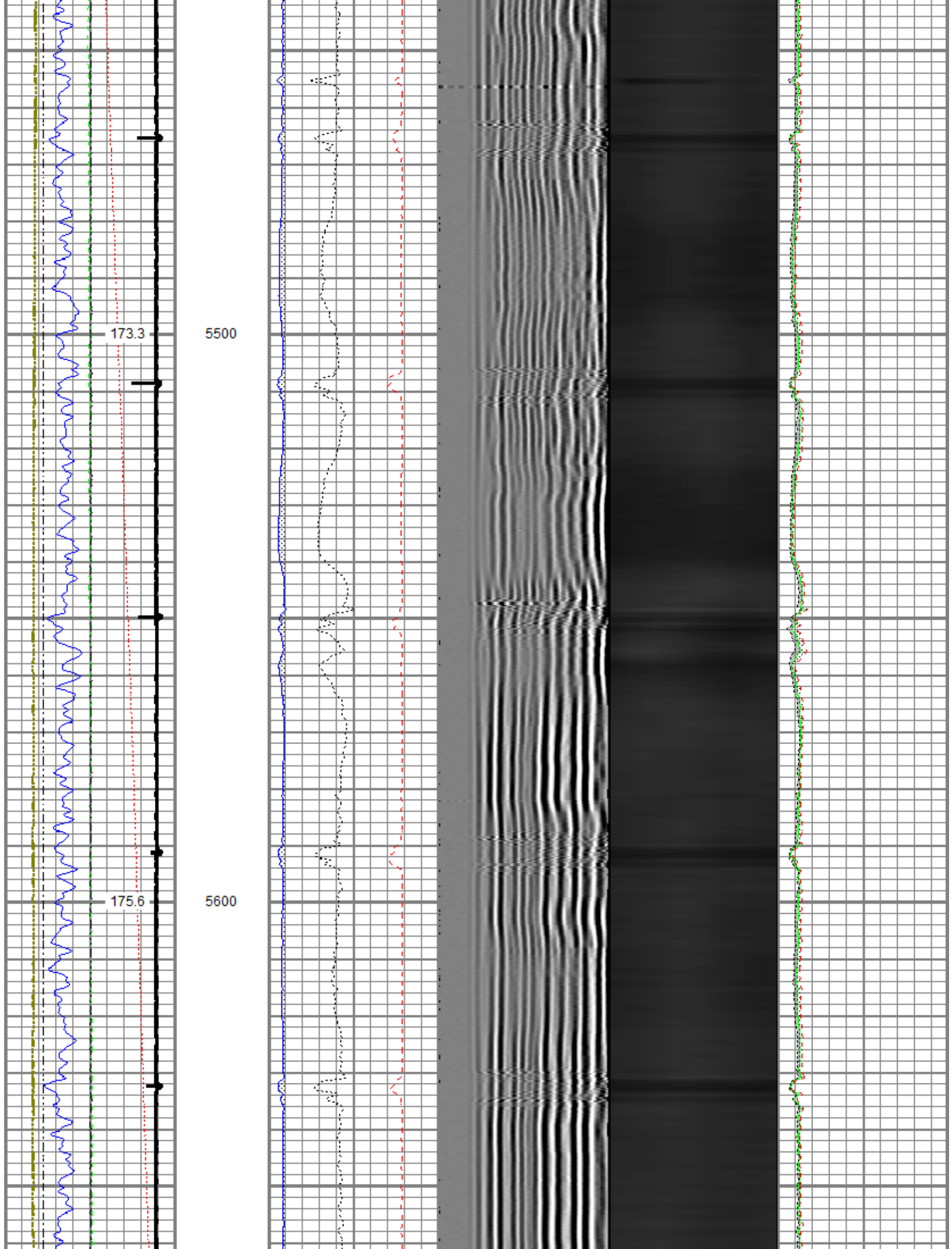


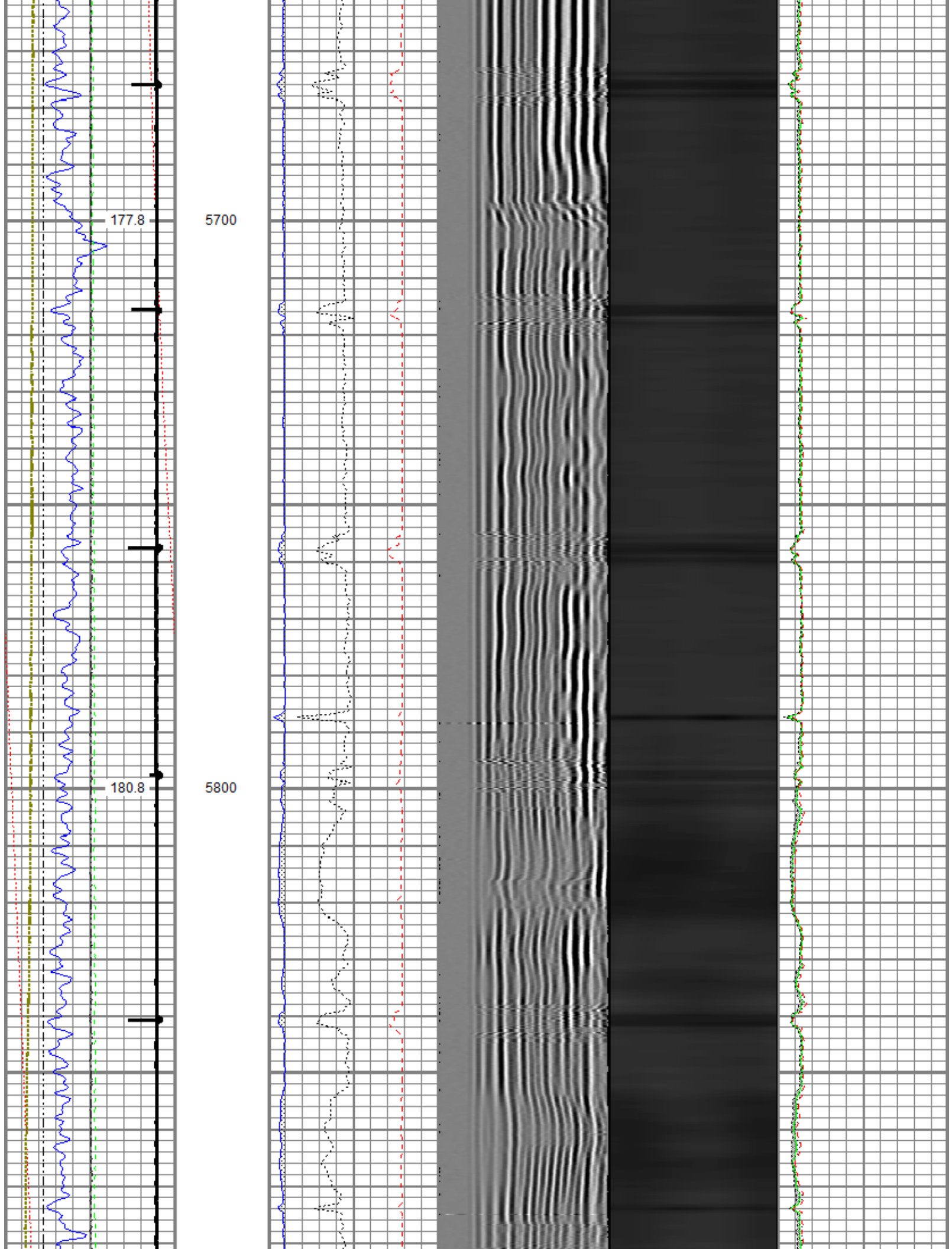


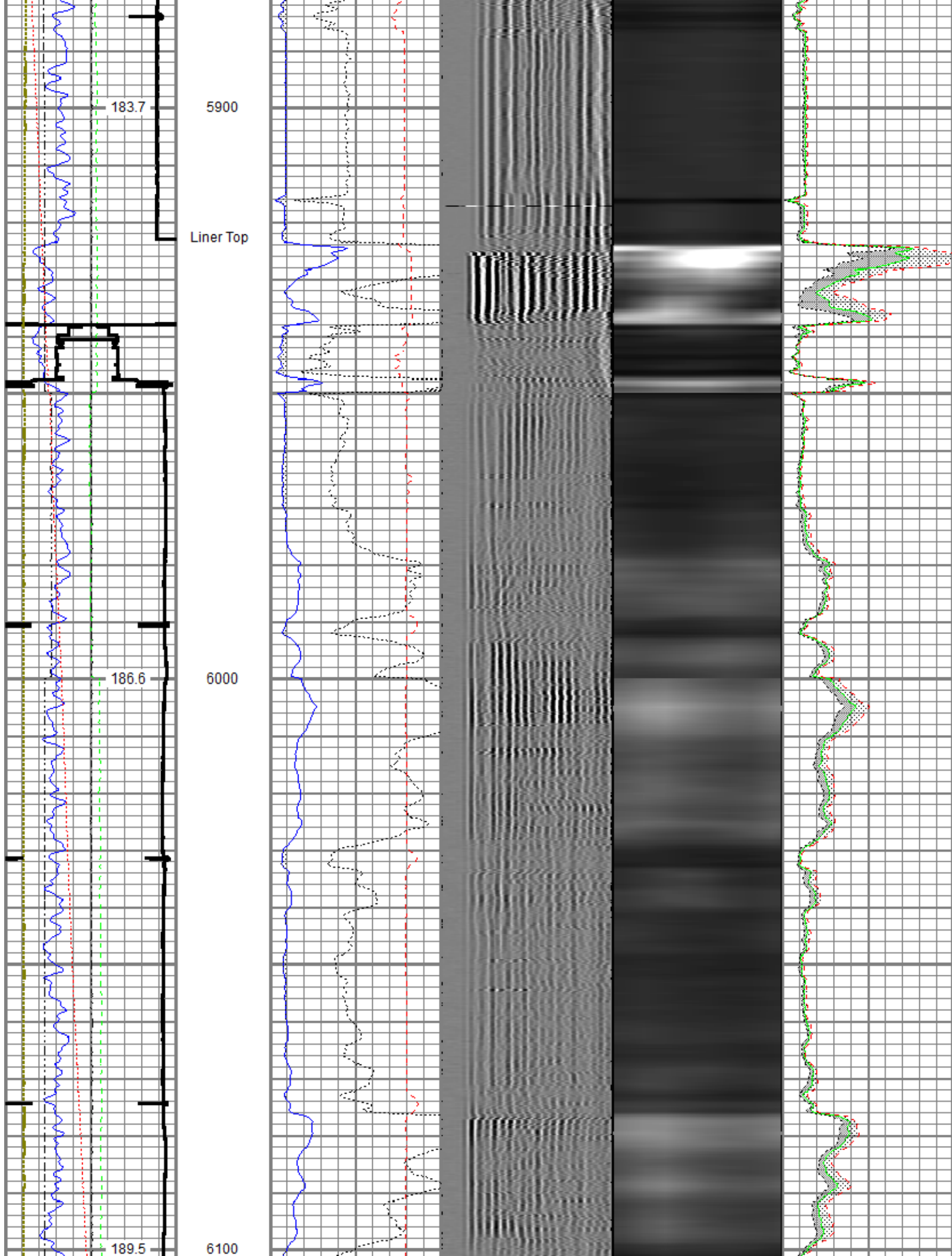


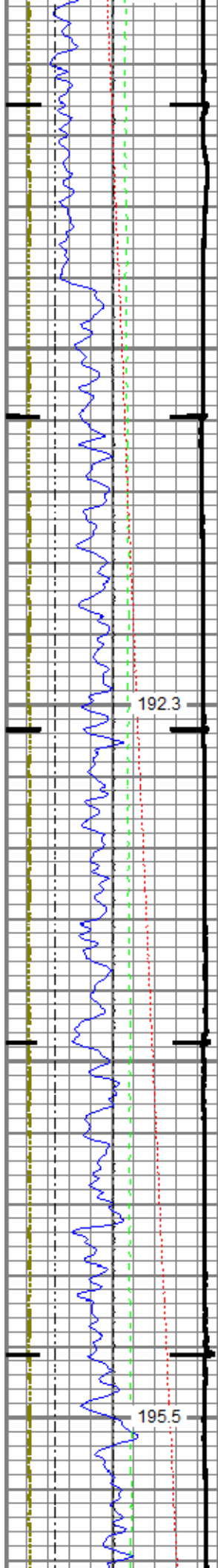






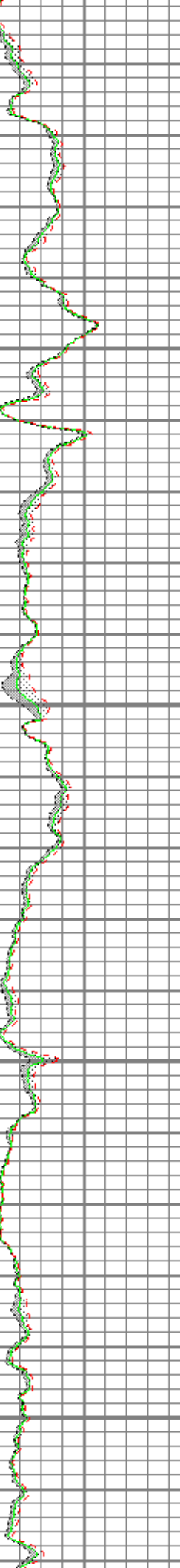
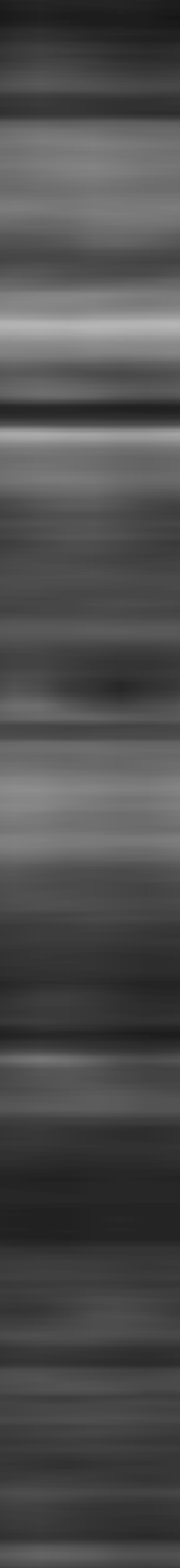
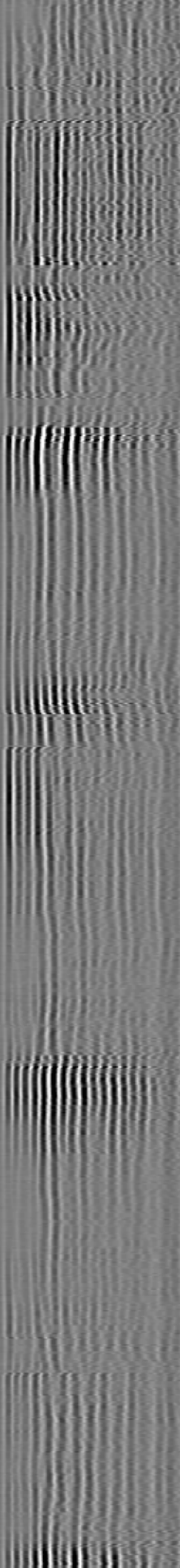
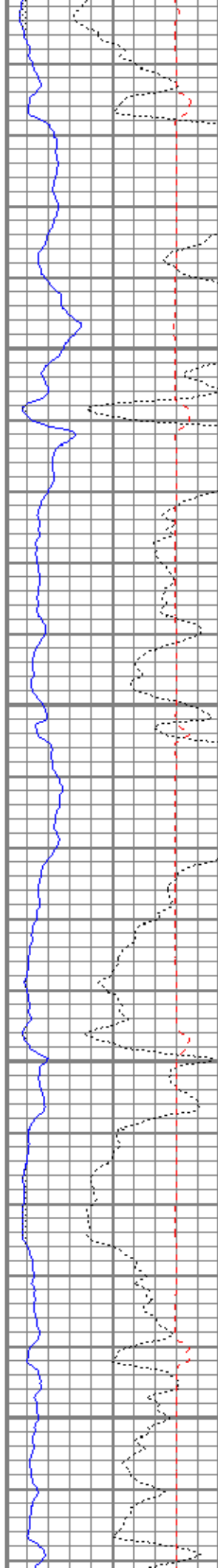


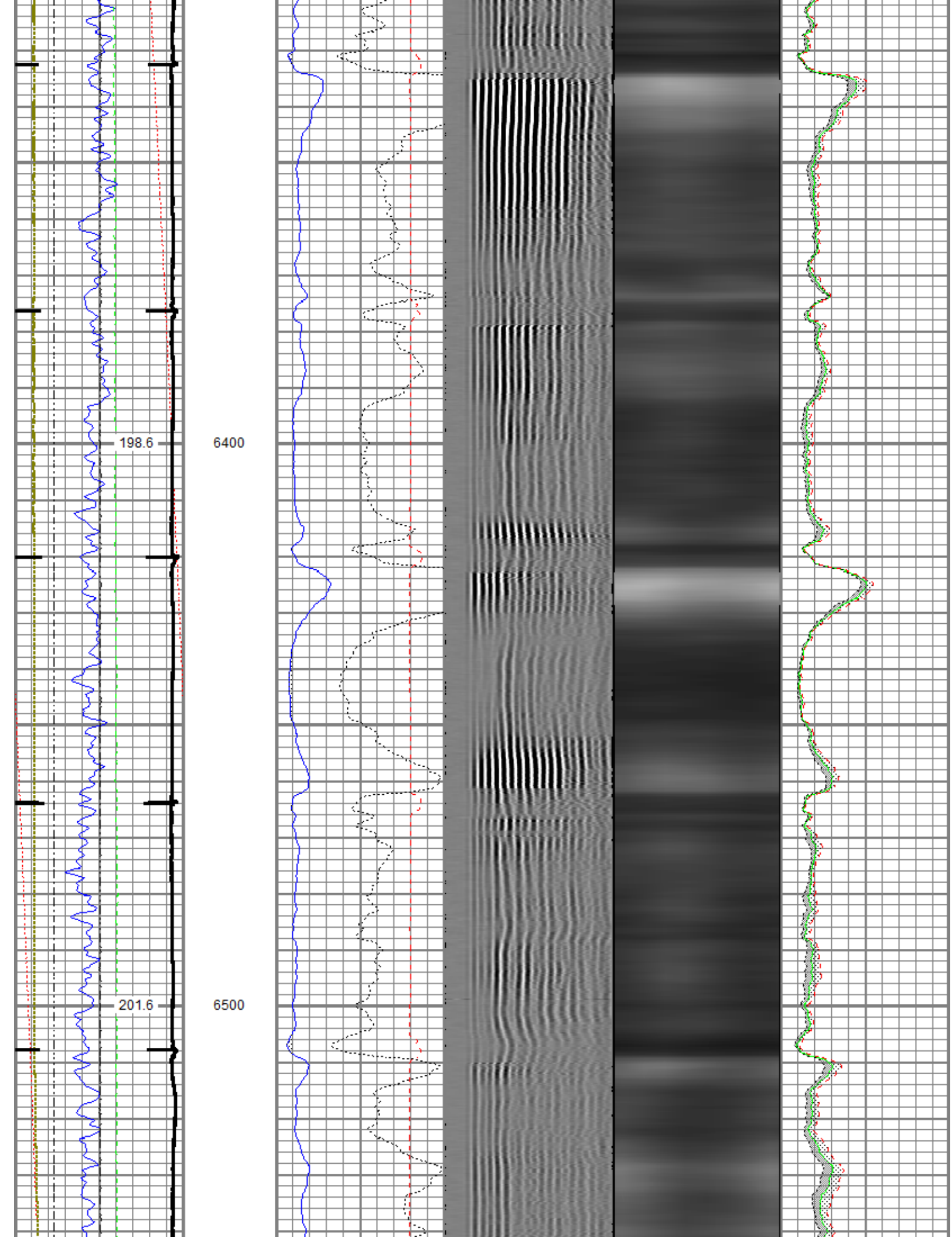


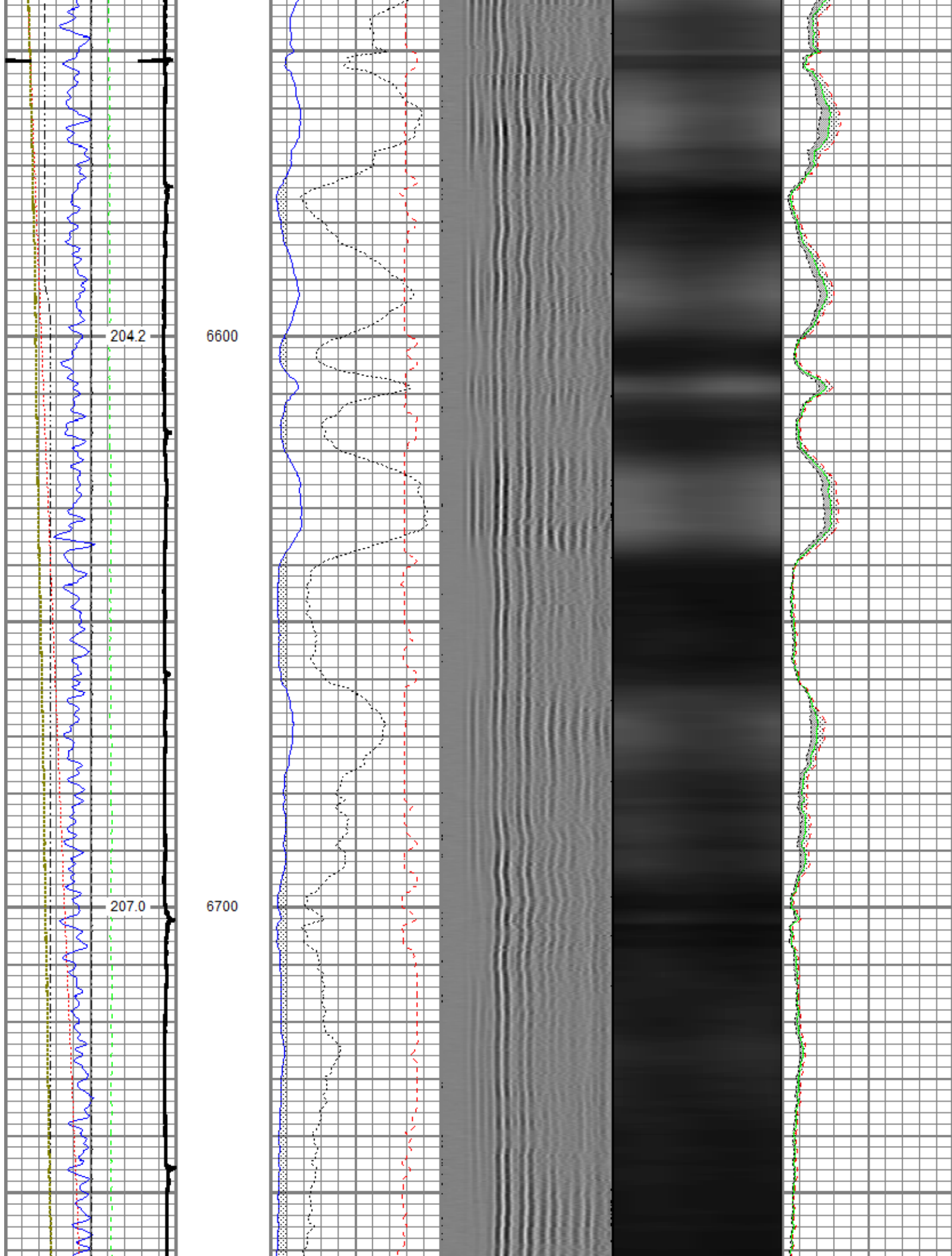


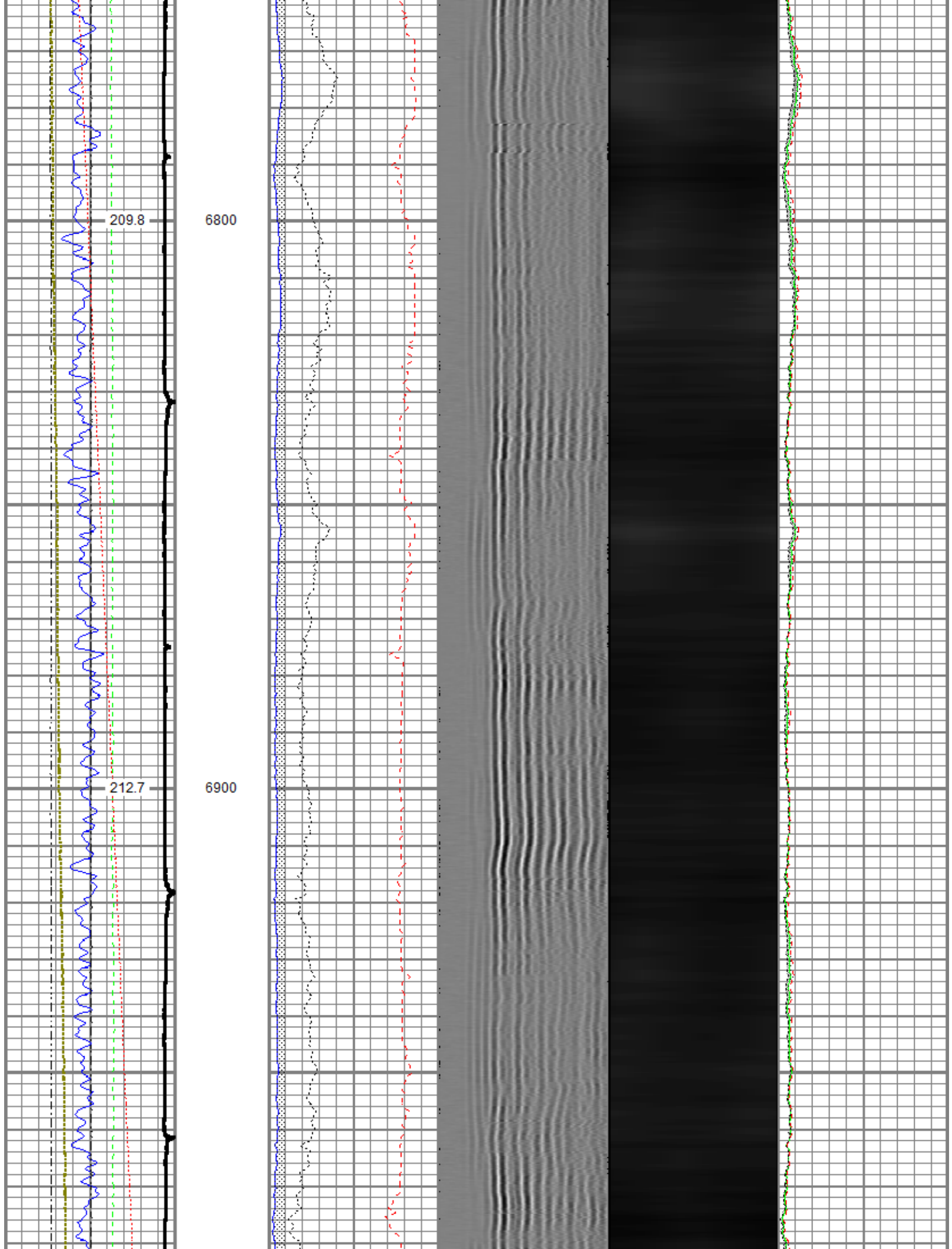
6200

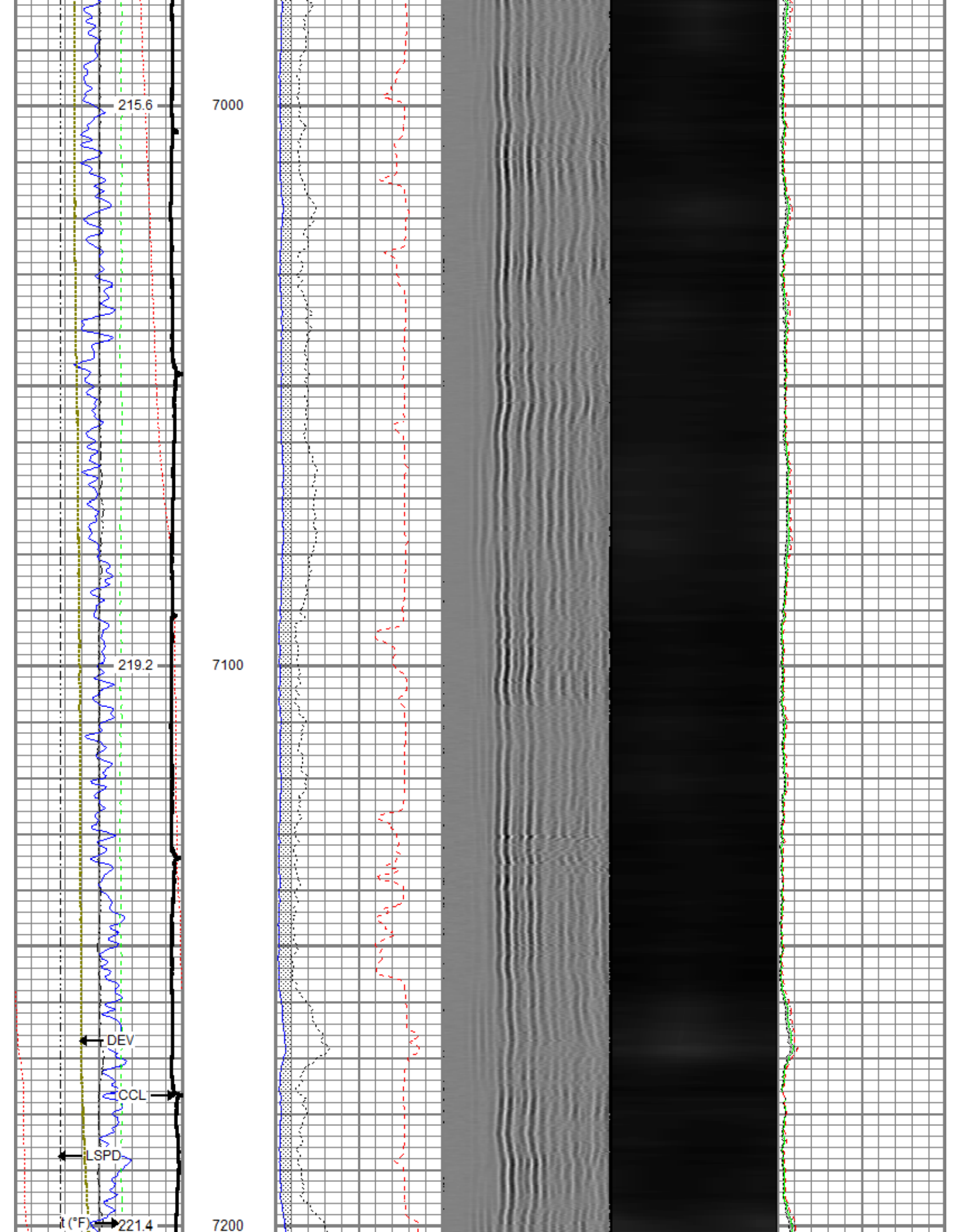
6300

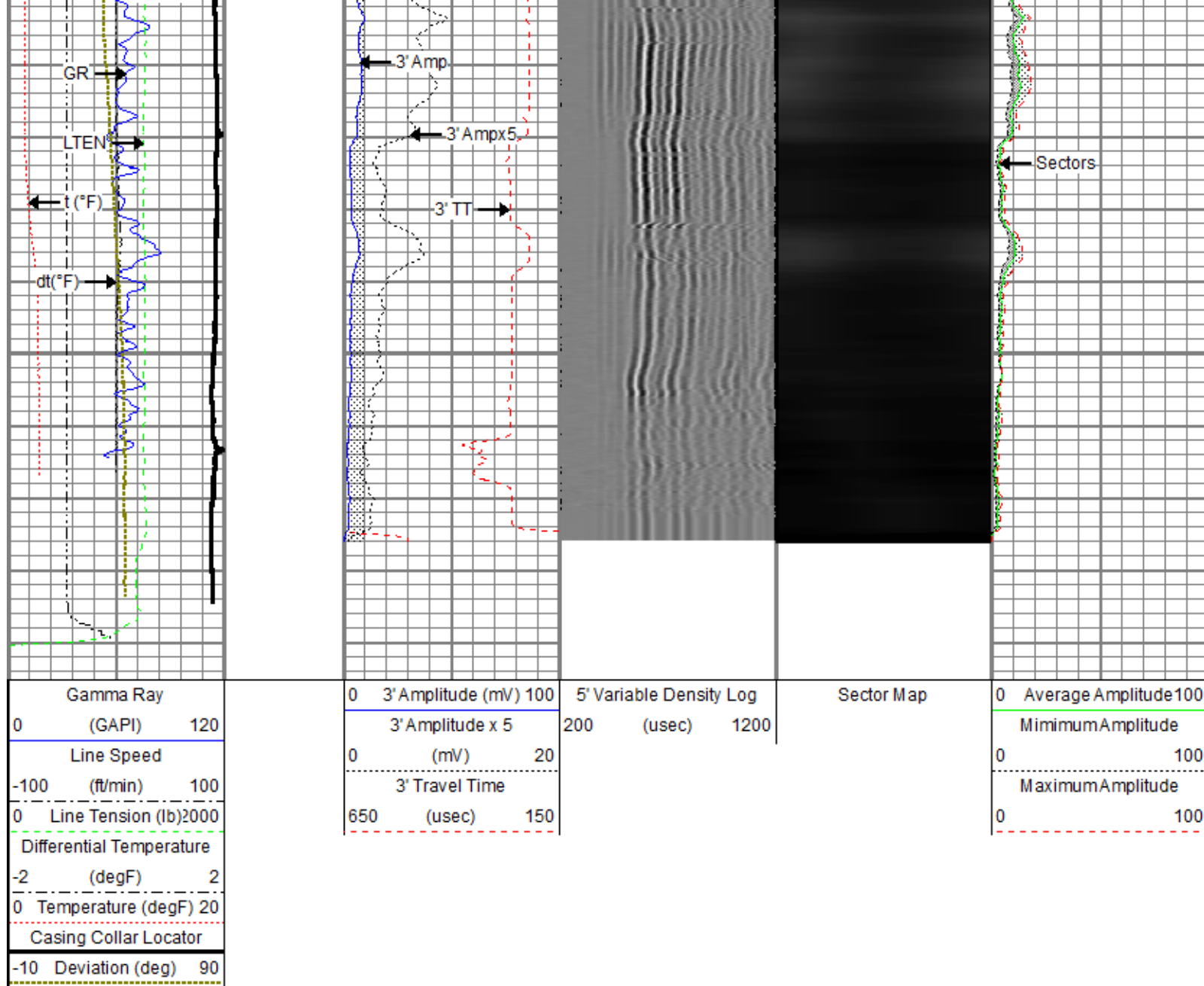








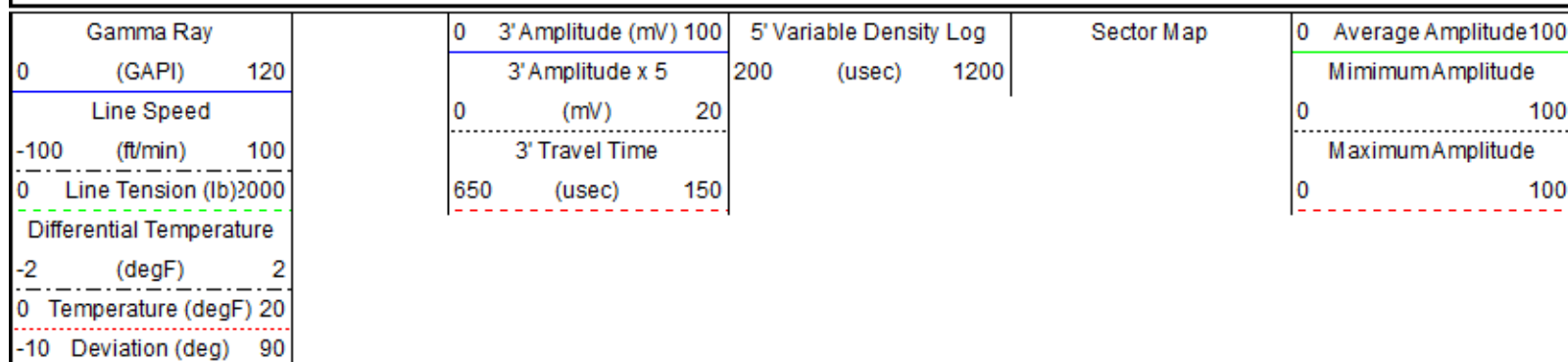




Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure

Database File anadarko\newby 1n-33hz\0512344564_anadarko_newby 1n-33hz_mit_rbl_03-15-18.db
 Dataset Pathname log/pass2
 Presentation Format ros_rbt_mit_sx
 Dataset Creation Thu Mar 15 10:07:54 2018
 Charted by Depth in Feet scaled 1:240



Repeat Pass

Repeat Pass

184.0

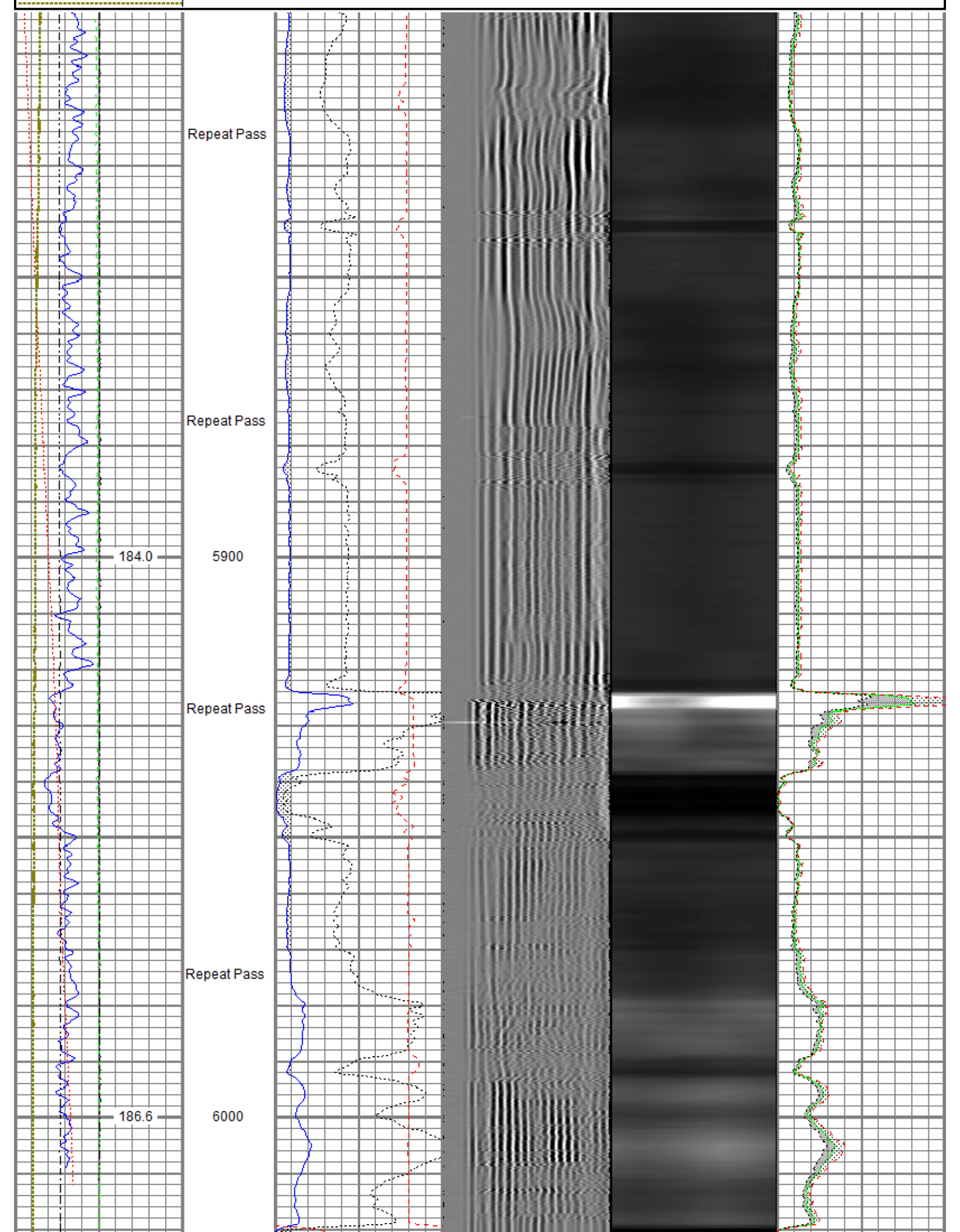
5900

Repeat Pass

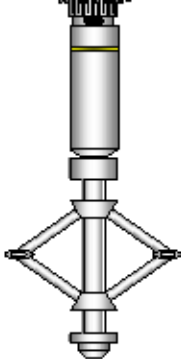
Repeat Pass

186.6

6000



Gamma Ray			Repeat Pass			5' Variable Density Log			Sector Map		
0	(GAPI)	120	0	3' Amplitude (mV)	100	200	(usec)	1200	0	Average Amplitude	100
Line Speed			3' Amplitude x 5						Minimum Amplitude		
-100	(ft/min)	100	0	(mV)	20				0		100
Line Tension (lb)			3' Travel Time						Maximum Amplitude		
0		2000	650	(usec)	150				0		100
Differential Temperature											
-2	(degF)	2									
Temperature (degF)											
-10	Deviation (deg)	90									

MIT	3.27		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: 0512344564_Anadarko_Newby 1N-33HZ_MIT_RBL_03-15-18.db: field/well/log/pass7 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 1N-33HZ\0512344564_Anadarko_Newby 1N-33HZ_MIT_RBL_03-15-18.db		
Dataset Pathname	log/pass7		
Dataset Creation	Thu Mar 15 12:52:28 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: Thu Mar 15 09:21:39 2018						
Ring size:	4	5	6	7			
(in)	Sens	Sens	Sens				
Finger 01:	1086 333.0	1419 396.0	1815 411.0	2226			
Finger 02:	1084 347.0	1431 418.0	1849 441.0	2290			
Finger 03:	1078 336.0	1414 406.0	1820 436.0	2256			
Finger 04:	1023 345.0	1368 426.0	1794 460.0	2254			
Finger 05:	1055 329.0	1384 395.0	1779 419.0	2198			
Finger 06:	1057 346.0	1403 411.0	1814 437.0	2251			
Finger 07:	1058 346.0	1404 402.0	1806 429.0	2235			
Finger 08:	1033 351.0	1384 414.0	1798 444.0	2242			
Finger 09:	1113 358.0	1471 399.0	1870 412.0	2282			
Finger 10:	1060 352.0	1412 399.0	1811 419.0	2230			
Finger 11:	1036 355.0	1391 400.0	1791 427.0	2218			
Finger 12:	1127 353.0	1480 375.0	1855 384.0	2239			
Finger 13:	1065 353.0	1418 392.0	1810 419.0	2229			
Finger 14:	1033 369.0	1402 408.0	1810 433.0	2243			
Finger 15:	993 367.0	1360 409.0	1769 442.0	2211			
Finger 16:	1042 364.0	1406 396.0	1802 421.0	2223			
Finger 17:	1084 360.0	1444 382.0	1826 395.0	2221			
Finger 18:	1106 363.0	1469 386.0	1855 399.0	2254			
Finger 19:	1068 372.0	1440 396.0	1836 410.0	2246			
Finger 20:	978 369.0	1347 405.0	1752 424.0	2176			
Finger 21:	1060 364.0	1424 389.0	1813 406.0	2219			
Finger 22:	1054 370.0	1424 393.0	1817 409.0	2226			
Finger 23:	1087 371.0	1459 394.0	1852 405.0	2257			

Finger 23:	1087	371.0	1438	394.0	1832	405.0	2237
Finger 24:	1074	335.0	1409	362.0	1771	375.0	2146
Finger 25:	1080	371.0	1451	403.0	1854	410.0	2264
Finger 26:	1020	354.0	1374	393.0	1767	412.0	2179
Finger 27:	1194	378.0	1572	405.0	1977	408.0	2385
Finger 28:	1065	339.0	1404	382.0	1786	405.0	2191
Finger 29:	1038	351.0	1389	404.0	1793	422.0	2215
Finger 30:	1021	349.0	1370	408.0	1778	425.0	2203
Finger 31:	1246	372.0	1618	417.0	2035	420.0	2455
Finger 32:	1014	342.0	1356	395.0	1751	406.0	2157
Finger 33:	1113	369.0	1482	423.0	1905	438.0	2343
Finger 34:	996	343.0	1339	403.0	1742	429.0	2171
Finger 35:	1154	366.0	1520	423.0	1943	437.0	2380
Finger 36:	1078	329.0	1407	385.0	1792	402.0	2194
Finger 37:	1154	366.0	1520	419.0	1939	444.0	2383
Finger 38:	1128	332.0	1460	395.0	1855	413.0	2268
Finger 39:	1071	317.0	1388	377.0	1765	399.0	2164
Finger 40:	1006	343.0	1349	423.0	1772	454.0	2226

Post Survey Calibration Check								
Performed: Thu Mar 15 12:52:23 2018								
Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	4.007	0.004	5.022	0.011	6.009	0.005	7.011	0.005
Finger 02:	4.015	0.007	5.027	0.014	6.011	0.005	7.009	0.004
Finger 03:	4.006	0.003	5.029	0.015	6.011	0.006	6.999	-0.001
Finger 04:	3.995	-0.002	5.012	0.006	6.004	0.002	7.003	0.002
Finger 05:	4.011	0.005	5.025	0.013	6.006	0.003	7.000	-0.000
Finger 06:	4.010	0.005	5.023	0.011	6.004	0.002	6.999	-0.001
Finger 07:	4.013	0.007	5.021	0.011	6.009	0.004	7.003	0.002
Finger 08:	4.007	0.004	5.025	0.013	6.016	0.008	7.022	0.011
Finger 09:	4.004	0.002	5.011	0.005	5.997	-0.001	6.995	-0.002
Finger 10:	4.012	0.006	5.023	0.011	6.011	0.006	7.021	0.011
Finger 11:	4.008	0.004	5.018	0.009	6.009	0.004	7.010	0.005
Finger 12:	4.011	0.006	5.016	0.008	6.000	0.000	7.005	0.003
Finger 13:	4.012	0.006	5.021	0.011	6.014	0.007	7.009	0.004
Finger 14:	4.008	0.004	5.017	0.009	6.005	0.002	6.999	-0.000
Finger 15:	4.003	0.001	5.021	0.011	6.012	0.006	6.993	-0.003
Finger 16:	4.015	0.007	5.024	0.012	6.009	0.005	7.001	0.001
Finger 17:	3.998	-0.001	5.011	0.006	6.002	0.001	7.002	0.001
Finger 18:	4.003	0.002	5.015	0.008	6.002	0.001	7.002	0.001
Finger 19:	4.006	0.003	5.019	0.010	6.005	0.003	6.998	-0.001
Finger 20:	4.005	0.002	5.022	0.011	6.007	0.003	7.005	0.002
Finger 21:	4.008	0.004	5.019	0.009	6.009	0.004	7.012	0.006
Finger 22:	4.010	0.005	5.020	0.010	6.009	0.005	7.001	0.001
Finger 23:	4.012	0.006	5.024	0.012	6.013	0.007	7.016	0.008
Finger 24:	3.998	-0.001	5.015	0.008	6.007	0.004	7.015	0.007
Finger 25:	4.014	0.007	5.028	0.014	6.013	0.007	7.011	0.005
Finger 26:	4.010	0.005	5.024	0.012	6.014	0.007	7.006	0.003
Finger 27:	4.003	0.002	5.016	0.008	6.000	-0.000	6.998	-0.001
Finger 28:	4.011	0.006	5.028	0.014	6.009	0.004	7.007	0.003
Finger 29:	4.000	-0.000	5.015	0.007	5.997	-0.002	6.987	-0.006
Finger 30:	4.015	0.007	5.025	0.012	6.013	0.007	7.008	0.004
Finger 31:	4.007	0.004	5.020	0.010	6.005	0.002	7.008	0.004
Finger 32:	4.009	0.004	5.025	0.012	6.008	0.004	7.007	0.003
Finger 33:	4.007	0.003	5.017	0.008	6.010	0.005	7.011	0.005
Finger 34:	4.012	0.006	5.014	0.007	6.004	0.002	6.993	-0.004
Finger 35:	4.017	0.008	5.018	0.009	6.008	0.004	7.006	0.003
Finger 36:	4.003	0.001	5.011	0.006	6.003	0.001	7.008	0.004
Finger 37:	4.003	0.002	5.009	0.005	6.008	0.004	6.997	-0.001
Finger 38:	4.006	0.003	5.026	0.013	6.011	0.006	7.015	0.007
Finger 39:	4.004	0.002	5.019	0.009	6.014	0.007	7.016	0.008
Finger 40:	4.002	0.001	5.016	0.008	6.000	0.000	6.991	-0.005
Average:	4.007	0.004	5.020	0.010	6.007	0.004	7.005	0.002

Segmented Cement Bond Log Calibration Report				
Serial Number:		10013454		
Tool Model:		004		
Calibration Casing Diameter:		7.000	in	
Calibration Depth:		23.563	#	

Master Calibration, performed Sun Feb 18 16:50:35 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.004	0.773	0.800	62.165	79.765	0.508
5FT	-0.002	0.768	0.800	62.165	79.625	0.994
S1	0.002	0.769	0.000	100.000	130.421	-0.314
S2	0.002	0.788	0.000	100.000	127.244	-0.242
S3	0.002	0.788	0.000	100.000	127.377	-0.311
S4	0.002	0.788	0.000	100.000	127.241	-0.309
S5	0.002	0.776	0.000	100.000	129.232	-0.316
S6	0.001	0.765	0.000	100.000	130.868	-0.165
S7	0.001	0.750	0.000	100.000	133.531	-0.192
S8	0.002	0.755	0.000	100.000	132.799	-0.258

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 1N-33HZ
Field Wattenberg
County Weld
State Colorado