



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company				Kerr-McGee Oil and Gas Onshore LP			
Well				Buffalo 36C-15HZ			
Field				Wattenberg			
County				Weld			
State				Colorado			
Location:				API # : 05-123-36460			
SEC 15 TWP 1N RGE 68W				Other Services Gauge Ring MIT			
Permanent Datum		Ground Level		Elevation		5128'	
Log Measured From		Kelly Bushing		Elevation		25 FT	
Drilling Measured From		Kelly Bushing		Elevation		K.B. 5153' D.F. 5152' G.L. 5128'	
Date				28-FEB-2015			
Run Number				Two			
Depth Driller				12479 FT			
Depth Logger				7170 FT			
Bottom Logged Interval				7165 FT			
Top Log Interval				Surface			
Open Hole Size				8.75			
Type Fluid				Water			
Density / Viscosity				8.34 lbm/gal			
Max. Recorded Temp.				220° F			
Estimated Cement Top				Surface			
Time Well Ready				ROA			
Time Logger on Bottom				10:41			
Equipment Number				HD-0255			
Location				Ft. Lupton, CO			
Recorded By				J. Morrison			
Witnessed By				Rick Duntford			
Run Number				Borehole Record			
Bit				From			
To				Size			
Weight				Tubing Record			
From				To			
Casing Record				Size (in)			
Surface Casing				9-5/8			
Intermediate #1				7			
Intermediate #2				26			
Liner				HCP-110 LTC			
Top				Bottom			
Surface				1275 FT			
Surface				8347 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 Kelly Bushing.
Log ran from just above 7" WRBP to surface.
Could not correlate to liner Top due to a WRBP that was set at 7180 FT.
Liner Top Tally Depth at 7303 FT
Logging Tools were clean upon retrieval from well

Thank you for choosing FMC Technologies Completion Services, Inc.!!



Main 7" Pass

Recorded with 2800 PSI Surface Induced Pressure

Database File: 0512336460_anadarko_buffalo 36c-15hz_02-28-15_mit_rbl.db

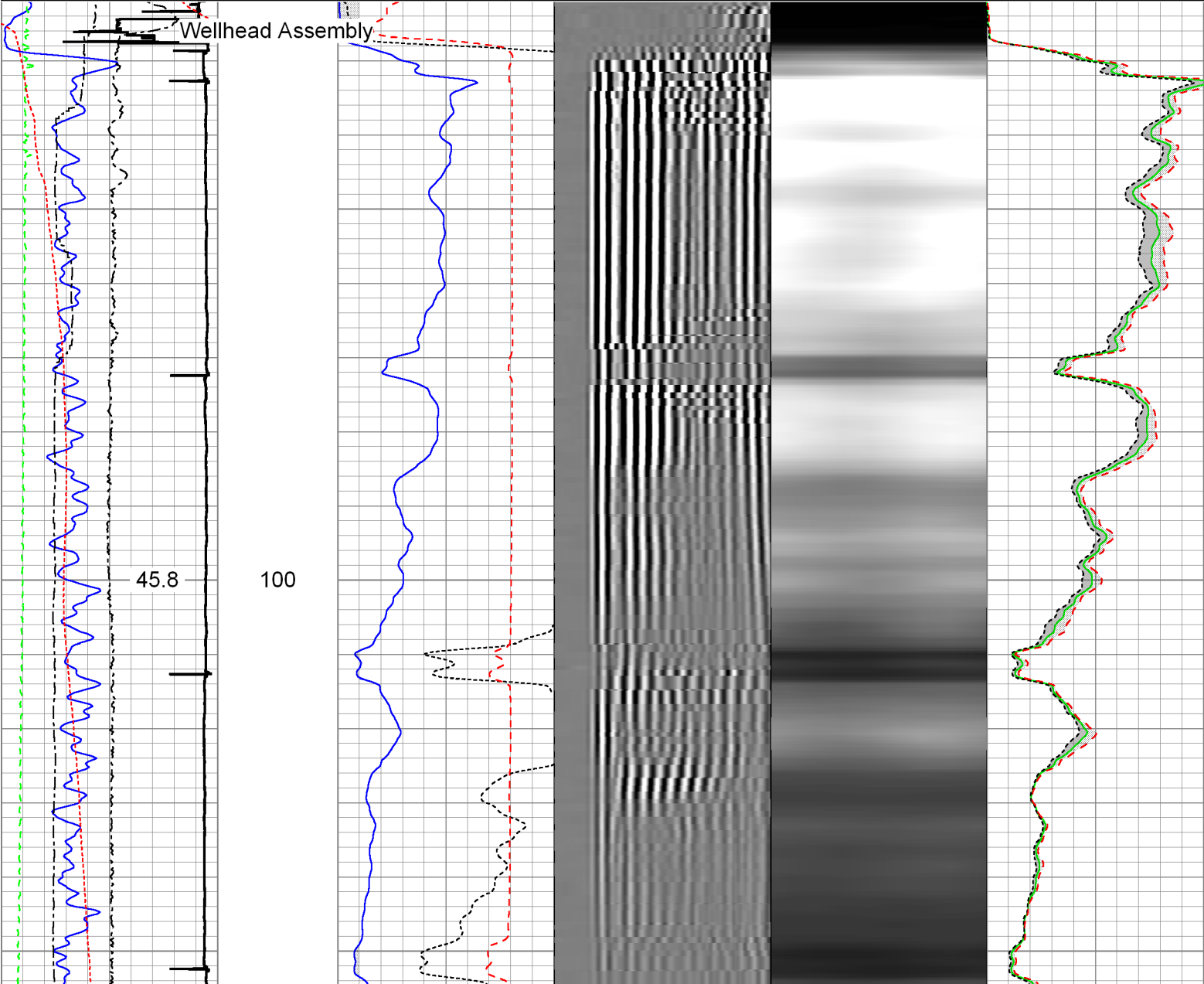
Dataset Pathname: pass9

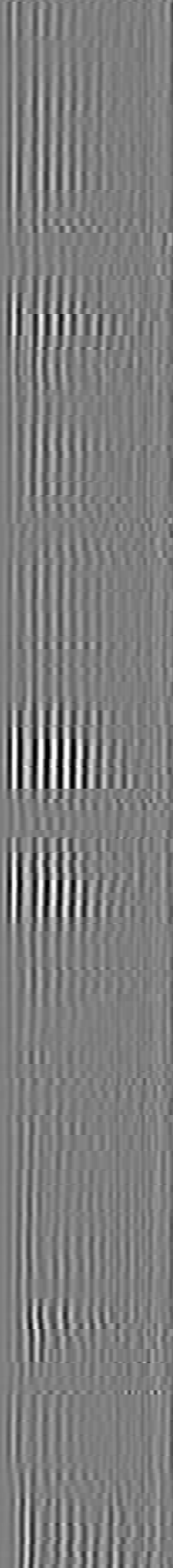
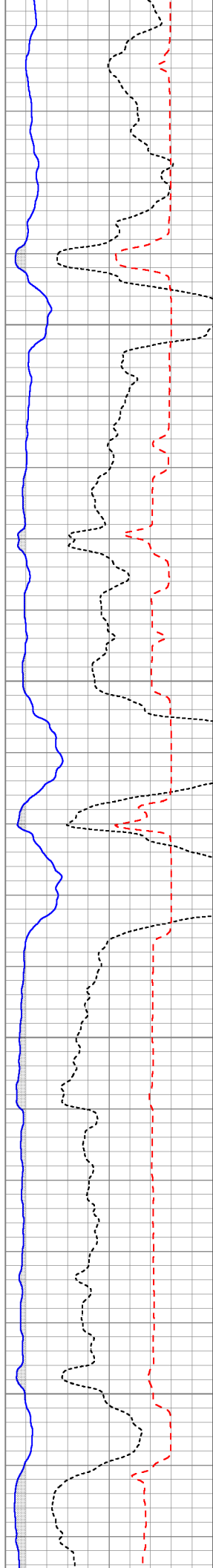
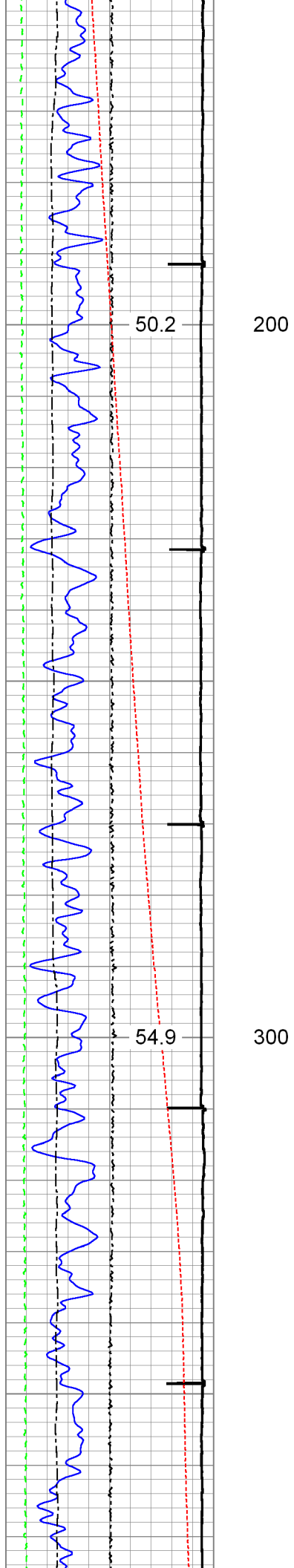
Presentation Format: rbt4_mit

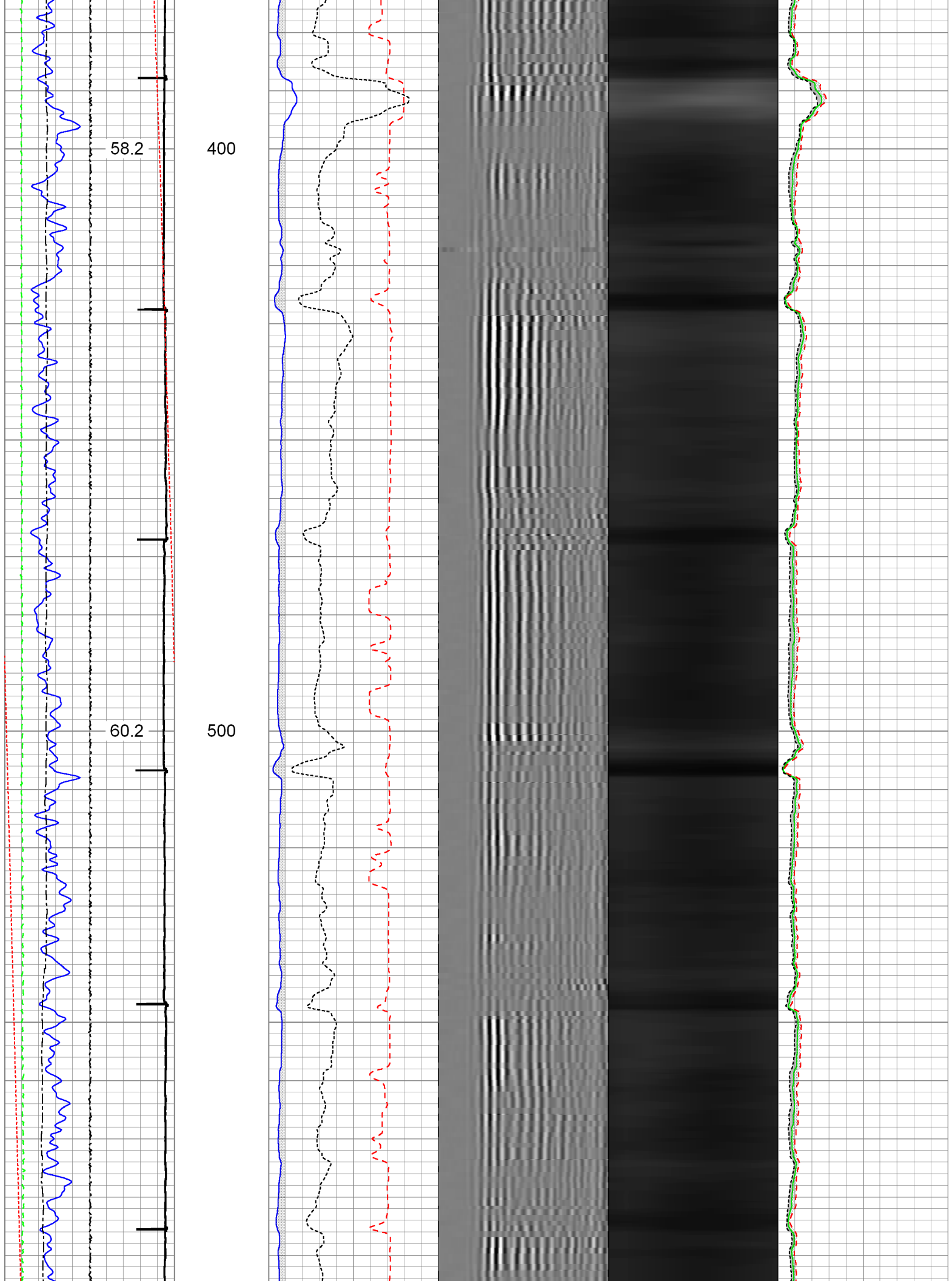
Dataset Creation: Sat Feb 28 10:55:33 2015 by Log 7.0 B1

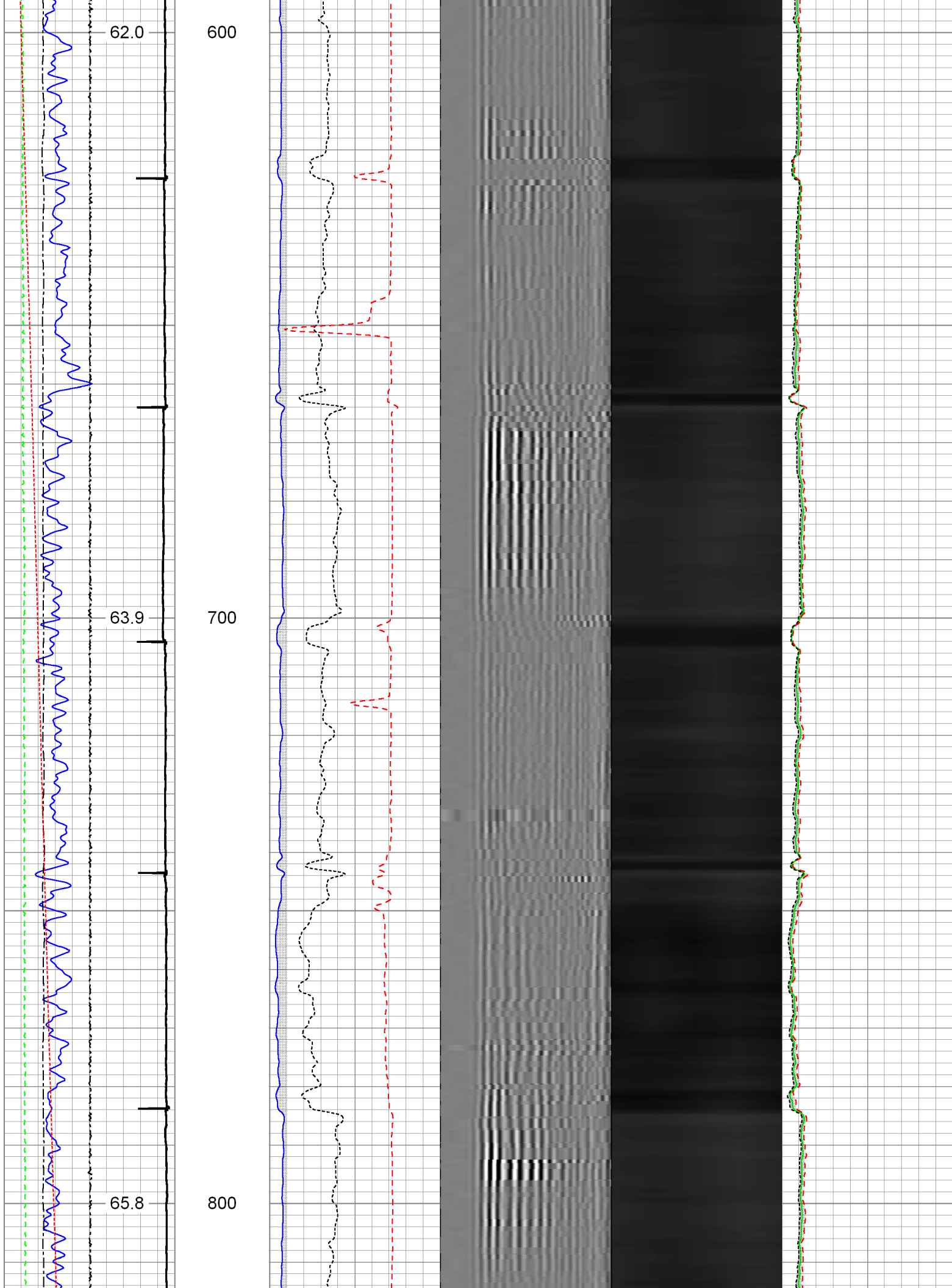
Charted by: Depth in Feet scaled 1:240

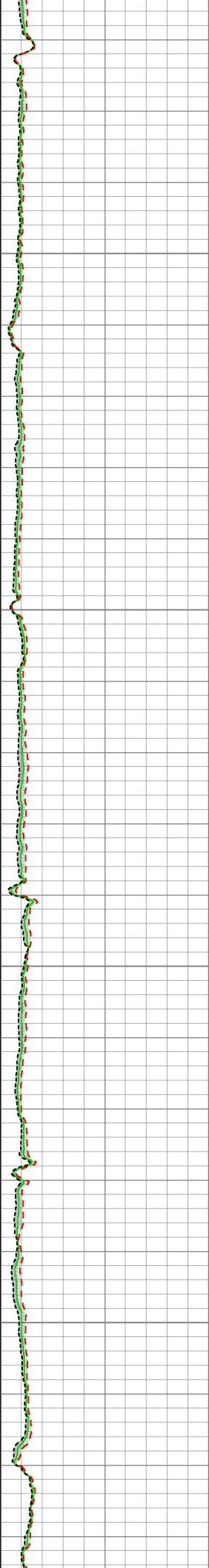
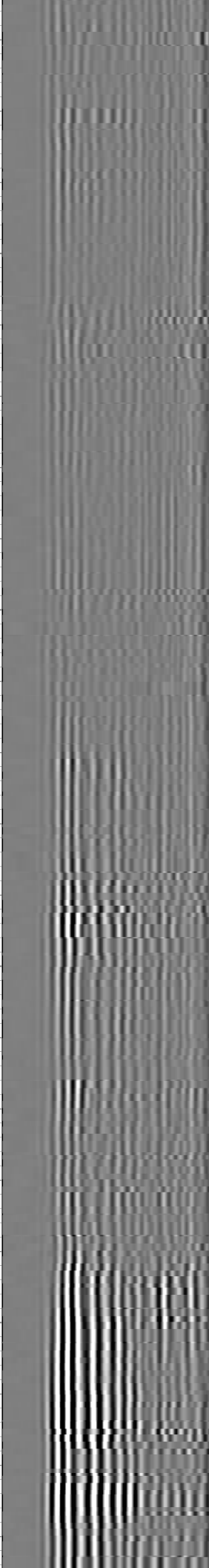
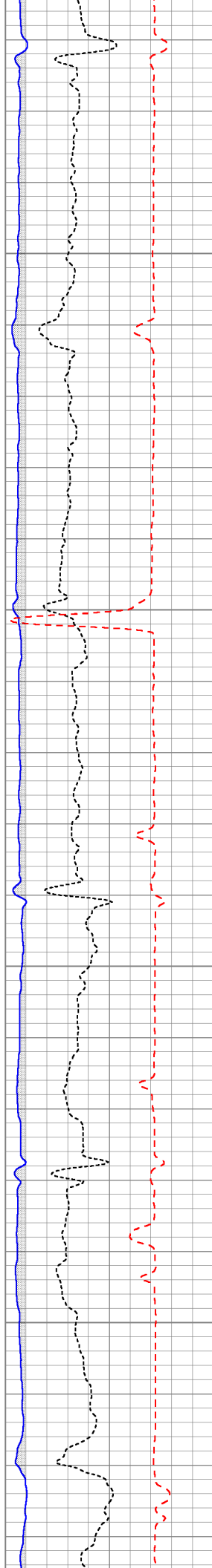
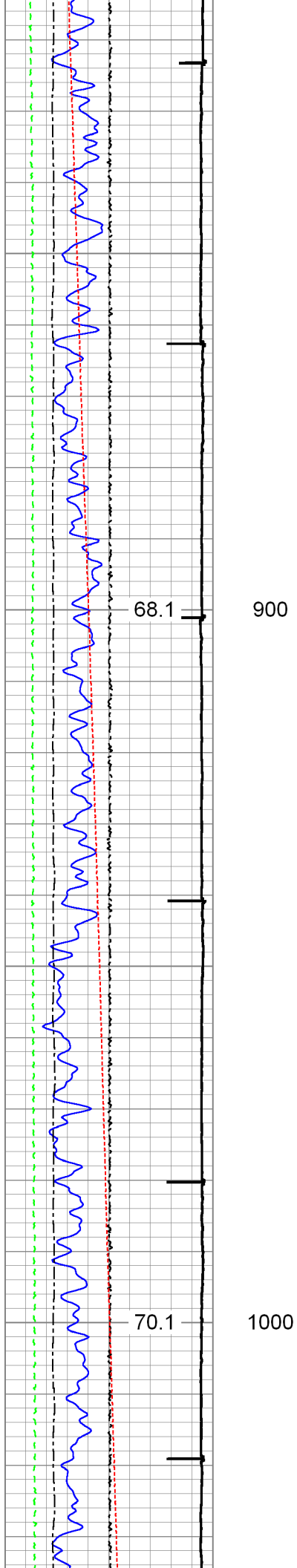
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
Line Speed	3' Travel Time			Maximum Amplitude
-100 (ft/min) 100	650 (usec) 150			0 100
Line Tension				
0 (lb)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

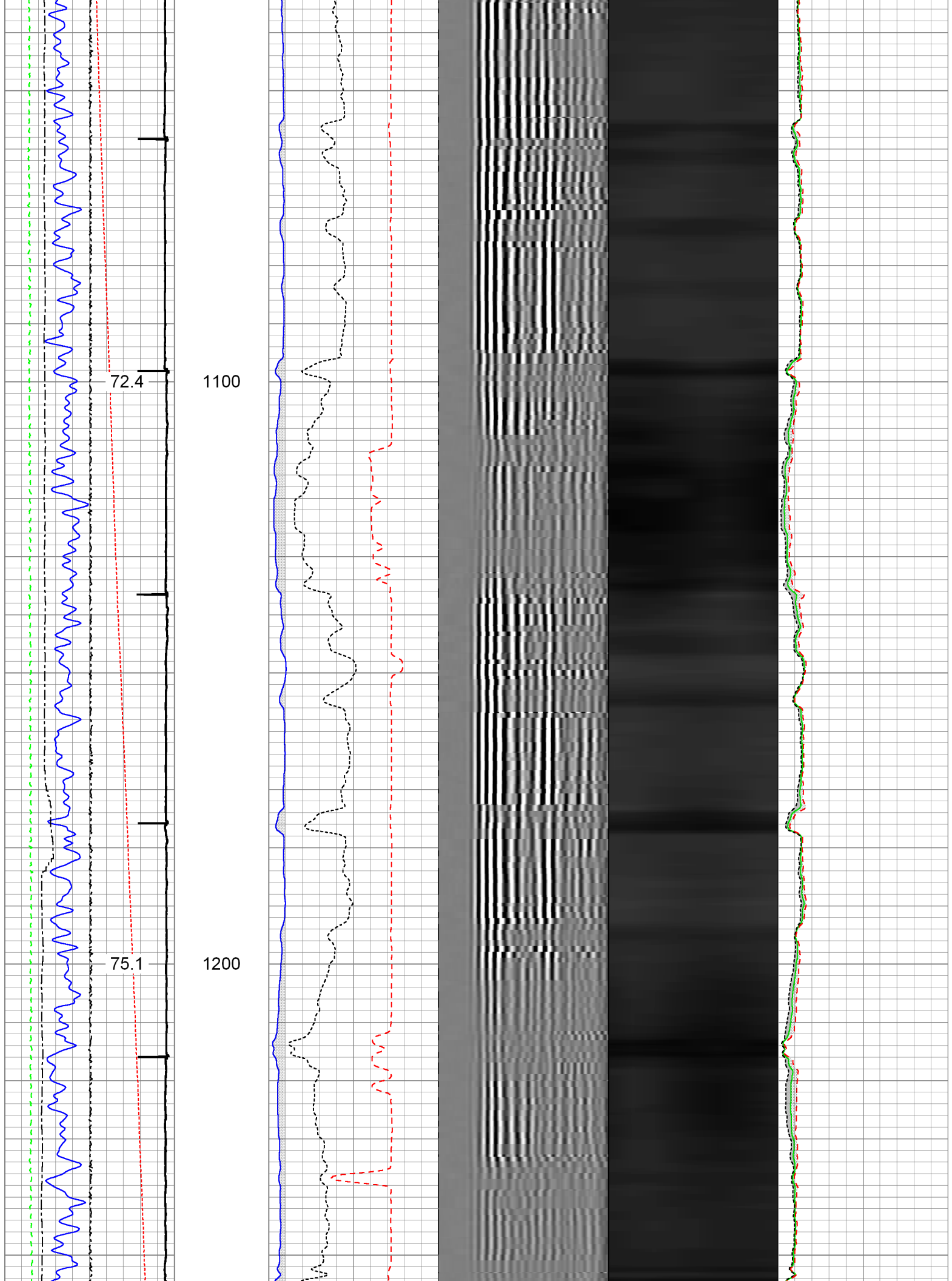


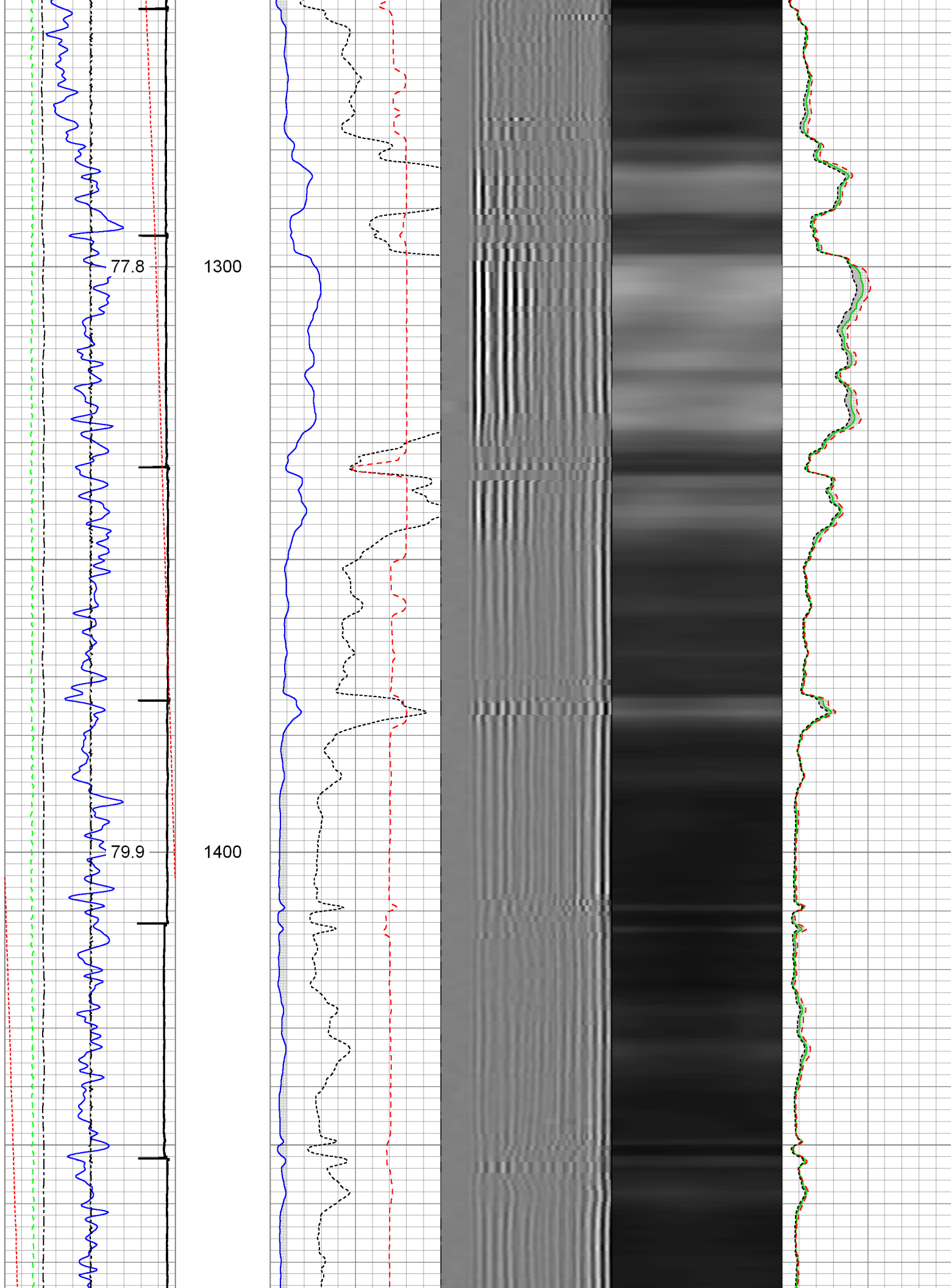


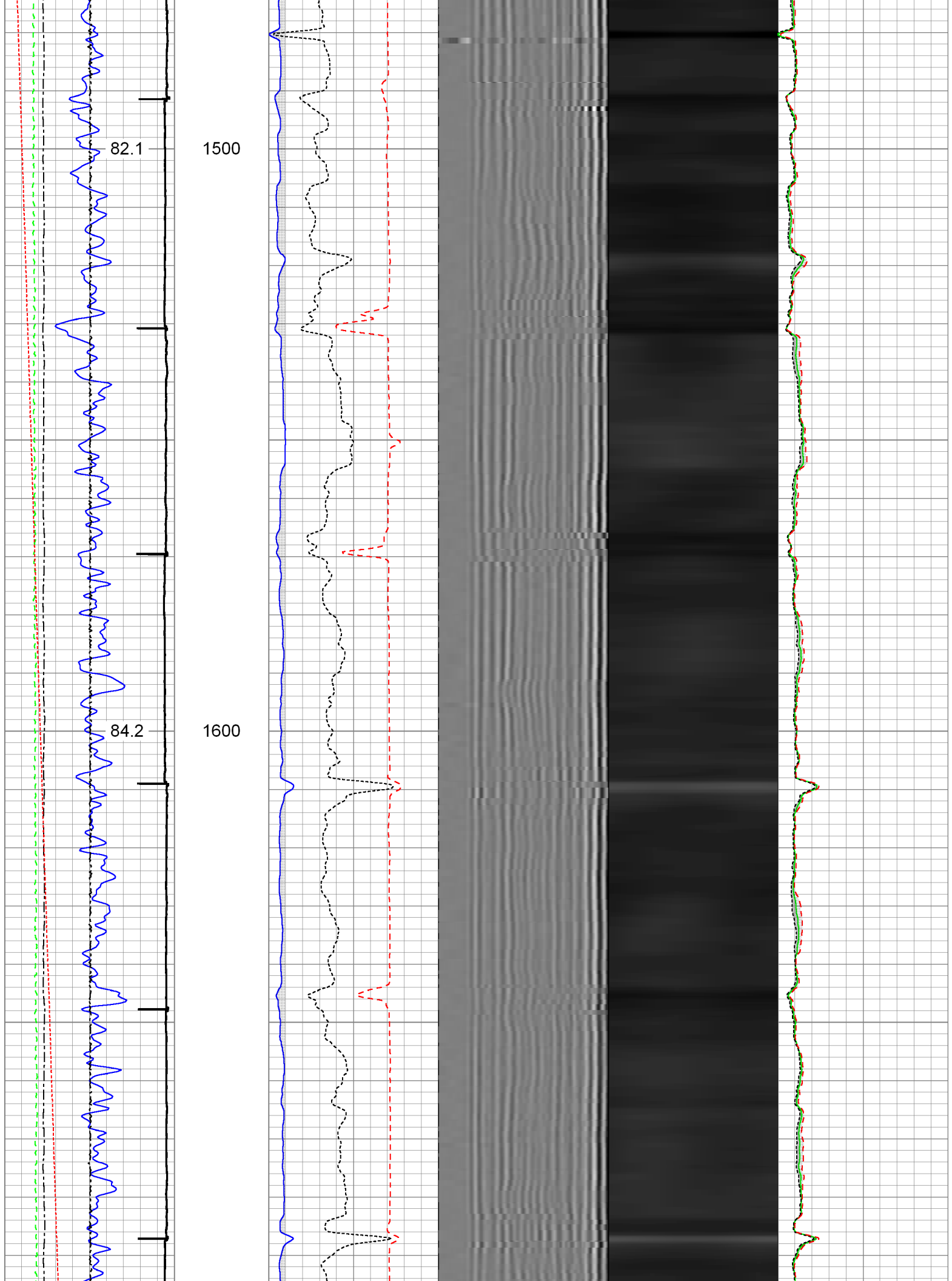


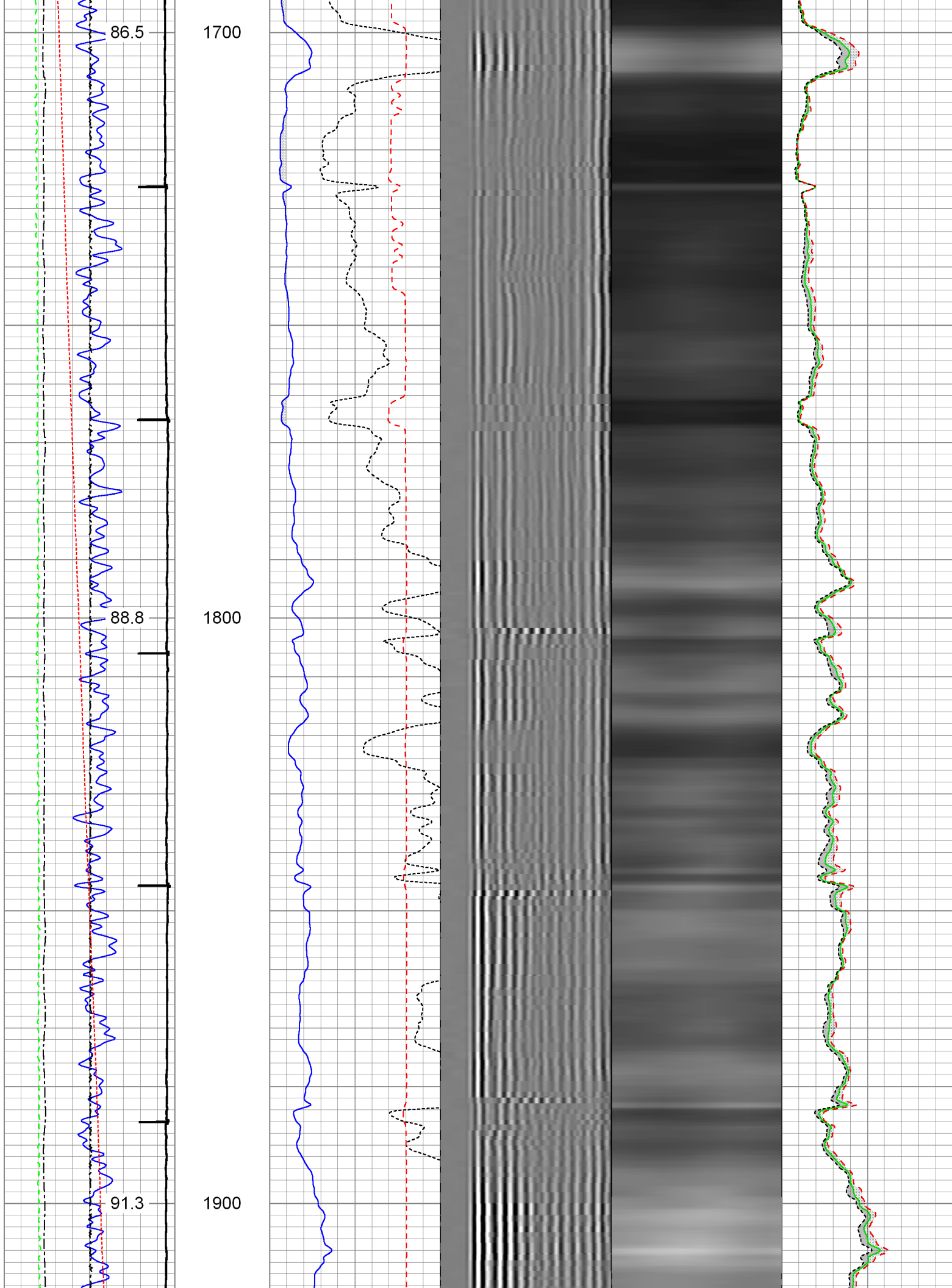


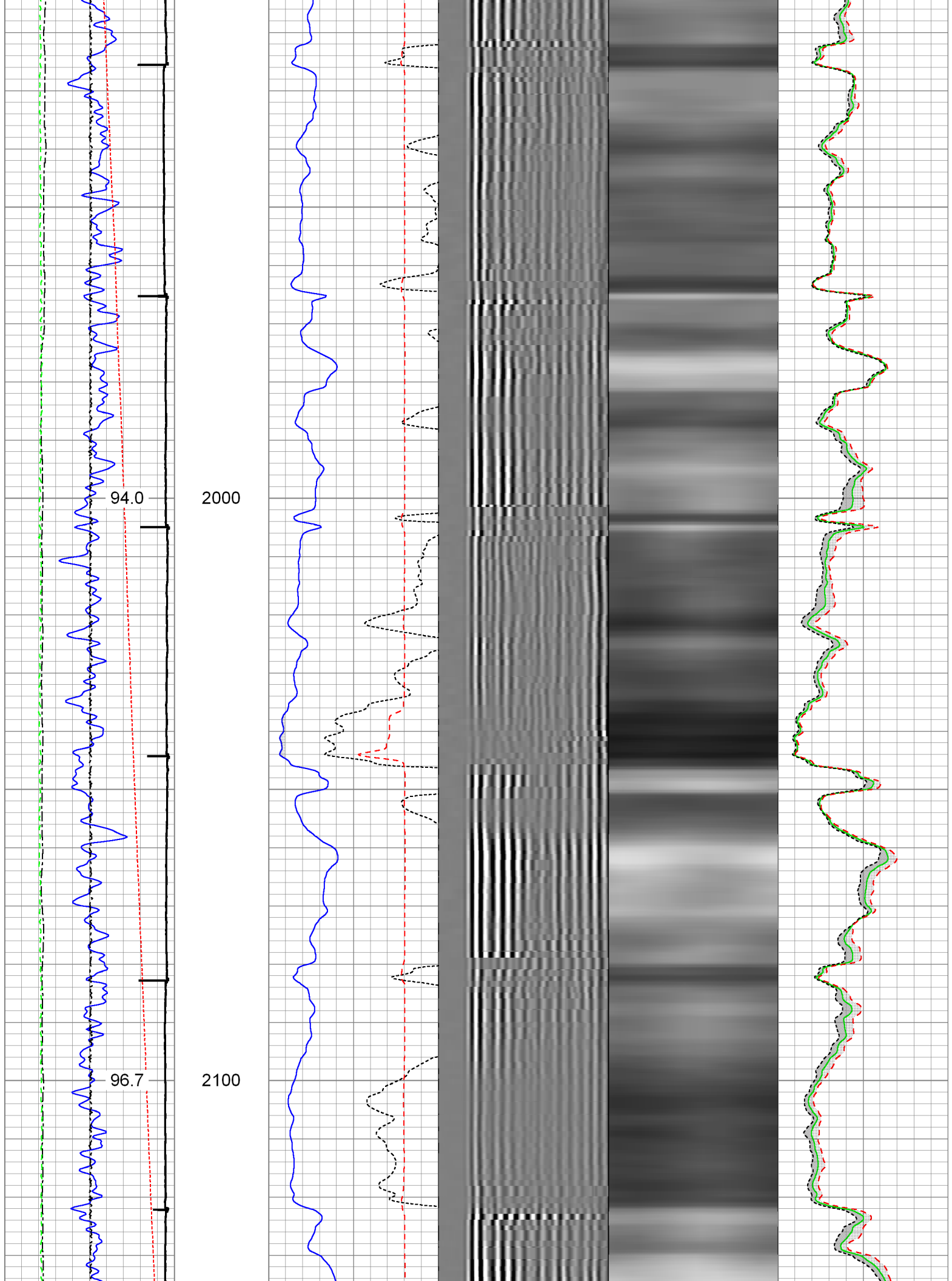


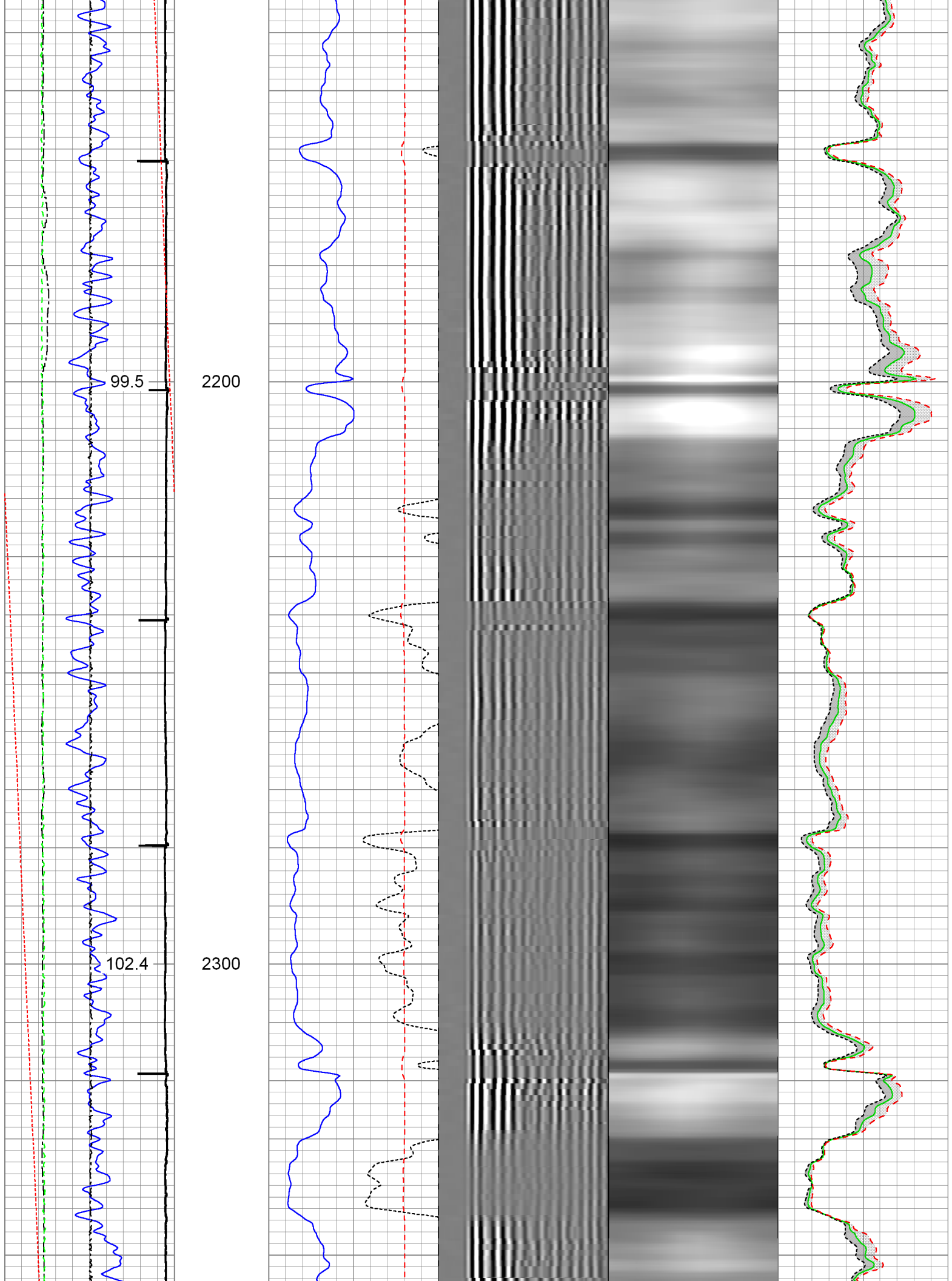


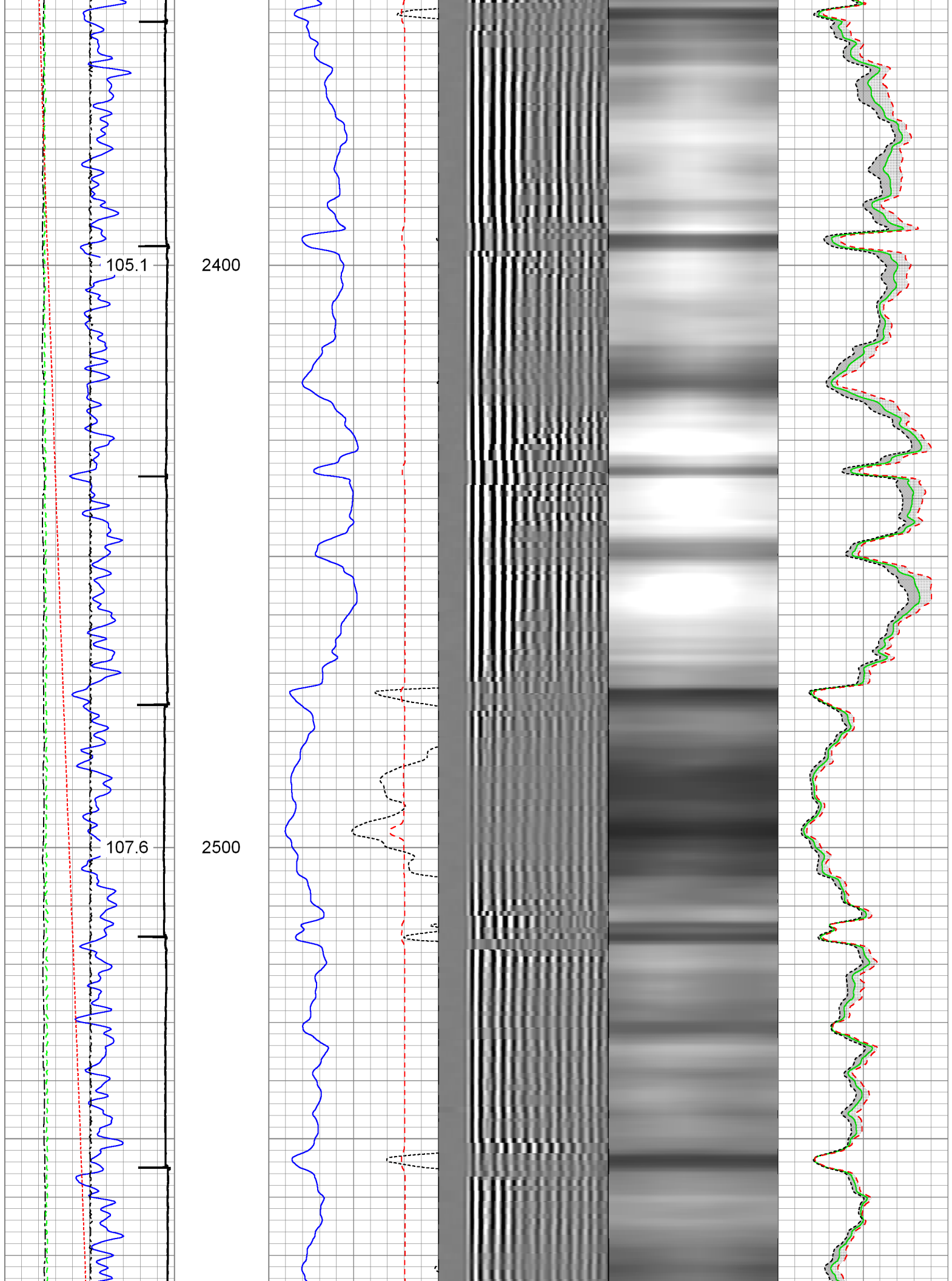


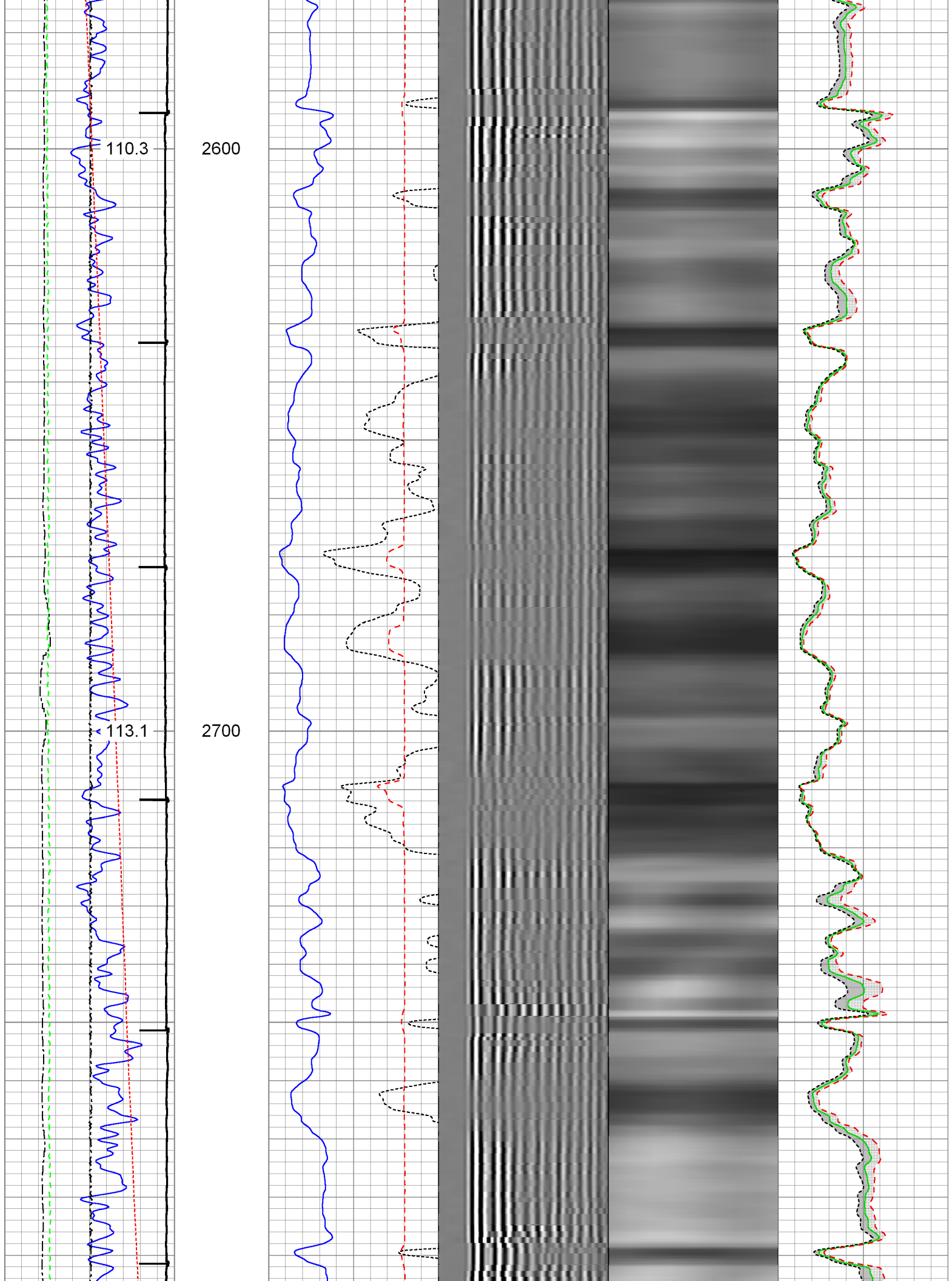


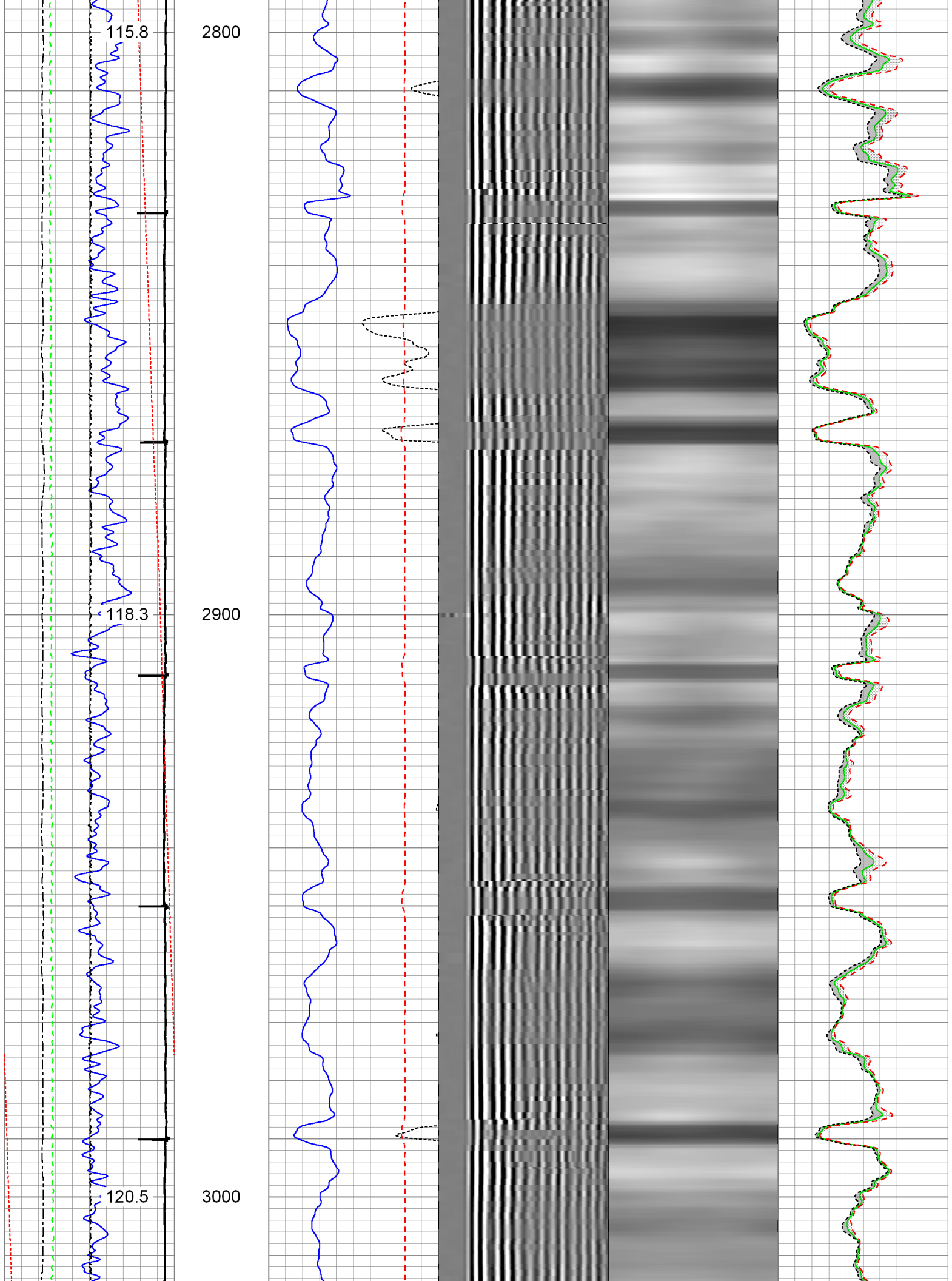


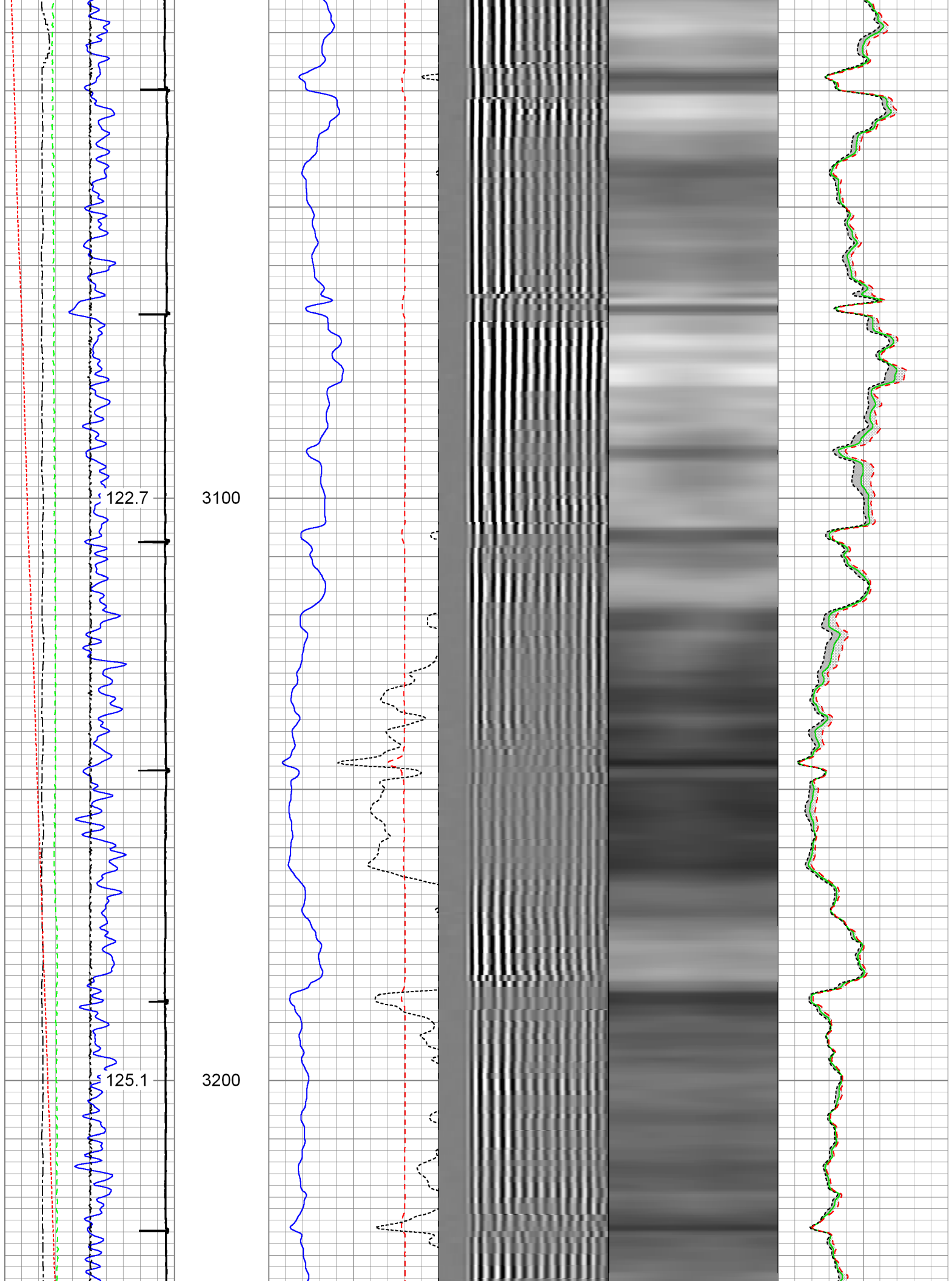


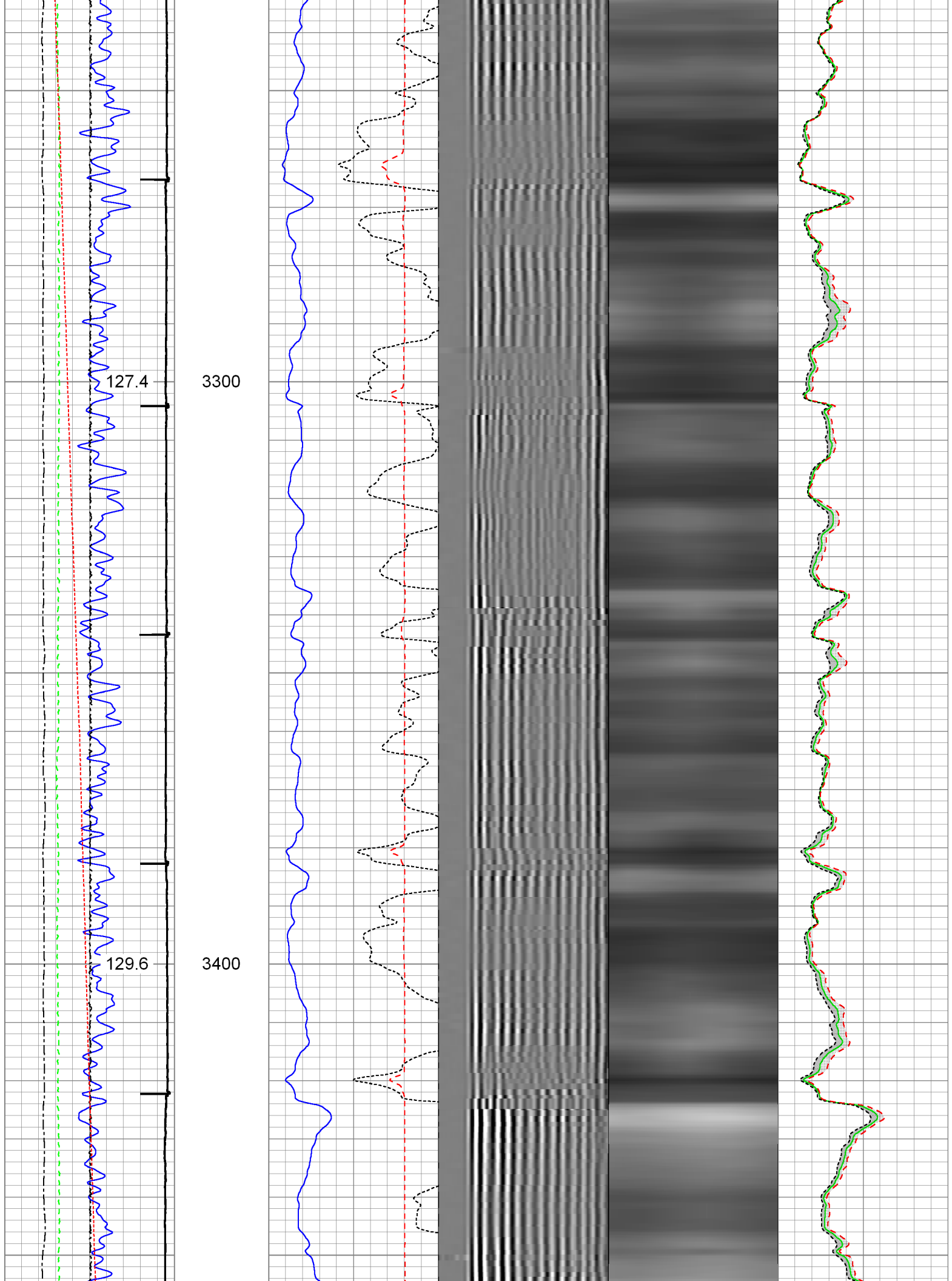


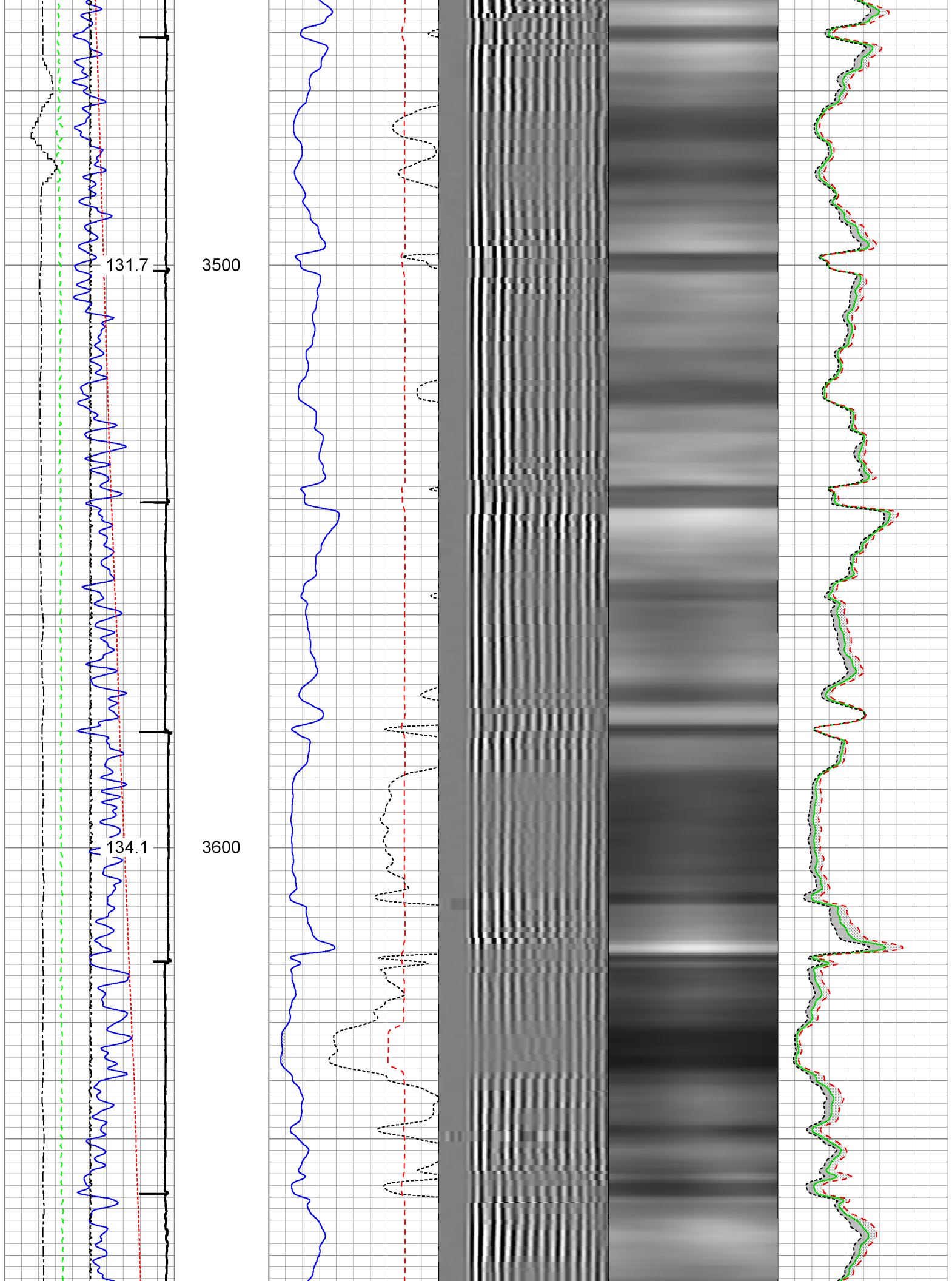


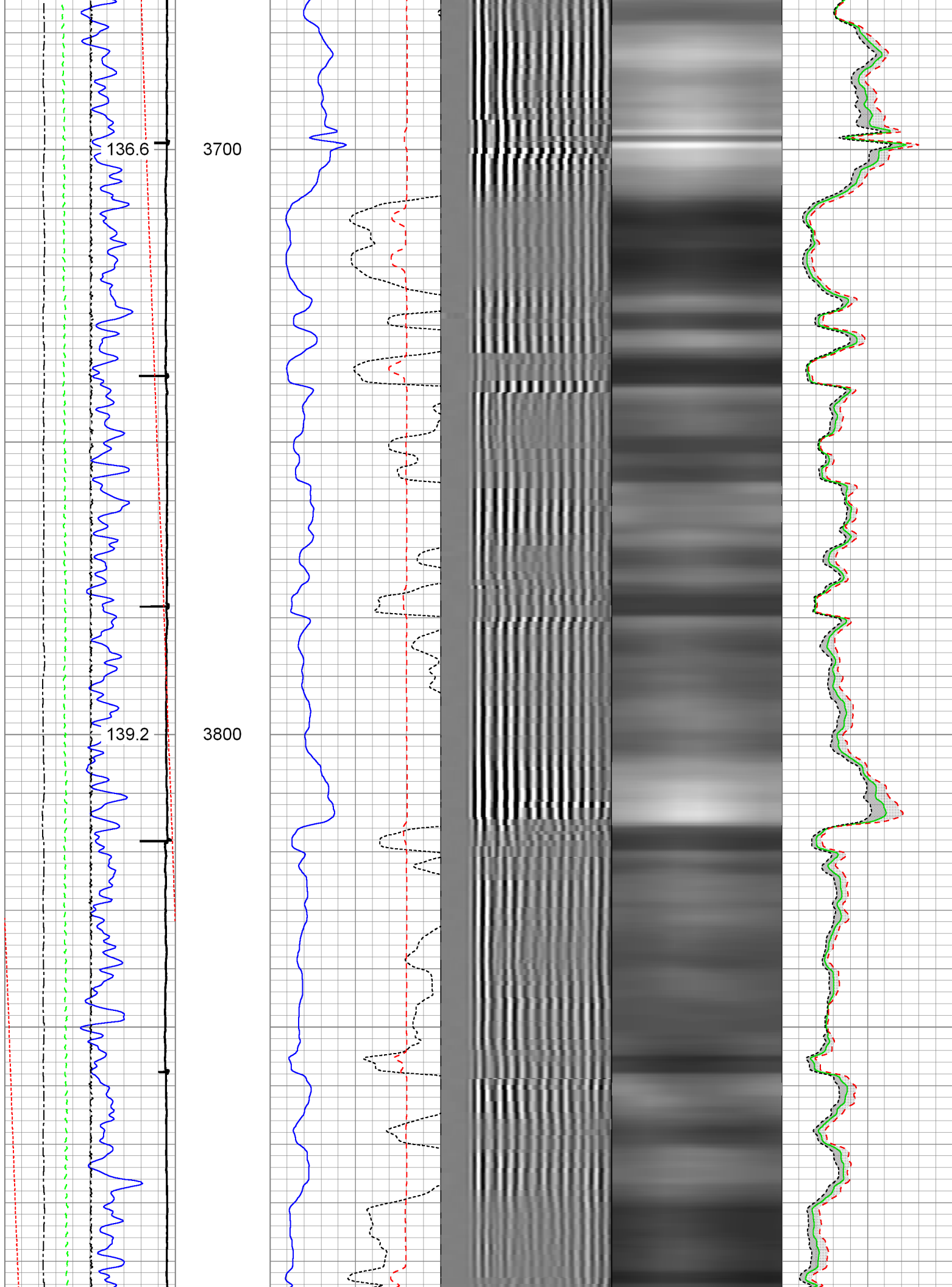


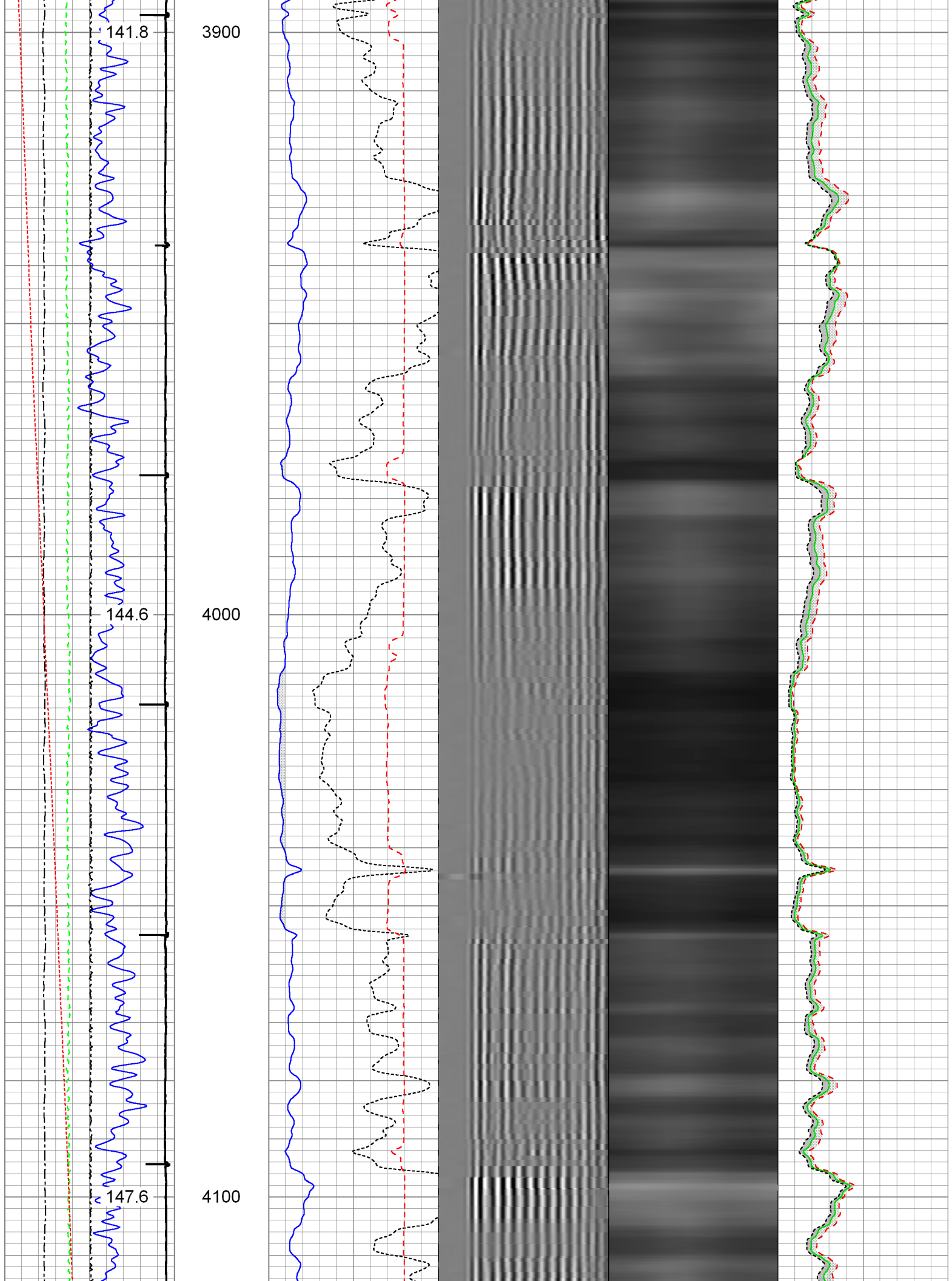


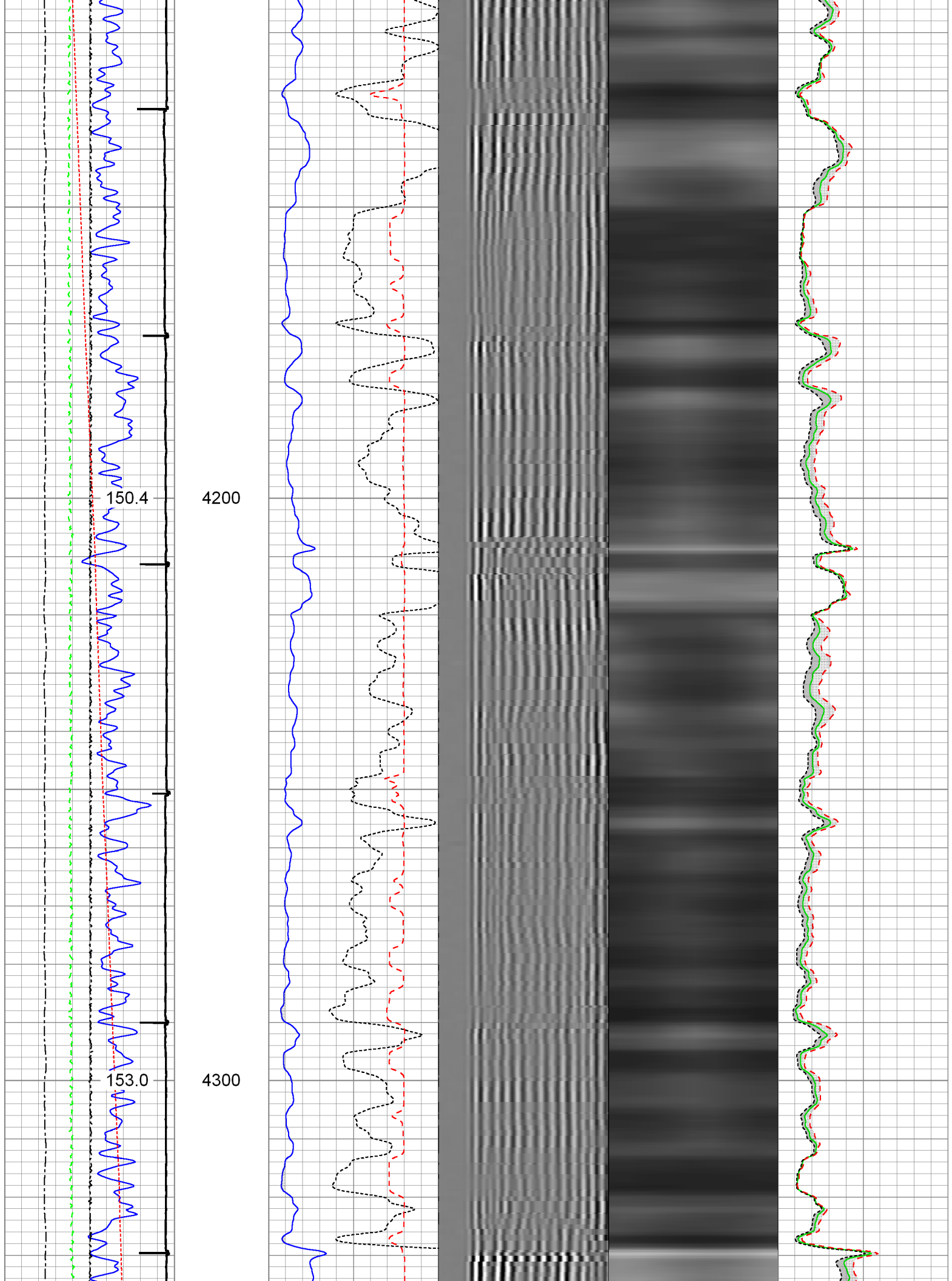


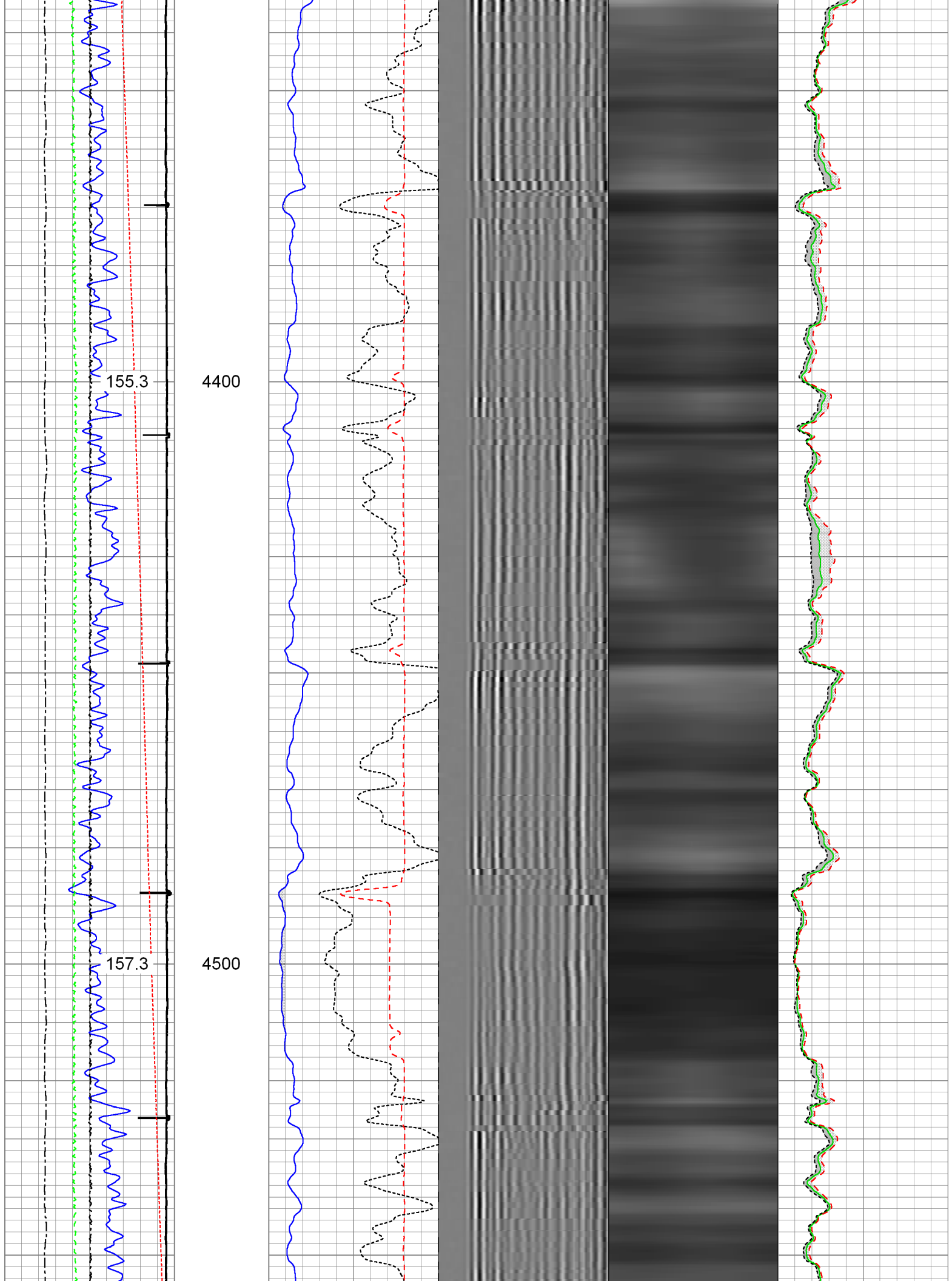


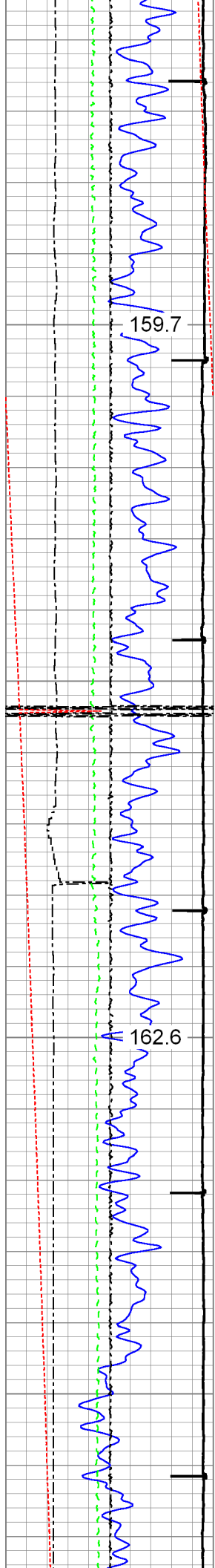










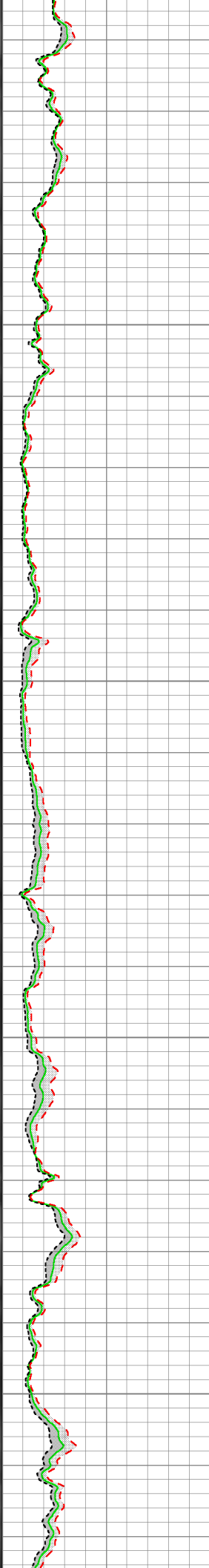
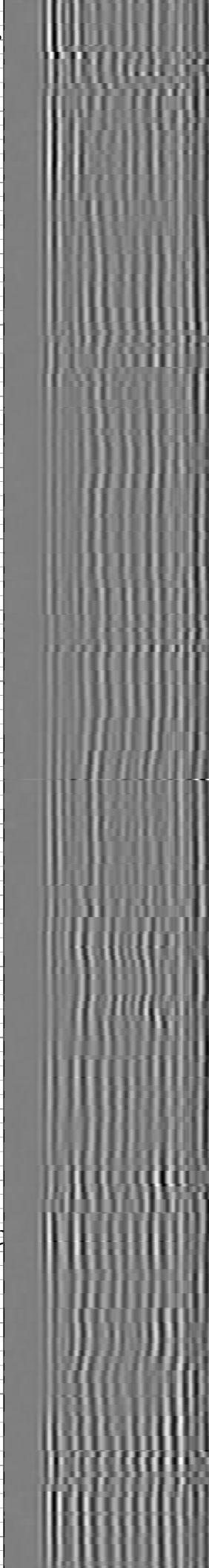
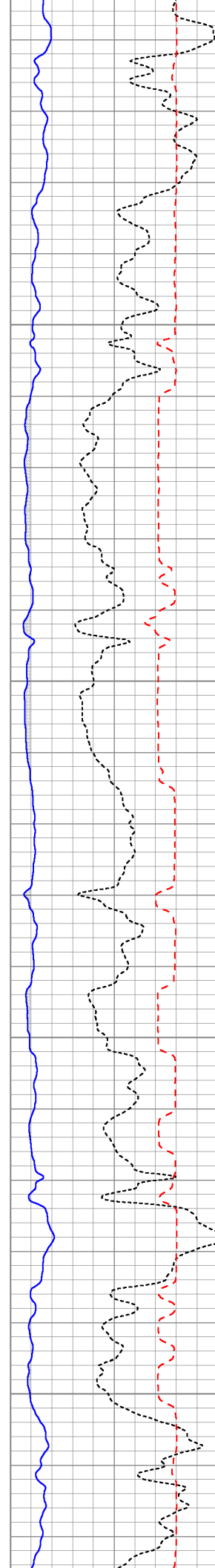


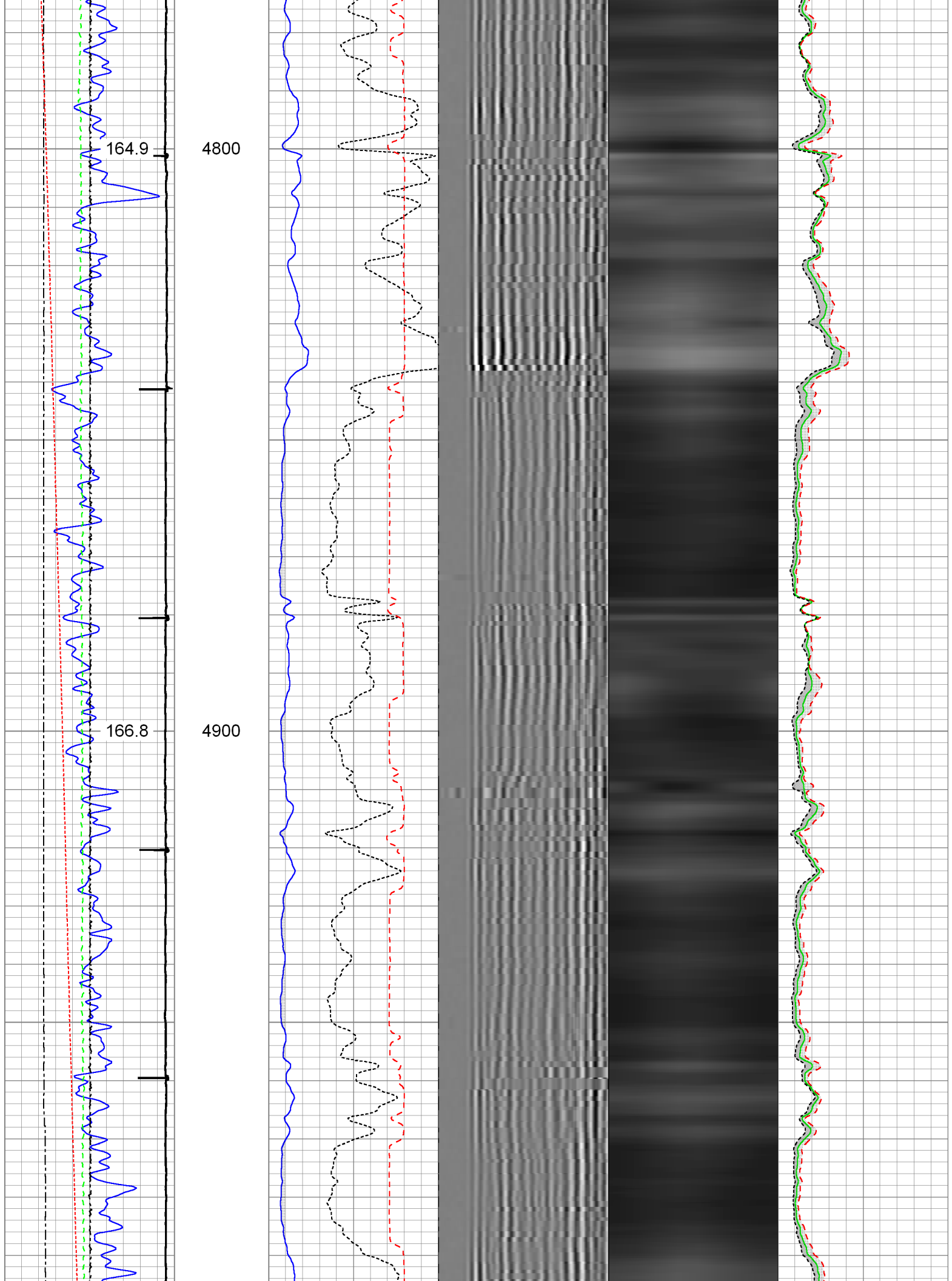
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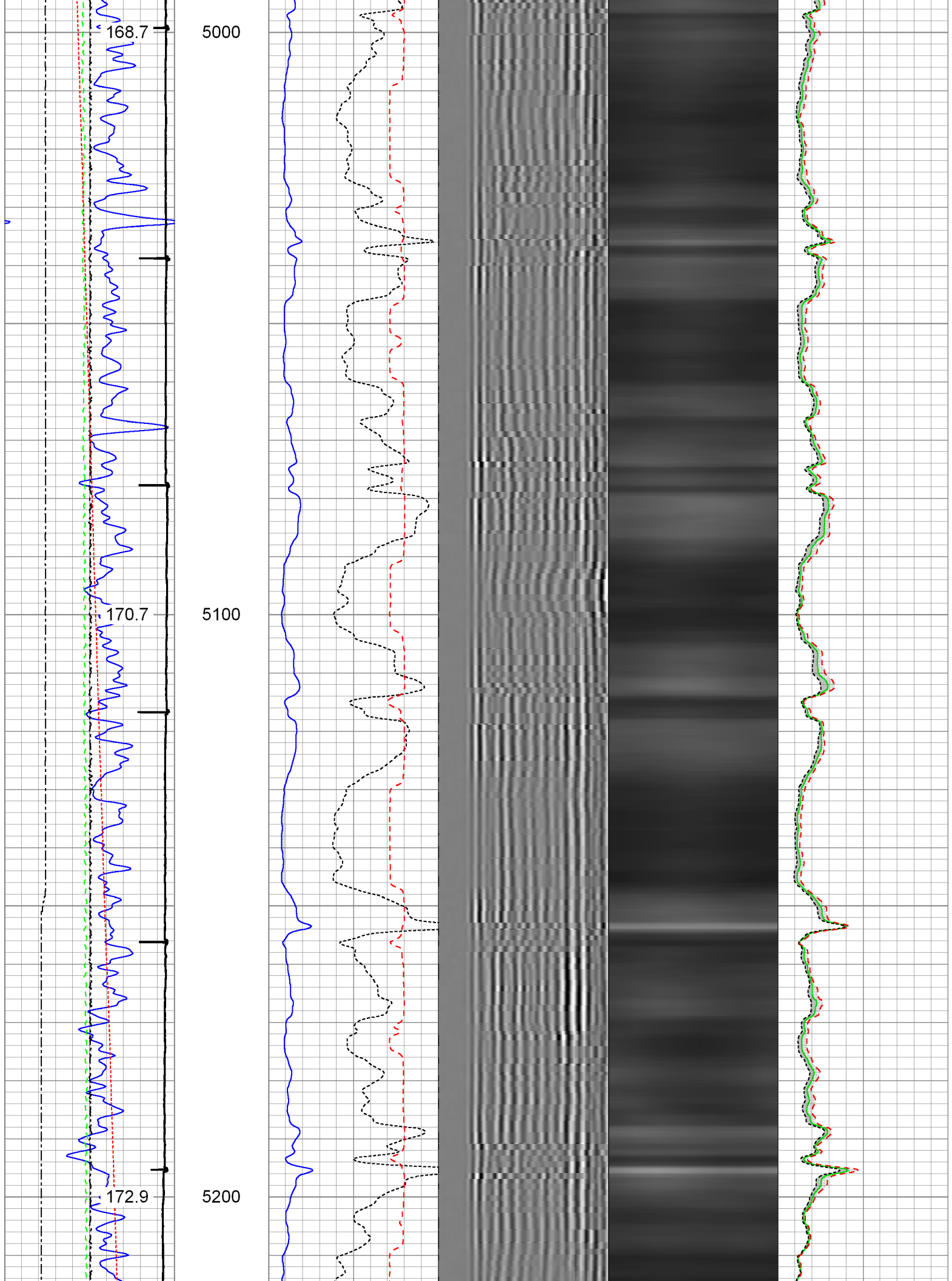
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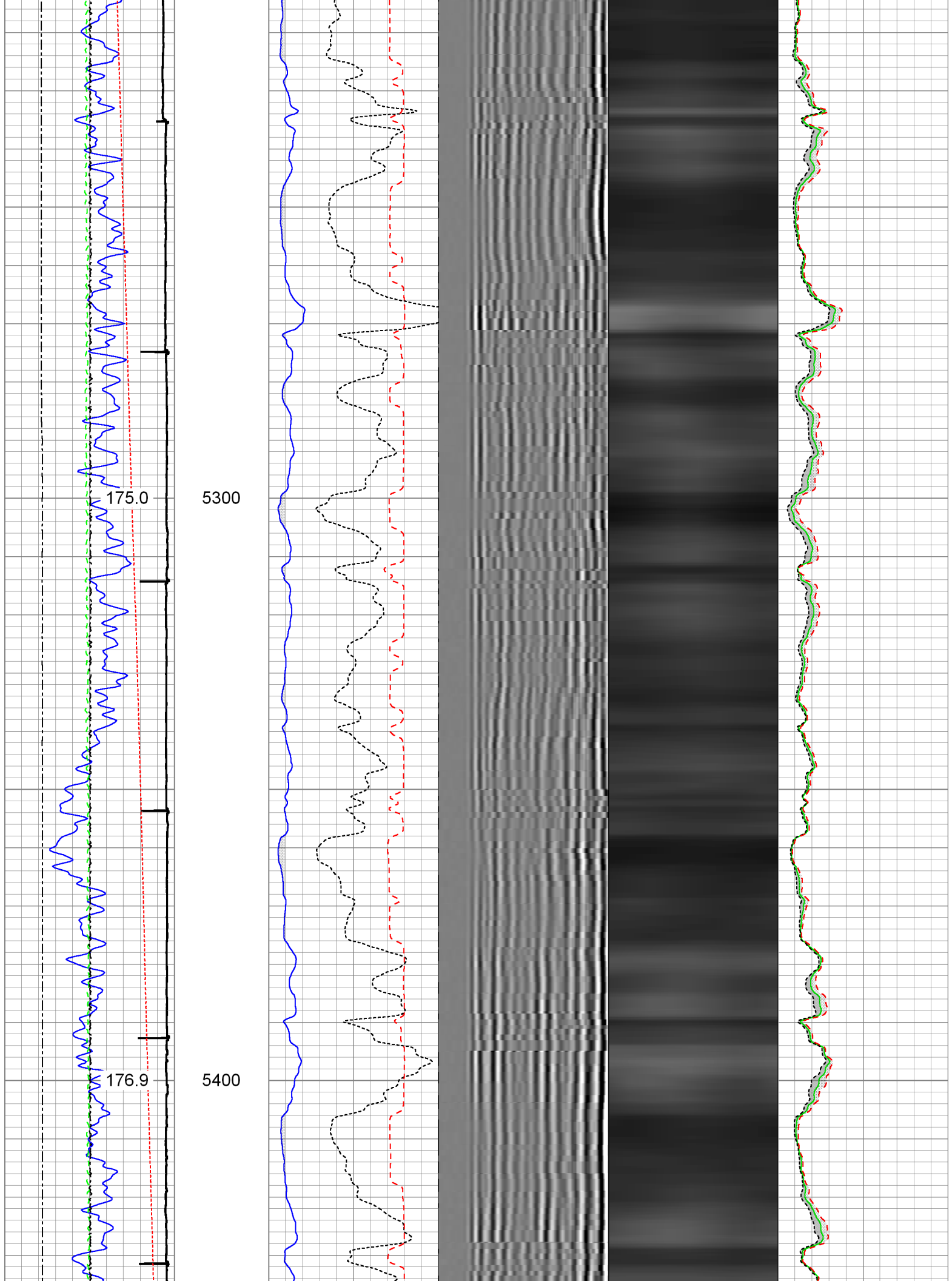
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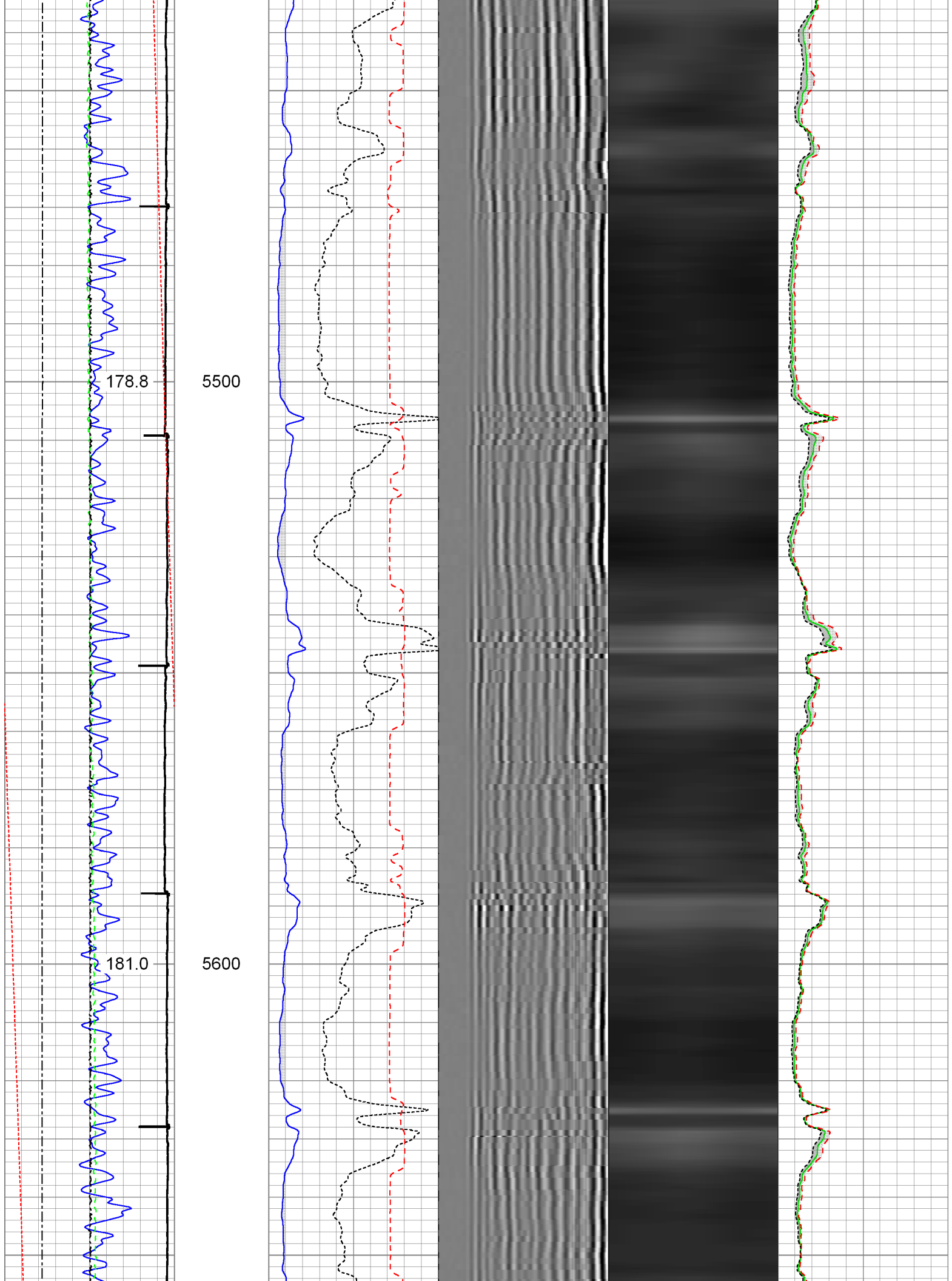
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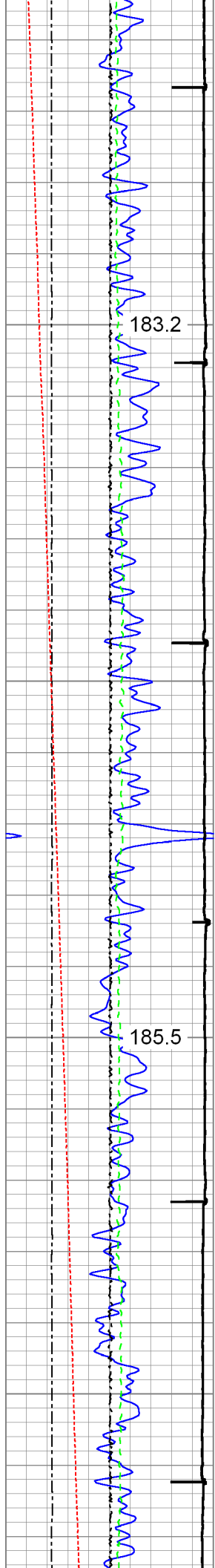










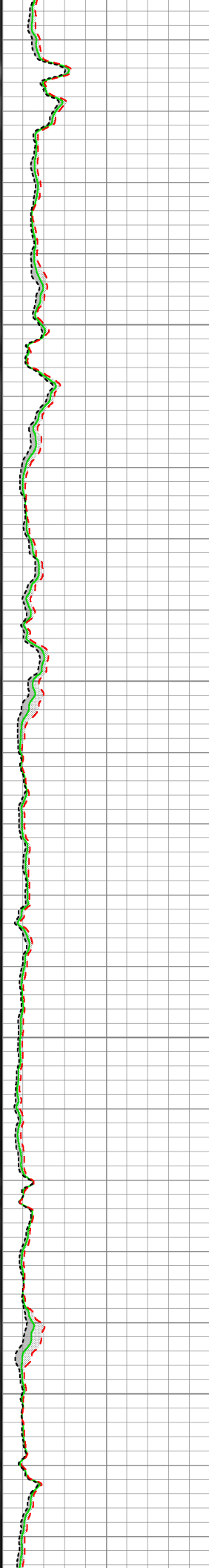
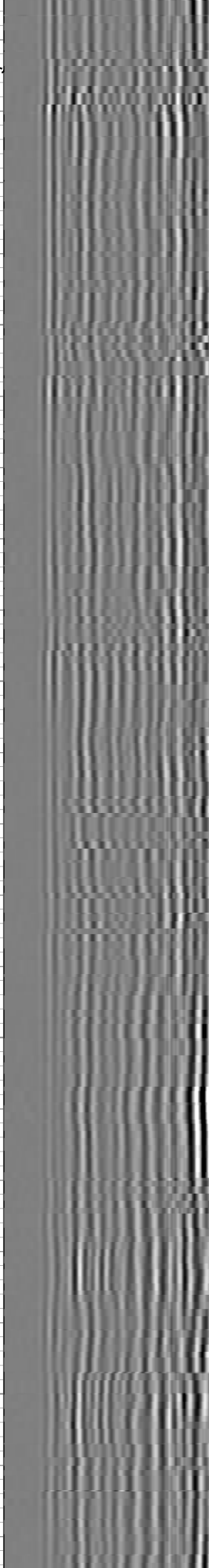
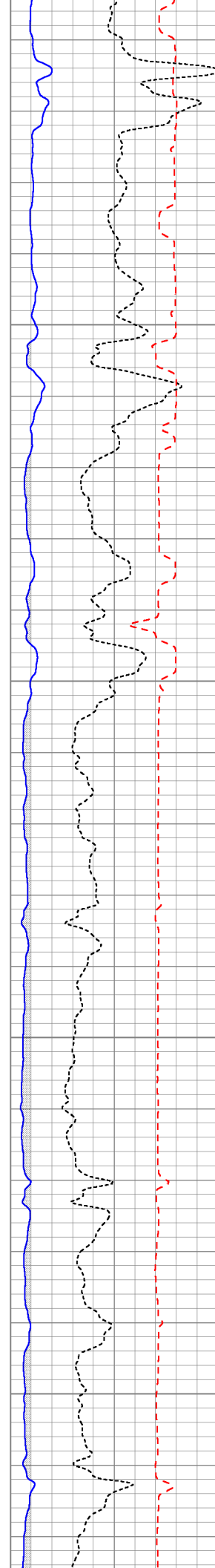


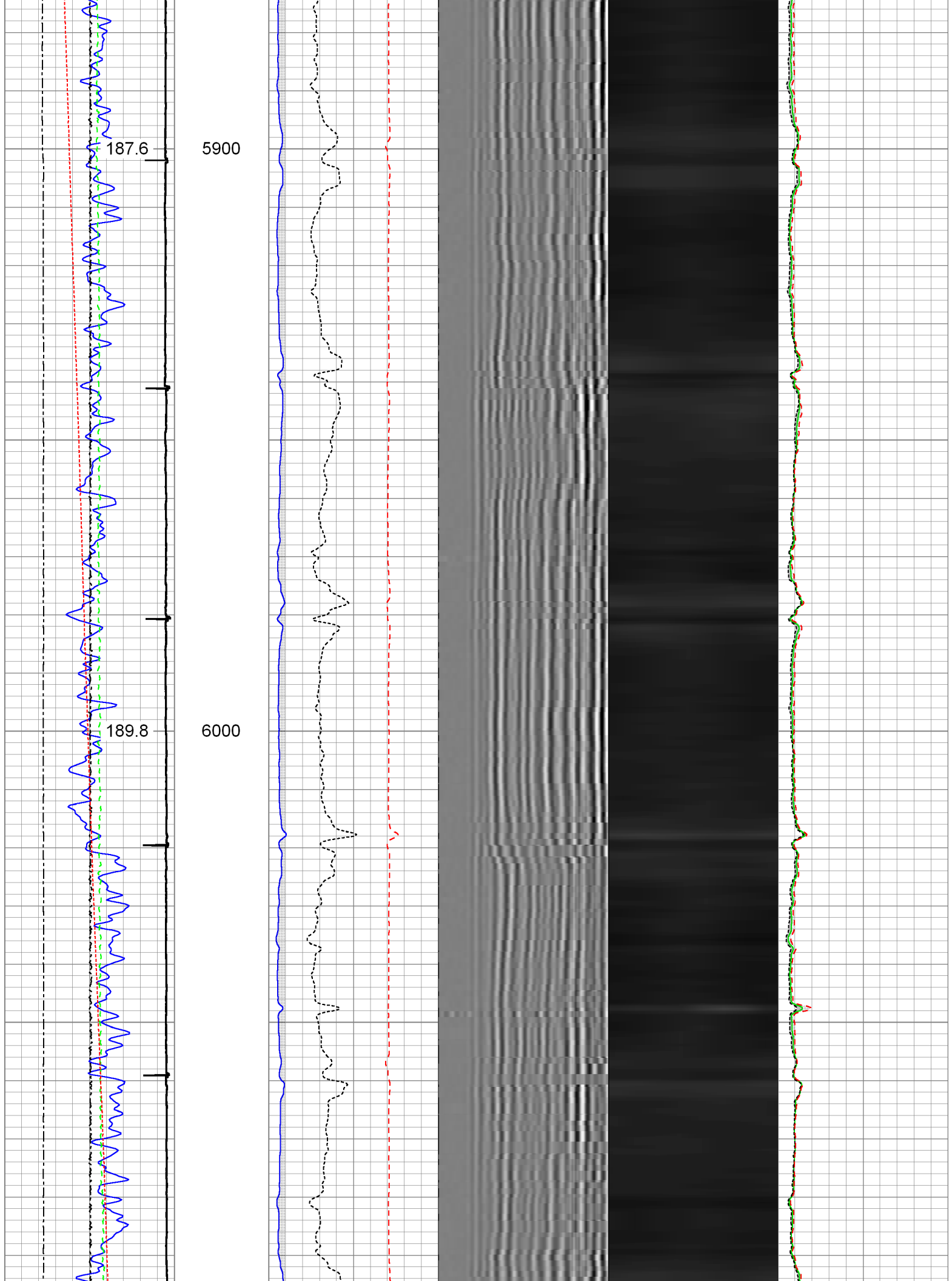
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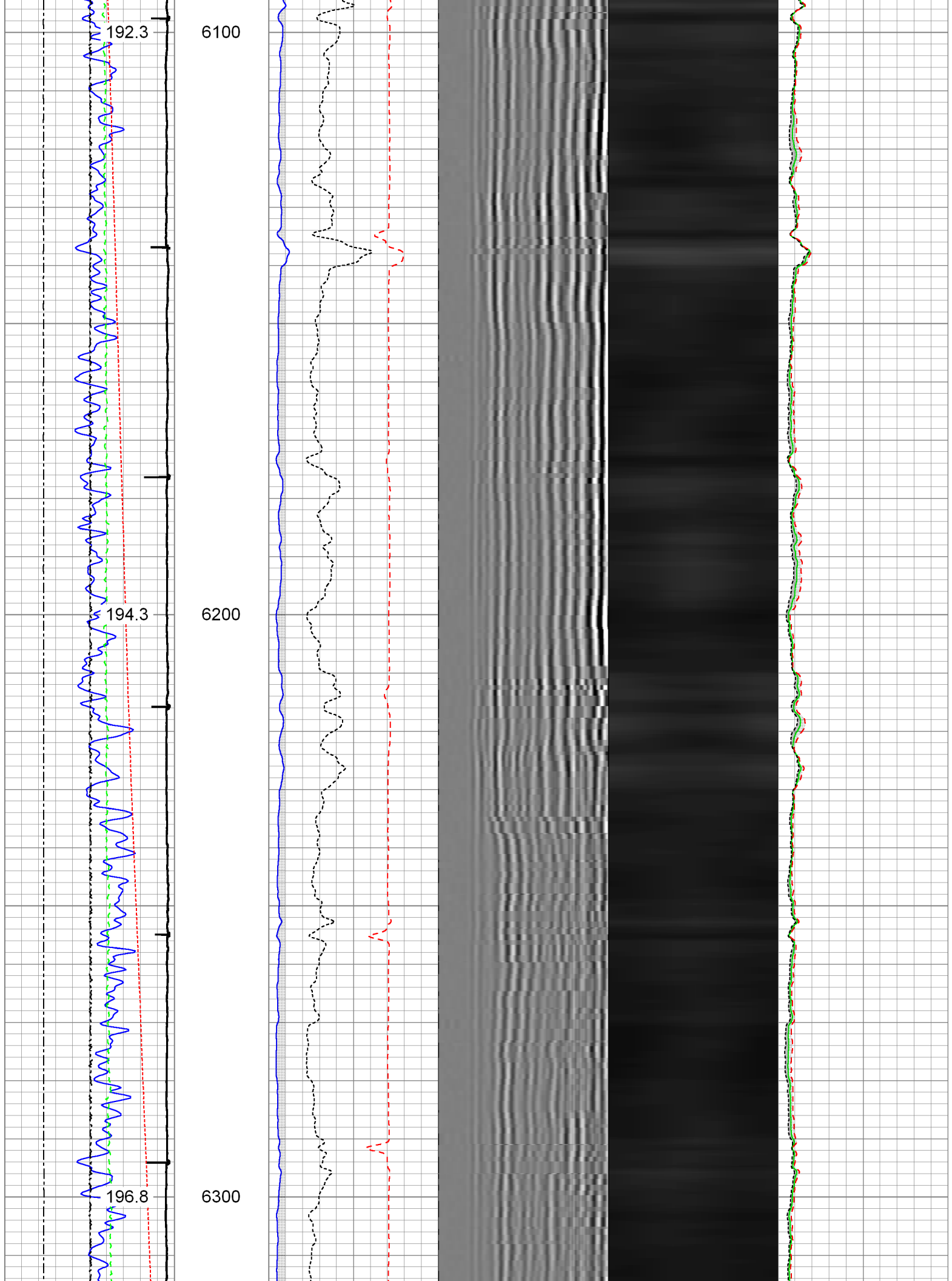
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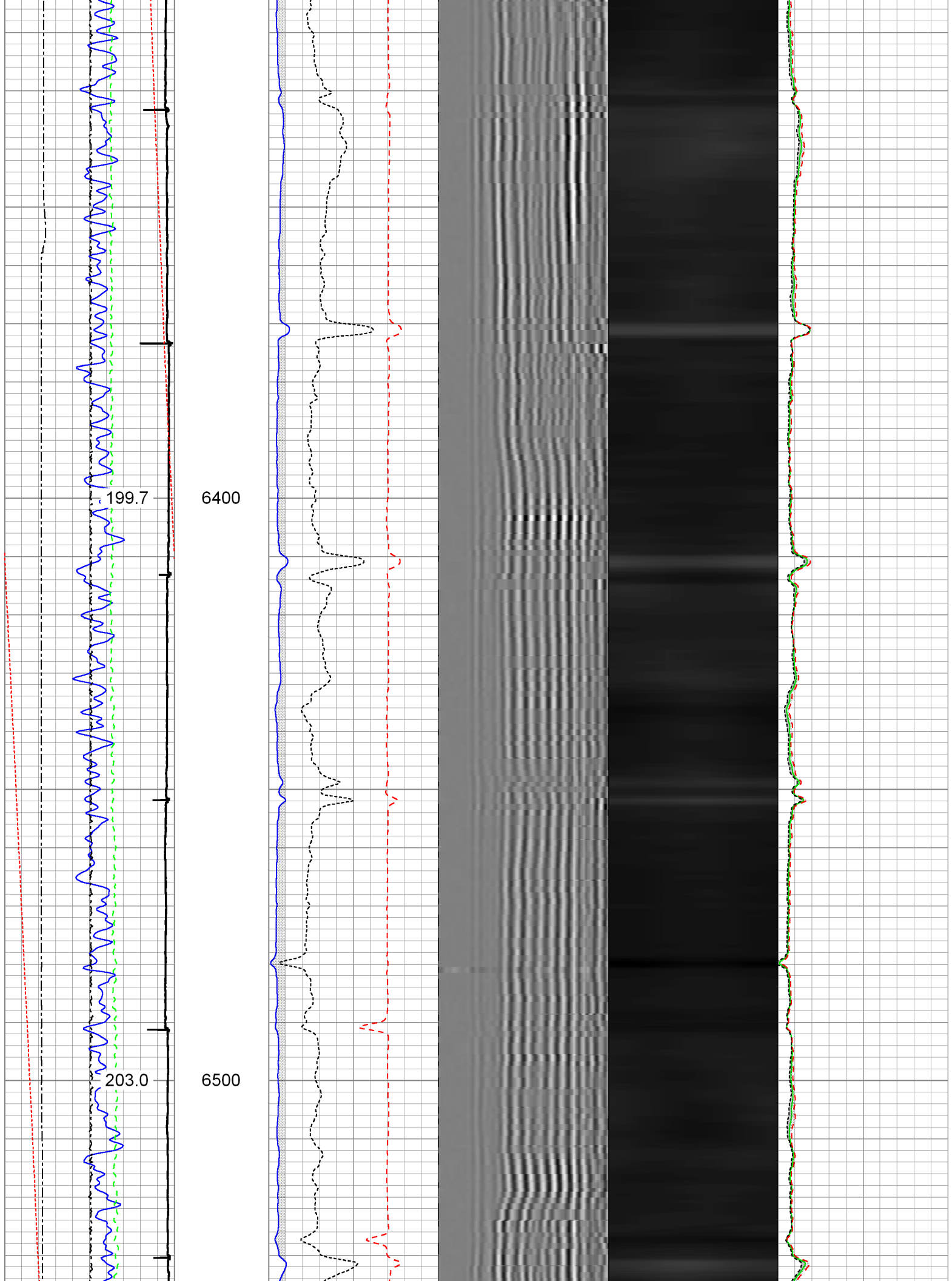
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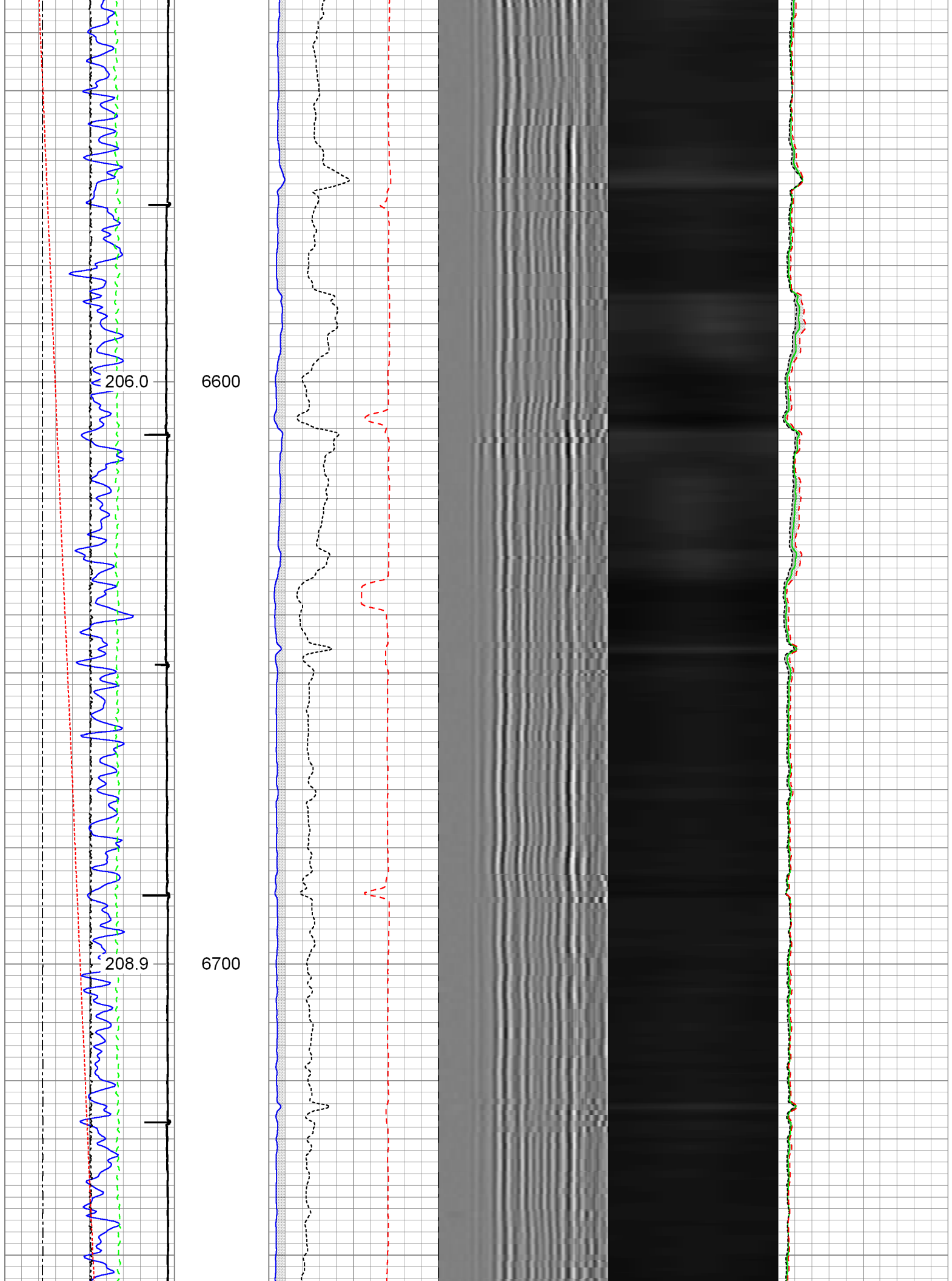
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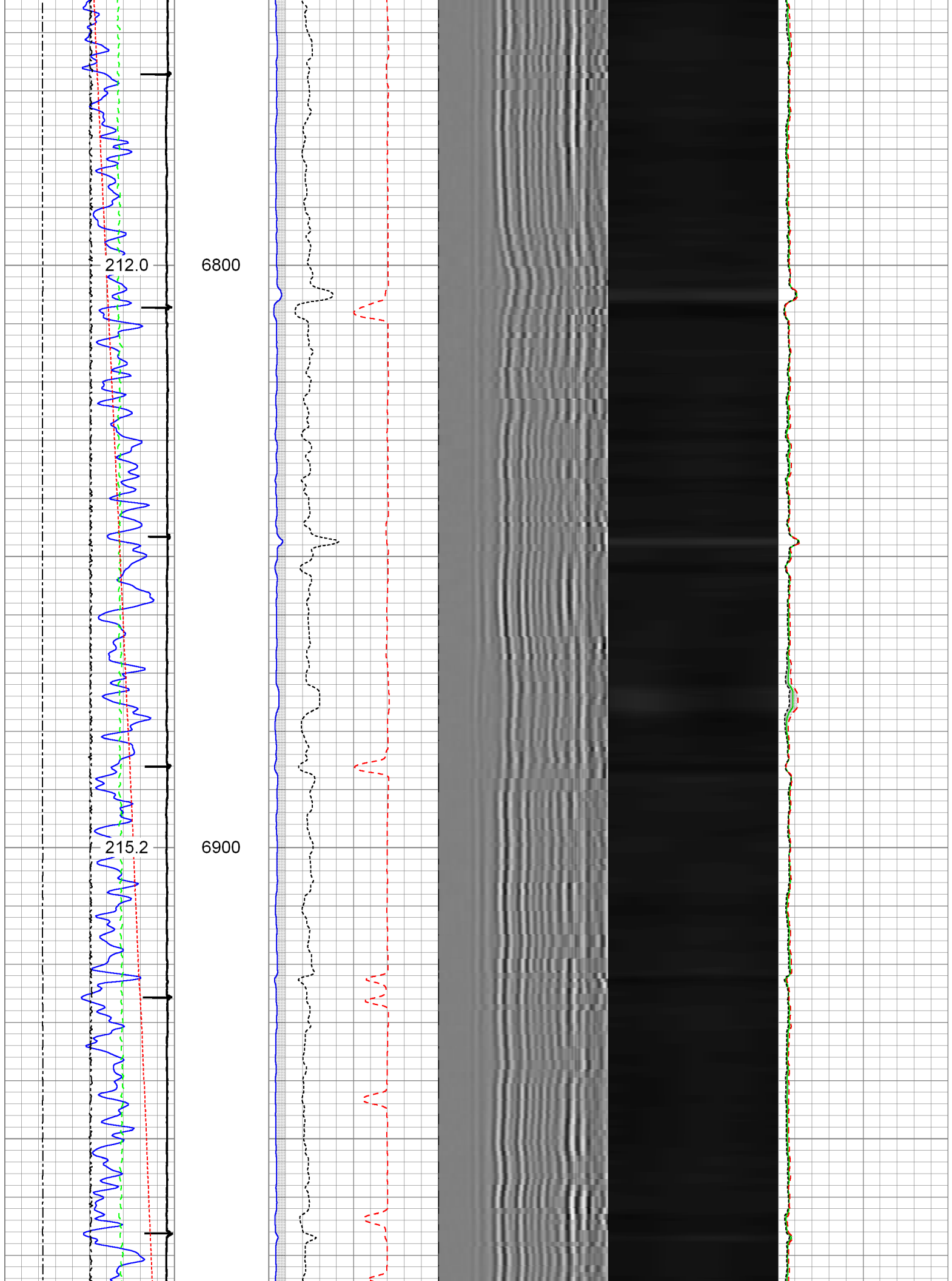


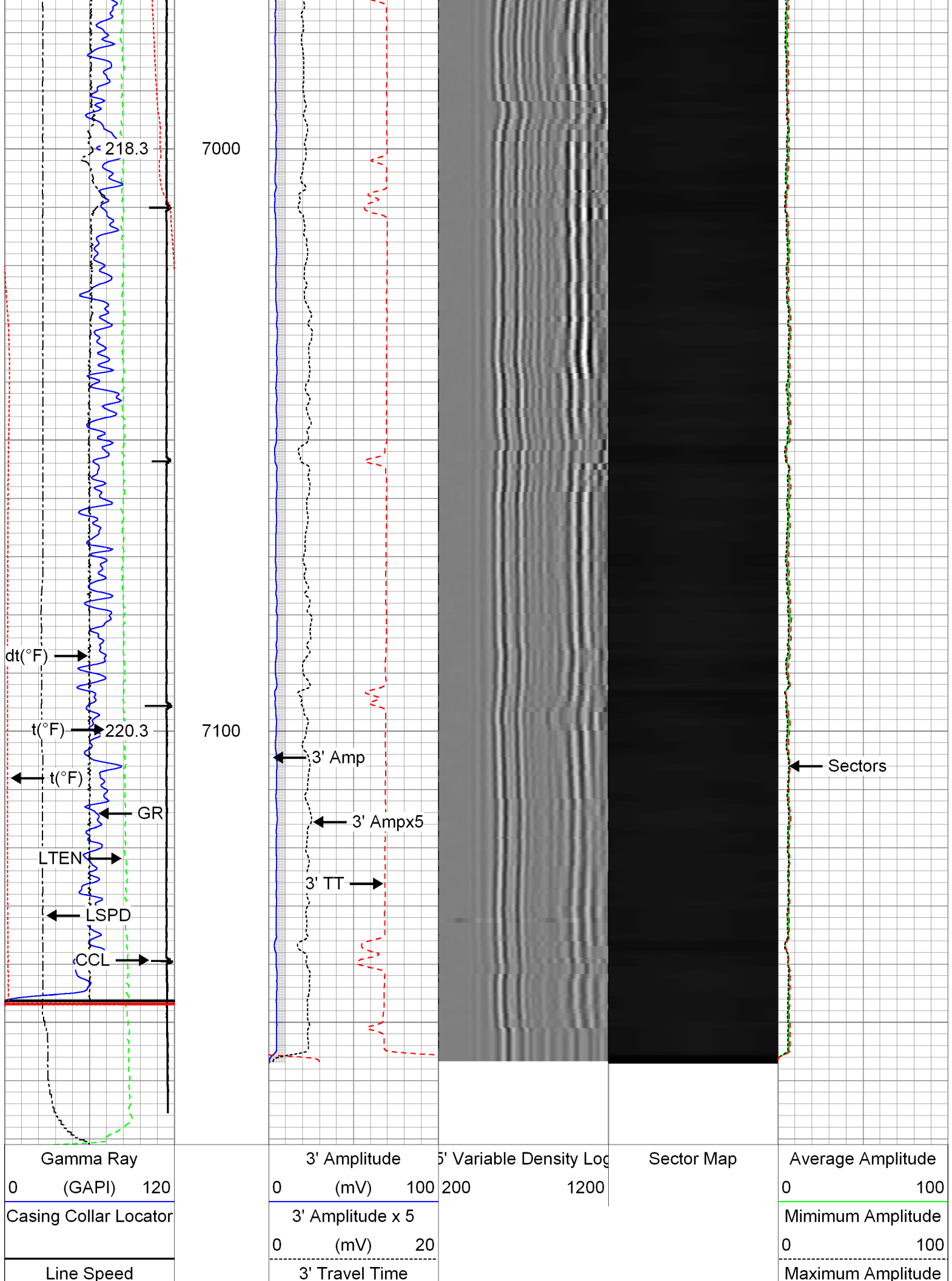













-100 (ft/min) 100	650 (usec) 150	0 100
Line Tension		
0 (lb) 2000		
Differential Temperature		
-2 (degF) 2		
Temperature		
0 (degF) 20		

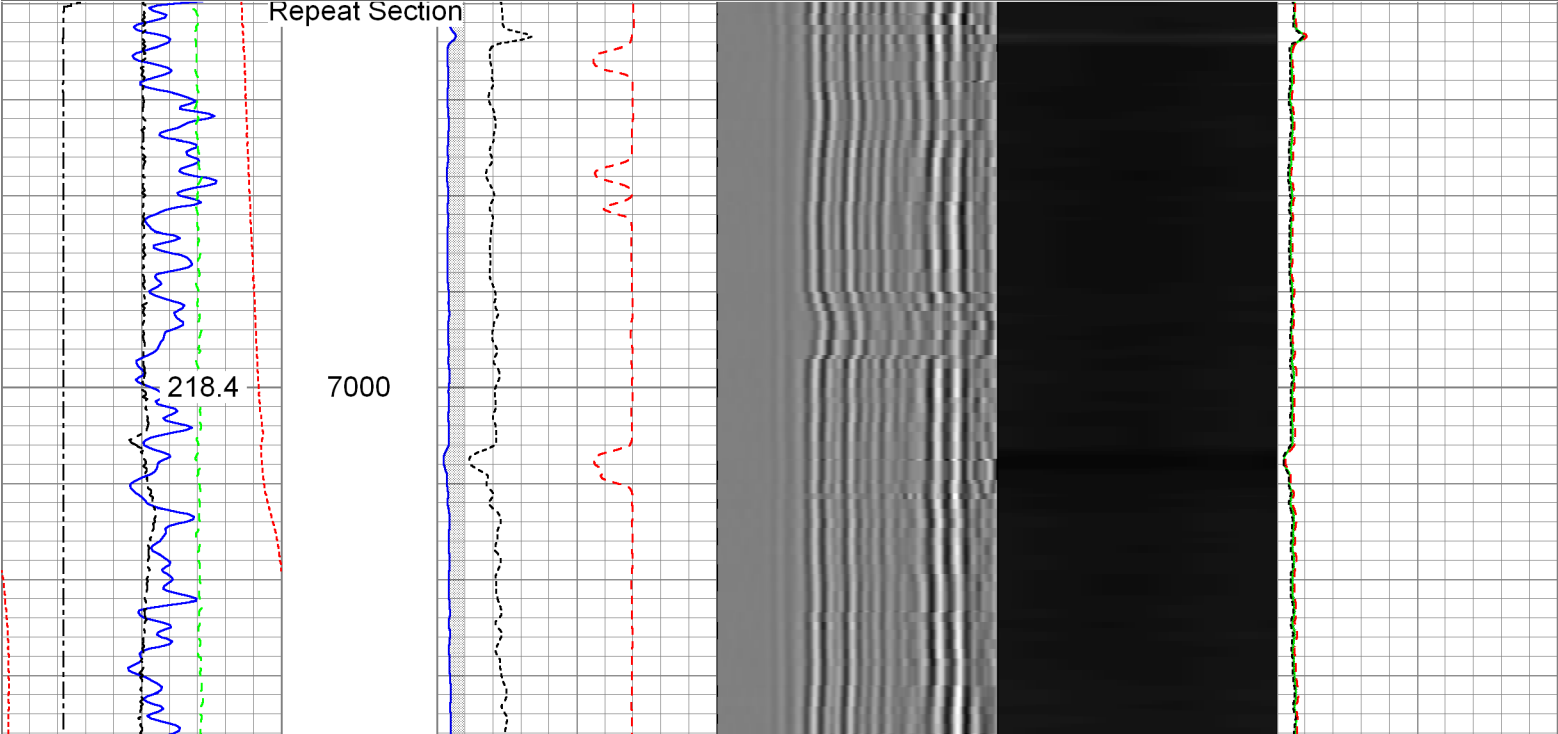


Repeat Pass

Recorded with 2800 PSI Surface Induced Pressure

Database File: 0512336460_anadarko_buffalo 36c-15hz_02-28-15_mit_rbl.db
Dataset Pathname: pass8
Presentation Format: rbt4_mit
Dataset Creation: Sat Feb 28 10:47:24 2015 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

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



			UW_XTU-UW_XTU_002 (10010519) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
GR	25.46		UW_PGR-UW_PGR_020 (211727) Production Gamma Ray	1.93	1.69	9.50
TEMP	24.07		UW_PRT-UW_PRT_016 (10025097) Platinum Resistance Thermometer	1.04	1.69	5.20
CCL	22.82		UW_CCL-UW_CCL_028 (10009470) Ultrawire 3-1/8" CCL	1.61	3.13	36.00
			UW_PRC-DSSRAC (083) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
WVFS3FT	15.42		UW_RBT-UW_RBT_004 (1066) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS1	15.42					
WVFS2	15.42					
WVFS3	15.42					
WVFS4	15.42					
WVFS5	15.42					
WVFS6	15.42					
WVFS7	15.42					
WVFS8	15.42					
CBLTEMP	15.42					
CBLROT	15.42					
WVFS5FT	14.42		UW_PRC-DSSRAC (082) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
MIT	5.41		UW_MIT-UW_MIT40_027 (218950) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC #3 -UW_PRC_057 (1038) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
			UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
TSTAMP	0.00					
Dataset: 0512336460_Anadarko_Buffalo 36C-15HZ_02-28-15_MIT_RBL.db: field/well/run1/pass9 Total Length: 29.71 ft Total Weight: 360.50 lb O.D.: 3.13 in						

Calibration Report	
Database File:	0512336460_anadarko_buffalo 36c-15hz_02-28-15_mit_rbl.db
Dataset Pathname:	pass9
Dataset Creation:	Sat Feb 28 10:55:33 2015 by Log 7.0 B1

Serial Number: 218950
 Number of Fingers: 40
 Tool Model: UW_MIT40_027

Inclinometer Calibration Report

Performed: Fri, Oct, 10 10:41:51 2008
 Calibration Angle: 45

		Inc X	Inc Y
Vertical:		1996	1975
Finger 1 up:		2238	2226
Finger 31 up:		1760	2216
Finger 21 up:		1769	1745
Finger 11 up:		2250	1738
Sensitivity ratio:	1.00023		
X-axis angle:	314.283		
Deviation const.:	339.139		

Finger Calibration Report

Performed: Sat Feb 28 09:54:26 2015

Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1491	270.0	1761	284.0	2045	297.0	2342
Finger 02:	1549	248.0	1797	253.0	2050	264.0	2314
Finger 03:	1456	275.0	1731	290.0	2021	302.0	2323
Finger 04:	1492	275.0	1767	287.0	2054	291.0	2345
Finger 05:	1536	268.0	1804	275.0	2079	280.0	2359
Finger 06:	1439	286.0	1725	296.0	2021	309.0	2330
Finger 07:	1458	279.0	1737	293.0	2030	304.0	2334
Finger 08:	1474	276.0	1750	292.0	2042	296.0	2338
Finger 09:	1460	282.0	1742	299.0	2041	303.0	2344
Finger 10:	1477	274.0	1751	286.0	2037	286.0	2323
Finger 11:	1459	278.0	1737	296.0	2033	299.0	2332
Finger 12:	1433	284.0	1717	302.0	2019	310.0	2329
Finger 13:	1510	261.0	1771	274.0	2045	276.0	2321
Finger 14:	1471	268.0	1739	289.0	2028	291.0	2319
Finger 15:	1495	286.0	1781	307.0	2088	289.0	2377
Finger 16:	1473	277.0	1750	292.0	2042	296.0	2338
Finger 17:	1514	284.0	1798	298.0	2096	300.0	2396
Finger 18:	1437	272.0	1709	293.0	2002	298.0	2300
Finger 19:	1480	293.0	1773	327.0	2100	280.0	2380
Finger 20:	1466	276.0	1742	295.0	2037	300.0	2337
Finger 21:	1401	289.0	1690	310.0	2000	317.0	2317
Finger 22:	1459	267.0	1726	284.0	2010	288.0	2298
Finger 23:	1449	277.0	1726	291.0	2017	299.0	2316
Finger 24:	1486	272.0	1758	285.0	2043	285.0	2328
Finger 25:	1479	276.0	1755	289.0	2044	296.0	2340
Finger 26:	1432	278.0	1710	295.0	2005	304.0	2309
Finger 27:	1488	267.0	1755	281.0	2036	287.0	2323
Finger 28:	1477	275.0	1752	289.0	2041	300.0	2341
Finger 29:	1531	258.0	1789	268.0	2057	277.0	2334
Finger 30:	1443	272.0	1715	289.0	2004	306.0	2310
Finger 31:	1475	279.0	1754	290.0	2044	303.0	2347
Finger 32:	1509	261.0	1770	271.0	2041	281.0	2322
Finger 33:	1487	278.0	1765	290.0	2055	304.0	2359
Finger 34:	1489	272.0	1761	288.0	2049	303.0	2352
Finger 35:	1550	254.0	1804	260.0	2064	272.0	2336
Finger 36:	1516	265.0	1781	276.0	2057	290.0	2347
Finger 37:	1492	273.0	1765	285.0	2050	302.0	2352
Finger 38:	1585	245.0	1830	252.0	2082	270.0	2352
Finger 39:	1505	265.0	1770	275.0	2045	287.0	2332
Finger 40:	1445	280.0	1725	293.0	2018	314.0	2332

Segmented Cement Bond Log Calibration Report

Serial Number: 1066
 Tool Model: UW_RBT_004

Calibration Casing Diameter: 7.000 in
 Calibration Depth: 2854.484 ft

Master Calibration, performed Sat Feb 28 10:27:44 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.004	0.811	0.800	62.165	76.026	0.533
5FT	-0.002	0.748	0.800	62.165	81.733	1.000
S1	0.002	0.741	0.000	100.000	135.439	-0.336
S2	0.003	0.758	0.000	100.000	132.401	-0.343
S3	0.003	0.789	0.000	100.000	127.146	-0.323
S4	0.003	0.832	0.000	100.000	120.524	-0.327
S5	0.002	0.857	0.000	100.000	116.962	-0.286
S6	0.002	0.865	0.000	100.000	115.975	-0.283
S7	0.002	0.845	0.000	100.000	118.675	-0.290
S8	0.003	0.787	0.000	100.000	127.596	-0.361

Temperature Calibration Report

Serial Number: 10025097
 Tool Model: UW_PRT_016
 Performed: Wed Feb 11 13:44:44 2015

Point #	Reading	Reference
1	13053.00 cps	68.00 degF
2	18014.00 cps	104.00 degF
3	29668.00 cps	176.00 degF
4	41181.00 cps	248.00 degF
5	52983.00 cps	320.00 degF
6	58931.00 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: UW_PGR_020
 Performed: Sun Jun 13 13:33:21 1993

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 GAPI/cps



Company Kerr-McGee Oil and Gas Onshore LP
 Well Buffalo 36C-15HZ
 Field Wattenberg
 County Weld

	State	Colorado
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