



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company				Kerr-McGee Oil & Gas Onshore, L.P.				
Well				Ferge 3N-14HZ				
Field				Wattenberg				
County				Weld				
State				Colorado				
Location:				API # : 05-123-36340				
SHL: 281' FSL & 1118' FWL Lat / Long: 40.21859 / -104.749802 SEC 14 TWP 3N RGE 66W				MIT				
Permanent Datum				Ground Level		Elevation		
Log Measured From				Kelly Bushing		13 FT		
Drilling Measured From				Kelly Bushing		4913'		
Date				20-May-2014		Other Services		
Run Number				One		K.B. 4926'		
Depth Driller				12273 FT		D.F. 4925'		
Depth Logger				6675 FT		G.L. 4913'		
Bottom Logged Interval				6672 FT				
Top Log Interval				Surface				
Open Hole Size				8.765"				
Type Fluid				Water				
Density / Viscosity				8.34 lbm/gal				
Max. Recorded Temp.				206°F				
Estimated Cement Top				756 FT				
Time Well Ready				ROA				
Time Logger on Bottom				12:30				
Equipment Number				HD-0324				
Location				Fort Lupton, CO				
Recorded By				J. Raby				
Witnessed By				Sonny Segura				
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 LTC	Surface	1246 FT		
Intermediate #1		7"	26	HCP-110 LTC	Surface	7611 FT		
Intermediate #2								
Liner		4 1/2"	11.6	P-110 DQXLTC	6659 FT	12258 FT		

<<< 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.
All wireline depths measured from KB zero at 4926 FT.
Depth reference to Casing Tally reported Liner Top at 6659 FT.
Adjusted log +16 FT from KB zero to correlate with Liner Top.
Retrievable Bridge Plug set at 6740 FT.
Log ran from below Liner Top to surface.
Log ran with 2800 PSI surface induced pressure.

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



Main Pass

Logged with 2800 PSI Surface Induced Pressure

Database File: 0512336340_anadarko_ferge 3n-14hz_05-20-14_mit_rbl.db

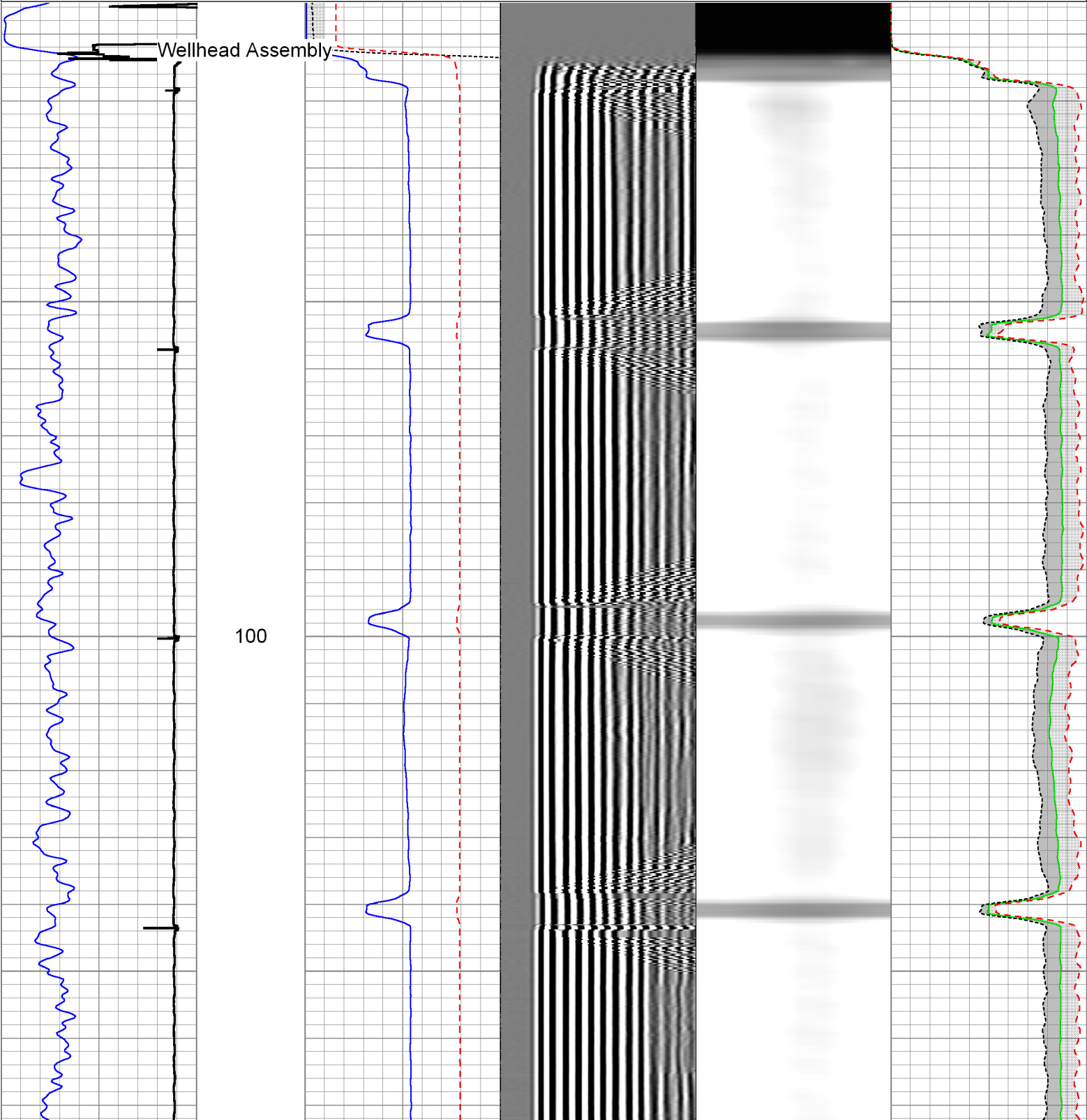
Dataset Pathname: pass6

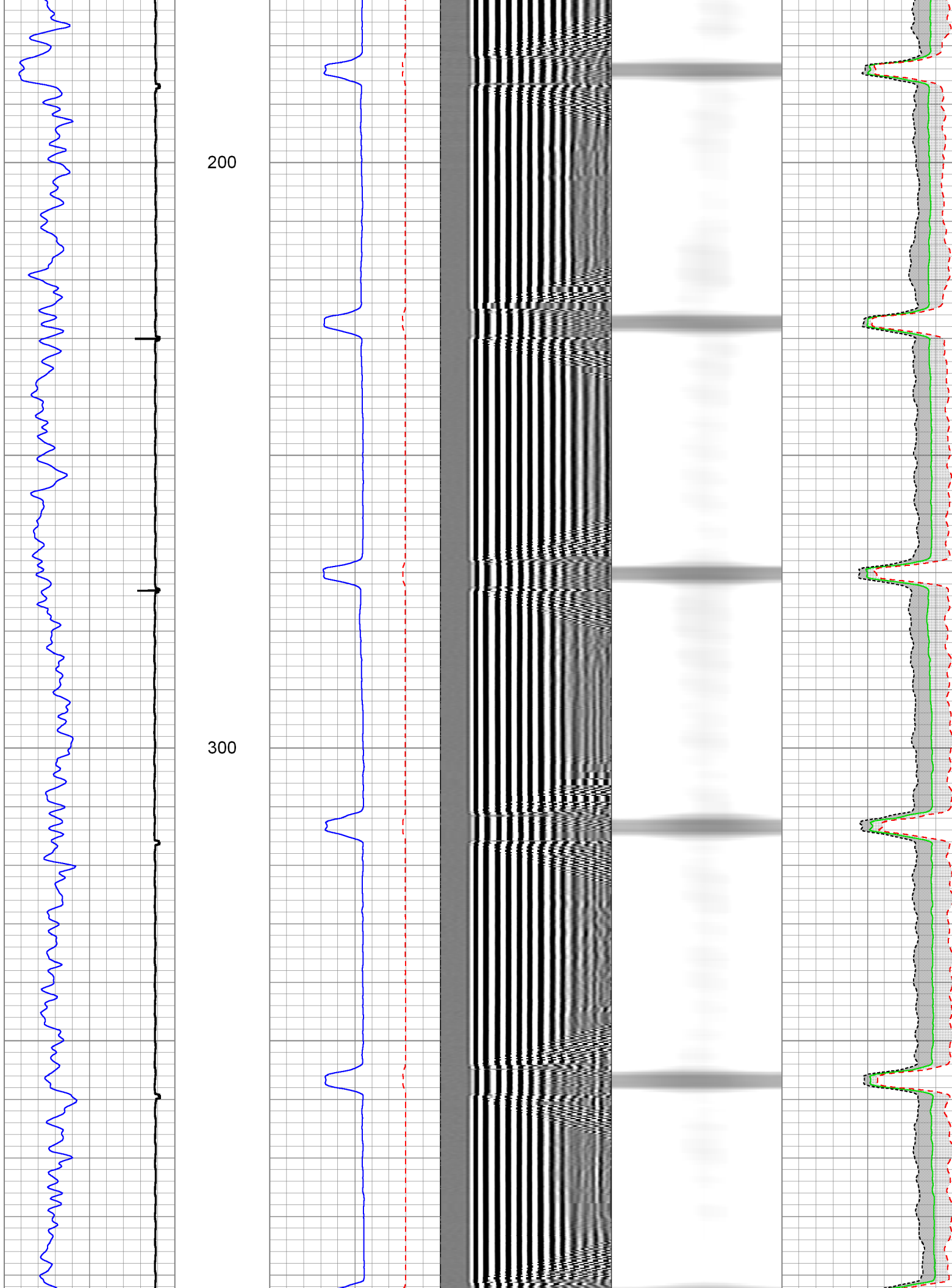
Presentation Format: rbt4_mit

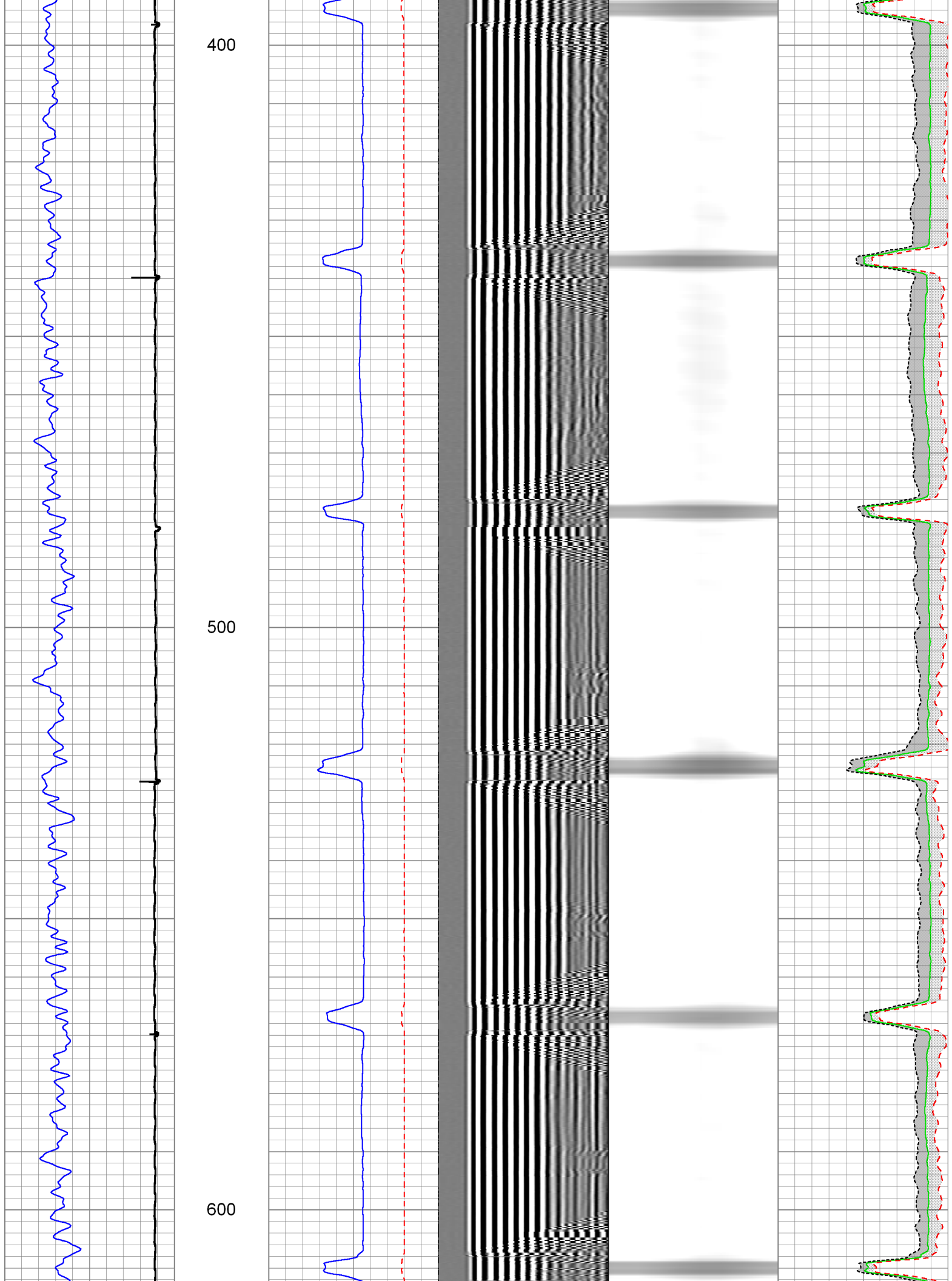
Dataset Creation: Tue May 20 13:10:42 2014 by Log 7.0 B1

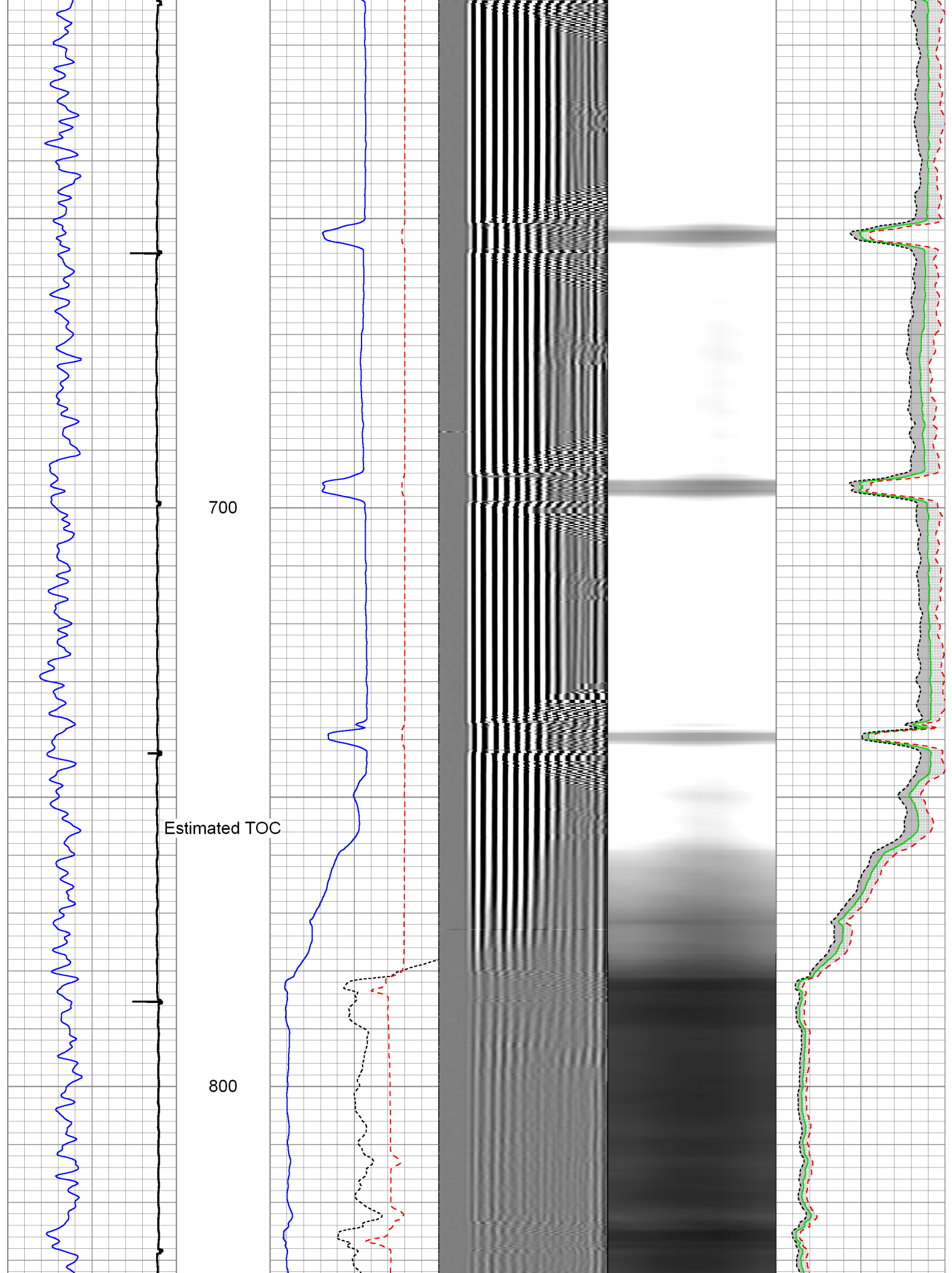
Charted by: Depth in Feet scaled 1:240

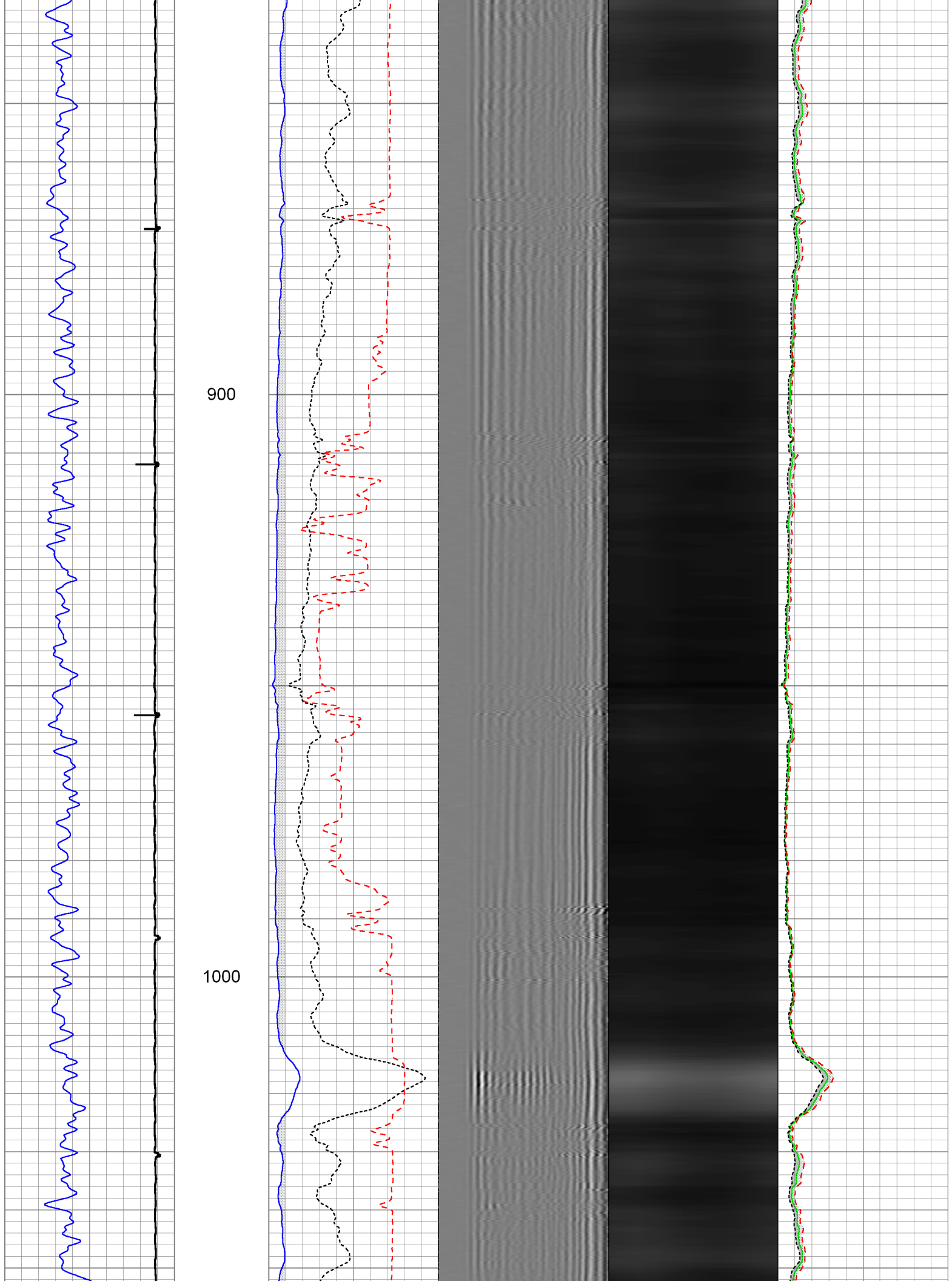
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
	3' Travel Time			Maximum Amplitude
	650 (usec) 150			0 100

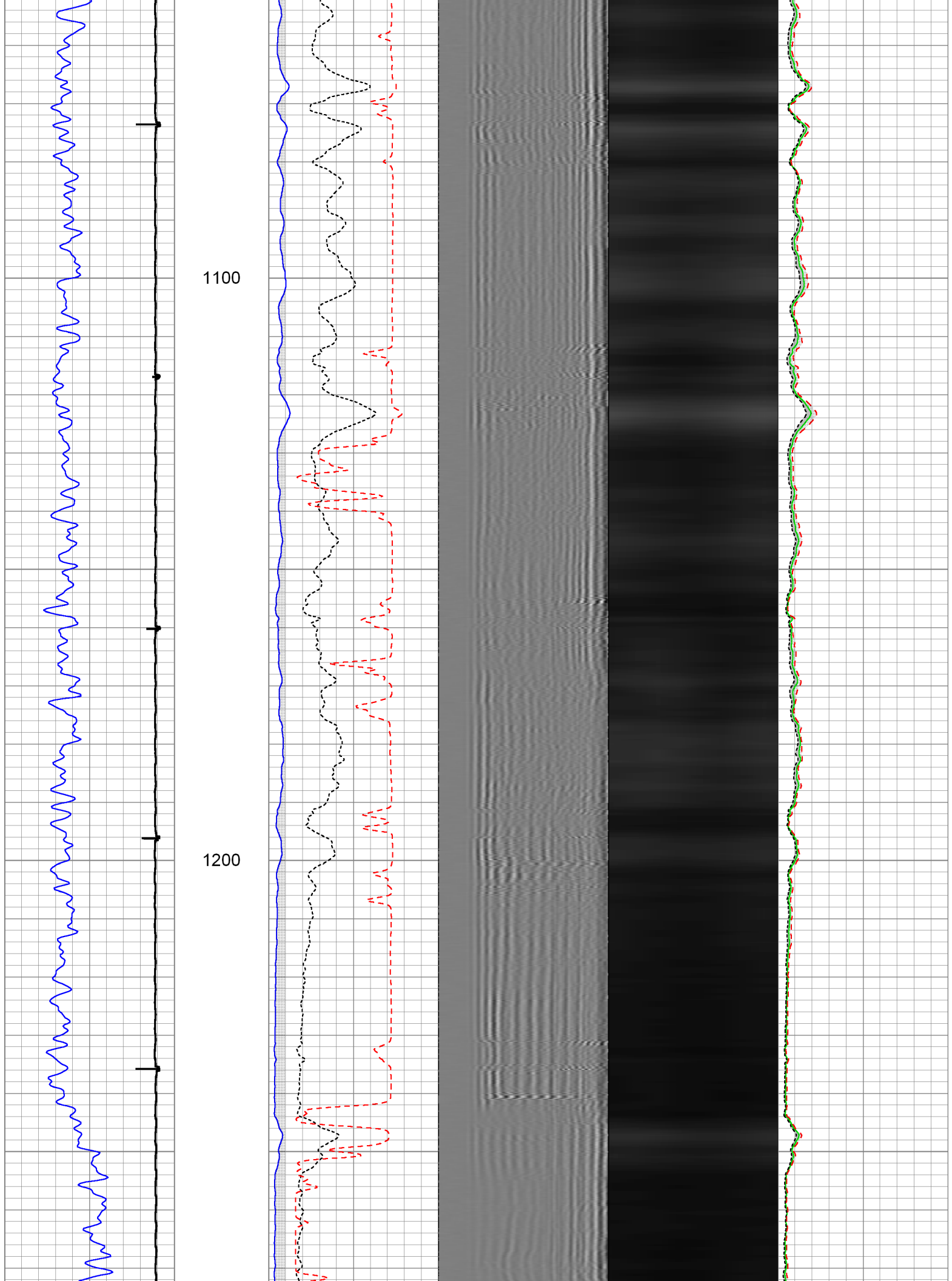


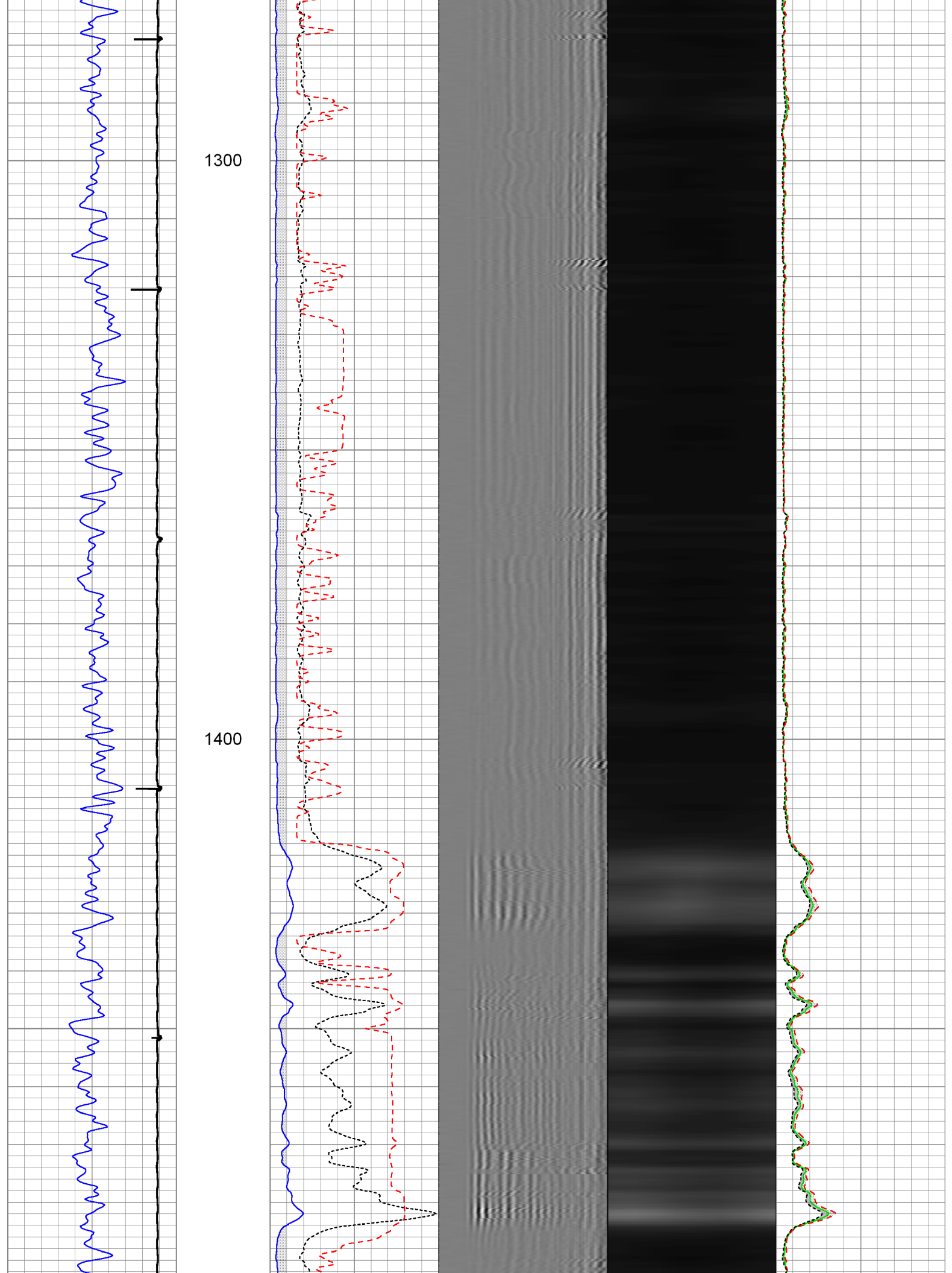


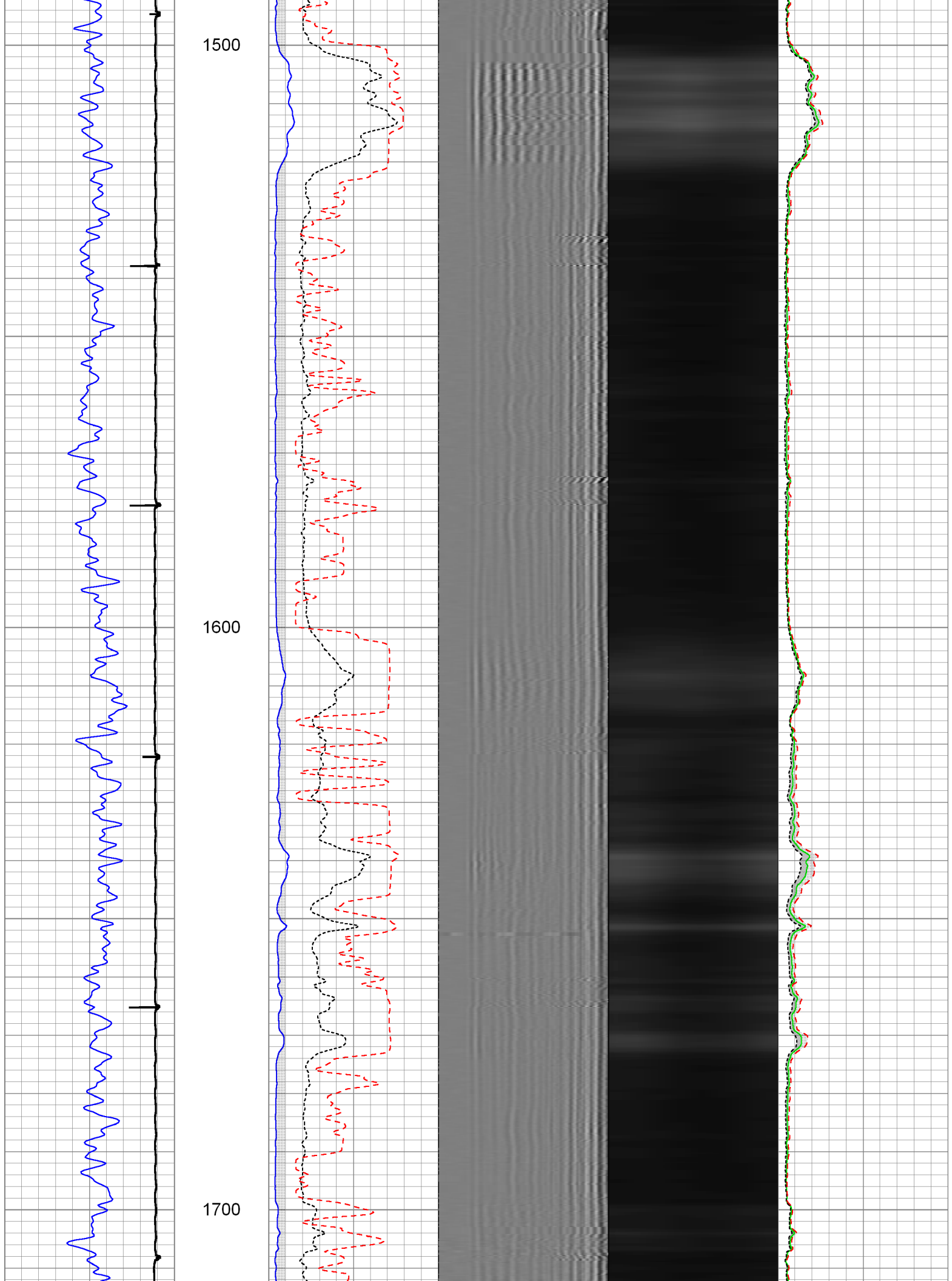


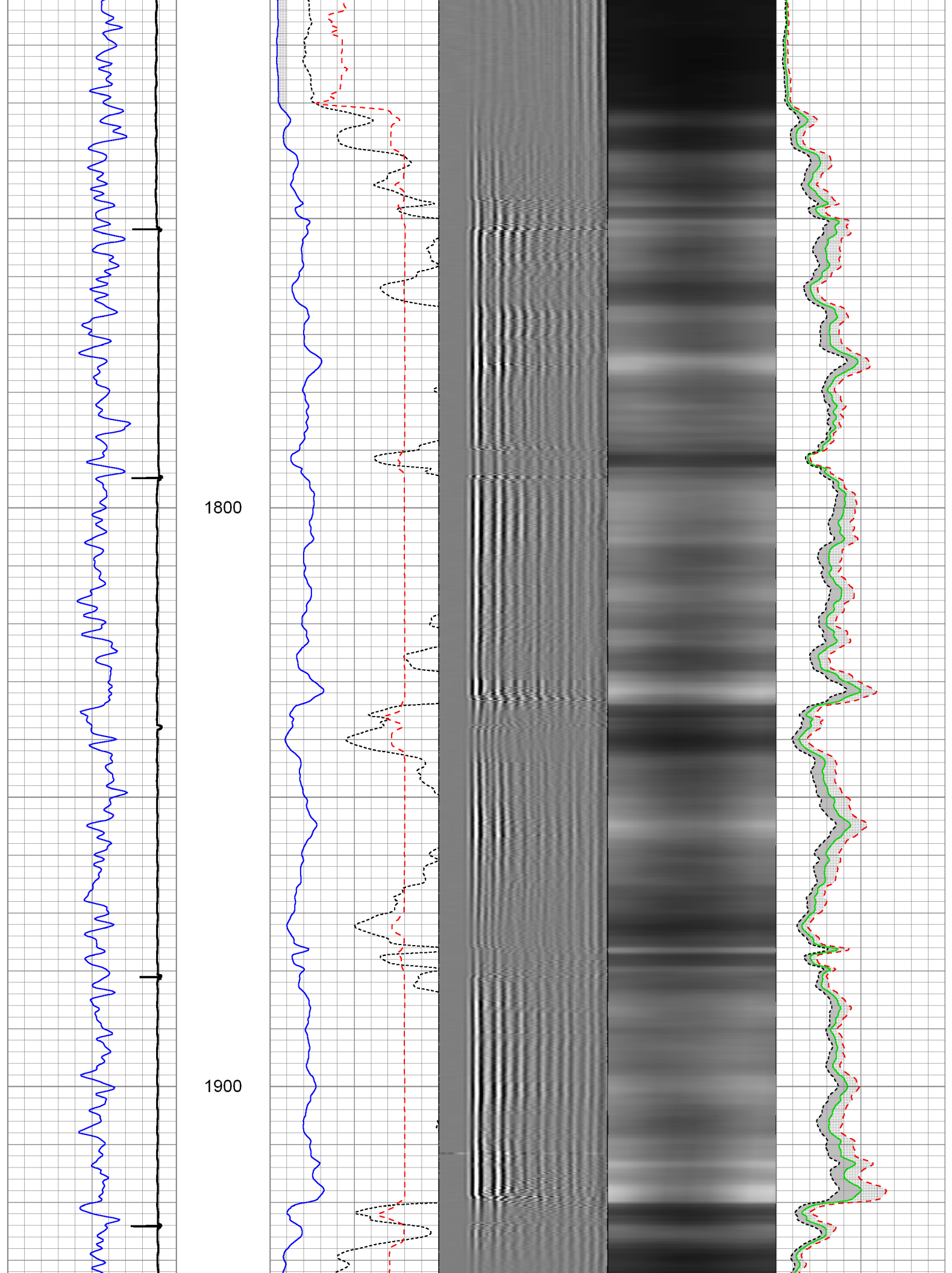


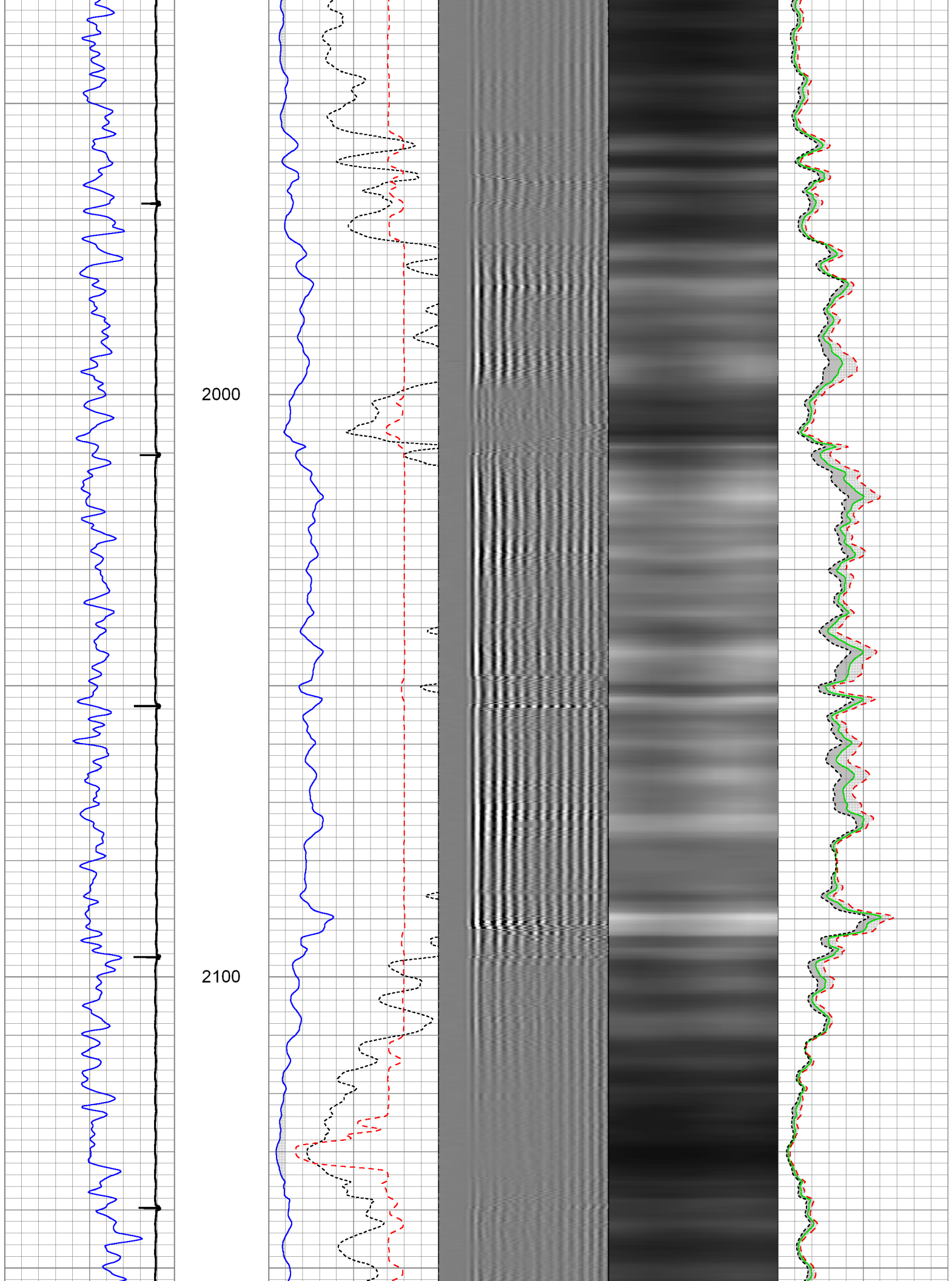






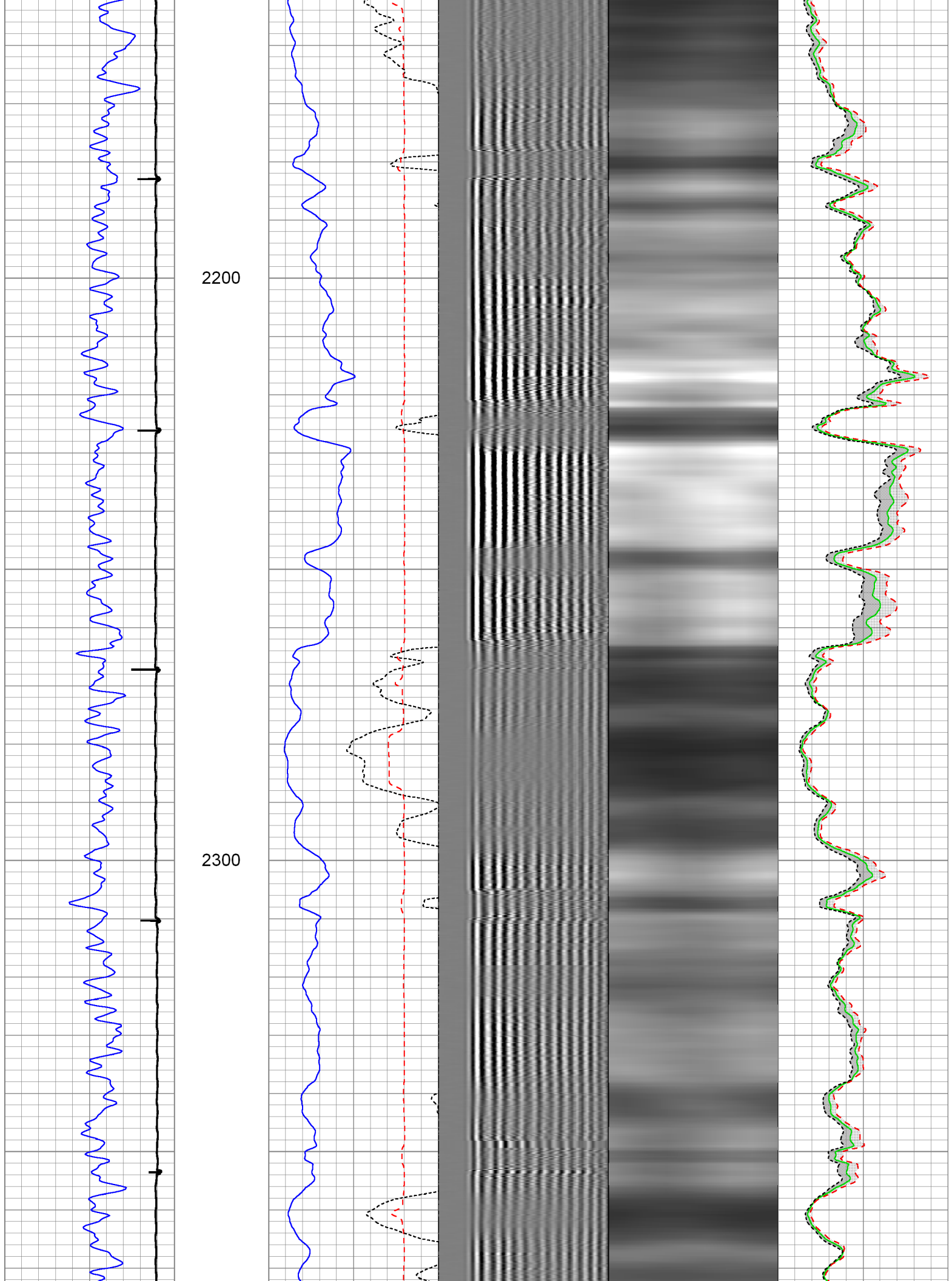






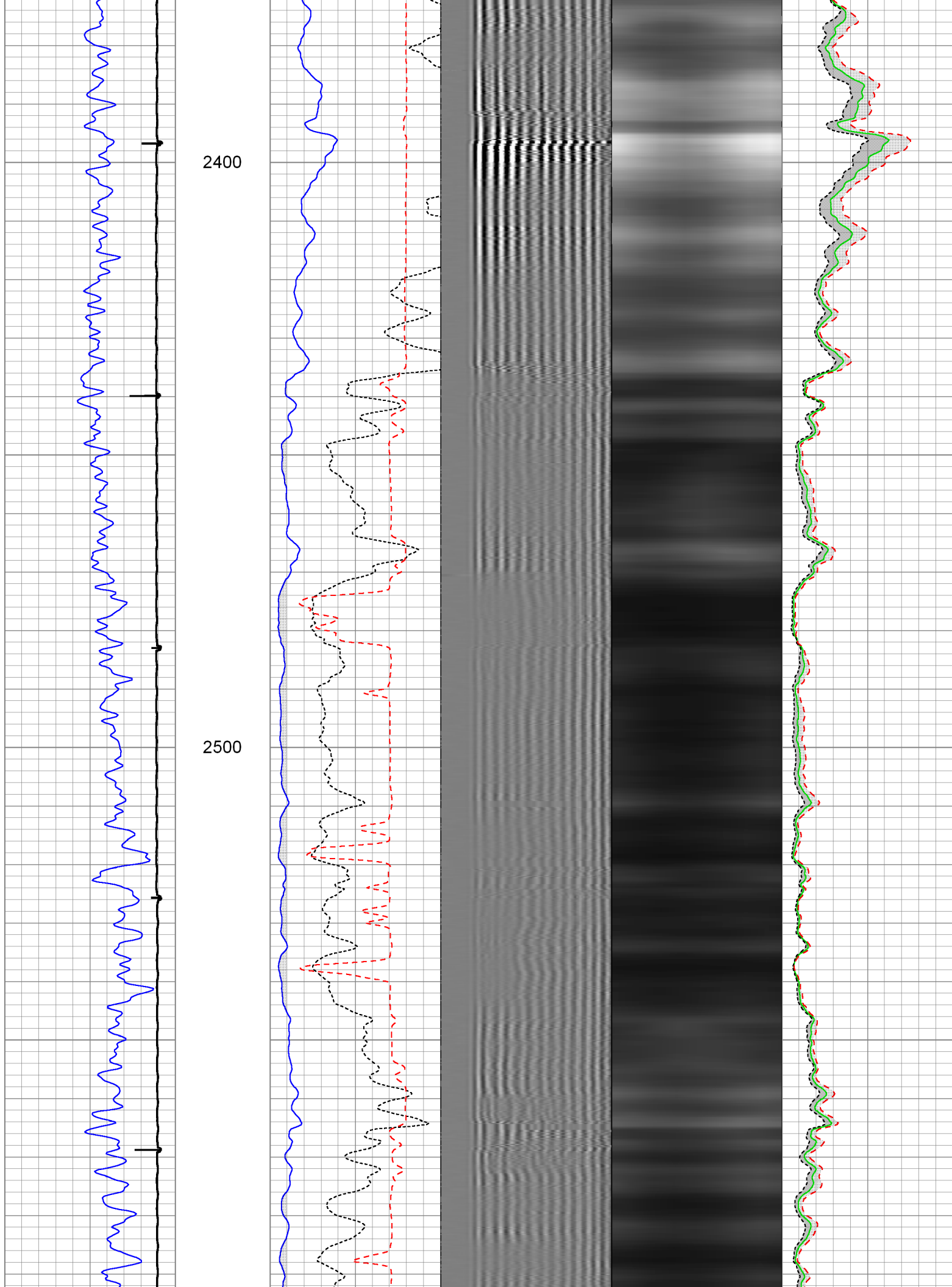
2200

2300



2400

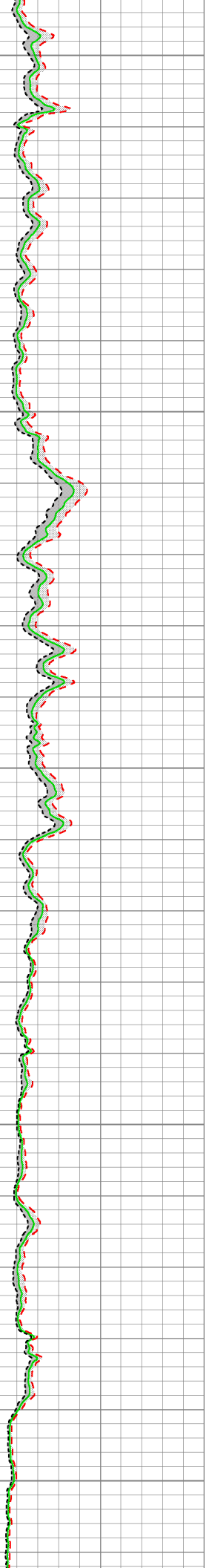
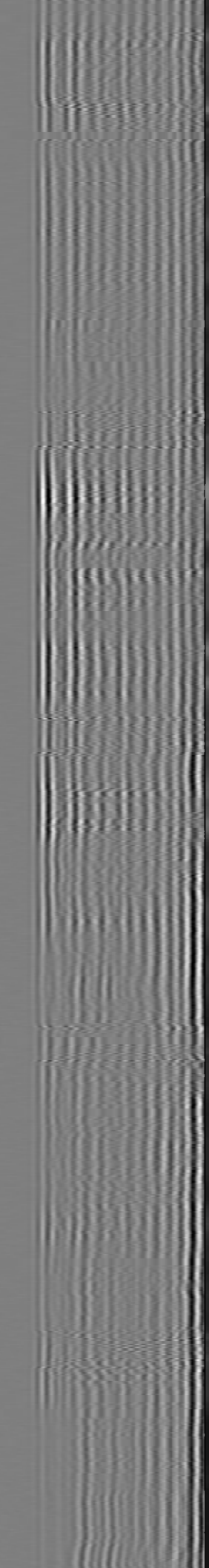
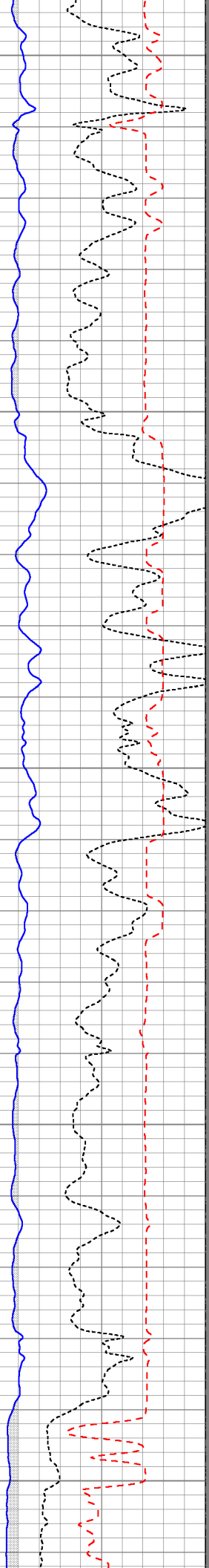
2500

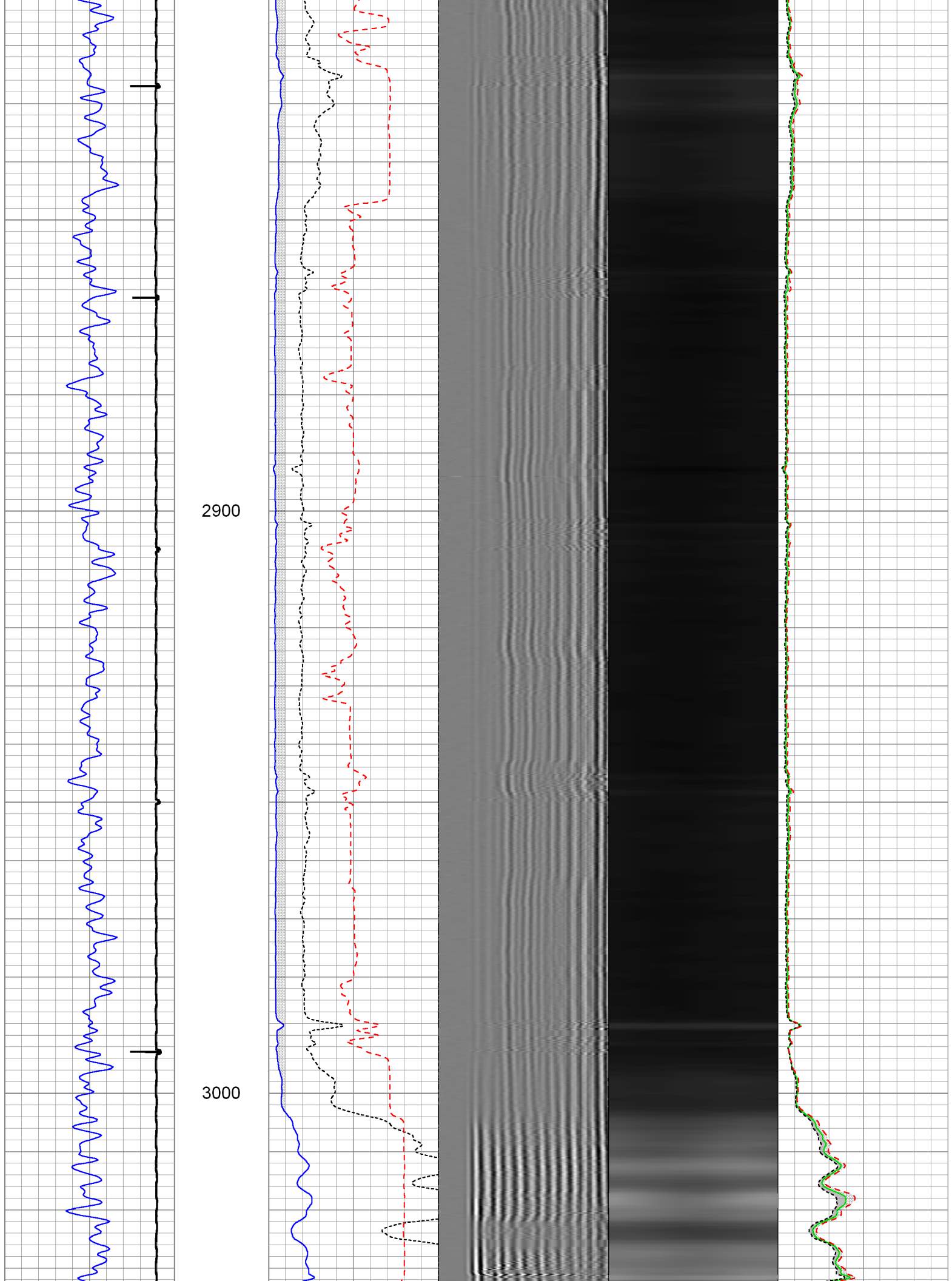


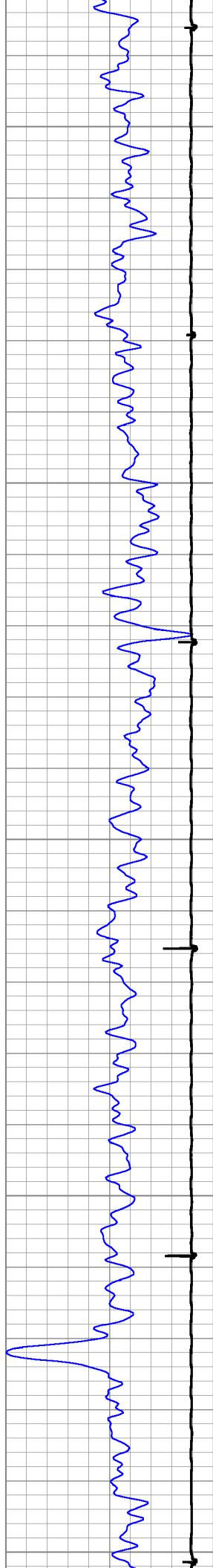
2600

2700

2800

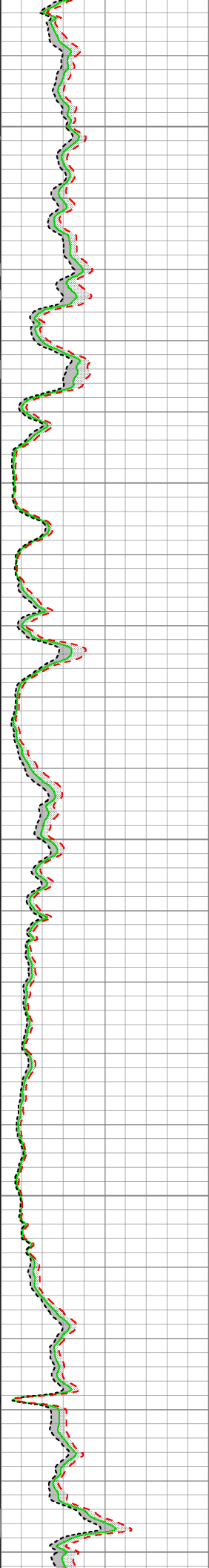
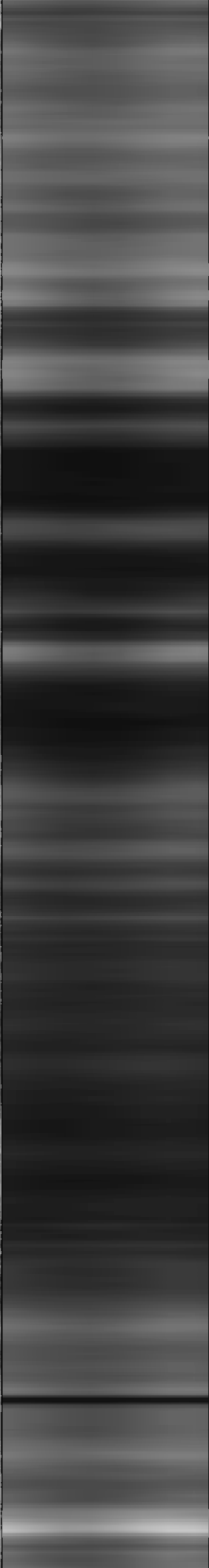
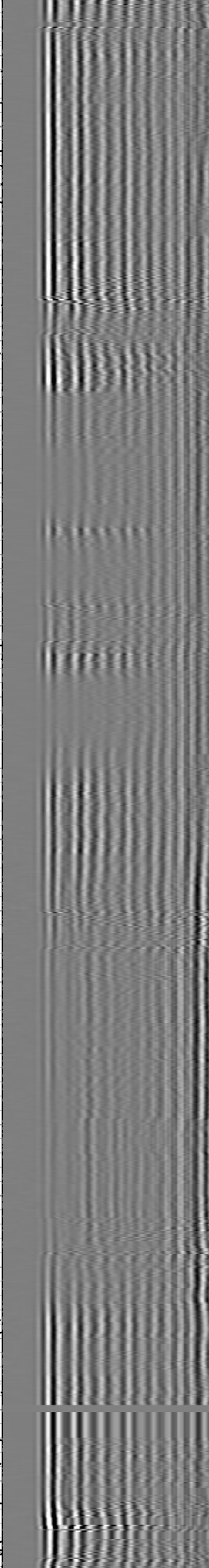
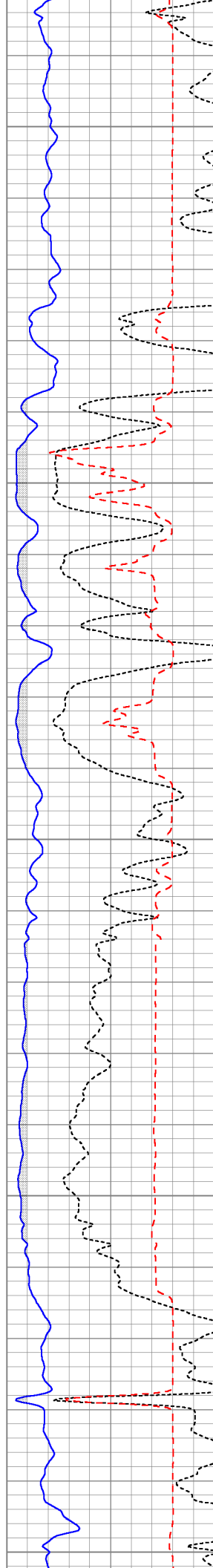


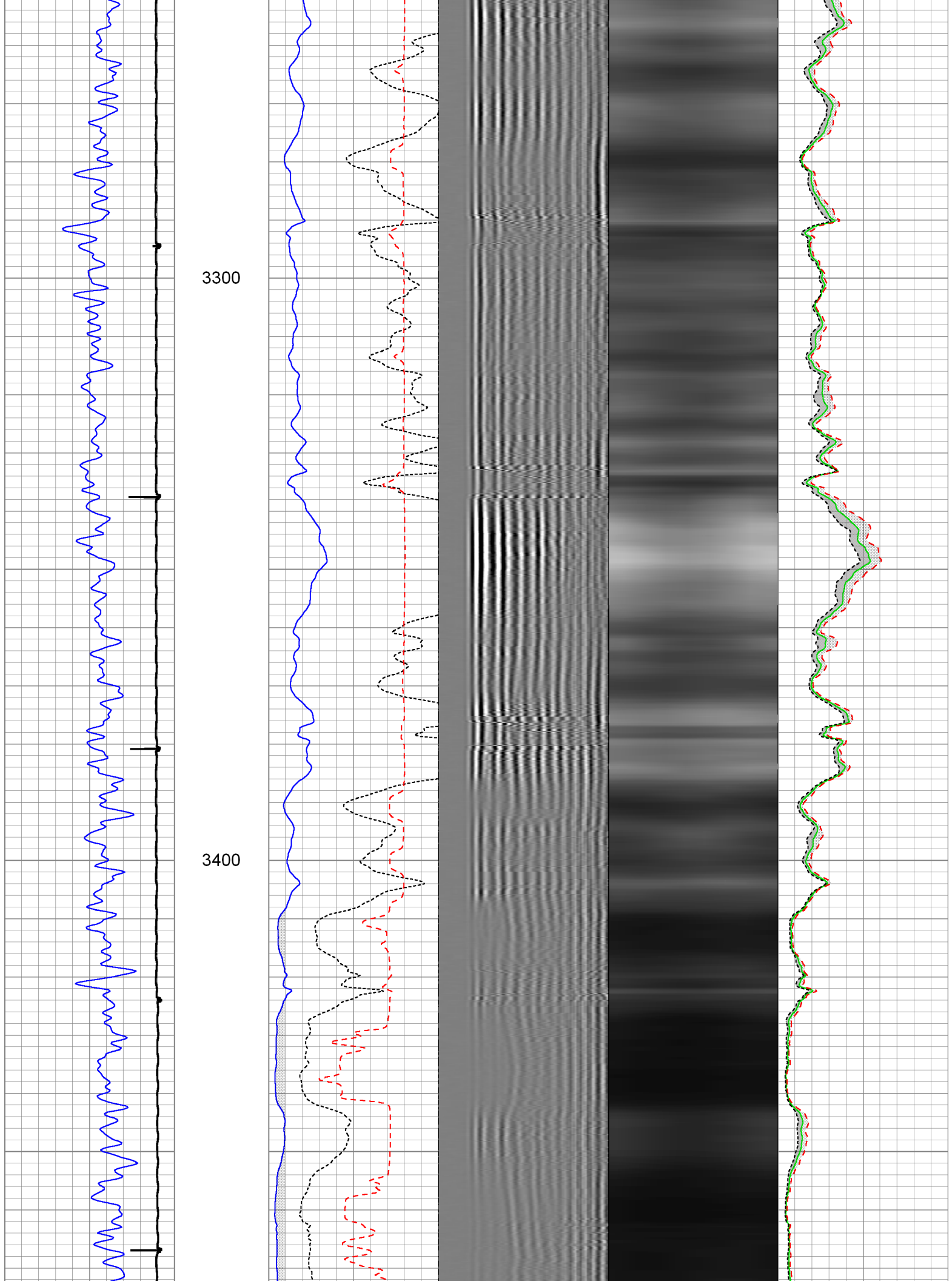




3100

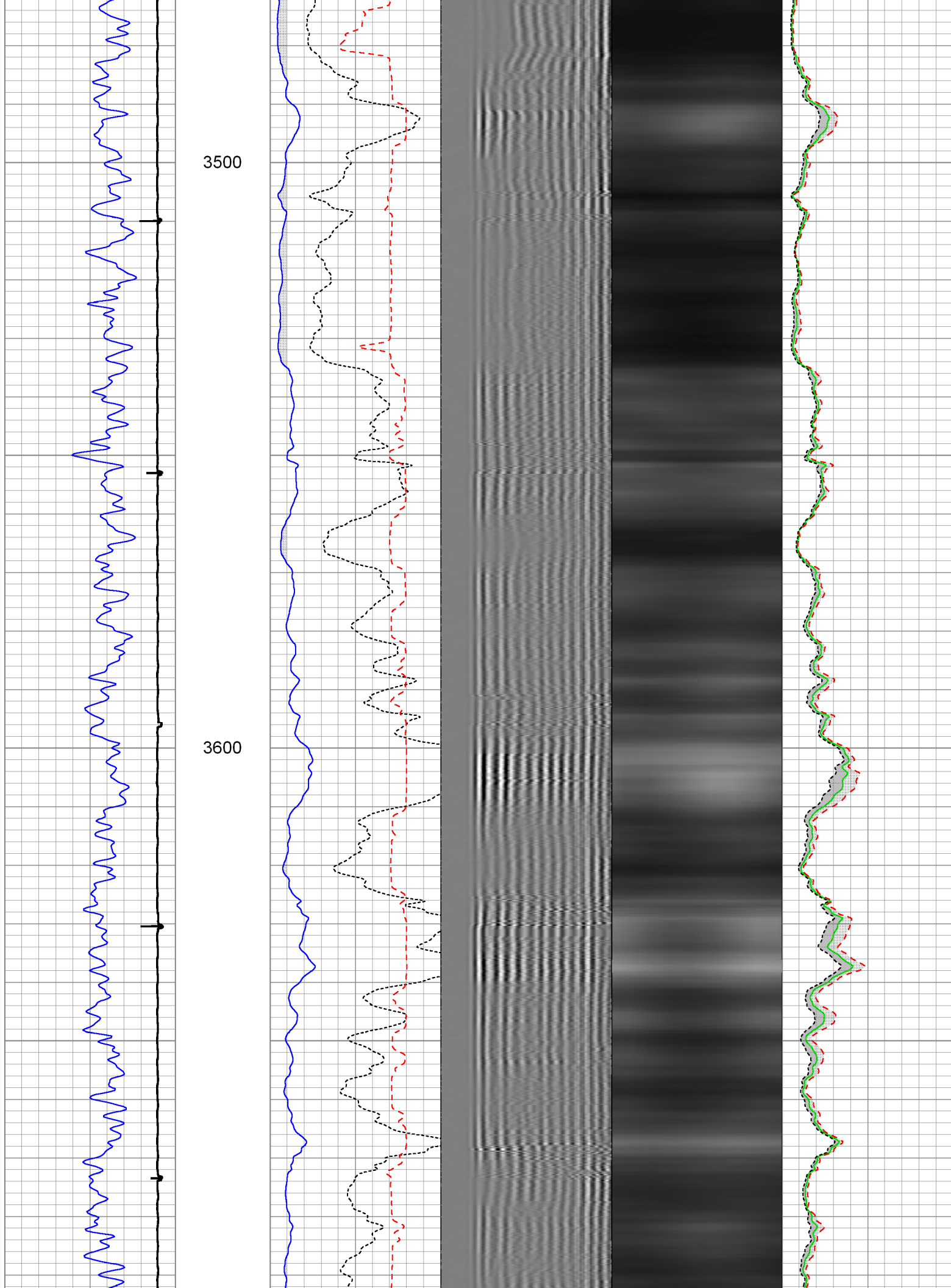
3200





3500

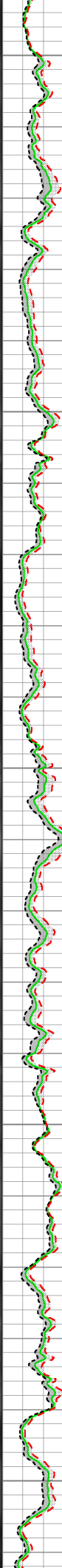
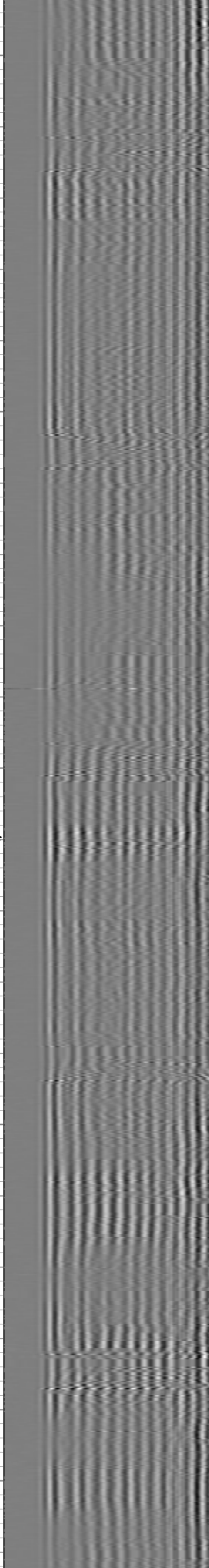
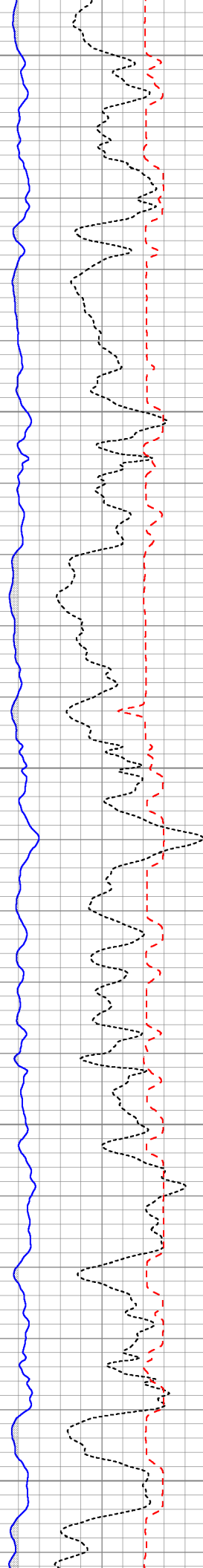
3600

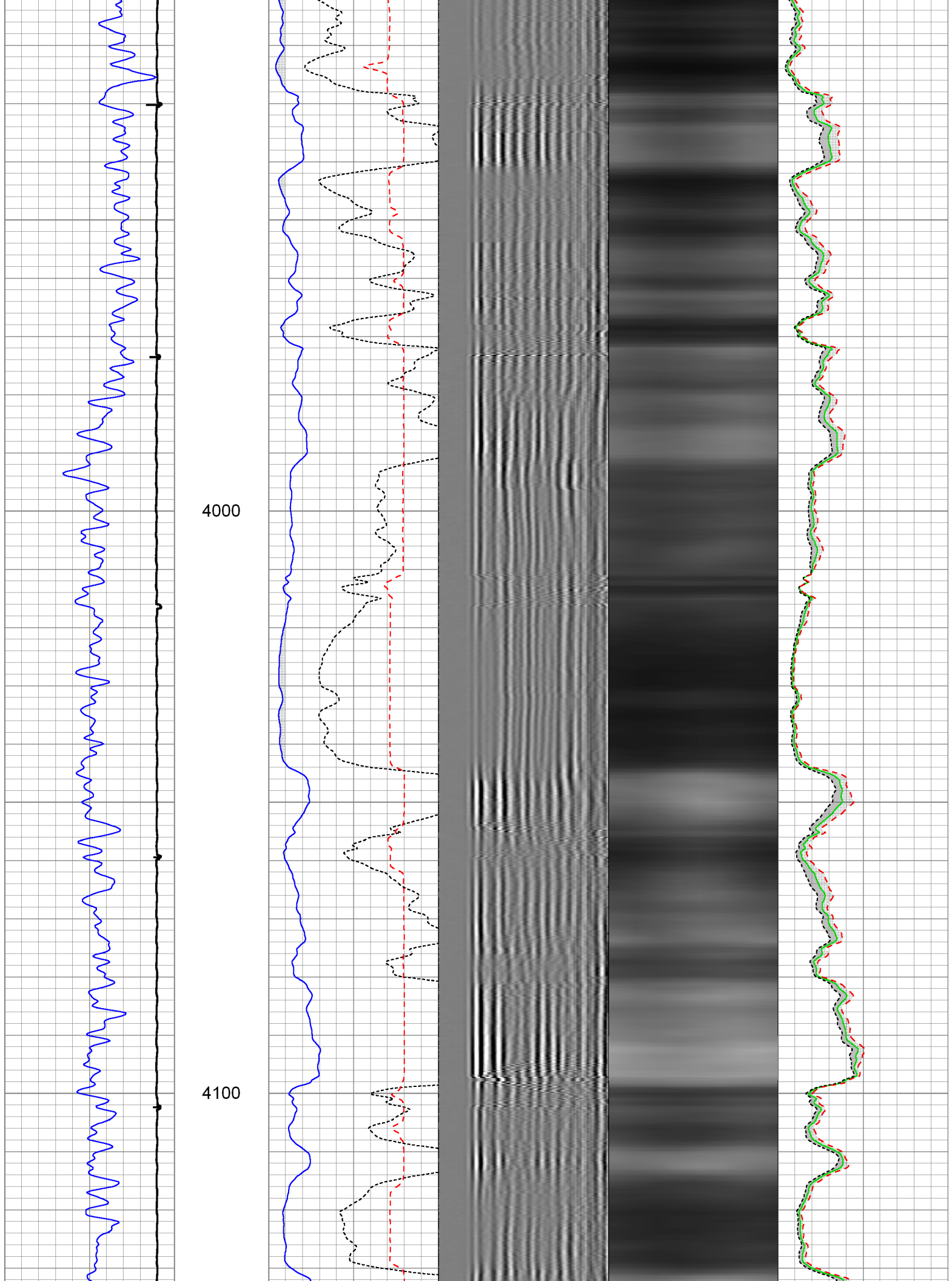


3700

3800

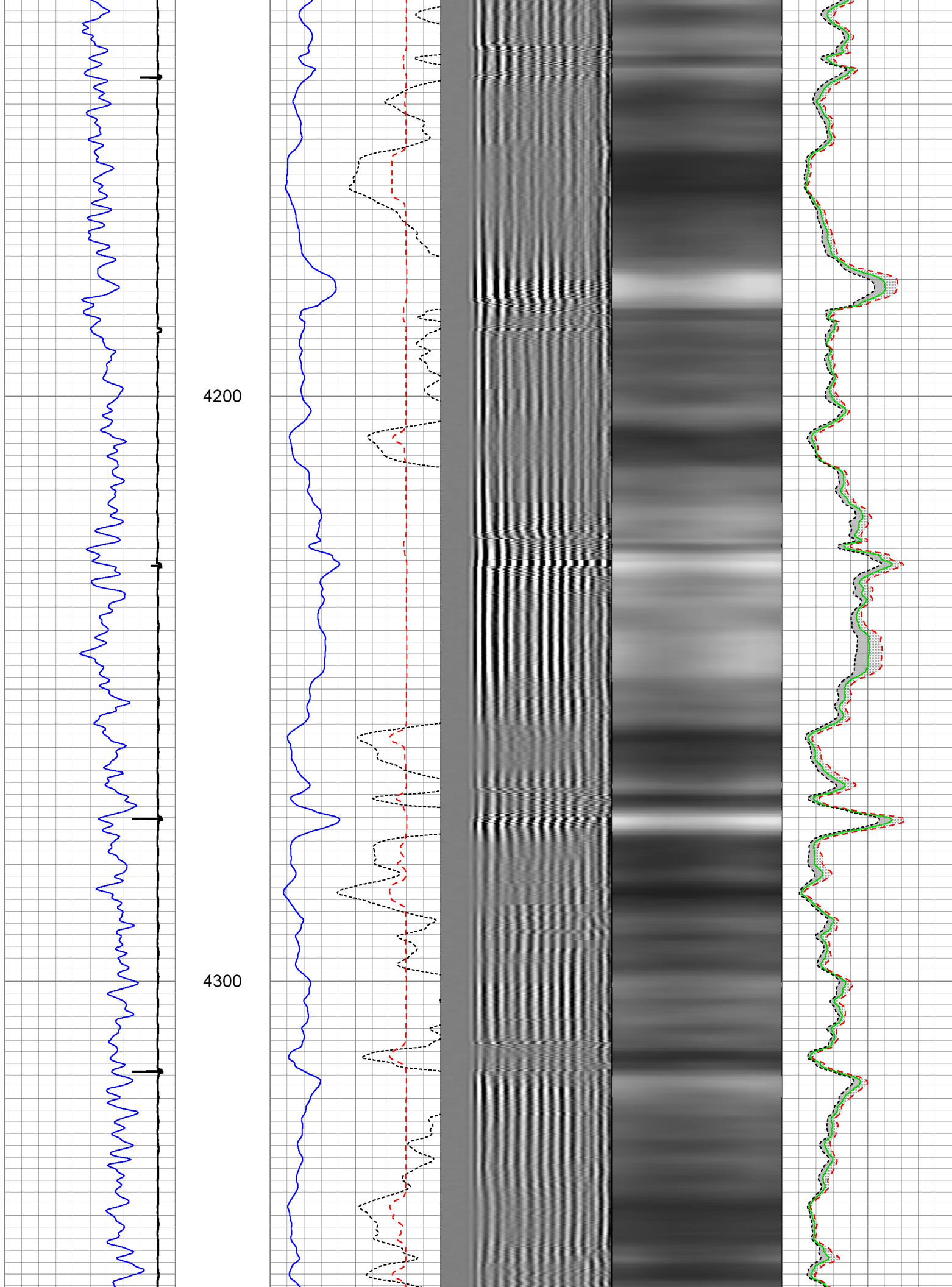
3900

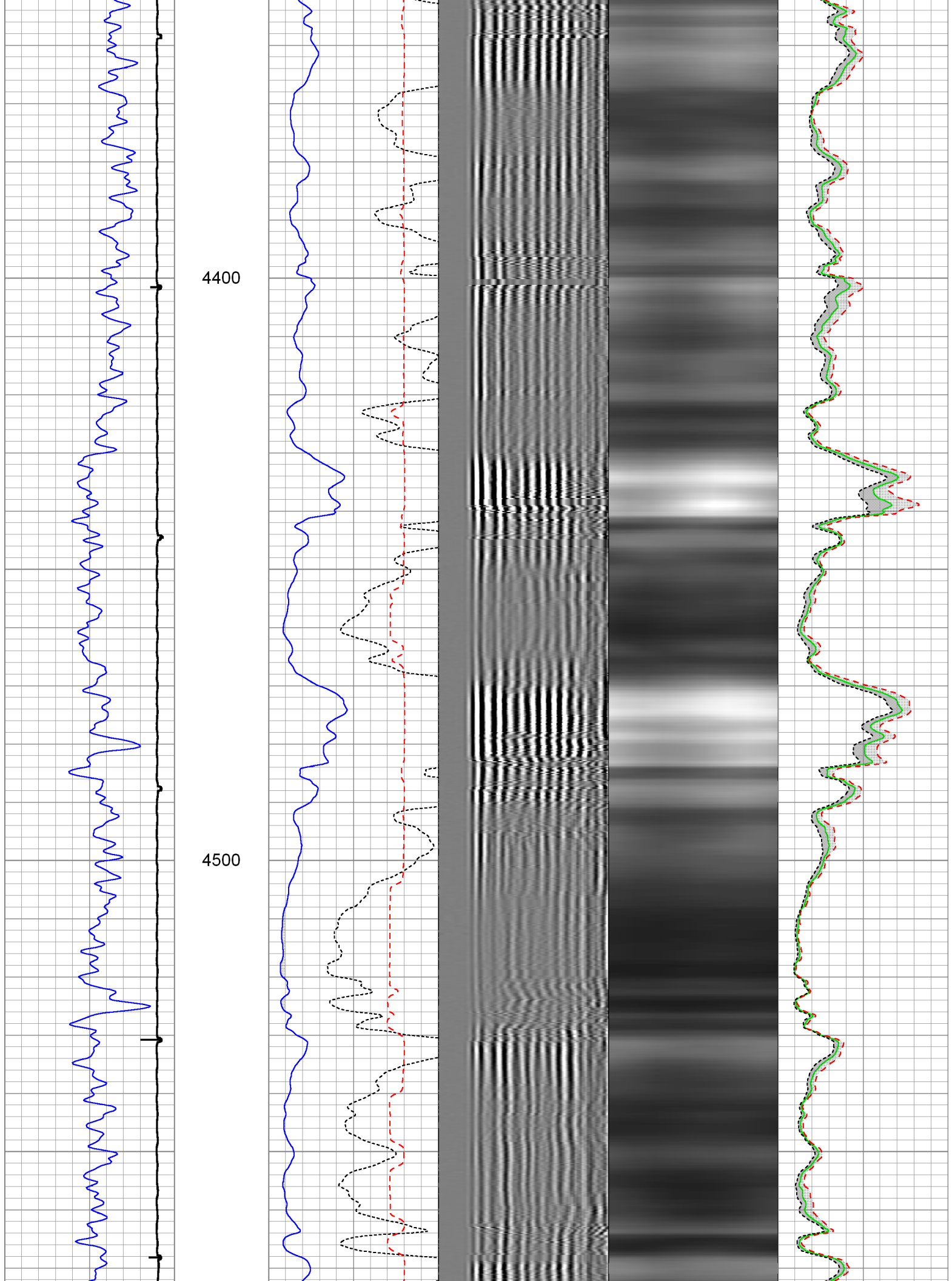


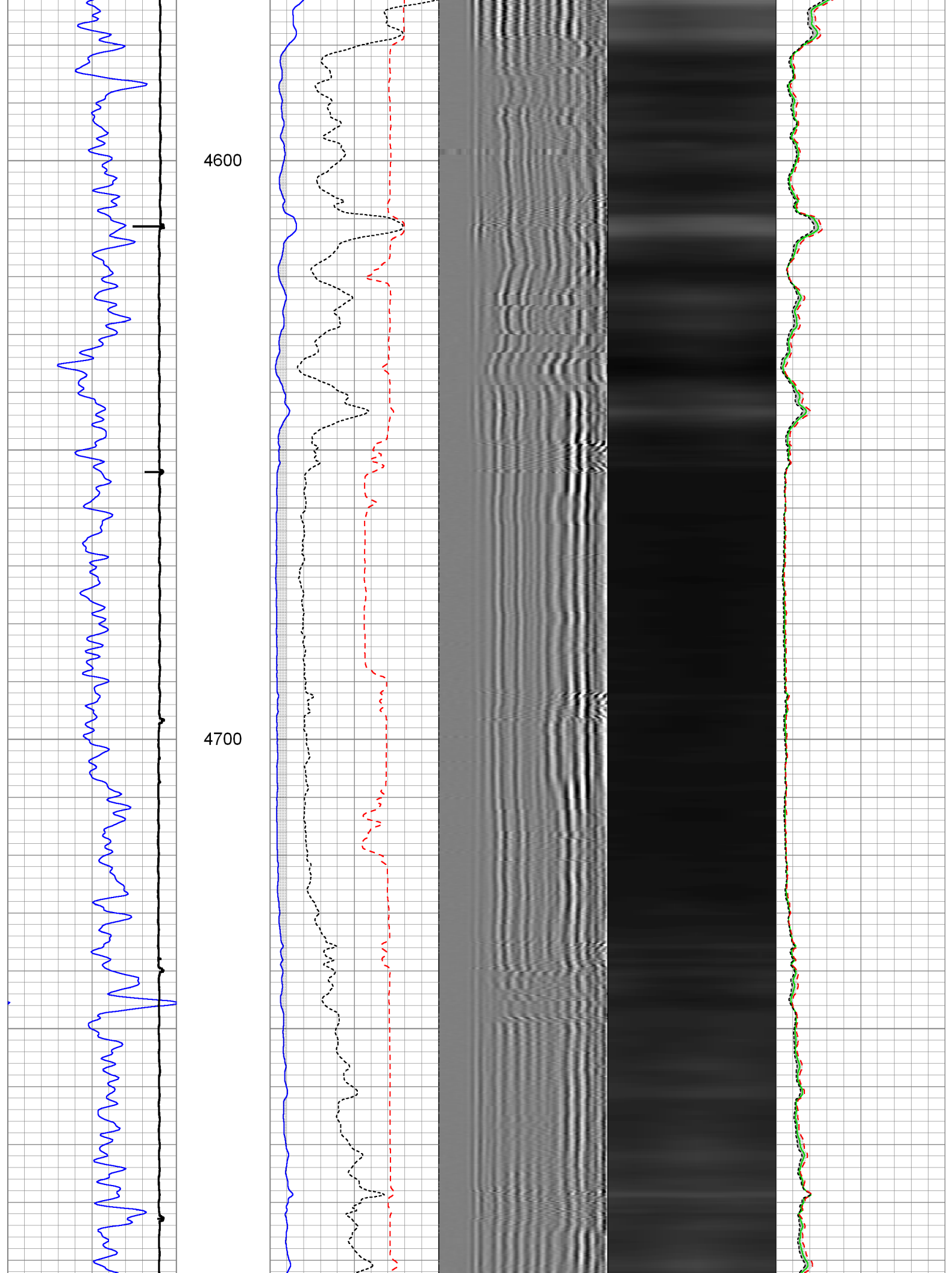


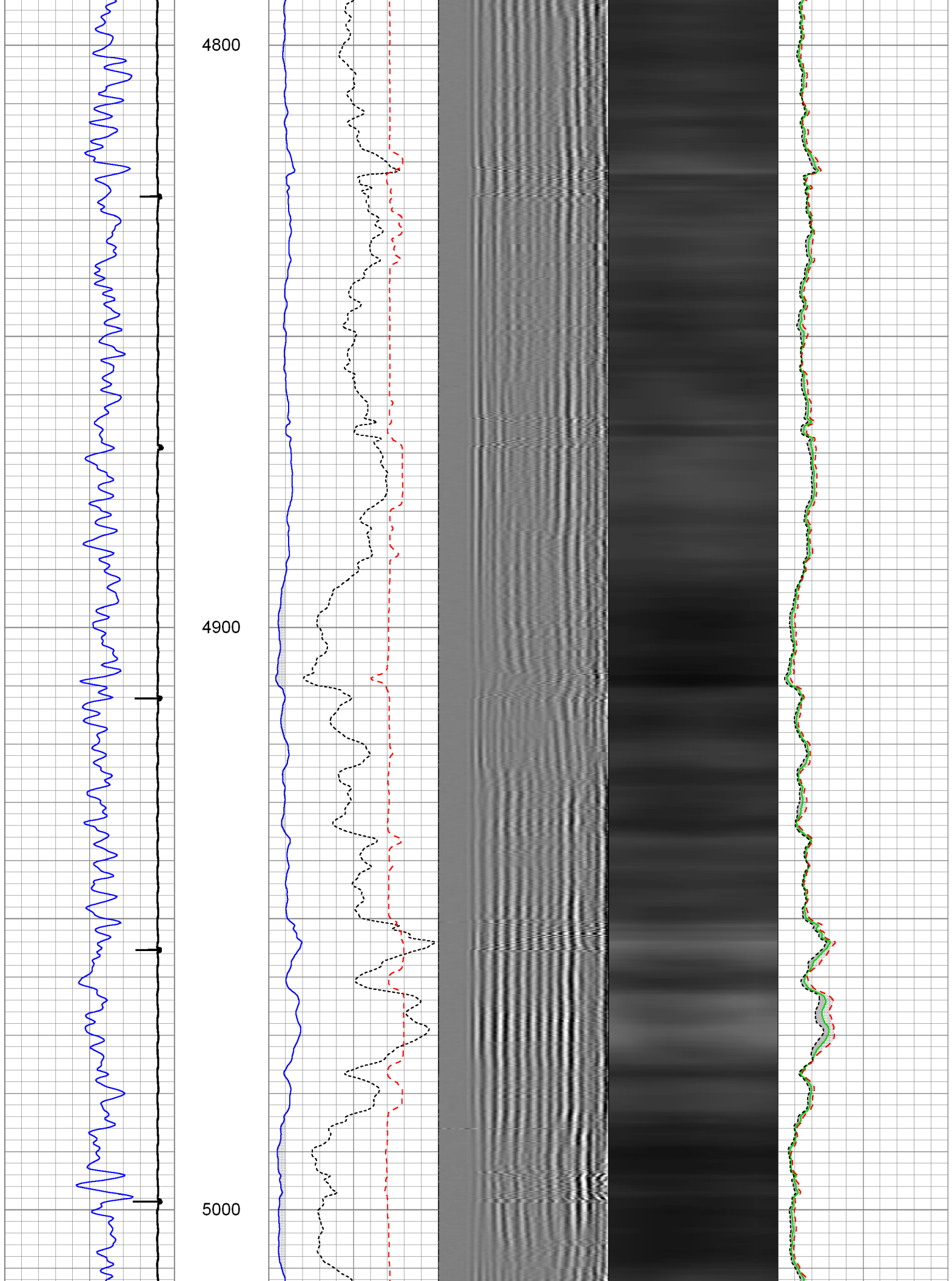
4200

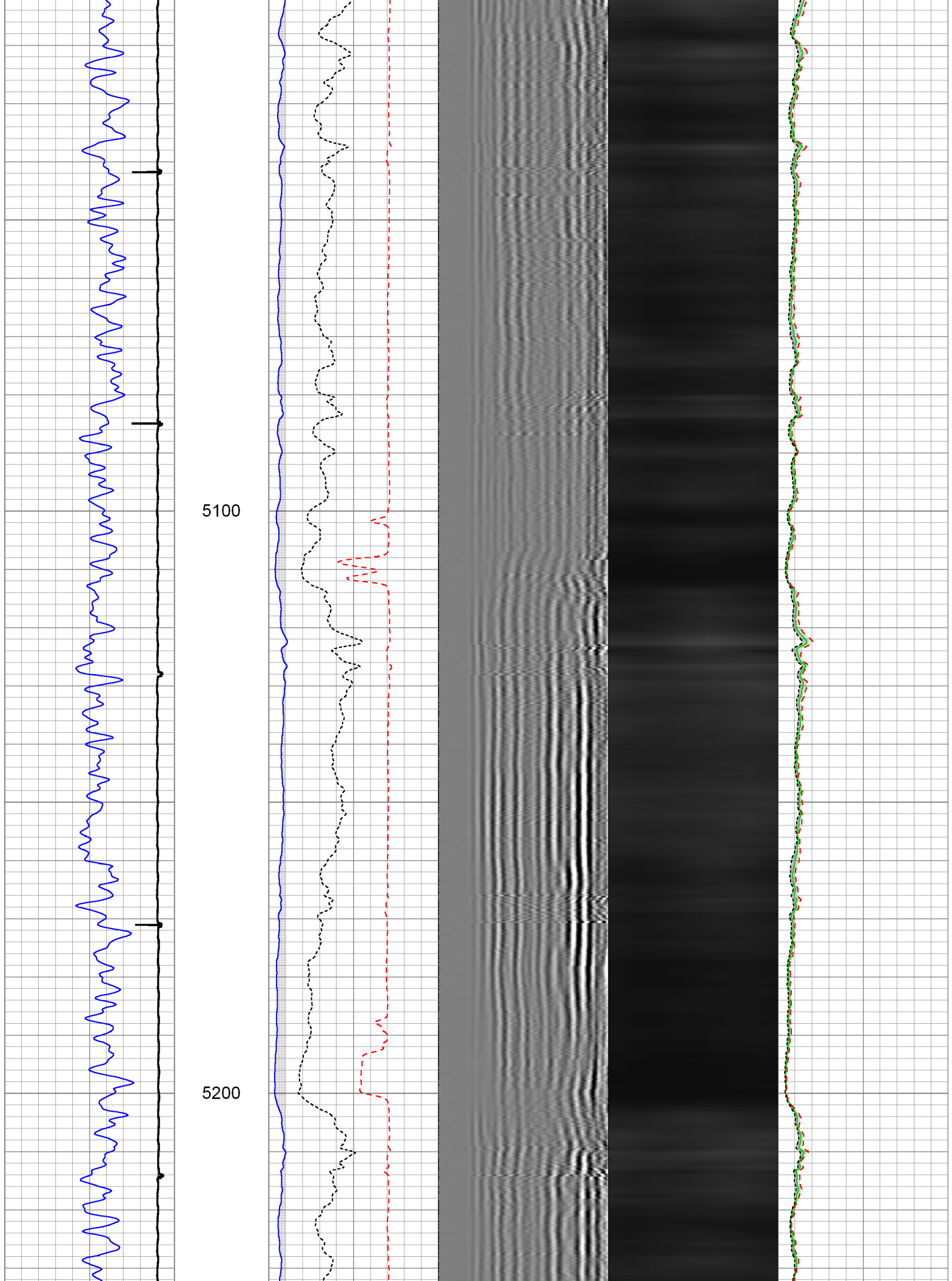
4300

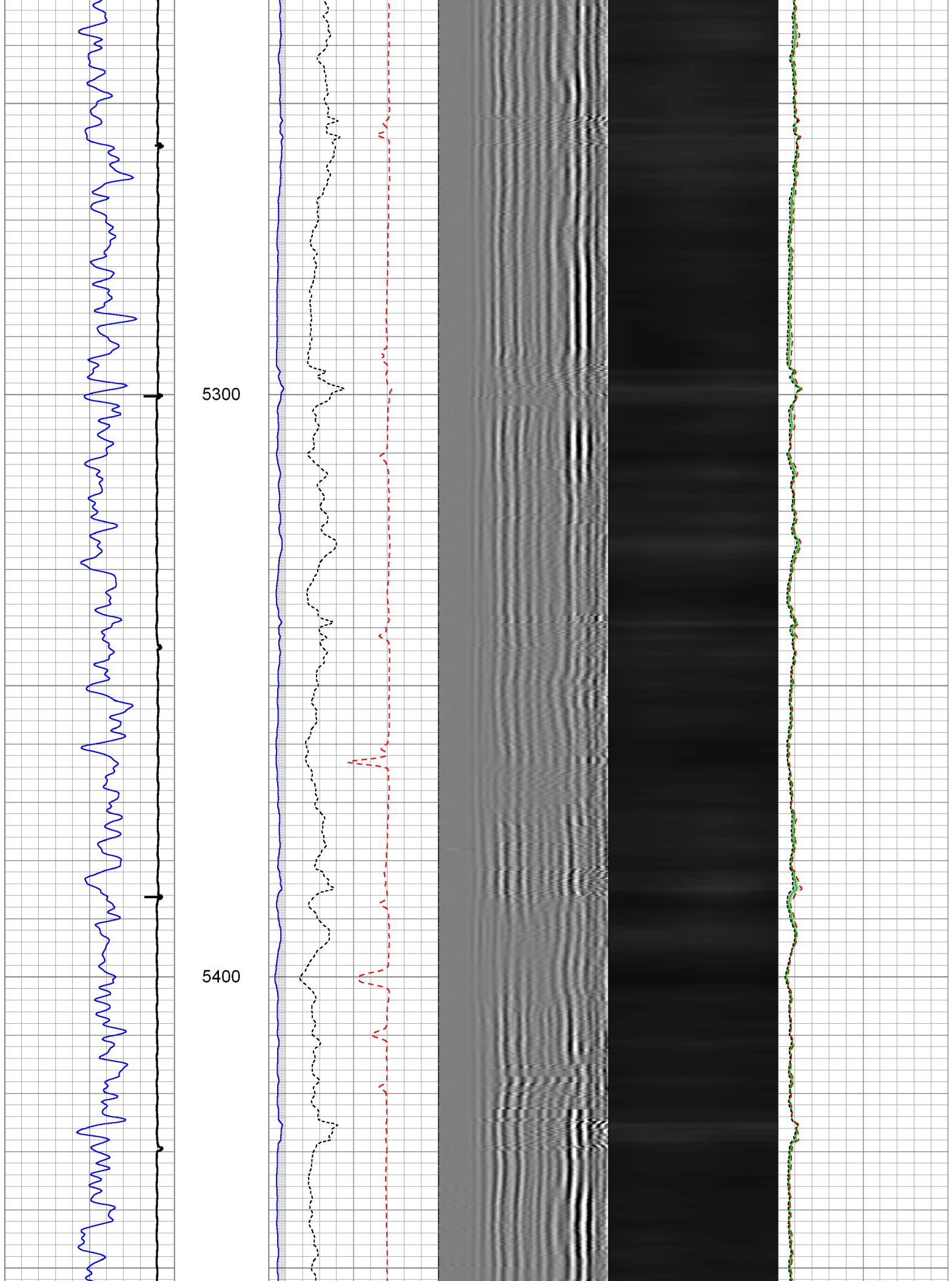


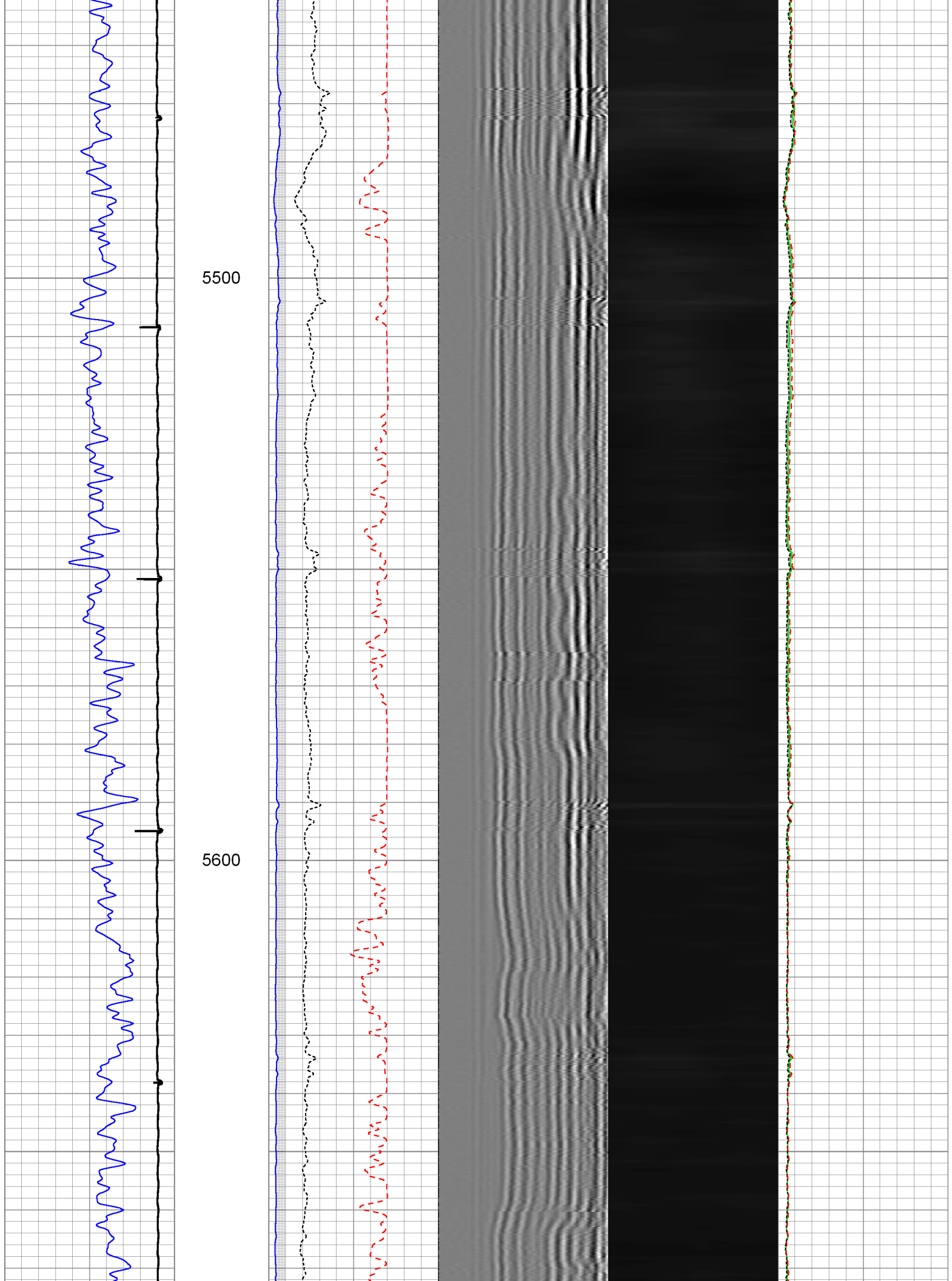






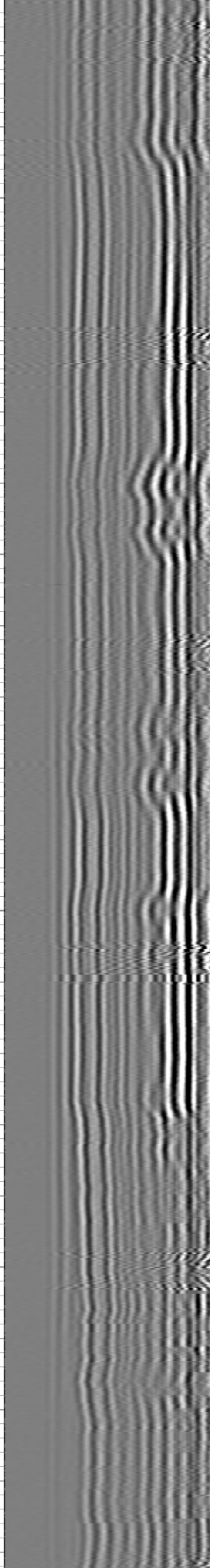
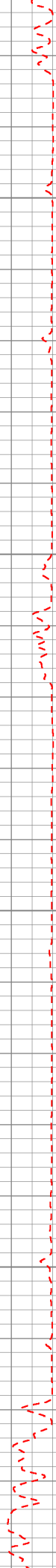
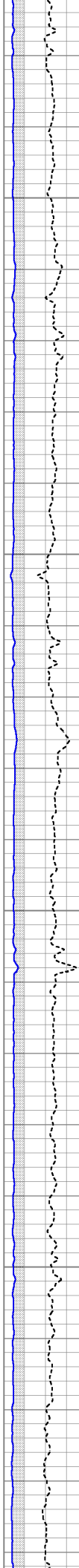






5700

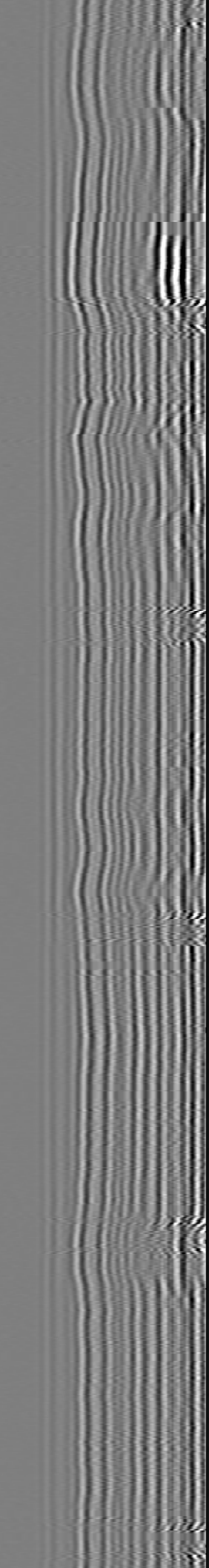
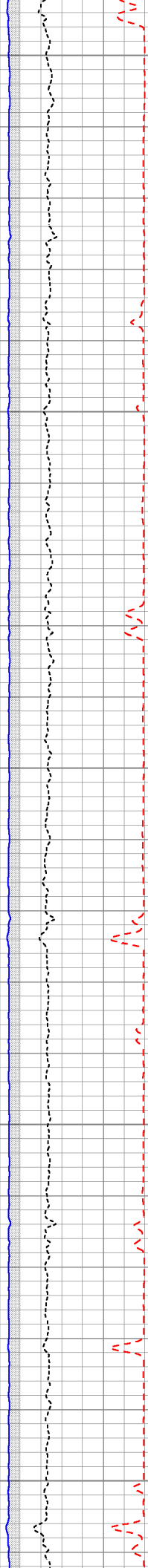
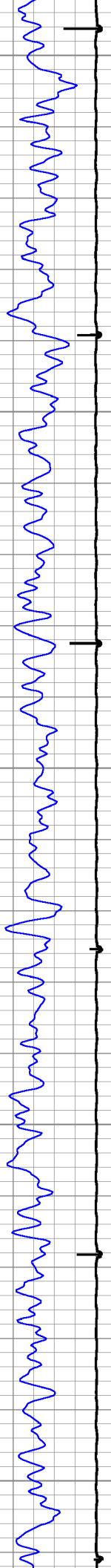
5800

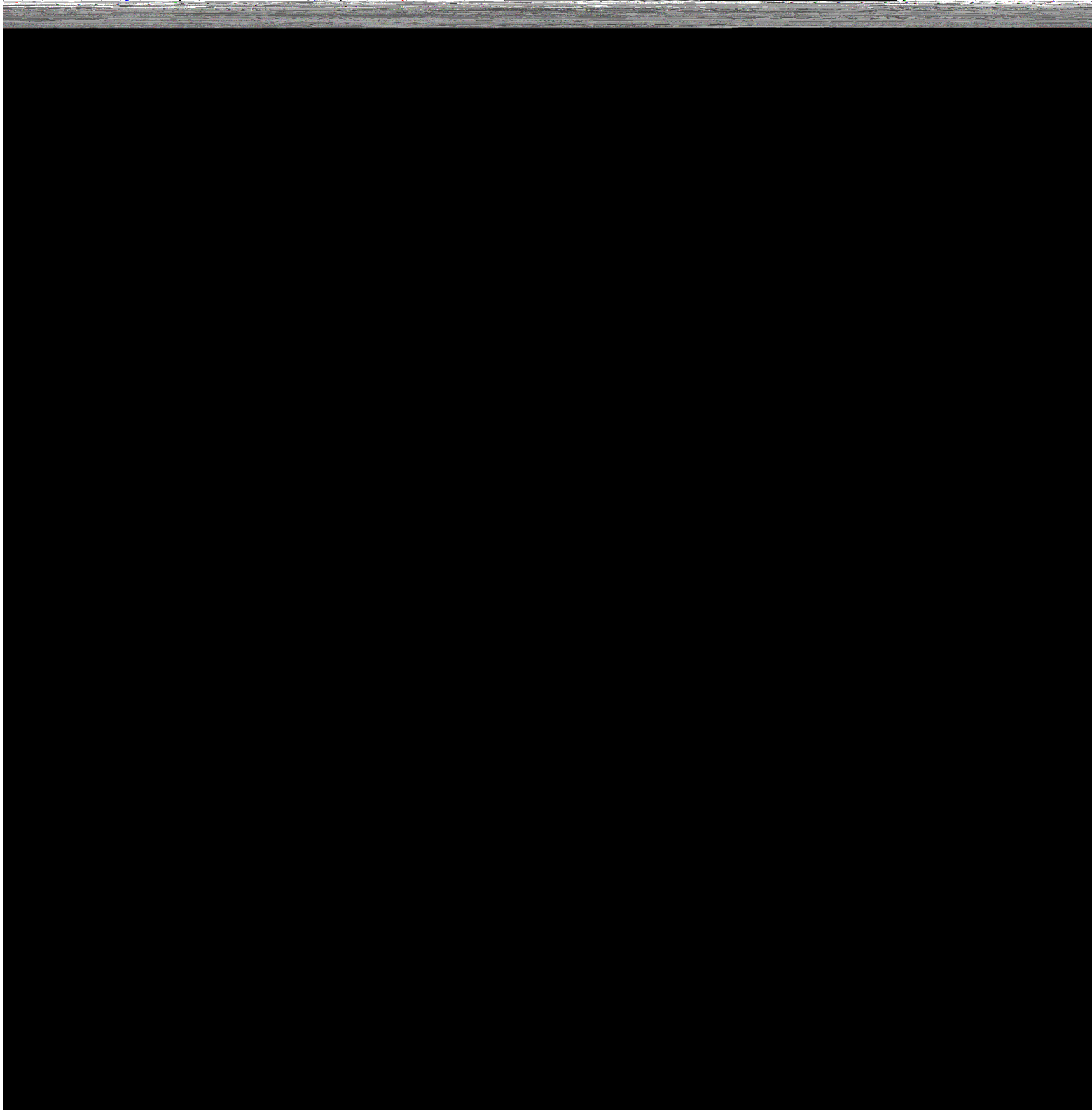
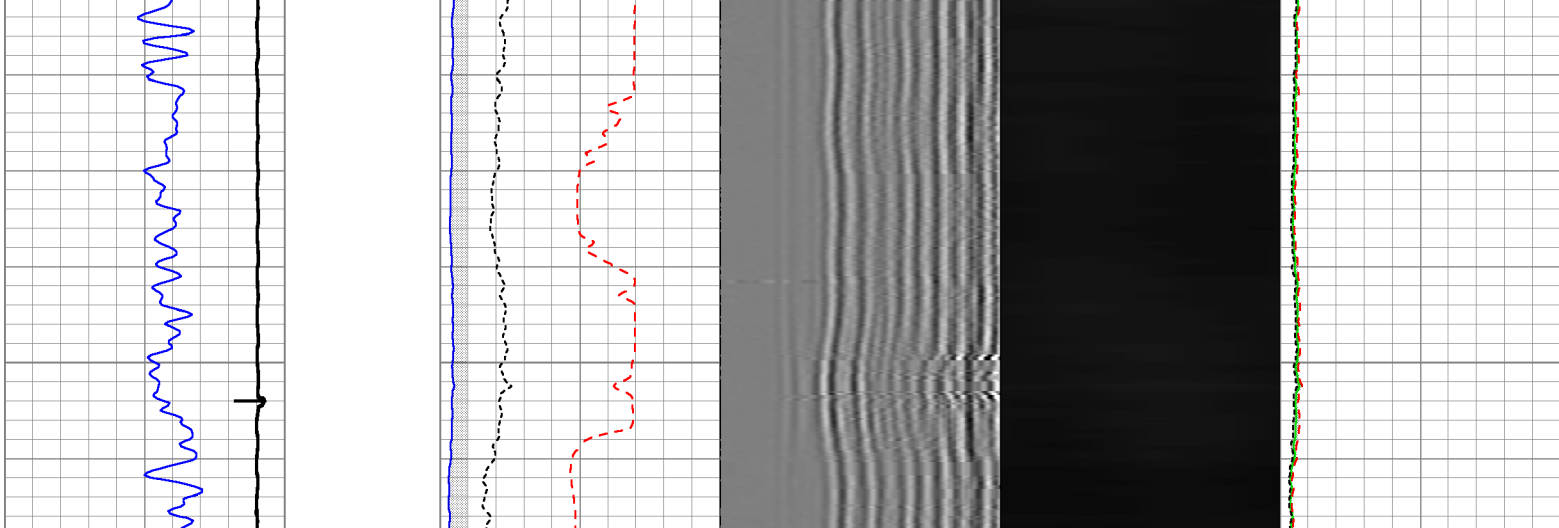


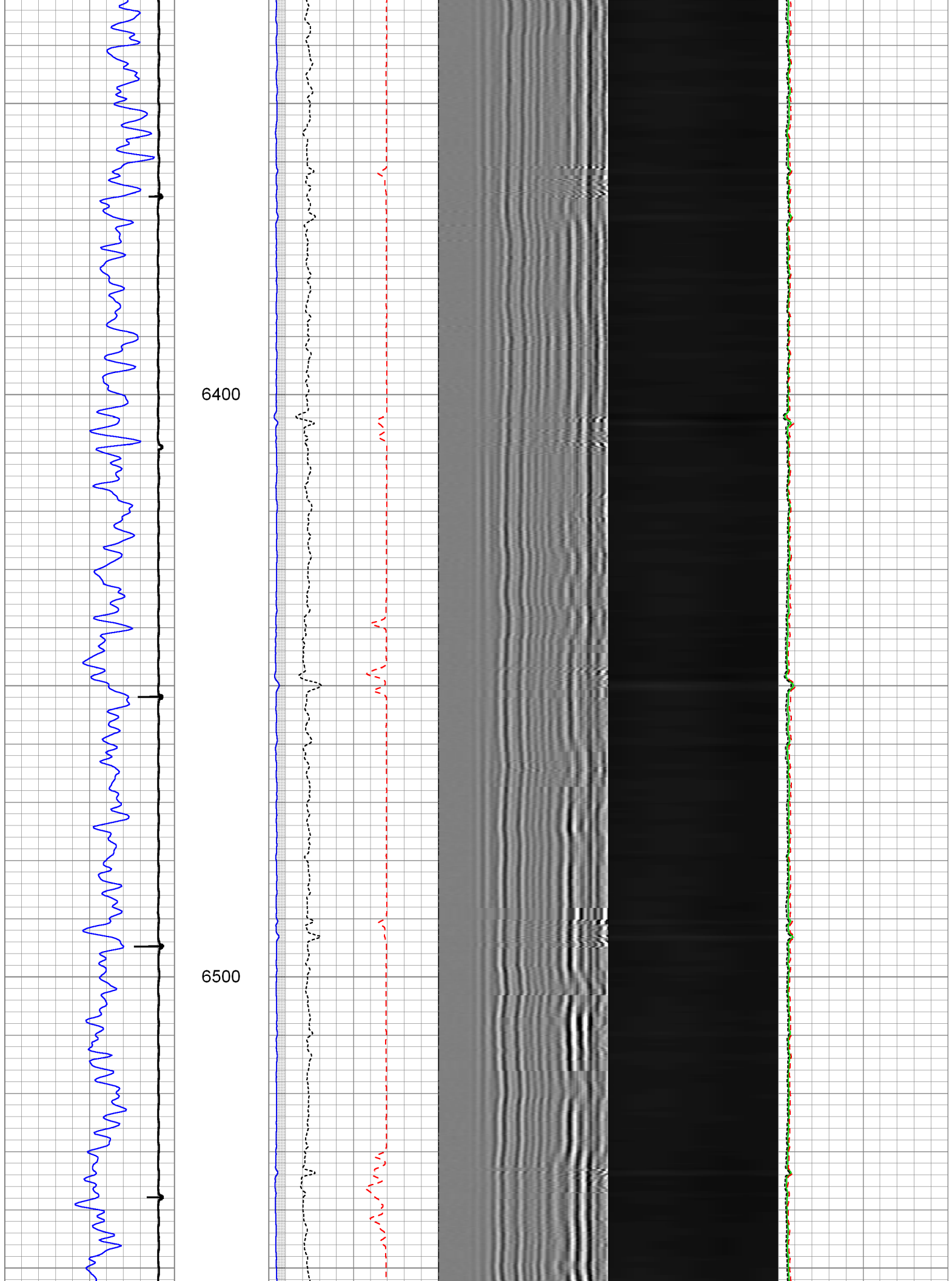
5900

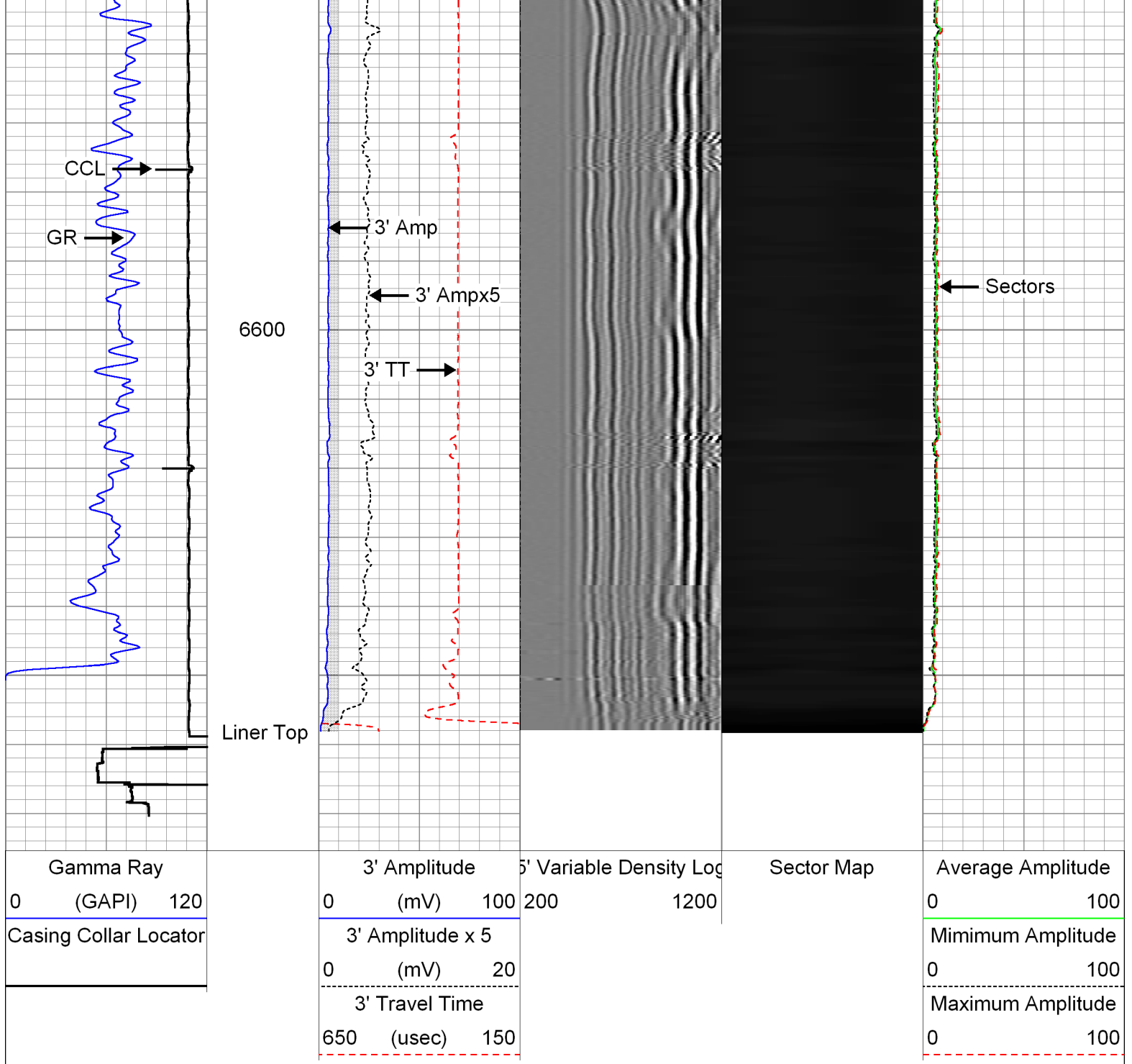
6000

6100





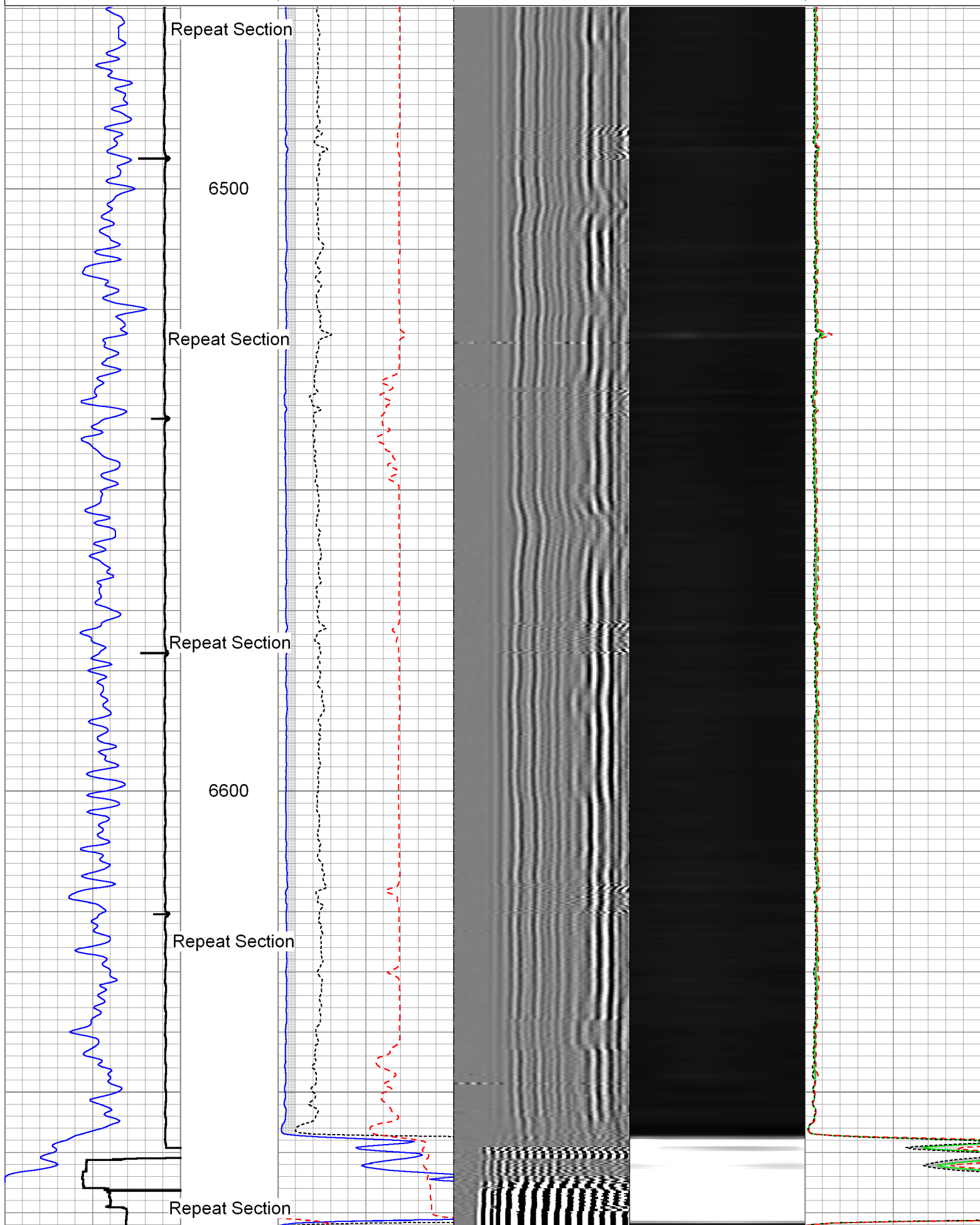




FMC Technologies		<h1>Repeat Pass</h1>			
Database File: 0512336340_anadarko_ferge 3n-14hz_05-20-14_mit_rbl.db Dataset Pathname: pass5 Presentation Format: rbt4_mit Dataset Creation: Tue May 20 13:01:49 2014 by Log 7.0 B1 Charted by: Depth in Feet scaled 1:240					
Gamma Ray		3' Amplitude	5' Variable 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
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100

3' Travel Time
650 (usec) 150

Maximum Amplitude
0 100



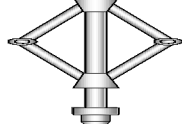
Gamma Ray

3' Amplitude

5' Variable Density Log

Sector Map

Average Amplitude

TSTAMP	0.00		UW_PRC-DSSRAC (082) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
			UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
Dataset: 0512336340_anadarko_ferge 3n-14hz_05-20-14_mit_rbl.db: field/well/run1/pass6 Total Length: 31.51 ft Total Weight: 363.80 lb O.D. 3.13 in						

Database File:		0512336340_Anadarko_Ferge 3N-14HZ_05-20-14_MIT_RBL.db				
Dataset Pathname:		pass7				
Dataset Creation:		Tue May 20 15:40:29 2014 by Log 7.0 B1				

Multi-finger Imaging Tool Calibration Report

Serial Number:	10014703
Number of Fingers:	40
Tool Model:	UW_MIT40_042

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: Tue May 20 12:15:58 2014

Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1083	389.0	1472	388.0	1860	385.0	2245
Finger 02:	1033	395.0	1428	402.0	1830	407.0	2237
Finger 03:	1032	386.0	1418	389.0	1807	401.0	2208
Finger 04:	987	396.0	1383	409.0	1792	425.0	2217
Finger 05:	1024	381.0	1405	383.0	1788	394.0	2182
Finger 06:	1013	394.0	1407	396.0	1803	414.0	2217
Finger 07:	1024	392.0	1416	389.0	1805	408.0	2213
Finger 08:	984	392.0	1376	401.0	1777	430.0	2207
Finger 09:	1041	398.0	1439	387.0	1826	405.0	2231
Finger 10:	1013	394.0	1407	389.0	1796	414.0	2210
Finger 11:	984	391.0	1375	391.0	1766	426.0	2192
Finger 12:	1063	392.0	1455	372.0	1827	391.0	2218
Finger 13:	997	385.0	1382	388.0	1770	442.0	2212
Finger 14:	982	401.0	1383	402.0	1785	440.0	2225
Finger 15:	957	396.0	1353	404.0	1757	446.0	2203
Finger 16:	994	392.0	1386	392.0	1778	434.0	2212
Finger 17:	1023	385.0	1408	382.0	1790	418.0	2208
Finger 18:	1050	385.0	1435	388.0	1823	419.0	2242
Finger 19:	1019	394.0	1413	392.0	1805	427.0	2232
Finger 20:	941	391.0	1332	402.0	1734	442.0	2176
Finger 21:	1029	388.0	1417	386.0	1803	422.0	2225
Finger 22:	1010	391.0	1401	395.0	1796	427.0	2223
Finger 23:	1122	372.0	1494	367.0	1861	393.0	2254
Finger 24:	1028	396.0	1424	400.0	1824	424.0	2248
Finger 25:	1035	380.0	1434	397.0	1821	425.0	2246

Finger 25:	1033	389.0	1424	397.0	1821	423.0	2248
Finger 26:	1064	390.0	1454	389.0	1843	405.0	2248
Finger 27:	1081	379.0	1460	385.0	1845	405.0	2250
Finger 28:	1043	390.0	1433	398.0	1831	416.0	2247
Finger 29:	1025	393.0	1418	409.0	1827	423.0	2250
Finger 30:	1019	388.0	1407	407.0	1814	421.0	2235
Finger 31:	1079	387.0	1466	392.0	1858	397.0	2255
Finger 32:	1026	389.0	1415	400.0	1815	410.0	2225
Finger 33:	1043	390.0	1433	402.0	1835	407.0	2242
Finger 34:	1035	393.0	1428	410.0	1838	411.0	2249
Finger 35:	1095	382.0	1477	386.0	1863	383.0	2246
Finger 36:	1025	390.0	1415	403.0	1818	403.0	2221
Finger 37:	1138	376.0	1514	376.0	1890	375.0	2265
Finger 38:	1090	384.0	1474	385.0	1859	387.0	2246
Finger 39:	1042	390.0	1432	399.0	1831	400.0	2231
Finger 40:	976	399.0	1375	417.0	1792	424.0	2216

Post Survey Calibration Check
Performed: Tue May 20 15:40:21 2014

Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	4.010	0.005	4.998	-0.001	5.988	-0.006	6.993	-0.003
Finger 02:	4.008	0.004	5.002	0.001	5.993	-0.004	6.998	-0.001
Finger 03:	4.009	0.004	4.998	-0.001	5.994	-0.003	6.993	-0.004
Finger 04:	4.012	0.006	5.002	0.001	5.996	-0.002	6.996	-0.002
Finger 05:	4.014	0.007	4.999	-0.001	5.992	-0.004	6.994	-0.003
Finger 06:	4.016	0.008	4.999	-0.000	5.993	-0.003	6.996	-0.002
Finger 07:	4.014	0.007	5.001	0.001	5.994	-0.003	7.000	-0.000
Finger 08:	4.012	0.006	4.999	-0.000	5.995	-0.003	6.995	-0.003
Finger 09:	4.009	0.005	4.996	-0.002	5.993	-0.004	7.000	-0.000
Finger 10:	4.009	0.004	4.996	-0.002	5.995	-0.003	7.000	-0.000
Finger 11:	4.014	0.007	5.001	0.000	5.994	-0.003	6.996	-0.002
Finger 12:	4.013	0.006	4.999	-0.000	5.993	-0.004	6.997	-0.001
Finger 13:	4.013	0.006	5.001	0.000	5.993	-0.003	6.963	-0.018
Finger 14:	4.009	0.005	4.999	-0.000	5.993	-0.004	7.001	0.000
Finger 15:	4.005	0.002	5.001	0.000	5.992	-0.004	7.000	-0.000
Finger 16:	4.011	0.005	5.003	0.002	5.994	-0.003	7.001	0.001
Finger 17:	4.013	0.006	5.004	0.002	5.998	-0.001	7.001	0.000
Finger 18:	4.012	0.006	5.005	0.002	5.979	-0.010	6.981	-0.009
Finger 19:	4.012	0.006	4.999	-0.001	5.993	-0.004	6.998	-0.001
Finger 20:	4.008	0.004	4.998	-0.001	5.992	-0.004	6.997	-0.001
Finger 21:	4.005	0.003	4.987	-0.007	5.980	-0.010	6.985	-0.008
Finger 22:	4.008	0.004	4.999	-0.000	5.991	-0.005	6.996	-0.002
Finger 23:	4.014	0.007	4.998	-0.001	5.994	-0.003	6.996	-0.002
Finger 24:	4.011	0.005	4.997	-0.002	5.995	-0.003	6.999	-0.001
Finger 25:	4.012	0.006	4.997	-0.001	5.993	-0.004	6.996	-0.002
Finger 26:	4.015	0.008	4.999	-0.000	5.995	-0.002	6.997	-0.001
Finger 27:	4.015	0.008	5.002	0.001	5.992	-0.004	6.996	-0.002
Finger 28:	4.014	0.007	5.002	0.001	5.997	-0.002	6.994	-0.003
Finger 29:	4.011	0.006	5.000	0.000	5.993	-0.004	6.999	-0.001
Finger 30:	4.009	0.005	5.003	0.002	5.999	-0.001	6.998	-0.001
Finger 31:	4.018	0.009	5.005	0.003	5.994	-0.003	6.990	-0.005
Finger 32:	4.010	0.005	4.998	-0.001	5.996	-0.002	6.995	-0.003
Finger 33:	4.006	0.003	5.000	-0.000	5.996	-0.002	6.995	-0.003
Finger 34:	4.008	0.004	4.999	-0.001	5.989	-0.005	6.993	-0.004
Finger 35:	4.010	0.005	4.996	-0.002	5.988	-0.006	6.993	-0.004
Finger 36:	4.010	0.005	4.998	-0.001	5.989	-0.006	6.996	-0.002
Finger 37:	4.008	0.004	5.001	0.000	5.989	-0.005	6.993	-0.004
Finger 38:	4.014	0.007	4.998	-0.001	5.992	-0.004	6.993	-0.003
Finger 39:	4.011	0.006	4.997	-0.001	5.987	-0.007	6.994	-0.003
Finger 40:	4.010	0.005	5.001	0.001	5.992	-0.004	6.993	-0.004
Average:	4.011	0.006	4.999	-0.000	5.992	-0.004	6.995	-0.003

Serial Number: 1063
Tool Model: UW_RBT_004

Calibration Casing Diameter: 7.000 in
Calibration Depth: 5006.498 ft

Master Calibration, performed Tue May 20 12:54:38 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.003	0.676	0.800	62.165	90.374	1.037
5FT	-0.005	0.613	0.800	62.165	99.227	1.289
S1	-0.004	0.738	0.000	100.000	134.784	0.494
S2	-0.005	0.735	0.000	100.000	135.144	0.648
S3	-0.003	0.691	0.000	100.000	143.967	0.489
S4	-0.005	0.660	0.000	100.000	150.536	0.696
S5	-0.002	0.631	0.000	100.000	157.879	0.343
S6	-0.003	0.630	0.000	100.000	158.083	0.442
S7	-0.002	0.666	0.000	100.000	149.615	0.365
S8	-0.002	0.706	0.000	100.000	141.159	0.334

Gamma Ray Calibration Report

Serial Number: 050836
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 & Gas Onshore, L.P.
Well Ferge 3N-14HZ
Field Wattenberg
County Weld
State Colorado