



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.				Company Kerr-McGee Oil & Gas Onshore, L.P.			
Well Ferge 30N-14HZ				Well Ferge 30N-14HZ			
Field Wattenberg				Field Wattenberg			
County Weld				County Weld			
State Colorado				State Colorado			
Location:				API # : 05-123-36339			
SHL: 282' FSL 1028' FWL Lat/Long: 40.218592/-104.750124				Other Services Gauge Ring RBP RCBL			
SEC 14 TWP 3N RGE 66W				Elevation			
Permanent Datum				Ground Level			
Log Measured From				Kelly Bushing			
Drilling Measured From				Kelly Bushing			
20 May 2014				Elevation 4913'			
Three				K.B. 4926'			
12265 FT				D.F. 4925'			
6761 FT				G.L. 4913'			
6766 FT							
Surface							
8.750"							
Water							
8.34 lbm/gal							
242°F							
1402 FT							
7:00 AM							
9:30 AM							
HD-134							
Fort Lupton, CO							
W. Wacker							
Sonny Segura							
Borehole Record				Tubing Record			
Bit From To				Size Weight From To			
Casing Record				Top			
Size (in)				Bottom			
Wgt (lbs/ft)							
9-5/8"				1235 FT			
7"				7645 FT			
26							
J-55 LTC							
110 LTC							
Surface							
4-1/2"							
11.6							
P-110							
6695 FT							
12265 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 reference to Casing Tally reported Liner Top at 6695 FT.
Adjusted -12 FT from KB zero to correlate with Liner Top
Gauge Ring / Junk Basket run three joints below Liner Top prior to log run.
Retrievable Bridge Plug set at 6780 FT prior to log run.
Log ran from just above RBP 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 at Surface

Database File:0512336339_anadarko_ferge 30n-14hz_05-20-14_mit_rbl.db

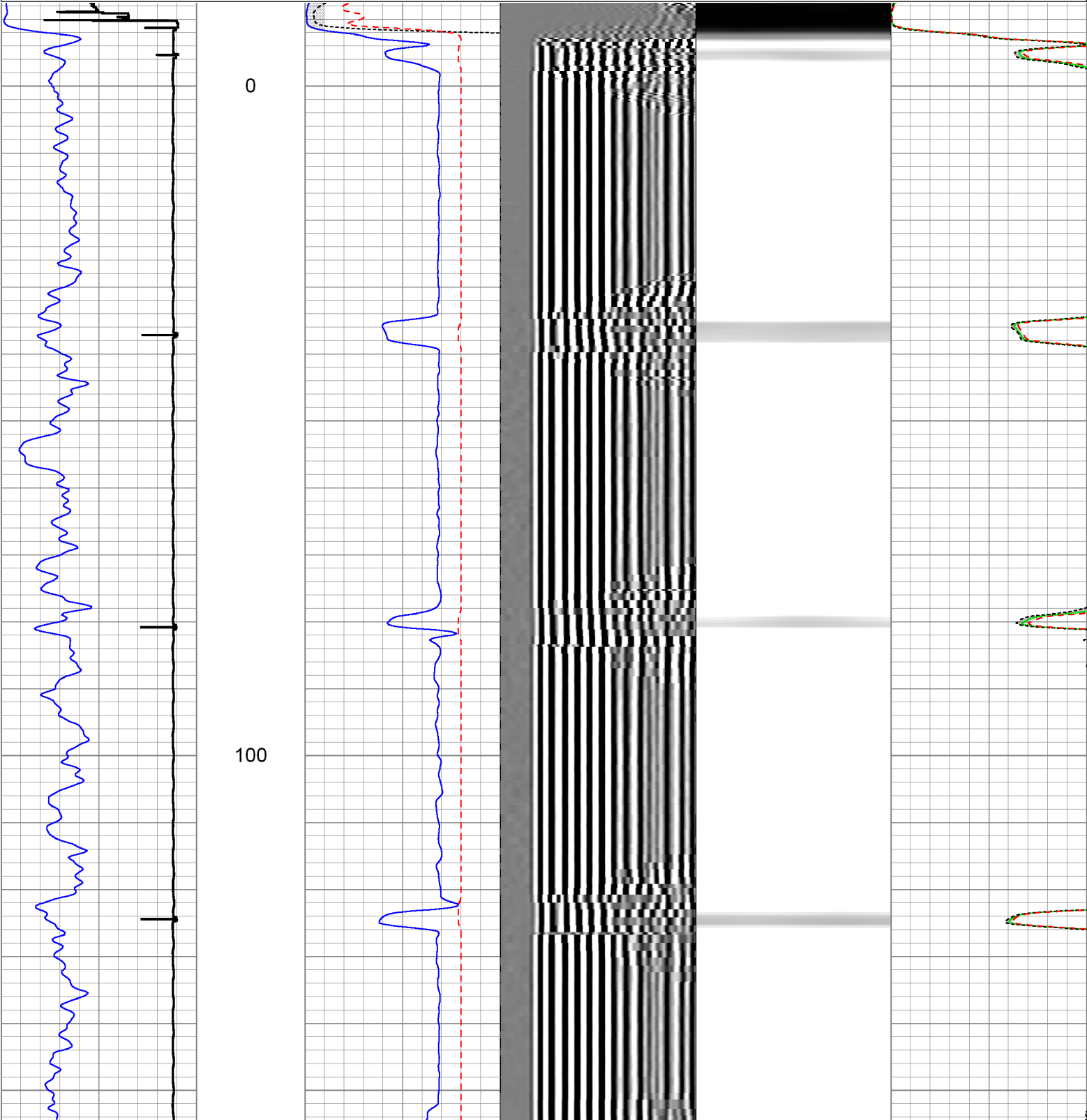
Dataset Pathname:main

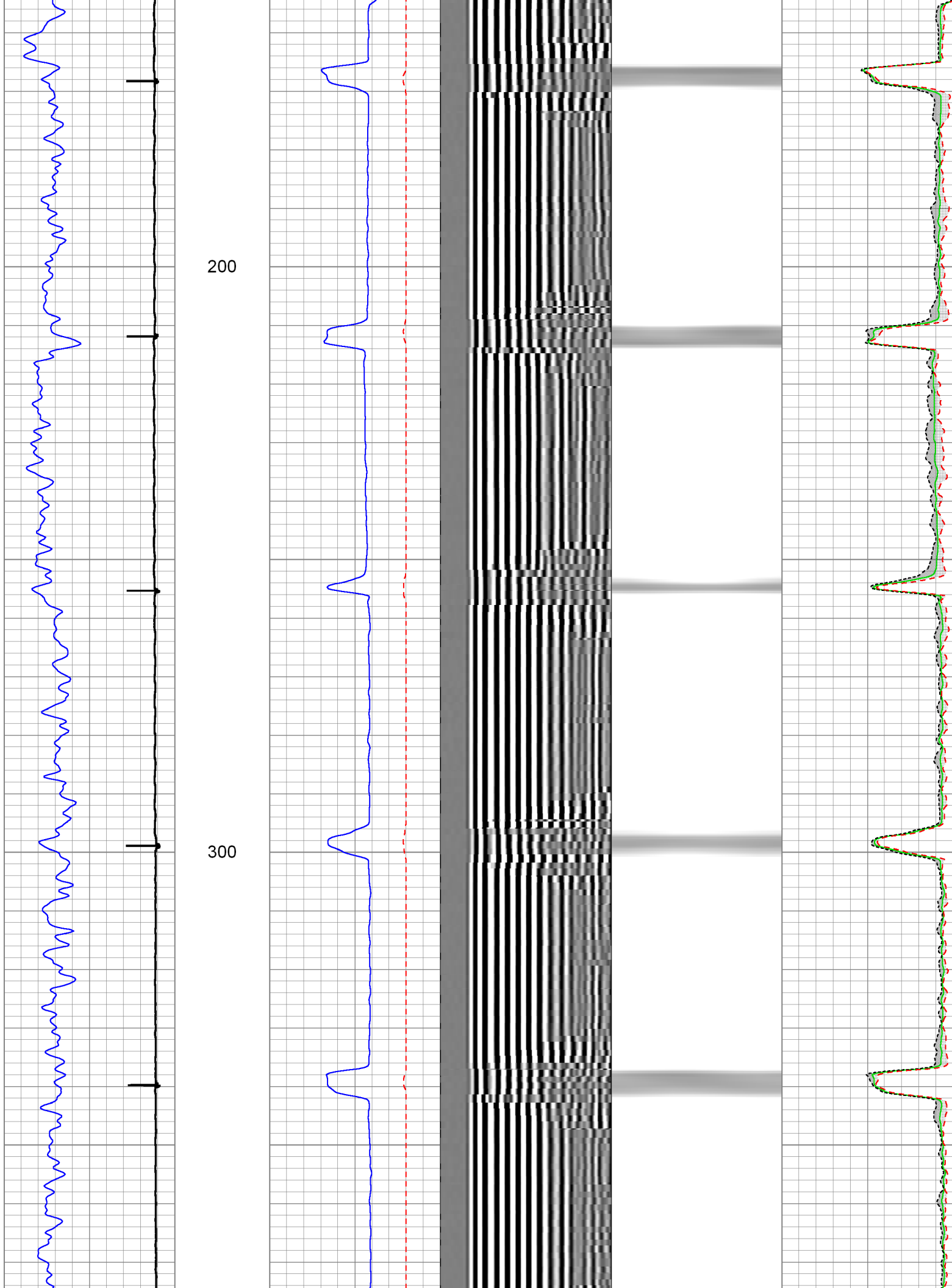
Presentation Format:rbt4_mit

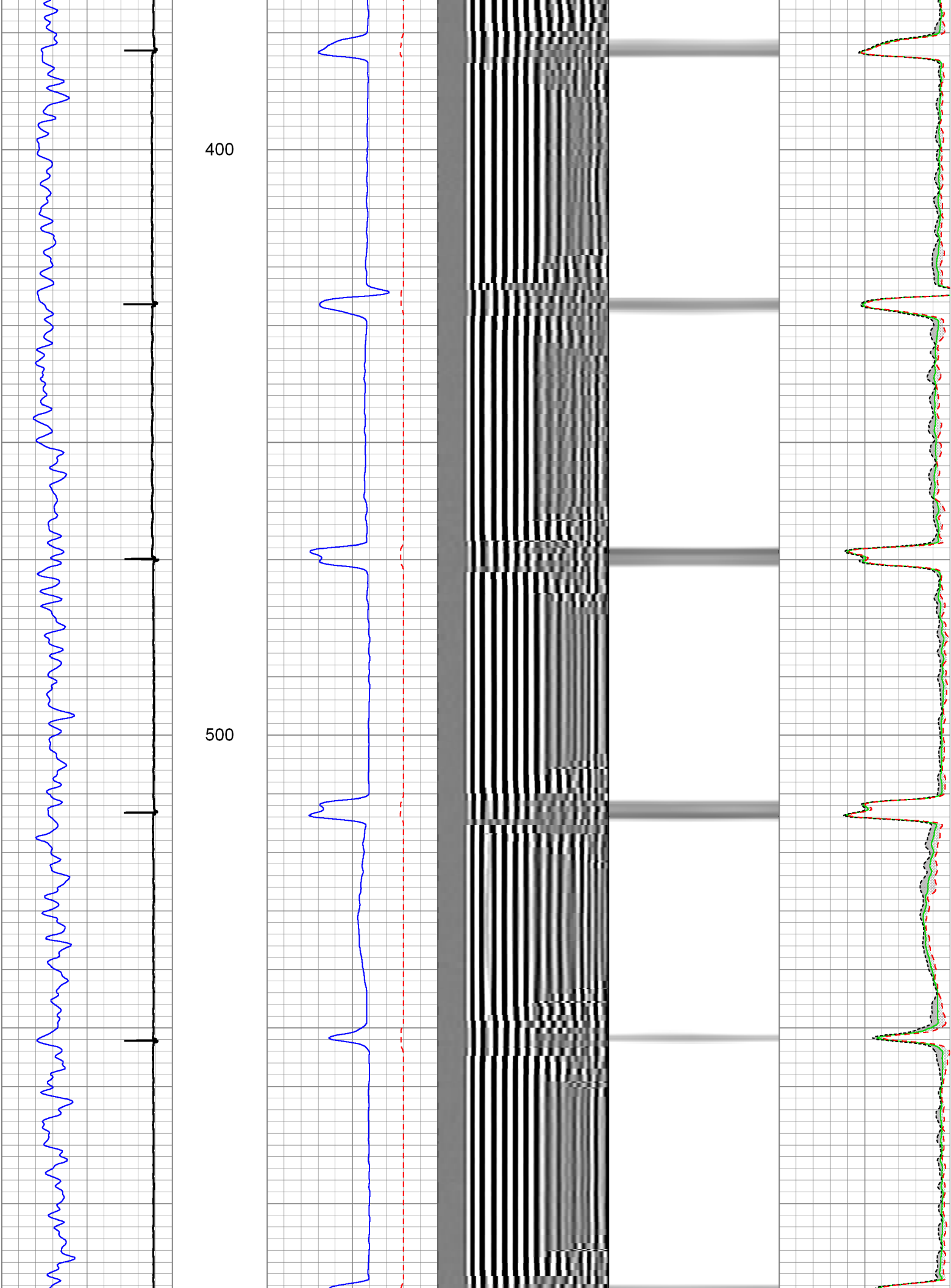
Dataset Creation:Tue May 20 09:54:09 2014 by Log 7.0 B1

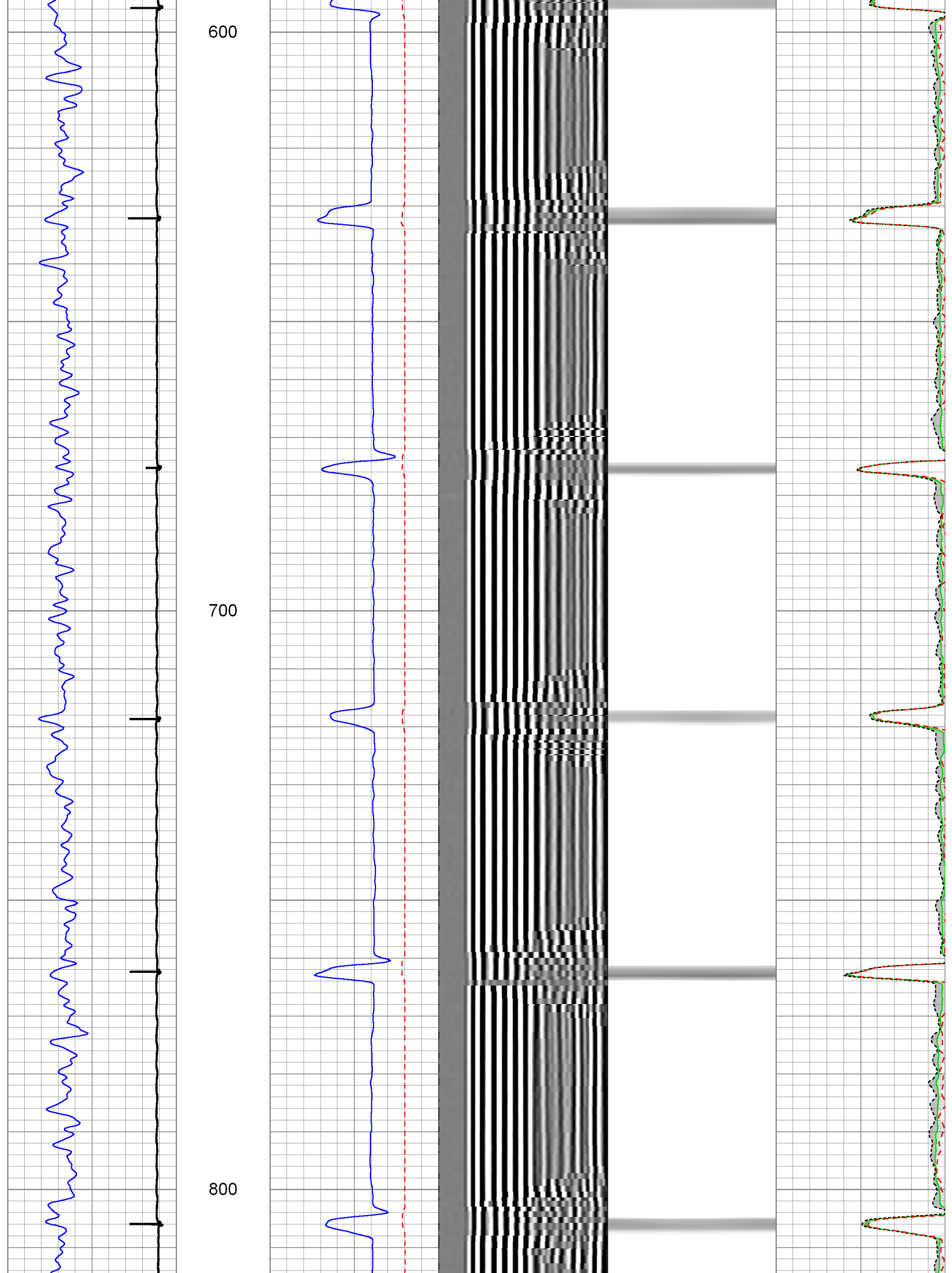
Charted by:Depth in Feet scaled 1:240

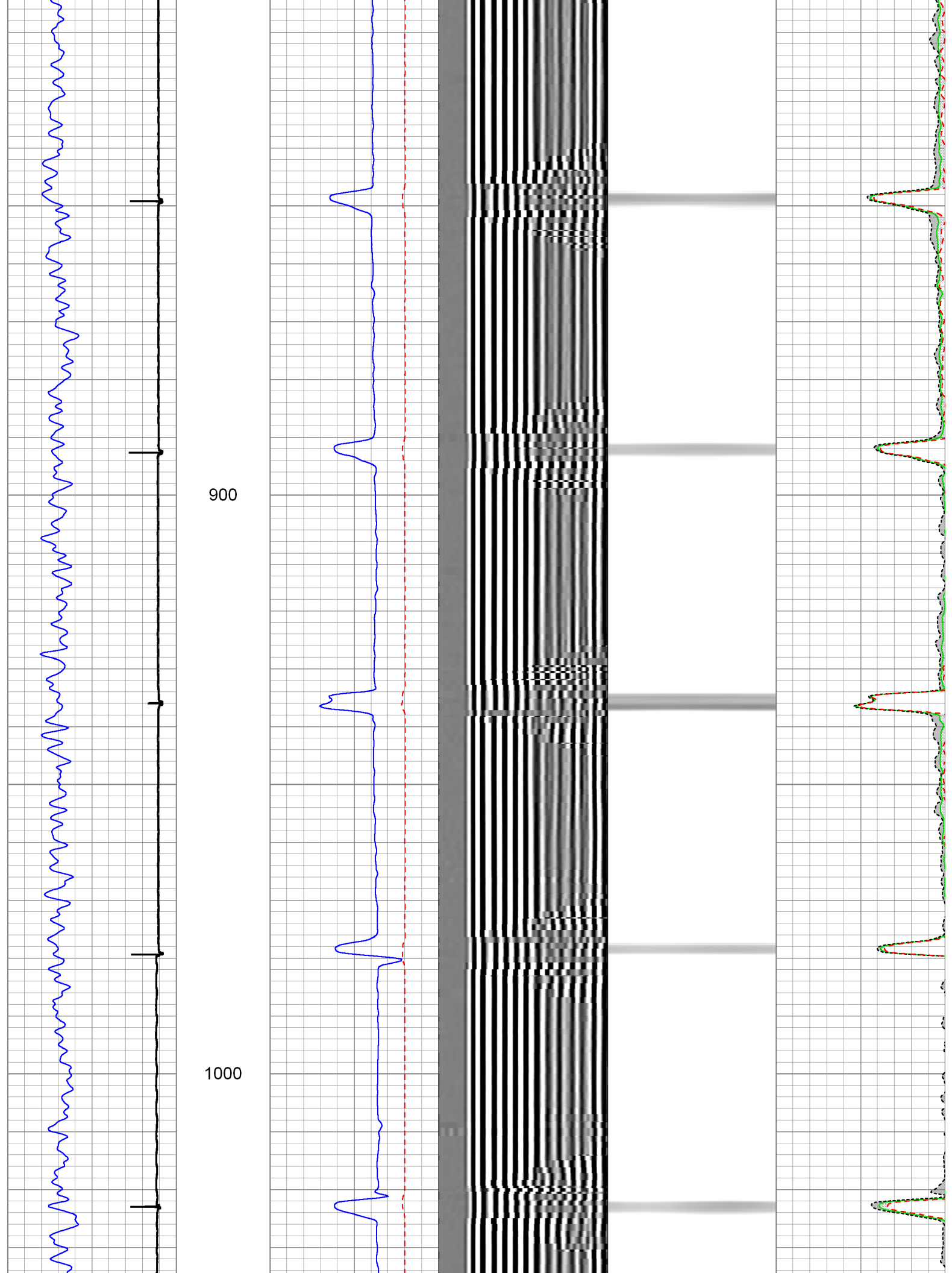
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
	3' Travel Time			Maximum Amplitude
	650 (usec) 150			0 100

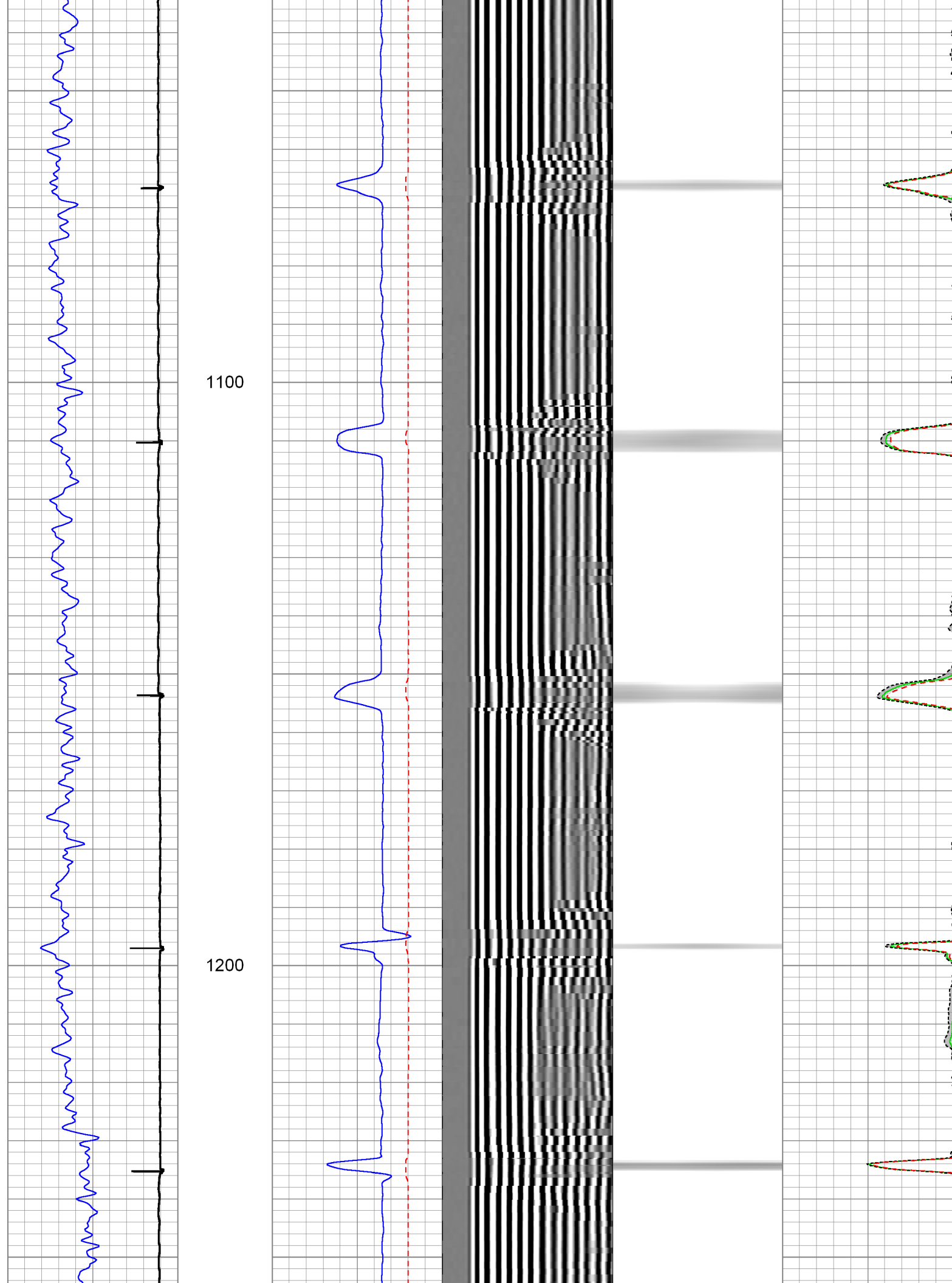


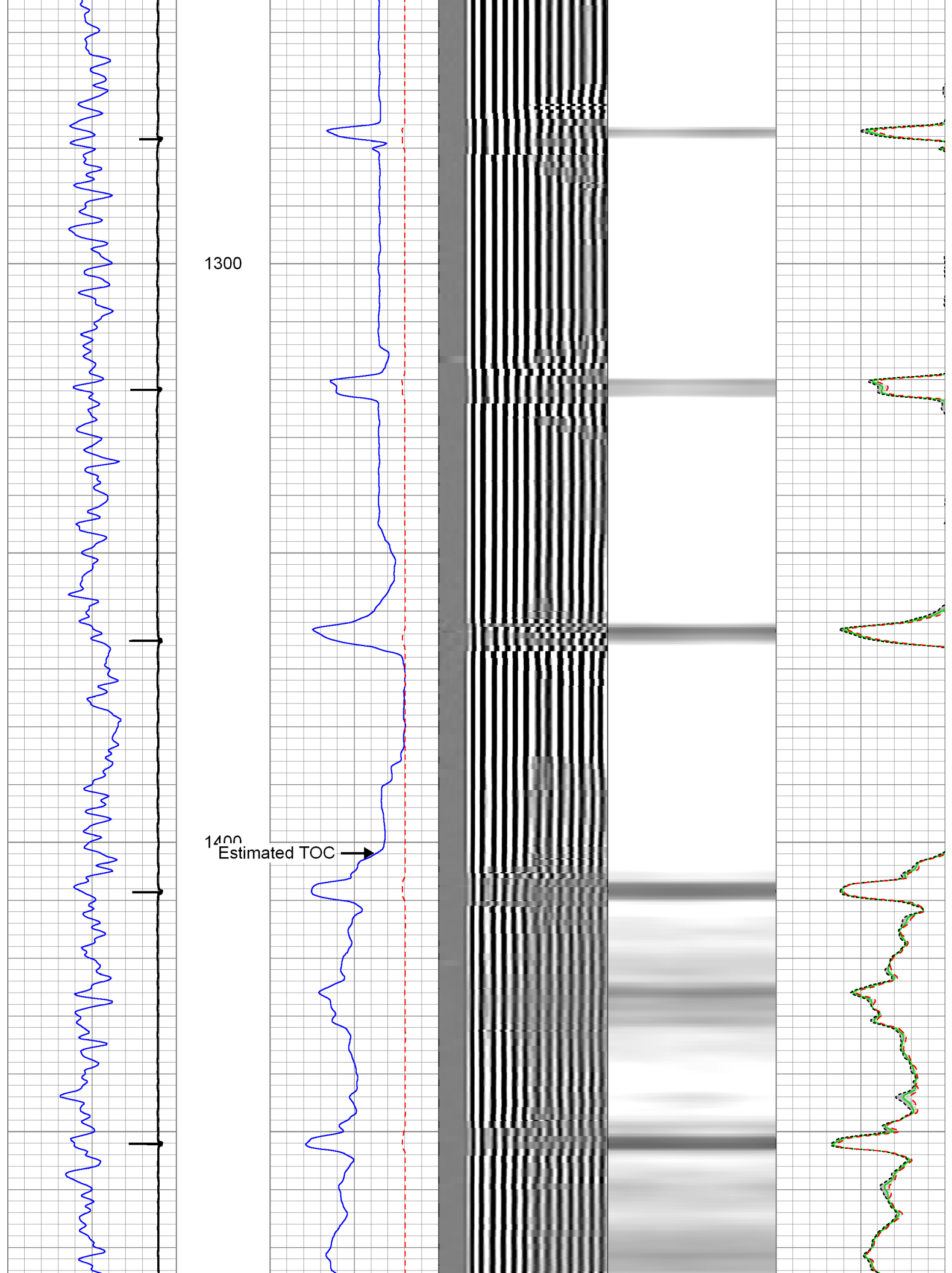


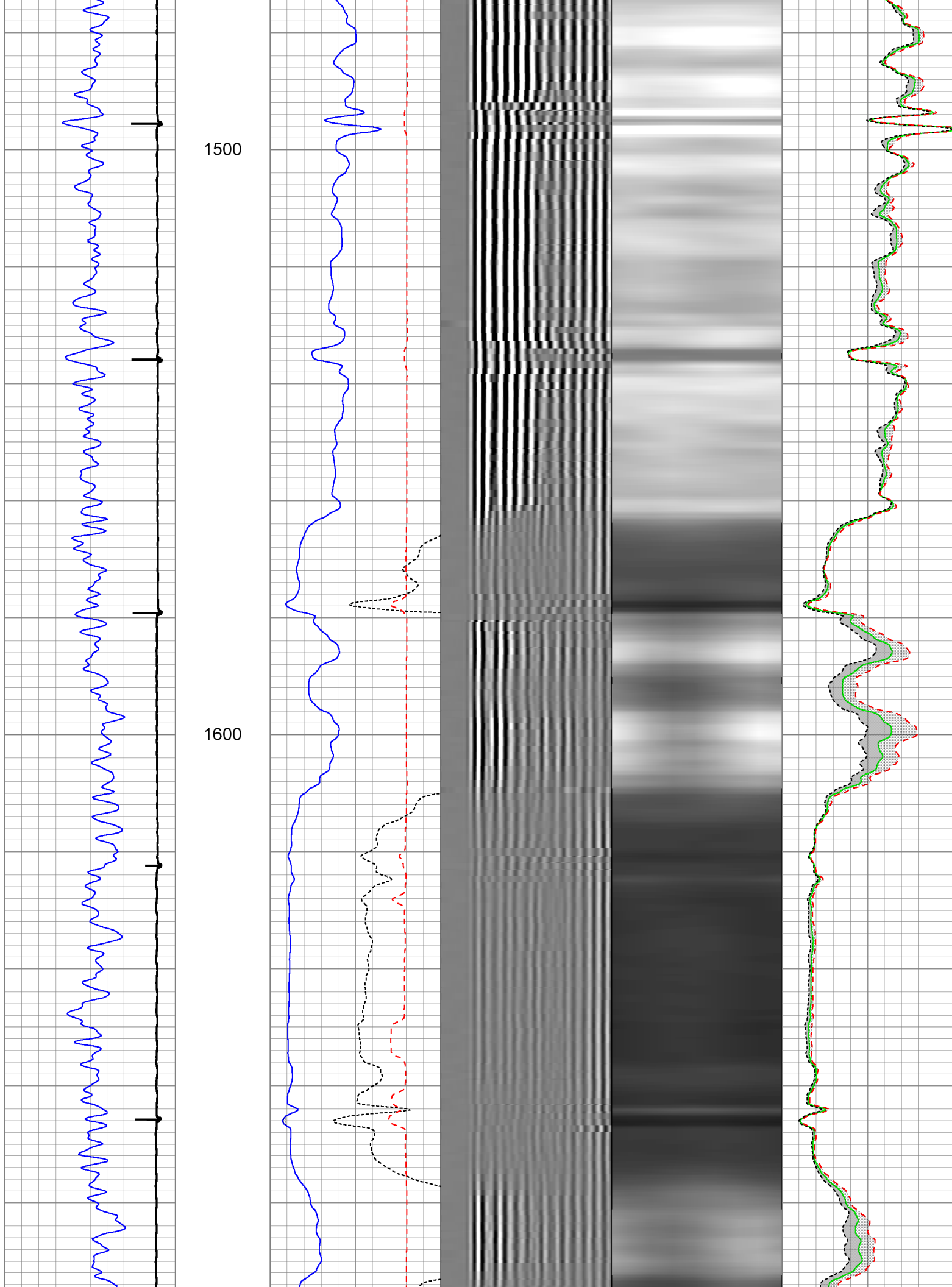








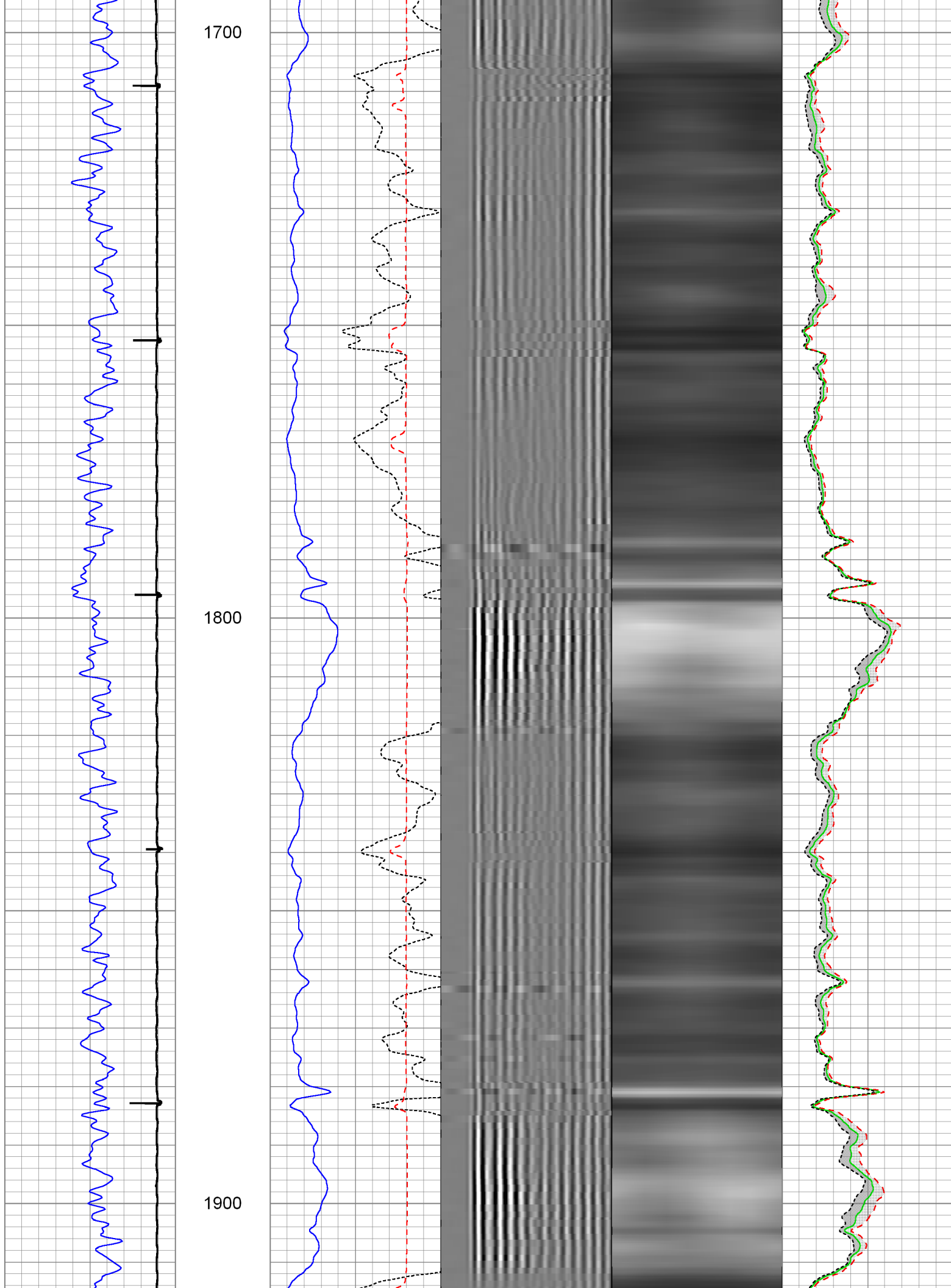


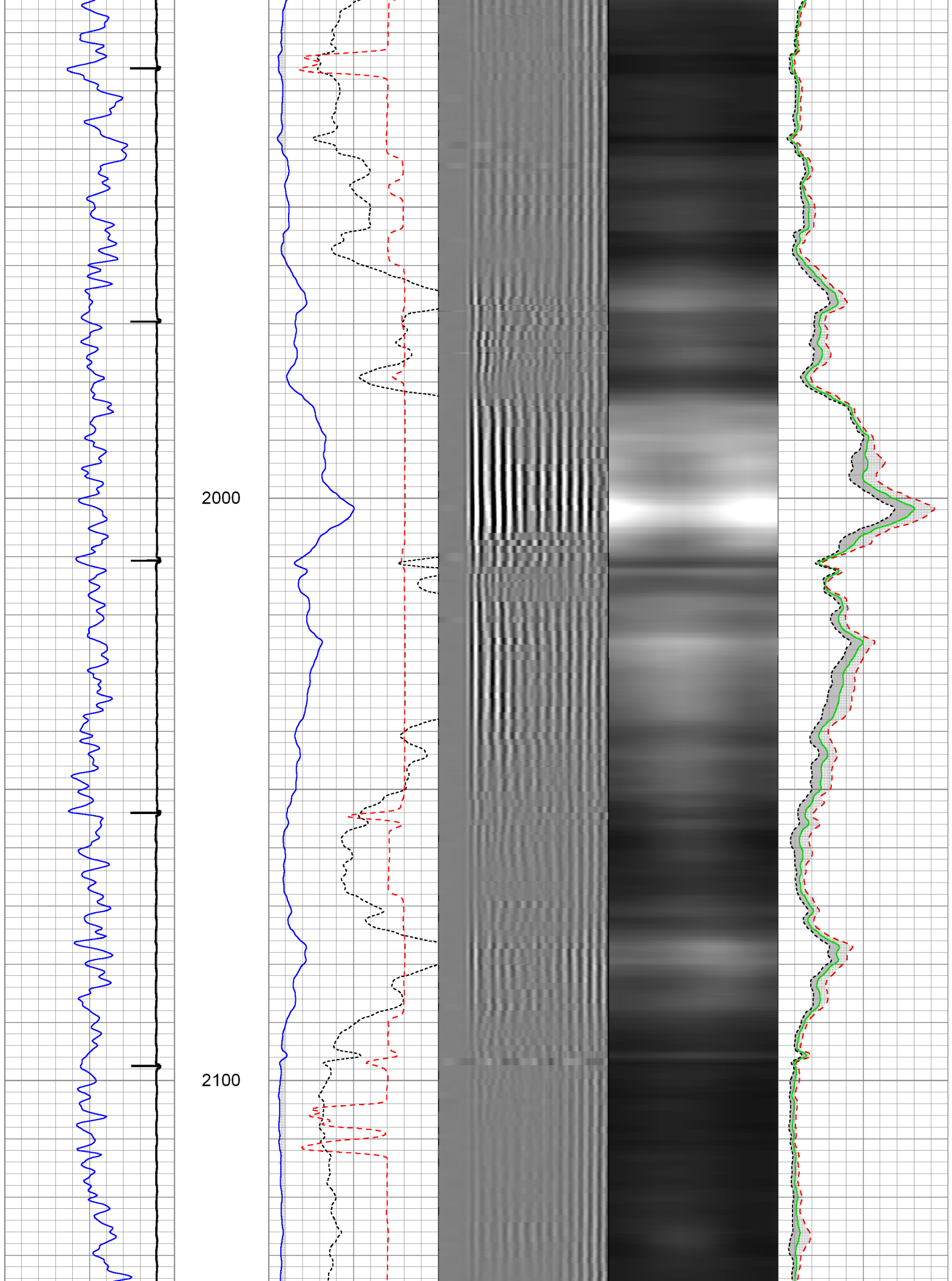


1700

1800

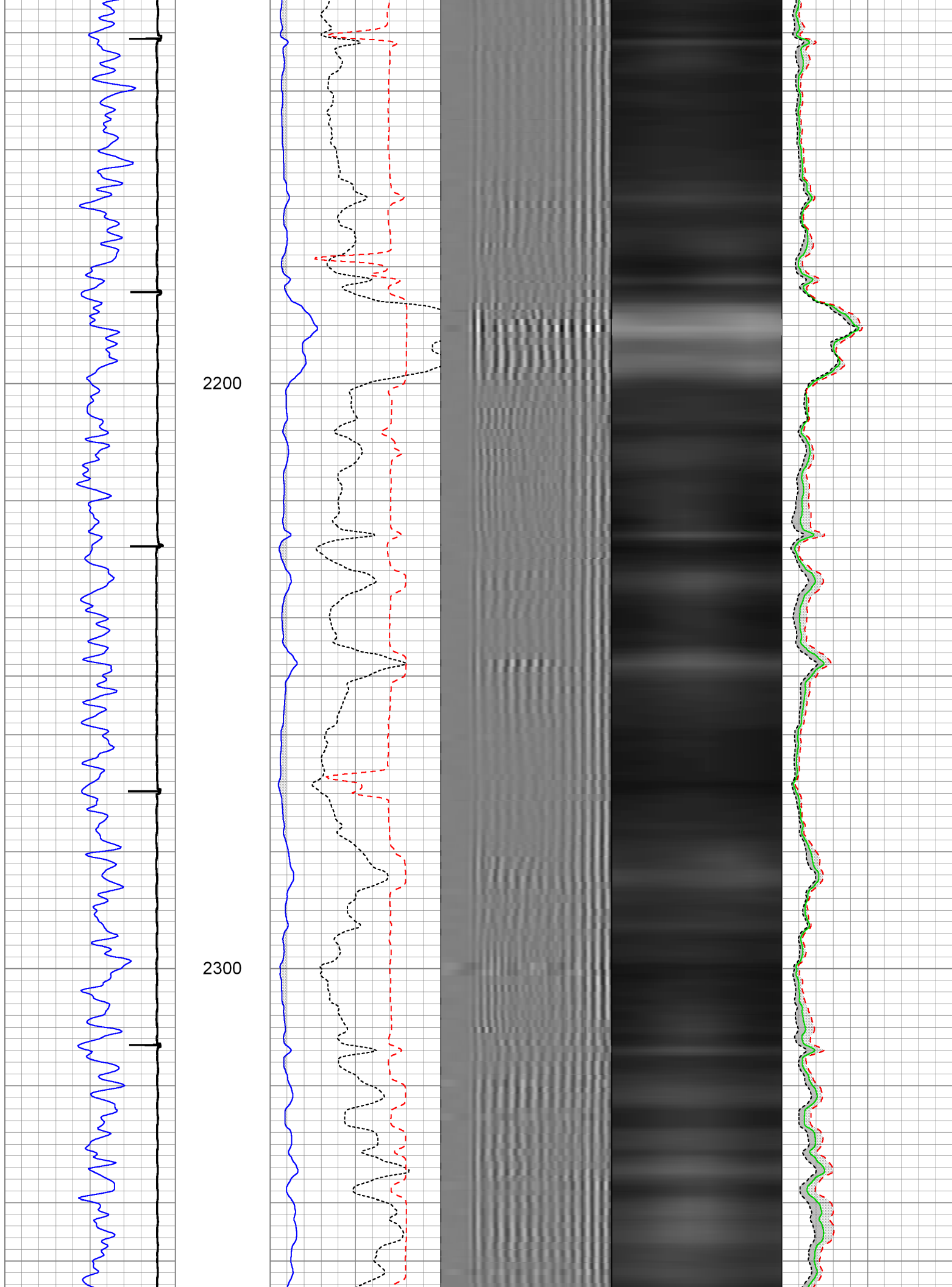
1900





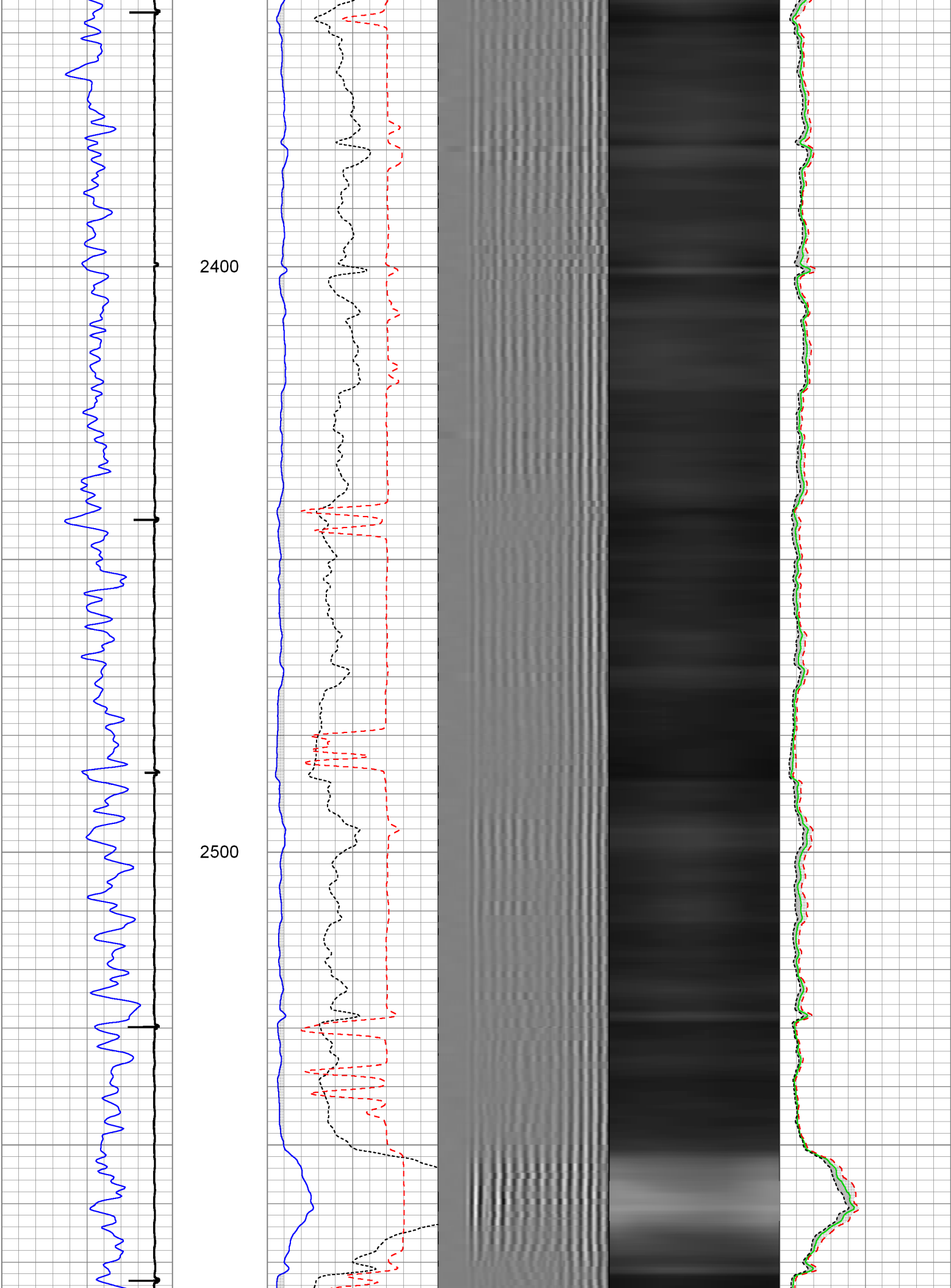
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2300



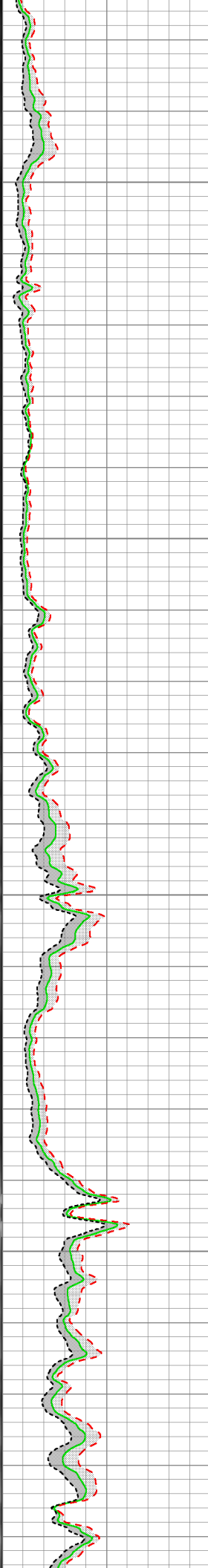
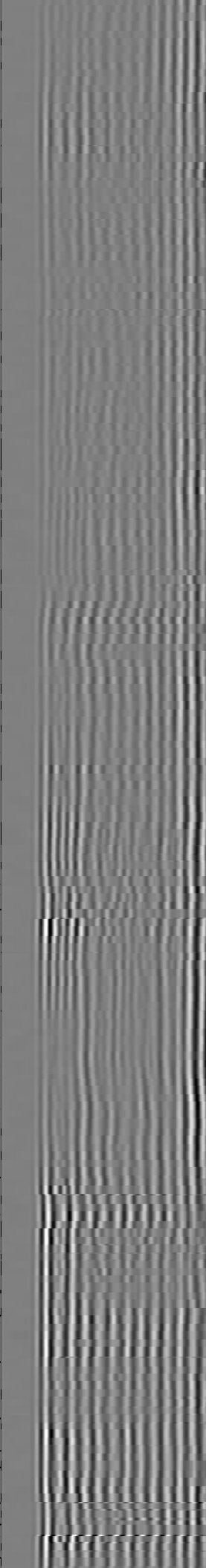
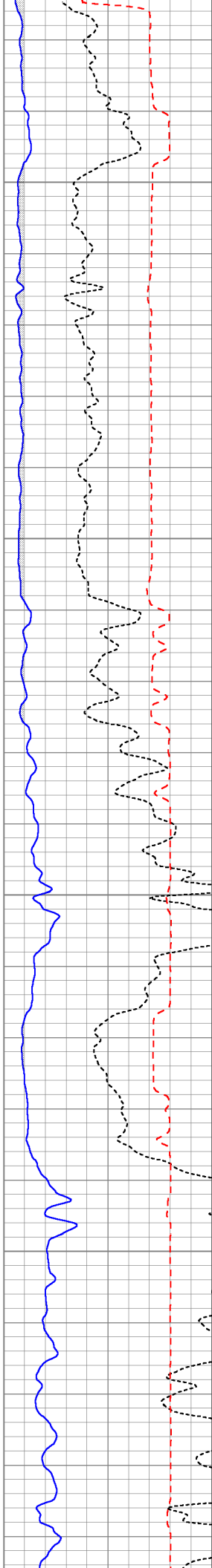
2400

2500



2600

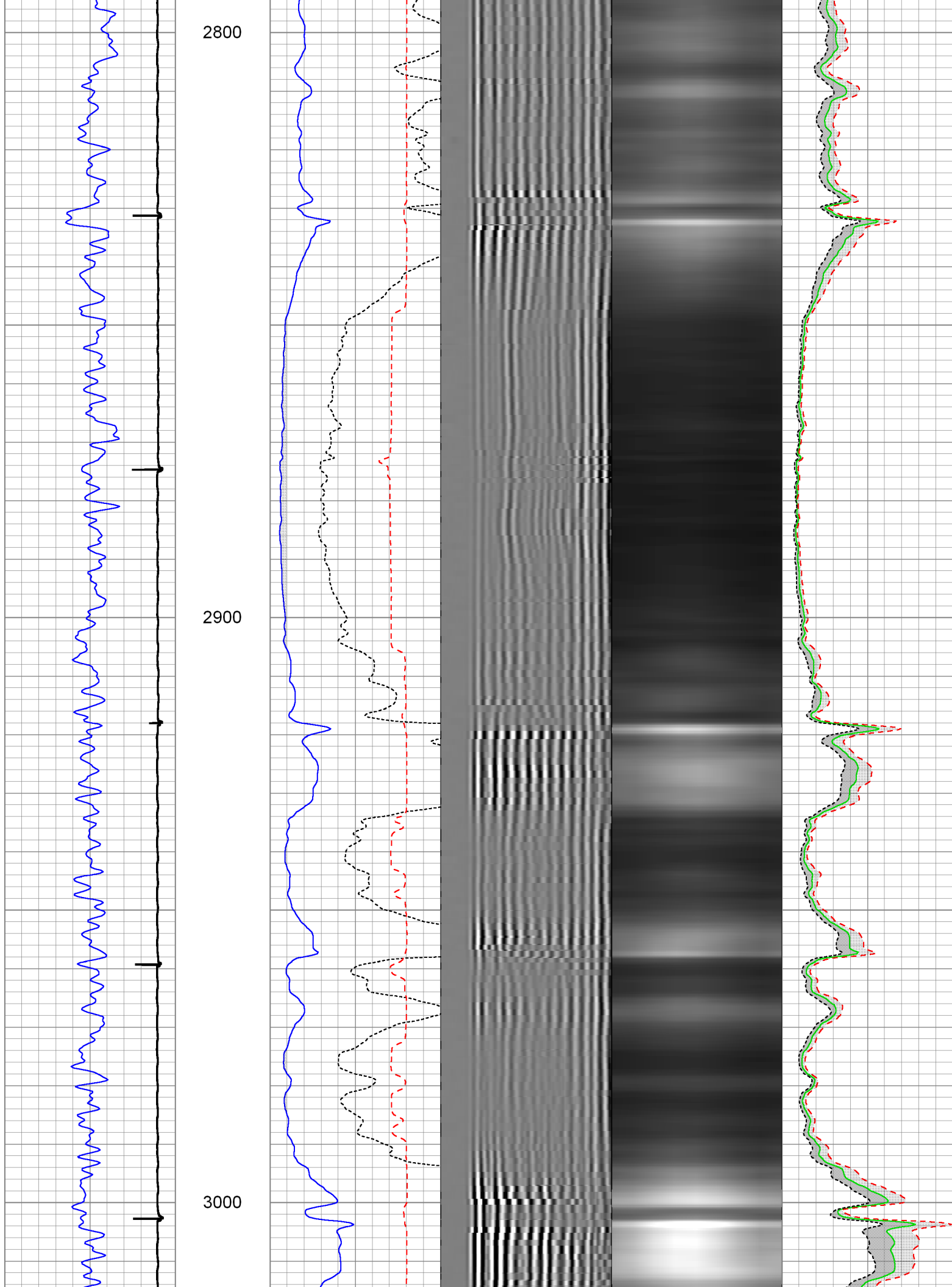
2700

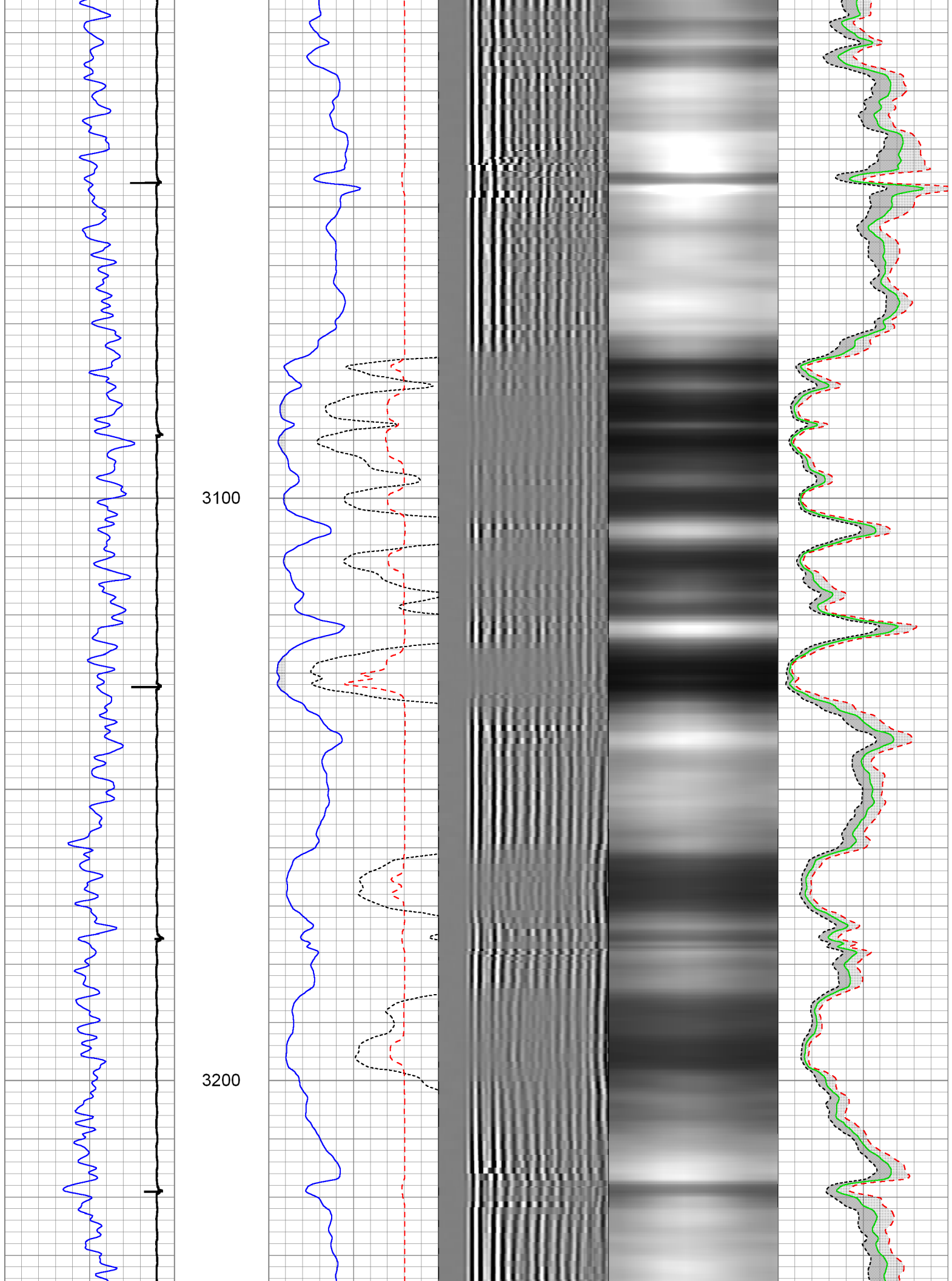


2800

2900

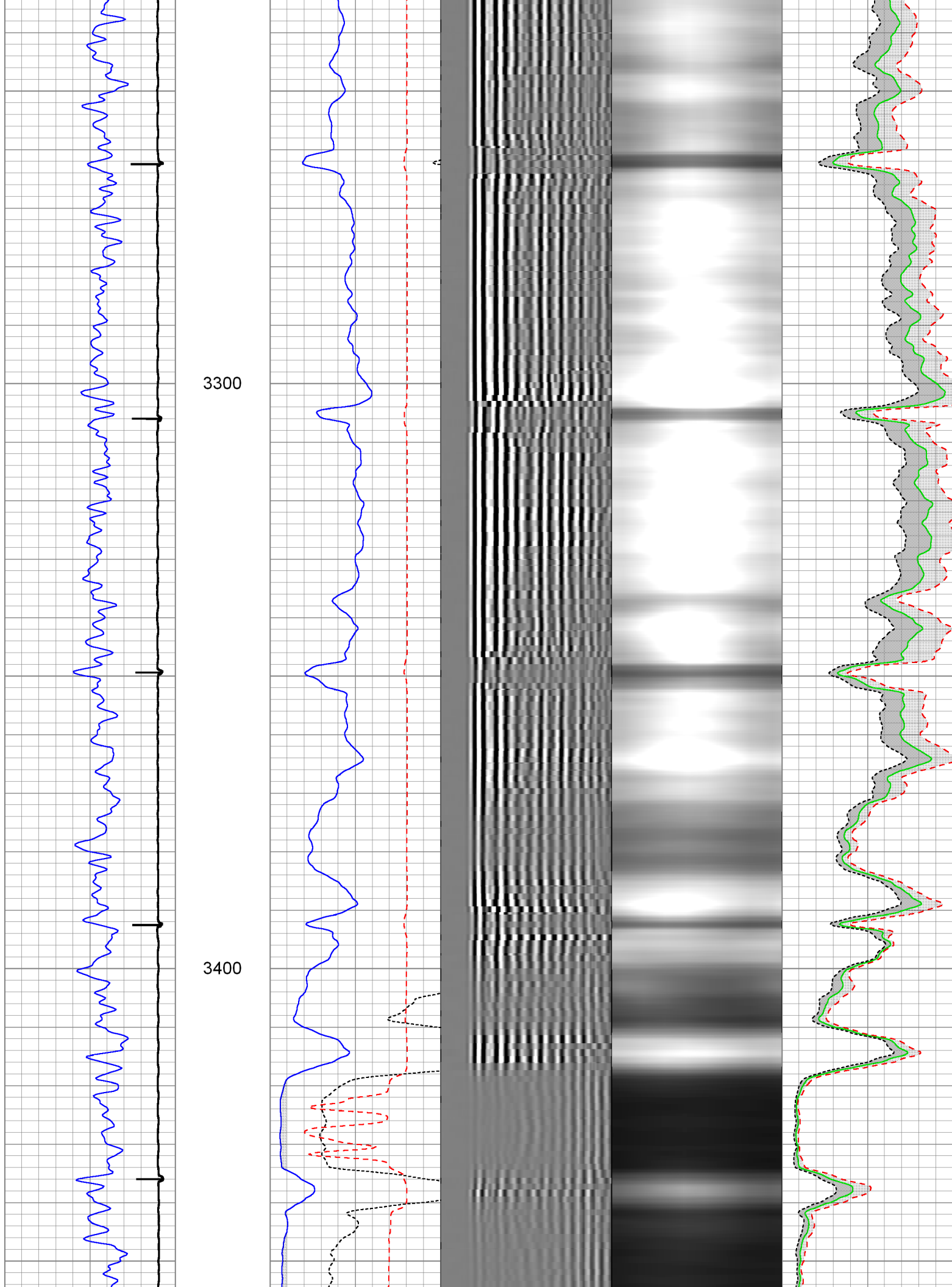
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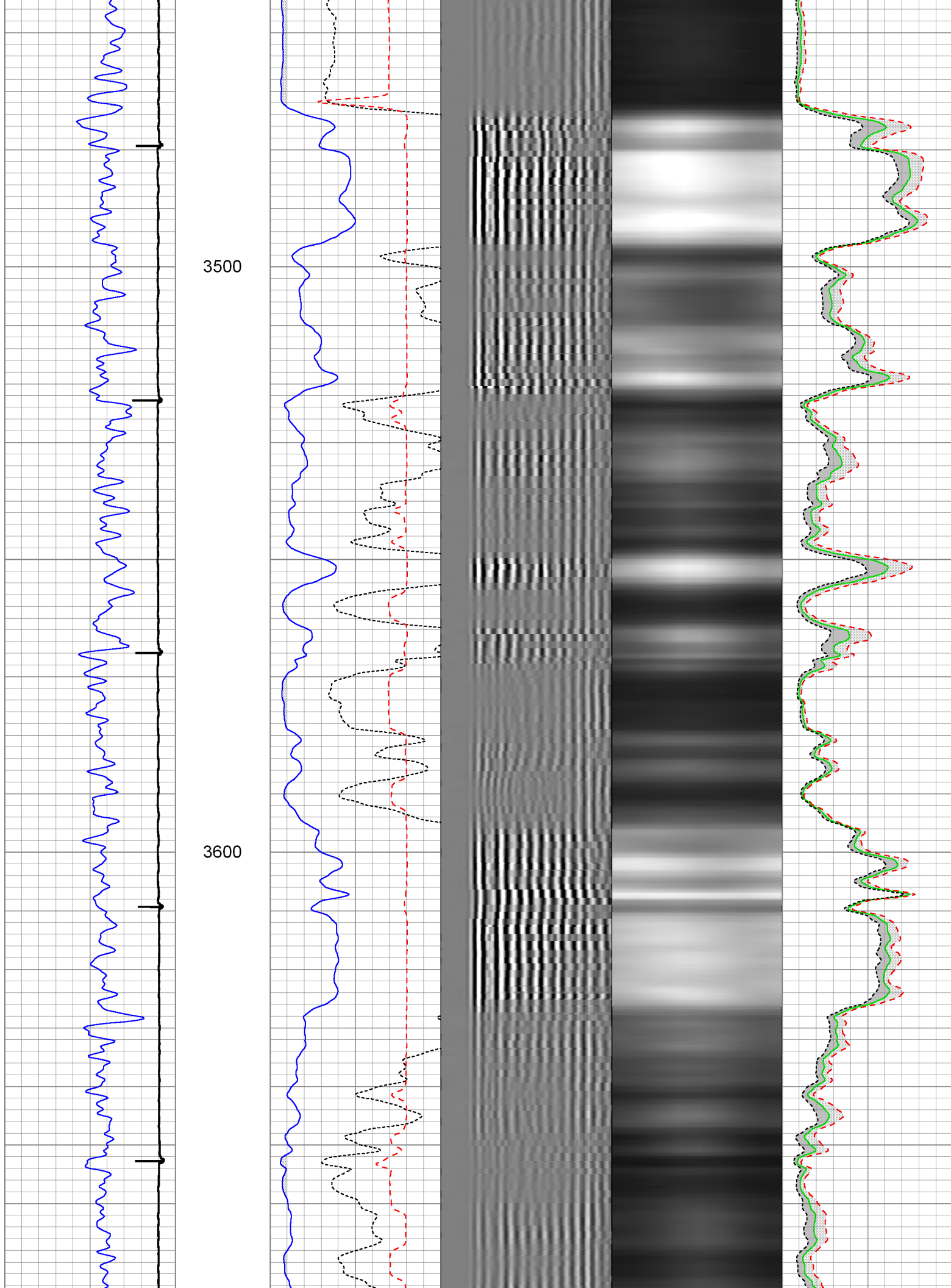
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3400



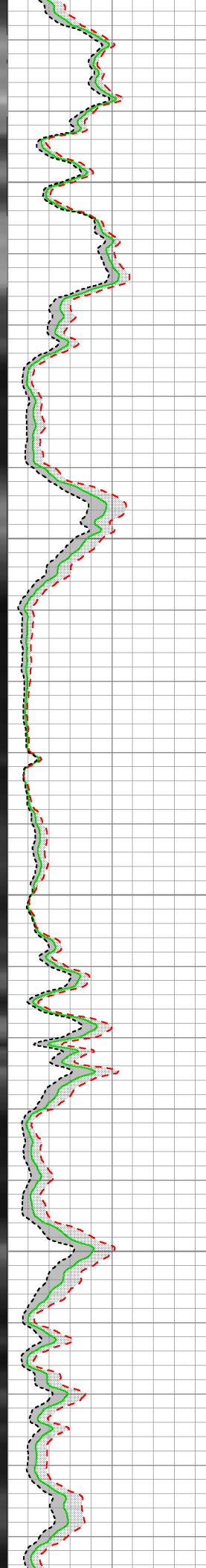
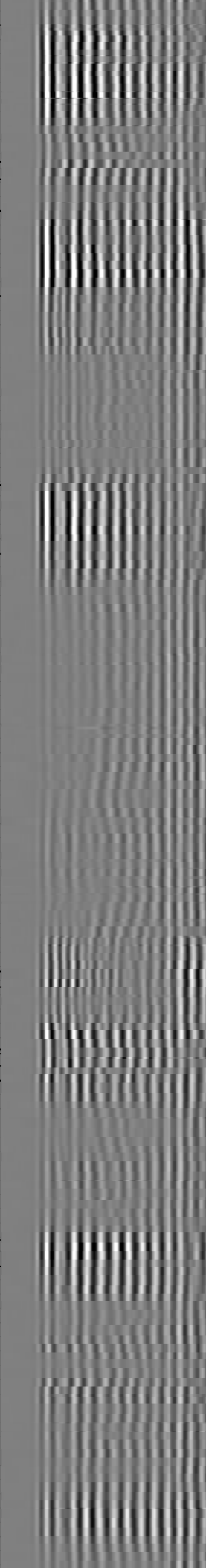
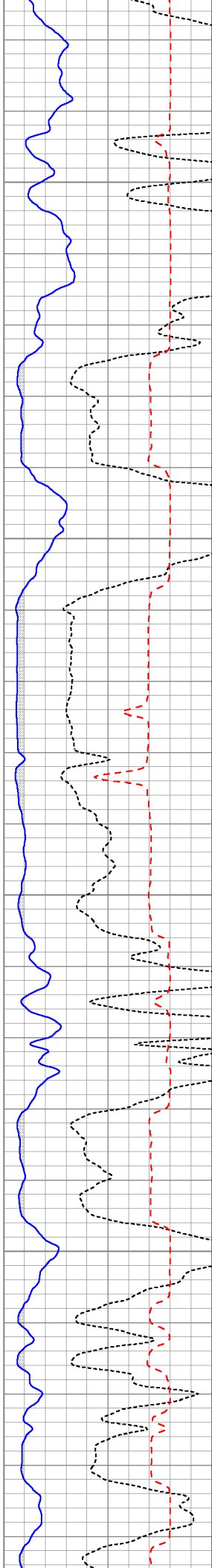
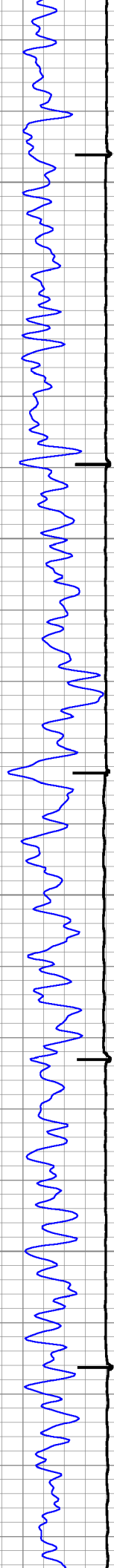
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3600



3700

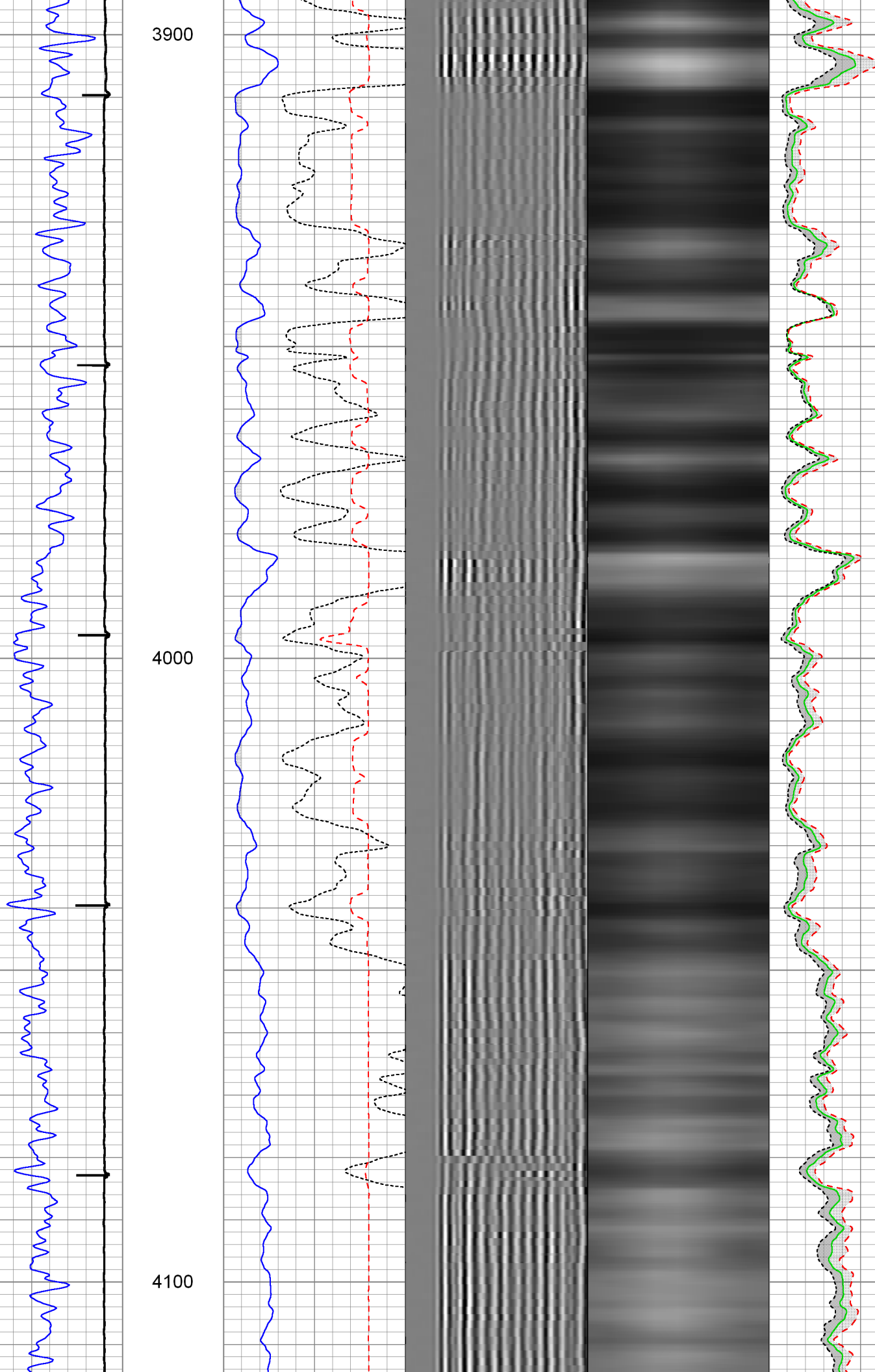
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3900

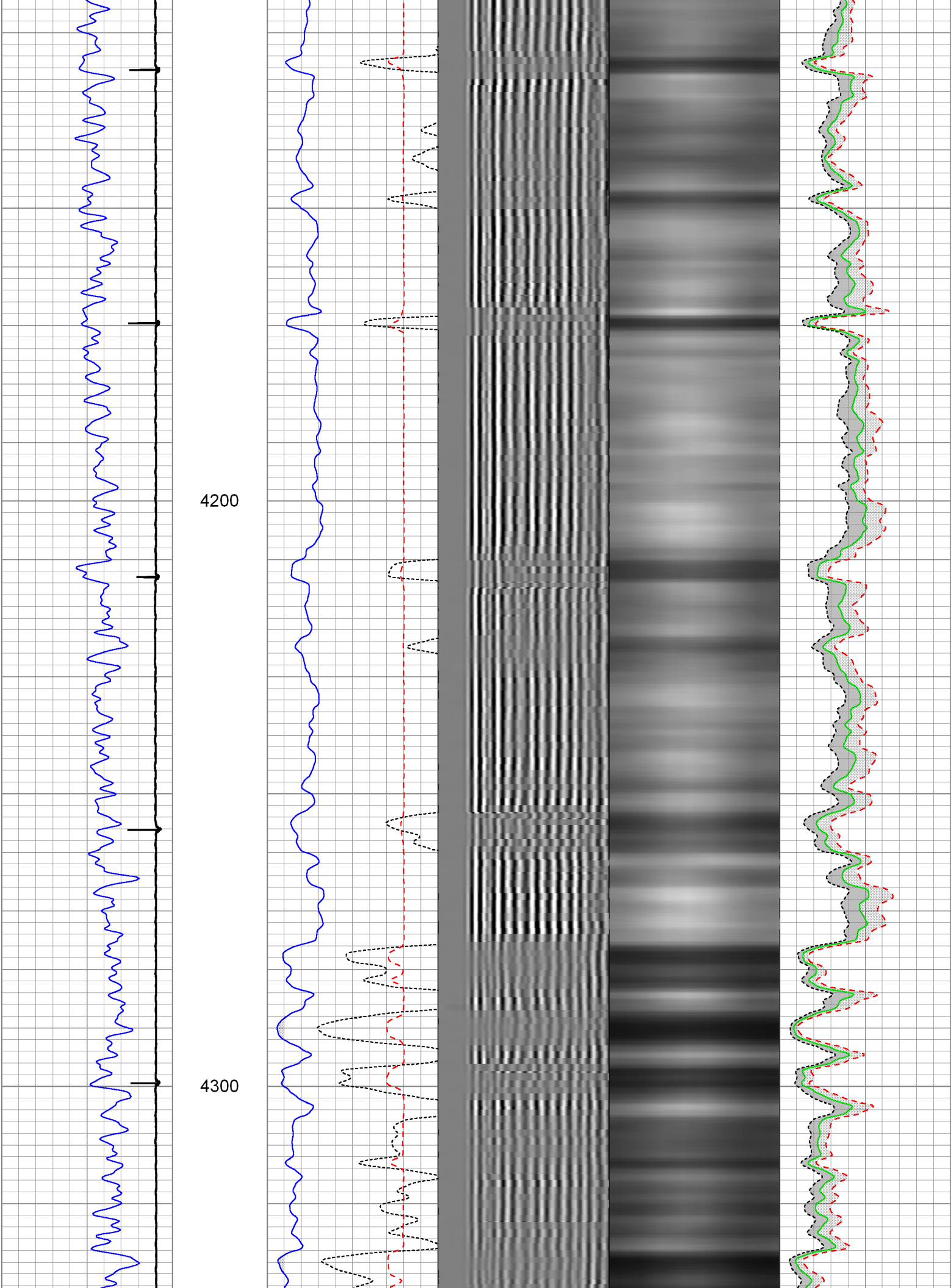
4000

4100



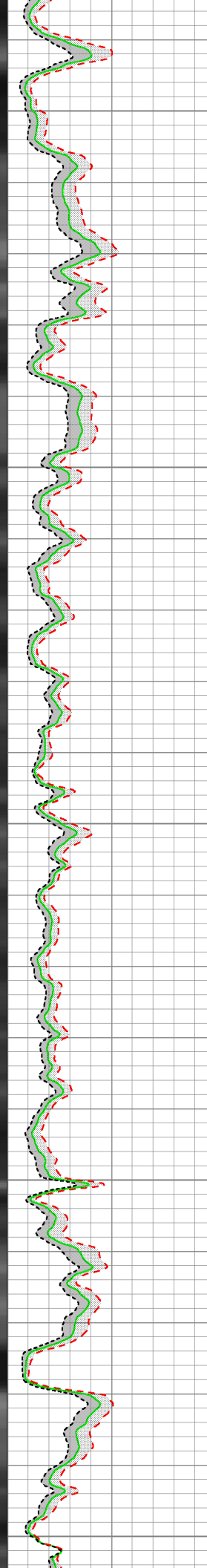
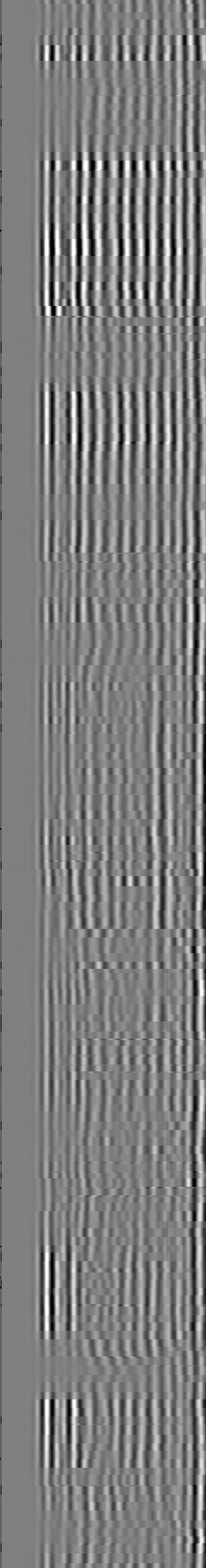
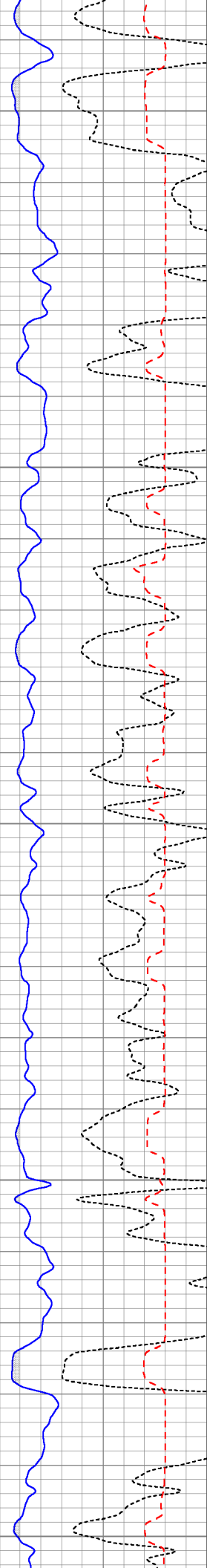
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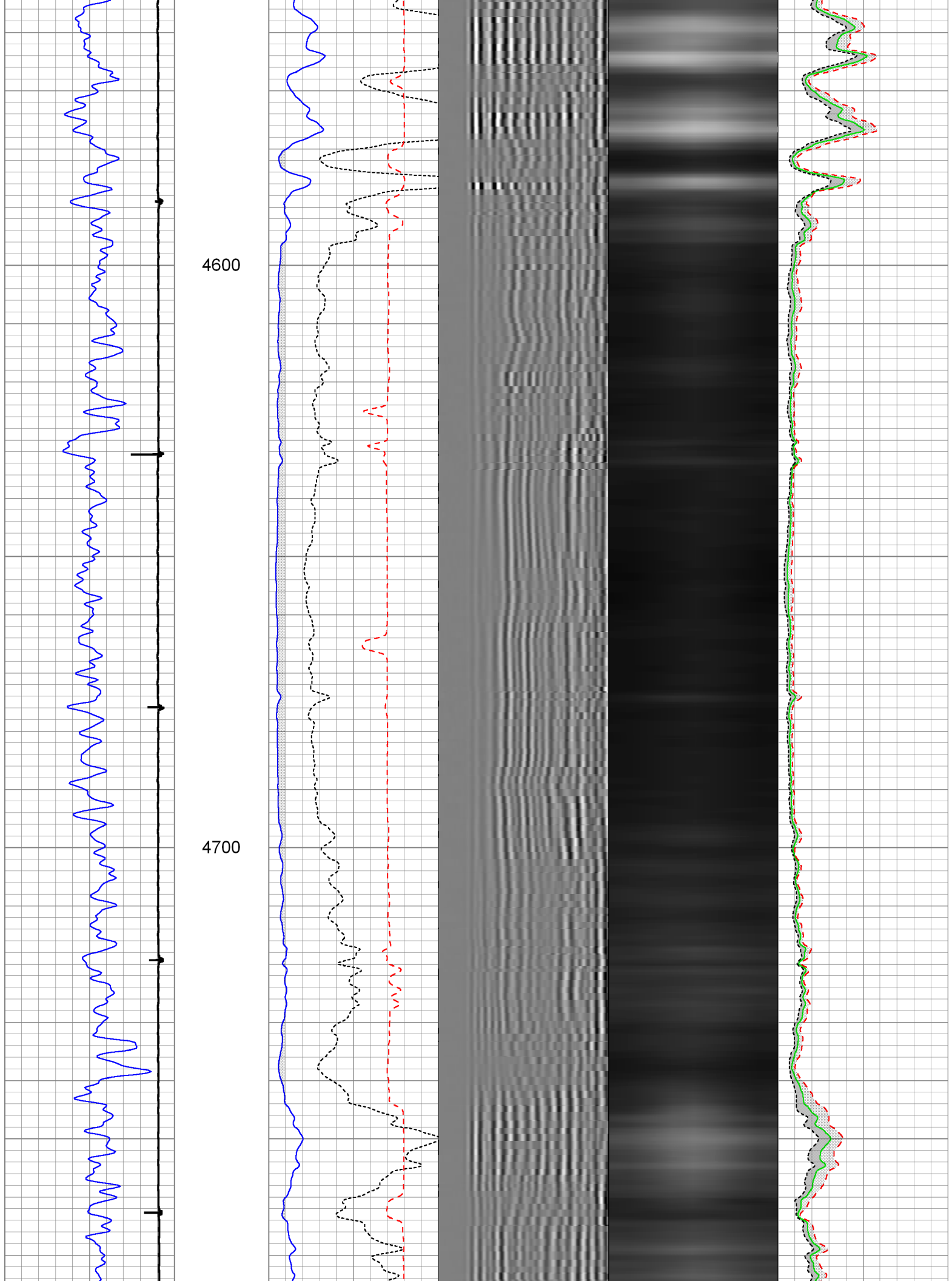
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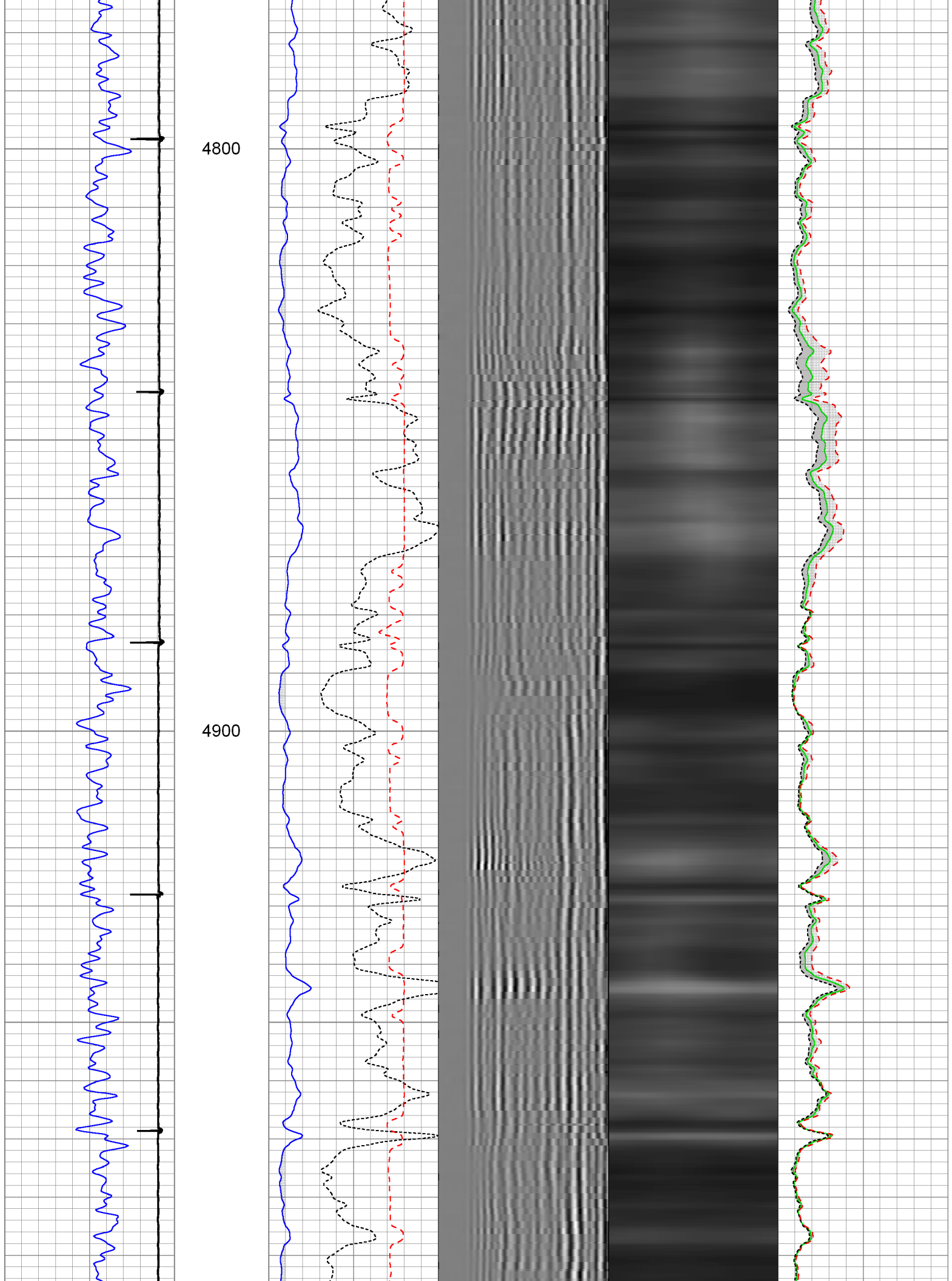


4400

4500



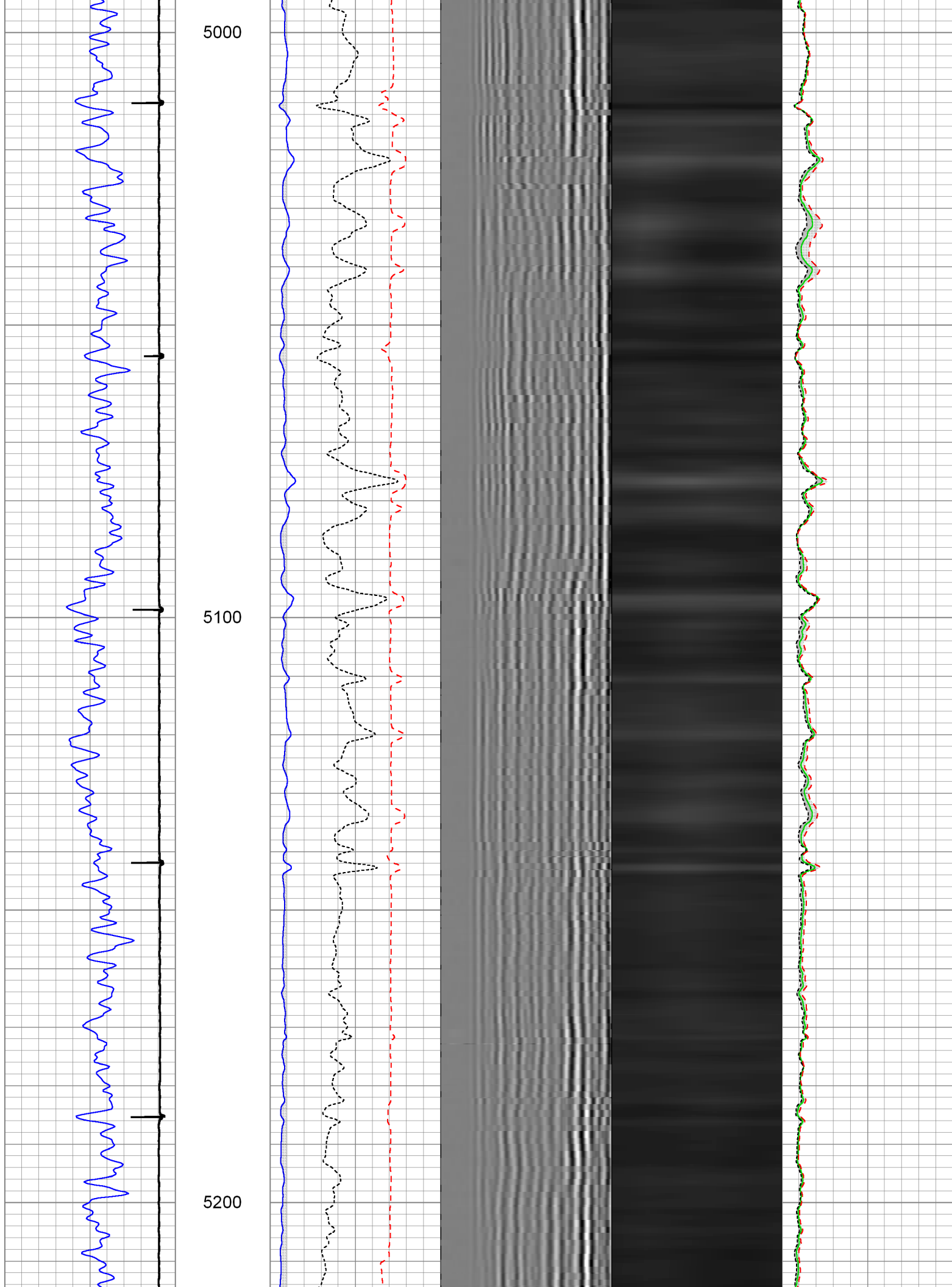


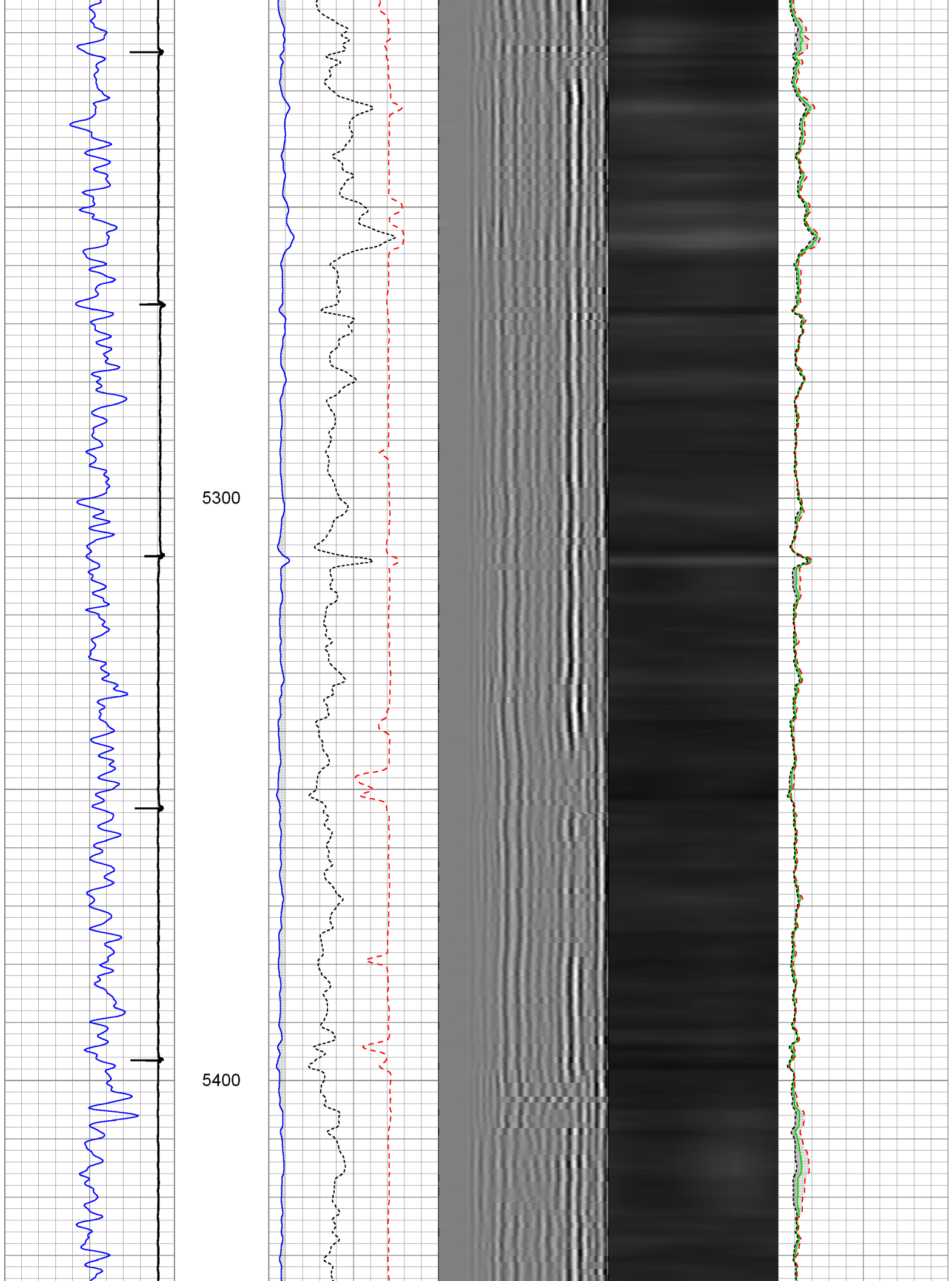


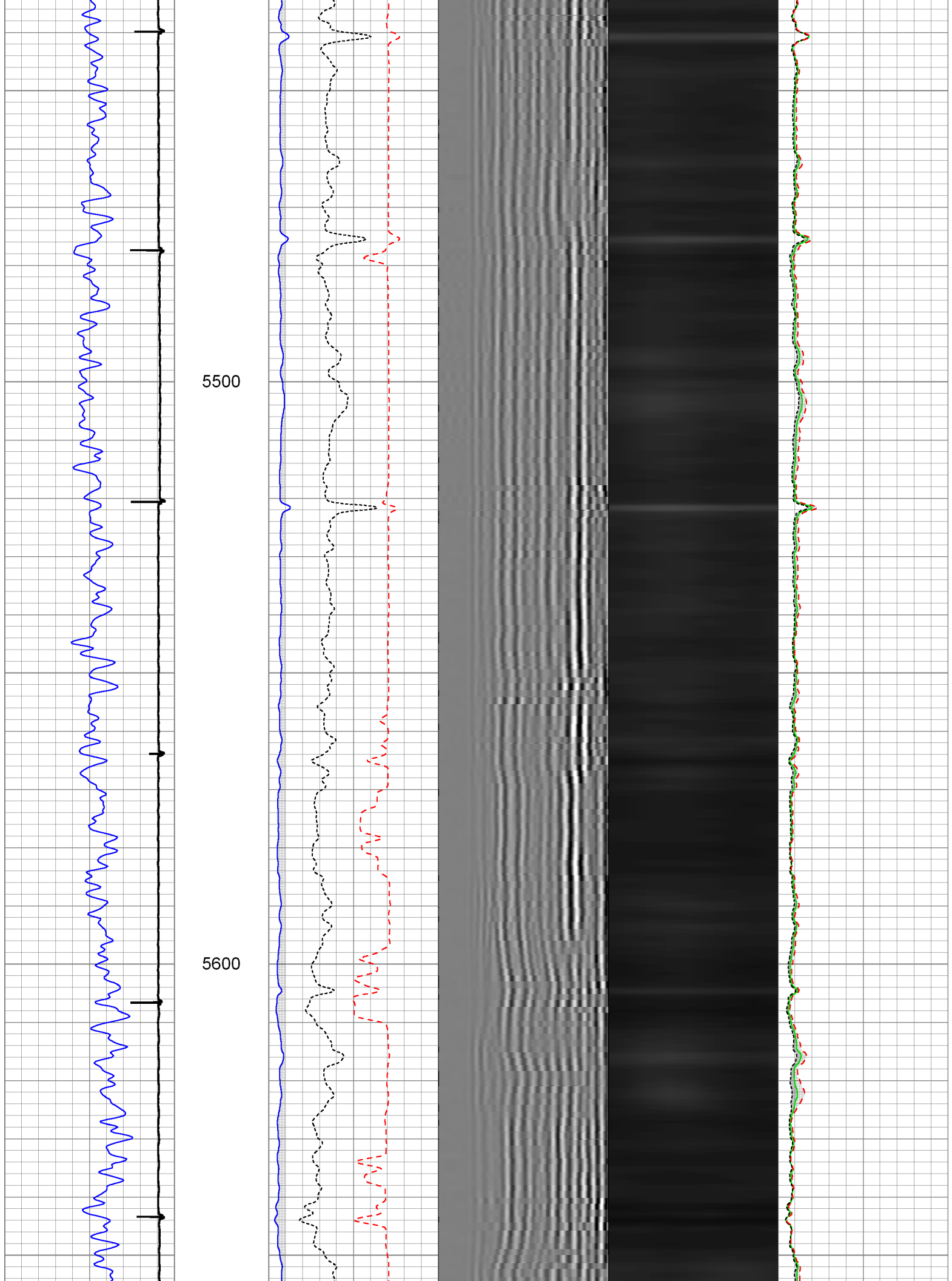
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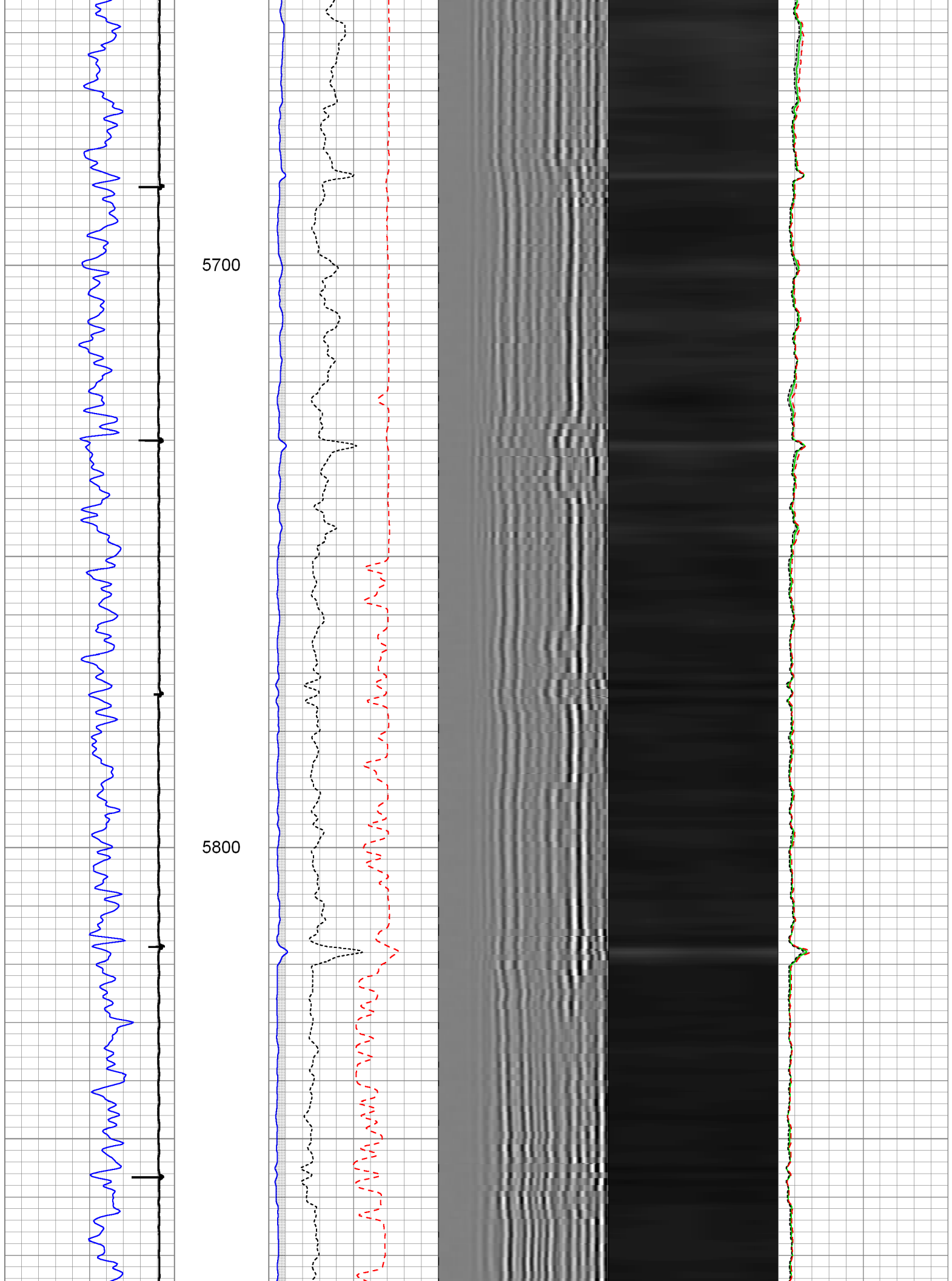
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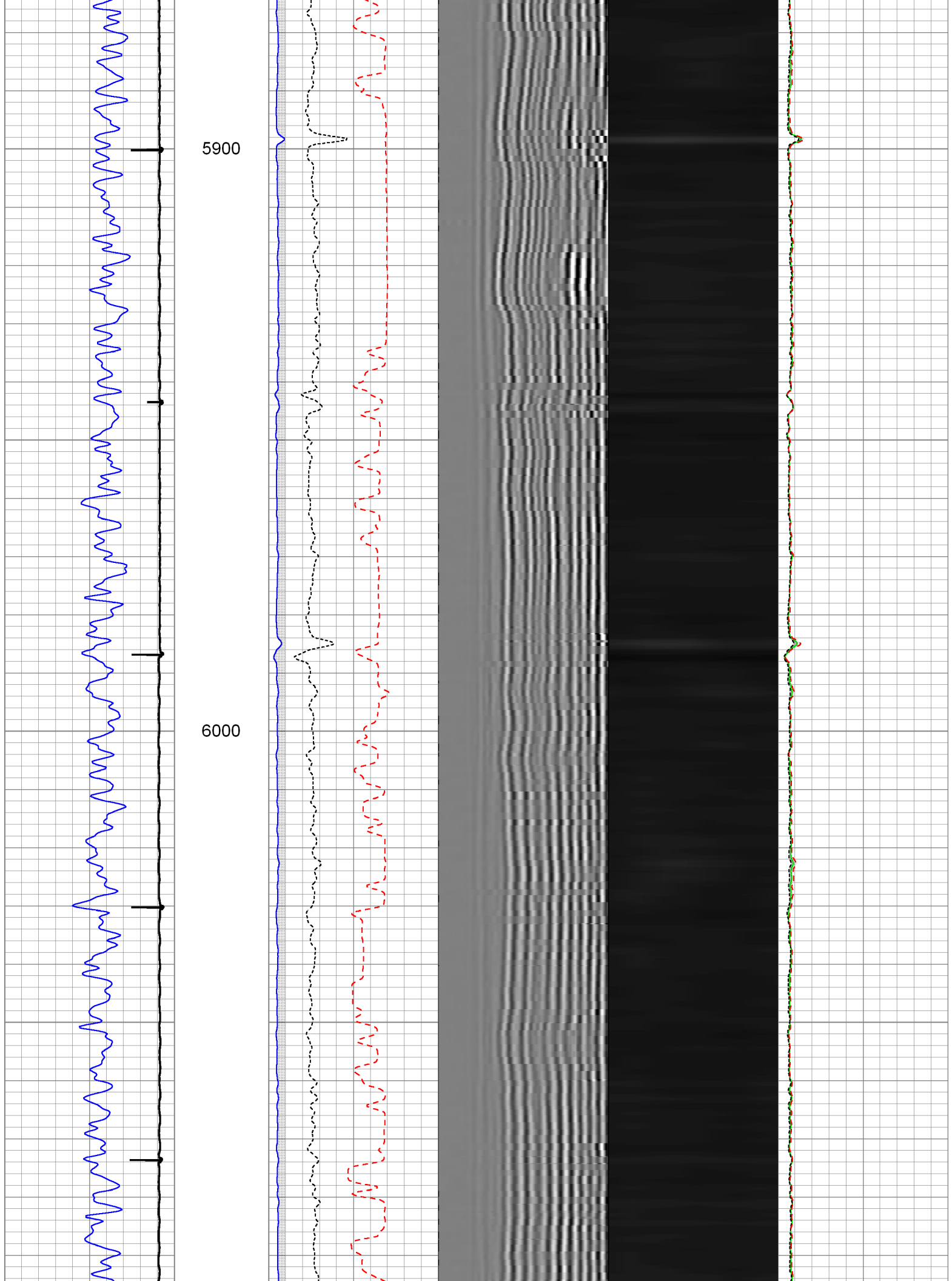
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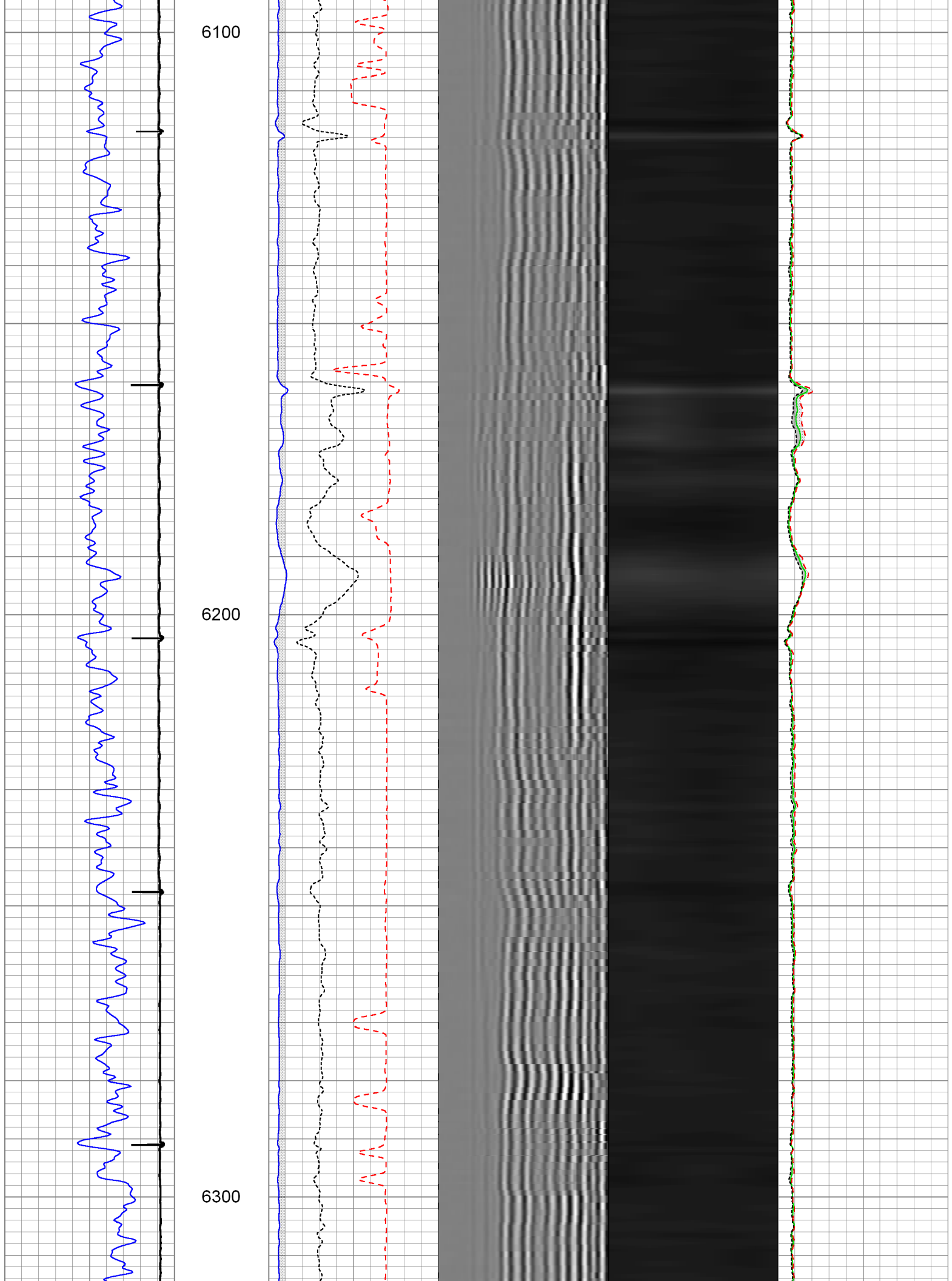


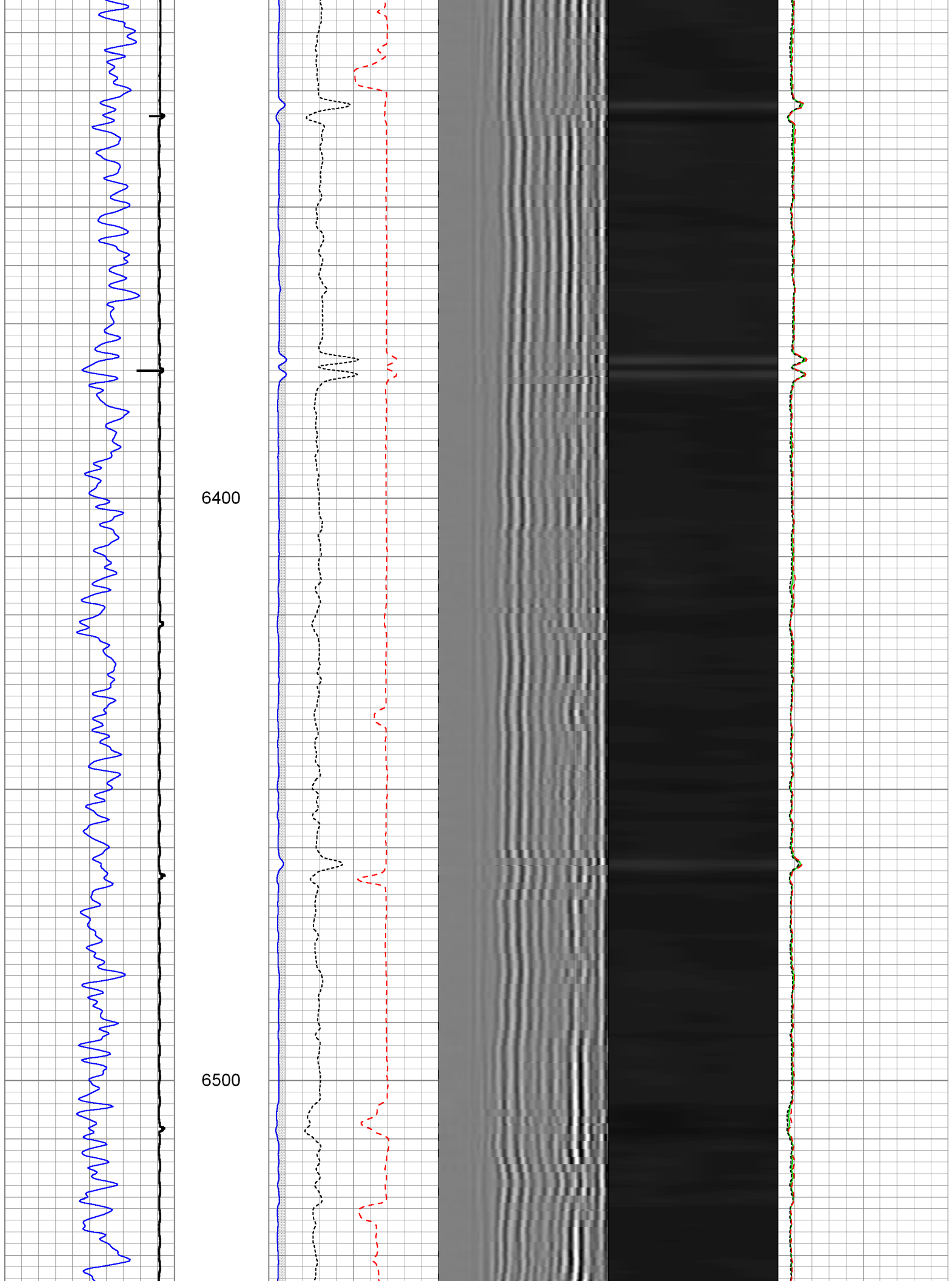


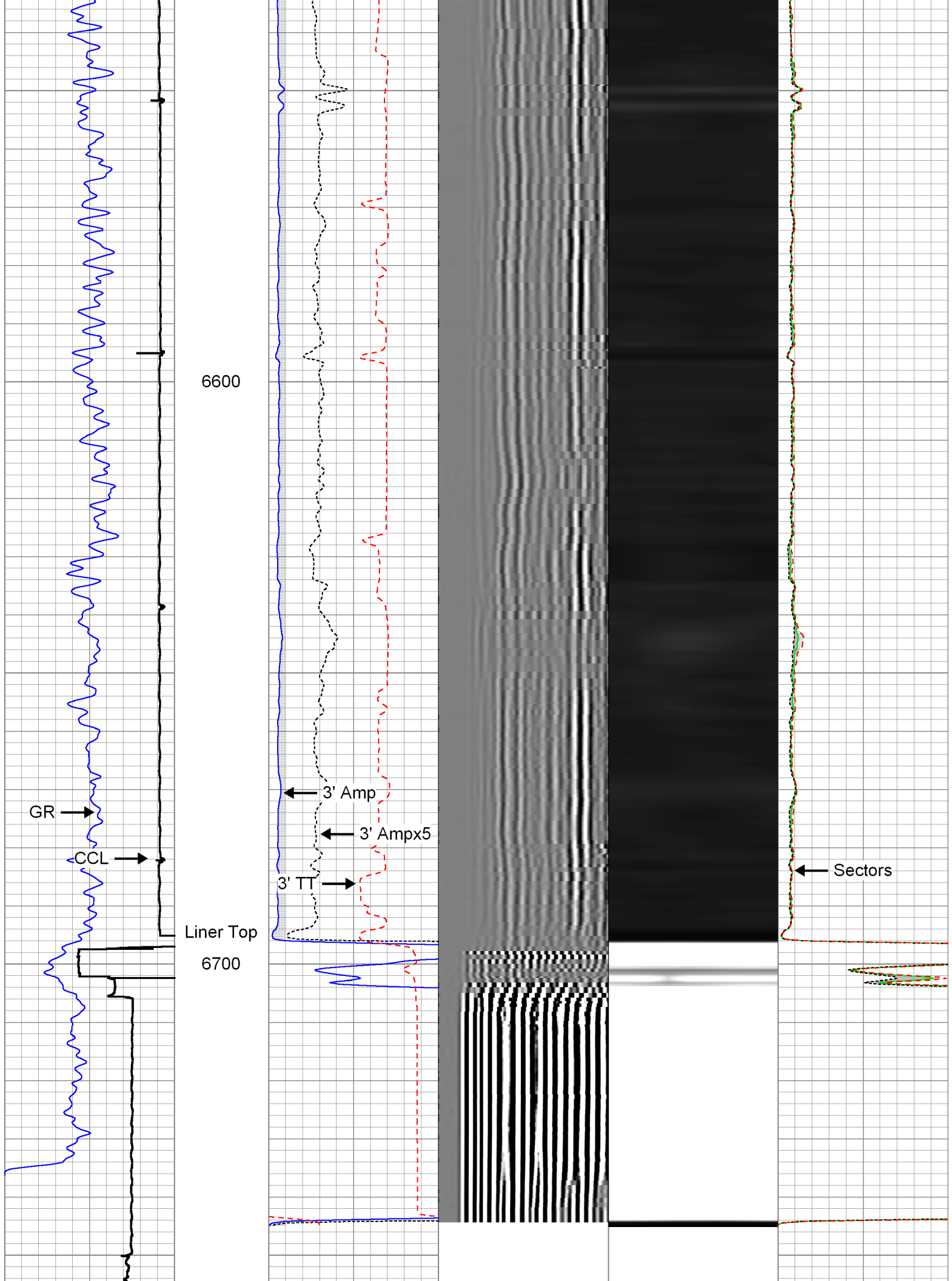










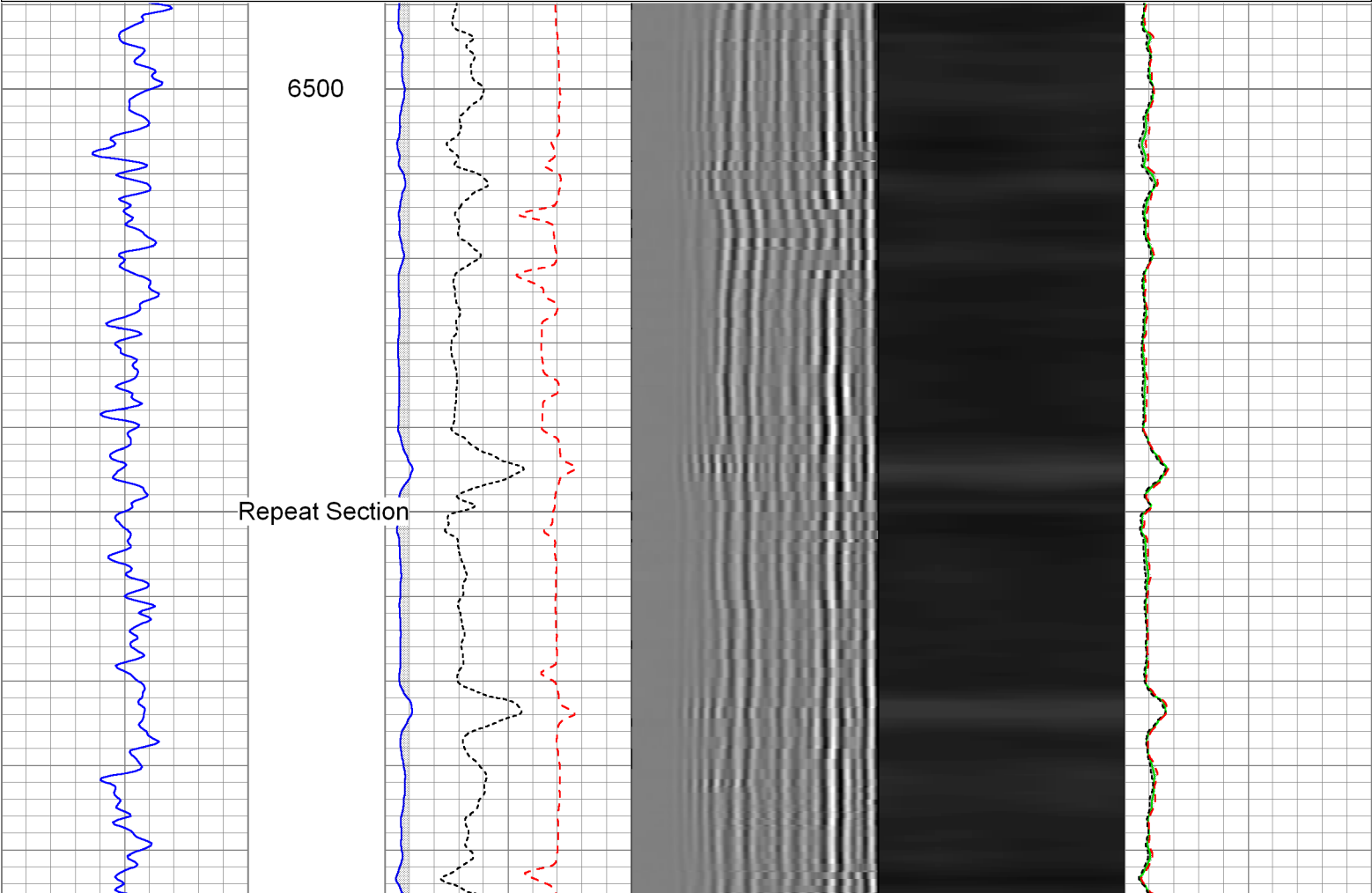


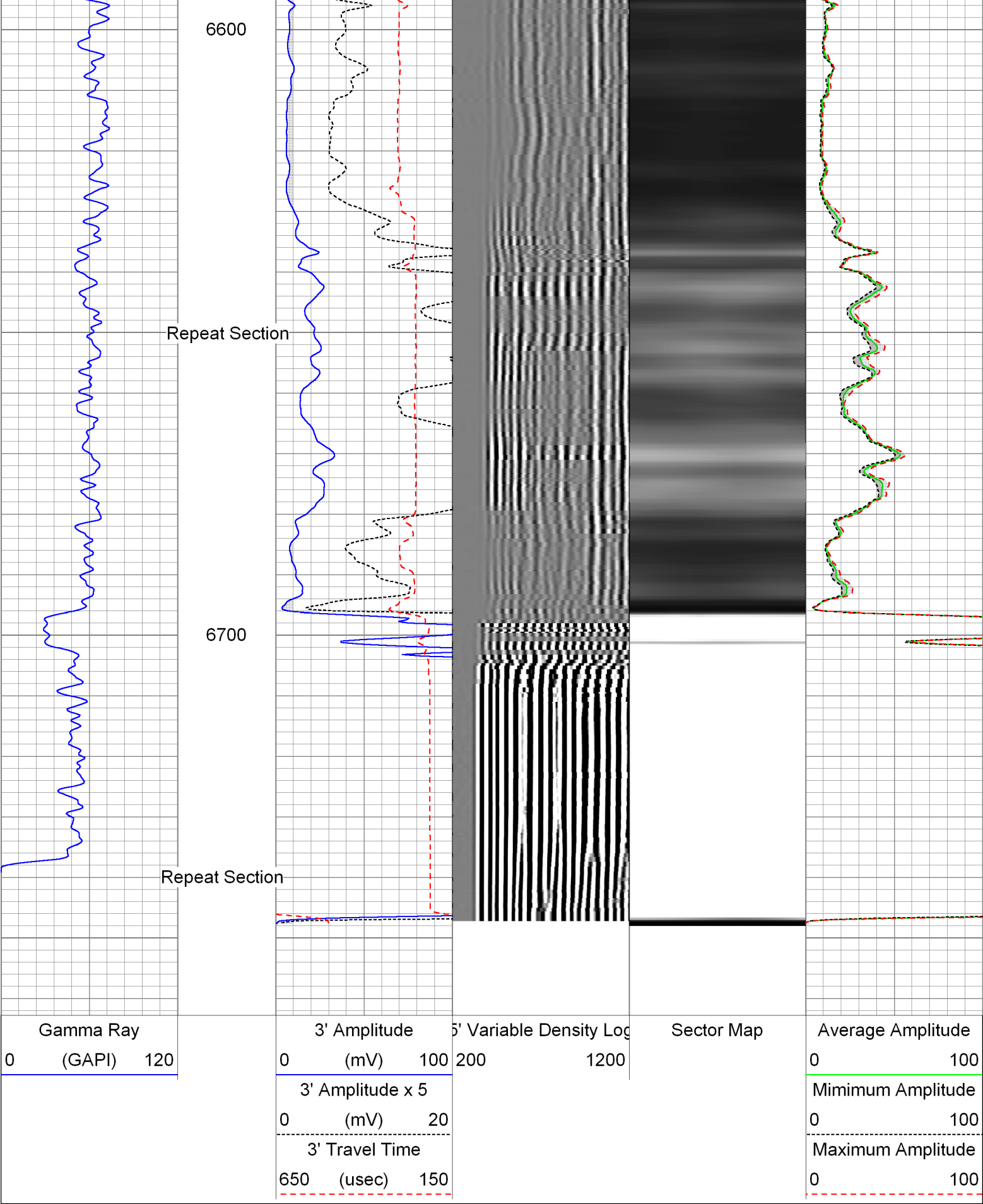
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
	3' Travel Time			Maximum Amplitude
	650 (usec) 150			0 100


FMC Technologies	Repeat Pass
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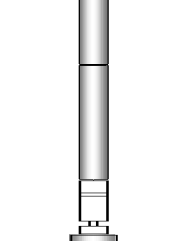
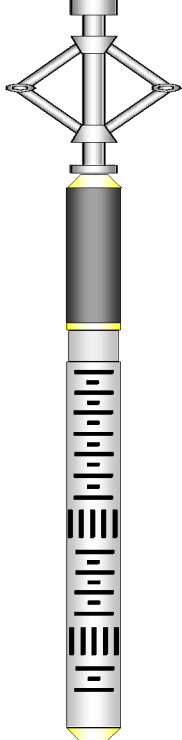
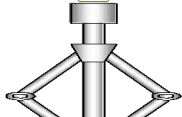
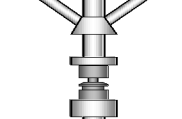
Database File:	0512336339_anadarko_ferge 30n-14hz_05-20-14_mit_rbl.db
Dataset Pathname:	repeat
Presentation Format:	rbt004
Dataset Creation:	Tue May 20 09:40:21 2014 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

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





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			UW_AGS-UW_AGS_001 (215017) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			T_CH14375_1_GO	1.03	1.44	4.00

GR	27.26		Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck			
			UW_XTU-UW_XTU_002 (211461) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (211727) Production Gamma Ray	1.93	1.69	9.50
			UW_PSJ-PSJ_008 (10018474) Sondex 1-11/16" Ultrawire Swivel Joint	0.91	1.69	9.00
WVFS3FT WVFS1 WVFS2 WVFS3 WVFS4 WVFS5 WVFS6 WVFS7 WVFS8 CBLTEMP CBLROT WVFS5FT	18.53 18.53 18.53 18.53 18.53 18.53 18.53 18.53 18.53 18.53 18.53 17.53		UW_PRC #4 -UW_PRC_057 (1037) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
			UW_RBT-UW_RBT_004 (1066) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
			UW_PRC-UW_PRC_057 (1038) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
			UW_PKJ-PKJ_013 (10018069) Sondex 1-11/16" Ultrawire Knuckle Joint	0.57	1.69	3.50
			UW_PRC-DSSRAC (084) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
			UW_MIT-UW_MIT40_042 (10012912) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC #3 -DSSRAC (081) 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
MIT	4.97					
TSTAMP	0.00					
Dataset: 0512336339_anadarko_ferge 30n-14hz_05-20-14_mit_rbl.db: field/well/run1/main Total Length: 31.51 ft Total Weight: 363.80 lb O.D. 3.13 in						

Calibration Report

Database File: 0512336339_anadarko_ferge 30n-14hz_05-20-14_mit_rbl.db
Dataset Pathname: main

Dataset Creation: Tue May 20 09:54:09 2014 by Log 7.0 B1							
Multi-finger Imaging Tool Calibration Report							
Serial Number:				10012912			
Number of Fingers:				40			
Tool Model:				UW_MIT40_042			
Inclinometer Calibration Report							
Performed:				Mon Jul 15 09:39:36 2013			
Calibration Angle:				45			
				Inc X	Inc Y		
Vertical:				1968	1974		
Finger 1 up:				1740	1744		
Finger 31 up:				2215	1741		
Finger 21 up:				2205	2224		
Finger 11 up:				1731	2217		
Sensitivity ratio:				0.992868			
X-axis angle:				134.307			
Deviation const.:				335.589			
Finger Calibration Report							
Performed:				Tue May 20 08:10:47 2014			
Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1056	365.0	1421	380.0	1801	408.0	2209
Finger 02:	1189	371.0	1560	381.0	1941	404.0	2345
Finger 03:	1081	376.0	1457	400.0	1857	429.0	2286
Finger 04:	1094	363.0	1457	389.0	1846	418.0	2264
Finger 05:	1101	373.0	1474	398.0	1872	421.0	2293
Finger 06:	1093	372.0	1465	399.0	1864	419.0	2283
Finger 07:	1088	375.0	1463	404.0	1867	421.0	2288
Finger 08:	1109	367.0	1476	398.0	1874	419.0	2293
Finger 09:	1094	374.0	1468	399.0	1867	414.0	2281
Finger 10:	1096	367.0	1463	399.0	1862	413.0	2275
Finger 11:	1111	367.0	1478	399.0	1877	407.0	2284
Finger 12:	1100	365.0	1465	400.0	1865	411.0	2276
Finger 13:	1113	360.0	1473	396.0	1869	403.0	2272
Finger 14:	1089	365.0	1454	406.0	1860	413.0	2273
Finger 15:	1054	365.0	1419	416.0	1835	424.0	2259
Finger 16:	1069	364.0	1433	415.0	1848	424.0	2272
Finger 17:	1037	359.0	1396	414.0	1810	428.0	2238
Finger 18:	1120	353.0	1473	395.0	1868	402.0	2270
Finger 19:	1080	354.0	1434	400.0	1834	410.0	2244
Finger 20:	1050	354.0	1404	410.0	1814	423.0	2237
Finger 21:	1068	377.0	1445	390.0	1835	406.0	2241
Finger 22:	1030	357.0	1387	408.0	1795	422.0	2217
Finger 23:	1008	356.0	1364	413.0	1777	432.0	2209
Finger 24:	1063	352.0	1415	391.0	1806	397.0	2203
Finger 25:	1022	366.0	1388	395.0	1783	426.0	2209
Finger 26:	1148	353.0	1501	369.0	1870	396.0	2266
Finger 27:	1091	357.0	1448	391.0	1839	422.0	2261
Finger 28:	1119	347.0	1466	380.0	1846	400.0	2246
Finger 29:	1072	357.0	1429	396.0	1825	436.0	2261
Finger 30:	1084	357.0	1441	387.0	1828	414.0	2242
Finger 31:	1113	353.0	1466	382.0	1848	409.0	2257
Finger 32:	1096	363.0	1459	394.0	1853	430.0	2283
Finger 33:	1156	356.0	1512	368.0	1880	388.0	2268
Finger 34:	1132	351.0	1483	376.0	1859	407.0	2266
Finger 35:	1066	371.0	1437	402.0	1839	438.0	2277
Finger 36:	1085	367.0	1452	389.0	1841	421.0	2262
Finger 37:	1122	366.0	1488	382.0	1870	412.0	2282
Finger 38:	1147	363.0	1510	375.0	1885	398.0	2283
Finger 39:	1143	361.0	1504	375.0	1879	403.0	2282

Finger 30: 1110 331.0 1099 372.0 1471 379.0 1860 418.0 2278
Finger 40: 1099 372.0 1471 379.0 1860 418.0 2278

Segmented Cement Bond Log Calibration Report

Serial Number: 1066
Tool Model: UW_RBT_004

Calibration Casing Diameter: 7.000 in
Calibration Depth: 1124.719 ft

Master Calibration, performed Tue May 20 09:02:03 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.004	0.710	0.800	62.165	86.856	0.479
5FT	-0.002	0.724	0.800	62.165	84.511	1.006
S1	0.002	0.643	0.000	100.000	156.232	-0.381
S2	0.001	0.662	0.000	100.000	151.505	-0.226
S3	0.002	0.697	0.000	100.000	143.879	-0.351
S4	0.002	0.748	0.000	100.000	134.141	-0.323
S5	0.002	0.770	0.000	100.000	130.330	-0.318
S6	0.002	0.764	0.000	100.000	131.301	-0.321
S7	0.003	0.735	0.000	100.000	136.563	-0.353
S8	0.003	0.679	0.000	100.000	147.854	-0.401

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 & Gas Onshore, L.P.
Well Ferge 30N-14HZ
Field Wattenberg
County Weld
State Colorado