



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Ranchview 28C-11HZ
Field Wattenberg
County Weld
State Colorado

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Ranchview 28C-11HZ
Field Wattenberg
County Weld
State Colorado

Location:

API #: 05-123-39971

SEC 14 TWP 1N RGE 68W

Other Services
Gauge Ring
MIT

Permanent Datum Ground Level Elevation 5144'
Log Measured From Kelly Bushing 25 FT
Drilling Measured From Kelly Bushing

Elevation
K.B. 5169'
D.F. 5168'
G.L. 5144'

Date 22-November-2014

Run Number Two

Depth Driller 15627 FT

Depth Logger 8020 FT

Bottom Logged Interval 7893 FT

Top Log Interval Surface

Open Hole Size 8.750"

Type Fluid Water

Density / Viscosity 8.34 lbm/gal

Max. Recorded Temp. 232°F

Estimated Cement Top Surface

Time Well Ready ROA

Time Logger on Bottom 11:58 AM

Equipment Number HD-0324

Location Fort Lupton, CO

Recorded By R. Fogarty

Witnessed By Rick Dunford

Borehole Record

Tubing Record

Run Number	Bit	From	To	Size	Weight	From	To
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Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top	Bottom
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Surface Casing	9 5/8	36	J-55 LTC	Surface	1313 FT
Intermediate #1	7	26	HCP-110 LTC	Surface	8318 FT
Intermediate #2					

Liner	4 1/2	11.6	P-110 DQX/LTC	7275 FT	15612 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 7275 FT.
Adjusted log +4.4 FT from KB zero to correlate with Liner Top.
Gauge Ring/ Junk Basket ran to 8020 FT with no debris found
Log ran as deep as possible in heel to surface
Log ran with 2800 PSI surface induced pressure.
Tool string was covered in light grease upon completion of operations
Thank you for choosing FMC Technologies Completion Services, Inc.!!



7" Main Pass

Recorded with 2800 PSI Surface Induced Pressure

Database File:05-123-38871 anadarko ranchview 28c-11hz 11-22-14 mit rbl.db

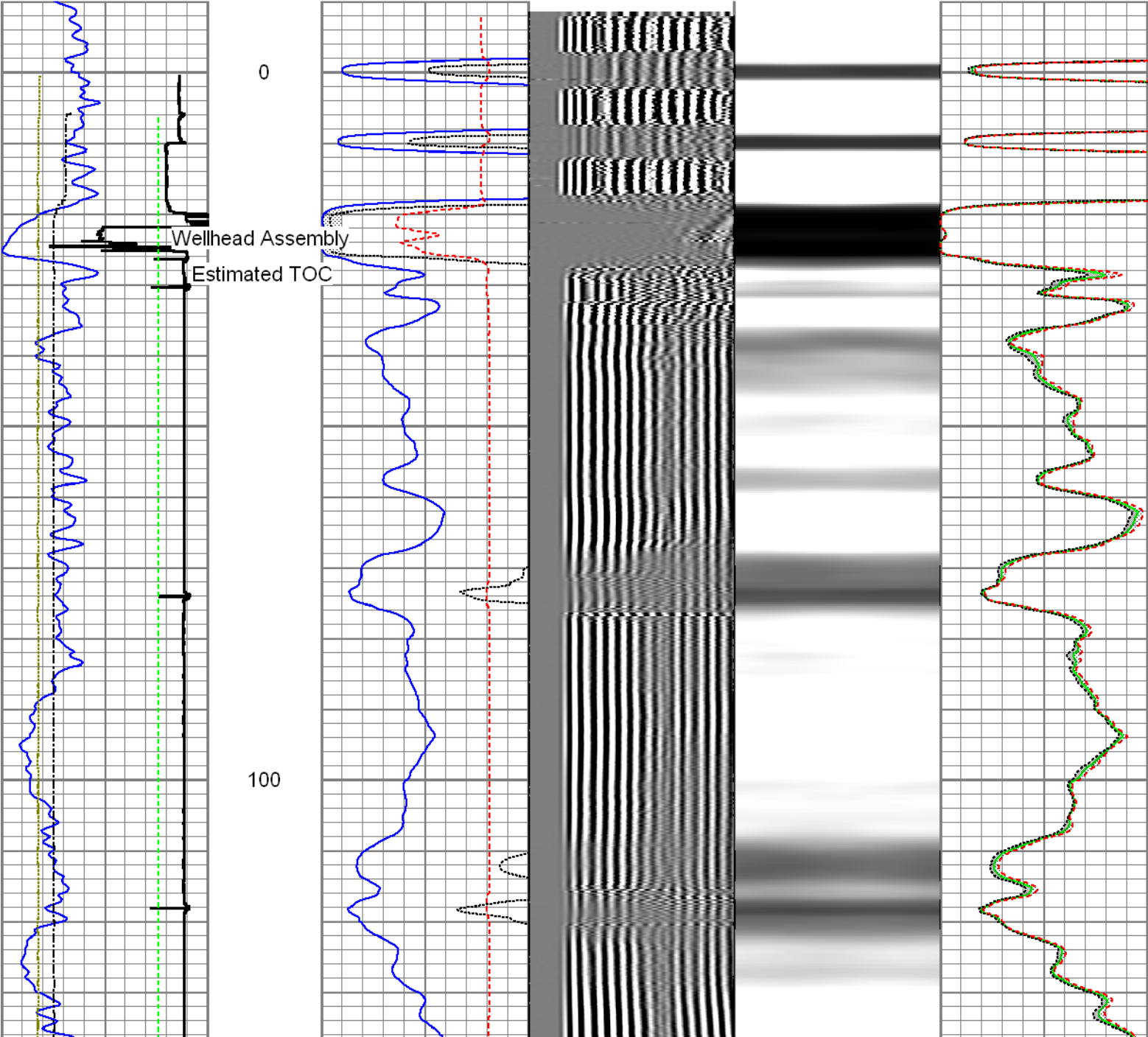
Dataset Pathname:pass10

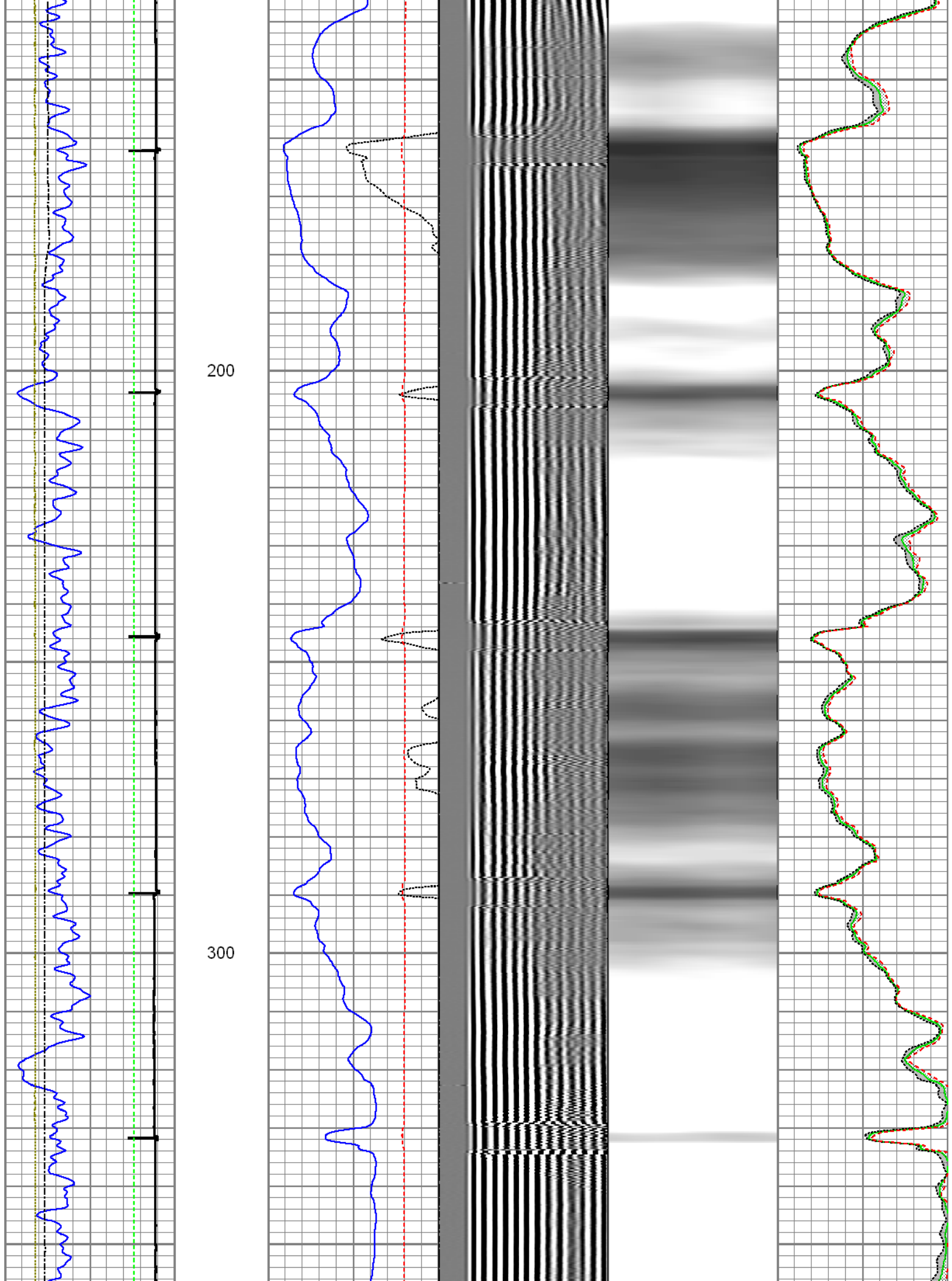
Presentation Format:rbt4_mit

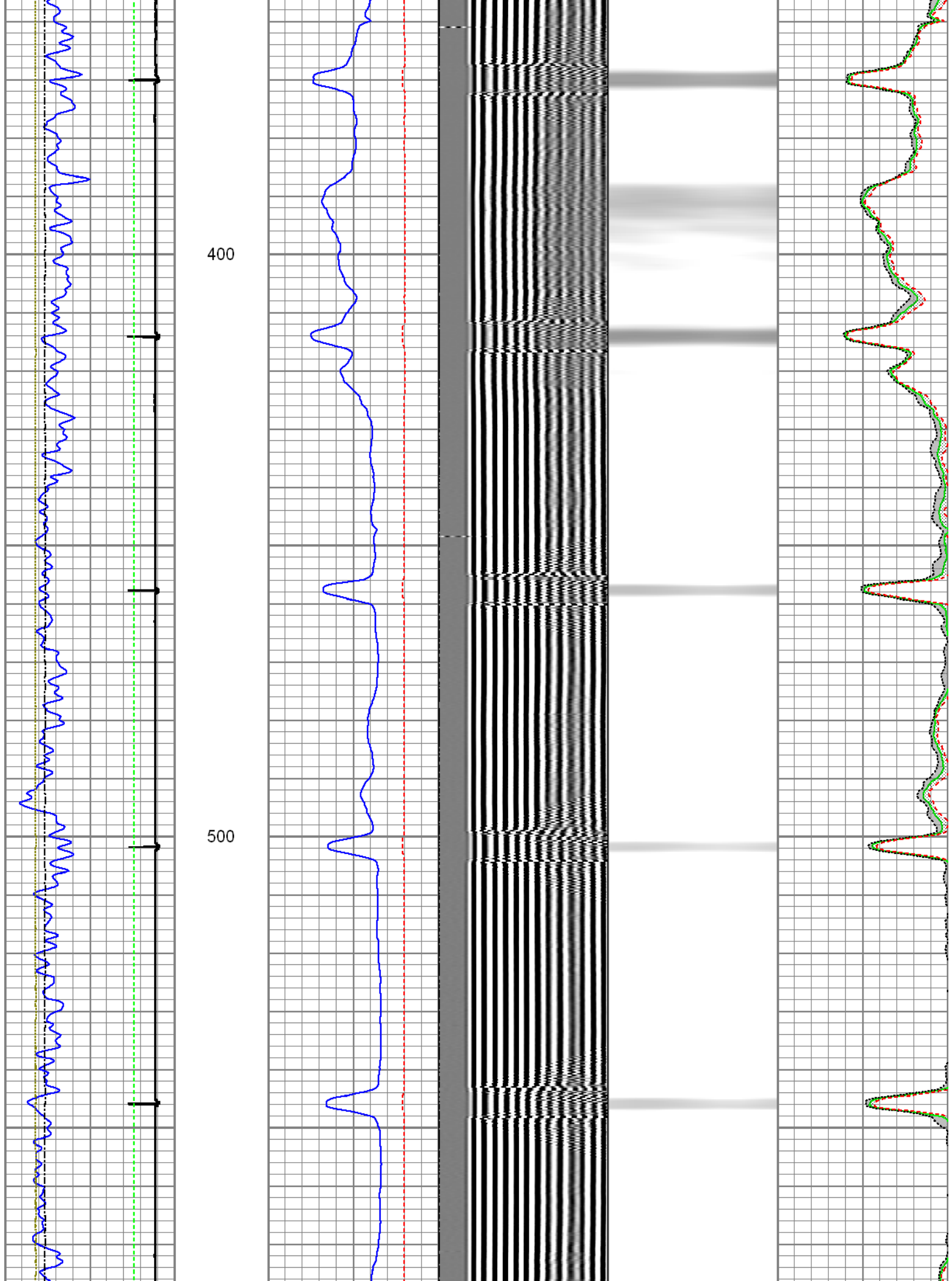
Dataset Creation:Sat Nov 22 12:16:33 2014 by Log 7.0 B1

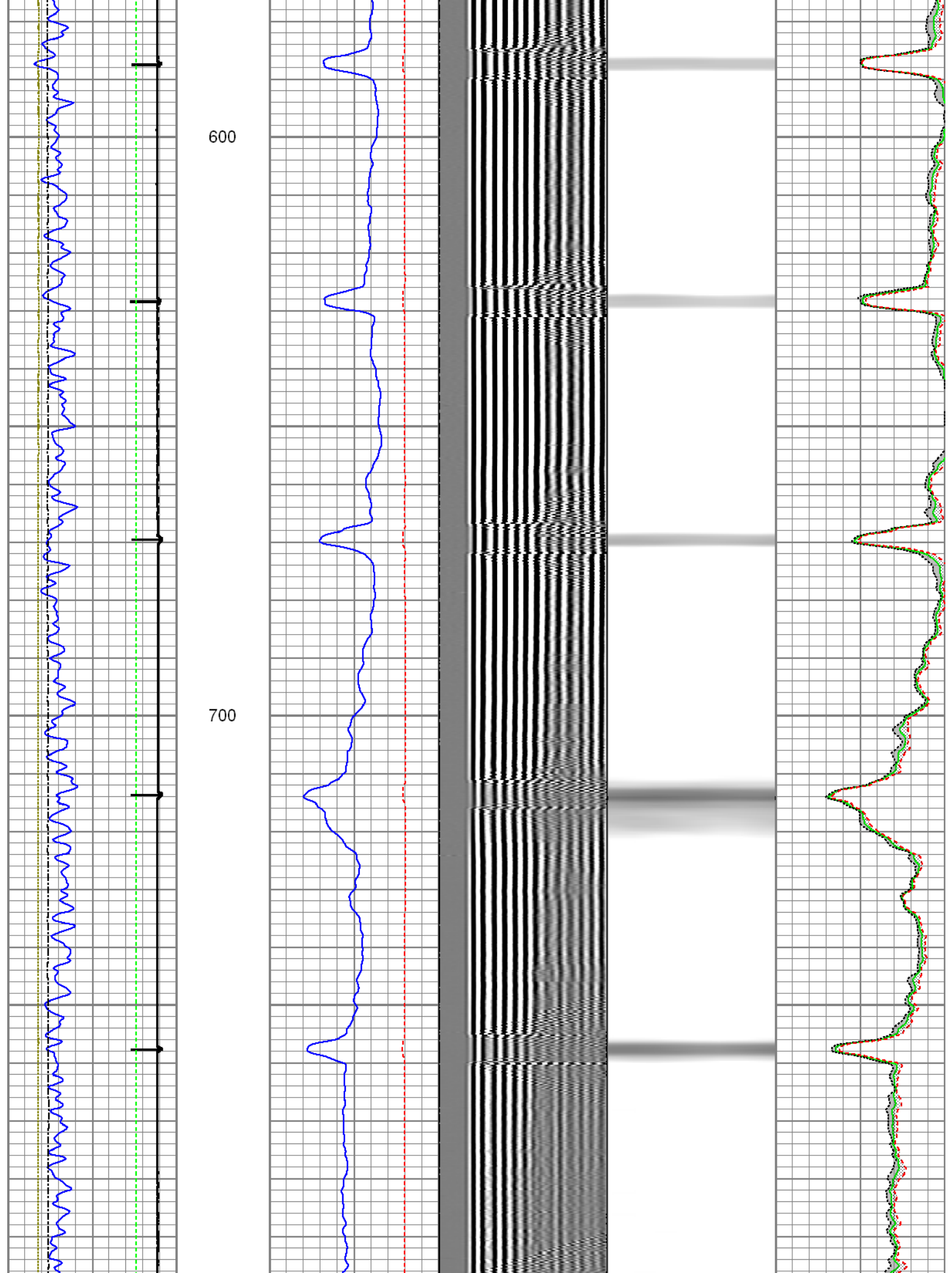
Charted by:Depth in Feet scaled 1:240

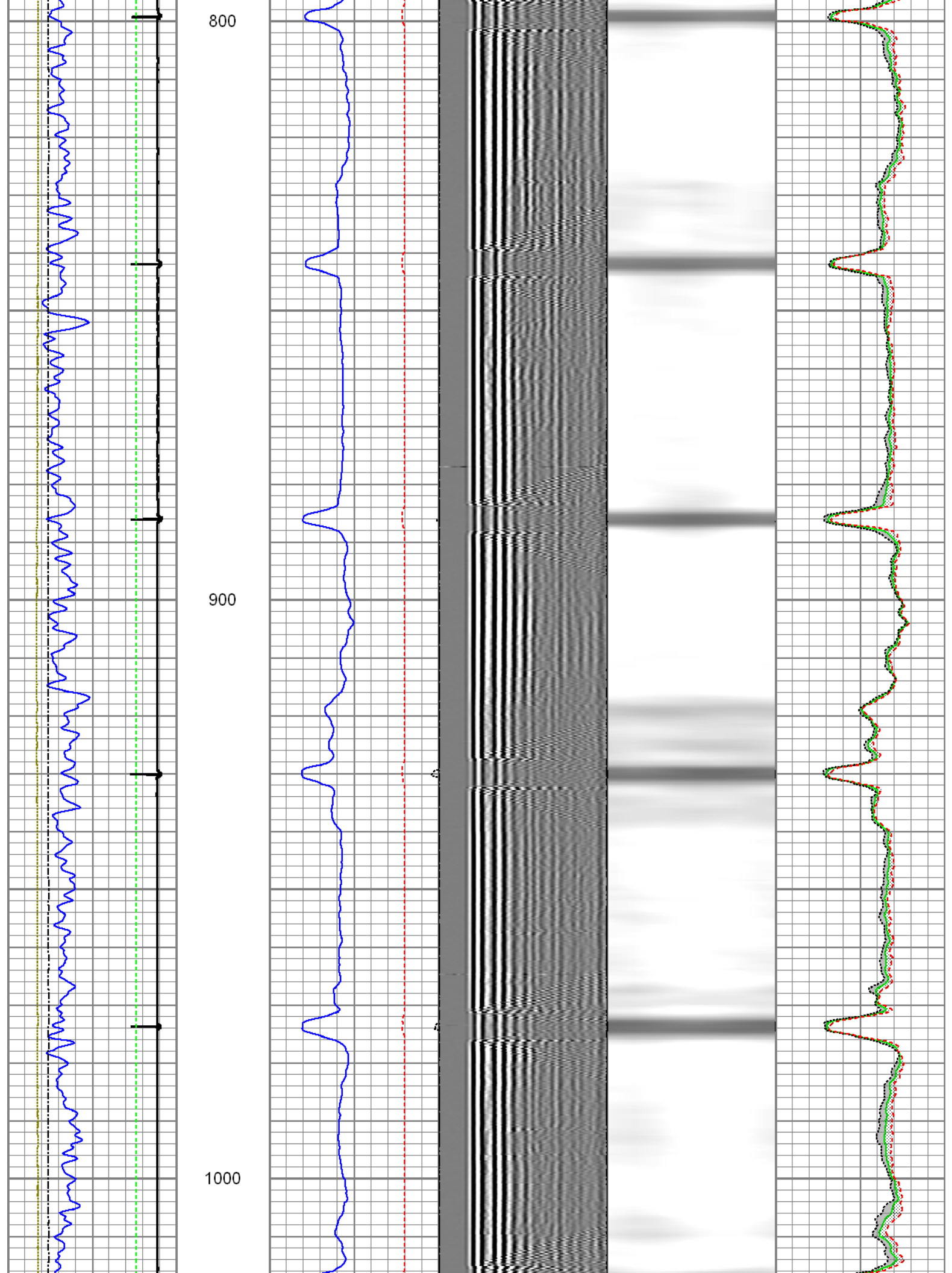
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Line Speed	0 (mV) 20			0 100
-100 (ft/min) 100	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000				
Wellbore Deviation				
-10 (°) 90				

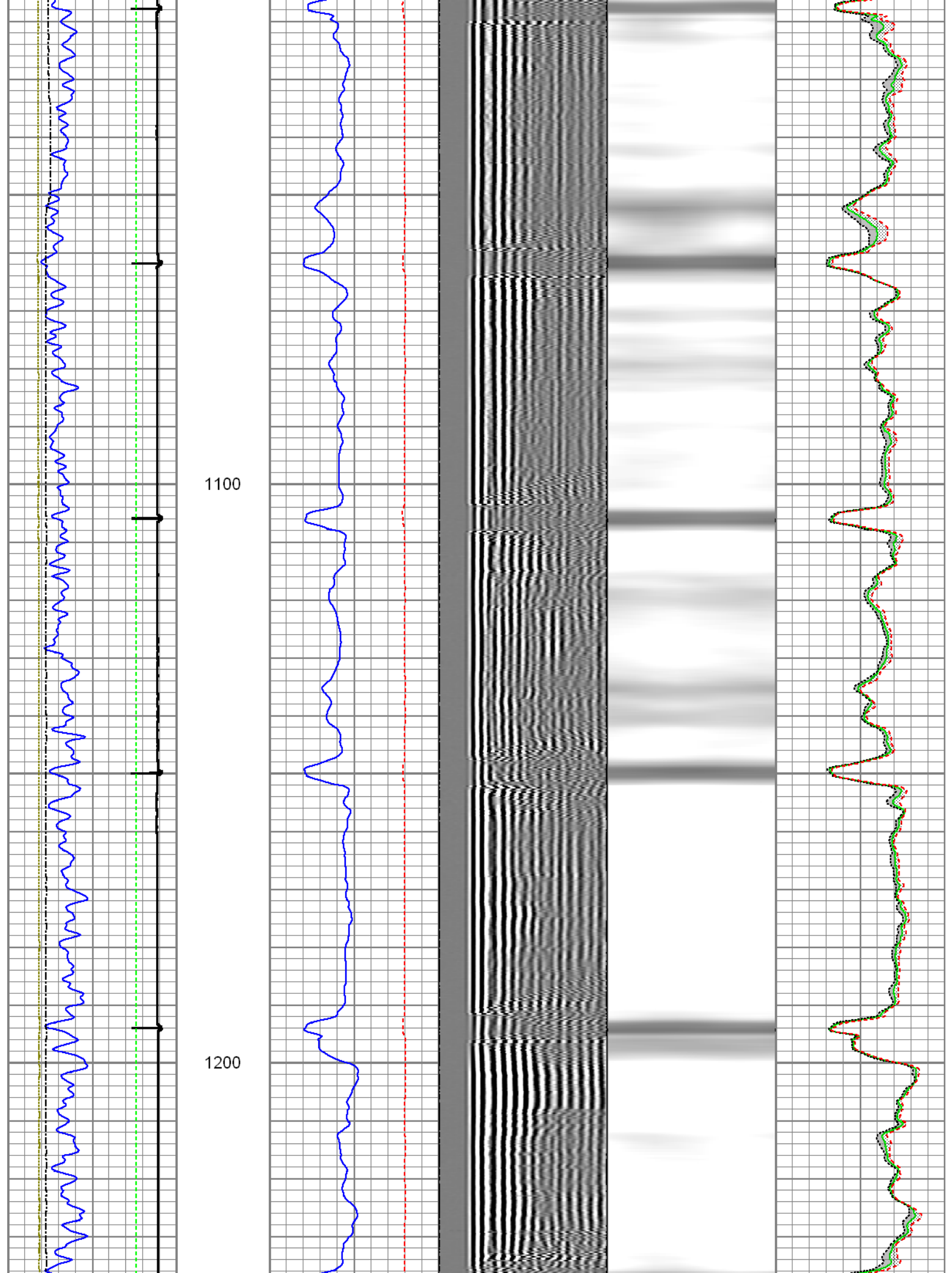


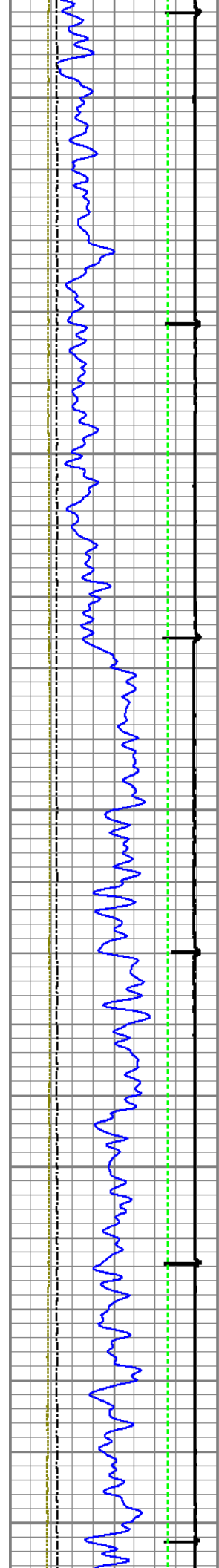






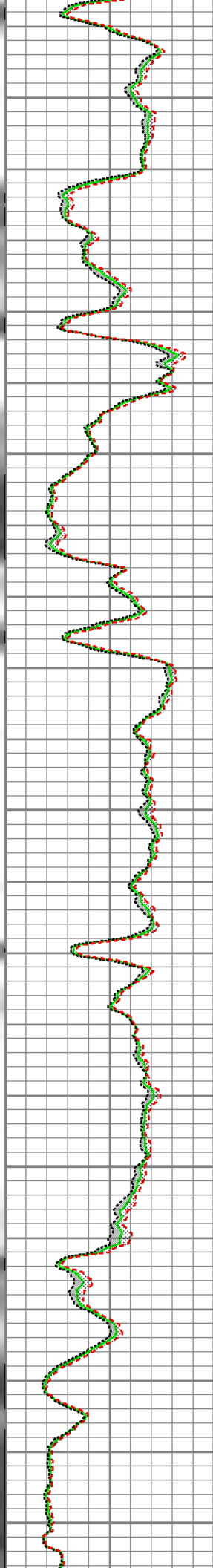
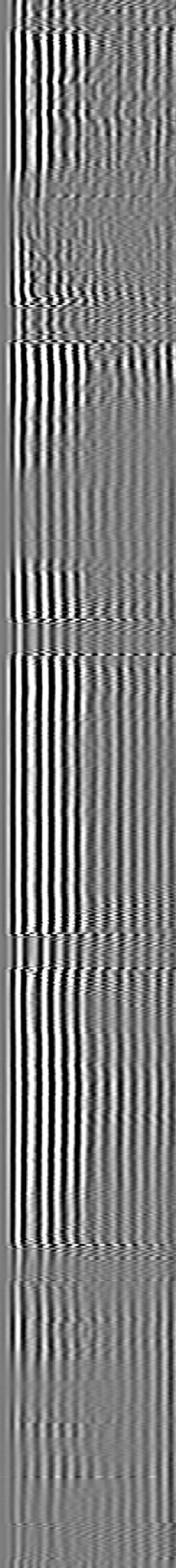
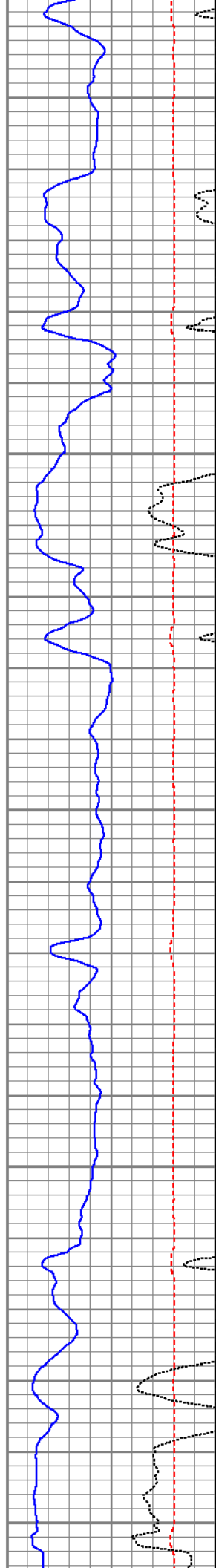


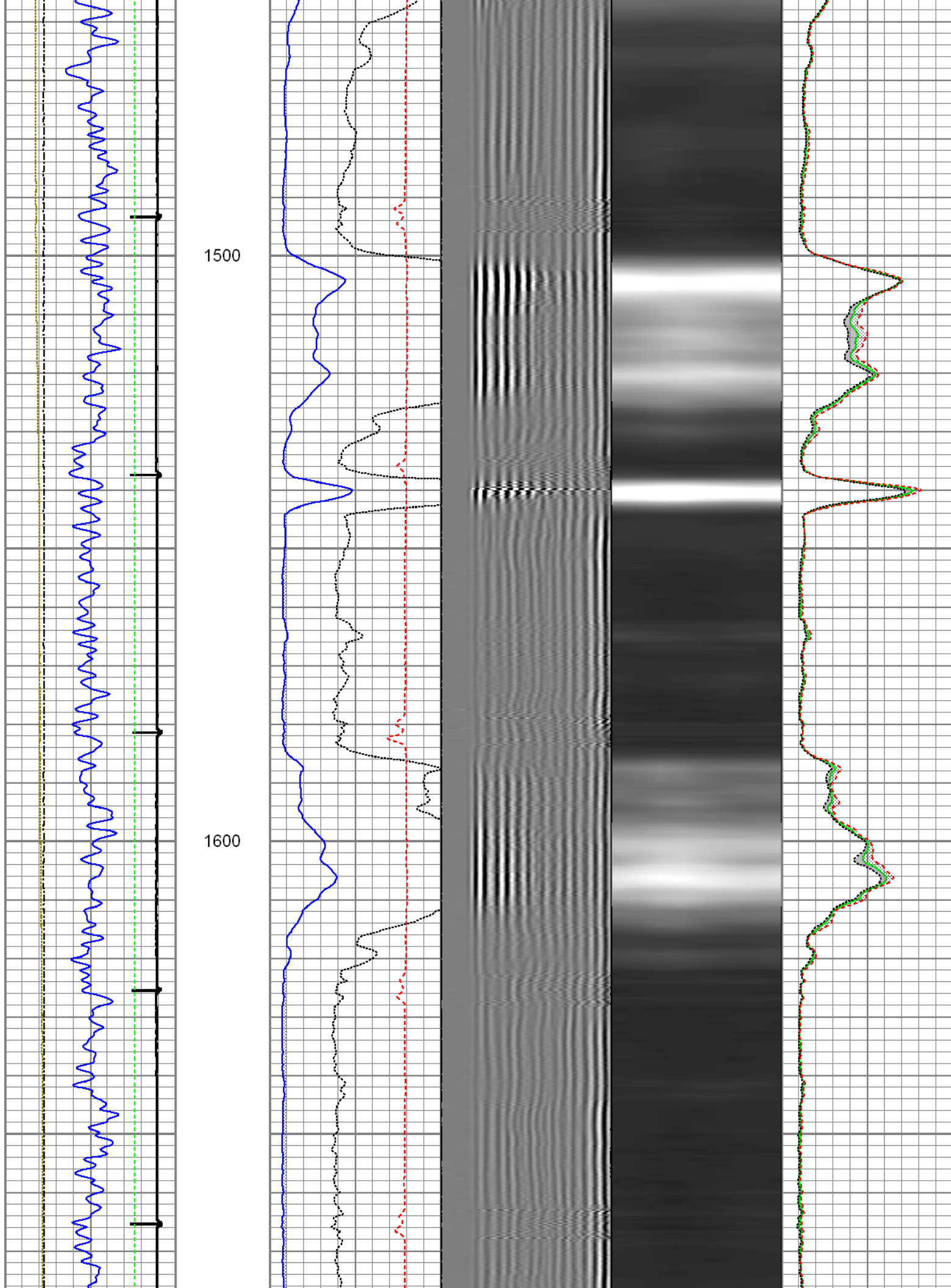


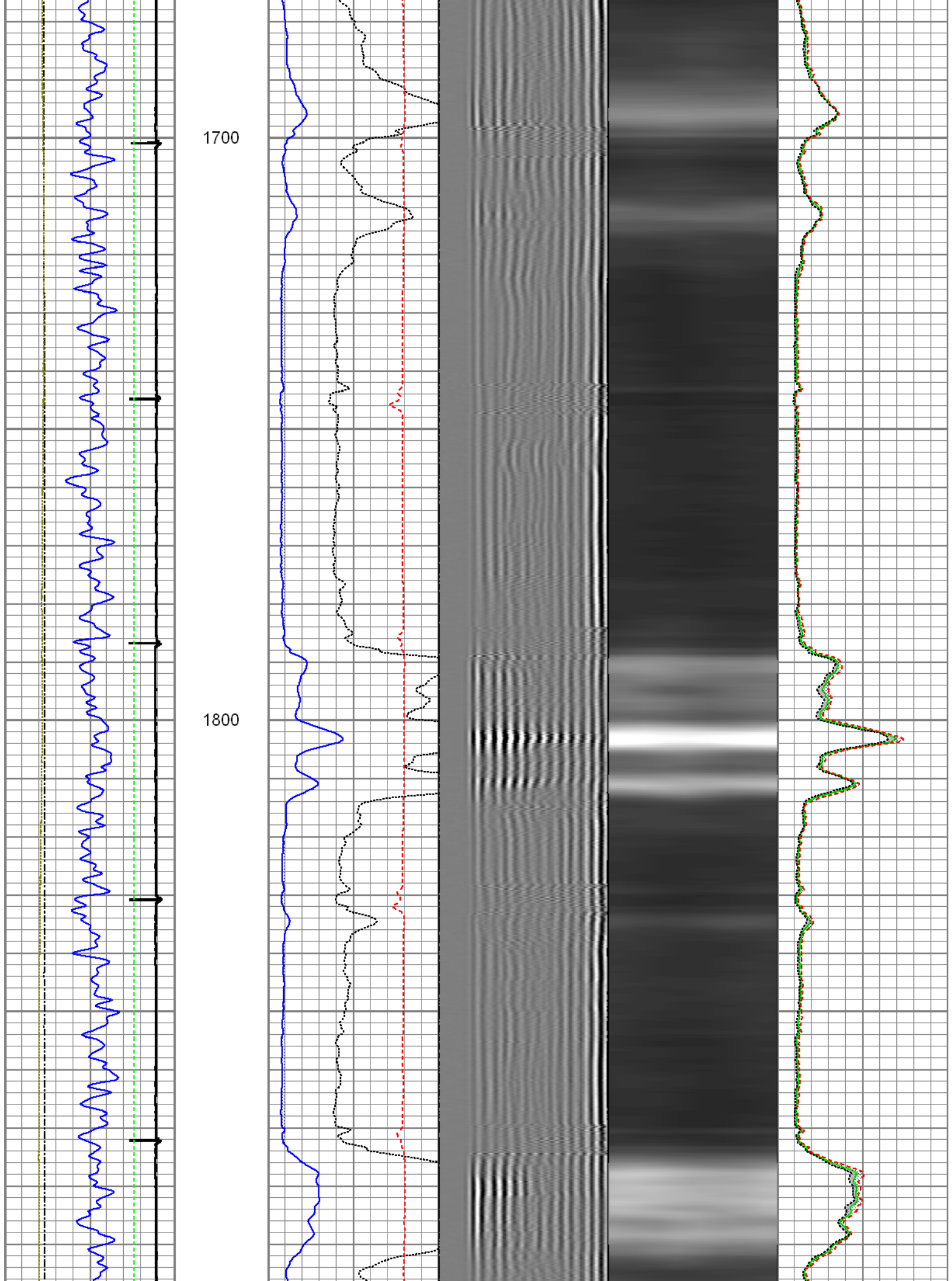


1300

1400



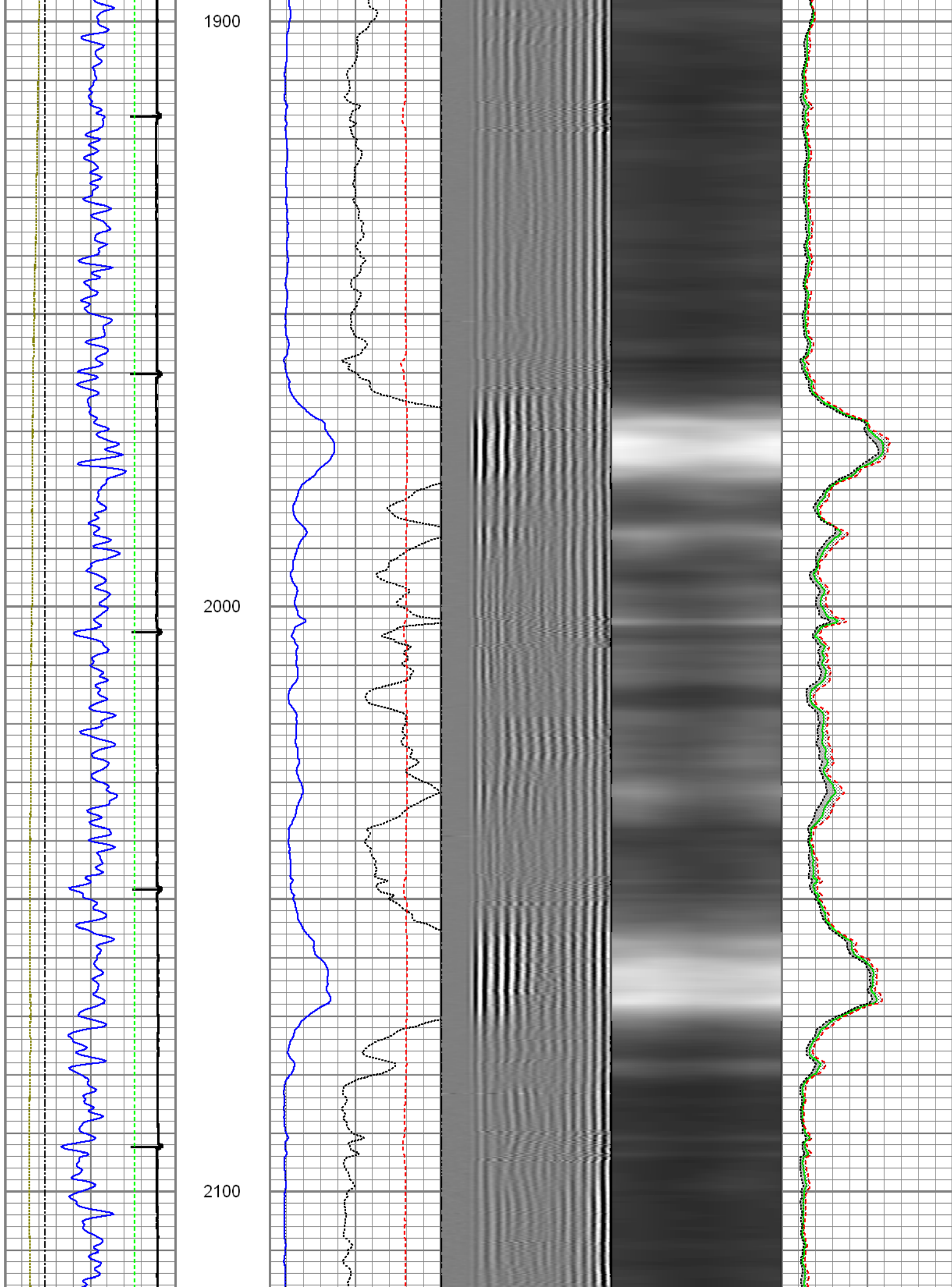




1900

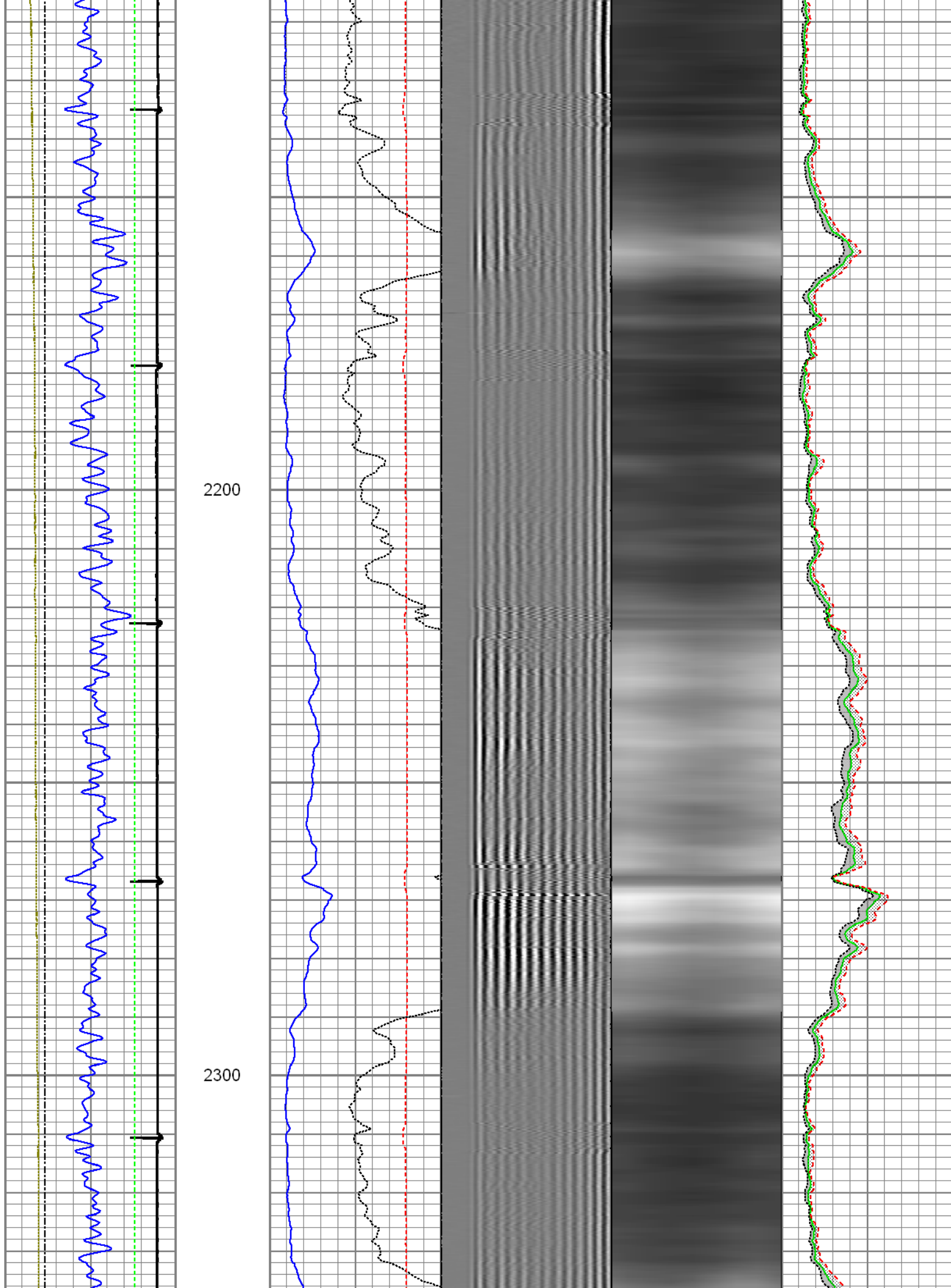
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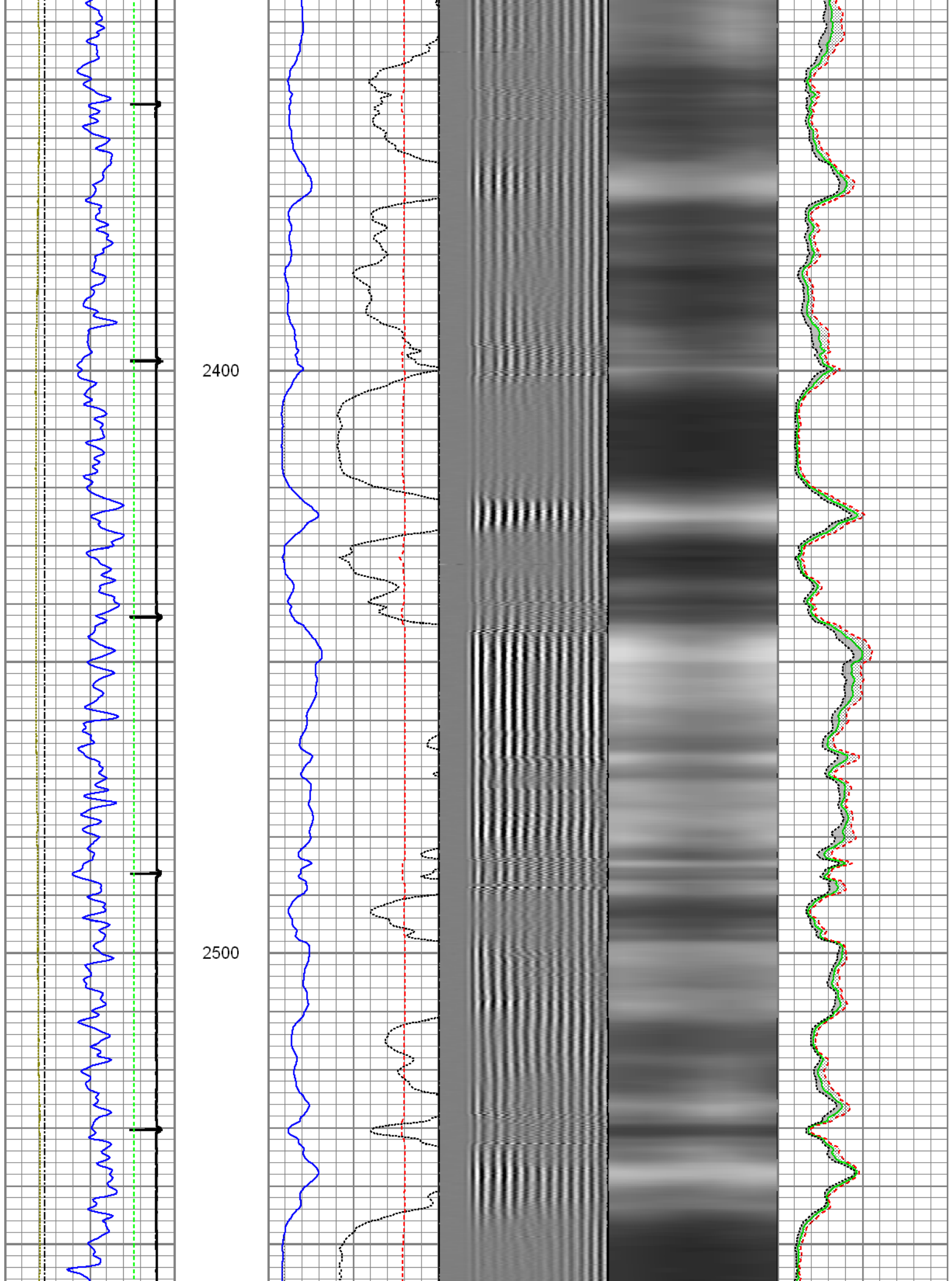
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2200

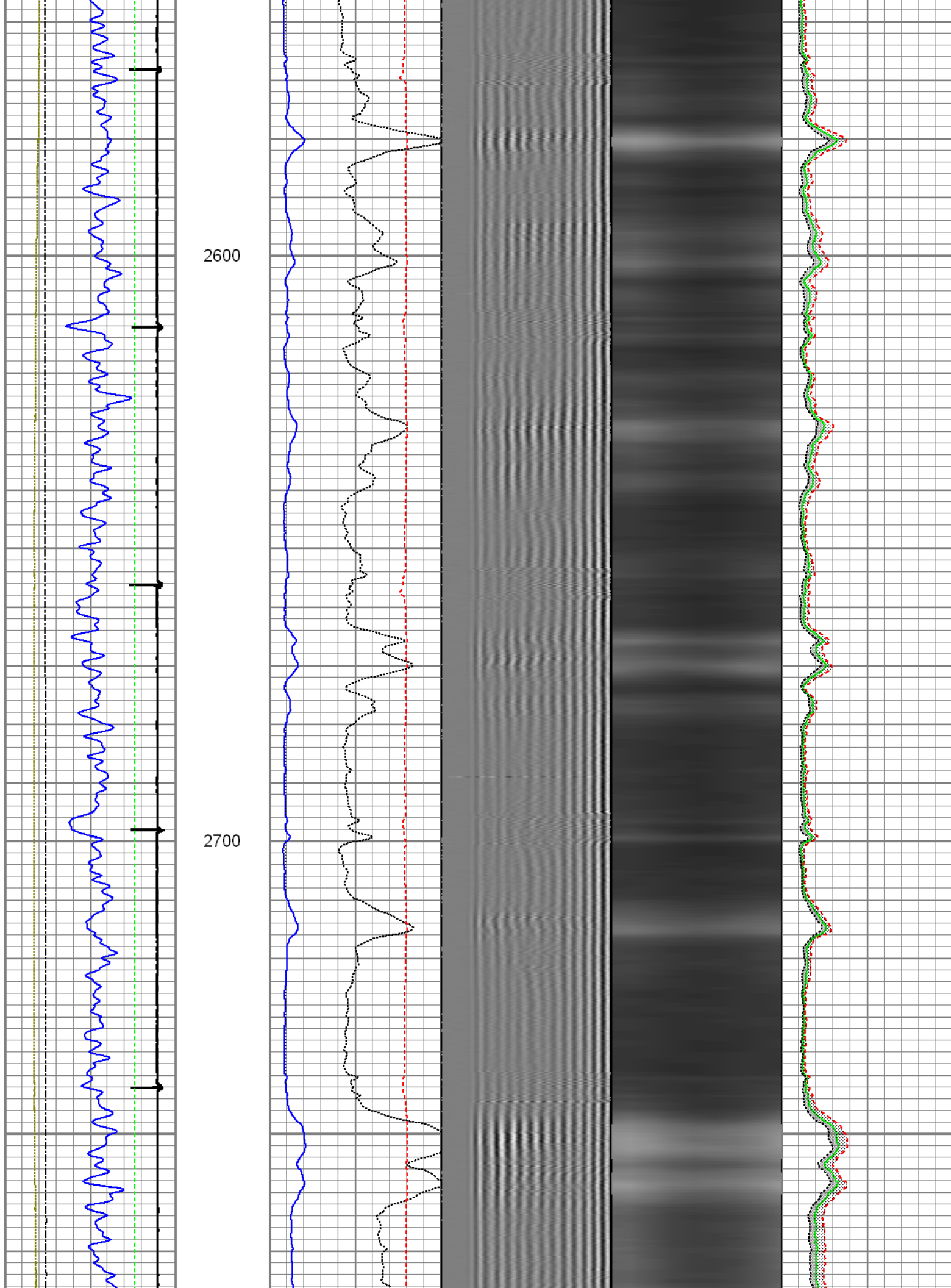
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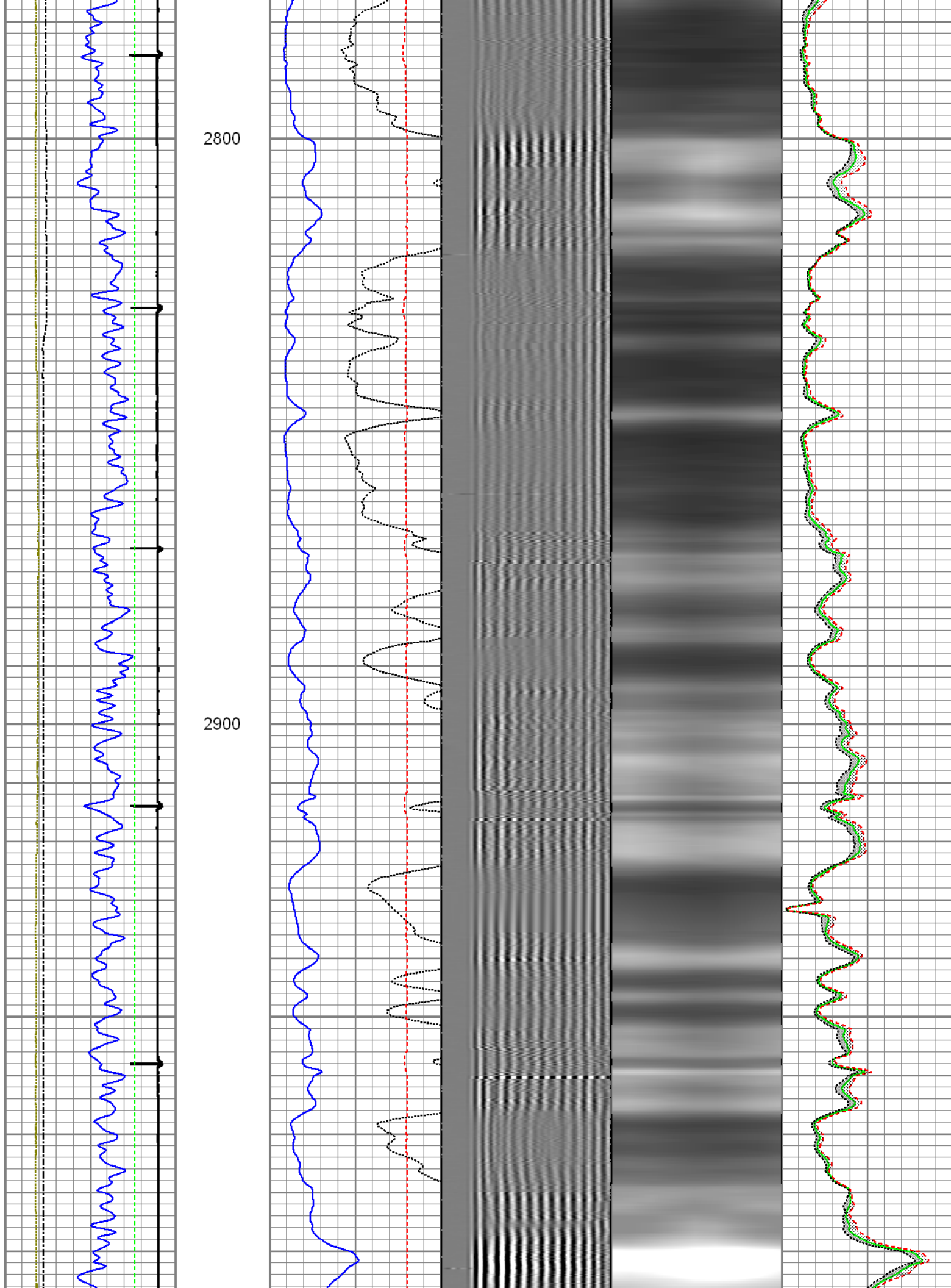
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2700



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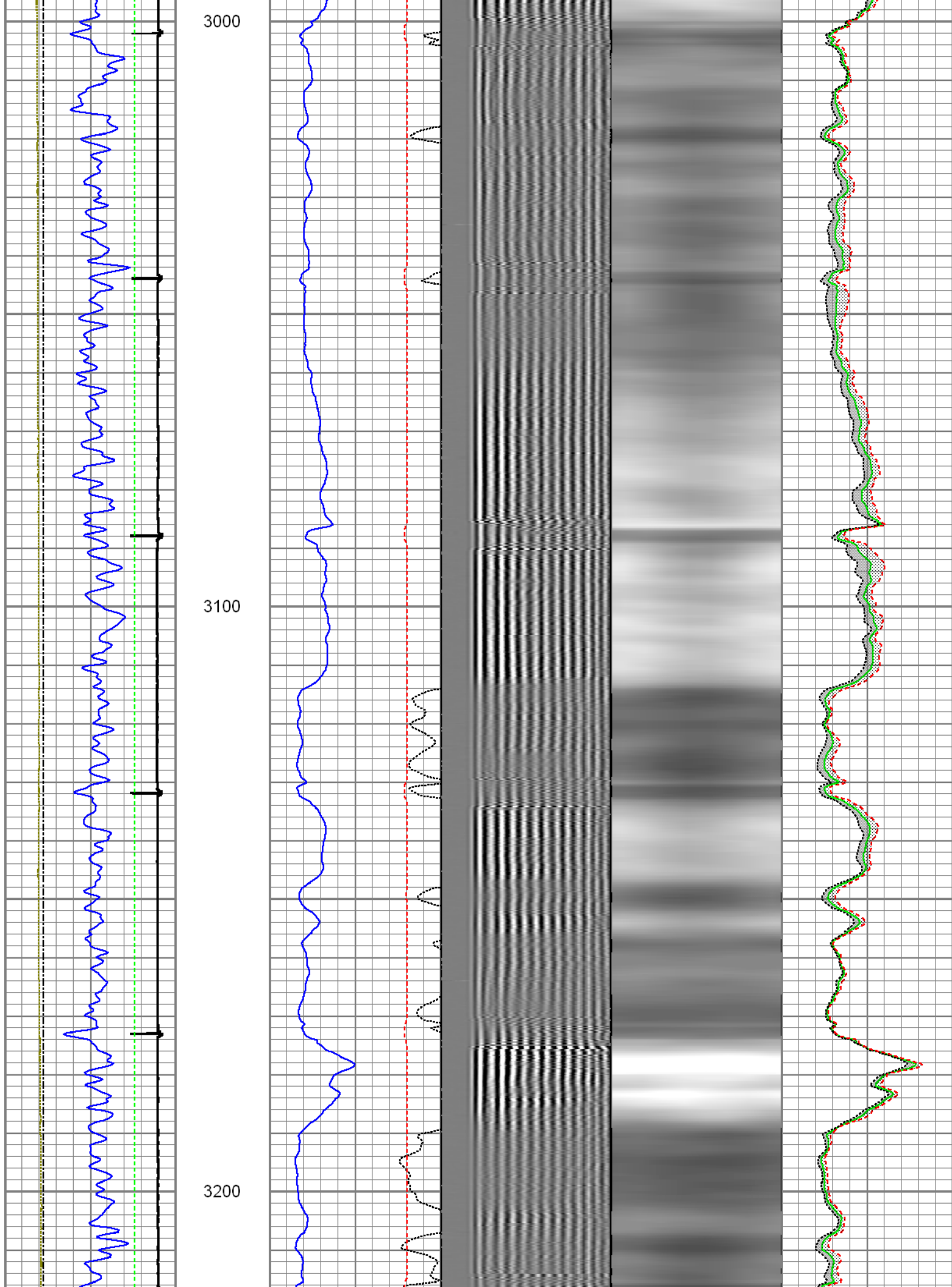
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3000

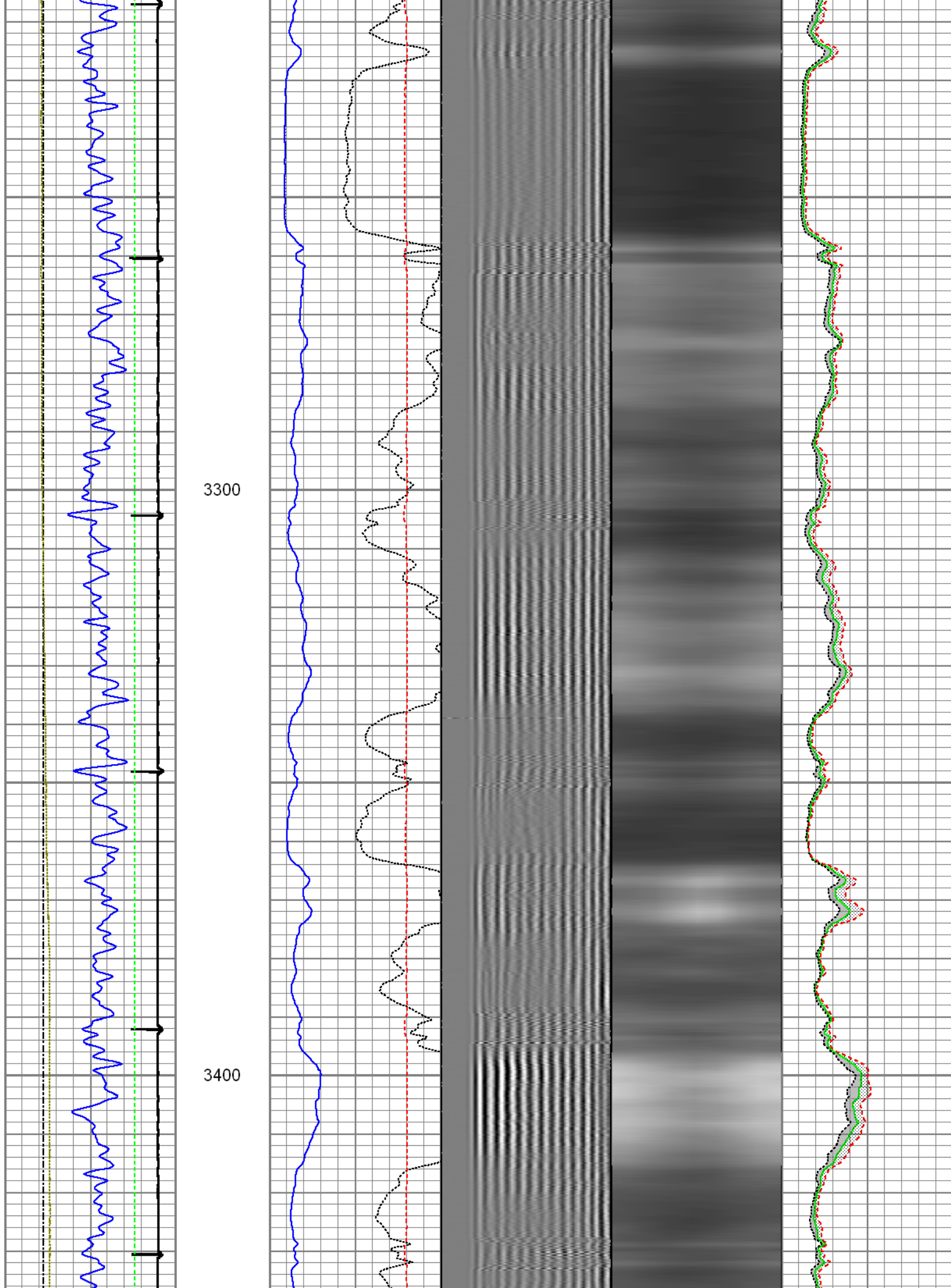
3100

3200



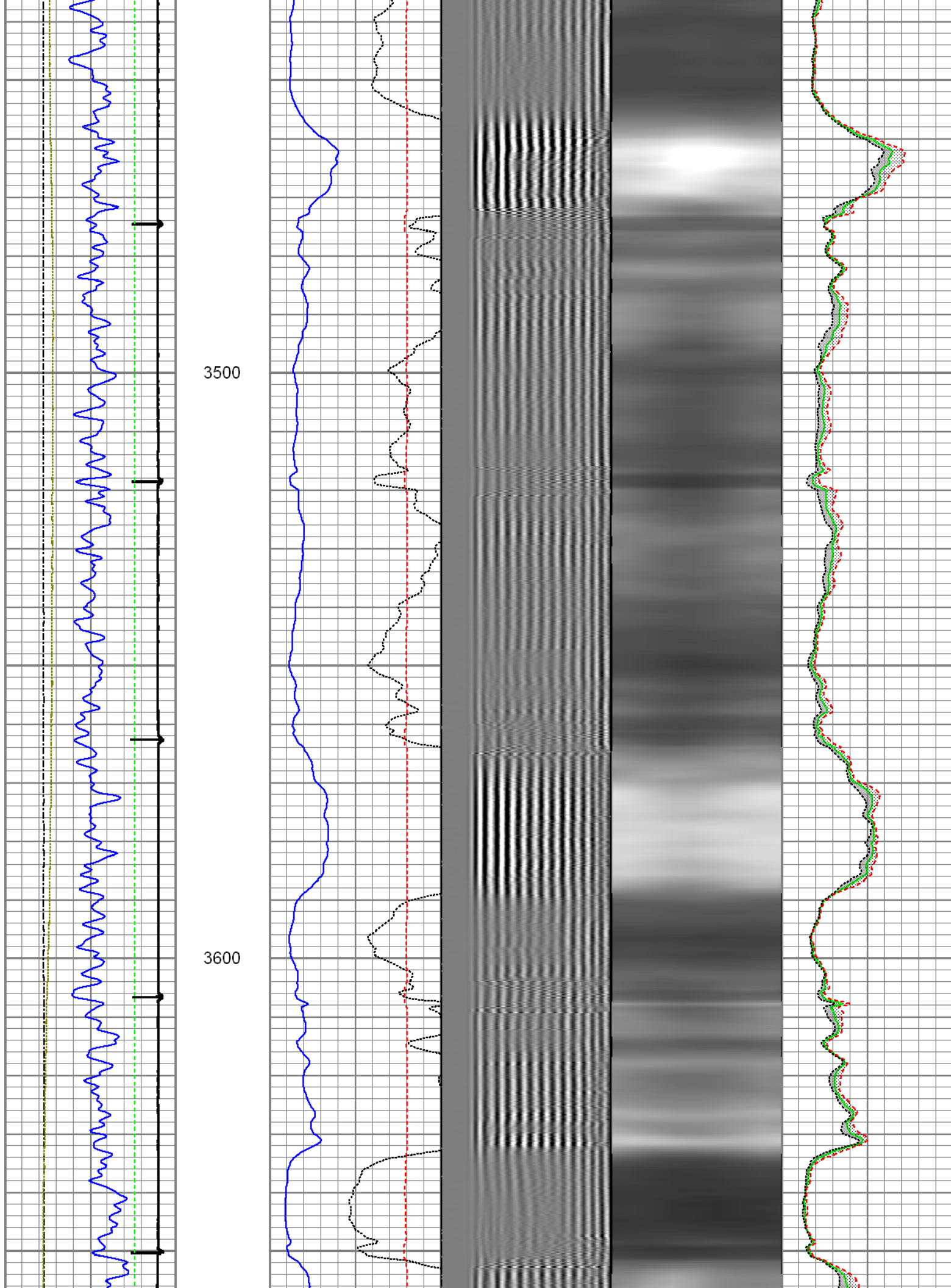
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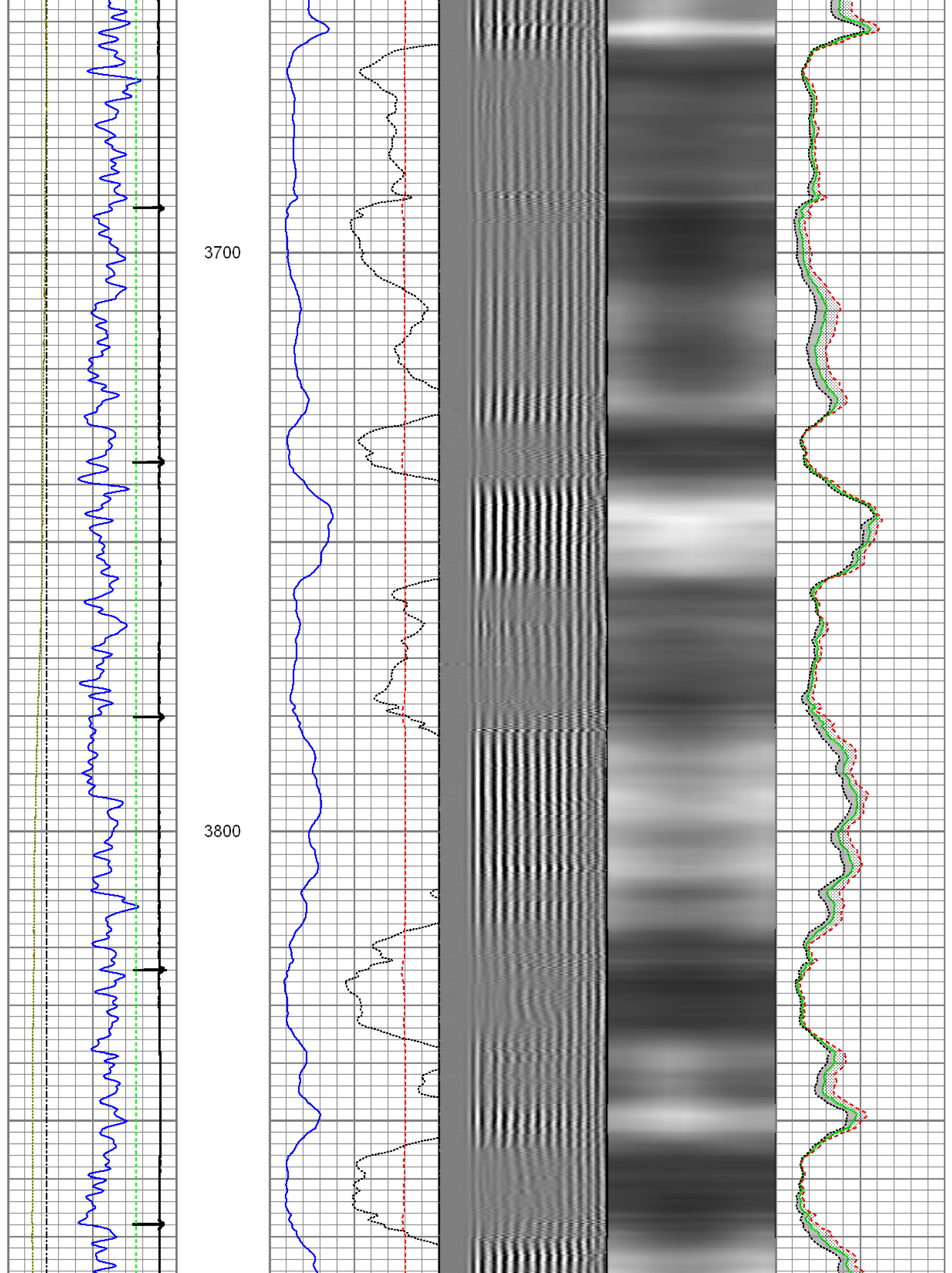
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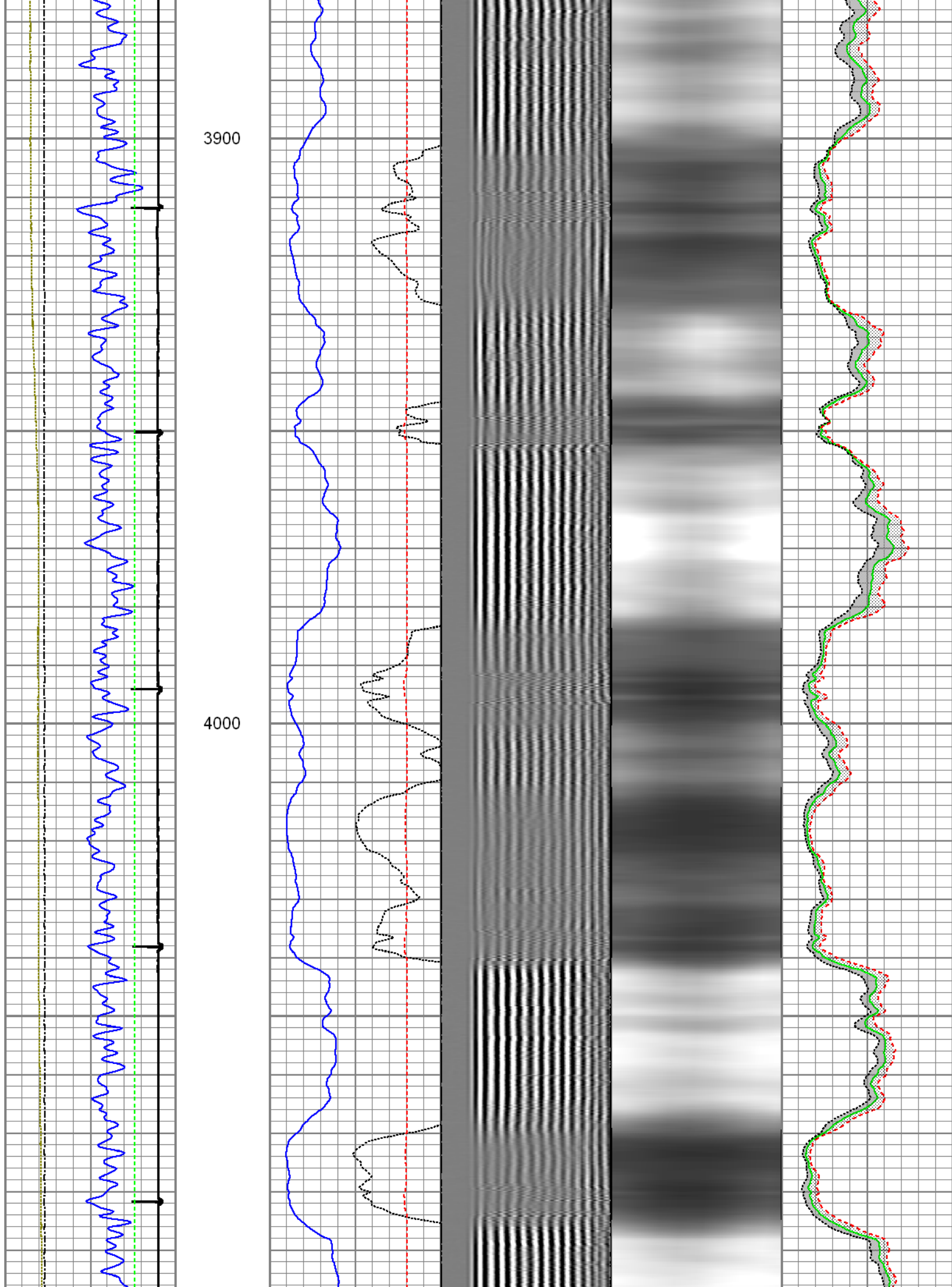
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3900

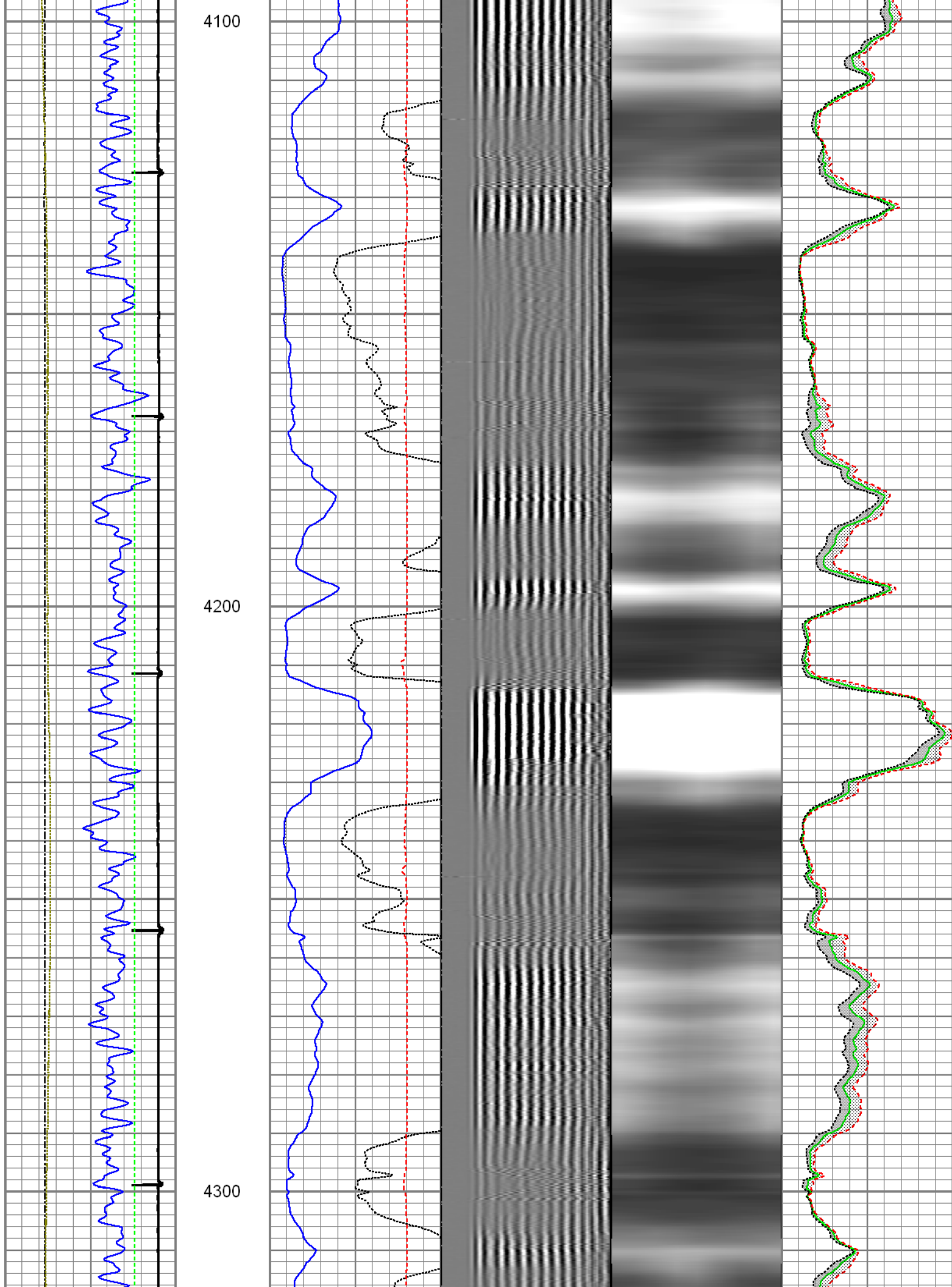
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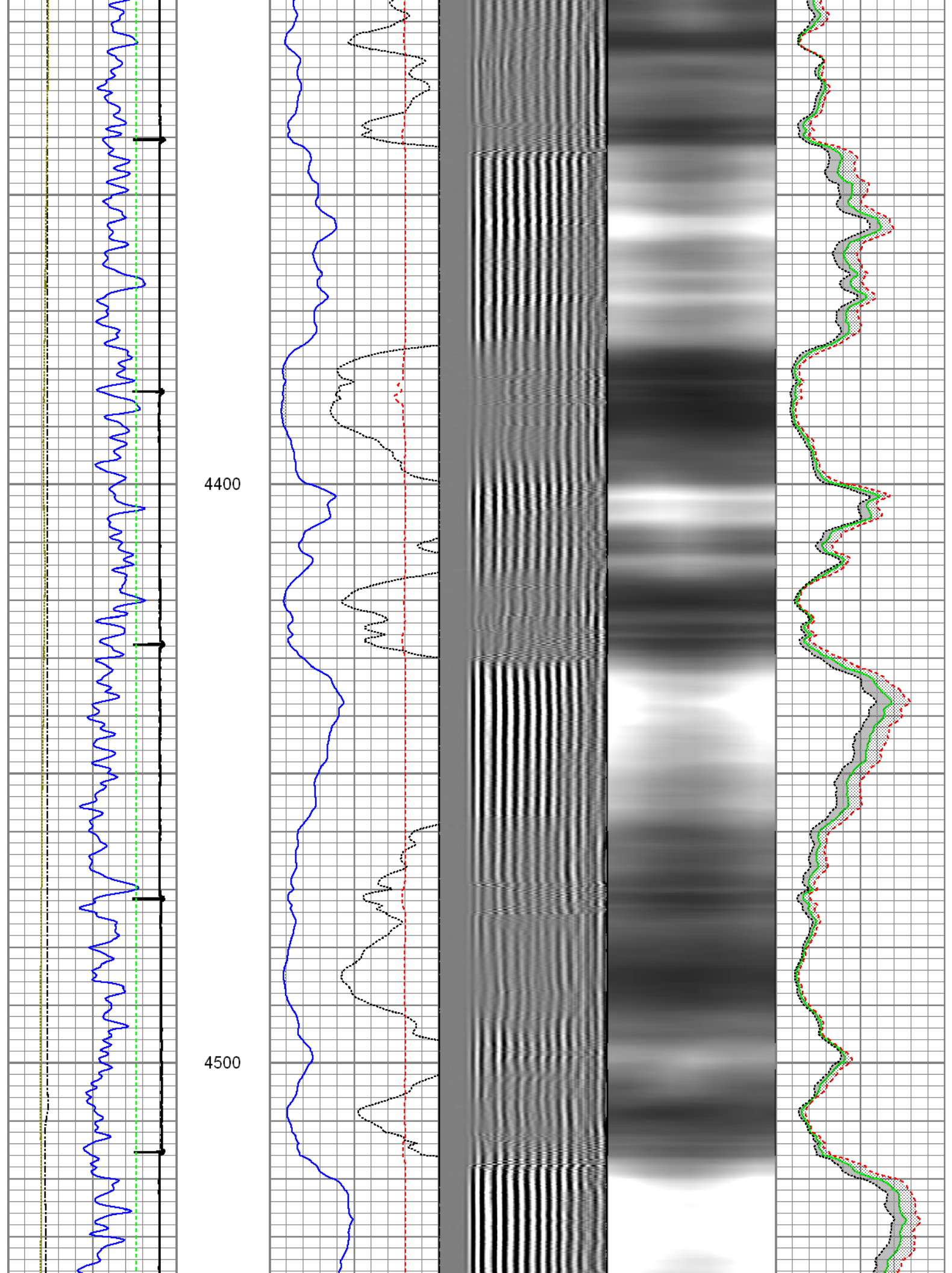


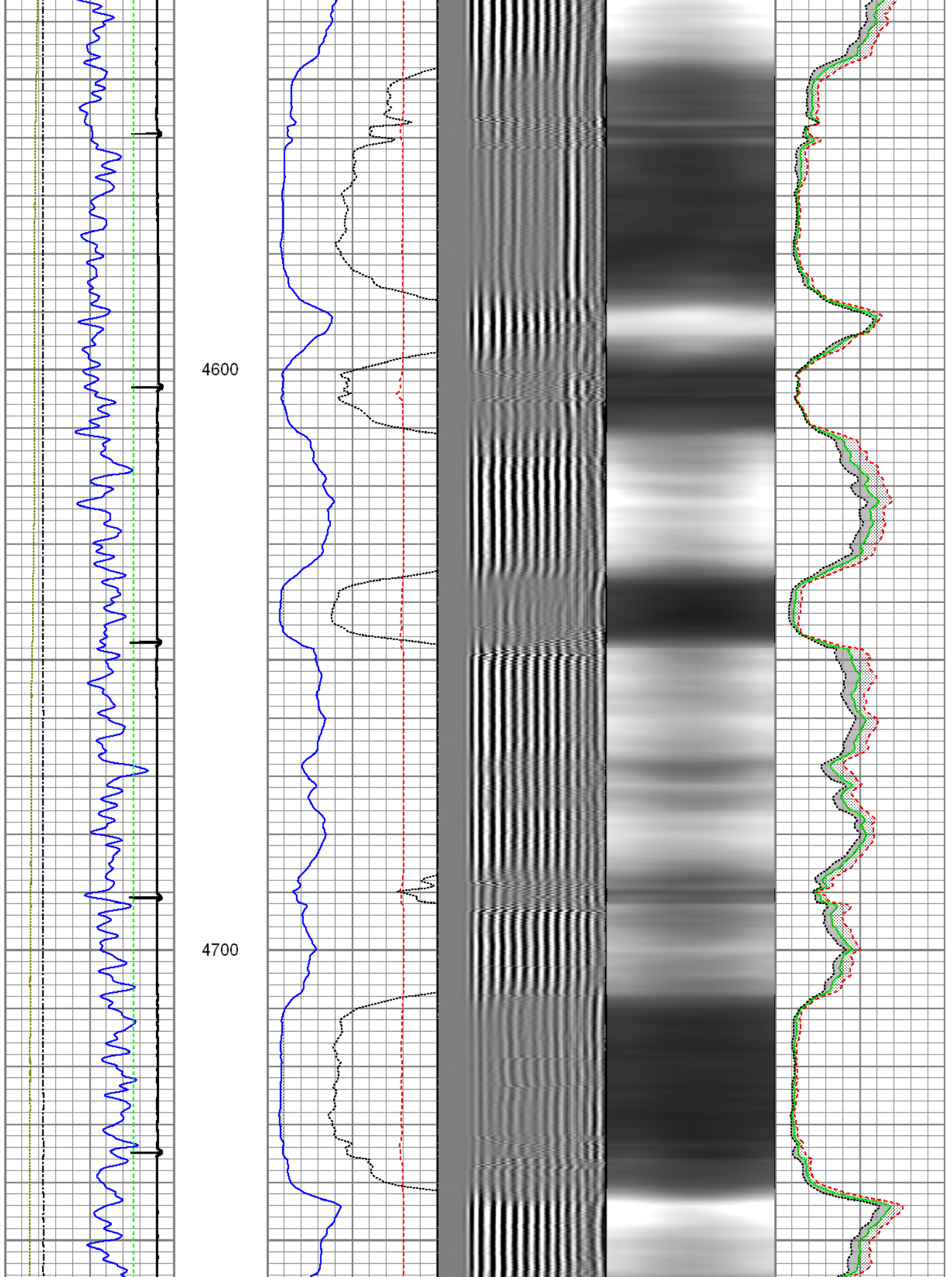
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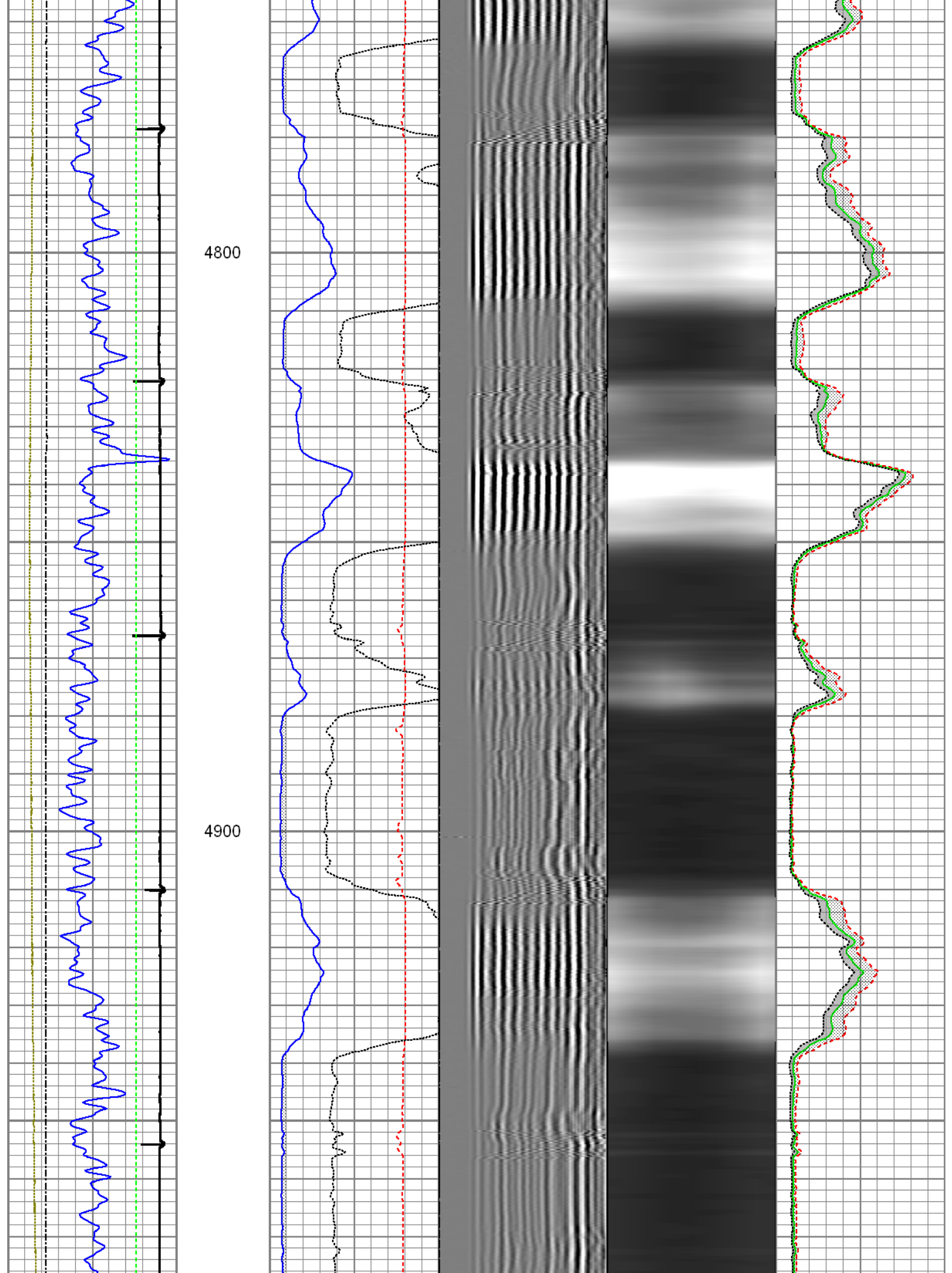
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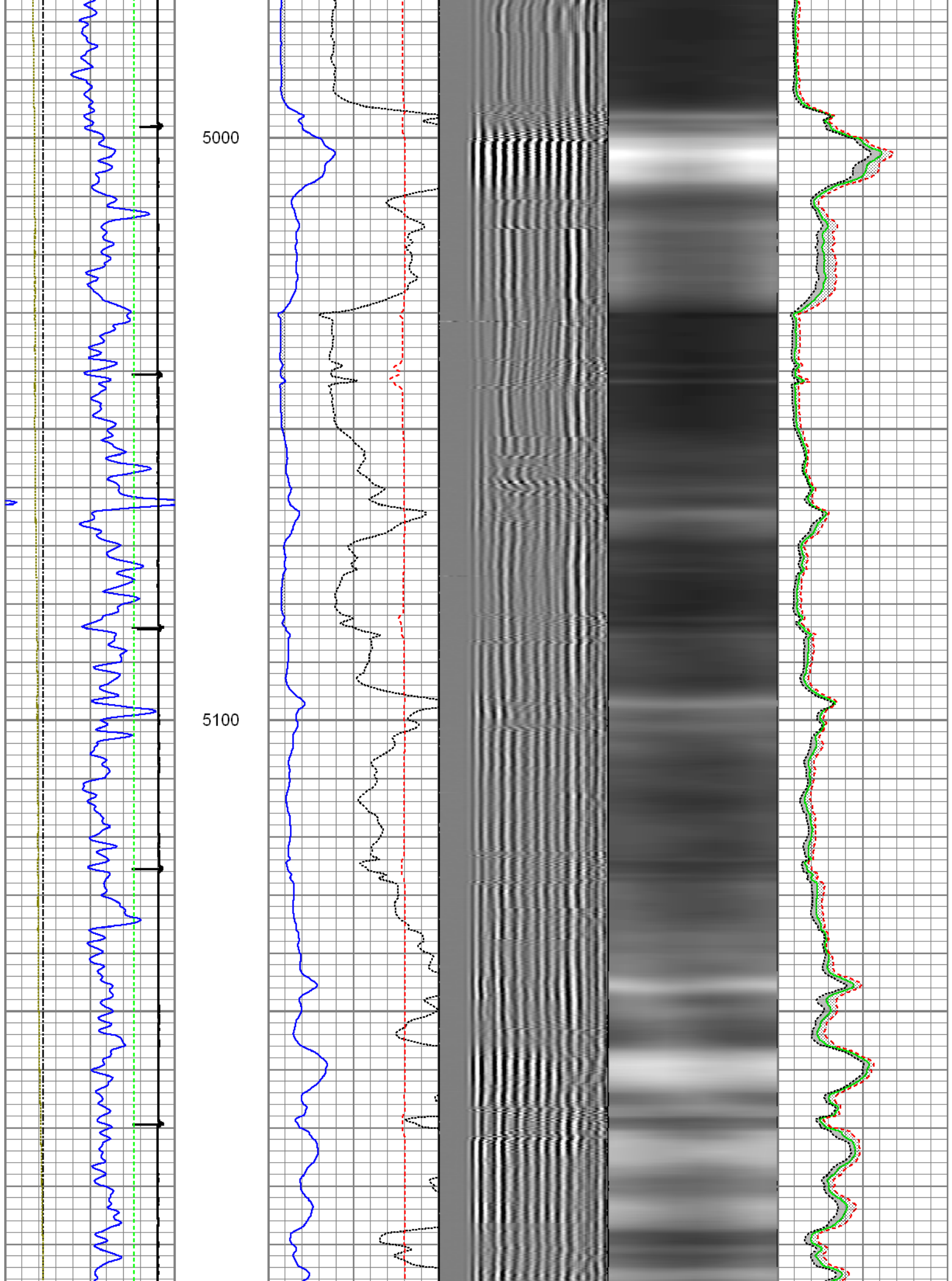
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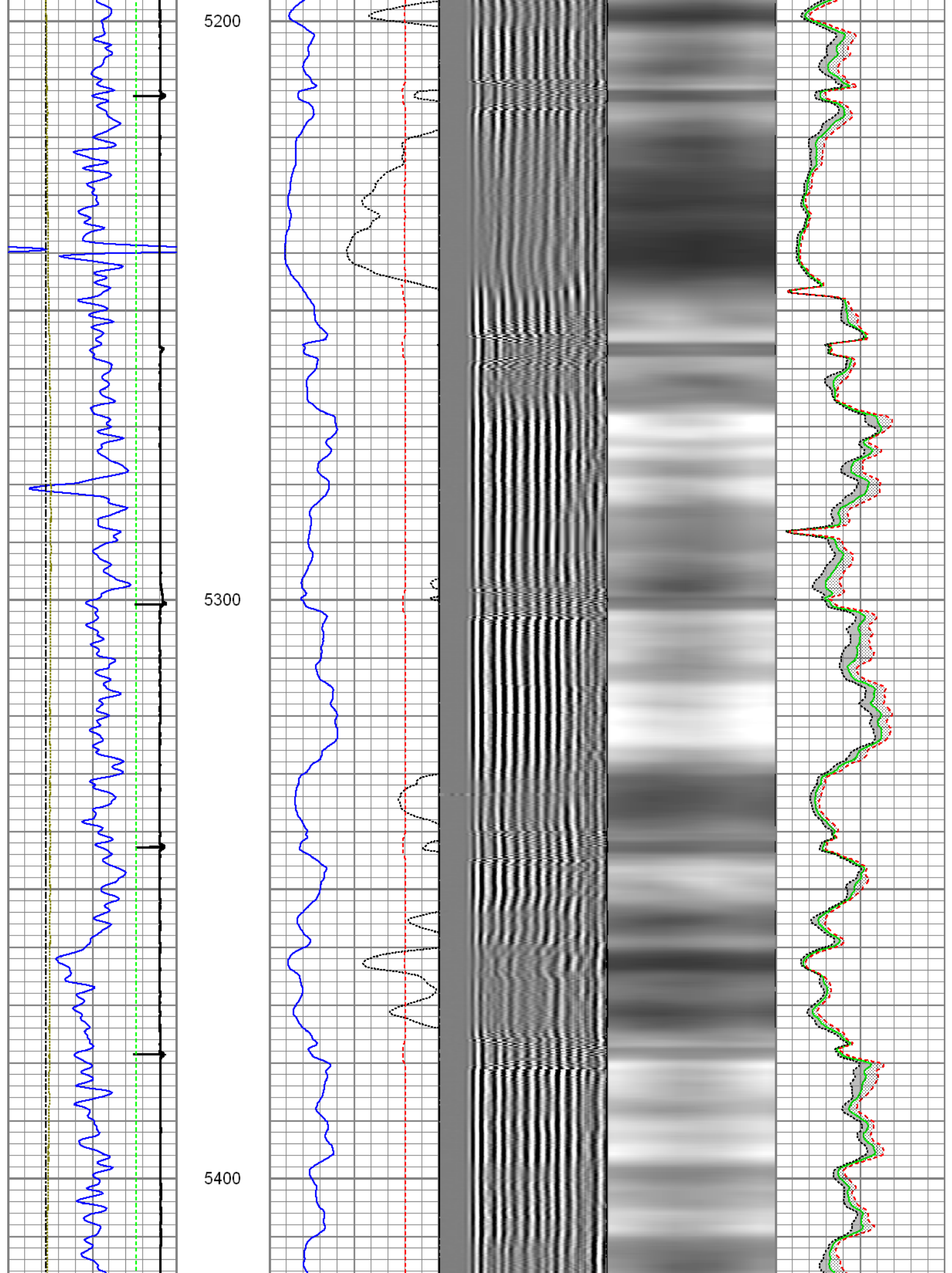






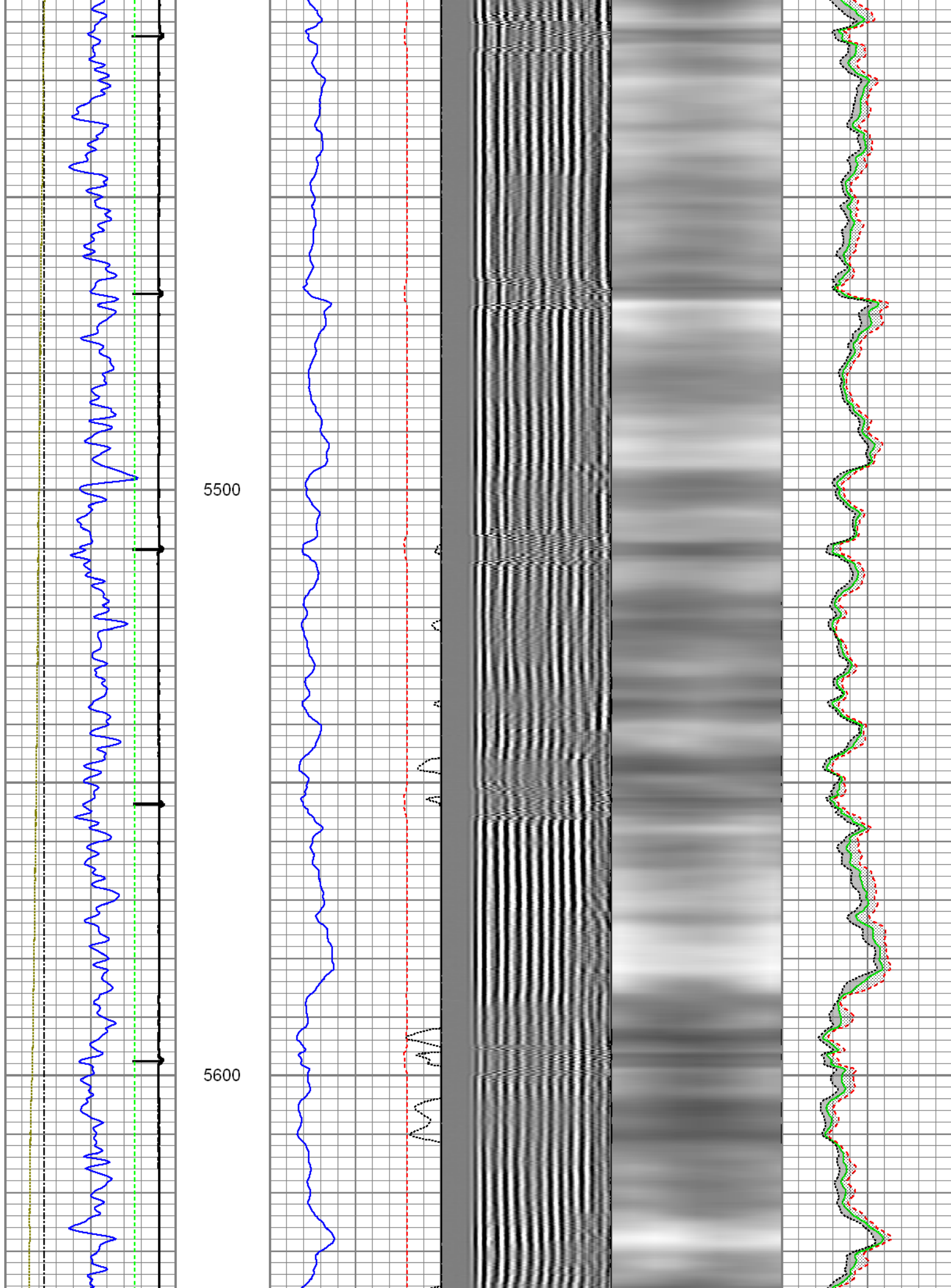


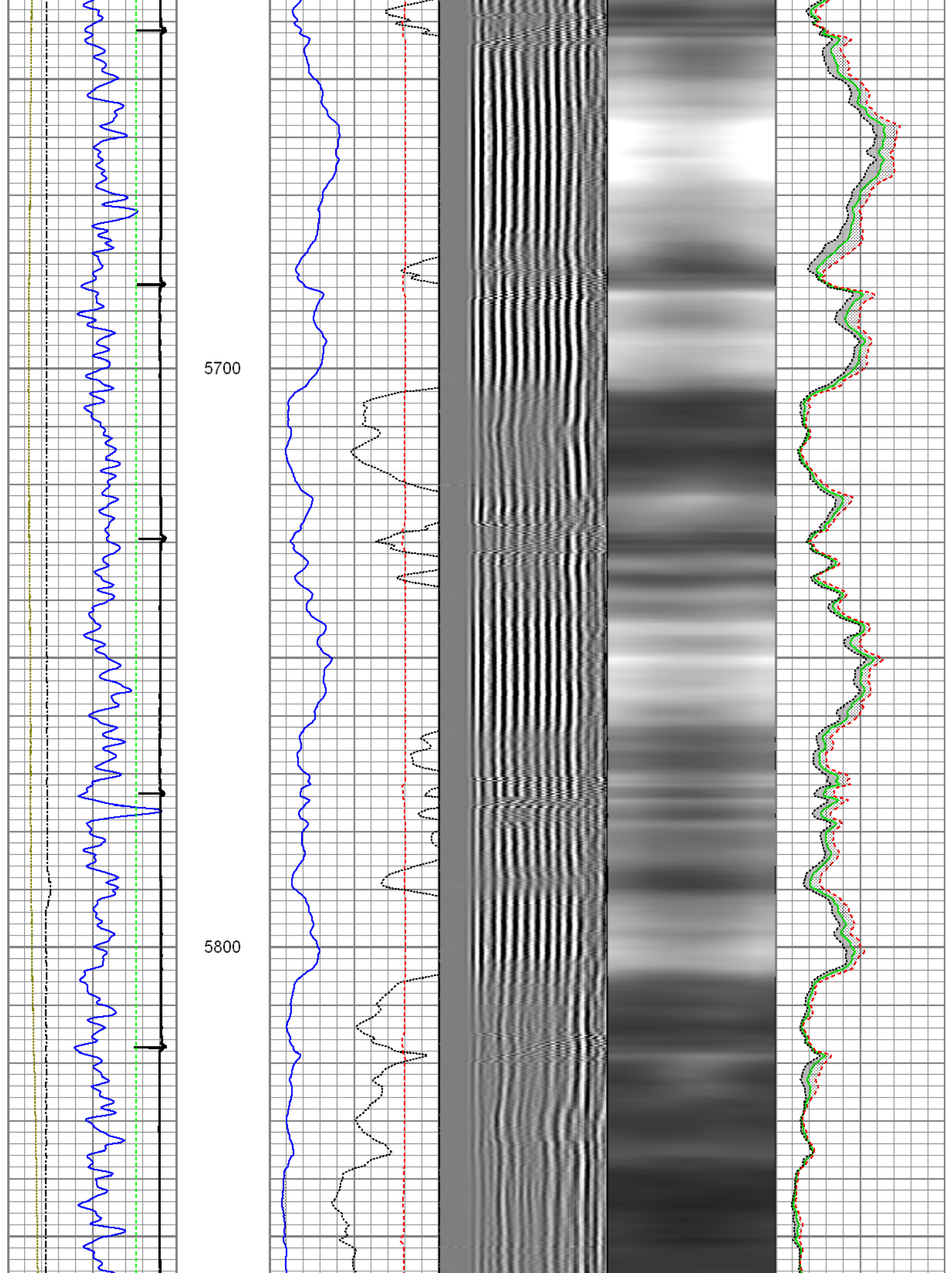


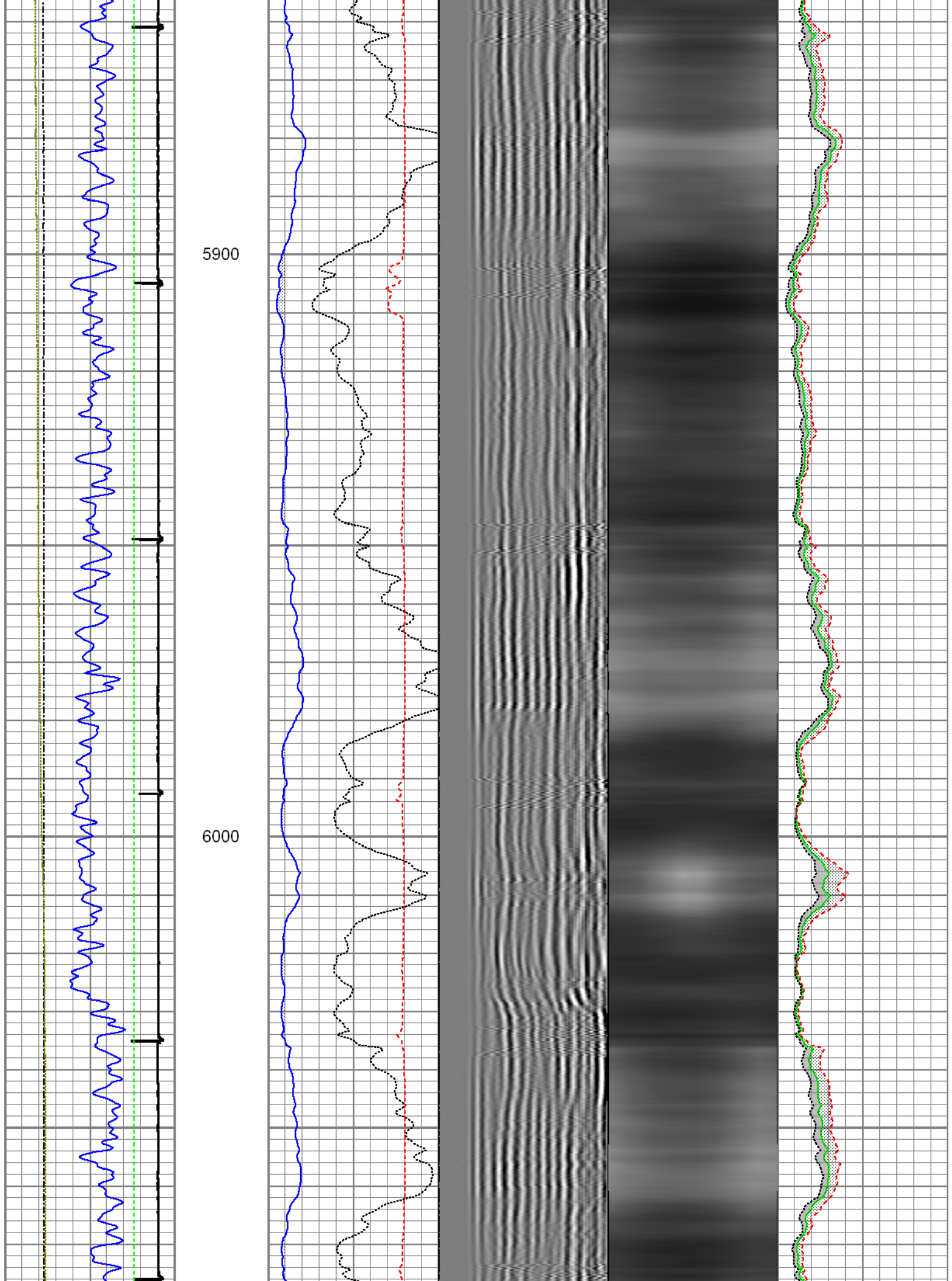


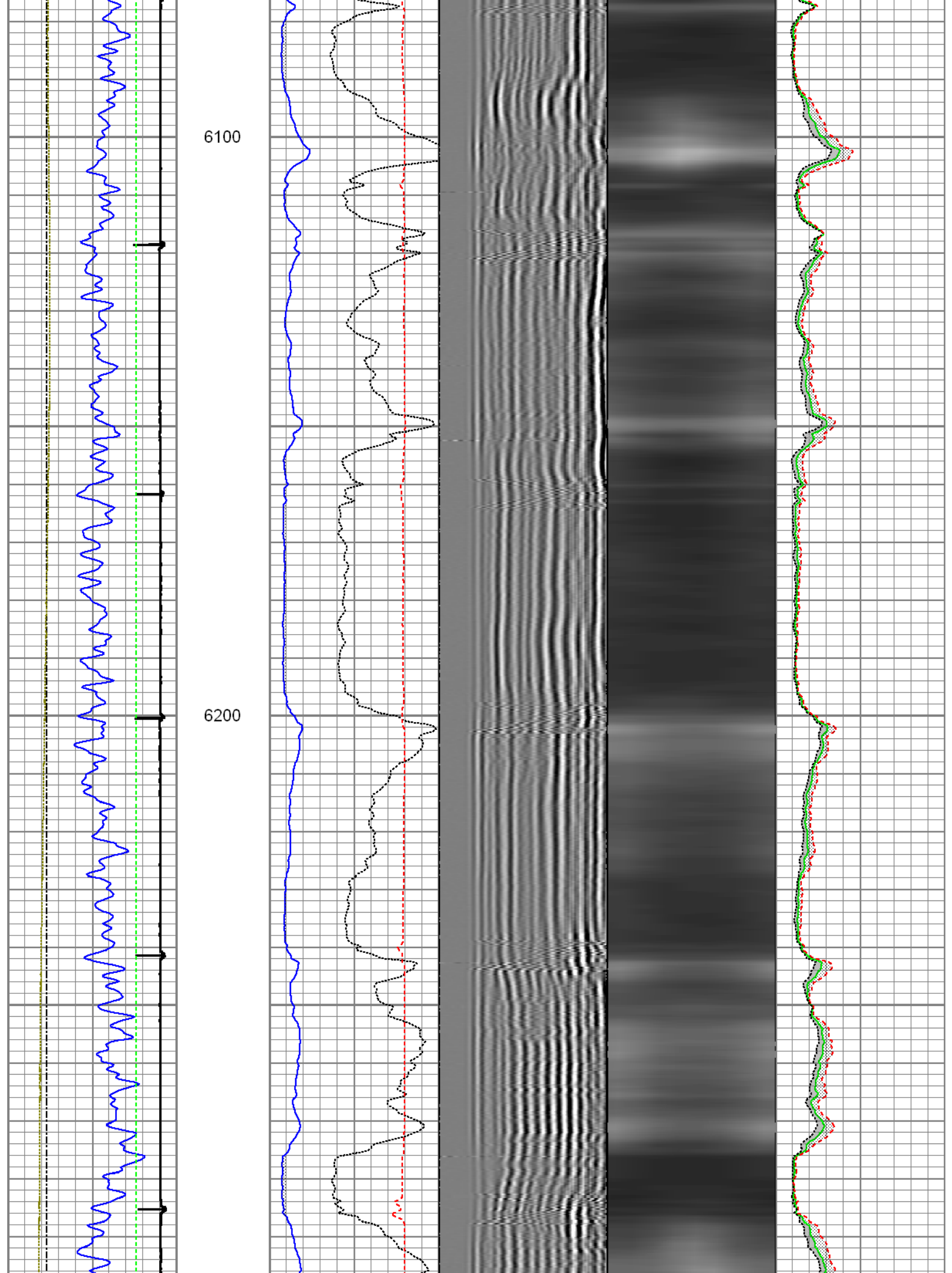
5500

5600





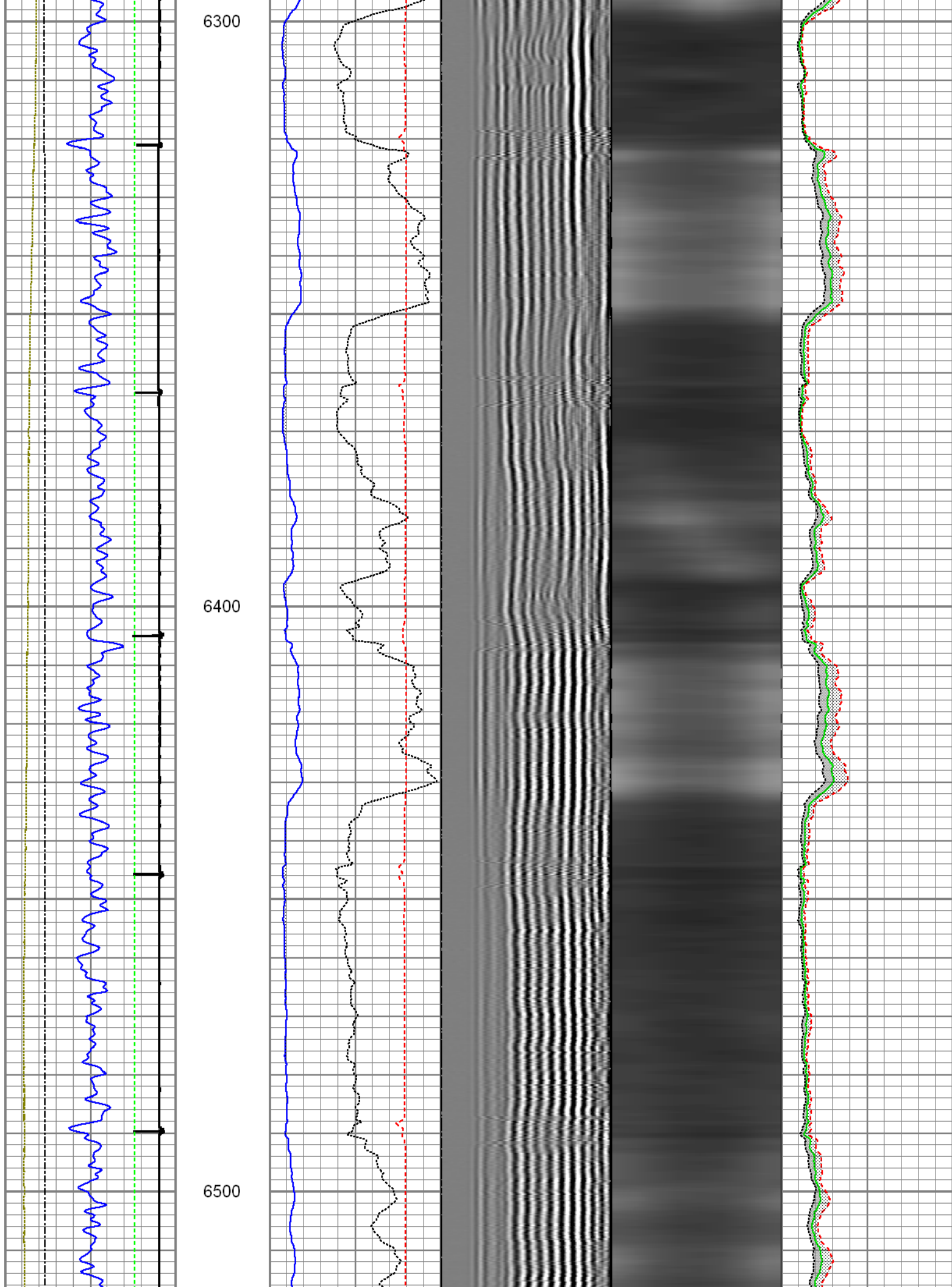


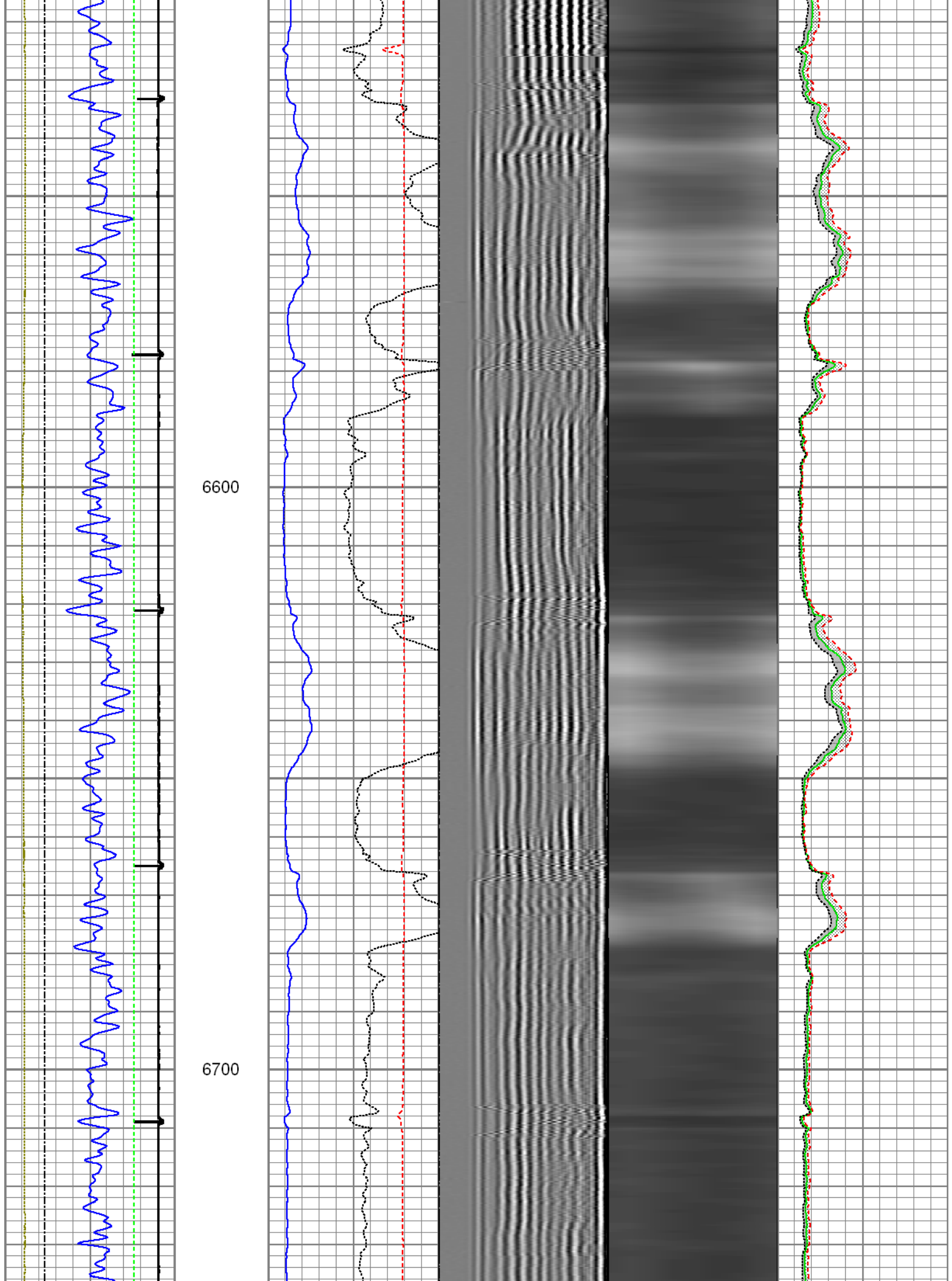


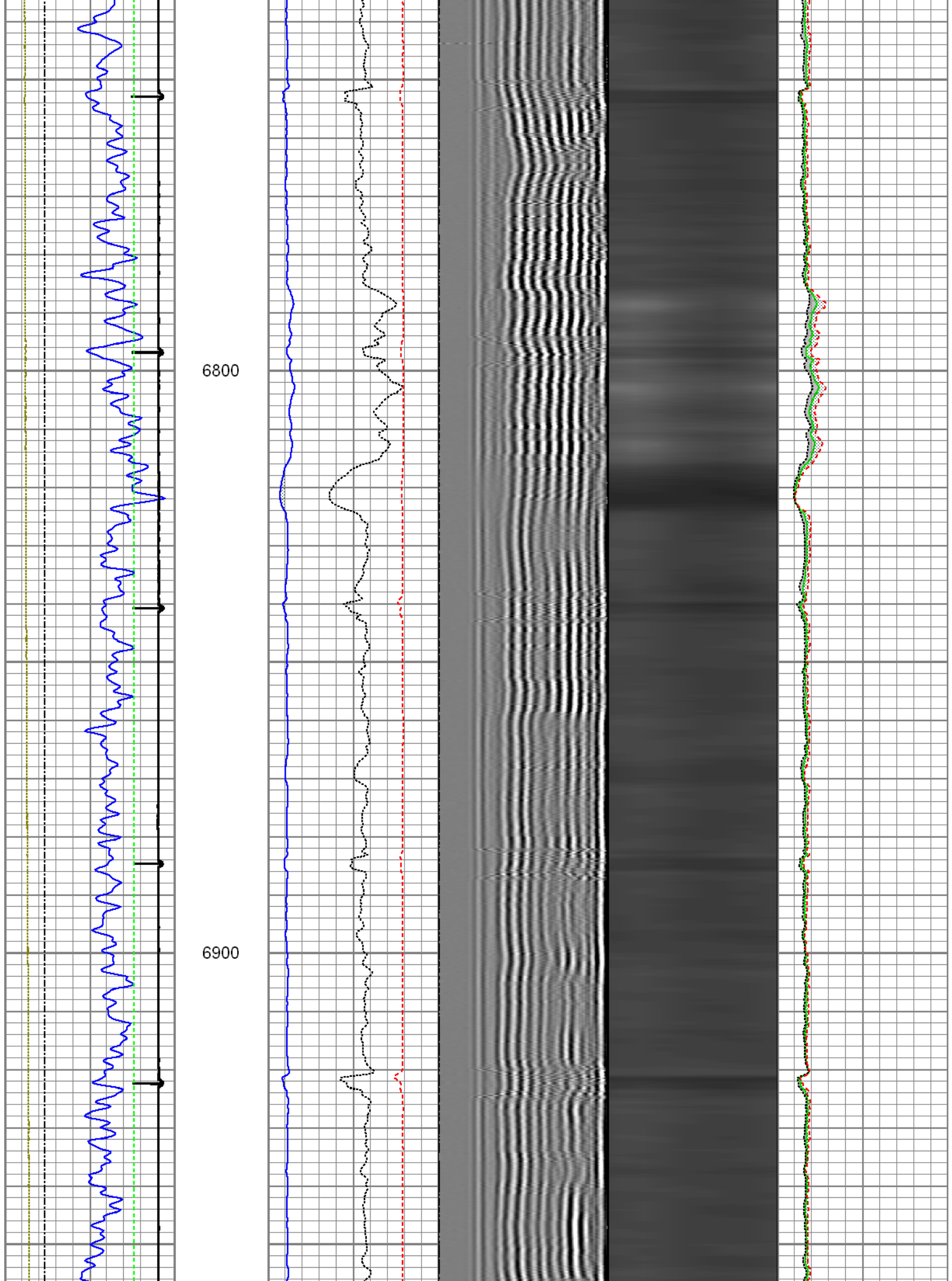
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6400

6500

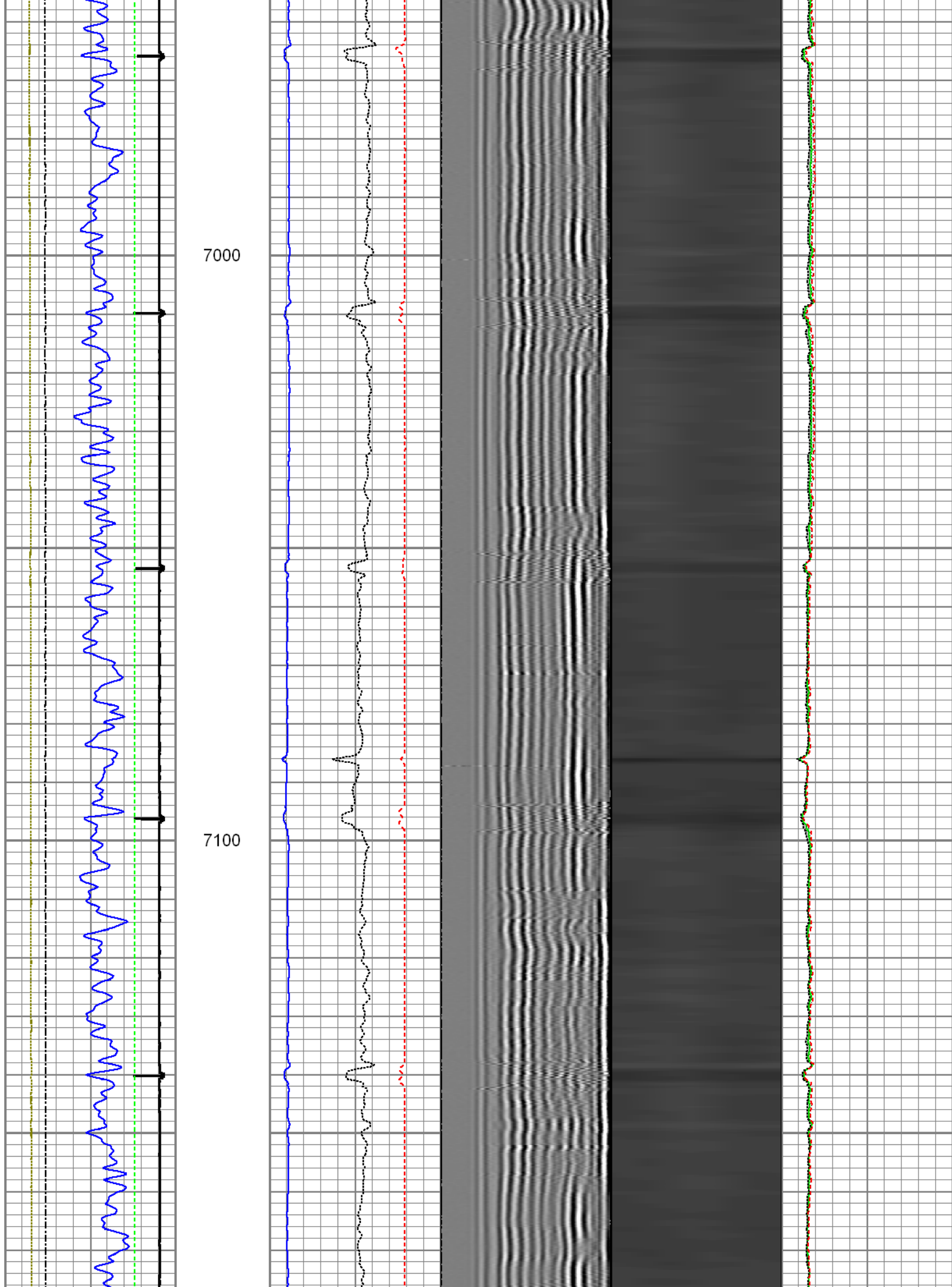


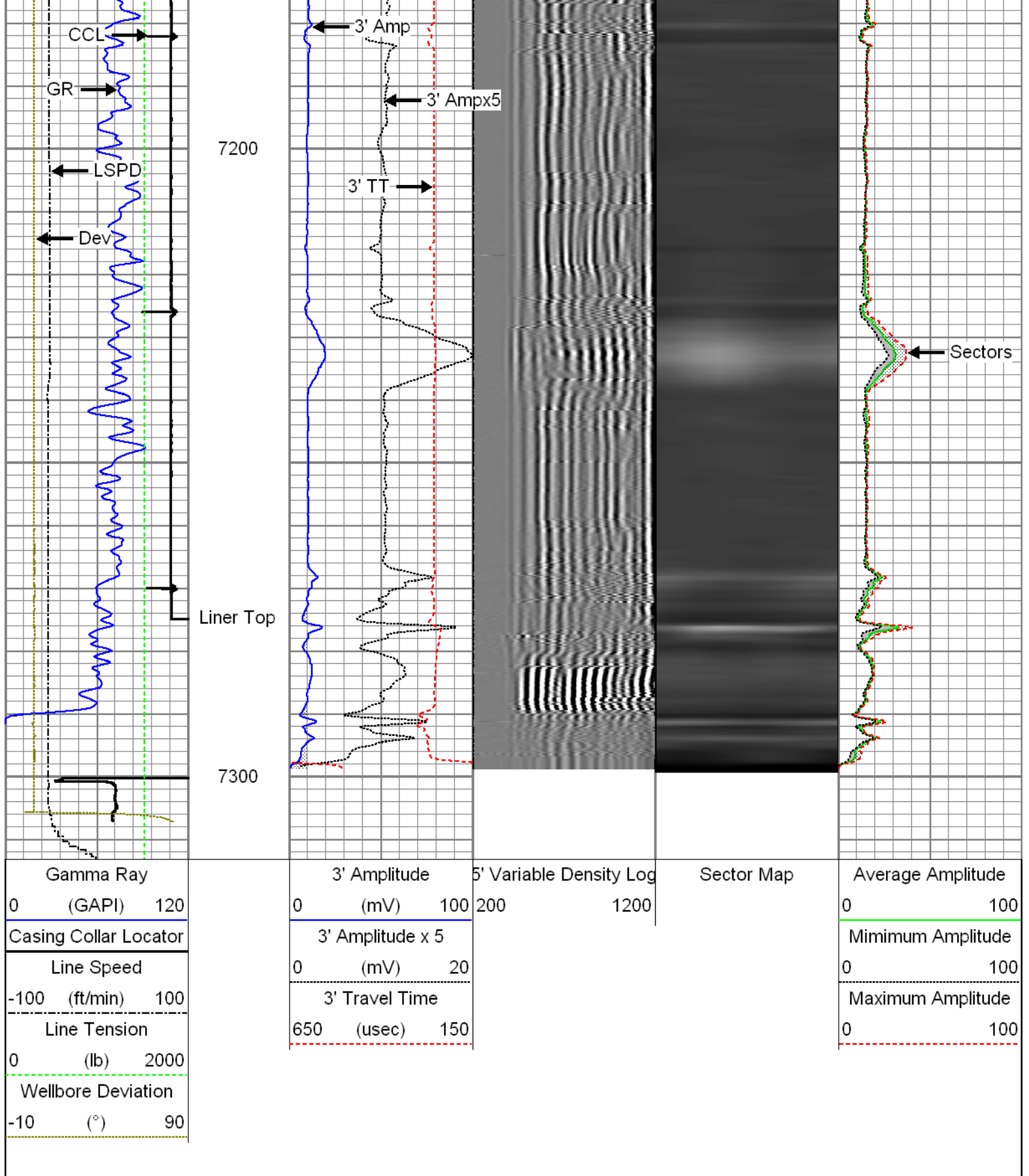




7000

7100

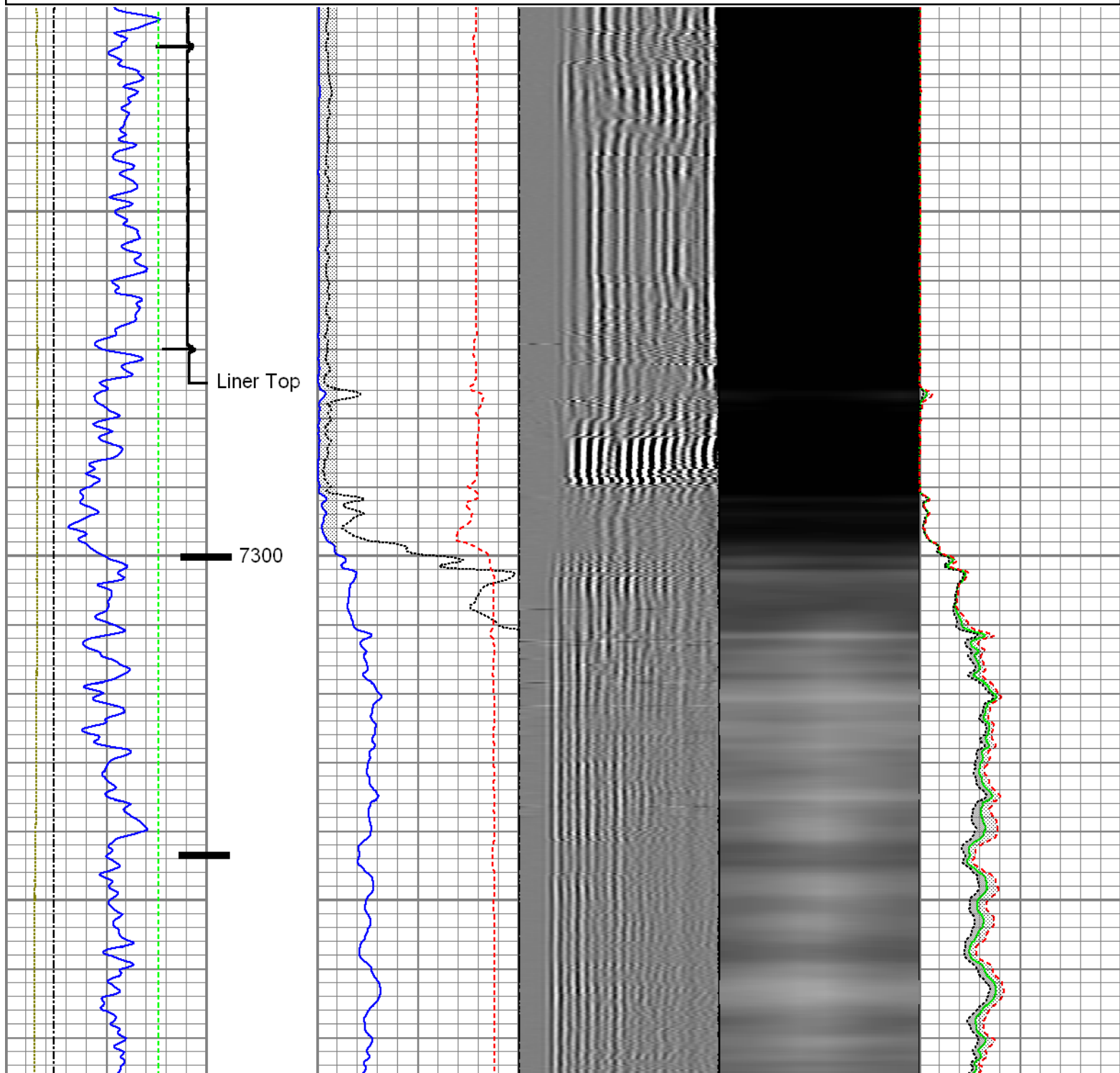


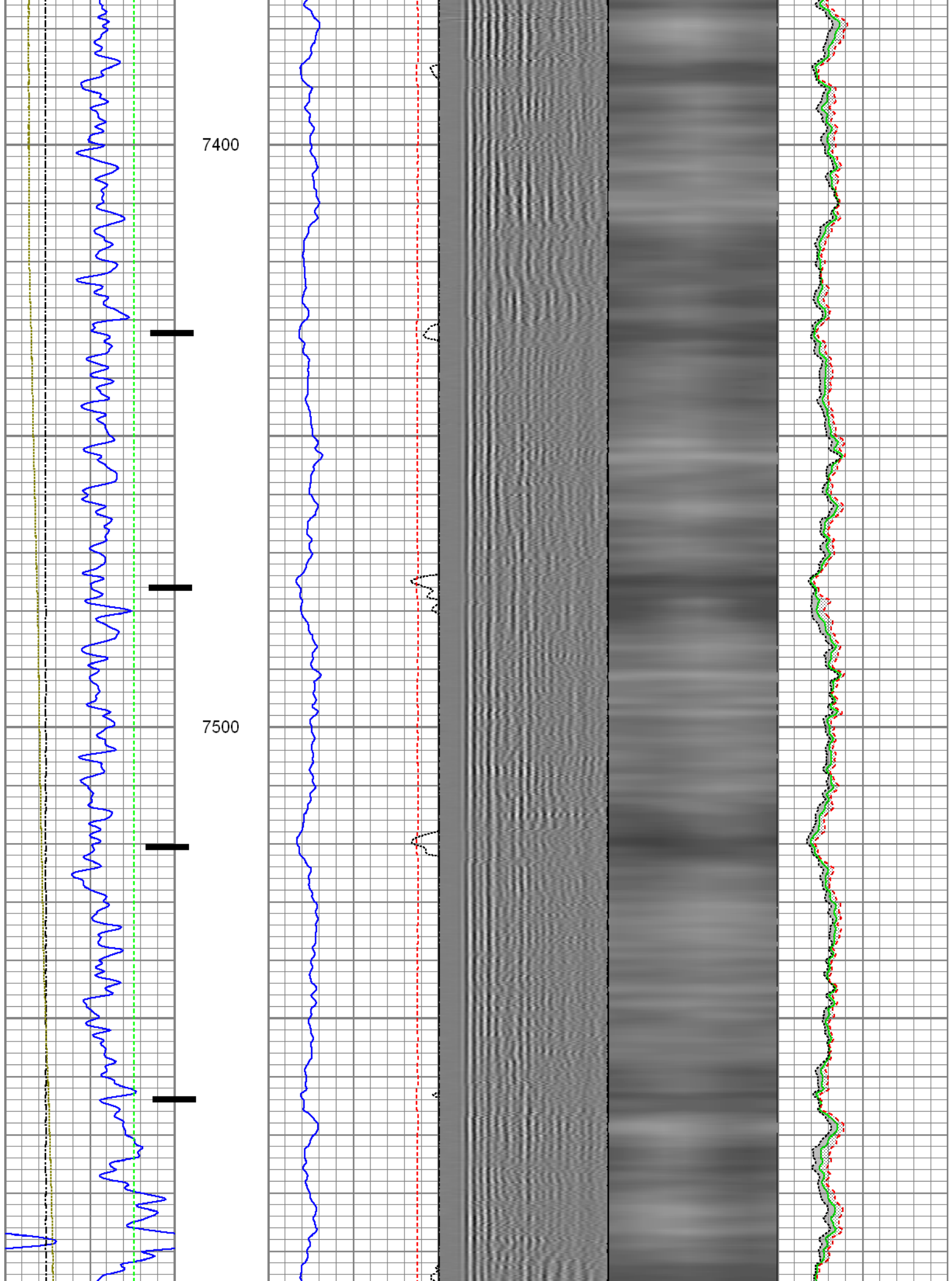


4.5" Main Pass

Recorded with 2800 PSI Surface Induced Pressure

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
Line Speed	0 (mV) 20			0 100
-100 (ft/min) 100	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000				
Wellbore Deviation				
-10 (°) 90				





7600

7700

7800

CCL

GR

LSPD

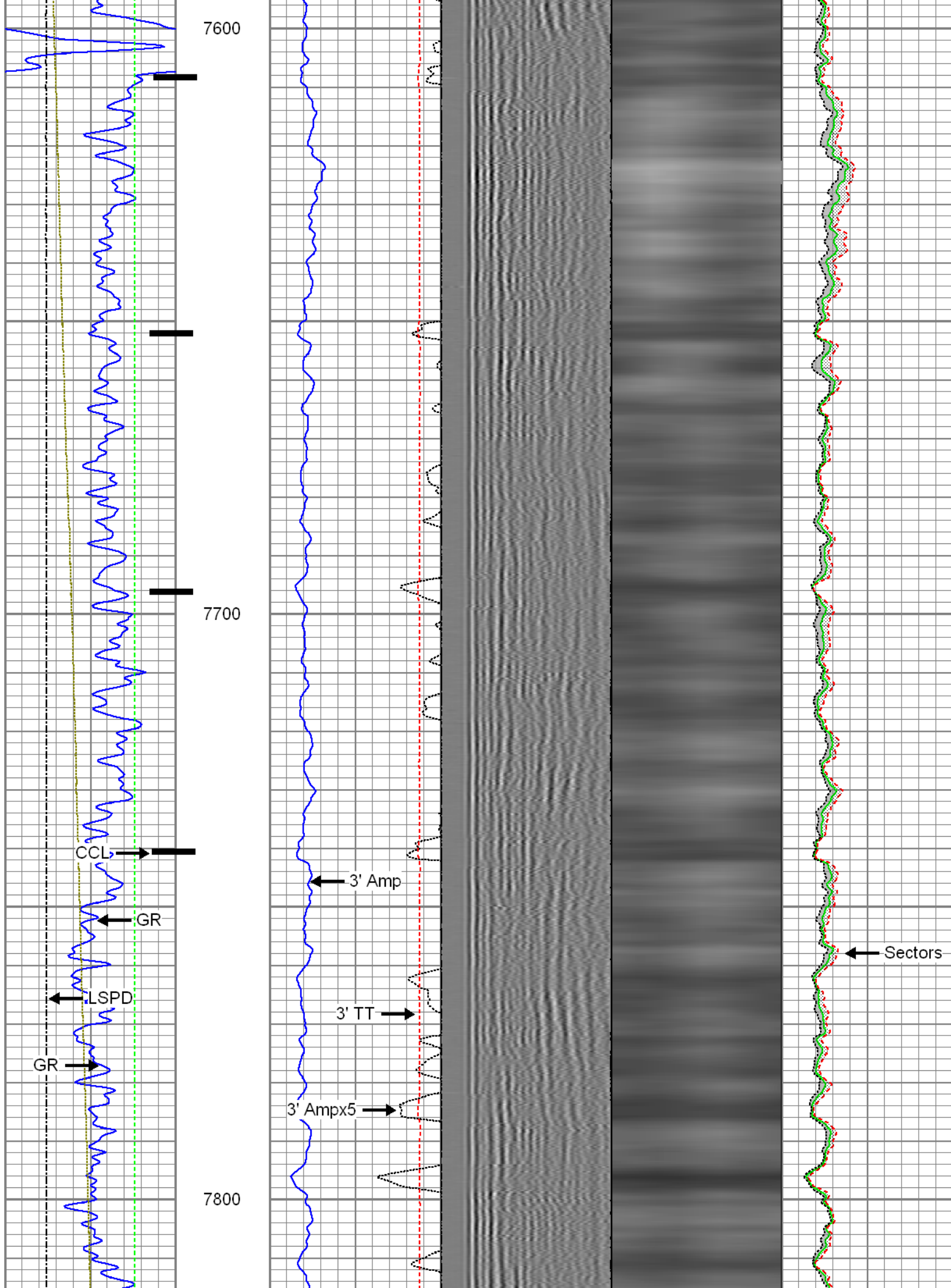
GR

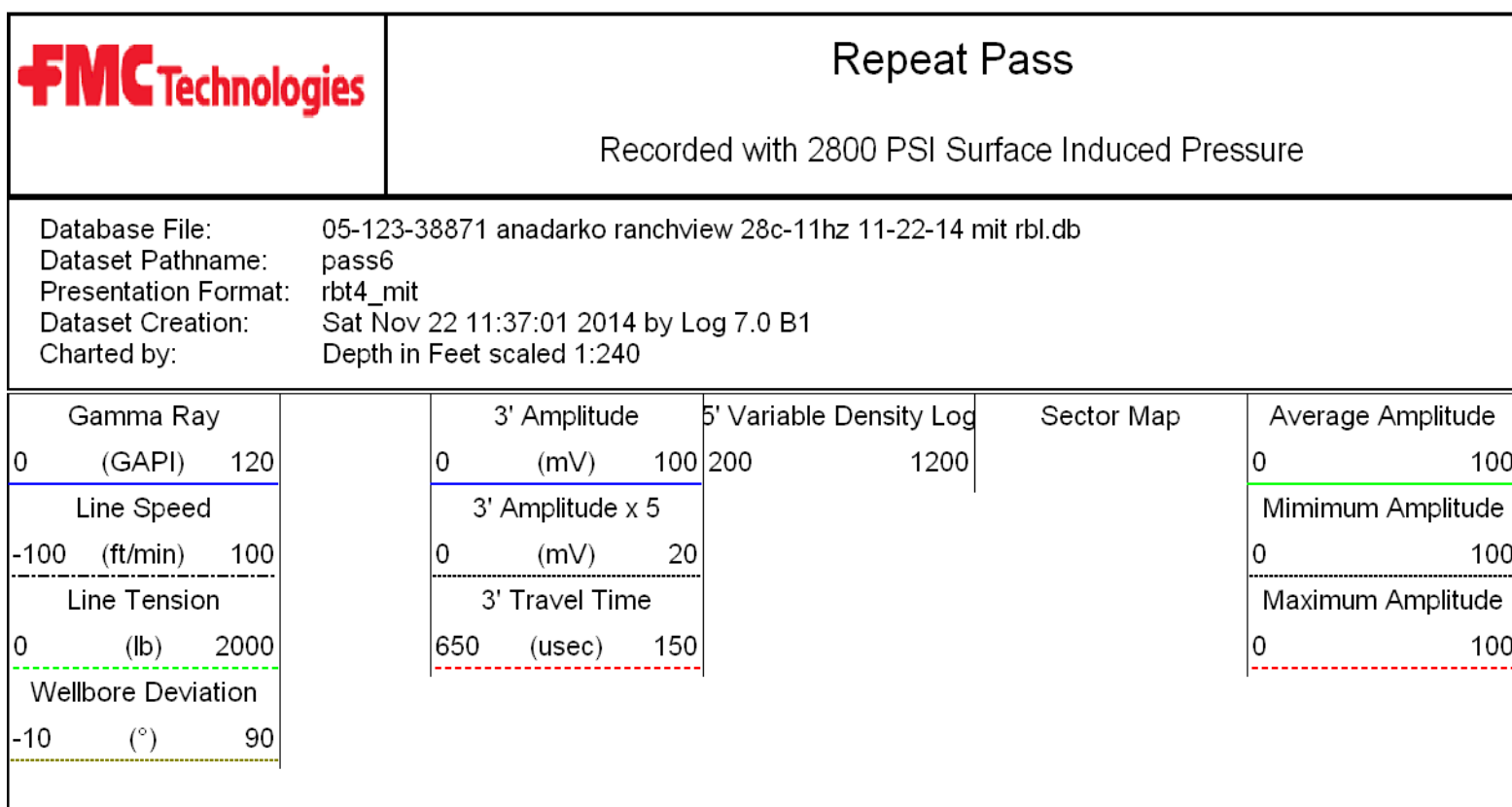
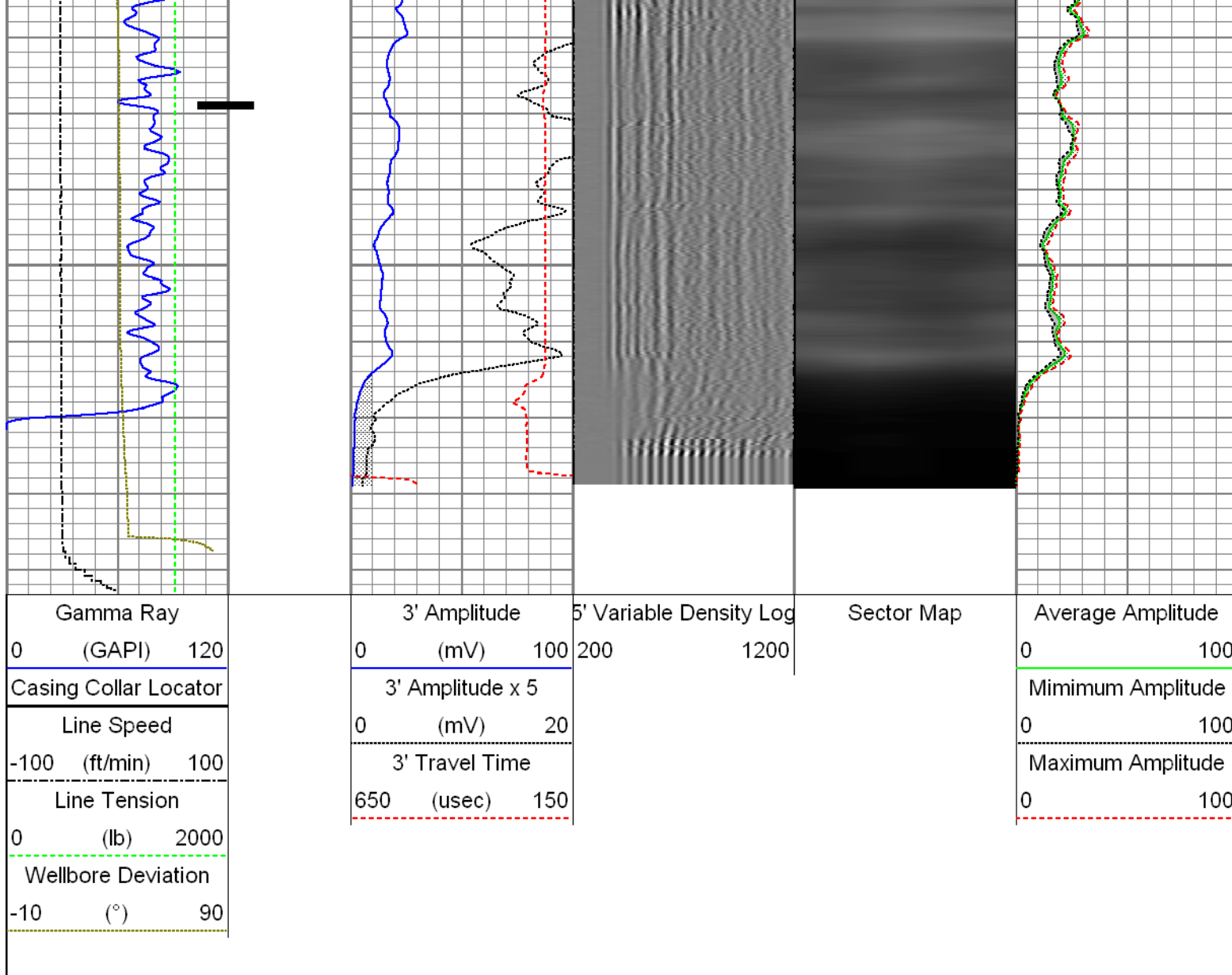
3' Amp

3' TT

3' Ampx5

Sectors

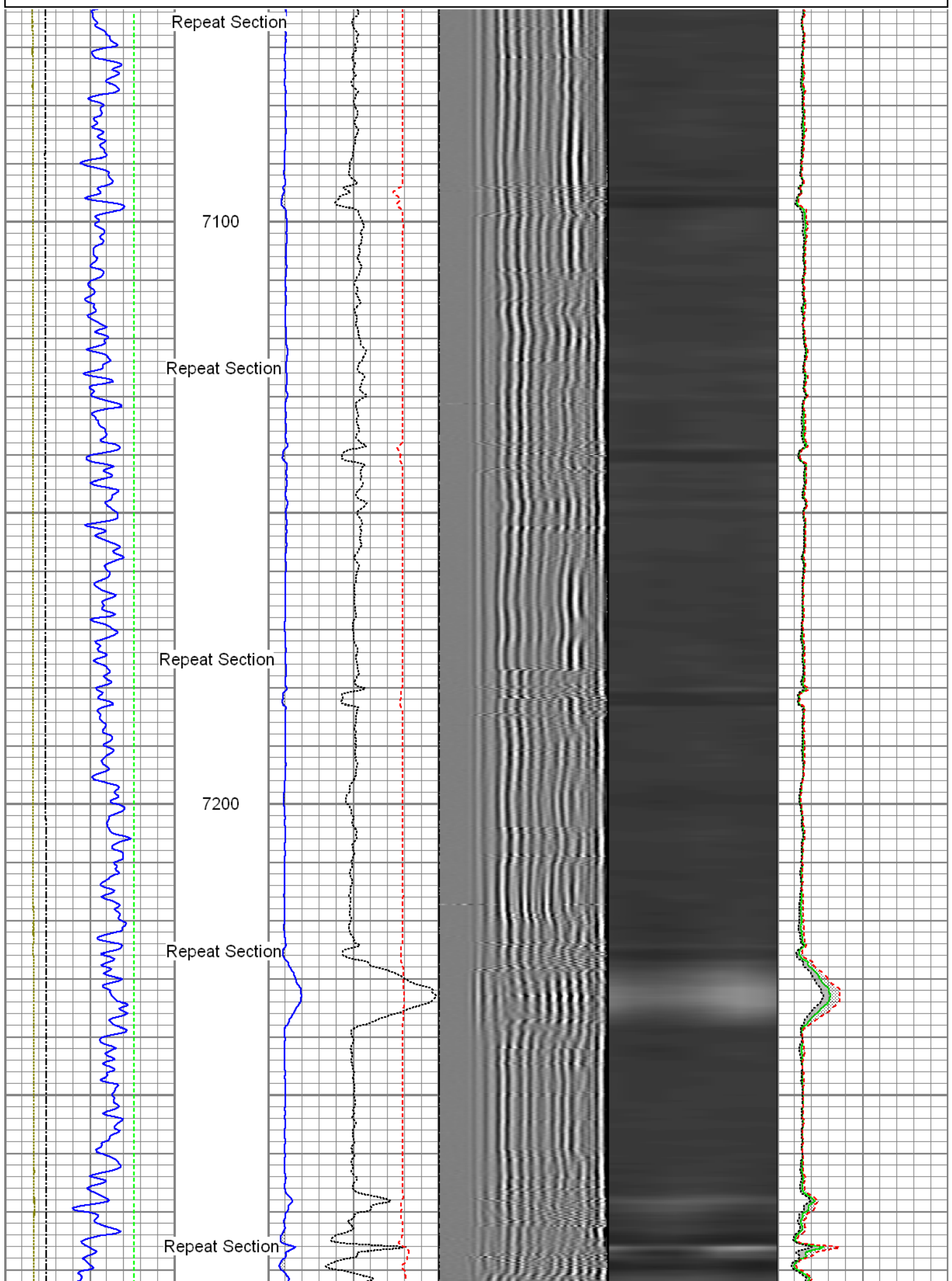


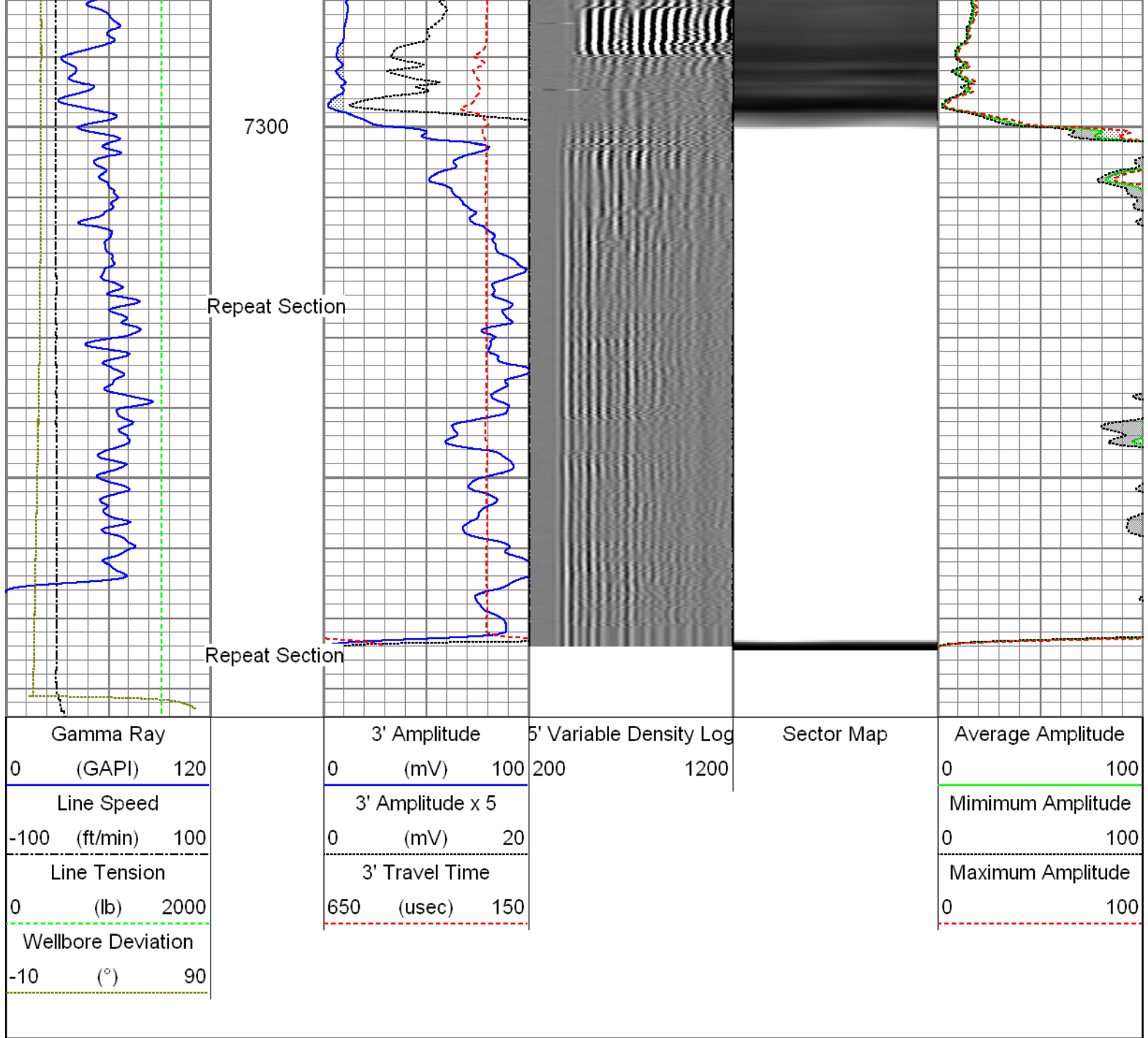


Repeat Pass

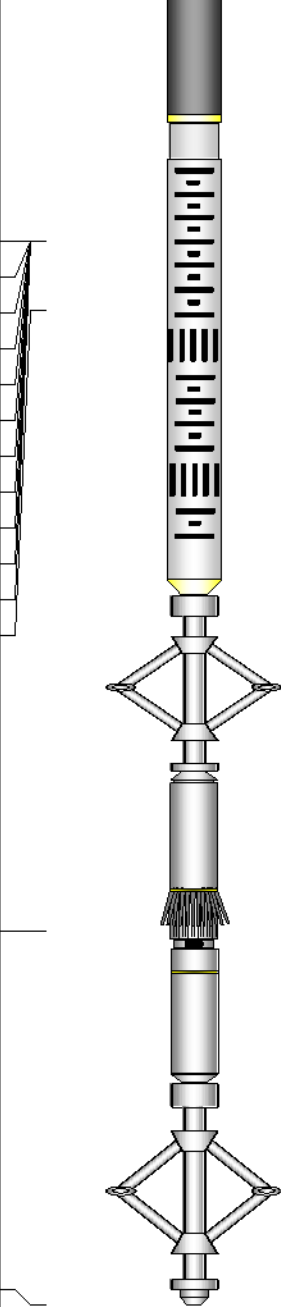
Recorded with 2800 PSI Surface Induced Pressure

Database File: 05-123-38871 anadarko ranchview 28c-11hz 11-22-14 mit rbl.db
 Dataset Pathname: pass6
 Presentation Format: rbt4_mit
 Dataset Creation: Sat Nov 22 11:37:01 2014 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	23.24		T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			UW_AGS-UW_AGS_001 (215017) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW_XTU-UW_XTU_002 (10010519) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (10013902) Production Gamma Ray	1.93	1.69	9.50
			UW_PRC #4 -UW_PRC_057 (1101) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00

WVF3FT	15.42		UW_RBT-UW_RBT_004 (1063) 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		UW_PRC-DSSRAC (080) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
CBLROT	15.42					
WVF5FT	14.42					
MIT	5.41		UW_MIT-UW_MIT40_027 (211111) 40 Multifinger Imaging Tool	4.54	2.75	61.10
TSTAMP	0.00		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
Dataset: 05-123-38871 Anadarko Ranchview 28c-11hz 11-22-14 MIT RBL.db: field/well/run1/pass10 Total Length: 27.49 ft Total Weight: 319.30 lb O.D. 3.13 in						

Calibration Report			
Database File:	05-123-38871 anadarko ranchview 28c-11hz 11-22-14 mit rbl.db		
Dataset Pathname:	pass10		
Dataset Creation:	Sat Nov 22 12:16:33 2014 by Log 7.0 B1		
Multi-finger Imaging Tool Calibration Report			
Serial Number:		211111	
Number of Fingers:		40	
Tool Model:		UW_MIT40_027	
Inclinometer Calibration Report			
Performed:		Mon Nov 18 15:31:59 2013	
Calibration Angle:		46	
		Inc X	Inc Y
Vertical:		1931	1952
Finger 1 up:		1959	2266

Finger 31 up:	1608	1962
Finger 21 up:	1927	1623
Finger 11 up:	2253	1930
Sensitivity ratio:	1.0031	
X-axis angle:	272.845	
Deviation const.:	311.818	

Finger Calibration Report

Performed: Sat Nov 22 10:50:05 2014

Ring size: (in)	4	Sens	5	Sens	6	Sens	7
Finger 01:	978	363.0	1341	407.0	1748	435.0	2183
Finger 02:	1073	365.0	1438	396.0	1834	428.0	2262
Finger 03:	1112	354.0	1466	393.0	1859	419.0	2278
Finger 04:	1059	358.0	1417	396.0	1813	425.0	2238
Finger 05:	1081	357.0	1438	394.0	1832	416.0	2248
Finger 06:	1069	366.0	1435	401.0	1836	432.0	2268
Finger 07:	1189	326.0	1515	361.0	1876	391.0	2267
Finger 08:	1114	332.0	1446	396.0	1842	421.0	2263
Finger 09:	1071	357.0	1428	395.0	1823	421.0	2244
Finger 10:	1119	306.0	1425	339.0	1764	361.0	2125
Finger 11:	1141	314.0	1455	396.0	1851	415.0	2266
Finger 12:	1273	327.0	1600	399.0	1999	413.0	2412
Finger 13:	1220	297.0	1517	373.0	1890	400.0	2290
Finger 14:	1292	291.0	1583	346.0	1929	361.0	2290
Finger 15:	1220	287.0	1507	421.0	1928	428.0	2356
Finger 16:	1257	293.0	1550	388.0	1938	395.0	2333
Finger 17:	1186	321.0	1507	405.0	1912	421.0	2333
Finger 18:	1129	346.0	1475	405.0	1880	429.0	2309
Finger 19:	1137	362.0	1499	410.0	1909	429.0	2338
Finger 20:	1191	345.0	1536	391.0	1927	407.0	2334
Finger 21:	1206	350.0	1556	406.0	1962	420.0	2382
Finger 22:	1117	369.0	1486	406.0	1892	422.0	2314
Finger 23:	913	344.0	1257	398.0	1655	429.0	2084
Finger 24:	1184	363.0	1547	394.0	1941	410.0	2351
Finger 25:	1415	383.0	1798	420.0	2218	426.0	2644
Finger 26:	1215	333.0	1548	363.0	1911	378.0	2289
Finger 27:	1310	365.0	1675	390.0	2065	391.0	2456
Finger 28:	1124	367.0	1491	404.0	1895	420.0	2315
Finger 29:	1369	347.0	1716	363.0	2079	364.0	2443
Finger 30:	1227	349.0	1576	376.0	1952	388.0	2340
Finger 31:	1275	348.0	1623	367.0	1990	379.0	2369
Finger 32:	1264	344.0	1608	365.0	1973	372.0	2345
Finger 33:	1017	326.0	1343	360.0	1703	386.0	2089
Finger 34:	1128	350.0	1478	377.0	1855	394.0	2249
Finger 35:	1326	343.0	1669	373.0	2042	374.0	2416
Finger 36:	1433	407.0	1840	426.0	2266	431.0	2697
Finger 37:	1114	340.0	1454	374.0	1828	404.0	2232
Finger 38:	1444	375.0	1819	397.0	2216	405.0	2621
Finger 39:	1236	340.0	1576	361.0	1937	386.0	2323
Finger 40:	1060	365.0	1425	398.0	1823	422.0	2245

Segmented Cement Bond Log Calibration Report


Serial Number:	1063
Tool Model:	UW_RBT_004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	137.726 ft

Master Calibration, performed Sat Nov 22 11:03:41 2014:

Raw (v)	Calibrated (mv)	Results
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	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.003	0.652	0.800	62.165	93.699	1.097
5FT	-0.006	0.701	0.800	62.165	86.823	1.324
S1	-0.004	0.649	0.000	100.000	153.239	0.589
S2	-0.004	0.672	0.000	100.000	147.924	0.646
S3	-0.003	0.681	0.000	100.000	146.231	0.446
S4	-0.004	0.696	0.000	100.000	142.992	0.539
S5	-0.003	0.677	0.000	100.000	147.108	0.381
S6	-0.004	0.646	0.000	100.000	153.841	0.567
S7	-0.003	0.632	0.000	100.000	157.527	0.513
S8	-0.003	0.627	0.000	100.000	158.967	0.400

Gamma Ray Calibration Report			
Serial Number:	10013902		
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	Ranchview 28C-11HZ
	Field	Wattenberg
	County	Weld
	State	Colorado