



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Whiting Oil & Gas Corporation
Well Razor Federal 261-3513A
Field Wildcat
County Weld
State Colorado

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Field Wildcat
County Weld State Colorado

Location: API #: 05-123-38486
SHL: 2242' FSL 728' FEL
Lat/Long: 40.808522/-103.825211
SEC 26 TWP 10N RGE 58W
Permanent Datum Ground Level Elevation 4720'
Log Measured From Kelly Bushing 21 FT
Drilling Measured From Kelly Bushing
Other Services
Gauge Ring
Set RBP
MIT
Elevation
K.B. 4741'
D.F. 4740'
G.L. 4720'

Date	July 26, 2014		
Run Number	One		
Depth Driller	12561 FT		
Depth Logger	4950 FT		
Bottom Logged Interval	4945 FT		
Top Log Interval	48 FT		
Open Hole Size	8.765"		
Type Fluid	Water		
Density / Viscosity	8.34 lbm/gal		
Max. Recorded Temp.	185°F		
Estimated Cement Top	Surface		
Time Well Ready	ROA		
Time Logger on Bottom	14:40		
Equipment Number	HD 0255		
Location	Fort Lupton, CO		
Recorded By	Zach Fisher		
Witnessed By	Gary Chandler		

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	Surface	1530 FT		
Intermediate #1	7	29	L-80	Surface	5951 FT		
Intermediate #2							
Liner	4 1/2	11.6	L-80	4914 FT	12451 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 4914 FT.
Adjusted log -18.4 FT to correlate with Liner Top.
Gauge Ring/Junk Basket ran to 5040 FT prior to log run.
Retrievable Bridge Plug set at 4980 FT prior to log run.
Log ran from 4950 FT to surface.
Log Ran with 1500 PSI surface induced pressure.

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

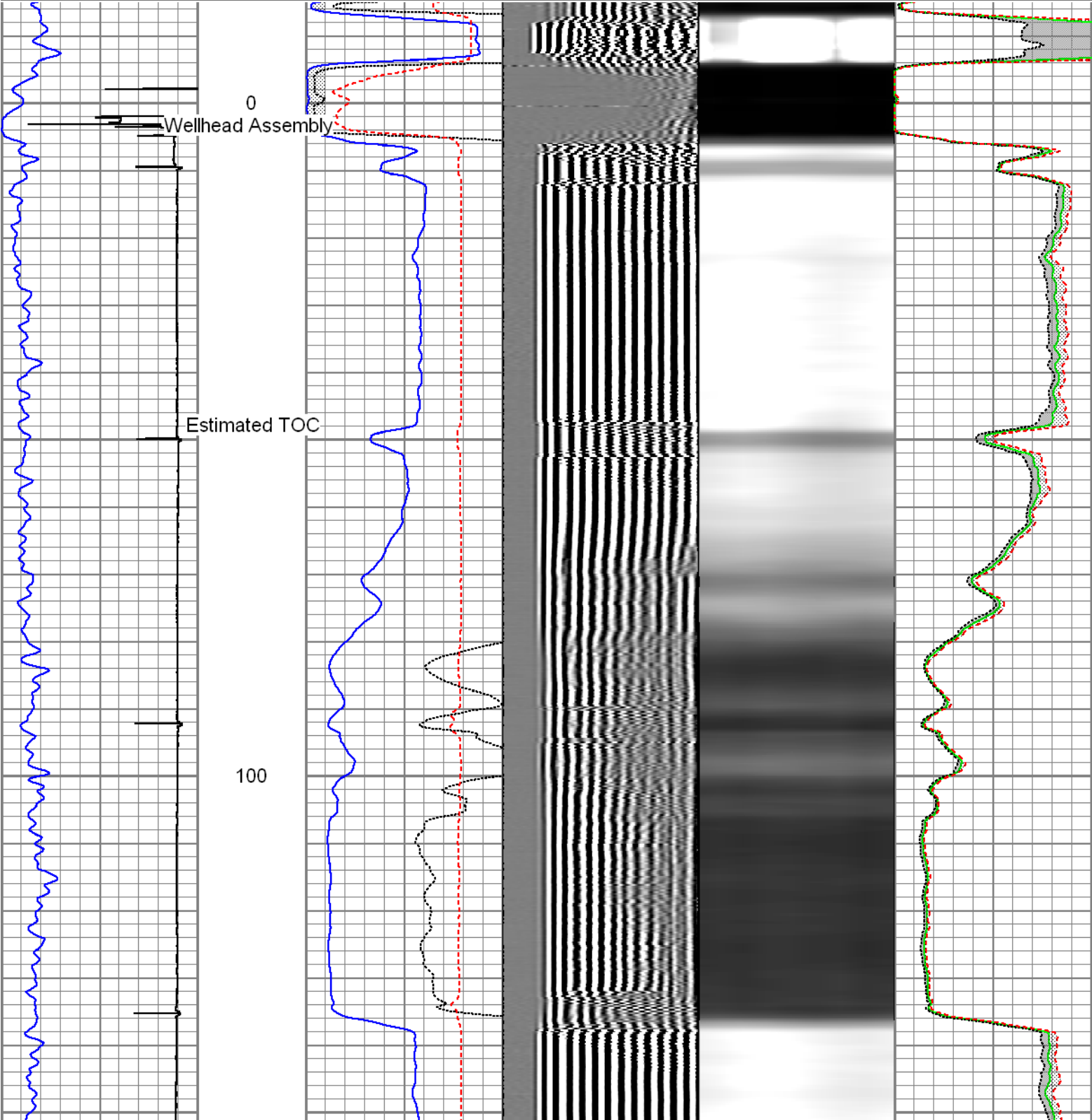


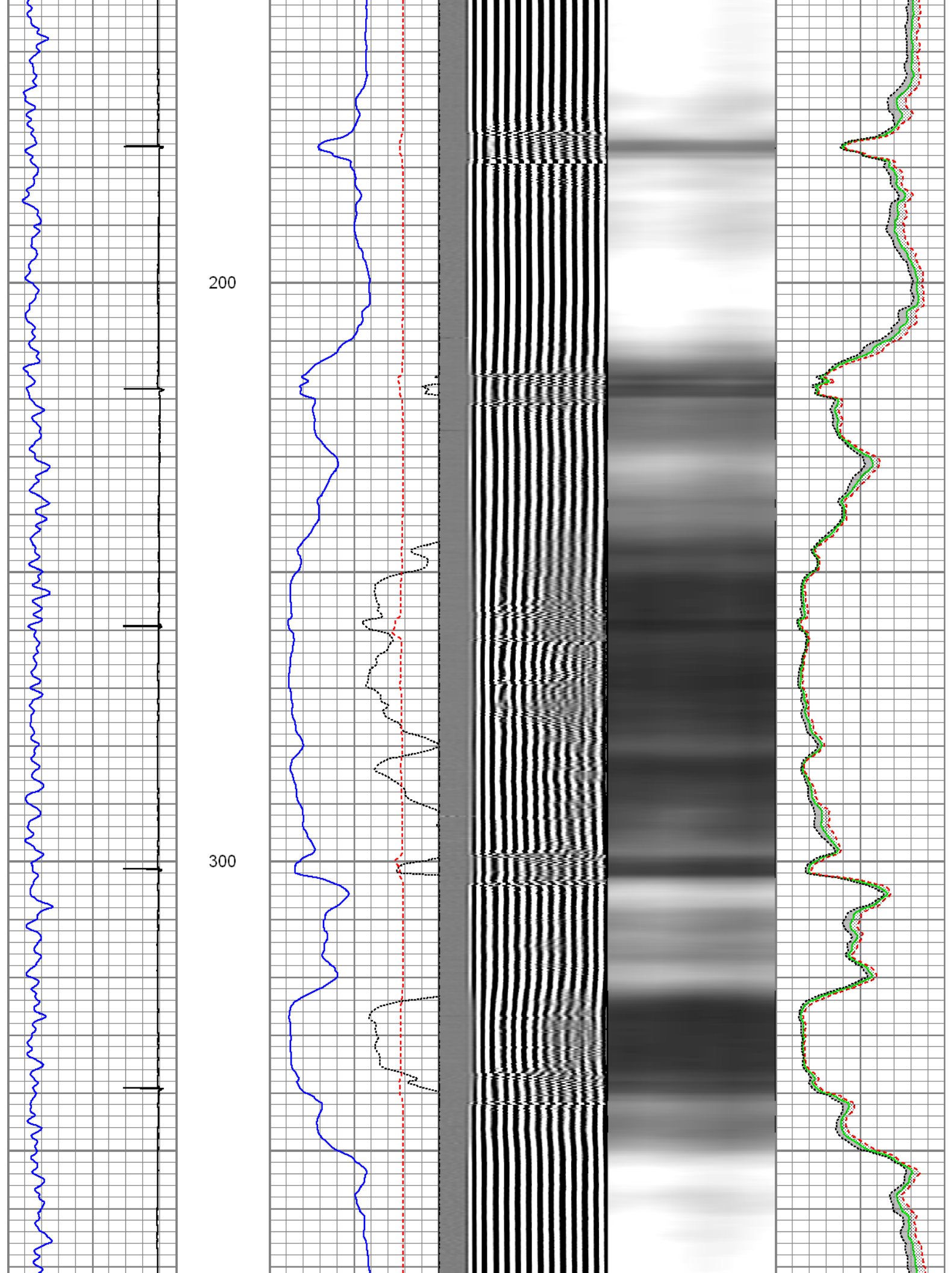
7" Main

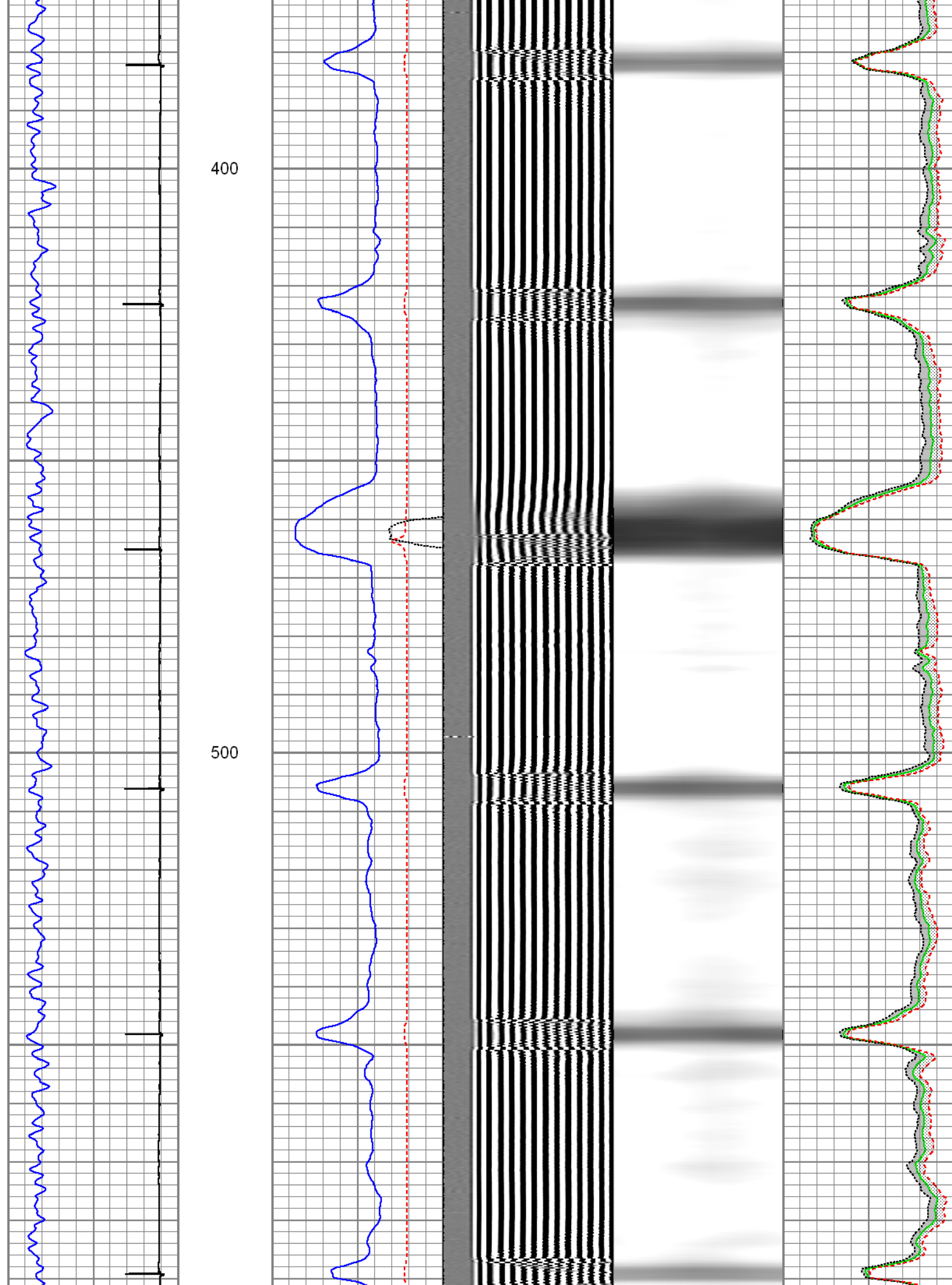
Recorded with 1500 PSI surface induced pressure.

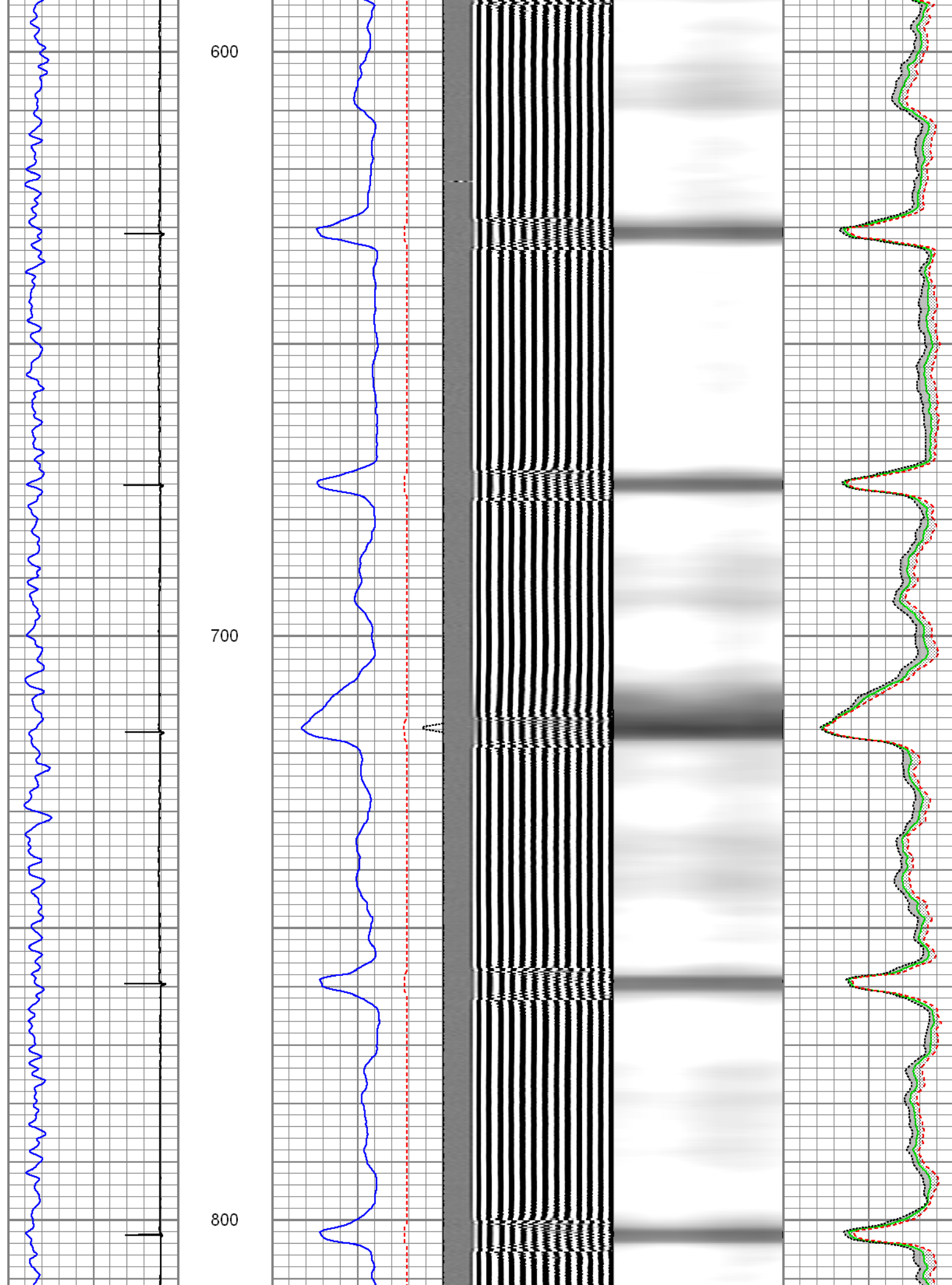
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Presentation Format: rbt4_mit
Dataset Creation: Sat Jul 26 14:40:33 2014 by Log SCH 111116
Charted by: Depth in Feet scaled 1:240

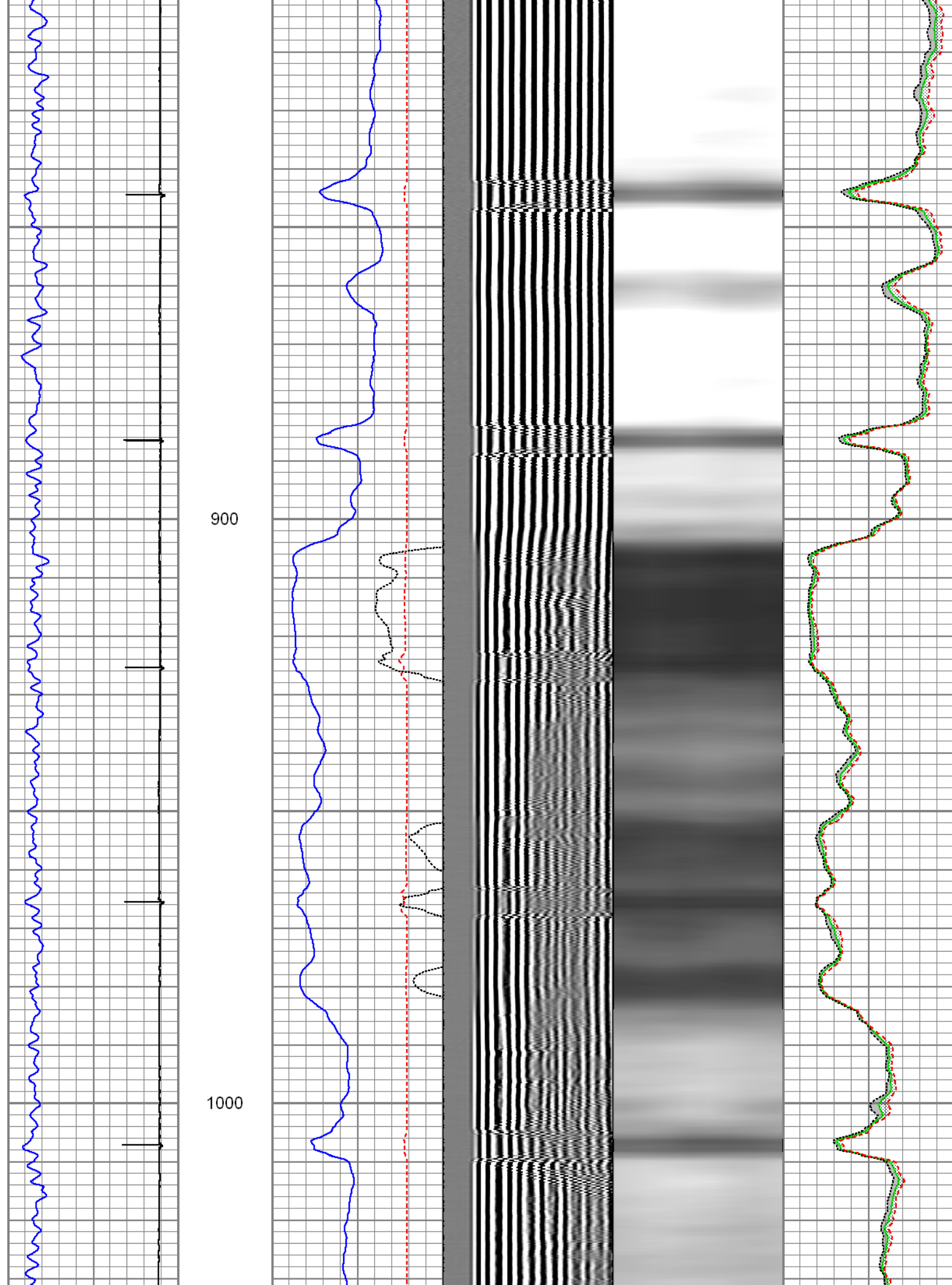
Gamma Ray			3' Amplitude		5' Variable Density Log	Sector Map	Average Amplitude		
0	(GAPI)	120	0	(mV)			100	0	100
8	AVEDIA (in)	6	3' Amplitude x 5				Minimum Amplitude		
			0	(mV)			20	0	100
			3' Travel Time				Maximum Amplitude		
			650	(usec)			150	0	100

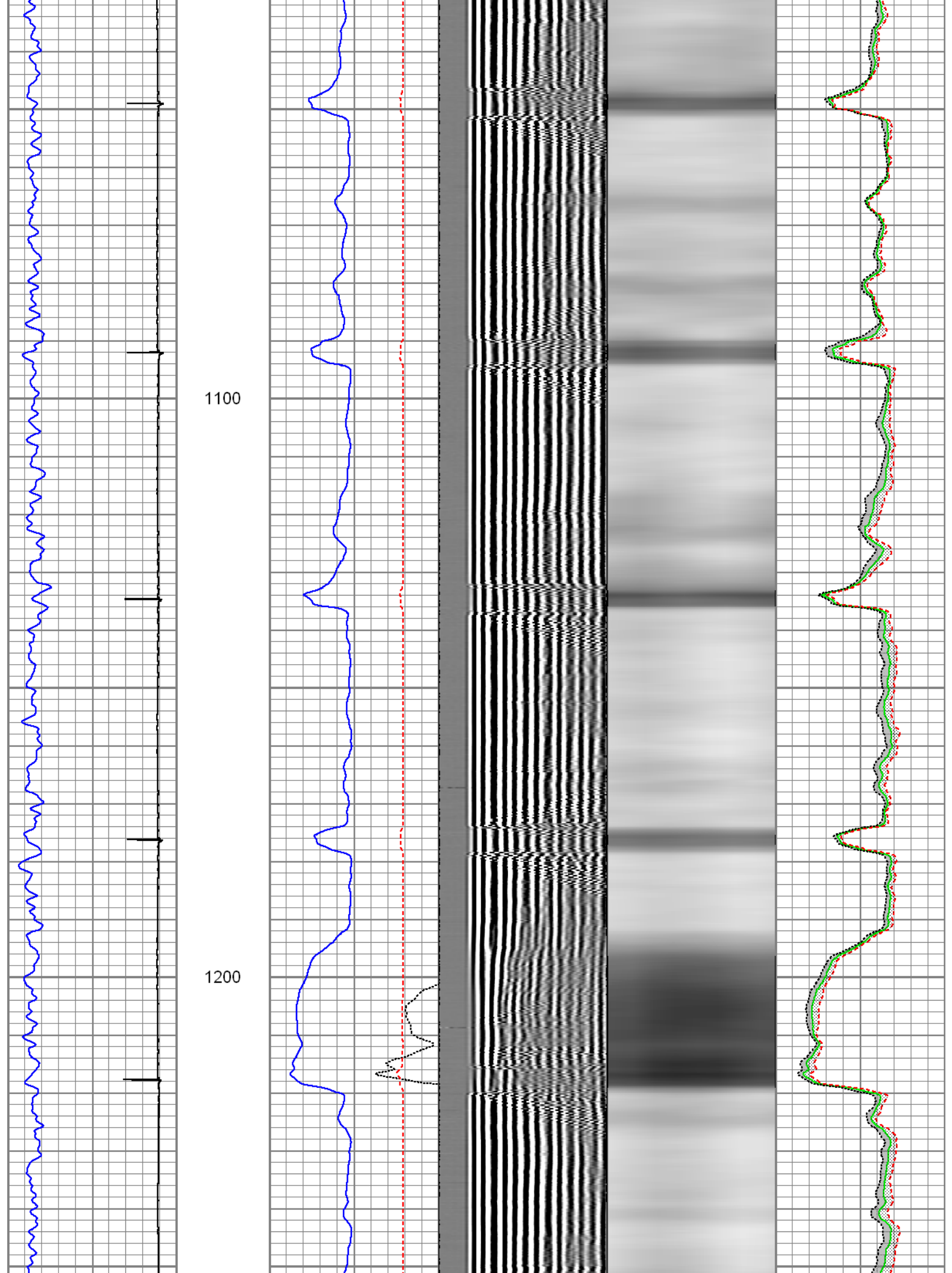


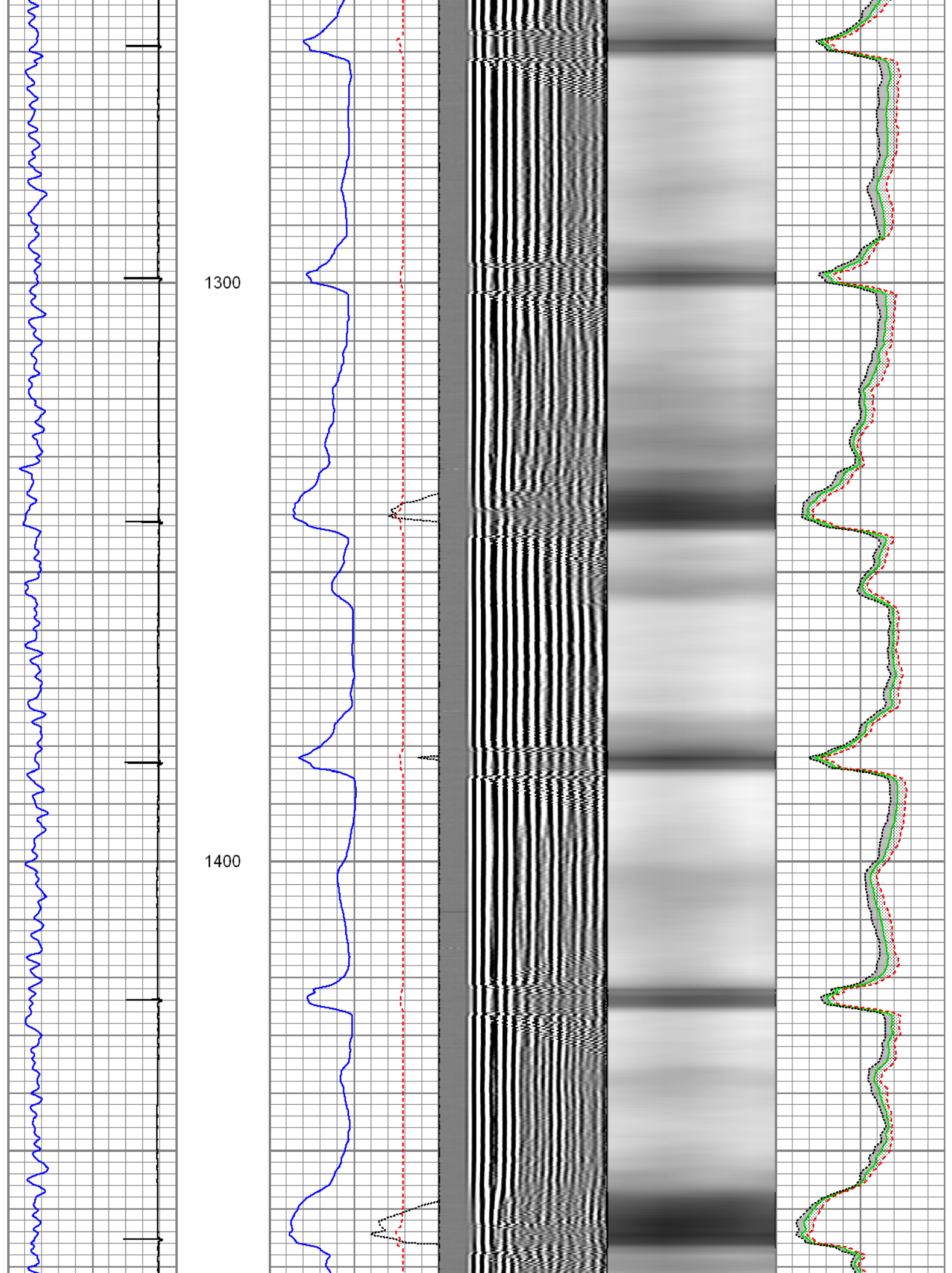


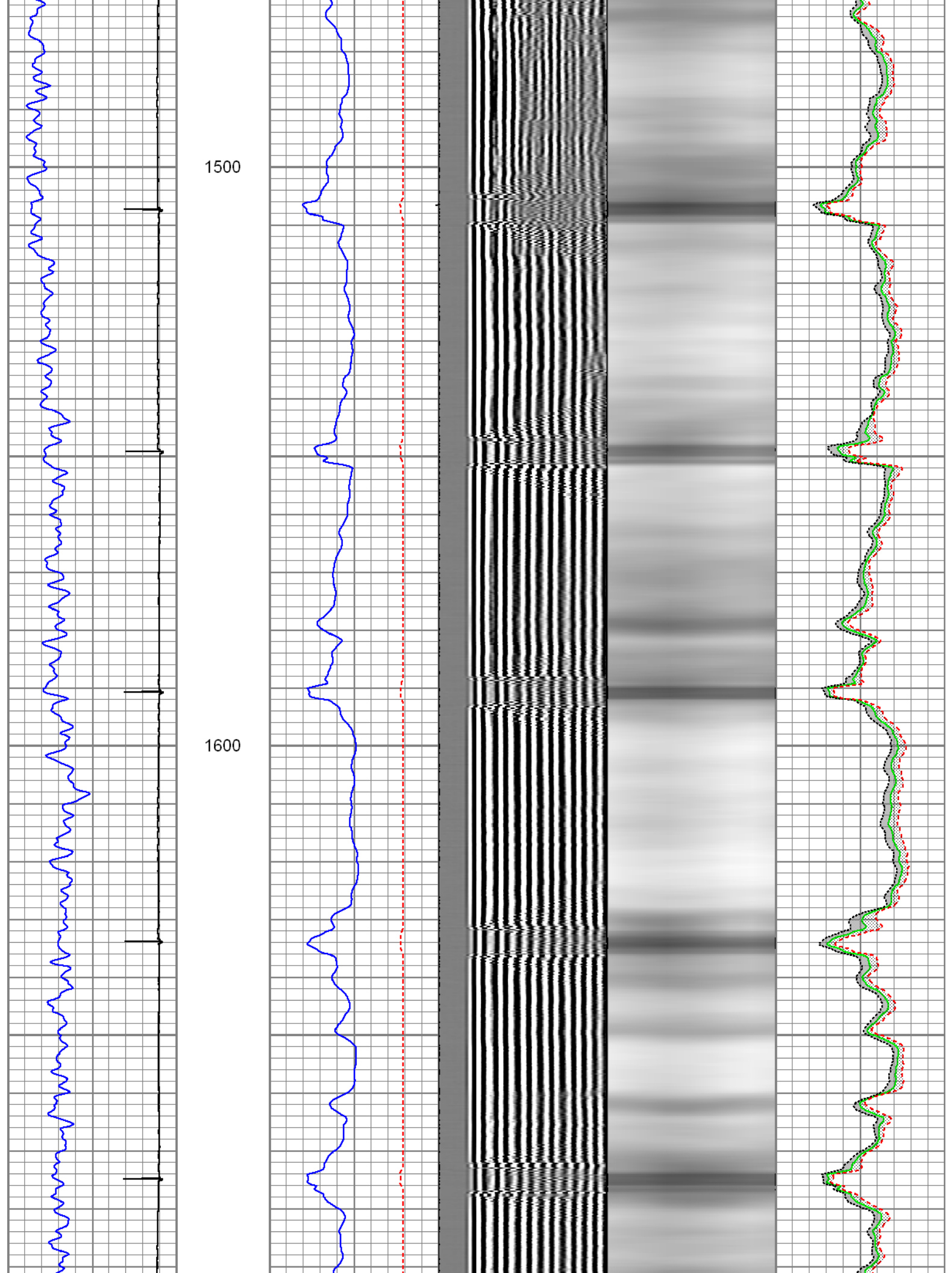


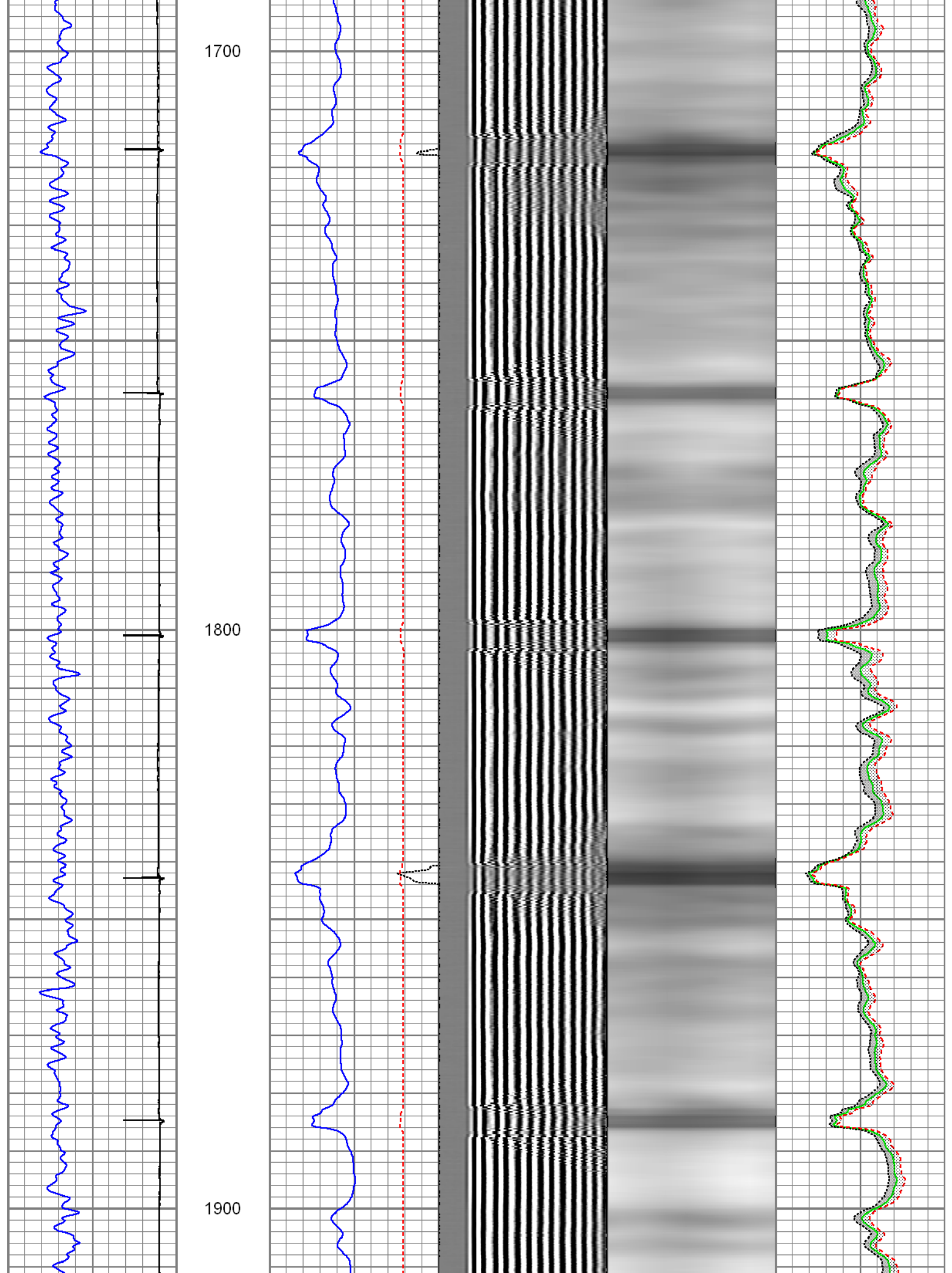


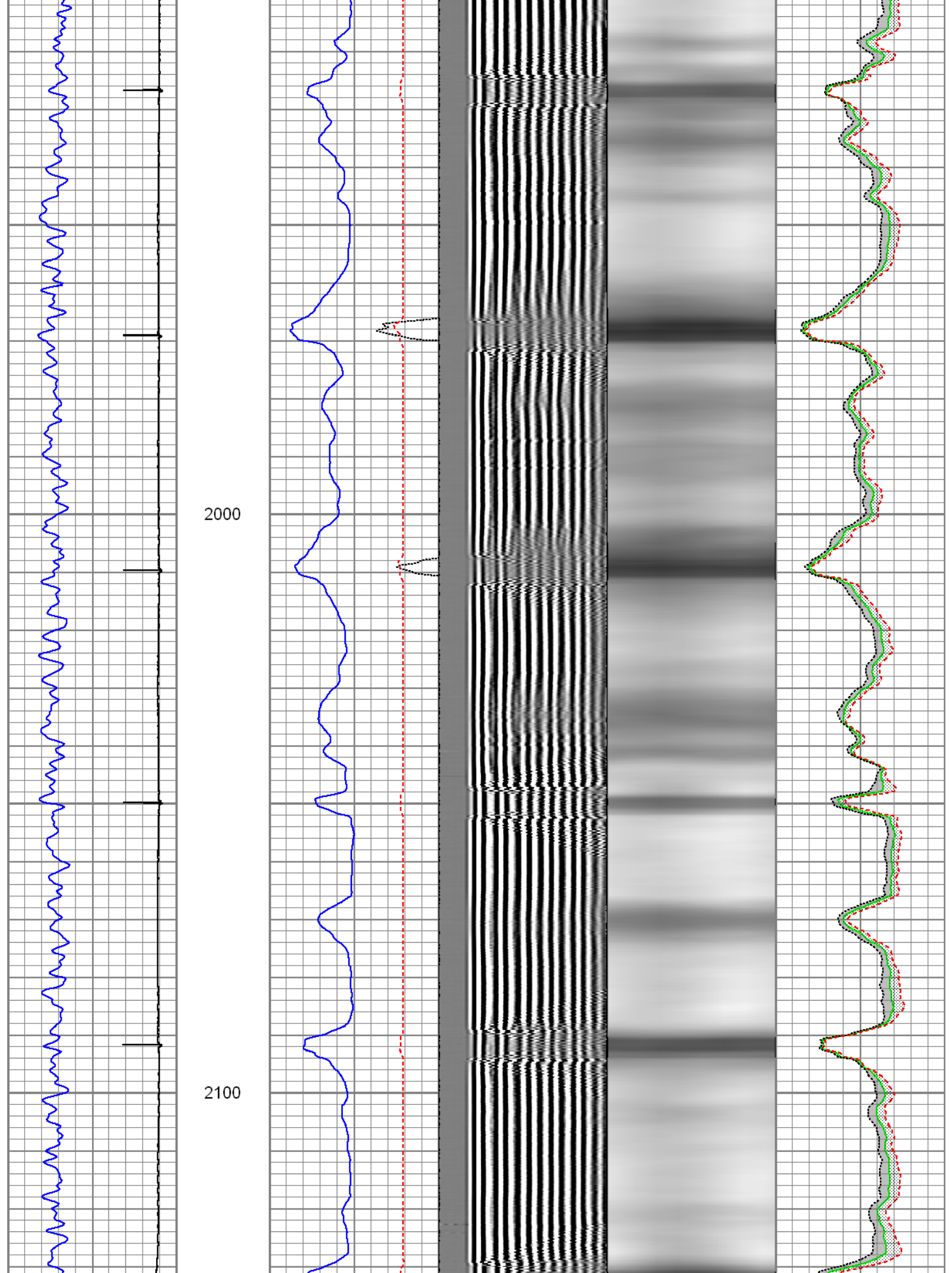






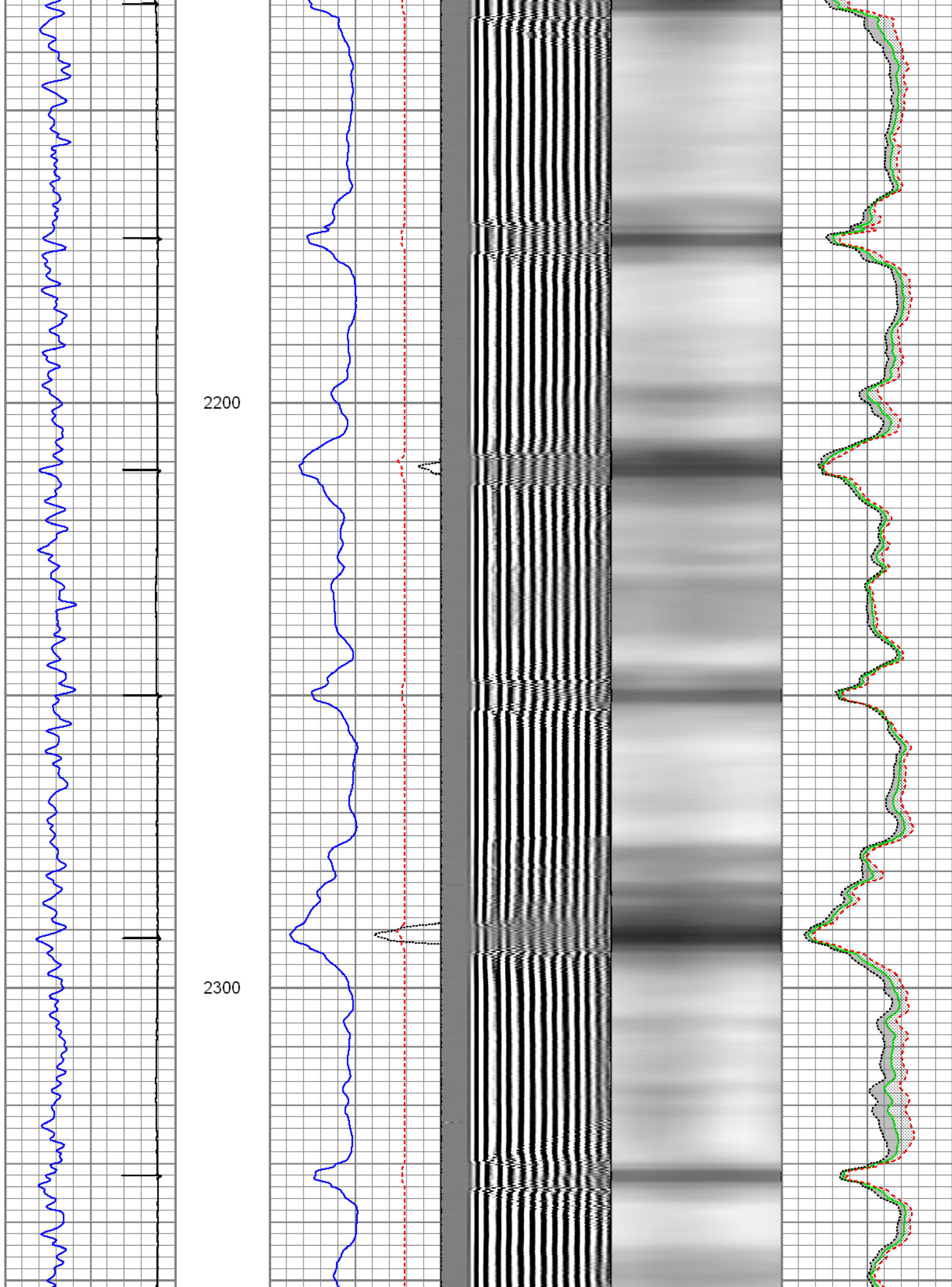


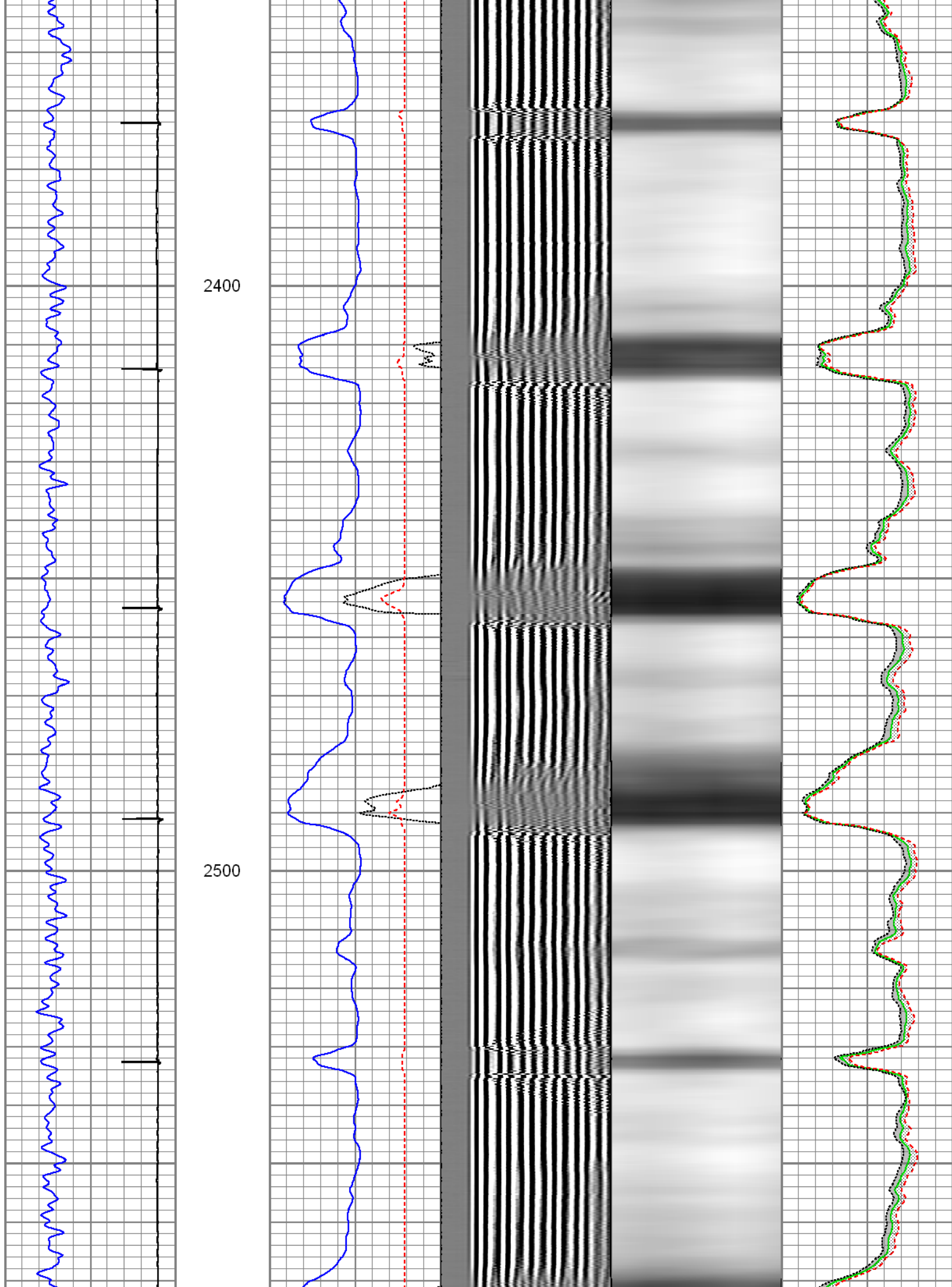




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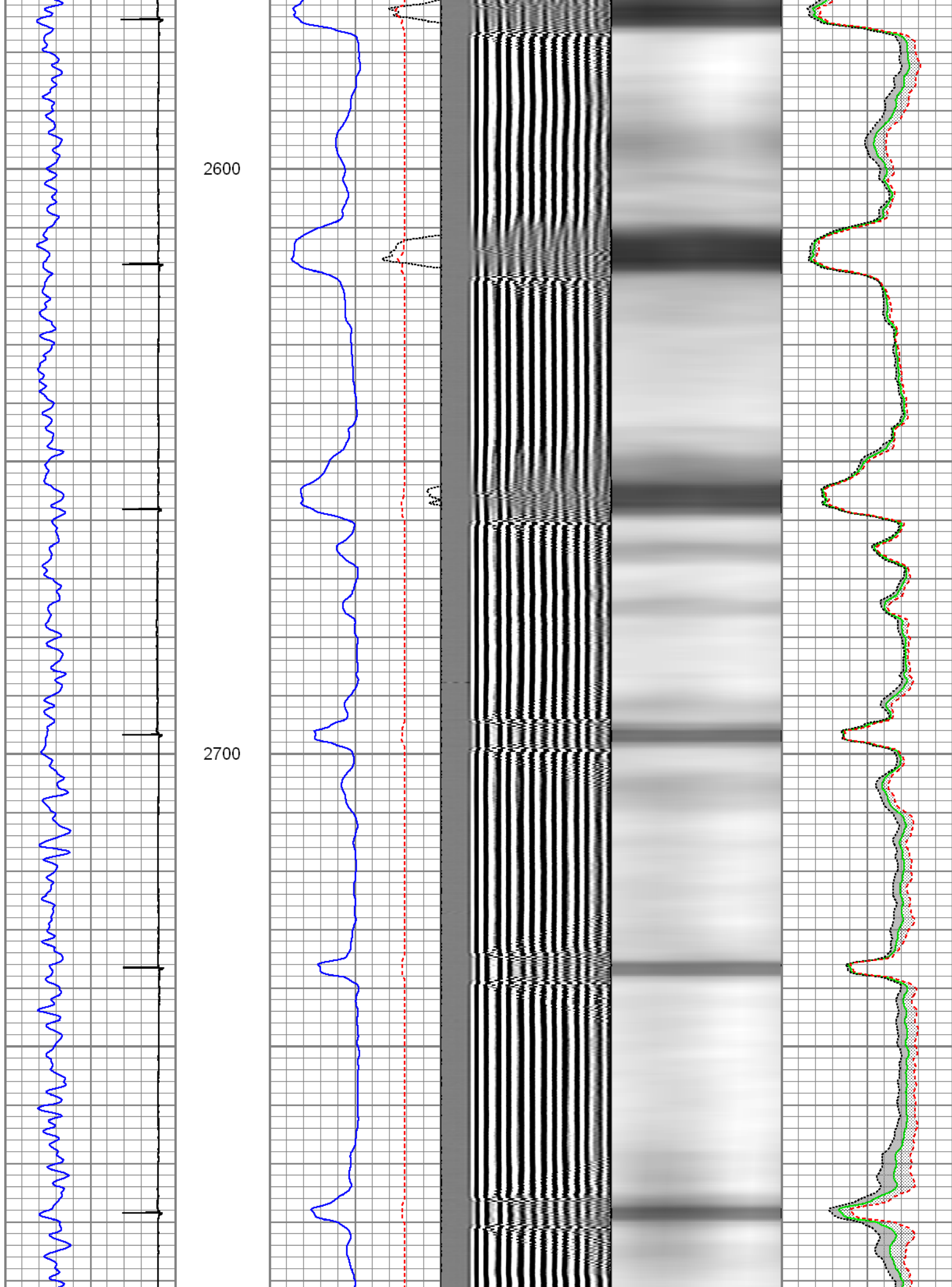
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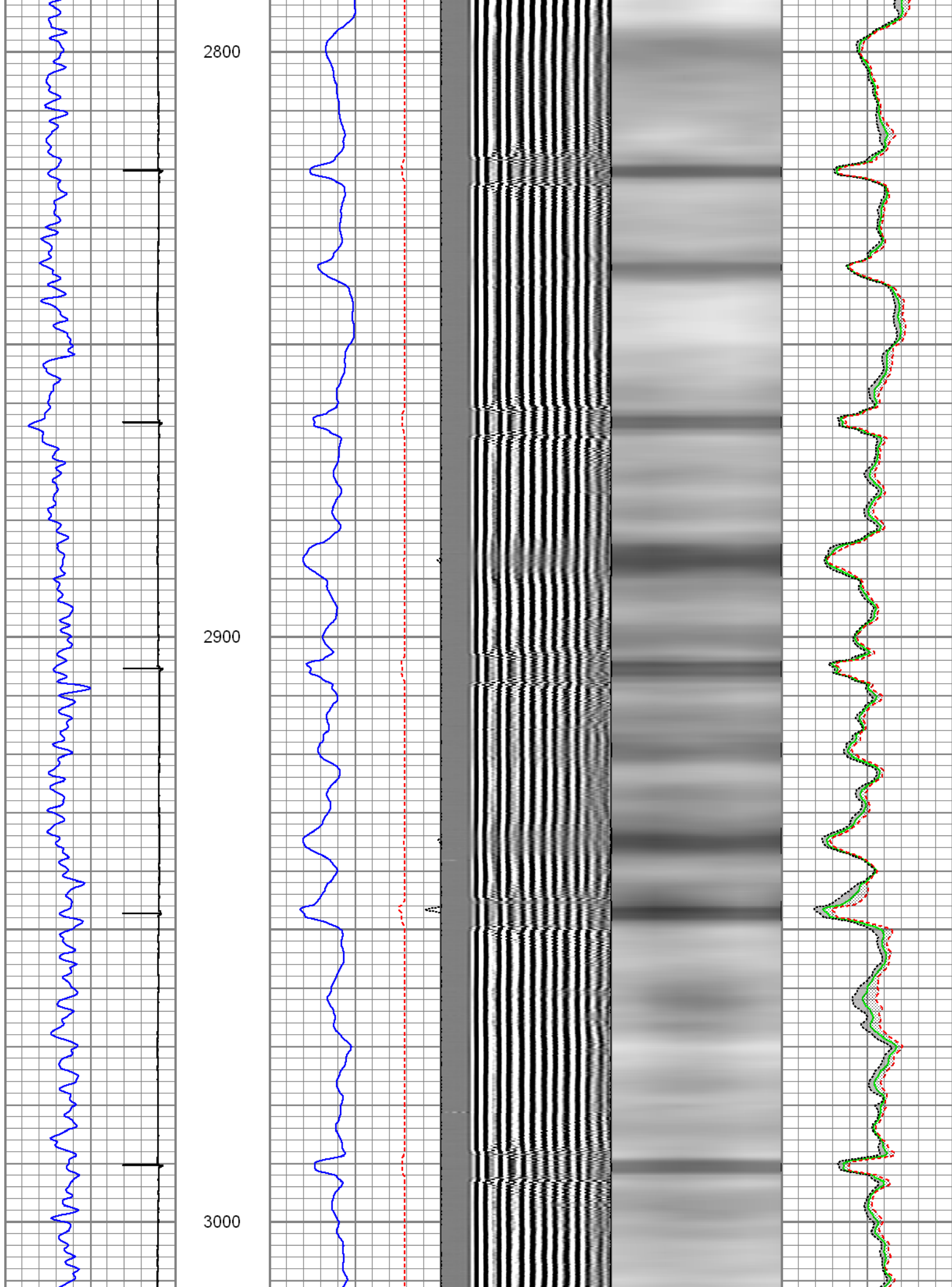
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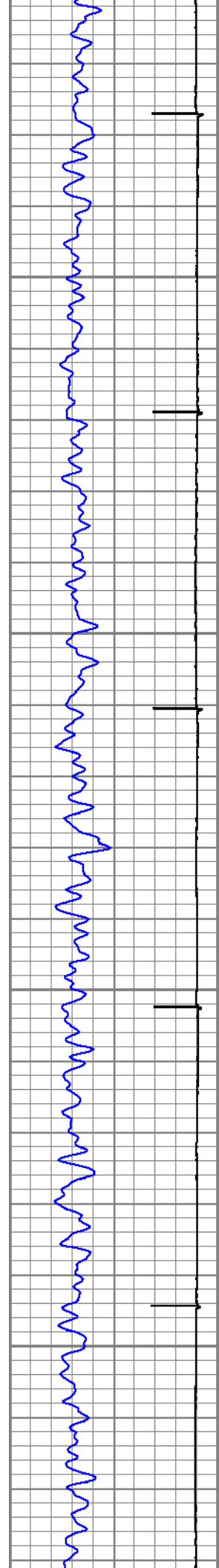


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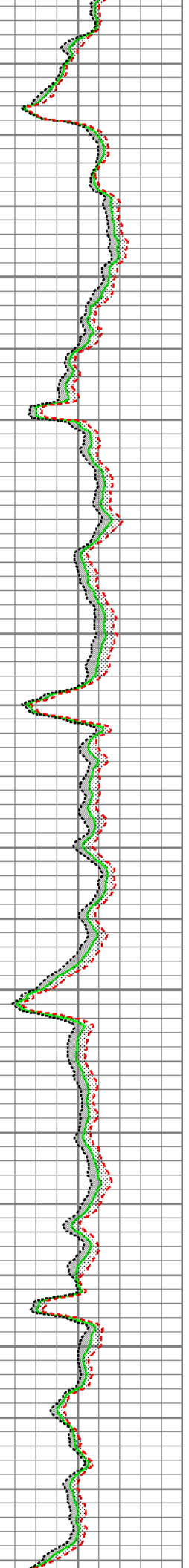
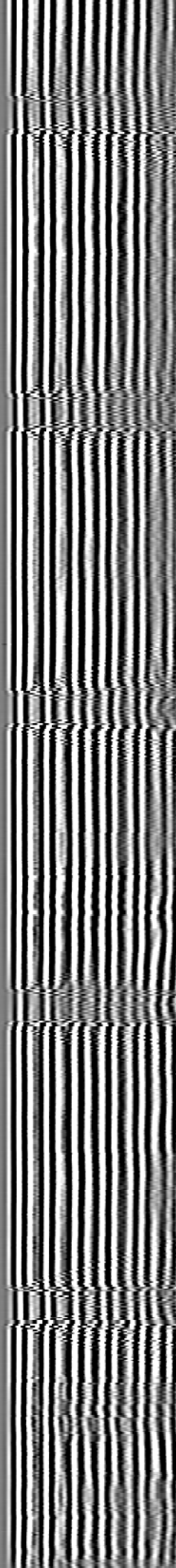
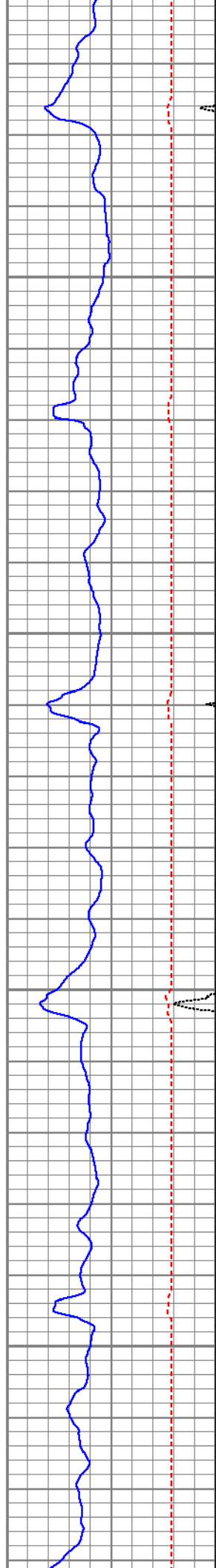
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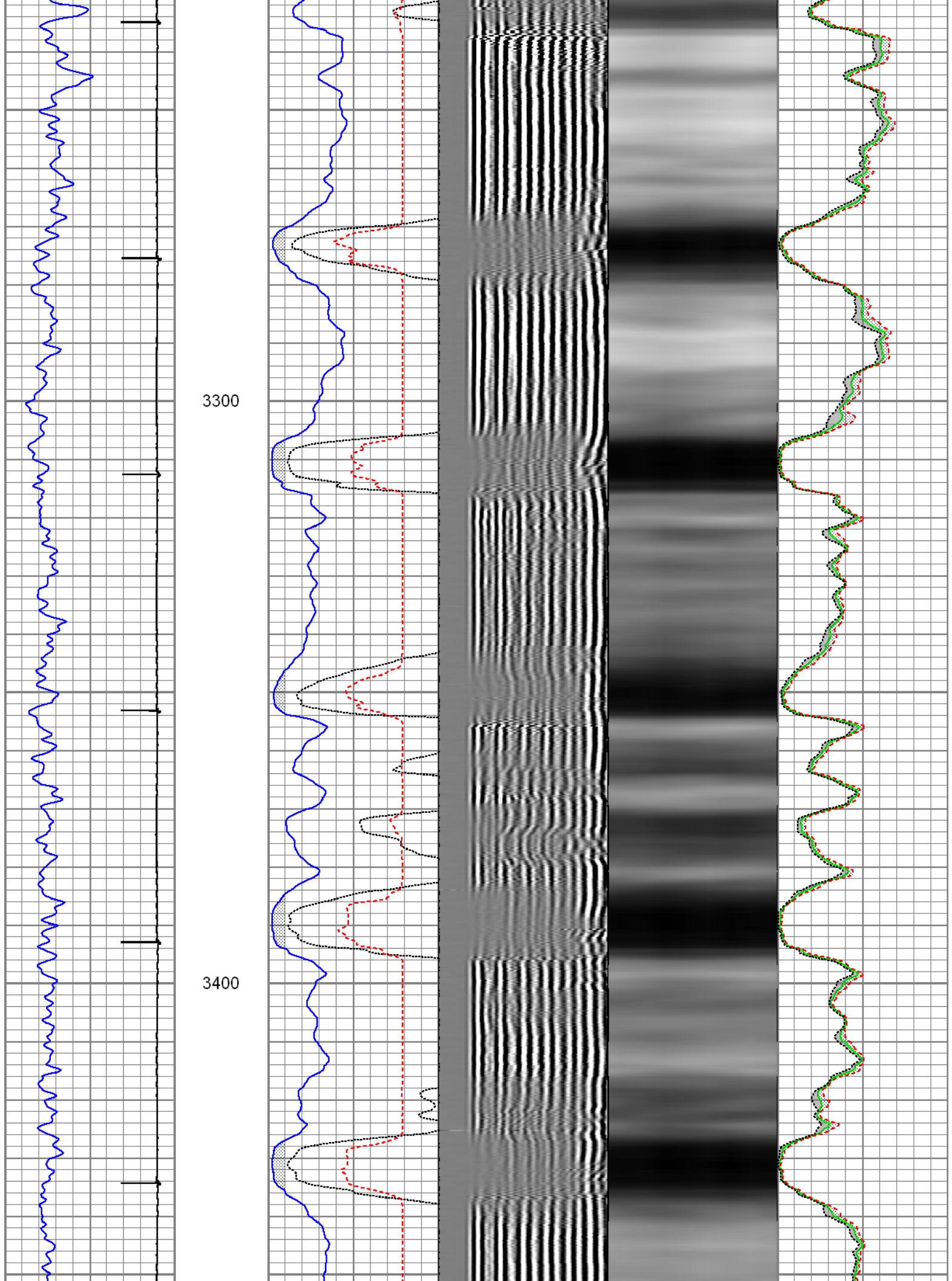


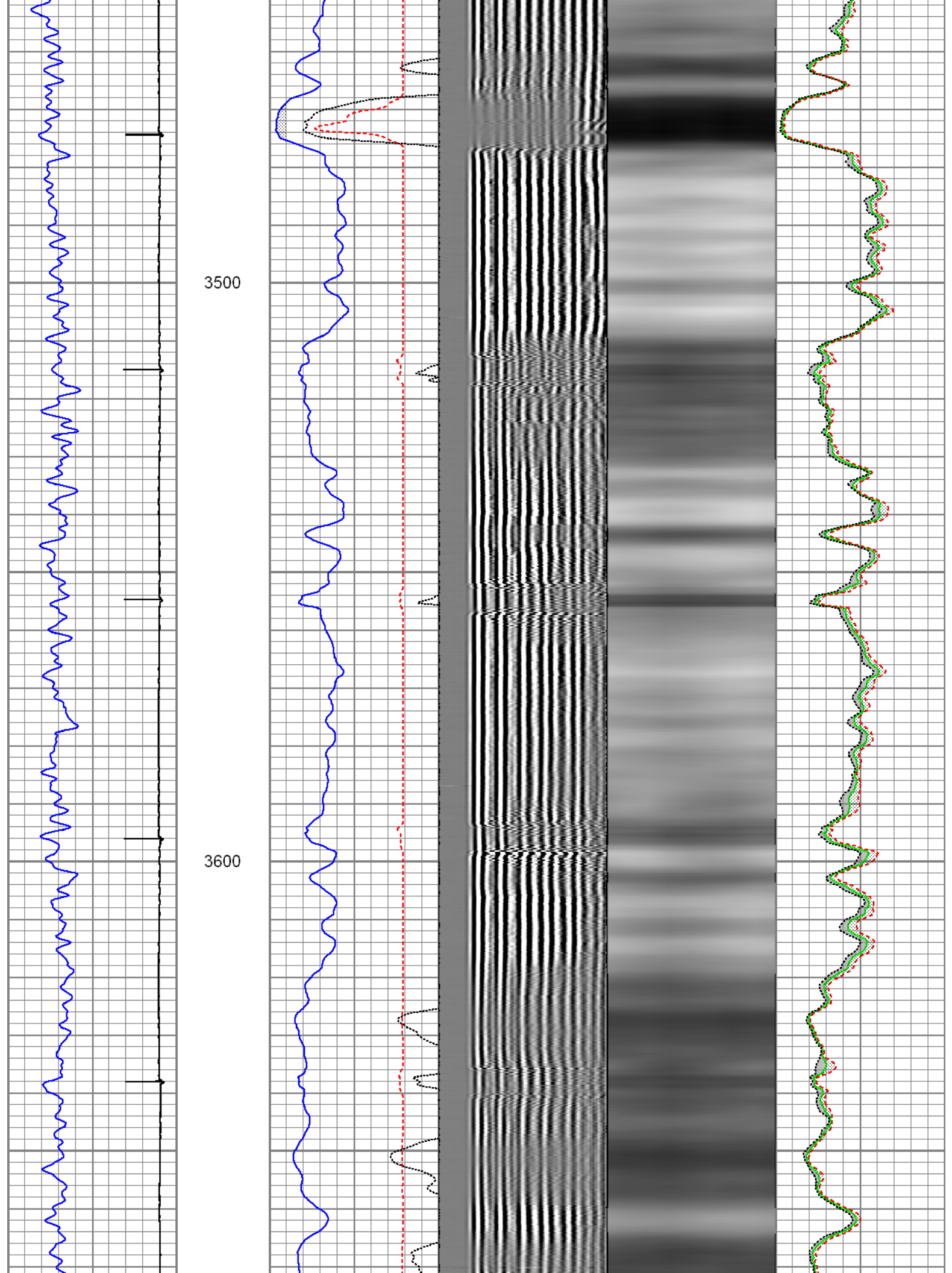


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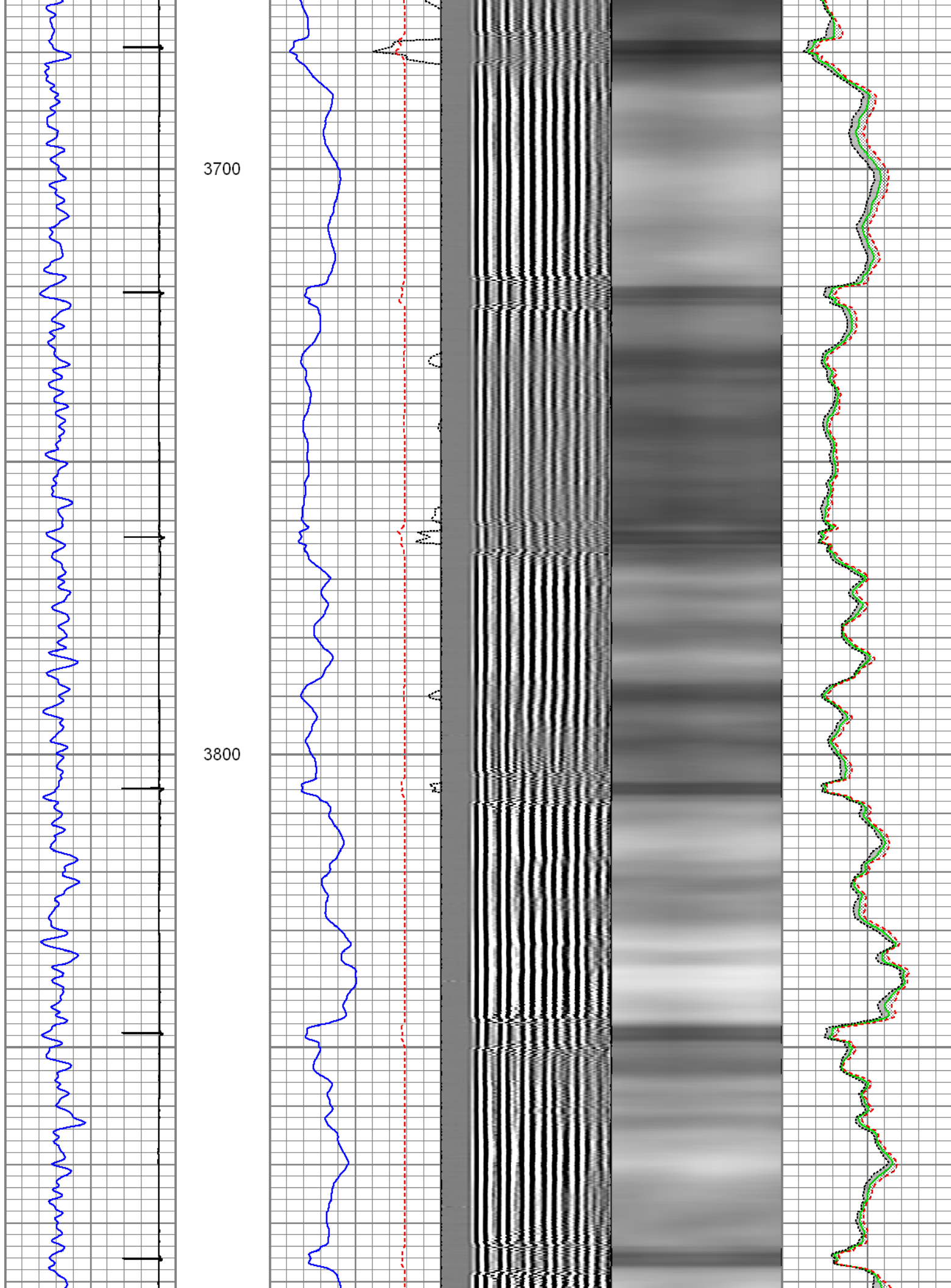






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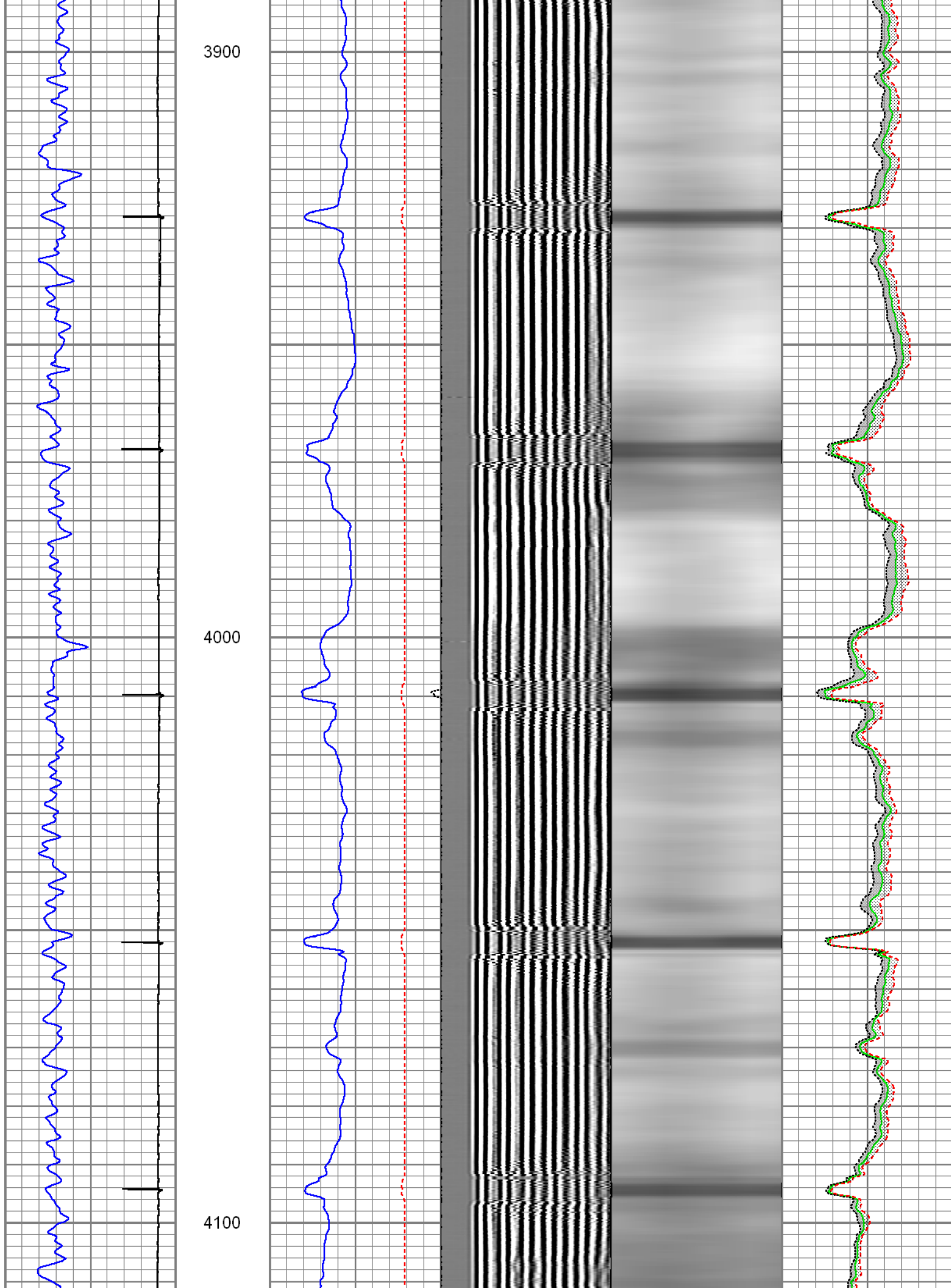
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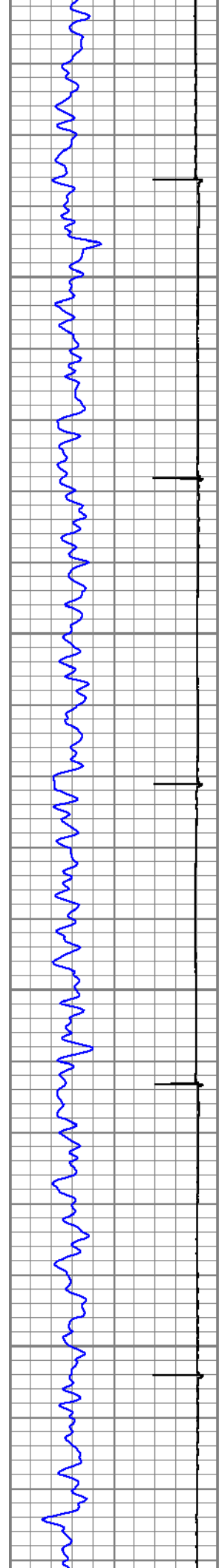


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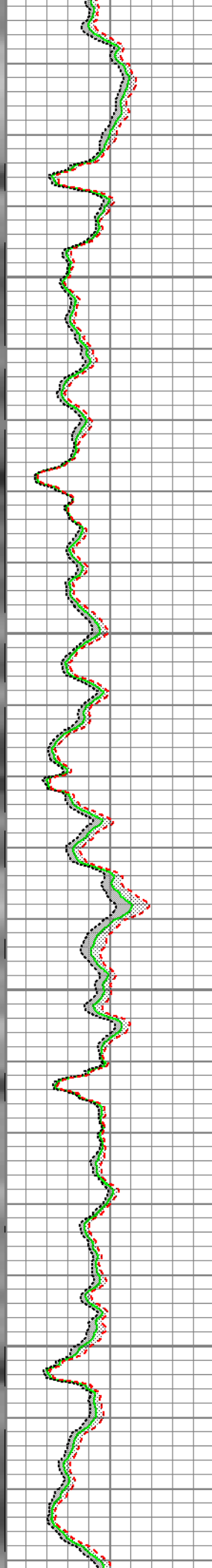
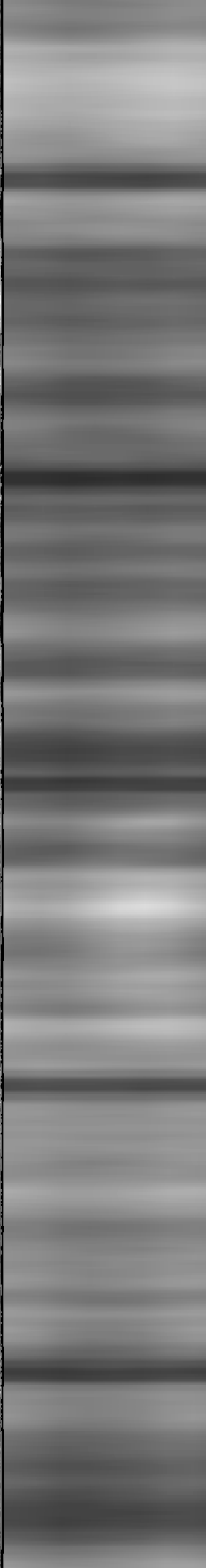
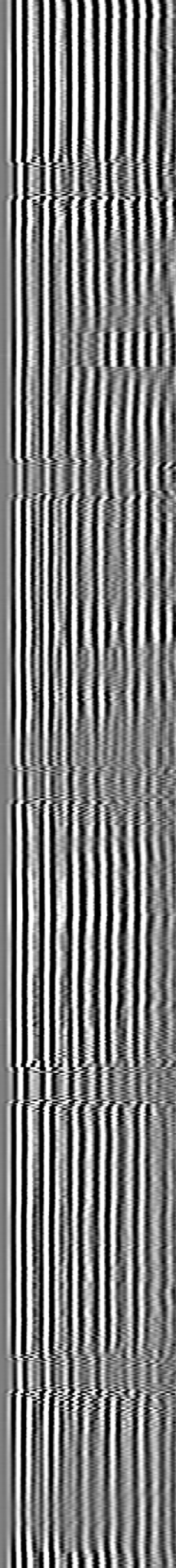
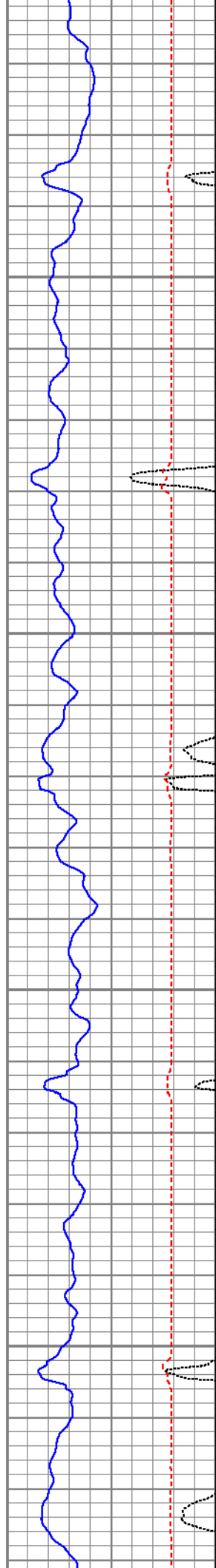
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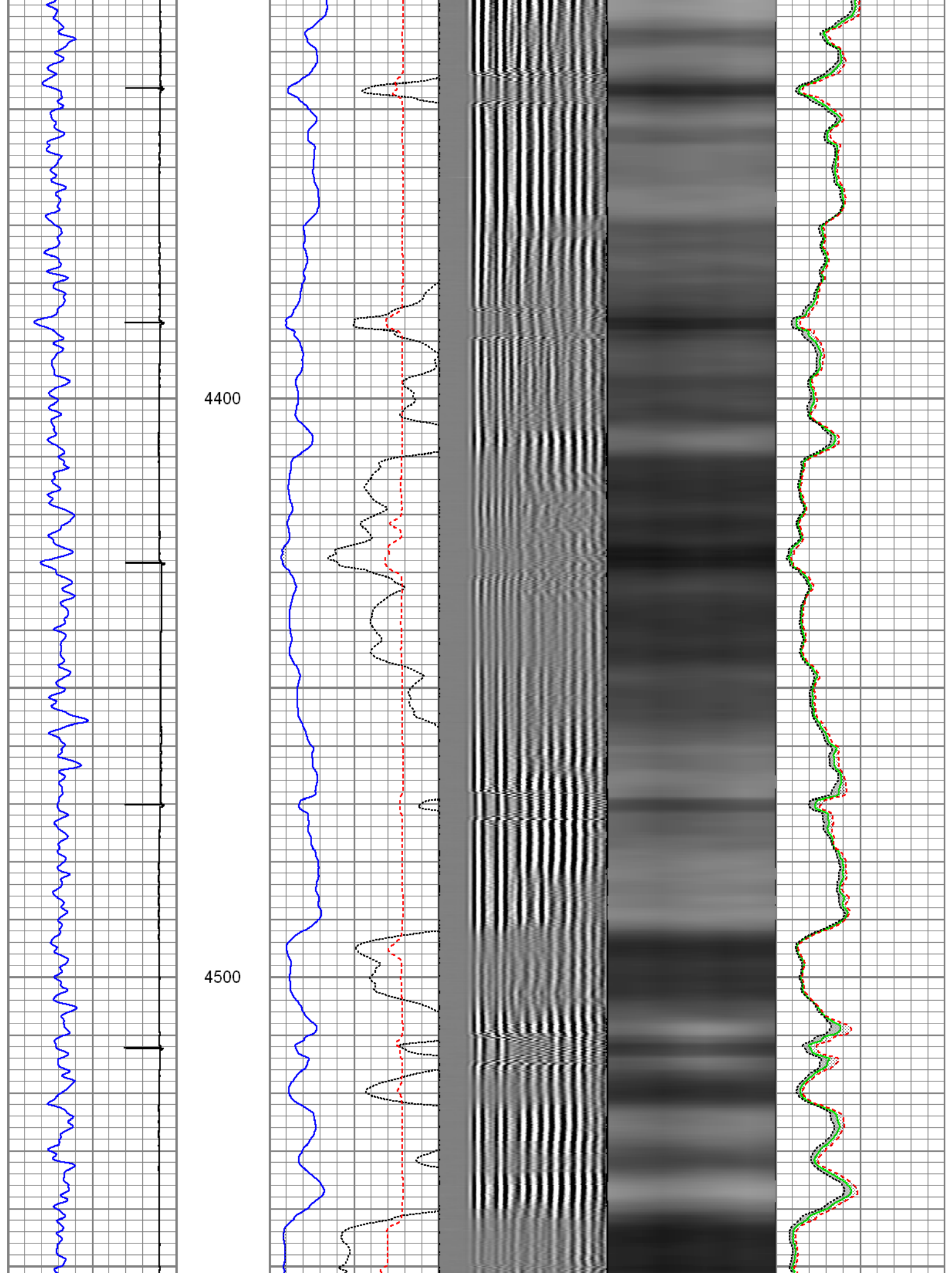


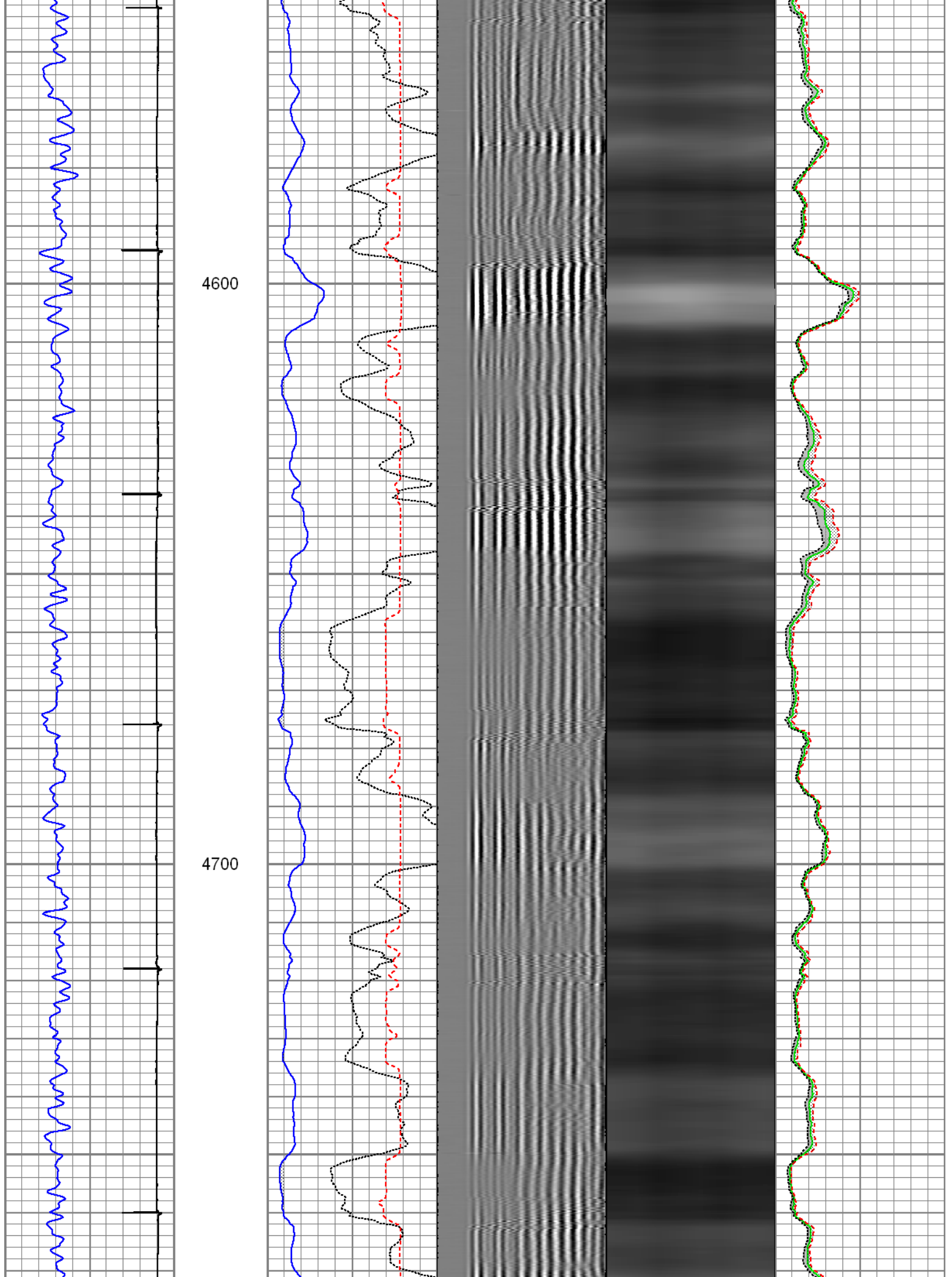


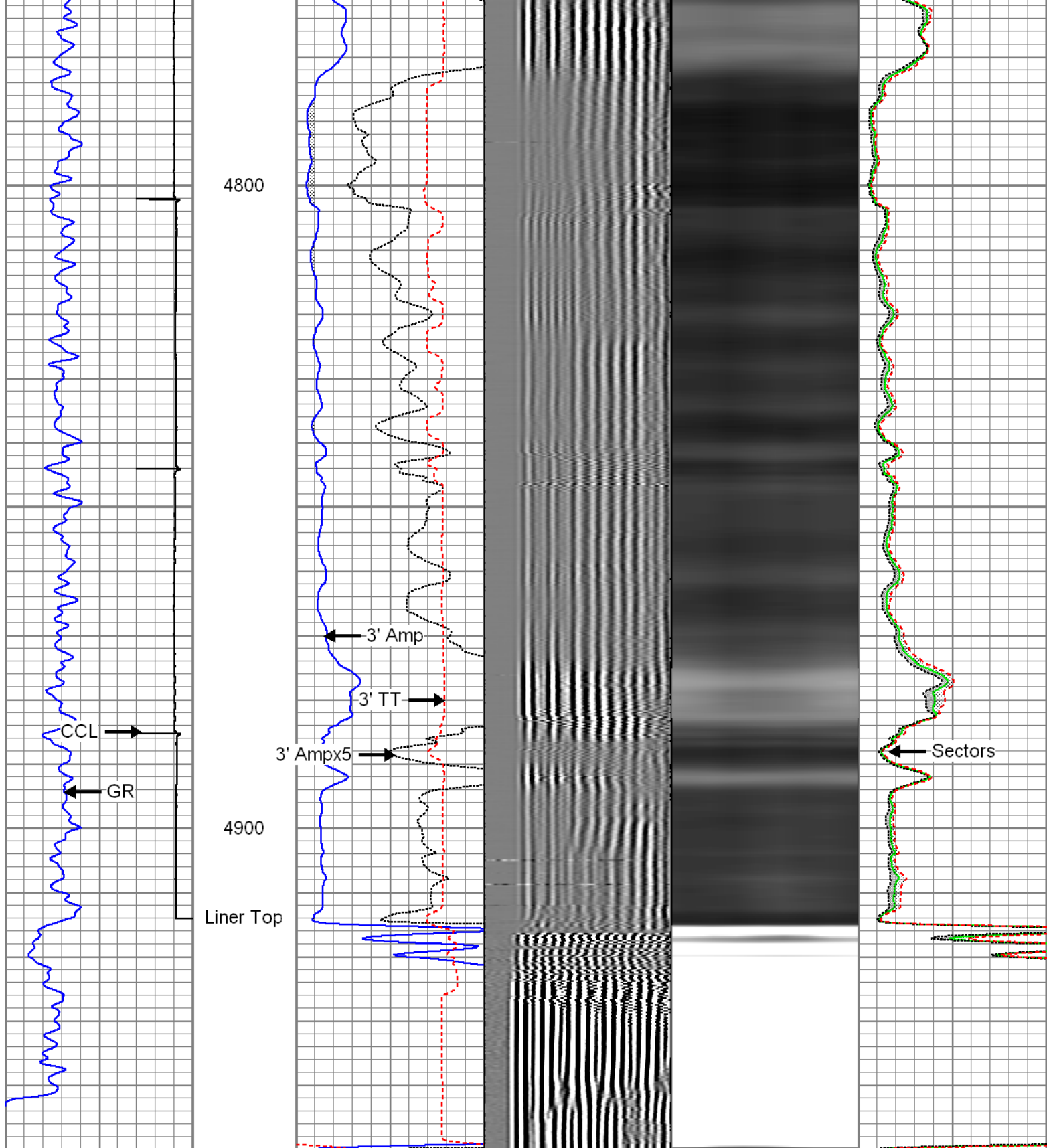
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4300







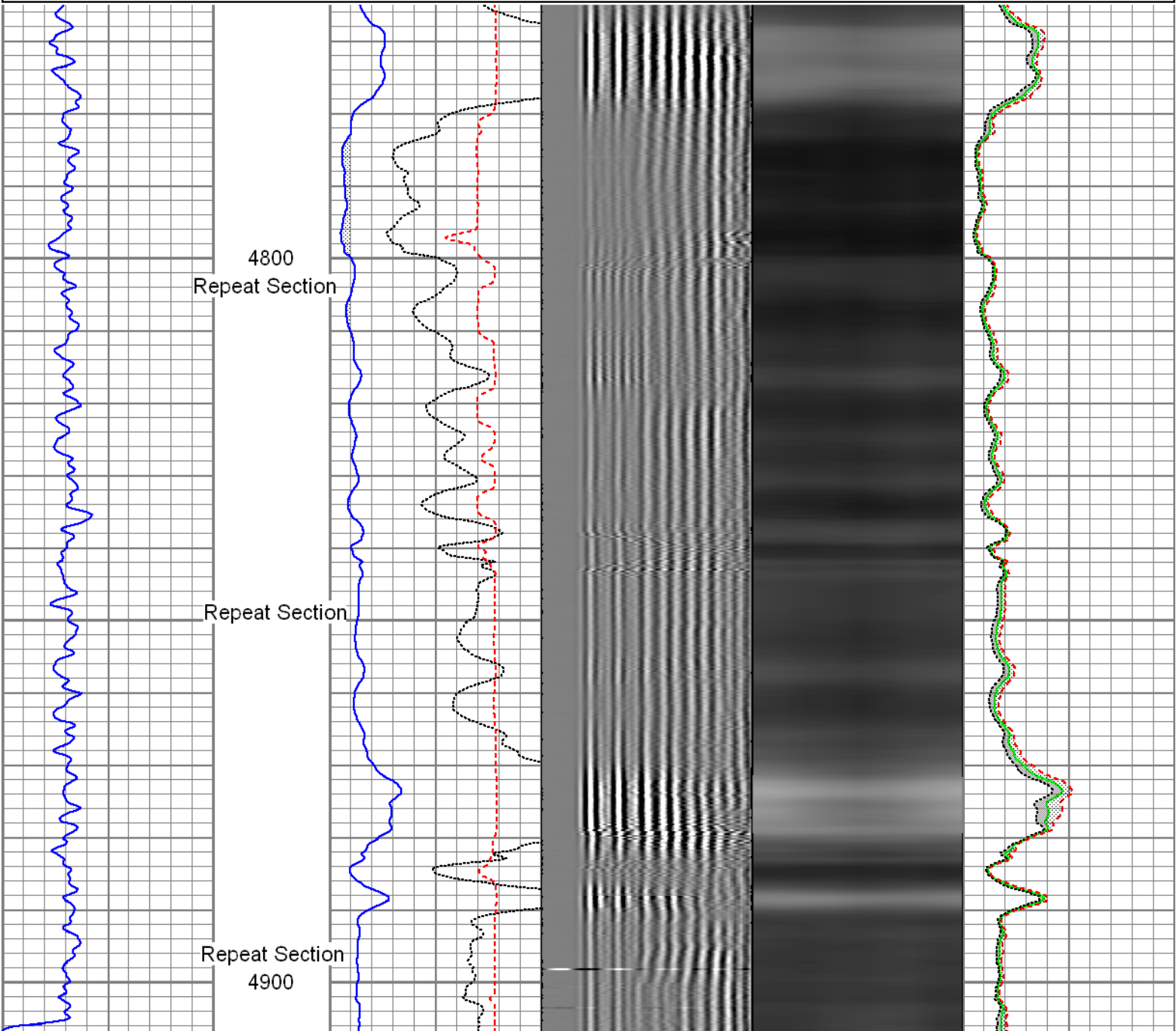


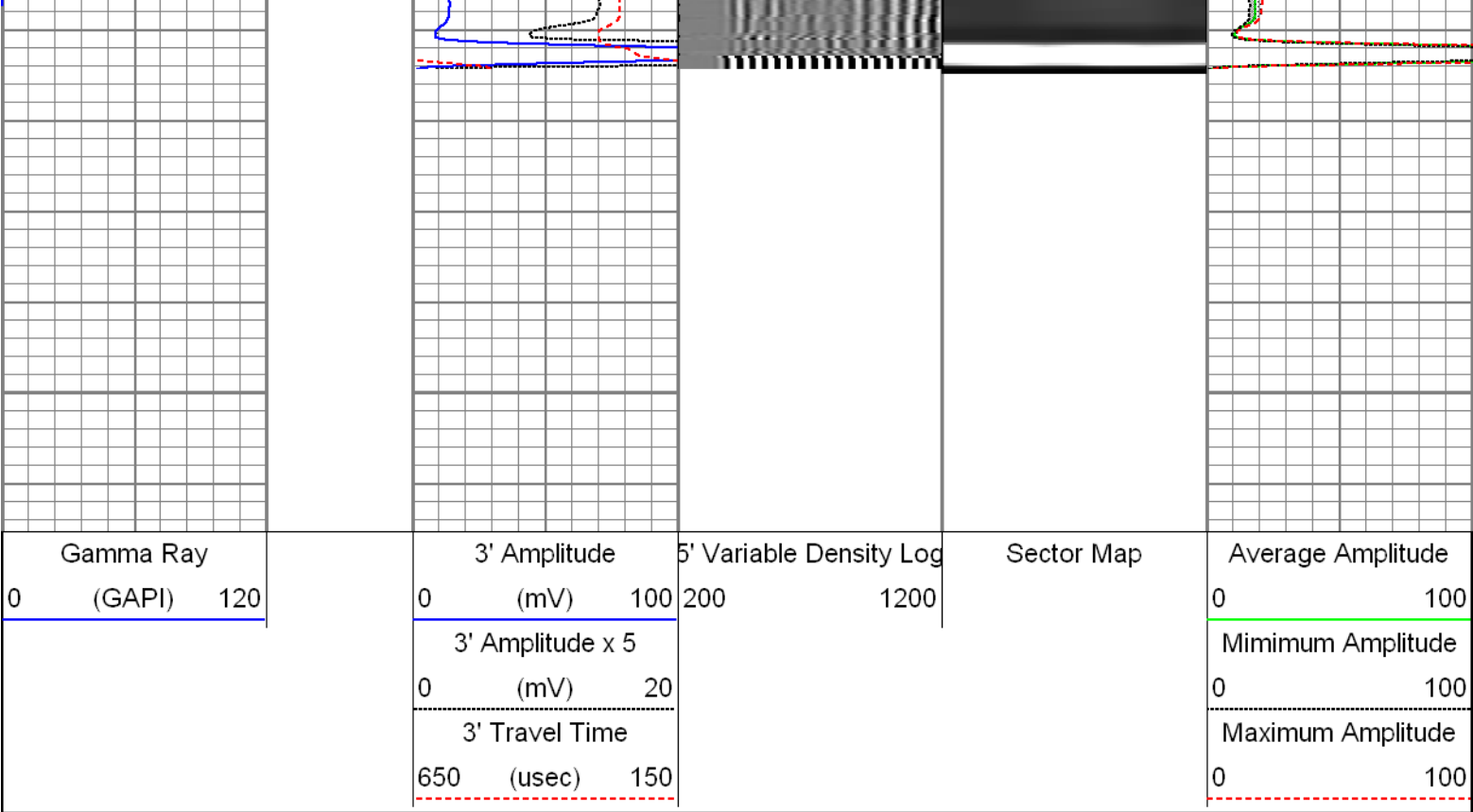
Gamma Ray		3' Amplitude		5' Variable Density Log		Sector Map		Average Amplitude	
0	(GAPI)	120	0	(mV)	100	200	1200	0	100
8	AVEDIA (in)	6	3' Amplitude x 5						Minimum Amplitude
			0	(mV)	20			0	100
			3' Travel Time						Maximum Amplitude
			650	(usec)	150			0	100

Recorded with 1500 PSI surface induced pressure.

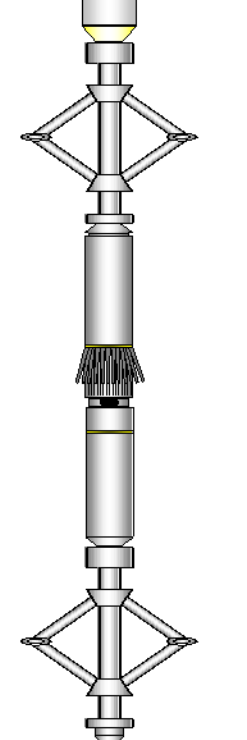
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 Presentation Format: rbt4_mit
 Dataset Creation: Sat Jul 26 14:30:05 2014 by Log SCH 111116
 Charted by: Depth in Feet scaled 1:240

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





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	22.37		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 (211461) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (050836) Production Gamma Ray	1.93	1.69	9.50
			UW_PRC-DSSRAC (080) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
WVFS3FT	14.99		UW_RBT-UW_RBT_004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS1	14.99					
WVFS2	14.99					
WVFS3	14.99					
WVFS4	14.99					
WVFS5	14.99					
WVFS6	14.99					
WVFS7	14.99					
WVFS8	14.99					
CRI TEMP	14.99					

CBLTEMP	14.99		UW_PRC-DSSRAC (082) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
CBLROT	14.99					
WVF5FT	13.99					
MIT	4.97		UW_MIT-UW_MIT40_042 (10014703) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC #3 -DSSRAC (084) 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
TSTAMP	0.00					
Dataset: 07-26-14_Whiting_Razor Federal 26I-3513A_MIT_RBL.db: field/well/run1/7Main Total Length: 26.62 ft Total Weight: 319.30 lb O.D. 3.13 in						

Calibration Report			
Database File:	07-26-14_Whiting_Razor Federal 26I-3513A_MIT_RBL.db		
Dataset Pathname:	CalReport		
Dataset Creation:	Sat Jul 26 16:35:41 2014 by Log SCH 111116		
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: Sat Jul 26 13:47:28 2014						
Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1209	358.0	1567	361.0	1928	403.0	2331
Finger 02:	1153	374.0	1527	382.0	1909	432.0	2341
Finger 03:	1161	357.0	1518	367.0	1885	415.0	2300
Finger 04:	1109	374.0	1483	394.0	1877	446.0	2323
Finger 05:	1123	355.0	1478	365.0	1843	410.0	2253
Finger 06:	1127	368.0	1495	382.0	1878	426.0	2304

Finger 06:	1127	368.0	1495	383.0	1878	426.0	2304
Finger 07:	1150	358.0	1508	371.0	1879	409.0	2288
Finger 08:	1108	364.0	1472	389.0	1861	424.0	2285
Finger 09:	1184	366.0	1550	380.0	1930	399.0	2329
Finger 10:	1123	357.0	1480	380.0	1860	401.0	2261
Finger 11:	1123	358.0	1481	389.0	1870	408.0	2278
Finger 12:	1197	354.0	1551	373.0	1924	374.0	2298
Finger 13:	1144	353.0	1497	391.0	1888	402.0	2290
Finger 14:	1115	364.0	1479	409.0	1888	411.0	2299
Finger 15:	1077	363.0	1440	416.0	1856	416.0	2272
Finger 16:	1149	357.0	1506	400.0	1906	395.0	2301
Finger 17:	1156	353.0	1509	391.0	1900	382.0	2282
Finger 18:	1203	349.0	1552	394.0	1946	381.0	2327
Finger 19:	1150	356.0	1506	405.0	1911	390.0	2301
Finger 20:	1063	356.0	1419	419.0	1838	403.0	2241
Finger 21:	1144	348.0	1492	401.0	1893	389.0	2282
Finger 22:	1137	353.0	1490	407.0	1897	391.0	2288
Finger 23:	1230	334.0	1564	380.0	1944	365.0	2309
Finger 24:	1143	360.0	1503	414.0	1917	396.0	2313
Finger 25:	1143	352.0	1495	410.0	1905	401.0	2306
Finger 26:	1179	354.0	1533	399.0	1932	390.0	2322
Finger 27:	1185	344.0	1529	390.0	1919	391.0	2310
Finger 28:	1152	358.0	1510	406.0	1916	407.0	2323
Finger 29:	1129	360.0	1489	410.0	1899	420.0	2319
Finger 30:	1130	356.0	1486	401.0	1887	420.0	2307
Finger 31:	1185	352.0	1537	382.0	1919	394.0	2313
Finger 32:	1132	361.0	1493	394.0	1887	423.0	2310
Finger 33:	1139	362.0	1501	391.0	1892	421.0	2313
Finger 34:	1125	367.0	1492	396.0	1888	430.0	2318
Finger 35:	1187	352.0	1539	371.0	1910	406.0	2316
Finger 36:	1128	364.0	1492	387.0	1879	430.0	2309
Finger 37:	1194	349.0	1543	362.0	1905	405.0	2310
Finger 38:	1225	353.0	1578	362.0	1940	405.0	2345
Finger 39:	1129	361.0	1490	375.0	1865	427.0	2292
Finger 40:	1083	377.0	1460	395.0	1855	453.0	2308

Post Survey Calibration Check
Performed: Sat Jul 26 16:35:32 2014

Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	3.995	-0.003	4.997	-0.002	5.999	-0.001	7.000	0.000
Finger 02:	4.000	0.000	4.997	-0.002	5.997	-0.001	7.000	0.000
Finger 03:	3.995	-0.003	4.997	-0.002	5.997	-0.001	6.998	-0.001
Finger 04:	3.987	-0.006	4.993	-0.003	5.994	-0.003	6.993	-0.004
Finger 05:	3.999	-0.001	4.994	-0.003	5.997	-0.001	6.996	-0.002
Finger 06:	3.996	-0.002	4.995	-0.003	6.000	-0.000	6.999	-0.001
Finger 07:	3.994	-0.003	4.996	-0.002	6.001	0.000	6.999	-0.001
Finger 08:	3.995	-0.002	4.996	-0.002	5.998	-0.001	6.997	-0.001
Finger 09:	3.994	-0.003	4.995	-0.003	5.996	-0.002	6.997	-0.002
Finger 10:	3.995	-0.003	4.996	-0.002	5.999	-0.000	6.997	-0.001
Finger 11:	3.996	-0.002	5.000	0.000	6.003	0.001	7.001	0.000
Finger 12:	3.992	-0.004	4.995	-0.003	5.994	-0.003	6.998	-0.001
Finger 13:	3.996	-0.002	4.999	-0.000	6.000	0.000	7.000	-0.000
Finger 14:	4.000	-0.000	5.003	0.002	6.003	0.001	7.005	0.003
Finger 15:	3.995	-0.002	4.998	-0.001	5.997	-0.001	7.002	0.001
Finger 16:	3.999	-0.000	4.999	-0.000	6.003	0.002	7.004	0.002
Finger 17:	3.989	-0.006	4.988	-0.006	6.001	0.000	6.998	-0.001
Finger 18:	3.989	-0.005	4.992	-0.004	5.996	-0.002	7.002	0.001
Finger 19:	3.999	-0.001	4.997	-0.002	5.999	-0.000	7.001	0.000
Finger 20:	3.994	-0.003	4.996	-0.002	5.994	-0.003	6.997	-0.001
Finger 21:	3.991	-0.005	4.996	-0.002	5.997	-0.002	6.997	-0.001
Finger 22:	3.994	-0.003	4.994	-0.003	5.993	-0.004	6.997	-0.001
Finger 23:	3.993	-0.004	4.995	-0.003	5.997	-0.002	6.999	-0.001
Finger 24:	3.996	-0.002	4.998	-0.001	5.997	-0.002	7.002	0.001
Finger 25:	3.999	-0.001	4.999	-0.001	5.997	-0.001	6.999	-0.001
Finger 26:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 27:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 28:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 29:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 30:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 31:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 32:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 33:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 34:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 35:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 36:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 37:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 38:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 39:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001
Finger 40:	3.999	-0.001	4.999	-0.001	5.999	-0.001	6.999	-0.001

Finger 26:	3.992	-0.004	4.995	-0.003	5.998	-0.001	6.994	-0.003
Finger 27:	3.997	-0.002	4.998	-0.001	6.001	0.001	7.000	0.000
Finger 28:	3.996	-0.002	4.997	-0.002	6.000	-0.000	6.997	-0.002
Finger 29:	3.995	-0.002	4.995	-0.002	6.002	0.001	6.998	-0.001
Finger 30:	3.991	-0.004	4.994	-0.003	5.996	-0.002	6.997	-0.002
Finger 31:	3.996	-0.002	4.994	-0.003	5.998	-0.001	7.000	0.000
Finger 32:	3.994	-0.003	4.995	-0.002	5.997	-0.002	6.996	-0.002
Finger 33:	3.996	-0.002	4.998	-0.001	6.006	0.003	7.002	0.001
Finger 34:	4.000	0.000	4.996	-0.002	5.999	-0.001	7.001	0.000
Finger 35:	3.991	-0.005	4.997	-0.001	5.996	-0.002	7.000	-0.000
Finger 36:	3.995	-0.002	4.997	-0.001	5.999	-0.001	7.001	0.000
Finger 37:	3.994	-0.003	5.003	0.001	6.002	0.001	7.008	0.004
Finger 38:	3.991	-0.005	4.995	-0.002	5.996	-0.002	7.002	0.001
Finger 39:	3.996	-0.002	4.996	-0.002	5.999	-0.001	7.003	0.001
Finger 40:	3.990	-0.005	4.992	-0.004	5.995	-0.003	6.994	-0.003
Average:	3.995	-0.003	4.996	-0.002	5.998	-0.001	6.999	-0.000

Segmented Cement Bond Log Calibration Report

Serial Number: 10013454
Tool Model: UW_RBT_004

Calibration Casing Diameter: 7.000 in
Calibration Depth: 99.496 ft

Master Calibration, performed Sat Jul 26 10:58:40 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.000	0.750	0.800	62.165	81.854	0.800
5FT	-0.001	0.847	0.800	62.165	72.388	0.888
S1	0.000	0.786	0.000	100.000	127.253	-0.009
S2	0.011	0.778	0.000	100.000	130.253	-1.386
S3	0.005	0.750	0.000	100.000	134.155	-0.611
S4	-0.002	0.723	0.000	100.000	137.827	0.336
S5	0.010	0.702	0.000	100.000	144.531	-1.406
S6	0.000	0.708	0.000	100.000	141.176	-0.005
S7	0.000	0.733	0.000	100.000	136.454	-0.057
S8	0.003	0.769	0.000	100.000	130.571	-0.370

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 Whiting Oil & Gas Corporation
Well Razor Federal 26I-3513A
Field Wildcat
County Weld
State Colorado

