



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.

Well State 28-16

Field Wattenberg

County	Weld	State	Colorado
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Location: API #: 05-123-29119

SEC 16 TWP 1N RGE 68W

Drilling Measured From Kelly Bushing

G.L. 5159'

	27-Dec-2015
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	One
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8561 FT	
4450 FT	

4150 FT	
4145 FT	

Val	4145 F1
	Surface

	Callace
	8.750"

Water	

8.34 lbm/g	
420°F	

mp.	139°F
bp.	710 ET

op	ROI
	ROA

nom	0830
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	HD-0325
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Fort Lupton,	
1 Available:	

J. Amidei	
Nick I and	

Nick Lang	Whole Record

From	To
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[illegible]



Size (in)	W/gt (lbs/Ft)
10	10

8 5/8	24	
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4 1/2	11.6
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[illegible]


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.

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Comments

Log ran as per customer request  
Depth referenced to previous log collars at 4098 FT and 4054 FT  
Adjusted log 12 FT to correlate with collars on log  
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing FMC Technologies Surface Integrated Services.

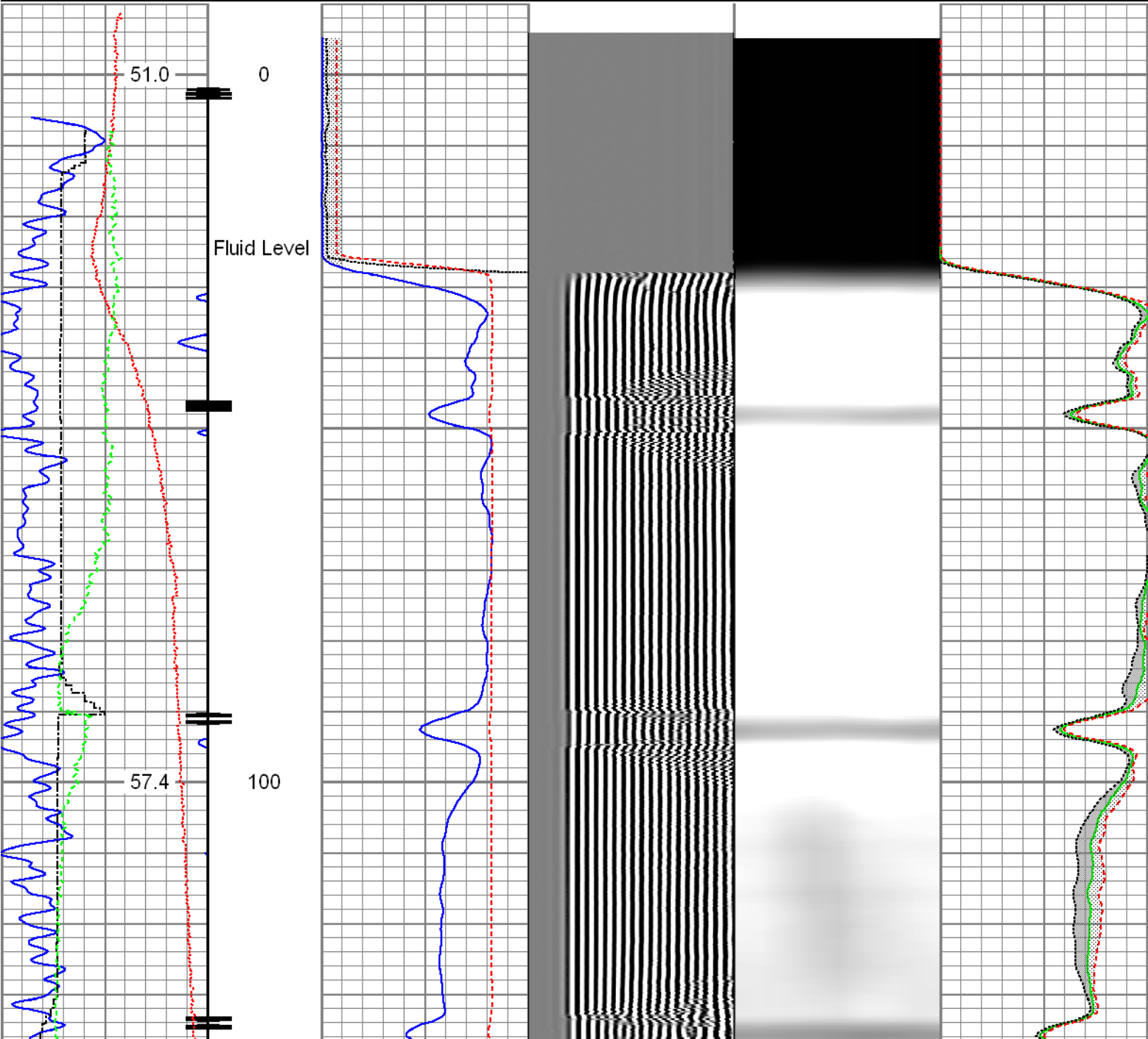


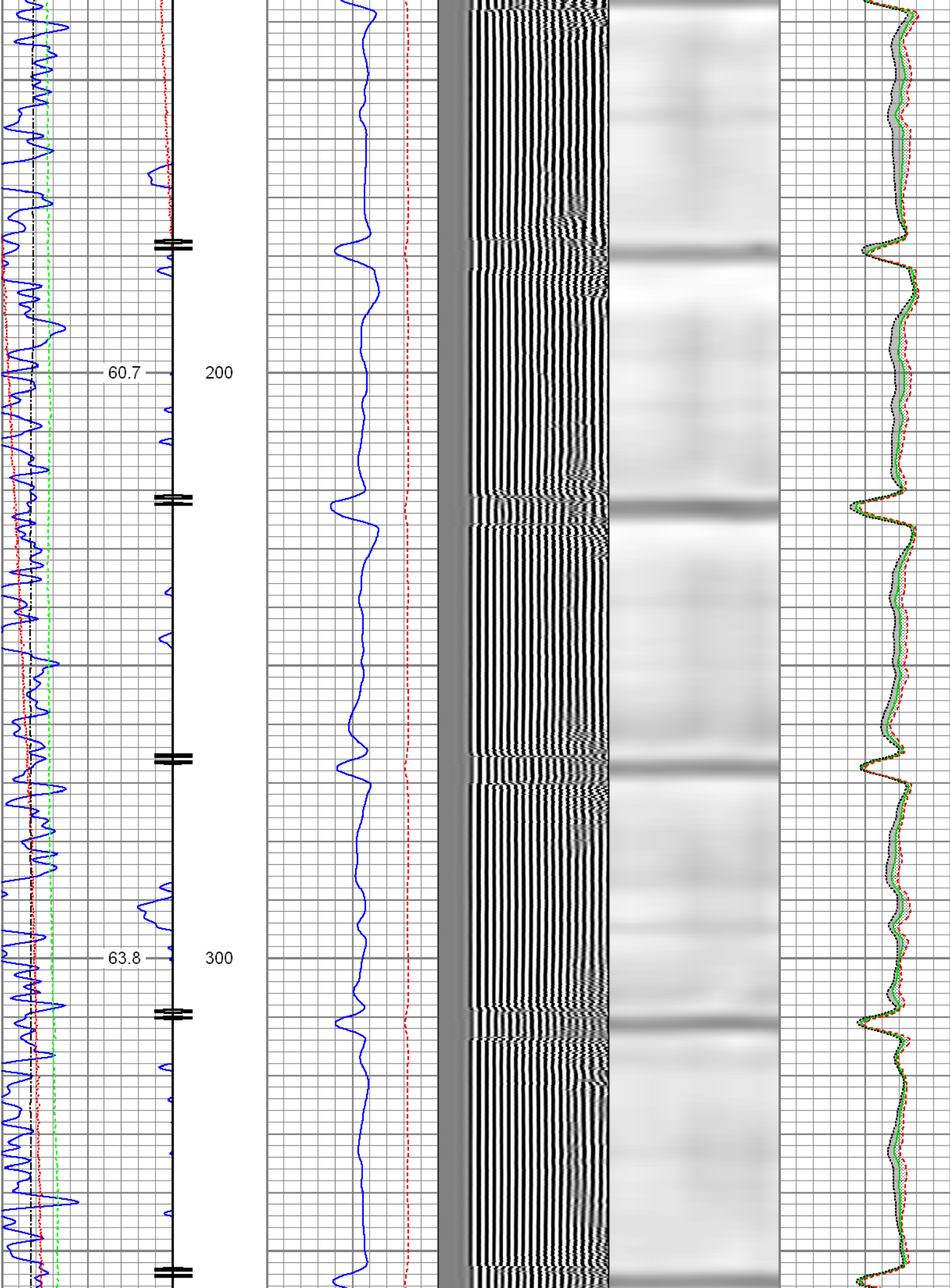
## Main Pass

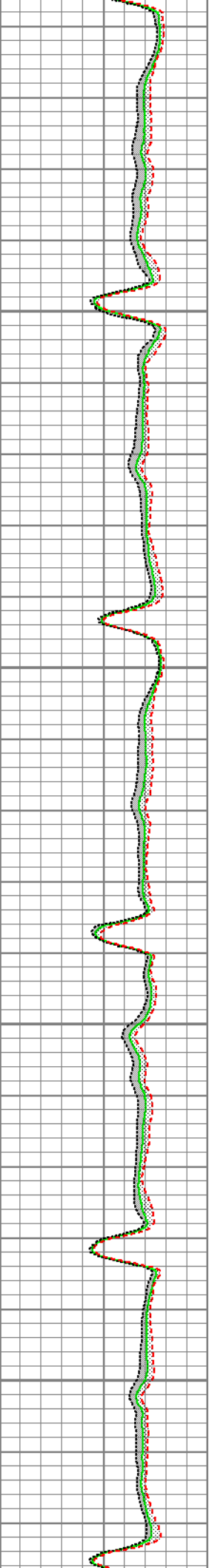
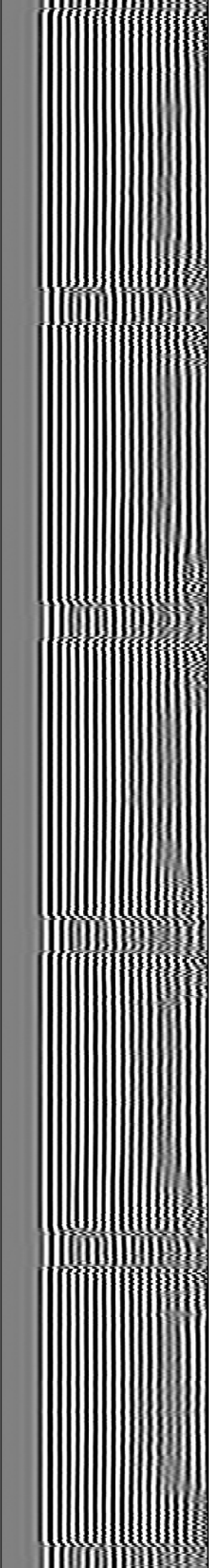
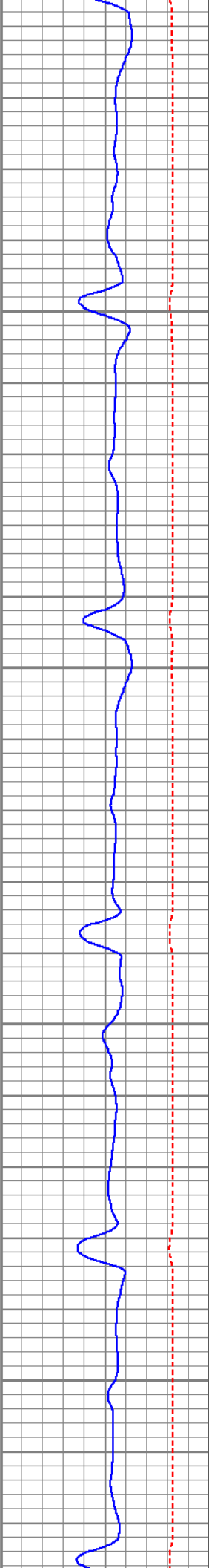
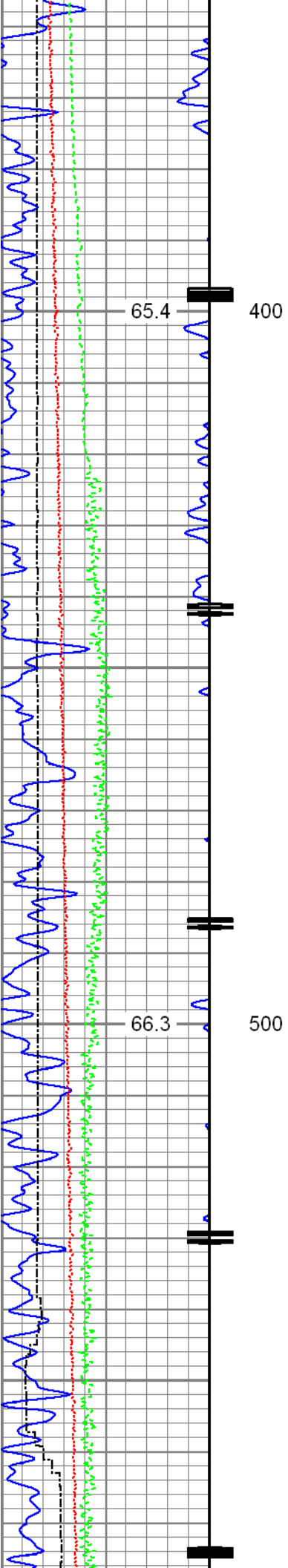
Recorded with 0 PSI Surface Induced Pressure

Database File: processed\_0512329119\_anadarko\_state 28-16\_12-27-15\_rbl.db  
Dataset Pathname: pass9  
Presentation Format: radii  
Dataset Creation: Sun Dec 27 08:41:41 2015 by Log 7.0 B1  
Charted by: Depth in Feet scaled 1:240

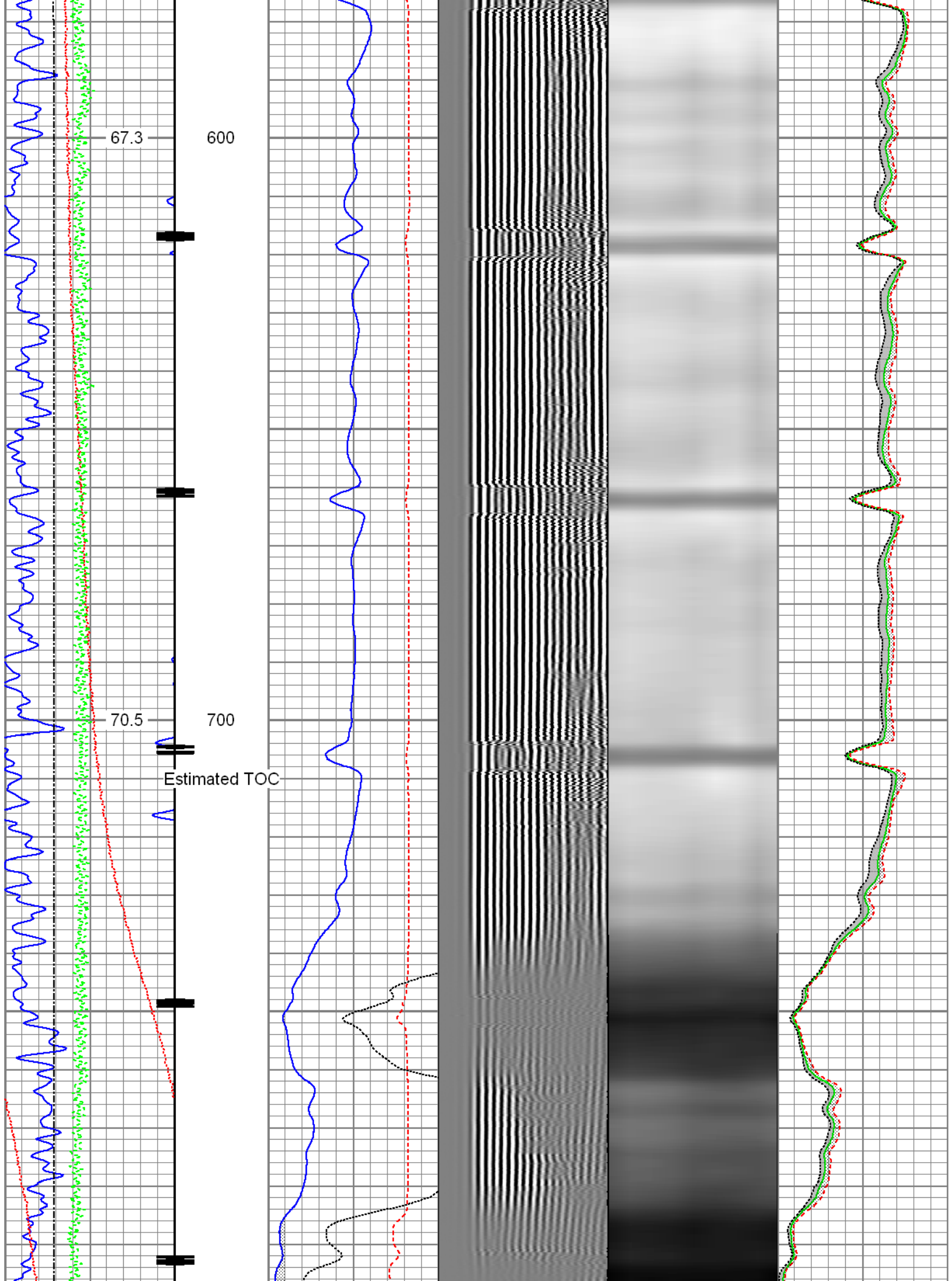
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
30 (GAPI) 130	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150				
Line Tension				
0 (lb) 2000				

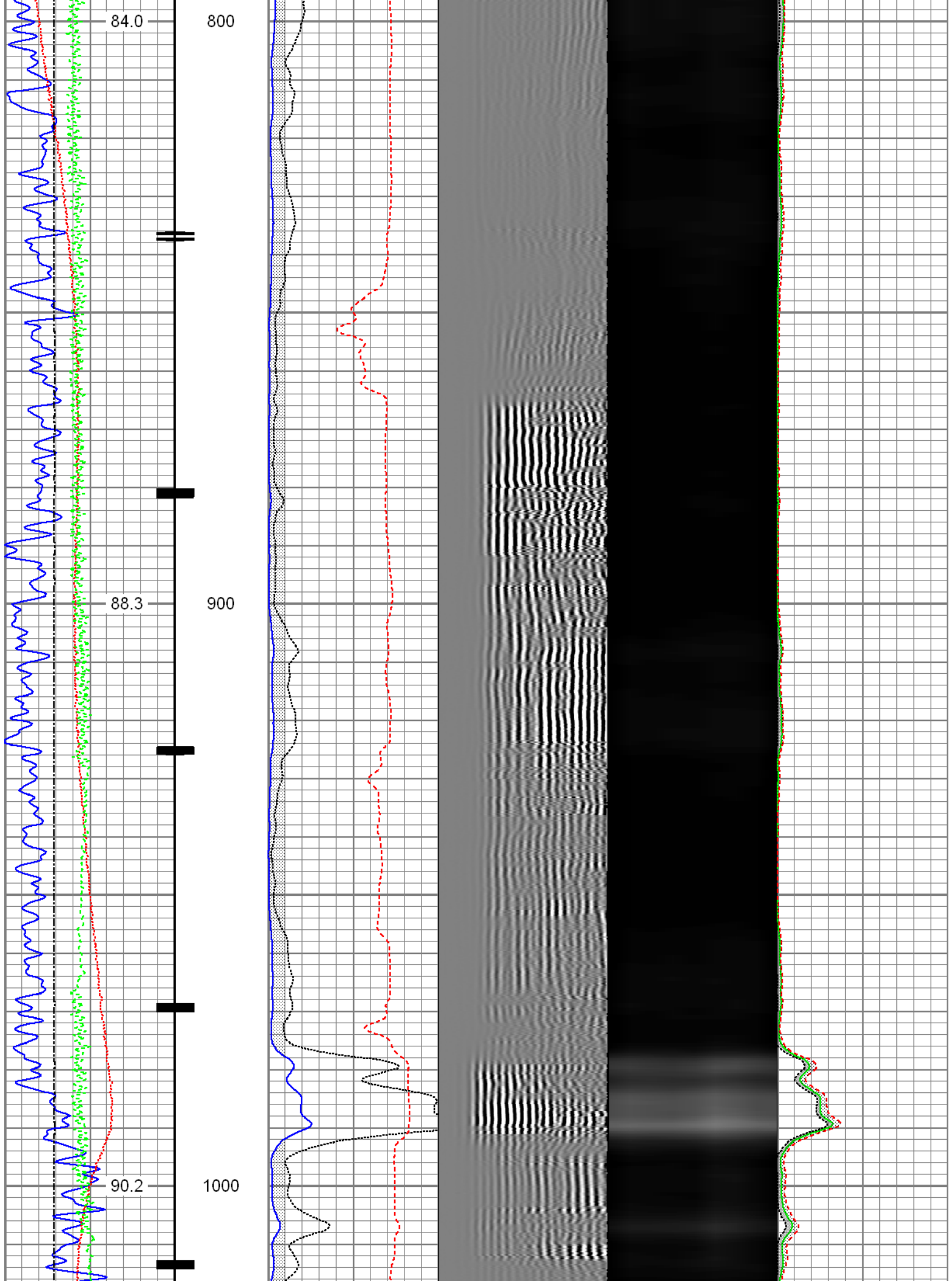


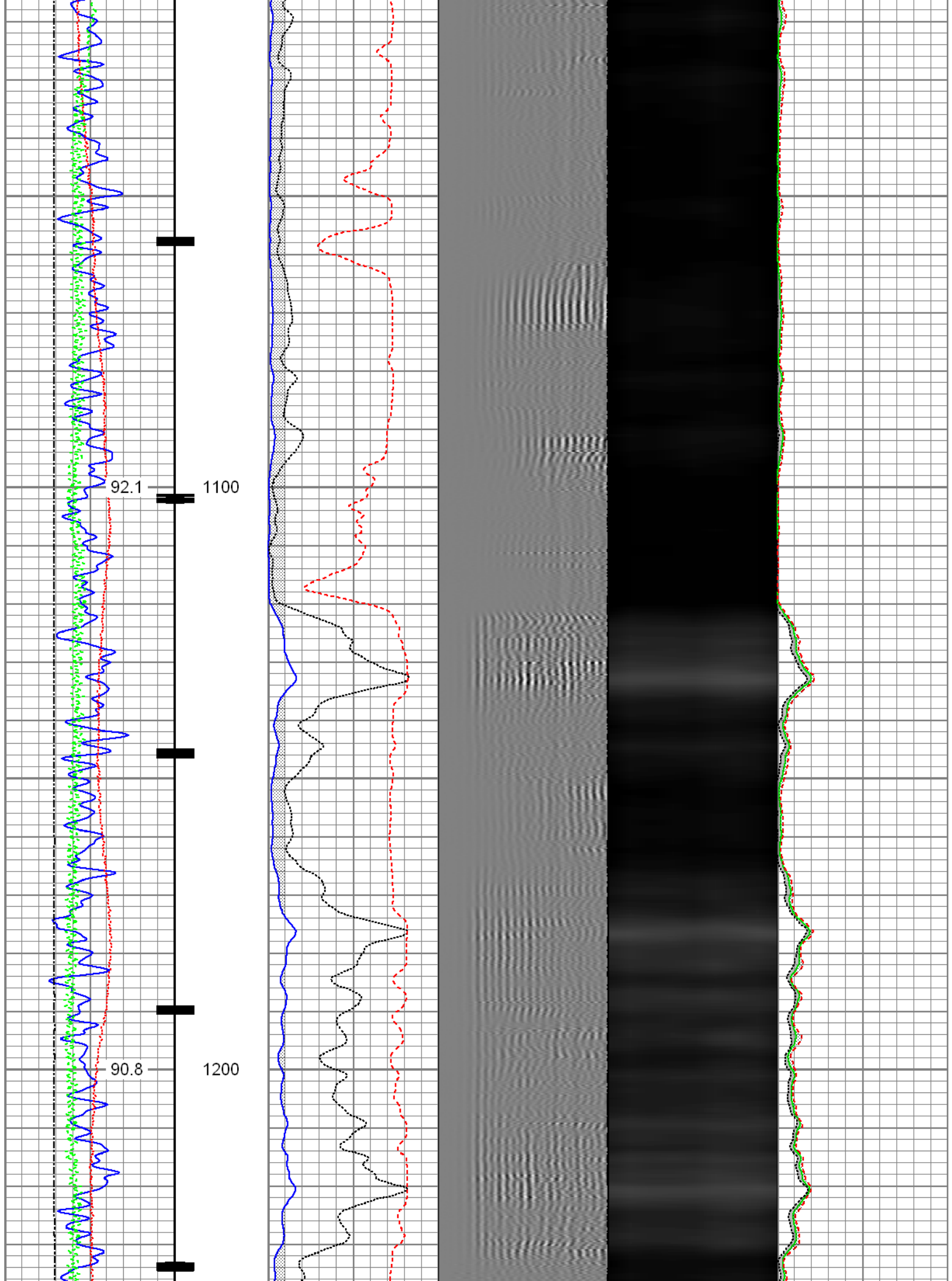


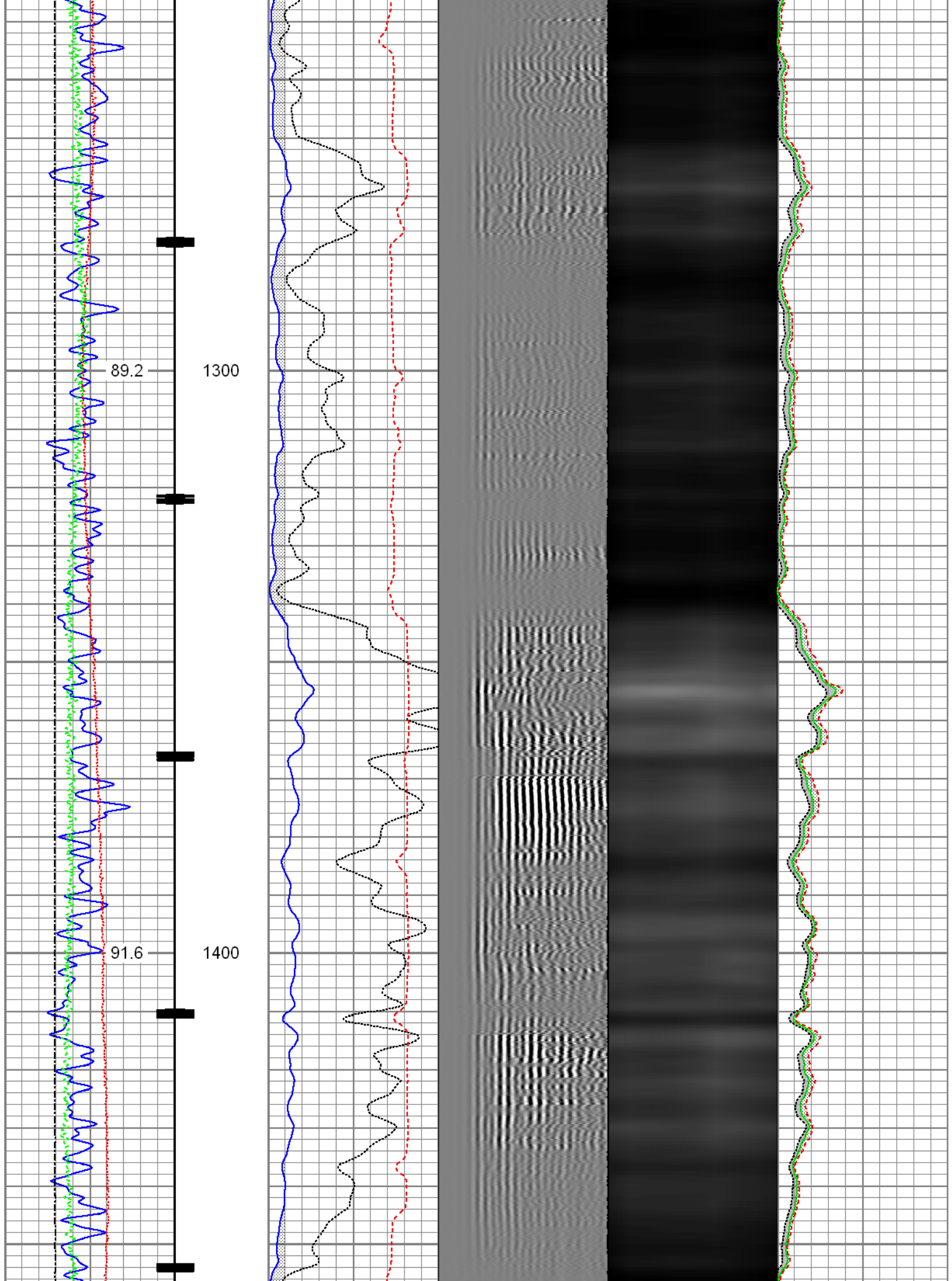




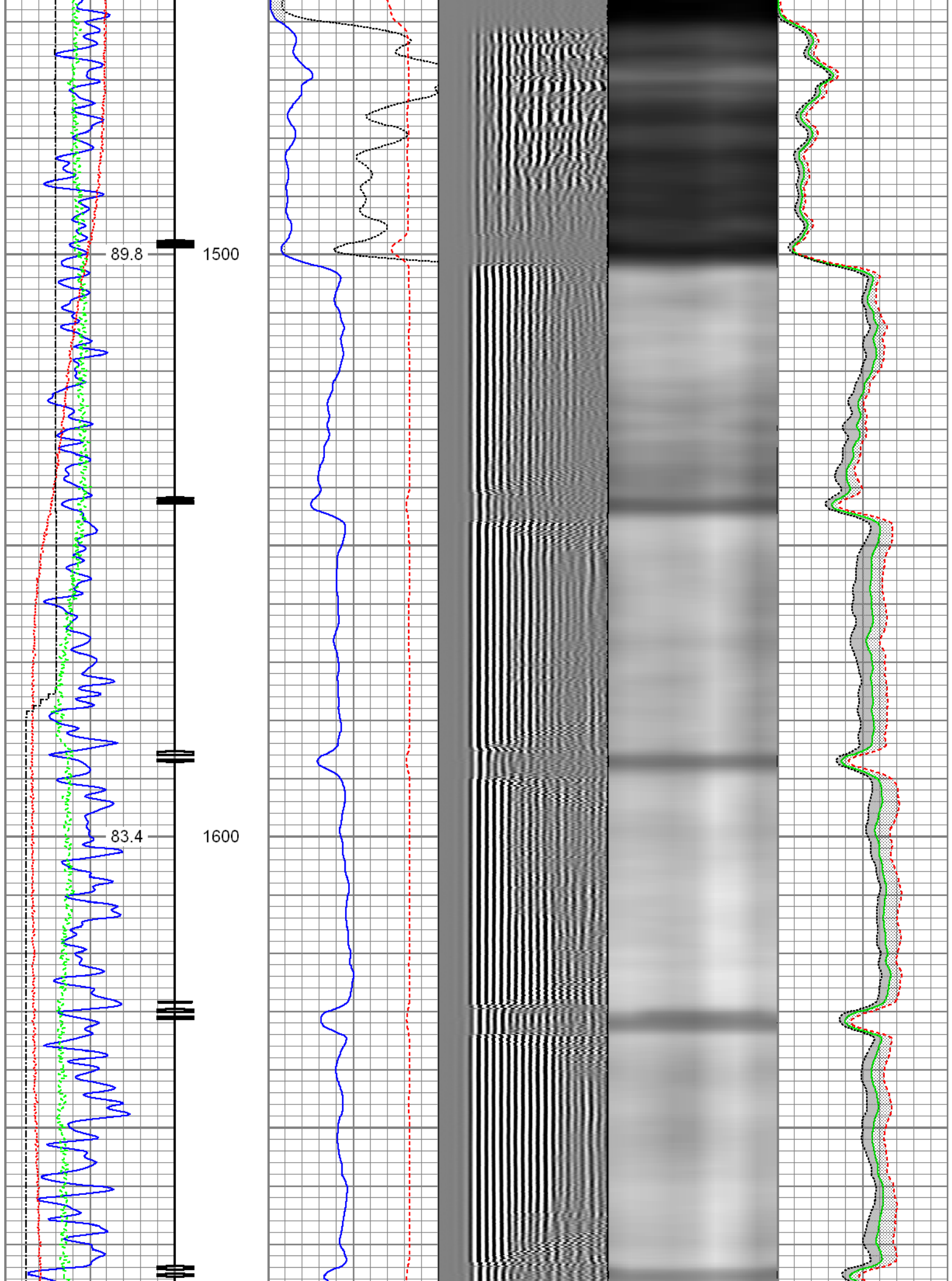


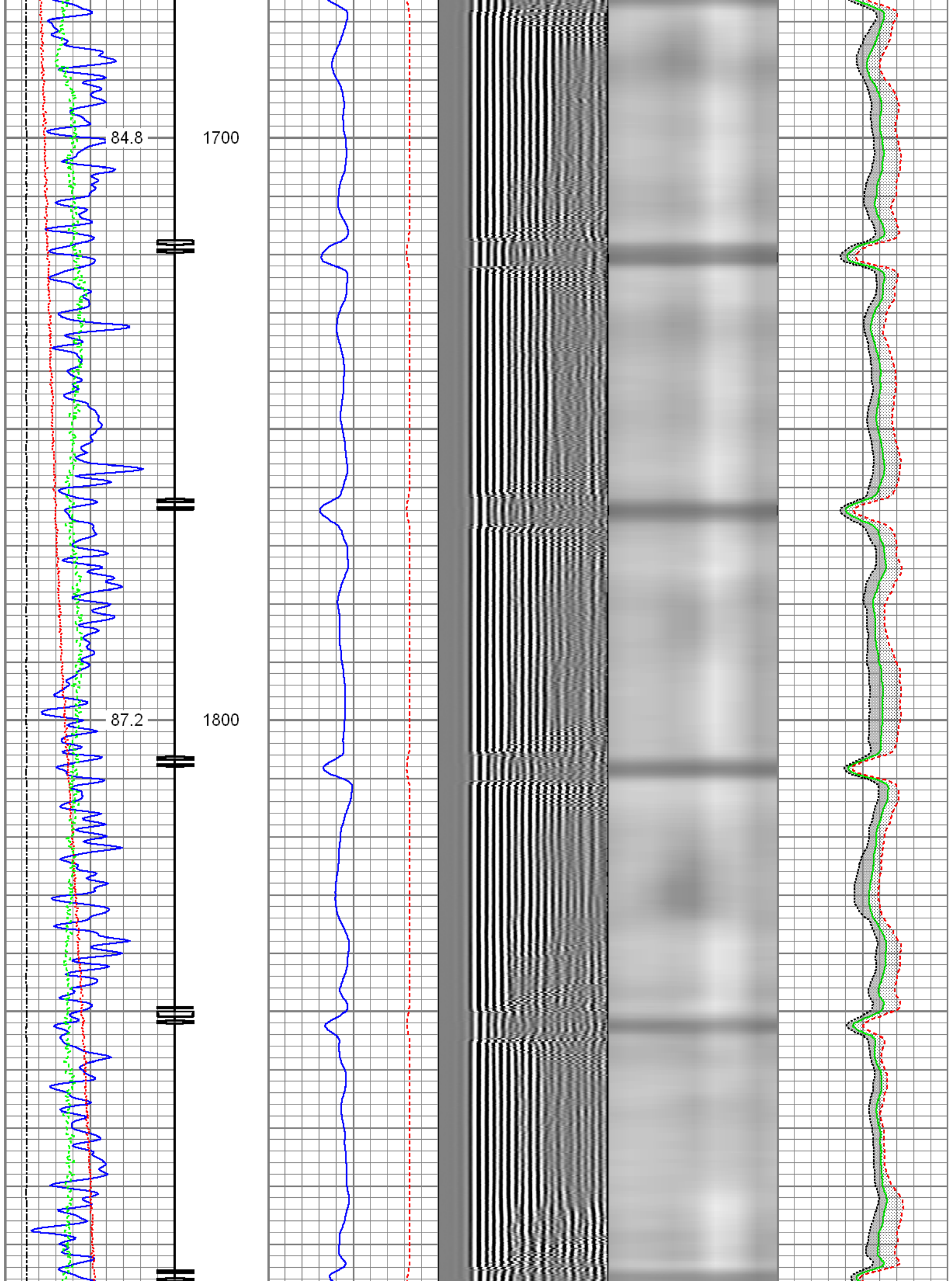


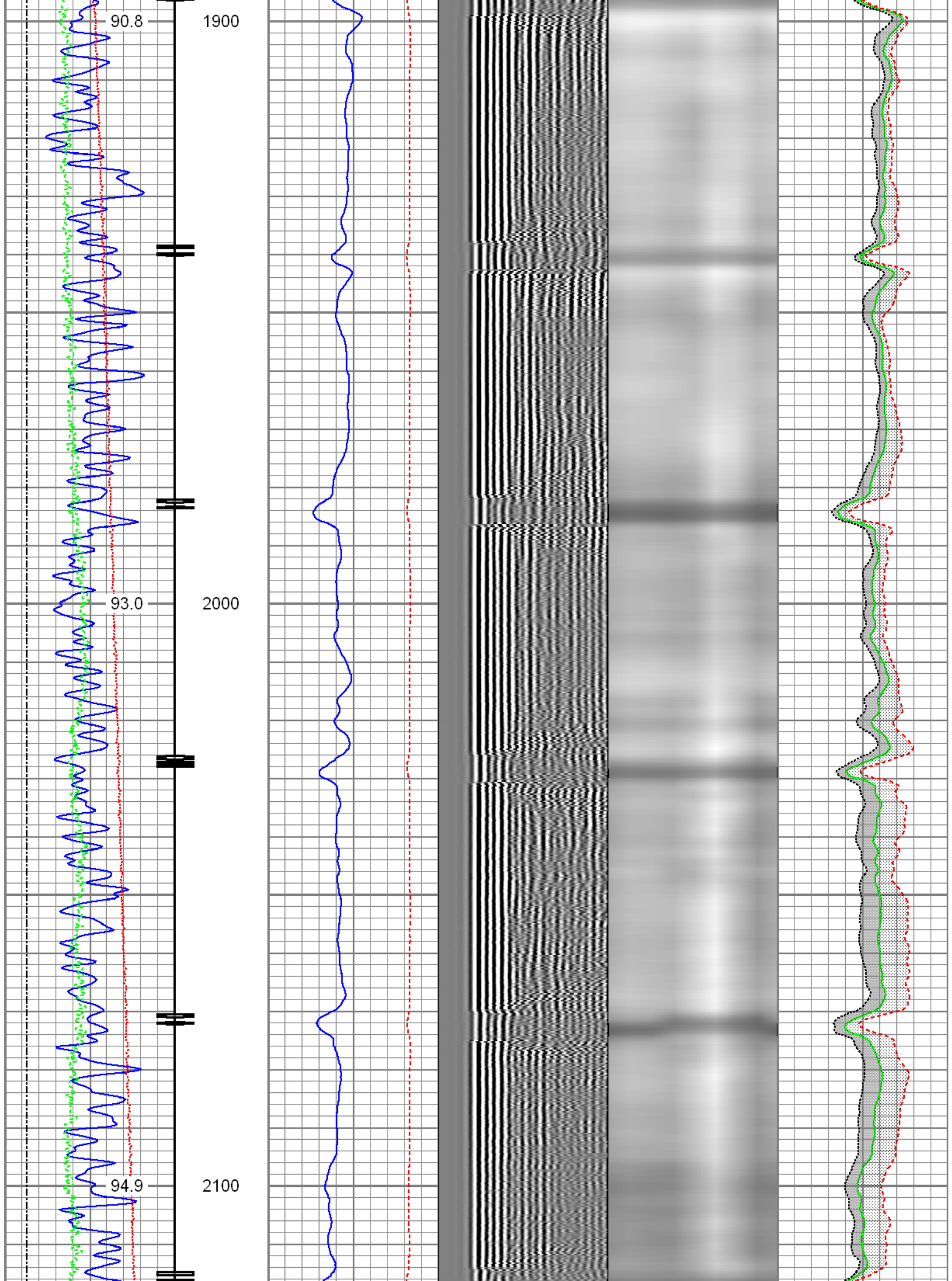




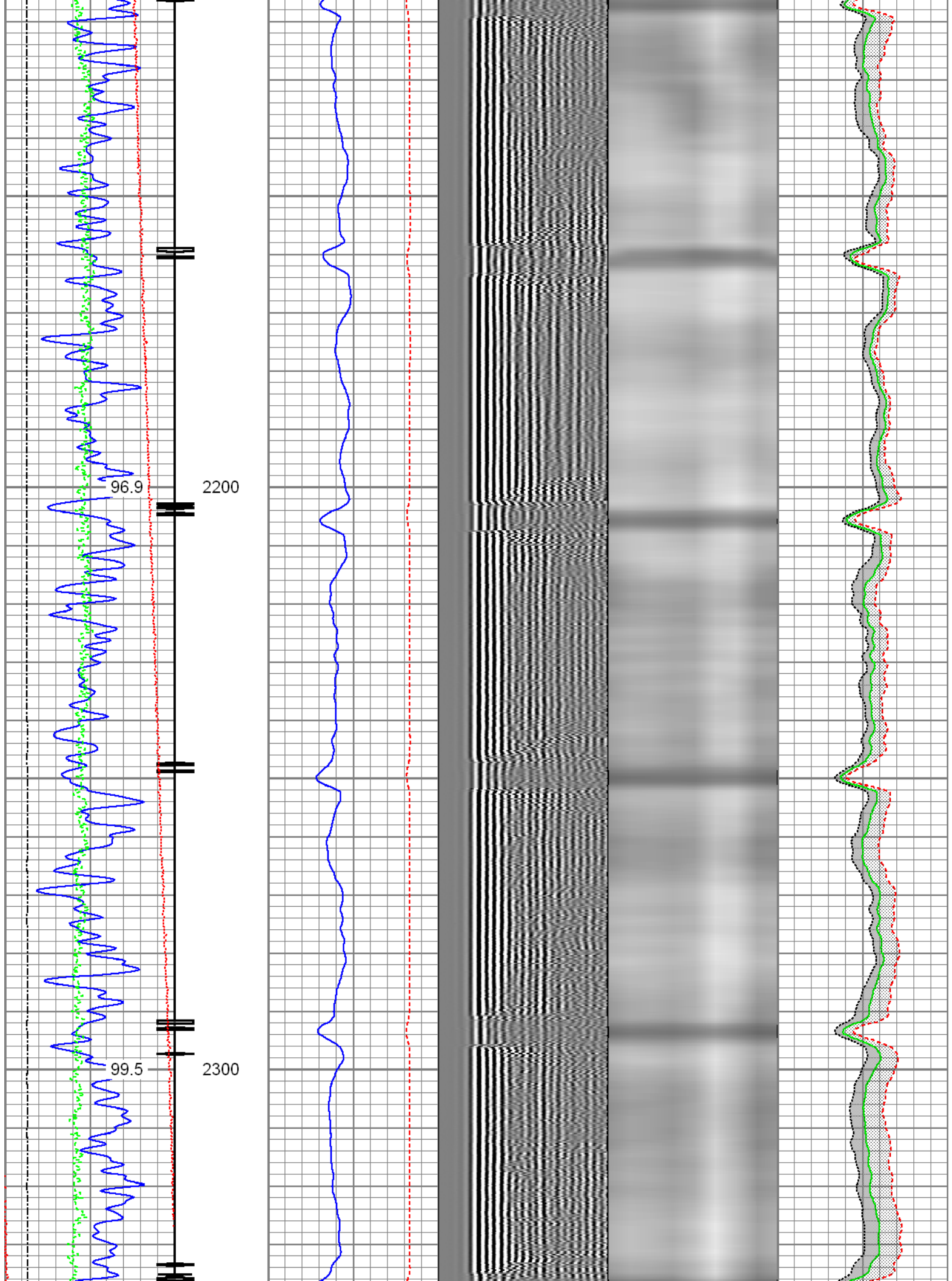




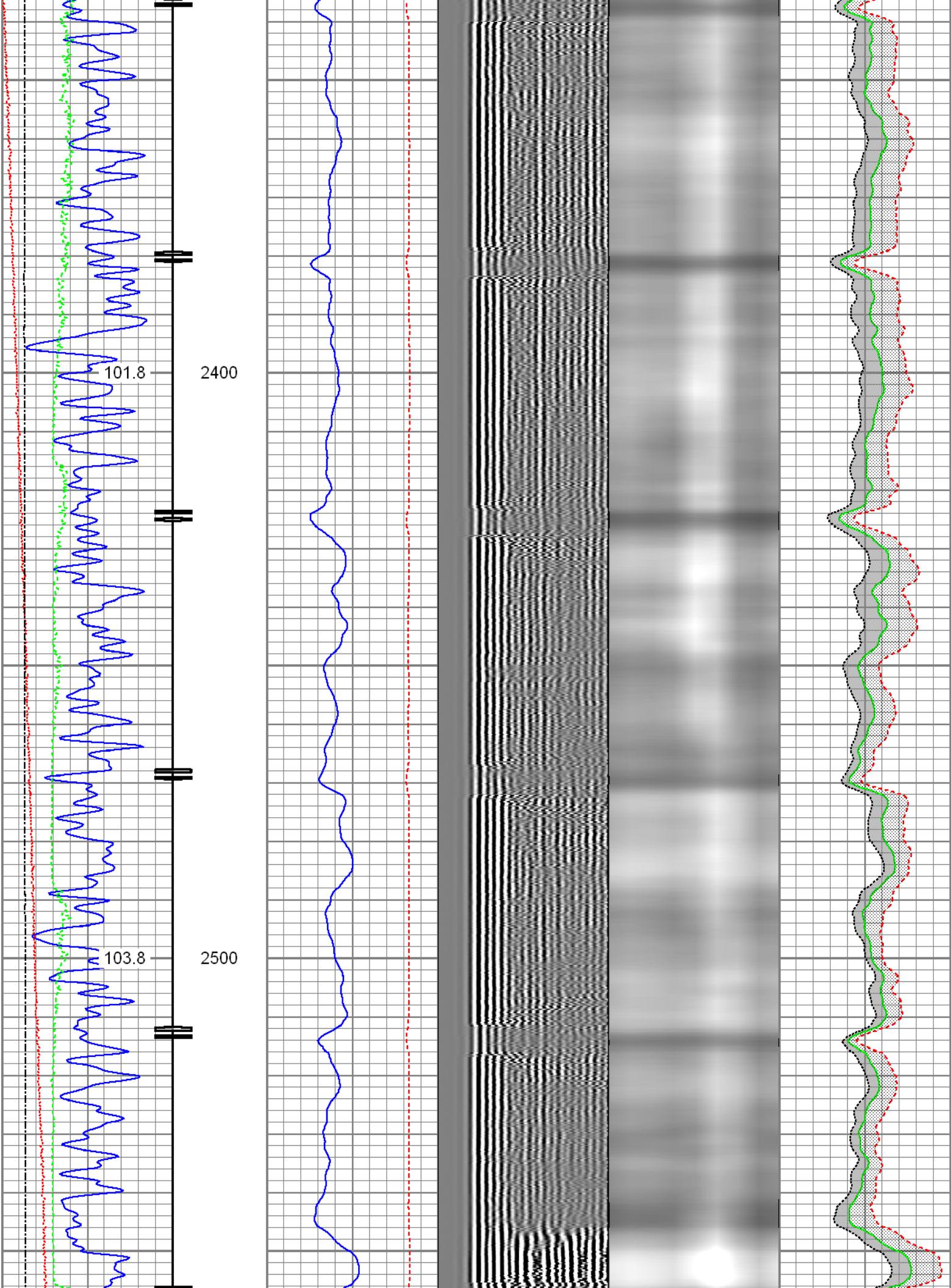


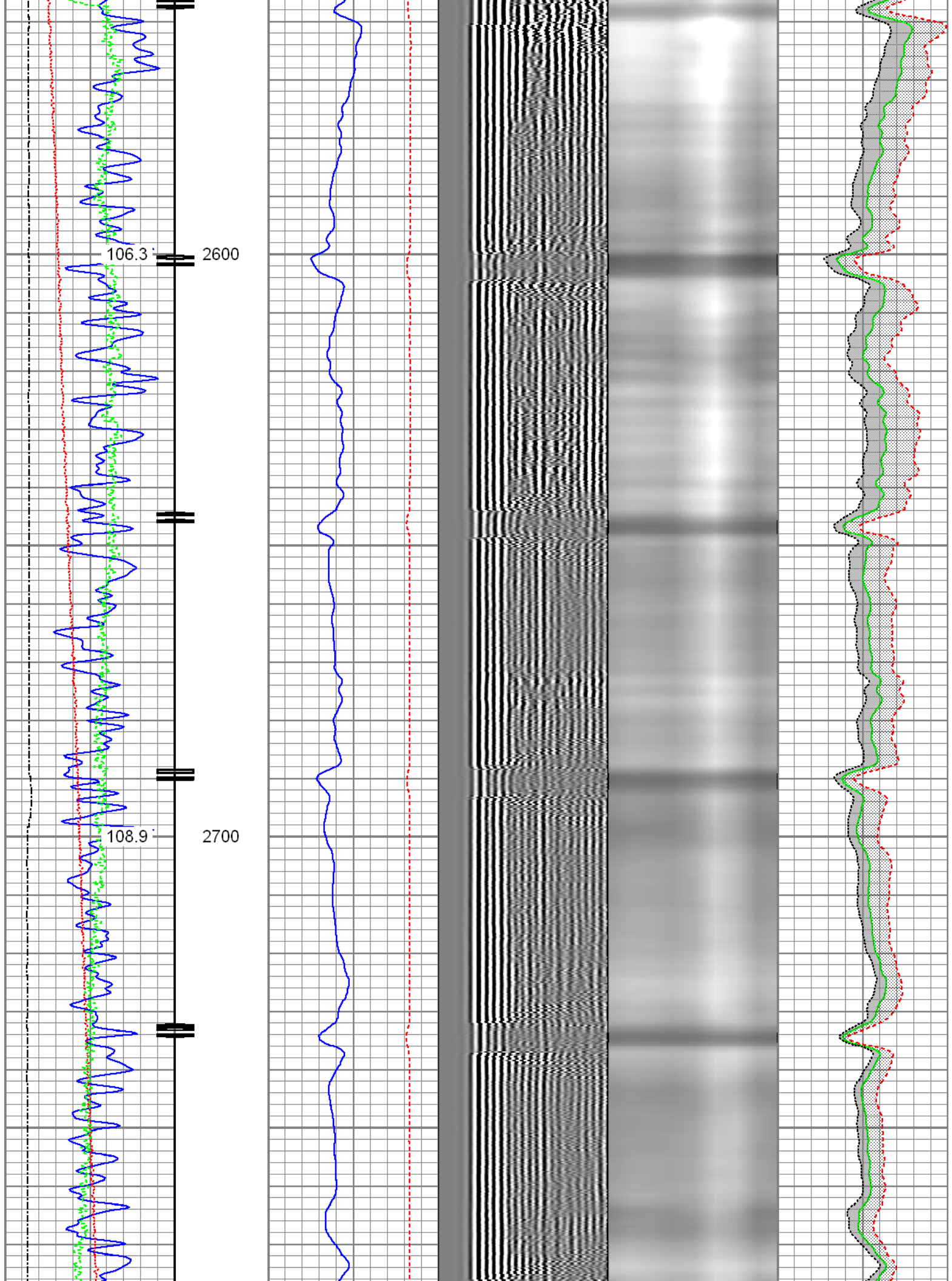




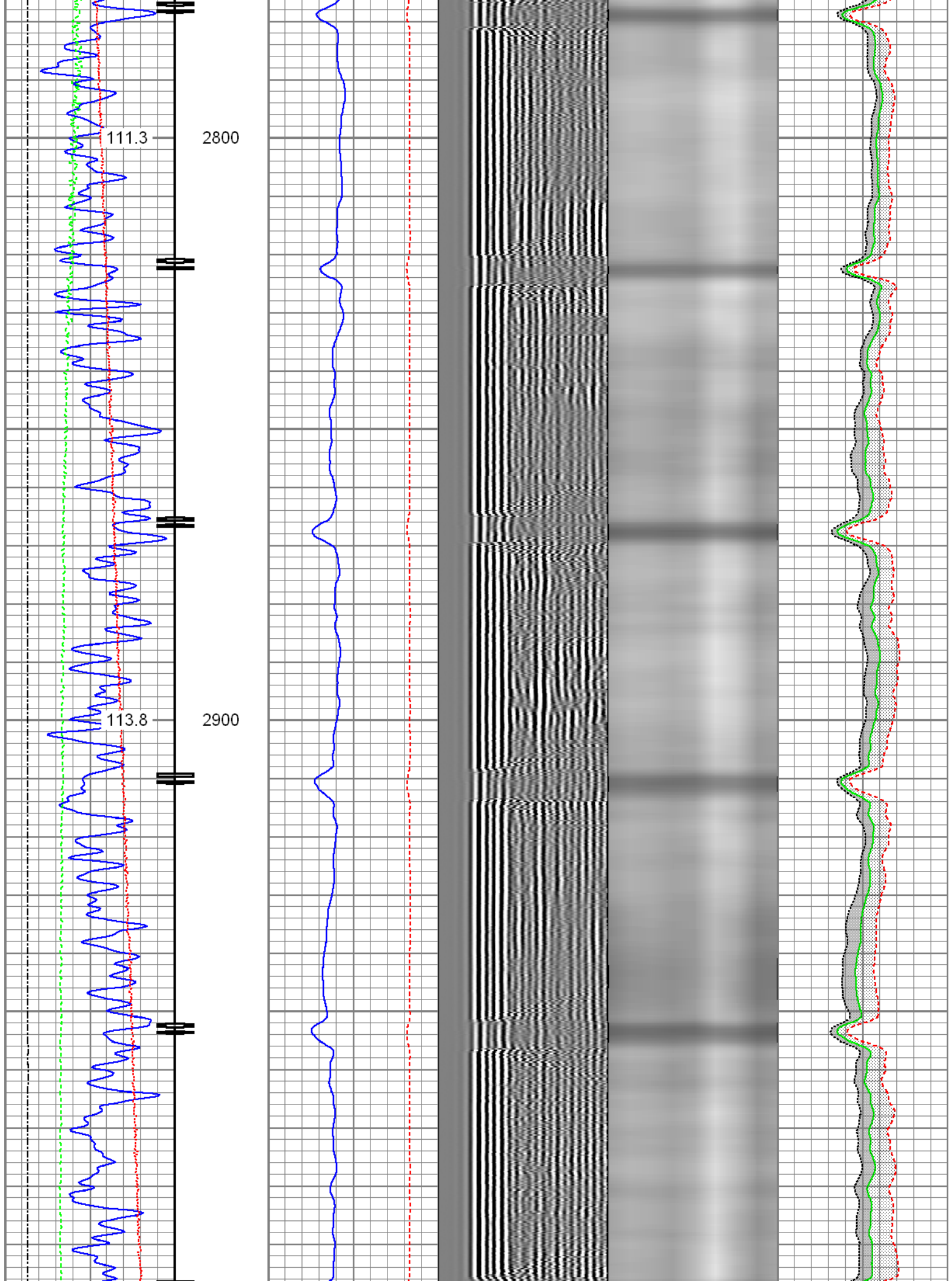


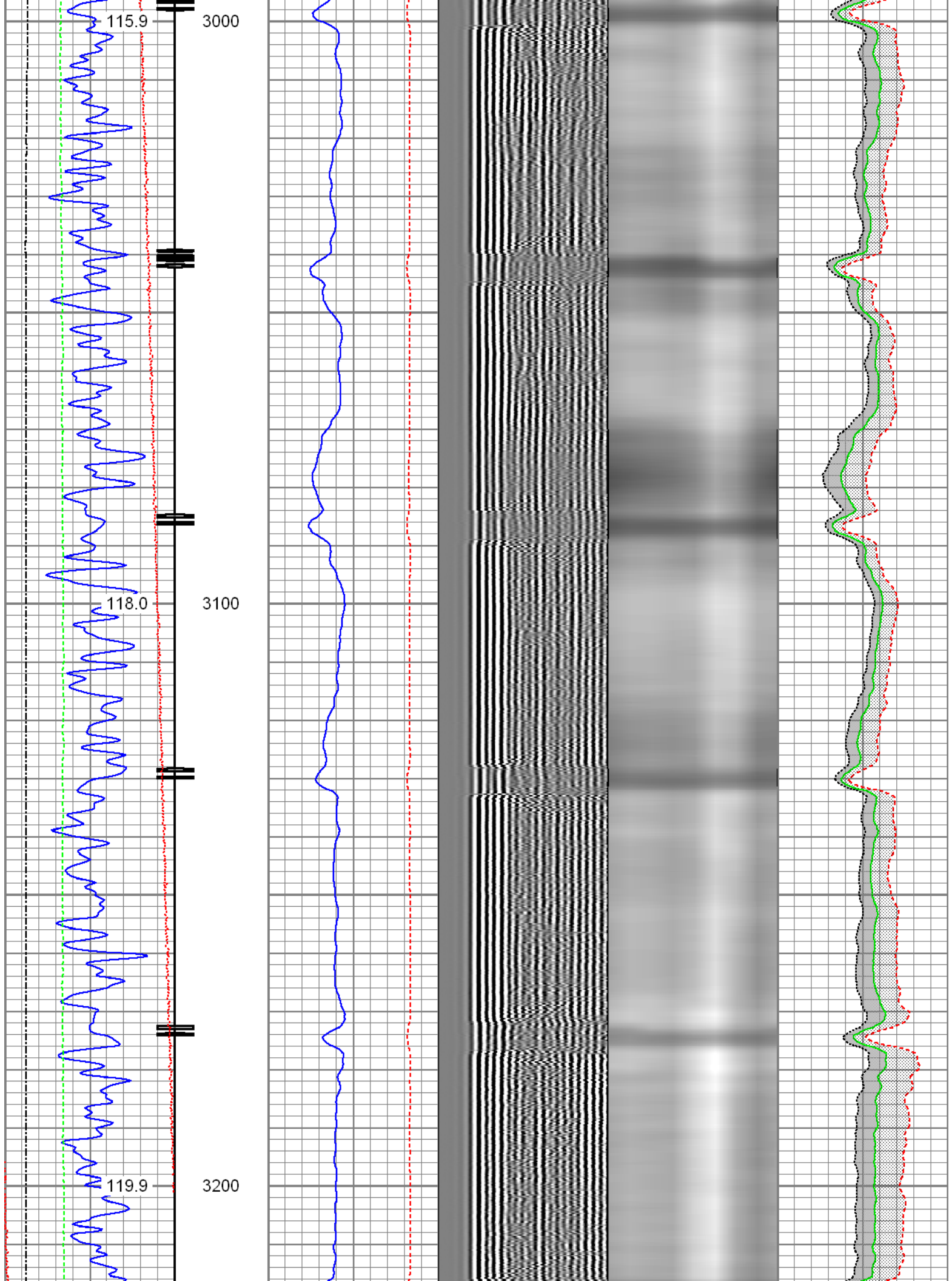




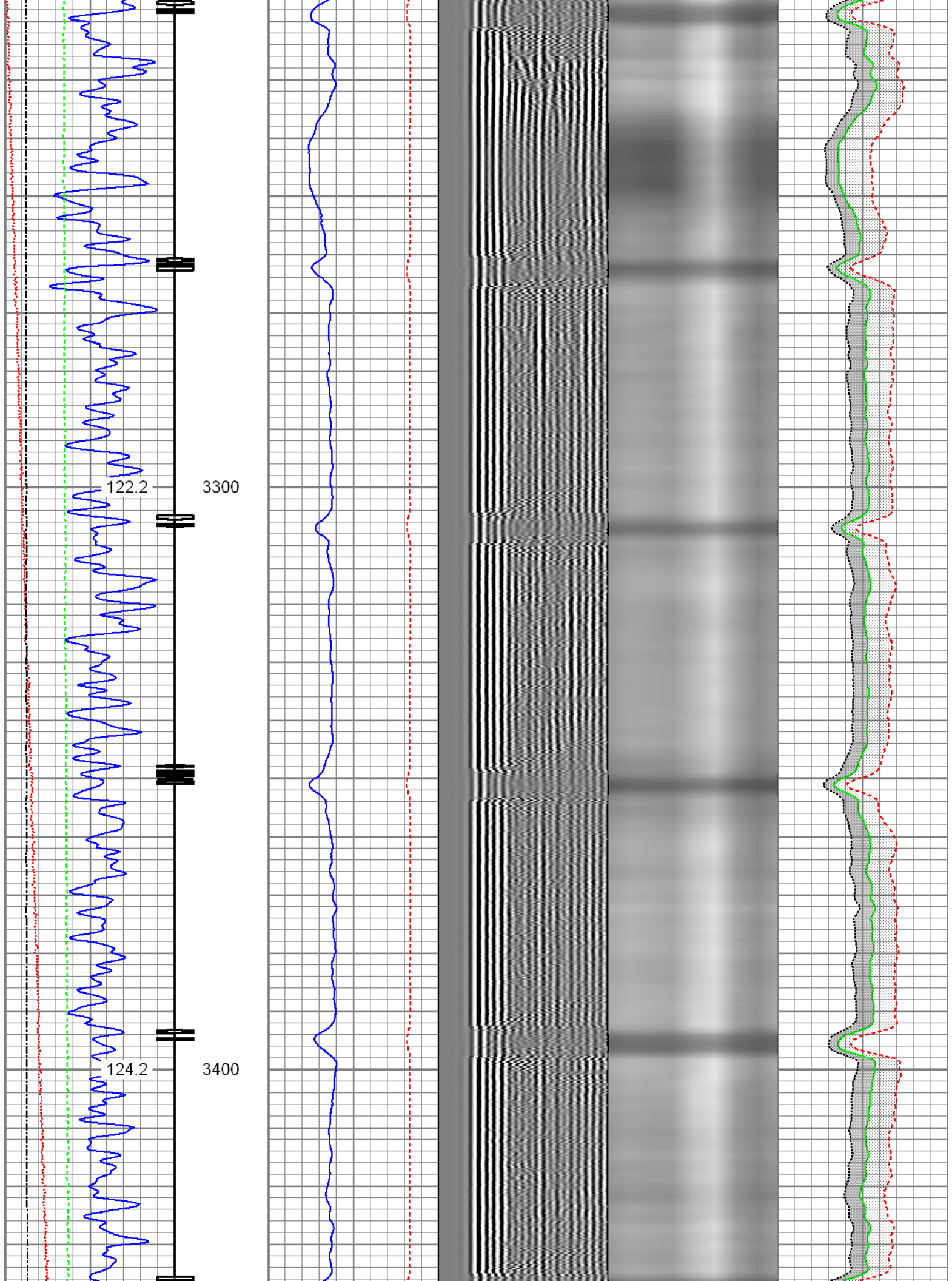


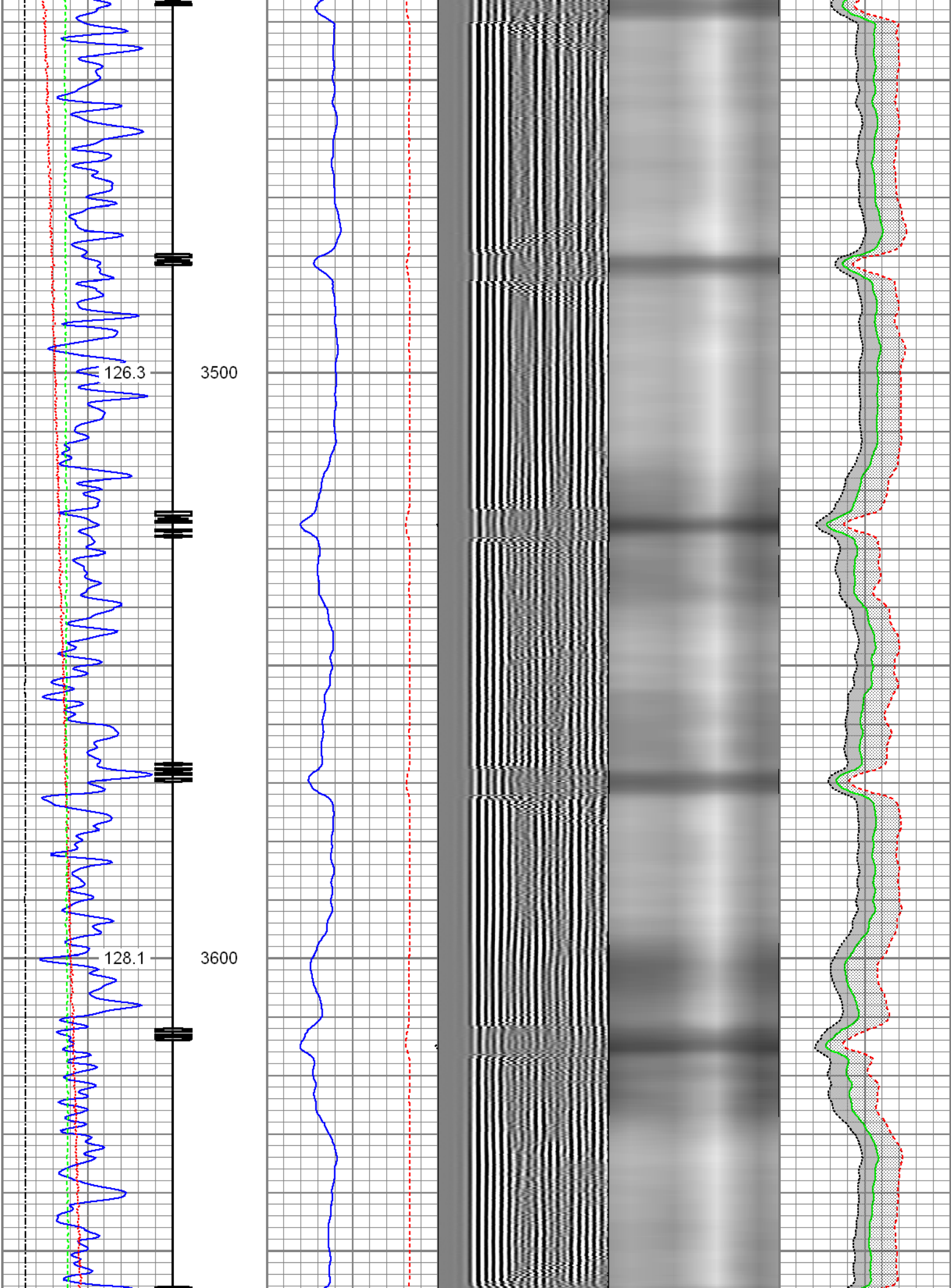




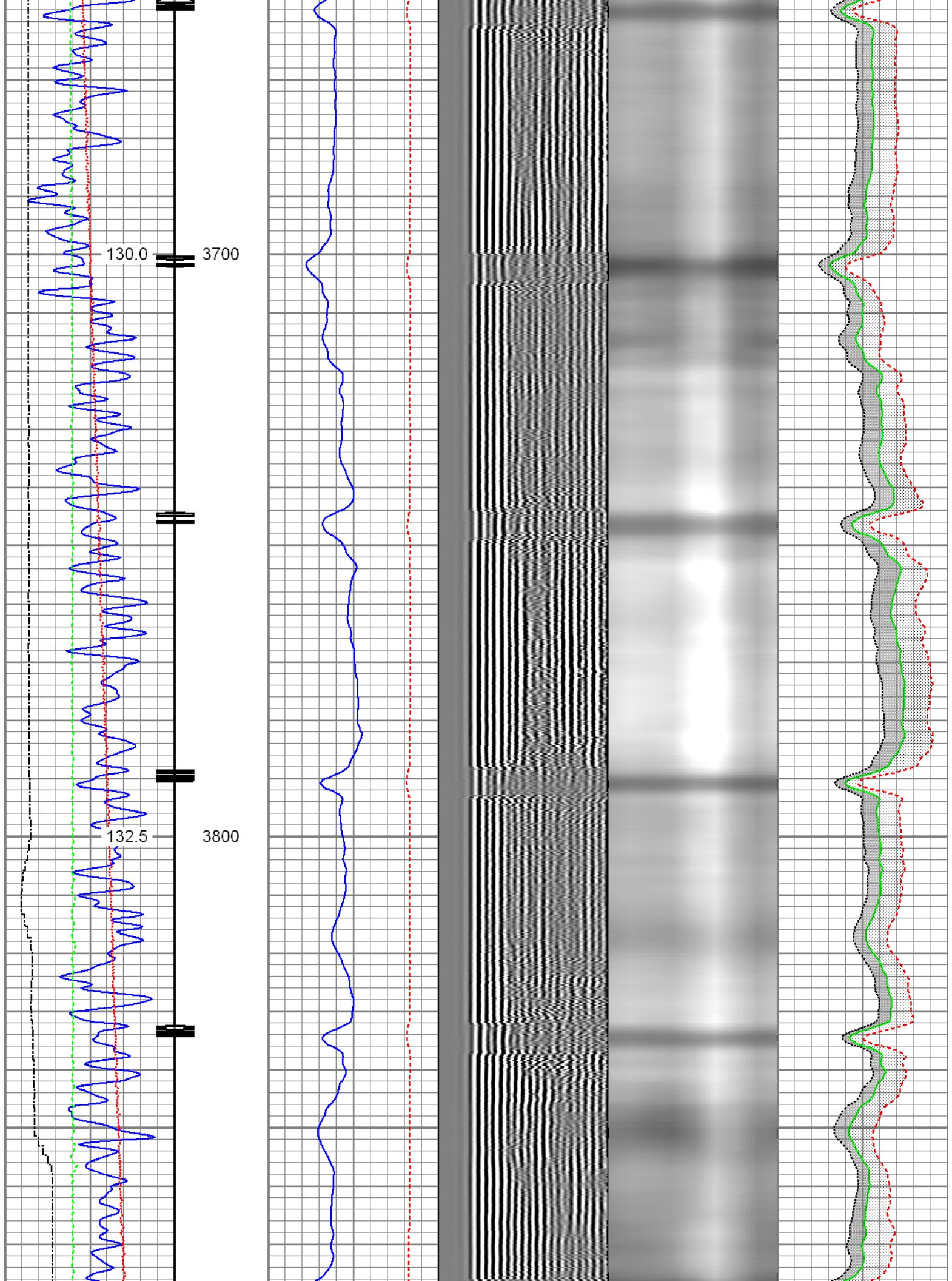


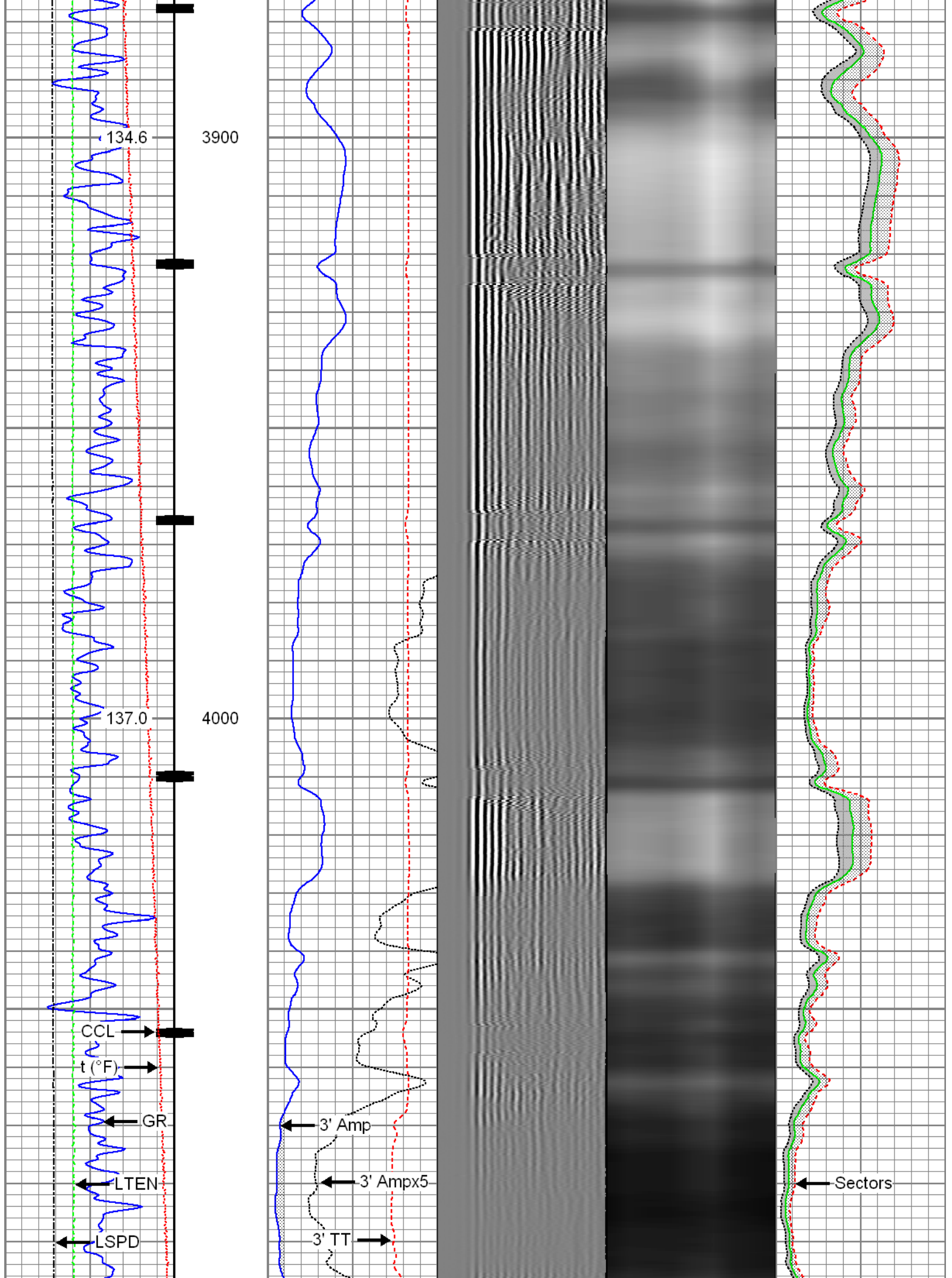




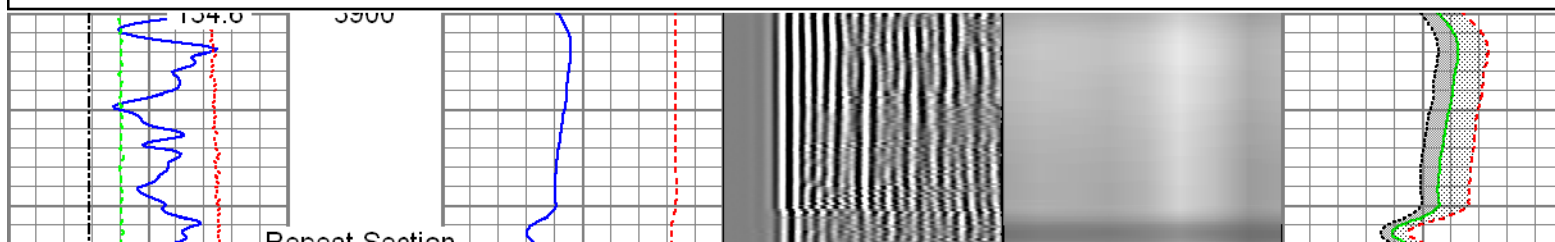
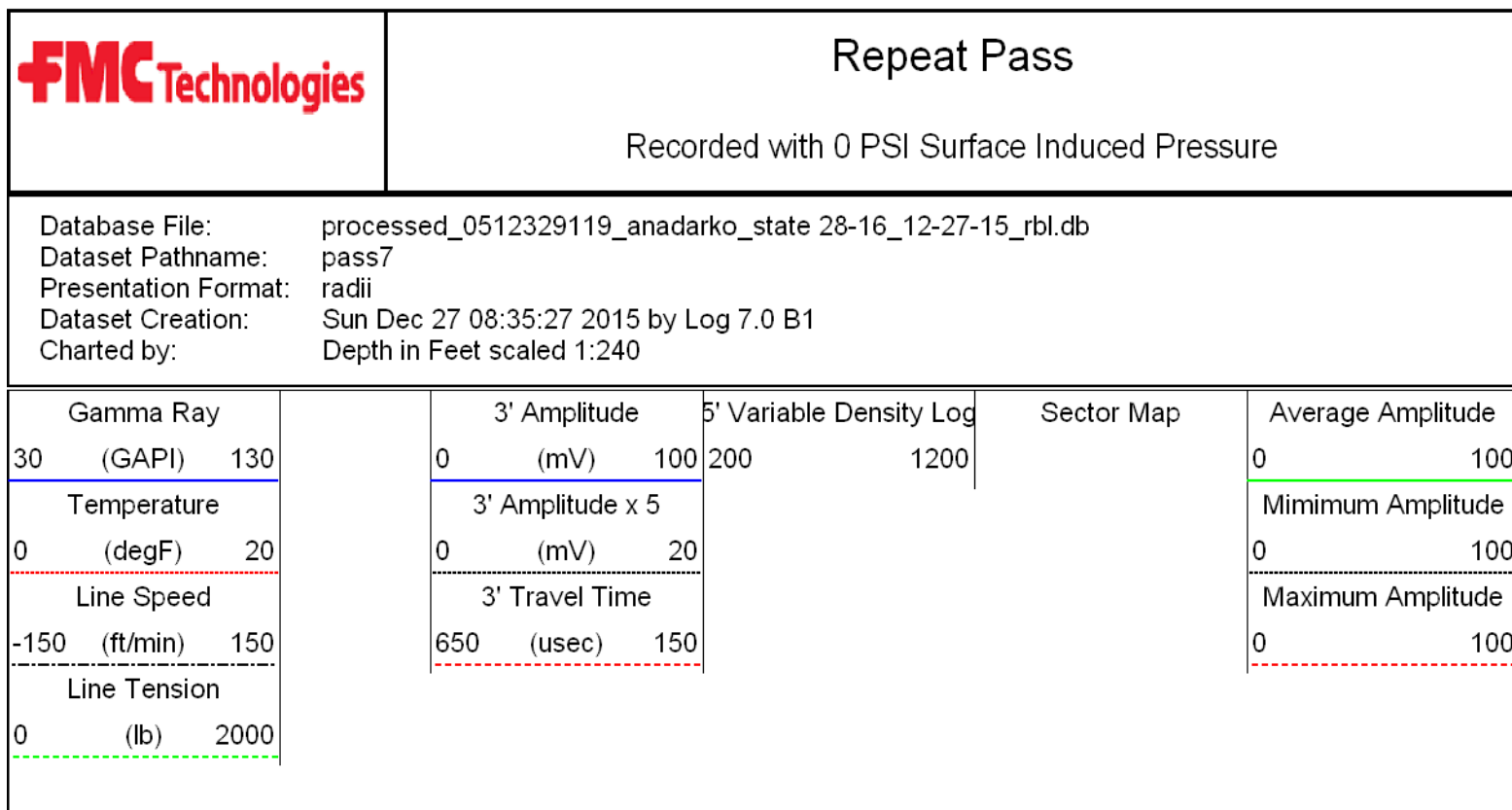
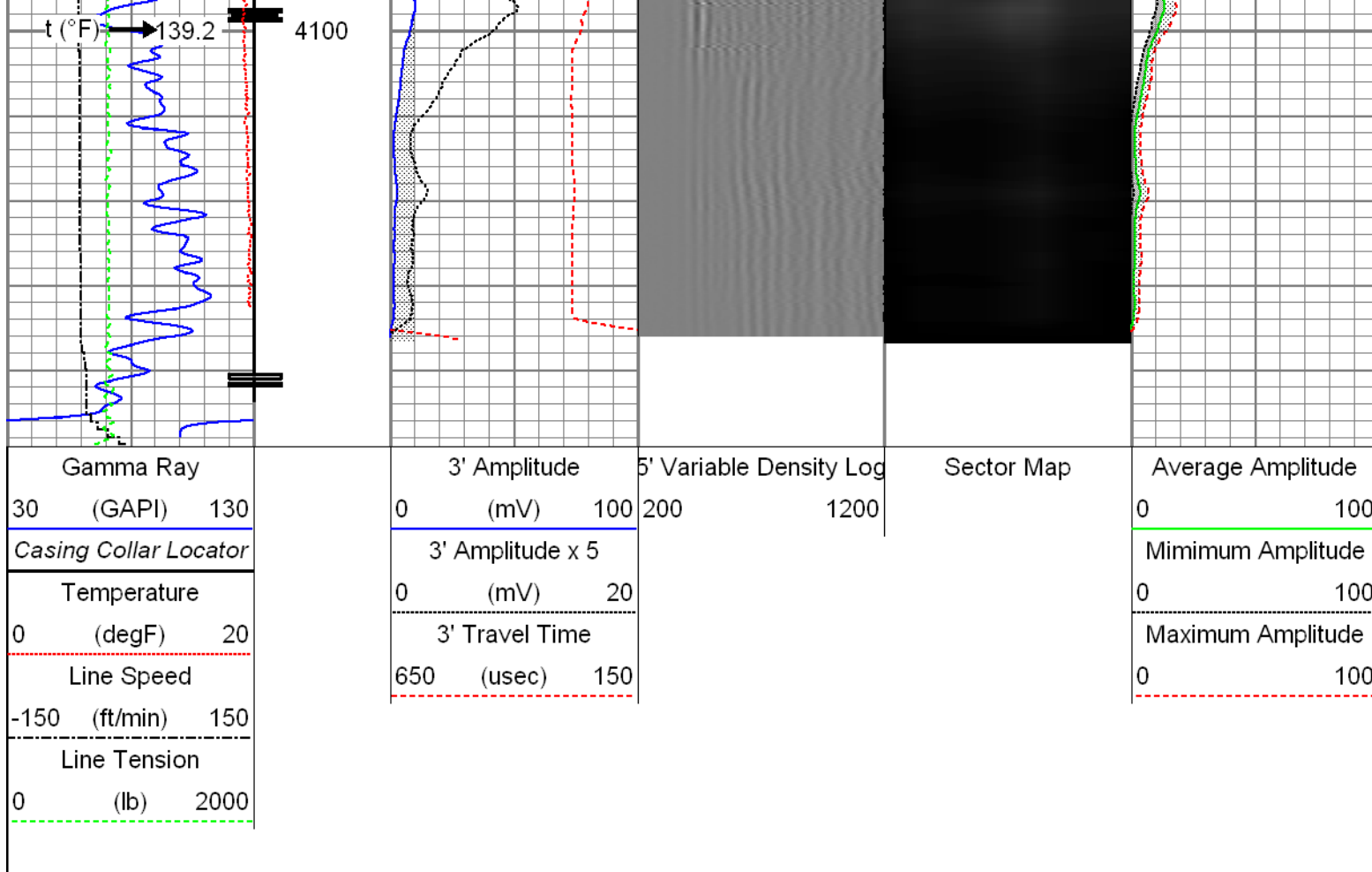


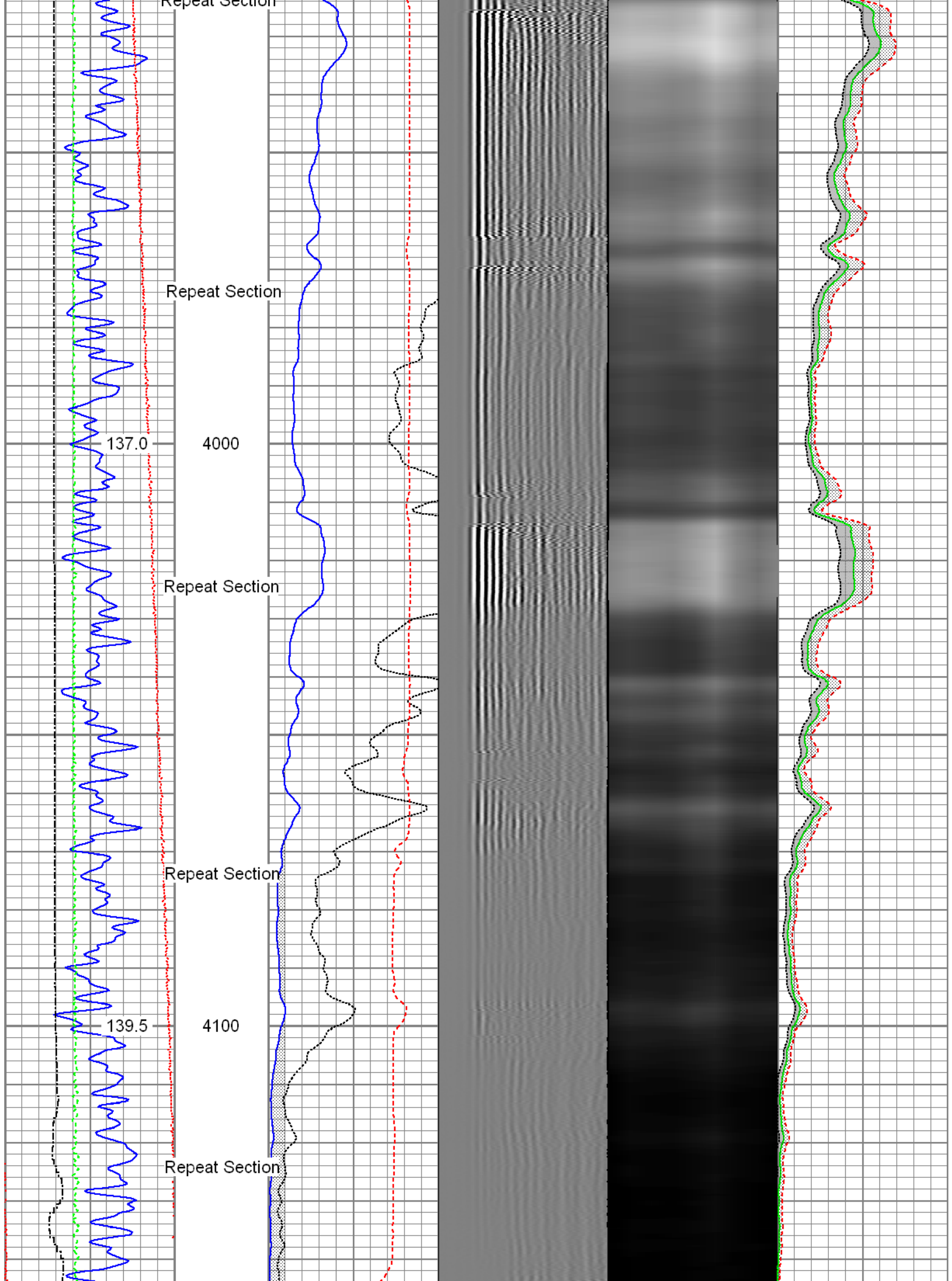









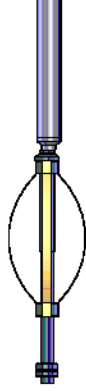




<div> <div>Gamma Ray</div> <div>30 (GAPI) 130</div> </div> <div> <div>Temperature</div> <div>0 (degF) 20</div> </div> <div> <div>Line Speed</div> <div>-150 (ft/min) 150</div> </div> <div> <div>Line Tension</div> <div>0 (lb) 2000</div> </div>		<div> <div>3' Amplitude</div> <div>0 (mV) 100</div> </div> <div> <div>3' Amplitude x 5</div> <div>0 (mV) 20</div> </div> <div> <div>3' Travel Time</div> <div>650 (usec) 150</div> </div>	<div> <div>5' Variable Density Log</div> <div>200 1200</div> </div>	<div> <div>Sector Map</div> </div>	<div> <div>Average Amplitude</div> <div>0 100</div> </div> <div> <div>Mimimum Amplitude</div> <div>0 100</div> </div> <div> <div>Maximum Amplitude</div> <div>0 100</div> </div>
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Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
HeadVolt	19.49		T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
Temp	16.72					
WVF3FT	14.55		Probe_RADII-C-2-3/4" (FW1302-002) Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.19	2.75	105.00
WVFCAL	14.55					
WVFS1	14.55					
WVFS2	14.55					
WVFS3	14.55					
WVFS4	14.55					
WVFS5	14.55					
WVFS6	14.55					
WVFS7	14.55					
WVFS8	14.55					
WVF5FT	13.55					
CCL DCCL	6.51		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
	6.51		Probe_CCL_GR-2.75"Digital (FW1307-038) Probe 2-3/4" Digital CCL / Gamma Ray Combined	4.54	2.75	55.00



GR	3.77		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
Dataset: PROCESSED_0512329119_Anadarko_State 28-16_12-27-15_RBL.db: field/well/run1/pass9 Total Length: 23.40 ft Total Weight: 194.00 lb O.D. 2.75 in						

Calibration Report	
Database File:	PROCESSED_0512329119_Anadarko_State 28-16_12-27-15_RBL.db
Dataset Pathname:	pass9
Dataset Creation:	Sun Dec 27 08:41:41 2015 by Log 7.0 B1

Gamma Ray Calibration Report		
Serial Number:	FW1307-038	
Tool Model:	2.75"Digital	
Performed:	Sun Dec 27 07:28:07 2015	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6600	GAPI/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	FW1302-002	
Tool Model:	2-3/4"	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	59.504	ft

Master Calibration, performed Sun Dec 27 08:17:03 2015:							
	Raw (v)		Calibrated (mv)		Results		
	Zero	Cal	Zero	Cal	Gain	Offset	
3'	0.008	0.484	0.800	81.196	169.181	-0.627	
CAL	0.007	0.731					
5'	0.019	0.427	0.800	81.196	196.634	-2.860	
SUM							
S1	0.021	0.478	0.000	100.000	218.833	-4.528	
S2	0.009	0.459	0.000	100.000	222.295	-2.051	
S3	0.009	0.463	0.000	100.000	220.038	-1.931	
S4	0.009	0.478	0.000	100.000	212.962	-1.872	
S5	0.009	0.518	0.000	100.000	196.333	-1.704	
S6	0.009	0.587	0.000	100.000	173.214	-1.626	
S7	0.009	0.618	0.000	100.000	164.205	-1.495	
S8	0.009	0.559	0.000	100.000	181.976	-1.653	

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.007	0.731	1.000	0.000

Air Zero Calibration, performed Sun Dec 27 07:51:16 2015:

	Raw (v)		Calibrated (v)		Results
	Zero		Zero		Offset
3'	0.000		0.000		0.000
5'	0.000		0.000		0.000
SUM					
S1	0.000		0.000		0.000
S2	0.000		0.000		0.000
S3	0.000		0.000		0.000
S4	0.000		0.000		0.000
S5	0.000		0.000		0.000
S6	0.000		0.000		0.000
S7	0.000		0.000		0.000
S8	0.000		0.000		0.000



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	State 28-16
Field	Wattenberg
County	Weld
State	Colorado