



**Radial Cement Bond
Gamma Ray
Casing Collar Log**

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

Well Hill 3-3A

Field Wattenberg

County Weld

State Colorado

API # : 05-123-21095

Location: SEC 3 TWP 3N RGE 67W

Permanent Datum Ground Level Elevation 4720'

Log Measured From Kelly Bushing 10 FT

Drilling Measured From Kelly Bushing

Other Services
CIBPs
Dump Bailer
Elevation
K.B. 4730'
D.F. ---
G.L. 4720'

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Well Hill 3-3A
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Date	06-JAN-2021
Run Number	Five
Depth Driller	7740 FT
Depth Logger	2505 FT
Bottom Logged Interval	2500 FT
Top Log Interval	Surface
Open Hole Size	7.88
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max Recorded Temp.	113°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	11:15
Equipment Number	HD- 361
Location	Platteville, CO
Recorded By	G.Lueck
Witnessed By	Date James

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	8 5/8	24	J-55	Surface	567 FT
Intermediate #1	4 1/2	11.6	I-80	Surface	7728 FT
Intermediate #2					
Liner					

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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.

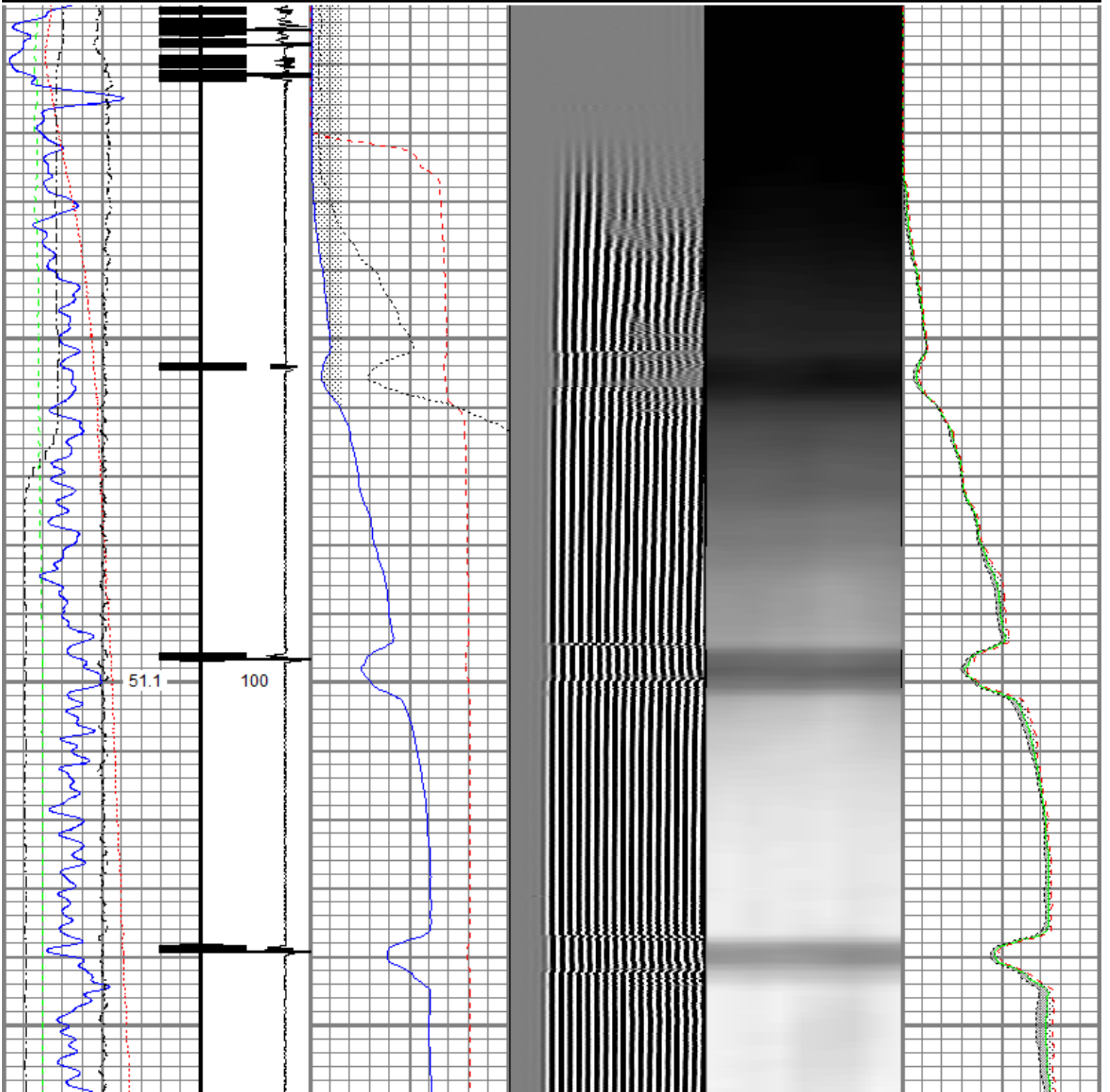
Comments

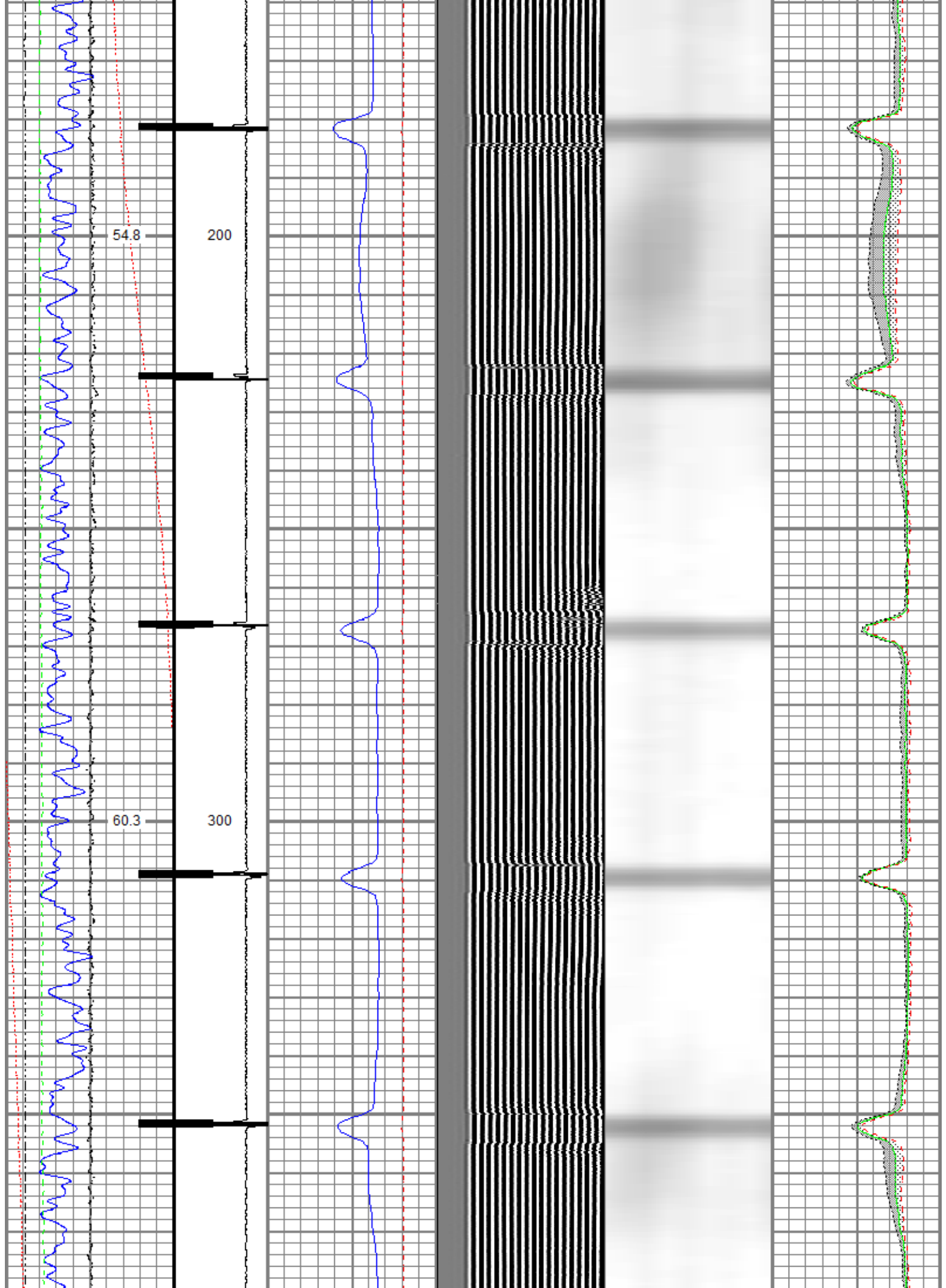
Log ran as per customer request
Depth referenced to Kelly Bushing at 10 FT
Adjusted 0 FT to correlate with Kelly Bushing
Shop calibrations performed on the RBL Tool on 05-JAN-2021
Free Pipe Calibrated at 1780 FT
GOBO indicates 80% Bond Index for 4.5-inch casing (16.24 mV)
Log ran with 0 PSI surface induced pressure
Logging tools were clean and free of debris upon completion of operations

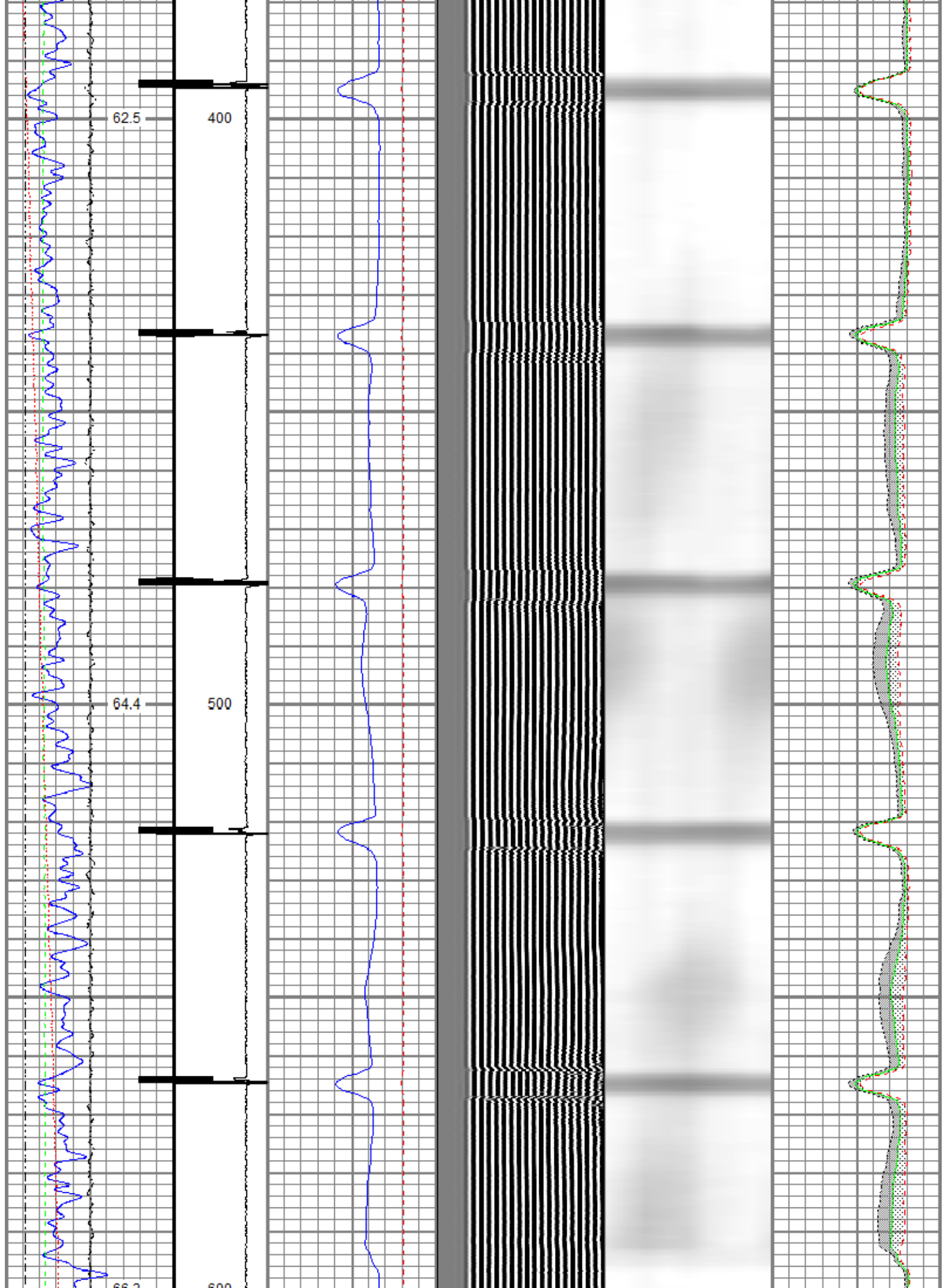
Thank you for choosing Reliance Oilfield Services, LLC!!

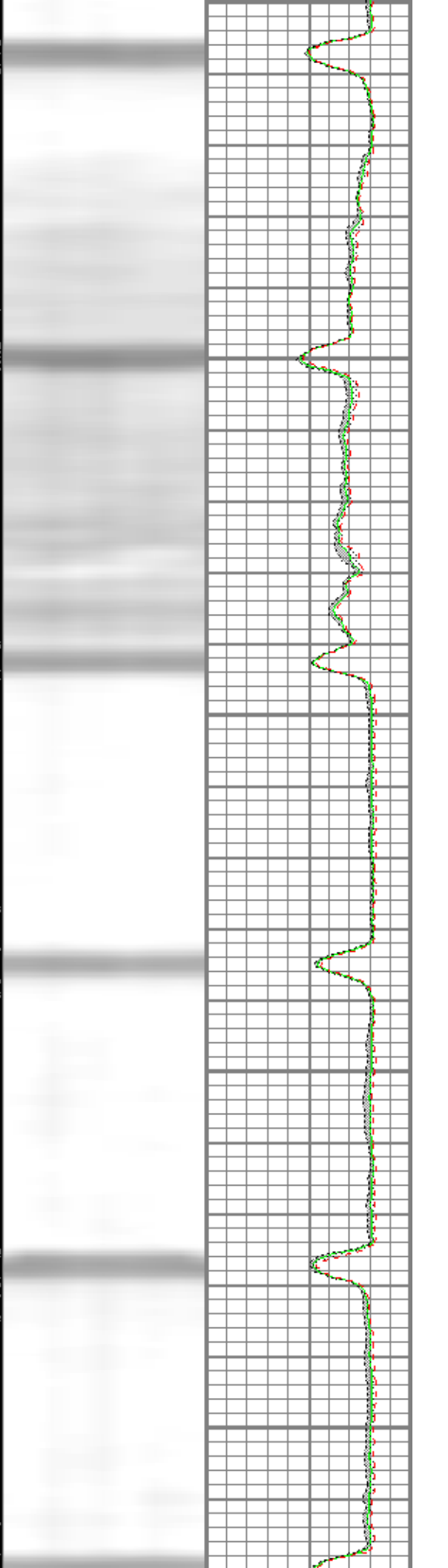
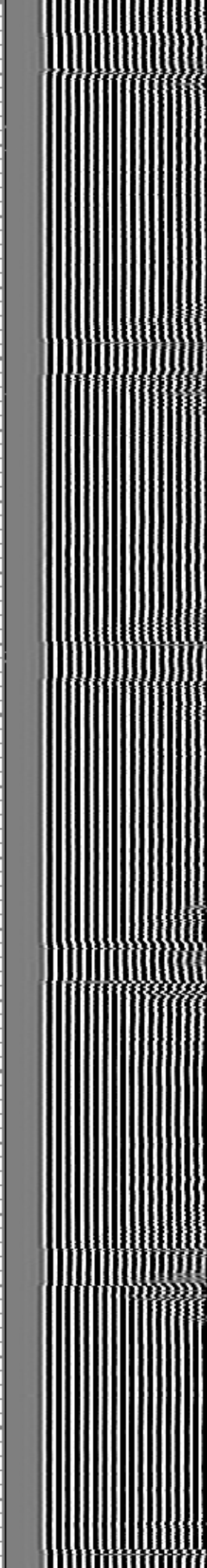
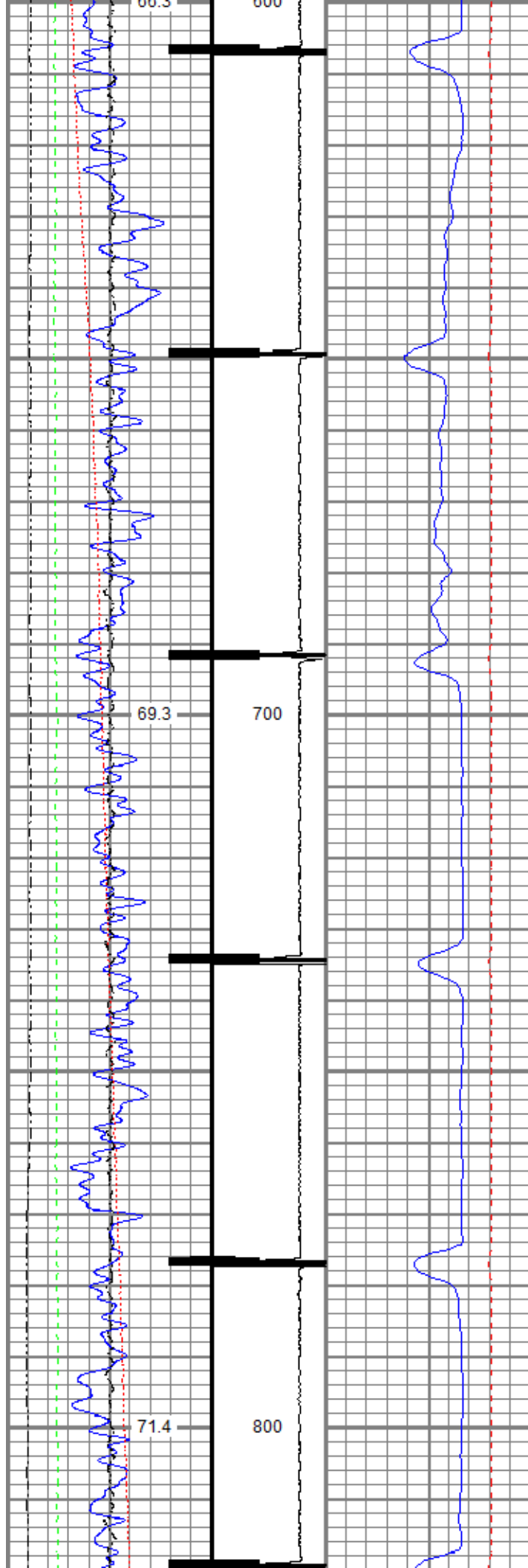
Database File oxy_hill_3_3a_rcbl_06_jan_2021.db
 Dataset Pathname rbl/pass6.1
 Presentation Format ros_radli_oxv_vert_gobo_45
 Dataset Creation Wed Jan 06 11:44:52 2021
 Charted by Depth in Feet scaled 1:240

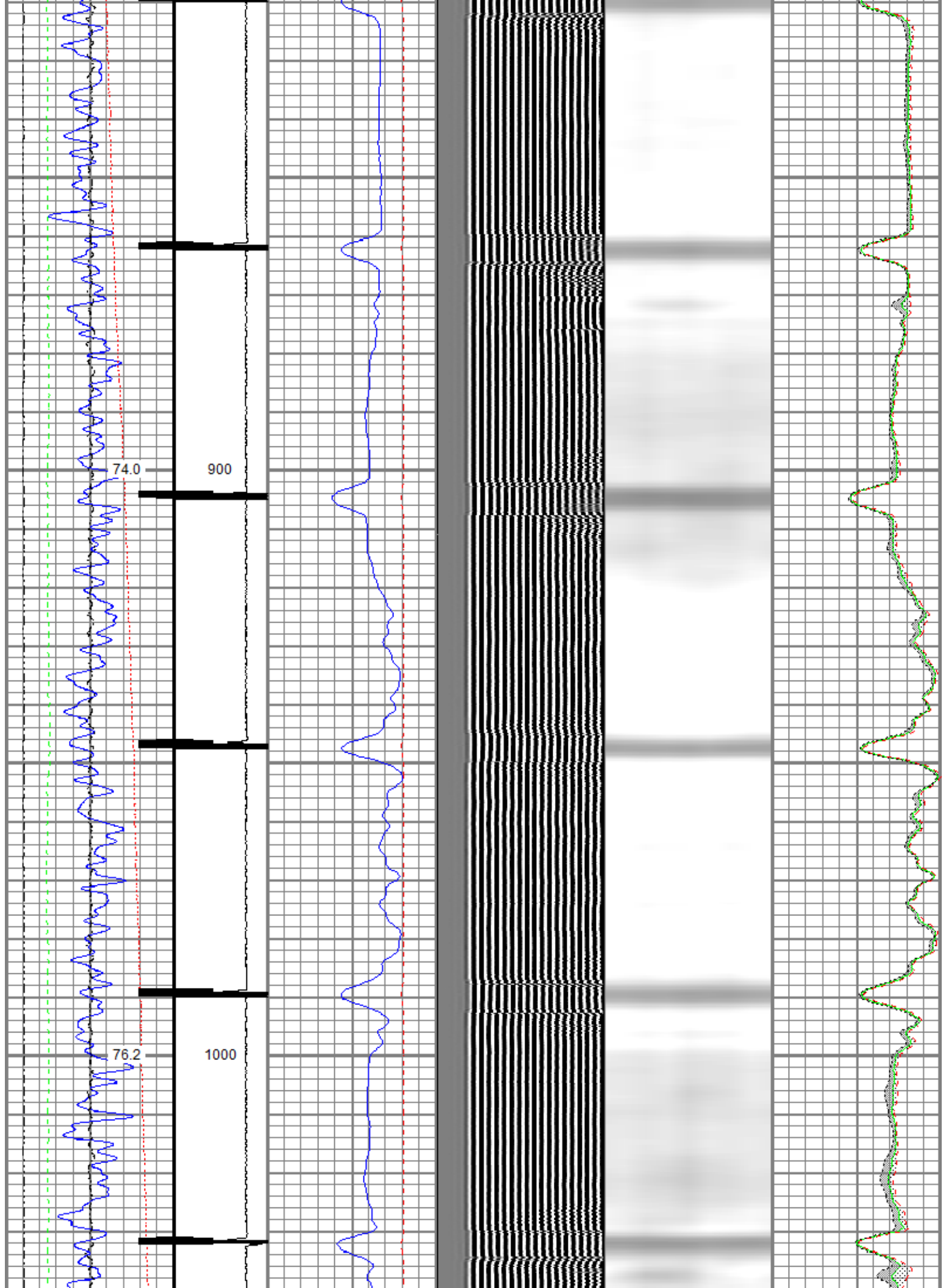
Gamma Ray (GAPI)	9 CCL\$2 -1	0 3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	Average Amplitude
0 120		3' Amplitude x 5	200 (usec) 1200		0 100
Temperature (degF)		0 (mV) 20			Minimum Amplitude
0 20		3' Travel Time			0 100
Line Speed (ft/min)		650 (usec) 150			Maximum Amplitude
-150 150		GOBO			0 100
Line Tension (lb) 000					
Differential Temperature (degF)					
-2 2					
Casing Collar Locator					

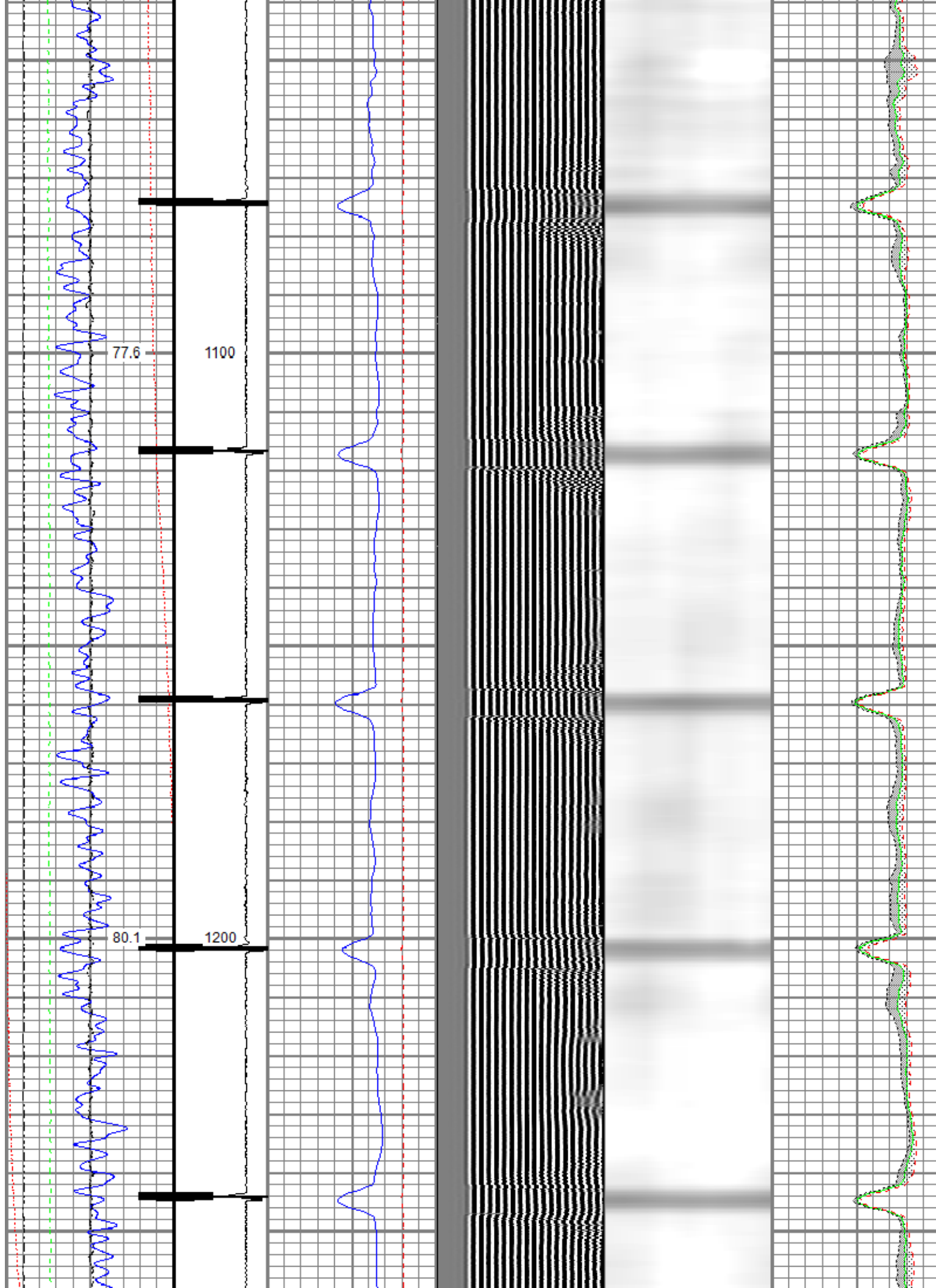


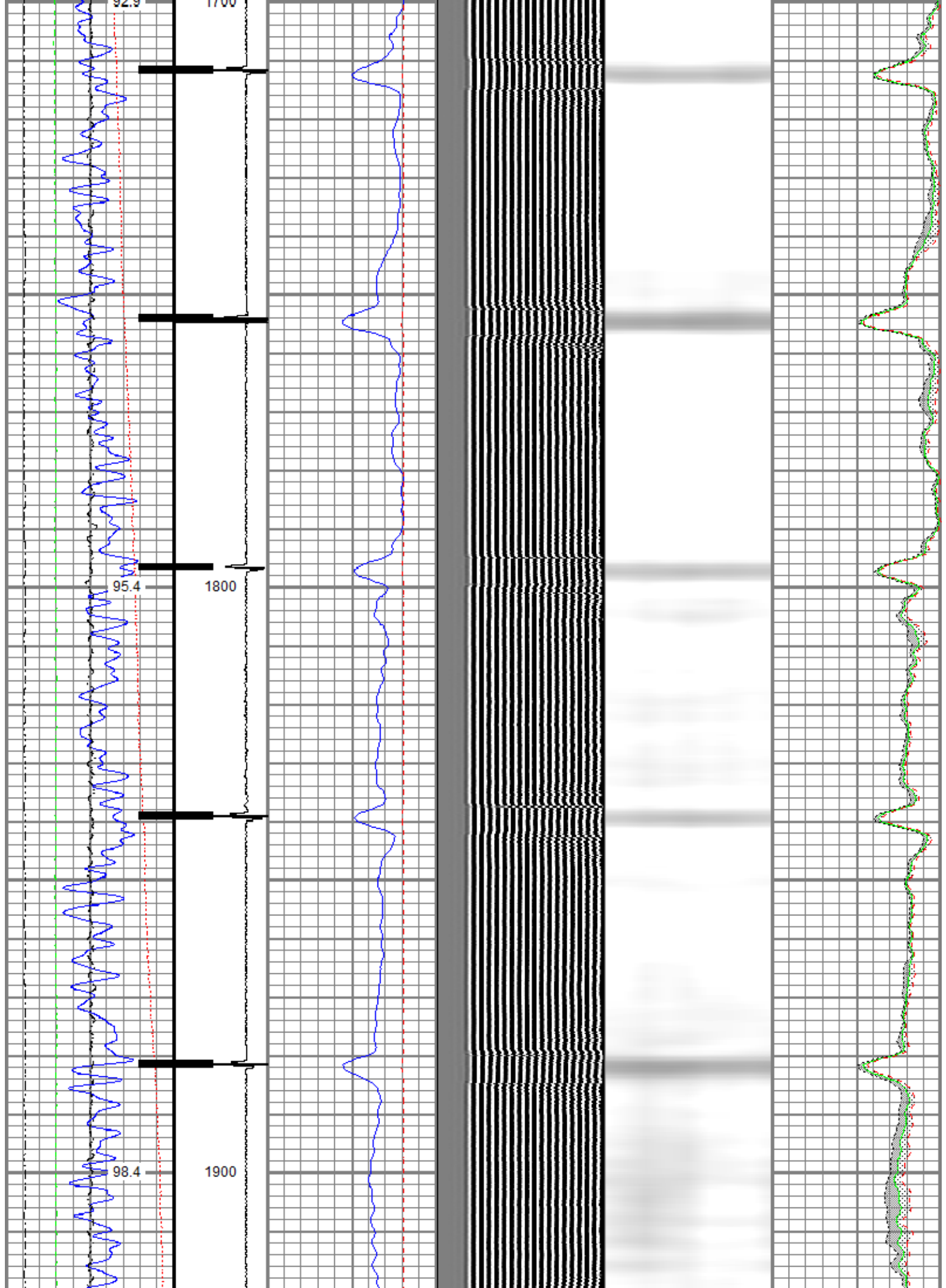


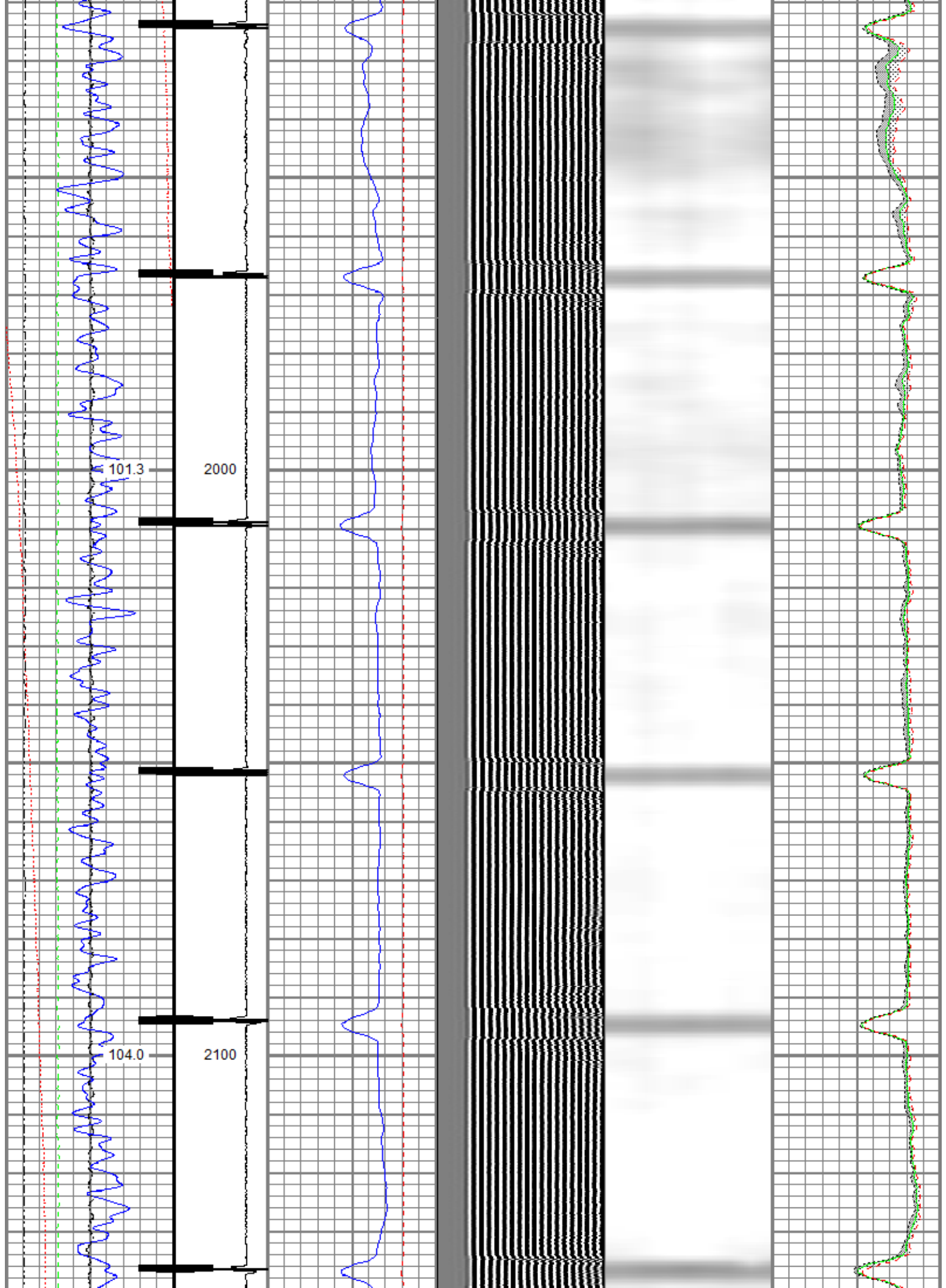


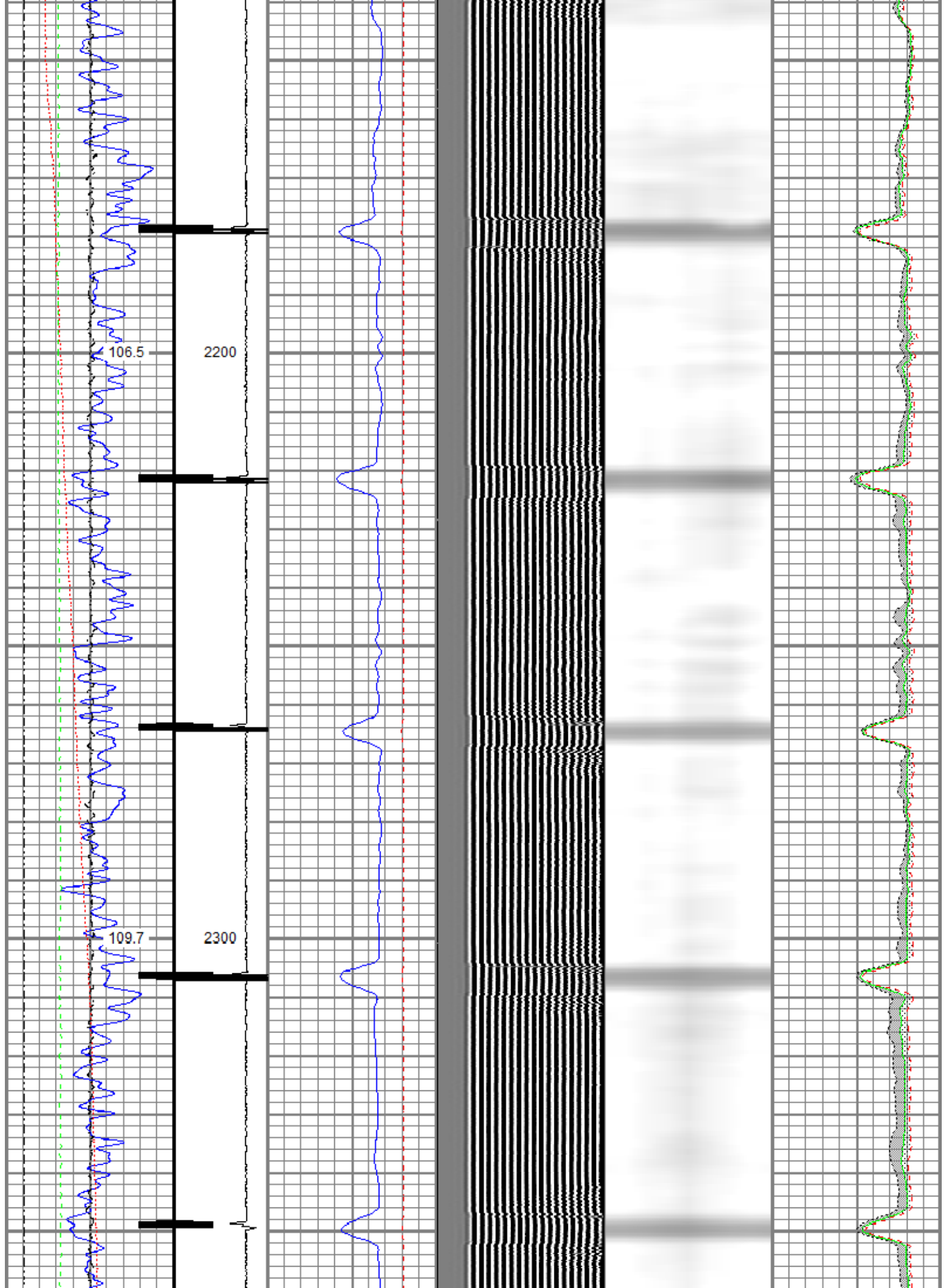


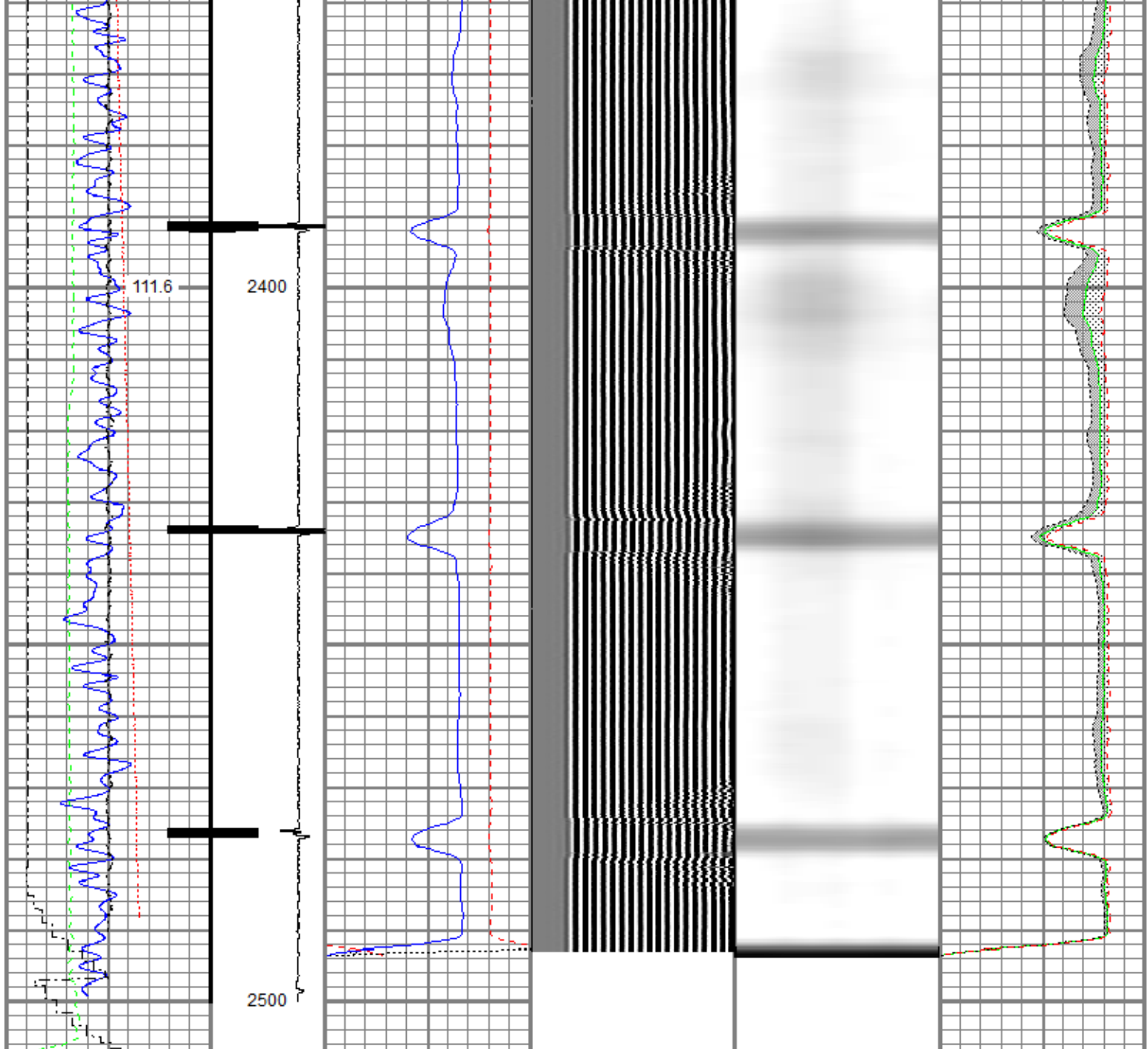












Gamma Ray (GAPI) 120	9 CCL\$2 -1	0 3' Amplitude (mV) 100	5' Variable Density Log 200 (usec) 1200	Sector Map	Average Amplitude 0 100
Temperature (degF) 20		0 3' Amplitude x 5 (mV) 20			Minimum Amplitude 0 100
Line Speed (ft/min) 150		650 3' Travel Time (usec) 150			Maximum Amplitude 0 100
Line Tension (lb) 000		GOBO			
Differential Temperature (degF) 2					
Casing Collar Locator					

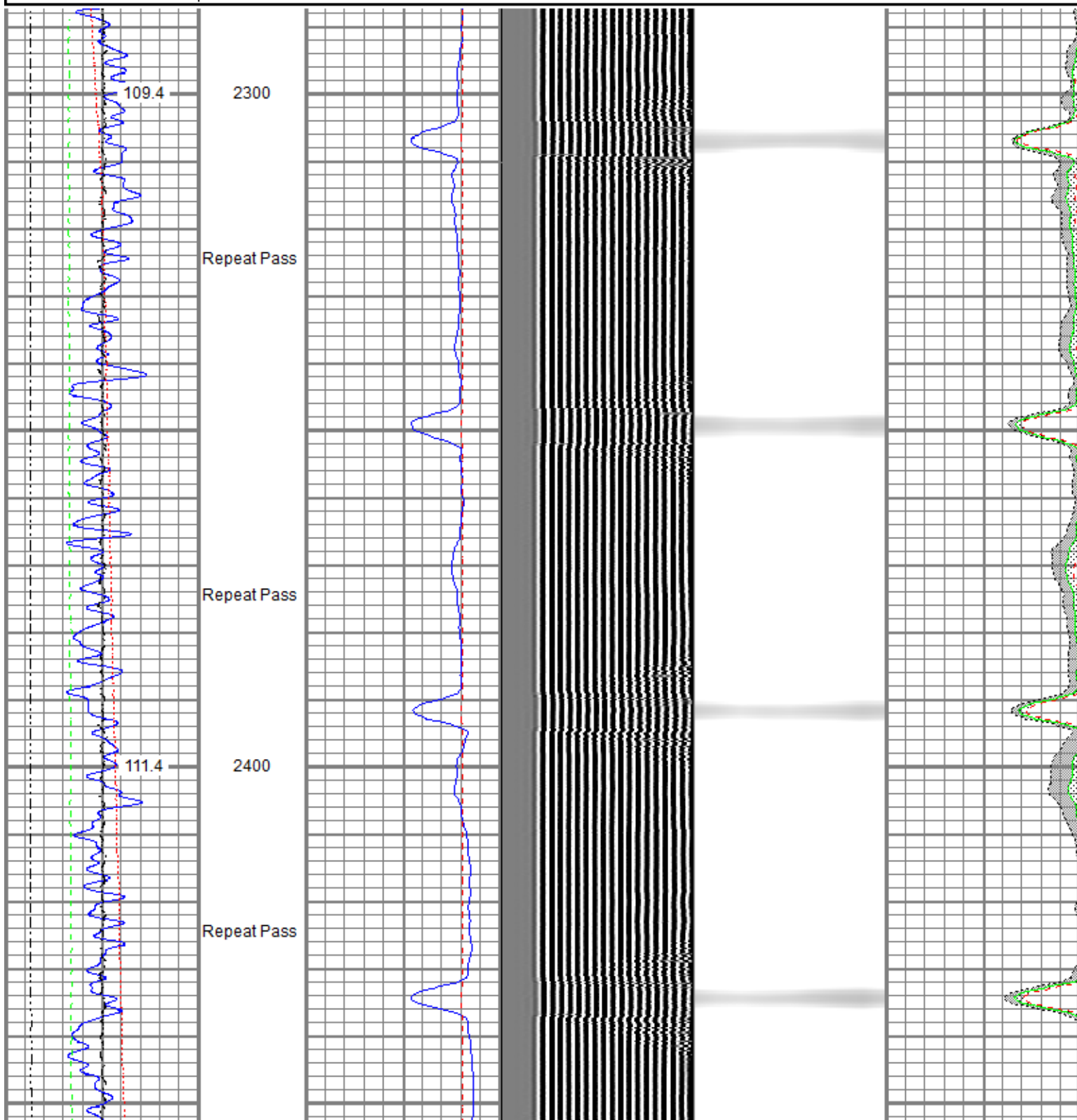


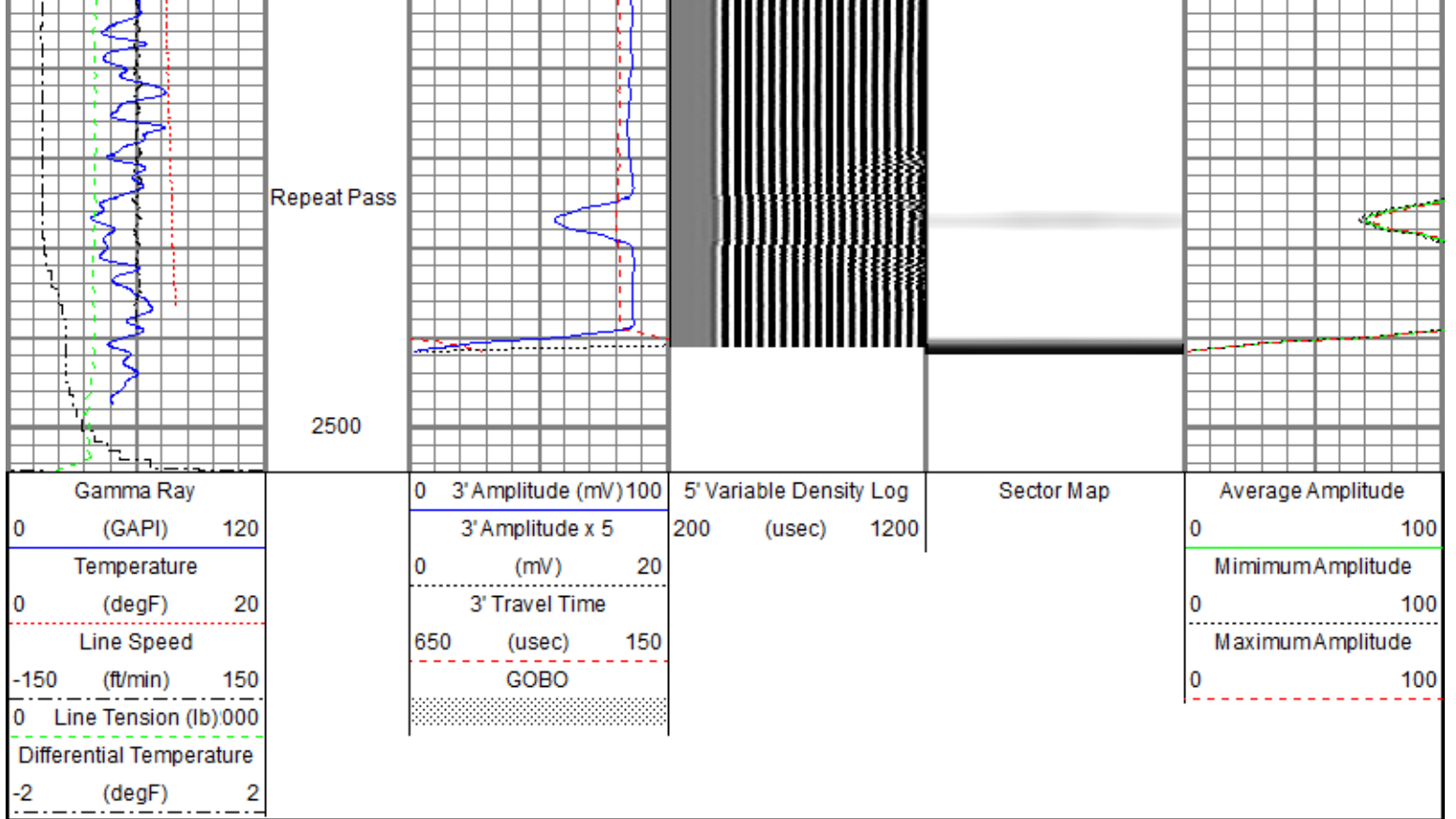
Repeat Pass

Recorded With 0 PSI Surface Induced Pressure


Dataset Pathname rbl/pass4
 Presentation Format ros_radix_oxv_vert_gobo_45
 Dataset Creation Wed Jan 06 11:17:02 2021
 Charted by Depth in Feet scaled 1:240

Gamma Ray (GAPI)	0 120	3' Amplitude (mV)	100	5' Variable Density Log	Sector Map	Average Amplitude	0 100
Temperature (degF)	0 20	3' Amplitude x 5	20	200 (usec)	1200	Minimum Amplitude	0 100
Line Speed (ft/min)	-150 150	3' Travel Time	650 150			Maximum Amplitude	0 100
Line Tension (lb)	0 000	GOBO					
Differential Temperature (degF)	-2 2						





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan CHD-14375 GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	3.60
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
TEMP	17.04		Probe Radii-2750 RBT (FW0712-020) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
WVFS8	14.81					
WVFS7	14.81					
WVFS6	14.81					
WVFS5	14.81					
WVFS4	14.81					
WVFS3	14.81					
WVFS2	14.81					
WVFS1	14.81					
WVFCAL	14.81					
WVF3FT	14.81					
WVF5FT	13.81					

			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL\$2	6.80					
CCL\$1	6.80					
GR	5.46		Probe GR-CCL-2750 6PB (FW1810-001) Probe 2-3/4" rev.1 Digital Scintillation Gamma Ray/CCL Combined with 6 Pin Bottom for CNT	4.80	2.75	55.00
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
LOCTIM	0.00					
UTCTIM	0.00					
Dataset: oxy_hill_3_3a_rcbl_06_jan_2021.db: field/well/rbl/pass6.1 Total length: 23.86 ft Total weight: 223.60 lb O.D.: 2.75 in						

Calibration Report	
Database File	oxy_hill_3_3a_rcbl_06_jan_2021.db
Dataset Pathname	rbl/pass6.1
Dataset Creation	Wed Jan 06 11:44:52 2021

Gamma Ray Calibration Report		
Serial Number:	FW1810-001	
Tool Model:	2750 6PB	
Performed:	Tue Dec 03 09:24:53 2019	
Calibrator Value:	637.0	GAPI
Background Reading:	100.1	cps
Calibrator Reading:	1264.5	cps
Sensitivity:	0.5471	GAPI/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	FW0712-020	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	2299.403	ft

Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	0.662	0.800	81.196	123.015	-0.214
CAL	0.006	0.687				
5'	0.005	0.573	0.800	81.196	141.735	0.044
SUM						
S1	0.007	0.617	0.000	100.000	164.061	-1.218
S2	0.009	0.625	0.000	100.000	162.146	-1.414

S2	0.005	0.625	0.000	100.000	152.140	-1.414
S3	0.005	0.659	0.000	100.000	152.900	-0.819
S4	0.006	0.692	0.000	100.000	145.707	-0.900
S5	0.006	0.727	0.000	100.000	138.631	-0.801
S6	0.007	0.714	0.000	100.000	141.535	-1.054
S7	0.007	0.688	0.000	100.000	146.853	-1.046
S8	0.007	0.636	0.000	100.000	158.942	-1.164

Air Zero Calibration, performed Wed Jan 06 11:01:54 2021:

	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

Temperature Calibration Report

Serial Number: FW0712-020
Tool Model: 2750 RBT
Performed: Tue Dec 03 09:24:53 2019

	Reference	Reading
Low Reference:	100.00 degF	109.43 degF
High Reference:	350.00 degF	405.87 degF

Gain: 0.84
Offset: 7.72
Delta Spacing: 1



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Field Wattenberg
County Weld
State Colorado