



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

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Ballantine 4-30A
Field Wattenberg
County Weld
State Colorado

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Location: SEC 30 TWP 2N RGE 68W
 Permanent Datum Ground Level Elevation 4990'
 Log Measured From Ground Level
 Drilling Measured From Kelly Bushing
 API #: 05-123-20764
 Other Services ---
 Elevation
 K.B. 5002'
 D.F. ---
 G.L. 4990'

Date	29-MAR-2021						
Run Number	One						
Depth Driller	8138 FT						
Depth Logger	945 FT						
Bottom Logged Interval	930 FT						
Top Log Interval	Surface						
Open Hole Size	7.875"						
Type Fluid	Water						
Density / Viscosity	8.34 lb/gal						
Max. Recorded Temp.	69°F						
E. estimated Cement Top	See Log						
Time Well Ready	ROA						
Time Logger on Bottom	09:30						
E. equipment Number	HD-361						
Location	Platteville, CO						
Recorded By	Greg Lueck						
Witnessed By	D. Maoruder						
Borehole 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	---	Surface	748 FT		
Intermediate #1	4 1/2	11.6	1-80	Surface	8131 FT		
Intermediate #2							
Inner							

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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 Pioneer RBL dated 26-MAR-2021
Adjusted 0 FT to correlate with Pioneer log
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!!

Main Pass

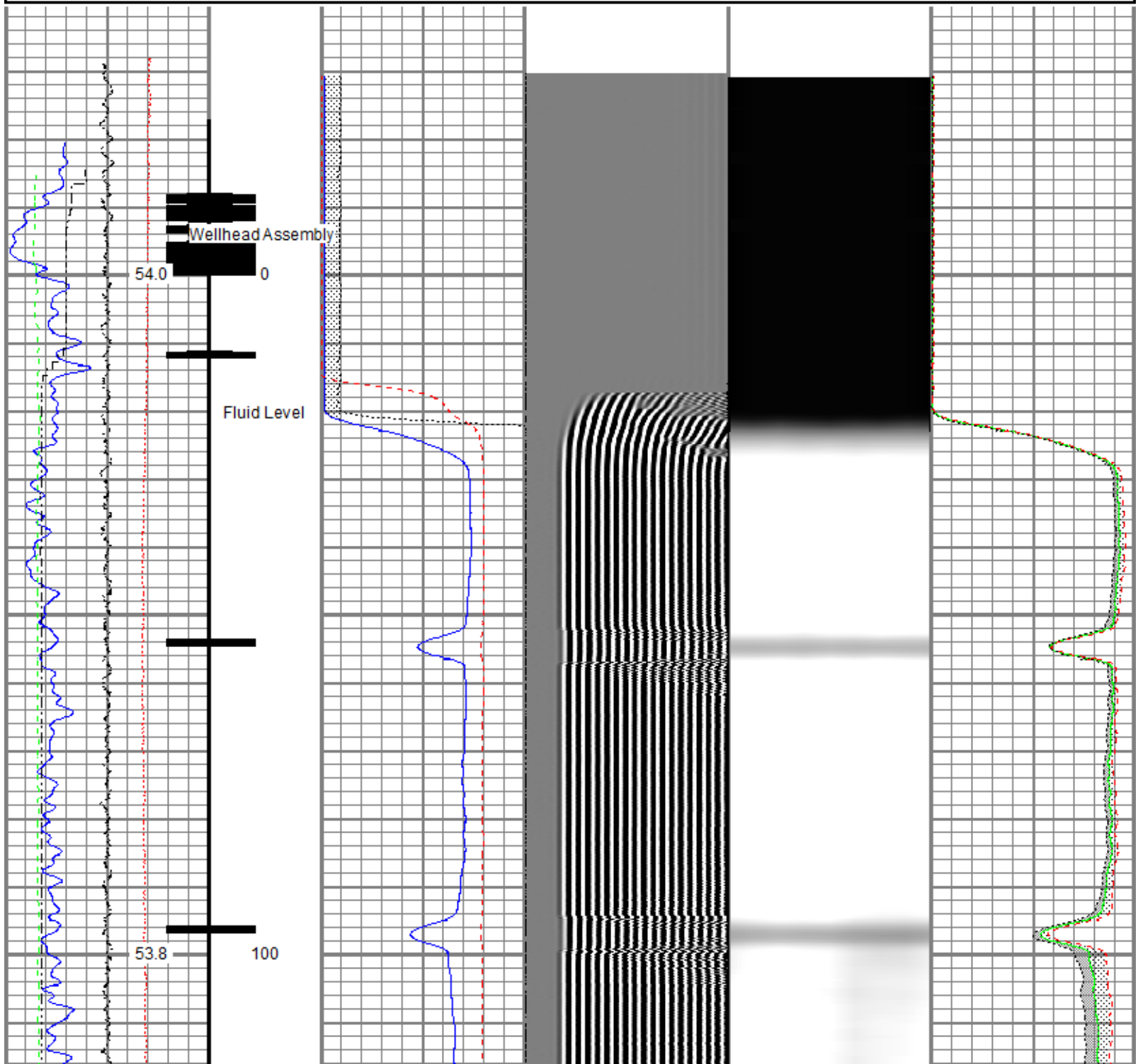


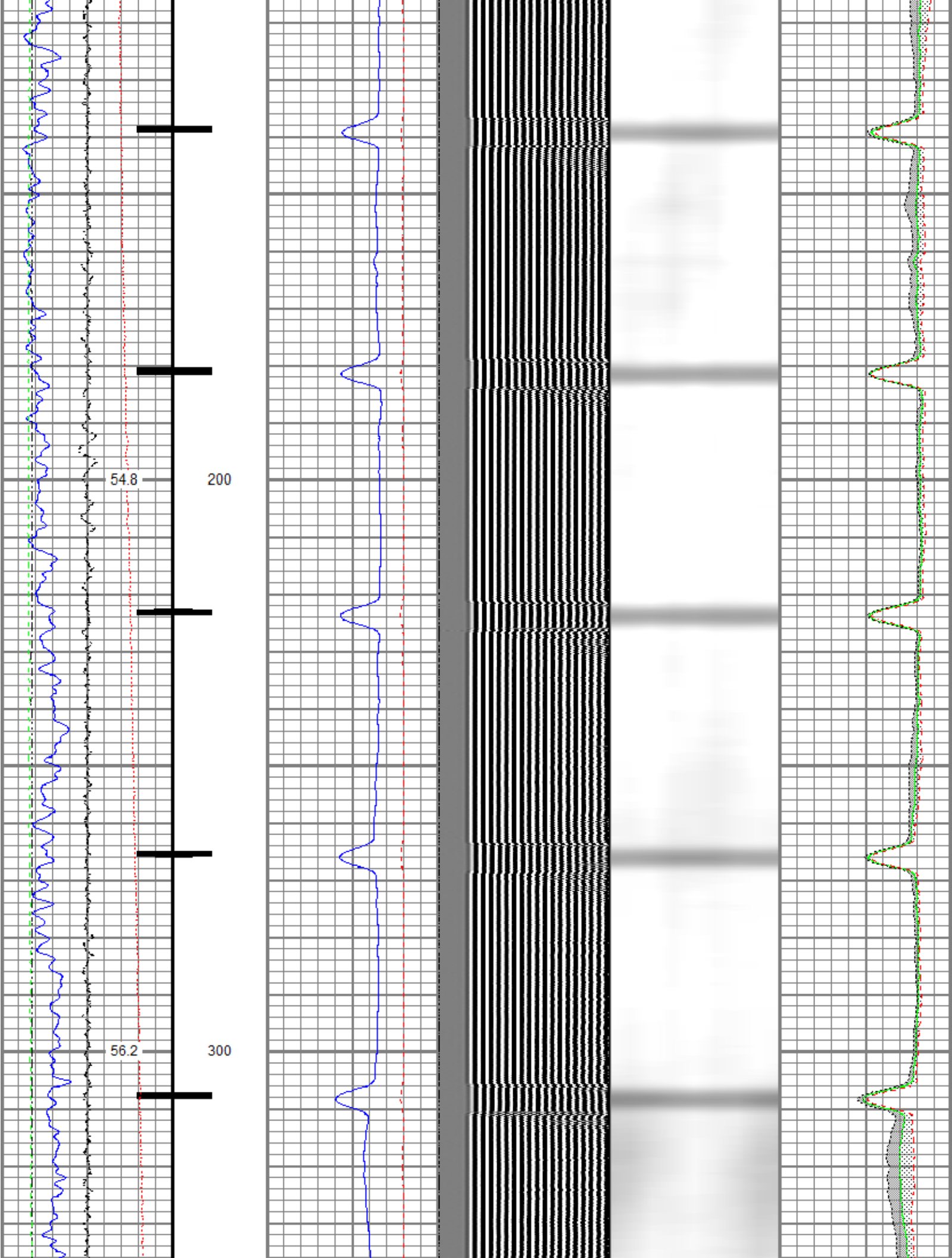
Recorded With 0 PSI Surface Induced Pressure

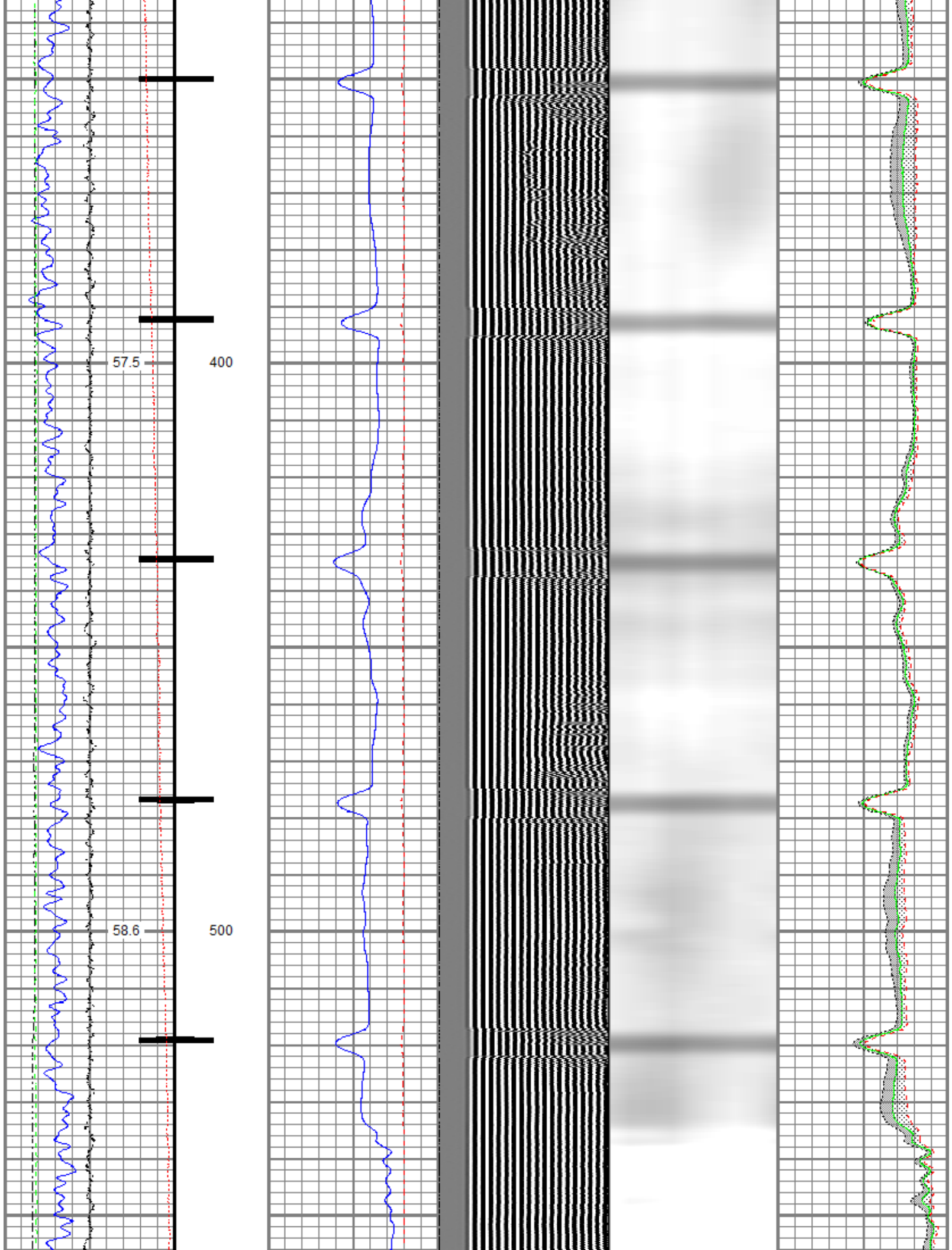
Recorded with 0 PSI Surface Induced Pressure

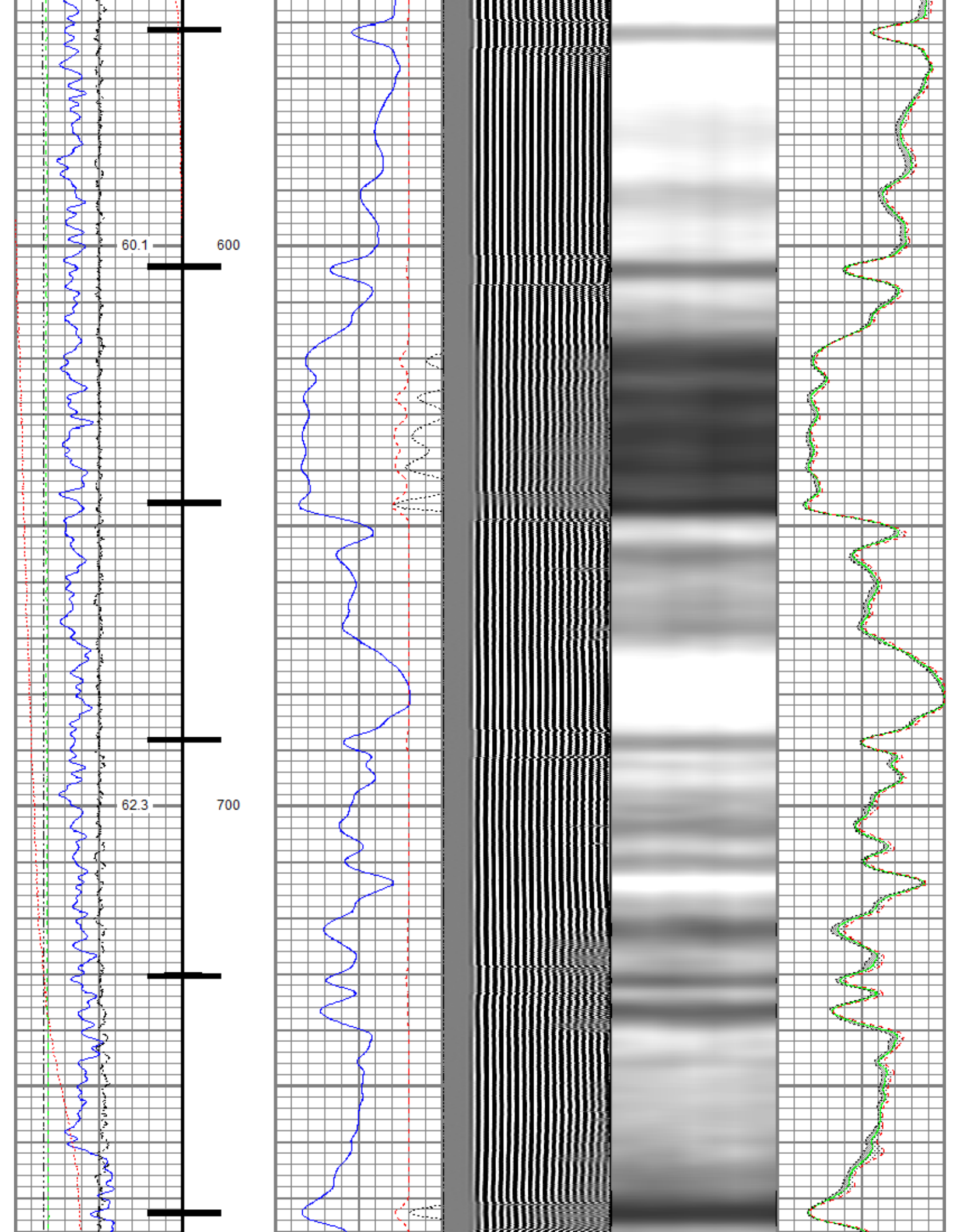
Database File oxy\0512320764_oxy_ballantine 4-30a_rbl_03-29-21\0512320764_oxy_ballantine 4-30a_rbl_03-29-21.db
 Dataset Pathname pass4.1
 Presentation Format ros_radrii
 Dataset Creation Mon Mar 29 09:44:00 2021
 Charted by Depth in Feet scaled 1:240

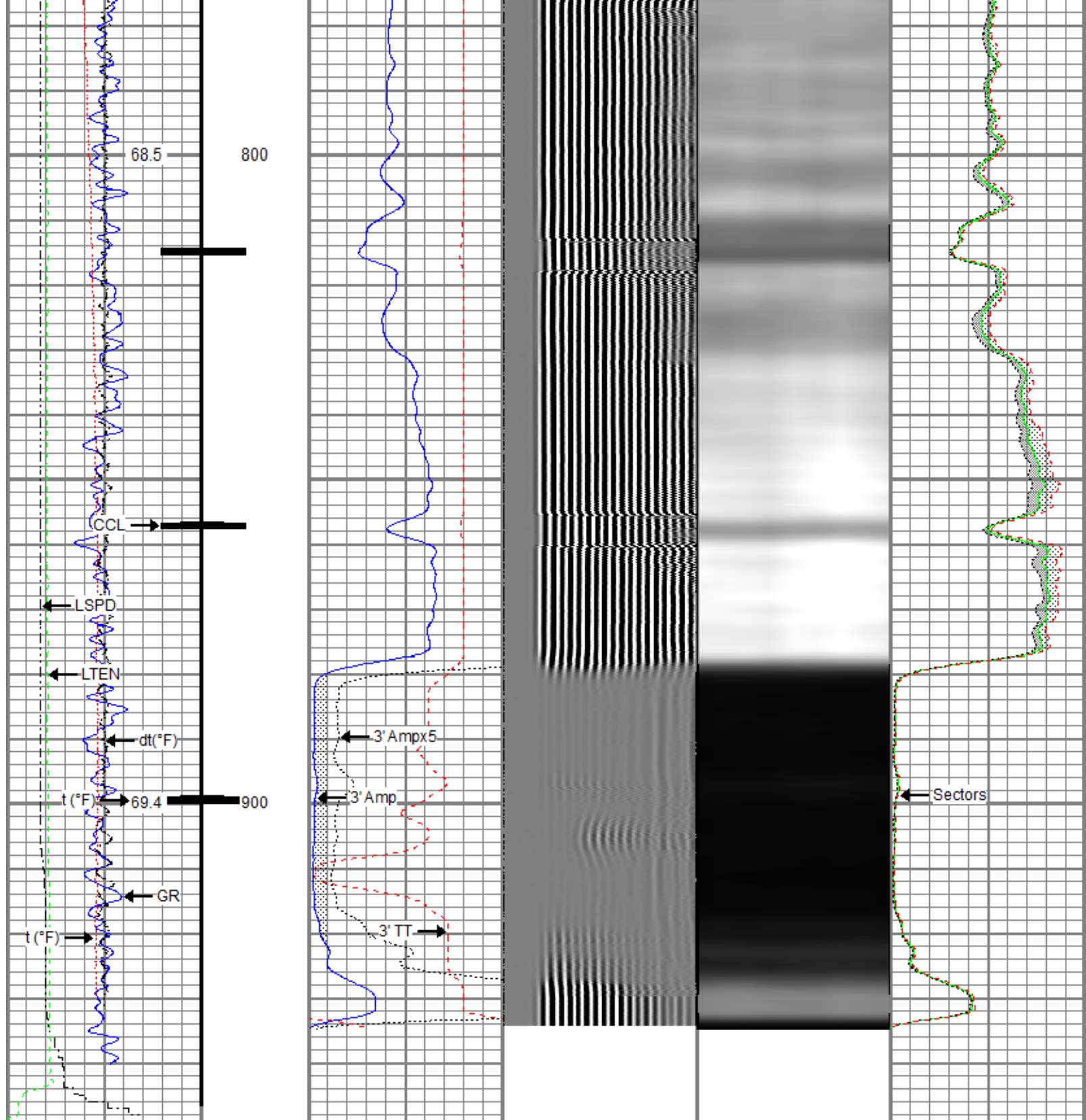
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
-150 (ft/min) 150						
Line Tension (lb) 2000						
Differential Temperature						
-2 (degF) 2						







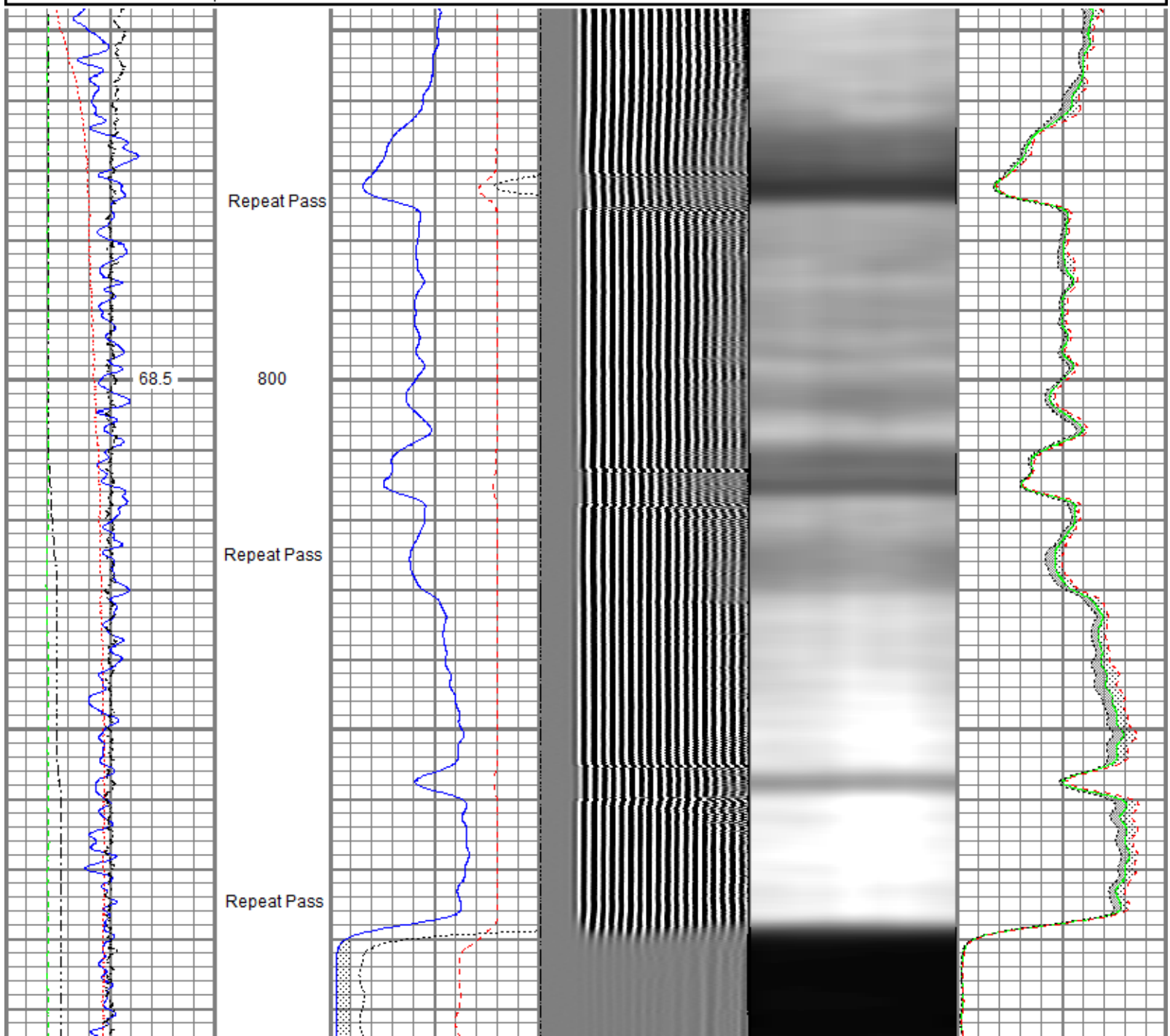


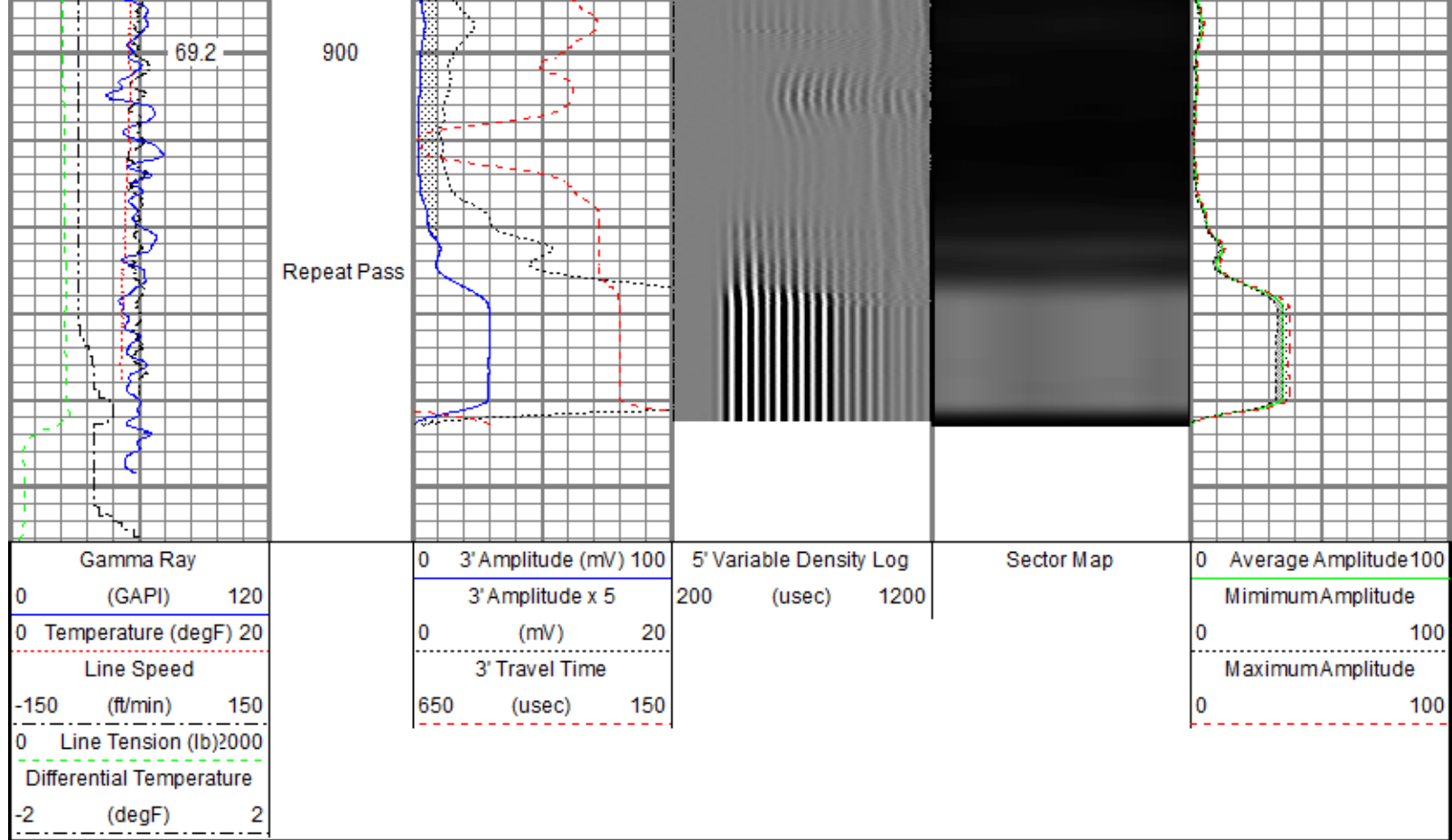


Gamma Ray (GAPI) 120	0 3' Amplitude (mV) 100	5' Variable Density Log (usec) 1200	Sector Map	0 Average Amplitude 100
Casing Collar Locator	0 3' Amplitude x 5 20			Minimum Amplitude 100
0 Temperature (degF) 20	0 3' Travel Time 150			Maximum Amplitude 100
Line Speed (ft/min) 150				0
0 Line Tension (lb) 2000				
Differential Temperature (degF) 2				

Database File oxy\0512320764_oxy_ballantine 4-30a_rbl_03-29-21\0512320764_oxy_ballantine 4-30a_rbl_03-29-21.db
 Dataset Pathname pass2.2
 Presentation Format ros_radrii
 Dataset Creation Mon Mar 29 15:02:25 2021
 Charted by Depth in Feet scaled 1:240

Gamma Ray 0 (GAPI) 120	0 3' Amplitude (mV) 100	5' Variable Density Log 200 (usec) 1200	Sector Map	0 Average Amplitude 100
0 Temperature (degF) 20	3' Amplitude x 5 0 (mV) 20			Minimum Amplitude 0 100
Line Speed -150 (ft/min) 150	3' Travel Time 650 (usec) 150			Maximum Amplitude 0 100
0 Line Tension (lb) 2000				
Differential Temperature -2 (degF) 2				





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
ErrCt	23.86		Titan CHD-16875 GO Titan 1-11/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.69	5.40
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
RBT_HV	19.95					
TEMP	17.04					
RBT_ACCZ	14.81		Probe Radii ACC-2750 RBTa (FW1302-002) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub and Accelerometer	9.39	2.75	105.00
RBT_ACCY	14.81					
RBT_ACCX	14.81					
WVFSYNC	14.81					
WVFS8	14.81					
WVFS7	14.81					
WVFS6	14.81					
WVFS5	14.81					
WVFS4	14.81					
WVFS3	14.81					

WVFS2	14.81		Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
WVFS1	14.81					
WVFCAL	14.81					
WVF3FT	14.81					
WVF5FT	13.81					
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: 0512320764_Oxy_Ballantine 4-30A_RBL_03-29-21.db: field/well/run1/pass4.1
 Total length: 23.86 ft
 Total weight: 225.40 lb
 O.D.: 2.75 in

Calibration Report

Database File C:\ProgramData\Warrior\Data\Oxy\0512320764_Oxy_Ballantine 4-30A_RBL_03-29-21\0512320764_Oxy_Ballantine 4-30A_RBL
 Dataset Pathname pass4.1
 Dataset Creation Mon Mar 29 09:44:00 2021

Gamma Ray Calibration Report

Serial Number: FW1810-001
 Tool Model: 2750 6PB
 Performed: Mon Oct 19 14:19:51 2020
 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: FW1302-002
 Tool Model: 2750 RBTa
 Calibration Casing Diameter: 4.500 in
 Calibration Depth: 0.813 ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.001	0.584	0.800	81.196	137.711	0.708
CAL	0.006	0.667				
5'	0.001	0.540	0.800	81.196	149.003	0.721
SLIM						

S1	0.001	0.557	0.000	100.000	179.598	-0.114
S2	0.001	0.579	0.000	100.000	172.830	-0.117
S3	0.001	0.602	0.000	100.000	166.445	-0.120
S4	0.001	0.609	0.000	100.000	164.465	-0.115
S5	0.001	0.599	0.000	100.000	167.121	-0.118
S6	0.001	0.605	0.000	100.000	165.470	-0.115
S7	0.001	0.581	0.000	100.000	172.370	-0.119
S8	0.001	0.573	0.000	100.000	174.759	-0.119

Air Zero Calibration, performed Mon Mar 29 07:16:29 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

Inclinometer Calibration Report

Performed:	Mon Oct 19 14:19:51 2020				
	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	-891.00	891.00	-1.00	1.00	gee
Y Accelerometer	-899.00	877.00	-1.00	1.00	gee
Z Accelerometer	-7.47	873.36	0.00	1.00	gee

Temperature Calibration Report

Serial Number:	FW1302-002			
Tool Model:	2750 RBTa			
Performed:	Mon Oct 19 14:19:51 2020			
	Reference		Reading	
Low Reference:	100.00 degF		110.72 degF	
High Reference:	350.00 degF		409.18 degF	
Gain:	0.84			
Offset:	7.26			
Delta Spacing	1			



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