RELIANCE
OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Federal PA 334-23
Field	Parachute
County	Garfield
State	Colorado

Location: API # : 05-045-24307

SEC 26 TWP 6S RGE 95W

Other Services: ---

Permanent Datum	Ground Level	Elevation	5486.3'	Elevation
Log Measured From	Kelly Bushing	24 FT		K.B. 5510.3'
Drilling Measured From	Kelly Bushing			D.F. 5509.3'
				G.L. 5486.3'

Company TEP Rocky Mountain LLC
Well Federal PA 334-23
Field Parachute
County Garfield
State Colorado

Date	13-OCT-2020
Run Number	One
Depth Driller	8538 FT
Depth Logger	8438 FT
Bottom Logged Interval	8426 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	242°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	14:30
Equipment Number	HD-0331
Location	Grand Junction, CO
Recorded By	Z. Fisher
Witnessed By	---

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	1123 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	8497 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 24 FT
Marker Joint Logged from 5563 - 5585 FT
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!

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Main Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	tep\tep_federal pa 334-23_rbl_10-13-20\tep_federal pa 334-23_rbl_10-13-20.db
Dataset Pathname	main.4
Presentation Format	ros_radii_tep
Dataset Creation	Thu Oct 15 15:39:15 2020
Charted by	Depth in Feet scaled 1:240

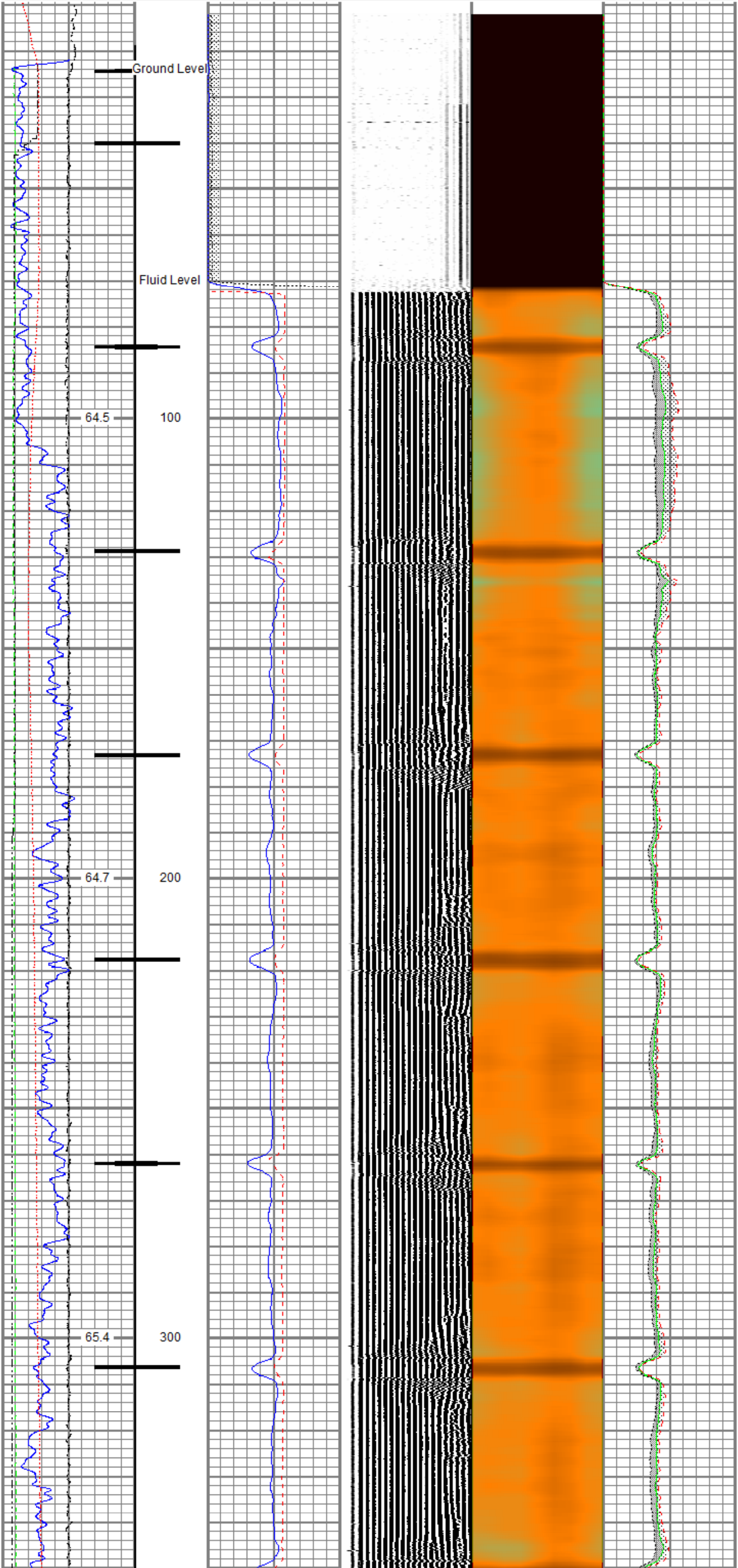
Gamma Ray: 0 (GAPI) 200
Line Speed: -150 (ft/min) 150
Line Tension: 0 (lb) 2000
Differential Temperature: -2 (degF) 2
Temperature: 0 (degF) 20
Casing Collar Locator

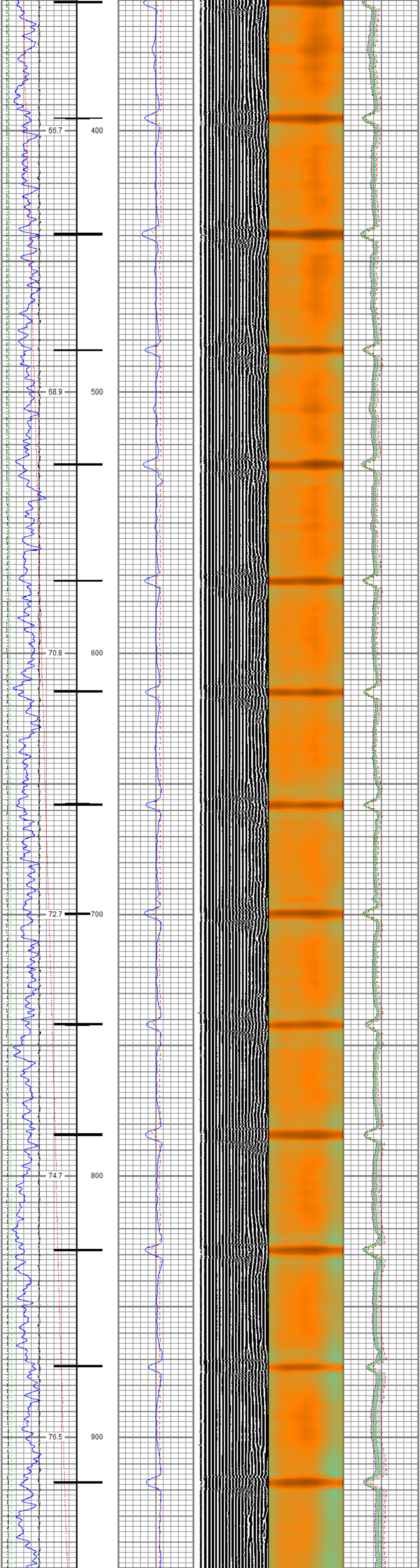
3' Amplitude: 0 (mV) 100
3' Amplitude x 5: 0 (mV) 20
3' Travel Time: 300 (usec) 200

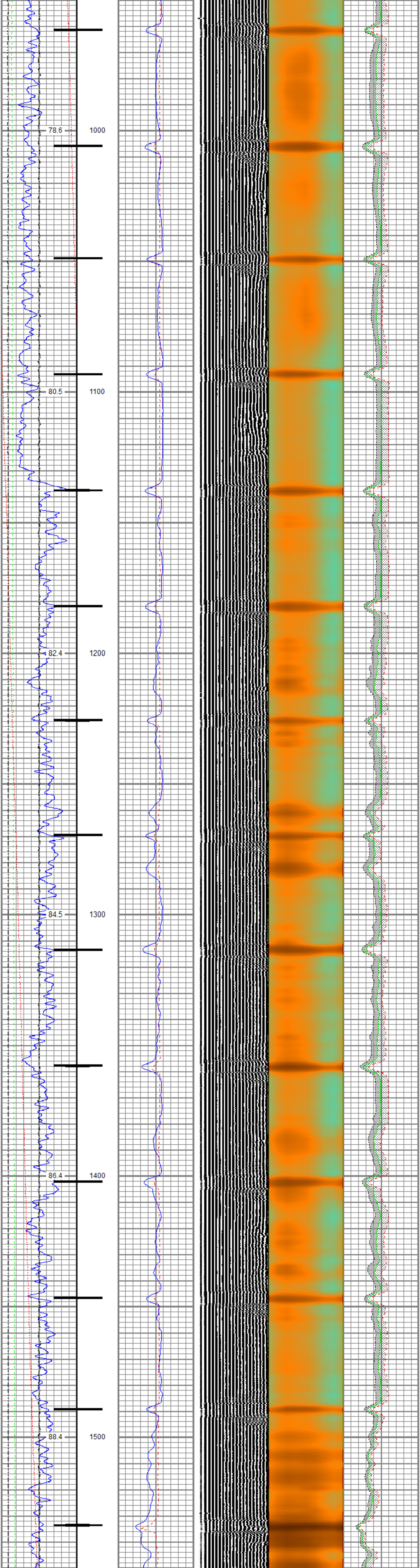
5' Variable Density Log: 200 (usec) 1200

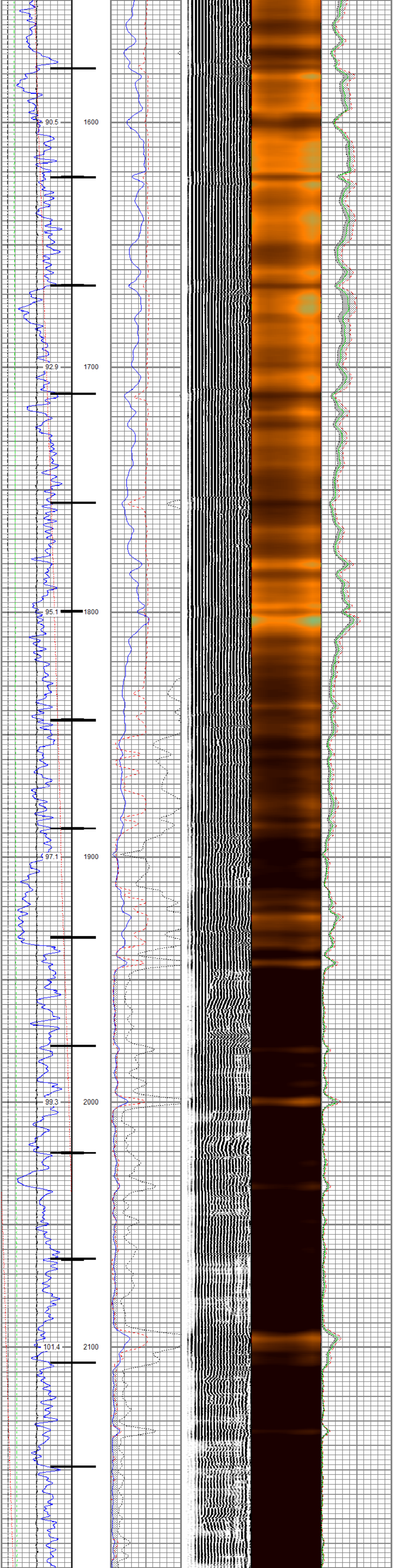
Sector Map

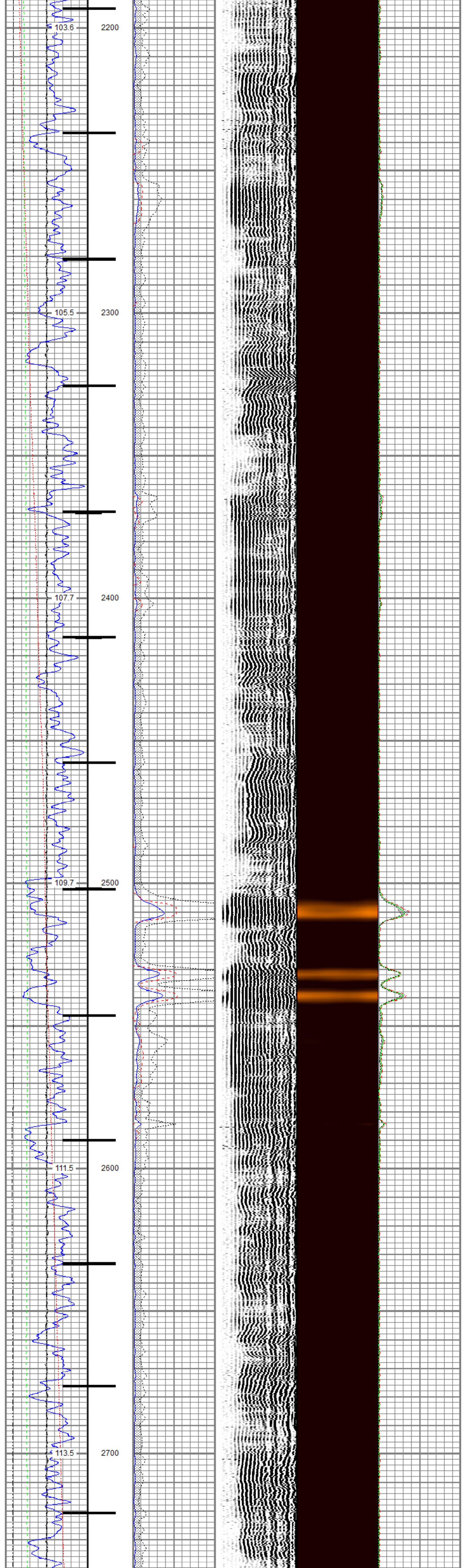
Average Amplitude: 0 150
Mimimum Amplitude: 0 150
Maximum Amplitude: 0 150

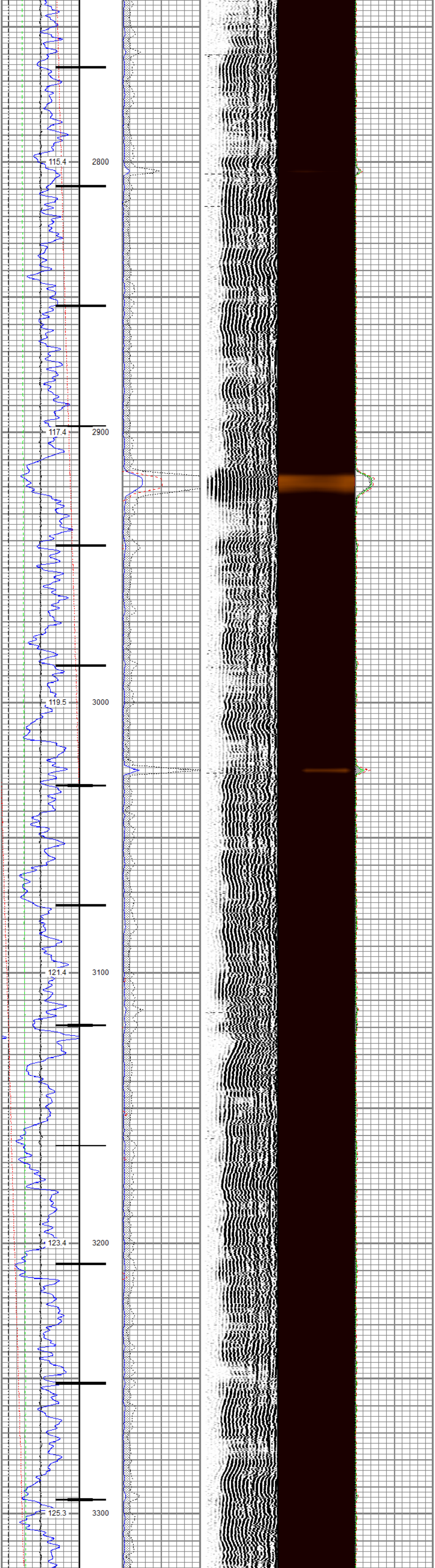


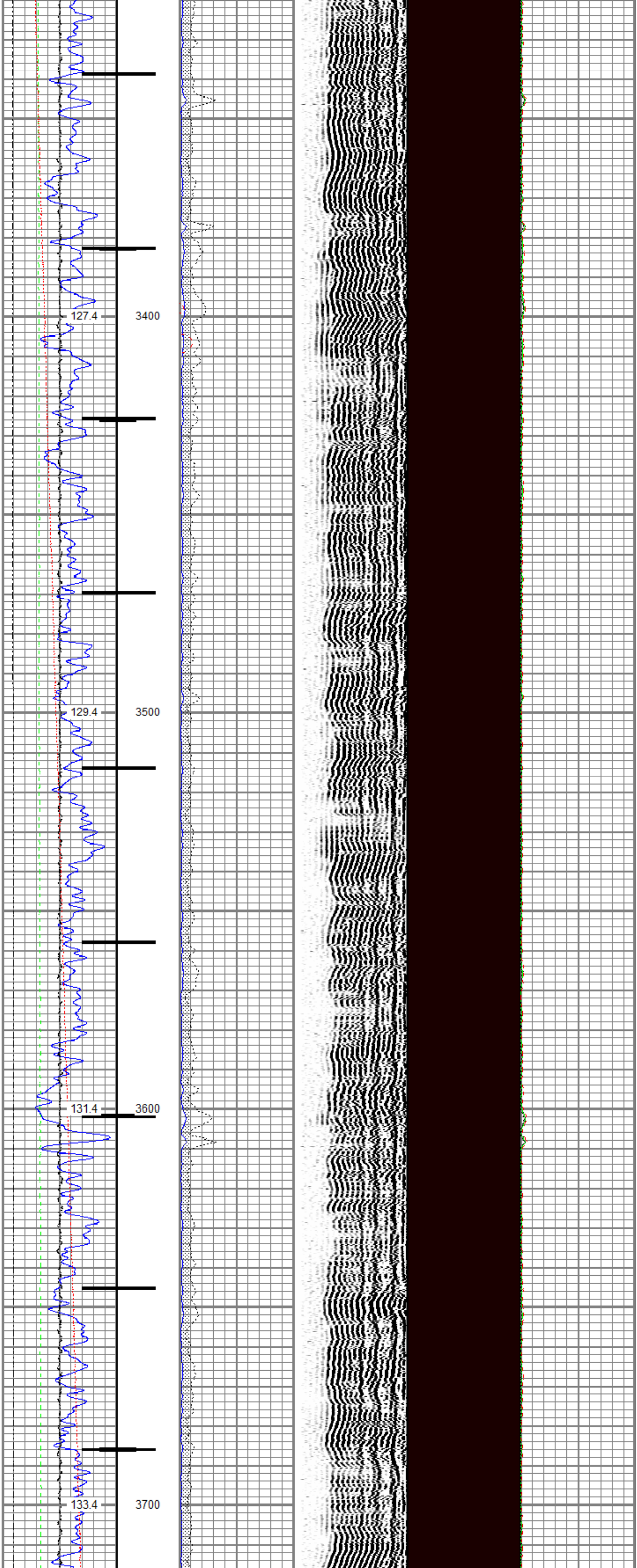


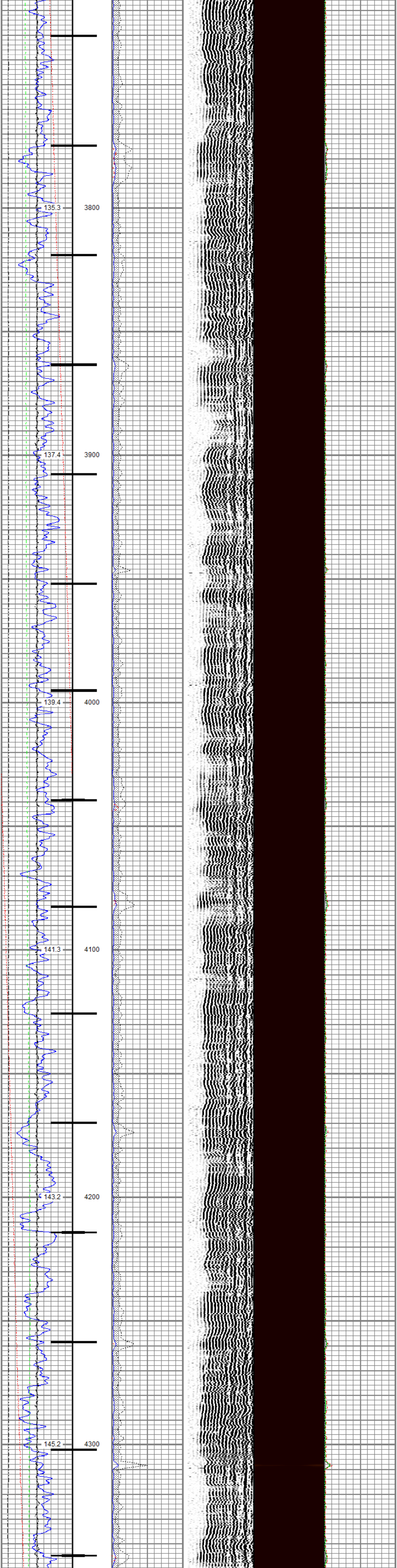








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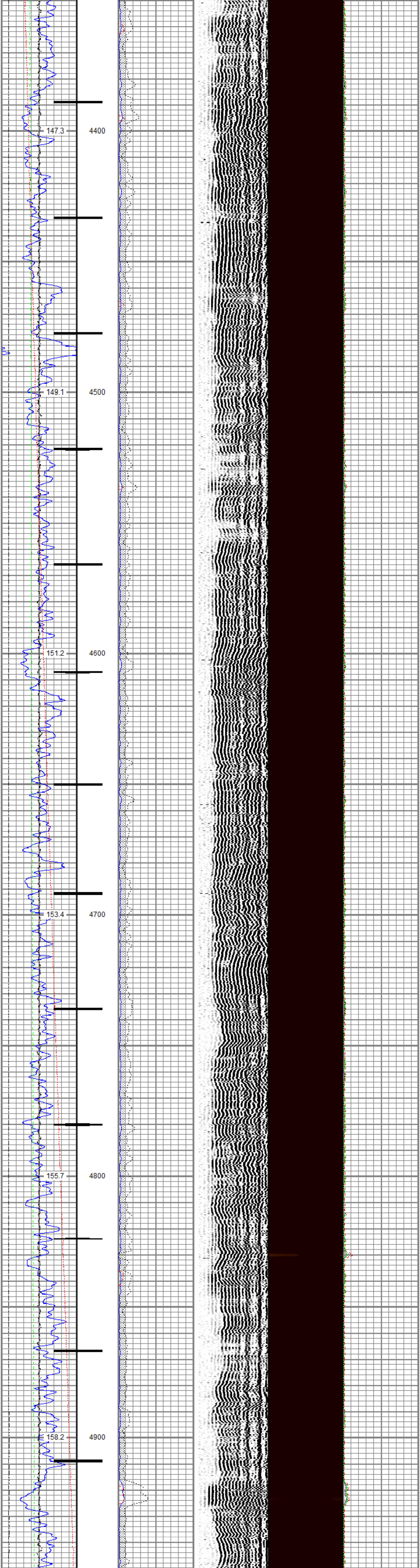
137.4
3900
139.4
4000
141.3
4100
143.2
4200
145.2
4300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4500
151.2
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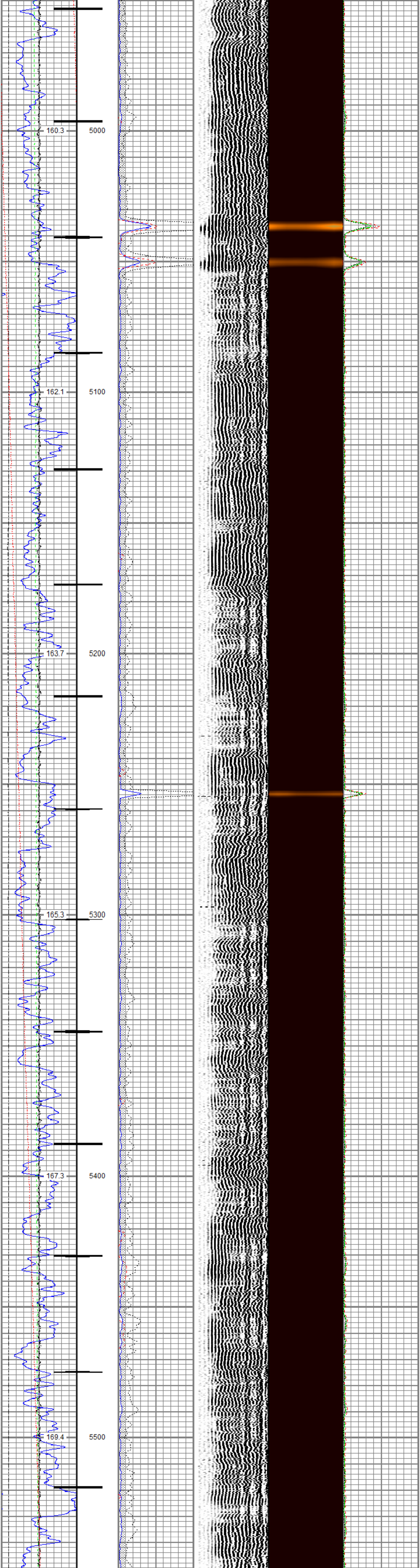
153.4
4700
155.7
4800
158.2
4900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5100
163.7
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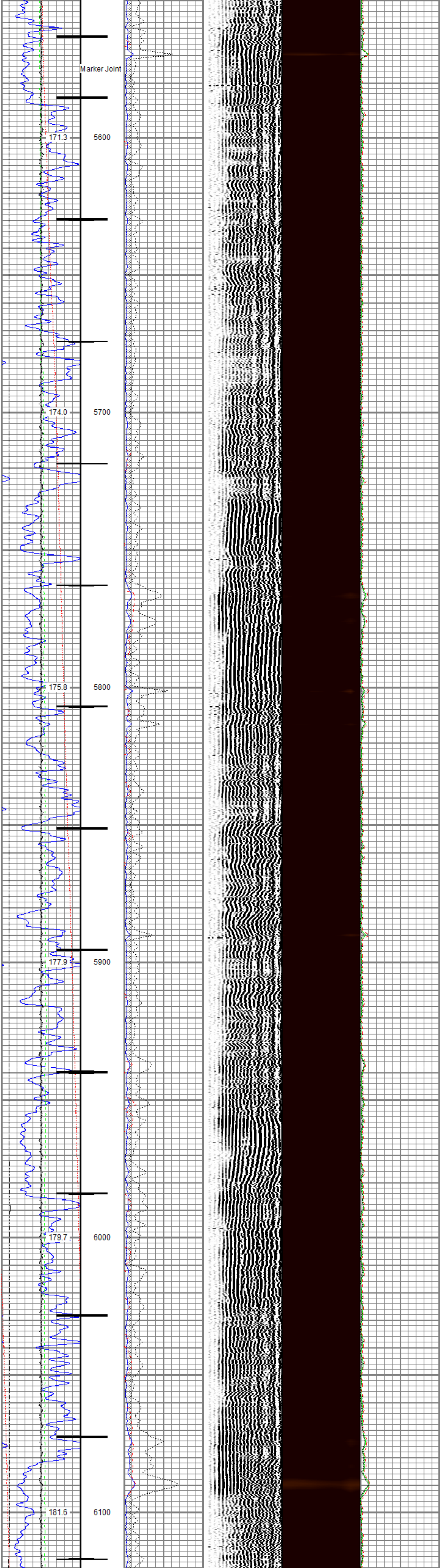
165.3
5300
167.3
5400
169.4
5500


Marker Joint
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5800
177.9
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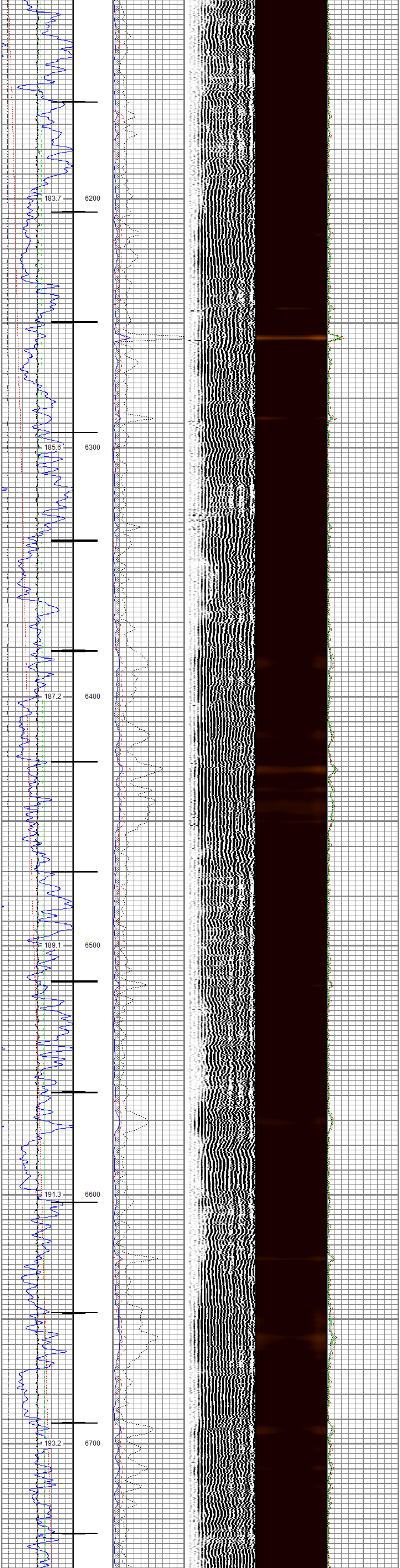
6000
181.6
6100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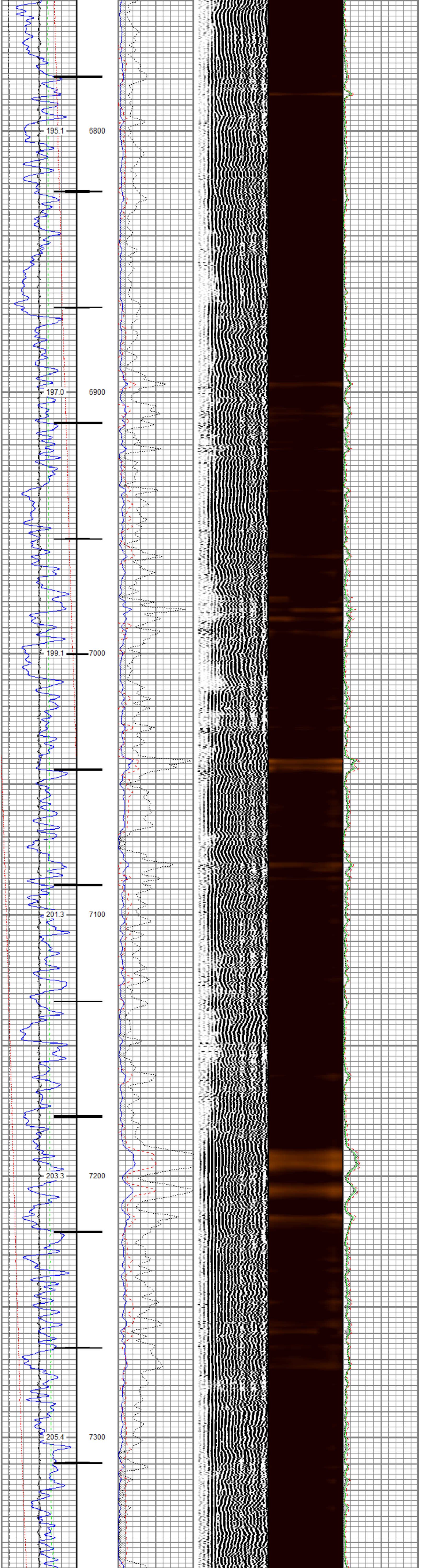
193.2
6700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203.3
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205.4
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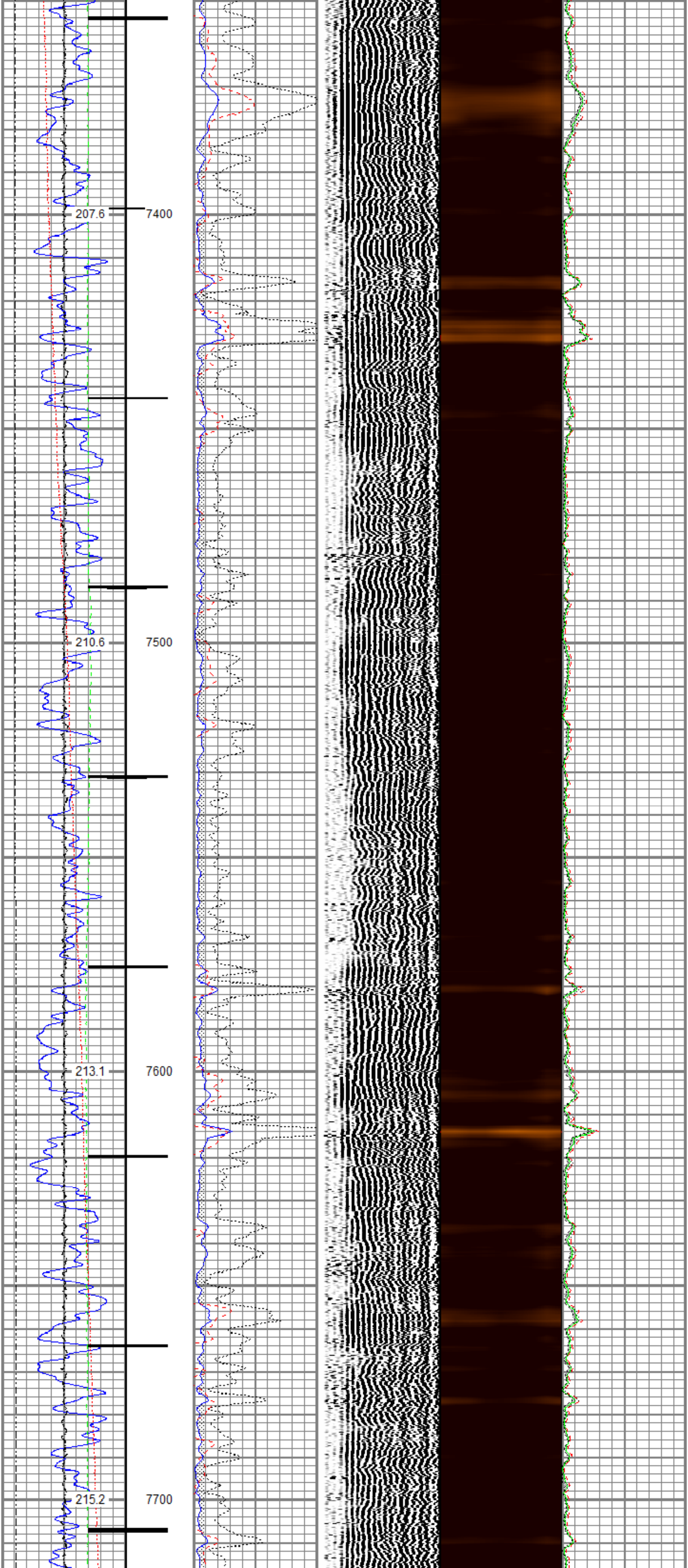
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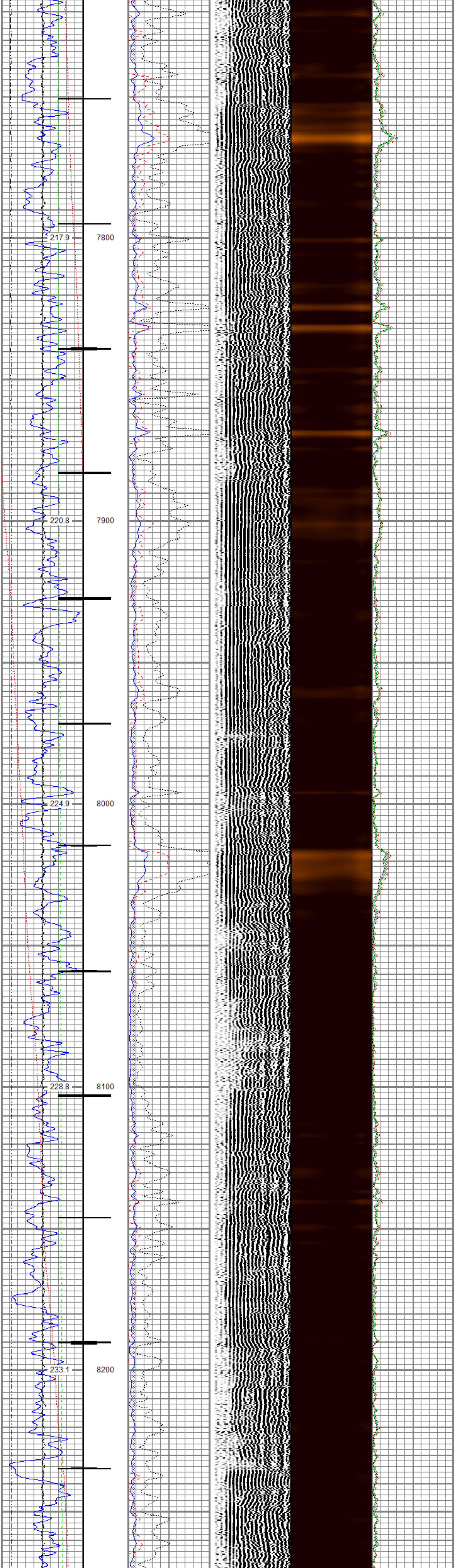

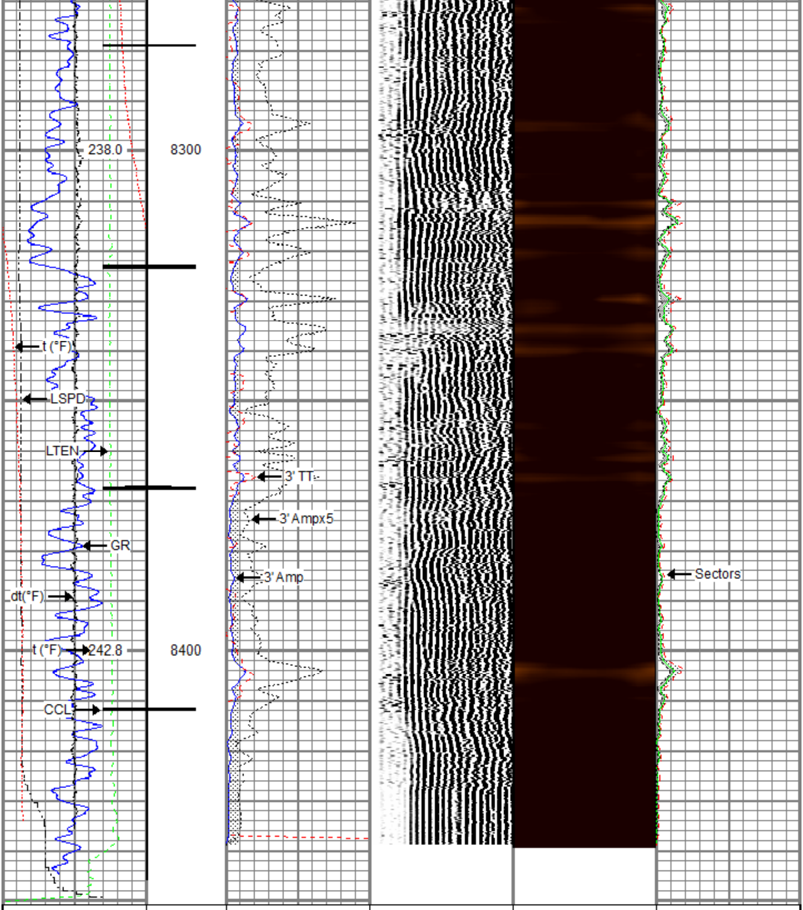

Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200	0 (mV) 100	200 (usec) 1200		0 150
Line Speed	3' Amplitude x 5			Mimimum Amplitude
-150 (ft/min) 150	0 (mV) 20			0 150
Line Tension	3' Travel Time			Maximum Amplitude
0 (lb) 2000	300 (usec) 200			0 150
Differential Temperature				
-2 (degF) 2				
Temperature				
0 (degF) 20				
Casing Collar Locator				

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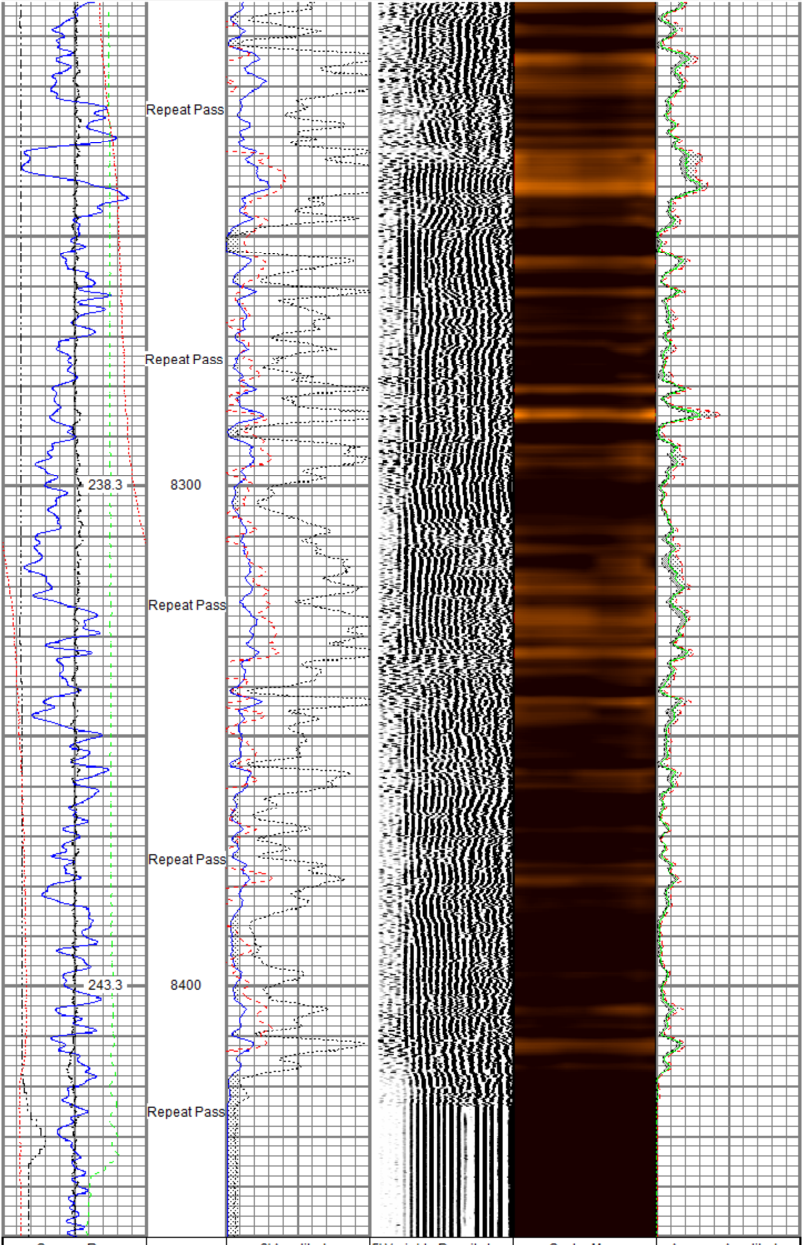
Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	tep\tep_federal pa 334-23_rbl_10-13-20\tep_federal pa 334-23_rbl_10-13-20.db
Dataset Pathname	repeat.2
Presentation Format	ros_radii_tep
Dataset Creation	Thu Oct 15 15:45:31 2020
Charted by	Depth in Feet scaled 1:240

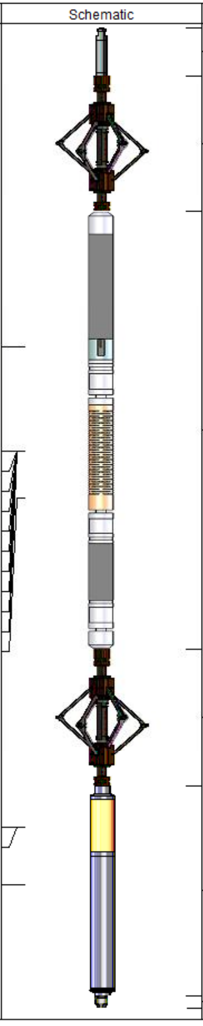
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200	0 (mV) 100	200 (usec) 1200		0 150
Line Speed	3' Amplitude x 5			Mimimum Amplitude
-150 (ft/min) 150	0 (mV) 20			0 150
Line Tension	3' Travel Time			Maximum Amplitude
0 (lb) 2000	300 (usec) 200			0 150
Differential Temperature				
-2 (degF) 2				
Temperature				
0 (degF) 20				



Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200	0 (mV) 100	200 (usec) 1200		0 150
Line Speed	3' Amplitude x 5			Mimimum Amplitude
-150 (ft/min) 150	0 (mV) 20			0 150
Line Tension	3' Travel Time			Maximum Amplitude
0 (lb) 2000	300 (usec) 200			0 150
Differential Temperature				
-2 (degF) 2				
Temperature				
0 (degF) 20				

Sensor	Offset (ft)
TEMP	14.16
WVFS8	11.93
WVFS7	11.93
WVFS6	11.93
WVFS5	11.93
WVFS4	11.93
WVFS3	11.93
WVFS2	11.93
WVFS1	11.93
WVFCAL	11.93
WVF3FT	11.93
WVF5FT	10.93
CCL$2	3.88
CCL$1	3.88
GR	2.63

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
BTA-MUD BTA 2-3/4" Roller 6 Arm Centralizer with Reversible Ends	2.92	2.72	25.00
Probe Radii-2750 RBT (FW1305-098) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
BTA-MUD BTA 2-3/4" Roller 6 Arm Centralizer with Reversible Ends	2.92	2.72	25.00
Probe GR-CCL-2750 GOB (070319) Probe 2-3/4" rev.2 Digital Scintillation Gamma Ray/CCL Combined with GO Bottom	4.51	2.75	55.00
GO BN-14375 GO 1-7/16" Bull Nose with Go Box Top	0.25	1.44	1.00

Dataset:	tep_federal pa 334-23_rbl_10-13-20.db: field/well/run1/main.4
Total length:	21.02 ft
Total weight:	214.60 lb
O.D.:	2.75 in

Calibration Report

Database File	c:\programdata\warrior\data\tep\tep_federal pa 334-23_rbl_10-13-20\tep_federal pa 334-23_rbl_10-13-20.db
Dataset Pathname	main.4
Dataset Creation	Thu Oct 15 15:39:15 2020

Gamma Ray Calibration Report

Serial Number:	070319	
Tool Model:	2750 GOB	
Performed:	(Not Performed)	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1305-098	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	30.965	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.006	0.639	0.800	81.196	126.976	0.004
CAL	0.003	0.757				
5'	0.013	0.507	0.800	81.196	162.724	-1.369
SUM						
S1	0.009	0.540	0.000	100.000	188.259	-1.730
S2	0.008	0.606	0.000	100.000	167.297	-1.355
S3	0.007	0.686	0.000	100.000	147.182	-0.990
S4	0.009	0.737	0.000	100.000	137.375	-1.301
S5	0.013	0.733	0.000	100.000	138.922	-1.791
S6	0.012	0.685	0.000	100.000	148.773	-1.845
S7	0.009	0.606	0.000	100.000	167.597	-1.504
S8	0.007	0.550	0.000	100.000	183.926	-1.212

Air Zero Calibration, performed Tue Oct 13 08:34:47 2020:

	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:	FW1305-098	
Tool Model:	2750 RBT	
Performed:	Mon Oct 01 11:32:17 2018	
	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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Company	TEP Rocky Mountain LLC
Well	Federal PA 334-23
Field	Parachute
County	Garfield
State	Colorado