Radial Cement Bond Gamma Ray Casing Collar Log

RELIANCE OILFIELD SERVICES

Company	TEP Rocky Mountain LLC
Well	Federal PA 314-23
Field	Parachute
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Federal PA 314-23
Field Parachute
County Garfield State Colorado

Location: API # : 05-045-24302
SEC 26 TWP 6S RGE 95W

Other Services

Permanent Datum	Ground Level	Elevation	5486.3'
Log Measured From	Kelly Bushing	24 FT	
Drilling Measured From	Kelly Bushing		

Elevation
K.B. 5510.3'
D.F. 5509.3'
G.L. 5486.3'

Date	13-OCT-2020
Run Number	One
Depth Driller	9055 FT
Depth Logger	8989 FT
Bottom Logged Interval	8977 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	240°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	16:45
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	1124 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	9015 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 5742 - 5765 FT
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!

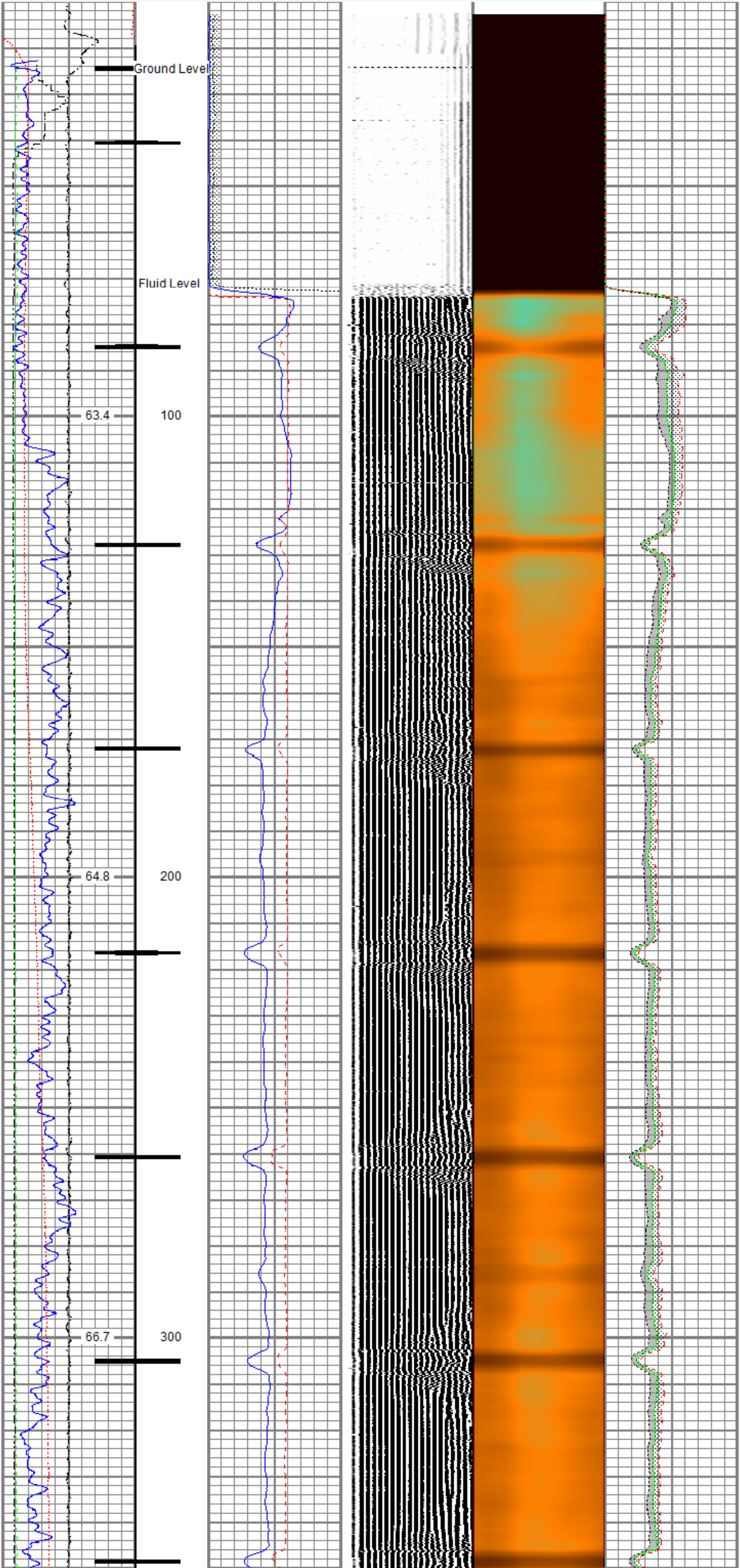
RELIANCE OILFIELD SERVICES

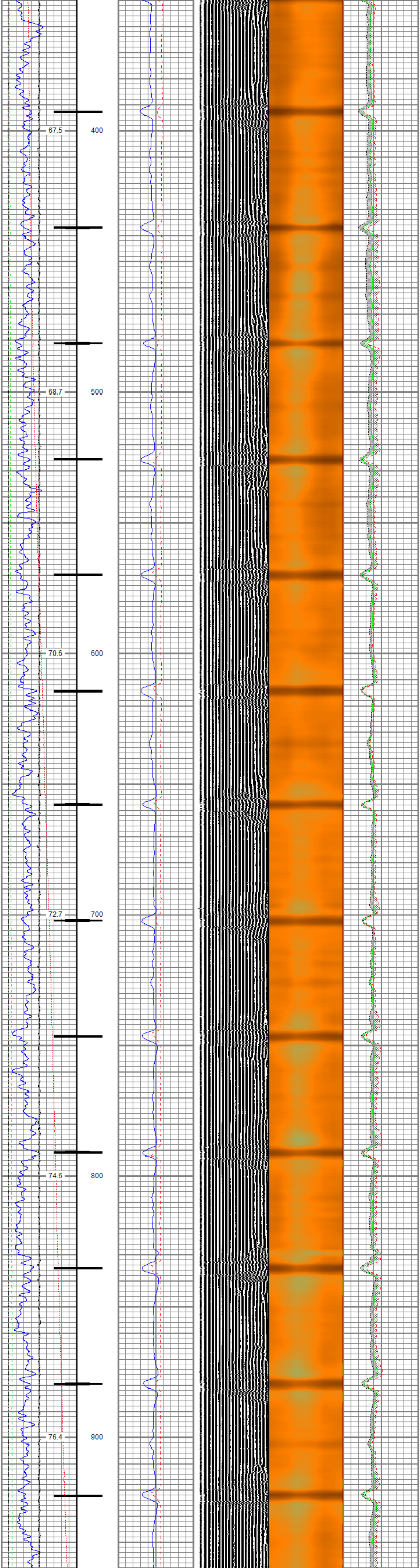
Main Pass

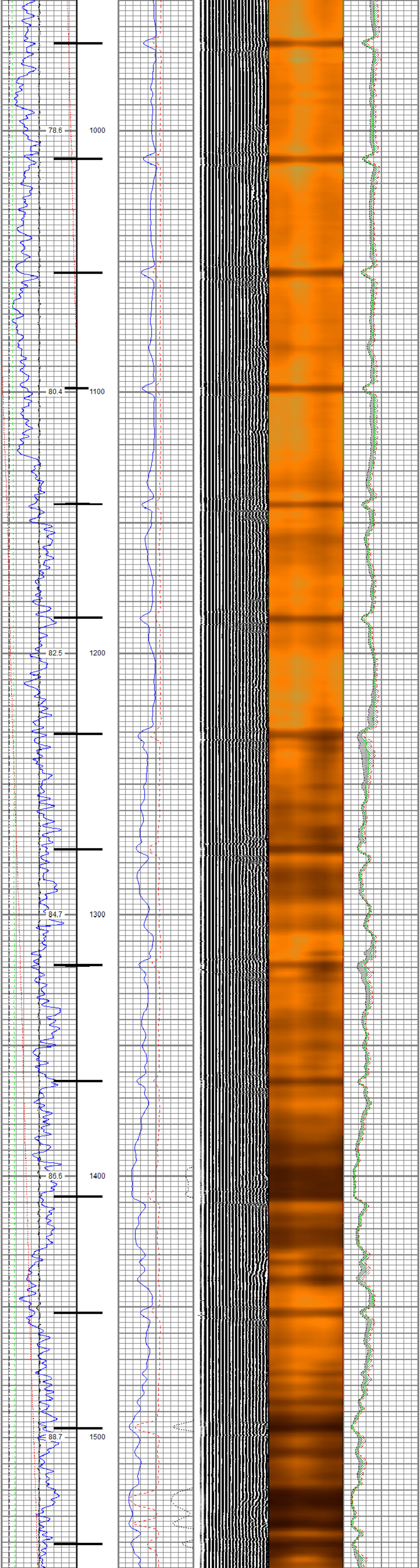
Recorded With 0 PSI Surface Induced Pressure

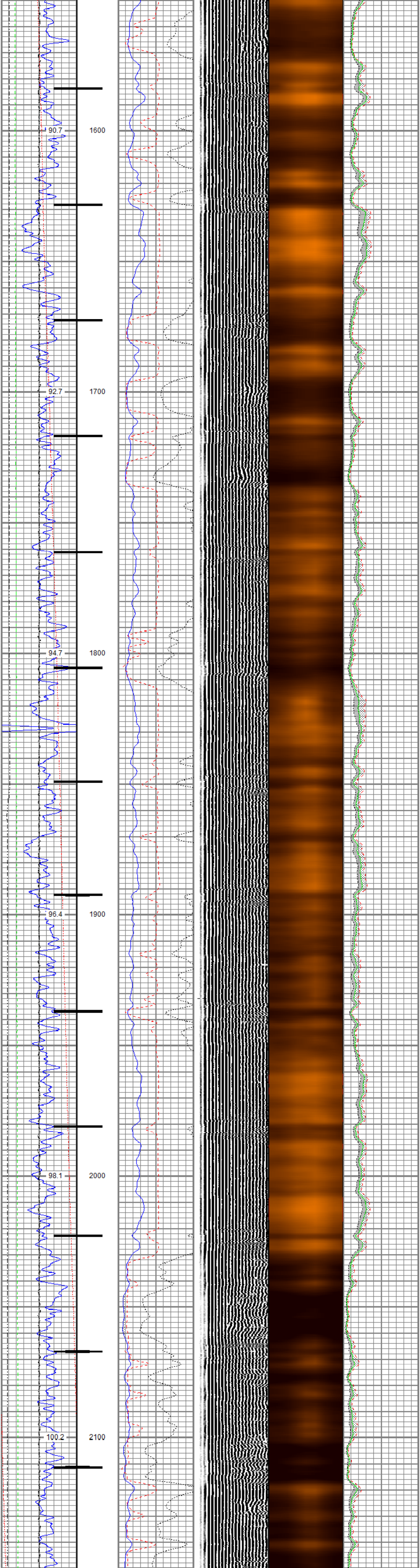
Database File	tep\tep_federal pa 314-23_rbl_10-13-20\tep_federal pa 314-23_rbl_10-13-20.db
Dataset Pathname	main1.3
Presentation Format	ros_radii_tep
Dataset Creation	Thu Oct 15 13:24:35 2020
Charted by	Depth in Feet scaled 1:240

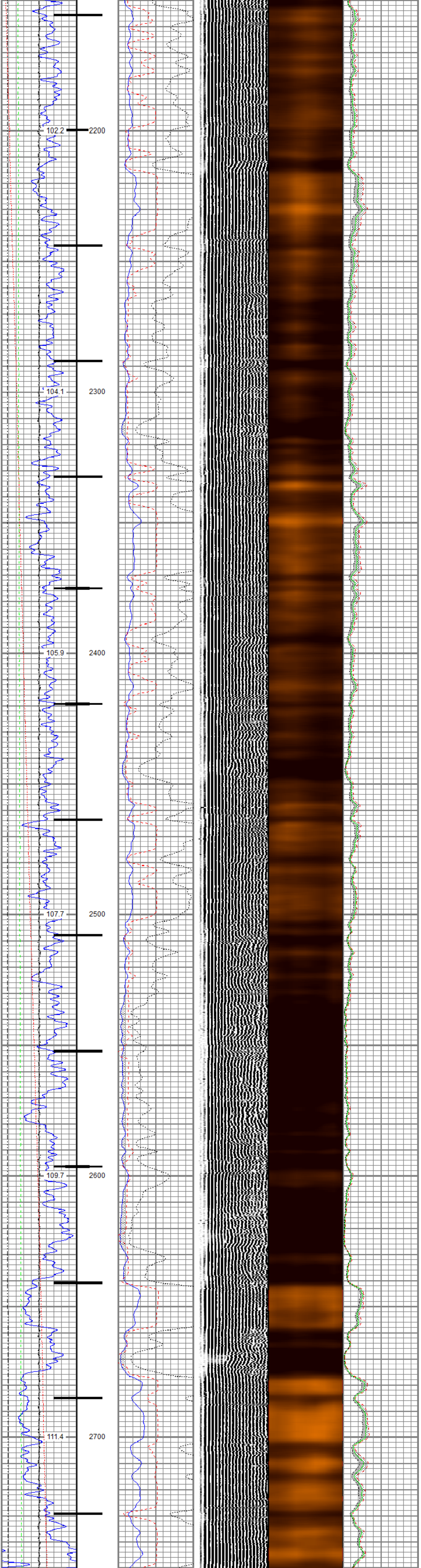
Gamma Ray 0 (GAPI) 200		3' Amplitude 0 (mV) 100	5' Variable Density Log 200 (usec) 1200	Sector Map	Average Amplitude 0 150
Line Speed -150 (ft/min) 150		3' Amplitude x 5 0 (mV) 20			Mimimum Amplitude 0 150
Line Tension 0 (lb) 2000		3' Travel Time 300 (usec) 200			Maximum Amplitude 0 150
Differential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

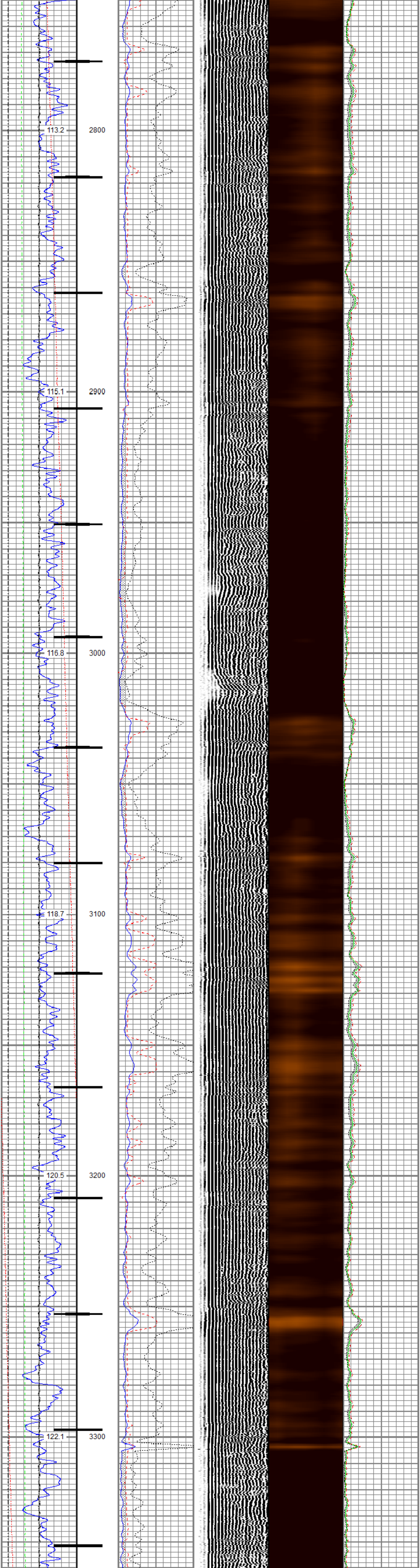


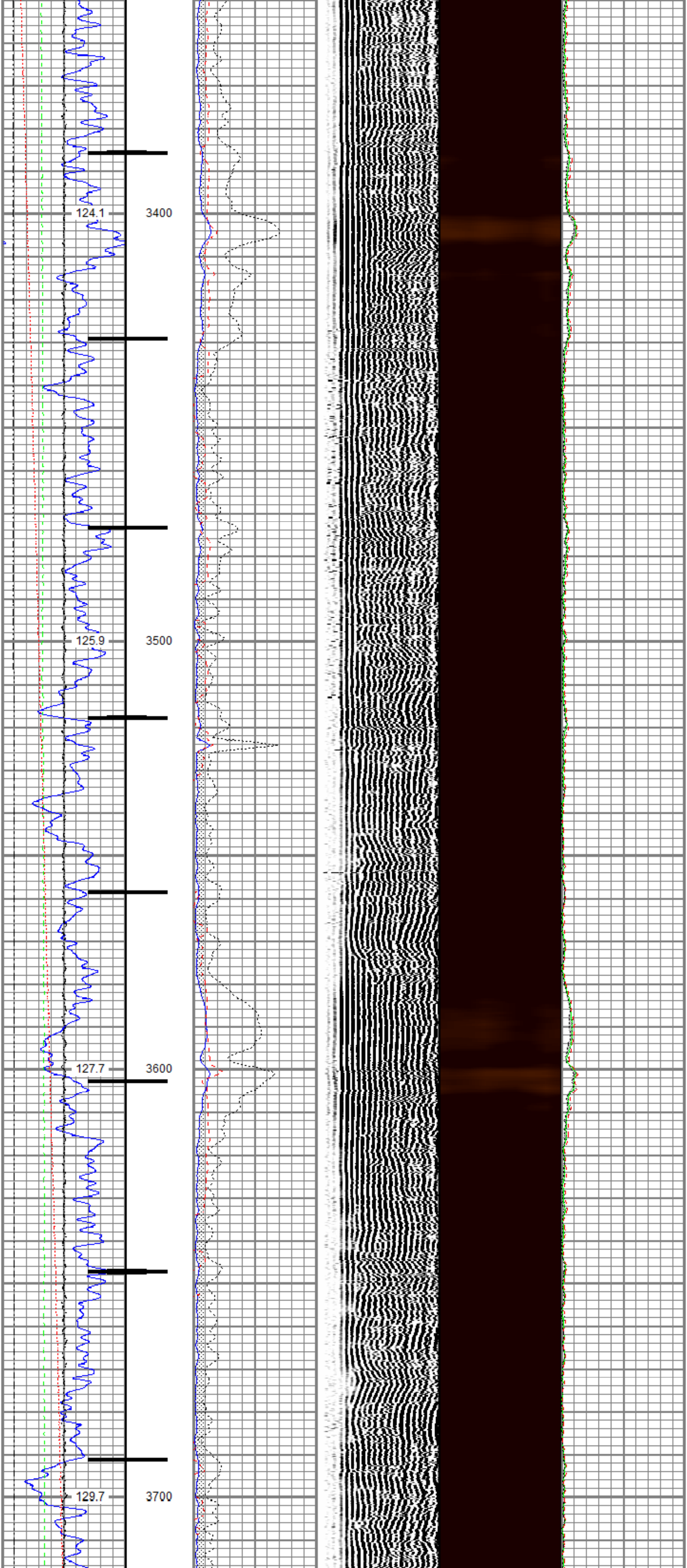


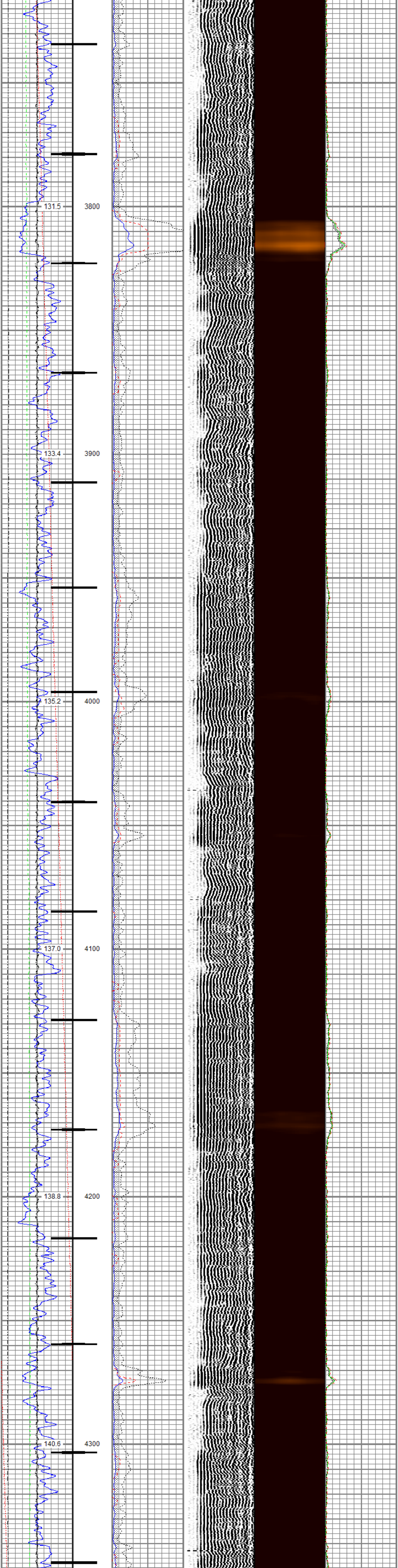








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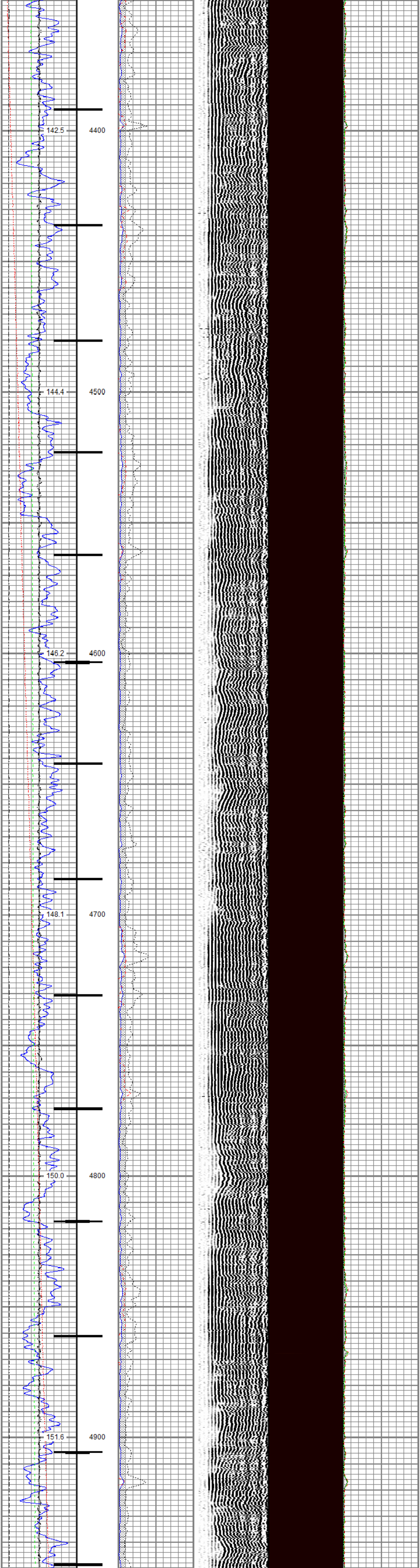
3900
135.2
4000
137.0
4100
138.8
4200
140.6
4300



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146.2
4600
148.1
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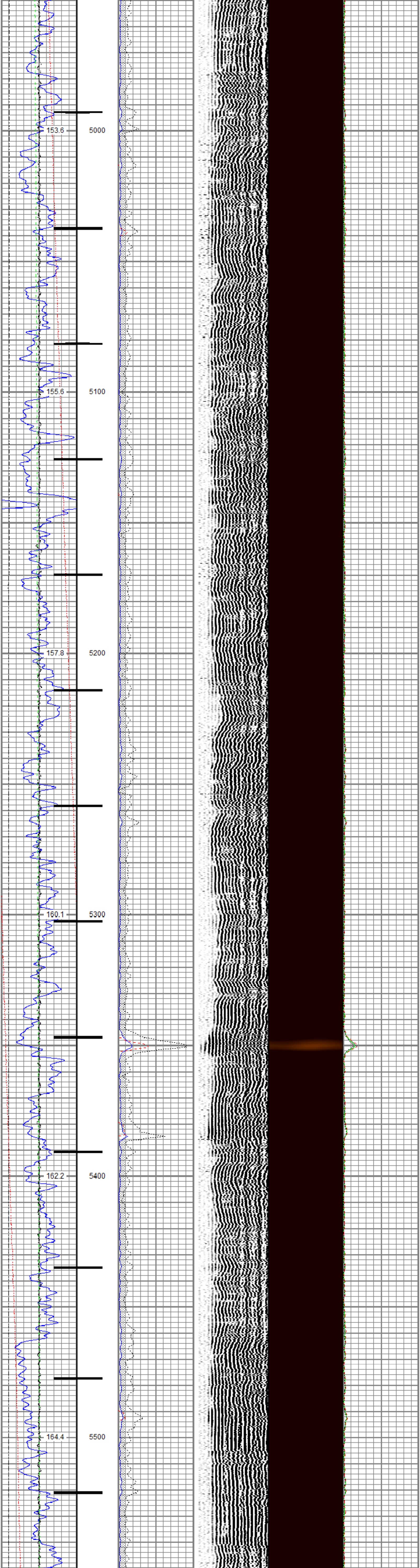
150.0
4800
151.6
4900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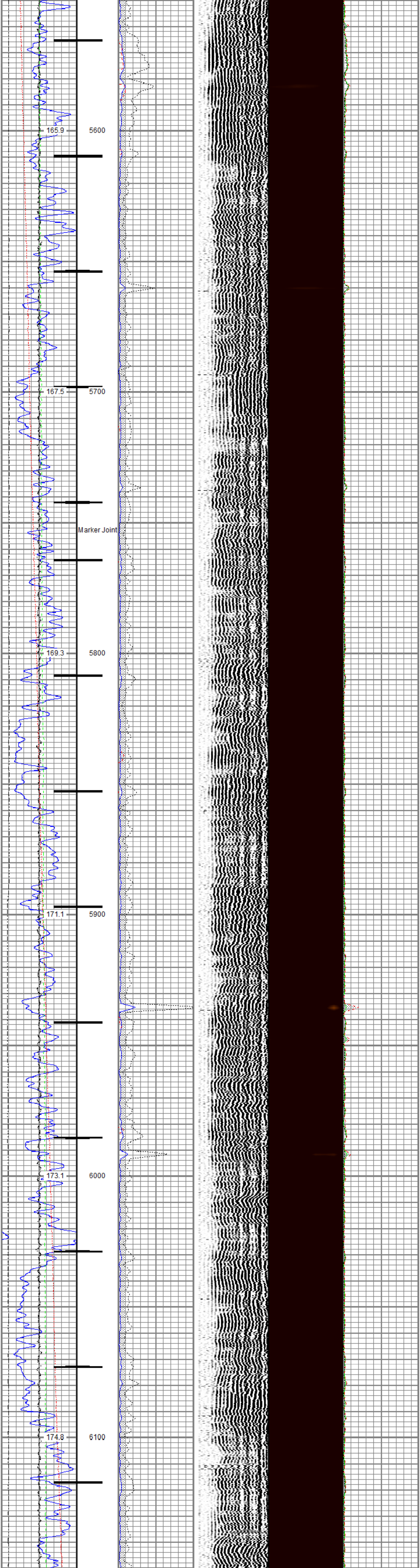
164.4
5500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167.5
5700
Marker Joint
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171.1
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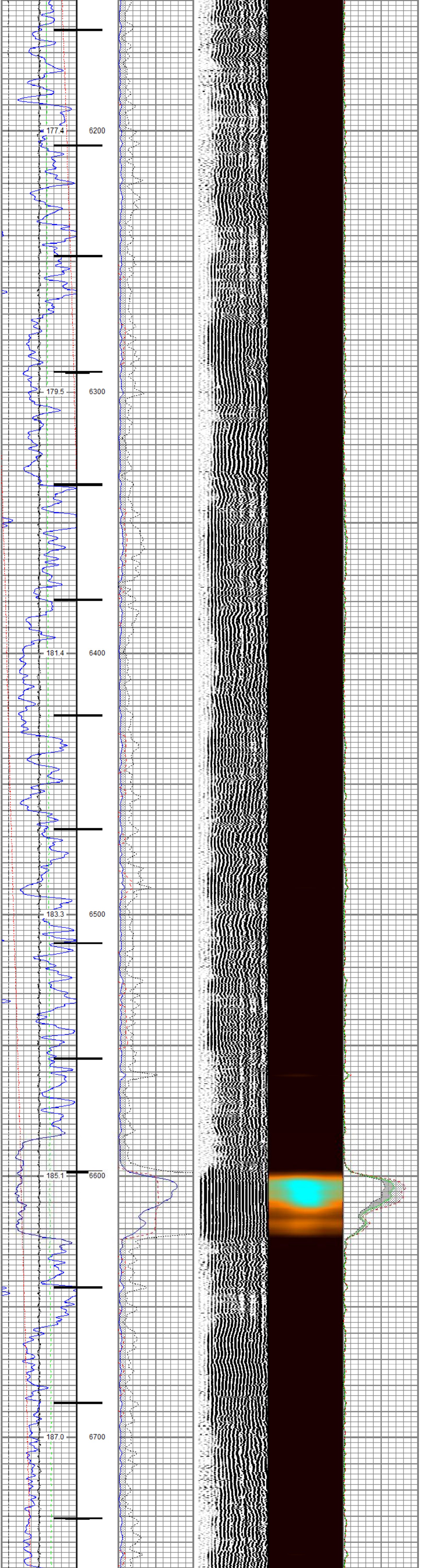
6000
174.8
6100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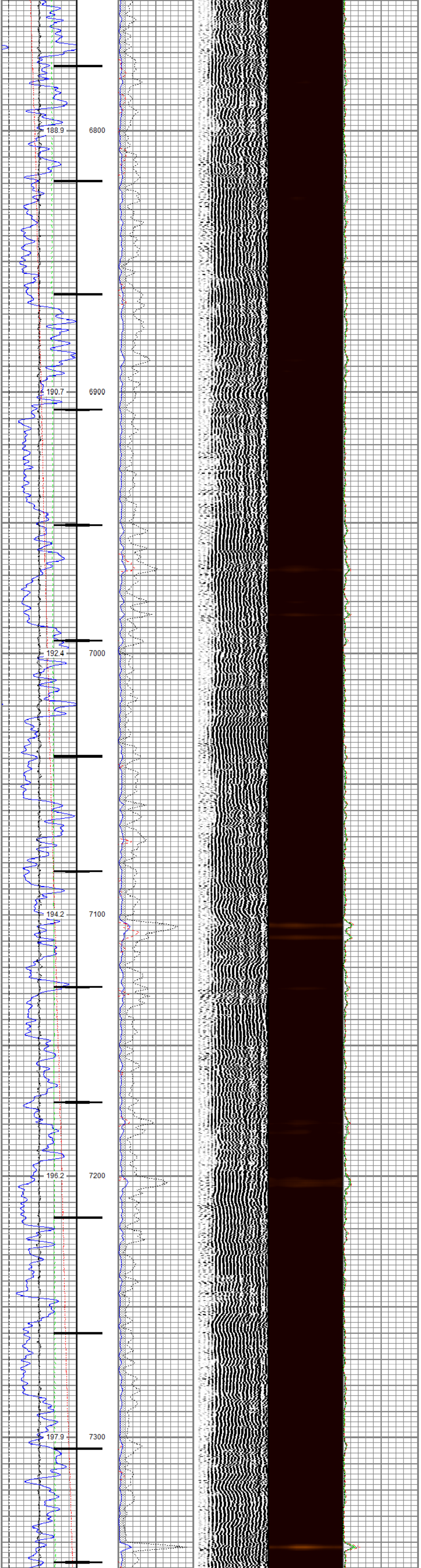
6700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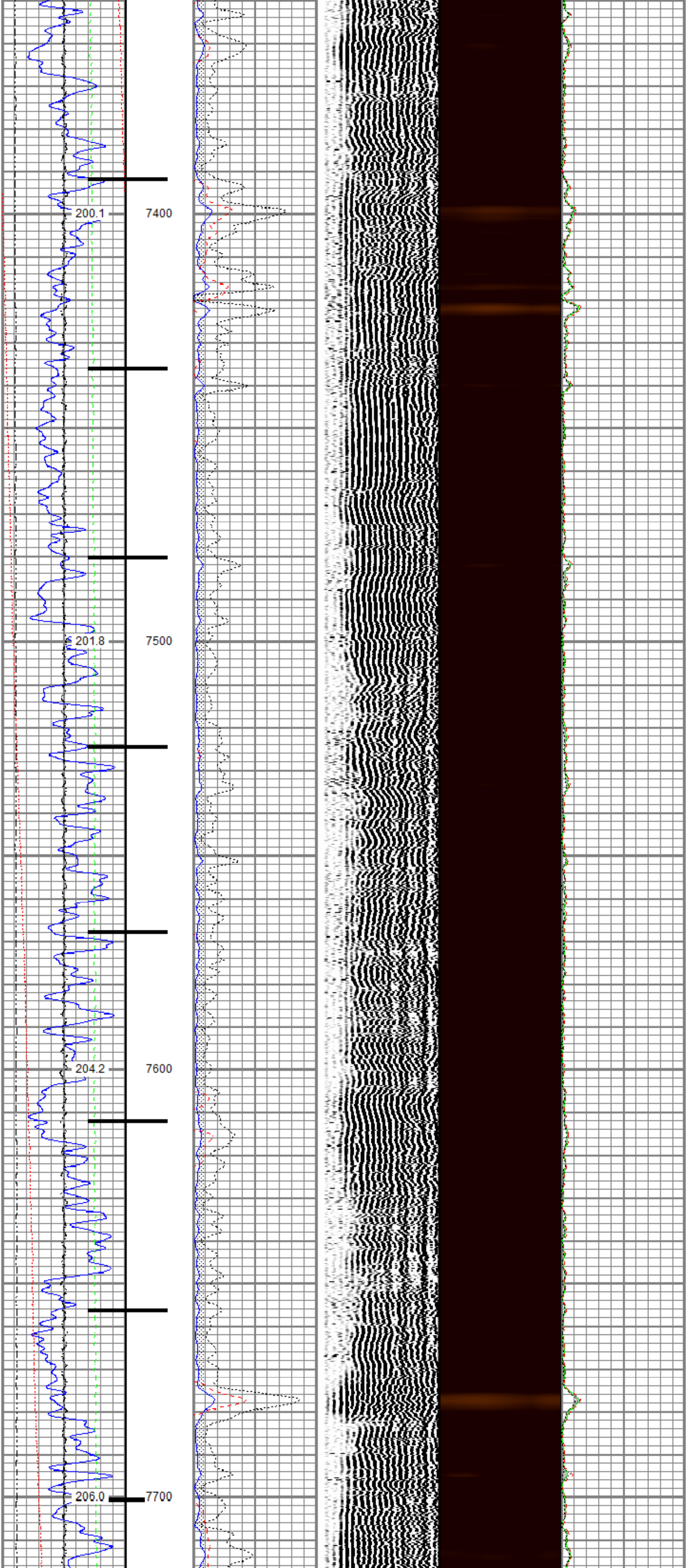
197.9
7300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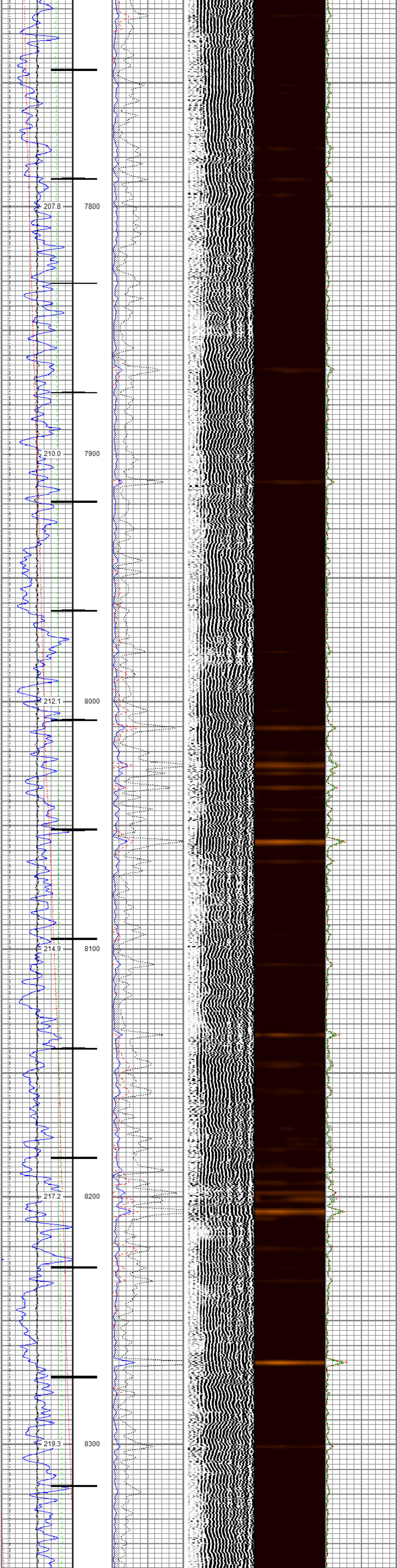

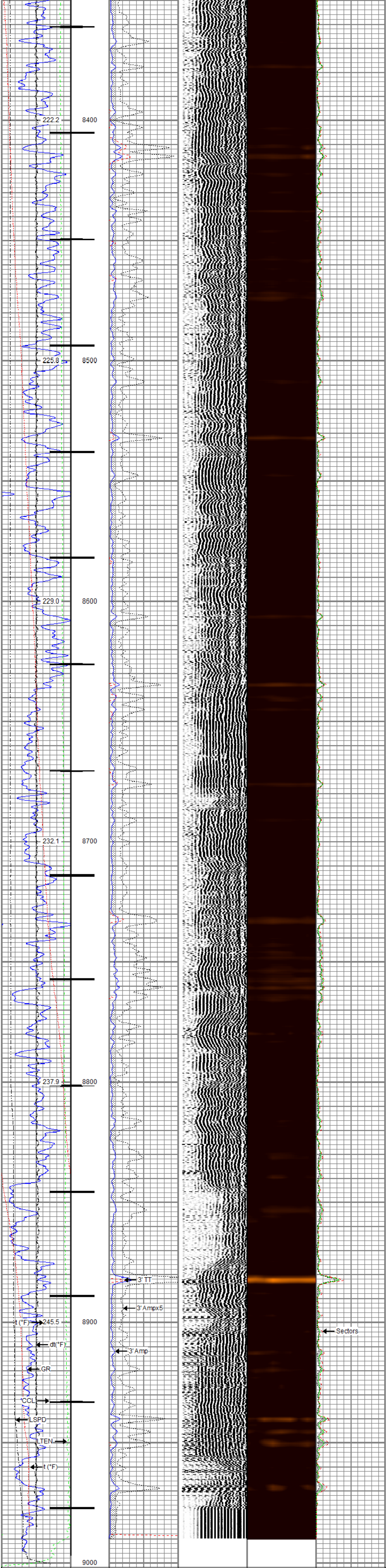

Gamma Ray		3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200		0 (mV) 100	200 (usec) 1200		0 150
Line Speed		3' Amplitude x 5			Mimimum Amplitude
-150 (ft/min) 150		0 (mV) 20			0 150
Line Tension		3' Travel Time			Maximum Amplitude
0 (lb) 2000		300 (usec) 200			0 150
Differential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

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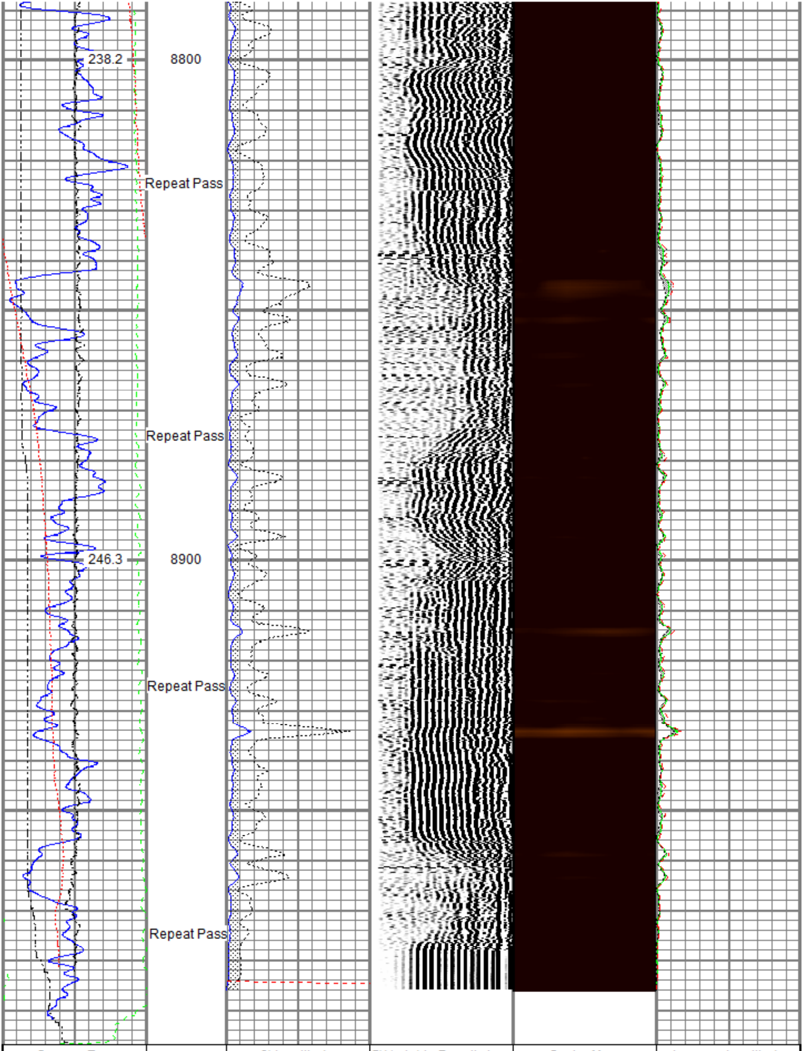
Repeat Pass

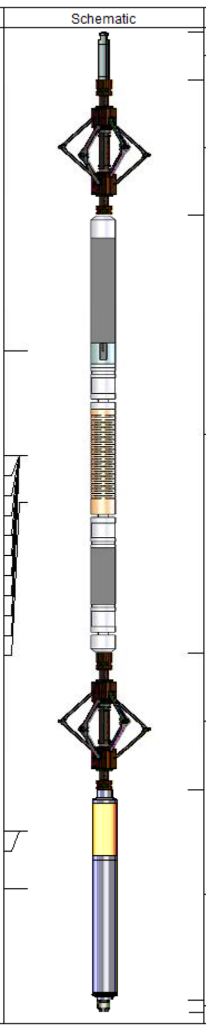
Recorded With 0 PSI Surface Induced Pressure

Database File	tep\tep_federal pa 314-23_rbl_10-13-20\tep_federal pa 314-23_rbl_10-13-20.db
Dataset Pathname	repeat.2
Presentation Format	ros_radii_tep
Dataset Creation	Thu Oct 15 13:31:47 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)	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
TEMP WVFS8 WVFS7 WVFS6 WVFS5 WVFS4 WVFS3 WVFS2 WVFS1 WVFCAL WVF3FT WVF5FT	14.16 11.93 11.93 11.93 11.93 11.93 11.93 11.93 11.93 11.93 11.93 10.93		Probe Radii-2750 RBT (ROFS-RBT-0002) 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
CCL$2 CCL$1 GR	3.88 3.88 2.63		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 314-23_rbl_10-13-20.db: field/well/run1/main1.3
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 314-23_rbl_10-13-20\tep_federal pa 314-23_rbl_10-13-20.db
Dataset Pathname	main1.3
Dataset Creation	Thu Oct 15 13:24:35 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:	ROFS-RBT-0002	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	29.860	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.004	0.670	0.800	81.196	120.853	0.282
CAL	0.003	0.759				
5'	0.006	0.533	0.800	81.196	152.493	-0.088
SUM						
S1	0.004	0.691	0.000	100.000	145.469	-0.533
S2	0.007	0.664	0.000	100.000	152.228	-1.020
S3	0.007	0.647	0.000	100.000	156.094	-1.030
S4	0.006	0.632	0.000	100.000	159.627	-0.918
S5	0.006	0.638	0.000	100.000	158.324	-0.977
S6	0.006	0.656	0.000	100.000	153.973	-0.990
S7	0.006	0.687	0.000	100.000	147.008	-0.932
S8	0.006	0.706	0.000	100.000	142.864	-0.794

Air Zero Calibration, performed Wed Oct 14 07:42:19 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:	ROFS-RBT-0002	
Tool Model:	2750 RBT	
Performed:	Wed Oct 14 10:20:48 2020	
	Reference	Reading
Low Reference:	100.00 degF	109.31 degF
High Reference:	235.00 degF	267.00 degF
Gain:	0.86	
Offset:	6.43	
Delta Spacing	1	

RELIANCE
OILFIELD SERVICES

Company	TEP Rocky Mountain LLC
Well	Federal PA 314-23
Field	Parachute
County	Garfield
State	Colorado