RELIANCE
OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Youberg SR 322-12
Field	Rulison
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Youberg SR 322-12
Field Rulison
County Garfield State Colorado

Location: API # : 05-045-23428
1919' FNL & 2118' FEL SWNE
SEC 12 TWP 7S RGE 94W

Other Services
PDN

Permanent Datum	Ground Level	Elevation	7254'
Log Measured From	Kelly Bushing	24 FT	
Drilling Measured From	Kelly Bushing		

Elevation
K.B. 7278'
D.F. 7277'
G.L. 7254'

Date	15-SEPT-2017		
Run Number	One		
Depth Driller	9460 FT		
Depth Logger	9389 FT		
Bottom Logged Interval	9389 FT		
Top Log Interval	Surface		
Open Hole Size	8.750"		
Type Fluid	Fresh Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	243°F		
Estimated Cement Top	See Log		
Time Well Ready	ROA		
Time Logger on Bottom	12:40		
Equipment Number	HD-0359		
Location	Grand Junction, CO		
Recorded By	A. Ellsworth		
Witnessed By	---		

Borehole Record			Tubing Record			
Run Number	Bit	From	To	Size (in)	Weight (lb/ft)	From	To

Casing Record	Size (in)	Wgt (lb/ft)	Grade	Top	Bottom
Surface Casing	9 5/8	32.3	H-40	Surface	1116 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	9396 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 per customer request
Depth referenced to Kelly Bushing at 24 FT
Marker Joint from 5577 FT to 5599 FT
Recorded With 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!!

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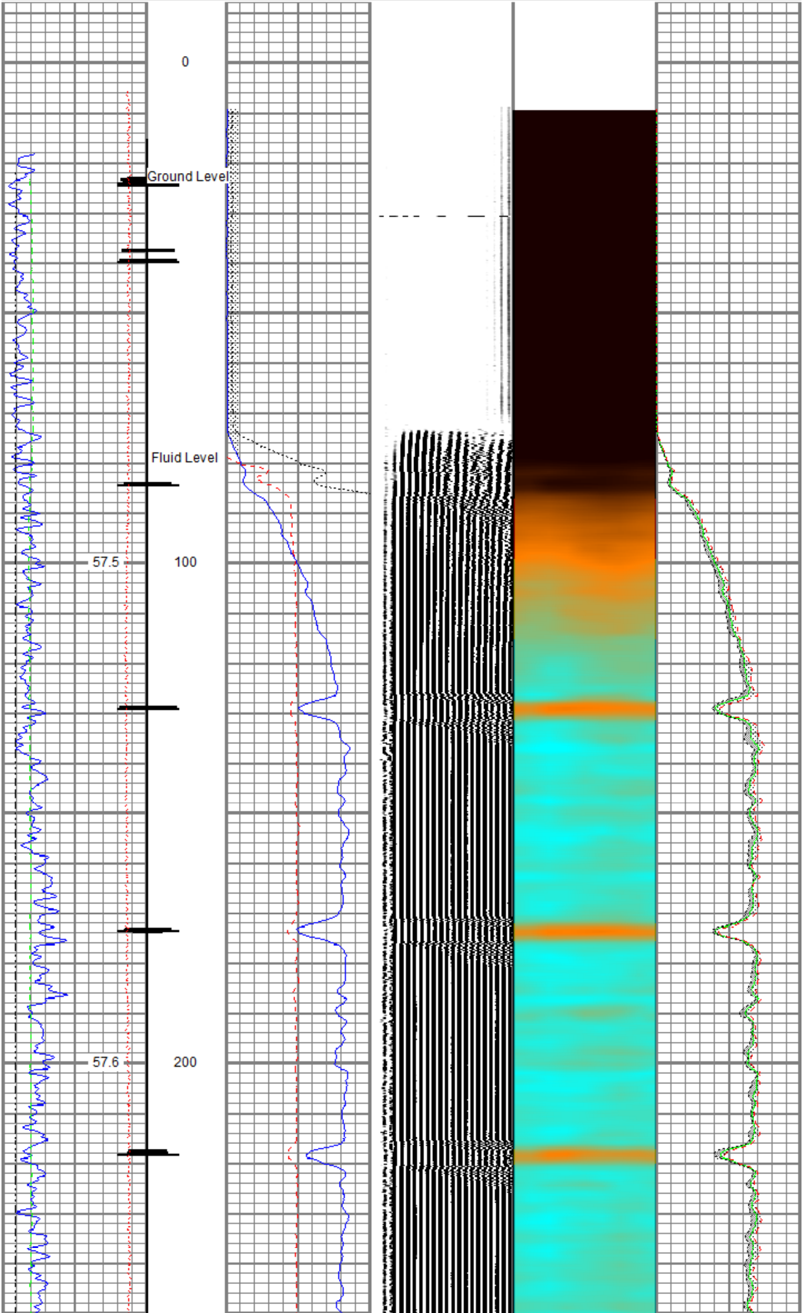
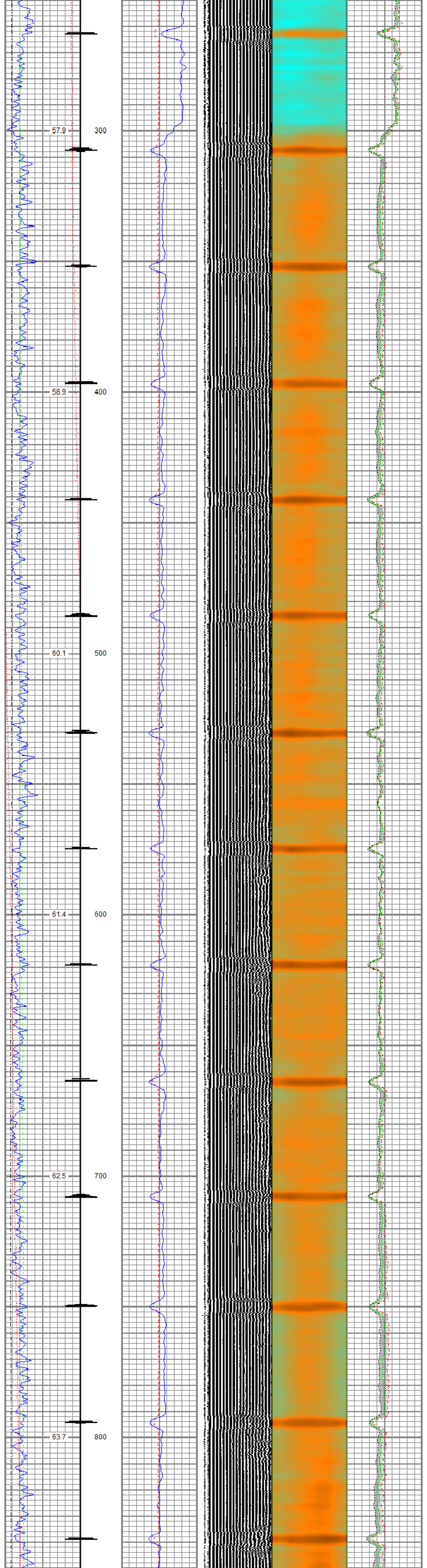
Main Pass

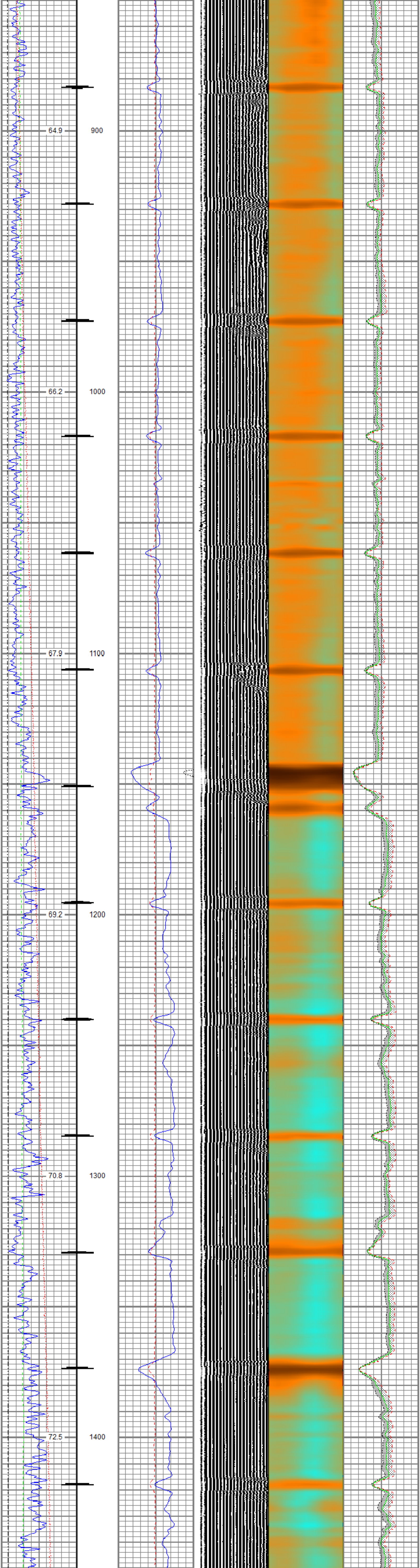
Recorded With 0 PSI Surface Induced Pressure

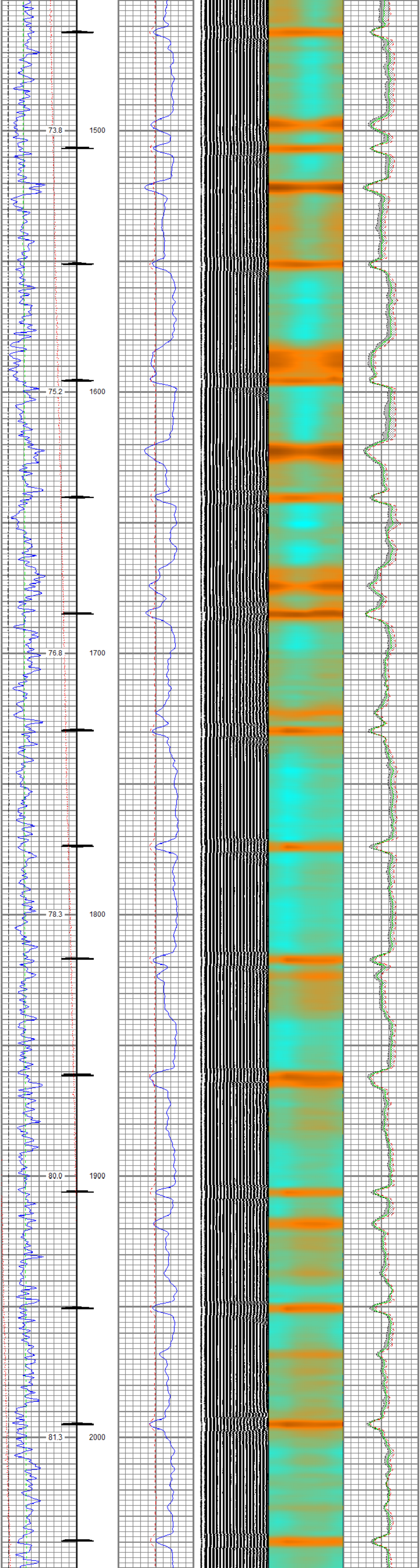
Database File	tep_youberg sr 322-12\tep_youberg sr 322-12_rbl_09-15-17.db
Dataset Pathname	Main
Presentation Format	ros_rbt004_tep
Dataset Creation	Fri Sep 15 12:39:44 2017
Charted by	Depth in Feet scaled 1:240

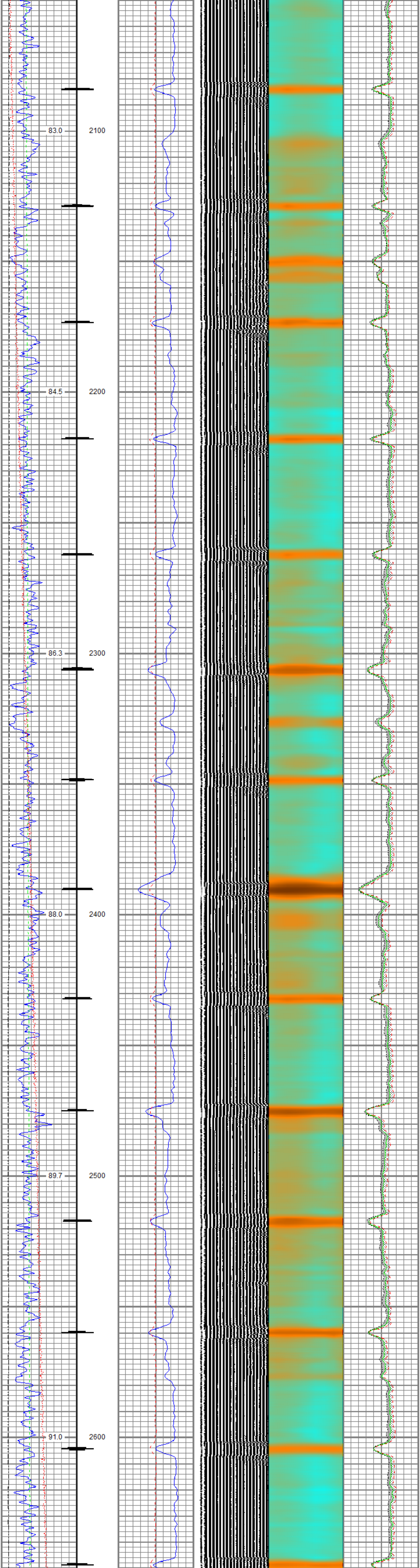
Gamma Ray 0 (GAPI) 200	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map 10 110	Average Amplitude 0 150
Casing Collar Locator	3' Amplitude x 5 0 (mV) 20			Mimimum Amplitude 0 150
Line Speed -150 (ft/min) 150	3' Travel Time 300 (usec) 200			Maximum Amplitude 0 150
Line Tension 0 (lb) 2000				
Temperature 0 (degF) 20				

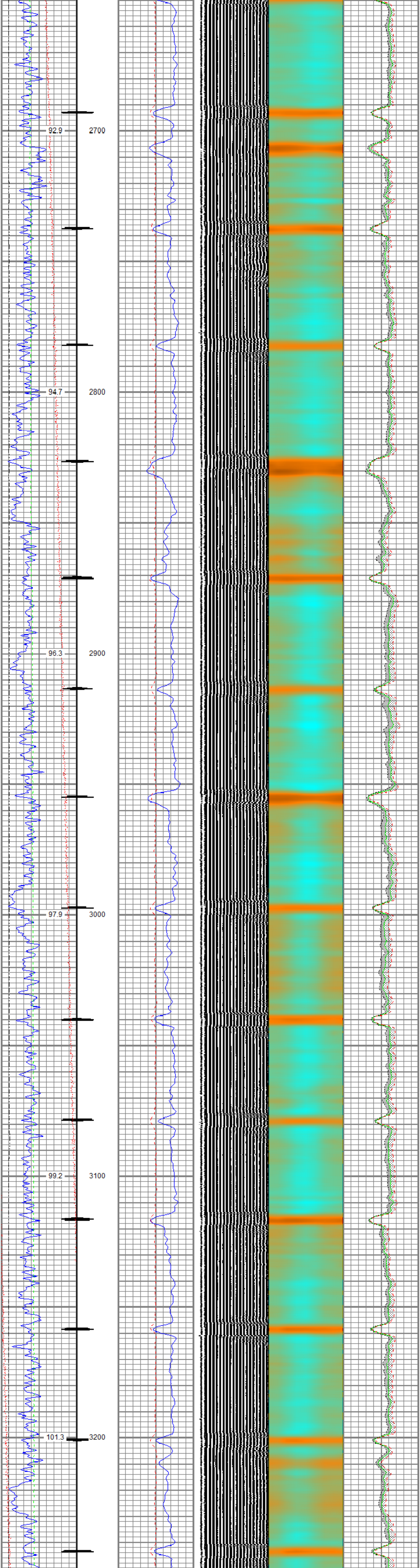


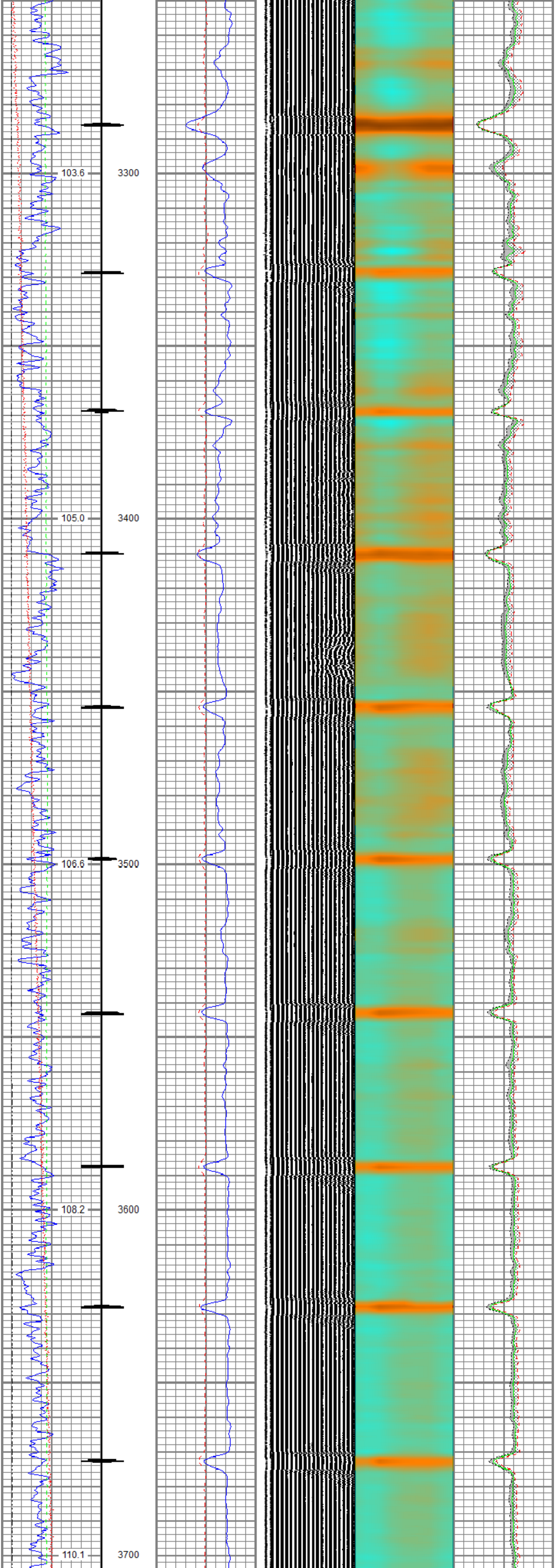


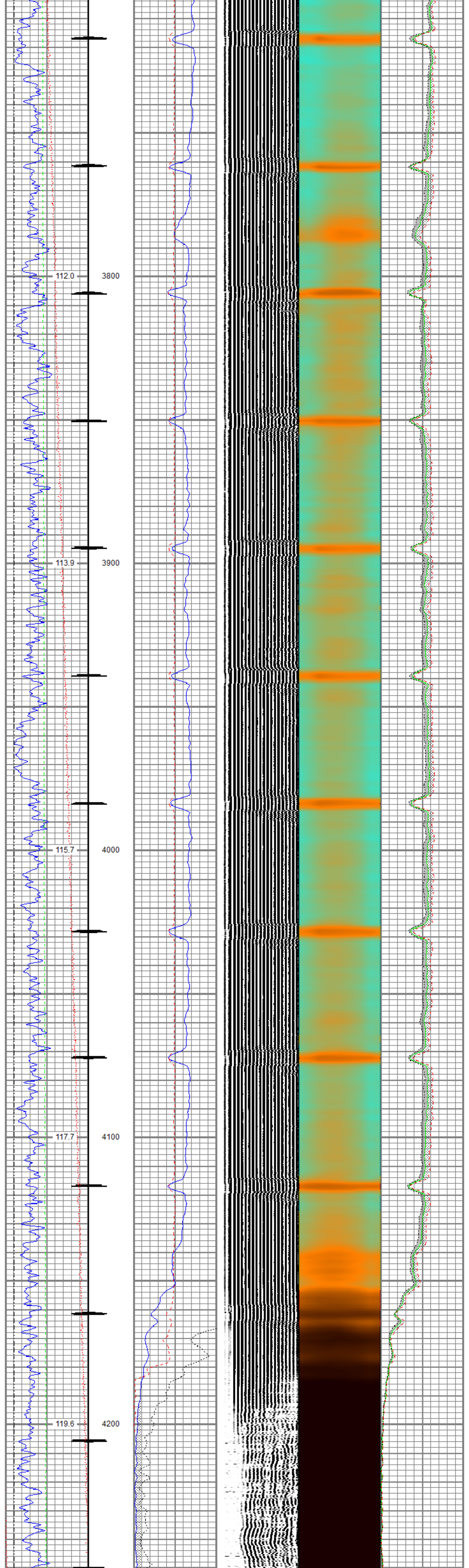








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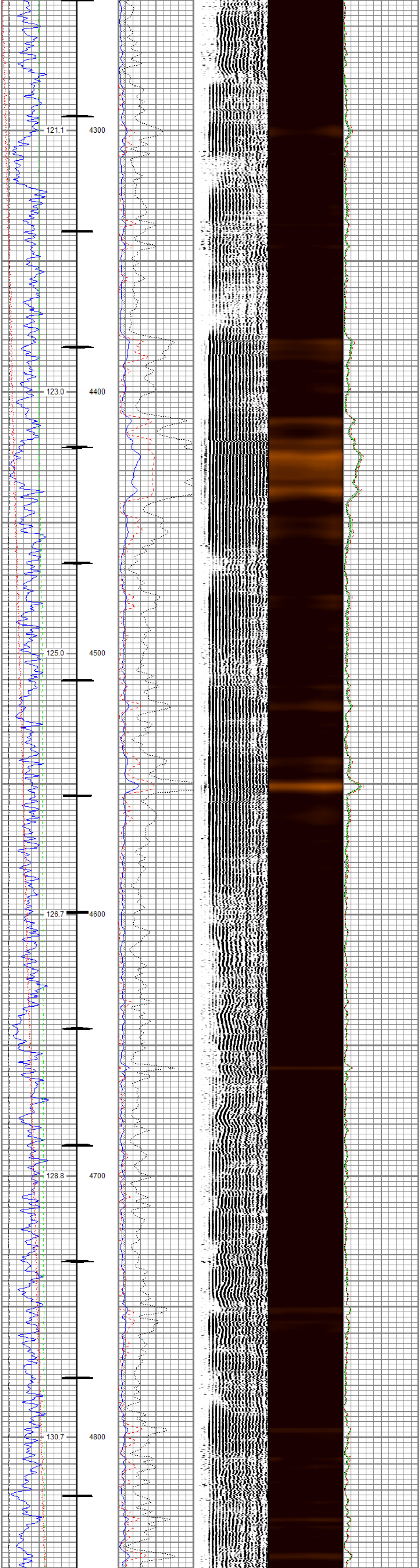
3900
115.7
4000
117.7
4100
119.6
4200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4600
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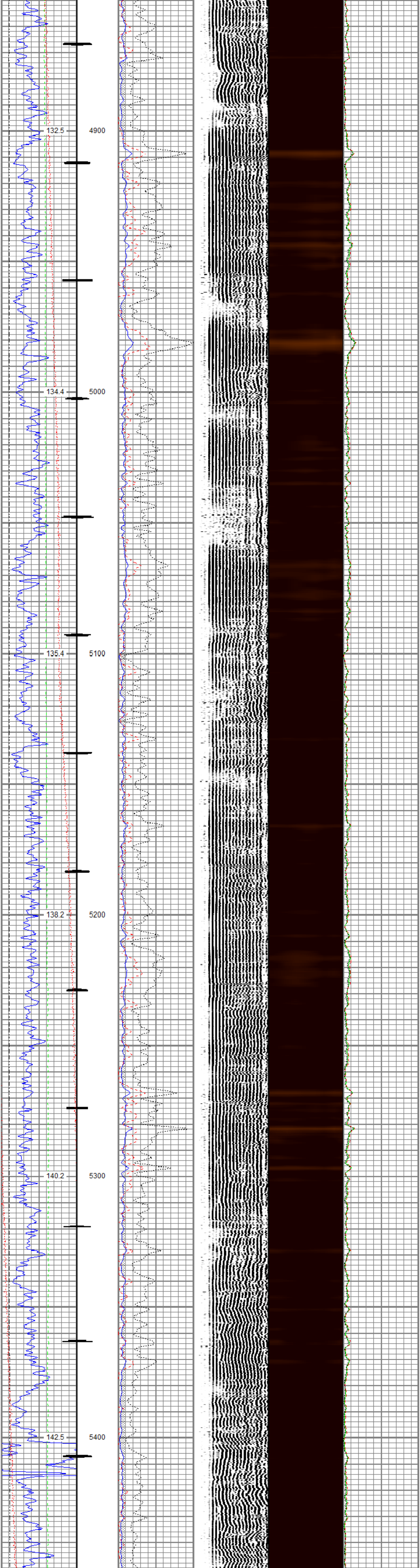
4700
130.7
4800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5300
142.5
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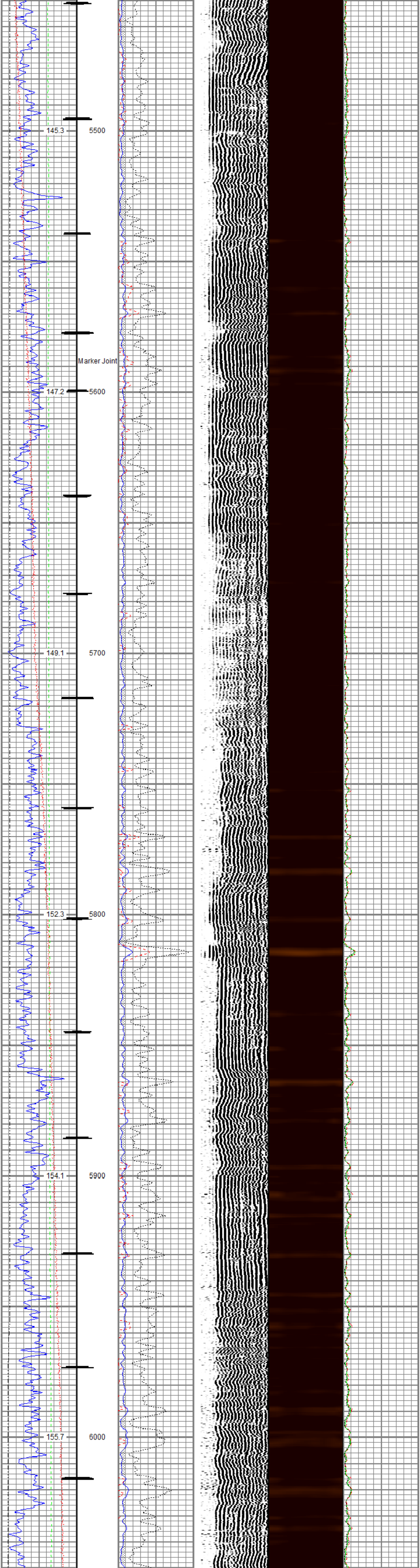
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Marker Joint
147.2
5600
149.1
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154.1
5900
155.7
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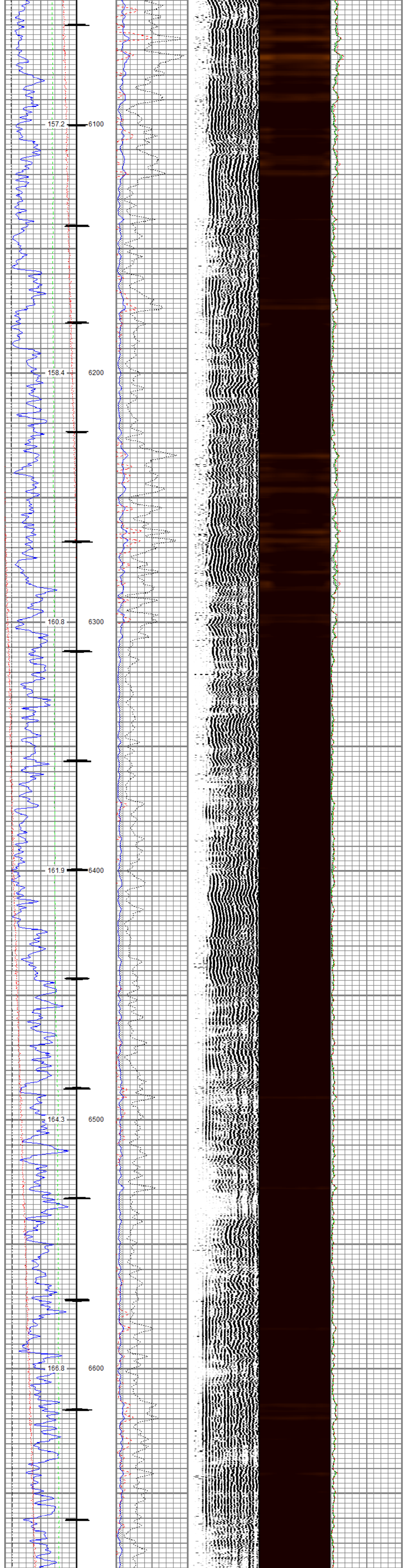
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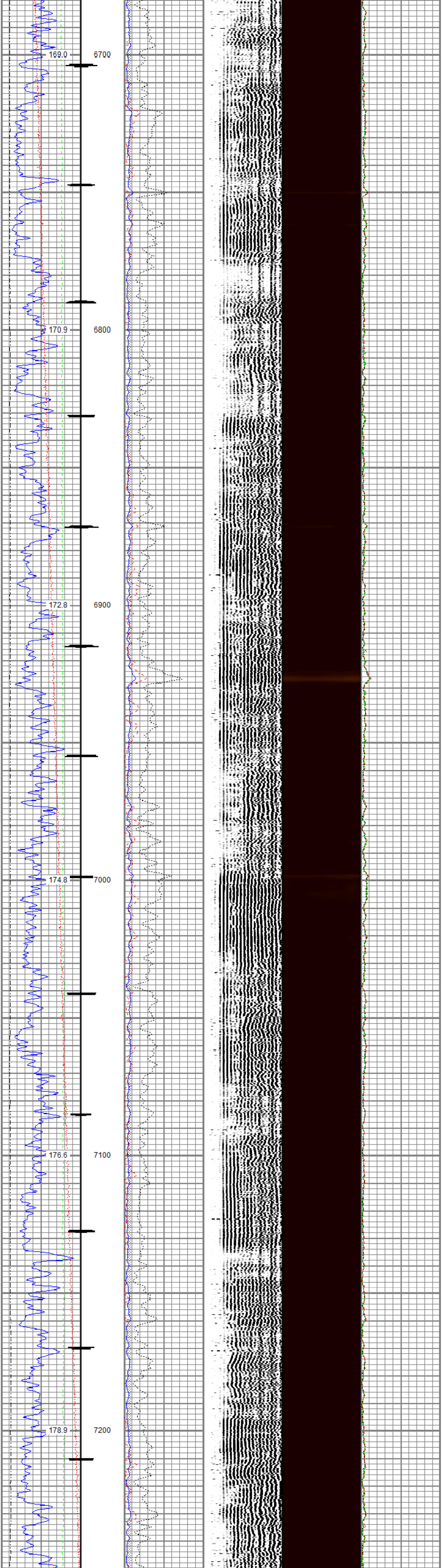
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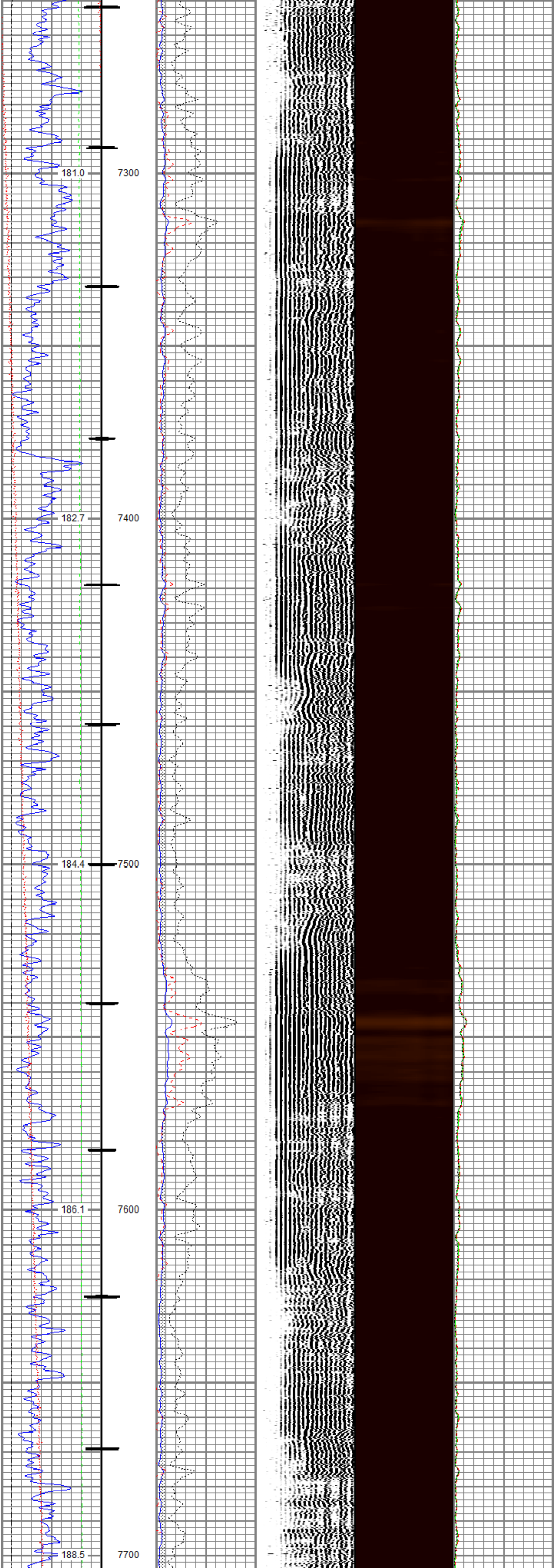
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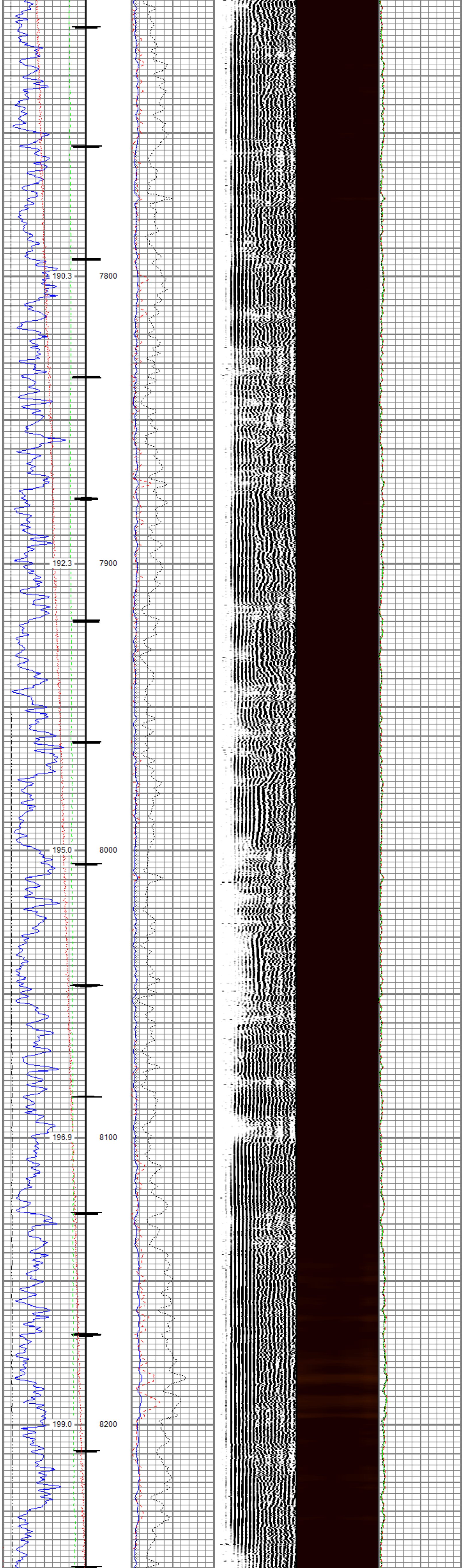

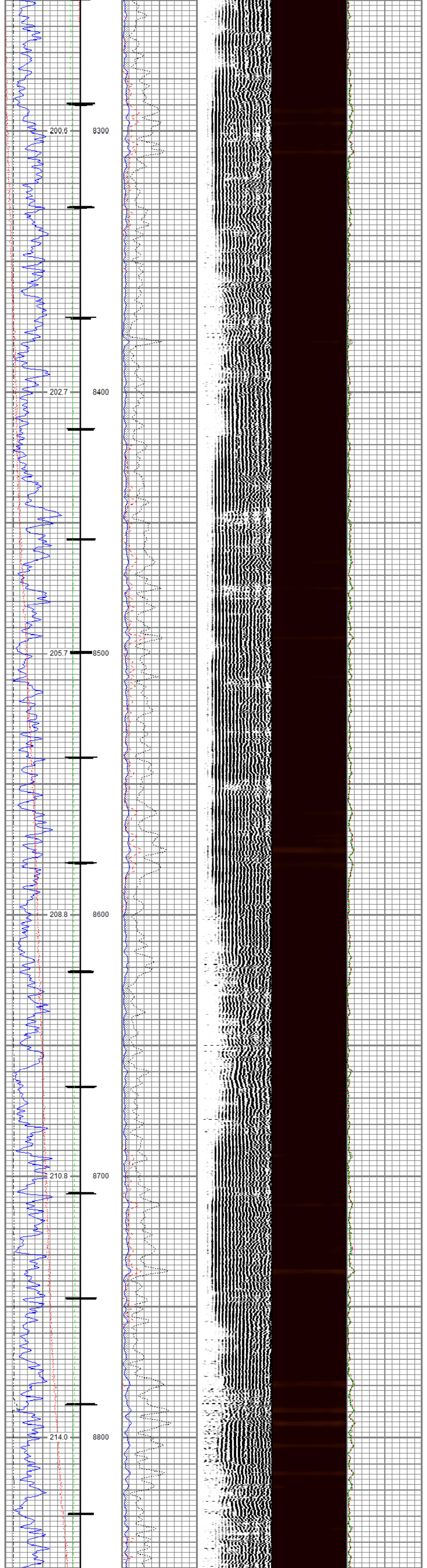

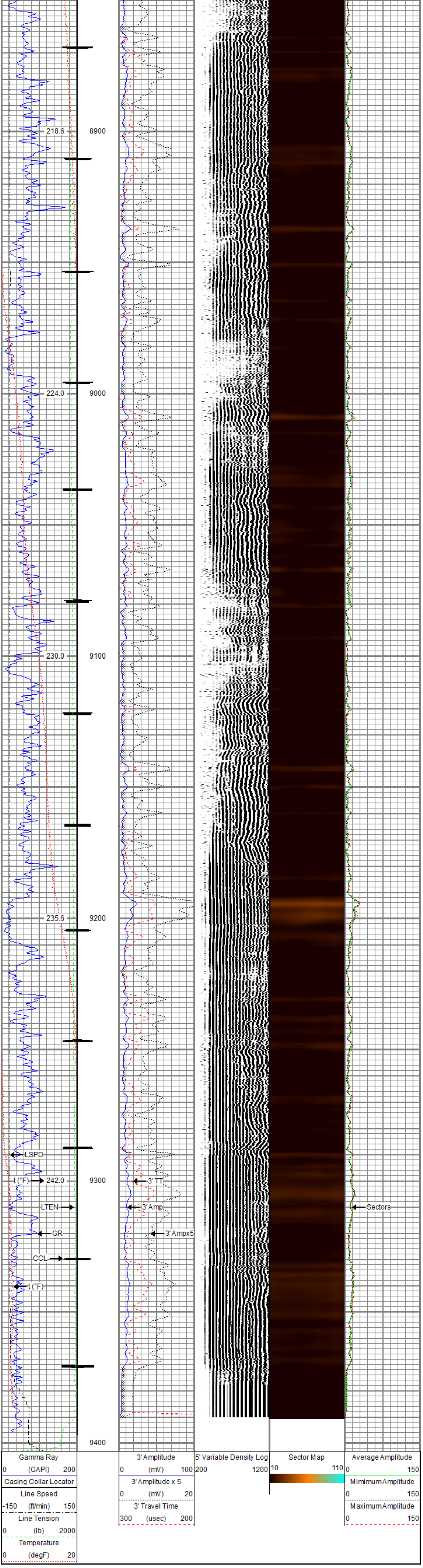

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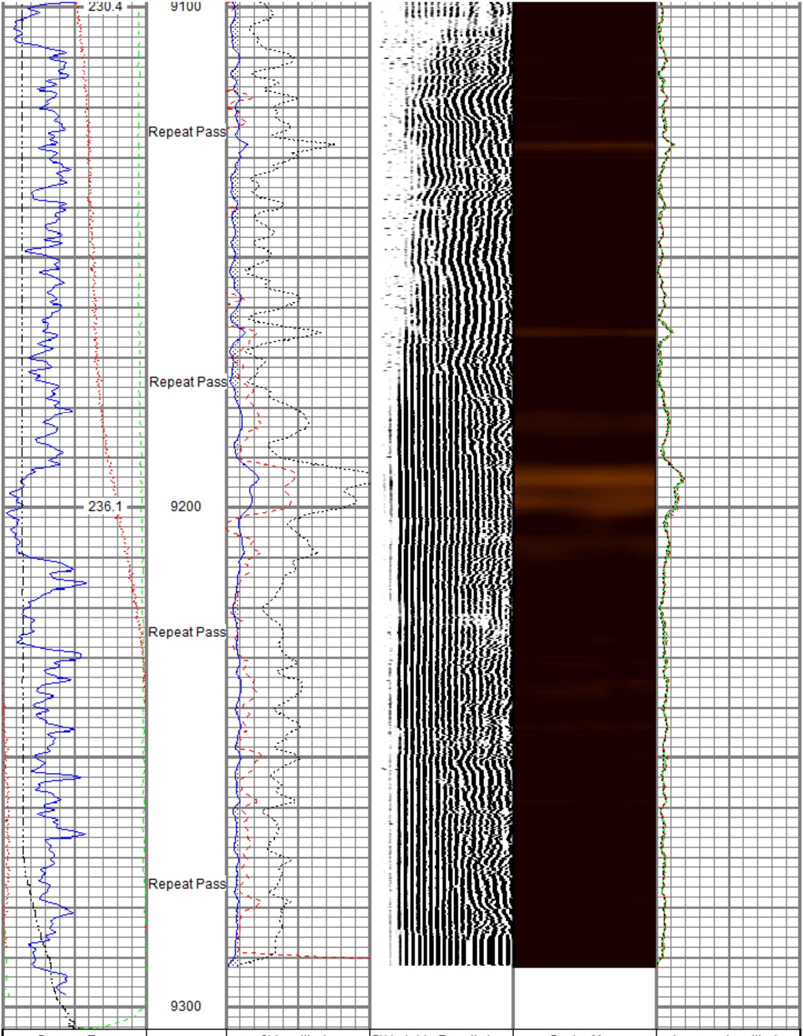
Repeat Pass

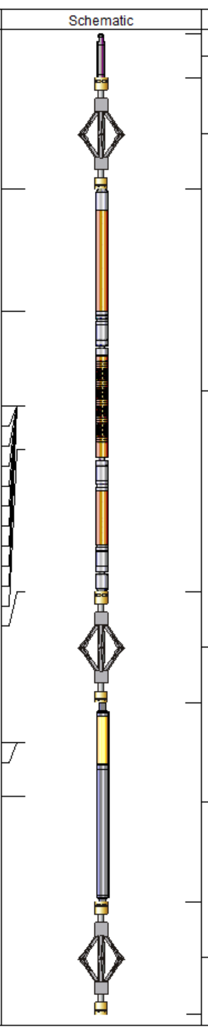
Recorded With 0 PSI Surface Induced Pressure

Database File	tep_youberg sr 322-12\tep_youberg sr 322-12_rbl_09-15-17.db
Dataset Pathname	Repeat
Presentation Format	ros_rbt004_tep
Dataset Creation	Fri Sep 15 12:35:24 2017
Charted by	Depth in Feet scaled 1:240

Gamma Ray 0 (GAPI) 200		3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map 10 110	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
Temperature 0 (degF) 20					



Gamma Ray 0 (GAPI) 200		3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map 10 110	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
Temperature 0 (degF) 20					



Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan_Electric_Cable_Heads-Titan_1-11/11.03 Electric Cable Head with 1" Fishing Neck		1.69	5.40
			DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
HeadVolt	18.84					
Temp	16.05					
			Probe_RADII-C-P_RBT_2750 (FW1305-099.19 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe		2.75	105.00
WVFS8	13.88					
WVFS7	13.88					
WVFS6	13.88					
WVFS5	13.88					
WVFS4	13.88					
WVFS3	13.88					
WVFS2	13.88					
WVFS1	13.88					
WVFCAL	13.88					
WVF3FT	13.88					
WVF5FT	12.88					
HEADVOLT	9.63					
			DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
DCCL	6.18					
CCL	6.18					
GR	4.96		Probe_GR_CCL-P_CGR_2750_S (FW1214.541) Probe 2-3/4" Digital CCL / Gamma Ray Combined		2.75	55.00
			DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00

Dataset:	TEP_Youberg SR 322-12_RBL_09-15-17.db: field/well/run1/Main
Total length:	22.40 ft
Total weight:	261.40 lb
O.D.:	2.75 in

Calibration Report

Database File	C:\ProgramData\Warrior\Data\TEP_Youberg SR 322-12\TEP_Youberg SR 322-12_RBL_09-15-17.db
Dataset Pathname	Main
Dataset Creation	Fri Sep 15 12:39:44 2017

Gamma Ray Calibration Report

Serial Number:	FW1211-081	
Tool Model:	P_CGR_2750_S	
Performed:	Sat Feb 06 11:31:52 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.6	cps
Sensitivity:	0.6061	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1305-098	
Tool Model:	P_RBT_2750	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	230.397	ft

Master Calibration, performed Tue Sep 12 14:18:15 2017:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.005	0.674	0.800	81.196	118.290	1.435
CAL	-0.006	0.755				
5'	-0.003	0.501	0.800	81.196	159.611	1.244
SUM						
S1	-0.008	0.675	0.000	100.000	146.333	1.234
S2	-0.005	0.684	0.000	100.000	145.012	0.782
S3	-0.006	0.691	0.000	100.000	143.571	0.822
S4	-0.006	0.701	0.000	100.000	141.520	0.788
S5	-0.005	0.700	0.000	100.000	141.747	0.753
S6	-0.005	0.681	0.000	100.000	145.667	0.798
S7	-0.005	0.665	0.000	100.000	149.130	0.790
S8	-0.005	0.655	0.000	100.000	151.356	0.802

Internal Reference Calibration, performed Fri May 05 10:29:14 2017:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.006	0.755	1.000	0.000

Air Zero Calibration, performed Tue Sep 12 14:14:19 2017:

	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

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Company	TEP Rocky Mountain LLC
Well	Youberg SR 322-12
Field	Rulison
County	Garfield
State	Colorado