Radial Cement Bond
Gamma Ray
Casing Collar Log

RELIANCE OILFIELD SERVICES

Company TEP Rocky Mountain LLC
Well Federal PA 424-13
Field Parachute
County Garfield
State Colorado

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Well Federal PA 424-13
Field Parachute
County Garfield State Colorado

Location: API # : 05-045-24196

SEC 13 TWP 6S RGE 95W

Other Services
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Permanent Datum	Ground Level	Elevation 6571.1'	Elevation
Log Measured From	Kelly Bushing	24 FT	K.B. 6595.1' D.F. 6594.1' G.L. 6571.1'
Drilling Measured From	Kelly Bushing		

Date	25-JUN-2020
Run Number	One
Depth Driller	9868 FT
Depth Logger	9798 FT
Bottom Logged Interval	9786 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	12:25
Equipment Number	HD-0359
Location	Grand Junction, CO
Recorded By	A. Ellsworth
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	1125 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	9817 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 6136 - 6159 FT
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!

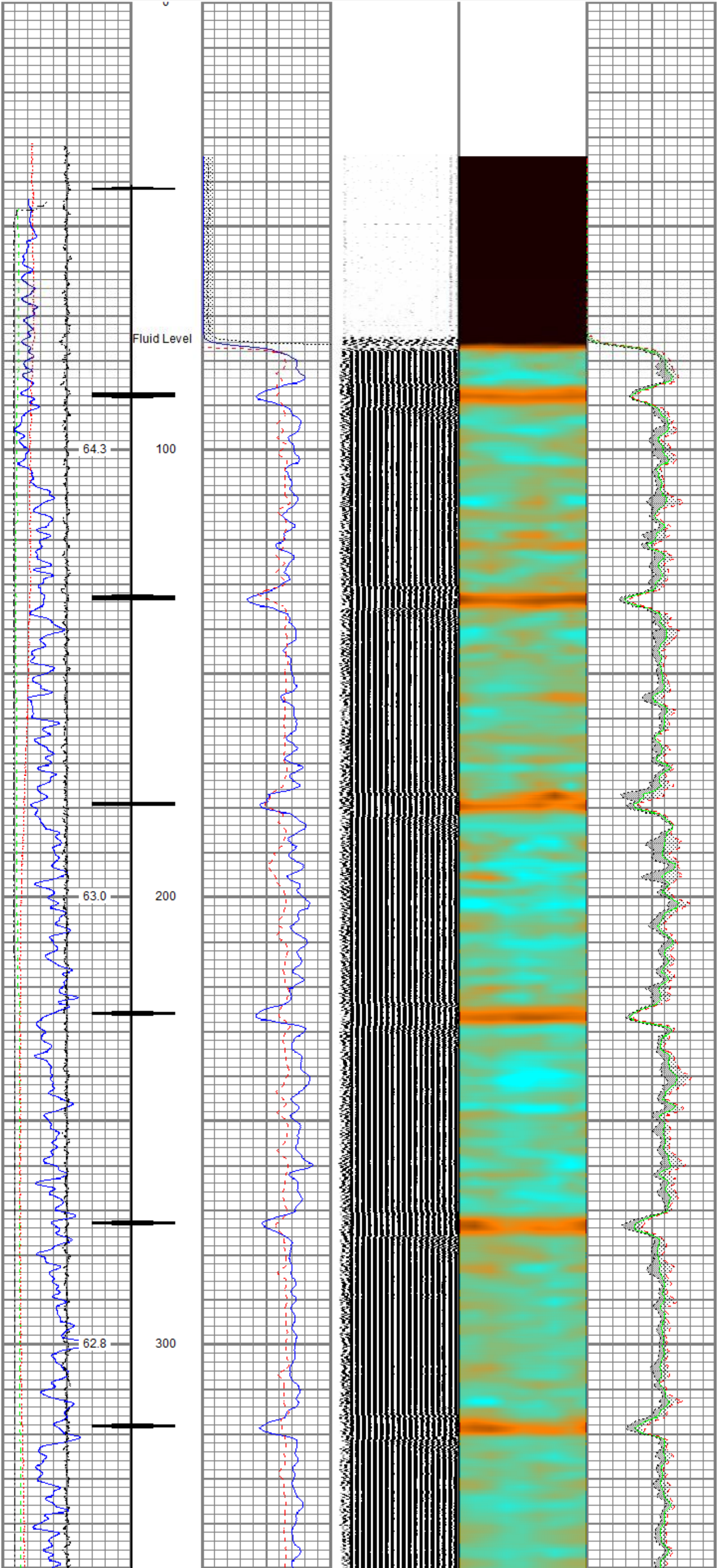
RELIANCE OILFIELD SERVICES

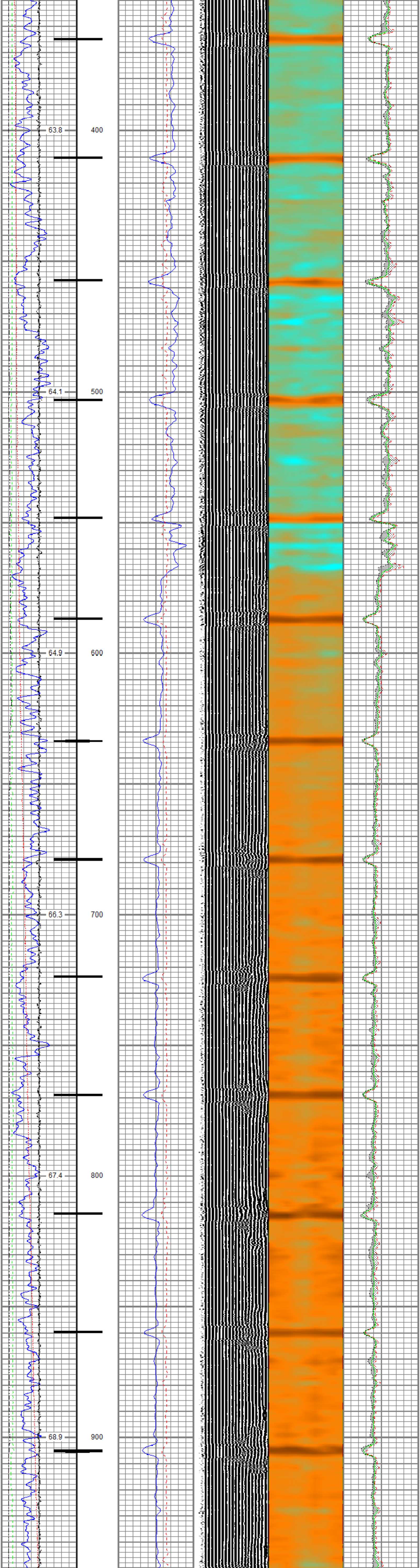
Main Pass

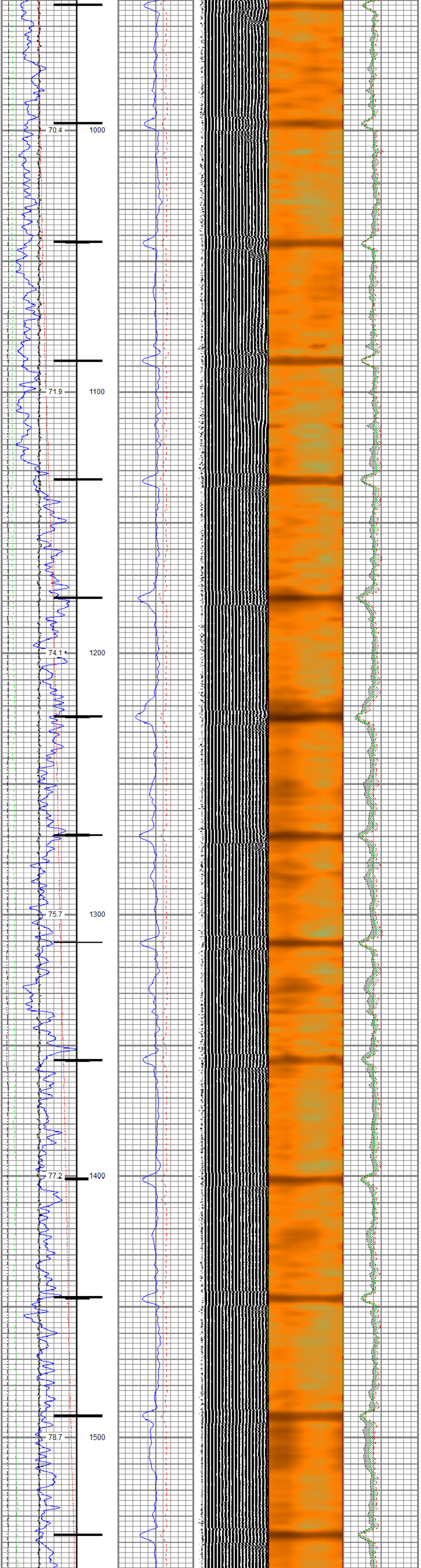
Recorded With 0 PSI Surface Induced Pressure

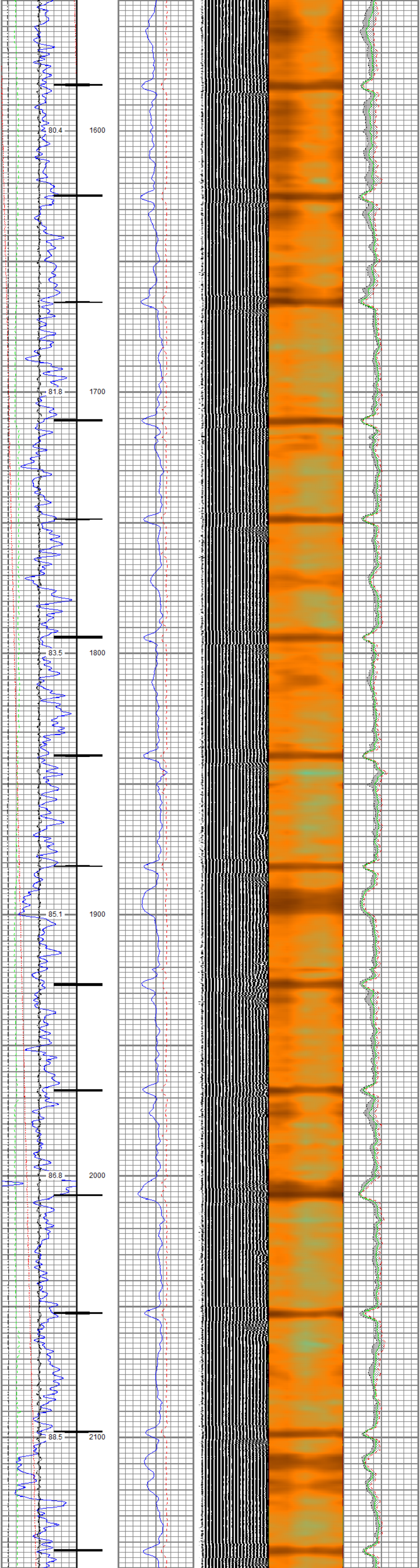
Database File	tep\tep_federal pa 424-13_rbl_06-25-20\processed_tep_federal pa 424-13_rbl_06-25-20.db
Dataset Pathname	main.1
Presentation Format	ros_radii_tep
Dataset Creation	Fri Jun 26 14:14:37 2020
Charted by	Depth in Feet scaled 1:240

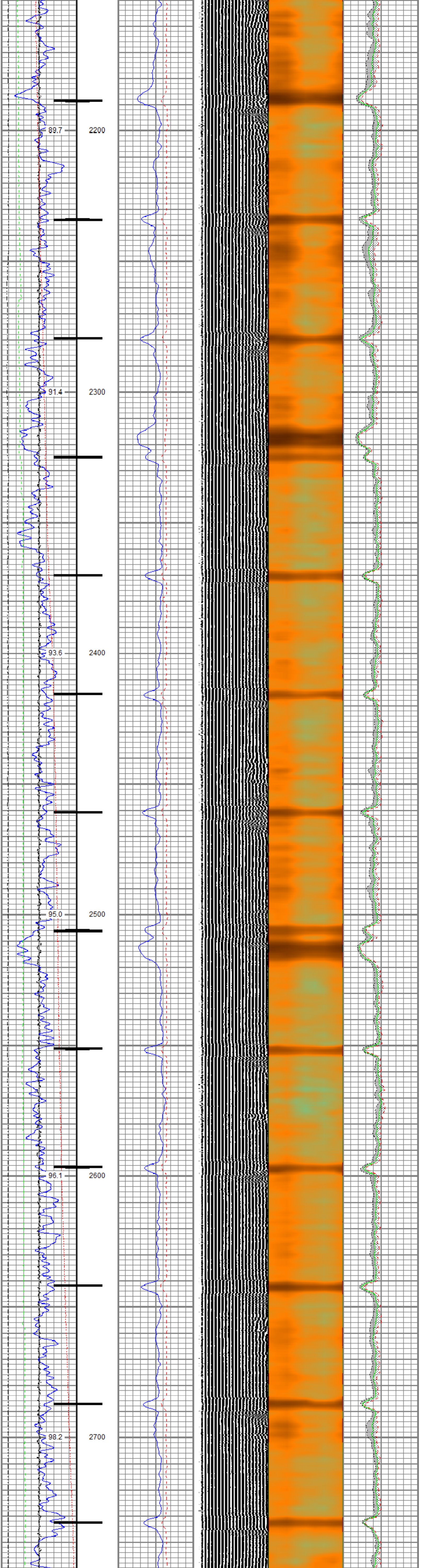
Track 1	Depth	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
Gamma Ray 0 (GAPI) 200		3' Amplitude 0 (mV) 100	200 (usec) 1200		Average Amplitude 0 150
Line Speed -150 (ft/min) 150		3' Amplitude x 5 0 (mV) 20			Mimimum Amplitude 0 150
Line Tension 0 (lb) 2000		3' Travel Time 300 (usec) 200			Maximum Amplitude 0 150
Differential Temperature -2 (degF) 2					
Temperature 0 (degF) 20					
Casing Collar Locator					

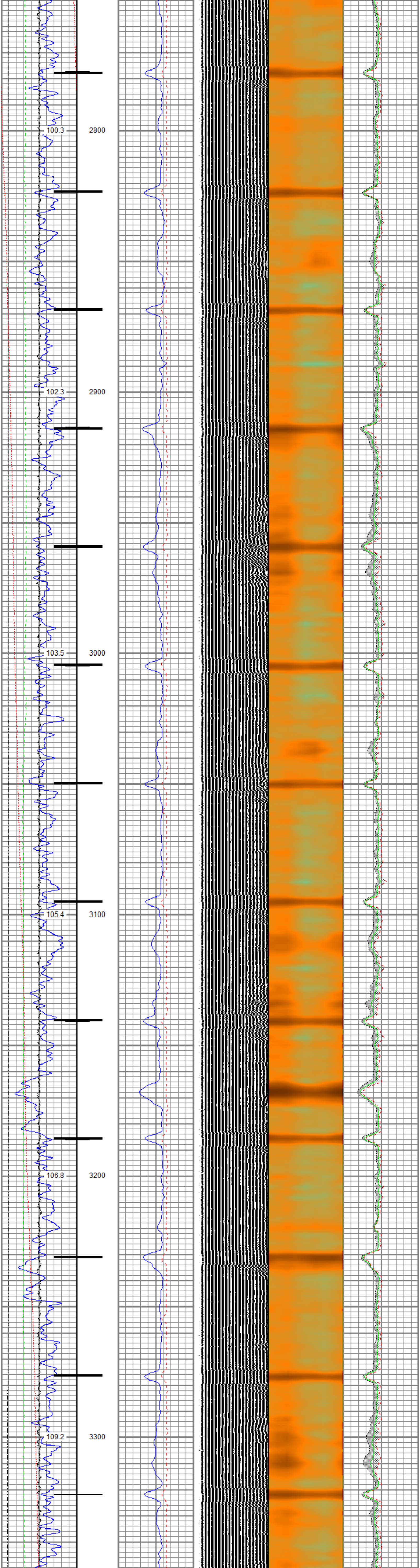


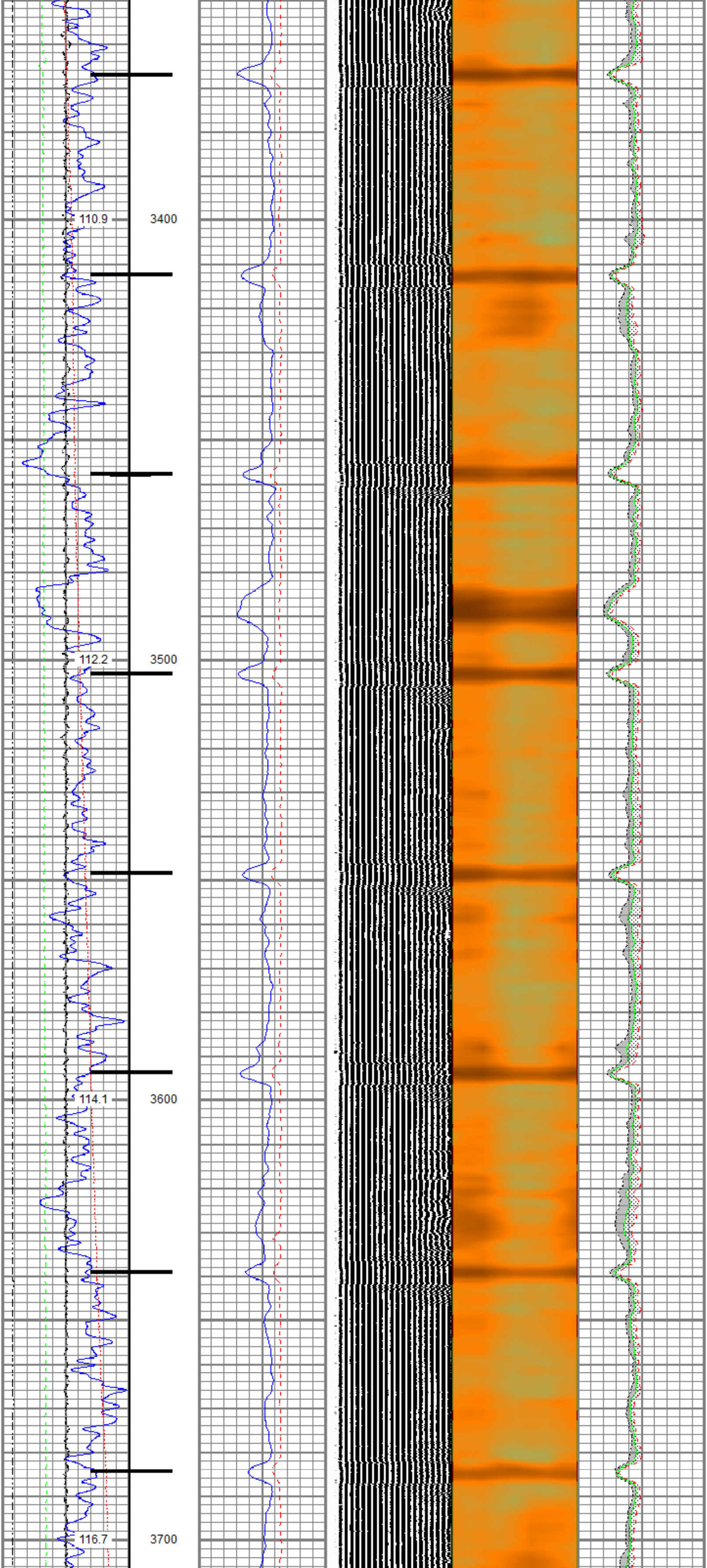


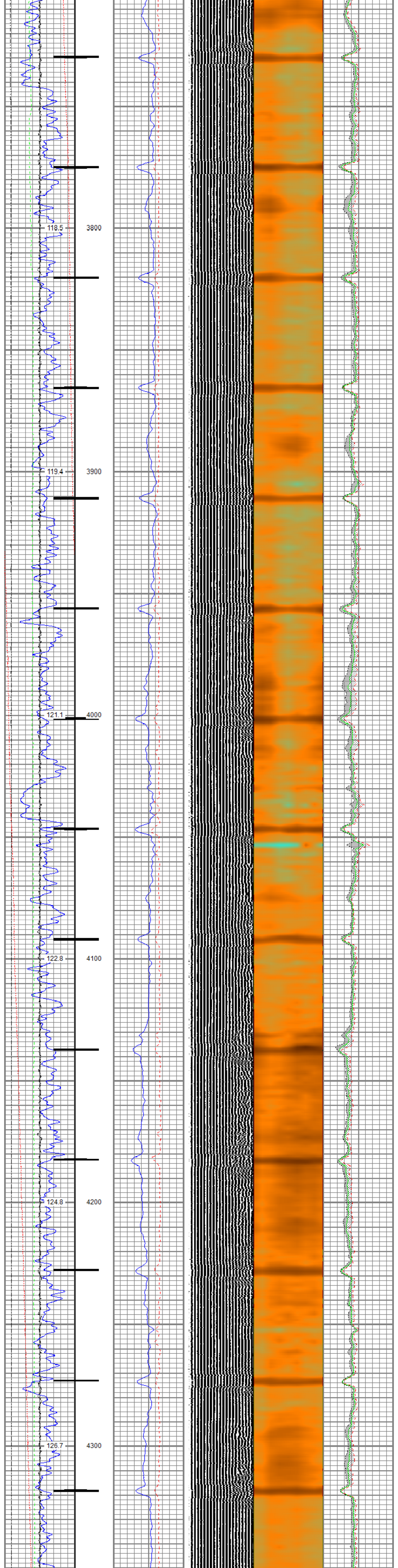








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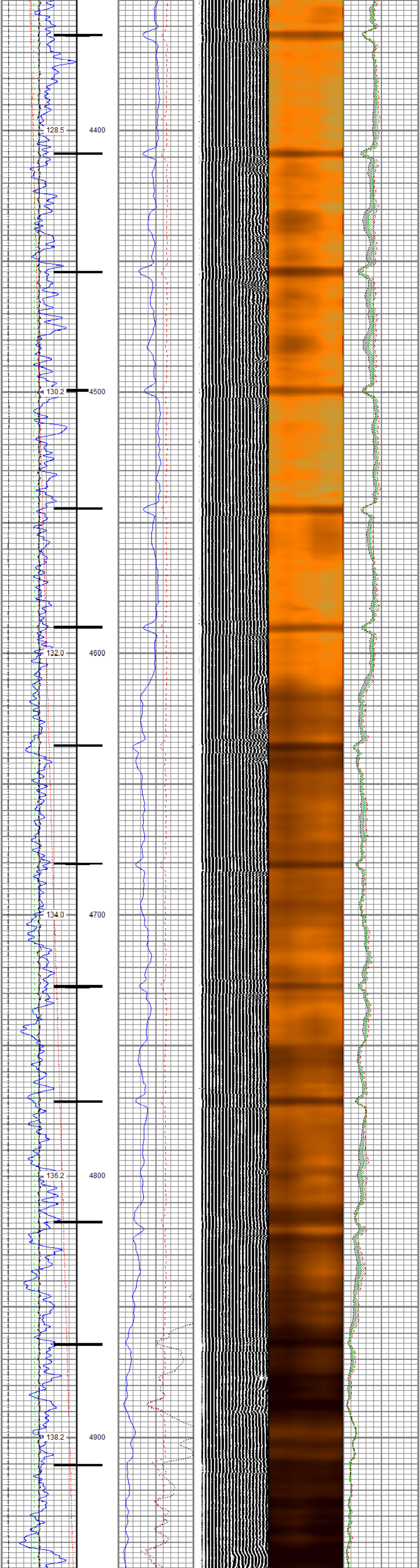
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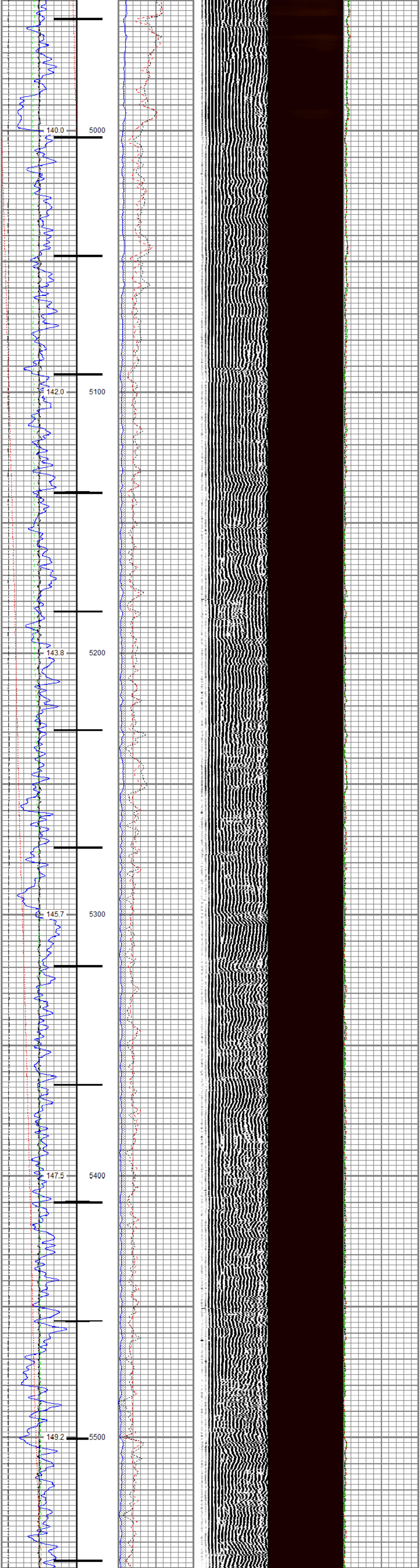
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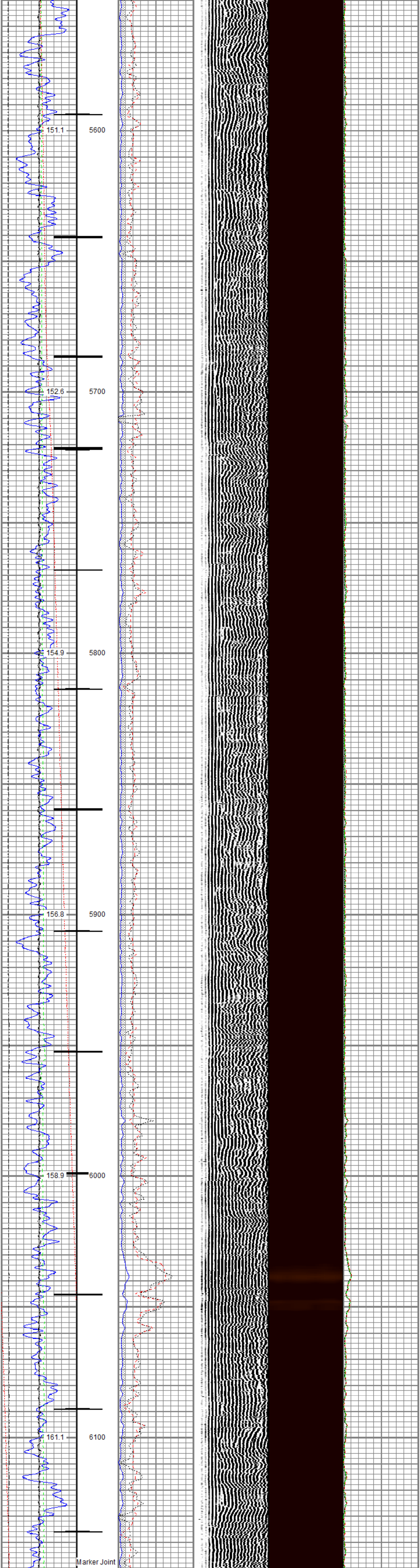
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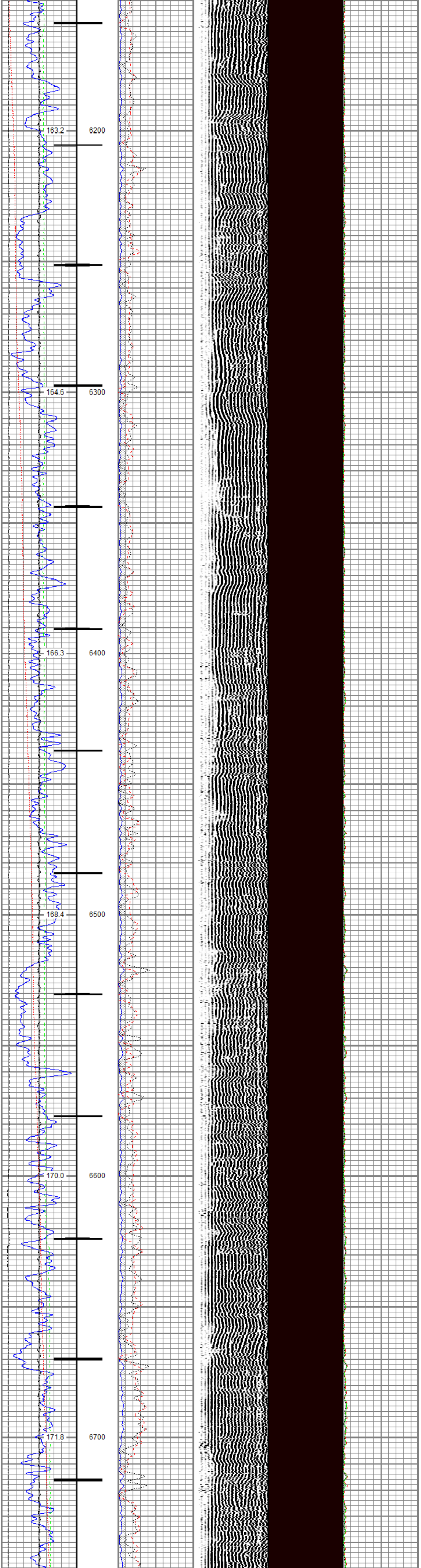
Marker Joint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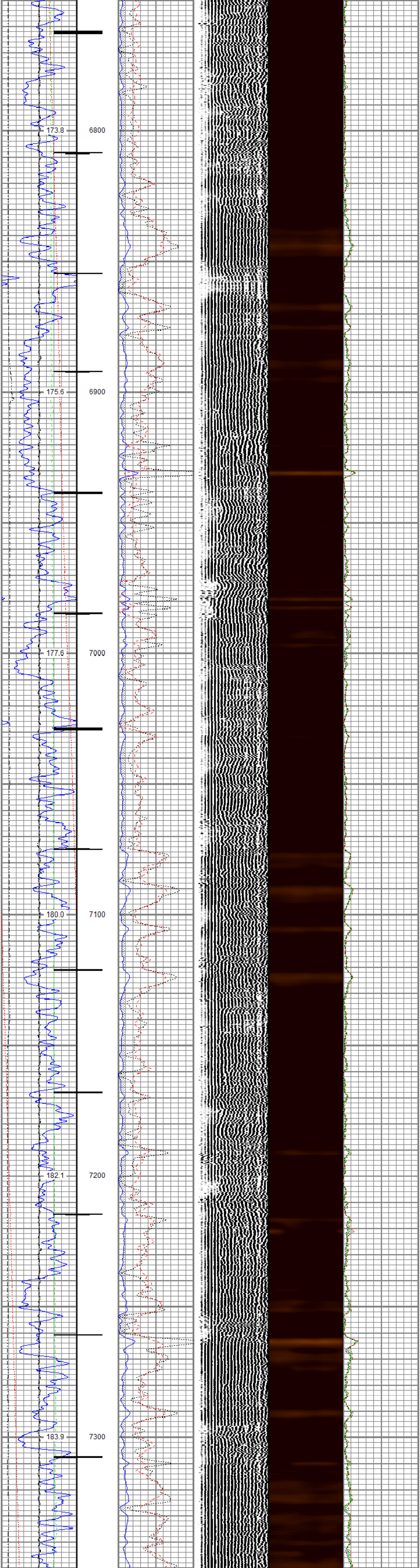
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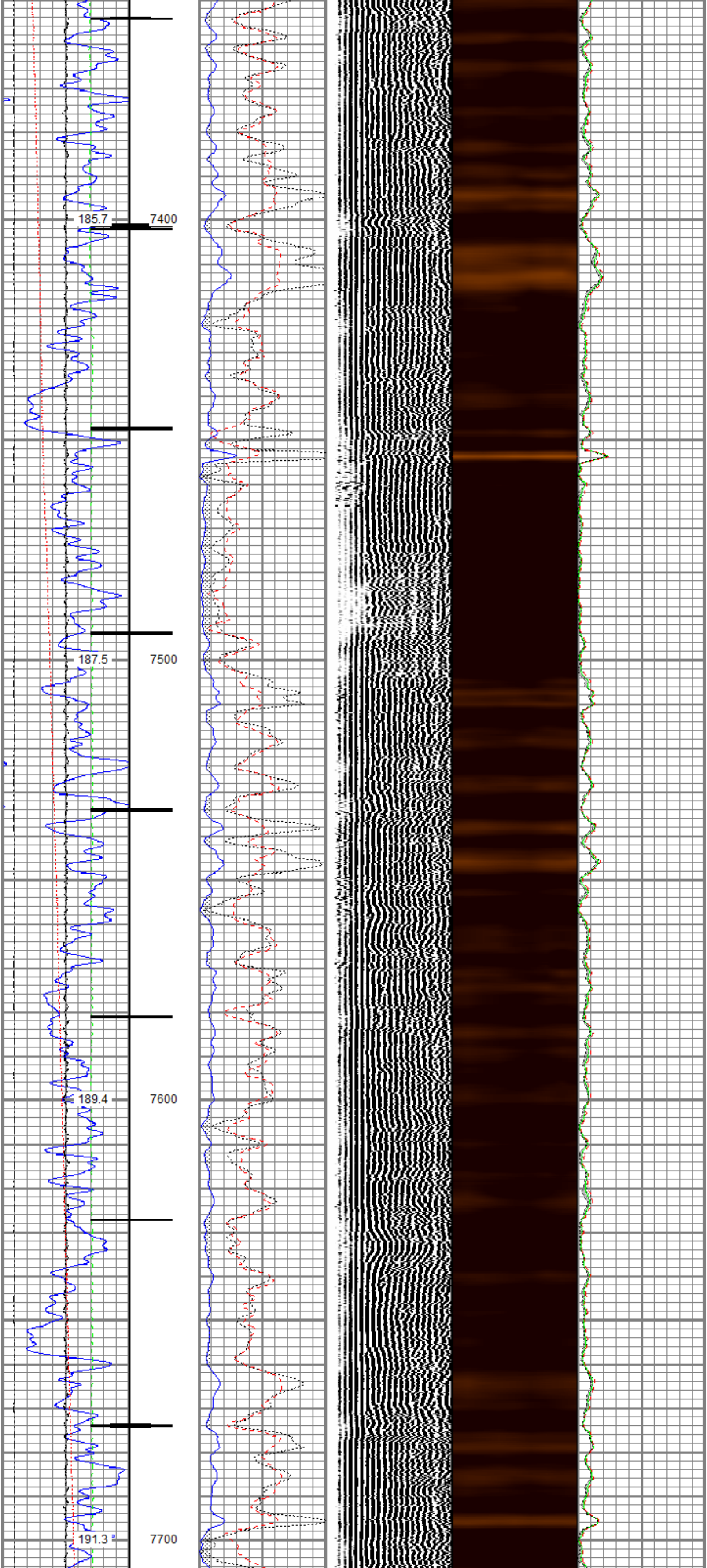
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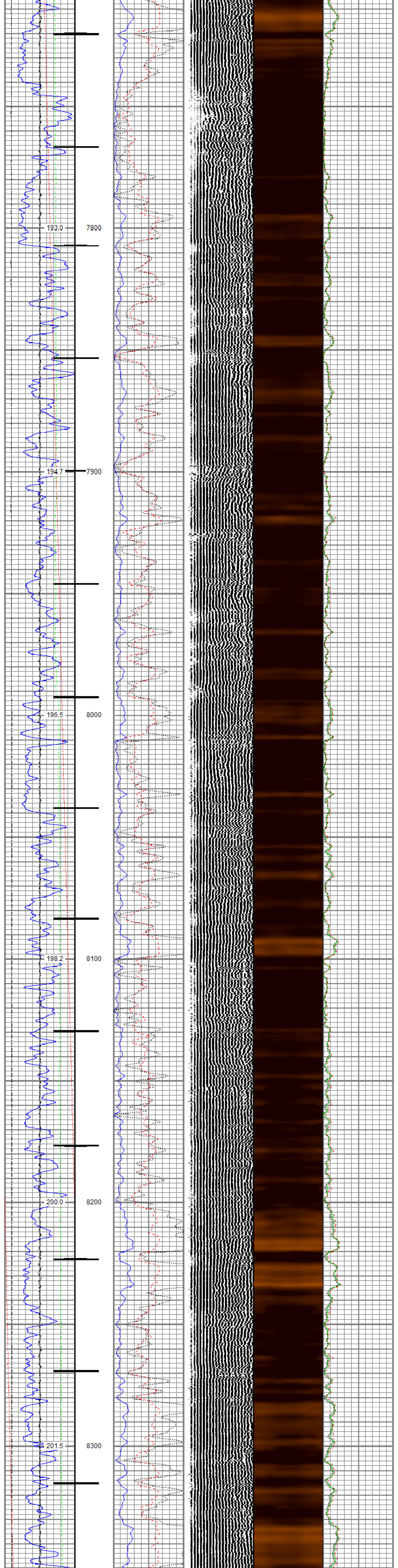

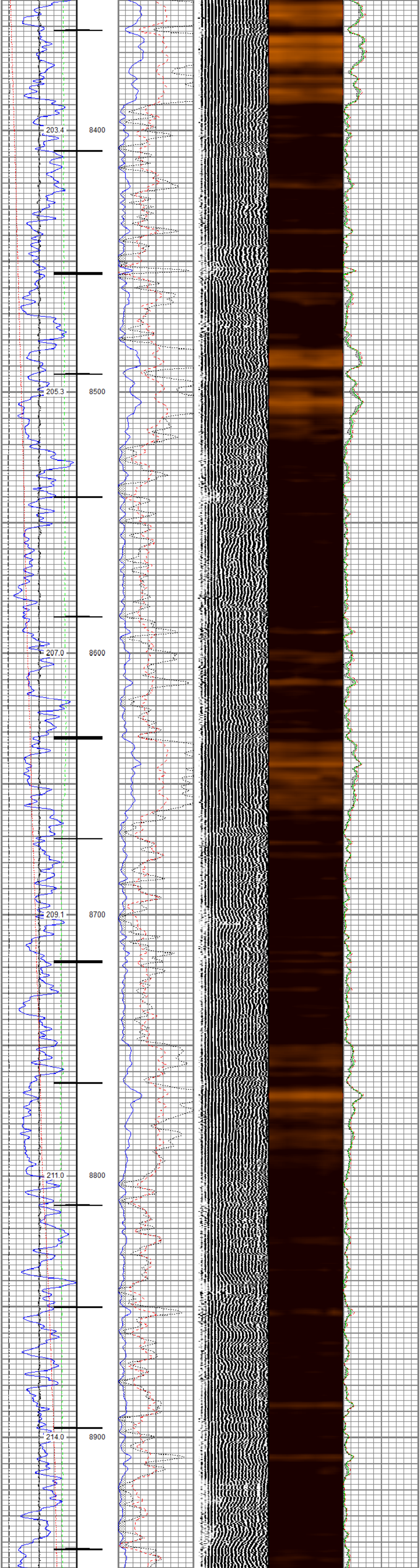

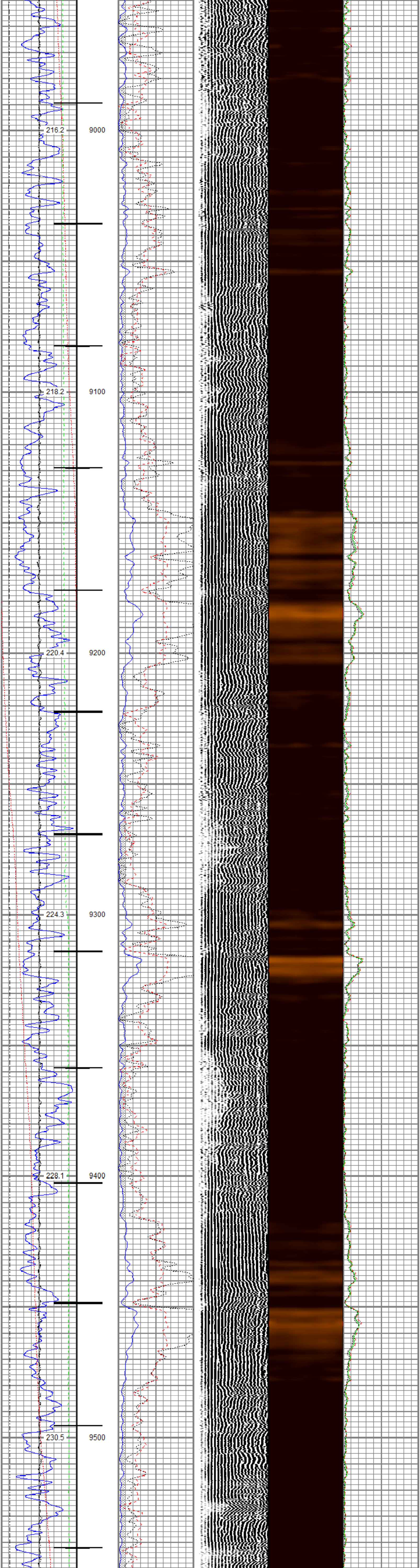

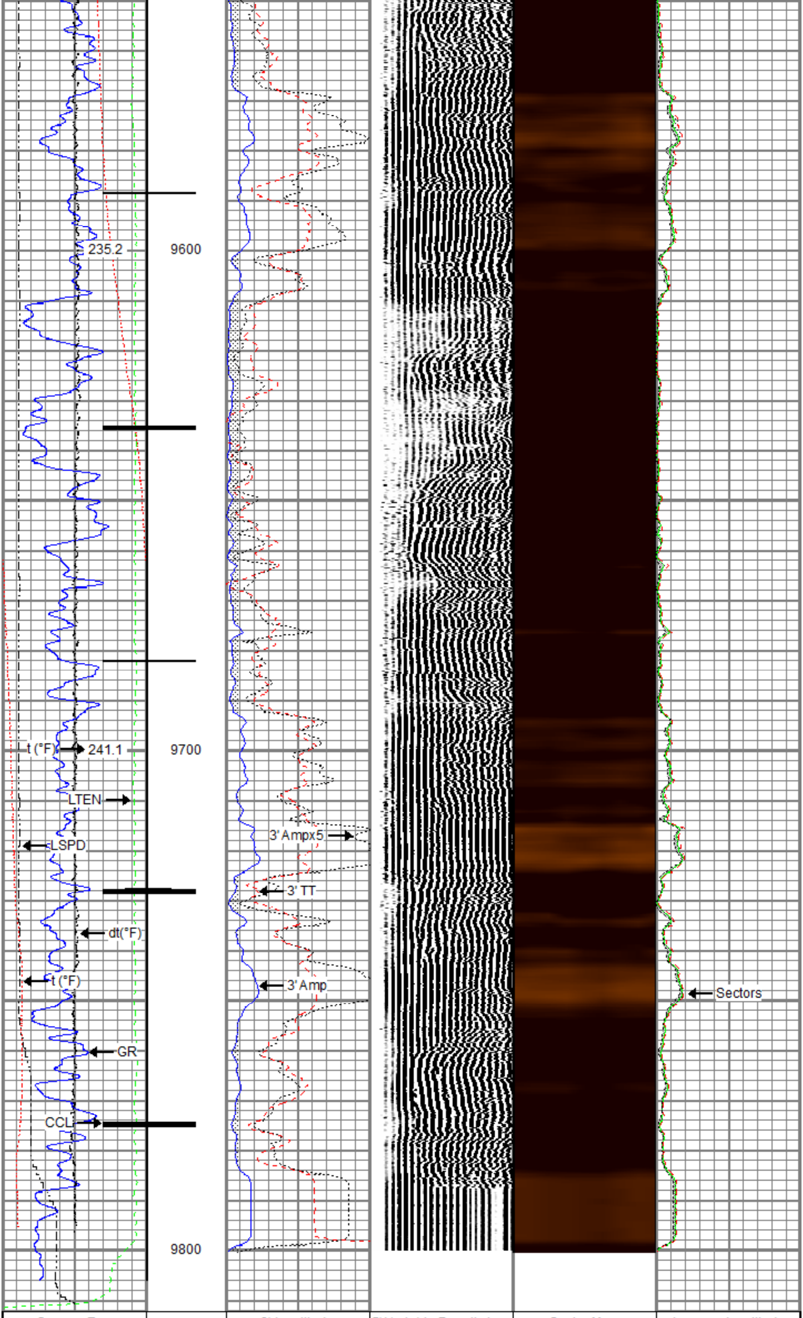

Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200	0 (mV) 100	200 (usec) 1200		0 150
Line Speed	3' Amplitude x 5			Mimimum Amplitude
-150 (ft/min) 150	0 (mV) 20			0 150
Line Tension	3' Travel Time			Maximum Amplitude
0 (lb) 2000	300 (usec) 200			0 150
Differential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

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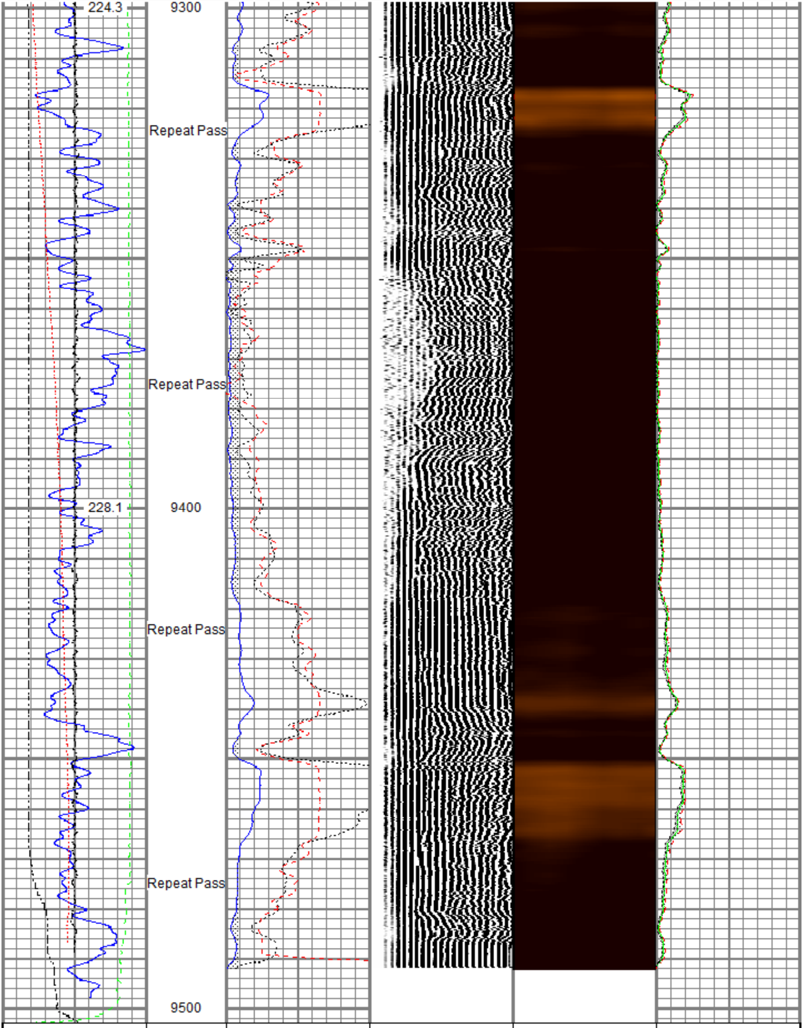
Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	tep\tep_federal pa 424-13_rbl_06-25-20\processed_tep_federal pa 424-13_rbl_06-25-20.db
Dataset Pathname	repeat.2
Presentation Format	ros_radii_tep
Dataset Creation	Fri Jun 26 14:21:29 2020
Charted by	Depth in Feet scaled 1:240

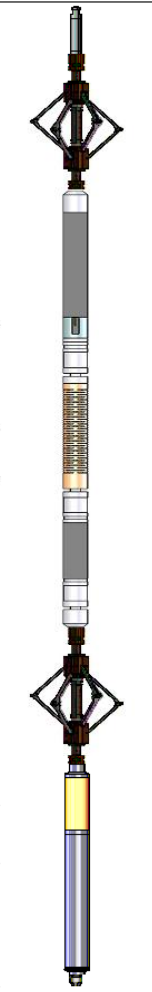
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200	0 (mV) 100	200 (usec) 1200		0 150
Line Speed	3' Amplitude x 5			Mimimum Amplitude
-150 (ft/min) 150	0 (mV) 20			0 150
Line Tension	3' Travel Time			Maximum Amplitude
0 (lb) 2000	300 (usec) 200			0 150
Differential 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
LOCTIM	0.00
UTCTIM	0.00

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: processed_tep_federal pa 424-13_rbl_06-25-20.db: field/well/run1/main.1
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 424-13_rbl_06-25-20\processed_tep_federal pa 424-13_rbl_
Dataset Pathname main.1
Dataset Creation Fri Jun 26 14:14:37 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:	30.964	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.003	0.885	0.800	81.196	90.442	1.113
CAL	-0.005	0.750				
5'	0.002	0.637	0.800	81.196	126.550	0.529
SUM						
S1	-0.000	0.824	0.000	100.000	121.352	0.051
S2	-0.003	0.874	0.000	100.000	114.010	0.389
S3	-0.003	0.975	0.000	100.000	102.285	0.321
S4	-0.002	0.970	0.000	100.000	102.778	0.256
S5	0.004	0.941	0.000	100.000	106.783	-0.479
S6	0.006	0.926	0.000	100.000	108.721	-0.658
S7	-0.000	0.835	0.000	100.000	119.670	0.036
S8	-0.002	0.808	0.000	100.000	123.491	0.268

Air Zero Calibration, performed Wed Jun 24 13:09:16 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 424-13
Field	Parachute
County	Garfield
State	Colorado