RELIANCE
OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Federal PA 21-24
Field	Parachute
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Federal PA 21-24
Field Parachute
County Garfield State Colorado
Location: API # : 05-045-24202
Other Services ---

SEC 13 TWP 6S RGE 95W

Permanent Datum Ground Level Elevation 6571.1'
Log Measured From Kelly Bushing 24 FT
Drilling Measured From Kelly Bushing

Elevation
K.B. 6595.1'
D.F. 6594.1'
G.L. 6571.1'

Date	24-JUN-2020
Run Number	One
Depth Driller	10002 FT
Depth Logger	9940 FT
Bottom Logged Interval	9928 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	244°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	13:45
Equipment Number	HD-0359
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	1126 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	9961 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 6546 - 6568 FT
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!

RELIANCE
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Main Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	tep\tep_federal pa 21-24_rbl_06-24-20\processed_tep_federal pa 21-24_rbl_06-24-20.db
Dataset Pathname	main.1
Presentation Format	ros_radii_tep
Dataset Creation	Thu Jun 25 08:07:52 2020
Charted by	Depth in Feet scaled 1:240

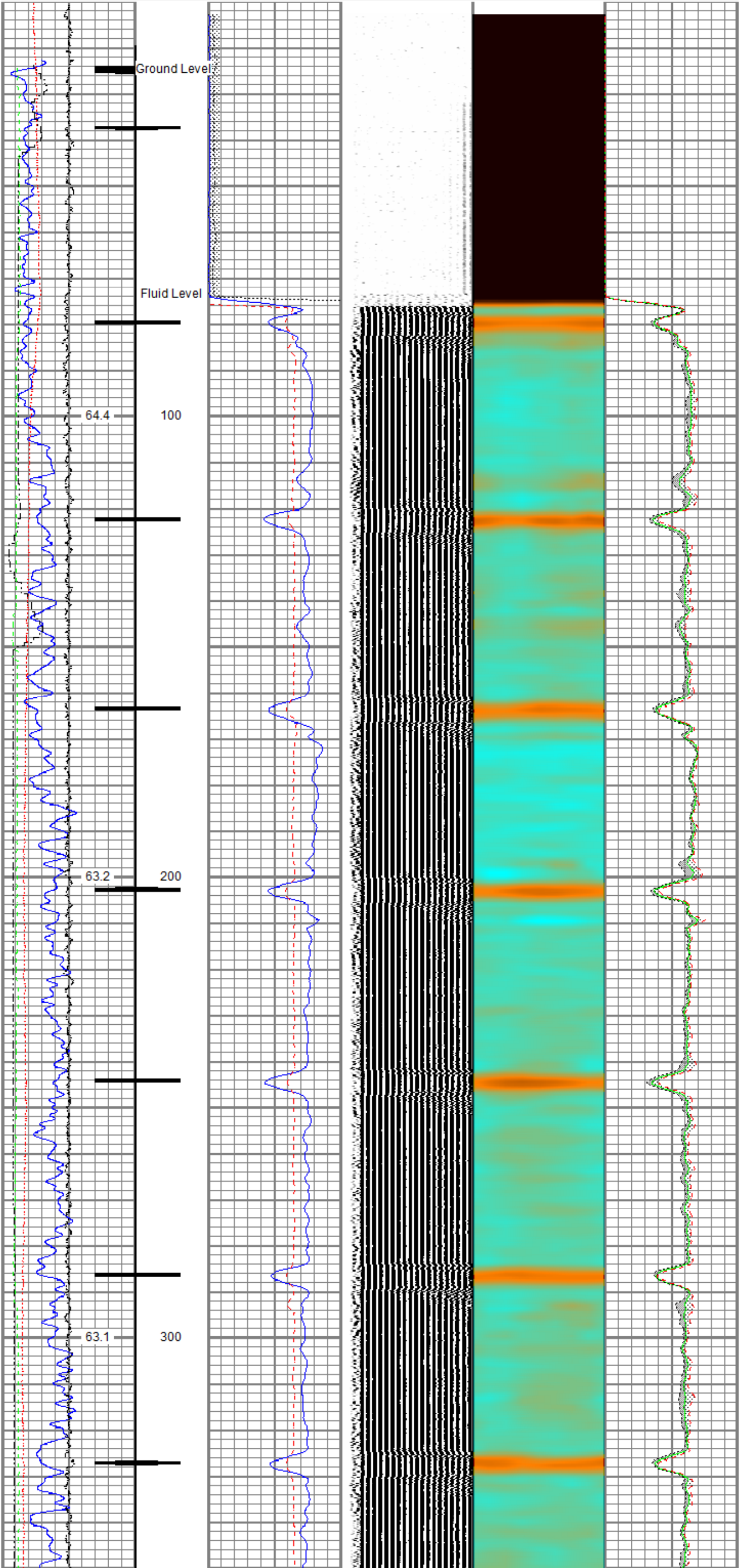
Gamma Ray
0 (GAPI) 200
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Differential Temperature
-2 (degF) 2
Temperature
0 (degF) 20
Casing Collar Locator

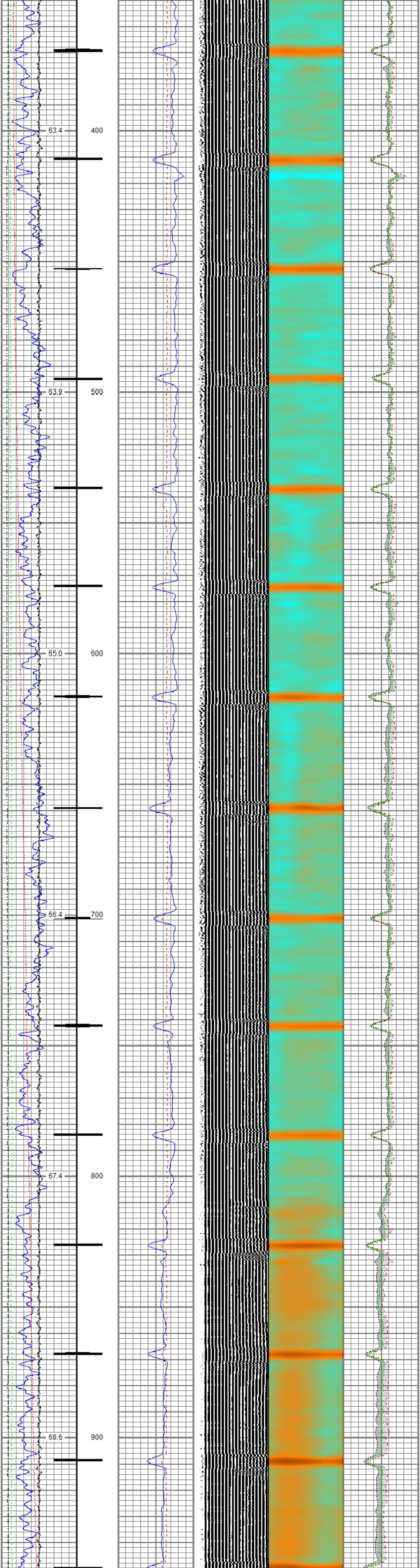
3' Amplitude
0 (mV) 100
3' Amplitude x 5
0 (mV) 20
3' Travel Time
300 (usec) 200

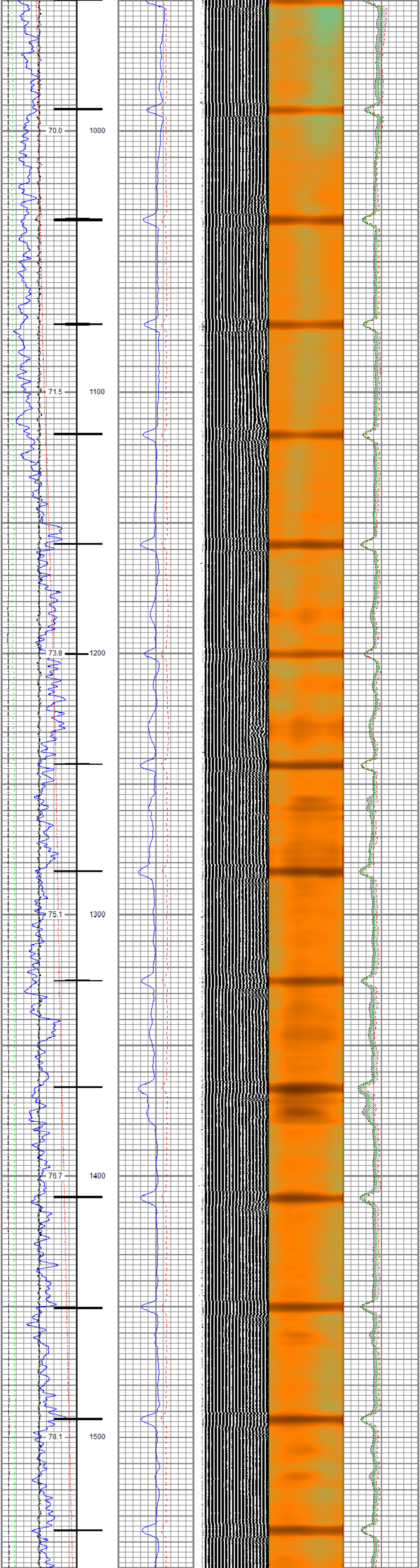
5' Variable Density Log
200 (usec) 1200

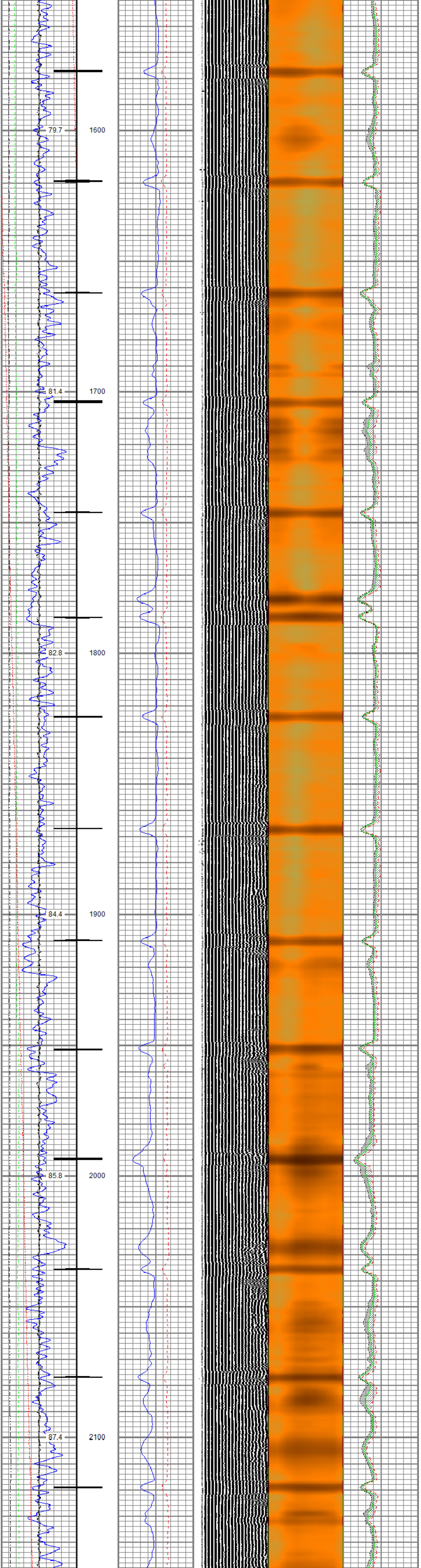
Sector Map

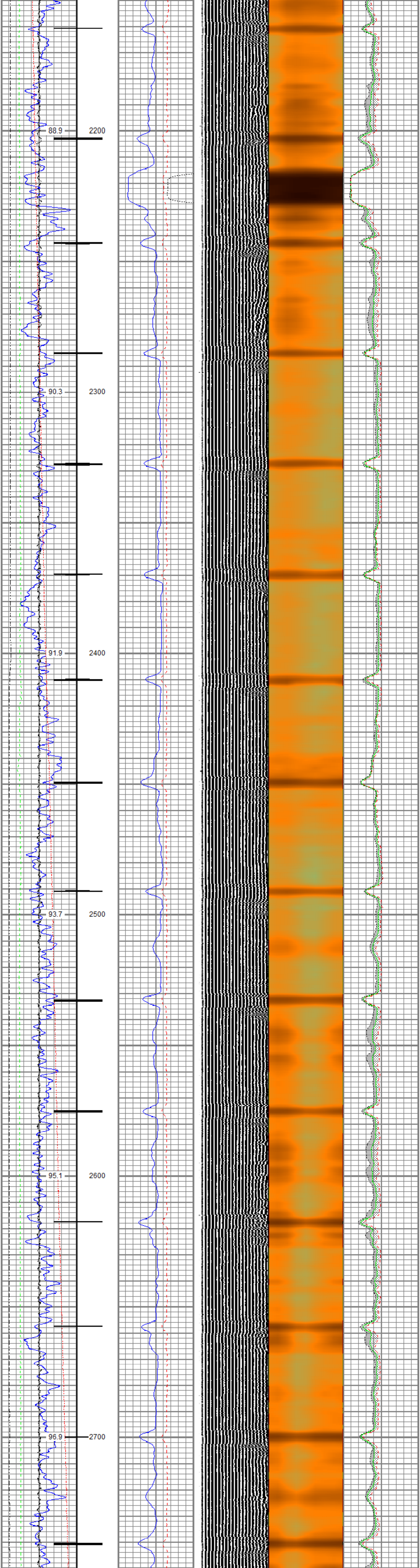
Average Amplitude
0 150
Mimimum Amplitude
0 150
Maximum Amplitude
0 150

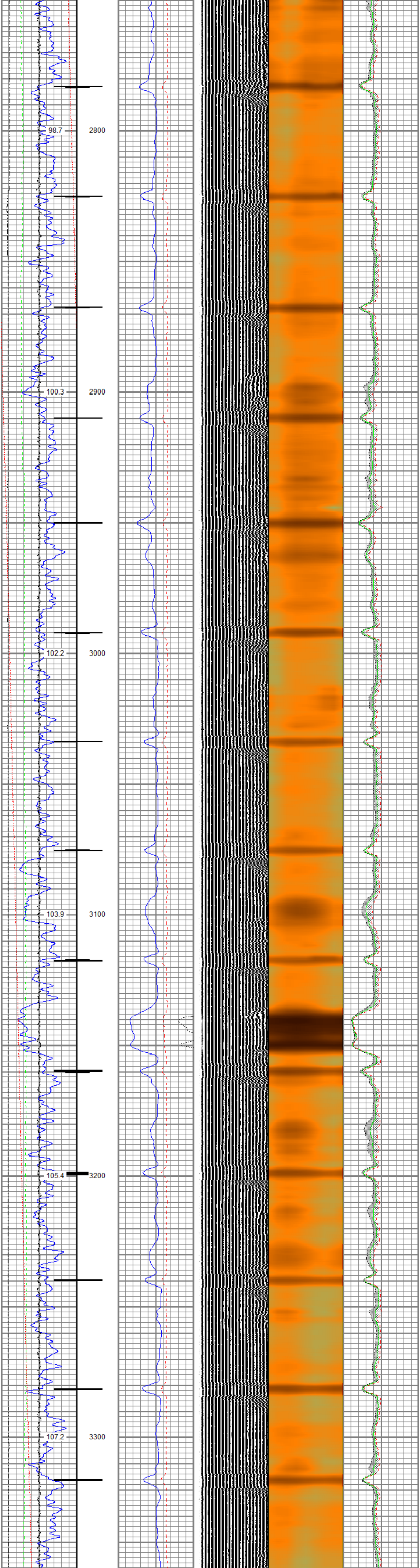


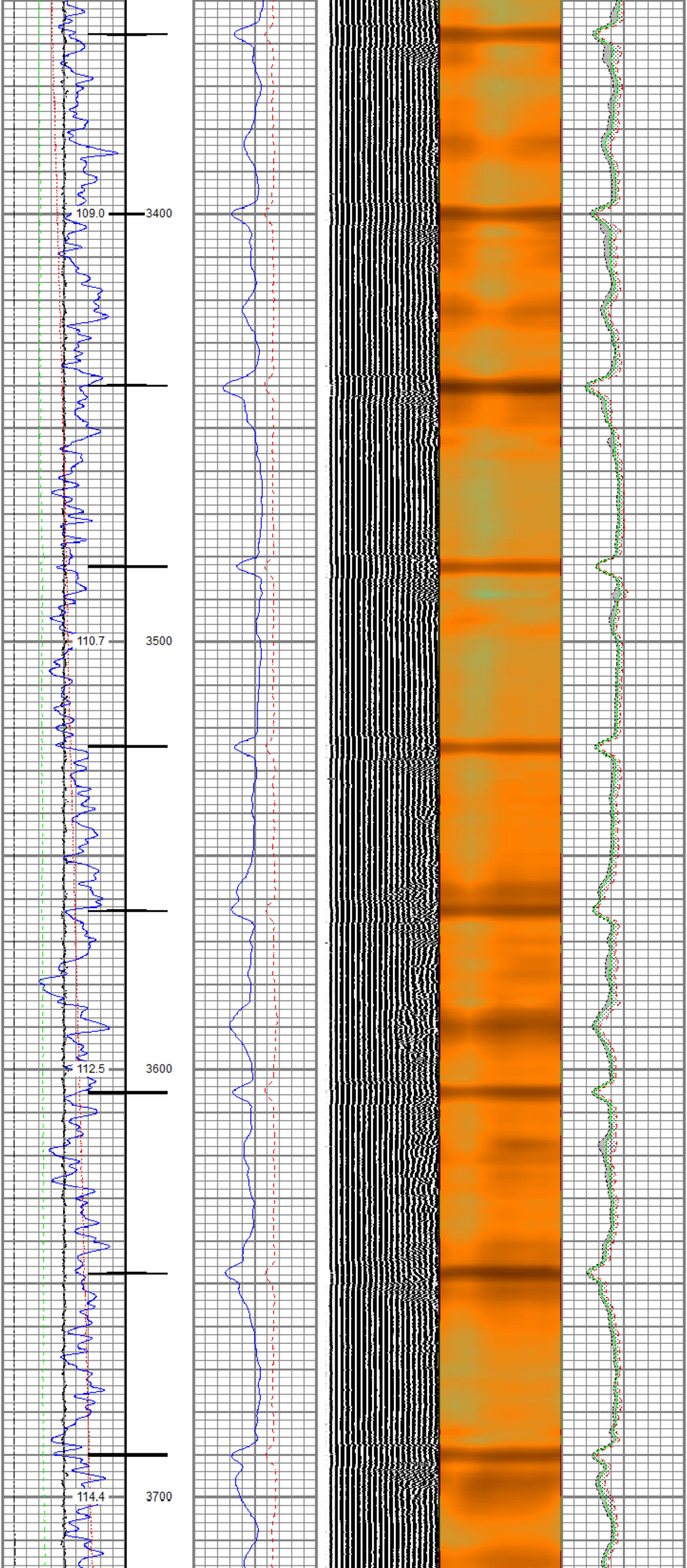


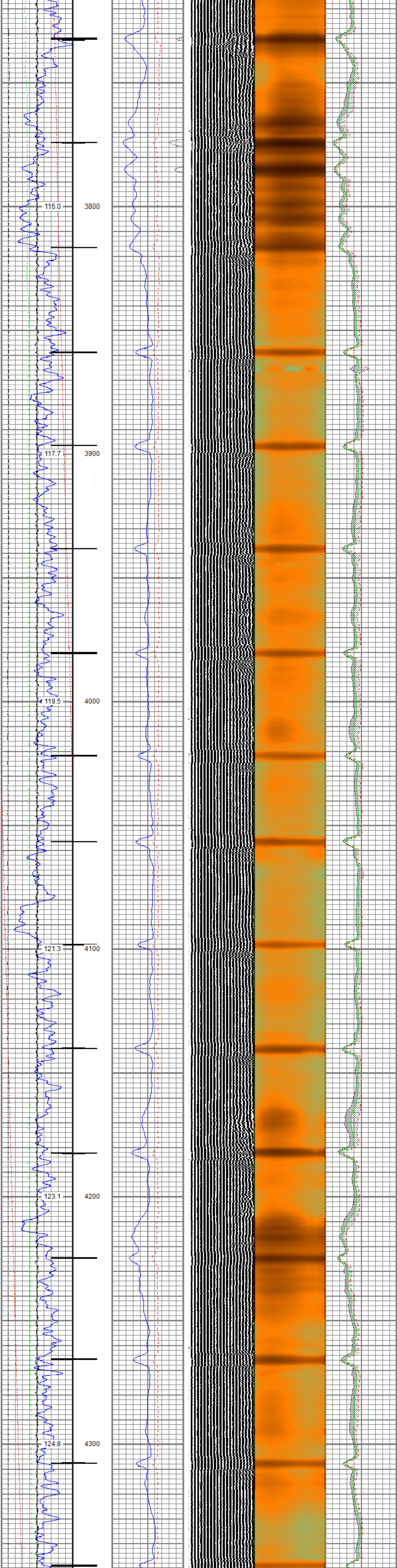








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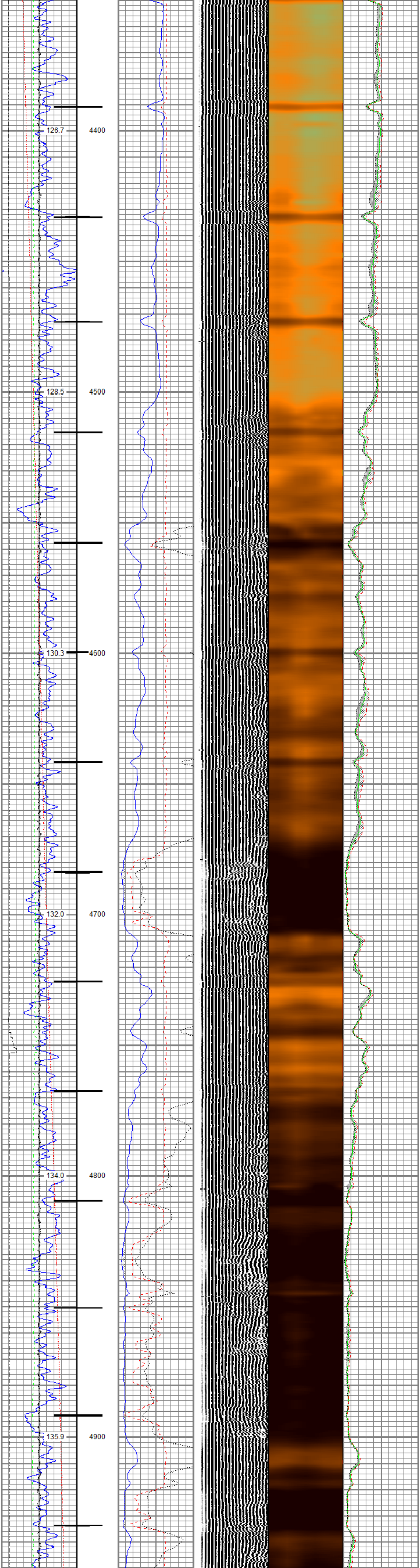
117.7
3900
119.5
4000
121.3
4100
123.1
4200
124.8
4300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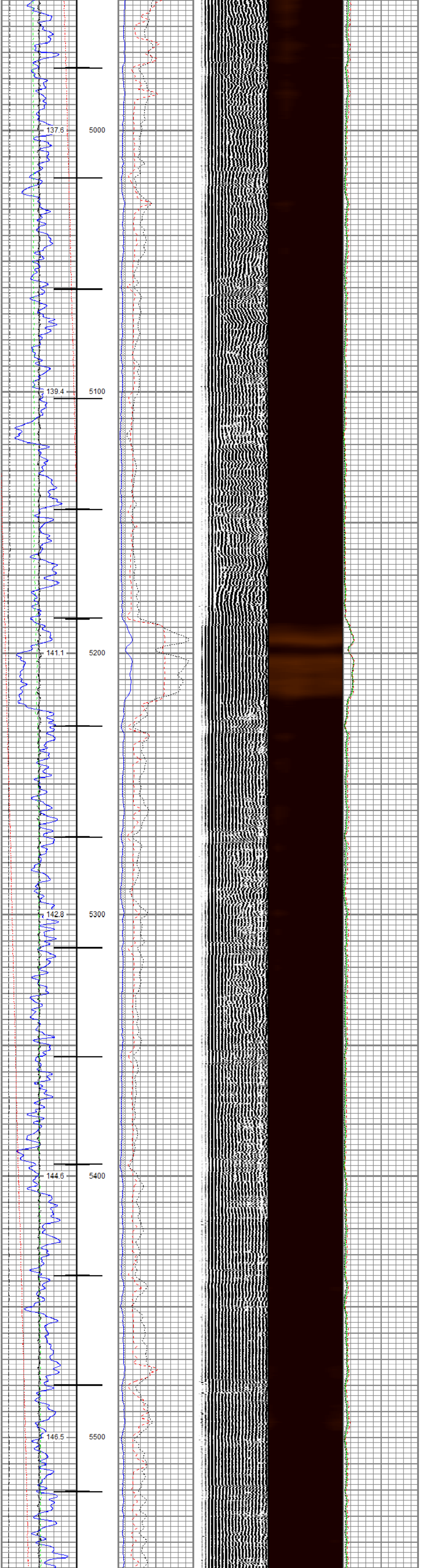
4700
134.0
4800
135.9
4900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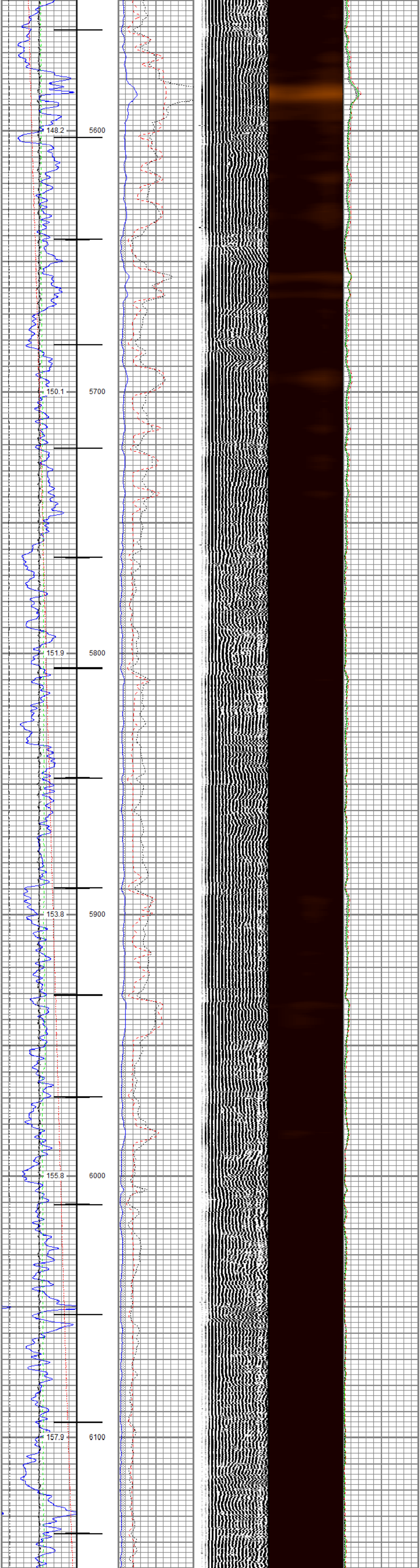
141.1
5200
142.8
5300
144.6
5400
146.5
5500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150.1
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151.9
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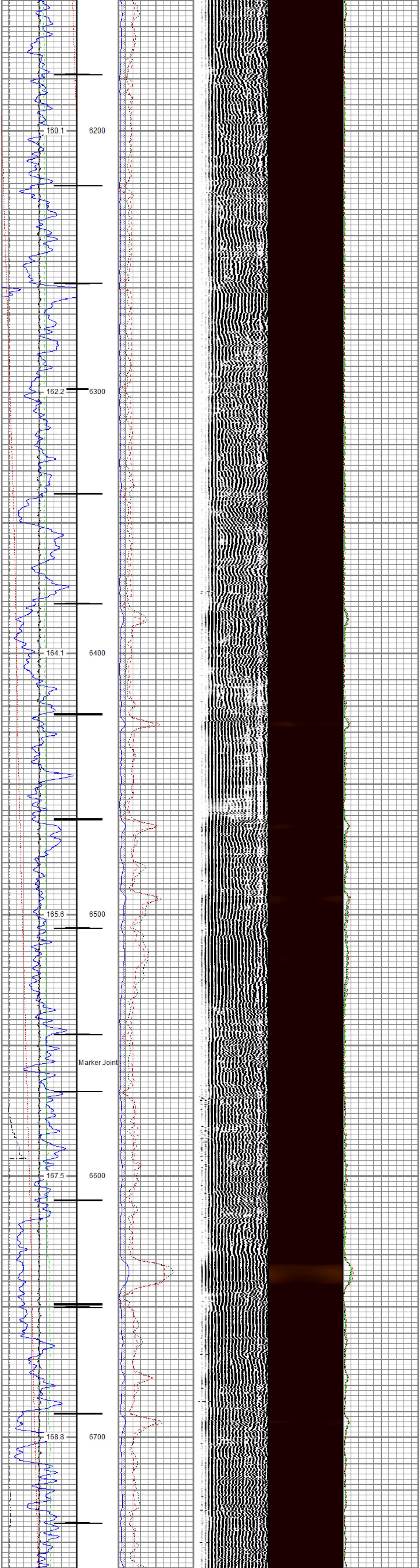
155.8
6000
157.9
6100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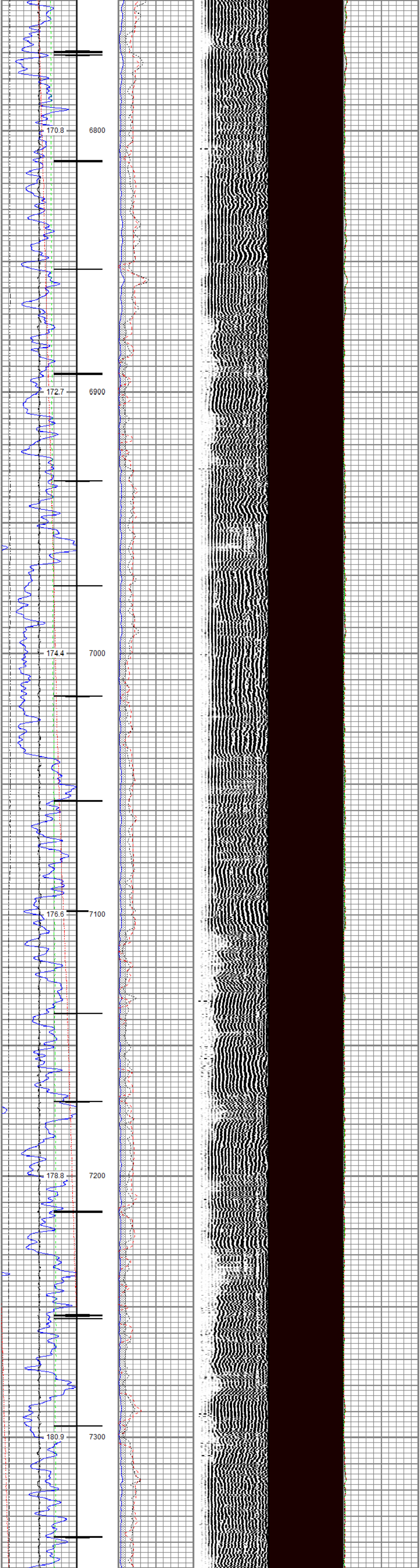
6300
164.1
6400
165.6
6500
Marker Joint
167.5
6600
168.8
6700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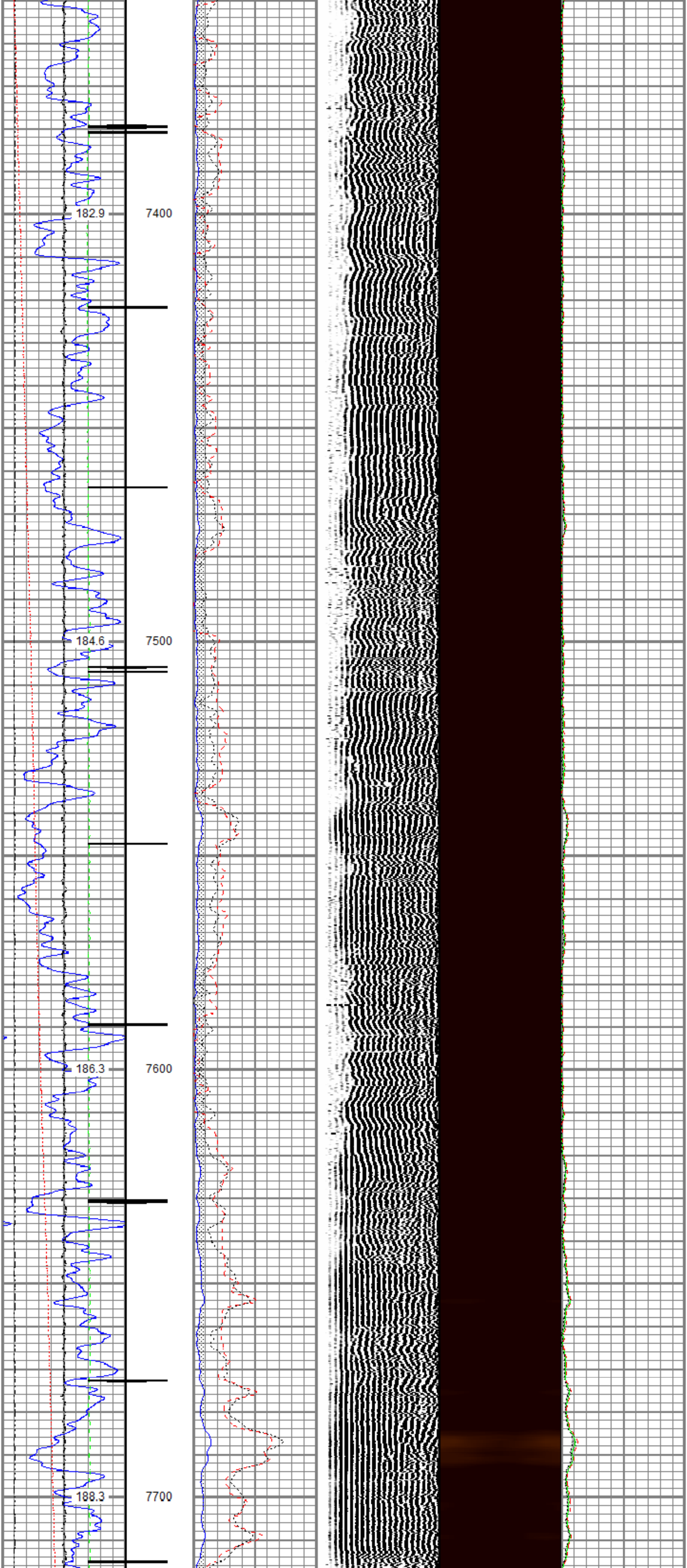
180.9
7300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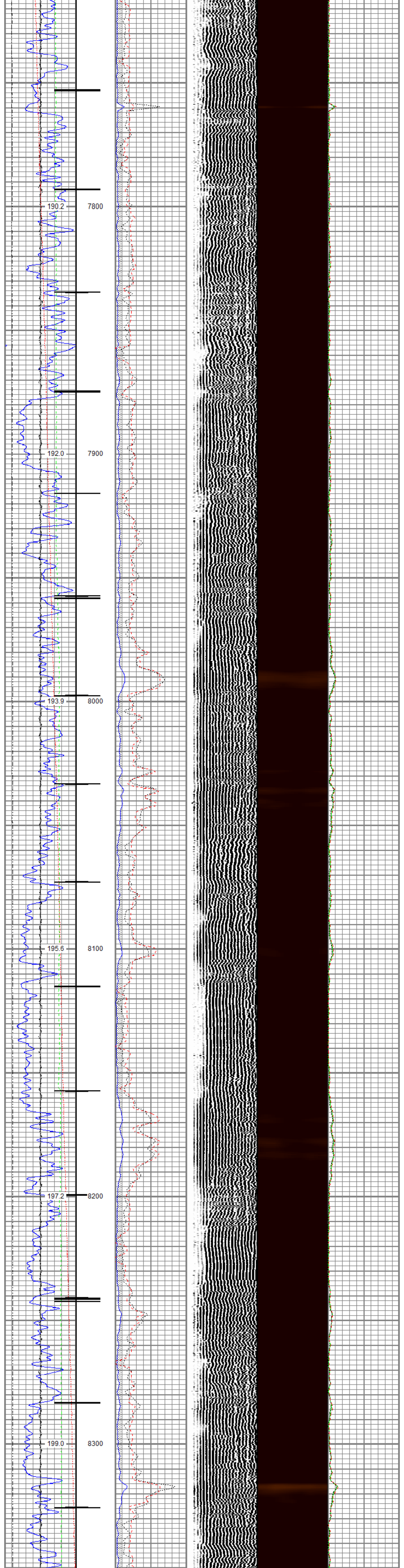

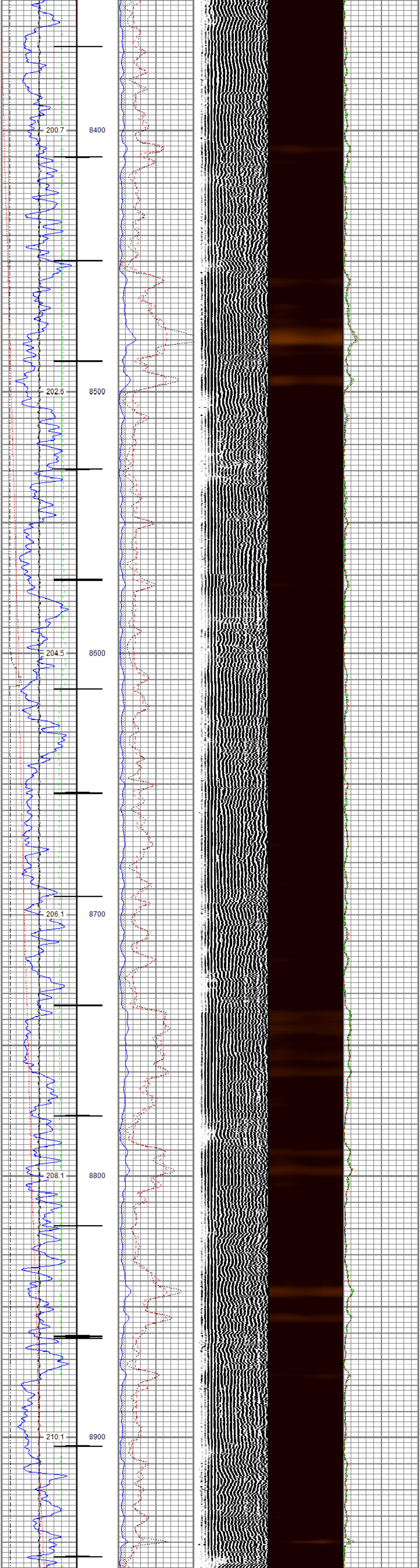

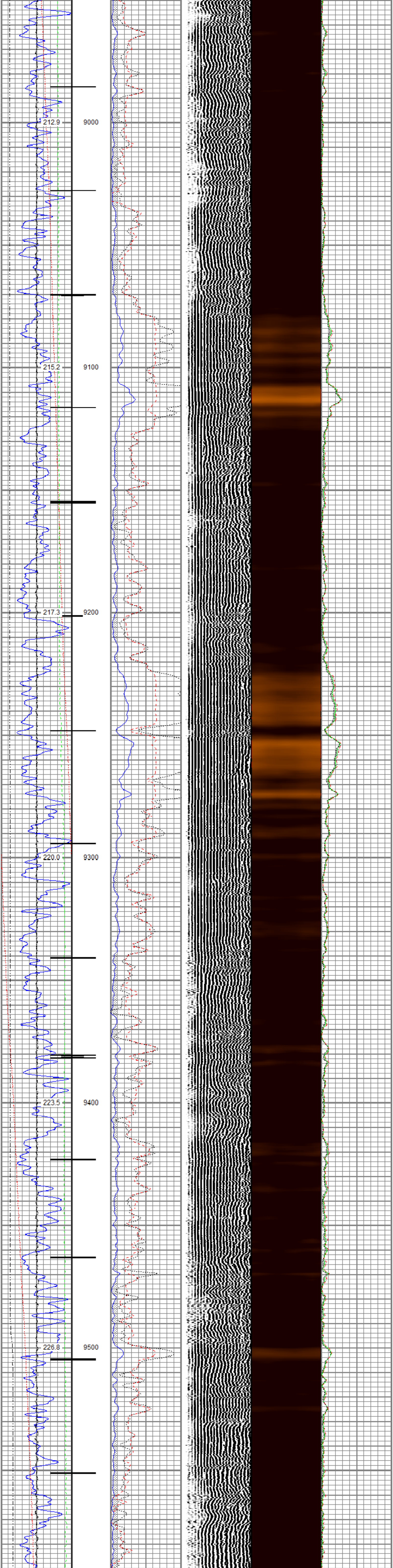

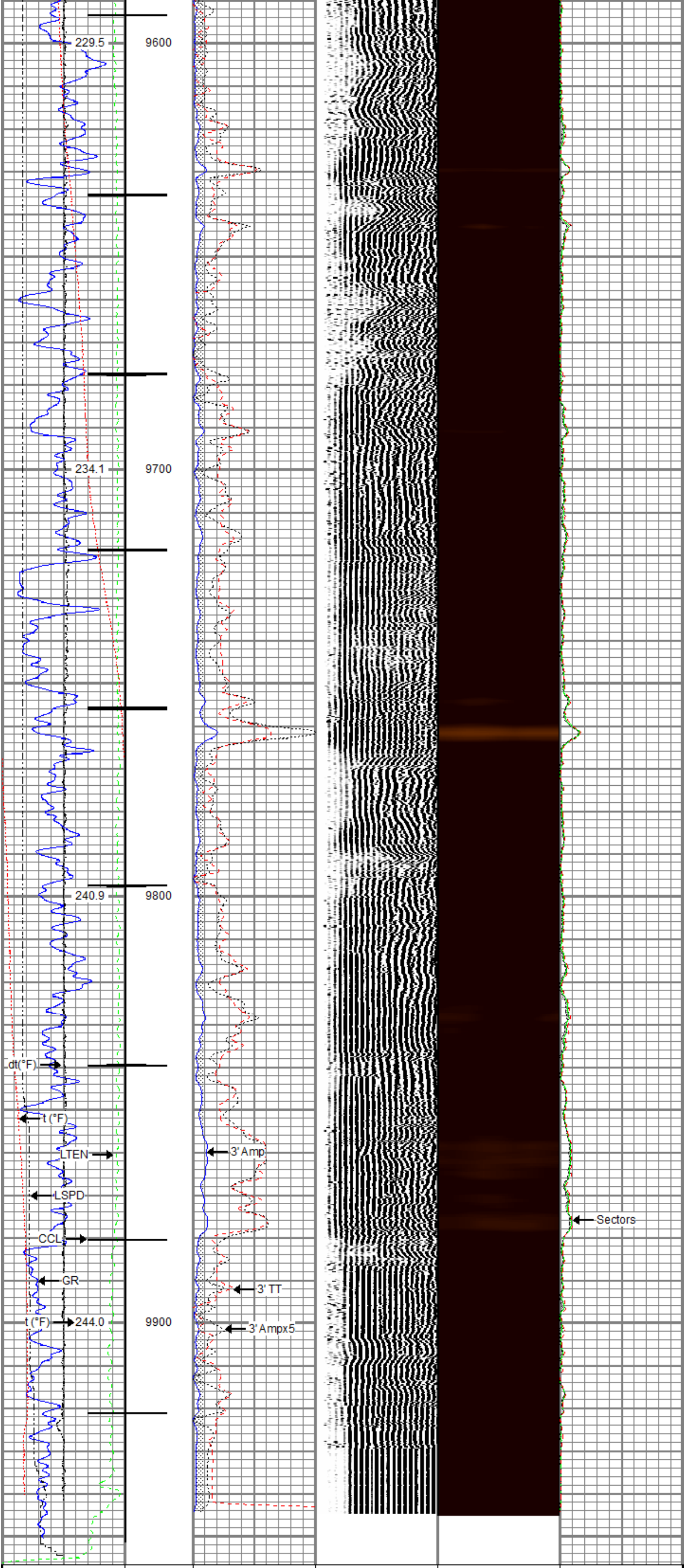

Gamma Ray 0 (GAPI) 200	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 (usec) 1200	Sector Map	Average Amplitude 0 150
Line Speed -150 (ft/min) 150	3' Amplitude x 5 0 (mV) 20			Mimimum Amplitude 0 150
Line Tension 0 (lb) 2000	3' Travel Time 300 (usec) 200			Maximum Amplitude 0 150
Differential Temperature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

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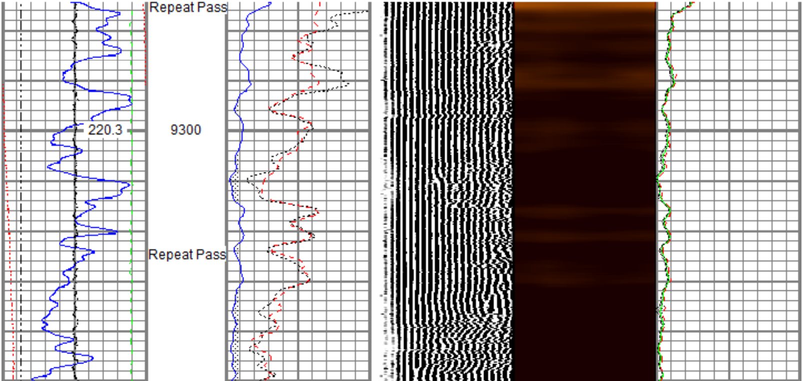
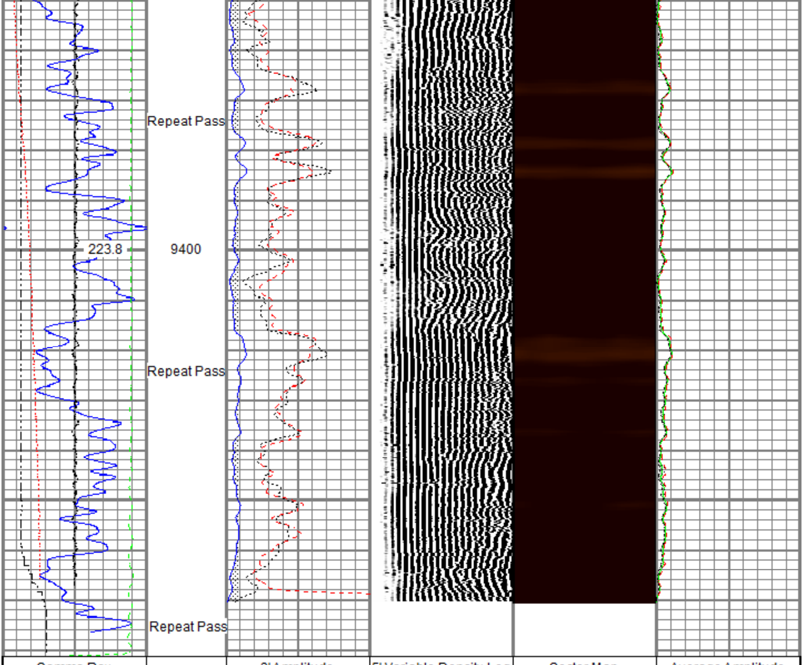
Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

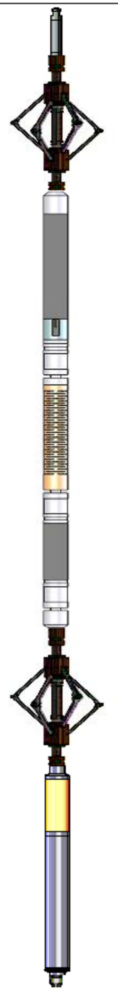
Database File	tep\tep_federal pa 21-24_rbl_06-24-20\processed_tep_federal pa 21-24_rbl_06-24-20.db
Dataset Pathname	repeat.2
Presentation Format	ros_radii_tep
Dataset Creation	Thu Jun 25 08:27:53 2020
Charted by	Depth in Feet scaled 1:240

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				





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					

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	14.16					
			Probe Radii-2750 RBT (FW1305-098) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
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					
			BTA-MUD BTA 2-3/4" Roller 6 Arm Centralizer with Reversible Ends	2.92	2.72	25.00
CCL$2	3.88					
CCL$1	3.88					
GR	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
LOCTIM	0.00					
UTCTIM	0.00		GO BN-14375 GO 1-7/16" Bull Nose with Go Box Top	0.25	1.44	1.00

Dataset: processed_tep_federal pa 21-24_rbl_06-24-20.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 21-24_rbl_06-24-20\processed_tep_federal pa 21-24_rbl_06
Dataset Pathname main.1
Dataset Creation Thu Jun 25 08:07:52 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	0.843	0.800	81.196	94.998	1.082
CAL	-0.005	0.750				
5'	0.000	0.673	0.800	81.196	119.503	0.761
SUM						
S1	-0.002	0.744	0.000	100.000	134.057	0.297
S2	-0.002	0.817	0.000	100.000	122.101	0.277
S3	-0.002	0.899	0.000	100.000	111.053	0.219
S4	0.003	0.929	0.000	100.000	107.987	-0.334
S5	0.006	0.913	0.000	100.000	110.224	-0.629
S6	0.007	0.870	0.000	100.000	115.837	-0.765
S7	0.000	0.797	0.000	100.000	125.548	-0.038
S8	-0.000	0.752	0.000	100.000	132.971	0.030

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 21-24
Field	Parachute
County	Garfield
State	Colorado