RELIANCE OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company TEP Rocky Mountain LLC
Well Federal PA 33-13
Field Parachute
County Garfield
State Colorado

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Well Federal PA 33-13
Field Parachute
County Garfield State Colorado

Location: API # : 05-045-24194
SEC 13 TWP 6S RGE 95W

Other Services

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	22-AUG-2020		
Run Number	One		
Depth Driller	9996 FT		
Depth Logger	9906 FT		
Bottom Logged Interval	9894 FT		
Top Log Interval	Surface		
Open Hole Size	8.750"		
Type Fluid	Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	241°F		
Estimated Cement Top	See Log		
Time Well Ready	ROA		
Time Logger on Bottom	07:50		
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	1126 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	9956 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 6563 - 6574 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 33-13_rbl_08-22-20\processed_tep_federal pa 33-13_rbl_08-22-20.db
Dataset Pathname	main.2
Presentation Format	ros_radii_tep
Dataset Creation	Sun Aug 23 14:37:04 2020
Charted by	Depth in Feet scaled 1:240

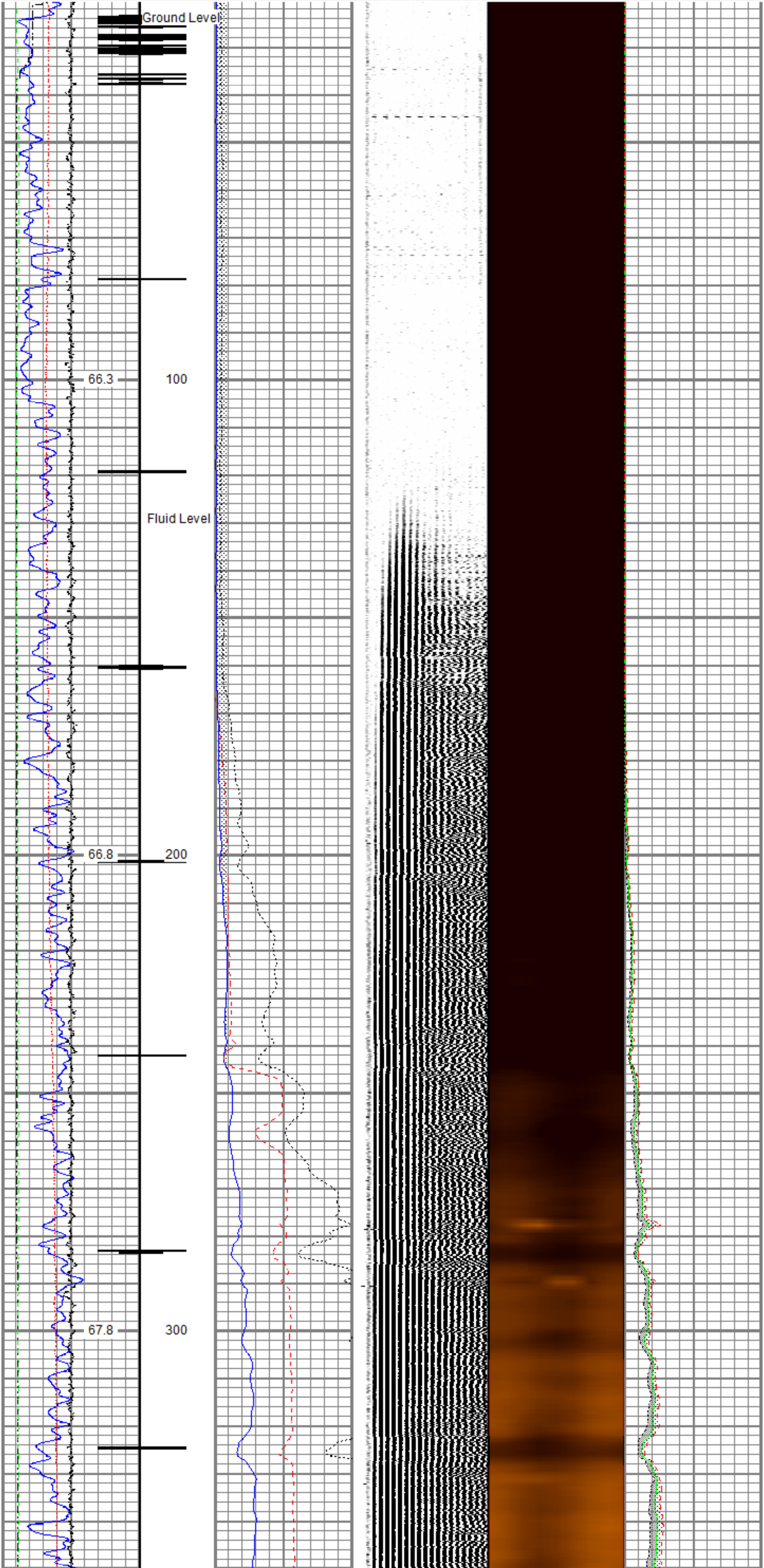
Gamma Ray 0 (GAPI) 200
Line Speed -150 (ft/min) 150
Line Tension 0 (lb) 2000
Differential Temperature -2 (degF) 2
Temperature 0 (degF) 20
Casing Collar Locator

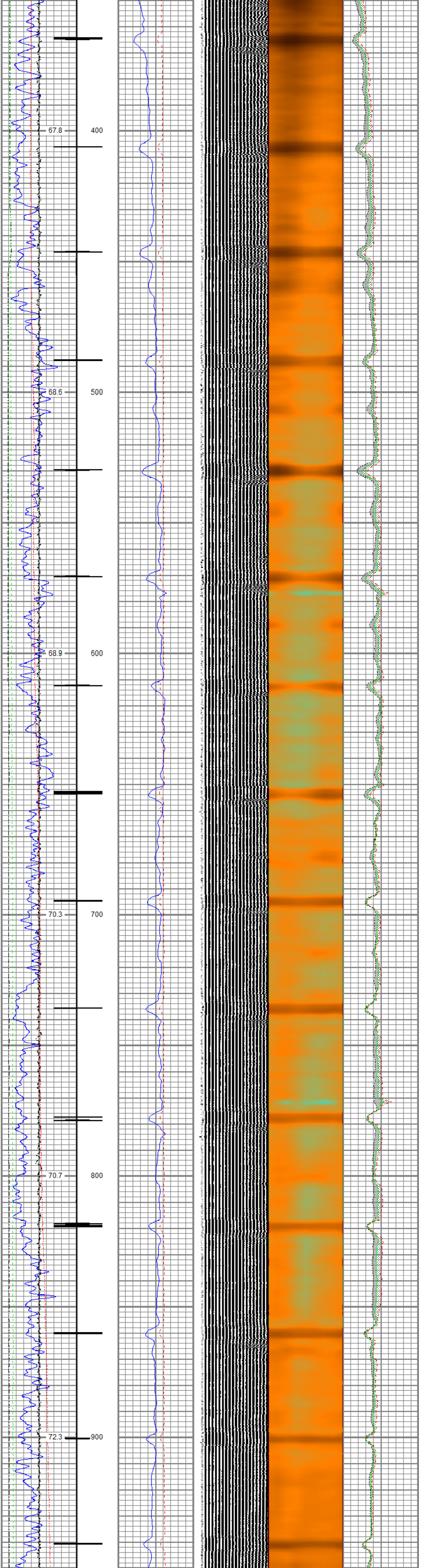
3' Amplitude 0 (mV) 100
3' Amplitude x 5 0 (mV) 20
3' Travel Time 300 (usec) 200

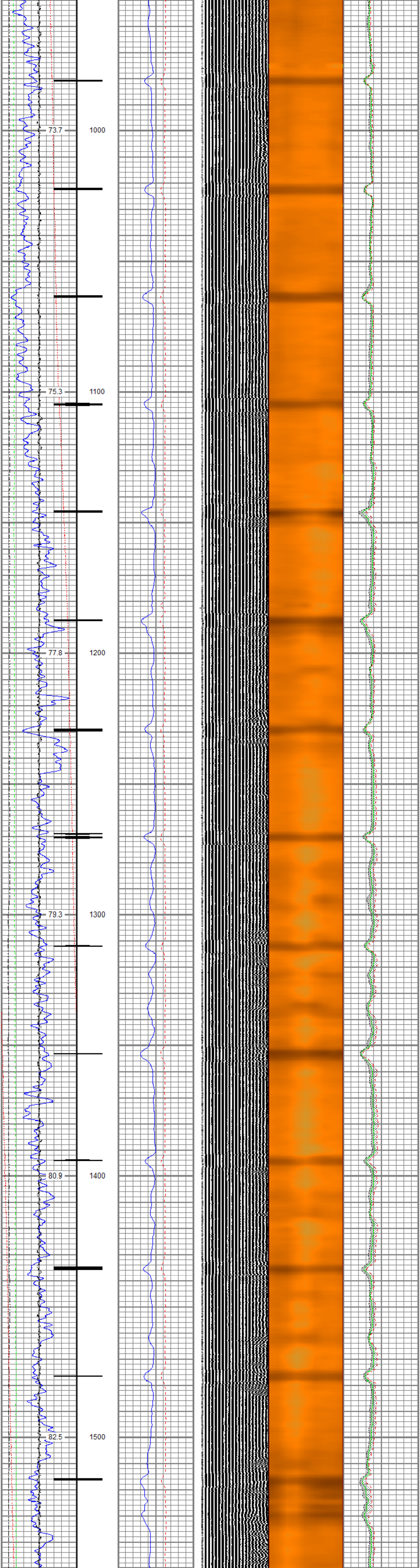
5' Variable Density Log 200 (usec) 1200

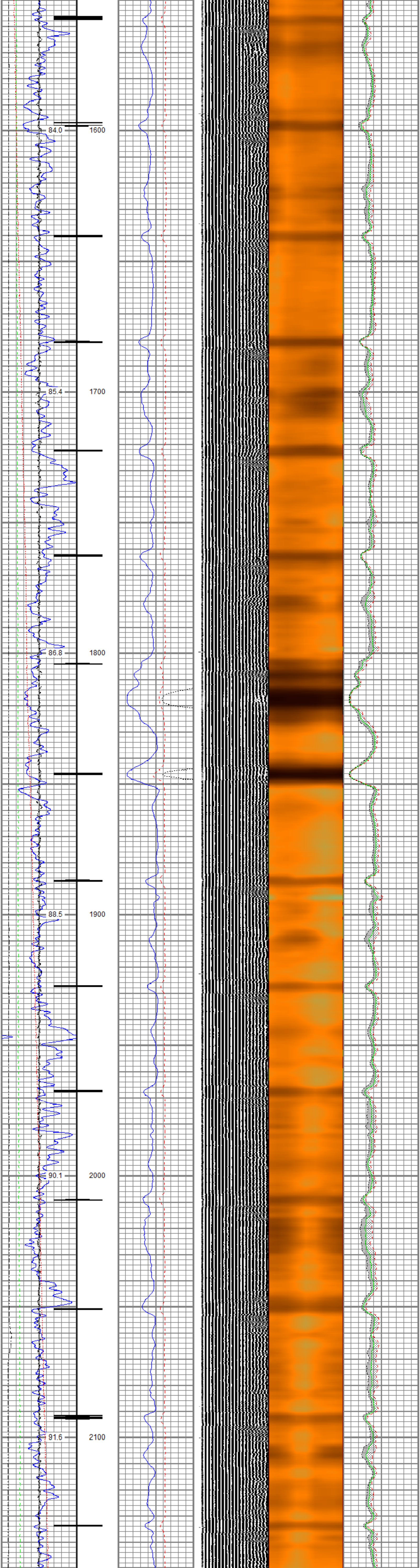
Sector Map

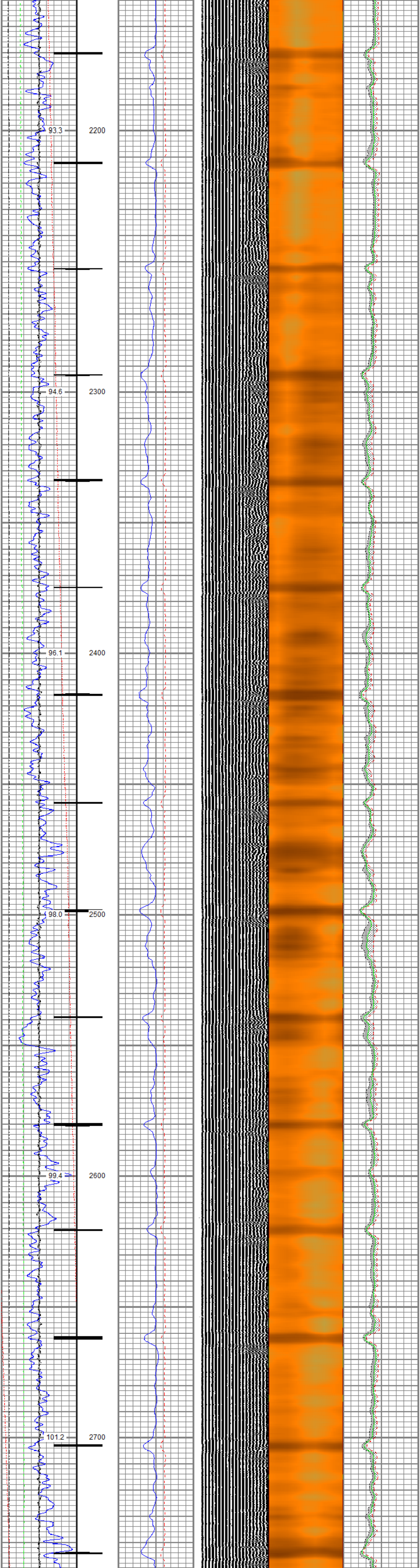
Average Amplitude 0 150
Mimimum Amplitude 0 150
Maximum Amplitude 0 150

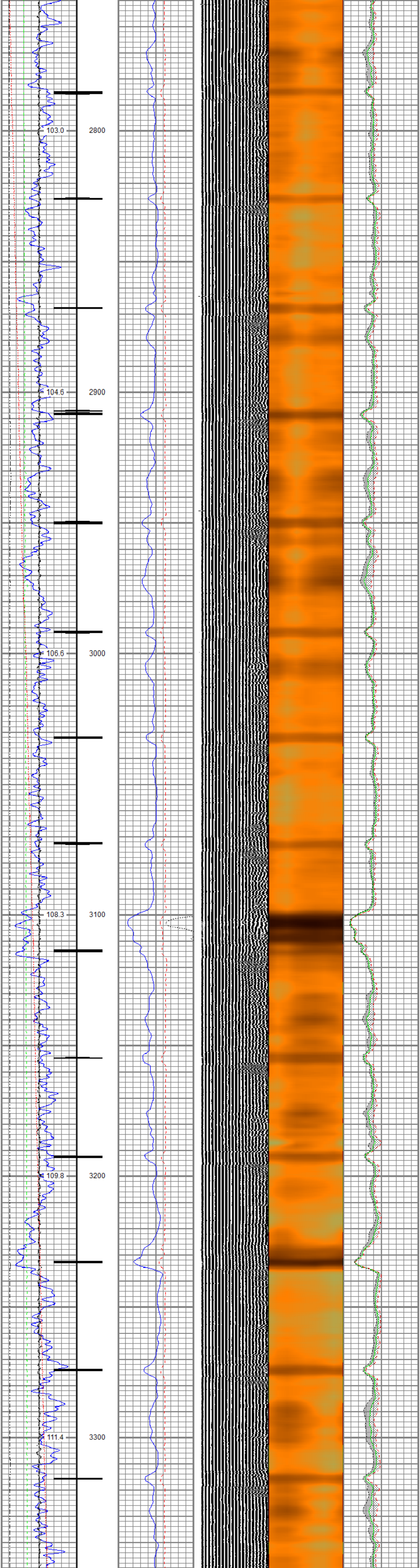


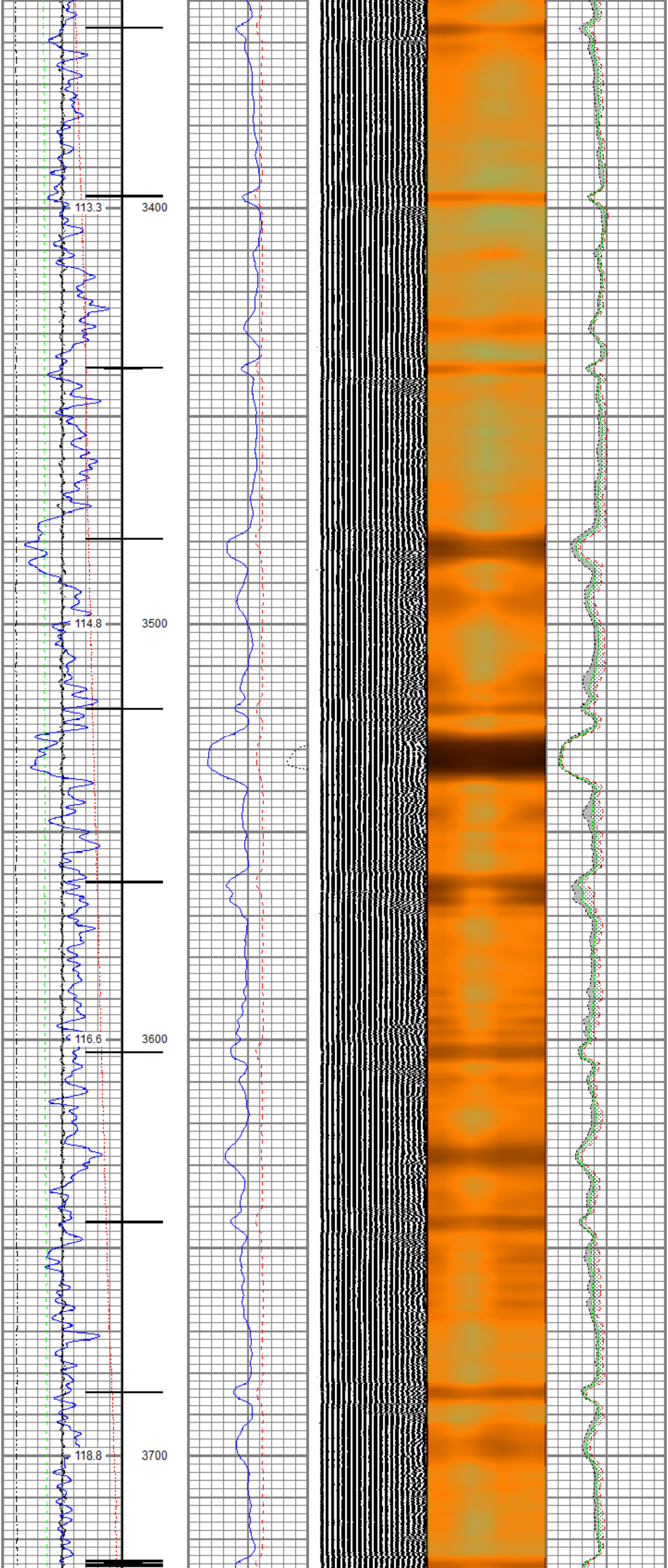


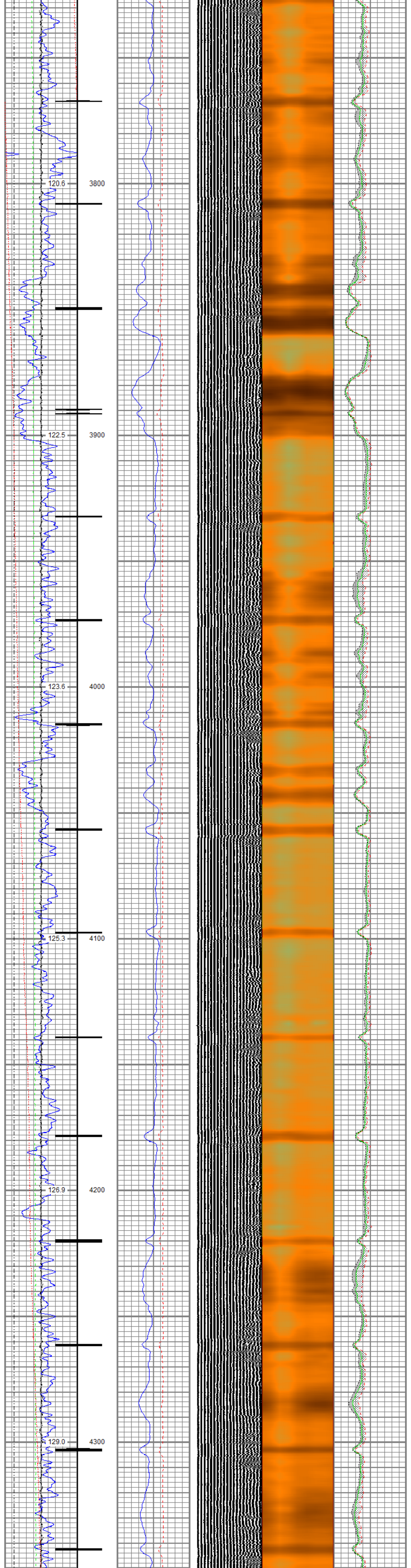








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3900
123.6
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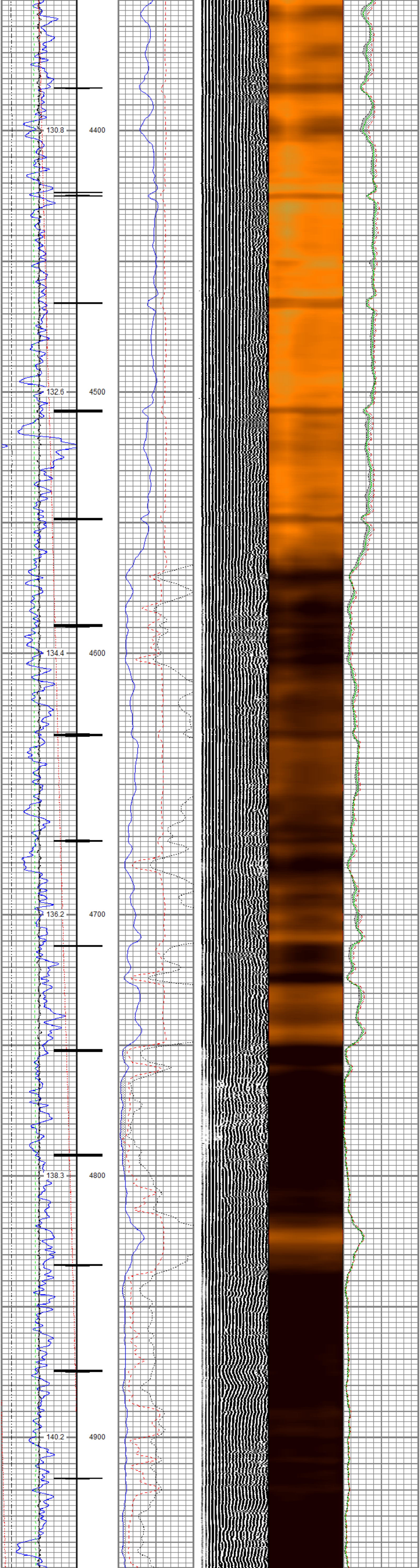
125.3
4100
126.9
4200
129.0
4300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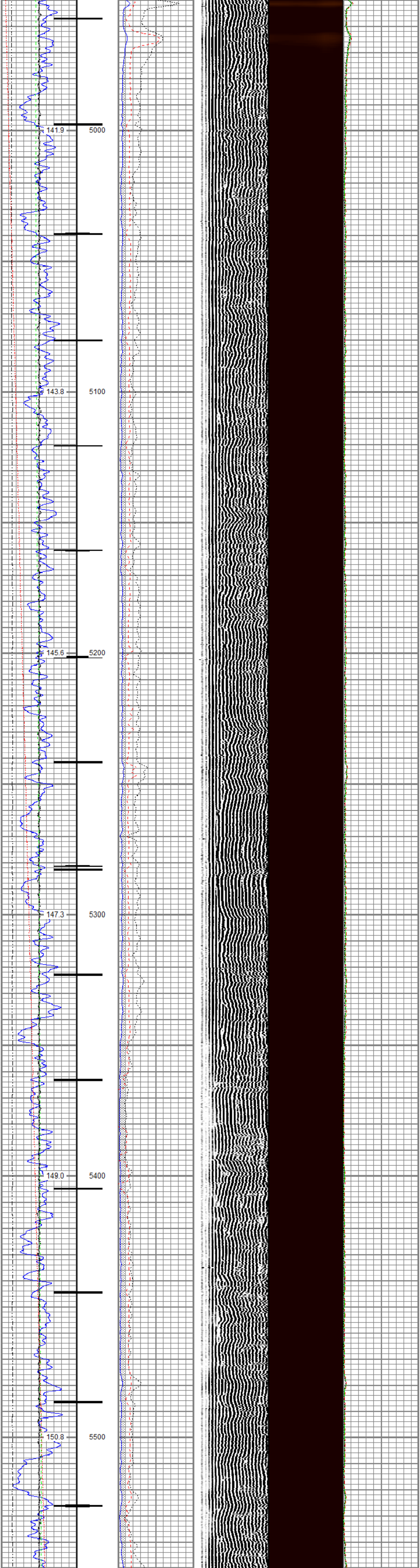
4800
140.2
4900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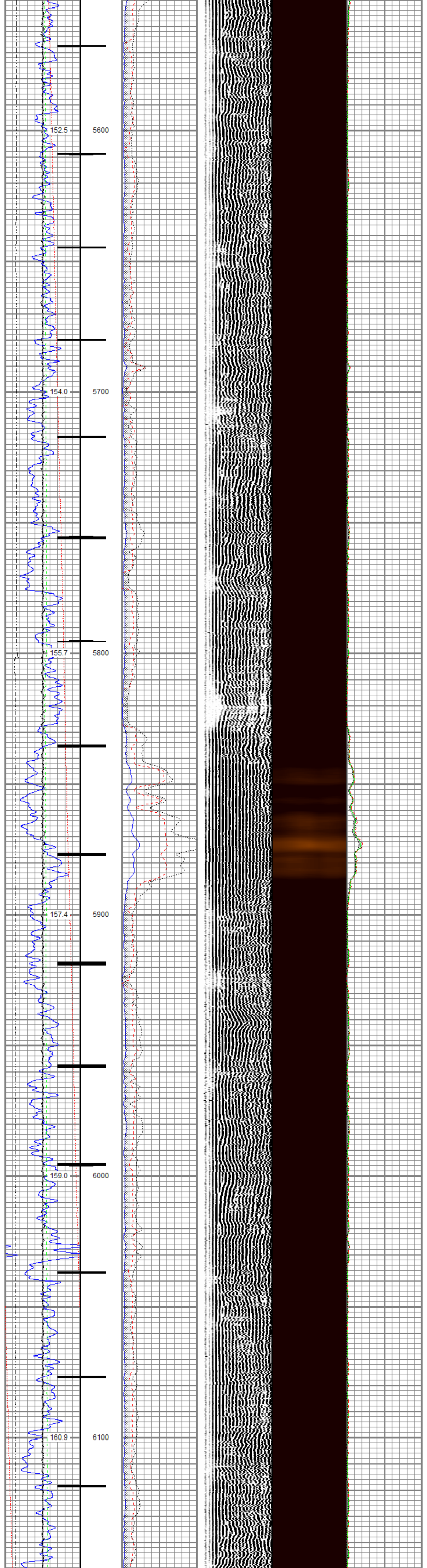
5500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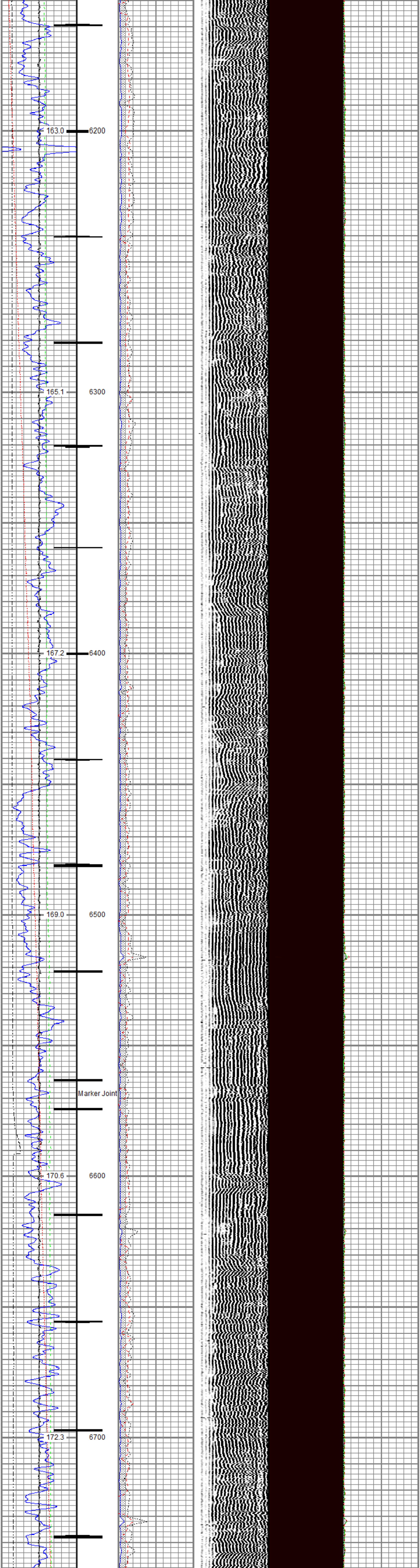
6100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6300
167.2
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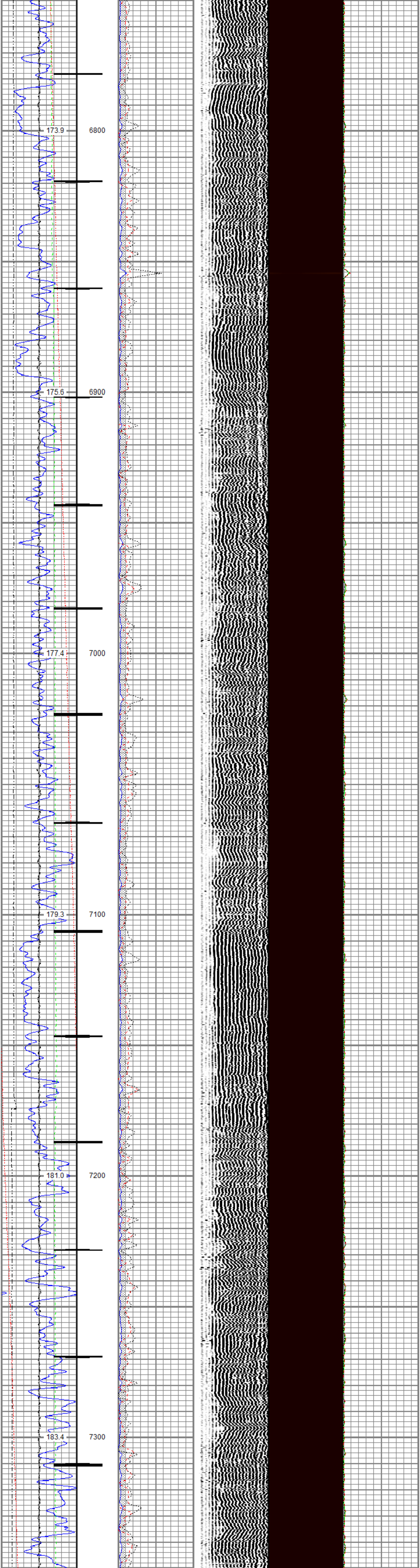
6500
Marker Joint
170.6
6600
172.3
6700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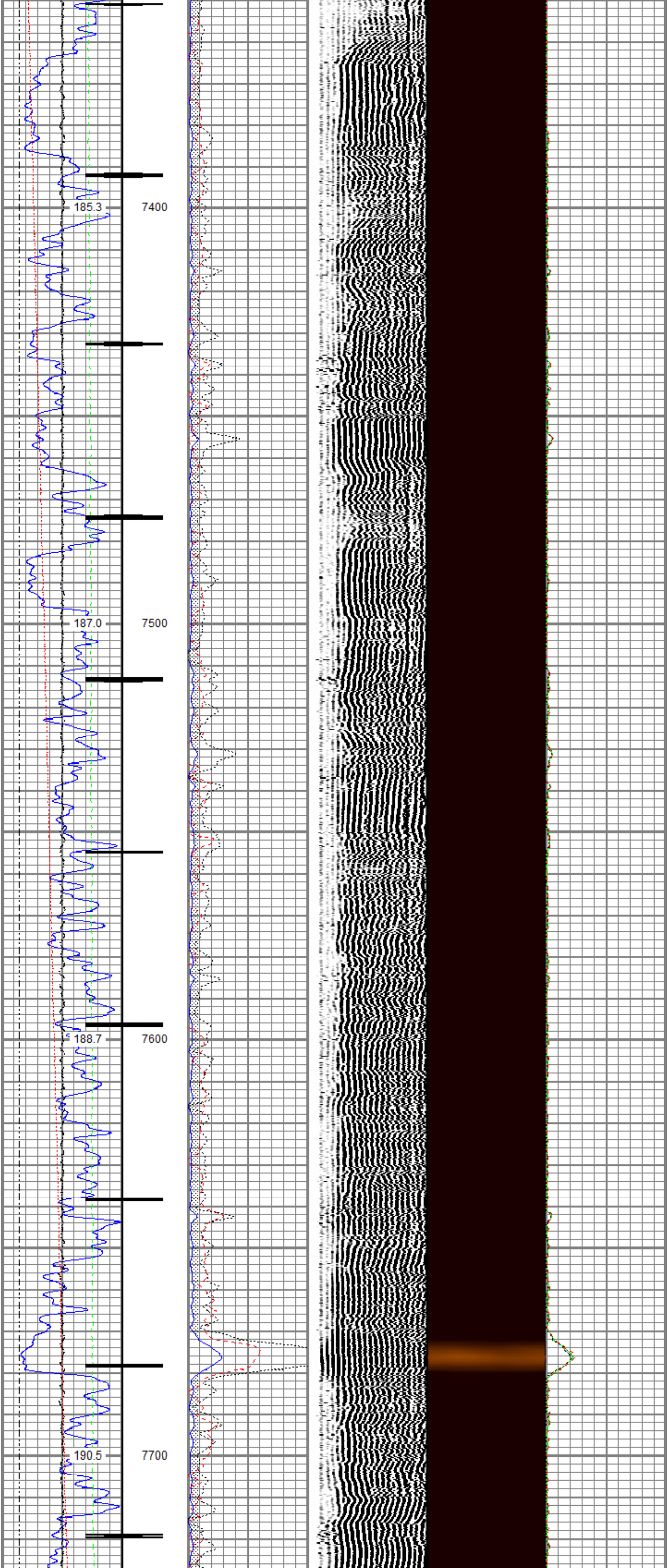
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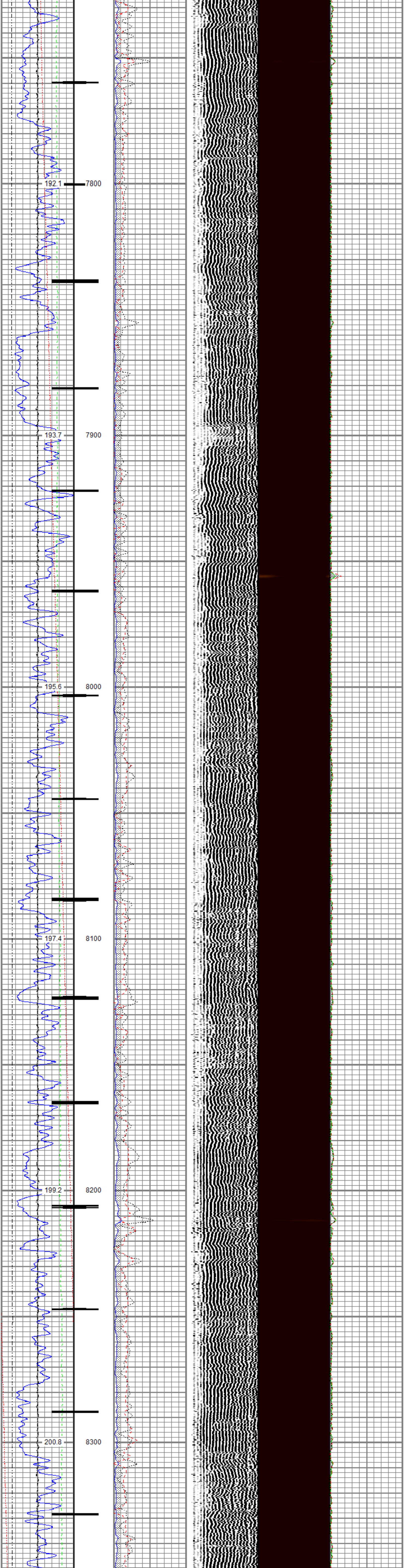

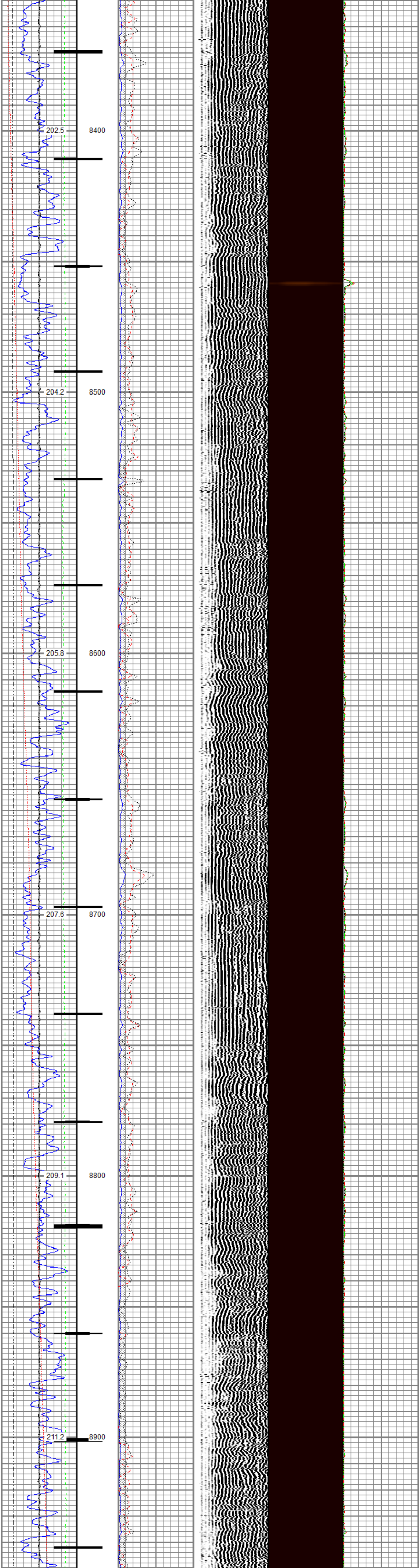

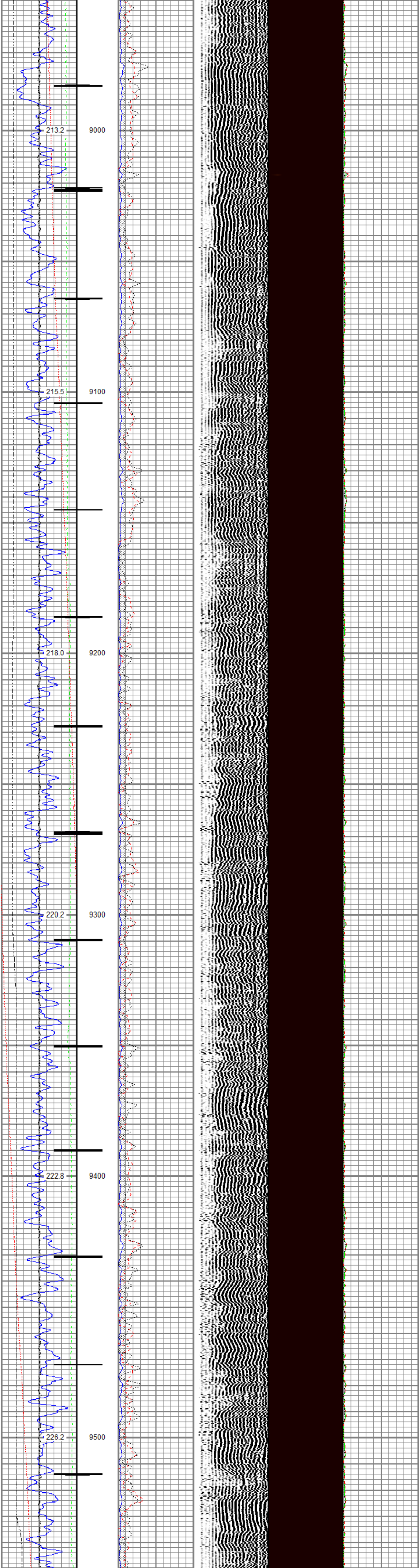

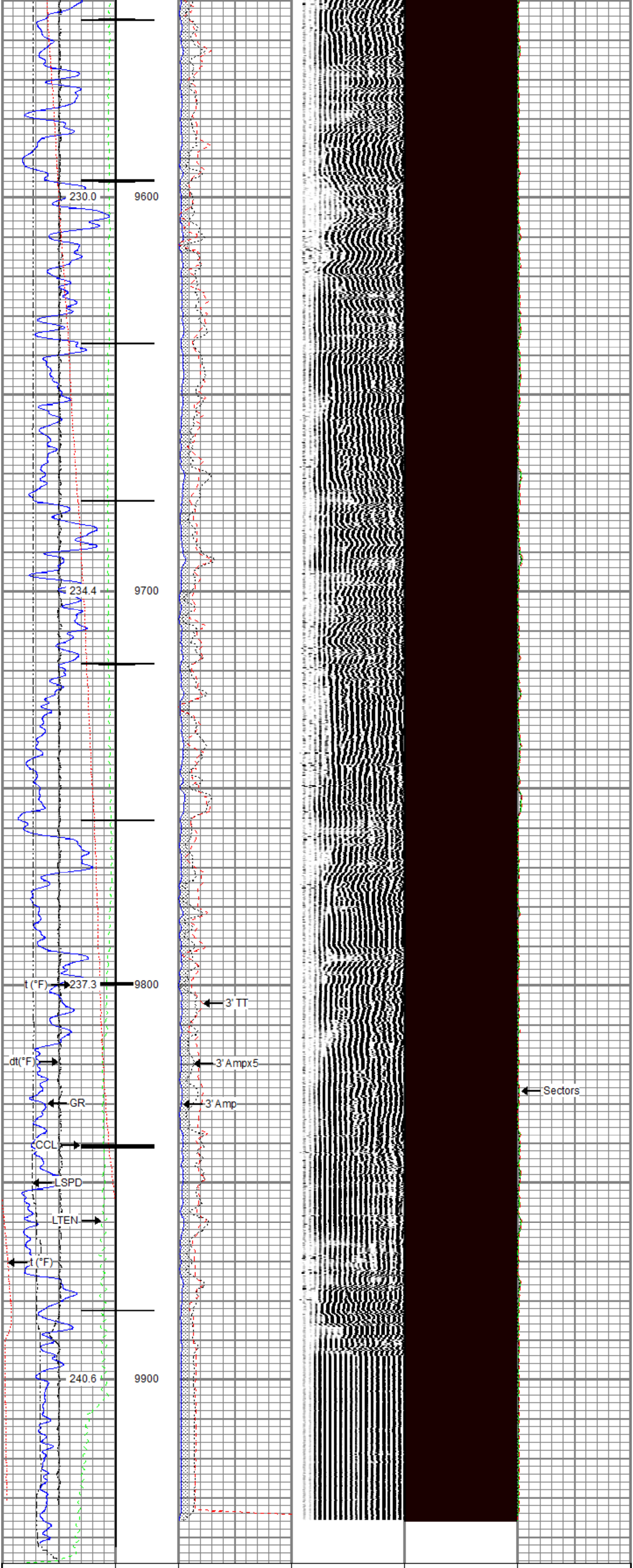

Gamma Ray 0 (GAPI) 200		3' Amplitude 0 (mV) 100	5' Variable Density Log 200 (usec) 1200	Sector Map	Average Amplitude 0 150
Line Speed -150 (ft/min) 150		3' Amplitude x 5 0 (mV) 20			Mimimum Amplitude 0 150
Line Tension 0 (lb) 2000		3' Travel Time 300 (usec) 200			Maximum Amplitude 0 150
Differential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

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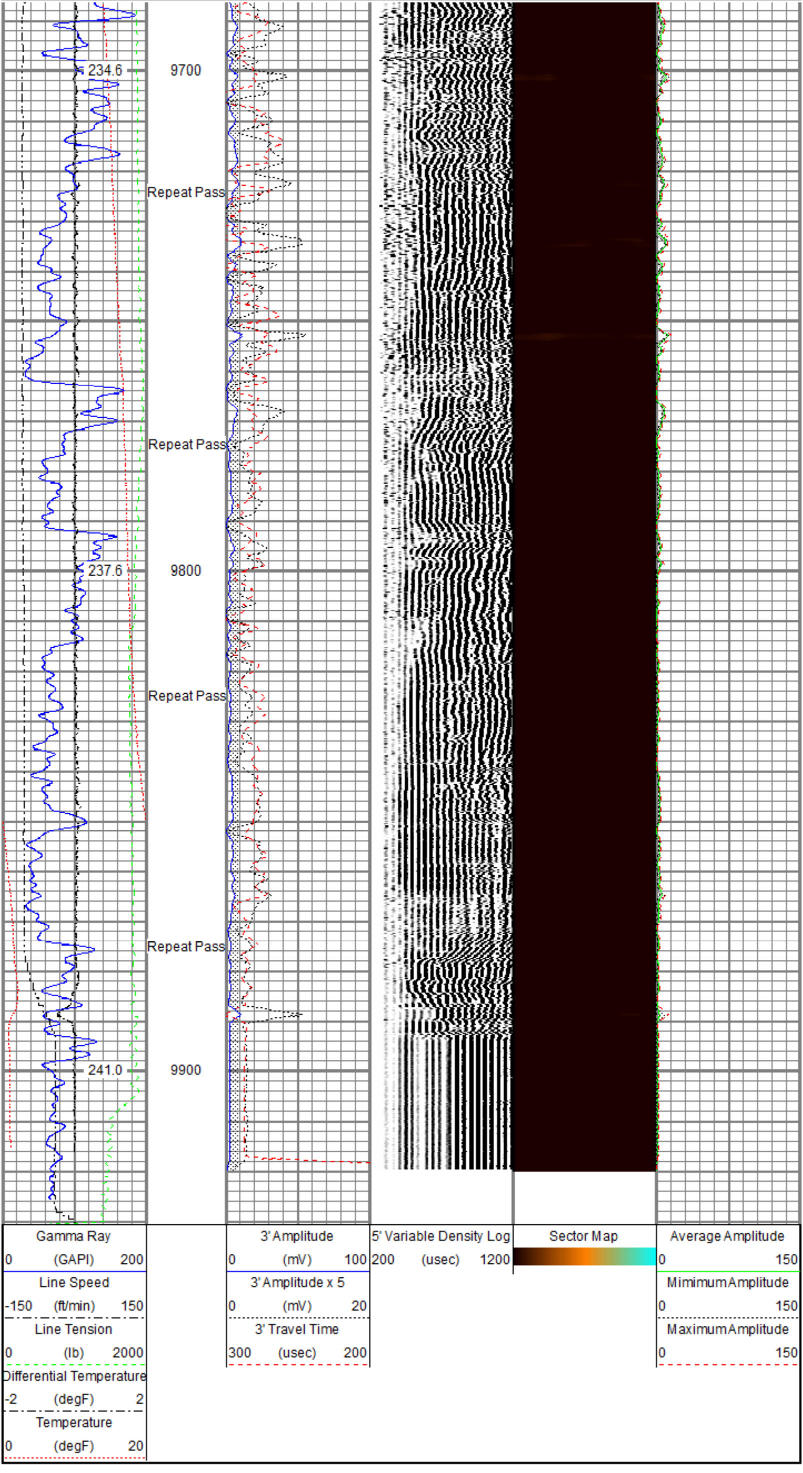
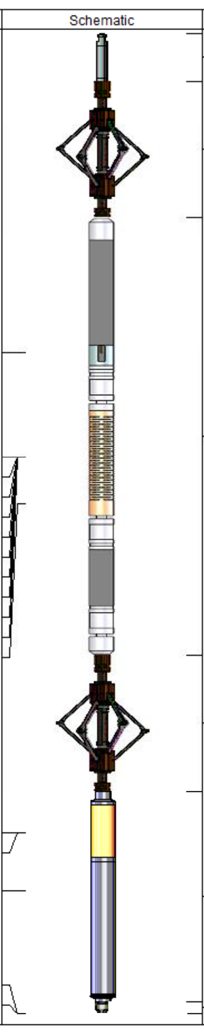
Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	tep\tep_federal pa 33-13_rbl_08-22-20\processed_tep_federal pa 33-13_rbl_08-22-20.db
Dataset Pathname	repeat.2
Presentation Format	ros_radii_tep
Dataset Creation	Sun Aug 23 14:52:38 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					



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 33-13_rbl_08-22-20.db: field/well/run1/main.2
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 33-13_rbl_08-22-20\processed_tep_federal pa 33-13_rbl_08
Dataset Pathname main.2
Dataset Creation Sun Aug 23 14:37:04 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: 244.715 ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.001	0.868	0.800	81.196	92.470	0.913
CAL	-0.005	0.769				
5'	0.003	0.791	0.800	81.196	102.005	0.541
SUM						
S1	0.009	0.781	0.000	100.000	129.606	-1.188
S2	0.005	0.852	0.000	100.000	118.125	-0.594
S3	0.000	0.931	0.000	100.000	107.466	-0.029
S4	0.005	0.960	0.000	100.000	104.753	-0.540
S5	0.009	0.943	0.000	100.000	107.032	-0.939
S6	0.011	0.909	0.000	100.000	111.412	-1.268
S7	0.003	0.830	0.000	100.000	120.863	-0.346
S8	0.001	0.781	0.000	100.000	128.265	-0.157

Air Zero Calibration, performed Sat Aug 22 07:02:24 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 33-13
Field	Parachute
County	Garfield
State	Colorado