RELIANCE OILFIELD SERVICES

Company	TEP Rocky Mountain LLC
Well	Youberg SR 341-12
Field	Rulison
County	Garfield
State	Colorado

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company TEP Rocky Mountain LLC
Well Youberg SR 341-12
Field Rulison
County Garfield State Colorado

Location: API # : 05-045-23299
SEC 12 TWP 7S RGE 94W

Other Services
PDN

				Elevation
Permanent Datum	Ground Level	Elevation	7254'	K.B. 7278'
Log Measured From	Kelly Bushing	24 FT		D.F. 7277'
Drilling Measured From	Kelly Bushing			G.L. 7254'

Date	24-AUG-2017		
Run Number	One		
Depth Driller	9689 FT		
Depth Logger	9617 FT		
Bottom Logged Interval	9608 FT		
Top Log Interval	Surface		
Open Hole Size	8.750"		
Type Fluid	Fresh 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	1:45		
Equipment Number	HD-0359		
Location	Grand Junction		
Recorded By	Z.Fisher		
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	1105 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	9645 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
Ground Level 1 FT below cut pipe
Marker joint from 5518 FT to 5539 FT
Log ran from 9617 FT to Surface
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_youberg_sr 341-12\tep_youberg sr 341-12_rbl_08-24-17.db
Dataset Pathname	Main.1
Presentation Format	ros_rbt004_tep
Dataset Creation	Thu Aug 24 12:22:00 2017
Charted by	Depth in Feet scaled 1:240

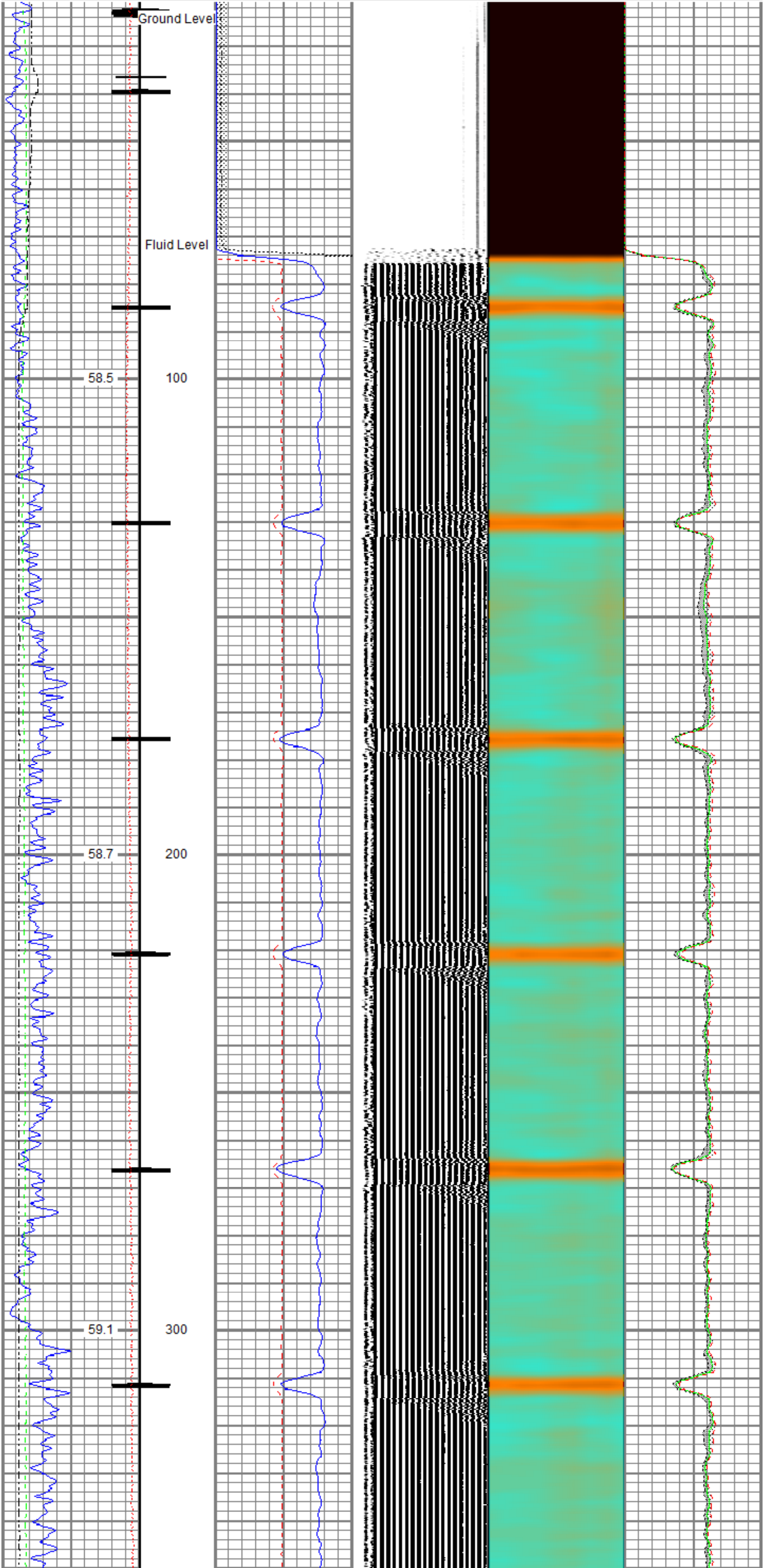
Gamma Ray
0 (GAPI) 200
Casing Collar Locator
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Temperature
0 (degF) 20

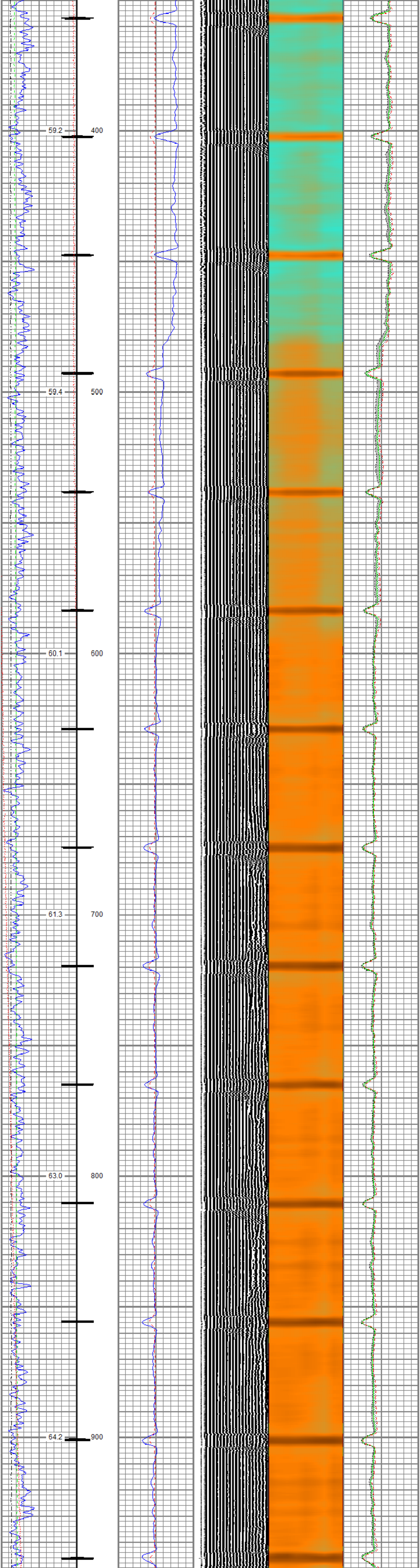
3' Amplitude
0 (mV) 100
3' Amplitude x 5
0 (mV) 20
3' Travel Time
300 (usec) 200

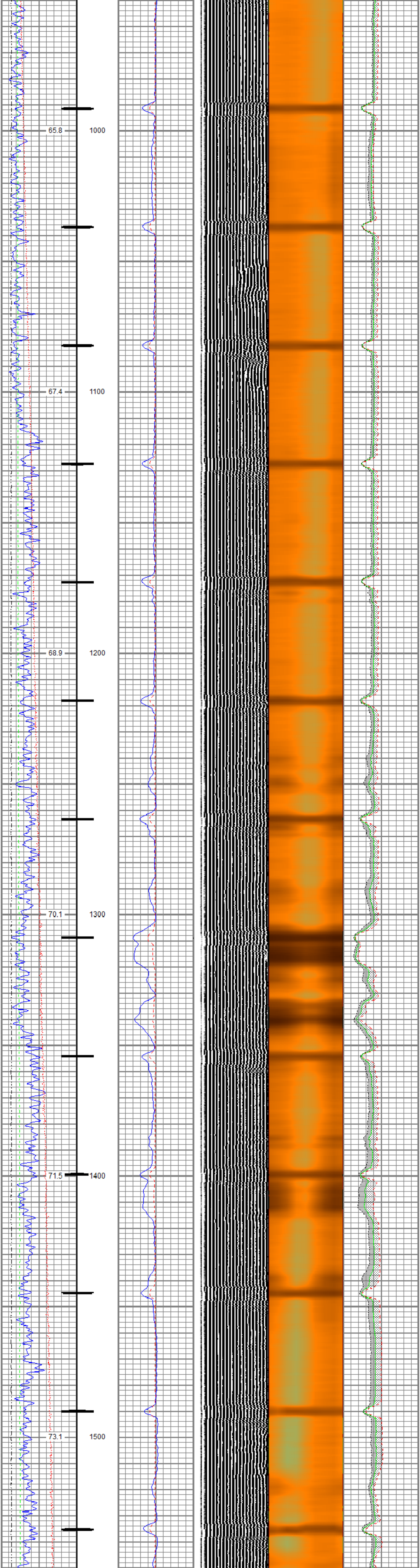
5' Variable Density Log
200 1200

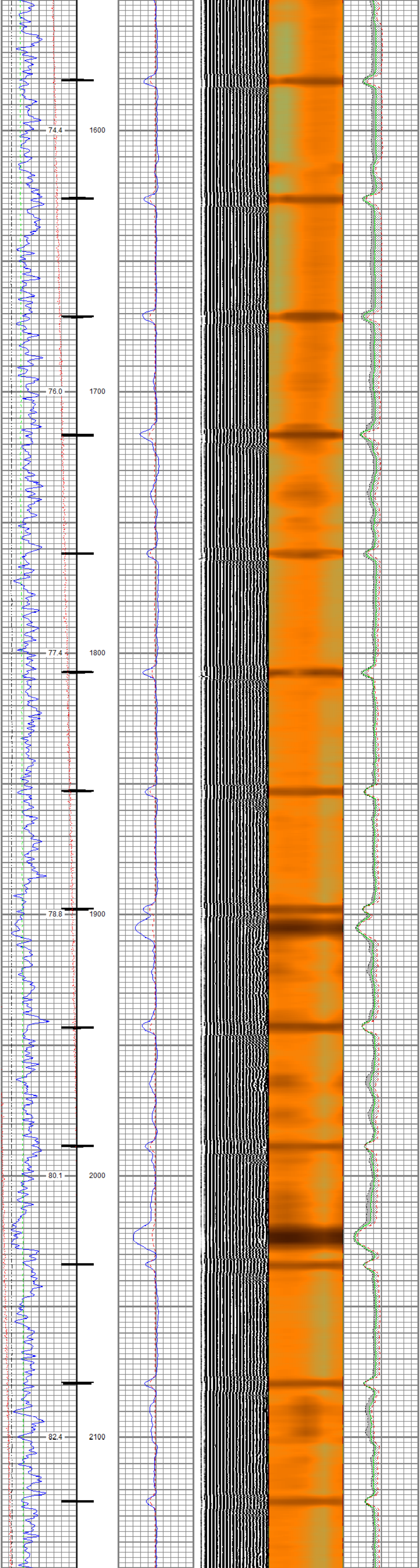
Sector Map
10 110

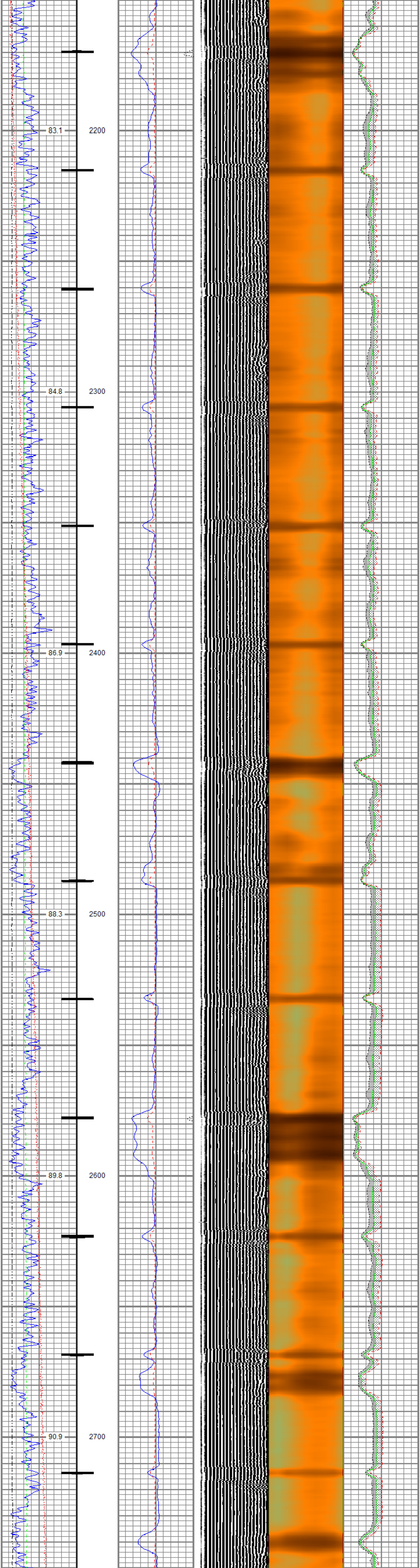
Average Amplitude
0 150
Minimum Amplitude
0 150
Maximum Amplitude
0 150

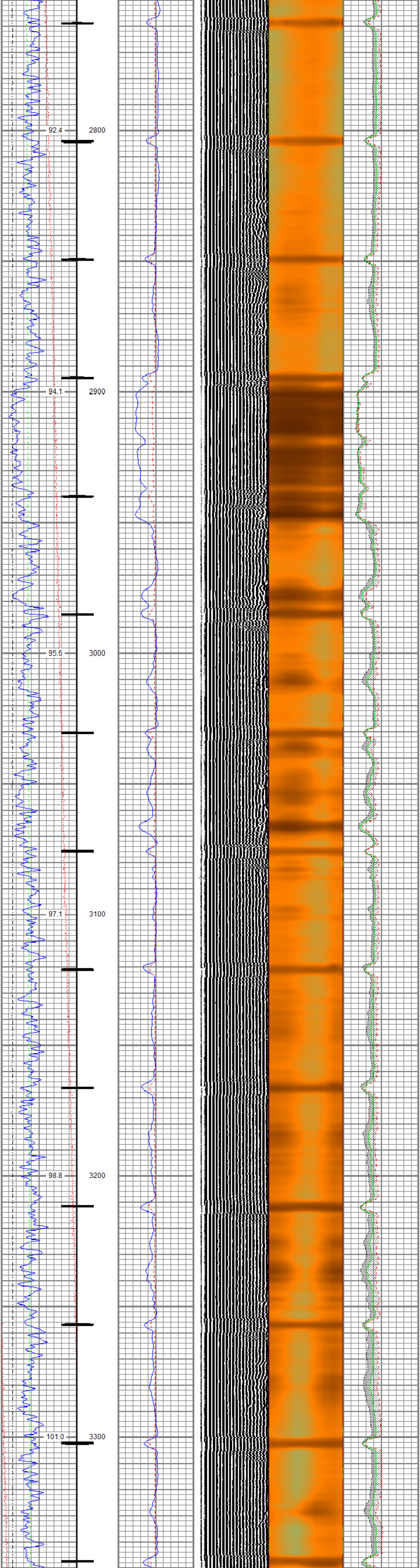


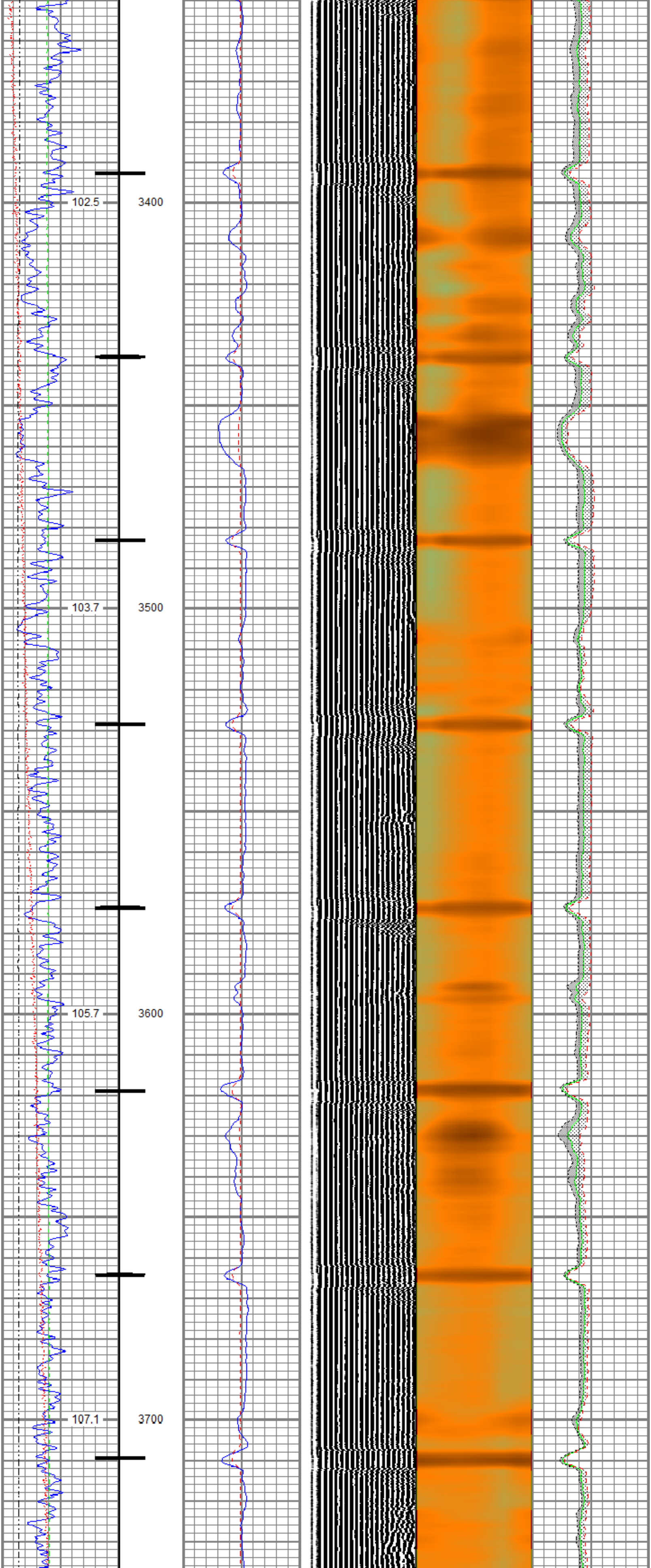


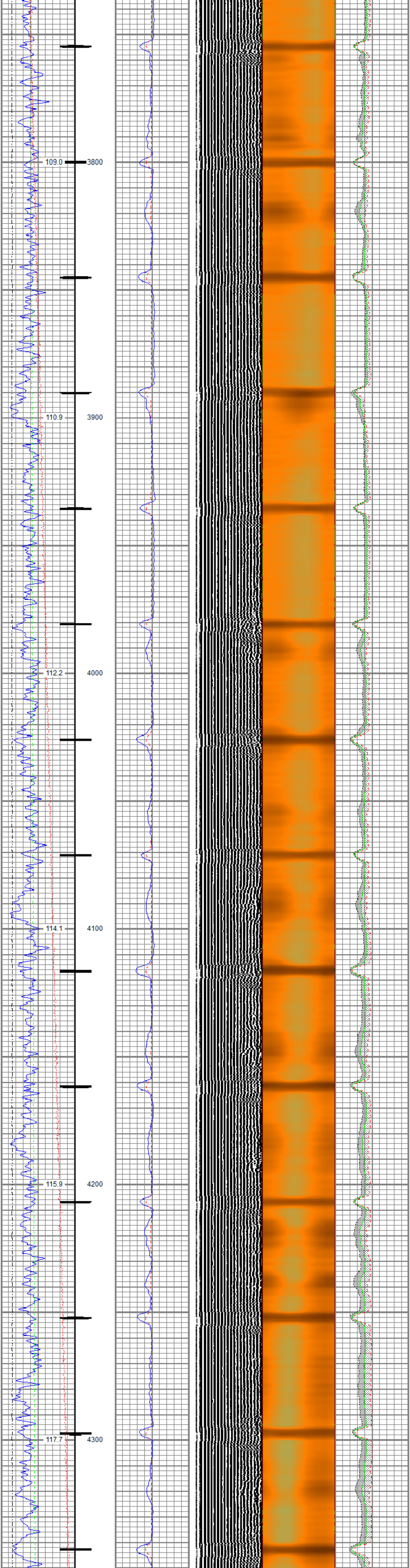








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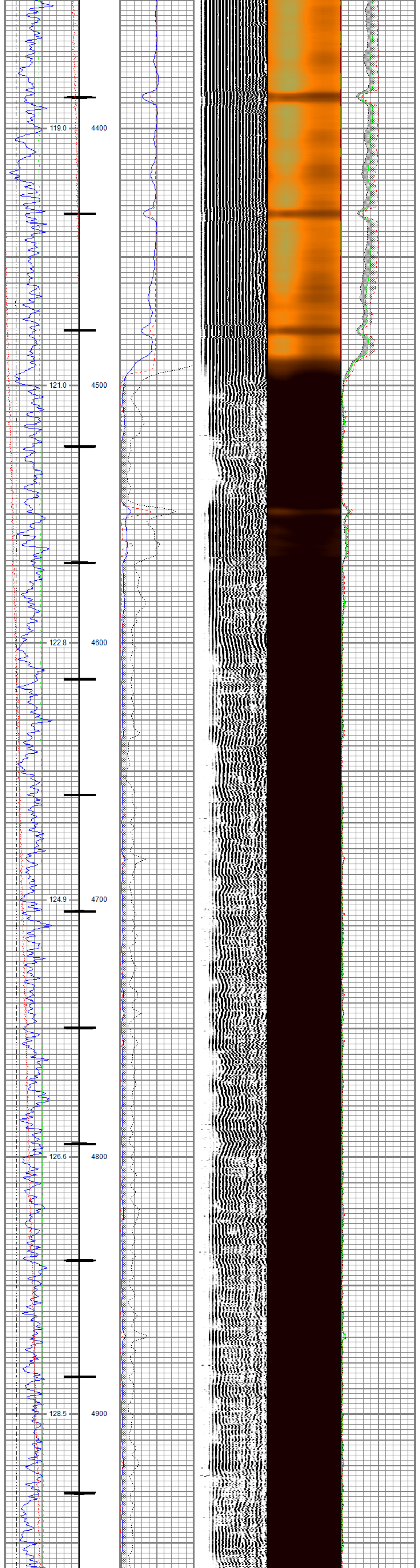
110.9
3900
112.2
4000
114.1
4100
115.9
4200
117.7
4300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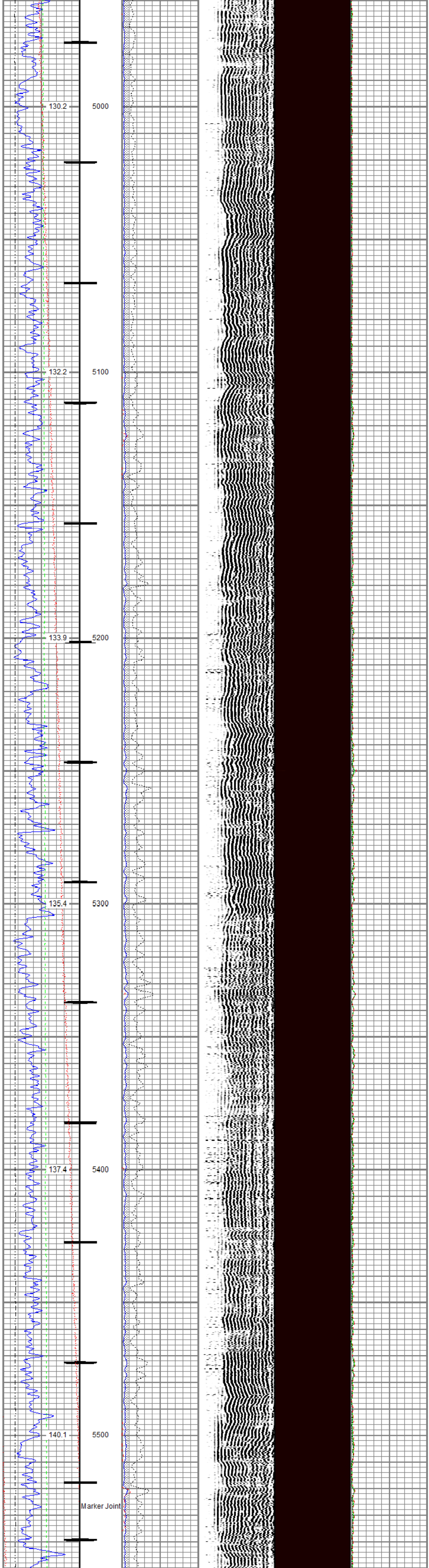
121.0
4500
122.8
4600
124.9
4700
126.6
4800
128.5
4900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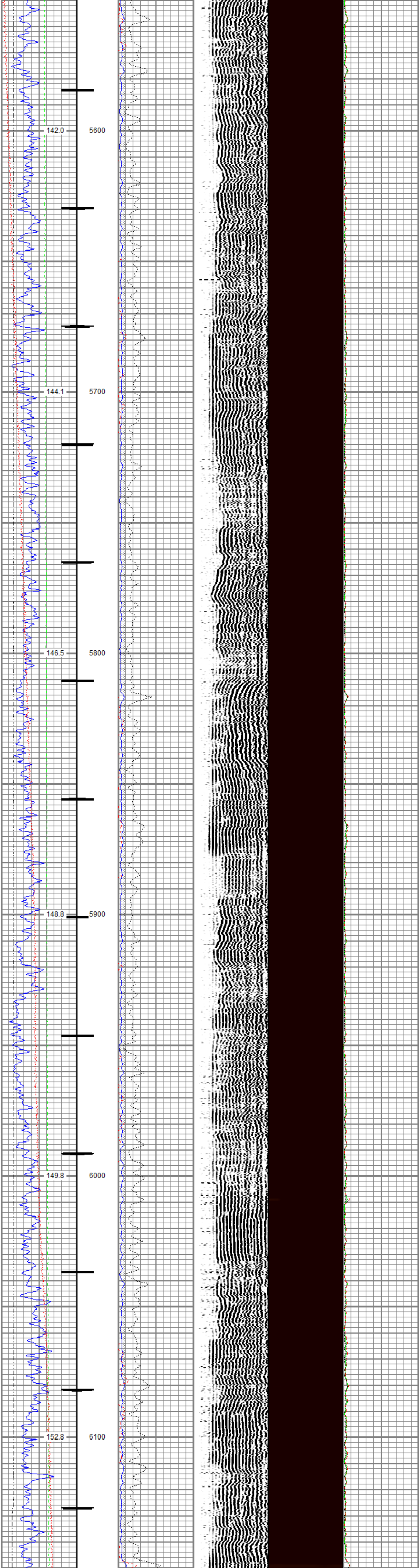
132.2
5100
133.9
5200
135.4
5300
137.4
5400
140.1
5500
Marker Joint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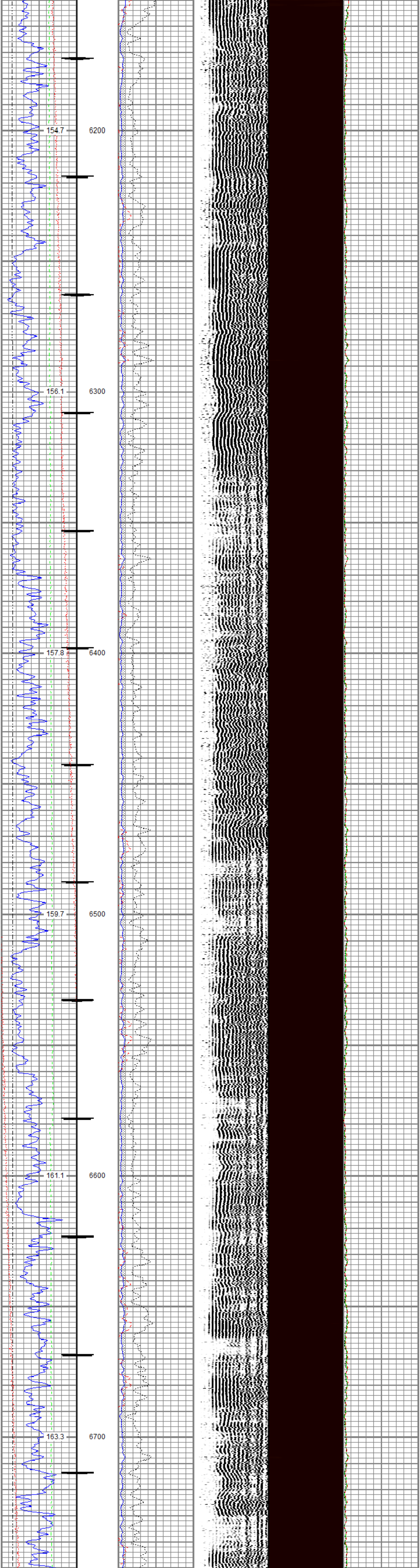
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6400
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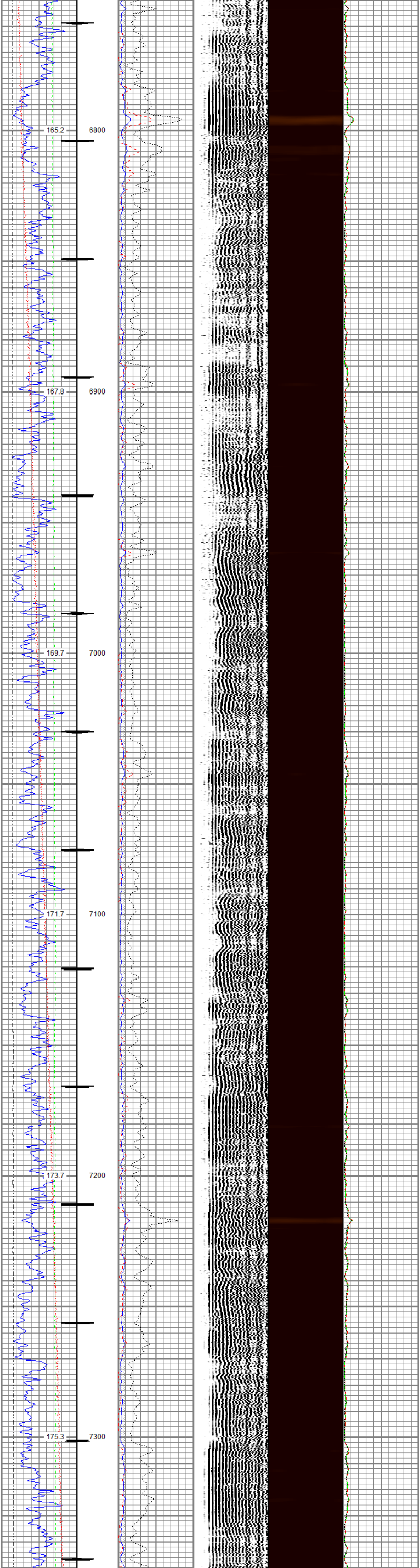
161.1
6600
163.3
6700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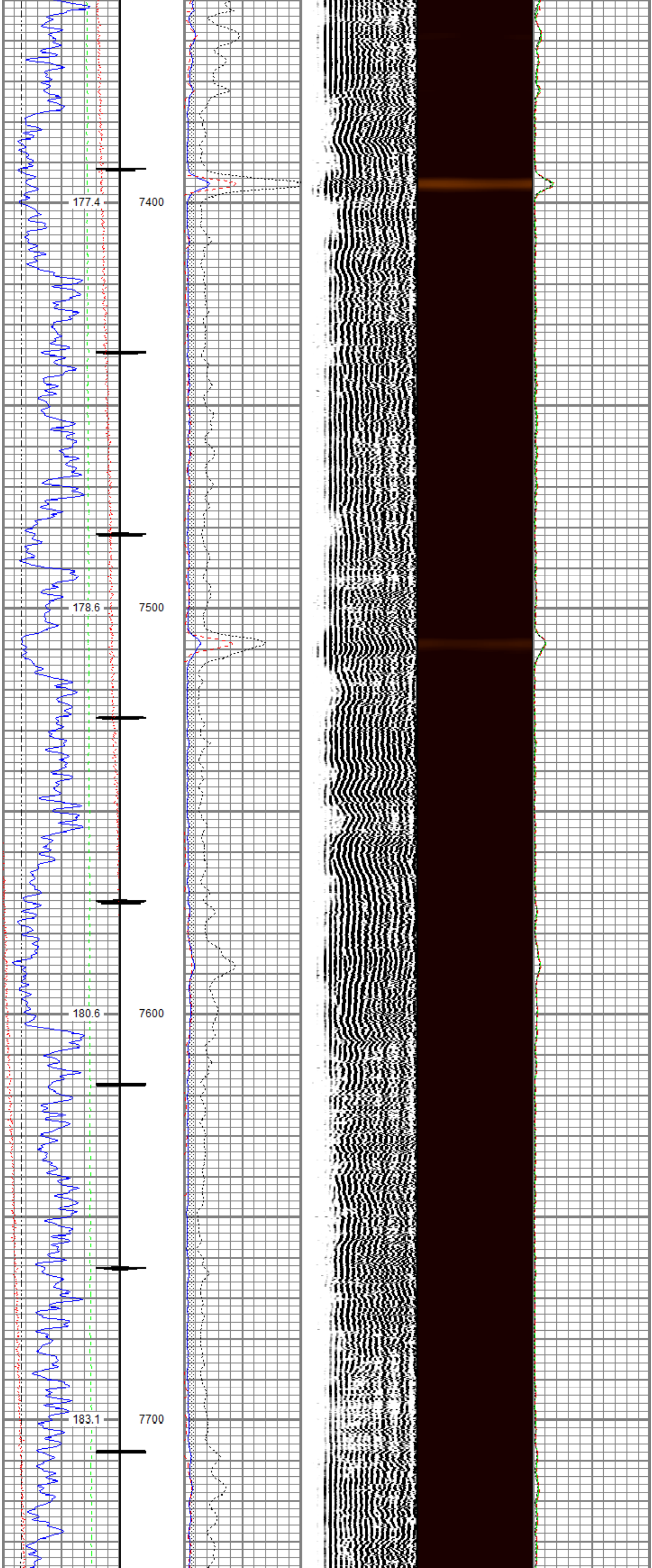
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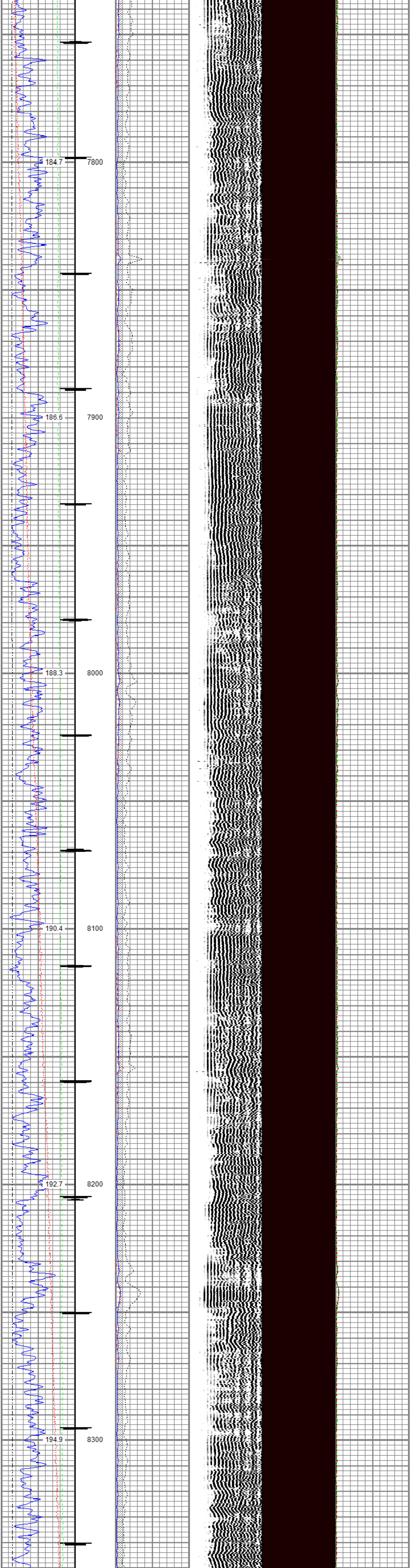
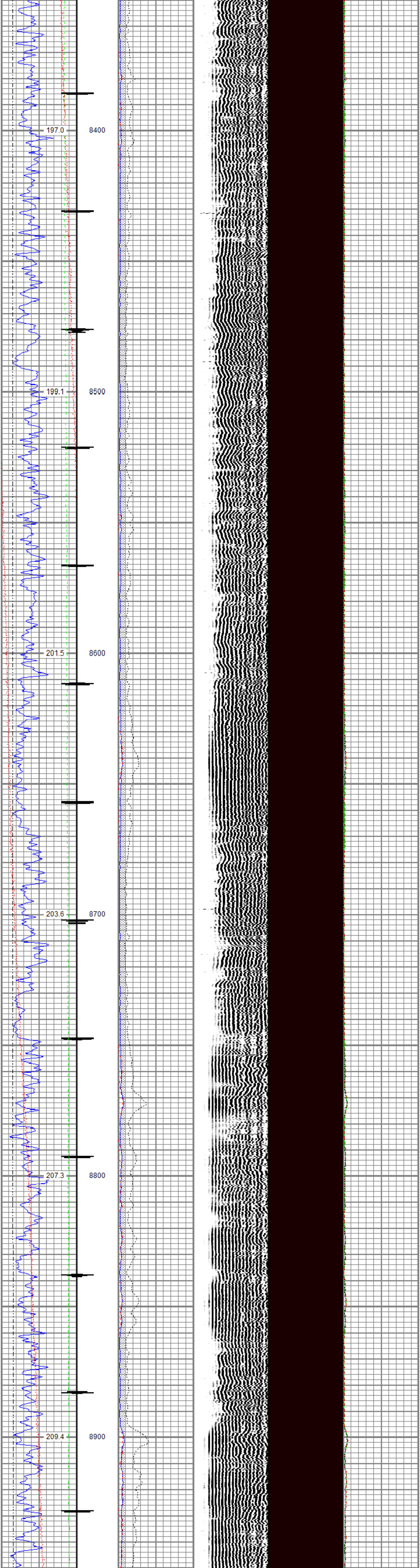
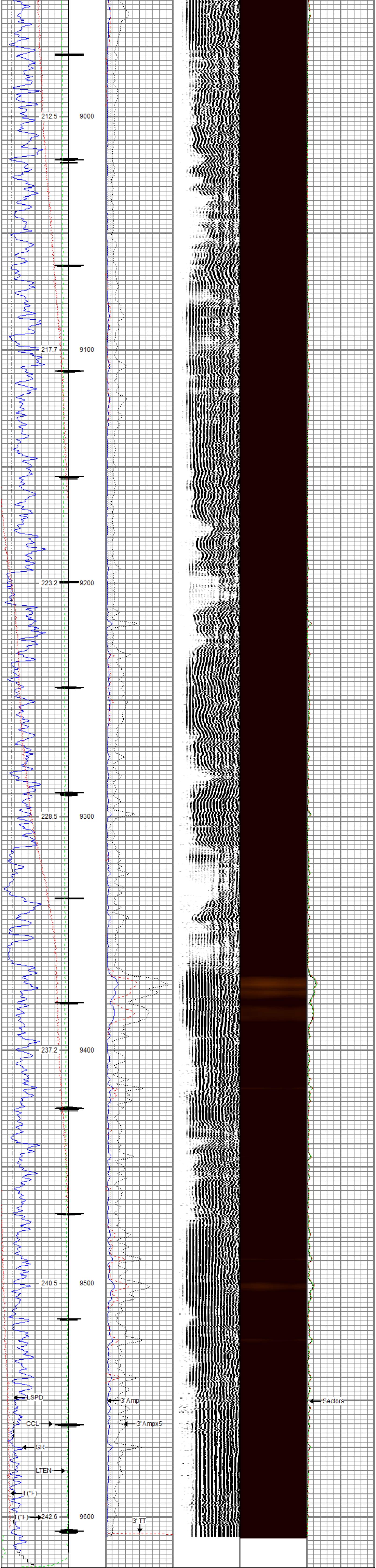






Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200	0 (mV) 100	200 1200	10 110	0 150
Casing Collar Locator	3' Amplitude x 5			MimimumAmplitude
Line Speed	0 (mV) 20			0 150
-150 (ft/min) 150	3' Travel Time			MaximumAmplitude
Line Tension	300 (usec) 200			0 150
0 (lb)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

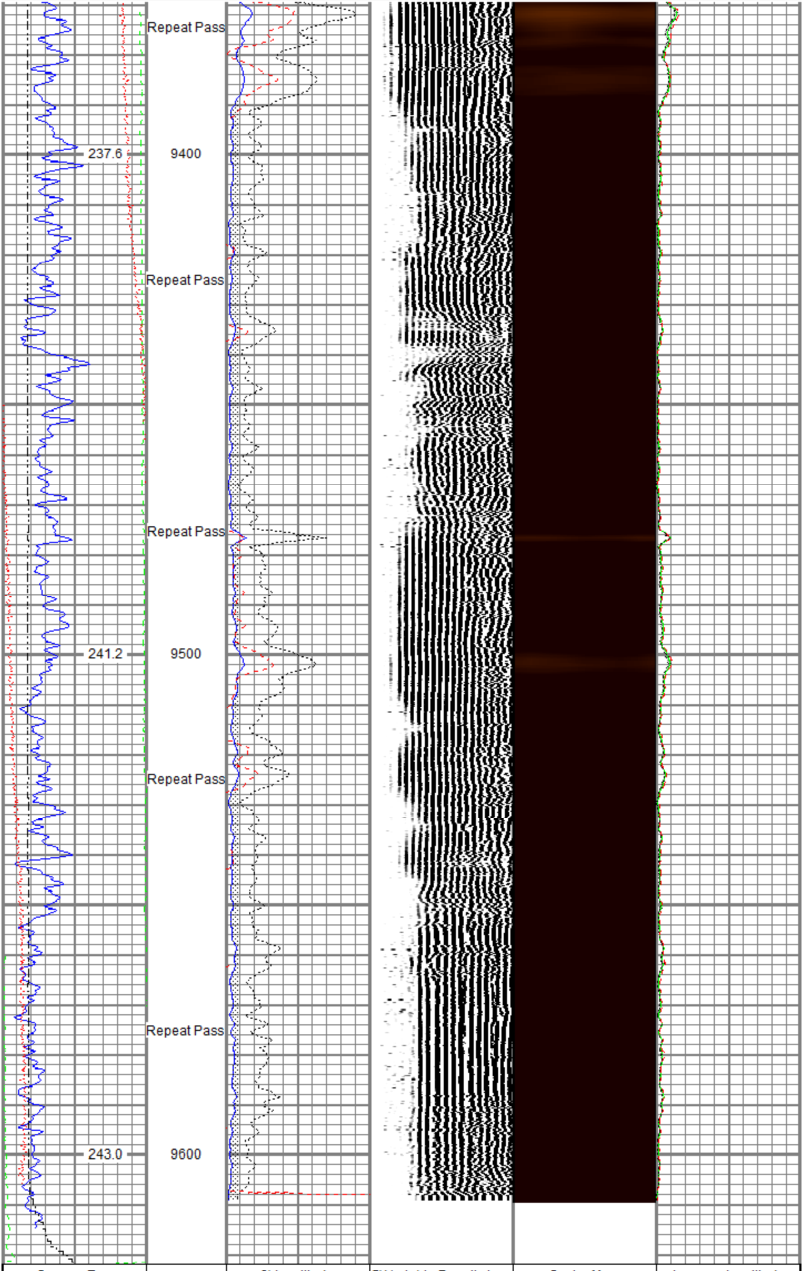
RELIANCE OILFIELD SERVICES

Repeat Pass

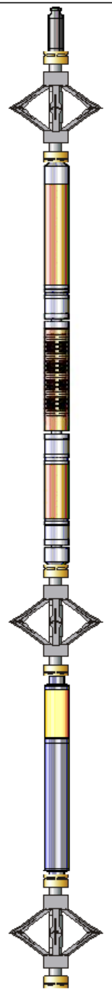
Recorded With 0 PSI Surface Induced Pressure

Database File	tep_youberg_sr 341-12\tep_youberg sr 341-12_rbl_08-24-17.db
Dataset Pathname	Repeat.1
Presentation Format	ros_rbt004_tep
Dataset Creation	Thu Aug 24 12:34:48 2017
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 1200	10 110	0 150
Line Speed	3' Amplitude x 5			MimimumAmplitude
-150 (ft/min) 150	0 (mV) 20			0 150
Line Tension	3' Travel Time			MaximumAmplitude
0 (lb) 2000	300 (usec) 200			0 150
Temperature				
0 (degF) 20				



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

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			Titan_Electric_Cable_Heads-Titan_1-1 Electric Cable Head with 1" Fishing Neck	1/11.03	1.69	5.40
			DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
Temp	16.05					
			Probe_RADII-C-P_RBT_2750 (FW1305 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	-099.19	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 (FW1 Probe 2-3/4" Digital CCL / Gamma Ray Combined	214.541)	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 341-12_rbl_08-24-17.db: field/well/run1/Main.1
Total length:	22.40 ft
Total weight:	261.40 lb
O.D.:	2.75 in

Calibration Report

Database File	d:\warrior\data\tep_youberg_sr 341-12\tep_youberg sr 341-12_rbl_08-24-17.db
Dataset Pathname	Main.1
Dataset Creation	Thu Aug 24 12:22:00 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:	32.810	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.007	0.711	0.800	81.196	112.070	1.548
CAL	0.756	0.760				
5'	-0.010	0.624	0.800	81.196	126.789	2.051
SUM						
S1	-0.009	0.728	0.000	100.000	135.620	1.260
S2	-0.006	0.712	0.000	100.000	139.208	0.860
S3	-0.006	0.722	0.000	100.000	137.402	0.863
S4	-0.007	0.737	0.000	100.000	134.457	0.918
S5	-0.007	0.766	0.000	100.000	129.278	0.908
S6	-0.007	0.774	0.000	100.000	128.115	0.900
S7	-0.007	0.749	0.000	100.000	132.391	0.877
S8	-0.007	0.754	0.000	100.000	131.488	0.871

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	0.756	0.760	1.000	0.000

Air Zero Calibration, performed Thu Aug 24 00:51:46 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

RELIANCE
OILFIELD SERVICES

Company	TEP Rocky Mountain LLC
Well	Youberg SR 341-12
Field	Rulison
County	Garfield
State	Colorado