RELIANCE OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company TEP Rocky Mountain LLC
Well Chevron TR 321-23-597
Field Trail Ridge
County Garfield
State Colorado

Company	TEP Rocky Mountain LLC		
Well	Chevron TR 321-23-597		
Field	Trail Ridge		
County	Garfield	State	Colorado

Location: API # : 05-045-23463

2503' FNL & 1431' FEL SWNE

SEC 23 TWP 5S RGE 97W

Other Services

Permanent Datum	Ground Level	Elevation	8545.2'
Log Measured From	Kelly Bushing	24 FT	
Drilling Measured From	Kelly Bushing		

Elevation
K.B. 8569.2'
D.F. 8568.2'
G.L. 8545.2'

Date	04-SEPT-2017		
Run Number	One		
Depth Driller	10686 FT		
Depth Logger	10616 FT		
Bottom Logged Interval	10616 FT		
Top Log Interval	Surface		
Open Hole Size	8.750"		
Type Fluid	Fresh Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	264°F		
Estimated Cement Top	See Log		
Time Well Ready	ROA		
Time Logger on Bottom	18:30		
Equipment Number	HD-359		
Location	Grand Junction, CO		
Recorded By	A.Rivera		
Witnessed By	J. Skalla		

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	32.3	H-40	Surface	3040 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	10643FT
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 at 6645 FT - 6667 FT
Log ran from 10616 to Surface
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!!

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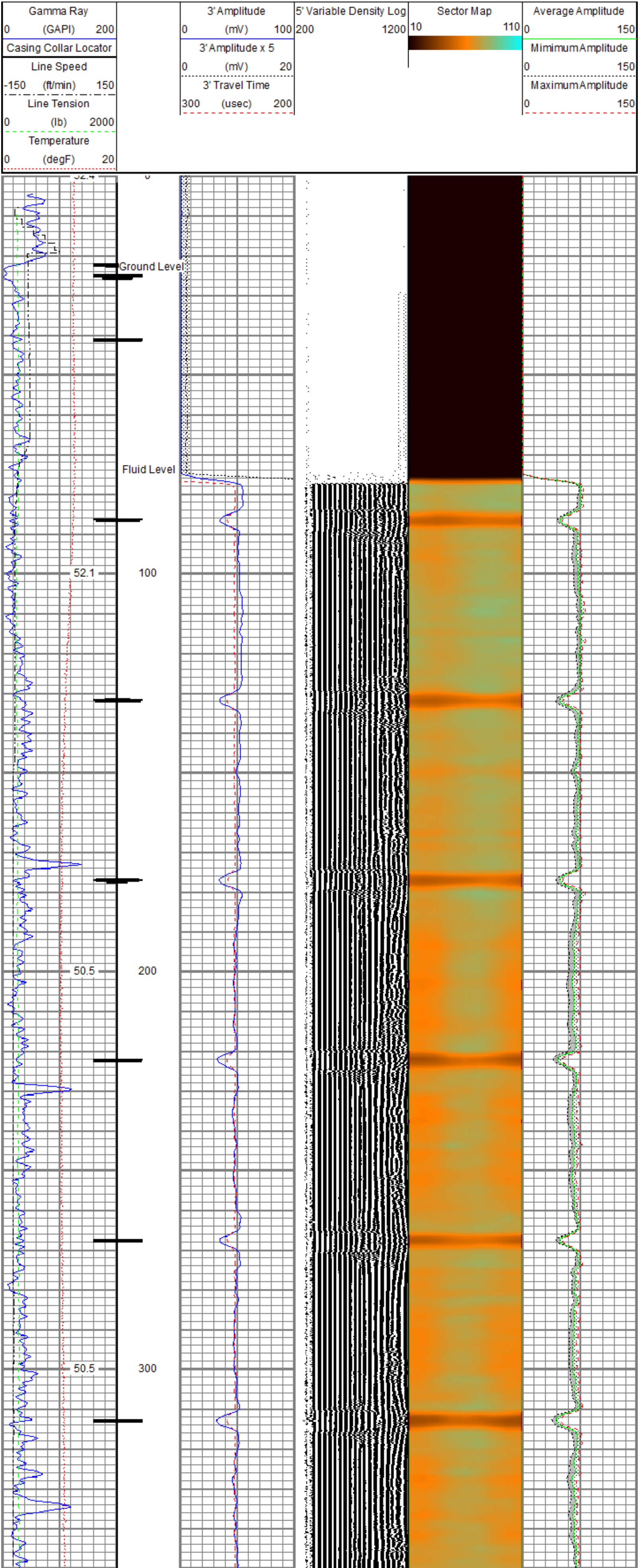
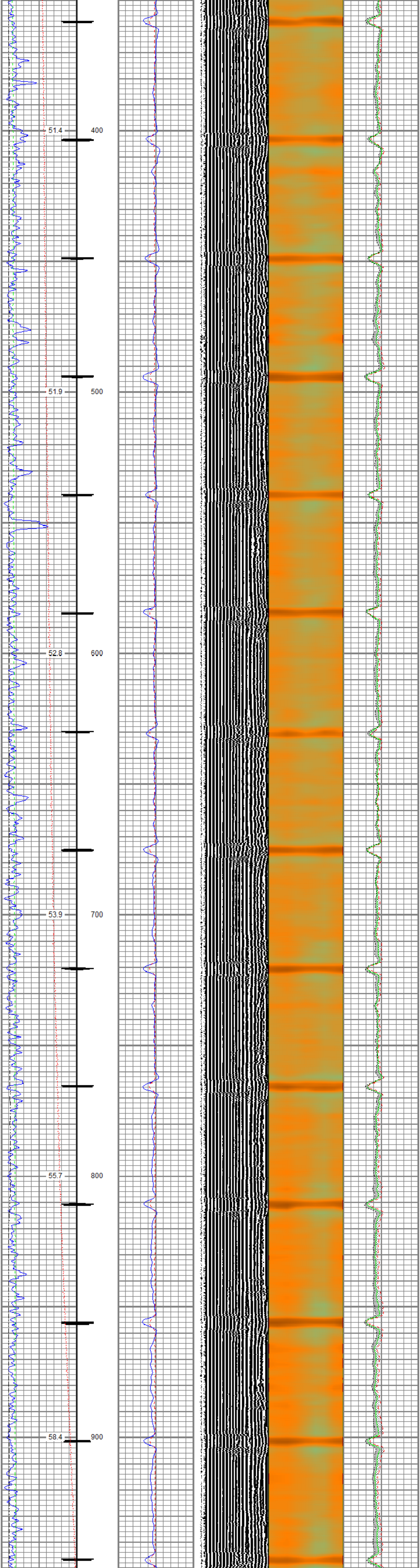
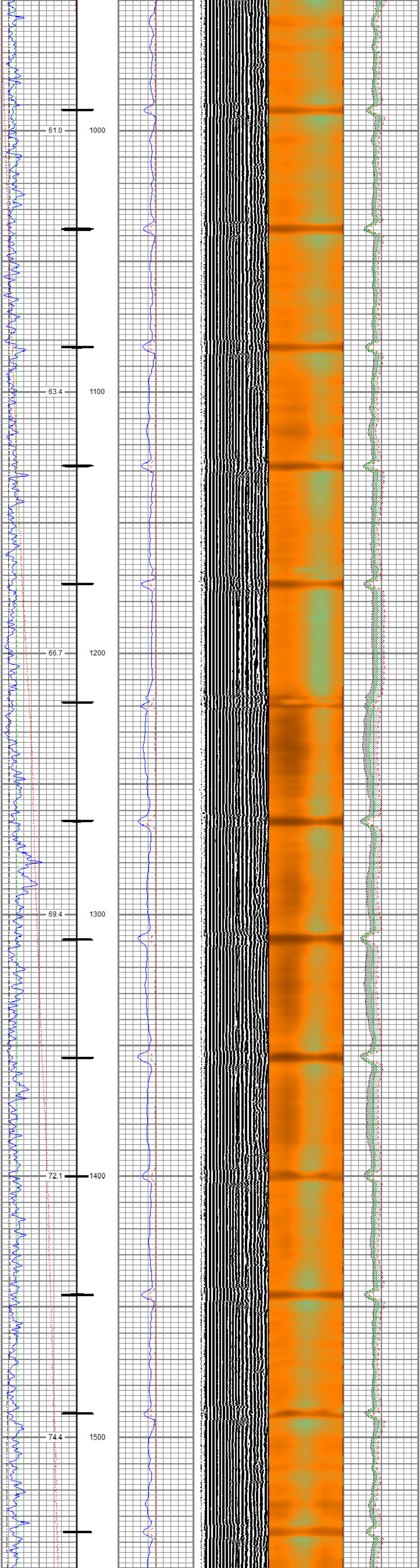
Main Pass

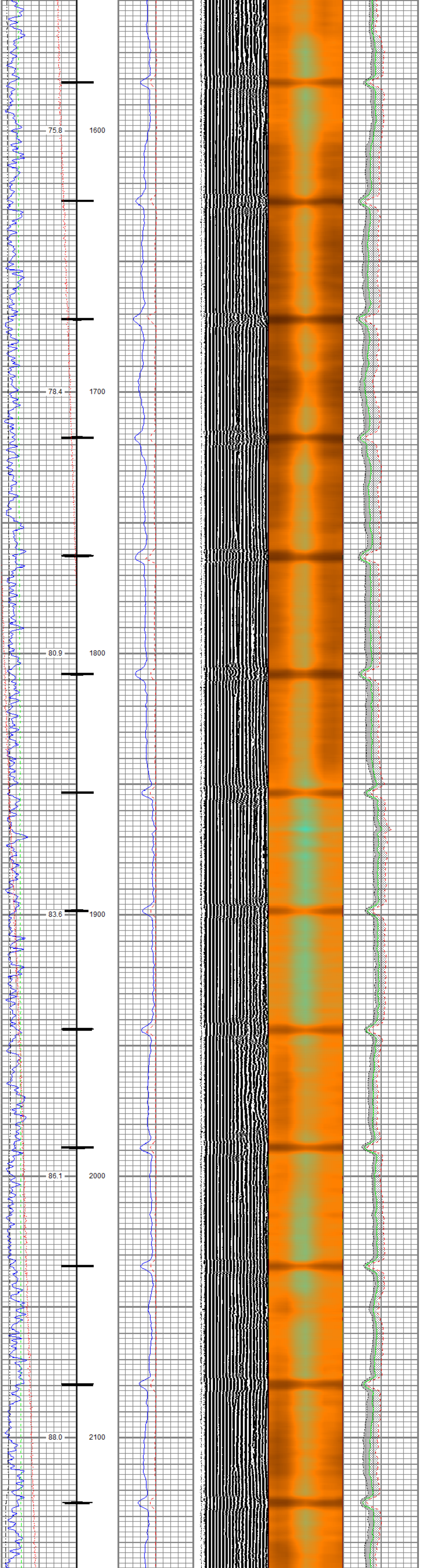
Recorded With 0 PSI Surface Induced Pressure

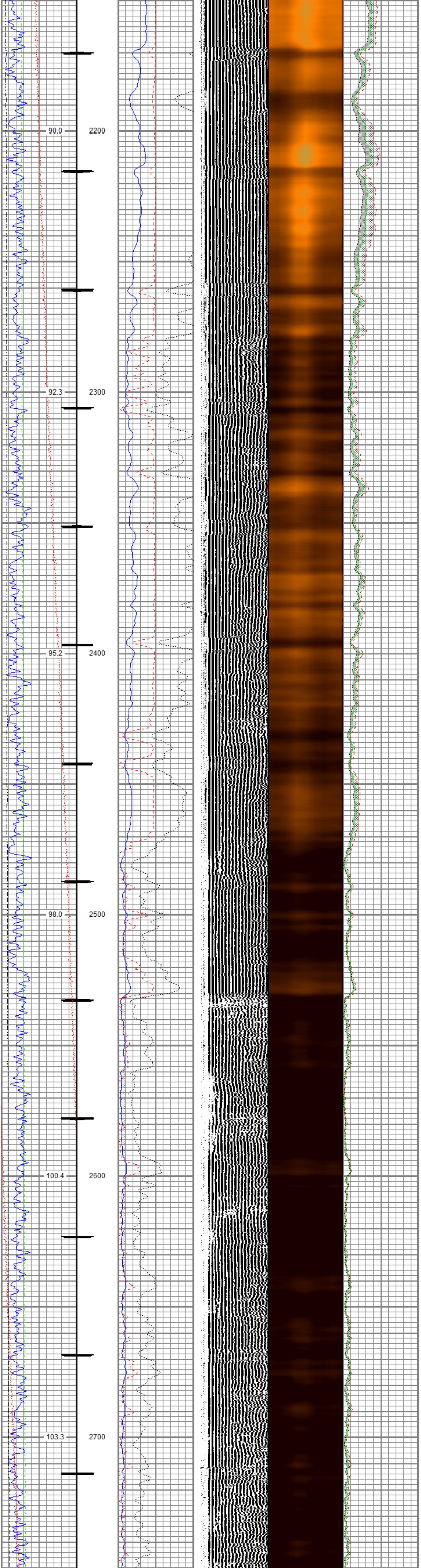
Database File	tep_chevron tr 321-23-597_rbl_09-05-17\processed_tep_chevron tr 321-23-597_rbl_09-05-17.db
Dataset Pathname	Main_Pass
Presentation Format	ros_rbt004_tep
Dataset Creation	Tue Sep 05 16:32:59 2017
Charted by	Depth in Feet scaled 1:240

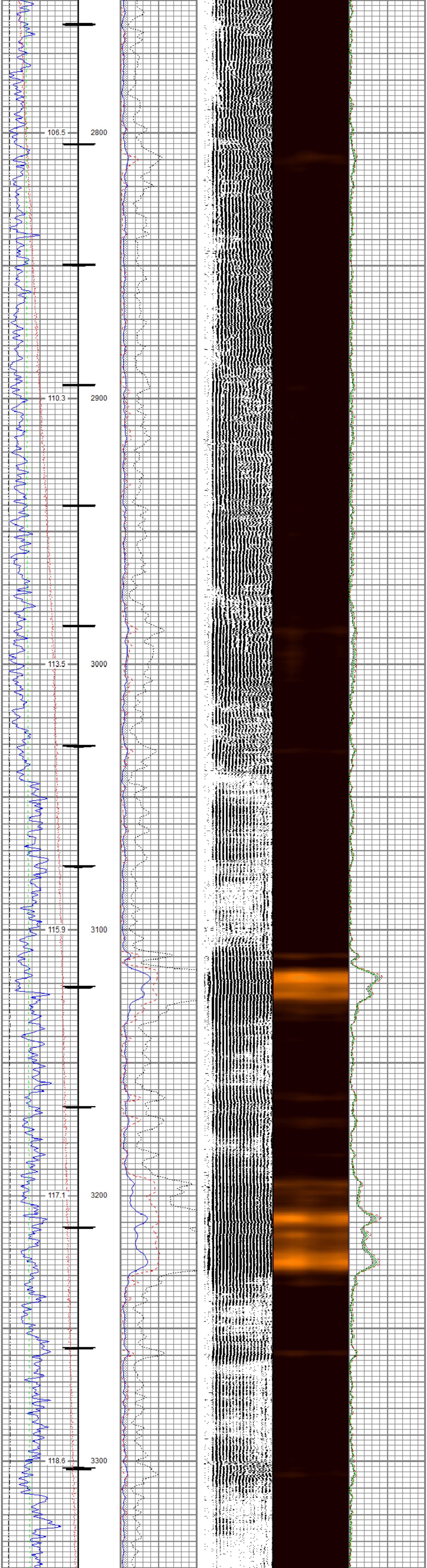


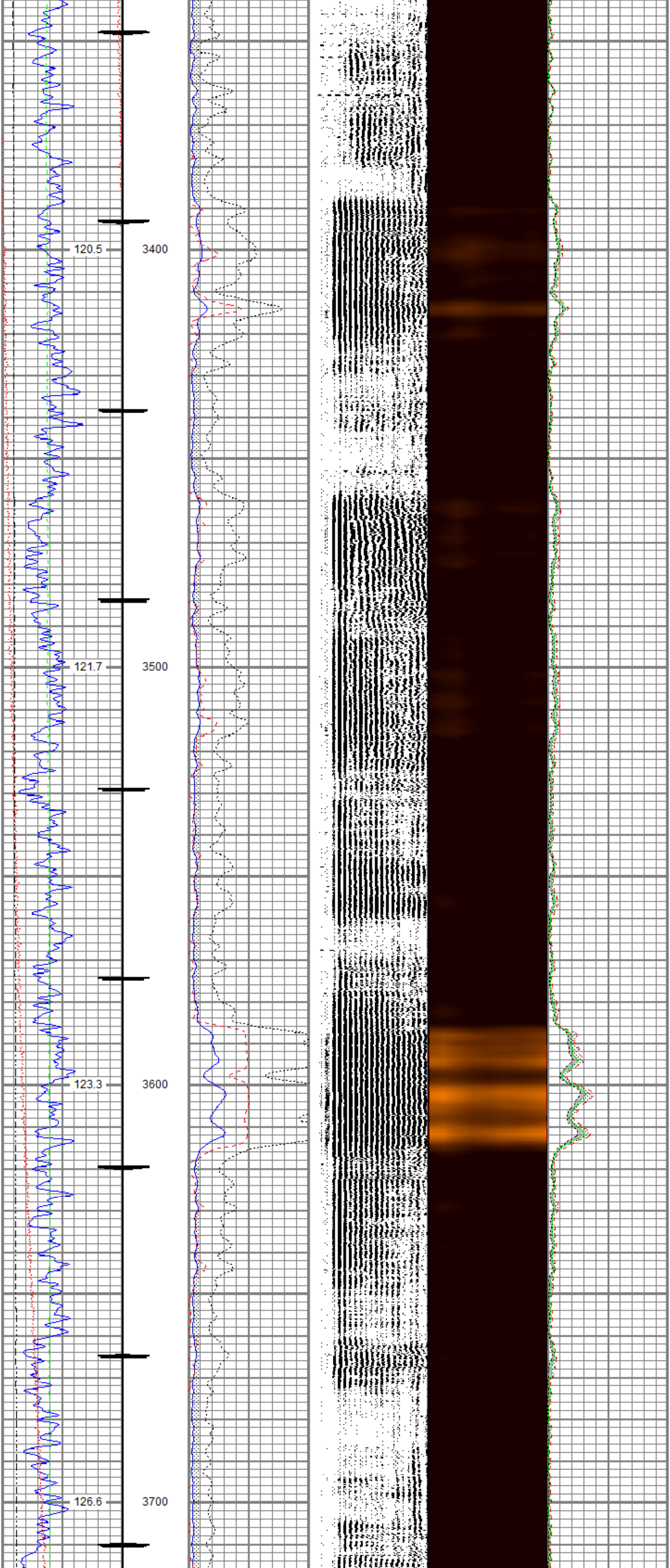


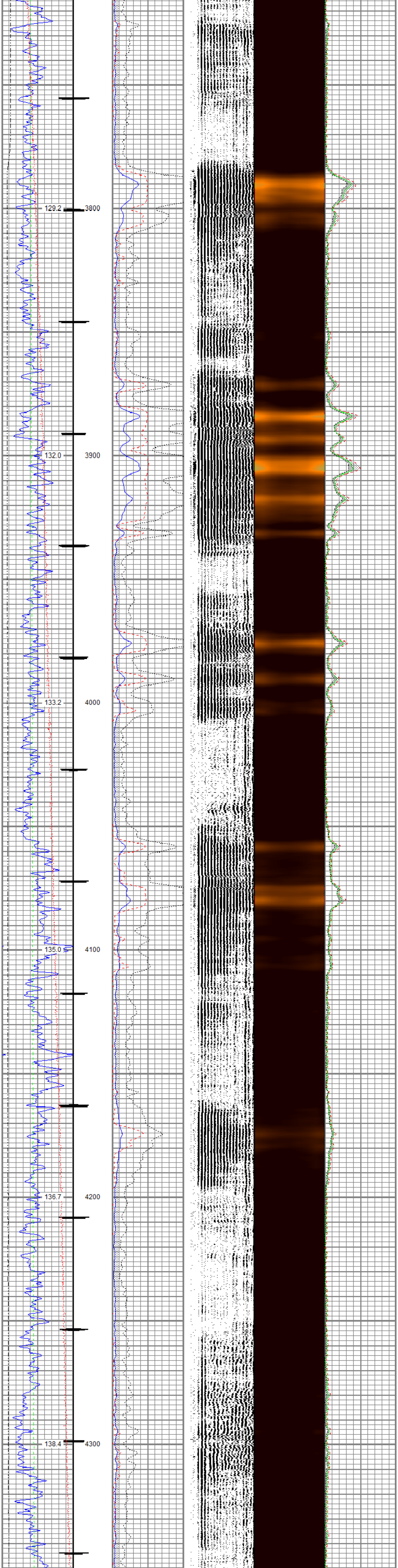








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3900
133.2
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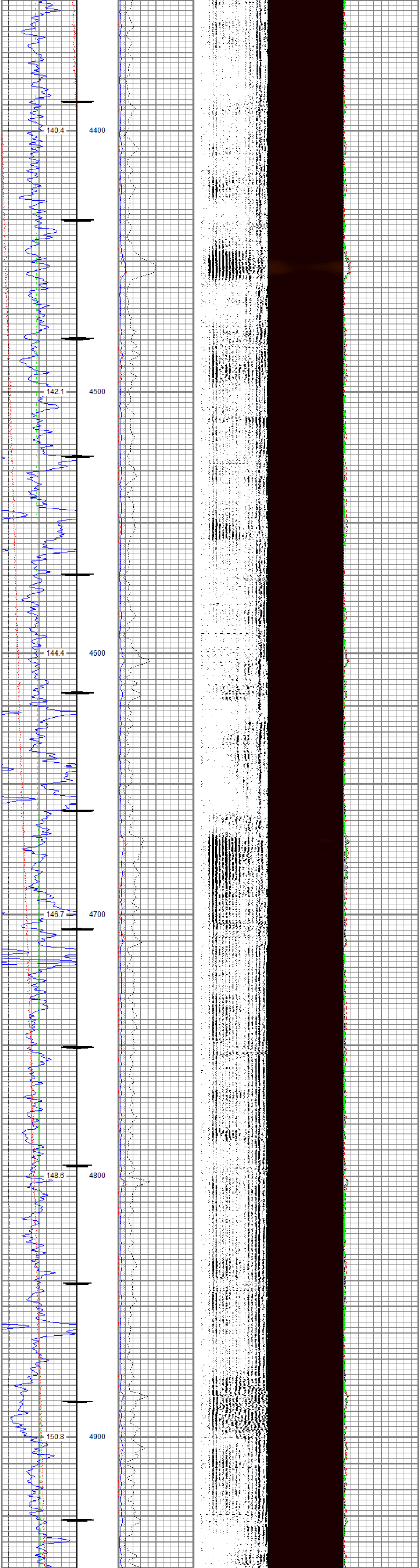
4100
136.7
4200
138.4
4300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150.8
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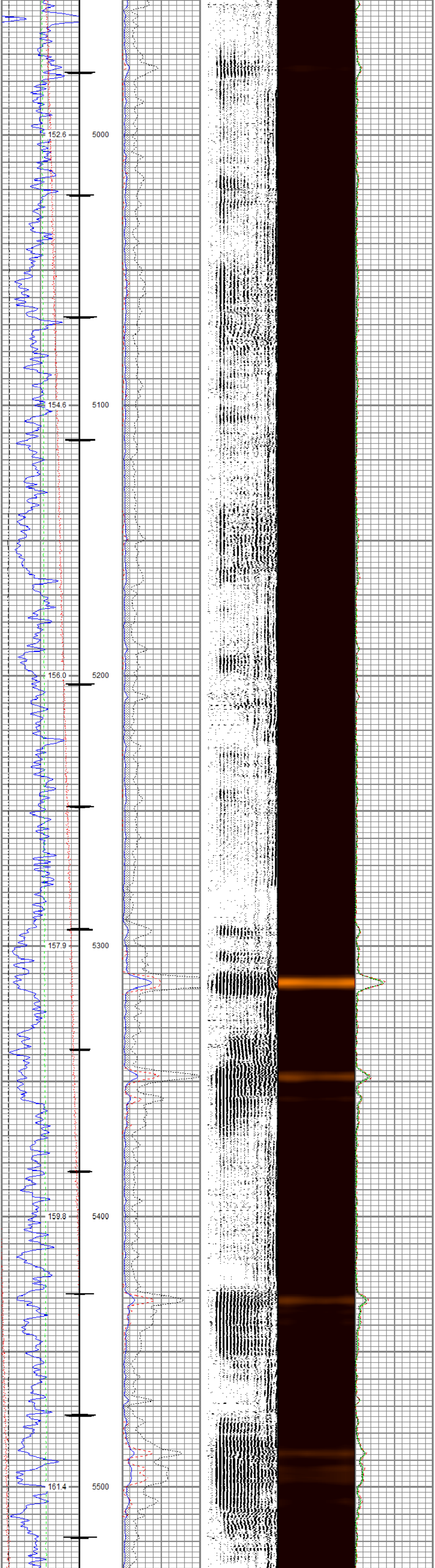
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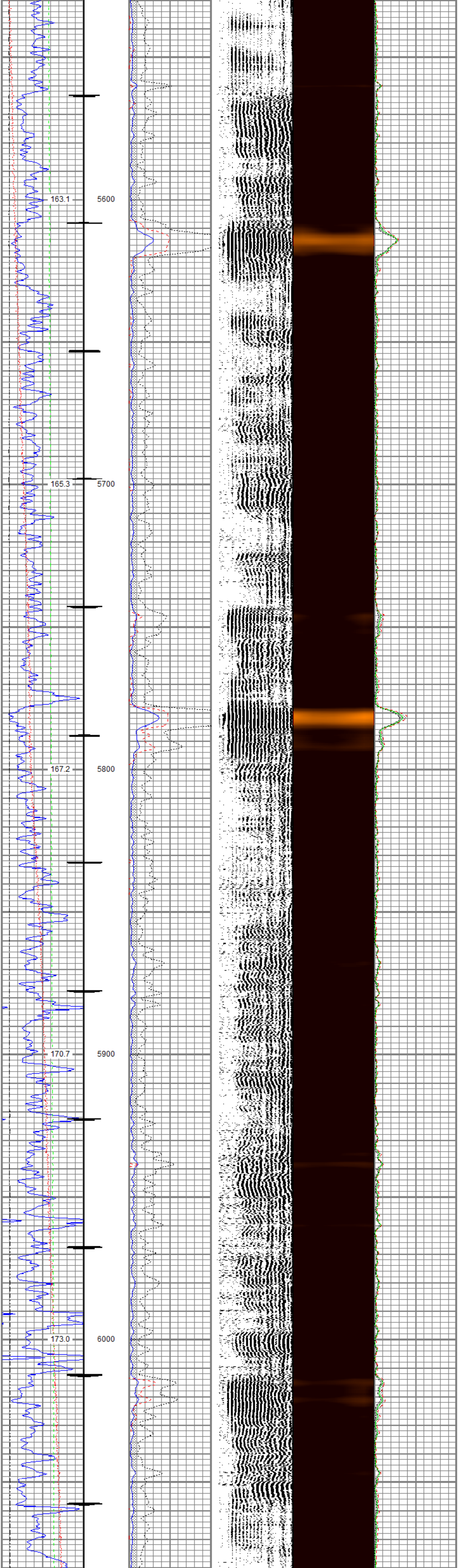
5400
161.4
5500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173.0
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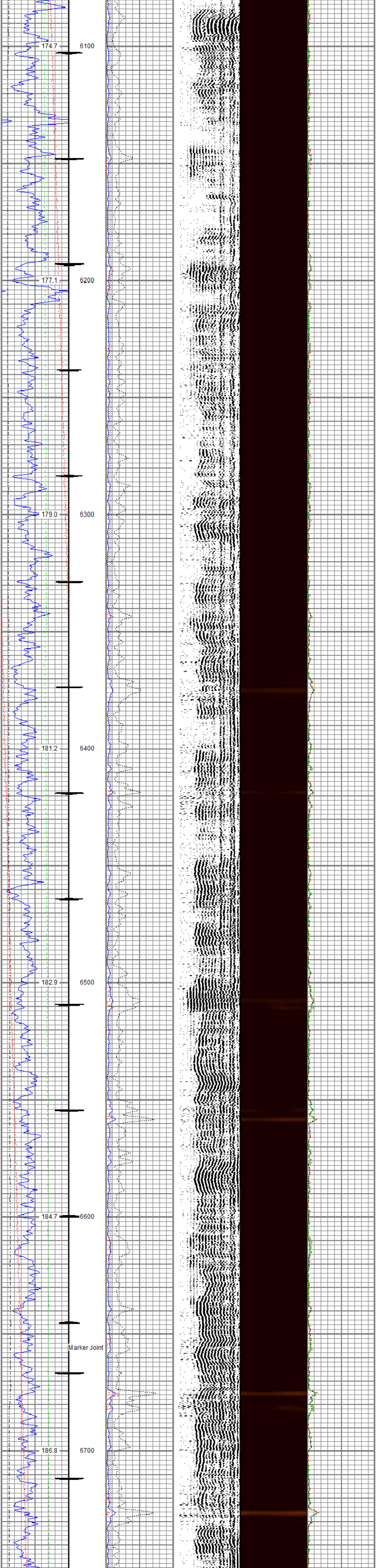
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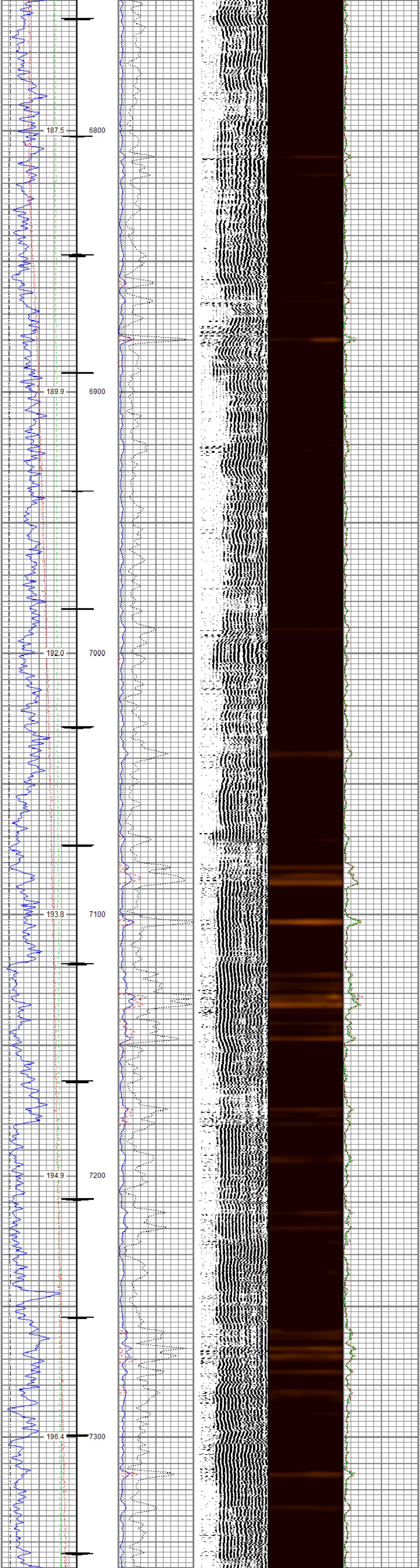
184.7
6600
Marker Joint
186.8
6700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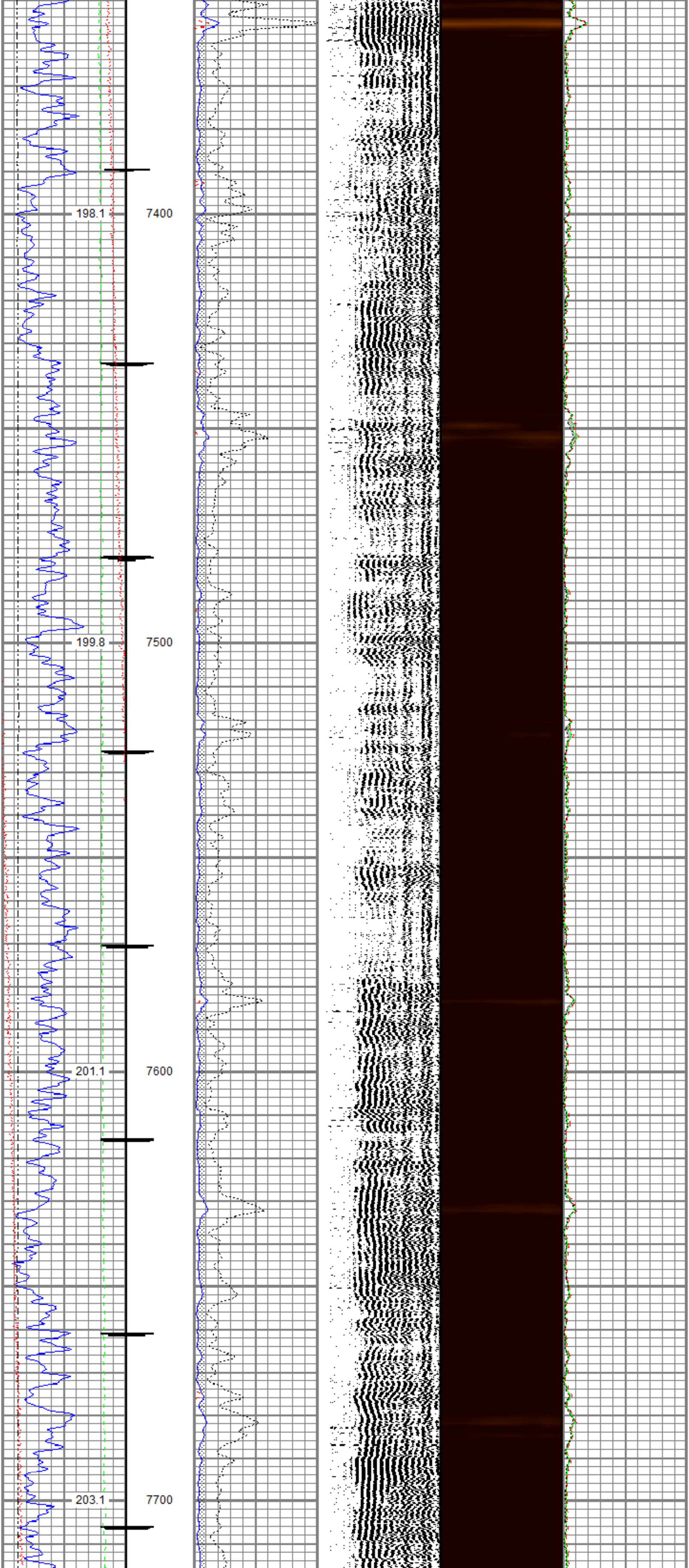
196.4
7300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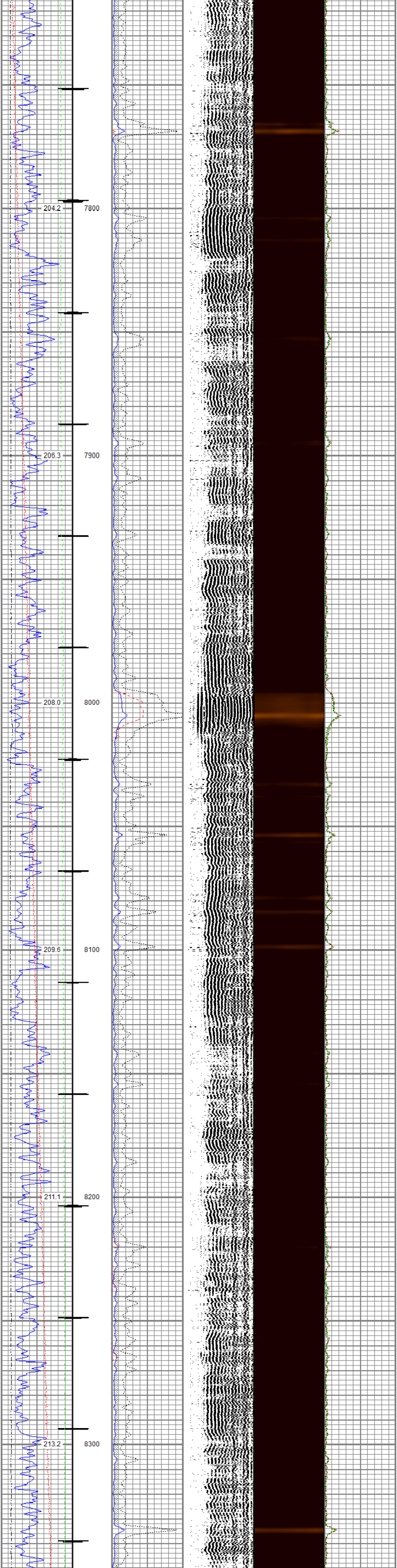

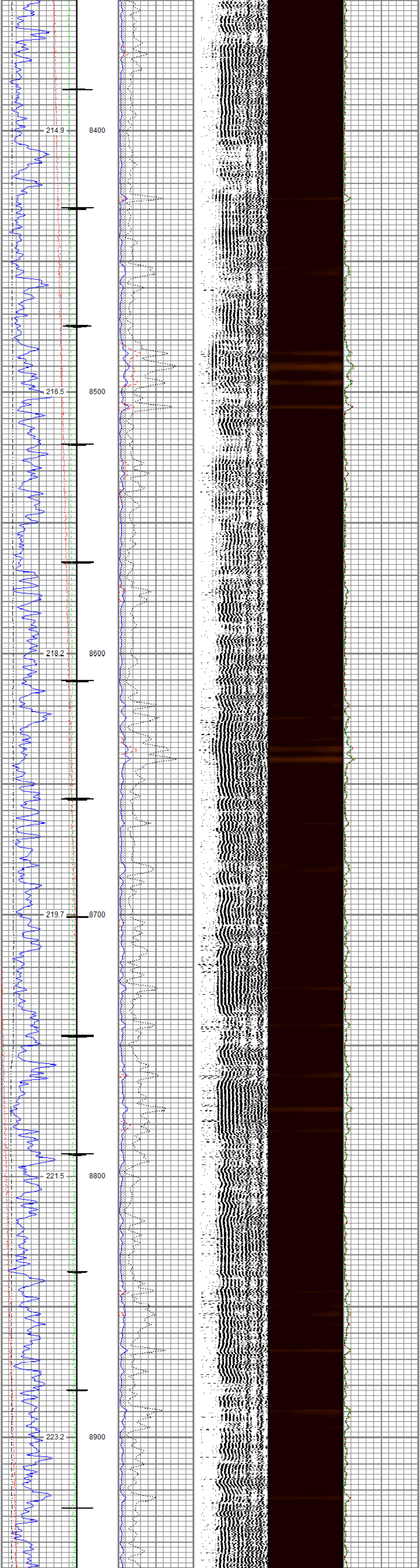

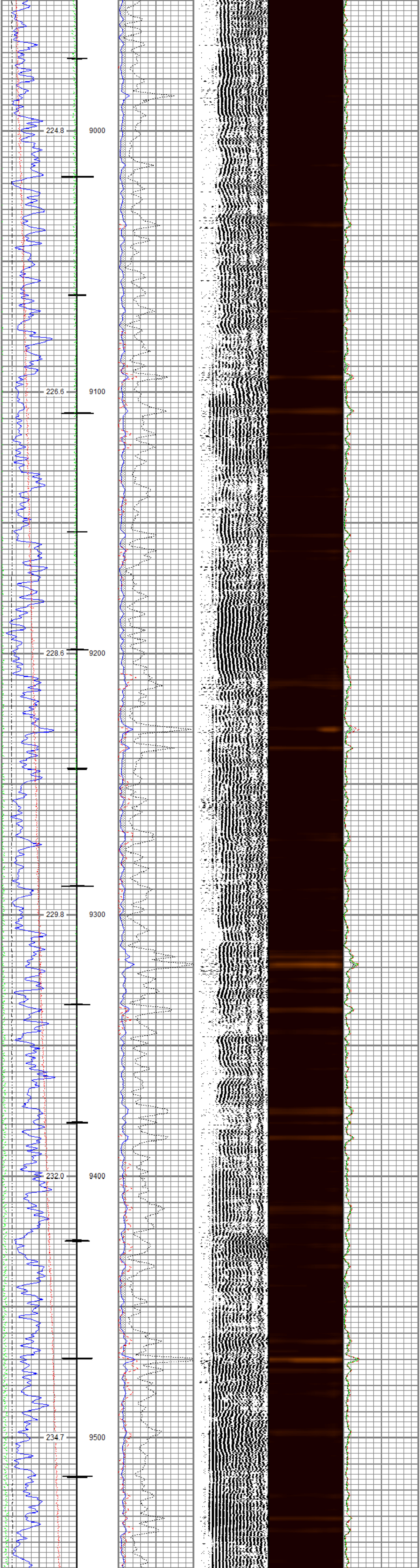

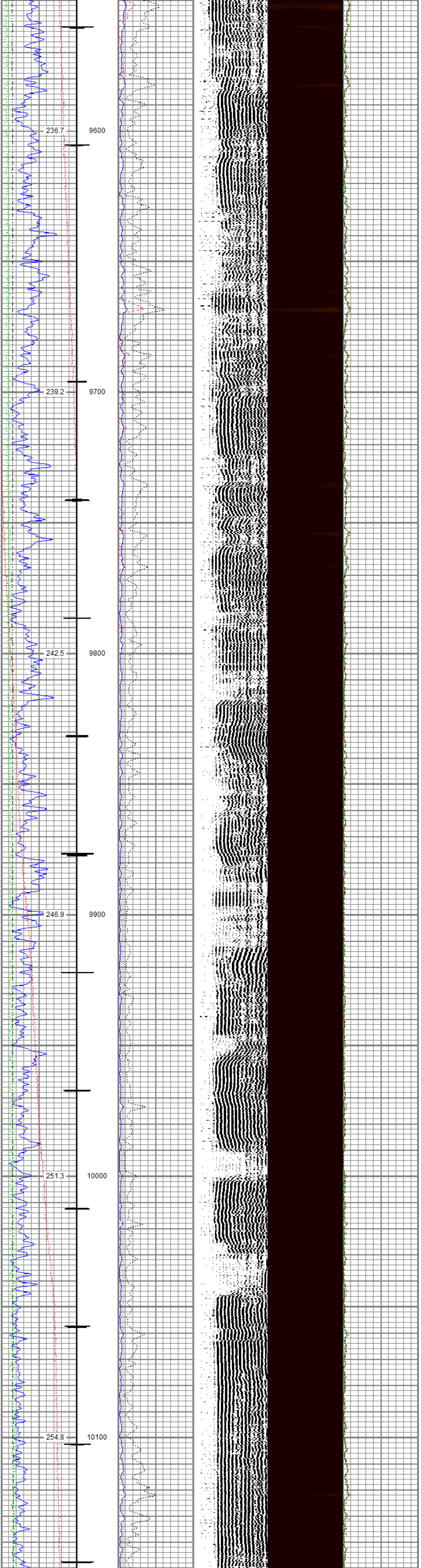

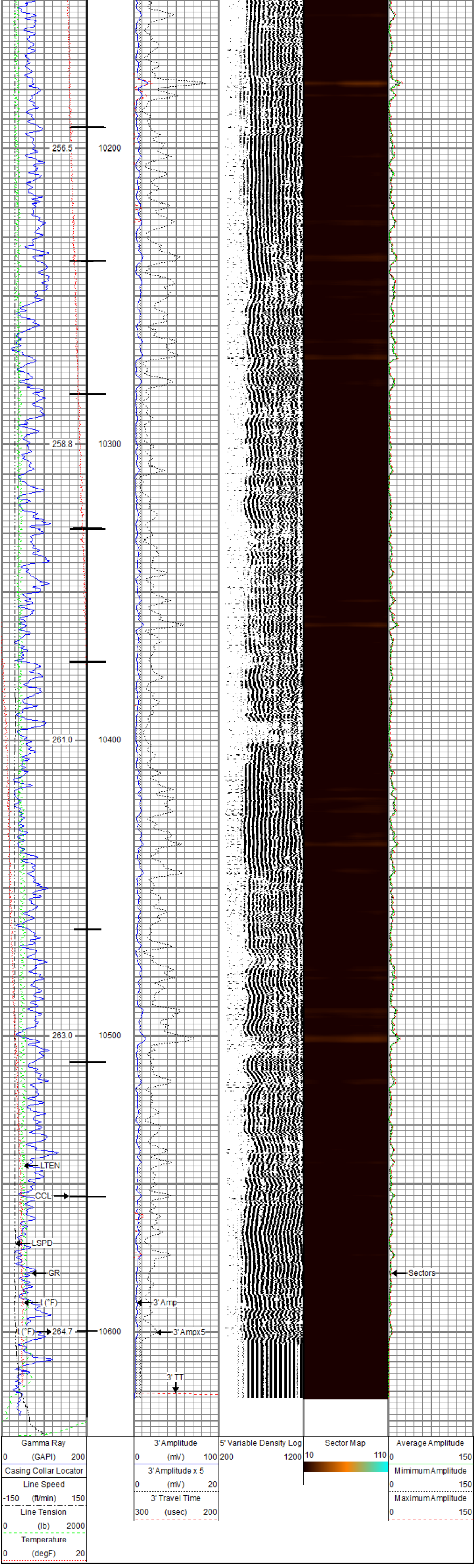

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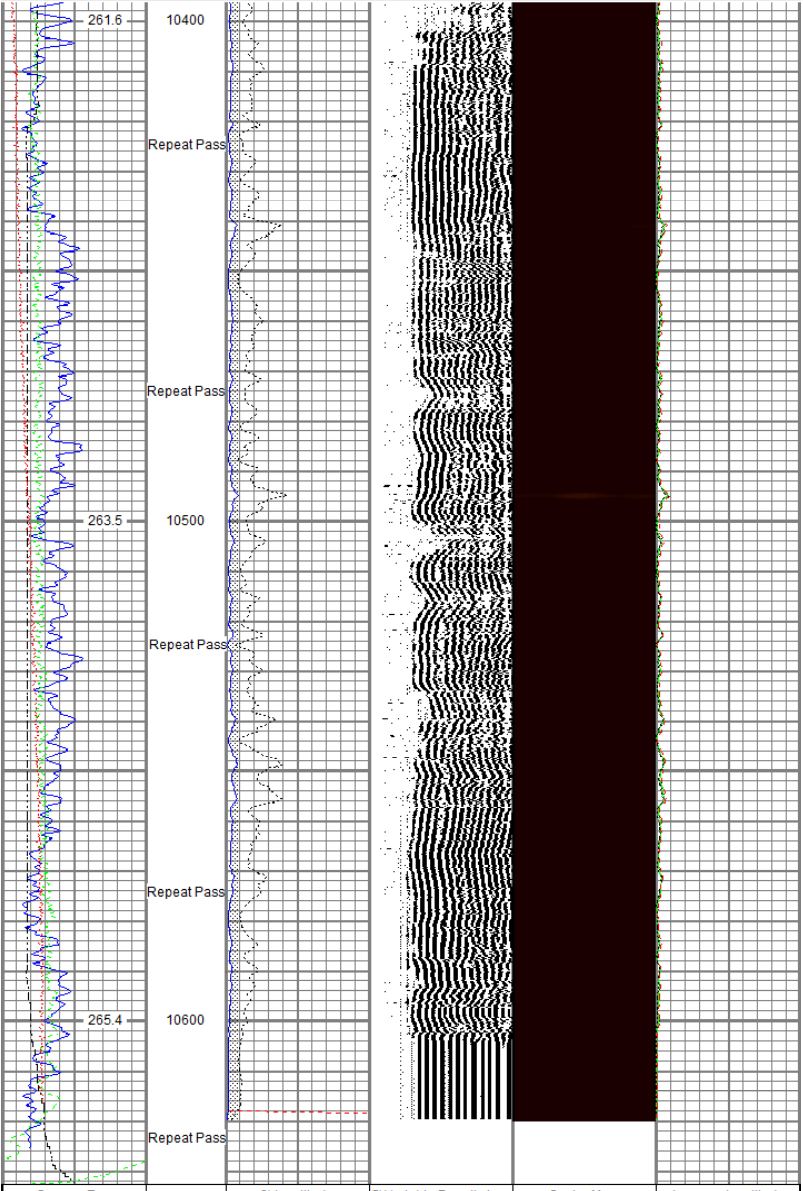
Repeat Pass

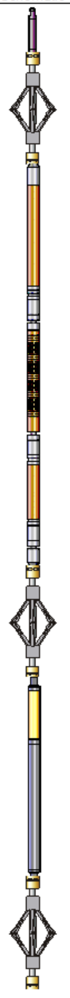
Recorded With 0 PSI Surface Induced Pressure

Database File	tep_chevron tr 321-23-597_rbl_09-05-17\processed_tep_chevron tr 321-23-597_rbl_09-05-17.db
Dataset Pathname	Repeat
Presentation Format	ros_rbt004_tep
Dataset Creation	Tue Sep 05 16:27:12 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			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
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			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
Temperature					
0 (degF) 20					

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan_Electric_Cable_Heads-Titan_1-11/1 Electric Cable Head with 1" Fishing Neck	1.03	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 (FW1305-0 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.19	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 (FW121 Probe 2-3/4" Digital CCL / Gamma Ray Combined	4.541)	2.75	55.00
			DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00

Dataset:	PROCESSED_TEP_Chevron TR 321-23-597_RBL_09-05-17.db: field/well/run1/Main_Pass
Total length:	22.40 ft
Total weight:	261.40 lb
O.D.:	2.75 in

Calibration Report

Database File	C:\ProgramData\Warrior\Data\TEP_Chevron TR 321-23-597_RBL_09-05-17\PROCESSED_TEP_Chevron T
Dataset Pathname	Main_Pass
Dataset Creation	Tue Sep 05 16:32:59 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:	193.874	ft

Master Calibration, performed Mon Sep 04 09:57:05 2017:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.673	0.800	81.196	119.488	0.800
CAL	0.000	0.612				
5'	0.000	0.474	0.800	81.196	169.621	0.800
SUM						
S1	0.000	0.660	0.000	100.000	151.524	0.000
S2	0.000	0.684	0.000	100.000	146.275	0.000
S3	0.000	0.700	0.000	100.000	142.927	0.000
S4	0.000	0.694	0.000	100.000	144.093	0.000
S5	0.000	0.687	0.000	100.000	145.457	0.000
S6	0.000	0.666	0.000	100.000	150.237	0.000
S7	0.000	0.651	0.000	100.000	153.604	0.000
S8	0.000	0.646	0.000	100.000	154.788	0.000

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	0.000	0.612	1.000	0.000

Air Zero Calibration, performed Mon Sep 04 09:51:32 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	Chevron TR 321-23-597
Field	Trail Ridge
County	Garfield
State	Colorado