RELIANCE
OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Collar Locator Log

Company	TEP Rocky Mountain LLC
Well	Chevron TR 413-21-597
Field	Trail Ridge
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Chevron TR 413-21-597
Field Trail Ridge
County Garfield State Colorado

Location: API # : 05-045-23344
697' FSL & 1865' FWL SESW
SEC 21 TWP 5S RGE 97W

Other Services
PDN

Permanent Datum	Ground Level	Elevation	8292'
Log Measured From	Kelly Bushing	24 FT	
Drilling Measured From	Kelly Bushing		

Elevation
K.B. 8316'
D.F. 8315'
G.L. 8292'

Date	24-APR-2017		
Run Number	One		
Depth Driller	9626 FT		
Depth Logger	9480 FT		
Bottom Logged Interval	9480 FT		
Top Log Interval	Surface		
Open Hole Size	8.750"		
Type Fluid	Fresh Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	252° F		
Estimated Cement Top	See Log		
Time Well Ready	ROA		
Time Logger on Bottom	04:00		
Equipment Number	HD 329		
Location	Grand Junction		
Recorded By	S. Hopper		
Witnessed By	D. Welsh		

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"	36	J-55	Surface	2697 FT
Intermediate #1	4 1/2"	11.6	P-110	Surface	9626 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
Ground Level 1 FT below the top of cut pipe
Marker Joint logged at 5790 FT – 5812 FT
Log ran from 9480 FT to surface
Recorded with 0 PSI surface induced pressure

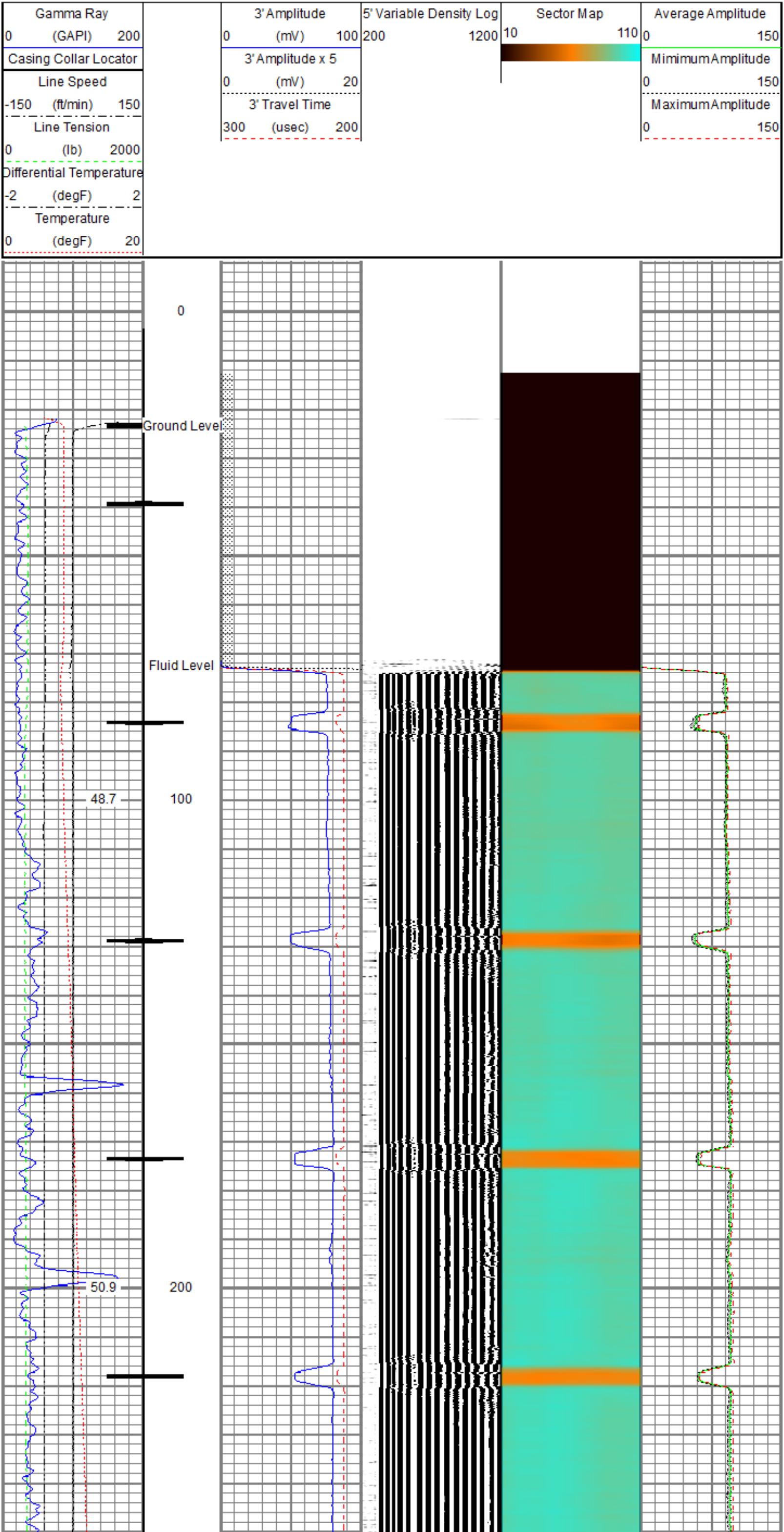
Thank you for choosing Reliance Oilfield Services, LLC!!

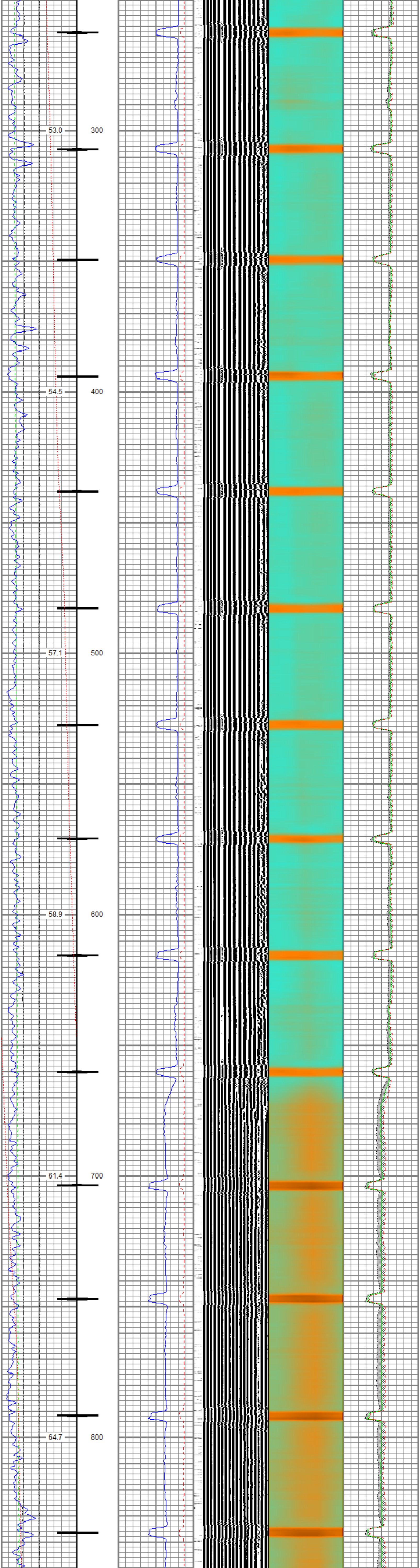
RELIANCE
OILFIELD SERVICES

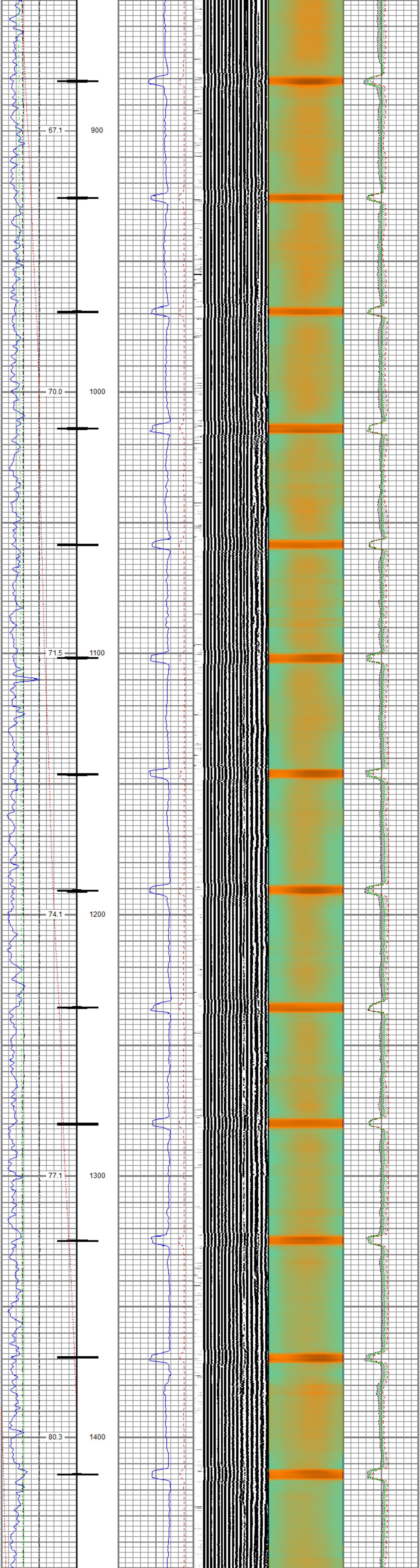
Main Pass

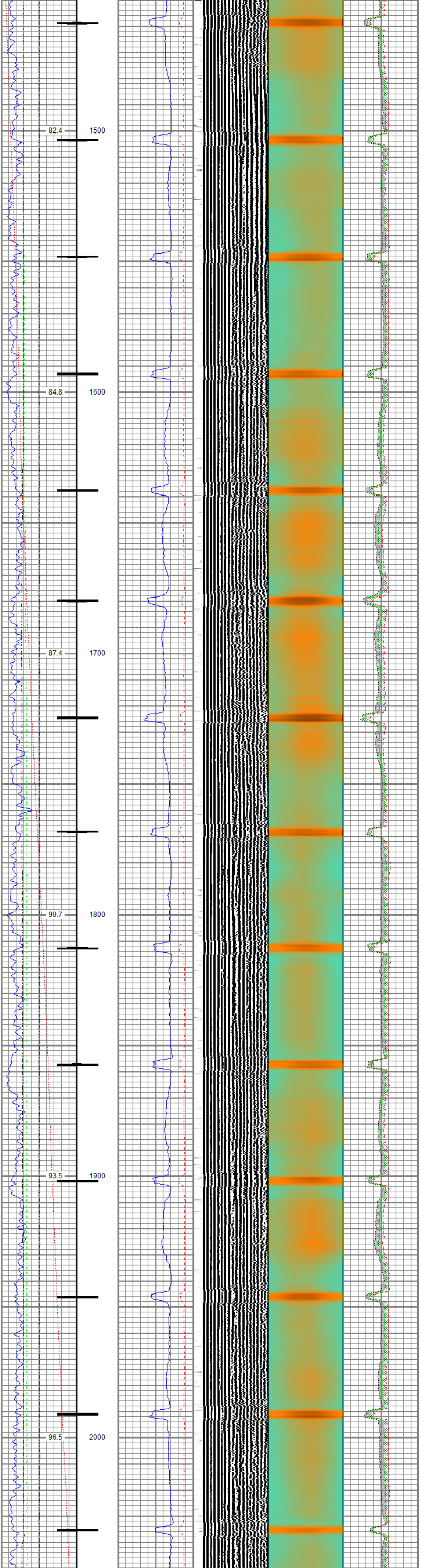
Recorded With 0 PSI Surface Induced Pressure

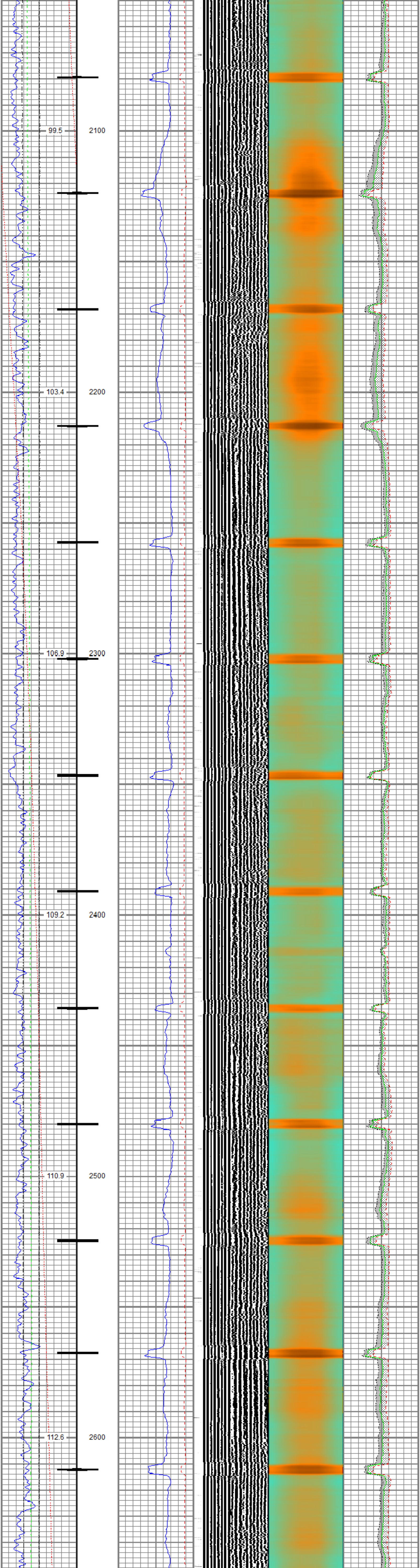
Database File	chevron tr 413-21-597\tep_chevron tr 413-21-597_04-24-17_rbl.db
Dataset Pathname	pass4.1
Presentation Format	ros_rbt004_tep
Dataset Creation	Mon Apr 24 12:16:40 2017
Charted by	Depth in Feet scaled 1:240

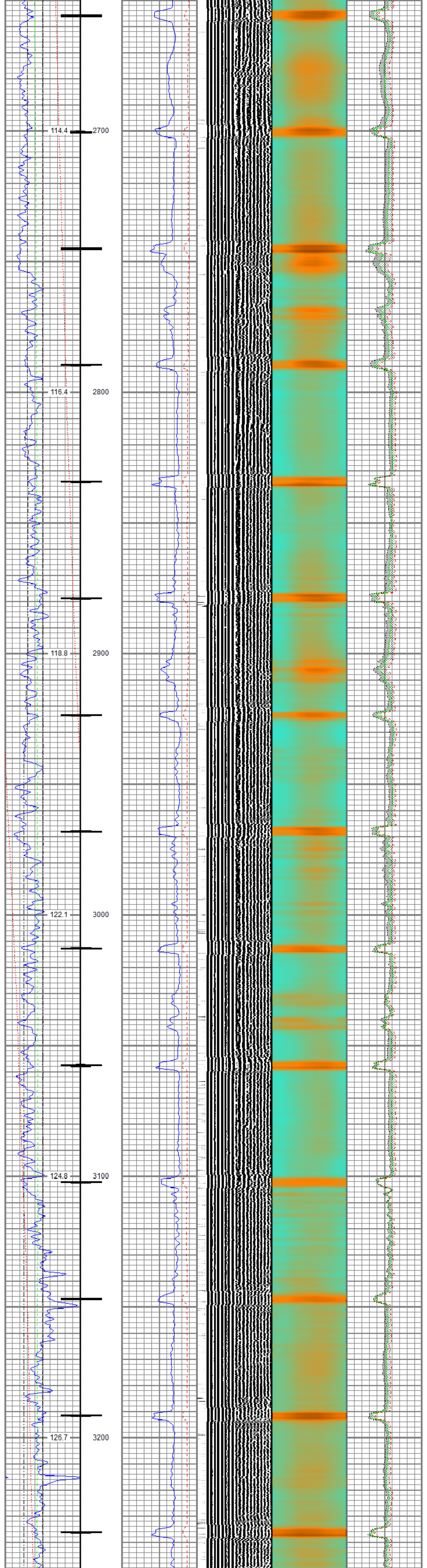


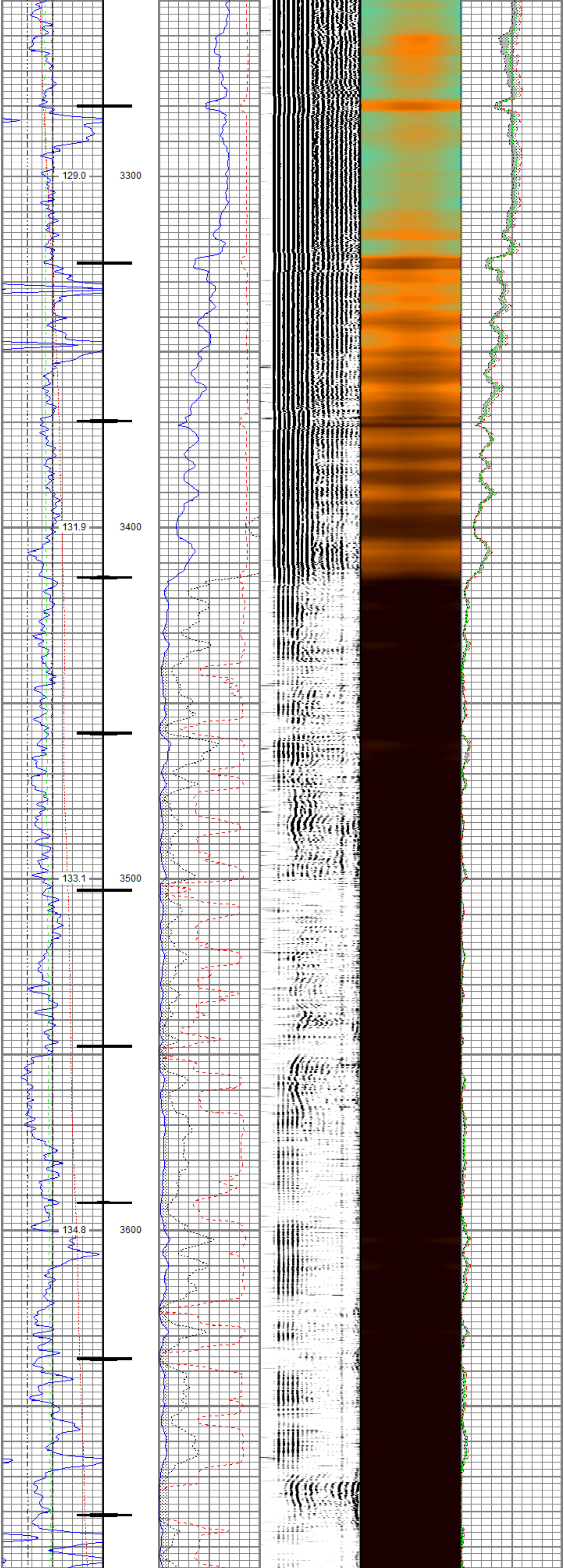


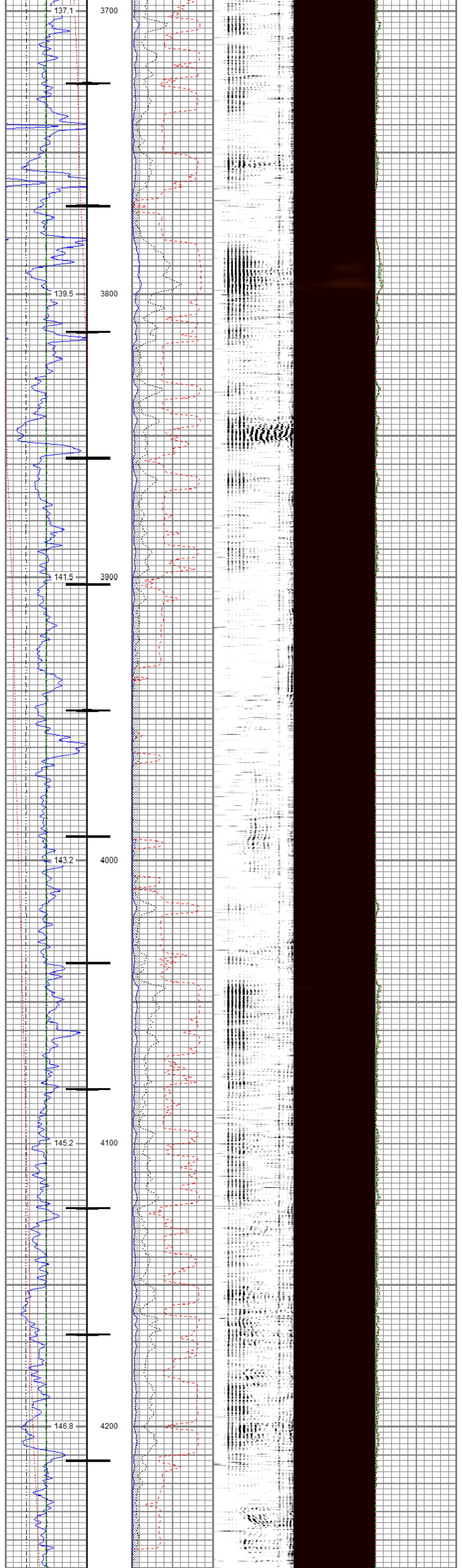








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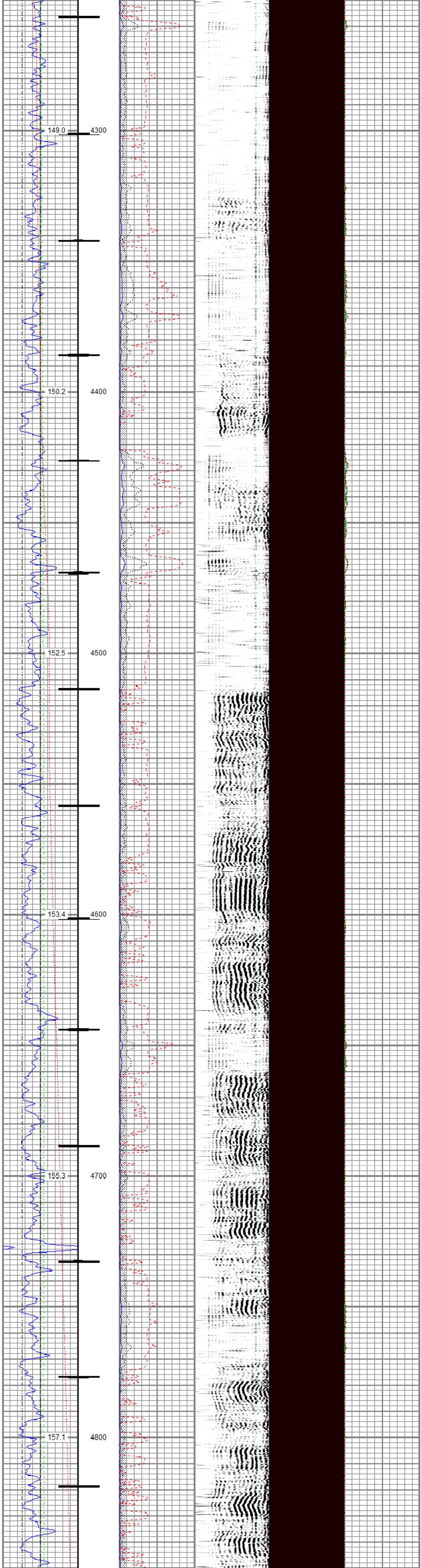
3700
139.5
3800
141.5
3900
143.2
4000
145.2
4100
146.8
4200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4300
150.2
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152.5
4500
153.4
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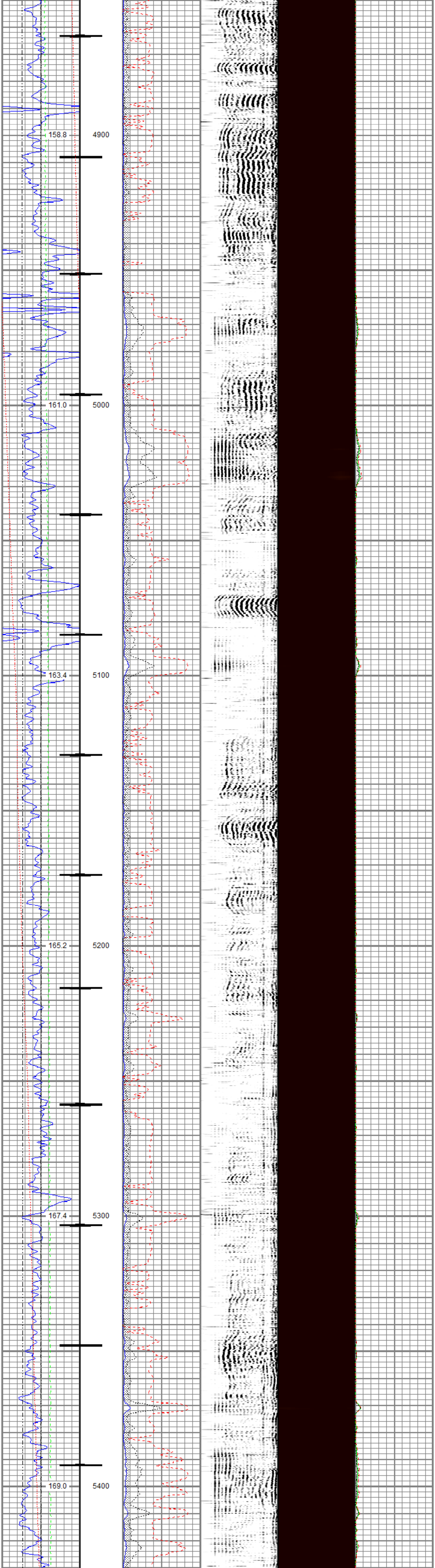
155.3
4700
157.1
4800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4900
161.0
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5200
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5300
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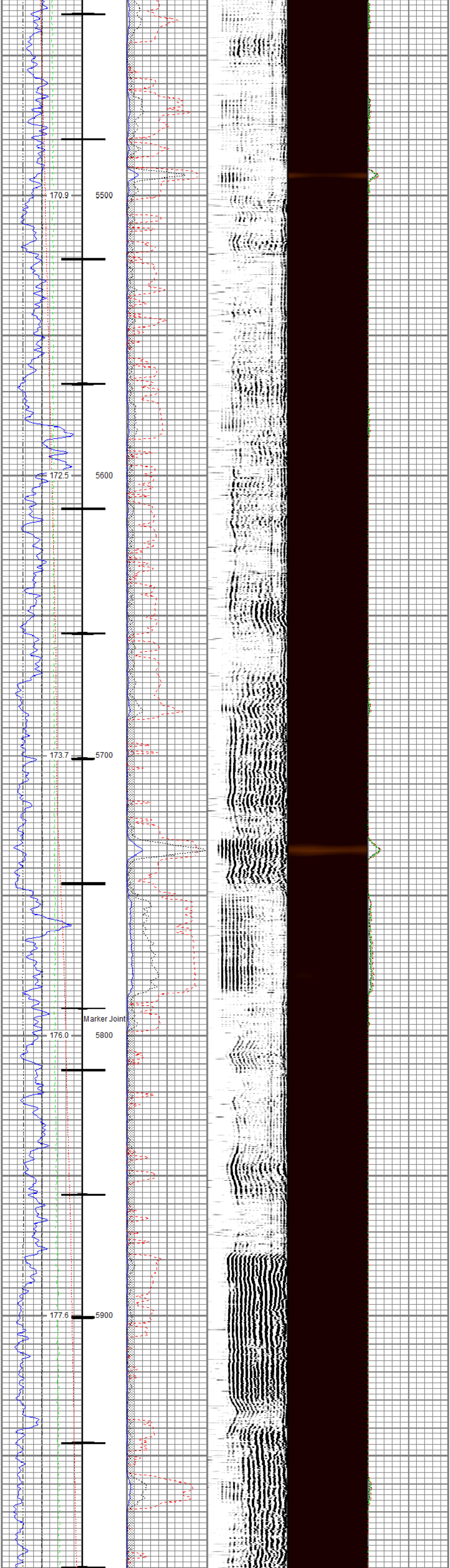
5400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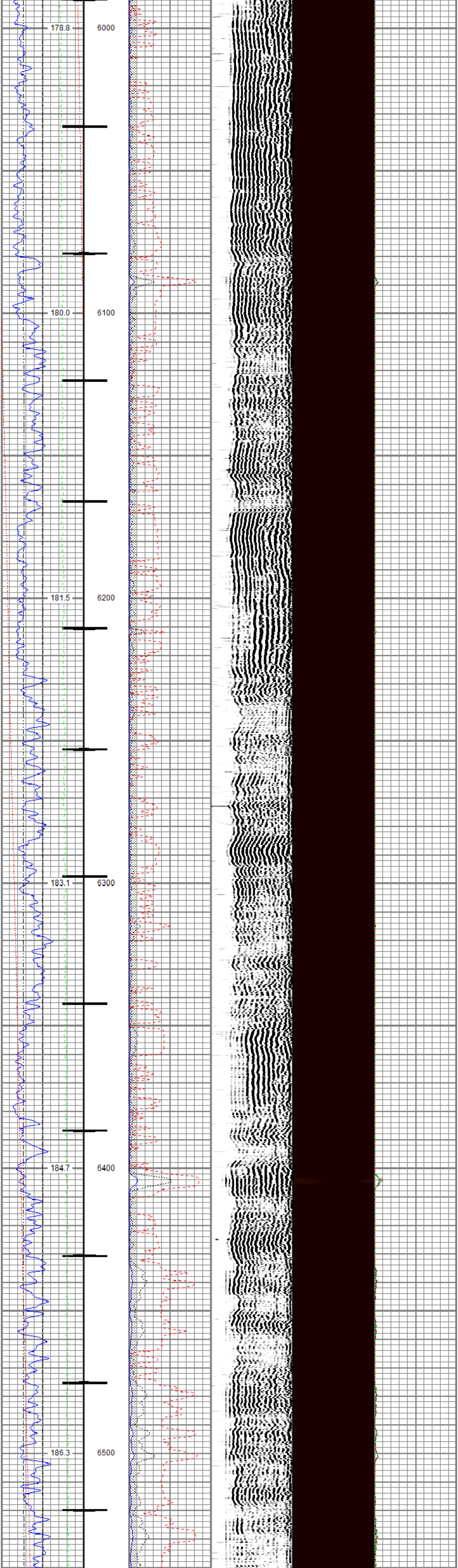
5500
172.5
5600
173.7
5700
Marker Joint
176.0
5800
177.6
5900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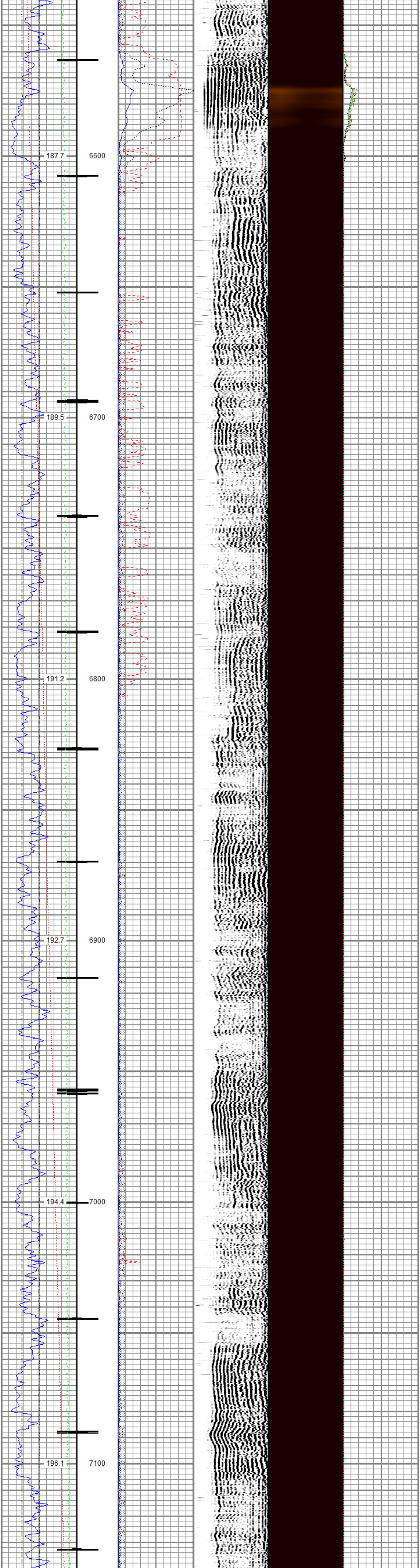
6300
184.7
6400
186.3
6500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6600
189.5
6700
191.2
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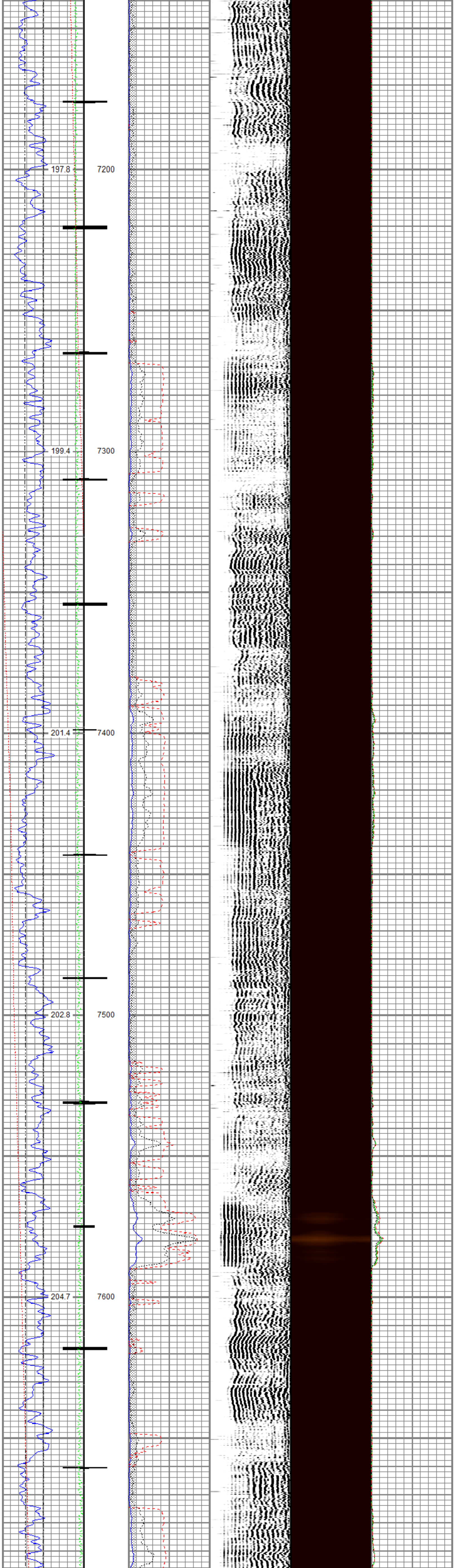
194.4
7000
196.1
7100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7400
202.8
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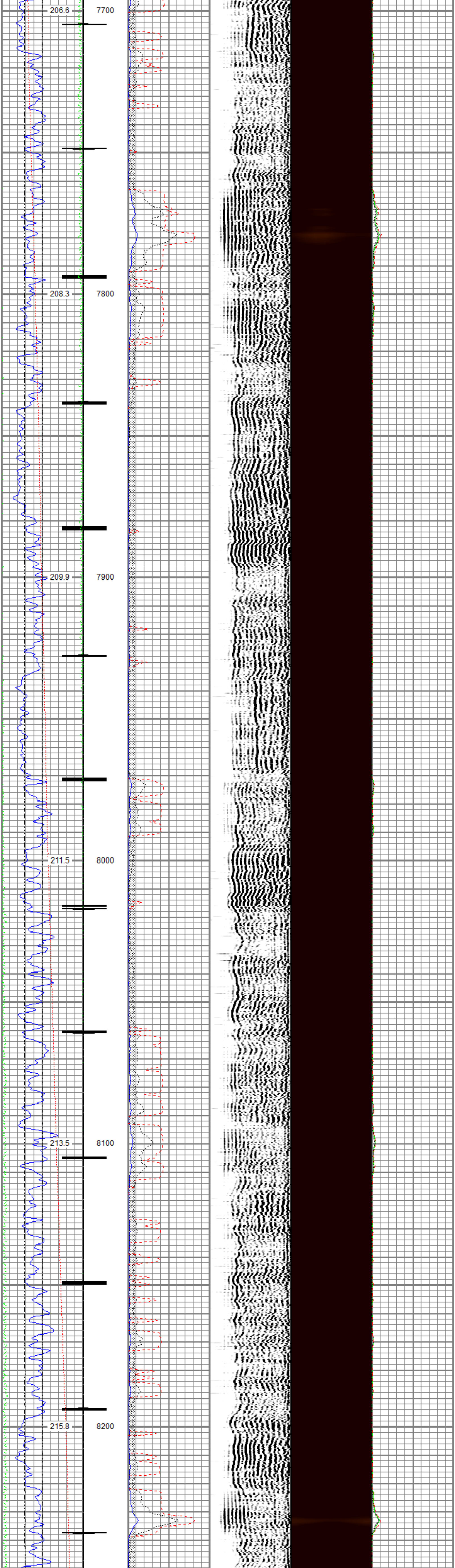
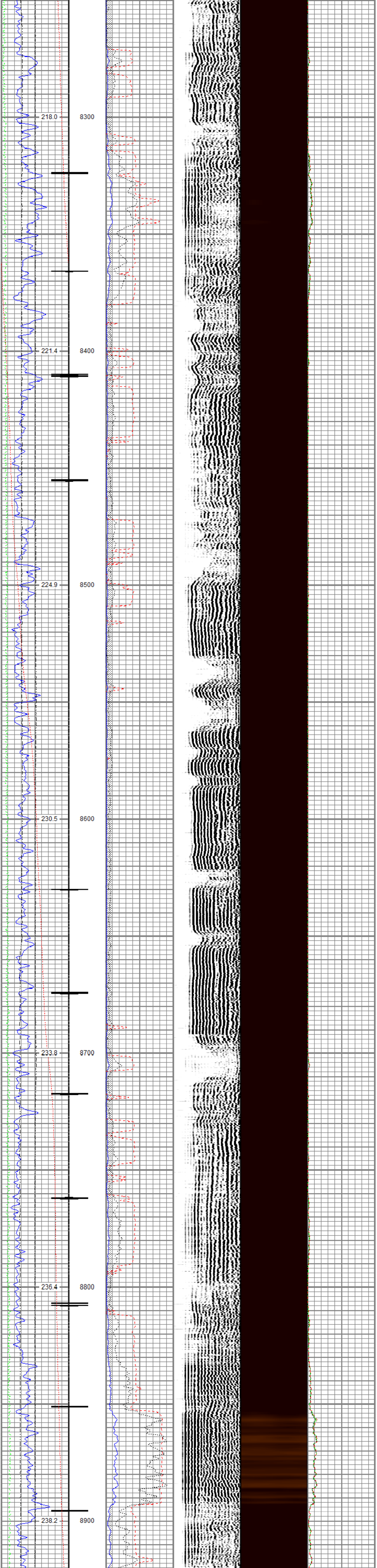
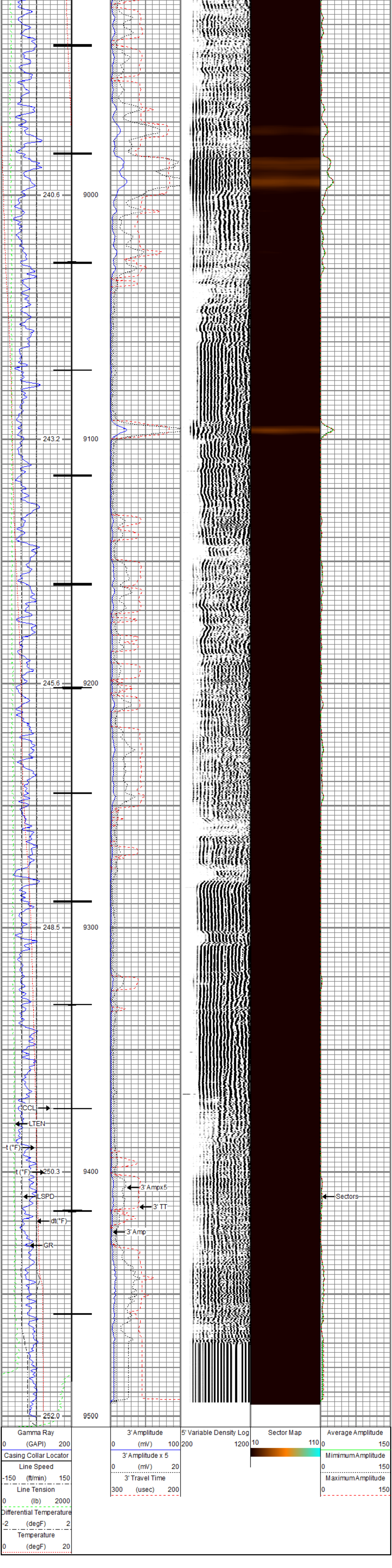
204.7
7600





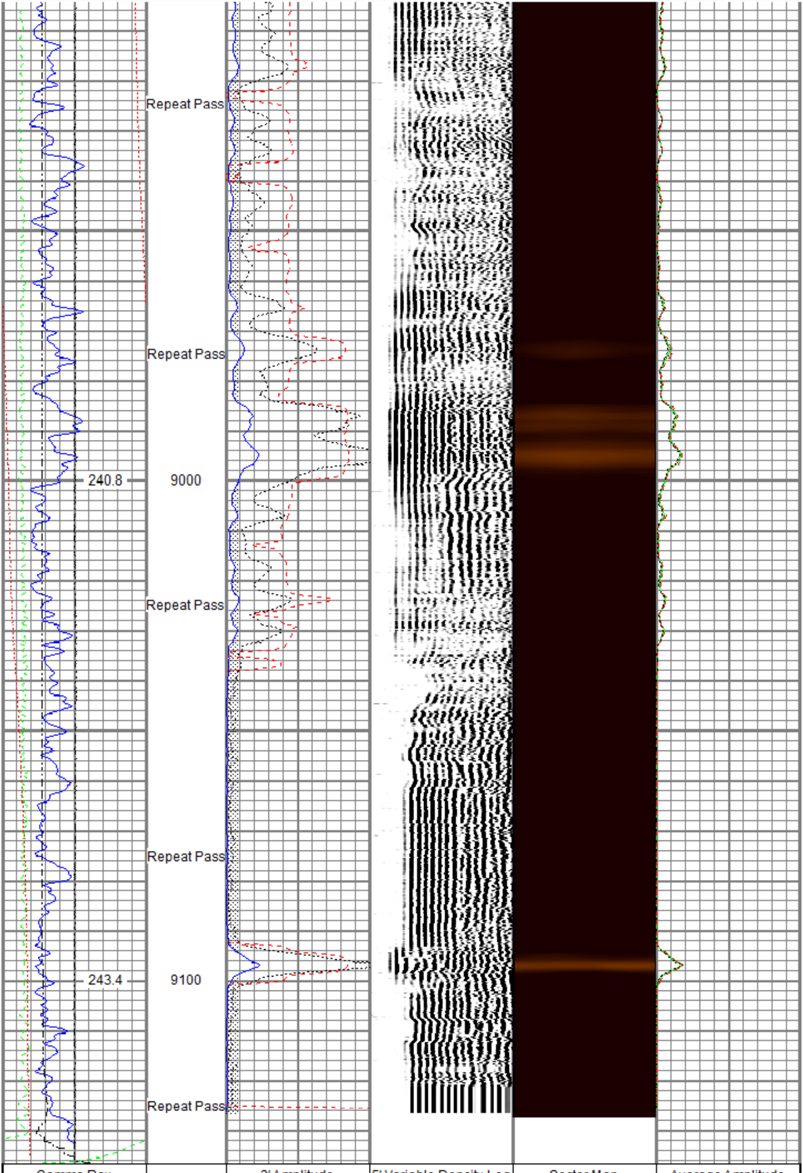


Repeat Pass

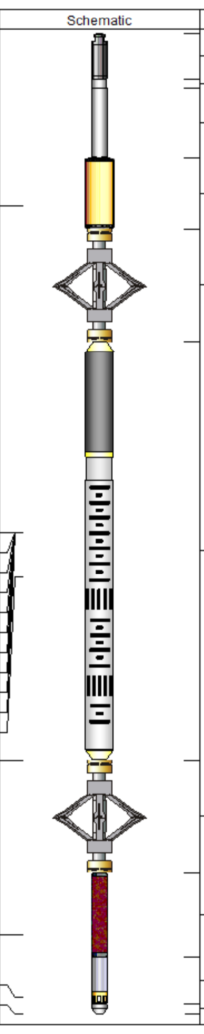
Recorded With 0 PSI Surface Induced Pressure

Database File	chevron tr 413-21-597\tep_chevron tr 413-21-597_04-24-17_rbl.db
Dataset Pathname	pass2.1
Presentation Format	ros_rbt004_tep
Dataset Creation	Tue Apr 25 14:33:25 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
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 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
Differential Temperature				
-2 (degF) 2				
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
			UW_AGS-UW_AGS_001 (219135) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW_XTU-UW_XTU_002 (10012277) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
CCL	18.26		UW_CCL-UW_CCL_028 (10025621) 3-1/8" Ultrawire Casing Collar Locator	1.61	3.13	36.00
			UW_PRC-DSS_RAC 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
CBLROT WVFS8 WVFS7 WVFS6 WVFS5 WVFS4 WVFS3 WVFS2 WVFS1 WVF3FT WVF5FT CBLTEMP	10.87 10.87 10.87 10.87 10.87 10.87 10.87 10.87 10.87 10.87 9.87 5.73		UW_RBT-UW_RBT_004 (10022842) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.48	3.13	140.00
			UW_PRC-DSS_RAC 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
GR	1.76		UW_PGR-UW_PGR_020 (10019371) Production Gamma Ray	1.92	1.69	9.50
			UW_PRT-PRT_016 (10025093) Platinum Resistance Thermometer	1.04	1.69	5.20
TEMP TSTAMP	0.37 0.00		UW_BUL-UW_BUL_006 (10019730) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20

Dataset:	TEP_Chevron TR 413-21-597_04-24-17_RBL.db: field/well/run1/pass4.1
Total length:	22.19 ft
Total weight:	268.80 lb
O.D.:	3.13 in

Calibration Report

Database File	D:\Warrior\Data\Chevron TR 413-21-597\TEP_Chevron TR 413-21-597_04-24-17_RBL.db
Dataset Pathname	pass4.1
Dataset Creation	Mon Apr 24 12:16:40 2017

Temperature Calibration Report

Serial Number:	10025093
Tool Model:	PRT_016
Performed:	Sun Oct 11 12:31:14 2015

Point #	Reading		Reference	
1	13006.00	cps	68.00	degF
2	18181.00	cps	104.00	degF
3	29634.00	cps	176.00	degF
4	41077.00	cps	248.00	degF
5	52560.00	cps	320.00	degF
6	58409.00	cps	356.00	degF
7		cps		degF
8		cps		degF
9		cps		degF
10		cps		degF

Gamma Ray Calibration Report

Serial Number:	10019371	
Tool Model:	UW_PGR_020	
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:	10022842	
Tool Model:	UW_RBT_004	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	468.797	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.022	1.077	0.800	81.196	76.202	-0.904
5FT	0.000	0.958	0.800	81.196	83.945	0.758
S1	0.022	1.152	0.000	100.000	88.522	-1.937
S2	0.022	1.144	0.000	100.000	89.158	-1.985
S3	0.022	1.131	0.000	100.000	90.182	-1.968
S4	0.022	1.114	0.000	100.000	91.573	-2.010
S5	0.022	1.082	0.000	100.000	94.317	-2.072
S6	0.023	1.093	0.000	100.000	93.395	-2.101
S7	0.022	1.105	0.000	100.000	92.343	-2.031
S8	0.023	1.173	0.000	100.000	87.011	-2.044

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