Radial Cement Bond
Gamma Ray
Casing Collar Log

RELIANCE OILFIELD SERVICES

Company TEP Rocky Mountain LLC
Well Chevron TR 23-21-597
Field Trail Ridge
County Garfield
State Colorado

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Field Trail Ridge
County Garfield State Colorado

Location: API # : 05-045-23346
731' FSL & 1880' 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	27-MAR-2017		
Run Number	One		
Depth Driller	9684 FT		
Depth Logger	9684 FT		
Bottom Logged Interval	9684 FT		
Top Log Interval	Surface		
Open Hole Size	8.750"		
Type Fluid	Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	262 °F		
Estimated Cement Top	3087 FT		
Time Well Ready	ROA		
Time Logger on Bottom	---		
Equipment Number	HD 329		
Location	Grand Junction		
Recorded By	J. Donnelly		
Witnessed By	C. Applegate		

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 & 40	---	Surface	2678 FT
Intermediate #1	4 1/2	11.6	---	Surface	9684 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 2 FT below top of cut pipe
Marker joint logged @ 6113 FT - 6134 FT
Log ran from 9684 FT to surface
Recorded with 0 PSI surface induced pressure

Thank you for choosing Reliance Oilfield Services, LLC!!

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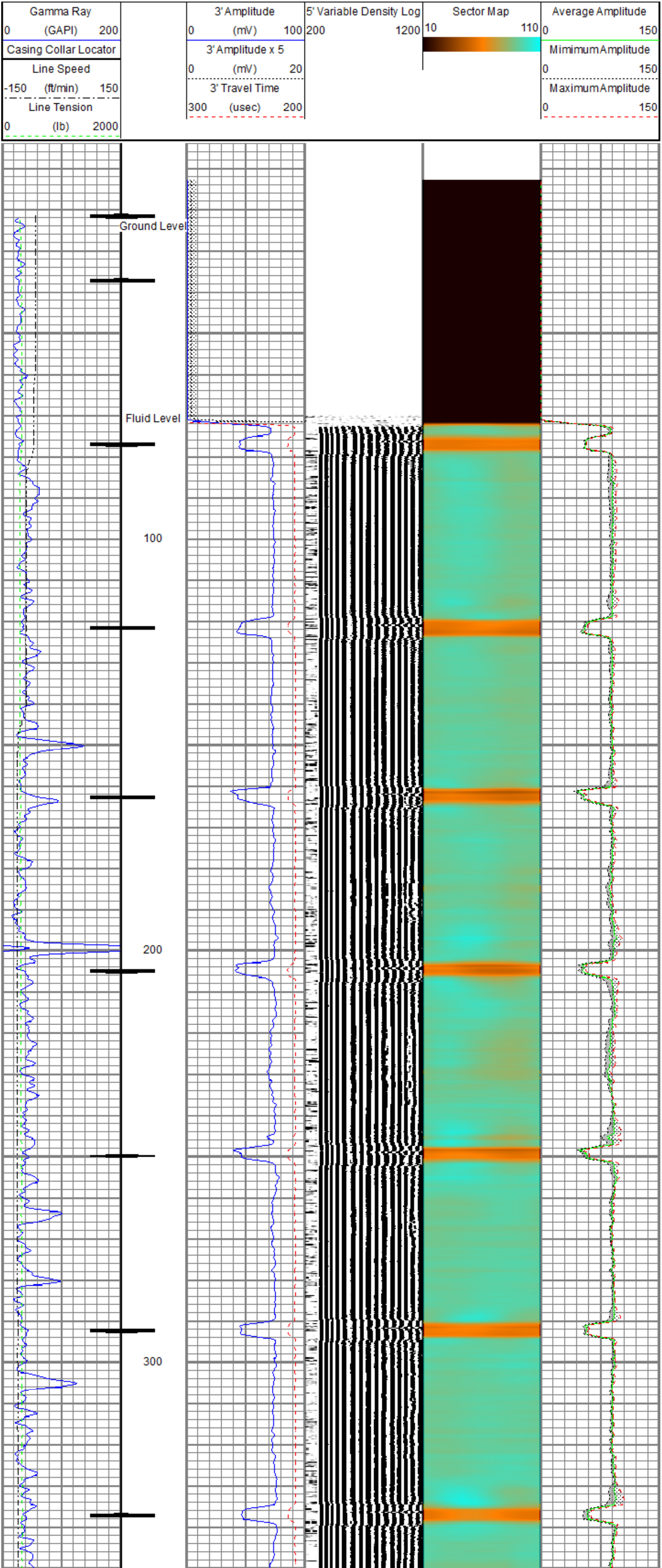
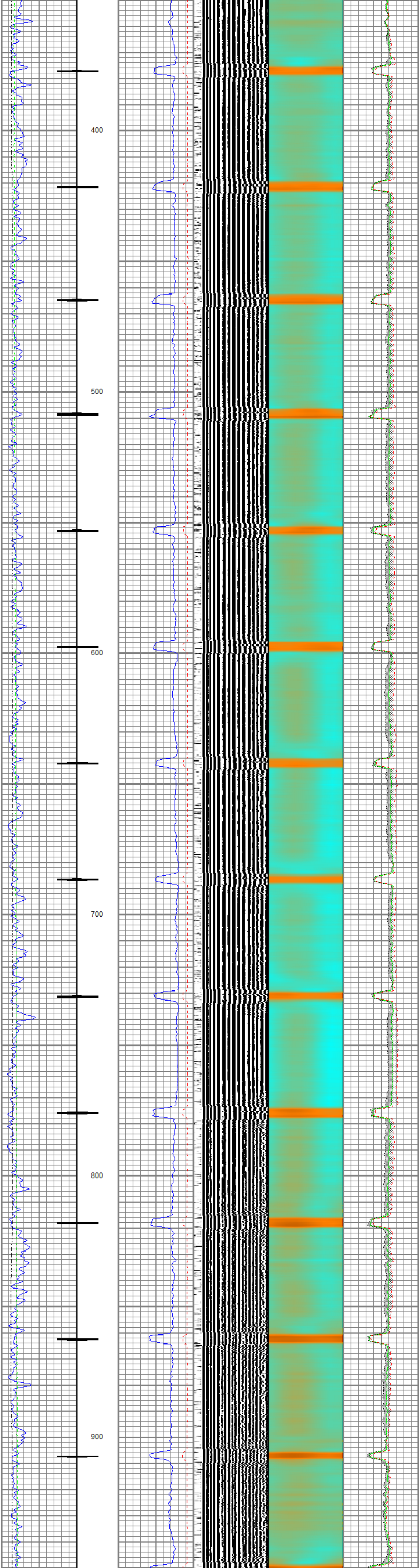
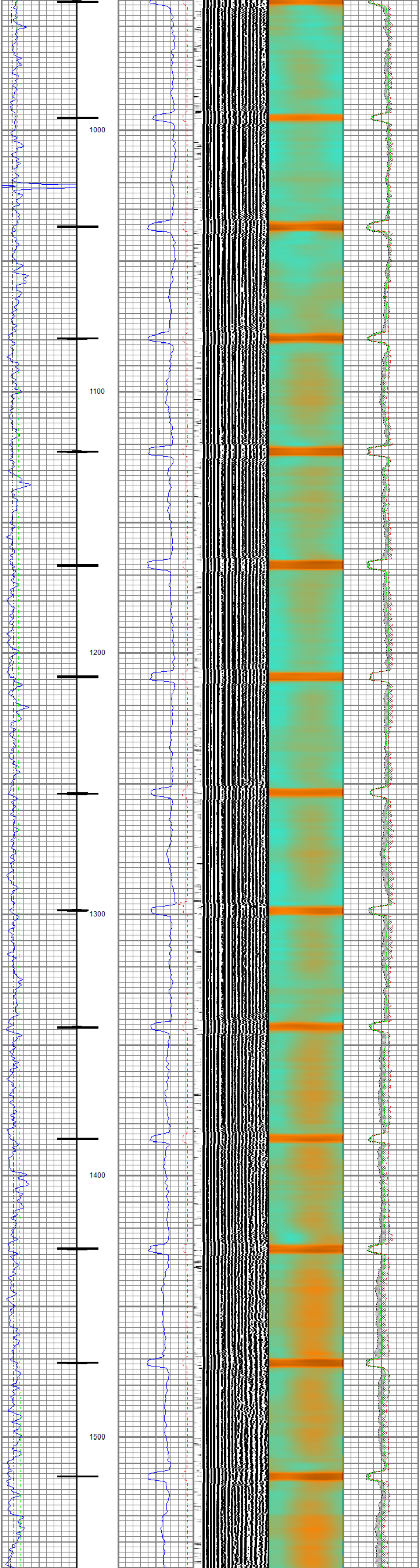
Main Pass

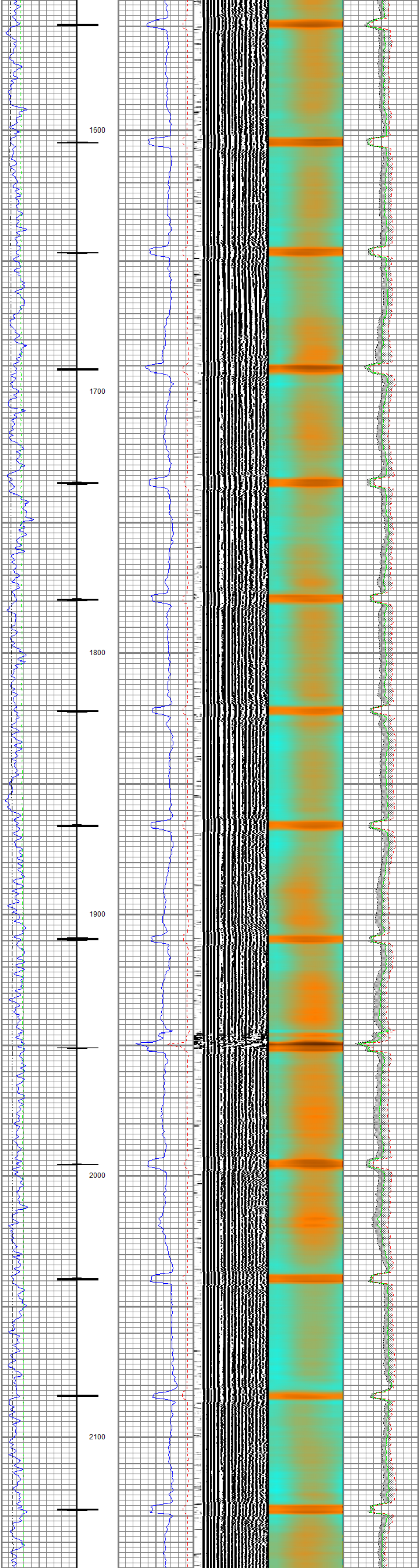
Recorded with 0 PSI Surface Induced Pressure

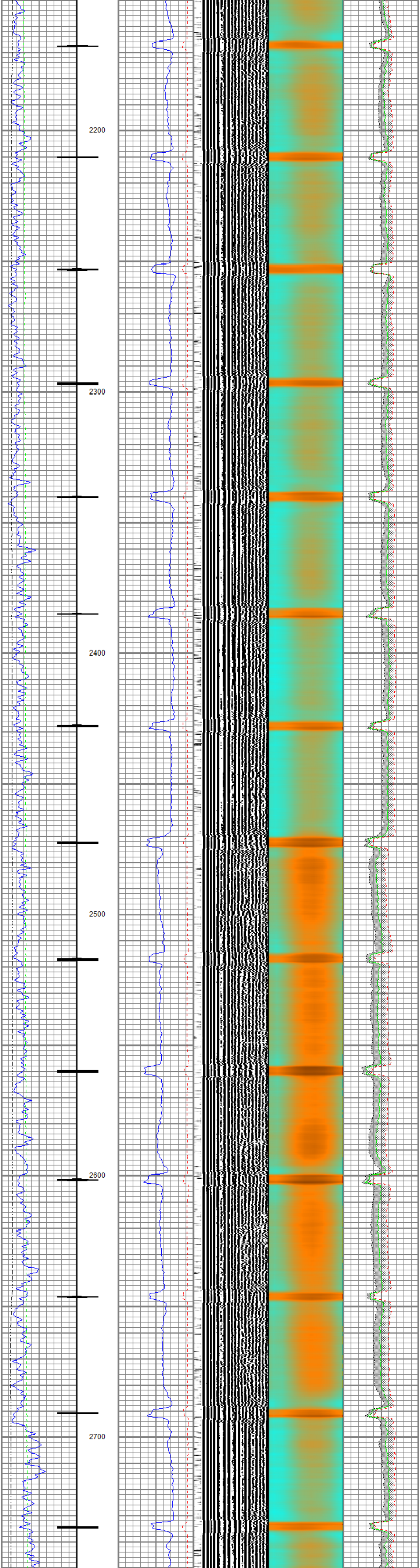
Database File	tep_chevron tr 23-21-597\processed_tep_chevron tr 23-21-597_03-27-17_rbl (1).db
Dataset Pathname	pass4.1
Presentation Format	ros_rbt004_tep
Dataset Creation	Wed Mar 29 12:41:36 2017
Charted by	Depth in Feet scaled 1:240

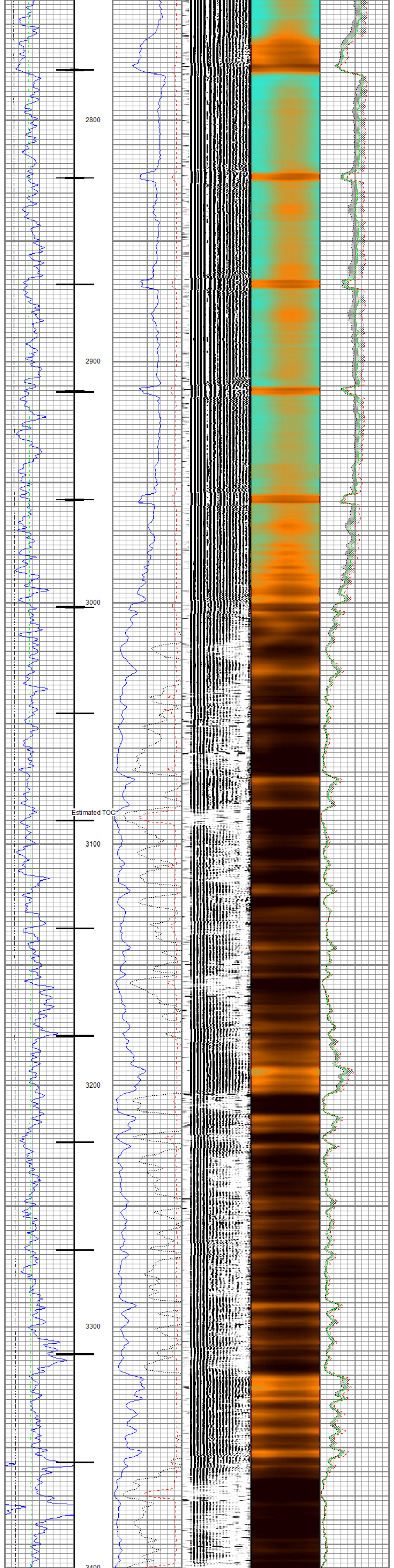


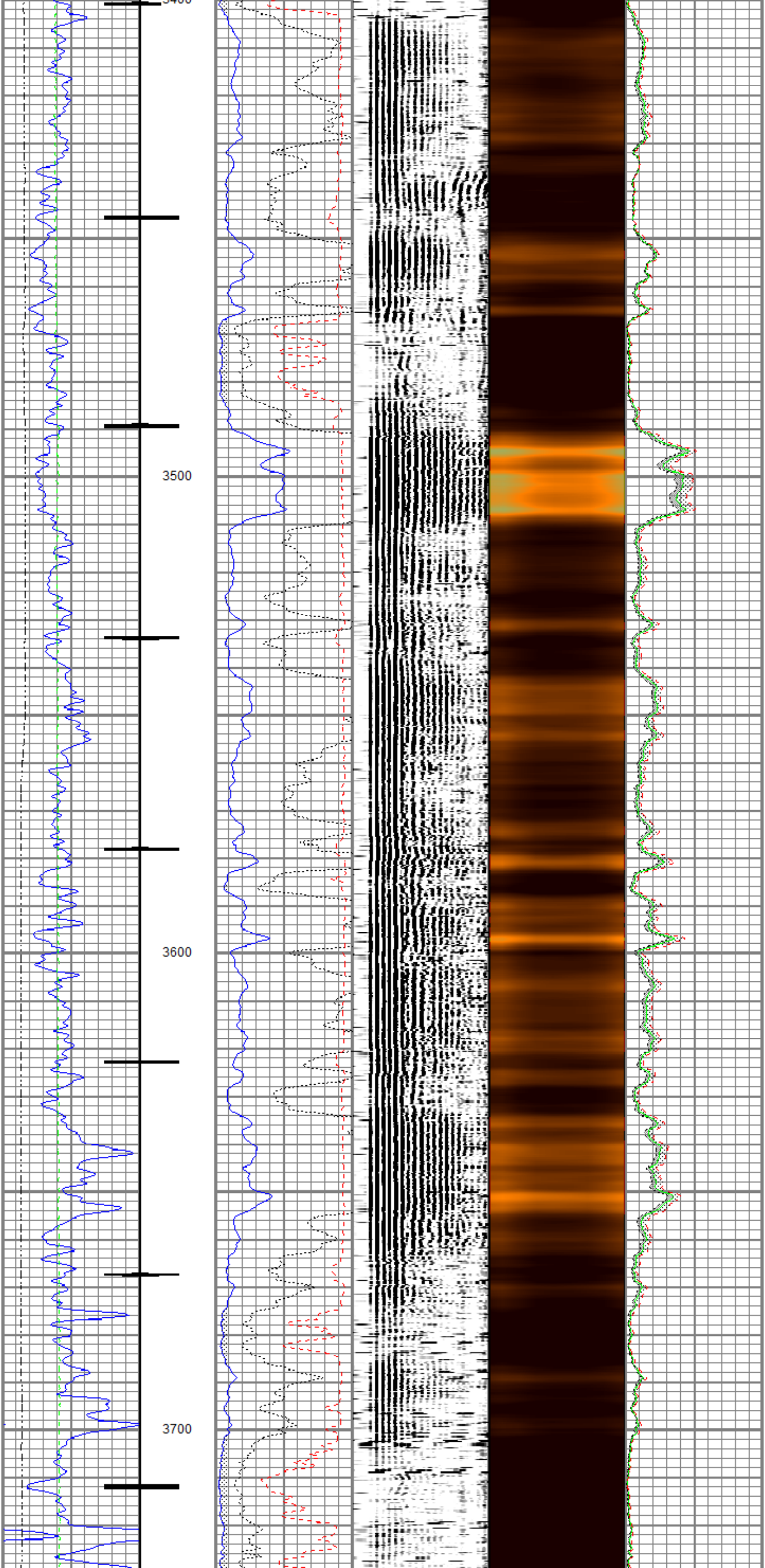


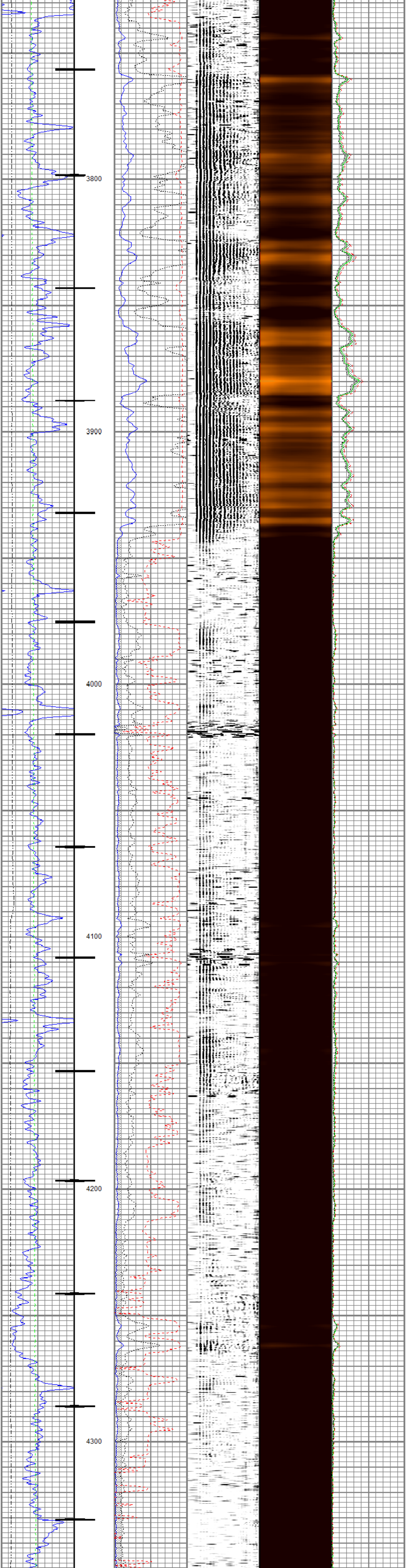








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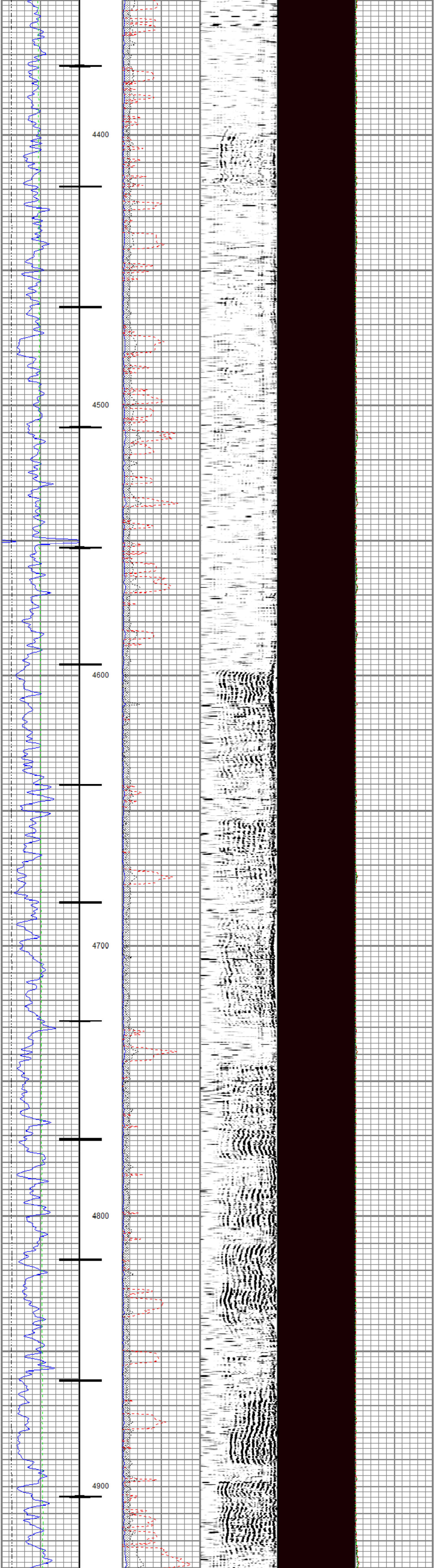
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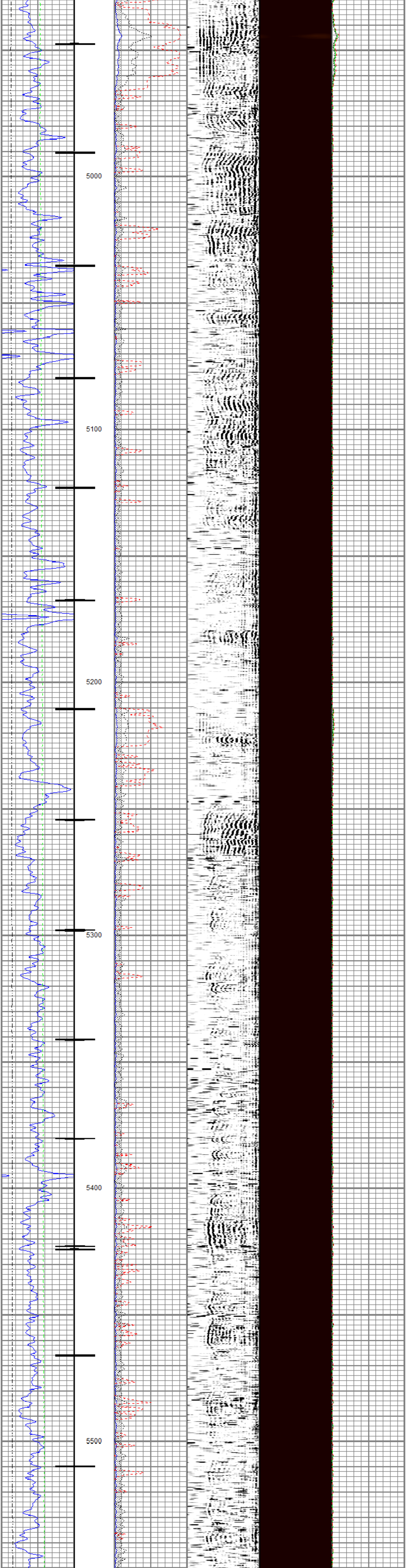
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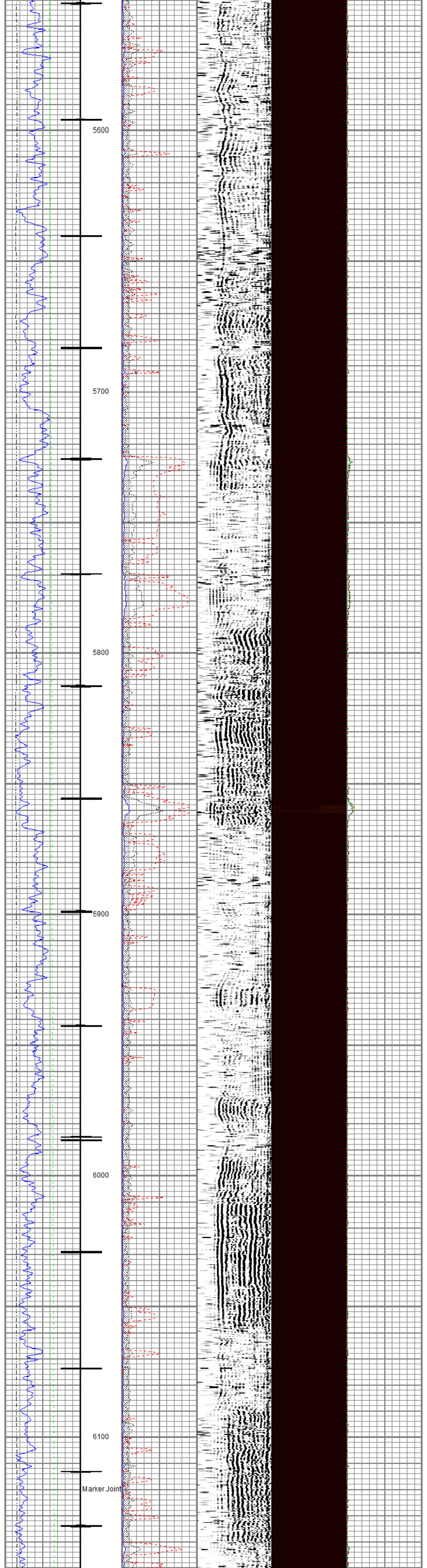

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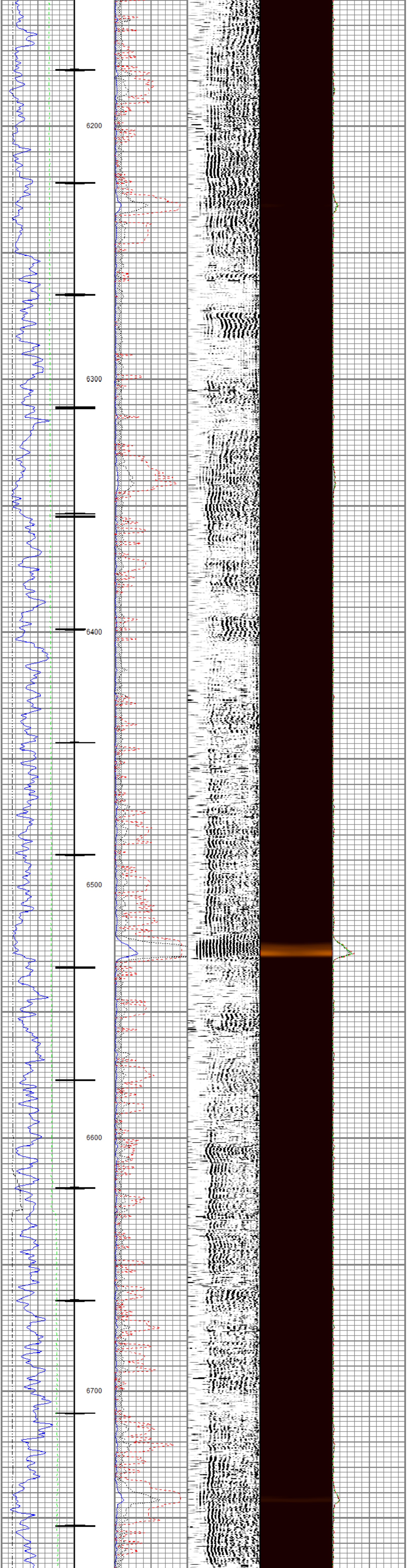
Marker Joint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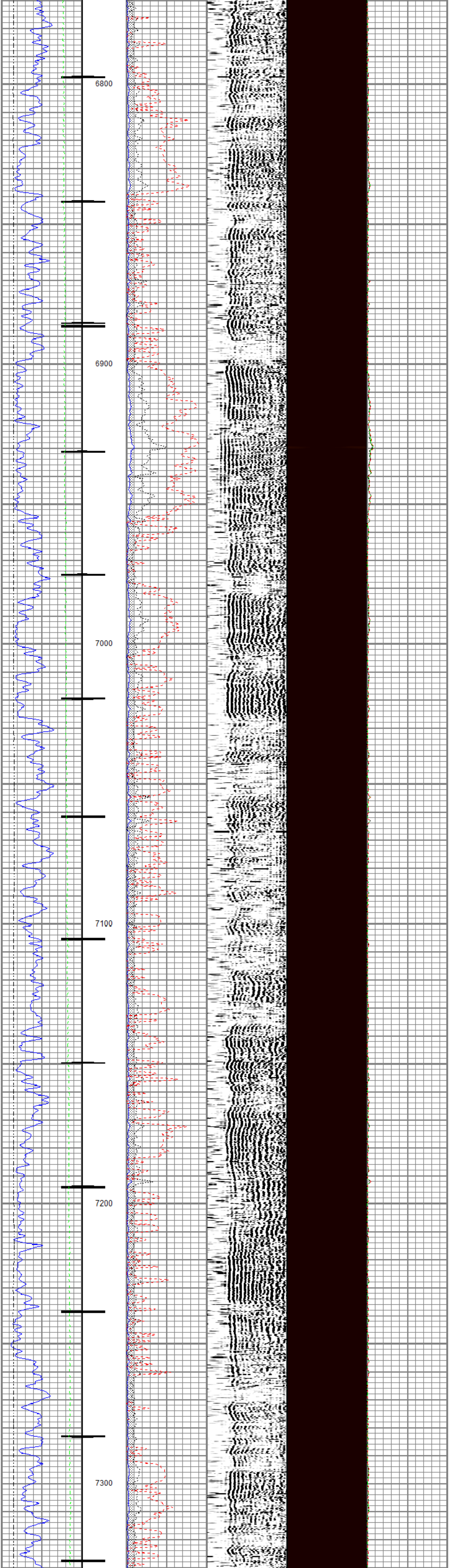
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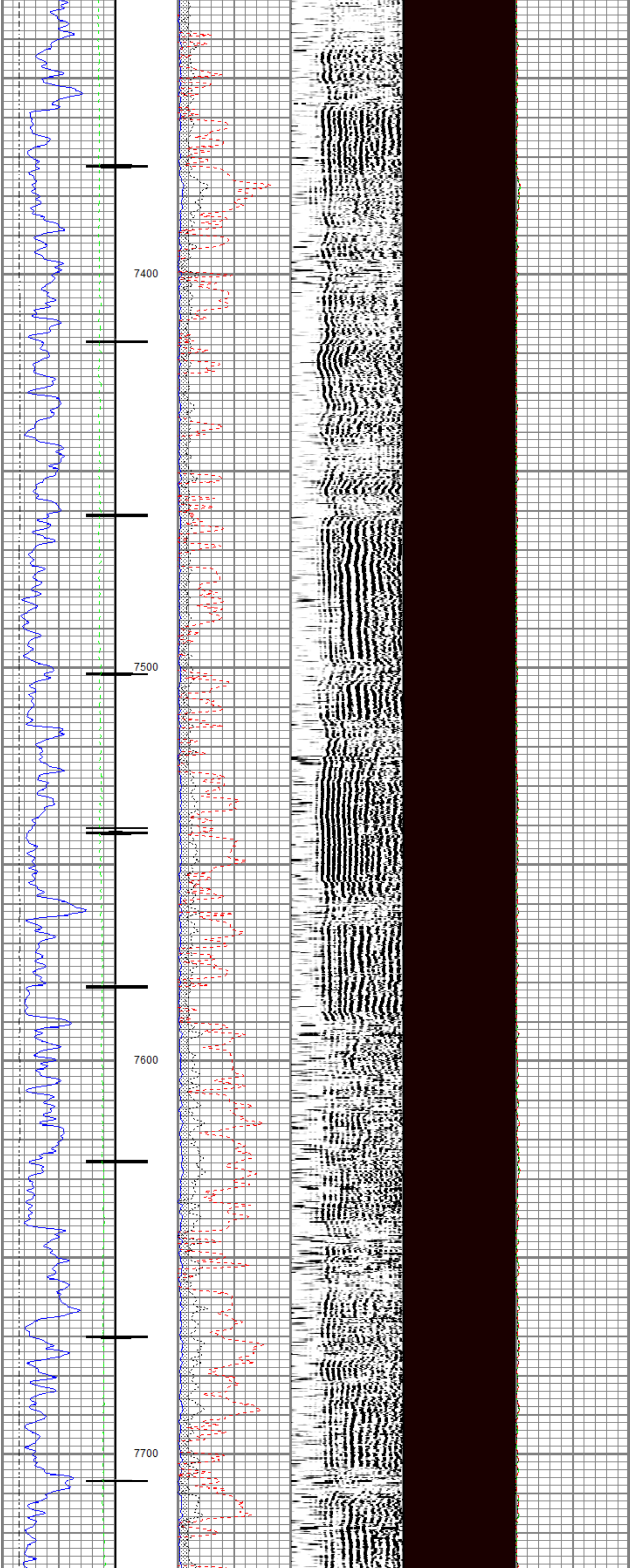
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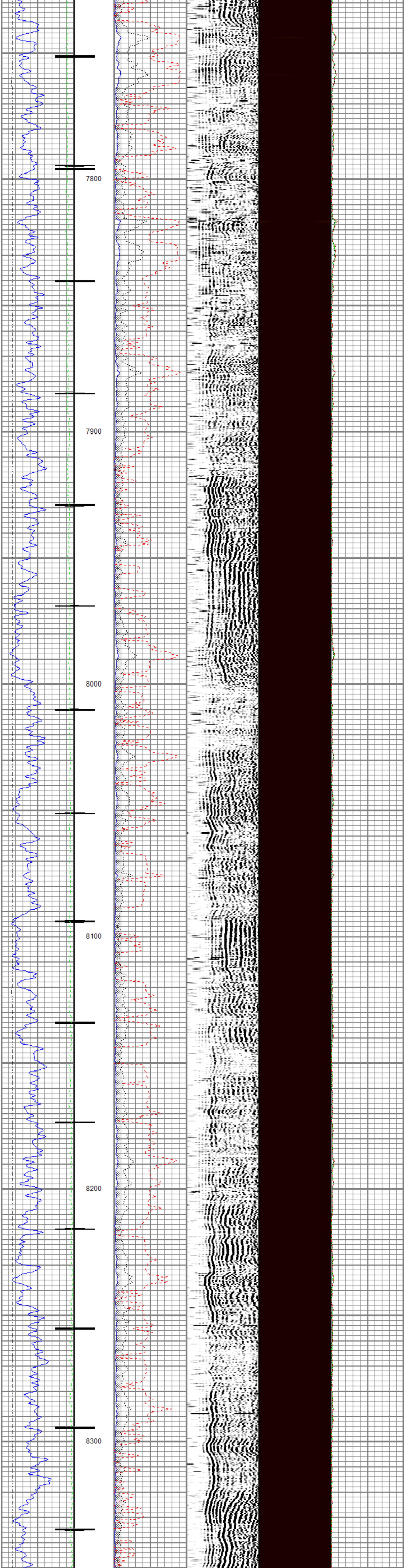

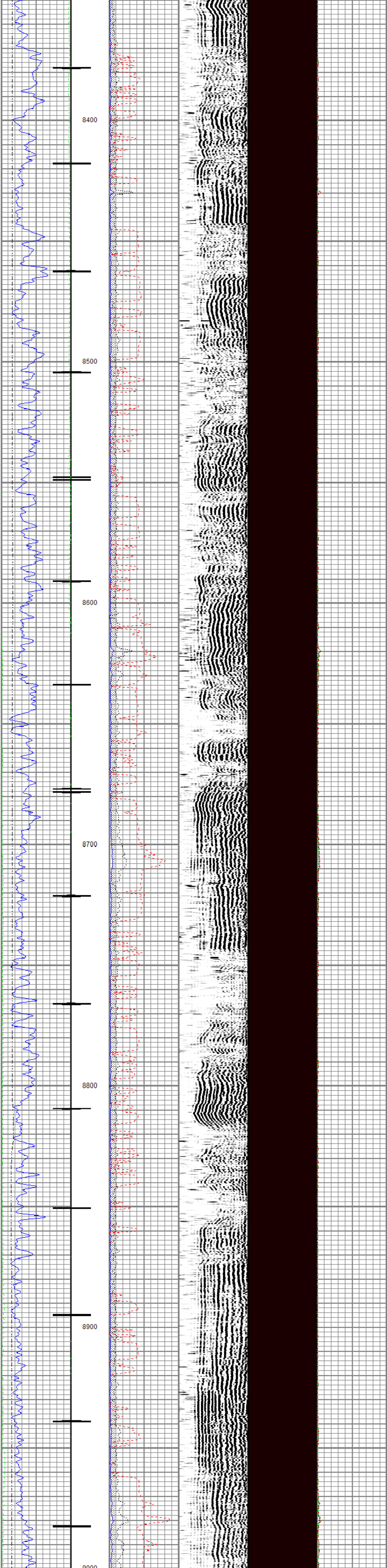

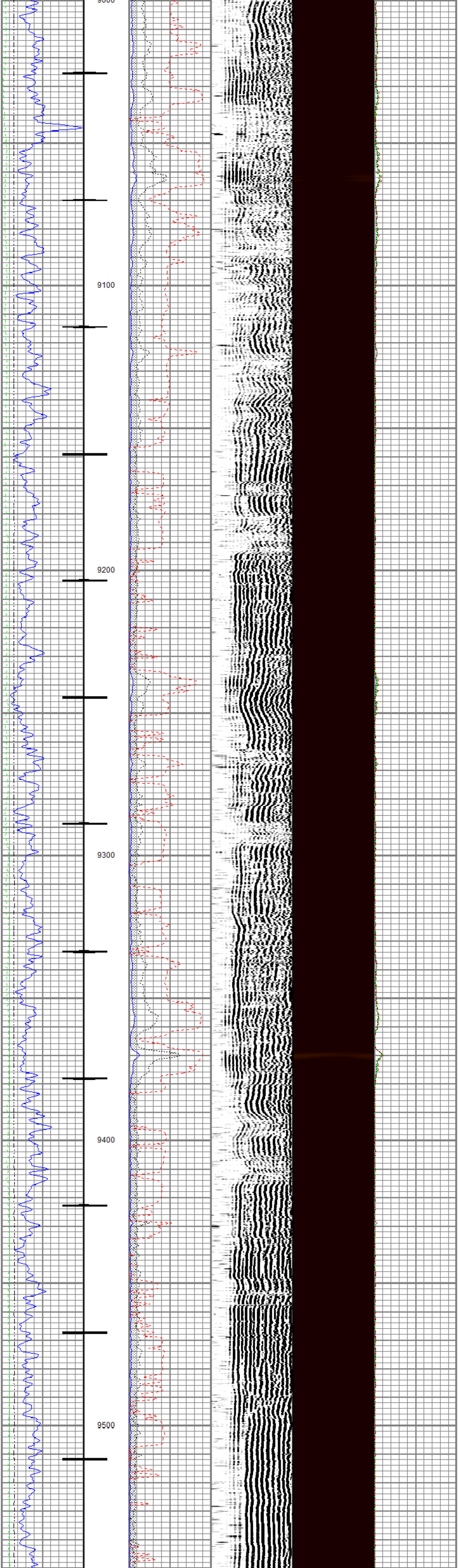

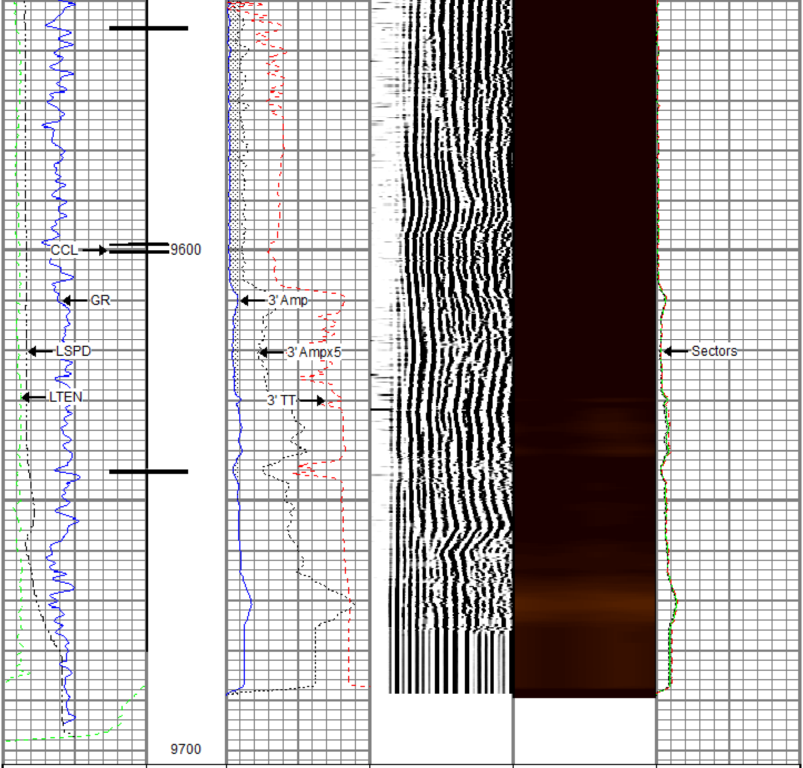

Gamma Ray 0 (GAPI) 200	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map 10 110	Average Amplitude 0 150
Casing Collar Locator	3' Amplitude x 5 0 (mV) 20			Mimimum Amplitude 0 150
Line Speed -150 (ft/min) 150	3' Travel Time 300 (usec) 200			Maximum Amplitude 0 150
Line Tension 0 (lb)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

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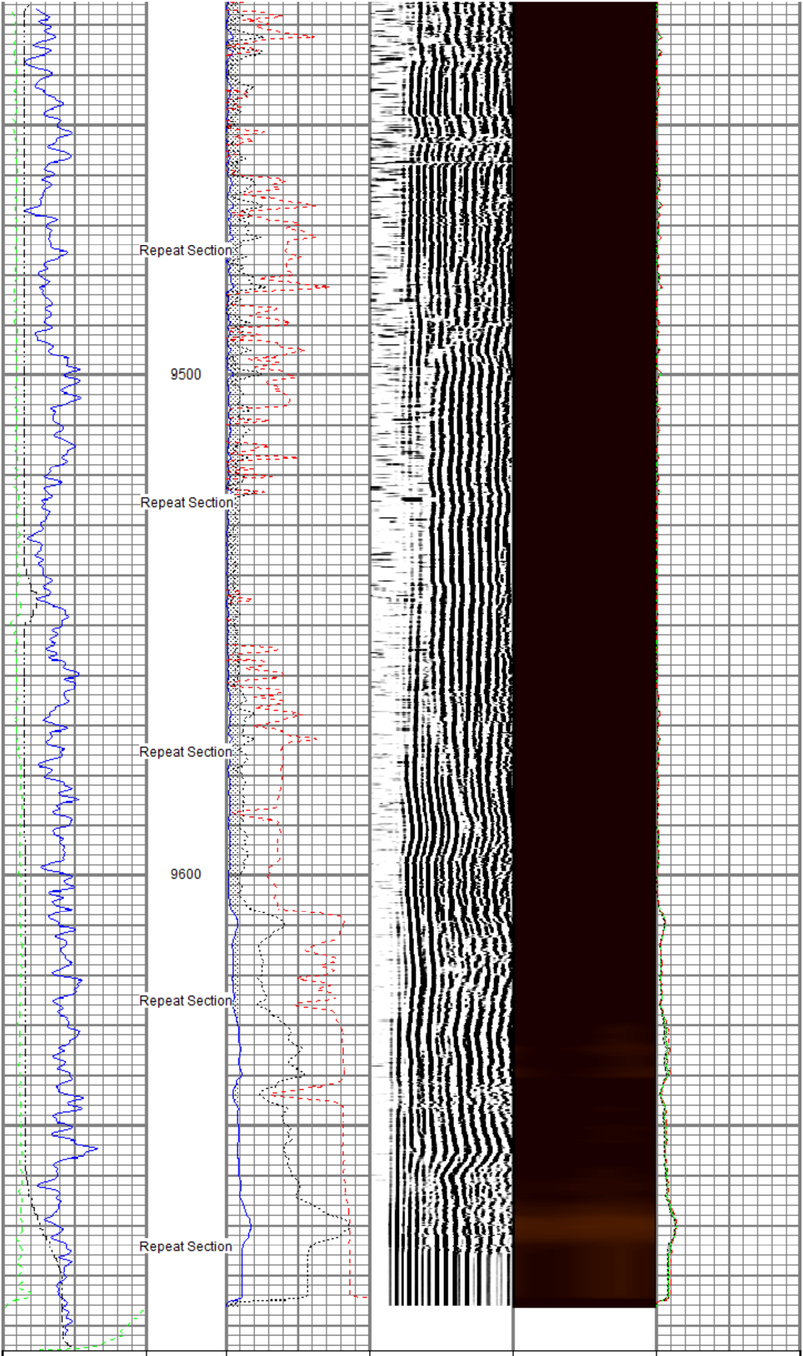
Repeat Pass

Recorded with 0 PSI Surface Induced Pressure

Database File	tep_chevron tr 23-21-597\processed_tep_chevron tr 23-21-597_03-27-17_rbl (1).db
Dataset Pathname	pass3.1
Presentation Format	ros_rbt004_tep
Dataset Creation	Wed Mar 29 12:49:27 2017
Charted by	Depth in Feet scaled 1:240

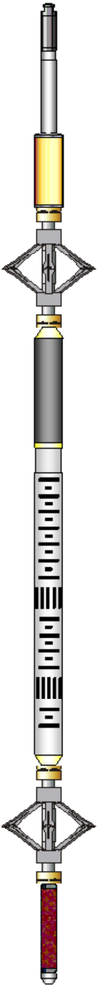
Gamma Ray 0 (GAPI) 200	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map 10 110	Average Amplitude 0 150
Line Speed -150 (ft/min) 150	3' Amplitude x 5 0 (mV) 20			Mimimum Amplitude 0 150
Line Tension 0 (lb) 2000	3' Travel Time 300 (usec) 200			Maximum Amplitude 0 150



Gamma Ray 0 (GAPI) 200	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map 10 110	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

Sensor	Offset (ft)
CCL	17.22
CBLROT	9.83
CBLTEMP	9.83
WVFS8	9.83
WVFS7	9.83
WVFS6	9.83
WVFS5	9.83
WVFS4	9.83
WVFS3	9.83
WVFS2	9.83
WVFS1	9.83
WVF3FT	9.83
WVF5FT	8.83
CBLTEMP	4.69
GR	0.72
TSTAMP	0.00

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
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
UW_RBT-UW_RBT_004 (10012639) 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
UW_PGR-UW_PGR_020 (10019371) Production Gamma Ray	1.92	1.69	9.50
UW_BUL-UW_BUL_006 (031422) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20

Dataset:	PROCESSED_TEP_Chevron TR 23-21-597_03-27-17_RBL (1).db: field/well/run1/pass4
Total length:	21.14 ft
Total weight:	263.60 lb
O.D.:	3.13 in

Calibration Report

Database File	D:\Warrior\Data\TEP_Chevron TR 23-21-597\PROCESSED_TEP_Chevron TR 23-21-597_03-27-17_RBL (1
Dataset Pathname	pass4.1
Dataset Creation	Wed Mar 29 12:41:36 2017

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:	10012639	
Tool Model:	UW_RBT_004	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	389.475	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.003	1.256	0.800	81.196	64.186	0.586
5FT	-0.001	0.927	0.800	81.196	86.615	0.911
S1	0.004	1.180	0.000	100.000	85.083	-0.376
S2	0.003	1.193	0.000	100.000	84.050	-0.253
S3	0.002	1.235	0.000	100.000	81.128	-0.157
S4	0.002	1.280	0.000	100.000	78.232	-0.127
S5	0.004	1.286	0.000	100.000	77.947	-0.278
S6	0.004	1.288	0.000	100.000	77.865	-0.326
S7	0.004	1.241	0.000	100.000	80.890	-0.353
S8	0.004	1.188	0.000	100.000	84.426	-0.309

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Company	TEP Rocky Mountain LLC
Well	Chevron TR 23-21-597
Field	Trail Ridge
County	Garfield
State	Colorado