RELIANCE OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Chevron TR 313-21-597
Field	Trail Ridge
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Chevron TR 313-21-597
Field Trail Ridge
County Garfield State Colorado

Location: API # : 05-045-23339
704' FSL & 1868' FWL SESW
SEC 21 TWP 5S RGE 97W

Other Services
PDN

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

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

Date	27-MAR-2017
Run Number	One
Depth Driller	9734 FT
Depth Logger	9622 FT
Bottom Logged Interval	9622 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	258 °F
Estimated Cement Top	3330 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	2753 FT
Intermediate #1	4 1/2	11.6	---	Surface	9734 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 @ 6058 FT - 6078 FT
Log ran from 9622 ft to surface
Recorded with 0 PSI surface induced pressure

Thank you for choosing Reliance Oil Field Services, LLC!!

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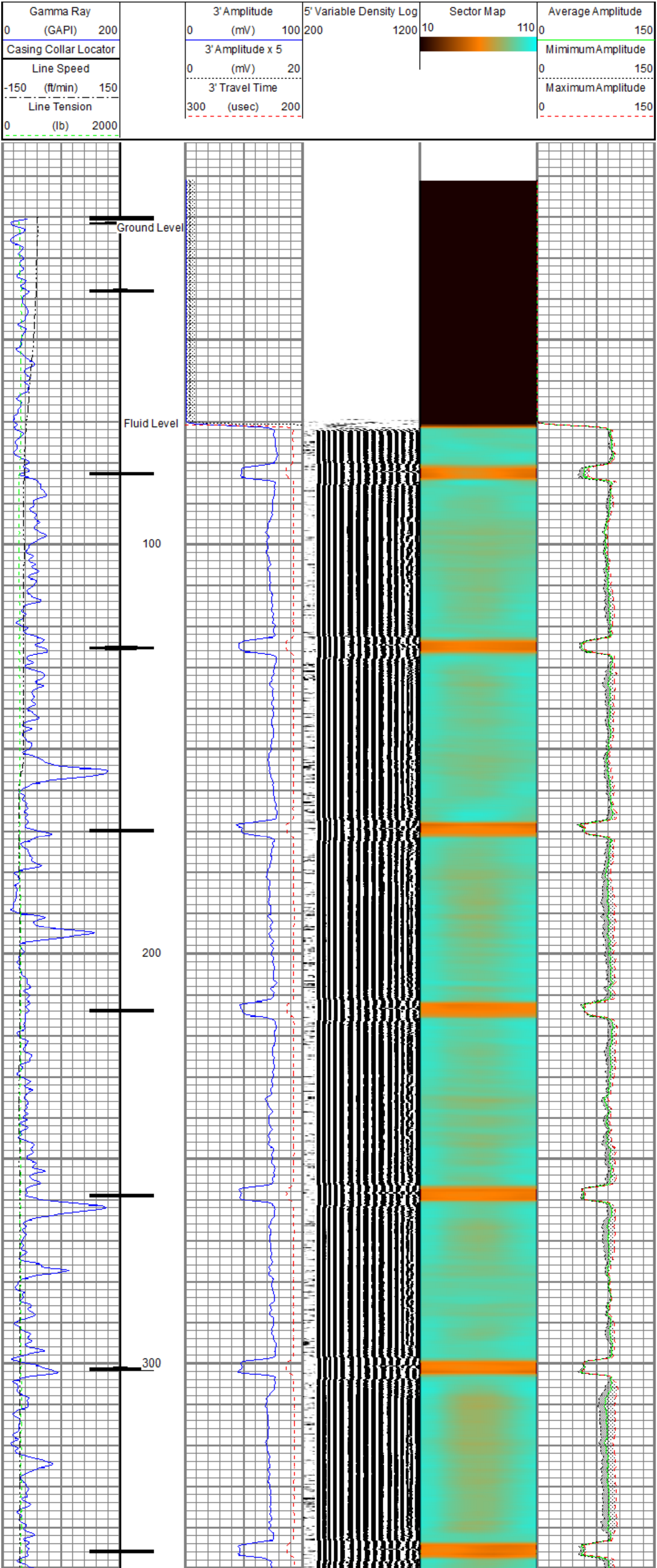
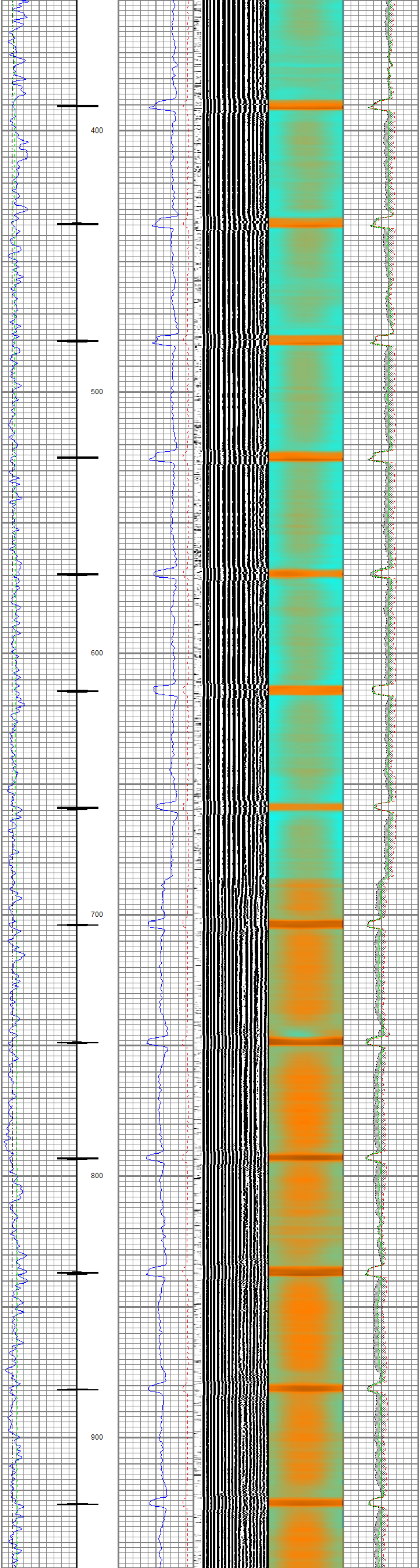
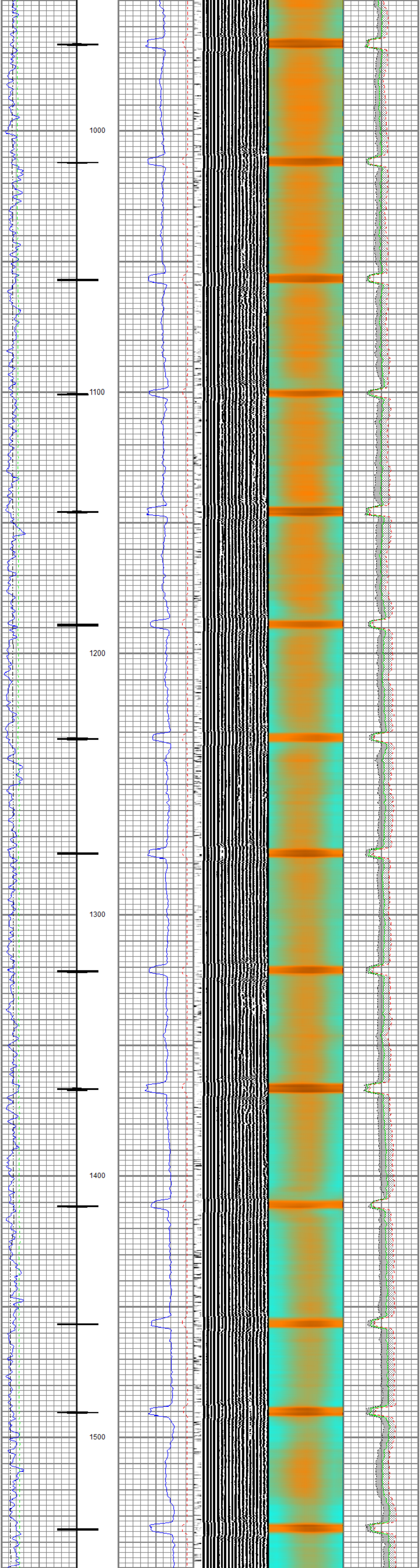
Main Pass

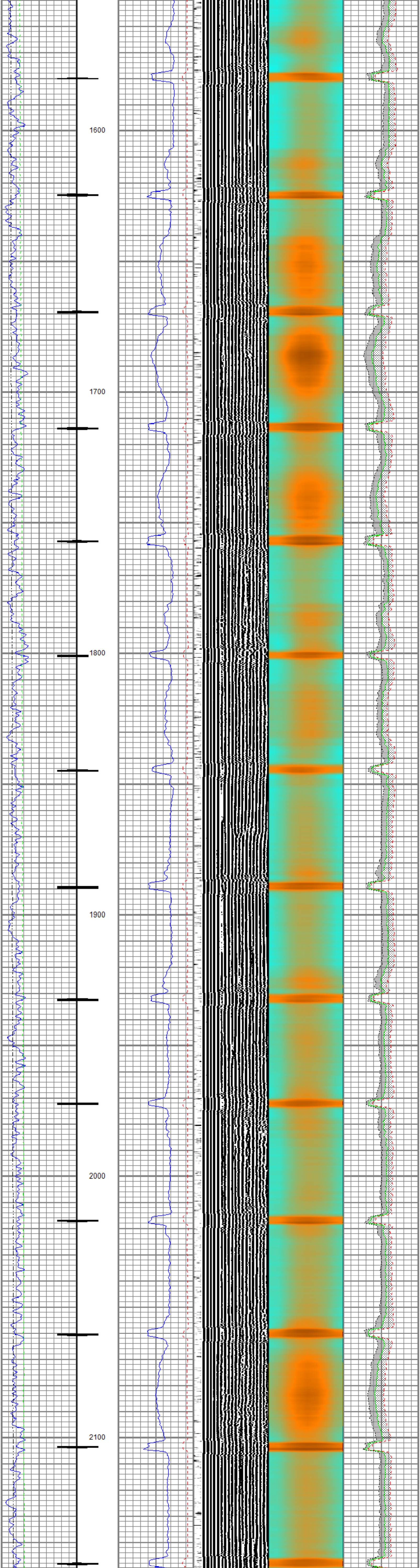
Recorded with 0 PSI Surface Induced Pressure

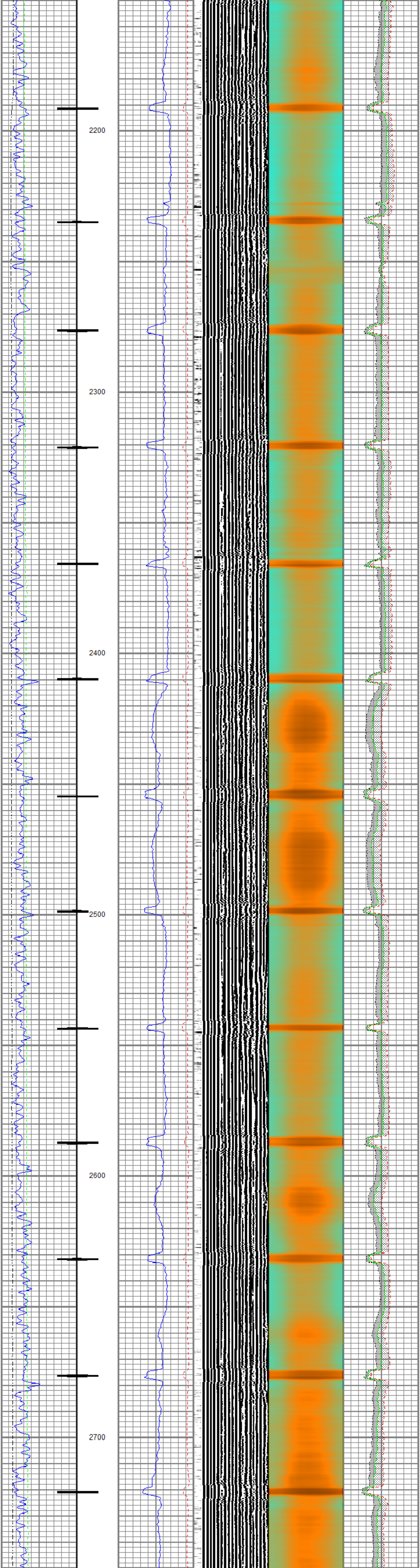
Database File	tep_chevron tr 313-21-597\processed_tep_chevron tr 313-21-597_03-27-17_rbl.db
Dataset Pathname	pass4.4
Presentation Format	ros_rbt004_tep
Dataset Creation	Wed Mar 29 13:49:52 2017
Charted by	Depth in Feet scaled 1:240

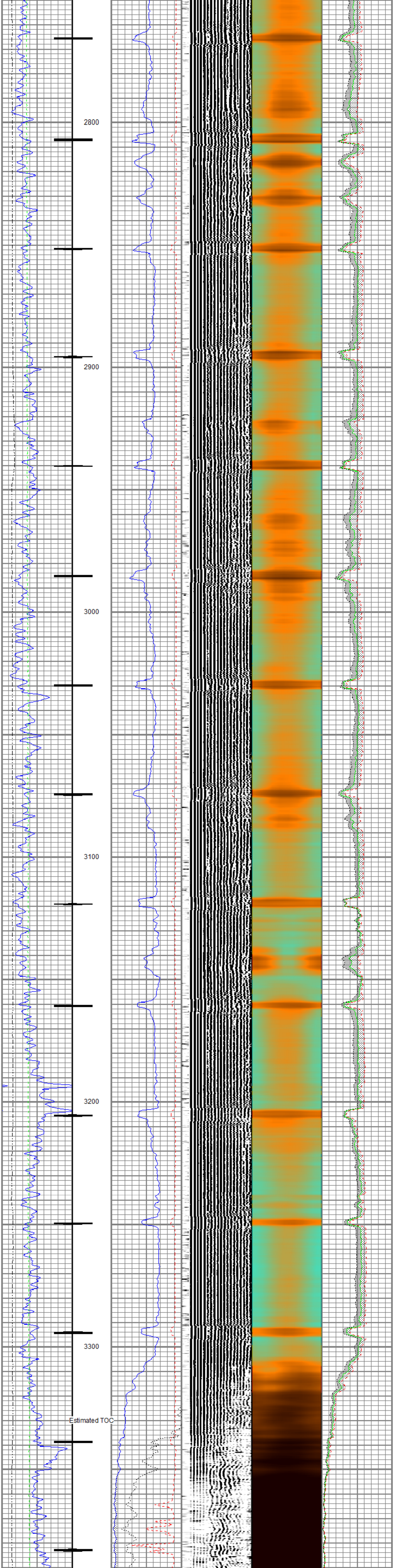


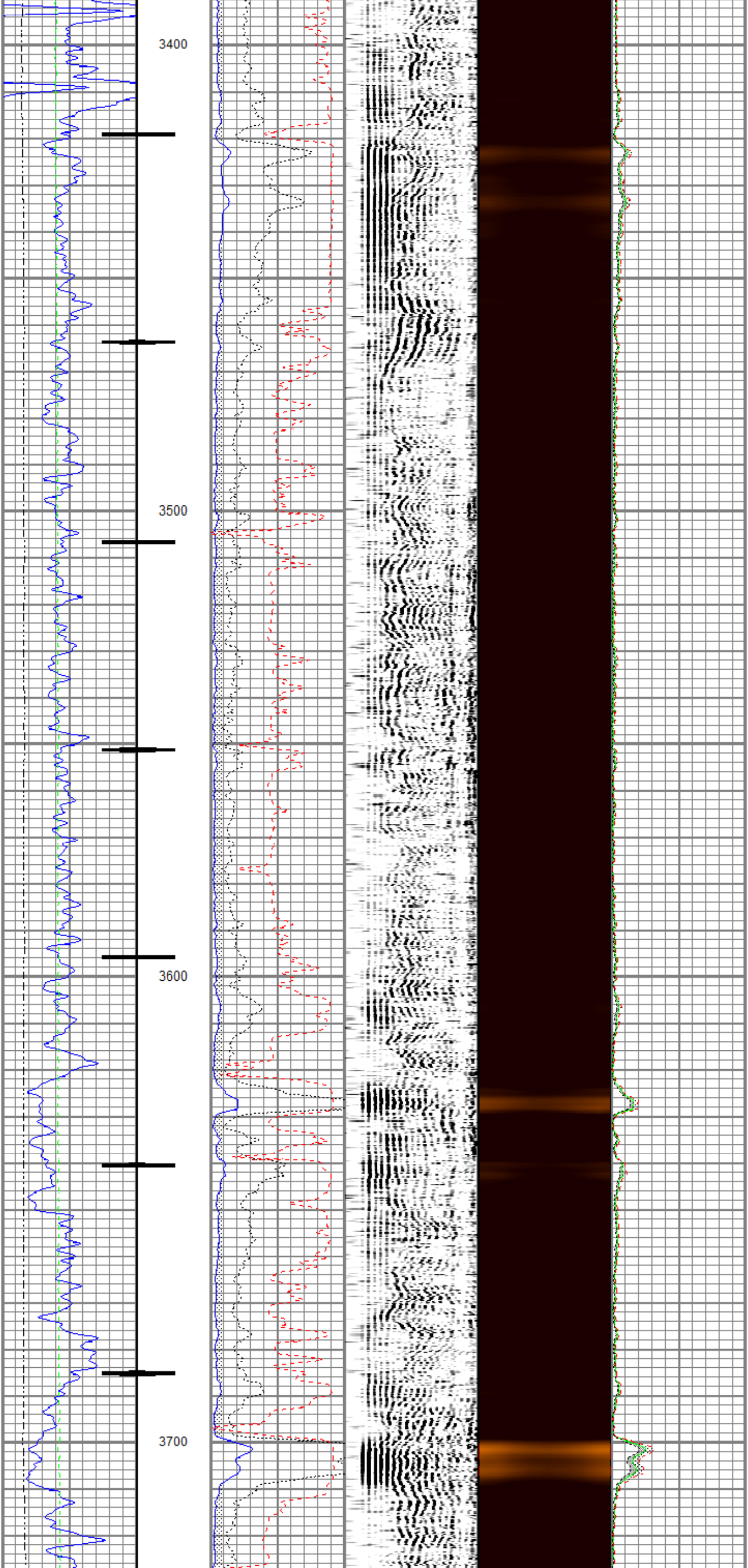


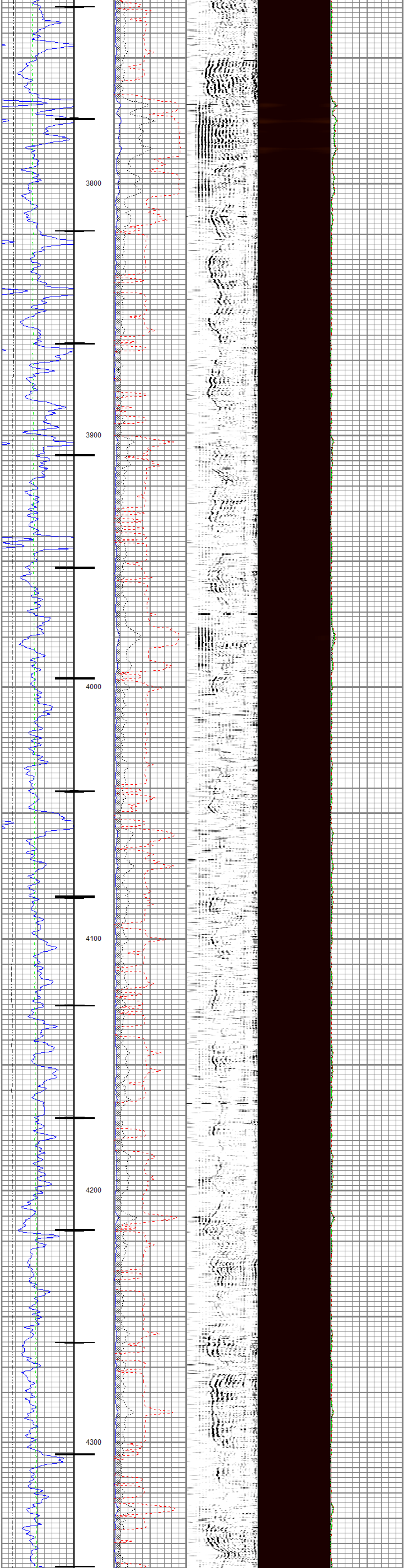








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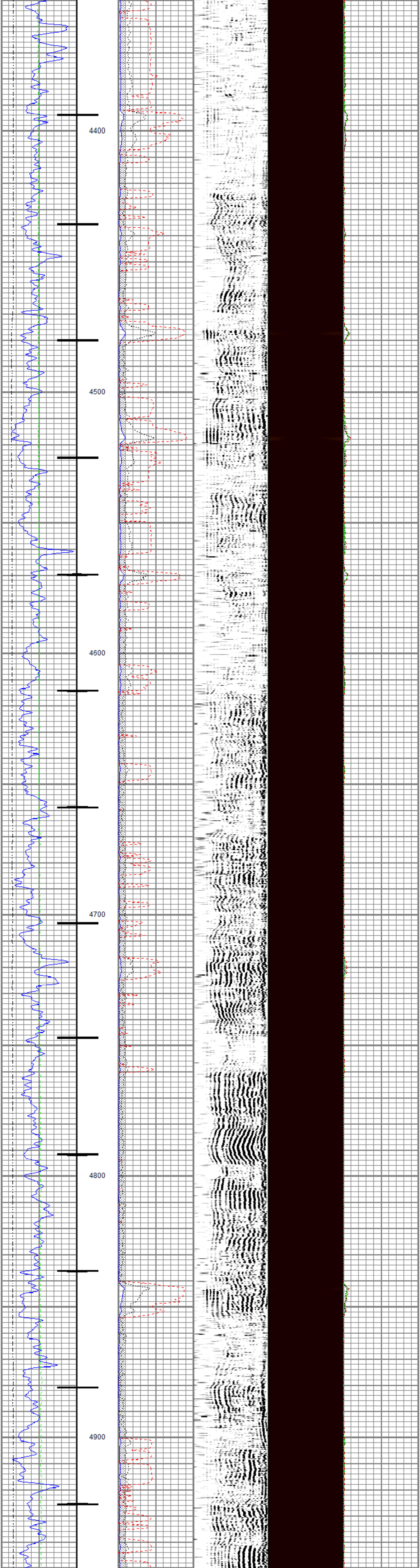
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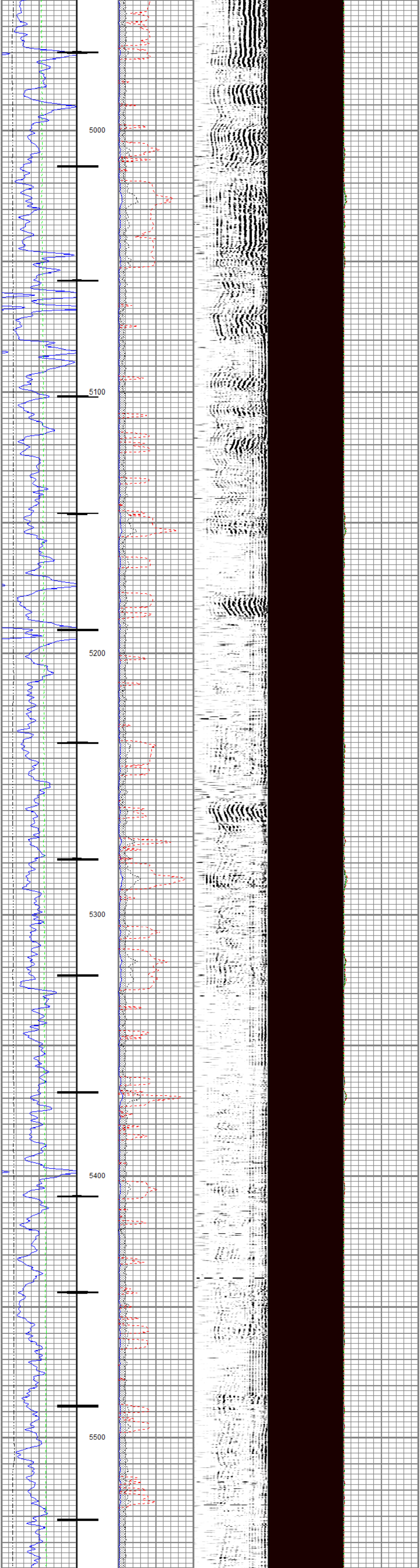
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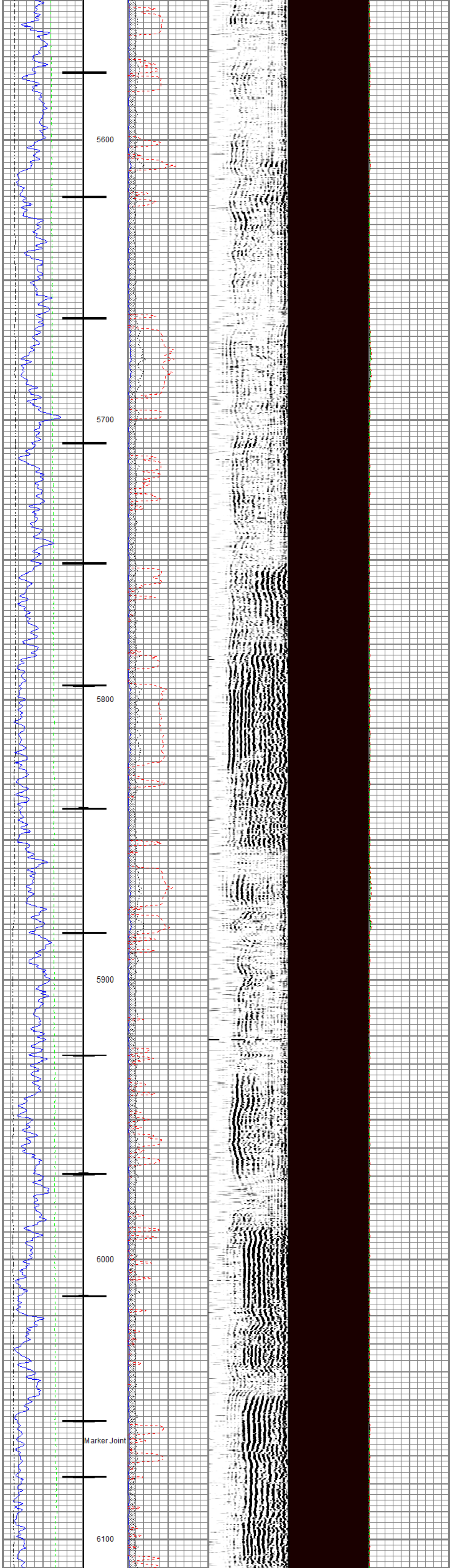
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Marker Joint
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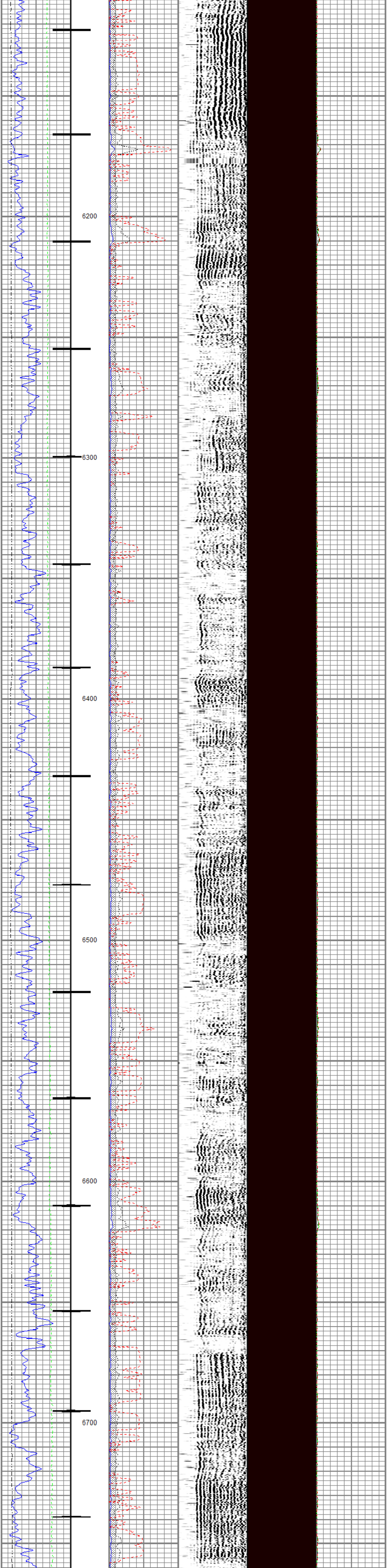
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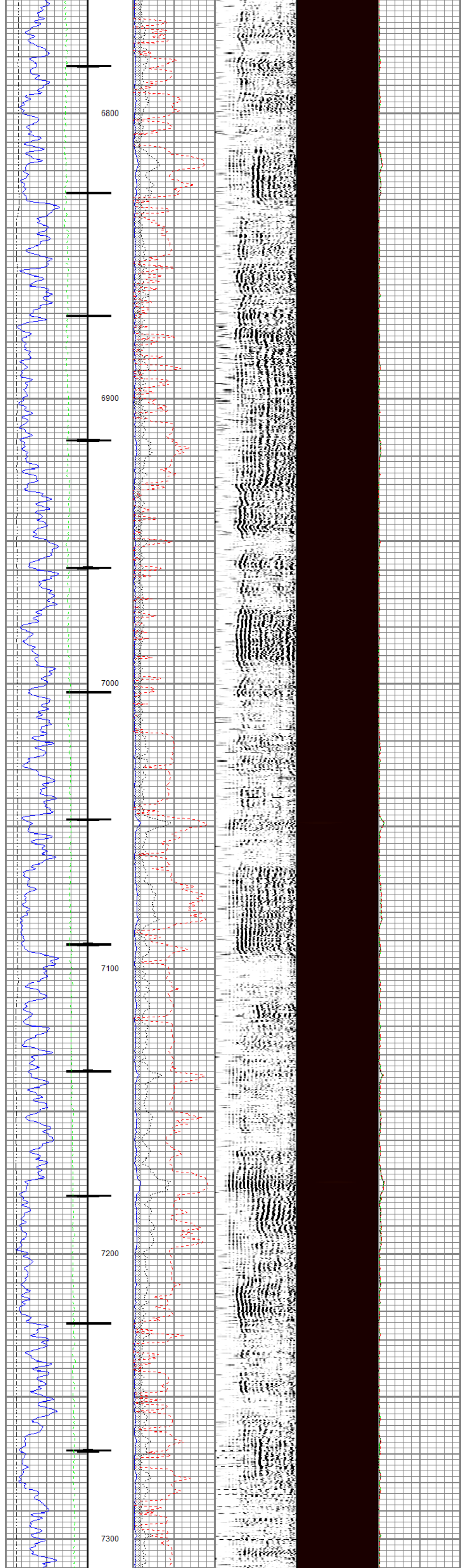
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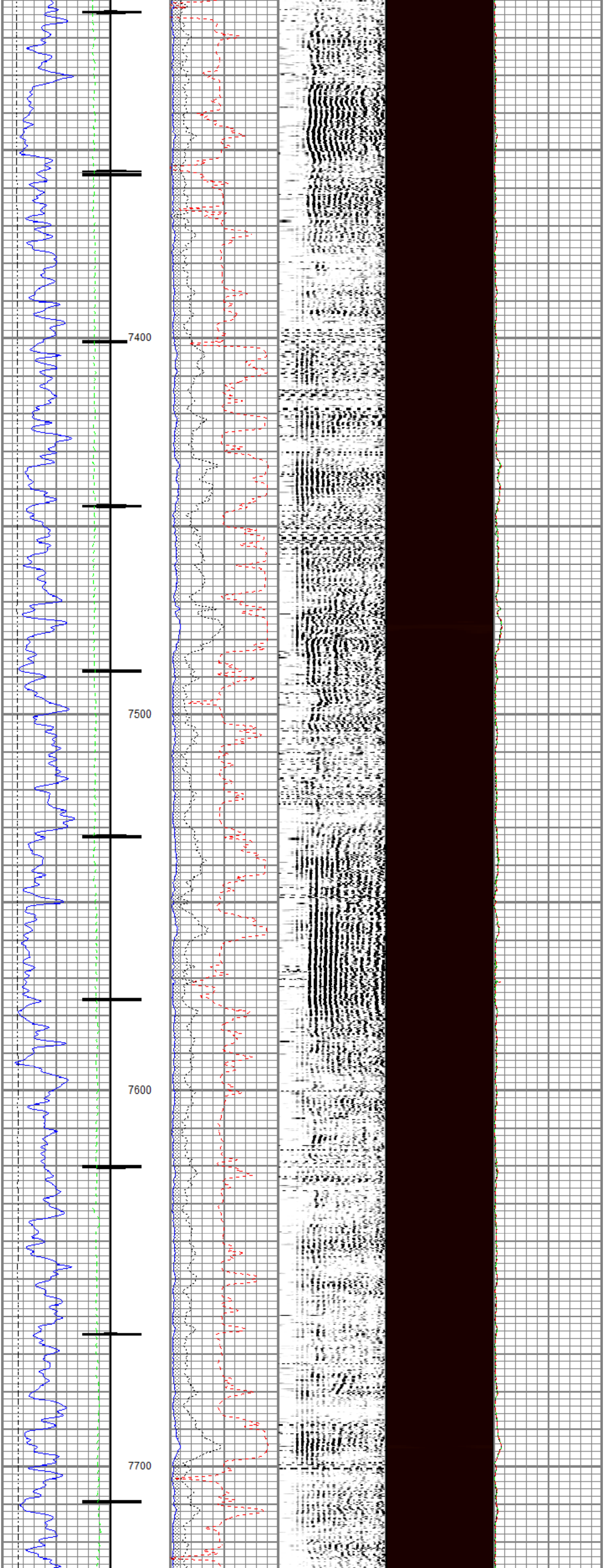
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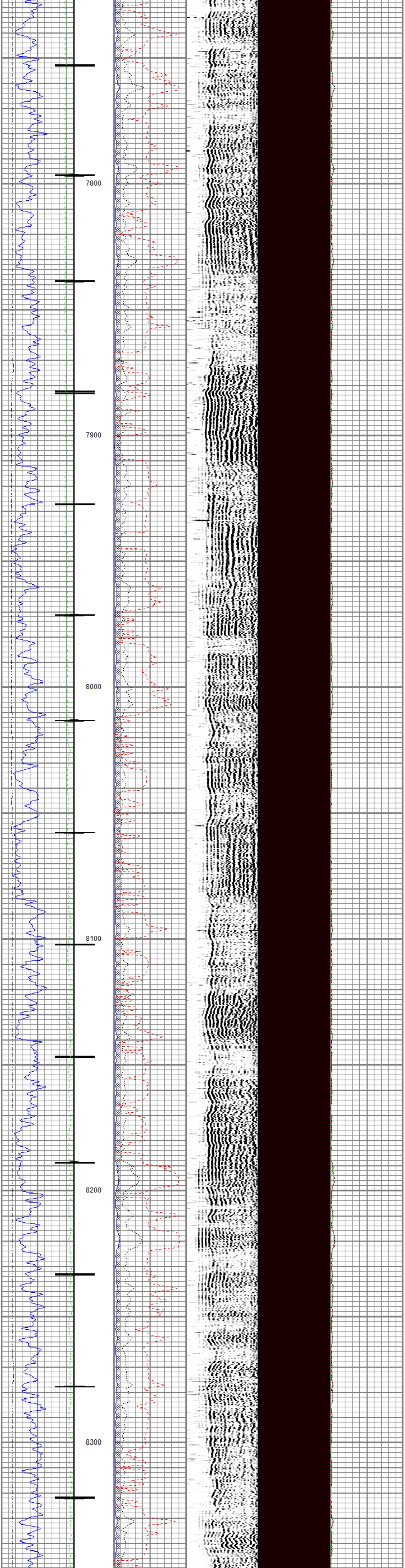

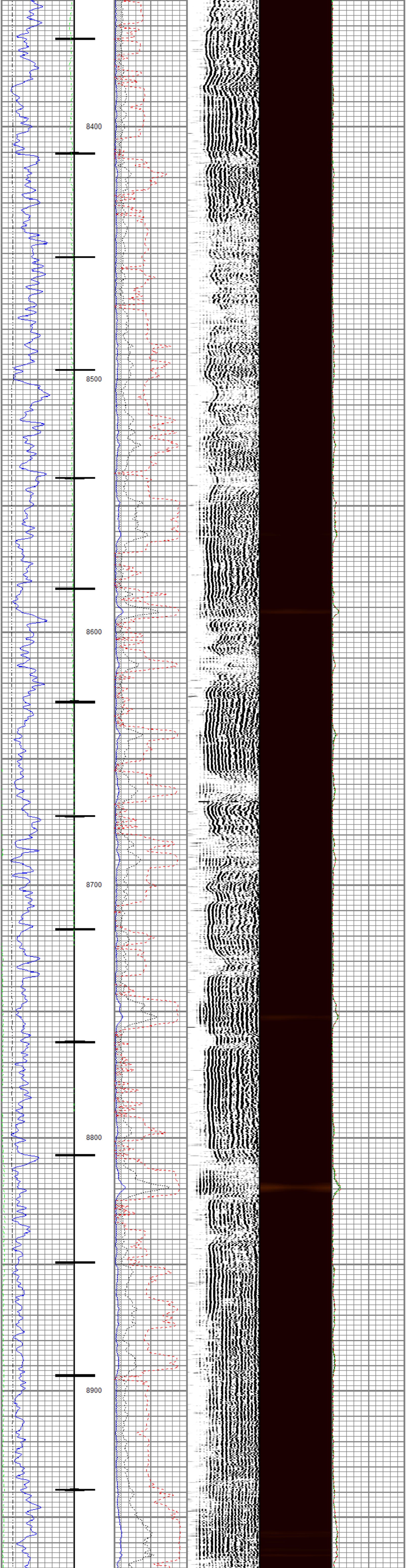

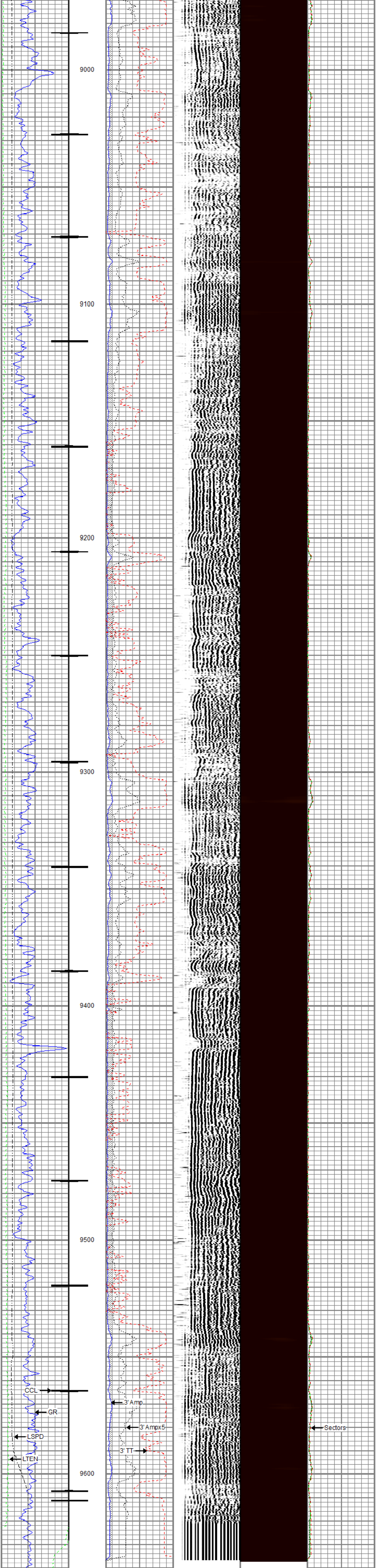

Gamma Ray		3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200		0 (mV) 100	200 1200	10 110	0 150
Casing Collar Locator		3' Amplitude x 5			Mimimum Amplitude
Line Speed		0 (mV) 20			0 150
-150 (ft/min) 150		3' Travel Time			Maximum Amplitude
Line Tension		300 (usec) 200			0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

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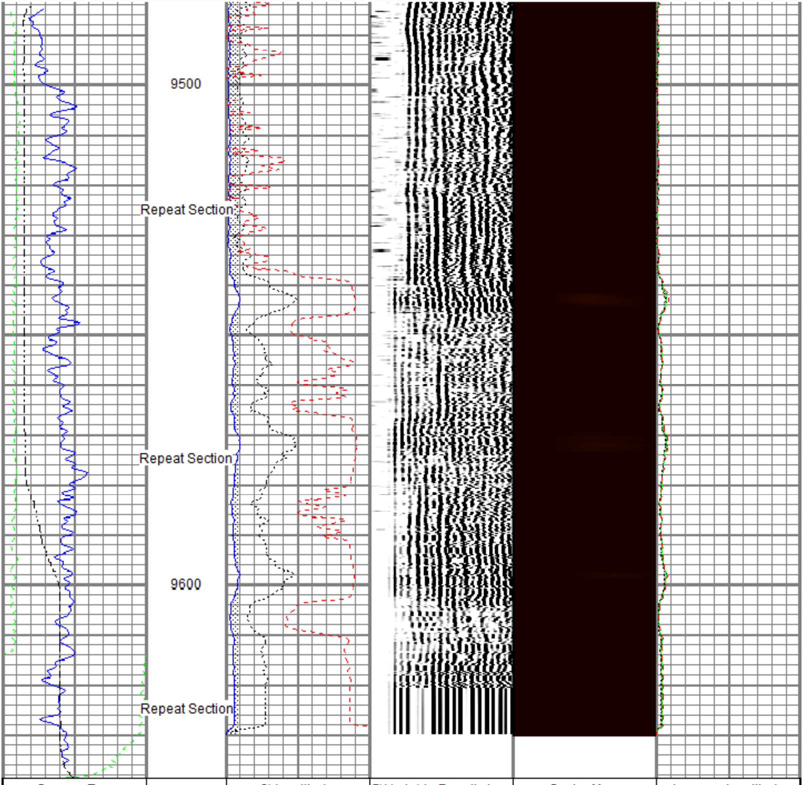
Repeat Pass

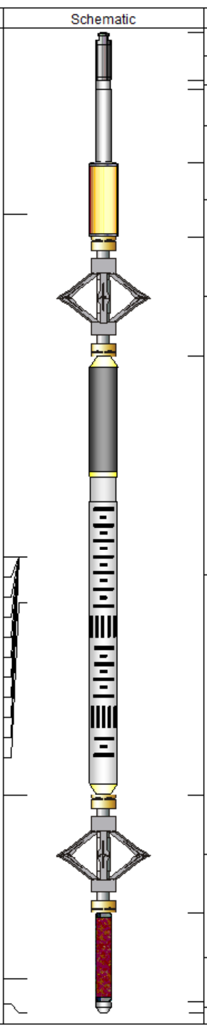
Recorded with 0 PSI Surface Induced Pressure

Database File	tep_chevron tr 313-21-597\processed_tep_chevron tr 313-21-597_03-27-17_rbl.db
Dataset Pathname	pass3.4
Presentation Format	ros_rbt004_tep
Dataset Creation	Wed Mar 29 14:02:31 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



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

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	17.22		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	9.83 9.83 9.83 9.83 9.83 9.83 9.83 9.83 9.83 9.83 8.83 4.69		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
GR	0.72		UW_PGR-UW_PGR_020 (10019371) Production Gamma Ray	1.92	1.69	9.50
TSTAMP	0.00		UW_BUL-UW_BUL_006 (031422) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20

Dataset:	PROCESSED_TEP_Chevron TR 313-21-597_03-27-17_RBL.db: field/well/run1/pass4.2
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 313-21-597\PROCESSED_TEP_Chevron TR 313-21-597_03-27-17_RBL
Dataset Pathname	pass4.4
Dataset Creation	Wed Mar 29 13:49:52 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:	5.500	in
Calibration Depth:	267.879	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.003	1.229	0.800	81.196	65.580	0.594
5FT	-0.001	0.908	0.800	81.196	88.435	0.889
S1	0.005	1.137	0.000	100.000	88.373	-0.443
S2	0.003	1.121	0.000	100.000	89.423	-0.253
S3	0.002	1.164	0.000	100.000	86.071	-0.182
S4	0.001	1.245	0.000	100.000	80.404	-0.121
S5	0.005	1.298	0.000	100.000	77.321	-0.348
S6	0.004	1.323	0.000	100.000	75.864	-0.333
S7	0.005	1.260	0.000	100.000	79.642	-0.370
S8	0.005	1.173	0.000	100.000	85.572	-0.391

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Field	Trail Ridge
County	Garfield
State	Colorado