CEMENT BOND LOG

Company	Extraction Oil and Gas, Inc.
Well	12W-20-2N
Field	Wattenberg
County	Adams
State	Colorado

Company Extraction Oil and Gas, Inc.
Well 12W-20-2N
Field Wattenberg
County Adams **State** Colorado

API # : 05 100 10162
Location:
NW/SW
2575 FSL
694 FWL
SEC: 12 TWP: 1S RGE: 66W

Other Services

Elevation
K.B. 5066
D.F. 5065
G.L. 5037

Permanent Datum: Ground Level Elevation: 5037
Log Measured From: Kelly Bushing , 29 ft. above Permanent Datum.
Drilling Measured From: Kelly Bushing

Date	11 January 2019		
Run Number	One		
Plug Back T.D. Driller	----		
Plug Back T.D. Logger	----		
Bottom Logged Interval	8160		
Top Log Interval	Surface		
Type Fluid	Water		
Density / Viscosity	----		
Max. Recorded Temp.	222		
Time Logger on Bottom	12:15		
Equipment Number	GD114		
Location	Casper		
Recorded By	GS Yarbro		
Witnessed By	Parras		

Casing Record				Tubing Record			
Size	Weight	From	To	Size	Weight	From	To
9 5/8	36	29	----				
5 1/2	20	29	----				

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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.

Ticket # : RM0119PCBW135
Your Crew Today: Cheesman, Pena
Log Correlated to: Surface

Cement Data	
Date Cemented	----
Primary / Squeeze	Primary
Type / Weight	----
Main Pass Press.	Zero
Repeat Pass Press.	Zero

Bond Index	
Index %	Est Top Depth
20 % Bond	145
40 % Bond	145
60 % Bond	1110
80 % Bond	2610
100 % Bond	----

Comments

Estimated Top of Cement
(40% Bond Index) @ 145

37 Years

Thank you for using Gyrodata

Eric Regnier: Rocky Mountain Wireline Manager EricR@Gyrodata.com

Log Variables

Databased:\warrior\data\20190111_extraction_duck club 12w-20-2n_cbl\20190111_extraction_duck
Dataset field/well/run1/pass3/_vars_

Top - Bottom

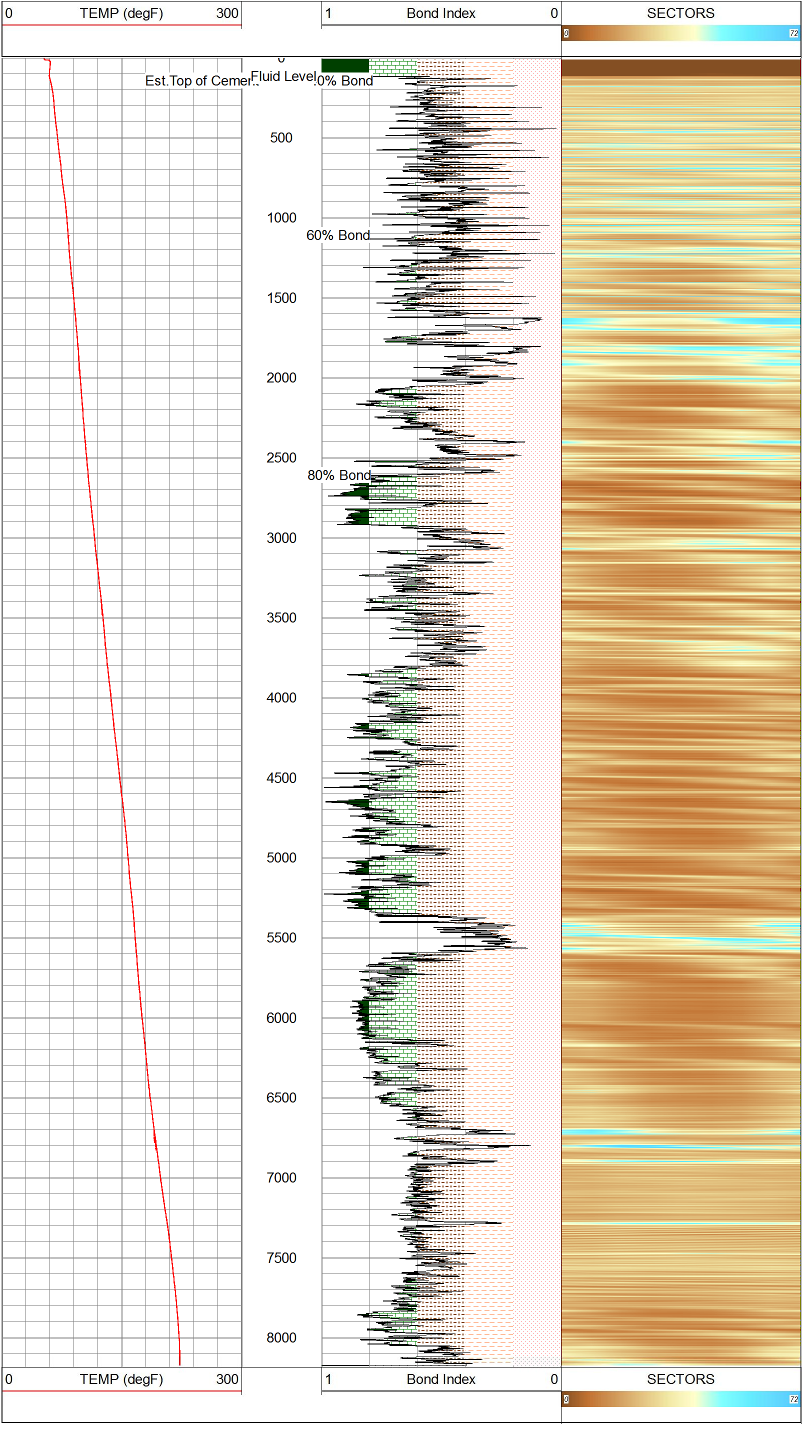
BHTEMP_Src	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	CASEWGHT lb/ft	MAXAMPL mV	MaxAPIID in
TEMP	8.5	100	5.5	0.361	20	71.9	4.923

MINAMPL mV	MinAPIID in	MINATTN db/ft	PPT usec	TDEPTH ft
2.1	4.751	0	237	0

BOND INDEX

Calculated for 3000 PSI Compressive Strength Cement

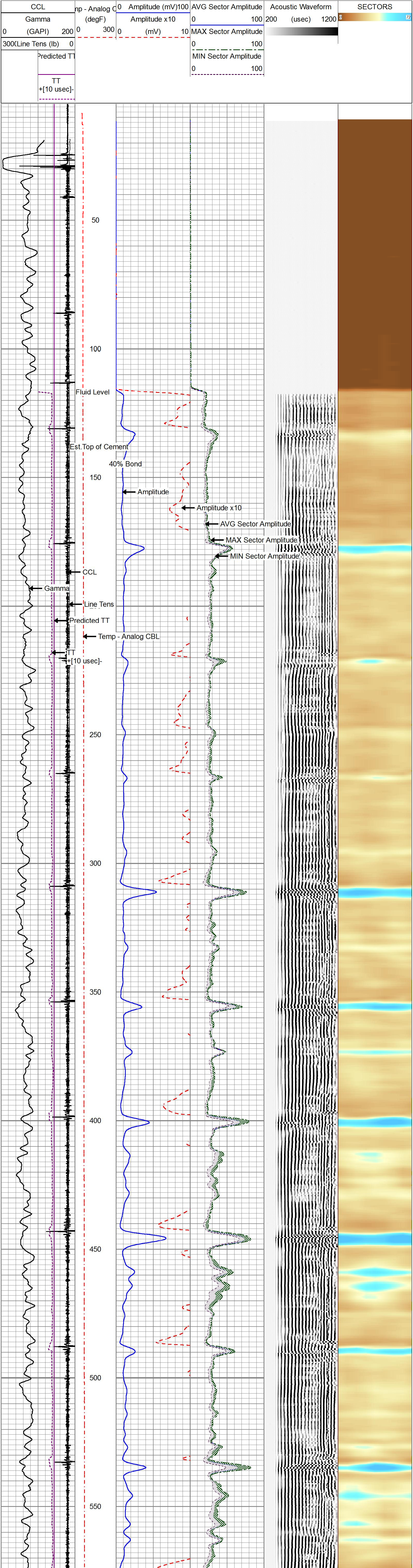
Database File 20190111_extraction_duck club 12w-20-2n_cbl\20190111_extraction_duck club 12w-20-2n_cbl.db
Dataset Pathname ./././bndindx
Presentation Format BNDIND~1
Dataset Creation Fri Jan 11 13:43:23 2019
Charted by Depth in Feet scaled 1:7500

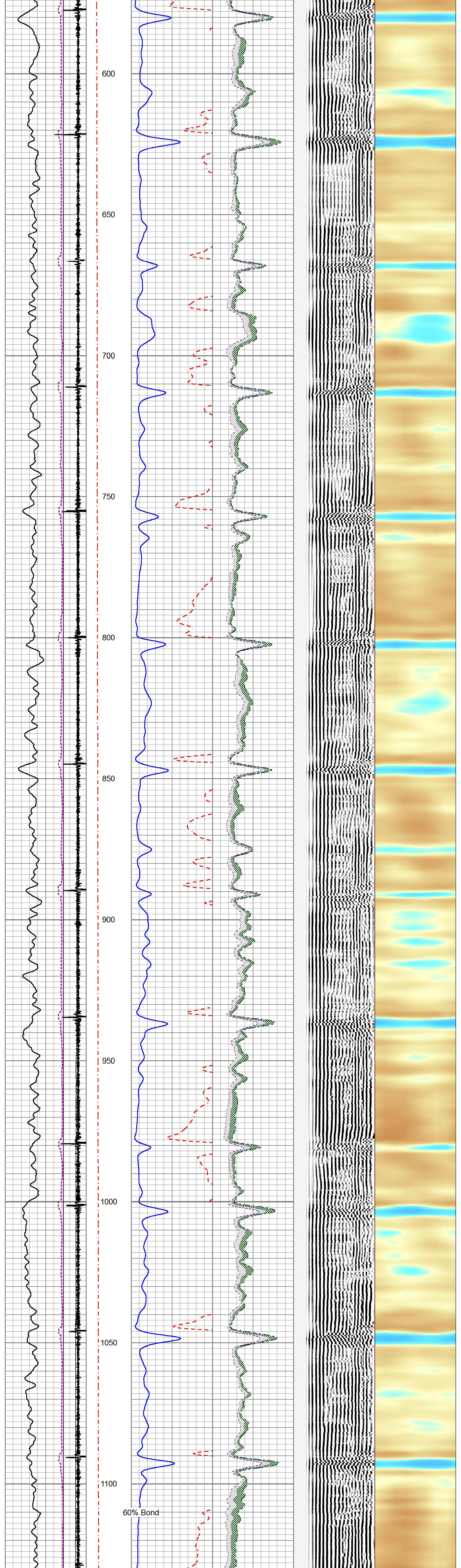


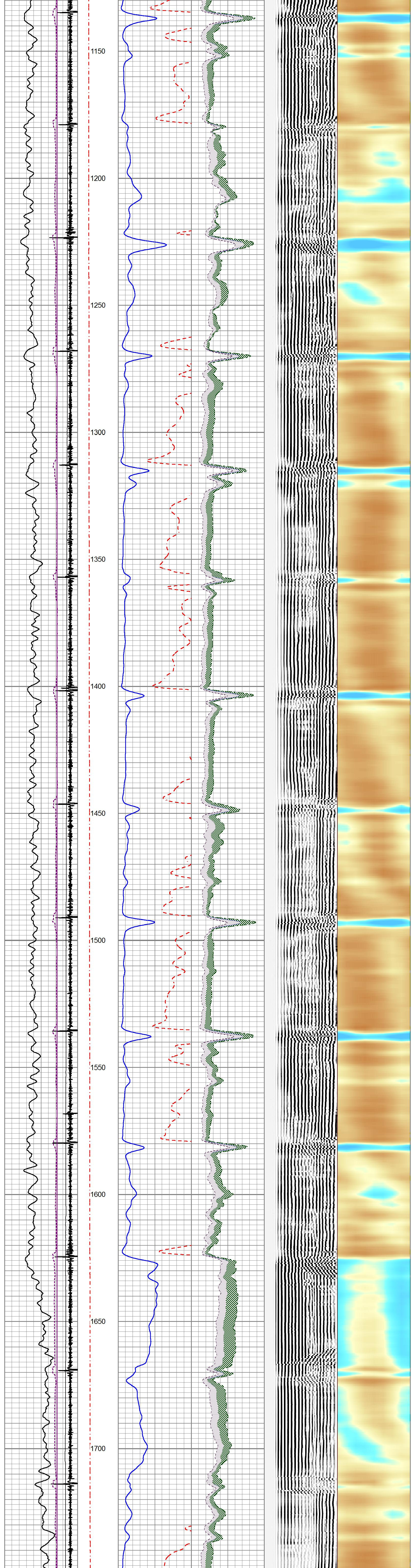
MAIN PASS - Ran with 0 PSI

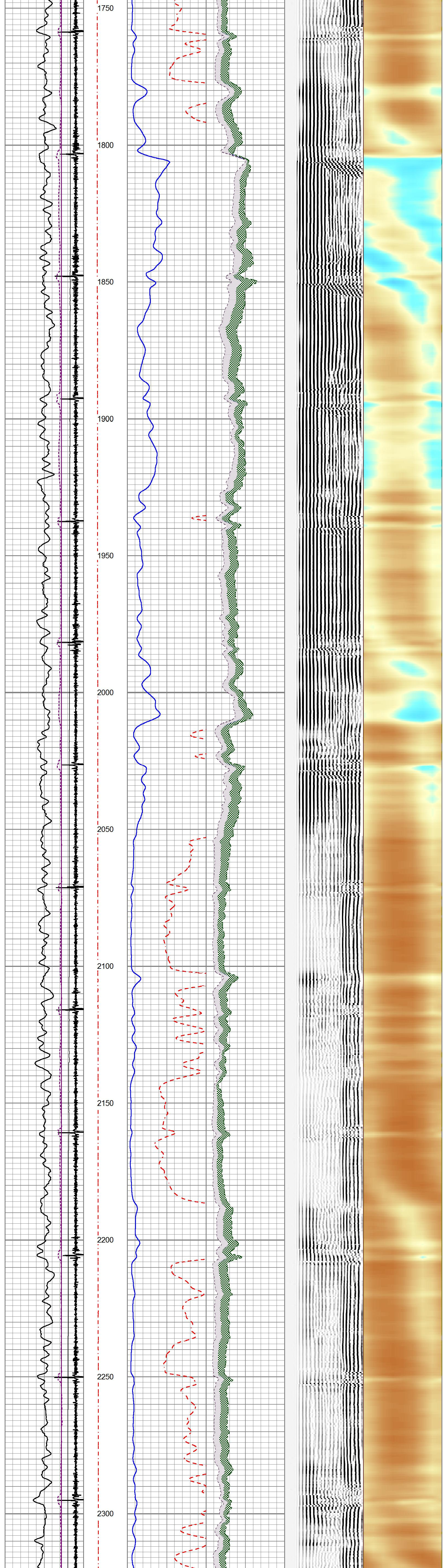
5 in / 100 ft

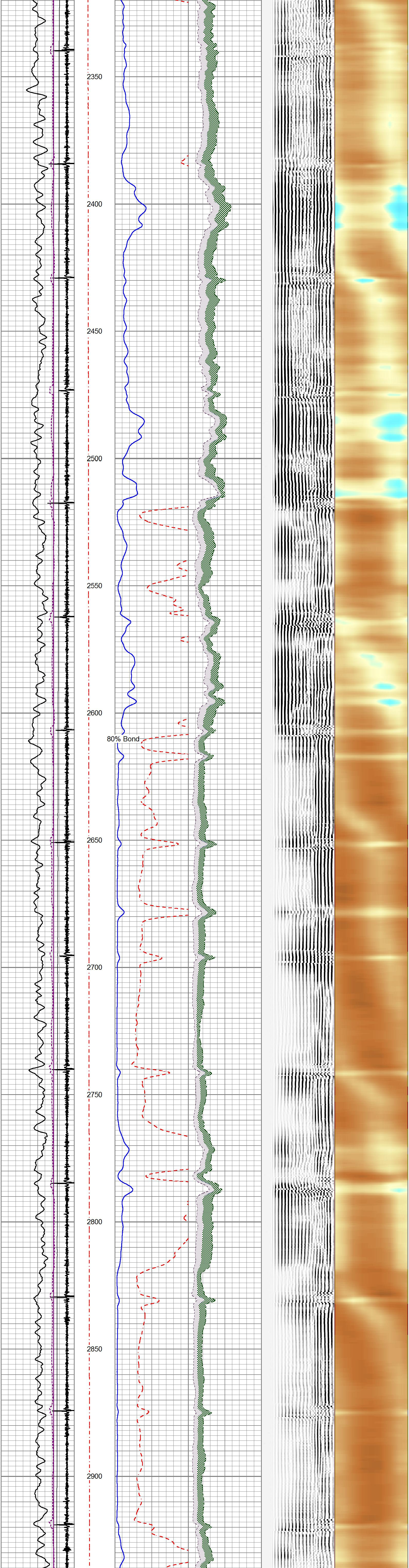
Database File	20190111_extraction_duck club 12w-20-2n_cbl\20190111_extraction_duck club 12w-20-2n_cbl.db
Dataset Pathname	pass3
Presentation Format	rcbl_8s
Dataset Creation	Fri Jan 11 12:15:19 2019
Charted by	Depth in Feet scaled 1:240

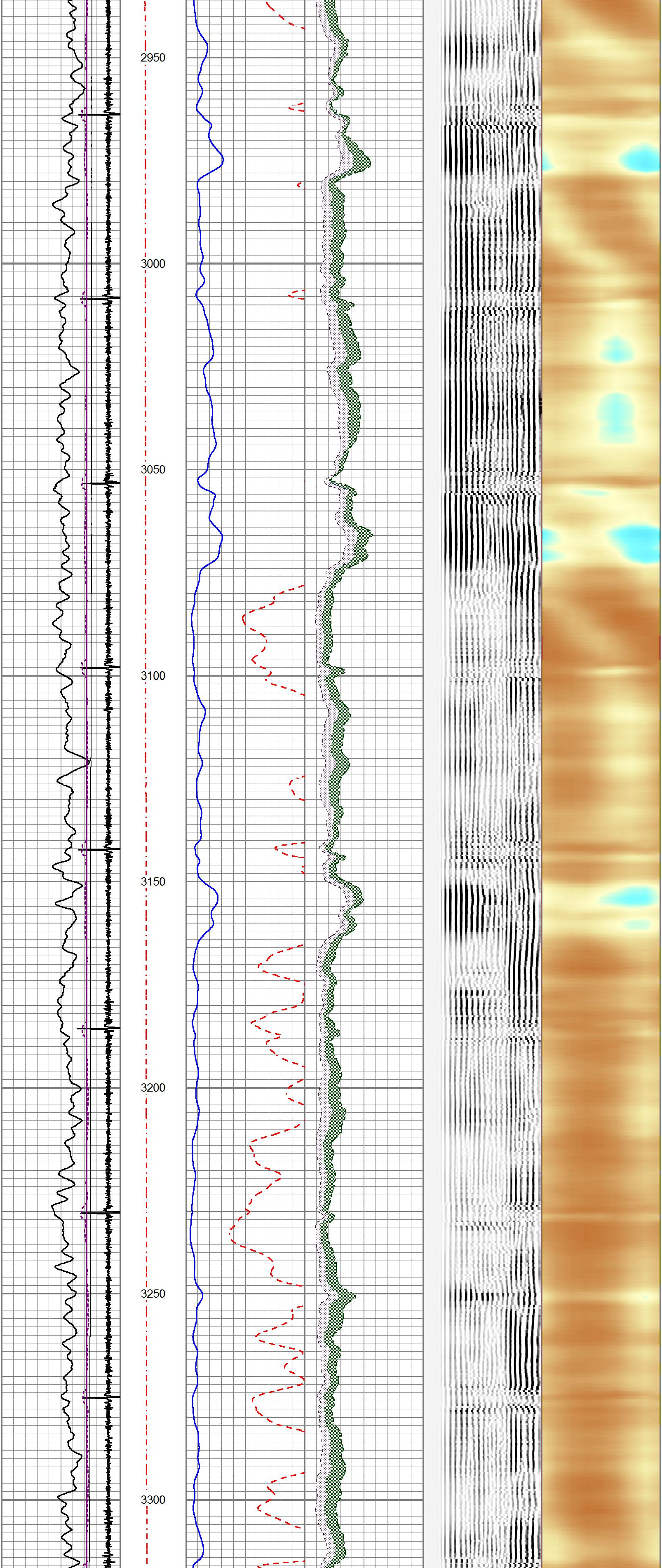


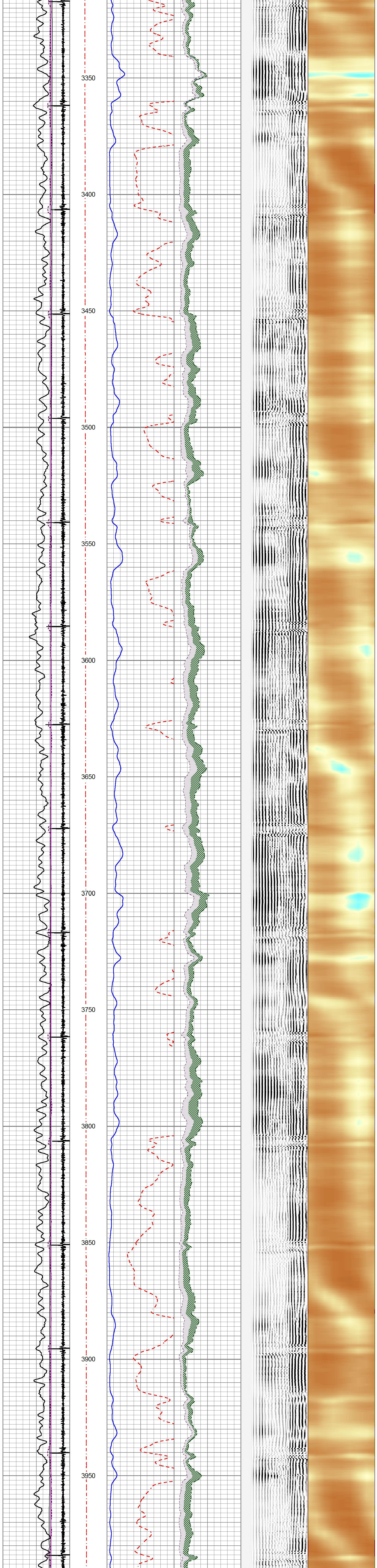








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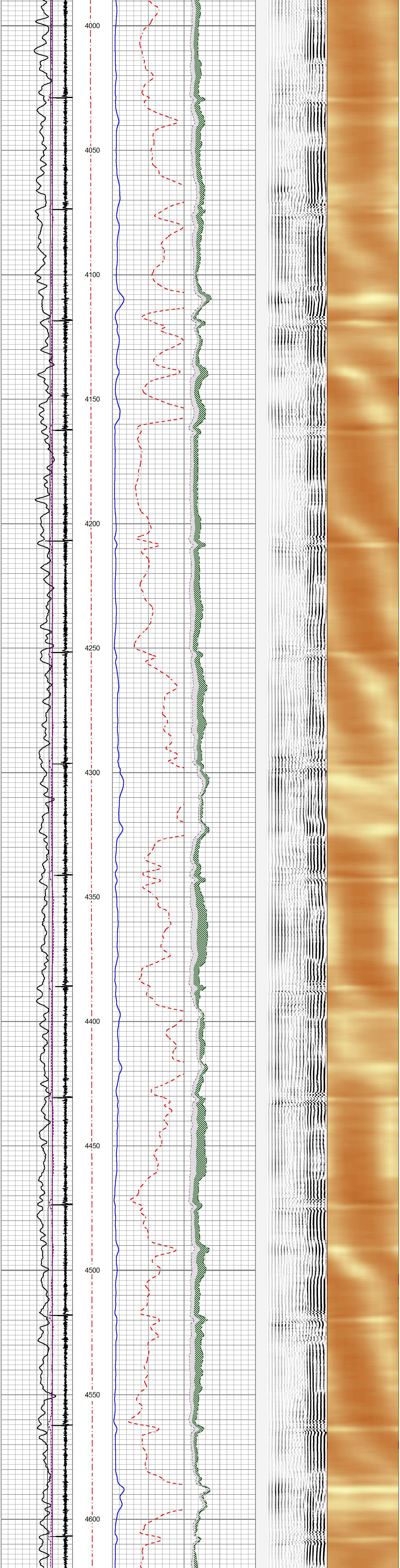
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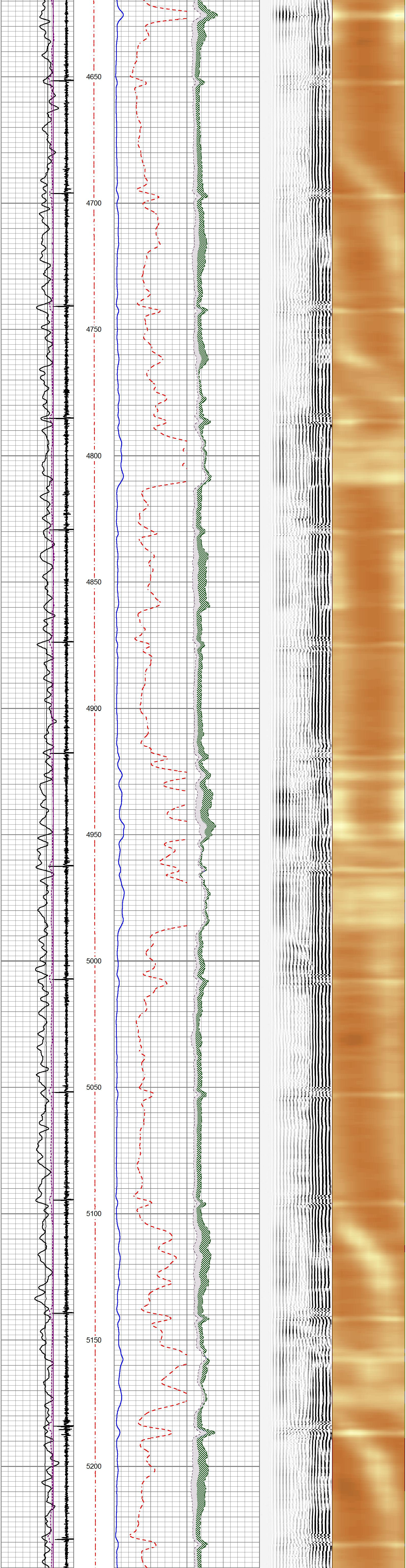
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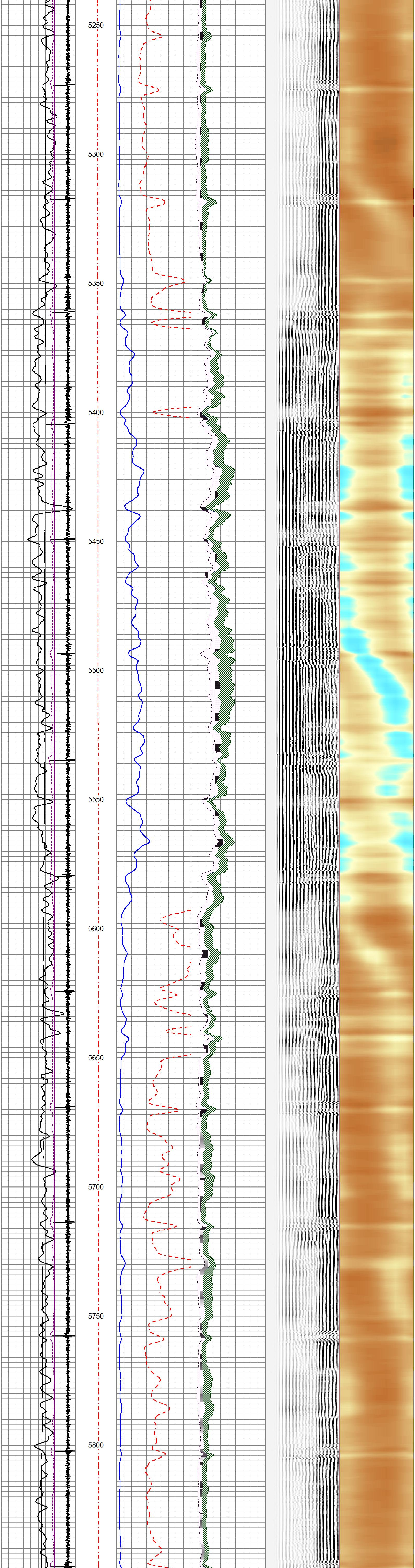
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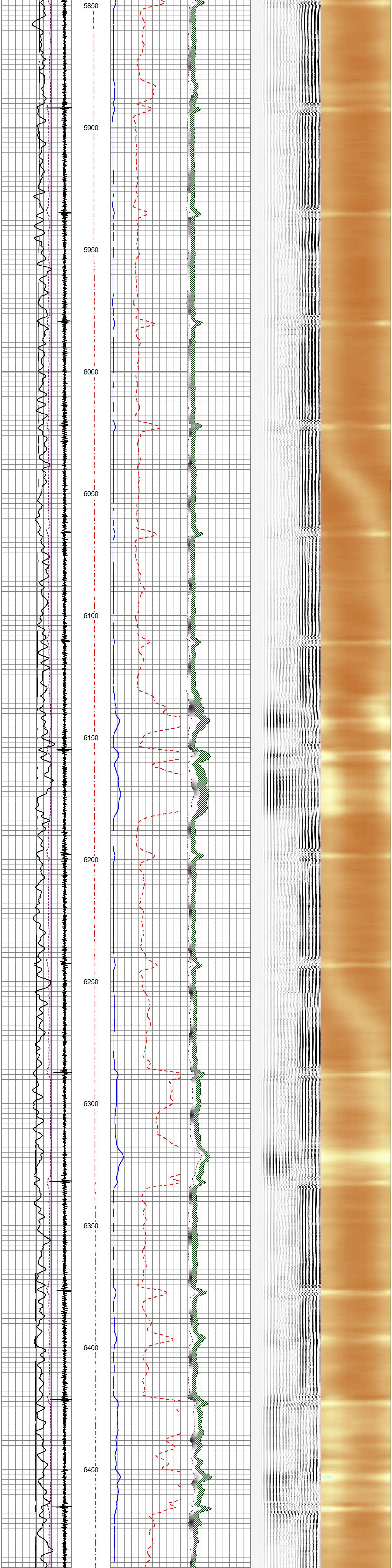
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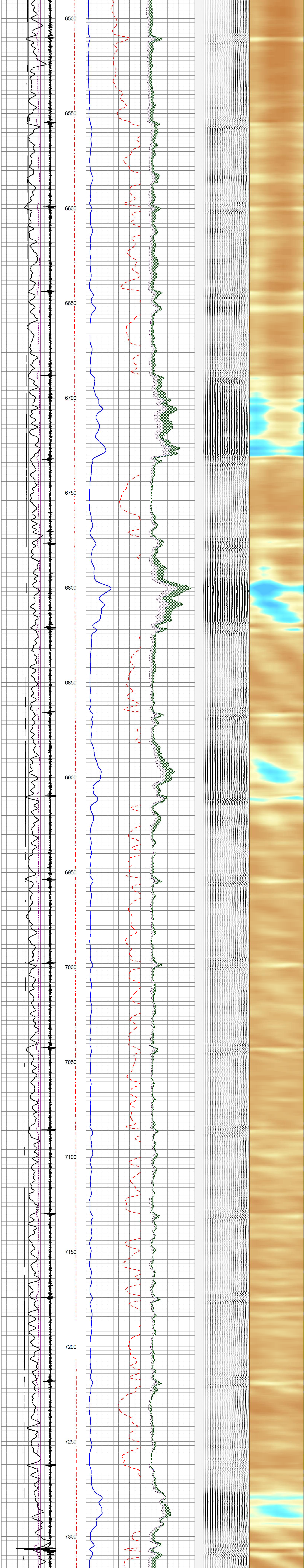
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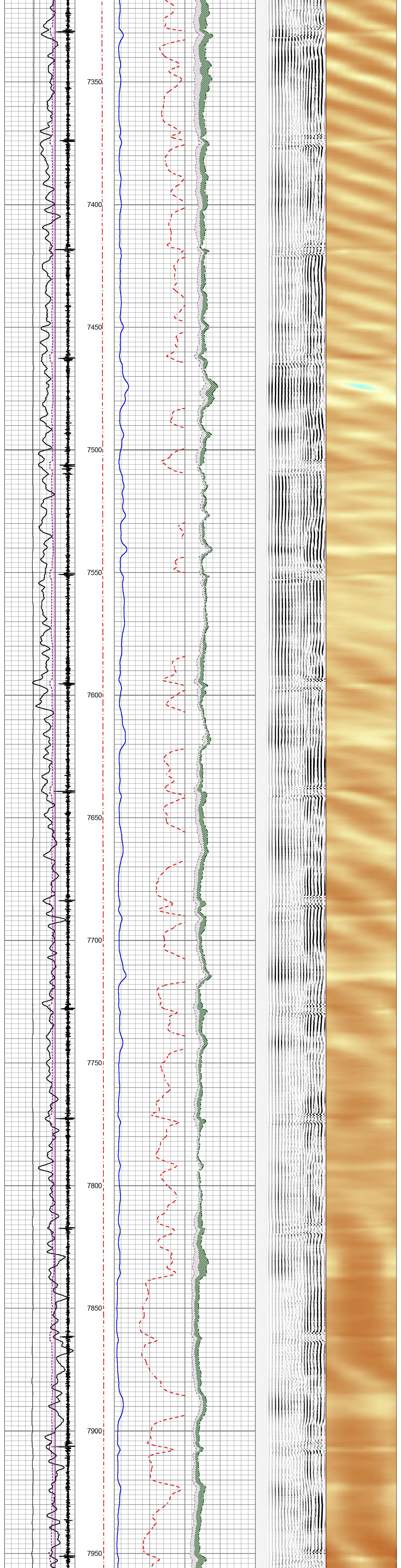

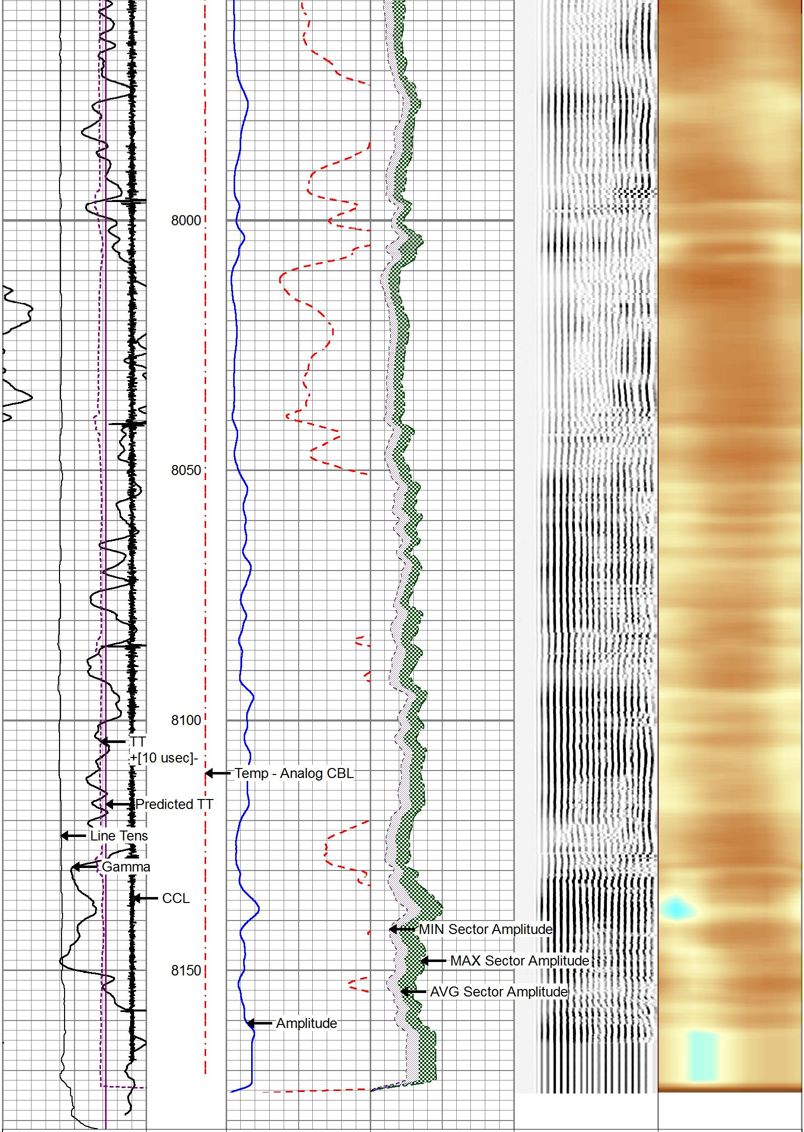

CCL	np - Analog C	0 Amplitude (mV)100	AVG Sector Amplitude	Acoustic Waveform	SECTORS
Gamma	(degF)	Amplitude x10	0 100	200 (usec) 1200	0 72
0 (GAPI) 200	0 300	0 (mV) 10	MAX Sector Amplitude		
300(Line Tens (lb) 0			0 100		
Predicted TT			MIN Sector Amplitude		
TT +[10 usec]-			0 100		

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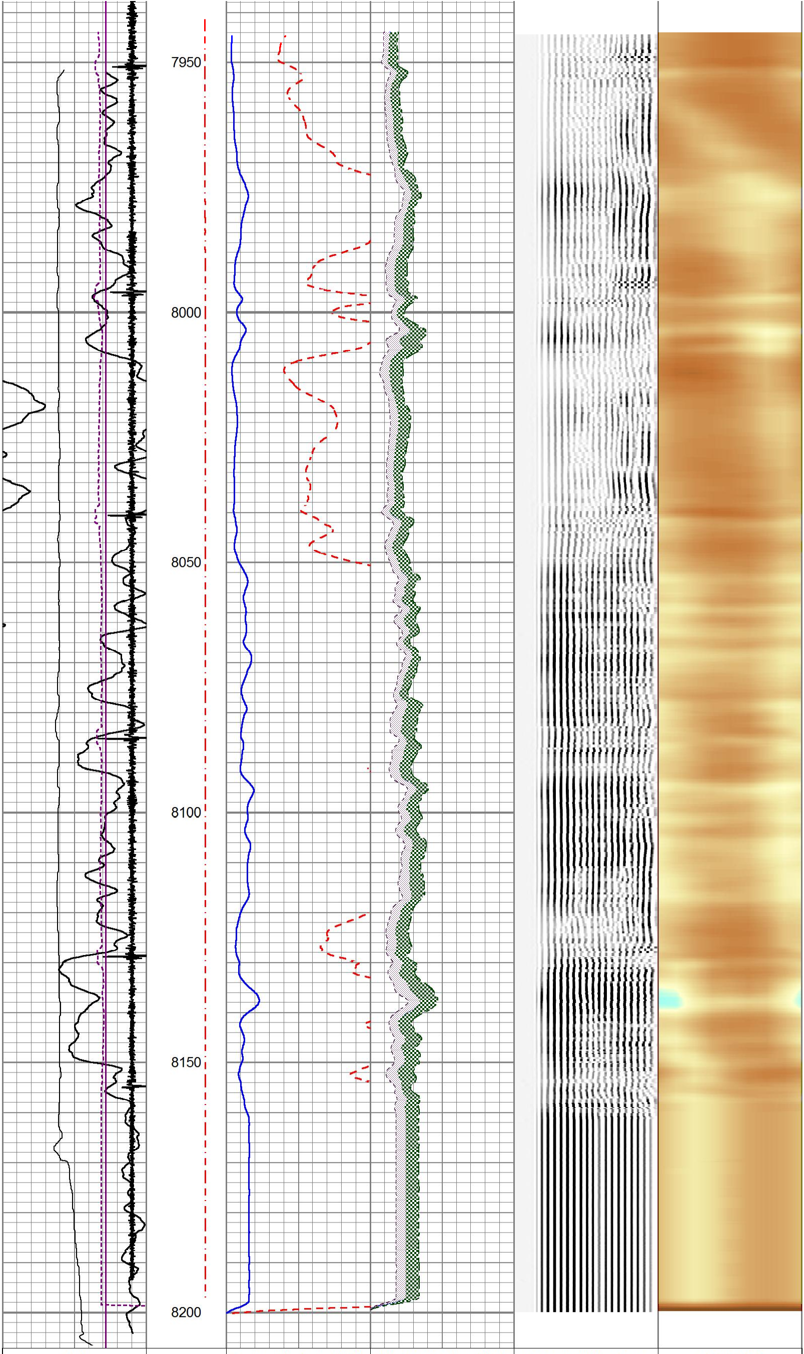
REPEAT PASS - Ran with 0 PSI

5 in / 100 ft

Database File	20190111_extraction_duck club 12w-20-2n_cbl\20190111_extraction_duck club 12w-20-2n_cbl.db
Dataset Pathname	pass2
Presentation Format	rcbl_8s
Dataset Creation	Fri Jan 11 12:10:50 2019
Charted by	Depth in Feet scaled 1:240

CCL	np - Analog C	0 Amplitude (mV)100	AVG Sector Amplitude	Acoustic Waveform	SECTORS
Gamma	(degF)	Amplitude x10	0 100	200 (usec) 1200	0 72
0 (GAPI) 200	0 300	0 (mV) 10	MAX Sector Amplitude		
300(Line Tens (lb) 0			0 100		
Predicted TT			MIN Sector Amplitude		
TT +[10 usec]-			0 100		



CCL	np - Analog C	0 Amplitude (mV)100	AVG Sector Amplitude	Acoustic Waveform	SECTORS
Gamma	(degF)	Amplitude x10	0 100	200 (usec) 1200	0 72
0 (GAPI) 200	0 300	0 (mV) 10	MAX Sector Amplitude		
300(Line Tens (lb) 0			0 100		
Predicted TT			MIN Sector Amplitude		
TT +[10 usec]-			0 100		

Calibration Report

Database File	d:\warrior\data\20190111_extraction_duck club 12w-20-2n_cbl\20190111_extraction_duck club 12w-20-2n_c
Dataset Pathname	pass3
Dataset Creation	Fri Jan 11 12:15:19 2019

Gamma Ray Calibration Report

Serial Number:	ISHV2-02	
Tool Model:	2 3/4" TekCo	
Performed:	Wed Aug 22 11:07:35 2018	
Calibrator Value:	194.0	GAPI
Background Reading:	53.6	cps
Calibrator Reading:	293.4	cps
Sensitivity:	0.8092	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	ISF06-04	
Tool Model:	2 3/4" RIB Analog	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	112.540	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.003	1.499	0.000	72.000	48.126	-0.124
CAL	-0.004	0.749				
5'	0.006	1.576	0.000	72.000	45.867	-0.269
SUM						
S1	0.024	1.591	0.000	72.000	45.951	-1.093
S2	0.027	1.526	0.000	72.000	48.039	-1.306
S3	0.027	1.490	0.000	72.000	49.213	-1.339
S4	0.023	1.494	0.000	72.000	48.927	-1.104
S5	0.016	1.443	0.000	72.000	50.453	-0.827
S6	0.015	1.467	0.000	72.000	49.603	-0.755
S7	0.022	1.498	0.000	72.000	48.771	-1.070
S8	0.023	1.498	0.000	72.000	48.784	-1.101

Internal Reference Calibration, performed (Not Performed):

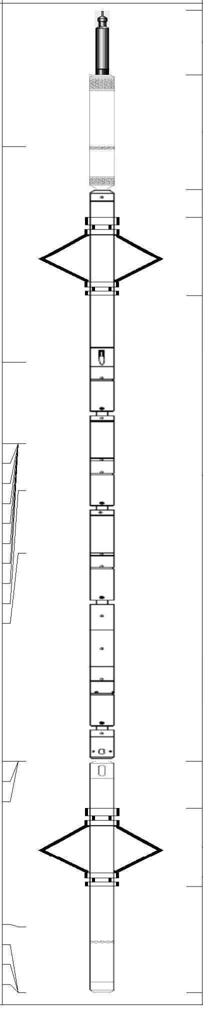
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.004	0.749	1.000	0.000

Air Zero Calibration, performed (Not Performed):

	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

Temperature Calibration Report

Serial Number:	ISF06-04			
Tool Model:	2 3/4" RIB Analog			
Performed:	Tue Jan 08 11:48:09 2019			
	Reference		Reading	
Low Reference:	0.00	degF	0.00	usec
High Reference:	1.00	degF	1.00	usec
Gain:	0.33			
Offset:	0.00			
Delta Spacing	1			

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			CableHead-TitanConeType2	1.03	1.44	3.60
CCL	13.50		CCL_Log-2 3/4" TekCo (IPSN7-03)	1.83	2.75	33.00
			Antelope-Overbody	1.25	2.75	
TEMP	10.05					
WVFS8	8.76					
WVFS7	8.76					
WVFS6	8.76		RBTA-2 3/4" RIB Analog (ISF06-04)	9.13	2.75	102.00
WVFS5	8.76					
WVFS4	8.76					
WVFS3	8.76					
WVFS2	8.76					
WVFS1	8.76					
WVF3FT	8.01					
WVF5FT	7.01					
WVFSYNC	3.68					
WVFTEMP	3.68					
WVFCAL	3.68					
			Antelope-Overbody	1.25	2.75	
			GR_Log-2 3/4" TekCo (ISHV2-02)	3.68	2.75	47.00
GR	1.04					
LOCTIM	0.00					
UTCTIM	0.00					
PMON	0.00					

Dataset:	20190111_extraction_duck club 12w-20-2n_cbl.db: field/well/run1/pass3
Total length:	15.67 ft
Total weight:	185.60 lb
O.D.:	2.75 in

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Company	**Extraction Oil and Gas, Inc.**		
Well	**12W-20-2N**		
Field	**Wattenberg**		
County	**Adams**		
State	**Colorado**	**Country**	**U.S.A.**