CEMENT BOND LOG

Company	Extraction Oil and Gas, Inc.
Well	Rinn Valley East N17-20-15C
Field	Wattenberg
County	Weld
State	Colorado

Company Extraction Oil and Gas, Inc.
Well Rinn Valley East N17-20-15C
Field Wattenberg
County Weld **State** Colorado

API # : 05 123 47175
Location: SE/SE
202 FSL
589 FEL

Other Services

SEC: 2N TWP: 25 RGE: 68W

Elevation
K.B. 4964
D.F. 4963
G.L. 4939

Permanent Datum: Ground Level Elevation: 4939
Log Measured From: Kelly Bushing , 25 ft. above Permanent Datum.
Drilling Measured From: Kelly Bushing

Date	24 September 2018
Run Number	One
Plug Back T.D. Driller	----
Plug Back T.D. Logger	----
Bottom Logged Interval	7740
Top Log Interval	Surface
Type Fluid	Water
Density / Viscosity	----
Max. Recorded Temp.	237
Time Logger on Bottom	07:45
Equipment Number	GD114
Location	Casper, WY
Recorded By	GS Yarbro
Witnessed By	Mr. Cary

Casing Record				Tubing Record			
Size	Weight	From	To	Size	Weight	From	To
9 5/8	----	25	----				
5 1/2	----	25	----				

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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 # : RM0918PCBW906
Your Crew Today: Graham, 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	350
40 % Bond	350
60 % Bond	350
80 % Bond	----
100 % Bond	----

Comments

Estimated Top of Cement
(60% Bond Index) @ 350

Thank you for using Gyrodata

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

Log Variables

Databased:\warrior\data\20180924_extraction_rinn valley east n17-20-15c_cbl\20180924_extractior
Dataset field/well/run1/pass4.1/_vars_

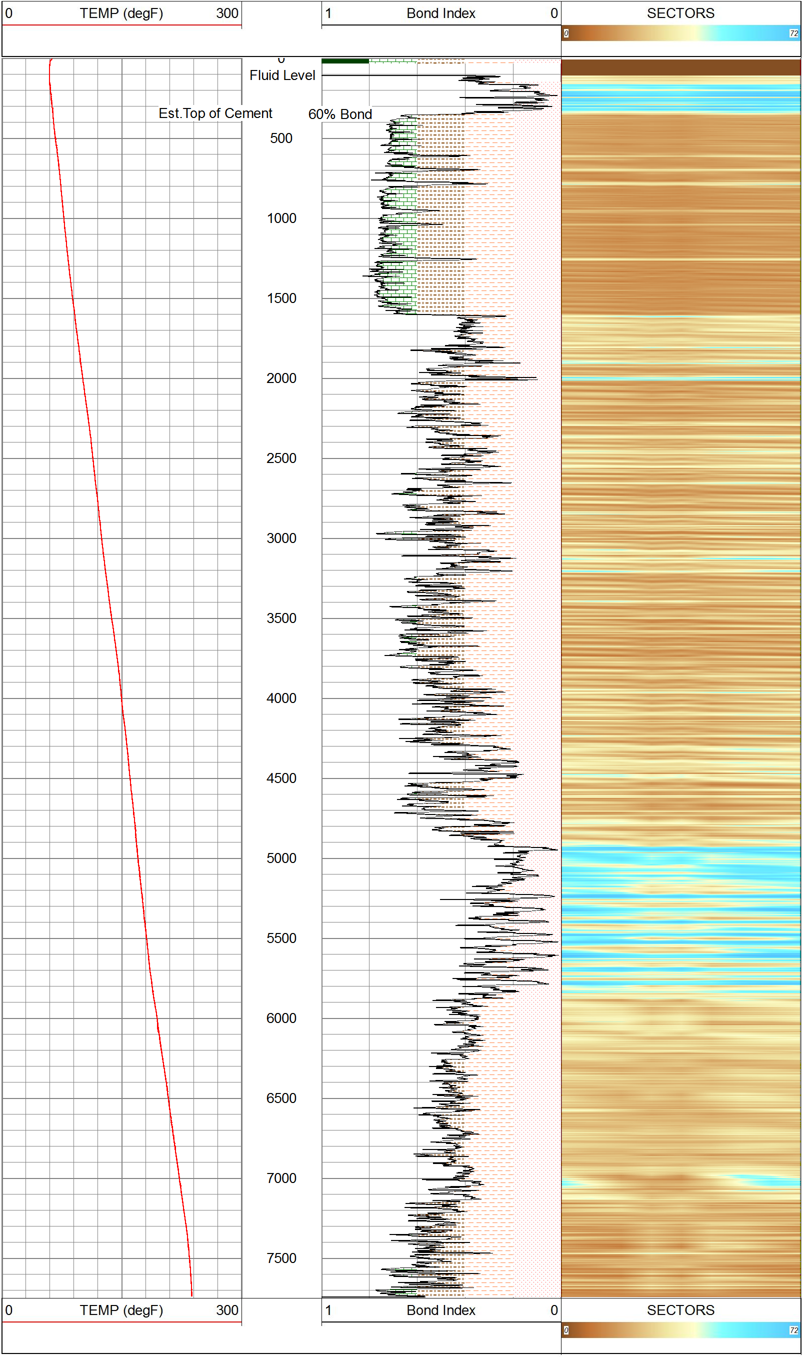
Top - Bottom

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
1.9	4.751	0	239	0

BOND INDEX

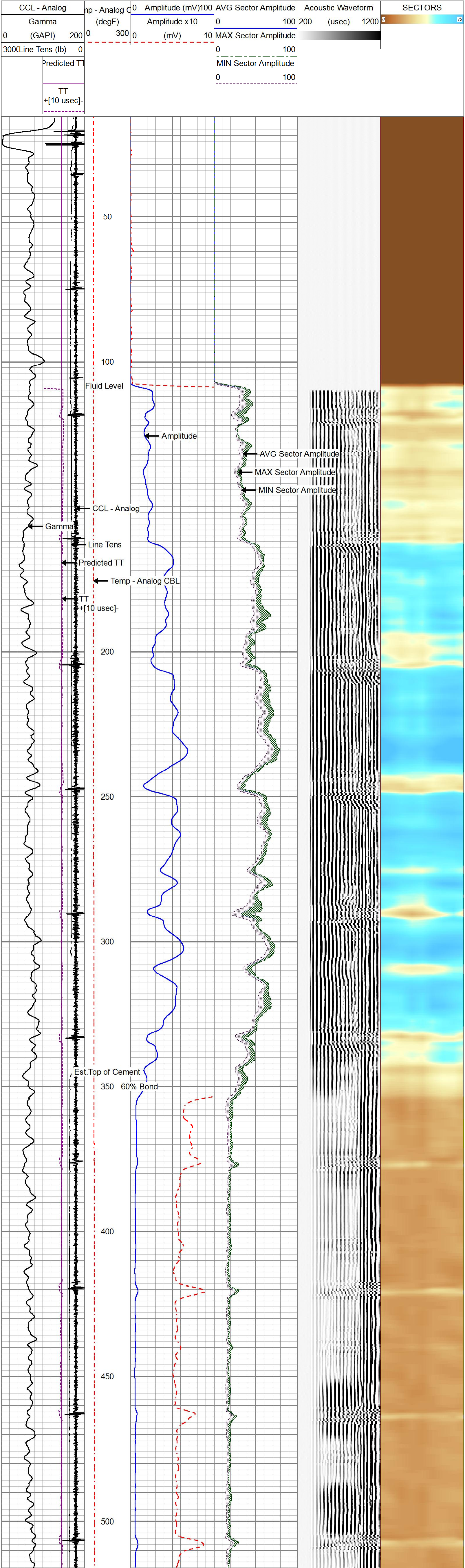
Database File	20180924_extraction_rinn valley east n17-20-15c_cbl\20180924_extraction_rinn valley east n17-20-15c_cl
Dataset Pathname	./././bndindx
Presentation Format	BNDIND~1
Dataset Creation	Mon Sep 24 09:16:34 2018
Charted by	Depth in Feet scaled 1:7500

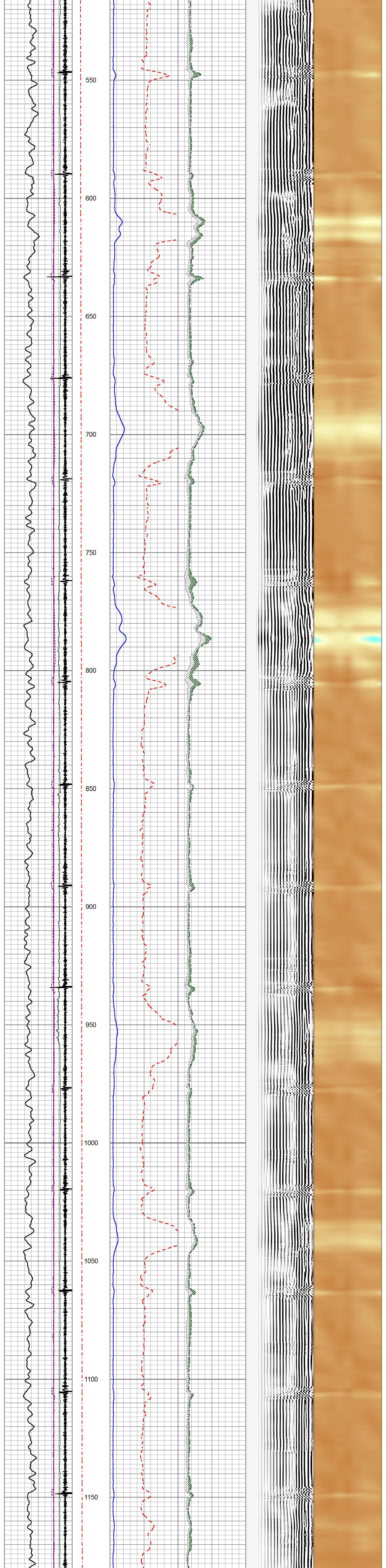


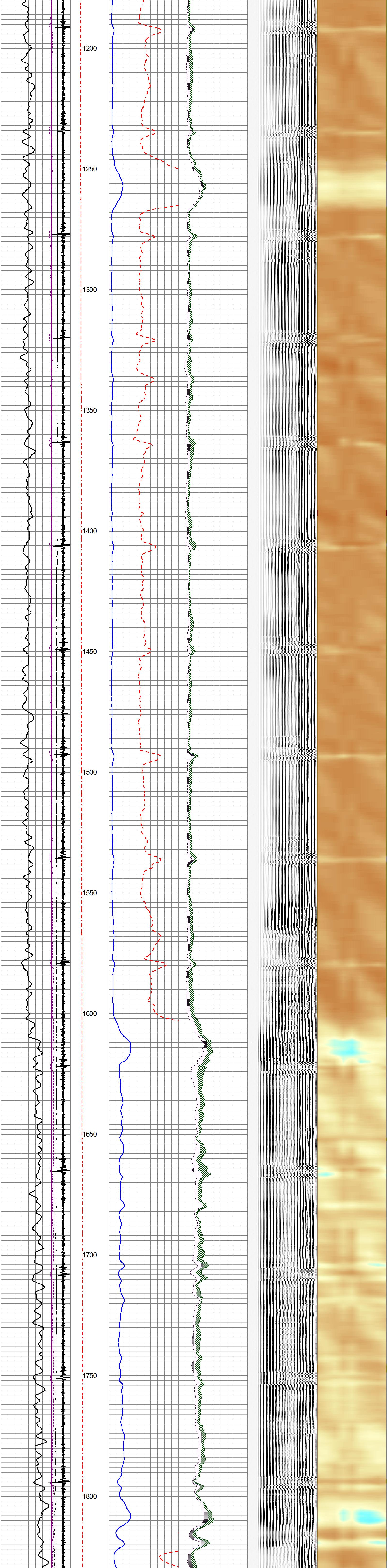
MAIN PASS - Ran with 0 PSI

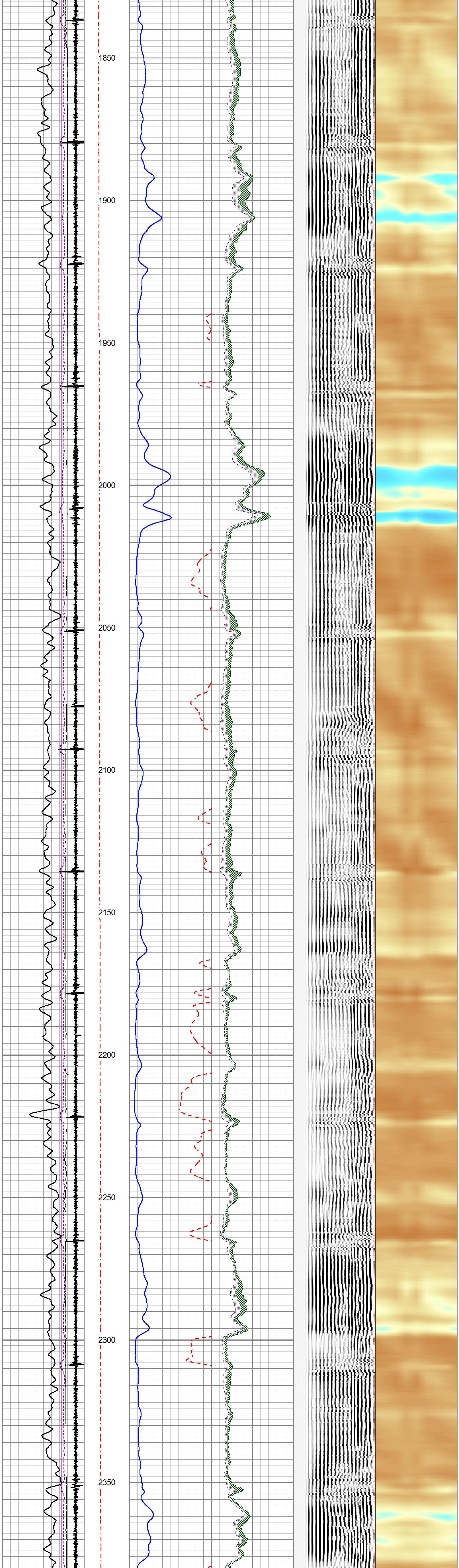
5 in / 100 ft

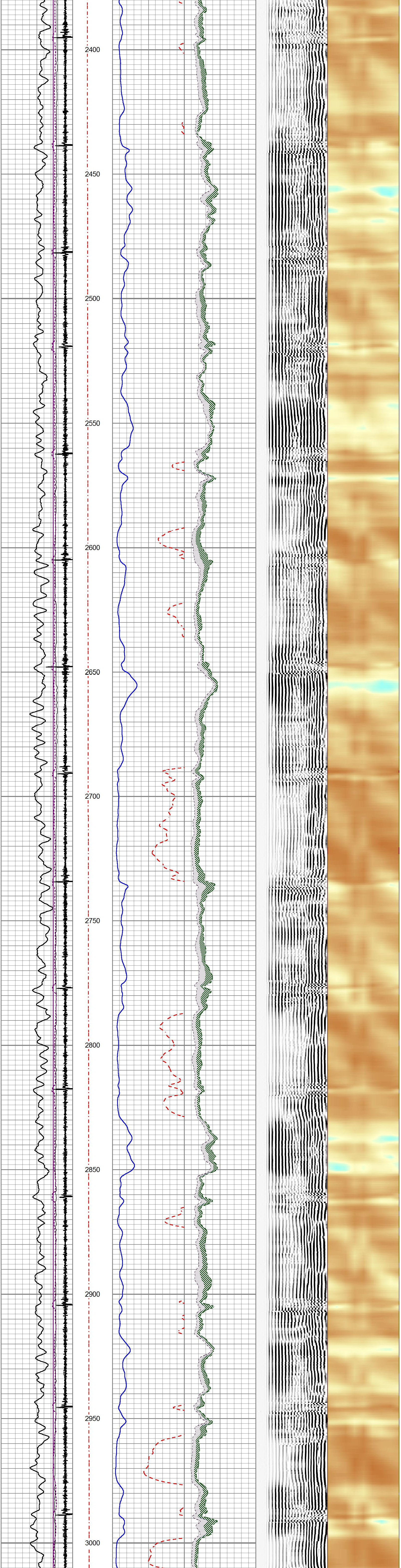
Database File	20180924_extraction_rinn valley east n17-20-15c_cbl\20180924_extraction_rinn valley east n17-20-15c_cl
Dataset Pathname	pass4.1
Presentation Format	rcbl_8s
Dataset Creation	Mon Sep 24 09:14:23 2018
Charted by	Depth in Feet scaled 1:240

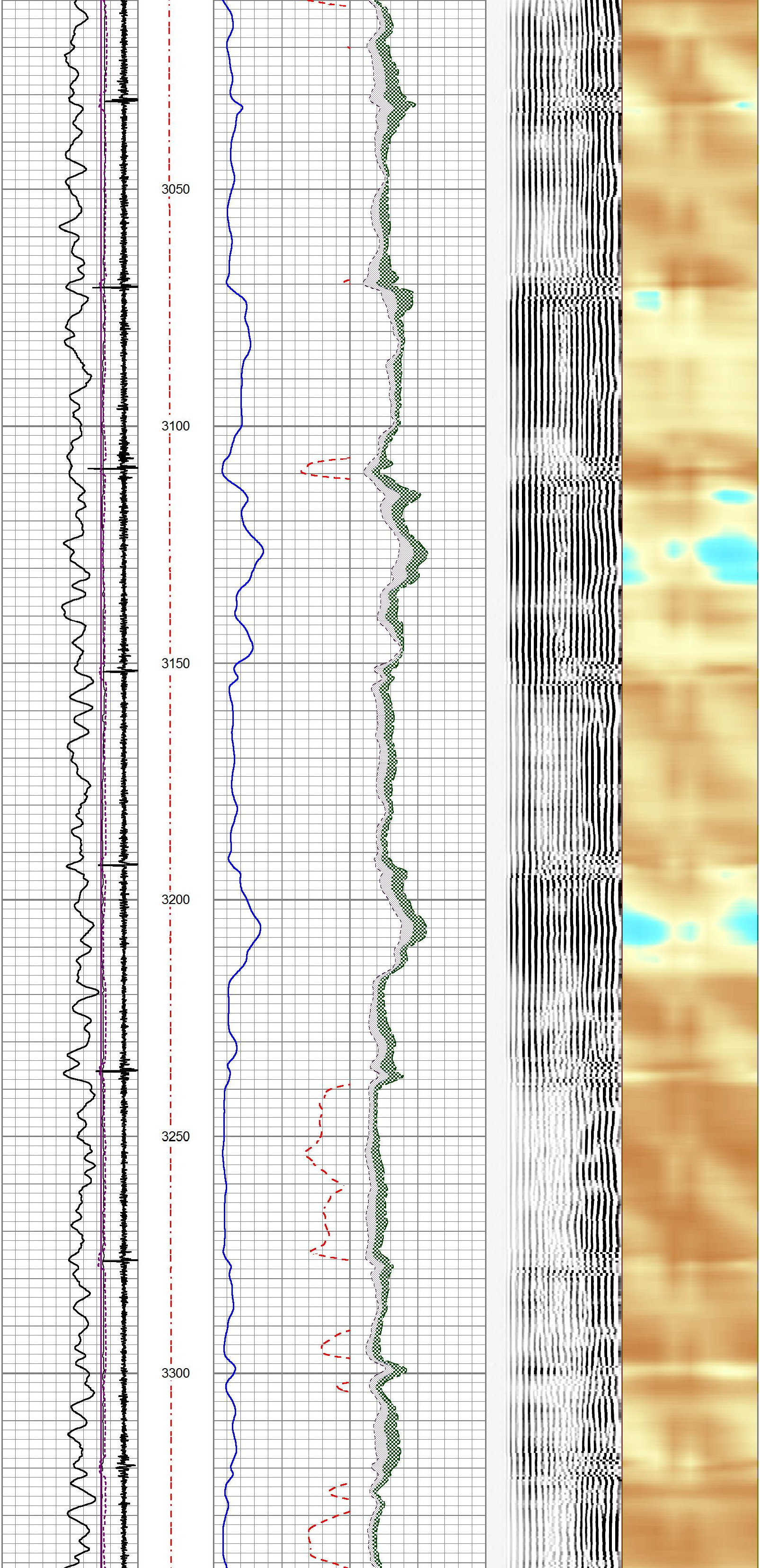


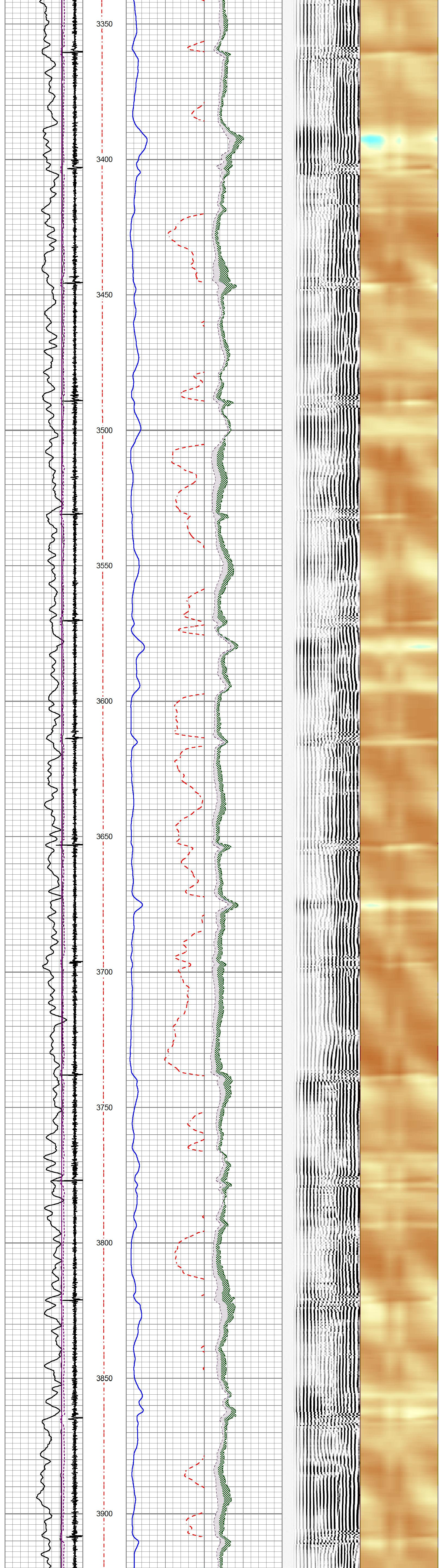








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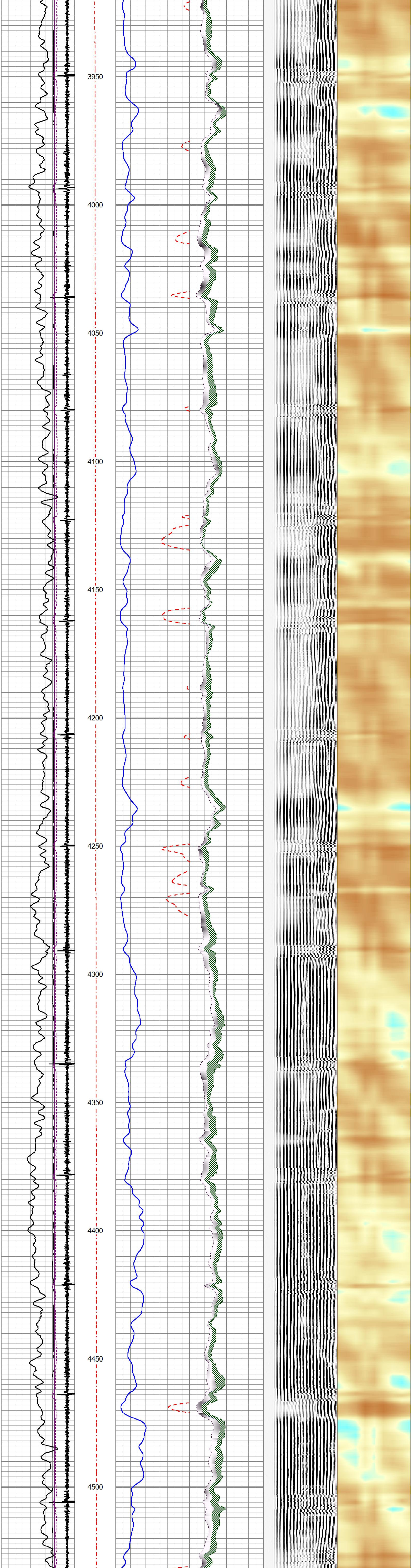
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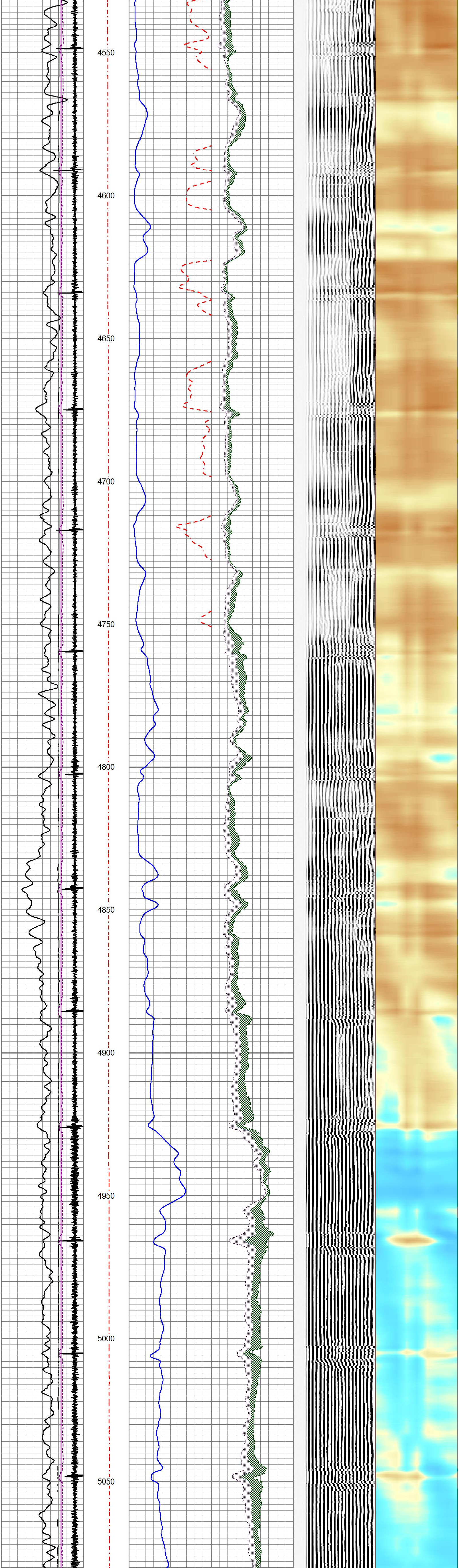
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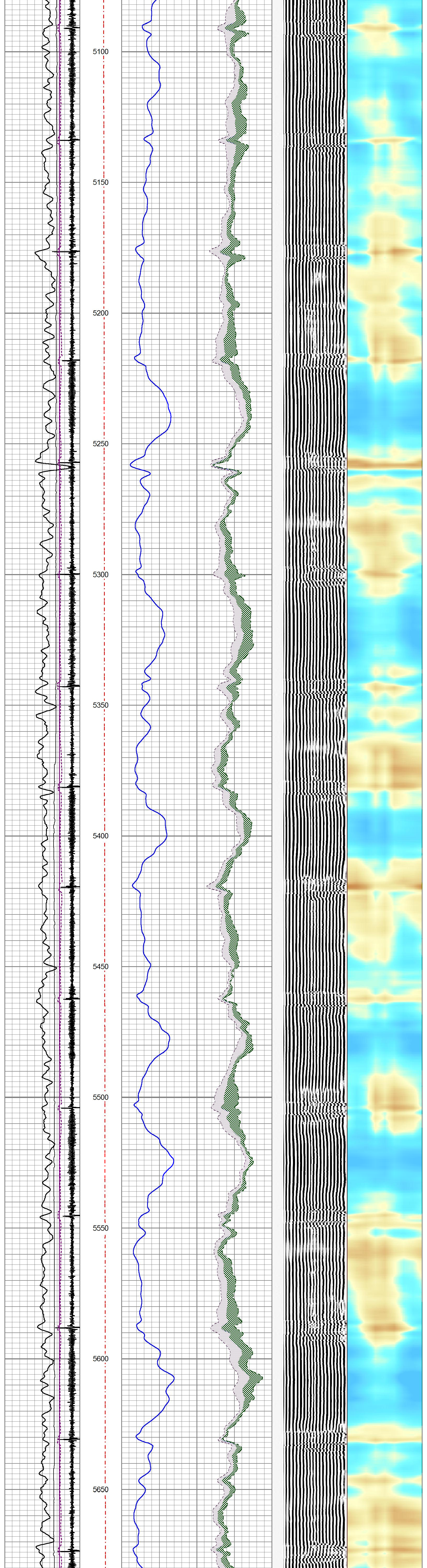
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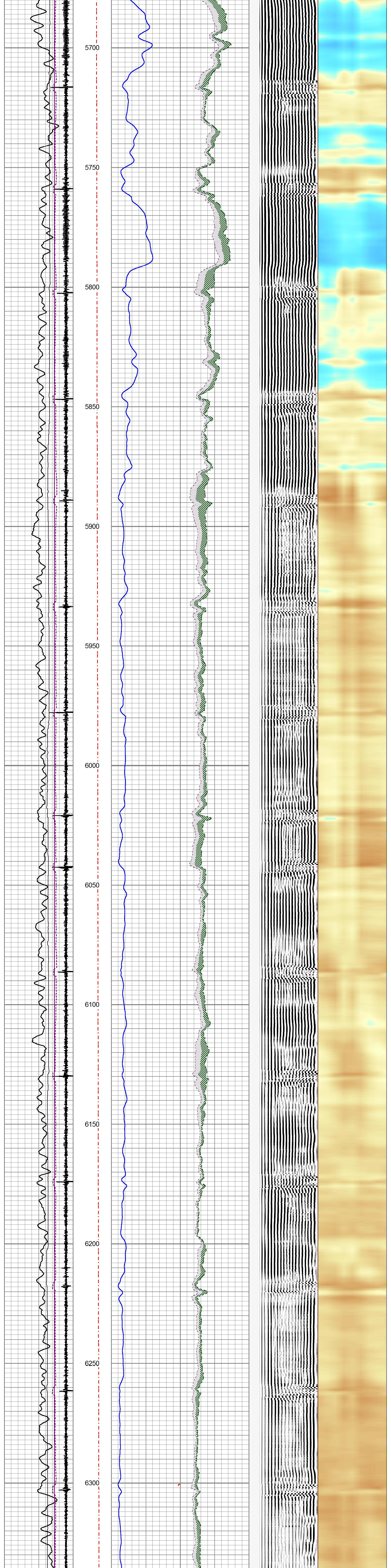
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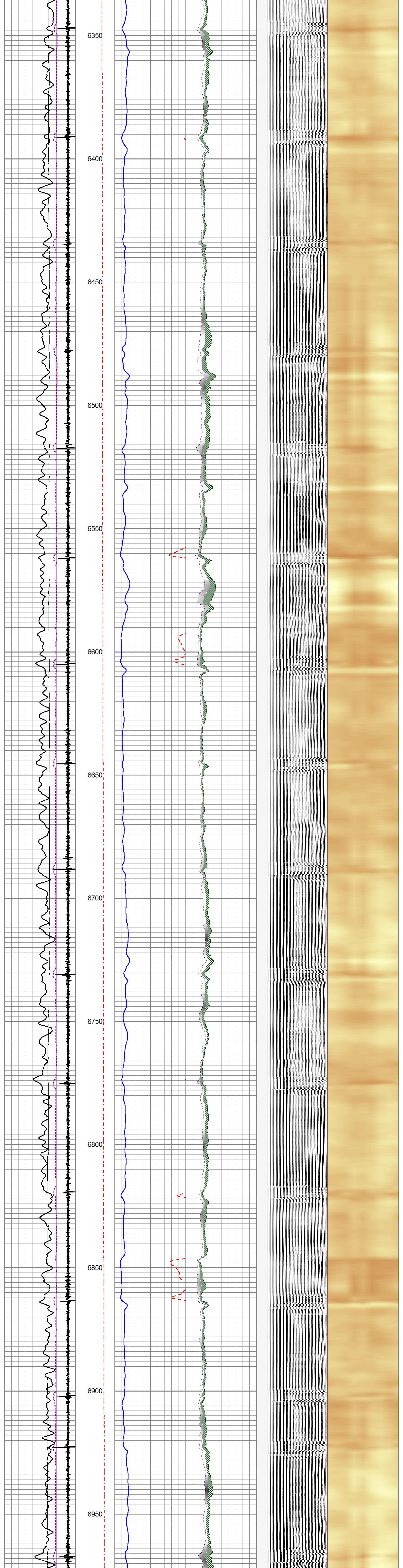
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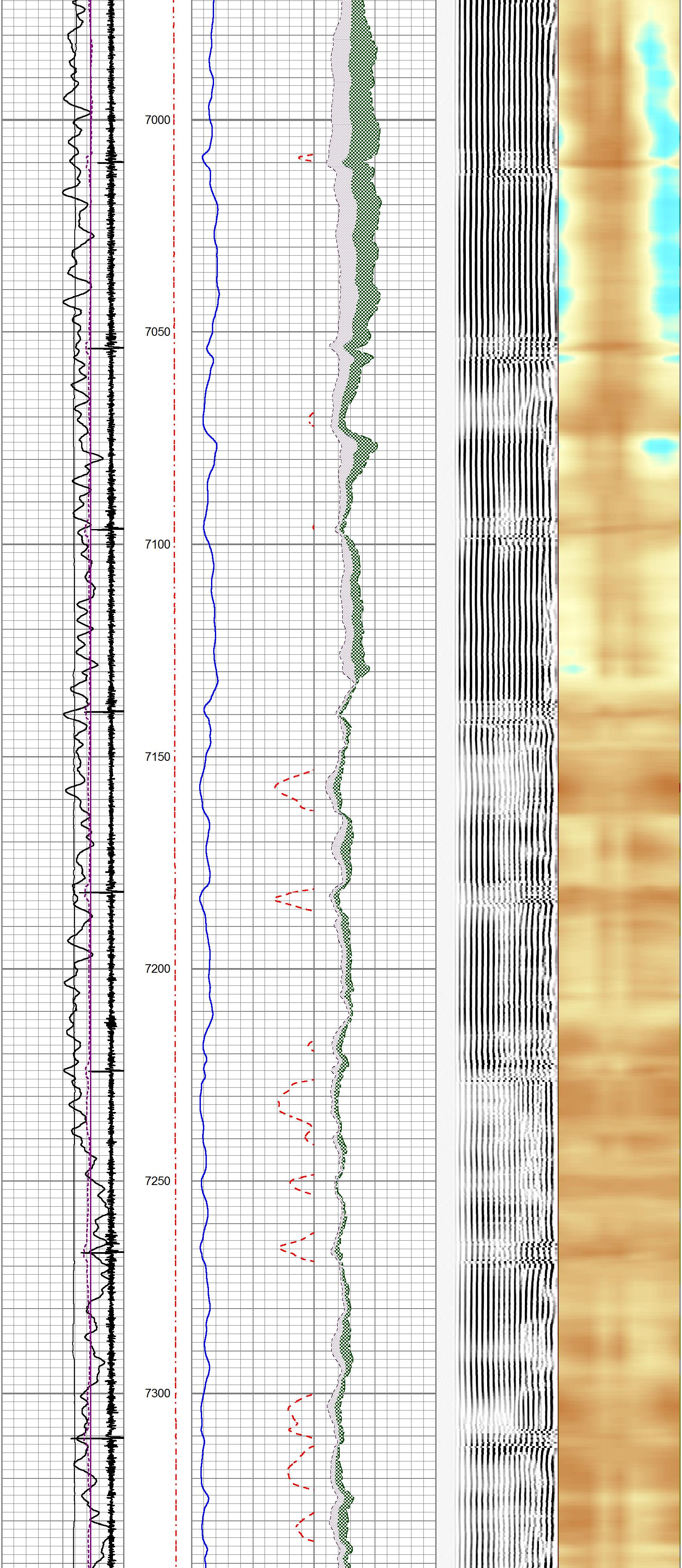
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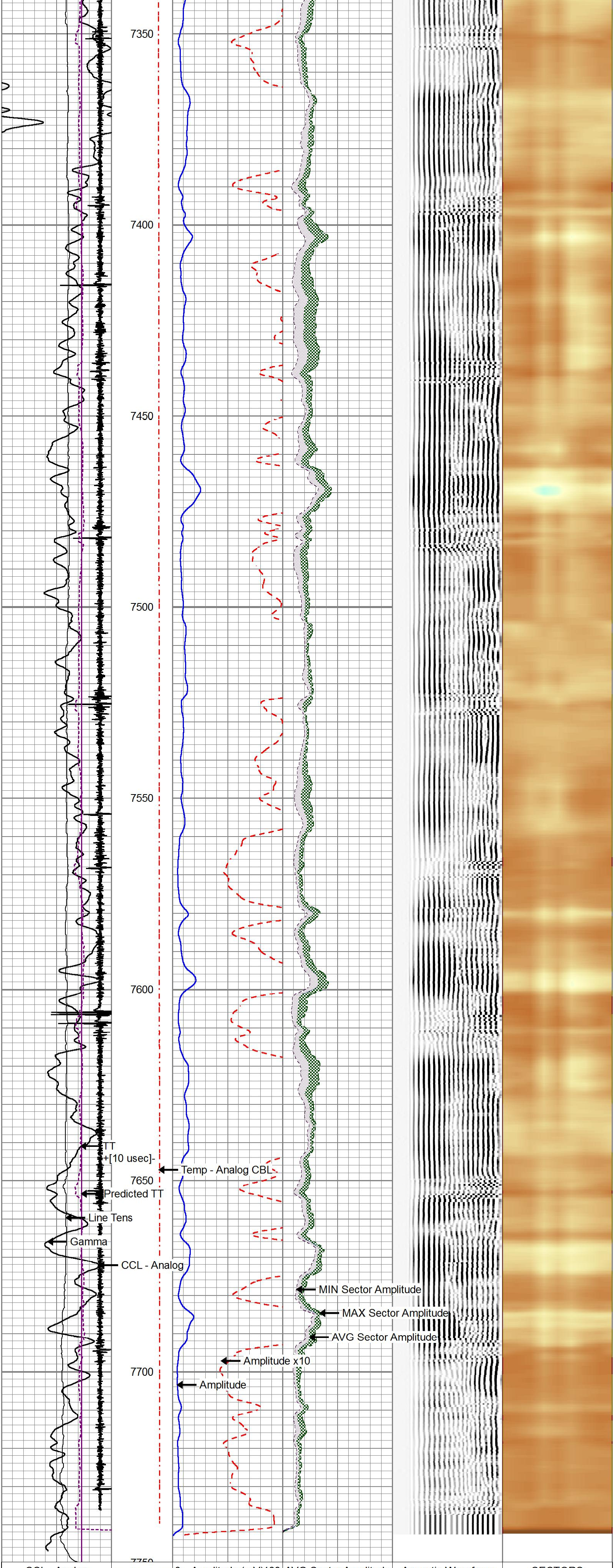

CCL - Analog	np - Analog C	0 Amplitude (mV)100	AVG Sector Amplitude	Acoustic Waveform	SECTORS
Gamma	(degF)	Amplitude x10	0 100	200 (usec) 1200	0 72
0 (GAPI) 200	0 300	0 (mV) 10	MAX Sector Amplitude		
300(Line Tens (lb) 0			0 100		
Predicted TT			MIN Sector Amplitude		
			0 100		
TT +[10 usec]-					

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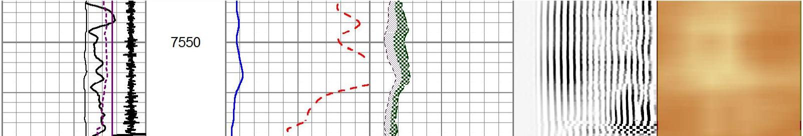
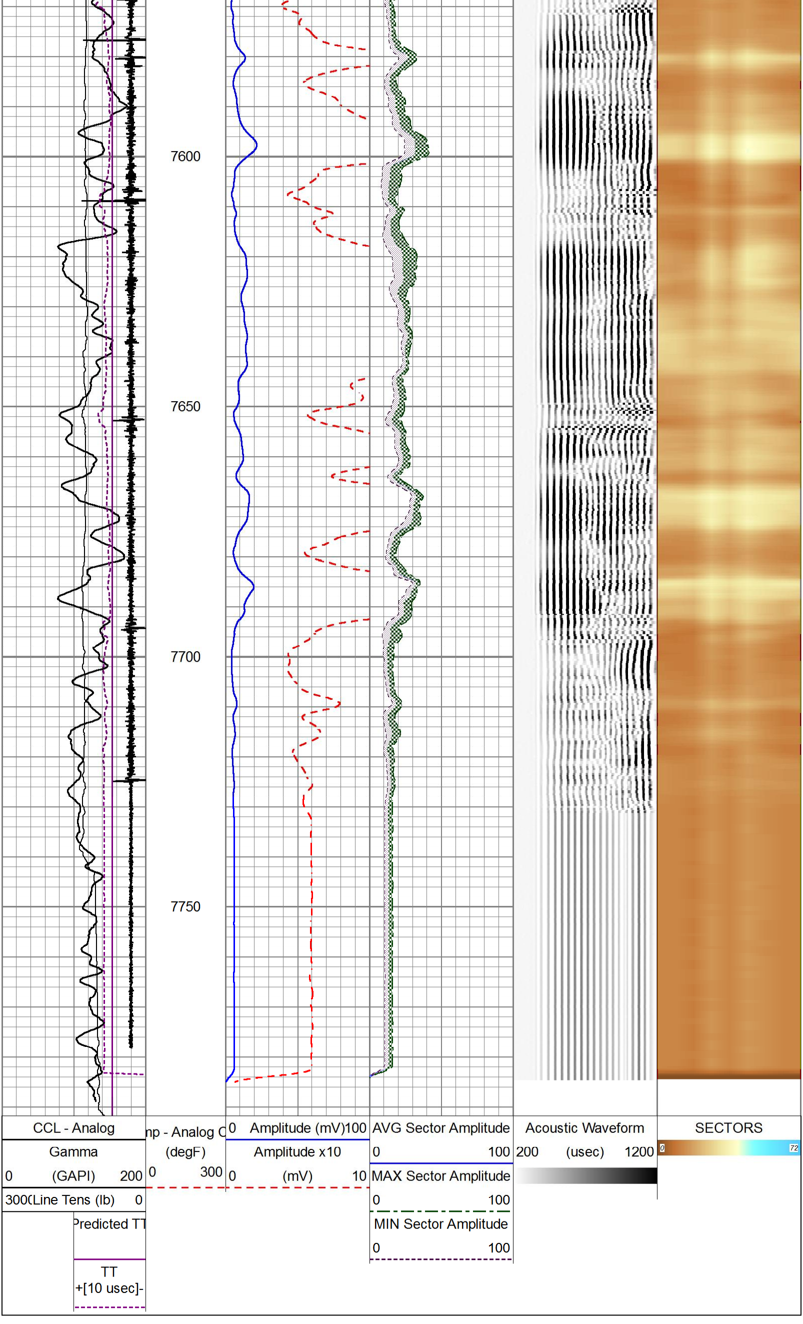
REPEAT PASS - Ran with 0 PSI

5 in / 100 ft

Database File	20180924_extraction_rinn valley east n17-20-15c_cbl\20180924_extraction_rinn valley east n17-20-15c_c
Dataset Pathname	pass3.1
Presentation Format	rcbl_8s
Dataset Creation	Mon Sep 24 09:15:40 2018
Charted by	Depth in Feet scaled 1:240

CCL - Analog	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		
			0 100		
TT +[10 usec]-					





Calibration Report

Database File d:\warrior\data\20180924_extraction_rinn valley east n17-20-15c_cbl\20180924_extraction_rinn valley east r
Dataset Pathname pass4.1
Dataset Creation Mon Sep 24 09:14:23 2018

Gamma Ray Calibration Report

Serial Number:	IXEM9-01	
Tool Model:	2 3/4" TekCo	
Performed:	Mon Dec 12 23:01:19 2016	
Calibrator Value:	194.0	GAPI
Background Reading:	59.5	cps
Calibrator Reading:	300.8	cps
Sensitivity:	0.8039	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	IPPO2-01	
Tool Model:	2 3/4" RIB Analog	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	0.000	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.009	1.375	0.000	72.000	52.026	0.480
CAL	0.000	0.750				
5'	-0.006	1.860	0.000	72.000	38.585	0.248
SUM						
S1	0.016	1.201	0.000	72.000	60.760	-0.990
S2	0.016	1.256	0.000	72.000	58.104	-0.951
S3	0.019	1.479	0.000	72.000	49.306	-0.948
S4	0.020	1.756	0.000	72.000	41.489	-0.848
S5	0.020	1.703	0.000	72.000	42.786	-0.858
S6	0.022	1.532	0.000	72.000	47.662	-1.034
S7	0.021	1.289	0.000	72.000	56.771	-1.198
S8	0.018	1.158	0.000	72.000	63.164	-1.160

Internal Reference Calibration, performed Fri Aug 25 15:15:12 2017:

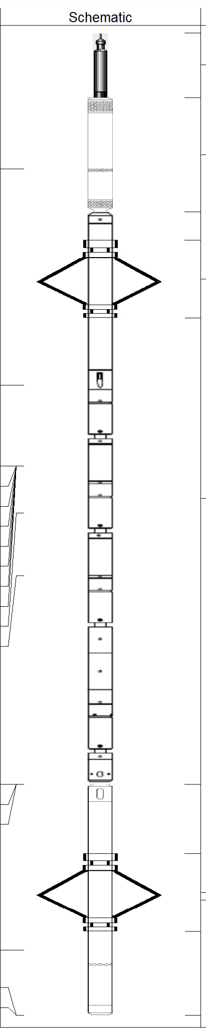
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.750	0.000	0.750	1.000	0.000

Air Zero Calibration, performed Fri Aug 25 15:15:12 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

Temperature Calibration Report

Serial Number:	IPPO2-01			
Tool Model:	2 3/4" RIB Analog			
Performed:	Fri Aug 26 10:07:15 2016			
	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)	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 (IS2T1-09)	1.83	2.75	33.00
		Antelope-Overbody	1.25	2.75	
TEMP	10.05				
WVFS8	8.76				
WVFS7	8.76				
		RBTA-2 3/4" RIB Analog (IPPO2-01)	9.13	2.75	102.00
WVFS6	8.76				
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 (IXEM9-01)	3.68	2.75	47.00
GR	1.04				
LOCTIM	0.00				
UTCTIM	0.00				

Dataset: 20180924_extraction_rinn valley east n17-20-15c_cbl.db: field/well/run1/pass4.1
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	Rinn Valley East N17-20-15C		
Field	Wattenberg		
County	Weld		
State	Colorado	**Country**	U.S.A.