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Cement Bond Log

Company	ConocoPhillips, Inc
Well	B&D Land 4-64 4-5 4BH
Field	----
County	Arapahoe
State	Colorado

Company ConocoPhillips, Inc
Well B&D Land 4-64 4-5 4BH
Field ----
County Arapahoe **State** Colorado

API #: 05-005-07245
Location: Lat: 39° 43' 36.49" Long: 104° 32' 49.48"

Other Services

SEC: 4 TWP: 4S RGE: 64W

Elevation
K.B. 5643
D.F. 5642
G.L. 5617

Permanent Datum: Ground Level Elevation: 5617
Log Measured From: Kelly Bushing , 26 ft. above Permanent Datum.
Drilling Measured From: Kelly Bushing

Date	15 August 2017
Run Number	ONE
Plug Back T.D. Driller	15229
Plug Back T.D. Logger	----
Bottom Logged Interval	7614
Top Log Interval	Surface
Type Fluid	Water
Density / Viscosity	----
Max. Recorded Temp.	233
Time Logger on Bottom	12:50
Equipment Number	GD114
Location	Casper
Recorded By	GS Yarbro
Witnessed By	Mr. Kiser

Casing Record				Tubing Record			
Size	Weight	From	To	Size	Weight	From	To
9 5/8	36	0	1970.2				
5 1/2	23	0	15323				

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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 # : RM0817WLOW554
Your Crew Today: Adams, Graham
Log Correlated to: Marker Joint @ 6617.5 - 6640.5

Cement Data	
Date Cemented	----
Primary / Squeeze	Primary
Type / Weight	----
Main Pass Press.	500
Repeat Pass Press.	Zero

Bond Index

Index %	Est Top Depth
20 % Bond	1538
40 % Bond	1594
60 % Bond	1692
80 % Bond	2960
100 % Bond	7180

Comments

Estimated Cement Top (20% Bond Index) @ 1538'

Thank you for using Gyrodata
Eric Regnier: Rocky Mountain Wireline Manager EricR@Gyrodata.com

Log Variables

Databased:\warrior\data\2017-08-15_cop_bd land 4-64 4-5 4bh_cbl\2017-08-15_cop_bd land 4-64 4-5 4bh_cbl.db
Dataset field/well/run1/pass8.1/_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	0.415	23	71.9	4.829

MaxAPIWall in	MINAMPL mV	MinAPIID in	MINATTN db/ft	PPT usec
0.415	2.6	4.643	0	237

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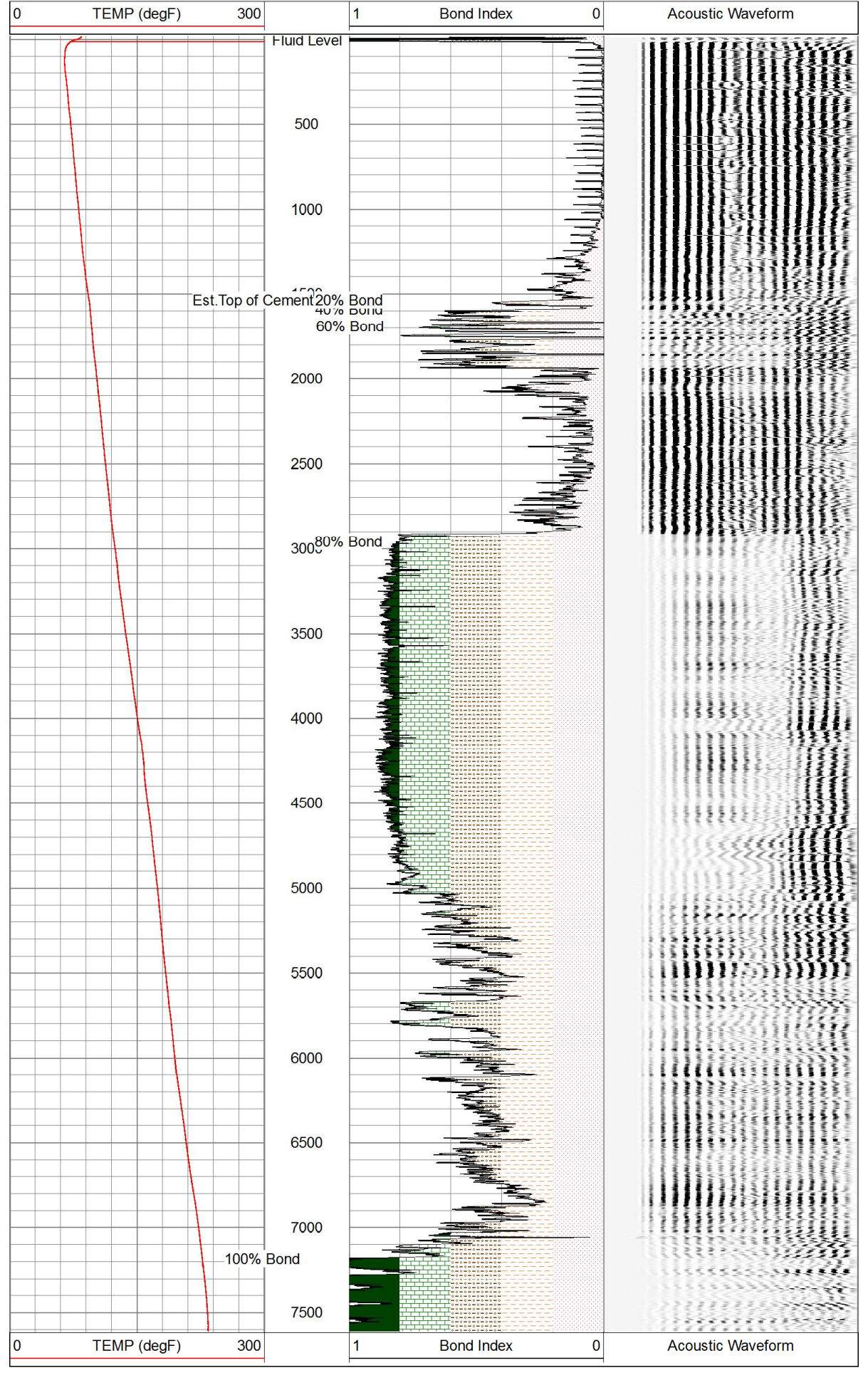
BOND INDEX

Database File 2017-08-15_cop_bd land 4-64 4-5 4bh_cbl\2017-08-15_cop_bd land 4-64 4-5 4bh_cbl.db
Dataset Pathname ./././bndindx
Presentation Format BONDIN~3
Dataset Creation Tue Aug 15 14:42:33 2017
Charted by Depth in Feet scaled 1:7500



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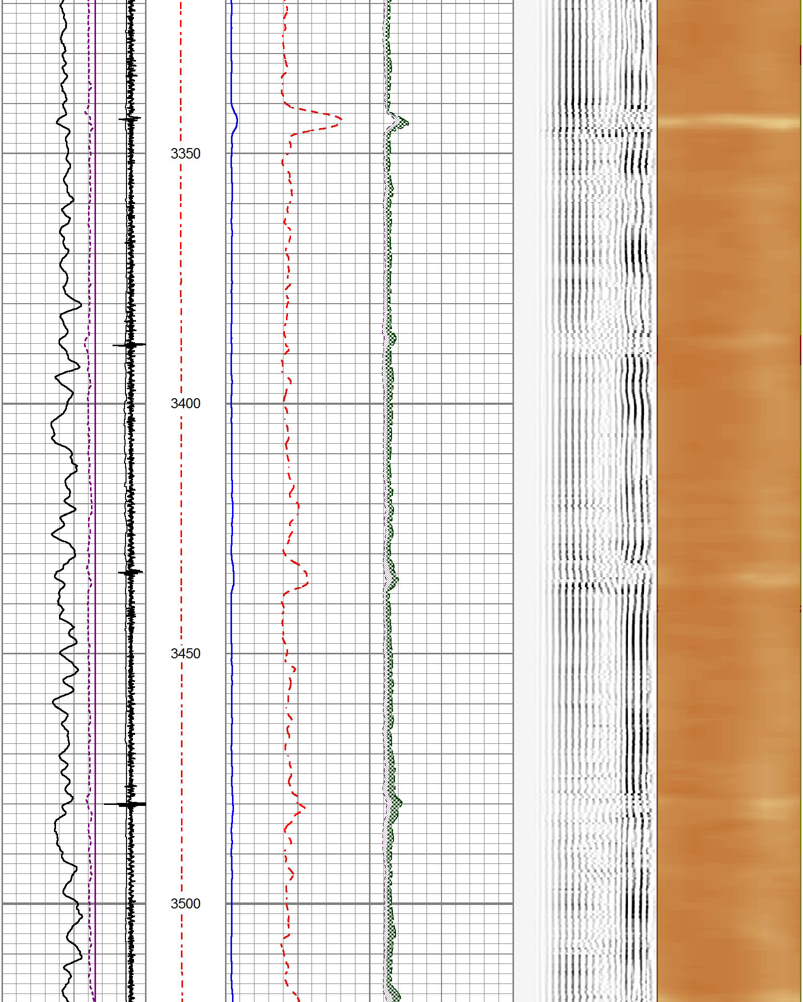
MAIN PASS - Ran with 500 PSI

5 in / 100 ft

Database File 2017-08-15_cop_bd land 4-64 4-5 4bh_cbl\2017-08-15_cop_bd land 4-64 4-5 4bh_cbl.db
Dataset Pathname pass8.1
Presentation Format rcbl_8s
Dataset Creation Tue Aug 15 14:27:14 2017
Charted by Depth in Feet scaled 1:240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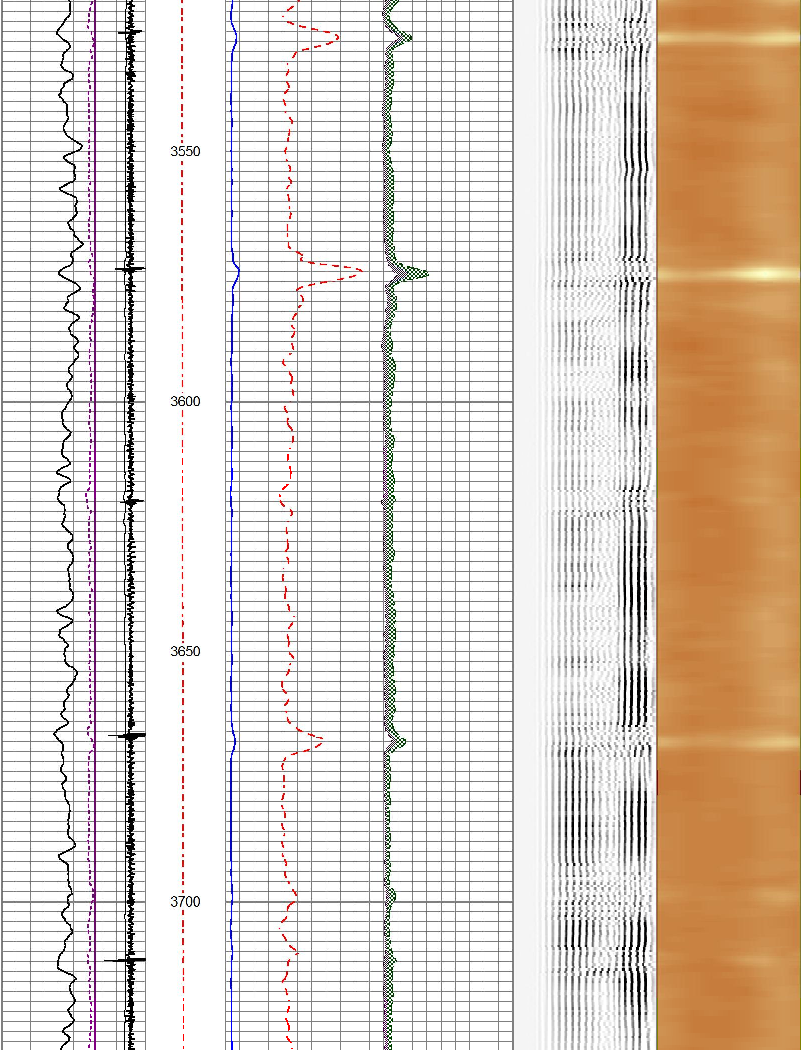
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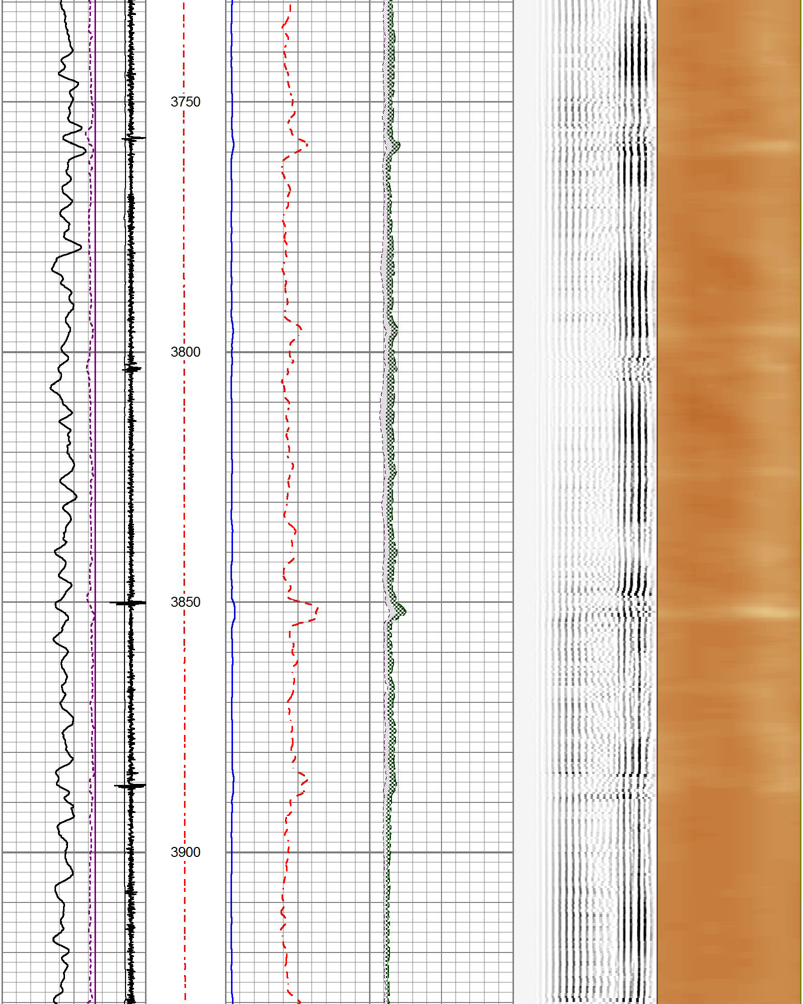
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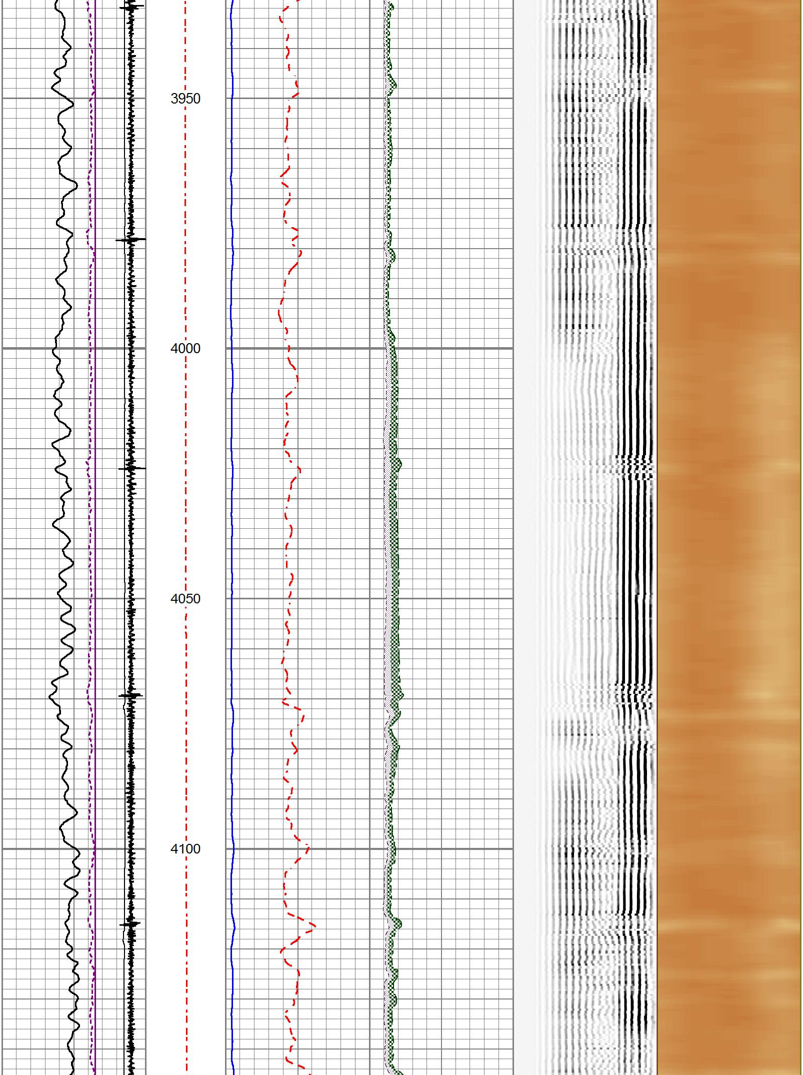
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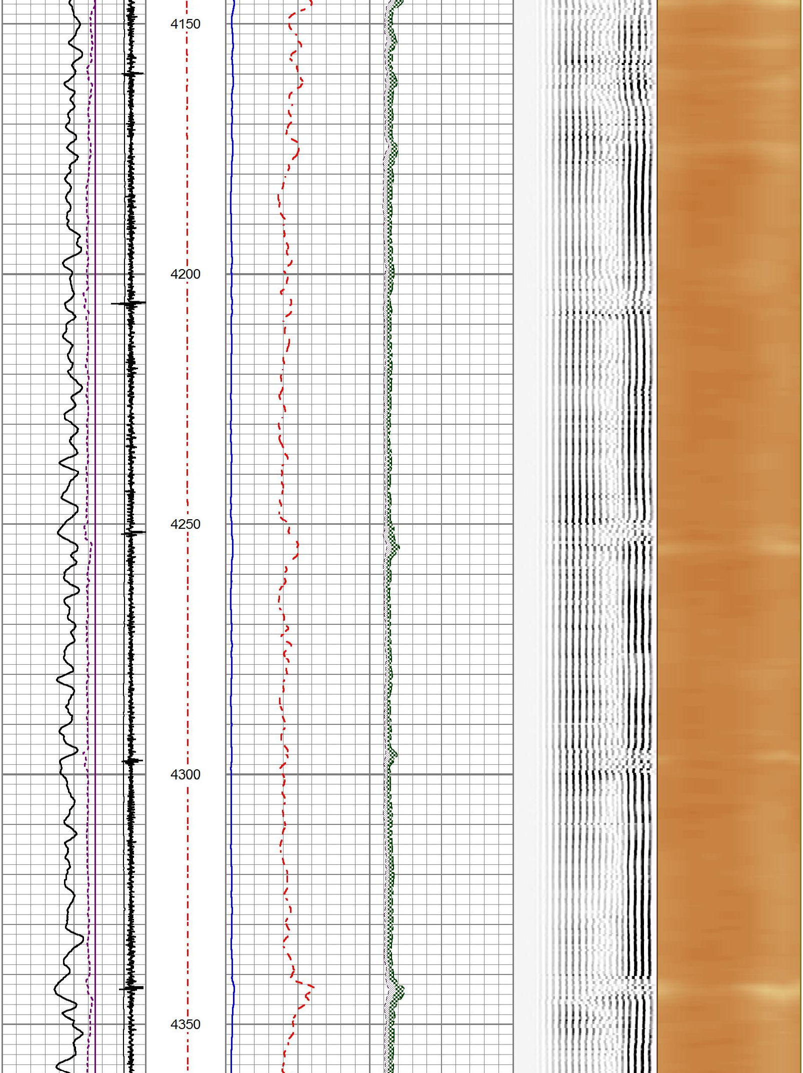
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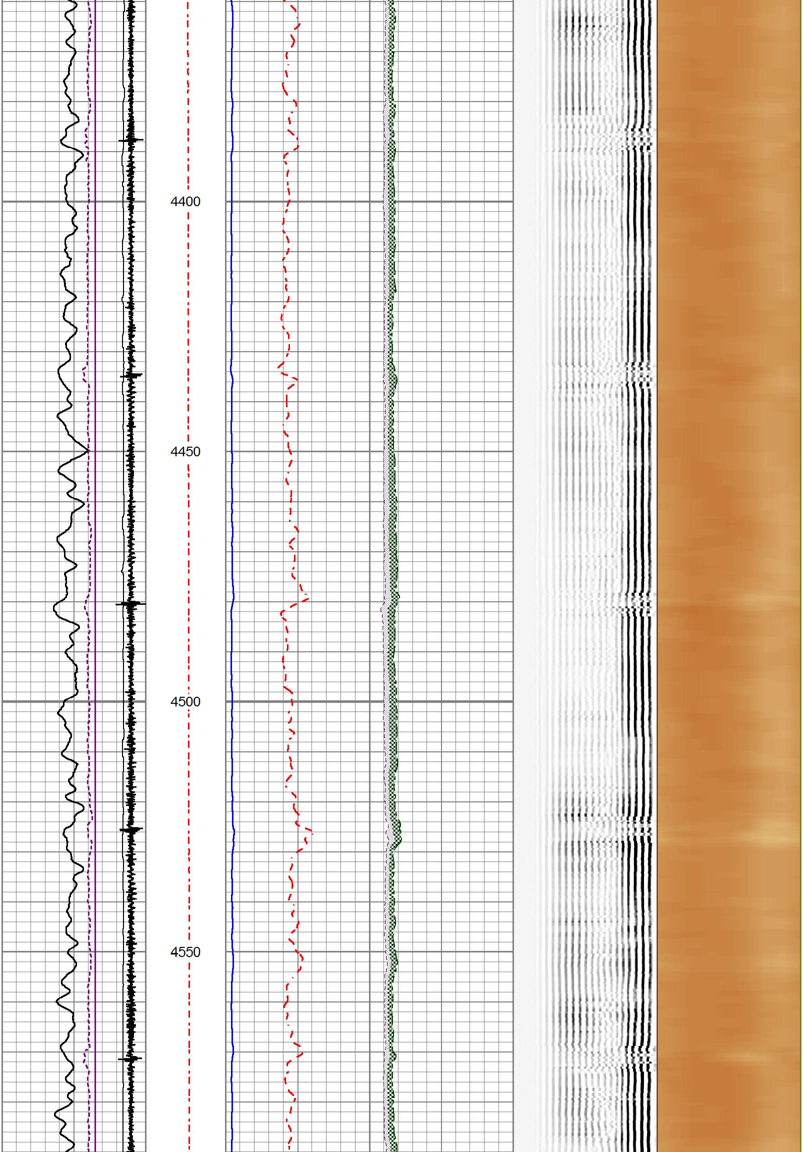
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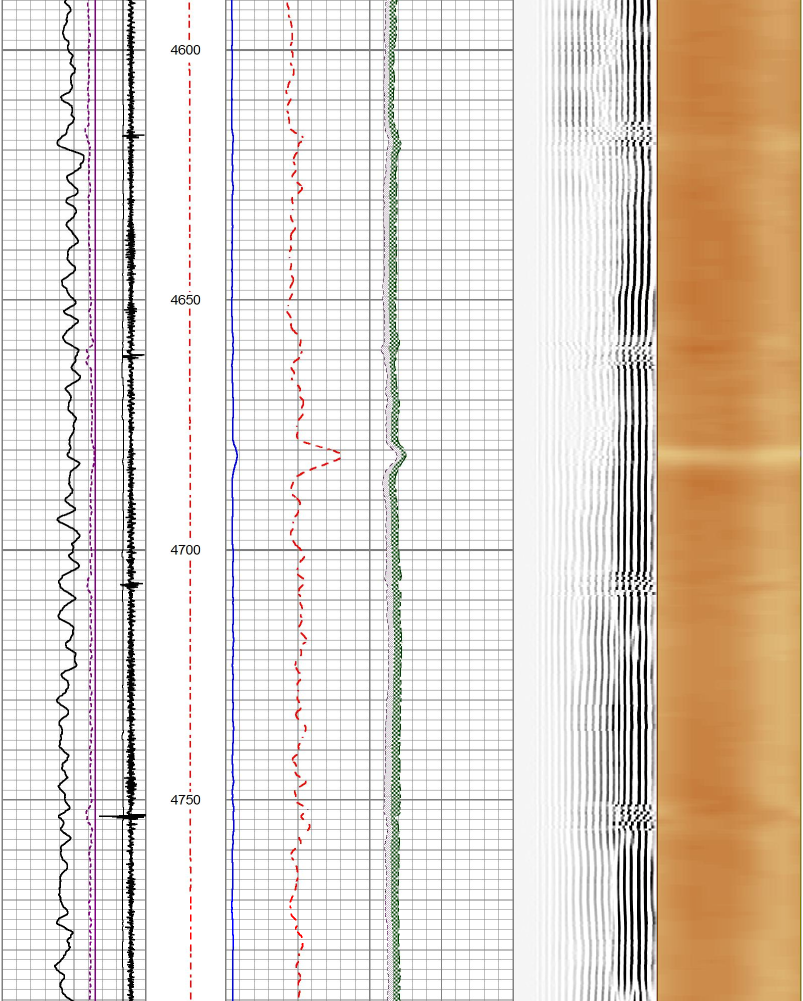
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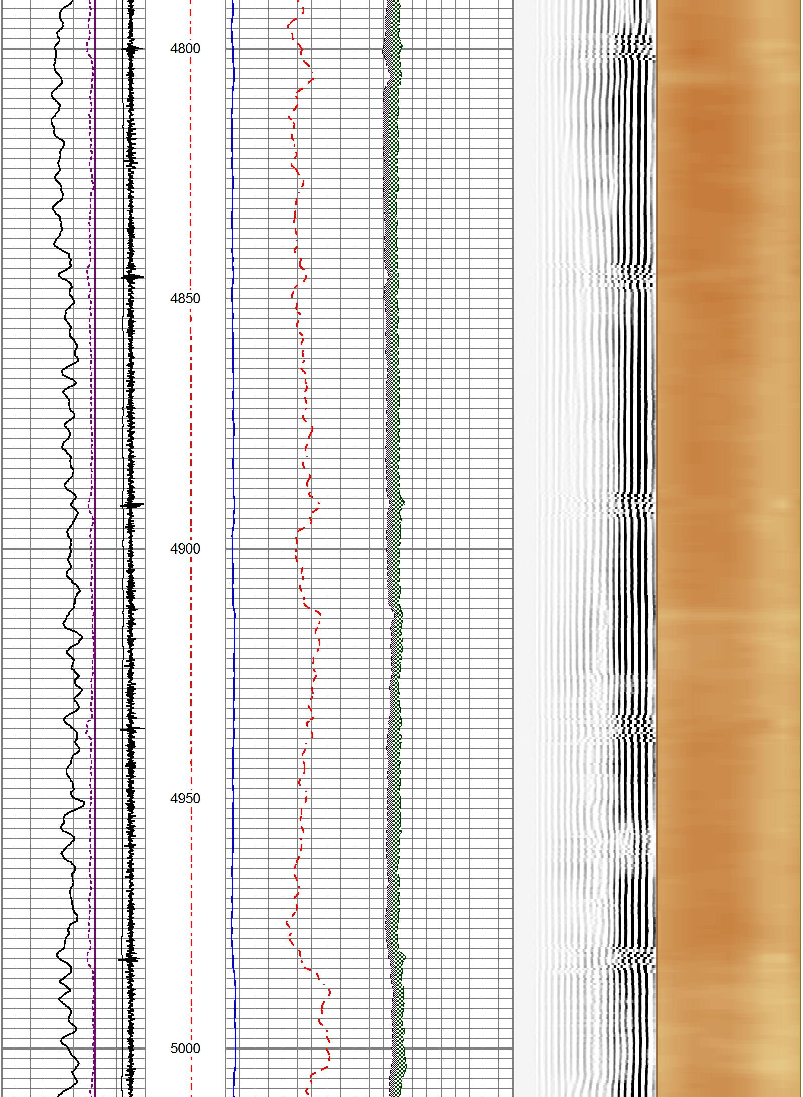
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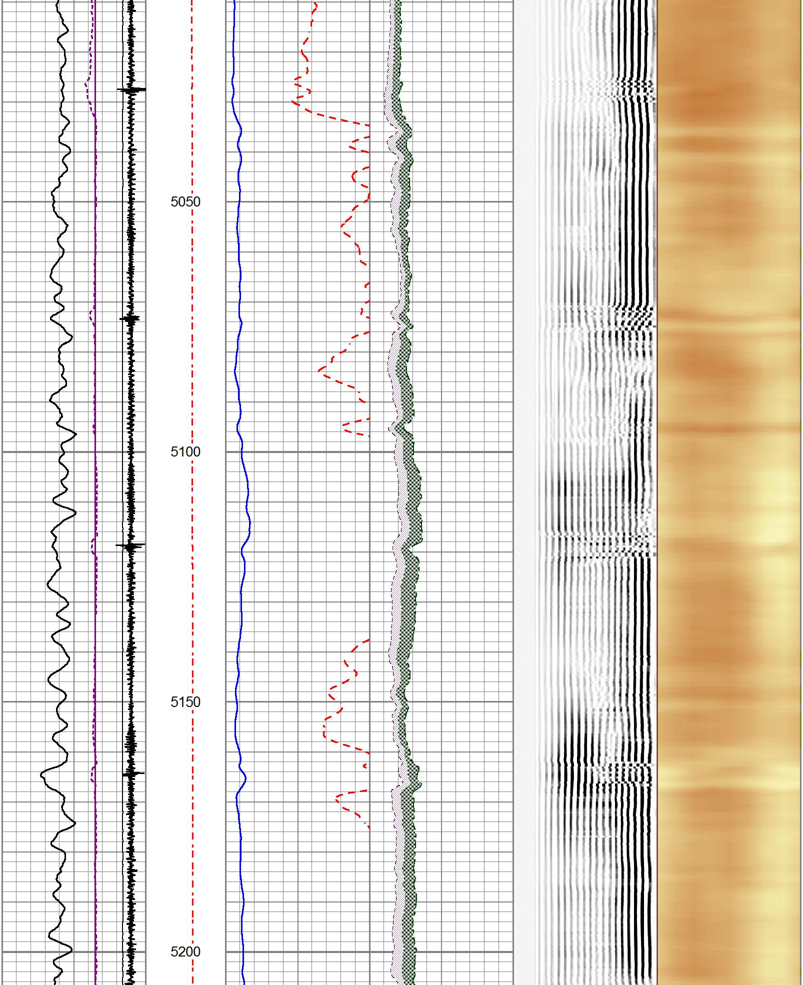
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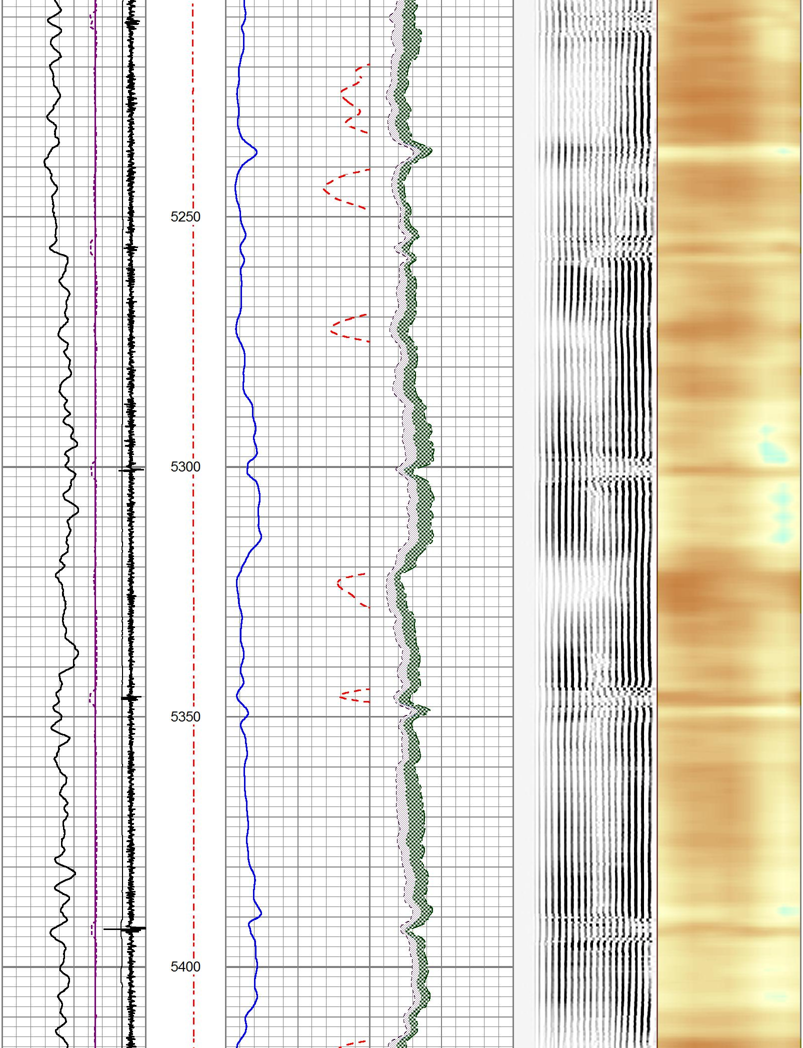
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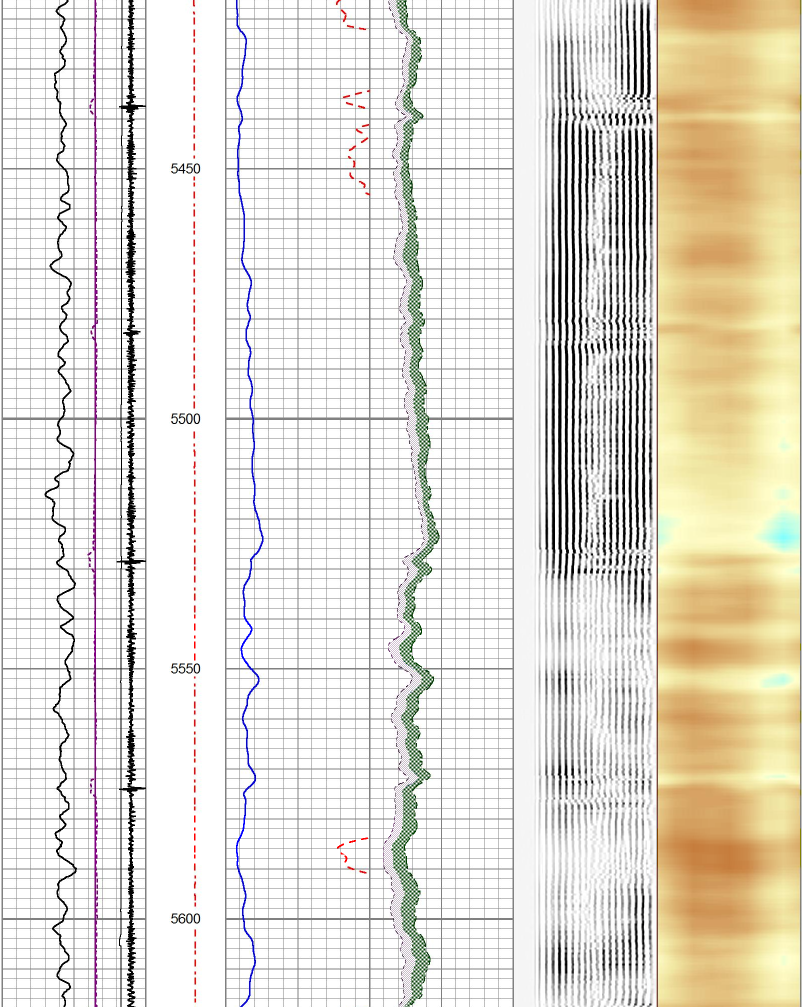
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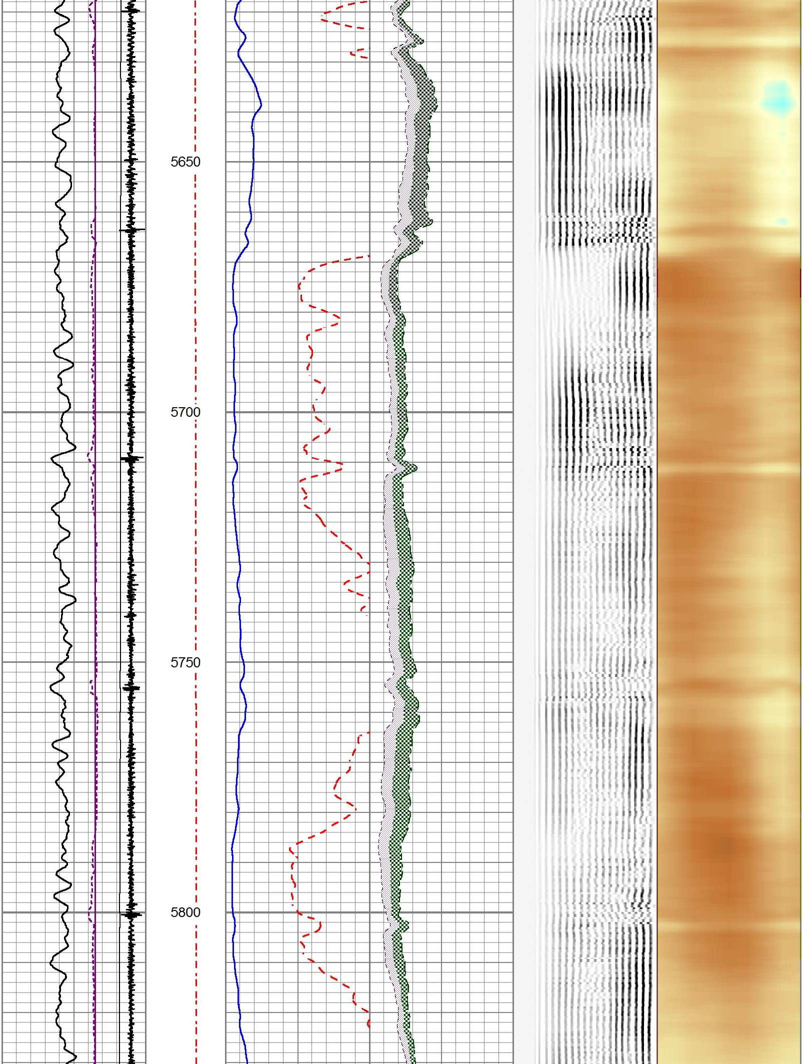
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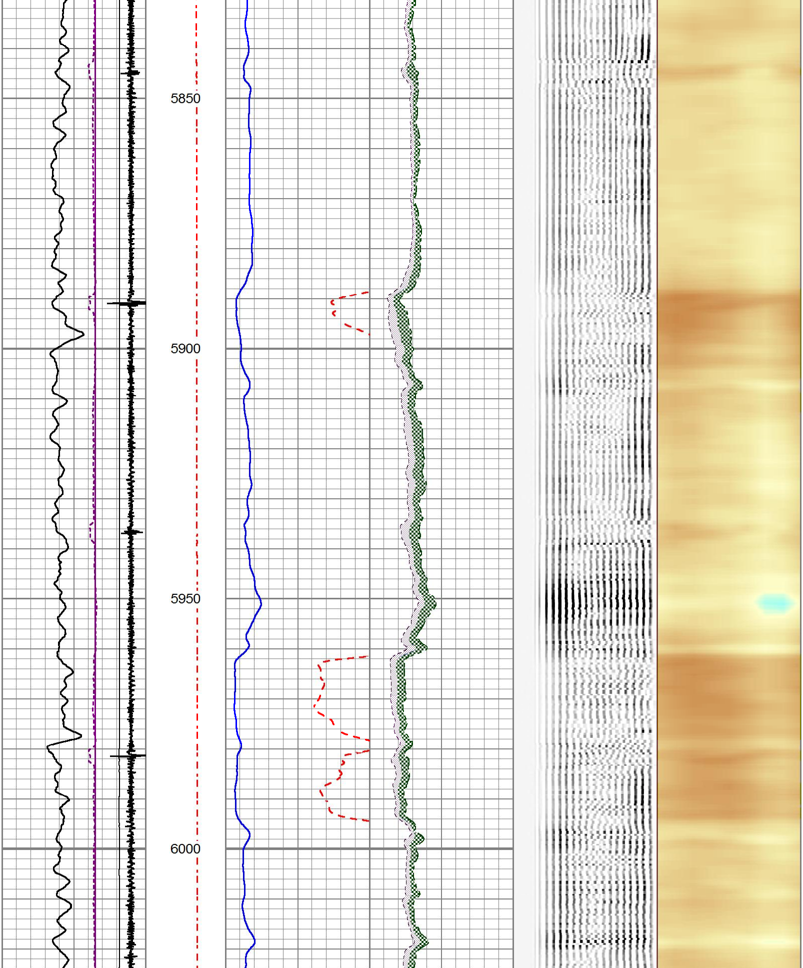
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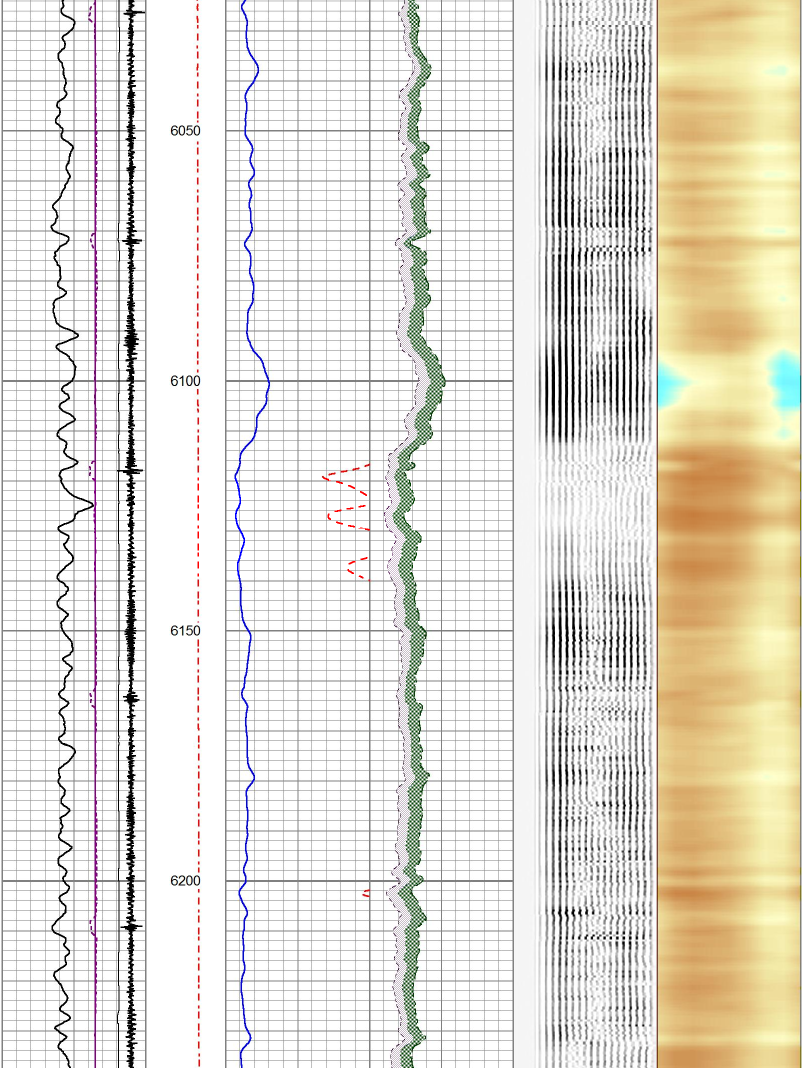
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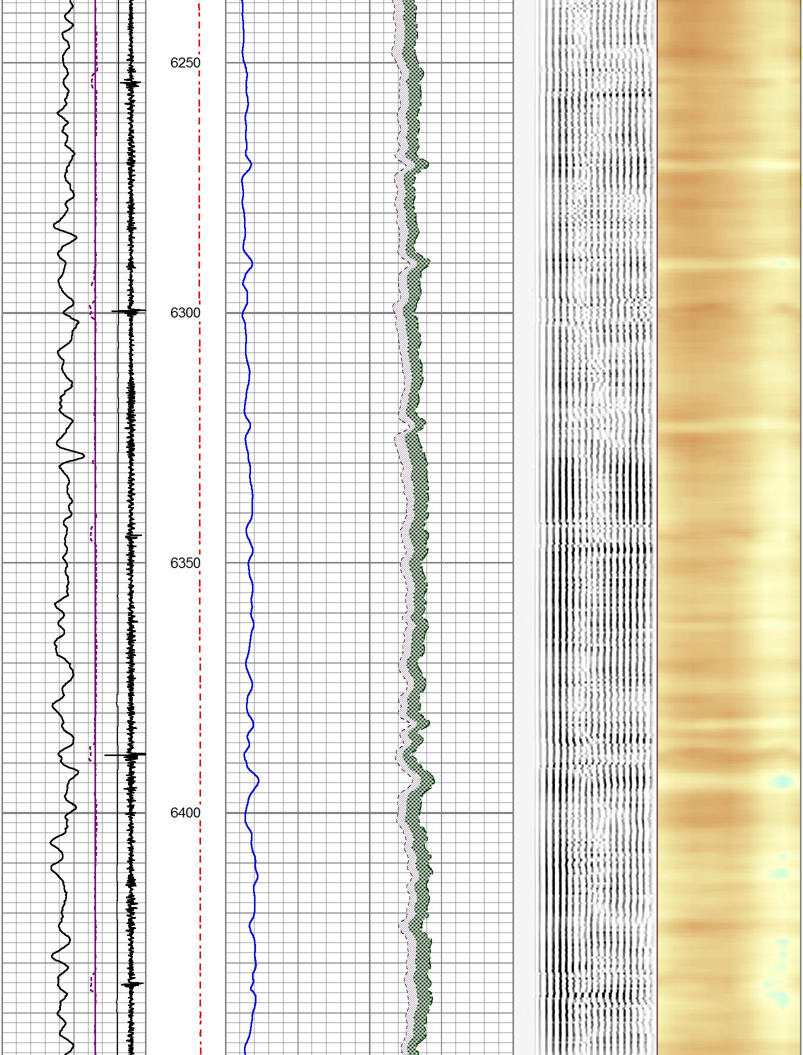
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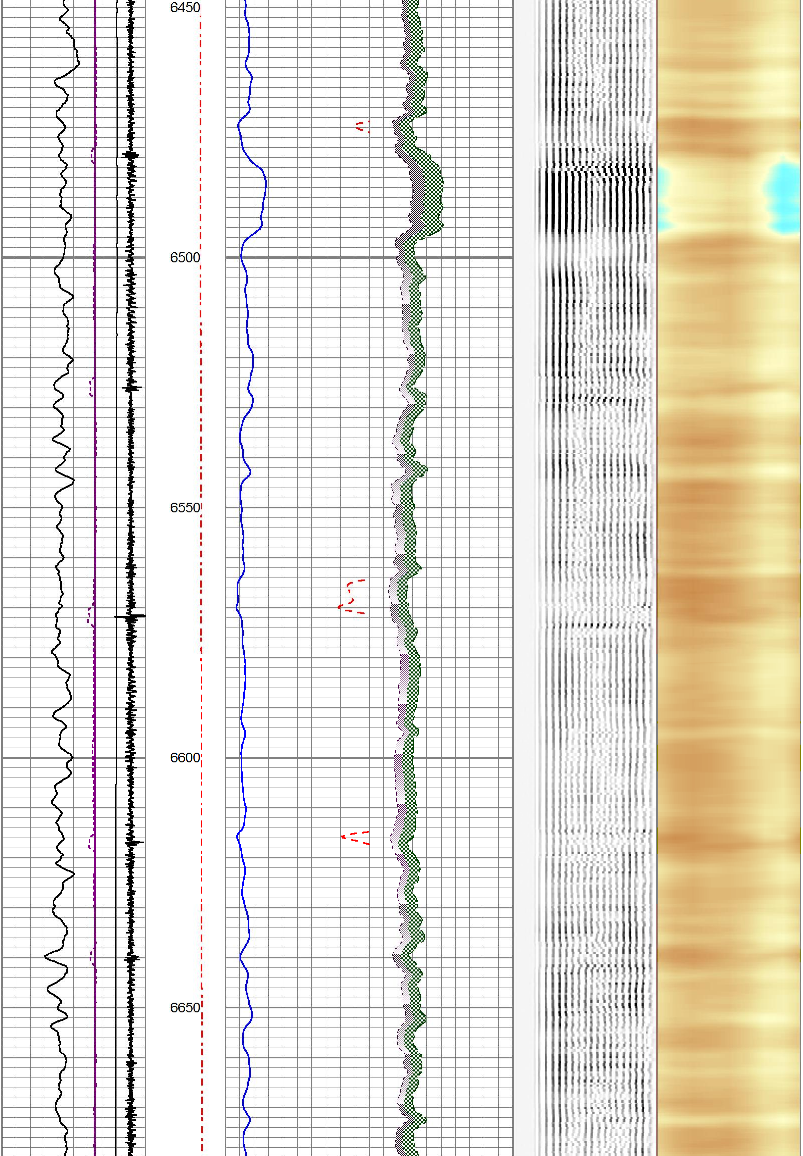
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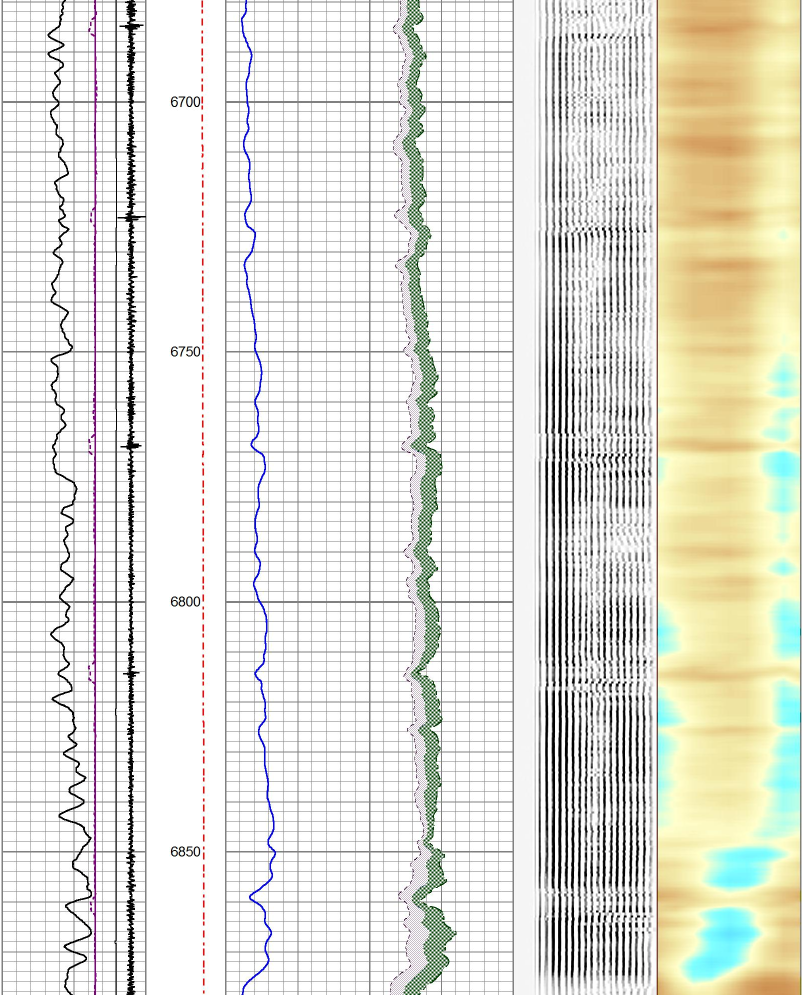
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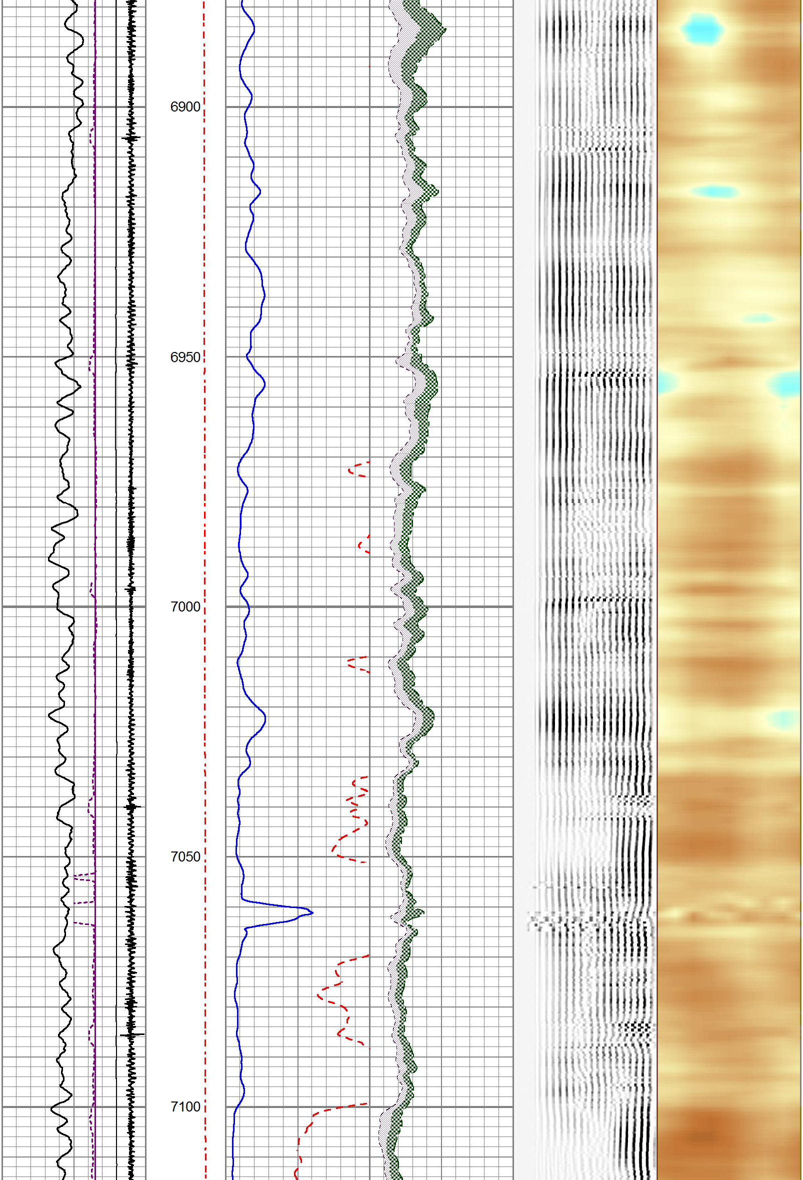
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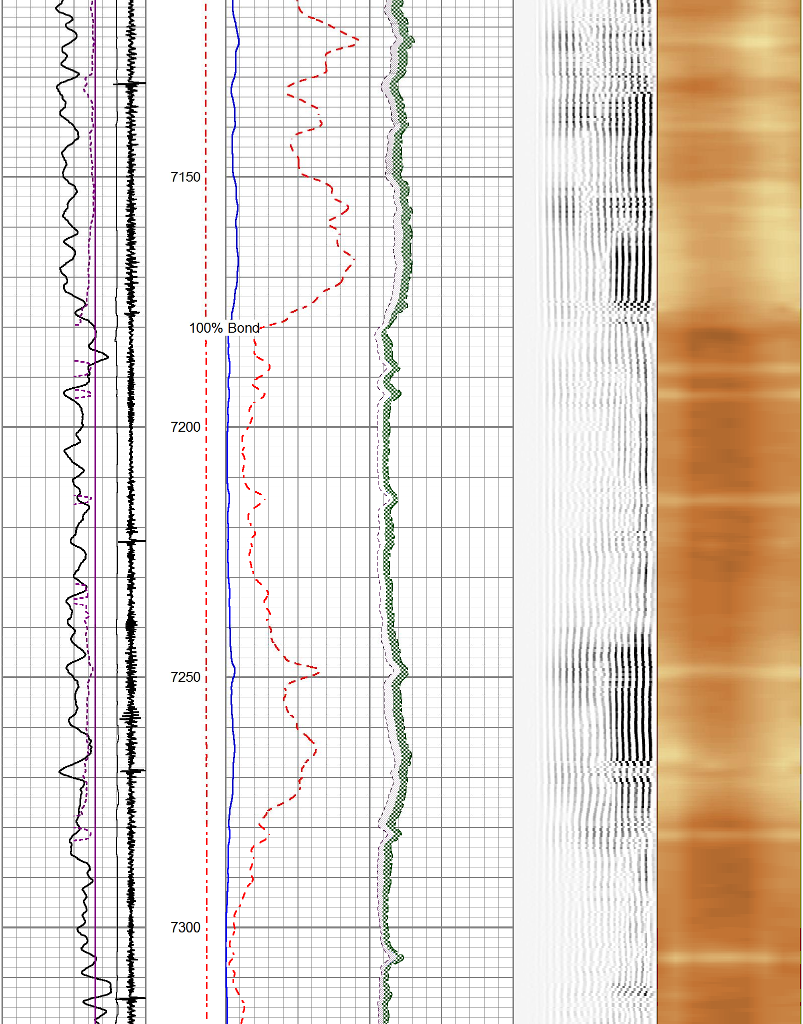
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100% Bond
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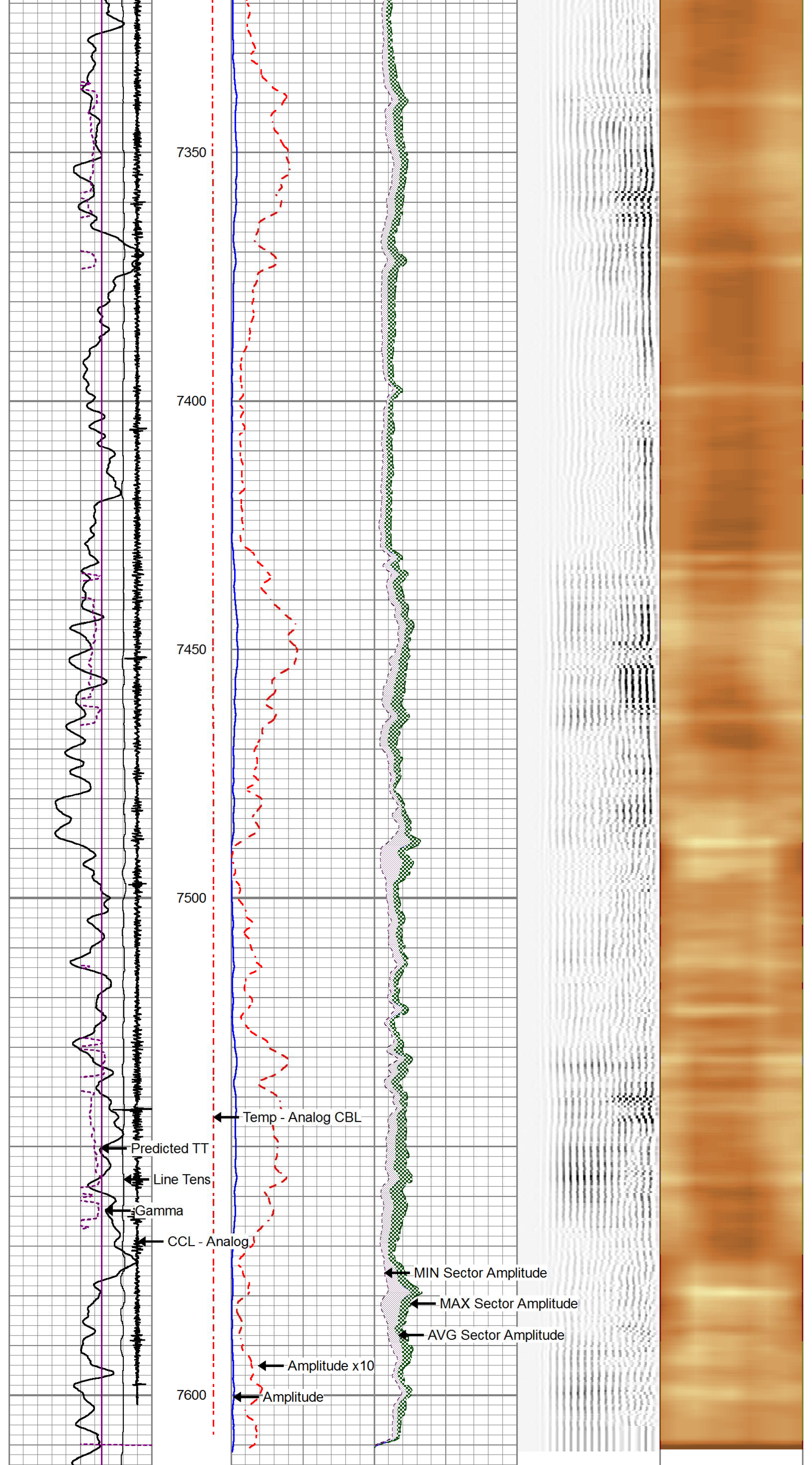

CCL - Analog	np - Analog C	0 Amplitude (mV)100	AVG Sector Amplitude	Acoustic Waveform	SECTORS
Gamma 0 (GAPI) 200	(degF) 0 300	Amplitude x10 0 (mV) 10	0 100	200 (usec) 1200	
300(Line Tens (lb) 0			MAX Sector Amplitude 0 100		
Predicted TT			MIN Sector Amplitude 0 100		
TT +[10 usec]-					

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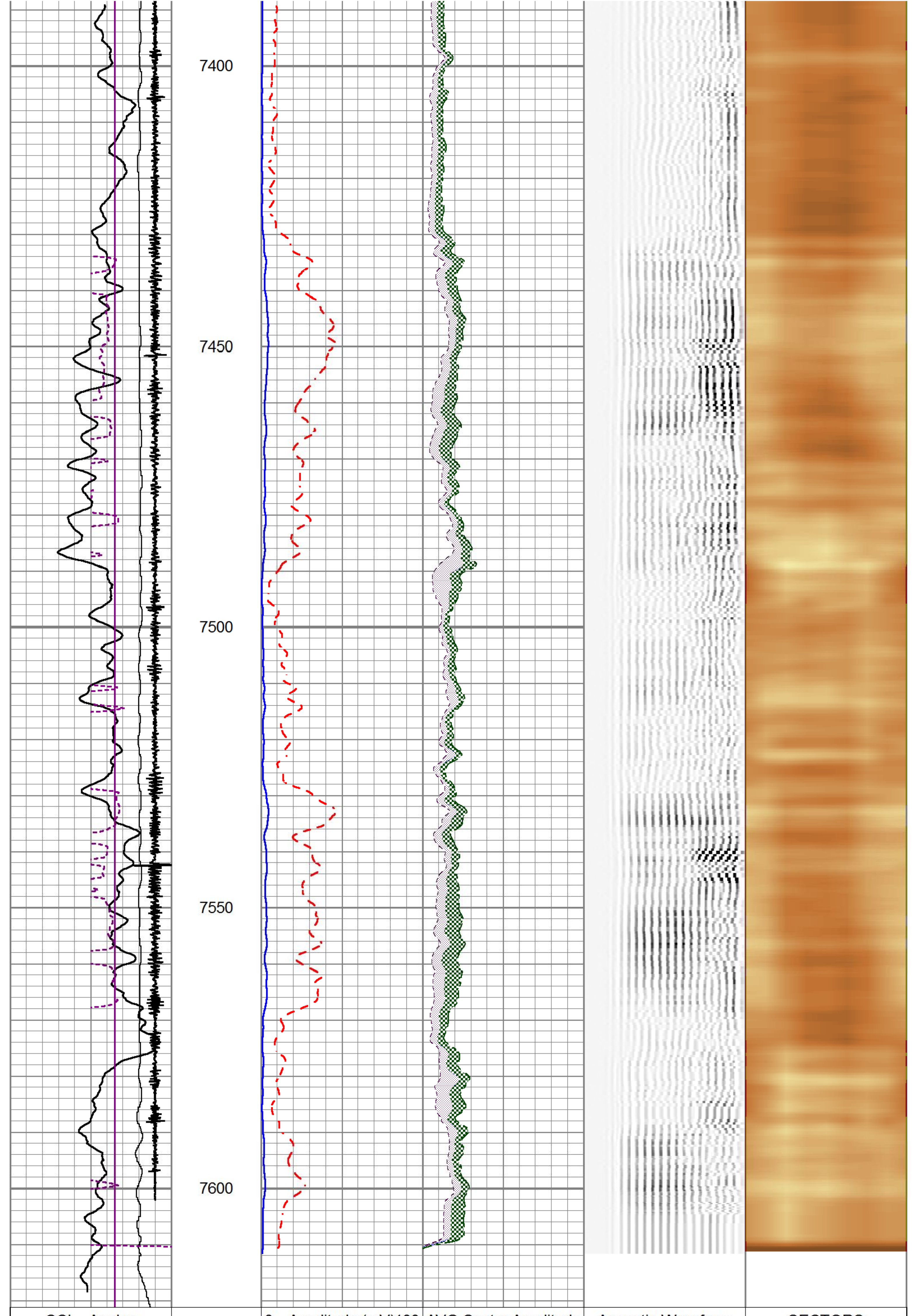
REPEAT PASS - Ran with 0 PSI

5 in / 100 ft

Database File	2017-08-15_cop_bd land 4-64 4-5 4bh_cbl\2017-08-15_cop_bd land 4-64 4-5 4bh_cbl.db
Dataset Pathname	pass7.1
Presentation Format	rcbl_8s
Dataset Creation	Tue Aug 15 14:28:46 2017
Charted by	Depth in Feet scaled 1:240

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



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

Calibration Report

Database File	d:\warrior\data\2017-08-15_cop_bd land 4-64 4-5 4bh_cbl\2017-08-15_cop_bd land 4-64 4-5 4bh_cbl.db
Dataset Pathname	pass8.1
Dataset Creation	Tue Aug 15 14:27:14 2017

Gamma Ray Calibration Report

Serial Number:	IXEM9-02	
Tool Model:	2 3/4" TekCo	
Performed:	Tue Dec 13 00:09:12 2016	
Calibrator Value:	194.0	GAPI
Background Reading:	65.6	cps
Calibrator Reading:	360.4	cps
Sensitivity:	0.6580	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:	559.193	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.007	0.577	0.000	71.921	122.998	0.916
CAL	-0.009	0.310				
5'	-0.006	0.898	0.000	71.921	79.516	0.481
SUM						
S1	0.001	0.596	-2.000	71.921	124.147	-2.066
S2	0.003	0.547	-2.000	71.921	135.819	-2.353
S3	0.008	0.540	-2.000	71.921	138.935	-3.087
S4	0.005	0.495	-2.000	71.921	150.590	-2.687
S5	0.005	0.505	-2.000	71.921	148.051	-2.789
S6	0.002	0.538	-2.000	71.921	138.076	-2.298
S7	-0.001	0.607	-2.000	71.921	121.634	-1.900
S8	-0.001	0.620	-2.000	71.921	119.133	-1.907

Internal Reference Calibration, performed Sun Aug 13 11:03:31 2017:

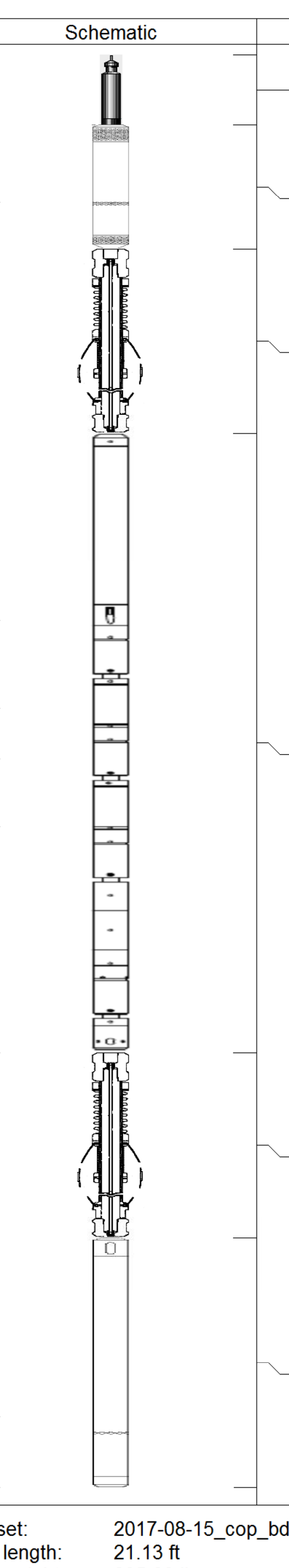
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.009	0.310	1.000	0.000

Air Zero Calibration, performed Mon Dec 12 13:09:14 2016:

	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 11:07:15 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)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			CableHead-TitanConeType2	1.03	1.44	3.60
CCL	18.96		CCL_Log-2 3/4" TekCo (IPSN7-03) 450 Deg. CCL	1.83	2.75	33.00
			TekCo-275_Tekco 2 3/4" Tekco Adjustable SPRING Centralizer	2.73	2.75	25.00
TEMP	12.78					
WVFS8	11.49					
WVFS7	11.49		RBTA-2 3/4" RIB Analog (IPPO2-01) Radial Incremented Bond Tool with Temp	9.13	2.75	102.00
WVFS6	11.49					
WVFS5	11.49					
WVFS4	11.49					
WVFS3	11.49					
WVFS2	11.49					
WVFS1	11.49					
WVF3FT	10.74					
WVF5FT	9.74					
WVFSYNC	6.41					
WVFTEMP	6.41					
WVFCAL	6.41					
			TekCo-275_Tekco 2 3/4" Tekco Adjustable SPRING Centralizer	2.73	2.75	25.00
			GR_Log-2 3/4" TekCo (IXEM9-02) 400 Deg. Gamma Ray	3.68	2.75	47.00
GR	1.04					
LOCTIM	0.00					
UTCTIM	0.00					

Dataset:	2017-08-15_cop_bd land 4-64 4-5 4bh_cbl.db: field/well/run1/pass8.1
Total length:	21.13 ft
Total weight:	235.60 lb
O.D.:	2.75 in

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Company	ConocoPhillips, Inc
Well	B&D Land 4-64 4-5 4BH
Field	----
County	Arapahoe
State	Colorado
Country	U.S.A.