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Cement Bond Log

Company	ConocoPhillips, INC
Well	Little Rush 4-65 28 #1V
Field	Wildcat
County	Arapahoe
State	Colorado

Company ConocoPhillips, INC
Well Little Rush 4-65 28 #1V
Field Wildcat
County Arapahoe State Colorado

API #: 05-005-07270
Location: NW/SW 1531 FSL 422 FWL

Other Services

SEC: TWP: RGE:

Elevation: K.B. 5722, D.F. 5721, G.L. 5696

Permanent Datum: Ground Level, Elevation: 5696
Log Measured From: Kelly Bushing, 26 ft. above Permanent Datum
Drilling Measured From: Kelly Bushing

Date	24 August 2017
Run Number	One
Plug Back T.D. Driller	8456.8
Plug Back T.D. Logger	8454
Bottom Logged Interval	8454
Top Log Interval	Surface
Type Fluid	Water
Density / Viscosity	---
Max. Recorded Temp.	259
Time Logger on Bottom	11:15
Equipment Number	GD114
Location	Casper
Recorded By	GS Yarbro
Witnessed By	Mike Semon

Casing Record					Tubing Record			
Size	Weight	From	To		Size	Weight	From	To
9 5/8	36	0	2219					
5 1/2	23	0	8693					

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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 # : RM0817WLOW594
Your Crew Today: Kennicker, Adams, Staker
Log Correlated to: Surface

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	2278
40 % Bond	2688
60 % Bond	3282
80 % Bond	----
100 % Bond	----

Comments

Estimated Top of Cement
(20% Bond Index) @ 2278

Thank you for using Gyrodata

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

Log Variables

Databased:\warrior\data\2017-08-24_cop_little rush 4-65 28 1v_cbl\2017-08-24_cop_little rush 4-65
Dataset field/well/run1/MainCorrect/_vars_

Top - Bottom

BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MaxAPIID
	in	degF	in	in	lb/ft	mV	in
TEMP	8.5	100	5.5	0.415	23	71.9	4.829

MaxAPIWall	MINAMPL	MinAPIID	MINATTN	PPT
in	mV	in	db/ft	usec
0.415	2.6	4.643	0	236

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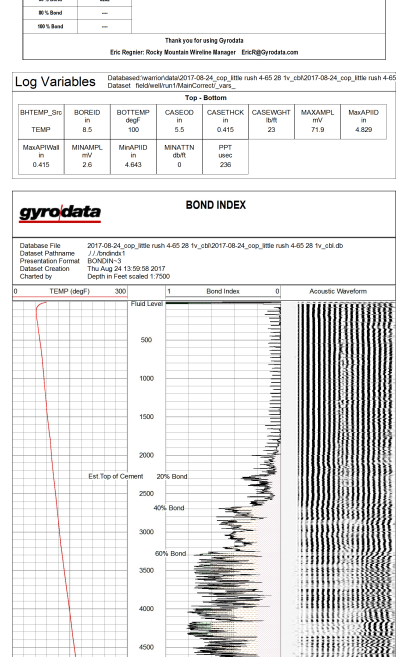
BOND INDEX

Database File	2017-08-24_cop_little rush 4-65 28 1v_cbl\2017-08-24_cop_little rush 4-65 28 1v_cbl.db
Dataset Pathname	./././bndindx1
Presentation Format	BONDIN~3
Dataset Creation	Thu Aug 24 13:59:58 2017
Charted by	Depth in Feet scaled 1:7500



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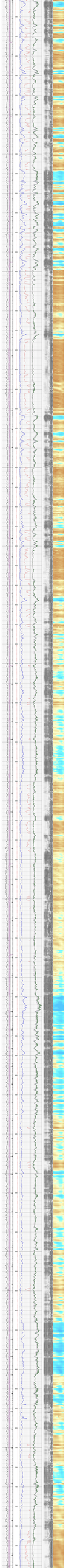
MAIN PASS - Ran with 500 PSI

5 in / 100 ft

Database File	2017-08-24_cop_little rush 4-65 28 1v_cbl\2017-08-24_cop_little rush 4-65 28 1v_cbl.db
Dataset Pathname	MainCorrect
Presentation Format	gr_temp_ccl
Dataset Creation	Thu Aug 24 13:57:49 2017
Charted by	Depth in Feet scaled 1:240



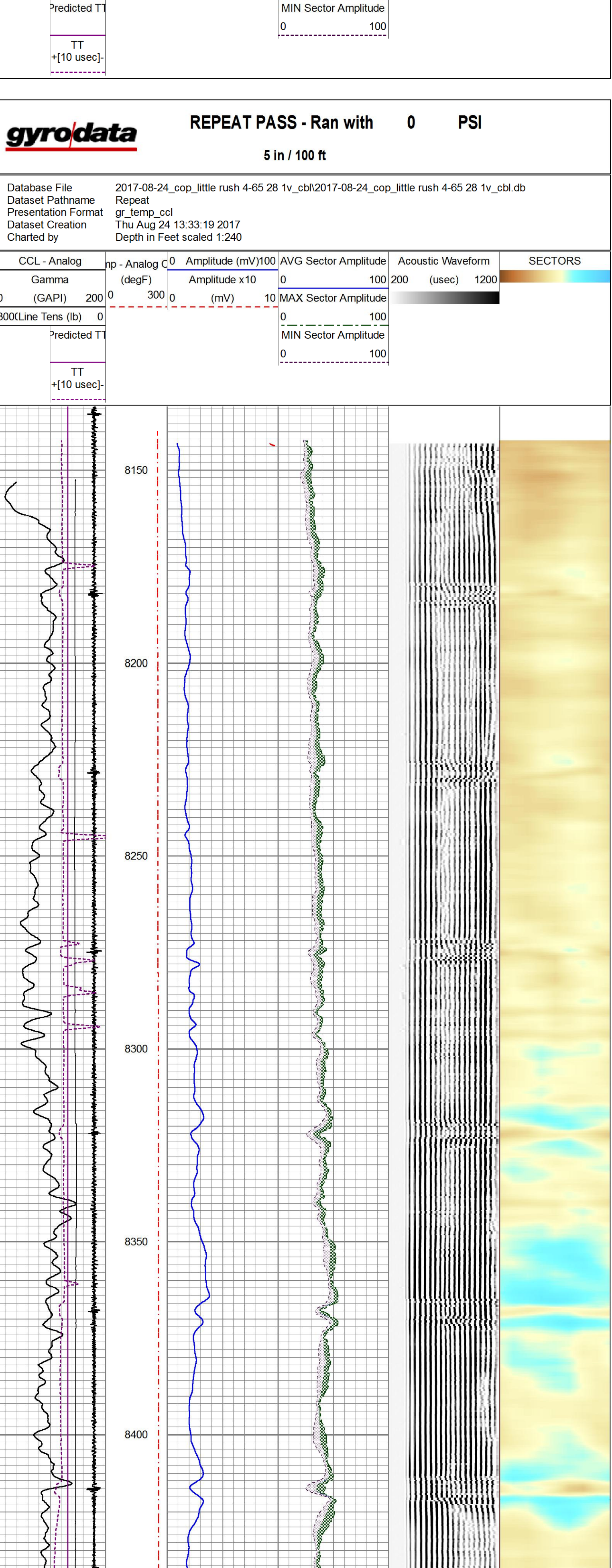
CCL - Analog	Temp - Analog CBL	Amplitude (mV)	AVG Sector Amplitude	Acoustic Waveform	SECTORS
Gamma 0 (GAPI) 200	(degF) 0 300	0 Amplitude (mV) 100	0 100	200 (usec) 1200	
3000 Line Tens (lb) 0		Amplitude x10 0 (mV) 10	MAX Sector Amplitude 0 100		
Predicted TT			MIN Sector Amplitude 0 100		
TT +[10 usec]-					

REPEAT PASS - Ran with 0 PSI

5 in / 100 ft

Database File	2017-08-24_cop_little rush 4-65 28 1v_cbl\2017-08-24_cop_little rush 4-65 28 1v_cbl.db
Dataset Pathname	Repeat
Presentation Format	gr_temp_ccl
Dataset Creation	Thu Aug 24 13:33:19 2017
Charted by	Depth in Feet scaled 1:240

CCL - Analog	Temp - Analog CBL	Amplitude (mV)	AVG Sector Amplitude	Acoustic Waveform	SECTORS
Gamma 0 (GAPI) 200	(degF) 0 300	0 Amplitude (mV) 100	0 100	200 (usec) 1200	
3000 Line Tens (lb) 0		Amplitude x10 0 (mV) 10	MAX Sector Amplitude 0 100		
Predicted TT			MIN Sector Amplitude 0 100		
TT +[10 usec]-					



CCL - Analog	Temp - Analog CBL	Amplitude (mV)	AVG Sector Amplitude	Acoustic Waveform	SECTORS
Gamma 0 (GAPI) 200	(degF) 0 300	0 Amplitude (mV) 100	0 100	200 (usec) 1200	
3000 Line Tens (lb) 0		Amplitude x10 0 (mV) 10	MAX Sector Amplitude 0 100		
Predicted TT			MIN Sector Amplitude 0 100		
TT +[10 usec]-					

Calibration Report

Database File	d:\warrior\data\2017-08-24_cop_little rush 4-65 28 1v_cbl\2017-08-24_cop_little rush 4-65 28 1v_cbl.db
Dataset Pathname	MainCorrect
Dataset Creation	Thu Aug 24 13:57:49 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:	340.453	ft

Master Calibration, performed Thu Aug 24 10:33:13 2017:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.008	0.880	0.000	71.921	80.956	0.644
CAL	-0.008	0.502				
5'	-0.008	1.326	0.000	71.921	53.912	0.441
SUM						
S1	-0.008	0.961	0.000	71.921	74.209	0.588
S2	-0.008	0.823	0.000	71.921	86.518	0.691
S3	-0.008	0.787	0.000	71.921	90.395	0.736
S4	-0.008	0.704	0.000	71.921	100.963	0.816
S5	-0.008	0.728	0.000	71.921	97.748	0.797
S6	-0.008	0.787	0.000	71.921	90.520	0.726
S7	-0.008	0.929	0.000	71.921	76.760	0.614
S8	-0.008	0.979	0.000	71.921	72.862	0.587

Internal Reference Calibration, performed Thu Aug 24 10:32:02 2017:

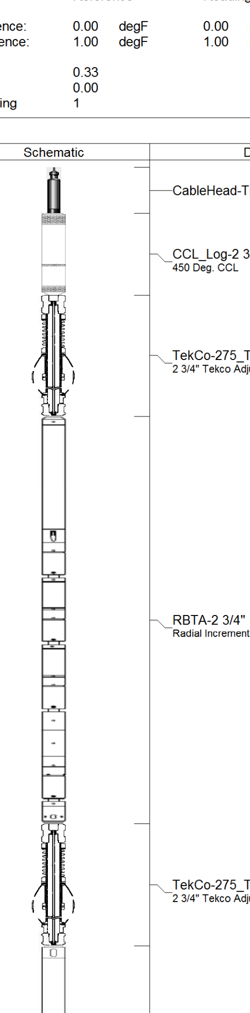
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.008	0.502	1.000	0.000

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)	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 (IX2S8-07) 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				
WVFS6	11.49	RBTA-2 3/4" RIB Analog (IPPO2-01) Radial Incremented Bond Tool with Temp	9.13	2.75	102.00
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:	2017-08-24_cop_little rush 4-65 28 1v_cbl.db: field/well/run1/MainCorrect
Total length:	21.13 ft
Total weight:	235.60 lb
O.D.:	2.75 in

Company	ConocoPhillips, INC		
Well	Little Rush 4-65 28 #1V		
Field	Wildcat		
County	Arapahoe		
State	Colorado	Country	U.S.A.