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Cement Bond Log

Company	Extraction Oil and Gas		
Well	CS Longmeadow 1-1-13		
Field	Wattenberg		
County	Weld	State	Colorado
API # :	05-123-42476		Other Services
Location:	SE/SW 338 FSL 1840 FEL		Elevation K.B. 4689 D.F. 4688 G.L. 4664
SEC: 36	TWP: 6N	RGE: 66W	

Company	Extraction Oil and Gas		
Well	CS Longmeadow 1-1-13		
Field	Wattenberg		
County	Weld		
State	Colorado		

Permanent Datum:	Ground Level	Elevation: 4665
Log Measured From:	Kelly Bushing , 25 ft. above Permanent Datum.	
Drilling Measured From:	Kelly Bushing	
Date	16 October 2017	
Run Number	One	
Plug Back T.D. Driller	-----	
Plug Back T.D. Logger	-----	
Bottom Logged Interval	7240	
Top Log Interval	Surface	
Type Fluid	Water	
Density / Viscosity	-----	
Max. Recorded Temp.	242	
Time Logger on Bottom	12:30	
Equipment Number	GD114	
Location	Casper	
Recorded By	Zack Fabre	
Witnessed By	Mr. Siegel	

Casing Record				Tubing Record			
Size	Weight	From	To	Size	Weight	From	To
9 5/8	36	0	1500				
5 1/2	20	0	----				

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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 # : RM1017WLOW694
Your Crew Today: Yarbro, Adams, Graham, Fabre
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	70
40 % Bond	550
60 % Bond	1060
80 % Bond	1142
100 % Bond	1300

Comments

Estimated top of Cement
(20% Bond Index) @ 70

Thank you for using Gyrodata

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

Log Variables

Databased:\warrior\data\2017-10-16_extraction_cs long 1-1-13_cbl\2017-10-16_extraction_cs long
Dataset field/well/run1/pass3.1/_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

MaxAPIWall in	MINAMPL mV	MinAPIID in	MINATTN db/ft	PPT usec
0.361	1.9	4.751	0	239

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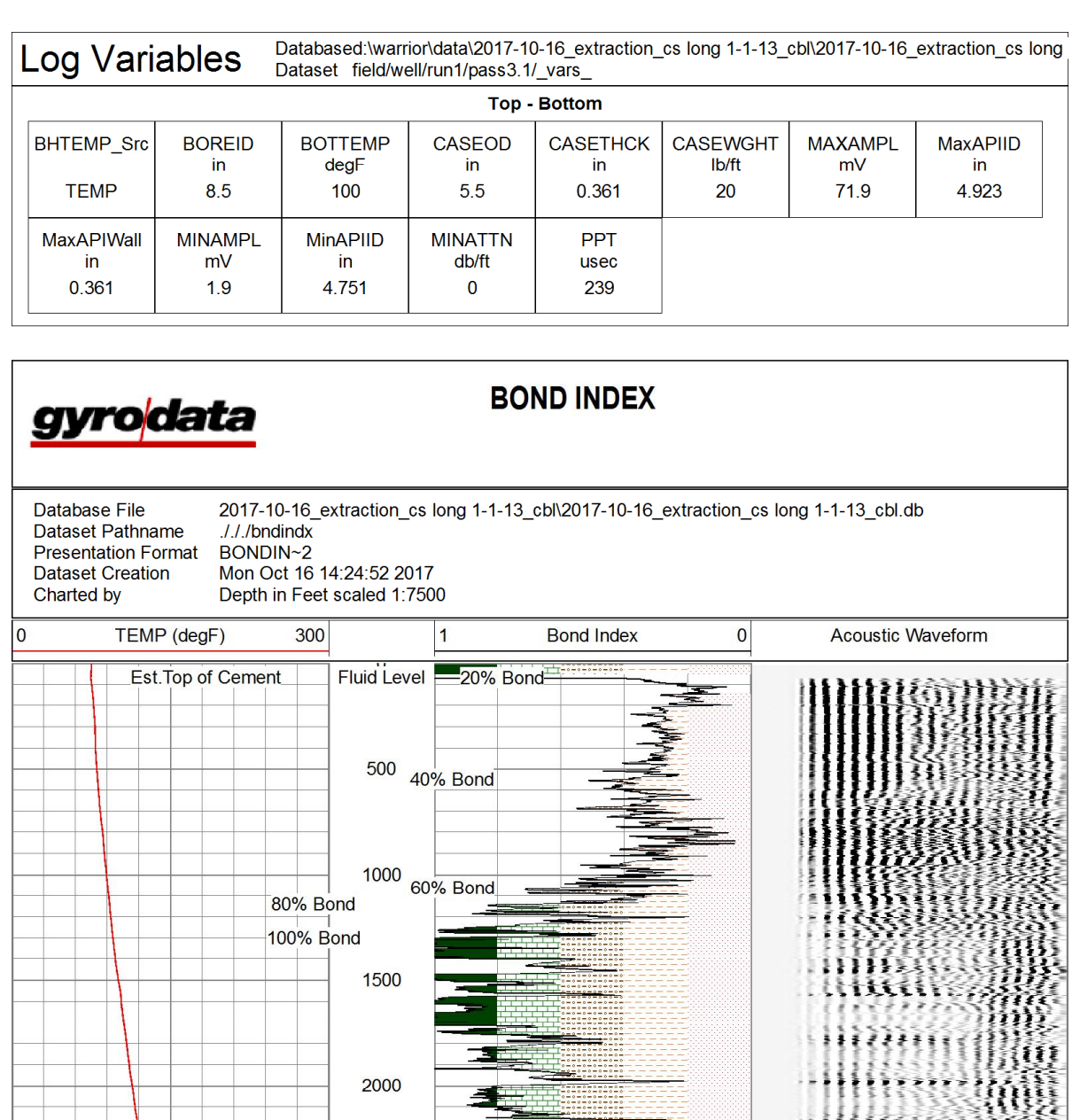
BOND INDEX

Database File 2017-10-16_extraction_cs long 1-1-13_cbl\2017-10-16_extraction_cs long 1-1-13_cbl.db
Dataset Pathname ./././bndindx
Presentation Format BONDIN~2
Dataset Creation Mon Oct 16 14:24:52 2017
Charted by Depth in Feet scaled 1:7500



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MAIN PASS - Ran with 0 PSI

5 in / 100 ft

Database File 2017-10-16_extraction_cs long 1-1-13_cbl\2017-10-16_extraction_cs long 1-1-13_cbl.db
Dataset Pathname pass3.1
Presentation Format rcbl_8s
Dataset Creation Mon Oct 16 14:19:10 2017
Charted by Depth in Feet scaled 1:240

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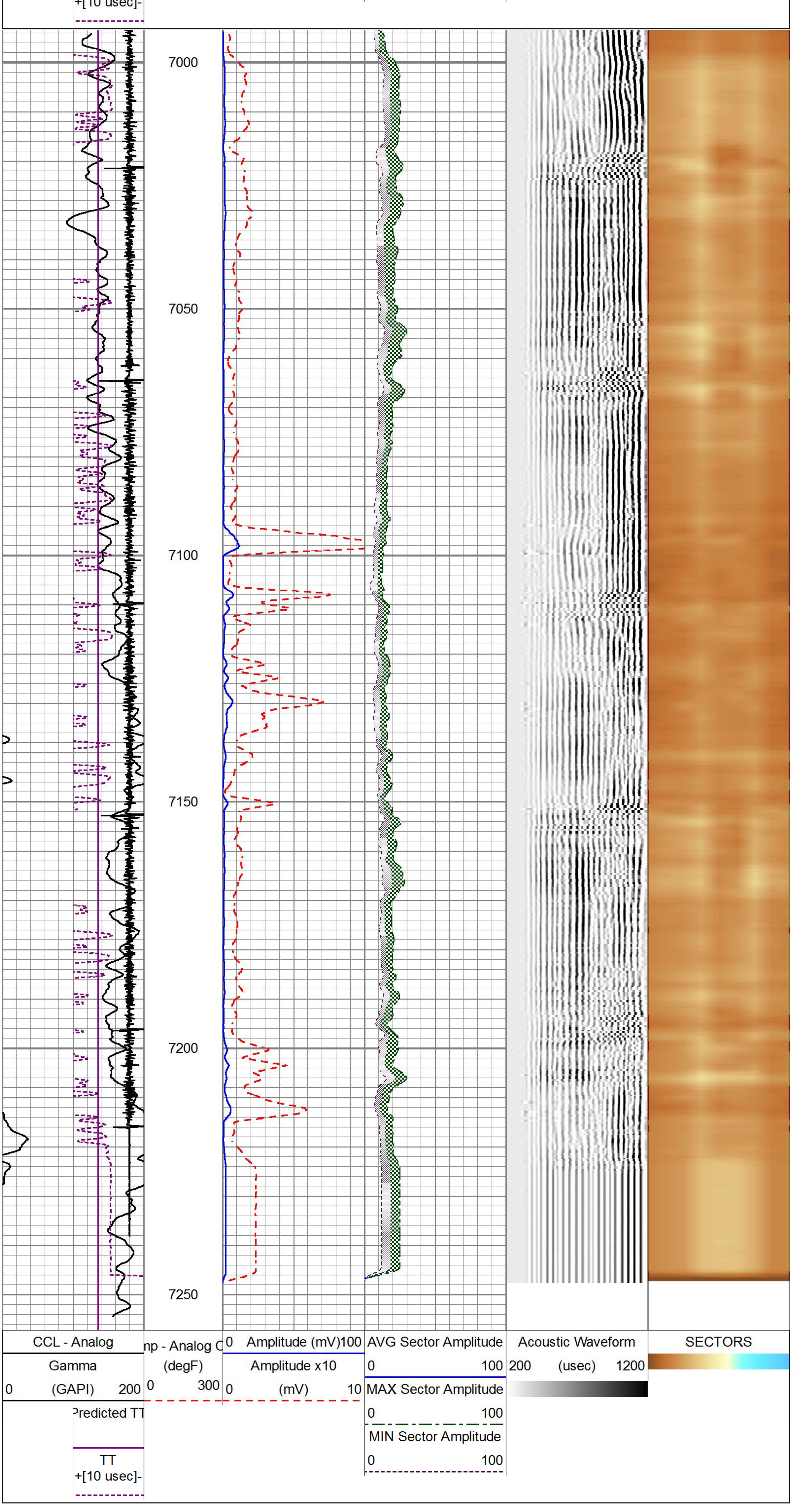
REPEAT PASS - Ran with 0 PSI

5 in / 100 ft

Database File	2017-10-16_extraction_cs long 1-1-13_cbl\2017-10-16_extraction_cs long 1-1-13_cbl.db
Dataset Pathname	pass2.1
Presentation Format	rcbl_8s
Dataset Creation	Mon Oct 16 14:21:26 2017
Charted by	Depth in Feet scaled 1:240

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



Calibration Report

Database File	d:\warrior\data\2017-10-16_extraction_cs long 1-1-13_cbl\2017-10-16_extraction_cs long 1-1-13_cbl.db
Dataset Pathname	pass3.1
Dataset Creation	Mon Oct 16 14:19:10 2017

Gamma Ray Calibration Report

Serial Number:	ISHV2-02	
Tool Model:	2 3/4" TekCo	
Performed:	Tue Dec 13 00:15:13 2016	
Calibrator Value:	194.0	GAPI
Background Reading:	59.8	cps
Calibrator Reading:	287.6	cps
Sensitivity:	0.8516	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	IT4B1-01	
Tool Model:	2 3/4" RIB Analog	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	199.253	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.001	1.598	0.000	71.921	45.052	-0.058
CAL	-0.008	0.770				
5'	-0.003	1.540	0.000	71.921	46.592	0.152
SUM						
S1	0.029	1.428	0.000	36.000	25.731	-0.734
S2	0.033	1.181	0.000	36.000	31.374	-1.040
S3	0.034	0.946	0.000	36.000	39.479	-1.328
S4	0.027	0.864	0.000	36.000	43.007	-1.163
S5	0.024	0.843	0.000	36.000	43.963	-1.068
S6	0.021	0.830	0.000	36.000	44.536	-0.956
S7	0.024	1.042	0.000	36.000	35.381	-0.861
S8	0.025	1.290	0.000	36.000	28.454	-0.705

Internal Reference Calibration, performed Fri Aug 25 16:20:58 2017:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.008	0.770	1.000	0.000

Air Zero Calibration, performed Fri Aug 25 16:20:58 2017:

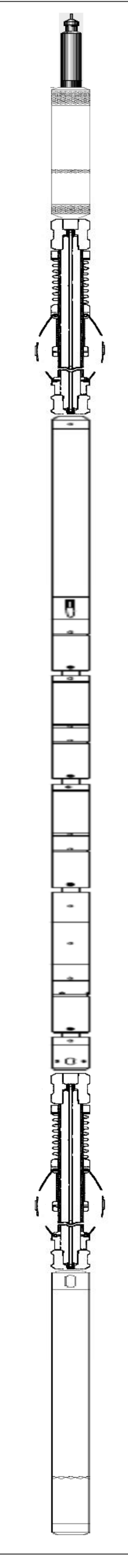
	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Temperature Calibration Report

Serial Number:	IT4B1-01			
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)
CCL	18.96
TEMP	12.78
WVFS8	11.49
WVFS7	11.49
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
GR	1.04
LOCTIM	0.00
UTCTIM	0.00

Schematic



Description	Length (ft)	O.D. (in)	Weight (lb
CableHead-TitanConeType2	1.03	1.44	3.60
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
RBTA-2 3/4" RIB Analog (IT4B1-01) Radial Incremented Bond Tool with Temp	9.13	2.75	102.00
TekCo-275_Tekco 2 3/4" Tekco Adjustable SPRING Centralizer	2.73	2.75	25.00
GR_Log-2 3/4" TekCo (ISHV2-02) 400 Deg. Gamma Ray	3.68	2.75	47.00

Dataset:	2017-10-16_extraction_cs long 1-1-13_cbl.db: field/well/run1/pass3.1
Total length:	21.13 ft
Total weight:	235.60 lb
O.D.:	2.75 in

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Company	**Extraction Oil and Gas**		
Well	**CS Longmeadow 1-1-13**		
Field	**Wattenberg**		
County	**Weld**		
State	**Colorado**	**Country**	**U.S.A.**