KLX Energy Services

C.C.L. V.D.L. GAMMA RAY CEMENT BOND LOG

Company	CRESTONE PEAK RESOURCES
Well	FREDERIKSEN #1
Field	WATTENBERG
County	WELD
State	COLORADO
Country	USA

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Location: API # : 05-123-09731

1650' FNL X 990 FEL

SEC 28 TWP 3N RGE 68W

Other Services: N/A

Permanent Datum	GL	Elevation	4969'
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 4980'
D.F. 4979'
G.L. 4969'

Date	29-AUGUST-2017
Run Number	ONE
Depth Driller	7800'
Depth Logger	5036'
Bottom Logged Interval	5024'
Top Log Interval	SURFACE
Open Hole Size	7.875"
Type Fluid	WATER
Density / Viscosity	8.34 PPG
Max. Recorded Temp.	N/A
Estimated Cement Top	N/A
Time Well Ready	ROA
Time Logger on Bottom	15:30
Equipment Number	411468
Location	STERLING, CO
Recorded By	R. AZEVEDO
Witnessed By	C. RAYAS

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8-5/8"	24#	SURFACE	223'
Prot. String				
Production String	4.5"	11.6#	SURFACE	7799'
Liner				

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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.

Comments

LOG RAN AS PER CUSTOMER REQUEST
LOG RAN FROM 5000' TO SURFACE
LOG RAN WITH 0 PSI SURFACE INDUCED PRESSURE
DEPTH REFERENCE TO 11' KB
PULLED 3 REPEATS OVER THE 2540' +/- SECTION AND TOOLS FLATLINED

THANK YOU FOR CHOOSING KLX ENERGY SERVICES.

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4.5" MAIN PASS

LOG RAN WITH O PSI SURFACE INDUCED PRESSURE

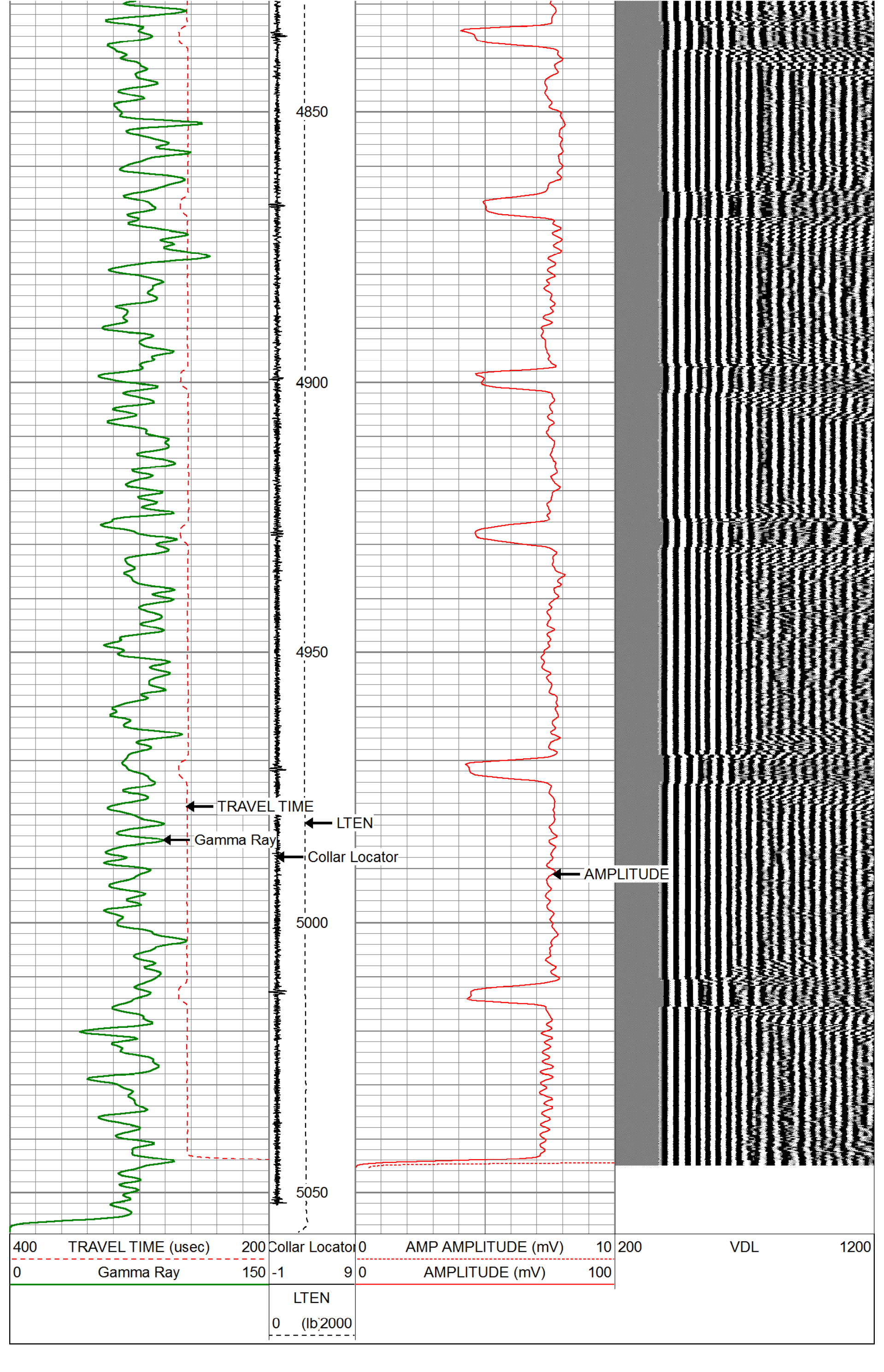
Database File:	frederiksen 1 cbl 8-29-17.db
Dataset Pathname:	pass5
Presentation Format:	cbl_drs
Dataset Creation:	Tue Aug 29 16:46:00 2017
Charted by:	Depth in Feet scaled 1:240

400 TRAVEL TIME (usec) 200	Collar Locator 0 10	0 AMP AMPLITUDE (mV) 10	200 VDL 1200
0 Gamma Ray 150	-1 9	0 AMPLITUDE (mV) 100	
	LTEN 0 (lb) 2000		

4.5" REPEAT PASS

LOG RAN WITH O PSI SURFACE INDUCED PRESSURE

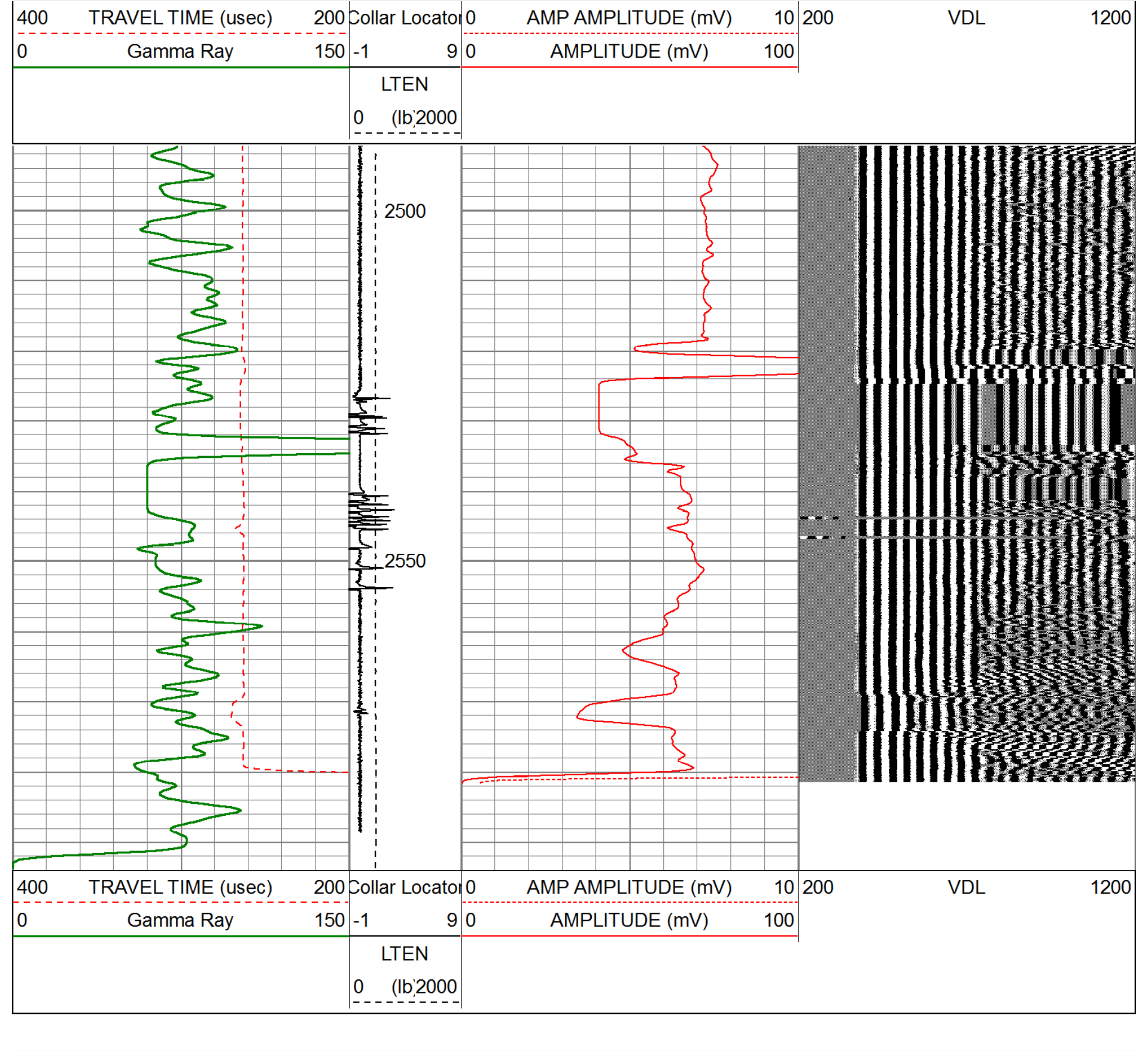
Database File:	frederiksen 1 cbl 8-29-17.db
Dataset Pathname:	pass1
Presentation Format:	cbl_drs
Dataset Creation:	Tue Aug 29 15:35:36 2017 by Log Std Casedhole 10081
Charted by:	Depth in Feet scaled 1:240

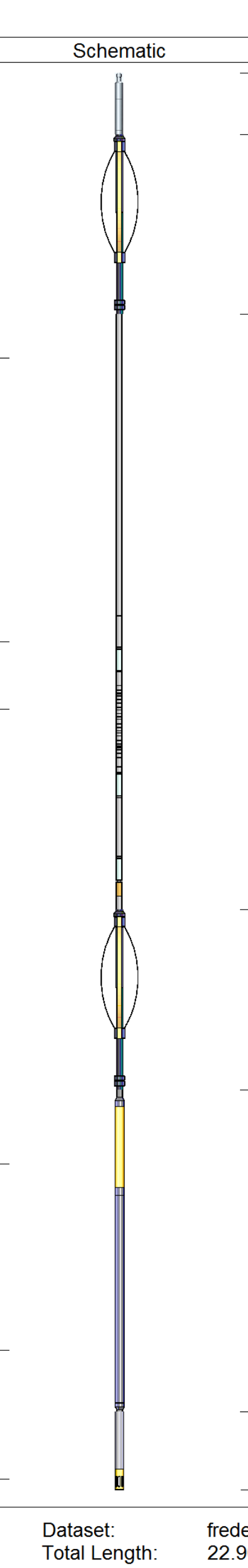


4.5" REPEAT SECTION OF WELL INTERFERENCE

LOG RAN WITH 0 PSI SURFACE INDUCED PRESSURE

Database File:	frederiksen 1 cbl 8-29-17.db
Dataset Pathname:	pass3
Presentation Format:	cbl_drs
Dataset Creation:	Tue Aug 29 16:07:15 2017 by Log Std Casedhole 10081
Charted by:	Depth in Feet scaled 1:240





Sensor	Offset (ft)	Description	Len (ft)	OD (in)	Wt (lb)
		STNDRD Standard Cable Head	1.00	1.69	3.00
		PT16875 1 11/16 Cemtralizer	2.92	1.69	5.00
HEADVOLT	18.28				
		RBT-PTS170 (FW1705-069) PROBE 1-11/16" RADII BOND TOOL	9.62	1.70	55.00
WVF3FT	13.70				
WVFCAL	13.70				
WVFS1	13.70				
WVFS2	13.70				
WVFS3	13.70				
WVFS4	13.70				
WVFS5	13.70				
WVFS6	13.70				
WVFS7	13.70				
WVFS8	13.70				
WVF5FT	12.62				
		PT16875 1 11/16 Cemtralizer	2.92	1.69	5.00
CCL	5.25				
		GR_CCL-SDS (FW1703-011)	5.20	1.70	35.00
GR	2.25				
TEMP	0.17	TEMP-1.375TEMP (080714) Temperature Tool	1.25	1.38	30.00

Dataset:	frederiksen 1 cbl 8-29-17.db: field/well/run1/pass5
Total Length:	22.90 ft
Total Weight:	133.00 lb
O.D.	1.70 in

Calibration Report

Database File:	frederiksen 1 cbl 8-29-17.db
Dataset Pathname:	pass5
Dataset Creation:	Tue Aug 29 16:46:00 2017

Temperature Calibration Report

Serial Number:	080714	
Tool Model:	1.375TEMP	
Performed:	Mon Aug 28 14:09:31 2017	
	Reference	Reading
Low Reference:	0.00 degF	0.00 degF
High Reference:	100.00 degF	1000.00degF
Gain:	0.10	
Offset:	0.00	
Delta Spacing	2	

Gamma Ray Calibration Report

Serial Number:	FW1703-011	
Tool Model:	SDS	
Performed:	Tue Jul 11 16:35:19 2017	
Calibrator Value:	1.0	
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1705-069	
Tool Model:	PTS170	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	1110.515	ft

Master Calibration, performed Tue Aug 29 15:20:12 2017:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.002	0.934	0.700	81.196	86.356	0.524
CAL	0.002	0.916				
5'	0.002	0.864	0.700	81.196	93.342	0.514
SUM						
S1	0.009	1.084	0.000	100.000	92.982	-0.801
S2	0.008	1.070	0.000	100.000	94.103	-0.709
S3	0.008	0.969	0.000	100.000	104.121	-0.849
S4	0.007	0.892	0.000	100.000	113.091	-0.827
S5	0.007	0.848	0.000	100.000	118.904	-0.871
S6	0.007	0.849	0.000	100.000	118.744	-0.849
S7	0.003	0.896	0.000	100.000	111.975	-0.280
S8	0.007	0.995	0.000	100.000	101.271	-0.738

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.002	0.916	1.000	0.000

Air Zero Calibration, performed Wed Dec 31 17:00:00 1969:

	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

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