RELIANCE
OILFIELD SERVICES

Pulsed Neutron
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Ware SR 534-12
Field	Rulison
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Ware SR 534-12
Field Rulison
County Garfield State Colorado
Location: API # : 05-045-23457
SEC 12 TWP 7S RGE 94W
Other Services: RBL
Permanent Datum Ground Level Elevation 7479'
Log Measured From Kelly Bushing 24 FT
Drilling Measured From Kelly Bushing
Elevation K.B. 7503' D.F. 7502' G.L. 7479'

Date	18-FEB-2018
Run Number	One
Depth Driller	9824 FT
Depth Logger	9752 FT
Bottom Logged Interval	9752 FT
Top Log Interval	5650 FT
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	--
Estimated Cement Top	--
Time Well Ready	--
Time Logger on Bottom	--
Equipment Number	--
Location	Grand Junction, CO
Recorded By	A. Ellsworth
Witnessed By	D. Welsh

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

Casing Record	Size (in)	Wgt (lbs/Ft)	Grade	Top	Bottom
Surface Casing	9 5/8	32.3	H-40	Surface	1107 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	9784 FT
Intermediate #2					
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
Depth referenced to Reliance Bond Log dated 17-FEB-2018
Marker Joint Logged from 6057-6078 FT
Log ran from 9752 FT to 5650 FT
Pulsed Neutron Data logged with Hunter RAS Tools

Thank you for choosing Reliance Oilfield Services, LLC!!

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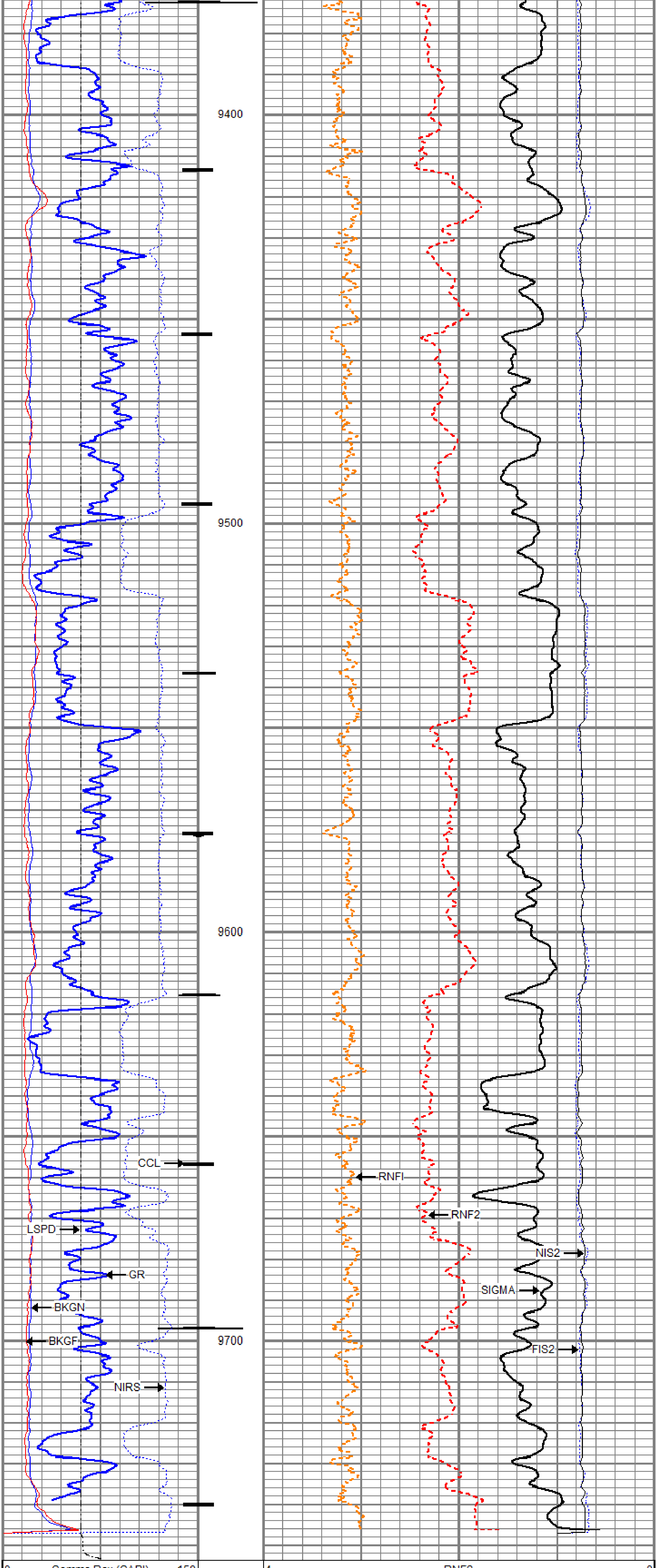
Main Pass

Database File	tep\sr 534-12\pn\tep_ware sr 534-12_pn_02-18-18.db
Dataset Pathname	main.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Sun Feb 18 23:04:34 2018
Charted by	Depth in Feet scaled 1:240

Min	Curve	Max
0	Gamma Ray (GAPI)	150
	Casing Collar Locator	
-100	Line Speed (ft/min)	100
0	NIRS (cps)	400000
0	BKGN (cps)	4000
0	BKGF (cps)	2000
4	RNF2	0
60	SIGMA (cu)	0
4.5	RNFI	0
0	FIS2 (cps)	45000
0	NIS2 (cps)	100000



0	Gamma Ray (GAPI)	150	4	RNF2	0
	Casing Collar Locator		60	SIGMA (cu)	0
-100	Line Speed (ft/min)	100	4.5	RNFI	0
0	NIRS (cps)	400000			
0	BKGN (cps)	4000			
0	BKGF (cps)	2000			

FIS2
0 (cps) 45000
NIS2
0 (cps100000

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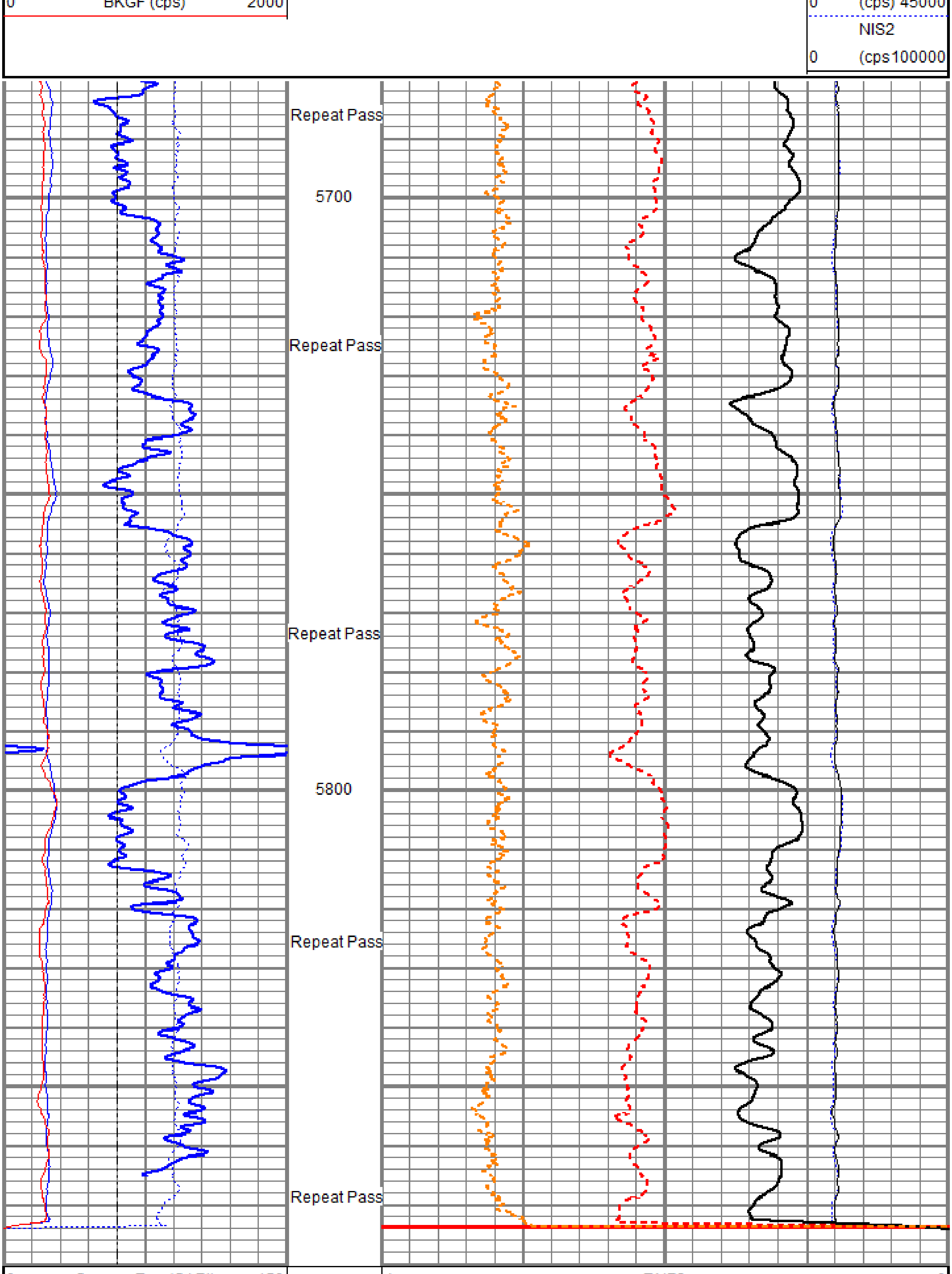
Repeat Pass

Database File	tep\sr 534-12\pn\tep_ware sr 534-12_pn_02-18-18.db
Dataset Pathname	repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Sun Feb 18 23:05:44 2018
Charted by	Depth in Feet scaled 1:240

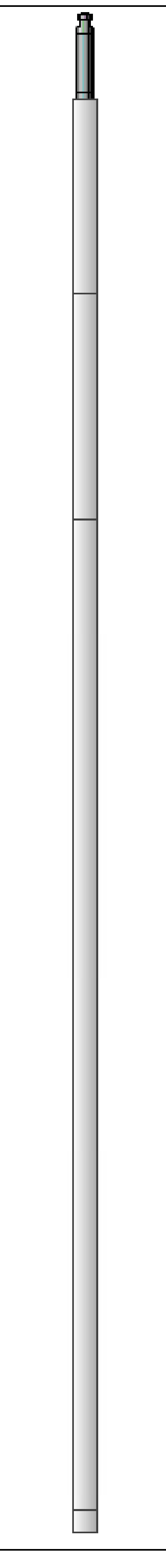
0	Gamma Ray (GAPI)	150	4	RNF2	0
-100	Line Speed (ft/min)	100	60	SIGMA (cu)	0
0	NIRS (cps)	400000	4.5	RNFI	0
0	BKGN (cps)	4000			
0	BKGF (cps)	2000			

FIS2
0 (cps) 45000
NIS2
0 (cps100000



0	Gamma Ray (GAPI)	150	4	RNF2	0
-100	Line Speed (ft/min)	100	60	SIGMA (cu)	0
0	NIRS (cps)	400000	4.5	RNFI	0
0	BKGN (cps)	4000			
0	BKGF (cps)	2000			

FIS2
0 (cps) 45000
NIS2
0 (cps100000

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan CHD-1375 MOD Titan Modified 1-3/8" Assembled Electric Cable Head w/ 1" Fishing Neck	1.04	1.38	1.00
TCUTEMP TCUVOLT	14.69 14.69		HWS_TCU-002 (001705) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
GCL_CCL GCL_GR GCL_GR	13.97 12.50 12.50		HWS_GCL-001 (001681) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
Long Far Near Anci	6.25 6.25 6.25 6.25		HWS_RAS-RAS001 (003041) Hunter Well Science Pulsed Neutron Tool	11.75	1.69	55.82
			HWS_TBN-001 (000001) HWS Terminator Bull Nose (1.6875")	0.25	1.69	0.99

Dataset: tep_ware sr 534-12_pn_02-18-18.db: field/well/run1/main.2
Total length: 18.03 ft
Total weight: 82.08 lb
O.D.: 1.69 in

Calibration Report

Database File	c:\programdata\warrior\data\tep\sr 534-12\pn\tep_ware sr 534-12_pn_02-18-18.db
Dataset Pathname	main.2
Dataset Creation	Sun Feb 18 23:04:34 2018

Gamma Ray Calibration Report

Serial Number:	001681	
Tool Model:	001	
Performed:	(Not Performed)	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	
Calibrator Reading:	1.0	
Sensitivity:	1.0000	GAPI/

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