RELIANCE OILFIELD SERVICES

Company TEP Rocky Mountain LLC
Well Ware SR 514-12
Field Rulison
County Garfield
State Colorado

Pulsed Neutron Gamma Ray Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Ware SR 514-12
Field	Rulison
County	Garfield
State	Colorado
Location:	API # : 05-045-23435
	SEC 12 TWP 7S RGE 94W
Other Services	RBL

Permanent Datum	Ground Level	Elevation 7479'	Elevation K.B. 7503' D.F. 7502' G.L. 7479'
Log Measured From	Kelly Bushing	24 FT	
Drilling Measured From	Kelly Bushing		

Date	18-FEB-2018
Run Number	One
Depth Driller	10150 FT
Depth Logger	10097 FT
Bottom Logged Interval	10097 FT
Top Log Interval	6000 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	---

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	1165 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	10109 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 18-FEB-2018
Log ran from 10097 FT to 6000 FT
Pulsed Neutron Data logged with Hunter RAS Tools

Thank you for choosing Reliance Oilfield Services, LLC!!

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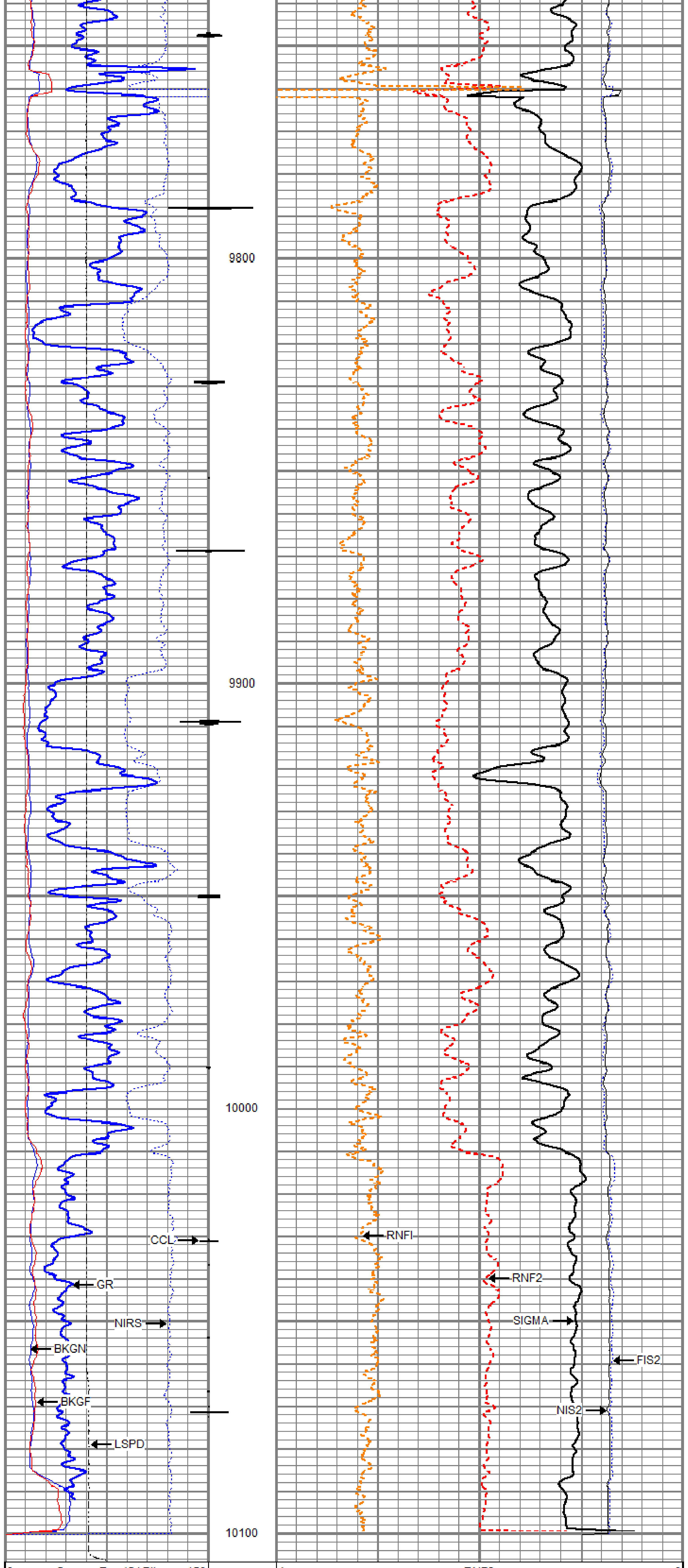
Main Pass

Database File	tep\sr 514-12\pn\tep_ware sr 514-12_pn_02-18-18.db
Dataset Pathname	main.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Sun Feb 18 13:08:36 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		FIS2	
			0	(cps) 45000	
0	BKGN (cps)	4000		NIS2	
0	BKGF (cps)	2000	0	(cps100000	

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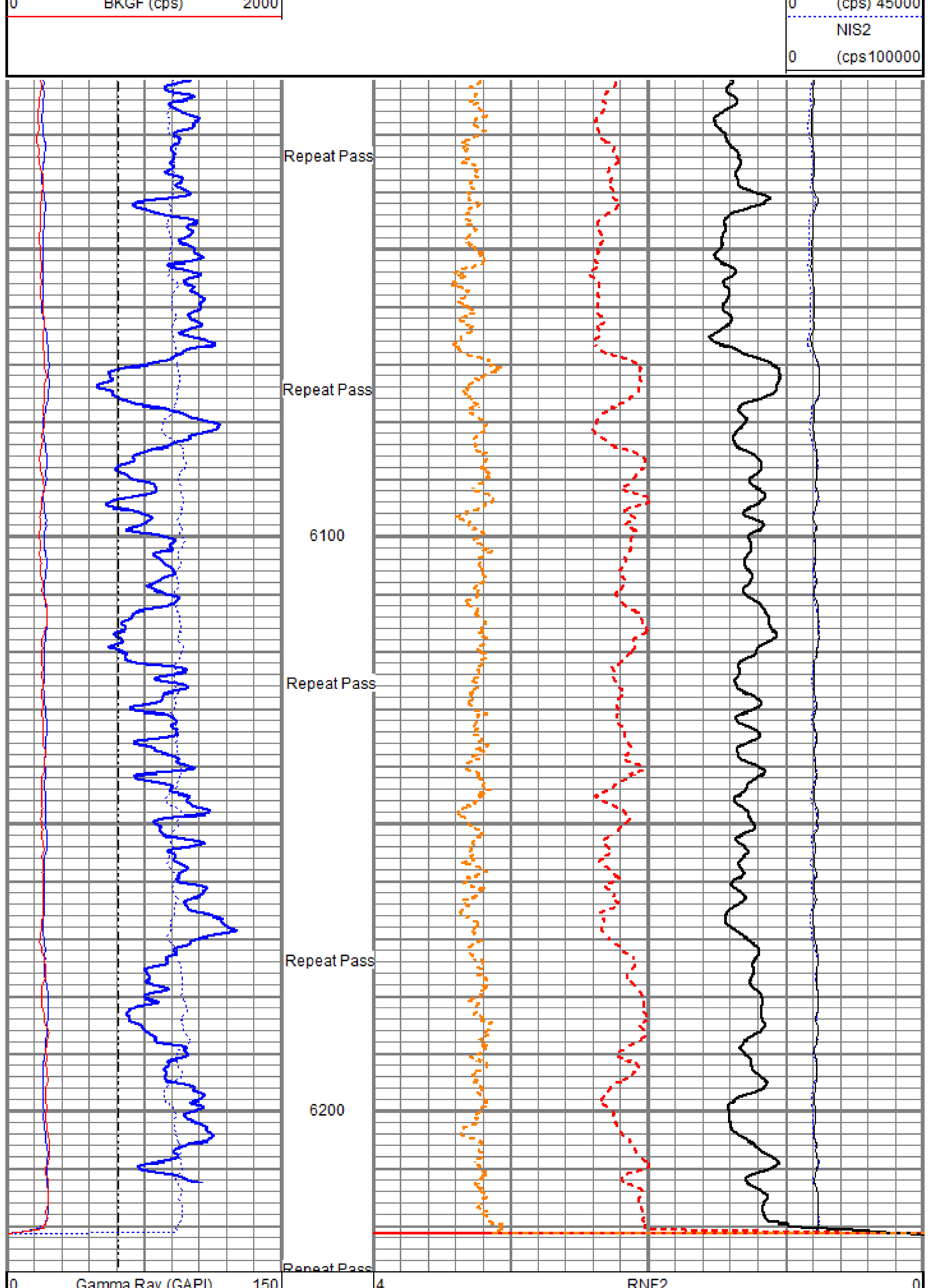
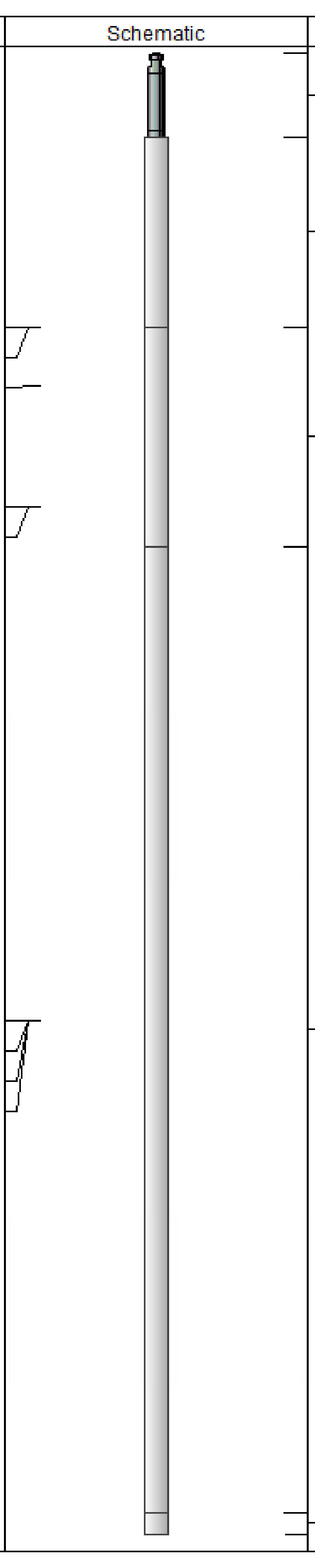
Repeat Pass

Database File	tep\sr 514-12\pn\tep_ware sr 514-12_pn_02-18-18.db
Dataset Pathname	repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Sun Feb 18 13:09:45 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		FIS2	
			0	(cps) 45000	
0	BKGF (cps)	2000		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		FIS2	
			0	(cps) 45000	
0	BKGF (cps)	2000		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
			HWS_TCU-002 (001705) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
TCUTEMP TCUVOLT GCL_CCL	14.69 14.69 13.97					
			HWS_GCL-001 (001681) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
GCL_GR GCL_GR	12.50 12.50					
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 514-12_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 514-12\pn\tep_ware sr 514-12_pn_02-18-18.db
Dataset Pathname	main.2
Dataset Creation	Sun Feb 18 13:08:36 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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