Company	TEP Rocky Mountain LLC
Well	Ware SR 34-12
Field	Rulison
County	Garfield
State	Colorado

RELIANCE OILFIELD SERVICES

Pulsed Neutron Gamma Ray Casing Collar Log

Company	TEP Rocky Mountain LLC		
Well	Ware SR 34-12		
Field	Rulison		
County	Garfield	State	Colorado
Location:	API # : 05-045-23438	Other Services	RBL
	SEC 12 TWP 7S RGE 94W		
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	10-JAN-2018
Run Number	One
Depth Driller	9607 FT
Depth Logger	9570 FT
Bottom Logged Interval	9564 FT
Top Log Interval	5471 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
Recorded By	Z. Fisher
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	1134 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	9566 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 10-JAN-2018
Log ran from 9564 FT to 5471 FT
Pulsed Neutron Data logged with the Hunter RAS Tool

Thank you for choosing Reliance Oilfield Services, LLC!!

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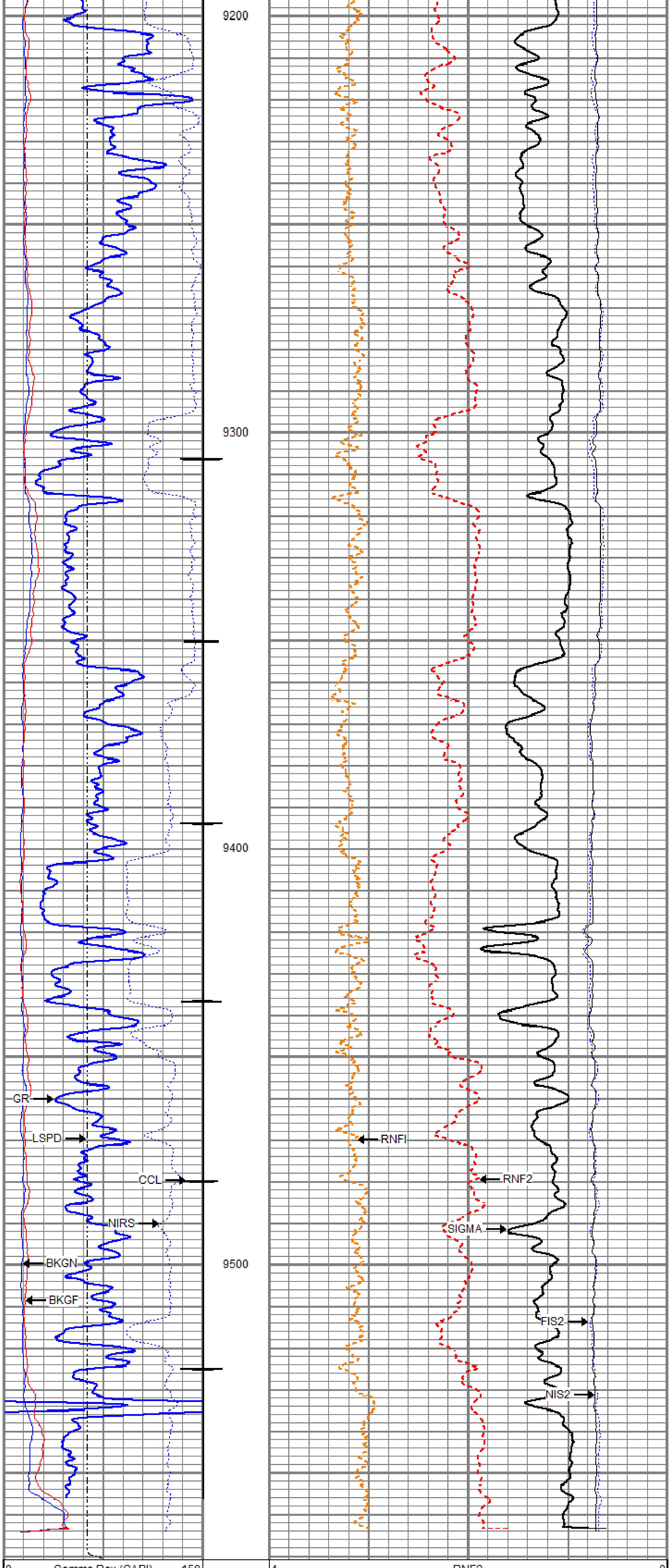
Main Pass

Database File	tep\sr 34-12\pn\tep_ware sr 34-12_pn_01-10-18.db
Dataset Pathname	mainpass.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Wed Jan 10 22:44:13 2018
Charted by	Depth in Feet scaled 1:240



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	BKGN (cps)	4000				0	(cps) 45000
0	BKGF (cps)	2000					NIS2
						0	(cps100000

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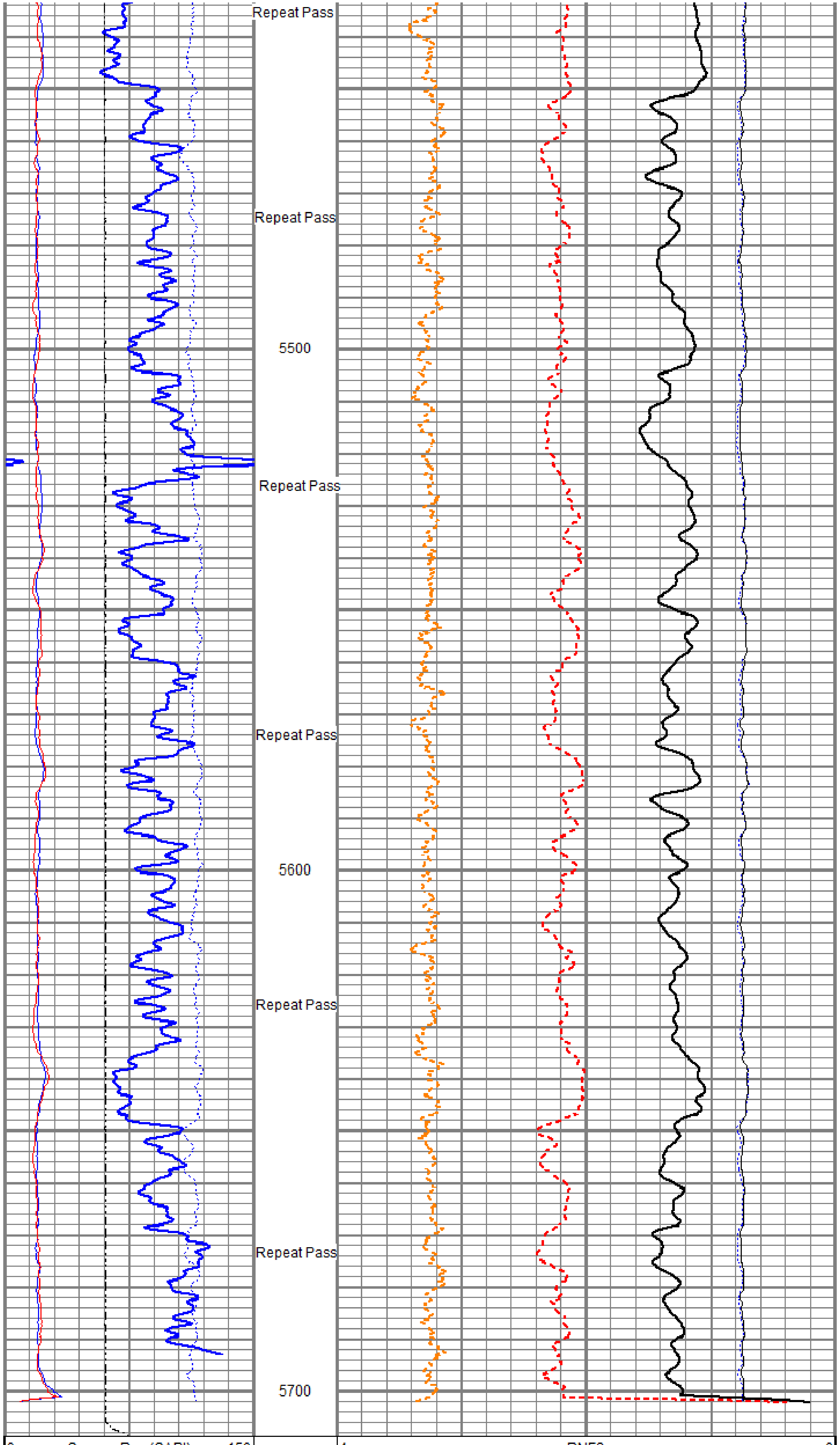
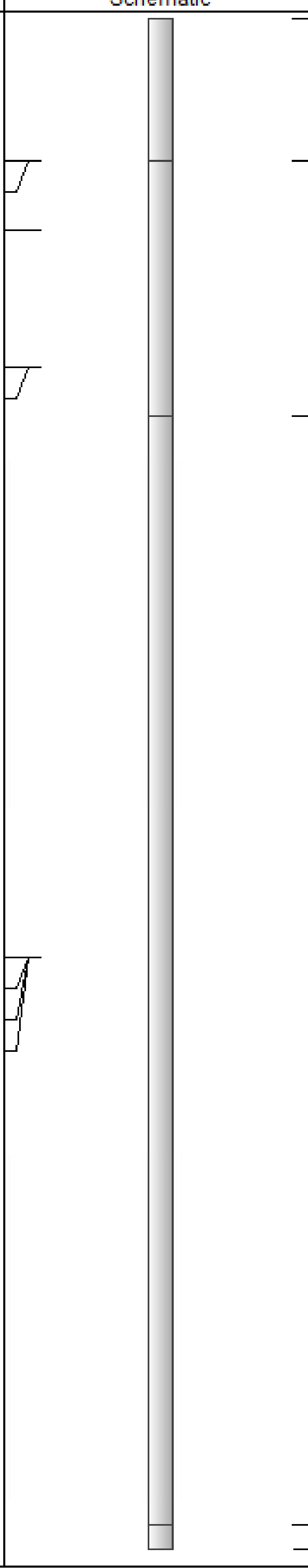
Repeat Pass

Database File	tep\sr 34-12\pn\tep_ware sr 34-12_pn_01-10-18.db
Dataset Pathname	repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Wed Jan 10 22:46:39 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	BKGF (cps)	2000				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					FIS2
0	BKGF (cps)	2000				0	(cps) 45000
							NIS2
						0	(cps100000

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			HWS_TCU-001 (001705) HWS Telemetry Control Unit	1.52	1.69	7.80
TCUTEMP	14.69					
TCUVOLT	14.69					
GCL_CCL	13.97					
			HWS_GCL-001 (001681) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
GCL_GR	12.50					
GCL_GR	12.50					
Long	6.25		HWS_RAS-RAS001 (003041) Hunter Well Science Pulsed Neutron Tool	11.75	1.69	55.82
Far	6.25					
Near	6.25					
Anci	6.25					
			HWS_TBN-001 (000001) HWS Terminator Bull Nose (1.6875")	0.25	1.69	0.99

Dataset:	tep_ware sr 34-12_pn_01-10-18.db: field/well/run1/mainpass.2
Total length:	16.21 ft
Total weight:	78.01 lb
O.D.:	1.69 in

Calibration Report

Database File	c:\programdata\warrior\data\tep\sr 34-12\pn\tep_ware sr 34-12_pn_01-10-18.db
Dataset Pathname	mainpass.2
Dataset Creation	Wed Jan 10 22:44:13 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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