RELIANCE
OILFIELD SERVICES

Pulsed Neutron
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Clough RWF 421-10
Field	Rulison
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Clough RWF 421-10
Field Rulison
County Garfield State Colorado
Location: API # : 05-045-23926
Other Services RBL

SEC 3 TWP 6S RGE 94W
Permanent Datum Ground Level Elevation 6719.1'
Log Measured From Kelly Bushing 24 FT
Drilling Measured From Kelly Bushing

Elevation
K.B. 6743.1'
D.F. 6742.1'
G.L. 6719.1'

Date	16-JAN-2019
Run Number	One
Depth Driller	10318 FT
Depth Logger	10210 FT
Bottom Logged Interval	10206 FT
Top Log Interval	5888 FT
Open Hole Size	8.750"
Type Fluid	Fresh 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	J. Donnelly
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	36	J-55	Surface	1110 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	10303 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 15-JAN-2019
Log ran from 10206 FT to 5888 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	f:\data\tep\clough rwf 421-10\pn\tep_clough rwf 421-10_pn_01-15-19.db
Dataset Pathname	SHIFTED/merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Thu Jan 17 10:42:41 2019
Charted by	Depth in Feet scaled 1:240

0	GR (GAPI)	150
	Casing Collar Locator	
-100	Line Speed (ft/min)	100
0	NIRS	400000
0	BKGN (cps)	4000
0	BKGF (cps)	2000

4	RNF2	0
60	SIGMA (cu)	0
4.5	RNFI	0
0	FIS2	45000
0	NIS2	I00000

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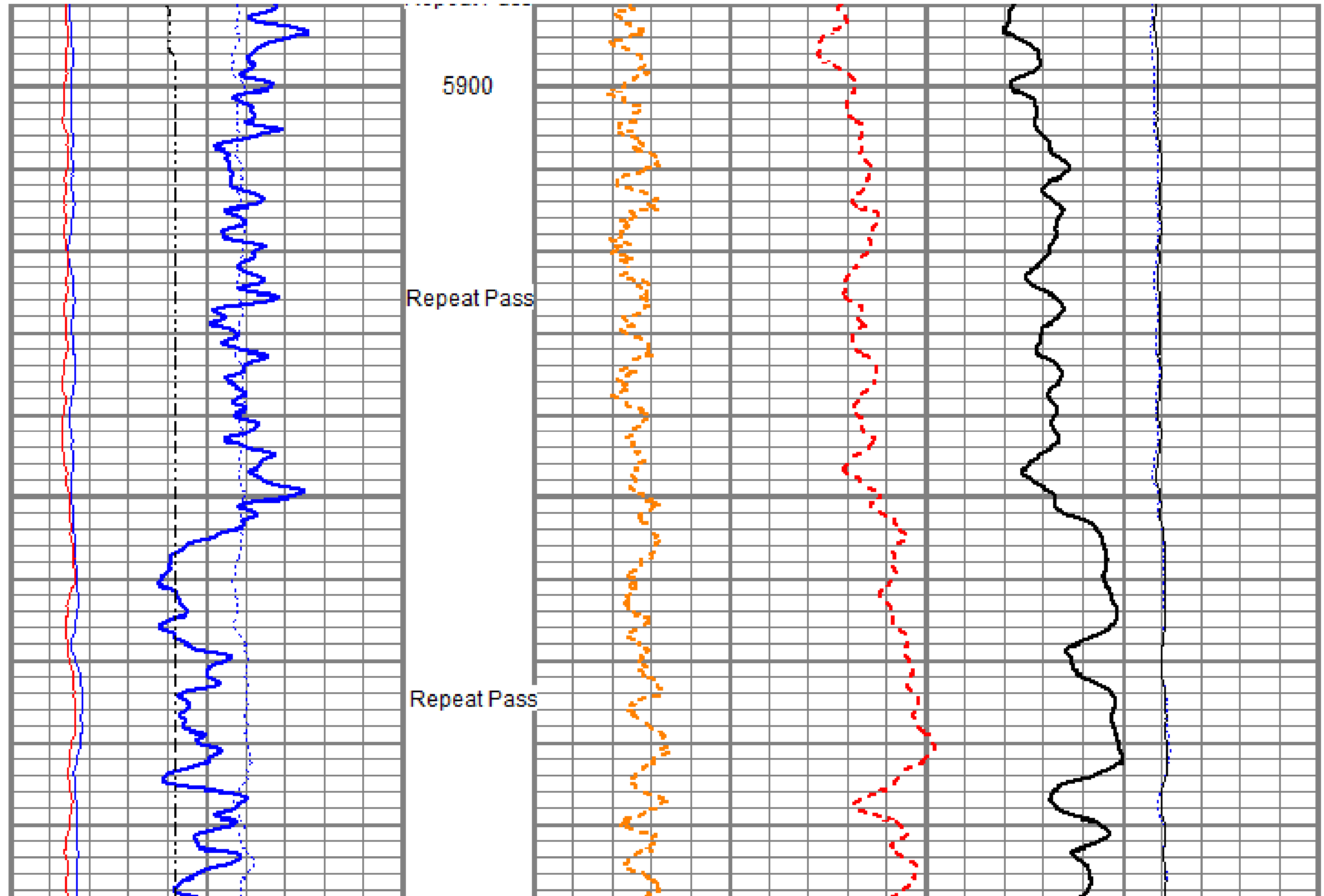
Repeat Pass

Database File	f:\data\tep\clough rwf 421-10\pn\tep_clough rwf 421-10_pn_01-15-19.db
Dataset Pathname	Repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Wed Jan 16 08:50:14 2019
Charted by	Depth in Feet scaled 1:240

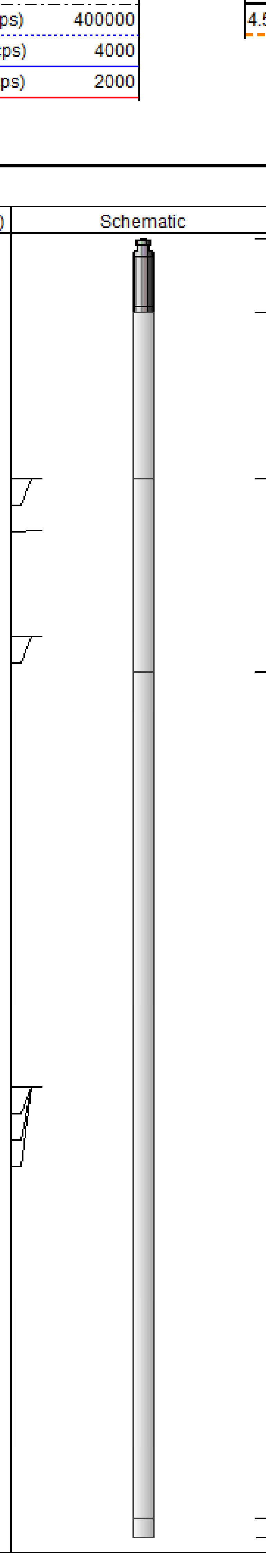
0	GR (GAPI)	150
-100	Line Speed (ft/min)	100
0	NIRS (cps)	400000
0	BKGN (cps)	4000
0	BKGF (cps)	2000

4	RNF2	0
60	SIGMA (cu)	0
4.5	RNFI	0
0	FIS2 (cps)	45000
0	NIS2 (cps	100000



0	GR (GAPI)	150
-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



Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan CHD-16875 GO Titan 1-11/16" Assembled Electric Cable Head w/ 1" Fishing Neck	1.03	1.69	5.40
TCUTEMP TCUVOLT GCL_CCL	14.69 14.69 13.97		HWS_TCU-002 (001704) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
GCL_GR GCL_GR	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-RAS002 (003041) Hunter Well Science Pulsed Neutron Tool	11.75	1.69	55.82
			HWS_TBN-001 (001725) HWS Terminator Bull Nose (1.6875")	0.25	1.69	0.99

Dataset:	tep_clough rwf 421-10_pn_01-15-19.db: field/well/run1/Main.2
Total length:	18.02 ft
Total weight:	86.48 lb
O.D.:	1.69 in

Calibration Report

Database File	f:\data\tep\clough rwf 421-10\pn\tep_clough rwf 421-10_pn_01-15-19.db
Dataset Pathname	Main.2
Dataset Creation	Wed Jan 16 09:04:34 2019

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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