RELIANCE OILFIELD SERVICES

Pulsed Neutron
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Clough NR 14-3
Field	Rulison
County	Garfield
State	Colorado

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Field Rulison
County Garfield State Colorado
Location: API # : 05-045-23901
SEC 3 TWP 6S RGE 94W
Other Services RBL

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	15-JAN-2019
Run Number	One
Depth Driller	10046 FT
Depth Logger	9962 FT
Bottom Logged Interval	9958 FT
Top Log Interval	5704 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	10004 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 9958 FT to 5704 FT
Pulsed Neutron Data logged with Hunter RAS Tool

Thank you for choosing Reliance Oilfield Services, LLC!!

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Main Pass

Database File	f:\data\tep\clough nr 14-3\pn\tep_clough nr 14-3_pn_01-15-19.db
Dataset Pathname	SHIFTED/merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Wed Jan 16 09:23:34 2019
Charted by	Depth in Feet scaled 1:240

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

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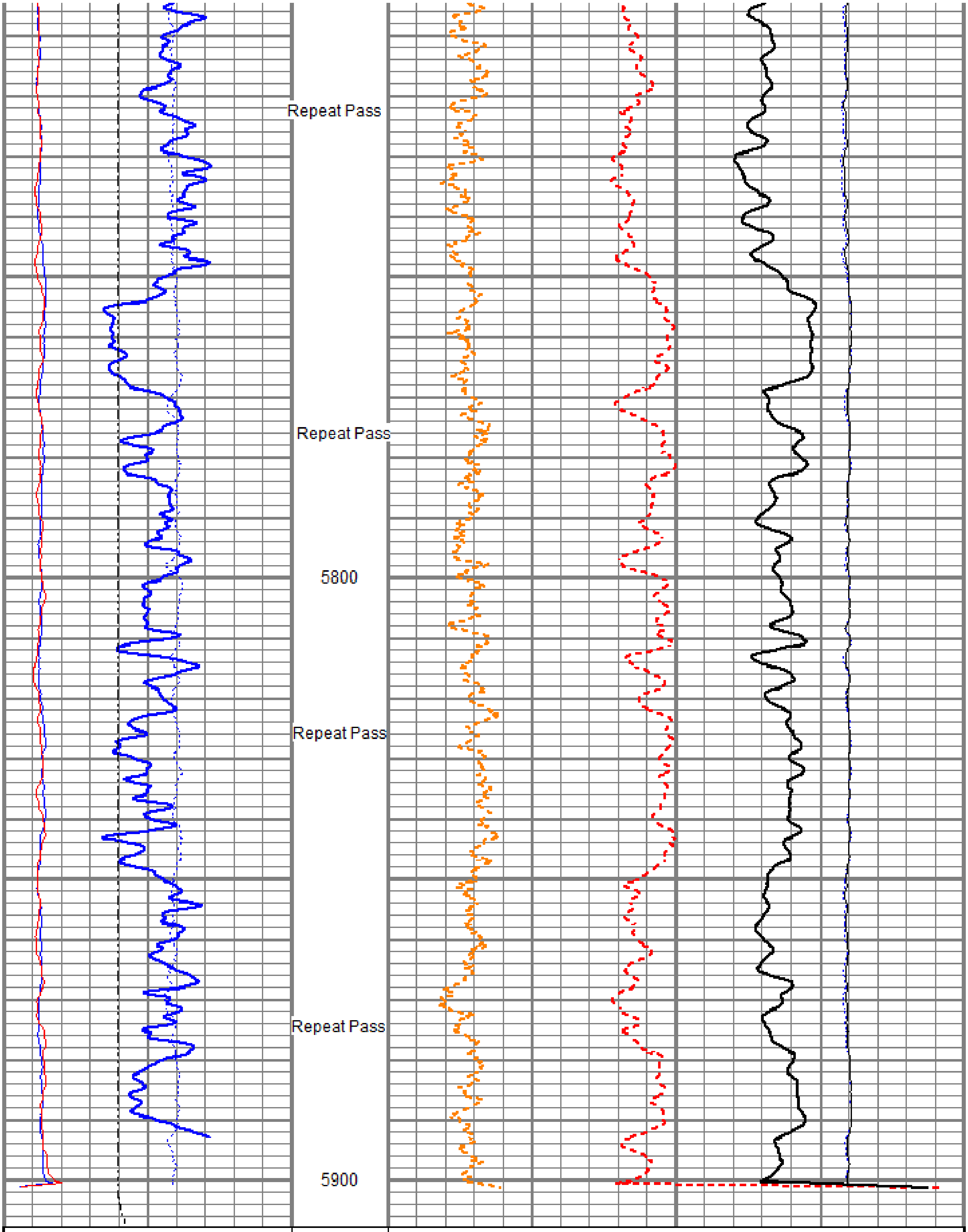
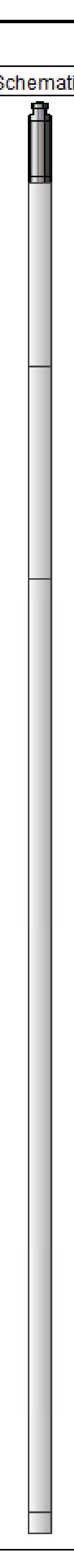
Repeat Pass

Database File	f:\data\tep\clough nr 14-3\pn\tep_clough nr 14-3_pn_01-15-19.db
Dataset Pathname	Repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Tue Jan 15 15:28:51 2019
Charted by	Depth in Feet scaled 1:240

0	GR (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	FIS2 (cps)	45000
0	BKGF (cps)	2000	0	NIS2 (cps	100000



0	GR (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	FIS2 (cps)	45000
0	BKGF (cps)	2000	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
			HWS_TCU-002 (001704) 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-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 nr 14-3_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 nr 14-3\pn\tep_clough nr 14-3_pn_01-15-19.db
Dataset Pathname	Main.2
Dataset Creation	Tue Jan 15 15:45:04 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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County	Garfield
State	Colorado