RELIANCE
OILFIELD SERVICES

Pulsed Neutron
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Clough NR 413-3
Field	Rulison
County	Garfield
State	Colorado

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Field Rulison
County Garfield State Colorado

Location: API # : 05-045-23907
SEC 3 TWP 6S RGE 94W

Other Services
RBL

		Elevation	Elevation
Permanent Datum	Ground Level	6719.1'	K.B. 6743.1'
Log Measured From	Kelly Bushing	24 FT	D.F. 6742.1'
Drilling Measured From	Kelly Bushing		G.L. 6719.1'

Date	26-NOV-2018
Run Number	One
Depth Driller	10087 FT
Depth Logger	10036 FT
Bottom Logged Interval	10030 FT
Top Log Interval	5657 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	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	1127 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	10046 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 26-NOV-2018
Log ran from 10030 FT to 5657 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	c:\techlog-projects\tep_nr 23-3 pad\data\export\nr 413-3\processed_tep_clough nr 413-3_pn_11-26-18.db
Dataset Pathname	merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Thu Nov 29 09:18:25 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
	Casing Collar Locator	
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0	NIRS (cps)	400000
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0	BKGF (cps)	2000

4	RNF2	0
60	SIGMA (cu)	0
4.5	RNFI	0
	FIS2	
0	(cps) 45000	
	NIS2	
0	(cps100000	

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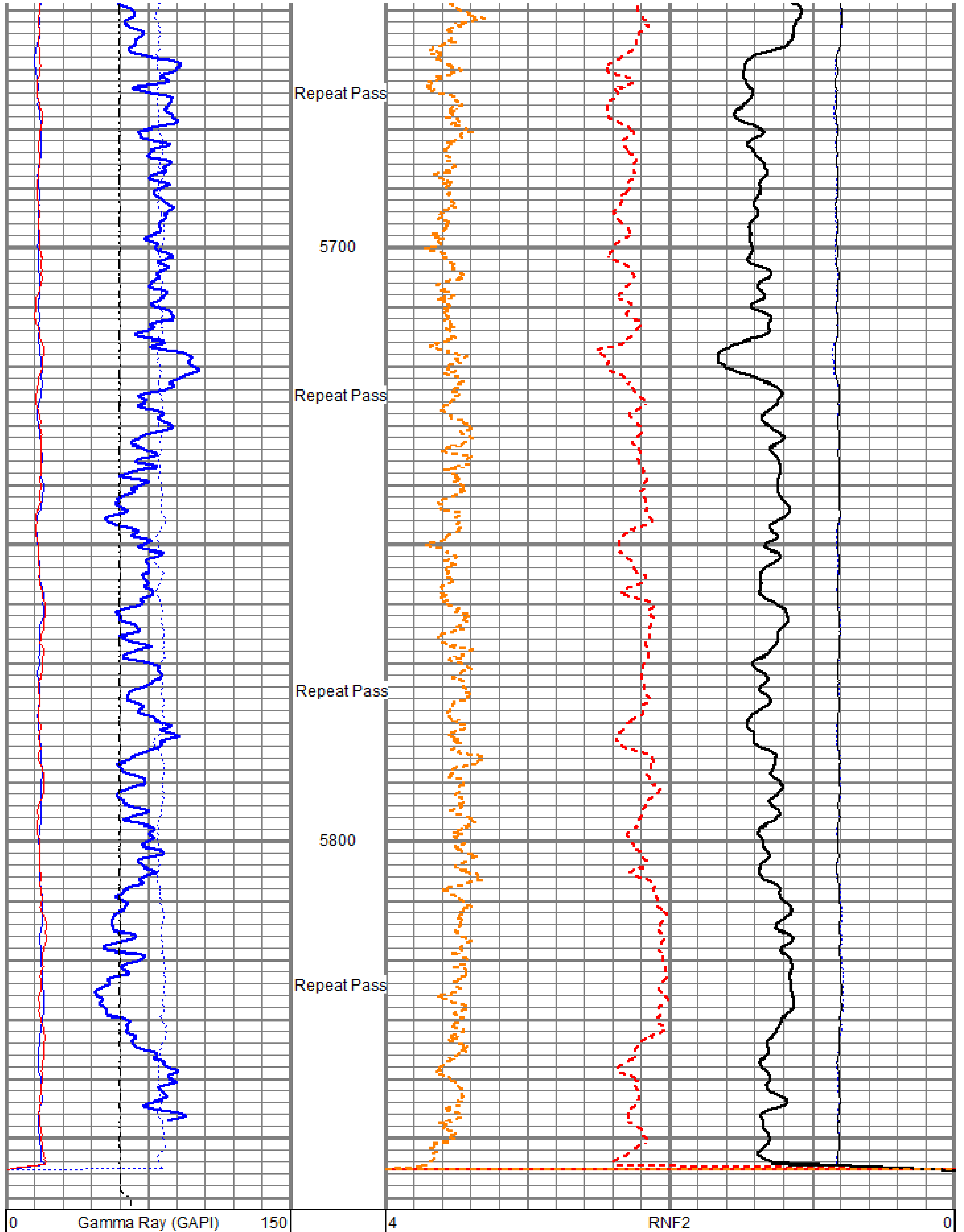
Repeat Pass

Database File c:\techlog-projects\tep_nr 23-3 pad\data\export\nr 413-3\processed_tep_clough nr 413-3_pn_11-26-18.db
Dataset Pathname Repeat.2
Presentation Format ros_pdn_hunter
Dataset Creation Mon Nov 26 15:02:34 2018
Charted by Depth in Feet scaled 1:240

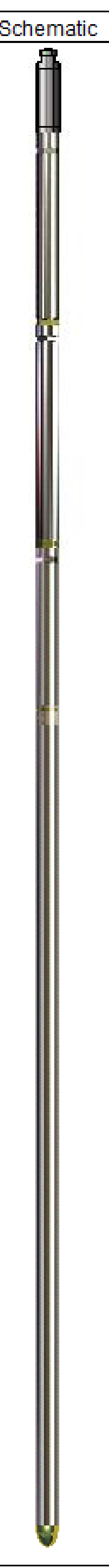
0	Gamma Ray (GAPI)	150
-100	Line Speed (ft/min)	100
0	NIRS (cps)	400000
0	BKGN (cps)	4000
0	BKGF (cps)	2000

4	RNF2	0
60	SIGMA (cu)	0
4.5	RNFI	0
	FIS2	
0	(cps) 45000	
	NIS2	
0	(cps100000	



0	Gamma Ray (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
	FIS2	
0	(cps) 45000	
	NIS2	
0	(cps100000	

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 (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 (001475) 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 (003040) Hunter Well Science Pulsed Neutron Tool	11.75	1.69	55.82
			HWS_TBN-001 (001724) HWS Terminator Bull Nose (1.6875")	0.25	1.69	0.99

Dataset: processed_tep_clough nr 413-3_pn_11-26-18.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 c:\techlog-projects\tep_nr 23-3 pad\data\export\nr 413-3\processed_tep_clough nr 413-3_pn_11-26-18.db
Dataset Pathname Main.2
Dataset Creation Mon Nov 26 15:11:05 2018

Gamma Ray Calibration Report

Serial Number:	001475	
Tool Model:	001	
Performed:	Fri Oct 19 14:55:00 2018	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	
Calibrator Reading:	1.0	
Sensitivity:	1.0000	GAPI/

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