Pulsed Neutron
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Clough NR 443-3
Field	Rulison
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC

Well Clough NR 443-3

Field Rulison

County Garfield State Colorado

Location: API # : 05-045-23919

Other Services RCBL

SEC 3 TWP 6S RGE 94W

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

Date	26-NOV-2018
Run Number	Two
Depth Driller	10578 FT
Depth Logger	10502 FT
Bottom Logged Interval	10496 FT
Top Log Interval	6147 FT
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	--
Estimated Cement Top	--
Time Well Ready	ROA
Time Logger on Bottom	12:25
Equipment Number	HD-0359
Location	Grand Junction, CO
Recorded By	Z. Fisher
Witnessed By	D.Welsh

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	10522 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 10496 FT to 6147 FT
Pulsed Neutron Data logged with the Hunter RAS Tool

Thank you for choosing Reliance Oilfield Services, LLC!

Main Pass

Database File	c:\techlog-projects\tep_nr 23-3 pad\data\export\nr 443-3\processed_tep_clough nr 443-3_pn_11-26-18.db
Dataset Pathname	merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Wed Nov 28 17:21:31 2018
Charted by	Depth in Feet scaled 1:240

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

FIS2
0 (cps) 45000
NIS2
0 (cps100000

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	(cps	100000

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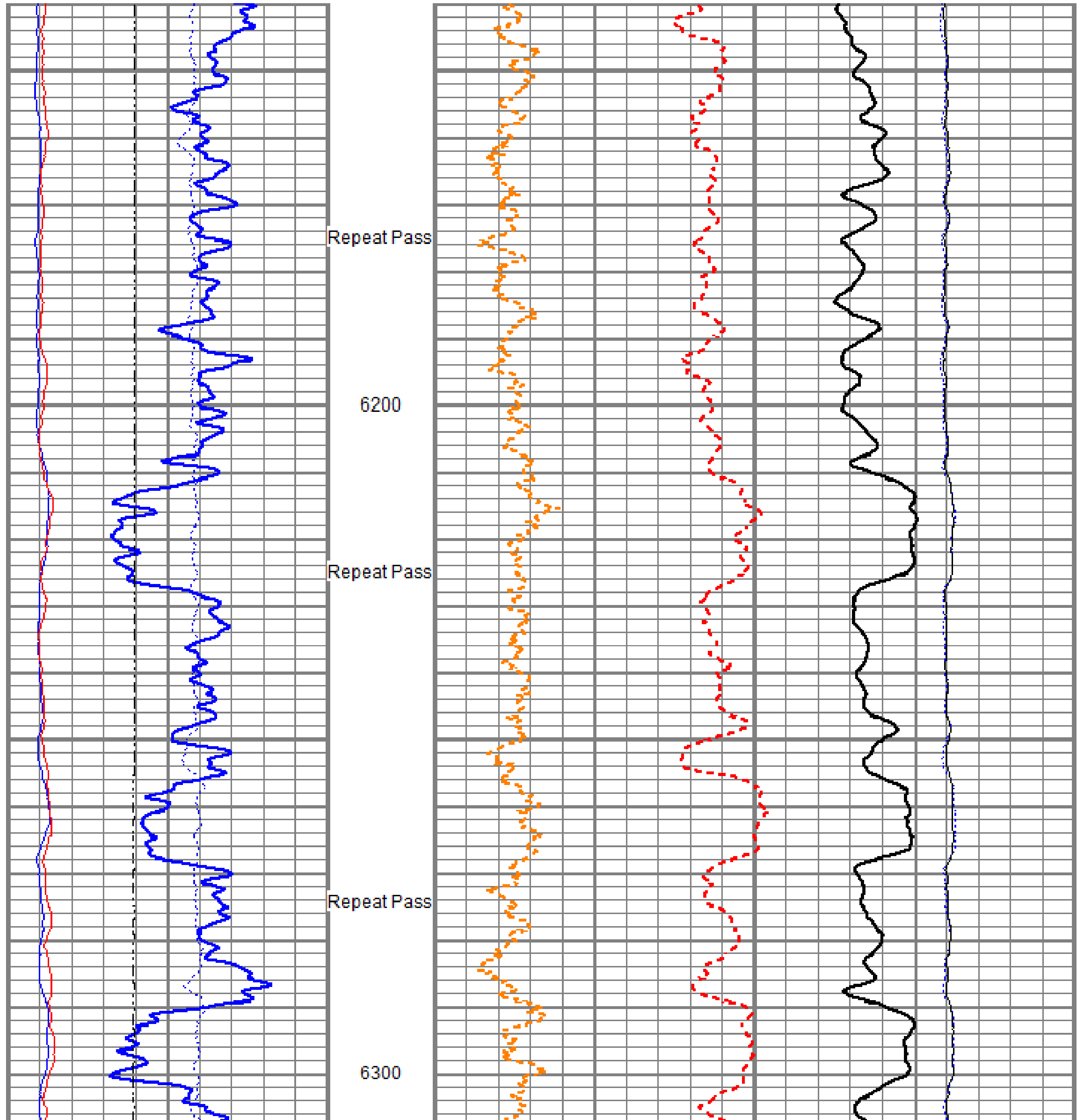
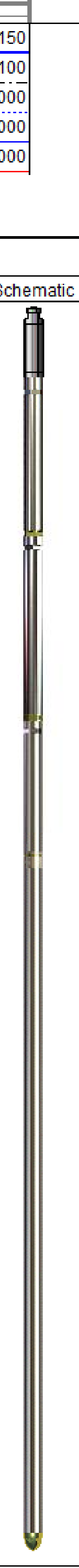
Repeat Pass

Database File c:\techlog-projects\tep_nr 23-3 pad\data\export\nr 443-3\processed_tep_clough nr 443-3_pn_11-26-18.db
Dataset Pathname repeat.2
Presentation Format ros_pdn_hunter
Dataset Creation Mon Nov 26 22:59:10 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	(cps	100000



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	(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: processed_tep_clough nr 443-3_pn_11-26-18.db: field/well/run1/main1.2
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 443-3\processed_tep_clough nr 443-3_pn_11-26-18.db
Dataset Pathname main1.2
Dataset Creation Mon Nov 26 22:57:34 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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