RELIANCE
OILFIELD SERVICES

Pulsed Neutron
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Clough NR 311-3
Field	Rulison
County	Garfield
State	Colorado

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Field Rulison
County Garfield State Colorado
Location: API # : 05-045-23903
SEC 3 TWP 6S RGE 94W

Other Services
RBL

			Elevation
Permanent Datum	Ground Level	Elevation 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	12-SEP-2018
Run Number	One
Depth Driller	11028 FT
Depth Logger	10947 FT
Bottom Logged Interval	10941 FT
Top Log Interval	6554 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	ROA
Time Logger on Bottom	14:00
Equipment Number	HD-0359
Location	Grand Junction, CO
Recorded By	A. Ellsworth
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	10986 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 12-SEP-2018
Log ran from 10941 FT to 6554 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	02_tep\clough nr 311-3\tep_clough_nr_311-3_pn_9-12-18.db
Dataset Pathname	merge3
Presentation Format	ros_pdn_hunter
Dataset Creation	Sun Sep 16 13:30:17 2018
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

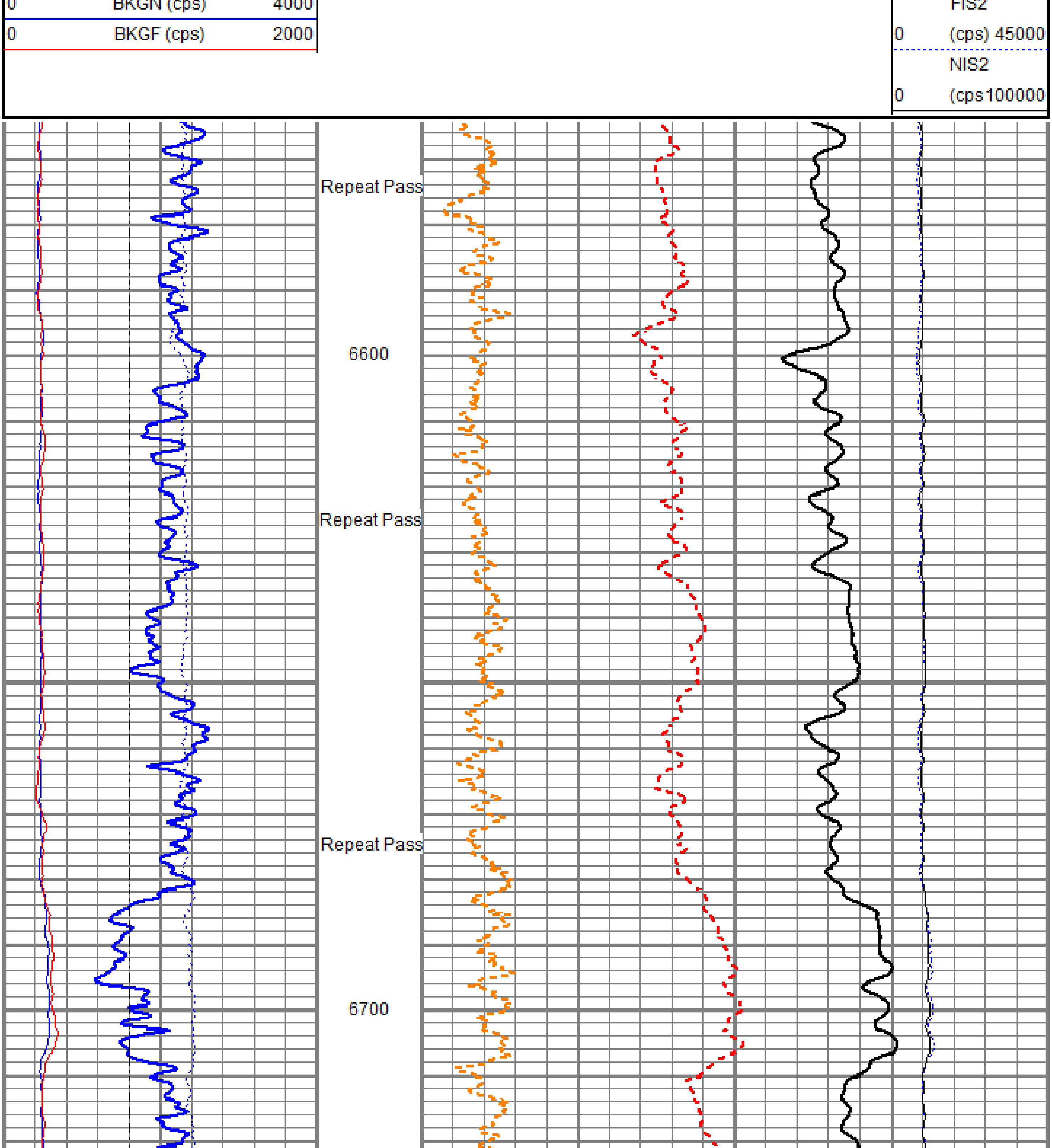
4 RNF2 0
60 SIGMA (cu) 0
4.5 RNFI 0
0 FIS2 45000
0 NIS2 100000

Repeat Pass

Database File 02_tep\clough nr 311-3\tep_clough_nr_311-3_pn_9-12-18.db
Dataset Pathname repeat.2
Presentation Format ros_pdn_hunter
Dataset Creation Wed Sep 12 18:45:28 2018
Charted by Depth in Feet scaled 1:240

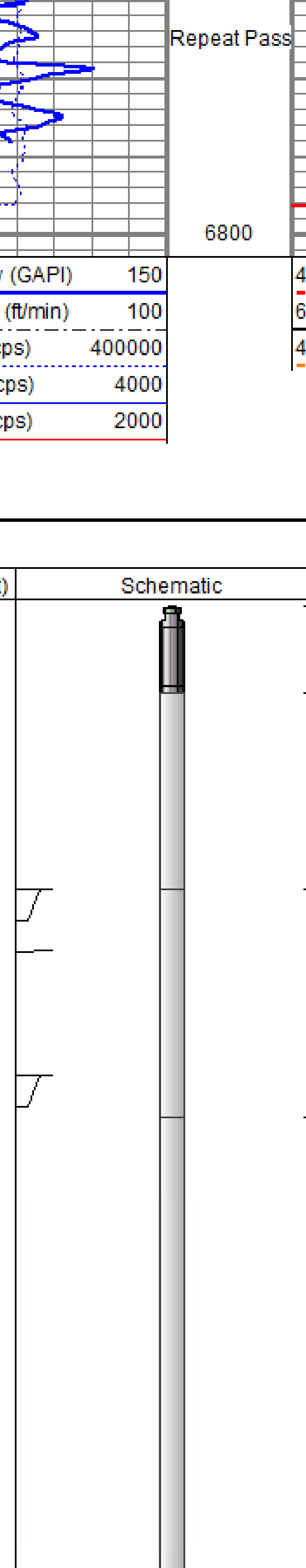
0 Gamma Ray (GAPI) 150
-100 Line Speed (ft/min) 100
0 NIRS (cps) 400000
0 BKGN (cps) 4000
0 BKGF (cps) 2000

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



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 (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 (001475) 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 (003040) 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_311-3_pn_9-12-18.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:\programdata\warrior\data\02_tep\clough nr 311-3\tep_clough_nr_311-3_pn_9-12-18.db
Dataset Pathname main.2
Dataset Creation Wed Sep 12 18:51:11 2018

Gamma Ray Calibration Report

Serial Number:	001475	
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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