RELIANCE
OILFIELD SERVICES

Company TEP Rocky Mountain LLC
Well Clough NR 13-3
Field Rulison
County Garfield
State Colorado

Pulsed Neutron Gamma Ray Casing Collar Log

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Well Clough NR 13-3
Field Rulison
County Garfield State Colorado
Location: API # : 05-045-23924
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	13-NOV-2018
Run Number	Two
Depth Driller	10142 FT
Depth Logger	10065 FT
Bottom Logged Interval	10059 FT
Top Log Interval	5684 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	8:45
Equipment Number	HD-0359
Location	Grand Junction, CO
Recorded By	J.Donnelly
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	1125 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	10100 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 13-NOV-2018
Log ran from 10059 FT to 5684 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	tep\tep_clough nr 13-3_pn_11-13-18\processed_tep_clough nr 13-3_pn_11-13-18.db
Dataset Pathname	merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Wed Nov 14 15:45:17 2018
Charted by	Depth in Feet scaled 1:240

Min	Curve	Max
0	GR (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	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 (cps)	400000	0	FIS2 (cps)	45000
0	BKGN (cps)	4000	0	NIS2 (cps	100000
0	BKGF (cps)	2000			

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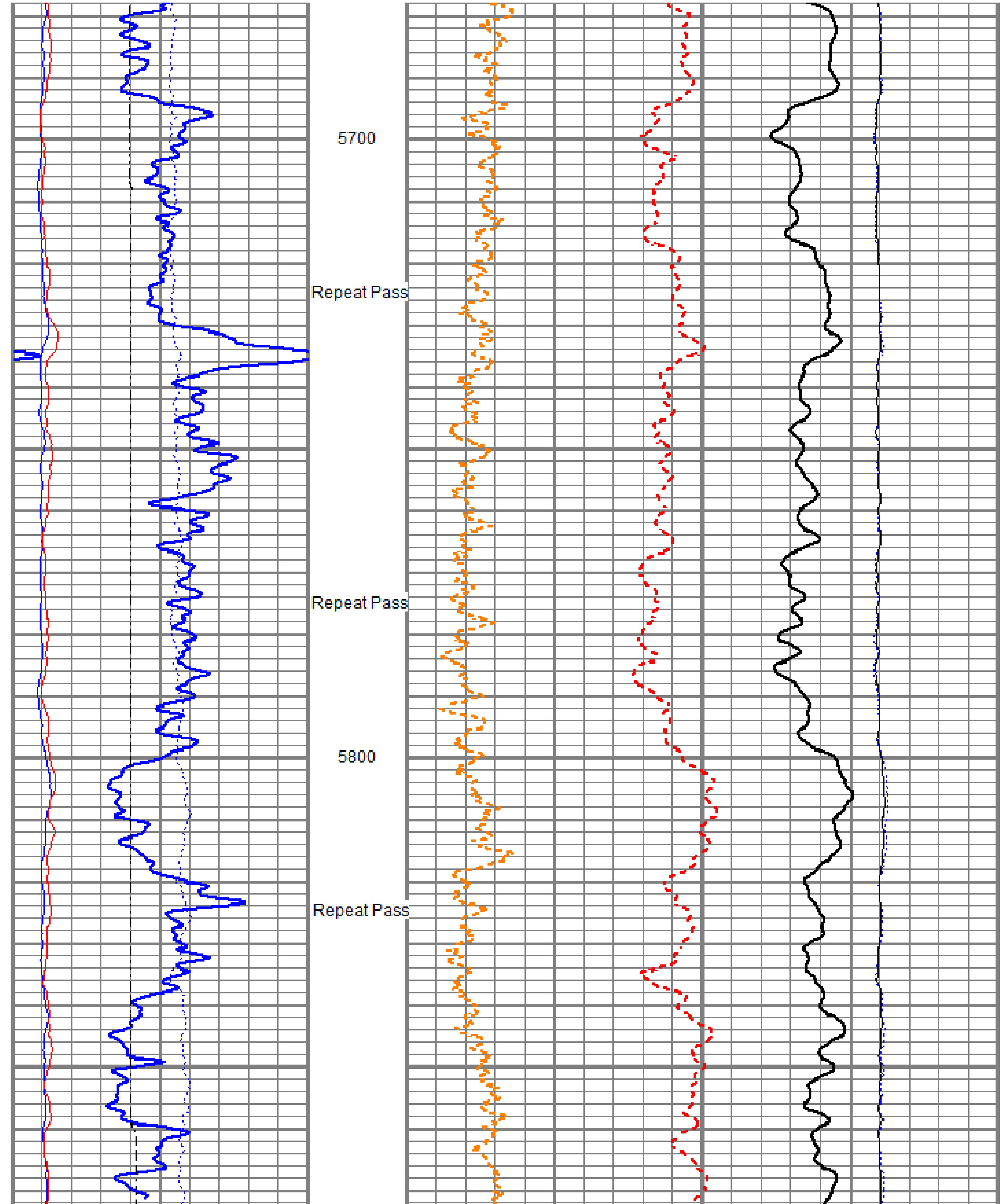
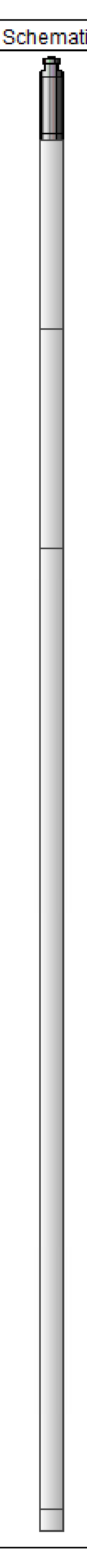
Repeat Pass

Database File	tep\tep_clough nr 13-3_pn_11-13-18\processed_tep_clough nr 13-3_pn_11-13-18.db
Dataset Pathname	Repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Tue Nov 13 18:59:50 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	0	FIS2 (cps)	45000
0	BKGF (cps)	2000	0	NIS2 (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	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 (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 13-3_pn_11-13-18.db: field/well/run1/Repeat.2
Total length:	18.02 ft
Total weight:	86.48 lb
O.D.:	1.69 in

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Field	Rulison
County	Garfield
State	Colorado