Company	TEP Rocky Mountain LLC
Well	Clough NR 323-3
Field	Rulison
County	Garfield
State	Colorado

RELIANCE
OILFIELD SERVICES

Pulsed Neutron Gamma Ray Casing Collar Log

Company	TEP Rocky Mountain LLC		
Well	Clough NR 323-3		
Field	Rulison		
County	Garfield	State	Colorado
Location:	API # : 05-045-23918		Other Services --
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	30-OCT-2018
Run Number	One
Depth Driller	9951 FT
Depth Logger	9870 FT
Bottom Logged Interval	9865 FT
Top Log Interval	5573 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	0.00
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	1126 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	9911 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 30-OCT-2018
Log ran from 9865 FT to 5573 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	tep\tep_clough nr 323-3_pn_10-29-18\tep_clough nr 323-3_pn_10-30-18.db
Dataset Pathname	Main/merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Thu Nov 01 13:12:42 2018
Charted by	Depth in Feet scaled 1:240

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
	FIS2	
0	(cps)	45000
	NIS2	
0	(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		FIS2	
0	BKGN (cps)	4000	0	(cps)	45000
0	BKGF (cps)	2000		NIS2	
			0	(cps	100000

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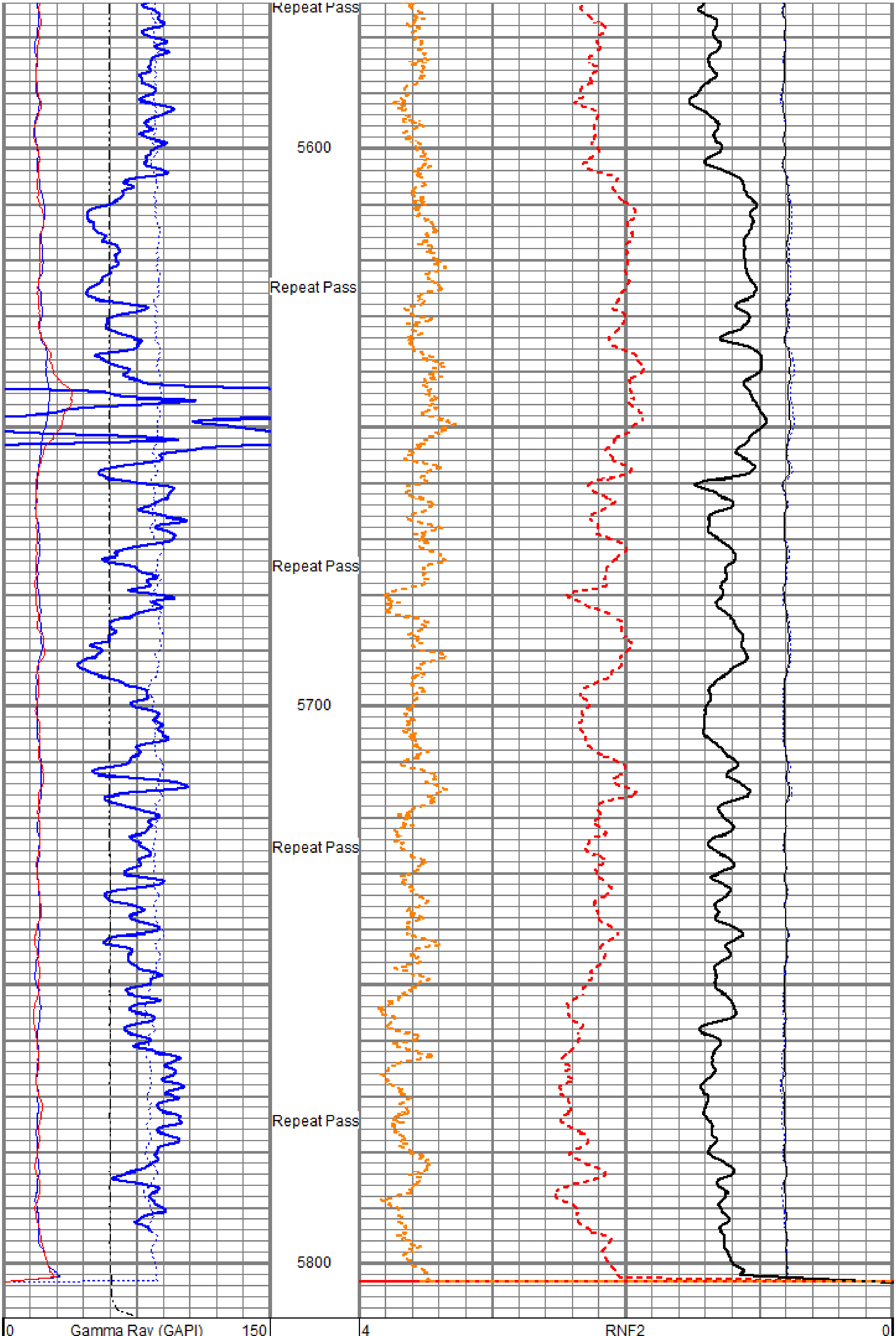
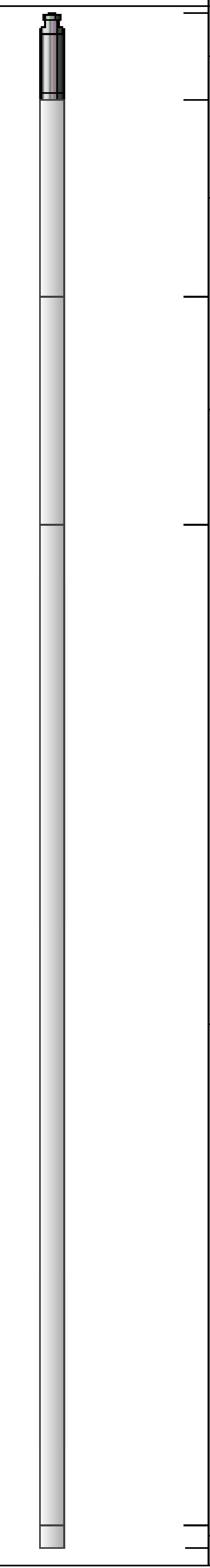
Repeat Pass

Database File	tep\tep_clough nr 323-3_pn_10-29-18\tep_clough nr 323-3_pn_10-30-18.db
Dataset Pathname	repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Tue Oct 30 09:59:45 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 (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:	tep_clough nr 323-3_pn_10-30-18.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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