RELIANCE OILFIELD SERVICES

Pulsed Neutron Gamma Ray Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	5-Mile Ranch SG 23-26
Field	Grand Valley
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well 5-Mile Ranch SG 23-26
Field Grand Valley
County Garfield State Colorado
Location: API # : 05-045-23944
SEC 26 TWP 7S RGE 96W

Other Services
RBL

			Elevation
Permanent Datum	Ground Level	Elevation 5076.3'	K.B. 5100.3'
Log Measured From	Kelly Bushing	24 FT	D.F. 5099.3'
Drilling Measured From	Kelly Bushing		G.L. 5076.3'

Date	27-NOV-2018
Run Number	Two
Depth Driller	5426 FT
Depth Logger	5380 FT
Bottom Logged Interval	5379 FT
Top Log Interval	1970 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	19:30
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	32.3	H-40	Surface	1033 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	5385 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 27-NOV-2018
Log ran from 5379 FT to 1970 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	f:\data\tep\5-mile ranch sg 23-26\pn\tep_5-mile ranch sg 23-26_pn_11-27-18.db
Dataset Pathname	SHIFTED/merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Fri Nov 30 12:39:24 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 (cps100000

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 (cps100000

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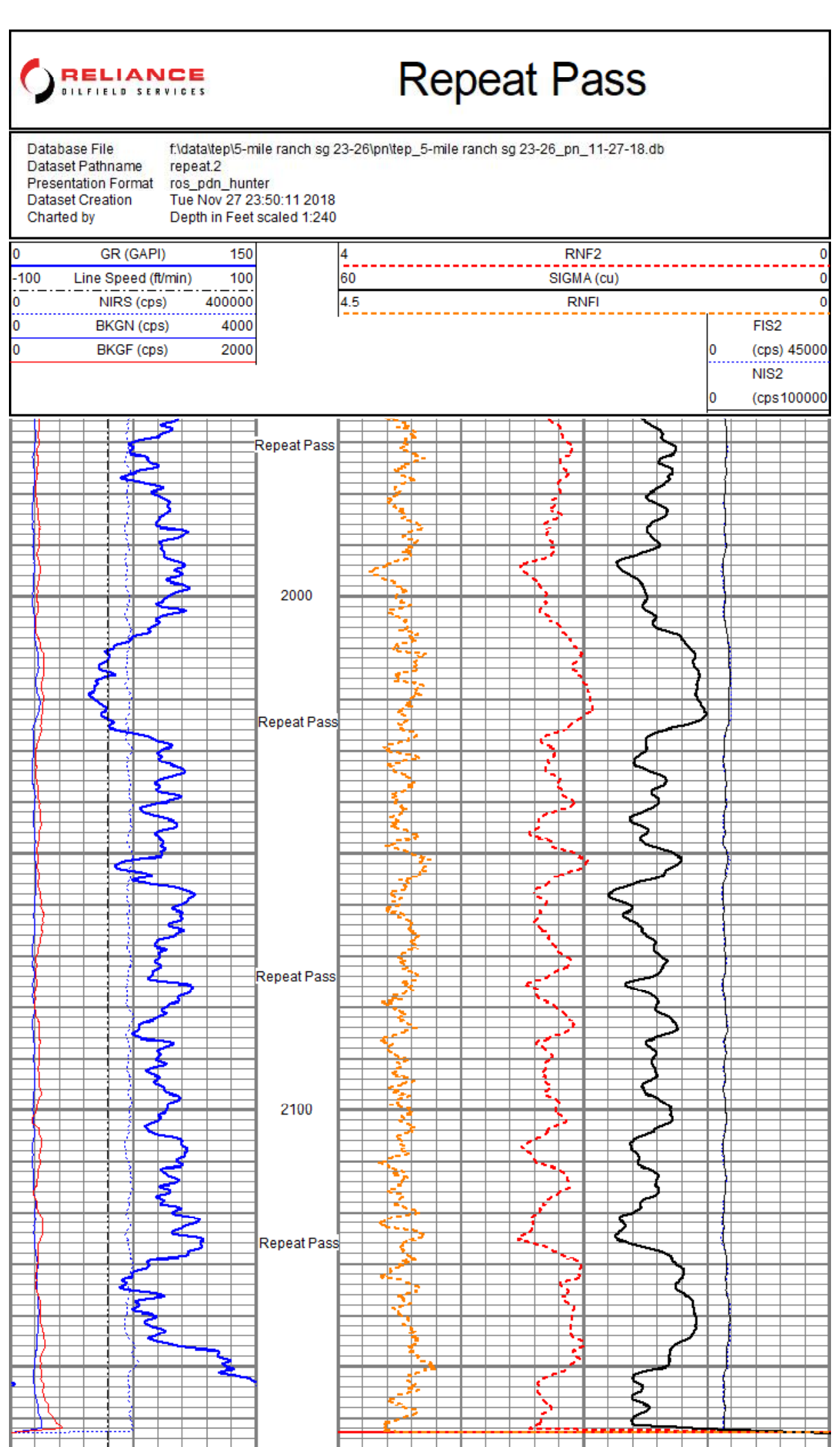
Repeat Pass

Database File	f:\data\tep\5-mile ranch sg 23-26\pn\tep_5-mile ranch sg 23-26_pn_11-27-18.db
Dataset Pathname	repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Tue Nov 27 23:50:11 2018
Charted by	Depth in Feet scaled 1:240

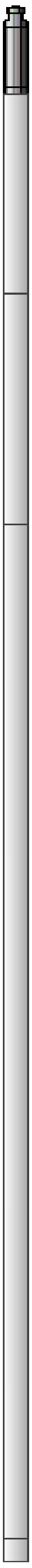
0 GR (GAPI) 150
-100 Line Speed (ft/min) 100
0 NIRS (cps) 400000
0 BKGN (cps) 4000
0 BKGF (cps) 2000

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



0	GR (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
			HWS_TCU-002 (001705) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
TCUTEMP	14.69					
TCUVOLT	14.69					
GCL_CCL	13.97					
			HWS_GCL-001 (001475) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
GCL_GR	12.50					
GCL_GR	12.50					
Long	6.25		HWS_RAS-RAS002 (003040) Hunter Well Science Pulsed Neutron Tool	11.75	1.69	55.82
Far	6.25					
Near	6.25					
Anci	6.25					
			HWS_TBN-001 (001724) HWS Terminator Bull Nose (1.6875")	0.25	1.69	0.99

Dataset:	tep_5-mile ranch sg 23-26_pn_11-27-18.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	f:\data\tep\5-mile ranch sg 23-26\pn\tep_5-mile ranch sg 23-26_pn_11-27-18.db
Dataset Pathname	main.2
Dataset Creation	Tue Nov 27 23:49:20 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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