RELIANCE OILFIELD SERVICES

Pulsed Neutron Gamma Ray Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Federal PA 521-26
Field	Parachute
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC

Well Federal PA 521-26

Field Parachute

County Garfield State Colorado

Location: API # : 05-045-23715

SEC 26 TWP 6S RGE 95W

Other Services: RBL

		Elevation	
Permanent Datum	Ground Level	5636.9'	K.B. 5660.9'
Log Measured From	Kelly Bushing	24 FT	D.F. 5659.9'
Drilling Measured From	Kelly Bushing		G.L. 5636.9'

Date	17-JUL-2018
Run Number	One
Depth Driller	8871 FT
Depth Logger	8796 FT
Bottom Logged Interval	8791 FT
Top Log Interval	4889 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	11:28
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	1105 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	8829 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 16-JUL-2018
Log ran from 8791 FT to 4889 FT
Pulsed Neutron Data logged with the Hunter RAS Tool

Thank you for choosing Reliance Oilfield Services, LLC!

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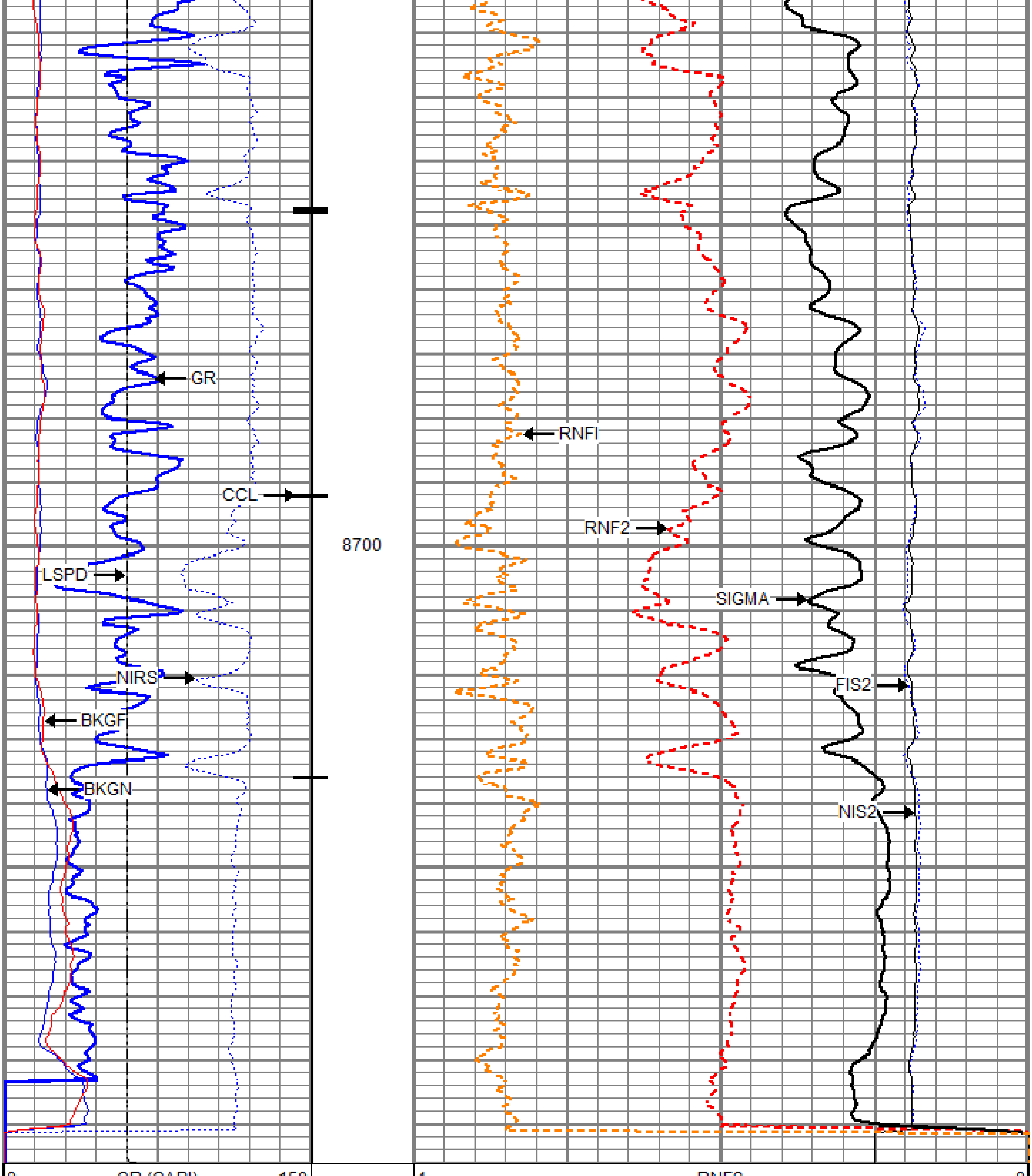
Main Pass

Database File	tep\pa 521-26\pn\tep_federal pa 521-26_pn_07-17-18.db
Dataset Pathname	shiftedtest2/merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Fri Jul 20 12:25:37 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

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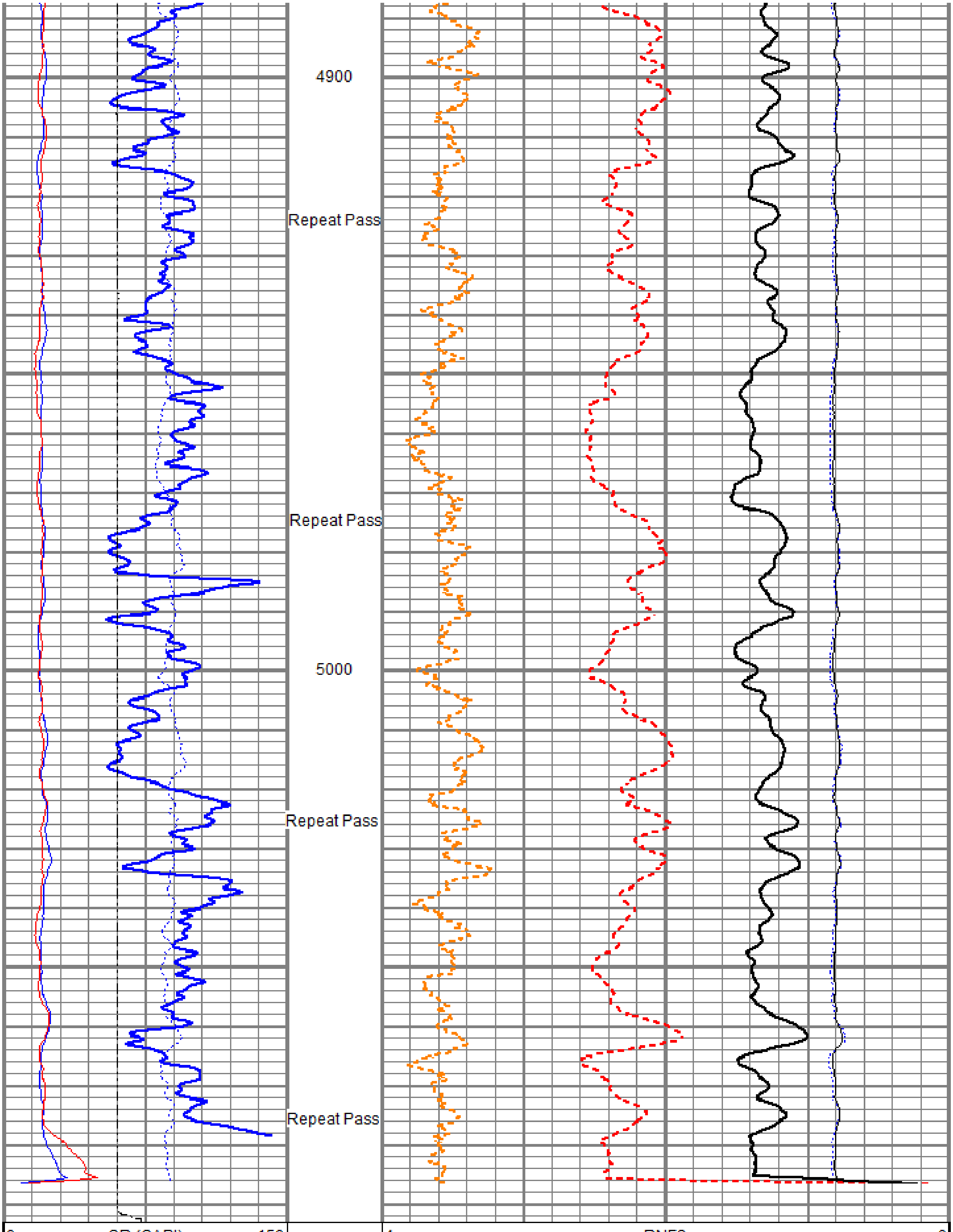
Repeat Pass

Database File	tep\pa 521-26\pn\tep_federal pa 521-26_pn_07-17-18.db
Dataset Pathname	repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Tue Jul 17 16:06:36 2018
Charted by	Depth in Feet scaled 1:240

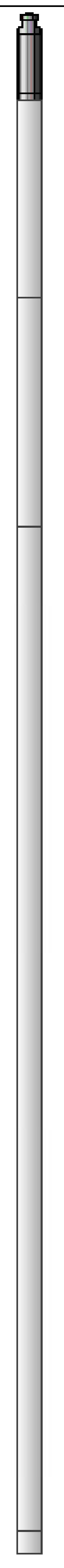
0 GR (GAPI) 150
-100 Line Speed (ft/min) 100
0 NIRS (cps) 400000
0 BKGN (cps) 4000
0 BKGF (cps) 2000

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 (cps100000

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 (001681) 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 (003041) 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_federal pa 521-26_pn_07-17-18.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\tep\pa 521-26\pn\tep_federal pa 521-26_pn_07-17-18.db
Dataset Pathname	main.2
Dataset Creation	Tue Jul 17 16:05:33 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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