RELIANCE OILFIELD SERVICES

Pulsed Neutron Gamma Ray Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Federal SG 511-22
Field	Grand Valley
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Federal SG 511-22
Field Grand Valley
County Garfield State Colorado
Location: API # : 05-045-24136
SEC 22 TWP 7S RGE 96W
Other Services
RBL

Permanent Datum	Ground Level	Elevation 6090.8'	Elevation K.B. 6114.8' D.F. --- G.L. 6090.8'
Log Measured From	Kelly Bushing	24 FT	
Drilling Measured From	Kelly Bushing		

Date	19-MAR-2019
Run Number	Two
Depth Driller	6105 FT
Depth Logger	6049 FT
Bottom Logged Interval	6043 FT
Top Log Interval	2695 FT
Open Hole Size	---
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	---
Estimated Cement Top	---
Time Well Ready	ROA
Time Logger on Bottom	10:00
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	1035 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	6062 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 19-MAR-2019
Log ran from 6043 FT to 2695 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\federal sg 511-22\pn\tep_federal sg 511-22_pn_03-19-19.db
Dataset Pathname	runSHIFTED/merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Wed Mar 20 17:26:43 2019
Charted by	Depth in Feet scaled 1:240

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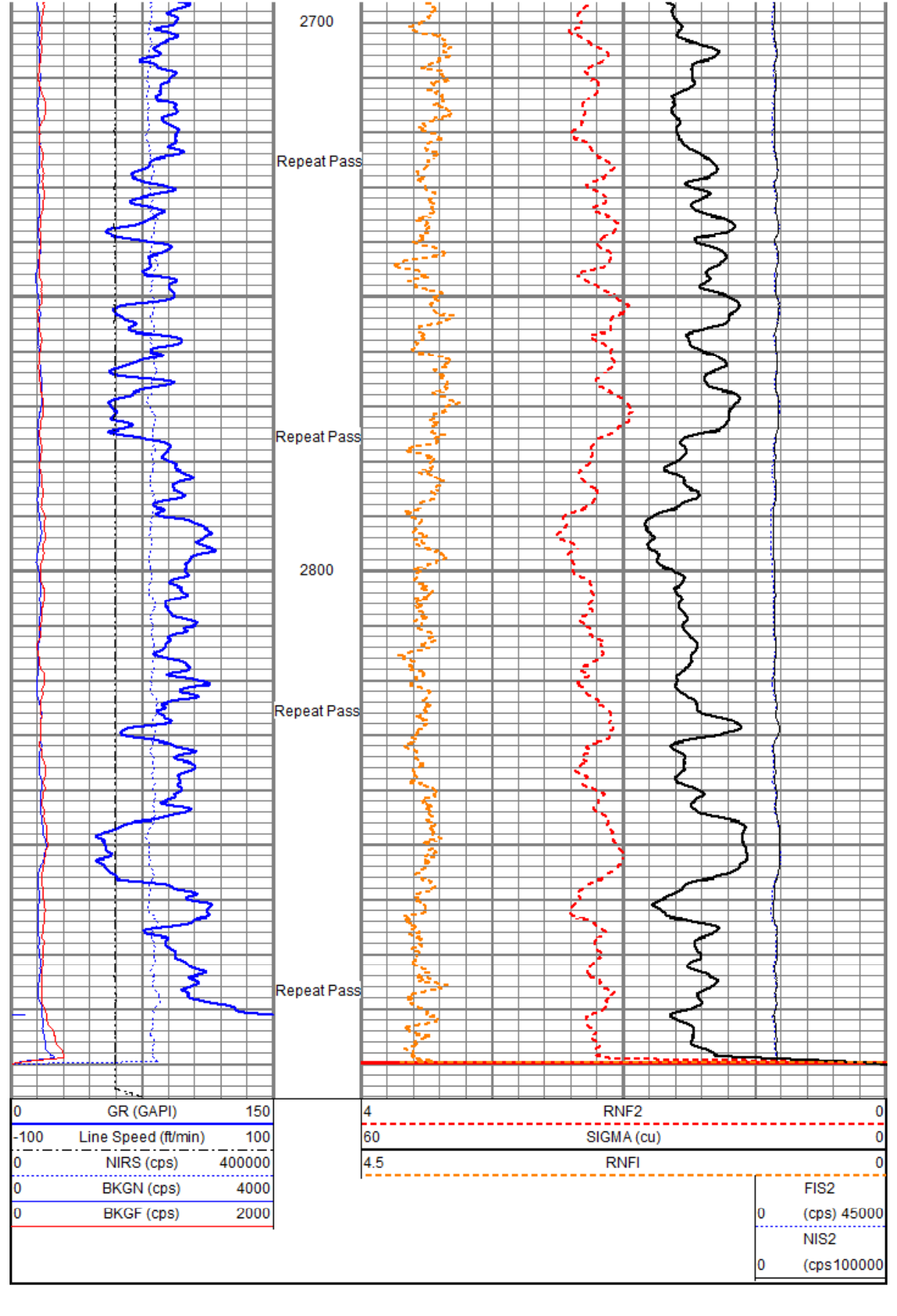
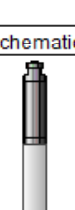
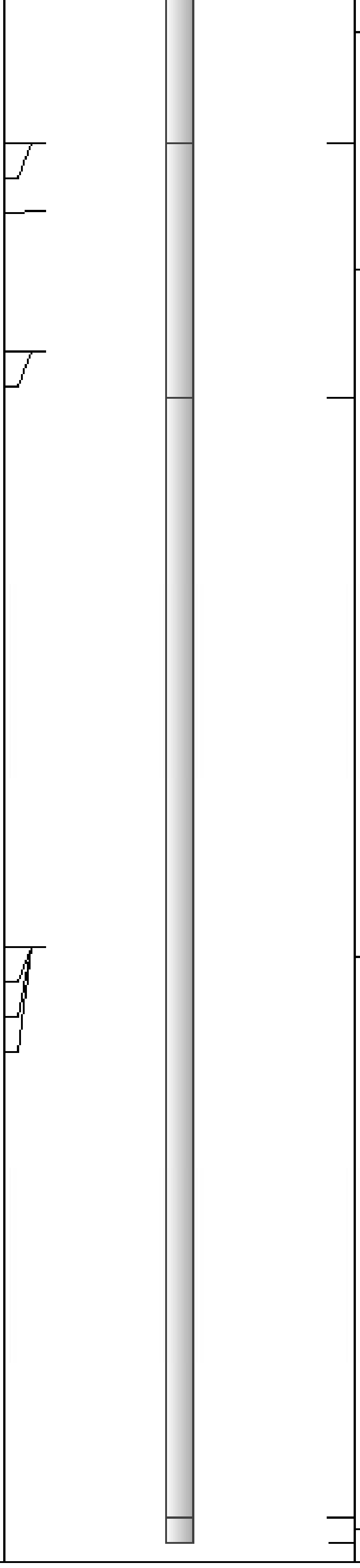
Repeat Pass

Database File	f:\data\tep\federal sg 511-22\pn\tep_federal sg 511-22_pn_03-19-19.db
Dataset Pathname	repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Tue Mar 19 14:18:20 2019
Charted by	Depth in Feet scaled 1:240



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	14.69
TCUVOLT	14.69
GCL_CCL	13.97
GCL_GR	12.50
GCL_GR	12.50
Long	6.25
Far	6.25
Near	6.25
Anci	6.25



HWS_TCU-002 (001704) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
HWS_GCL-001 (001475) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
HWS_RAS-RAS002 (003041) 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_federal sg 511-22_pn_03-19-19.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\federal sg 511-22\pn\tep_federal sg 511-22_pn_03-19-19.db
Dataset Pathname	main.2
Dataset Creation	Tue Mar 19 14:16:24 2019

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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