RELIANCE
OILFIELD SERVICES

Pulsed Neutron Gamma Ray Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Federal RG 542-18-297
Field	Sulphur Creek
County	Rio Blanco
State	Colorado

Company TEP Rocky Mountain LLC
Well Federal RG 542-18-297
Field Sulphur Creek
County Rio Blanco State Colorado
Location: API # : 05-103-12473
SEC 18 TWP 2S RGE 97W
Other Services
RBL

Permanent Datum Ground Level Elevation 6621'
Log Measured From Kelly Bushing 30 FT
Drilling Measured From Kelly Bushing

Elevation
K.B. 6651'
D.F. 6650'
G.L. 6621'

Date	14-JUN-2021
Run Number	One
Depth Driller	11940 FT
Depth Logger	11837 FT
Bottom Logged Interval	11831 FT
Top Log Interval	6430 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	17:00
Equipment Number	HD-0331
Location	Grand Junction, CO
Recorded By	A. Ellsworth
Witnessed By	---

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	13 3/8	54.5	J-55	Surface	1429 FT
Intermediate #1	9 5/8	36	J-55	Surface	3275 FT
Intermediate #2	4 1/2	11.6	P-110	Surface	11896 FT
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 14-JUN-2021
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	g:\data\tep\federal rg 542-18-297\tep_federal rg 542-18-297_pn_06-14-21.db
Dataset Pathname	runSHIFTED/merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Wed Jun 23 16:00:44 2021
Charted by	Depth in Feet scaled 1:240

0 GR (GAPI) 150
PN 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 -1
1 PN Porosity (Sandstone) 0
FIS2
0 (cps) 45000
NIS2
0 (cps100000

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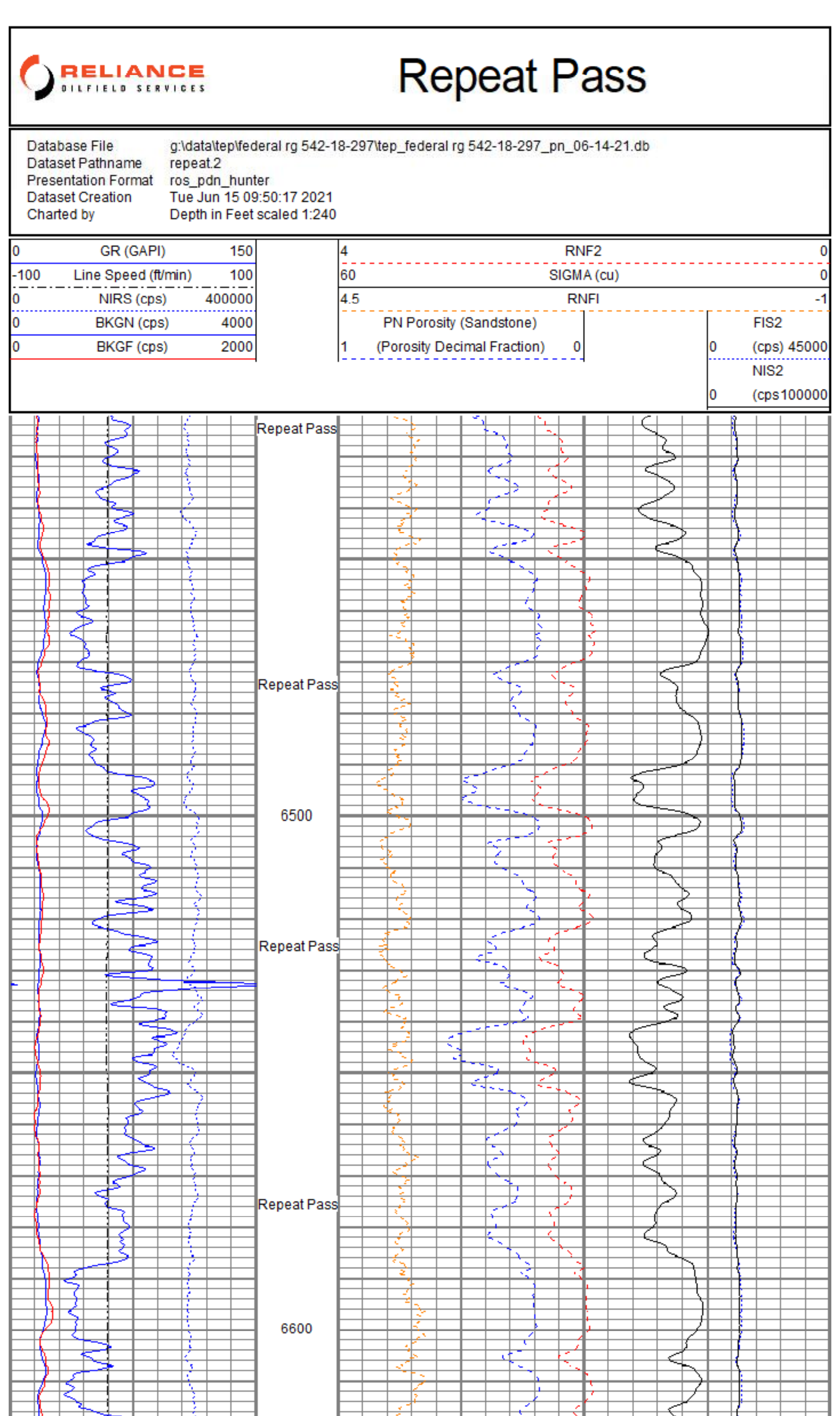
Repeat Pass

Database File	g:\data\tep\federal rg 542-18-297\tep_federal rg 542-18-297_pn_06-14-21.db
Dataset Pathname	repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Tue Jun 15 09:50:17 2021
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
			HWS_TCU-002 (001704) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
TCUTEMP TCUVOLT GCL_CCL	14.72 14.72 14.00					
			HWS_GCL-001 (001681) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
GCL_GR	12.53					
Long Far Near Anci	6.28 6.28 6.28 6.28		HWS_RAS-RAS002 (003040) Hunter Well Science Pulsed Neutron Tool	11.75	1.69	55.82
			HWS_BN_FLT-001 (000001) Bull Nose FLTE/CFT	0.28	1.69	0.44

Dataset: tep_federal rg 542-18-297_pn_06-14-21.db: field/well/run1/main.2
Total length: 18.05 ft
Total weight: 85.93 lb
O.D.: 1.69 in

Calibration Report

Database File g:\data\tep\federal rg 542-18-297\tep_federal rg 542-18-297_pn_06-14-21.db
Dataset Pathname main.2
Dataset Creation Tue Jun 15 09:45:35 2021

RAS Calibration Report

Calibration Date: Tue Jun 02 13:35 2021

Meas #: 003041

Water Tank

Description	Curve	Standard	Mean	Dev
Sigma Near	SIGN	23.1	24.1	0.21
Sigma Far	SIGF	22.8	23.5	0.31
Ratio Near-Long Capture	RNL2	5.79	6.72	0.04
Ratio Near-Long Burst	RNLB	6.49	7.30	0.05
Ratio Near-Far Capture	RNF2	1.85	2.01	0.01
Ratio Near-Far Burst	RNFB	2.03	2.17	0.01
Spectral Hydrogen Index	HIS2	12.84	12.97	0.14
Carbon-Oxygen Ratio	CORS	1.34	1.34	0.05
Ratio Burst-Capture Near	RNBC	1.46	1.72	0.02
Ratio Burst-Capture Far	RFBC	1.50	1.66	0.01

Hydrocarbon Tank

Description	Curve	Standard	Mean	Dev
Sigma Near	SIGN	25.7	26.7	0.28
Sigma Far	SIGF	25.1	25.5	0.47
Ratio Near-Long Capture	RNL2	1.78	2.94	0.01
Ratio Near-Long Burst	RNLB	2.57	4.35	0.02
Ratio Near-Far Capture	RNF2	0.98	1.29	0.01
Ratio Near-Far Burst	RNFB	1.30	1.64	0.01
Spectral Hydrogen Index	HIS2	16.68	17.64	0.29
Carbon-Oxygen Ratio	CORS	1.51	1.59	0.06
Ratio Burst-Capture Near	RNBC	2.23	2.42	0.02
Ratio Burst-Capture Far	RFBC	2.09	2.13	0.02

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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