Company	TEP Rocky Mountain LLC
Well	Puckett GM 514-8
Field	Grand Valley
County	Garfield
State	Colorado

RELIANCE OILFIELD SERVICES

Pulsed Neutron Gamma Ray Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Puckett GM 514-8
Field	Grand Valley
County	Garfield
State	Colorado
Location:	API # : 05-045-24094
Other Services	RBL

SEC 8 TWP 7S RGE 96W

Permanent Datum	Ground Level	Elevation	6281'
Log Measured From	Kelly Bushing	24 FT	
Drilling Measured From	Kelly Bushing		

Elevation
K.B. 6305'
D.F. ---
G.L. 6281'

Date	31-OCT-2019
Run Number	One
Depth Driller	6950 FT
Depth Logger	6895 FT
Bottom Logged Interval	6889 FT
Top Log Interval	3623 FT
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	--
Estimated Cement Top	--
Time Well Ready	--
Time Logger on Bottom	--
Equipment Number	HD-0331
Location	Grand Junction, CO
Recorded By	J. Donnelly
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	9 5/8	32.3	H-40	Surface	1017 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	6909 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 31-OCT-2019
Log ran from 6889 FT to 3623 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	c:\techlog-projects\tep_mv 60-8d pad_gm 432-8 tw\data\import\gm 514-8\processed_tep_puckett gm 514-8
Dataset Pathname	SHIFTED/merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Wed Nov 06 13:41:12 2019
Charted by	Depth in Feet scaled 1:240

Track 1			Track 2		
0	GR (GAPI)	150	4	RNF2	0
	Casing Collar Locator		60	SIGMA (cu)	0
-100	Line Speed (ft/min)	100	4.5	RNFI	-1
0	NIRS (cps)	400000	1	PN Porosity (Sandstone)	0
0	BKGN (cps)	4000	0	FIS2 (cps)	45000
0	BKGF (cps)	2000	0	NIS2 (cps	100000

Track 1			Track 2		
0	GR (GAPI)	150	4	RNF2	0
	Casing Collar Locator		60	SIGMA (cu)	0
-100	Line Speed (ft/min)	100	4.5	RNFI	-1
0	NIRS (cps)	400000	1	PN Porosity (Sandstone)	0
0	BKGN (cps)	4000	0	FIS2 (cps)	45000
0	BKGF (cps)	2000	0	NIS2 (cps	100000

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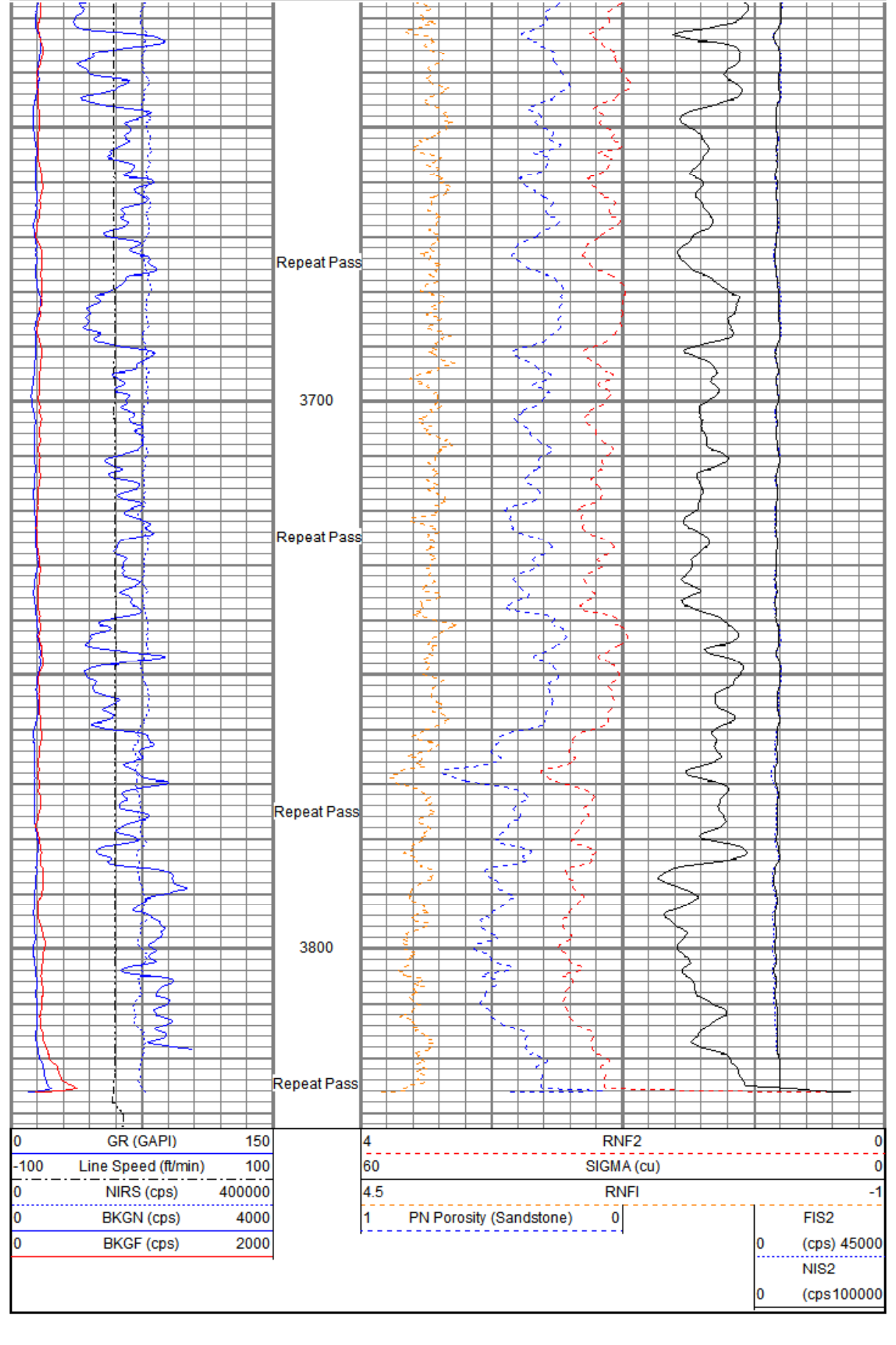
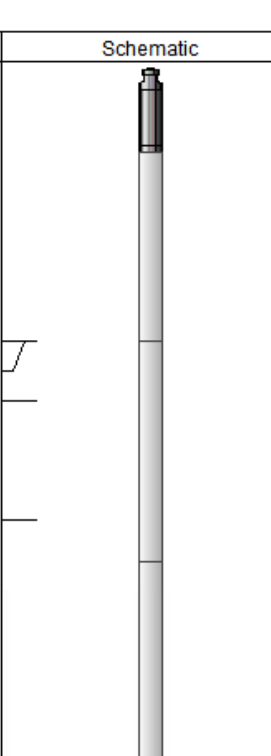
Repeat Pass

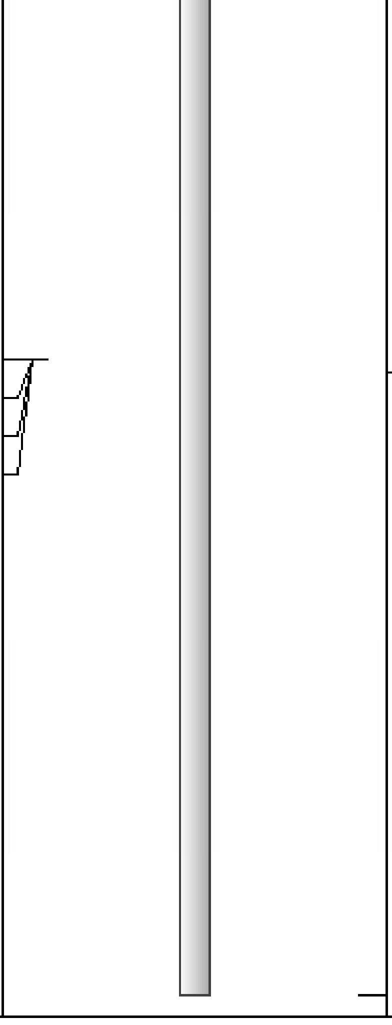
Database File	c:\techlog-projects\tep_mv 60-8d pad_gm 432-8 tw\data\import\gm 514-8\processed_tep_puckett gm 514-8
Dataset Pathname	Repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Fri Nov 01 11:52:23 2019
Charted by	Depth in Feet scaled 1:240

Track 1			Track 2		
0	GR (GAPI)	150	4	RNF2	0
-100	Line Speed (ft/min)	100	60	SIGMA (cu)	0
0	NIRS (cps)	400000	4.5	RNFI	-1
0	BKGN (cps)	4000	1	PN Porosity (Sandstone)	0
0	BKGF (cps)	2000	0	FIS2 (cps)	45000
			0	NIS2 (cps	100000



Track 1			Track 2		
0	GR (GAPI)	150	4	RNF2	0
-100	Line Speed (ft/min)	100	60	SIGMA (cu)	0
0	NIRS (cps)	400000	4.5	RNFI	-1
0	BKGN (cps)	4000	1	PN Porosity (Sandstone)	0
0	BKGF (cps)	2000	0	FIS2 (cps)	45000
			0	NIS2 (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 (001704) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
TCUTEMP TCUVOLT GCL_CCL	14.44 14.44 13.72					
			HWS_GCL-001 (001681) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
GCL_GR	12.25					

Long Far Near Anci	6.00 6.00 6.00 6.00		HWS_RAS-RAS002 (003040) Hunter Well Science Pulsed Neutron Tool	11.75	1.69	55.82

Dataset:	processed_tep_puckett gm 514-8_pn_10-31-19.db: field/well/run1/main.2
Total length:	17.77 ft
Total weight:	85.49 lb
O.D.:	1.69 in

Calibration Report

Database File	c:\techlog-projects\tep_mv 60-8d pad_gm 432-8 tw\data\import\gm 514-8\processed_tep_puckett gm 514-8_
Dataset Pathname	main.2
Dataset Creation	Fri Nov 01 11:58:54 2019

RAS Calibration Report

Calibration Date: Fri Nov 01 14:23 2019 Meas #: 003040

Water Tank

Description	Curve	Standard	Mean	Dev
Sigma Near	SIGN	23.1	24.3	0.31
Sigma Far	SIGF	22.8	23.5	0.38
Ratio Near-Long Capture	RNL2	5.79	6.42	0.07
Ratio Near-Long Burst	RNLB	6.49	6.65	0.04
Ratio Near-Far Capture	RNF2	1.85	1.99	0.02
Ratio Near-Far Burst	RNFB	2.03	2.15	0.01
Spectral Hydrogen Index	HIS2	12.84	12.91	0.19
Carbon-Oxygen Ratio	CORS	1.34	1.36	0.06
Ratio Burst-Capture Near	RNBC	1.46	1.74	0.01
Ratio Burst-Capture Far	RFBC	1.50	1.67	0.02

Hydrocarbon Tank

Description	Curve	Standard	Mean	Dev
Sigma Near	SIGN	25.7	26.7	0.32
Sigma Far	SIGF	25.1	25.6	0.46
Ratio Near-Long Capture	RNL2	1.78	2.96	0.02
Ratio Near-Long Burst	RNLB	2.57	4.34	0.02
Ratio Near-Far Capture	RNF2	0.98	1.30	0.01
Ratio Near-Far Burst	RNFB	1.30	1.65	0.01
Spectral Hydrogen Index	HIS2	16.68	17.87	0.36
Carbon-Oxygen Ratio	CORS	1.51	1.62	0.06
Ratio Burst-Capture Near	RNBC	2.23	2.44	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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Company	TEP Rocky Mountain LLC
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Field	Grand Valley
County	Garfield
State	Colorado