RELIANCE
OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

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

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

Location: API #: 05-045-24094
SEC 8 TWP 7S RGE 96W

Other Services
PN

Permanent Datum	Ground Level	Elevation 6281'	Elevation
Log Measured From	Kelly Bushing 24 FT		K.B. 6305' D.F. --- G.L. 6281'
Drilling Measured From	Kelly Bushing		

Date	31-OCT-2019
Run Number	One
Depth Driller	6950 FT
Depth Logger	6887 FT
Bottom Logged Interval	6876 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	206°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	---
Equipment Number	HD-0359
Location	Grand Junction, CO
Recorded By	Z. Fisher
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 Kelly Bushing at 24 FT
Marker Joint logged from 3782- 3804 FT
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!

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Main Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	tep_puckett gm 514-8_rbl_10-31-19\tep_puckett gm 514-8_rbl_10-31-19.db
Dataset Pathname	main.1
Presentation Format	ros_rbt004_tep
Dataset Creation	Sun Nov 03 16:34:15 2019
Charted by	Depth in Feet scaled 1:240

Gamma Ray		3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200		0 (mV) 100	200 (usec) 1200		0 150
Casing Collar Locator		3' Amplitude x 5			Mimimum Amplitude
Line Speed		0 (mV) 20			0 150
-150 (ft/min) 150		3' Travel Time			Maximum Amplitude
Line Tension		300 (usec) 200			0 150
0 (lb) 2000					
Differential Temperature					
-2 (degF) 2					
Temperature					
0 (degF) 20					

Gamma Ray 0 (GAPI) 200	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 (usec) 1200	Sector Map	Average Amplitude 0 150
Casing Collar Locator	3' Amplitude x 5 0 (mV) 20			Mimimum Amplitude 0 150
Line Speed -150 (ft/min) 150	3' Travel Time 300 (usec) 200			Maximum Amplitude 0 150
Line Tension 0 (lb) 2000				
Differential Temperature -2 (degF) 2				
Temperature 0 (degF) 20				

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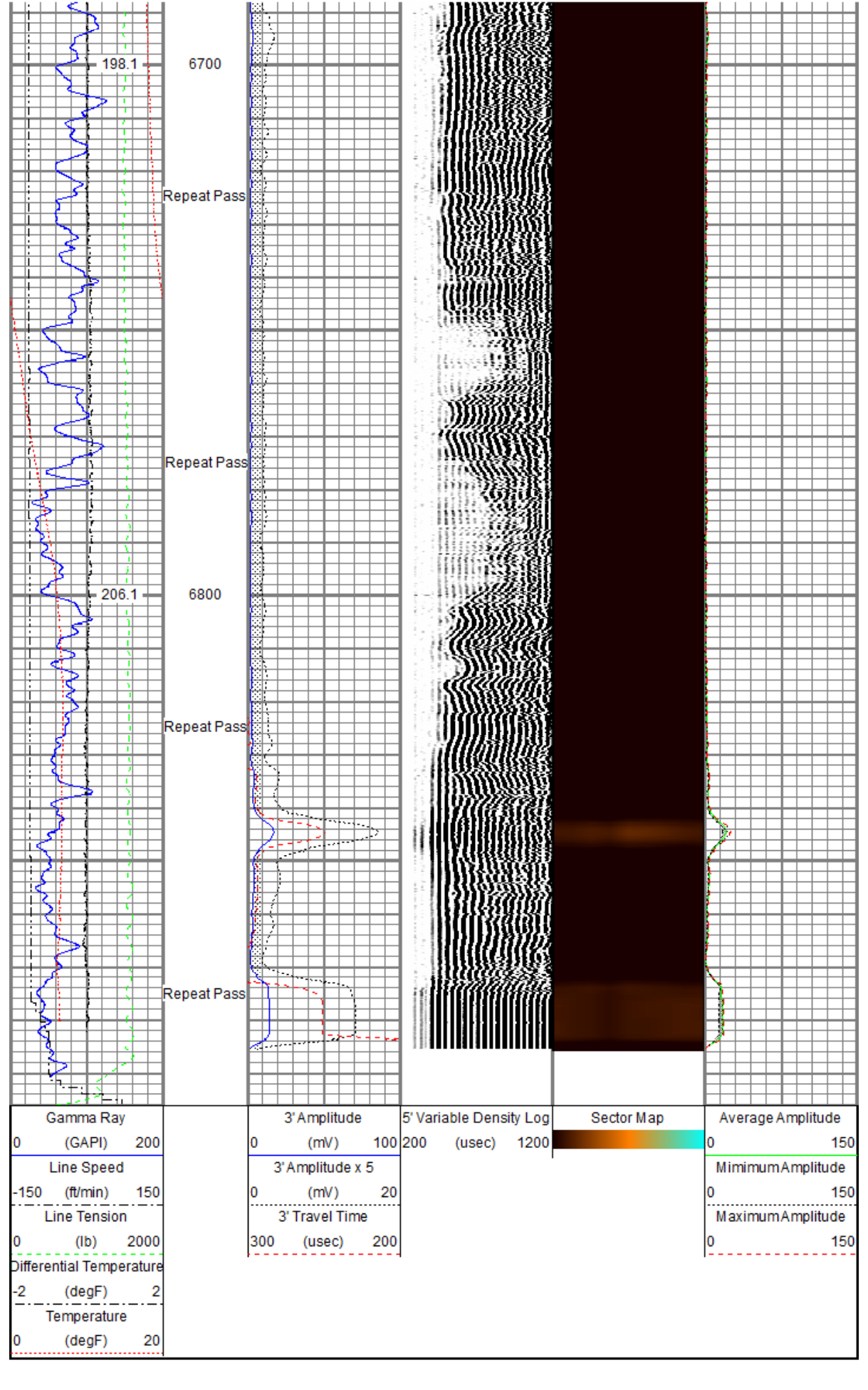
Repeat Pass

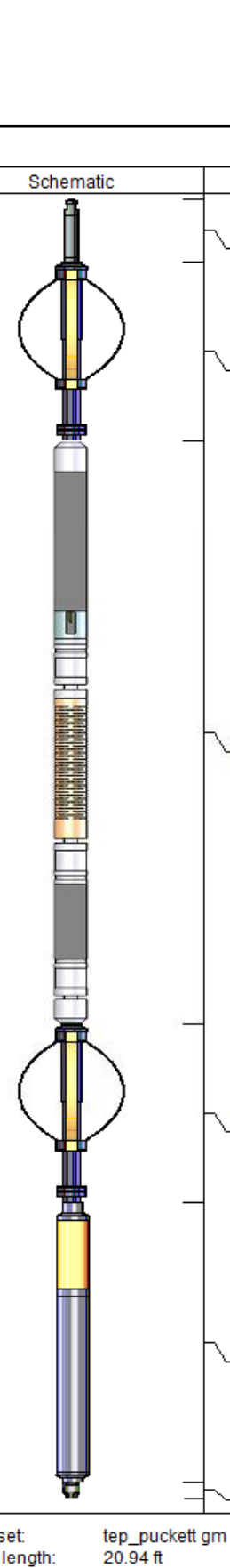
Recorded With 0 PSI Surface Induced Pressure

Database File tep_puckett gm 514-8_rbl_10-31-19\tep_puckett gm 514-8_rbl_10-31-19.db
Dataset Pathname repeat.1
Presentation Format ros_rbt004_tep
Dataset Creation Sun Nov 03 16:40:02 2019
Charted by Depth in Feet scaled 1:240

Gamma Ray 0 (GAPI) 200	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 (usec) 1200	Sector Map	Average Amplitude 0 150
Line Speed -150 (ft/min) 150	3' Amplitude x 5 0 (mV) 20			Mimimum Amplitude 0 150
Line Tension 0 (lb) 2000	3' Travel Time 300 (usec) 200			Maximum Amplitude 0 150
Differential Temperature -2 (degF) 2				
Temperature 0 (degF) 20				



Gamma Ray 0 (GAPI) 200	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 (usec) 1200	Sector Map	Average Amplitude 0 150
Line Speed -150 (ft/min) 150	3' Amplitude x 5 0 (mV) 20			Mimimum Amplitude 0 150
Line Tension 0 (lb) 2000	3' Travel Time 300 (usec) 200			Maximum Amplitude 0 150
Differential Temperature -2 (degF) 2				
Temperature 0 (degF) 20				

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan CHD-14375 GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	3.60
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
TEMP	14.12					
			Probe Radii-2750 RBT (FW0712-020) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
WVFS8	11.89					
WVFS7	11.89					
WVFS6	11.89					
WVFS5	11.89					
WVFS4	11.89					
WVFS3	11.89					
WVFS2	11.89					
WVFS1	11.89					
WVFCAL	11.89					
WVF3FT	11.89					
WVF5FT	10.89					
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL$2	3.88					
CCL$1	3.88					
GR	2.63		Probe GR-CCL-2750 GOB (FW1211-081) Probe 2-3/4" rev.2 Digital Scintillation Gamma Ray/CCL Combined with GO Bottom	4.51	2.75	55.00
			GO BN-14375 GO 1-7/16" Bull Nose with Go Box Top	0.25	1.44	1.00

Dataset: tep_puckett gm 514-8_rbl_10-31-19.db: field/well/run1/main.1
Total length: 20.94 ft
Total weight: 204.60 lb
O.D.: 2.75 in

Calibration Report

Database File c:\programdata\warrior\data\tep_puckett gm 514-8_rbl_10-31-19\tep_puckett gm 514-8_rbl_10-31-19.db
Dataset Pathname main.1
Dataset Creation Sun Nov 03 16:34:15 2019

Gamma Ray Calibration Report

Serial Number:	FW1211-081	
Tool Model:	2750 GOB	
Performed:	Mon Oct 01 11:32:39 2018	
Calibrator Value:	637.0	GAPI
Background Reading:	112.4	cps
Calibrator Reading:	1008.7	cps
Sensitivity:	0.7107	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW0712-020	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	32.279	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.001	0.848	0.800	81.196	94.727	0.901
CAL	-0.003	0.750				
5'	0.001	0.672	0.800	81.196	119.764	0.719
SUM						
S1	-0.006	0.956	0.000	100.000	104.038	0.578
S2	-0.003	0.923	0.000	100.000	107.946	0.368
S3	-0.003	0.886	0.000	100.000	112.420	0.350
S4	-0.005	0.866	0.000	100.000	114.842	0.546
S5	-0.005	0.841	0.000	100.000	118.210	0.551
S6	-0.003	0.812	0.000	100.000	122.635	0.394
S7	-0.004	0.816	0.000	100.000	121.890	0.489
S8	-0.001	0.845	0.000	100.000	118.128	0.177

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.003	0.750	1.000	0.000

Air Zero Calibration, performed Thu Oct 31 13:53:13 2019:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Temperature Calibration Report

Serial Number:	FW0712-020	
Tool Model:	2750 RBT	
Performed:	Mon Oct 01 11:32:14 2018	
	Reference	Reading
Low Reference:	100.00 degF	109.43 degF
High Reference:	350.00 degF	405.87 degF
Gain:	0.84	
Offset:	7.72	
Delta Spacing	1	

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