Radial Cement Bond
Gamma Ray
Casing Collar Log

RELIANCE OILFIELD SERVICES

Company TEP Rocky Mountain LLC
Well Puckett GM 344-8
Field Grand Valley
County Garfield
State Colorado

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Location: API # : 05-045-24092
SEC 8 TWP 7S RGE 96W
Other Services PN

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	18-NOV-2019
Run Number	One
Depth Driller	7503 FT
Depth Logger	7453 FT
Bottom Logged Interval	7438 FT
Top Log Interval	Surface
Open Hole Size	8.75"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	213° F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	---
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	9 5/8	32.3	H-40	Surface	1015 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	7462 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 4476 - 4499 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\tep_puckett gm 344-8_rbl_11-18-19\processed_tep_puckett gm 344-8_rbl_11-18-19.db
Dataset Pathname	main.1
Presentation Format	ros_rbt004_tep
Dataset Creation	Tue Nov 19 11:30:15 2019
Charted by	Depth in Feet scaled 1:240

Gamma Ray
0 (GAPI) 200
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Differential Temperature
-2 (degF) 2
Temperature
0 (degF) 20
Casing Collar Locator
10 0

3' Amplitude
0 (mV) 100
3' Amplitude x 5
0 (mV) 20
3' Travel Time
300 (usec) 200

5' Variable Density Log
200 (usec) 1200

Sector Map

Average Amplitude
0 150
Mimimum Amplitude
0 150
Maximum Amplitude
0 150

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Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	tep\tep_puckett gm 344-8_rbl_11-18-19\processed_tep_puckett gm 344-8_rbl_11-18-19.db
Dataset Pathname	repeat.2
Presentation Format	ros_rbt004_tep
Dataset Creation	Tue Nov 19 11:34:52 2019
Charted by	Depth in Feet scaled 1:240

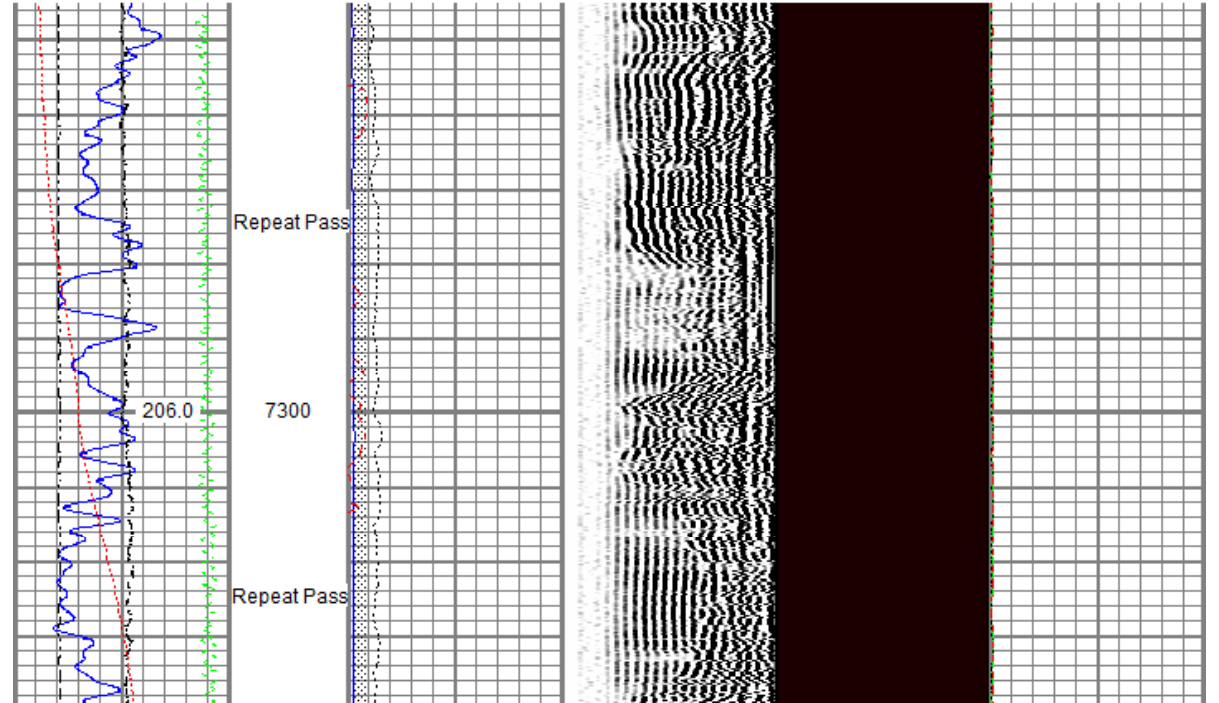
Gamma Ray
0 (GAPI) 200
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Differential Temperature
-2 (degF) 2
Temperature
0 (degF) 20

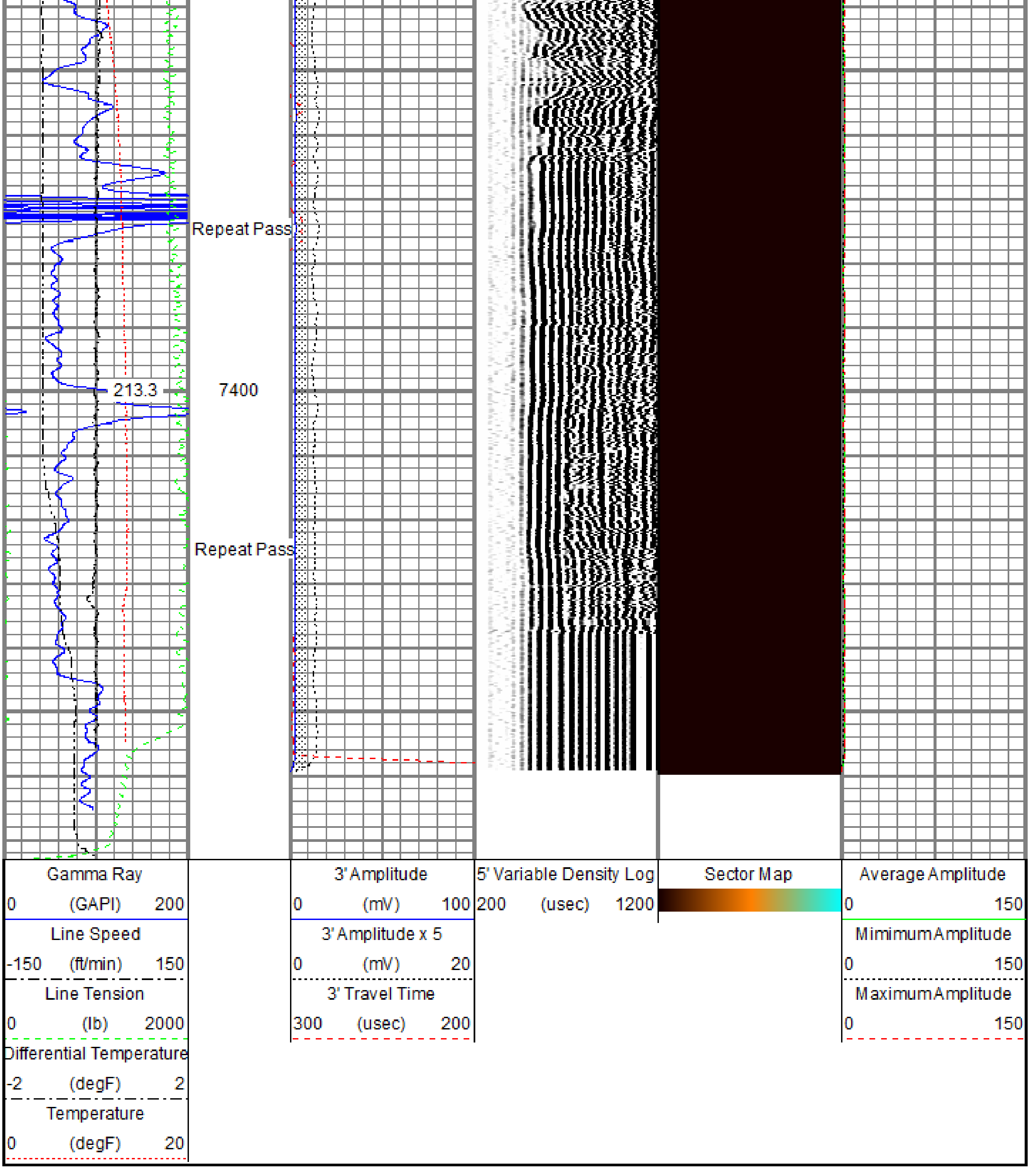
3' Amplitude
0 (mV) 100
3' Amplitude x 5
0 (mV) 20
3' Travel Time
300 (usec) 200

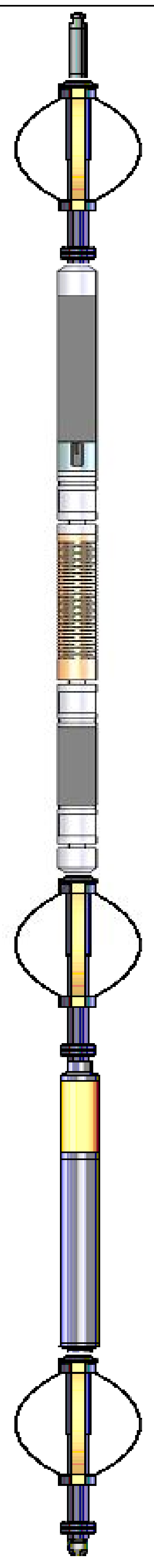
5' Variable Density Log
200 (usec) 1200

Sector Map

Average Amplitude
0 150
Mimimum Amplitude
0 150
Maximum Amplitude
0 150





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	17.00					
			Probe Radii-2750 RBT (120855) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
WVFS8	14.77					
WVFS7	14.77					
WVFS6	14.77					
WVFS5	14.77					
WVFS4	14.77					
WVFS3	14.77					
WVFS2	14.77					
WVFS1	14.77					
WVFCAL	14.77					
WVF3FT	14.77					
WVF5FT	13.77					
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL$2	6.76					
CCL$1	6.76					
GR	5.51		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
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
			GO BN-14375 GO 1-7/16" Bull Nose with Go Box Top	0.25	1.44	1.00

Dataset:	processed_tep_puckett gm 344-8_rbl_11-18-19.db: field/well/run1/main.1
Total length:	23.82 ft
Total weight:	224.60 lb
O.D.:	2.75 in

Calibration Report

Database File	c:\programdata\warrior\data\tep\tep_puckett gm 344-8_rbl_11-18-19\processed_tep_puckett gm 344-8_rbl_1
Dataset Pathname	main.1
Dataset Creation	Tue Nov 19 11:30:15 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:	120855	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	170.797	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.002	0.897	0.800	81.196	89.803	0.614
CAL	0.003	0.760				
5'	0.006	0.764	0.800	81.196	106.108	0.115
SUM						
S1	0.003	0.953	0.000	100.000	105.222	-0.299
S2	0.001	0.947	0.000	100.000	105.798	-0.148
S3	0.003	0.898	0.000	100.000	111.683	-0.295
S4	0.003	0.868	0.000	100.000	115.530	-0.311
S5	0.002	0.837	0.000	100.000	119.681	-0.185
S6	0.002	0.873	0.000	100.000	114.806	-0.255
S7	0.004	0.883	0.000	100.000	113.729	-0.473
S8	0.002	0.926	0.000	100.000	108.240	-0.210

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.003	0.760	1.000	0.000

Air Zero Calibration, performed Mon Nov 18 18:07:41 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:	120855	
Tool Model:	2750 RBT	
Performed:	Mon Oct 01 11:32:15 2018	
	Reference	Reading
Low Reference:	100.00 degF	112.30 degF
High Reference:	350.00 degF	394.75 degF
Gain:	0.89	
Offset:	0.60	
Delta Spacing	1	

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County	Garfield
State	Colorado