RELIANCE OILFIELD SERVICES

Pulsed Neutron Gamma Ray Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Federal GM 313-4
Field	Grand Valley
County	Garfield
State	Colorado

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Location:	API # : 05-045-23504	Other Services	
	753' FSL & 892' FEL SWNE	RBL	
	SEC 5 TWP 7S RGE 96W		
Permanent Datum	Ground Level	Elevation 5977	Elevation
Log Measured From	Kelly Bushing	24 FT	K.B. 6001'
Drilling Measured From	Kelly Bushing		D.F. 6000'
			G.L. 5977'

Date	02-OCT-2017
Run Number	One
Depth Driller	7288 FT
Depth Logger	7234 FT
Bottom Logged Interval	7228 FT
Top Log Interval	3560 FT
Open Hole Size	8.750"
Type Fluid	Fresh Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	--
Estimated Cement Top	--
Time Well Ready	--
Time Logger on Bottom	--
Equipment Number	--
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	7242 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 02-OCT-2017
Log ran from 7228 FT to 3560 FT
PDN data logged with Anteres Pulsed Neutron Tool

Thank you for choosing Reliance Oilfield Services, LLC!!

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Main Pass

Database File	tep\gm 313-4\pdn\tep_federal gm 313-4_pdn_10-02-17.db
Dataset Pathname	federal_gm_313-4_pdn_main_shift
Presentation Format	ros_pdn
Dataset Creation	Wed Oct 04 12:27:23 2017
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	10	RATIO	0	
	Casing Collar Locator		60	SIGMA (cu)	0	
0	Line Speed (ft/min)	100	0.35	RATIC	0	
0	SSIN (cps)	500000	11	RATIN	0	
						0 LS (cps) 0000
						SS
						0 (cps4e+006

0	Gamma Ray (GAPI)	150	10	RATIO	0	
	Casing Collar Locator		60	SIGMA (cu)	0	
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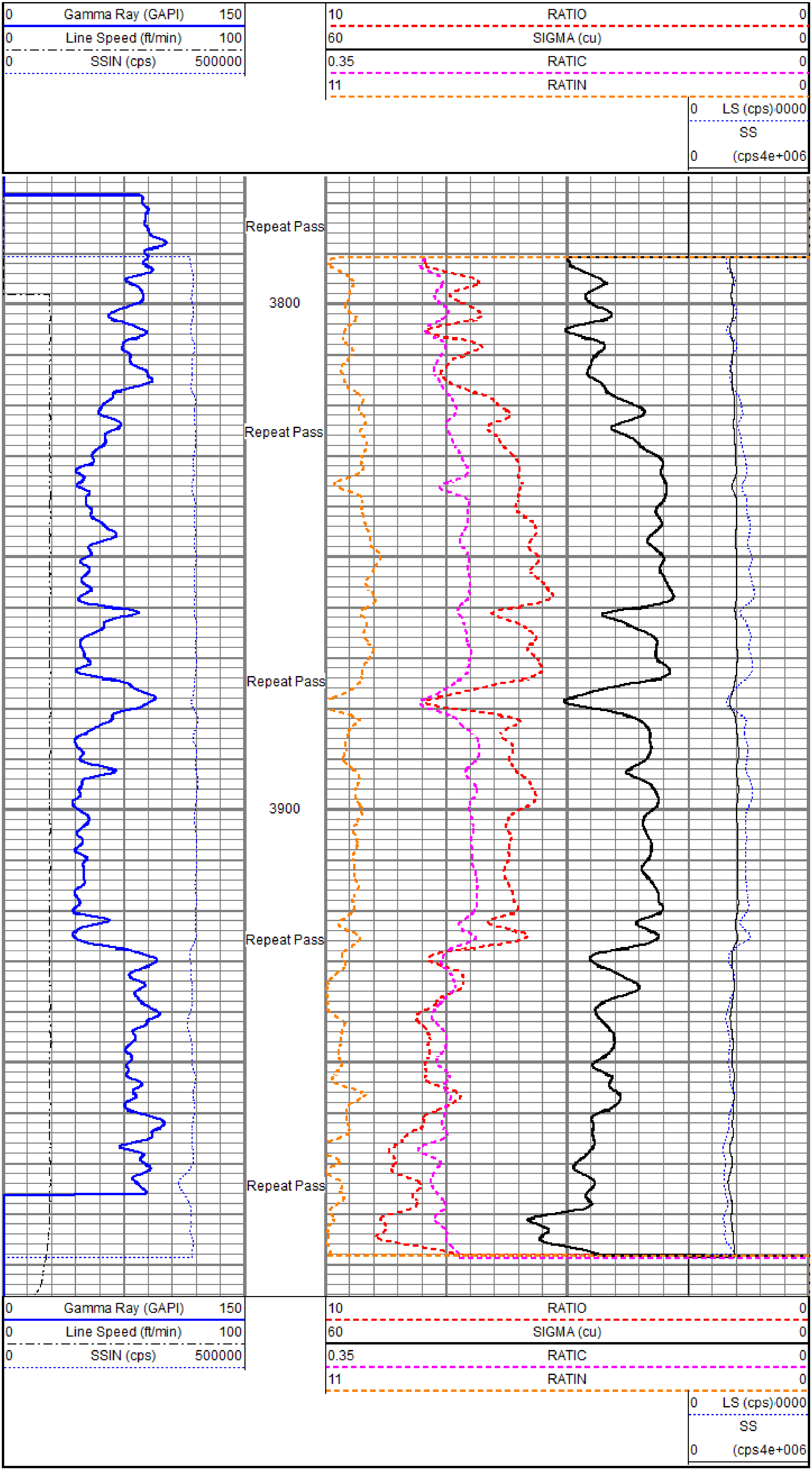
0	SSIN (cps)	500000	11	RATIN	0	
						0 LS (cps) 0000
						SS
						0 (cps4e+006

Repeat Pass

Database File	tep\gm 313-4\pdn\tep_federal gm 313-4_pdn_10-02-17.db
Dataset Pathname	repeat/federal_gm_313-4_pdn_repeat_shift
Presentation Format	ros_pdn
Dataset Creation	Wed Oct 04 14:47:48 2017
Charted by	Depth in Feet scaled 1:240



Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan_Electric_Cable_Heads-Titan_1-11/1 Electric Cable Head with 1" Fishing Neck	1.03	1.69	5.40
			Telemetry-Antares Antares Telemetry / Gamma / CCL	4.07	1.70	17.60
			Generator-Antares Antares Neutron Generator	19.03	1.70	85.80

Dataset:	pdn tool.db: field/well/run1/PDN_Tool_Diagram
Total length:	24.13 ft
Total weight:	108.80 lb
O.D.:	1.70 in

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