RELIANCE OILFIELD SERVICES

Pulsed Neutron
Gamma Ray
Casing Collar Log

Company TEP Rocky Mountain LLC
Well Federal GM 513-4
Field Grand Valley
County Garfield
State Colorado

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Location: API # : 05-045-23507
SEC 5 TWP 7S RGE 96W

Other Services
RBL

Permanent Datum Ground Level Elevation 5977'
Log Measured From Kelly Bushing 24 FT
Drilling Measured From Kelly Bushing

Elevation
K.B. 6001'
D.F. 6000'
G.L. 5977'

Date	30-OCT-2017
Run Number	One
Depth Driller	7066 FT
Depth Logger	7001 FT
Bottom Logged Interval	6994 FT
Top Log Interval	3493 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	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	1022 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	7023 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 28-OCT-2017
Log ran from 6994 FT to 3493 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 513-4\pdn\tep_federal gm 513-4_pdn_10-30-17.db
Dataset Pathname federal_gm_513-4_pdn_main_shift
Presentation Format ros_pdn
Dataset Creation Mon Nov 06 21:58:24 2017
Charted by Depth in Feet scaled 1:240

0 Gamma Ray (GAPI) 150
Casing Collar Locator
0 Line Speed (ft/min) 100
0 SSIN (cps) 500000

10 RATIO 0
60 SIGMA (cu) 0
0.35 RATIC 0
11 RATIN 0

0 LS (cps) 0000
SS
0 (cps4e+006

0 Gamma Ray (GAPI) 150
Casing Collar Locator
0 Line Speed (ft/min) 100
0 SSIN (cps) 500000

10 RATIO 0
60 SIGMA (cu) 0
0.35 RATIC 0
11 RATIN 0

0 LS (cps) 0000
SS
0 (cps4e+006

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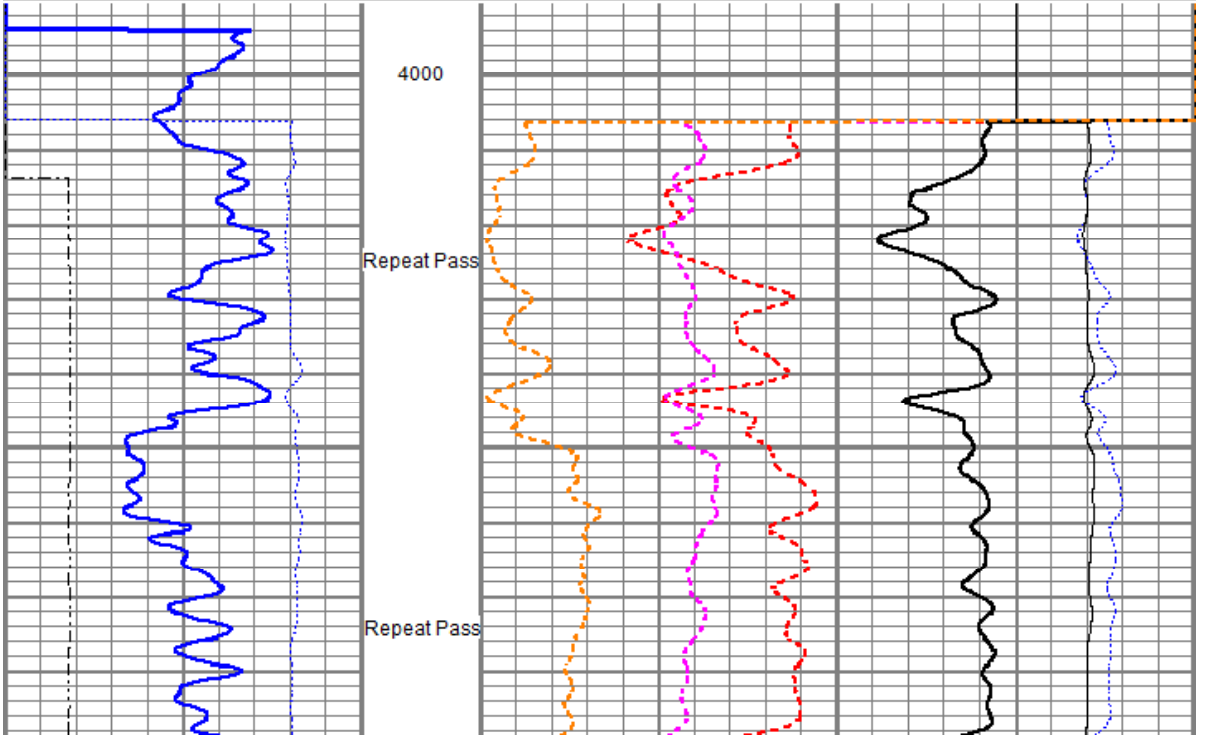
Repeat Pass

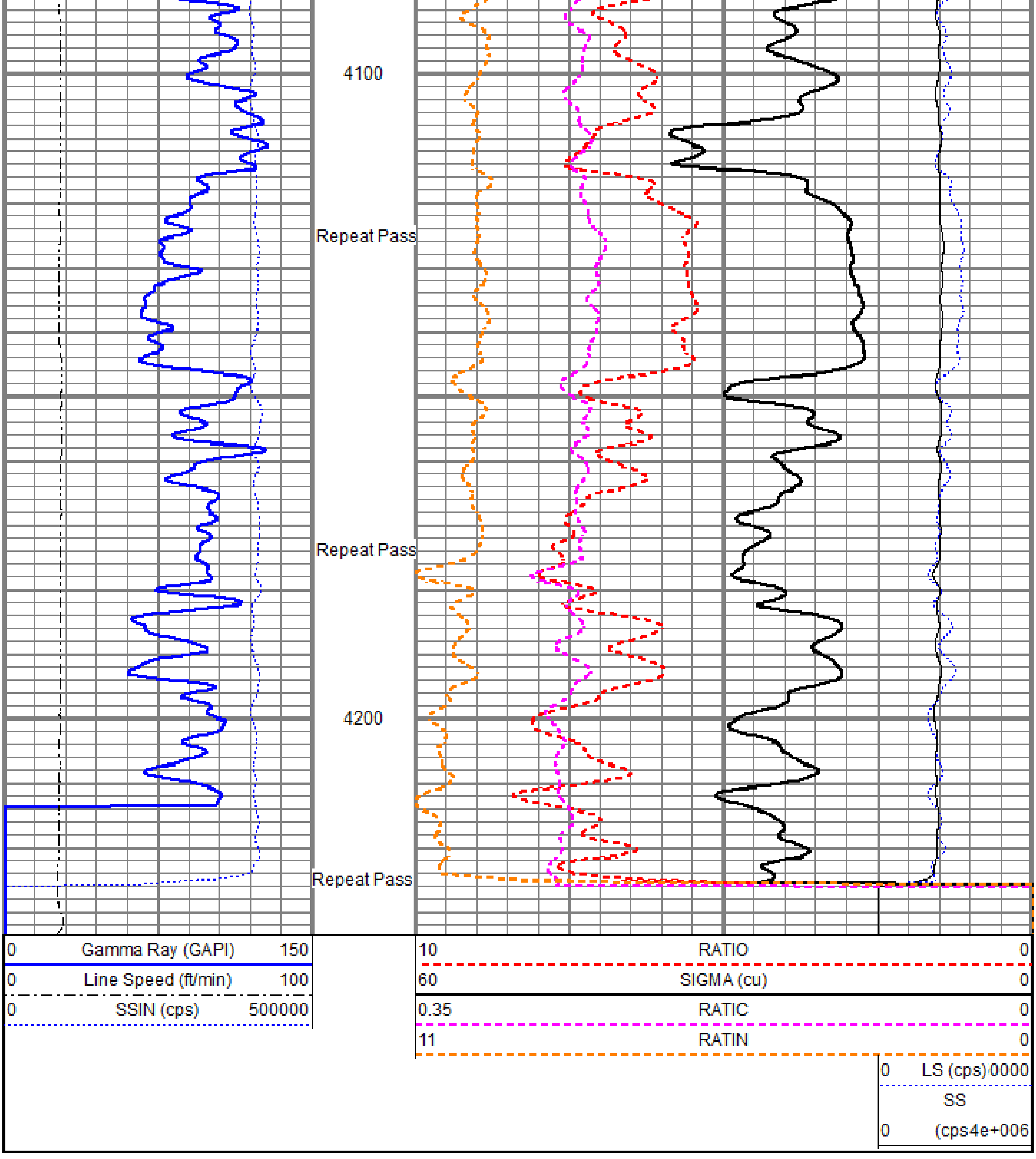
Database File tep\gm 513-4\pdn\tep_federal gm 513-4_pdn_10-30-17.db
Dataset Pathname repeat/federal_gm_513-4_pdn_repeat_shift
Presentation Format ros_pdn
Dataset Creation Tue Nov 07 10:53:34 2017
Charted by Depth in Feet scaled 1:240

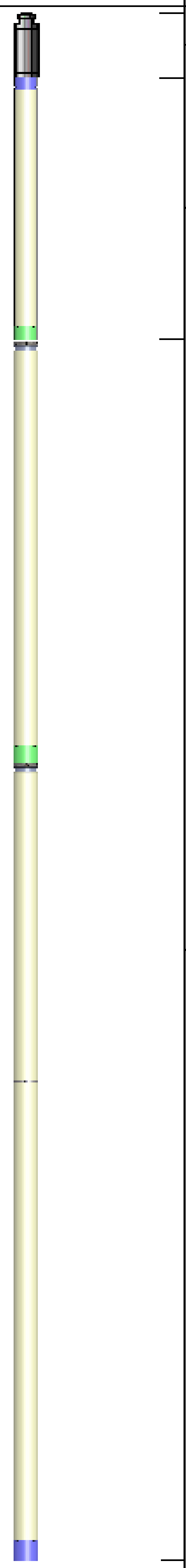
0 Gamma Ray (GAPI) 150
0 Line Speed (ft/min) 100
0 SSIN (cps) 500000

10 RATIO 0
60 SIGMA (cu) 0
0.35 RATIC 0
11 RATIN 0

0 LS (cps) 0000
SS
0 (cps4e+006





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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