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OILFIELD SERVICES

Pulsed Neutron Gamma Ray Casing Collar Log

Company TEP Rocky Mountain LLC
Well Strait Bottom Ranch SG 422-22
Field Grand Valley
County Garfield
State Colorado

Company	TEP Rocky Mountain LLC
Well	Strait Bottom Ranch SG 422-22
Field	Grand Valley
County	Garfield State Colorado
Location:	API # : 05-045-24010
	SEC 22 TWP 7S RGE 96W
Other Services	RBL
Permanent Datum	Ground Level Elevation 5665'
Log Measured From	Kelly Bushing 24 FT
Drilling Measured From	Kelly Bushing
Elevation	K.B. 5689' D.F. 5688' G.L. 5665'

Date	22-APR-2020
Run Number	One
Depth Driller	6037 FT
Depth Logger	5978 FT
Bottom Logged Interval	5972 FT
Top Log Interval	2632 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	ROA
Time Logger on Bottom	10:45
Equipment Number	HD-0359
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	1004 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	5998 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 07-APR-2020
Log ran from 5972 FT to 2632 FT
Pulsed Neutron data logged with the Hunter RAS Tool

Thank you for choosing Reliance Oilfield Services, LLC!

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Main Pass

Database File e:\data\tep\strait bottom ranch sg 422-22\pn\tep_strait bottom ranch sg 422-22_pn_04-22-20.db
Dataset Pathname runSHIFTED/merge1
Presentation Format ros_pdn_hunter
Dataset Creation Thu Apr 30 14:29:01 2020
Charted by Depth in Feet scaled 1:240

0 GR (GAPI) 150
PN Casing Collar Locator
-100 Line Speed (ft/min) 100
0 NIRS (cps) 400000
0 BKGN (cps) 4000
0 BKGF (cps) 2000

4 RNF2 0
60 SIGMA (cu) 0
4.5 RNFI -1
1 PN Porosity (Sandstone) 0
FIS2
0 (cps) 45000
NIS2
0 (cps100000

0 GR (GAPI) 150
PN Casing Collar Locator
-100 Line Speed (ft/min) 100
0 NIRS (cps) 400000
0 BKGN (cps) 4000
0 BKGF (cps) 2000

4 RNF2 0
60 SIGMA (cu) 0
4.5 RNFI -1
1 PN Porosity (Sandstone) 0
FIS2
0 (cps) 45000
NIS2
0 (cps100000

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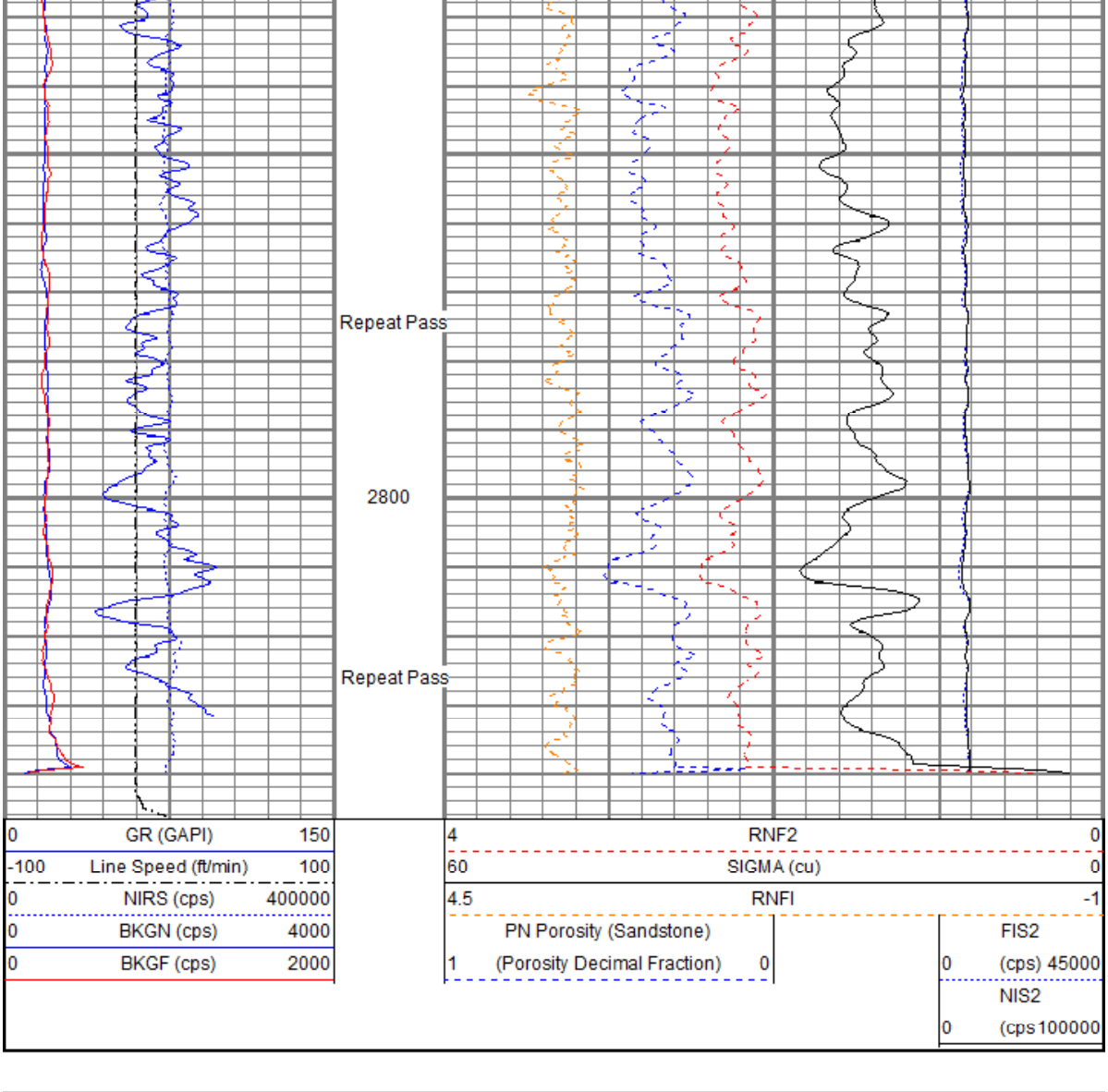
Repeat Pass

Database File e:\data\tep\strait bottom ranch sg 422-22\pn\tep_strait bottom ranch sg 422-22_pn_04-22-20.db
Dataset Pathname repeat.2
Presentation Format ros_pdn_hunter
Dataset Creation Wed Apr 22 14:35:12 2020
Charted by Depth in Feet scaled 1:240

0 GR (GAPI) 150
-100 Line Speed (ft/min) 100
0 NIRS (cps) 400000
0 BKGN (cps) 4000
0 BKGF (cps) 2000

4 RNF2 0
60 SIGMA (cu) 0
4.5 RNFI -1
PN Porosity (Sandstone)
1 (Porosity Decimal Fraction) 0
FIS2
0 (cps) 45000
NIS2
0 (cps100000



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-100 Line Speed (ft/min) 100
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0 BKGN (cps) 4000
0 BKGF (cps) 2000

4 RNF2 0
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PN Porosity (Sandstone)
1 (Porosity Decimal Fraction) 0
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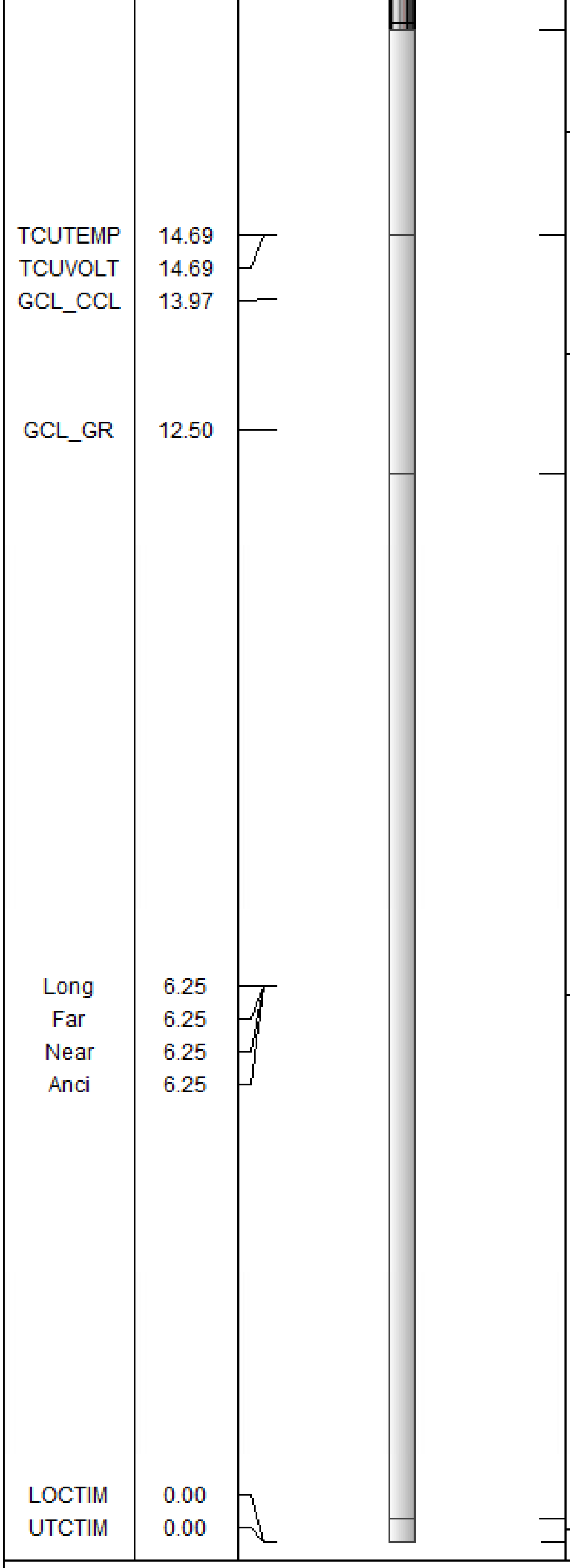
0 (cps) 45000
NIS2
0 (cps100000

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			Titan CHD-16875 GO	1.03	1.69	5.40



Titan 1-11/16" Assembled Electric Cable Head w/ 1" Fishing Neck			
HWS_TCU-002 (001704) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
HWS_GCL-001 (000265) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
HWS_RAS-RAS002 (003041) Hunter Well Science Pulsed Neutron Tool	11.75	1.69	55.82
HWS_TBN-001 (001724) HWS Terminator Bull Nose (1.6875")	0.25	1.69	0.99

Dataset:	tep_strait bottom ranch sg 422-22_pn_04-22-20.db: field/well/run1/main.2
Total length:	18.02 ft
Total weight:	86.48 lb
O.D.:	1.69 in

Calibration Report

Database File	e:\data\tep\strait bottom ranch sg 422-22\pn\tep_strait bottom ranch sg 422-22_pn_04-22-20.db
Dataset Pathname	main.2
Dataset Creation	Wed Apr 22 14:49:01 2020

RAS Calibration Report

Calibration Date: Wed Mar 27 11:57 2020 Meas #: 003041

Water Tank

Description	Curve	Standard	Mean	Dev
Sigma Near	SIGN	23.1	24.2	0.26
Sigma Far	SIGF	22.8	23.6	0.36
Ratio Near-Long Capture	RNL2	5.79	6.43	0.06
Ratio Near-Long Burst	RNLB	6.49	6.75	0.03
Ratio Near-Far Capture	RNF2	1.85	2.00	0.01
Ratio Near-Far Burst	RNFB	2.03	2.16	0.01
Spectral Hydrogen Index	HIS2	12.84	12.51	0.17
Carbon-Oxygen Ratio	CORS	1.34	1.29	0.04
Ratio Burst-Capture Near	RNBC	1.46	1.79	0.01
Ratio Burst-Capture Far	RFBC	1.50	1.71	0.02

Hydrocarbon Tank

Description	Curve	Standard	Mean	Dev
Sigma Near	SIGN	25.7	26.5	0.30
Sigma Far	SIGF	25.1	25.7	0.38
Ratio Near-Long Capture	RNL2	1.78	2.20	0.01
Ratio Near-Long Burst	RNLB	2.57	3.42	0.02
Ratio Near-Far Capture	RNF2	0.98	1.15	0.01
Ratio Near-Far Burst	RNFB	1.30	1.51	0.01
Spectral Hydrogen Index	HIS2	16.68	16.03	0.21
Carbon-Oxygen Ratio	CORS	1.51	1.50	0.04
Ratio Burst-Capture Near	RNBC	2.23	2.55	0.02
Ratio Burst-Capture Far	RFBC	2.09	2.18	0.01

Gamma Ray Calibration Report

Serial Number:	000265	
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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