RELIANCE OILFIELD SERVICES

Pulsed Neutron
Gamma Ray
Casing Collar Log

Company TEP Rocky Mountain LLC
Well Strait Bottom Ranch SG 521-22
Field Grand Valley
County Garfield
State Colorado

Company	TEP Rocky Mountain LLC
Well	Strait Bottom Ranch SG 521-22
Field	Grand Valley
County	Garfield
State	Colorado
API #	05-045-24005
Location:	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. --- G.L. 5665'

Date	20-APR-2020
Run Number	Two
Depth Driller	6381 FT
Depth Logger	6333 FT
Bottom Logged Interval	6327 FT
Top Log Interval	2843 FT
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	---
Estimated Cement Top	---
Time Well Ready	ROA
Time Logger on Bottom	8:15
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	1041 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	6339 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-APR-2020
Log ran from 6327 FT to 2843 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 521-22\pn\tep_strait bottom ranch sg 521-22_pn_04-20-20.db
Dataset Pathname	runSHIFTED/merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Tue Apr 21 15:26:04 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 (cps 100000

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 (cps 100000

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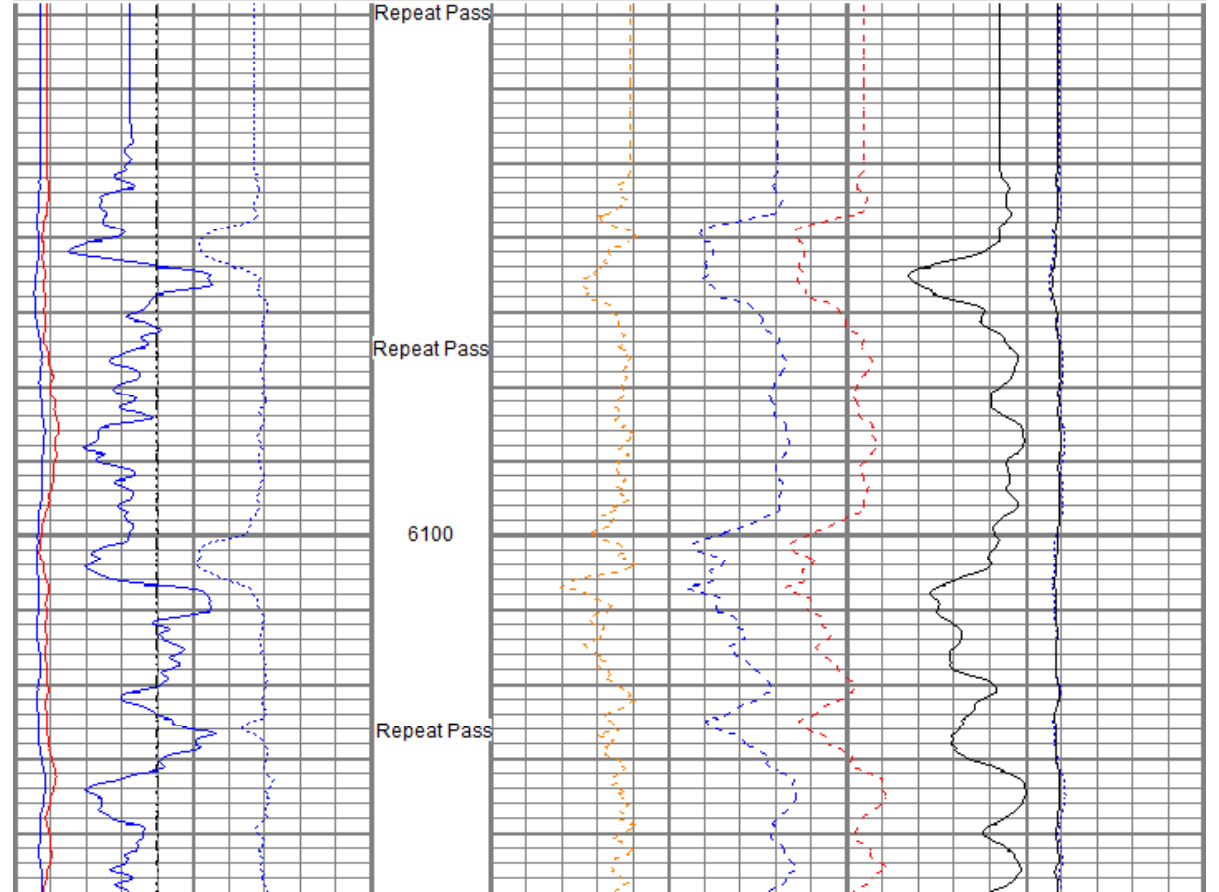
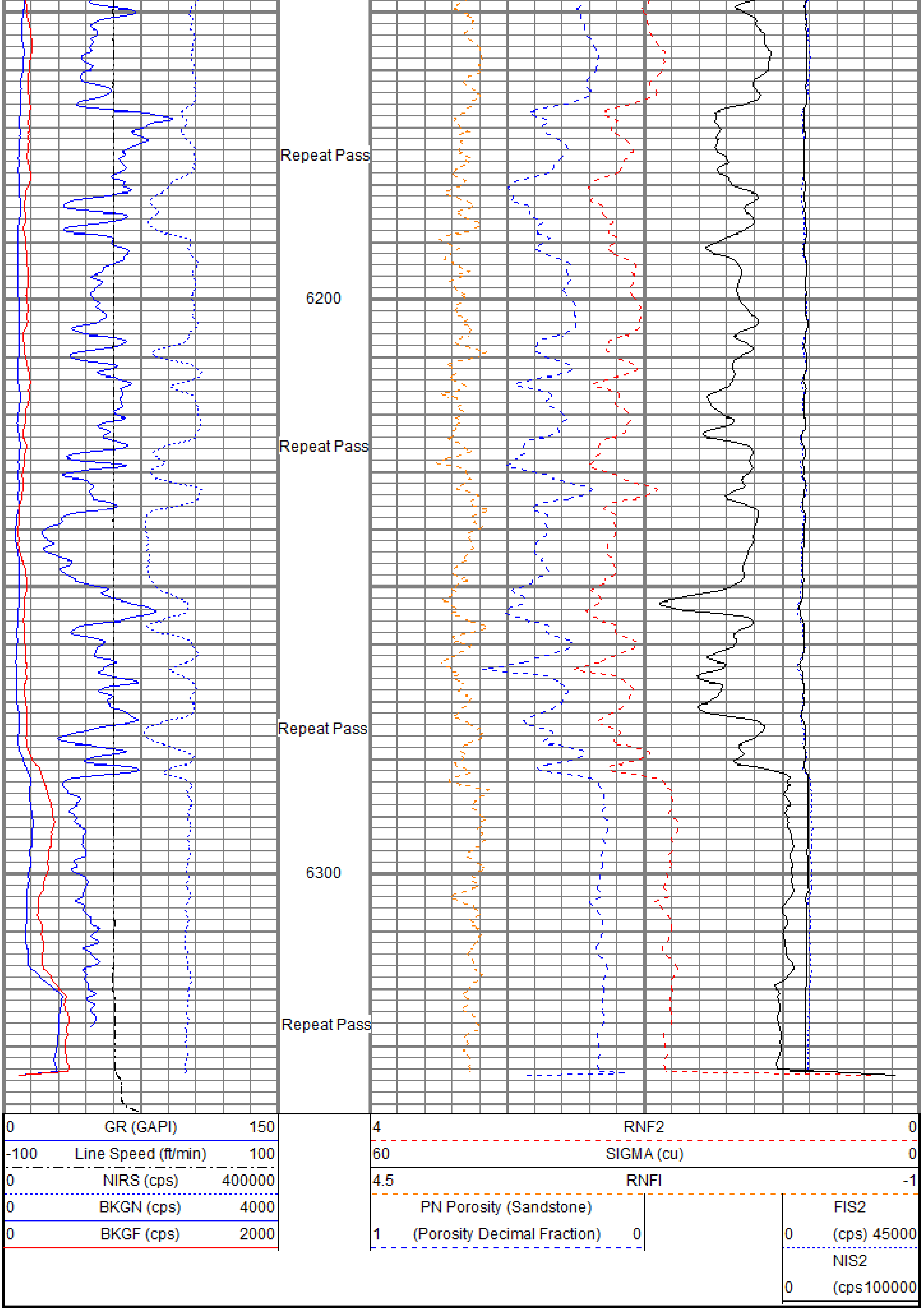
Repeat Pass

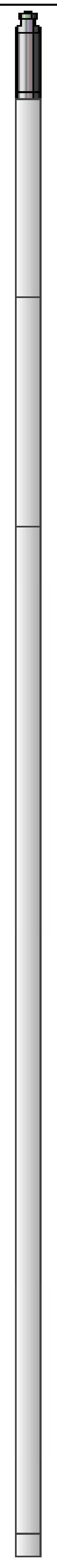
Database File	e:\data\tep\strait bottom ranch sg 521-22\pn\tep_strait bottom ranch sg 521-22_pn_04-20-20.db
Dataset Pathname	main.5
Presentation Format	ros_pdn_hunter
Dataset Creation	Mon Apr 20 14:13:34 2020
Charted by	Depth in Feet scaled 1:240

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 (cps 100000





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			Titan CHD-16875 GO Titan 1-11/16" Assembled Electric Cable Head w/ 1" Fishing Neck	1.03	1.69	5.40
TCUTEMP TCUVOLT	14.69 14.69		HWS_TCU-002 (001704) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
GCL_CCL GCL_GR	13.97 12.50		HWS_GCL-001 (000265) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
Long Far Near Anci	6.25 6.25 6.25 6.25		HWS_RAS-RAS002 (003041) Hunter Well Science Pulsed Neutron Tool	11.75	1.69	55.82
LOCTIM UTCTIM	0.00 0.00		HWS_TBN-001 (001724) HWS Terminator Bull Nose (1.6875")	0.25	1.69	0.99

Dataset: tep_strait bottom ranch sg 521-22_pn_04-20-20.db: field/well/run1/main3.4
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 521-22\pn\tep_strait bottom ranch sg 521-22_pn_04-20-20.db
Dataset Pathname main3.4
Dataset Creation Mon Apr 20 14:12:05 2020

RAS Calibration Report

Calibration Date: Mon Apr 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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