RELIANCE
OILFIELD SERVICES

Pulsed Neutron Gamma Ray Casing Collar Log

Company Laramie Energy LLC
Well CC 0697-04-08E
Field Grand Valley
County Garfield
State Colorado

Company	Laramie Energy LLC
Well	CC 0697-04-08E
Field	Grand Valley
County	Garfield State Colorado
Location:	API # : 05-045-23987
	SEC 4 TWP 6S RGE 97W

Other Services: RBL

Permanent Datum	Ground Level	Elevation	8609'	Elevation
Log Measured From	Kelly Bushing	30 FT		K.B. 8639' D.F. 8638' G.L. 8609'
Drilling Measured From	Kelly Bushing			

Date	12-JUL-2019
Run Number	Two
Depth Driller	9953 FT
Depth Logger	9822 FT
Bottom Logged Interval	9816 FT
Top Log Interval	4415 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	15:15
Equipment Number	HD-0331
Location	Grand Junction, CO
Recorded By	Z. Fisher
Witnessed By	Eugene Lucero

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	36	--	Surface	2568 FT
Intermediate #1	4 1/2	11.6	--	Surface	9943 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 12-JUL-2019
Log ran from 9816 FT to 4415 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	f:\data\laramie\cc 0697-04-08e\laramie energy_cc 0697-04-08e_pn_07-12-19.db
Dataset Pathname	runSHIFTED/merge2
Presentation Format	ros_pdn_hunter
Dataset Creation	Wed Jul 17 10:49:52 2019
Charted by	Depth in Feet scaled 1:240

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

4	RNF2	0
60	SIGMA (cu)	0
4.5	RNFI	0
0	FIS2	45000
0	NIS2	100000

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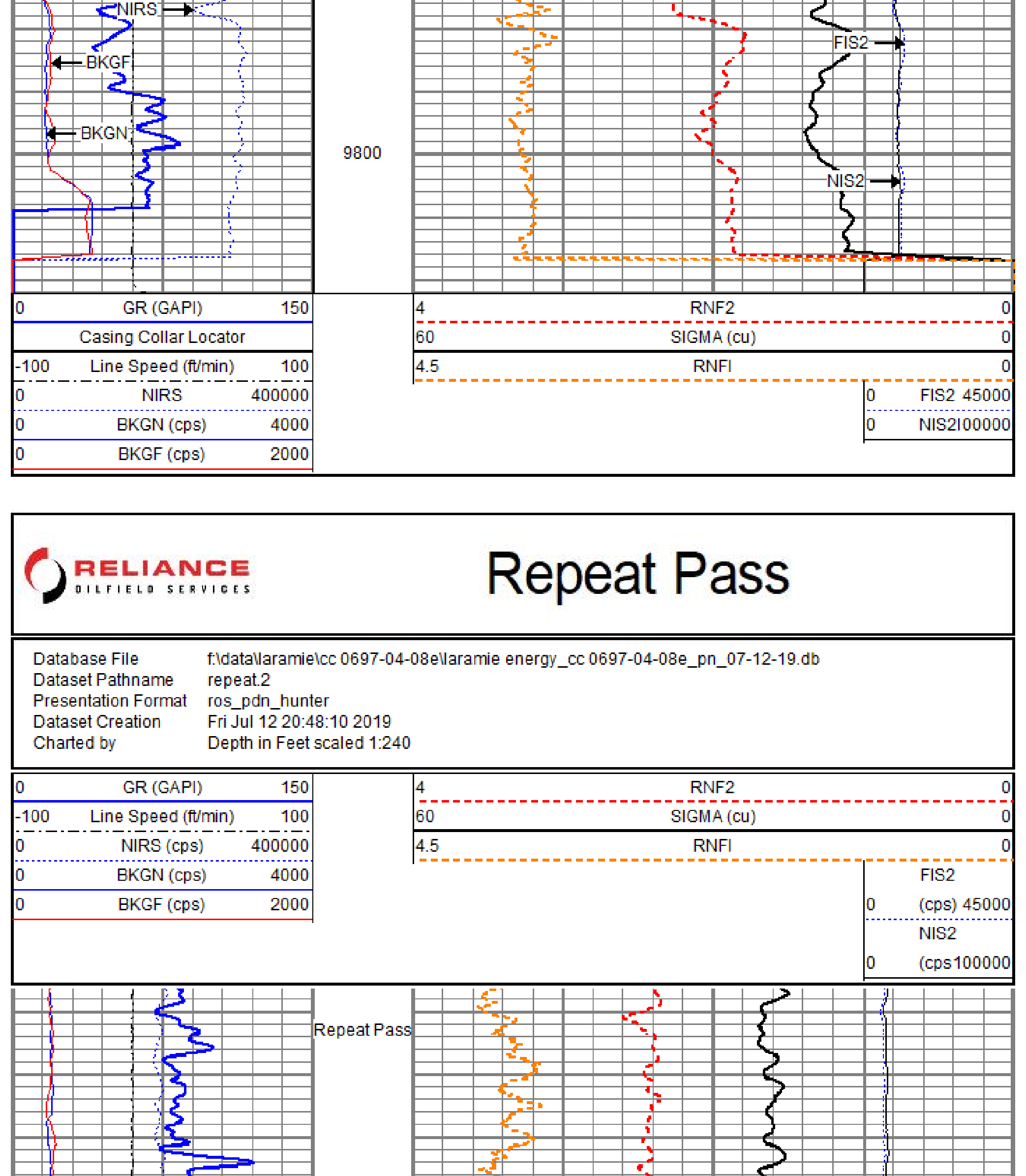
Repeat Pass

Database File f:\data\laramie\cc 0697-04-08e\laramie energy_cc 0697-04-08e_pn_07-12-19.db
Dataset Pathname repeat.2
Presentation Format ros_pdn_hunter
Dataset Creation Fri Jul 12 20:48:10 2019
Charted by Depth in Feet scaled 1:240

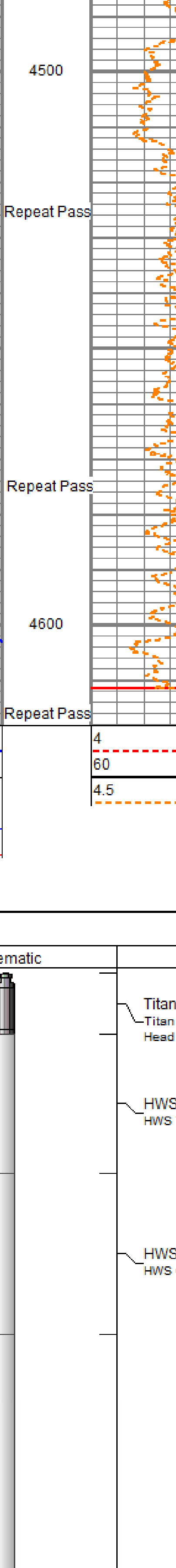
0	GR (GAPI)	150
-100	Line Speed (ft/min)	100
0	NIRS (cps)	400000
0	BKGN (cps)	4000
0	BKGF (cps)	2000

4	RNF2	0
60	SIGMA (cu)	0
4.5	RNFI	0
0	FIS2 (cps)	45000
0	NIS2 (cps	100000



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	0
0	FIS2 (cps)	45000
0	NIS2 (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
			HWS_TCU-002 (001705) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
TCUTEMP TCUVOLT GCL_CCL	14.69 14.69 13.97					
			HWS_GCL-001 (001475) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
GCL_GR GCL_GR	12.50 12.50					
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
			HWS_TBN-001 (001725) HWS Terminator Bull Nose (1.6875")	0.25	1.69	0.99

Dataset:	laramie energy_cc 0697-04-08e_pn_07-12-19.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	f:\data\laramie\cc 0697-04-08e\laramie energy_cc 0697-04-08e_pn_07-12-19.db
Dataset Pathname	main.2
Dataset Creation	Fri Jul 12 20:46:45 2019

Gamma Ray Calibration Report

Serial Number:	001475	
Tool Model:	001	
Performed:	Fri Oct 19 14:55:00 2018	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	
Calibrator Reading:	1.0	
Sensitivity:	1.0000	GAPI/

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