
**UIC CLASS V
QUARTERLY REPORT
for the
LOST CREEK ISR PROJECT
2nd Quarter 2017**



**LOST CREEK ISR, LLC
SWEETWATER COUNTY, WY**

UIC PERMIT 15-081

**Prepared by Ur-Energy for
Wyoming Department of Environmental Quality -
Water Quality Division – Underground Injection Control**

July 28, 2017



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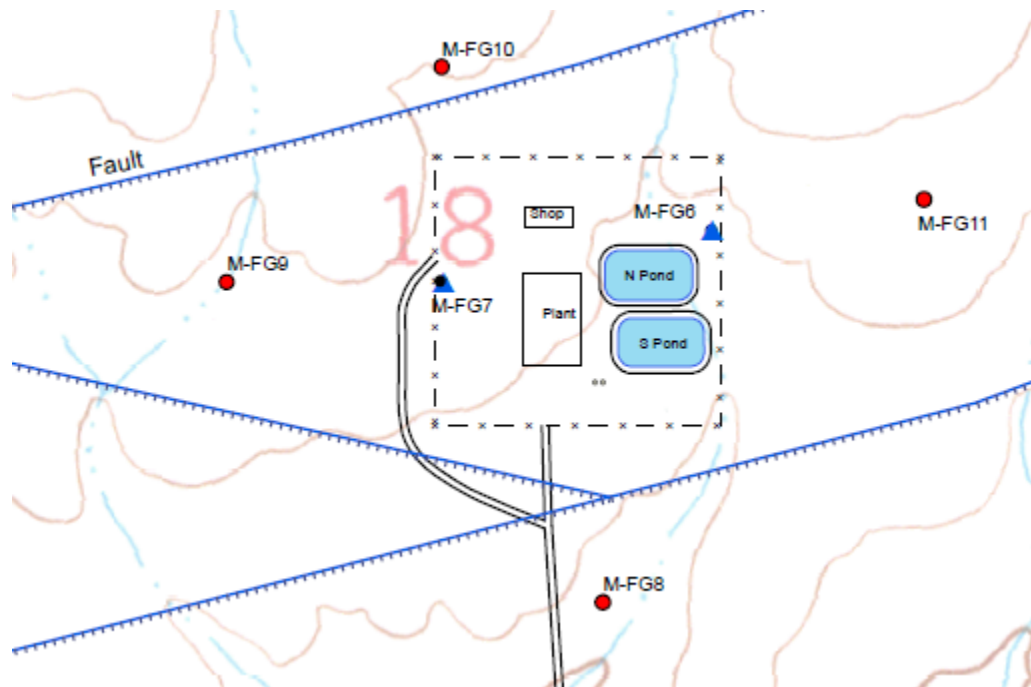
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1.0 Introduction

The period covered by this report is the second calendar quarter of 2017 from April 1 to June 30, 2017.

Two Class V injection wells were available for operation during the reporting period: M-FG6 and M-FG7. Well locations (labeled) are shown below in relation to the Plant area:

FIGURE 1: Well Locations



Well M-FG7 was operated intermittently during the quarter. Operational data was monitored and recorded electronically and also recorded manually by operator each day of operation.

As per permit requirements, the following elements from Section 9b of the UIC Permit have been included in this report:

1. *Injection rates for each month of the quarter, including:*
 - i. *Minimum instantaneous*
 - ii. *Volume-weighted average*
 - iii. *Maximum instantaneous*
 - iv. *Maximum permitted injection rate*
2. *Injection pressure for each month of the quarter, including:*
 - i. *Minimum daily*
 - ii. *Average daily*
 - iii. *Maximum daily*



- iv. *Maximum permitted injection pressure*
- v. *Pressures at which alarms or kill switches are activated*
- 3. *Injection volume per well, including:*
 - i. *Total volume for each month*
 - ii. *Total volume for the quarter*
 - iii. *Total volume to date*
- 4. *Analytical results required by Table 6 of the permit.*
- 5. *Any permit exceedances within the quarter.*
- 6. *Description of all events that triggered alarms or shutdowns and the responses taken during the quarter.*
- 7. *Reports for any well tests or well work overs conducted more than thirty days before the end of the quarter.*

2.0 Summary Data

Tables 1A and 1B below provide a data summary for above items 1, 2, and 3 above. Data for item 2 above is provided in Appendix 1 including tables and charts of the daily injection pressure values.

TABLE 1A: Operational Data Summary for M-FG7

PARAMETER	UNITS	M-FG7			
		April 2017	May 2017	June 2017	Quarterly Total/Avg Min/Max
Operation Time	min	3,451	9,586	6,940	19,977
% Run Time	%	8%	21%	16%	15%
Injection Rate Minimum Instantaneous	gpm	0	0	0	0
Injection Rate Average (TWA)	gpm	127	59	18	68
Injection Rate Maximum Instantaneous	gpm	161	176	192	192
Injection Rate Maximum Permit Limit	gpm	200			200
Injection Pressure Daily Minimum	psig	0.00	0.00	0.00	0.00
Injection Pressure Daily Average	psig	0.01	0.02	0.11	0.04
Injection Pressure Daily Maximum	psig	0.75	2.20	7.60	7.60
Injection Pressure Permit Limit (LSIP)	psig	45			45
Injection Pressure Automatic Kill	psig	45			45
Injection Volume	gal	439,859	561,045	122,027	1,122,931
Injection Volume	bbl	10,473	13,358	2,905	26,736



TABLE 1B: Operational Data Summary for M-FG6

PARAMETER	UNITS	M-FG6			
		April 2017	May 2017	June 2017	Quarterly Total/Avg Min/Max
Operation Time	min	0	0	0	0
% Run Time	%	0%	0%	0%	0%
Injection Rate Minimum Instantaneous	gpm	0	0	0	0
Injection Rate Average (TWA)	gpm	0	0	0	0
Injection Rate Maximum Instantaneous	gpm	0	0	0	0
Injection Rate Maximum Permit Limit	gpm	200			200
Injection Pressure Daily Minimum	psig	0	0	0	0
Injection Pressure Daily Average	psig	0	0	0	0
Injection Pressure Daily Maximum	psig	0	0	0	0
Injection Pressure Permit Limit (LSIP)	psig	45			45
Injection Pressure Automatic Kill	psig	45			45
Injection Volume	gal	0	0	0	0
Injection Volume	bbl	0	0	0	0

TABLE 2: Cumulative Injection Volumes to Date

TIME PERIOD	UNITS	M-FG7	M-FG6
2017Q1	bbl	11,295	0
2017Q2	bbl	26,736	0
CUMULATIVE TOTAL TO DATE	bbl	38,031	0



3.0 Analytical Results

A quarterly grab sample of the injectate was collected from the Plant waste water line upstream of the branch points to each individual well. Sample parameters pH, conductivity, and temperature were measured with a field meter at the sampling site and other applicable parameters were analyzed by Energy Laboratories in Casper, WY. Results of the sample analyses are summarized in **Table 3** below and the associated lab report is included as **Appendix 2**.

TABLE 3: Injectate Analytical Results

Sample ID: Class V Grab				
Sample Date: 5/5/2017				
Lab Analyte or Parameter	Method Used	Results	Units	Permit Limit
Temperature, field	<i>SM2550B</i>	13.0	°C	---
pH, field	<i>SM4500-H*B</i>	6.92	s.u.	6.5≤pH≤9.0
Specific Gravity	<i>D1429</i>	1.000	---	---
Total Dissolved Solids	<i>SM2540C</i>	321	mg/L	500 mg/L
Uranium, total	<i>E200.8</i>	0.0358	mg/L	0.158 mg/L
Lead-210, total	<i>E909.0</i>	ND(1.2)	pCi/L	10 pCi/L
Polonium-210, total	<i>H Po-02-RC</i>	0.1	pCi/L	40 pCi/L
Thorium-230, total	<i>E908.0</i>	0.2	pCi/L	100 pCi/L
Radium 226 + 228, total	<i>E903.0 / RA-05</i>	0.6	pCi/L	5.4 pCi/L
Gross Alpha-Adjusted, total	<i>E900.0</i>	8.9	pCi/L	57 pCi/L
Gross Beta, total	<i>E900.0</i>	6.6	pCi/L	15 pCi/L

None of the analytical results exceeded the Permit Limits.

Semi-annual samples were collected from the 4 monitoring wells M-FG8, 9, 10, and 11 and submitted to Energy Laboratories in Casper, WY. The results were not yet available as of the report due date.

4.0 Permit Exceedances

No exceedances of operational limits occurred during the quarter.



5.0 Alarms, Shut-Downs, and Corrective Actions

Intermittent operation of the injection system or batch processing was typical. No emergency shutdowns had occurred during the quarter.

6.0 Summary of Well Tests or Workovers

No well tests or workovers occurred during the quarter.



APPENDIX 1

**APPENDIX 1: Daily Injection Pressures
M-FG7 2nd Quarter 2017
Lost Creek ISR Project 15-081**

Date	Daily Minimum Injection Pressure (psi)	Daily Average Injection Pressure (psi)	Daily Maximum Injection Pressure (psi)	Automatic Shutdown Pressure (psi)	Maximum Injection Pressure Limit (psi)	Comments
4/1/2017	-0.02	0.01	0.02	45	45	
4/2/2017	-0.01	0.01	0.02	45	45	
4/3/2017	-1.49	0.00	0.10	45	45	
4/4/2017	-0.06	0.01	0.02	45	45	
4/5/2017	-0.04	-0.01	0.03	45	45	
4/6/2017	-0.27	0.00	0.02	45	45	
4/7/2017	-0.08	0.00	0.02	45	45	
4/8/2017	-0.01	0.01	0.02	45	45	
4/9/2017	-0.01	0.01	0.02	45	45	
4/10/2017	-1.32	-0.01	0.23	45	45	
4/11/2017	-2.03	0.00	0.30	45	45	
4/12/2017	-1.35	0.00	0.10	45	45	
4/13/2017	-0.16	0.00	0.02	45	45	
4/14/2017	-0.02	0.00	0.02	45	45	
4/15/2017	-0.02	0.00	0.01	45	45	
4/16/2017	-0.02	0.00	0.02	45	45	
4/17/2017	-1.48	0.00	0.75	45	45	
4/18/2017	-0.28	0.00	0.29	45	45	
4/19/2017	-1.44	0.00	0.02	45	45	
4/20/2017	-2.34	0.00	0.55	45	45	
4/21/2017	-0.01	0.01	0.02	45	45	
4/22/2017	-0.02	0.00	0.02	45	45	
4/23/2017	-0.02	0.00	0.02	45	45	
4/24/2017	-0.01	0.01	0.02	45	45	
4/25/2017	-1.02	0.00	0.42	45	45	
4/26/2017	-0.29	0.00	0.23	45	45	
4/27/2017	-0.09	0.00	0.09	45	45	
4/28/2017	-0.02	0.00	0.02	45	45	
4/29/2017	-0.02	0.00	0.02	45	45	
4/30/2017	-0.01	0.00	0.02	45	45	
5/1/2017	-1.16	0.00	0.02	45	45	
5/2/2017	-0.01	0.01	0.02	45	45	
5/3/2017	-1.31	-0.01	0.26	45	45	
5/4/2017	-1.62	0.00	0.68	45	45	
5/5/2017	-2.00	0.00	0.24	45	45	
5/6/2017	-0.02	0.00	0.01	45	45	
5/7/2017	-0.01	0.00	0.01	45	45	
5/8/2017	-0.18	0.00	0.04	45	45	
5/9/2017	-0.02	0.00	0.02	45	45	
5/10/2017	-0.22	0.00	0.02	45	45	
5/11/2017	-1.60	-0.01	0.68	45	45	
5/12/2017	-0.31	-0.01	0.01	45	45	

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M-FG7 2nd Quarter 2017
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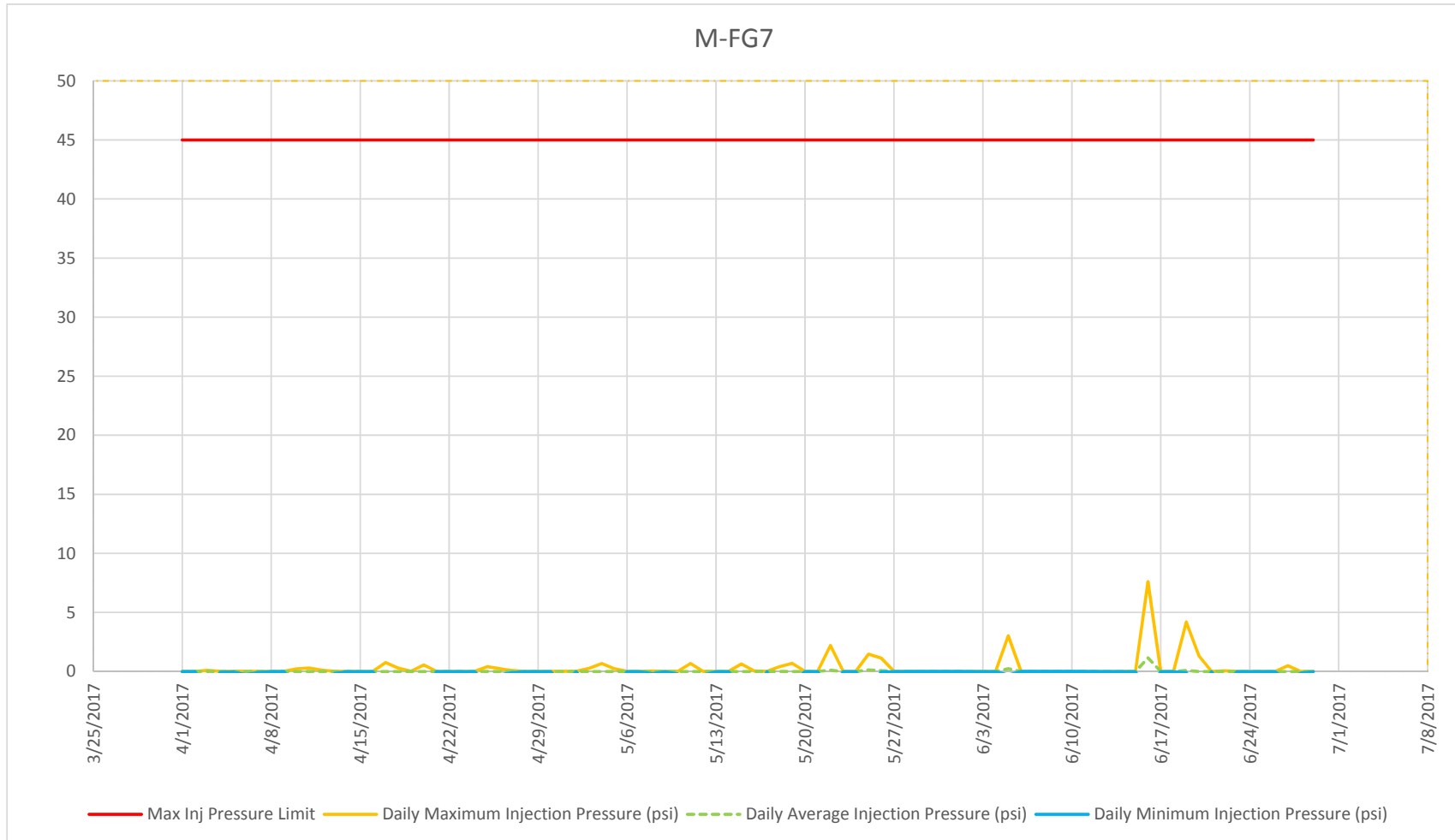
Date	Daily Minimum Injection Pressure (psi)	Daily Average Injection Pressure (psi)	Daily Maximum Injection Pressure (psi)	Automatic Shutdown Pressure (psi)	Maximum Injection Pressure Limit (psi)	Comments
5/13/2017	-0.02	0.00	0.01	45	45	
5/14/2017	-0.02	0.00	0.01	45	45	
5/15/2017	-1.30	-0.01	0.63	45	45	
5/16/2017	-1.97	-0.01	0.05	45	45	
5/17/2017	-0.02	0.00	0.01	45	45	
5/18/2017	-1.71	0.01	0.41	45	45	
5/19/2017	-0.80	0.00	0.69	45	45	
5/20/2017	-0.02	0.00	0.02	45	45	
5/21/2017	-0.02	0.00	0.02	45	45	
5/22/2017	-1.71	0.10	2.20	45	45	
5/23/2017	-0.02	0.00	0.01	45	45	
5/24/2017	-0.02	0.00	0.01	45	45	
5/25/2017	-1.39	0.13	1.47	45	45	
5/26/2017	-0.04	0.07	1.13	45	45	
5/27/2017	-0.02	0.00	0.02	45	45	
5/28/2017	-0.01	0.01	0.02	45	45	
5/29/2017	0.00	0.00	0.00	45	45	
5/30/2017	0.00	0.00	0.00	45	45	
5/31/2017	0.00	0.00	0.00	45	45	
6/1/2017	0.00	0.00	0.00	45	45	
6/2/2017	-0.02	-0.01	0.01	45	45	
6/3/2017	-0.02	0.00	0.01	45	45	
6/4/2017	-0.02	0.00	0.01	45	45	
6/5/2017	-0.30	0.23	3.02	45	45	
6/6/2017	0.00	0.00	0.00	45	45	
6/7/2017	0.00	0.00	0.00	45	45	
6/8/2017	0.00	0.00	0.00	45	45	
6/9/2017	0.00	0.00	0.00	45	45	
6/10/2017	0.00	0.00	0.00	45	45	
6/11/2017	0.00	0.00	0.00	45	45	
6/12/2017	-0.01	-0.01	-0.01	45	45	
6/13/2017	-0.02	0.00	0.01	45	45	
6/14/2017	-0.02	0.00	0.01	45	45	
6/15/2017	-0.02	0.00	0.01	45	45	
6/16/2017	-1.74	1.15	7.60	45	45	
6/17/2017	-0.02	0.00	0.01	45	45	
6/18/2017	-0.02	0.00	0.02	45	45	
6/19/2017	-0.09	0.09	4.19	45	45	
6/20/2017	-1.83	0.00	1.31	45	45	
6/21/2017	-0.02	-0.01	0.01	45	45	
6/22/2017	-1.20	-0.01	0.07	45	45	
6/23/2017	-0.02	-0.01	0.01	45	45	

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M-FG7 2nd Quarter 2017
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Date	Daily Minimum Injection Pressure (psi)	Daily Average Injection Pressure (psi)	Daily Maximum Injection Pressure (psi)	Automatic Shutdown Pressure (psi)	Maximum Injection Pressure Limit (psi)	Comments
6/24/2017	-0.02	-0.01	0.01	45	45	
6/25/2017	-0.02	-0.01	0.01	45	45	
6/26/2017	-0.02	-0.01	0.01	45	45	
6/27/2017	-0.81	-0.01	0.49	45	45	
6/28/2017	-0.13	-0.01	0.01	45	45	
6/29/2017	-0.02	0.00	0.01	45	45	
6/30/2017	-0.02	0.00	0.01	45	45	

psi: pounds per square inch

APPENDIX 1: Daily Injection Pressures
M-FG7 2nd Quarter 2017
Lost Creek ISR Project 15-081



**APPENDIX 1: Daily Injection Pressures
M-FG6 2nd Quarter 2017
Lost Creek ISR Project 15-081**

Date	Daily Minimum Injection Pressure (psi)	Daily Average Injection Pressure (psi)	Daily Maximum Injection Pressure (psi)	Automatic Shutdown Pressure (psi)	Maximum Injection Pressure Limit (psi)	Comments
4/1/2017	0.00	0.00	0.00	45	45	
4/2/2017	0.00	0.00	0.00	45	45	
4/3/2017	0.00	0.00	0.00	45	45	
4/4/2017	0.00	0.00	0.00	45	45	
4/5/2017	0.00	0.00	0.00	45	45	
4/6/2017	0.00	0.00	0.00	45	45	
4/7/2017	0.00	0.00	0.00	45	45	
4/8/2017	0.00	0.00	0.00	45	45	
4/9/2017	0.00	0.00	0.00	45	45	
4/10/2017	0.00	0.00	0.00	45	45	
4/11/2017	0.00	0.00	0.00	45	45	
4/12/2017	0.00	0.00	0.00	45	45	
4/13/2017	0.00	0.00	0.00	45	45	
4/14/2017	0.00	0.00	0.00	45	45	
4/15/2017	0.00	0.00	0.00	45	45	
4/16/2017	0.00	0.00	0.00	45	45	
4/17/2017	0.00	0.00	0.00	45	45	
4/18/2017	0.00	0.00	0.00	45	45	
4/19/2017	0.00	0.00	0.00	45	45	
4/20/2017	0.00	0.00	0.00	45	45	
4/21/2017	0.00	0.00	0.00	45	45	
4/22/2017	0.00	0.00	0.00	45	45	
4/23/2017	0.00	0.00	0.00	45	45	
4/24/2017	0.00	0.00	0.00	45	45	
4/25/2017	0.00	0.00	0.00	45	45	
4/26/2017	0.00	0.00	0.00	45	45	
4/27/2017	0.00	0.00	0.00	45	45	
4/28/2017	0.00	0.00	0.00	45	45	
4/29/2017	0.00	0.00	0.00	45	45	
4/30/2017	0.00	0.00	0.00	45	45	
5/1/2017	0.00	0.00	0.00	45	45	
5/2/2017	0.00	0.00	0.00	45	45	
5/3/2017	0.00	0.00	0.00	45	45	
5/4/2017	0.00	0.00	0.00	45	45	
5/5/2017	0.00	0.00	0.00	45	45	
5/6/2017	0.00	0.00	0.00	45	45	
5/7/2017	0.00	0.00	0.00	45	45	
5/8/2017	0.00	0.00	0.00	45	45	
5/9/2017	0.00	0.00	0.00	45	45	
5/10/2017	0.00	0.00	0.00	45	45	
5/11/2017	0.00	0.00	0.00	45	45	
5/12/2017	0.00	0.00	0.00	45	45	

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M-FG6 2nd Quarter 2017
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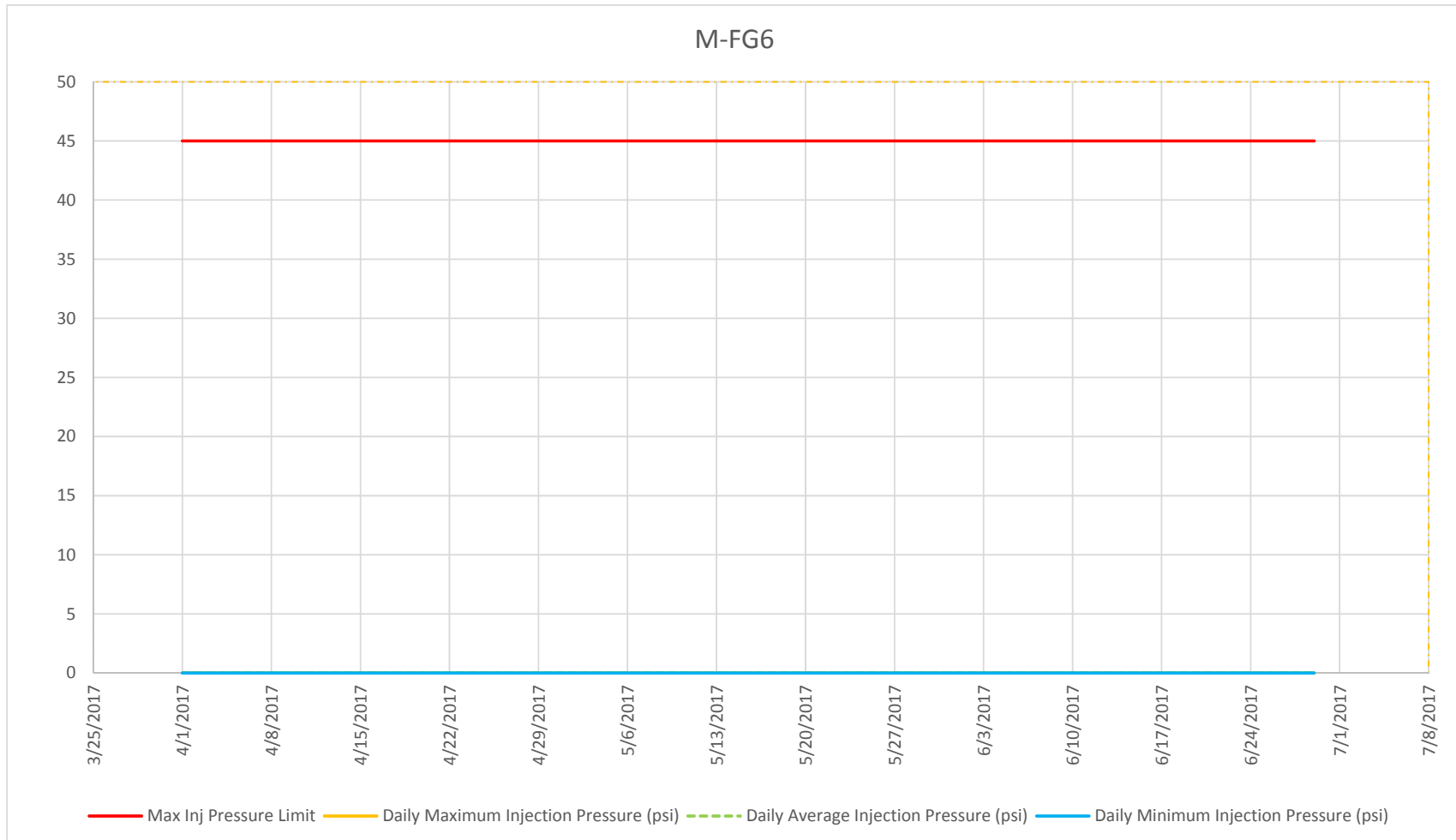
Date	Daily Minimum Injection Pressure (psi)	Daily Average Injection Pressure (psi)	Daily Maximum Injection Pressure (psi)	Automatic Shutdown Pressure (psi)	Maximum Injection Pressure Limit (psi)	Comments
5/13/2017	0.00	0.00	0.00	45	45	
5/14/2017	0.00	0.00	0.00	45	45	
5/15/2017	0.00	0.00	0.00	45	45	
5/16/2017	0.00	0.00	0.00	45	45	
5/17/2017	0.00	0.00	0.00	45	45	
5/18/2017	0.00	0.00	0.00	45	45	
5/19/2017	0.00	0.00	0.00	45	45	
5/20/2017	0.00	0.00	0.00	45	45	
5/21/2017	0.00	0.00	0.00	45	45	
5/22/2017	0.00	0.00	0.00	45	45	
5/23/2017	0.00	0.00	0.00	45	45	
5/24/2017	0.00	0.00	0.00	45	45	
5/25/2017	0.00	0.00	0.00	45	45	
5/26/2017	0.00	0.00	0.00	45	45	
5/27/2017	0.00	0.00	0.00	45	45	
5/28/2017	0.00	0.00	0.00	45	45	
5/29/2017	0.00	0.00	0.00	45	45	
5/30/2017	0.00	0.00	0.00	45	45	
5/31/2017	0.00	0.00	0.00	45	45	
6/1/2017	0.00	0.00	0.00	45	45	
6/2/2017	0.00	0.00	0.00	45	45	
6/3/2017	0.00	0.00	0.00	45	45	
6/4/2017	0.00	0.00	0.00	45	45	
6/5/2017	0.00	0.00	0.00	45	45	
6/6/2017	0.00	0.00	0.00	45	45	
6/7/2017	0.00	0.00	0.00	45	45	
6/8/2017	0.00	0.00	0.00	45	45	
6/9/2017	0.00	0.00	0.00	45	45	
6/10/2017	0.00	0.00	0.00	45	45	
6/11/2017	0.00	0.00	0.00	45	45	
6/12/2017	0.00	0.00	0.00	45	45	
6/13/2017	0.00	0.00	0.00	45	45	
6/14/2017	0.00	0.00	0.00	45	45	
6/15/2017	0.00	0.00	0.00	45	45	
6/16/2017	0.00	0.00	0.00	45	45	
6/17/2017	0.00	0.00	0.00	45	45	
6/18/2017	0.00	0.00	0.00	45	45	
6/19/2017	0.00	0.00	0.00	45	45	
6/20/2017	0.00	0.00	0.00	45	45	
6/21/2017	0.00	0.00	0.00	45	45	
6/22/2017	0.00	0.00	0.00	45	45	
6/23/2017	0.00	0.00	0.00	45	45	

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M-FG6 2nd Quarter 2017
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Date	Daily Minimum Injection Pressure (psi)	Daily Average Injection Pressure (psi)	Daily Maximum Injection Pressure (psi)	Automatic Shutdown Pressure (psi)	Maximum Injection Pressure Limit (psi)	Comments
6/24/2017	0.00	0.00	0.00	45	45	
6/25/2017	0.00	0.00	0.00	45	45	
6/26/2017	0.00	0.00	0.00	45	45	
6/27/2017	0.00	0.00	0.00	45	45	
6/28/2017	0.00	0.00	0.00	45	45	
6/29/2017	0.00	0.00	0.00	45	45	
6/30/2017	0.00	0.00	0.00	45	45	

psi: pounds per square inch

APPENDIX 1: Daily Injection Pressures
M-FG6 2nd Quarter 2017
Lost Creek ISR Project 15-081





APPENDIX 2



ANALYTICAL SUMMARY REPORT

June 14, 2017

UR Energy USA Inc
10758 W Centennial Rd Ste 200
Ken Caryl Ranch, CO 80127

Work Order: C17050216

Project Name: Lost Creek Class V

Energy Laboratories, Inc. Casper WY received the following 2 samples for UR Energy USA Inc on 5/5/2017 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C17050216-001	Class V Comp	04/30/17 00:00	05/05/17	Aqueous	Cancelled Sample Uranium, Dissolved Preservation by the Laboratory Sample Filtering, Metals Sample Filtering, Radiochemical Analytes Gross Alpha Calculated Gross Alpha, Gross Beta Lead 210, Dissolved Polonium 210, Dissolved Radium 226 + Radium 228 Radium 226, Dissolved Radium 228, Dissolved Thorium, Isotopic
C17050216-002	Class V Grab	05/04/17 09:25	05/05/17	Aqueous	Metals by ICP/ICPMS, Total Cancelled Sample Conductivity Mercury, Total Specific Gravity Anions by Ion Chromatography Uranium, Dissolved pH Preservation by the Laboratory Metals Preparation by EPA 200.2 Sample Filtering, Metals Sample Filtering, Radiochemical Analytes Digestion, Mercury by CVAA Gross Alpha Calculated Gross Alpha, Gross Beta Gross Alpha, Gross Beta Lead 210, Total Polonium 210, Total Radium 226 + Radium 228 Radium 226 + Radium 228 Radium 226, Dissolved Radium 226, Total Radium 228, Dissolved Radium 228, Total Thorium, Isotopic Solids, Total Dissolved

The results as reported relate only to the item(s) submitted for testing. The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these test results, please call.



ANALYTICAL SUMMARY REPORT

Report Approved By:



CLIENT: UR Energy USA Inc
Project: Lost Creek Class V
Work Order: C17050216

Report Date: 06/14/17

CASE NARRATIVE

Tests associated with analyst identified as ELI-G were subcontracted to Energy Laboratories, 400 W. Boxelder Rd., Gillette, WY, EPA Number WY00006.

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Prep Comments for Sample C17050216-001, C17050216-002, Test PRESERVATION: - The sample fraction submitted for Radiochemical Analysis was received in the laboratory with a pH of ~ 6 and ~7 respectively. This is outside of the method specified requirement of pH < 2. Proper preservation was added before sample analysis.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: UR Energy USA Inc
Project: Lost Creek Class V
Lab ID: C17050216-001
Client Sample ID: Class V Comp

Report Date: 06/14/17
Collection Date: 04/30/17
Date Received: 05/05/17
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, DISSOLVED							
Uranium	0.107	mg/L		0.0003		E200.8	05/09/17 19:31 / crs
RADIONUCLIDES, DISSOLVED							
Gross Alpha	77.9	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Alpha precision (±)	15.6	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Alpha MDC	1.8	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Alpha - Adjusted	5.1	pCi/L				E900.0	05/22/17 12:57 / dmf
Gross Alpha - Adjusted precision (±)	15.6	pCi/L				E900.0	05/22/17 12:57 / dmf
Gross Alpha - Adjusted MDC	1.8	pCi/L				E900.0	05/22/17 12:57 / dmf
Gross Beta	23.4	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Beta precision (±)	2.9	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Beta MDC	2.9	pCi/L				E900.0	05/19/17 17:30 / trs
Lead 210	-2	pCi/L	U			E909.0	05/30/17 20:21 / plj
Lead 210 precision (±)	0.7	pCi/L				E909.0	05/30/17 20:21 / plj
Lead 210 MDC	1.1	pCi/L				E909.0	05/30/17 20:21 / plj
Polonium 210	0.7	pCi/L	U			H Po-02-RC	05/25/17 09:38 / cng
Polonium 210 precision (±)	0.9	pCi/L				H Po-02-RC	05/25/17 09:38 / cng
Polonium 210 MDC	1.2	pCi/L				H Po-02-RC	05/25/17 09:38 / cng
Radium 226	0.2	pCi/L				E903.0	05/31/17 11:15 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	05/31/17 11:15 / trs
Radium 226 MDC	0.2	pCi/L				E903.0	05/31/17 11:15 / trs
Radium 228	0.6	pCi/L	U			RA-05	05/25/17 14:10 / plj
Radium 228 precision (±)	1.2	pCi/L				RA-05	05/25/17 14:10 / plj
Radium 228 MDC	1.9	pCi/L				RA-05	05/25/17 14:10 / plj
Radium 226 + Radium 228	0.8	pCi/L	U			A7500-RA	05/31/17 17:04 / dmf
Radium 226 + Radium 228 precision (±)	1.2	pCi/L				A7500-RA	05/31/17 17:04 / dmf
Radium 226 + Radium 228 MDC	1.9	pCi/L				A7500-RA	05/31/17 17:04 / dmf
Thorium 230	0.4	pCi/L				E908.0	05/26/17 09:33 / cng
Thorium 230 precision (±)	0.2	pCi/L				E908.0	05/26/17 09:33 / cng
Thorium 230 MDC	0.2	pCi/L				E908.0	05/26/17 09:33 / cng

Report Definitions:
 RL - Analyte reporting limit.
 QCL - Quality control limit.
 MDC - Minimum detectable concentration

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.
 U - Not detected at minimum detectable concentration



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: UR Energy USA Inc
Project: Lost Creek Class V
Lab ID: C17050216-002
Client Sample ID: Class V Grab

Report Date: 06/14/17
Collection Date: 05/04/17 09:25
Date Received: 05/05/17
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Fluoride	0.1	mg/L		0.1		E300.0	05/13/17 01:41 / jcg
PHYSICAL PROPERTIES							
Specific Gravity 60/60F	1.000	unitless				D1429	05/10/17 15:45 / eli-g
Conductivity @ 25 C	515	umhos/cm		5		A2510 B	05/06/17 12:51 / mvr
pH	7.12	s.u.	H	0.01		A4500-H B	05/06/17 12:51 / mvr
Solids, Total Dissolved TDS @ 180 C	321	mg/L		10		A2540 C	05/08/17 11:20 / mvr
METALS, DISSOLVED							
Uranium	0.0350	mg/L		0.0003		E200.8	06/13/17 13:02 / eli-b
METALS, TOTAL							
Arsenic	ND	mg/L		0.001		E200.8	05/17/17 16:54 / eli-b
Barium	0.12	mg/L		0.05		E200.8	05/17/17 16:54 / eli-b
Beryllium	ND	mg/L		0.001		E200.8	05/17/17 16:54 / eli-b
Cadmium	ND	mg/L		0.001		E200.8	05/17/17 16:54 / eli-b
Chromium	ND	mg/L		0.005		E200.8	05/17/17 16:54 / eli-b
Copper	ND	mg/L		0.005		E200.8	05/19/17 01:34 / eli-b
Lead	ND	mg/L		0.001		E200.8	05/17/17 16:54 / eli-b
Mercury	ND	mg/L		0.0001		E245.1	05/17/17 14:54 / crs
Selenium	0.002	mg/L		0.001		E200.8	05/19/17 01:34 / eli-b
Uranium	0.0358	mg/L		0.0003		E200.8	05/17/17 16:54 / eli-b
RADIONUCLIDES, DISSOLVED							
Gross Alpha	29.2	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Alpha precision (±)	6.4	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Alpha MDC	2.2	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Alpha - Adjusted	5.5	pCi/L				E900.0	06/14/17 18:55 / dmf
Gross Alpha - Adjusted precision (±)	7.1	pCi/L				E900.0	06/14/17 18:55 / dmf
Gross Alpha - Adjusted MDC	1.9	pCi/L				E900.0	06/14/17 18:55 / dmf
Gross Beta	5.4	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Beta precision (±)	1.3	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Beta MDC	3.0	pCi/L				E900.0	05/19/17 17:30 / trs
RADIONUCLIDES, TOTAL							
Gross Alpha	33.2	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Alpha precision (±)	7.1	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Alpha MDC	1.9	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Alpha - Adjusted	8.9	pCi/L				E900.0	06/06/17 17:48 / sec
Gross Alpha - Adjusted precision (±)	7.1	pCi/L				E900.0	06/06/17 17:48 / sec
Gross Alpha - Adjusted MDC	1.9	pCi/L				E900.0	06/06/17 17:48 / sec
Gross Beta	6.6	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Beta precision (±)	1.4	pCi/L				E900.0	05/19/17 17:30 / trs
Gross Beta MDC	3.0	pCi/L				E900.0	05/19/17 17:30 / trs

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: UR Energy USA Inc
Project: Lost Creek Class V
Lab ID: C17050216-002
Client Sample ID: Class V Grab

Report Date: 06/14/17
Collection Date: 05/04/17 09:25
Date Received: 05/05/17
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Lead 210	-1	pCi/L	U			E909.0	05/30/17 23:16 / plj
Lead 210 precision (±)	0.7	pCi/L				E909.0	05/30/17 23:16 / plj
Lead 210 MDC	1.2	pCi/L				E909.0	05/30/17 23:16 / plj
Polonium 210	0.1	pCi/L	U			H Po-02-RC	05/25/17 09:37 / cng
Polonium 210 precision (±)	0.4	pCi/L				H Po-02-RC	05/25/17 09:37 / cng
Polonium 210 MDC	0.8	pCi/L				H Po-02-RC	05/25/17 09:37 / cng
Radium 226	0.1	pCi/L	U			E903.0	05/31/17 11:15 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	05/31/17 11:15 / trs
Radium 226 MDC	0.2	pCi/L				E903.0	05/31/17 11:15 / trs
Radium 228	0.5	pCi/L	U			RA-05	05/25/17 14:10 / plj
Radium 228 precision (±)	1.2	pCi/L				RA-05	05/25/17 14:10 / plj
Radium 228 MDC	2.0	pCi/L				RA-05	05/25/17 14:10 / plj
Radium 226 + Radium 228	0.6	pCi/L	U			A7500-RA	05/31/17 17:04 / dmf
Radium 226 + Radium 228 precision (±)	1.2	pCi/L				A7500-RA	05/31/17 17:04 / dmf
Radium 226 + Radium 228 MDC	2.0	pCi/L				A7500-RA	05/31/17 17:04 / dmf
Thorium 230	0.2	pCi/L				E908.0	05/26/17 09:33 / cng
Thorium 230 precision (±)	0.1	pCi/L				E908.0	05/26/17 09:33 / cng
Thorium 230 MDC	0.2	pCi/L				E908.0	05/26/17 09:33 / cng

Report Definitions:
 RL - Analyte reporting limit.
 QCL - Quality control limit.
 MDC - Minimum detectable concentration

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.
 U - Not detected at minimum detectable concentration



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: UR Energy USA Inc

Report Date: 05/19/17

Project: Lost Creek Class V

Work Order: C17050216

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS202-B_170613A
Lab ID: QCS	Initial Calibration Verification Standard								
Uranium	0.0207	mg/L	0.0010	104	90	110	06/13/17 11:40		
Method: E200.8									Batch: R281342
Lab ID: LRB	Method Blank								
Uranium	0.00006	mg/L	0.00001	Run: ICPMS202-B_170613A			06/13/17 11:51		
Lab ID: LFB	Laboratory Fortified Blank								
Uranium	0.0483	mg/L	0.0010	96	85	115	06/13/17 11:56		
Lab ID: B17061003-002BMS	Sample Matrix Spike								
Uranium	0.0467	mg/L	0.00030	93	70	130	06/13/17 13:15		
Lab ID: B17061003-002BMSD	Sample Matrix Spike Duplicate								
Uranium	0.0466	mg/L	0.00030	93	70	130	0.3	20	06/13/17 13:18

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: UR Energy USA Inc

Report Date: 05/19/17

Project: Lost Creek Class V

Work Order: C17050216

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS206-B_170517A		
Lab ID: QCS	Initial Calibration Verification Standard						05/17/17 14:15		
Arsenic	0.0544	mg/L	0.0050	109	90	110			
Barium	0.0509	mg/L	0.10	102	90	110			
Beryllium	0.0254	mg/L	0.0010	102	90	110			
Cadmium	0.0258	mg/L	0.0010	103	90	110			
Chromium	0.0543	mg/L	0.010	109	90	110			
Lead	0.0502	mg/L	0.010	100	90	110			
Uranium	0.0202	mg/L	0.0010	101	90	110			
Method: E200.8							Batch: 109545		
Lab ID: MB-109545	Method Blank						Run: ICPMS206-B_170517A 05/17/17 16:50		
Arsenic	ND	mg/L	0.0002						
Barium	0.0001	mg/L	0.00005						
Beryllium	0.0001	mg/L	0.00008						
Cadmium	ND	mg/L	0.00003						
Chromium	0.0002	mg/L	0.0001						
Copper	ND	mg/L	0.0001						
Lead	ND	mg/L	0.00003						
Selenium	ND	mg/L	0.0004						
Uranium	ND	mg/L	0.00003						
Lab ID: LCS-109545	Laboratory Control Sample						Run: ICPMS206-B_170517A 05/17/17 17:28		
Arsenic	0.489	mg/L	0.0010	98	85	115			
Barium	0.522	mg/L	0.050	104	85	115			
Beryllium	0.253	mg/L	0.0010	101	85	115			
Cadmium	0.258	mg/L	0.0010	103	85	115			
Chromium	0.528	mg/L	0.0050	106	85	115			
Copper	0.517	mg/L	0.0050	103	85	115			
Lead	0.517	mg/L	0.0010	103	85	115			
Selenium	0.498	mg/L	0.0010	100	85	115			
Uranium	0.512	mg/L	0.00030	102	85	115			
Lab ID: B17051334-003AMS3	Sample Matrix Spike						Run: ICPMS206-B_170517A 05/17/17 17:31		
Arsenic	0.486	mg/L	0.0010	97	70	130			
Barium	0.635	mg/L	0.050	127	70	130			
Beryllium	0.244	mg/L	0.0010	98	70	130			
Cadmium	0.253	mg/L	0.0010	101	70	130			
Chromium	0.498	mg/L	0.0050	100	70	130			
Copper	0.512	mg/L	0.0050	102	70	130			
Lead	0.502	mg/L	0.0010	100	70	130			
Selenium	0.368	mg/L	0.0010	74	70	130			
Uranium	0.500	mg/L	0.00030	100	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: UR Energy USA Inc

Report Date: 05/19/17

Project: Lost Creek Class V

Work Order: C17050216

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: 109545
Lab ID: B17051334-003AMSD3	Sample Matrix Spike Duplicate				Run: ICPMS206-B_170517A			05/17/17 17:34	
Arsenic	0.505	mg/L	0.0010	101	70	130	3.9	20	
Barium	0.641	mg/L	0.050	128	70	130	0.8	20	
Beryllium	0.246	mg/L	0.0010	98	70	130	0.8	20	
Cadmium	0.252	mg/L	0.0010	101	70	130	0.4	20	
Chromium	0.488	mg/L	0.0050	98	70	130	2.1	20	
Copper	0.487	mg/L	0.0050	97	70	130	5.0	20	
Lead	0.500	mg/L	0.0010	100	70	130	0.3	20	
Selenium	0.365	mg/L	0.0010	73	70	130	1.0	20	
Uranium	0.507	mg/L	0.00030	101	70	130	1.4	20	
Method: E200.8									Analytical Run: ICPMS206-B_170518A
Lab ID: QCS	Initial Calibration Verification Standard							05/18/17 18:02	
Copper	0.0535	mg/L	0.010	107	90	110			
Selenium	0.0517	mg/L	0.0050	103	90	110			
Method: E200.8									Batch: 109545
Lab ID: MB-109545	Method Blank				Run: ICPMS206-B_170518A			05/19/17 01:20	
Copper	ND	mg/L	0.0001						
Selenium	ND	mg/L	0.0004						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: UR Energy USA Inc

Report Date: 05/19/17

Project: Lost Creek Class V

Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: E200.8		Analytical Run: ICPMS206-B_170517A									
Lab ID: QCS	7	Initial Calibration Verification Standard							05/17/17 14:15		
Arsenic		0.0544	mg/L	0.0050	109	90	110				
Barium		0.0509	mg/L	0.10	102	90	110				
Beryllium		0.0254	mg/L	0.0010	102	90	110				
Cadmium		0.0258	mg/L	0.0010	103	90	110				
Chromium		0.0543	mg/L	0.010	109	90	110				
Lead		0.0502	mg/L	0.010	100	90	110				
Uranium		0.0202	mg/L	0.0010	101	90	110				
Method: E200.8		Batch: 109545									
Lab ID: MB-109545	9	Method Blank							Run: ICPMS206-B_170517A 05/17/17 16:50		
Arsenic		ND	mg/L	0.0002							
Barium		0.0001	mg/L	0.00005							
Beryllium		0.0001	mg/L	0.00008							
Cadmium		ND	mg/L	0.00003							
Chromium		0.0002	mg/L	0.0001							
Copper		ND	mg/L	0.0001							
Lead		ND	mg/L	0.00003							
Selenium		ND	mg/L	0.0004							
Uranium		ND	mg/L	0.00003							
Lab ID: LCS-109545	9	Laboratory Control Sample							Run: ICPMS206-B_170517A 05/17/17 17:28		
Arsenic		0.489	mg/L	0.0010	98	85	115				
Barium		0.522	mg/L	0.050	104	85	115				
Beryllium		0.253	mg/L	0.0010	101	85	115				
Cadmium		0.258	mg/L	0.0010	103	85	115				
Chromium		0.528	mg/L	0.0050	106	85	115				
Copper		0.517	mg/L	0.0050	103	85	115				
Lead		0.517	mg/L	0.0010	103	85	115				
Selenium		0.498	mg/L	0.0010	100	85	115				
Uranium		0.512	mg/L	0.00030	102	85	115				
Lab ID: B17051334-003AMS3	9	Sample Matrix Spike							Run: ICPMS206-B_170517A 05/17/17 17:31		
Arsenic		0.486	mg/L	0.0010	97	70	130				
Barium		0.635	mg/L	0.050	127	70	130				
Beryllium		0.244	mg/L	0.0010	98	70	130				
Cadmium		0.253	mg/L	0.0010	101	70	130				
Chromium		0.498	mg/L	0.0050	100	70	130				
Copper		0.512	mg/L	0.0050	102	70	130				
Lead		0.502	mg/L	0.0010	100	70	130				
Selenium		0.368	mg/L	0.0010	74	70	130				
Uranium		0.500	mg/L	0.00030	100	70	130				
Lab ID: B17051334-003AMSD	9	Sample Matrix Spike Duplicate							Run: ICPMS206-B_170517A 05/17/17 17:34		
Arsenic		0.505	mg/L	0.0010	101	70	130	3.9	20		
Barium		0.641	mg/L	0.050	128	70	130	0.8	20		

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: UR Energy USA Inc

Report Date: 05/19/17

Project: Lost Creek Class V

Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8 Batch: 109545										
Lab ID:	B17051334-003AMSD	9 Sample Matrix Spike Duplicate			Run: ICPMS206-B_170517A				05/17/17 17:34	
Beryllium		0.246	mg/L	0.0010	98	70	130	0.8	20	
Cadmium		0.252	mg/L	0.0010	101	70	130	0.4	20	
Chromium		0.488	mg/L	0.0050	98	70	130	2.1	20	
Copper		0.487	mg/L	0.0050	97	70	130	5.0	20	
Lead		0.500	mg/L	0.0010	100	70	130	0.3	20	
Selenium		0.365	mg/L	0.0010	73	70	130	1.0	20	
Uranium		0.507	mg/L	0.00030	101	70	130	1.4	20	
<hr/>										
Method: E200.8 Analytical Run: ICPMS206-B_170518A										
Lab ID:	QCS	2 Initial Calibration Verification Standard							05/18/17 18:02	
Copper		0.0535	mg/L	0.010	107	90	110			
Selenium		0.0517	mg/L	0.0050	103	90	110			
<hr/>										
Method: E200.8 Batch: 109545										
Lab ID:	MB-109545	9 Method Blank			Run: ICPMS206-B_170518A				05/19/17 01:20	
Arsenic		ND	mg/L	0.0002						
Barium		0.0001	mg/L	0.00005						
Beryllium		ND	mg/L	0.00008						
Cadmium		ND	mg/L	0.00003						
Chromium		ND	mg/L	0.0001						
Copper		ND	mg/L	0.0001						
Lead		ND	mg/L	0.00003						
Selenium		ND	mg/L	0.0004						
Uranium		ND	mg/L	0.00003						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: UR Energy USA Inc

Report Date: 05/10/17

Project: Lost Creek Class V

Work Order: C17050216

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D1429									Batch: R235948
Lab ID: LCS-R235948	Laboratory Control Sample								Run: BAL-ACCU-124_170510C 05/10/17 15:22
Specific Gravity 60/60F	1.020	unitless	100		85	115			
Lab ID: G17050204-001BDUP	Sample Duplicate								Run: BAL-ACCU-124_170510C 05/10/17 15:28
Specific Gravity 60/60F	1.010	unitless					0.0	1	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: UR Energy USA Inc

Report Date: 05/16/17

Project: Lost Creek Class V

Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B										Batch: R222744
Lab ID: SC 100		Initial Calibration Verification Standard					Run: PHSC_101-C_170506A			05/06/17 11:27
Conductivity @ 25 C		108	umhos/cm	5.0	108	90	110			
Lab ID: SC 5000		Initial Calibration Verification Standard					Run: PHSC_101-C_170506A			05/06/17 11:30
Conductivity @ 25 C		5140	umhos/cm	5.0	103	90	110			
Lab ID: SC 20000		Initial Calibration Verification Standard					Run: PHSC_101-C_170506A			05/06/17 11:33
Conductivity @ 25 C		21600	umhos/cm	5.0	108	90	110			
Lab ID: SC 50000		Initial Calibration Verification Standard					Run: PHSC_101-C_170506A			05/06/17 11:36
Conductivity @ 25 C		54800	umhos/cm	5.0	110	90	110			
Lab ID: MBLK		Method Blank					Run: PHSC_101-C_170506A			05/06/17 11:55
Conductivity @ 25 C		20	umhos/cm	2						
Lab ID: C17050214-005ADUP		Sample Duplicate					Run: PHSC_101-C_170506A			05/06/17 12:28
Conductivity @ 25 C		10900	umhos/cm	5.0				0.4	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: UR Energy USA Inc

Report Date: 05/16/17

Project: Lost Creek Class V

Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C								Batch: TDS170508A		
Lab ID: MB-1_170508A		Method Blank					Run: BAL-18_170508B		05/08/17 11:15	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	7						
Lab ID: LCS-2_170508A		Laboratory Control Sample					Run: BAL-18_170508B		05/08/17 11:16	
Solids, Total Dissolved TDS @ 180 C		1090	mg/L	11	98	90	110			
Lab ID: C17050214-011A DUP		Sample Duplicate					Run: BAL-18_170508B		05/08/17 11:19	
Solids, Total Dissolved TDS @ 180 C		4980	mg/L	40				0.3	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: UR Energy USA Inc

Report Date: 05/16/17

Project: Lost Creek Class V

Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: PHSC_101-C_170506A		
Lab ID: pH 6.86		Initial Calibration Verification Standard								05/06/17 11:24
pH		6.88	s.u.	0.010	100	98	102			
Method: A4500-H B										Batch: R222744
Lab ID: C17050214-005ADUP		Sample Duplicate								05/06/17 12:28
pH		7.44	s.u.	0.010				0.0	3	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: UR Energy USA Inc

Report Date: 05/16/17

Project: Lost Creek Class V

Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0										
Analytical Run: IC3-C_170512A										
Lab ID: ICV	Initial Calibration Verification Standard									
Fluoride		5.20	mg/L	0.10	104	90	110			05/12/17 10:03
Method: E300.0										
Batch: R223011										
Lab ID: ICB	Method Blank									
Fluoride		ND	mg/L	0.02						Run: IC3-C_170512A 05/12/17 10:19
Lab ID: LFB	Laboratory Fortified Blank									
Fluoride		5.23	mg/L	0.10	105	90	110			Run: IC3-C_170512A 05/12/17 10:35
Lab ID: C17050214-004AMS	Sample Matrix Spike									
Fluoride		10.9	mg/L	0.10	102	80	120			Run: IC3-C_170512A 05/12/17 22:57
Lab ID: C17050214-004AMSD	Sample Matrix Spike Duplicate									
Fluoride		10.9	mg/L	0.10	102	80	120	0.2	20	Run: IC3-C_170512A 05/12/17 23:13

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: UR Energy USA Inc
Project: Lost Creek Class V

Report Date: 06/06/17
Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.0										Batch: GrAB-2353
Lab ID: Th230-GrAB-2353		Laboratory Control Sample								Run: G5000W_170517A 05/19/17 17:30
Gross Alpha		100	pCi/L		104	80	120			
Lab ID: Sr90-GrAB-2353		Laboratory Control Sample								Run: G5000W_170517A 05/19/17 17:30
Gross Beta		190	pCi/L		100	80	120			
Lab ID: MB-GrAB-2353	6	Method Blank								Run: G5000W_170517A 05/19/17 17:30
Gross Alpha		-0.2	pCi/L							U
Gross Alpha precision (±)		0.7	pCi/L							
Gross Alpha MDC		1	pCi/L							
Gross Beta		0.9	pCi/L							U
Gross Beta precision (±)		2	pCi/L							
Gross Beta MDC		3	pCi/L							
Lab ID: C17050216-001CMS		Sample Matrix Spike								Run: G5000W_170517A 05/19/17 17:30
Gross Alpha		160	pCi/L		78	70	130			
Lab ID: C17050216-001CMSD		Sample Matrix Spike Duplicate								Run: G5000W_170517A 05/19/17 17:30
Gross Alpha		150	pCi/L		71	70	130	4.3	20	
Lab ID: C17050216-001CMS		Sample Matrix Spike								Run: G5000W_170517A 05/19/17 17:30
Gross Beta		220	pCi/L		105	70	130			
Lab ID: C17050216-001CMSD		Sample Matrix Spike Duplicate								Run: G5000W_170517A 05/19/17 17:30
Gross Beta		220	pCi/L		106	70	130	0.8	20	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: UR Energy USA Inc
Project: Lost Creek Class V

Report Date: 06/06/17
Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-8499
Lab ID: LCS-RA226-8499		Laboratory Control Sample					Run: G542M-2_170515A			05/31/17 09:40
Radium 226		8.9	pCi/L		87	80	120			
Lab ID: MB-RA226-8499	3	Method Blank					Run: G542M-2_170515A			05/31/17 09:40
Radium 226		0.2	pCi/L							
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C17050118-001CMS		Sample Matrix Spike					Run: G542M-2_170515A			05/31/17 09:41
Radium 226		19	pCi/L		90	70	130			
Lab ID: C17050118-001CMSD		Sample Matrix Spike Duplicate					Run: G542M-2_170515A			05/31/17 09:41
Radium 226		18	pCi/L		90	70	130	0.0	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: UR Energy USA Inc
Project: Lost Creek Class V

Report Date: 06/06/17
Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E908.0										Batch: RA-TH-ISO-2564
Lab ID: LCS-RA-TH-ISO-2564		Laboratory Control Sample					Run: EGG-ORTEC_2_170522A			05/26/17 09:33
Thorium 230		5.8	pCi/L		103	80	120			
Lab ID: C17050226-003CMS		Sample Matrix Spike					Run: EGG-ORTEC_2_170522A			05/26/17 09:32
Thorium 230		9.3	pCi/L		84	70	130			
Lab ID: C17050226-003CMSD		Sample Matrix Spike Duplicate					Run: EGG-ORTEC_2_170522A			05/26/17 09:32
Thorium 230		12	pCi/L		106	70	130	23	20	R
- The RPD for the MSD is high. The individual spike recoveries are within range, the MB is acceptable, and the LCS is acceptable therefore the batch is approved.										
Lab ID: MB-RA-TH-ISO-2564	3	Method Blank					Run: EGG-ORTEC_2_170522A			05/26/17 09:33
Thorium 230		0.07	pCi/L							U
Thorium 230 precision (±)		0.09	pCi/L							
Thorium 230 MDC		0.1	pCi/L							

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: UR Energy USA Inc
Project: Lost Creek Class V

Report Date: 06/06/17
Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0										Batch: PB-210-0833
Lab ID: LCS-PB-210-0833		Laboratory Control Sample								Run: TRICARB LSC_170522A 05/30/17 07:43
Lead 210		19	pCi/L	100		80	120			
Lab ID: MB-PB-210-0833	3	Method Blank								Run: TRICARB LSC_170522A 05/30/17 08:35
Lead 210		-0.2	pCi/L							U
Lead 210 precision (±)		0.7	pCi/L							
Lead 210 MDC		1	pCi/L							
Lab ID: C17050096-004CMS		Sample Matrix Spike								Run: TRICARB LSC_170522A 05/30/17 16:25
Lead 210		41	pCi/L	100		70	130			
Lab ID: C17050096-004CMSD		Sample Matrix Spike Duplicate								Run: TRICARB LSC_170522A 06/01/17 05:55
Lead 210		40	pCi/L	99		70	130	1.0	30	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: UR Energy USA Inc
Project: Lost Creek Class V

Report Date: 06/06/17
Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: H Po-02-RC								Batch: PO210-0661		
Lab ID: C17050627-001AMS		Sample Matrix Spike				Run: EGG-ORTEC_170523A		05/25/17 09:38		
Polonium 210		58	pCi/L		92	70	130			
Lab ID: C17050627-001AMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_170523A		05/25/17 09:38		
Polonium 210		71	pCi/L		113	70	130	20	20	
Lab ID: MB-PO210-0661	3	Method Blank				Run: EGG-ORTEC_170523A		05/25/17 09:38		
Polonium 210		0.05	pCi/L							U
Polonium 210 precision (±)		0.5	pCi/L							
Polonium 210 MDC		1	pCi/L							
Lab ID: LCS-PO210-0661		Laboratory Control Sample				Run: EGG-ORTEC_170523A		05/25/17 09:37		
Polonium 210		33	pCi/L		105	80	120			

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: UR Energy USA Inc
Project: Lost Creek Class V

Report Date: 06/06/17
Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-5499
Lab ID: LCS-228-RA226-8499		Laboratory Control Sample								Run: TENNELEC-3_170515A 05/25/17 12:19
Radium 228		8.9	pCi/L		85	80	120			
Lab ID: MB-RA226-8499	3	Method Blank								Run: TENNELEC-3_170515A 05/25/17 12:19
Radium 228		0.3	pCi/L							U
Radium 228 precision (±)		0.9	pCi/L							
Radium 228 MDC		2	pCi/L							
Lab ID: C17050118-003CMS		Sample Matrix Spike								Run: TENNELEC-3_170515A 05/25/17 12:19
Radium 228		18	pCi/L		81	70	130			
Lab ID: C17050118-003CMSD		Sample Matrix Spike Duplicate								Run: TENNELEC-3_170515A 05/25/17 12:19
Radium 228		18	pCi/L		82	70	130	1.6	20	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: UR Energy USA Inc

Report Date: 05/22/17

Project: Lost Creek Class V

Work Order: C17050216

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E245.1								Analytical Run: CVAA_C203_170517B		
Lab ID: ICV		Initial Calibration Verification Standard							05/17/17 14:37	
Mercury		0.00499	mg/L	0.00010	105	90	110			
Method: E245.1									Batch: 49726	
Lab ID: MB-49726		Method Blank					Run: CVAA_C203_170517B		05/17/17 14:43	
Mercury		ND	mg/L	0.0007						
Lab ID: LCS-49726		Laboratory Control Sample					Run: CVAA_C203_170517B		05/17/17 14:45	
Mercury		0.00480	mg/L	0.00010	101	85	115			
Lab ID: C17050096-004BMS		Sample Matrix Spike					Run: CVAA_C203_170517B		05/17/17 14:48	
Mercury		0.00480	mg/L	0.00010	101	70	130			
Lab ID: C17050096-004BMSD		Sample Matrix Spike Duplicate					Run: CVAA_C203_170517B		05/17/17 14:50	
Mercury		0.00478	mg/L	0.00010	101	70	130	0.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



Work Order Receipt Checklist

UR Energy USA Inc

C17050216

Login completed by: Dorian Quis

Date Received: 5/5/2017

Reviewed by: Kasey Vidick

Received by: kmk

Reviewed Date: 5/8/2017

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	n/a°C		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

None



Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing information)

Company Name **VR - ENERGY**
 Contact **MIKE BATHUR**
 Phone **307 265-2373**
 Mailing Address **5800 ENTERPRISE DR SUITE 200**
 City, State, Zip **CASPER WY 82409**
 Email **MIKE.BATHUR@VR-ENERGY.COM**
 Receive Invoice Hard Copy Email Email
 Purchase Order Hard Copy Email Bottle Order

Report Information (if different than Account information)

Company Name _____
 Contact _____
 Phone _____
 Mailing Address _____
 City, State, Zip _____
 Email _____
 Receive Report Hard Copy Email
 Special Report/Formats:
 LEVEL IV NELAC EDD/EDT (contact laboratory) Other _____

Comments

* As, Se, Bq, Be
 Cd, Cr, Cu, Pb
 Hg
 ** Pa 226 + Ra 226,
 Th-230, Pb-210,
 Po-210

Project Information

Project Name, PWSID, Permit, etc. **LOST CREEK CLASS V**
 Sampler Name **MD/JP** Sampler Phone _____
 EPA/State Compliance Yes No
 Sample Origin State **WY**
 MINING CLIENTS, please indicate sample type.
 *If ore has been processed or refined, call before sending.
 Byproduct 11 (e)2 material Unprocessed ore (NOT ground or refined)*

Matrix Codes

A - Air
 W - Water
 S - Solids
 V - Vegetation
 B - Bioassay
 O - Other
 DW - Drinking Water

Analysis Requested

Analysis Requested	PH / COND	SP GRAB	TDS	MEMRS (FORM) *	FLUORIDE	V-MET (TNT + DISS)	ADD GR ALPHA (T+D)	GR BETA (T+D)	PARANITRILES *	See Attached
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

All turnaround times are standard unless marked as RUSH.
 Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See instructions Page

ELI LAB ID
 Laboratory Use Only
 RUSH
 TAT
 C17050216

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Relinquished by (print)	Date/Time	Signature	LABORATORY USE ONLY				Amount \$	
							Receipt Temp °C	Temp Blank	On Ice	Payment Type		
MIKE BATHUR	MIKE BATHUR	5/5/2017 0933	<i>[Signature]</i>	MIKE BATHUR	5/5/17 0933	<i>[Signature]</i>	Y	N	Y	CC	Check	
Shipped By hand	Cooler ID(s)	Custody Seals Y A C B	Intact Y	Receipt Temp Y	Temp Blank Y	On Ice Y	Payment Type CC	Cash Check	Amount	Receipt Number (cash/check only)		

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



LOST CREEK ISR PROJECT
STANDARD OPERATING PROCEDURE

CLASS V SYSTEM OPERATION, MAINTENANCE, AND MONITORING

Edition: 09Jan2017rev1

SOP Number: OPS-063

Author: AH

APPENDIX 1: Class V Analytical Parameters

Sample Point	Schedule	Analyte	Effluent Limit	Method	Notes
Injectate/ Effluent	DISSOLVED Monthly Composite	U-nat (mg/L)	0.158	E200.8	NRC EA
		Ra226 + 228 (pCi/L)	5.5	E903.0 and RA-05	NRC EA
		Gross Alpha (pCi/L)	57 (ADD)	E900.0	NRC EA
		Gross Beta (pCi/L)	15.1	E900.0	NRC EA
		Th-230 (pCi/L)	100	E908.0	NRC EA
		Pb-210 (pCi/L)	10	E900.0 or E909.0	NRC EA
		Po-210 (pCi/L)	40	H Po-02-RC or EML HASL-300	NRC EA
Injectate/ Effluent	TOTAL Quarterly Grab	Temperature (°F)	N/A	SM2550B	UIC 15-081
		pH (s.u.)	6.5 to 9.0	150.1 or SM4500H+B	UIC 15-081
		Specific Gravity	N/A	ASTM D1429	UIC 15-081
		TDS (mg/L)	500	160.1 or SM2540C	UIC 15-081
		U-nat (mg/L)	0.158	E200.8	UIC 15-081/NRC EA
		Pb-210 (pCi/L)	10	E900.0 or E909.0	UIC 15-081
		Po-210 (pCi/L)	40	H Po-02-RC or EML HASL-300	UIC 15-081
		Th-230 (pCi/L)	100	E908.0	UIC 15-081
		Ra226 + 228 (pCi/L)	5.4/5.5	E903.0 and RA-05	UIC 15-081/NRC EA
		Gross Alpha (pCi/L)	57 (ADD)	E900.0	UIC 15-081/NRC EA
		Gross Beta (pCi/L)	15/15.1	E900.0	UIC 15-081/NRC EA
		Selenium (mg/L)	0.05		NRC EA
		Arsenic (mg/L)	0.01		NRC EA
		Barium (mg/L)	2.0		NRC EA
		Beryllium (mg/L)	0.004		NRC EA
		Cadmium (mg/L)	0.005		NRC EA
		Chromium (mg/L)	0.1		NRC EA
		Copper (mg/L)	1.3		NRC EA
		Fluoride (mg/L)	4.0		NRC EA
		Lead (mg/L)	0.015		NRC EA
Mercury (mg/L)	0.002		NRC EA		

CLASS V
COMP

CLASS V
GRAB