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**UIC CLASS V  
QUARTERLY REPORT  
for the  
LOST CREEK ISR PROJECT  
1st Quarter 2018**



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

**UIC PERMIT 15-081**

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

**April 30, 2018**



## Contents

1.0	Introduction.....	1
2.0	Summary Data .....	2
3.0	Analytical Results .....	4
4.0	Permit Exceedances.....	5
5.0	Alarms, Shut-Downs, and Corrective Actions.....	5
6.0	Summary of Well Tests or Workovers .....	5

## Tables

Table 1A: Operational Data Summary for M-FG7

Table 1B: Operational Data Summary for M-FG6

Table 2: Cumulative Injection Volumes to Date

Table 3: Injectate Analytical Results

## Figures

Figure 1: Well Locations

## Appendices

Appendix 1: Daily Injection Pressures

Appendix 2: Lab Report

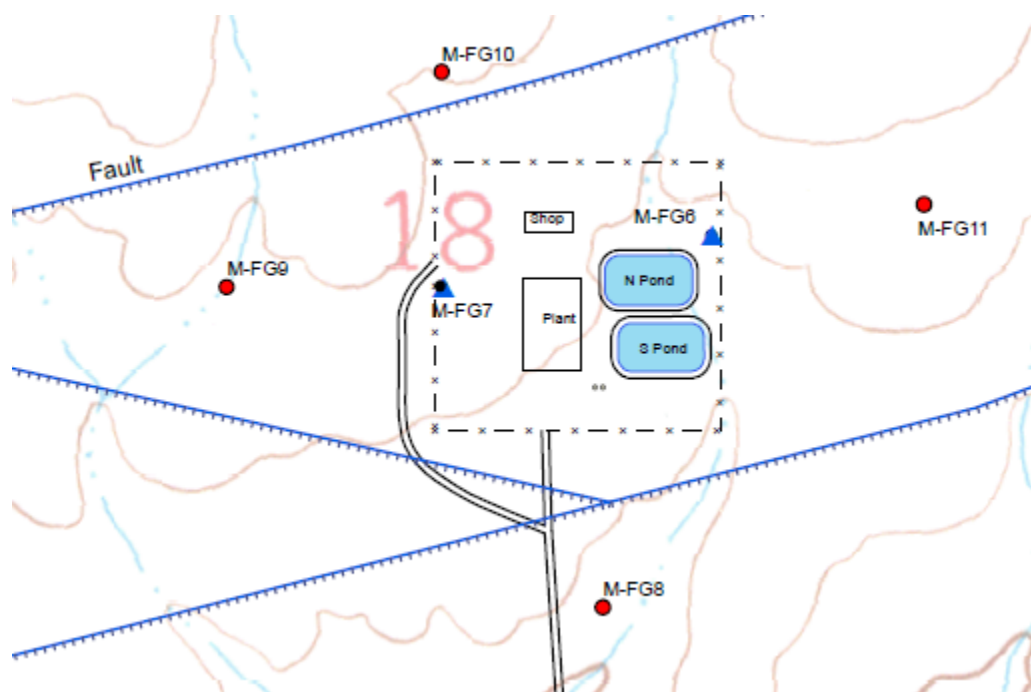


## 1.0 Introduction

The period covered by this report is the first calendar quarter of 2018 from January 1 to March 31, 2018.

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

**FIGURE 1: Well Locations**



Well M-FG7 was operated sparingly and M-FG6 was used for most of the injection during the quarter. Operational data was monitored and recorded electronically and also recorded manually by operators for 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			
		January 2018	February 2018	March 2018	Quarterly Total/Avg Min/Max
Operation Time	min	2754	4337	62	7152
% Run Time	%	6%	11%	0.1%	6%
Injection Rate Minimum Instantaneous	gpm	0	0	0	0
Injection Rate Average (TWA)	gpm	102	2	44	50
Injection Rate Maximum Instantaneous	gpm	208	219	166	219
Injection Rate Maximum Permit Limit	gpm	<b>200</b>			<b>200</b>
Injection Pressure Daily Minimum	psig	-7	-3	-3	-7
Injection Pressure Daily Average	psig	3	1	0	1
Injection Pressure Daily Maximum	psig	151	41	65	65
Injection Pressure Permit Limit (LSIP)	psig	<b>45</b>			<b>45</b>
Injection Pressure Automatic Kill	psig	<b>45</b>			<b>45</b>
Injection Volume	gal	279769	3790	2731	286289
Injection Volume	bbl	6661	90	65	6816



**TABLE 1B: Operational Data Summary for M-FG6**

PARAMETER	UNITS	M-FG6			
		January 2018	February 2018	March 2018	Quarterly Total/Avg Min/Max
Operation Time	min	0	2221	5592	7813
% Run Time	%	0%	6%	13%	6%
Injection Rate Minimum Instantaneous	gpm	0	0	0	0
Injection Rate Average (TWA)	gpm	0	134	112	68
Injection Rate Maximum Instantaneous	gpm	0	198	185	198
Injection Rate Maximum Permit Limit	gpm	<b>200</b>			<b>200</b>
Injection Pressure Daily Minimum	psig	0	-10	0	-10
Injection Pressure Daily Average	psig	0	0	2	1
Injection Pressure Daily Maximum	psig	0	42	35	42
Injection Pressure Permit Limit (LSIP)	psig	<b>45</b>			<b>45</b>
Injection Pressure Automatic Kill	psig	<b>45</b>			<b>45</b>
Injection Volume	gal	0	296569	625628	922197
Injection Volume	bbl	0	7061	14896	21957

**TABLE 2: Cumulative Injection Volumes to Date**

TIME PERIOD	UNITS	M-FG7	M-FG6
2017	bbl	63,908	0
2018Q1	bbl	6,816	21,957
<b>CUMULATIVE TOTAL TO DATE</b>	bbl	70,724	21,957



### 3.0 Analytical Results

A quarterly grab sample of the injectate was collected on February 28, 2018. Results posted on **Table 3** below.

**TABLE 3: Injectate Analytical Results**

Sample ID: Class V Grab				
Sample Date: 2/28/2018				
Lab Analyte or Parameter	Method Used	Results	Units	Permit Limit
Temperature, field	SM2550B		°C	---
pH	SM4500-H*B		s.u.	6.5≤pH≤9.0
Specific Gravity	D1429	1.000	---	---
Total Dissolved Solids	SM2540C	278	mg/L	500 mg/L
Uranium, total	E200.8	0.0105	mg/L	0.158 mg/L
Lead-210, total	E909.0	0.7	pCi/L	10 pCi/L
Polonium-210, total	H Po-02-RC	0.5	pCi/L	40 pCi/L
Thorium-230, total	E908.0	0.2	pCi/L	100 pCi/L
Radium 226 + 228, total	E903.0 / RA-05	0.7	pCi/L	5.4 pCi/L
Gross Alpha, total (adjusted)*	E900.0	2.6	pCi/L	57 pCi/L
Gross Beta, total	E900.0	7.9	pCi/L	15 pCi/L

*\*excluding uranium and radon*

None of the results were greater than the Permit limit.

Semi-annual samples were collected from the four monitoring wells M-FG8, 9, 10, and 11 during the quarter (**Table 4**). However, the data was not available as of the time of the report submittal and will be reported in the next quarterly report.



**TABLE 4: Class V Monitor Well Water Quality**

Well	Date	Static Water Level	Temp. (field)	pH (field)	Specific Gravity	Total Dissolved Solids	Ra226 + 228	Gross Alpha, adjusted*	Gross Beta
		ft-bmp	deg F	s.u.	---	mg/L	pCi/L	pCi/L	pCi/L
M-FG8	3/29/2018	188.76	48.2	7.87	pend	pend	pend	pend	pend
M-FG9	3/29/2018	210.32	48.6	7.58	pend	pend	pend	pend	pend
M-FG10	3/29/2018	210.70	49.8	8.22	pend	pend	pend	pend	pend
M-FG11A	3/29/2018	200.05	49.5	8.28	pend	pend	pend	pend	pend

\*excluding uranium and radon

Laboratory reports are included in **Appendix 2**.

## 4.0 Permit Exceedances

No exceedances of permit limits occurred during normal operation for the quarter. However, the following exceedances occurred during injection testing:

Event	Well	Date	Limit Exceeded	Value	Permit Limit	Comment
1	M-FG7	1/31/2018	Injection Pressure	151	45	Occurred during injection test 2
2	M-FG7	2/1/2018	Flow rate	219	200	Occurred during injection test 2
3	M-FG7	3/19/2018	Injection pressure	65	45	Occurred during step-rate injection test

## 5.0 Alarms, Shut-Downs, and Corrective Actions

Well M-FG7 was shut down periodically for fall-off testing and maintenance in January as described below but some limited operational injection still occurred intermittently in January and February. Well M-FG6 was configured in February for injection and was operated during the M-FG7 repair and testing. Injection for both wells was shut-down for equilibration of the water table prior to injection testing for M-FG7.

## 6.0 Summary of Well Tests or Workovers

The initial step-rate test for M-FG7 was conducted during the quarter. However, during testing attempts on January 8 and 31, there were anomalously high injection pressures into the well and the testing was suspended. On two occasions between testing, the screen was pulled, cleaned, and reinstalled and airlifting was performed to help improve injectivity. Successful MITs were completed on both occasions that the screen was removed. A small step-rate injection test was performed on M-FG7 on February 28 to verify injection was still viable following the screen removals. The official step-



rate test was completed on March 19, 2018 as detailed in the report submitted to WDEQ-WQD UIC dated April 2, 2018. During the time that M-FG7 was being refreshed and tested, M-FG6 was configured for injection and operated.





## APPENDIX 1

**APPENDIX 1: Daily Injection Pressures  
M-FG7 1st Quarter 2018  
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
1/1/2018	0.0	0.0	0.0	45	45	
1/2/2018	0.0	4.4	16.8	45	45	
1/3/2018	0.0	0.0	0.0	45	45	
1/4/2018	0.0	0.0	0.0	45	45	
1/5/2018	-1.2	3.7	27.8	45	45	
1/6/2018	0.0	0.0	0.0	45	45	
1/7/2018	0.0	0.0	0.0	45	45	
1/8/2018	-1.2	2.0	47.3	45	45	Injection test attempt 1
1/9/2018	0.0	0.0	0.0	45	45	
1/10/2018	0.0	0.0	0.0	45	45	
1/11/2018	0.0	0.0	0.0	45	45	
1/12/2018	-3.0	8.0	36.1	45	45	
1/13/2018	0.0	0.0	0.0	45	45	
1/14/2018	0.0	0.0	0.0	45	45	
1/15/2018	-7.1	7.6	32.4	45	45	
1/16/2018	-0.1	0.3	1.3	45	45	
1/17/2018	-5.6	-0.1	5.7	45	45	
1/18/2018	-1.9	0.0	5.7	45	45	
1/19/2018	-2.6	0.0	0.4	45	45	
1/20/2018	0.0	0.0	0.0	45	45	
1/21/2018	-0.1	0.0	0.0	45	45	
1/22/2018	-0.2	-0.1	0.0	45	45	
1/23/2018	-2.2	0.0	7.9	45	45	
1/24/2018	-2.5	0.0	1.7	45	45	
1/25/2018	-2.2	0.0	1.7	45	45	
1/26/2018	-3.3	0.0	1.5	45	45	
1/27/2018	-0.1	0.0	0.0	45	45	
1/28/2018	-2.7	0.0	1.9	45	45	
1/29/2018	0.0	0.0	0.0	45	45	
1/30/2018	0.0	0.0	0.0	45	45	
1/31/2018	-1.4	3.3	151.3	45	45	Injection test attempt 2
2/1/2018	-1.1	0.2	37.4	45	45	
2/2/2018	0.0	0.0	0.0	45	45	
2/3/2018	0.0	0.0	0.0	45	45	
2/4/2018	0.0	0.0	0.0	45	45	
2/5/2018	0.0	0.0	0.0	45	45	
2/6/2018	0.0	0.0	0.0	45	45	
2/7/2018	0.0	0.0	0.0	45	45	
2/8/2018	0.0	0.0	0.0	45	45	
2/9/2018	0.0	0.0	0.0	45	45	
2/10/2018	-0.1	0.0	0.0	45	45	
2/11/2018	-0.1	0.0	0.0	45	45	

**APPENDIX 1: Daily Injection Pressures  
M-FG7 1st Quarter 2018  
Lost Creek ISR Project 15-081**

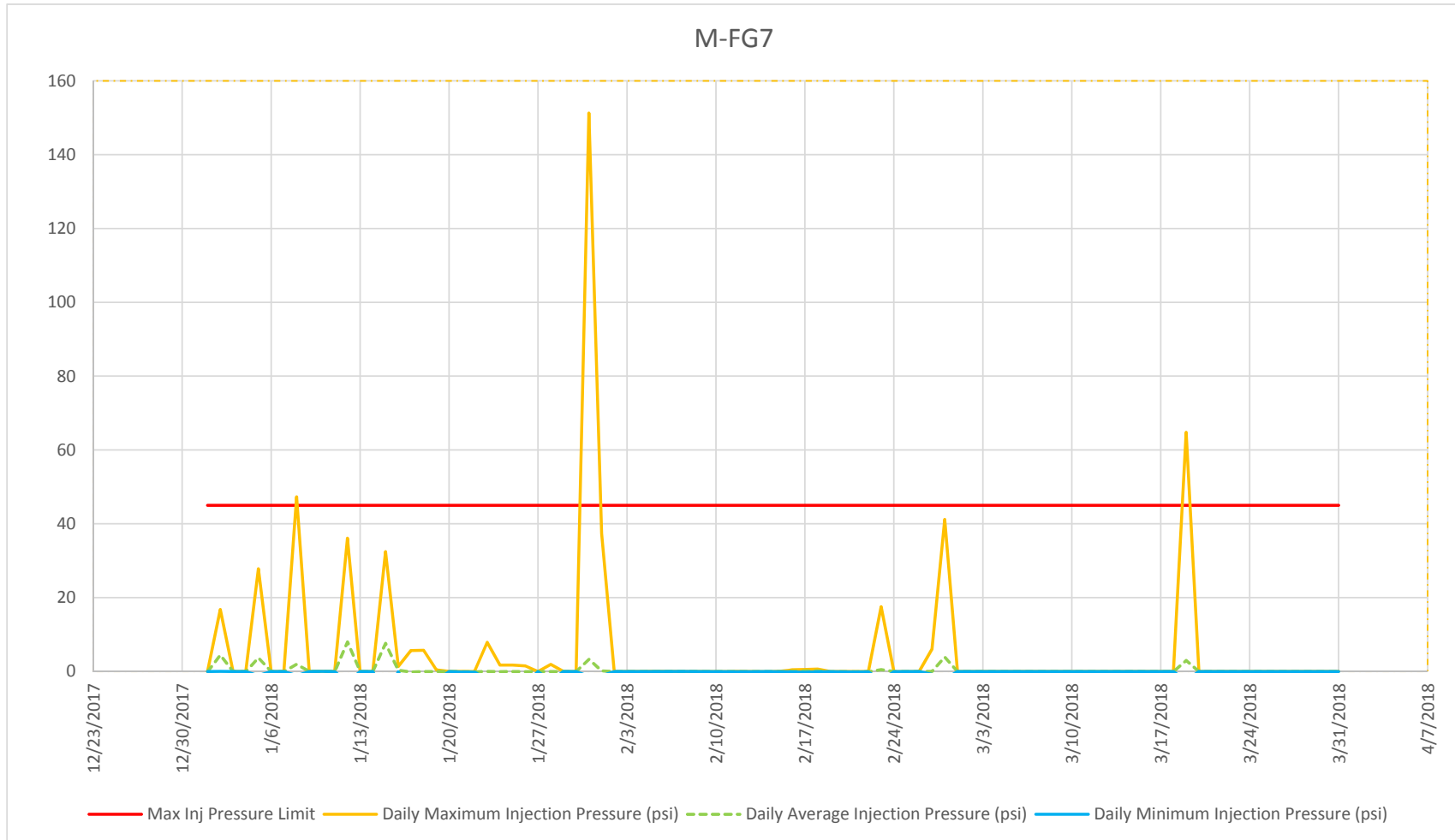
Date	Daily Minimum Injection Pressure (psi)	Daily Average Injection Pressure (psi)	Daily Maximum Injection Pressure (psi)	Automatic Shutdown Pressure (psi)	Maximum Injection Pressure Limit (psi)	Comments
2/12/2018	0.0	0.0	0.0	45	45	
2/13/2018	-0.1	0.0	0.0	45	45	
2/14/2018	0.0	0.0	0.0	45	45	
2/15/2018	0.0	0.0	0.0	45	45	
2/16/2018	-0.1	0.0	0.5	45	45	
2/17/2018	-0.2	0.2	0.5	45	45	
2/18/2018	-0.1	0.2	0.6	45	45	
2/19/2018	-0.1	-0.1	0.0	45	45	
2/20/2018	-0.1	-0.1	0.0	45	45	
2/21/2018	-0.1	-0.1	0.0	45	45	
2/22/2018	-0.1	0.0	0.0	45	45	
2/23/2018	-2.5	0.5	17.5	45	45	
2/24/2018	0.0	0.0	0.0	45	45	
2/25/2018	0.0	0.0	0.0	45	45	
2/26/2018	0.0	0.0	0.0	45	45	
2/27/2018	-0.8	0.0	6.0	45	45	
2/28/2018	-2.1	3.9	41.2	45	45	Injection test
3/1/2018	0.0	0.0	0.0	45	45	
3/2/2018	0.0	0.0	0.0	45	45	
3/3/2018	0.0	0.0	0.0	45	45	
3/4/2018	0.0	0.0	0.0	45	45	
3/5/2018	0.0	0.0	0.0	45	45	
3/6/2018	0.0	0.0	0.0	45	45	
3/7/2018	0.0	0.0	0.0	45	45	
3/8/2018	0.0	0.0	0.0	45	45	
3/9/2018	0.0	0.0	0.0	45	45	
3/10/2018	0.0	0.0	0.0	45	45	
3/11/2018	0.0	0.0	0.0	45	45	
3/12/2018	0.0	0.0	0.0	45	45	
3/13/2018	0.0	0.0	0.0	45	45	
3/14/2018	0.0	0.0	0.0	45	45	
3/15/2018	0.0	0.0	0.0	45	45	
3/16/2018	0.0	0.0	0.0	45	45	
3/17/2018	0.0	0.0	0.0	45	45	
3/18/2018	0.0	0.0	0.0	45	45	
3/19/2018	-2.6	3.0	64.8	45	45	Official step-rate test
3/20/2018	0.0	0.0	0.0	45	45	
3/21/2018	0.0	0.0	0.0	45	45	
3/22/2018	0.0	0.0	0.0	45	45	
3/23/2018	0.0	0.0	0.0	45	45	
3/24/2018	0.0	0.0	0.0	45	45	
3/25/2018	0.0	0.0	0.0	45	45	

**APPENDIX 1: Daily Injection Pressures  
M-FG7 1st Quarter 2018  
Lost Creek ISR Project 15-081**

<b>Date</b>	<b>Daily Minimum Injection Pressure (psi)</b>	<b>Daily Average Injection Pressure (psi)</b>	<b>Daily Maximum Injection Pressure (psi)</b>	<b>Automatic Shutdown Pressure (psi)</b>	<b>Maximum Injection Pressure Limit (psi)</b>	<b>Comments</b>
3/26/2018	0.0	0.0	0.0	45	45	
3/27/2018	0.0	0.0	0.0	45	45	
3/28/2018	0.0	0.0	0.0	45	45	
3/29/2018	0.0	0.0	0.0	45	45	
3/30/2018	0.0	0.0	0.0	45	45	
3/31/2018	0.0	0.0	0.0	45	45	

*psi: pounds per square inch*

APPENDIX 1: Daily Injection Pressures  
M-FG7 1st Quarter 2018  
Lost Creek ISR Project 15-081



**APPENDIX 1: Daily Injection Pressures  
M-FG6 1st Quarter 2018  
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
1/1/2018	---	---	---	45	45	
1/2/2018	---	---	---	45	45	
1/3/2018	---	---	---	45	45	
1/4/2018	---	---	---	45	45	
1/5/2018	---	---	---	45	45	
1/6/2018	---	---	---	45	45	
1/7/2018	---	---	---	45	45	
1/8/2018	---	---	---	45	45	
1/9/2018	---	---	---	45	45	
1/10/2018	---	---	---	45	45	
1/11/2018	---	---	---	45	45	
1/12/2018	---	---	---	45	45	
1/13/2018	---	---	---	45	45	
1/14/2018	---	---	---	45	45	
1/15/2018	---	---	---	45	45	
1/16/2018	---	---	---	45	45	
1/17/2018	---	---	---	45	45	
1/18/2018	---	---	---	45	45	
1/19/2018	---	---	---	45	45	
1/20/2018	---	---	---	45	45	
1/21/2018	---	---	---	45	45	
1/22/2018	---	---	---	45	45	
1/23/2018	---	---	---	45	45	
1/24/2018	---	---	---	45	45	
1/25/2018	---	---	---	45	45	
1/26/2018	---	---	---	45	45	
1/27/2018	---	---	---	45	45	
1/28/2018	---	---	---	45	45	
1/29/2018	---	---	---	45	45	
1/30/2018	---	---	---	45	45	
1/31/2018	---	---	---	45	45	
2/1/2018	---	---	---	45	45	
2/2/2018	---	---	---	45	45	
2/3/2018	---	---	---	45	45	
2/4/2018	---	---	---	45	45	
2/5/2018	---	---	---	45	45	
2/6/2018	---	---	---	45	45	
2/7/2018	---	---	---	45	45	
2/8/2018	0.3	0.3	0.3	45	45	
2/9/2018	0.2	1.2	23.5	45	45	
2/10/2018	0.2	0.2	0.3	45	45	
2/11/2018	-4.0	22.7	42.0	45	45	

**APPENDIX 1: Daily Injection Pressures  
M-FG6 1st Quarter 2018  
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
2/12/2018	0.3	11.6	36.4	45	45	
2/13/2018	0.1	1.8	27.0	45	45	
2/14/2018	0.2	0.3	0.3	45	45	
2/15/2018	0.2	1.7	29.2	45	45	
2/16/2018	-0.2	1.1	20.6	45	45	
2/17/2018	0.2	0.2	0.3	45	45	
2/18/2018	0.2	0.3	0.3	45	45	
2/19/2018	0.1	0.1	0.2	45	45	
2/20/2018	-5.9	0.9	8.6	45	45	
2/21/2018	-9.6	4.5	33.0	45	45	
2/22/2018	-7.7	4.9	35.4	45	45	
2/23/2018	-7.1	0.4	21.6	45	45	
2/24/2018	0.1	0.2	0.2	45	45	
2/25/2018	0.1	0.2	0.3	45	45	
2/26/2018	0.2	0.2	0.3	45	45	
2/27/2018	0.2	0.3	0.3	45	45	
2/28/2018	0.2	0.2	0.3	45	45	
3/1/2018	0.1	0.3	2.3	45	45	
3/2/2018	0.2	0.3	0.3	45	45	
3/3/2018	0.3	0.3	0.3	45	45	
3/4/2018	0.2	0.3	0.3	45	45	
3/5/2018	0.2	0.2	0.3	45	45	
3/6/2018	0.1	8.1	35.1	45	45	
3/7/2018	16.3	25.8	28.7	45	45	
3/8/2018	2.0	10.2	16.3	45	45	
3/9/2018	0.3	1.9	6.9	45	45	
3/10/2018	0.3	0.3	0.3	45	45	
3/11/2018	0.2	0.3	0.3	45	45	
3/12/2018	0.2	1.1	20.8	45	45	
3/13/2018	0.3	0.3	0.3	45	45	
3/14/2018	0.2	1.0	18.6	45	45	
3/15/2018	0.3	0.3	0.3	45	45	
3/16/2018	0.3	0.3	0.3	45	45	
3/17/2018	0.3	0.3	0.3	45	45	
3/18/2018	0.3	0.3	0.3	45	45	
3/19/2018	0.3	0.3	0.3	45	45	
3/20/2018	0.1	0.4	2.1	45	45	
3/21/2018	0.3	0.3	0.4	45	45	
3/22/2018	-0.2	0.3	2.5	45	45	
3/23/2018	0.0	0.4	1.7	45	45	
3/24/2018	0.2	0.3	0.3	45	45	
3/25/2018	0.3	0.3	0.3	45	45	

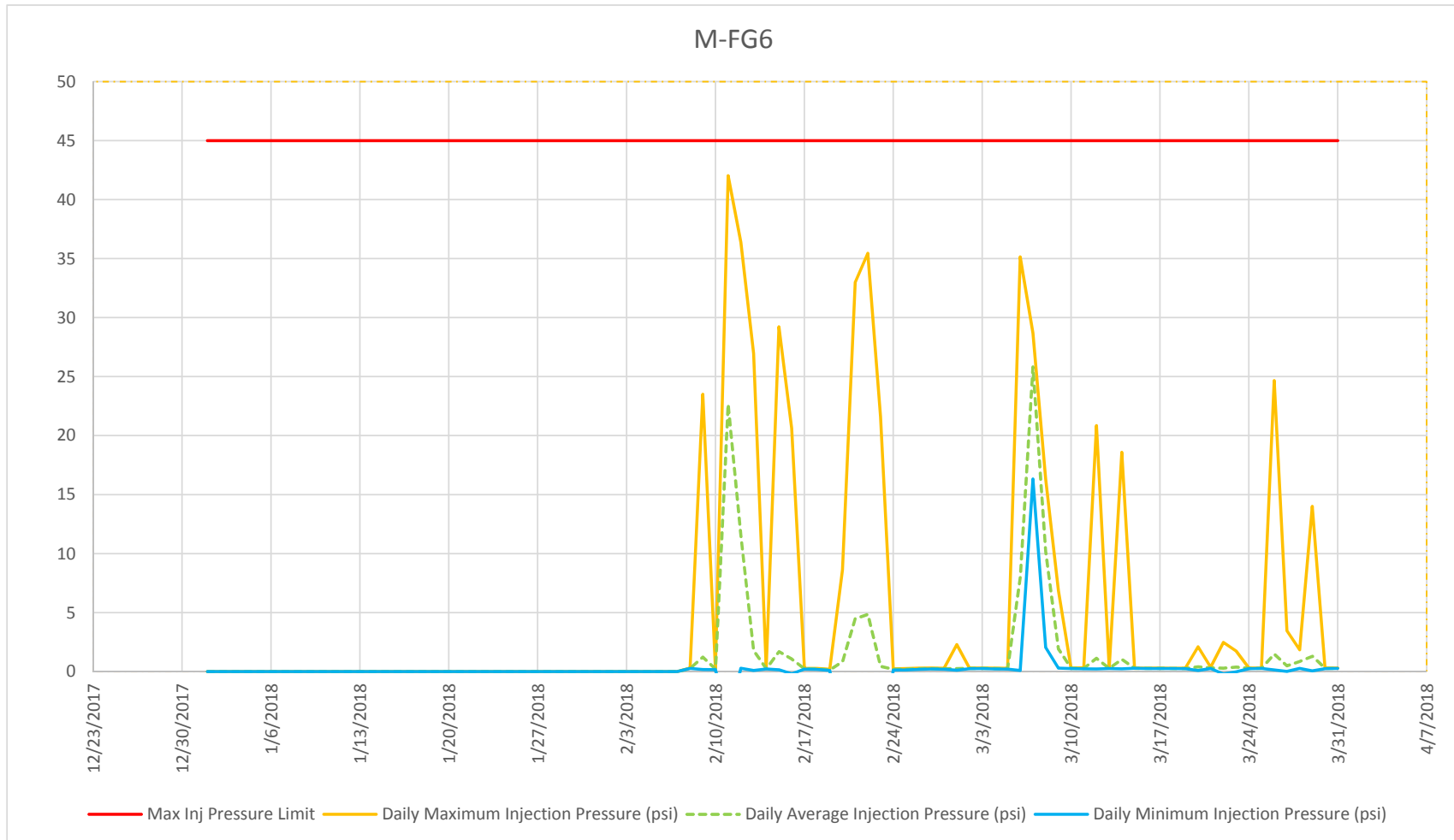
**APPENDIX 1: Daily Injection Pressures  
M-FG6 1st Quarter 2018  
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Date	Daily Minimum Injection Pressure (psi)	Daily Average Injection Pressure (psi)	Daily Maximum Injection Pressure (psi)	Automatic Shutdown Pressure (psi)	Maximum Injection Pressure Limit (psi)	Comments
3/26/2018	0.1	1.5	24.7	45	45	
3/27/2018	0.0	0.5	3.5	45	45	
3/28/2018	0.3	0.9	1.8	45	45	
3/29/2018	0.1	1.3	14.0	45	45	
3/30/2018	0.3	0.3	0.3	45	45	
3/31/2018	0.3	0.3	0.3	45	45	

*psi: pounds per square inch*



APPENDIX 1: Daily Injection Pressures  
M-FG6 1st Quarter 2018  
Lost Creek ISR Project 15-081





## APPENDIX 2



# ANALYTICAL SUMMARY REPORT

March 30, 2018

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

Work Order: C18030053

Project Name: Lost Creek Class V

Energy Laboratories, Inc. Casper WY received the following 1 sample for UR Energy USA Inc on 3/2/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C18030053-001	Class V Grab	02/28/18 00:00	03/02/18	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Conductivity Mercury, Dissolved Fluoride Specific Gravity pH Preservation by the Laboratory Metals Preparation by EPA 200.2 Sample Filtering, Metals Digestion, Mercury by CVAA Gross Alpha Calculated Gross Alpha, Gross Beta Lead 210, Total Polonium 210, Total Radium 226, Total 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.

Report Approved By:



**CLIENT:** UR Energy USA Inc  
**Project:** Lost Creek Class V  
**Work Order:** C18030053

**Report Date:** 03/30/18

## CASE NARRATIVE

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

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

**Note:**

There was not enough sample to analyze all the dissolved radiochem parameters. Mike Gaither will collect again for the quarter for the dissolved parameters.

Prep Comments for Sample C18030053-001B, Test PRP-FILT-MET: The prep hold time was exceeded by 0.692 days.- The sample fraction submitted for Metals Analysis was received in the laboratory with a pH of ~ 7. This is outside of the method specified requirement of pH < 2. Proper preservation was added before sample analysis.

Prep Comments for Sample C18030053-001H, Test PRESERVATION: - The sample fraction submitted for Metals Analysis was received in the laboratory with a pH of ~ 7. This is outside of the method specified requirement of pH < 2. Proper preservation was added before sample analysis.

Prep Comments for Sample C18030053-001G, Test PRESERVATION: - The sample fraction submitted for Radiochemical Analysis was received in the laboratory with a pH of ~ 7. 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:** C18030053-001  
**Client Sample ID:** Class V Grab

**Report Date:** 03/30/18  
**Collection Date:** 02/28/18  
**Date Received:** 03/02/18  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Fluoride	ND	mg/L		0.1		A4500-F C	03/03/18 12:44 / mvr
<b>PHYSICAL PROPERTIES</b>							
Specific Gravity 60/60F	1.000	unitless				D1429	03/12/18 16:19 / eli-g
Conductivity @ 25 C	447	umhos/cm		5		A2510 B	03/03/18 12:39 / mvr
pH	6.88	s.u.	H	0.01		A4500-H B	03/03/18 12:39 / mvr
Solids, Total Dissolved TDS @ 180 C	278	mg/L		10		A2540 C	03/03/18 13:48 / mvr
<b>METALS, DISSOLVED</b>							
Arsenic	ND	mg/L		0.001		E200.8	03/07/18 15:13 / eli-b
Barium	0.18	mg/L		0.05		E200.8	03/07/18 15:13 / eli-b
Beryllium	ND	mg/L		0.001		E200.8	03/07/18 15:13 / eli-b
Cadmium	ND	mg/L		0.001		E200.8	03/07/18 15:13 / eli-b
Chromium	ND	mg/L		0.005		E200.8	03/07/18 15:13 / eli-b
Copper	ND	mg/L		0.005		E200.8	03/07/18 15:13 / eli-b
Lead	ND	mg/L		0.001		E200.8	03/07/18 15:13 / eli-b
Mercury	ND	mg/L		0.0001		E245.1	03/09/18 14:47 / eli-b
Selenium	ND	mg/L		0.001		E200.8	03/07/18 15:13 / eli-b
Uranium	0.0101	mg/L		0.0003		E200.8	03/07/18 15:13 / eli-b
<b>METALS, TOTAL</b>							
Uranium	0.0105	mg/L		0.0003		E200.8	03/07/18 21:46 / eli-b
<b>RADIONUCLIDES, TOTAL</b>							
Gross Alpha	9.8	pCi/L				E900.0	03/21/18 00:33 / trs
Gross Alpha precision (±)	2.8	pCi/L				E900.0	03/21/18 00:33 / trs
Gross Alpha MDC	1.8	pCi/L				E900.0	03/21/18 00:33 / trs
Gross Alpha - Adjusted	2.6	pCi/L			15	E900.0	03/21/18 19:21 / sec
Gross Alpha - Adjusted precision (±)	2.8	pCi/L				E900.0	03/21/18 19:21 / sec
Gross Alpha - Adjusted MDC	1.8	pCi/L				E900.0	03/21/18 19:21 / sec
Gross Beta	7.9	pCi/L				E900.0	03/21/18 00:33 / trs
Gross Beta precision (±)	2.1	pCi/L				E900.0	03/21/18 00:33 / trs
Gross Beta MDC	3.5	pCi/L				E900.0	03/21/18 00:33 / trs
Lead 210	0.7	pCi/L	U			E909.0	03/14/18 00:55 / meh
Lead 210 precision (±)	0.8	pCi/L				E909.0	03/14/18 00:55 / meh
Lead 210 MDC	1.3	pCi/L				E909.0	03/14/18 00:55 / meh
Polonium 210	0.5	pCi/L	U			H Po-02-RC	03/29/18 06:37 / cnh
Polonium 210 precision (±)	0.7	pCi/L				H Po-02-RC	03/29/18 06:37 / cnh
Polonium 210 MDC	1	pCi/L				H Po-02-RC	03/29/18 06:37 / cnh
Radium 226	0.3	pCi/L				E903.0	03/20/18 07:06 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	03/20/18 07:06 / trs
Radium 226 MDC	0.2	pCi/L				E903.0	03/20/18 07:06 / trs
Radium 228	0.4	pCi/L	U			RA-05	03/15/18 10:36 / plj
Radium 228 precision (±)	1.1	pCi/L				RA-05	03/15/18 10:36 / plj

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** C18030053-001  
**Client Sample ID:** Class V Grab

**Report Date:** 03/30/18  
**Collection Date:** 02/28/18  
**Date Received:** 03/02/18  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>RADIONUCLIDES, TOTAL</b>							
Radium 228 MDC	1.8	pCi/L				RA-05	03/15/18 10:36 / plj
Thorium 230	0.2	pCi/L				E908.0	03/26/18 08:20 / cnh
Thorium 230 precision (±)	0.1	pCi/L				E908.0	03/26/18 08:20 / cnh
Thorium 230 MDC	0.2	pCi/L				E908.0	03/26/18 08:20 / cnh

**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.



# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** UR Energy USA Inc

**Report Date:** 03/06/18

**Project:** Lost Creek Class V

**Work Order:** C18030053

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2510 B</b>								Analytical Run: PHSC_101-C_180303A		
<b>Lab ID: SC 100</b>		Initial Calibration Verification Standard								03/03/18 11:57
Conductivity @ 25 C		99.3	umhos/cm	5.0	99	90	110			
<b>Lab ID: SC 5000</b>		Initial Calibration Verification Standard								03/03/18 12:00
Conductivity @ 25 C		5320	umhos/cm	5.0	106	90	110			
<b>Lab ID: SC 20000</b>		Initial Calibration Verification Standard								03/03/18 12:03
Conductivity @ 25 C		21800	umhos/cm	5.0	109	90	110			
<b>Method: A2510 B</b>								Batch: R232860		
<b>Lab ID: SC 50000</b>		Initial Calibration Verification Standard								03/03/18 12:06
Conductivity @ 25 C		54500	umhos/cm	5.0	109	90	110			
<b>Lab ID: MBLK</b>		Method Blank								03/03/18 12:21
Conductivity @ 25 C		1	umhos/cm							
<b>Lab ID: C18030046-001ADUP</b>		Sample Duplicate								03/03/18 12:27
Conductivity @ 25 C		12100	umhos/cm	5.0				0.2	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:** 03/06/18

**Project:** Lost Creek Class V

**Work Order:** C18030053

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS180303A		
<b>Lab ID: MB-1_180303A</b>		Method Blank					Run: BAL-16_180303A		03/03/18 13:47	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	7						
<b>Lab ID: LCS-2_180303A</b>		Laboratory Control Sample					Run: BAL-16_180303A		03/03/18 13:47	
Solids, Total Dissolved TDS @ 180 C		1080	mg/L	11	97	90	110			
<b>Lab ID: C18030046-001A DUP</b>		Sample Duplicate					Run: BAL-16_180303A		03/03/18 13:48	
Solids, Total Dissolved TDS @ 180 C		6690	mg/L	100				1.3	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:** 03/06/18

**Project:** Lost Creek Class V

**Work Order:** C18030053

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C										Batch: R232861
<b>Lab ID:</b> LCS-9807		Laboratory Control Sample					Run: MANTECH_180303A			03/03/18 12:35
Fluoride		2.20	mg/L	0.10	110	90	110			
<b>Lab ID:</b> MBLK		Method Blank					Run: MANTECH_180303A			03/03/18 12:41
Fluoride		ND	mg/L	0.06						
<b>Lab ID:</b> C18030053-001ADUP		Sample Duplicate					Run: MANTECH_180303A			03/03/18 12:51
Fluoride		0.100	mg/L	0.10					10	
<b>Lab ID:</b> C18030053-001AMS		Sample Matrix Spike					Run: MANTECH_180303A			03/03/18 12:58
Fluoride		2.53	mg/L	0.10	122	90	110			S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** UR Energy USA Inc

**Report Date:** 03/06/18

**Project:** Lost Creek Class V

**Work Order:** C18030053

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-H B										Analytical Run: PHSC_101-C_180303A
<b>Lab ID:</b> 6.86		Initial Calibration Verification Standard								03/03/18 11:54
pH		6.85	s.u.	0.010	100	98	102			
<b>Method:</b> A4500-H B										Batch: R232860
<b>Lab ID:</b> C18030046-001ADUP		Sample Duplicate								03/03/18 12:27
pH		7.46	s.u.	0.010				0.1	1.5	Run: PHSC_101-C_180303A

**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:** 03/12/18

**Project:** Lost Creek Class V

**Work Order:** C18030053

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> D1429									Batch: R241975
<b>Lab ID:</b> LCS-R241975	Laboratory Control Sample								Run: BAL-ACCU-124_180312B 03/12/18 16:14
Specific Gravity 60/60F	1.020	unitless		100	85	115			
<b>Lab ID:</b> C18030053-001DDUP	Sample Duplicate								Run: BAL-ACCU-124_180312B 03/12/18 16:21
Specific Gravity 60/60F	1.000	unitless					0.0	1	

**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:** 03/12/18

**Project:** Lost Creek Class V

**Work Order:** C18030053

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_180307A			
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard								03/07/18 11:15	
Arsenic	0.0488	mg/L	0.0050	98	90	110				
Barium	0.0505	mg/L	0.10	101	90	110				
Beryllium	0.0259	mg/L	0.0010	104	90	110				
Cadmium	0.0246	mg/L	0.0010	98	90	110				
Chromium	0.0492	mg/L	0.010	98	90	110				
Copper	0.0516	mg/L	0.010	103	90	110				
Lead	0.0500	mg/L	0.010	100	90	110				
Selenium	0.0508	mg/L	0.0050	102	90	110				
Uranium	0.0202	mg/L	0.0010	101	90	110				
<b>Method: E200.8</b>							Batch: 119122			
<b>Lab ID: MB-119122</b>	Method Blank								Run: ICPMS206-B_180307A	03/07/18 20:38
Uranium	ND	mg/L	0.00003							
<b>Lab ID: LCS-119122</b>	Laboratory Control Sample								Run: ICPMS206-B_180307A	03/07/18 21:12
Uranium	0.473	mg/L	0.0010	95	85	115				
<b>Lab ID: B18030308-004BMS3</b>	Sample Matrix Spike								Run: ICPMS206-B_180307A	03/07/18 21:15
Uranium	0.492	mg/L	0.00030	98	70	130				
<b>Lab ID: B18030308-004BMSD3</b>	Sample Matrix Spike Duplicate								Run: ICPMS206-B_180307A	03/07/18 21:19
Uranium	0.493	mg/L	0.00030	98	70	130	0.2	20		
<b>Lab ID: B18030322-001AMS3</b>	Sample Matrix Spike								Run: ICPMS206-B_180307A	03/07/18 22:03
Uranium	0.478	mg/L	0.00030	95	70	130				
<b>Lab ID: B18030322-001AMSD3</b>	Sample Matrix Spike Duplicate								Run: ICPMS206-B_180307A	03/07/18 22:07
Uranium	0.495	mg/L	0.00030	98	70	130	3.4	20		
<b>Method: E200.8</b>							Batch: R295900			
<b>Lab ID: LRB</b>	Method Blank								Run: ICPMS206-B_180307A	03/07/18 11:08
Arsenic	ND	mg/L	0.0001							
Barium	ND	mg/L	0.00004							
Beryllium	ND	mg/L	0.00003							
Cadmium	ND	mg/L	0.00002							
Chromium	ND	mg/L	0.00004							
Copper	ND	mg/L	0.0001							
Lead	ND	mg/L	0.00002							
Selenium	ND	mg/L	0.0004							
Uranium	ND	mg/L	0.00003							
<b>Lab ID: LFB</b>	Laboratory Fortified Blank								Run: ICPMS206-B_180307A	03/07/18 11:29
Arsenic	0.0523	mg/L	0.0050	105	85	115				
Barium	0.0515	mg/L	0.10	103	85	115				

**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:** 03/12/18

**Project:** Lost Creek Class V

**Work Order:** C18030053

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R295900</span>									
<b>Lab ID: LFB</b>	Laboratory Fortified Blank				Run: ICPMS206-B_180307A			03/07/18 11:29	
Beryllium	0.0517	mg/L	0.0010	103	85	115			
Cadmium	0.0499	mg/L	0.0010	100	85	115			
Chromium	0.0501	mg/L	0.010	100	85	115			
Copper	0.0499	mg/L	0.010	100	85	115			
Lead	0.0493	mg/L	0.010	99	85	115			
Selenium	0.0515	mg/L	0.0050	103	85	115			
Uranium	0.0496	mg/L	0.0010	99	85	115			
<b>Lab ID: B18030349-001BMS</b>	Sample Matrix Spike				Run: ICPMS206-B_180307A			03/07/18 14:49	
Arsenic	0.0535	mg/L	0.0010	106	70	130			
Barium	0.0951	mg/L	0.050	107	70	130			
Beryllium	0.0516	mg/L	0.0010	103	70	130			
Cadmium	0.0525	mg/L	0.0010	105	70	130			
Chromium	0.0504	mg/L	0.0050	101	70	130			
Copper	0.0521	mg/L	0.0050	101	70	130			
Lead	0.0509	mg/L	0.0010	101	70	130			
Selenium	0.0531	mg/L	0.0010	106	70	130			
Uranium	0.0526	mg/L	0.00030	105	70	130			
<b>Lab ID: B18030349-001BMSD</b>	Sample Matrix Spike Duplicate				Run: ICPMS206-B_180307A			03/07/18 14:52	
Arsenic	0.0526	mg/L	0.0010	104	70	130	1.7	20	
Barium	0.0953	mg/L	0.050	107	70	130	0.2	20	
Beryllium	0.0520	mg/L	0.0010	104	70	130	0.8	20	
Cadmium	0.0519	mg/L	0.0010	104	70	130	1.2	20	
Chromium	0.0516	mg/L	0.0050	103	70	130	2.2	20	
Copper	0.0536	mg/L	0.0050	104	70	130	2.7	20	
Lead	0.0516	mg/L	0.0010	103	70	130	1.4	20	
Selenium	0.0549	mg/L	0.0010	110	70	130	3.3	20	
Uranium	0.0530	mg/L	0.00030	106	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:** 03/12/18

**Project:** Lost Creek Class V

**Work Order:** C18030053

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV202-B_180309B
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								03/09/18 14:32
Mercury	0.00188	mg/L	0.00010	94	90	110			
<b>Method:</b> E245.1									Batch: 119229
<b>Lab ID:</b> MB-119229	Method Blank'LBI'								03/09/18 14:37
Mercury	0.0000198	mg/L	0.00010		0	0			
<b>Lab ID:</b> LCS-119229	Laboratory Control Sample								03/09/18 14:39
Mercury	0.00189	mg/L	0.00010	94	85	115			
<b>Lab ID:</b> C18030053-001BMS	Sample Matrix Spike								03/09/18 14:49
Mercury	0.00189	mg/L	0.00010	93	70	130			
<b>Lab ID:</b> C18030053-001BMSD	Sample Matrix Spike Duplicate								03/09/18 14:51
Mercury	0.00190	mg/L	0.00010	94	70	130	0.8	30	

**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:** 03/29/18  
**Work Order:** C18030053

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E900.0</b>								Batch: GrAB-2468R		
<b>Lab ID: Th230-GrAB-2468</b>	Laboratory Control Sample			Run: G5000W_180312B			03/21/18 00:33			
Gross Alpha	93		pCi/L	93		80	120			
<b>Lab ID: Sr90-GrAB-2468</b>	Laboratory Control Sample			Run: G5000W_180312B			03/21/18 00:33			
Gross Beta	150		pCi/L	82		80	120			
<b>Lab ID: MB-GrAB-2468</b>	6	Method Blank		Run: G5000W_180312B			03/21/18 00:33			
Gross Alpha		-0.1	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							
<b>Lab ID: C18030113-001LMS</b>	Sample Matrix Spike			Run: G5000W_180312B			03/21/18 00:33			
Gross Alpha	110		pCi/L	101		70	130			
<b>Lab ID: C18030113-001LMSD</b>	Sample Matrix Spike Duplicate			Run: G5000W_180312B			03/21/18 00:33			
Gross Alpha	120		pCi/L	107		70	130	5.9	20	
<b>Lab ID: C18030113-001LMS</b>	Sample Matrix Spike			Run: G5000W_180312B			03/21/18 00:33			
Gross Beta	240		pCi/L	127		70	130			
<b>Lab ID: C18030113-001LMSD</b>	Sample Matrix Spike Duplicate			Run: G5000W_180312B			03/21/18 00:33			
Gross Beta	230		pCi/L	119		70	130	5.7	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:** 03/29/18  
**Work Order:** C18030053

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E903.0										Batch: RA226-8870
<b>Lab ID:</b> LCS-RA226-8870		Laboratory Control Sample								Run: G542M_180307B 03/20/18 07:06
Radium 226		8.3	pCi/L	81		80	120			
<b>Lab ID:</b> MB-RA226-8870	3	Method Blank								Run: G542M_180307B 03/20/18 07:06
Radium 226		0.2	pCi/L							
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
<b>Lab ID:</b> C18030057-001BMS		Sample Matrix Spike								Run: G542M_180307B 03/20/18 07:06
Radium 226		17	pCi/L	83		70	130			
<b>Lab ID:</b> C18030057-001BMSD		Sample Matrix Spike Duplicate								Run: G542M_180307B 03/20/18 07:06
Radium 226		15	pCi/L	72		70	130	13	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:** 03/29/18  
**Work Order:** C18030053

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E908.0</b>								Batch: RA-TH-ISO-2693		
<b>Lab ID: LCS-RA-TH-ISO-2693</b>		Laboratory Control Sample				Run: EGG-ORTEC_2_180315A		03/26/18 08:20		
Thorium 230	13	pCi/L		112		80	120			
<b>Lab ID: C18030213-003CMS</b>		Sample Matrix Spike				Run: EGG-ORTEC_2_180315A		03/26/18 08:20		
Thorium 230	24	pCi/L		103		70	130			
<b>Lab ID: C18030213-003CMSD</b>		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_2_180315A		03/26/18 08:20		
Thorium 230	22	pCi/L		97		70	130	6.1	20	
<b>Lab ID: MB-RA-TH-ISO-2693</b>	3	Method Blank				Run: EGG-ORTEC_2_180315A		03/26/18 08:20		
Thorium 230		0.2	pCi/L							
Thorium 230 precision (±)		0.2	pCi/L							
Thorium 230 MDC		0.2	pCi/L							

**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:** 03/29/18  
**Work Order:** C18030053

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E909.0										Batch: PB-210-0913
<b>Lab ID:</b> LCS-PB-210-0913		Laboratory Control Sample								Run: TRICARB LSC_180308A 03/13/18 17:01
Lead 210		22	pCi/L	103		80	120			
<b>Lab ID:</b> MB-PB-210-0913	3	Method Blank								Run: TRICARB LSC_180308A 03/13/18 18:09
Lead 210		0.1	pCi/L							U
Lead 210 precision (±)		0.7	pCi/L							
Lead 210 MDC		1	pCi/L							
<b>Lab ID:</b> C18030057-001BMS		Sample Matrix Spike								Run: TRICARB LSC_180308A 03/14/18 06:47
Lead 210		48	pCi/L	104		70	130			
<b>Lab ID:</b> C18030057-001BMSD		Sample Matrix Spike Duplicate								Run: TRICARB LSC_180308A 03/14/18 07:52
Lead 210		47	pCi/L	102		70	130	1.9	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:** 03/29/18

**Project:** Lost Creek Class V

**Work Order:** C18030053

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: H Po-02-RC</b>								Batch: PO210-0676		
<b>Lab ID: LCS-51287</b>		Laboratory Control Sample				Run: EGG-ORTEC_2_180326A		03/29/18 06:37		
Polonium 210		34	pCi/L		75	80	120			S
<b>Lab ID: MB-51287</b>	3	Method Blank				Run: EGG-ORTEC_2_180326A		03/29/18 06:37		
Polonium 210		0.2	pCi/L							U
Polonium 210 precision (±)		0.7	pCi/L							
Polonium 210 MDC		1	pCi/L							
<b>Lab ID: LCS-51332</b>		Laboratory Control Sample				Run: EGG-ORTEC_2_180326A		03/29/18 06:37		
Polonium 210		52	pCi/L		114	80	120			
<b>Lab ID: MB-51332</b>	3	Method Blank				Run: EGG-ORTEC_2_180326A		03/29/18 06:37		
Polonium 210		-0.3	pCi/L							U
Polonium 210 precision (±)		0.8	pCi/L							
Polonium 210 MDC		2	pCi/L							
<b>Lab ID: C18030057-001CMS</b>		Sample Matrix Spike				Run: EGG-ORTEC_2_180326A		03/29/18 06:37		
Polonium 210		60	pCi/L		97	70	130			
<b>Lab ID: C18030057-001CMSD</b>		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_2_180326A		03/29/18 06:37		
Polonium 210		38	pCi/L		61	70	130	45	20	SR
- Spike response is outside of the acceptance range for this analysis. However, the LCS and the RER are acceptable.										
<b>Lab ID: MB-PO210-0676</b>	3	Method Blank				Run: EGG-ORTEC_2_180326A		03/29/18 06:37		
Polonium 210		0.1	pCi/L							U
Polonium 210 precision (±)		0.5	pCi/L							
Polonium 210 MDC		0.9	pCi/L							
<b>Lab ID: LCS-PO210-0676</b>		Laboratory Control Sample				Run: EGG-ORTEC_2_180326A		03/29/18 06:37		
Polonium 210		23	pCi/L		78	80	120			S

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory 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:** 03/29/18  
**Work Order:** C18030053

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> RA-05										Batch: RA228-5740
<b>Lab ID:</b> LCS-228-RA226-8870		Laboratory Control Sample								Run: TENNELEC-3_180307A 03/15/18 09:03
Radium 228		8.6	pCi/L		95	80	120			
<b>Lab ID:</b> MB-RA226-8870	3	Method Blank								Run: TENNELEC-3_180307A 03/15/18 09:03
Radium 228		-0.4	pCi/L							U
Radium 228 precision (±)		0.9	pCi/L							
Radium 228 MDC		1	pCi/L							
<b>Lab ID:</b> C18030117-001BMS		Sample Matrix Spike								Run: TENNELEC-3_180307A 03/15/18 09:03
Radium 228		23	pCi/L		92	70	130			
<b>Lab ID:</b> C18030117-001BMSD		Sample Matrix Spike Duplicate								Run: TENNELEC-3_180307A 03/15/18 09:03
Radium 228		21	pCi/L		81	70	130	9.0	20	

**Qualifiers:**

RL - Analyte reporting limit.  
MDC - Minimum detectable concentration

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



# Work Order Receipt Checklist

UR Energy USA Inc

C18030053

Login completed by: Dorian Quis

Date Received: 3/2/2018

Reviewed by: Kasey Vidick

Received by: kak

Reviewed Date: 3/5/2018

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 type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Container/Temp Blank temperature:	2.8°C On Ice		
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 checked="" type="checkbox"/>	Not Applicable <input 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:

Sample for Dissolved Metals was subsampled, filtered and preserved to pH <2 with 2 mL of nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection.



Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com

Page 1 of 1

### Account Information (Billing information)

Company Name **KA Energy**  
 Contact **Mike GaitHER**  
 Phone **307-265-2373 x 321**  
 Mailing Address **5880 Enterprise Dr Ste 200**  
 City, State, Zip **Casper WY 82609**  
 Email **Mike.GaitHER@KAEnergy.com**  
 Receive Invoice  Hard Copy  Email  Receive Report  Hard Copy  Email   
 Purchase Order  Quote  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, Ba, Be, Cd, Cr, Cu, Pb, Hg, Se, U**  
**Sample Submitted Raw. Please Filter and Preserved as Needed**

### Project Information

Project Name, PWSID, Permit, etc. **Lost Creek CLASS I**  
 Sampler Name **Ross W** Sampler Phone \_\_\_\_\_  
 Sample Origin State **WY** EPA/State Compliance  Yes  No  
 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 - Soils/ Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

### Analysis Requested

Analysis Requested	Matrix (See Codes Above)	Number of Containers	Received by (print)	Date/Time	Signature
URANIUM - TRANS	W	2	M. GAITHER	5/18 11:34	[Signature]
PH/COND.	W		M. GAITHER	5/18 11:34	[Signature]
SPEC Gravity	W		M. GAITHER	5/18 11:34	[Signature]
TDS	W		M. GAITHER	5/18 11:34	[Signature]
FLUORIDE	W		M. GAITHER	5/18 11:34	[Signature]
RA226+228 (DIS) (TR)	W		M. GAITHER	5/18 11:34	[Signature]
CROSS B (TRUS) (TR)	W		M. GAITHER	5/18 11:34	[Signature]
TH 230 (TR)	W		M. GAITHER	5/18 11:34	[Signature]
Pb 210 (DIS) (TR)	W		M. GAITHER	5/18 11:34	[Signature]
Pb 210 (TR)	W		M. GAITHER	5/18 11:34	[Signature]

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  
**C18D30053**

### Sample Identification

Sample ID	Collection		Signature
	Date	Time	
1 <b>CLASS I Cont GRAB</b>	5/18	15:00	[Signature]
2			
3			
4			
5			
6			
7			
8			
9			
10			

### Custody Record MUST be signed

Relinquished by (print) **STAN WALLERS** Signature \_\_\_\_\_  
 Relinquished by (print) **M. GAITHER** Signature \_\_\_\_\_  
 Shipped By **HAND** Cooler ID(s) **Y** Custody Seals **Y** Impact **Y** Receipt Temp **2.8** °C  
 On Ice  Temp Blagk  Payment Type  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.