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April 29, 2015

NRC Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**Re: Quarterly Reporting Pursuant to License Condition 11.1(A) and 10.8(C)**

**1<sup>st</sup> Quarter 2015**

**Lost Creek ISR Project License SUA-1598**

To Whom It May Concern:

The following quarterly report has been submitted in accordance with License Condition 11.1(A) for Lost Creek ISR, LLC's (LCI) Lost Creek Project License SUA-1598. License Condition 11.1(A) requires quarterly reporting of the results of excursion monitoring. Additionally, this report includes the results of the quarterly Storage Pond inspections pursuant to LC 10.8(C). This report summarizes the following items:

- Excursion monitoring that has occurred during operations as described in the NRC License Application Technical Report (TR) Section 5.7.8.2;
- Summary report of the quarterly Storage Ponds inspections in accordance with TR Section 5.3.2.3.

The reporting period for this report is the first calendar quarter of 2015 spanning from January 1, 2015 to March 31, 2015.

### **MONITORING AND RESULTS**

Excursion monitoring parameters include alkalinity, chloride, and specific conductance for which associated Upper Control Limits (UCLs) have been established on a well-by-well basis. Header houses HH1-1 through HH1-9 within Mine Unit 1 were operational as of the end of the reporting period. An excursion may be indicated by any one analytical parameter result exceeding the associated UCL by 20% or more or by two or three results exceeding the applicable UCL.

All of MU1 monitor wells were sampled routinely which includes 28 monitor ring wells and 26 (13 overlying and 13 underlying) mine unit wells. Sampling was conducted on a semi-monthly basis at least 10 days apart during production within Mine Unit 1. The results of the excursion monitoring sample analysis are provided on **Attachment 1**. The table displays the analytical result, the applicable UCL value, and the percent difference. A negative percent difference

indicates the analytical value is less than the UCL. The percent difference (or percent change) is determined by the following formula:

$$\% \text{ Difference} = \frac{\text{Result} - \text{UCL}}{\text{UCL}} \times 100\%$$

Only three results slightly exceeded the UCL for conductivity at MU-108 on January 8, January 22, and February 5 but were less than the 20% threshold value for excursion consideration. Analytical results for conductivity during March for MO-108 were less than the UCL.

#### *Corrective Actions*

No corrective actions were necessary.

#### *Excursion Status*

There were no wells on excursion status during the reporting period.

### **STORAGE PONDS INSPECTION AND MONITORING**

The quarterly Storage Pond inspection was completed on February 12, 2015. Ponds were frozen from the beginning of January to mid-March. Repairs to the South Pond were completed in March. A summary of the repairs is included in the discussion items below.

The following items are discussed relating to overall operations of the Ponds over the quarter:

- Freeboard
- Leak detection system
- Water quality monitoring
- Pond monitor wells
- South Pond repairs

#### *Freeboard*

The proper amount of freeboard was maintained during the reporting period during normal operations. The freeboard levels in either Pond were not less than the minimum freeboard limit of 3 feet with the exception of the North Pond during the time that the South Pond was under repair. Approval was granted by WDEQ and NRC to exceed the freeboard in the North Pond for a short period of time. The freeboard in the North Pond was no less than 2.2 feet during repair. Freeboard was less than 3 feet from March 19 to March 31.

#### *Leak Detection System*

Water continued to be present in the leak detection sumps (LD sumps) during the reporting quarter. The sump pumps were used manually to purge water from the sumps. Samples were collected and measured for conductivity on several occasions. Since Pond samples could not be collected due to ice coverage, conductivity of the sumps had to be compared to the results from the previous quarter. NRC was notified of leak detection status on January 29, February 2, and March 3.



**TABLE 1: Pond/LD Sump Conductivity**

Sample ID	Sample Date	Cond., Specific @ 25°C, LC Lab	Comment
		$\mu\text{S/cm}$	
N Pond	12/19/2014	44,100	
S Pond	12/19/2014	45,400	
N Pond LD	1/7/2015	23,900	
S Pond LD	1/7/2015	28,800	
N Pond LD	1/29/2015	24,500	
S Pond LD	1/29/2015	40,700	90% of Pond value
N Pond LD	2/9/2015	25,800	
N Pond LD	2/16/2015	25,700	
N Pond LD	2/23/2015	25,800	
N Pond LD	3/2/2015	25,700	

Due to the increased rate of inflow of water into the South Pond sump and the increase in conductivity value, the South Pond was designated as compromised and would be drained and repaired. Actions could not be taken until the ice had thawed. The North Pond would be evaluated for repairs, as necessary, at the conclusion of the South Pond corrective actions.

#### *Water Quality Monitoring*

Quarterly Pond samples were collected from the Pond surfaces on March 19 after the Ponds had completely thawed. Samples were also collected from the LD Sumps on March 5 for additional analysis to provide comparative water quality. The quarterly Pond samples and LD Sump samples were submitted to Energy Labs in Casper, WY and analyzed for the required parameters (**Table 2**). Sump water level data and pump totalizer readings are provided on the table in **Attachment 2**.

**TABLE 2: Pond and LD Sump Water Quality**

Sample ID	Sample Date	Total Alkalinity (CaCO <sub>3</sub> )	Chloride	Cond., Specific @ 25°C, Lab	pH, LC Lab	Sodium	Sulfate	Total Dissolved Solids	Arsenic	Selenium	Uranium, Total	Radium-226
		mg/L	mg/L	µS/cm	s. u.	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
N Pond LD	1/7/2015	295	6589	23900	8.04	--	452	--	--	--	33.4	--
S Pond LD	1/7/2015	416	7419	28800	7.80	--	745	--	--	--	73.1	--
N Pond LD	1/29/2015	351	9157	24500	7.98	--	485	--	--	--	--	--
S Pond LD	1/29/2015	592	15114	40700	7.56	--	1050	--	--	--	--	--
N Pond LD	2/16/2015	442	10950	25700	7.91	--	--	--	--	--	--	--
N Pond LD	2/23/2015	442	9920	25800	7.96	--	--	--	--	--	--	--
N Pond LD	3/2/2015	436	9730	25700	8.03	--	--	--	--	--	--	--
N Pond LD	3/5/2015	433	10600	27700	8.09	5190	565	--	0.010	0.723	32.1	--
S Pond LD	3/5/2015	716	18400	49900	7.33	10900	1290	--	0.044	0.240	259	--
<b>N Pond*</b>	<b>3/19/2015</b>	<b>404</b>	<b>11200</b>	<b>30100</b>	<b>7.74</b>	<b>6330</b>	<b>738</b>	<b>18600</b>	<b>0.012</b>	<b>0.130</b>	<b>145</b>	<b>442</b>
<b>S Pond*</b>	<b>3/19/2015</b>	<b>183</b>	<b>4540</b>	<b>13200</b>	<b>7.99</b>	<b>2580</b>	<b>263</b>	<b>7630</b>	<b>0.006</b>	<b>0.058</b>	<b>40</b>	<b>167</b>

\*Quarterly samples

#### *Pond Monitor Wells*

Pond monitor wells were measured in conjunction with the quarterly inspection as summarized on **Table 3**:

**TABLE 3: Pond Monitor Well Water Levels**

Well ID	Date	Water Level (ft-bmp)	Total Depth (ft-bmp)
MW-1	2/16/2015	ND	NM
MW-2	2/16/2015	ND	NM
MW-3	2/16/2015	ND	NM
MW-4	2/16/2015	ND	NM

#### *South Pond Repair Summary*

Based on water quality changes and rate of water influx in the South Pond LD Sump, it was declared that a leak existed within the South Pond. The following is a summary of the repair:

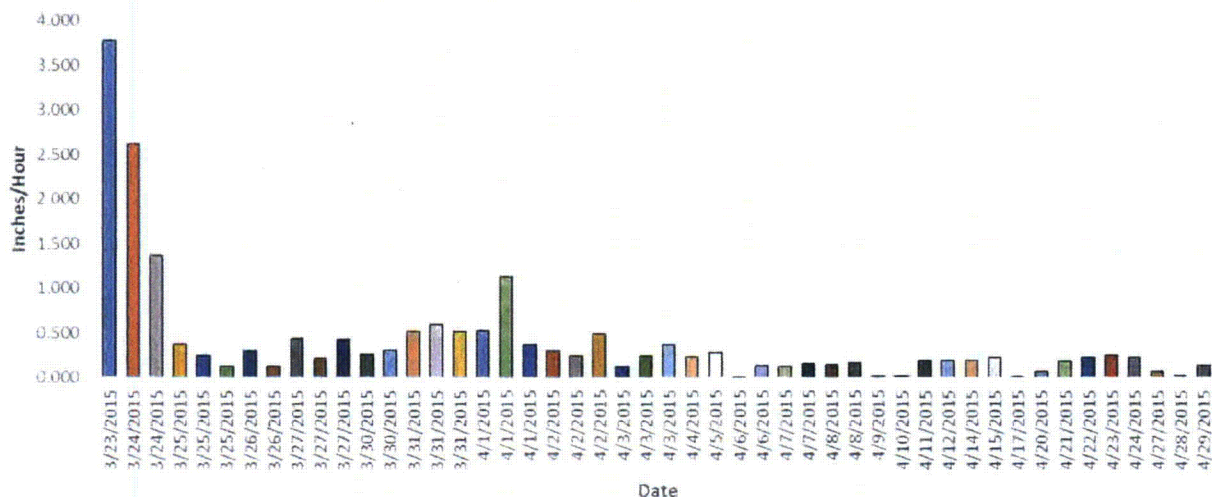
- Permission was requested on March 9, 2015 to pump water from the South Pond to the North Pond and temporarily exceeding the minimum freeboard limit in the North Pond. Transfer of water would commence when the Pond surface and piping thawed enough to pump water.



- Permission was granted by the NRC Project Manager and agreed to by WDEQ-LQD on March 11, 2015 with the condition that the freeboard not be exceeded for more than two weeks. The project was to be completed by April 15<sup>th</sup>.
- The ice had melted earlier than anticipated and pumping from the South Pond to the North Pond commenced on March 18, 2015.
- The freeboard limit in the North Pond had been reached on March 19, 2015 effectively starting the two week time limit.
- On March 23, 2015 pond draining was complete and the original installation contractor, Lange Containment Systems, arrived and did an inspection of the South Pond liner.
- Lange did not find any problems with the liner, but discovered a crimp in the boot liner to HDPE pipe seal as shown in Figure 1 and Figure 2 included in Attachment 3. In the original installation done by Lange, the grey butylene tape did not have a sufficient enough seal from liner to HDPE pipe, only one clamp was used, and the clamp was installed with a crimp in the boot as shown. This allowed pond water to leak back into the primary liner and into the sand and secondary liner layer.
- Lange took off the old clamp, cut and pulled back the boot liner, re-sealed the connection with butylene tape, resealed the cut, and secured the boot with three clamps as shown in Figure 3 in Attachment 3. The seal and clamps were then given a secondary seal with flex tape and corrosion protection tape.
- On 3/31/2015, the North Pond began equalizing back into the South Pond and freeboard was returned to below 3 ft in both ponds.
- The South Pond LD Sump levels have been continuously monitored for recharge rate. The recharge rates have drastically reduced following the repair of the liner as shown in Figure 4 below.

**FIGURE 4:**

**South LD Sump Recharge Rate**



- The recharge rate has fluctuated as shown on the chart. The sump level had fluctuated over 6 inches reaching 7-8 inches on April 20-24 due to a slight increase in recharge rate. The Pond construction contractor, Lange Containment Systems, was consulted on the variations in recharge rate. They explained that it was normal and expected for residual water to enter the sump at varying rates following liner repairs due to the weight of the water in the Pond as it is refilled pushing residual water trapped in wrinkles in the liner to the sump. The NRC Project Manager was notified of the trend on April 24.
- The North Pond liner will be evaluated and the pipe boot repaired following completion of the South Pond repair.

If you have any questions regarding this report or require additional information please contact me at the Casper office.

Sincerely,



Michael D. Gaither  
Manager EHS and Regulatory Affairs  
Ur-Energy USA, Inc

Attachments: **Attachment 1: Water Quality Data Tables**  
**Attachment 2: LD Sump Data**  
**Attachment 3: Pond Repair Figures**

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**Attachment 1: MU1 Water Quality Data**  
**1st Quarter 2015**  
**Lost Creek ISR Project SUA-1598**

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance			Comments
				Assay	UCL*	% Chg	Assay	UCL*	% Chg	Assay	UCL*	% Chg	
M-101	MU1 Ring	1/6/2015	--	114	172	-34	5.6	21	-74	664	965	-31	
M-101	MU1 Ring	1/20/2015	14	114	172	-33	5.6	21	-73	649	965	-33	
M-101	MU1 Ring	2/3/2015	14	115	172	-33	5.7	21	-73	642	965	-33	
M-101	MU1 Ring	2/17/2015	14	119	172	-31	5.8	21	-72	677	965	-30	
M-101	MU1 Ring	3/6/2015	17	118	172	-31	6.0	21	-71	673	965	-30	
M-101	MU1 Ring	3/24/2015	18	123	172	-29	7.7	21	-63	686	965	-29	
M-102	MU1 Ring	1/6/2015	--	137	173	-21	5.6	20	-72	801	971	-17	
M-102	MU1 Ring	1/20/2015	14	138	173	-20	5.6	20	-72	792	971	-18	
M-102	MU1 Ring	2/3/2015	14	137	173	-21	5.9	20	-71	772	971	-20	
M-102	MU1 Ring	2/17/2015	14	139	173	-20	5.9	20	-70	800	971	-18	
M-102	MU1 Ring	3/6/2015	17	138	173	-20	6.1	20	-70	790	971	-19	
M-102	MU1 Ring	3/24/2015	18	142	173	-18	7.7	20	-61	799	971	-18	
M-103A	MU1 Ring	1/6/2015	--	139	150	-7	6.0	21	-72	831	1171	-29	
M-103A	MU1 Ring	1/20/2015	14	141	150	-6	5.8	21	-72	821	1171	-30	
M-103A	MU1 Ring	2/3/2015	14	136	150	-10	5.8	21	-72	804	1171	-31	
M-103A	MU1 Ring	2/17/2015	14	142	150	-6	6.3	21	-70	823	1171	-30	
M-103A	MU1 Ring	3/6/2015	17	139	150	-7	6.2	21	-70	816	1171	-30	
M-103A	MU1 Ring	3/24/2015	18	142	150	-5	7.9	21	-62	823	1171	-30	
M-104	MU1 Ring	1/6/2015	--	142	173	-18	6.6	22	-70	831	1162	-28	
M-104	MU1 Ring	1/20/2015	14	145	173	-16	6.1	22	-72	815	1162	-30	
M-104	MU1 Ring	2/3/2015	14	143	173	-17	6.0	22	-73	805	1162	-31	
M-104	MU1 Ring	2/17/2015	14	145	173	-16	6.6	22	-70	816	1162	-30	
M-104	MU1 Ring	3/6/2015	17	143	173	-17	7.0	22	-68	819	1162	-30	
M-104	MU1 Ring	3/24/2015	18	147	173	-15	6.4	22	-71	816	1162	-30	
M-105	MU1 Ring	1/6/2015	--	129	148	-13	6.6	21	-69	740	1036	-29	
M-105	MU1 Ring	1/20/2015	14	132	148	-11	5.8	21	-72	739	1036	-29	
M-105	MU1 Ring	2/3/2015	14	130	148	-12	5.7	21	-73	727	1036	-30	
M-105	MU1 Ring	2/17/2015	14	130	148	-12	6.4	21	-70	732	1036	-29	
M-105	MU1 Ring	3/6/2015	17	134	148	-10	6.4	21	-70	745	1036	-28	
M-105	MU1 Ring	3/24/2015	18	133	148	-10	6.2	21	-70	735	1036	-29	
M-106	MU1 Ring	1/6/2015	--	123	134	-8	6.5	21	-69	695	980	-29	
M-106	MU1 Ring	1/20/2015	14	125	134	-7	5.7	21	-73	690	980	-30	
M-106	MU1 Ring	2/3/2015	14	124	134	-8	5.5	21	-74	677	980	-31	
M-106	MU1 Ring	2/17/2015	14	125	134	-7	6.2	21	-71	692	980	-29	
M-106	MU1 Ring	3/6/2015	17	125	134	-7	6.1	21	-71	705	980	-28	
M-106	MU1 Ring	3/24/2015	18	129	134	-4	6.0	21	-72	696	980	-29	
M-107	MU1 Ring	1/6/2015	--	120	138	-13	7.0	21	-66	679	1033	-34	
M-107	MU1 Ring	1/20/2015	14	121	138	-12	5.9	21	-72	675	1033	-35	
M-107	MU1 Ring	2/3/2015	14	120	138	-13	5.7	21	-73	663	1033	-36	
M-107	MU1 Ring	2/17/2015	14	121	138	-12	6.3	21	-70	678	1033	-34	
M-107	MU1 Ring	3/6/2015	17	119	138	-14	6.2	21	-71	677	1033	-34	
M-107	MU1 Ring	3/24/2015	18	122	138	-12	6.2	21	-71	676	1033	-35	
M-108	MU1 Ring	1/7/2015	--	110	127	-13	5.4	21	-75	541	905	-40	
M-108	MU1 Ring	1/20/2015	13	112	127	-12	5.9	21	-72	545	905	-40	
M-108	MU1 Ring	2/4/2015	15	110	127	-13	5.3	21	-75	539	905	-40	
M-108	MU1 Ring	2/17/2015	13	110	127	-13	6.1	21	-71	548	905	-39	
M-108	MU1 Ring	3/6/2015	17	110	127	-14	6.6	21	-69	550	905	-39	
M-108	MU1 Ring	3/24/2015	18	112	127	-12	6.0	21	-71	538	905	-41	
M-109	MU1 Ring	1/7/2015	--	116	161	-28	5.6	20	-72	600	703	-15	
M-109	MU1 Ring	1/20/2015	13	109	161	-33	6.1	20	-70	561	703	-20	
M-109	MU1 Ring	2/4/2015	15	106	161	-34	5.7	20	-72	537	703	-24	
M-109	MU1 Ring	2/17/2015	13	103	161	-36	6.0	20	-70	527	703	-25	
M-109	MU1 Ring	3/6/2015	17	112	161	-31	6.4	20	-68	590	703	-16	
M-109	MU1 Ring	3/24/2015	18	111	161	-31	6.2	20	-69	575	703	-18	
M-110	MU1 Ring	1/7/2015	--	107	147	-27	5.8	21	-72	538	1022	-47	
M-110	MU1 Ring	1/21/2015	14	109	147	-26	6.2	21	-71	543	1022	-47	
M-110	MU1 Ring	2/4/2015	14	112	147	-24	6.2	21	-71	554	1022	-46	
M-110	MU1 Ring	2/17/2015	13	111	147	-24	6.3	21	-70	541	1022	-47	
M-110	MU1 Ring	3/6/2015	17	108	147	-27	6.5	21	-69	526	1022	-49	
M-110	MU1 Ring	3/24/2015	18	115	147	-22	6.9	21	-67	568	1022	-44	
M-111	MU1 Ring	1/7/2015	--	112	146	-24	5.6	21	-73	548	897	-39	
M-111	MU1 Ring	1/21/2015	14	113	146	-22	5.5	21	-74	552	897	-38	
M-111	MU1 Ring	2/4/2015	14	115	146	-21	5.5	21	-74	551	897	-39	
M-111	MU1 Ring	2/17/2015	13	116	146	-20	5.4	21	-74	550	897	-39	
M-111	MU1 Ring	3/6/2015	17	110	146	-25	5.4	21	-74	556	897	-38	
M-111	MU1 Ring	3/24/2015	18	114	146	-22	5.9	21	-72	553	897	-38	



**Attachment 1: MU1 Water Quality Data**  
**1st Quarter 2015**  
**Lost Creek ISR Project SUA-1598**

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance			Comments
				Assay	UCL*	% Chg	Assay	UCL*	% Chg	Assay	UCL*	% Chg	
M-112	MU1 Ring	1/7/2015	--	112	147	-24	5.9	20	-70	559	636	-12	
M-112	MU1 Ring	1/21/2015	14	115	147	-21	6.0	20	-70	558	636	-12	
M-112	MU1 Ring	2/4/2015	14	113	147	-23	5.8	20	-71	554	636	-13	
M-112	MU1 Ring	2/17/2015	13	114	147	-23	5.4	20	-73	553	636	-13	
M-112	MU1 Ring	3/6/2015	17	109	147	-26	5.7	20	-72	557	636	-12	
M-112	MU1 Ring	3/25/2015	19	115	147	-22	6.1	20	-69	551	636	-13	
M-113	MU1 Ring	1/7/2015	--	104	203	-49	5.5	21	-74	516	631	-18	
M-113	MU1 Ring	1/21/2015	14	105	203	-48	5.6	21	-73	514	631	-19	
M-113	MU1 Ring	2/4/2015	14	108	203	-47	5.6	21	-73	507	631	-20	
M-113	MU1 Ring	2/19/2015	15	106	203	-48	5.3	21	-75	515	631	-18	
M-113	MU1 Ring	3/6/2015	15	104	203	-49	5.1	21	-76	509	631	-19	
M-113	MU1 Ring	3/25/2015	19	105	203	-48	5.8	21	-72	514	631	-19	
M-114A	MU1 Ring	1/7/2015	--	109	139	-22	5.8	20	-71	527	772	-32	
M-114A	MU1 Ring	1/21/2015	14	107	139	-23	6.0	20	-70	521	772	-32	
M-114A	MU1 Ring	2/4/2015	14	108	139	-23	5.8	20	-71	518	772	-33	
M-114A	MU1 Ring	2/19/2015	15	107	139	-23	5.3	20	-73	521	772	-32	
M-114A	MU1 Ring	3/11/2015	20	108	139	-22	4.9	20	-75	519	772	-33	
M-114A	MU1 Ring	3/25/2015	14	112	139	-19	5.5	20	-73	519	772	-33	
M-115A	MU1 Ring	1/7/2015	--	106	126	-16	5.4	20	-73	504	726	-31	
M-115A	MU1 Ring	1/21/2015	14	106	126	-16	5.6	20	-72	499	726	-31	
M-115A	MU1 Ring	2/4/2015	14	108	126	-15	5.6	20	-72	501	726	-31	
M-115A	MU1 Ring	2/19/2015	15	107	126	-15	5.3	20	-74	505	726	-30	
M-115A	MU1 Ring	3/6/2015	15	102	126	-19	5.3	20	-73	502	726	-31	
M-115A	MU1 Ring	3/25/2015	19	109	126	-14	5.2	20	-74	499	726	-31	
M-116A	MU1 Ring	1/7/2015	--	104	134	-22	5.7	20	-72	494	679	-27	
M-116A	MU1 Ring	1/21/2015	14	106	134	-21	5.0	20	-75	489	679	-28	
M-116A	MU1 Ring	2/4/2015	14	106	134	-21	5.8	20	-71	488	679	-28	
M-116A	MU1 Ring	2/19/2015	15	105	134	-22	5.4	20	-73	496	679	-27	
M-116A	MU1 Ring	3/5/2015	14	104	134	-23	5.0	20	-75	490	679	-28	
M-116A	MU1 Ring	3/25/2015	20	107	134	-20	5.6	20	-72	493	679	-27	
M-117	MU1 Ring	1/7/2015	--	103	139	-26	5.2	20	-74	501	711	-30	
M-117	MU1 Ring	1/21/2015	14	104	139	-25	4.9	20	-76	506	711	-29	
M-117	MU1 Ring	2/4/2015	14	103	139	-26	5.6	20	-72	497	711	-30	
M-117	MU1 Ring	2/19/2015	15	105	139	-24	5.4	20	-73	496	711	-30	
M-117	MU1 Ring	3/5/2015	14	105	139	-25	5.1	20	-75	491	711	-31	
M-117	MU1 Ring	3/25/2015	20	108	139	-22	5.5	20	-73	488	711	-31	
M-118	MU1 Ring	1/7/2015	--	97	108	-10	5.4	21	-74	497	762	-35	
M-118	MU1 Ring	1/20/2015	13	98	108	-10	5.5	21	-74	499	762	-35	
M-118	MU1 Ring	2/3/2015	14	96	108	-11	5.0	21	-76	494	762	-35	
M-118	MU1 Ring	2/17/2015	14	98	108	-9	5.0	21	-76	502	762	-34	
M-118	MU1 Ring	3/5/2015	16	97	108	-10	5.2	21	-75	508	762	-33	
M-118	MU1 Ring	3/23/2015	18	101	108	-7	5.6	21	-73	495	762	-35	
M-119	MU1 Ring	1/6/2015	--	116	128	-9	7.0	20	-65	475	622	-24	
M-119	MU1 Ring	1/20/2015	14	116	128	-9	5.3	20	-74	480	622	-23	
M-119	MU1 Ring	2/3/2015	14	116	128	-9	5.4	20	-73	472	622	-24	
M-119	MU1 Ring	2/17/2015	14	117	128	-8	5.5	20	-73	466	622	-25	
M-119	MU1 Ring	3/5/2015	16	115	128	-10	5.7	20	-72	475	622	-24	
M-119	MU1 Ring	3/23/2015	18	123	128	-4	7.0	20	-65	460	622	-26	
M-120A	MU1 Ring	1/6/2015	--	110	142	-23	6.7	20	-66	482	715	-33	
M-120A	MU1 Ring	1/20/2015	14	114	142	-20	5.0	20	-75	480	715	-33	
M-120A	MU1 Ring	2/3/2015	14	111	142	-22	5.2	20	-74	473	715	-34	
M-120A	MU1 Ring	2/17/2015	14	116	142	-18	5.2	20	-74	483	715	-32	
M-120A	MU1 Ring	3/5/2015	16	111	142	-22	5.6	20	-72	490	715	-31	
M-120A	MU1 Ring	3/23/2015	18	116	142	-18	7.0	20	-65	484	715	-32	
M-121	MU1 Ring	1/6/2015	--	114	140	-19	7.0	20	-65	506	755	-33	
M-121	MU1 Ring	1/20/2015	14	115	140	-18	5.3	20	-74	504	755	-33	
M-121	MU1 Ring	2/3/2015	14	114	140	-19	5.4	20	-73	499	755	-34	
M-121	MU1 Ring	2/17/2015	14	114	140	-19	5.4	20	-73	502	755	-33	
M-121	MU1 Ring	3/5/2015	16	111	140	-21	5.7	20	-71	510	755	-32	
M-121	MU1 Ring	3/23/2015	18	116	140	-17	6.8	20	-66	507	755	-33	
M-122	MU1 Ring	1/6/2015	--	111	142	-22	4.8	20	-76	501	593	-16	
M-122	MU1 Ring	1/20/2015	14	114	142	-19	5.2	20	-74	502	593	-15	
M-122	MU1 Ring	2/3/2015	14	113	142	-20	5.2	20	-74	496	593	-16	
M-122	MU1 Ring	2/17/2015	14	115	142	-19	5.1	20	-74	500	593	-16	
M-122	MU1 Ring	3/5/2015	16	110	142	-22	5.6	20	-72	504	593	-15	
M-122	MU1 Ring	3/23/2015	18	116	142	-18	6.7	20	-66	497	593	-16	



**Attachment 1: MU1 Water Quality Data**  
**1st Quarter 2015**  
**Lost Creek ISR Project SUA-1598**

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance			Comments
				Assay	UCL*	% Chg	Assay	UCL*	% Chg	Assay	UCL*	% Chg	
M-123	MU1 Ring	1/6/2015	--	117	131	-10	4.8	20	-76	494	718	-31	
M-123	MU1 Ring	1/20/2015	14	117	131	-11	5.2	20	-74	492	718	-31	
M-123	MU1 Ring	2/3/2015	14	116	131	-11	5.2	20	-74	491	718	-32	
M-123	MU1 Ring	2/17/2015	14	116	131	-12	5.1	20	-74	493	718	-31	
M-123	MU1 Ring	3/5/2015	16	112	131	-14	5.9	20	-70	497	718	-31	
M-123	MU1 Ring	3/24/2015	19	117	131	-10	5.6	20	-72	495	718	-31	
M-124	MU1 Ring	1/6/2015	--	111	123	-10	4.9	20	-75	467	536	-13	
M-124	MU1 Ring	1/20/2015	14	111	123	-10	5.2	20	-74	463	536	-14	
M-124	MU1 Ring	2/3/2015	14	113	123	-8	5.1	20	-74	464	536	-13	
M-124	MU1 Ring	2/17/2015	14	113	123	-8	5.0	20	-75	465	536	-13	
M-124	MU1 Ring	3/5/2015	16	107	123	-13	5.8	20	-71	468	536	-13	
M-124	MU1 Ring	3/24/2015	19	112	123	-9	5.6	20	-72	467	536	-13	
M-125	MU1 Ring	1/6/2015	--	109	135	-19	6.0	21	-71	547	657	-17	
M-125	MU1 Ring	1/20/2015	14	112	135	-17	6.2	21	-71	542	657	-17	
M-125	MU1 Ring	2/3/2015	14	108	135	-20	6.0	21	-71	536	657	-18	
M-125	MU1 Ring	2/17/2015	14	110	135	-19	5.9	21	-72	537	657	-18	
M-125	MU1 Ring	3/5/2015	16	106	135	-21	6.7	21	-68	545	657	-17	
M-125	MU1 Ring	3/24/2015	19	111	135	-18	6.5	21	-69	542	657	-17	
M-126	MU1 Ring	1/6/2015	--	110	194	-43	6.3	21	-70	546	682	-20	
M-126	MU1 Ring	1/20/2015	14	112	194	-42	6.5	21	-69	541	682	-21	
M-126	MU1 Ring	2/3/2015	14	110	194	-43	6.3	21	-70	538	682	-21	
M-126	MU1 Ring	2/17/2015	14	110	194	-43	6.0	21	-71	541	682	-21	
M-126	MU1 Ring	3/5/2015	16	105	194	-46	6.1	21	-71	546	682	-20	
M-126	MU1 Ring	3/24/2015	19	111	194	-43	6.7	21	-68	544	682	-20	
M-127	MU1 Ring	1/6/2015	--	110	149	-26	6.1	21	-71	535	792	-32	
M-127	MU1 Ring	1/20/2015	14	113	149	-24	6.1	21	-71	531	792	-33	
M-127	MU1 Ring	2/3/2015	14	113	149	-24	5.9	21	-72	527	792	-33	
M-127	MU1 Ring	2/17/2015	14	115	149	-23	5.7	21	-73	541	792	-32	
M-127	MU1 Ring	3/5/2015	16	109	149	-27	5.7	21	-73	548	792	-31	
M-127	MU1 Ring	3/24/2015	19	114	149	-24	6.5	21	-69	545	792	-31	
M-128	MU1 Ring	1/6/2015	--	113	122	-7	6.1	21	-71	555	802	-31	
M-128	MU1 Ring	1/20/2015	14	112	122	-8	6.0	21	-71	551	802	-31	
M-128	MU1 Ring	2/3/2015	14	113	122	-8	5.9	21	-72	545	802	-32	
M-128	MU1 Ring	2/17/2015	14	114	122	-6	5.7	21	-73	555	802	-31	
M-128	MU1 Ring	3/5/2015	16	107	122	-12	5.8	21	-72	562	802	-30	
M-128	MU1 Ring	3/24/2015	19	113	122	-8	6.4	21	-69	556	802	-31	
MO-101	MU1 Overlying	1/7/2015	--	111	136	-18	7.7	23	-66	631	824	-23	
MO-101	MU1 Overlying	1/21/2015	14	110	136	-19	7.0	23	-70	634	824	-23	
MO-101	MU1 Overlying	2/4/2015	14	109	136	-20	6.9	23	-70	630	824	-24	
MO-101	MU1 Overlying	2/19/2015	15	109	136	-20	7.8	23	-66	637	824	-23	
MO-101	MU1 Overlying	3/9/2015	18	108	136	-20	7.2	23	-69	639	824	-22	
MO-101	MU1 Overlying	3/26/2015	17	115	136	-16	8.9	23	-61	632	824	-23	
MO-102	MU1 Overlying	1/8/2015	--	106	125	-15	7.1	21	-66	582	670	-13	
MO-102	MU1 Overlying	1/21/2015	13	106	125	-16	6.3	21	-70	583	670	-13	
MO-102	MU1 Overlying	2/4/2015	14	106	125	-15	6.3	21	-70	578	670	-14	
MO-102	MU1 Overlying	2/19/2015	15	105	125	-16	7.2	21	-66	584	670	-13	
MO-102	MU1 Overlying	3/9/2015	18	105	125	-16	6.3	21	-70	590	670	-12	
MO-102	MU1 Overlying	3/26/2015	17	106	125	-15	8.0	21	-62	584	670	-13	
MO-103	MU1 Overlying	1/8/2015	--	112	130	-14	7.9	21	-62	589	849	-31	
MO-103	MU1 Overlying	1/21/2015	13	111	130	-15	6.8	21	-68	597	849	-30	
MO-103	MU1 Overlying	2/4/2015	14	112	130	-14	6.9	21	-67	603	849	-29	
MO-103	MU1 Overlying	2/19/2015	15	111	130	-15	8.1	21	-61	620	849	-27	
MO-103	MU1 Overlying	3/10/2015	19	108	130	-17	7.5	21	-64	635	849	-25	
MO-103	MU1 Overlying	3/26/2015	16	114	130	-12	10.0	21	-53	651	849	-23	
MO-104	MU1 Overlying	1/8/2015	--	118	160	-26	9.9	24	-59	598	714	-16	
MO-104	MU1 Overlying	1/21/2015	13	119	160	-25	8.3	24	-65	606	714	-15	
MO-104	MU1 Overlying	2/4/2015	14	119	160	-25	8.5	24	-64	607	714	-15	
MO-104	MU1 Overlying	2/19/2015	15	119	160	-26	9.9	24	-59	606	714	-15	
MO-104	MU1 Overlying	3/9/2015	18	116	160	-27	8.0	24	-67	594	714	-17	
MO-104	MU1 Overlying	3/27/2015	18	117	160	-27	8.5	24	-64	586	714	-18	
MO-105	MU1 Overlying	1/8/2015	--	109	128	-15	6.5	20	-67	480	669	-28	
MO-105	MU1 Overlying	1/21/2015	13	106	128	-18	5.3	20	-74	487	669	-27	
MO-105	MU1 Overlying	2/5/2015	15	108	128	-16	5.2	20	-74	483	669	-28	
MO-105	MU1 Overlying	2/19/2015	14	107	128	-17	6.3	20	-68	484	669	-28	
MO-105	MU1 Overlying	3/10/2015	19	101	128	-21	5.4	20	-73	477	669	-29	
MO-105	MU1 Overlying	3/26/2015	16	105	128	-18	7.0	20	-65	473	669	-29	



**Attachment 1: MU1 Water Quality Data**  
**1st Quarter 2015**  
**Lost Creek ISR Project SUA-1598**

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance			Comments
				Assay	UCL*	% Chg	Assay	UCL*	% Chg	Assay	UCL*	% Chg	
MO-106	MU1 Overlying	1/8/2015	--	100	143	-30	7.1	20	-64	460	626	-27	
MO-106	MU1 Overlying	1/21/2015	13	102	143	-29	5.5	20	-72	460	626	-27	
MO-106	MU1 Overlying	2/5/2015	15	100	143	-30	5.6	20	-72	464	626	-26	
MO-106	MU1 Overlying	2/19/2015	14	100	143	-30	5.8	20	-71	474	626	-24	
MO-106	MU1 Overlying	3/10/2015	19	100	143	-30	5.9	20	-70	472	626	-25	
MO-106	MU1 Overlying	3/25/2015	15	101	143	-29	5.7	20	-72	469	626	-25	
MO-107	MU1 Overlying	1/8/2015	--	104	110	-6	6.6	20	-67	463	502	-8	
MO-107	MU1 Overlying	1/22/2015	14	103	110	-6	5.4	20	-73	456	502	-9	
MO-107	MU1 Overlying	2/5/2015	14	105	110	-5	5.3	20	-73	463	502	-8	
MO-107	MU1 Overlying	2/19/2015	14	104	110	-5	5.3	20	-74	467	502	-7	
MO-107	MU1 Overlying	3/10/2015	19	104	110	-6	5.3	20	-73	462	502	-8	
MO-107	MU1 Overlying	3/25/2015	15	102	110	-8	5.6	20	-72	460	502	-8	
MO-108	MU1 Overlying	1/8/2015	--	107	118	-10	6.7	20	-66	514	513	0	
MO-108	MU1 Overlying	1/22/2015	14	106	118	-10	7.0	20	-65	514	513	0	
MO-108	MU1 Overlying	2/5/2015	14	106	118	-10	6.6	20	-67	514	513	0	
MO-108	MU1 Overlying	2/20/2015	15	106	118	-10	6.9	20	-66	513	513	0	
MO-108	MU1 Overlying	3/11/2015	19	101	118	-14	6.4	20	-68	506	513	-1	
MO-108	MU1 Overlying	3/25/2015	14	100	118	-15	7.4	20	-63	504	513	-2	
MO-109	MU1 Overlying	1/8/2015	--	105	120	-12	5.7	21	-73	489	567	-14	
MO-109	MU1 Overlying	1/22/2015	14	104	120	-13	5.8	21	-72	486	567	-14	
MO-109	MU1 Overlying	2/5/2015	14	105	120	-12	5.8	21	-72	491	567	-13	
MO-109	MU1 Overlying	2/20/2015	15	106	120	-12	6.1	21	-71	492	567	-13	
MO-109	MU1 Overlying	3/10/2015	18	104	120	-13	5.9	21	-72	490	567	-14	
MO-109	MU1 Overlying	3/25/2015	15	103	120	-14	6.2	21	-70	493	567	-13	
MO-110	MU1 Overlying	1/8/2015	--	98	128	-23	5.3	23	-77	435	533	-18	
MO-110	MU1 Overlying	1/22/2015	14	98	128	-23	5.4	23	-77	431	533	-19	
MO-110	MU1 Overlying	2/5/2015	14	99	128	-23	5.4	23	-76	435	533	-18	
MO-110	MU1 Overlying	2/20/2015	15	98	128	-24	5.2	23	-78	435	533	-18	
MO-110	MU1 Overlying	3/10/2015	18	97	128	-24	5.6	23	-76	433	533	-19	
MO-110	MU1 Overlying	3/26/2015	16	97	128	-24	7.2	23	-69	427	533	-20	
MO-111	MU1 Overlying	1/8/2015	--	99	115	-14	5.7	20	-71	430	639	-33	
MO-111	MU1 Overlying	1/22/2015	14	98	115	-15	5.8	20	-71	424	639	-34	
MO-111	MU1 Overlying	2/5/2015	14	99	115	-14	5.6	20	-72	426	639	-33	
MO-111	MU1 Overlying	2/20/2015	15	97	115	-16	5.5	20	-73	427	639	-33	
MO-111	MU1 Overlying	3/10/2015	18	99	115	-14	5.5	20	-72	428	639	-33	
MO-111	MU1 Overlying	3/26/2015	16	101	115	-12	7.1	20	-65	428	639	-33	
MO-112	MU1 Overlying	1/9/2015	--	110	252	-56	5.9	22	-73	424	541	-22	
MO-112	MU1 Overlying	1/22/2015	13	109	252	-57	6.2	22	-72	418	541	-23	
MO-112	MU1 Overlying	2/5/2015	14	108	252	-57	6.0	22	-73	418	541	-23	
MO-112	MU1 Overlying	2/20/2015	15	105	252	-58	6.0	22	-73	416	541	-23	
MO-112	MU1 Overlying	3/11/2015	19	102	252	-60	6.1	22	-72	411	541	-24	
MO-112	MU1 Overlying	3/26/2015	15	102	252	-59	8.2	22	-63	406	541	-25	
MO-113	MU1 Overlying	1/9/2015	--	105	121	-13	5.6	21	-73	449	484	-7	
MO-113	MU1 Overlying	1/22/2015	13	103	121	-14	5.8	21	-72	441	484	-9	
MO-113	MU1 Overlying	2/6/2015	15	105	121	-13	5.3	21	-75	454	484	-6	
MO-113	MU1 Overlying	2/20/2015	14	105	121	-13	5.6	21	-74	449	484	-7	
MO-113	MU1 Overlying	3/11/2015	19	107	121	-12	5.4	21	-74	455	484	-6	
MO-113	MU1 Overlying	3/30/2015	19	106	121	-13	5.7	21	-73	445	484	-8	
MU-101	MU1 Underlying	1/7/2015	--	110	157	-30	6.6	20	-67	537	653	-18	
MU-101	MU1 Underlying	1/21/2015	14	112	157	-29	6.4	20	-68	538	653	-18	
MU-101	MU1 Underlying	2/4/2015	14	113	157	-28	6.3	20	-69	539	653	-17	
MU-101	MU1 Underlying	2/19/2015	15	111	157	-29	6.0	20	-70	542	653	-17	
MU-101	MU1 Underlying	3/9/2015	18	109	157	-31	6.3	20	-69	536	653	-18	
MU-101	MU1 Underlying	3/26/2015	17	113	157	-28	5.8	20	-71	535	653	-18	
MU-102	MU1 Underlying	1/8/2015	--	107	119	-10	5.5	19	-71	430	507	-15	
MU-102	MU1 Underlying	1/21/2015	13	106	119	-11	5.2	19	-73	429	507	-15	
MU-102	MU1 Underlying	2/4/2015	14	106	119	-11	5.1	19	-73	427	507	-16	
MU-102	MU1 Underlying	2/19/2015	15	106	119	-11	5.0	19	-74	433	507	-15	
MU-102	MU1 Underlying	3/9/2015	18	103	119	-14	5.2	19	-73	428	507	-16	
MU-102	MU1 Underlying	3/26/2015	17	106	119	-11	4.9	19	-74	429	507	-15	
MU-103	MU1 Underlying	1/8/2015	--	105	213	-51	5.1	20	-75	425	560	-24	
MU-103	MU1 Underlying	1/21/2015	13	88	213	-59	4.5	20	-77	353	560	-37	
MU-103	MU1 Underlying	2/4/2015	14	105	213	-51	4.9	20	-76	417	560	-26	
MU-103	MU1 Underlying	2/19/2015	15	104	213	-51	4.9	20	-75	423	560	-25	
MU-103	MU1 Underlying	3/10/2015	19	102	213	-52	5.1	20	-75	423	560	-25	





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**1st Quarter 2015**  
**Lost Creek ISR Project SUA-1598**

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance			Comments
				Assay	UCL*	% Chg	Assay	UCL*	% Chg	Assay	UCL*	% Chg	
MU-103	MU1 Underlying	3/26/2015	16	103	213	-52	4.8	20	-76	422	560	-25	
MU-104	MU1 Underlying	1/8/2015	--	102	159	-36	5.7	21	-73	455	572	-21	
MU-104	MU1 Underlying	1/21/2015	13	102	159	-36	5.4	21	-74	419	572	-27	
MU-104	MU1 Underlying	2/4/2015	14	102	159	-36	5.2	21	-75	431	572	-25	
MU-104	MU1 Underlying	2/19/2015	15	103	159	-35	5.7	21	-73	474	572	-17	
MU-104	MU1 Underlying	3/9/2015	18	101	159	-37	5.4	21	-74	477	572	-17	
MU-104	MU1 Underlying	3/27/2015	18	104	159	-34	5.4	21	-74	461	572	-19	
MU-105	MU1 Underlying	1/8/2015	--	105	124	-15	5.4	19	-72	441	562	-21	
MU-105	MU1 Underlying	1/21/2015	13	104	124	-16	5.4	19	-72	438	562	-22	
MU-105	MU1 Underlying	2/5/2015	15	104	124	-16	4.9	19	-74	445	562	-21	
MU-105	MU1 Underlying	2/19/2015	14	104	124	-17	5.2	19	-73	439	562	-22	
MU-105	MU1 Underlying	3/10/2015	19	101	124	-19	5.3	19	-72	432	562	-23	
MU-105	MU1 Underlying	3/26/2015	16	102	124	-17	5.0	19	-74	431	562	-23	
MU-106	MU1 Underlying	1/8/2015	--	105	137	-24	5.7	20	-72	454	522	-13	
MU-106	MU1 Underlying	1/21/2015	13	104	137	-24	5.6	20	-72	452	522	-13	
MU-106	MU1 Underlying	2/5/2015	15	105	137	-24	5.4	20	-73	456	522	-13	
MU-106	MU1 Underlying	2/19/2015	14	104	137	-24	5.6	20	-72	455	522	-13	
MU-106	MU1 Underlying	3/10/2015	19	103	137	-25	5.7	20	-72	450	522	-14	
MU-106	MU1 Underlying	3/25/2015	15	103	137	-25	5.8	20	-71	448	522	-14	
MU-107	MU1 Underlying	1/8/2015	--	105	136	-23	5.4	20	-73	469	556	-16	
MU-107	MU1 Underlying	1/22/2015	14	104	136	-24	4.9	20	-75	466	556	-16	
MU-107	MU1 Underlying	2/5/2015	14	106	136	-22	5.2	20	-74	469	556	-16	
MU-107	MU1 Underlying	2/20/2015	15	103	136	-24	5.1	20	-75	471	556	-15	
MU-107	MU1 Underlying	3/10/2015	18	104	136	-24	5.3	20	-74	456	556	-18	
MU-107	MU1 Underlying	3/25/2015	15	103	136	-24	5.5	20	-73	458	556	-18	
KPW-2	MU1 Underlying	1/8/2015	--	102	136	-25	4.8	21	-77	472	615	-23	
KPW-2	MU1 Underlying	1/22/2015	14	104	136	-23	5.0	21	-76	475	615	-23	
KPW-2	MU1 Underlying	2/5/2015	14	101	136	-25	5.4	21	-74	471	615	-23	
KPW-2	MU1 Underlying	2/20/2015	15	103	136	-25	5.2	21	-75	478	615	-22	
KPW-2	MU1 Underlying	3/10/2015	18	102	136	-25	5.4	21	-74	474	615	-23	
KPW-2	MU1 Underlying	3/25/2015	15	101	136	-26	5.7	21	-73	470	615	-24	
MU-109	MU1 Underlying	1/8/2015	--	82	196	-58	8.2	23	-64	444	525	-15	
MU-109	MU1 Underlying	1/22/2015	14	84	196	-57	7.8	23	-66	447	525	-15	
MU-109	MU1 Underlying	2/5/2015	14	89	196	-55	7.8	23	-66	459	525	-13	
MU-109	MU1 Underlying	2/20/2015	15	91	196	-54	7.4	23	-68	455	525	-13	
MU-109	MU1 Underlying	3/10/2015	18	63	196	-68	9.7	23	-58	421	525	-20	
MU-109	MU1 Underlying	3/25/2015	15	59	196	-70	10.9	23	-52	419	525	-20	
MU-110	MU1 Underlying	1/8/2015	--	83	144	-42	8.4	24	-65	444	596	-25	
MU-110	MU1 Underlying	1/22/2015	14	87	144	-39	7.8	24	-67	443	596	-26	
MU-110	MU1 Underlying	2/5/2015	14	88	144	-39	8.9	24	-63	445	596	-25	
MU-110	MU1 Underlying	2/20/2015	15	88	144	-39	8.6	24	-64	445	596	-25	
MU-110	MU1 Underlying	3/10/2015	18	86	144	-40	7.6	24	-68	444	596	-25	
MU-110	MU1 Underlying	3/26/2015	16	93	144	-36	8.0	24	-67	446	596	-25	
MU-111	MU1 Underlying	1/8/2015	--	94	188	-50	5.7	22	-74	501	652	-23	
MU-111	MU1 Underlying	1/22/2015	14	94	188	-50	5.3	22	-76	498	652	-24	
MU-111	MU1 Underlying	2/5/2015	14	97	188	-48	5.8	22	-74	498	652	-24	
MU-111	MU1 Underlying	2/20/2015	15	96	188	-49	5.9	22	-73	501	652	-23	
MU-111	MU1 Underlying	3/10/2015	18	93	188	-50	5.7	22	-74	498	652	-24	
MU-111	MU1 Underlying	3/26/2015	16	94	188	-50	5.9	22	-73	501	652	-23	
MU-112	MU1 Underlying	1/9/2015	--	94	224	-58	5.4	24	-78	444	483	-8	
MU-112	MU1 Underlying	1/22/2015	13	93	224	-59	5.3	24	-78	450	483	-7	
MU-112	MU1 Underlying	2/5/2015	14	95	224	-58	5.4	24	-78	454	483	-6	
MU-112	MU1 Underlying	2/20/2015	15	94	224	-58	5.4	24	-78	448	483	-7	
MU-112	MU1 Underlying	3/11/2015	19	94	224	-58	5.3	24	-78	444	483	-8	
MU-112	MU1 Underlying	3/26/2015	15	95	224	-58	5.0	24	-79	441	483	-9	
MU-113	MU1 Underlying	1/9/2015	--	74	140	-47	5.7	25	-77	444	590	-25	
MU-113	MU1 Underlying	1/22/2015	13	83	140	-41	5.4	25	-79	457	590	-23	
MU-113	MU1 Underlying	2/6/2015	15	83	140	-41	5.1	25	-80	457	590	-23	
MU-113	MU1 Underlying	2/20/2015	14	86	140	-39	4.9	25	-80	461	590	-22	
MU-113	MU1 Underlying	3/11/2015	19	89	140	-36	5.4	25	-79	466	590	-21	
MU-113	MU1 Underlying	3/26/2015	15	85	140	-40	5.2	25	-79	459	590	-22	
LC29M	Regional DE	1/28/2015	--	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Well dry
MB-10	Regional DE	1/28/2015	--	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Well dry

UCL : Upper Control Limit

\* : UCL determined by well group (see Permit to Mine, Mine Unit 1 Report, Table MU1 4-12)

 : Indicates warning when result is > UCL but < 120% of UCL

 : Indicates one value > 120% of UCL; or 2 or 3 values > UCL



**Attachment 1: MU1 Water Quality Data - Quality Control**  
**1st Quarter 2015**  
**Lost Creek ISR Project SUA-1598**

QC Sample ID	Collection Date	QC Type	Source Sample ID	Alkalinity (mg/L)			Chloride (mg/L)			Sp. Cond. (uS/cm)		
				QC Sample Assay	Source Sample Assay	RPD	QC Sample Assay	Source Sample Assay	RPD	QC Sample Assay	Primary Sample Assay	RPD
M-129	01/06/2015	Duplicate	M-121	112	114	0	5.8	7.0	5	510	506	0
M-129	01/20/2015	Duplicate	M-106	125	125	0	5.7	5.7	0	698	690	0
M-129	02/04/2015	Duplicate	M-114A	108	108	0	5.4	5.8	2	516	518	0
M-129	02/17/2015	Duplicate	M-101	120	119	0	5.9	5.8	1	684	677	0
M-129	03/05/2015	Duplicate	M-124	106	107	0	5.1	5.8	3	469	468	0
M-129	03/23/2015	Duplicate	M-122	116	116	0	6.8	6.7	1	495	497	0
M-130	01/06/2015	Blank	N/A	ND(5)	N/A	N/A	0.9	N/A	N/A	1	N/A	N/A
M-130	01/20/2015	Blank	N/A	ND(5)	N/A	N/A	0.9	N/A	N/A	1	N/A	N/A
M-130	02/04/2015	Blank	N/A	ND(5)	N/A	N/A	1.1	N/A	N/A	1	N/A	N/A
M-130	02/17/2015	Blank	N/A	ND(5)	N/A	N/A	0.9	N/A	N/A	1	N/A	N/A
M-130	03/05/2015	Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
M-130	03/23/2015	Blank	N/A	ND(5)	N/A	N/A	1.3	N/A	N/A	1	N/A	N/A
M-131	01/06/2015	Duplicate	M-123	117	117	0	5.6	4.8	4	497	494	0
M-131	01/20/2015	Duplicate	M-108	110	112	0	5.8	5.9	1	548	545	0
M-131	02/04/2015	Duplicate	M-116A	106	106	0	5.0	5.8	4	491	488	0
M-131	02/17/2015	Duplicate	M-102	139	139	0	5.8	5.9	0	805	800	0
M-131	03/05/2015	Duplicate	M-127	108	109	0	5.7	5.7	0	562	548	1
M-131	03/24/2015	Duplicate	M-123	116	117	0	5.8	5.6	1	498	495	0
M-132	01/06/2015	Blank	N/A	ND(5)	N/A	N/A	0.7	N/A	N/A	2	N/A	N/A
M-132	01/20/2015	Blank	N/A	ND(5)	N/A	N/A	0.8	N/A	N/A	1	N/A	N/A
M-132	02/04/2015	Blank	N/A	ND(5)	N/A	N/A	0.9	N/A	N/A	1	N/A	N/A
M-132	02/17/2015	Blank	N/A	ND(5)	N/A	N/A	1.0	N/A	N/A	1	N/A	N/A
M-132	03/05/2015	Blank	N/A	ND(5)	N/A	N/A	1.1	N/A	N/A	3	N/A	N/A
M-132	03/24/2015	Blank	N/A	ND(5)	N/A	N/A	0.9	N/A	N/A	1	N/A	N/A
MO-121	01/08/2015	Duplicate	MO-103	112	112	0	6.9	7.9	3	595	589	0
MO-121	01/21/2015	Duplicate	MO-104	118	119	0	8.9	8.3	2	609	606	0
MO-121	02/05/2015	Duplicate	MO-108	107	106	0	7.1	6.6	2	517	514	0
MO-121	02/20/2015	Duplicate	MO-113	105	105	0	5.3	5.6	1	447	449	0
MO-121	03/10/2015	Duplicate	MU-110	87	86	0	7.6	7.6	0	445	444	0
MO-121	03/25/2015	Duplicate	MO-108	101	100	0	6.7	7.4	3	497	504	0
MO-122	01/08/2015	Blank	N/A	ND(5)	N/A	N/A	0.8	N/A	N/A	2	N/A	N/A
MO-122	01/21/2015	Blank	N/A	ND(5)	N/A	N/A	0.9	N/A	N/A	1	N/A	N/A
MO-122	02/05/2015	Blank	N/A	ND(5)	N/A	N/A	1.1	N/A	N/A	1	N/A	N/A
MO-122	02/20/2015	Blank	N/A	ND(5)	N/A	N/A	0.7	N/A	N/A	1	N/A	N/A
MO-122	03/10/2015	Blank	N/A	ND(5)	N/A	N/A	1.0	N/A	N/A	2	N/A	N/A
MO-122	03/25/2015	Blank	N/A	ND(5)	N/A	N/A	1.2	N/A	N/A	1	N/A	N/A
MU-123	01/08/2015	Duplicate	MU-103	104	105	0	4.9	5.1	1	426	425	0
MU-123	01/21/2015	Duplicate	MU-104	101	102	0	5.3	5.4	0	424	419	0
MU-123	02/05/2015	Duplicate	KPW-2	102	101	0	5.0	5.4	2	470	474	0
MU-123	02/20/2015	Duplicate	MU-113	86	86	0	5.0	4.9	1	461	461	0
MU-123	03/10/2015	Duplicate	MU-111	95	93	0	5.8	5.7	0	501	498	0
MU-123	03/25/2015	Duplicate	MO-109	105	103	0	6.7	6.2	2	484	493	0
MU-124	01/08/2015	Blank	N/A	ND(5)	N/A	N/A	1.0	N/A	N/A	1	N/A	N/A
MU-124	01/21/2015	Blank	N/A	ND(5)	N/A	N/A	0.9	N/A	N/A	1	N/A	N/A
MU-124	02/05/2015	Blank	N/A	ND(5)	N/A	N/A	0.9	N/A	N/A	1	N/A	N/A
MU-124	02/20/2015	Blank	N/A	ND(5)	N/A	N/A	0.7	N/A	N/A	1	N/A	N/A
MU-124	03/10/2015	Blank	N/A	ND(5)	N/A	N/A	1.1	N/A	N/A	10	N/A	N/A
MU-124	03/26/2015	Blank	N/A	ND(5)	N/A	N/A	0.9	N/A	N/A	1	N/A	N/A

RPD: Relative Percent Difference



**Attachment 2: LD Sump Measurements**  
**1st Quarter 2015**  
**Lost Creek ISR Project SUA-1598**

Date	North LD Sump Water Depth (inches)	N Sump Totalizer (gal)	Net Volume Pumped (gal)	South LD Sump Water Depth (inches)	S Sump Totalizer (gal)	Net Volume Pumped (gal)	Precip* (inches)	Comments
1/1/2015	5.5	NR	--	20.5	NR	--	0	
1/2/2015	NM	NR	--	NM	NR	--	0	Not inspected - Primary and backup personnel absent
1/3/2015	5.5	NR	--	22	NR	--	0	
1/4/2015	6	NR	--	21	NR	--	0	
1/5/2015	5	NR	--	19	NR	--	0.06	
1/6/2015	4.5	NR	--	22	NR	--	0	
1/7/2015	5.25	NR	--	22	461.8	--	0	
1/8/2015	5.5	374.7	--	3	510.3	48.5	0	
1/9/2015	5.5	374.8	0.1	3.5	510.3	0	0	
1/10/2015	5	374.8	0	6	NR	--	0	
1/11/2015	5	374.8	0	6	NR	--	0	
1/12/2015	5.25	374.9	0.1	6.1	528.8	18.5	0.05	Lid for South LD was left agape.
1/13/2015	6	374.9	0	6.5	564.4	35.6	0	
1/14/2015	6.5	374.9	0	6	614.5	50.1	0	
1/15/2015	6.5	375	0.1	7	653.3	38.8	0	
1/16/2015	8	375	0	5.5	716.2	62.9	0	
1/17/2015	10	375	0	7	NR	--	0	
1/18/2015	8	375	0	7	NR	--	0	
1/19/2015	11	375	0	7	954.7	238.5	0	
1/20/2015	11	375	0	6	1044	89.3	0	
1/21/2015	11	375.1	0.1	7	1123	79	0	
1/22/2015	9	375.1	0	6.5	1165	42	0	
1/23/2015	4.5	375.1	0	6.5	1287	122	0	
1/24/2015	5	NR	--	3	NR	--	0	
1/25/2015	NM	NR	--	NM	NR	--	0	Day missed - weekend crew
1/26/2015	13	375.1	0	6	1528	241	0	
1/27/2015	10.5	375.1	0	6	1603	75	0	
1/28/2015	14	375.1	0	5	1686	83	0.02	
1/29/2015	14	375.2	0.1	6	1745	59	0	NRC verbal notification of N Sump level
1/30/2015	14.5	375.3	0.1	5.5	1838	93	0	
1/31/2015	15	375.3	0	7	NR	--	0	
2/1/2015	15	375.3	0	7	NR	--	0	
2/2/2015	14	375.5	0.2	6	2058	220	0	Sump level notification to NRC
2/3/2015	15	375.6	0.1	16	2071	13	0	
2/4/2015	3	375.9	0.3	17	2071	0	0	N Pond totalizer not working
2/5/2015	7	375.9	0	17	2071	0	0	
2/6/2015	6	376	0.1	18	2071	0	0	
2/7/2015	5	--	--	12	--	--	0	
2/8/2015	5	--	--	12	--	--	0	
2/9/2015	7	376.1	--	18	2071	0	0.03	
2/10/2015	3	376.3	0.2	18	2072	1	0	N. & S. sump purged
2/11/2015	5	376.4	0.1	21	2072	0	0	
2/12/2015	7	376.4	0	21.5	2072	0	0	
2/13/2015	8	376.4	0	22	2072	0	0	
2/14/2015	10	--	--	22	--	--	0	
2/15/2015	12	--	--	25	--	--	0.02	
2/16/2015	13	376.5	0.1	21	2072	0	0	N. Sump purged
2/17/2015	3	376.7	0.2	22	2072	0	0	
2/18/2015	4	376.8	0.1	23	2072	0	0	
2/19/2015	5.5	376.9	0.1	23	2072	0	0	N. Sump purged
2/20/2015	4.5	377	0.1	25	2072	0	0	
2/21/2015	4	NR	--	15	NR	--	0.04	
2/22/2015	7	NR	--	22	NR	--	0	



**Attachment 2: LD Sump Measurements**  
**1st Quarter 2015**  
**Lost Creek ISR Project SUA-1598**

Date	North LD Sump Water Depth (inches)	N Sump Totalizer (gal)	Net Volume Pumped (gal)	South LD Sump Water Depth (inches)	S Sump Totalizer (gal)	Net Volume Pumped (gal)	Precip* (inches)	Comments
2/23/2015	7.5	377	--	22	2072	0	0	N. Sump purged
2/24/2015	5	NR	--	24	NR	--	0	
2/25/2015	5.5	377.2	0.2	22	2072	0	0	N. Sump purged
2/26/2015	3.75	377.2	0	24	2072	0	0	
2/27/2015	NM	NR	--	NM	NR	--	0	Lock frozen
2/28/2015	5	NR	--	24	2072	0	0	
3/1/2015	8	NR	--	30	2072	0	0	
3/2/2015	11	377.5	0.3	24	2072	0	0.40	N. Sump purged
3/3/2015	NM	NR	--	NM	NR	--	0.03	Not read/Snow day - Sump level notification to NRC
3/4/2015	5	377.5	0	22	2072	0	0	N Sump pumped down to 2.5 in
3/5/2015	2.5	377.6	0.1	22	2072	0	0	
3/6/2015	1.5	377.7	0.1	22	2072	0	0	
3/7/2015	3	377.7	0	22	2072	0	0	
3/8/2015	5	NR	--	22	NR	--	0	
3/9/2015	5	377.9	0.2	22	2072	0	0	
3/10/2015	3	378.1	0.2	23	2072	0	0	
3/11/2015	3.5	378.4	0.3	23	2072	0	0	
3/12/2015	4	378.5	0.1	23	2072	0	0	
3/13/2015	2	379.1	0.6	23	2072	0	0	
3/14/2015	5	NR	--	23	NR	--	0	
3/15/2015	7	NR	--	23	NR	--	0	
3/16/2015	8.5	382.1	3	22	2072	0	0	
3/17/2015	4	382.2	0.1	23	2072	0	0	
3/18/2015	7.5	382.8	0.6	22	2072	0	0	
3/19/2015	2	382.8	0	22	2072	0	0	South Pond draining/repair time started
3/20/2015	3	2079	--	21	384.1	--	0	Totalizers Swapped and cleaned; new totalizers ordered
3/21/2015	3.5	NR	--	20.5	NR	--	0	
3/22/2015	5.25	NR	--	21.5	NR	--	0	
3/23/2015	5.5	2084	5	23	384.7	0.6	0.03	S Pond Boots repaired
3/24/2015	4	2093	9	23	385.5	0.8	0.03	
3/25/2015	2	2093	0	3	386.1	0.6	0	
3/26/2015	2.5	2093	0	2.5	386.9	0.8	0	
3/27/2015	1.5	2095	2	3	387.2	0.3	0	
3/28/2015	3.75	NR	--	13	NR	--	0	
3/29/2015	3.75	NR	--	15.5	NR	--	0	
3/30/2015	4.5	2095	0	2	388.8	1.6	0	Emptied S. Sump from 19 in to 1.5 in. @7:30am.
3/31/2015	4.5	2106	11	4.5	389.8	1	0	N Pond freeboard back to 3 ft

NM: Not measured

NR: Not recorded

N/A: Not available

\*From Rawlins Weather Service Station



**ATTACHMENT 3**



**Figure 1**



**Figure 2**





**Figure 3**

