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LOST CREEK ISR, LLC

January 25, 2018

Nancy Williams
Wyoming Department of Environmental Quality
Land Quality Division
510 Meadowview Drive
Lander, WY 82520

**Re: 4th Quarter 2017 Report for the Lost Creek ISR Project
Permit #788 (BLM WYW-166318)**

Dear Ms. Williams,

This Quarterly Report for the 4th calendar quarter of 2017 for the Lost Creek ISR Project has been submitted pursuant to Wyoming Department of Environmental Quality - Land Quality Division (LQD) Rules and Regulations Chapter 11 Section 15(b) to provide a summary of:

- *Mechanical Integrity Testing (Ch11 Sect 15(b)(ii)).*
- *Wellfield Monitoring and Water Quality (Ch11 Sect 14).*

Mechanical Integrity Testing

A total of 57 Mechanical Integrity Tests (MIT) were performed on a total of 57 wells in accordance with the approved Permit Operations Plan Section 3.4. Results are summarized on **Attachment 1**. The MITs resulted in 55 successful tests with 2 failures. Of the failed tests, one well passed a retest and one well was a net failure. An evaluation of the failed well will be made to determine if it can be repaired. Otherwise it will be abandoned in accordance with the Permit.

Wellfield Monitoring

Wellfield injection and production in Mine Unit 1 (MU1) continued throughout the quarter with thirteen (13) header houses in operation as of the end of the quarter. Wellfield injection and production in Mine Unit 2 (MU2) continued with one header house (HH2-2) in operation as of the end of the quarter. Lixiviant was generated by the addition of carbon dioxide (CO₂), and oxygen (O₂) to the injection stream.

The injection rates and pressures for each header house manifold are provided on **Attachment 2**. Additionally, production flow (PC), injection flow (IC), and bleed values are also presented. The bleed rate percentage is calculated by dividing the bleed rate by the production rate and multiplying by 100. Main bleed is diverted in a metered line directly from the injection circuit line. Additional bleed is determined by accounting for the swab water generated from the wellfield and

converting the volume to a flow rate equivalent. Bleed water is either recycled for Plant process use or is sent directly to the waste water stream.

Water Quality

The groundwater level data collected from MU1, MU2, and regional monitoring wells is included in **Attachment 3**. Water levels for MU1 and MU2 were measured semi-monthly in conjunction with routine groundwater sampling for the ring (“M”), overlying (“MO” or “FG”), and underlying monitor (“MU” or “KM”) wells. Quarterly water levels were collected from regional (“LC” and “MB”) wells. The wells experienced typical fluctuation in water levels and no significant changes occurred for overlying or underlying wells. Fluctuations are typical for the M wells but more pronounced since they are more directly affected by water balance in the wellfield.

Water quality and quality control (QC) results from routine groundwater quality monitoring, as described in the Permit Operations Plan Section 3.6.4, for MU1 and MU2 is included as **Attachment 4**. Excursion monitoring parameters include alkalinity, chloride, and specific conductance for which associated Upper Control Limits (UCLs) have been established by well group (i.e. ring, overlying, and underlying wells). As described in the Permit Operations Plan Section 3.6.4, 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 respective UCL.

No analytical results exceeded the associated UCL during the quarter with the following exceptions:

- **KPW2: Conductivity** – 11/14/2017
- **KPW2: Chloride and Conductivity** – 11/20/2017

The well was resampled on 11/27/2017 upon receiving these results to verify if the well was to be placed on excursion status in accordance with LQD parameters. The subsequent verification samples did not exceed any UCL and thus the well was not placed on excursion status.

Samples were not collected from the regional DE horizon wells LC29M and MB-10 due to lack of water in the wells.

If you have any questions regarding this submittal please feel free to contact me at the Casper Office.

Sincerely,



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

Attachments: **Attachment 1: Mechanical Integrity Testing**
Attachment 2: Operational Flow Summary
Attachment 3: Groundwater Level Measurement Data
Attachment 4: MU1 Water Quality Data

Cc: Mr. Mark Newman, BLM Rawlins Field Office
Mr. John Saxton, NRC (via e-mail)
Ms. Theresa Horne, Ur-Energy, Littleton Office (via e-mail)

Attachment 1: Mechanical Integrity Testing
4th Quarter 2017
Lost Creek ISR Project PT788

	Well ID	Well Type	MIT ⁽¹⁾ Date	Result	P&A ⁽²⁾ Date	Comments
1	11001	I	10/27/2017	Pass	---	5-year MIT
2	11004	I	10/27/2017	Fail	Tentative	5-year MIT, Well shut-in 10/10/2017, may repair
3	11006	I	10/27/2017	Pass	---	5-year MIT
4	11009	I	10/30/2017	Pass	---	5-year MIT
5	11010	I	10/30/2017	Pass	---	5-year MIT
6	11017	I	10/30/2017	Pass	---	5-year MIT
7	11020	I	10/27/2017	Pass	---	5-year MIT
8	11021	I	10/27/2017	Pass	---	5-year MIT
9	11069	I	10/11/2017	Pass	---	5-year MIT
10	11100	I	10/25/2017	Pass	---	5-year MIT
11	11105	I	10/18/2017	Pass	---	5-year MIT
12	11106	I	10/18/2017	Pass	---	5-year MIT
13	11107	I	10/17/2017	Fail	---	5-year MIT
14	11107	I	10/24/2017	Pass	---	Retest
15	11108	I	10/24/2017	Pass	---	5-year MIT
16	11109	I	10/5/2017	Pass	---	5-year MIT
17	11110	I	10/20/2017	Pass	---	5-year MIT
18	11111	I	10/2/2017	Pass	---	5-year MIT
19	11112	I	10/18/2017	Pass	---	5-year MIT
20	11117	I	10/13/2017	Pass	---	5-year MIT
21	11118	I	10/17/2017	Pass	---	5-year MIT
22	11119	I	10/17/2017	Pass	---	5-year MIT
23	11120	I	10/4/2017	Pass	---	5-year MIT
24	11122	I	10/4/2017	Pass	---	5-year MIT
25	11123	I	10/2/2017	Pass	---	5-year MIT
26	11130	I	10/2/2017	Pass	---	5-year MIT
27	11131	I	10/2/2017	Pass	---	5-year MIT
28	11132	I	10/20/2017	Pass	---	5-year MIT
29	11133	I	10/11/2017	Pass	---	5-year MIT
30	11134	I	10/19/2017	Pass	---	5-year MIT
31	11192	I	10/9/2017	Pass	---	5-year MIT
32	11193	I	10/11/2017	Pass	---	5-year MIT
33	11194	I	10/19/2017	Pass	---	5-year MIT
34	11228	I	10/4/2017	Pass	---	5-year MIT
35	11246	I	10/24/2017	Pass	---	5-year MIT
36	11254	I	10/23/2017	Pass	---	5-year MIT
37	11314	I	10/24/2017	Pass	---	5-year MIT
38	1P056	P	10/18/2017	Pass	---	5-year MIT
39	1P057	P	10/16/2017	Pass	---	5-year MIT
40	1P058	P	10/23/2017	Pass	---	5-year MIT
41	1P060	P	10/19/2017	Pass	---	5-year MIT
42	1P062	P	10/23/2017	Pass	---	5-year MIT
43	1P063	P	10/26/2017	Pass	---	5-year MIT
44	1P064	P	10/25/2017	Pass	---	5-year MIT
45	1P066	P	10/19/2017	Pass	---	5-year MIT
46	1P095	P	10/2/2017	Pass	---	5-year MIT
47	1P126	P	10/20/2017	Pass	---	5-year MIT
48	2M1056	I	10/3/2017	Pass	---	Swabbed
49	2M1117	P	10/5/2017	Pass	---	
50	2M1254	P	10/25/2017	Pass	---	Recompleted

Attachment 1: Mechanical Integrity Testing
4th Quarter 2017
Lost Creek ISR Project PT788

	Well ID	Well Type	MIT ⁽¹⁾ Date	Result	P&A ⁽²⁾ Date	Comments
51	2M1259	I	10/9/2017	Pass	---	
52	2M1281	P	10/5/2017	Pass	---	
53	2M1285	P	10/24/2017	Pass	---	Retest after rig re-underreamed
54	2M1306A	P	11/17/2017	Pass	---	
55	2M1341	I	10/18/2017	Pass	---	
56	2M1346A	I	10/11/2017	Pass	---	
57	MP112	M	10/23/2017	Pass	---	5-year MIT

57 Total Tests

55 Pass

2 Fail

57 Wells Tested

1 Net Failed Wells

(1) MIT method for "Monitoring Wells" as described in WDEQ Permit #788 Operations Plan Section 3.4. Test performed by using packer(s) to isolate casing and then pressurize well.

(2) Plugging and abandonment (P&A) according to WDEQ Permit #788 Reclamation Plan Section 3.1

I: Class III Injection Well

P: Production Well

TBA: To be abandoned

Attachment 2: Plant Operational Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Production Flow Rate (avg gpm)	Injection Flow Rate (avg gpm)	Main Bleed Flow Rate (avg gpm)	Alternate Bleed* (equiv. gpm)	Total Bleed Rate (%)	Comments
10/1/2017	2559	2552	14.1	0.0	0.55%	
10/2/2017	2455	2446	13.7	0.0	0.56%	
10/3/2017	2279	2267	13.2	3.3	0.73%	
10/4/2017	2424	2412	13.8	0.0	0.57%	
10/5/2017	2429	2417	11.9	2.3	0.59%	
10/6/2017	2053	2093	12.1	0.0	0.59%	
10/7/2017	2399	2384	13.2	0.0	0.55%	
10/8/2017	2426	2412	13.4	0.0	0.55%	
10/9/2017	2334	2318	13.6	0.0	0.58%	
10/10/2017	2305	2293	10.6	3.5	0.61%	
10/11/2017	2250	2236	10.3	3.3	0.61%	
10/12/2017	2215	2197	13.8	2.1	0.72%	
10/13/2017	2187	2173	12.3	0.0	0.56%	
10/14/2017	2184	2170	12.1	0.0	0.55%	
10/15/2017	2146	2132	11.9	0.0	0.56%	
10/16/2017	2073	2056	14.3	0.0	0.69%	
10/17/2017	2017	2004	11.3	0.0	0.56%	
10/18/2017	2020	2008	10.8	1.0	0.59%	
10/19/2017	2017	2002	12.8	2.1	0.74%	
10/20/2017	2001	1988	11.2	0.0	0.56%	
10/21/2017	2002	1989	11.1	0.0	0.56%	
10/22/2017	2005	1992	11.2	0.0	0.56%	
10/23/2017	2004	1988	13.9	1.4	0.76%	
10/24/2017	1995	1986	8.6	3.9	0.63%	
10/25/2017	1763	1749	10.1	0.0	0.58%	
10/26/2017	2047	2033	13.6	1.3	0.72%	
10/27/2017	2075	2065	10.1	2.3	0.59%	
10/28/2017	2100	2087	11.7	0.0	0.56%	
10/29/2017	2120	2108	11.7	0.0	0.55%	
10/30/2017	2142	2130	11.8	0.0	0.55%	
10/31/2017	2182	2170	12.1	3.2	0.70%	
11/1/2017	2201	2190	9.4	4.4	0.62%	
11/2/2017	1766	1753	11.5	0.0	0.65%	
11/3/2017	2115	2104	11.9	0.0	0.56%	
11/4/2017	2173	2161	12.2	0.0	0.56%	
11/5/2017	2075	2064	11.5	0.0	0.56%	
11/6/2017	2107	2098	9.3	3.7	0.62%	
11/7/2017	2141	2133	9.7	3.1	0.60%	
11/8/2017	2152	2143	10.0	2.8	0.60%	
11/9/2017	2136	2122	14.6	0.0	0.68%	
11/10/2017	2131	2121	10.5	2.1	0.59%	
11/11/2017	2124	2114	11.7	0.0	0.55%	
11/12/2017	2102	2091	11.6	0.0	0.55%	
11/13/2017	2130	2118	13.0	2.4	0.72%	
11/14/2017	2158	2146	9.6	3.5	0.61%	
11/15/2017	2149	2132	11.7	0.0	0.55%	
11/16/2017	2200	2183	13.1	2.1	0.69%	
11/17/2017	2274	2260	12.6	0.0	0.56%	
11/18/2017	2325	2313	12.9	0.0	0.55%	
11/19/2017	2339	2326	12.9	0.0	0.55%	
11/20/2017	2276	2264	11.1	2.3	0.59%	

Attachment 2: Plant Operational Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Production Flow Rate (avg gpm)	Injection Flow Rate (avg gpm)	Main Bleed Flow Rate (avg gpm)	Alternate Bleed* (equiv. gpm)	Total Bleed Rate (%)	Comments
11/21/2017	2180	2169	11.4	1.0	0.57%	
11/22/2017	2040	2028	11.3	0.0	0.56%	
11/23/2017	2208	2195	12.1	0.0	0.55%	
11/24/2017	2263	2249	12.5	0.0	0.55%	
11/25/2017	2262	2247	12.5	0.0	0.55%	
11/26/2017	2277	2263	12.6	0.0	0.55%	
11/27/2017	2289	2276	12.7	0.0	0.55%	
11/28/2017	2301	2287	12.7	0.0	0.55%	
11/29/2017	2313	2299	12.7	0.0	0.55%	
11/30/2017	2306	2291	11.2	2.3	0.59%	
12/1/2017	2279	2266	12.6	0.0	0.55%	
12/2/2017	2259	2246	12.6	0.0	0.56%	
12/3/2017	2236	2224	12.4	0.0	0.55%	
12/4/2017	2228	2217	12.4	0.0	0.56%	
12/5/2017	2206	2195	12.3	0.0	0.56%	
12/6/2017	2374	2364	13.1	0.0	0.55%	
12/7/2017	2391	2382	12.8	0.0	0.54%	
12/8/2017	2420	2407	13.4	0.0	0.55%	
12/9/2017	2419	2407	13.3	0.0	0.55%	
12/10/2017	2430	2419	13.4	0.0	0.55%	
12/11/2017	2436	2427	11.0	3.8	0.61%	
12/12/2017	2183	2169	12.2	0.0	0.56%	
12/13/2017	2129	2116	11.7	0.0	0.55%	
12/14/2017	2146	2133	12.0	0.0	0.56%	
12/15/2017	2315	2302	12.9	0.0	0.56%	
12/16/2017	2386	2374	13.3	0.0	0.56%	
12/17/2017	2392	2379	13.3	0.0	0.56%	
12/18/2017	2379	2367	13.1	0.0	0.55%	
12/19/2017	2419	2404	13.4	0.0	0.55%	
12/20/2017	2439	2424	12.3	1.9	0.58%	
12/21/2017	2443	2427	13.6	0.0	0.56%	
12/22/2017	2399	2382	13.3	0.0	0.55%	
12/23/2017	2390	2373	13.3	0.0	0.56%	
12/24/2017	2372	2355	13.1	0.0	0.55%	
12/25/2017	2383	2367	13.2	0.0	0.55%	
12/26/2017	2391	2375	13.2	0.0	0.55%	
12/27/2017	2359	2343	13.1	0.0	0.56%	
12/28/2017	2357	2341	13.0	0.0	0.55%	
12/29/2017	2400	2384	13.4	0.0	0.56%	
12/30/2017	2391	2375	13.3	0.0	0.55%	
12/31/2017	2399	2383	13.2	0.0	0.55%	

NOTE: Flow rates are normalized to a 24 hr period.

gpm: gallons per minute

*Wellfield swab water discharge to ponds - volume converted to virtual flow rate

Attachment 2: HH1-1 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	0	0	0	
10/2/2017	0	0	0	
10/3/2017	0	0	0	
10/4/2017	0	0	0	
10/5/2017	0	0	0	
10/6/2017	0	0	0	
10/7/2017	0	0	0	
10/8/2017	0	0	0	
10/9/2017	0	0	0	
10/10/2017	0	0	0	
10/11/2017	0	0	0	
10/12/2017	0	0	0	
10/13/2017	0	0	0	
10/14/2017	0	0	0	
10/15/2017	0	0	0	
10/16/2017	0	0	0	
10/17/2017	0	0	0	
10/18/2017	0	0	0	
10/19/2017	0	0	0	
10/20/2017	0	0	0	
10/21/2017	0	0	0	
10/22/2017	0	0	0	
10/23/2017	0	0	0	
10/24/2017	0	0	0	
10/25/2017	0	0	0	
10/26/2017	0	0	0	
10/27/2017	0	0	0	
10/28/2017	0	0	0	
10/29/2017	0	0	0	
10/30/2017	0	0	0	
10/31/2017	0	0	0	
11/1/2017	0	0	0	
11/2/2017	0	0	0	
11/3/2017	0	0	0	
11/4/2017	0	0	0	
11/5/2017	0	0	0	
11/6/2017	0	0	0	
11/7/2017	0	0	0	
11/8/2017	0	0	0	
11/9/2017	0	0	0	
11/10/2017	0	0	0	
11/11/2017	0	0	0	
11/12/2017	0	0	0	
11/13/2017	0	0	0	
11/14/2017	0	0	0	
11/15/2017	0	0	0	
11/16/2017	0	0	0	
11/17/2017	0	0	0	
11/18/2017	0	0	0	
11/19/2017	0	0	0	

Attachment 2: HH1-1 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	0	0	0	
11/21/2017	0	0	0	
11/22/2017	0	0	0	
11/23/2017	0	0	0	
11/24/2017	0	0	0	
11/25/2017	0	0	0	
11/26/2017	0	0	0	
11/27/2017	0	0	0	
11/28/2017	0	0	0	
11/29/2017	0	0	0	
11/30/2017	0	0	0	
12/1/2017	0	0	0	
12/2/2017	0	0	0	
12/3/2017	0	0	0	
12/4/2017	0	0	0	
12/5/2017	0	0	0	
12/6/2017	0	0	0	
12/7/2017	0	0	0	
12/8/2017	0	0	0	
12/9/2017	0	0	0	
12/10/2017	0	0	0	
12/11/2017	0	0	0	
12/12/2017	0	0	0	
12/13/2017	0	0	0	
12/14/2017	0	0	0	
12/15/2017	0	0	0	
12/16/2017	0	0	0	
12/17/2017	0	0	0	
12/18/2017	0	0	0	
12/19/2017	0	0	0	
12/20/2017	0	0	0	
12/21/2017	0	0	0	
12/22/2017	0	0	0	
12/23/2017	0	0	0	
12/24/2017	0	0	0	
12/25/2017	0	0	0	
12/26/2017	0	0	0	
12/27/2017	0	0	0	
12/28/2017	0	0	0	
12/29/2017	0	0	0	
12/30/2017	0	0	0	
12/31/2017	0	0	0	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated fracture pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-2 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	60	124	28	
10/2/2017	60	123	28	
10/3/2017	55	125	24	
10/4/2017	53	124	24	
10/5/2017	53	124	24	
10/6/2017	53	124	24	
10/7/2017	54	124	27	
10/8/2017	54	123	24	
10/9/2017	54	124	24	
10/10/2017	54	124	23	
10/11/2017	18	130	14	
10/12/2017	18	136	14	
10/13/2017	22	131	14	
10/14/2017	23	131	14	
10/15/2017	23	131	15	
10/16/2017	22	131	14	
10/17/2017	22	132	13	
10/18/2017	22	129	13	
10/19/2017	21	129	13	
10/20/2017	21	129	14	
10/21/2017	22	129	13	
10/22/2017	22	129	14	
10/23/2017	22	129	14	
10/24/2017	21	130	14	
10/25/2017	22	130	15	
10/26/2017	22	130	14	
10/27/2017	21	129	14	
10/28/2017	21	128	13	
10/29/2017	21	128	14	
10/30/2017	21	128	15	
10/31/2017	21	128	14	
11/1/2017	21	128	14	
11/2/2017	21	128	16	
11/3/2017	21	129	14	
11/4/2017	20	129	14	
11/5/2017	20	129	14	
11/6/2017	20	130	15	
11/7/2017	20	129	14	
11/8/2017	21	130	14	
11/9/2017	20	129	14	
11/10/2017	20	129	13	
11/11/2017	19	129	14	
11/12/2017	19	129	14	
11/13/2017	19	129	14	
11/14/2017	19	129	14	
11/15/2017	19	129	13	
11/16/2017	19	129	13	
11/17/2017	19	129	14	
11/18/2017	19	128	14	
11/19/2017	19	128	15	

Attachment 2: HH1-2 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	19	128	15	
11/21/2017	19	130	14	
11/22/2017	19	130	14	
11/23/2017	19	130	15	
11/24/2017	19	130	14	
11/25/2017	19	130	13	
11/26/2017	19	130	13	
11/27/2017	19	130	14	
11/28/2017	20	130	15	
11/29/2017	20	129	15	
11/30/2017	20	130	15	
12/1/2017	20	128	15	
12/2/2017	20	128	15	
12/3/2017	19	129	14	
12/4/2017	19	129	15	
12/5/2017	20	129	15	
12/6/2017	20	129	17	
12/7/2017	20	128	17	
12/8/2017	20	128	18	
12/9/2017	20	128	16	
12/10/2017	20	128	17	
12/11/2017	20	128	17	
12/12/2017	20	128	17	
12/13/2017	19	129	18	
12/14/2017	20	129	18	
12/15/2017	20	129	18	
12/16/2017	20	128	18	
12/17/2017	20	128	18	
12/18/2017	20	128	19	
12/19/2017	20	128	18	
12/20/2017	20	128	23	
12/21/2017	20	129	23	
12/22/2017	20	130	24	
12/23/2017	20	129	22	
12/24/2017	21	129	22	
12/25/2017	21	129	22	
12/26/2017	21	128	23	
12/27/2017	21	128	23	
12/28/2017	21	128	22	
12/29/2017	21	128	22	
12/30/2017	21	128	22	
12/31/2017	21	128	23	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-3 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	116	123	121	
10/2/2017	114	123	120	
10/3/2017	114	123	120	
10/4/2017	114	122	121	
10/5/2017	113	123	121	
10/6/2017	112	123	119	
10/7/2017	113	122	124	
10/8/2017	117	123	121	
10/9/2017	117	123	122	
10/10/2017	115	125	122	
10/11/2017	0	0	0	
10/12/2017	0	0	0	
10/13/2017	0	0	0	
10/14/2017	0	0	0	
10/15/2017	0	0	0	
10/16/2017	0	0	0	
10/17/2017	0	0	0	
10/18/2017	0	0	0	
10/19/2017	0	0	0	
10/20/2017	0	0	0	
10/21/2017	0	0	0	
10/22/2017	0	0	0	
10/23/2017	0	0	0	
10/24/2017	0	0	0	
10/25/2017	0	0	0	
10/26/2017	0	0	0	
10/27/2017	0	0	0	
10/28/2017	0	0	0	
10/29/2017	0	0	0	
10/30/2017	0	0	0	
10/31/2017	0	0	0	
11/1/2017	0	0	0	
11/2/2017	0	0	0	
11/3/2017	0	0	0	
11/4/2017	0	0	0	
11/5/2017	0	0	0	
11/6/2017	0	0	0	
11/7/2017	0	0	0	
11/8/2017	0	0	0	
11/9/2017	0	0	0	
11/10/2017	0	0	0	
11/11/2017	0	0	0	
11/12/2017	0	0	0	
11/13/2017	0	0	0	
11/14/2017	0	0	0	
11/15/2017	0	0	0	
11/16/2017	0	0	0	
11/17/2017	0	0	0	
11/18/2017	0	0	0	
11/19/2017	0	0	0	

Attachment 2: HH1-3 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	0	0	0	
11/21/2017	0	0	0	
11/22/2017	0	0	0	
11/23/2017	0	0	0	
11/24/2017	0	0	0	
11/25/2017	0	0	0	
11/26/2017	0	0	0	
11/27/2017	0	0	0	
11/28/2017	0	0	0	
11/29/2017	0	0	0	
11/30/2017	0	0	0	
12/1/2017	0	0	0	
12/2/2017	0	0	0	
12/3/2017	0	0	0	
12/4/2017	0	0	0	
12/5/2017	0	0	0	
12/6/2017	0	0	0	
12/7/2017	0	0	0	
12/8/2017	0	0	0	
12/9/2017	0	0	0	
12/10/2017	0	0	0	
12/11/2017	0	0	0	
12/12/2017	0	0	0	
12/13/2017	0	0	0	
12/14/2017	0	0	0	
12/15/2017	0	0	0	
12/16/2017	0	0	0	
12/17/2017	0	0	0	
12/18/2017	0	0	0	
12/19/2017	0	0	0	
12/20/2017	0	0	0	
12/21/2017	0	0	0	
12/22/2017	0	0	0	
12/23/2017	0	0	0	
12/24/2017	0	0	0	
12/25/2017	0	0	0	
12/26/2017	0	0	0	
12/27/2017	0	0	0	
12/28/2017	0	0	0	
12/29/2017	0	0	0	
12/30/2017	0	0	0	
12/31/2017	0	0	0	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-4 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	131	124	113	
10/2/2017	134	123	114	
10/3/2017	124	122	94	
10/4/2017	125	124	95	
10/5/2017	124	124	95	
10/6/2017	124	124	94	
10/7/2017	126	127	102	
10/8/2017	127	127	95	
10/9/2017	127	127	97	
10/10/2017	130	121	97	
10/11/2017	129	124	97	
10/12/2017	128	124	97	
10/13/2017	92	120	91	
10/14/2017	91	121	93	
10/15/2017	91	121	92	
10/16/2017	87	123	76	
10/17/2017	89	122	87	
10/18/2017	90	124	86	
10/19/2017	90	124	86	
10/20/2017	90	124	70	
10/21/2017	90	124	70	
10/22/2017	88	124	56	
10/23/2017	90	124	71	
10/24/2017	83	127	70	
10/25/2017	84	126	76	
10/26/2017	86	125	72	
10/27/2017	83	123	72	
10/28/2017	85	122	70	
10/29/2017	87	124	71	
10/30/2017	87	124	71	
10/31/2017	84	125	55	
11/1/2017	85	125	74	
11/2/2017	83	125	60	
11/3/2017	85	125	59	
11/4/2017	84	126	57	
11/5/2017	81	123	42	
11/6/2017	81	123	43	
11/7/2017	81	122	63	
11/8/2017	81	123	63	
11/9/2017	81	122	62	
11/10/2017	84	121	90	
11/11/2017	91	124	104	
11/12/2017	91	124	103	
11/13/2017	91	125	103	
11/14/2017	112	125	109	
11/15/2017	110	126	108	
11/16/2017	109	126	111	
11/17/2017	109	126	113	
11/18/2017	109	125	113	
11/19/2017	107	122	115	

Attachment 2: HH1-4 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	107	123	115	
11/21/2017	106	123	114	
11/22/2017	106	124	114	
11/23/2017	106	124	120	
11/24/2017	105	124	115	
11/25/2017	105	124	114	
11/26/2017	105	124	115	
11/27/2017	106	124	117	
11/28/2017	106	124	118	
11/29/2017	106	124	117	
11/30/2017	106	124	117	
12/1/2017	106	123	123	
12/2/2017	106	124	123	
12/3/2017	105	124	121	
12/4/2017	105	124	120	
12/5/2017	107	124	121	
12/6/2017	103	125	108	
12/7/2017	102	125	110	
12/8/2017	102	125	112	
12/9/2017	102	125	108	
12/10/2017	100	122	108	
12/11/2017	101	122	109	
12/12/2017	101	122	109	
12/13/2017	101	126	111	
12/14/2017	101	124	110	
12/15/2017	101	124	111	
12/16/2017	100	124	111	
12/17/2017	100	124	112	
12/18/2017	100	124	114	
12/19/2017	99	124	110	
12/20/2017	100	123	113	
12/21/2017	100	123	114	
12/22/2017	100	123	113	
12/23/2017	100	123	112	
12/24/2017	100	124	110	
12/25/2017	99	124	111	
12/26/2017	100	123	112	
12/27/2017	100	123	112	
12/28/2017	98	123	112	
12/29/2017	99	123	111	
12/30/2017	98	124	113	
12/31/2017	99	124	113	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-5 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	81	124	94	
10/2/2017	81	124	94	
10/3/2017	73	124	93	
10/4/2017	79	121	94	
10/5/2017	77	126	94	
10/6/2017	76	126	93	
10/7/2017	86	143	99	
10/8/2017	73	126	94	
10/9/2017	74	126	95	
10/10/2017	77	125	93	
10/11/2017	67	133	90	
10/12/2017	65	131	88	
10/13/2017	62	138	87	
10/14/2017	55	123	77	
10/15/2017	55	123	77	
10/16/2017	54	123	76	
10/17/2017	54	124	74	
10/18/2017	57	132	73	
10/19/2017	57	131	74	
10/20/2017	56	131	76	
10/21/2017	57	131	74	
10/22/2017	57	131	76	
10/23/2017	57	131	75	
10/24/2017	57	132	74	
10/25/2017	57	132	77	
10/26/2017	57	132	75	
10/27/2017	65	120	74	
10/28/2017	77	126	74	
10/29/2017	77	132	75	
10/30/2017	77	132	76	
10/31/2017	76	132	75	
11/1/2017	77	132	75	
11/2/2017	76	132	79	
11/3/2017	75	132	78	
11/4/2017	71	128	77	
11/5/2017	73	131	77	
11/6/2017	70	132	78	
11/7/2017	70	132	74	
11/8/2017	70	132	74	
11/9/2017	70	132	73	
11/10/2017	70	132	72	
11/11/2017	71	131	70	
11/12/2017	71	131	70	
11/13/2017	72	131	70	
11/14/2017	72	131	70	
11/15/2017	72	131	68	
11/16/2017	72	130	70	
11/17/2017	73	130	71	
11/18/2017	73	130	71	
11/19/2017	73	130	71	

Attachment 2: HH1-5 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	73	130	71	
11/21/2017	74	130	71	
11/22/2017	74	130	70	
11/23/2017	74	130	71	
11/24/2017	64	134	69	
11/25/2017	63	134	68	
11/26/2017	63	134	68	
11/27/2017	63	129	70	
11/28/2017	63	129	69	
11/29/2017	64	129	69	
11/30/2017	64	129	69	
12/1/2017	66	128	71	
12/2/2017	65	129	71	
12/3/2017	65	129	69	
12/4/2017	65	129	69	
12/5/2017	66	130	70	
12/6/2017	66	129	72	
12/7/2017	66	129	73	
12/8/2017	66	129	73	
12/9/2017	66	129	72	
12/10/2017	66	130	72	
12/11/2017	66	129	73	
12/12/2017	67	129	73	
12/13/2017	66	130	74	
12/14/2017	66	130	74	
12/15/2017	67	130	74	
12/16/2017	67	129	74	
12/17/2017	67	129	74	
12/18/2017	67	129	75	
12/19/2017	66	129	74	
12/20/2017	66	129	75	
12/21/2017	68	131	75	
12/22/2017	68	131	75	
12/23/2017	67	128	74	
12/24/2017	66	128	73	
12/25/2017	67	130	74	
12/26/2017	67	129	75	
12/27/2017	67	129	75	
12/28/2017	66	129	74	
12/29/2017	67	129	74	
12/30/2017	67	129	74	
12/31/2017	66	129	74	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-6 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	105	128	141	
10/2/2017	107	128	142	
10/3/2017	83	129	116	
10/4/2017	81	129	116	
10/5/2017	92	126	117	
10/6/2017	93	125	130	
10/7/2017	84	128	144	
10/8/2017	85	128	134	
10/9/2017	85	127	135	
10/10/2017	87	130	161	
10/11/2017	71	130	93	
10/12/2017	69	131	92	
10/13/2017	68	130	90	
10/14/2017	61	132	92	
10/15/2017	61	132	92	
10/16/2017	59	132	90	
10/17/2017	59	133	95	
10/18/2017	58	130	86	
10/19/2017	59	130	105	
10/20/2017	59	129	96	
10/21/2017	60	129	111	
10/22/2017	60	129	95	
10/23/2017	60	129	94	
10/24/2017	60	130	109	
10/25/2017	61	130	116	
10/26/2017	62	130	112	
10/27/2017	61	127	109	
10/28/2017	61	128	115	
10/29/2017	62	129	117	
10/30/2017	62	128	118	
10/31/2017	63	129	116	
11/1/2017	63	128	115	
11/2/2017	79	125	83	
11/3/2017	74	132	83	
11/4/2017	73	129	81	
11/5/2017	74	128	82	
11/6/2017	75	129	82	
11/7/2017	76	129	79	
11/8/2017	76	129	79	
11/9/2017	76	128	78	
11/10/2017	75	129	76	
11/11/2017	76	128	76	
11/12/2017	77	129	76	
11/13/2017	62	125	74	
11/14/2017	60	124	75	
11/15/2017	36	135	73	
11/16/2017	36	135	75	
11/17/2017	36	134	77	
11/18/2017	37	134	76	
11/19/2017	37	133	77	

Attachment 2: HH1-6 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	37	133	77	
11/21/2017	37	133	76	
11/22/2017	37	133	76	
11/23/2017	37	133	77	
11/24/2017	36	133	75	
11/25/2017	36	133	74	
11/26/2017	36	133	74	
11/27/2017	37	132	75	
11/28/2017	37	133	76	
11/29/2017	37	132	76	
11/30/2017	37	133	76	
12/1/2017	37	132	78	
12/2/2017	37	133	78	
12/3/2017	37	133	77	
12/4/2017	37	133	77	
12/5/2017	38	133	77	
12/6/2017	38	133	80	
12/7/2017	39	132	81	
12/8/2017	39	133	82	
12/9/2017	39	133	80	
12/10/2017	39	132	80	
12/11/2017	39	132	67	
12/12/2017	39	133	67	
12/13/2017	39	132	65	
12/14/2017	46	134	69	
12/15/2017	46	134	69	
12/16/2017	46	133	69	
12/17/2017	46	133	69	
12/18/2017	46	133	70	
12/19/2017	46	134	69	
12/20/2017	46	133	70	
12/21/2017	46	133	71	
12/22/2017	46	133	70	
12/23/2017	46	133	70	
12/24/2017	45	134	69	
12/25/2017	46	134	70	
12/26/2017	46	133	71	
12/27/2017	46	133	71	
12/28/2017	45	133	70	
12/29/2017	45	132	70	
12/30/2017	45	132	70	
12/31/2017	45	133	70	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-7 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	177	131	184	
10/2/2017	175	131	187	
10/3/2017	176	131	184	
10/4/2017	177	131	186	
10/5/2017	175	131	187	
10/6/2017	175	131	183	
10/7/2017	166	131	196	
10/8/2017	175	131	180	
10/9/2017	177	131	181	
10/10/2017	182	131	176	
10/11/2017	181	131	183	
10/12/2017	180	131	179	
10/13/2017	180	132	178	
10/14/2017	174	132	159	
10/15/2017	174	132	159	
10/16/2017	170	132	156	
10/17/2017	169	133	153	
10/18/2017	166	131	151	
10/19/2017	164	131	152	
10/20/2017	165	131	157	
10/21/2017	166	131	154	
10/22/2017	165	131	158	
10/23/2017	165	131	158	
10/24/2017	167	132	154	
10/25/2017	168	132	161	
10/26/2017	167	132	156	
10/27/2017	166	131	153	
10/28/2017	165	131	155	
10/29/2017	166	131	156	
10/30/2017	166	131	158	
10/31/2017	169	131	170	
11/1/2017	177	130	189	
11/2/2017	185	129	204	
11/3/2017	171	132	186	
11/4/2017	172	132	181	
11/5/2017	172	132	182	
11/6/2017	171	132	184	
11/7/2017	173	132	195	
11/8/2017	179	132	196	
11/9/2017	184	131	193	
11/10/2017	181	131	190	
11/11/2017	181	131	188	
11/12/2017	181	131	189	
11/13/2017	182	131	189	
11/14/2017	187	131	189	
11/15/2017	197	130	186	
11/16/2017	209	129	191	
11/17/2017	210	129	196	
11/18/2017	210	129	194	
11/19/2017	213	129	196	

Attachment 2: HH1-7 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	215	129	198	
11/21/2017	197	130	193	
11/22/2017	198	131	194	
11/23/2017	194	131	196	
11/24/2017	192	130	191	
11/25/2017	190	131	189	
11/26/2017	191	131	189	
11/27/2017	192	131	192	
11/28/2017	192	131	193	
11/29/2017	196	130	194	
11/30/2017	198	130	194	
12/1/2017	199	130	198	
12/2/2017	197	130	198	
12/3/2017	193	131	195	
12/4/2017	194	131	195	
12/5/2017	195	131	197	
12/6/2017	197	130	203	
12/7/2017	198	130	215	
12/8/2017	198	130	218	
12/9/2017	196	130	212	
12/10/2017	197	130	215	
12/11/2017	198	129	218	
12/12/2017	197	130	201	
12/13/2017	193	131	206	
12/14/2017	196	131	203	
12/15/2017	198	130	203	
12/16/2017	198	130	204	
12/17/2017	199	130	205	
12/18/2017	199	130	208	
12/19/2017	196	130	203	
12/20/2017	198	130	207	
12/21/2017	199	129	207	
12/22/2017	199	130	206	
12/23/2017	199	130	206	
12/24/2017	211	130	205	
12/25/2017	212	130	206	
12/26/2017	214	129	208	
12/27/2017	214	130	209	
12/28/2017	210	130	208	
12/29/2017	212	130	207	
12/30/2017	204	130	207	
12/31/2017	205	130	207	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-8 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	192	122	196	
10/2/2017	189	123	181	
10/3/2017	188	123	178	
10/4/2017	189	123	179	
10/5/2017	188	123	181	
10/6/2017	186	123	179	
10/7/2017	180	123	180	
10/8/2017	184	124	180	
10/9/2017	185	124	181	
10/10/2017	190	123	195	
10/11/2017	190	124	199	
10/12/2017	187	124	195	
10/13/2017	187	124	192	
10/14/2017	188	124	185	
10/15/2017	189	124	197	
10/16/2017	183	125	192	
10/17/2017	182	125	188	
10/18/2017	178	122	186	
10/19/2017	174	123	157	
10/20/2017	174	122	161	
10/21/2017	174	122	158	
10/22/2017	175	122	161	
10/23/2017	175	122	161	
10/24/2017	175	123	158	
10/25/2017	176	123	169	
10/26/2017	176	123	162	
10/27/2017	175	123	158	
10/28/2017	176	123	159	
10/29/2017	176	122	161	
10/30/2017	178	122	165	
10/31/2017	179	122	159	
11/1/2017	181	121	152	
11/2/2017	182	121	157	
11/3/2017	182	122	175	
11/4/2017	182	122	194	
11/5/2017	182	122	184	
11/6/2017	182	123	198	
11/7/2017	183	122	192	
11/8/2017	189	121	189	
11/9/2017	192	121	220	
11/10/2017	189	121	216	
11/11/2017	194	121	215	
11/12/2017	194	121	209	
11/13/2017	195	121	209	
11/14/2017	195	121	220	
11/15/2017	206	119	222	
11/16/2017	207	118	228	
11/17/2017	207	118	219	
11/18/2017	206	119	217	
11/19/2017	213	122	220	

Attachment 2: HH1-8 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	215	122	223	
11/21/2017	213	122	219	
11/22/2017	213	123	222	
11/23/2017	210	123	224	
11/24/2017	207	123	232	
11/25/2017	206	123	225	
11/26/2017	207	123	227	
11/27/2017	203	123	223	
11/28/2017	209	122	219	
11/29/2017	211	122	221	
11/30/2017	215	122	236	
12/1/2017	217	121	223	
12/2/2017	213	121	207	
12/3/2017	208	123	205	
12/4/2017	204	123	204	
12/5/2017	203	122	203	
12/6/2017	206	121	210	
12/7/2017	209	121	194	
12/8/2017	210	120	196	
12/9/2017	208	120	192	
12/10/2017	210	121	194	
12/11/2017	212	121	198	
12/12/2017	211	122	198	
12/13/2017	205	123	201	
12/14/2017	204	123	200	
12/15/2017	207	122	205	
12/16/2017	207	121	206	
12/17/2017	208	121	207	
12/18/2017	209	121	209	
12/19/2017	206	121	204	
12/20/2017	207	121	208	
12/21/2017	215	119	206	
12/22/2017	218	122	205	
12/23/2017	217	122	205	
12/24/2017	212	122	204	
12/25/2017	213	122	204	
12/26/2017	215	121	207	
12/27/2017	216	121	208	
12/28/2017	211	122	207	
12/29/2017	207	123	205	
12/30/2017	207	123	206	
12/31/2017	207	122	206	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-9 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	310	124	261	
10/2/2017	309	124	266	
10/3/2017	251	126	216	
10/4/2017	251	124	216	
10/5/2017	259	124	218	
10/6/2017	259	124	216	
10/7/2017	227	111	236	
10/8/2017	259	123	217	
10/9/2017	263	124	218	
10/10/2017	269	124	216	
10/11/2017	267	124	219	
10/12/2017	226	125	207	
10/13/2017	225	125	205	
10/14/2017	227	125	209	
10/15/2017	227	125	209	
10/16/2017	223	125	205	
10/17/2017	165	128	144	
10/18/2017	164	125	142	
10/19/2017	158	125	146	
10/20/2017	160	126	150	
10/21/2017	159	125	148	
10/22/2017	160	125	151	
10/23/2017	160	125	150	
10/24/2017	160	126	147	
10/25/2017	160	126	156	
10/26/2017	160	126	151	
10/27/2017	159	126	148	
10/28/2017	161	126	147	
10/29/2017	161	126	149	
10/30/2017	161	126	150	
10/31/2017	190	123	177	
11/1/2017	191	123	175	
11/2/2017	192	123	186	
11/3/2017	189	124	161	
11/4/2017	189	124	156	
11/5/2017	189	124	157	
11/6/2017	189	124	160	
11/7/2017	188	124	156	
11/8/2017	191	124	188	
11/9/2017	193	124	181	
11/10/2017	193	124	178	
11/11/2017	193	124	177	
11/12/2017	194	124	179	
11/13/2017	194	124	180	
11/14/2017	196	123	180	
11/15/2017	206	122	182	
11/16/2017	208	122	187	
11/17/2017	211	122	191	
11/18/2017	210	122	189	
11/19/2017	211	122	192	

Attachment 2: HH1-9 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	213	122	194	
11/21/2017	217	121	201	
11/22/2017	209	123	195	
11/23/2017	206	123	197	
11/24/2017	206	122	184	
11/25/2017	205	122	180	
11/26/2017	206	122	180	
11/27/2017	208	122	184	
11/28/2017	210	122	186	
11/29/2017	213	122	187	
11/30/2017	214	122	188	
12/1/2017	216	121	194	
12/2/2017	213	121	195	
12/3/2017	210	122	191	
12/4/2017	210	122	191	
12/5/2017	211	122	192	
12/6/2017	214	122	201	
12/7/2017	216	121	200	
12/8/2017	216	121	202	
12/9/2017	214	121	197	
12/10/2017	216	121	198	
12/11/2017	216	121	202	
12/12/2017	216	121	200	
12/13/2017	215	122	205	
12/14/2017	216	122	204	
12/15/2017	217	122	205	
12/16/2017	217	121	206	
12/17/2017	217	121	207	
12/18/2017	217	121	210	
12/19/2017	215	121	204	
12/20/2017	216	121	208	
12/21/2017	217	121	228	
12/22/2017	218	121	227	
12/23/2017	218	121	226	
12/24/2017	216	121	223	
12/25/2017	218	121	224	
12/26/2017	219	121	227	
12/27/2017	220	121	228	
12/28/2017	215	121	227	
12/29/2017	216	121	226	
12/30/2017	217	121	227	
12/31/2017	217	121	227	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-10 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	172	122	199	
10/2/2017	175	122	201	
10/3/2017	164	124	186	
10/4/2017	165	123	186	
10/5/2017	165	123	186	
10/6/2017	163	123	184	
10/7/2017	157	129	183	
10/8/2017	160	129	188	
10/9/2017	159	129	188	
10/10/2017	161	123	187	
10/11/2017	187	124	190	
10/12/2017	188	122	177	
10/13/2017	186	122	177	
10/14/2017	186	122	183	
10/15/2017	186	123	182	
10/16/2017	179	124	165	
10/17/2017	170	125	172	
10/18/2017	168	122	168	
10/19/2017	170	122	170	
10/20/2017	171	122	174	
10/21/2017	172	122	172	
10/22/2017	172	122	175	
10/23/2017	172	122	173	
10/24/2017	170	123	170	
10/25/2017	170	123	178	
10/26/2017	174	124	174	
10/27/2017	173	123	170	
10/28/2017	182	122	191	
10/29/2017	198	123	195	
10/30/2017	199	123	197	
10/31/2017	204	123	224	
11/1/2017	213	121	224	
11/2/2017	214	122	234	
11/3/2017	199	122	234	
11/4/2017	196	122	225	
11/5/2017	194	122	226	
11/6/2017	194	123	213	
11/7/2017	194	122	207	
11/8/2017	196	122	200	
11/9/2017	197	122	197	
11/10/2017	195	122	193	
11/11/2017	197	122	192	
11/12/2017	198	122	192	
11/13/2017	199	122	193	
11/14/2017	200	122	193	
11/15/2017	195	122	192	
11/16/2017	196	122	196	
11/17/2017	211	119	191	
11/18/2017	208	120	192	
11/19/2017	212	122	192	

Attachment 2: HH1-10 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	213	122	193	
11/21/2017	212	123	189	
11/22/2017	212	125	191	
11/23/2017	205	126	190	
11/24/2017	205	126	192	
11/25/2017	196	126	187	
11/26/2017	196	126	186	
11/27/2017	202	122	188	
11/28/2017	202	122	188	
11/29/2017	204	122	187	
11/30/2017	205	122	187	
12/1/2017	205	122	191	
12/2/2017	203	122	194	
12/3/2017	198	123	188	
12/4/2017	197	123	187	
12/5/2017	200	122	190	
12/6/2017	203	122	162	
12/7/2017	207	121	197	
12/8/2017	213	125	195	
12/9/2017	207	120	189	
12/10/2017	212	123	195	
12/11/2017	213	123	187	
12/12/2017	218	123	226	
12/13/2017	216	123	225	
12/14/2017	220	123	224	
12/15/2017	223	123	225	
12/16/2017	222	122	226	
12/17/2017	223	122	227	
12/18/2017	224	122	230	
12/19/2017	217	122	224	
12/20/2017	220	122	227	
12/21/2017	222	122	228	
12/22/2017	222	122	227	
12/23/2017	223	121	226	
12/24/2017	217	122	223	
12/25/2017	219	122	224	
12/26/2017	221	122	227	
12/27/2017	222	122	228	
12/28/2017	214	123	227	
12/29/2017	215	123	227	
12/30/2017	214	123	227	
12/31/2017	214	123	227	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-11 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	183	119	184	
10/2/2017	185	120	186	
10/3/2017	178	121	182	
10/4/2017	179	121	183	
10/5/2017	176	119	182	
10/6/2017	175	119	180	
10/7/2017	168	118	171	
10/8/2017	169	120	162	
10/9/2017	171	120	165	
10/10/2017	171	120	165	
10/11/2017	170	120	169	
10/12/2017	164	120	169	
10/13/2017	163	121	169	
10/14/2017	163	121	173	
10/15/2017	163	121	172	
10/16/2017	160	121	168	
10/17/2017	160	122	163	
10/18/2017	159	122	162	
10/19/2017	157	120	161	
10/20/2017	159	121	165	
10/21/2017	156	120	164	
10/22/2017	157	120	167	
10/23/2017	157	120	166	
10/24/2017	159	120	164	
10/25/2017	174	125	177	
10/26/2017	168	126	173	
10/27/2017	159	119	167	
10/28/2017	160	119	166	
10/29/2017	161	120	168	
10/30/2017	161	120	170	
10/31/2017	163	120	178	
11/1/2017	163	119	177	
11/2/2017	165	119	186	
11/3/2017	172	120	185	
11/4/2017	169	121	180	
11/5/2017	169	121	179	
11/6/2017	168	121	181	
11/7/2017	168	121	176	
11/8/2017	169	121	175	
11/9/2017	168	121	173	
11/10/2017	167	121	171	
11/11/2017	167	121	170	
11/12/2017	168	121	171	
11/13/2017	168	121	171	
11/14/2017	169	120	172	
11/15/2017	169	121	170	
11/16/2017	175	119	174	
11/17/2017	174	119	178	
11/18/2017	174	119	176	
11/19/2017	173	118	177	

Attachment 2: HH1-11 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	174	118	177	
11/21/2017	180	122	176	
11/22/2017	178	117	169	
11/23/2017	177	117	174	
11/24/2017	174	117	172	
11/25/2017	172	118	171	
11/26/2017	172	118	170	
11/27/2017	177	120	173	
11/28/2017	179	120	174	
11/29/2017	180	120	174	
11/30/2017	184	121	181	
12/1/2017	184	121	192	
12/2/2017	184	121	192	
12/3/2017	176	123	187	
12/4/2017	176	123	185	
12/5/2017	173	118	185	
12/6/2017	175	118	190	
12/7/2017	192	118	189	
12/8/2017	196	121	190	
12/9/2017	196	121	194	
12/10/2017	196	121	194	
12/11/2017	197	120	196	
12/12/2017	198	120	189	
12/13/2017	151	123	179	
12/14/2017	149	120	172	
12/15/2017	149	120	176	
12/16/2017	191	122	200	
12/17/2017	192	122	201	
12/18/2017	193	121	204	
12/19/2017	191	122	199	
12/20/2017	192	121	209	
12/21/2017	193	121	209	
12/22/2017	193	121	208	
12/23/2017	191	120	206	
12/24/2017	189	120	204	
12/25/2017	190	120	201	
12/26/2017	190	120	204	
12/27/2017	190	120	206	
12/28/2017	187	121	170	
12/29/2017	188	120	181	
12/30/2017	187	121	177	
12/31/2017	187	121	171	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-12 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	261	119	255	
10/2/2017	264	121	257	
10/3/2017	264	121	254	
10/4/2017	266	121	256	
10/5/2017	267	121	255	
10/6/2017	265	121	253	
10/7/2017	255	117	271	
10/8/2017	269	125	261	
10/9/2017	269	125	246	
10/10/2017	265	121	246	
10/11/2017	267	121	264	
10/12/2017	280	121	253	
10/13/2017	286	120	256	
10/14/2017	269	122	232	
10/15/2017	269	122	230	
10/16/2017	265	123	225	
10/17/2017	264	123	219	
10/18/2017	257	121	217	
10/19/2017	260	120	216	
10/20/2017	263	121	219	
10/21/2017	263	121	219	
10/22/2017	263	121	224	
10/23/2017	263	121	224	
10/24/2017	262	122	223	
10/25/2017	263	122	158	
10/26/2017	262	122	210	
10/27/2017	265	120	230	
10/28/2017	267	120	230	
10/29/2017	268	121	232	
10/30/2017	268	121	235	
10/31/2017	268	121	231	
11/1/2017	269	120	231	
11/2/2017	271	120	241	
11/3/2017	261	120	236	
11/4/2017	260	121	230	
11/5/2017	259	121	230	
11/6/2017	261	121	232	
11/7/2017	289	117	271	
11/8/2017	289	117	270	
11/9/2017	288	117	268	
11/10/2017	292	122	266	
11/11/2017	290	119	265	
11/12/2017	290	120	266	
11/13/2017	290	120	265	
11/14/2017	290	120	267	
11/15/2017	285	120	267	
11/16/2017	283	120	275	
11/17/2017	287	120	276	
11/18/2017	287	120	276	
11/19/2017	289	120	277	

Attachment 2: HH1-12 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	290	120	278	
11/21/2017	290	120	279	
11/22/2017	293	121	278	
11/23/2017	297	124	296	
11/24/2017	296	124	277	
11/25/2017	292	124	279	
11/26/2017	294	124	278	
11/27/2017	290	120	279	
11/28/2017	290	120	282	
11/29/2017	292	120	282	
11/30/2017	291	120	282	
12/1/2017	306	118	276	
12/2/2017	295	119	274	
12/3/2017	289	120	269	
12/4/2017	288	120	267	
12/5/2017	289	120	268	
12/6/2017	293	121	280	
12/7/2017	303	119	268	
12/8/2017	319	119	269	
12/9/2017	318	119	284	
12/10/2017	321	120	283	
12/11/2017	321	120	286	
12/12/2017	323	120	282	
12/13/2017	210	125	212	
12/14/2017	210	126	210	
12/15/2017	209	125	213	
12/16/2017	290	121	264	
12/17/2017	290	121	264	
12/18/2017	291	120	267	
12/19/2017	286	120	261	
12/20/2017	287	119	262	
12/21/2017	288	119	260	
12/22/2017	289	120	259	
12/23/2017	289	120	258	
12/24/2017	287	120	256	
12/25/2017	288	120	256	
12/26/2017	287	120	242	
12/27/2017	291	122	243	
12/28/2017	286	122	242	
12/29/2017	284	120	243	
12/30/2017	283	120	247	
12/31/2017	283	120	236	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH1-13 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	325	124	366	
10/2/2017	323	124	368	
10/3/2017	320	125	364	
10/4/2017	321	125	366	
10/5/2017	317	125	365	
10/6/2017	321	125	363	
10/7/2017	303	120	338	
10/8/2017	313	125	352	
10/9/2017	313	125	359	
10/10/2017	315	125	360	
10/11/2017	317	125	359	
10/12/2017	310	126	360	
10/13/2017	300	126	329	
10/14/2017	300	125	338	
10/15/2017	300	126	338	
10/16/2017	264	127	329	
10/17/2017	261	126	319	
10/18/2017	279	125	337	
10/19/2017	278	125	335	
10/20/2017	288	125	344	
10/21/2017	288	125	341	
10/22/2017	288	125	345	
10/23/2017	288	125	343	
10/24/2017	285	126	340	
10/25/2017	298	127	355	
10/26/2017	296	127	347	
10/27/2017	292	125	337	
10/28/2017	294	124	338	
10/29/2017	294	124	342	
10/30/2017	293	124	328	
10/31/2017	289	124	324	
11/1/2017	290	124	323	
11/2/2017	293	124	337	
11/3/2017	290	123	325	
11/4/2017	287	124	319	
11/5/2017	287	124	321	
11/6/2017	289	124	325	
11/7/2017	289	124	318	
11/8/2017	290	124	318	
11/9/2017	291	124	316	
11/10/2017	288	124	314	
11/11/2017	291	123	313	
11/12/2017	293	124	315	
11/13/2017	294	123	316	
11/14/2017	298	123	317	
11/15/2017	296	123	314	
11/16/2017	288	123	288	
11/17/2017	292	123	323	
11/18/2017	299	123	323	
11/19/2017	301	122	326	

Attachment 2: HH1-13 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	302	122	328	
11/21/2017	310	125	329	
11/22/2017	317	126	330	
11/23/2017	301	127	295	
11/24/2017	303	125	326	
11/25/2017	299	126	325	
11/26/2017	300	126	326	
11/27/2017	306	125	329	
11/28/2017	310	125	332	
11/29/2017	316	124	339	
11/30/2017	319	124	340	
12/1/2017	274	125	282	
12/2/2017	273	124	284	
12/3/2017	269	126	280	
12/4/2017	268	126	280	
12/5/2017	271	125	281	
12/6/2017	275	125	289	
12/7/2017	285	124	381	
12/8/2017	287	124	385	
12/9/2017	287	124	374	
12/10/2017	288	124	375	
12/11/2017	290	123	380	
12/12/2017	291	123	376	
12/13/2017	176	125	180	
12/14/2017	175	125	179	
12/15/2017	177	125	182	
12/16/2017	286	124	329	
12/17/2017	287	123	331	
12/18/2017	288	123	336	
12/19/2017	286	124	328	
12/20/2017	287	123	335	
12/21/2017	288	123	333	
12/22/2017	289	123	339	
12/23/2017	288	123	332	
12/24/2017	287	123	343	
12/25/2017	288	123	345	
12/26/2017	288	123	335	
12/27/2017	289	123	338	
12/28/2017	286	124	344	
12/29/2017	287	124	345	
12/30/2017	287	123	347	
12/31/2017	286	123	348	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 2: HH2-2 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
10/1/2017	438	127	429	
10/2/2017	436	127	429	
10/3/2017	429	128	424	
10/4/2017	405	126	398	
10/5/2017	419	125	416	
10/6/2017	417	125	413	
10/7/2017	388	124	416	
10/8/2017	423	116	417	
10/9/2017	421	112	420	
10/10/2017	427	124	422	
10/11/2017	432	126	424	
10/12/2017	425	127	418	
10/13/2017	426	127	416	
10/14/2017	439	126	426	
10/15/2017	439	126	426	
10/16/2017	445	125	424	
10/17/2017	438	123	416	
10/18/2017	423	123	413	
10/19/2017	429	130	416	
10/20/2017	392	130	382	
10/21/2017	388	131	377	
10/22/2017	388	131	382	
10/23/2017	388	131	378	
10/24/2017	386	131	374	
10/25/2017	384	131	386	
10/26/2017	380	130	378	
10/27/2017	384	129	386	
10/28/2017	391	131	388	
10/29/2017	391	131	392	
10/30/2017	401	130	398	
10/31/2017	401	130	394	
11/1/2017	420	128	405	
11/2/2017	423	128	411	
11/3/2017	403	133	400	
11/4/2017	386	134	386	
11/5/2017	370	127	379	
11/6/2017	371	127	370	
11/7/2017	387	125	381	
11/8/2017	388	124	379	
11/9/2017	385	125	377	
11/10/2017	360	128	349	
11/11/2017	351	128	342	
11/12/2017	336	130	336	
11/13/2017	336	130	335	
11/14/2017	346	129	352	
11/15/2017	345	129	345	
11/16/2017	346	128	349	
11/17/2017	387	124	382	
11/18/2017	384	125	380	
11/19/2017	386	125	380	

Attachment 2: HH2-2 Flow Summary
4th Quarter 2017
Lost Creek ISR Project PT788

Date	Manifold Injection Flow Rate (gpm)	Manifold Injection Pressure* (psi)	Manifold Production Flow Rate (gpm)	Comments
11/20/2017	387	125	389	
11/21/2017	397	123	400	
11/22/2017	400	124	399	
11/23/2017	450	121	435	
11/24/2017	442	121	425	
11/25/2017	446	122	424	
11/26/2017	444	122	423	
11/27/2017	449	121	435	
11/28/2017	451	121	435	
11/29/2017	431	123	424	
11/30/2017	433	123	429	
12/1/2017	442	122	439	
12/2/2017	448	121	434	
12/3/2017	447	121	435	
12/4/2017	446	121	435	
12/5/2017	441	122	431	
12/6/2017	457	120	452	
12/7/2017	550	115	472	
12/8/2017	557	124	502	
12/9/2017	539	126	487	
12/10/2017	532	126	488	
12/11/2017	533	126	493	
12/12/2017	534	126	490	
12/13/2017	512	128	469	
12/14/2017	511	128	469	
12/15/2017	512	128	458	
12/16/2017	512	128	468	
12/17/2017	515	128	471	
12/18/2017	515	128	451	
12/19/2017	509	128	466	
12/20/2017	565	124	486	
12/21/2017	566	124	484	
12/22/2017	550	125	480	
12/23/2017	501	129	442	
12/24/2017	490	130	430	
12/25/2017	491	130	438	
12/26/2017	491	129	442	
12/27/2017	492	129	447	
12/28/2017	490	130	447	
12/29/2017	493	129	442	
12/30/2017	529	126	467	
12/31/2017	531	126	474	

* Manifold pressure is not indicative of actual well pressures. Flows to wells are throttled on an individual basis at each stub to keep injection pressure below the rated pressure for the well.

gpm: gallons per minute

psi: pounds per square inch

Attachment 3: Groundwater Level Measurement Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Measure Date	Depth to Water (ft-bmp)	Comments
M-101	MU1 Ring	10/11/2017	179.13	
M-101	MU1 Ring	10/24/2017	173.03	
M-101	MU1 Ring	11/8/2017	168.43	
M-101	MU1 Ring	11/28/2017	162.64	
M-101	MU1 Ring	12/12/2017	174.80	
M-101	MU1 Ring	12/27/2017	173.14	
M-102	MU1 Ring	10/11/2017	183.90	
M-102	MU1 Ring	10/24/2017	177.50	
M-102	MU1 Ring	11/9/2017	169.15	
M-102	MU1 Ring	11/28/2017	167.38	
M-102	MU1 Ring	12/12/2017	177.87	
M-102	MU1 Ring	12/27/2017	176.80	
M-103A	MU1 Ring	10/11/2017	177.22	
M-103A	MU1 Ring	10/24/2017	180.69	
M-103A	MU1 Ring	11/9/2017	164.33	
M-103A	MU1 Ring	11/28/2017	160.95	
M-103A	MU1 Ring	12/12/2017	171.70	
M-103A	MU1 Ring	12/27/2017	170.30	
M-104	MU1 Ring	10/11/2017	185.03	
M-104	MU1 Ring	10/24/2017	178.40	
M-104	MU1 Ring	11/9/2017	172.76	
M-104	MU1 Ring	11/28/2017	166.45	
M-104	MU1 Ring	12/12/2017	179.35	
M-104	MU1 Ring	12/27/2017	178.14	
M-105	MU1 Ring	10/12/2017	175.61	
M-105	MU1 Ring	10/26/2017	167.23	
M-105	MU1 Ring	11/9/2017	171.40	
M-105	MU1 Ring	11/28/2017	166.22	
M-105	MU1 Ring	12/12/2017	179.34	
M-105	MU1 Ring	12/27/2017	178.20	
M-106	MU1 Ring	10/12/2017	167.80	
M-106	MU1 Ring	10/26/2017	161.92	
M-106	MU1 Ring	11/9/2017	166.94	
M-106	MU1 Ring	11/29/2017	158.35	
M-106	MU1 Ring	12/12/2017	173.15	
M-106	MU1 Ring	12/28/2017	169.64	
M-107	MU1 Ring	10/12/2017	184.93	
M-107	MU1 Ring	10/26/2017	181.30	
M-107	MU1 Ring	11/9/2017	181.24	
M-107	MU1 Ring	11/29/2017	176.29	
M-107	MU1 Ring	12/13/2017	182.42	
M-107	MU1 Ring	12/28/2017	180.22	
M-108	MU1 Ring	10/12/2017	185.45	
M-108	MU1 Ring	10/26/2017	181.47	
M-108	MU1 Ring	11/9/2017	181.21	
M-108	MU1 Ring	11/29/2017	178.31	
M-108	MU1 Ring	12/13/2017	182.13	
M-108	MU1 Ring	12/28/2017	179.40	

Attachment 3: Groundwater Level Measurement Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Measure Date	Depth to Water (ft-bmp)	Comments
M-109	MU1 Ring	10/12/2017	183.59	
M-109	MU1 Ring	10/26/2017	180.97	
M-109	MU1 Ring	11/9/2017	177.83	
M-109	MU1 Ring	11/29/2017	175.33	
M-109	MU1 Ring	12/13/2017	183.29	
M-109	MU1 Ring	12/28/2017	174.69	
M-110	MU1 Ring	10/12/2017	189.55	
M-110	MU1 Ring	10/26/2017	189.48	
M-110	MU1 Ring	11/9/2017	176.38	
M-110	MU1 Ring	11/29/2017	180.23	
M-110	MU1 Ring	12/13/2017	178.11	
M-110	MU1 Ring	12/28/2017	176.25	
M-111	MU1 Ring	10/12/2017	179.20	
M-111	MU1 Ring	10/26/2017	181.50	
M-111	MU1 Ring	11/9/2017	176.83	
M-111	MU1 Ring	11/29/2017	170.87	
M-111	MU1 Ring	12/13/2017	168.28	
M-111	MU1 Ring	12/28/2017	168.55	
M-112	MU1 Ring	10/12/2017	187.81	
M-112	MU1 Ring	10/26/2017	188.21	
M-112	MU1 Ring	11/9/2017	178.61	
M-112	MU1 Ring	11/29/2017	182.06	
M-112	MU1 Ring	12/13/2017	179.13	
M-112	MU1 Ring	12/28/2017	179.22	
M-116A	MU1 Ring	10/11/2017	184.12	
M-116A	MU1 Ring	10/24/2017	195.19	
M-116A	MU1 Ring	11/8/2017	196.44	
M-116A	MU1 Ring	11/28/2017	207.98	
M-116A	MU1 Ring	12/12/2017	196.39	
M-116A	MU1 Ring	12/27/2017	194.90	
M-117	MU1 Ring	10/11/2017	197.16	
M-117	MU1 Ring	10/24/2017	208.20	
M-117	MU1 Ring	11/8/2017	208.44	
M-117	MU1 Ring	11/28/2017	220.17	
M-117	MU1 Ring	12/12/2017	214.68	
M-117	MU1 Ring	12/27/2017	211.93	
M-118	MU1 Ring	10/11/2017	200.02	
M-118	MU1 Ring	10/24/2017	211.40	
M-118	MU1 Ring	11/8/2017	212.36	
M-118	MU1 Ring	11/28/2017	225.82	
M-118	MU1 Ring	12/12/2017	221.43	
M-118	MU1 Ring	12/27/2017	221.72	
M-119	MU1 Ring	10/11/2017	200.50	
M-119	MU1 Ring	10/24/2017	211.50	
M-119	MU1 Ring	11/8/2017	214.81	
M-119	MU1 Ring	11/28/2017	226.82	
M-119	MU1 Ring	12/12/2017	224.18	
M-119	MU1 Ring	12/27/2017	225.48	

Attachment 3: Groundwater Level Measurement Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Measure Date	Depth to Water (ft-bmp)	Comments
M-120A	MU1 Ring	10/11/2017	198.80	
M-120A	MU1 Ring	10/24/2017	210.40	
M-120A	MU1 Ring	11/8/2017	214.77	
M-120A	MU1 Ring	11/28/2017	224.53	
M-120A	MU1 Ring	12/12/2017	221.29	
M-120A	MU1 Ring	12/27/2017	224.54	
M-121	MU1 Ring	10/11/2017	198.50	
M-121	MU1 Ring	10/24/2017	210.41	
M-121	MU1 Ring	11/8/2017	210.56	
M-121	MU1 Ring	11/28/2017	215.00	
M-121	MU1 Ring	12/12/2017	215.58	
M-121	MU1 Ring	12/27/2017	217.48	
M-122	MU1 Ring	10/11/2017	199.62	
M-122	MU1 Ring	10/24/2017	212.31	
M-122	MU1 Ring	11/8/2017	212.79	
M-122	MU1 Ring	11/28/2017	216.25	
M-122	MU1 Ring	12/12/2017	216.64	
M-122	MU1 Ring	12/27/2017	218.80	
M-123	MU1 Ring	10/11/2017	198.86	
M-123	MU1 Ring	10/24/2017	214.52	
M-123	MU1 Ring	11/8/2017	212.60	
M-123	MU1 Ring	11/28/2017	214.31	
M-123	MU1 Ring	12/12/2017	215.48	
M-123	MU1 Ring	12/27/2017	217.85	
M-124	MU1 Ring	10/11/2017	205.43	
M-124	MU1 Ring	10/24/2017	221.38	
M-124	MU1 Ring	11/8/2017	218.56	
M-124	MU1 Ring	11/28/2017	219.65	
M-124	MU1 Ring	12/12/2017	221.28	
M-124	MU1 Ring	12/27/2017	223.61	
M-125	MU1 Ring	10/11/2017	194.77	
M-125	MU1 Ring	10/24/2017	206.47	
M-125	MU1 Ring	11/8/2017	205.52	
M-125	MU1 Ring	11/28/2017	206.32	
M-125	MU1 Ring	12/12/2017	208.10	
M-125	MU1 Ring	12/27/2017	210.58	
M-126	MU1 Ring	10/11/2017	193.70	
M-126	MU1 Ring	10/24/2017	204.83	
M-126	MU1 Ring	11/8/2017	202.69	
M-126	MU1 Ring	11/28/2017	203.59	
M-126	MU1 Ring	12/12/2017	205.40	
M-126	MU1 Ring	12/27/2017	207.17	
M-127	MU1 Ring	10/11/2017	177.47	
M-127	MU1 Ring	10/24/2017	173.78	
M-127	MU1 Ring	11/8/2017	170.13	
M-127	MU1 Ring	11/28/2017	165.56	
M-127	MU1 Ring	12/12/2017	170.23	
M-127	MU1 Ring	12/27/2017	175.80	

Attachment 3: Groundwater Level Measurement Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Measure Date	Depth to Water (ft-bmp)	Comments
M-128	MU1 Ring	10/11/2017	177.73	
M-128	MU1 Ring	10/24/2017	172.84	
M-128	MU1 Ring	11/8/2017	167.58	
M-128	MU1 Ring	11/28/2017	162.93	
M-128	MU1 Ring	12/12/2017	174.88	
M-128	MU1 Ring	12/27/2017	173.75	
MO-101	MU1 Overlying	10/12/2017	164.31	
MO-101	MU1 Overlying	10/27/2017	165.73	
MO-101	MU1 Overlying	11/10/2017	161.35	
MO-101	MU1 Overlying	11/30/2017	158.50	
MO-101	MU1 Overlying	12/14/2017	160.32	
MO-101	MU1 Overlying	12/29/2017	159.92	
MO-102	MU1 Overlying	10/12/2017	170.65	
MO-102	MU1 Overlying	10/27/2017	172.25	
MO-102	MU1 Overlying	11/10/2017	170.17	
MO-102	MU1 Overlying	11/30/2017	167.54	
MO-102	MU1 Overlying	12/14/2017	168.79	
MO-102	MU1 Overlying	12/29/2017	168.49	
MO-103	MU1 Overlying	10/12/2017	166.08	
MO-103	MU1 Overlying	10/27/2017	167.04	
MO-103	MU1 Overlying	11/10/2017	162.76	
MO-103	MU1 Overlying	11/30/2017	164.49	
MO-103	MU1 Overlying	12/14/2017	165.29	
MO-103	MU1 Overlying	12/29/2017	165.84	
MO-104	MU1 Overlying	10/12/2017	181.71	
MO-104	MU1 Overlying	10/27/2017	182.86	
MO-104	MU1 Overlying	11/10/2017	184.54	
MO-104	MU1 Overlying	11/30/2017	183.36	
MO-104	MU1 Overlying	12/14/2017	184.62	
MO-104	MU1 Overlying	12/29/2017	183.91	
MO-105	MU1 Overlying	10/12/2017	176.33	
MO-105	MU1 Overlying	10/27/2017	183.02	
MO-105	MU1 Overlying	11/10/2017	179.30	
MO-105	MU1 Overlying	11/29/2017	179.08	
MO-105	MU1 Overlying	12/14/2017	178.92	
MO-105	MU1 Overlying	12/28/2017	179.36	
MO-106	MU1 Overlying	10/13/2017	172.21	
MO-106	MU1 Overlying	10/27/2017	177.78	
MO-106	MU1 Overlying	11/13/2017	175.92	
MO-106	MU1 Overlying	11/29/2017	176.32	
MO-106	MU1 Overlying	12/13/2017	175.42	
MO-106	MU1 Overlying	12/28/2017	175.84	
MO-107	MU1 Overlying	10/13/2017	168.13	
MO-107	MU1 Overlying	10/27/2017	173.42	
MO-107	MU1 Overlying	11/13/2017	168.49	
MO-107	MU1 Overlying	11/29/2017	170.09	
MO-107	MU1 Overlying	12/13/2017	169.79	
MO-107	MU1 Overlying	12/28/2017	170.12	

Attachment 3: Groundwater Level Measurement Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Measure Date	Depth to Water (ft-bmp)	Comments
MO-108	MU1 Overlying	10/12/2017	187.94	
MO-108	MU1 Overlying	10/17/2017	193.76	
MO-108	MU1 Overlying	10/26/2017	189.60	
MO-108	MU1 Overlying	11/9/2017	183.80	
MO-108	MU1 Overlying	11/27/2017	171.21	
MO-108	MU1 Overlying	12/13/2017	172.05	
MO-108	MU1 Overlying	12/28/2017	172.12	
MO-109	MU1 Overlying	10/12/2017	187.94	
MO-109	MU1 Overlying	10/30/2017	172.90	
MO-109	MU1 Overlying	11/13/2017	174.52	
MO-109	MU1 Overlying	11/27/2017	175.22	
MO-109	MU1 Overlying	12/13/2017	175.04	
MO-109	MU1 Overlying	12/28/2017	176.12	
MO-110	MU1 Overlying	10/13/2017	173.16	
MO-110	MU1 Overlying	10/30/2017	180.28	
MO-110	MU1 Overlying	11/9/2017	175.87	
MO-110	MU1 Overlying	11/29/2017	179.48	
MO-110	MU1 Overlying	12/13/2017	177.88	
MO-110	MU1 Overlying	12/28/2017	177.31	
MO-111	MU1 Overlying	10/13/2017	173.65	
MO-111	MU1 Overlying	10/30/2017	181.49	
MO-111	MU1 Overlying	11/9/2017	174.54	
MO-111	MU1 Overlying	11/29/2017	178.01	
MO-111	MU1 Overlying	12/13/2017	177.07	
MO-111	MU1 Overlying	12/28/2017	176.72	
MO-112	MU1 Overlying	10/13/2017	173.33	
MO-112	MU1 Overlying	10/30/2017	181.49	
MO-112	MU1 Overlying	11/13/2017	175.45	
MO-112	MU1 Overlying	11/29/2017	177.03	
MO-112	MU1 Overlying	12/13/2017	176.32	
MO-112	MU1 Overlying	12/28/2017	175.48	
MO-113	MU1 Overlying	10/13/2017	169.47	
MO-113	MU1 Overlying	10/30/2017	172.49	
MO-113	MU1 Overlying	11/13/2017	168.49	
MO-113	MU1 Overlying	11/29/2017	170.39	
MO-113	MU1 Overlying	12/14/2017	171.04	
MO-113	MU1 Overlying	12/29/2017	175.48	
MO-LC0254	MU1 Overlying	10/13/2017	173.89	
MO-LC0254	MU1 Overlying	10/30/2017	179.49	
MO-LC0254	MU1 Overlying	11/13/2017	175.38	
MO-LC0254	MU1 Overlying	11/29/2017	177.22	
MO-LC0254	MU1 Overlying	12/14/2017	186.44	
MO-LC0254	MU1 Overlying	12/29/2017	185.14	
MU-101	MU1 Underlying	10/12/2017	191.64	
MU-101	MU1 Underlying	10/27/2017	192.80	
MU-101	MU1 Underlying	11/10/2017	189.54	
MU-101	MU1 Underlying	11/30/2017	188.42	
MU-101	MU1 Underlying	12/14/2017	189.06	

Attachment 3: Groundwater Level Measurement Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Measure Date	Depth to Water (ft-bmp)	Comments
MU-101	MU1 Underlying	12/29/2017	190.26	
MU-102	MU1 Underlying	10/12/2017	192.63	
MU-102	MU1 Underlying	10/27/2017	195.49	
MU-102	MU1 Underlying	11/10/2017	190.53	
MU-102	MU1 Underlying	11/30/2017	189.55	
MU-102	MU1 Underlying	12/14/2017	189.92	
MU-102	MU1 Underlying	12/29/2017	191.16	
MU-103	MU1 Underlying	10/12/2017	188.27	
MU-103	MU1 Underlying	10/27/2017	190.84	
MU-103	MU1 Underlying	11/10/2017	186.02	
MU-103	MU1 Underlying	11/30/2017	185.29	
MU-103	MU1 Underlying	12/14/2017	186.62	
MU-103	MU1 Underlying	12/29/2017	188.12	
MU-104B	MU1 Underlying	10/12/2017	195.38	
MU-104B	MU1 Underlying	10/27/2017	197.65	
MU-104B	MU1 Underlying	11/10/2017	194.10	
MU-104B	MU1 Underlying	11/30/2017	193.18	
MU-104B	MU1 Underlying	12/14/2017	194.17	
MU-104B	MU1 Underlying	12/29/2017	194.96	
MU-105	MU1 Underlying	10/12/2017	206.15	
MU-105	MU1 Underlying	10/27/2017	212.35	
MU-105	MU1 Underlying	11/10/2017	207.45	
MU-105	MU1 Underlying	11/29/2017	207.30	
MU-105	MU1 Underlying	12/14/2017	205.66	
MU-105	MU1 Underlying	12/28/2017	206.12	
MU-106	MU1 Underlying	10/13/2017	199.38	
MU-106	MU1 Underlying	10/27/2017	205.97	
MU-106	MU1 Underlying	11/13/2017	200.30	
MU-106	MU1 Underlying	11/29/2017	201.70	
MU-106	MU1 Underlying	12/13/2017	199.30	
MU-106	MU1 Underlying	12/28/2017	199.86	
MU-107	MU1 Underlying	10/13/2017	197.81	
MU-107	MU1 Underlying	10/27/2017	202.74	
MU-107	MU1 Underlying	11/13/2017	198.03	
MU-107	MU1 Underlying	11/29/2017	199.74	
MU-107	MU1 Underlying	12/13/2017	198.85	
MU-107	MU1 Underlying	12/28/2017	198.00	
KPW-2	MU1 Underlying	10/8/2017	197.49	
KPW-2	MU1 Underlying	10/10/2017	198.11	
KPW-2	MU1 Underlying	10/11/2017	198.69	
KPW-2	MU1 Underlying	10/12/2017	197.93	
KPW-2	MU1 Underlying	10/17/2017	199.08	
KPW-2	MU1 Underlying	10/26/2017	203.55	
KPW-2	MU1 Underlying	11/9/2017	197.79	
KPW-2	MU1 Underlying	11/14/2017	198.75	
KPW-2	MU1 Underlying	11/20/2017	199.60	
KPW-2	MU1 Underlying	11/22/2017	200.92	
KPW-2	MU1 Underlying	11/27/2017	200.80	

Attachment 3: Groundwater Level Measurement Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Measure Date	Depth to Water (ft-bmp)	Comments
KPW-2	MU1 Underlying	12/6/2017	199.38	
KPW-2	MU1 Underlying	12/13/2017	199.50	
KPW-2	MU1 Underlying	12/28/2017	200.06	
MU-109	MU1 Underlying	10/13/2017	199.10	
MU-109	MU1 Underlying	10/30/2017	201.32	
MU-109	MU1 Underlying	11/13/2017	195.48	
MU-109	MU1 Underlying	11/27/2017	196.49	
MU-109	MU1 Underlying	12/13/2017	195.62	
MU-109	MU1 Underlying	12/28/2017	196.38	
MU-110	MU1 Underlying	10/13/2017	206.30	
MU-110	MU1 Underlying	10/30/2017	209.11	
MU-110	MU1 Underlying	11/9/2017	204.65	
MU-110	MU1 Underlying	11/29/2017	208.82	
MU-110	MU1 Underlying	12/13/2017	206.53	
MU-110	MU1 Underlying	12/28/2017	206.00	
MU-111	MU1 Underlying	10/13/2017	202.63	
MU-111	MU1 Underlying	10/30/2017	208.64	
MU-111	MU1 Underlying	11/9/2017	201.69	
MU-111	MU1 Underlying	11/29/2017	206.53	
MU-111	MU1 Underlying	12/13/2017	203.75	
MU-111	MU1 Underlying	12/28/2017	205.49	
MU-112	MU1 Underlying	10/13/2017	202.84	
MU-112	MU1 Underlying	10/30/2017	208.64	
MU-112	MU1 Underlying	11/13/2017	203.49	
MU-112	MU1 Underlying	11/29/2017	206.62	
MU-112	MU1 Underlying	12/13/2017	204.18	
MU-112	MU1 Underlying	12/28/2017	203.45	
MU-113	MU1 Underlying	10/13/2017	193.16	
MU-113	MU1 Underlying	10/30/2017	192.50	
MU-113	MU1 Underlying	11/13/2017	189.43	
MU-113	MU1 Underlying	11/29/2017	192.46	
MU-113	MU1 Underlying	12/14/2017	193.22	
MU-113	MU1 Underlying	12/29/2017	194.51	
M-201	MU2 Ring	10/2/2017	199.50	
M-201	MU2 Ring	10/19/2017	199.93	
M-201	MU2 Ring	11/2/2017	214.20	
M-201	MU2 Ring	11/16/2017	219.03	
M-201	MU2 Ring	12/1/2017	216.65	
M-201	MU2 Ring	12/19/2017	192.30	
M-202	MU2 Ring	10/2/2017	210.30	
M-202	MU2 Ring	10/19/2017	211.16	
M-202	MU2 Ring	11/2/2017	199.88	
M-202	MU2 Ring	11/16/2017	224.33	
M-202	MU2 Ring	12/1/2017	224.17	
M-202	MU2 Ring	12/19/2017	206.65	
M-229	MU2 Ring	10/3/2017	203.33	
M-229	MU2 Ring	10/19/2017	204.83	
M-229	MU2 Ring	11/2/2017	200.90	

Attachment 3: Groundwater Level Measurement Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Measure Date	Depth to Water (ft-bmp)	Comments
M-229	MU2 Ring	11/16/2017	199.06	
M-229	MU2 Ring	12/1/2017	200.33	
M-229	MU2 Ring	12/19/2017	198.20	
M-230	MU2 Ring	10/3/2017	204.63	
M-230	MU2 Ring	10/19/2017	206.27	
M-230	MU2 Ring	11/2/2017	201.53	
M-230	MU2 Ring	11/16/2017	198.93	
M-230	MU2 Ring	12/1/2017	200.97	
M-230	MU2 Ring	12/19/2017	197.05	
M-231A	MU2 Ring	10/3/2017	197.67	
M-231A	MU2 Ring	10/19/2017	204.29	
M-231A	MU2 Ring	11/2/2017	193.45	
M-231A	MU2 Ring	11/16/2017	189.20	
M-231A	MU2 Ring	12/1/2017	202.04	
M-231A	MU2 Ring	12/19/2017	189.07	
M-FG213	MU2 Overlying	10/3/2017	189.03	
M-FG213	MU2 Overlying	10/20/2017	193.80	
M-FG213	MU2 Overlying	11/3/2017	172.63	
M-FG213	MU2 Overlying	11/16/2017	190.57	
M-FG213	MU2 Overlying	12/6/2017	192.38	
M-FG213	MU2 Overlying	12/20/2017	189.72	
M-FG214	MU2 Overlying	10/3/2017	174.96	
M-FG214	MU2 Overlying	10/20/2017	180.36	
M-FG214	MU2 Overlying	11/3/2017	170.94	
M-FG214	MU2 Overlying	11/16/2017	177.46	
M-FG214	MU2 Overlying	12/6/2017	180.26	
M-FG214	MU2 Overlying	12/20/2017	175.80	
M-FG215	MU2 Overlying	10/3/2017	188.42	
M-FG215	MU2 Overlying	10/19/2017	188.74	
M-FG215	MU2 Overlying	11/3/2017	171.84	
M-FG215	MU2 Overlying	11/16/2017	188.61	
M-FG215	MU2 Overlying	12/6/2017	189.21	
M-FG215	MU2 Overlying	12/19/2017	188.38	
M-HJ211	MU2 Interim Ring	10/3/2017	212.02	
M-HJ211	MU2 Interim Ring	10/19/2017	205.39	
M-HJ211	MU2 Interim Ring	11/2/2017	214.53	
M-HJ211	MU2 Interim Ring	11/16/2017	214.05	
M-HJ211	MU2 Interim Ring	12/1/2017	216.11	
M-HJ211	MU2 Interim Ring	12/19/2017	208.03	
M-HJ226	MU2 Interim Ring	10/3/2017	202.74	
M-HJ226	MU2 Interim Ring	10/19/2017	205.66	
M-HJ226	MU2 Interim Ring	11/2/2017	204.50	
M-HJ226	MU2 Interim Ring	11/16/2017	203.68	
M-HJ226	MU2 Interim Ring	12/1/2017	205.89	
M-HJ226	MU2 Interim Ring	12/19/2017	193.59	
M-HJ232	MU2 Interim Ring	10/3/2017	200.88	
M-HJ232	MU2 Interim Ring	10/19/2017	206.39	
M-HJ232	MU2 Interim Ring	11/2/2017	202.90	

Attachment 3: Groundwater Level Measurement Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Measure Date	Depth to Water (ft-bmp)	Comments
M-HJ232	MU2 Interim Ring	11/16/2017	215.81	
M-HJ232	MU2 Interim Ring	12/1/2017	215.03	
M-HJ232	MU2 Interim Ring	12/19/2017	203.62	
M-HJ233	MU2 Interim Ring	10/3/2017	210.88	
M-HJ233	MU2 Interim Ring	10/19/2017	210.65	
M-HJ233	MU2 Interim Ring	11/2/2017	213.50	
M-HJ233	MU2 Interim Ring	11/16/2017	224.18	
M-HJ233	MU2 Interim Ring	12/1/2017	223.55	
M-HJ233	MU2 Interim Ring	12/19/2017	203.08	
M-KM213	MU2 Underlying	10/3/2017	221.20	
M-KM213	MU2 Underlying	10/19/2017	226.14	
M-KM213	MU2 Underlying	11/3/2017	200.68	
M-KM213	MU2 Underlying	11/16/2017	222.01	
M-KM213	MU2 Underlying	12/6/2017	222.87	
M-KM213	MU2 Underlying	12/20/2017	218.16	
M-KM214	MU2 Underlying	10/3/2017	201.09	
M-KM214	MU2 Underlying	10/20/2017	205.79	
M-KM214	MU2 Underlying	11/3/2017	197.40	
M-KM214	MU2 Underlying	11/16/2017	205.71	
M-KM214	MU2 Underlying	12/6/2017	206.32	
M-KM214	MU2 Underlying	12/19/2017	200.37	
M-KM215	MU2 Underlying	10/3/2017	214.23	
M-KM215	MU2 Underlying	10/19/2017	219.40	
M-KM215	MU2 Underlying	11/3/2017	205.64	
M-KM215	MU2 Underlying	11/16/2017	213.35	
M-KM215	MU2 Underlying	12/6/2017	214.29	
M-KM215	MU2 Underlying	12/19/2017	214.40	
LC15M	Regional FG	10/8/2017	163.22	
LC16M	Regional HJ	10/8/2017	170.29	
LC17M	Regional KM	10/8/2017	190.17	
LC18M	Regional FG	10/8/2017	172.48	
LC19M	Regional HJ	10/8/2017	207.33	
LC20M	Regional KM	10/8/2017	211.10	
LC21M	Regional FG	10/8/2017	197.68	
LC22MA	Regional HJ	10/8/2017	210.40	
LC23M	Regional KM	10/8/2017	222.38	
LC24M	Regional KM	10/8/2017	195.69	
LC25MA	Regional FG	10/8/2017	197.32	
LC26M	Regional HJ	10/8/2017	169.55	
LC27M	Regional KM	10/8/2017	195.41	
LC28M	Regional KM	10/8/2017	155.93	
LC29M	Regional DE	10/8/2017	158.73	Insufficient water for sampling
LC30M	Regional DE	10/8/2017	200.27	
LC31M	Regional DE	10/8/2017	144.69	
MB-01	Regional DE	10/8/2017	238.61	
MB-02	Regional FG	10/8/2017	243.15	
MB-03B	Regional HJ	10/8/2017	268.37	
MB-04	Regional KM	10/8/2017	277.71	

Attachment 3: Groundwater Level Measurement Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Measure Date	Depth to Water (ft-bmp)	Comments
MB-05	Regional FG	10/8/2017	144.75	
MB-06	Regional HJ	10/8/2017	143.39	
MB-07	Regional DE	10/8/2017	162.43	
MB-08	Regional FG	10/8/2017	174.17	
MB-09	Regional HJ	10/8/2017	186.21	
MB-10	Regional DE	10/8/2017	172.23	Insufficient water for sampling
TW1-1	Trend	10/13/2017	185.29	
TW1-1	Trend	10/30/2017	188.63	
TW1-1	Trend	11/13/2017	187.73	
TW1-1	Trend	11/29/2017	188.23	
TW1-1	Trend	12/14/2017	189.71	
TW1-1	Trend	12/29/2017	190.16	
OW1-1	Observation	10/13/2017	195.61	
OW1-1	Observation	10/30/2017	195.08	
OW1-1	Observation	11/13/2017	195.26	
OW1-1	Observation	11/29/2017	195.11	
OW1-1	Observation	12/14/2017	195.32	
OW1-1	Observation	12/29/2017	195.69	

ft-bmp: feet below measuring point

MU1: Mine Unit 1

MU2: Mine Unit 2

Attachment 4a: MU1 Water Quality Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance @ 25°C (µS/cm)			Comments
				Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	
M101	Ring	10/11/2017	---	121	186	-35	6.1	20	-70	646	1012	-36	
M101	Ring	10/24/2017	13	113	186	-39	5.4	20	-73	645	1012	-36	
M101	Ring	11/8/2017	15	116	186	-38	6.7	20	-66	645	1012	-36	
M101	Ring	11/28/2017	20	117	186	-37	6.2	20	-69	630	1012	-38	
M101	Ring	12/12/2017	14	119	186	-36	5.6	20	-72	643	1012	-36	
M101	Ring	12/27/2017	15	120	186	-36	5.9	20	-71	656	1012	-35	
M102	Ring	10/11/2017	---	142	186	-23	8.4	20	-58	803	1012	-21	
M102	Ring	10/24/2017	13	141	186	-24	7.0	20	-65	802	1012	-21	
M102	Ring	11/9/2017	16	137	186	-26	6.0	20	-70	800	1012	-21	
M102	Ring	11/28/2017	19	157	186	-16	5.8	20	-71	791	1012	-22	
M102	Ring	12/12/2017	14	142	186	-24	6.2	20	-69	807	1012	-20	
M102	Ring	12/27/2017	15	136	186	-27	6.0	20	-70	821	1012	-19	
M103A	Ring	10/11/2017	---	144	186	-23	6.7	20	-67	814	1012	-20	
M103A	Ring	10/24/2017	13	139	186	-25	6.6	20	-67	811	1012	-20	
M103A	Ring	11/9/2017	16	141	186	-24	7.0	20	-65	808	1012	-20	
M103A	Ring	11/28/2017	19	135	186	-27	6.5	20	-67	807	1012	-20	
M103A	Ring	12/12/2017	14	142	186	-24	6.4	20	-68	812	1012	-20	
M103A	Ring	12/27/2017	15	138	186	-26	6.9	20	-65	822	1012	-19	
M104	Ring	10/11/2017	---	123	186	-34	7.2	20	-64	646	1012	-36	
M104	Ring	10/24/2017	13	117	186	-37	5.9	20	-71	640	1012	-37	
M104	Ring	11/9/2017	16	120	186	-35	5.5	20	-72	636	1012	-37	
M104	Ring	11/28/2017	19	121	186	-35	6.1	20	-70	633	1012	-37	
M104	Ring	12/12/2017	14	120	186	-35	5.4	20	-73	636	1012	-37	
M104	Ring	12/27/2017	15	117	186	-37	5.9	20	-71	645	1012	-36	
M105	Ring	10/12/2017	---	138	186	-26	8.5	20	-57	743	1012	-27	
M105	Ring	10/26/2017	14	144	186	-23	6.4	20	-68	773	1012	-24	
M105	Ring	11/9/2017	14	131	186	-30	6.9	20	-66	721	1012	-29	
M105	Ring	11/28/2017	19	135	186	-27	5.6	20	-72	731	1012	-28	
M105	Ring	12/12/2017	14	126	186	-32	6.3	20	-68	662	1012	-35	
M105	Ring	12/27/2017	15	125	186	-33	6.2	20	-69	686	1012	-32	
M106	Ring	10/12/2017	---	135	186	-28	6.2	20	-69	696	1012	-31	
M106	Ring	10/26/2017	14	123	186	-34	5.7	20	-72	691	1012	-32	
M106	Ring	11/9/2017	14	133	186	-28	5.5	20	-72	675	1012	-33	
M106	Ring	11/29/2017	20	125	186	-33	6.6	20	-67	692	1012	-32	
M106	Ring	12/12/2017	13	127	186	-32	5.5	20	-73	675	1012	-33	
M106	Ring	12/28/2017	16	124	186	-33	6.2	20	-69	698	1012	-31	
M107	Ring	10/12/2017	---	123	186	-34	8.2	20	-59	676	1012	-33	
M107	Ring	10/26/2017	14	122	186	-35	5.7	20	-71	682	1012	-33	
M107	Ring	11/9/2017	14	120	186	-35	6.4	20	-68	675	1012	-33	
M107	Ring	11/29/2017	20	127	186	-32	5.8	20	-71	673	1012	-33	
M107	Ring	12/13/2017	14	122	186	-34	6.5	20	-67	675	1012	-33	
M107	Ring	12/28/2017	15	120	186	-36	5.9	20	-71	682	1012	-33	
M108	Ring	10/12/2017	---	116	186	-38	7.5	20	-62	548	1012	-46	
M108	Ring	10/26/2017	14	106	186	-43	6.4	20	-68	557	1012	-45	
M108	Ring	11/9/2017	14	110	186	-41	6.3	20	-69	548	1012	-46	
M108	Ring	11/29/2017	20	110	186	-41	6.6	20	-67	544	1012	-46	
M108	Ring	12/13/2017	14	111	186	-40	5.8	20	-71	547	1012	-46	
M108	Ring	12/28/2017	15	107	186	-42	6.9	20	-66	552	1012	-45	
M109	Ring	10/12/2017	---	108	186	-42	6.3	20	-68	518	1012	-49	
M109	Ring	10/26/2017	14	104	186	-44	5.4	20	-73	528	1012	-48	
M109	Ring	11/9/2017	14	105	186	-43	5.3	20	-74	512	1012	-49	
M109	Ring	11/29/2017	20	108	186	-42	6.3	20	-69	510	1012	-50	
M109	Ring	12/13/2017	14	109	186	-41	5.6	20	-72	514	1012	-49	
M109	Ring	12/28/2017	15	105	186	-43	5.6	20	-72	518	1012	-49	
M110	Ring	10/12/2017	---	114	186	-39	9.5	20	-52	544	1012	-46	
M110	Ring	10/26/2017	14	107	186	-43	6.8	20	-66	533	1012	-47	
M110	Ring	11/9/2017	14	106	186	-43	7.4	20	-63	533	1012	-47	
M110	Ring	11/29/2017	20	110	186	-41	6.6	20	-67	530	1012	-48	
M110	Ring	12/13/2017	14	106	186	-43	7.5	20	-63	531	1012	-48	
M110	Ring	12/28/2017	15	106	186	-43	7.4	20	-63	527	1012	-48	
M111	Ring	10/12/2017	---	113	186	-39	7.2	20	-64	530	1012	-48	
M111	Ring	10/26/2017	14	108	186	-42	5.6	20	-72	541	1012	-47	
M111	Ring	11/9/2017	14	117	186	-37	5.2	20	-74	545	1012	-46	
M111	Ring	11/29/2017	20	112	186	-40	6.3	20	-69	543	1012	-46	
M111	Ring	12/13/2017	14	118	186	-36	5.3	20	-74	548	1012	-46	
M111	Ring	12/28/2017	15	110	186	-41	6.1	20	-69	546	1012	-46	

Attachment 4a: MU1 Water Quality Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance @ 25°C (µS/cm)			Comments
				Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	
M112	Ring	10/12/2017	---	114	186	-39	7.0	20	-65	550	1012	-46	
M112	Ring	10/26/2017	14	112	186	-40	5.3	20	-73	546	1012	-46	
M112	Ring	11/9/2017	14	111	186	-41	6.1	20	-69	545	1012	-46	
M112	Ring	11/29/2017	20	118	186	-37	6.0	20	-70	539	1012	-47	
M112	Ring	12/13/2017	14	112	186	-40	6.4	20	-68	544	1012	-46	
M112	Ring	12/28/2017	15	109	186	-42	5.3	20	-73	543	1012	-46	
M116A	Ring	10/11/2017	---	113	186	-39	7.4	20	-63	494	1012	-51	
M116A	Ring	10/24/2017	13	103	186	-44	6.7	20	-67	490	1012	-52	
M116A	Ring	11/8/2017	15	107	186	-42	6.9	20	-66	492	1012	-51	
M116A	Ring	11/28/2017	20	104	186	-44	6.7	20	-66	489	1012	-52	
M116A	Ring	12/12/2017	14	103	186	-44	5.2	20	-74	492	1012	-51	
M116A	Ring	12/27/2017	15	104	186	-44	6.0	20	-70	488	1012	-52	
M117	Ring	10/11/2017	---	111	186	-41	6.0	20	-70	487	1012	-52	
M117	Ring	10/24/2017	13	108	186	-42	5.3	20	-74	481	1012	-52	
M117	Ring	11/8/2017	15	102	186	-45	6.2	20	-69	492	1012	-51	
M117	Ring	11/28/2017	20	100	186	-46	5.2	20	-74	514	1012	-49	
M117	Ring	12/12/2017	14	110	186	-41	5.3	20	-74	511	1012	-50	
M117	Ring	12/27/2017	15	101	186	-46	5.1	20	-75	506	1012	-50	
M118	Ring	10/11/2017	---	104	186	-44	6.6	20	-67	500	1012	-51	
M118	Ring	10/24/2017	13	97	186	-48	5.7	20	-72	495	1012	-51	
M118	Ring	11/8/2017	15	101	186	-46	5.2	20	-74	504	1012	-50	
M118	Ring	11/28/2017	20	101	186	-46	5.6	20	-72	496	1012	-51	
M118	Ring	12/12/2017	14	100	186	-47	5.5	20	-72	500	1012	-51	
M118	Ring	12/27/2017	15	96	186	-49	5.3	20	-73	500	1012	-51	
M119	Ring	10/11/2017	---	121	186	-35	7.5	20	-62	459	1012	-55	
M119	Ring	10/24/2017	13	112	186	-40	6.7	20	-67	460	1012	-55	
M119	Ring	11/8/2017	15	115	186	-38	5.9	20	-70	477	1012	-53	
M119	Ring	11/28/2017	20	117	186	-37	5.7	20	-71	459	1012	-55	
M119	Ring	12/12/2017	14	113	186	-39	5.3	20	-74	459	1012	-55	
M119	Ring	12/27/2017	15	114	186	-39	6.0	20	-70	458	1012	-55	
M120A	Ring	10/11/2017	---	112	186	-40	6.5	20	-68	470	1012	-54	
M120A	Ring	10/24/2017	13	113	186	-39	5.9	20	-71	484	1012	-52	
M120A	Ring	11/8/2017	15	109	186	-41	7.2	20	-64	483	1012	-52	
M120A	Ring	11/28/2017	20	111	186	-41	5.5	20	-73	468	1012	-54	
M120A	Ring	12/12/2017	14	112	186	-40	6.6	20	-67	475	1012	-53	
M120A	Ring	12/27/2017	15	110	186	-41	5.3	20	-74	474	1012	-53	
M121	Ring	10/11/2017	---	120	186	-36	6.9	20	-65	510	1012	-50	
M121	Ring	10/24/2017	13	108	186	-42	6.6	20	-67	510	1012	-50	
M121	Ring	11/8/2017	15	115	186	-38	3.5	20	-82	522	1012	-48	
M121	Ring	11/28/2017	20	117	186	-37	6.1	20	-70	505	1012	-50	
M121	Ring	12/12/2017	14	113	186	-39	5.0	20	-75	510	1012	-50	
M121	Ring	12/27/2017	15	108	186	-42	6.0	20	-70	508	1012	-50	
M122	Ring	10/11/2017	---	113	186	-39	7.3	20	-63	496	1012	-51	
M122	Ring	10/24/2017	13	110	186	-41	5.5	20	-72	496	1012	-51	
M122	Ring	11/8/2017	15	109	186	-41	6.1	20	-69	510	1012	-50	
M122	Ring	11/28/2017	20	111	186	-40	5.1	20	-75	493	1012	-51	
M122	Ring	12/12/2017	14	117	186	-37	5.8	20	-71	496	1012	-51	
M122	Ring	12/27/2017	15	112	186	-40	5.1	20	-74	494	1012	-51	
M123	Ring	10/11/2017	---	123	186	-34	6.6	20	-67	488	1012	-52	
M123	Ring	10/24/2017	13	116	186	-37	5.7	20	-71	488	1012	-52	
M123	Ring	11/8/2017	15	118	186	-36	7.0	20	-65	497	1012	-51	
M123	Ring	11/28/2017	20	119	186	-36	5.9	20	-71	486	1012	-52	
M123	Ring	12/12/2017	14	117	186	-37	5.3	20	-73	491	1012	-51	
M123	Ring	12/27/2017	15	111	186	-40	5.7	20	-71	488	1012	-52	
M124	Ring	10/11/2017	---	115	186	-38	7.7	20	-62	467	1012	-54	
M124	Ring	10/24/2017	13	109	186	-41	6.0	20	-70	468	1012	-54	
M124	Ring	11/8/2017	15	112	186	-40	5.6	20	-72	472	1012	-53	
M124	Ring	11/28/2017	20	114	186	-39	5.1	20	-74	464	1012	-54	
M124	Ring	12/12/2017	14	113	186	-39	4.9	20	-75	467	1012	-54	
M124	Ring	12/27/2017	15	114	186	-39	5.1	20	-74	465	1012	-54	
M125	Ring	10/11/2017	---	120	186	-36	7.0	20	-65	542	1012	-46	
M125	Ring	10/24/2017	13	109	186	-41	6.2	20	-69	549	1012	-46	
M125	Ring	11/8/2017	15	108	186	-42	7.2	20	-64	548	1012	-46	
M125	Ring	11/28/2017	20	108	186	-42	6.4	20	-68	537	1012	-47	
M125	Ring	12/12/2017	14	113	186	-39	6.6	20	-67	541	1012	-47	
M125	Ring	12/27/2017	15	105	186	-44	6.0	20	-70	537	1012	-47	

Attachment 4a: MU1 Water Quality Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance @ 25°C (µS/cm)			Comments
				Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	
M126	Ring	10/11/2017	---	116	186	-38	8.5	20	-58	548	1012	-46	
M126	Ring	10/24/2017	13	109	186	-41	7.0	20	-65	559	1012	-45	
M126	Ring	11/8/2017	15	117	186	-37	8.4	20	-58	557	1012	-45	
M126	Ring	11/28/2017	20	122	186	-34	6.5	20	-67	543	1012	-46	
M126	Ring	12/12/2017	14	108	186	-42	6.0	20	-70	549	1012	-46	
M126	Ring	12/27/2017	15	108	186	-42	7.2	20	-64	544	1012	-46	
M127	Ring	10/11/2017	---	118	186	-37	8.8	20	-56	559	1012	-45	
M127	Ring	10/24/2017	13	109	186	-42	6.9	20	-65	563	1012	-44	
M127	Ring	11/8/2017	15	111	186	-40	6.9	20	-66	576	1012	-43	
M127	Ring	11/28/2017	20	113	186	-39	6.1	20	-69	561	1012	-45	
M127	Ring	12/12/2017	14	117	186	-37	7.0	20	-65	564	1012	-44	
M127	Ring	12/27/2017	15	120	186	-35	5.9	20	-70	563	1012	-44	
M128	Ring	10/11/2017	---	119	186	-36	6.6	20	-67	562	1012	-44	
M128	Ring	10/24/2017	13	115	186	-38	6.4	20	-68	554	1012	-45	
M128	Ring	11/8/2017	15	112	186	-40	7.2	20	-64	569	1012	-44	
M128	Ring	11/28/2017	20	114	186	-39	6.7	20	-67	547	1012	-46	
M128	Ring	12/12/2017	14	114	186	-39	5.6	20	-72	560	1012	-45	
M128	Ring	12/27/2017	15	109	186	-41	6.5	20	-67	557	1012	-45	
MO101	Overlying	10/12/2017	---	113	182	-38	9.8	21	-53	644	922	-30	
MO101	Overlying	10/27/2017	15	107	182	-41	10.0	21	-52	636	922	-31	
MO101	Overlying	11/10/2017	14	110	182	-40	7.5	21	-64	645	922	-30	
MO101	Overlying	11/30/2017	20	110	182	-40	7.0	21	-67	629	922	-32	
MO101	Overlying	12/14/2017	14	103	182	-43	8.7	21	-58	636	922	-31	
MO101	Overlying	12/29/2017	15	110	182	-40	8.3	21	-60	643	922	-30	
MO102	Overlying	10/12/2017	---	111	182	-39	8.6	21	-59	590	922	-36	
MO102	Overlying	10/27/2017	15	101	182	-44	6.9	21	-67	590	922	-36	
MO102	Overlying	11/10/2017	14	108	182	-41	6.7	21	-68	596	922	-35	
MO102	Overlying	11/30/2017	20	105	182	-42	7.3	21	-65	591	922	-36	
MO102	Overlying	12/14/2017	14	104	182	-43	6.5	21	-69	601	922	-35	
MO102	Overlying	12/29/2017	15	104	182	-43	6.7	21	-68	595	922	-35	
MO103	Overlying	10/12/2017	---	120	182	-34	10.0	21	-52	721	922	-22	
MO103	Overlying	10/27/2017	15	125	182	-31	12.6	21	-40	730	922	-21	
MO103	Overlying	11/10/2017	14	117	182	-35	10.5	21	-50	724	922	-21	
MO103	Overlying	11/30/2017	20	124	182	-32	10.0	21	-53	729	922	-21	
MO103	Overlying	12/14/2017	14	118	182	-35	11.0	21	-47	733	922	-20	
MO103	Overlying	12/29/2017	15	118	182	-35	10.4	21	-50	735	922	-20	
MO104	Overlying	10/12/2017	---	122	182	-33	12.3	21	-42	594	922	-36	
MO104	Overlying	10/27/2017	15	114	182	-37	9.3	21	-56	600	922	-35	
MO104	Overlying	11/10/2017	14	122	182	-33	8.8	21	-58	593	922	-36	
MO104	Overlying	11/30/2017	20	119	182	-35	9.7	21	-54	598	922	-35	
MO104	Overlying	12/14/2017	14	129	182	-29	10.4	21	-51	614	922	-33	
MO104	Overlying	12/29/2017	15	125	182	-31	10.5	21	-50	616	922	-33	
MO105	Overlying	10/12/2017	---	110	182	-40	6.9	21	-67	477	922	-48	
MO105	Overlying	10/27/2017	15	109	182	-40	5.5	21	-74	476	922	-48	
MO105	Overlying	11/10/2017	14	105	182	-43	6.7	21	-68	480	922	-48	
MO105	Overlying	11/29/2017	19	110	182	-40	6.2	21	-70	476	922	-48	
MO105	Overlying	12/14/2017	15	104	182	-43	5.8	21	-72	474	922	-49	
MO105	Overlying	12/28/2017	14	102	182	-44	6.1	21	-71	474	922	-49	
MO106	Overlying	10/13/2017	---	106	182	-42	6.8	21	-67	464	922	-50	
MO106	Overlying	10/27/2017	14	101	182	-44	6.2	21	-71	461	922	-50	
MO106	Overlying	11/13/2017	17	103	182	-43	5.7	21	-73	459	922	-50	
MO106	Overlying	11/29/2017	16	102	182	-44	5.5	21	-74	465	922	-50	
MO106	Overlying	12/13/2017	14	102	182	-44	5.3	21	-75	464	922	-50	
MO106	Overlying	12/28/2017	15	101	182	-44	6.1	21	-71	464	922	-50	
MO107	Overlying	10/13/2017	---	112	182	-39	8.1	21	-61	466	922	-49	
MO107	Overlying	10/27/2017	14	101	182	-45	5.2	21	-75	456	922	-51	
MO107	Overlying	11/13/2017	17	109	182	-40	5.5	21	-74	460	922	-50	
MO107	Overlying	11/29/2017	16	103	182	-43	6.2	21	-70	462	922	-50	
MO107	Overlying	12/13/2017	14	106	182	-42	6.0	21	-71	461	922	-50	
MO107	Overlying	12/28/2017	15	104	182	-43	5.5	21	-74	460	922	-50	
MO108	Overlying	10/12/2017	---	106	182	-42	6.6	21	-69	478	922	-48	
MO108	Overlying	10/26/2017	14	101	182	-44	6.4	21	-70	480	922	-48	
MO108	Overlying	11/9/2017	14	102	182	-44	6.1	21	-71	478	922	-48	
MO108	Overlying	11/27/2017	18	106	182	-42	5.9	21	-72	478	922	-48	
MO108	Overlying	12/13/2017	16	104	182	-43	5.5	21	-74	478	922	-48	
MO108	Overlying	12/28/2017	15	100	182	-45	5.2	21	-75	480	922	-48	

Attachment 4a: MU1 Water Quality Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance @ 25°C (µS/cm)			Comments
				Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	
MO109	Overlying	10/13/2017	---	113	182	-38	9.3	21	-56	505	922	-45	
MO109	Overlying	10/30/2017	17	114	182	-37	7.7	21	-63	509	922	-45	
MO109	Overlying	11/13/2017	14	113	182	-38	7.5	21	-64	512	922	-44	
MO109	Overlying	11/30/2017	17	109	182	-40	9.1	21	-57	507	922	-45	
MO109	Overlying	12/13/2017	13	108	182	-41	9.1	21	-57	513	922	-44	
MO109	Overlying	12/28/2017	15	105	182	-42	9.3	21	-56	507	922	-45	
MO110	Overlying	10/13/2017	---	106	182	-42	7.3	21	-65	430	922	-53	
MO110	Overlying	10/30/2017	17	98	182	-46	5.9	21	-72	430	922	-53	
MO110	Overlying	11/9/2017	10	102	182	-44	0.0	21	-100	433	922	-53	
MO110	Overlying	11/29/2017	20	98	182	-46	5.9	21	-72	422	922	-54	
MO110	Overlying	12/13/2017	14	100	182	-45	5.8	21	-72	438	922	-52	
MO110	Overlying	12/28/2017	15	99	182	-46	6.2	21	-71	431	922	-53	
MO111	Overlying	10/13/2017	---	118	182	-35	10.0	21	-52	477	922	-48	
MO111	Overlying	10/30/2017	17	122	182	-33	10.6	21	-50	498	922	-46	
MO111	Overlying	11/9/2017	10	121	182	-33	9.1	21	-57	498	922	-46	
MO111	Overlying	11/29/2017	20	130	182	-28	12.1	21	-43	503	922	-45	
MO111	Overlying	12/13/2017	14	129	182	-29	10.6	21	-49	513	922	-44	
MO111	Overlying	12/28/2017	15	122	182	-33	11.5	21	-45	498	922	-46	
MO112	Overlying	10/13/2017	---	119	182	-35	9.1	21	-57	430	922	-53	
MO112	Overlying	10/30/2017	17	113	182	-38	7.0	21	-67	431	922	-53	
MO112	Overlying	11/13/2017	14	113	182	-38	5.4	21	-74	434	922	-53	
MO112	Overlying	11/29/2017	16	109	182	-40	6.9	21	-67	425	922	-54	
MO112	Overlying	12/13/2017	14	111	182	-39	8.1	21	-62	436	922	-53	
MO112	Overlying	12/28/2017	15	110	182	-40	7.2	21	-66	433	922	-53	
MO113	Overlying	10/13/2017	---	108	182	-41	9.4	21	-55	458	922	-50	
MO113	Overlying	10/30/2017	17	103	182	-44	8.9	21	-57	461	922	-50	
MO113	Overlying	11/13/2017	14	108	182	-41	6.1	21	-71	464	922	-50	
MO113	Overlying	11/30/2017	17	108	182	-40	9.2	21	-56	463	922	-50	
MO113	Overlying	12/14/2017	14	102	182	-44	9.0	21	-57	460	922	-50	
MO113	Overlying	12/29/2017	15	105	182	-42	8.7	21	-58	461	922	-50	
MU101	Underlying	10/12/2017	---	115	206	-44	6.4	21	-70	543	659	-18	
MU101	Underlying	10/27/2017	15	111	206	-46	5.2	21	-75	548	659	-17	
MU101	Underlying	11/10/2017	14	107	206	-48	5.2	21	-75	543	659	-18	
MU101	Underlying	11/30/2017	20	114	206	-45	7.0	21	-67	542	659	-18	
MU101	Underlying	12/14/2017	14	107	206	-48	5.2	21	-75	546	659	-17	
MU101	Underlying	12/29/2017	15	108	206	-48	6.9	21	-67	543	659	-18	
MU102	Underlying	10/12/2017	---	111	206	-46	7.2	21	-66	429	659	-35	
MU102	Underlying	10/27/2017	15	106	206	-48	5.3	21	-75	427	659	-35	
MU102	Underlying	11/10/2017	14	115	206	-44	10.5	21	-50	429	659	-35	
MU102	Underlying	11/30/2017	20	107	206	-48	4.9	21	-77	427	659	-35	
MU102	Underlying	12/14/2017	14	104	206	-49	5.8	21	-72	423	659	-36	
MU102	Underlying	12/29/2017	15	105	206	-49	5.1	21	-76	423	659	-36	
MU103	Underlying	10/12/2017	---	105	206	-49	6.0	21	-72	424	659	-36	
MU103	Underlying	10/27/2017	15	101	206	-51	5.2	21	-75	413	659	-37	
MU103	Underlying	11/10/2017	14	103	206	-50	7.1	21	-66	422	659	-36	
MU103	Underlying	11/30/2017	20	105	206	-49	5.4	21	-74	415	659	-37	
MU103	Underlying	12/14/2017	14	100	206	-52	4.8	21	-77	412	659	-37	
MU103	Underlying	12/29/2017	15	104	206	-50	5.4	21	-74	413	659	-37	
MU104	Underlying	10/12/2017	---	99	206	-52	4.9	21	-77	434	659	-34	
MU104	Underlying	10/27/2017	15	98	206	-52	4.7	21	-78	430	659	-35	
MU104	Underlying	11/10/2017	14	99	206	-52	5.4	21	-74	430	659	-35	
MU104	Underlying	11/30/2017	20	104	206	-49	5.3	21	-75	431	659	-35	
MU104	Underlying	12/14/2017	14	97	206	-53	5.2	21	-75	430	659	-35	
MU104	Underlying	12/29/2017	15	100	206	-51	5.0	21	-76	432	659	-34	
MU105	Underlying	10/12/2017	---	112	206	-46	6.2	21	-71	456	659	-31	
MU105	Underlying	10/27/2017	15	105	206	-49	5.7	21	-73	435	659	-34	
MU105	Underlying	11/10/2017	14	104	206	-50	5.0	21	-76	438	659	-34	
MU105	Underlying	11/29/2017	19	104	206	-50	5.1	21	-76	432	659	-34	
MU105	Underlying	12/14/2017	15	103	206	-50	5.3	21	-75	436	659	-34	
MU105	Underlying	12/28/2017	14	106	206	-49	5.3	21	-75	439	659	-33	
MU106	Underlying	10/13/2017	---	106	206	-49	5.5	21	-74	462	659	-30	
MU106	Underlying	10/27/2017	14	104	206	-50	5.2	21	-75	445	659	-32	
MU106	Underlying	11/13/2017	17	105	206	-49	5.3	21	-75	454	659	-31	
MU106	Underlying	11/29/2017	16	103	206	-50	5.6	21	-73	447	659	-32	
MU106	Underlying	12/13/2017	14	107	206	-48	5.0	21	-76	456	659	-31	
MU106	Underlying	12/28/2017	15	109	206	-47	5.4	21	-75	456	659	-31	

Attachment 4a: MU1 Water Quality Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance @ 25°C (µS/cm)			Comments
				Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	
MU107	Underlying	10/13/2017	---	109	206	-47	6.9	21	-67	485	659	-26	
MU107	Underlying	10/27/2017	14	101	206	-51	5.7	21	-73	469	659	-29	
MU107	Underlying	11/13/2017	17	103	206	-50	5.2	21	-75	471	659	-29	
MU107	Underlying	11/29/2017	16	105	206	-49	5.6	21	-73	465	659	-29	
MU107	Underlying	12/13/2017	14	103	206	-50	5.8	21	-72	474	659	-28	
MU107	Underlying	12/28/2017	15	101	206	-51	5.8	21	-73	473	659	-28	
KPW2	Underlying	10/12/2017	---	149	206	-28	19.2	21	-9	657	659	0	
KPW2	Underlying	10/17/2017	5	139	206	-33	17.6	21	-16	652	659	-1	
KPW2	Underlying	10/26/2017	9	141	206	-32	16.3	21	-22	642	659	-3	
KPW2	Underlying	11/2/2017	7	140	206	-32	20.6	21	-2	652	659	-1	
KPW2	Underlying	11/14/2017	12	151	206	-27	18.9	21	-10	689	659	5	
KPW2	Underlying	11/20/2017	6	153	206	-26	22.0	21	5	676	659	3	
KPW2	Underlying	11/27/2017	7	117	206	-43	7.0	21	-66	521	659	-21	
KPW2	Underlying	11/30/2017	3	118	206	-43	8.7	21	-58	538	659	-18	
KPW2	Underlying	12/6/2017	6	121	206	-41	18.6	21	-11	540	659	-18	
KPW2	Underlying	12/13/2017	7	114	206	-44	6.8	21	-68	515	659	-22	
KPW2	Underlying	12/28/2017	15	116	206	-44	9.9	21	-53	535	659	-19	
MU109	Underlying	10/13/2017	---	127	206	-38	11.7	21	-44	540	659	-18	
MU109	Underlying	10/30/2017	17	130	206	-37	10.9	21	-48	525	659	-20	
MU109	Underlying	11/13/2017	14	132	206	-36	10.5	21	-50	557	659	-15	
MU109	Underlying	11/30/2017	17	128	206	-38	12.7	21	-40	546	659	-17	
MU109	Underlying	12/13/2017	13	137	206	-34	13.1	21	-38	559	659	-15	
MU109	Underlying	12/28/2017	15	136	206	-34	14.1	21	-33	571	659	-13	
MU110	Underlying	10/13/2017	---	101	206	-51	6.5	21	-69	477	659	-28	
MU110	Underlying	10/30/2017	17	96	206	-54	6.6	21	-68	459	659	-30	
MU110	Underlying	11/9/2017	10	97	206	-53	6.9	21	-67	468	659	-29	
MU110	Underlying	11/29/2017	20	99	206	-52	6.5	21	-69	464	659	-30	
MU110	Underlying	12/13/2017	14	101	206	-51	6.4	21	-69	467	659	-29	
MU110	Underlying	12/28/2017	15	98	206	-52	6.2	21	-71	466	659	-29	
MU111	Underlying	10/13/2017	---	102	206	-50	6.9	21	-67	517	659	-22	
MU111	Underlying	10/30/2017	17	96	206	-53	5.8	21	-72	502	659	-24	
MU111	Underlying	11/9/2017	10	98	206	-53	5.3	21	-75	507	659	-23	
MU111	Underlying	11/29/2017	20	101	206	-51	5.1	21	-76	503	659	-24	
MU111	Underlying	12/13/2017	14	99	206	-52	4.8	21	-77	505	659	-23	
MU111	Underlying	12/28/2017	15	98	206	-53	5.3	21	-75	503	659	-24	
MU112	Underlying	10/13/2017	---	105	206	-49	5.3	21	-75	454	659	-31	
MU112	Underlying	10/30/2017	17	97	206	-53	4.9	21	-77	439	659	-33	
MU112	Underlying	11/13/2017	14	99	206	-52	5.0	21	-76	446	659	-32	
MU112	Underlying	11/29/2017	16	99	206	-52	6.2	21	-71	449	659	-32	
MU112	Underlying	12/13/2017	14	99	206	-52	5.8	21	-72	455	659	-31	
MU112	Underlying	12/28/2017	15	96	206	-53	5.7	21	-73	446	659	-32	
MU113	Underlying	10/13/2017	---	99	206	-52	6.3	21	-70	489	659	-26	
MU113	Underlying	10/30/2017	17	97	206	-53	6.1	21	-71	475	659	-28	
MU113	Underlying	11/13/2017	14	98	206	-52	5.7	21	-73	481	659	-27	
MU113	Underlying	11/30/2017	17	97	206	-53	6.5	21	-69	498	659	-24	
MU113	Underlying	12/14/2017	14	95	206	-54	5.1	21	-75	477	659	-28	
MU113	Underlying	12/29/2017	15	94	206	-54	5.1	21	-76	480	659	-27	
LC29M	Regional DE	10/8/2017	---	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Insufficient water
MB-10	Regional DE	10/8/2017	---	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Insufficient water

UCL : Upper Control Limit

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

Italics (yellow highlight) : Indicates warning when result is > UCL but < 120% of UCL

Bold Italics (red highlight) : Indicates one value > 120% of UCL; or 2 or 3 values > UCL

Attachment 4b: MU2 Water Quality Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance @ 25°C (µS/cm)			Comments
				Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	
M201	Ring	10/2/2017	---	97	190	-49	6.0	20.0	-70	462	870	-47	
M201	Ring	10/19/2017	17	95	190	-50	5.3	20.0	-73	454	870	-48	
M201	Ring	11/2/2017	14	90	190	-53	4.9	20.0	-76	441	870	-49	
M201	Ring	11/16/2017	14	99	190	-48	5.1	20.0	-74	466	870	-46	
M201	Ring	12/1/2017	15	102	190	-47	5.0	20.0	-75	462	870	-47	
M201	Ring	12/19/2017	18	97	190	-49	5.2	20.0	-74	472	870	-46	
M202	Ring	10/2/2017	---	85	190	-55	5.1	20.0	-75	448	870	-49	
M202	Ring	10/19/2017	17	89	190	-53	5.0	20.0	-75	451	870	-48	
M202	Ring	11/2/2017	14	101	190	-47	5.8	20.0	-71	463	870	-47	
M202	Ring	11/16/2017	14	91	190	-52	5.3	20.0	-73	434	870	-50	
M202	Ring	12/1/2017	15	90	190	-53	5.8	20.0	-71	425	870	-51	
M202	Ring	12/19/2017	18	85	190	-55	4.8	20.0	-76	424	870	-51	
M229	Ring	10/3/2017	---	93	190	-51	6.1	20.0	-70	503	870	-42	
M229	Ring	10/19/2017	16	95	190	-50	6.0	20.0	-70	513	870	-41	
M229	Ring	11/3/2017	15	101	190	-47	6.6	20.0	-67	522	870	-40	
M229	Ring	11/16/2017	13	105	190	-44	5.8	20.0	-71	515	870	-41	
M229	Ring	12/1/2017	15	101	190	-47	5.3	20.0	-74	517	870	-41	
M229	Ring	12/19/2017	18	104	190	-45	6.0	20.0	-70	509	870	-41	
M231A	Ring	10/3/2017	---	109	190	-42	5.6	20.0	-72	559	870	-36	
M231A	Ring	10/19/2017	16	111	190	-42	6.3	20.0	-68	578	870	-34	
M231A	Ring	11/3/2017	15	109	190	-42	6.4	20.0	-68	576	870	-34	
M231A	Ring	11/16/2017	13	113	190	-41	6.7	20.0	-67	565	870	-35	
M231A	Ring	12/1/2017	15	111	190	-42	5.5	20.0	-72	525	870	-40	
M231A	Ring	12/19/2017	18	108	190	-43	6.2	20.0	-69	561	870	-36	
M-FG213	Overlying	10/3/2017	---	103	186	-45	6.4	20.0	-68	418	587	-29	
M-FG213	Overlying	10/20/2017	17	106	186	-43	5.9	20.0	-70	444	587	-24	
M-FG213	Overlying	11/3/2017	14	109	186	-41	6.3	20.0	-69	460	587	-22	
M-FG213	Overlying	11/16/2017	13	115	186	-38	5.2	20.0	-74	418	587	-29	
M-FG213	Overlying	12/6/2017	20	112	186	-40	5.8	20.0	-71	409	587	-30	
M-FG213	Overlying	12/20/2017	14	107	186	-42	5.7	20.0	-72	412	587	-30	
M-FG214	Overlying	10/3/2017	---	102	186	-45	4.9	20.0	-75	380	587	-35	
M-FG214	Overlying	10/20/2017	17	105	186	-44	4.6	20.0	-77	383	587	-35	
M-FG214	Overlying	11/3/2017	14	106	186	-43	5.5	20.0	-72	397	587	-32	
M-FG214	Overlying	11/16/2017	13	105	186	-44	5.2	20.0	-74	379	587	-35	
M-FG214	Overlying	12/6/2017	20	104	186	-44	4.5	20.0	-77	383	587	-35	
M-FG214	Overlying	12/20/2017	14	104	186	-44	5.1	20.0	-75	382	587	-35	
M-FG215	Overlying	10/3/2017	---	101	186	-46	5.4	20.0	-73	391	587	-33	
M-FG215	Overlying	10/19/2017	16	100	186	-46	5.9	20.0	-70	396	587	-33	
M-FG215	Overlying	11/3/2017	15	99	186	-47	6.3	20.0	-68	417	587	-29	
M-FG215	Overlying	11/16/2017	13	102	186	-45	5.6	20.0	-72	397	587	-32	
M-FG215	Overlying	12/6/2017	20	110	186	-41	6.1	20.0	-70	396	587	-33	
M-FG215	Overlying	12/19/2017	13	101	186	-46	5.3	20.0	-73	418	587	-29	
M-HJ211	Interim Ring	10/3/2017	---	55	n/a	n/a	5.5	n/a	n/a	436	n/a	n/a	
M-HJ211	Interim Ring	10/19/2017	16	56	n/a	n/a	4.9	n/a	n/a	447	n/a	n/a	
M-HJ211	Interim Ring	11/2/2017	14	77	n/a	n/a	5.2	n/a	n/a	470	n/a	n/a	
M-HJ211	Interim Ring	11/16/2017	14	78	n/a	n/a	5.8	n/a	n/a	466	n/a	n/a	
M-HJ211	Interim Ring	12/1/2017	15	6	n/a	n/a	0.0	n/a	n/a	20.7	n/a	n/a	
M-HJ211	Interim Ring	12/19/2017	18	88	n/a	n/a	5.3	n/a	n/a	476	n/a	n/a	
M-HJ226	Interim Ring	10/3/2017	---	97	n/a	n/a	5.2	n/a	n/a	522	n/a	n/a	
M-HJ226	Interim Ring	10/19/2017	16	101	n/a	n/a	6.3	n/a	n/a	522	n/a	n/a	
M-HJ226	Interim Ring	11/2/2017	14	99	n/a	n/a	5.7	n/a	n/a	521	n/a	n/a	
M-HJ226	Interim Ring	11/16/2017	14	100	n/a	n/a	5.3	n/a	n/a	530	n/a	n/a	
M-HJ226	Interim Ring	12/1/2017	15	83	n/a	n/a	4.9	n/a	n/a	469	n/a	n/a	
M-HJ226	Interim Ring	12/19/2017	18	99	n/a	n/a	5.6	n/a	n/a	522	n/a	n/a	
M-HJ232	Interim Ring	10/3/2017	---	101	n/a	n/a	6.2	n/a	n/a	522	n/a	n/a	
M-HJ232	Interim Ring	10/19/2017	16	104	n/a	n/a	5.1	n/a	n/a	523	n/a	n/a	
M-HJ232	Interim Ring	11/2/2017	14	98	n/a	n/a	5.4	n/a	n/a	510	n/a	n/a	
M-HJ232	Interim Ring	11/16/2017	14	99	n/a	n/a	5.1	n/a	n/a	509	n/a	n/a	
M-HJ232	Interim Ring	12/1/2017	15	95	n/a	n/a	6.2	n/a	n/a	503	n/a	n/a	
M-HJ232	Interim Ring	12/19/2017	18	100	n/a	n/a	5.9	n/a	n/a	548	n/a	n/a	
M-HJ233	Interim Ring	10/4/2017	---	97	n/a	n/a	5.0	n/a	n/a	480	n/a	n/a	
M-HJ233	Interim Ring	10/19/2017	15	95	n/a	n/a	5.3	n/a	n/a	474	n/a	n/a	
M-HJ233	Interim Ring	11/2/2017	14	100	n/a	n/a	5.6	n/a	n/a	468	n/a	n/a	
M-HJ233	Interim Ring	11/16/2017	14	103	n/a	n/a	5.6	n/a	n/a	472	n/a	n/a	
M-HJ233	Interim Ring	12/1/2017	15	100	n/a	n/a	5.4	n/a	n/a	479	n/a	n/a	
M-HJ233	Interim Ring	12/19/2017	18	97	n/a	n/a	5.9	n/a	n/a	475	n/a	n/a	
M-KM213	Underlying	10/3/2017	---	83	141	-41	5.9	20.0	-71	474	592	-20	

Attachment 4b: MU2 Water Quality Data
4th Quarter 2017
Lost Creek ISR Project PT788

Well ID	Well Type	Collection Date	Days Apart	Alkalinity (mg/L)			Chloride (mg/L)			Specific Conductance @ 25°C (µS/cm)			Comments
				Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	Assay	UCL [†]	% Diff	
M-KM213	Underlying	10/20/2017	17	85	141	-40	4.9	20.0	-76	478	592	-19	
M-KM213	Underlying	11/3/2017	14	88	141	-38	5.6	20.0	-72	492	592	-17	
M-KM213	Underlying	11/16/2017	13	92	141	-35	4.6	20.0	-77	482	592	-19	
M-KM213	Underlying	12/6/2017	20	89	141	-37	4.8	20.0	-76	481	592	-19	
M-KM213	Underlying	12/20/2017	14	90	141	-36	5.7	20.0	-71	488	592	-18	
M-KM214	Underlying	10/3/2017	---	102	141	-28	5.2	20.0	-74	514	592	-13	
M-KM214	Underlying	10/20/2017	17	103	141	-27	5.9	20.0	-70	515	592	-13	
M-KM214	Underlying	11/3/2017	14	105	141	-25	5.4	20.0	-73	521	592	-12	
M-KM214	Underlying	11/16/2017	13	109	141	-22	5.9	20.0	-71	517	592	-13	
M-KM214	Underlying	12/6/2017	20	106	141	-25	6.0	20.0	-70	526	592	-11	
M-KM214	Underlying	12/19/2017	13	106	141	-25	5.3	20.0	-73	551	592	-7	
M-KM215	Underlying	10/3/2017	---	97	141	-31	5.9	20.0	-71	477	592	-19	
M-KM215	Underlying	10/19/2017	16	101	141	-29	5.4	20.0	-73	476	592	-20	
M-KM215	Underlying	11/3/2017	15	103	141	-27	5.5	20.0	-72	481	592	-19	
M-KM215	Underlying	11/16/2017	13	100	141	-29	4.9	20.0	-75	478	592	-19	
M-KM215	Underlying	12/6/2017	20	101	141	-28	5.4	20.0	-73	477	592	-19	
M-KM215	Underlying	12/19/2017	13	100	141	-29	5.7	20.0	-72	475	592	-20	

UCL : Upper Control Limit

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

Italics (yellow highlight) : Indicates warning when result is > UCL but < 120% of UCL

Bold Italics (red highlight) : Indicates one value > 120% of UCL; or 2 or 3 values > UCL

Attachment 4: MU1 Water Quality Data - QC
4th Quarter 2017
Lost Creek ISR Project PT788

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
M129	10/11/2017	Dup	M118	103	104	1	6.3	6.6	4	514	500	3
M129	10/24/2017	Dup	M123	112	116	4	6.7	5.7	15	488	488	0
M129	11/8/2017	Dup	M117	105	102	3	6.3	6.2	1	509	492	3
M129	11/28/2017	Dup	M101	122	117	4	7.4	6.2	18	675	630	7
M129	12/12/2017	Dup	M116	104	103	1	5.1	5.2	2	499	492	1
M129	12/27/2017	Dup	M117	100	101	2	5.9	5.1	16	511	506	1
M130	10/11/2017	Blank	N/A	5	N/A	N/A	0.0	N/A	N/A	6	N/A	N/A
M130	10/24/2017	Blank	N/A	0	N/A	N/A	0.0	N/A	N/A	22	N/A	N/A
M130	11/8/2017	Blank	N/A	3	N/A	N/A	0.0	N/A	N/A	21	N/A	N/A
M130	11/28/2017	Dup	M102	139	157	12	6.2	5.8	6	821	791	4
M130	12/12/2017	Blank	N/A	12	N/A	N/A	0.0	N/A	N/A	27	N/A	N/A
M130	12/27/2017	Blank	N/A	2	N/A	N/A	0.0	N/A	N/A	5	N/A	N/A
M131	10/11/2017	Dup	M119	123	121	1	5.8	7.5	25	475	459	3
M131	10/24/2017	Dup	M124	111	109	2	5.2	6.0	14	475	468	1
M131	11/8/2017	Dup	M118	98	101	4	8.3	5.2	46*	507	504	1
M131	11/28/2017	Blank	N/A	8	N/A	N/A	0.0	N/A	N/A	18	N/A	N/A
M131	12/12/2017	Dup	M117	105	110	5	5.2	5.3	2	515	511	1
M131	12/27/2017	Dup	M118	100	96	4	5.1	5.3	5	505	500	1
M132	10/11/2017	Blank	N/A	16	N/A	N/A	0.0	N/A	N/A	37	N/A	N/A
M132	10/24/2017	Blank	N/A	0	N/A	N/A	0.0	N/A	N/A	16	N/A	N/A
M132	11/8/2017	Blank	N/A	2	N/A	N/A	0.0	N/A	N/A	11	N/A	N/A
M132	11/28/2017	Blank	N/A	6	N/A	N/A	0.0	N/A	N/A	12	N/A	N/A
M132	12/12/2017	Blank	N/A	7	N/A	N/A	0.0	N/A	N/A	18	N/A	N/A
M132	12/27/2017	Blank	N/A	1	N/A	N/A	0.0	N/A	N/A	2	N/A	N/A
MO121	10/12/2017	Dup	MO102	108	111	3	7.9	8.6	9	608	590	3
MO121	10/30/2017	Dup	MO112	116	113	3	7.0	7.0	0	430	431	0
MO121	11/13/2017	Dup	MO109	112	113	1	7.7	7.5	3	514	512	0
MO121	11/29/2017	Dup	MO111	126	130	3	10.1	12.1	18	508	503	1
MO121	12/13/2017	Dup	MO111	125	129	3	12.0	10.6	12	522	513	2
MO121	12/28/2017	Dup	MO109	106	105	0	7.2	9.3	25	508	507	0
MO122	10/12/2017	Blank	N/A	18	N/A	N/A	0.0	N/A	N/A	33	N/A	N/A
MO122	10/30/2017	Blank	N/A	7	N/A	N/A	0.0	N/A	N/A	18	N/A	N/A
MO122	11/13/2017	Blank	N/A	112	N/A	N/A	0.0	N/A	N/A	1	N/A	N/A
MO122	11/13/2017	Blank	N/A	10	N/A	N/A	0.0	N/A	N/A	26	N/A	N/A
MO122	11/30/2017	Blank	N/A	7	N/A	N/A	0.0	N/A	N/A	17	N/A	N/A
MO122	12/13/2017	Blank	N/A	3	N/A	N/A	0.0	N/A	N/A	13	N/A	N/A
MO122	12/28/2017	Blank	N/A	1	N/A	N/A	0.0	N/A	N/A	2	N/A	N/A
MU123	10/12/2017	Dup	MO103	122	120	2	10.4	10.0	4	744	721	3
MU123	10/30/2017	Dup	MO113	104	103	1	8.2	8.9	9	456	461	1
MU123	11/13/2017	Dup	MO112	116	113	2	6.9	5.4	24	430	434	1
MU123	11/29/2017	Dup	MO112	119	109	9	7.7	6.9	11	428	425	1
MU123	12/13/2017	Dup	MO110	101	100	1	5.9	5.8	2	438	438	0
MU123	12/28/2017	Dup	MU111	95	98	3	5.5	5.3	4	503	503	0
MU124	10/12/2017	Blank	N/A	17	N/A	N/A	0.0	N/A	N/A	37	N/A	N/A
MU124	10/30/2017	Blank	N/A	1	N/A	N/A	0.0	N/A	N/A	2	N/A	N/A
MU124	11/13/2017	Blank	N/A	97	N/A	N/A	0.0	N/A	N/A	0	N/A	N/A
MU124	11/13/2017	Blank	N/A	14	N/A	N/A	0.0	N/A	N/A	31	N/A	N/A
MU124	11/30/2017	Blank	N/A	9	N/A	N/A	0.0	N/A	N/A	20	N/A	N/A
MU124	12/13/2017	Blank	N/A	3	N/A	N/A	0.0	N/A	N/A	13	N/A	N/A
MU124	12/28/2017	Blank	N/A	1	N/A	N/A	0.0	N/A	N/A	2	N/A	N/A
M232	10/2/2017	Dup	M201	100	97	3	5.7	6.0	5	467	462	1
M232	10/19/2017	Dup	M202	90	89	1	5.6	5.0	10	457	451	1
M232	11/2/2017	Dup	M202	100	101	1	5.0	5.8	15	460	463	1
M232	11/16/2017	Dup	M202	91	91	0	4.7	5.3	12	431	434	1
M232	12/1/2017	Dup	M201	114	102	12	5.7	5.0	14	570	462	21
M232	12/19/2017	Dup	M-HJ226	100	100	0	5.2	5.9	13	524	548	4
M233	10/3/2017	Blank	N/A	2	N/A	N/A	0.0	N/A	N/A	5	N/A	N/A
M233	10/19/2017	Blank	N/A	1	N/A	N/A	0.0	N/A	N/A	3	N/A	N/A
M233	11/2/2017	Blank	N/A	2	N/A	N/A	0.0	N/A	N/A	5	N/A	N/A
M233	11/16/2017	Blank	N/A	2	N/A	N/A	0.0	N/A	N/A	6	N/A	N/A
M233	12/1/2017	Dup	M-HJ233	100	100	0	5.6	5.4	3	467	479	3
M233	12/19/2017	Blank	N/A	6	N/A	N/A	0.0	N/A	N/A	13	N/A	N/A
M234	10/4/2017	Dup	M-HJ233	93	97	4	4.6	5.0	10	473	480	1
M234	10/19/2017	Dup	M201	97	95	1	5.7	5.3	7	457	454	1
M234	11/2/2017	Dup	M-HJ233	97	100	3	4.7	5.6	18	474	468	1
M234	11/16/2017	Dup	M201	97	99	2	4.8	5.1	7	465	466	0
M234	12/1/2017	Blank	N/A	3	N/A	N/A	0.0	N/A	N/A	7	N/A	N/A

Attachment 4: MU1 Water Quality Data - QC
4th Quarter 2017
Lost Creek ISR Project PT788

M234	12/19/2017	Dup	M229	103	104	1	6.0	6.0	0	514	509	1
M235	10/3/2017	Blank	N/A	4	N/A	N/A	0.0	N/A	N/A	14	N/A	N/A
M235	10/19/2017	Blank	N/A	4	N/A	N/A	0.0	N/A	N/A	9	N/A	N/A
M235	11/2/2017	Blank	N/A	4	N/A	N/A	0.0	N/A	N/A	10	N/A	N/A
M235	11/16/2017	Blank	N/A	6	N/A	N/A	0.0	N/A	N/A	14	N/A	N/A
M235	12/1/2017	Dup	M231A	104	100	4	5.8	5.4	7	469	479	2
M235	12/19/2017	Blank	N/A	2	N/A	N/A	0.0	N/A	N/A	3	N/A	N/A
M-FG232	10/3/2017	Dup	M-KM213	83	83	1	5.2	5.9	13	477	474	1
M-FG232	10/19/2017	Dup	M-FG215	98	100	2	5.5	5.9	7	396	396	0
M-FG232	11/3/2017	Dup	M-FG213	110	109	1	6.4	6.3	2	426	460	8
M-FG232	11/16/2017	Dup	M-FG214	108	105	3	4.6	5.2	12	380	379	0
M-FG232	12/6/2017	Dup	M-KM213	90	89	1	5.0	4.8	5	483	481	0
M-FG232	12/20/2017	Dup	M-FG214	106	104	2	5.0	5.1	2	381	382	0
M-FG233	10/3/2017	Blank	N/A	10	N/A	N/A	0.0	N/A	N/A	24	N/A	N/A
M-FG233	10/19/2017	Blank	N/A	2	N/A	N/A	0.0	N/A	N/A	5	N/A	N/A
M-FG233	11/3/2017	Blank	N/A	1	N/A	N/A	0.0	N/A	N/A	2	N/A	N/A
M-FG233	11/16/2017	Blank	N/A	10	N/A	N/A	0.0	N/A	N/A	27	N/A	N/A
M-FG233	12/6/2017	Blank	N/A	8	N/A	N/A	0.0	N/A	N/A	31	N/A	N/A
M-FG233	12/20/2017	Blank	N/A	3	N/A	N/A	0.0	N/A	N/A	6	N/A	N/A
M-KM230	10/3/2017	Dup	M-FG213	106	103	2	5.3	6.4	19	418	418	0
M-KM230	10/19/2017	Dup	M-KM215	101	101	1	5.2	5.4	3	478	476	0
M-KM230	11/3/2017	Dup	M-KM214	103	105	2	6.1	5.4	12	535	521	3
M-KM230	11/16/2017	Dup	M-FG213	122	115	6	5.0	5.2	4	409	418	2
M-KM230	12/6/2017	Dup	M-FG214	107	104	2	5.0	4.5	9	381	383	1
M-KM230	12/19/2017	Dup	M-FG215	100	101	1	5.8	5.3	9	406	418	3
M-KM231	10/3/2017	Blank	N/A	11	N/A	N/A	0.0	N/A	N/A	26	N/A	N/A
M-KM231	10/19/2017	Blank	N/A	4	N/A	N/A	0.0	N/A	N/A	10	N/A	N/A
M-KM231	11/3/2017	Blank	N/A	5	N/A	N/A	0.0	N/A	N/A	25	N/A	N/A
M-KM231	11/16/2017	Blank	N/A	9	N/A	N/A	0.0	N/A	N/A	18	N/A	N/A
M-KM231	12/6/2017	Blank	N/A	9	N/A	N/A	0.0	N/A	N/A	20	N/A	N/A
M-KM231	12/20/2017	Blank	N/A	2	N/A	N/A	0.0	N/A	N/A	4	N/A	N/A

RPD: Relative Percent Difference

*NOTE: RPD indicative of titrator issue. Chloride probe was replaced afterwards