

March 11, 2021

Reference No. 20144265-5-L-0

Ms. Amy Eschberger

Colorado Division of Reclamation Mining and Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, Colorado 80203

SECOND SEMI-ANNUAL 2020 GROUNDWATER SAMPLING EVENT AT THE BOETTCHER QUARRY

Dear Ms. Eschberger:

On behalf of Holcim (US) Inc., Golder Associates Inc. (Golder) is pleased to submit analytical laboratory results for the second semi-annual 2020 groundwater sampling event at the Boettcher Limestone Quarry near La Porte, Colorado. Attached are Tables 1 through 8, summarizing the results, and a copy of the laboratory report (Attachment 1). Field sheets for the purging and sampling are presented in Attachment 2. In addition to sampling wells MW-1 through MW-8, a field duplicate at MW-3 (MW-20) and a field blank (MW-15) were collected. The locations of monitoring wells MW-1 through MW-8 are presented in Figure 1. The second semi-annual 2020 groundwater sampling event was the first time MW-8 was sampled.

In December 2016, the Colorado Division of Reclamation Mining and Safety approved a revision to change the required groundwater monitoring frequency from quarterly to semi-annually (Revision TR07) based on evidence that the groundwater wells were not fully recharging between sampling events. Figure 2 presents a graph of the monitoring well water elevations measured during each sampling event from 2013 to present.

Upon receipt of the laboratory reports, Golder reviewed the results, and a general analytical data evaluation was performed. Results of this evaluation included the following:

- The samples were received by the laboratory at the appropriate temperature.
- The required analyses were performed.
- The analyses were conducted within their respective United States Environmental Protection Agency (USEPA)-recommended hold times, apart from pH. Measurements for pH should be conducted within 15 minutes of sample collection; thus, the laboratory pH measurement will always be out of hold time.

Based on the above review, the laboratory results are considered valid for the sampling event. Reported concentrations are consistent with previous events, and the analytes that exceeded the Interim Narrative Standard for this sampling event are listed by sampling location below:

- MW-1: selenium, uranium, sulfate, and gross alpha
- MW-2: barium, boron, iron, manganese, and chloride
- MW-3: boron, chloride, and fluoride
- MW-4: barium, boron, chloride, total dissolved solids, and gross alpha
- MW-5: iron, manganese, sulfate, and gross alpha
- MW-6: barium, boron, iron, manganese, and chloride
- MW-7: barium, iron, manganese, and chloride
- MW-8: boron, chloride, sulfate, gross alpha, and antimony

Consistent with previous events, some sample dilutions are required by the analytical laboratory due to matrix interferences of non-target analytes and concerns of damaging equipment. This results in practical quantitation limits (PQLs) greater than the Interim Narrative Standard for antimony at MW-2, MW-4, MW-6, and MW-7; iron at MW-4 and MW-8; thallium at MW-4, MW-6, MW-7, and MW-8; and sulfate at MW-4. These constituents were not detected above the method detection limit, which was lower than the Interim Narrative Standard.

If you have any questions, please call the undersigned at (303) 980-0540.

Sincerely,

Golder Associates Inc.



Tricia Hall
Staff Hydrogeologist



Sara Harkins, PG
Senior Geochemist

TH/SH/rm

Attachments: Table 1: Summary of Monitoring Results for MW-1
Table 2: Summary of Monitoring Results for MW-2
Table 3: Summary of Monitoring Results for MW-3
Table 4: Summary of Monitoring Results for MW-4
Table 5: Summary of Monitoring Results for MW-5
Table 6: Summary of Monitoring Results for MW-6
Table 7: Summary of Monitoring Results for MW-7
Table 8: Summary of Monitoring Results for MW-8
Figure 1: Location Map
Figure 2: Groundwater Elevations vs. Time
Attachment 1: ACZ Laboratory Report
Attachment 2: Field Sheets

[https://golderassociates.sharepoint.com/sites/127556/project files/6 deliverables/letters/5-I-0/20144265-5-I-0-2nd_semi-annual_2020_gw_sampling_event_11mar21.docx](https://golderassociates.sharepoint.com/sites/127556/project%20files/6%20deliverables/letters/5-I-0/20144265-5-I-0-2nd_semi-annual_2020_gw_sampling_event_11mar21.docx)

Tables

Table 1: Summary of Monitoring Results for MW-1

Date	Interim Narrative Standard	5/26/1999	7/21/1999	9/16/1999	11/10/1999	1/19/2000	3/13/2000	5/16/2000	7/10/2000	9/27/2010	3/31/2011	6/28/2011	8/31/2011	11/17/2011	3/27/2012	6/27/2012	9/13/2012	11/13/2012	3/19/2013	5/28/2013	8/26/2013	11/14/2013	2/18/2014
Metals																							
Arsenic, Dissolved (mg/L)	0.01	NA	< 0.005 U	0.002 B	0.0046	0.02 B	0.027	0.01 B	0.013 B	0.015	0.005 B	0.01 B	0.011	<0.01 U	< 0.01 U	0.003 B	0.001 B	0.002 B	0.002 B	< 0.005 U	0.002 B	< 0.005 U	0.001 B
Barium, Dissolved (mg/L)	2	< 0.05 U	0.013 B	< 0.05 U	< 0.05 U	0.02 B	< 0.05 U	< 0.05 U	0.014	< 0.08 U	0.04 B	0.005 B	< 0.08 U	<0.08 U	0.017 B	< 0.08 U	0.02 B	0.02 B	0.011 B	< 0.08 U	< 0.08 U	0.011 B	0.008 B
Boron, Dissolved (mg/L)	0.75	0.36	0.35	0.41	0.46	0.5	0.46	0.51	0.5	0.54	0.59	0.58	0.64	0.64	0.62	0.59	0.71	0.73	0.64	0.69	0.61	0.6	0.61
Chromium, Dissolved (mg/L)	0.1	< 0.3 U	< 0.1 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.05	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U
Copper, Dissolved (mg/L)	0.2	0.06 B	< 0.1 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.05	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.05 U
Iron, Dissolved (mg/L)	0.3	< 0.3 U	< 0.1 U	< 0.3 U	< 0.3 U	0.14 B	< 0.3 U	0.1 B	< 0.05	< 0.3 U	0.3	< 0.05 U	< 0.3 U	0.2 B	0.15	1.4	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.05 U
Lead, Dissolved (mg/L)	0.05	< 0.01 U	< 0.005 U	< 0.005 U	< 0.001 U	< 0.05 U	< 0.005 U	0.013	< 0.005	0.0019 B	0.0027 B	0.0052	0.0045	0.0007 B	< 0.003 U	0.0035	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U
Lithium, Dissolved (mg/L)	2.5	1.1	1.21	1	1	1.2	1.1	1.2	1.05	1.3	1.3	1.18	1.2	1.1	1.15	1.1	1.1	1.2	NA	NA	NA	NA	NA
Manganese, Dissolved (mg/L)	0.05	0.08 B	0.05	0.09 B	0.1	0.06	0.04 B	0.05 B	0.053	< 0.1 U	0.05 B	0.041	< 0.1 U	< 0.1 U	0.026 B	0.04 B	0.04 B	0.04 B	0.025	< 0.1 U	0.04 B	0.044	0.054
Selenium, Dissolved (mg/L)	0.02	0.35	0.27	0.19	0.093	0.078	0.054	0.046	0.101	0.4928	0.2684	0.2656	0.2826	0.275	0.2328	0.2204	0.1995	0.1756	0.1826	0.2278	0.257	0.2616	0.2067
Thallium, Dissolved (mg/L)	0.002	< 5 U	< 0.01 U	< 5 U	0.00014 B	< 0.005 U	< 0.001 U	< 0.003 U	0.0007 B	0.0016 B	0.0025 B	0.0014 B	0.0017 B	< 0.003 U	< 0.003 U	0.0007 B	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	0.0192	0.019	0.0205	0.0199	0.0193	0.0364	0.0303	0.0397	0.0344	0.0403	0.0338	0.0367	0.0433	0.0371	NA	NA	NA	NA	NA
Zinc, Dissolved (mg/L)	2	< 0.3 U	< 0.1 U	< 0.3 U	< 0.3 U	0.07 B	< 0.3 U	< 0.3 U	< 0.05	0.13 B	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.3 U	0.02	< 0.3 U	< 0.3 U	< 0.05 U	0.01 B
Other																							
Chloride (mg/L)	250	20	18	36	22	31	28	25	25	< 300 U	< 300 U	< 300 U	40 B	36.4 B	50 B	< 250 U	< 250 U	< 250 U	86 B	< 250 U	55.5 B	< 250 U	< 250 U
Fluoride (mg/L)	2	0.7	0.7	0.6	0.6	0.8	0.7	0.6	0.5	0.4 B	0.5	0.4 B	0.4 B	0.6	0.6	0.6	0.6	0.7	0.6	0.5	0.5	0.5	0.5
Nitrate as N (mg/L)	10	14.3	19.5	19.6	14	9.4	NA	3.77	3.28	96	88	70	81.6	81	76	89	85	78.5	NA	NA	NA	NA	NA
Nitrite as N (mg/L)	1	0.07	0.16	< 1	0.56	0.03	NA	0.04 B	0.66	0.24	0.36	0.34	0.4	0.26	0.29	0.56	0.21	0.11	NA	NA	NA	NA	NA
Nitrate+Nitrite as N (mg/L)	10	14.4	19.7	19.6	14.6	9.5	NA B	3.81	3.94	96	88	70	82	81	76	90	85	78.6	NA	NA	NA	NA	NA
Lab pH (s.u)	6.5 - 8.5	8	7.3	7.4	7.6	8.1	7.5	7.5	7.6	8.1 H	8.1 H	8.0 H	8.0 H	8.0 H	8.0 H	8.1 H	8.2 H	8.2 H	8.1 H	8.0 H	8.0 H	7.8 H	7.9 H
Total Dissolved Solids, filterable residue (mg/L)	8595	7,690.0	7,000.0	6,820.0	7,190.0	6,650.0	6,810.0	6,750.0	6,020.0	7,770	7,560	7,610	7,540	7,110	7,150	6,770	6,770	6,660	6,610	7,420	6,650 H	7,800 H	7,330
Sulfate (mg/L)	250	5,210	4,780	4,470	5,180	4,530	4,370	4,410	4,000	4,840	4,540	4,820	4,620	4,306	4,056	4,090	4,041	3,991	3,980	4,610	4,230	5,150	4,980
Gross Alpha (pCi/L)	15.0	32	62	45	88	0	35	2.7	4.9	41 (±31)	53 (±31)	22 (±25)	5.8 (±29)	32 (±30)	48 (±30)	180 (±52)	24 (±23)	-0.51 (±22)	NA	NA	NA	NA	NA
Gross Beta (pCi/L)	**	0	69	25	100	0.7	18	0	53	39 (±28)	36 (±28)	20 (±28)	23 (±32)	27 (±31)	8.1 (±25)	190 (±36)	25 (±29)	12 (±27)	NA	NA	NA	NA	NA
Field Parameters (Not Available pre-2010))																							
Field pH (s.u)	6.5 - 8.5	NA	NA	NA	NA	NA	NA	NA	NA	7.4	7.42	7.27	7.42	7.42	7.6	7.36	7.42	7.62	7.59	7.23	7.34	7.40	7.39
Field Conductivity (µS/cm)	none	NA	NA	NA	NA	NA	NA	NA	NA	904	860	7,390	7,960	6,580	7,830	37.21	6,170	7,740	7,620	8,210	7,800	8,888	8,180
Temperature (Degrees Celsius)	none	NA	NA	NA	NA	NA	NA	NA	NA	16.83	14.6	18.7	20.9	16.1	15.6	18.4	16.1	14.6	14.3	16.3	17.1	13.62	14
Supplementary Analytes (Not Historically analyzed)																							
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate as CaCO3 (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	279	305	309	312	311	333	334	285	337	334	334	330	320	357
Carbonate as CaCO3 (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	323	225	305	270	240	198	222	218	169	178	276	258	302	254
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide, Free (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	336	240	313	272	246	210	213	203	175	180	265	225	308	256
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	22	18	22.7	17	15	14.8	17	17	13	14.5	19	20	20.7	16.5
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	1,660	1,800	1,680	1,670	1,610	1,680	1,630	1,650	1,770	1,670	1,660	1,580	1,820	1,790
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
B = Estimated value, less than the practical quantitation limit for that analyte, but greater than the method detection limit
U = Analyte not detected, reported less than the practical quantitation limit
H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.
NA = Analyte not analyzed
^ = Second and third quarter 2015 reports presented calculated total dissolved solids results
Per Section 41.5 (C) (6) the of Regulation 41, the "Interim Narrative Standard", is the minimum of Table 1- Table 4 of The Basic Standards for Groundwater (BSGW)
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)
Values in **bold** indicate a value greater than the BSGW
**The regulatory standard for Gross Beta is provided in units of exposure, millirems per year (mrems/yr), which would require the measurement of specific nuclides (Tritium and Strontium) with known energy levels. Specific nuclides were not part of the approved constituent list.

Table 1: Summary of Monitoring Results for MW-1

Date	Interim Narrative Standard	5/21/2014	8/27/2014	11/11/2014	2/18/2015	5/27/2015	8/27/2015	11/9/2015	2/15/2016	5/31/2016	8/16/2016	11/9/2016	5/31/2017	11/15/2017	6/6/2018	11/15/2018	6/12/2019	12/12/2019	6/4/2020	12/14/2020
Metals																				
Arsenic, Dissolved (mg/L)	0.01	0.001 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001 B	0.0018	0.002 B	0.0027	0.00163
Barium, Dissolved (mg/L)	2.0	0.004 B	0.006 B	0.007 B	0.009 B	< 0.08 U	< 0.08 U	< 0.08 U	0.03 B	< 0.08 U	< 0.08 U	0.007 B	< 0.08 U	< 0.08 U	< 0.08 U	< 0.08 U	< 0.2 U	< 0.04 U	0.041	0.0104
Boron, Dissolved (mg/L)	0.75	0.57	0.56	0.58	0.59	0.55	0.57	0.52	0.6	0.51	0.51	0.56	0.61	0.61	0.65	0.62	0.7	0.6	0.68	0.744
Chromium, Dissolved (mg/L)	0.1	< 0.01 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.01 U	< 0.002 U	< 0.003 U	0.001 B	< 0.002 U
Copper, Dissolved (mg/L)	0.2	< 0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.01 U	0.0028 U	< 0.004 U	< 0.004 U	< 0.002 U
Iron, Dissolved (mg/L)	0.3	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	0.018 U	< 0.2 U	0.93	< 0.3 U
Lead, Dissolved (mg/L)	0.05	< 0.003 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.003 U	< 0.0005 U	< 0.0005 U	< 0.0005 U
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.13	1.23	1.05	1.09	1.09
Manganese, Dissolved (mg/L)	0.05	0.033	0.045	0.041	0.052	< 0.1 U	0.04 B	< 0.1 U	0.04 B	< 0.1 U	< 0.1 U	0.04	< 0.1 U	< 0.1 U	< 0.1 U	0.022	0.05 B	0.03	0.035	0.0380
Selenium, Dissolved (mg/L)	0.02	0.2775	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0904	0.0998	0.0474	0.0378	0.0271
Thallium, Dissolved (mg/L)	0.002	< 0.003 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.003 U	< 0.0005 U	< 0.0003 U	< 0.001 U	< 0.00125 U
Uranium, Dissolved (mg/L)	0.0300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.035	0.0352	0.0407	0.0385	0.0308
Zinc, Dissolved (mg/L)	2.0	< 0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.3 U	< 0.3 U	< 0.05 U	< 0.03 U	< 0.015 U
Other																				
Chloride (mg/L)	250	< 250 U	< 250 U	< 250 U	68.9 B	154 B	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	47.5 B	32.2 B	41.3 BH	27.5 B	< 200 U	< 200 U	36.2 B	36.8 B	36.6 B
Fluoride (mg/L)	2.0	0.44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.62	0.6	0.7	0.6	0.62
Nitrate as N (mg/L)	10.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	17	5.93	2.42	0.857
Nitrite as N (mg/L)	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.06	0.17	0.04 B	0.02 B	0.013 B
Nitrate+Nitrite as N (mg/L)	10.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.2	16.8	5.97	2.44	0.870
Lab pH (s.u)	6.5 - 8.5	7.8 H	7.8 H	8 H	7.9 H	7.9 H	8 H	7.9 H	7.84	7.9 H	8.1 H	8.1 H	8.2 H	8 H	8.3 H	8.2	7.9 H	8.2 H	8.2 H	8.2 H
Total Dissolved Solids, filterable residue (mg/L)	8595	6,910 H	6,950	7,900	7,380	8,210 ^	7,760 ^	8,020	7,660	8,450	8,040	7,460	7,010	7,070	7,240	6,910	6,670	6,280	6,320	6,110
Sulfate (mg/L)	250	6,850	4,670	4,300	4,800	5,540	5,640	5,430	5,250	5,470	5,540	4,700	4,690	4,340 H	4,530	5,090	5,040	4,230	4,120	4,470
Gross Alpha (pCi/L)	15.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 (±31)	20 (±18)	54(±26)	67 (±26)	39 (±25)
Gross Beta (pCi/L)	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33 (±29)	28 (±22)	7.9(±19)	22(±22)	13 (±21)
Field Parameters (Not Available pre-2010)																				
Field pH (s.u)	6.5 - 8.5	7.15	7.35	7.4	7.3	6.99	7.42	7.78	7.84	7.39	7.34	7.56	8.46	7.71	7.46	7.64	7.69	7.85	7.80	7.73
Field Conductivity (µS/cm)	none	9,650	8,560	8,600	5,330	8,050	9,130	7,000	6,580	7,650	8,610	8,280	8,380	7,520	8,480	7,900	6,740	4,890	5,700	6,929
Temperature (Degrees Celsius)	none	15.9	15.3	9.1	14.3	16	15.8	16.3	13.9	17	18	16.5	16.5	12.9	17	16.6	17.2	13.1	16.5	13.6
Supplementary Analytes (Not Historically analyzed)																				
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.8 U	< 1 U	< 0.3 U	1.93
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.004 B	0.0021	0.004 B	0.0024 B
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.001 U	< 0.0003 U	< 0.0004 U	< 0.00025 U
Bicarbonate as CaCO3 (mg/L)	none	333	310	325	NA	320	302	306	319	307	329	325	369	361	358	NA	376 H	402	458	421
Carbonate as CaCO3 (mg/L)	none	< 20 U	< 20 U	< 20 U	NA	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	3.1 B	NA	< 20 UH	< 2 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.001 U	< 0.0003 U	< 0.0003 U	< 0.00025 U
Calcium, Dissolved (mg/L)	none	330	287	309	230	301	320	289	279	345	275	269	187	175	220	163	171	131	110	109
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0018	0.00349	0.0019	0.002
Cyanide, Free (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.01 U	< 0.01 U	< 0.003 U	< 0.01 U
Magnesium, Dissolved (mg/L)	none	364	297	303	247	300	342	301	290	376	301	283	202	188	225	175	170	135	116	116
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.001 U	< 0.001 U	< 0.0002 U	< 0.001 U
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.085	0.1 B	0.09	0.084
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.009 B	< 0.2 U	0.007	0.00692
Potassium, Dissolved (mg/L)	none	18.9	19.4	21.8	15.6	19	20	18	18.6	22	16	20.5	13	12	16	12	13	10	10.1	9.56
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.003 U	< 0.0005 U	< 0.0005 U	< 0.001 U
Sodium, Dissolved (mg/L)	none	1,910	1,570	1,510	1,770	1,670	1,740	1,770	1,720	1,570	1,710	1,640	1,710	1,660	1,650	1,760	1,730	1,710	1,680	1,640
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.1 U	< 0.1 U	< 0.003 U	< 0.002 U	< 0.002 U

Notes:
B = Estimated value, less than the practical quantitation limit for that analyte, but greater than the method detection limit
U = Analyte not detected, reported less than the practical quantitation limit
H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.
NA = Analyte not analyzed
^ = Second and third quarter 2015 reports presented calculated total dissolved solids results
Per Section 41.5 (C) (6) the of the Regulation 41, the "Interim Narrative Standard", is the minimum of Table 1- Table 4 of The Basic Standards for Groundwater (BSGW)
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)
Values in **bold** indicate a value greater than the BSGW
**The regulatory standard for Gross Beta is provided in units of exposure, millirems per year (mrem/yr), which would require the measurement of specific nuclides (Tritium and Strontium) with known energy levels. Specific nuclides were not part of the approved constituent list.

Table 2: Summary of Monitoring Results for MW-2

Date	Interim Narrative Standard	4/28/1999	7/21/1999	9/16/1999	11/10/1999	1/19/2000	3/13/2000	5/16/2000	7/10/2000	9/27/2010	3/31/2011	6/28/2011	8/31/2011	11/17/2011	3/27/2012	6/27/2012	9/13/2012	11/13/2012	3/19/2013	5/28/2013	8/26/2013	11/14/2013
Metals																						
Arsenic, Dissolved (mg/L)	0.01	NA	0.003 B	0.004 B	0.0567	0.05 B	0.045	0.062	0.042	0.036	0.021	0.03	0.036	< 0.01 U	< 0.01 U	< 0.01 U	< 0.005 U	0.001 B	0.002 B	0.001 B	0.002 B	0.001 B
Barium, Dissolved (mg/L)	2	0.4	0.42	0.41	0.41	0.4	0.42	0.41	0.398	2.09	1.33	1.09	0.96	1.09	1.42	1.55	1.72	1.26	1.3	1.07	1.23	1.22
Boron, Dissolved (mg/L)	0.75	0.73	0.74	0.72	0.74	0.69	0.73	0.74	0.67	0.7	0.64	0.69	0.78	0.64	0.73	0.72	0.70	0.79	0.71	0.76	0.70	0.74
Chromium, Dissolved (mg/L)	0.1	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U
Copper, Dissolved (mg/L)	0.2	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.05 U
Iron, Dissolved (mg/L)	0.3	< 0.3 U	< 0.3 U	0.27 B	0.11 B	0.16 B	0.2 B	0.5	0.07	< 0.3 U	0.1 B	0.15	< 0.3 U	0.3 B	0.91	0.8	0.7	0.16	1.1	0.2 B	0.9	1.3
Lead, Dissolved (mg/L)	0.05	< 0.005 U	< 0.005 U	0.001 B	< 0.005 U	< 0.005 U	< 0.005 U	0.005 B	0.002 B	< 0.003 U	< 0.003 U	0.0011 B	0.0006 B	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U
Lithium, Dissolved (mg/L)	2.5	1	1	1	1	1	1.1	1	0.91	1.3	1.2	1.12	1.1	1.1	1.16	1.2	1.2	1.36	NA	NA	NA	NA
Manganese, Dissolved (mg/L)	0.05	0.49	0.44	0.4	0.33	0.33	0.33	0.33	0.329	0.08 B	0.12	0.139	0.1	0.12	0.102	0.06 B	0.06 B	0.114	0.121	0.09	0.11	0.127
Selenium, Dissolved (mg/L)	0.02	< 0.005 U	0.002 B	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	0.0006 B	0.0015	0.0006 B	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0008 B	0.0007 B	0.0011	0.0032	< 0.001 U	0.0006 B
Thallium, Dissolved (mg/L)	0.002	< 0.01 U	< 0.01 U	< 5 U	< 0.0003 U	< 0.005 U	< 0.001 U	< 0.003 U	< 0.003 U	0.0007 B	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	0.00465	0.005	0.0041	0.0037	0.0042	0.0048	0.0033	0.0025 B	< 0.003 U	0.0011 B	0.0009 B	0.0012 B	0.0012 B	0.0012 B	NA	NA	NA	NA
Zinc, Dissolved (mg/L)	2	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U
Other																						
Chloride (mg/L)	250	2,890	2,260	2,670	2,700	2,240	2,880	3,100	2730	3,050	3,100	3,090	3,240	3,017	3,052	3,079	3,188	2,968	3,227	3,220	2,960	3,080
Fluoride (mg/L)	2	1.7	1.8	1.7	1.5	1.8	1.7	2.1	1.8	1.7	1.5	1.5	1.4	1.6	1.5	1.6	1.5	1.7	1.7	1.6	1.6	1.5
Nitrate as N (mg/L)	10	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	0.03	NA	< 0.1 U	< 0.1 U	0.14	0.07 B	0.06 B	0.03 B	< 0.1 U	0.04 B	0.04 B	0.03 B	0.04 B	NA	NA	NA	NA
Nitrite as N (mg/L)	1	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	NA	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	NA	NA	NA	NA
Nitrate+Nitrite as N (mg/L)	10	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	0.03 B	NA	< 0.1 U	< 0.1 U	0.14	0.07 B	0.06 B	0.03 B	< 0.1 U	0.04 B	0.04 B	0.03 B	0.04 B	NA	NA	NA	NA
Lab pH (s.u)	6.5 - 8.5	8.2	8.2	8.1	8	8.5	7.9	8	8.1	8.6 H	8.2 H	8.4 H	8.3 H	8.2 H	8.3 H	8.3 H	8.6 H	8.3 H	8.3 H	8.3 H	8.2 H	8.1 H
Total Dissolved Solids, filterable residue (mg/L)	7084	5,680.0	5,640.0	5,680.0	5,700.0	5,600.0	5,740.0	5,600.0	5,700.0	6,270	6,390	6,350	6,320	6,140	6,340	6,120	6,270	6,180	6,300	6,400	6,210 H	6,150 H
Sulfate (mg/L)	250	140	160	190	210	240	220	220	220	< 300 U	60 B	90 B	< 100 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
Gross Alpha (pCi/L)	15	NA	44	0	140	0.9	0	1	8.4	15 (±26)	9.8 (±25)	18 (±38)	0 (±26)	38 (±38)	-1.1 (±21)	5.1 (±12)	-6.2 (±13)	-12 (±21)	NA	NA	NA	NA
Gross Beta (pCi/L)	**	NA	81	52	80	52	19	26	0	4.5 (±30)	42 (±31)	12 (±29)	0 (±27)	73 (±44)	8.5 (±29)	82 (±30)	21 (±26)	11 (±28)	NA	NA	NA	NA
Field Parameters (Not Available pre-2010))																						
Field pH (s.u)	6.5 - 8.5	NA	NA	NA	NA	NA	NA	NA	NA	8.71	7.84	7.98	7.54	7.91	8.2	7.61	9.58	8.11	7.6	7.74	7.61	7.61
Field Conductivity (µS/cm)	none	NA	NA	NA	NA	NA	NA	NA	NA	1,169	1,088	10,160	10,350	10,500	10,630	11	10,640	10,520	6,840	1,130	10,840	11,220
Temperature (Degrees Celsius)	none	NA	NA	NA	NA	NA	NA	NA	NA	15.47	16	21.4	22.4	12.5	14.5	14.6	19.4	13.9	12.2	20.8	18.7	12.58
Supplementary Analytes (Not Historically analyzed)																						
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate as CaCO3 (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	993	965	978	953	914	995	968	964	978	955	963	979	1020
Carbonate as CaCO3 (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	108	< 20 U	37	22	57	< 20 U	21	< 20 U	23	29	22	< 20 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	14	14	14.4	16	15	15.5	14	16	16.3	15.1	18	17	16.9
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide, Free (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	8	8	7.8	7	7	7.4	8	8	8	7.5	8	7	7.4
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	7 B	8 B	7.4	4 B	6 B	6.6	7 B	7 B	10.8 B	7.0	7	6 B	6.1
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	2,480	2,430	2,470	2,410	2,260	2,410	2,420	2,420	2,310	2,550	2,500	2,540	2,490
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
B = Estimated value, less than the practical quantitation limit for that analyte, but greater than the method detection limit
U = Analyte not detected, reported less than the practical quantitation limit
H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.
NA = Analyte not analyzed
^ = Second and third quarter 2015 reports presented calculated total dissolved solids results
Per Section 41.5 (C) (6) the of Regulation 41, the "Interim Narrative Standard", is the minimum of Table 1- Table 4 of The Basic Standards for Groundwater (BSGW)
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)
Values in **bold** indicate a value greater than the BSGW
**The regulatory standard for Gross Beta is provided in units of exposure, millirems per year (mrem/yr), which would require the measurement of specific nuclides (Tritium and Strontium) with known energy levels. Specific nuclides were not part of the approved constituent list.

Table 2: Summary of Monitoring Results for MW-2

Date	Interim Narrative Standard	2/18/2014	5/21/2014	8/27/2014	11/11/2014	2/18/2015	5/27/2015	8/27/2015	11/9/2015	2/15/2016	5/31/2016	8/16/2016	11/9/2016	5/31/2017	11/15/2017	6/6/2018	11/15/2018	6/12/2019	12/12/2019	6/4/2020	12/14/2020
Metals																					
Arsenic, Dissolved (mg/L)	0.01	0.004 B	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.004 B	0.0063	0.004 B	0.0043	0.00527
Barium, Dissolved (mg/L)	2.0	1.74	2.28	2.57	1.71	2.03	2.65	2.04	1.90	2.0	1.93	2.23	1.88	2.61	2.77	3.32	3.22	3.19	3.85	3.75	2.99
Boron, Dissolved (mg/L)	0.75	0.7	0.75	0.75	0.74	0.73	0.72	0.75	0.68	0.79	0.68	0.73	0.71	0.77	0.72	0.78	0.75	0.8	0.76	0.76	0.784
Chromium, Dissolved (mg/L)	0.1	< 0.01 U	< 0.01 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01 U	<0.002 U	< 0.003 U	< 0.002 U	< 0.002 U
Copper, Dissolved (mg/L)	0.2	< 0.05 U	< 0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 B	<0.002 U	< 0.004 U	< 0.002 U	< 0.002 U
Iron, Dissolved (mg/L)	0.3	1.51	2.5	1.16	0.82	0.38	0.6	0.7	0.4	0.4 B	0.2 B	1.2	0.28	0.5	0.3	0.3	0.4	0.4	0.38	0.37	0.340
Lead, Dissolved (mg/L)	0.05	< 0.003 U	< 0.003 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003 U	<0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.16	1.31	1.83	1.19	1.16
Manganese, Dissolved (mg/L)	0.05	0.099	0.097	0.105	0.103	0.075	0.05 B	0.07 B	0.08 B	0.08 B	0.05 B	0.10	0.06	0.05 B	< 0.1 U	0.06 B	0.04 B	0.07 B	0.054	0.0639	0.0556
Selenium, Dissolved (mg/L)	0.02	< 0.001 U	0.0007 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	0.0004	< 0.0005 U	< 0.001 U	< 0.005 U
Thallium, Dissolved (mg/L)	0.002	< 0.003 U	< 0.003 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003 U	<0.0005 U	< 0.00005 U	< 0.001 U	< 0.00125 U
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0028 B	0.0028	0.0026 B	0.0028	0.00232
Zinc, Dissolved (mg/L)	2.0	< 0.05 U	< 0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.3 U	<0.3 U	< 0.05 U	< 0.02 U	< 0.015 U
Other																					
Chloride (mg/L)	250	3,180	3,240	2,930	2,980	2,990	3,150	3,100	3,040	3,240	3,120	3,110	3,010	3,170	3,070	3,030	3,530	3,340	3,130	3,090	3,820
Fluoride (mg/L)	2	1.5	1.48	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.3	1.6	1.4	1.3	1.39
Nitrate as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.08 B	<0.1 U	0.67	0.06	< 0.1
Nitrite as N (mg/L)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05 U	<0.05 U	< 0.01 U	<0.05 U	< 0.05 U
Nitrate+Nitrite as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.08 B	<0.1 U	0.67	0.06 B	< 0.1 U
Lab pH (s.u)	6.5 - 8.5	8.0 H	8.0 H	8.0 H	8.3 H	8.0 H	8.0 H	8.3 H	8.2 H	8.3	8.1 H	8.4 H	8.4 H	8.2 H	8.0 H	8.0 H	8.2 H	8 H	8.1 H	8.1 H	8.1 H
Total Dissolved Solids, filterable residue (mg/L)	7084	5,720	6,040 H	5,730	6,180	6,230	6,000 ^	5,520 ^	6,020	6,230	6,080	6,010	6,300	6,160	6,400	6,270 H	6,280	6,310	6,210	6,260	6,450
Sulfate (mg/L)	250	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 125 U	< 250 U	< 125 U	< 250 U	< 200 U	22 B	<100 U	<100 U	< 40 U	< 100 U	< 200 U
Gross Alpha (pCi/L)	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20 (±18)	0.14 (±18)	10(±24)	20 (±21)	11 (±23)
Gross Beta (pCi/L)	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25 (±21)	-3.9 (±30)	41(±31)	0.8 (±26)	-3.2 (±26)
Field Parameters (Not Available pre-2010)																					
Field pH (s.u)	6.5 - 8.5	7.6	7.32	6.95	7.6	7.56	7.38	7.53	7.99	8.28	7.51	7.63	7.53	8.02	8.06	7.93	7.53	8.15	8.04	8.03	7.82
Field Conductivity (µS/cm)	none	10,440	11,040	11,310	11,100	11,440	9,630	11,050	6,750	8,770	10,020	10,890	10,510	10,360	10,570	11,060	11,000	11,080	6,730	8,600	9,622
Temperature (Degrees Celsius)	none	12.9	16.7	15.7	7.5	11.7	17.3	17.6	14.9	16.8	15.6	17.1	14.3	18.5	12.2	18.1	13.9	18.6	13.3	20	11.5
Supplementary Analytes (Not Historically analyzed)																					
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.8 U	<1 U	< 0.05 U	< 0.02 U	< 0.015 U
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01 U	0.0023	0.003 B	0.0017 B	< 0.01 U
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	<0.0003 U	< 0.0004 U	< 0.0003 U	< 0.00025 U
Bicarbonate as CaCO3 (mg/L)	none	1,060	1,100	1,080	1,100	NA	1,070	1,040	1,050	1,040	1,100	1,000	1,010	1,070	1,030	1,080	NA	1,090 H	1080	1,140	1,040
Carbonate as CaCO3 (mg/L)	none	< 20 U	< 20 U	< 20 U	< 20 U	NA	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	40.9	40.7	< 20 U	< 20 U	< 20 U	NA	<20 UH	< 2 U	< 20 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	0.00011 B	< 0.0003 U	< 0.0003 U	0.000077 B
Calcium, Dissolved (mg/L)	none	17.6	18.2	17.9	17.4	17.5	17.3	17.3	17.2	18	16.9	17.5	16.6	16.7	16.6	16.8	18.6	17.3	18.1	18.6	17.6
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	0.00009 B	< 0.0003 U	0.0002 B	0.000073 B
Cyanide, Free (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01 U	0.004 B	< 0.003 U	< 0.01 U	0.0030 B
Magnesium, Dissolved (mg/L)	none	7.3	6.9	6.6	7.4	7.4	7.0	8.0	7.0	8.0 B	7.0	8.0	6.6	7.0	7.0	7.0	7.0	6	6.6	6.6	6.95
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	<0.001 U	< 0.0002 U	< 0.001 U	< 0.001 U
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01 U	0.0013 U	0.001 B	0.0009 B	0.00102
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02 U	<0.001 U	< 0.002 U	< 0.001 U	< 0.001 U
Potassium, Dissolved (mg/L)	none	6.2	6.5	6.1	6	6.4	7.0	7.0	6.0	8.0	6.0	6.0	6.7	6.0	6.0	6.0	9.0	6	6.8	7.7	5.70
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003 U	<0.0005 U	< 0.0005 U	0.0006 B	< 0.0025 U
Sodium, Dissolved (mg/L)	none	2,440	2,440	2,330	2,260	2,390	2,270	2,370	2,260	2,560	2,350	2,230	2,430	2,430	2,270	2,360	2,460	2,420	2,420	2,440	2,160
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	<0.1 U	< 0.003 U	< 0.004 U	0.00185 B

Notes:
B = Estimated value, less than the practical quantitation limit for that analyte, but greater than the method detection limit
U = Analyte not detected, reported less than the practical quantitation limit
H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.
NA = Analyte not analyzed
^ = Second and third quarter 2015 reports presented calculated total dissolved solids results
Per Section 41.5 (C) (6) the of Regulation 41, the "Interim Narrative Standard" , is the minimum of Table 1- Table 4 of The Basic Standards for Groundwater (BSGW)
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)
Values in **bold** indicate a value greater than the BSGW
**The regulatory standard for Gross Beta is provided in units of exposure, millirems per year (mrem/s/yr), which would require the measurement of specific nuclides (Tritium and Strontium) with known energy levels. Specific nuclides were not part of the approved constituent list.

Table 3: Summary of Monitoring Results for MW-3

Date	Interim Narrative Standard	4/28/1999	7/21/1999	9/16/1999	11/10/1999	1/19/2000	3/13/2000	5/16/2000	7/10/2000	9/27/2010	3/31/2011	6/30/2011	8/31/2011	11/17/2011	3/27/2012	6/27/2012	9/13/2012	11/13/2012	3/19/2013	5/28/2013	8/26/2013	11/14/2013
Metals																						
Arsenic, Dissolved (mg/L)	0.01	NA	0.005	0.005	0.0362	0.03 B	0.025	0.036	0.025	0.019	0.01	0.011	0.02	< 0.004 U	< 0.01 U	0.0011 B	< 0.005 U	0.0005 B	0.0008 B	< 0.005 U	0.001 B	< 0.002 U
Barium, Dissolved (mg/L)	2	0.177	0.172	0.218	0.213	0.249	0.261	0.287	0.307	2.4	2.95	2.23	2.73	2.25	2.51	2.08	2.52	2.23	2.5	2.20	2.41	2.25
Boron, Dissolved (mg/L)	0.75	0.63	0.53	0.62	0.58	0.62	0.62	0.6	0.6	0.77	0.75	0.74	0.8	0.78	0.77	0.76	0.76	0.85	0.79	0.84	0.75	0.76
Chromium, Dissolved (mg/L)	0.1	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.05 U	0.003 B	0.001 B	< 0.01 U	0.004 B	< 0.004 U	< 0.01 U	< 0.002 U	< 0.01 U	< 0.01 U	< 0.004 U	< 0.01 U	< 0.01 U	< 0.004 U
Copper, Dissolved (mg/L)	0.2	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.05 U	< 0.1 U	< 0.1 U	< 0.3 U	< 0.1 U	< 0.1 U	< 0.05 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U
Iron, Dissolved (mg/L)	0.3	0.02 B	0.03 B	0.12	0.03 B	0.03 B	0.05 B	0.17	0.02 B	0.04 B	0.27	< 0.3 U	< 0.1 U	0.1	0.22	0.32	< 0.3 U	0.1	0.11	< 0.3 U	< 0.3 U	0.14
Lead, Dissolved (mg/L)	0.05	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	0.0031	< 0.003 U	< 0.001 U	0.0007 B	0.0002 *B	0.0004 B	< 0.001 U	< 0.003 U	0.0007	< 0.003 U	0.0003 B	< 0.001 U	< 0.003 U	< 0.003 U	< 0.001 U
Lithium, Dissolved (mg/L)	2.5	0.71	0.65	0.6	0.7	0.75	0.74	0.7	0.67	0.8	0.74	0.8	0.71	0.64	0.72	0.7	0.7	0.83	NA	NA	NA	NA
Manganese, Dissolved (mg/L)	0.05	0.19	0.05	0.06	0.05 B	0.05	0.05	0.07	0.06	0.04 B	0.05	0.03 B	0.04 B	0.03 B	0.021 B	0.034	< 0.1 U	0.047	0.026	< 0.1	< 0.1 U	0.031
Selenium, Dissolved (mg/L)	0.02	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	0.0006	0.0012	< 0.001 U	0.0005	< 0.005 U	0.0065	0.0007	< 0.001 U	0.0005 B	0.0006	0.0043	< 0.001 U	0.0003 B
Thallium, Dissolved (mg/L)	0.002	< 0.01 U	< 0.01 U	< 2 U	< 0.0003 U	< 0.005 U	< 0.0005 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.003 U	< 0.001 U	< 0.001 U	< 0.003 U	< 0.0005 U	< 0.003 U	< 0.003 U	< 0.001 U	< 0.003 U	< 0.003 U	< 0.001 U
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	0.00871	0.007	0.0065	0.0058	0.0058	0.0015	0.0008 B	0.001 B	0.0006 B	0.0012	0.0006 B	0.0011	0.0005 B	0.0005 B	NA	NA	NA	NA
Zinc, Dissolved (mg/L)	2	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.05 U	< 0.1 U	< 0.1 U	< 0.3 U	< 0.1 U	< 0.1 U	< 0.05 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U	< 0.3 U	< 0.3 U	< 0.05 U
Other																						
Chloride (mg/L)	250	1,480	1,350	1,310	1,450	1,360	1,480	1,400	1,460	1,550	1,530	1,550	1,620	1,530	1,585	1,505	1,681	1,721	1,665	1,620	1,570	1,610
Fluoride (mg/L)	2	2.4	2.8	3 B	2.2	3 B	2.6	2.8	2.6	2.4	2.3	2.2	2.4	2.4	2.3	2.5	2.3	2.4	2.3	2.4	2.4	2.3
Nitrate as N (mg/L)	10	< 0.1 U	< 0.1 U	0.02	< 0.1 U	< 0.1 U	NA	< 0.1 U	0.17	< 0.1 U	0.37	0.79	0.03 B	< 0.1 U	< 0.1 U	0.02 B	0.17	0.09 B	NA	NA	NA	NA
Nitrite as N (mg/L)	1	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	NA	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	NA	NA	NA	NA
Nitrate+Nitrite as N (mg/L)	10	< 0.1 U	< 0.1 U	0.02 B	< 1 U	< 0.1 U	NA	< 0.1 U	0.17	< 0.1 U	0.37	0.79	0.03 B	< 0.1 U	< 0.1 U	0.02 B	0.17	0.09 B	NA	NA	NA	NA
Lab pH (s.u)	6.5 - 8.5	8.5	8.9	8.6	8.4	8.6	8.2	8.2	8.4	8.6 H	8.4 H	8.6 H	8.5 H	8.2 H	8.4 H	8.4 H	8.5 H	8.5 H	8.5 H	8.4 H	8.5 H	8.4 H
Total Dissolved Solids, filterable residue (mg/L)	4620	3,780.0	3,740.0	3,690.0	3,720.0	3,660.0	3,680.0	3,620.0	3,680.0	3,930	3,940	4,000	3,940	3,860	4,000	3,790	4,000	3,950	3,990	4,000	4,000	3,880 H
Sulfate (mg/L)	250	140	110	100	100	90	90	90	90	< 100 U	< 100 U	< 300 U	< 50 U	< 125 U	< 125 U	30.1 B	< 125 U	< 125 U	< 125 U	< 125 U	< 125 U	< 125 U
Gross Alpha (pCi/L)	15	NA	54	0	77	15	8.4	6.2	9.6	5.7 (±13)	33 (±20)	5.7 (±17)	15 (±18)	20 (±18)	8 (±13)	66 (±27)	0.85 (±14)	-8.2 (±8.6)	NA	NA	NA	NA
Gross Beta (pCi/L)	**	NA	25	0	64	19	6.7	32	4.7	3.2 (±17)	25 (±21)	7.2 (±18)	5 (±19)	5.4 (±18)	13 (±18)	110 (±24)	15 (±17)	-4.9 (±18)	NA	NA	NA	NA
Field Parameters (Not Available pre-2010)																						
Field pH (s.u)	6.5 - 8.5	NA	NA	NA	NA	NA	NA	NA	NA	8.01	8.06	NA	8.46	7.98	8.36	7.95	8.14	8.34	8.24	8.31	8.25	8.15
Field Conductivity (µS/cm)	none	NA	NA	NA	NA	NA	NA	NA	NA	6186	675	NA	6,660	5,240	6,710	7	6,270	6,980	6,840	7,010	6,920	7,093
Temperature (Degrees Celsius)	none	NA	NA	NA	NA	NA	NA	NA	NA	17.55	16	NA	30.4	13.8	17.7	22.2	20.4	13.6	14.3	19.1	23.9	14.35
Supplementary Analytes (Not Historically analyzed)																						
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate as CaCO3 (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	1,110	1,130	1,100	1,090	1,100	1,160	1,130	1,130	1,130	1,140	1,130	1,130	1,170
Carbonate as CaCO3 (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	98	31	96	75	78	50	52	51	78	71	60	75	40
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	6.6	11.9	7	7.5	6.8	6.3	9.4	7	7.5	6.1	7	8	6.8
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide, Free (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	3	3.4	3 B	2.7	2.8	2.9	2.9	4 B	3.6	3.0	3	3 B	2.8
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	4.4	5.5	5.0 B	3.2	3.6	4.2	4.1	4.0 B	6.9	4.4	4.0	4.0 B	3.9
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	1,600	1,450	1,560	1,490	1,370	1,550	1,530	1,580	1,550	1,620	1,590	1,600	1,600
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

B = Estimated value, less than the practical quantitation limit for that analyte, but greater than the method detection limit

U = Analyte not detected, reported less than the practical quantitation limit

H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.

NA = Analyte not analyzed

^ = Second and third quarter 2015 reports presented calculated total dissolved solids results

Per Section 41.5 (C) (6) the of Regulation 41, the "Interim Narrative Standard" , is the minimum of Table 1- Table 4 of The Basic Standards for Groundwater (BSGW)

*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)

Values in **bold** indicate a value greater than the BSGW

**The regulatory standard for Gross Beta is provided in units of exposure, millirems per year (mrem/yr), which would require the measurement of specific nuclides (Tritium and Strontium) with known energy levels. Specific nuclides were not part of the approved constituent list.

Table 3: Summary of Monitoring Results for MW-3

Date	Interim Narrative Standard	2/18/2014	5/21/2014	8/27/2014	11/11/2014	2/18/2015	5/27/2015	8/27/2015	11/9/2015	2/15/2016	5/31/2016	8/16/2016	11/9/2016	5/31/2017	11/15/2017	6/6/2018	11/15/2018	6/12/2019	12/12/2019	6/4/2020	12/14/2020
Metals																					
Arsenic, Dissolved (mg/L)	0.01	0.0009 B	0.0005 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.002 U	0.0009 B	0.0004 B	< 0.001 U
Barium, Dissolved (mg/L)	2.0	2.31	2.02	2.23	2.62	2.25	2.83	2.47	2.81	2.58	3.16	3.16	2.57	2.45	2.93	2.18	2.4	2.93	2.77	2.42	1.93
Boron, Dissolved (mg/L)	0.75	0.74	0.76	0.76	0.78	0.81	0.74	0.79	0.74	0.76	0.74	0.79	0.77	0.75	0.74	0.81	0.77	0.80	0.77	0.76	0.841
Chromium, Dissolved (mg/L)	0.1	< 0.004 U	< 0.004 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.004 U	<0.002 U	< 0.001 U	< 0.002 U
Copper, Dissolved (mg/L)	0.2	< 0.05 U	< 0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	<0.1 U	< 0.002 U	< 0.002 U
Iron, Dissolved (mg/L)	0.3	0.19	0.30	0.29	0.29	0.79	0.19	0.26	0.21	0.2 B	0.2 B	0.17	0.29	0.11	0.14	0.41	0.18	<0.2 U	0.07 B	0.16 B	< 0.3 U
Lead, Dissolved (mg/L)	0.05	< 0.001 U	0.0002 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	<0.0005 U	< 0.0002 U	< 0.0005 U
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.69	0.86	0.708	0.711
Manganese, Dissolved (mg/L)	0.05	0.043	0.05	0.05	0.061	0.054	0.02 B	0.03 B	0.03 B	< 0.1 U	< 0.1 U	0.02 B	0.033	0.01 B	0.01 B	0.06	<0.05 U	0.02 B	0.0195	0.0223	0.0259
Selenium, Dissolved (mg/L)	0.02	< 0.0005 U	0.0002 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005 U	0.0002 B	< 0.0002 U	< 0.0005 U
Thallium, Dissolved (mg/L)	0.002	< 0.001 U	< 0.001 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	<0.0005 U	< 0.00005 U	< 0.0005 U
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0003 B	0.0008	0.0005 B	0.0004 B
Zinc, Dissolved (mg/L)	2.0	0.02 B	< 0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	<0.1 U	< 0.01 U	< 0.02 U
Other																					
Chloride (mg/L)	250	1,570	1,580	1,520	1,540	1,530	1,620	1,570	1,560	1,640	1,690	1,550	1,550	1,550	1,580	1,560	1,750	1,660	1,620	1,640	1,670
Fluoride (mg/L)	2	2.4	2.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.38	2.4	2.5	2.44
Nitrate as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	<0.1 U	1.2	0.02 B
Nitrite as N (mg/L)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05 U	<0.05 U	< 0.01 U	< 0.05 U
Nitrate+Nitrite as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	<0.1 U	1.2	0.02 B
Lab pH (s.u)	6.5 - 8.5	8.4 H	8.3 H	8.3 H	8.4 H	8.2 H	8.3 H	8.4 H	8.3 H	8.4	8.3 H	8.5 H	8.4 H	8.5 H	8.3 H	8.4 H	8.4 H	8.4 H	8.4 H	8.5 H	8.4 H
Total Dissolved Solids, filterable residue (mg/L)	4620	3,890	3,910 H	3,920	3,890	3,920	3,930 ^	3,910 ^	3,970	3,970	4,040	3,790	4,000	3,820	3,940	4,020 H	3,850	3,960	3,940	3,910	3,890
Sulfate (mg/L)	250	< 125 U	< 125 U	< 125 U	< 125 U	< 125 U	< 125 U	< 125 U	< 125 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 40 U	< 40 U	<40 U	< 8 U	< 40 U	< 40 U	< 40 U
Gross Alpha (pCi/L)	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.15 (±7.4)	3.5	-1.5(±14)	10 (±13)	-7.4 (±13)
Gross Beta (pCi/L)	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.7 (±15)	1.6	12(±18)	-2.2 (±16)	-5.4 (±20)
Field Parameters (Not Available pre-2010)																					
Field pH (s.u)	6.5 - 8.5	8.12	7.78	7.94	7.9	7.78	7.78	7.83	8.02	8.4	8.05	7.52	7.77	NA	8.61	7.98	7.83	8.25	8.23	8.25	8.1
Field Conductivity (µS/cm)	none	6,610	7,140	7,220	6,800	7,140	6,120	7,010	5,820	4,850	6,290	6,710	7,030	NA	6,730	7,160	6,790	7,030	4,348	5,730	6,140
Temperature (Degrees Celsius)	none	14.8	17.1	17.0	9.0	14	19.7	18.5	17.3	11.4	18.6	20.7	20.7	NA	10.8	20.1	16	21.8	12.4	25.1	13.2
Supplementary Analytes (Not Historically analyzed)																					
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.3 U	<0.5 U	< 0.05 U	0.008 B
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.004 U	0.0007 B	< 0.0008 U	< 0.004 U
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005 U	<0.0003 U	< 0.0002 U	< 0.00025 U
Bicarbonate as CaCO3 (mg/L)	none	1,220	982	1,270	1,260	NA	1,200	1,170	1,230	1,210	1,300	1,170	1200	1160	1160	1250	NA	1,260 H	1190	1,240	1,160
Carbonate as CaCO3 (mg/L)	none	37	57	< 20 U	41.6	NA	56.5	98.5	30.6	37.4	21.4	71.5	44.9	54.5	26.7	19.6 B	NA	<20 UH	55.1	60.4	51.2
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005 U	<0.0003 U	< 0.0001 U	< 0.00025 U
Calcium, Dissolved (mg/L)	none	6.7	7.2	6.7	7.7	8.7	7	7.6	6.9	6.7	7.4	7.8	7.3	6.8	6.5	6.9	7.4	6.7	6.9	6.7	6.69
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	<0.0003 U	< 0.0001 U	< 0.00025 U
Cyanide, Free (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01 U	<0.01 U	< 0.003 U	< 0.01 U
Magnesium, Dissolved (mg/L)	none	3	3.1	3.4	3.2	3.3	2.8	3.1	2.9	2.8	3.0 B	3.2	2.6	2.5	2.6	3.1	2.5	2.5	2.6	2.5	2.91
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	<0.001 U	< 0.0002 U	< 0.001 U
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2 U	<0.2 U	0.0004 B	0.00032 B
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.08 U	<0.08 U	< 0.0008 U	< 0.001 U
Potassium, Dissolved (mg/L)	none	4.0	3.8	4.0	4.1	4.0	5.3	4.0	4.1	4.0	4	4.4	3.5	4.0	3.4	3.4	3.6	3.9	3.7	3.3	3.82
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05 U	<0.0005 U	< 0.0002 U	< 0.001 U
Sodium, Dissolved (mg/L)	none	1,570	1,610	1,500	1,490	1,430	1,480	1,450	1,480	1,540	1,510	1,470	1600	1430	1410	1490	1500	1,560	1,540	1,490	1,460
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05 U	<0.05 U	< 0.001 U	< 0.002 U

Notes:
B = Estimated value, less than the practical quantitation limit for that analyte, but greater than the method detection limit
U = Analyte not detected, reported less than the practical quantitation limit
H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.
NA = Analyte not analyzed
^ = Second and third quarter 2015 reports presented calculated total dissolved solids results
Per Section 41.5 (C) (6) the of Regulation 41, the "Interim Narrative Standard" , is the minimum of Table 1- Table 4 of The Basic Standards for Groundwater (BSGW)
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)
Values in **bold** indicate a value greater than the BSGW
**The regulatory standard for Gross Beta is provided in units of exposure, millirems per year (mrem/yr), which would require the measurement of specific nuclides (Tritium and Strontium) with known energy levels. Specific nuclides were not part of the approved constituent list.

Table 4: Summary of Monitoring Results for MW-4

Date	Interim Narrative Standard	5/26/1999	7/21/1999	9/23/1999	11/10/1999	1/19/2000	3/13/2000	5/16/2000	7/10/2000	9/27/2010	3/31/2011	6/28/2011	8/31/2011	11/17/2011	3/27/2012	6/27/2012	9/13/2012	11/13/2012	3/19/2013	5/28/2013	8/26/2013	11/15/2013
Metals																						
Arsenic, Dissolved (mg/L)	0.01	NA	< 0.005 U	NA	0.0894	0.08	0.075	0.103	0.08	0.068	0.04	0.055	0.076	<0.02 U	< 0.02 U	0.0009 B	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U
Barium, Dissolved (mg/L)	2	0.14	0.29	0.461	0.55	0.69	0.81	0.92	0.972	8.69	8.84	7.83 *	8.93	7.94	8.73	8.41	8.91	8.67	9.22	8.74	9.13	8.8
Boron, Dissolved (mg/L)	0.75	0.49	0.54	0.53	0.59	0.56	0.6	0.6	0.55	0.7	0.5 B	0.62 *	0.7	0.7	0.7	0.8 B	0.5	0.72	0.7	0.7	0.6	0.7
Chromium, Dissolved (mg/L)	0.1	< 0.3 U	< 0.3 U	< 0.25 U	< 0.3 U	< 0.3 U	NA	< 0.3 U	< 0.05 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	0.0014 B	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U
Copper, Dissolved (mg/L)	0.2	< 0.3 U	< 0.3 U	0.11 B	< 0.3 U	< 0.3 U	NA	< 0.3 U	< 0.05 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Iron, Dissolved (mg/L)	0.3	< 0.3 U	< 0.3 U	1.13	0.07 B	0.05 B	0.17 B	0.44	0.04 B	0.3 B	0.3 B	0.28 *	0.8	< 0.5 U	0.6	1.0	< 0.5 U	0.32 U	0.8	0.5 U	0.4 B	0.3 B
Lead, Dissolved (mg/L)	0.05	< 0.01 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	NA	0.009	< 0.01 U	< 0.005 U	< 0.005 U	0.002 B	0.001 B	< 0.005 U	< 0.005 U	< 0.01 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U
Lithium, Dissolved (mg/L)	2.5	0.9	1.2	1.3	1.4	1.5	1.6	1.5	1.51	2	1.9	2.25 *	1.8	1.6	1.8	1.9 B	1.9	2.38	NA	NA	NA	NA
Manganese, Dissolved (mg/L)	0.05	0.21	0.89	0.977	0.94	0.87	0.81	0.75	0.703	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.5 U	< 0.3 U	0.018 B	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U
Selenium, Dissolved (mg/L)	0.02	< 0.5 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	0.012	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	0.007	0.0029	< 0.003 U	0.002 B	0.003 B	0.006	< 0.003 U	< 0.003 U
Thallium, Dissolved (mg/L)	0.002	< 5 U	< 0.01 U	< 5 U	< 0.0003 U	< 0.005 U	< 0.001 U	< 0.003 U	< 0.005 U	< 0.005 U	0.001 B	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.01 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	0.0235	0.019	0.0168	0.0138	0.015	< 0.005 U	0.001 B	< 0.005 U	0.002 B	< 0.005 U	< 0.005 U	< 0.01 U	< 0.005 U	< 0.005 U	NA	NA	NA	NA
Zinc, Dissolved (mg/L)	2	1.07	1.03	1.71	< 0.3 U	< 3 U	< 0.3 U	< 0.3 U	0.01 B	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 1.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Other																						
Chloride (mg/L)	250	2,770	2,940	4,260	4,800	4,970	5,200	6,900	5,300	6,300	6,200	6,200	6,500	6,282	6,063	6,105	6,566	6,077	6,744	6,490	6,470	6,750
Fluoride (mg/L)	2	1	1.1	0.9	0.9	1.1	1.1	1.4	1.1	1.1	1.1	1	1.1	1.1	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.1
Nitrate as N (mg/L)	10	< 0.1 U	0.07	< 0.1 U	< 0.13	NA	< 0.1 U	0.73	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	1.83	0.04 B	0.04 B	0.04 B	NA	NA	NA	NA
Nitrite as N (mg/L)	1	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	NA	< 0.05 U	< 0.05 U	0.01 B	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	NA	NA	NA	NA
Nitrate+Nitrite as N (mg/L)	10	< 0.1 U	0.07 B	< 0.1 U	< 0.1 U	0.13	NA	< 0.1 U	0.73	< 0.1 U	0.02 B	< 0.1 U	< 0.1 U	< 0.1 U	1.83	0.04 B	0.04 B	0.04 B	NA	NA	NA	NA
Lab pH (s.u)	6.5 - 8.5	8.1	7.7	7.8	7.8	8.1	7.6	8	8	8.3 H	8.2 H	8.2	8.2 H	8.3 U	8.1 H	8.1 H	8.1 H	8.2 H	8.1 H	8.2 H	8.1 H	8.1 H
Total Dissolved Solids, filterable residue (mg/L)	10,212*	5,870.0	7,610.0	8,170.0	8,660.0	8,670.0	9,110.0	8,980.0	9,350.0	11,000	11,100	11,100	10,900	11,100	11,200	10,800	11,100	10,800	11,100	11,000	10,900	10,300 H
Sulfate (mg/L)	250	970	600	460	390	3150	290	270	250	< 500 U	< 500 U	< 500 U	< 300 U	< 500 U	< 500 U	< 500 U	< 500 U	< 500 U	< 500 U	< 500 U	< 500 U	< 500 U
Gross Alpha (pCi/L)	15	26	12	53	-4.3	57	4.7	0	65	-10 (±39)	73 (±47)	16 (±37)	40 (±52)	19 (±52)	-33 (±18)	260 (±76)	-0.11 (±17)	-15 (±30)	NA	NA	NA	NA
Gross Beta (pCi/L)	**	23	37	27	-24	18	20	4.7	8.6	-7.5 (±53)	80 (±49)	22 (±45)	51 (±57)	66 (±63)	38 (±51)	270 (±61)	53 (±53)	9.9 (±42)	NA	NA	NA	NA
Field Paramters (Not Available pre-2010)																						
Field pH (s.u)	6.5 - 8.5	NA	NA	NA	NA	NA	NA	NA	NA	7.95	7.85	7.68	7.97	7.92	8.23	7.48	7.84	8.05	7.53	7.36	7.73	6.57
Field Conductivity (µS/cm)	none	NA	NA	NA	NA	NA	NA	NA	NA	1,825	1,959	17,420	18,450	18,230	18,500	9	17,080	18,790	11,720	18,800	18,750	19,055
Temperature (Degrees Celsius)	none	NA	NA	NA	NA	NA	NA	NA	NA	17.7	15	19.9	23.4	14	14.6	18.6	22.0	12.3	12.1	16.7	18.8	11.46
Supplementary Analytes (Not Historically analyzed)																						
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate as CaCO3 (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	585	565	569	562	573	597	580	576	571	573	567	590	576
Carbonate as CaCO3 (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	16 B	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	37	38	79	37	35	36	42	38	39.2	37	37	37	36
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide, Free (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	18	18	38	16	16	17	22	19	18.9	18	18	17	16
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	10 B	12 B	20 B	7.0 B	9.0 B	7.0 B	15 B	10 B	22	10 B	10 B	9.0 B	9 B
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium, Dissolved (mg/L)	none	NA	NA	NA	NA	NA	NA	NA	NA	4,270	4,180	4,280	4,200	3,930	4,220	4,240	4,250	4,150	4,390	4,260	4,350	4070
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
B = Estimated value, less than the practical quantitation limit for that analyte, but greater than the method detection limit
U = Analyte not detected, reported less than the practical quantitation limit
H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.
NA = Analyte not analyzed
^ = Second and third quarter 2015 reports presented calculated total dissolved solids results
Per Section 41.5 (C) (6) the of Regulation 41, the "Interim Narrative Standard", is the minimum of Table 1- Table 4 of The Basic Standards for Groundwater (BSGW)
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)
Values in **bold** indicate a value greater than the BSGW
**The regulatory standard for Gross Beta is provided in units of exposure, millirems per year (mrems/yr), which would require the measurement of specific nuclides (Tritium and Strontium) with known energy levels. Specific nuclides were not part of the approved constituent list.

Table 4: Summary of Monitoring Results for MW-4

Date	Interim Narrative Standard	2/18/2014	5/21/2014	8/27/2014	11/11/2014	2/18/2015	5/27/2015	8/27/2015	11/9/2015	2/15/2016	5/31/2016	8/16/2016	11/9/2016	5/31/2017	11/15/2017	6/6/2018	11/15/2018	6/12/2019	12/12/2019	6/4/2020	12/14/2020
Metals																					
Arsenic, Dissolved (mg/L)	0.01	< 0.01 U	< 0.01 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01 U	0.0004 B	< 0.002 U	< 0.02 U	0.00055 B
Barium, Dissolved (mg/L)	2.0	8.58	9.64	8.01	8.56	8.77	8.76	8.81	8.80	8.66	8.79	8.91	8.61	8.95	8.60	9	8.9	8.42	8.94	9.17	7.95
Boron, Dissolved (mg/L)	0.75	0.63	0.6	0.7	0.7	0.8 B	0.6	0.7	0.6	0.7	0.6	0.6	0.61	0.7	0.6	0.8	0.6	0.7 B	0.63	0.63	0.760
Chromium, Dissolved (mg/L)	0.1	< 0.02 U	< 0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02 U	<0.002 U	< 0.005 U	< 0.002 U	< 0.002 U
Copper, Dissolved (mg/L)	0.2	< 0.3 U	< 0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02 U	<0.002 U	< 0.008 U	< 0.002 U	< 0.002 U
Iron, Dissolved (mg/L)	0.3	0.8	0.2 B	0.5	0.3 B	< 1 U	0.3 B	0.1 B	0.4 B	0.2 B	0.14	< 0.5 U	0.15	< 0.5 U	< 0.5 U	< 0.5 U	0.15	0.114 U	0.12	0.11 B	< 0.75 U
Lead, Dissolved (mg/L)	0.05	< 0.005 U	< 0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005 U	<0.0005 U	< 0.001 U	< 0.0005 U	< 0.0005 U
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.76	1.93	1.81	1.91	1.81
Manganese, Dissolved (mg/L)	0.05	< 0.1 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.5 U	< 0.3 U	< 0.1 U	< 0.3 U	< 0.3 U	< 0.03 U	< 0.3 U	< 0.03 U	< 0.3 U	< 0.3 U	< 0.3 U	0.008 B	0.0065 U	0.007 B	0.011 B	0.00724
Selenium, Dissolved (mg/L)	0.02	< 0.003 U	< 0.003 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.017	0.0014	< 0.001 U	< 0.003 U	< 0.002 U
Thallium, Dissolved (mg/L)	0.002	< 0.005 U	< 0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005 U	<0.0005 U	< 0.0001 U	< 0.003 U	< 0.0025 U
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005 U	0.0001 B	< 0.001 U	< 0.01 U	0.00030 B
Zinc, Dissolved (mg/L)	2.0	< 0.3 U	< 0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5 U	<0.5 U	< 0.01 U	< 0.02 U	< 0.015 U
Other																					
Chloride (mg/L)	250	7,080	6,450	5,600	6,260	6,650	6,410	6,630	6,880	6,530	6,290	6,350	5,960	6,390	6,170 H	6,150	7,780	7,140	7,100	7,020	6,160
Fluoride (mg/L)	2	1.1	1.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.03	1.1	1.1	1.1	1.07
Nitrate as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	0.12	< 0.02 U	< 0.1 U	< 0.1 U
Nitrite as N (mg/L)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05 U	<0.05 U	0.01 B	<0.05 U	< 0.05 U
Nitrate+Nitrite as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	0.12	< 0.02 U	< 0.1 U	< 0.1 U
Lab pH (s.u)	6.5 - 8.5	8 H	7.9 H	8.1 H	8.2 H	8 H	8.1 H	8.2 H	8.2 H	8.2	7.9 H	8.3 H	8.2 H	8.3 H	7.9 H	8.1 H	8.1	8 H	8.2 H	8.1 H	8.0 H
Total Dissolved Solids, filterable residue (mg/L)	10,212	10,800 H	10,300 H	9,530	10,900	10,600	10,600 ^	9,720 ^	10,800	10,900	10,100	10,800	11,100	10,500	11,000	10,900	11,200	11,000	10,600	11,700	11,000
Sulfate (mg/L)	250	< 500 U	< 500 U	< 500 U	< 500 U	< 500 U	< 500 U	< 500 U	< 500 U	< 500 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 200 UH	< 200 U	<200 U	< 40 U	< 200 U	< 400 U
Gross Alpha (pCi/L)	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.83 (±26)	-17 (±22)	-3.9(±37)	19(±31)	19 (±44)
Gross Beta (pCi/L)	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38 (±39)	-11 (±57)	40(±44)	1.3(±43)	-2.6 (±53)
Field Parameters (Not Available pre-2010)																					
Field pH (s.u)	6.5 - 8.5	7.27	7.25	7.52	7.56	7.54	9.09	7.49	8.26	8.2	7.74	7.31	7.65	8.05	7.81	7.89	7.63	7.96	7.79	8.28	7.86
Field Conductivity (µS/cm)	none	18,020	19,380	19,500	18,510	19,550	16,610	19,050	14,650	13,890	16,140	18,530	19,320	17,800	18,260	19,620	18,570	18,390	11,030	15,330	16,872
Temperature (Degrees Celsius)	none	12.1	14.9	14.5	11.7	12.5	17.5	16.6	13.1	11.6	16	18.3	16.1	14.7	12.4	16.8	14	15.6	7.3	22.4	11.3
Supplementary Analytes (Not Historically analyzed)																					
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	<3 U	< 0.05 U	< 0.02 U	< 0.015 U
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.006 B	<0.002 U	0.005 B	< 0.04 U	< 0.02 U
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003 U	<0.0003 U	< 0.0008 U	< 0.0003 U	< 0.00025 U
Bicarbonate as CaCO3 (mg/L)	none	606	623	616	611	NA	604	599	615	606	664	613	619	612	592	602	NA	601 H	606	644	585
Carbonate as CaCO3 (mg/L)	none	< 20 U	< 20 U	< 20 U	< 20 U	NA	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	6.2 B	< 20 U	< 20 U	< 20 U	< 20 U	NA	<20 UH	< 2 U	< 20 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003 U	0.00007 B	< 0.0005 U	< 0.0003 U	< 0.00025 U
Calcium, Dissolved (mg/L)	none	36.1	38	37	37	38	38	36.9	38	38	36	37	35.8	36	36	36	35	37	35.6	35.7	
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003 U	0.00015 B	0.0012 B	< 0.005 U	0.000116 B
Cyanide, Free (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.004 B	0.009 B	< 0.003 U	< 0.01 U	0.0061 B
Magnesium, Dissolved (mg/L)	none	16	17	18	18	21	17	18	17	17	16.4	18	16.1	16	16	17	15	16.6	16	16.4	
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0002 B	<0.001 U	< 0.0002 U	< 0.001 U	< 0.001 U
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.03 U	0.0002 U	< 0.002 U	< 0.01 U	0.00045 B
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.03 U	<0.001 U	< 0.004 U	< 0.001 U	< 0.001 U
Potassium, Dissolved (mg/L)	none	9	9 B	9 B	10	12 B	9	9	10	11	9.1	9	9	10	9	8 B	10	8 B	11.7	15.3	8.34
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005 U	<0.0005 U	< 0.001 U	< 0.01 U	< 0.005 U
Sodium, Dissolved (mg/L)	none	4120	4360	4050	3950	4070	4040	4030	4050	4290	4020	4000	4160	4080	3950	4030	4130	4,030	4,180	4,240	3,830
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02 U	<0.002 U	< 0.005 U	< 0.04 U	0.00067 B

Notes:
B = Estimated value, less than the practical quantitation limit for that analyte, but greater than the method detection limit
U = Analyte not detected, reported less than the practical quantitation limit
H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.
NA = Analyte not analyzed
^ = Second and third quarter 2015 reports presented calculated total dissolved solids results
Per Section 41.5 (C) (6) the of Regulation 41, the "Interim Narrative Standard" , is the minimum of Table 1- Table 4 of The Basic Standards for Groundwater (BSGW)
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)
Values in **bold** indicate a value greater than the BSGW
**The regulatory standard for Gross Beta is provided in units of exposure, millirems per year (mrems/yr), which would require the measurement of specific nuclides (Tritium and Strontium) with known energy levels. Specific nuclides were not part of the approved constituent list.

Table 5: Summary of Monitoring Results for MW-5

Date	Interim Narrative Standard	3/19/2013	5/28/2013	8/26/2013	11/14/2013	2/18/2014	5/21/2014	8/27/2014	11/11/2014	2/18/2015	5/27/2015	8/27/2015	11/9/2015	2/15/2016	5/31/2016	8/16/2016	11/9/2016
Metals																	
Arsenic, Dissolved (mg/L)	0.01	0.002 B	0.0004 B	0.005	< 0.002 U	0.0004 B	< 0.002 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium, Dissolved (mg/L)	2	0.015 B	0.014 B	0.015 B	0.014 B	0.015 B	0.006 B	0.008 B	0.011 B	0.012 B	0.009 B	< 0.03 U	0.015 B	0.017 B	0.013 B	0.006 B	0.013 B
Boron, Dissolved (mg/L)	0.75	0.37	0.33	0.25	0.32	0.33	0.36	0.33	0.36	0.36	0.26	0.3	0.29	0.33	0.26	0.26	0.29
Chromium, Dissolved (mg/L)	0.1	< 0.01 U	< 0.004 U	< 0.004 U	< 0.004 U	< 0.004 U	< 0.004 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper, Dissolved (mg/L)	0.2	< 0.05 U	< 0.1 U	< 0.1 U	< 0.05 U	< 0.05 U	< 0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Dissolved (mg/L)	0.3	17.5	15.6	85.4	1.39	9.56	0.15	0.7	8.11	19.6	0.05	0.6	20.3	7.11	0.58	11.6	33.5
Lead, Dissolved (mg/L)	0.05	< 0.003 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved (mg/L)	0.05	0.168	0.13	0.16	0.074	0.091	0.069	0.12	0.093	0.109	0.072	< 0.3 B	0.11	0.1	0.07	0.09	0.11
Selenium, Dissolved (mg/L)	0.02	0.0008 B	0.0593	0.0013	0.0027	0.0005	0.023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium, Dissolved (mg/L)	0.002	< 0.003 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc, Dissolved (mg/L)	2	0.01 B	< 0.1 U	< 0.1 U	< 0.05 U	< 0.05 U	< 0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other																	
Chloride (mg/L)	250	79.4 B	27.6 B	36.3 B	18.6	26.4 B	27.9 B	< 125 U	< 125 U	50.8 B	27 B	44.5 B	< 250 U	< 250 U	18.5 B	18.6[B	42.4 B
Fluoride (mg/L)	2	0.8	0.7	1.3	0.6	0.7	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite as N (mg/L)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate+Nitrite as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lab pH (s.u)	6.5 - 8.5	7.5 H	7.7 H	7.3 H	7.4 H	7.4 H	7.6 H	7.5 H	7.7 H	7.4 H	7.6 H	7.5 H	7.5 H	7.2	7.3 H	7.9 H	7.7 H
Total Dissolved Solids, filterable residue (mg/L)	1.25 x Background*	4,950	3,360	3,710	3,110	3,100	3,010 H	2,970	3,140	3,240	3,160 ^	3070 ^	3220	3540	3140	2850	3310
Sulfate (mg/L)	250	3,273	2,050	2,200	1,690	1,770	1,870	1,630	1,690	1,900	1,860	1,720	1,940	2,250	1,920	1,770	1,940
Gross Alpha (pCi/L)	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gross Beta (pCi/L)	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters (Not Available pre-2010)																	
Field pH (s.u)	6.5 - 8.5	6.65	6.67	7	6.74	6.83	6.56	6.76	6.77	6.67	6.47	6.76	7.06	7.2	6.77	6.74	6.59
Field Conductivity (µS/cm)	none	2,631	3,735	3,774	3324	3,262	3,370	3,345	33,200	3,787	3,016	3,340	2,900	2,800	2,649	3,192	3,546
Temperature (Degrees Celsius)	none	12	14.3	15.8	11.34	12.3	13.9	13.8	10.5	11.1	15.1	14.4	13.9	10.7	14.1	16.1	12.8
Supplementary Analytes (Not Historically analyzed)																	
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate as CaCO3 (mg/L)	none	225	320	205	343	380	410	378	377	NA	347	376	377	361	409	357	311
Carbonate as CaCO3 (mg/L)	none	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	NA	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium, Dissolved (mg/L)	none	426	464	523	446	433	441	442	461	453	505	520	478	464	486	495	494
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide, Free (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium, Dissolved (mg/L)	none	147	126	131	101	109	106	101	111	118	112	115	115	124	112	113	122
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium, Dissolved (mg/L)	none	10.1	8.1	10.2	6.2	7.1	6.5	6.3	6.9	7.7	6	6	7.1	7.6	6	6.6	8.7
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium, Dissolved (mg/L)	none	865	373	312	269	332	308	257	285	344	232	209	260	450	229	221	281
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
B = Estimated value, less than the practical quantitation limit for that analyte, but greater than the method detection limit
U = Analyte not detected, reported less than the practical quantitation limit
H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.

NA = Analyte not analyzed
^ = Second and third quarter 2015 reports presented calculated total dissolved solids results
Per Section 41.5 (C) (6) the of Regulation 41, the "Interim Narrative Standard" , is the minimum of Table 1- Table 4 of The Basic Standards for Groundwater (BSGW)
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)

Table 5: Summary of Monitoring Results for MW-5

Date	Interim Narrative Standard	5/31/2017	11/15/2017	6/6/2018	11/15/2018	6/12/2019	12/12/2019	6/4/2020	12/14/2020
Metals									
Arsenic, Dissolved (mg/L)	0.01	NA	NA	NA	0.0019 B	0.0018	0.0011 B	0.0037	0.00273
Barium, Dissolved (mg/L)	2	0.01 B	< 0.03 U	< 0.03 U	<0.03 U	0.02 B	0.01 B	0.011	0.0106
Boron, Dissolved (mg/L)	0.75	0.36	0.36	0.35	0.33	0.35	0.35	0.33	0.320
Chromium, Dissolved (mg/L)	0.1	NA	NA	NA	<0.004 U	<0.002 U	< 0.001 U	< 0.002 U	< 0.002 U
Copper, Dissolved (mg/L)	0.2	NA	NA	NA	<0.1 U	<0.1 U	< 0.002 U	< 0.002 U	< 0.002 U
Iron, Dissolved (mg/L)	0.3	2.15	10.3	0.97	32.8	7.67	9.22	38	28.1
Lead, Dissolved (mg/L)	0.05	NA	NA	NA	<0.001 U	<0.0005 U	< 0.0002 U	< 0.0005 U	< 0.0005 U
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	0.3	0.39	0.417	0.364	0.385
Manganese, Dissolved (mg/L)	0.05	0.09	0.09	0.08	0.09	0.09 B	0.0772	0.0775	0.0935
Selenium, Dissolved (mg/L)	0.02	NA	NA	NA	0.0017	0.0005	0.0002 B	0.001	0.00154
Thallium, Dissolved (mg/L)	0.002	NA	NA	NA	<0.001 U	0.0001 B	0.00007 B	0.0002 B	0.000210 B
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	0.0379	0.0261	0.0241	0.0465	0.0243
Zinc, Dissolved (mg/L)	2	NA	NA	NA	<0.1 U	<0.1 U	< 0.01 U	0.007 B	0.0075 B
Other									
Chloride (mg/L)	250	45.4 B	25.8 BH	19.7 B	36.2 B	29.8 B	36 B	27.3 B	30.8 B
Fluoride (mg/L)	2	NA	NA	NA	0.72	0.6	0.7	0.7	0.73
Nitrate as N (mg/L)	10	NA	NA	NA	NA	NA	NA	<0.1 U	< 0.1 U
Nitrite as N (mg/L)	1	NA	NA	NA	NA	NA	< 0.01 U	<0.05 U	< 0.05 U
Nitrate+Nitrite as N (mg/L)	10	NA	NA	NA	NA	NA	0.57	0.1 U	< 0.1 U
Lab pH (s.u)	6.5 - 8.5	7.8 H	7.3 H	7.7 H	7.5	7.7 H	7.7 H	7.6 H	7.4 H
Total Dissolved Solids, filterable residue (mg/L)	1.25 x Background*	3,970	3,160	3,020 H	3,340	3,630	3,800	3,630	3,830
Sulfate (mg/L)	250	2,540	1,820 H	1,780	2,190	2,180	2,480	2,290	2,530
Gross Alpha (pCi/L)	15	NA	NA	NA	8.6 (±11)	8.5 (±9.2)	24(±14)	32(±15)	26 (±13)
Gross Beta (pCi/L)	**	NA	NA	NA	18 (±13)	8.2 (±13)	25(±12)	12(±12)	19 (±13)
Field Parameters (Not Available pre-2010)									
Field pH (s.u)	6.5 - 8.5	7.23	7.04	6.81	6.85	7.06	7.08	7.06	7.27
Field Conductivity (µS/cm)	none	4,530,000	3,280	3,397	3,622	3,983	2,416	2,808	3,810
Temperature (Degrees Celsius)	none	15.4	12.8	16	13.6	15.2	12.2	14.3	11.2
Supplementary Analytes (Not Historically analyzed)									
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	<0.3 U	<0.5 U	< 0.05 U	< 0.02 U	0.0130 B
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	<0.004 U	<0.002 U	< 0.0008 U	< 0.002 U	< 0.002 U
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	<0.0005 U	<0.0003 U	< 0.0002 U	< 0.0003 U	< 0.00025 U
Bicarbonate as CaCO3 (mg/L)	none	348	375	401	NA	392 H	354	328	304
Carbonate as CaCO3 (mg/L)	none	< 20 U	< 20 U	< 20 U	NA	<20 UH	< 2 U	< 20 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	<0.0005 U	<0.0003 U	< 0.0001 U	0.00014 B	< 0.00025 U
Calcium, Dissolved (mg/L)	none	429	461	425	490	402	405	474	427
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	0.0047	0.00595	0.0046	0.00805	0.00527
Cyanide, Free (mg/L)	0.2	NA	NA	NA	<0.01 U	<0.01 U	< 0.003 U	< 0.01 U	< 0.01 U
Magnesium, Dissolved (mg/L)	none	128	119	109	121	113	116	117	120
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	<0.001 U	<0.001 U	< 0.0002 U	< 0.001 U	< 0.001 U
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	<0.2 U	<0.2 U	0.0045	0.0146	0.00890
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	0.05 B	0.04 B	0.021	0.0511	0.0436
Potassium, Dissolved (mg/L)	none	8.2	7.2	6.6	8.1	8.1	9.4	9.7	9.03
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	<0.05 U	<0.0005 U	< 0.0002 U	< 0.001 U	< 0.001 U
Sodium, Dissolved (mg/L)	none	614	322	329	317	501	617	439	497
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	<0.05 U	<0.05 U	< 0.001 U	< 0.002 U	< 0.002 U

H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.
NA = Analyte not analyzed
^ = Second and third quarter 2015 reports presented calculated total dissolved solids results
"Interim Narrative Standard", is the minimum of
Table 1- Table 4 of The Basic Standards for
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)
Values in **bold** indicate a value greater than the BSGW
in units of exposure, millirems per year (mrems/yr),

Table 6: Summary of Monitoring Results for MW-6

Date	Interim Narrative Standard	3/19/2013	5/28/2013	8/27/2013	11/14/2013	2/18/2014	5/21/2014	8/27/2014	11/11/2014	2/18/2015	5/27/2015	8/27/2015	11/9/2015	2/15/2016	5/31/2016	8/16/2016	11/9/2016
Metals																	
Arsenic, Dissolved (mg/L)	0.01	0.002 B	< 0.01 U	< 0.01 U	< 0.01 U	0.004 B	0.007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium, Dissolved (mg/L)	2	0.97	3.22	3.56	4.12	5.95	3.32	3.46	4.37	7.37	7.47	8.74	8.12	8.34	8.26	8.42	8.25
Boron, Dissolved (mg/L)	0.75	0.6	0.7	0.6	0.6	0.58	0.7	0.6	0.7	0.6 B	0.6	0.65	0.6	0.57	0.5	0.5	0.55
Chromium, Dissolved (mg/L)	0.1	< 0.01 U	< 0.02 U	0.018 B	< 0.02 U	< 0.02 U	< 0.01 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper, Dissolved (mg/L)	0.2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.3 U	< 0.3 U	< 0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Dissolved (mg/L)	0.3	1.0	1.3	0.6	0.6	0.6	2.1	1.9	1.3	2.5	4.1	3.9	5.2	5.3	5.5	5.4	5
Lead, Dissolved (mg/L)	0.05	< 0.003 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.003 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved (mg/L)	0.05	0.33	0.29 B	0.2 B	0.19	0.19	0.21 B	0.2 B	0.25 B	0.3 B	0.31	0.39	0.42	0.45	0.37	0.35	0.31
Selenium, Dissolved (mg/L)	0.02	0.0048	0.007	0.0016	0.002 B	0.001 B	0.0033	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium, Dissolved (mg/L)	0.002	< 0.003 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.003 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc, Dissolved (mg/L)	2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.3 U	< 0.3 U	< 0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other																	
Chloride (mg/L)	250	5,090	5,680	6,080 U	5,860	6,020	6,520	5,610	6,110	5,960	5,680	5,880	5,800	5,590	5,520	6,050	5620
Fluoride (mg/L)	2	1.3	1.4	1.4	1.3	1.3	1.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite as N (mg/L)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate+Nitrite as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lab pH (s.u)	6.5 - 8.5	8.1 H	8.2 H	8.2 H	8.2 H	8.2 H	7.9 H	8.0 H	8.1 H	7.7 H	7.8 H	7.8 H	7.7 H	7.78	7.4 H	7.6 H	7.7 H
Total Dissolved Solids, filterable residue (mg/L)	1.25 x Background*	9,110	10,200	9,340 H	10,100 H	10,900	8,800 H	9,350	10,400	10,600	10,300 ^	8,840 ^	10,200	9,780	10,800	10,400	10500
Sulfate (mg/L)	250	249.7	< 250 U	< 250 U	98.6 B	< 250 U	52.5 B	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
Gross Alpha (pCi/L)	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gross Beta (pCi/L)	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters (Not Available pre-2010)																	
Field pH (s.u)	6.5 - 8.5	7.91	7.67	7.58	7.46	7.85	7.47	7.46	7.75	7.43	7.55	7.2	7.51	7.78	7.32	6.6	7.24
Field Conductivity (µS/cm)	none	9,340	16,470	17,850	18,064	17,460	18,250	18,670	17,940	18,880	16,370	18,670	13,820	14,380	16,600	17,790	17,570
Temperature (Degrees Celsius)	none	12.8	17	18.4	13.72	11.3	16.1	17.1	7.9	14.5	17.1	19.8	12.7	15.3	17.8	18.3	18.9
Supplementary Analytes																	
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate as CaCO3 (mg/L)	none	463	507	513	529	558	580	608	632	NA	656	673	702	691	736	716	715
Carbonate as CaCO3 (mg/L)	none	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	NA	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium, Dissolved (mg/L)	none	58	44	33	34	32.2	40	41	45	51	49	57.9	63	68	67	69	66.1
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide, Free (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium, Dissolved (mg/L)	none	21	20	18	17	16	16	17	18	22	17	18	17	18	16	19	17.3
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium, Dissolved (mg/L)	none	14 B	12 B	12 B	11	10	11	10	10	13 B	10	10	10	11	9 B	10	10.7
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium, Dissolved (mg/L)	none	3,600	3,920	3,860	4,000	3,960	4,060	3,770	3,710	3,840	3,930	3,850	3,840	4,100	3,770	3,780	3,960
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

B = Estimated value, less than the practical quantitation limit for that analyte, but greater than the method detection limit

U = Analyte not detected, reported less than the practical quantitation limit

H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.

NA = Analyte not analyzed

^ = Second and third quarter 2015 reports presented calculated total dissolved solids results

Per Section 41.5 (C) (6) the of Regulation 41, the "Interim Narrative Standard", is the minimum of Table 1- Table 4 of The Basic Standards for Groundwater (BSGW)

*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)

Values in **bold** indicate a value greater than the BSGW

**The regulatory standard for Gross Beta is provided in units of exposure, millirems per year (mrem/yr), which would require the measurement of specific nuclides (Tritium and Strontium) with known energy levels. Specific nuclides were not part of the approved constituent list.

Table 6: Summary of Monitoring Results for MW-6

Date	Interim Narrative Standard	5/31/2017	11/15/2017	6/6/2018	11/15/2018	6/12/2019	12/12/2019	6/4/2020	12/14/2020
Metals									
Arsenic, Dissolved (mg/L)	0.01	NA	NA	NA	0.007 B	0.0074	0.007 B	0.009 B	0.00928
Barium, Dissolved (mg/L)	2	7.85	7.77	7.65	7.25	6.66	6.84	6.64	6.00
Boron, Dissolved (mg/L)	0.75	0.7	0.8	0.6	0.6	0.6 B	0.67	0.58	0.757
Chromium, Dissolved (mg/L)	0.1	NA	NA	NA	<0.02 U	<0.002 U	< 0.005 U	< 0.04 U	< 0.002 U
Copper, Dissolved (mg/L)	0.2	NA	NA	NA	<0.02 U	<0.002 U	< 0.008 U	0.05	0.00195 B
Iron, Dissolved (mg/L)	0.3	1.7	3.4	3.0	2.9	2.2	2.87	1.93	2.99
Lead, Dissolved (mg/L)	0.05	NA	NA	NA	<0.005 U	<0.0005 U	< 0.001 U	< 0.01 U	< 0.0005 U
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	1.74	1.87	2.21	1.81	1.79
Manganese, Dissolved (mg/L)	0.05	0.14 B	0.07 B	0.06 B	0.09	0.0733 U	0.079	0.072	0.0585
Selenium, Dissolved (mg/L)	0.02	NA	NA	NA	<0.003 U	0.0009	< 0.001 U	< 0.003 U	< 0.0025 U
Thallium, Dissolved (mg/L)	0.002	NA	NA	NA	<0.005 U	<0.0005 U	< 0.0001 U	< 0.003 U	< 0.0025 U
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	0.004	0.0023	0.004 B	0.003 B	0.00322
Zinc, Dissolved (mg/L)	2	NA	NA	NA	<0.5 U	<0.5 U	< 0.05 U	< 0.02 U	< 0.015 U
Other									
Chloride (mg/L)	250	6,130	5,900	5,880	6,490	6,610 H	6,390	7,100	6,110
Fluoride (mg/L)	2	NA	NA	NA	1.09	1.2	1.2	1.1	1.12
Nitrate as N (mg/L)	10	NA	NA	NA	NA	NA	< 0.02 U	< 0.1 U	< 0.1 U
Nitrite as N (mg/L)	1	NA	NA	NA	NA	NA	< 0.01 U	< 0.05 U	< 0.05 U
Nitrate+Nitrite as N (mg/L)	10	NA	NA	NA	NA	NA	< 0.02 U	< 0.1 U	< 0.1 U
Lab pH (s.u)	6.5 - 8.5	8.1 H	7.7 H	7.8 H	8 H	7.9 H	8.1 H	8.1 H	8.0 H
Total Dissolved Solids, filterable residue (mg/L)	1.25 x Background*	10,500	10,400	10,500	10,700	10,600	10,300	10,700	10,600
Sulfate (mg/L)	250	< 250 U	< 200 U	51 B	<200 U	<200 U	< 40 U	< 200 U	< 200 U
Gross Alpha (pCi/L)	15	NA	NA	NA	47 (±36)	-33 (±24)	0.0(±52)	16(±29)	14 (±33)
Gross Beta (pCi/L)	**	NA	NA	NA	43 (±35)	56 (±47)	0.78(±63)	33(±46)	-28 (±47)
Field Parameters (Not Available pre-2010)									
Field pH (s.u)	6.5 - 8.5	7.79	7.86	7.76	7.34	7.76	7.72	7.29	7.72
Field Conductivity (µS/cm)	none	17,850	17,470	18,950	17,560	18,000	11,290	14,930	16,067
Temperature (Degrees Celsius)	none	16.6	11.3	17.7	11.1	17.9	10	21.5	12.1
Supplementary Analytes (Not Historically analyzed)									
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	<2 U	<3 U	< 0.05 U	< 0.3 U	< 0.015 U
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	<0.02 U	0.0014 B	< 0.004 U	< 0.04 U	< 0.02 U
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	<0.003 U	<0.0003 U	< 0.0008 U	< 0.0003 U	< 0.00025 U
Bicarbonate as CaCO3 (mg/L)	none	658	639	652	NA	685 H	702	720	647
Carbonate as CaCO3 (mg/L)	none	< 20 U	< 20 U	< 20 U	NA	<20 UH	< 2 U	< 20 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	<0.003 U	0.00006 B	< 0.0005 U	< 0.0003 U	< 0.00025 U
Calcium, Dissolved (mg/L)	none	51	44	41	47	40	45.4	43.2	41.1
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	<0.003 U	0.00024 B	< 0.0005 U	< 0.005 U	0.000315
Cyanide, Free (mg/L)	0.2	NA	NA	NA	0.009 B	0.012	< 0.003 U	0.004 B	0.0050 B
Magnesium, Dissolved (mg/L)	none	16	16	16	16	14	15.8	15	15.8
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	<0.001 U	<0.001 U	< 0.0002 U	< 0.001 U	< 0.001 U
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	0.025 B	0.0208 U	0.021	0.022	0.0279
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	0.007 B	0.0063 U	0.01	0.02	0.0230
Potassium, Dissolved (mg/L)	none	9 B	9 B	8 B	10	9 B	11.6	14.8	8.70
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	<0.005 U	<0.0005 U	< 0.001 U	< 0.01 U	< 0.005 U
Sodium, Dissolved (mg/L)	none	3,920	4,060	3,870	3,960	3,910	3,960	3,890	3,710
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	<0.02 U	0.0005 U	< 0.005 U	< 0.04 U	0.00145 B

H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.
NA = Analyte not analyzed
^ = Second and third quarter 2015 reports presented calculated total dissolved solids results
"Interim Narrative Standard" , is the minimum of Table
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)
Values in **bold** indicate a value greater than the BSGW
units of exposure, millirem per year (mrem/yr), which

Table 7: Summary of Monitoring Results for MW-7

Date	Interim Narrative Standard	3/19/2013	5/29/2013	8/27/2013	11/14/2013	2/18/2014	5/21/2014	8/27/2014	11/11/2014	2/18/2015	5/27/2015	8/27/2015	11/9/2015	2/15/2016	5/31/2016	8/16/2016	11/9/2016
Metals																	
Arsenic, Dissolved (mg/L)	0.01	0.010	0.010 B	0.011	0.008 B	0.015	0.009 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium, Dissolved (mg/L)	2	0.16 B	0.14 B	0.33	2.08	1.78	3.52	2.35	3.7	5.43	4.74	2.66	2.65	4.66	3.79	1.24	4.19
Boron, Dissolved (mg/L)	0.75	0.6	0.9	0.79	0.75	0.75	0.7	0.8	0.8	0.7 B	0.6	0.73	0.7	0.8	0.6	0.5	0.63
Chromium, Dissolved (mg/L)	0.1	< 0.01 U	< 0.02 U	0.009 B	< 0.02 U	< 0.02 U	< 0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper, Dissolved (mg/L)	0.2	< 0.5 U	< 0.5 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Dissolved (mg/L)	0.3	1.6	3.4	1.5	2.9	2.9	2.8	4.4	3.8	4.6	5.8	4.7	4.6	6.3	5.9	2.3	3.26
Lead, Dissolved (mg/L)	0.05	< 0.003 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved (mg/L)	0.05	0.27	0.66	0.51	0.61	0.53	0.41	0.66	0.45	0.3 B	0.38	0.37	0.36	0.3	0.3	0.26 B	0.205
Selenium, Dissolved (mg/L)	0.02	0.0025	0.006	< 0.003 U	0.002 B	0.001 B	0.001 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium, Dissolved (mg/L)	0.002	< 0.003 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc, Dissolved (mg/L)	2	< 0.5 U	< 0.5 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other																	
Chloride (mg/L)	250	3,701	5,280	6,040	6,430	6,030	6,510	5,330	5,850	6,140	6,330	5,860	5,680	6,230	5,850	5,550	5,990
Fluoride (mg/L)	2	1.3	1.0	1.1	1.1	1	1.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite as N (mg/L)	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate+Nitrite as N (mg/L)	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lab pH (s.u)	6.5 - 8.5	8.1 H	8.0 H	7.9 H	7.9 H	8.0 H	7.6 H	7.9 H	7.9 H	7.8 H	7.8 H	7.9 H	7.8 H	7.75	7.6 H	7.6 H	8 H
Total Dissolved Solids, filterable residue (mg/L)	1.25 x Background*	8,640	11,500	10,200 H	10,700 H	10,300	10,600 H	10,100	10,600	10,500	10,200 ^	8,800 ^	10,400	10,800	10,900	10,100	10,700
Sulfate (mg/L)	250	1,589	1,240	510	130 B	104 B	60.9 B	80.2 B	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	179 B	101 B
Gross Alpha (pCi/L)	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gross Beta (pCi/L)	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters (Not Available pre-2010)																	
Field pH (s.u)	6.5 - 8.5	7.85	7.08	6.86	7.55	7.27	6.95	7.37	6.94	7.05	6.27	7.08	7.42	7.75	7.22	6.91	7.3
Field Conductivity (µS/cm)	none	13	19,280	19,810	19,358	18,640	18,880	18,970	18,440	8,770	16,170	18,020	14,000	13,820	16,530	17,520	18,050
Temperature (Degrees Celsius)	none	13.4	12.2	20.5	13	11.3	16.2	15.1	8	13.5	17.2	18.3	12.1	13.3	17.6	18.1	16.1
Supplementary Analytes																	
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate as CaCO3 (mg/L)	none	458	596	696	715	838	822	785	837	NA	765	853	828	821	828	844	836
Carbonate as CaCO3 (mg/L)	none	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	NA	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium, Dissolved (mg/L)	none	105	142	103	72	67.8	58	56	51	50	47	52	53	54	50	54	47.1
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide, Free (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium, Dissolved (mg/L)	none	40	43	30	25	22	21	21	20	23	19	19	18	20	18	19	18
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium, Dissolved (mg/L)	none	11 B	13 B	12	11	10	10	11	9 B	13 B	9 B	9	10	11	10	10	8.8
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium, Dissolved (mg/L)	none	3,200	4,150	4,720	4,280	4,020	4,350	3,910	3,740	3,970	4,010	3,930	3,880	4,240	3,930	3,820	4,330
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
B = Estimated value, less than the practical quantitation limit for that analyte, but greater than the method detection limit
U = Analyte not detected, reported less than the practical quantitation limit
H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.
NA = Analyte not analyzed
^ = Second and third quarter 2015 reports presented calculated total dissolved solids results
Per Section 41.5 (C) (6) of the Regulation 41, the "Interim Narrative Standard", is the minimum of Table 1- Table 4 of The Basic Standards for Groundwater (BSGW)
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)

Table 7: Summary of Monitoring Results for MW-7

Date	Interim Narrative Standard	5/31/2017	11/15/2017	6/6/2018	11/15/2018	6/12/2019	12/12/2019	6/4/2020	12/14/2020
Metals									
Arsenic, Dissolved (mg/L)	0.01	NA	NA	NA	0.002 B	0.0031	0.002 B	0.0039	0.00175
Barium, Dissolved (mg/L)	2	3.96	3.8	5.5	3.42	4.42	2.86	1.06	2.54
Boron, Dissolved (mg/L)	0.75	0.7	0.8	0.7	0.7	0.7 B	0.64	0.65	0.735
Chromium, Dissolved (mg/L)	0.1	NA	NA	NA	<0.02 U	<0.002 U	< 0.005 U	< 0.004 U	< 0.002 U
Copper, Dissolved (mg/L)	0.2	NA	NA	NA	<0.02 U	<0.002 U	< 0.008 U	< 0.004 U	0.00177 B
Iron, Dissolved (mg/L)	0.3	5.5	6.1	3.2	3.9	2	2.81	11.6	0.932
Lead, Dissolved (mg/L)	0.05	NA	NA	NA	<0.005 U	<0.0005 U	< 0.001 U	< 0.0005 U	0.00012 B
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	1.84	2.02	2.30	1.92	1.84
Manganese, Dissolved (mg/L)	0.05	0.19 B	0.18 B	0.14 B	0.11 B	0.2 B	0.122	0.166	0.117
Selenium, Dissolved (mg/L)	0.02	NA	NA	NA	<0.003 U	0.001	< 0.001 U	< 0.003 U	< 0.001 U
Thallium, Dissolved (mg/L)	0.002	NA	NA	NA	<0.005 U	<0.0005 U	< 0.0001 U	< 0.003 U	< 0.0025 U
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	0.005	0.004	0.005	0.0093	0.00185
Zinc, Dissolved (mg/L)	2	NA	NA	NA	<0.5 U	0.1 B	0.19 B	0.01 B	< 0.015 U
Other									
Chloride (mg/L)	250	6,480	6,240	6,440	7,310	7,480 H	6,780	6,550	6,690
Fluoride (mg/L)	2	NA	NA	NA	0.88	1	0.9	0.8	1.00
Nitrate as N (mg/L)	10	NA	NA	NA	NA	NA	0.57	< 0.1 U	0.083
Nitrite as N (mg/L)	1	NA	NA	NA	NA	NA	< 0.01 U	0.02 B	< 0.05 U
Nitrate+Nitrite as N (mg/L)	10	NA	NA	NA	NA	NA	0.57	0.03 B	0.083 B
Lab pH (s.u)	6.5 - 8.5	8 H	7.8 H	7.7 H	7.9 H	7.9 H	7.9 H	8 H	7.8 H
Total Dissolved Solids, filterable residue (mg/L)	1.25 x Background*	11,100	11,300	11,500 H	11,300	11,300	11,200	11,200	11,300
Sulfate (mg/L)	250	59 B	58 B	75 B	83.9 B	63.8 B	54.1 B	125 B	< 200 U
Gross Alpha (pCi/L)	15	NA	NA	NA	5.8 (±29)	23 (±41)	-50(±26)	2.4(±37)	-21 (±31)
Gross Beta (pCi/L)	**	NA	NA	NA	34 (±42)	42 (±252)	35(±59)	11(±53)	1.9 (±53)
Field Parameters (Not Available pre-2010)									
Field pH (s.u)	6.5 - 8.5	7.65	7.17	7.37	7.19	7.61	7.58	7.85	7.69
Field Conductivity (µS/cm)	none	19,350	18,550	20,050	19,200	19,110	11,900	15,310	17,263
Temperature (Degrees Celsius)	none	22.5	12.3	16.4	12.9	16.3	8.3	19.8	12.5
Supplementary Analytes (Not Historically analyzed)									
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	<2 U	<3 U	< 0.05 U	< 0.02 U	0.0067 B
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	<0.02 U	0.0015 B	< 0.004 U	0.0045	< 0.02 U
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	<0.003 U	<0.0003 U	< 0.0008 U	< 0.0003 U	< 0.00025 U
Bicarbonate as CaCO3 (mg/L)	none	745	700	714	NA	681 H	701	876	663
Carbonate as CaCO3 (mg/L)	none	< 20 U	< 20 U	< 20 U	NA	<20 UH	< 2 U	< 20 U	< 20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	<0.003 U	0.00007 B	< 0.0005 U	< 0.0005 U	0.000056 B
Calcium, Dissolved (mg/L)	none	52	55	52	54	53	54.4	54.2	52.5
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	<0.003 U	0.00025 B	< 0.0005 U	0.0004 B	0.000208 B
Cyanide, Free (mg/L)	0.2	NA	NA	NA	0.005 B	0.012	0.003 B	0.003 B	0.0096 B
Magnesium, Dissolved (mg/L)	none	19	20	20	19	18	18.5	17.9	18.4
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	<0.001 U	<0.001 U	< 0.0002 U	< 0.001 U	< 0.001 U
Molybdenum, Dissolved (mg/L)	0.21	NA	NA	NA	0.022 B	0.0182 U	0.017	0.0416	0.00375
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	<0.03 U	<0.001 U	< 0.004 U	0.0015 B	< 0.001 U
Potassium, Dissolved (mg/L)	none	11	9 B	9 B	11	11	12.7	17.6	8.85
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	<0.005 U	<0.0005 U	< 0.001 U	< 0.001 U	< 0.005 U
Sodium, Dissolved (mg/L)	none	4,240	4,320	4,170	4,250	4,220	4,250	4,070	3,840
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	<0.02 U	0.0008 U	< 0.005 U	< 0.004 U	0.00118 B

H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.

NA = Analyte not analyzed

^ = Second and third quarter 2015 reports presented calculated total dissolved solids results

*Interim Narrative Standard", is the minimum of Table 1-

*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)

Values in **bold** indicate a value greater than the BSGW

units of exposure, millirems per year (mrems/yr), which

Table 8: Summary of Monitoring Results for MW-8

Date	Interim Narrative Standard	12/14/2020
Metals		
Arsenic, Dissolved (mg/L)	0.01	0.00546
Barium, Dissolved (mg/L)	2	0.299
Boron, Dissolved (mg/L)	0.75	0.900
Chromium, Dissolved (mg/L)	0.1	< 0.002 U
Copper, Dissolved (mg/L)	0.2	0.00306
Iron, Dissolved (mg/L)	0.3	< 0.75 U
Lead, Dissolved (mg/L)	0.05	< 0.0005 U
Lithium, Dissolved (mg/L)	2.5	1.55
Manganese, Dissolved (mg/L)	0.05	0.0161
Selenium, Dissolved (mg/L)	0.02	0.00179 B
Thallium, Dissolved (mg/L)	0.002	< 0.0025 U
Uranium, Dissolved (mg/L)	0.03	0.0167
Zinc, Dissolved (mg/L)	2	0.0091 B
Other		
Chloride (mg/L)	250	5,910
Fluoride (mg/L)	2	1.66
Nitrate as N (mg/L)	10	< 0.1 U
Nitrite as N (mg/L)	1	< 0.05 U
Nitrate+Nitrite as N (mg/L)	10	< 0.1 U
Lab pH (s.u)	6.5 - 8.5	8.3 H
Total Dissolved Solids, filterable residue (mg/L)	1.25 x Background*	10,100
Sulfate (mg/L)	250	529
Gross Alpha (pCi/L)	15	45 (±45)
Gross Beta (pCi/L)	**	9.1 (±44)
Field Parameters (Not Available pre-2010)		
Field pH (s.u)	6.5 - 8.5	8.15
Field Conductivity (µS/cm)	none	14,360
Temperature (Degrees Celsius)	none	12.5
Supplementary Analytes (Not Historically analyzed)		
Aluminum, Dissolved (mg/L)	5	0.0057 B
Antimony, Dissolved (mg/L)	0.006	0.0125 B
Beryllium, Dissolved (mg/L)	0.004	< 0.00025 U
Bicarbonate as CaCO ₃ (mg/L)	none	664
Carbonate as CaCO ₃ (mg/L)	none	< 20 U
Cadmium, Dissolved (mg/L)	0.005	< 0.00025 U
Calcium, Dissolved (mg/L)	none	23.4
Cobalt, Dissolved (mg/L)	0.05	0.000745
Cyanide, Free (mg/L)	0.2	< 0.01 U
Magnesium, Dissolved (mg/L)	none	18.8
Mercury, Dissolved (mg/L)	0.002	< 0.001 U
Molybdenum, Dissolved (mg/L)	0.21	0.0225
Nickel, Dissolved (mg/L)	0.1	0.00469
Potassium, Dissolved (mg/L)	none	16.6
Silver, Dissolved (mg/L)	0.05	< 0.005 U
Sodium, Dissolved (mg/L)	none	3,380
Vanadium, Dissolved (mg/L)	0.1	0.00440

H = Analysis exceeded method hold time. pH is a field test with an immediate hold time.

NA = Analyte not analyzed

^ = Second and third quarter 2015 reports presented calculated total dissolved solids results

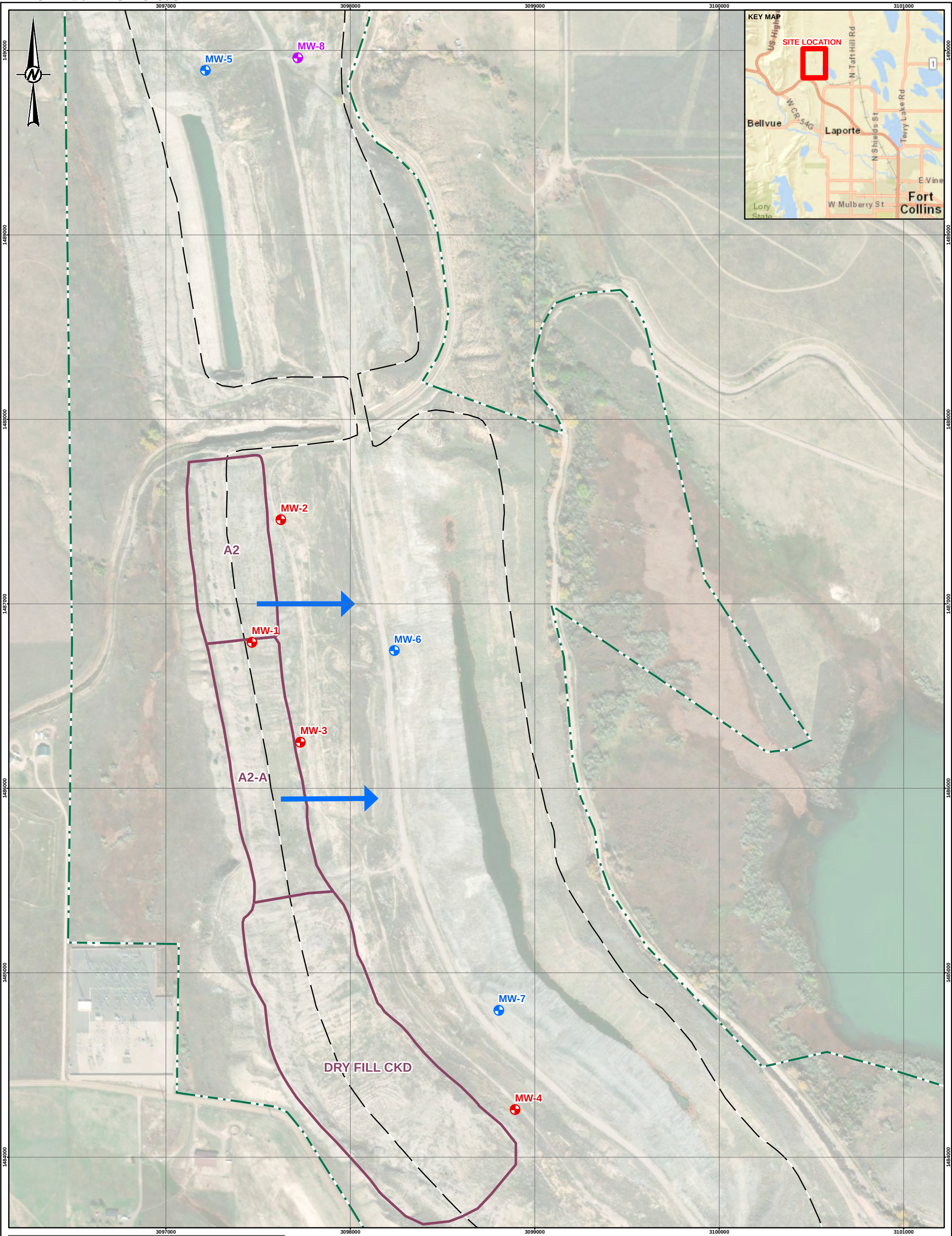
Per Section 41.5 (C) (6) of the of Regulation 41, the "Interim Narrative Standard", is the minimum of Table 1-Table 4 of The Basic Standards for Groundwater (BSGW)

*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)

Values in **bold** indicate a value greater than the BSGW

**The regulatory standard for Gross Beta is provided in units of exposure, millirems per year (mrem/yr), which would require the measurement of specific nuclides (Tritium and Strontium) with known energy levels.

Figures



- LEGEND**
- MW-1 PRE-2012 MONITORING WELL
 - MW-6 MONITORING WELL INSTALLED 2012
 - MW-8 MONITORING WELL INSTALLED 2020
 - APPROXIMATE CKD DISPOSAL AREA BOUNDARY
 - AMENDED PERMIT BOUNDARY
 - PROPERTY BOUNDARY
 - APPROXIMATE GROUNDWATER FLOW DIRECTION



NOTES

1. PROPERTY AND PERMIT BOUNDARIES PROVIDED BY HOLCIM (US) INC.
2. COORDINATE SYSTEM: NAD83 STATE PLANE COLORADO NORTH (US FT).
3. AERIAL IMAGERY: ESRI BASEMAPS, DIGITAL GLOBE. IMAGERY CAPTURED OCTOBER 2017.

CLIENT
HOLCIM (US) INC.

PROJECT
BOETTCHER LIMESTONE QUARRY
LARIMER COUNTY, COLORADO

TITLE
SITE LOCATION PLAN

CONSULTANT

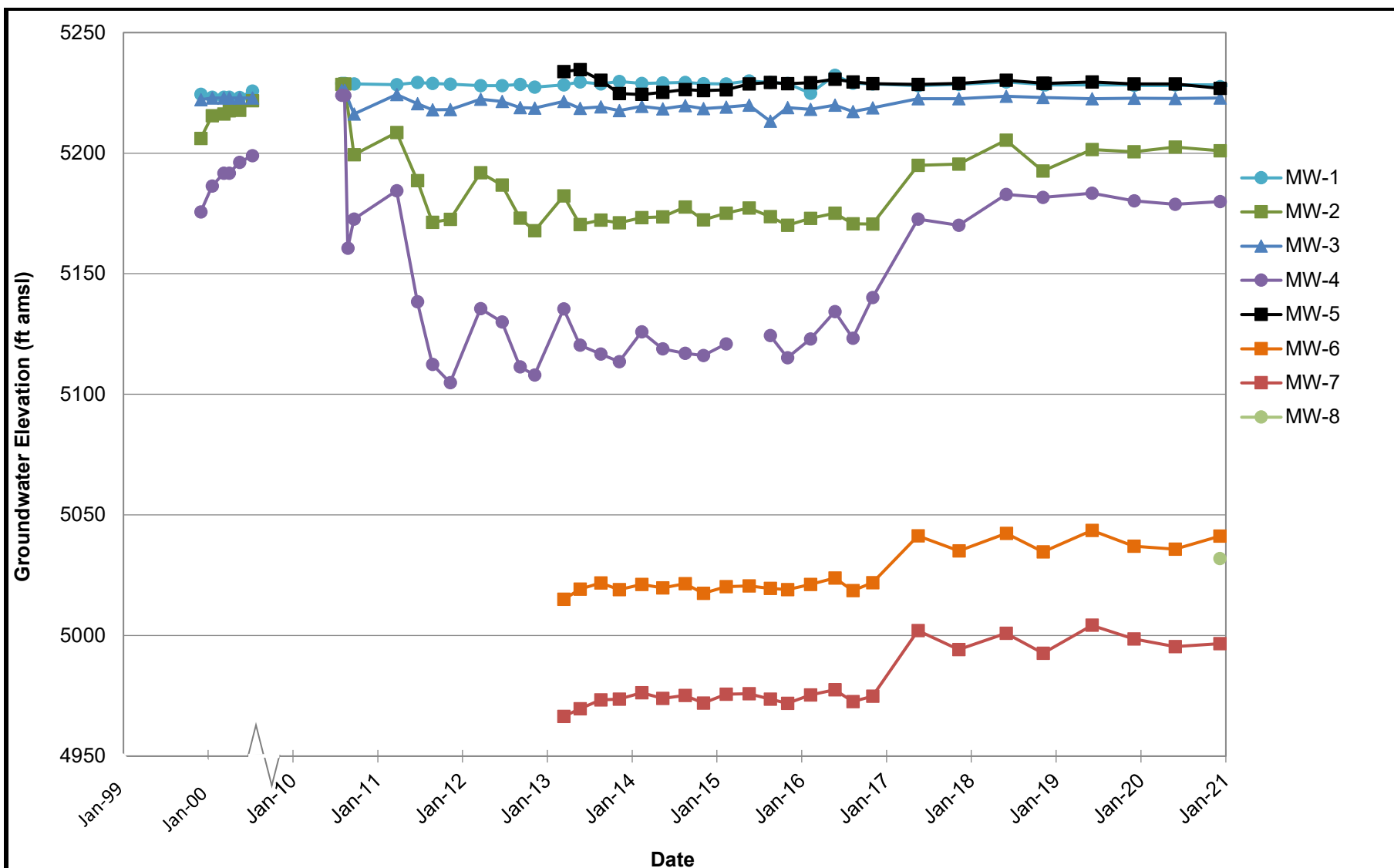


PROJECT NO.
20144265.0001

YYYY-MM-DD	2021-01-28
DESIGNED	SAH
PREPARED	KJC
REVIEWED	SAH
APPROVED	RSM

FIGURE

1



Notes:

Unable to collect water level measurement at MW-4 on 5/20/2015

ft amsl: feet above mean sea level

Figure 2
Groundwater Elevations vs. Time
 Holcim Boettcher Quarry

3/8/2021

20144265

Golder Associates

ATTACHMENT 1

ACZ Laboratory Report

March 01, 2021

Report to:

Sara Harkins
Golder Associates
44 Union Blvd., Suite 300
Lakewood, CO 80228

Bill to:

Accounts Payable
Golder Associates
7245 W Alaska Dr Suite 200
Lakewood, CO 80226

cc: Tricia Hall

Project ID: 20144265

ACZ Project ID: L63343

Sara Harkins:

Enclosed are revised analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 15, 2020 and originally reported on December 31, 2020. Refer to the case narrative for an explanation of the changes. This project was assigned to ACZ's project number, L63343. Please reference this number in all future inquiries.

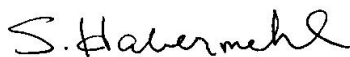
All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L63343. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 30, 2021. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed
and approved this report.



Golder Associates

March 01, 2021

Project ID: 20144265

ACZ Project ID: L63343

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 10 groundwater samples from Golder Associates on December 15, 2020. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L63343. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic, radiochemistry parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

This project has been revised to report a re-analysis of Chloride and Selenium on L63343-06. And a Selenium on L63343-07.

Project regenerated to pick up latest values for above re-analysis.

Golder Associates

Project ID: 20144265

Sample ID: MW-2

ACZ Sample ID: **L63343-01**

Date Sampled: 12/14/20 09:30

Date Received: 12/15/20

Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	1	<0.005	U		mg/L	0.005	0.015	12/17/20 18:22	bsu
Antimony, dissolved	M200.8 ICP-MS	5	<0.002	U		mg/L	0.002	0.01	12/22/20 15:37	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.00527			mg/L	0.0002	0.001	12/17/20 18:22	bsu
Barium, dissolved	M200.8 ICP-MS	1	2.99			mg/L	0.0005	0.0025	12/17/20 18:22	bsu
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	12/17/20 18:22	bsu
Boron, dissolved	M200.7 ICP	2	0.784			mg/L	0.04	0.2	12/18/20 13:26	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.000077	B		mg/L	0.00005	0.00025	12/17/20 18:22	bsu
Calcium, dissolved	M200.7 ICP	2	17.6			mg/L	0.2	1	12/18/20 13:26	kja
Chromium, dissolved	M200.8 ICP-MS	1	<0.0005	U	*	mg/L	0.0005	0.002	12/17/20 18:22	bsu
Cobalt, dissolved	M200.8 ICP-MS	1	0.000073	B		mg/L	0.00005	0.00025	12/17/20 18:22	bsu
Copper, dissolved	M200.8 ICP-MS	1	<0.0008	U		mg/L	0.0008	0.002	12/17/20 18:22	bsu
Iron, dissolved	M200.7 ICP	2	0.340			mg/L	0.12	0.3	12/18/20 13:26	kja
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/17/20 18:22	bsu
Lithium, dissolved	M200.7 ICP	2	1.16			mg/L	0.016	0.08	12/18/20 13:26	kja
Magnesium, dissolved	M200.7 ICP	2	6.95			mg/L	0.4	2	12/18/20 13:26	kja
Manganese, dissolved	M200.8 ICP-MS	1	0.0556			mg/L	0.0004	0.002	12/17/20 18:22	bsu
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	12/18/20 11:59	llr
Molybdenum, dissolved	M200.8 ICP-MS	1	0.00102			mg/L	0.0002	0.0005	12/17/20 18:22	bsu
Nickel, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.001	12/17/20 18:22	bsu
Potassium, dissolved	M200.7 ICP	2	5.70			mg/L	0.4	2	12/18/20 13:26	kja
Selenium, dissolved	M200.8 ICP-MS	20	<0.002	U	*	mg/L	0.002	0.005	12/17/20 17:52	bsu
Silver, dissolved	M200.8 ICP-MS	5	<0.0005	U	*	mg/L	0.0005	0.0025	12/22/20 15:37	enb
Sodium, dissolved	M200.7 ICP	5	2160		*	mg/L	1	5	12/21/20 13:45	kja
Thallium, dissolved	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	12/22/20 11:20	bsu
Uranium, dissolved	M200.8 ICP-MS	1	0.00232			mg/L	0.0001	0.0005	12/17/20 18:22	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.00185	B		mg/L	0.0005	0.002	12/17/20 18:22	bsu
Zinc, dissolved	M200.8 ICP-MS	1	<0.006	U		mg/L	0.006	0.015	12/17/20 18:22	bsu

Golder Associates

Project ID: 20144265

Sample ID: MW-2

ACZ Sample ID: **L63343-01**

Date Sampled: 12/14/20 09:30

Date Received: 12/15/20

Sample Matrix: Groundwater

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration									
Bicarbonate as CaCO ₃		1	1040			mg/L	2	20	12/18/20 0:00	emk
Carbonate as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Hydroxide as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Total Alkalinity		1	1040			mg/L	2	20	12/18/20 0:00	emk
Chloride	M300.0 - Ion Chromatography	100	3820		*	mg/L	40	200	12/18/20 21:35	krh
Cyanide, Free	D6888-09/OIA-1677-09	1	0.0030	B		mg/L	0.003	0.01	12/21/20 11:03	rbt
Fluoride	SM4500F-C	1	1.39			mg/L	0.11	0.35	12/18/20 14:48	eep
Nitrate as N, dissolved	Calculation: NO ₃ NO ₂ minus NO ₂		<0.02	U		mg/L	0.02	0.1	03/01/21 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	U		mg/L	0.02	0.1	12/15/20 22:10	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	12/15/20 22:10	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H		units	0.1	0.1	12/18/20 0:00	emk
pH measured at		1	21.2			C	0.1	0.1	12/18/20 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	2	6450			mg/L	40	80	12/16/20 12:12	scd
Sulfate	M300.0 - Ion Chromatography	100	<40	U	*	mg/L	40	200	12/18/20 21:35	krh

Golder Associates

Project ID: 20144265

Sample ID: MW-1

ACZ Sample ID: **L63343-02**

Date Sampled: 12/14/20 10:30

Date Received: 12/15/20

Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	1	0.0580			mg/L	0.005	0.015	12/17/20 17:54	bsu
Antimony, dissolved	M200.8 ICP-MS	1	0.00171	B		mg/L	0.0004	0.002	12/18/20 15:03	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.00163			mg/L	0.0002	0.001	12/17/20 17:54	bsu
Barium, dissolved	M200.8 ICP-MS	1	0.0104		*	mg/L	0.0005	0.0025	12/17/20 17:54	bsu
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	12/17/20 17:54	bsu
Boron, dissolved	M200.7 ICP	2	0.744			mg/L	0.04	0.2	12/18/20 13:30	kja
Cadmium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/17/20 17:54	bsu
Calcium, dissolved	M200.7 ICP	2	109			mg/L	0.2	1	12/18/20 13:30	kja
Chromium, dissolved	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	12/17/20 17:54	bsu
Cobalt, dissolved	M200.8 ICP-MS	1	0.00168			mg/L	0.00005	0.00025	12/17/20 17:54	bsu
Copper, dissolved	M200.8 ICP-MS	1	<0.0008	U		mg/L	0.0008	0.002	12/17/20 17:54	bsu
Iron, dissolved	M200.7 ICP	2	<0.12	U		mg/L	0.12	0.3	12/18/20 13:30	kja
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/17/20 17:54	bsu
Lithium, dissolved	M200.7 ICP	2	1.09			mg/L	0.016	0.08	12/18/20 13:30	kja
Magnesium, dissolved	M200.7 ICP	2	116			mg/L	0.4	2	12/18/20 13:30	kja
Manganese, dissolved	M200.8 ICP-MS	1	0.0380			mg/L	0.0004	0.002	12/17/20 17:54	bsu
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	12/18/20 12:00	llr
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0737			mg/L	0.0002	0.0005	12/17/20 17:54	bsu
Nickel, dissolved	M200.8 ICP-MS	1	0.00692			mg/L	0.0004	0.001	12/17/20 17:54	bsu
Potassium, dissolved	M200.7 ICP	2	9.56			mg/L	0.4	2	12/18/20 13:30	kja
Selenium, dissolved	M200.8 ICP-MS	1	0.0271			mg/L	0.0001	0.00025	12/17/20 17:54	bsu
Silver, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/18/20 15:03	mfm
Sodium, dissolved	M200.7 ICP	2	1640		*	mg/L	0.4	2	12/18/20 13:30	kja
Thallium, dissolved	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	12/22/20 11:21	bsu
Uranium, dissolved	M200.8 ICP-MS	1	0.0308			mg/L	0.0001	0.0005	12/17/20 17:54	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	12/17/20 17:54	bsu
Zinc, dissolved	M200.8 ICP-MS	1	<0.006	U		mg/L	0.006	0.015	12/17/20 17:54	bsu

Golder Associates

Project ID: 20144265

Sample ID: MW-1

ACZ Sample ID: **L63343-02**

Date Sampled: 12/14/20 10:30

Date Received: 12/15/20

Sample Matrix: Groundwater

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration									
Bicarbonate as CaCO ₃		1	421			mg/L	2	20	12/18/20 0:00	emk
Carbonate as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Hydroxide as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Total Alkalinity		1	421			mg/L	2	20	12/18/20 0:00	emk
Chloride	M300.0 - Ion Chromatography	50	36.6	B	*	mg/L	20	100	12/21/20 22:40	krh
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	12/21/20 11:09	rbt
Fluoride	SM4500F-C	1	0.62			mg/L	0.11	0.35	12/18/20 15:01	eep
Nitrate as N, dissolved	Calculation: NO ₃ NO ₂ minus NO ₂		0.86			mg/L	0.02	0.1	03/01/21 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.870			mg/L	0.02	0.1	12/15/20 22:12	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.013	B	*	mg/L	0.01	0.05	12/15/20 22:12	pjb
pH (lab)	SM4500H+ B									
pH		1	8.2	H		units	0.1	0.1	12/18/20 0:00	emk
pH measured at		1	21.3			C	0.1	0.1	12/18/20 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	2	6110			mg/L	40	80	12/16/20 12:15	scd
Sulfate	M300.0 - Ion Chromatography	50	4470			mg/L	20	100	12/21/20 22:40	krh

Golder Associates

Project ID: 20144265

Sample ID: MW-3

ACZ Sample ID: **L63343-03**

Date Sampled: 12/14/20 11:25

Date Received: 12/15/20

Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	1	0.0057	B		mg/L	0.005	0.015	12/17/20 17:56	bsu
Antimony, dissolved	M200.8 ICP-MS	2	<0.0008	U		mg/L	0.0008	0.004	12/22/20 15:40	enb
Arsenic, dissolved	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	12/17/20 17:56	bsu
Barium, dissolved	M200.8 ICP-MS	1	1.93		*	mg/L	0.0005	0.0025	12/17/20 17:56	bsu
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	12/17/20 17:56	bsu
Boron, dissolved	M200.7 ICP	2	0.841			mg/L	0.04	0.2	12/18/20 13:39	kja
Cadmium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/17/20 17:56	bsu
Calcium, dissolved	M200.7 ICP	2	6.69			mg/L	0.2	1	12/18/20 13:39	kja
Chromium, dissolved	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	12/17/20 17:56	bsu
Cobalt, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/17/20 17:56	bsu
Copper, dissolved	M200.8 ICP-MS	1	<0.0008	U		mg/L	0.0008	0.002	12/17/20 17:56	bsu
Iron, dissolved	M200.7 ICP	2	<0.12	U		mg/L	0.12	0.3	12/18/20 13:39	kja
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/17/20 17:56	bsu
Lithium, dissolved	M200.7 ICP	2	0.747			mg/L	0.016	0.08	12/18/20 13:39	kja
Magnesium, dissolved	M200.7 ICP	2	2.91			mg/L	0.4	2	12/18/20 13:39	kja
Manganese, dissolved	M200.8 ICP-MS	1	0.0259			mg/L	0.0004	0.002	12/17/20 17:56	bsu
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	12/18/20 12:02	llr
Molybdenum, dissolved	M200.8 ICP-MS	1	0.00032	B		mg/L	0.0002	0.0005	12/17/20 17:56	bsu
Nickel, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.001	12/17/20 17:56	bsu
Potassium, dissolved	M200.7 ICP	2	3.82			mg/L	0.4	2	12/18/20 13:39	kja
Selenium, dissolved	M200.8 ICP-MS	2	0.00025	B		mg/L	0.0002	0.0005	12/22/20 15:40	enb
Silver, dissolved	M200.8 ICP-MS	2	<0.0002	U	*	mg/L	0.0002	0.001	12/22/20 15:40	enb
Sodium, dissolved	M200.7 ICP	2	1460		*	mg/L	0.4	2	12/18/20 13:39	kja
Thallium, dissolved	M200.8 ICP-MS	2	<0.0001	U		mg/L	0.0001	0.0005	12/22/20 11:23	bsu
Uranium, dissolved	M200.8 ICP-MS	1	0.00010	B		mg/L	0.0001	0.0005	12/17/20 17:56	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	<0.0005	U	*	mg/L	0.0005	0.002	12/17/20 17:56	bsu
Zinc, dissolved	M200.8 ICP-MS	1	<0.006	U		mg/L	0.006	0.015	12/17/20 17:56	bsu

Golder Associates

Project ID: 20144265

Sample ID: MW-3

ACZ Sample ID: **L63343-03**

Date Sampled: 12/14/20 11:25

Date Received: 12/15/20

Sample Matrix: Groundwater

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration									
Bicarbonate as CaCO ₃		1	1160			mg/L	2	20	12/18/20 0:00	emk
Carbonate as CaCO ₃		1	51.2			mg/L	2	20	12/18/20 0:00	emk
Hydroxide as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Total Alkalinity		1	1210			mg/L	2	20	12/18/20 0:00	emk
Chloride	M300.0 - Ion Chromatography	20	1670		*	mg/L	8	40	12/18/20 22:29	krh
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	12/21/20 11:11	rbt
Fluoride	SM4500F-C	1	2.44			mg/L	0.11	0.35	12/18/20 15:05	eep
Nitrate as N, dissolved	Calculation: NO ₃ NO ₂ minus NO ₂		<0.02	U		mg/L	0.02	0.1	03/01/21 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	U		mg/L	0.02	0.1	12/15/20 22:15	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	12/15/20 22:15	pjb
pH (lab)	SM4500H+ B									
pH		1	8.4	H		units	0.1	0.1	12/18/20 0:00	emk
pH measured at		1	21.3			C	0.1	0.1	12/18/20 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	2	3890			mg/L	40	80	12/16/20 12:19	scd
Sulfate	M300.0 - Ion Chromatography	20	<8	U	*	mg/L	8	40	12/18/20 22:29	krh

Golder Associates

Project ID: 20144265

Sample ID: MW-20

ACZ Sample ID: **L63343-04**

Date Sampled: 12/14/20 11:25

Date Received: 12/15/20

Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	1	0.0067	B		mg/L	0.005	0.015	12/17/20 18:02	bsu
Antimony, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	12/18/20 15:04	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	12/17/20 18:02	bsu
Barium, dissolved	M200.8 ICP-MS	1	2.01		*	mg/L	0.0005	0.0025	12/17/20 18:02	bsu
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	12/17/20 18:02	bsu
Boron, dissolved	M200.7 ICP	2	0.849			mg/L	0.04	0.2	12/18/20 13:42	kja
Cadmium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/17/20 18:02	bsu
Calcium, dissolved	M200.7 ICP	2	6.54			mg/L	0.2	1	12/18/20 13:42	kja
Chromium, dissolved	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	12/17/20 18:02	bsu
Cobalt, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/17/20 18:02	bsu
Copper, dissolved	M200.8 ICP-MS	1	<0.0008	U		mg/L	0.0008	0.002	12/17/20 18:02	bsu
Iron, dissolved	M200.7 ICP	2	<0.12	U		mg/L	0.12	0.3	12/18/20 13:42	kja
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/17/20 18:02	bsu
Lithium, dissolved	M200.7 ICP	2	0.730			mg/L	0.016	0.08	12/18/20 13:42	kja
Magnesium, dissolved	M200.7 ICP	2	2.84			mg/L	0.4	2	12/18/20 13:42	kja
Manganese, dissolved	M200.8 ICP-MS	1	0.0268			mg/L	0.0004	0.002	12/17/20 18:02	bsu
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	12/18/20 12:03	llr
Molybdenum, dissolved	M200.8 ICP-MS	1	0.00032	B		mg/L	0.0002	0.0005	12/17/20 18:02	bsu
Nickel, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.001	12/17/20 18:02	bsu
Potassium, dissolved	M200.7 ICP	2	3.61			mg/L	0.4	2	12/18/20 13:42	kja
Selenium, dissolved	M200.8 ICP-MS	2	0.00022	B		mg/L	0.0002	0.0005	12/22/20 15:44	enb
Silver, dissolved	M200.8 ICP-MS	2	<0.0002	U	*	mg/L	0.0002	0.001	12/22/20 15:44	enb
Sodium, dissolved	M200.7 ICP	2	1460		*	mg/L	0.4	2	12/18/20 13:42	kja
Thallium, dissolved	M200.8 ICP-MS	2	<0.0001	U		mg/L	0.0001	0.0005	12/22/20 11:24	bsu
Uranium, dissolved	M200.8 ICP-MS	1	0.00011	B		mg/L	0.0001	0.0005	12/17/20 18:02	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	<0.0005	U	*	mg/L	0.0005	0.002	12/17/20 18:02	bsu
Zinc, dissolved	M200.8 ICP-MS	1	<0.006	U		mg/L	0.006	0.015	12/17/20 18:02	bsu

Golder Associates

Project ID: 20144265

Sample ID: MW-20

ACZ Sample ID: **L63343-04**

Date Sampled: 12/14/20 11:25

Date Received: 12/15/20

Sample Matrix: Groundwater

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration									
Bicarbonate as CaCO ₃		1	1150			mg/L	2	20	12/18/20 0:00	emk
Carbonate as CaCO ₃		1	59.2			mg/L	2	20	12/18/20 0:00	emk
Hydroxide as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Total Alkalinity		1	1210			mg/L	2	20	12/18/20 0:00	emk
Chloride	M300.0 - Ion Chromatography	20	1670			mg/L	8	40	12/21/20 22:58	krh
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	12/21/20 11:13	rbt
Fluoride	SM4500F-C	1	2.43			mg/L	0.11	0.35	12/18/20 15:17	eep
Nitrate as N, dissolved	Calculation: NO ₃ NO ₂ minus NO ₂		<0.02	U		mg/L	0.02	0.1	03/01/21 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	U		mg/L	0.02	0.1	12/15/20 22:16	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	12/15/20 22:16	pjb
pH (lab)	SM4500H+ B									
pH		1	8.5	H		units	0.1	0.1	12/18/20 0:00	emk
pH measured at		1	21.5			C	0.1	0.1	12/18/20 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	2	3830			mg/L	40	80	12/16/20 12:22	scd
Sulfate	M300.0 - Ion Chromatography	20	<8	U	*	mg/L	8	40	12/21/20 22:58	krh

Golder Associates

Project ID: 20144265

Sample ID: MW-15

ACZ Sample ID: **L63343-05**

Date Sampled: 12/14/20 11:50

Date Received: 12/15/20

Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	1	<0.005	U		mg/L	0.005	0.015	12/17/20 18:07	bsu
Antimony, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	12/18/20 15:06	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	12/17/20 18:07	bsu
Barium, dissolved	M200.8 ICP-MS	1	<0.0005	U	*	mg/L	0.0005	0.0025	12/17/20 18:07	bsu
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	12/17/20 18:07	bsu
Boron, dissolved	M200.7 ICP	1	0.036	B		mg/L	0.02	0.1	12/18/20 13:45	kja
Cadmium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/17/20 18:07	bsu
Calcium, dissolved	M200.7 ICP	1	0.78			mg/L	0.1	0.5	12/18/20 13:45	kja
Chromium, dissolved	M200.8 ICP-MS	1	<0.0005	U	*	mg/L	0.0005	0.002	12/17/20 18:07	bsu
Cobalt, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/17/20 18:07	bsu
Copper, dissolved	M200.8 ICP-MS	1	<0.0008	U		mg/L	0.0008	0.002	12/17/20 18:07	bsu
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	12/18/20 13:45	kja
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/17/20 18:07	bsu
Lithium, dissolved	M200.7 ICP	1	0.0424			mg/L	0.008	0.04	12/18/20 13:45	kja
Magnesium, dissolved	M200.7 ICP	1	0.32	B		mg/L	0.2	1	12/18/20 13:45	kja
Manganese, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	12/17/20 18:07	bsu
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	12/18/20 12:06	llr
Molybdenum, dissolved	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.0005	12/17/20 18:07	bsu
Nickel, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.001	12/17/20 18:07	bsu
Potassium, dissolved	M200.7 ICP	1	<0.2	U		mg/L	0.2	1	12/18/20 13:45	kja
Selenium, dissolved	M200.8 ICP-MS	1	<0.0001	U	*	mg/L	0.0001	0.00025	12/17/20 18:07	bsu
Silver, dissolved	M200.8 ICP-MS	1	<0.0001	U	*	mg/L	0.0001	0.0005	12/22/20 15:53	enb
Sodium, dissolved	M200.7 ICP	1	89.4		*	mg/L	0.2	1	12/18/20 13:45	kja
Thallium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/22/20 11:26	bsu
Uranium, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/17/20 18:07	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	<0.0005	U	*	mg/L	0.0005	0.002	12/17/20 18:07	bsu
Zinc, dissolved	M200.8 ICP-MS	1	<0.006	U		mg/L	0.006	0.015	12/17/20 18:07	bsu

Golder Associates

Project ID: 20144265

Sample ID: MW-15

ACZ Sample ID: **L63343-05**

Date Sampled: 12/14/20 11:50

Date Received: 12/15/20

Sample Matrix: Groundwater

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration									
Bicarbonate as CaCO ₃		1	17.2	B		mg/L	2	20	12/18/20 0:00	emk
Carbonate as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Hydroxide as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Total Alkalinity		1	17.2	B		mg/L	2	20	12/18/20 0:00	emk
Chloride	M300.0 - Ion Chromatography	1	<0.4	U		mg/L	0.4	2	12/21/20 23:34	krh
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	12/21/20 11:15	rbt
Fluoride	SM4500F-C	1	<0.11	U		mg/L	0.11	0.35	12/18/20 15:25	eep
Nitrate as N, dissolved	Calculation: NO ₃ NO ₂ minus NO ₂		<0.02	U		mg/L	0.02	0.1	03/01/21 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	U		mg/L	0.02	0.1	12/15/20 22:21	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	12/15/20 22:21	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H		units	0.1	0.1	12/18/20 0:00	emk
pH measured at		1	21.7			C	0.1	0.1	12/18/20 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	1	<20	U	*	mg/L	20	40	12/16/20 12:25	scd
Sulfate	M300.0 - Ion Chromatography	1	<0.4	U	*	mg/L	0.4	2	12/21/20 23:34	krh

Golder Associates

Project ID: 20144265

Sample ID: MW-4

ACZ Sample ID: **L63343-06**

Date Sampled: 12/14/20 12:25

Date Received: 12/15/20

Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	1	<0.005	U		mg/L	0.005	0.015	12/17/20 18:09	bsu
Antimony, dissolved	M200.8 ICP-MS	10	<0.004	U		mg/L	0.004	0.02	12/22/20 15:56	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.00055	B		mg/L	0.0002	0.001	12/17/20 18:09	bsu
Barium, dissolved	M200.8 ICP-MS	20	7.95		*	mg/L	0.01	0.05	12/18/20 15:24	mfm
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	12/17/20 18:09	bsu
Boron, dissolved	M200.7 ICP	5	0.760			mg/L	0.1	0.5	12/18/20 13:48	kja
Cadmium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/17/20 18:09	bsu
Calcium, dissolved	M200.7 ICP	5	35.7			mg/L	0.5	2.5	12/18/20 13:48	kja
Chromium, dissolved	M200.8 ICP-MS	1	<0.0005	U	*	mg/L	0.0005	0.002	12/17/20 18:09	bsu
Cobalt, dissolved	M200.8 ICP-MS	1	0.000116	B		mg/L	0.00005	0.00025	12/17/20 18:09	bsu
Copper, dissolved	M200.8 ICP-MS	1	<0.0008	U		mg/L	0.0008	0.002	12/17/20 18:09	bsu
Iron, dissolved	M200.7 ICP	5	<0.3	U		mg/L	0.3	0.75	12/18/20 13:48	kja
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/17/20 18:09	bsu
Lithium, dissolved	M200.7 ICP	5	1.81			mg/L	0.04	0.2	12/18/20 13:48	kja
Magnesium, dissolved	M200.7 ICP	5	16.4			mg/L	1	5	12/18/20 13:48	kja
Manganese, dissolved	M200.8 ICP-MS	1	0.00724			mg/L	0.0004	0.002	12/17/20 18:09	bsu
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	12/18/20 12:07	llr
Molybdenum, dissolved	M200.8 ICP-MS	1	0.00045	B		mg/L	0.0002	0.0005	12/17/20 18:09	bsu
Nickel, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.001	12/17/20 18:09	bsu
Potassium, dissolved	M200.7 ICP	5	8.34			mg/L	1	5	12/18/20 13:48	kja
Selenium, dissolved	M200.8 ICP-MS	20	<0.002	U	*	mg/L	0.002	0.005	02/02/21 14:40	bsu
Silver, dissolved	M200.8 ICP-MS	10	<0.001	U	*	mg/L	0.001	0.005	12/22/20 15:56	enb
Sodium, dissolved	M200.7 ICP	5	3830		*	mg/L	1	5	12/18/20 13:48	kja
Thallium, dissolved	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	12/22/20 11:33	bsu
Uranium, dissolved	M200.8 ICP-MS	1	0.00030	B		mg/L	0.0001	0.0005	12/17/20 18:09	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.00067	B		mg/L	0.0005	0.002	12/17/20 18:09	bsu
Zinc, dissolved	M200.8 ICP-MS	1	<0.006	U		mg/L	0.006	0.015	12/17/20 18:09	bsu

Golder Associates

Project ID: 20144265

Sample ID: MW-4

ACZ Sample ID: **L63343-06**

Date Sampled: 12/14/20 12:25

Date Received: 12/15/20

Sample Matrix: Groundwater

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration									
Bicarbonate as CaCO ₃		1	585			mg/L	2	20	12/18/20 0:00	emk
Carbonate as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Hydroxide as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Total Alkalinity		1	585			mg/L	2	20	12/18/20 0:00	emk
Chloride	M300.0 - Ion Chromatography	100	6160	H	*	mg/L	40	200	02/04/21 16:12	krh
Cyanide, Free	D6888-09/OIA-1677-09	1	0.0061	B		mg/L	0.003	0.01	12/21/20 11:17	rbt
Fluoride	SM4500F-C	1	1.07			mg/L	0.11	0.35	12/18/20 15:28	eep
Nitrate as N, dissolved	Calculation: NO ₃ NO ₂ minus NO ₂		<0.02	U		mg/L	0.02	0.1	03/01/21 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	U		mg/L	0.02	0.1	12/15/20 22:22	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	12/15/20 22:22	pjb
pH (lab)	SM4500H+ B									
pH		1	8.0	H		units	0.1	0.1	12/18/20 0:00	emk
pH measured at		1	21.8			C	0.1	0.1	12/18/20 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	5	11000			mg/L	100	200	12/16/20 12:28	scd
Sulfate	M300.0 - Ion Chromatography	200	<80	U	*	mg/L	80	400	12/18/20 23:59	krh

Golder Associates

Project ID: 20144265

Sample ID: MW-7

ACZ Sample ID: **L63343-07**

Date Sampled: 12/14/20 13:10

Date Received: 12/15/20

Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	1	0.0067	B		mg/L	0.005	0.015	12/17/20 18:11	bsu
Antimony, dissolved	M200.8 ICP-MS	10	<0.004	U		mg/L	0.004	0.02	12/22/20 15:59	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.00175			mg/L	0.0002	0.001	12/17/20 18:11	bsu
Barium, dissolved	M200.8 ICP-MS	1	2.54		*	mg/L	0.0005	0.0025	12/17/20 18:11	bsu
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	12/17/20 18:11	bsu
Boron, dissolved	M200.7 ICP	5	0.735			mg/L	0.1	0.5	12/18/20 13:58	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.000056	B		mg/L	0.00005	0.00025	12/17/20 18:11	bsu
Calcium, dissolved	M200.7 ICP	5	52.5			mg/L	0.5	2.5	12/18/20 13:58	kja
Chromium, dissolved	M200.8 ICP-MS	1	<0.0005	U	*	mg/L	0.0005	0.002	12/17/20 18:11	bsu
Cobalt, dissolved	M200.8 ICP-MS	1	0.000208	B		mg/L	0.00005	0.00025	12/17/20 18:11	bsu
Copper, dissolved	M200.8 ICP-MS	1	0.00177	B		mg/L	0.0008	0.002	12/17/20 18:11	bsu
Iron, dissolved	M200.7 ICP	5	0.932			mg/L	0.3	0.75	12/18/20 13:58	kja
Lead, dissolved	M200.8 ICP-MS	1	0.00012	B		mg/L	0.0001	0.0005	12/17/20 18:11	bsu
Lithium, dissolved	M200.7 ICP	5	1.84			mg/L	0.04	0.2	12/18/20 13:58	kja
Magnesium, dissolved	M200.7 ICP	5	18.4			mg/L	1	5	12/18/20 13:58	kja
Manganese, dissolved	M200.8 ICP-MS	1	0.117			mg/L	0.0004	0.002	12/17/20 18:11	bsu
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	12/18/20 12:08	llr
Molybdenum, dissolved	M200.8 ICP-MS	1	0.00375			mg/L	0.0002	0.0005	12/17/20 18:11	bsu
Nickel, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.001	12/17/20 18:11	bsu
Potassium, dissolved	M200.7 ICP	5	8.85			mg/L	1	5	12/18/20 13:58	kja
Selenium, dissolved	M200.8 ICP-MS	10	<0.001	U	*	mg/L	0.001	0.0025	02/17/21 14:08	mfm
Silver, dissolved	M200.8 ICP-MS	10	<0.001	U	*	mg/L	0.001	0.005	12/22/20 15:59	enb
Sodium, dissolved	M200.7 ICP	5	3840		*	mg/L	1	5	12/18/20 13:58	kja
Thallium, dissolved	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	12/22/20 11:34	bsu
Uranium, dissolved	M200.8 ICP-MS	1	0.00185			mg/L	0.0001	0.0005	12/17/20 18:11	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.00118	B		mg/L	0.0005	0.002	12/17/20 18:11	bsu
Zinc, dissolved	M200.8 ICP-MS	1	<0.006	U		mg/L	0.006	0.015	12/17/20 18:11	bsu

Golder Associates

Project ID: 20144265

Sample ID: MW-7

ACZ Sample ID: **L63343-07**

Date Sampled: 12/14/20 13:10

Date Received: 12/15/20

Sample Matrix: Groundwater

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration									
Bicarbonate as CaCO ₃		1	663			mg/L	2	20	12/18/20 0:00	emk
Carbonate as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Hydroxide as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Total Alkalinity		1	663			mg/L	2	20	12/18/20 0:00	emk
Chloride	M300.0 - Ion Chromatography	100	6690			mg/L	40	200	12/19/20 0:16	krh
Cyanide, Free	D6888-09/OIA-1677-09	1	0.0096	B		mg/L	0.003	0.01	12/21/20 12:18	rbt
Fluoride	SM4500F-C	1	1.00			mg/L	0.11	0.35	12/18/20 15:31	eep
Nitrate as N, dissolved	Calculation: NO ₃ NO ₂ minus NO ₂		0.08	B		mg/L	0.02	0.1	03/01/21 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.083	B		mg/L	0.02	0.1	12/15/20 22:24	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	12/15/20 22:24	pjb
pH (lab)	SM4500H+ B									
pH		1	7.8	H		units	0.1	0.1	12/18/20 0:00	emk
pH measured at		1	21.5			C	0.1	0.1	12/18/20 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	5	11300			mg/L	100	200	12/16/20 12:32	scd
Sulfate	M300.0 - Ion Chromatography	100	<40	U	*	mg/L	40	200	12/19/20 0:16	krh

Golder Associates

Project ID: 20144265

Sample ID: MW-6

ACZ Sample ID: **L63343-08**

Date Sampled: 12/14/20 13:50

Date Received: 12/15/20

Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	1	<0.005	U		mg/L	0.005	0.015	12/17/20 18:13	bsu
Antimony, dissolved	M200.8 ICP-MS	10	<0.004	U		mg/L	0.004	0.02	12/22/20 15:22	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.00928			mg/L	0.0002	0.001	12/17/20 18:13	bsu
Barium, dissolved	M200.8 ICP-MS	10	6.00		*	mg/L	0.005	0.025	12/18/20 15:26	mfm
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	12/17/20 18:13	bsu
Boron, dissolved	M200.7 ICP	5	0.757			mg/L	0.1	0.5	12/18/20 14:01	kja
Cadmium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/17/20 18:13	bsu
Calcium, dissolved	M200.7 ICP	5	41.1			mg/L	0.5	2.5	12/18/20 14:01	kja
Chromium, dissolved	M200.8 ICP-MS	1	<0.0005	U	*	mg/L	0.0005	0.002	12/17/20 18:13	bsu
Cobalt, dissolved	M200.8 ICP-MS	1	0.000315			mg/L	0.00005	0.00025	12/17/20 18:13	bsu
Copper, dissolved	M200.8 ICP-MS	1	0.00195	B		mg/L	0.0008	0.002	12/17/20 18:13	bsu
Iron, dissolved	M200.7 ICP	5	2.99			mg/L	0.3	0.75	12/18/20 14:01	kja
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/17/20 18:13	bsu
Lithium, dissolved	M200.7 ICP	5	1.79			mg/L	0.04	0.2	12/18/20 14:01	kja
Magnesium, dissolved	M200.7 ICP	5	15.8			mg/L	1	5	12/18/20 14:01	kja
Manganese, dissolved	M200.8 ICP-MS	1	0.0585			mg/L	0.0004	0.002	12/17/20 18:13	bsu
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/21/20 14:21	llr
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0279			mg/L	0.0002	0.0005	12/17/20 18:13	bsu
Nickel, dissolved	M200.8 ICP-MS	1	0.0230			mg/L	0.0004	0.001	12/17/20 18:13	bsu
Potassium, dissolved	M200.7 ICP	5	8.70			mg/L	1	5	12/18/20 14:01	kja
Selenium, dissolved	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.0025	12/22/20 15:22	enb
Silver, dissolved	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	12/22/20 15:22	enb
Sodium, dissolved	M200.7 ICP	5	3710		*	mg/L	1	5	12/18/20 14:01	kja
Thallium, dissolved	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	12/22/20 11:36	bsu
Uranium, dissolved	M200.8 ICP-MS	1	0.00322			mg/L	0.0001	0.0005	12/17/20 18:13	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.00145	B		mg/L	0.0005	0.002	12/17/20 18:13	bsu
Zinc, dissolved	M200.8 ICP-MS	1	<0.006	U		mg/L	0.006	0.015	12/17/20 18:13	bsu

Golder Associates

Project ID: 20144265

Sample ID: MW-6

ACZ Sample ID: **L63343-08**

Date Sampled: 12/14/20 13:50

Date Received: 12/15/20

Sample Matrix: Groundwater

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration									
Bicarbonate as CaCO ₃		1	647			mg/L	2	20	12/18/20 0:00	emk
Carbonate as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Hydroxide as CaCO ₃		1	<2	U		mg/L	2	20	12/18/20 0:00	emk
Total Alkalinity		1	647			mg/L	2	20	12/18/20 0:00	emk
Chloride	M300.0 - Ion Chromatography	100	6110			mg/L	40	200	12/19/20 1:10	krh
Cyanide, Free	D6888-09/OIA-1677-09	1	0.0050	B		mg/L	0.003	0.01	12/21/20 12:20	rbt
Fluoride	SM4500F-C	1	1.12			mg/L	0.11	0.35	12/18/20 15:35	eep
Nitrate as N, dissolved	Calculation: NO ₃ NO ₂ minus NO ₂		<0.02	U		mg/L	0.02	0.1	03/01/21 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	U		mg/L	0.02	0.1	12/15/20 22:25	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	12/15/20 22:25	pjb
pH (lab)	SM4500H+ B									
pH		1	8.0	H		units	0.1	0.1	12/18/20 0:00	emk
pH measured at		1	21.4			C	0.1	0.1	12/18/20 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	5	10600			mg/L	100	200	12/16/20 12:35	scd
Sulfate	M300.0 - Ion Chromatography	100	<40	U	*	mg/L	40	200	12/19/20 1:10	krh

Golder Associates

Project ID: 20144265

Sample ID: MW-5

ACZ Sample ID: **L63343-09**

Date Sampled: 12/14/20 15:15

Date Received: 12/15/20

Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	1	0.0130	B		mg/L	0.005	0.015	12/17/20 18:15	bsu
Antimony, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	12/18/20 15:13	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.00273			mg/L	0.0002	0.001	12/17/20 18:15	bsu
Barium, dissolved	M200.8 ICP-MS	1	0.0106		*	mg/L	0.0005	0.0025	12/17/20 18:15	bsu
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	12/17/20 18:15	bsu
Boron, dissolved	M200.7 ICP	1	0.320			mg/L	0.02	0.1	12/18/20 14:04	kja
Cadmium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/17/20 18:15	bsu
Calcium, dissolved	M200.7 ICP	1	427			mg/L	0.1	0.5	12/18/20 14:04	kja
Chromium, dissolved	M200.8 ICP-MS	1	<0.0005	U	*	mg/L	0.0005	0.002	12/17/20 18:15	bsu
Cobalt, dissolved	M200.8 ICP-MS	1	0.00527			mg/L	0.00005	0.00025	12/17/20 18:15	bsu
Copper, dissolved	M200.8 ICP-MS	1	<0.0008	U		mg/L	0.0008	0.002	12/17/20 18:15	bsu
Iron, dissolved	M200.7 ICP	1	28.1			mg/L	0.06	0.15	12/18/20 14:04	kja
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/17/20 18:15	bsu
Lithium, dissolved	M200.7 ICP	1	0.385			mg/L	0.008	0.04	12/18/20 14:04	kja
Magnesium, dissolved	M200.7 ICP	1	120			mg/L	0.2	1	12/18/20 14:04	kja
Manganese, dissolved	M200.8 ICP-MS	1	0.0935			mg/L	0.0004	0.002	12/17/20 18:15	bsu
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/21/20 14:22	llr
Molybdenum, dissolved	M200.8 ICP-MS	1	0.00890			mg/L	0.0002	0.0005	12/17/20 18:15	bsu
Nickel, dissolved	M200.8 ICP-MS	1	0.0436			mg/L	0.0004	0.001	12/17/20 18:15	bsu
Potassium, dissolved	M200.7 ICP	1	9.03			mg/L	0.2	1	12/18/20 14:04	kja
Selenium, dissolved	M200.8 ICP-MS	2	0.00154			mg/L	0.0002	0.0005	12/22/20 16:02	enb
Silver, dissolved	M200.8 ICP-MS	2	<0.0002	U		mg/L	0.0002	0.001	12/22/20 16:02	enb
Sodium, dissolved	M200.7 ICP	1	497		*	mg/L	0.2	1	12/18/20 14:04	kja
Thallium, dissolved	M200.8 ICP-MS	2	0.000210	B		mg/L	0.0001	0.0005	12/22/20 11:37	bsu
Uranium, dissolved	M200.8 ICP-MS	1	0.0243			mg/L	0.0001	0.0005	12/17/20 18:15	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	12/17/20 18:15	bsu
Zinc, dissolved	M200.8 ICP-MS	1	0.0075	B		mg/L	0.006	0.015	12/17/20 18:15	bsu

Golder Associates

Project ID: 20144265

Sample ID: MW-5

ACZ Sample ID: **L63343-09**

Date Sampled: 12/14/20 15:15

Date Received: 12/15/20

Sample Matrix: Groundwater

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration									
Bicarbonate as CaCO ₃		1	304			mg/L	2	20	12/19/20 0:00	emk
Carbonate as CaCO ₃		1	<2	U		mg/L	2	20	12/19/20 0:00	emk
Hydroxide as CaCO ₃		1	<2	U		mg/L	2	20	12/19/20 0:00	emk
Total Alkalinity		1	304		*	mg/L	2	20	12/19/20 0:00	emk
Chloride	M300.0 - Ion Chromatography	50	30.8	B	*	mg/L	20	100	12/19/20 1:28	krh
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	12/21/20 12:22	rbt
Fluoride	SM4500F-C	1	0.73			mg/L	0.11	0.35	12/18/20 15:38	eep
Nitrate as N, dissolved	Calculation: NO ₃ NO ₂ minus NO ₂		<0.02	U		mg/L	0.02	0.1	03/01/21 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	U		mg/L	0.02	0.1	12/15/20 22:26	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	12/15/20 22:26	pjb
pH (lab)	SM4500H+ B									
pH		1	7.4	H	*	units	0.1	0.1	12/19/20 0:00	emk
pH measured at		1	21.3			C	0.1	0.1	12/19/20 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	2	3830			mg/L	40	80	12/16/20 12:38	scd
Sulfate	M300.0 - Ion Chromatography	50	2530		*	mg/L	20	100	12/19/20 1:28	krh

Golder Associates

Project ID: 20144265

Sample ID: MW-8

ACZ Sample ID: **L63343-10**

Date Sampled: 12/14/20 16:10

Date Received: 12/15/20

Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	1	0.0057	B		mg/L	0.005	0.015	12/17/20 18:16	bsu
Antimony, dissolved	M200.8 ICP-MS	10	0.0125	B		mg/L	0.004	0.02	12/22/20 15:34	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.00546			mg/L	0.0002	0.001	12/17/20 18:16	bsu
Barium, dissolved	M200.8 ICP-MS	1	0.299		*	mg/L	0.0005	0.0025	12/17/20 18:16	bsu
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	12/17/20 18:16	bsu
Boron, dissolved	M200.7 ICP	5	0.900			mg/L	0.1	0.5	12/18/20 14:07	kja
Cadmium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	12/17/20 18:16	bsu
Calcium, dissolved	M200.7 ICP	5	23.4			mg/L	0.5	2.5	12/18/20 14:07	kja
Chromium, dissolved	M200.8 ICP-MS	1	<0.0005	U	*	mg/L	0.0005	0.002	12/17/20 18:16	bsu
Cobalt, dissolved	M200.8 ICP-MS	1	0.000745			mg/L	0.00005	0.00025	12/17/20 18:16	bsu
Copper, dissolved	M200.8 ICP-MS	1	0.00306			mg/L	0.0008	0.002	12/17/20 18:16	bsu
Iron, dissolved	M200.7 ICP	5	<0.3	U		mg/L	0.3	0.75	12/18/20 14:07	kja
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/17/20 18:16	bsu
Lithium, dissolved	M200.7 ICP	5	1.55			mg/L	0.04	0.2	12/18/20 14:07	kja
Magnesium, dissolved	M200.7 ICP	5	18.8			mg/L	1	5	12/18/20 14:07	kja
Manganese, dissolved	M200.8 ICP-MS	1	0.0161			mg/L	0.0004	0.002	12/17/20 18:16	bsu
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/21/20 14:22	llr
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0225			mg/L	0.0002	0.0005	12/17/20 18:16	bsu
Nickel, dissolved	M200.8 ICP-MS	1	0.00469			mg/L	0.0004	0.001	12/17/20 18:16	bsu
Potassium, dissolved	M200.7 ICP	5	16.6			mg/L	1	5	12/18/20 14:07	kja
Selenium, dissolved	M200.8 ICP-MS	10	0.00179	B		mg/L	0.001	0.0025	12/22/20 15:34	enb
Silver, dissolved	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	12/22/20 15:34	enb
Sodium, dissolved	M200.7 ICP	5	3380			mg/L	1	5	12/18/20 14:07	kja
Thallium, dissolved	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	12/22/20 11:39	bsu
Uranium, dissolved	M200.8 ICP-MS	1	0.0167			mg/L	0.0001	0.0005	12/17/20 18:16	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.00440			mg/L	0.0005	0.002	12/17/20 18:16	bsu
Zinc, dissolved	M200.8 ICP-MS	1	0.0091	B		mg/L	0.006	0.015	12/17/20 18:16	bsu

Golder Associates

Project ID: 20144265

Sample ID: MW-8

ACZ Sample ID: **L63343-10**

Date Sampled: 12/14/20 16:10

Date Received: 12/15/20

Sample Matrix: Groundwater

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration									
Bicarbonate as CaCO ₃		1	664			mg/L	2	20	12/19/20 0:00	emk
Carbonate as CaCO ₃		1	<2	U		mg/L	2	20	12/19/20 0:00	emk
Hydroxide as CaCO ₃		1	<2	U		mg/L	2	20	12/19/20 0:00	emk
Total Alkalinity		1	664			mg/L	2	20	12/19/20 0:00	emk
Chloride	M300.0 - Ion Chromatography	100	5910			mg/L	40	200	12/19/20 1:46	krh
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	12/21/20 12:24	rbt
Fluoride	SM4500F-C	1	1.66			mg/L	0.11	0.35	12/18/20 19:48	eep
Nitrate as N, dissolved	Calculation: NO ₃ NO ₂ minus NO ₂		<0.02	U		mg/L	0.02	0.1	03/01/21 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	U		mg/L	0.02	0.1	12/15/20 22:27	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	12/15/20 22:27	pjb
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	12/19/20 0:00	emk
pH measured at		1	21.2			C	0.1	0.1	12/19/20 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	5	10100			mg/L	100	200	12/16/20 12:45	scd
Sulfate	M300.0 - Ion Chromatography	100	529		*	mg/L	40	200	12/19/20 1:46	krh



Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

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ACZ Project ID: **L63343**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3

SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511685													
WG511685PBW1	PBW	12/18/20 15:42				U	mg/L		-20	20			
WG511685LCSW3	LCSW	12/18/20 16:01	WC201209-1	820.0001		775.3	mg/L	95	90	110			
WG511685LCSW6	LCSW	12/18/20 18:31	WC201209-1	820.0001		784.4	mg/L	96	90	110			
WG511685PBW2	PBW	12/18/20 18:41				2.3	mg/L		-20	20			
WG511685LCSW9	LCSW	12/18/20 22:00	WC201209-1	820.0001		787.5	mg/L	96	90	110			
WG511685PBW3	PBW	12/18/20 22:10				2.5	mg/L		-20	20			
L63343-10DUP	DUP	12/19/20 0:27			664	680.9	mg/L				3	20	
WG511685LCSW12	LCSW	12/19/20 2:28	WC201209-1	820.0001		783.6	mg/L	96	90	110			
WG511685PBW4	PBW	12/19/20 2:38				2.5	mg/L		-20	20			
WG511685LCSW15	LCSW	12/19/20 11:18	WC201209-1	820.0001		815.5	mg/L	99	90	110			

Aluminum, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.1		.1016	mg/L	102	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.011	0.011			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.050065		.0443	mg/L	88	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5.0065	U	4.793	mg/L	96	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5.0065	U	4.8655	mg/L	97	70	130	2	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.050065	.0057	.0522	mg/L	93	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.050065	.0057	.0538	mg/L	96	70	130	3	20	

Antimony, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511674													
WG511674ICV	ICV	12/18/20 14:28	MS201021-2	.02004		.02154	mg/L	107	90	110			
WG511674ICB	ICB	12/18/20 14:30				.00068	mg/L		-0.00088	0.00088			
WG511674LFB	LFB	12/18/20 14:32	MS201216-2	.01		.00957	mg/L	96	85	115			
L63266-02AS	AS	12/18/20 14:39	MS201216-2	.01	U	.00965	mg/L	97	70	130			
L63266-02ASD	ASD	12/18/20 14:41	MS201216-2	.01	U	.00995	mg/L	100	70	130	3	20	
L63343-07AS	AS	12/18/20 15:10	MS201216-2	.01	.00051	.0083	mg/L	78	70	130			E6
L63343-07ASD	ASD	12/18/20 15:12	MS201216-2	.01	.00051	.00805	mg/L	75	70	130	3	20	E6

WG511840

WG511840ICV	ICV	12/22/20 13:49	MS201021-2	.02004		.01974	mg/L	99	90	110			
WG511840ICB	ICB	12/22/20 13:52				U	mg/L		-0.00088	0.00088			
WG511840LFB	LFB	12/22/20 13:55	MS201216-2	.01		.00942	mg/L	94	85	115			
L63362-03AS	AS	12/22/20 14:32	MS201216-2	.5	U	.4916	mg/L	98	70	130			
L63362-03ASD	ASD	12/22/20 14:35	MS201216-2	.5	U	.48905	mg/L	98	70	130	1	20	
L63343-04AS	AS	12/22/20 15:47	MS201216-2	.02	U	.01445	mg/L	72	70	130			
L63343-04ASD	ASD	12/22/20 15:50	MS201216-2	.02	U	.01678	mg/L	84	70	130	15	20	

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ACZ Project ID: **L63343**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Arsenic, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.04994	mg/L	100	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.00044	0.00044			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.05005		.04416	mg/L	88	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5.005	U	4.74806	mg/L	95	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5.005	U	4.82	mg/L	96	70	130	2	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.05005	U	.05931	mg/L	119	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.05005	U	.05926	mg/L	118	70	130	0	20	

Barium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.05057	mg/L	101	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.0011	0.0011			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.049985		.04384	mg/L	88	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	4.9985	U	4.69508	mg/L	94	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	4.9985	U	4.76056	mg/L	95	70	130	1	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.049985	1.93	1.94812	mg/L	36	70	130			M3
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.049985	1.93	1.99135	mg/L	123	70	130	2	20	
WG511674													
WG511674ICV	ICV	12/18/20 14:28	MS201021-2	.05		.04938	mg/L	99	90	110			
WG511674ICB	ICB	12/18/20 14:30				U	mg/L		-0.0011	0.0011			
WG511674LFB	LFB	12/18/20 14:32	MS201216-2	.049985		.0467	mg/L	93	85	115			
L63343-07AS	AS	12/18/20 15:10	MS201216-2	.049985	2.71	2.78345	mg/L	147	70	130			E6 M3
L63343-07ASD	ASD	12/18/20 15:12	MS201216-2	.049985	2.71	2.71733	mg/L	15	70	130	2	20	E6 M3

Beryllium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.050693	mg/L	101	90	110			
WG511609ICB	ICB	12/17/20 17:25				.00008	mg/L		-0.000176	0.000176			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.05005		.044116	mg/L	88	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5.005	U	4.74656	mg/L	95	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5.005	U	4.862626	mg/L	97	70	130	2	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.05005	U	.04741	mg/L	95	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.05005	U	.048626	mg/L	97	70	130	3	20	

Boron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511602													
WG511602ICV	ICV	12/18/20 13:02	II201204-1	2		1.994	mg/L	100	95	105			
WG511602ICB	ICB	12/18/20 13:08				.022	mg/L		-0.06	0.06			
WG511602LFB	LFB	12/18/20 13:20	II201123-3	.5005		.509	mg/L	102	85	115			
L63343-02AS	AS	12/18/20 13:33	II201123-3	1.001	.744	1.689	mg/L	94	85	115			
L63343-02ASD	ASD	12/18/20 13:36	II201123-3	1.001	.744	1.65	mg/L	91	85	115	2	20	
L63346-02AS	AS	12/18/20 14:17	II201123-3	.5005	.023	.524	mg/L	100	85	115			
L63346-02ASD	ASD	12/18/20 14:20	II201123-3	.5005	.023	.516	mg/L	99	85	115	2	20	

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ACZ Project ID: **L63343**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.051567	mg/L	103	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.00011	0.00011			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.05005		.043908	mg/L	88	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5.005	U	4.70245	mg/L	94	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5.005	U	4.770439	mg/L	95	70	130	1	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.05005	U	.043494	mg/L	87	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.05005	U	.044494	mg/L	89	70	130	2	20	

Calcium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511602													
WG511602ICV	ICV	12/18/20 13:02	II201204-1	100		99.76	mg/L	100	95	105			
WG511602ICB	ICB	12/18/20 13:08				U	mg/L		-0.3	0.3			
WG511602LFB	LFB	12/18/20 13:20	II201123-3	68.0028		67.78	mg/L	100	85	115			
L63343-02AS	AS	12/18/20 13:33	II201123-3	136.0056	109	237.4	mg/L	94	85	115			
L63343-02ASD	ASD	12/18/20 13:36	II201123-3	136.0056	109	235	mg/L	93	85	115	1	20	
L63346-02AS	AS	12/18/20 14:17	II201123-3	68.0028	.31	67.42	mg/L	99	85	115			
L63346-02ASD	ASD	12/18/20 14:20	II201123-3	68.0028	.31	68.5	mg/L	100	85	115	2	20	

Chloride

M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG509837													
WG509837ICV	ICV	11/20/20 13:32	WI201116-10	20.02		20.01	mg/L	100	90	110			
WG509837ICB	ICB	11/20/20 13:50				U	mg/L		-0.4	0.4			
WG511665													
WG511665LFB	LFB	12/18/20 18:18	WI201018-4	30		30.51	mg/L	102	90	110			
L63279-01DUP	DUP	12/18/20 20:41			7.59	7.37	mg/L				3	20	RA
L63343-01AS	AS	12/18/20 21:53	WI201018-4	3000	3820	6596.89	mg/L	93	90	110			
L63343-04DUP	DUP	12/21/20 23:16			1670	1668.09	mg/L				0	20	
L63343-05AS	AS	12/21/20 23:52	WI201018-4	30	U	30.73	mg/L	102	90	110			
WG513467													
WG513467ICV	ICV	01/26/21 20:01	WI210126-15	20.02		20.11	mg/L	100	90	110			
WG513467ICB	ICB	01/26/21 20:19				U	mg/L		-0.4	0.4			
WG513784													
WG513784LFB	LFB	02/03/21 15:04	WI201018-4	30		30.35	mg/L	101	90	110			
L63904-01AS	AS	02/03/21 16:34	WI201018-4	30	21.8	51.26	mg/L	98	90	110			
L63343-06DUP	DUP	02/04/21 16:30			6160	6170.66	mg/L				0	20	

Golder Associates

ACZ Project ID: **L63343**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Chromium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.05139	mg/L	103	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.0011	0.0011			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.05		.04482	mg/L	90	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5	U	4.79799	mg/L	96	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5	U	4.89672	mg/L	98	70	130	2	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.05	U	.05452	mg/L	109	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.05	U	.05462	mg/L	109	70	130	0	20	

Cobalt, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.053393	mg/L	107	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.00011	0.00011			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.05005		.044976	mg/L	90	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5.005	U	4.894208	mg/L	98	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5.005	U	4.922981	mg/L	98	70	130	1	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.05005	U	.039272	mg/L	78	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.05005	U	.040155	mg/L	80	70	130	2	20	

Copper, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.05106	mg/L	102	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.00176	0.00176			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.05		.04357	mg/L	87	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5	U	4.70847	mg/L	94	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5	U	4.79819	mg/L	96	70	130	2	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.05	U	.04687	mg/L	94	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.05	U	.04716	mg/L	94	70	130	1	20	

Cyanide, Free

D6888-09/OIA-1677-09

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511739													
WG511739ICV	ICV	12/21/20 10:53	WI201214-5	.3003		.3119	mg/L	104	90	110			
WG511739ICB	ICB	12/21/20 10:55				U	mg/L		-0.003	0.003			
WG511739LFB	LFB	12/21/20 10:59	WI201214-7	.1001		.1034	mg/L	103	90	110			
L63343-01AS	AS	12/21/20 11:05	WI201214-7	.1001	.003	.1102	mg/L	107	90	110			
L63343-01ASD	ASD	12/21/20 11:07	WI201214-7	.1001	.003	.1094	mg/L	106	90	110	1	20	
WG511739ICV1	ICV	12/21/20 12:12	WI201214-5	.3003		.3015	mg/L	100	90	110			
WG511739ICB1	ICB	12/21/20 12:14				U	mg/L		-0.003	0.003			
L63343-10AS	AS	12/21/20 12:26	WI201214-7	.1001	U	.1015	mg/L	101	90	110			
L63343-10ASD	ASD	12/21/20 12:28	WI201214-7	.1001	U	.1004	mg/L	100	90	110	1	20	

Golder Associates

ACZ Project ID: **L63343**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Fluoride

SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511646													
WG511646ICV	ICV	12/18/20 11:47	WC201211-1	2.002		2.09	mg/L	104	90	110			
WG511646ICB	ICB	12/18/20 11:50				U	mg/L		-0.33	0.33			
WG511646LFB1	LFB	12/18/20 11:58	WC200511-1	5		5.38	mg/L	108	90	110			
WG511646LFB3	LFB	12/18/20 14:58	WC200511-1	5		5.5	mg/L	110	90	110			
L63343-09AS	AS	12/18/20 15:41	WC200511-1	5	.73	5.65	mg/L	98	90	110			
L63343-09ASD	ASD	12/18/20 15:45	WC200511-1	5	.73	5.68	mg/L	99	90	110	1	20	
WG511708													
WG511708ICV	ICV	12/18/20 19:18	WC201211-1	2.002		2.18	mg/L	109	90	110			
WG511708ICB	ICB	12/18/20 19:23				U	mg/L		-0.33	0.33			
WG511708LFB1	LFB	12/18/20 19:31	WC200511-1	5		5.48	mg/L	110	90	110			
L63364-01AS	AS	12/18/20 20:39	WC200511-1	5	.38	5.7	mg/L	106	90	110			
L63364-01ASD	ASD	12/18/20 20:42	WC200511-1	5	.38	5.76	mg/L	108	90	110	1	20	
WG511708LFB2	LFB	12/18/20 21:45	WC200511-1	5		5.5	mg/L	110	90	110			

Iron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511602													
WG511602ICV	ICV	12/18/20 13:02	II201204-1	2		1.987	mg/L	99	95	105			
WG511602ICB	ICB	12/18/20 13:08				U	mg/L		-0.18	0.18			
WG511602LFB	LFB	12/18/20 13:20	II201123-3	1.0018		.98	mg/L	98	85	115			
L63343-02AS	AS	12/18/20 13:33	II201123-3	2.0036	U	1.973	mg/L	98	85	115			
L63343-02ASD	ASD	12/18/20 13:36	II201123-3	2.0036	U	1.926	mg/L	96	85	115	2	20	
L63346-02AS	AS	12/18/20 14:17	II201123-3	1.0018	U	.98	mg/L	98	85	115			
L63346-02ASD	ASD	12/18/20 14:20	II201123-3	1.0018	U	.983	mg/L	98	85	115	0	20	

Lead, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.05238	mg/L	105	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.00022	0.00022			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.05005		.04392	mg/L	88	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5.005	U	4.76046	mg/L	95	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5.005	U	4.84051	mg/L	97	70	130	2	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.05005	U	.04109	mg/L	82	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.05005	U	.04213	mg/L	84	70	130	2	20	

Lithium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511602													
WG511602ICV	ICV	12/18/20 13:02	II201204-1	2		2.0058	mg/L	100	95	105			
WG511602ICB	ICB	12/18/20 13:08				U	mg/L		-0.024	0.024			
WG511602LFB	LFB	12/18/20 13:20	II201123-3	.997		.9928	mg/L	100	85	115			
L63343-02AS	AS	12/18/20 13:33	II201123-3	1.994	1.09	3.002	mg/L	96	85	115			
L63343-02ASD	ASD	12/18/20 13:36	II201123-3	1.994	1.09	3.018	mg/L	97	85	115	1	20	
L63346-02AS	AS	12/18/20 14:17	II201123-3	.997	U	.9782	mg/L	98	85	115			
L63346-02ASD	ASD	12/18/20 14:20	II201123-3	.997	U	.9908	mg/L	99	85	115	1	20	

Golder Associates

ACZ Project ID: **L63343**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Magnesium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511602													
WG511602ICV	ICV	12/18/20 13:02	II201204-1	100		100.53	mg/L	101	95	105			
WG511602ICB	ICB	12/18/20 13:08				U	mg/L		-0.6	0.6			
WG511602LFB	LFB	12/18/20 13:20	II201123-3	50.00226		49.25	mg/L	98	85	115			
L63343-02AS	AS	12/18/20 13:33	II201123-3	100.00452	116	209	mg/L	93	85	115			
L63343-02ASD	ASD	12/18/20 13:36	II201123-3	100.00452	116	207.4	mg/L	91	85	115	1	20	
L63346-02AS	AS	12/18/20 14:17	II201123-3	50.00226	U	48.88	mg/L	98	85	115			
L63346-02ASD	ASD	12/18/20 14:20	II201123-3	50.00226	U	49.68	mg/L	99	85	115	2	20	

Manganese, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.05379	mg/L	108	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.00088	0.00088			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.0499		.04572	mg/L	92	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	4.99	U	5.01981	mg/L	101	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	4.99	U	5.01971	mg/L	101	70	130	0	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.0499	.0259	.06428	mg/L	77	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.0499	.0259	.06612	mg/L	81	70	130	3	20	

Mercury, dissolved

M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511632													
WG511632ICV	ICV	12/18/20 11:38	HG201109-2	.005		.00494	mg/L	99	95	105			
WG511632ICB	ICB	12/18/20 11:39				U	mg/L		-0.0002	0.0002			
WG511632LRB	LRB	12/18/20 11:41				U	mg/L		-0.00044	0.00044			
WG511632LFB	LFB	12/18/20 11:42	HG201217-5	.002002		.00196	mg/L	98	85	115			
L63343-04LFM	LFM	12/18/20 12:04	HG201217-5	.002002	U	.00126	mg/L	63	85	115			M2
L63343-04LFMD	LFMD	12/18/20 12:05	HG201217-5	.002002	U	.00122	mg/L	61	85	115	3	20	M2

WG511742

WG511742ICV	ICV	12/21/20 11:51	HG201109-2	.005		.00486	mg/L	97	95	105			
WG511742ICB	ICB	12/21/20 11:52				U	mg/L		-0.0002	0.0002			

WG511758

WG511758LRB	LRB	12/21/20 14:19				U	mg/L		-0.00044	0.00044			
WG511758LFB	LFB	12/21/20 14:20	HG201217-5	.002002		.00185	mg/L	92	85	115			
L63363-01LFM	LFM	12/21/20 14:29	HG201217-5	.002002	U	.00181	mg/L	90	85	115			
L63363-01LFMD	LFMD	12/21/20 14:30	HG201217-5	.002002	U	.00186	mg/L	93	85	115	3	20	

Molybdenum, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.01992		.02019	mg/L	101	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.00044	0.00044			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.0501		.04409	mg/L	88	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5.01	U	4.78553	mg/L	96	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5.01	U	4.84196	mg/L	97	70	130	1	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.0501	.00032	.04931	mg/L	98	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.0501	.00032	.05098	mg/L	101	70	130	3	20	

Golder Associates

ACZ Project ID: **L63343**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Nickel, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.05142	mg/L	103	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.00088	0.00088			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.05		.04484	mg/L	90	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5	U	4.83024	mg/L	97	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5	U	4.93363	mg/L	99	70	130	2	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.05	U	.04913	mg/L	98	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.05	U	.04925	mg/L	99	70	130	0	20	

Nitrate/Nitrite as N, dissolved

M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511422													
WG511422ICV	ICV	12/15/20 22:02	WI201117-3	2.416		2.427	mg/L	100	90	110			
WG511422ICB	ICB	12/15/20 22:03				U	mg/L		-0.02	0.02			
WG511422LFB	LFB	12/15/20 22:08	WI201001-11	2		1.953	mg/L	98	90	110			
L63343-01AS	AS	12/15/20 22:11	WI201001-11	2	U	2.042	mg/L	102	90	110			
L63343-02DUP	DUP	12/15/20 22:13			.87	.867	mg/L				0	20	

Nitrite as N, dissolved

M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511422													
WG511422ICV	ICV	12/15/20 22:02	WI201117-3	.609		.611	mg/L	100	90	110			
WG511422ICB	ICB	12/15/20 22:03				U	mg/L		-0.01	0.01			
WG511422LFB	LFB	12/15/20 22:08	WI201001-11	1		.96	mg/L	96	90	110			
L63343-01AS	AS	12/15/20 22:11	WI201001-11	1	U	1.037	mg/L	104	90	110			
L63343-02DUP	DUP	12/15/20 22:13			.013	.013	mg/L				0	20	RA

pH (lab)

SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511685													
WG511685LCSW1	LCSW	12/18/20 15:47	PCN60577	6		6.1	units	102	5.9	6.1			
WG511685LCSW4	LCSW	12/18/20 18:17	PCN60577	6		6.1	units	102	5.9	6.1			
WG511685LCSW7	LCSW	12/18/20 21:46	PCN60577	6		6.1	units	102	5.9	6.1			
L63343-10DUP	DUP	12/19/20 0:27			8.3	8.3	units				0	20	
WG511685LCSW10	LCSW	12/19/20 2:14	PCN60577	6		6.1	units	102	5.9	6.1			
WG511685LCSW13	LCSW	12/19/20 11:04	PCN60577	6		6.1	units	102	5.9	6.1			

Potassium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511602													
WG511602ICV	ICV	12/18/20 13:02	II201204-1	20		20.14	mg/L	101	95	105			
WG511602ICB	ICB	12/18/20 13:08				U	mg/L		-0.6	0.6			
WG511602LFB	LFB	12/18/20 13:20	II201123-3	99.96847		99.91	mg/L	100	85	115			
L63343-02AS	AS	12/18/20 13:33	II201123-3	199.93694	9.56	206.8	mg/L	99	85	115			
L63343-02ASD	ASD	12/18/20 13:36	II201123-3	199.93694	9.56	205	mg/L	98	85	115	1	20	
L63346-02AS	AS	12/18/20 14:17	II201123-3	99.96847	.44	98.8	mg/L	98	85	115			
L63346-02ASD	ASD	12/18/20 14:20	II201123-3	99.96847	.44	100.8	mg/L	100	85	115	2	20	

Golder Associates

ACZ Project ID: **L63343**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511468													
WG511468PBW	PBW	12/16/20 11:30				U	mg/L		-20	20			
WG511468LCSW	LCSW	12/16/20 11:33	PCN62446	1000		998	mg/L	100	80	120			
L63343-09DUP	DUP	12/16/20 12:41			3830	3824	mg/L				0	10	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.05074	mg/L	101	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.00022	0.00022			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.05		.04346	mg/L	87	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5	U	4.67641	mg/L	94	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5	U	4.75875	mg/L	95	70	130	2	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.05	.0065	.04396	mg/L	75	70	130			E6
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.05	.0065	.04494	mg/L	77	70	130	2	20	E6
WG511840													
WG511840ICV	ICV	12/22/20 13:49	MS201021-2	.05		.04715	mg/L	94	90	110			
WG511840ICB	ICB	12/22/20 13:52				U	mg/L		-0.00022	0.00022			
WG511840LFB	LFB	12/22/20 13:55	MS201216-2	.05		.04528	mg/L	91	85	115			
L63362-03AS	AS	12/22/20 14:32	MS201216-2	2.5	U	2.4255	mg/L	97	70	130			
L63362-03ASD	ASD	12/22/20 14:35	MS201216-2	2.5	U	2.434	mg/L	97	70	130	0	20	
L63343-04AS	AS	12/22/20 15:47	MS201216-2	.1	.00022	.08962	mg/L	89	70	130			
L63343-04ASD	ASD	12/22/20 15:50	MS201216-2	.1	.00022	.08892	mg/L	89	70	130	1	20	
WG513741													
WG513741ICV	ICV	02/02/21 14:35	MS210115-2	.05		.05112	mg/L	102	90	110			
WG513741ICB	ICB	02/02/21 14:36				U	mg/L		-0.00022	0.00022			
WG513741LFB	LFB	02/02/21 14:44	MS201228-2	.05		.04399	mg/L	88	85	115			
L63941-02AS	AS	02/02/21 14:58	MS201228-2	.1	.00138	.09589	mg/L	95	70	130			
L63941-02ASD	ASD	02/02/21 15:00	MS201228-2	.1	.00138	.09706	mg/L	96	70	130	1	20	
WG514510													
WG514510ICV	ICV	02/17/21 14:03	MS210115-2	.05		.04998	mg/L	100	90	110			
WG514510ICB	ICB	02/17/21 14:05				.00012	mg/L		-0.00022	0.00022			
WG514510LFB	LFB	02/17/21 14:07	MS201228-2	.05		.04615	mg/L	92	85	115			
L64129-04AS	AS	02/17/21 14:17	MS201228-2	.1	U	.09698	mg/L	97	70	130			
L64129-04ASD	ASD	02/17/21 14:19	MS201228-2	.1	U	.09394	mg/L	94	70	130	3	20	

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ACZ Project ID: **L63343**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Silver, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511674													
WG511674ICV	ICV	12/18/20 14:28	MS201021-2	.02004		.02188	mg/L	109	90	110			
WG511674ICB	ICB	12/18/20 14:30				U	mg/L		-0.00022	0.00022			
WG511674LFB	LFB	12/18/20 14:32	MS201216-2	.01002		.00976	mg/L	97	85	115			
L63266-02AS	AS	12/18/20 14:39	MS201216-2	.01002	U	.0097	mg/L	97	70	130			
L63266-02ASD	ASD	12/18/20 14:41	MS201216-2	.01002	U	.00943	mg/L	94	70	130	3	20	
WG511840													
WG511840ICV	ICV	12/22/20 13:49	MS201021-2	.02004		.02013	mg/L	100	90	110			
WG511840ICB	ICB	12/22/20 13:52				U	mg/L		-0.00022	0.00022			
WG511840LFB	LFB	12/22/20 13:55	MS201216-2	.01002		.00962	mg/L	96	85	115			
L63362-03AS	AS	12/22/20 14:32	MS201216-2	.501	U	.507	mg/L	101	70	130			
L63362-03ASD	ASD	12/22/20 14:35	MS201216-2	.501	U	.49325	mg/L	98	70	130	3	20	
L63343-04AS	AS	12/22/20 15:47	MS201216-2	.02004	U	.01196	mg/L	60	70	130			M2 ZA
L63343-04ASD	ASD	12/22/20 15:50	MS201216-2	.02004	U	.01321	mg/L	66	70	130	10	20	M2 ZA

Sodium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511602													
WG511602ICV	ICV	12/18/20 13:02	II201204-1	100		99.43	mg/L	99	95	105			
WG511602ICB	ICB	12/18/20 13:08				U	mg/L		-0.6	0.6			
WG511602LFB	LFB	12/18/20 13:20	II201123-3	100.0141		97.39	mg/L	97	85	115			
L63343-02AS	AS	12/18/20 13:33	II201123-3	200.0282	1640	1754.4	mg/L	57	85	115			M3
L63343-02ASD	ASD	12/18/20 13:36	II201123-3	200.0282	1640	1762.6	mg/L	61	85	115	0	20	M3
L63346-02AS	AS	12/18/20 14:17	II201123-3	100.0141	.59	97.62	mg/L	97	85	115			
L63346-02ASD	ASD	12/18/20 14:20	II201123-3	100.0141	.59	99.21	mg/L	99	85	115	2	20	
WG511776													
WG511776ICV	ICV	12/21/20 13:23	II201204-1	100		98.28	mg/L	98	95	105			
WG511776ICB	ICB	12/21/20 13:29				U	mg/L		-0.6	0.6			
WG511776LFB	LFB	12/21/20 13:42	II201123-3	100.0141		92.46	mg/L	92	85	115			
L63405-02AS	AS	12/21/20 13:57	II201123-3	100.0141	208	292.9	mg/L	85	85	115			
L63405-02ASD	ASD	12/21/20 14:00	II201123-3	100.0141	208	291	mg/L	83	85	115	1	20	MA

Sulfate

M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG509837													
WG509837ICV	ICV	11/20/20 13:32	WI201116-10	50		51.86	mg/L	104	90	110			
WG509837ICB	ICB	11/20/20 13:50				U	mg/L		-0.4	0.4			
WG511665													
WG511665LFB	LFB	12/18/20 18:18	WI201018-4	30		30.58	mg/L	102	90	110			
L63279-01DUP	DUP	12/18/20 20:41			512	511.06	mg/L				0	20	
L63343-01AS	AS	12/18/20 21:53	WI201018-4	3000	U	3095	mg/L	103	90	110			
L63343-04DUP	DUP	12/21/20 23:16			U	U	mg/L				0	20	RA
L63343-05AS	AS	12/21/20 23:52	WI201018-4	30	U	30.85	mg/L	103	90	110			

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NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Thallium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511802													
WG511802ICV	ICV	12/22/20 11:14	MS201021-2	.05		.049951	mg/L	100	90	110			
WG511802ICB	ICB	12/22/20 11:15				U	mg/L		-0.00011	0.00011			
WG511802LFB	LFB	12/22/20 11:18	MS201216-2	.0501		.045858	mg/L	92	85	115			
L63343-05AS	AS	12/22/20 11:27	MS201216-2	.0501	U	.049518	mg/L	99	70	130			
L63343-05ASD	ASD	12/22/20 11:29	MS201216-2	.0501	U	.048884	mg/L	98	70	130	1	20	

Uranium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.05445	mg/L	109	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.00022	0.00022			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.05		.04575	mg/L	92	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5	U	4.93562	mg/L	99	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5	U	5.02642	mg/L	101	70	130	2	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.05	.0001	.04359	mg/L	87	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.05	.0001	.04446	mg/L	89	70	130	2	20	

Vanadium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.04967	mg/L	99	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.0011	0.0011			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.05		.04365	mg/L	87	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5	U	4.74447	mg/L	95	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5	U	4.79297	mg/L	96	70	130	1	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.05	U	.04296	mg/L	86	70	130			E6
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.05	U	.04336	mg/L	87	70	130	1	20	E6

Zinc, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG511609													
WG511609ICV	ICV	12/17/20 17:23	MS201021-2	.05		.0508	mg/L	102	90	110			
WG511609ICB	ICB	12/17/20 17:25				U	mg/L		-0.0132	0.0132			
WG511609LFB	LFB	12/17/20 17:27	MS201216-2	.050075		.0434	mg/L	87	85	115			
L58126-38AS	AS	12/17/20 17:30	MS201216-2	5.0075	U	4.7721	mg/L	95	70	130			
L58126-38ASD	ASD	12/17/20 17:32	MS201216-2	5.0075	U	4.769	mg/L	95	70	130	0	20	
L63343-03AS	AS	12/17/20 17:58	MS201216-2	.050075	U	.0369	mg/L	74	70	130			
L63343-03ASD	ASD	12/17/20 18:00	MS201216-2	.050075	U	.0371	mg/L	74	70	130	1	20	

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L63343-01	WG511665	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG511609	Chromium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG511632	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511422	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG511609	Selenium, dissolved	M200.8 ICP-MS	DD	Sample required dilution due to matrix color or odor.
	WG511840	Silver, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG511776	Sodium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG511665	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
L63343-02	WG511609	Barium, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511665	Chloride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG511632	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511422	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG511602	Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L63343-03	WG511609	Barium, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511665	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
				M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511632	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511422	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG511840	Silver, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG511602	Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511665	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
	WG511609	Vanadium, dissolved	M200.8 ICP-MS	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L63343-04	WG511609	Barium, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511632	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511422	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG511840	Silver, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG511602	Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511665	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG511609	Vanadium, dissolved	M200.8 ICP-MS	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
L63343-05	WG511609	Barium, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Chromium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG511632	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511422	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG511468	Residue, Filterable (TDS) @180C	SM2540C	Z3	Sample volume yielded a residue less than 2.5 mg
	WG511609	Selenium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
				M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511840	Silver, dissolved	M200.8 ICP-MS	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
			M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511602	Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511665	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
				IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
	WG511609	Vanadium, dissolved	M200.8 ICP-MS	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L63343-06	WG511674	Barium, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG513784	Chloride	M300.0 - Ion Chromatography	C5	Confirmatory analysis was past holding time. Original result not confirmed.
	WG511609	Chromium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [$< MDL$].
	WG511632	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511422	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($< 10x MDL$).
	WG513741	Selenium, dissolved	M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
	WG511840	Silver, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG511602	Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511665	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($< 10x MDL$).
L63343-07	WG511609	Barium, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Chromium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [$< MDL$].
	WG511632	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511422	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($< 10x MDL$).
	WG514510	Selenium, dissolved	M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
			M200.8 ICP-MS	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
	WG511840	Silver, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG511602	Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511665	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($< 10x MDL$).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L63343-08	WG511674	Barium, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511609	Chromium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [$<$ MDL].
	WG511422	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($<$ 10x MDL).
	WG511602	Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511665	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($<$ 10x MDL).
L63343-09	WG511609	Barium, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511665	Chloride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
	WG511609	Chromium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [$<$ MDL].
	WG511422	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($<$ 10x MDL).
	WG511685	pH	SM4500H+ B	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
	WG511602	Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG511665	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($<$ 10x MDL).
	WG511685	Total Alkalinity	SM2320B - Titration	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
L63343-10	WG511609	Barium, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Chromium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [$<$ MDL].
	WG511422	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($<$ 10x MDL).
	WG511665	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($<$ 10x MDL).

Golder Associates

Project ID: 20144265

Sample ID: MW-2

Locator:

ACZ Sample ID: **L63343-01**

Date Sampled: 12/14/20 9:30

Date Received: 12/15/20

Sample Matrix: Groundwater

Gross Alpha & Beta, dissolved

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	12/29/20 0:15		11	23	220	pCi/L	*	fdw
Gross Beta	12/29/20 0:15		-3.2	26	200	pCi/L	*	fdw

Golder Associates

Project ID: 20144265

Sample ID: MW-1

Locator:

ACZ Sample ID: **L63343-02**

Date Sampled: 12/14/20 10:30

Date Received: 12/15/20

Sample Matrix: Groundwater

Gross Alpha & Beta, dissolved

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	12/29/20 0:17		39	25	91	pCi/L	*	fdw
Gross Beta	12/29/20 0:17		13	21	55	pCi/L	*	fdw

Golder Associates

Project ID: 20144265

Sample ID: MW-3

Locator:

ACZ Sample ID: **L63343-03**

Date Sampled: 12/14/20 11:25

Date Received: 12/15/20

Sample Matrix: Groundwater

Gross Alpha & Beta, dissolved

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	12/29/20 0:18		-7.4	13	66	pCi/L	*	fdw
Gross Beta	12/29/20 0:18		-5.4	20	41	pCi/L	*	fdw

Golder Associates

Project ID: 20144265

Sample ID: MW-20

Locator:

ACZ Sample ID: **L63343-04**

Date Sampled: 12/14/20 11:25

Date Received: 12/15/20

Sample Matrix: Groundwater

Gross Alpha & Beta, dissolved

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	12/29/20 0:20		0.07	9.8	44	pCi/L	*	fdw
Gross Beta	12/29/20 0:20		0.3	18	56	pCi/L	*	fdw

Golder Associates

Project ID: 20144265

Sample ID: MW-15

Locator:

ACZ Sample ID: **L63343-05**

Date Sampled: 12/14/20 11:50

Date Received: 12/15/20

Sample Matrix: Groundwater

Gross Alpha & Beta, dissolved

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	12/29/20 0:21		0.17	1	7.3	pCi/L	*	fdw
Gross Beta	12/29/20 0:21		-0.5	2.5	11	pCi/L	*	fdw

Golder Associates

Project ID: 20144265

Sample ID: MW-4

Locator:

ACZ Sample ID: **L63343-06**

Date Sampled: 12/14/20 12:25

Date Received: 12/15/20

Sample Matrix: Groundwater

Gross Alpha & Beta, dissolved

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	12/29/20 0:23		19	44	150	pCi/L	*	fdw
Gross Beta	12/29/20 0:23		-2.6	53	190	pCi/L	*	fdw

Golder Associates

Project ID: 20144265

Sample ID: MW-7

Locator:

ACZ Sample ID: **L63343-07**

Date Sampled: 12/14/20 13:10

Date Received: 12/15/20

Sample Matrix: Groundwater

Gross Alpha & Beta, dissolved

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	12/29/20 0:24		-21	31	180	pCi/L		fdw
Gross Beta	12/29/20 0:24		1.9	53	140	pCi/L	*	fdw

Golder Associates

Project ID: 20144265

Sample ID: MW-6

Locator:

ACZ Sample ID: **L63343-08**

Date Sampled: 12/14/20 13:50

Date Received: 12/15/20

Sample Matrix: Groundwater

Gross Alpha & Beta, dissolved

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	12/29/20 0:25		14	33	140	pCi/L		fdw
Gross Beta	12/29/20 0:25		-28	47	140	pCi/L	*	fdw

Golder Associates

Project ID: 20144265

Sample ID: MW-5

Locator:

ACZ Sample ID: **L63343-09**

Date Sampled: 12/14/20 15:15

Date Received: 12/15/20

Sample Matrix: Groundwater

Gross Alpha & Beta, dissolved

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	12/29/20 0:27		26	13	87	pCi/L		fdw
Gross Beta	12/29/20 0:27		19	13	78	pCi/L	*	fdw

Golder Associates

Project ID: 20144265

Sample ID: MW-8

Locator:

ACZ Sample ID: **L63343-10**

Date Sampled: 12/14/20 16:10

Date Received: 12/15/20

Sample Matrix: Groundwater

Gross Alpha & Beta, dissolved

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	12/29/20 0:28		45	45	360	pCi/L		fdw
Gross Beta	12/29/20 0:28		9.1	44	320	pCi/L	*	fdw

Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Error(+/-)</i>	Calculated sample specific uncertainty
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>LCL</i>	Lower Control Limit, in % (except for LCSS, mg/Kg)
<i>LLD</i>	Calculated sample specific Lower Limit of Detection
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RER</i>	Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>UCL</i>	Upper Control Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

<i>DUP</i>	Sample Duplicate	<i>MS/MSD</i>	Matrix Spike/Matrix Spike Duplicate
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBS</i>	Prep Blank - Soil
<i>LCSW</i>	Laboratory Control Sample - Water	<i>PBW</i>	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Matrix Spikes	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

H	Analysis exceeded method hold time.
---	-------------------------------------

Method Prefix Reference

M	EPA methodology, including those under SDWA, CWA, and RCRA
SM	Standard Methods for the Examination of Water and Wastewater.
D	ASTM
RP	DOE
ESM	DOE/ESM

Comments

- (1) Solid matrices are reported on a dry weight basis.
- (2) Preparation method: "Method" indicates preparation defined in analytical method.
- (3) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

For a complete list of ACZ's Extended Qualifiers, please click:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Golder Associates

ACZ Project ID: **L63343**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alpha

M900.0

Units: pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG511949																
WG511949PBW	PBW	12/29/20						2.8	1.6	11			22			
WG511949LCSWA	LCSW	12/29/20	PCN62436	100				110	9	12	110	67	144			
L63327-01DUP	DUP-RPD	12/29/20			0.21	1.2	4.5	.89	1.2	3.8				124	20	RG
L63327-01DUP	DUP-RER	12/29/20			0.21	1.2	4.5	.89	1.2	3.8				0.4	2	
L63327-01MSA	MS	12/29/20	PCN62436	100	0.21	1.2	4.5	120	9.1	7.3	120	67	144			
L63423-01DUP	DUP-RPD	12/29/20			110	14	8.9	120	14	11				9	20	

Beta

M900.0

Units: pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG511949																
WG511949PBW	PBW	12/29/20						2	2.7	17			34			
WG511949LCSWB	LCSW	12/29/20	RC200602-10	99.9				98	6.3	6.7	98	82	122			
L63327-01DUP	DUP-RPD	12/29/20			-3.1	2.2	5.1	.05	2.8	8.8				207	20	RG
L63327-01DUP	DUP-RER	12/29/20			-3.1	2.2	5.1	.05	2.8	8.8				0.88	2	
L63330-01MSB	MS	12/29/20	RC200602-10	237.86	5.8	6.7	16	210	15	20	86	82	122			
L63423-01DUP	DUP-RPD	12/29/20			52	5.8	12	38	5.2	8.4				31	20	RG
L63423-01DUP	DUP-RER	12/29/20			52	5.8	12	38	5.2	8.4				1.8	2	

Golder Associates

ACZ Project ID: **L63343**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L63343-01	WG511949	Gross Alpha	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
		Gross Beta	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L63343-02	WG511949	Gross Alpha	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
		Gross Beta	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L63343-03	WG511949	Gross Alpha	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
		Gross Beta	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L63343-04	WG511949	Gross Alpha	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
		Gross Beta	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L63343-05	WG511949	Gross Alpha	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
		Gross Beta	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L63343-06	WG511949	Gross Alpha	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
		Gross Beta	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L63343-07	WG511949	Gross Beta	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L63343-08	WG511949	Gross Beta	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L63343-09	WG511949	Gross Beta	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L63343-10	WG511949	Gross Beta	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.

Golder Associates

ACZ Project ID: **L63343**

No certification qualifiers associated with this analysis

Golder Associates
20144265

ACZ Project ID: L63343
Date Received: 12/15/2020 11:18
Received By:
Date Printed: 12/16/2020

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?	☐	☐	☒
2) Is the Chain of Custody form or other directive shipping papers present?	☒	☐	☐
3) Does this project require special handling procedures such as CLP protocol?	☐	☒	☐
4) Are any samples NRC licensable material?	☐	☐	☒
5) If samples are received past hold time, proceed with requested short hold time analyses?	☒	☐	☐
6) Is the Chain of Custody form complete and accurate?	☒	☐	☐
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	☐	☒	☐

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	☒	☐	☐
9) Are all labels on containers and are they intact and legible?	☒	☐	☐
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	☒	☐	☐
11) For preserved bottle types, was the pH checked and within limits? ¹	☒	☐	☐
12) Is there sufficient sample volume to perform all requested work?	☒	☐	☐
13) Is the custody seal intact on all containers?	☐	☐	☒
14) Are samples that require zero headspace acceptable?	☐	☐	☒
15) Are all sample containers appropriate for analytical requirements?	☒	☐	☐
16) Is there an Hg-1631 trip blank present?	☐	☐	☒
17) Is there a VOA trip blank present?	☐	☐	☒
18) Were all samples received within hold time?	☒	☐	☐

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Temp Criteria (°C)	Rad (µR/Hr)	Custody Seal Intact?
3708	2	<=6.0	15	N/A
6373	0.1	<=6.0	15	N/A

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Golder Associates
20144265

ACZ Project ID: L63343
Date Received: 12/15/2020 11:18
Received By:
Date Printed: 12/16/2020

¹ The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na₂S₂O₃ preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Sara Harkins	Address: 2121 Abbott Rd Ste 100
Company: Golder Associates	Anchorage, Alaska 99507
E-mail: Sara.Harkins@golder.com	Telephone: 907-920-2532

Copy of Report to:

Name: <u>Tricia Hall</u>	E-mail: <u>tricia-hall@golder.com</u>
Company: <u>Golder Associates</u>	Telephone: <u>720-920-4517</u>

Invoice to:

Name: Sara Harkins	Address: 2121 Abbott Rd Ste 100
Company: Golder Associates	Anchorage, Alaska 99507
E-mail: Sara-Harkins@golder.com	Telephone: 907-920-2532

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES	☒
NO	☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

Are samples for SDWA Compliance Monitoring?

Yes		No	☒
-----	--	----	-------------------------------------

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: T. Hall
 Sampler's Site Information
 State CO
 Zip code 80535
 Time Zone MT

*Sampler's Signature: [Signature]

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: <u>Holcim bottle order B046341</u>				# of Containers	<u>See Quote</u>															
PO#: <u>20144265</u>																				
Reporting state for compliance testing:																				
Check box if samples include NRC licensed material?																				
SAMPLE IDENTIFICATION		DATE:TIME	Matrix																	
MW-2		12/14/2020 0930	GW	5	X															
MW-1		12/14/2020 1030	GW	5	X															
MW-3		12/14/2020 1125	GW	5	X															
MW-20		12/14/2020 1125	GW	5	X															
MW-15		12/14/2020 1150	GW	5	X															
MW-4		12/14/2020 1225	GW	5	X															
MW-7		12/14/2020 1310	GW	5	X															
MW-6		12/14/2020 1350	GW	5	X															
MW-5		12/14/2020 1515	GW	5	X															
MW-8		12/14/2020 1600	GW	5	X															
Matrix	SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)																			

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
J. Hall	12/14/20 1645	Dem 12/15/20	11:18

ATTACHMENT 2

Field Sheets

[illegible]



Project No.: 20144265

MW-6

IC. Whitten
Hall

Date 12/7/20

Time 12:15

(circle one)

198.4 feet

229.7 feet

7 inches

feet

cubic feet

gallons

0.653 gal/A

disposable, dedicated bailer

Date 12/17/20

Time 1215

Date 12/7/20

Time 1357

[illegible]

GROUNDWATER SAMPLING DATA SHEET

Project Name: Holcim/Boettcher Quarry 2020 Groundwater Monitoring	Sampler Name(s): Tricia Hall
Project Number: 20144265	Date: 12/14/2020
Monitoring Well I.D.: MW-1	Weather Conditions: ~ °F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level ¹ (±0.01ft.)	44.57	8. Purge Equipment Used	Bailer
2. Bottom of Casing ¹ (±0.01ft.)	65.59 ft btoc	9. Dedicated? (Yes or No)	Yes
3. Casing Diameter (in.)	2	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	3.4	11. Time to Purge Well (min)	
5. 3 x Casing Volume (gallons)	10.3	12. Immiscible Layer Observed (yes or no)	No
6. Actual Volume of Water Purged	10.5	13. Thickness of Immiscible layer (if present)	—
7. Water Level Measuring Equip.	300' electronic		

¹Measured from a defined point on the edge of casing (surveyed top of casing)

Purge Parameters:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	Relative Turbidity	Other
12/14/20	1015	4	12.7	7.58	6597	low	
12/14/20	1017	6	13.3	7.56	6588	low	
12/14/20	1022	8	13.3	7.61	6614	low	
12/14/20	1028	10	13.5	7.77	6847	low	

Well Evacuated to Dryness? (Yes or No) NO

Time to recharge?

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	Relative Turbidity	Other
12/14/20	1030	10.5	13.6	7.73	6929	low	

1. Sampling Equipment Used	Bailer	Other Information:	
2. Pump Rate	N/A	Decontamination Procedures	Alconox, DI rinse
3. Sample Appearance:	clear ☐ low ☒ medium ☐ high ☐		
Color	light gray	Instrument Calibrations	pH, conductivity
4. Odor	sulfur		
5. Method of Sample Preservation	HNO ₃ , NaOH	Unusual Occurrences	—

GROUNDWATER SAMPLING DATA SHEET

Project Name: Holcim/Boettcher Quarry 2020 Groundwater Monitoring	Sampler Name(s): Tricia Hall
Project Number: 20144265	Date: 12/14/2020
Monitoring Well I.D.: MW-2	Weather Conditions: ~16 °F
Wellhead Inspection (note conditions): good condition	

Groundwater Measurements and Purge Data:

1. Static Water Level ¹ (±0.01ft.)	106.79	8. Purge Equipment Used	Bailer
2. Bottom of Casing ¹ (±0.01ft.)	112 ft btoc	9. Dedicated? (Yes or No)	yes
3. Casing Diameter (in.)	2	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	0.84	11. Time to Purge Well (min)	—
5. 3 x Casing Volume (gallons)	—	12. Immiscible Layer Observed (yes or no)	—
6. Actual Volume of Water Purged	—	13. Thickness if Immiscible layer (if present)	—
7. Water Level Measuring Equip.	300' electronic		

¹Measured from a defined point on the edge of casing (surveyed top of casing)

Purge Parameters:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity	Other

bailed dry on 12/8/2020

Well Evacuated to Dryness? (Yes or No) yes

Time to recharge? 6 days

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	Relative Turbidity	Other
12/14/20	0930	—	11.5	7.82	9.622	low	

1. Sampling Equipment Used	Bailer	Other Information:	
2. Pump Rate	N/A	Decontamination Procedures	Alconox, DI rinse
3. Sample Appearance:	clear ☐ low ☒ medium ☐ high ☐		
Color	light gray	Instrument Calibrations	pH, conductivity
4. Odor	sulfur		
5. Method of Sample Preservation	HNO ₃ , NaOH	Unusual Occurrences	—

GROUNDWATER SAMPLING DATA SHEET

Project Name: Holcim/Boettcher Quarry 2020 Groundwater Monitoring	Sampler Name(s): Tricia Hall
Project Number: 20144265	Date: 12/14/2020
Monitoring Well I.D.: MW-3	Weather Conditions: ~25 °F
Wellhead Inspection (note conditions): debris in well pump tubing	

Groundwater Measurements and Purge Data:

1. Static Water Level ¹ (±0.01ft.)	6347	8. Purge Equipment Used	HDPE tubing with hydrolift
2. Bottom of Casing ¹ (±0.01ft.)	107.2 ft btoc	9. Dedicated? (Yes or No)	Yes
3. Casing Diameter (in.)	2	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	7.13	11. Time to Purge Well (min)	—
5. 3 x Casing Volume (gallons)	21	12. Immiscible Layer Observed (yes or no)	—
6. Actual Volume of Water Purged	—	13. Thickness if Immiscible layer (if present)	—
7. Water Level Measuring Equip.	300' electronic		

¹Measured from a defined point on the edge of casing (surveyed top of casing)

Purge Parameters:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	Relative Turbidity	Other
				purged dry 12/9/2020			

Well Evacuated to Dryness? (Yes or No) **Yes**

Time to recharge? **5**

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	Relative Turbidity	Other
12/14/20	1125	 	13.2	8.10	6140	low	

1. Sampling Equipment Used	HDPE tubing	Other Information: MW-20 field dup	
2. Pump Rate	N/A	Decontamination Procedures	Alconox, DI rinse
3. Sample Appearance:	clear ☐ low ☒ medium ☐ high ☐	MW-15 Field blank	
Color	light brown	Instrument Calibrations	pH, conductivity
4. Odor	sulfur		
5. Method of Sample Preservation	HNO ₃ , NaOH	Unusual Occurrences	—

GROUNDWATER SAMPLING DATA SHEET

Project Name: Holcim/Boettcher Quarry 2020 Groundwater Monitoring	Sampler Name(s): Tricia Hall
Project Number: 20144265	Date: 12/14/2020
Monitoring Well I.D.: MW-4	Weather Conditions: ~ 30°
Wellhead Inspection (note conditions): good condition	

Groundwater Measurements and Purge Data:

1. Static Water Level ¹ (±0.01ft.)	141.35	8. Purge Equipment Used	Bailer
2. Bottom of Casing ¹ (±0.01ft.)	182 ft btoc	9. Dedicated? (Yes or No)	yes
3. Casing Diameter (in.)	2	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	6.6	11. Time to Purge Well (min)	—
5. 3 x Casing Volume (gallons)	19.9	12. Immiscible Layer Observed (yes or no)	—
6. Actual Volume of Water Purged	—	13. Thickness if Immiscible layer (if present)	—
7. Water Level Measuring Equip.	300' electronic		

¹Measured from a defined point on the edge of casing (surveyed top of casing)

Purge Parameters:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	Relative Turbidity	Other

bailed dry 12/8/2020

Well Evacuated to Dryness? (Yes or No) yes

Time to recharge? 6 days

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	Relative Turbidity	Other
12/14/20	1225	—	11.3	7.86	141872	Low	

1. Sampling Equipment Used	Bailer	Other Information:	
2. Pump Rate	N/A	Decontamination Procedures	Alconox, DI rinse
3. Sample Appearance:	clear ☐ low ☒ medium ☐ high ☐		
Color	light brownish-gray	Instrument Calibrations	pH, conductivity
4. Odor	sulfur		
5. Method of Sample Preservation	HNO ₃ , NaOH	Unusual Occurrences	—

GROUNDWATER SAMPLING DATA SHEET

Project Name: Holcim/Boettcher Quarry 2020 Groundwater Monitoring	Sampler Name(s): Tricia Hall
Project Number: 20144265	Date: 12/14/2020
Monitoring Well I.D.: MW-5	Weather Conditions: ~30 °F
Wellhead Inspection (note conditions): good condition	

Groundwater Measurements and Purge Data:

1. Static Water Level ¹ (±0.01ft.)	49.55	8. Purge Equipment Used	Bailer
2. Bottom of Casing ¹ (±0.01ft.)	60.3 ft btoc	9. Dedicated? (Yes or No)	
3. Casing Diameter (in.)	2	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	1.75	11. Time to Purge Well (min)	20 min
5. 3 x Casing Volume (gallons)	5.26	12. Immiscible Layer Observed (yes or no)	
6. Actual Volume of Water Purged		13. Thickness if Immiscible layer (if present)	
7. Water Level Measuring Equip.	300' electronic		

¹Measured from a defined point on the edge of casing (surveyed top of casing)

Purge Parameters:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	Relative Turbidity	Other
12/14/20	1455	1.5	11.6	7.24	3954	Low	
	1501	3.5	12.0	7.11	3536	Low	
	1515	5.5	11.2	7.27	3810	Low	

Well Evacuated to Dryness? (Yes or No) NO

Time to recharge?

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	Relative Turbidity	Other
12/14/20	1515	5.5	11.2	7.27	3810	Low	

1. Sampling Equipment Used	Bailer	Other Information:	
2. Pump Rate	N/A	Decontamination Procedures	Alconox, DI rinse
3. Sample Appearance:	clear ☐ low ☒ medium ☐ high ☐		
Color	light yellow	Instrument Calibrations	pH, conductivity
4. Odor	sulfur		
5. Method of Sample Preservation	HNO ₃ , NaOH	Unusual Occurrences	

GROUNDWATER SAMPLING DATA SHEET

Project Name: Holcim/Boettcher Quarry 2020 Groundwater Monitoring	Sampler Name(s): Tricia Hall
Project Number: 20144265	Date: 12/14/2020
Monitoring Well I.D.: MW-6	Weather Conditions: ~80°F
Wellhead Inspection (note conditions): good condition	

Groundwater Measurements and Purge Data:

1. Static Water Level ¹ (±0.01ft.)	*220 ^{cmw} 223.6	8. Purge Equipment Used	Bailer
2. Bottom of Casing ¹ (±0.01ft.)	229.7 ft btoc	9. Dedicated? (Yes or No)	yes
3. Casing Diameter (in.)	4	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	3.98	11. Time to Purge Well (min)	—
5. 3 x Casing Volume (gallons)	11.95	12. Immiscible Layer Observed (yes or no)	—
6. Actual Volume of Water Purged	—	13. Thickness if Immiscible layer (if present)	—
7. Water Level Measuring Equip.	300' electronic	sum trouble cmw	

¹Measured from a defined point on the edge of casing (surveyed top of casing)

Purge Parameters:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity	Other
						purged dry 12/17/20	

Well Evacuated to Dryness? (Yes or No) **yes**

Time to recharge? **7 days**

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity	Other
12/4/20	1350	—	12.1	7.72	16,067	low	

1. Sampling Equipment Used	Bailer	Other Information:	
2. Pump Rate	N/A	Decontamination Procedures	Alconox, DI rinse
3. Sample Appearance:	clear ☐ low ☒ medium ☐ high ☐		
Color	light grey	Instrument Calibrations	pH, conductivity
4. Odor	sulfur odor		
5. Method of Sample Preservation	HNO ₃ , NaOH	Unusual Occurrences	

GROUNDWATER SAMPLING DATA SHEET

Project Name: Holcim/Boettcher Quarry 2020 Groundwater Monitoring	Sampler Name(s): Tricia Hall
Project Number: 20144265	Date: 12/14/2020
Monitoring Well I.D.: MW-7	Weather Conditions: ~ 30° F
Wellhead Inspection (note conditions): good condition	

Groundwater Measurements and Purge Data:

1. Static Water Level ¹ (±0.01ft.)	252.5	8. Purge Equipment Used	Bailer
2. Bottom of Casing ¹ (±0.01ft.)	259.2 ft btoc	9. Dedicated? (Yes or No)	yes
3. Casing Diameter (in.)	4	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	41.38	11. Time to Purge Well (min)	_____
5. 3 x Casing Volume (gallons)	123.13	12. Immiscible Layer Observed (yes or no)	_____
6. Actual Volume of Water Purged	_____	13. Thickness of Immiscible layer (if present)	_____
7. Water Level Measuring Equip.	300' electronic		

¹Measured from a defined point on the edge of casing (surveyed top of casing)

Purge Parameters:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (<u> </u> S/cm)	Relative Turbidity	Other

bailed dms 12/7/2020

Well Evacuated to Dryness? (Yes or No) yes

Time to recharge? 7

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity <u>u</u> S/cm	Relative Turbidity	Other
12/14/20	1310	—	12.5	7.69	17,263	Mod	

1. Sampling Equipment Used	Bailer				Other Information:	
2. Pump Rate	N/A				Decontamination Procedures	Alconox, DI rinse
3. Sample Appearance:	clear ☐	low ☐	medium ☒	high ☐		
Color	medium gray				Instrument Calibrations	pH, conductivity
4. Odor	sulfur					
5. Method of Sample Preservation	HNO ₃ , NaOH				Unusual Occurrences	—

GROUNDWATER SAMPLING DATA SHEET

Project Name: Holcim/Boettcher Quarry 2020 Groundwater Monitoring	Sampler Name(s): Tricia Hall
Project Number: 20144265	Date: 12/14/2020
Monitoring Well I.D.: MW-8	Weather Conditions: ~ 30 °F
Wellhead Inspection (note conditions): good	

Groundwater Measurements and Purge Data:

1. Static Water Level ¹ (±0.01ft.)	223.70	8. Purge Equipment Used	bailer
2. Bottom of Casing ¹ (±0.01ft.)	~229 ft btoc	9. Dedicated? (Yes or No)	yes
3. Casing Diameter (in.)	4	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)		11. Time to Purge Well (min)	—
5. 3 x Casing Volume (gallons)		12. Immiscible Layer Observed (yes or no)	—
6. Actual Volume of Water Purged		13. Thickness if Immiscible layer (if present)	—
7. Water Level Measuring Equip.	300' electronic		

¹Measured from a defined point on the edge of casing (surveyed top of casing)

Purge Parameters:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity	Other
				purged dry 12/17/20			

Well Evacuated to Dryness? (Yes or No) yes

Time to recharge? 7 days

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity	Other
12/14/20	1610	—	12.5	8.15	14360	LOW	

1. Sampling Equipment Used	Bailer	Other Information:	
2. Pump Rate	N/A	Decontamination Procedures	Alconox, DI rinse
3. Sample Appearance:	clear ☒ low ☐ medium ☐ high ☐		
Color	clear	Instrument Calibrations	pH, conductivity
4. Odor	none		
5. Method of Sample Preservation	HNO ₃ , NaOH	Unusual Occurrences	