STATE OF COLORADO

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

Boettcher Limestone Quarry Reporting

Harkins, Sara <sara.harkins@wsp.com> Thu, Aug 3, 2023 at 7:42 PM
To: "Eschberger - DNR, Amy" <amy.eschberger@state.co.us>
Cc: Michael TOELLE <mike.toelle@lafargeholcim.com>, Travis Weide <travis.weide@lafargeholcim.com>, "Moreno, Joanna" <joanna.moreno@wsp.com>, "Thompson, Jennifer" <jennifer.thompson2@wsp.com>

Hello Amy,

On behalf of Holcim (US) Inc., WSP is pleased to submit the results of the 1st semi-annual 2023 groundwater sampling event at the Boettcher Limestone Quarry near La Porte, Colorado.

Please let us know if you have any questions or difficultly opening the document.

As discussed earlier this year, we would like to set-up a meeting to discuss the results and next steps. We are have planned for a video/teams call and think 1 to 1.5 hours should be sufficient. Does your team have time available the Week of September 4th (not counting labor day) and can you provide a few options we can try to coordinate around? Give our various time zones, between 10am and 1:30pm Mountain time is best for Holcim and WSP.

Thanks,

Sara

Sara Harkins, PG (WY)

Senior Geochemist/Geologist

T+ 1 907 344 6001

D+ 1 907 865 2532

WSP USA Inc.

1400 West Benson Blvd, Suite 420

Anchorage, AK 99503

USA

wsp.com

[Quoted text hidden]

31404755.001-001-LTR-0-First_SemiAnnual_Event_2023_GWS_BQ_03AUG23.pdf
2632K

August 3, 2023 Reference No. 31404755.001-001-LTR-0

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

FIRST SEMI-ANNUAL EVENT 2023 GROUNDWATER SAMPLING AT THE BOETTCHER QUARRY

Dear Ms. Eschberger:

On behalf of Holcim (US) Inc., WSP USA Inc. (WSP), is pleased to submit analytical laboratory results for the first semi-annual 2023 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 reports (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-5 (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 first semi-annual 2023 groundwater sampling event was the sixth 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, WSP reviewed the results, and a general analytical data evaluation was performed. Results of this evaluation included the following:

Upon receipt of the laboratory reports, WSP 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.

WSP USA Inc.
7245 W Alaska Drive, Suite 200, Lakewood, Colorado, USA 80226 T: +1 303 980-0540 F: +1 (303) 985 2080

- The analyses were conducted within their respective United States Environmental Protection Agency-recommended hold times, apart from pH, sulfate, and chloride.
  - Measurements for pH should be conducted within 15 minutes of sample collection; thus, the laboratory pH measurement will always be out of hold time.
  - Sulfate in samples MW-4, MW-6, MW-7, and MW-8 are out of hold time due to a lab re-analysis. The initial analysis was conducted within hold time; however, these the method detection limits were above the interim narrative standard. The results reported for sulfate after re-analysis have method detection limits below the interim narrative standard.
  - The reported chloride values in MW-4 and MW-8 were analyzed out of hold time. The initial analysis was conducted within hold time; however, chloride values in these samples were higher than historical ranges in for these wells and contained elevated charge balance errors (~15%). After re-analysis, the charge balance for these samples was within the limits observed previously.

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: boron, manganese, uranium, sulfate, and gross alpha
- MW-2: barium, boron, manganese, and chloride
- MW-3: barium, boron, chloride, and fluoride
- MW-4: barium, chloride, and total dissolved solids
- MW-5: iron, manganese, and sulfate
- MW-6: barium, iron, manganese, antimony, and chloride
- MW-7: barium, iron, manganese, and chloride
- MW-8: barium, chloride 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 greater than the Interim Narrative Standard for:

- Antimony in MW-1, MW-2, MW-4, MW-5, and MW-6

These constituents were not detected above the method detection limit (MDL), which was lower than the Interim Narrative Standard.

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

Sincerely,

WSP USA Inc.

Jennifer Thompson
Geochemist

Sara Harkins, PG
Senior Geochemist

JT/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 Reports
Attachment 2: Field Sheets

https://golderassociates.sharepoint.com/sites/169878/project files/6 deliverables/001-ltr-first_semi-annual_event_2023_gw_sampling/rev0/31404755.001-001-ltr-0-first_semiannual_event_2023_gws_bq_03aug23.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	5/21/2014
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	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	0.004 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	0.57
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	<0.05	<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	<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	<0.05	<0.3 U	<0.3 U	<0.05 U	<0.3 U	<0.3 U	<0.05 U	<0.3 U	<0.3 U	<0.3 U	<0.05 U	<0.3 U	<0.3 U	<0.05 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	<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	<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	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**	0.033
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**	**0.2775**
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	<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	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	<0.05 U
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	<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	0.44
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	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	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	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	7.8 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	6,910 H
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**	**6,850**
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	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	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	7.4	7.39	7.15
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	9,650
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	15.9
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	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	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	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	333
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	<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	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	330
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	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	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	364
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	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	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	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	18.9
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	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	1,910
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	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 Interim Narrative Standard

**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	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	6/23/2021	12/8/2021	6/23/2022	11/21/2022	6/1/2023
Metals																								
Arsenic, Dissolved (mg/L)	0.01	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	<0.005 U	0.00135 B	0.00145 B	<0.01 U	0.00244 B
Barium, Dissolved (mg/L)	2.0	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	0.00929 B	0.00991 B	0.0105 B	0.00869 B	0.0176
Boron, Dissolved (mg/L)	0.75	0.56	0.58	0.59	0.55	0.57	0.52	0.60	0.51	0.51	0.56	0.61	0.61	0.65	0.62	0.70	0.60	0.68	0.744	0.644	0.658	0.645	**0.770**	**0.795**
Chromium, Dissolved (mg/L)	0.1	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	<0.01 U	<0.01 U	<0.01 U	<0.02 U	<0.01 U
Copper, Dissolved (mg/L)	0.2	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	<0.01 U	0.0107	<0.01 U	<0.02 U	<0.01 U
Iron, Dissolved (mg/L)	0.3	<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	<0.05 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	0.018 U	<0.2 U	**0.93**	<0.3 U	<0.75 U	<0.15 U	<0.75 U	<0.75 U	0.234
Lead, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003 U	<0.0005 U	<0.0005 U	0.002	<0.0005 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	0.00083 B
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.13	1.23	1.05	1.09	1.09	1.24	1.28	1.13	1.06	1.12
Manganese, Dissolved (mg/L)	0.05	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	0.038	**0.0741**	**0.0904**	**0.053**	**0.074**	**0.204**
Selenium, Dissolved (mg/L)	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0904**	**0.0998**	**0.0474**	**0.0378**	**0.0271**	**0.219**	**0.034**	0.0174	0.00473	0.0015
Thallium, Dissolved (mg/L)	0.002	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	0.000465 B	<0.00125 U	<0.00125 U	0.00045 B	0.00007 B
Uranium, Dissolved (mg/L)	0.0300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.035**	**0.0352**	**0.0407**	**0.0385**	**0.0308**	**0.0452**	**0.0406**	**0.0395**	**0.0334**	**0.0386**
Zinc, Dissolved (mg/L)	2.0	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	<0.075 U	<0.075 U	<0.075 U	<0.15 U	<0.075 U
Other																								
Chloride (mg/L)	250	<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	<200 U	<200 U	25.4 B	<200 U	<200 U
Fluoride (mg/L)	2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.62	0.60	0.70	0.60	0.62	0.44	0.58	0.54	0.63	0.55
Nitrate as N (mg/L)	10.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**15**	**17**	5.93	2.42	0.857	**13** H	2.96	0.468	<0.1 U	0.041 B
Nitrite as N (mg/L)	1.0	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	0.14 H	<0.05 U	0.013 B	<0.05 U	<0.05 U
Nitrate+Nitrite as N (mg/L)	10.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**15.2**	**16.8**	5.97	2.44	0.87	**13.5** H	2.96	0.481	<0.1 U	0.041 B
Lab pH (s.u)	6.5 - 8.5	7.8 H	8.0 H	7.9 H	7.9 H	8.0 H	7.9 H	7.84	7.9 H	8.1 H	8.1 H	8.2 H	8.0 H	8.3 H	8.2	7.9 H	8.2 H	8.2 H	8.2 H	8.1 H	8.2 H	8.2 H	8.2 H	8.2 H
Total Dissolved Solids, filterable residue (mg/L)	8595	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	8,260	8,190	6,780 H	6,720	6,280
Sulfate (mg/L)	250	**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**	**5,730**	**5,750**	**4,400**	**4,170**	**4,480**
Gross Alpha (pCi/L)	15.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**40 (±31)**	**20 (±18)**	**54(±26)**	**67 (±26)**	**39 (±25)**	7.6(±18)	**43(±36)**	5.2(±24)	**18(±25)**	**45(±28)**
Gross Beta (pCi/L)	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33 (±29)	28 (±22)	7.9(±19)	22(±22)	13 (±21)	-5.6(±23)	17(±34)	26(±32)	16(±26)	-6.2(±20)
Field Parameters (Not Available pre-2010))																								
Field pH (s.u)	6.5 - 8.5	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	7.46	7.54	7.38	7.61	7.54
Field Conductivity (µS/cm)	none	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	7,998	8,895	8,567	6,378	6,953
Temperature (Degrees Celsius)	none	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	17.3	13.84	15.1	13.4	14.3
Supplementary Analytes (Not Historically analyzed)																								
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.8 U	<1 U	<0.3 U	1.93	0.058	<0.075 U	0.10	<0.075 U	<0.15 U	0.127
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.004 B	0.0021	0.004 B	0.0024 B	0.00171 B	<0.01 U	0.00233 B	0.00212 B	<0.01 U	<0.01 U
Beryllium, Dissolved (mg/L)	0.004	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	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	0.00047 B
Bicarbonate as CaCO3 (mg/L)	none	310	325	NA	320	302	306	319	307	329	325	369	361	358	NA	376 H	402	458	421	342	358	413	454	514
Carbonate as CaCO3 (mg/L)	none	<20 U	<20 U	NA	<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	<20 U	<20 U	6.7 B	<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	<0.001 U	<0.0003 U	<0.0003 U	0.0002 B	<0.00025 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.0025 U	0.000418 B
Calcium, Dissolved (mg/L)	none	287	309	230	301	320	289	279	345	275	269	187	175	220	163	171	131	110	109	299	161	136	118	114
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0018	0.00349	0.0019	0.002	0.00168	0.00708	0.00308	0.00269	0.00299	0.0053
Cyanide, Free (mg/L)	0.2	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	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 UH	<0.01 U
Magnesium, Dissolved (mg/L)	none	297	303	247	300	342	301	290	376	301	283	202	188	225	175	170	135	116	116	308	178	139	125	120
Mercury, Dissolved (mg/L)	0.002	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	<0.001 U	<0.001 U	<0.001 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	0.085	0.1 B	0.09	0.084	0.0737	0.0754	0.0826	0.0695	0.0587	0.0559
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.009 B	<0.2 U	0.007	0.0077	0.00692	0.0261	0.00881	0.00927	0.00695 B	0.00867
Potassium, Dissolved (mg/L)	none	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	19.3	11.6	10.7	8.52	9.36
Silver, Dissolved (mg/L)	0.05	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	<0.0005 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.005 U
Sodium, Dissolved (mg/L)	none	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	1,630	1,850	1,790	1,750	1,730
Vanadium, Dissolved (mg/L)	0.1	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	<0.01 U	<0.01 U	<0.01 U	<0.02 U	<0.01 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 Interim Narrative Standard

**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 constitu

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	2/18/2014
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	0.004 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	1.74
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	0.7
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	<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	<0.3 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	<0.3 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**	**1.51**
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	<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	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**	**0.099**
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	<0.001 U
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	<0.003 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	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	<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**	**3,180**
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	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	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	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	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	8.0 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	5,720
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	<250 U
Gross Alpha (pCi/L)	15	NA	**44**	0	**140**	0.9	0	1	8.4	**15 (±26)**	9.8 (±25)	**18 (±24)**	0 (±26)	**38 (±38)**	-1.1 (±21)	5.1 (±12)	-6.2 (±13)	-12 (±21)	NA	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	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	7.6
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	10,440
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	12.9
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	993	965	978	953	914	995	968	964	978	955	963	979	1020	1,060
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	<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	14	14	14.4	16	15	15.5	14	16	16.3	15.1	18	17	16.9	17.6
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	8	8	7.8	7	7	7.4	8	8	8	7.5	8	7	7.4	7.3
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	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	6.2
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	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	2,440
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 Interim Narrative Standard

**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 2: Summary of Monitoring Results for MW-2

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	6/23/2021	12/8/2021	6/23/2022	11/21/2022	6/1/2023
Metals																								
Arsenic, Dissolved (mg/L)	0.01	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	0.0041 B	0.00377 B	0.0039 B	<0.01 U	0.00295 B
Barium, Dissolved (mg/L)	2.0	**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**	**3.38**	**3.11**	**3.69**	**3.28**	**3.89**
Boron, Dissolved (mg/L)	0.75	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	**0.80**	**0.76**	**0.76**	**0.784**	**0.802**	**0.762**	0.711	0.741	**0.757**
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	<0.002 U	<0.002 U	<0.01 U	<0.01 U	<0.01 U	<0.02 U	<0.01 U
Copper, Dissolved (mg/L)	0.2	<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	<0.01 U	<0.01 U	<0.01 U	<0.02 U	<0.01 U
Iron, Dissolved (mg/L)	0.3	**2.5**	**1.16**	**0.82**	**0.38**	**0.60**	**0.70**	**0.40**	**0.40** B	0.20 B	**1.20**	0.28	**0.50**	0.30	0.30	**0.40**	**0.40**	**0.38**	**0.37**	**0.34**	<0.75 U	0.226	**0.588** B	**0.373** B	0.258
Lead, Dissolved (mg/L)	0.05	<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	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.0025 U
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.16	1.31	1.83	1.19	1.16	1.15	1.23	1.14	1.09	1.17
Manganese, Dissolved (mg/L)	0.05	**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**	**0.0577**	**0.0598**	**0.0529**	**0.0742**	**0.0527**
Selenium, Dissolved (mg/L)	0.02	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	<0.00125 U	<0.00125 U	<0.00125 U	<0.0025 U	<0.005 U
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	<0.00005 U	<0.001 U	<0.00125 U	0.000329 B	<0.00125 U	<0.00125 U	<0.00125 U	<0.00025 U
Uranium, Dissolved (mg/L)	0.03	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	0.00246 B	0.00227 B	0.00303	0.00302 B	0.00219 B
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	<0.02 U	<0.015 U	<0.075 U	<0.075 U	<0.075 U	<0.15 U	<0.075 U
Other																									
Chloride (mg/L)	250	**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**	**3,250**	**3,290**	**3,630**	**3,420**	**3,280**
Fluoride (mg/L)	2	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	1.46	1.48	1.35	1.34	1.4
Nitrate as N (mg/L)	10	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	<0.1 UH	<0.1 U	<0.1 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	<0.05 U	<0.05 U	<0.01 U	<0.05 U	<0.05 U	<0.05 UH	<0.05 U	<0.05 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	0.08 B	<0.1 U	0.67	0.06 B	<0.1 U	<0.1 UH	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Lab pH (s.u)	6.5 - 8.5	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	8.0 H	8.1 H	8.1 H	8.1 H	8.3 H	8.0 H	8.2 H	8.4 H	8.31 H
Total Dissolved Solids, filterable residue (mg/L)	7084	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	6,270	6,400	6,280 H	6,370	6,230
Sulfate (mg/L)	250	<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	<100 U	<100 U	<100 U	<200 U	<200 U
Gross Alpha (pCi/L)	15	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)	11(±21)	1.4(±27)	**21 (±28)**	1.6(±27)	-12(±19)
Gross Beta (pCi/L)	**	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)	27(±28)	-8.6(±28)	17(±32)	16(±29)	44(±32)
Field Parameters (Not Available pre-2010))																									
Field pH (s.u)	6.5 - 8.5	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	8.02	7.95	7.47	7.53	7.70
Field Conductivity (µS/cm)	none	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	10,340	11,199	11,428	8,675	9,660
Temperature (Degrees Celsius)	none	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	20.7	13.8	16.1	11	14.9
Supplementary Analytes (Not Historically analyzed)																									
Aluminum, Dissolved (mg/L)	5	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	<0.075 U	<0.075 U	<0.075 U	<0.15 U	<0.075 U
Antimony, Dissolved (mg/L)	0.006	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	<0.01 U	<0.01 U	0.00349 B	<0.01 U	<0.01 U
Beryllium, Dissolved (mg/L)	0.004	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	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U
Bicarbonate as CaCO3 (mg/L)	none	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	1,030	1,020	1,030	1,080 H	1180
Carbonate as CaCO3 (mg/L)	none	<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	<20 U	<20 U	<20 U	<20 UH	9.3 B
Cadmium, Dissolved (mg/L)	0.005	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	<0.00125 U	0.000349 B	<0.00125 U	<0.0025 U	<0.00125 U
Calcium, Dissolved (mg/L)	none	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	18.3	17.6	18.5	17.4	18.6
Cobalt, Dissolved (mg/L)	0.05	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	<0.00125 U	<0.00125 U	<0.00125 U	<0.0025 U	0.000319 B
Cyanide, Free (mg/L)	0.2	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	0.003 B	0.0063 B	0.0037 B	<0.01 U	<0.01 UH	<0.01 U
Magnesium, Dissolved (mg/L)	none	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	6.26	6.67	7.03	6.99	7.08
Mercury, Dissolved (mg/L)	0.002	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	<0.001 U	<0.001 U	<0.001 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	<0.01 U	0.0013 U	0.001 B	0.0009 B	0.00102	<0.0025 U	0.00216 B	0.00202 B	0.00279 B	0.00105 B
Nickel, Dissolved (mg/L)	0.1	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	<0.005 U	<0.005 U	<0.005 U	<0.01 U	<0.005 U
Potassium, Dissolved (mg/L)	none	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	5.7	5.54	7.15	5.99	4.75 B	6.15
Silver, Dissolved (mg/L)	0.05	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	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.005 U
Sodium, Dissolved (mg/L)	none	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	2,360	2,450	2,370	2,360	2,400
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	<0.004 U	0.00185 B	<0.01 U	<0.01 U	<0.01 U	<0.02 U	<0.01 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 Interim Narrative Standard

**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 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	2/18/2014
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	0.0009 B
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**	**2.31**
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**	0.74
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	<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	<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	0.19
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	<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	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	0.043
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	<0.0005 U
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	<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	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	0.02 B
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**	**1,565**	**1,505**	**1,681**	**1,721**	**1,665**	**1,620**	**1,570**	**1,610**	**1,570**
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**	**2.4**
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	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	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	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	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	3,890
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	<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	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	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	8.12
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	6,610
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	14.8
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	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	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	1,220
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	37
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	6.6	11.9	7	7.5	6.8	6.3	9.4	7	7.5	6.1	7	8	6.8	6.7
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	3	3.4	3 B	2.7	2.8	2.9	2.9	4 B	3.6	3.0	3	3 B	2.8	3
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	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	4.0
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	1,600	1,450	1,560	1,490	1,370	1,550	1,530	1,580	1,550	1,620	1,590	1,600	1,600	1,570
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 Interim Narrative Standard

**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 3: Summary of Monitoring Results for MW-3

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	6/23/2021	12/8/2021	6/23/2022	11/21/2022	6/1/2023
Metals																								
Arsenic, Dissolved (mg/L)	0.01	0.0005 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.002 U	0.0009 B	0.0004 B	0.0004 B	<0.001 U	<0.005 U	<0.002 U	0.00046 B	<0.005 U	<0.002 U
Barium, Dissolved (mg/L)	2.0	**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	**2.66**	**2.52**	**2.62**	**2.66**	**2.85**
Boron, Dissolved (mg/L)	0.75	**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**	**0.782**	**0.786**	0.748	**0.770**	**0.791**
Chromium, Dissolved (mg/L)	0.1	<0.004 U	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	<0.002 U	<0.01 U	<0.004 U	<0.002 U	<0.01 U	<0.004 U
Copper, Dissolved (mg/L)	0.2	<0.05 U	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	<0.002 U	<0.01 U	<0.004 U	<0.002 U	<0.01 U	<0.004 U
Iron, Dissolved (mg/L)	0.3	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	<0.3 U	0.154	0.154 B	<0.3 U	0.134 B
Lead, Dissolved (mg/L)	0.05	0.0002 B	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	<0.0005 U	<0.0025 U	<0.001 U	<0.0005 U	<0.0025 U	<0.001 U
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.69	0.86	0.708	0.711	0.747	0.714	0.737	0.690	0.666	0.708
Manganese, Dissolved (mg/L)	0.05	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	0.016	0.0154	0.00855	0.0241	0.0181
Selenium, Dissolved (mg/L)	0.02	0.0002 B	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	0.00025 B	<0.00125 U	<0.0005 U	<0.00025 U	<0.00125 U	<0.005 U
Thallium, Dissolved (mg/L)	0.002	<0.001 U	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	<0.0005 U	<0.0005 U	<0.0005 U	<0.0005 U	<0.0005 U	<0.00025 U
Uranium, Dissolved (mg/L)	0.03	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	0.0001 B	0.0007 B	<0.001 U	0.00036 B	<0.0025 U	<0.01 U
Zinc, Dissolved (mg/L)	2.0	<0.05 U	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	<0.015 U	<0.075 U	<0.03 U	<0.015 U	<0.075 U	<0.03 U
Other																									
Chloride (mg/L)	250	**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**	**1,670**	**1,670**	**1,650**	**1,780**	**1,800**
Fluoride (mg/L)	2	**2.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**NA**	**2.38**	**2.4**	**2.5**	**2.5**	**2.44**	**2.48**	**2.49**	**2.67**	**2.27**	**2.4**
Nitrate as N (mg/L)	10	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	<0.1	<0.1 UH	0.055 B	<0.1 UH	<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	<0.05 U	<0.05 U	<0.01 U	<0.05 U	<0.05 U	<0.05 UH	<0.05 U	<0.05 UH	<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	<0.1 U	<0.1 U	1.2	0.02 B	<0.1 U	<0.1 UH	0.055 B	<0.1 UH	<0.1 U	<0.1 U
Lab pH (s.u)	6.5 - 8.5	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	8.3 H	8.4 H	8.4 H	8.4 H	8.5 H	8.4 H	8.5 H	8.4 H	8.2 H	8.5 H	8.54 H
Total Dissolved Solids, filterable residue (r	4620	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	3,890	3,930	3,960	3,990	3,840
Sulfate (mg/L)	250	<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	<40 U	<8 U	<40 U	<40 U	<100 U	<40 U	<100 U	<100 U	<100 U
Gross Alpha (pCi/L)	15	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)	5.1(±11)	-3.4(±15)	3.7(±11)	13(±21)	-6.3(±10)
Gross Beta (pCi/L)	**	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)	1.9(±17)	-10(±21)	-9.8(±17)	18(±22)	-9.7(±18)
Field Parameters (Not Available pre-2010))																									
Field pH (s.u)	6.5 - 8.5	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	8.02	8.04	7.95	8.22	8.03
Field Conductivity (µS/cm)	none	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	6,452	6,743	7,225	5,585	6,097
Temperature (Degrees Celsius)	none	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	26	16.7	22.2	12.8	16.7
Supplementary Analytes (Not Historically analyzed)																									
Aluminum, Dissolved (mg/L)	5	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	0.0057 B	<0.075 U	<0.03 U	0.0146 B	<0.075 U	<0.03 U
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.004 U	0.0007 B	<0.0008 U	<0.002 U	<0.004 U	<0.01 U	<0.004 U	<0.002 U	<0.004 U	<0.004 U
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005 U	<0.0003 U	<0.0002 U	<0.0003 U	<0.00025 U	<0.00125 U	<0.0005 U	<0.00025 U	<0.0005 U	<0.0005 U
Bicarbonate as CaCO3 (mg/L)	none	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	1,140	1,120	1,190	1,200 H	1280
Carbonate as CaCO3 (mg/L)	none	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	74.5	54.3	<20 U	71.2 H	81.6
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005 U	<0.0003 U	<0.0001 U	<0.0003 U	<0.00025 U	<0.00125 U	<0.0005 U	<0.00025 U	<0.00125 U	<0.0005 U
Calcium, Dissolved (mg/L)	none	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	6.45	6.25	7.36	6.21	7.02
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	<0.0003 U	<0.0001 U	0.0001 B	<0.00025 U	<0.00125 U	<0.0005 U	<0.00025 U	<0.00125 U	<0.0005 U
Cyanide, Free (mg/L)	0.2	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	<0.01 U	0.0031 B	<0.01 U	<0.01 U	<0.01 UH	<0.01 U
Magnesium, Dissolved (mg/L)	none	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	2.57	2.78	2.60	2.73	2.75
Mercury, Dissolved (mg/L)	0.002	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	<0.001 U	<0.001 U	<0.001 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	<0.2 U	<0.2 U	0.0004 B	<0.001 U	0.00032 B	<0.0025 U	<0.001 U	0.00047 B	<0.0025 U	0.00047 B
Nickel, Dissolved (mg/L)	0.1	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	<0.001 U	<0.005 U	<0.002 U	0.0006 B	<0.005 U	<0.002 U
Potassium, Dissolved (mg/L)	none	3.8	4.0	4.1	4.0	5.3	4.0	4.0	4.1	4.0	4	4.4	3.5	4.0	3.4	3.6	3.9	3.7	3.3	3.82	3.86	3.95	3.61	3.22	4.21
Silver, Dissolved (mg/L)	0.05	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	<0.001 U	<0.0025 U	<0.001 U	<0.0005 U	<0.0025 U	<0.005 U
Sodium, Dissolved (mg/L)	none	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	1,460	1,530	1,440	1,490	1,510
Vanadium, Dissolved (mg/L)	0.1	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	<0.002 U	<0.01 U	<0.004 U	<0.002 U	<0.01 U	<0.004 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 Interim Narrative Standard

**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	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	11/172011	3/27/2012	6/27/2012	9/13/2012	11/13/2012	3/19/2013	5/28/2013	8/26/2013	11/15/2013	2/18/2014	5/21/2014
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	<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**	**8.58**	**9.64**
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	0.63	0.6
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	<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	<0.3 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	**0.8**	0.2 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	<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	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	<0.1 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	<0.003 U	0.012	<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	<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	<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	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	<0.3 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**	**7,080**	**6,450**
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	1.1	1.13
Nitrate as N (mg/L)	10	<0.1 U	0.07	<0.1 U	<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	1.83	0.04 B	0.04 B	0.04 B	NA	NA	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	0.01 B	<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	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	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	8.00 H	7.9 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	**10,800** H	**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	<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	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	NA	NA
Field Paramters (Not Avalible 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	7.27	7.25
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	18,020	19,380
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	12.1	14.9
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	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	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	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	606	623
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	<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	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	36.1	38
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	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	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	16	17
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	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	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	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	9	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	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	4120	4360
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	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 Interim Narrative Standard

**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	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	6/23/2021	12/8/2021	6/23/2022	11/21/2022	6/1/2023
Metals																								
Arsenic, Dissolved (mg/L)	0.01	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	<0.01 U	<0.01 U	<0.02 U	<0.02 U	<0.01 U
Barium, Dissolved (mg/L)	2.0	**8.01**	**8.56**	**8.77**	**8.76**	**8.81**	**8.80**	**8.66**	**8.79**	**8.91**	**8.61**	**8.95**	**8.60**	**9.00**	**8.90**	**8.42**	**8.94**	**9.17**	**7.95**	**8.80**	**8.58**	**8.73**	**9.18**	**9.18**
Boron, Dissolved (mg/L)	0.75	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	**0.76**	0.747 B	0.67	0.705 B	0.71 B	0.671
Chromium, Dissolved (mg/L)	0.1	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	<0.02 U	<0.02 U	<0.002 U	<0.04 U	<0.02 U
Copper, Dissolved (mg/L)	0.2	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	<0.02 U	<0.02 U	<0.04 U	<0.04 U	<0.02 U
Iron, Dissolved (mg/L)	0.3	**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	<1.5 U	<0.15	<1.5 U	<1.5 U	0.141 B
Lead, Dissolved (mg/L)	0.05	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	<0.005 U	<0.005 U	<0.01 U	<0.01 U	<0.005 U
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.76	1.93	1.81	1.91	1.81	1.80	1.98	1.78	1.67	1.82
Manganese, Dissolved (mg/L)	0.05	<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	0.00612 B	0.00886 B	0.00752	<0.04 U	0.00903 B
Selenium, Dissolved (mg/L)	0.02	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	<0.0025 U	<0.0025 U	0.00026	<0.005 U	<0.0125 U
Thallium, Dissolved (mg/L)	0.002	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	0.000825 B	<0.0025 U	<0.0025 U	<0.0025 U	<0.0005 U
Uranium, Dissolved (mg/L)	0.03	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	0.0003 B	<0.005 U	<0.005 U	<0.01 U	<0.01 U	<0.005 U
Zinc, Dissolved (mg/L)	2.0	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	<0.15 U	<0.15 U	<0.015 U	<0.3 U	<0.15 U
Other																								
Chloride (mg/L)	250	**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**	**6,680**	**7,010**	**6,490** H	**7,670**	**6,900** H
Fluoride (mg/L)	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.03	1.10	1.10	1.10	1.07	1.10	1.11	1.25	1.00	1.06
Nitrate as N (mg/L)	10	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	<0.1 UH	<0.1 U	<0.1 UH	<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	<0.05 U	<0.05 U	0.01 B	<0.05 U	<0.05 U	<0.05 UH	<0.05 U	<0.05 UH	<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	<0.1 U	0.12	<0.02 U	<0.1 U	<0.1 U	<0.1 UH	<0.1 U	<0.1 UH	<0.1 U	<0.1 U
Lab pH (s.u)	6.5 - 8.5	8.1 H	8.2 H	8.00 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	8.00 H	8.2 H	8.1 H	8.00 H	8.1 H	8.00 H	8.00 H	8.20 H	8.18 H
Total Dissolved Solids, filterable residue (mg/L)	10,212	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**	11,200	11,500	**10,600** H	**11,000**	**11,000**
Sulfate (mg/L)	250	<500 U	<500 U	<500 U	<500 U	<500 U	<500 U	<500 U	<250 U	<250 U	<250 U	<250 U	<200 UH	<200 U	<200 U	<200 U	<40 U	<200 U	<400 U	<200 U	<200 U	<400 U	<200 U	<200 UH
Gross Alpha (pCi/L)	15	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)**	11(±30)	**87(±72)**	9.7(±22)	**15(±54)**	-56(±32)
Gross Beta (pCi/L)	**	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)	16(±57)	28(±61)	88(±74)	17(±58)	3.4(±66)
Field Parameters (Not Available pre-2010))																								
Field pH (s.u)	6.5 - 8.5	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	7.9	7.94	7.71	7.78	7.71
Field Conductivity (µS/cm)	none	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	17,690	19,307	20,248	14,998	17,145
Temperature (Degrees Celsius)	none	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	20.7	14.8	16.1	11.4	14.1
Supplementary Analytes (Not Historically analyzed)																								
Aluminum, Dissolved (mg/L)	5	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	<0.15 U	<0.15 U	<0.015 U	<0.3 U	<0.15 U
Antimony, Dissolved (mg/L)	0.006	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	<0.02 U	<0.02 U	<0.002 U	<0.02 U	<0.02 U
Beryllium, Dissolved (mg/L)	0.004	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	<0.0025 U	<0.0025 U	<0.00025 U	<0.0025 U	<0.0025 U
Bicarbonate as CaCO3 (mg/L)	none	616	611	NA	604	599	615	606	664	613	619	612	592	602	NA	601 H	606	644	585	595	567	586	605	667
Carbonate as CaCO3 (mg/L)	none	<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	<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	<0.003 U	0.00007 B	<0.0005 U	<0.0003 U	<0.00025 U	<0.0025 U	<0.0025 U	<0.00025 U	<0.005 U	<0.0025 U
Calcium, Dissolved (mg/L)	none	37	37	38	38	36.9	38	38	36	37	35.8	36	36	36	36	35	37	35.6	35.7	36.8	34.1	36.00	34.6	36.5
Cobalt, Dissolved (mg/L)	0.05	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	<0.0025 U	<0.0025 U	0.000119 B	<0.005 U	0.000636 B
Cyanide, Free (mg/L)	0.2	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	0.0097 B	<0.01 U	<0.01 U	<0.01 UH	<0.01 U
Magnesium, Dissolved (mg/L)	none	18	18	21	17	18	17	17	16.4	18	16.1	16	16	17	17	15	16.6	16.00	16.4	15.6	15.8	16.2	16.0	17.1
Mercury, Dissolved (mg/L)	0.002	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	<0.001 U	<0.001 U	<0.001 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	<0.03 U	0.0002 U	<0.002 U	<0.01 U	0.00045 B	<0.005 U	0.00216 B	<0.0005 U	<0.01 U	0.00219 B
Nickel, Dissolved (mg/L)	0.1	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	<0.01 U	<0.01 U	<0.02 U	<0.02 U	<0.01 U
Potassium, Dissolved (mg/L)	none	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	8.04 B	10.90	8.60 B	6.55 B	8.76
Silver, Dissolved (mg/L)	0.05	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	<0.005 U	<0.005 U	<0.0005 U	<0.01 U	<0.01 U
Sodium, Dissolved (mg/L)	none	4050	3950	4070	4040	4030	4050	4290	4020	4000	4160	4080	3950	4030	4130	4,030	4,180	4,240	3,830	4,050	4,050	3,940	4,050	4,070
Vanadium, Dissolved (mg/L)	0.1	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	<0.02 U	<0.02 U	0.00059 B	<0.04 U	<0.02 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 Interim Narrative Standard

**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	5/31/2017	11/15/2017
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	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	0.01 B	<0.03 U
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	0.36	0.36
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	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	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**	**2.15**	**10.3**
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	NA	NA
Lithium, Dissolved (mg/L)	2.5	NA	NA	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**	**0.09**	**0.09**
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	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	NA	NA
Uranium, Dissolved (mg/L)	0.03	NA	NA	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	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	45.4 B	25.8 BH
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	NA	NA
Nitrate as N (mg/L)	10	NA	NA	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	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	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	7.8 H	7.3 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	3,970	3,160
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**	**2,540**	**1,820** H
Gross Alpha (pCi/L)	15	NA	NA	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	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	7.23	7.04
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	4,530,000	3,280
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	15.4	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	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
Beryllium, Dissolved (mg/L)	0.004	NA	NA	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	348	375
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	<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
Calcium, Dissolved (mg/L)	none	426	464	523	446	433	441	442	461	453	505	520	478	464	486	495	494	429	461
Cobalt, Dissolved (mg/L)	0.05	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
Magnesium, Dissolved (mg/L)	none	147	126	131	101	109	106	101	111	118	112	115	115	124	112	113	122	128	119
Mercury, Dissolved (mg/L)	0.002	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
Nickel, Dissolved (mg/L)	0.1	NA	NA	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	8.2	7.2
Silver, Dissolved (mg/L)	0.05	NA	NA	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	614	322
Vanadium, Dissolved (mg/L)	0.1	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 Interim Narrative Standard

**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	6/6/2018	11/15/2018	6/12/2019	12/12/2019	6/4/2020	12/14/2020	6/23/2021	12/8/2021	6/23/2022	11/21/2022	6/1/2023
Metals												
Arsenic, Dissolved (mg/L)	0.01	NA	0.0019 B	0.0018	0.0011 B	0.0037	0.00273	<0.002 U	0.00167 B	0.00284	<0.005 U	0.00222 B
Barium, Dissolved (mg/L)	2	<0.03 U	<0.03 U	0.02 B	0.01 B	0.011	0.0106	0.00986	0.0128	0.0121	0.0116 B	0.0151
Boron, Dissolved (mg/L)	0.75	0.35	0.33	0.35	0.35	0.33	0.32	0.307	0.344	0.315	0.347	0.383
Chromium, Dissolved (mg/L)	0.1	NA	<0.004 U	<0.002 U	<0.001 U	<0.002 U	<0.002 U	<0.004 U	<0.004 U	<0.002 U	<0.01 U	<0.01 U
Copper, Dissolved (mg/L)	0.2	NA	<0.1 U	<0.1 U	<0.002 U	<0.002 U	<0.002 U	<0.004 U	<0.004 U	<0.004 U	<0.01 U	<0.01 U
Iron, Dissolved (mg/L)	0.3	**0.97**	**32.8**	**7.67**	**9.22**	**38**	**28.1**	**0.404**	**17.0**	**39.7**	**15.0**	**13.2**
Lead, Dissolved (mg/L)	0.05	NA	<0.001 U	<0.0005 U	<0.0002 U	<0.0005 U	<0.0005 U	<0.001 U	<0.001 U	<0.001 U	<0.0025 U	<0.0025 U
Lithium, Dissolved (mg/L)	2.5	NA	0.3	0.39	0.417	0.364	0.385	0.242	0.344	0.317	0.363	0.433
Manganese, Dissolved (mg/L)	0.05	**0.08**	**0.09**	**0.09** B	**0.0772**	**0.0775**	**0.0935**	**0.0767**	**0.0899**	**0.105**	**0.0946**	**0.102**
Selenium, Dissolved (mg/L)	0.02	NA	0.0017	0.0005	0.0002 B	0.001	0.00154	0.00503	<0.0005 U	0.00055	<0.00125 U	0.00082 B
Thallium, Dissolved (mg/L)	0.002	NA	<0.001 U	0.0001 B	0.00007 B	0.0002 B	0.00021 B	0.00044 B	<0.0005 U	<0.0005 U	<0.0005 U	0.000118 B
Uranium, Dissolved (mg/L)	0.03	NA	**0.0379**	0.0261	0.0241	**0.0465**	0.0243	**0.0416**	**0.031**	**0.0381**	0.0217	0.0258
Zinc, Dissolved (mg/L)	2	NA	<0.1 U	<0.1 U	<0.01 U	0.007 B	0.0075 B	<0.03 U	<0.03 U	0.0123 B	<0.075 U	<0.075 U
Other												
Chloride (mg/L)	250	19.7 B	36.2 B	29.8 B	36 B	27.3 B	30.8 B	11.8 B	<100 U	31.6 U	31.6 B	31 B
Fluoride (mg/L)	2	NA	0.72	0.60	0.70	0.70	0.73	0.47	0.74	0.95	0.66	0.64
Nitrate as N (mg/L)	10	NA	NA	NA	0.57	<0.1 U	<0.1 U	<0.1 UH	0.188	<0.1 UH	<0.1 U	<0.1 U
Nitrite as N (mg/L)	1	NA	NA	NA	<0.01 U	<0.05 U	<0.05 U	<0.05 UH	0.014 B	<0.05 UH	<0.05 U	<0.05 U
Nitrate+Nitrite as N (mg/L)	10	NA	NA	NA	0.57	0.1 U	<0.1 U	<0.1 UH	0.202	<0.1 UH	<0.1 U	<0.1 U
Lab pH (s.u)	6.5 - 8.5	7.7 H	7.5	7.7 H	7.7 H	7.6 H	7.4 H	7.6 H	7.4 H	7.3 H	7.8 H	8.0 H
Total Dissolved Solids, filterable residue (mg/L)	1.25 x Background*	3,020 H	3,340	3,630	3,800	3630	3830	2,910	3,300	3640	3,780	4,160
Sulfate (mg/L)	250	**1,780**	**2,190**	**2,180**	**2,480**	**2,290**	**2,530**	**1,860**	**2,120**	**2,190**	**2,300**	**2,410**
Gross Alpha (pCi/L)	15	NA	8.6 (±11)	8.5 (±9.2)	**24(±14)**	**32(±15)**	**26 (±13)**	**31(±13)**	**38(±19)**	**20(±16)**	13(±17)	11(±14)
Gross Beta (pCi/L)	**	NA	18 (±13)	8.2 (±13)	25(±12)	12(±12)	19 (±13)	20(±9.2)	8.6(±12)	31(±17)	3.1(±13)	20(±15)
Field Parameters (Not Available pre-2010))												
Field pH (s.u)	6.5 - 8.5	6.81	6.85	7.06	7.08	7.06	7.27	6.93	6.79	6.78	7.08	7.02
Field Conductivity (µS/cm)	none	3,397	3,622	3,983	2,416	2,808	3,810	2,928	3,921	3,899	3,350	4,162
Temperature (Degrees Celsius)	none	16	13.6	15.2	12.2	14.3	11.2	15.9	12.5	13.6	12.4	13.1
Supplementary Analytes (Not Historically analyzed)												
Aluminum, Dissolved (mg/L)	5	NA	<0.3 U	<0.5 U	<0.05 U	<0.02 U	0.013 B	<0.03 U	<0.03 U	<0.015 U	<0.075 U	<0.075 U
Antimony, Dissolved (mg/L)	0.006	NA	<0.004 U	<0.002 U	<0.0008 U	<0.002 U	<0.002 U	<0.004 U	<0.004 U	<0.002 U	<0.004 U	<0.01 U
Beryllium, Dissolved (mg/L)	0.004	NA	<0.0005 U	<0.0003 U	<0.0002 U	<0.0003 U	<0.00025 U	<0.0005 U	<0.0005 U	<0.00025 U	<0.0005 U	<0.00125 U
Bicarbonate as CaCO3 (mg/L)	none	401	NA	392 H	354	328	304	360	323	258	346	393
Carbonate as CaCO3 (mg/L)	none	<20 U	NA	<20 UH	<2 U	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U
Cadmium, Dissolved (mg/L)	0.005	NA	<0.0005 U	<0.0003 U	<0.0001 U	0.00014 B	<0.00025 U	<0.0005 U	<0.0005 U	<0.00025 U	<0.00125 U	<0.00125 U
Calcium, Dissolved (mg/L)	none	425	490	402	405	474	427	477	433	475	385	410
Cobalt, Dissolved (mg/L)	0.05	NA	0.0047	0.00595	0.0046	0.00805	0.00527	0.00582	0.00508	0.00554	0.00491	0.00723
Cyanide, Free (mg/L)	0.2	NA	<0.01 U	<0.01 U	<0.003 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 UH	<0.01 U
Magnesium, Dissolved (mg/L)	none	109	121	113	116	117	120	104	109	114	113	120
Mercury, Dissolved (mg/L)	0.002	NA	<0.001 U	<0.001 U	<0.0002 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U
Molybdenum, Dissolved (mg/L)	0.21	NA	<0.2 U	<0.2 U	0.0045	0.0146	0.0089	0.00157	0.00892	0.0126	0.00913	0.00782
Nickel, Dissolved (mg/L)	0.1	NA	0.05 B	0.04 B	0.021	0.0511	0.0436	0.0237	0.0268	0.0477	0.0214	0.0291
Potassium, Dissolved (mg/L)	none	6.6	8.1	8.1	9.4	9.7	9.03	6.08	8.49	8.08	8.77	9.33
Silver, Dissolved (mg/L)	0.05	NA	<0.05 U	<0.0005 U	<0.0002 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.0005 U	<0.0025 U	<0.005 U
Sodium, Dissolved (mg/L)	none	329	317	501	617	439	497	230	413	356	569	700
Vanadium, Dissolved (mg/L)	0.1	NA	<0.05 U	<0.05 U	<0.001 U	<0.002 U	<0.002 U	<0.004 U	<0.004 U	<0.002 U	<0.01 U	<0.01 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 Interim Narrative Standard

**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 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 Interim Narrative Standard

**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 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	6/23/2021	12/8/2021	6/23/2022	11/21/2022	6/1/2023
Metals														
Arsenic, Dissolved (mg/L)	0.01	NA	NA	NA	0.007 B	0.0074	0.007 B	0.009 B	0.00928	0.00574 B	0.00479 B	0.00603 B	<0.02 U	0.00887 B
Barium, Dissolved (mg/L)	2	**7.85**	**7.77**	**7.65**	**7.25**	**6.66**	**6.84**	**6.64**	**6.00**	**5.81**	**6.01**	**6.57**	**6.27**	**5.96**
Boron, Dissolved (mg/L)	0.75	0.7	**0.8**	0.6	0.6	0.6 B	0.67	0.58	**0.757**	**0.765** B	0.657	0.594 B	0.659 B	0.645
Chromium, Dissolved (mg/L)	0.1	NA	NA	NA	<0.02 U	<0.002 U	<0.005 U	<0.04 U	<0.002 U	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 U
Copper, Dissolved (mg/L)	0.2	NA	NA	NA	<0.02 U	<0.002 U	<0.008 U	0.05	0.00195 B	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 U
Iron, Dissolved (mg/L)	0.3	**1.7**	**3.4**	**3.0**	**2.9**	**2.2**	**2.87**	**1.93**	**2.99**	**3.14**	**3.62**	**3.69**	**2.57**	**3.68**
Lead, Dissolved (mg/L)	0.05	NA	NA	NA	<0.005 U	<0.0005 U	<0.001 U	<0.01 U	<0.0005 U	<0.005 U	<0.005 U	<0.005 U	<0.01 U	<0.005 U
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	1.74	1.87	2.21	1.81	1.79	1.76	1.96	1.74	1.60	1.82
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**	**0.0862**	**0.0831**	**0.0667**	**0.0513**	**0.113**
Selenium, Dissolved (mg/L)	0.02	NA	NA	NA	<0.003 U	0.0009	<0.001 U	<0.003 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.0125 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	0.000924 B	<0.0025 U	<0.0025 U	<0.0025 U	<0.0005 U
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	0.004	0.0023	0.004 B	0.003 B	0.00322	0.00264 B	0.00306 B	0.00361 B	0.00398 B	0.00543
Zinc, Dissolved (mg/L)	2	NA	NA	NA	<0.5 U	<0.5 U	<0.05 U	<0.02 U	<0.015 U	<0.15 U	<0.15 U	<0.15 U	<0.3 U	<0.15 U
Other														
Chloride (mg/L)	250	**6,130**	**5,900**	**5,880**	**6,490**	**6,610** H	**6,390**	**7,100**	**6,110**	**6,810**	**6,190**	**6,730**	**6,130**	**6,390** H
Fluoride (mg/L)	2	NA	NA	NA	1.09	1.20	1.20	1.10	1.12	1.18	1.27	1.01	1.00	0.94
Nitrate as N (mg/L)	10	NA	NA	NA	NA	NA	<0.02 U	<0.1 U	<0.1 U	<0.1 UH	<0.1 U	0.032 B	<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	<0.05 UH	<0.05 U	<0.05 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	<0.1 UH	<0.1 U	0.032 B	<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 H	7.9 H	7.9 H	8.1 H	8.3 H	8.11 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	11,100	10,500	10,400 H	10,600	10,600
Sulfate (mg/L)	250	<250 U	<200 U	51 B	<200 U	<200 U	<40 U	<200 U	<200 U	<200 U	<200 U	<200 U	<200 U	<200 UH
Gross Alpha (pCi/L)	15	NA	NA	NA	**47 (±36)**	-33 (±24)	0.0(±52)	**16(±29)**	14 (±33)	**65(±40)**	**21(±56)**	**19(±53)**	**32(±66)**	-8.4(±36)
Gross Beta (pCi/L)	**	NA	NA	NA	43 (±35)	56 (±47)	0.78(±63)	33(±46)	-28 (±47)	57(±44)	-0.71(±50)	630(±110)	6(±60)	18(±55)
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	7.52	7.52	7.56	7.76	7.35
Field Conductivity (µS/cm)	none	17,850	17,470	18,950	17,560	18,000	11,290	14,930	16,067	16,612	19,008	19,509	13,868	16,557
Temperature (Degrees Celsius)	none	16.6	11.3	17.7	11.1	17.9	10	21.5	12.1	19.4	11.95	16.6	12.0	15.1
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	<0.15 U	<0.15 U	<0.15 U	<0.3 U	<0.15 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	<0.02 U	<0.02 U	<0.02 U	<0.02 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	<0.0025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.0025 U
Bicarbonate as CaCO3 (mg/L)	none	658	639	652	NA	685 H	702	720	647	625	629	624	691	827
Carbonate as CaCO3 (mg/L)	none	<20 U	<20 U	<20 U	NA	<20 UH	<2 U	<20 U	<20 U	<20 U	<20 U	<20 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	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.0025 U
Calcium, Dissolved (mg/L)	none	51	44	41	47	40	45.4	43.2	41.1	45.7	40.3	44.4	40.8	57.7
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	<0.003 U	0.00024 B	<0.0005 U	<0.005 U	0.000315	0.000693 B	0.000723 B	0.000533 B	<0.005 U	0.00136 B
Cyanide, Free (mg/L)	0.2	NA	NA	NA	0.009 B	0.012	<0.003 U	0.004 B	0.005 B	0.008 B	0.0088 B	<0.01 U	<0.01 UH	<0.01 U
Magnesium, Dissolved (mg/L)	none	16	16	16	16	14	15.8	15	15.8	14.7	14.7	16.2	15.4	17.3
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	<0.001 U	<0.001 U	<0.0002 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 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	0.0177	0.0254	0.0291	0.0369	0.0362
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	0.007 B	0.0063 U	0.01	0.02	0.023	0.0204	0.0167	0.019	0.0195 B	0.0204
Potassium, Dissolved (mg/L)	none	9 B	9 B	8 B	10	9 B	11.6	14.8	8.7	7.67 B	10.6	9.1 B	7.11 B	9.2
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	<0.005 U	<0.0005 U	<0.001 U	<0.01 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.01 U	<0.01 U
Sodium, Dissolved (mg/L)	none	3,920	4,060	3,870	3,960	3,910	3,960	3,890	3,710	3,860	3,900	3,940	3,910	3,970
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	<0.02 U	0.0005 U	<0.005 U	<0.04 U	0.00145 B	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 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 Interim Narrative Standard

**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 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	<0.5 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	<0.5 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) 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 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	6/23/2021	12/8/2021	6/23/2022	11/21/2022	6/1/2023
Metals														
Arsenic, Dissolved (mg/L)	0.01	NA	NA	NA	0.002 B	0.0031	0.002 B	0.0039	0.00175	<0.01 U	0.0026 B	0.00265 B	<0.02 U	<0.01 U
Barium, Dissolved (mg/L)	2	**3.96**	**3.8**	**5.5**	**3.42**	**4.42**	**2.86**	1.06	**2.54**	**4.32**	**2.28**	**3.05**	**2.52**	**4.4**
Boron, Dissolved (mg/L)	0.75	0.7	**0.8**	0.7	0.7	0.7 B	0.64	0.65	0.735	0.717 B	0.634	0.604 B	0.55 B	0.632
Chromium, Dissolved (mg/L)	0.1	NA	NA	NA	<0.02 U	<0.002 U	<0.005 U	<0.004 U	<0.002 U	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 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	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 U
Iron, Dissolved (mg/L)	0.3	**5.5**	**6.1**	**3.2**	**3.9**	**2**	**2.81**	**11.6**	**0.932**	**2.95**	**1.96**	**2.07**	**0.622** B	**1.04**
Lead, Dissolved (mg/L)	0.05	NA	NA	NA	<0.005 U	<0.0005 U	<0.001 U	<0.0005 U	0.00012 B	<0.005 U	<0.005 U	<0.005 U	<0.01 U	<0.005 U
Lithium, Dissolved (mg/L)	2.5	NA	NA	NA	1.84	2.02	2.30	1.92	1.84	1.88	2.06	1.85	1.66	1.87
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**	**0.112**	**0.14**	**0.109**	**0.119**	**0.168**
Selenium, Dissolved (mg/L)	0.02	NA	NA	NA	<0.003 U	0.001	<0.001 U	<0.003 U	<0.001 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.0125 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	0.000757 B	<0.0025 U	<0.0025 U	<0.0025 U	<0.0005 U
Uranium, Dissolved (mg/L)	0.03	NA	NA	NA	0.005	0.004	0.005	0.0093	0.00185	0.00426 B	0.00494 B	0.00423 B	0.00344 B	0.00318 B
Zinc, Dissolved (mg/L)	2	NA	NA	NA	<0.5 U	0.1 B	0.19 B	0.01 B	<0.015 U	<0.15 U	<0.15 U	0.116 B	<0.3 U	<0.15 U
Other														
Chloride (mg/L)	250	**6,480**	**6,240**	**6,440**	**7,310**	**7,480** H	**6,780**	**6,550**	**6,690**	**7,410**	**6,420**	**6,650** H	**6,480**	**6,340** H
Fluoride (mg/L)	2	NA	NA	NA	0.88	1.00	0.90	0.80	1.00	0.95	0.90	0.91	0.90	0.92
Nitrate as N (mg/L)	10	NA	NA	NA	NA	NA	0.57	<0.1 U	0.083	0.05 BH	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Nitrite as N (mg/L)	1	NA	NA	NA	NA	NA	<0.01 U	0.02 B	<0.05 U	<0.05 UH	<0.05 U	<0.05 U	<0.05 0	<0.05 U
Nitrate+Nitrite as N (mg/L)	10	NA	NA	NA	NA	NA	0.57	0.03 B	0.083 B	0.052 BH	<0.1 U	<0.1 U	<0.1 U	<0.1 U
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	7.8 H	7.8 H	8 H	8.2 H	8.2 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	12,100	11,100	11,200 H	11,100	11,200
Sulfate (mg/L)	250	59 B	58 B	75 B	83.9 B	63.8 B	54.1 B	125 B	<200 U	43 B	<200 U	94.8 B	<200 U	<200 UH
Gross Alpha (pCi/L)	15	NA	NA	NA	5.8 (±29)	**23 (±41)**	-50(±26)	2.4(±37)	-21 (±31)	**64(±53)**	-19(±51)	-23(±35)	**150(±85)**	11(±39)
Gross Beta (pCi/L)	**	NA	NA	NA	34 (±42)	42 (±252)	35(±59)	11(±53)	1.9 (±53)	92(±58)	26(±67)	39(±66)	-2.3(±56)	20(±56)
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	7.71	7.32	7.18	7.33	7.27
Field Conductivity (µS/cm)	none	19,350	18,550	20,050	19,200	19,110	11,900	15,310	17,263	17,831	19,845	20,634	14,884	17,050
Temperature (Degrees Celsius)	none	22.5	12.3	16.4	12.9	16.3	8.3	19.8	12.5	20.9	12.14	17.4	13.2	14.1
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	<0.15 U	<0.15 U	<0.15 U	<0.3 U	<0.15 U
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	<0.02 U	0.0015 B	<0.004 U	0.0045	<0.02 U	**0.00691** B	<0.02 U	<0.02 U	<0.02 U	**0.0145** B
Beryllium, Dissolved (mg/L)	0.004	NA	NA	NA	<0.003 U	<0.0003 U	<0.0008 U	<0.0003 U	<0.00025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.0025 U
Bicarbonate as CaCO3 (mg/L)	none	745	700	714	NA	681 H	701	876	663	650	713	688	765	836
Carbonate as CaCO3 (mg/L)	none	<20 U	<20 U	<20 U	NA	<20 UH	<2 U	<20 U	<20 U	<20 U	<20 U	<20 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	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.0025 U
Calcium, Dissolved (mg/L)	none	52	55	52	54	53	54.4	54.2	52.5	56.8	52	54	52.1	52.7
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	<0.003 U	0.00025 B	<0.0005 U	0.0004 B	0.000208 B	0.000587 B	<0.0025 U	<0.0025 U	<0.005 U	<0.0025 U
Cyanide, Free (mg/L)	0.2	NA	NA	NA	0.005 B	0.012	0.003 B	0.003 B	0.0096 B	0.0098 B	0.0197	<0.01 U	<0.01 UH	0.0101
Magnesium, Dissolved (mg/L)	none	19	20	20	19	18	18.5	17.9	18.4	17.9	17.1	18.8	17.7	19.4
Mercury, Dissolved (mg/L)	0.002	NA	NA	NA	<0.001 U	<0.001 U	<0.0002 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 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	0.0148	0.0103	0.012	0.00734 B	0.00509
Nickel, Dissolved (mg/L)	0.1	NA	NA	NA	<0.03 U	<0.001 U	<0.004 U	0.0015 B	<0.001 U	<0.01 U	<0.01 U	<0.01 U	<0.02 U	<0.01 U
Potassium, Dissolved (mg/L)	none	11	9 B	9 B	11	11	12.7	17.6	8.85	9.09 B	10.9	9.98 B	7.47 B	10.1
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	<0.005 U	<0.0005 U	<0.001 U	<0.001 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.01 U	<0.01 U
Sodium, Dissolved (mg/L)	none	4,240	4,320	4,170	4,250	4,220	4,250	4,070	3,840	4,160	4,160	4,260	4,030	4,220
Vanadium, Dissolved (mg/L)	0.1	NA	NA	NA	<0.02 U	0.0008 U	<0.005 U	<0.004 U	0.00118 B	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 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 Interim Narrative Standard

**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 8: Summary of Monitoring Results for MW-8

Date	Interim Narrative Standard	12/14/2020	6/23/2021	12/8/2021	6/23/2022	11/21/2022	6/1/2023
Metals							
Arsenic, Dissolved (mg/L)	0.01	0.00546	<0.01 U	0.0025 B	0.00361 B	<0.02 U	0.00333 B
Barium, Dissolved (mg/L)	2	0.299	0.137	0.161	0.847	0.885	**4.52**
Boron, Dissolved (mg/L)	0.75	**0.9**	**0.823** B	**0.763**	0.682 B	**0.763** B	0.701
Chromium, Dissolved (mg/L)	0.1	<0.002 U	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 U
Copper, Dissolved (mg/L)	0.2	0.00306	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 U
Iron, Dissolved (mg/L)	0.3	<0.75 U	<1.5 U	0.13 B	<1.5 U	<1.5 U	<0.15 U
Lead, Dissolved (mg/L)	0.05	<0.0005 U	<0.005 U	<0.005 U	<0.005 U	<0.01 U	<0.005 U
Lithium, Dissolved (mg/L)	2.5	1.55	1.70	1.97	1.80	1.71	1.91
Manganese, Dissolved (mg/L)	0.05	0.0161	0.0336	0.0455	0.0233	0.0174 B	0.0395
Selenium, Dissolved (mg/L)	0.02	0.00179 B	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.0125 U
Thallium, Dissolved (mg/L)	0.002	<0.0025 U	0.000826 B	<0.0025 U	<0.0025 U	<0.0025 U	<0.0005 U
Uranium, Dissolved (mg/L)	0.03	0.0167	**0.056**	**0.0452**	**0.0311**	0.0046 B	0.0107 B
Zinc, Dissolved (mg/L)	2	0.0091 B	<0.15 U	<0.15 U	<0.15 U	<0.3 U	<0.15 U
Other							
Chloride (mg/L)	250	**5,910**	**7,000**	**6,910**	**7,130**	**7,130**	**7,580** H
Fluoride (mg/L)	2	1.66	1.54	1.40	1.34	1.15	1.36
Nitrate as N (mg/L)	10	<0.1 U	<0.1 UH	<0.1 U	0.041 B	<0.1 U	0
Nitrite as N (mg/L)	1	<0.05 U	<0.05 UH	<0.05 U	<0.05 U	<0.05 U	<0.05 U
Nitrate+Nitrite as N (mg/L)	10	<0.1 U	<0.1 UH	<0.1 U	0 B	<0.1 U	0
Lab pH (s.u)	6.5 - 8.5	8.3 H	8.0 H	8.0 H	8.1 H	8.2 H	8.1 H
Total Dissolved Solids, filterable residue (mg/L)	1.25 x Background*	10,100	12,600	12,300	11,600 H	12000	12,000
Sulfate (mg/L)	250	**529**	**885**	**444**	135 B	<200 U	<200 UH
Gross Alpha (pCi/L)	15	**45 (±45)**	**-1.4(±38)**	**36(±60)**	4.9(±46)	6.1(±54)	-6.5(±30)
Gross Beta (pCi/L)	**	9.1 (±44)	-1.9(±57)	7.8(±67)	-5.8(±56)	-35(±57)	33(±69)
Field Parameters (Not Available pre-2010))							
Field pH (s.u)	6.5 - 8.5	8.15	8.00	7.47	7.62	7.32	7.56
Field Conductivity (µS/cm)	none	14,360	18,379	21,344	21,985	17,322	18,782
Temperature (Degrees Celsius)	none	12.5	21.3	13.3	18.5	12.7	14.2
Supplementary Analytes (Not Historically analyzed)							
Aluminum, Dissolved (mg/L)	5	0.0057 B	<0.15 U	<0.15 U	<0.15 U	<0.3 U	<0.3 U
Antimony, Dissolved (mg/L)	0.006	**0.0125** B	**0.0102** B	**0.0109** B	**0.0134** B	<0.02 U	**0.00926** B
Beryllium, Dissolved (mg/L)	0.004	<0.00025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.0025 U
Bicarbonate as CaCO3 (mg/L)	none	664	612	582	545	615	622
Carbonate as CaCO3 (mg/L)	none	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U
Cadmium, Dissolved (mg/L)	0.005	<0.00025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.0025 U
Calcium, Dissolved (mg/L)	none	23.4	56.1	93.6	92.4	91	108
Cobalt, Dissolved (mg/L)	0.05	0.000745	0.000951 B	0.00158 B	0.00122 B	0.00113 B	0.000787 B
Cyanide, Free (mg/L)	0.2	<0.01 U	0.0128	0.0158	<0.01 U	<0.01 UH	<0.01 U
Magnesium, Dissolved (mg/L)	none	18.8	18.4	19.7	21.2	20.1	20.8
Mercury, Dissolved (mg/L)	0.002	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U
Molybdenum, Dissolved (mg/L)	0.21	0.0225	0.0469	0.0425	0.0193	<0.01 U	0.00974
Nickel, Dissolved (mg/L)	0.1	0.00469	0.00575 B	0.00905 B	0.00634 B	<0.02 U	<0.01 U
Potassium, Dissolved (mg/L)	none	16.6	12.5	14.4	12.5	8.03 B	11.70
Silver, Dissolved (mg/L)	0.05	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.01 U	<0.01 U
Sodium, Dissolved (mg/L)	none	3,380	4,260	4,490	4,530	4,410	4,680
Vanadium, Dissolved (mg/L)	0.1	0.0044	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 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)

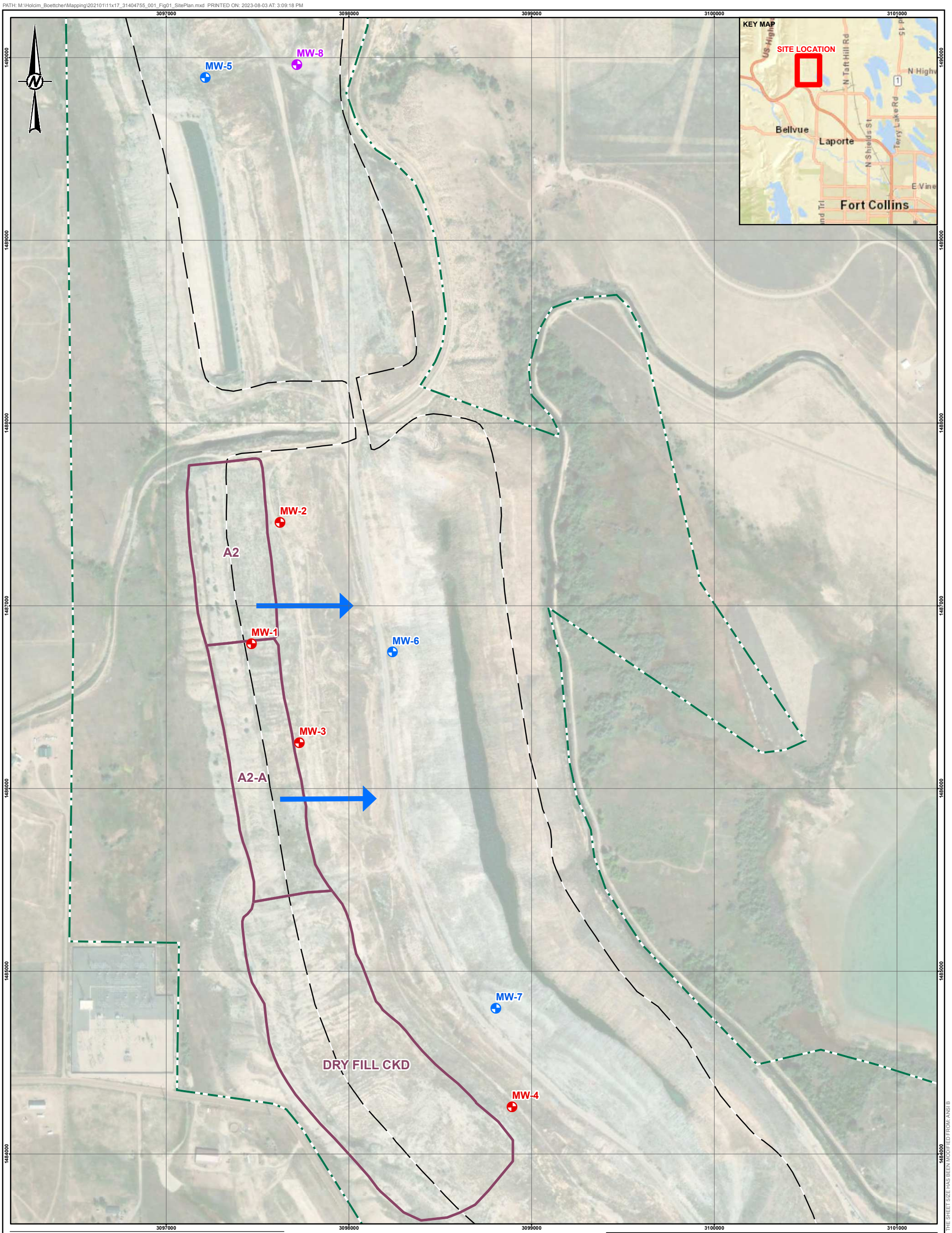
*TDS standard is 1.25 * Background, where background is the average of the 1999-2000 sampling (when available)

Values in **bold** indicate a value greater than the Interim Narrative Standard

**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.

Figures

PATH: M:\Holcim_Boettcher\Mapping\202101\11x17_31404755_001_Fig01_SitePlan.mxd PRINTED ON: 2023-08-03 AT: 3:09:18 PM



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

0 500 1,000
Feet

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, VIVID. MAXAR. IMAGERY COLLECTED 09/22/2021.

CLIENT
HOLCIM (US) INC.

PROJECT
BOETTCHER LIMESTONE QUARRY
LARIMER COUNTY, COLORADO

TITLE
SITE LOCATION PLAN

CONSULTANT
wsp

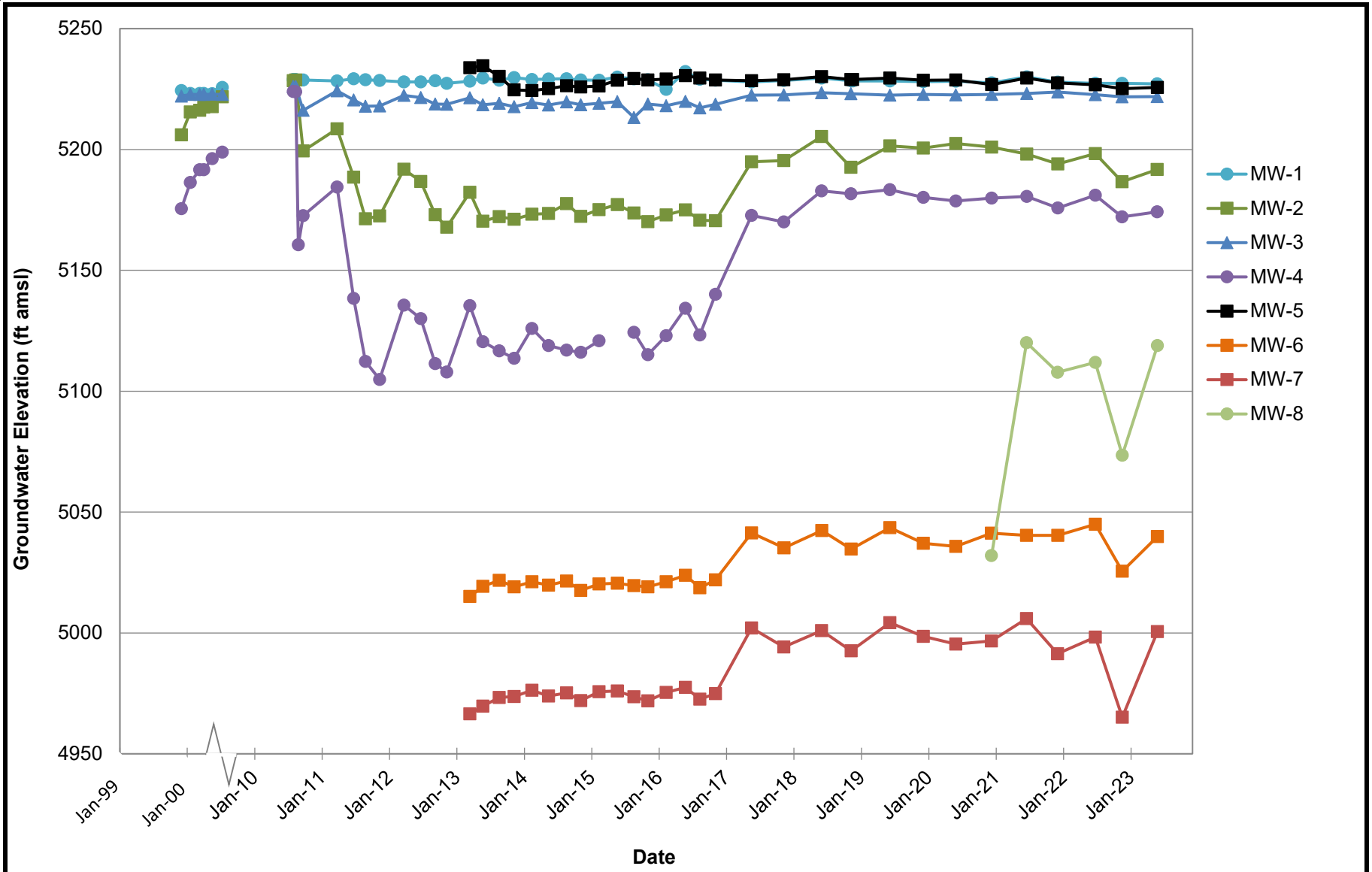
YYYY-MM-DD	2022-08-10
DESIGNED	SAH
PREPARED	RHG
REVIEWED	SAH
APPROVED	RSM

PROJECT NO.
31404755.001

FIGURE
1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in
0



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

WSP USA Inc.

ATTACHMENT 1

ACZ Laboratory Reports

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Revised Analytical Report

July 18, 2023

Report to:
Jennifer Thompson
Golder Associates
7245 W Alaska Drive
Suite 200
Lakewood, CO 80226

cc: Sara Harkins

Bill to:
Accounts Payable
Golder Associates
44 Union Blvd., Suite 300

Lakewood, CO 80228

Project ID:
ACZ Project ID: L80841

Jennifer Thompson:

Enclosed are revised analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 02, 2023 and originally reported on July 18, 2023. Refer to the case narrative for an explanation of the changes. This project was assigned to ACZ's project number, L80841. 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 L80841. 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 August 17, 2023. 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.

Mark McNeal

Mark McNeal has reviewed
and approved this report.

Golder Associates

July 18, 2023

Project ID:
ACZ Project ID: L80841

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 10 groundwater samples from Golder Associates on June 2, 2023. 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 L80841. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic, radiochemistry parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports.

This report is being reissued to inlcude updated values for SO4 on -04, -06, -07 & -08, as well as updated vlaues for Cl for -04 & -08 due to client request.

Golder Associates
Project ID:
Sample ID: MW-1

ACZ Sample ID: ***L80841-01***
Date Sampled: *06/01/23 10:58*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	5	0.127			mg/L	0.025	0.075	06/19/23 15:46	gjl/scp
Antimony, dissolved	M200.8 ICP-MS	5	<0.002	U	*	mg/L	0.002	0.01	06/19/23 15:46	gjl/scp
Arsenic, dissolved	M200.8 ICP-MS	5	0.00244	B		mg/L	0.001	0.005	06/19/23 15:46	gjl/scp
Barium, dissolved	M200.8 ICP-MS	5	0.0176		*	mg/L	0.0025	0.0125	06/19/23 15:46	gjl/scp
Beryllium, dissolved	M200.8 ICP-MS	5	0.000470	B		mg/L	0.0004	0.00125	06/19/23 15:46	gjl/scp
Boron, dissolved	M200.7 ICP	1	0.795			mg/L	0.03	0.1	06/07/23 14:04	keh1
Cadmium, dissolved	M200.8 ICP-MS	5	0.000418	B		mg/L	0.00025	0.00125	06/19/23 15:46	gjl/scp
Calcium, dissolved	M200.7 ICP	1	114			mg/L	0.1	0.5	06/07/23 14:04	keh1
Chromium, dissolved	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	06/19/23 15:46	gjl/scp
Cobalt, dissolved	M200.8 ICP-MS	5	0.00530			mg/L	0.00025	0.00125	06/19/23 15:46	gjl/scp
Copper, dissolved	M200.8 ICP-MS	5	<0.004	U	*	mg/L	0.004	0.01	06/19/23 15:46	gjl/scp
Iron, dissolved	M200.7 ICP	1	0.234			mg/L	0.06	0.15	06/07/23 14:04	keh1
Lead, dissolved	M200.8 ICP-MS	5	0.00083	B		mg/L	0.0005	0.0025	06/19/23 15:46	gjl/scp
Lithium, dissolved	M200.7 ICP	1	1.12			mg/L	0.008	0.04	06/07/23 14:04	keh1
Magnesium, dissolved	M200.7 ICP	1	120			mg/L	0.2	1	06/07/23 14:04	keh1
Manganese, dissolved	M200.8 ICP-MS	5	0.204			mg/L	0.002	0.01	06/19/23 15:46	gjl/scp
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/08/23 12:24	mlh
Molybdenum, dissolved	M200.8 ICP-MS	5	0.0559			mg/L	0.001	0.0025	06/19/23 15:46	gjl/scp
Nickel, dissolved	M200.8 ICP-MS	5	0.00867			mg/L	0.002	0.005	06/19/23 15:46	gjl/scp
Potassium, dissolved	M200.7 ICP	1	9.36			mg/L	0.2	1	06/07/23 14:04	keh1
Selenium, dissolved	M200.8 ICP-MS	5	0.00150			mg/L	0.0005	0.00125	06/19/23 15:46	gjl/scp
Silver, dissolved	M200.8 ICP-MS	10	<0.001	U	*	mg/L	0.001	0.005	06/22/23 14:59	gjl/scp
Sodium, dissolved	M200.7 ICP	2	1730			mg/L	0.4	2	06/09/23 10:40	keh1
Thallium, dissolved	M200.8 ICP-MS	1	0.000072	B		mg/L	0.00005	0.00025	06/13/23 12:36	kja
Uranium, dissolved	M200.8 ICP-MS	5	0.0386			mg/L	0.0005	0.0025	06/19/23 15:46	gjl/scp
Vanadium, dissolved	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	06/19/23 15:46	gjl/scp
Zinc, dissolved	M200.8 ICP-MS	5	<0.03	U		mg/L	0.03	0.075	06/19/23 15:46	gjl/scp

Golder Associates
Project ID:
Sample ID: MW-1

ACZ Sample ID: ***L80841-01***
Date Sampled: *06/01/23 10:58*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	514		*	mg/L	2	20	06/14/23 0:00	emk
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Total Alkalinity		1	514		*	mg/L	2	20	06/14/23 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.1			%			07/18/23 0:00	calc
Sum of Anions			104			meq/L			07/18/23 0:00	calc
Sum of Cations			92			meq/L			07/18/23 0:00	calc
Chloride	M300.0 - Ion Chromatography	100	<40	U	*	mg/L	40	200	06/21/23 8:39	bls
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	06/12/23 16:33	gkk
Fluoride	SM4500F-C	1	0.55		*	mg/L	0.15	0.35	06/16/23 14:30	emk
Nitrate as N	Calculation: NO3NO2 minus NO2		0.041	B		mg/L	0.02	0.1	07/18/23 0:00	calc
Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	1	0.041	B	*	mg/L	0.02	0.1	06/02/23 23:45	pjb
Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	06/02/23 23:45	pjb
pH (lab)	SM4500H+ B									
pH		1	8.20	H	*	units	0.1	0.1	06/14/23 0:00	emk
pH measured at		1	21.7		*	C	0.1	0.1	06/14/23 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	5	6280		*	mg/L	100	200	06/07/23 17:13	svm
Sulfate	M300.0 - Ion Chromatography	100	4480		*	mg/L	40	200	06/21/23 8:39	bls
TDS (calculated)	Calculation		6770			mg/L			07/18/23 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.93						07/18/23 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-2

ACZ Sample ID: ***L80841-02***
Date Sampled: *06/01/23 10:00*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	5	<0.025	U		mg/L	0.025	0.075	06/19/23 15:48	gjl/scp
Antimony, dissolved	M200.8 ICP-MS	5	<0.002	U	*	mg/L	0.002	0.01	06/19/23 15:48	gjl/scp
Arsenic, dissolved	M200.8 ICP-MS	5	0.00295	B		mg/L	0.001	0.005	06/19/23 15:48	gjl/scp
Barium, dissolved	M200.8 ICP-MS	5	3.89		*	mg/L	0.0025	0.0125	06/19/23 15:48	gjl/scp
Beryllium, dissolved	M200.8 ICP-MS	5	<0.0004	U		mg/L	0.0004	0.00125	06/19/23 15:48	gjl/scp
Boron, dissolved	M200.7 ICP	1	0.757			mg/L	0.03	0.1	06/07/23 14:14	keh1
Cadmium, dissolved	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	06/19/23 15:48	gjl/scp
Calcium, dissolved	M200.7 ICP	1	18.6			mg/L	0.1	0.5	06/07/23 14:14	keh1
Chromium, dissolved	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	06/19/23 15:48	gjl/scp
Cobalt, dissolved	M200.8 ICP-MS	5	0.000319	B		mg/L	0.00025	0.00125	06/19/23 15:48	gjl/scp
Copper, dissolved	M200.8 ICP-MS	5	<0.004	U	*	mg/L	0.004	0.01	06/19/23 15:48	gjl/scp
Iron, dissolved	M200.7 ICP	1	0.258			mg/L	0.06	0.15	06/07/23 14:14	keh1
Lead, dissolved	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	06/19/23 15:48	gjl/scp
Lithium, dissolved	M200.7 ICP	1	1.17			mg/L	0.008	0.04	06/07/23 14:14	keh1
Magnesium, dissolved	M200.7 ICP	1	7.08			mg/L	0.2	1	06/07/23 14:14	keh1
Manganese, dissolved	M200.8 ICP-MS	5	0.0527			mg/L	0.002	0.01	06/19/23 15:48	gjl/scp
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/08/23 12:25	mlh
Molybdenum, dissolved	M200.8 ICP-MS	5	0.00105	B		mg/L	0.001	0.0025	06/19/23 15:48	gjl/scp
Nickel, dissolved	M200.8 ICP-MS	5	<0.002	U		mg/L	0.002	0.005	06/19/23 15:48	gjl/scp
Potassium, dissolved	M200.7 ICP	1	6.15			mg/L	0.2	1	06/07/23 14:14	keh1
Selenium, dissolved	M200.8 ICP-MS	20	<0.002	U	*	mg/L	0.002	0.005	06/28/23 14:55	gjl/scp
Silver, dissolved	M200.8 ICP-MS	10	<0.001	U	*	mg/L	0.001	0.005	06/22/23 15:06	gjl/scp
Sodium, dissolved	M200.7 ICP	5	2400			mg/L	1	5	06/09/23 10:43	keh1
Thallium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	06/13/23 12:37	kja
Uranium, dissolved	M200.8 ICP-MS	5	0.00219	B		mg/L	0.0005	0.0025	06/19/23 15:48	gjl/scp
Vanadium, dissolved	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	06/19/23 15:48	gjl/scp
Zinc, dissolved	M200.8 ICP-MS	5	<0.03	U		mg/L	0.03	0.075	06/19/23 15:48	gjl/scp

Golder Associates
Project ID:
Sample ID: MW-2

ACZ Sample ID: ***L80841-02***
Date Sampled: *06/01/23 10:00*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	1180		*	mg/L	2	20	06/14/23 0:00	emk
Carbonate as CaCO3		1	9.3	B	*	mg/L	2	20	06/14/23 0:00	emk
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Total Alkalinity		1	1190		*	mg/L	2	20	06/14/23 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.0			%			07/18/23 0:00	calc
Sum of Anions			116			meq/L			07/18/23 0:00	calc
Sum of Cations			107			meq/L			07/18/23 0:00	calc
Chloride	M300.0 - Ion Chromatography	100	3280		*	mg/L	40	200	06/21/23 8:57	bls
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	06/12/23 16:35	gkk
Fluoride	SM4500F-C	1	1.40		*	mg/L	0.15	0.35	06/16/23 14:36	emk
Nitrate as N	Calculation: NO3NO2 minus NO2		<0.02	U		mg/L	0.02	0.1	07/18/23 0:00	calc
Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.02	U	*	mg/L	0.02	0.1	06/02/23 23:46	pjb
Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	06/02/23 23:46	pjb
pH (lab)	SM4500H+ B									
pH		1	8.30	H	*	units	0.1	0.1	06/14/23 0:00	emk
pH measured at		1	21.6		*	C	0.1	0.1	06/14/23 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	5	6230		*	mg/L	100	200	06/07/23 17:14	svm
Sulfate	M300.0 - Ion Chromatography	100	<40	U	*	mg/L	40	200	06/21/23 8:57	bls
TDS (calculated)	Calculation		6440			mg/L			07/18/23 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.97						07/18/23 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-3

ACZ Sample ID: ***L80841-03***
Date Sampled: *06/01/23 11:25*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	2	<0.01	U		mg/L	0.01	0.03	06/19/23 15:50	gjl/scp
Antimony, dissolved	M200.8 ICP-MS	2	<0.0008	U	*	mg/L	0.0008	0.004	06/19/23 15:50	gjl/scp
Arsenic, dissolved	M200.8 ICP-MS	2	<0.0004	U		mg/L	0.0004	0.002	06/19/23 15:50	gjl/scp
Barium, dissolved	M200.8 ICP-MS	2	2.85		*	mg/L	0.001	0.005	06/19/23 15:50	gjl/scp
Beryllium, dissolved	M200.8 ICP-MS	2	<0.00016	U		mg/L	0.00016	0.0005	06/19/23 15:50	gjl/scp
Boron, dissolved	M200.7 ICP	1	0.791			mg/L	0.03	0.1	06/07/23 14:17	keh1
Cadmium, dissolved	M200.8 ICP-MS	2	<0.0001	U		mg/L	0.0001	0.0005	06/19/23 15:50	gjl/scp
Calcium, dissolved	M200.7 ICP	1	7.02			mg/L	0.1	0.5	06/07/23 14:17	keh1
Chromium, dissolved	M200.8 ICP-MS	2	<0.001	U		mg/L	0.001	0.004	06/19/23 15:50	gjl/scp
Cobalt, dissolved	M200.8 ICP-MS	2	<0.0001	U		mg/L	0.0001	0.0005	06/19/23 15:50	gjl/scp
Copper, dissolved	M200.8 ICP-MS	2	<0.0016	U	*	mg/L	0.0016	0.004	06/19/23 15:50	gjl/scp
Iron, dissolved	M200.7 ICP	1	0.134	B		mg/L	0.06	0.15	06/07/23 14:17	keh1
Lead, dissolved	M200.8 ICP-MS	2	<0.0002	U		mg/L	0.0002	0.001	06/19/23 15:50	gjl/scp
Lithium, dissolved	M200.7 ICP	1	0.708			mg/L	0.008	0.04	06/07/23 14:17	keh1
Magnesium, dissolved	M200.7 ICP	1	2.75			mg/L	0.2	1	06/07/23 14:17	keh1
Manganese, dissolved	M200.8 ICP-MS	2	0.0181			mg/L	0.0008	0.004	06/19/23 15:50	gjl/scp
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/08/23 12:26	mlh
Molybdenum, dissolved	M200.8 ICP-MS	2	0.00047	B		mg/L	0.0004	0.001	06/19/23 15:50	gjl/scp
Nickel, dissolved	M200.8 ICP-MS	2	<0.0008	U		mg/L	0.0008	0.002	06/19/23 15:50	gjl/scp
Potassium, dissolved	M200.7 ICP	1	4.21			mg/L	0.2	1	06/07/23 14:17	keh1
Selenium, dissolved	M200.8 ICP-MS	20	<0.002	U	*	mg/L	0.002	0.005	06/28/23 15:02	gjl/scp
Silver, dissolved	M200.8 ICP-MS	10	<0.001	U	*	mg/L	0.001	0.005	06/22/23 15:08	gjl/scp
Sodium, dissolved	M200.7 ICP	2	1510			mg/L	0.4	2	06/09/23 10:46	keh1
Thallium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	06/13/23 12:42	kja
Uranium, dissolved	M200.8 ICP-MS	20	<0.002	U	*	mg/L	0.002	0.01	06/28/23 15:02	gjl/scp
Vanadium, dissolved	M200.8 ICP-MS	2	<0.001	U		mg/L	0.001	0.004	06/19/23 15:50	gjl/scp
Zinc, dissolved	M200.8 ICP-MS	2	<0.012	U		mg/L	0.012	0.03	06/19/23 15:50	gjl/scp

Golder Associates
Project ID:
Sample ID: MW-3

ACZ Sample ID: ***L80841-03***
Date Sampled: *06/01/23 11:25*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	1280		*	mg/L	2	20	06/14/23 0:00	emk
Carbonate as CaCO3		1	81.6		*	mg/L	2	20	06/14/23 0:00	emk
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Total Alkalinity		1	1360		*	mg/L	2	20	06/14/23 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-7.6			%			07/18/23 0:00	calc
Sum of Anions			78			meq/L			07/18/23 0:00	calc
Sum of Cations			67			meq/L			07/18/23 0:00	calc
Chloride	M300.0 - Ion Chromatography	50	1800		*	mg/L	20	100	06/21/23 9:51	bls
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	06/12/23 16:37	gkk
Fluoride	SM4500F-C	1	2.40		*	mg/L	0.15	0.35	06/16/23 14:41	emk
Nitrate as N	Calculation: NO3NO2 minus NO2		<0.02	U		mg/L	0.02	0.1	07/18/23 0:00	calc
Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.02	U	*	mg/L	0.02	0.1	06/02/23 23:47	pjb
Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	06/02/23 23:47	pjb
pH (lab)	SM4500H+ B									
pH		1	8.50	H	*	units	0.1	0.1	06/14/23 0:00	emk
pH measured at		1	21.7		*	C	0.1	0.1	06/14/23 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	2	3840		*	mg/L	40	80	06/07/23 17:15	svm
Sulfate	M300.0 - Ion Chromatography	50	<20	U	*	mg/L	20	100	06/21/23 9:51	bls
TDS (calculated)	Calculation		4160			mg/L			07/18/23 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.92						07/18/23 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-4

ACZ Sample ID: ***L80841-04***
Date Sampled: *06/01/23 12:15*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	10	<0.05	U		mg/L	0.05	0.15	06/19/23 15:57	gjl/scp
Antimony, dissolved	M200.8 ICP-MS	10	<0.004	U	*	mg/L	0.004	0.02	06/19/23 15:57	gjl/scp
Arsenic, dissolved	M200.8 ICP-MS	10	<0.002	U		mg/L	0.002	0.01	06/19/23 15:57	gjl/scp
Barium, dissolved	M200.8 ICP-MS	10	9.18		*	mg/L	0.005	0.025	06/19/23 15:57	gjl/scp
Beryllium, dissolved	M200.8 ICP-MS	10	<0.0008	U		mg/L	0.0008	0.0025	06/19/23 15:57	gjl/scp
Boron, dissolved	M200.7 ICP	1	0.671			mg/L	0.03	0.1	06/07/23 14:27	keh1
Cadmium, dissolved	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	06/19/23 15:57	gjl/scp
Calcium, dissolved	M200.7 ICP	1	36.5			mg/L	0.1	0.5	06/07/23 14:27	keh1
Chromium, dissolved	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/19/23 15:57	gjl/scp
Cobalt, dissolved	M200.8 ICP-MS	10	0.000636	B		mg/L	0.0005	0.0025	06/19/23 15:57	gjl/scp
Copper, dissolved	M200.8 ICP-MS	10	<0.008	U	*	mg/L	0.008	0.02	06/19/23 15:57	gjl/scp
Iron, dissolved	M200.7 ICP	1	0.141	B		mg/L	0.06	0.15	06/07/23 14:27	keh1
Lead, dissolved	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	06/19/23 15:57	gjl/scp
Lithium, dissolved	M200.7 ICP	1	1.82			mg/L	0.008	0.04	06/07/23 14:27	keh1
Magnesium, dissolved	M200.7 ICP	1	17.1			mg/L	0.2	1	06/07/23 14:27	keh1
Manganese, dissolved	M200.8 ICP-MS	10	0.00903	B		mg/L	0.004	0.02	06/19/23 15:57	gjl/scp
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/08/23 12:28	mlh
Molybdenum, dissolved	M200.8 ICP-MS	10	0.00219	B		mg/L	0.002	0.005	06/19/23 15:57	gjl/scp
Nickel, dissolved	M200.8 ICP-MS	10	<0.004	U		mg/L	0.004	0.01	06/19/23 15:57	gjl/scp
Potassium, dissolved	M200.7 ICP	5	8.76			mg/L	1	5	06/09/23 10:56	keh1
Selenium, dissolved	M200.8 ICP-MS	50	<0.005	U	*	mg/L	0.005	0.0125	06/28/23 15:04	gjl/scp
Silver, dissolved	M200.8 ICP-MS	20	<0.002	U	*	mg/L	0.002	0.01	06/22/23 15:10	gjl/scp
Sodium, dissolved	M200.7 ICP	5	4070			mg/L	1	5	06/09/23 10:56	keh1
Thallium, dissolved	M200.8 ICP-MS	2	<0.0001	U	*	mg/L	0.0001	0.0005	06/13/23 13:01	kja
Uranium, dissolved	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	06/19/23 15:57	gjl/scp
Vanadium, dissolved	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/19/23 15:57	gjl/scp
Zinc, dissolved	M200.8 ICP-MS	10	<0.06	U		mg/L	0.06	0.15	06/19/23 15:57	gjl/scp

Golder Associates
Project ID:
Sample ID: MW-4

ACZ Sample ID: ***L80841-04***
Date Sampled: *06/01/23 12:15*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	667		*	mg/L	2	20	06/14/23 0:00	emk
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Total Alkalinity		1	667		*	mg/L	2	20	06/14/23 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.2			%			07/18/23 0:00	calc
Sum of Anions			207			meq/L			07/18/23 0:00	calc
Sum of Cations			183			meq/L			07/18/23 0:00	calc
Chloride	M300.0 - Ion Chromatography	100	6900	H	*	mg/L	40	200	07/17/23 15:03	bls
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	06/12/23 16:39	gkk
Fluoride	SM4500F-C	1	1.06		*	mg/L	0.15	0.35	06/16/23 15:09	emk
Nitrate as N	Calculation: NO3NO2 minus NO2		<0.02	U		mg/L	0.02	0.1	07/18/23 0:00	calc
Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.02	U	*	mg/L	0.02	0.1	06/02/23 23:48	pjb
Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	06/02/23 23:48	pjb
pH (lab)	SM4500H+ B									
pH		1	8.20	H	*	units	0.1	0.1	06/14/23 0:00	emk
pH measured at		1	21.4		*	C	0.1	0.1	06/14/23 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	5	11000		*	mg/L	100	200	06/07/23 17:16	svm
Sulfate	M300.0 - Ion Chromatography	100	<40	UH	*	mg/L	40	200	07/17/23 15:03	bls
TDS (calculated)	Calculation		11400			mg/L			07/18/23 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.96						07/18/23 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-5

ACZ Sample ID: ***L80841-05***
Date Sampled: *06/01/23 07:15*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	5	<0.025	U		mg/L	0.025	0.075	06/19/23 15:59	gjl/scp
Antimony, dissolved	M200.8 ICP-MS	5	<0.002	U	*	mg/L	0.002	0.01	06/19/23 15:59	gjl/scp
Arsenic, dissolved	M200.8 ICP-MS	5	0.00222	B		mg/L	0.001	0.005	06/19/23 15:59	gjl/scp
Barium, dissolved	M200.8 ICP-MS	5	0.0151		*	mg/L	0.0025	0.0125	06/19/23 15:59	gjl/scp
Beryllium, dissolved	M200.8 ICP-MS	5	<0.0004	U		mg/L	0.0004	0.00125	06/19/23 15:59	gjl/scp
Boron, dissolved	M200.7 ICP	1	0.383			mg/L	0.03	0.1	06/07/23 14:30	keh1
Cadmium, dissolved	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	06/19/23 15:59	gjl/scp
Calcium, dissolved	M200.7 ICP	1	410			mg/L	0.1	0.5	06/07/23 14:30	keh1
Chromium, dissolved	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	06/19/23 15:59	gjl/scp
Cobalt, dissolved	M200.8 ICP-MS	5	0.00723			mg/L	0.00025	0.00125	06/19/23 15:59	gjl/scp
Copper, dissolved	M200.8 ICP-MS	5	<0.004	U	*	mg/L	0.004	0.01	06/19/23 15:59	gjl/scp
Iron, dissolved	M200.7 ICP	1	13.2			mg/L	0.06	0.15	06/07/23 14:30	keh1
Lead, dissolved	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	06/19/23 15:59	gjl/scp
Lithium, dissolved	M200.7 ICP	1	0.433			mg/L	0.008	0.04	06/07/23 14:30	keh1
Magnesium, dissolved	M200.7 ICP	1	120			mg/L	0.2	1	06/07/23 14:30	keh1
Manganese, dissolved	M200.8 ICP-MS	5	0.102			mg/L	0.002	0.01	06/19/23 15:59	gjl/scp
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/08/23 12:29	mlh
Molybdenum, dissolved	M200.8 ICP-MS	5	0.00782			mg/L	0.001	0.0025	06/19/23 15:59	gjl/scp
Nickel, dissolved	M200.8 ICP-MS	5	0.0291			mg/L	0.002	0.005	06/19/23 15:59	gjl/scp
Potassium, dissolved	M200.7 ICP	1	9.33			mg/L	0.2	1	06/09/23 10:59	keh1
Selenium, dissolved	M200.8 ICP-MS	5	0.00082	B		mg/L	0.0005	0.00125	06/19/23 15:59	gjl/scp
Silver, dissolved	M200.8 ICP-MS	10	<0.001	U	*	mg/L	0.001	0.005	06/22/23 15:13	gjl/scp
Sodium, dissolved	M200.7 ICP	1	700		*	mg/L	0.2	1	06/07/23 14:30	keh1
Thallium, dissolved	M200.8 ICP-MS	1	0.000118	B		mg/L	0.00005	0.00025	06/13/23 12:45	kja
Uranium, dissolved	M200.8 ICP-MS	5	0.0258			mg/L	0.0005	0.0025	06/19/23 15:59	gjl/scp
Vanadium, dissolved	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	06/19/23 15:59	gjl/scp
Zinc, dissolved	M200.8 ICP-MS	5	<0.03	U		mg/L	0.03	0.075	06/19/23 15:59	gjl/scp

Golder Associates
Project ID:
Sample ID: MW-5

ACZ Sample ID: ***L80841-05***
Date Sampled: *06/01/23 07:15*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	393		*	mg/L	2	20	06/14/23 0:00	emk
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Total Alkalinity		1	393		*	mg/L	2	20	06/14/23 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.5			%			07/18/23 0:00	calc
Sum of Anions			59			meq/L			07/18/23 0:00	calc
Sum of Cations			62			meq/L			07/18/23 0:00	calc
Chloride	M300.0 - Ion Chromatography	50	31.2	B	*	mg/L	20	100	06/21/23 11:02	bls
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	06/12/23 16:41	gkk
Fluoride	SM4500F-C	1	0.64		*	mg/L	0.15	0.35	06/16/23 15:14	emk
Nitrate as N	Calculation: NO3NO2 minus NO2		<0.02	U		mg/L	0.02	0.1	07/18/23 0:00	calc
Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.02	U	*	mg/L	0.02	0.1	06/02/23 23:50	pjb
Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	06/02/23 23:50	pjb
pH (lab)	SM4500H+ B									
pH		1	8.00	H	*	units	0.1	0.1	06/14/23 0:00	emk
pH measured at		1	21.3		*	C	0.1	0.1	06/14/23 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	5	4160		*	mg/L	100	200	06/07/23 17:18	svm
Sulfate	M300.0 - Ion Chromatography	50	2410		*	mg/L	20	100	06/21/23 11:02	bls
TDS (calculated)	Calculation		3930			mg/L			07/18/23 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.06						07/18/23 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-6

ACZ Sample ID: ***L80841-06***
Date Sampled: *06/01/23 13:02*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	10	<0.05	U		mg/L	0.05	0.15	06/19/23 16:02	gjl/scp
Antimony, dissolved	M200.8 ICP-MS	10	<0.004	U	*	mg/L	0.004	0.02	06/19/23 16:02	gjl/scp
Arsenic, dissolved	M200.8 ICP-MS	10	0.00887	B		mg/L	0.002	0.01	06/19/23 16:02	gjl/scp
Barium, dissolved	M200.8 ICP-MS	10	5.96		*	mg/L	0.005	0.025	06/19/23 16:02	gjl/scp
Beryllium, dissolved	M200.8 ICP-MS	10	<0.0008	U		mg/L	0.0008	0.0025	06/19/23 16:02	gjl/scp
Boron, dissolved	M200.7 ICP	1	0.645			mg/L	0.03	0.1	06/07/23 14:34	keh1
Cadmium, dissolved	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	06/19/23 16:02	gjl/scp
Calcium, dissolved	M200.7 ICP	1	57.7			mg/L	0.1	0.5	06/07/23 14:34	keh1
Chromium, dissolved	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/19/23 16:02	gjl/scp
Cobalt, dissolved	M200.8 ICP-MS	10	0.00136	B		mg/L	0.0005	0.0025	06/19/23 16:02	gjl/scp
Copper, dissolved	M200.8 ICP-MS	10	<0.008	U	*	mg/L	0.008	0.02	06/19/23 16:02	gjl/scp
Iron, dissolved	M200.7 ICP	1	3.68			mg/L	0.06	0.15	06/07/23 14:34	keh1
Lead, dissolved	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	06/19/23 16:02	gjl/scp
Lithium, dissolved	M200.7 ICP	1	1.82			mg/L	0.008	0.04	06/07/23 14:34	keh1
Magnesium, dissolved	M200.7 ICP	1	17.3			mg/L	0.2	1	06/07/23 14:34	keh1
Manganese, dissolved	M200.8 ICP-MS	10	0.113			mg/L	0.004	0.02	06/19/23 16:02	gjl/scp
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/08/23 12:30	mlh
Molybdenum, dissolved	M200.8 ICP-MS	10	0.0362			mg/L	0.002	0.005	06/19/23 16:02	gjl/scp
Nickel, dissolved	M200.8 ICP-MS	10	0.0204			mg/L	0.004	0.01	06/19/23 16:02	gjl/scp
Potassium, dissolved	M200.7 ICP	5	9.20			mg/L	1	5	06/09/23 11:03	keh1
Selenium, dissolved	M200.8 ICP-MS	50	<0.005	U	*	mg/L	0.005	0.0125	06/28/23 15:06	gjl/scp
Silver, dissolved	M200.8 ICP-MS	20	<0.002	U	*	mg/L	0.002	0.01	06/22/23 15:15	gjl/scp
Sodium, dissolved	M200.7 ICP	5	3970			mg/L	1	5	06/09/23 11:03	keh1
Thallium, dissolved	M200.8 ICP-MS	2	<0.0001	U	*	mg/L	0.0001	0.0005	06/13/23 13:02	kja
Uranium, dissolved	M200.8 ICP-MS	10	0.00543			mg/L	0.001	0.005	06/19/23 16:02	gjl/scp
Vanadium, dissolved	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/19/23 16:02	gjl/scp
Zinc, dissolved	M200.8 ICP-MS	10	<0.06	U		mg/L	0.06	0.15	06/19/23 16:02	gjl/scp

Golder Associates
Project ID:
Sample ID: MW-6

ACZ Sample ID: ***L80841-06***
Date Sampled: *06/01/23 13:02*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	827		*	mg/L	2	20	06/14/23 0:00	emk
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Total Alkalinity		1	827		*	mg/L	2	20	06/14/23 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.5			%			07/18/23 0:00	calc
Sum of Anions			196			meq/L			07/18/23 0:00	calc
Sum of Cations			179			meq/L			07/18/23 0:00	calc
Chloride	M300.0 - Ion Chromatography	100	6390	H	*	mg/L	40	200	07/17/23 15:21	bls
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	06/12/23 16:43	gkk
Fluoride	SM4500F-C	1	0.94		*	mg/L	0.15	0.35	06/16/23 15:20	emk
Nitrate as N	Calculation: NO3NO2 minus NO2		<0.02	U		mg/L	0.02	0.1	07/18/23 0:00	calc
Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.02	U	*	mg/L	0.02	0.1	06/02/23 23:52	pjb
Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	06/02/23 23:52	pjb
pH (lab)	SM4500H+ B									
pH		1	8.10	H	*	units	0.1	0.1	06/14/23 0:00	emk
pH measured at		1	21.1		*	C	0.1	0.1	06/14/23 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	5	10600		*	mg/L	100	200	06/07/23 17:19	svm
Sulfate	M300.0 - Ion Chromatography	100	<40	UH	*	mg/L	40	200	07/17/23 15:21	bls
TDS (calculated)	Calculation		11000			mg/L			07/18/23 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.96						07/18/23 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-7

ACZ Sample ID: ***L80841-07***
Date Sampled: *06/01/23 08:57*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	10	<0.05	U		mg/L	0.05	0.15	06/19/23 16:04	gjl/scp
Antimony, dissolved	M200.8 ICP-MS	10	0.0145	B	*	mg/L	0.004	0.02	06/19/23 16:04	gjl/scp
Arsenic, dissolved	M200.8 ICP-MS	10	<0.002	U		mg/L	0.002	0.01	06/19/23 16:04	gjl/scp
Barium, dissolved	M200.8 ICP-MS	10	4.40		*	mg/L	0.005	0.025	06/19/23 16:04	gjl/scp
Beryllium, dissolved	M200.8 ICP-MS	10	<0.0008	U		mg/L	0.0008	0.0025	06/19/23 16:04	gjl/scp
Boron, dissolved	M200.7 ICP	1	0.632			mg/L	0.03	0.1	06/07/23 14:37	keh1
Cadmium, dissolved	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	06/19/23 16:04	gjl/scp
Calcium, dissolved	M200.7 ICP	1	52.7			mg/L	0.1	0.5	06/07/23 14:37	keh1
Chromium, dissolved	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/19/23 16:04	gjl/scp
Cobalt, dissolved	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	06/19/23 16:04	gjl/scp
Copper, dissolved	M200.8 ICP-MS	10	<0.008	U	*	mg/L	0.008	0.02	06/19/23 16:04	gjl/scp
Iron, dissolved	M200.7 ICP	1	1.04			mg/L	0.06	0.15	06/07/23 14:37	keh1
Lead, dissolved	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	06/19/23 16:04	gjl/scp
Lithium, dissolved	M200.7 ICP	1	1.87			mg/L	0.008	0.04	06/07/23 14:37	keh1
Magnesium, dissolved	M200.7 ICP	1	19.4			mg/L	0.2	1	06/07/23 14:37	keh1
Manganese, dissolved	M200.8 ICP-MS	10	0.168			mg/L	0.004	0.02	06/19/23 16:04	gjl/scp
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/08/23 12:31	mlh
Molybdenum, dissolved	M200.8 ICP-MS	10	0.00509			mg/L	0.002	0.005	06/19/23 16:04	gjl/scp
Nickel, dissolved	M200.8 ICP-MS	10	<0.004	U		mg/L	0.004	0.01	06/19/23 16:04	gjl/scp
Potassium, dissolved	M200.7 ICP	5	10.1			mg/L	1	5	06/09/23 11:06	keh1
Selenium, dissolved	M200.8 ICP-MS	50	<0.005	U	*	mg/L	0.005	0.0125	06/28/23 15:09	gjl/scp
Silver, dissolved	M200.8 ICP-MS	20	<0.002	U	*	mg/L	0.002	0.01	06/22/23 15:17	gjl/scp
Sodium, dissolved	M200.7 ICP	5	4220			mg/L	1	5	06/09/23 11:06	keh1
Thallium, dissolved	M200.8 ICP-MS	2	<0.0001	U	*	mg/L	0.0001	0.0005	06/13/23 13:07	kja
Uranium, dissolved	M200.8 ICP-MS	10	0.00318	B		mg/L	0.001	0.005	06/19/23 16:04	gjl/scp
Vanadium, dissolved	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/19/23 16:04	gjl/scp
Zinc, dissolved	M200.8 ICP-MS	10	<0.06	U		mg/L	0.06	0.15	06/19/23 16:04	gjl/scp

Golder Associates
Project ID:
Sample ID: MW-7

ACZ Sample ID: ***L80841-07***
Date Sampled: *06/01/23 08:57*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	836		*	mg/L	2	20	06/14/23 0:00	emk
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Total Alkalinity		1	836		*	mg/L	2	20	06/14/23 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-1.0			%			07/18/23 0:00	calc
Sum of Anions			194			meq/L			07/18/23 0:00	calc
Sum of Cations			190			meq/L			07/18/23 0:00	calc
Chloride	M300.0 - Ion Chromatography	100	6340	H	*	mg/L	40	200	07/17/23 15:39	bls
Cyanide, Free	D6888-09/OIA-1677-09	1	0.0101		*	mg/L	0.003	0.01	06/12/23 16:51	gkk
Fluoride	SM4500F-C	1	0.92		*	mg/L	0.15	0.35	06/16/23 15:25	emk
Nitrate as N	Calculation: NO3NO2 minus NO2		<0.02	U		mg/L	0.02	0.1	07/18/23 0:00	calc
Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.02	U	*	mg/L	0.02	0.1	06/02/23 23:55	pjb
Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	06/02/23 23:55	pjb
pH (lab)	SM4500H+ B									
pH		1	8.20	H	*	units	0.1	0.1	06/14/23 0:00	emk
pH measured at		1	22.2		*	C	0.1	0.1	06/14/23 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	10	11200		*	mg/L	200	400	06/07/23 17:20	svm
Sulfate	M300.0 - Ion Chromatography	100	<40	UH	*	mg/L	40	200	07/17/23 15:39	bls
TDS (calculated)	Calculation		11200			mg/L			07/18/23 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.00						07/18/23 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-8

ACZ Sample ID: ***L80841-08***
Date Sampled: *06/01/23 07:55*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	20	<0.1	U	*	mg/L	0.1	0.3	06/22/23 15:24	gjl/scp
Antimony, dissolved	M200.8 ICP-MS	10	0.00926	B	*	mg/L	0.004	0.02	06/19/23 16:11	gjl/scp
Arsenic, dissolved	M200.8 ICP-MS	10	0.00333	B		mg/L	0.002	0.01	06/19/23 16:11	gjl/scp
Barium, dissolved	M200.8 ICP-MS	10	4.52		*	mg/L	0.005	0.025	06/19/23 16:11	gjl/scp
Beryllium, dissolved	M200.8 ICP-MS	10	<0.0008	U		mg/L	0.0008	0.0025	06/19/23 16:11	gjl/scp
Boron, dissolved	M200.7 ICP	1	0.701			mg/L	0.03	0.1	06/07/23 14:40	keh1
Cadmium, dissolved	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	06/19/23 16:11	gjl/scp
Calcium, dissolved	M200.7 ICP	1	108			mg/L	0.1	0.5	06/07/23 14:40	keh1
Chromium, dissolved	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/19/23 16:11	gjl/scp
Cobalt, dissolved	M200.8 ICP-MS	10	0.000787	B		mg/L	0.0005	0.0025	06/19/23 16:11	gjl/scp
Copper, dissolved	M200.8 ICP-MS	10	<0.008	U	*	mg/L	0.008	0.02	06/19/23 16:11	gjl/scp
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	06/07/23 14:40	keh1
Lead, dissolved	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	06/19/23 16:11	gjl/scp
Lithium, dissolved	M200.7 ICP	1	1.91			mg/L	0.008	0.04	06/07/23 14:40	keh1
Magnesium, dissolved	M200.7 ICP	1	20.8			mg/L	0.2	1	06/07/23 14:40	keh1
Manganese, dissolved	M200.8 ICP-MS	10	0.0395			mg/L	0.004	0.02	06/19/23 16:11	gjl/scp
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/08/23 12:32	mlh
Molybdenum, dissolved	M200.8 ICP-MS	10	0.00974			mg/L	0.002	0.005	06/19/23 16:11	gjl/scp
Nickel, dissolved	M200.8 ICP-MS	10	<0.004	U		mg/L	0.004	0.01	06/19/23 16:11	gjl/scp
Potassium, dissolved	M200.7 ICP	5	11.7			mg/L	1	5	06/09/23 11:09	keh1
Selenium, dissolved	M200.8 ICP-MS	50	<0.005	U	*	mg/L	0.005	0.0125	06/28/23 15:11	gjl/scp
Silver, dissolved	M200.8 ICP-MS	20	<0.002	U	*	mg/L	0.002	0.01	06/22/23 15:24	gjl/scp
Sodium, dissolved	M200.7 ICP	5	4680			mg/L	1	5	06/09/23 11:09	keh1
Thallium, dissolved	M200.8 ICP-MS	2	<0.0001	U	*	mg/L	0.0001	0.0005	06/13/23 13:08	kja
Uranium, dissolved	M200.8 ICP-MS	50	0.0107	B	*	mg/L	0.005	0.025	06/28/23 15:11	gjl/scp
Vanadium, dissolved	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/19/23 16:11	gjl/scp
Zinc, dissolved	M200.8 ICP-MS	10	<0.06	U		mg/L	0.06	0.15	06/19/23 16:11	gjl/scp

Golder Associates
Project ID:
Sample ID: MW-8

ACZ Sample ID: ***L80841-08***
Date Sampled: *06/01/23 07:55*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	622		*	mg/L	2	20	06/14/23 0:00	emk
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Total Alkalinity		1	622		*	mg/L	2	20	06/14/23 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.7			%			07/18/23 0:00	calc
Sum of Anions			225			meq/L			07/18/23 0:00	calc
Sum of Cations			213			meq/L			07/18/23 0:00	calc
Chloride	M300.0 - Ion Chromatography	100	7580	H	*	mg/L	40	200	07/17/23 15:57	bls
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	06/12/23 16:53	gkk
Fluoride	SM4500F-C	1	1.36		*	mg/L	0.15	0.35	06/16/23 15:31	emk
Nitrate as N	Calculation: NO3NO2 minus NO2		0.231			mg/L	0.02	0.1	07/18/23 0:00	calc
Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	1	0.231		*	mg/L	0.02	0.1	06/03/23 0:01	pjb
Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	06/03/23 0:01	pjb
pH (lab)	SM4500H+ B									
pH		1	8.10	H	*	units	0.1	0.1	06/14/23 0:00	emk
pH measured at		1	22.6		*	C	0.1	0.1	06/14/23 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	10	12000		*	mg/L	200	400	06/07/23 17:22	svm
Sulfate	M300.0 - Ion Chromatography	100	<40	UH	*	mg/L	40	200	07/17/23 15:57	bls
TDS (calculated)	Calculation		12800			mg/L			07/18/23 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.94						07/18/23 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-15

ACZ Sample ID: ***L80841-09***
Date Sampled: *06/01/23 06:53*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	2	<0.01	U		mg/L	0.01	0.03	06/22/23 15:27	gjl/scp
Antimony, dissolved	M200.8 ICP-MS	1	<0.0004	U	*	mg/L	0.0004	0.002	06/19/23 16:13	gjl/scp
Arsenic, dissolved	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	06/19/23 16:13	gjl/scp
Barium, dissolved	M200.8 ICP-MS	1	0.00064	B	*	mg/L	0.0005	0.0025	06/19/23 16:13	gjl/scp
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	06/19/23 16:13	gjl/scp
Boron, dissolved	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	06/07/23 18:21	keh1
Cadmium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	06/19/23 16:13	gjl/scp
Calcium, dissolved	M200.7 ICP	1	<0.1	U		mg/L	0.1	0.5	06/07/23 18:21	keh1
Chromium, dissolved	M200.8 ICP-MS	2	<0.001	U	*	mg/L	0.001	0.004	06/22/23 15:27	gjl/scp
Cobalt, dissolved	M200.8 ICP-MS	1	0.000070	B		mg/L	0.00005	0.00025	06/19/23 16:13	gjl/scp
Copper, dissolved	M200.8 ICP-MS	1	<0.0008	U	*	mg/L	0.0008	0.002	06/19/23 16:13	gjl/scp
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	06/07/23 18:21	keh1
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	06/19/23 16:13	gjl/scp
Lithium, dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.04	06/07/23 18:21	keh1
Magnesium, dissolved	M200.7 ICP	1	<0.2	U		mg/L	0.2	1	06/07/23 18:21	keh1
Manganese, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	06/19/23 16:13	gjl/scp
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/08/23 12:33	mlh
Molybdenum, dissolved	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.0005	06/19/23 16:13	gjl/scp
Nickel, dissolved	M200.8 ICP-MS	2	<0.0008	U	*	mg/L	0.0008	0.002	06/22/23 15:27	gjl/scp
Potassium, dissolved	M200.7 ICP	1	<0.2	U		mg/L	0.2	1	06/07/23 18:21	keh1
Selenium, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.00025	06/19/23 16:13	gjl/scp
Silver, dissolved	M200.8 ICP-MS	2	<0.0002	U		mg/L	0.0002	0.001	06/22/23 15:27	gjl/scp
Sodium, dissolved	M200.7 ICP	1	<0.2	U		mg/L	0.2	1	06/07/23 18:21	keh1
Thallium, dissolved	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	06/13/23 12:53	kja
Uranium, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	06/19/23 16:13	gjl/scp
Vanadium, dissolved	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	06/19/23 16:13	gjl/scp
Zinc, dissolved	M200.8 ICP-MS	1	<0.006	U		mg/L	0.006	0.015	06/19/23 16:13	gjl/scp

Golder Associates
Project ID:
Sample ID: MW-15

ACZ Sample ID: ***L80841-09***
Date Sampled: *06/01/23 06:53*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Carbonate as CaCO3		1	4.1	B	*	mg/L	2	20	06/14/23 0:00	emk
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Total Alkalinity		1	5.7	B	*	mg/L	2	20	06/14/23 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/18/23 0:00	calc
Sum of Anions			<	U		meq/L			07/18/23 0:00	calc
Sum of Cations			<	U		meq/L			07/18/23 0:00	calc
Chloride	M300.0 - Ion Chromatography	1	<0.4	U	*	mg/L	0.4	2	06/23/23 14:46	bls
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	06/12/23 16:55	gkk
Fluoride	SM4500F-C	1	<0.15	U	*	mg/L	0.15	0.35	06/16/23 15:37	emk
Nitrate as N	Calculation: NO3NO2 minus NO2		<0.02	U		mg/L	0.02	0.1	07/18/23 0:00	calc
Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.02	U	*	mg/L	0.02	0.1	06/03/23 0:02	pjb
Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	06/03/23 0:02	pjb
pH (lab)	SM4500H+ B									
pH		1	9.80	H	*	units	0.1	0.1	06/14/23 0:00	emk
pH measured at		1	22.8		*	C	0.1	0.1	06/14/23 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	1	<20	U	*	mg/L	20	40	06/08/23 11:32	cm
Sulfate	M300.0 - Ion Chromatography	1	<0.4	U	*	mg/L	0.4	2	06/23/23 14:46	bls
TDS (calculated)	Calculation		2.46			mg/L			07/18/23 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						07/18/23 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-20

ACZ Sample ID: ***L80841-10***
Date Sampled: *06/01/23 00:00*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.8 ICP-MS	10	<0.05	U		mg/L	0.05	0.15	06/22/23 15:29	gjl/scp
Antimony, dissolved	M200.8 ICP-MS	5	<0.002	U	*	mg/L	0.002	0.01	06/19/23 16:16	gjl/scp
Arsenic, dissolved	M200.8 ICP-MS	5	0.00214	B		mg/L	0.001	0.005	06/19/23 16:16	gjl/scp
Barium, dissolved	M200.8 ICP-MS	5	0.0119	B	*	mg/L	0.0025	0.0125	06/19/23 16:16	gjl/scp
Beryllium, dissolved	M200.8 ICP-MS	5	<0.0004	U		mg/L	0.0004	0.00125	06/19/23 16:16	gjl/scp
Boron, dissolved	M200.7 ICP	1	0.388			mg/L	0.03	0.1	06/07/23 18:25	keh1
Cadmium, dissolved	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	06/19/23 16:16	gjl/scp
Calcium, dissolved	M200.7 ICP	1	397			mg/L	0.1	0.5	06/07/23 18:25	keh1
Chromium, dissolved	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/22/23 15:29	gjl/scp
Cobalt, dissolved	M200.8 ICP-MS	5	0.00729			mg/L	0.00025	0.00125	06/19/23 16:16	gjl/scp
Copper, dissolved	M200.8 ICP-MS	5	<0.004	U	*	mg/L	0.004	0.01	06/19/23 16:16	gjl/scp
Iron, dissolved	M200.7 ICP	1	13.1			mg/L	0.06	0.15	06/07/23 18:25	keh1
Lead, dissolved	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	06/19/23 16:16	gjl/scp
Lithium, dissolved	M200.7 ICP	1	0.431			mg/L	0.008	0.04	06/07/23 18:25	keh1
Magnesium, dissolved	M200.7 ICP	1	115			mg/L	0.2	1	06/07/23 18:25	keh1
Manganese, dissolved	M200.8 ICP-MS	5	0.105			mg/L	0.002	0.01	06/19/23 16:16	gjl/scp
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/08/23 12:34	mlh
Molybdenum, dissolved	M200.8 ICP-MS	5	0.00781			mg/L	0.001	0.0025	06/19/23 16:16	gjl/scp
Nickel, dissolved	M200.8 ICP-MS	10	0.0304			mg/L	0.004	0.01	06/22/23 15:29	gjl/scp
Potassium, dissolved	M200.7 ICP	1	9.58			mg/L	0.2	1	06/07/23 18:25	keh1
Selenium, dissolved	M200.8 ICP-MS	5	0.00053	B		mg/L	0.0005	0.00125	06/19/23 16:16	gjl/scp
Silver, dissolved	M200.8 ICP-MS	10	<0.001	U	*	mg/L	0.001	0.005	06/22/23 15:29	gjl/scp
Sodium, dissolved	M200.7 ICP	1	673			mg/L	0.2	1	06/07/23 18:25	keh1
Thallium, dissolved	M200.8 ICP-MS	1	0.000109	B		mg/L	0.00005	0.00025	06/13/23 12:55	kja
Uranium, dissolved	M200.8 ICP-MS	5	0.0260			mg/L	0.0005	0.0025	06/19/23 16:16	gjl/scp
Vanadium, dissolved	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	06/19/23 16:16	gjl/scp
Zinc, dissolved	M200.8 ICP-MS	5	<0.03	U		mg/L	0.03	0.075	06/19/23 16:16	gjl/scp

Golder Associates
Project ID:
Sample ID: MW-20

ACZ Sample ID: ***L80841-10***
Date Sampled: *06/01/23 00:00*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	388		*	mg/L	2	20	06/14/23 0:00	emk
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	06/14/23 0:00	emk
Total Alkalinity		1	388		*	mg/L	2	20	06/14/23 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			07/18/23 0:00	calc
Sum of Anions			60			meq/L			07/18/23 0:00	calc
Sum of Cations			60			meq/L			07/18/23 0:00	calc
Chloride	M300.0 - Ion Chromatography	50	30.9	B	*	mg/L	20	100	06/21/23 12:32	bls
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	06/12/23 16:57	gkk
Fluoride	SM4500F-C	1	0.65		*	mg/L	0.15	0.35	06/16/23 15:42	emk
Nitrate as N	Calculation: NO3NO2 minus NO2		<0.02	UH		mg/L	0.02	0.1	07/18/23 0:00	calc
Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.02	UH	*	mg/L	0.02	0.1	06/03/23 0:03	pjb
Nitrite as N	M353.2 - Automated Cadmium Reduction	1	<0.01	UH	*	mg/L	0.01	0.05	06/03/23 0:03	pjb
pH (lab)	SM4500H+ B									
pH		1	8.00	H	*	units	0.1	0.1	06/14/23 0:00	emk
pH measured at		1	22.9		*	C	0.1	0.1	06/14/23 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	2	4100		*	mg/L	40	80	06/08/23 11:35	cm
Sulfate	M300.0 - Ion Chromatography	50	2420		*	mg/L	20	100	06/21/23 12:32	bls
TDS (calculated)	Calculation		3900			mg/L			07/18/23 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.05						07/18/23 0:00	calc

Report Header Explanations

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

QC Sample Types

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

REP001.03.15.02

Golder Associates

ACZ Project ID: ***L80841***

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
WG568055													
WG568055PBW1	PBW	06/13/23 17:29				3.8	mg/L		-20	20			
WG568055LCSW3	LCSW	06/13/23 17:49	WC230612-1	820.0001		852.9	mg/L	104	90	110			
WG568055LCSW6	LCSW	06/13/23 22:20	WC230612-1	820.0001		845.6	mg/L	103	90	110			
WG568055PBW2	PBW	06/13/23 22:30				3.8	mg/L		-20	20			
WG568055LCSW9	LCSW	06/14/23 1:53	WC230612-1	820.0001		855.9	mg/L	104	90	110			
WG568055PBW3	PBW	06/14/23 2:03				3.9	mg/L		-20	20			
L80841-03DUP	DUP	06/14/23 4:13			1360	1318.4	mg/L				3	20	
L80854-01DUP	DUP	06/14/23 6:12			120	132.4	mg/L				10	20	
WG568055LCSW12	LCSW	06/14/23 6:31	WC230612-1	820.0001		849.7	mg/L	104	90	110			

Aluminum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.1		.096	mg/L	96	90	110			
WG568270ICB	ICB	06/19/23 15:41				U	mg/L		-0.011	0.011			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.050065		.051	mg/L	102	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.10013	U	.0958	mg/L	96	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.10013	U	.0952	mg/L	95	70	130	1	20	
WG568619													
WG568619ICV	ICV	06/22/23 14:52	MS230410-7	.1		.1029	mg/L	103	90	110			
WG568619ICB	ICB	06/22/23 14:54				U	mg/L		-0.011	0.011			
WG568619LFB	LFB	06/22/23 14:56	MS230605-2	.050065		.0493	mg/L	98	85	115			
L80841-01AS	AS	06/22/23 15:01	MS230605-2	.50065	.129	.6196	mg/L	98	70	130			
L80841-01ASD	ASD	06/22/23 15:03	MS230605-2	.50065	.129	.6488	mg/L	104	70	130	5	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.0201		.01869	mg/L	93	90	110			
WG568270ICB	ICB	06/19/23 15:41				.0004	mg/L		-0.00088	0.00088			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.001		.00113	mg/L	113	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.002	U	.00279	mg/L	140	70	130			M1
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.002	U	.00279	mg/L	140	70	130	0	20	M1

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.04796	mg/L	96	90	110			
WG568270ICB	ICB	06/19/23 15:41				U	mg/L		-0.00044	0.00044			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.0501		.04987	mg/L	100	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1002	U	.07769	mg/L	78	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1002	U	.07879	mg/L	79	70	130	1	20	

Golder Associates

ACZ Project ID: ***L80841***

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.

Barium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.04998	mg/L	100	90	110			
WG568270ICB	ICB	06/19/23 15:41				U	mg/L		-0.0011	0.0011			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.05005		.0507	mg/L	101	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1001	2.85	2.92056	mg/L	70	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1001	2.85	2.98341	mg/L	133	70	130	2	20	M3

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.049853	mg/L	100	90	110			
WG568270ICB	ICB	06/19/23 15:41				.000123	mg/L		-0.000176	0.000176			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.05005		.050309	mg/L	101	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1001	U	.100108	mg/L	100	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1001	U	.100271	mg/L	100	70	130	0	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567519													
WG567519ICV	ICV	06/07/23 12:51	II230516-3	2		2.03	mg/L	102	95	105			
WG567519ICB	ICB	06/07/23 12:57				U	mg/L		-0.09	0.09			
WG567519LFB	LFB	06/07/23 13:10	II230530-2	.5005		.506	mg/L	101	85	115			
L80841-01AS	AS	06/07/23 14:08	II230530-2	.5005	.795	1.294	mg/L	100	85	115			
L80841-01ASD	ASD	06/07/23 14:11	II230530-2	.5005	.795	1.277	mg/L	96	85	115	1	20	
WG567562													
WG567562ICV	ICV	06/07/23 17:14	II230516-3	2		2.061	mg/L	103	95	105			
WG567562ICB	ICB	06/07/23 17:20				U	mg/L		-0.09	0.09			
WG567562LFB	LFB	06/07/23 17:33	II230530-2	.5005		.494	mg/L	99	85	115			
L80847-01AS	AS	06/07/23 18:31	II230530-2	.5005	U	.536	mg/L	107	85	115			
L80847-01ASD	ASD	06/07/23 18:34	II230530-2	.5005	U	.539	mg/L	108	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.049668	mg/L	99	90	110			
WG568270ICB	ICB	06/19/23 15:41				.000083	mg/L		-0.00011	0.00011			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.05005		.050483	mg/L	101	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1001	U	.101312	mg/L	101	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1001	U	.101999	mg/L	102	70	130	1	20	

Golder Associates

ACZ Project ID: ***L80841***

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.

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567519													
WG567519ICV	ICV	06/07/23 12:51	II230516-3	100		99.05	mg/L	99	95	105			
WG567519ICB	ICB	06/07/23 12:57				U	mg/L		-0.3	0.3			
WG567519LFB	LFB	06/07/23 13:10	II230530-2	67.98753		70.02	mg/L	103	85	115			
L80841-01AS	AS	06/07/23 14:08	II230530-2	67.98753	114	179.5	mg/L	96	85	115			
L80841-01ASD	ASD	06/07/23 14:11	II230530-2	67.98753	114	176.4	mg/L	92	85	115	2	20	
WG567562													
WG567562ICV	ICV	06/07/23 17:14	II230516-3	100		97.46	mg/L	97	95	105			
WG567562ICB	ICB	06/07/23 17:20				U	mg/L		-0.3	0.3			
WG567562LFB	LFB	06/07/23 17:33	II230530-2	67.98753		66.63	mg/L	98	85	115			
L80847-01AS	AS	06/07/23 18:31	II230530-2	67.98753	46.5	111.6	mg/L	96	85	115			
L80847-01ASD	ASD	06/07/23 18:34	II230530-2	67.98753	46.5	109.6	mg/L	93	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
WG567935													
WG567935ICV	ICV	06/12/23 14:00	WI230612-5	20		19.79	mg/L	99	90	110			
WG567935ICB	ICB	06/12/23 14:18				U	mg/L		-0.4	0.4			
WG568587													
WG568587LFB1	LFB	06/20/23 17:08	WI230302-10	30		30.26	mg/L	101	90	110			
L80841-03DUP	DUP	06/21/23 10:09			1800	1818.76	mg/L				1	20	
L80841-04AS	AS	06/21/23 10:45	WI230302-10	12000	8460	19930.59	mg/L	96	90	110			
L80891-02AS	AS	06/21/23 14:20	WI230302-10	300	68.2	349.27	mg/L	94	90	110			
L80921-01DUP	DUP	06/21/23 14:56			U	U	mg/L				0	20	RA
WG568903													
WG568903LFB1	LFB	06/23/23 14:28	WI230302-10	30		30.43	mg/L	101	90	110			
L80931-21DUP	DUP	06/23/23 18:03			1.87	1.87	mg/L				0	20	RA
L80931-22AS	AS	06/23/23 18:39	WI230302-10	30	2.64	33.48	mg/L	103	90	110			
WG570427													
WG570427LFB1	LFB	07/17/23 14:45	WI230714-6	30		31.23	mg/L	104	90	110			
L81482-17DUP	DUP	07/17/23 18:21			U	U	mg/L				0	20	RA
L81484-01AS	AS	07/17/23 18:57	WI230714-6	300	96.2	373.68	mg/L	92	90	110			
WG570427LFB2	LFB	07/17/23 23:26	WI230714-6	30		31.04	mg/L	103	90	110			

Golder Associates

ACZ Project ID: ***L80841***

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
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.05051	mg/L	101	90	110			
WG568270ICB	ICB	06/19/23 15:41				U	mg/L		-0.0011	0.0011			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.0501		.05091	mg/L	102	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1002	U	.09184	mg/L	92	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1002	U	.09161	mg/L	91	70	130	0	20	
WG568619													
WG568619ICV	ICV	06/22/23 14:52	MS230410-7	.05		.05149	mg/L	103	90	110			
WG568619ICB	ICB	06/22/23 14:54				U	mg/L		-0.0011	0.0011			
WG568619LFB	LFB	06/22/23 14:56	MS230605-2	.0501		.04848	mg/L	97	85	115			
L80841-01AS	AS	06/22/23 15:01	MS230605-2	.501	U	.46691	mg/L	93	70	130			
L80841-01ASD	ASD	06/22/23 15:03	MS230605-2	.501	U	.46886	mg/L	94	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
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.049233	mg/L	98	90	110			
WG568270ICB	ICB	06/19/23 15:41				.000088	mg/L		-0.00011	0.00011			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.05005		.050082	mg/L	100	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1001	U	.080112	mg/L	80	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1001	U	.081046	mg/L	81	70	130	1	20	

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.05106	mg/L	102	90	110			
WG568270ICB	ICB	06/19/23 15:41				U	mg/L		-0.00176	0.00176			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.05005		.04982	mg/L	100	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1001	U	.06724	mg/L	67	70	130			M2
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1001	U	.06866	mg/L	69	70	130	2	20	M2

Cyanide, Free D6888-09/OIA-1677-09

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567786													
WG567786ICV	ICV	06/12/23 15:53	WI230607-5	.3003		.2755	mg/L	92	90	110			
WG567786ICB	ICB	06/12/23 15:55				U	mg/L		-0.003	0.003			
WG567786LFB	LFB	06/12/23 15:59	WI230607-3	.1001		.0931	mg/L	93	90	110			
L80771-01AS	AS	06/12/23 16:05	WI230607-3	.1001	U	.0967	mg/L	97	90	110			
L80771-01ASD	ASD	06/12/23 16:07	WI230607-3	.1001	U	.0986	mg/L	99	90	110	2	20	
L80802-15AS	AS	06/12/23 16:25	WI230607-3	.1001	U	.0949	mg/L	95	90	110			
L80802-15ASD	ASD	06/12/23 16:27	WI230607-3	.1001	U	.098	mg/L	98	90	110	3	20	

Golder Associates

ACZ Project ID: ***L80841***

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
WG568335													
WG568335ICV	ICV	06/16/23 10:01	WC230614-1	2.002		1.9	mg/L	95	90	110			
WG568335ICB	ICB	06/16/23 10:07				U	mg/L		-0.3	0.3			
WG568335LFB1	LFB	06/16/23 10:18	WC221227-7	5.02		5.07	mg/L	101	90	110			
WG568335LFB2	LFB	06/16/23 13:17	WC221227-7	5.02		4.91	mg/L	98	90	110			
L80818-05AS	AS	06/16/23 13:27	WC221227-7	5.02	1.18	6.12	mg/L	98	90	110			
L80818-05ASD	ASD	06/16/23 13:32	WC221227-7	5.02	1.18	5.89	mg/L	94	90	110	4	20	
L80841-03AS	AS	06/16/23 14:47	WC221227-7	5.02	2.4	7.34	mg/L	98	90	110			
L80841-03ASD	ASD	06/16/23 15:04	WC221227-7	5.02	2.4	7.17	mg/L	95	90	110	2	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567519													
WG567519ICV	ICV	06/07/23 12:51	II230516-3	2		1.914	mg/L	96	95	105			
WG567519ICB	ICB	06/07/23 12:57				U	mg/L		-0.18	0.18			
WG567519LFB	LFB	06/07/23 13:10	II230530-2	1.004		1.013	mg/L	101	85	115			
L80841-01AS	AS	06/07/23 14:08	II230530-2	1.004	.234	1.232	mg/L	99	85	115			
L80841-01ASD	ASD	06/07/23 14:11	II230530-2	1.004	.234	1.194	mg/L	96	85	115	3	20	
WG567562													
WG567562ICV	ICV	06/07/23 17:14	II230516-3	2		1.944	mg/L	97	95	105			
WG567562ICB	ICB	06/07/23 17:20				U	mg/L		-0.18	0.18			
WG567562LFB	LFB	06/07/23 17:33	II230530-2	1.004		.981	mg/L	98	85	115			
L80847-01AS	AS	06/07/23 18:31	II230530-2	1.004	U	.987	mg/L	98	85	115			
L80847-01ASD	ASD	06/07/23 18:34	II230530-2	1.004	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
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.04879	mg/L	98	90	110			
WG568270ICB	ICB	06/19/23 15:41				.00019	mg/L		-0.00022	0.00022			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.05005		.04923	mg/L	98	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1001	U	.08468	mg/L	85	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1001	U	.08553	mg/L	85	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567519													
WG567519ICV	ICV	06/07/23 12:51	II230516-3	2		1.9155	mg/L	96	95	105			
WG567519ICB	ICB	06/07/23 12:57				U	mg/L		-0.024	0.024			
WG567519LFB	LFB	06/07/23 13:10	II230530-2	1.003		.988	mg/L	99	85	115			
L80841-01AS	AS	06/07/23 14:08	II230530-2	1.003	1.12	2.124	mg/L	100	85	115			
L80841-01ASD	ASD	06/07/23 14:11	II230530-2	1.003	1.12	2.067	mg/L	94	85	115	3	20	
WG567562													
WG567562ICV	ICV	06/07/23 17:14	II230516-3	2		1.971	mg/L	99	95	105			
WG567562ICB	ICB	06/07/23 17:20				U	mg/L		-0.024	0.024			
WG567562LFB	LFB	06/07/23 17:33	II230530-2	1.003		.9419	mg/L	94	85	115			
L80847-01AS	AS	06/07/23 18:31	II230530-2	1.003	.0098	.9629	mg/L	95	85	115			
L80847-01ASD	ASD	06/07/23 18:34	II230530-2	1.003	.0098	.9872	mg/L	97	85	115	2	20	

Golder Associates

ACZ Project ID: ***L80841***

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
WG567519													
WG567519ICV	ICV	06/07/23 12:51	II230516-3	100		99.64	mg/L	100	95	105			
WG567519ICB	ICB	06/07/23 12:57				U	mg/L		-0.6	0.6			
WG567519LFB	LFB	06/07/23 13:10	II230530-2	49.99752		51.55	mg/L	103	85	115			
L80841-01AS	AS	06/07/23 14:08	II230530-2	49.99752	120	167.8	mg/L	96	85	115			
L80841-01ASD	ASD	06/07/23 14:11	II230530-2	49.99752	120	165.8	mg/L	92	85	115	1	20	
WG567562													
WG567562ICV	ICV	06/07/23 17:14	II230516-3	100		97.06	mg/L	97	95	105			
WG567562ICB	ICB	06/07/23 17:20				U	mg/L		-0.6	0.6			
WG567562LFB	LFB	06/07/23 17:33	II230530-2	49.99752		48.55	mg/L	97	85	115			
L80847-01AS	AS	06/07/23 18:31	II230530-2	49.99752	9.81	57.9	mg/L	96	85	115			
L80847-01ASD	ASD	06/07/23 18:34	II230530-2	49.99752	9.81	56.8	mg/L	94	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
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.04886	mg/L	98	90	110			
WG568270ICB	ICB	06/19/23 15:41				U	mg/L		-0.00088	0.00088			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.04995		.05041	mg/L	101	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.0999	.0181	.09698	mg/L	79	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.0999	.0181	.09687	mg/L	79	70	130	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567662													
WG567662ICV	ICV	06/08/23 11:05	HG230530-3	.005		.00524	mg/L	105	95	105			
WG567662ICB	ICB	06/08/23 11:06				U	mg/L		-0.0002	0.0002			
WG567664													
WG567664LRB	LRB	06/08/23 12:18				U	mg/L		-0.00044	0.00044			
WG567664LFB	LFB	06/08/23 12:19	HG230530-6	.002002		.00188	mg/L	94	85	115			
L80785-01LFM	LFM	06/08/23 12:22	HG230530-6	.002002	U	.00191	mg/L	95	85	115			
L80785-01LFMD	LFMD	06/08/23 12:23	HG230530-6	.002002	U	.00195	mg/L	97	85	115	2	20	
L80847-01LFM	LFM	06/08/23 12:36	HG230530-6	.002002	U	.00188	mg/L	94	85	115			
L80847-01LFMD	LFMD	06/08/23 12:37	HG230530-6	.002002	U	.0019	mg/L	95	85	115	1	20	

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.02		.01892	mg/L	95	90	110			
WG568270ICB	ICB	06/19/23 15:41				U	mg/L		-0.00044	0.00044			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.05005		.04987	mg/L	100	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1001	.00047	.11907	mg/L	118	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1001	.00047	.11901	mg/L	118	70	130	0	20	

Golder Associates

ACZ Project ID: ***L80841***

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
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.05154	mg/L	103	90	110			
WG568270ICB	ICB	06/19/23 15:41				U	mg/L		-0.00088	0.00088			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.0501		.0506	mg/L	101	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1002	U	.0862	mg/L	86	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1002	U	.08668	mg/L	87	70	130	1	20	
WG568619													
WG568619ICV	ICV	06/22/23 14:52	MS230410-7	.05		.05297	mg/L	106	90	110			
WG568619ICB	ICB	06/22/23 14:54				U	mg/L		-0.00088	0.00088			
WG568619LFB	LFB	06/22/23 14:56	MS230605-2	.0501		.04823	mg/L	96	85	115			
L80841-01AS	AS	06/22/23 15:01	MS230605-2	.501	.00833	.46203	mg/L	91	70	130			
L80841-01ASD	ASD	06/22/23 15:03	MS230605-2	.501	.00833	.46077	mg/L	90	70	130	0	20	

Nitrate/Nitrite as N M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567342													
WG567342ICV	ICV	06/02/23 23:24	WI230601-7	2.416		2.262	mg/L	94	90	110			
WG567342ICB	ICB	06/02/23 23:25				U	mg/L		-0.02	0.02			
WG567342LFB	LFB	06/02/23 23:29	WI230228-3	2		2.047	mg/L	102	90	110			
L80836-01AS	AS	06/02/23 23:31	WI230228-3	2	.055	2.047	mg/L	100	90	110			
L80836-02DUP	DUP	06/02/23 23:34			U	U	mg/L				0	20	RA
L80841-05AS	AS	06/02/23 23:51	WI230228-3	2	U	1.981	mg/L	99	90	110			
L80841-06DUP	DUP	06/02/23 23:54			U	U	mg/L				0	20	RA

Nitrite as N M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567342													
WG567342ICV	ICV	06/02/23 23:24	WI230601-7	.608		.604	mg/L	99	90	110			
WG567342ICB	ICB	06/02/23 23:25				U	mg/L		-0.01	0.01			
WG567342LFB	LFB	06/02/23 23:29	WI230228-3	1		1.03	mg/L	103	90	110			
L80836-01AS	AS	06/02/23 23:31	WI230228-3	1	U	.991	mg/L	99	90	110			
L80836-02DUP	DUP	06/02/23 23:34			U	U	mg/L				0	20	RA
L80841-05AS	AS	06/02/23 23:51	WI230228-3	1	U	1.013	mg/L	101	90	110			
L80841-06DUP	DUP	06/02/23 23:54			U	U	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
WG568055													
WG568055LCSW1	LCSW	06/13/23 17:33	PCN623461	5.99		6	units	100	5.9	6.1			
WG568055LCSW4	LCSW	06/13/23 22:04	PCN623461	5.99		6.1	units	102	5.9	6.1			
WG568055LCSW7	LCSW	06/14/23 1:36	PCN623461	5.99		6.1	units	102	5.9	6.1			
L80841-03DUP	DUP	06/14/23 4:13			8.5	8.6	units				1	20	
L80854-01DUP	DUP	06/14/23 6:12			8.3	8.3	units				0	20	
WG568055LCSW10	LCSW	06/14/23 6:16	PCN623461	5.99		6.1	units	102	5.9	6.1			

Golder Associates

ACZ Project ID: ***L80841***

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.

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567519													
WG567519ICV	ICV	06/07/23 12:51	II230516-3	20		19.37	mg/L	97	95	105			
WG567519ICB	ICB	06/07/23 12:57				U	mg/L		-0.6	0.6			
WG567519LFB	LFB	06/07/23 13:10	II230530-2	99.95693		101.4	mg/L	101	85	115			
L80841-01AS	AS	06/07/23 14:08	II230530-2	99.95693	9.36	113.7	mg/L	104	85	115			
L80841-01ASD	ASD	06/07/23 14:11	II230530-2	99.95693	9.36	109.9	mg/L	101	85	115	3	20	
WG567562													
WG567562ICV	ICV	06/07/23 17:14	II230516-3	20		19.44	mg/L	97	95	105			
WG567562ICB	ICB	06/07/23 17:20				U	mg/L		-0.6	0.6			
WG567562LFB	LFB	06/07/23 17:33	II230530-2	99.95693		94.54	mg/L	95	85	115			
L80847-01AS	AS	06/07/23 18:31	II230530-2	99.95693	1.07	97.53	mg/L	97	85	115			
L80847-01ASD	ASD	06/07/23 18:34	II230530-2	99.95693	1.07	95.74	mg/L	95	85	115	2	20	
WG567685													
WG567685ICV	ICV	06/09/23 9:20	II230516-3	20		19.62	mg/L	98	95	105			
WG567685ICB	ICB	06/09/23 9:26				.23	mg/L		-0.6	0.6			
WG567685LFB	LFB	06/09/23 9:39	II230530-2	99.95693		95.09	mg/L	95	85	115			
L80820-03AS	AS	06/09/23 10:34	II230530-2	99.95693	.52	94.69	mg/L	94	85	115			
L80820-03ASD	ASD	06/09/23 10:37	II230530-2	99.95693	.52	94.2	mg/L	94	85	115	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567652													
WG567652PBW	PBW	06/07/23 17:00				U	mg/L		-20	20			
WG567652LCSW	LCSW	06/07/23 17:01	PCN625111	1000		980	mg/L	98	80	120			
L80893-01DUP	DUP	06/07/23 17:24			1320	1364	mg/L				3	10	
L80893-04DUP	DUP	06/07/23 17:29			274	278	mg/L				1	10	
WG567698													
WG567698PBW	PBW	06/08/23 11:25				U	mg/L		-20	20			
WG567698LCSW	LCSW	06/08/23 11:27	PCN625111	1000		996	mg/L	100	80	120			
L80853-04DUP	DUP	06/08/23 11:48			126	126	mg/L				0	10	RA

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.04897	mg/L	98	90	110			
WG568270ICB	ICB	06/19/23 15:41				.00012	mg/L		-0.00022	0.00022			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.05005		.05052	mg/L	101	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1001		.07142	mg/L	71	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1001		.07315	mg/L	73	70	130	2	20	
WG569177													
WG569177ICV	ICV	06/28/23 14:48	MS230620-3	.05		.05086	mg/L	102	90	110			
WG569177ICB	ICB	06/28/23 14:50				.00011	mg/L		-0.00022	0.00022			
WG569177LFB	LFB	06/28/23 14:52	MS230626-2	.05005		.05298	mg/L	106	85	115			
L80841-02AS	AS	06/28/23 14:57	MS230626-2	1.001		1.01403	mg/L	101	70	130			
L80841-02ASD	ASD	06/28/23 14:59	MS230626-2	1.001		.9968	mg/L	100	70	130	2	20	

Golder Associates

ACZ Project ID: ***L80841***

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
WG568619													
WG568619ICV	ICV	06/22/23 14:52	MS230410-7	.02		.02163	mg/L	108	90	110			
WG568619ICB	ICB	06/22/23 14:54				U	mg/L		-0.00022	0.00022			
WG568619LFB	LFB	06/22/23 14:56	MS230605-2	.01001		.0102	mg/L	102	85	115			
L80841-01AS	AS	06/22/23 15:01	MS230605-2	.1001	U	.07762	mg/L	78	70	130			
L80841-01ASD	ASD	06/22/23 15:03	MS230605-2	.1001	U	.07654	mg/L	76	70	130	1	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567519													
WG567519ICV	ICV	06/07/23 12:51	II230516-3	100		100.88	mg/L	101	95	105			
WG567519ICB	ICB	06/07/23 12:57				U	mg/L		-0.6	0.6			
WG567519LFB	LFB	06/07/23 13:10	II230530-2	100.0094		103	mg/L	103	85	115			
L80841-01AS	AS	06/07/23 14:08	II230530-2	100.0094	1820	1848	mg/L	28	85	115			M3
L80841-01ASD	ASD	06/07/23 14:11	II230530-2	100.0094	1820	1809	mg/L	-11	85	115	2	20	M3
WG567562													
WG567562ICV	ICV	06/07/23 17:14	II230516-3	100		100.47	mg/L	100	95	105			
WG567562ICB	ICB	06/07/23 17:20				U	mg/L		-0.6	0.6			
WG567562LFB	LFB	06/07/23 17:33	II230530-2	100.0094		98.15	mg/L	98	85	115			
L80847-01AS	AS	06/07/23 18:31	II230530-2	100.0094	5.43	103.7	mg/L	98	85	115			
L80847-01ASD	ASD	06/07/23 18:34	II230530-2	100.0094	5.43	102.7	mg/L	97	85	115	1	20	
WG567685													
WG567685ICV	ICV	06/09/23 9:20	II230516-3	100		101.55	mg/L	102	95	105			
WG567685ICB	ICB	06/09/23 9:26				U	mg/L		-0.6	0.6			
WG567685LFB	LFB	06/09/23 9:39	II230530-2	100.0094		99.7	mg/L	100	85	115			
L80820-03AS	AS	06/09/23 10:34	II230530-2	100.0094	2.71	102.1	mg/L	99	85	115			
L80820-03ASD	ASD	06/09/23 10:37	II230530-2	100.0094	2.71	102.2	mg/L	99	85	115	0	20	

Golder Associates

ACZ Project ID: ***L80841***

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.

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG567935													
WG567935ICV	ICV	06/12/23 14:00	WI230612-5	50		51.02	mg/L	102	90	110			
WG567935ICB	ICB	06/12/23 14:18				U	mg/L		-0.4	0.4			
WG568587													
WG568587LFB1	LFB	06/20/23 17:08	WI230302-10	30		30.42	mg/L	101	90	110			
L80841-03DUP	DUP	06/21/23 10:09			U	U	mg/L				0	20	RA
L80841-04AS	AS	06/21/23 10:45	WI230302-10	12000	U	11443.61	mg/L	95	90	110			
L80891-02AS	AS	06/21/23 14:20	WI230302-10	300	99.4	383.38	mg/L	95	90	110			
L80921-01DUP	DUP	06/21/23 14:56			158	173.87	mg/L				10	20	
WG568587LFB2	LFB	06/21/23 15:13	WI230302-10	30		30.1	mg/L	100	90	110			
WG568903													
WG568903LFB1	LFB	06/23/23 14:28	WI230302-10	30		30.56	mg/L	102	90	110			
L80931-21DUP	DUP	06/23/23 18:03			2.46	2.43	mg/L				1	20	RA
L80931-22AS	AS	06/23/23 18:39	WI230302-10	30	8.45	38.75	mg/L	101	90	110			
WG568903LFB2	LFB	06/23/23 23:08	WI230302-10	30		28.89	mg/L	96	90	110			
WG570427													
WG570427LFB1	LFB	07/17/23 14:45	WI230714-6	30		31.27	mg/L	104	90	110			
L81482-17DUP	DUP	07/17/23 18:21			189	198.04	mg/L				5	20	
L81484-01AS	AS	07/17/23 18:57	WI230714-6	300	361	603.79	mg/L	81	90	110			M2
WG570427LFB2	LFB	07/17/23 23:26	WI230714-6	30		29.74	mg/L	99	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568016													
WG568016ICV	ICV	06/13/23 12:32	MS230410-7	.05		.05293	mg/L	106	90	110			
WG568016ICB	ICB	06/13/23 12:33				U	mg/L		-0.00011	0.00011			
WG568016LFB	LFB	06/13/23 12:34	MS230605-2	.0501		.053681	mg/L	107	85	115			
L80841-02AS	AS	06/13/23 12:39	MS230605-2	.0501	U	.048246	mg/L	96	70	130			
L80841-02ASD	ASD	06/13/23 12:40	MS230605-2	.0501	U	.048542	mg/L	97	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
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.05016	mg/L	100	90	110			
WG568270ICB	ICB	06/19/23 15:41				U	mg/L		-0.00022	0.00022			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.05		.05049	mg/L	101	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1	.00073	.11899	mg/L	118	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1	.00073	.11789	mg/L	117	70	130	1	20	
WG569177													
WG569177ICV	ICV	06/28/23 14:48	MS230620-3	.05		.05245	mg/L	105	90	110			
WG569177ICB	ICB	06/28/23 14:50				U	mg/L		-0.00022	0.00022			
WG569177LFB	LFB	06/28/23 14:52	MS230626-2	.05		.05218	mg/L	104	85	115			
L80841-02AS	AS	06/28/23 14:57	MS230626-2	1	.00315	1.14289	mg/L	114	70	130			
L80841-02ASD	ASD	06/28/23 14:59	MS230626-2	1	.00315	1.07159	mg/L	107	70	130	6	20	

Golder Associates

ACZ Project ID: ***L80841***

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.

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.04885	mg/L	98	90	110			
WG568270ICB	ICB	06/19/23 15:41				U	mg/L		-0.0011	0.0011			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.05005		.04933	mg/L	99	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.1001	U	.08056	mg/L	80	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.1001	U	.08144	mg/L	81	70	130	1	20	

Zinc, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG568270													
WG568270ICV	ICV	06/19/23 15:39	MS230410-7	.05		.0474	mg/L	95	90	110			
WG568270ICB	ICB	06/19/23 15:41				U	mg/L		-0.0132	0.0132			
WG568270LFB	LFB	06/19/23 15:43	MS230619-2	.050075		.0538	mg/L	107	85	115			
L80841-03AS	AS	06/19/23 15:53	MS230619-2	.10015	U	.0775	mg/L	77	70	130			
L80841-03ASD	ASD	06/19/23 15:55	MS230619-2	.10015	U	.078	mg/L	78	70	130	1	20	

Golder Associates

ACZ Project ID: ***L80841***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L80841-01	WG568270	Antimony, dissolved	M200.8 ICP-MS	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		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.
	WG568055	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG568587	Chloride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG568270	Copper, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG567786	Cyanide, Free	D6888-09/OIA-1677-09	Q6	Sample was received above recommended temperature.
	WG568335	Fluoride	SM4500F-C	Q6	Sample was received above recommended temperature.
	WG568055	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG567342	Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
		Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
	WG568055	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG567652	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG568619	Silver, dissolved	M200.8 ICP-MS	D1	Sample required dilution due to matrix.
	WG568587	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			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).
	WG568055	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.

Golder Associates

ACZ Project ID: ***L80841***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L80841-02	WG568270	Antimony, dissolved	M200.8 ICP-MS	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		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.
	WG568055	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG568587	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG568270	Copper, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG567786	Cyanide, Free	D6888-09/OIA-1677-09	Q6	Sample was received above recommended temperature.
	WG568335	Fluoride	SM4500F-C	Q6	Sample was received above recommended temperature.
	WG568055	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG567342	Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
		Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
	WG568055	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG567652	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG569177	Selenium, dissolved	M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
			M200.8 ICP-MS	DH	Sample required dilution due to high TDS and/or EC value.
			M200.8 ICP-MS	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
	WG568619	Silver, dissolved	M200.8 ICP-MS	D1	Sample required dilution due to matrix.
			M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
	WG568587	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			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).
	WG568055	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

Golder Associates

ACZ Project ID: ***L80841***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L80841-03	WG568270	Antimony, dissolved	M200.8 ICP-MS	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		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.
	WG568055	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG568587	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG568270	Copper, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG567786	Cyanide, Free	D6888-09/OIA-1677-09	Q6	Sample was received above recommended temperature.
	WG568335	Fluoride	SM4500F-C	Q6	Sample was received above recommended temperature.
	WG568055	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG567342	Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
		Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
	WG568055	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG567652	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG569177	Selenium, dissolved	M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
			M200.8 ICP-MS	DH	Sample required dilution due to high TDS and/or EC value.
	WG568619	Silver, dissolved	M200.8 ICP-MS	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
			M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
	WG568587	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			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).
	WG568055	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG569177	Uranium, dissolved	M200.8 ICP-MS	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
			M200.8 ICP-MS	DH	Sample required dilution due to high TDS and/or EC value.

Golder Associates

ACZ Project ID: ***L80841***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L80841-04	WG568270	Antimony, dissolved	M200.8 ICP-MS	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		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.
	WG568055	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG570427	Chloride	M300.0 - Ion Chromatography	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			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).
	WG568270	Copper, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG567786	Cyanide, Free	D6888-09/OIA-1677-09	Q6	Sample was received above recommended temperature.
	WG568335	Fluoride	SM4500F-C	Q6	Sample was received above recommended temperature.
	WG568055	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG567342	Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
		Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
	WG568055	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG567652	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG569177	Selenium, dissolved	M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
			M200.8 ICP-MS	DH	Sample required dilution due to high TDS and/or EC value.
			M200.8 ICP-MS	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
	WG568619	Silver, dissolved	M200.8 ICP-MS	D1	Sample required dilution due to matrix.
	WG570427	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			M300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG568016	Thallium, dissolved	M200.8 ICP-MS	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
	WG568055	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.

Golder Associates

ACZ Project ID: ***L80841***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L80841-05	WG568270	Antimony, dissolved	M200.8 ICP-MS	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		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.
	WG568055	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG568587	Chloride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			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).
	WG568270	Copper, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG567786	Cyanide, Free	D6888-09/OIA-1677-09	Q6	Sample was received above recommended temperature.
	WG568335	Fluoride	SM4500F-C	Q6	Sample was received above recommended temperature.
	WG568055	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG567342	Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
		Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
	WG568055	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG567652	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG568619	Silver, dissolved	M200.8 ICP-MS	D1	Sample required dilution due to matrix.
	WG567519	Sodium, dissolved	M200.7 ICP	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
			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.
	WG568587	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG568055	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

Golder Associates

ACZ Project ID: ***L80841***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L80841-06	WG568270	Antimony, dissolved	M200.8 ICP-MS	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		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.
	WG568055	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG570427	Chloride	M300.0 - Ion Chromatography	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			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).
	WG568270	Copper, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG567786	Cyanide, Free	D6888-09/OIA-1677-09	Q6	Sample was received above recommended temperature.
	WG568335	Fluoride	SM4500F-C	Q6	Sample was received above recommended temperature.
	WG568055	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG567342	Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
		Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
	WG568055	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG567652	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG569177	Selenium, dissolved	M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
			M200.8 ICP-MS	DH	Sample required dilution due to high TDS and/or EC value.
			M200.8 ICP-MS	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
	WG568619	Silver, dissolved	M200.8 ICP-MS	D1	Sample required dilution due to matrix.
	WG570427	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			M300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG568016	Thallium, dissolved	M200.8 ICP-MS	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
	WG568055	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

Golder Associates

ACZ Project ID: ***L80841***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L80841-07	WG568270	Antimony, dissolved	M200.8 ICP-MS	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		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.
	WG568055	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG570427	Chloride	M300.0 - Ion Chromatography	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			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).
	WG568270	Copper, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG567786	Cyanide, Free	D6888-09/OIA-1677-09	Q6	Sample was received above recommended temperature.
	WG568335	Fluoride	SM4500F-C	Q6	Sample was received above recommended temperature.
	WG568055	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG567342	Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
		Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
	WG568055	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG567652	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG569177	Selenium, dissolved	M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
			M200.8 ICP-MS	DH	Sample required dilution due to high TDS and/or EC value.
			M200.8 ICP-MS	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
	WG568619	Silver, dissolved	M200.8 ICP-MS	D1	Sample required dilution due to matrix.
	WG570427	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			M300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG568016	Thallium, dissolved	M200.8 ICP-MS	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
	WG568055	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

Golder Associates

ACZ Project ID: ***L80841***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L80841-08	WG568619	Aluminum, dissolved	M200.8 ICP-MS	D1	Sample required dilution due to matrix.
			M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
	WG568270	Antimony, dissolved	M200.8 ICP-MS	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		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.
	WG568055	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG570427	Chloride	M300.0 - Ion Chromatography	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			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).
	WG568270	Copper, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG567786	Cyanide, Free	D6888-09/OIA-1677-09	Q6	Sample was received above recommended temperature.
	WG568335	Fluoride	SM4500F-C	Q6	Sample was received above recommended temperature.
	WG568055	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG567342	Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
		Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
	WG568055	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG567652	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG569177	Selenium, dissolved	M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
			M200.8 ICP-MS	DH	Sample required dilution due to high TDS and/or EC value.
			M200.8 ICP-MS	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
	WG568619	Silver, dissolved	M200.8 ICP-MS	D1	Sample required dilution due to matrix.
			M200.8 ICP-MS	DB	Sample required dilution due to low bias result.
	WG570427	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			M300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG568016	Thallium, dissolved	M200.8 ICP-MS	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
	WG568055	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG569177	Uranium, dissolved	M200.8 ICP-MS	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
			M200.8 ICP-MS	DH	Sample required dilution due to high TDS and/or EC value.

Golder Associates

ACZ Project ID: ***L80841***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L80841-09	WG568270	Antimony, dissolved	M200.8 ICP-MS	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		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.
	WG568055	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG568903	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			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).
	WG568619	Chromium, dissolved	M200.8 ICP-MS	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
	WG568270	Copper, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG567786	Cyanide, Free	D6888-09/OIA-1677-09	Q6	Sample was received above recommended temperature.
	WG568335	Fluoride	SM4500F-C	Q6	Sample was received above recommended temperature.
	WG568055	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG568619	Nickel, dissolved	M200.8 ICP-MS	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
	WG567342	Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
		Nitrite as N	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
	WG568055	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG567698	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	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).
			SM2540C	Z3	Sample volume yielded a residue less than 2.5 mg
	WG568903	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			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).
	WG568055	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

Golder Associates

ACZ Project ID: ***L80841***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L80841-10	WG568270	Antimony, dissolved	M200.8 ICP-MS	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		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.
	WG568055	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG568587	Chloride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			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).
	WG568270	Copper, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG567786	Cyanide, Free	D6888-09/OIA-1677-09	Q6	Sample was received above recommended temperature.
	WG568335	Fluoride	SM4500F-C	Q6	Sample was received above recommended temperature.
	WG568055	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG567342	Nitrate/Nitrite as N	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
		Nitrite as N	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			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).
	WG568055	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG567698	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	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).
	WG568619	Silver, dissolved	M200.8 ICP-MS	D1	Sample required dilution due to matrix.
	WG568587	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG568055	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Golder Associates
Project ID:
Sample ID: MW-1
Locator:

ACZ Sample ID: ***L80841-01***
Date Sampled: *06/01/23 10:58*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
M900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/09/23 0:18		45	28	130	pCi/L	*	amk
Gross Beta	06/09/23 0:18		-6.2	20	100	pCi/L	*	amk

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Golder Associates
Project ID:
Sample ID: MW-2
Locator:

ACZ Sample ID: ***L80841-02***
Date Sampled: *06/01/23 10:00*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
M900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/09/23 0:20		-12	19	100	pCi/L	*	amk
Gross Beta	06/09/23 0:20		44	32	110	pCi/L	*	amk

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Golder Associates
Project ID:
Sample ID: MW-3
Locator:

ACZ Sample ID: ***L80841-03***
Date Sampled: *06/01/23 11:25*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
M900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/09/23 0:21		-6.3	10	82	pCi/L	*	amk
Gross Beta	06/09/23 0:21		-9.7	18	53	pCi/L	*	amk

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Golder Associates
Project ID:
Sample ID: MW-4
Locator:

ACZ Sample ID: ***L80841-04***
Date Sampled: *06/01/23 12:15*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
M900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/09/23 0:23		-56	32	540	pCi/L	*	amk
Gross Beta	06/09/23 0:23		3.4	66	450	pCi/L	*	amk

Golder Associates
Project ID:
Sample ID: MW-5
Locator:

ACZ Sample ID: ***L80841-05***
Date Sampled: *06/01/23 7:15*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
M900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/09/23 0:24		11	14	140	pCi/L	*	amk
Gross Beta	06/09/23 0:24		20	15	110	pCi/L	*	amk

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Golder Associates
Project ID:
Sample ID: MW-6
Locator:

ACZ Sample ID: ***L80841-06***
Date Sampled: *06/01/23 13:02*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
M900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/09/23 0:25		-8.4	36	280	pCi/L	*	amk
Gross Beta	06/09/23 0:25		18	55	170	pCi/L	*	amk

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Golder Associates
Project ID:
Sample ID: MW-7
Locator:

ACZ Sample ID: ***L80841-07***
Date Sampled: *06/01/23 8:57*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
M900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/09/23 0:27		11	39	240	pCi/L	*	amk
Gross Beta	06/09/23 0:27		20	56	130	pCi/L	*	amk

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Golder Associates
Project ID:
Sample ID: MW-8
Locator:

ACZ Sample ID: ***L80841-08***
Date Sampled: *06/01/23 7:55*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
M900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/09/23 0:28		-6.5	30	210	pCi/L	*	amk
Gross Beta	06/09/23 0:28		33	69	230	pCi/L	*	amk

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Golder Associates
Project ID:
Sample ID: MW-15
Locator:

ACZ Sample ID: ***L80841-09***
Date Sampled: *06/01/23 6:53*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
M900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/09/23 0:30		-0.8	0.31	7.8	pCi/L	*	amk
Gross Beta	06/09/23 0:30		1.2	2.7	13	pCi/L	*	amk

Golder Associates
Project ID:
Sample ID: MW-20
Locator:

ACZ Sample ID: ***L80841-10***
Date Sampled: *06/01/23 0:00*
Date Received: *06/02/23*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
M900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/09/23 0:33		12	15	62	pCi/L	*	amk
Gross Beta	06/09/23 0:33		10	15	40	pCi/L	*	amk

Report Header Explanations

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

QC Sample Types

DUP	Sample Duplicate	*MS/MSD*	Matrix Spike/Matrix Spike Duplicate
LCSS	Laboratory Control Sample - Soil	*PBS*	Prep Blank - Soil
LCSW	Laboratory Control Sample - Water	*PBW*	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: ***L80841***

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
WG567461																
WG567461PBW	PBW	06/09/23						-.67	0.53	1.1			2.2			
WG567461LCSWA	LCSW	06/09/23	PCN624450	100				110	9.1	1.3	110	67	144			
L80360-07DUP	DUP-RPD	06/09/23			-0.16	0.6	4.8	-.52	0.26	4.2				106	20	RG
L80360-07DUP	DUP-RER	06/09/23			-0.16	0.6	4.8	-.52	0.26	4.2				0.55	2	
L80360-08MSA	MS	06/09/23	PCN624450	100	-0.43	0.64	8	100	8.7	3.8	100	67	144			
L80850-01DUP	DUP-RPD	06/09/23			-0.58	1.4	16	-.41	1.2	19				34	20	RG
L80850-01DUP	DUP-RER	06/09/23			-0.58	1.4	16	-.41	1.2	19				0.09	2	

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
WG567461																
WG567461PBW	PBW	06/09/23						-.4	1.9	2.1			4.2			
WG567461LCSWB	LCSW	06/09/23	RC230516-10	100				100	6.6	2.6	100	82	122			
L80360-07DUP	DUP-RPD	06/09/23			2.1	2.6	5.8	-.19	3	10				240	20	RG
L80360-07DUP	DUP-RER	06/09/23			2.1	2.6	5.8	-.19	3	10				0.58	2	
L80841-09MSB	MS	06/09/23	RC230516-10	100	1.2	2.7	13	91	6.4	10	90	82	122			
L80850-01DUP	DUP-RPD	06/09/23			5.8	3.4	21	4.3	3	22				30	20	RG
L80850-01DUP	DUP-RER	06/09/23			5.8	3.4	21	4.3	3	22				0.33	2	

Golder Associates

ACZ Project ID: ***L80841***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L80841-01	WG567461	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.
L80841-02	WG567461	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.
L80841-03	WG567461	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.
L80841-04	WG567461	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.
L80841-05	WG567461	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.
L80841-06	WG567461	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.
L80841-07	WG567461	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.
L80841-08	WG567461	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.
L80841-09	WG567461	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.
L80841-10	WG567461	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.

Certification Qualifiers

Golder Associates

ACZ Project ID: ***L80841***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Golder Associates

ACZ Project ID: L80841
Date Received: 06/02/2023 13:32
Received By:
Date Printed: 6/5/2023

Receipt Verification

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

Samples/Containers

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

Some parameters were received past 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?
NA40400	8.5	<=6.0	15	Yes

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.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Golder Associates

ACZ Project ID:	L80841
Date Received:	06/02/2023 13:32
Received By:	
Date Printed:	6/5/2023

[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).

ACZ LABORATORIES | Accredited Environmental Testing | 2773 Downhill Drive, Steamboat Springs, CO 80487, (970) 879-6590 | L80841

CHAIN of CUSTODY

Report to:

Name: Sara Harkins
Company: WSP
E-mail: Sara.[redacted]@WSP.com
Address: 7245 W Alaska BLVD, Suite 200, Lakewood CO
Telephone: 847-877-9734

Copy of Report to:

Name: Jennifer Thompson
Company: WSP [redacted]
E-mail: Jennifer.Thompson2@WSP.COM
Telephone: 832-571-5982

Invoice to:

Name: Sara [redacted]kins
Company: WSP
E-mail: Sara.Harkins@[redacted].com
Address:
Telephone:

Copy of Invoice to:

Name: Jennifer Thompson
Company: WSP
E-mail: Jennifer.Thompson2@wsp.com
Address:
Telephone:

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 [X]

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

Sampler's Name: [redacted] Thompson Sampler's Site Information State CO Zip code 80535 Time Zone MTN

*Sampler's Signature: [redacted]

*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

Quote #: HOLCIM-TABI
PO#:
Reporting state for compliance testing: NA
Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers
MW-1	6/1/23 : 10:58am	GW	5
MW-2	6/1/23 : 10:00am	GW	5
MW-3	6/1/23 : 11:25am	GW	5
MW-4	6/1/23 : 12:15 pm	GW	5
MW-5	6/1/23 : 07:15am	GW	5
MW-6	6/1/23 : 01:02pm	GW	5
MW-7	6/1/23 : [redacted]:57am	GW	5
MW-8	6/1/23 : [redacted]	GW	5
MW-15	6/1/23 : [redacted]	GW	5
MW-20	6/1/23 : 00:00	[redacted]	5

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
[redacted] Thompson	6/1/23 : 2 pm	[redacted]	6/2/23 1334

L80841 Chain of Custod

ATTACHMENT 2

Field Sheets

RECORD OF WATER LEVEL READINGS

Project Name: Holcim 2023 Boettcher Quarry **Location:** Laporte, CO **Project No. 31404755.001**

Borehole No.	Date	Time	Measuring Device / Serial No.	Measurement Point (M.P)	Water Level Below M.P.	Correction To Survey Mark	Survey Mark Elevation	Water Level Elevation	By	Comments
MW-1	5/24/23	8:10 am	WLM - 300'	TPVC	44.95	--	--	--	JL	
MW-2	5/24/23	8:00 am	WLM - 300'	TPVC	74.31	--	--	--	JT	
MW-3	5/24/23	9:17 am	WLM - 300'	TPVC	39.09	--	--	--	JT/JL	
MW-4	5/24/23	10:21 am	WLM - 300'	TPVC	71.9	--	--	--	JT	
MW-5	5/25/23	8:02	WLM - 300'	TPVC	50.76	--	--	--	JL	
MW-6	5/25/23	12:50	WLM - 300'	TPVC	199.8	--	--	--	JL	
MW-7	5/24/23	1:49 pm	WLM - 300'	TPVC	219.05	--	--	--	JT	
MW-8	5/25/23	8:15 am	WLM - 300'	TPVC	131.65	--	--	--	JT	

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2023 Boettcher Quarry Groundwater Monitoring**	Sampler Name(s): Jack Lingauer + Jennifer Thompson
Project Number: **31404755.001**	Date: 6/1/2023
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.)	44.94	8. Purge Equipment Used	Bailer
2. Bottom of Casing[1] (±0.01ft.)	65.59 ft btoc	9. Dedicated? (Yes or No)	
3. Casing Diameter (in.)	2	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	3.37	11. Time to Purge Well (min)	
5. 3 x Casing Volume (gallons)	10.1	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		

[1]Measured 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)	ORP (mV) / ~~Relative Turbidity~~	Other	DO (mg/L)
	10:32 am	2.5	14.4	7.49	6920	-95.4		21.4
	10:39 am	5	14.3	7.42	6706	-88.3		19.3
	10:45 am	7.5	14.3	7.46	6758	-83.2		23.1
	10:52	10	14.3	7.54	6953	-73.4		21.2

Well Evacuated to Dryness? (Yes or No) _____ Time to recharge? _____

Groundwater Sample Information:

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

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					**Instrument Calibrations**	pH, conductivity
4. Odor						
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**	

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2023 Boettcher Quarry Groundwater Monitoring**	Sampler Name(s): Jennifer Thompson and Jace Labounty
Project Number: **31404755.001**	Date: 6/1/23
Monitoring Well I.D.: **MW-2**	Weather Conditions: ~ °F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	105.71	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)		11. Time to Purge Well (min)	—
5. 3 x Casing Volume (gallons)		12. Immiscible Layer Observed (yes or no)	No
6. Actual Volume of Water Purged		13. Thickness if Immiscible layer (if present)	None
7. Water Level Measuring Equip.	300' electronic		

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

Purge Parameters:

Purged previous week

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

Well Evacuated to Dryness? (Yes or No) _____ Time to recharge? _____

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (__S/cm)	Relative Turbidity	Other
6/1/23	10:00	1	14.9	7.70	9660	-121.9	DO 6.4

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	grey				**Instrument Calibrations**	pH, conductivity
4. Odor	sulfur					
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**	

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2023 Boettcher Quarry Groundwater Monitoring**	Sampler Name(s): Jennifer Thompson + Jack Lindauer
Project Number: **31404755.001**	Date: 6/1/2023
Monitoring Well I.D.: **MW-3**	Weather Conditions: ~ °F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	78.38	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)		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		

[1]Measured 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

Well Evacuated to Dryness? (Yes or No) _____ Time to recharge? _____

Groundwater Sample Information:

ORP (mV) DO

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity	Other
6/1/23	11:25am	1	16.7	8.03	6097	-97.0	29.8

1. Sampling Equipment Used	HDPE tubing				**Other Information:**	
2. Pump Rate	N/A				**Decontamination Procedures**	Alconox, DI rinse
3. Sample Appearance:	clear ☒	low ☐	medium ☐	high ☐		
Color	colorless				**Instrument Calibrations**	pH, conductivity
4. Odor	None					
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**	

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2023 Boettcher Quarry Groundwater Monitoring**	Sampler Name(s): Jennifer Thompson & Jack Lindauer
Project Number: **31404755.001**	Date: 6/1/23
Monitoring Well I.D.: **MW-4**	Weather Conditions: ~ °F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	144.21	8. Purge Equipment Used	Bailer
2. Bottom of Casing[1] (±0.01ft.)	182 ft btoc	9. Dedicated? (Yes or No)	
3. Casing Diameter (in.)	2	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		

[1]Measured 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

Well Evacuated to Dryness? (Yes or No) _____ Time to recharge? _____

Groundwater Sample Information:

ORP (mV) DO(

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity	Other
6/1/23	12:15pm	1	14.1	7.71	17145	-131.9	14.7

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	Colorless				**Instrument Calibrations**	pH, conductivity	
4. Odor	None						
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**		

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2023 Boettcher Quarry Groundwater Monitoring**	Sampler Name(s): Jennifer Thompson and Jack Lindauer
Project Number: **31404755.001**	Date: 6/1/23
Monitoring Well I.D.: **MW-5**	Weather Conditions: ~ °F
Wellhead Inspection (note conditions): Good condition	

0.1163

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	50.91	8. Purge Equipment Used	Bailer
2. Bottom of Casing[1] (±0.01ft.)	60.3 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)	1.5	11. Time to Purge Well (min)	20
5. 3 x Casing Volume (gallons)	4.6	12. Immiscible Layer Observed (yes or no)	No
6. Actual Volume of Water Purged	7.5 gallons	13. Thickness if Immiscible layer (if present)	—
7. Water Level Measuring Equip.	300' electronic		

[1]Measured 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~~ ORP (mV) Turbidity	Other
6/1/23	6:43	1	13.3	6.92	3905	-37.0	Slightly yellow
6/1/23	6:51	2	13.1	6.97	3960	-68.2	Muddied water and air
6/1/23	6:55	3	13.1	7.00	4158	-73.6	"
6/1/23	6:58	4.25	13.1	7.01	4159	-75.5	"
6/1/23	7:02	7.25	13.1	7.02	4162	-74.6	

Well Evacuated to Dryness? (Yes or No) _____ Time to recharge? _____

Groundwater Sample Information: duplicate well MW-20

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	~~Relative~~ ORP (mV) Turbidity	Other
6/1/23	7:15	7.5	13.1	7.02	4162	-74.6	

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	yellow				**Instrument Calibrations**	pH, conductivity
4. Odor	—					
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**	—

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2023 Boettcher Quarry Groundwater Monitoring**	Sampler Name(s): Jennifer Thompson + Jack Lindauer
Project Number: **31404755.001**	Date:
Monitoring Well I.D.: **MW-6**	Weather Conditions: ~ °F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	227.92	8. Purge Equipment Used	Bailer
2. Bottom of Casing[1] (±0.01ft.)	229.7 ft btoc	9. Dedicated? (Yes or No)	
3. Casing Diameter (in.)		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		

[1]Measured 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

Well Evacuated to Dryness? (Yes or No) _____ Time to recharge? _____

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity (ORP)	Other (DO)
6/1/23	1:02 PM	1	15.1	7.35	16557	+141.7	2.4

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	Grey				**Instrument Calibrations**	pH, conductivity	
4. Odor	Strong / sulfur						
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**		

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2023 Boettcher Quarry Groundwater Monitoring**	Sampler Name(s): Jennifer Thompson and Lee Lindauer
Project Number: **31404755.001**	Date: 6/1/23
Monitoring Well I.D.: **MW-7**	Weather Conditions: ~ °F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	256.98	8. Purge Equipment Used	Bailer
2. Bottom of Casing[1] (±0.01ft.)	259.2 ft btoc	9. Dedicated? (Yes or No)	
3. Casing Diameter (in.)		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		

[1]Measured 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

Well Evacuated to Dryness? (Yes or No) _____ Time to recharge? _____

Groundwater Sample Information:

ORP (mV) DO(

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity	Other
6/1/23	8:57am	1	14.1	7.27	17050	-150.9	Grey color 30.

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	Grey				**Instrument Calibrations**	pH, conductivity	
4. Odor	Slight sulfur						
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**		

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2023 Boettcher Quarry Groundwater Monitoring**	Sampler Name(s): Jennifer Thompson & Jack Lindaas
Project Number: **31404755.001**	Date: 6/1/23
Monitoring Well I.D.: **MW-8**	Weather Conditions: ~ °F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data: Logger removed at 7:30am

1. Static Water Level[1] (±0.01ft.)	221.3	8. Purge Equipment Used	
2. Bottom of Casing[1] (±0.01ft.)	~229 ft btoc	9. Dedicated? (Yes or No)	
3. Casing Diameter (in.)		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		

[1]Measured 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

Well Evacuated to Dryness? (Yes or No) _____ Time to recharge? _____

Groundwater Sample Information:

ORP DOC

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	~~Relative Turbidity~~	Other
6/1/23	07:55am	1	14.2	7.56	18782	-229 ft	28.7

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	Colorless				**Instrument Calibrations**	pH, conductivity
4. Odor	Sulfur					
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**	

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2023 Boettcher Quarry **Project No.: 31404755.001**

Location MW-2

Monitored By: JT / JL Date 5/24/23 Time 8:30 AM

Well Piezometer Data

(circle one)

Depth of Well (from top of PVC or ground)	112	feet
Depth of Water (from top of PVC or ground)	74.31	feet
Casing Diameter	2	inches
		feet
Casing Volume		cubic feet
		gallons

Development / Purging Discharge Data

Purging Method		disposable, dedicated bailer		
Start Purging	Date	5/24/23	Time	8:30
Stop Purging	Date	5/24/23	Time	8:55

Monitoring

Date	Time	Volume Discharge (gals)	Temp (°C)	pH	Spec.Cond. (µS/cm)	Turbidity (NTU)		Appearance of Water and Comments
5/24/23	8:30	5	14.6	8.04	10521	—		slightly yellow
5/24/23	8:45	10	14.3	7.9	10563	—		Sulfur smell
5/24/23	8:55	12.5	14.4	7.98	11107	—		Slightly grey
	Well Dry at 12.5 gal - 1/4 bailers of water							

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2023 Boettcher Quarry **Project No.: 31404755.001**

Location MW-3

Monitored By: JT/JL Date 5/24/23 Time 9:17 AM

Well Piezometer Data

(circle one)

Depth of Well (from top of PVC or ground)	107.2	feet
Depth of Water (from top of PVC or ground)	39.09	feet
Casing Diameter	2	inches
		feet
Casing Volume		cubic feet
		gallons

Development / Purging Discharge Data

Purging Method: disposable, dedicated bailer

Start Purging Date 5/24/23 Time 9:30 AM

Stop Purging Date 5/24/23 Time 10:05 AM

Monitoring

Date	Time	Volume Discharge (gals)	Temp (° C)	pH	Spec.Cond. (µS/cm)	Turbidity (NTU)		Appearance of Water and Comments
5/24/23	9:36	5	16.3	8.04	6289	—		slightly cloudy
5/24/23	9:42	10	16.2	8.03	6323	—		Some orange particulates
5/24/23	9:49	15	16.3	8.1	6705	—		Opaque, more orange
5/24/23	9:55	16.5	16.2	8.23	6887	—		

June, 2022: Dry at 13.75

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2023 Boettcher Quarry **Project No.: 31404755.001**

Location MW-4

Monitored By: JS/JL Date 5/24/23 Time 10:10 am

Well Piezometer Data

(circle one)

Logger removed at: 10:15 am
Logger added at: 1:08 PM

Depth of Well (from top of PVC or ground)	141.9	feet
Depth of Water (from top of PVC or ground)	71.9	feet
Casing Diameter	2	inches
		feet
Casing Volume		cubic feet
		gallons

Development / Purging Discharge Data

Purging Method: disposable, dedicated bailer

Start Purging Date 5/24/23 Time 10:40 AM

Stop Purging Date 5/24/23 Time 1:07 PM

Monitoring

Date	Time	Volume Discharge (gals)	Temp (°__)	pH	Spec.Cond. (µS/cm)	Turbidity (NTU)		Appearance of Water and Comments
5/24/23	10:50	5	13.1	7.87	17589	–		Bubbles slightly cloudy
5/24/23	11:05	10	13.2	7.83	16594	–		Bubbles, cloudy
5/24/23	11:30	15	13.3	7.78	17210	–		"
5/24/23	12:00	20	14.2	7.77	18972	–		Slightly
5/24/23	12:30	25	13.5	7.94	19026	–		grey
5/24/23	12:57	30	13.7	7.8	18426	–		grey
5/24/23	1:07	31	14.1	8:03	15268			grey

Note: Holes observed around the base of the well, potentially snakes. Holes were covered by rocks

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2023 Boettcher Quarry **Project No.: 31404755.001**

Location MW-6

Monitored By: JT/JL Date 5/25/23 Time 12:40 pm

Well Piezometer Data

12:50 pm - Logger removed

(circle one)

Depth of Well (from top of PVC or ground)	229.7	feet
Depth of Water (from top of PVC or ground)	199.8	feet
Casing Diameter	4	inches
		feet
Casing Volume		cubic feet
		gallons

Development / Purging Discharge Data

Purging Method: disposable, dedicated bailer

Start Purging Date 5/25/23 Time 1:15

Stop Purging Date Time

Monitoring

Date	Time	Volume Discharge (gals)	Temp (°C)	pH	Spec.Cond. (_S/cm)	Turbidity (NTU)		Appearance of Water and Comments
5/25/23	1:23	5	14.4	7.9	17495	—		Dark grey-black particulates
5/25/23	1:38	10	14.3	7.86	17225	—		"
5/25/23	1:50	15	14.4	7.83	17611	—		oil sheen "
5/25/23	3:07	20	16.5	7.80	17782	—		"
5/25/23	3:46	25	14.2	7.85	18241	—		"
5/25/23	3:50	26.75	14.6	7.93	18489	—		"
5/25/23								
Winch failed at 15 gal. Remainder was bailed by hand. Bailed until dry @ ~ 26.75 gal.								

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2023 Boettcher Quarry **Project No.: 31404755.001**

Location MW-7

Monitored By: JL/JT Date 5/24/23 Time 1:40 pm

Well Piezometer Data

(circle one)

5/24 - Logger removed at 1:41 pm

Depth of Well (from top of PVC or ground)	259.2	feet
Depth of Water (from top of PVC or ground)	219.05	feet
Casing Diameter	4	inches
		feet
Casing Volume		cubic feet
		gallons

5/25 - Logger removed at 11:58am

5/25 - Logger added at 12:29

Development / Purging Discharge Data

Purging Method	disposable, dedicated bailer			
Start Purging	Date	5/24/23	Time	~2:00
Stop Purging	Date		Time	

Monitoring

Date	Time	Volume Discharge (gals)	Temp (°C)	pH	Spec.Cond. (µS/cm)	Turbidity (NTU)		Appearance of Water and Comments
5/24/23	2:16 pm	5	14.8	7.55	15152	—		light grey with black particles
5/24/23	2:29 pm	10	14.1	7.57	15297	—		"
5/24/23	2:44 pm	15	14.1	7.59	15812			smelly grey S-small
5/24/23	3:14 pm	20	14.2	7.66	17500	-		"
5/24/23	3:28 pm	25	14.1	7.76	18617	—		"
5/24/23	3:44 pm	30.5	14.2	7.77	18799	—		darker grey, turbid
5/24/23	3:56 pm	33	14.2	7.82	19,126	-		
	- Hitting bottom of well, bailers come up leaking, stopped due to lightning							
5/25/23	12:28	1	16.7	7.78	19172	—		Dark grey
Came back to well (had to leave previous day due to weather. Purged and additional 1 gal - Bailers had significant sediment.								

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2023 Boettcher Quarry **Project No.: 31404755.001**

Location MW-8

Monitored By: JT / JL Date 5/25/23 Time 8:10

Logger removed at 8:15am
Logger installed at 11:45 am

Well Piezometer Data

(circle one)

Depth of Well (from top of PVC or ground)	229	feet
Depth of Water (from top of PVC or ground)	131.69	feet
Casing Diameter	4	inches
		feet
Casing Volume		cubic feet
		gallons

Development / Purging Discharge Data

Purging Method: disposable, dedicated bailer

Start Purging Date 5/25/23 Time 8:34

Stop Purging Date 5/25/23 Time 11.24

Monitoring

Date	Time	Volume Discharge (gals)	Temp (°C)	pH	Spec.Cond. (µS/cm)	Turbidity (NTU)		Appearance of Water and Comments
5/25/23	8:44 am	5	13.6	7.94	20265	—		Bubbles mostly clear
5/25/23	8:54 am	10	13.7	7.94	19942	—		slightly grey
5/25/23	9:04 am	15	13.6	7.97	20403	—		"
5/25/23	9:14 am	20	13.8	7.97	20321	—		"
5/25/23	9:24 am	25	13.9	7.99	20375	—		"
5/25/23	9:36 am	30	13.9	7.98	20238	—		"
5/25/23	9:47	35	14.1	8.01	20447	—		"
5/25/23	10:01	40	14.1	8.01	20377	—		"
5/25/23	10:12	45	14.0	8.04	20447	—		"
5/25/23	10:37	50	14.3	7.88	19962	—		"
5/25/23	10:49	55	14.3	7.88	20352	—		Sulfur smell, bailer hitting bottom
5/25/23	11:03	60	14.4	7.81	20254	—		opague grey
5/25/23	11:15	65	14.3	7.83	20070	—		"
5/25/23	11:24	66	14.8	7.83	19382			"
	3 dry bailers in a row at 66 gal							
	Well Bailed Dry!							

INSTRUMENT CALIBRATION FORM

Project Name: Holcim 2023 Boettcher Quarry **Project Number:** 31404755.001

Calibration By: Jack Lindauer

Instrument Details

Instrument Name: YSI Pro 1030

Serial No.:

Model No.: Pro 1030

Calibration Details

Calibration Standard: Geotech Buffer Solution. pH 4. 7. 10

Conductivity standard

Calibration Standard(s) Expiration Date: pH 4 & 7: Jan-25, pH 10: Feb-25 conductivity: Feb-24

Calibration:

Date	Time	Calibration Standard	Temp (°C)	Instrument Reading	Notes
5/24/23	7:45	pH 7	19.4	7.02	
5/24/23	7:50	pH 10	19.1	10.06	
5/24/23	8:00	pH 4	19.4	4.00	
5/24/23	8:003	pH 7	19.9	7.02	
5/24/23	8:10	pH 10	19.9	10.06	
5/24/23	8:10	Conductivity	19.6	1413	
6/1/23	6:30	pH 7	18.5	7.03	
	6:25	pH 10	17.5	10.05	
	6:30	pH 4	18.1	4.00	
	10:35	conductivity	19.0C	1260	

INSTRUMENT CALIBRATION FORM

Project Name: Holcim 2023 Boettcher Quarry **Project Number:** 31404755.001

Calibration By: Jack Lindauer

Instrument Details

Instrument Name: YSI Pro 1030

Serial No.:

Model No.: Pro 1030

Calibration Details

Calibration Standard: Geotech Buffer Solution. pH 4, 7, 10

Conductivity standard

Calibration Standard(s) Expiration Date: pH 4 & 7: Jan-25, pH 10: Feb-25 conductivity: Feb-24

Calibration:

Date	Time	Calibration Standard	Temp (°C)	Instrument Reading	Notes
5/24/23	7:45	pH 7	19.4	7.02	
5/24/23	7:50	pH 10	19.1	10.06	
5/24/23	8:00	pH 4	19.4	4.00	
5/24/23	8:003	pH 7	19.9	7.02	
5/24/23	0:10	pH 10	19.9	10.06	
5/24/23	8:10	Conductivity	19.6	1413	