August 6, 2024 Reference No. 31404755.9182-001-LTR-0

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

SEMI-ANNUAL EVENT 2024 GROUNDWATER SAMPLING AT THE BOETTCHER QUARRY

Dear Ms. Gagnon:

On behalf of Holcim (US) Inc., WSP USA Inc. (WSP), is pleased to submit analytical laboratory results for the second quarter (Q2) 2024 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-1 (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 Q2 2024 groundwater sampling event was the eighth 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:

- The samples were received by the laboratory at the appropriate temperature.
- The required analyses were performed.
- The analyses were conducted within their respective United States Environmental Protection Agency-recommended hold times, apart from pH and total dissolved solids (TDS).
    - Measurements for pH should be conducted within 15 minutes of sample collection; thus, the laboratory pH measurement will always be out of hold time.
    - Reported filterable total dissolved solids in samples MW-1, MW-2, and MW-4 are outside of the hold time due to laboratory rerun prompted by internal laboratory checks. The reported TDS results are consistent with historical results.

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

- MW-1: manganese, uranium, sulfate, and gross alpha
- MW-2: barium, 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, chloride
- MW-7: barium, iron, manganese, chloride, antimony
- MW-8: barium, iron, chloride, antimony, and gross alpha

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 non-detects with practical quantitation limits greater than the Interim Narrative Standard for:

- Antimony in MW-2, MW-3, and MW-4
- Sulfate in MW-4 and MW-8
- Iron in MW-1, MW-2, MW-4, and MW-8

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

The well monitoring program at Boettcher Quarry has been discontinued per the Colorado Division of Reclamation, Mining and Safety decision on July 15, 2024 to approve the Technical Revision No. 12 (TR-12) of Permit No. M1977-348 (DRMS 2024). The TR-12 “demonstration that existing and reasonable potential future uses of groundwater are protected and discontinuation of the groundwater monitoring program at the Boettcher Limestone Quarry” was incorporated into the site permit and no future groundwater monitoring is necessary.

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

REFERENCES

Division of Reclamation, Mining, and Safety (DRMS). 2024. Boettcher Limestone Quarry - File No. M-1977-348 Holcim (US) Inc. Technical Revision (TR-12) Groundwater Monitoring Report. July 15, 2024.

Signature Page

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://wsponlinenam.sharepoint.com/sites/us-holcimboettcherqua/shared documents/2024_first_semiannual_2024_sampling_event/rev0/31404755.9182-001-ltr-0-first_semiannual_event_2024_gws_sampling_6aug24.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	11/16/2023	6/6/2024
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	0.00104 B	0.00208
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	0.0104 B	0.0119
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**	0.722	0.731
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	<0.01 U	<0.002 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	<0.01 U	<0.002 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	<0.15 U	<0.75 U
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	<0.0025 U	<0.0005 U
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	1.06	1.07
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**	**0.100**	**0.078**
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	**0.0546**	0.00638
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	<0.00125 U	<0.00025 U
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**	**0.0435**	**0.0378**
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	<0.075 U	0.011 B
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	<200 U	25.6 B
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	0.57	0.57
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	6.07	0.238
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	0.01 B	<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	6.08	0.238
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	8.0 H	7.3 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	5,770	6,040 H
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**	**3,990**	**2,750**
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)**	**52(±30)**	**92(±40)**
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)	30(±22)	57(±26)
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	7.52	7.44
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	7,551	7,695
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	13.9	19.3
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	<0.075 U	0.017
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	0.00243 B	0.00065 B
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	<0.00125 U	<0.00025 U
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	471 H	506
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	<20 UH	<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	<0.00125 U	0.000055 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	120	110
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	0.00264	0.00248
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	<0.01 U	<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	124	112
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	<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	0.069	0.0588
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	0.00953	0.00667
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	10.3	8.55
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	<0.0025 U	<0.0005 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	1,730	1,720
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	<0.01 U	<0.002 U

Notes:

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

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

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

NA = Analyte not analyzed

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

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

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

Values in **bold** indicate a value greater than the 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	5/21/2014
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	0.006
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	**2.28**
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	0.75
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	<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	<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**	**2.5**
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	<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	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**	**0.097**
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	0.0007 B
Thallium, Dissolved (mg/L)	0.002	<0.01 U	<0.01 U	<5 U	<0.0003 U	<0.005 U	<0.001 U	<0.003 U	<0.003 U	<0.003 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	<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	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	<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**	**3,240**
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	1.48
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	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	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	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	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	6,040 H
Sulfate (mg/L)	250	140	160	190	210	240	220	220	220	<300 U	60 B	90 B	<100 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<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	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	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	7.32
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	11,040
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	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	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	993	965	978	953	914	995	968	964	978	955	963	979	1020	1,060	1,100
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	<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	14	14	14.4	16	15	15.5	14	16	16.3	15.1	18	17	16.9	17.6	18.2
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	8	8	7.8	7	7	7.4	8	8	8	7.5	8	7	7.4	7.3	6.9
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	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	6.5
Silver, Dissolved (mg/L)	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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	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	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	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	11/17/2023	6/6/2024
Metals																										
Arsenic, Dissolved (mg/L)	0.01	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	0.00295 B	0.00371 B
Barium, Dissolved (mg/L)	2.0	**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**	**3.38**	**3.95**
Boron, Dissolved (mg/L)	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**	0.741	0.67
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	<0.002 U	<0.002 U	<0.01 U	<0.01 U	<0.01 U	<0.02 U	<0.01 U	<0.01 U	<0.01 U
Copper, Dissolved (mg/L)	0.2	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	<0.01 U	<0.01 U
Iron, Dissolved (mg/L)	0.3	**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	0.24	<0.75 U
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	<0.0005 U	<0.0005 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.0025 U	<0.0025 U	<0.0025 U
Lithium, Dissolved (mg/L)	2.5	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	1.17	1.17
Manganese, Dissolved (mg/L)	0.05	**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**	**0.0538**	**0.0518**
Selenium, Dissolved (mg/L)	0.02	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	<0.005 U	<0.00125 U
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	<0.00005 U	<0.001 U	<0.00125 U	0.000329 B	<0.00125 U	<0.00125 U	<0.00125 U	<0.00025 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	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	0.00193 B	0.00195 B
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	<0.02 U	<0.015 U	<0.075 U	<0.075 U	<0.075 U	<0.15 U	<0.075 U	<0.075 U	<0.075 U
Other																										
Chloride (mg/L)	250	**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**	**3,470**	**2,370**
Fluoride (mg/L)	2	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	1.61	1.44
Nitrate as N (mg/L)	10	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	0.082 B	<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 U	<0.05 U	<0.05 U	<0.05 UH	<0.05 U	<0.05 U	<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	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	0.082 B	<0.1 U
Lab pH (s.u)	6.5 - 8.5	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	8.1 H	7.9 H
Total Dissolved Solids, filterable residue (mg/L	7084	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	6,160	6,220 H
Sulfate (mg/L)	250	<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	<200 U	<200 U
Gross Alpha (pCi/L)	15	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)	-9.1 (±16)	-2.2(±16)
Gross Beta (pCi/L)	**	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)	31 (±32)	26(±27)
Field Parameters (Not Available pre-2010))																										
Field pH (s.u)	6.5 - 8.5	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	7.74	7.45
Field Conductivity (µS/cm)	none	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	10,621	11,105
Temperature (Degrees Celsius)	none	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	12.9	16.4
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	<0.05 U	<0.02 U	<0.015 U	<0.075 U	<0.075 U	<0.075 U	<0.15 U	<0.075 U	<0.075 U	<0.075 U
Antimony, Dissolved (mg/L)	0.006	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	0.00352 B	<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	<0.00125 U	<0.00125 U	<0.00125 U
Bicarbonate as CaCO3 (mg/L)	none	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	1040 H	1050
Carbonate as CaCO3 (mg/L)	none	<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	<20 UH	<20 U
Cadmium, Dissolved (mg/L)	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	0.00011 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	<0.00125 U	<0.00125 U
Calcium, Dissolved (mg/L)	none	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	17.3	19.2
Cobalt, Dissolved (mg/L)	0.05	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	0.001 B	0.000872 B
Cyanide, Free (mg/L)	0.2	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	<0.01 U	<0.01 U
Magnesium, Dissolved (mg/L)	none	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	6.87	6.71
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	<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	<0.01 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	0.00375	0.00124 B
Nickel, Dissolved (mg/L)	0.1	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	<0.005 U	<0.005 U
Potassium, Dissolved (mg/L)	none	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	6.43	4.59 B
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	0.0006 B	<0.0025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.005 U	<0.0025 U	<0.0025 U
Sodium, Dissolved (mg/L)	none	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	2,510	2,370
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	<0.004 U	0.00185 B	<0.01 U	<0.01 U	<0.01 U	<0.02 U	<0.01 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 con

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	5/21/2014
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	0.0005 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**	**2.02**
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	**0.76**
Chromium, Dissolved (mg/L)	0.1	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.05 U	0.003 B	0.001 B	<0.01 U	0.004 B	<0.004 U	<0.01 U	<0.002 U	<0.01 U	<0.01 U	<0.004 U	<0.01 U	<0.01 U	<0.004 U	<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	<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	0.30
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	0.0002 B
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	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	0.05
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	0.0002 B
Thallium, Dissolved (mg/L)	0.002	<0.01 U	<0.01 U	<2 U	<0.0003 U	<0.005 U	<0.0005 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.003 U	<0.001 U	<0.001 U	<0.003 U	<0.0005 U	<0.003 U	<0.003 U	<0.001 U	<0.003 U	<0.003 U	<0.001 U	<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	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	<0.05 U
Other																								
Chloride (mg/L)	250	**1,480**	**1,350**	**1,310**	**1,450**	**1,360**	**1,480**	**1,400**	**1,460**	**1,550**	**1,530**	**1,550**	**1,620**	**1,530**	**1,565**	**1,505**	**1,681**	**1,721**	**1,665**	**1,620**	**1,570**	**1,610**	**1,570**	**1,580**
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**	**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	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	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	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	8.3 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	3,910 H
Sulfate (mg/L)	250	140	110	100	100	90	90	90	90	<100 U	<100 U	<300 U	<50 U	<125 U	<125 U	30.1 B	<125 U	<125 U	<125 U	<125 U	<125 U	<125 U	<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	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	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	7.78
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	7,140
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	17.1
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	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	982
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	57
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	6.6	11.9	7	7.5	6.8	6.3	9.4	7	7.5	6.1	7	8	6.8	6.7	7.2
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	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	3.1
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	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	3.8
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	1,600	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	1,610
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 3: Summary of Monitoring Results for MW-3

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	11/16/2023	6/6/2024
Metals																										
Arsenic, Dissolved (mg/L)	0.01	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	0.00051 B	<0.005 U
Barium, Dissolved (mg/L)	2.0	**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**	**3.02**	**2.88**
Boron, Dissolved (mg/L)	0.75	**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**	**0.763**	**0.754**
Chromium, Dissolved (mg/L)	0.1	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	<0.004 U	<0.01 U
Copper, Dissolved (mg/L)	0.2	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	<0.004 U	<0.01 U
Iron, Dissolved (mg/L)	0.3	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	0.114 B	<0.3 U
Lead, Dissolved (mg/L)	0.05	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	<0.001 U	<0.0025 U
Lithium, Dissolved (mg/L)	2.5	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	0.698	0.739
Manganese, Dissolved (mg/L)	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	0.0270	0.0244
Selenium, Dissolved (mg/L)	0.02	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	<0.0005 U	<0.00125 U
Thallium, Dissolved (mg/L)	0.002	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	<0.0005 U	<0.00125 U
Uranium, Dissolved (mg/L)	0.03	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	0.0009 B	<0.0025 U
Zinc, Dissolved (mg/L)	2.0	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	<0.03 U	<0.075 U
Other																										
Chloride (mg/L)	250	**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**	**1,570**	**1,030**
Fluoride (mg/L)	2	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**	**2.38**	**2.45**
Nitrate as N (mg/L)	10	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	<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 U	<0.05 U	<0.05 U	<0.05 UH	<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	<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	<0.1 U	<0.1 U
Lab pH (s.u)	6.5 - 8.5	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	8.3 H	8.2 H
Total Dissolved Solids, filterable re	4620	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	3,940	3,950
Sulfate (mg/L)	250	<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	<40 U	<40 U
Gross Alpha (pCi/L)	15	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)	2.6(±13)	2(±11)
Gross Beta (pCi/L)	**	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)	15(±19)	13(±18)
Field Parameters (Not Available pre-2010))																										
Field pH (s.u)	6.5 - 8.5	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	8.12	7.85
Field Conductivity (µS/cm)	none	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	6,902	6,972
Temperature (Degrees Celsius)	none	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	16.7	20.3
Supplementary Analytes (Not Historically analyzed)																										
Aluminum, Dissolved (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.3 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	0.0101 B	<0.075 U
Antimony, Dissolved (mg/L)	0.006	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	0.00103 B	<0.01 U
Beryllium, Dissolved (mg/L)	0.004	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	<0.0005 U	<0.00125 U
Bicarbonate as CaCO3 (mg/L)	none	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	1190 H	1160
Carbonate as CaCO3 (mg/L)	none	<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	58.6 H	116
Cadmium, Dissolved (mg/L)	0.005	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	<0.0005 U	<0.00125 U
Calcium, Dissolved (mg/L)	none	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	6.3	7.21
Cobalt, Dissolved (mg/L)	0.05	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	0.000656	<0.00125 U
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	0.0031 B	<0.01 U	<0.01 U	<0.01 UH	<0.01 U	<0.01 U	<0.01 U
Magnesium, Dissolved (mg/L)	none	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	2.72	2.84
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	<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	<0.2 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	0.00044 B	<0.0025 U
Nickel, Dissolved (mg/L)	0.1	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	<0.002 U	<0.005 U
Potassium, Dissolved (mg/L)	none	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	4.61	3.48
Silver, Dissolved (mg/L)	0.05	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	<0.001 U	<0.0025 U
Sodium, Dissolved (mg/L)	none	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	1,610	1,490
Vanadium, Dissolved (mg/L)	0.1	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	<0.004 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 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	11/17/2023	6/6/2024
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	<0.01 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**	**8.99**	**9.19**
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	0.671	0.568 B
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	<0.02 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	<0.02 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	0.145 B	<1.5 U
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	<0.005 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	1.91	1.9
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	0.02	0.0079 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	<0.0125 U	<0.0025 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	<0.0025 U	<0.00025 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	<0.005 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	0.135 B	<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	**8,140**	**5,140**
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	1.13	1.12
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	0.057 B	<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	<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	0.057 B	<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	8.10 H	7.90 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**	**11,200** H	**10,900** H
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	<400 U	<400 U
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)	0.7(±15)	6.8(±43)
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)	41(±46)	44(±51)
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	7.81	7.58
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	18,528	19,126
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	11.6	17.9
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	<0.15 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	<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	<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	604 H	631
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	<20 UH	<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	<0.0025 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	34.9	41.6
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	0.00455	<0.0025 U
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	<0.01 U	<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	16.6	17.6
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	<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	<0.005 U	<0.005 U
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	<0.01 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	10.5	7.42 B
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	<0.005 U	<0.005 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	4,400	4,260
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	<0.02 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	11/17/2023	6/6/2024
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	0.00208	0.00247
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	0.0114	0.0103
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	0.399	0.41
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	<0.004 U	<0.002 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	<0.004 U	<0.002 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**	**17.1**	**8.46**
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	<0.001 U	<0.0005 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	0.328	0.347
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**	**0.0986**	**0.073**
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	0.00023 B	0.00018 B
Thallium, Dissolved (mg/L)	0.002	NA	<0.001 U	0.0001 B	0.00007 B	0.0002 B	0.00021 B	0.000437 B	<0.0005 U	<0.0005 U	<0.0005 U	0.000118 B	<0.0005 U	0.000104 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	0.028	0.0221
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	<0.03 U	0.0124 B
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	21 B	<100 U
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	0.68	0.56
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	<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	<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	<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	7.7 H	7.3 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	3,200	3,230
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**	**1,740**	**1,400**
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)	12(±12)	4.3(±11)
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)	15(±13)	4.1(±10)
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	6.96	6.77
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	3,582	3,843
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	13.6	17.9
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	<0.03 U	<0.015 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	<0.004 U	<0.002 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	<0.0005 U	<0.00025 U
Bicarbonate as CaCO3 (mg/L)	none	401	NA	392 H	354	328	304	360	323	258	346	393	383 H	455
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	<20 UH	<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	<0.0005 U	0.000071 B
Calcium, Dissolved (mg/L)	none	425	490	402	405	474	427	477	433	475	385	410	419	408
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	0.00836	0.00517
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	<0.01 U	<0.01 U
Magnesium, Dissolved (mg/L)	none	109	121	113	116	117	120	104	109	114	113	120	112	111
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	<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	0.0101	0.00708
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	0.0263	0.0215
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	9.04	9.26
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	<0.001 U	<0.0005 U
Sodium, Dissolved (mg/L)	none	329	317	501	617	439	497	230	413	356	569	700	417	457
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	<0.004 U	<0.002 U

Notes:

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

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

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

NA = Analyte not analyzed

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

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

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

Values in **bold** indicate a value greater than the 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	11/16/2023	6/6/2024
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	0.00803 B	0.007
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**	**5.92**	**6.06**
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	0.534	0.464 B
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	<0.02 U	<0.002 U
Copper, Dissolved (mg/L)	0.2	NA	NA	NA	<0.02 U	<0.002 U	<0.008 U	0.05	0.00195 B	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 U	<0.02 U	<0.002 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**	**2.93**	**4.66**
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	0.00179 B	<0.0005 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	1.80	2.00
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**	**0.0977**	**0.078**
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	<0.0025 U	<0.00125 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	<0.0025 U	<0.00025 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	0.00651	0.00394
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	<0.15 U	0.0073 B
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	**5,830**	**5,920**
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	1.04	1.09
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	<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	<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	<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	7.9 H	7.5 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	10,100	11,300
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	<200 U	<200 U
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)	**82(±57)**	-14(±27)
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)	50(±54)	-7.9(±35)
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	7.42	7.18
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	18,024	18,513
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	15.7	19.2
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	<0.15 U	<0.015 U
Antimony, Dissolved (mg/L)	0.006	NA	NA	NA	<0.02 U	0.0014 B	<0.004 U	<0.04 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	0.00269
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	<0.0025 U	<0.00025 U
Bicarbonate as CaCO3 (mg/L)	none	658	639	652	NA	685 H	702	720	647	625	629	624	691	827	700 H	714
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	<20 UH	<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	<0.0025 U	<0.00025 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	52.6	66.8
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	0.00115 B	0.000588
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	<0.01 U	<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	15.6	17.4
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	<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	0.0397	0.0261
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	0.0189	0.0157
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	10.5	7.9 B
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	<0.005 U	<0.0005 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	3,950	4,260
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	<0.02 U	0.0007 B

Notes:

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

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

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

NA = Analyte not analyzed

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

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

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

Values in **bold** indicate a value greater than the 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	11/16/2023	6/6/2024
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	0.00379 B	0.00199
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**	**3.12**	**4.05**
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	0.665	0.573 B
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	<0.02 U	<0.002 U
Copper, Dissolved (mg/L)	0.2	NA	NA	NA	<0.02 U	<0.002 U	<0.008 U	<0.004 U	0.00177 B	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 U	<0.02 U	<0.002 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**	**3.78**	**1.27** B
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	<0.005 U	<0.0005 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	1.93	1.91
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**	**0.129**	**0.0921**
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	<0.0025 U	<0.00125 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	<0.0025 U	<0.00025 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	0.00566	0.00306
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	<0.15 U	0.008 B
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	**6,320**	**4,450**
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	1	1.05
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	<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	<0.05 U	<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	<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	7.9 H	7.8 H
Total Dissolved Solids, filterable residue (mg/L)	1.25 x Background*	11,100	11,300	11,500 H	11,300	11,300	11,200	11,200	11,300	12,100	11,100	11,200 H	11,100	11,200	**10,300**	11,700
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	<200 U	<200 U
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)	15(±24)	4.2(±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)	-1.9(±51)	56(±57)
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	7.28	7.54
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	18,898	19,419
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	15.8	19
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	<0.15 U	<0.015 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	0.0138 B	**0.00602**
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	<0.0025 U	<0.00025 U
Bicarbonate as CaCO3 (mg/L)	none	745	700	714	NA	681 H	701	876	663	650	713	688	765	836	**776** H	754
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	<20 UH	<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	<0.0025 U	<0.00025 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	**53.1**	55.5
Cobalt, Dissolved (mg/L)	0.05	NA	NA	NA	<0.003 U	0.00025 B	<0.0005 U	0.0004 B	0.000208 B	0.000587 B	<0.0025 U	<0.0025 U	<0.005 U	<0.0025 U	0.00125 B	0.00025
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	<0.01 U	0.0102
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	**18.4**	19.3
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	<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	0.0222	0.00665
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	<0.01 U	0.00041 B
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	13	7.93 B
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	<0.005 U	<0.0005 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	4270	4,260
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	<0.02 U	0.00072 B

Notes:

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

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

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

NA = Analyte not analyzed

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

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

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

Values in **bold** indicate a value greater than the 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	11/16/2023	6/6/2024
Metals									
Arsenic, Dissolved (mg/L)	0.01	0.00546	<0.01 U	0.0025 B	0.00361 B	<0.02 U	0.00333 B	0.00368 B	0.00424
Barium, Dissolved (mg/L)	2	0.299	0.137	0.161	0.847	0.885	**4.52**	**3.62**	**3.53**
Boron, Dissolved (mg/L)	0.75	**0.9**	**0.823** B	**0.763**	0.682 B	**0.763** B	0.701	0.637	0.582 B
Chromium, Dissolved (mg/L)	0.1	<0.002 U	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 U	<0.02 U	<0.002 U
Copper, Dissolved (mg/L)	0.2	0.00306	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 U	<0.02 U	<0.002 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	0.147 B	<1.5 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	<0.005 U	<0.0005 U
Lithium, Dissolved (mg/L)	2.5	1.55	1.70	1.97	1.80	1.71	1.91	1.97	2.05
Manganese, Dissolved (mg/L)	0.05	0.0161	0.0336	0.0455	0.0233	0.0174 B	0.0395	0.0341	0.0267
Selenium, Dissolved (mg/L)	0.02	0.00179 B	<0.0025 U	<0.0025 U	<0.0025 U	<0.005 U	<0.0125 U	<0.0025 U	<0.00125 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	<0.0025 U	<0.00025 U
Uranium, Dissolved (mg/L)	0.03	0.0167	**0.056**	**0.0452**	**0.0311**	0.0046 B	0.0107 B	**0.0309**	0.0173
Zinc, Dissolved (mg/L)	2	0.0091 B	<0.15 U	<0.15 U	<0.15 U	<0.3 U	<0.15 U	<0.15 U	0.0112 B
Other									
Chloride (mg/L)	250	**5,910**	**7,000**	**6,910**	**7,130**	**7,130**	**7,580** H	**8,500** H	**6,460**
Fluoride (mg/L)	2	1.66	1.54	1.40	1.34	1.15	1.36	1.62	1.72
Nitrate as N (mg/L)	10	<0.1 U	<0.1 UH	<0.1 U	0.041 B	<0.1 U	0.23	0.03 B	<0.1 U
Nitrite as N (mg/L)	1	<0.05 U	<0.05 UH	<0.05 U	<0.05 U	<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	0.041 B	<0.1 U	0.23	0.034 B	<0.1 U
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	8.0 H	7.8 H
Total Dissolved Solids, filterable residue (mg/L)	1.25 x Background*	10,100	12,600	12,300	11,600 H	12000	12,000	10,300	12,500
Sulfate (mg/L)	250	**529**	**885**	**444**	135 B	<200 U	<200 UH	<400 U	<400 U
Gross Alpha (pCi/L)	15	**45 (±45)**	**-1.4(±38)**	**36(±60)**	4.9(±46)	6.1(±54)	-6.5(±30)	**51(±50)**	**55(±66)**
Gross Beta (pCi/L)	**	9.1 (±44)	-1.9(±57)	7.8(±67)	-5.8(±56)	-35(±57)	33(±69)	77(±59)	43(±60)
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	7.67	7.44
Field Conductivity (µS/cm)	none	14,360	18,379	21,344	21,985	17,322	18,782	20,907	21,055
Temperature (Degrees Celsius)	none	12.5	21.3	13.3	18.5	12.7	14.2	14	20
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	<0.15 U	<0.015 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	**0.0519**	**0.0389**
Beryllium, Dissolved (mg/L)	0.004	<0.00025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.0025 U	<0.00025 U
Bicarbonate as CaCO3 (mg/L)	none	664	612	582	545	615	622	514 H	575
Carbonate as CaCO3 (mg/L)	none	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<20 UH	<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	<0.0025 U	<0.00025 U
Calcium, Dissolved (mg/L)	none	23.4	56.1	93.6	92.4	91	108	81.7	92.5
Cobalt, Dissolved (mg/L)	0.05	0.000745	0.000951 B	0.00158 B	0.00122 B	0.00113 B	0.000787 B	0.0022 B	0.00199
Cyanide, Free (mg/L)	0.2	<0.01 U	0.0128	0.0158	<0.01 U	<0.01 UH	<0.01 U	<0.01 U	<0.01 U
Magnesium, Dissolved (mg/L)	none	18.8	18.4	19.7	21.2	20.1	20.8	19.5	21.5
Mercury, Dissolved (mg/L)	0.002	<0.001 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	0.0225	0.0469	0.0425	0.0193	<0.01 U	0.00974	0.0463	0.0223
Nickel, Dissolved (mg/L)	0.1	0.00469	0.00575 B	0.00905 B	0.00634 B	<0.02 U	<0.01 U	0.00989 B	0.00727
Potassium, Dissolved (mg/L)	none	16.6	12.5	14.4	12.5	8.03 B	11.7	15.5	10.5
Silver, Dissolved (mg/L)	0.05	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.01 U	<0.01 U	<0.005 U	<0.0005 U
Sodium, Dissolved (mg/L)	none	3,380	4,260	4,490	4,530	4,410	4,680	4,490	4,710
Vanadium, Dissolved (mg/L)	0.1	0.0044	<0.02 U	<0.02 U	<0.02 U	<0.04 U	<0.02 U	<0.02 U	0.00282

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.

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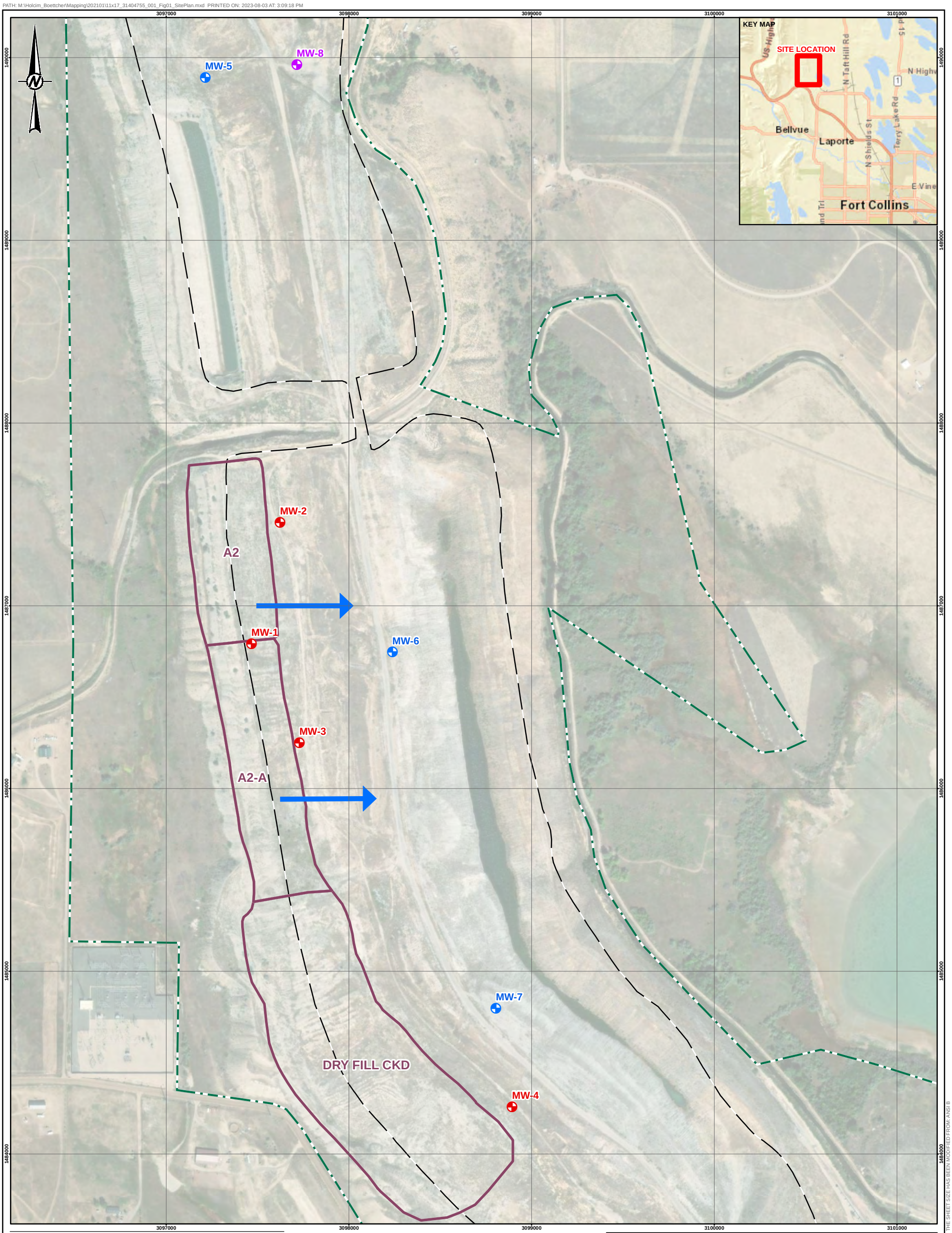
Values in **bold** indicate a value greater than the Interim Narrative Standard

**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

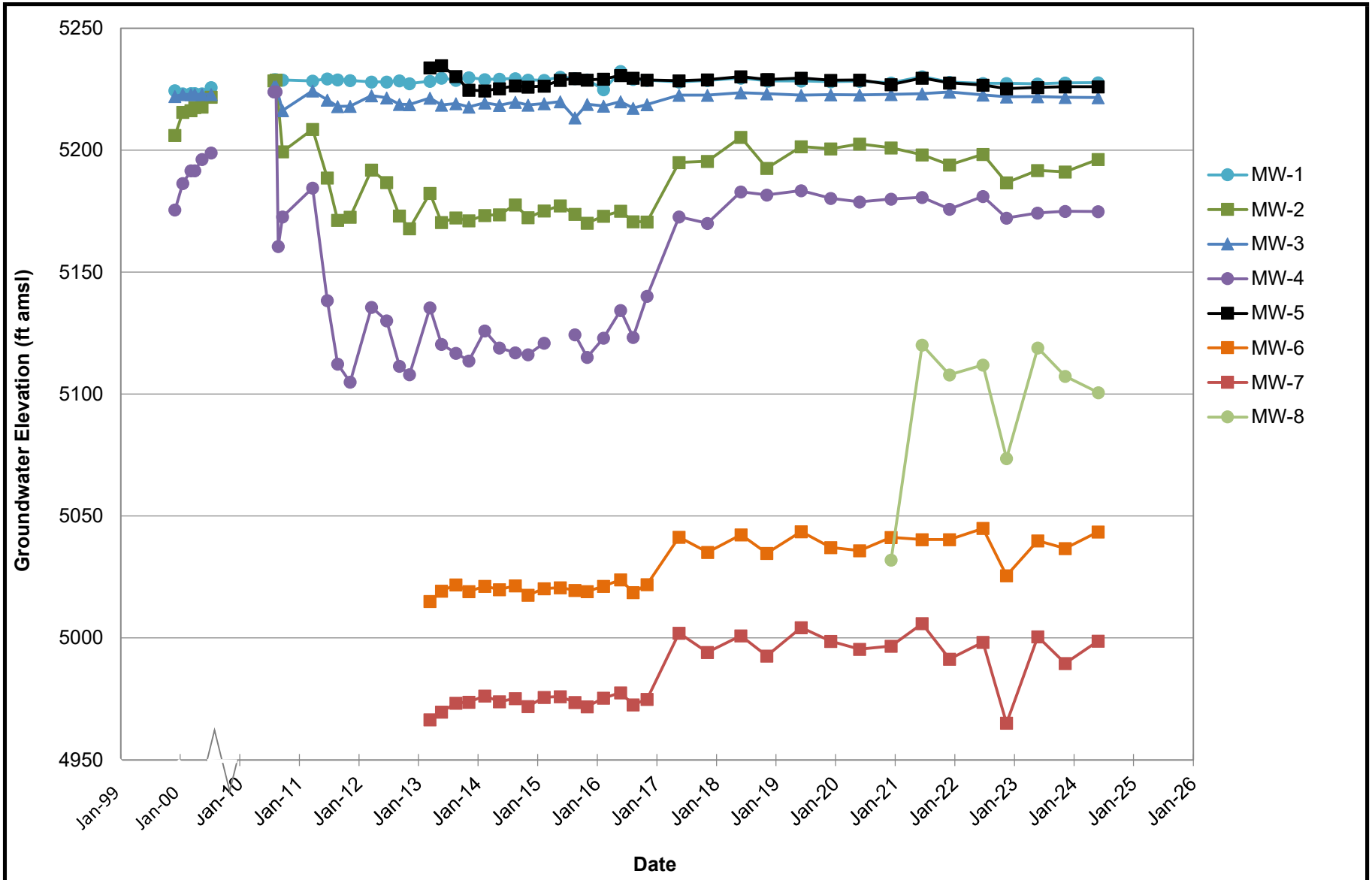
YYYY-MM-DD	2022-08-10
DESIGNED	SAH
PREPARED	RHG
REVIEWED	SAH
APPROVED	RSM

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

7/31/2024

31404755.001

WSP USA Inc.

ATTACHMENT 1

ACZ Laboratory Reports

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

Analytical Report

July 03, 2024

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: L88205

Jennifer Thompson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 07, 2024. This project has been assigned to ACZ's project number, L88205. 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 L88205. 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 December 30, 2024. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/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 raw data reports for ten 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 03, 2024

Project ID:
ACZ Project ID: L88205

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 10 groundwater samples from Golder Associates on June 7, 2024. 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 L88205. 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. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

For GAB analysis on samples -01 and -10 an unfiltered aliquot was used.

1. The below is from WG592324
Qualifier: N1
Applies to: L88205-10/FLUORIDE

It is believed that the analytical spike and duplicate were not spiked, resulting in no recovery. All other associated quality controls within limits. Samples have been run multiple times and demonstrated consistency. Reanalyze at client request.

Golder Associates
Project ID:
Sample ID: MW-1

ACZ Sample ID: ***L88205-01***
Date Sampled: *06/06/24 09:50*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	0.0170			mg/L	0.005	0.015	06/12/24 19:07	aps
Antimony, dissolved	EPA 200.8	1	0.00065	B		mg/L	0.0004	0.002	06/12/24 19:07	aps
Arsenic, dissolved	EPA 200.8	1	0.00208			mg/L	0.0002	0.001	06/12/24 19:07	aps
Barium, dissolved	EPA 200.8	1	0.0119			mg/L	0.0005	0.0025	06/12/24 19:07	aps
Beryllium, dissolved	EPA 200.8	1	<0.0001	U	*	mg/L	0.0001	0.00025	06/12/24 19:07	aps
Boron, dissolved	EPA 200.7	5	0.731			mg/L	0.15	0.5	06/26/24 17:33	aeb/msp
Cadmium, dissolved	EPA 200.8	1	0.000055	B		mg/L	0.00005	0.00025	06/12/24 19:07	aps
Calcium, dissolved	EPA 200.7	5	110			mg/L	0.5	2.5	06/26/24 17:33	aeb/msp
Chromium, dissolved	EPA 200.8	1	<0.0005	U		mg/L	0.0005	0.002	06/12/24 19:07	aps
Cobalt, dissolved	EPA 200.8	1	0.00248			mg/L	0.00005	0.00025	06/12/24 19:07	aps
Copper, dissolved	EPA 200.8	1	<0.0008	U		mg/L	0.0008	0.002	06/12/24 19:07	aps
Iron, dissolved	EPA 200.7	5	<0.3	U		mg/L	0.3	0.75	06/26/24 17:33	aeb/msp
Lead, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:07	aps
Lithium, dissolved	EPA 200.7	5	1.07			mg/L	0.04	0.2	06/26/24 17:33	aeb/msp
Magnesium, dissolved	EPA 200.7	5	112			mg/L	1	5	06/26/24 17:33	aeb/msp
Manganese, dissolved	EPA 200.8	1	0.0784			mg/L	0.0004	0.002	06/12/24 19:07	aps
Mercury, dissolved	EPA 245.1	1	<0.0002	U		mg/L	0.0002	0.001	06/19/24 15:08	aeh/aeb
Molybdenum, dissolved	EPA 200.8	1	0.0588			mg/L	0.0002	0.0005	06/12/24 19:07	aps
Nickel, dissolved	EPA 200.8	1	0.00667			mg/L	0.0004	0.001	06/12/24 19:07	aps
Potassium, dissolved	EPA 200.7	5	8.55			mg/L	2.5	5	06/26/24 17:33	aeb/msp
Selenium, dissolved	EPA 200.8	1	0.00638			mg/L	0.0001	0.00025	06/12/24 19:07	aps
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:07	aps
Sodium, dissolved	EPA 200.7	5	1720			mg/L	1	5	06/26/24 17:33	aeb/msp
Thallium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/11/24 14:51	jrj
Uranium, dissolved	EPA 200.8	1	0.0378			mg/L	0.0001	0.0005	06/12/24 19:07	aps
Vanadium, dissolved	EPA 200.8	1	<0.0005	U		mg/L	0.0005	0.002	06/12/24 19:07	aps
Zinc, dissolved	EPA 200.8	1	0.0110	B		mg/L	0.006	0.015	06/12/24 19:07	aps

Golder Associates
Project ID:
Sample ID: MW-1

ACZ Sample ID: ***L88205-01***
Date Sampled: *06/06/24 09:50*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM 2320 B-2011									
Bicarbonate as CaCO3		1	506			mg/L	2	20	06/08/24 0:00	asn
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Total Alkalinity		1	506		*	mg/L	2	20	06/08/24 0:00	asn
Cation-Anion Balance	Calculation									
Cation-Anion Balance			13.8			%			07/03/24 0:00	calc
Sum of Anions			69			meq/L			07/03/24 0:00	calc
Sum of Cations			91			meq/L			07/03/24 0:00	calc
Chloride	EPA 300.0	50	25.6	B	*	mg/L	20	100	06/17/24 19:57	bls
Cyanide, Free	ASTM D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	06/10/24 15:15	mrd
Fluoride	SM 4500-F C-2011	1	0.57			mg/L	0.15	0.35	06/27/24 14:28	jck
Nitrate as N	Calculation (NO3NO2-NO2)		0.238			mg/L	0.02	0.1	07/03/24 0:00	calc
Nitrate/Nitrite as N	EPA 353.2	1	0.238		*	mg/L	0.02	0.1	06/08/24 0:09	pjb
Nitrite as N	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	06/08/24 0:09	pjb
pH (lab)	SM 4500-H+ B-2011									
pH		1	7.3	H		units	0.1	0.1	06/08/24 0:00	asn
pH measured at		1	21.7			C	0.1	0.1	06/08/24 0:00	asn
Residue, Filterable (TDS) @180C	SM 2540 C-2011	2	6040	H	*	mg/L	40	80	06/24/24 14:20	amw
Sulfate	EPA 300.0	50	2750		*	mg/L	45	100	06/17/24 19:57	bls
TDS (calculated)	Calculation		5040			mg/L			07/03/24 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.20						07/03/24 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-2

ACZ Sample ID: ***L88205-02***
Date Sampled: *06/06/24 08:20*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	5	<0.025	U	*	mg/L	0.025	0.075	06/12/24 19:09	aps
Antimony, dissolved	EPA 200.8	5	<0.002	U	*	mg/L	0.002	0.01	06/12/24 19:09	aps
Arsenic, dissolved	EPA 200.8	5	0.00371	B	*	mg/L	0.001	0.005	06/12/24 19:09	aps
Barium, dissolved	EPA 200.8	5	3.95			mg/L	0.0025	0.0125	06/12/24 19:09	aps
Beryllium, dissolved	EPA 200.8	5	<0.0005	U	*	mg/L	0.0005	0.00125	06/12/24 19:09	aps
Boron, dissolved	EPA 200.7	5	0.670			mg/L	0.15	0.5	06/26/24 17:36	aeb/msp
Cadmium, dissolved	EPA 200.8	5	<0.00025	U	*	mg/L	0.00025	0.00125	06/12/24 19:09	aps
Calcium, dissolved	EPA 200.7	5	19.2			mg/L	0.5	2.5	06/26/24 17:36	aeb/msp
Chromium, dissolved	EPA 200.8	5	<0.0025	U	*	mg/L	0.0025	0.01	06/12/24 19:09	aps
Cobalt, dissolved	EPA 200.8	5	0.000872	B	*	mg/L	0.00025	0.00125	06/12/24 19:09	aps
Copper, dissolved	EPA 200.8	5	<0.004	U	*	mg/L	0.004	0.01	06/12/24 19:09	aps
Iron, dissolved	EPA 200.7	5	<0.3	U		mg/L	0.3	0.75	06/26/24 17:36	aeb/msp
Lead, dissolved	EPA 200.8	5	<0.0005	U	*	mg/L	0.0005	0.0025	06/12/24 19:09	aps
Lithium, dissolved	EPA 200.7	5	1.17			mg/L	0.04	0.2	06/26/24 17:36	aeb/msp
Magnesium, dissolved	EPA 200.7	5	6.71			mg/L	1	5	06/26/24 17:36	aeb/msp
Manganese, dissolved	EPA 200.8	5	0.0518			mg/L	0.002	0.01	06/12/24 19:09	aps
Mercury, dissolved	EPA 245.1	1	<0.0002	U		mg/L	0.0002	0.001	06/19/24 15:09	aeh/aeb
Molybdenum, dissolved	EPA 200.8	5	0.00124	B	*	mg/L	0.001	0.0025	06/12/24 19:09	aps
Nickel, dissolved	EPA 200.8	5	<0.002	U	*	mg/L	0.002	0.005	06/12/24 19:09	aps
Potassium, dissolved	EPA 200.7	5	4.59	B		mg/L	2.5	5	06/26/24 17:36	aeb/msp
Selenium, dissolved	EPA 200.8	5	<0.0005	U	*	mg/L	0.0005	0.00125	06/12/24 19:09	aps
Silver, dissolved	EPA 200.8	5	<0.0005	U	*	mg/L	0.0005	0.0025	06/12/24 19:09	aps
Sodium, dissolved	EPA 200.7	5	2370			mg/L	1	5	06/26/24 17:36	aeb/msp
Thallium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/11/24 14:52	jrj
Uranium, dissolved	EPA 200.8	5	0.00195	B	*	mg/L	0.0005	0.0025	06/12/24 19:09	aps
Vanadium, dissolved	EPA 200.8	5	<0.0025	U	*	mg/L	0.0025	0.01	06/12/24 19:09	aps
Zinc, dissolved	EPA 200.8	5	<0.03	U	*	mg/L	0.03	0.075	06/12/24 19:09	aps

Golder Associates
Project ID:
Sample ID: MW-2

ACZ Sample ID: ***L88205-02***
Date Sampled: *06/06/24 08:20*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM 2320 B-2011									
Bicarbonate as CaCO3		1	1050			mg/L	2	20	06/08/24 0:00	asn
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Total Alkalinity		1	1050		*	mg/L	2	20	06/08/24 0:00	asn
Cation-Anion Balance	Calculation									
Cation-Anion Balance			9.8			%			07/03/24 0:00	calc
Sum of Anions			87			meq/L			07/03/24 0:00	calc
Sum of Cations			106			meq/L			07/03/24 0:00	calc
Chloride	EPA 300.0	100	2370			mg/L	40	200	06/13/24 20:56	bls
Cyanide, Free	ASTM D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	06/10/24 15:17	mrd
Fluoride	SM 4500-F C-2011	1	1.44			mg/L	0.15	0.35	06/27/24 14:31	jck
Nitrate as N	Calculation (NO3NO2-NO2)		<0.02	U		mg/L	0.02	0.1	07/03/24 0:00	calc
Nitrate/Nitrite as N	EPA 353.2	1	<0.02	U	*	mg/L	0.02	0.1	06/08/24 0:10	pjb
Nitrite as N	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	06/08/24 0:10	pjb
pH (lab)	SM 4500-H+ B-2011									
pH		1	7.9	H		units	0.1	0.1	06/08/24 0:00	asn
pH measured at		1	21.8			C	0.1	0.1	06/08/24 0:00	asn
Residue, Filterable (TDS) @180C	SM 2540 C-2011	2	6220	H	*	mg/L	40	80	06/24/24 14:22	amw
Sulfate	EPA 300.0	100	<90	U	*	mg/L	90	200	06/13/24 20:56	bls
TDS (calculated)	Calculation		5410			mg/L			07/03/24 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.15						07/03/24 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-3

ACZ Sample ID: ***L88205-03***
Date Sampled: *06/06/24 10:50*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	5	<0.025	U		mg/L	0.025	0.075	06/12/24 19:11	aps
Antimony, dissolved	EPA 200.8	5	<0.002	U		mg/L	0.002	0.01	06/12/24 19:11	aps
Arsenic, dissolved	EPA 200.8	5	<0.001	U		mg/L	0.001	0.005	06/12/24 19:11	aps
Barium, dissolved	EPA 200.8	5	2.88			mg/L	0.0025	0.0125	06/12/24 19:11	aps
Beryllium, dissolved	EPA 200.8	5	<0.0005	U	*	mg/L	0.0005	0.00125	06/12/24 19:11	aps
Boron, dissolved	EPA 200.7	2	0.754			mg/L	0.06	0.2	06/26/24 17:38	aeb/msp
Cadmium, dissolved	EPA 200.8	5	<0.00025	U		mg/L	0.00025	0.00125	06/12/24 19:11	aps
Calcium, dissolved	EPA 200.7	2	7.21		*	mg/L	0.2	1	06/26/24 17:38	aeb/msp
Chromium, dissolved	EPA 200.8	5	<0.0025	U		mg/L	0.0025	0.01	06/12/24 19:11	aps
Cobalt, dissolved	EPA 200.8	5	<0.00025	U		mg/L	0.00025	0.00125	06/12/24 19:11	aps
Copper, dissolved	EPA 200.8	5	<0.004	U		mg/L	0.004	0.01	06/12/24 19:11	aps
Iron, dissolved	EPA 200.7	2	<0.12	U		mg/L	0.12	0.3	06/26/24 17:38	aeb/msp
Lead, dissolved	EPA 200.8	5	<0.0005	U		mg/L	0.0005	0.0025	06/12/24 19:11	aps
Lithium, dissolved	EPA 200.7	2	0.739			mg/L	0.016	0.08	06/26/24 17:38	aeb/msp
Magnesium, dissolved	EPA 200.7	2	2.84			mg/L	0.4	2	06/26/24 17:38	aeb/msp
Manganese, dissolved	EPA 200.8	5	0.0244			mg/L	0.002	0.01	06/12/24 19:11	aps
Mercury, dissolved	EPA 245.1	1	<0.0002	U		mg/L	0.0002	0.001	06/19/24 15:10	aeh/aeb
Molybdenum, dissolved	EPA 200.8	5	<0.001	U		mg/L	0.001	0.0025	06/12/24 19:11	aps
Nickel, dissolved	EPA 200.8	5	<0.002	U		mg/L	0.002	0.005	06/12/24 19:11	aps
Potassium, dissolved	EPA 200.7	2	3.48			mg/L	1	2	06/26/24 17:38	aeb/msp
Selenium, dissolved	EPA 200.8	5	<0.0005	U	*	mg/L	0.0005	0.00125	06/12/24 19:11	aps
Silver, dissolved	EPA 200.8	5	<0.0005	U		mg/L	0.0005	0.0025	06/12/24 19:11	aps
Sodium, dissolved	EPA 200.7	2	1490			mg/L	0.4	2	06/26/24 17:38	aeb/msp
Thallium, dissolved	EPA 200.8	5	<0.00025	U		mg/L	0.00025	0.00125	06/11/24 14:53	jrj
Uranium, dissolved	EPA 200.8	5	<0.0005	U		mg/L	0.0005	0.0025	06/12/24 19:11	aps
Vanadium, dissolved	EPA 200.8	5	<0.0025	U		mg/L	0.0025	0.01	06/12/24 19:11	aps
Zinc, dissolved	EPA 200.8	5	<0.03	U		mg/L	0.03	0.075	06/12/24 19:11	aps

Golder Associates
Project ID:
Sample ID: MW-3

ACZ Sample ID: ***L88205-03***
Date Sampled: *06/06/24 10:50*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM 2320 B-2011									
Bicarbonate as CaCO3		1	1160			mg/L	2	20	06/08/24 0:00	asn
Carbonate as CaCO3		1	116			mg/L	2	20	06/08/24 0:00	asn
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Total Alkalinity		1	1280		*	mg/L	2	20	06/08/24 0:00	asn
Cation-Anion Balance	Calculation									
Cation-Anion Balance			9.1			%			07/03/24 0:00	calc
Sum of Anions			55			meq/L			07/03/24 0:00	calc
Sum of Cations			66			meq/L			07/03/24 0:00	calc
Chloride	EPA 300.0	20	1030			mg/L	8	40	06/13/24 21:14	bls
Cyanide, Free	ASTM D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	06/10/24 15:19	mrd
Fluoride	SM 4500-F C-2011	1	2.45			mg/L	0.15	0.35	06/27/24 14:46	jck
Nitrate as N	Calculation (NO3NO2-NO2)		<0.02	U		mg/L	0.02	0.1	07/03/24 0:00	calc
Nitrate/Nitrite as N	EPA 353.2	1	<0.02	U	*	mg/L	0.02	0.1	06/08/24 0:11	pjb
Nitrite as N	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	06/08/24 0:11	pjb
pH (lab)	SM 4500-H+ B-2011									
pH		1	8.2	H		units	0.1	0.1	06/08/24 0:00	asn
pH measured at		1	21.8			C	0.1	0.1	06/08/24 0:00	asn
Residue, Filterable (TDS) @180C	SM 2540 C-2011	1	3950			mg/L	20	40	06/12/24 17:20	ptw
Sulfate	EPA 300.0	20	<18	U	*	mg/L	18	40	06/13/24 21:14	bls
TDS (calculated)	Calculation		3310			mg/L			07/03/24 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.19						07/03/24 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-4

ACZ Sample ID: ***L88205-04***
Date Sampled: *06/06/24 11:40*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	10	<0.05	U	*	mg/L	0.05	0.15	06/12/24 19:12	aps
Antimony, dissolved	EPA 200.8	10	<0.004	U	*	mg/L	0.004	0.02	06/12/24 19:12	aps
Arsenic, dissolved	EPA 200.8	10	<0.002	U	*	mg/L	0.002	0.01	06/12/24 19:12	aps
Barium, dissolved	EPA 200.8	10	9.19			mg/L	0.005	0.025	06/12/24 19:12	aps
Beryllium, dissolved	EPA 200.8	10	<0.001	U	*	mg/L	0.001	0.0025	06/12/24 19:12	aps
Boron, dissolved	EPA 200.7	10	0.568	B		mg/L	0.3	1	06/26/24 17:40	aeb/msp
Cadmium, dissolved	EPA 200.8	10	<0.0005	U	*	mg/L	0.0005	0.0025	06/12/24 19:12	aps
Calcium, dissolved	EPA 200.7	10	41.6		*	mg/L	1	5	06/26/24 17:40	aeb/msp
Chromium, dissolved	EPA 200.8	10	<0.005	U	*	mg/L	0.005	0.02	06/12/24 19:12	aps
Cobalt, dissolved	EPA 200.8	10	<0.0005	U	*	mg/L	0.0005	0.0025	06/12/24 19:12	aps
Copper, dissolved	EPA 200.8	10	<0.008	U	*	mg/L	0.008	0.02	06/12/24 19:12	aps
Iron, dissolved	EPA 200.7	10	<0.6	U		mg/L	0.6	1.5	06/26/24 17:40	aeb/msp
Lead, dissolved	EPA 200.8	10	<0.001	U	*	mg/L	0.001	0.005	06/12/24 19:12	aps
Lithium, dissolved	EPA 200.7	10	1.90			mg/L	0.08	0.4	06/26/24 17:40	aeb/msp
Magnesium, dissolved	EPA 200.7	10	17.6			mg/L	2	10	06/26/24 17:40	aeb/msp
Manganese, dissolved	EPA 200.8	10	0.00790	B	*	mg/L	0.004	0.02	06/12/24 19:12	aps
Mercury, dissolved	EPA 245.1	1	<0.0002	U		mg/L	0.0002	0.001	06/19/24 15:12	aeh/aeb
Molybdenum, dissolved	EPA 200.8	10	<0.002	U	*	mg/L	0.002	0.005	06/12/24 19:12	aps
Nickel, dissolved	EPA 200.8	10	<0.004	U	*	mg/L	0.004	0.01	06/12/24 19:12	aps
Potassium, dissolved	EPA 200.7	10	7.42	B		mg/L	5	10	06/26/24 17:40	aeb/msp
Selenium, dissolved	EPA 200.8	10	<0.001	U	*	mg/L	0.001	0.0025	06/12/24 19:12	aps
Silver, dissolved	EPA 200.8	10	<0.001	U	*	mg/L	0.001	0.005	06/12/24 19:12	aps
Sodium, dissolved	EPA 200.7	10	4260			mg/L	2	10	06/26/24 17:40	aeb/msp
Thallium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/11/24 14:55	jrj
Uranium, dissolved	EPA 200.8	10	<0.001	U	*	mg/L	0.001	0.005	06/12/24 19:12	aps
Vanadium, dissolved	EPA 200.8	10	<0.005	U	*	mg/L	0.005	0.02	06/12/24 19:12	aps
Zinc, dissolved	EPA 200.8	10	<0.06	U	*	mg/L	0.06	0.15	06/12/24 19:12	aps

Golder Associates
Project ID:
Sample ID: MW-4

ACZ Sample ID: ***L88205-04***
Date Sampled: *06/06/24 11:40*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM 2320 B-2011									
Bicarbonate as CaCO3		1	631			mg/L	2	20	06/08/24 0:00	asn
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Total Alkalinity		1	631		*	mg/L	2	20	06/08/24 0:00	asn
Cation-Anion Balance	Calculation									
Cation-Anion Balance			9.8			%			07/03/24 0:00	calc
Sum of Anions			157			meq/L			07/03/24 0:00	calc
Sum of Cations			191			meq/L			07/03/24 0:00	calc
Chloride	EPA 300.0	200	5140			mg/L	80	400	06/13/24 22:08	bls
Cyanide, Free	ASTM D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	06/10/24 15:21	mrd
Fluoride	SM 4500-F C-2011	1	1.12			mg/L	0.15	0.35	06/27/24 14:49	jck
Nitrate as N	Calculation (NO3NO2-NO2)		<0.02	U		mg/L	0.02	0.1	07/03/24 0:00	calc
Nitrate/Nitrite as N	EPA 353.2	1	<0.02	U	*	mg/L	0.02	0.1	06/08/24 0:16	pjb
Nitrite as N	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	06/08/24 0:16	pjb
pH (lab)	SM 4500-H+ B-2011									
pH		1	7.9	H		units	0.1	0.1	06/08/24 0:00	asn
pH measured at		1	21.8			C	0.1	0.1	06/08/24 0:00	asn
Residue, Filterable (TDS) @180C	SM 2540 C-2011	5	10900	H	*	mg/L	100	200	06/24/24 14:25	amw
Sulfate	EPA 300.0	200	<180	U	*	mg/L	180	400	06/13/24 22:08	bls
TDS (calculated)	Calculation		9850			mg/L			07/03/24 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.11						07/03/24 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-5

ACZ Sample ID: ***L88205-05***
Date Sampled: *06/06/24 14:20*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	<0.005	U		mg/L	0.005	0.015	06/12/24 19:14	aps
Antimony, dissolved	EPA 200.8	1	<0.0004	U		mg/L	0.0004	0.002	06/12/24 19:14	aps
Arsenic, dissolved	EPA 200.8	1	0.00247			mg/L	0.0002	0.001	06/12/24 19:14	aps
Barium, dissolved	EPA 200.8	1	0.0103			mg/L	0.0005	0.0025	06/12/24 19:14	aps
Beryllium, dissolved	EPA 200.8	1	<0.0001	U	*	mg/L	0.0001	0.00025	06/12/24 19:14	aps
Boron, dissolved	EPA 200.7	2	0.410			mg/L	0.06	0.2	06/26/24 17:43	aeb/msp
Cadmium, dissolved	EPA 200.8	1	0.000071	B		mg/L	0.00005	0.00025	06/12/24 19:14	aps
Calcium, dissolved	EPA 200.7	2	408		*	mg/L	0.2	1	06/26/24 17:43	aeb/msp
Chromium, dissolved	EPA 200.8	1	<0.0005	U		mg/L	0.0005	0.002	06/12/24 19:14	aps
Cobalt, dissolved	EPA 200.8	1	0.00517			mg/L	0.00005	0.00025	06/12/24 19:14	aps
Copper, dissolved	EPA 200.8	1	<0.0008	U		mg/L	0.0008	0.002	06/12/24 19:14	aps
Iron, dissolved	EPA 200.7	2	8.46			mg/L	0.12	0.3	06/26/24 17:43	aeb/msp
Lead, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:14	aps
Lithium, dissolved	EPA 200.7	2	0.347			mg/L	0.016	0.08	06/26/24 17:43	aeb/msp
Magnesium, dissolved	EPA 200.7	2	111			mg/L	0.4	2	06/26/24 17:43	aeb/msp
Manganese, dissolved	EPA 200.8	1	0.0730			mg/L	0.0004	0.002	06/12/24 19:14	aps
Mercury, dissolved	EPA 245.1	1	<0.0002	U		mg/L	0.0002	0.001	06/19/24 15:13	aeh/aeb
Molybdenum, dissolved	EPA 200.8	1	0.00708			mg/L	0.0002	0.0005	06/12/24 19:14	aps
Nickel, dissolved	EPA 200.8	1	0.0215			mg/L	0.0004	0.001	06/12/24 19:14	aps
Potassium, dissolved	EPA 200.7	2	9.26			mg/L	1	2	06/26/24 17:43	aeb/msp
Selenium, dissolved	EPA 200.8	1	0.00018	B		mg/L	0.0001	0.00025	06/12/24 19:14	aps
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:14	aps
Sodium, dissolved	EPA 200.7	2	457			mg/L	0.4	2	06/26/24 17:43	aeb/msp
Thallium, dissolved	EPA 200.8	1	0.000104	B		mg/L	0.00005	0.00025	06/11/24 14:56	jrj
Uranium, dissolved	EPA 200.8	1	0.0221			mg/L	0.0001	0.0005	06/12/24 19:14	aps
Vanadium, dissolved	EPA 200.8	1	<0.0005	U		mg/L	0.0005	0.002	06/12/24 19:14	aps
Zinc, dissolved	EPA 200.8	1	0.0124	B		mg/L	0.006	0.015	06/12/24 19:14	aps

Golder Associates
Project ID:
Sample ID: MW-5

ACZ Sample ID: ***L88205-05***
Date Sampled: *06/06/24 14:20*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM 2320 B-2011									
Bicarbonate as CaCO3		1	455			mg/L	2	20	06/08/24 0:00	asn
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Total Alkalinity		1	455		*	mg/L	2	20	06/08/24 0:00	asn
Cation-Anion Balance	Calculation									
Cation-Anion Balance			12.4			%			07/03/24 0:00	calc
Sum of Anions			39			meq/L			07/03/24 0:00	calc
Sum of Cations			50			meq/L			07/03/24 0:00	calc
Chloride	EPA 300.0	50	<20	U	*	mg/L	20	100	06/13/24 22:25	bls
Cyanide, Free	ASTM D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	06/10/24 15:23	mrd
Fluoride	SM 4500-F C-2011	1	0.56			mg/L	0.15	0.35	06/27/24 14:53	jck
Nitrate as N	Calculation (NO3NO2-NO2)		<0.02	U		mg/L	0.02	0.1	07/03/24 0:00	calc
Nitrate/Nitrite as N	EPA 353.2	1	<0.02	U	*	mg/L	0.02	0.1	06/08/24 0:18	pjb
Nitrite as N	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	06/08/24 0:18	pjb
pH (lab)	SM 4500-H+ B-2011									
pH		1	7.3	H		units	0.1	0.1	06/08/24 0:00	asn
pH measured at		1	21.7			C	0.1	0.1	06/08/24 0:00	asn
Residue, Filterable (TDS) @180C	SM 2540 C-2011	1	3230			mg/L	20	40	06/12/24 17:26	ptw
Sulfate	EPA 300.0	50	1400		*	mg/L	45	100	06/13/24 22:25	bls
TDS (calculated)	Calculation		2670			mg/L			07/03/24 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.21						07/03/24 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-6

ACZ Sample ID: ***L88205-06***
Date Sampled: *06/06/24 16:15*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	<0.005	U		mg/L	0.005	0.015	06/12/24 19:42	aps
Antimony, dissolved	EPA 200.8	1	0.00269			mg/L	0.0004	0.002	06/12/24 19:42	aps
Arsenic, dissolved	EPA 200.8	1	0.00700			mg/L	0.0002	0.001	06/12/24 19:42	aps
Barium, dissolved	EPA 200.8	5	6.06			mg/L	0.0025	0.0125	06/14/24 12:07	aps
Beryllium, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.00025	06/12/24 19:42	aps
Boron, dissolved	EPA 200.7	10	0.464	B		mg/L	0.3	1	06/26/24 17:45	aeb/msp
Cadmium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/12/24 19:42	aps
Calcium, dissolved	EPA 200.7	10	66.8		*	mg/L	1	5	06/26/24 17:45	aeb/msp
Chromium, dissolved	EPA 200.8	1	<0.0005	U		mg/L	0.0005	0.002	06/12/24 19:42	aps
Cobalt, dissolved	EPA 200.8	1	0.000588			mg/L	0.00005	0.00025	06/12/24 19:42	aps
Copper, dissolved	EPA 200.8	1	<0.0008	U		mg/L	0.0008	0.002	06/12/24 19:42	aps
Iron, dissolved	EPA 200.7	10	4.66			mg/L	0.6	1.5	06/26/24 17:45	aeb/msp
Lead, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:42	aps
Lithium, dissolved	EPA 200.7	10	2.00			mg/L	0.08	0.4	06/26/24 17:45	aeb/msp
Magnesium, dissolved	EPA 200.7	10	17.4			mg/L	2	10	06/26/24 17:45	aeb/msp
Manganese, dissolved	EPA 200.8	1	0.0780			mg/L	0.0004	0.002	06/12/24 19:42	aps
Mercury, dissolved	EPA 245.1	1	<0.0002	U		mg/L	0.0002	0.001	06/19/24 15:14	aeh/aeb
Molybdenum, dissolved	EPA 200.8	1	0.0261			mg/L	0.0002	0.0005	06/12/24 19:42	aps
Nickel, dissolved	EPA 200.8	1	0.0157			mg/L	0.0004	0.001	06/12/24 19:42	aps
Potassium, dissolved	EPA 200.7	10	7.90	B		mg/L	5	10	06/26/24 17:45	aeb/msp
Selenium, dissolved	EPA 200.8	5	<0.0005	U	*	mg/L	0.0005	0.00125	06/14/24 12:07	aps
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:42	aps
Sodium, dissolved	EPA 200.7	10	4260			mg/L	2	10	06/26/24 17:45	aeb/msp
Thallium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/11/24 15:04	jrj
Uranium, dissolved	EPA 200.8	1	0.00394			mg/L	0.0001	0.0005	06/12/24 19:42	aps
Vanadium, dissolved	EPA 200.8	1	0.00070	B		mg/L	0.0005	0.002	06/12/24 19:42	aps
Zinc, dissolved	EPA 200.8	1	0.0073	B		mg/L	0.006	0.015	06/12/24 19:42	aps

Golder Associates
Project ID:
Sample ID: MW-6

ACZ Sample ID: ***L88205-06***
Date Sampled: *06/06/24 16:15*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM 2320 B-2011									
Bicarbonate as CaCO3		1	714			mg/L	2	20	06/08/24 0:00	asn
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Total Alkalinity		1	714		*	mg/L	2	20	06/08/24 0:00	asn
Cation-Anion Balance	Calculation									
Cation-Anion Balance			3.5			%			07/03/24 0:00	calc
Sum of Anions			180			meq/L			07/03/24 0:00	calc
Sum of Cations			193			meq/L			07/03/24 0:00	calc
Chloride	EPA 300.0	100	5920			mg/L	40	200	06/13/24 22:43	bls
Cyanide, Free	ASTM D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	06/10/24 15:31	mrd
Fluoride	SM 4500-F C-2011	1	1.09			mg/L	0.15	0.35	06/27/24 14:56	jck
Nitrate as N	Calculation (NO3NO2-NO2)		<0.02	U		mg/L	0.02	0.1	07/03/24 0:00	calc
Nitrate/Nitrite as N	EPA 353.2	1	<0.02	U	*	mg/L	0.02	0.1	06/08/24 0:19	pjb
Nitrite as N	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	06/08/24 0:19	pjb
pH (lab)	SM 4500-H+ B-2011									
pH		1	7.5	H		units	0.1	0.1	06/08/24 0:00	asn
pH measured at		1	21.6			C	0.1	0.1	06/08/24 0:00	asn
Residue, Filterable (TDS) @180C	SM 2540 C-2011	25	11300			mg/L	500	1000	06/13/24 11:18	ptw
Sulfate	EPA 300.0	100	<90	U	*	mg/L	90	200	06/13/24 22:43	bls
TDS (calculated)	Calculation		10700			mg/L			07/03/24 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.06						07/03/24 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-7

ACZ Sample ID: ***L88205-07***
Date Sampled: *06/06/24 15:21*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	<0.005	U		mg/L	0.005	0.015	06/12/24 19:43	aps
Antimony, dissolved	EPA 200.8	1	0.00602			mg/L	0.0004	0.002	06/12/24 19:43	aps
Arsenic, dissolved	EPA 200.8	1	0.00199			mg/L	0.0002	0.001	06/12/24 19:43	aps
Barium, dissolved	EPA 200.8	1	4.05			mg/L	0.0005	0.0025	06/12/24 19:43	aps
Beryllium, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.00025	06/12/24 19:43	aps
Boron, dissolved	EPA 200.7	10	0.573	B		mg/L	0.3	1	06/26/24 17:47	aeb/msp
Cadmium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/12/24 19:43	aps
Calcium, dissolved	EPA 200.7	10	55.5		*	mg/L	1	5	06/26/24 17:47	aeb/msp
Chromium, dissolved	EPA 200.8	1	<0.0005	U		mg/L	0.0005	0.002	06/12/24 19:43	aps
Cobalt, dissolved	EPA 200.8	1	0.000250			mg/L	0.00005	0.00025	06/12/24 19:43	aps
Copper, dissolved	EPA 200.8	1	<0.0008	U		mg/L	0.0008	0.002	06/12/24 19:43	aps
Iron, dissolved	EPA 200.7	10	1.27	B		mg/L	0.6	1.5	06/26/24 17:47	aeb/msp
Lead, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:43	aps
Lithium, dissolved	EPA 200.7	10	1.91			mg/L	0.08	0.4	06/26/24 17:47	aeb/msp
Magnesium, dissolved	EPA 200.7	10	19.3			mg/L	2	10	06/26/24 17:47	aeb/msp
Manganese, dissolved	EPA 200.8	1	0.0921			mg/L	0.0004	0.002	06/12/24 19:43	aps
Mercury, dissolved	EPA 245.1	1	<0.0002	U		mg/L	0.0002	0.001	06/19/24 15:15	aeh/aeb
Molybdenum, dissolved	EPA 200.8	1	0.00665			mg/L	0.0002	0.0005	06/12/24 19:43	aps
Nickel, dissolved	EPA 200.8	1	0.00041	B		mg/L	0.0004	0.001	06/12/24 19:43	aps
Potassium, dissolved	EPA 200.7	10	7.93	B		mg/L	5	10	06/26/24 17:47	aeb/msp
Selenium, dissolved	EPA 200.8	5	<0.0005	U	*	mg/L	0.0005	0.00125	06/14/24 12:09	aps
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:43	aps
Sodium, dissolved	EPA 200.7	10	4260			mg/L	2	10	06/26/24 17:47	aeb/msp
Thallium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/11/24 15:05	jrj
Uranium, dissolved	EPA 200.8	1	0.00306			mg/L	0.0001	0.0005	06/12/24 19:43	aps
Vanadium, dissolved	EPA 200.8	1	0.00072	B		mg/L	0.0005	0.002	06/12/24 19:43	aps
Zinc, dissolved	EPA 200.8	1	0.0080	B		mg/L	0.006	0.015	06/12/24 19:43	aps

Golder Associates
Project ID:
Sample ID: MW-7

ACZ Sample ID: ***L88205-07***
Date Sampled: *06/06/24 15:21*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM 2320 B-2011									
Bicarbonate as CaCO3		1	754			mg/L	2	20	06/08/24 0:00	asn
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Total Alkalinity		1	754		*	mg/L	2	20	06/08/24 0:00	asn
Cation-Anion Balance	Calculation									
Cation-Anion Balance			15.7			%			07/03/24 0:00	calc
Sum of Anions			140			meq/L			07/03/24 0:00	calc
Sum of Cations			192			meq/L			07/03/24 0:00	calc
Chloride	EPA 300.0	100	4450			mg/L	40	200	06/13/24 23:19	bls
Cyanide, Free	ASTM D6888-09/OIA-1677-09	1	0.0102			mg/L	0.003	0.01	06/10/24 15:33	mrd
Fluoride	SM 4500-F C-2011	1	1.05			mg/L	0.15	0.35	06/27/24 15:00	jck
Nitrate as N	Calculation (NO3NO2-NO2)		<0.02	U		mg/L	0.02	0.1	07/03/24 0:00	calc
Nitrate/Nitrite as N	EPA 353.2	1	<0.02	U	*	mg/L	0.02	0.1	06/08/24 0:20	pjb
Nitrite as N	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	06/08/24 0:20	pjb
pH (lab)	SM 4500-H+ B-2011									
pH		1	7.8	H		units	0.1	0.1	06/08/24 0:00	asn
pH measured at		1	21.7			C	0.1	0.1	06/08/24 0:00	asn
Residue, Filterable (TDS) @180C	SM 2540 C-2011	25	11700			mg/L	500	1000	06/13/24 11:22	ptw
Sulfate	EPA 300.0	100	<90	U	*	mg/L	90	200	06/13/24 23:19	bls
TDS (calculated)	Calculation		9260			mg/L			07/03/24 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.26						07/03/24 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-8

ACZ Sample ID: ***L88205-08***
Date Sampled: *06/06/24 12:40*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	<0.005	U		mg/L	0.005	0.015	06/12/24 19:45	aps
Antimony, dissolved	EPA 200.8	1	0.0389			mg/L	0.0004	0.002	06/12/24 19:45	aps
Arsenic, dissolved	EPA 200.8	1	0.00424			mg/L	0.0002	0.001	06/12/24 19:45	aps
Barium, dissolved	EPA 200.8	1	3.53			mg/L	0.0005	0.0025	06/12/24 19:45	aps
Beryllium, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.00025	06/12/24 19:45	aps
Boron, dissolved	EPA 200.7	10	0.582	B		mg/L	0.3	1	06/26/24 17:50	aeb/msp
Cadmium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/12/24 19:45	aps
Calcium, dissolved	EPA 200.7	10	92.5		*	mg/L	1	5	06/26/24 17:50	aeb/msp
Chromium, dissolved	EPA 200.8	1	<0.0005	U		mg/L	0.0005	0.002	06/12/24 19:45	aps
Cobalt, dissolved	EPA 200.8	1	0.00199			mg/L	0.00005	0.00025	06/12/24 19:45	aps
Copper, dissolved	EPA 200.8	1	<0.0008	U		mg/L	0.0008	0.002	06/12/24 19:45	aps
Iron, dissolved	EPA 200.7	10	<0.6	U		mg/L	0.6	1.5	06/26/24 17:50	aeb/msp
Lead, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:45	aps
Lithium, dissolved	EPA 200.7	10	2.05			mg/L	0.08	0.4	06/26/24 17:50	aeb/msp
Magnesium, dissolved	EPA 200.7	10	21.5			mg/L	2	10	06/26/24 17:50	aeb/msp
Manganese, dissolved	EPA 200.8	1	0.0267			mg/L	0.0004	0.002	06/12/24 19:45	aps
Mercury, dissolved	EPA 245.1	1	<0.0002	U		mg/L	0.0002	0.001	06/19/24 15:16	aeh/aeb
Molybdenum, dissolved	EPA 200.8	1	0.0223			mg/L	0.0002	0.0005	06/12/24 19:45	aps
Nickel, dissolved	EPA 200.8	1	0.00727			mg/L	0.0004	0.001	06/12/24 19:45	aps
Potassium, dissolved	EPA 200.7	10	10.5			mg/L	5	10	06/26/24 17:50	aeb/msp
Selenium, dissolved	EPA 200.8	5	<0.0005	U	*	mg/L	0.0005	0.00125	06/14/24 12:11	aps
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:45	aps
Sodium, dissolved	EPA 200.7	10	4710			mg/L	2	10	06/26/24 17:50	aeb/msp
Thallium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/11/24 15:07	jrj
Uranium, dissolved	EPA 200.8	1	0.0173			mg/L	0.0001	0.0005	06/12/24 19:45	aps
Vanadium, dissolved	EPA 200.8	1	0.00282			mg/L	0.0005	0.002	06/12/24 19:45	aps
Zinc, dissolved	EPA 200.8	1	0.0112	B		mg/L	0.006	0.015	06/12/24 19:45	aps

Golder Associates
Project ID:
Sample ID: MW-8

ACZ Sample ID: ***L88205-08***
Date Sampled: *06/06/24 12:40*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM 2320 B-2011									
Bicarbonate as CaCO3		1	575			mg/L	2	20	06/08/24 0:00	asn
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Total Alkalinity		1	575		*	mg/L	2	20	06/08/24 0:00	asn
Cation-Anion Balance	Calculation									
Cation-Anion Balance			5.4			%			07/03/24 0:00	calc
Sum of Anions			192			meq/L			07/03/24 0:00	calc
Sum of Cations			214			meq/L			07/03/24 0:00	calc
Chloride	EPA 300.0	200	6460			mg/L	80	400	06/13/24 23:55	bls
Cyanide, Free	ASTM D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	06/10/24 15:35	mrd
Fluoride	SM 4500-F C-2011	1	1.72			mg/L	0.15	0.35	06/27/24 15:07	jck
Nitrate as N	Calculation (NO3NO2-NO2)		<0.02	U		mg/L	0.02	0.1	07/03/24 0:00	calc
Nitrate/Nitrite as N	EPA 353.2	1	<0.02	U	*	mg/L	0.02	0.1	06/08/24 0:21	pjb
Nitrite as N	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	06/08/24 0:21	pjb
pH (lab)	SM 4500-H+ B-2011									
pH		1	7.8	H		units	0.1	0.1	06/08/24 0:00	asn
pH measured at		1	21.6			C	0.1	0.1	06/08/24 0:00	asn
Residue, Filterable (TDS) @180C	SM 2540 C-2011	5	12500			mg/L	100	200	06/13/24 11:26	ptw
Sulfate	EPA 300.0	200	<180	U	*	mg/L	180	400	06/13/24 23:55	bls
TDS (calculated)	Calculation		11600			mg/L			07/03/24 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.08						07/03/24 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-15

ACZ Sample ID: ***L88205-09***
Date Sampled: *06/06/24 08:30*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	<0.005	U		mg/L	0.005	0.015	06/12/24 19:47	aps
Antimony, dissolved	EPA 200.8	1	<0.0004	U		mg/L	0.0004	0.002	06/12/24 19:47	aps
Arsenic, dissolved	EPA 200.8	1	<0.0002	U		mg/L	0.0002	0.001	06/12/24 19:47	aps
Barium, dissolved	EPA 200.8	1	0.00088	B		mg/L	0.0005	0.0025	06/12/24 19:47	aps
Beryllium, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.00025	06/12/24 19:47	aps
Boron, dissolved	EPA 200.7	1	<0.03	U		mg/L	0.03	0.1	06/26/24 17:52	aeb/msp
Cadmium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/12/24 19:47	aps
Calcium, dissolved	EPA 200.7	1	<0.1	U	*	mg/L	0.1	0.5	06/26/24 17:52	aeb/msp
Chromium, dissolved	EPA 200.8	1	<0.0005	U		mg/L	0.0005	0.002	06/12/24 19:47	aps
Cobalt, dissolved	EPA 200.8	1	0.000070	B		mg/L	0.00005	0.00025	06/12/24 19:47	aps
Copper, dissolved	EPA 200.8	1	<0.0008	U		mg/L	0.0008	0.002	06/12/24 19:47	aps
Iron, dissolved	EPA 200.7	1	<0.06	U		mg/L	0.06	0.15	06/26/24 17:52	aeb/msp
Lead, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:47	aps
Lithium, dissolved	EPA 200.7	1	<0.008	U		mg/L	0.008	0.04	06/26/24 17:52	aeb/msp
Magnesium, dissolved	EPA 200.7	1	<0.2	U		mg/L	0.2	1	06/26/24 17:52	aeb/msp
Manganese, dissolved	EPA 200.8	1	<0.0004	U		mg/L	0.0004	0.002	06/12/24 19:47	aps
Mercury, dissolved	EPA 245.1	1	<0.0002	U		mg/L	0.0002	0.001	06/19/24 15:17	aeh/aeb
Molybdenum, dissolved	EPA 200.8	1	<0.0002	U		mg/L	0.0002	0.0005	06/12/24 19:47	aps
Nickel, dissolved	EPA 200.8	1	<0.0004	U		mg/L	0.0004	0.001	06/12/24 19:47	aps
Potassium, dissolved	EPA 200.7	1	<0.5	U		mg/L	0.5	1	06/26/24 17:52	aeb/msp
Selenium, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.00025	06/12/24 19:47	aps
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:47	aps
Sodium, dissolved	EPA 200.7	1	0.96	B		mg/L	0.2	1	06/26/24 17:52	aeb/msp
Thallium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/11/24 15:08	jrj
Uranium, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:47	aps
Vanadium, dissolved	EPA 200.8	1	<0.0005	U		mg/L	0.0005	0.002	06/12/24 19:47	aps
Zinc, dissolved	EPA 200.8	1	<0.006	U		mg/L	0.006	0.015	06/12/24 19:47	aps

Golder Associates
Project ID:
Sample ID: MW-15

ACZ Sample ID: ***L88205-09***
Date Sampled: *06/06/24 08:30*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM 2320 B-2011									
Bicarbonate as CaCO3		1	16.1	B		mg/L	2	20	06/08/24 0:00	asn
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Total Alkalinity		1	16.1	B	*	mg/L	2	20	06/08/24 0:00	asn
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/03/24 0:00	calc
Sum of Anions			0.322	B		meq/L			07/03/24 0:00	calc
Sum of Cations			<	U		meq/L			07/03/24 0:00	calc
Chloride	EPA 300.0	1	<0.4	U		mg/L	0.4	2	06/14/24 0:13	bls
Cyanide, Free	ASTM D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	06/10/24 15:41	mrd
Fluoride	SM 4500-F C-2011	1	<0.15	U		mg/L	0.15	0.35	06/27/24 15:21	jck
Nitrate as N	Calculation (NO3NO2-NO2)		<0.02	U		mg/L	0.02	0.1	07/03/24 0:00	calc
Nitrate/Nitrite as N	EPA 353.2	1	<0.02	U		mg/L	0.02	0.1	06/08/24 0:23	pjb
Nitrite as N	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	06/08/24 0:23	pjb
pH (lab)	SM 4500-H+ B-2011									
pH		1	7.8	H		units	0.1	0.1	06/08/24 0:00	asn
pH measured at		1	21.4			C	0.1	0.1	06/08/24 0:00	asn
Residue, Filterable (TDS) @180C	SM 2540 C-2011	1	<20	U	*	mg/L	20	40	06/13/24 11:30	ptw
Sulfate	EPA 300.0	1	<0.9	U	*	mg/L	0.9	2	06/14/24 0:13	bls
TDS (calculated)	Calculation		10.8			mg/L			07/03/24 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						07/03/24 0:00	calc

Golder Associates
Project ID:
Sample ID: MW-20

ACZ Sample ID: ***L88205-10***
Date Sampled: *06/06/24 16:30*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	0.0085	B		mg/L	0.005	0.015	06/12/24 19:49	aps
Antimony, dissolved	EPA 200.8	1	0.00060	B		mg/L	0.0004	0.002	06/12/24 19:49	aps
Arsenic, dissolved	EPA 200.8	1	0.00176			mg/L	0.0002	0.001	06/12/24 19:49	aps
Barium, dissolved	EPA 200.8	1	0.0112			mg/L	0.0005	0.0025	06/12/24 19:49	aps
Beryllium, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.00025	06/12/24 19:49	aps
Boron, dissolved	EPA 200.7	5	0.659			mg/L	0.15	0.5	06/26/24 17:59	aeb/msp
Cadmium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/12/24 19:49	aps
Calcium, dissolved	EPA 200.7	5	108		*	mg/L	0.5	2.5	06/26/24 17:59	aeb/msp
Chromium, dissolved	EPA 200.8	1	<0.0005	U		mg/L	0.0005	0.002	06/12/24 19:49	aps
Cobalt, dissolved	EPA 200.8	1	0.00213			mg/L	0.00005	0.00025	06/12/24 19:49	aps
Copper, dissolved	EPA 200.8	1	<0.0008	U		mg/L	0.0008	0.002	06/12/24 19:49	aps
Iron, dissolved	EPA 200.7	5	<0.3	U		mg/L	0.3	0.75	06/26/24 17:59	aeb/msp
Lead, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:49	aps
Lithium, dissolved	EPA 200.7	5	1.02			mg/L	0.04	0.2	06/26/24 17:59	aeb/msp
Magnesium, dissolved	EPA 200.7	5	104			mg/L	1	5	06/26/24 17:59	aeb/msp
Manganese, dissolved	EPA 200.8	1	0.0784			mg/L	0.0004	0.002	06/12/24 19:49	aps
Mercury, dissolved	EPA 245.1	1	<0.0002	U		mg/L	0.0002	0.001	06/19/24 15:18	aeh/aeb
Molybdenum, dissolved	EPA 200.8	1	0.0473			mg/L	0.0002	0.0005	06/12/24 19:49	aps
Nickel, dissolved	EPA 200.8	1	0.00620			mg/L	0.0004	0.001	06/12/24 19:49	aps
Potassium, dissolved	EPA 200.7	5	8.07			mg/L	2.5	5	06/26/24 17:59	aeb/msp
Selenium, dissolved	EPA 200.8	1	0.00585			mg/L	0.0001	0.00025	06/12/24 19:49	aps
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	06/12/24 19:49	aps
Sodium, dissolved	EPA 200.7	5	1670			mg/L	1	5	06/26/24 17:59	aeb/msp
Thallium, dissolved	EPA 200.8	1	<0.00005	U		mg/L	0.00005	0.00025	06/11/24 15:10	jrj
Uranium, dissolved	EPA 200.8	1	0.0325			mg/L	0.0001	0.0005	06/12/24 19:49	aps
Vanadium, dissolved	EPA 200.8	1	<0.0005	U		mg/L	0.0005	0.002	06/12/24 19:49	aps
Zinc, dissolved	EPA 200.8	1	0.0105	B		mg/L	0.006	0.015	06/12/24 19:49	aps

Golder Associates
Project ID:
Sample ID: MW-20

ACZ Sample ID: ***L88205-10***
Date Sampled: *06/06/24 16:30*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM 2320 B-2011									
Bicarbonate as CaCO3		1	520			mg/L	2	20	06/08/24 0:00	asn
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/08/24 0:00	asn
Total Alkalinity		1	520		*	mg/L	2	20	06/08/24 0:00	asn
Cation-Anion Balance	Calculation									
Cation-Anion Balance			9.3			%			07/03/24 0:00	calc
Sum of Anions			73			meq/L			07/03/24 0:00	calc
Sum of Cations			88			meq/L			07/03/24 0:00	calc
Chloride	EPA 300.0	100	<40	U	*	mg/L	40	200	06/14/24 0:31	bls
Cyanide, Free	ASTM D6888-09/OIA-1677-09	1	<0.003	U		mg/L	0.003	0.01	06/10/24 15:43	mrd
Fluoride	SM 4500-F C-2011	1	0.60		*	mg/L	0.15	0.35	07/02/24 13:47	emk
Nitrate as N	Calculation (NO3NO2-NO2)		0.231			mg/L	0.02	0.1	07/03/24 0:00	calc
Nitrate/Nitrite as N	EPA 353.2	1	0.231			mg/L	0.02	0.1	06/08/24 0:25	pjb
Nitrite as N	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	06/08/24 0:25	pjb
pH (lab)	SM 4500-H+ B-2011									
pH		1	7.5	H		units	0.1	0.1	06/08/24 0:00	asn
pH measured at		1	21.6			C	0.1	0.1	06/08/24 0:00	asn
Residue, Filterable (TDS) @180C	SM 2540 C-2011	25	6500			mg/L	500	1000	06/13/24 11:34	ptw
Sulfate	EPA 300.0	100	2970		*	mg/L	90	200	06/14/24 0:31	bls
TDS (calculated)	Calculation		5180			mg/L			07/03/24 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.25						07/03/24 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

ACZ Project ID: ***L88205***

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
WG590657													
WG590657PBW1	PBW	06/07/24 21:54				10.8	mg/L		-20	20			
WG590657LCSW3	LCSW	06/07/24 22:08	WC240522-1	820.0001		776.3	mg/L	95	90	110			
WG590657LCSW6	LCSW	06/08/24 0:15	WC240522-1	820.0001		785.5	mg/L	96	90	110			
WG590657PBW2	PBW	06/08/24 0:22				24.3	mg/L		-20	20			B4 B7
L88205-03DUP	DUP	06/08/24 1:26			1280	1261.5	mg/L				1	20	
L88206-03DUP	DUP	06/08/24 2:44			463	445.8	mg/L				4	20	
WG590657LCSW9	LCSW	06/08/24 2:58	WC240522-1	820.0001		796.9	mg/L	97	90	110			
WG590657PBW3	PBW	06/08/24 3:06				34.4	mg/L		-20	20			B4 B7
WG590657LCSW12	LCSW	06/08/24 4:56	WC240522-1	820.0001		797.7	mg/L	97	90	110			

Aluminum, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.1		.1001	mg/L	100	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.011	0.011			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.050065		.0521	mg/L	104	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.050065	.0129	.0608	mg/L	96	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.050065	.0129	.0578	mg/L	90	70	130	5	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.1		.098	mg/L	98	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.011	0.011			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.050065		.0533	mg/L	106	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.050065	1.14	1.1798	mg/L	79	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.050065	1.14	1.2005	mg/L	121	70	130	2	20	

Antimony, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.02002		.01866	mg/L	93	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00088	0.00088			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.01		.00973	mg/L	97	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.01	U	.00914	mg/L	91	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.01	U	.00892	mg/L	89	70	130	2	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.02002		.01851	mg/L	92	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00088	0.00088			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.01		.00968	mg/L	97	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.01	.00409	.01258	mg/L	85	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.01	.00409	.0133	mg/L	92	70	130	6	20	

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ACZ Project ID: ***L88205***

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

Arsenic, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.04903	mg/L	98	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00044	0.00044			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.0501		.0497	mg/L	99	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.0501	U	.05876	mg/L	117	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.0501	U	.05624	mg/L	112	70	130	4	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.04823	mg/L	96	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00044	0.00044			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.0501		.05083	mg/L	101	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.0501	.0214	.07422	mg/L	105	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.0501	.0214	.07496	mg/L	107	70	130	1	20	

Barium, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.05134	mg/L	103	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.0011	0.0011			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.05005		.05036	mg/L	101	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.05005	U	.05435	mg/L	109	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.05005	U	.05268	mg/L	105	70	130	3	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.05064	mg/L	101	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.0011	0.0011			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.05005		.05271	mg/L	105	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.05005	.00249	.05384	mg/L	103	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.05005	.00249	.05535	mg/L	106	70	130	3	20	
WG591113													
WG591113ICV	ICV	06/14/24 11:38	MS240404-4	.05		.05364	mg/L	107	90	110			
WG591113ICB	ICB	06/14/24 11:40				U	mg/L		-0.0011	0.0011			
WG591113LFB	LFB	06/14/24 11:42	MS240514-1	.05005		.05398	mg/L	108	85	115			
L88186-02AS	AS	06/14/24 11:54	MS240514-1	.05005	.0265	.07929	mg/L	105	70	130			
L88186-02ASD	ASD	06/14/24 11:56	MS240514-1	.05005	.0265	.07837	mg/L	104	70	130	1	20	
L88222-01AS	AS	06/14/24 12:29	MS240514-1	.05005	.012	.06655	mg/L	109	70	130			
L88222-01ASD	ASD	06/14/24 12:31	MS240514-1	.05005	.012	.06662	mg/L	109	70	130	0	20	

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ACZ Project ID: ***L88205***

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.

Beryllium, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.049763	mg/L	100	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.000176	0.000176			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.05005		.049319	mg/L	99	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.05005	U	.055352	mg/L	111	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.05005	U	.053998	mg/L	108	70	130	2	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.048687	mg/L	97	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.000176	0.000176			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.05005		.050331	mg/L	101	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.05005	U	.047041	mg/L	94	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.05005	U	.049046	mg/L	98	70	130	4	20	

Boron, dissolved EPA 200.7

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG591942													
WG591942ICV	ICV	06/26/24 16:48	II240515-3	2		2.08	mg/L	104	95	105			
WG591942ICB	ICB	06/26/24 16:52				U	mg/L		-0.09	0.09			
WG591942LFB	LFB	06/26/24 17:02	II240617-1	.5005		.52	mg/L	104	85	115			
L88202-03AS	AS	06/26/24 17:12	II240617-1	.5005	U	.537	mg/L	107	85	115			
L88202-03ASD	ASD	06/26/24 17:14	II240617-1	.5005	U	.559	mg/L	112	85	115	4	20	
L88208-01AS	AS	06/26/24 18:04	II240617-1	.5005	.217	.776	mg/L	112	85	115			
L88208-01ASD	ASD	06/26/24 18:06	II240617-1	.5005	.217	.751	mg/L	107	85	115	3	20	

Cadmium, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.050217	mg/L	100	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00011	0.00011			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.05005		.049001	mg/L	98	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.05005	U	.054615	mg/L	109	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.05005	U	.052562	mg/L	105	70	130	4	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.049901	mg/L	100	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00011	0.00011			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.05005		.050893	mg/L	102	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.05005	U	.0467	mg/L	93	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.05005	U	.047156	mg/L	94	70	130	1	20	

GOLDER

ACZ Project ID: ***L88205***

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 EPA 200.7

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG591942													
WG591942ICV	ICV	06/26/24 16:48	II240515-3	100		101.5	mg/L	102	95	105			
WG591942ICB	ICB	06/26/24 16:52				U	mg/L		-0.3	0.3			
WG591942LFB	LFB	06/26/24 17:02	II240617-1	67.93628		71.6	mg/L	105	85	115			
L88202-03AS	AS	06/26/24 17:12	II240617-1	67.93628	44.9	114	mg/L	102	85	115			
L88202-03ASD	ASD	06/26/24 17:14	II240617-1	67.93628	44.9	118	mg/L	108	85	115	3	20	
L88208-01AS	AS	06/26/24 18:04	II240617-1	67.93628	401	456	mg/L	81	85	115			M3
L88208-01ASD	ASD	06/26/24 18:06	II240617-1	67.93628	401	454	mg/L	78	85	115	0	20	M3

Chloride EPA 300.0

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590047													
WG590047ICV	ICV	05/30/24 13:06	WI240529-11	20.02		19.86	mg/L	99	90	110			
WG590047ICB	ICB	05/30/24 13:24				U	mg/L		-0.4	0.4			
WG591017													
WG591017LFB1	LFB	06/13/24 11:40	WI240426-10	30		29.43	mg/L	98	90	110			
WG591017LFB2	LFB	06/13/24 20:20	WI240426-10	30		30	mg/L	100	90	110			
L88205-06DUP	DUP	06/13/24 23:01			5920	6572.27	mg/L				10	20	
L88205-07AS	AS	06/13/24 23:37	WI240426-10	3000	4450	7150.97	mg/L	90	90	110			
WG591209													
WG591209LFB1	LFB	06/17/24 13:05	WI240426-10	30		30.54	mg/L	102	90	110			
L88246-01DUP	DUP	06/17/24 20:51			2.3	2.34	mg/L				2	20	RA
L88246-02AS	AS	06/17/24 21:27	WI240426-10	30	.56	31.71	mg/L	104	90	110			
WG591209LFB2	LFB	06/17/24 21:45	WI240426-10	30		30.33	mg/L	101	90	110			

Chromium, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.05081	mg/L	102	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.0011	0.0011			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.05005		.05087	mg/L	102	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.05005	U	.05398	mg/L	108	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.05005	U	.05165	mg/L	103	70	130	4	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.04874	mg/L	97	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.0011	0.0011			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.05005		.05088	mg/L	102	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.05005	U	.04785	mg/L	96	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.05005	U	.04841	mg/L	97	70	130	1	20	

GOLDER

ACZ Project ID: ***L88205***

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.

Cobalt, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.051054	mg/L	102	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00011	0.00011			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.05005		.050577	mg/L	101	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.05005	U	.053577	mg/L	107	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.05005	U	.051567	mg/L	103	70	130	4	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.050834	mg/L	102	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00011	0.00011			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.05005		.051012	mg/L	102	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.05005	.00131	.050969	mg/L	99	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.05005	.00131	.052167	mg/L	102	70	130	2	20	

Copper, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.05192	mg/L	104	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00176	0.00176			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.05005		.05287	mg/L	106	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.05005	U	.05712	mg/L	114	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.05005	U	.05434	mg/L	109	70	130	5	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.05092	mg/L	102	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00176	0.00176			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.05005		.05287	mg/L	106	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.05005	U	.04685	mg/L	94	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.05005	U	.04782	mg/L	96	70	130	2	20	

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

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590784													
WG590784ICV	ICV	06/10/24 14:37	WI240529-1	.3003		.3066	mg/L	102	90	110			
WG590784ICB	ICB	06/10/24 14:39				U	mg/L		-0.003	0.003			
WG590784LFB	LFB	06/10/24 14:43	WI240529-4	.1001		.1042	mg/L	104	90	110			
L88205-08AS	AS	06/10/24 15:37	WI240529-4	.1001	U	.1025	mg/L	102	90	110			
L88205-08ASD	ASD	06/10/24 15:39	WI240529-4	.1001	U	.106	mg/L	106	90	110	3	20	

GOLDER

ACZ Project ID: ***L88205***

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 SM 4500-F C-2011

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG591985													
WG591985ICV	ICV	06/27/24 12:11	WC240626-1	2		2.09	mg/L	105	90	110			
WG591985ICB	ICB	06/27/24 12:16				U	mg/L		-0.3	0.3			
WG591985LFB1	LFB	06/27/24 12:23	WC240411-1	5		5.04	mg/L	101	90	110			
L88013-04AS	AS	06/27/24 14:05	WC240411-1	5	U	5.23	mg/L	105	90	110			
L88013-04ASD	ASD	06/27/24 14:08	WC240411-1	5	U	5.18	mg/L	104	90	110	1	20	
WG591985LFB2	LFB	06/27/24 15:04	WC240411-1	5		5.4	mg/L	108	90	110			
L88205-08AS	AS	06/27/24 15:11	WC240411-1	5	1.72	6.64	mg/L	98	90	110			
L88205-08ASD	ASD	06/27/24 15:15	WC240411-1	5	1.72	6.7	mg/L	100	90	110	1	20	
WG592313													
WG592313ICV	ICV	07/02/24 11:15	WC240626-1	2		2.06	mg/L	103	90	110			
WG592313ICB	ICB	07/02/24 11:23				U	mg/L		-0.3	0.3			
WG592324													
WG592324ICV	ICV	07/02/24 13:28	WC240626-1	2		1.95	mg/L	98	90	110			
WG592324ICB	ICB	07/02/24 13:36				U	mg/L		-0.3	0.3			
WG592324LFB	LFB	07/02/24 13:43	WC240411-1	5		4.61	mg/L	92	90	110			
L88205-10AS	AS	07/02/24 13:51	WC240411-1	5	.6	.59	mg/L	0	90	110			M2
L88205-10ASD	ASD	07/02/24 13:54	WC240411-1	5	.6	.58	mg/L	0	90	110	2	20	M2

Iron, dissolved EPA 200.7

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG591942													
WG591942ICV	ICV	06/26/24 16:48	II240515-3	2		2.06	mg/L	103	95	105			
WG591942ICB	ICB	06/26/24 16:52				U	mg/L		-0.18	0.18			
WG591942LFB	LFB	06/26/24 17:02	II240617-1	1.003		1.05	mg/L	105	85	115			
L88202-03AS	AS	06/26/24 17:12	II240617-1	1.003	.7	1.69	mg/L	99	85	115			
L88202-03ASD	ASD	06/26/24 17:14	II240617-1	1.003	.7	1.78	mg/L	108	85	115	5	20	
L88208-01AS	AS	06/26/24 18:04	II240617-1	1.003	U	.999	mg/L	100	85	115			
L88208-01ASD	ASD	06/26/24 18:06	II240617-1	1.003	U	.992	mg/L	99	85	115	1	20	

Lead, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.05063	mg/L	101	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00022	0.00022			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.05005		.05004	mg/L	100	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.05005	U	.05309	mg/L	106	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.05005	U	.05143	mg/L	103	70	130	3	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.05109	mg/L	102	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00022	0.00022			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.05005		.05215	mg/L	104	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.05005	U	.04934	mg/L	99	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.05005	U	.05073	mg/L	101	70	130	3	20	

GOLDER

ACZ Project ID: ***L88205***

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.

Lithium, dissolved EPA 200.7

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG591942													
WG591942ICV	ICV	06/26/24 16:48	II240515-3	2		2.01	mg/L	101	95	105			
WG591942ICB	ICB	06/26/24 16:52				U	mg/L		-0.024	0.024			
WG591942LFB	LFB	06/26/24 17:02	II240617-1	1		.984	mg/L	98	85	115			
L88202-03AS	AS	06/26/24 17:12	II240617-1	1	U	1.02	mg/L	102	85	115			
L88202-03ASD	ASD	06/26/24 17:14	II240617-1	1	U	1.07	mg/L	107	85	115	5	20	
L88208-01AS	AS	06/26/24 18:04	II240617-1	1	.086	1.14	mg/L	105	85	115			
L88208-01ASD	ASD	06/26/24 18:06	II240617-1	1	.086	1.11	mg/L	102	85	115	3	20	

Magnesium, dissolved EPA 200.7

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG591942													
WG591942ICV	ICV	06/26/24 16:48	II240515-3	100		98.35	mg/L	98	95	105			
WG591942ICB	ICB	06/26/24 16:52				U	mg/L		-0.6	0.6			
WG591942LFB	LFB	06/26/24 17:02	II240617-1	49.99866		50.3	mg/L	101	85	115			
L88202-03AS	AS	06/26/24 17:12	II240617-1	49.99866	11.6	62.8	mg/L	102	85	115			
L88202-03ASD	ASD	06/26/24 17:14	II240617-1	49.99866	11.6	64.8	mg/L	106	85	115	3	20	
L88208-01AS	AS	06/26/24 18:04	II240617-1	49.99866	27.2	79.6	mg/L	105	85	115			
L88208-01ASD	ASD	06/26/24 18:06	II240617-1	49.99866	27.2	78.8	mg/L	103	85	115	1	20	

Manganese, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.04996	mg/L	100	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00088	0.00088			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.0501		.05012	mg/L	100	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.0501	.00087	.0532	mg/L	104	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.0501	.00087	.05196	mg/L	102	70	130	2	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.04876	mg/L	98	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00088	0.00088			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.0501		.05081	mg/L	101	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.0501	.126	.17174	mg/L	91	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.0501	.126	.17601	mg/L	100	70	130	2	20	

Mercury, dissolved EPA 245.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG591319													
WG591319ICV	ICV	06/19/24 11:22	HG240528-3	.005		.00519	mg/L	104	95	105			
WG591319ICB	ICB	06/19/24 11:23				U	mg/L		-0.0002	0.0002			
WG591410													
WG591410LRB	LRB	06/19/24 14:51				U	mg/L		-0.00044	0.00044			
WG591410LFB	LFB	06/19/24 14:52	HG240528-6	.002002		.00178	mg/L	89	85	115			
L86704-09LFM	LFM	06/19/24 14:54	HG240528-6	.002002	U	.0018	mg/L	90	85	115			
L86704-09LFMD	LFMD	06/19/24 14:54	HG240528-6	.002002	U	.00181	mg/L	90	85	115	1	20	
L88193-01LFM	LFM	06/19/24 15:06	HG240528-6	.002002	U	.00189	mg/L	94	85	115			
L88193-01LFMD	LFMD	06/19/24 15:07	HG240528-6	.002002	U	.00172	mg/L	86	85	115	9	20	

GOLDER

ACZ Project ID: ***L88205***

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.

Molybdenum, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.02		.01907	mg/L	95	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00044	0.00044			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.05005		.04883	mg/L	98	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.05005	U	.05283	mg/L	106	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.05005	U	.05127	mg/L	102	70	130	3	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.02		.01916	mg/L	96	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00044	0.00044			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.05005		.05147	mg/L	103	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.05005	.00228	.05077	mg/L	97	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.05005	.00228	.05208	mg/L	100	70	130	3	20	

Nickel, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.05021	mg/L	100	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00088	0.00088			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.0501		.05085	mg/L	101	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.0501	U	.05428	mg/L	108	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.0501	U	.05199	mg/L	104	70	130	4	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.04871	mg/L	97	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00088	0.00088			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.0501		.0503	mg/L	100	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.0501	U	.04568	mg/L	91	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.0501	U	.04622	mg/L	92	70	130	1	20	

Nitrate/Nitrite as N EPA 353.2

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590669													
WG590669ICV	ICV	06/07/24 23:57	WI240403-6	2.415		2.392	mg/L	99	90	110			
WG590669ICB	ICB	06/07/24 23:58				U	mg/L		-0.02	0.02			
WG590669LFB	LFB	06/08/24 0:02	WI240228-17	2		2.103	mg/L	105	90	110			
L88203-01AS	AS	06/08/24 0:05	WI240228-17	2	.095	2.165	mg/L	104	90	110			
L88204-01DUP	DUP	06/08/24 0:07			.029	.031	mg/L				7	20	RA
L88205-09AS	AS	06/08/24 0:24	WI240228-17	2	U	2.092	mg/L	105	90	110			
L88205-10DUP	DUP	06/08/24 0:26			.231	.236	mg/L				2	20	

GOLDER

ACZ Project ID: ***L88205***

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.

Nitrite as N EPA 353.2

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590669													
WG590669ICV	ICV	06/07/24 23:57	WI240403-6	.608		.607	mg/L	100	90	110			
WG590669ICB	ICB	06/07/24 23:58				U	mg/L		-0.01	0.01			
WG590669LFB	LFB	06/08/24 0:02	WI240228-17	1		1.032	mg/L	103	90	110			
L88203-01AS	AS	06/08/24 0:05	WI240228-17	1	U	1.033	mg/L	103	90	110			
L88204-01DUP	DUP	06/08/24 0:07			U	U	mg/L				0	20	RA
L88205-09AS	AS	06/08/24 0:24	WI240228-17	1	U	1.01	mg/L	101	90	110			
L88205-10DUP	DUP	06/08/24 0:26			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
WG590657													
WG590657LCSW1	LCSW	06/07/24 22:01	PCN624449	6		6.03	units	101	5.9	6.1			
WG590657LCSW4	LCSW	06/08/24 0:07	PCN624449	6		6.03	units	101	5.9	6.1			
L88205-03DUP	DUP	06/08/24 1:26			8.2	8.2	units				0	20	
L88206-03DUP	DUP	06/08/24 2:44			7.6	7.6	units				0	20	
WG590657LCSW7	LCSW	06/08/24 2:51	PCN624449	6		6.04	units	101	5.9	6.1			
WG590657LCSW10	LCSW	06/08/24 4:49	PCN624449	6		6.03	units	101	5.9	6.1			

Potassium, dissolved EPA 200.7

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG591942													
WG591942ICV	ICV	06/26/24 16:48	II240515-3	20		20.6	mg/L	103	95	105			
WG591942ICB	ICB	06/26/24 16:52				U	mg/L		-1.5	1.5			
WG591942LFB	LFB	06/26/24 17:02	II240617-1	99.96008		106	mg/L	106	85	115			
L88202-03AS	AS	06/26/24 17:12	II240617-1	99.96008	5.83	111	mg/L	105	85	115			
L88202-03ASD	ASD	06/26/24 17:14	II240617-1	99.96008	5.83	115	mg/L	109	85	115	4	20	
L88208-01AS	AS	06/26/24 18:04	II240617-1	99.96008	5.29	116	mg/L	111	85	115			
L88208-01ASD	ASD	06/26/24 18:06	II240617-1	99.96008	5.29	116	mg/L	111	85	115	0	20	

Residue, Filterable (TDS) @180C SM 2540 C-2011

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG591001													
WG591001PBW	PBW	06/12/24 16:15				U	mg/L		-20	20			
WG591001LCSW	LCSW	06/12/24 16:18	PCN626281	1000		990	mg/L	99	80	120			
L88205-05DUP	DUP	06/12/24 17:30			3230	3230	mg/L				0	10	
WG591047													
WG591047PBW	PBW	06/13/24 11:10				U	mg/L		-20	20			
WG591047LCSW	LCSW	06/13/24 11:14	PCN626281	1000		978	mg/L	98	80	120			
L88206-05DUP	DUP	06/13/24 11:59			1600	1614	mg/L				1	10	
WG591763													
WG591763PBW	PBW	06/24/24 14:15				U	mg/L		-20	20			
WG591763LCSW	LCSW	06/24/24 14:17	PCN626717	1000		982	mg/L	98	80	120			
L88450-02DUP	DUP	06/24/24 14:46			4000	3960	mg/L				1	10	

GOLDER

ACZ Project ID: ***L88205***

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.

Selenium, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.04875	mg/L	98	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00022	0.00022			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.05005		.05051	mg/L	101	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.05005	U	.0597	mg/L	119	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.05005	U	.0574	mg/L	115	70	130	4	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.04959	mg/L	99	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00022	0.00022			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.05005		.05155	mg/L	103	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.05005	U	.05579	mg/L	111	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.05005	U	.0573	mg/L	114	70	130	3	20	
WG591113													
WG591113ICV	ICV	06/14/24 11:38	MS240404-4	.05		.04986	mg/L	100	90	110			
WG591113ICB	ICB	06/14/24 11:40				U	mg/L		-0.00022	0.00022			
WG591113LFB	LFB	06/14/24 11:42	MS240514-1	.05005		.05199	mg/L	104	85	115			
L88186-02AS	AS	06/14/24 11:54	MS240514-1	.05005	.00038	.05512	mg/L	109	70	130			
L88186-02ASD	ASD	06/14/24 11:56	MS240514-1	.05005	.00038	.05406	mg/L	107	70	130	2	20	
L88222-01AS	AS	06/14/24 12:29	MS240514-1	.05005	.00087	.06018	mg/L	119	70	130			
L88222-01ASD	ASD	06/14/24 12:31	MS240514-1	.05005	.00087	.06132	mg/L	121	70	130	2	20	

Silver, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.02		.01926	mg/L	96	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00022	0.00022			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.01		.00977	mg/L	98	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.01	U	.01044	mg/L	104	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.01	U	.00986	mg/L	99	70	130	6	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.02		.01915	mg/L	96	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00022	0.00022			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.01		.00975	mg/L	98	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.01	U	.0084	mg/L	84	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.01	U	.00858	mg/L	86	70	130	2	20	

Sodium, dissolved EPA 200.7

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG591942													
WG591942ICV	ICV	06/26/24 16:48	II240515-3	100		100.25	mg/L	100	95	105			
WG591942ICB	ICB	06/26/24 16:52				U	mg/L		-0.6	0.6			
WG591942LFB	LFB	06/26/24 17:02	II240617-1	99.97238		101	mg/L	101	85	115			
L88202-03AS	AS	06/26/24 17:12	II240617-1	99.97238	7.8	108	mg/L	100	85	115			
L88202-03ASD	ASD	06/26/24 17:14	II240617-1	99.97238	7.8	110	mg/L	102	85	115	2	20	
L88208-01AS	AS	06/26/24 18:04	II240617-1	99.97238	84.4	182	mg/L	98	85	115			
L88208-01ASD	ASD	06/26/24 18:06	II240617-1	99.97238	84.4	182	mg/L	98	85	115	0	20	

GOLDER

ACZ Project ID: ***L88205***

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 EPA 300.0

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590047													
WG590047ICV	ICV	05/30/24 13:06	WI240529-11	50		49.87	mg/L	100	90	110			
WG590047ICB	ICB	05/30/24 13:24				U	mg/L		-0.9	0.9			
WG591017													
WG591017LFB1	LFB	06/13/24 11:40	WI240426-10	30		29.32	mg/L	98	90	110			
WG591017LFB2	LFB	06/13/24 20:20	WI240426-10	30		30.08	mg/L	100	90	110			
L88205-06DUP	DUP	06/13/24 23:01			U	U	mg/L				0	20	RA
L88205-07AS	AS	06/13/24 23:37	WI240426-10	3000	U	2237.35	mg/L	75	90	110			M2
WG591209													
WG591209LFB1	LFB	06/17/24 13:05	WI240426-10	30		30.43	mg/L	101	90	110			
L88246-01DUP	DUP	06/17/24 20:51			9.04	9.05	mg/L				0	20	RA
L88246-02AS	AS	06/17/24 21:27	WI240426-10	30	61.6	90.11	mg/L	95	90	110			
WG591209LFB2	LFB	06/17/24 21:45	WI240426-10	30		29.77	mg/L	99	90	110			

Thallium, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590865													
WG590865ICV	ICV	06/11/24 14:43	MS240404-4	.05		.050555	mg/L	101	90	110			
WG590865ICB	ICB	06/11/24 14:45				U	mg/L		-0.00011	0.00011			
WG590865LFB	LFB	06/11/24 14:48	MS240514-1	.0501		.049174	mg/L	98	85	115			
L88205-05AS	AS	06/11/24 14:58	MS240514-1	.0501	.000104	.048587	mg/L	97	70	130			
L88205-05ASD	ASD	06/11/24 15:02	MS240514-1	.0501	.000104	.050387	mg/L	100	70	130	4	20	
L88205-10AS	AS	06/11/24 15:11	MS240514-1	.0501	U	.049896	mg/L	100	70	130			
L88205-10ASD	ASD	06/11/24 15:12	MS240514-1	.0501	U	.050297	mg/L	100	70	130	1	20	

Uranium, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.0504	mg/L	101	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.00022	0.00022			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.05		.04909	mg/L	98	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.05	U	.04977	mg/L	100	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.05	U	.04841	mg/L	97	70	130	3	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.05032	mg/L	101	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.00022	0.00022			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.05		.05075	mg/L	102	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.05	U	.0486	mg/L	97	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.05	U	.05024	mg/L	100	70	130	3	20	

GOLDER

ACZ Project ID: ***L88205***

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 EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.04986	mg/L	100	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.0011	0.0011			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.05005		.04998	mg/L	100	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.05005	U	.05363	mg/L	107	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.05005	U	.0514	mg/L	103	70	130	4	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.04849	mg/L	97	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.0011	0.0011			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.05005		.05005	mg/L	100	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.05005	U	.04888	mg/L	98	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.05005	U	.04922	mg/L	98	70	130	1	20	

Zinc, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG590988													
WG590988ICV	ICV	06/12/24 18:19	MS240404-4	.05		.051	mg/L	102	90	110			
WG590988ICB	ICB	06/12/24 18:21				U	mg/L		-0.0132	0.0132			
WG590988LFB	LFB	06/12/24 18:23	MS240514-1	.050015		.0523	mg/L	105	85	115			
L88202-08AS	AS	06/12/24 19:00	MS240514-1	.050015	.012	.0698	mg/L	116	70	130			
L88202-08ASD	ASD	06/12/24 19:01	MS240514-1	.050015	.012	.0676	mg/L	111	70	130	3	20	
WG591002													
WG591002ICV	ICV	06/12/24 19:36	MS240404-4	.05		.0509	mg/L	102	90	110			
WG591002ICB	ICB	06/12/24 19:38				U	mg/L		-0.0132	0.0132			
WG591002LFB	LFB	06/12/24 19:40	MS240514-1	.050015		.0542	mg/L	108	85	115			
L88211-01AS	AS	06/12/24 20:01	MS240514-1	.050015	U	.0504	mg/L	101	70	130			
L88211-01ASD	ASD	06/12/24 20:03	MS240514-1	.050015	U	.0514	mg/L	103	70	130	2	20	

Inorganic Extended Qualifier Report

Golder Associates

ACZ Project ID: ***L88205***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L88205-01	WG590988	Beryllium, dissolved	EPA 200.8	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
	WG591209	Chloride	EPA 300.0	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			EPA 300.0	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).
	WG590669	Nitrate/Nitrite as N	EPA 353.2	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	EPA 353.2	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).
	WG591763	Residue, Filterable (TDS) @180C	SM 2540 C-2011	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
	WG591209	Sulfate	EPA 300.0	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).
	WG590657	Total Alkalinity	SM 2320 B-2011	B7	Target analyte detected in prep / method blank at or above acceptance limit. Sample value is > 10X the concentration in the method blank.

Golder Associates

ACZ Project ID: ***L88205***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L88205-02	WG590988	Aluminum, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Antimony, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Arsenic, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Beryllium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
			EPA 200.8	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Cadmium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Chromium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Cobalt, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Copper, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Lead, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Molybdenum, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Nickel, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
	WG590669	Nitrate/Nitrite as N	EPA 353.2	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	EPA 353.2	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).
	WG591763	Residue, Filterable (TDS) @180C	SM 2540 C-2011	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
	WG590988	Selenium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
			EPA 200.8	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
		Silver, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
	WG591017	Sulfate	EPA 300.0	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG590657	Total Alkalinity	SM 2320 B-2011	B7	Target analyte detected in prep / method blank at or above acceptance limit. Sample value is > 10X the concentration in the method blank.
	WG590988	Uranium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Vanadium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Zinc, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.

Inorganic Extended Qualifier Report

Golder Associates

ACZ Project ID: ***L88205***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L88205-03	WG590988	Beryllium, dissolved	EPA 200.8	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
	WG591942	Calcium, dissolved	EPA 200.7	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.
	WG590784	Cyanide, Free	ASTM D6888-09/OIA-1677-09	Q3	Sample received with improper or inadequate chemical preservation.
	WG590669	Nitrate/Nitrite as N	EPA 353.2	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	EPA 353.2	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).
	WG590988	Selenium, dissolved	EPA 200.8	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
	WG591017	Sulfate	EPA 300.0	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG590657	Total Alkalinity	SM 2320 B-2011	B7	Target analyte detected in prep / method blank at or above acceptance limit. Sample value is > 10X the concentration in the method blank.

Golder Associates

ACZ Project ID: ***L88205***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L88205-04	WG590988	Aluminum, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Antimony, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Arsenic, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Beryllium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
			EPA 200.8	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Cadmium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
	WG591942	Calcium, dissolved	EPA 200.7	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.
	WG590988	Chromium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Cobalt, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Copper, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Lead, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Manganese, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Molybdenum, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Nickel, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
	WG590669	Nitrate/Nitrite as N	EPA 353.2	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	EPA 353.2	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).
	WG591763	Residue, Filterable (TDS) @180C	SM 2540 C-2011	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
	WG590988	Selenium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
			EPA 200.8	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
		Silver, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
	WG591017	Sulfate	EPA 300.0	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG590657	Total Alkalinity	SM 2320 B-2011	B7	Target analyte detected in prep / method blank at or above acceptance limit. Sample value is > 10X the concentration in the method blank.
	WG590988	Uranium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Vanadium, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.
		Zinc, dissolved	EPA 200.8	D1	Sample required dilution due to matrix.

Golder Associates

ACZ Project ID: ***L88205***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L88205-05	WG590988	Beryllium, dissolved	EPA 200.8	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
	WG591942	Calcium, dissolved	EPA 200.7	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.
	WG591017	Chloride	EPA 300.0	DC	Sample required dilution. Non-target analyte exceeded calibration range.
	WG590669	Nitrate/Nitrite as N	EPA 353.2	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	EPA 353.2	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).
	WG591017	Sulfate	EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG590657	Total Alkalinity	SM 2320 B-2011	B7	Target analyte detected in prep / method blank at or above acceptance limit. Sample value is > 10X the concentration in the method blank.
L88205-06	WG591942	Calcium, dissolved	EPA 200.7	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.
	WG590669	Nitrate/Nitrite as N	EPA 353.2	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	EPA 353.2	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).
	WG591113	Selenium, dissolved	EPA 200.8	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
	WG591017	Sulfate	EPA 300.0	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG590657	Total Alkalinity	SM 2320 B-2011	B7	Target analyte detected in prep / method blank at or above acceptance limit. Sample value is > 10X the concentration in the method blank.

Golder Associates

ACZ Project ID: ***L88205***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L88205-07	WG591942	Calcium, dissolved	EPA 200.7	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.
	WG590669	Nitrate/Nitrite as N	EPA 353.2	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	EPA 353.2	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).
	WG591113	Selenium, dissolved	EPA 200.8	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
	WG591017	Sulfate	EPA 300.0	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG590657	Total Alkalinity	SM 2320 B-2011	B7	Target analyte detected in prep / method blank at or above acceptance limit. Sample value is > 10X the concentration in the method blank.
L88205-08	WG591942	Calcium, dissolved	EPA 200.7	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.
	WG590669	Nitrate/Nitrite as N	EPA 353.2	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	EPA 353.2	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).
	WG591113	Selenium, dissolved	EPA 200.8	EA	Concentration estimated. Analytical result was less than the negative MDL due to matrix interferences.
	WG591017	Sulfate	EPA 300.0	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG590657	Total Alkalinity	SM 2320 B-2011	B7	Target analyte detected in prep / method blank at or above acceptance limit. Sample value is > 10X the concentration in the method blank.
L88205-09	WG591942	Calcium, dissolved	EPA 200.7	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.
	WG590669	Nitrite as N	EPA 353.2	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).
	WG591047	Residue, Filterable (TDS) @180C	SM 2540 C-2011	Z3	Sample volume yielded a residue less than 2.5 mg
	WG591017	Sulfate	EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG590657	Total Alkalinity	SM 2320 B-2011	B4	Target analyte detected in blank at or above the acceptance criteria.

Inorganic Extended Qualifier Report

Golder Associates

ACZ Project ID: ***L88205***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L88205-10	WG591942	Calcium, dissolved	EPA 200.7	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.
	WG591017	Chloride	EPA 300.0	DC	Sample required dilution. Non-target analyte exceeded calibration range.
	WG592324	Fluoride	SM 4500-F C-2011	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM 4500-F C-2011	N1	See Case Narrative.
	WG590669	Nitrite as N	EPA 353.2	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).
	WG591017	Sulfate	EPA 300.0	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG590657	Total Alkalinity	SM 2320 B-2011	B7	Target analyte detected in prep / method blank at or above acceptance limit. Sample value is > 10X the concentration in the method blank.

RadioChemistry Analytical Results

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

ACZ Sample ID: ***L88205-01***
Date Sampled: *06/06/24 9:50*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
EPA 900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/24/24 0:07		92	40	150	pCi/L	*	amk
Gross Beta	06/24/24 0:07		57	26	110	pCi/L	*	amk

** Please refer to Qualifier Reports for details.*

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

ACZ Sample ID: ***L88205-02***
Date Sampled: *06/06/24 8:20*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
EPA 900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/24/24 0:08		-2.2	16	110	pCi/L	*	amk
Gross Beta	06/24/24 0:08		26	27	76	pCi/L	*	amk

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

ACZ Sample ID: ***L88205-03***
Date Sampled: *06/06/24 10:50*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
EPA 900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/24/24 0:10		2	11	140	pCi/L	*	amk
Gross Beta	06/24/24 0:10		13	18	120	pCi/L	*	amk

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

ACZ Sample ID: ***L88205-04***
Date Sampled: *06/06/24 11:40*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
EPA 900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/24/24 0:11		-6.8	43	510	pCi/L	*	amk
Gross Beta	06/24/24 0:11		44	51	400	pCi/L	*	amk

RadioChemistry Analytical Results

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

ACZ Sample ID: ***L88205-05***
Date Sampled: *06/06/24 14:20*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
EPA 900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/24/24 0:12		4.3	11	57	pCi/L	*	amk
Gross Beta	06/24/24 0:12		4.1	10	31	pCi/L	*	amk

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

ACZ Sample ID: ***L88205-06***
Date Sampled: *06/06/24 16:15*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
EPA 900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/24/24 0:14		-14	27	150	pCi/L	*	amk
Gross Beta	06/24/24 0:14		-7.9	35	82	pCi/L	*	amk

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

ACZ Sample ID: ***L88205-07***
Date Sampled: *06/06/24 15:21*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
EPA 900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/24/24 0:15		4.2	39	180	pCi/L	*	amk
Gross Beta	06/24/24 0:15		56	57	190	pCi/L	*	amk

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

ACZ Sample ID: ***L88205-08***
Date Sampled: *06/06/24 12:40*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
EPA 900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/24/24 0:17		55	66	400	pCi/L	*	amk
Gross Beta	06/24/24 0:17		43	60	290	pCi/L	*	amk

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

ACZ Sample ID: ***L88205-09***
Date Sampled: *06/06/24 8:30*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
EPA 900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/24/24 0:18		0.48	0.97	5	pCi/L	*	amk
Gross Beta	06/24/24 0:18		-0.46	2.5	7.4	pCi/L	*	amk

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

ACZ Sample ID: ***L88205-10***
Date Sampled: *06/06/24 16:30*
Date Received: *06/07/24*
Sample Matrix: *Groundwater*

Gross Alpha & Beta, dissolved
EPA 900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/24/24 0:21		75	38	230	pCi/L		amk
Gross Beta	06/24/24 0:21		72	27	180	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

ACZ Project ID: ***L88205***

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 EPA 900.0 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG591183																
WG591183PBW	PBW	06/24/24						-.02	0.54	0.85			1.7			
WG591183LCSWA	LCSW	06/24/24	PCN626723	100				110	8.9	1.5	110	67	144			
L88191-01DUP	DUP-RPD	06/24/24			0.19	1.6	2.2	1	1.7	2				136	20	RG
L88191-01DUP	DUP-RER	06/24/24			0.19	1.6	2.2	1	1.7	2				0.35	2	
L88205-09MSA	MS	06/24/24	PCN626723	100	0.48	0.97	5	120	9.3	12	120	67	144			
L88331-03DUP	DUP-RPD	06/24/24			11	3.8	6.8	9.7	3.8	13				13	20	

Beta EPA 900.0 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG591183																
WG591183PBW	PBW	06/24/24						1	1.9	2			4			
WG591183LCSWB	LCSW	06/24/24	RC240513-10	100				97	6.6	2.6	97	82	122			
L88191-01DUP	DUP-RPD	06/24/24			3.5	2.1	2	5.5	2.5	2.3				44	20	RG
L88191-01DUP	DUP-RER	06/24/24			3.5	2.1	2	5.5	2.5	2.3				0.61	2	
L88279-04MSB	MS	06/24/24	RC240513-10	100	6.4	3.3	9.5	110	7.5	21	104	82	122			
L88331-03DUP	DUP-RPD	06/24/24			6.3	3.1	6.1	7.2	3.2	14				13	20	

Golder Associates

ACZ Project ID: ***L88205***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L88205-01	WG591183	Gross Alpha	EPA 900.0	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	EPA 900.0	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.
L88205-02	WG591183	Gross Alpha	EPA 900.0	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	EPA 900.0	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.
L88205-03	WG591183	Gross Alpha	EPA 900.0	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	EPA 900.0	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.
L88205-04	WG591183	Gross Alpha	EPA 900.0	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	EPA 900.0	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.
L88205-05	WG591183	Gross Alpha	EPA 900.0	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	EPA 900.0	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.
L88205-06	WG591183	Gross Alpha	EPA 900.0	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	EPA 900.0	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.
L88205-07	WG591183	Gross Alpha	EPA 900.0	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	EPA 900.0	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.
L88205-08	WG591183	Gross Alpha	EPA 900.0	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	EPA 900.0	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.
L88205-09	WG591183	Gross Alpha	EPA 900.0	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	EPA 900.0	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: ***L88205***

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: L88205
Date Received: 06/07/2024 10:04
Received By:
Date Printed: 6/10/2024

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	

the analyses were entered per sample bag labels

the analyses were entered per sample bag labels

the analyses were entered per sample bag labels

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the analyses were entered per sample bag labels

7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the sx:9 identification section prior to ACZ custody.

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

Sample Receipt

Golder Associates

ACZ Project ID: L88205
Date Received: 06/07/2024 10:04
Received By:
Date Printed: 6/10/2024

A change was made in the sx:9 identification section prior to ACZ custody.

A change was made in the sx:9 identification section prior to ACZ custody.

A change was made in the sx:9 identification section prior to ACZ custody.

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		

NA indicates Not Applicable

Chain of Custody Related Remarks

The 'Relinquished By' field on the COC was not completed. The project manager is contacting the client.

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
7510	2.2	<=6.0	15	Yes
7676	2.1	<=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.

[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, Inc. 188205

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

CHAIN of CUSTODY

Report to:

Name: Jennifer Thompson
Company: WSP
E-mail: jennifer.thompson2@wsp.com
Address: 7245 W Alaska Drive Unit 200
Lakewood, CO 80226
Telephone: 832-571-5982

Copy of Report to:

Name: Sara Harkins
Company: sara.harkins@wsp.com
E-mail: WSP
Telephone:

Invoice to:

Name: Jennifer Thompson
Company: WSP
E-mail: jennifer.thompson2@wsp.com
Address: 7245 W Alaska Drive Unit 200
Lakewood, CO 80226
Telephone: 832-571-5982

Copy of Invoice to:

Name: Sara Harkins
Company: WSP
E-mail: sara.harkins@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 ✓

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

Sampler's Name: Zack Lindaver Sampler's Site Information State CO Zip code 80226 Time Zone MT

*Sampler's Signature:

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

PROJECT INFORMATION

Quote #:
PO#:
Reporting state for compliance testing:
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	6/6/24 9:50	GW	5
MW-2	6/6/24 8:20		5
MW-3	6/6/24 10:50		5
MW-4	6/6/24 11:40		5
MW-5	6/6/24 7:20		5
MW-6	6/6/24 9:15		5
MW-7	6/6/24 3:21		5
MW-8	6/6/24 12:40		5
MW-[illegible]	6/6/24 8:30		5
MW-20	6/6/24 9:30	↓	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
			6/7/24 10:04

Qualtrax ID: 1984 Revision #: 3 White - Return with sample. Yellow - Retain for your records.

L88205 Chain of Custod

ATTACHMENT 2

Field Sheets

RECORD OF WATER LEVEL READINGS

: Holcim 2024 Boettcher Quarry GW **Location:** Laporte, CO **Project No. 31404755.9182**

ate	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
	10:27	WLM - 300'	TPVC	44.39	--	--	--		
9/24	9:07	WLM - 300'	TPVC	109.78	--	--	--		
9/24	10:40	WLM - 300'	TPVC	44[illegible]39.47	--	--	--		
9/24	~~[illegible]~~	12:52 WLM - 300'	TPVC	71.33	--	--	--		
0/24	~~3:55~~	7:45 WLM - 300'	TPVC	~~[illegible]~~ 50.24	--	--	--		
30/24	11:30	WLM - 300'	TPVC	196.21	--	--	--		
9/24	3:55	WLM - 300'	TPVC	220.90	--	--	--		
0/24	8:30	WLM - 300'	TPVC	149.91	--	--	--		
		WLM - 300'	TPVC		--	--	--		
		WLM - 300'	TPVC		--	--	--		
		WLM - 300'	TPVC		--	--	--		
		WLM - 300'	TPVC		--	--	--		
		WLM - 300'	TPVC		--	--	--		
		WLM - 300'	TPVC		--	--	--		
		WLM - 300'	TPVC		--	--	--		
		WLM - 300'	TPVC		--	--	--		

INSTRUMENT CALIBRATION FORM

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

Calibration By: H Holden

Instrument Details

Instrument Name: YSI pH / cond. probe

Serial No.:

Model No.:

Calibration Details

Calibration Standard: pH 7, 4, 10
cond. 1413 µs/cm

Calibration Standard(s) Expiration Date:

Calibration:

Date	Time	Calibration Standard	Temp (°C)	Instrument Reading	Notes
6/6	8:50	pH 7		7.01	adjusted
6/6	8:52	pH 4		4.00	
6/6	8:54	pH 10		10.06	adjusted
6/6	8:57	cond. 1413		1413 µm/cm	

INSTRUMENT CALIBRATION FORM

Project Name: Holcim 2024 Boettcher Quarry GW **Project Number:** 31404755.92

Calibration By: Hanna H

Instrument Details

Instrument Name: YSI Probe pH/cond.

Serial No.:

Model No.:

Calibration Details

Calibration Standard: 3 pt calibration

Calibration Standard(s) Expiration Date: April 2026

Calibration:

Date	Time	Calibration Standard	Temp (°C)	Instrument Reading	Notes
2025/5/29	9:08	pH 10.0	23.7	10.02	adjusted to 10.00
	9:12	pH 7.0	26.9	7.00	
	9:15	pH 4.0	26.3	4.01	adjusted to 4.00
		cond. std 1413	26.3	1413 µS/cm	
5/30	8:20	pH 4.0	21.0	4.00	
	8:22	pH 7.0	21.0	7.02	
	8:24	pH 10.0	21.0	10.05	
	8:26	cond std 1413	20.4	1413 µS/cm	

wsp

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2024 Boettcher Quarry GW CO **Project No. 31404755.9182**

Location

MW-2

Monitored By: JT / HH Date 5/29/24 Time 9:30 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)	69.78	feet
Radius of Casing	2	inches
		feet
Casing Volume	~~2~~	cubic feet
		gallons

Development / Purging Discharge Data

Purging Method		disposable, dedicated bailer		
Start Purging	Date	5/29/24	Time	9:30
Stop Purging	Date	5/29/24	Time	10:12

Monitoring

Date	Time	Volume Discharge (gals)	Temp (°C)	pH	Spec.Cond. (µS/cm)	Turbidity (NTU)		Appearance of Water and Comments
5/29	9:35	2.5	15.5	7.95	~~8848~~ 18	—		yellow/brown - clear
5/29	9:45	5.0	15.0	7.74	10718	—		
5/29	9:55	7.5	14.7	7.61	10960	—		clear
	10:00	10.0	14.6	7.62	10965	—		
	10:08	12.5	14.7	7.66	10900	—		
	10:12	13.25	14.7	7.72	6330	—		

wsp

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2024 Boettcher Quarry GW CO **Project No. 31404755.9182**

Location MW-3

Monitored By: JT / HH Date 5/29/24 Time 10:40

Well Piezometer Data

(circle one)

Depth of Well (from top of PVC or ground)		feet
Depth of Water (from top of PVC or ground)	39.47	feet
Radius of Casing	2	inches
		feet
Casing Volume		cubic feet
		gallons

Development / Purging Discharge Data

Purging Method: disposable, dedicated bailer

Start Purging Date 5/29 Time 10:55

Stop Purging Date 5/29 Time 12:40

Monitoring

Date	Time	Volume Discharge (gals)	Temp (°C)	pH	Spec.Cond. (__S/cm)	Turbidity (NTU)		Appearance of Water and Comments
5/29	11:08	5	16.9	7.84	6428	—		
	11:23	10	16.4	7.79	6702	—		cloudy, yellow, SVOC smell
	12:33	15	16.8	7.79	6697	—		

WSP

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2024 Boettcher Quarry GW CO **Project No. 31404755.9182**

Location MW 4

Monitored By: JT / HH Date 5/29/24 Time 12:50

Well Piezometer Data

(circle one)

Depth of Well (from top of PVC or ground)		feet
Depth of Water (from top of PVC or ground)	71.33	feet
Radius of Casing	2	inches
		feet
Casing Volume		cubic feet
		gallons

Development / Purging Discharge Data

Purging Method: disposable, dedicated bailer

Start Purging Date 5/29 Time 1:00

Stop Purging Date 5/29 Time 3:30

Monitoring

Date	Time	Volume Discharge (gals)	Temp (°C)	pH	Spec.Cond. (µS/cm)	Turbidity (NTU)		Appearance of Water and Comments
5/29	1:38	5	13.0	7.66	18728	—		murky yellow/grey
	1:54	10	12.9	7.67	18658	—		↓
	2:16	15	13.2	7.50	19028	—		
	2:39	20	14.1	7.51	18593	—		
	3:05	25	13.9	7.71	18705	—		
	3:28	29	13.6	7.76	18916	—		

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2024 Boettcher Quarry GW CO **Project No. 31404755.9182**

Location MW-6

Monitored By: JT/HH Date 5/30/24 Time 11:30

Well Piezometer Data

(*circle one*)

Depth of Well (from top of PVC or ground)		feet
Depth of Water (from top of PVC or ground)	196.21	feet
Radius of Casing	4	inches
		feet
Casing Volume		cubic feet
		gallons

Development / Purging Discharge Data

Purging Method: disposable, dedicated bailer

Start Purging Date: Time: 11:55

Stop Purging Date: Time: 1:15

Monitoring

collected water in bucket

Date	Time	Volume Discharge (gals)	Temp (°C)	pH	Spec.Cond. (µS/cm)	Turbidity (NTU)		Appearance of Water and Comments
5/30	12:06	5	14.6	7.58	17106	—		dark black
	12:19	10	14.7	[illegible]	16654			
	12:31	15	14.7	7.52	17232			
	12:43	20	14.7	7.51	17562			
	12:57	25	14.8	7.49	17610			
	1:15	28.5	15.4	7.55	[illegible]	18109		

wsp

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2024 Boettcher Quarry GW CO **Project No. 31404755.9182**

Location MW-17

Monitored By: JT-HH Date 5/29 Time 4:00

Well Piezometer Data

(circle one)

Depth of Well (from top of PVC or ground)		feet
Depth of Water (from top of PVC or ground)	220.9	feet
Radius of Casing	4	inches
		feet
Casing Volume		cubic feet
		gallons

Development / Purging Discharge Data

Purging Method: disposable, dedicated bailer

Start Purging Date 5/29 Time 4:15

Stop Purging Date 5/29 Time 6:00

Monitoring

Date	Time	Volume Discharge (gals)	Temp (°C)	pH	Spec.Cond. (µS/cm)	Turbidity (NTU)		Appearance of Water and Comments
5/29	4:45	5	14.4	7.23	15481	—		clear, sulfur smell
5/29	4:58	10	14.0	7.23	17217	—		
	5:15	15	14.0	7.23	17923	—		dark/murky
	5:26	20	13.8	7.36	18145	—		
	5:38	25	13.8	7.37	18033	—		
	5:50	30	13.7	7.4	18415	—		
	6:00	33	13.7	7.47	18943	✓		

wsp

WELL DEVELOPMENT/PURGING FORM

Project Ref: Holcim 2024 Boettcher Quarry GW CO **Project No. 31404755.9182**

Location MW-8

Monitored By: JT/HH Date 5/30/24 Time 8:30

Well Piezometer Data

(circle one)

Depth of Well (from top of PVC or ground)		feet
Depth of Water (from top of PVC or ground)	149.91	feet
Radius of Casing	4	inches
		feet
Casing Volume		cubic feet
		gallons

Development / Purging Discharge Data

Purging Method: disposable, dedicated bailer

Start Purging Date 5/30 Time 8:40

Stop Purging Date 5/30 Time 11:02

Monitoring

Date	Time	Volume Discharge (gals)	Temp (°C)	pH	Spec.Cond. (µS/cm)	Turbidity (NTU)		Appearance of Water and Comments
								light
5/30	9:00	5	14.0	7.04	20108	~		clear / sulfur
5/30	9:13	10	13.7	7.64	20185			
	9:21	15	13.8	7.66	20174			
	9:31	20	13.8	7.66	20334			
	9:40	25	14.6	7.67	20300			
	9:50	30	14.1	7.67	20372			
	10:01	35	14.2	7.69	20321			
	10:11	40	14.3	7.61	20333			
	10:22	45	14.4	7.53	20402			
	10:32	50	14.4	7.50	20507			
	10:42	55	14.5	7.48	20462			dark / murky
	11:02	58.5	15.1	7.45	20828			

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2024 Boettcher Quarry GW**	Sampler Name(s): Hanna Holden + Jack Lindauer
Project Number: **31404755.9182**	Date: 6/6/24
Monitoring Well I.D.: **MW-1**	Weather Conditions: ~70 °F
Wellhead Inspection (note conditions): All normal	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	44.45 ft	8. Purge Equipment Used	Bailer
2. Bottom of Casing[1] (±0.01ft.)	65.59 ft btoc	9. Dedicated? (Yes or No)	Yes
3. Casing Diameter (in.)	2	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	3.45	11. Time to Purge Well (min)	
5. 3 x Casing Volume (gallons)	10.35	12. Immiscible Layer Observed (yes or no)	
6. Actual Volume of Water Purged	15	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 Turbidity	Other
6/6/24	9:30	5	15	7.23	7413	—	—
6/6/24	9:40	~~5~~ 10	14.7	7.28	7439	—	—
6/6/24	9:48	12	14.7	7.39	7543	—	—

Well Evacuated to Dryness? (Yes or No) No

Time to recharge? _____

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	Relative Turbidity	Other
6/6/24	9:50	15	19.3	7.44	7695	high	—

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 - grey				**Instrument Calibrations**	pH, conductivity	
4. Odor	none						
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**		

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2024 Boettcher Quarry GW**	Sampler Name(s): Jack Lindauer + Hanna Holden
Project Number: **31404755.9182**	Date: 6/6/24
Monitoring Well I.D.: **MW-2**	Weather Conditions: ~ 10 °F
Wellhead Inspection (note conditions): All normal	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	106.3 ft	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)	
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: 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 (µS/cm)	Relative Turbidity	Other
6/6	8:20	1	16.4	7.45	11105	low	

1. Sampling Equipment Used	Bailer				**Other Information:**	
2. Pump Rate	N/A				**Decontamination Procedures**	Alconox, DI rinse
3. Sample Appearance:	clear ☑	low ☐	medium ☐	high ☐		
Color	colorless				**Instrument Calibrations**	pH, conductivity
4. Odor	slightly sulfury					
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**	—

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2024 Boettcher Quarry GW**	Sampler Name(s): Jack Lindauer + Hanna Holden
Project Number: **31404755.9182**	Date: 6/6/24
Monitoring Well I.D.: **MW-3**	Weather Conditions: ~72 °F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	73.35 ft	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: Purged previous week

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/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 (µS/cm)	Relative Turbidity	Other
6/6/24	10:50	1.5	20.3	7.85	6972	—	—

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	slight sulfur						
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**		

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2024 Boettcher Quarry GW**	Sampler Name(s): Jack Lindaver + Hanna Holden
Project Number: **31404755.9182**	Date: 6/6/24
Monitoring Well I.D.: **MW-4**	Weather Conditions: ~73°F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	139.55 ft	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)

Logger removed: 11:22am
Logger installed: 11:55am

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 (µS/cm)	Relative Turbidity	Other
6/6/24	11:40	1	17.9	7.58	19126	—	—

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	odorless					
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**	

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2024 Boettcher Quarry GW**	Sampler Name(s): Jack Lindaver + Hanna Holden
Project Number: **31404755.9182**	Date: 6/6/24
Monitoring Well I.D.: **MW-5**	Weather Conditions: ~ 82°F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	50.4' ft	8. Purge Equipment Used	Bailer
2. Bottom of Casing[1] (±0.01ft.)	60.3 ft btoc	9. Dedicated? (Yes or No)	
3. Casing Diameter (in.)	2	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	2.05	11. Time to Purge Well (min)	
5. 3 x Casing Volume (gallons)	6.15	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)	Relative Turbidity	Other
6-6	1:47	2.5	14.6	6.76	3690		
6-6	1:57	5.0	14.5	6.76	3604		
	2:03	7.5	14.5	6.77	3457		
6-6	2:12	9.5	14.6	6.78	3675		

Well Evacuated to Dryness? (Yes or No) No

Time to recharge? _____

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/cm)	Relative Turbidity	Other
6-6	2:20	10.5	16.0	6.77	3843		

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

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2024 Boettcher Quarry GW**	Sampler Name(s): Jack Lindauer + Hanna Holden
Project Number: **31404755.9182**	Date: 6-6-24
Monitoring Well I.D.: ~~MW-~~ MW-7	Weather Conditions: ~ 82°F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	225.45	8. Purge Equipment Used	Bailer
2. Bottom of Casing[1] (±0.01ft.)	~~229.7~~ ft btoc 259.2	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)

logger rmvd: 2:50
logger installed

Purge Parameters:

purged previous week

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (µS/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 (µS/cm)	Relative Turbidity	Other
6-6-24	3:21	1 g	19.0	7.54	19419	—	—

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 2024 Boettcher Quarry GW**	Sampler Name(s): Jack Lindauer + Hanna Holden
Project Number: **31404755.9182**	Date: 6/6/24
Monitoring Well I.D.: **MW-6**	Weather Conditions: ~ 80 °F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	227.8	8. Purge Equipment Used	Bailer
2. Bottom of Casing[1] (±0.01ft.)	[redacted] ft btoc 229.7	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)

purged previous week

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 (µS/cm)	Relative Turbidity	Other
6/6	4:15	1	19.2	7.18	18513	—	—

1. Sampling Equipment Used	Bailer				**Other Information:**		
2. Pump Rate	N/A				**Decontamination Procedures**	Alconox, DI rinse	
3. Sample Appearance:	clear ☐	low ☒	medium ☐	high ☐			
Color	light brown				**Instrument Calibrations**	pH, conductivity	
4. Odor	sulfury						
5. Method of Sample Preservation	HNO_3, NaOH				**Unusual Occurrences**		

GROUNDWATER SAMPLING DATA SHEET

Project Name: **Holcim 2024 Boettcher Quarry GW**	Sampler Name(s): Jack Lindauer & Hanna Holden
Project Number: **31404755.9182**	Date: 6/6/24
Monitoring Well I.D.: **MW-8**	Weather Conditions: ~77 °F
Wellhead Inspection (note conditions):	

Groundwater Measurements and Purge Data:

1. Static Water Level[1] (±0.01ft.)	225.45ft	8. Purge Equipment Used	
2. Bottom of Casing[1] (±0.01ft.)	~229 ft btoc	9. Dedicated? (Yes or No)	
3. Casing Diameter (in.)	4	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)		11. Time to Purge Well (min)	
5. 3 x Casing Volume (gallons)		12. Immiscible Layer Observed (yes or no)	
6. Actual Volume of Water Purged		13. Thickness if Immiscible layer (if present)	
7. Water Level Measuring Equip.	300' electronic		

[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 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 (µS/cm)	Relative Turbidity	Other
6/6/24	12:38pm	1	20.0	7.44	21055		

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