

April 18, 2025

Colorado Division of Reclamation and Mining Safety
Mr. Patrick Lennberg
1313 Sherman Street, Room 215
Denver, CO 80203

**RE: Annual Groundwater Data for 2024-2025, Additional Information Provided
Section 20 Gravel Mine, Permit No. M-2022-001**

Dear Mr. Lennberg:

The Division of Reclamation Mining and Safety (the Division) sent a letter on April 18, 2025 requesting more information regarding the groundwater data collected for the 2024-2025 reporting period. This letter addresses the comments from the Division's letter.

1. A map of the well locations has been provided along with this letter
2. During the review of TR-1, the Division commented that the "Operator needs to expand groundwater quality monitoring to include additional monitoring wells, around the permit boundary..." In addition, the permittee committed to updating the groundwater monitoring plan through a Technical Revision prior to submitting the results of the baseline groundwater monitoring data and prior to exposing groundwater at the site. Since no mining activities have taken place at the site the baseline period is still ongoing, and no groundwater has been exposed at the site.

In anticipation of receiving the above comment when the TR is submitted, the Permittee has opted to preemptively expand the wells sampled for quarterly water quality analysis to include MW-1 and MW-3. The addition of the wells at the eastern and western sides of the site provides coverage for all 4 sides of the permit boundary.

3. The tables have been updated and resubmitted. In addition, quarter 1 of 2025 has been included.
4. As previously stated, mining operations have not commenced at the site under the 112 permit and groundwater has not been exposed. Sources of elevated nitrogen concentrations in groundwater can come from wastewater discharge, animal wastes, fertilizer applications, or confined animal feeding operations. (Flynn 2003). Elevated nitrate concentrations are typical for the South Platte alluvial aquifer in the Gilcrest area (Flynn 2003).

The site and surrounding area is comprised of flood irrigated crops. MW-2 is located in close proximity to an irrigation runoff collection pond. MW-3 is located adjacent to where irrigation runoff tends to accumulate. The elevated nitrate levels in MW-2, and MW-3 are likely due to fertilizer application and irrigation practices. MW-1 is located near the western residence which utilizes a septic system, which could be an additional source of elevated nitrate concentrations.

We appreciate your review. Should you have any questions, please contact us.

Sincerely,
CIVIL RESOURCES, LLC.



References:

Flynn, J. L. (2003). Ground-water-quality assessment of shallow aquifers in the Front Range Urban Corridor, Colorado, 1954–98 (Water-Resources Investigations Report 02-4247). U.S. Geological Survey.

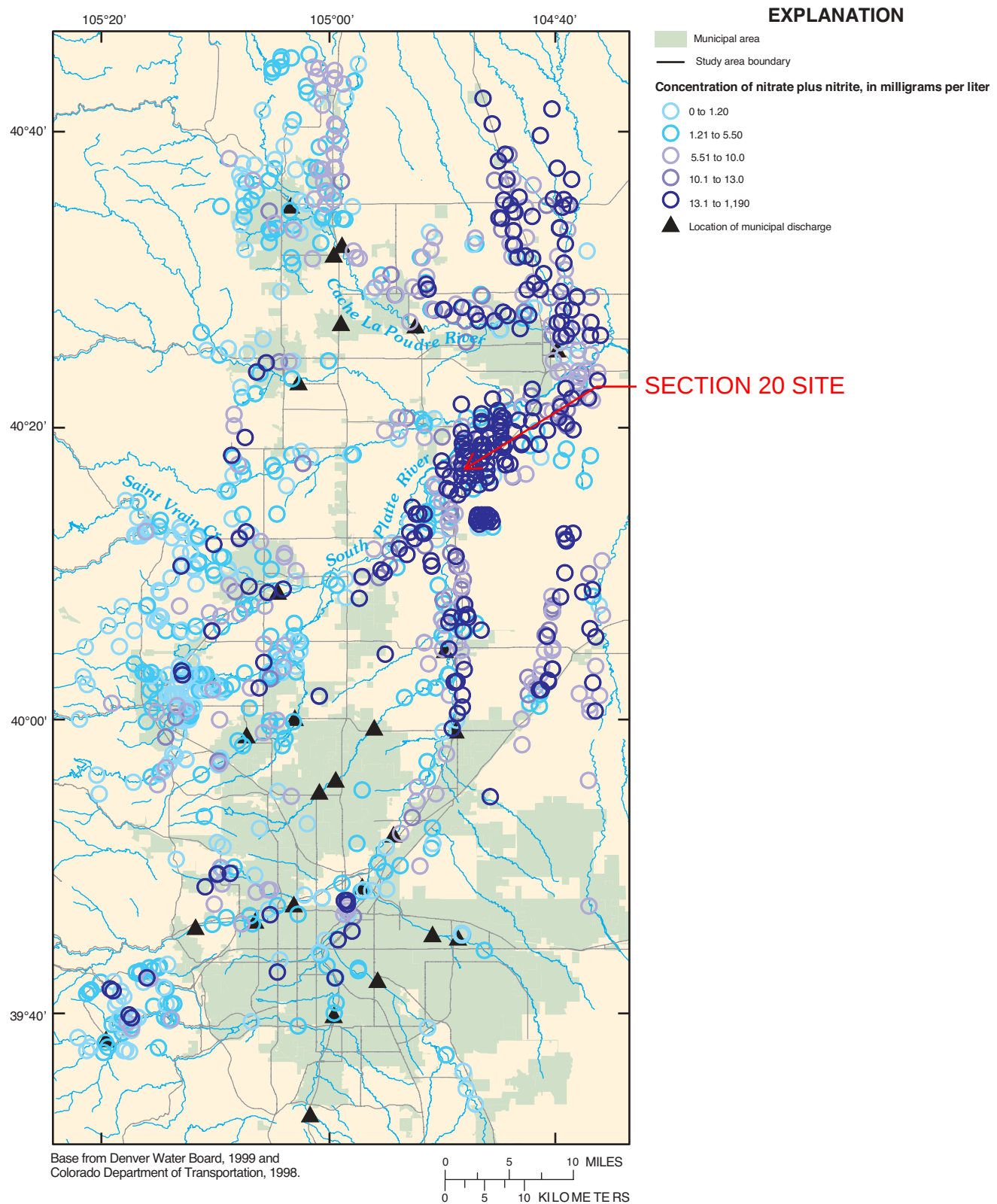
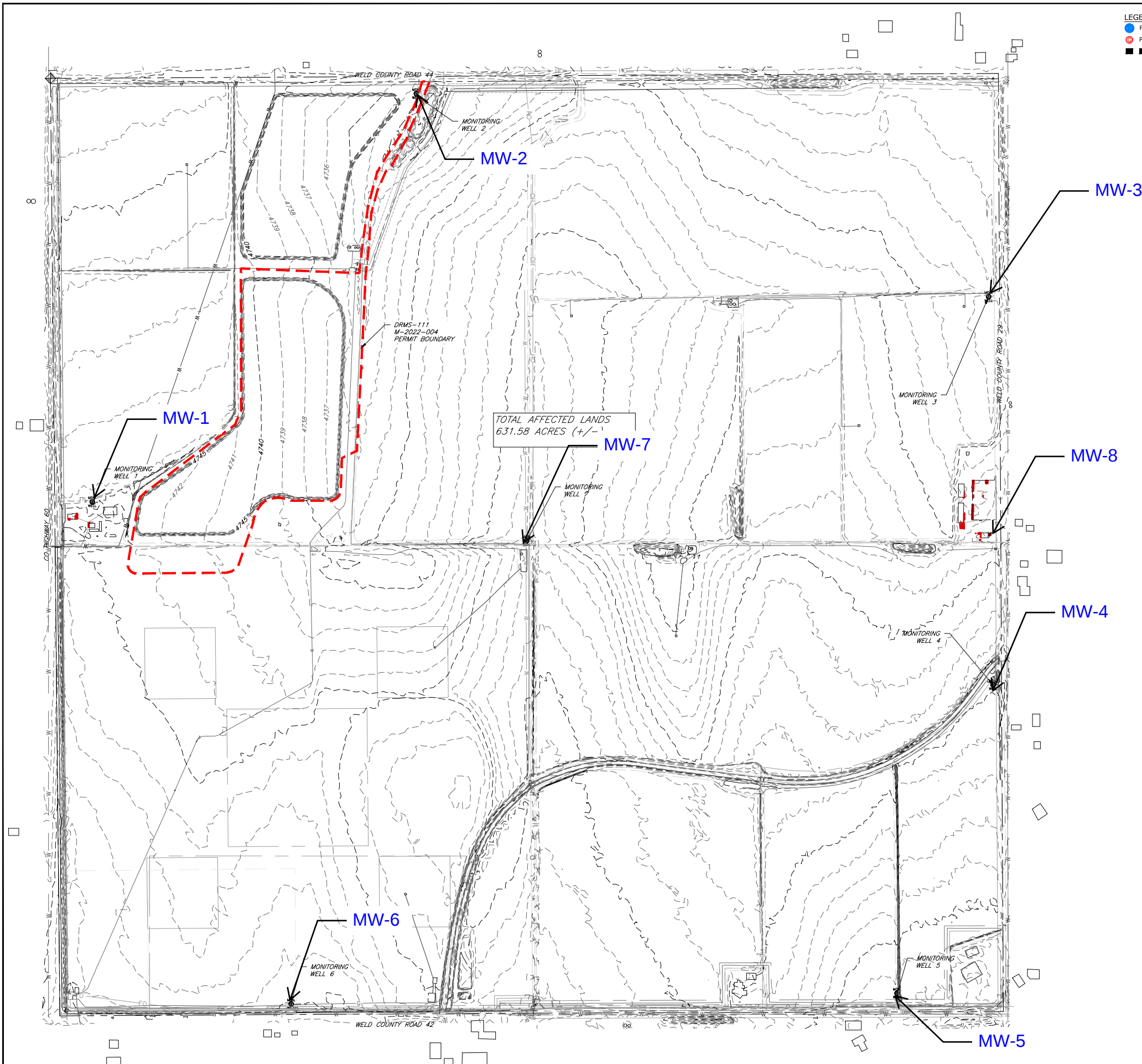


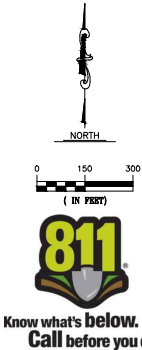
Figure 10. Spatial distribution of nitrate plus nitrite concentrations.

J:\United Water & San - 141\Section 20\Drawings\Sheets\Preming Map.dwg, EX-C-1, 5/8/2024 9:55:06 AM



- LEGEND
- PLUGGED AND ABANDONED OIL/GAS WELL
 - PRODUCING OIL/GAS WELL
 - PERMIT BOUNDARY

- NOTES
1. THIS MAP HAS BEEN PREPARED TO SATISFY RULE 6.4.3 EXHIBIT C SUBSECTIONS C, D, AND E
 2. TYPE OF VEGETATION IS FLOOD IRRIGATED CROPS OF CORN, WHEAT AND ASSORTED VEGETABLES, AND AREAS OF FALLOW AND UNVEGETATED GROUND (YARD AREAS, OIL AND GAS PADS).




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SECTION 20
DRMS 112 RECLAMATION PERMIT
GILCREST, COLORADO

REVISIONS		
NO.	DESCRIPTION	DATE

DESIGNED BY: BLH DATE: 9/13/2021
DRAWN BY: KR SCALE: AS NOTED
CHECKED BY: BLH AS NOTED
JOB NO.: 303.001.04
DWG NAME: GILCREST-AREA-GEOLOGY.DWG

PRE-MINING
MAP

SHEET:
EXHIBIT C-1

Table - Groundwater Baseline Data (Q3 Sept 24, 2024)

Analyte	Compliance Standard		MW-1	MW-2	MW-3	MW-5	Method Used	Detection Limit(ug/L)	Notes
Aluminum (Al) Dissolved	5	mg/L	0.01	0.001	0.013	0.004	EPA 200.8	0.001	
Antimony(Sb) Dissolved	0.006	mg/L	ND	ND	ND	ND	EPA 200.8	0.0012	
Arsenic (As) Dissolved	0.01	mg/L	ND	0.0012	ND	0.0009	EPA 200.8	0.0006	
Barium(Ba) Dissolved	2	mg/L	0.0455	0.081	0.0608	0.0878	EPA 200.8	0.0007	
Beryllium (Be) Dissolved	0.004	mg/L	ND	ND	ND	ND	EPA 200.8	0.0001	
Boron (B) Dissolved	0.75	mg/L	0.21	0.23	0.21	0.24	EPA 200.8	0.05	
Cadmium(Cd) Dissolved	0.005	mg/L	ND	ND	ND	ND	EPA 200.8	0.0001	
Chloride (Cl)	250	mg/L	144	174	158	157	EPA 300.0	0.5	
Chromium(Cr) Dissolved	0.1	mg/L	ND	ND	ND	ND	EPA 200.8	0.0015	
Cobalt (Co) Dissolved	0.05	mg/L	0.0003	0.0003	0.0002	0.0002	EPA 200.8	0.0002	
Copper (Cu) Dissolved	0.2	mg/L	0.0012	0.0022	ND	0.0018	EPA 200.8	0.0008	
Fluoride(F)	2	mg/L	0.9	0.85	0.83	0.89	EPA 300.0	0.5	
Iron (Fe) Dissolved	0.3	mg/L	0.036	ND	ND	0.007	EPA 200.8	0.005	
Lead(Pb) Dissolved	0.05	mg/L	ND	ND	ND	ND	EPA 200.8	0.0001	
Lithium(Li) Dissolved	2.5	mg/L	ND	ND	ND	ND	EPA 200.7	0.1	
Nickel (Ni) Dissolved	0.1	mg/L	0.0019	0.0023	0.0019	0.002	EPA 200.8	0.0009	
Nitrate(NO3)	10	mg/L	3.81	13.4	5.61	7.06	EPA 300.0	0.25	
Nitrite (NO2)	1	mg/L	ND	ND	ND	ND	EPA 300.0	0.15	
Nitrite & Nitrate (NO2+NO3)	10	mg/L	3.81	13.4	5.61	7.06	EPA 300.0	0.05	
Manganese (Mn) Dissolved	0.05	mg/L	ND	0.0011	ND	ND	EPA 200.8	0.0008	
Mercury (Hg) Dissolved	0.01	mg/L	ND	ND	ND	ND	EPA 245.1	0.0001	
Molybdenum(Mo) Dissolved	0.21	mg/L	0.0084	0.0028	0.0073	0.0072	EPA 200.8	0.0005	
Selenium(Se) Dissolved	0.05	mg/L	0.0016	0.002	0.0017	0.0019	EPA 200.8	0.0008	
Silver(Ag) Dissolved	0.05	mg/L	ND	ND	ND	ND	EPA 200.8	0.0005	
Sulfate (SO 4)	250	mg/L	178	227	198	201	EPA 300.0	0.5	
Thallium(Tl) Dissolved	0.002	mg/L	ND	ND	ND	ND	EPA 200.8	0.0002	
Uranium(U) Dissolved	0.0168	mg/L	0.009	0.0115	0.0114	0.0066	EPA 200.8	0.0002	
Vanadium (V) Dissolved	0.1	mg/L	0.001	0.002	0.001	0.003	EPA 200.8	0.001	
Zinc (Zn) Dissolved	2	mg/L	0.001	ND	0.001	ND	EPA 200.8	0.001	
TDS		(1.25 x the background value)	741	980	800	775	SM2540C	10 mg/L	

*ND = Non Detect

Table - Groundwater Baseline Data (Q4 December 12, 2024)

Analyte	Compliance Standard		MW-1	MW-2	MW-3	MW-5	Method Used	Detection Limit(ug/L)	Notes
Aluminum (Al) Dissolved	5	mg/L	ND	ND	0.005	ND	EPA 200.8	0.001	
Antimony(Sb) Dissolved	0.006	mg/L	ND	ND	ND	ND	EPA 200.8	0.0012	
Arsenic (As) Dissolved	0.01	mg/L	ND	0.0009	ND	0.0008	EPA 200.8	0.0006	
Barium(Ba) Dissolved	2	mg/L	0.0469	0.792	0.0795	0.0884	EPA 200.8	0.0007	
Beryllium (Be) Dissolved	0.004	mg/L	ND	ND	ND	ND	EPA 200.8	0.0001	
Boron (B) Dissolved	0.75	mg/L	0.2	0.21	0.18	0.19	EPA 200.8	0.05	
Cadmium(Cd) Dissolved	0.005	mg/L	ND	ND	ND	ND	EPA 200.8	0.0001	
Chloride (Cl)	250	mg/L	158	164	166	178	EPA 300.0	0.5	
Chromium(Cr) Dissolved	0.1	mg/L	ND	ND	ND	ND	EPA 200.8	0.0015	
Cobalt (Co) Dissolved	0.05	mg/L	0.0003	0.0003	0.0003	0.0002	EPA 200.8	0.0002	
Copper (Cu) Dissolved	0.2	mg/L	0.0011	0.0018	0.0008	0.0014	EPA 200.8	0.0008	
Fluoride(F)	2	mg/L	1.03	0.91	0.94	1.04	EPA 300.0	0.5	
Iron (Fe) Dissolved	0.3	mg/L	ND	ND	ND	ND	EPA 200.8	0.005	
Lead(Pb) Dissolved	0.05	mg/L	ND	ND	ND	ND	EPA 200.8	0.0001	
Lithium(Li) Dissolved	2.5	mg/L	ND	ND	ND	ND	EPA 200.7	0.1	
Nickel (Ni) Dissolved	0.1	mg/L	0.0015	0.0019	0.0016	0.0015	EPA 200.8	0.0009	
Nitrate(NO3)	10	mg/L	4.11	11.6	10.3	4.24	EPA 300.0	0.25	
Nitrite (NO2)	1	mg/L	ND	ND	ND	ND	EPA 300.0	0.15	
Nitrite & Nitrate (NO2+NO3)	10	mg/L	4.11	11.6	10.3	4.24	EPA 300.0	0.05	
Manganese (Mn) Dissolved	0.05	mg/L	0.0015	ND	ND	ND	EPA 200.8	0.0008	
Mercury (Hg) Dissolved	0.01	mg/L	ND	ND	ND	ND	EPA 245.1	0.0001	
Molybdenum(Mo) Dissolved	0.21	mg/L	0.0068	0.0024	0.0078	0.0063	EPA 200.8	0.0005	
Selenium(Se) Dissolved	0.05	mg/L	0.0009	0.0011	ND	0.0011	EPA 200.8	0.0008	
Silver(Ag) Dissolved	0.05	mg/L	ND	ND	ND	ND	EPA 200.8	0.0005	
Sulfate (SO 4)	250	mg/L	192	208	193	193	EPA 300.0	0.5	
Thallium(Tl) Dissolved	0.002	mg/L	ND	ND	ND	ND	EPA 200.8	0.0002	
Uranium(U) Dissolved	0.0168	mg/L	0.0075	0.0057	0.0059	0.0049	EPA 200.8	0.0002	
Vanadium (V) Dissolved	0.1	mg/L	ND	0.002	0.001	0.002	EPA 200.8	0.001	
Zinc (Zn) Dissolved	2	mg/L	ND	ND	ND	ND	EPA 200.8	0.001	
TDS		(1.25 x the background value)	757	828	773	877	SM2540C	10 mg/L	

*ND = Non Detect

Table - Groundwater Baseline Data (Q1 February 14, 2025)

Analyte	Compliance Standard		MW-1	MW-2	MW-3	MW-5	Method Used	Detection Limit(ug/L)	Notes
Aluminum (Al) Dissolved	5	mg/L	0.005	0.001	0.003	0.011	EPA 200.8	0.001	
Antimony(Sb) Dissolved	0.006	mg/L	ND	ND	ND	ND	EPA 200.8	0.0012	
Arsenic (As) Dissolved	0.01	mg/L	ND	0.0011	ND	ND	EPA 200.8	0.0006	
Barium(Ba) Dissolved	2	mg/L	0.0659	0.0821	0.0796	0.772	EPA 200.8	0.0007	
Beryllium (Be) Dissolved	0.004	mg/L	ND	ND	ND	ND	EPA 200.8	0.0001	
Boron (B) Dissolved	0.75	mg/L	0.23	0.25	0.23	0.2	EPA 200.8	0.05	
Cadmium(Cd) Dissolved	0.005	mg/L	ND	ND	ND	ND	EPA 200.8	0.0001	
Chloride (Cl)	250	mg/L	180	170	168	144	EPA 300.0	0.5	
Chromium(Cr) Dissolved	0.1	mg/L	ND	ND	ND	ND	EPA 200.8	0.0015	
Cobalt (Co) Dissolved	0.05	mg/L	0.0003	0.0004	0.0003	0.0003	EPA 200.8	0.0002	
Copper (Cu) Dissolved	0.2	mg/L	0.0014	0.0019	ND	0.0013	EPA 200.8	0.0008	
Fluoride(F)	2	mg/L	1.03	0.91	0.95	1.22	EPA 300.0	0.5	
Iron (Fe) Dissolved	0.3	mg/L	0.034	ND	ND	0.008	EPA 200.8	0.005	
Lead(Pb) Dissolved	0.05	mg/L	ND	ND	ND	ND	EPA 200.8	0.0001	
Lithium(Li) Dissolved	2.5	mg/L	ND	ND	ND	ND	EPA 200.7	0.1	
Nickel (Ni) Dissolved	0.1	mg/L	0.0016	0.0017	0.0017	0.0016	EPA 200.8	0.0009	
Nitrate(NO3)	10	mg/L	11.4	12	7.71	3.24	EPA 300.0	0.25	
Nitrite (NO2)	1	mg/L	ND	ND	ND	ND	EPA 300.0	0.15	
Nitrite & Nitrate (NO2+NO3)	10	mg/L	11.4	12	7.71	3.24	EPA 300.0	0.05	
Manganese (Mn) Dissolved	0.05	mg/L	ND	ND	ND	ND	EPA 200.8	0.0008	
Mercury (Hg) Dissolved	0.01	mg/L	ND	ND	ND	ND	EPA 245.1	0.0001	
Molybdenum(Mo) Dissolved	0.21	mg/L	0.0075	0.0023	0.0077	0.0065	EPA 200.8	0.0005	
Selenium(Se) Dissolved	0.05	mg/L	0.0021	0.0014	0.0012	0.0014	EPA 200.8	0.0008	
Silver(Ag) Dissolved	0.05	mg/L	ND	ND	ND	ND	EPA 200.8	0.0005	
Sulfate (SO 4)	250	mg/L	220	216	198	160	EPA 300.0	0.5	
Thallium(Tl) Dissolved	0.002	mg/L	ND	ND	ND	ND	EPA 200.8	0.0002	
Uranium(U) Dissolved	0.0168	mg/L	0.0147	0.0114	0.0131	0.0057	EPA 200.8	0.0002	
Vanadium (V) Dissolved	0.1	mg/L	ND	0.002	ND	0.002	EPA 200.8	0.001	
Zinc (Zn) Dissolved	2	mg/L	ND	ND	ND	ND	EPA 200.8	0.001	
TDS		(1.25 x the background value)	809	774	794	613	SM2540C	10 mg/L	

*ND = Non Detect