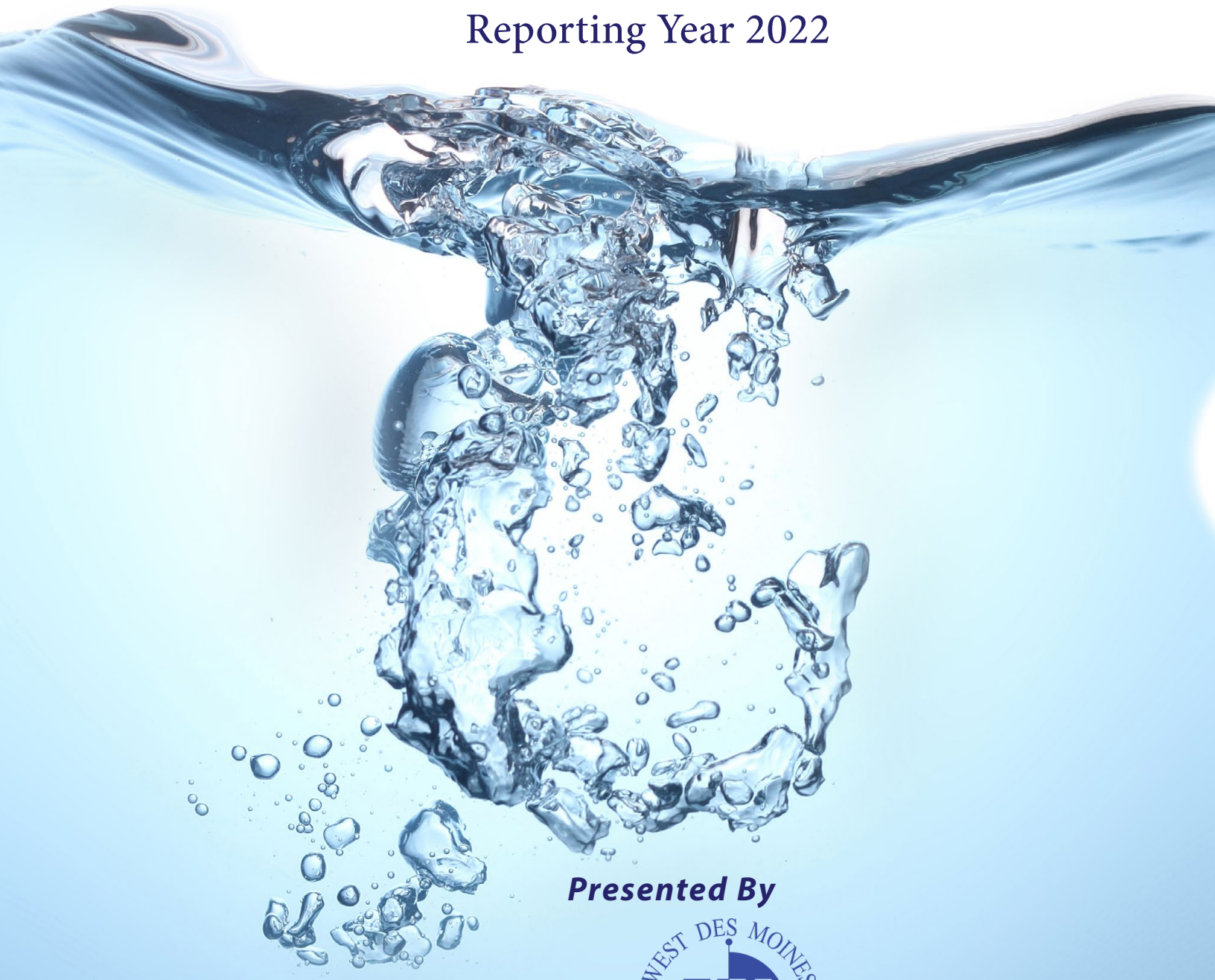
ANNUAL WATER QUALITY REPORT

Reporting Year 2022



Presented By

WEST DES MOINES WATER WORKS

PWS ID#: IA7785007

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please remember that we are always available should you ever have any questions or concerns about your water.

Important Health Information

Nitrate in drinking water at levels above 10 parts per million (ppm) is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

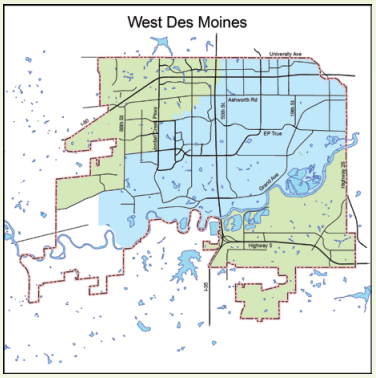
Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at www.epa.gov/safewater/lead.

Where Does My Water Come From?

West Des Moines Water Works obtains a portion of its water from 17 shallow wells (all between 40 and 50 feet deep) that draw water from the Raccoon River alluvial aquifer. Water is also obtained from four wells drilled into the much deeper Jordan Aquifer (2,500 feet deep). In addition, some West Des Moines water is purchased from the Des Moines Water Works (DMWW). This is treated and purified water from the Raccoon and Des Moines Rivers and in certain locations is blended with treated water from the West Des Moines Water Works. Approximately 25 percent of West Des Moines Water Works customers (see map) receive their water solely from DMWW.



West Des Moines water customers in the NW and SE portion of the city, noted in green, receive purchased water from the Des Moines Water Works. Areas in blue receive water produced from West Des Moines Water Works A.C. Ward Water Treatment Plant.

Community Participation

You are invited to participate in our public meetings and voice your concerns about your drinking water. The West Des Moines Water Works Board of Trustees typically meets at 4:00 p.m. on the third Wednesday of each month. Check www.wdmww.com for the most up-to-date meeting schedule.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Mitch Pinkerton, Water Production Manager, at (515) 222-3465.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include: Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

What Are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.

Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

Even though recent efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit http://bit.ly/3Z5AMm8.

Source Water Assessment

West Des Moines Water Works obtains its water from the sand and gravel of an alluvial aquifer. The aquifer was determined to be highly susceptible to contamination because its characteristics and overlying materials provide little protection from contamination at the land surface. The alluvial wells are highly susceptible to surface contaminants such as leaking underground storage tanks, contaminant spills, and excess fertilizer application.

West Des Moines Water Works obtains its water from the sandstone and dolomite of the Cambrian-Ordovician Aquifer. The Cambrian-Ordovician Aquifer was determined to have low susceptibility to contamination because its characteristics and overlying materials provide natural protection from contaminants at the land surface. The Cambrian-Ordovician wells have low susceptibility to surface contaminants such as leaking underground storage tanks, contaminant spills, and excess fertilizer application.

Des Moines Water Works obtains water from one or more surface water sources. Surface water is susceptible to sources of contamination or pollution within the Raccoon and Des Moines River watersheds. The lab test results for both utilities are listed in this report.

West Des Moines Water Works obtains some of its water from another public water supply. It is a consecutive water supply, where an originating parent supply provides drinking water to one or more downstream supplies.

A detailed evaluation of our source water was completed by the Iowa Department of Natural Resources and is available by calling the water operator at (515) 222-3465.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

				West Des Moines Water Works A. C. Ward Municipal Water Treatment Plant		Des Moines Water Works McMullen Plant		Des Moines Water Works Fleur Drive Plant		Des Moines Water Works			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2021	15	0	NA	NA	ND	NA	ND[1]	NA	NA	NA	No	Erosion of natural deposits
Arsenic (ppb)	2022	10	0	NA	NA	NA	NA	NA	NA	NA	NA	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Atrazine (ppb)	2022	3	3	NA	NA	ND	NA	0.2	NA	NA	NA	No	Runoff from herbicide used on row crops
Chlorine (ppm)	2022	[4]	[4]	1.0	0.06–2.94	NA	NA	NA	NA	1.0	0.1–1.53	No	Water additive used to control microbes
cis-1,2-Dichloroethylene (ppb)	2022	70	70	NA	NA	ND	NA	0.6	ND–0.6	NA	NA	No	Discharge from industrial chemical factories
Combined Radium (pCi/L))	2018	5	0	NA	NA	ND	NA	ND[3]	NA	NA	NA	No	Erosion of natural deposits
Dalapon (ppb)	2022	200	200	NA	NA	0.2	NA	ND	NA	NA	NA	No	Runoff from herbicide used on rights-of-way
Dichloromethane (ppb)	2022	5	0	NA	NA	NA	NA	NA	NA	NA	NA	No	Discharge from pharmaceutical and chemical factories
Fluoride (ppm)	2018	4	4	1.2	NA	0.93[2]	0.15–0.93[2]	0.84[2]	0.60–0.84[2]	NA	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate[4] (ppm)	2022	10	10	1.1	NA	8.38	0.2–8.38	8.83	0.08–8.83	NA	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [total trihalomethanes]–Stage 1 (ppb)	2022	80	NA	30	NA	NA	NA	NA	NA	51	NA	No	By-product of drinking water disinfection
Turbidity[5] (NTU)	2022	TT	NA	NA	NA	0.57	0.03–0.57	0.25	0.25–0.25	NA	NA	No	Soil runoff
Uranium (ppb)	2018	30	0	NA	NA	NA	NA	NA	NA	NA	NA	No	Erosion of natural deposits

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	LP Moon ASR Well AMOUNT DETECTED	LP Moon ASR Well RANGE LOW-HIGH	McMullen Plant ASR Well AMOUNT DETECTED	McMullen Plant ASR Well RANGE LOW-HIGH	Army Post ASR AMOUNT DETECTED	Army Post ASR RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2021	15	0	ND	NA	ND[2]	NA	4.1[2]	NA	No	Erosion of natural deposits
Arsenic (ppb)	2022	10	0	ND	NA	ND	NA	3.0	1–3	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Atrazine (ppb)	2022	3	3	ND	NA	ND	NA	ND	NA	No	Runoff from herbicide used on row crops
Chlorine (ppm)	2022	[4]	[4]	NA	NA	NA	NA	NA	NA	No	Water additive used to control microbes
cis-1,2-Dichloroethylene (ppb)	2022	70	70	NA	NA	NA	NA	NA	NA	No	Discharge from industrial chemical factories
Combined Radium (pCi/L))	2018	5	0	1.1[3]	NA	2.2[2]	NA	1.5[2]	NA	No	Erosion of natural deposits
Dalapon (ppb)	2022	200	200	NA	NA	NA	NA	NA	NA	No	Runoff from herbicide used on rights-of-way
Dichloromethane (ppb)	2022	5	0	NA	NA	NA	NA	1.2	NA	No	Discharge from pharmaceutical and chemical factories
Fluoride (ppm)	2018	4	4	1.33[2]	0.66–1.33[2]	0.93[2]	0.28–0.93[2]	1.63[2]	0.82–1.63[2]	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate[4] (ppm)	2022	10	10	3.26	1.78–3.26	7.98	0.29–7.98	3.16	0.92–3.16	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [total trihalomethanes]–Stage 1 (ppb)	2022	80	NA	NA	NA	NA	NA	NA	NA	No	By-product of drinking water disinfection
Turbidity[5] (NTU)	2022	TT	NA	NA	NA	NA	NA	NA	NA	No	Soil runoff
Uranium (ppb)	2018	30	0	NA	NA	NA	NA	1.9	NA	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	West Des Moines Water Works A. C. Ward Municipal Water Treatment Plant AMOUNT DETECTED (90TH %ILE)	West Des Moines Water Works A. C. Ward Municipal Water Treatment Plant SITES ABOVE AL/TOTAL SITES	Des Moines Water Works McMullen Plant AMOUNT DETECTED (90TH %ILE)	Des Moines Water Works McMullen Plant SITES ABOVE AL/TOTAL SITES	Des Moines Water Works Fleur Drive Plant AMOUNT DETECTED (90TH %ILE)	Des Moines Water Works Fleur Drive Plant SITES ABOVE AL/TOTAL SITES	Des Moines Water Works AMOUNT DETECTED (90TH %ILE)	Des Moines Water Works SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	1.3	0.01	0/30	NA	NA	NA	NA	NA	NA	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2020	15	0	ND	0/30	NA	NA	NA	NA	NA	NA	No	Corrosion of household plumbing systems; Erosion of natural deposits

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	LP Moon ASR Well AMOUNT DETECTED (90TH %ILE)	LP Moon ASR Well SITES ABOVE AL/TOTAL SITES	McMullen Plant ASR Well AMOUNT DETECTED (90TH %ILE)	McMullen Plant ASR Well SITES ABOVE AL/TOTAL SITES	Army Post ASR AMOUNT DETECTED (90TH %ILE)	Army Post ASR SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	1.3	NA	NA	NA	NA	NA	NA	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2020	15	0	NA	NA	NA	NA	NA	NA	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES

		West Des Moines Water Works A. C. Ward Municipal Water Treatment Plant		Des Moines Water Works McMullen Plant		Des Moines Water Works Fleur Drive Plant		LP Moon ASR Well		McMullen Plant ASR Well		Des Moines Water Works		Army Post ASR		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Metolachlor (ppb)	2022	NA	NA	ND	NA	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (ppm)	07/21/2021	200	NA	19.27[6]	NA	25.46[6]	NA	46.31[7]	NA	15.32[7]	NA	NA	NA	44.03[7]	NA	Erosion of natural deposits; Added to water during treatment process

[1] Sampled in 2019.
[2] Sampled in 2022.
[3] Sampled in 2021.
[4] Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.
[5] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.
[6] Sampled on April 4, 2022.
[7] Sampled on July 18, 2022.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.