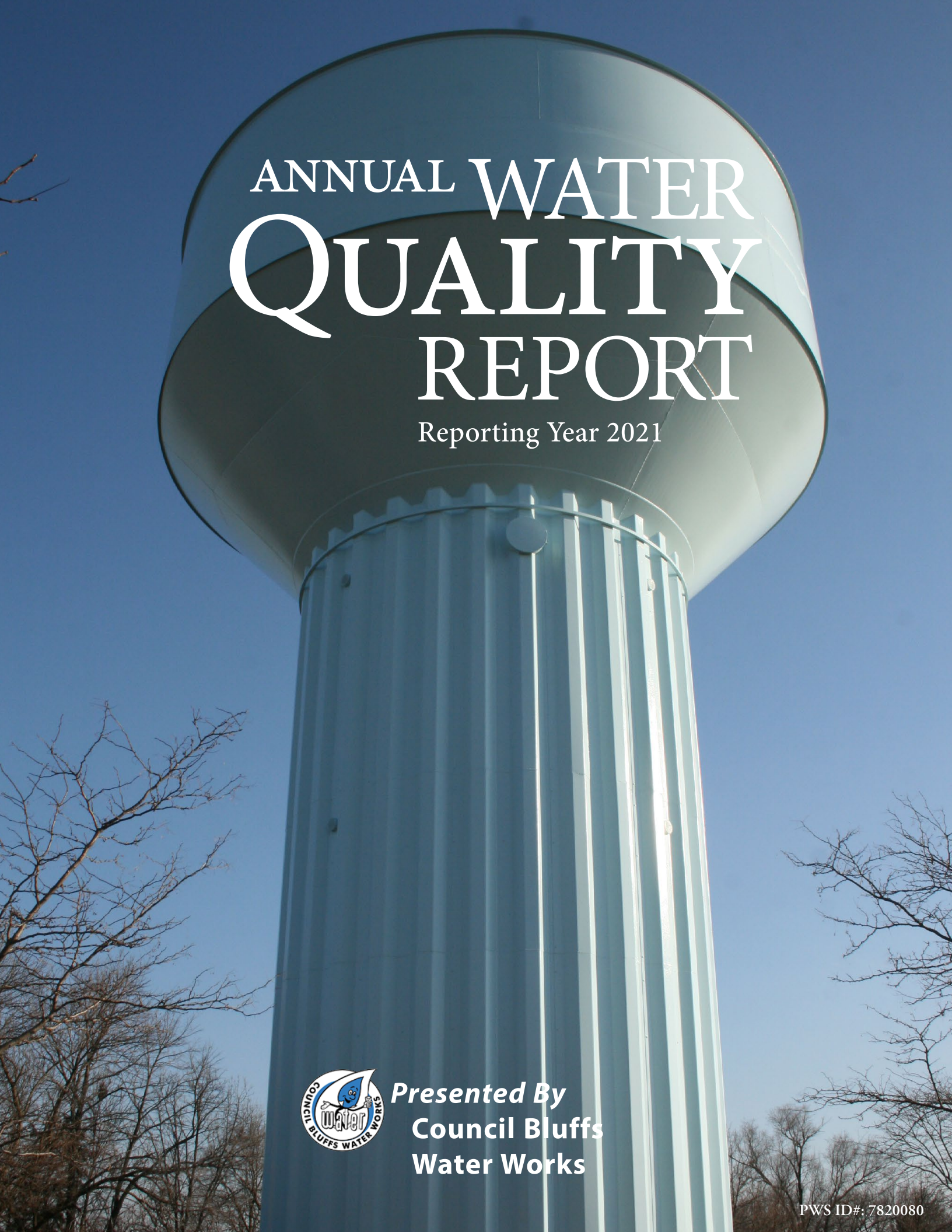

ANNUAL WATER QUALITY REPORT

Reporting Year 2021

Presented By
Council Bluffs Water Works

PWS ID#: 7820080

Quality First

Once again, we are proud to present our annual water quality report covering the period between January 1 and December 31, 2021. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at all hours—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

Community Participation

We want our valued customers to be informed about their water utility. The Board of Water Works Trustees conduct the business of the Water Works during their regularly scheduled meetings. The meetings are normally held on the third Tuesday of the month at 4:30 p.m. at the Water Works office, 2000 N. 25th Street.

Source Water Assessment

The City of Council Bluffs obtains its water from the Missouri River and the Missouri River Alluvium. Reservoirs and streams are highly susceptible to contamination because contaminants can move through them quickly. Council Bluffs' water supply will be susceptible to contaminant releases from landfills and livestock confinements. A portion of the Council Bluffs' water supply is obtained from an alluvial aquifer. The alluvial aquifer was determined to also be highly susceptible to contamination because the characteristics of the aquifer and overlying materials allow contaminants to move through the aquifer quickly. The City of Council Bluffs' wells will be most susceptible to activities such as dry cleaners, gas stations, industrial sites, and municipal wastewater discharges. A detailed evaluation of your source water was completed by the Iowa Department of Natural Resources and is available from the Council Bluffs Water Works.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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.

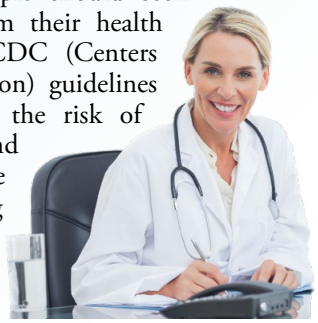

Table Talk

Get the most out of the Testing Results data table with this simple suggestion. In less than a minute, you will know all there is to know about your water:

> For each substance listed, compare the value in the Amount Detected column against the value in the MCL (or AL, SMCL) column. If the Amount Detected value is smaller, your water meets the health and safety standards set for the substance.

Other Table Information Worth Noting

Verify that there were no violations of the state and/or federal standards in the Violation column. If there was a violation, you will see a detailed description of the event in this report.

If there is an ND or a less-than symbol (<), that means that the substance was not detected (i.e., below the detectable limits of the testing equipment).

The Range column displays the lowest and highest sample readings. If there is an NA showing, that means only a single sample was taken to test for the substance (assuming there is a reported value in the Amount Detected column).

If there is sufficient evidence to indicate from where the substance originates, it will be listed under Typical Source.

Where Does My Water Come From?

The Council Bluffs Water Works' primary water sources are the Missouri River and the Missouri River Alluvium.

QUESTIONS? For more information about this report, or for any questions relating to your drinking water, please call Tim Parker, Purification Manager, at (712) 328-1006 ext 1020.

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 that 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.

Testing for *Cryptosporidium*

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. While monitoring of source water indicates the presence of these organisms, analyses of the treated or finished water have shown none. The Council Bluffs Water Works utilizes a multiple-barrier treatment process that effectively removes and inactivates *Cryptosporidium*. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water.
- Monitoring and inspecting machinery, meters, gauges, and operating conditions.
- Conducting tests and inspections on water and evaluating the results.
- Maintaining optimal water chemistry.
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels.
- Documenting and reporting test results and system operations to regulatory agencies.
- Serving our community through customer support, education, and outreach.

So the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

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 2 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.

If you have concerns about Lead in the drinking water, please call us at 712-328-1006 ext. 1020 or go to our web site www.cbwaterworks.com and select our Lead in Drinking Water Information Guide.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. Also, the water we deliver must meet specific health standards. Here, we show only 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 often 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

				Council Bluffs Water Works TP01		Council Bluffs Water Works TP02			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2018	15	0	6.1	6.1–6.1	NA	NA	No	Erosion of natural deposits
Barium (ppm)	2015	2	2	NA	NA	0.06	0.06–0.06	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2021	[4]	[4]	2.0	0.81–3.1	NA	NA	No	Water additive used to control microbes
Chlorite (ppm)	2017	1	0.8	0.21	0.00–0.21	NA	NA	No	By-product of drinking water disinfection
Di(2-ethylhexyl) Phthalate (ppb)	2021	6	0	1.3	1.3–1.3	NA	NA	No	Discharge from rubber and chemical factories
Fluoride (ppm)	2021	4	4	1.4	0.28–1.4	1.37	0.27–1.37	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2021	60	NA	21	10–31.00	NA	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2021	10	10	0.9	ND–0.9	NA	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon[1] (removal ratio)	2021	TT	NA	1.6	1.0–2.4	NA	NA	No	Naturally present in the environment
TTHMs [Total Trihalomethanes]–Stage 2[2] (ppb)	2021	80	NA	53	25–87	NA	NA	No	By-product of drinking water disinfection
Turbidity[3] (NTU)	2021	TT	NA	0.11	0.03–0.11	NA	NA	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2021	TT = 95% of samples meet the limit	NA	100	NA	NA	NA	No	Soil runoff

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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2019	1.3	1.3	0.07	0/37	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2019	15	0	2	0/37	No	Corrosion of household plumbing systems; Erosion of natural deposits

OTHER UNREGULATED SUBSTANCES

		Council Bluffs Water Works TP01		Council Bluffs Water Works TP02		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2021	74	72–74	45	45–45	Erosion of natural deposits; Added to water during treatment process

UNREGULATED CONTAMINANT MONITORING RULE -PART 4 (UCMR4)

		Council Bluffs Water Works TP01		Council Bluffs Water Works TP02		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromide (ppb)	2019	41	40–41	54	54–54	Formed from reaction between chlorine and naturally occurring organic matter
Bromoacetic Acid (ppb)	2019	2.30	0.0–2.30	NA	NA	Disinfection by-product
Bromochloroacetic Acid (ppb)	2019	4.4	0.0–4.4	NA	NA	Disinfection by-product
Bromodichloroacetic Acid (ppb)	2019	1.1	0.0–1.1	NA	NA	Disinfection by-product
Chlorodibromoacetic Acid (ppb)	2019	0.60	0.0–0.60	NA	NA	Disinfection by-product
Dibromoacetic Acid (ppb)	2019	1.4	0.0–1.4	NA	NA	Disinfection by-product
Dichloroacetic Acid (ppb)	2019	27.0	0.0–27.0	NA	NA	Disinfection by-product
Manganese (ppb)	2019	0.900	0.400–0.900	NA	NA	Naturally occurring mineral found in rocks, soil, groundwater, and surface water
Sodium (ppm)	2021	74	72–74	45	45–45	Erosion of natural deposits; Added to water during treatment process
Total Organic Carbon [TOC] (ppb)	2019	5800	3900–5800	2900	2900–2900	Naturally present in the environment
Trichloroacetic Acid (ppb)	2019	4.5	0.0–4.5	NA	NA	Disinfection by-product

[1] The value reported under Amount Detected for TOC is the lowest ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than 1 indicates that the water system is in compliance with TOC removal requirements. A value of less than 1 indicates a violation of the TOC removal requirements.

[2] Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their livers, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

[3] 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.

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 that, if exceeded, triggers treatment or other requirements that 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).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

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