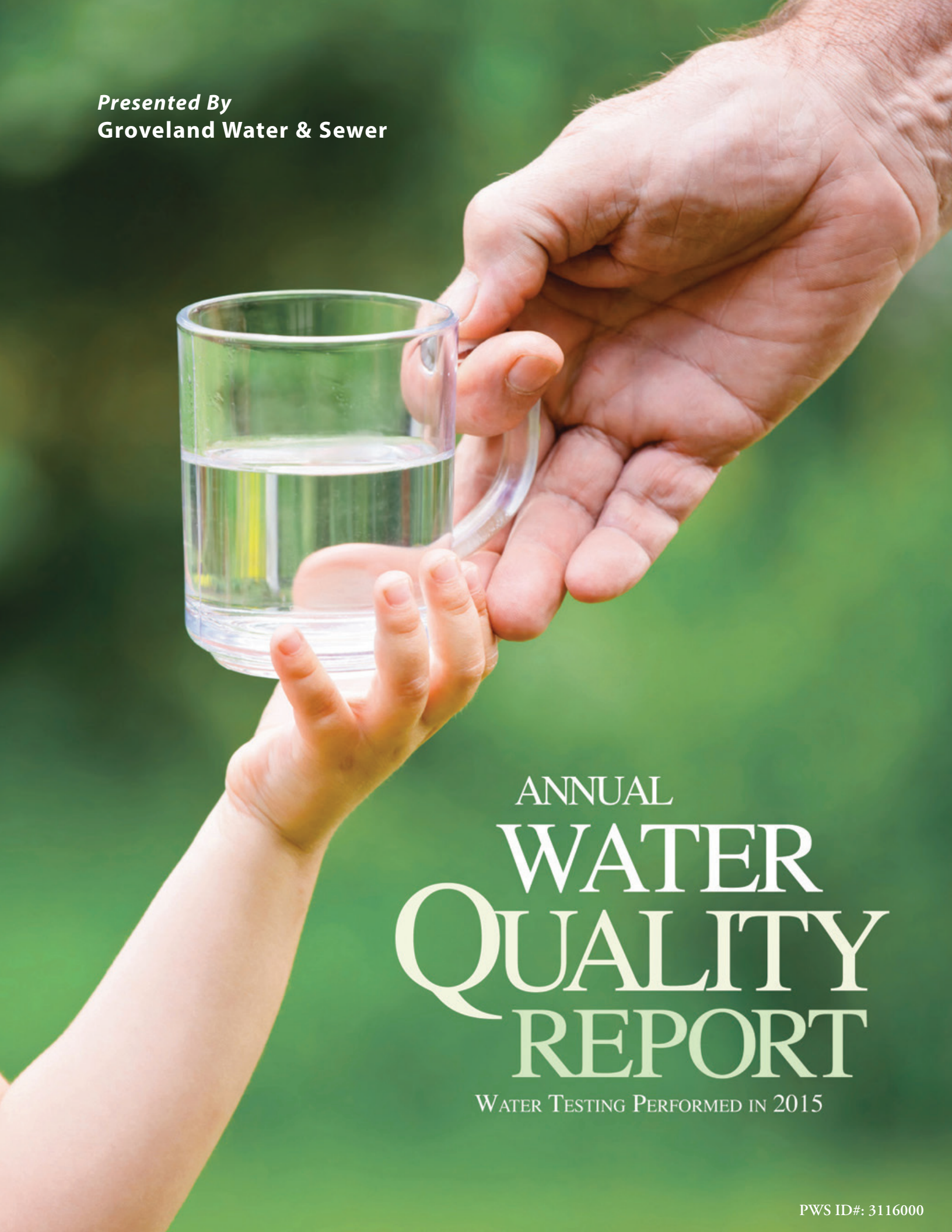


Presented By
Groveland Water & Sewer

ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2015

PWS ID#: 3116000

Meeting the Challenge

Once again we are proud to present our annual drinking water report, covering all drinking water testing performed between January 1 and December 31, 2015. 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 your homes and businesses. 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 of our water users.

Please remember that we are always available to assist you, should you ever have any questions or concerns about your water.

Important Health Information

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.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources.

According to the Source Water Assessment Plan, our water system had a susceptibility rating of "medium." If you would like to review the Source Water Assessment Plan, please feel free to contact our office during regular office hours. A copy of the SWAP is available on the Town's Web site at URL www.grovelandma.com/Pages/GrovelandMA_Water/index.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (U.S. EPA) prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) 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 and, in some cases, radioactive material, and can pick up 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 which 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.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

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 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 or at www.epa.gov/lead.

Community Participation

You are invited to participate in our public forum to discuss any topic related to your drinking water and public water service. We meet Monday nights, once a month, at at our office located in Town Hall. The Meeting Agenda is posted one week in advance; please contact our office for assistance.

Water Treatment Process

The treatment process consists of a series of steps. First, raw water is drawn from our water sources and then inline chemical treatment is performed. Computer-controlled metering pumps are used to administer the chemical, and chemistry is monitored by inline analyzers. Our treatment operators monitor the system daily and confirm the treatment goals.

Sodium hydroxide is added to make the water less corrosive by raising the pH. Corrosive (acidic) water has the ability to leach lead and copper out of piping and plumbing fixtures. We raise the system pH to an average of 7.2 (neutral). This is high enough to keep the lead and copper from dissolving very much and still keep most of the iron and manganese in solution form.

Fluoride is added to the water as sodium fluoride to fight dental cavities. Both sodium and fluoride occur naturally in small amounts in the ground water in this area. Natural fluoride occurs at a range of 0.05 to 0.10 mg/L. The fluoride is added to achieve a target dose of 0.70 mg/L to help build stronger, more cavity-resistant teeth for all who drink the water in their developmental years. The Groveland Water & Sewer Department is aware of the proposed Health and Human Services recommendations and will review our processes in light of the final recommendation. We will also pay close attention to regulatory developments and stand ready to respond.

Calcium hypochlorite is added to maintain a disinfection residual throughout the distribution system; the target dose range is 0.25 to 0.50 mg/L.

Customers First

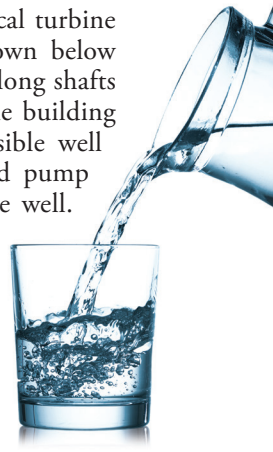
The Groveland Water & Sewer Department recognizes that social media is now a part of our society and that people like to utilize this medium. I strongly recommend if you have any issues with your water service that you contact the office. The Department tracks issues with a work order system and jobs can only be scheduled by the office. The Department puts our customers first and will always try to assist you when possible.

Respectfully,

Thomas D. Cusick, Jr., Superintendent

Where Does My Water Come From?

The Town of Groveland is served by a ground water supply consisting of three gravel-packed wells. Well #1 is located at 462 Main Street, Well #3 is located behind the Pines Recreation Area, and Well #4 is located further down the river from Well #3. Wells #1 and #3 are serviced by vertical turbine pumps that draw water from 50 feet down below the surface. The pumps are connected by long shafts to the drive motors that are housed in the building above the wells. Well #4 uses a submersible well pump that comprises a sealed motor and pump mounted underwater 35 feet down in the well. Each of the wells can run independently of each other. Groveland's water is distributed through a network of water mains approximately 36.5 miles long and ranging in size from 2 to 12 inches in diameter. There are currently 1,912 active services connected to our system.



QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call or e-mail Thomas D. Cusick, Jr., Water Department Superintendent, at (978) 556-7219 or tcusick@grovelandma.com.

Tip Top Tap

The most common signs that your faucet or sink is affecting the quality of your drinking water are discolored water, sink or faucet stains, a buildup of particles, unusual odors or tastes, and a reduced flow of water. The solutions to these problems may be in your hands.

Kitchen Sink and Drain

Hand washing, soap scum buildup, and the handling of raw meats and vegetables can contaminate your sink. Clogged drains can lead to unclean sinks and backed up water in which bacteria (i.e., pink and black colored slime growth) can grow and contaminate the sink area and faucet, causing a rotten egg odor. Disinfect and clean the sink and drain area regularly. Also, flush regularly with hot water.

Faucets, Screens, and Aerators

Chemicals and bacteria can splash and accumulate on the faucet screen and aerator, which are located on the tip of faucets, and can collect particles like sediment and minerals resulting in a decreased flow from the faucet. Clean and disinfect the aerators or screens on a regular basis.

Check with your plumber if you find particles in the faucet screen as they could be pieces of plastic from the hot water heater dip tube. Faucet gaskets can break down and cause black, oily slime. If you find this slime, replace the faucet gasket with a higher-quality product. White scaling or hard deposits on faucets and shower heads may be caused by hard water or water with high levels of calcium carbonate. Clean these fixtures with vinegar or use water softening to reduce the calcium carbonate levels for the hot water system.

Water Filtration/Treatment Devices

A smell of rotten eggs can be a sign of bacteria on the filters or in the treatment system. The system can also become clogged over time so regular filter replacement is important. (Remember to replace your refrigerator filter!)

Is tap water cheaper than soda?

Yes! You can refill an 8 oz. glass of tap water approximately 15,000 times for the same cost as a six-pack of soda pop. And, water has no sugar or caffeine.

How long can a person go without water?

Although a person can live without food for more than a month, a person can only live without water for approximately one week.

When was drinking water first regulated?

The Safe Drinking Water Act (SDWA) of 1974 represents the first time that public drinking water supplies were protected on a federal (national) level in the U.S. Amendments were made to the SDWA in 1986 and 1996.

Seventy-one percent of Earth is covered in water: how much is drinkable?

Oceans hold about 96.5 percent of all Earth's water. Only three percent of the earth's water can be used as drinking water. Seventy-five percent of the world's fresh water is frozen in the polar ice caps.

How much water do we use every day?

The average person in the U.S. uses 80 to 100 gallons of water each day. (During medieval times a person used only 5 gallons per day.) It takes 2 gallons to brush your teeth, 2 to 7 gallons to flush a toilet, and 25 to 50 gallons to take a shower.

When was chlorine first used in the U.S.?

In 1908, Jersey City, New Jersey and Chicago, Illinois were the first water supplies to be chlorinated in the U.S.

Sampling Results

During the past year, we have taken hundreds of water samples to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water.

The state requires us to monitor 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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2015	2	2	0.0081	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2015	[4]	[4]	0.40	0.01–1.0	No	Water additive used to control microbes
Combined Radium (pCi/L)	2015	5	0	0.44	NA	No	Erosion of natural deposits
Fluoride[1] (ppm)	2015	4	4	0.90	0.50–1.0	No	Water additive that promotes strong teeth
Haloacetic Acids [HAA] (ppb)	2015	60	NA	0.58	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2015	10	10	1.2	0.40–1.2	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2015	80	NA	19	15–19	No	By-product of drinking water disinfection
Turbidity[2] (NTU)	2015	TT	NA	0.79	0.21–0.79	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%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2015	1.3	1.3	0.21	0/20	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead[3] (ppb)	2015	15	0	3.9	0/20	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2015	200	NA	56	NA	No	Erosion of natural deposits; Residual from some surface water treatment processes
Chloride (ppm)	2015	250	NA	130	24–130	No	Runoff/leaching from natural deposits
Iron (ppb)	2015	300	NA	440	90–440	No	Leaching from natural deposits; Industrial wastes
Manganese[4] (ppb)	2015	50	NA	270	2–270	No	Leaching from natural deposits
Odor (TON)	2015	3	NA	1	NA	No	Naturally occurring organic materials
pH (Units)	2015	6.5–8.5	NA	7.6	6.6–7.6	No	Naturally occurring
Sulfate (ppm)	2015	250	NA	21	13–21	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2015	500	NA	360	150–360	No	Runoff/leaching from natural deposits
Zinc (ppm)	2015	5	NA	0.015	0.0059–0.015	No	Runoff/leaching from natural deposits; Industrial wastes

OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Hardness [CaCO3] (ppm)	2015	76	63–100	Naturally occurring in ground water

[1] The Department has set a new target dose of 0.70 ppm (mg/L).

[2] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality and the effectiveness of disinfectants.

[3] As a result of the recent lead release in Flint, Michigan, there is heightened public awareness of the possibility of lead contamination in public drinking water. We want our customers to know that we make all efforts to address corrosion control and will conform with any new testing procedures that may be instituted.

[4] Manganese is a naturally occurring mineral found in rocks, soil and ground water, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but can have undesirable effects on certain sensitive populations at elevated concentrations. U.S. EPA and MADEP have established public health advisory levels for manganese to protect against concerns of potential neurological effects. The U.S. EPA has established a lifetime health advisory for manganese of 300 ppb and 1,000 ppb as an acute level.

Definitions

90th Percentile: Out of every 10 homes sampled, 9 were at or below this level.

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).

TON (Threshold Odor Number): A measure of odor in water.

SMCL (Secondary Maximum Contaminant Level): SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.

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