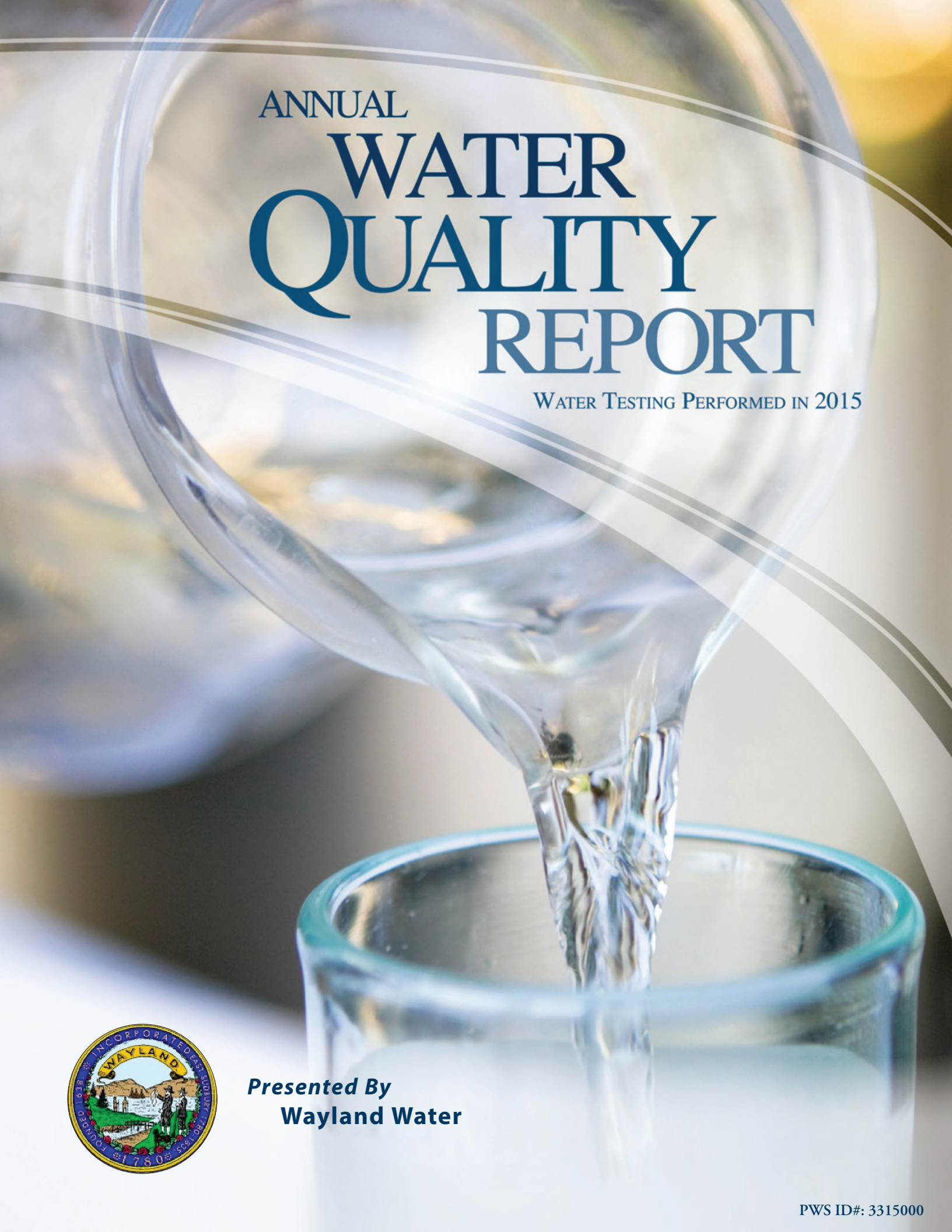
ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2015



Presented By

Wayland Water

PWS ID#: 3315000

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.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The Board of Public Works meets the second and fourth Tuesdays of each month beginning at 7 p.m. at the DPW Facility located at 66 River Road, Wayland, Mass.

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.

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.

Fluoridation Information

Fluoride addition was passed by Town meeting vote in 1999 to improve oral health in children. Our water system fluoride level is adjusted to an optimal level averaging 0.70 milligrams per liter. Fluoridation results are reported to the MassDPH/Office of Oral Health on a monthly basis.

Treatment Process

The Baldwin Pond Treatment Plant uses a process called ultrafiltration. This type of filtration has several advantages over traditional water filtration.

- Removes pathogens and turbidity in only one treatment step
- Provides an absolute barrier for bacteria, virus, and parasites
- Compared to conventional disinfection treatment, no deactivated pathogens remain in the water

This process involves a number of steps starting with ozonation. Raw water is pumped into the treatment plant from a combination of three groundwater wells. Once in the plant, the raw water is dosed with ozone to oxidize the iron and manganese that is naturally present in the ground water. Next, potassium hydroxide is added to adjust the pH of the raw water and polyaluminumchloride to aid in flocculation of the iron and manganese particles. Then the raw water enters the ozone contact tank where the oxidation and flocculation takes place. After 70 minutes of travel time, the water enters one of two 500-micron prefilters to remove larger particles. Once this process is complete, the raw water enters the ultrafiltration units. After filtration, the water travels to the clear well where sodium hypochlorite is added for disinfection and sodium fluoride is added to prevent tooth decay.

The Water Division continues to operate five other wells that all have a similar treatment process. Water is pumped out of the ground where potassium hydroxide is added to adjust the pH. Sodium hypochlorite is added for disinfection and sodium fluoride is added to help prevent tooth decay.

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.

Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Don Millette, Water Department Superintendent, at (508) 358-3674.

Water Source

The Wayland DPW Water Division operates eight ground water wells. The three wells located at the Baldwin Pond site are part of the Baldwin Pond Water Filtration Facility. Listed below are the source names and their DEP ID numbers.

Campbell Well: 3315000-02G, gravel-packed well located off of Campbell Rd.

Chamberlain Well: 3315000-08G, gravel-packed well located off of Moore Rd.

Meadowview Well: 3315000-05G, gravel-packed well located off of Oak Hill Rd.

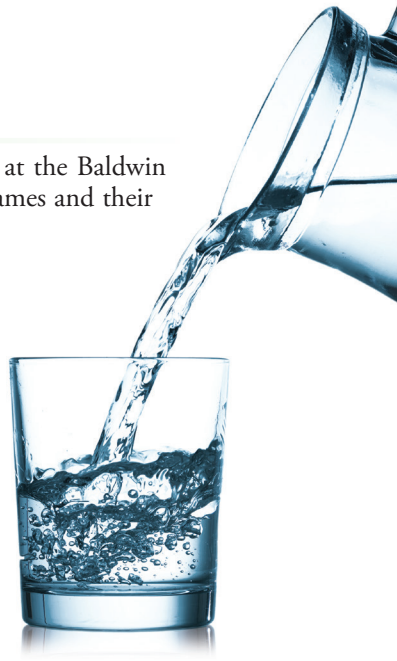
Happy Hollow #1: 3315000-03G, gravel-packed well located off of Old Conn Path

Happy Hollow #2: 3315000-04G, gravel-packed well located off of Old Conn Path

Baldwin Pond #1: 3315000-01G, gravel-packed well located on Old Sudbury Rd.

Baldwin Pond #2: 3315000-07G, gravel-packed well located on Old Sudbury Rd.

Baldwin Pond #3: 3315000-06G, gravel-packed well located on Old Sudbury Rd.



Failure in Flint

The national news coverage of water conditions in Flint, Michigan, has created a great deal of confusion and consternation over the past year. The water there has been described as being corrosive; images of corroded batteries and warning labels on bottles of acids come to mind. But is corrosive water bad?

Corrosive water can be defined as a condition of water quality that will dissolve metals (iron, lead, copper, etc.) from metallic plumbing at an excessive rate. There are a few contributing factors but, generally speaking, corrosive water has a pH of less than 7; the lower the pH, the more acidic, or corrosive, the water becomes. (By this definition, many natural waterways throughout the country can be described as corrosive.) While all plumbing will be somewhat affected over time by the water it carries, corrosive water will damage plumbing much more rapidly than water with low corrosivity.

By itself, corrosive water is not a health concern; your morning glass of orange juice is considerably more corrosive than the typical lake or river. What is of concern is that exposure in drinking water to elevated levels of the dissolved metals increases adverse health risks. And there lies the problem.

Public water systems are required to maintain their water at optimal conditions to prevent it from reaching corrosive levels. Rest assured that we routinely monitor our water to make sure that what happened in Flint never happens here. For more information on how corrosivity impacts water quality, download this informative pamphlet: http://goo.gl/KpTmXv.

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.

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.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2015	[4]	[4]	1.2	0.80–1.2	No	Water additive used to control microbes
Haloacetic Acids [HAA] (ppb)	2015	60	NA	13.2	1.09–82.3	No	By-product of drinking water disinfection
Nitrate (ppm)	2015	10	10	2.5	1.2–2.5	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2015	80	NA	29.5	12.2–82.2	No	By-product of drinking water disinfection

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)	2014	1.3	1.3	0.026	0/55	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2014	15	0	3	0/55	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	0.007	ND–0.007	No	Erosion of natural deposits; Residual from some surface water treatment processes
Chloride (ppm)	2015	250	NA	156	60.9–156	No	Runoff/leaching from natural deposits
Color (Units)	2015	15	NA	2.5	ND–2.5	No	Naturally occurring organic materials
Copper (ppm)	2015	1.0	NA	0.015	ND–0.015	No	Erosion of natural deposits
Fluoride (ppm)	2015	2.0	NA	0.79	0.65–0.79	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Iron (ppb)	2015	300	NA	0.021	ND–0.021	No	Leaching from natural deposits; Industrial wastes
Manganese[1] (ppb)	2015	50	NA	100	41–100	No	Leaching from natural deposits
Odor (TON)	2015	3	NA	2	ND–2	No	Naturally-occurring organic materials
pH (Units)	2015	6.5–8.5	NA	7.8	7.7–7.8	No	Naturally occurring
Sulfate (ppm)	2015	250	NA	34.5	18.3–34.5	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2015	500	NA	376	242–376	No	Runoff/leaching from natural deposits
Zinc (ppm)	2015	5	NA	0.004	ND–0.004	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES [2]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Acetone (ppb)	2015	35	ND–35	Discharge from industrial production and use, in automobile exhaust, from landfill and natural sources
Bromodichloromethane (ppb)	2015	3.24	ND–3.24	By-product of drinking water disinfection
Bromoform (ppb)	2015	0.8	ND–0.8	By-product of drinking water disinfection
Chlorodibromomethane (ppb)	2015	3.38	ND–3.38	By-product of drinking water disinfection
Chloroform (ppb)	2015	2.4	ND–2.4	By-product of drinking water disinfection
Sodium (ppm)	2015	66.3	22.4–66.3	Naturally occurring: Runoff from use of salt on roadways

UNREGULATED CONTAMINANT MONITORING RULE PART 3 (UCMR3)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
1,4-Dioxane (ppb)	2014	0.09	0.08–0.09	1,4-Dioxane is used as a solvent, cleaning agent, chemical stabilizer, surface coating, adhesive agent and an ingredient in chemical manufacture.
Chlorate (ppb)	2014	220	58–220	The term "chlorate" most commonly refers only to chlorine in the +5 oxidation state or chlorate ion. The chlorate ion is a known by-product of drinking water disinfection, forming when sodium hypochlorite is used in the disinfection process.
Chlorodifluromethane (ppb)	2014	640	420–640	Chlorodifluoromethane is a manufactured chemical historically used as a refrigerant and as an intermediate in the production of fluoropolymers.
Chromium (ppb)	2014	0.27	0.22–0.27	Currently all water systems test for "total chromium." In other words, they test for chromium in all of its forms.
Hexavalent Chromium (dissolved) (ppb)	2014	0.20	0.04–0.20	NA
Strontium (ppb)	2014	170	120–170	NA

[1] Manganese is a naturally occurring mineral found in rocks, soil and groundwater, 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.

[2] Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining their occurrence in drinking water and whether future regulation is warranted.

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.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as LRAAs.

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.

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): SMCLs are established to regulate the aesthetics of drinking water like taste and odor.

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