



## Town of Lincoln Water Department Annual Water Quality Report 2021 PWS ID# 3157000

### INTRODUCTION

This report describes Lincoln's drinking water sources, treated water quality, and how we maintain the quality of your water. This report is issued annually to you, the consumer, to keep you updated on your drinking water quality. The report also provides information on where your water comes from, how we treat it, and answers to questions you may have about Lincoln's water system.

Established in 1874, the Lincoln Water Department (LWD) provides drinking water and fire flow protection throughout the Town. The drinking water source of supply consists of Flint's Pond and the Tower Road Well. Water is pumped to the micro-filtration plant where the water is treated and filtered. The distribution system consists of the Bedford Road water storage tank, 58 miles of water main and 488 fire hydrants.

### HOW CAN I LEARN MORE?

Maintaining water service is essential to public health and safety. Protecting the health of our customers, our water department staff and contractors is our highest priority. LWD leadership has been following the developments of COVID-19 and implementing continuity of operations plans to make sure the water keeps flowing through this unprecedented situation. Stay healthy and be safe.

LWD continues to follow communications from the government, the World Health Organization (WHO), and the Center for Disease Control (CDC) for information and directives regarding COVID-19. We are prepared to take any required precautions as they may evolve. Should you have any more questions, please visit our web page at: <http://www.lincolntown.org/219/Water-Department> for more information. You can also email the Water Commissioners:

Ruth Ann Hendrickson, Chair: [raandbob@earthlink.net](mailto:raandbob@earthlink.net)  
Michelle Barnes: [la\\_vise@yahoo.com](mailto:la_vise@yahoo.com)  
Steve Gladstone: [steve.gladstone@gmail.com](mailto:steve.gladstone@gmail.com)

The Water Department Administrative office is located at 77 Sandy Pond Road. Water Commission meetings are generally held at 8:00 A.M on the 2<sup>nd</sup> Tuesday of each month via Virtual Meeting Pursuant to Governor Baker's March 12, 2020 order suspending certain provisions of the Open Meeting Law. Find the agenda for the Water Commission Meetings at <http://www.lincolntown.org/AgendaCenter>. Members of the public who wish to listen or watch the meeting may do so in the following manner:

**Topic:** Board of Water Commissioners Zoom Meeting

**Join Zoom Meeting:** <https://zoom.us/j/95852877723?pwd=YThnR2ZYRGtnQ2dsWUcveU00cWdyZz09>

**Meeting ID:** 958 5287 7723

**Password:** 0aKLXS

**Dial by your location:** 646-876-9923

**Office hours are by appointment only. Visit our webpage for updates at**  
<https://www.lincolntown.org/219/Water-Department>.

VISIT OUR WEBSITE TO FIND OUT MORE ON.....

Water Department Rules and Regulations

<https://www.lincolntown.org/DocumentCenter/View/27642/Rules-and-Regs-2016a?bidId=>

How to update information for your account

<https://www.lincolntown.org/DocumentCenter/View/44767/Request-for-Account-Update-Information>

Application form to request water shut off

<https://www.lincolntown.org/DocumentCenter/View/10208/Water-Shut-Off-Request-Form?bidId=>

Apply for Abatement

<https://www.lincolntown.org/DocumentCenter/View/44750/Abatement-Application>

Request a final read

<https://www.lincolntown.org/DocumentCenter/View/44749/Final-Water-Bill-Request-Form>

## SYSTEM IMPROVEMENTS

Governed by three elected Commissioners, the Department operates as an Enterprise Fund, being supported entirely by user fees. Revenues are expected to meet or exceed expenditures on a year-to-year basis, with the difference (Retained Earnings) held in reserve to fund emergency repairs, capital expenditures, and system improvements. Our budget and capital expenses are voted by the Town at the annual Town Meeting. We receive accounting, insurance, and personnel services from the general Town government, for which we are billed. LWD maintains liaisons with various Town entities, including Town Administration and the Finance Committee.

The Board of Water Commissioners is committed to providing safe, reliable, and high-quality water service for our customers. To meet this commitment, the Board has developed a long-term financial and capital improvement program to ensure there are adequate funds available to make necessary investments in infrastructure and personnel.

The Board of Water Commissioners worked hard to achieve a budget that supports high quality operations, needed capital investments, and will yield enough retained earnings to keep the Department fiscally healthy. In the last three years, the Department undertook a number of projects to upgrade the microfiltration water plant and chemical handling systems and to address deficiencies identified by the Massachusetts Department of Environmental Protection. These are largely completed, including the new coagulation pretreatment of the pond water designed to lower the TTHM (trihalomethane) levels in the water. (The TTHM levels have occasional exceed the allowed limits in the past, primarily in the summer.)

The capital investments we have made will ensure that the Department will continue to supply adequate and safe water for at least five years. In five to seven years, the Water Treatment Plant will probably require new filter membranes. In 2021, the Water Commissioners conducted a financial study considering 3 long-term water supply and water treatment options: 1) Joining the MWRA (Massachusetts Water Resources Authority to get fully treated water from the Quabbin Reservoir; 2) Building a new treatment plant with newer technology that may reduce operating costs; and 3) continuing to upgrade our current system as needed. The study made it abundantly clear that continuing with our existing treatment plant (which is performing better than ever) is the obvious path forward.

The Commission continues to work with the Lincoln Finance and Capital Committees to develop long-term financial and capital improvement programs. This ensures current water rates are sufficient and there are adequate funds available to maintain infrastructure and provide for the delivery of safe and reliable water service into the future. However, as an Enterprise Fund, there is no legal obligation to obtain their approval.

## LINCOLN'S DRINKING WATER – A WELL PROTECTED SOURCE

The Town of Lincoln is supplied by both surface water and groundwater well. Flint's Pond is the primary supply. Tower Road Well is a supplemental source used daily, providing redundancy and resiliency.

Since 1874, when the system was known as the Lincoln Water Works, the Town recognized the need to protect its watershed. The watershed consists of 465 acres of land surrounding Flint's Pond, which is approximately 92 percent owned and/or controlled by the Town. The Town also owns the land around the Tower Road Well within the Zone I border defined by Mass DEP regulations. The Town has in place a Watershed Protection Plan designed to limit access to the water and protect the land from any development that would endanger the water supply. One of the biggest threats to the Town's water supply is improperly maintained septic systems. You can help protect your drinking water quality by pumping out your septic system every two years. Never dump hazardous substances down septic or storm drains. Do not use septic system cleaners. For more information on how to maintain your septic system you can visit:

[Care-of-Septic-Systems-FINAL-1-20-22 \(lincolntown.org\)](http://lincolntown.org/Care-of-Septic-Systems-FINAL-1-20-22)

## SOURCE WATER ASSESSMENT PROGRAM

The Source Water Assessment & Protection (SWAP) Program, established under the federal Safe Drinking Water Act, requires every state to: inventory land uses within the recharge areas of all public water supply sources; assess the susceptibility of drinking water sources to contamination from these land uses; and publicize the results to provide support for improved protection. A susceptibility ranking of moderate for Flint's Pond and ranking of high for Tower Road well were assigned using the information collected during the 2003 assessment by Mass DEP. You can download a copy of the SWAP Report from [www.mass.gov/eea/docs/dep/water/drinking/swap/nero/3157000.pdf](http://www.mass.gov/eea/docs/dep/water/drinking/swap/nero/3157000.pdf)

## INFORMATION ABOUT YOUR DRINKING WATER

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. However, some people may be more vulnerable to contaminants than the general population. Immuno-compromised 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care provider. More information about contaminants and potential health effects, including EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants can be obtained by calling the USEPA's Safe Drinking Water Hotline 1-800-426-4791.

The sources of drinking water generally include rivers, lakes, streams, ponds, reservoirs, springs and wells. Because water is the universal solvent, it dissolves naturally occurring minerals, and, in some cases, radioactive material, and can pick up substances resulting from the presence of pets, livestock, wildlife or from human activity as it travels over the surface of the land or through the ground. Contaminants that can be present include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from septic systems, dog waste and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.
- **Radioactive contaminants**, which may be naturally occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, septic systems, fertilizer, dog waste and other manure.

**Lead and Copper:** Infants and children who drink water containing lead in excess of the 0.015ppm action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Copper is an essential nutrient, but some people who drink water containing copper in excess of the 1.3ppm action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

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. LWD is 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 want 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 <http://www.epa.gov/safewater/lead>.

Lead and Copper samples were proactively collected at the newly built Lincoln Public School in October 2021. Initially, in 3 of the 5 samples taken Copper levels exceeded the 1.3ppm MCL. A flushing program was initialized to expose the new copper pipe to the corrosion inhibitor in the water. Levels of all but one sink quickly dropped below the MCL. Continued flushing reduced the final sink to below the MCL in sampling that continued into 2022. There was one detect of Lead at 0.001ppm in the initial round of testing, well under the 0.015ppm action level. After flushing, this sample location result came back ND (not detected) like the rest of the schools Lead results.

**Turbidity** has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. **Sodium** sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the sodium levels where exposures are being carefully controlled.

**Manganese** is a naturally occurring mineral found in rocks, soil, 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. The United States Environmental Protection Agency (EPA) and Mass DEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ug/L (microgram per liter), or 50 parts per billion. In addition, Mass DEP's Office of Research and Standards (ORS) has set a drinking water guideline for manganese (ORSG), which closely follows the EPA public health advisory for manganese. Drinking water may naturally have manganese and, when concentrations are greater than 50 ppb, the water may be discolored and taste bad. Over a lifetime, the EPA recommends that people drink water with manganese levels less than 300 ppb and over the short term, EPA recommends that people limit their consumption of water with levels over 1000 ppb, primarily due to concerns about possible neurological effects. Children younger than one year old should not be given water with manganese concentrations over 300 ppb, nor should formula for infants be made with that water for more than a total of ten days throughout the year. The ORSG differs from the EPA's health advisory because it expands the age group to which a lower manganese concentration applies from children less than six months of age to children up to one year of age to address concerns about children's susceptibility to manganese toxicity.

Water Health Advisory for manganese at: [https://www.epa.gov/sites/production/files/2014-09/documents/support\\_cc1\\_magnese\\_dwreport\\_0.pdf](https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_dwreport_0.pdf)

Mass DEP Office of Research and Standards (ORSG) for manganese  
<http://www.mass.gov/eea/agencies/massdep/water/drinking/lead-and-other-contaminants-in-drinking-water.html#11>

## FOR YOUR HEALTH

In order to ensure that tap water is safe to drink, Mass DEP and USEPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Regulated contaminants are those substances for which the USEPA has established drinking water standards to protect human health. Unregulated contaminants are those for which USEPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist USEPA in determining their occurrence in drinking water and whether future regulation is warranted.

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that includes PFOA, PFOS, Gen-X, and many other chemicals. PFAS compounds have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940s. PFOA and PFOS have been the most extensively produced and studied of these chemicals. Both chemicals are very persistent in the environment and in the human body – meaning they don't break down and they can accumulate over time. There is evidence that exposure to PFAS can lead to adverse human health effects. PFAS can be found in:

- Food packaged in PFAS-containing materials, processed with equipment that used PFAS, or grown in PFAS-contaminated soil or water.
- Commercial household products, including stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products, and fire-fighting foams (a major source of groundwater contamination at airports and military bases where firefighting training occurs).
- Workplace, including production facilities or industries (e.g., chrome plating, electronics manufacturing or oil recovery) that use PFAS.
- Drinking water typically localized and associated with a specific facility (e.g., manufacturer, landfill, wastewater treatment plant, firefighter training facility).
- Living organisms, including fish, animals and humans, where PFAS have the ability to build up and persist over time.

Like all other Public Water Systems in Massachusetts, Lincoln has started PFAS testing. While PFAS has been detected at levels above the 20ppt (parts per trillion) MCL (maximum contaminant level) in a few neighboring towns, we have not had a detect near the MCL. Flint's Pond has not had any quantifiable detects above detection limits. PFOS has been detected at Tower Road Well at levels well below the 20ppt MCL. Four rounds of testing have returned the following combined totals for the six regulated compounds: 11ppt in October 2021; 9.1ppt in November 2021; 4.5ppt in March 2022; and 9.3ppt in April 2022. These are all well under the 20ppt MCL and the well water is blended with the surface water in the distribution system, further reducing the concentration. For reference, 1ppt is equal to one second every 32,000 years or 0.003 seconds every 100 years.

## WATER CONSERVATION

The Department is required to enact water conservation regulations from May 1 to September 30 each year as a condition of its Water Management Act Permit. Last year, Lincoln's usage exceeded the DEP's requirement of 65 residential gallons per capita day and hence the DEP requires us to restrict nonessential outdoor watering to two days per week between May 1 and September 30 of each year, and restricts the hours of such watering to before 7:00 a.m. and after 7:00 p.m. The full text of the Department's Draught Management Plan, which included the DEP's restrictions on our seasonal non-essential outdoor water usage, can be found at <https://www.lincolntown.org/DocumentCenter/View/35626/LWD-Drought-Management-Plan-2017>. Please note that water users who have applied for and received the agricultural rate, and those agricultural users who meet the requirements of a farmer in the Right to Farm by-law are considered "essential" outdoor water users.

The DEP issued the Town's current water withdrawal permit in 2010. There are two major permit provisions with respect to water consumption: that we achieve the state-wide goal of 65 gallons per person per day residential use, and that our total annual withdrawal, including non-residential users and unaccounted for (lost) water not exceed 182 million gallons per year. We have achieved the residential water use goal four times in the last eight years, one of which was the result of the mandatory watering ban. Our 2021 gallons per person per day residential use was 70gpd and our overall annual water withdrawal was 204 million gallons.

Due to steady precipitation, Flint's Pond water levels remained normal summer during the summer of 2021. Since we are in violation of our water permit withdrawal amount and per capita water usage, Commissioners urge our customers to follow the annual and drought-related water restrictions and to take advantage of the conservation rebate programs we offer to replace older toilets and appliances with new water-saving ones. You can visit our web page for more information at <https://www.lincolntown.org/398/Restrictions-Conservation-Water-Use>.

Product	Qualifying Criteria	Limit Per Account	Rebate
Toilet	WaterSense	1	\$50
Clothes washer	Energy Star certified	1	\$150
Irrigation controller	WaterSense	1	\$50
Moisture sensor	WaterSense	1	\$50

The Department continued its proactive approach to reduce leaks in the mains and service lines in an effort to reach the DEP mandate of less than 10% unaccounted for or lost water (UAW). We recently found and repaired two significant leaks; one on Lexington Road and one on Page Farm Road. In both cases, water was leaking from a cracked water main straight into storm drains, allowing it to go undetected. It was residents' vigilance that led to detection and repair. With your continued conservation efforts and the Water Department moving to biannual leak detection monitoring, we are optimistic our water usage numbers will be lower in 2022.

## WATER TREATMENT

A coagulant is added to the surface water to floc together tiny particles and dissolved organics. The water is then filtered through the treatment plants micro filter membranes. Depending on the source location, LWD adds a low concentration of either potassium hydroxide or sodium hydroxide to the drinking water in order to increase the pH (reduce the acidity) of the water to reduce its natural corrosiveness. Chlorine is added as a disinfectant at the Flint's Pond treatment plant facility and fluoride is added at both the treatment plant and the Tower Road well to aid in dental health and hygiene. Zinc orthophosphate is also added at both sites for corrosion control and to reduce levels of iron and manganese.

### Monitoring and reporting Violations

We routinely monitor our water system for the presence of drinking water contaminants in compliance with the Massachusetts Department of Environmental Protection (DEP). In 2021, there were no violations of Massachusetts DEP drinking water standards.

## CROSS CONNECTION CONTROL PROGRAM

The purposes of this program are:

- To protect the public potable water supply from the possibility of contamination or pollution by isolating such contaminants or pollutants which could backflow or back-siphon into the public water system.
- To promote the elimination or control of existing cross connections, actual or potential between its customer's potable water system, and non-potable systems.
- To provide for the maintenance of a continuing program of cross connection control which will effectively prevent the contamination or pollution of all potable water systems by cross connection. For information regarding our program please contact the Lincoln Water Department at 781-259-2669.

**What you can do to help prevent a cross-connection:** Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact, over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you, as a drinking water user, can take to prevent such hazards:

- Never submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
- Never attach a hose to a garden sprayer without the proper backflow preventer.

- Buy and install a hose bibb vacuum breaker on every threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with a backflow preventer.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

## WATER QUALITY DATA 2021

To safeguard the quality of our drinking water, the EPA promulgates and enforces requirements related to the prevalence of certain contaminants within public water supply systems. The water quality information presented in the below tables is from the most recent round of testing done in accordance with these regulations. All results shown were from samples collected during the last calendar year unless otherwise noted in the tables. Only the detected contaminants are shown. The detectable presence of a contaminant does not necessarily indicate any health risks associated with the drinking water. Presented are five sets of contaminants and their respective limits that the water is regularly tested for and measured against: Microbiological; Primary; Secondary, Radioactive, and Lead & Copper Contaminants. The set of Primary Contaminants includes contaminants and their associated limits that are known to occur in public water supply systems and can adversely affect public health. The Secondary Parameters and their limits are set for both aesthetic purposes and for assisting the EPA in understanding their presence in drinking water and whether there is any need for future regulation of these contaminants.

### MICROBIOLOGICAL SAMPLING

Substance	Sample Date	MCLG	MCL/AL	Highest Number Positive in Routine Monthly Samples	Violation	Possible Source(s) of Contamination and Health Language
Total Coliform	2021	0	>1/month TT	0	No	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system.
Fecal Coliform or E.coli	2021	0	0 TT	0	No	E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.

### PRIMARY CONTAMINANTS

Substance	Sample Date	MCLG/ MRDLG	MCL/ MRDL	(Highest) Detected or Running Average	Range Detected	Violation	Possible Source(s) of Contamination and Health Language
Barium (ppm)	2021	2	2	0.047	0.004-0.047	No	Erosion of natural deposits. Discharge from drilling waste and metal refineries. Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Chlorine - Total (ppm)	2021	4	4	1.33	0.02-1.33	No	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess.

Nitrate (ppm)	2021	10	10	0.53	0.53	No	Runoff from fertilizer use; leaching from septic tanks; natural deposits. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Fluoride (ppm)	2021	4	4	1.06	0.13 – 1.06	No	Erosion of natural deposits; water additive that promotes strong teeth.
Perchlorate (ppb)	2021	NA	2.0	0.08	ND – 0.08	No	Rocket propellants, fireworks, munitions, flares, blasting agents. Perchlorate interferes with the normal function of the thyroid gland and thus has the potential to affect growth and development, causing brain damage and other adverse effects, particularly in fetuses and infants. Pregnant women, the fetus, infants, children up to the age of 12, and people with a hypothyroid condition are particularly susceptible to perchlorate toxicity.
Total TTHM (ppb)	Quarterly 2021	--	80	73	43 - 86	No	By-product of drinking water chlorination.
Total HAA5 (ppb)	Quarterly 2021	--	60	10	ND - 46	No	By-product of drinking water chlorination.

#### SECONDARY CONTAMINANTS

Substance	Sample Date	Range Detected	Highest Detected	SMCL	ORSG or Health Advisory	Violation	Possible Source(s) of Contamination and Health Language
Sodium (ppm)	2021	16.7– 50.7	50.7	250	20 *	NA	Some people who drink water containing sodium at high concentrations for many years could experience an increase in blood pressure. Discharge from the use and improper storage of sodium containing de-icing compounds or in water-softening agent. Use of salt for de-icing roads.

\* Detected levels of sodium are well within recommended limits. Nonetheless, people restricted to sodium intake of 500 mg/day due to health issues such as high blood pressure, heart disease, or kidney failure should discuss with their doctors whether to drink Lincoln water.

#### PFAS

Substance	Sample Date	MCLG/ MRDLG	MCL/ MRDL	Highest Detected	Range Detected	Violation	Possible Source(s) of Contamination and Health Language
Combined PFAS (ppt)	2021	20	0.5	11.1	ND – 11.1	No	Sources: Industry, fire fighting, landfills, waste water. A recent review from the US CDC outlines a host of health affects associated with PFAS exposure, including cancer, liver damage, decreased fertility, and increased risk of asthma and thyroid disease.

Turbidity		Lowest Monthly % of Samples	Highest Detected Daily Value	Violation (Y/N)	Possible Source of Contamination
Daily Compliance (NTU)	1	---	<b>0.25</b>	<b>N</b>	Soil runoff
Monthly Compliance*	At least 95%	<b>100%</b>	-----	<b>N</b>	
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.					
*Monthly turbidity compliance is related to a specific treatment technique (TT). Our system filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations.					

LEAD & COPPER (SAMPLES COLLECTED FROM HOMES IN THE SERVICE AREA)							
Substance	Sample Date	MCLG	MCL/AL	No. of Sites Sampled	90th %	Sites above AL	Possible Source(s) of Contamination
Lead (ppb)	2021	0	15	12	--	0	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper (ppm)	2021	1.3	1.3	12	--	5	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives. New school plumbing.

See Lead and Copper section on page 3-4 for health effects and corrective actions.

UNREGULATED CONTAMINANTS							
Unregulated contaminants are those for which there are no established drinking water standards. The purpose of unregulated contaminant monitoring is to assist regulatory agencies in determining their occurrence in drinking water and whether future regulation is warranted.							
Substance	Sample Date	ORSG	Highest Detected	Range Detected	Violation	Possible Source(s) of Contamination and Health Language	
Chloroform (ppb) ( 67663)	2020	70	76.6	36.8 – 76.6	No	By-product of drinking water chlorination. Some people who drink water containing chloroform at high concentrations for many years could experience liver and kidney problems and may have an increased risk of cancer.	
Bromodichloromethane (ppb) (75274)	2020	NA	10.1	5.03 – 10.1	No	By-product of drinking water chlorination. Some people who drink water containing bromodichloromethane at high concentrations for many years could experience liver and kidney problems.	
Chlorodibromomethane (ppb)	2020	NA	1.15	ND – 1.15	No	By-product of drinking water chlorination	
Bromoform (ppb) (75252)	2020	NA	ND	ND	No	By-product of drinking water chlorination. Some people who drink water containing bromoform at high concentrations for many years could experience liver and kidney problems.	

#### DEFINITIONS

**ppm:** parts per million or milligrams per liter (mg/L)  
**ppb:** parts per billion or micrograms per liter (µg/L)  
**pCi/L:** picocuries per liter (a measure of radioactivity)

**NTU: Nephelometric Turbidity Units**

**Maximum Contaminant Level (MCL):** 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.

**Maximum Contaminant Level Goal (MCLG):** 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.

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

**90th Percentile:** Out of every 10 homes sampled, 9 were at or below this level. This number is compared to the action level to determine lead and copper compliance.

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

**Unregulated Contaminants:** Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

**Office of Research and Standards Guideline (ORSG):** This is the concentration of a chemical in drinking water at or below which adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

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

**Running Annual Average (RAA):** The average of four consecutive quarters of data.

**Maximum Residual Disinfectant Level (MRDL):** 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.

**Maximum Residual Disinfectant Level Goal (MRDLG):** 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 contamination.