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2020 Annual Drinking Water Quality Report
Hopedale Water Department
Hopedale, Massachusetts
MASSDEP PWSID # 2138000

This report is a snapshot of drinking water quality that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with information because informed customers are our best allies.

I. PUBLIC WATER SYSTEM INFORMATION

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Primary Certified Treatment Operator:	John Schreiber
Primary Certified Distribution Operator:	David Butler
Secondary Certified Treatment Operator:	Timothy Watson
Secondary Certified Distribution Operator:	Kyle Boucher

This report was completed and submitted by David Butler. If you have any questions regarding this report or would like additional information, you may contact David at (508) 478-2080.

Water System Improvements

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, the water system is operated by Massachusetts certified operators who oversee the routine operations. As part of our ongoing commitment to you, last year we made several improvements to our system. We had all of our wells cleaned to improve flow quantities as well as to improve the overall quality of water as well as our raw tank professionally cleaned. Throughout the year, both Water and Fire Departments worked together maintaining the fire hydrants and several were replaced. One of our focuses throughout the year has been the never-ending search for more water sources, which involved drilling new wells as having a trace fracture study completed to identify potential future water sources. This fall, the entire distribution system was flushed and cleaned and we continued with the town-wide water meter upgrades.

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you may attend the Hopedale Board of Water and Sewer Commissioners' meetings on the second Thursday of each month at 7:00 pm., Meetings are held in the Draper Room of the Town Hall at 78 Hopedale Street.

2. YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Our water comes from several wells in a few different locations. The primary location supplying the majority of the water is our tubular well field on Mill Street located within the Hopedale golf course. At this location, over 30 wells are pumped by a vacuum system supplying the water to the treatment plant to be treated. The remainder of water is received from five separate wells located on the property of the treatment plant itself. If you would like to learn more about our town's watershed, you can go to the U.S. EPA Surf Your Watershed web site at www.epa.gov/surf.

Sources:

Source Name	MassDEP Source ID#	Source Type	Location of Source
Mill Street Well Field	2138000-01G	Wells	within the Hopedale Golf Course
Greene ST. GP Well 1	2138000-02G	Gravel Packed Well	within our WTP*
Greene ST. GP Well 2	2138000-03G	Gravel Packed Well	within our WTP
Greene ST. GP Well 3	2138000-04G	Gravel Packed Well	within our WTP
Greene ST. Bedrock Well 2	2138000-05G	Bedrock Well	within our WTP
Greene ST. Bedrock Well 3	2138000-06G	Bedrock Well	within our WTP

*WTP- Water Treatment Plant located off Greene Street. Wells located here are spread throughout the property.

Is My Water Treated?

Our raw water is supplied via the sources listed above and pumped into a raw water tank to mix. From there, the raw water is sent to our treatment plant, where it is immediately disinfected with chlorine gas, the pH is adjusted, and a coagulant is added to assist in removing minerals and contaminants (i.e. iron, manganese, etc.) while going through our green sand plus filters. This filtered water is then sent through an ultra violet system, deactivating any viruses the water may contain, then flows to our clear well where the water is chlorinated a final time before being sent out to our distribution system. Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we treat it to remove several contaminants as well as monitor them based on a sampling schedule set forth by MassDEP. Here are some examples:

- Gross Alpha Particle Activity
- Asbestos
- Haloacetic Acids
- Chlorine
- Inorganics
- Iron
- Lead and Copper
- Manganese
- Nitrate
- Nitrite
- Perchlorate
- Radium 226 and 228
- Secondary Contaminants
- Synthetic Organic Compounds (SOCs)
- Trihalomenthanes
- Turbidity
- Volatile Organic Compounds (VOCs)

The water quality of our system is constantly monitored by the department as well as MassDEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required. Future treatment may be required.

How Are These Sources Protected?

MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

What Is My System's Ranking?

A susceptibility ranking of high was assigned to this system using the information collected during the assessment by MassDEP.

Where Can I See The SWAP Report?

The complete SWAP report is available at Hopedale Water Department and online at http://www.mass.gov/eea/docs/dep/water/drinking/swap/cero/2138000.pdf. For more information, you can call HWD at (508) 478-2080.

3. SUBSTANCES FOUND IN TAP WATER

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, the water dissolves naturally occurring minerals and, in some cases, radioactive materials. The water can also pick up substances resulting from the presence of animals or from human activity.

Contaminants 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, 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, oil and gas production, mining, and farming.

Pesticides and herbicides—that may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

Organic chemical contaminants—including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also, come from gas stations, urban storm water runoff, and septic systems.

Radioactive contaminants–which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit 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 that must provide the same protection for public health. All 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. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

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 some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

4. IMPORTANT DEFINITIONS

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.

Maximum Residual Disinfectant Level (MRDL)—The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) 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 (chlorine, chloramines, chlorine dioxide) below which there is no known of expected risk to health.
MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

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

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

Variances and Exemptions–State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

ppm = Parts per million, or milligrams per liter (mg/l)
ppb = Parts per billion, or micrograms per liter (ug/l)
ppt = Parts per trillion, or nanograms per liter
pCi/l = Picocuries per liter (a measure of radioactivity)
NTU = Nephelometric Turbidity Units
ND = Not Detected
NA = Not Applicable
mrem/year = Millimrems per year (a measure of radiation absorbed by the body)

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

Massachusetts 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.

5. WATER QUALITY TESTING RESULTS

What Does This Data Represent?

The water quality information presented in the table(s) is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table(s).

	Date(s) Collected	90TH Percentile	Action Level	MCLG	# of Sample sites	# of sites above Action Level	Exceeds AL (Y/N)	Possible Source of Contamination
Lead (ppb)	7/17/2019 Through 8/20/2019	3	15	0	40	0	N	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	7/17/2019 Through 8/20/2019	.85	1.3	1.3	40	0	N	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

	Highest # Positive in a month	MCL	MCGL	Violation (Y/N)	Possible Source of Contamination
Total Coliform	0	0	0	N	Naturally present in the environment
Fecal Coliform or E. Coli	0	*	0	N	Human and animal fecal waste

Turbidity	TT	Lowest Monthly % of Samples	Highest Detected Daily Value	Violation (Y/N)	Possible Source of Contamination
Daily Compliance (NTU)	1	----	.10	N	Soil runoff
Monthly Compliance*	At least 95% <.3	100%	----	N	
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.					

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Barium (ppm)	5/26/2020	.04	NA	2	2	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate (ppm)	5/26/2020	.41	NA	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate(ppb)	9/09/2020	.11	NA	2	NA	N	Rocket propellants, fireworks, munitions, flares, blasting agents
Gross Alpha (pCi/l) (minus uranium)	4/26/2012	.71	NA	15	0	N	Erosion of natural deposits
Radium 226 & 228 (pCi/L) (combined values)	1/25/2012	.84	NA	5	0	N	Erosion of natural deposits
PFAS 6 (ppt)	10/28/2020 11/09/2020 12/10/2020	8.50	6.61-9.56	20	NA	N	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Disinfectants and Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	Quarterly in 2020	46	22-67	80	—	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	Quarterly in 2020	19	8.5-27	60	—	N	Byproduct of drinking water disinfection
Chlorine (ppm) (free)	Monthly in 2020	.73	.03-1.41	4	—	N	Water additive used to control microbes

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Sodium (ppm)	5/26/2020	62	NA	—	20	Natural sources; runoff from use as salt on roadways; by-product of treatment process
Bromodichloromethane (ppb)	Quarterly in 2020	6.99-19.60	NA	—	—	By-product of drinking water chlorination
Chloroform (ppb)	Quarterly in 2020	11.50-40.10	NA	—	—	By-product of drinking water chlorination
Dibromochloromethane (ppb)	Quarterly in 2020	2.82-7.56	NA	—	—	By-product of drinking water chlorination
Perflourobutane sulfonic acid (PFBS) (ppt)	10/28/2020 11/09/2020 12/10/2020	1.55	1.53-1.60	—	—	—
Perflourohexanoic acid (PFHxA) (ppt)	10/28/2020 11/09/2020 12/10/2020	2.74	1.98-3.33	—	—	—

6. COMPLIANCE WITH DRINKING WATER REGS

Drinking Water Violations:

We are pleased to inform you that the Department did not receive any violations this year.

7. EDUCATIONAL INFORMATON

Do I Need To Be Concerned About Certain Contaminants Detected In My Water?

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 household plumbing. Hopedale Water Department 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 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 http://www.epa.gov/safewater/lead.

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.

8. ADDITIONAL INFORMATION

What is a Cross Connection and What Can I do about it?

A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you are going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops at the same time you turn on the hose, the fertilizer may be sucked back into the drinking water pipes through the hose. This problem can be prevented by using an attachment on your hose called a backflow-prevention device. The Hopedale Water Department recommends the installation of backflow prevention devices, such as a low cost hose bib vacuum breaker, for all inside and outside hose connections. As part of our commitment to protect you as well as the water supply, we can provide these to you at no cost or you can purchase them at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water system in your town! For additional information on cross connections and on the status of your water systems cross connection program, please contact David Butler at (508) 478-2080.

Tap vs. Bottled

With bottled water becoming a growing commodity, the belief that bottled water is a healthier alternative is on the rise as well. However, this is not always the case. According to government estimates, 40 percent of bottled water is in fact just bottled tap water. The difference is that bottled water is not as strictly regulated and monitored for contaminants compared to the alternative-tap water. The big difference however, is the cost. When purchasing bottled water, the average price per gallon is roughly $1.22 but through the tap, that same gallon of water ranges from $.003 to $.008 depending on usage.

Iron and Manganese

Manganese—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.

Iron—naturally present in soils, groundwater, and surface water sources. Iron is not known to be disease causing, however, high levels can cause rust looking stains on plumbing fixtures and cause taste and odor problems.

Iron and manganese levels in our water are below levels required for reporting. However, we felt it was important to let you know that our water, as well as most water, does contain these contaminants. In our raw water, levels can be as high as 9.93 ppm. Since the installation of the filter plant in 2011, iron and manganese is removed to the point of non-detectable prior to being sent out to the distribution system.