2016

SUDBURY WATER DISTRICT

19th Annual Water Quality Report

PWS ID NO 3288000

VISIT OUR WEBSITE FOR THE LATEST NEWS AND INFORMATION ON FLUSHING, WATER RESTRICTIONS, MEETINGS AND MORE!

Flushing

Sudbury Water District flushes hydrants every spring and fall, in an effort to clear water mains of sediment and mineral build up.

Restrictions

See current restrictions at sudburywater.com.

Meetings

All meetings are held at 5 p.m. at the office of the Sudbury Water District, 199 Raymond Road.

PLUS, PAY YOUR BILL ONLINE! **SudburyWater.com**

To view current outdoor water restrictions, standards and guidelines please vistit:
sudburywater.com/outdoorwaterrestrictionstandardsandguidelines/

WHY AM I RECEIVING THIS REPORT?

In 1996 the Federal Safe Drinking Water Act mandated all community drinking water systems to prepare and distribute annually to their customers [Consumer Confidence Reports (CCRs)]. In compliance with these regulations the Sudbury Water District is pleased to present our nineteenth annual Water Quality Report; a snapshot of the drinking water quality provided to you last year.

Included are important 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 this information because informed customers are our best allies.

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Additional copies of this report are available at our business office at 199 Raymond Road
Hours of operation M-F, 9 a.m. - 4 p.m.
or online at:

sudburywater.com/waterquality

WHO DO I CONTACT IF I HAVE CONCERNS ABOUT MY LOCAL DRINKING WATER?

Sudbury Water District is staffed by five field personnel and three office staff, all of whom are dedicated to bringing into your home the highest quality of drinking water. Office and field personnel are available weekdays between 9 a.m. and 4 p.m., to meet and address public supply needs. Questions or concerns about your drinking water? Contact (978-443-6602) during regular business hours or visit our website www.sudburywater.com, a useful and informative tool updated regularly to include our most recent water quality tests, answers to frequently asked questions, explanations of rates, fees and links to pay your water bill online or register as an email subscriber. Superintendent Rebecca McEnroe is also available during regular business hours. Arrangements to discuss matters in person with Rebecca may be made by contacting our business office or emailing her directly at rmcenroe@sudburywater.com. Although office hours are limited the District always has an experienced field technician on-call, 365 days a year, for emergency and after-hour matters. Should you experience or observe a water emergency after business hours simply contact the Department of Public Safety (978) 443-1042 who will dispatch an on-call water technician to address the matter.

ARE THERE OPPORTUNITIES FOR PUBLIC PARTICIPATION?

The Board of Water Commissioners meets bi-weekly at 5 p.m. at the District business office (199 Raymond Road) to discuss and vote on issues concerning your drinking water supply. Superintendent McEnroe keeps the Commissioners up to date on current projects and developing situations. You are invited to participate in this public forum and become more knowledgeable about your drinking water as well as bringing your concerns to the attention of the Commissioners and the Superintendent. Contact the office of the Water District (978-443-6602) to obtain the scheduled meeting dates.

WHERE DOES MY WATER COME FROM?

Sudbury's water is obtained from nine gravel packed ground wells located in three separate aquifers; these aquifers are known as Raymond Road, Hop Brook and Great Meadow. We also have four storage tanks located throughout Town with a storage capacity ranging from 0.35 to 3.0 million gallons and totaling 6.35 million gallons. Your water is provided by the following sources:

Source Name	Mass DEP Source ID #	Source Type	Location of Source
GP Well No. 2A	3288000-02G	Groundwater	Raymond Road
GP Well No. 3A	3288000-11G	Groundwater	Pratt's Mill Road
GP Well No. 4	3288000-04G	Groundwater	Warren Road
GP Well No. 5	3288000-05G	Groundwater	North Road
GP Well No. 6	3288000-06G	Groundwater	Raymond Road
GP Well No. 7	3288000-07G	Groundwater	Nobscot Road
GP Well No. 8A	3288000-12G	Groundwater	Pratt's Mill Road
GP Well No. 9	3288000-09G	Groundwater	Raymond Road
GP Well No. 10	3288000-10G	Groundwater	Pratt's Mill Road

IS MY WATER TREATED?

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:

We add disinfectant to protect you against microbial contaminants; we add fluoride to the water to aid in dental health and hygiene; we aerate and filter the water to remove volatile organic contaminants; we filter the water to reduce levels of iron and manganese and we chemically neutralize the water.

As there are variations in the water quality among our nine sources, treatment systems are designed to specifically address the type and amount of contaminants present at each site. Following treatment, water is pumped to elevated storage tanks for distribution to your home. When tanks are full, the pumps at the wells shut off and water is fed to customers from the tanks. As soon as demand brings tank levels to the "start" level, the pumps restart and the cycle begins again. In order to perform scheduled and emergency maintenance operations, the specific wells selected to be in service at any time will vary. Therefore the water delivered to your home does not necessarily originate at a single point but rather is a blend of a number of our wells.

HOW ARE THESE SOURCES PROTECTED?

In 2002 the DEP prepared a Source Water Assessment Program (SWAP) Report for our water supply source(s). This report assesses the susceptibility of public water supplies: The Zone I for our wells is a 400 foot radius around the wellhead. Massachusetts Drinking Water Regulations (310 CMR 22.00 Drinking Water) requires public water suppliers to own or control the Zone I through a conservation restriction. Only water supply activities are allowed in the Zone I. However many public water supplies were developed prior to the DEP's regulations and contain non-water supply activities such as homes, recreation fields and public roads. The DEP's findings are based on Well No 5 where there appears to be agriculture in the extreme western portion of Zone I. Also, North Road (Rte. 117) cuts through the northern section of the Zone. Additional findings in the SWAP are: all of our wells are located in aquifers with a high vulnerability to contamination due to the absence of hydrogeologic barriers (clay) that can prevent contamination migration. The Zone IIs for Sudbury are a mixture primarily of residential, forest and wetlands land uses with a small portion consisting of other uses such as recreation, agriculture, commercial, light industry. The District employs corrective actions by continuing to work with local and state offices for the promotion of good practices on land contained within our Zone I and Zone II areas. The DEP has commended the District for taking an active role in promoting source protection measures in the water supply protection areas through: Adopting land use controls that meet the DEP's Drinking Water Regulations. A complete SWAP Report is available at the District office at 199 Raymond Road (978-443-6602) or can be viewed online at http://www.mass.gov/eea/docs/dep/water/drinking/swap/nero/swap-nero.doc.

SUBSTANCES FOUND IN DRINKING 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, it dissolves naturally occurring minerals, and in some cases, radioactive material. It can 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, may come from sewage and treatment plants, septic systems, agricultural livestock operations and wildlife. Inorganic contaminants, such as salts and metals can be naturally occurring or resulting from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming. Pesticides and herbicides, which 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 byproducts of industrial process and petroleum production, and may 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.

FURTHER INFORMATION CONCERNING SAFE DRINKING WATER

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. 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 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) contain guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants and are available from the Safe Drinking Water Hotline at (800) 426-4791.

MINIMIZING LEAD EXPOSURE

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. Sudbury Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in residential 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.

HELP PREVENT BACKFLOW CONTAMINATION

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're going to spray fertilizer on your lawn. You hook up your hose to a sprayer that contains the fertilizer. If the water pressure drops (say because of fire hydrant use in town) when the hose is connected to the fertilizer, the fertilizer may be sucked back into the drinking water pipes through the hose. Using an attachment on your hose called a backflow prevention device can prevent this problem. Sudbury Water District recommends the installation of backflow prevention devices, such as a low cost hose bib vacuum breaker, for all inside and outside hose connections. You can purchase this at your hardware store and 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 own town. Did you know in Sudbury alone we inspect and test over 300 backflow prevention devices annually? Inspections include schools, commercial businesses, municipal buildings and residential homes. For more information or to address concerns you may have about back-siphonage, visit http://www.watts.com/pages/learnAbout/usc_study.asp?catId=1160.

FINAL WORD

Keeping water safe is a community effort, remember to always properly dispose of hazardous materials including unused medications. Anything that is flushed down the toilet or dumped into a storm drain or stream will infiltrate into the groundwater and could negatively affect the environment and possibly our water supply. We encourage your best conservation efforts when using water outdoors. Water your lawn only when necessary and if possible before 9 AM or after 5 PM to avoid evaporation. Set your mower blades to 2-3 inches high, longer grass shades the soil improving moisture retention allowing grasses to grow thicker and develop a deeper root system. Applying mulch around shrubs and flower beds will also help reduce evaporation and promote plant growth. And finally familiarize yourself with our seasonal mandatory restrictions by checking our website www.sudburywater.com often or receive updates electronically by joining our e-mail subscriber list.

Board of Water Commissioners,
Robert H. Sheldon
Michael C. Fee
Joshua M. Fox

WHAT DOES THIS DATA REPRESENT?

The water quality information presented in the following table(s) is from the most recent round of testing done in accordance with the 1996 Safe Drinking Water Act Amendments. All data shown was collected during the last calendar year unless otherwise noted.

Regulated Contaminants are those for which the EPA has set legal limits on the levels allowed in drinking water. The limits reflect both the level that protects human health and the level that water systems can achieve using the best available technology.

Lead & Copper Contaminant	Date(s) Collected	90th Percentile	Action Level	MCLG	No. of Sites Sampled	No. of Sites Above Action Level	Possible Source(s) of Contamination
[1] Lead (ppm)	09/09-09/10/14	0.006	0.015	0	30	0	Corrosion of household plumbing systems; Erosion of natural deposits.
[1] Copper (ppm)	09/09-09/10/14	0.315	1.3	1.3	30	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.

Inorganic Contaminant	Date Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG, MRDLG or ORSG	Violation (Yes/No)	Possible Source(s) of Contamination
Arsenic (ppb)	04/22/15	1.1	ND-1.1	10	----	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium (ppm)	04/22/15	0.054	0.009-0.054	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride (ppm)**	05/03/16	0.63	0.34-0.63	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (ppm)	05/03/16	5.7	0.48-5.7	10	10	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Perchlorate (ppb)	07/12/16	0.19	0.11-0.19	2	N/A	No	Rocket propellants, fireworks, munitions, flares, blasting agents.
Sodium (ppm)	04/22/15	68	6.7-68	----	20	No	Natural sources; runoff from use as salt on roadways; by-product of treatment process.

****Fluoride** also has a secondary contaminant level (SMCL) of 2 ppm.

Radioactive Contaminants	Date Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Yes/No)	Possible Source(s) of Contamination
[1]Gross Alpha emitter (pCi/L)	01/31/14	3.0	ND-3.0	15	0	No	Erosion of natural deposits.
[1] Radium 226 & 228 (pCi/L) (combined values)	03/22/11	1.05	0.28-1.05	5	N/A	No	Erosion of natural deposits.

Disinfection By-products	Date(s) Collected	Highest Running Annual Average	Range	***MCL or MRDL	MCLG or MRDLG	Violation (Yes/No)	Possible Source(s) of Contamination
Total Trihalomethanes (ppb) (TTHMs)	Quarterly 2016	45.02	33.64-45.02	80	----	No	By-product of drinking water chlorination.
Haloacetic Acids (ppb) (HAA5)	Quarterly 2016	18.39	16.73-18.39	60	----	No	By-product of drinking water disinfection.
Chlorine (ppm) (free, total or combined)	Monthly 2016	0.54	0.51-0.54	4	4	No	Water additive used to control microbes.

*** **Running Annual Average**

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

Unregulated Contaminants	Date(s) Collected	Highest Result Detected	Range Detected	Possible Source(s) of Contamination
Bromodichloromethane (ppb)	Quarterly 2016	22	6.6-22	Trihalomethane; by-product of drinking water chlorination.
Chloroform (ppb)	Quarterly 2016	52	4.8-52	A by-product of drinking water chlorination (regulated collectively with total trihalomethanes (TTHMs); in non-chlorinated sources, chloroform may be naturally occurring.
Dibromochloromethane (ppb)	Quarterly 2016	11	3.7-11	Trihalomethane; by-product of drinking water chlorination.

	Date(s) Collected	Average Detected	Range Detected
Chromium (ppb)	05/16/2013 11/20/2013	0.3	0.3
Strontium (ppb)	05/16/2013 11/20/2013	185	60-300
Vanadium (ppb)	05/16/2013 11/20/2013	0.3	0.2-0.4
Chromium, Hexavalent (ppb)	05/16/2013 11/20/2013	0.10	0.05-0.25
Chlorate (ppb)	05/16/2013 11/20/2013	198	63-360
1,4 Dioxane (ppb)	05/16/2013 11/20/2013	0.12	0.08-0.16

Secondary Contaminants are non-mandatory water quality standards. The EPA does not enforce "secondary maximum contamination levels" or SMCL. They are established only as guidelines to assist public water systems in managing their drinking water for aesthetic considerations such as taste, color and odor. These contaminants are not considered to present a risk to human health at the SMCL.

Secondary Contaminants	Date(s) Collected	Range Detected	SMCL	Possible(s) Source of Contamination
Hardness (ppm)	07/12/16	56.7-179	----	Not applicable (No SMCL)
Iron (ppm)	Quarterly 2016	ND-0.12	0.3	Rusty color; sediment; metallic taste; reddish or orange staining.
Manganese (ppm)	Quarterly 2016	ND-0.022	0.05	Black to brown color; black staining; bitter metallic taste
pH	Monthly 2016	7.2-8.0	6.5-8.5	Low pH: bitter metallic taste; corrosion. High pH: slippery feel; soda taste; deposits.

ppb: parts per billion, or micrograms per liter (ug/L)

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

ppm: parts per million, or milligrams per liter (mg/l)

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

ND: None Detected ---- : Not Applicable

Maximum Contamination Level Goal or (MCLG): The level of a contamination in drinking water below, which there is no known or expected risk to health MCLGs allow for a margin of safety.

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

Maximum Contamination Level or (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 Residual Disinfectant (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 (ex. chlorine, chloramines, chlorine dioxide).

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known of expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

(1) The data presented in this report is from the most recent testing done in accordance with federal regulations for the lead and copper rule.

We hope you find this report informative, allowing you the opportunity to become familiar with your public water supply. Your Commissioners and District employees strive to achieve the highest quality drinking water together with outstanding customer service. We invite your comments and questions regarding the District, its operation and this Annual Quality Report. Comments or concerns may be addressed by contacting (978-443-6602).

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Hours of operation (9 a.m. - 4 p.m., M-F)

For more information about how Sudbury Water District maintains the safety of your drinking water and to view previous years reports go to
http://www.sudburywater.com/my-water/water-quality.