

WATER QUALITY REPORT FOR 2008

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BOARD OF WATER COMMISSIONERS

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FOR MORE INFORMATION PLEASE CALL THE WATER DEPARTMENT

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Town Departments

Water Department

Office Hours – Monday through Friday

9:00 to Noon & 12:30 to 4:30

For Emergencies after hours Call

Police Communications

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Georgetown Water Department believes that the best way to assure safe and reliable drinking water is to provide you with accurate facts. This Consumer Confidence Report will provide you with information about your water and things that you can do to save water and money. It also has information about the system and how we monitor the water to ensure the quality as it reaches you.

Is My Drinking Water Safe?

YES! To protect your health, both the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) require us to continually perform water quality testing. (See Table on Page 5) We also monitor for pH, Chlorination and Turbidity continuously and Iron & Manganese daily as the water leaves the Treatment Plant. We test all three wells, the treatment plant plus twelve other points in the distribution system for the presence of Coliform Bacteria and Chlorine monthly. We sample the wells for sixty Volatile Organic Compounds (Pesticides, Industrial Solvents, Fuel components), twenty Secondary Compounds (including Heavy Metals, Sodium and Nitrate) and the distribution system for Trihalomethanes and Halo acetic Acids (Compounds of Chlorination) annually. Every three years the wells are analyzed for Nitrite, fourteen Inorganic Compounds (Including Sodium, Arsenic, Mercury and Cyanide) and Synthetic Organic Compounds. Many other distribution system samples were sampled for Iron, Manganese, pH and Sulfate, throughout 2008 in an effort to clear up the smell and staining some residents have had over the years.

Lead and Copper are tested at the three schools plus twenty homes throughout the distribution system annually. IF present, elevate 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 inside plumbing. Georgetown Water 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 COLD WATER tap for 30 sec. to 2 min. before using water for drinking or cooking. **(You should NOT use HOT tap water for consumption)** 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 (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

There is **NO** detectable **ARSENIC** in Georgetown's Water System. We sampled 14 sites throughout the distribution system following the claims made at the Spring Town Meeting. All samples tested Arsenic as Non Detected at or above the reportable limit of 0.005mg/L.

All sources of drinking water (both tap 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 from the presence of animals or human activity. Contaminants that may be present in source water include:

Microbial Contaminants – such as viruses and bacteria, which may come from sewage treatment systems, agricultural livestock or wild life.

Inorganic Contaminants – such as salts and metals, which can occur naturally or as a result of storm water runoff, industrial or domestic discharges, oil and gas production, mining and farming or in the case of Sodium, from the water treatment process.

Pesticides and herbicides – which may come from a variety of sources such as agriculture, storm run off or residential use.

Organic Chemicals – including synthetic and volatile organic chemicals that are by-products of industry and petroleum production. These can also come from gas station and roadway runoff or waste water treatment systems.

Radioactive contaminants – which can occur naturally or be the result of petroleum production or mining operations

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and U.S. Environmental Protection Agency (EPA) set regulations for the amount of certain contaminants allowed in water for public use. The Food and Drug Administration (FDA) and the Massachusetts Department of Public Health (DPH) establish limits on contaminants in bottled water to provide the same public health protection for the consumer. All drinking water, including bottled water, may reasonably be expected to contain small amounts of some contaminants. The presence of contaminants does not necessarily mean that the water poses a health risk.

Some people may be more vulnerable to drinking water contaminants than the general public. Persons with compromised immune systems such as those undergoing chemotherapy, organ transplantation or those having HIV/AIDS or other immune system disorder. These people and some elderly and some infants may also be at a higher risk of susceptibility to contaminants or infection. These people should seek advice from their health care providers. More information about contaminants or waterborne pathogens and their potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline (800) 426-4791 or the Centers for Disease Control on-line @ www.cdc.gov

Why does the water stain?

Georgetown gets all of our water from three gravel packed wells that draw from the Parker River Aquifer. Our ground water like many drinking water sources in New England is slightly acidic (having a pH of less than 7.0). This dissolves the Iron and Manganese from the soil as the water passes through it. This acidity also causes the water to dissolve lead & copper from household plumbing. The copper and lead are toxic to humans. To prevent the lead and copper from dissolving into your water the water is made less acidic by adding lime to raise the pH. The iron and manganese also come out of solution at the higher pH and cause discoloration. The water from all three wells is now treated at the Filter Plant on West Street.. The plant has been on line since 2000 removing about 99% of the Iron & Manganese. We currently remove about 100 tons of Iron & Manganese sludge from the treatment plant each year. There is a small amount that still gets into the system and some that has built up over the years of not treating. This is the reason that we flush out the system EVERY SPRING (April-May) and EVERY FALL.(October – November) The flushing method was modified for 2005 in an effort to more effectively remove the sediments that do accumulate. Based on recent flushing, this seems to be working.

What do we ADD to the water?

Potassium Permanganate & Chlorine are added to pressure filters with specialized media to reduce the Iron and Manganese. After filtration the water's pH and Alkalinity are raised by adding **Lime**. All water sources contain numerous microorganisms, some of which can make people sick. The Filtered water is disinfected additional **Chlorine** before it enters the system. We take samples from twelve places in the system every month to check for Coliform Bacteria and Residual Chlorine to ensure that the Georgetown water is free of harmful organisms and safe to drink. **Georgetown DOES NOT ADD Fluoride to the water.**

We started raising the pH of the Commissioners Well water prior to filtration with **Potassium Hydroxide** in the Spring of 2008 to help with the Iron & Manganese Removals. By mid summer many customers experienced odors in the water. We took the commissioners Well off line and worked with several organizations to help alleviate the problem. Please call if you have odors from your Cold Water in 2009.

My Water Smells Bad

This complaint has been cropping up for a number of years, especially with new hot water heaters set on the low energy setting. This seems to promote the growth of some sulfur and iron reducing bacteria that cause the odor. We have had some luck with flushing out the tank then turning up the temperature on the hot water heater to the VERY HOT setting for a couple of weeks. (see our web site for an article from American Water Works). Inline filters can also be a source of odors. The filters give the bacteria a place to grow. When you replace the filter try flushing out your service without the cartridge in place and add a little Chlorine Bleach to the holder when you replace the cartridge. Run all of the faucets for a short time until the strong smell of chlorine goes away.

On our end we are trying to raise the pH high enough and add enough chlorine to keep the sulfates from becoming obnoxious without creating harmful disinfection byproducts or smelling like a pool .

How do we protect our water resource?

The people of Georgetown have had the foresight and actively continue to protect their natural resource by purchasing over 200 acres of undeveloped land under the control of the Water Department and the Town's Conservation Commission. Most of this land along the Parker River and Lufkin Brook, from Bailey Lane at Rock Pond to Andover Street near the VFW. There is a Water Protection Bylaw in place to control the activities within the Zone II watershed area and another for Water Use Restrictions for water emergencies. Emergency water supply aid is available from Groveland, Rowley and Byfield water systems. The DEP has compiled Source Water Assessment Program reports identifying potential water source hazards. These reports are viewable online at: <http://www.mass.gov/dep/water/drinking/swapreps.htm>

Department personnel also check on the land surrounding the wells from time to time to see that there is nothing happening that will adversely affect the ground water sources. The Water Department allows for passive recreational use of our land. Motorized vehicles are not permitted without authorization from the Water Department. When hiking or picnicking please take your trash, and even a little extra back home with you and report any dumping or other activities that might be detrimental to the ground water.

Over the years the Department has taken a number of steps to further safeguard the drinking water sources and supply. Daily inspection of the pumping stations and treatment facilities are required. We have an active Backflow Prevention program to assure that contaminants are not drawn back into the system from outside users. Twenty-four hour emergency coverage, licensed department employees are available within minutes to deal with the unexpected. Regular maintenance programs for cleaning the storage tanks, flushing the distribution system and exercising the gate valves and checking the system for leaks helps us to ensure that the distribution system is sound. The Elevated Water Tank, near the country club, was drained and cleaned in the Fall while repairs to the roof and standpipe were made.

Protecting the Water in the Distribution System

The Water Department cleans and disinfects the water before it enters the distribution system. To make sure it stays that way we have an active BACKFLOW prevention program. Each new building has a Backflow device installed at the service entrance and Fire Sprinkler service to prevent any water that may become contaminated, from getting back into the distribution system. Any type of machinery that is connected directly to the potable water system with a potential to allow contaminants back into the drinking water, (i.e. boilers, dishwasher soap injectors, swimming pools or manufacturing equipment) must have a suitable backflow preventer. Depending on the type of device, these are tested once or twice each year. All irrigation systems and hose connections are required to have a backflow device to prevent contaminants from the lawn from coming back into the building. Each Irrigation system should be checked seasonally for proper backflow prevention to ensure the safety of the occupants of the building. For your safety and the protection of the entire system, all irrigation systems require a Permit from the Water Department. Please call the water department to have the safety of your IRRIGATION SYSTEM checked.

My Water Bill Is Never This High!

In response to higher operating costs and Environmental pressures to lower consumption, our water rates were raised for the July 2008 billing. Check the Cubic Feet used. If it is higher than normal:

- 1) Check the toilets. Four out of five times these are the culprits. The water in the tank should be about 1-inch below the top of the overflow pipe. If not adjust the float. If it is put a little food coloring into the tank and check to see if it seeps into the bowl without flushing. If it does the flapper valve is leaking by and needs to be replaced.
- 2) Check for other leaks. Check for the obvious, (leaking faucets, water heater or other plumbing dripping) There is a RED diamond or triangle on your water meter to detect small flows. With all your faucets off it should not move.
- 3) Check for changes in usage,(i.e. More people at home, bathing habits changing, a new pool, new lawn or irrigation system etc.)
- 4) Check your meter against the Present Reading. Your meter should read more.

In an effort to get those who use the most water pay the most, the water rates are set up on an increasing scale. Those who use less pay less per cubic foot than those who use a lot of water.

Water Conservation Indoors and Out

Careful water use is not only important for maintaining a sufficient groundwater supply beneath the headwaters of the Parker River but can also help to maintain a healthy surface water flow for the vast wildlife populations that rely on the whole Parker River for their very existence. Minimizing non-essential water use also ensures that there will be enough water for the essentials, drinking, washing, cooking and fire protection. So PLEASE use water wisely☺

OUTDOOR WATER USE

Abide by local water use restrictions

Local water suppliers know the limits of their system and will enact voluntary or mandatory restrictions accordingly. Always follow the advice or restrictions provided by your local water supplier.

Stop watering your lawn during drought conditions

Most lawns can survive extended dry periods without watering – they will turn brown, but will revive once the rain returns. Organic fertilizers can help grow healthy lawns that will carry through dry periods more readily.

If you water your lawn, water only as necessary

Frequent light watering can actually weaken your lawn by encouraging shallow roots that are less tolerant of dry spells. Your lawn needs only about ¼” of water once or twice a week. A good test is to walk across the lawn. If the grass springs back up the lawn does not need to be watered.

Timing is critical for lawn watering

Watering between sunset and sunrise is most beneficial. Avoid watering mid-day to prevent high evaporation loss and sun-burned grass.

Use shutoff nozzles on hoses and automatic shut-off devices on irrigation systems

Unattended hoses can waste 10 gallons or more each minute. Shutting off the nozzle saves this water. If you have an automatic irrigation system, install a rain detector to prevent watering during the rain.

Capture and reuse rain water

Use cisterns or rain barrels to capture rain water from downspouts for use in your yard. A lid, mesh fabric or several drops of baby oil on the surface will prevent mosquitoes from breeding.

Keep mower blades sharp and high

Sharp mower blades prevent damage to your lawn from tearing and beating the grass. Raising the blades to leave grass longer helps provide shade for the roots and prevent water loss through evaporation.

Plan your gardens for efficient water use

Be aware of the various shade and moisture zones in your yard and plant accordingly. Use some of the many varieties of low water use and drought resistant plants that can survive and actually thrive in drier soils. Break up the soil and use mulch around plants aid in water penetration and to reduce evaporation. Remove weeds that are competing for the water that is available. Check out **XERISCAPING** on line for ideas

INDOOR WATER USE

Water saving fixtures and appliances

Low flow showers and faucets can save 2 - 5 gallons of water per minute. Low flow toilets save 5 - 7 gallons per flush. Low consumption washing machines can save 20 – 30 gallons per load. (They also spin faster leaving clothes drier going into the dryer, saving on drying costs) Dishwashers can save on water over conventional hand washing if you wait for full loads. This can also improve your septic system performance.

Chill water in the refrigerator

Keeping a pitcher of water in the refrigerator in stead of letting the water run every time you want a drink can save 5 – 10 gallons each time

Shut off the water when it is not being used

Not letting the water run while you brush your teeth, between rinses while doing dishes or while you are getting ready to shower can cut down on a considerable amount of water wasted.

FOR MORE WATER SAVING TIPS AND WATER RELATED EDUCATIONAL GAMES VISIT:

www.wateruseitwisely.com or www.uri.edu/ce/wq/has/html/has_waterconservation.html
www.epa.gov/watrhome/you/intro.html

WATER QUALITY REPORTING

DEFINITIONS YOU NEED TO KNOW

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 are set to allow for a margin of safety.

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 Residual Disinfectant Level Goal (MRDLG) – The level of drinking water disinfectant (chlorine, chloramines, chlorinedioxide) 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.

Maximum Residual Disinfectant Level (MRDL) – The highest level of a disinfectant (chlorine, chloramines, chlorinedioxide) allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the control of microbial contaminants.

Action Level (AL) – The concentration of a contaminant, which if exceeded, triggers treatment or other action required to eliminate the threat from a contaminant.

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

ppm – Parts Per Million, or milligrams per Liter (mg/L)

ppb - Parts Per Billion, or micrograms per Liter (ug/L)

pCi/L – Picocuries per Liter (a measure of radioactivity)

NTU – Nephelometric Turbidity Units (a measure of how cloudy the water is)

pH - Potential of Hydrogen Ion activity (a measure of how acid, pH below 7.0, or caustic ph above 7.0)

ND – Not Detected

BDL – Below Detectable Limits

N/A – Not Applicable

TEST RESULTS for CALENDAR YEAR 2008

Microscopic Particulates - May 19-22 and October 7-9 Marshall & Duffy Wells were sampled for Giardia and Cryptosporidium for the Influence of Surface Water. The Relative Risk Factor was LOW for each well

Coliform Bacteria Sampling – 181 samples No Coliform were detected in the treated or well water

Chlorine Residuals, Distribution -MRDL=4.0mg/L Recorded Min – **0.0** Max – **1.2** Annual Avr - **.22**

Sodium in the System July 29th was **18 mg/L** and at the Treatment Plant July 29th **20 mg/L**

Volitile Organic Contaminants (VOC) - Samples from Treatment Plant – Collected August 26th

Tested for 60 compounds None were detected near MCL or ACL

Lead & Copper -Samples were collected in AUGUST - MCL – Lead = 0.015 mg/L Copper = 1.30 mg/L

The schools were sampled 8/13 – Lead was detected in all three school kitchens above 0.015

Subsequent samples collected during the school year were below the MCL

20 homes were sampled – 90th Percentile Lead = **0.011**, Copper = **0.14**

Nitrite, Nitrate,– Sampled at the Treatment Plant Finished Water and at the Water Office May 14th

Nitrite MCL = 1 mg/L Results @ Plant = **ND** Water Office = **ND**

Nitrate MCL = 10 mg/L Results @ Plant = **0.22** Water Office = **0.23**

Perchlorate & Conductivity sampled at the Erie Fire Station May 14th

Perchlorate MCL = 2.0 ug/L Results @ Plant = **BDL**

Conductivity umhos/cm Results @ Plant = **350**

Trihalomethane & Haloacetic Acids –Chlorination Byproducts sampled at the Erie Station Aug 28th

Total Trihalomethane (Chlorine byproduct) - MCL = 80 ug/L Result = 63.5 ug/L

Total Haloacetic Acids (Chlorine byproduct) - MCL = 60 ug/L Result = 8.5 ug/L

Iron & Manganese - Sampled at the Treatment Plant July 29th with all three Wells running

	MCL =	Before Treatment	Treated
Iron	0.3 mg/L	Result = 3.7 mg/l	ND mg/l
Manganese	0.05 mg/L	Result = 0.9 mg/l	0.01 mg/l

For complete list of tests see 2008 TEST RESULTS on the Water Department Web Site