

# **2012 Annual Drinking Water Quality Report**

*For*

## **HAMILTON DEPARTMENT OF PUBLIC WORKS**

**MASSDEP Public Water System Identification Number 3119000**

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This report is a snapshot of drinking water quality that we provided to you 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

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### **1. PUBLIC WATER SYSTEM INFORMATION**

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The public water supply for the Town of Hamilton is managed by the Department of Public Works located at: Town Hall, 2<sup>nd</sup> floor, 577 Bay Road, Hamilton, MA 01936. Phone number: (978) 468-5581, Fax number: (978) 468-5582, (Emergency only: (978) 468-4421). Office hours: Monday - Friday 8:00 am to 4:30 pm.

#### **Water System Improvements**

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by a Massachusetts certified operator who oversees the routine operation of our system. As part of our ongoing commitment to you, last year we replaced water mains on Hamilton, North, Cottage, Mill, Maple, Arlington and Park Streets.

#### **Governing Body:**

- Town Manager – Michael Lombardo.
- Board of Selectmen: Chairman – David Neill, Jennifer Scuteri, Jeff Hubbard, Marc Johnson and Scott Maddern
- Director of Public Works & CCR Contact Person: Dave Hanlon, 978-468-5591
- Personnel: Distribution Foreman - Jeff Mazzetta, Primary Treatment Plant Operator - David Dolan and Office Administrator - Gail Hannable.

#### **Important Phone Numbers:**

- Massachusetts Department of Public Health 617-292-5500
  - Department of Environmental Protection 24 Hours Emergency Line 1-888-304-1133
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### **2. YOUR DRINKING WATER SOURCES**

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#### **Our drinking water sources include:**

- **Bridge St. Well**, source number 3119000-01G, located across the street from the Gordon Conwell Seminary exit on Bridge Street. This source has been inactive since 1974.
- **School St. Well**, source number 3119000-02G, located behind the School St. Park. This is an active, year round source.
- **Patton Well**, source number 3119000-03G, located before the Patton Estate on outer Asbury Street. This is a year round potential source.
- **Gordon "Tiny" Thompson Water Filtration Plant**, source number 3119000-10, located at the end of Pine Tree Drive. This source is an active, year round source and consists of Idlewood I Well, Idlewood II Well, Idlewood I Satellite Well, Caisson Well, Caisson Satellite Well and Plateau Well. Iron and Manganese are filtered out of the water at this location.

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of water delivered to you all sources are treated with chlorine for disinfection, fluoride for dental health and hygiene, and phosphates as a metal sequestering agent to assure water quality leaving the stations. Our water is also chemically treated to remove iron and manganese. The water quality of our system is constantly monitored by the Town and MassDEP to determine the effectiveness of existing water quality and to determine if any additional treatment is required.

We also have interconnections with the Towns of Ipswich at Waldingfield Road, Essex at Essex Street and Wenham at Woodbury Street and Highland Street in the event of an emergency situation.

Although our Zone I and Zone II areas (the areas that contribute water to our wells) are fairly well protected by bylaws and regulations, we continue to monitor land use activities such as paddocks, farming and construction storage areas to assure that our groundwater is protected. We also encourage those living in these areas not to dispose of toxins, cleaners or chemicals down their plumbing drains and to

minimize the use of pesticides and fertilizers. Even organic fertilizers have nitrates in them which can affect water quality. You should also monitor fuel and heating oil storage tanks carefully to assure they are not leaking.

**How are these sources protected?** In 2001 the Mass DEP prepared a Source Water Assessment Program (SWAP) report for the water supply sources serving the Town. The SWAP report assesses the susceptibility of contamination of a public water source. In the SWAP report, the DEP has given the town a susceptibility rating of "high" based upon the information collected during the assessment by the Mass DEP. Some of the key issues identified are: (1) Inappropriate activities in Zone I, (2) Residential land use, (3) Manure storage or spreading and (4) Storm water catch basins within the Zone II. The full SWAP report can be found online at <http://www.mass.gov/dep/water/drinking/3119000.pdf>.

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### 3. SUBSTANCES FOUND IN TAP WATER

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Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. 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 stormwater 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 stormwater runoff, and residential uses.
- Organic chemical contaminants -including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater 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. 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. The EPA and the 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).

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. The Hamilton DPW 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>.

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### 4. IMPORTANT DEFINITIONS

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**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 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 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.

**90<sup>th</sup> Percentile** – Out of every 10 homes sampled, 9 were at or below this level.

**Variations and Exceptions** – State or EPA permission not to meet a MCL or a treatment technique under certain conditions.

**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.

**Definitions Table Key**

- 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)
- mrem/year = millirem per year (a measure of radiation absorbed by the body)
- NTU = Nephelometric Turbidity Units
- ND = Not Detected
- N/A = Not Applicable

**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. The MassDEP only recommended annual testing for secondary contaminants. All data shown was collected during the last calendar year unless otherwise noted in the table(s).

	Date Collected	90 <sup>th</sup> Percentile	# of Sites Exceeded	# of Sites Sampled	% of Sites Above Action Level	Action Level	MCLG	Violation (Y/N)	Possible Source of Contamination
Lead (ppb)	8-15-2012	2.9 ppb	0	27	0%	15 ppb	0	N	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	8-15-2012	0.91 ppm	0	27	0%	1.3 ppm	1.3 ppm	N	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

	Highest # Positive in a Month	MCL	MCLG	Violation (Y/N)	Possible Source of Contamination
Total Coliform	0	No more than 1 positive result per month	0	N	Naturally present in the environment
Fecal Coliform or E.coli	0	*	0	N	Human and animal fecal waste

\* Compliance with Fecal coliform/E.coli MCL is determined upon additional repeat testing

Regulated Contaminant	Date Collected	Highest Detect Value	Range Detected	Average Detect	MCL or MRDL	Violation (Y/N)	Possible Source of Contamination
Nitrate	Quarterly 2012	5.1 mg/l	ND – 5.1 mg/l	2.18 mg/l	10 mg/l	N	Erosion of natural deposits, septic systems, fertilizers
Fluoride	Daily 2012	1.2 ppm	0.10 - 1.20 ppm	0.95 ppm	4.0 ppm	N	Water additive which promotes strong teeth
Haloacetic Acids	1/3, 4/3, 8/21 & 10/17	28.0 ppb	0 – 28.0 ppb	4.94 ppb	60 ppb	N	Byproduct of drinking water disinfection
Total Trihalomethane	1/3, 4/3, 8/21 & 10/17	78 ppb	43 - 78 ppb	62.25 ppb	80 ppb	N	Byproduct of drinking water chlorination
Bromate	Not Required	NA	NA	NA	10 ppb	N	Byproduct of drinking water chlorination

Unregulated or Secondary Contaminant	Date Collected	Highest Detect Value	Range Detected	Average Detect MCL	MCL, MRDL or ORSG	SMCL
Chloroform – Volatile Organic Contaminant	1/31/2012	22 ppb	0 – 22 ppb	7.33 ppb	N/A	
Bromodichloromethane - VOC	1/31/2012	11 ppb	0 – 11 ppb	3.67 ppb	N/A	
Chlorodibromomethane - VOC	1/31/2012	2.1 ppb	0 – 2.1 ppb	0.70 ppb	N/A	
MTBE – Mercury Tertiary Butyl Ether - VOC	1/31/2012	ND	ND	N/A	70 ppb	
Perchlorate - VOC	7/24/2012	ND	ND	N/A	2	
Copper – Secondary Contaminant	8/30/2012	0.065 ppm	0.065 ppm	0.065 ppm		1 ppm
Alkalinity – Total – Secondary	8/30/2012	130 ppm	130 ppm	130 ppm		None
pH - Secondary	8/30/2012	6.6	6.6	6.6		6.5 – 8.5
Calcium - Secondary	8/30/2012	56 ppm	56 ppm	56 ppm		None
Sodium – Inorganic Contaminant	4/3/2012	140 mg/L	140 mg/L	140 mg/L	20 mg/L	
Tetrachloroethylene – PCE (system sample) - VOC	1/31/2012	ND	ND	N/A	5 ppb	

### Educational Information

- Lead:** 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. The Town of Hamilton 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 at 800-426-4791. or at <http://www.epa.gov/safewater/lead>
- Copper:** Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short period of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action levels for long periods of time could suffer liver or kidney damage. People with Wilson’s Disease should consult their physician.
- Sodium:** Is a naturally occurring common element found in soil and water. It is necessary for the normal functioning of regulating fluids in human systems. Some people, however, have difficulty regulating fluid volume as a result of several diseases, including congestive heart failure, kidney failure and hypertension. The guideline of 20 mg/L for sodium represents a level in water that physicians and sodium sensitive individuals should be aware of in cases where sodium exposures are being carefully controlled. For additional information, contact your health care provider, your local board of health or the Massachusetts Department of Public Health, Bureau of Environmental Health Assessment at 617-624-5757.
- Total Coliform:** Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present.
- Fluoride** is added daily to the treated water to help prevent tooth decay/cavities in young children. All sampling results have shown levels below the MCL of 4.0 ppm.

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

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## 6. COMPLIANCE WITH DRINKING WATER REGULATIONS

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### Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available and our test results for 2012 did not result in any violations.

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### \* Conservation Information \*

The Hamilton Department of Public Works would like to remind residents that we have a Watering Irrigation By-Law that does not allow mechanical watering of lawns between the hours of 8:00 a.m. and 8:00 p.m. from May 15<sup>th</sup> to September 15<sup>th</sup> of each year. The most common cause for wasted water inside your home is a leaky toilet fixture. These leaks can cost you hundreds of dollars annually in wasted water. The Hamilton Water Department has free dye tabs available if residents would like to test their toilets for leaks at no cost.