

COMMONWEALTH OF MASSACHUSETTS

# TOWN OF SOUTHWICK

## ***SOUTHWICK WATER DIVISION WATER QUALITY REPORT***

***PWS 1279000******2006***

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*The Southwick Water Supply is a 1st Rate System and a Supply worthy of a Blue Ribbon. The Southwick Water Division has been providing you, our customers, with pure, safe, sparkling and taste free drinking water. The Water Division's commitment to our Townspeople is to work diligently to do more of the same.*

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*Due to the events that took place on 9/11/2001, care must be taken on how much detail is published, because too much information could make our system a target. All Public Water Systems have been advised to increase security since all are susceptible to the acts of others. Diligent efforts to protect this system must continue to make it our legacy to our children.*

### ***Water Source:***

*Our water comes from these two sources:*

*1.) The Town well, which is located along the Great Brook Aquifer, supplies 95% of our water. Southwick is very fortunate to have one of the most pristine and productive aquifers in this part of the country.*

*2.) Two (2) connections to the Springfield Water System Aqueduct and associated booster pumps are used to supplement the Town's water system needs and to act as a backup supply in an emergency situation.*

### ***Distribution System:***

*After the water enters the system, from either source, it is pumped up into the storage tank, which also serves as the pressure regulator for the water system. At the same time, the tank also acts as a reservoir of stored water, which can be used for fire fighting or any other emergency.*

*From the tank, the water enters the distribution system and branches out through a maze of approximately 50 miles of pipes, eventually connecting to your faucets. During the past several years, Water Division efforts have been concentrated on upgrading the distribution system and many significant improvements have been made. More and more demands are being put on the water system due to the increase in housing development. In order to keep up with this added demand for drinking water and fire fighting capabilities, lines that were adequate in size 5 or 10 years ago need to be replaced with larger sized lines. During 2005, hydraulic testing and a computer model of the system were completed by Tighe & Bond. Recommendations were made to add a higher capacity well to increase volume and then a second million-gallon tank to increase storage to a 3-day capability. Town voters approved the requested funding for permitting and installation of the new well. Construction is expected to be completed in 2006 and it is expected to be on line early in 2007, once the required testing has been completed. These improvements will also increase water pressure and fire flows in most of the town.*

### ***How do we ensure Water Quality?***

*Southwick Water System water is tested at a certified independent laboratory and the results of these tests are compared to USEPA and MADEP standards for safe drinking water. These tests are periodic and performed*

throughout the year. Tests are performed for bacteria, volatile organic compounds, synthetic organic compounds, inorganic compounds, radon and parasites along with turbidity (clarity). Approximately 400 of these tests are taken each year to insure the safety and quality of our drinking water. The Town is not required to test for lead or copper every year, since there has been no lead or copper problems in past years. 2005 happens to be one of the years where the tests are required and accordingly will be processed during the early part of summer.

### ***Health Information:***

The 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 human activity. Substances that may be present in water sources include microbial contaminants such as viruses and bacteria, inorganic contaminants such as salts and metals, pesticides and herbicides, organic chemical contaminants, and radioactive contaminants.

Drinking water, including bottled water, may reasonably be expected to contain at least a small amount of contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. However, some people may be more vulnerable to contaminants in drinking water than others in 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 providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking water Hotline (1-800-426-4791).

### **Appendix A - Level of Detected Contaminants**

#### ***Definitions:***

Before one can interpret the results, one should understand the following definitions:

**MCLG (Maximum Contamination Level Goal)** is the level of a contaminant in drinking water below which there is no known or expected health risk.

**MCL (Maximum Contaminant Level)** is the highest level of a contaminant that is allowed in safe drinking water.

**AL (Action Level)** is the concentration of a contaminant, which if exceeded, triggers treatment or other water system requirements.

**PPM (Parts Per Million)** measured in milliliters / liter (ml/l) -- (1 drop in 10 gallons)

**PPB (Parts Per Billion)** measured in microliters / liter (µl/l) -- (1 drop in 10,000 gallons)

<b>TOWN WELL WATER TEST RESULTS</b>							
Contaminant (units)	<u>MCLG</u>	<u>MCL</u>	Maximum amount detected	Possible sources of Contaminants	Violation (Yes/No)	Number of Sites Sampled	Number of Sites found above Action Level
1,2-Dichloro-propane (ppb)	zero	5.0	None	Soil fumigant for nematodes (Farming or lawn Care)	No	1	0

Barium (ppb)	2000	2000	180	Erosion of natural deposits	No	1	0
Sodium (ppm)	Not regulated	Not regulated	None	Erosion of natural deposits	No	1	0
Sulfate (ppm)	Not regulated	Not regulated	14.0	Erosion of natural deposits	No	1	0
Nitrate (ppm)	10	10	3.4	Runoff from fertilizer use, Leaching from Septic Tanks or Erosion of natural deposits.	No	1	0
<b>DELIVERED WATER LEAD &amp; COPPER TEST RESULTS</b>							
Contaminant (Units)	Action Level	MCLG	90th Percentile Level	Possible source of Contamination	Violation (Yes/No)	Number of Sites Sampled	Number of Sites found above Action Level
Lead (ppb)	15	.002	1.0	Corrosion of household plumbing	No	18	0
Copper (ppm)	1.3	.039	>0.10	Corrosion of household plumbing	No	18	0

## **Appendix B – Health Effects**

### **Biological Contaminants:**

#### **(1) Total Coliform:**

*Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present. There were no coliforms found in any of the monthly samples taken at numerous sites within the system*

#### **(2) Fecal Coliform/E.Coli:**

*Fecal Coliform and E. Coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Germs in these wastes can cause diarrhea, cramps, nausea, headaches and fatigue. No fecal Coliform or E. Coli bacteria were found in any of the monthly samples taken at numerous sites within the system.*

### **Organic Chemicals Found:**

#### **(1) 1,2 Dichloropropane:**

*Some people who drink water containing 1,2 Dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer. This organic chemical has been found in our water at slightly below 1/9 (<11%) of the MCL. This is monitored quarterly to determine if there is any increase. The Water Division is also working with the people who may have used this chemical in the past in order to determine if we can isolate the original source. There is no present danger, but we want to avoid any potential problems. Constant monitoring has indicated a steady decrease in this chemical.*

### **Inorganic Chemicals Found:**

#### **(1) Barium:**

*Some people, who drink water that contains barium in excess of the MCL over many years, could experience an increase in their blood pressure. We have discovered that our water contains barium at 180 PPB, which is far below the MCL of 2000 PPB. This small amount, which comes from natural deposits, should not be of any concern.*

#### **(2) Sodium:**

*All groundwater contains a small amount of sodium, which comes from the erosion of natural deposits. Persons on a sodium-restricted diet may want to consult their health care provider even though this is a very small amount (8.57 PPM).*

**(3) Sulfate:**

*This compound comes from erosion of natural deposits and is not regulated by USEPA or the MADEP. There should be no concern.*

**(4) Nitrate:**

*Nitrates occur in drinking water from erosion of natural deposits, runoff from fertilizer use or leaching from septic systems. At 3.28 PPM, the amount of this compound in our water is well below the MCL of 10 PPM and decreasing with time. The current sanitary sewer installation project should further help to reduce this number.*

**Note:**

*One of the potential causes for chemicals in groundwater comes from the use of fertilizers and pesticides on lawns and gardens. NEVER use more than the manufacturers recommended amounts of either. MORE THAN RECOMMENDED DOES NOT DO A BETTER JOB!*

*The Southwick Water Division tests our water for Coliform bacteria in several places each month. Approximately ninety (90) different chemicals are also tested quarterly and only the three (3) regulated and two (2) non-regulated chemicals have been found (as shown in the table above). All five (5) are within safe drinking water standards.*

*The water is also tested for hardness and pH to determine if any treatment is necessary. The measured pH (how acidic or basic) of 7.5, shows that our water is non-aggressive. The aggressiveness of water determines the potential for the presence of lead or copper since acidic (pH of less than 6.7) water leads to the dissolving of lead and copper from our plumbing systems. Our lead and copper testing also indicates that this pH 7.5 has not been attacking the pipes in our system or in your homes since the readings are at a very low level. Our test for hardness shows that our water is typical of well water. It has a hardness level higher than the typically soft water from a surface water source.*

### **Where can you get more information?**

*More information can be obtained from the following sources:*

- 1.) Visit the Web Site for the American Water Works Assn. @ [www.awwa.org](http://www.awwa.org)*
- 2.) Visit the Web Site for the U.S. Environmental Protection Agency @ [www.epa.gov/OW/](http://www.epa.gov/OW/)*
- 3.) Visit the Web Site for the MA. DEP @ [www.state.ma.us/dep/](http://www.state.ma.us/dep/)*
- 4.) Call the Water Division between 8:30 AM & 4:00 PM, Monday through*

*Friday*

*Phone: (413) 569-6772*

*Fax: (413) 569-5001*