COMMONWEALTH OF MASSACHUSETTS

Town of Southwick

SOUTHWICK WATER DIVISION

WATER QUALITY REPORT

PWS 1279000

2007

The Southwick Water Supply is a 1st Rate System. The Southwick Water Division provides you, our customers, with pure, safe, sparkling and taste free drinking water. The Water Department employees and the Water Commissioners are committed to work diligently to provide this same level service, and to provide for the future growth of the Town by maintaining, repairing, and increasing the capacity of the water system.

Due to the events that took place on 9/11/2001, care must be taken on how much detail is published. All Public Water Systems have been advised to increase security since all are susceptible to the acts of others. A vulnerability assessment study has been completed by the National Rural Water Associations Security and Emergency Management System. This study is a requirement of the federal enacted Safe Drinking Water Act. The contents of this report are confidential for security reasons.

Diligent efforts to protect this system will 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.

The Department of Environmental Protection (DEP) completed a Source Water Assessment Program (SWAP) in April of 2003. The report on this program lists potential contamination sources, and a summary of our systems susceptibility to these contaminant sources. The report may be reviewed and a copy obtained at the Town of Southwick Department of Public Works at 454 College Highway Southwick, MA.

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 2006, hydraulic testing and a computer model of the system were completed by Tighe & Bond Engineers from Westfield. Recommendations were made to add a higher capacity redundant well to increase our pumping capacity, and then a second million-gallon tank to increase our water storage capacity to a 3-day supply. Town voters approved the requested funding for permitting and installation of the new well. Currently the new redundant well casing and screen has been installed. The construction of the well pump, equipment, and well house is underway, and the design of the new million gallon tank has started. The new well is expected to be completed and on line with a pumping capacity of 500,000 gallons per day by mid 2008. Combined with the existing well Southwick will then have a total pumping capacity of 1,000,000 gallons per day. This will allow Southwick to use less Springfield water thus reducing the chlorinated taste and smell that comes from this source, and provide for long term increases in demand for water by additional development.

In 2008 the water division will be designing and installing a computerized system of controls that will allow us to completely control all of the well pumps and water tank levels from remote computer stations.

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 scheduled by DEP and performed throughout the year. Specific tests are performed for bacteria, volatile organic compounds, synthetic organic compounds, inorganic compounds, lead, copper, and disinfection byproducts. Approximately 400 of these tests are taken each year to insure the safety and quality of our drinking water. The test results are available for review at the DPW office at Southwick Town Hall.

The Town is required to test for lead or copper every three years. There has been no lead or copper problems in past years that constitute above average levels of either metal. In 2007 tests for lead and copper were not required.

The water system is required to test for Halocetic Acids and Trihalomethanes. These compounds in the water are as a result from the chlorinated water we receive from Springfield, MA. We currently are required to test for levels of these compounds every three months in 2007 and 2008. Our running annual average for halocetic acids was undetectable and therfore is well below the DEP violation reporting limit of 60 ug/l. Our running annual average for trihalomethanes is in the range of 2.8 ug/l and is below the DEP violation reporting limit of 80 ug/l.

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 you can interpret the water test results, you need to understand the following definitions and acronyms.

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)

TOWN WELL WATER 2005 TEST RESULTS							
Contaminant (units)	MCLG	MCL	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	13.0	Erosion of natural deposits	No	1	0
Nitrate (ppm)	10	10	3.7	Runoff from fertilizer use, Leaching from Septic Tanks or Erosion of natural deposits.	No	1	0

DELIVERED WATER LEAD & COPPER 2005 TEST RESULTS

Contaminant (Units)	Action Level PPG/MGL	MGL Average	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	5.0 ppb in 2005 Not tested in 2006	Corrosion of household plumbing	No	18	0
Copper (ppm)	1.3	.039	.76 ppm in 2005 Not tested in 2006	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. People with severely compromised immune systems, infants, and some elderly may be at increased risk. These people should seek advice about drinking water from their health care providers. General guidelines on ways to lessen the risk of infection by microbes are available from EPA's Safe Drinking Water Hotline at 1-800-426-4791.

During the months of October 2007 and December 2007 two routine coliform tests were found to contain coliform bacteria at 535 College Highway. This detection was classified by DEP as a violation. This violation was resolved and no further coliform bacteria detections were found in the system in 2007.

During the month of September 2006 there was a series of total coliform detections located at four College Highway water testing locations. This detection was classified by DEP as a Tier 2 violation. This detection did not indicate a contamination of the water system.

The violation was resolved and no further coliform bacteria detections were found in the water system in 2006.

During the month of November 2005 two routine coliform test locations were found to contain coliform bacteria at 11 Depot Street and on Powder Mill Rd. Immediate retesting of these locations was completed within twenty four hours and found to be negative for total coliform. The original presence of coliform bacteria was attributed to mishandling of the samples either at the laboratory or by our water department employees. The circumstances of the mishandling of the sample did not indicate that our system was contaminated.

Because of the total coliform bacteria violations in the years 2005, 2006, and 2007 the Town has entered into an administrative consent order with DEP. The details of this consent order may be reviewed at the office of the Department of Public Works.

(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 (2005)

(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 (2005)

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 (2005)

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

(4) Nitrate (2005)

Nitrates occur in drinking water from erosion of natural deposits, runoff from fertilizer use or leaching from septic systems. At 3.70 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.

(5)Berylium (2005)

Berylium is an inorganic compound that occurs naturally and enters the water system as a result of natural or human activities. It was not required to be tested in 2006 or 2007 however it was found to be 10 parts per billion (ppb) in 2005. The EPA has determined that beryllium is a natural carcinogen.

(6)Turbidity(2007)

Turbidity is caused by particles suspended in water. USEPA regulations direct that turbidity of water must be equal or less than 0.5 nephelometric turbidity units (ntu). Elevated measures of turbidity may allow suspended particles to shelter microorganisms. Southwicks' turbidity level has been most recently measured in April of 2007 at 0.2 ntu

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, 56 volatile organic compounds, 46 synthetic organic compounds and 14 inorganic compounds. The volatile organic compounds are tested annually, the synthetic organic compounds are tested twice every three years, and the inorganic compounds are tested once every three years.

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.

Water Commissioners Mettings

The Southwick Water Commissioners meet on alternating Thursday evenings during the year. The meetings are held on the first and third Thursday of each month. During the months of July and August the commissioners are in their Summer schedule and meet only on the first Thursday of each month.

The meetings are held at 454 College Highway Southwick, Ma in the upper level conference room. The meetings are public and open for participation by all Town residents. Meeting notices are posted at town Hall 48 hours prior to each meeting.

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

2.) Visit the Web Site for the U.S. Environmental Protection Agency @ www.epa.gov/OW/

3.) Visit the Web Site for the MA. DEP @ 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