COMMONWEALTH OF MASSACHUSETTS

TOWN OF SOUTHWICK

SOUTHWICK WATER DEPARTMENT

WATER QUALITY REPORT

PWS 1279000

2008

The Southwick Water Department 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 of 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 in this report. 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 that 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 (MassDEP) completed a Source Water Assessment and Protection (SWAP) Program report in April 2003. The report 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. The MassDEP also performed a Sanitary Survey of the water system and maintenance plans during the month of June 2009. Inspections are conducted every three years and include a complete review of our maintenance plans, testing schedules, system cleanliness, backflow prevention and cross connection prevention programs. Generally our system has passed the sanitary inspection with minor adjustments to our operations being required by MassDEP.

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 system of approximately 50 miles of pipes, eventually connecting to your faucets. During the past several years, Water Division efforts have 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 Tighe & Bond Engineers from Westfieldconducted hydraulic testing and a computer model of the system. Recommendations were made to add a redundant well with a larger pump and motor and a second million-gallon storage tank to increase our storage capacity to a 3-day supply. Town voters approved the requested funding for permitting and installation of the new well. The new well and pumping house are now complete and the well will become operational pending MassDEP's approval[k1] . We anticipate the well to be active by the end of the Summer of 2009.

Construction of the new 1.0 million gallon storage tank will begin this Summer and is expected to be completed by the end of 2009.

The system improvements allow Southwick to utilize the approved pumping capacity of just over 1 million gallons per day. Southwick currently uses approximately 800,000 gallons per day. Therefore Southwick will be able to use less of Springfield's chlorinated water source reducing the taste and odor associated with the chlorinated source. These improvements will also provide for long term increases in demands on the system caused by additional development.

In 2009 the Water Division will have a computerized system of controls designed and installed to allow complete manual and automatic control 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 MassDEP standards for safe drinking water. These tests are scheduled by MassDEP 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.

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 2008 and 2009. Our running annual average for halocetic acids was undetectable and therefore is well below the MassDEP violation reporting limit of 60 ug/l. Our running annual average for trihalomethanes based on the four quarter average testing result is .13 ug/l. This is below the MassDEP 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. Contaminants that may be present in water sources include the following.

- 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 storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.
- Pesticides and herbicides may come from a variety of sources such as agriculture, urban storm water run off, and residential run off.
- Organic chemical contaminants including synthetic and volatile chemicals which are by-products of industrial processes and petroleum production and can also come from gas stations, urban storm water run off, 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 MassDEP and US 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 or public health. 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.
ORSG MassDEP Guidance Level
SMCL Secondary Maximum Contaminant Level

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 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) 2008	zero	5.0	None	Soil fumigant for nematodes (Farming or lawn Care)	No	1	0
Barium (ppm) 2008	2000	2	.19	Erosion of natural deposits	No	1	0
Perchlorate (ppb) 2008	2	2	.35	By-product from the manufacture of rocket fuel fireworks and explosives.	No	1	0
Sulfate (ppm) 2008	Not regulated	Not regulated	14.0	Erosion of natural deposits	No	1	0
Nitrate (ppm) 2008	10	10	3.3	Runoff from fertilizer use, Leaching from Septic Tanks or Erosion of natural deposits.	No	1	0

Water Sodium and Sulfate Test Results

Contaminant Units	SMCL	ORSG	Maximum amount detected	Possible Source of Contamination	Violation yes/no	Number of sites sampled	Number of sites above the MassDEP guidance levels
Sodium	None	20	10	Naturally Occurring mineral deposits	No	1	0
Sulfate	250	None	14	Naturally Occurring Mineral deposits	No	1	0

DELIVERED WATER LEAD & COPPER 2008 TEST RESULTS

Contaminant (Units)	Action Level PPG/MGL	MGL Average Result	90th Percentile Level	Possible source of Contamination	Violation (Yes/No)	Number of Sites Sampled	Number of Sites found above Action Level
Lead (ppb)	15	2	5	Corrosion of household plumbing	No	20	0
Copper (ppm)	1.3	.054	.09	Corrosion of household plumbing	No	20	0

If present, elevated levels of lead can cause serious health problems, especially for pregnant woman and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Southwick 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 thirty seconds to two minutes before using the 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 http://www.epa.gov/safewater/lead

Appendix B – Health Information

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

(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

(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 not been detected. 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. Routine monitoring continues on this chemical..

Inorganic Chemicals

(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 MassDEP. There should be no concern.

(4) Nitrate

Nitrates occur in drinking water from runoff from fertilize, animal waste, 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

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) Perchlorate

The salts of perchloric acid are inorganic chemicals used in the production of rocket fuel, explosives, and fire works. Human exposure to perchlorate can occur if contaminated water is consumed. Perchlorate disrupts normal function of the thyroid gland in humans. Southwick water perchlorate level has beem measured at .35 ppb well below the maximum contaminate level of 2 ppb allowed by MassDEP.

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.

The water is 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 Meetings

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.

MassDEP Enforcement Violations 2008

- During the month of October 2008 total coliform was detected in one of five samples. Repeat sampling revealed three samples testing positive for total coliform within the vicinity of 198 College Highway. Water mains were flushed and disinfected with chlorinated water provided through the interconnection with the City of Springfield. Total coliform bacteria were not detected in subsequent samples collected on October 6.
- During the month of December 2008 there were six samples that tested positive for total coliform. Water mains were flushed and disinfected with chlorinated water provided through the interconnection with the City of Springfield. Total coliform bacteria were not detected in subsequent samples collected on December 12.
- Failure to submit the IDSE Standard Monitoring Report. NON-WE-08-5D005
  The IDSE Disinfection by products monitoring plan was submitted late.
- Failure to submit the CCR by the July 10 Compliance date NON-WE-08-5D048
  The annual consumer confidence report was submitted late.
- Failure to submit the LCR samples at two schools NON-WE-08-5D096
  Two lead and copper samples were taken at one school instead of one sample being taken at two schools[k2] .

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 MassDEP @ www.state.ma.us/dep/

4.) Call the Water Division between 8:30 AM & 4:30 PM, Monday through Friday Phone: (413) 569-6772
Fax: (413) 569-5001

[k1]The AG approved the floor drain bylaw on 6/18/09 according to the on-line tracking system (http://massmunilaw.org/casetracking.htm). Southwick must demonstrate to MassDEP that the well is bacteria-free before it can be placed in service.

[k2]
The italicized language below is mandatory for this violation. If it is not included in the CCR, then Southwick must complete a separate, full notice to satisfy public notification requirements. Note that the language in the brackets must be addressed and a sentence must be added at the end of the paragraph to indicate when the samples will be collected.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During [compliance period] we ['did not monitor or test' or 'did not complete all monitoring or testing'] for [contaminant(s)] and therefore cannot be sure of the quality of our drinking water during that time.