

2010 Annual Drinking Water Quality Report

Siasconset Water Department

Siasconset, Massachusetts

PWSID # 4197001

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of our water quality. Included are details about from where your water comes, what it contains, and how it compares to standards set by regulatory agencies. Our goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information, because informed customers are our best allies.

Public Water System Information

Siasconset Water Department

P.O. Box 365
50 Main Street
Siasconset, MA 02564
Robert L. Gardner, Manager/Certified Operator
(508) 228-0022
rgardner@wannacommet.org

Siasconset Water Commission

Gerald Eldridge, Chair
Robert Benchley III, Sec.
John Pearl

Water System Improvements

The new 400,000 gallon water storage tank was placed into service in the fall of 2010. The increased pressure provided by the new tank because of the increase in elevation makes it possible to discontinue the use of the booster pump stations on Sankaty and Baxter Roads. This will result in a substantial reduction of electrical and maintenance costs. Additional work in conjunction with the tank is the installation of an upgraded electrical service, stand-by generation and a SCADA (supervisory control and data acquisition) system that will allow for remote monitoring and control of the pumping system.

Our Water System is routinely inspected by the DEP for its technical, financial and managerial capacity to provide safe drinking water to you. Your water system is operated and managed by a certified drinking water system operator who oversees the routine operations. Your water commissioners have contracted with the Wannacomet Water Company to provide both a primary and secondary operator as well as all administrative, financial, and operational support services. While we plan for the future, we remain committed to our foremost goal of delivering safe clean drinking water and reliable fire protection.

Opportunities for Public Participation

If you have any questions or comments, please feel free to contact the Wannacomet Water Company at (508) 228-0022. If you would like to participate in discussion regarding your water system, you may attend the Siasconset Water Commission meeting every second Tuesday of the month, at the offices of the Wannacomet Water Company, 1 Milestone Road, at 9:00 AM.

Important Drinking Water Contacts

Massachusetts Dept. of Environmental Protection (DEP)

www.state.ma.us/dep (617) 292-5500

Massachusetts Dept. of Public Health (DPH)

www.state.ma.us/dph (617) 624-6000

Town of Nantucket

www.nantucket-ma.gov (508) 228-7255

US Centers for Disease Control and Prevention (CDC)

www.cdc.gov (800) 311-3435

Environmental Protection Agency (EPA)

www.epa.gov (800) 426-4791

List of Certified Water Quality Testing Labs

www.mwra.com (617) 242-5323

Source Water Assessment (SWAP) Report

The SWAP report was compiled by the MassDEP with the assistance of the Siasconset Water Department staff to inventory land uses with the Wellhead Protection District (WPD) and assess their potential to negatively impact the aquifer. The report is a useful planning tool to improve the water quality protection measures and programs. Based upon the inventory of land uses within the WPD the overall ranking of susceptibility is high, based on the presence of at least one high threat land use, residential fuel oil storage, within the WPD. Customers who wish to view the SWAP report can obtain a copy from the Siasconset Water Department or it can be viewed at the <http://www.mass.gov/dep/water/drinking/sourcewa.htm>

Where Does My Water Come From?

Your water is provided by pumping groundwater from Nantucket's sole source aquifer from two well systems located on property owned and managed by the Siasconset Water Department.

Source Name DEP Source ID# Source Type Source Location

GP Well No. 6	4197001-06G	Groundwater	319 Milestone Road
GP Well No. 7	4197001-07G	Groundwater	319 Milestone Road

All of our drinking water is pumped from these wells. Well #6 has a slightly acidic pH of 6.4 and is treated with phosphate for corrosion control. Well #7 has a pH of 8.1 which does not require any treatment. All of the water is pumped through approximately 20 miles of distribution piping as well as into the 400,000 gallon storage tank.

Is My Water Treated?

Many drinking water sources in New England are naturally corrosive (i.e. they have a pH of less than 7.0). So the water they supply has a tendency to corrode and dissolve the metal piping it flows through. This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. For this reason it is beneficial to add chemicals that provide a protective pipe coating, thus controlling metal loss in the piping and improving quality.

This is done by adding combinations of water treatment chemicals. The Siasconset Water Department adds Calciquest (a blended orthophosphate and polyphosphate product) only to the water that is pumped from Well #6. The polyphosphate component of the product sequesters iron that may be within the supply, while the orthophosphate component provides the protective coating. Testing throughout the system has shown that this treatment has been effective at reducing lead and copper concentrations.

All chemicals used for coagulation are approved by the National Sanitation Foundation International for use in water treatment. Chemicals also have to meet performance standards of the American Water Works Association.

The water quality of our system is constantly monitored by us and the Massachusetts Department of Environmental Protection (DEP) to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.

How Can I Use Water Responsibly?

We all have a responsibility to manage, conserve and protect our water supply. The Wannacomet Water Company provides a water calculator to assist you in monitoring your water consumption and offers conservation tips. We encourage you to visit their web site at www.wannacomet.org.

What Environmental Protection Agency (EPA) Wants You to Know

Contaminants in Bottled Water and Tap Water

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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

In order to insure that tap water is safe to drink, Massachusetts DEP and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and the Massachusetts Department of Public Health establish limits for contaminants in bottled water that must provide the same protection for public health.

Contaminants

General 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 storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water 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 storm water runoff, and septic systems.

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Special Health Information

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 infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency (EPA) and the Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Water Quality Monitoring

We routinely monitor for contaminants in your drinking water according to Federal and State laws. The table below lists all the drinking water contaminants that we detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2010. Our system had a microbiological contamination violation during the report year.

Important Drinking Water Definitions:

- **Not-Applicable (N/A)** – Information not applicable/not required for that particular water system or for that particular rule.
- **Non-Detects (ND)** - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.
- **Parts per million (ppm) or Milligrams per liter (mg/L)** - One part per million corresponds to one minute in two years or a single penny in \$10,000.
- **Parts per billion (ppb) or Micrograms per liter (ug/L)** - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- **Parts per trillion (ppt) or Nanograms per liter (nanograms/L)** - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.
- **Action Level (AL)** - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **90th Percentile** - Out of every 10 homes sampled, 9 were at or below this level.
- **Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- **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. MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.
- **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.
- **Minimum Detection Level (MDL)** – The minimum detection level for a particular constituent in drinking water.
- **Secondary Maximum Contaminant Level (SMCL)** - These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Water Quality Testing Results

Microbiological Contaminants

Coliform and E. Coli Bacteria Detection

Our system violated a drinking water standard. We routinely monitor for drinking water contaminants. In August of 2010 we took 8 samples to test for the presence of total coliform bacteria and one sample showed the presence of total coliform bacteria and E. Coli.

Immediately after detection of the presence of coliforms and E. Coli we started disinfection of the system by adding chlorine at the source. Chlorine residuals were monitored through out the system to ensure that the disinfection process was successful. Additional water samples were taken at the two locations where the coliform and E. Coli bacteria were detected. Additional samples were also taken upstream and downstream of these locations. None of the samples showed the presence of coliform or E. Coli bacteria and the situation was resolved.

At the time of this incident every account on the system was mailed a more detailed explanation of the incident and the potential impact on public health.

Contaminant (units) Parts per Million	MCL Violation Y/N	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	Y	Absent	one positive monthly sample	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	N	Absent	(Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive)	Human and animal fecal waste

Inorganic Contaminants

Nitrate

Contaminant (units) Parts per Million	Sample Date	Your Water (ppm)	MCL	MCL Violation	MDL	Likely Source of Contamination
Nitrate Well 06G Well 07G	05/24/10 05/24/10	0.64 0.91	10.0 10.0	No No	0.02 0.02	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite Well 06G Well 07G	05/24/10 05/24/10	ND ND	1.0 1.0	No No	0.02 0.02	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Siasconset Water Department

P.O. Box 365

Siasconset, MA 02564

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What MassDEP Wants You to Know about Lead in Drinking Water

Lead and Copper sampling performed by the Siasconset Water Department in 2010 did not exceed the Lead and Copper action levels as shown in the table below. However the MassDEP wants you to be aware of the following. Lead, a metal found in natural deposits, is commonly used in household plumbing materials and water service lines. The greatest exposure to lead is swallowing lead paint chips or breathing in lead dust. But lead in drinking water can cause a variety of adverse health effects. In babies and children exposure to lead in drinking water can result in delays in physical and mental development, along with slight defects in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Lead enters tap water through corrosion of plumbing materials. Very old and poorly maintained homes may be more likely to have lead pipes, joints and solder. However, new homes are also at risk; pipes legally considered to be "lead free" may contain up to eight percent lead. These pipes can leach significant amounts of lead in the water for the first several months after their installation.

Under EPA rules, each year Siasconset Water Department must test tap water in a sample of homes that are likely to have high lead levels. These are usually homes with lead service lines or lead solder. The EPA rule requires that 9 out of 10, or 90%, of the sampled homes must have lead levels below the Action Level of 15 parts per billion (ppb). 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. Siasconset 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, test 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>. Call the Department of Health at 1-800-532-9571 or EPA at 1-800-424-LEAD (5323) for health information.

Lead and Copper

Contaminant	Sample Date	90 th Percent	Action Level	# of sites sampled	MCL	# of sites above Action Level	Likely Source of Contamination
Lead (ppb)	9/22-24/10	0.011	.015	20	0	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppb)	9/22-24/10	1.000	1.3	20	1.3	0	Corrosion of household plumbing systems, Erosion of natural deposits, leaching from wood preservatives