

## EDUCATIONAL INFORMATION

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 the water poses a health risk. Water quality standards are established based upon the known health risks of the contaminants involved. In order to insure the tap water we provide to you is safe to drink, the State and the EPA prescribe regulations that limit the amount of certain contaminants in drinking water provided in public water systems. These limits are called Maximum Contaminant Levels (MCLs). More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

\* As a point of information, the State Health Department's and the federal Food and Drug Administration's regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

### NITRATE

Nitrate, commonly found in drinking water, has an MCL of 10 ppm (parts per million). This means that 10 ppm is the highest level of nitrate allowed in drinking water. Nitrate in drinking water at levels above 10 ppm can be a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue-baby syndrome, where blood's ability to carry oxygen is inhibited. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If your water contains nitrate above 5 ppm (half of the current MCL) but below 10 ppm, and you are caring for an infant under the age of six months, you should ask for advice from your health care provider. Please note that there has never been a recorded case of blue-baby syndrome in Suffolk County.

### IRON

Iron is naturally occurring and has no health effects. At 1,000 ug/l a substantial number of people will note the bitter astringent taste of iron. Also, at this concentration, it imparts a brownish color to laundered clothing and stains plumbing fixtures with a characteristic rust color. Staining can result at levels of 50 ug/l, lower than those detectable to taste buds. Therefore, the MCL of 300 ug/l represents a reasonable compromise as adverse aesthetics effects are minimized at this level. Many multivitamins may contain 3,000 or 4,000 micrograms of iron per capsule.

### LEAD

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. SCWA is responsible for providing high quality drinking water, but is not responsible for the variety of materials used in a homeowner's plumbing. If you haven't run your water for several hours, you can minimize the potential for lead exposure by running 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. To schedule a lead test, please contact our Customer Service Center (contact information listed on back page). Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline(1-800-426-4791) or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

### UNREGULATED CONTAMINANT MONITORING REGULATION (UCMR)

Every five years the EPA issues a regulation called the Unregulated Contaminant Monitoring Regulation (UCMR), which lists 20 to 30 unregulated contaminants to be monitored by public water systems. Used as a tool to find unregulated contaminants of concern in drinking water, EPA can then determine whether to set drinking water standards or to require water providers to use certain treatment systems to reduce or eliminate these contaminants.

The second list (UCMR2) published on January 4, 2007 included the chemicals used in explosives, flame retardants and insecticides, nitrosamines (compounds produced from the disinfection of drinking water) and herbicides and herbicide by-products. As our Drinking Water Quality Reports for 2008, 2009, and 2010 indicated, we tested all our in-service wells as required and none of the chemicals from explosives or flame retardants and insecticides were detected. The SCWA continues to monitor for nitrosamines and the herbicides and herbicide by-products.

### IPMP

IPMP (2-isopropyl-3-methoxy-pyrazine), produced by specific types of soil bacteria, causes a "raw potato" like taste and/or odor in drinking water. Some individuals may be sensitive to the taste and odor of IPMP at extremely low levels. There are no known health effects from this compound, nor has an MCL been set by EPA.

In 2011, we collected 318 samples from 152 wells where odor-causing compounds might be found. Two wells in Coram were found to have IPMP and the results ranged from non-detect (no IPMP found) to 7.00 parts per trillion. A filtration system to remove IPMP from the water produced by these wells has been constructed, and is expected to be in operation for the summer of 2012. In addition to IPMP, two other odor-causing compounds were also tested for and the results were non-detect in all 318 samples.

### RADIONUCLIDES and RADIOLOGICAL MONITORING

Most drinking water sources have very low levels of naturally occurring radioactive elements called radionuclides. These levels are low enough not to be considered a public health concern. Radionuclides can be present in several forms called isotopes which emit different types of radioactive particles called alpha or beta. Some radionuclides emit gamma (also called photon) radiation. Radioactivity in water is measured in picoCuries per liter (pCi/L).

The EPA has set the maximum contaminant level (MCL), the highest level allowed in drinking water, for gross alpha (all alpha emitters except uranium and radon) at 15 pCi/L. NYS considers 50 pCi/L to be the level of concern for gross beta. Due to differences in energy levels, the MCL in pCi/L for a par-

ticular photon emitter will depend on the type of radionuclide present. The following information describes the SCWA's radiological monitoring and test results.

### Radon

Radon, a naturally occurring radioactive gas found in soil and outdoor air, may also be found in drinking water and indoor air. Some people exposed to elevated radon levels from sources including drinking water may, over many years, have an increased risk of developing cancer. The main risk from radon is lung cancer entering indoor air from soil under homes. For further information, call the state radon program at (800) 458-1158 or call the EPA's Radon Hotline at (800) SOS-Radon.

In 2011 we monitored for radon, and gross alpha and beta particles at 87 locations throughout our distribution system. The results for each distribution area are noted on pages 13 through 19. Overall, the test results for radon ranged from non-detect (no radon found) to 303 pCi/L. Currently there is no established state or federal MCL for radon. EPA is proposing to require water suppliers to provide water with radon levels no higher than 4,000 pCi/L.

### Radium-228

Radium, a naturally radioactive metal, occurs at very low levels in virtually all rock, soil, water, plants, and animals. An isotope of radium, radium-228 has an MCL of 5 pCi/L. Some people who drink water containing radium-228 in excess of the MCL over many years may have an increased risk of getting cancer.

From October 2007 through 2009, we monitored a well in each aquifer at all our wellfields for gross alpha, gross beta and radium-228 as required, and presented the results for each year in our Drinking Water Quality Reports. Overall, the test results ranged from non-detect (no radium-228 found) to 2.70 pCi/L. Since that time, quarterly monitoring at new well fields or at new wells placed at a well field where the aquifer had not been monitored previously and continuing monitoring on existing wells as required has been performed. A summary of the test results for the 2011 monitoring is shown in the chart.

\*Please see Map of SCWA Distribution Areas on pages 10 and 11 for location of Distribution Areas 11, 23 and 60

Distribution Area*	Radium-228 (pCi/L)			
	Low Value	High Value	Avg. Value	No. of Tests
11	ND	1.55	1.18	4
23	ND	1.13	ND	5
60	ND	1.92	ND	8

### Tritium and Gamma Radiation

Tritium, a radioactive isotope of the element hydrogen, is a weak beta emitter. It occurs naturally in the environment in very low concentrations, and may also be produced during nuclear weapon explosions and as a byproduct from nuclear reactors. The MCL for tritium is 20,000pCi/L. Common byproducts from nuclear reactors and waste, such as cesium-137 and strontium-90, emit gamma radiation (also called photon emitters). Lead-210 is a naturally occurring beta emitter and no MCL has been set.

In 2011 we monitored 31 wells near Brookhaven National Laboratory for gross alpha and beta particles, tritium, and gamma radiation. The table below lists a summary of the 2011 test results by distribution area.

Radionuclide	Unit of Measure	Low Value	Distribution Area 18*			Distribution Area 20*			
			High Value	Avg. Value	No. of Tests	Low Value	High Value	Avg. Value	No. of Tests
Gross Alpha activity	pCi/L	ND	2.29	ND	48	ND	ND	ND	59
Gross Beta activity	pCi/L	ND	2.35	ND	48	ND	2.55	ND	59
Lead-210	pCi/L	ND	ND	ND	53	ND	856	ND	59
Tritium	pCi/L	ND	463	ND	52	ND	ND	ND	58

\*Please see Map of SCWA Distribution Areas on pages 10 and 11 for location of Distribution Areas 18 and 20.

### Special Information For Immuno-Compromised Individuals

*Some people may be more vulnerable to disease causing microorganisms or pathogens 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 from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbiological contaminants are available from the EPA's Safe Drinking Water Hotline at (800) 426-4791. Individuals who think they may have cryptosporidiosis or giardiasis should contact their health care providers immediately.*

*New York State law requires water suppliers to notify their customers about the risks of cryptosporidiosis and giardiasis. Cryptosporidiosis and giardiasis are intestinal illnesses caused by microscopic parasites found in surface water and groundwater under the influence of surface water. There have been no known outbreaks of cryptosporidiosis or giardiasis linked to any public water supplies in Suffolk County. For more information on cryptosporidiosis and giardiasis, please contact the Suffolk County Department of Health Services at (631) 852-5810.*