

SOUTH FARMINGDALE WATER DISTRICT

2016 DRINKING WATER QUALITY REPORT

Public Water Supply Identification No. 2902854

2016 Drinking Water Quality Report



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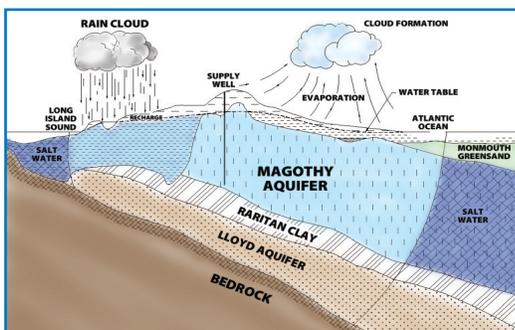
In accordance with Federal and State regulations, the Board of Water Commissioners of the South Farmingdale Water District is pleased to provide you with the 2016 Annual Water Quality Report. This in-depth report is filled with important information regarding the District's water quality, cost of water, sources of water, water treatment procedures and more. Our goal is to provide all rate-payers, whether residential or commercial, with a dependable water supply that meets all Federal, State and Local drinking water standards throughout the year. While the District works diligently to monitor our water supply on a day-to-day basis to ensure the highest quality standards, we are also very busy planning for the future. This report will also provide you with our proactive water conservation measures designed to ensure a plentiful water supply that meets all Federal, State and Local drinking water standards for years to come.

Source Of Our Water

All water provided through our District is groundwater pumped from 11 wells located throughout the community. These wells are drilled into the Magothy aquifer beneath Long Island, as shown in the figure below. Generally, the water quality of the aquifer is good to excellent, although there are localized areas of contamination.

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 from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants.

In order to ensure that our tap water meets all Federal, State and Local drinking water standards, the State and the EPA prescribe



The Long Island Aquifer System

Continued from page 1

regulations that limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The South Farmingdale Water District serviced 44,700 customers in 2016. The total amount of water withdrawn from the aquifer in 2016 was 1.914 billion gallons, of which approximately 91 percent was billed directly to consumers.

Contacts For Additional Information

Our drinking water meets all Federal, State and Local drinking water standards except for iron, for which the water is treated. If you have any questions about this report or your water utility, please contact Superintendent Frank Koch, P.E. at (516) 249-3330, visit our website at www.sfwater.com, or call the Nassau County Department of Health at (516) 227-9692. If you want to learn more, please attend any of our regularly scheduled meetings. They are normally conducted the second and fourth Tuesday of each month at 4:30 p.m. at the South Farmingdale Water District office at 40 Langdon Road, Farmingdale, NY.

The South Farmingdale Water District routinely monitors for different parameters and contaminants in your drinking water as required by Federal and State laws. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk. For more information on contamination and potential health risks, please contact the USEPA Safe Drinking Water Hotline at (800) 426-4791 or visit www.epa.gov/safewater.

New York State Mandatory Health Advisory

Some people may be more vulnerable to disease-causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons, such as individuals undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly people and infants may be particularly at risk for 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 microbial pathogens are available from the Safe Drinking Water Hotline at (800) 426-4791.

During 2015, the District collected 31 samples for lead and copper. The next round of samples will occur in 2018. 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. South Farmingdale Water District 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, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at www.epa.gov/safewater/lead.

Water Conservation Measures

The underground water system of Long Island has more than enough water for present water demands. However, saving water will ensure that our future generations will always have an abundant water supply that meets all Federal, State and Local drinking water standards.

In 2016, the South Farmingdale Water District continued to implement a water conservation program in order to minimize any unnecessary water use. The pumpage for 2016 was 4.2 percent more than in 2015. This can most likely be attributed to the relatively hotter and drier weather during the summer of 2016.

Residents of the District can also implement their own water conservation measures such as retrofitting plumbing fixtures with flow restrictors, modifying automatic lawn sprinklers to include rain sensors, repairing leaks in the home, installing water conservation fixtures/appliances and maintaining a daily awareness of water conservation in their personal habits.

In addition, consumers should be aware that the Nassau County Lawn Sprinkler Irrigation Regulations are still in effect. Besides protecting our precious underground water supply, water conservation will produce a cost savings to the consumer in terms of both water and energy bills (hot water).



Table Of Detected Parameters

Contaminants	Violation (Yes/No)	Date of Sample	Level Detected (Maximum Range)	Unit Measurement	MCLG	Regulatory Limit (MCL or AL)	Likely Source of Contaminant
Inorganic Contaminants							
Copper	No	June 2012	ND-0.36 0.36 ⁽¹⁾	mg/L	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	No	June 2012	ND - ND ND ⁽¹⁾	µg/L	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits
Barium	No	05/23/16	ND - 0.0096	µg/L	2	MCL = 2	Naturally occurring
Iron	Yes ⁽²⁾	04/06/16	ND - 570	µg/L	n/a	MCL = 300	Naturally occurring
Sodium	No	05/04/16	2.4 - 43.0	mg/L	n/a	No MCL ⁽³⁾	Naturally occurring
Magnesium	No	04/04/16	0.3 - 1.2	mg/L	n/a	No MCL	Naturally occurring
Chloride	No	05/04/16	3.5 - 23.7	mg/L	n/a	MCL = 250	Naturally occurring
Nickel	No	05/23/16	1.1 - 10.0	µg/L	n/a	MCL = 100	Naturally occurring
Calcium	No	11/15/16	0.5 - 5.4	mg/L	n/a	No MCL	Naturally occurring
Sulfate	No	05/04/16	ND - 31.2	mg/L	n/a	MCL = 250	Naturally occurring
Disinfection By-Product							
Total Trihalomethanes	No	03/21/16	ND - 5.24	µg/L	n/a	MCL = 80	Disinfection by-products
Radionuclides							
Gross Alpha	No	05/04/16	ND-2.95	pCi/L	--	MCL = 15	Naturally occurring
Gross Beta	No	05/10/16	ND - 1.32	pCi/L	--	MCL = 50	Naturally occurring
Radium 226 & 228	No	05/04/16	0.466 - 2.872	pCi/L	--	MCL = 5 ⁽⁴⁾	Naturally occurring
Total Uranium	No	05/03/16	0.032 - 0.126	µg/L	--	MCL = 30	Naturally occurring
Unregulated Contaminant Monitoring Rule⁽⁵⁾							
1,4-Dioxane	No	03/02/14	1.0	µg/L	n/a	No MCL	Naturally occurring
Chlorate	No	03/02/14	130.0	µg/L	n/a	No MCL	Naturally occurring
Strontium	No	03/02/14	10.2	µg/L	n/a	No MCL	Naturally occurring
Bacteriological							
Total Coliform ⁽⁶⁾	No	10/25/16	1 positive sample out of 244 samples	Positive or Negative	n/a	MCL = Positive results in more than 5% of the monthly samples	Commonly found in the environment

Definitions:

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.

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.

Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Milligrams per liter (mg/l) - Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (µg/l) - Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

Non-Detects (ND) - Laboratory analysis indicates that the constituent is not present.

pCi/L - pico Curies per Liter is a measure of radioactivity in water.

(1) - During 2015, we collected and analyzed 31 samples for lead and copper. The 90% percentile level is presented in the table. The action levels for both lead and copper were not exceeded at any site tested. The next sampling program for lead and copper will be conducted in 2018. The values reported for lead and copper represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system. In our sampling program, the 90th percentile value is the 4th highest result.

(2) - Iron is only a secondary drinking water standard. Iron has no health effects. Therefore, exceeding the MCL represents a level at which adverse aesthetic effects start to occur.

(3) - No MCL has been established for sodium. However, 20 mg/L is a recommended guideline for people on high restricted sodium diets and 270 mg/L for those on moderate sodium diets.

(4) - MCL for Radium is for Radium 226 and Radium 228 combined.

(5) - UCMR3 - Unregulated Contaminant Monitoring Rule 3 is a Federal water quality sampling program where water suppliers sample and test their source water for 1 year. Results will be used by the USEPA to determine if the contaminants need to be regulated in the future.

(6) - Total coliform bacteria was detected in 1 out of 244 routine compliance samples collected within our distribution system once in August and twice in September 2014. No positive samples were detected for the rest of the year. All repeat samples were negative for bacteria. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present.

Cost Of Water

Daily Water Rates

The District utilizes the following daily step billing schedule for residential and commercial accounts:

Consumption (gallons)	Cost Per Gallon
First 66.6666	\$0.00320548 (min. charge)
Next 155.5555	\$0.00170
Next 111.1111	\$0.00204
Next 111.1111	\$0.00236
Remaining	\$0.00289

Water Treatment

To enhance water quality, the South Farmingdale Water District treats water as it is pumped from all District wells. The pH of the pumped water is adjusted upward to reduce corrosive action between the water and water mains and in-house plumbing by the addition of sodium hydroxide. South Shore area wells (including those of the South Farmingdale Water District) have high iron in the raw well water. Iron is an aesthetic problem and is not health related. The District sequesters the iron by the addition of Aqua-Mag (linear chain phosphate) to keep the iron in solution and prevent the staining of laundry and plumbing fixtures.

The District also operates five (5) iron removal treatment facilities at Plant Nos. 1, 2, 3, 5 and 6, three (3) air strippers at Plant Nos. 1 and 3 for Well Nos. 1-3, 1-5 and 3-1, and one (1) granular activated carbon treatment system to remove 1,1-Dichloroethane (1,1-DCA) from Well No. 5-1 at Plant No. 5. The raw water concentration of Well 5-1 is below the maximum contaminant level, but the District treats 1,1-DCA to a concentration below the detection limits. The District recently completed the construction of air strippers in the event volatile organic contaminants impact Well Nos. 1-3, 1-5 and 3-1. The District also adds small amounts of sodium hypochlorite (chlorine) as a disinfecting agent and to prevent growth of bacteria in the water distribution system.

Water Quality

In accordance with State regulations, South Farmingdale Water District monitors your drinking water on a regular basis using more than 135 parameters. We test your drinking water for coliform bacteria, turbidity, inorganic contaminants, lead and copper, nitrate, volatile organic contaminants, total trihalomethanes and synthetic organic

contaminants. The “Table Of Detected Parameters” presented on Page 3 depicts which contaminants were detected in your drinking water. It should be noted that many of these parameters are found naturally in all Long Island drinking water and do not pose any adverse health effects.

Source Water Assessment

The NYSDOH, with assistance from the local health department, has completed a source water assessment for this system, based on available information. Possible and actual threats to our drinking water source were evaluated. The source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how rapidly contaminants can move through the subsurface to the wells. The susceptibility of a water supply well to contamination is dependent upon both the presence of potential sources of contamination within the well’s contributing area and the likelihood that the contaminant can travel through the environment to reach the well. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become, contaminated. See the section entitled “Water Quality” for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

Our drinking water is derived from 11 wells. The source water assessment has rated all but one (1) of the wells as having a very high susceptibility to industrial solvents and a high susceptibility to nitrates.

The elevated susceptibility to industrial solvents and nitrates is due primarily to point sources of contamination related to commercial/ industrial facilities and related activities in the assessment area. In addition, the elevated susceptibility to nitrates is due to residential land use and related practices, such as fertilizing lawns, in the assessment area.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting the District.

Copies of a Supplemental Data Package, which includes the water quality data for each of our supply wells utilized during 2016, are available at the South Farmingdale Water District office and the Farmingdale Public Library.

South Farmingdale Water District works very diligently to provide the highest quality water to every tap throughout our community. We ask that all our customers help us protect our water resources, which are the heart of our community, our way of life and our children’s future.

South Farmingdale Water District conducts over 10,000 water quality tests throughout the year, testing for over 130 different contaminants which have been undetected in our water supply including:

Cadmium	Metolachlor	Dichloroacetic Acid	1,3-Dichloropropane
Chromium	Metribuzin	Trichloroacetic Acid	Chlorobenzene
Fluoride	Butachlor	Dibromoacetic Acid	1,1,1,2-Tetrachloroethane
Mercury	2,4-D	Total Haloacetic Acid	Bromobenzene
Selenium	2,4,5-TP (Silvex)	Chloroform	1,1,2,2-Tetrachloroethane
Silver	Dinoseb	Bromodichloromethane	1,2,3-Trichloropropane
Color	Dalapon	Gross Beta	2-Chlorotoluene
Turbidity	Picloram	Radium 226	4-Chlorotoluene
Odor	Dicamba	Dichlorodifluoromethane	1,2-Dichlorobenzene
Ammonia	Pentachlorophenol	Chloromethane	1,3-Dichlorobenzene
Nitrite	Hexachlorocyclopentadiene	Vinyl Chloride	1,4-Dichlorobenzene
Nitrate	bis(2-Ethylhexyl)adipate	Bromomethane	1,2,4-Trichlorobenzene
Total Alkalinity	bis(2-Ethylhexyl)phthalate	Chloroethane	Hexachlorobutadiene
Detergents (MBAS)	Hexachlorobenzene	Trichlorofluoromethane	1,2,3-Trichlorobenzene
Free Cyanide	Benzo(A)Pyrene	Chlorodifluoromethane	Benzene
Antimony	Aldicarb Sulfone	1,1-Dichloroethene	Toluene
Beryllium	Aldicarb sulfoxide	Methylene Chloride	Ethylbenzene
Perchlorate	Aldicarb	Trans-1,2-Dichloroethene	M,P-Xylene
Lindane	Total Aldicarbs	cis-1,2-Dichloroethene	O-Xylene
Heptachlor	Oxamyl	2,2-Dichloropropane	Styrene
Aldrin	Methomyl	Bromochloromethane	Isopropylbenzene (Cumene)
Heptachloro Epoxide	3-Hydroxycarbofuran	1,1,1-Trichloroethane	N-Propylbenzene
Dieldrin	Carbofuran	Carbon Tetrachloride	1,3,5-Trimethylbenzene
Endrin	Carbaryl	1,1-Dichloropropene	Tert-Butylbenzene
Methoxychlor	Glyphosate	1,2-Dichloroethane	1,2,4-Trimethylbenzene
Toxaphene	Diquat	Trichloroethene	Sec-Butylbenzene
Chlordane	Endothall	1,2-Dichloropropane	4-Isopropyltoluene (P-Cumene)
Total PCBs	1,2-Dibromoethane (EDB)	Dibromomethane	N-Butylbenzene
Propachlor	1,2-Dibromo-3-Chl.Propane	Trans-1,3-Dichloropropene	Methyl Tert.Butyl Ether (MTBE)
Alachlor	Dioxin	cis-1,3-Dichloropropene	Thallium
Simazine	Chloroacetic Acid	1,1,2-Trichloroethane	Zinc
Atrazine	Bromoacetic Acid	Tetrachloroethene	Manganese