

2013 drinking water quality report

BETHPAGE WATER DISTRICT

PUBLIC WATER SUPPLY IDENTIFICATION NO. 2902817

ANNUAL WATER SUPPLY REPORT

MAY 2014

The Bethpage Water District is pleased to present this year's Water Quality Report. The report is required to be delivered to all residents of our District in compliance with Federal and State regulations. We are happy to report that the District's supply water is in full compliance with all Federal, State and County regulations and that no violations exist.

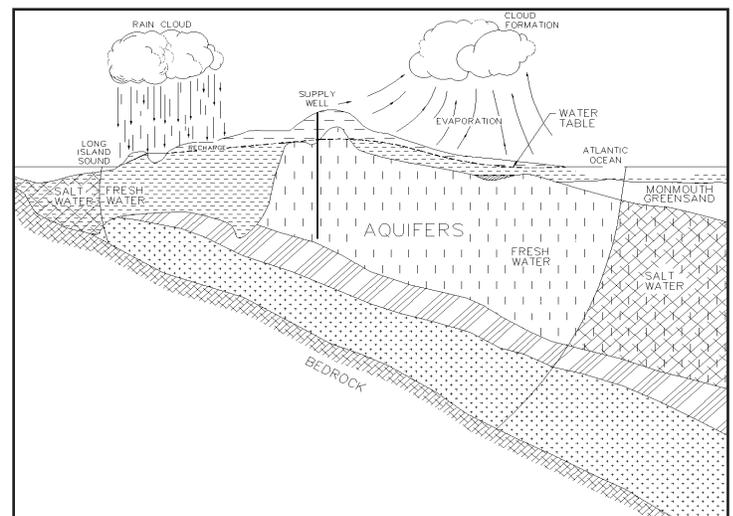
Our constant goal is to provide you with a safe and dependable supply of drinking water every day. We also want you to understand the efforts the District takes to protect our water resources and continually improve the water quality treatment process.

WHERE DOES OUR WATER COME FROM?

The source of water for the District is groundwater pumped from the eight (8) wells located throughout the community that are drilled into the Magohty aquifer beneath Long Island, as shown on the adjacent figure. Generally, the water quality of the aquifer is good-to-excellent, although there are localized areas of contamination.

In order to ensure that our tap water is safe to drink, the State and the EPA prescribe 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 population served by the Bethpage Water District during 2013 was 33,500. The total amount of water withdrawn from the aquifer in 2013 was 1.51 billion gallons, of which approximately 94 percent was billed directly to consumers. The remaining six (6) percent of total pumpage was used for flushing, system breaks and leaks, system testing and inefficient water meters.



THE LONG ISLAND AQUIFER SYSTEM

WATER TREATMENT

The Bethpage Water District provides treatment at all of its wells to improve the quality of the water pumped prior to distribution to the consumer. The pH of the pumped water is adjusted upward to reduce the corrosive action between the water and water mains and in-house plumbing by the addition of sodium hydroxide. An air stripping tower at Plant No. 6 is utilized to treat potable water from Well Nos. 6-1 and 6-2 for the removal of volatile organic compounds. Similar treatment facilities are also utilized at Plant No. 4 for Well Nos. 4-1 and 4-2 and at Plant No. 5 for Well No. 5-1. In addition to the air stripping facilities, Granular Activated Carbon (GAC) filters are used at Plant 1 (Wells 7a & 8A), Plant 4 (Wells 4-1 & 4-2) and Plant 6 (Wells 6-1 & 6-2) for the removal of volatile organic compounds. The District has installed a Nitrate Removal Plant at Plant 1 for the removal of Nitrate and maintains a resin filter at Plant BGD for the removal of Perchlorate.

The District utilizes sodium hypochlorite for the purpose of disinfection and maintains a consistent residual as per Health Department guidelines.

WATER QUALITY

In accordance with State regulations, the Bethpage Water District routinely monitors your drinking water for numerous parameters. We test your drinking water for coliform bacteria, turbidity, inorganic contaminants, lead and copper, nitrate, volatile organic contaminants, total trihalomethanes, radionuclides and synthetic organic contaminants. As listed in this newsletter, over 135 separate parameters are tested for in each of our wells numerous times per year. The table presented on page 3 depicts which parameters or contaminants were detected in the water supply. It should be noted that many of these parameters are naturally found in all Long Island drinking water and do not pose any adverse health effects. Please be assured that your drinking water meets all Federal and State water quality standards.

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 a safe and abundant water supply.

In 2013, the Bethpage Water District continued to implement a water conservation program in order to minimize any unnecessary water use. The pumpage for 2013 was 5.86 percent more than in 2012. This can be attributed to the hotter and drier weather in the summer of 2013.

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.

Consumers should be aware that Nassau County Lawn Sprinkler 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).

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 this 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. Please refer to section "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 eight (8) wells. The source water assessment has rated most of the wells as having a high susceptibility to nitrates and three (3) of the wells as having a very high susceptibility to industrial solvents. The very high susceptibility to industrial solvents is due primarily to point sources of contamination related to commercial/industrial activities in the assessment area. The high susceptibility of nitrate contamination is attributable to unsewered high density residential land use and related to practices in the assessment area, such as fertilizing lawns.

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

CONTACTS FOR ADDITIONAL INFORMATION

We are pleased to report that our drinking water is safe and meets all Federal and State requirements. If you have any questions about this report or the Bethpage Water District, please contact Water District Superintendent Michael Boufis at (516) 931-0093 or the Nassau County Department of Health at (516) 227-9692. We want our valued customers to be informed about our water system. If you want to learn more, please attend any of our regularly scheduled meetings. They are normally held every other Thursday at 5:30 p.m. at the District office.

The Bethpage Water District routinely monitors for different parameters and possible 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 impurities. It's important to remember that the presence of these impurities 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).

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, and 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 microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791). It should be noted that Cryptosporidium and Giardia are primarily found in surface waters, not groundwater and our entire water supply is derived from groundwater.

The USEPA established a Lead and Copper Rule that required all public water suppliers to sample and test for lead and copper at the tap. The first testing was required in 1992. All of the results were excellent, indicating that the District's corrosion control treatment program was effective in preventing the leaching of lead and copper from your home's plumbing into your drinking water. The same testing was last conducted in 2011 with the same excellent results. Routine testing for lead and copper is required every three (3) years and will occur again this year.

Water from the Bethpage Water District has elevated levels of nitrates, but well below the maximum contamination level of 10.0 parts per million (ppm). Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six (6) months of age. High nitrate levels in drinking water can cause blue baby syndrome. The source of the nitrates is the nitrogen in fertilizers and from past on-site septic systems. If you are caring for an infant, you should ask advice from your health care provider.

2013 DRINKING WATER QUALITY REPORT - 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	September 2011	ND - 0.21 0.16 ⁽¹⁾	mg/l	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	No	September 2011	ND - 39.6 4.9 ⁽¹⁾	ug/l	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits
Barium	No.	03/11/13	ND - 0.006	mg/l	n/a	MCL = 20	Naturally occurring
Sodium	No	01/17/13	4.1 - 20.8	mg/l	n/a	No MCL ⁽²⁾	Naturally occurring
Zinc	No	05/14/13	ND - 0.06	mg/l	n/a	MCL = 5	Naturally occurring
Chloride	No	05/14/13	5.2 - 30.1	mg/l	n/a	MCL = 250	Naturally occurring
Iron	No	03/11/13	ND - 180	ug/l	n/a	MCL = 300 ⁽³⁾	Naturally occurring
Manganese	No	03/12/13	ND - 10	ug/l	n/a	MCL = 300	Naturally occurring
Nitrate	No	08/06/13	0.9 - 6.1	mg/l	10	MCL = 10	Runoff from fertilizer and leaching from septic tanks and sewage
Sulfate	No	03/12/13	ND - 8.8	mg/l	n/a	MCL = 250	Naturally occurring
Magnesium	No	03/15/13	0.5 - 1.9	mg/l	n/a	No MCL	Naturally occurring
Calcium	No	03/15/13	1.2 - 5.0	mg/l	n/a	No MCL	Naturally occurring
Nickel	No	03/12/13	2.0 - 3.5	mg/l	n/a	MCL = 100	Naturally occurring
Volatile Organic Contaminants							
1,1-Dichloroethane	No	05/14/13	ND - 0.8	ug/l	0	MCL = 5	Industrial/Commercial discharge
Disinfection By-Products							
Total Trihalomethanes (THMs)	No	06-04-13	ND - 23.6	ug/l	n/a	MCL = 80	Disinfection By-Products
Unregulated Contaminants							
Perchlorate	No	05/20/13	ND - 5.7	ug/l	n/a	None ⁽⁴⁾	Fertilizers
Synthetic Organic Contaminants Including Pesticides and Herbicides							
None Detected	--	--	ND	--	--	--	--
Unregulated Contaminant Monitoring Rule⁽⁵⁾							
1,4-Dioxane	No	12/11/13	0.3 - 8.6	ug/l	n/a	MCL = 50	Industrial/Commercial discharge
Cobalt	No	07/22/13	1.7 - 5.2	ug/l	n/a	No MCL	Naturally occurring
Strontium	No	07/22/13	14.0 - 24.0	ug/l	n/a	No MCL	Naturally occurring
Hexavalent Chromium	No	07/22/13	ND - 0.13	ug/l	n/a	No MCL	Natural deposits & industrial discharges
Chromium	No	07/22/13	ND - 0.38	ug/l	100	MCL = 100	Natural deposits & industrial discharges
Chlorate	No	07/22/13	ND - 200	ug/l	n/a	No MCL	Naturally occurring
Radionuclides							
Gross Alpha	No	06/04/13	ND - 6.08	pCi/L	n/a	MCL = 15	Naturally occurring
Radium 226	No	01/02/13	0.212 - 4.06	pCi/L	n/a	MCL = 5 ⁽⁶⁾	Naturally occurring or industrial discharge
Radium 228	No	03/11/13	0.124 - 2.89	pCi/L	n/a	MCL = 5 ⁽⁶⁾	Naturally occurring or industrial discharge
Micro-Bacteriological⁽⁷⁾							
Total Coliform	No	12/08/13	1 positive out of 484 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 (ug/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 2011, we collected and analyzed 30 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.

⁽²⁾ - 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.

⁽³⁾ - Iron is only a secondary water standard. Iron has no health effects. Therefore, exceeding the MCL represents a level at which adverse aesthetics effects start to occur.

⁽⁴⁾ - Perchlorate is an unregulated contaminant. However, the State Health Department has established an action level of 18 ug/l.

⁽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⁾ - Combined Radium 226 and 226 has an MCL = 5.

⁽⁷⁾ - Total coliform bacteria was detected in routine monthly compliance samples collected within our distribution system. Total Coliform was not detected in additional sampling subsequently collected. 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

The District utilizes a step billing schedule as shown in the table. The average consumer is being billed at \$1.05 per 1,000 gallons of water used. That's 10 gallons for one penny!!

Step Schedule of Water Rates (per quarter)

Consumption (gallons)	Charges
Up to 10,000	\$7.50 minimum
10,001 - 35,000	\$1.25/thousand gallons
35,001 - 60,000	\$1.60/thousand gallons
60,001 - 100,000	\$1.95/thousand gallons
Over 100,000	\$2.60/thousand gallons

Copies of the Supplemental Data Package, which includes the water quality data for each of our supply wells utilized during 2013, are available at the Bethpage Water District office which is located at 25 Adams Avenue, Bethpage, New York and the Bethpage Public Library.

We, at the Bethpage Water District, work around the clock to provide top quality water to every tap throughout the 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. Please call our office if you have any questions.

The Bethpage 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:

Arsenic	Atrazine	1,2-Dibromo-3-Chl.Propane	1,3-Dichloropropane
Cadmium	Metolachlor	Dioxin	Chlorobenzene
Chromium	Metribuzin	Chloroacetic Acid	1,1,1,2-Tetrachloroethane
Fluoride	Butachlor	Bromoacetic Acid	Bromobenzene
Mercury	2,4-D	Dichloroacetic Acid	1,1,2,2-Tetrachloroethane
Selenium	2,4,5-TP (Silvex)	Trichloroacetic Acid	1,2,3-Trichloropropane
Silver	Dinoseb	Dibromoacetic Acid	2-Chlorotoluene
Color	Dalapon	Total Haloacetic Acid	4-Chlorotoluene
Turbidity	Picloram	Bromodichloromethane	1,2-Dichlorobenzene
Ammonia	Dicamba	Dibromochloromethane	1,3-Dichlorobenzene
Nitrite	Pentachlorophenol	Bromoform	1,4-Dichlorobenzene
Detergents (MBAS)	Hexachlorocyclopentadiene	Gross Beta	1,24-Trichlorobenzene
Free Cyanide	bis(2-Ethylhexyl)adipate	Total Uranium	Hexachlorobutadiene
Antimony	bis(2-Ethylhexyl)phthalate	Dichlorodifluoromethane	1,2,3-Trichlorobenzene
Beryllium	Hexachlorobenzene	Chloromethane	Benzene
Thallium	Benzo(A)Pyrene	Vinyl Chloride	Ethylbenzene
Lindane	Aldicarb Sulfone	Bromomethane	M,P-Xylene
Heptachlor	Aldicarb sulfoxide	Chloroethane	O-Xylene
Aldrin	Aldicarb	Trichlorofluoromethane	Styrene
Heptachloro Epoxide	Total Aldicarb	Chlorodifluoromethane	Isopropylbenzene (Cumene)
Dieldrin	Oxamyl	Methylene Chloride	N-Propylbenzene
Endrin	Methomyl	Trans-1,2-Dichloroethene	1,3,5-Trimethylbenzene
Methoxychlor	3-Hydroxycarbofuran	2,2-Dichloropropane	Tert-Butylbenzene
Toxaphene	Carbofuran	Bromochloromethane	1,2,4-Trimethylbenzene
Chlordane	Carbaryl	1,1-Dichloropropene	Sec-Butylbenzene
Total PCBs	Glyphosate	1,2-Dichloropropane	4-Isopropyltoluene (P-Cumene)
Propachlor	Diquat	Dibromomethane	N-Butylbenzene
Alachlor	Endothall	Trans-1,3-Dichloropropene	Methyl Tert.Butyl Ether (MTBE)
Simazine	1,2-Dibromoethane (EDB)	cis-1,3-Dichloropropene	

Bethpage Water District
 25 Adams Avenue
 Bethpage, New York 11714-1304

ADDRESS CORRECTION REQUESTED

PRESORT
 STANDARD
 U.S. Postage
 PAID
 PERMIT No. 50
 Bethpage, NY