

JUNE 2017

HILLTOWN TOWNSHIP WATER AND SEWER AUTHORITY 2016 WATER QUALITY REPORT

HTWSA WATER SYSTEM ♠ PWSID #1090117 & PWSID #1090162

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda. (This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it.)

HTWSA's Commitment to you: Safe & Reliable Drinking Water

Well Number 5 Upgrades



In 2016, HTWSA completed an upgrade to the Well No. 5 facility on Route 152. The Well had been out of service since the detection of arsenic in 2010. An arsenic removal system has been installed which is capable of reducing the arsenic levels in the treated water below the detectable limit. This system is similar to those already in service at the Well 1 and Well 2 Treatment Facilities.

An emergency generator was installed as part of this upgrade, which is capable of powering Well 5 and adjacent Booster Pump Station in the event of a power interruption.

Upgrades such as these, and others currently in planning, provide us with a more stable, sustainable water system and enhance our ability to provide reliable service and high-quality drinking water. ♠

How Good is Hilltown's Water?

The Hilltown Township Water and Sewer Authority (HTWSA) has been committed to providing residents with a safe and reliable supply of high-quality drinking water since 1986. We

test our water using the most current equipment and methods to ensure safe drinking water. This annual report will provide you with information regarding the source of your water; test results; and other things you should know about the water you use.

We are proud to report that the water we provide to you exceeds the water quality standards of the Pennsylvania Department of Environmental Protection and the U.S. Environmental Protection Agency. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.



You may also visit EPA's drinking water website for more information about drinking water standards and quality. www.epa.gov/safewater

Drinking Water Meets and Exceeds EPA and PADEP



We routinely monitor for contaminants in your drinking water according to federal and state laws. The following table shows the results of our monitoring for the period of January 1 to December 31, 2016. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from prior years in accordance with the Safe Drinking water Act. The date has been noted on the sampling table results. ♦

Important 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. EPA/CDC guidelines on appropriate ways to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791). ♦

DETECTED SAMPLE RESULTS—HTWSA CENTRAL DISTRIBUTION

INORGANIC CONTAMINANTS

Contaminant	Action Level (AL)	MCLG	90 th Percentile Value	Units	# of Sites Above AL of Total Sites	Violation of TT Y/N	Sources of Contamination
Copper	1.3	1.3	0.2	ppm	0 of 20	N	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	15	0	2.8	ppb	0 of 20	N	Corrosion of household plumbing systems; Erosion of natural deposits
Contaminant	MCL	MCLG	Highest Level Detected	Range	Units	Violation Y/N	Sources of Contamination
Barium (2015)	2	2	0.073	0.071-0.073	ppm	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (2015)	100	100	2.8	0-2.8	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (2015)	2	2	0.23	0.22-0.23	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nickel (2015)	0.1	0.1	0.0061	0-0.0061	ppm	N	Erosion of natural deposits; Discharge from metal refineries.
Chlorine (In System)	MRDL =4	MRD-LG=4	1.15	0.47-1.15	ppm	N	Water additive used to control microbes.

HTWSA serves customers on two distribution systems. The majority of our customers are served by the Central Distribution System (PSWID 1090117). This system is supplied water from HTWSA wells and an interconnection with North Penn Water Authority (NPWA).

DETECTED SAMPLE RESULTS—HTWSA CENTRAL DISTRIBUTION

DISINFECTION BYPRODUCTS							
Contaminant	MCL	MCLG	Highest Level Detected	Range	Units	Violation Y/N	Sources of Contamination
Haloacetic Acids (HAAs)	60	n/a	9.2	0-9.2	ppb	N	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHMs)	80	n/a	43.5	2.3-43.2	ppb	N	Byproduct of drinking water disinfection
RADIONUCLIDES							
Contaminant	MCL	MCLG	Highest Level Detected	Range	Units	Violation Y/N	Sources of Contamination
Gross Alpha (2012 & 2014)	15	0	3.27	0-3.27	pCi/L	N	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation.
Uranium (2012)	30	0	1.30	0-1.30	ppb	N	Erosion of natural deposits
Radium 226 and Radium 228 Combined (2012)	5	0	0.27	0-0.27	pCi/L	N	Erosion of natural deposits
ENTRY POINT DISINFECTION RESIDUAL—WELLS 1, 2, AND 5							
Contaminant	Minimum Residual	Lowest Level	Range	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	0.40	0.47	0.47-2.73	ppm	Daily 2016	N	Water additive used to control microbes.

Regulated contaminants not listed in the table were not detected in our samples.

Other Violations: HAAs and TTHMs samples were taken out of sequence in 2017. Please be advised that the resulting violation generated was due to timing and has nothing to do with the quality of the results found. 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 your drinking water meets health standards. During 2017, we did not complete all monitoring or testing for HAAs and TTHMs and therefore cannot be sure of the quality of your drinking water during that time. Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand of mail.

Key To Tables (HTWSA & NPWA)

Maximum Contaminant Level (MCL)- The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLGs as feasible using the best available treatment technology.

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.

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

ppb = parts per billion, or micrograms per liter (µg/L), One part per billion corresponds to a single penny in \$10,000,000.

ppm = parts per million, or milligrams per liter (mg/L), One part per million corresponds to a single penny in \$10,000.

pCi/L = picocuries per liter (a measure of radioactivity)

NTU - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person

Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

N/A—Not Applicable

WHAT ELSE SHOULD I KNOW?

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 activity. Contaminants that may be present in source water include:

Microbial contaminants, these include viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, these include 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, these may come from a variety of sources such as agriculture, urban storm water run off, and residential uses.

Organic chemical contaminants, these include 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.

Information about Lead: 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. HTWSA 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 or at <http://www.epa.gov/safewater/lead>.

Information about Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

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

In order to assure that tap water is safe to drink, EPA and DEP prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA and DEP regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline. ♦

SAMPLING AND TESTING

Hilltown Township Water and Sewer Authority routinely monitors for constituents in your drinking water according to the Federal and State laws. In order to ensure that tap water is safe to drink EPA prescribes regulations which limit the amount of certain contaminants in water provided by public systems. HTWSA has met or exceeded all standards set forth for quality and safety.

During 2016, samples were tested at Analytical Laboratories, Inc. Chalfont, PA (215) 723-6466. More information about contaminant and potential health effects can be obtained by calling the Environmental Protection Agency.

Safe Drinking Water Hotline
1-800-426-4791

Information about Arsenic: While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Other Contaminants Tested But Not Detected: Fecal Coliform Bacteria; Inorganic Compounds such as Arsenic, Nitrate, and Nitrite; Regulated Volatile Contaminants, such as Benzene, Chlorobenzene, Ethylbenzene, Toluene and Xylenes.

Where Does Your Water Come From?

In 2016, three municipal wells and an interconnection with North Penn Water System fulfill the needs of HTWSA's customers. Well No. 2, located on South Perkasio Road, supplied groundwater, from the Pleasant Creek Watershed. Well No. 1, located off Thistle Lane, supplied groundwater from the East Branch Perkiomen Creek Watershed. Water drawn for these wells undergoes treatment for iron, manganese, and arsenic, and chlorine is added as a disinfectant to kill any bacteria. Well No. 5, located on Route 152, which has been offline since 2010, was upgraded and returned to service in 2016. Water drawn from Well No. 5 undergoes treatment for arsenic, and is disinfected to kill any bacteria. A copy of the Source Water Assessment is available for viewing at the HTWSA Office. HTWSA has two interconnects with North Penn Water Authority (NPWA). The southern connection is the sole source for the Ridge and Reserve at Hilltown. The northern interconnect is the supplementary water source for the central distribution system. HTWSA customers living in the **Hilltown Ridge** and **Reserves at Hilltown** subdivisions are served by the Southern Distribution System (PWSID #1090162). This system is supplied solely through an interconnect with NPWA. HTWSA monitors contaminants which are associated with distribution of drinking water for this System. Contaminants which are associated with source water are monitored by NPWA.

Source Water Information—NPWA

In 2016, approximately 85% of the water that NPWA delivered to its customers was treated surface water from the Forest Park Water (FPW) Treatment Plant located in Chalfont. The remaining 15% of water came from 13 groundwater supply wells that NPWA operates. These wells are located throughout the service territory, in Bucks and Montgomery Counties. The water from these wells is chlorinated before it is delivered to NPWA customers' homes.

The source of water that is treated at FPW is the North Branch Neshaminy Creek. The North Branch Neshaminy Creek originates as a small stream near Route 413 in Central Bucks County. The creek flows into Lake Galena, which is the reservoir for Forest Park Water. Water released from the Lake Galena flows down the Neshaminy Creek to where it is drawn into the FPW, in Chalfont, PA. At times throughout the year, water is pumped from the Delaware River at Point Pleasant and diverted into the North Branch Neshaminy Creek near Gardenville, PA. This diversion controls the level of Lake Galena for recreational purposes, ensures a sufficient drinking water supply, and maintains base flow in the stream. ♦

DETECTED SAMPLE RESULTS—HTWSA SOUTHERN DISTRIBUTION

INORGANIC CONTAMINANTS

Contaminant	Action Level (AL)	MCLG	90 th Percentile Value	Units	# of Sites Above AL of Total Sites	Violation of TT Y/N	Sources of Contamination
Copper	1.3	1.3	0.14	ppm	0 of 7	N	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	15	0	0	ppb	0 of 7	N	Corrosion of household plumbing systems; Erosion of natural deposits
Contaminant	MCL	MCLG	Highest Level Detected	Range	Units	Violation Y/N	Sources of Contamination
Chlorine (In System)	MRDL =4	MRDLG=4	1.4	0.52 - 1.4	ppm	N	Water additive used to control microbes.

DISINFECTION BYPRODUCTS

Contaminant	MCL	MCLG	Highest Level Detected	Range	Units	Violation Y/N	Sources of Contamination
Haloacetic Acids (HAA)	60	n/a	10.2	4.2-10.2	ppb	N	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHMs)	80	n/a	57.3	22.8-57.3	ppb	N	Byproduct of drinking water disinfection

Other Violations: *Lead and copper samples were taken after the compliance date in 2016. Please be advised that the resulting violation generated was due to timing and has nothing to do with the quality of the results found in the enclosed tables. 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 your drinking water meets health standards. During 2016, we did not complete all monitoring or testing for lead and copper and therefore cannot be sure of the quality of your drinking water during that time. Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand of mail.*

The following pages contain information about water quality monitoring of the NPWA distribution system.

SUMMARY OF NPWA WATER QUALITY DATA (PWSID #1460034)

Contaminant (Unit of Measurement)	Violation Y/N	Highest Level Detected	Range Detected	MCLG	MCL	Sources of Contamination
REGULATED AT THE WELLS OR FPW						
Inorganic Contaminants						
Antimony (ppb)	N	0.7	0-0.7	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb) ¹	N	6	0-6.0	0	10	Erosion of natural deposits; runoff from orchards; glass and electronics production waste
Barium (ppm)	N	0.448	0.020-0.448	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	N	3.0	0-3.0	100	100	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	N	0.124	0-0.124	2	2	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (ppm) ²	N	4.34	0.259-4.34	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
VOLATILE ORGANIC COMPOUNDS						
Tetrachloroethylene	N	0.830	0-0.830	0	5	Discharge from factories and dry cleaners
RADIONUCLIDES (2014 & 2016)						
Alpha Emitters (pCi/L)	N	4.37	0-4.37	0	15	Erosion of natural deposits
Combined Radium (pCi/L)	N	1.12	0-1.12	0	5	Erosion of natural deposits
Uranium (µg/L)	N	4.84	0-4.84	0	30	Erosion of natural deposits
DISINFECTION BY-PRODUCTS (DBPs)						
Bromate (ppb)	N	3.8	1.8-3.8	0	10	By-product of drinking water disinfection
PERFORMANCE MONITORING						
Turbidity (NTU) ³	N	0.04	0.01-0.04	N/A	TT	Soil runoff
Contaminant (Unit of Measurement)	Violation Y/N	Lowest Level Detected	Range Detected	Min. Residual	Sample Date	Sources of Contamination
ENTRY POINT DISINFECTANT RESIDUALS						
Chlorine (leaving FPW) (ppm)	N	1.00	1.00-1.65	0.2	2016	Water additives used to control microbes
Chlorine (leaving the wells) (ppm)	N	0*	0-1.39	0.4	2016	Water additives used to control microbes
*Chlorine levels did not drop below the minimum residual level required for more than 4 hours.						
Contaminant (Unit of Measurement)	Violation Y/N	Highest Level Detected	Range Detected	MCLG	MCL	Sources of Contamination
CONTAMINANTS TESTED THROUGHOUT THE DISTRIBUTION SYSTEM						
Chlorine (ppm)	N	1.00	0.63-1.00	MRDLG = 4	MRDL = 4	Water additives used to control microbes
Haloacetic Acids (ppb)	N	7.80*	2.49-14.1	N/A	60	By-product of drinking water disinfection
Total Trihalomethanes (ppb)	N	28.5*	6.93-50.4	N/A	80	By-product of drinking water disinfection
*Since compliance is based on a running annual average, this value represents the highest running annual average result.						

SUMMARY OF NPWA WATER QUALITY DATA						
Contaminant (Unit of measurement)	Violation Y/N	90th Per- centile Re- sult	Action Level (AL)	MCLG	# Sites above AL of total	Sources of Contamination
REGULATED AT THE CUSTOMER'S TAP (2013)						
Copper (ppm)	N	0.951	1.3	1.3	0 out of 33	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	N	1.9	15	0	0 out of 33	Corrosion of household plumbing systems; erosion of natural deposits

Regulated Contaminants which were tested for, but not detected include: Microbial Contaminants (E. Coli, Total Coliform Bacteria); Inorganic Contaminants (Beryllium, Cadmium, Cyanide, Mercury, Nickel, Nitrite, Selenium, Thallium); various Volatile Organic Chemicals (VOCs) and Synthetic Organic Chemicals (SOCs).

- ¹ While your drinking water meets EPA's standards for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.
- ² Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than 6 months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.
- ³ Turbidity is a measure of the cloudiness of the water and is a good indicator of the effectiveness of the NPWA filtration system. As a member of the partnership for Safe Drinking Water, NPWA's goal is to achieve <0.1 NTU. In 2016, NPWA achieved this goal for all samples.

THINGS YOU SHOULD KNOW ABOUT NPWA'S WATER QUALITY TESTING

Cryptosporidium and Giardia

Giardia and Cryptosporidium are microbial pathogens found in surface water throughout the U.S. Monitoring of the source water (before treatment) at FPW indicated the presence of Cryptosporidium in 6 out of 12 samples collected. Giardia was detected in 7 out of 12 samples collected. FPW treatment processes are designed to remove or inactivate Giardia and Cryptosporidium cysts with a high level of certainty. Current available test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immune-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. NPWA encourages immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Giardia and Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Unregulated Contaminant Monitoring

Unregulated contaminants are those for which EPA has not yet established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. In 2016, unregulated contaminant assessment monitoring was conducted at FPW, NPWA Wells and distribution system. The results of this testing may be viewed in the NPWA Annual Water Quality Report, available online.

Source Water Assessment Information

A Source Water Assessment of NPWA groundwater sources was completed in 2005 by the PA DEP. Most of the land that surrounds

NPWA wells is highly developed commercial and residential areas, with a small amount of forested or agricultural/undeveloped land. The Assessment found that NPWA groundwater sources are potentially most susceptible to transportation corridors, residential and agricultural activities, railroad transportation, auto repair shops, machine/metal working businesses, National Priorities List (NPL) sites, industrial wastewater disposal, golf courses, a recycling center and a print shop. Summary reports of the Assessments are available on the Source Water Assessment Summary Reports eLibrary web page: <http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-10045>. Copies of the complete reports are available for review at the PA DEP Southeast Regional Office, Records Management Unit at (484) 250-5910.

In 2003, a Source Water Assessment of the North Branch Neshaminy Creek Intake, which supplies water to the Forest Park Water Filtration Plant, was completed and prepared by Spotts, Steven & McCoy, Inc. for the PA DEP. The Assessment found that the North Branch Neshaminy Creek Intake is potentially most susceptible to point sources of pollution from auto repair shops, wastewater treatment plants, boating, quarries, on-lot septic systems and gas stations. Non-point sources of potential contamination include major transportation corridors and runoff from areas of urban development, livestock farming, and industrial parks. The most serious potential sources are related to accidental releases of a variety of materials along transportation corridors and high nutrients from Lake Galena. The FPW Treatment Plant has the capability to treat a wide array of contaminants and minimize any negative impacts from such sources. Regular and frequent monitoring of the water supply allows us to identify any concerns and remediate any problems in a timely manner. Contingency plans and emergency response plans are in place to deal with any release of contaminants or accidental occurrences that could compromise the integrity of your drinking water quality.

HILLTOWN TOWNSHIP WATER AND SEWER AUTHORITY

Hilltown Township Water and Sewer
Authority
P.O. Box 365
Sellersville, PA 18960

Regular Hilltown Water and Sewer Authority Meetings are held on the second Wednesday of every month at 7:30 p.m. at the Authority Office.

316 Highland Park Road
Hilltown Township

Customer Service: (215) 453-6065

Emergency After-Hours (215) 453-6065

EPA Safe Drinking Water Hotline (800) 426-4791

Contact Authority Manager James C. Groff if you have any questions concerning this report. Hilltown Water and Sewer Authority is a member of the Pennsylvania Rural Water Association and the American Water Works Association.



WE'RE ON THE WEB!!

WWW.HTWSA.ORG

NorthPennWater.org