

April 2023

HILLTOWN TOWNSHIP WATER AND SEWER AUTHORITY 2022 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

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

Regular Hilltown Water and Sewer Authority Meetings are held on the 2nd 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

Hilltown Water and Sewer Authority is a member of the Pennsylvania Rural Water Association and the American Water Works Association.

HTWSA

WE'RE ON THE WEB!
WWW.HTWSA.ORG

NorthPennWater.org

Where Does Your Water Come From?



In 2022, three municipal groundwater wells and an interconnection with North Penn Water System fulfill the needs of HTWSA's customers. HTWSA's wells are located in the East Branch Perkiomen watershed. Well No.1 is located off Thistle Lane, Well No. 2 is located on South Perkasio Road, and Well No. 5 is located on Route 152. Arsenic treatment and disinfection are conducted at each well facility prior to distribution. 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. A copy of NPWA Annual Water Quality Report is attached.[S](#)

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

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 | 0.180 | ppm | 0 of 20 | N | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Lead | 15 | 0 | 2.21 | Ppb | 0 of 29 | B | Corrosion of household plumbing systems; Erosion of natural deposits |
| Contaminant | MCL | MCLG | Level Detected | Range | Units | Violation Y/N | Sources of Contamination |
| Arsenic | 10 | 0 | 1.7 | 0-5.2 | ppb | N | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes |
| Barium (2021) | 2 | 2 | 0.21 | 0.06 - 0.21 | ppm | N | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Nitrate | 10 | 10 | 1.74 | 0-1.74 | ppm | N | Runoff from fertilizer use; Leaching from septic tanks, sew-age; Erosion of natural deposits |

DETECTED SAMPLE RESULTS—HTWSA CENTRAL DISTRIBUTION

DISINFECTION BYPRODUCTS

| Contaminant | MCL | MCLG | Level Detected | Range | Units | Violation Y/N | Sources of Contamination |
|-------------------------------|---------|----------|----------------|-----------|-------|---------------|--|
| Chlorine (In System) | MRDL =4 | MRD-LG=4 | 0.84 | 0.23-1.70 | ppm | N | Water additive used to control microbes. |
| Haloacetic Acids (HAAs) | 60 | n/a | 4.8 | 2.6-7.3 | ppb | N | Byproduct of drinking water disinfection |
| Total Trihalomethanes (TTHMs) | 80 | n/a | 23.4 | 14.9-39.4 | ppb | N | Byproduct of drinking water disinfection |

RADIONUCLIDES

| Contaminant | MCL | MCLG | Level Detected | Range | Units | Violation Y/N | Sources of Contamination |
|-------------------------|-----|------|----------------|-----------|-------|---------------|--|
| Gross Alpha (2018) | 15 | 0 | 7.71 | 5.01-7.71 | pCi/L | N | Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation |
| Combined Uranium (2018) | 30 | 0 | 7.30 | 5.27-7.30 | 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 (ID 101) | 0.40 | 0.69 | 0.69-2.01 | ppm | Daily 2022 | N | Water additive used to control microbes. |
| Chlorine (ID 102) | 0.40 | 0.46 | 0.46-2.75 | ppm | Daily 2022 | N | Water additive used to control microbes. |
| Chlorine (ID103) | 0.40 | 0.43 | 0.43-1.82 | ppm | Daily 2022 | N | Water additive used to control microbes. |

Key to Tables

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.

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

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.

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?



Your Drinking Water Meets & Exceeds EPA & PADEP Standards

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, 2022. 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. ♦

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.

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 affects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline. ♦

Other Contaminants Tested But Not Detected: Fecal Coliform Bacteria; Nitrite; Asbestos; Iron; Manganese; Regulated Volatile Contaminants, such as Benzene, Toluene and Xylenes

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). ♦

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.

Information about Haloacetic Acids (HAA): Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Information about Total trihalomethanes (TTHMs): Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

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 | 0.17 | ppm | 0 of 5 | N | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Contaminant | MCL | MCLG | Level Detected | Range | Units | Violation Y/N | Sources of Contamination |
| Chlorine (In System) | MRDL =4 | MRD-LG=4 | 1.67 | 0.94-1.67 | ppm | N | Water additive used to control microbes. |

DISINFECTION BYPRODUCTS

| Contaminant | MCL | MCLG | Level Detected | Range | Units | Violation Y/N | Sources of Contamination |
|-------------------------------|-----|------|----------------|-------|-------|---------------|--|
| Haloacetic Acids (HAA5) | 60 | n/a | 9.3 | 9.3 | ppb | N | Byproduct of drinking water disinfection |
| Total Trihalomethanes (TTHMs) | 80 | n/a | 48.5 | 48.5 | ppb | N | Byproduct of drinking water disinfection |

Other Contaminants Tested But Not Detected: Lead, Fecal Coliform Bacteria.

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 2022, 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

IMPORTANT NOTICE -

Wipes and Personal Hygiene Products Clog Sewer Lines!

Unfortunately, many household products are labeled and marketed as DISPOSABLE and/or FLUSHABLE; many baby and adult personal hygiene products, along with household wipes and cleaning towelettes are labeled both disposable and flushable. While these products may be marketed as a convenience item in this way, the truth is that these types of items have the ability to clog and stop up not only the sewer line on your property, but can also cause blockage and service problems in the public sewer system and pump stations.

Unlike toilet paper, these products DO NOT break down once they are flushed and can lead to an expensive repair to the sewer line on your property.

On a larger scale, when these products make their way into the public sewer system they collect together,

causing very large obstructions and clogs in the main collector lines and pump stations; which can lead to costly repairs and or replacement of equipment.

What We All Can Do To Help...

The following items should NEVER be flushed into the sewer system:

Disinfecting/surface wipes, Baby wipes, Jewelry wipes, Cosmetic wipes, Disposable diapers or liners, Cotton swabs, Toilet cleaning pads, Mop or Swiffer type refills, Paper Towels, Pet care wipes, First Aid wipes, Bio-pads, Feminine hygiene products, Prophylactics, Any moist type towelette.

Simply put - Do not flush any consumer item that is not toilet paper.

NORTH PENN WATER AUTHORITY

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LANSDALE, PA 19446

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FAX: 215-855-2756
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NORTH PENN WATER AUTHORITY 2022 CCR DATA DETECTED SAMPLE RESULTS PWSID 1460034

| Chemical Contaminants | | | | | | | | |
|-----------------------|--|------|------------------------|---------------------|-------|---------------|------------------|--|
| Contaminant | MCL | MCLG | Highest Level Detected | Range of Detections | Units | Sample Date | Violation Yes/No | Sources of Contamination |
| Bromate | 10 | 0 | 2.8 | 1.1 – 2.8 | ppb | 2022 | No | By-product of drinking water chlorination |
| Arsenic | 10 | 0 | 6.0 | 0 – 6.0 | ppb | 2021 and 2022 | No | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes |
| Barium | 2 | 2 | 0.329 | 0.018 – 0.329 | ppm | 2021 and 2022 | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| Chromium | 100 | 100 | 1 | 0 - 1 | ppb | 2021 and 2022 | No | Discharge from steel and pulp mills; Erosion of natural deposits |
| Cyanide | 200 | 200 | 7 | 0 - 7 | ppb | 2021 and 2022 | No | Discharge from steel/metal factories; Discharge from plastic and fertilizer factories |
| Fluoride | 2 | 2 | 0.151 | 0 - 0.151 | ppm | 2021 and 2022 | No | Erosion of natural deposits; Discharge from fertilizer and aluminum factories |
| Nickel | N/A | N/A | 1 | 0 - 1 | ppb | 2021 and 2022 | No | Erosion of natural deposits; By-product of various industrial processes |
| | While many water suppliers continue to monitor nickel levels in water, there is currently no EPA maximum contaminant level (MCL) for nickel in drinking water. EPA is reconsidering the limit on nickel. | | | | | | | |
| Nitrate | 10 | 10 | 4.98 | 0.308 – 4.98 | ppm | 2022 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| Tetrachloroethylene | 5 | 0 | 0.800 | 0 – 0.800 | ppb | 2022 | No | Discharge from factories and dry cleaners |

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| Chemical Contaminants (continued) | | | | | | | | |
|--|-----|------|------------------------|---------------------|-------|-------------|------------------|---|
| Contaminant | MCL | MCLG | Highest Level Detected | Range of Detections | Units | Sample Date | Violation Yes/No | Sources of Contamination |
| Haloacetic Acids (HAAs) ^b | 60 | N/A | 17.6 ^a | 7.53 – 23.4 | ppb | 2022 | No | By-product of drinking water disinfection |
| Total Trihalomethanes (TTHMs) ^c | 80 | N/A | 35.7 ^a | 9.38 – 63.6 | ppb | 2022 | No | By-product of drinking water chlorination |
| Alpha Emitters | 15 | 0 | 4.71 | 2.93 – 4.71 | pCi/L | 2020 | No | Erosion of natural deposits |
| Combined Radium (Radium 226 and 228) | 5 | 0 | 1.81 | 0.49 – 1.81 | pCi/L | 2020 | No | Erosion of natural deposits |
| Uranium | 30 | 0 | 3.99 | 1.28 – 3.99 | µg/L | 2020 | No | Erosion of natural deposits |

^aCompliance is based on a running annual average of quarterly results. This value represents the highest running annual average result, not a single sample result.

^bHAAs = sum of - dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, and trichloroacetic acid

^cTTHMs = sum of - bromoform, bromodichloromethane, chlorodibromomethane, and chloroform

| Distribution Disinfectant Residual | | | | | | | | |
|------------------------------------|------|-------|--------------------------------|----------------------------------|-------|-------------|------------------|---|
| Contaminant | MRDL | MRDLG | Highest Monthly Average Result | Range of Monthly Average Results | Units | Sample Date | Violation Yes/No | Sources of Contamination |
| Chlorine | 4 | 4 | 1.23 | 1.03 - 1.23 | ppm | 2022 | No | Water additive used to control microbes |

As a member of the Partnership for Safe Water's Distribution System Optimization Program (DSOP), our goal is to achieve distribution chlorine residual levels ≥ 0.20 mg/L and ≤ 4.0 mg/L. In 2022, we accomplished this. 100% of all samples met this goal.

| Entry Point Disinfectant Residual | | | | | | | |
|-----------------------------------|--|-----------------------|---------------------|-------|-------------|------------------|---|
| Contaminant | Minimum Disinfectant Residual Required | Lowest Level Detected | Range of Detections | Units | Sample Date | Violation Yes/No | Sources of Contamination |
| Chlorine – NPWA Wells | 0.40 | 0.42 | 0.42 – 2.00 | ppm | 2022 | No | Water additive used to control microbes |
| Chlorine – FPWTP | 0.20 | 1.20 | 1.20 – 1.67 | ppm | 2022 | No | Water additive used to control microbes |

| Turbidity at Forest Park Water Treatment Plant (FPWTP) | | | | | | | |
|--|---|------|------------------------|---------------------|-------------|------------------|--------------------------|
| Contaminant | MCL | MCLG | Highest Level Detected | Range of Detections | Sample Date | Violation Yes/No | Sources of Contamination |
| Turbidity | TT=1 NTU for a single measurement | N/A | 0.05 | 0.03 – 0.05 | 2022 | No | Soil runoff |
| | TT= at least 95% of monthly samples less than or equal to 0.3 NTU | N/A | 100% | N/A | 2022 | No | |

Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system. As a member of the Partnership for Safe Drinking Water, our goal is to achieve <0.1 NTU. In 2022, we accomplished this. 100% of all samples were <0.1 NTU.

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Lead and Copper – Tested at Customers' Taps

| Contaminant | Action Level (AL) | MCLG | 90 th Percentile Value | Units | Number of Samples Above AL | Sample Date | Violation Yes/No | Sources of Contamination |
|-------------|--|------|-----------------------------------|-------|----------------------------|-----------------------|------------------|---|
| Lead | 90% of homes must test less than 15 ppb | 0 | 1.0 | ppb | 0 out of 31 | 6/1/2022 to 9/30/2022 | No | Corrosion of household plumbing systems |
| Copper | 90% of homes must test less than 1.3 ppm | 1.3 | 0.278 | ppm | 0 out of 31 | 6/1/2022 to 9/30/2022 | No | Corrosion of household plumbing systems |

Per- and polyfluoroalkyl Substances (PFAS)

PFAS chemicals are among a family of man-made compounds that have been used for decades as ingredients to make products resistant to heat, oil, stains, grease and water. PFAS chemicals can be found in industrial and consumer products such as clothing, carpeting, food packaging, non-stick cookware, firefighting foam, personal care products, adhesives, metal plating, wire manufacturing and many other uses. In 2022, these compounds were not included on either the US EPA's or PA DEP's Safe Drinking Water Act Primary or Secondary listing of contaminants. In January 2023, PA DEP set new drinking water standards for PFOA and PFOS, two contaminants that are part of the larger group of PFAS chemicals. The new regulations set a MCL of 14 ppt for PFOA and a MCL of 18 ppt for PFOS. In March 2023, the US EPA proposed the first national drinking water standard for PFOA and PFOS. The proposal would regulate PFOA and PFOS, at an MCL of 4.0 ppt. EPA anticipates finalizing the rule by the end of 2023. Water systems will then be required to meet the MCLs after a specified implementation time frame, which EPA has not yet determined. NPWA is being proactive to ensure that we meet any existing and future proposed regulations related to PFAS. Since 2016, PFAS monitoring has been conducted at the Forest Park Water Treatment Plant (FPWTP). The following tables include FPWTP monitoring results from 2022.

Per- and polyfluoroalkyl Substances (PFAS) at Forest Park Water Treatment Plant (FPWTP)

| Contaminant | Average Level Detected | Range of Detections | Units | Sample Date |
|-------------------------------------|------------------------------------|---------------------|-------|-------------|
| Perfluorooctanoic acid (PFOA) | 2.5 | 2.1 – 3.2 | ppt | 2022 |
| Perfluorooctanesulfonic acid (PFOS) | 0.5 (less than reporting limit) | 0 – 2.1 | ppt | 2022 |

Per- and polyfluoroalkyl Substances (PFAS) NOT DETECTED at Forest Park Water Treatment Plant (FPWTP)

Perfluorobutanesulfonic acid (PFBS)
Perfluoroheptanoic acid (PFHpA)
Perfluorohexanesulfonic acid (PFHxS)
Perfluorononanoic acid (PFNA)

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Below is a list of parameters which NPWA monitored for in 2022 but **DID NOT DETECT**:

Coliform Bacteria

E. Coli

Inorganic Chemicals (IOCs)

Antimony
Cadmium
Mercury
Nitrite
Selenium
Thallium

Synthetic Organic Chemicals (SOCs)

| | |
|----------------------------|-------------------|
| Atrazine | Pentachlorophenol |
| Di(2-ethylhexyl) adipate | Simazine |
| Di(2-ethylhexyl) phthalate | |

Volatile Organic Chemicals (VOCs)

| | |
|------------------------|----------------------------|
| 1,1,1-Trichloroethane | Chlorobenzene |
| 1,1,2-Trichloroethane | cis-1,2-Dichloroethylene |
| 1,1-Dichloroethylene | Dichloromethane |
| 1,2,4-Trichlorobenzene | Ethylbenzene |
| p-Dichlorobenzene | Styrene |
| 1,2-Dichloroethane | Toluene |
| 1,2-Dichloropropane | trans-1,2-Dichloroethylene |
| o-Dichlorobenzene | Trichloroethylene |
| Benzene | Vinyl Chloride |
| Carbon tetrachloride | Xylenes, total |

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Definitions:

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

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.

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.

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.

Minimum Residual Disinfectant Level (MinRDL) - The minimum level of residual disinfectant required at the entry point to the distribution system.

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

NTU - Nephelometric turbidity unit is a measure of the clarity of water.

N/A - Not Applicable

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

ppm = parts per million, or milligrams per liter (mg/L) – 1 ppm corresponds to 1 second in 11.5 days

ppb = parts per billion, or micrograms per liter (µg/L) – 1 ppb corresponds to 1 second in 32 years

ppt = parts per trillion, or nanograms per liter (ng/L) – 1 ppt corresponds to 1 second in 32,000 years

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. North Penn Water Authority 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 **1-800-426-4791** or go to US EPA's website at:

<http://www.epa.gov/safewater/lead>.

Information about Arsenic:

While your drinking water meets US EPA's standard for arsenic, it does contain low levels of arsenic. US EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. US 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.

Information about Nitrate:

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six 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.

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Cryptosporidium and Giardia:

Cryptosporidium and *Giardia* are microbial pathogens found in surface water throughout the United States. In 2022, Forest Park Water monitored the North Branch Neshaminy Creek source water (before treatment) for *Cryptosporidium* and *Giardia*. Four rounds of sampling were conducted. *Cryptosporidium* was detected in 2 out of 4 samples collected. *Giardia* was detected in 1 out of 4 samples collected. Although Forest Park Water treatment process includes filtration to remove *Cryptosporidium* and *Giardia*, the most commonly-used filtration methods cannot guarantee 100 percent removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause *cryptosporidiosis*, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at a greater risk of developing life-threatening illness. NPWA encourages immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

Sources of Water:

In 2022, approximately 95% of the water that NPWA delivered to its customers was treated surface water from the Forest Park Water Treatment Plant (FPWTP) located in Chalfont. The source of water that is treated at Forest Park Water 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 Lake Galena continues to flow down the Neshaminy Creek to the FPWTP, in Chalfont, Pennsylvania. Due to the high demand of water from Forest Park, water is pumped from the Delaware River at Point Pleasant and diverted into the North Branch Neshaminy Creek near Gardenville, Pennsylvania. This diversion controls the level of Lake Galena for recreational purposes, ensures a sufficient drinking water supply, and maintains base flow in the stream.

The remaining 5% of water came from 6 groundwater supply wells that NPWA operates. These wells are located throughout our service territory, in Bucks and Montgomery Counties. The water from these wells is chlorinated before it is delivered to our customers' homes.

A Source Water Assessment of the North Branch Neshaminy Creek Intake, which supplies water to the Forest Park Water Treatment 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 release of a variety of materials along transportation corridors and high nutrients from Lake Galena. FPWTP 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.

A Source Water Assessment of our groundwater sources was completed 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 our 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.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=4490>. Complete reports were distributed to municipalities, water suppliers, local planning agencies and PA DEP offices. Copies of the complete reports are available for review at the PA DEP Southeast Regional Office, Records Management Unit at (484)250-5910.