



300 Forty Foot Road • Lansdale, PA 19446  
Ph: 215-855-3617  
This report is also available online at  
[www.npwa.org](http://www.npwa.org)

NPWA water meets or exceeds all State and Federal Safe Drinking Water Act standards.

**2021**

# ANNUAL DRINKING WATER QUALITY REPORT

SELLERSVILLE

PWSID#1460034

This report is being mailed to you as a requirement of the Federal Safe Drinking Water Act.

*"A dedicated, professional workforce committed to providing the community with a safe, reliable, and economical water supply."*

## EDUCATIONAL INFORMATION

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 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, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the US EPA and PA DEP prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and PA 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 does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the United States Environmental Protection Agency's Safe Drinking Water Hotline at **1-800-426-4791**.



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### 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.

### CRYPTOSPORIDIUM AND GIARDIA

*Cryptosporidium* and *Giardia* are microbial pathogens found in surface water throughout the United States. In 2020, Forest Park Water monitored the North Branch Neshaminy Creek source water (before treatment) for *Cryptosporidium* and *Giardia*. *Cryptosporidium* was detected in 2 out of 4 samples collected. *Giardia* was detected in 3 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.

### FOREST PARK WATER

Forest Park is a state of the art water treatment facility that combines conventional treatment processes with advanced techniques, which include ozone disinfection and membrane filtration. Membrane filtration is a leading-edge technology capable of consistently producing very high quality water and ensures the plant can safely meet the more stringent federal and state water quality regulations that will be required in the near future. This combination of traditional and innovative water treatment allows Forest Park to produce the safest, highest quality water possible. In 2020, the American Water Works Association's Partnership for Safe Water Program awarded the Forest Park Water Treatment Plant (FPWTP) with the President's Award for the 8th straight year. The President's Award recognizes achieving very stringent individual filter performance turbidity goals, signifying the outstanding operations and maintenance practices at this high-performing water treatment plant. The FPWTP has been involved in the Partnership for Safe Water since 1995 and is a Directors Award recipient since 2002. In 2020, for the 13th consecutive year, Forest Park received the prestigious Area-Wide Optimization Award (AWOP) presented by the Pennsylvania Department of Environmental Protection (PA DEP). The award recognizes outstanding efforts toward optimizing water treatment performance. AWOP is a national optimization effort among 22 states, the US EPA, and the Association of State Drinking Water Administrators.



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Below is a list of parameters which NPWA monitored for in 2020 but DID NOT DETECT:

### Coliform Bacteria

E. Coli

### Inorganic Chemicals (IOCs)

Antimony	Cadmium	Cyanide	Nickel	Selenium
Beryllium	Chromium	Mercury	Nitrite	Thallium

### Synthetic Organic Chemicals (SOCs)

1,2-Dibromo-3-chloropropane	Di(2-ethylhexyl) phthalate	Hexachlorobenzene
2,4-D	Dinoseb	Hexachlorocyclopentadiene
2,4,5-TP [Silvex]	Dioxin [2,3,7,8-TCDD]	Lindane
Alachlor	Diquat	Methoxychlor
Atrazine	Endothall	Oxamyl [Vydate]
Benzo[a]pyrene	Endrin	Pentachlorophenol
Carbofuran	Ethylene dibromide	Picloram
Chlordane	Glyphosphate	PCBs [Polychlorinated biphenyls]
Dalapon	Heptachlor	Simazine
Di(2-ethylhexyl) adipate	Heptachlor epoxide	Toxaphene

### Volatile Organic Chemicals (VOCs)

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

## HOW NPWA IS PROTECTING THE WATER YOU DRINK

Lead in drinking water typically comes from the corrosion of drinking water service lines and household plumbing materials. Lead is typically not present in drinking water sources like rivers and groundwater. NPWA and FPWTP add orthophosphate to the water during the treatment process. Orthophosphate acts as a corrosion inhibitor by forming a protective film on the interior of pipes. This film protects the pipe material from the corrosive effects of water, which reduces/eliminates the potential for lead leaching into the water. The typical phosphate levels found in a liter of drinking water are about one hundred times lower than the phosphate levels found in the average American diet. For example, a person would have to drink ten to fifteen liters of water to equal the amount of phosphates in just one can of soda. People concerned about their health and phosphates added as a corrosion inhibitor to the drinking water, should contact their medical care provider.

To enhance water quality, NPWA performs an annual hydrant flushing program which takes place in the spring of each year. This flushing program helps improve water quality by removing any possible build-up of mineral deposits from the inside of water distribution pipes. NPWA also has an aggressive water main replacement program to improve the quality of water that we deliver to our customers. Old unlined cast iron mains, that can affect water quality and restrict flow, are replaced on a regular basis.

These projects are scheduled when the Pennsylvania Department of Transportation (Penn DOT) or our member municipalities are doing work on the roads to reduce inconvenience to the community.

In 2017, NPWA received the Directors Award for its efforts with the Partnership for Safe Water's Distribution System Optimization Program (DSOP). NPWA became the first public water utility in Pennsylvania to join the DSOP and among the first in North America to receive this prestigious honor for successfully completing a comprehensive self-assessment of water distribution system operations. The assessment involves an evaluation of distribution system operations and performance, including factors such as chlorine residuals, pressure levels and frequency of water main breaks. The final report is reviewed by water resource professionals from across the United States. This award acknowledges the Authority's commitment to excellence in distribution system operations in providing high quality safe drinking water to the customer's tap above and beyond regulatory standards.



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**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.*

**Owners of multiple family dwellings, commercial businesses, public housing, or similar situations, are encouraged to post and/or distribute this report. Additional copies are available and can be obtained at North Penn Water Authority's operations center or by calling (215) 855-3617.**

**This report is also available online at [www.npwa.org](http://www.npwa.org).**

**NPWA water meets or exceeds all State and Federal Safe Drinking Water Act standards.**

### Water System Information

North Penn Water Authority (NPWA) is pleased to present to you this year's Annual Drinking Water Quality Report. This report summarizes the quality of water NPWA provided in 2020. Included are details about where your water comes from, what it contains, and how it compares to United States Environmental Protection Agency (US EPA) and Pennsylvania Department of Environmental Protection (PA DEP) state standards. We are committed to providing you with information because informed customers are our best allies. The Authority's staff of professionals is dedicated to ensuring that our customers receive a safe, economical, and continuous supply of water.

It is important for our valued customers to be informed about their water quality. If you have any questions about this report or regarding your water utility, please contact Lindsay Hughes, Community Relations Coordinator, at **(215) 855-3617** or visit our website at **[www.npwa.org](http://www.npwa.org)**. If you want to learn more about NPWA, please attend any of our regularly scheduled Board of Directors meetings. Meetings are held on **the fourth Tuesday of every month at the Authority's operations center located at 300 Forty Foot Road, near the intersection of Forty Foot and Allentown Roads in Towamencin Township. Meetings begin at 7:30 p.m.**

### Sources of Water

In 2020, the sources of water that NPWA delivered to its customers in Sellersville Borough came from Well 6, the well located in West Rockhill Township and treated surface water from the Forest Park Water Treatment Plant (FPWTP) located in Chalfont. As the water leaves FPWTP and travels through the distribution system, a small percentage of groundwater from wells located within Hiltown Township and Telford Borough at times can also contribute to the source of water that serves Sellersville. Water from all groundwater supplies is chlorinated before it is delivered to our customers' homes.

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.

## PEOPLE WITH SPECIAL HEALTH CONCERNS

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. United States Environmental Protection Agency (US EPA) / Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the **Safe Drinking Water Hotline at 1-800-426-4791**.

## MONITORING YOUR WATER

NPWA routinely monitors for contaminants in your drinking water according to federal and state laws. The following tables show the results of our monitoring for the period of **January 1 to December 31, 2020**. As you review these tables, you will notice that NPWA water meets or exceeds all primary state and federal Drinking Water

Act standards. The US EPA and PA DEP allow 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 results table.

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### SOURCE WATER ASSESSMENT

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 Sellersville’s groundwater source was completed by the PA DEP. The area around the well is primarily forested and agricultural/undeveloped land with moderate development. The Assessment found that the well was most susceptible to contamination from transportation corridors, agricultural activities, and abandoned landfills. Potential pollutants used or found in residential areas, auto repair shops, cemeteries, and an electroplater also pose a high threat to the well.

Telford Borough Authority operates 5 groundwater supply wells. These wells are located throughout their service territory in Bucks and Montgomery Counties. A Source Water Assessment of Telford’s groundwater sources was completed in 2005 by the PA DEP. The area around two of the wells is primarily developed land. The area around three of the wells is predominantly forested with some agricultural or undeveloped land. The Assessment found that all of Telford’s wells were found to have a high sensitivity rating because they have all had volatile organic compounds (VOCs) detected in water samples. The wells were determined to be most susceptible to contamination from transportation corridors. Potential pollutants used in residential areas, at auto repair shops, a cemetery, and a bus/truck terminal also pose a high threat to these wells.

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.

Hilltown Township Water and Sewer Authority (HTWSA) operates 3 groundwater supply wells. 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 for HTWSA is available for viewing at their office located at 316 Highland Park Road, Hilltown Township.

#### North Penn Water Authority serves more than 35,000 customers in the following municipalities:

- |                        |                         |
|------------------------|-------------------------|
| Hatfield Borough       | <i>and portions of:</i> |
| Lansdale Borough       | Hilltown Township       |
| Sellersville Borough   | Montgomery Township     |
| Souderton Borough      | New Britain Borough     |
| Franconia Township     | New Britain Township    |
| Hatfield Township      | Salford Township        |
| Lower Salford Township | Upper Gwynedd Township  |
| Skippack Township      | Upper Salford Township  |
| Towamencin Township    | West Rockhill Township  |
|                        | Worcester Township      |

# DETECTED SAMPLE RESULTS

North Penn Water Authority – Sellersville – PWSID # 1460034

Table includes results for Forest Park Water Treatment Plant (FPWTP), Sellersville Well 6, Hilltown Township Wells (H) and Telford Borough Wells (T)

## CHEMICAL CONTAMINANTS

Contaminant	MCL	MCLG	Highest Level Detected	Range of Detections	Units	Sample Date	Violation Yes/No	Sources of Contamination
Bromate	10	0	2.2	1.5 – 2.2	ppb	2020	No	By-product of drinking water chlorination
Arsenic	10	0	3.3 4.9 (H) 7.0 (T)	0 – 3.3 0 – 4.9 (H) 3.0 – 7.0 (T)	ppb	2018 & 2020	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium	2	2	0.081 0.20 (H) 0.328 (T)	0.019 – 0.081 0.05 – 0.20 (H) 0.068 – 0.328 (T)	ppm	2018 & 2020	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium	100	100	3.1 (H) 2.0 (T)	0 – 3.1 (H) 1.0 – 2.0 (T)	ppb	2018	No	Discharge from steel and pulp mills; Erosion of natural deposits
Cyanide	200	200	8 (H)	0 – 8 (H)	ppb	2018	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride	2	2	0.101 0.139(T)	0 – 0.101 0 – 0.139 (T)	ppm	2018 & 2020	No	Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Nitrate	10	10	0.818 1.67 (H) 3.14 (T)	0.158 – 0.818 0.66 – 1.67 (H) 0.98 – 3.14 (T)	ppm	2020	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
cis-1,2-Dichloroethylene	70	70	3.40	0 – 3.40	ppb	2020	No	Discharge from industrial chemical factories
Tetrachloroethylene	5	0	0.584	0 – 0.584	ppb	2020	No	Discharge from factories and dry cleaners
Trichloroethylene	5	0	0.785	0 – 0.785	ppb	2020	No	Discharge from metal degreasing sites and other factories
Ethylbenzene	700	700	0.702 (T)	0 – 0.702 (T)	ppb	2020	No	Discharge from petroleum refineries
Xylenes	10	10	0.00455 (T)	0 – 0.00455 (T)	ppm	2020	No	Discharge from petroleum factories; Discharge from chemical factories
Alpha Emitters	15	0	1.05 7.71 (H) 9.66 (T)	1.05 5.01 – 7.71 (H) 5.96 – 9.66 (T)	pCi/L	2016, 2017, 2018, & 2020	No	Erosion of natural deposits
Combined Radium	5	0	0.491 0.4 (T)	0.491 0.4 (T)	pCi/L	2016 & 2017	No	Erosion of natural deposits
Uranium	30	0	1.17 10.9 (H) 8.40 (T)	1.17 7.85 – 10.9 (H) 4.31 – 8.40 (T)	µg/L	2017, 2018, 2019, & 2020	No	Erosion of natural deposits
Haloacetic Acids (HAAs) <sup>b</sup>	60	N/A	9.72 <sup>a</sup>	3.04 – 44.5	ppb	2020	No	By-product of drinking water disinfection
Total Trihalomethanes (TTHMs) <sup>c</sup>	80	N/A	30.0 <sup>a</sup>	10.1 – 58.5	ppb	2020	No	By-product of drinking water chlorination

<sup>a</sup> Compliance is based on a running annual average of quarterly results. This value represents the highest running annual average result, not a single sample result.

<sup>b</sup> HAAs = sum of - dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, and trichloroacetic acid

<sup>c</sup> TTHMs = sum of - bromoform, bromodichloromethane, chlorodibromomethane, and chloroform

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# DETECTED SAMPLE RESULTS (CONTINUED)

North Penn Water Authority – Sellersville – PWSID # 1460034

Table includes results for Forest Park Water Treatment Plant (FPWTP), Sellersville Well 6, Hilltown Township Wells (H) and Telford Borough Wells (T)

## 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	1.09	0.99 - 1.09	ppm	2020	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  $\geq 0.20$  mg/L and  $\leq 4.0$  mg/L. In 2020, 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 – Wells	0.40	0.31* 0.45 (H) 0.54 (T)	0.31 – 1.34 0.45 – 2.02 (H) 0.54 – 1.12 (T)	ppm	2020	No	Water additive used to control microbes
Chlorine – FPWTP	0.20	1.08	1.08 – 1.73	ppm	2020	No	Water additive used to control microbes

\*Chlorine levels did not drop below the minimum residual level required for more than 4 hours.

## 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	0.06	0.02 – 0.06	2020	No	Soil runoff
	TT= at least 95% of monthly samples less than or equal to 0.3 NTU	N/A	100%	N/A	2020	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 2020, we accomplished this. 100% of all samples were  $<0.1$  NTU.

## LEAD AND COPPER – Tested at Customers' Taps

Contaminant	Action Level (AL)	MCLG	90th 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	1.9	ppb	0 out of 31	2019	No	Corrosion of household plumbing systems
Copper	90% of homes must test less than 1.3 ppm	1.3	0.356	ppm	0 out of 31	2019	No	Corrosion of household plumbing systems

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# DETECTED SAMPLE RESULTS (CONTINUED)

North Penn Water Authority – Sellersville – PWSID # 1460034

Table includes results for Forest Park Water Treatment Plant (FPWTP), Sellersville Well 6, Hilltown Township Wells (H) and Telford Borough Wells (T)

## UNREGULATED CONTAMINANT MONITORING:

Unregulated contaminants are those, for which the United States Environmental Protection Agency (US EPA) has not 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. From October 2019 to July 2020, Unregulated Contaminant Monitoring Rule 4 (UCMR 4) sampling was conducted at the Forest Park Water Treatment Plant (FPWTP), NPWA wells and distribution system. **For more information concerning Unregulated Contaminant Monitoring, visit these websites: <https://www.epa.gov/dwucmr> or <https://drinktap.org/Water-Info/Whats-in-My-Water/Unregulated-Contaminant-Monitoring-Rule-UCMR>**

### UCMR 4 – Entry Point Samples – Sellersville Well 6 and Forest Park Water Treatment Plant (FPWTP)

Contaminant	Average Level Detected	Range of Detections	Units	Sample Date	Sources of Contamination
Manganese	13.8	4.62 – 24.9	ppb	2019 – 2020	Naturally-occurring element; commercially available in combination with other elements and minerals; used in steel production, fertilizer, batteries and fireworks; drinking water and wastewater treatment chemical; essential nutrient

#### \*Manganese has a lifetime health advisory (HA) level of 300 ppb

Manganese is a naturally occurring mineral found in rocks, soil, groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but can have undesirable effects on certain sensitive populations at elevated concentrations. The US EPA and PA DEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 µg/L (micrograms per liter), or 50 parts per billion (ppb). Secondary standards are non-mandatory guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color and odor. These contaminants are not considered to present a risk to human health. The US EPA has established a lifetime health advisory (HA) level of 300 ppb for manganese.

### UCMR 4 – Distribution Samples

Contaminant	Average Level Detected	Range of Detections	Units	Sample Date	Sources of Contamination
HAA6Br <sup>a</sup>	5.73	3.26 – 10.2	ppb	2019 – 2020	By-product of drinking water disinfection
HAA9 <sup>b</sup>	17.0	9.92 – 27.9	ppb	2019 – 2020	By-product of drinking water disinfection

<sup>a</sup> HAA6Br = sum of - bromochloroacetic acid, bromodichloroacetic acid, dibromoacetic acid, chlorodibromoacetic acid, monobromoacetic acid, and tribromoacetic acid

<sup>b</sup> HAA9 = sum of - bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, tribromoacetic acid, and trichloroacetic acid

### Unregulated Contaminants NOT DETECTED

Pesticides	Ethoprop	Total Permethrin (cis-, trans-)	Alcohols	Semivolatiles	Cyanotoxins
α-Hexachlorocyclohexane	Oxyfluorfen	Tribufos	1-Butanol	Butylated Hydroxyanisole	Anatoxin-a
Chlorpyrifos	Profenofos	Metals	2-Methoxyethanol	o-Toluidine	Cylindrospermopsin
Dimethipin	Tebuconazole	Germanium	2-Propen-1-ol	Quinoline	Total Microcystins

## PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

There are some contaminants for which the US EPA develops health advisories (HA), but has not yet established regulatory limits for compliance by public water suppliers. The health advisories provide technical information on health effects. Perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) are included in those contaminants that have no regulatory limit but are associated with a health advisory. Currently, PFOA and PFOS have a combined health advisory level of 70 ppt. These chemicals are among a family of manmade chemicals that have been used for decades as ingredients to make products that resist heat, oil, stains, grease and water, and are used in foam products for firefighting. Due to recent health concerns in the region, Forest Park Water Treatment Plant voluntarily elected to monitor water at the plant for PFAS.

### PFAS at Forest Park Water Treatment Plant (FPWTP)

Contaminant	Average Level Detected	Range of Detections	Units	Sample Date
Perfluorooctanoic acid (PFOA)	0.9 (less than reporting limit of 2.0)	0 – 2.4	ppt	2020
Perfluorooctanesulfonic acid (PFOS)	Not detected (all samples less than reporting limit of 2.0)	N/A	ppt	2020
PFOA + PFOS*	0.9 (less than reporting limit of 2.0)	0 – 2.4	ppt	2020

#### \*PFOA + PFOS have a combined health advisory (HA) level of 70 ppt

### Per- and polyfluoroalkyl Substances (PFAS) NOT DETECTED at Forest Park Water

Perfluorobutanesulfonic acid (PFBS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonic acid (PFOS)
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# DEFINITIONS

In the following tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, we've provided the following 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 ( $\mu\text{g}/\text{L}$ ) – 1 ppb corresponds to 1 second in 32 years
- ppt: parts per trillion, or nanograms per liter ( $\text{ng}/\text{L}$ ) – 1 ppt corresponds to 1 second in 32,000 years