

300 Forty Foot Road • Lansdale, PA 19446 Ph: 215-855-3617 This report is also available online at npwa.org NPWA water meets or exceeds all State and Federal Safe Drinking Water Act standards.

ANNUAL DRINKING WATER QUALITY REPORT

This report is being mailed to you as a requirement of the Federal Safe Drinking Water Act. PWSID#1460034

"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.

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.

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.

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 2022, the American Water Works Association's Partnership for Safe Water Program awarded the Forest Park Water Treatment Plant (FPWTP) with the highly prestigious 20-year Directors Award and the 10-year Presidents Award. The Presidents Award recognizes the achievement of very stringent performance goals over a 10-year period, signifying the outstanding operations and maintenance practices at this high performing water treatment plant.

In 2022, for the 15th 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 filter plant optimization effort among numerous states, the US EPA, and the Association of State Drinking Water Administrators (ASDWA).

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

Coliform Bacte	eria							
E. Coli								
Inorganic Cher	nicals (IOCs)							
Antimony	Cadmium	Mercury	Nitrite	Selenium	Thallium			
Synthetic Orga	anic Chemicals (SOC	s)						
Atrazine		Di(2-	ethylhexyl) phthala	ite	Simazine			
Di(2-ethylhexy	l) adipate	Pento	Pentachlorophenol					
Volatile Organ	ic Chemicals (VOCs)						
1,1,1-Trichlord	pethane		Chlorobe	enzene				
1,1,2-Trichlord	pethane		cis-1,2-Di	ichloroethylene				
1,1-Dichloroethylene			Dichloromethane					
1,2,4-Trichlorobenzene			Ethylbenzene					
p-Dichlorobenzene			Styrene					
1,2-Dichloroethane			Toluene					
1,2-Dichloropr	opane		trans-1,2-	Dichloroethylene				
o-Dichloroben			Trichloroe	,				
Benzene			Vinyl Chl	oride				
Carbon tetrack	nloride		Xylenes, t	total				

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.

NPWA's Wellhead Protection (WHP) Program, approved by the PA DEP, meets the requirements for a local WHP Program in accordance with the Pennsylvania Safe Drinking Water Regulations.

The WHP Program provides valuable information to the Authority such as: identifying the protection zone around each well, identifying potential sources of contamination for each well, identifying the land areas around our wells, and the underground geologic layers, that are within the pumping zones of influence. This information will greatly assist the Authority in dealing with emergency response in case of a hazardous spill event that could threaten the well, so that remedial measures could be put in place. Also, implementation of contingency planning could involve revisions to local land use practices, if necessary, to protect the integrity of the groundwater supply.

Since 2011, NPWA has voluntarily participated in the American Water Works Association's (AWWA) Distribution System Optimization Program (DSOP). This program is part of AWWA's Partnership for Safe Water whose objective is to implement preventative programs that focus on optimizing treatment performance and distribution system operations. In 2022, NPWA was honored with the 5-year Directors Award for its efforts with the DSOP. NPWA received the award for successfully completing a comprehensive self-assessment of water distribution system operations and performance, including factors such as chlorine residuals, pressure levels and frequency of water main breaks, which on average, are much lower than the national average and the DSOP requirements. NPWA became the first public water utility in Pennsylvania and among the first in North America to receive the Directors Award for drinking water and is proud to provide our customers with reliable, high quality water 24 hours a day, seven days a week.



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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 vour drinkina water. Have someone translate it for vou, 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 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 2022. 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 Shana Constanzer, Public Relations Coordinator, at **(215) 855-3617** or visit our website at **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 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.

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, 2022**. 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 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.

North Penn Water Authority serves over 35,000 customers in the following municipalities:

Hatfield Borough Lansdale Borough Sellersville Borough Souderton Borough Franconia Township Hatfield Township Lower Salford Township Skippack Township Towamencin Township

- and portions of: Hilltown Township Montgomery Township New Britain Borough New Britain Township
- Salford Township Upper Gwynedd Township Upper Salford Township West Rockhill Township Worcester Township

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 (μ g/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

DETECTED SAMPLE RESULTS

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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 & 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 & 2022	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
Chromium	100	100	1	0 – 1	ppb	2021 & 2022	No	Discharge from steel and pulp mills; Erosion of natural deposits	
Cyanide	200	200	7	0 – 7	ppb	2021 & 2022	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories	
Fluoride	2	2	0.151	0 - 0.151	ppm	2021 & 2022	No	Erosion of natural deposits; Discharge from fertilizer and aluminum factories	
Nickel	N/A	N/A	1	0 – 1	ppb	2021 & 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	
Haloacetic Acids (HAAs) ^b	60	N/A	17.6°	7.53 – 23.4	ppb	2022	No	By-product of drinking water disinfection	
Total Trihalomethanes (TTHMs) ^c	80	N/A	35.7°	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	

^a 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. ^b HAAs = sum of - dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, and trichloroacetic acid ^c TTHMs = sum of - bromoform, bromodichloromethane, chlorodibromomethane, and chloroform

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DETECTED SAMPLE RESULTS (CONTINUED)

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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 \geq 0.20 mg/L and \leq 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	Contaminant MCL		Highest Level Detected	Range of Detections	Sample Date	Violation Yes/No	Sources of Contamination
	TT=1 NTU for a single measurement	N/A	0.05	0.03 – 0.05	2022 No		
Turbidity	TT= at least 95% of monthly samples less than or equal to 0.3 NTU	N/A	100%	N/A	2022	No	Soil runoff

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.

LEAD AND COPPER – Tested at Customers' Taps **90th Percentile** # of Samples Violation Contaminant Action Level (AL) MCLG Units Sample Date Sources of Contamination Value Above AL Yes/No 6/1/22 to 9/30/22 90% of homes must Corrosion of household 0 out 0 Lead 1.0 ppb No test less than 15 ppb of 31 plumbing systems 6/1/22 to 9/30/22 90% of homes must 0 out Corrosion of household 1.3 0.278 No Copper ppm test less than 1.3 ppm of 31 plumbing systems

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DETECTED SAMPLE RESULTS (CONTINUED)

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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)	1	exanesulfonic acid Pe (PFHxS)	erfluorononanoic a (PFNA)	cid					