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

2019



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, 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 U.S. Environmental Protection Agency's Safe Drinking Water Hotline at **1-800-426-4791**.

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. 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: <https://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 2017, Forest Park Water monitored the North Branch Neshaminy Creek source water (before treatment) for Cryptosporidium and Giardia. Cryptosporidium was detected in 3 out of 9 samples collected. Giardia was detected in 5 out of 9 samples collected. Although Forest Park Water treatment process includes filtration to remove Cryptosporidium, 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.

Below is a list of parameters which NPWA monitored for in 2018 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)

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

Volatile Organic Chemicals (VOCs)

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

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.

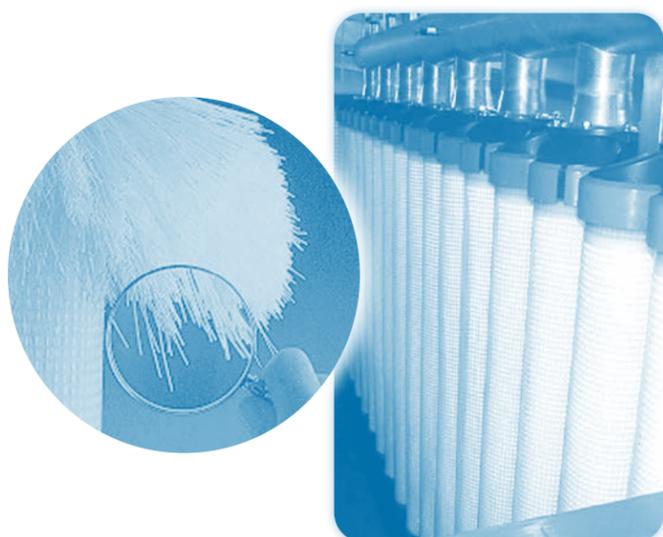


NORTH PENN WATER AUTHORITY
2019 ANNUAL DRINKING WATER QUALITY REPORT

North Penn Water Authority – PWSID # 1460034

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 2018, 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 6th 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. FPWTP is one of only six facilities in the United States to achieve the "President's Award" of recognition from the American Water Works Association's Partnership for Safe Water six years in a row. The FPWTP has been involved in the Partnership for Safe Water since 1995 and is a Directors Award recipient since 2002. Also in 2018, for the 10th straight 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.





NORTH PENN WATER AUTHORITY

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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.

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

Water System Information

safe

quality

tested

economical

North Penn Water Authority (NPWA) is pleased to present to you this year's Annual Drinking Water Quality Report. This brochure is a snapshot of last year's water quality. 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**. 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 2018, approximately 88% 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 Forest Park Water Treatment Plant, 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 12% of water came from 13 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.



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. The Forest Park Water Treatment Plant has the capability to treat a wide array of contaminants and minimize any negative impacts from such sources. Regular and frequent monitoring of the water supply allows us to identify any concerns and remediate any problems in a timely manner. Contingency plans and emergency response plans are in place to deal with



any release of contaminants or accidental occurrences that could compromise the integrity of your drinking water quality.

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.elibrary.dep.state.pa.us/dsweb/View/Collection-10045>**. 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 34,000 customers in the following municipalities:

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

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, 2018**. 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 results table.

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)
- **ppb:** parts per billion, or micrograms per liter (µg/L)
- **ppt:** parts per trillion, or nanograms per liter (ng/L)

DETECTED SAMPLE RESULTS

North Penn Water Authority – 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	3.3	2.2 – 3.3	ppb	2018	No	By-product of drinking water disinfection
Chlorine (In distribution system)	MRDL=4	MRDLG=4	0.99*	0.16 – 1.77	ppm	2018	No	Water additive used to control microbes
Arsenic	10	0	5.6	0 – 5.6	ppb	2018	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium	2	2	0.51	0.023 – 0.51	ppm	2018	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	2	2	0.106	0 – 0.106	ppm	2018	No	Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Nitrate	10	10	4.52	0.359 – 4.52	ppm	2018	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Tetrachloroethylene	5	0	0.666	0 – 0.666	ppb	2018	No	Discharge from factories and dry cleaners
Haloacetic Acids (HAAs)	60	N/A	12.3**	0 – 24.0	ppb	2018	No	By-product of drinking water disinfection
Total Trihalomethanes (TTHMs)	80	N/A	31.7**	5.92 – 72.1	ppb	2018	No	By-product of drinking water chlorination
Alpha Emitters	15	0	5.68	0 – 5.68	pCi/L	2014 and 2017	No	Erosion of natural deposits
Combined Radium	5	0	1.18	0 – 1.18	pCi/L	2014 and 2017	No	Erosion of natural deposits
Uranium	30	0	5.50	0 – 5.50	µg/L	2014 and 2017	No	Erosion of natural deposits

*Represents highest monthly average **Since compliance is based on a running annual average, this value represents the highest running annual average result

ENTRY POINT DISINFECTANT RESIDUAL

Contaminant	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Yes/No	Sources of Contamination
Chlorine – Wells	0.4	0*	0 – 2.00	ppm	2018	No	Water additive used to control microbes
Chlorine – FPW Treatment Plant	0.2	1.09	1.09 – 1.77	ppm	2018	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

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	0.08	0.03 – 0.08	2018	No	Soil runoff
	TT= at least 95% of monthly samples less than or equal to 0.3 NTU	N/A	100%	N/A	2018	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 2018, 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	# of Sites Above AL of Total Sites	Sample Date	Violation Yes/No	Sources of Contamination
Lead	90% of homes must test less than 15 ppb	0	2.0	ppb	2 out of 34	2017	No	Corrosion of household plumbing systems
Copper	90% of homes must test less than 1.3 ppm	1.3	0.698	ppm	0 out of 34	2017	No	Corrosion of household plumbing systems

Unregulated Contaminant Monitoring:

Unregulated contaminants are those that don't have a drinking water standard set by US EPA. The purpose of the monitoring for these contaminants is to help US EPA decide whether the contaminants should have a standard. In 2018, Unregulated Contaminant Monitoring Rule 4 (UCMR 4) began at the Forest Park Water Treatment Plant (FPWTP). Monitoring of NPWA wells and distribution system will begin in July 2019 and will continue through April 2020. The results for FPWTP that NPWA has received as of March 2019 are presented below. If you would like to obtain copies of the results received after March 2019 but prior to the mailing of our 2020 Annual Water Quality Report, please contact Lindsay Hughes, Community Relations Coordinator, at (215) 855-3617. 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 AT FOREST PARK WATER TREATMENT PLANT

Contaminant	Average Level Detected	Range of Detections	Units	Sample Date	Sources of Contamination
Manganese	5.79	4.61 – 7.40	ppb	2018	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) of 300 ppb

Unregulated Contaminants NOT DETECTED at Forest Park Water

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

Perfluorinated Compounds (PFCs):

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 regarding PFOA and PFOS (PFCs), NPWA voluntarily elected to test for PFCs at the Forest Park Water Treatment Plant and at our wells.

PFOA/PFOS AT FOREST PARK WATER TREATMENT PLANT

Contaminant	Average Level Detected	Range of Detections	Units	Sample Date
Perfluorooctanoic acid (PFOA)	4.0	3.0 – 4.5	ppt	2018
Perfluorooctanesulfonic acid (PFOS)	1.5 (less than reporting limit of 2.0)	0 – 2.3	ppt	2018
PFOA + PFOS*	5.4	3.0 – 6.8	ppt	2018

*PFOA + PFOS have a combined HA (Health Advisory) of 70 ppt

PFOA/PFOS AT NPWA WELLS

Contaminant	Average Level Detected	Range of Detections	Units	Sample Date
Perfluorooctanoic acid (PFOA)	9.4	4.9 – 14	ppt	2018
Perfluorooctanesulfonic acid (PFOS)	9.9	3.4 – 19	ppt	2018
PFOA + PFOS*	19.4	8.3 – 33	ppt	2018

*PFOA + PFOS have a combined HA (Health Advisory) of 70 ppt