NWWA
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2002 Water Quality Report

Definitions

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:

Non-Detects (ND) – laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) – one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter – one part per billion corresponds to one minute in 2,000 years or a single penny in $10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) – one part per trillion corresponds to one minute in 2,000,000 years or a single penny in $10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l) – one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.

Picocuries per liter (pCi/L) – picocuries per liter is a measure of the radioactivity in water.

Million Fibers per Liter (MFL) – million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (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.

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

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

Maximum Contaminant Level (MCL) – The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs (see below) as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – The "Goal" (MCLG) is 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.

At the North Wales Water Authority, we take great pride in delivering high quality drinking water to our 26,000 plus customers. Our staff of dedicated employees works to bring you the finest drinking water available by producing water that meets or significantly exceeds all current standards. Please read on to see how we are able to deliver you water of outstanding quality.

Your water source

Forest Park Water, which is jointly owned by North Wales and North Penn Water Authorities, consists of a 96 million gallon per day raw water pumping station on the Delaware River at Point Pleasant and transmission mains which discharge the Delaware River water into the North Branch of the Neshaminy Creek. Once discharged, the water flows down the Neshaminy Creek through Lake Galena. The water released from Lake Galena flows two miles downstream to the Forest Park Water Treatment Plant located in Chalfont, Pennsylvania. From the treatment plant, the North Wales and North Penn Water Authorities individually take their share of the supply for distribution within their respective service areas.Currently, 85% of our water comes from the Delaware River and 15% comes from groundwater sources.

Your water quality

Since the Authority operates its own distribution system, as well as being a part owner of the Forest Park Water facilities, sampling under the SDWA (Safe Drinking Water Act) is conducted independently by both utilities in accordance with appropriate requirements. This ensures that the Authority takes all distribution samples for which it is responsible and Forest Park Water takes all samples related to a surface water treatment facility. To some extent, this arrangement results in duplication of testing but ensures an added measure of quality control. The Forest Park Water Treatment Plant utilizes ozone as both a pre-treatment and post-treatment oxidant to replace chlorine in the process. Forest Park Water is one of only a handful of ozone plants currently in operation in the United States. In addition to the use of ozone and the normal treatment train of flocculation, sedimentation and filtration, Forest Park Water was constructed with granular activated carbon (GAC) contactors after the filtration train. These contactors, in combination with the use of ozone, are designed to be biologically active. This extra "polishing step" in the process ensures that any remaining organics or taste and odor compounds are removed before the water leaves the treatment plant. As a result of this process, organic contaminants that may find their way into the raw water source are effectively dealt with automatically in the process.

This treatment process ensures that customers of the NWWA are receiving the finest quality drinking water available today from any surface water treatment plant in the United States.

2002 Water Quality Report

NWWA

Monitoring our water

The North Wales Water Authority routinely monitors for constituents in your drinking water in accordance with Federal and State laws. The North Wales Water Authority tables show the results of our monitoring for the period of January 1st to December 31st, 2002. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk. Every year the Water Authority receives a new set of monitoring requirements from the Pennsylvania Department of Environmental Protection (DEP) based on our previous results. Individual and groups of contaminants may be required to be monitored weekly, monthly, quarterly, annually, etc. Currently, the Authority monitors for ninety-three (93) contaminants at nine entry points and throughout the distribution system. We constantly monitor the water supply for various constituents. Our 2002 monitoring detected crypotosporidium in our raw water once during the year.

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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline: **1-800-426-4791** or visit the EPA Web site: **www.epa.gov/safewater/dwhealth.**

Board meetings are held at 7:00 p.m. on the first and third Wednesday of each month.

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo o hable con agulen que lo entienda bien.

North Wales Water Authority
Pure water, quality service. . .naturally

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Volatile organic contaminants

Benzene (ppb), Carbon tetrachloride (ppb), Chlorobenzene (ppb), o-Dichlorobenzene (ppb), p-Dichlorobenzene (ppb), 1,2 - Dichloroethane (ppb), 1,1 - Dichloroethylene (ppb), cis-1,2-Dichloroethylene (ppb),trans-1,2-Dichloroethylene (ppb), Dichloromethane (ppb), 1,2-Dichloropropane (ppb), Ethylbenzene (ppb), Methyl tertiary butyl ether (MTBE*) (ppb), Styrene (ppb), Tetrachloroethylene (ppb), 1,2,4-Trichlorobenzene (ppb),1,1,1 - Trichloroethane (ppb), 1,1,2 -Trichloroethane (ppb), Trichloroethylene (ppb), Toluene (ppm), Vinyl Chloride (ppb) and Xylenes (ppm) were monitored but not detected.

Data presented in the above table is from the most recent testing performed in accordance with the regulations of the Pennsylvania Department of Environmental Protection. VOC monitoring was last performed 4/02.

*MTBE is a non-regulated contaminant monitored by the Authority

Inorganic contaminants

Contaminant (Unit of Measurement)	Violation Yes/No	NWWA Level Detected	Range	MCLG	MCL
Copper* (ppm) 9/01	No	0.6	0-0.8	1.3	AL=1.3
Lead* (ppb) 9/01	No	3	0-3	0	AL=15
Nitrate (as Nitrogen) (ppm) 4/02	No	1.87	0-3.6	10	10

Antimony (ppb), Arsenic (ppb), Asbestos (MFL), Barium (ppm), Beryllium (ppb), Cadmium (ppb), Chromium (ppb), Cyanide (ppb), Fluoride (ppm), Mercury (inorganic) (ppb), Nickel (ppb), Nitrite (as Nitrogen) (ppm), Selenium (ppb) and Thallium (ppb) were monitored but not detected.

Data presented in the above table is from the most recent testing performed in accordance with the regulations of the Pennsylvania Department of Environmental Protection. IOC monitoring was last performed 4/00.

Likely Source of Contamination: Copper: corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives; Lead: corrosion of household plumbing, erosion of natural deposits; Nitrate (as Nitrogen): runoff from fertilizer use, leaching from septic tanks, erosion of natural deposits.

*Naturally occurring levels of lead and copper in the source water are non-detectable. This table represents the level detected in the 90th percentile of homes monitored in accordance with the US-EPA Lead and Copper Rule. None of the homes monitored for these contaminants exceeded the Action Level.

Radioactive contaminants

Contaminant (Unit of Measurement)	Violation Yes/No	NWWA Level Detected	Range	MCLG	MCL
Alpha Emitters (pCi/l) 6/00	No	< .8	N/A	0	15
Combined Radium (pCi/l) 7/96	No	< 1	N/A	0	5

Data presented in the above table is from the most recent testing performed in accordance with the regulations of the Pennsylvania Department of Environmental Protection.

Likely Source of Contamination: Alpha Emitters and Combined Radium: erosion of natural deposits

Microbiological contaminants

Contaminant (Unit of Measurement)	Violation Yes/No	NWWA Level Detected	Range	MCLG	MCL
Total Coliform Bacteria	No	0	N/A	0	presence of coliform bacteria in 5% of monthly samples
Fecal Coliform and E. coli Bacteria	No	0	N/A	0	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive
Turbidity (NTU)	No	0.05	0.04 - 0.08	N/A	TT

Data presented in the above table is from calendar year 2002 monitoring performed in accordance with the regulations of the Pennsylvania Department of Environmental Protection. Coliform bacteria, disinfection residual and turbidity are monitored on a continuous basis and reported monthly. Monitoring for Giardia and Cryptosporidium performed at Forest Park was negative.

Likely Source of Contamination: Turbidity: soil runoff

Synthetic organic contaminants Including pesticides & herbicides

2,4-D (ppb), 2,4,5-TP (Silvex) (ppb), Alachlor (ppb) 5/01, Atrazine (ppb), Benzo(a)pyrene (PAH) (nanograms/l) 8/00, Chlordane (ppb), Carbofuran, Dalapon (ppb), Dicamba (ppb), Di(2-ethylhexyl) adipate (ppb) 8/00, Di(2-ethylhexyl) phthalate (ppb) 8/00, Dinoseb (ppb), Endrin (ppb), Heptachlor (nanograms/l), Heptachlor epoxide (nanograms/l), Hexachlorobenzene (ppb), Hexachlorocyclo-pentadiene (ppb) 4/00, Lindane (nanograms/l), Methoxychlor (ppb), Oxamyl (ppb) 5/00, Pentachlorophenol (ppb) 4/00, Picloram (ppb), Simazine (ppb) and Toxaphene (ppb) were monitored but not detected.

Data presented in the above table is from the most recent testing performed in accordance with the regulations of the Pennsylvania Department of Environmental Protection. Unless otherwise noted, SOC testing was last performed 7/00.

Disinfectants & disinfection by-products

Contaminant (Unit of Measurement)	Violation Yes/No	NWWA Level Detected	Range	MCLG	MCL
Chlorine residual (mg/L)	No	0.3	0.1-0.8	N/A	N/A
Total Trihalomethanes (TTHM), (ppb)	No	14	6-32	0	80
Haloacetic Acids (HAA5), (ppb)	No	4.7	0-9	0	60

Bromate (ppb) was monitored but not detected.

Data presented in the above table is from the most recent calendar year 2002 monitoring performed in accordance with the regulations of the Pennsylvania Department of Environmental Protection.

Likely Source of Contamination: Chlorine: water additive used for disinfection; Total Trihalomethanes (TTHM): by-products of drinking water disinfection; Haloacetic Acids (HAA5): by-products of drinking water disinfection

Unregulated contaminants assessments

Contaminant (Unit of Measurement)	Violation Yes/No	NWWA Level Detected	Range	MCLG	MCL
Total DCPA Degradate (ppb)	No	<1	0-5	N/A	N/A

2, 4-Dinitrotolene (ppb); 2, 6-Dinitrotolene (ppb); 4, 4-DDE (ppb); Acetochlor (ppb); EPTC (ppb); Molinate (ppb); Terbacil (ppb) MTBE (ppb); Nitrobenzene (ppb)was monitored but not detected.

Data presented in the above table is from testing performed during May and October 2002 in accordance with the unregulated Contaminants Monitoring Rule of the US Environmental Protection Agency.

Likely Source of Contamination: Chlorine: water additive used for disinfection; Total Trihalomethanes (TTHM): by-products of drinking water disinfection; Haloacetic Acids (HAA5): by-products of drinking water disinfection