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2009 ANNUAL DRINKING WATER QUALITY REPORT NEWTOWN ARTESIAN WATER COMPANY, PWSID 1090043

Este informe contiene informacion muy importante sobre su agua potable. Traduzcalo o hable con alguien que lo entienda bien. This report contains important information about your drinking water. Translate it, or speak with someone who understands

Introduction

The Newtown Artesian Water Company (NAWC) is pleased to present our 2009 Drinking Water Quality Report. We are committed to providing a safe and dependable supply of good quality drinking water to our valued customers in the Newtown area. We are happy to inform you that your drinking water is in full compliance with all current standards established by the United States Environmental Protection Agency (EPA) under the Safe Drinking Water Act (SDWA). Our dedicated staff takes pride in providing high quality drinking water and superior customer service, at a reasonable price.

NAWC Water System

The NAWC water system is supplied by five (5) groundwater sources and through an interconnection with the Bucks County Water and Sewer Authority (BCW&SA). The water purchased from BCW&SA is a surface water supply originating from the Delaware River and treated at the Philadelphia Water Department's Baxter Water Treatment Plant (WTP). The groundwater supplies consist of wells located throughout the NAWC service area. At the end of 2009, we provided service to 9,916 customers in Newtown Borough, Newtown Township and a portion of Middletown Township north and west of Core Creek.

Our 2009 average system demand equaled 2.135 million gallons per day. The well supplies provided 47.4 percent of the total supply. Well water receives disinfection treatment using sodium hypochlorite and corrosion control treatment using zinc orthophosphate. The purchased water from BCW&SA receives complete treatment, including filtration, at the Baxter WTP. Purchased water provided about 52.6 percent of the total supply in 2009. The only additional treatment provided by NAWC to the BCW&SA supply includes the addition of zinc orthophosphate for corrosion control at the Low Service Pump Station.

Water Quality

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food & Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health. The Pennsylvania Department of Environmental Protection (DEP) enforces these regulations. We are happy to report that your drinking water is safe and meets Federal and State requirements.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or manmade. Drinking water, including bottled water, may contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at (800) 426-4791 or by visiting the EPA's drinking water website www.epa.gov/safewater. NAWC works with local and state agencies to address water quality issues and protect its sources from contamination.

The raw water sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- *Microbial Contaminants*, 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 storm water 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 storm water runoff and residential uses.
- *Organic Chemical Contaminants*, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from industrial sites, gas stations, urban storm water runoff and septic systems.
- *Radioactive Contaminants*, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In addition to the monitoring of certain contaminants governed by the EPA, there are other contaminants that are not regulated. These unregulated contaminants are monitored to help the EPA determine where certain contaminants occur and whether those contaminants should be regulated in the future.

Definitions

The following definitions will help you understand the key terms and abbreviations contained in the Detected Contaminants table:

- *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 health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.
- *Not Applicable (N/A)* – Does not apply.
- *Nephelometric Turbidity Unit (NTU)* – Measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- *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. 1 ppm = 1,000 ppb.
- *Parts Per Billion (ppb)* or *Micrograms Per Liter (µg/L)* – One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000. 1,000 ppb = 1 ppm.
- *Pico Curies Per Liter (pCi/L)* – A measure of radioactivity.
- *Treatment Technique (TT)* – A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- *Calcium Carbonate (CaCO₃)* – A chemical expression/term used to define water alkalinity and hardness levels.

Detected Contaminants

Inorganic Contaminants	Highest Result	Range of Detections	MCL	MCLG	Violation	Typical Source of Contaminant
Barium (ppm) ⁽²⁾	0.313	0.027 – 0.313	2.00	2.00	No	Erosion of natural deposits.
Cyanide (ppb) ⁽¹⁾	66.0	58.0 – 66.0	200	200	No	Discharge from steel/metals, plastics and fertilizer facilities.
Nitrate (ppm) ⁽²⁾	4.76	0.73 – 4.76	10.0	10.0	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Fluoride (ppm) ⁽³⁾	1.02	ND – 1.02	2.00	2.00	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Chromium (ppb) ⁽¹⁾	7.0	4.0 – 7.0	200	200	No	Discharge from steel and pulp mills; erosion of natural deposits.
Mercury (ppb)	0.7	ND – 0.7	2.00	2.00	No	Erosion of natural deposits; discharges from refineries and factories; runoff from landfills; runoff from cropland.
Nickel (ppb)	3.1	ND – 3.1	100.0	100.0	No	Erosion of natural deposits.
Lead and Copper	90 th Percentile	No. of Sites above AL	Action Level	MCLG	Violation	Typical Source of Contaminant
Lead (ppb)	ND	0	15.0	0.00	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	0.30	0	1.30	1.30	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Disinfectants / Disinfection Byproducts	Highest Result	Range of Detections	MCL or MRDL	MCLG or MRDLG	Violation	Typical Source of Contaminant
Chlorine Residual (ppm)	0.38	0.23- 0.38	4.00	4.00	No	Water additive used to control microbes.
Haloacetic Acids (ppb)	12.26 ⁽⁵⁾	6.48 – 15.84	60.0	N/A	No	Byproduct of drinking water disinfection.
Total Trihalomethanes (ppb)	21.97 ⁽⁵⁾	13.63 – 32.30	80.0	N/A	No	Byproduct of drinking water disinfection.
Total Organic Carbon (ppm) ⁽⁶⁾	1.44 ⁽⁷⁾	N/A	TT ≥ 1	N/A	No	Naturally present in the water.
Synthetic Organic Contaminants	Highest Result	Range of Detections	MCL	MCLG	Violation	Typical Source of Contaminant
Ethylene Dibromide (ppt)	17	ND – 17	50	0	No	Discharge from petroleum refineries.
Volatile Organic Contaminants	Highest Result	Range of Detections	MCL	MCLG	Violation	Typical Source of Contaminant
Tetrachloroethylene (ppb)	0.57	ND – 0.57	5.00	0.00	No	Discharge from factories and dry cleaners.
Radionuclides	Highest Result	Range of Detections	MCL	MCLG	Violation	Typical Source of Contaminant
Alpha Emitters (pCi/L) (2008 Data)	9.83	ND – 9.83	15.0	0.00	No	Erosion of natural deposits.
Combined Uranium (2008 Data) (ppb)	8.85	ND – 8.85	30.0	0.00	No	Erosion of natural deposits.
Unregulated Parameters	Highest Result	Range of Detections	MCL	MCLG	Violation	Typical Source of Contaminant
Sodium (ppm) ⁽⁶⁾	33.0	15.0 – 33.0	N/A	N/A	N/A	Naturally present in the environment.
Hardness (ppm as CaCO ₃) ⁽⁶⁾	105.0	56.0 – 105.0	N/A	N/A	N/A	Naturally present in the environment.
Clarity Characteristics	Level Found	Range of Detections	MCL	MCLG	Violation	Typical Source of Contaminant
Turbidity (NTU) ⁽⁸⁾	0.107	N/A	TT=1 (single measurement)	N/A	No	Soil runoff, river sediment.
	100% (samples ≤ 0.30)	N/A	TT=95% (samples ≤ 0.30)	N/A	No	
Secondary Contaminants	Highest Result	Range of Detections	MCL	MCLG	Violation	Typical Source of Contaminant
Alkalinity (ppm as CaCO ₃) ⁽⁶⁾	45	22 – 45	N/A	N/A	N/A	Naturally present in the environment.

(1) Values reported by the Philadelphia Water Department in 2009.

(2) Minimum value was reported by the Philadelphia Water Department in 2009. All other data is from NAWC sampling in 2009.

(3) Maximum value was reported by the Philadelphia Water Department in 2009. All other data is from NAWC sampling in 2009.

(4) Monthly Average Values.

(5) Rolling 4-quarter average.

(6) Measured at Baxter Water Treatment Plant.

(7) Reported as Ratio of Removal Achieved divided by Removal Required.

(8) Turbidity is a measure of the clarity of water. Turbidity was monitored at the Baxter WTP, which achieved 100% compliance with turbidity limits.10

As you can see from the Detected Contaminants table, our system had no water quality violations in 2009. Furthermore, there were no violations in monitoring.

Additional Information

The monitoring results, presented in the Detected Contaminants table, indicate that certain constituents including copper and nitrate have been detected. The following paragraphs provide additional educational information on these contaminants.

NAWC met all requirements under the Lead and Copper Rule. We sampled water at thirty homes in August 2007. Regulations state that ninety (90) percent of samples taken must be below the Action Levels of 15 ppb for lead and 1.3 ppm for copper. The 90th percentile level for copper, in our water, was 0.297 ppm. There were no samples taken that exceeded the Action Level for copper. Lead was detected at two of the sample locations. Of these detections, one sample exceeded the action level. It is possible that lead or copper levels at your home may be higher than at other homes in the community as a result of materials used in your homes plumbing. If you are concerned about elevated lead or copper levels in your water, you may wish to have your water tested. Additional information is available from the EPA Safe Drinking Water Hotline at (800) 426-4791 or on-line at www.epa.gov/safewater.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

Nitrate as nitrogen 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. As a precaution we always notify physicians and health care providers in the area if there is ever a higher than normal nitrate level in the water supply. If you are caring for an infant, you should ask advice from your health care provider.

Radon

NAWC has tested for radon at its groundwater supplies and found elevated levels of this constituent. Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the U.S. and occurs naturally in most groundwater. Radon can move up through the ground and into a home through cracks and holes in the foundation, and can build up to high levels in all types of homes. Radon can be released from water into the air through showering, bathing, washing dishes, or washing clothes. Radon gas released from tap water is a very small part of the total radon in the air. The inhalation or breathing of radon gas has been linked to lung cancer, although it is unclear how radon in your drinking water contributes to this health effect. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information, contact EPA's Radon Hotline at (800) SOS-RADON. EPA does not currently regulate radon in drinking water under the SDWA. However, when an MCL is set for radon, NAWC will take appropriate action to comply with the Radon Rule at their groundwater supplies and comply with Safe Drinking Water Regulations.

Vulnerability

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/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 (800) 426-4791 or on-line at www.epa.gov/safewater.

Conclusions

The drinking water we provide to our customers meets and is in compliance with Federal and State requirements. Although certain water quality parameters have been detected, the EPA and DEP have determined that the water is safe. NAWC works around the clock to provide high quality water to all our customers. Please contact us if you have any questions about this report or the public water supply service we provide to you.

Contact Information

We trust this report will help you understand the NAWC water system, the regular monitoring performed to insure your drinking water is safe, the 2009 water quality results, and related information. If you have any questions about the report, or NAWC and the service you receive, please contact us at our office. Please visit our website at www.newtownwater.com for information about NAWC rates and rules, and to view this report electronically.

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