

# Annual Drinking Water Quality Report for 2007

Town of Pendleton Water District

6640 Campbell Blvd

(Public Water Supply ID #NY3100574)

March 01, 2008

## INTRODUCTION

To comply with State regulations, the Niagara County Water District, will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all State and Federal drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please call James Argo, Water Supervisor, at (716) 625-8033. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled meetings at the Pendleton Town Hall at 6570 Campbell Boulevard, Lockport, New York. The meetings are held on the 1<sup>st</sup> Tuesday of each month at 8 p.m. The system has increased preventive security measures to protect the water supply from vandalism, please be aware and report any suspicious activity to James Argo, Water Supervisor at (716) 625-8033, or Niagara County Sheriff's Department at (716) 438-3393, or any local law enforcement authority.

## WHERE DOES OUR WATER COME FROM?

In general, 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 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 activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The Town of Pendleton purchases water from the Niagara County Water District. The Niagara County Water District water intake is located in the west branch of the Niagara River. The water quality is considered excellent. During 2007, our system did not experience any restriction of our water source. The treatment plant uses pre-chlorination, coagulation, flocculation, sedimentation and filtration processes to ensure the quality of the water.

The Niagara County Water District also uses chlorination for disinfection. Active carbon is used to improve the "taste" of water at the raw water pump station on Grand Island. The water treatment plant is classified as a direct filtration plant that uses 10 multimedia filters. In addition, fluoride and a corrosion inhibitor are added to the potable water prior to distribution.

The New York State Department of Health recently completed a draft Source Water Assessment of the supplies raw water source under the States Source Water Assessment Program (SWAP). The purpose of this program is to compile, organize, and evaluate information regarding possible and actual threats to the quality of public water supply (PWS) sources. It is important to note that source water assessment reports estimate the potential for untreated drinking water sources to be impacted by contamination. These reports do not address the safety or quality of treated finished potable tap water. The Great Lakes' watershed is exceptionally large and too big for a detailed evaluation in the SWAP. General drinking water concerns for public water supplies which use these sources include: storm generated turbidity, wastewater, toxic sediments, shipping related spills, and problems associated with exotic species (e.g. zebra mussels - intake clogging and taste and odor problems). The SWAP is based on the analysis of the contaminant inventory compiled for the drainage area deemed most likely to impact drinking water quality at this public water supply raw water intake. This assessment found an elevated susceptibility to contamination for this source of drinking water. The amount of agricultural lands in the assessment area results in elevated potential for protozoa and pesticides contamination. There is also a high density of sanitary wastewater discharges, which results in elevated susceptibility for numerous contaminant categories. Non-sanitary wastewater could also impact source water quality. There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: Mines and Resources Conservation and Recovery Act (RCRA) facilities. If you have any questions about the States Source Water Assessment Program, please contact Ronald Gwozdek, Principal Public Health Engineer, Niagara County Department of Health at (716) 439-7452.

## FACTS AND FIGURES

The Town of Pendleton system serves approximately 6050 people through 2,336 service connections. Our single highest day recorded in 2007 was 903,276 gallons. The total water purchased from Niagara County Water District in 2007 was 220,591,420 gallons. (The Town of Pendleton also purchased 10,304,000 gallons of water from neighboring towns from shared water lines.) The amount of water delivered to customers in 2007 was 195,446,800 gallons. This leaves an unaccounted for total of 25,144,620 gallons (11.4% of the total amount produced for 2007). This water was used to flush mains, fight fires and leakage. In 2007, water customers were charged approximately \$1.50 per 1,000 gallons of water.

The Niagara County Water District has a nominal capacity of 38 million gallons per day. The single highest day of water treated and pumped into the distribution system was 27,025,000 gallons. The amount of water delivered to customers in 2007 was 6,145,483,915 gallons.

## ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: microbiological contaminants, radioactive contaminants, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, synthetic organic compounds, trihalomethanes, haloacetic acids, and disinfection by-products. The table presented below depicts only those compounds which were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

It should be noted that all drinking water, including bottled drinking water, may be reasonably 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 EPA's Safe Drinking Water Hotline (800-426-4791) or the Niagara County Health Department at (716) 439-7430.

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg/Max)(Range)	Unit of Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
<b>Inorganic Contaminants</b>							
Barium	No	3/07	0.023	mg/L	2.00	MCL=2.00	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Copper <sup>1</sup>	No	6/05 - 9/05	<0.25	mg/L	1.3	AL=1.3	Corrosion of galvanized pipes; Erosion of natural deposits.
Fluoride	No	3/07	0.6	mg/L	N/A	MCL=2.2	Erosion of natural deposits; Water additive that promotes strong teeth
Lead <sup>1</sup> (in distribution system)	No	6/05 - 9/05	5.17 (ND - 91)	µg/L	0	AL=15	Corrosion of household plumbing systems; Erosion of natural deposits.
Sodium	No	3/07	12.00	mg/L	N/A	AL=20	Corrosion of galvanized pipes; Erosion of natural deposits.
Nitrate	No	10/07	0.14	mg/L	10.0	MCL=10.0	Corrosion of galvanized pipes; Erosion of natural deposits.
Entry Point <sup>2</sup> Turbidity	No	1/07 - 12/07	0.03 (0.02- 0.05)	NTU	N/A		Soil runoff
Entry Point <sup>2</sup> Turbidity	No	1/07 - 12/07	100% of samples less than 0.3 NTU	NTU	N/A	TT=95% of samples < 0.3 NTU	Soil runoff
<b>Radioactive Contaminants</b>							
Gross Beta particle and photon activity from manmade radionuclides	No	4/03	1.9	pCi/L <sup>3</sup>	0	50 <sup>4</sup>	Decay of natural deposits and man-made emissions.
Tritium	No	4/03	450	pCi/L	20,000	20,000	
<b>Disinfection Byproducts</b>							
Total Trihalomethanes	No	1/07 - 10/07	27.3 <sup>5</sup> (14.6 - 61.5)	µg/l	N/A	MCL=80	By-product of drinking water chlorination
Total Haloacetic Acids	No	1/07 - 10/07	14.4 <sup>5</sup> (9.6 - 33.0)	µg/l	N/A	MCL=60	By-product of drinking water chlorination

<sup>1</sup> During 2005 we collected and analyzed 53 samples for lead and copper. The level presented represents the 90th percentile of the 53 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead values detected at your water system. The analysis of samples, for lead and copper, showed concentrations below action levels. The range of lead levels detected is presented below the 90th percentile value.

<sup>2</sup> Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurements for the year occurred on 2-21-07 (0.05 NTU). State regulations require that turbidity must always be below 5 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.5 NTU or below 0.3 NTU if you serve 10,000 or more people. All samples collected in 2007 were below the treatment technique level.

<sup>3</sup> Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

<sup>4</sup> The State considers 50 pCi/L to be the level of concern for beta particles.

<sup>5</sup> Results for Total Trihalomethanes (TTHM's) and Total Haloacetic Acids (HAAs's) are reported as the running quarterly annual average. The range of detection is shown below the average.

Parameter	Period of Sample	Average Level Detected	Unit of Measurement	MCL	MCLG
Alkalinity*	1/07 – 12/07	93.02	mg/L	NR	N/A
Raw Water Total Organic Carbon*	1/07– 12/07	2.44	mg/L	NR	N/A
Filtered Combined UV 254*	1/07 – 12/07	0.017	1/cm	NR	N/A
Raw Water SUVA*	1/07 – 12/07	1.18	L/mg-m	NR	N/A
Filtered SUVA*	1/07 – 12/07	0.86	L/mg-m	NR	N/A
Cryptosporidium**	1/07 – 12/07	ND	oocysts/L	NR	N/A
Giardia**	1/07 – 12/07	ND	cysts/L	NR	N/A

\* The substances presented above are currently not regulated (NR) not due they have a Maximum Contaminant Level Goal (MCLG – NA) in the Long Term 2 Enhanced Surface Water Treatment Rule that was published on January 5, 2006. The parameters were monitored and average levels presented to provide an indication of general water quality.

\*\* Cryptosporidium and Giardia will be utilized for determining levels of treatment required by the Long Term 2 Enhanced Surface Water Treatment Rule. The Long Term 2 Enhanced Surface Water Treatment Rule requires varying levels of treatment related to source water concentration of Cryptosporidium. The NCWD conducted 12 samples of the source water during the year for Cryptosporidium and Giardia. No Cryptosporidium or Giardia were detected, therefore, no additional actions were taken.

**TOWN OF PENDLETON**

Town of Pendleton has not exceeded MCL for total coliform during 2007 reporting period.

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Maximum)	Unit of Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
<b>Microbiological Contaminants</b>							
Turbidity	No	-	0.90 NTU	NTU	N/A	TT= <5NTU	Soil Runoff
Turbidity	No	1/07 – 12/07	100%	NTU	N/A	TT=95% of samples < 0.5 NTU	
Total Coliform	No	1/07 – 12/07	0 positive samples	N/A	0	MCL= 2 or more positive samples	Naturally present in the environment

<sup>1</sup> Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. State regulations require that turbidity must always be below 5 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.5 NTU. All samples collected in 2007 were below the treatment technique level.

**Notes:**

- 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.
- 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.
- 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 required process intended to reduce the level of a contaminant in drinking water.
- Non-Detects (ND):** Laboratory analysis indicates that the constituent is not present.
- Nephelometric Turbidity Unit (NTU):** A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- Milligrams per liter (mg/L):** Corresponds to one part liquid in one million parts of liquid (parts per million - ppm).
- Micrograms per liter (ug/L):** Corresponds to one part liquid in one billion parts of liquid (parts per billion - ppb).
- Nanograms per liter (ng/L):** Corresponds to one part liquid to one trillion parts of liquid (parts per trillion - ppt).
- Picograms per liter (pg/L):** Corresponds to one part per liquid to one quadrillion parts of liquid (parts per quadrillion - ppq).
- Picocuries per liter (pCi/L):** A measure of the radioactivity in water.
- Million Fibers per Liter (MFL):** A measure of the presence of asbestos fibers which are longer than 10 µm.
- Filter Combined UV 254:** A measure of the amount of ultraviolet light absorbed by molecules in a solution measure at 253.7 nm reported in liters per milligram meter.
- Not Regulated (NR):** Corresponds to parameters that are not currently regulated as part of the Long Term 2 Enhanced Surface Water Treatment Rule but were included as indicators of general water quality.

**WHAT DOES THIS INFORMATION MEAN?**

As you can see by the table, our system had no violations. We are proud that your drinking water meets or exceeds all federal or state requirements. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State. The EPA has determined that your water IS SAFE at these levels.

**IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?**

During 2007, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

**INFORMATION ON CRYPTOSPORIDIUM**

Cryptosporidium is a microbial pathogen found in surface water and groundwater under the influence of surface water. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. During 2007, as part of our routine sampling, 12 samples of the water at its entry point into the distribution system were collected and analyzed for Cryptosporidium oocysts. Of these samples, none detected Cryptosporidium oocysts. Ingestion of Cryptosporidium may cause cryptosporidiosis, a gastrointestinal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their health care provider 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.

**INFORMATION ON GIARDIA**

Giardia is a microbial pathogen present in varying concentrations in many surface waters and groundwater under the influence of surface water. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection. During 2007, as part of our routine sampling, 12 samples of the water at its entry point into the distribution site were collected and analyzed for Giardia cysts. Of these samples, none were positive for Giardia cysts. Ingestion of Giardia may cause giardiasis, an intestinal illness. People exposed to Giardia may experience mild or severe diarrhea, or in some instances no symptoms at all. Fever is rarely present. Occasionally, some individuals will have chronic diarrhea over several weeks or a month, with significant weight loss. Giardiasis can be treated with anti-parasitic medication. Individuals with weakened immune systems should consult with their health care providers about what steps would best reduce their risks of becoming infected with Giardiasis. Individuals who think that they may have been exposed to Giardiasis should contact their health care providers immediately. The Giardia parasite is passed in the feces of an infected person or animal and may contaminate water or food. Person to person transmission may also occur in day care centers or other settings where handwashing practices are poor.

**DO I NEED TO TAKE SPECIAL PRECAUTIONS?**

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens 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 from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

**WHY SAVE WATER AND HOW TO AVOID WASTING IT?**

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter after 15 minutes, if it moved, you have a leak.

**SYSTEM IMPROVEMENTS**

In 2007, the Town of Pendleton continued monitoring of equipment with vigorous operation and maintenance programs. Improvements completed through our operation and maintenance program are critical in maintaining the quality of finished water. This year's improvements included the installation of new water meters to ensure more accurate consumption readings.

**CLOSING**

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.

Sincerely, James Argo, Water Superintendent