

Annual Drinking Water Quality Report for 2017
Village of Port Dickinson
Port Dickinson, New York
Public Water Supply ID# NY0301672

INTRODUCTION: To comply with State and Federal regulations, this annual report is issued by Port Dickinson Water department describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water. The Village of Port Dickinson does not produce our own water. Presently we purchase about 98% of our water from Hillcrest and the other 2% from the City of Binghamton. This means that if you live between Old State Road and Binghamton, you probably get most of your water from Binghamton. If you live between Wayne Ave. and Hillcrest, you probably get most of your water from Hillcrest. Those between Old State Road and Wayne Ave. are getting a mix of both water systems. Last year, both systems met all State Drinking Water Health Standards. This report provides an overview of both water systems.

If you have any questions about this report or your water, please contact Robert Aagre (771-8233) during business hours.

WHERE DOES OUR WATER COME FROM: In general, the sources of drinking water (both tap and bottled) 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 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 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.

Hillcrest water comes from three wells, ranging in depth from 210 feet to 219 feet that draw water from a lower aquifer in the Chenango River Basin. The water is pumped from the wells into two covered storage tanks with a combined capacity of 1,250,000 gallons. The water is disinfected with sodium hypochlorite as it leaves the well field. Polyphosphate sequestant is added to keep dissolved iron and manganese found in our water in solution.

The City of Binghamton's primary source is the Susquehanna River. The water is withdrawn and treated at a modern, recently renovated water filtration facility. Binghamton also has a back-up groundwater supply, a well of relatively small capacity compared to their normal water demands. The well is typically exercised 8 hours per week and thus supplies less than one-half of one percent of their water. Water pumped from the well is chlorinated before entering the water distribution system.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER: Of course! All drinking water, including bottled 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. Regular testing is conducted on both systems and within Port Dickinson itself, to assure our water meets the accepted standards for the Federal Government and the State of New York. These tests include tests for total coliform, lead and copper and disinfection byproducts.

Included at the end of this report are copies of both water systems' testing result for the year 2017. If these tables present any questions, contact Robert Aagre (771-8233) or stop by the Village Hall during business hours for a more detailed copy.

WHAT DOES THIS INFORMATION MEAN? As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS? During 2017, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

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 infection. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lesson 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:

1. Saving water saves energy and some of the cost associated with both of these necessities of life;
2. Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers.
3. 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:

1. 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.
2. Turn off the tap when brushing your teeth.
3. 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 6000 gallons per year.
4. 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.

SYSTEM MAINTANENCE: Within the Village of Port Dickinson, the public works crew is constantly monitoring our delivery system. If a problem arises, notification and repairs are quickly completed. If you witness or experience any irregularities in the water delivery system, please contact the Village Office or Bob Aage (771-8233).

CLOSING: Thank you for allowing us to continue to serve you. Together, we can continue to provide safe, efficient service at the most reasonable cost possible.

DEFINITION OF TERMS USED IN TABLES:

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 GOAL (MRDLG): The level of 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.

MAXIMUM RESIDUAL DISINFECTANT LEVEL (MRDL): The highest level of a disinfectant residual that is allowed in drinking water.

ACTION LEVEL (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

TREATMENT TECHNIQUE (TT): A required process intended to reduce the level of a contaminant in drinking water.

NON-DETECTABLE (ND): Laboratory analysis indicates that a 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 of liquid in one million parts of liquid (Parts per million-ppm)

MICROGRAMS PER LITER (UG/L): Corresponds to one part of liquid in one billion parts of liquid (parts per billion ppb)

PICOCURIES PER LITER (pCi/L): A measure of the radioactivity in water.

Following are the Binghamton and Hillcrest Table of Detected Contaminants and the results of the testing done in the Village of Port Dickinson distribution system.

TABLE OF DETECTED CONTAMINANTS FOR PORT DICKINSON

Contaminant	Violation Yes/No	Sample Location	Date of Sample	Level Detected (Range)	Unit Measurement	MCLG	MCL	SOURCE
Lead ¹	No	Distribution	7/15/2016	4.37 (ND – 8.78)	ug/L	0	15	Corrosion of house- hold plumbing systems, erosion of natural deposits.
Copper ¹	No	Distribution	7/15/2016	0.343 (0.0527-0.402)	mg/L	0	1.3	Corrosion of house hold plumbing
Total Trihalomethanes ²	No	Distribution	7/20/2017	1.98	ug/l	N/A	80	Byproducts of drinking water chlorination
Haloacetic Acids ³	No	Distribution	7/20/2017	ND	ug/l	N/A	60	Byproducts of drinking water chlorination

- 1 - The level presented represents the 90th percentile of the sites tested. A percentile is a value on a scale of 100 that indicates the percent of distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead/copper values detected at your water systems.
- 2 - This level represents the total levels of the following contaminants: chloroform, bromodichloromethane, dibromochloromethane, and bromoform
- 3 - This level represents the total levels of the following contaminants: mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid

Annual Drinking Water Quality Report for 2017
Hillcrest Water District # 1
Hillcrest, New York
Public Water Supply ID# NY0301667

TABLE OF DETECTED CONTAMINANTS – HILLCREST 2017

Contaminant	Violation Yes/No	Well No./ Location	Date of Sample	Level Detected (Avg/Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL or AL)	Likely Source of Contamination
Inorganics								
Barium	No	Treatment Plant	8/21/17	0.209	mg/l	N/A	2.0	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Sodium ¹	No	#1 #2 #3	8/21/17 8/21/17 8/21/17	30.4 38.8 59.3	mg/l	See Health Effects	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.
Copper ²	No	Distribution	9/20/16	0.490 (0.02-0.59)	mg/l	0	AL = 1.3	Corrosion of household plumbing systems, erosion of natural deposits.
Lead ²	No	Distribution	9/20/16	2.7 (ND – 2.7)	ug/l	0	AL = 15	Corrosion of household plumbing systems, erosion of natural deposits.
Nitrate	No	#1 #2 #3	8/21/17 8/21/17 8/21/17	0.204 ND 1.79	mg/l	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Disinfection Byproducts								
Total Trihalo-Methanes ³	No	Distribution	8/21/17	2.5	ug/l	N/A	80	By-products of drinking water chlorination.
Total Haloacetic Acids ⁴	No	Distribution	8/21/17	0.665	ug/l	N/A	60	By-products of drinking water chlorination.
Radiological Contaminants								
Gross Alpha	No	Entry Point	12/13/16	2.13	pCi/l	0	15	Erosion of natural deposits
Radium 226	No	Entry Point	12/13/16	0.235	pCi/l	0	5	Erosion of natural deposits
Radium 228	No	Entry Point	12/13/16	1.08	pCi/l	0	5	Erosion of natural deposits

Notes:

- 1 - Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.
- 2 - The level presented represents the 90th percentile of the 10 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 copper values detected at your water system. In this case, ten samples were collected at your water system and the 90th percentile value was the ninth highest value. The action level for lead or copper was not exceeded at any of the sites tested.
- 3 – This level represents the total levels of the following contaminants: chloroform, bromodichloromethane, dibromochloromethane, and bromoform.
- 4 - This level represents the total levels of the following contaminants: monochloroacetic acid, monobromoacetic acid, dichloroacetic acid, trichloroacetic acid, dibromoacetic acid.

Definitions:

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 that, if exceeded, triggers treatment or other requirements that a water system must follow.

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

Milligrams per liter (Mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (Ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

Picocuries per liter (pCi/l): A measure of the radioactivity in water.

Annual Water Quality Report for 2017
Binghamton Water Department
 25 Broome St., Binghamton, New York 13903
 Public Water Supply ID# NY0301651

Table of Detected Contaminants							
CONTAMINANT	VIOLATION	DATE	LEVEL DETECTED (Range)	UNIT	MCLG	Regulatory Limit MCL	LIKELY SOURCE OF CONTAMINANT
Microbiological Contaminants							
Coliform Bacteria (*) Distribution	NO	5/23/17	Positive	N/A	0	Any positive sample	Naturally present in the environment.
Inorganics							
Fluoride Plant Well	NO	Daily 3/29/17	(0.61-0.75) 0.150	mg/L	1.0	2.2	Additive for good dental health and Erosion of Natural Deposits
Nitrate Plant Well	NO	12/13/17 12/13/17	0.36 4.0	mg/L	10	10	Runoff from fertilizer, runoff from septic tanks ,sewage, natural erosion
Sodium Plant Well (*1)	NO	6/2/15 9/6/17	18.4 122	mg/L	N/A	None	Natural in soil, road salt, water softeners
Disinfection By Products							
Total Trihalomethanes (*2) Distribution system	NO	Quarterly	36.9 (25.8-54.5)	ug/L	N/A	80	Byproduct of disinfection. TTHM's form when chlorine meets organic matter.
Haloacetic Acids (*3) Distribution system	NO	Quarterly	24.6 (13.6-36.1)	ug/L	N/A	60	By product of disinfection. HAA5's form when chlorine meets organic matter.
Chlorite Plant Average Daily High	NO	Yearly	0.02	mg/L	N/A	1.0	By product of in plant generation of chlorine dioxide
Sodium Hypochlorite Plant Average Daily High	NO	Daily	1.51 1.77	mg/L	N/A	4.0	Chemical used in the disinfection of drinking water (as Free Chlorine)
Radiological							
Uranium Well	NO	6/15/16	0.214	pCi/L	0	15	Erosion of natural deposits
Gross Alpha Plant Well	NO	6/28/17 6/15/16	0.052 0	pCi/L	0	15	Erosion of natural deposits

Gross Beta	Plant Well	NO	12/11/12 6/15/16	1.92 3.96	pCi/L	0	50	Decay of natural deposits and man-made emissions
Radium 226	Plant Well	NO	6/28/17 6/15/16	0.542 0.439	pCi/L	0	5	Erosion of natural deposits
Radium 228	Plant Well	NO	6/28/17 6/15/16	0.533 0.060	pCi/L	0	5	

*** Notes:**

* - All required repeat coliform samples were negative for coliform.

1 – Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.

2 - This level represents the highest locational running annual average and the range of the following contaminants: Chloroform, Bromodichloromethane, Dibromochloromethane & Bromoform.

3- This level represents the highest locational running annual average and the range of the following contaminants: Monochloroacetic Acid, Monobromoacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid & Dibromoacetic Acid.

UNREGULATED CONTAMINANT MONITORING

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that once every five years, the U.S. Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants monitored by public water systems (PWSs). The Unregulated Contaminant Monitoring Rule (UCMR) provides EPA and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. Unregulated contaminants are those that don't yet have a drinking water standard set by US EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. The following unregulated contaminants were detected in our water system during 2014 and 2015:

Contaminant	Level Detected	Unit Measurement	Likely Source of Contamination
Strontium	66.3-194	ug/l	Erosion of natural deposits.
Chromium	0.23-0.53	ug/l	Discharge from steel and pulp mills, pigments, leather tanning; Erosion of natural deposits.
Chromium-6	ND-0.28	ug/l	Discharge from steel and pulp mills, pigments, leather tanning; Erosion of natural deposits.
Cobalt	ND-1.5	ug/l	Erosion of natural deposits
Chlorate	21-339	ug/l	Disinfection byproduct; Used in the production of chlorine dioxide
1,4-dioxane	ND-0.077	ug/l	Primarily used as a stabilizer for trichloroethane. Also used in a variety of applications as a solvent such as in inks and adhesives.

LEAD AND COPPER

In 1994, the City of Binghamton conducted a corrosion optimization study to reduce lead and copper levels in your tap water. The report and study were approved by the New York State Department of Health and the City's corrosion control was deemed optimized. Follow up testing in 1996 and 1999 reaffirmed the study's findings. The City of Binghamton has optimized corrosion control treatment and has had monitoring reduced to once every three years by the New York State Department of Health.

In 2016, the City completed the lead and copper monitoring required under their reduced schedule of a minimum of 30 distribution system (residential) sampling sites every 3 years. The 90th percentile corresponding to 30 samples is the 27th sample in ascending order. In 2019, the City will again sample for lead and copper in the distribution system.

Lead/Copper Results	Violation Yes/No	Date of Sample	Range Results	90 th %tile Results	Unit	MCLG	Reg. Limit 90 th %tile Action Level
Lead	No	2016	< 0.0010-0.0160	0.0077	mg/L	0	0.015

Copper	No	2016	< 0.020 – 0.420	0.190	mg/L	1.3	1.3
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During the testing in 2016, the City found one residential home that was at the action level or higher in the lead sampling results. At this time, we are working with this home to help them reduce their lead residual levels. The elevated lead level found in area homes is an isolated incident. In most cases, the results were indicative of an interior plumbing issue rather than a reflection of the source water.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. 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. The City of Binghamton 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 (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

As a result of the optimization report, other parameters are monitored to ensure that our water quality remained within the guidelines of the study. These parameters are known as Water Quality Parameters. During 2017 we collected samples that pertained to the study, and the results are compiled below.

Parameter	High Level (mg/l)	Low Level (mg/l)	Mean (mg/l)
Alkalinity (as CaCO3)	62	46	54
Specific Conductance	257	213	235
Calcium Hardness (as CaCO3)	76.2	51.9	64.6
Orthophosphate (as PO4)	0.1100	0.0500	0.0750
PH	7.68	6.89	7.34
Temperature	87 F	32 F	59.5 F

INFORMATION ON THE ADDITION OF FLUORIDE

Our system is one of many in New York State that provides drinking water with a controlled, low level of Fluoride for consumer dental health protection. Fluoride is added to your water by the Water Filtration Plant and is monitored no less than every four hours by water plant operators and laboratory personnel. According to the Center for Disease Control, Fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.6 – 0.8 mg/L. During 2016 monitoring showed Fluoride levels in your water were in the optimal range 100 % of the time. At no time in 2017 did the Fluoride level exceed the MCL of 2.2 mg/L.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no MCL violations in 2017. We also learned through our testing that some other contaminants have been detected; however, these contaminants were detected below the level allowed by the State, as indicated in the table.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2017, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

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 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).

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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.
- ◆ 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 firefighting needs are met.

You can play a role in conserving water by becoming aware 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. Partial loads waste money. Fill it to capacity prior to each run.
- ◆ 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. Repair these fixtures and you can save almost 6,000 gallons per year.
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- ◆ Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, and then check the meter after 15 minutes. If it moved, you have a leak.

SYSTEM IMPROVEMENTS

- ◆ The Water Meter Department responded to 6,248 service calls with 572 of them direct meter replacements in addition to meter reading and meter change outs. We currently have 340 large meters on radio read including most of our larger buildings and complexes. The department currently tracks and maintains records for 470 Back Flow Cross Connection devices located in the City of Binghamton and we have several employees certified for back flow testing which take care of our in house devices.
- ◆ The Water Distribution Department replaced 17 hydrants, repaired 19 main breaks replaced 16 water services and over 180 feet of new water main including 13 gate valves in addition to standard duties and street reconstruction projects. We also respond to numerous service calls and many late nights and after hour repairs.