

Annual Drinking Water Quality Report for 2011
VILLAGE OF HORSEHEADS
202 South Main Street
(Public Water Supply ID# NY0701009)

Introduction:

To comply with State and Federal regulations, the Village of Horseheads 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 applicable State drinking water standards. In 2011, we conducted tests for over 100 possible contaminants. 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 New York State standards. If you have any questions about this report or concerning your drinking water, please contact Chris Lawrick at 739-5691. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled village board meetings. The meetings are held the second and fourth Thursdays of each month at 7:00 P.M. at Horseheads Village Hall, 202 South Main Street, or you may call the Chemung County Health Department at 737-2019.

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 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. Our water source is ground water drawn from two fifty foot deep wells on Mill Street. We also operate a 70 foot deep well on Old Ithaca Road and maintain a nearby backup well. Following the flooding in 2011, the Old Ithaca Road well was re-classified from a ground water source to groundwater under the influence of surface water. Our water is treated prior to distribution with chlorine for disinfection and fluoride to promote healthy teeth and bones.

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the wells. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. See section “Are there contaminants in our drinking water?” for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future. Water suppliers and county and state health departments will use this information to direct future source water protection activities. These may include water quality monitoring, resource management, planning, and education programs.

The source water assessment has rated our wells as having a high to very high susceptibility to microbials, nitrates, industrial solvents, and other industrial contaminants. Well #4 was not in service when the assessments were conducted, but is similar to our other wells. These ratings are due primarily to the close proximity of permitted discharge facilities (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/or federal government) to the wells, and low intensity residential activities in the assessment area. In addition, the wells draw from an unconfined aquifer that yields or pumps greater than 100 gpm and doesn’t provide adequate protection from potential contamination. While the source water assessment rates our wells as being susceptible to microbials, please note that our water is disinfected to ensure that the finished water delivered into your home meets New York State’s drinking water standards for microbial contamination. A copy of the full assessment can be obtained by contacting us, as noted above.

Susceptibility Ratings: Low (L), Medium(M), High(H), Very High (VH)				
Well Name	Microbials	Nitrates	VOCs	Others
Well # 1,2,4,5	VH	VH	H	VH

Facts and figures:

Our water system serves 15,000 people through 3,612 service connections. The total water produced in 2011 was 714 million gallons. The amount of water delivered to customers was 522 million gallons. This leaves an unaccounted for total of 192 million gallons. This water is used to flush mains, test hydrants, fight fires, municipal use, and loss to leakage. The daily average of water pumped into our system is 1.9 million gallons. Our highest single day was 2.9 million gallons. In 2011, water customers were charged an average annual fee of \$154.48 in the Village of Horseheads and \$231.72 outside the Village for 60,000 gallons of water.

Are there contaminants in our drinking water?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds (gasoline and industrial solvents), total trihalomethanes, and synthetic organic compounds. The table presented below depicts which compounds 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. The state requires that any detected contaminants must be reported for a period of five years.

Testing:

The Village of Horseheads conducts various tests of your drinking water through out the year. This includes 180 samples (fifteen per month) in various locations through out our system for coliform bacteria. We test residual chlorine levels along with fluoride amounts every day of the year. In addition we test for a variety of possible contaminants at the wellheads, and in the distribution system. This level of testing assures the best possible product for your use. It should be noted that all drinking water, including bottled drinking water, might 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 Chemung County Health Department at 737-2019.

Table of Contaminants Detected in 2011 (or latest test)

Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit	MCL G	Regulatory Limit (MCL , AL, MRDL, TT)	Likely Source of Contamination
Alpha Emitters	No	14 samples in 2008	Average 1 Range 0.1-3	pCi/L	0	15 MCL	naturally occurs
Arsenic	No	4 samples 2008-2009	Average 0.1 Range ND-0.6	ug/L	N/A	10 MCL	naturally occurs
Asbestos	No	2/28/11 2samples	Range ND-1.0	MFL	7	7 MCL	erosion of water pipes
Barium	No	10/19/11 2 samples	Average .15 Range .11 to 0.18	mg/L	2	2 MCL	naturally occurs
Chloride	No	10/19/11 3 samples	Average 51 Range 34-73	mg/L	N/A	250 MCL	naturally occurs; use of road salt
Chlorine Residual	No	Year round daily samples	Average .7 Range .25 to 1.4	mg/L	4.0 MRDLG	4.0 MRDL	disinfectant added to control microbial contaminants
Copper	No	7/2011 30 samples	90 th = 0.2 Range 0.03 to 0.6	mg/L	1.3	1.3 AL <i>note 1</i>	corrosion of household plumbing
Fluoride	No	Year round daily samples	Average 1 Range .75-1.2	mg/L	N/A	2.2 MCL	added by provider to prevent tooth decay
Lead	No	7/2011 30 samples	90 th = 2.7 Range .5 to 4.7	ug/L	0	15 AL <i>note 1</i>	corrosion of household plumbing
Nitrate	No	10/19/11 4 samples	Average 0.8 Range 0.27-1.13	mg/L	10	10 MCL	runoff from fertilizer; leaching from septic tanks, sewers
Radium 226	No	12/2008 4 samples	Average 0.15 Range 0.05-0.2	pCi/L	0	5 MCL <i>Note 2</i>	Erosion of natural deposits.
Radium 228	No	4/2009 11/2009 8 samples	Average 0.8 Range 0.3-1.4	pCi/L			
Sodium	No	10/19/11 2 samples	Average 31 Range 19-42	mg/L	N/A	N/A <i>Note 3</i>	Naturally occurs; Use of road salt
Sulfate	No	10/19/11 2 samples	Average 18 Range 14-22	mg/L	N/A	250 MCL	Naturally occurs
Total Coliform 15 samples each month	No	4/19/2011 1 sample	present	N/A	0	no more than one positive sample each month	Naturally present in the environment.
Total Haloacetic Acids (HAAs)	No	12/2011 1 sample 8/2011	Average 3.4 Range 2.3-4.8	ug/L	N/A	60 MCL	By-product of drinking water chlorination

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Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit	MCL G	Regulatory Limit (MCL, AL, MRDL, TT)	Likely Source of Contamination
2 sample sites		2 samples					
Total Trihalomethanes (THMs) 2 sample sites	No	12/14/11 1 sample 8/2011 2 samples	Average 16 Range 11-19	ug/L	N/A	80 MCL	By-product of drinking water chlorination
Turbidity (Well 5 only)	No	Daily beginning 10/14/11	.29 highest monthly average	NTU	N/A	1.0 TT Note 4	soil runoff

Note 1 – The level presented represents the 90th percentile results of the 30 sites tested. It means 27 of the 30 samples were less than or equal to the level given. No samples exceeded the Action Levels for lead or copper.

Note 2 – The MCL for Radium is the sum of individual measurements of two common isotopes, Radium226 and Radium 228.

Note 3 – An MCL for Sodium is not established. 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.

Note 4 – Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. Our highest average monthly turbidity measurement (0.29 NTU) occurred in December 2011.

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.

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

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).

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

Not Applicable (N/A)

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

Compliance with other sanitary code requirements

We were cited by the Health Department for failing to collect untreated well water samples within 24 hours after the detection of coliform bacteria in a routine customer tap sample collected 4/19/2011. We corrected the violation by collecting the required samples.

The Village conducted precautionary lab testing during and after the September 2011 flooding. Samples collected at Well 5 during the flood period showed the presence of E.coli and traces of algae. These results indicate that Well 5, one of our main water sources, was influenced by nearby Newtown Creek during the flood event. The presence of E.coli in the untreated water was not a violation because our disinfection process meets bacteria and virus removal standards and is continuously monitored. However, because of potential surface water influence, we are required to install a water filtration plant, or develop a new water source, by April 2013.

Due to the change in status of Well 5, we must include the following statement in this report: "Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches."

What does this information mean?

As you can see by the table, our system had no violations. We have also learned through our testing that other contaminants have been detected; however, these contaminants were detected below the level allowed by the State. Additional information can be obtained by calling the safe drinking water hotline at (1-800-426-4791)

Do I need to take special precautions?

Although our drinking water generally 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).

The Village of Horseheads water department 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>. In addition, the Chemung County Health Department can assist you with lead testing.

Information on fluoride addition:

Our system is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that we monitor fluoride levels on a daily basis. During 2010 monitoring showed fluoride levels in your water were in the optimal range 99% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

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 6000 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 2011 we completed another comprehensive leak detection program for a portion of our system. The Village continued its installation of MXU radio readers on an additional 800 meters. We also installed an additional 86 service connections.

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 and our way of life. Please call our office if you have questions (739-5691). Copies of our test reports may be viewed at the Horseheads Library or the Horseheads Village Hall.