

Annual Drinking Water Quality Report for 2002

Lusk and Stony Lonesome Water Treatment Plants

Directorate of Housing and Public Works

West Point, New York

(Public Water Supply ID# 3511887 and 3511338)

Introduction

To comply with State regulations, the DHPW, is issuing this annual 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 drinking water health standards. We are proud to report that our system has never violated 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 about your drinking water, please contact **Mr. Greg Jones**, Chief, Water and Wastewater Branch, at **938-2109**. We want you to be informed about your drinking water. If you want to learn more, please feel free to call anytime between 7:45 a.m. and 4:30 p.m. , Monday through Friday.

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.

Our water sources are the lakes and ponds in the USMA training areas west of Route 9W. The water withdrawn from the lakes is

filtered to remove particulate matter. Chlorine is added to kill microorganisms. Fluoride is also added for dental benefit and sodium carbonate is used for corrosion control prior to distribution.

Facts and Figures

Our water system serves 11,500 people through 1,560 service connections. The total water produced in 2002 was 815,726,000 million gallons. The daily average of water treated and pumped into the distribution system is 2,234,865 gallons per day. During our highest single production day, we treated 4,212,000 gallons of water. Since most of the water service is not metered, we estimate a loss of 10%, which was used to flush mains, fight fires and from resulted from system leaks. In 2002, DHPW charged some activities (e.g., the Mint, DCFA, Post Office) \$1.78 per 1,000 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, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, 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.

It should be noted that drinking water is not "pure" or sterile. All drinking water, including bottled drinking water, may reasonably be 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 Orange County Department of Health at (845) 291-2331.

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Ave./Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Turbidity ⁽¹⁾	No	Daily	Ave. = 0.116 Max = 1.58	NTU	N/A	95% < 0.5 100% < 5.0	Soil Runoff
Chloride	No	8/02	20	mg/l	N/A	250	Naturally occurring or indicative of road salt contamination.

Color	No	8/02	10	Units	N/A	15	Large quantities of organic chemicals or inadequate treatment.
Copper ⁽²⁾	No	7/99	Low = ND Max = 0.159 90% = 0.131	mg/l	13	AL = 13	Corrosion of household plumbing, erosion of natural deposits or leaching from wood preservatives.
Combined radium – 226 and 228	No	11/99	Max = 0.8 Ave. = 0.24	PCi/l	0	MCL = 5	Erosion of natural deposits
Fluoride	No	Monthly	1.0	mg/l	N/A	2.2	Water additive that promotes strong teeth.
Gross alpha activity (including radium – 226 but excluding radon and uranium)	No	11/99	Max = 1.3 Ave. = 0.46	pCi/l	0	MCL = 15	Erosion of natural deposits.
Lead ⁽³⁾	No	9/00	Low = ND Max = 35.8 90% = 8.3	ug/l	0	15	Corrosion of household plumbing systems or erosion of natural deposits.
Manganese	No	8/02	13.4	ug/l	N/A	300	Naturally occurring; indicative of landfill contamination.
Odor	No	8/02	2	Units	N/A	3	Organic or inorganic pollutants and natural sources.
Sodium	No	8/02	Ave.16.3	mg/l	N/A	20 mg/l for people on severely restricted diets	Naturally occurring, road salt or animal waste. Water containing more than 20 mg/l should not be used for drinking by people on severely restricted sodium diets.

Sulfate	No	8/02	9.8	mg/l	N/A	250	Naturally occurring
Total Trihalomehtanes ⁴ (TTHM - chloroform, bromodichlormethant, dibromochlormethane, and bromoform) ⁽⁴⁾ and bromoform)	No	Quarterly	Ave. at Lusk WTP = 42. (range 24-58) Ave at Stony WTP = 80. (range 60 - 110)	ug/l	80	100	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.

Notes:

1 – 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 measurement (1.58 NTU) for the year occurred on May 19th. 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. Although May 2002 was the month when we had the fewest measurements meeting the treatment technique for turbidity, the levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.

2 – The level presented represents the 90th percentile of the 40 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, 40 samples were collected at your water system and the 90th percentile value was the 36th value (0.13 mg/l). The action level for copper was not exceeded at any of the sites tested.

3 – The level presented represents the 90th percentile of the 40 samples collected. In this case, 40 samples were collected at your water system and the 90th percentile value was the 36th value (8.3 mg/l). The action level for lead was exceeded at two of the 10 sites tested.

4 – This level represents the annual quarterly average calculated from data collected.

Definitions:

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.

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.

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

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

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

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

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 New York State requirements. On January 1, 2004, the MCL for total trihalomethanes will change from 100 ug/l to 80 ug/l. As you can see from our Table of Detected Contaminants, our quarterly sampling average was exactly 80 ug/l. To insure we continue to meet this new water quality standard, the DHPW is implementing several operational and process changes to further reduce the total trihalomethane levels. These improvements are discussed in the System Improvements section of this report.

Is our water system meeting other rules that govern operations?

During 2002, 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 were below 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 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.
- 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.

System Improvements

In 2002, the DHPW has initiated several steps to minimize the production of disinfection by-products such as trihalomethanes. To meet new regulatory guidelines, DHPW is aggressively pursuing several operational and process changes to reduced the trihalomethane levels in the finished water. In collaboration with the faculty of the Department of Geography and Environmental Engineering, DHPW has developed procedures to enhance plant operations and reduce the chlorine used for disinfection. Since chlorine reacts in the water to form trihalomethanes, any reduction in chlorine dose, or enhanced removal of organic matter in the water, will help minimize production of these by-products. The DHPW has also established an aggressive maintenance program for fire hydrants, water mains and pump stations to improve the water quality in the Stony Lonesome areas. These efforts should significantly reduce trihalomehtane production, ensuring we are well below the regulatory limit of 80 ug/l. In addition to these studies and process changes, the DHPW has upgraded the water treatment facilities by installing new chlorinators at the Stony Lonesome Plant and adding new turbidity meters at both the Stony Lonesome and Lusk Plants. We have also internally cleaned and inspected all our water storage tanks and have inspected all water mains for leaks. At the Lusk Plant, we will begin automating control valves to improve flow and control water levels in the Plant.

Closing

Thank you for allowing us to continue to provide your family with quality drinking water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. 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.