

Annual Drinking Water Quality Report

The Town of Cape Charles

INTRODUCTION

This Annual Drinking Water Quality Report for 2003 is designed to inform you about your drinking water quality. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect your water supply. The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health (VDH).

If you have questions about this report, please contact Mike Thornes, the Director of Utilities, at (757) 331-1018.

If you want additional information about any aspect of your drinking water or want to know how to participate in decisions that may affect the quality of your drinking water, please contact the Town Office at (757) 331-3259.

The times and location of regularly scheduled Town Council meetings are as 7:30, the second Tuesday of each month, at the Town Hall, at 2 Plum Street (the second floor of the fire house.)

GENERAL INFORMATION

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 activity. Substances (referred to as contaminants) in source water may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban stormwater runoff, residential uses, and many other types of activities. Water from surface sources is treated to make it drinkable while groundwater may or may not have any treatment.

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 can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

SOURCE and TREATMENT OF YOUR DRINKING WATER

The source of your drinking water is groundwater, provided by two deep wells. Both wells are located inside the Cape Charles town limits.

Before being sent to you, the consumer, the water is treated to make it more palatable. First, it goes through Greensand filtration to remove excess Iron and Manganese. Potassium Permanganate is also added to assist this process. As groundwater is naturally quite hard, your drinking water is then softened via Ion Exchange. The water is then disinfected through chlorination, and finally it is fluoridated.

The Virginia Department of Health conducted a Source Water Assessment of the Town of Cape Charles Waterworks in 2001. The East Well and West Well were determined to be of low susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the Source Water Assessment area, an inventory of known Land Use Activities utilized at Land Use Sites in Zone 1, Susceptibility Explanation Chart, and Definitions of Key Terms. The report is available by contacting your waterworks system owner/operator at the phone number or address included in the CCR.

DEFINITIONS

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The table on the next page shows the results of our monitoring for the period of January 1st to December 31st, 2000. In the table and elsewhere in this report you will find many terms and abbreviations you might not be familiar with. The following definitions are provided to help you better understand these terms:

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.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

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

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.

Maximum Contaminant Level, or 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, or 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.

WATER QUALITY RESULTS

Regulated Contaminants

Contaminant	MCLG	MCL	Level Found	Range	Violation	Sample Date	Contamination Source
Fluoride	4ppm	4ppm	1.03ppm	0.76-1.03 ppm	No	monthly sample	Water additive which promotes strong teeth.
Gross Beta	0	***50pCi/L	4.0pCi/L	n/a	No	11/14/01	Decay of natural and man-made deposits
Gross Alpha	0	15pCi/L	1.0pCi/L	n/a	No	11/14/01.	
Combined Radium	0	5p Ci/L	1.6p Ci/L	n/a	No	11/14/01	
Lead*	0	15ppb (AL)	12ppb	0-76ppb	No	9/10/02	Corrosion of household plumbing systems; erosion of natural deposits.
One sample site exceeded the action level for lead.							
Copper**	1.3ppm	1.3ppm (AL)	0.31ppm	0.082-0.450 ppm	No	9/10/02	Same as above

**Copper. The Copper level was below the Action Level at all ten sites.

- ***The MCL for beta particles is 4 mrem/year, but the EPA considers 50pCi/L to be the level of concern.

Unregulated Contaminants

Contaminant Level	Level	Violation Found	Sample Date	Contamination Source
Dibromochloromethane***	4.8	No	10/31/02	Bi-product of chlorination.
Bromoform***	11 ppb	No	10/31/02	Same as above
Bromodichloromethane	1.1ppb	No	10/31/02	Same as above

***-Dibromochloromethane, bromoform and Bromodichloromethane are unregulated by either the EPA or the VDH. Although these are unregulated individually, there are individual MCLGs for some of the individual contaminants.

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The table lists only those contaminants that had some level of detection. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment.

The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old.

MCL's are set at very stringent levels by the U.S. Environmental Protection Agency. In developing the standards EPA assumes that the average adult drinks 2 liters of water each day throughout a 70-year life span. EPA generally sets MCLs at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.

ADDITIONAL HEALTH INFORMATION

In addition to testing for dissolved substances, the Water Department also takes monthly samples for bacteriological contaminants, such as fecal coliforms. Your drinking water has not had a positive test for bacterial contamination in over four years.

The sodium level in your drinking water was found to be 176ppm. There is presently no established standard for sodium in drinking water. Water containing more than 270ppm of sodium should not be used as drinking water by persons whose physician has placed them on moderately restricted sodium diets. Water containing more than 20ppm should not be used as drinking water by persons whose physician has placed them on severely restricted sodium diets.

The test for manganese in the water indicated a level of 92 ppb. The Secondary Maximum Contaminant Level for manganese is 50ppb. The principal reason for limiting the concentration of manganese is to provide water quality control and thus reduce the aesthetics and economic problems. Manganese may cause water to have a black appearance and stain fixtures black. It may impart a bitter taste to water. Because of the problems caused and the difficulty of removing manganese to a residual concentration less than 50 ppb and of measuring such concentrations, it should be limited to a maximum of 50 ppb.

The test for iron indicated a level of 230 ug/l. The Secondary Maximum Contaminant Level for iron is 300 ug/l. Iron is a highly objectionable constituent in water supplies for either domestic or industrial use. Iron may impart brownish discolorations to laundered goods. The taste that it imparts to water may be described as bitter or astringent, and may adversely affect the taste of beverages. Normal diets contain 7,000-35,000 ug of iron each day, with the average being 16,000 ug. The amount of iron permitted in water constitutes only a small fraction of the normally consumed amount and should not be of toxicological significance.

This Drinking Water Quality Report was prepared by the Cape Charles Water Department. If you have any further questions, please contact us by phone at (757) 331-1018.

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