Annual Water Quality Report 2011

"Rock Solid Support"

UNITED STATES COAST GUARD
BASE KODIAK
Public Water System ID #AK2250126

Quality On Tap!
Our Commitment Our Profession

Base Kodiak Reports Quality Drinking Water on Tap.

This pamphlet is a summary of the quality of the drinking water provided to the residents and facility occupants throughout the Base Kodiak complex along with other users of the Base Kodiak potable water supply. It's our 14th annual "Consumer Confidence Report." We want to keep you informed of the excellent water and service the Base Kodiak Water Treatment Plant and production staff has furnished you this past year – as they have done for many years now. Our goal is to provide you with a safe and dependable supply of drinking water.

Points of Contact

If you have any questions about this report or concerns about your water utility, please contact the Base Kodiak Drinking Water Program Manager at 487-5320, extension 208. If you would like more information on drinking water quality standards, the following website is a good source of information (www.epa.gov/safewater). We want our valued customers to be informed about their water utility.

Period of Report

The Base Kodiak Water Treatment Plant operators routinely monitor for potential contaminants in your drinking water according to federal USEPA and state (Alaska Department of Environmental Conservation – ADEC) regulations. The enclosed table summarizes the results of our monitoring for the period of January 1st to December 31st, 2011. The levels of detection noted in the enclosed table reflect the most recent testing results and regulatory guidelines.

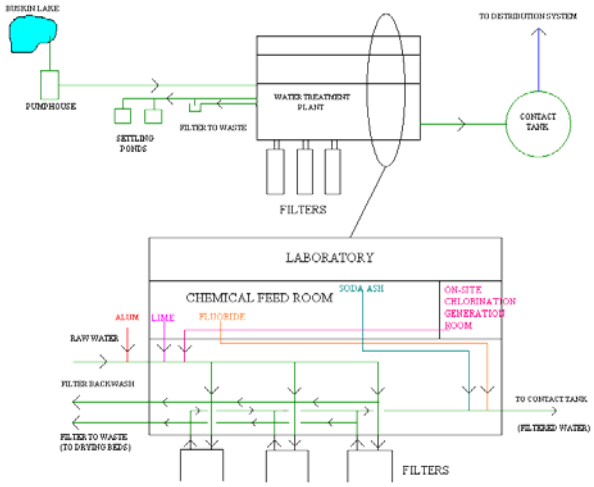
Drinking Water Source

Base Kodiak utilizes a surface water impoundment as an excellent source of water - Buskin Lake.

Buskin Lake (Anton Larsen Road)

Treatment

The water treatment process starts at the source water, Buskin Lake. The Buskin Lake Pump House draws the water from a 43,000-gallon clear well fed by a pipeline and strainer from approximately 50 feet out into Buskin Lake. From the pump house the raw water is pumped to the water treatment plant approximately ¼ mile down stream. Prior to entering the building, aluminum sulfate is added to the raw water, the first of five chemicals added, and then after entering the water treatment plant, lime is added. Aluminum sulfate and lime are coagulants. They enhance the effectiveness of the filtration process. Chlorine is added by an on-site chlorination generation system to disinfect the water. The raw water then flows through two pressure sand filters. After filtration, prior to leaving the water treatment plant, soda ash is added to raise the pH for corrosion control. Upon leaving the water treatment plant, water then enters a contact tank (the big green ball on Anton Larsen Road) to ensure proper water/chlorine mixture before entering the distribution system. The fluoride that is typically added to help reduce dental cavities is temporarily off-line because the water treatment plant is under construction for treatment up-grades.



Water Treatment Plant Schematic

Chlorine Contact Tank

Definitions

In the enclosed table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Action Level (AL)- the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level Goal (MCLG) - The "Goal" is 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 Contaminant Level (MCL) - The "Maximum Allowed" is 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.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of water clarity. Turbidity in excess of 5 NTU is just noticeable to the average person.

Non-Detects (ND) - laboratory analysis indicates that the contaminant is not present within the accuracy of the test.

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* (µg/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

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

Test Results

The table below summarizes the sampling requirements set forth by the ADEC under Title 18 of the Alaska Administrative Code Chapter 80. Some contaminants listed below do not require annual testing. The sampling/testing frequency is shown below the contaminant name.

TEST RESULTS					
Contaminant (Sampling Interval)	Level Detected	MCLG	MCL	Major Sources in Drinking Water	Health Effects
Microbiological Contaminants					
Turbidity (Daily)	[1] 0.260	n/a	0.3 NTU greater than 95% of the time	Soil runoff	Turbidity has no long-term health effects. It can interfere with disinfection causing microbial growth that can cause symptoms such as nausea, cramps, diarrhea and headaches.
Inorganic Contaminants					
Fluoride (Daily)	Not Used	4	4 ppm	Erosion of natural deposits; water additive which promotes strong teeth	Drinking water in excess of the MCL over many years may lead to bone disease.
Nitrate (as Nitrogen) (Every year)	0.157	10	10 ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	Infants 6 months and younger who drink water in excess of the MCL could become seriously ill and, if untreated, may die.
Disinfection By-Products					
TTHMs (Every year)	23.60 Annual Average	n/a	80 ppb	By-product of drinking water chlorination	Drinking water in excess of the MCL over many years may lead to problems with the liver, kidneys or central nervous system, and may lead to an increased risk of cancer.
HAA5s (Every year)	14.60 Annual Average	n/a	60 ppb	By-product of drinking water chlorination	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Other Contaminants					
Lead (2009)	3.10	0	AL =15 ppb	Corrosion of household plumbing: Erosion of natural deposits	If present, elevated levels of lead can cause serious health problems, especially for pregnant woman and young children.
Copper (2009)	0.056	0	AL=1.3 ppm	Corrosion of household plumbing; Erosion of natural deposits	Drinking water in excess of the action level may lead to gastrointestinal problems.
Gross Alpha (2005)	1.1	0	15 PC/L	Increased risk of cancer	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation.
Combined Radium (2005)	0.54	0	5 PC/L	Increased risk of cancer	Erosion of natural deposits.

[1] *Single highest measurement (measured every four hours when pumps are running).*

TTHM/HAA5 Violation : Missed 1st quarter in 2011, but remaining quarterly requirements were met and average results meet the MCLs

In addition to the contaminants listed above, a number of other contaminants have also been sampled/tested for under ADEC requirements. These contaminants include: total coliform bacteria, Fecal Coliform or *E. coli*, and volatile organics. Our sampling results revealed non-detectable limits for all of these contaminants; therefore, they were not included in the table above.

MCL's are intentionally set at very stringent levels to safeguard public health. To experience the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at or above the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

General Information

As water travels over the land or underground, all sources of drinking water are subject to potential contamination by both naturally occurring and man made substances. These substances can be microbes, inorganic or organic chemicals, and radioactive substances. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. However, the presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA Safe Drinking Water Hotline at 1-800-426-4791.

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. USEPA/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 1-800-426-4791.

The Base Kodiak Facilities Engineering Department, Water Treatment Plant operators, and support staff work diligently to provide top quality water at every tap. We ask that you, all our valued customers, help us protect water sources. They are the heart of our community, our way of life, and our children's future. No matter where we live, our actions can influence our streams, lakes, and rivers. Did you know: the earth's surface is approximately 80% water – that's about 362 trillion gallons; 97% of the water on earth is saltwater – only 3% is readily available as fresh water and most of that is stored in glaciers; that people in the Unites States alone use as much as 700 billion gallons of water each day; and that once contaminated, groundwater may remain that way for several hundred to several thousand years before it is cleansed by natural recycling. Lets all help each other ensure that when we turn on the faucet we get what we want - healthy and good tasting water!

Source Water Assessment

The water system for the U.S. Coast Guard Base Kodiak is a Community Water System that obtains water from the Buskin Lake. The intake is located on the east end of the lake and is accessible via road. The overall protection area is approximately 12.5 square miles in size and received a susceptibility rating of "high". *A rating of high to very high is typical for all systems with surface water intakes.* Potential and existing sources of the following contaminants were evaluated for the Source Water Assessment: bacteria and viruses, nitrates, heavy metals, cyanide, and other organic chemicals, volatile organic chemicals, and synthetic organic chemicals. Gravel roads, above ground diesel tanks, and a golf course were identified as potential sources of contaminants. Combining the susceptibility of the surface water source with the contaminant risks, the water system received a vulnerability rating of "medium". We currently have an active Watershed Management Plan for the Buskin Lake area. Copies of these plans are available at the Facilities Engineering Department.

Information on Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant woman and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Base Kodiak 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 two minutes before using water for your water drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in water, testing methods, and steps you can take to minimize exposure is available from the safe Drinking Water Hotline or at www.epa.gov/safewater/lead .