

# 2006 DRINKING Water Quality



## Juneau Drinking Water Quality Continues to Exceed Federal and State Standards During 2006

We are pleased to provide a Water Quality Report containing information that is important to our customers and is required by the Federal Safe Drinking Water Act. This report contains information about the City and Borough of Juneau Water System and covers the period of time from January – December 2006. This report details where your water comes from, what it contains, contact information and a map of our service lines. We welcome your questions and comments.

### JUNEAU WATER SOURCES

There are two sources for Juneau's area-wide water system. Both sources have the capacity to supply the entire system. The Last Chance Basin (LCB) well field on Gold Creek is the primary source. This groundwater source typically supplies about two-thirds of Juneau's total demand of 3.75 MGD.

The secondary source for the water system operates in conjunction with Alaska Electric Light and Power Company's (AEL&P) power generation plant at Salmon Creek (SC). This is an intermittent source due to seasonally high turbidity (cloudiness) and annual AEL&P power plant maintenance. Current ADEC and EPA Surface Water Treatment Rule regulations do not require filtration for this surface water source when the turbidity is within acceptable limits. Salmon Creek typically supplies about one-third of Juneau's water demand.

When both sources are operating, customers north of Hospital Drive are generally served by water from Salmon Creek. The area south of Hospital Drive and all of Douglas Island is generally served by Last Chance Basin water.

### WATER TREATMENT

Neither water source requires filtration. LCB water comes from ground water wells. SC water is monitored regularly to maintain a waiver from the requirement to provide filtration. Both water sources are chlorinated to kill disease causing organisms and had been fluoridated. Soda ash is added to SC water to raise the pH and alkalinity. This reduces copper and lead leaching into the water from in-house pipes. LCB water does not require treatment to minimize leaching of copper or lead based on studies the Utility has performed.

### VULNERABILITY

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 from their health care providers about drinking treated water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from The Safe Drinking Water Hotline (800-426-4791), or at [www.epa.gov/safewater/mcl.html](http://www.epa.gov/safewater/mcl.html).

### WATERSHED PROTECTION

The City and Borough of Juneau has two major programs for protection of its watersheds: The Watershed and Wellhead Protection Program for Gold Creek Source and The Watershed Control Program for Salmon Creek. While these programs restrict development within the watersheds, they allow for public access, however **no dogs** are permitted in the LCB well-field. You are one of the key links to insure that we continue to have clean water available at all times. When hiking in these locations, we ask that you observe and follow the rules posted throughout the sites including cleaning up after your pets. This will insure a high quality source of water for years to come. For more information on these programs, contact the Water Utility at 780-6808.

Water Utility Maintenance personnel engage in exercising valves and managing traffic. (Photo not available online)

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Chemical	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Units	Last Chance Basin Wells	Salmon Creek	Sources of Contaminant
<b>INORGANIC (Measured After Treatment)</b>						
Fluoride	4	4	mg/l	0.0 to 0.98 0.71 avg	0 to 1.0 0.77 avg	Fluoride was added to the water to promote dental health.
Nitrate (as Nitrogen)	10	10	mg/l	0.16	0.074	Nitrate occurs naturally in SE Alaska water
<b>ORGANIC AND DISINFECTION BYPRODUCTS (Measured in the Distribution System)</b>						
Total Trihalomethane (TTHM)	80		ug/l	0 to 0 0 avg	6.31 to 8.44 7.17 avg	Disinfection by-product
Copper	Action Limit 1.3 mg/l		mg/l	0.0098 from 2004	0.098 from 2004	No samples above the Action Limit Copper comes from in-home water pipes
Chloroform	Not regulated		ug/l	0.87	6.45	
Haloacetic Acids (HAA5)	60		ug/l	0 to 5.12 1.3 avg	0 to 10 4.9 avg	Disinfection by-product
<b>CLARITY &amp; ARSENIC (Measured Before Treatment)</b>						
Turbidity	5		NTU	N/A	0 to 5.0 0.62 avg	Suspended materials
Arsenic	10		ug/l	0.4 from 2003	0.62	Naturally occurring in water

## TEST RESULTS

The results contained in the Treated Drinking Water Quality Table are from 2006. The minimum and maximum are provided with the average shown as well except for Arsenic and Chloroform data which reports the maximum value only. The State of Alaska and EPA limit the amount of certain contaminants in drinking water provided by public water systems in order to ensure that tap water is safe to drink.

Monitoring results demonstrate the excellent quality of our water. The CBJ Water Utility had one violation in 2006 for not supplying data developed in 2001, 2003 and 2004 in the 2005 Water Quality Report. CBJ drinking water met or exceeded all state and federal water quality standards for public health protection. Our main goal is to provide you with reliable and safe drinking water.

## SUBSTANCES

**Turbidity** is the amount of suspended material in the water. It typically is inorganic and is not harmful, but may interfere with disinfection. The Salmon Creek water system automatically shuts off when the turbidity exceeds 4 NTU.

**Inorganic Chemicals** include heavy metals, fluoride and nitrate. Less than 1 mg/l of nitrate occurs naturally in southeast Alaska water and is not a concern at this low level.

**Volatile Organic Chemicals (VOC)** are either disinfection by-products such as total trihalomethane (TTHM) formed when naturally occurring organics in water are chlorinated or from contamination by petroleum and similar products.

**Total Organic Carbon (TOC)** is naturally occurring carbon present due to the degradation of organic matter. TOC was measured each month. There is no requirement for TOC removal. TOC was a maximum of 1.2 mg/l at SC and 3.3 mg/l at LCB.

**Radioactive Contaminants** have not been detected.

## FLUORIDE

Fluoride was being added to the water in the form of Sodium Fluoride. The Fluoride level for drinking water was kept between 0.7 and 1.2 mg/l. A CBJ task force recommended that artificial fluoridation cease and the Assembly voted on December 11th 2006 to discontinue the addition of this chemical to the potable water system. The Water Utility waited until 2007 to turn off the Fluoride in order to give its customers ample opportunity to adjust to the change.

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## CAPITAL IMPROVEMENT PROJECTS

The CBJ is continually investing in improvements and major repairs to the Water Utility. Improvements in 2006 include the extension of water to Cohen Drive, booster station pump improvements, replacement of water mains in downtown Douglas and the Valley, replacement of the smart motor controllers for the Utility's pumps, and rebuilding Pressure Reducing Valves.

## CONTAMINANTS

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Contaminants can be in the form of biological or chemical constituents. 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 hotline the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

## BACKFLOW PREVENTION

How can your water get contaminated? If you are preparing weedkiller, fertilizer or a chemical solutions when a drop in water pressure occurs the chemical could be siphoned into the water distribution system. In order to prevent this from occurring, backflow prevention devices should be installed. Most locations are required by regulation to install these devices including garden hose connections, janitor sinks, boilers with glycol or other chemicals in them and food and beverage processing facilities. Approved backflow prevention devices must be installed by licensed plumber or the homeowner. If the homeowner installs the device, the CBJ requires that the device be tested by a licensed installer/tester before use and annually thereafter.

## DEFINITIONS

CBJ	City and Borough of Juneau
CDC	Center for Disease Control and Prevention
DEC	Alaska State Department of Environmental Conservation
EPA	U.S. Environmental Protection Agency
LCB	Last Chance Basin of Gold Creek — location of CBJ's well field
MCL	Maximum Contaminant Level — 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.
MCLG	Maximum Contaminant Level Goal — 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.
MGD	Million Gallons per Day
mg/l	Milligram per liter or parts per million
ND	None Detected at specified level
NTU	Nephelometric Turbidity Unit
SCADA	Supervisory Control and Data Acquisition
ug/l	Microgram per liter or parts per billion

## IF YOU NEED MORE HELP

If you have questions, comments or are interested in learning more about the drinking water system in Juneau, call the Water Utility at 780-6808 or visit our web site at [www.juneau.org/water](http://www.juneau.org/water). Test results are available to the public, either through the CBJ Water Utility office at 5433 Shaune Drive or through the Alaska Department of Environmental Conservation, 410 Willoughby Avenue at 465-5350. Additional resources are available at EPA's website [www.epa.gov](http://www.epa.gov).

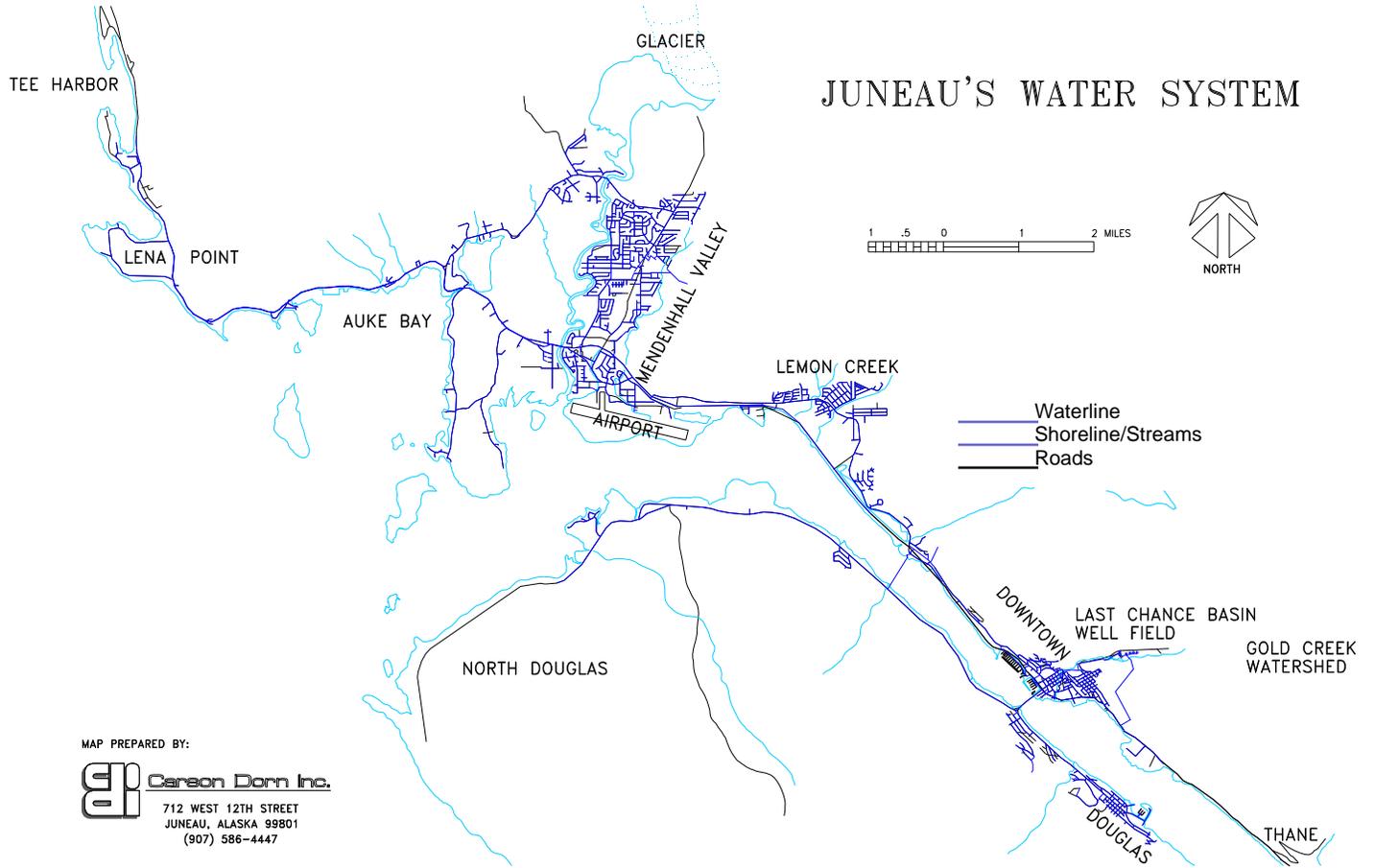
## CONTAMINANTS THAT WERE NOT DETECTED

Besides the detected chemicals listed in the Drinking Water Quality Report on the previous page, the CBJ Water Utility has tested for additional chemicals. These were found to not be present in the drinking water. Because of space considerations we have not listed these non-detected chemicals. If you have an interest in reviewing this list, please contact the Water Utility.

## WHAT IF THE WATER LOOKS STRANGE?

If your water is discolored when it comes from your tap, it may be because we're doing some maintenance or hydrant flushing work in your area, or the fire department may have just used a nearby hydrant. If you notice discoloration of your water, let the water stand for one to two hours, then flush your cold water tap three to five minutes to see if the water is clear. Discolored water may or may not pose a health risk. Often color is related to rust or sediment build-up in the pipes.

Operation Division personnel rebuild a Pressure Reducing Valve (PRV) at the 8th Street PRV station. (Photo not available online)



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