2008 Annual Water Quality Report

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

Juneau Drinking Water Quality Continues to Exceed Federal and State Standards During 2008

We are pleased to provide this annual City & Borough of Juneau (CBJ) Water Quality Report for the 2008 calendar year. It is a requirement of the Federal Safe Drinking Water Act to inform local water users about where our water comes from, how the system works, and how the CBJ is conforming with federal and state drinking water standards. Our goal is to provide you with a safe and dependable supply of drinking water and we believe informed users are an important part of achieving it. If you have any questions or comments about the CBJ drinking water system please contact us at 907-780-6888.

JUNEAU WATER SOURCES

The CBJ area-wide water system is supplied by two sources. Our primary source is the Last Chance Basin (LCB) well field located in the Gold Creek Valley above downtown Juneau. Our secondary source is the Salmon Creek (SC) reservoir located several miles north of downtown Juneau. When both sources are operating, water customers located south of Hospital Drive and all of Douglas Island are generally supplied by Last Chance Basin and those located north of Hospital Drive are supplied by Salmon Creek.

Last Chance Basin—Ground Water

The LCB is a year-round groundwater source which typically supplies about two-thirds of Juneau's total demand of 3.75 MGD. The boundaries of the LCB are defined as "all lands within the Gold Creek Watershed between the Gold Creek steel vehicle bridge and the base of Ebner Falls". The Alaska Department of Environmental Conservation (ADEC) conducted a Source Water Assessment for the LCB and established a natural susceptibility rating of medium for it. The vulnerability rating was low for bacteria/viruses, low for nitrates/nitrites, medium for volatile organic chemicals, high for heavy metals, low for organic chemicals, and low for synthetic organic chemicals.

Salmon Creek—Surface Water

The SC water supply operates in conjunction with the Alaska Electric Light and Power Company's (AEL&P) Salmon Creek hydropower plant. The boundaries of the SC watershed are defined as "all land which is higher in elevation than the Salmon Creek Dam and which drains into the Salmon Creek Reservoir". This is an intermittent surface water source which typically supplies about one-third of local demand. It is used intermittently because it must be taken off line during seasonal high turbidity (cloudy water) events and when AEL&P is performing power plant maintenance. The ADEC Source Water Assessment conducted for this surface water source has given the overall watershed protection area a susceptibility rating of very high. The vulnerability rating was medium for bacteria/viruses, medium for heavy metals, medium for volatile organic chemicals, very high for nitrates/nitrites, and medium for volatile organic chemicals, medium for synthetic organic chemicals. Current ADEC and EPA regulations do not require filtration for this surface water source because it is taken offline during high turbidity events.

WATER TREATMENT

Our water sources do not require filtration because the LCB water comes from ground water wells and the SC water source is monitored and operated in accordance with a waiver from the requirement to provide filtration. The water originating from both sources is chlorinated to kill disease causing organisms. In addition, 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. The CBJ water supply has been non-fluoridated since January 2007.

WATERSHED PROTECTION

The CBJ has programs and ordinances to protect the Gold Creek, LCB and SC watersheds which restrict development within their boundaries and allow limited public access to them.

Camping is prohibited within the LCB, all pets must be leashed, and pet keepers must remove all pet waste left by their dogs. The entrance of the LCB is gated and is posted **NO Shooting, Hiking, Dogwalking, Camping, Trespassing of any Kind.** Recreational mining with devices other than gold pans is prohibited within the LCB and all of the Gold Creek Watershed above the LCB.

Fuels, lubricants, or hazardous substances are prohibited within the SC watershed.

Please do your part to protect our drinking water supply.

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 and 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.

2008 DRINKING WATER TEST RESULTS

The table below presents a summary of CBJ water system water quality test results for 2008. For most tests the minimum and maximum test levels are provided with the average shown. The data for Arsenic and Nitrate report the maximum values 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.

Test	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Units	Last Chance Basin Wells	Salmon Creek	Sources of Contaminant
Total Coliform Bacteria	1 positive monthly sample	n/a	Presence/ Absence	0		Naturally present in the environment.
Total Organic Carbon	n/a	n/a	mg/l	0.23 avg 0.00 - 1.20		Naturally present in the environment.
INORGANIC (Measured After Treatment)						
Fluoride (through Jan. 2007)	4	4	mg/l	0.72 avg 0.56 - 0.80	0.74 avg 0.68 - 0.81	Naturally present in environment & additive to promote strong teeth. Not added since Jan. 2007
Nitrate (as Nitrogen)	10	10	mg/l	1.60	1.48	Fertilizer runoff; sewage leaching, Erosion of natural deposits.
Arsenic	10	0	ug/l	0.507	0.332	Erosion of natural deposits.
Radium 226	5	0	pCi/L	0.28	0.11	Erosion of natural deposits
ORGANIC AND DISINFECTION BYPRODUCTS (Measured in the Distribution System)						
Total Trihalomethane	80	n/a	ug/l	2.99 avg 0.00 - 6.50		By-product of drinking water chlorination.
Copper	AL=1.3	1.3	mg/l	90th percentile = 0.207 Based on 2007 test results		Corrosion of household plumbing systems; Erosion of natural deposits.
Lead	AL=15	0	ug/l	90th percentile = 1.7 Based on 2007 test results		Corrosion of household plumbing systems; Erosion of natural deposits.
Chlorine	MRDL=4	MRDL=4	mg/l	0.44 avg 0.10 - 0.70		Water additive used to control Microbes.
Haloacetic Acids	60	n/a	ug/l	7.37 avg 0.00 - 10.60		By-product of drinking water disinfection.
CLARITY (Measured Before Treatment)						
Turbidity	5 (TT)	n/a	NTU	1.16 avg 0.00 - 5.00	1.14 avg 0 to 5.0	Soil runoff

Review of the above test results demonstrates the excellent quality of our drinking water supply during 2008 when the water utility met or exceeded all state and federal water quality standards for public health protection.

POTENTIAL WATER CONTAMINANTS

Drinking water sources (both tap and bottled water) include rivers, lakes, streams, reservoirs, and wells. As water travels over land or through the ground it dissolves naturally-occurring minerals (including radioactive material in some cases), and can pick up substances originating from the presence of humans and animals.

Contaminants that may be present in source waters include:

Microbial contaminants, such as viruses and bacteria, which may come from humans or animals.

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or originate from mining activity.

Organic contaminants, including synthetic and volatile organic chemicals such as total trihalomethanes, form when naturally occurring organics in water are chlorinated or from contamination by petroleum and similar products.

The Environmental Protection Agency (EPA) limits the amount of certain contaminants in public water systems to ensure that tap water is safe to drink. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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's Safe Drinking Water Hotline (800-426-4791).

BACKFLOW PREVENTION

How can your water get contaminated? If you are preparing a chemical solution in a container attached to your water supply and a drop in water pressure occurs, it could be siphoned back into the water system. The CBJ Plumbing Code has regulations to prevent this by requiring the installation and inspection of backflow prevention devices. Approved devices must be installed by licensed plumber, or the property owner, and inspected before use. The plumbing code also requires that devices in high hazard locations, as identified in Section 19.06.2.104.1, be tested annually by a licensed installer/tester.

ABBREVIATIONS

AL	Action Level—The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
CBJ	City and Borough of Juneau
CDC	Center for Disease Control and Prevention
ADEC	Alaska State Department of Environmental Conservation
EPA	U.S. Environmental Protection Agency
FDA	U.S. Food & Drug Administration
LCB	The CBJ's Last Chance Basin water source
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
MRDL	Maximum residual disinfectant level—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.
ND	None Detected at specified level
NTU	Nephelometric Turbidity Unit
SC	The CBJ's Salmon Creek water source
SCADA	Supervisory Control and Data Acquisition
TT	Treatment Technique—A required process intended to reduce the level of a contaminant in drinking water.
ug/l	Microgram per liter or parts per billion

WAIVERS

The CBJ water system operates under a waiver for reduced asbestos monitoring authorized by the State of Alaska based on a historical records indicating pristine water quality.

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 that 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 at 907-780-6888.

WHAT IF THE WATER LOOKS STRANGE?

If your water is discolored when it comes from your tap, it may be because the water utility is 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 and is often related to rust or sediment build-up in the pipes.

CAPITAL IMPROVEMENT PROJECTS

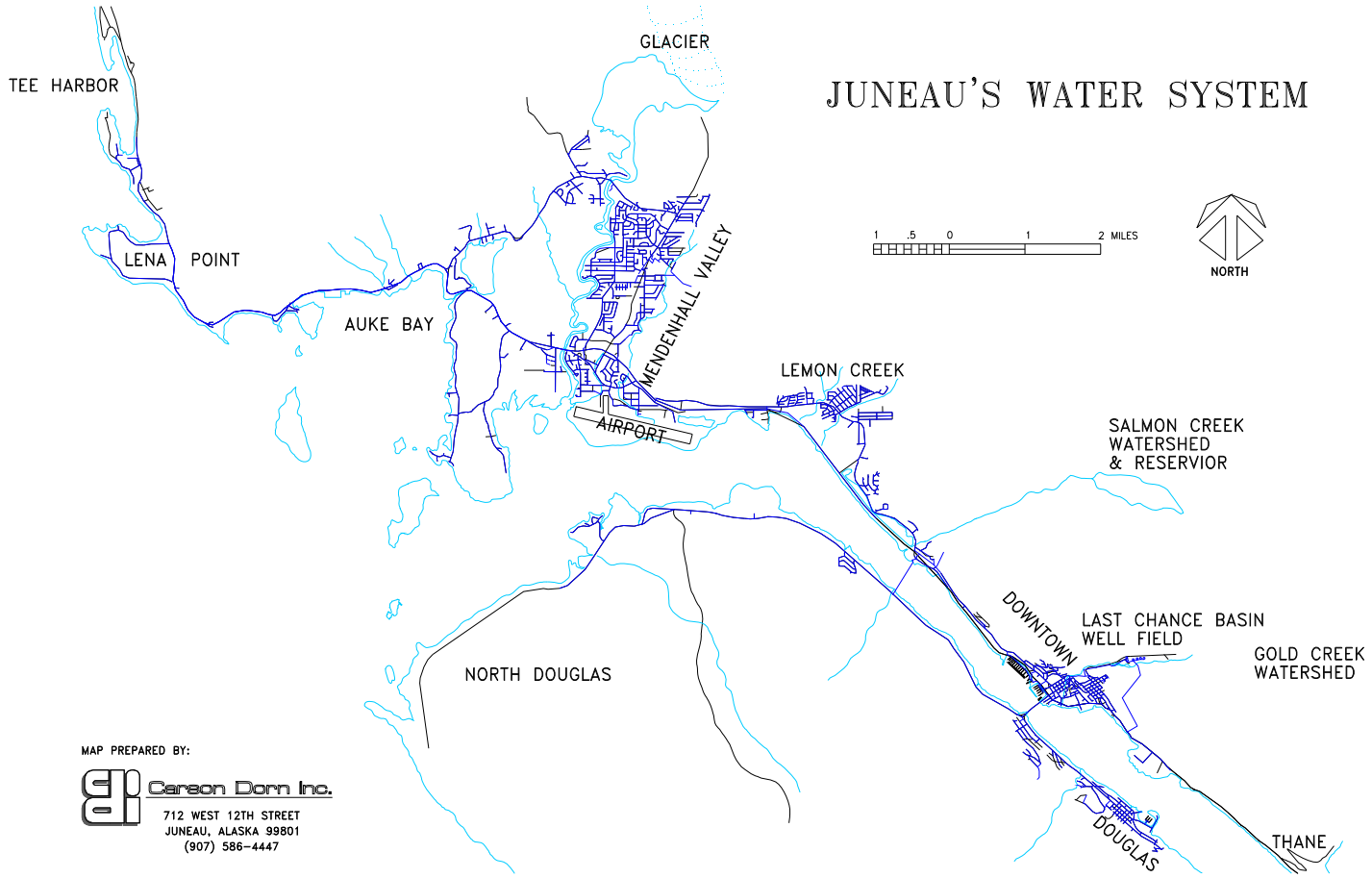
The CBJ is continually investing to improve and repair the local water system. Current year projects include a well reconditioning program in the LCB well field as well as upgrading mechanical, electrical, energy efficiency, and the SCADA installation for the overall water system. Current capital improvement projects include reconstruction of aging water systems in the West 11th Street and Radcliff Road neighborhoods and environmental rehabilitation in the Jordon Creek area.

FOR MORE INFORMATION

Thanks for taking the time to read this report and doing your part to protect our local water supply. Please contact us if you have questions, comments or are interested in learning more about the CBJ drinking water system. The CBJ Water Utility office is located at 5433 Shaune Drive in the Lemon Creek area. Our phone number is 907-780-6888 and you can visit our web site at www.juneau.org/water.

Drinking water test results are available to the public at the CBJ Water Utility office and through the Alaska Department of Environmental Conservation, 410 Willoughby Avenue at 907-465-5350.

Additional resources are available at EPA's website www.epa.gov.



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City & Borough of Juneau

CBJ Water Utility
5433 Shaune Drive
Juneau, AK 99801

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