



Annual Water Quality Report

CITY OF GOLDEN

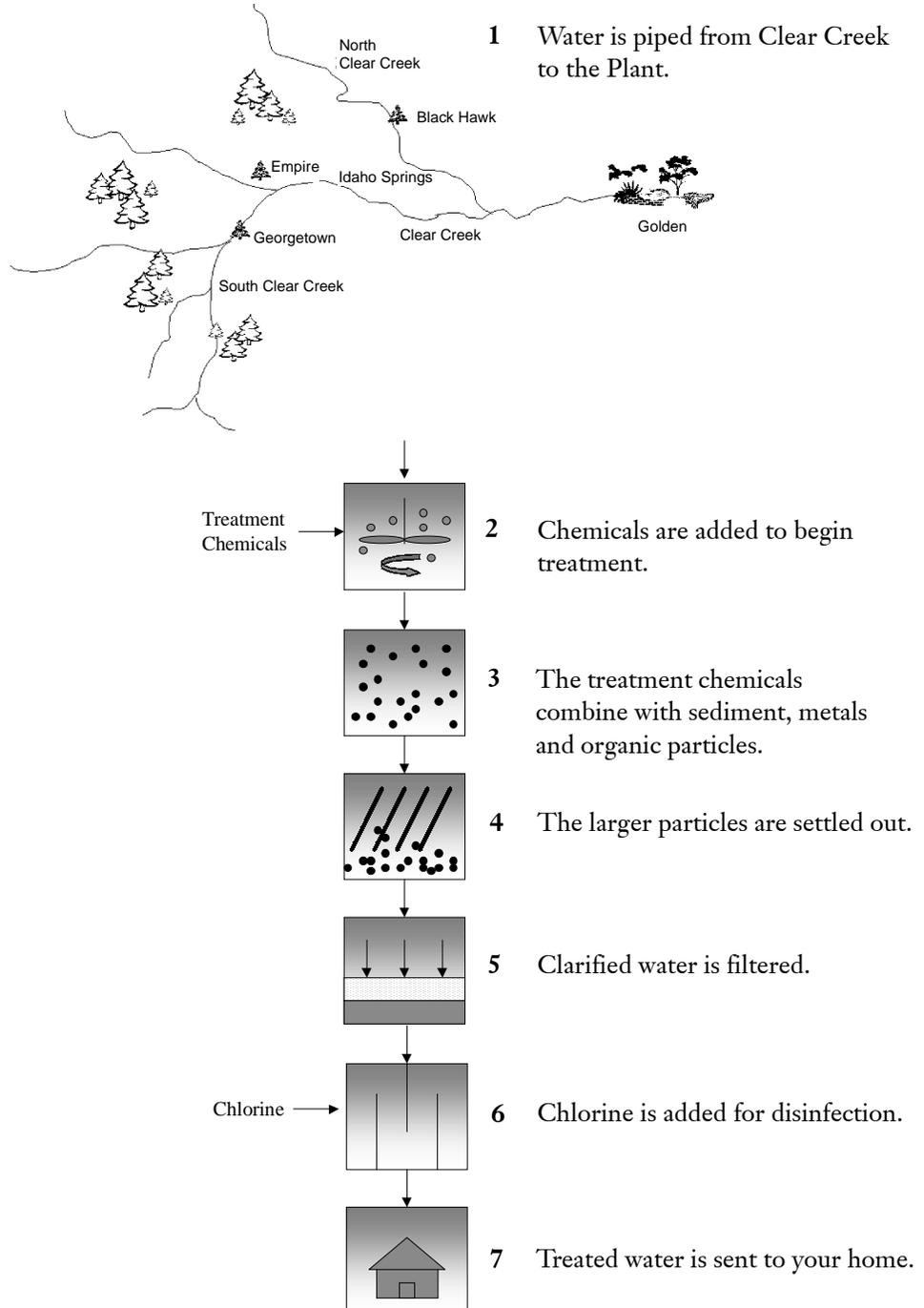


The City of Golden is pleased to provide you with your 3rd Annual Water Quality Report. This report is a summary of the quality of water provided to you in 2000.

The Water Partnership—

The Partnership for Safe Drinking Water is a volunteer program, originally established by the American Water Works Association and the Environmental Protection Agency. The Partnership provides guidance to perform self-evaluation of water treatment plants and establishes rigorous water treatment goals, above and beyond those required by current federal regulations.

In addition to the Partnership program, the City participates in two American Water Works Research Foundation projects. One focuses on computer control systems and the other focuses on innovative ways to measure pathogen removal. The plant staff is working with researchers to learn more about the latest technology to optimize effective water treatment.





From Clear Creek to Your Tap

For Your Information

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, reservoirs, ponds, 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 materials, and can pick up substances resulting from the presence of animals or from human activity.

Treatment of Clear Creek water begins at the plant with sedimentation, where particles and metals attach to each other (coagulation) and settle out (flocculation). Next the water is filtered, followed by disinfection as the final step. At this point it is dispersed as potable water for community use. The treated water is pumped to two reservoirs and 8 tanks around town. From there it is gravity fed through underground distribution pipes to your home. The water treatment plant serves a population of 17,000 and can be readily equipped to provide water for 25,000 residents. The plant is currently capable of a maximum output of 13 millions of gallons per day.



The State of Colorado Source Water Protection Program

The State has adopted a new strategy to help protect Colorado's public drinking water supplies called the **Source Water Assessment and Protection Program (SWAP)**. In conjunction with other communities and federal and state agencies, the City will help to develop a plan to protect our water resource before it arrives at the plant for treatment. It is a **watershed wide** program

intended to consolidate efforts in assessing and addressing potential threats to the water quality of Clear Creek. Using a Global Positioning System (GPS) and a Geographical Information System (GIS) communities will have readily available information about where all sources are to Clear Creek, any susceptible areas in the watershed and an inventory of potential sites for contamination. Local citizens will have access to this information and are encouraged to become involved in this start up program. For more information please contact the Environmental Services Division.





What's in Your Water?

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800) 426-4791.

A Word About Water Quality and Your Health

In 2000, Golden's certified drinking water laboratory and the water treatment plant staff performed over 25,000 analyses on Clear Creek and on the finished drinking water at the plant and various homes around town. Because Clear Creek is our only water source, the City is committed to continual monitoring of the treatment process from start to finish to ensure the healthiest drinking water possible. It's important to keep in mind that all drinking water, including bottled 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.

The Arsenic Issue

Arsenic has become an increasingly controversial topic of public concern. The following information may help give a better understanding of the issue.

Arsenic is a naturally occurring element found in the earth's crust, air, water (especially ground water), plants, and animals. It is released into the environment by volcanic activity, erosion of rocks and minerals, forest fires, the burning of fossil fuels, cigarette smoke, mining activities, and the manufacturing of various products. It is also used in pesticides and wood preservatives. It is a potential carcinogen in its inorganic forms, however, the effects of arsenic on health are complicated to assess. Problems with arsenic in groundwater supplies do exist in some areas in Colorado but the drinking water supply for Golden contains no arsenic.

The Safe Drinking Water Act Amendments of 1996 required the Environmental Protection Agency to revise the existing standard of 50 parts per billion (ppb) for arsenic in drinking water. In January 2001 the EPA revised this to a maximum contaminant level of 10 ppb. In May of 2001 the EPA finalized a nine month delay in the effective date of the reduced arsenic standard. This was done to provide the time needed to thoroughly reassess the health risks and compliance costs related to this regulation. The review is intended to provide individuals and public water suppliers with the confidence that the finalized revision will be based on sound science and accurate cost estimates. The new rule is scheduled to go into effect February 22, 2002. Watch for new developments.

Monitoring for Organic Contaminants

Last year, Golden was required to analyze its drinking water for a list of organic contaminants (both regulated and non-regulated) as part of the State's mandatory monitoring program. This list contains over 90 different chemicals that could potentially contaminate a drinking water supply. These substances can be found in gasoline or other fuels, fertilizers and pesticides or from industrial processes. They can enter a source water supply through stormwater runoff or contaminated septic systems. In 8 years of monitoring, Golden has never had a positive result for any of these chemicals.



This table lists all the substances found in Golden’s drinking water supply for the 2000 calendar year. During this reporting period, our water quality has met or surpassed all EPA and State standards. In order to help you better understand the terms and abbreviations in the table, we have included a list of definitions.

Detected Regulated Substances

	Parameter	Detected Level	Range	MCL	MCLG	Violation? Y/N	Potential Sources
Regulated at the Treatment Plant	Fluoride, ppm	0.72	0.33 - 0.72	4	4	n	Erosion of Natural Deposits
	Nitrate, ppm	0.32	n/a	10	10	n	Wildlife/Fertilizer Run-off
	Turbidity, NTU	0.234	n/a	TT	none	n	Natural Run-off
	Beta emitters, pCi/L	2.4	n/a	50	0	n	Decay of Natural Deposits
	Alpha emitters, pCi/L	0.2	n/a	15	0	n	Decay of Natural Deposits
	Barium, ppb	0.04	n/a	2	2	n	Refinery discharge
	Regulated in the Distribution System	Total Trihalomethanes, ppb	57.7	26 - 74.5	100	0	n

* Highest single measurement for 2000. Monthly averages must be less than 0.5 NTU 95% of the time. Golden's average in 2000 - 100%.

Detected Unregulated Substances

	Parameter	Average	Range	MCL	SMCL	Violation? Y/N	Potential Sources
Monitored at the Treatment Plant	Sulfate, ppm	78	n/a	Not Regulated	250	n	Erosion of Natural Deposits
	Sodium, ppm	22	n/a	Not Regulated	None	n/a	Erosion of Natural Deposits
	Chloroform, ppb	8.1	n/a	Not Regulated	None	n/a	By product of Chlorination
	Bromodichloromethane, ppb	4.9	n/a	Not Regulated	None	n/a	By product of Chlorination
	Chlorodibromomethane, ppb	1.4	n/a	Not Regulated	None	n/a	By product of Chlorination
Monitored in the Distribution System	Total Haloacetic Acids, ppb**	20.9	n/a	60 proposed	None	n/a	By-product of Chlorination

** Tested as part of an EPA information collection rule.

Other Substances Detected - Unregulated but of Public Interest

	Parameter	Average	Range	MCL	SMCL	Violation? Y/N	Potential Sources
	Manganese, ppm	0.005	0.001 - 0.012	Not Regulated	0.05	n/a	Erosion of Natural Deposits

Definitions

- **Maximum Contaminant Level Goal (MCLG):** The level of 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 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.
- **Treatment Technique (TT):** A required process intended to reduce the level of contaminant in drinking water instead of a MCL.
- **ppm:** parts per million - corresponds to one inch in 16 miles
- **NTU:** nephelometric turbidity unit, used to measure water clarity
- **ppb:** parts per billion - corresponds to 1 inch in 16,000 miles
- **pCi/L:** picocuries per liter, used to measure radioactivity
- **Secondary Maximum Contaminant Level (SMCL):** Non enforceable levels that primarily affect the aesthetic quality of drinking water.
- **n/a** - not applicable

Questions/Comments

If we have left any questions unanswered, if you are interested in a tour of the water treatment plant and lab or have any comments for us, please call Golden’s Water Quality Lab at (303) 384-8181. We are located at 1445 10th St., Golden, CO 80401. We can also be reached at ESDivision@ci.golden.co.us. The first 10 residential consumers who contact us with feedback on this report will qualify for \$25 worth of water off their next water bill. So let us hear from you and water your lawn on us.

If You Have Special Health Concerns:

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, also elderly and infants can be particularly at risk from infections. These people should seek advice from their health care providers about food preparation, sanitation and handling of infants or pets. 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 toll free at (800) 426-4791 or on the Internet at www.epa.gov/ogwdw.