



C I T Y O F G O L D E N



Guanella Reservoir

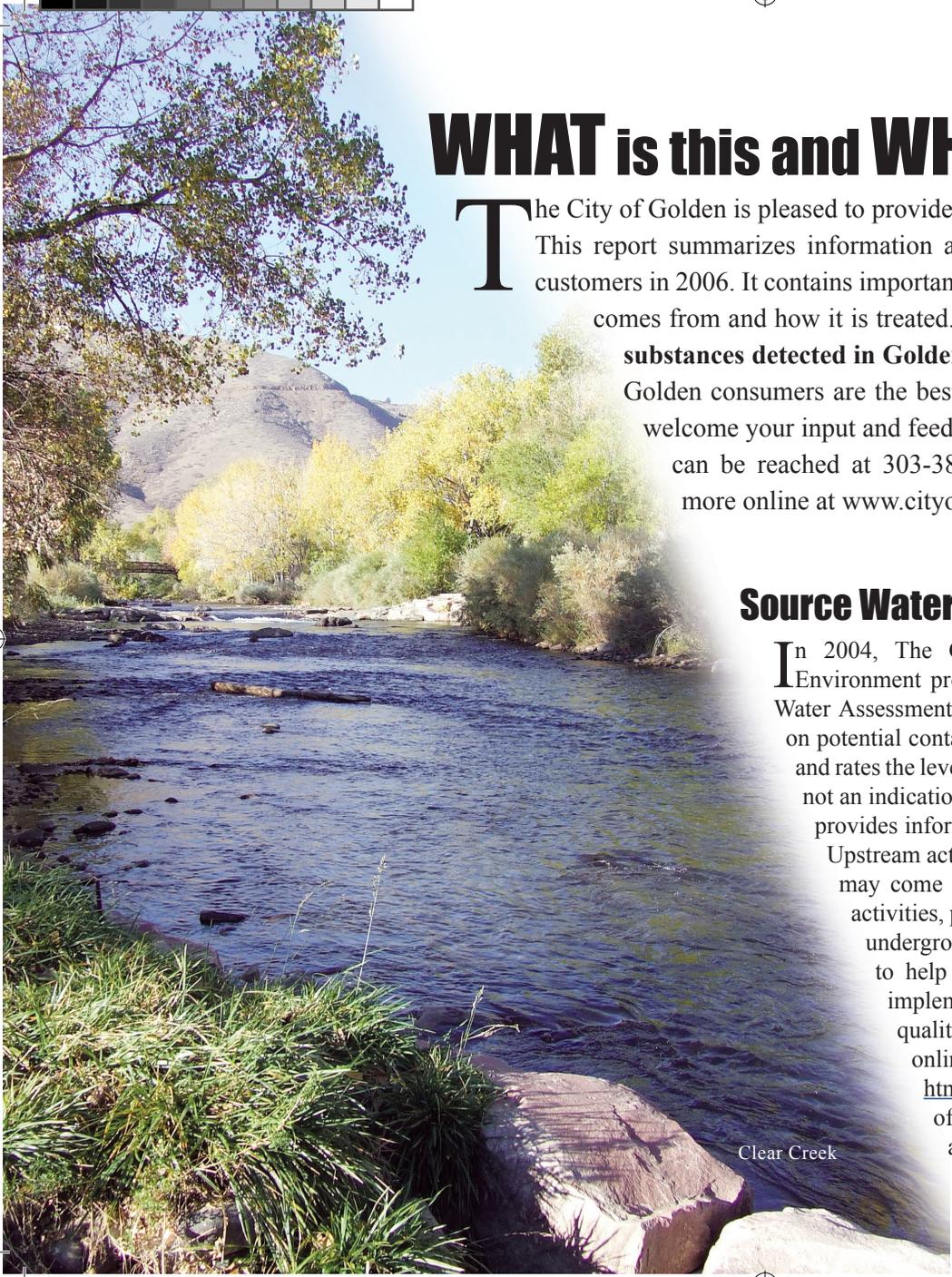
W A T E R Q U A L I T Y R E P O R T

2006





WHAT is this and WHY do we do it?



The City of Golden is pleased to provide you with the Annual Water Quality Report. This report summarizes information about the quality of the water provided to customers in 2006. It contains important information about drinking water, where it comes from and how it is treated. **There were no violations in the levels of substances detected in Golden's drinking water during 2006.** Informed Golden consumers are the best advocates for safe drinking water and we welcome your input and feedback. The Environmental Services Division can be reached at 303-384-8181 or esdiv@cityofgolden.net Learn more online at www.cityofgolden.net.

Source Water Assessment and Protection



In 2004, The Colorado Department of Public Health and Environment provided all public water systems with a Source Water Assessment Report. Golden's report contains information on potential contamination sources in the Clear Creek watershed and rates the level of susceptibility to those sources. The report is not an indication of the current water quality in Clear Creek but provides information on possible impacts to our water supply. Upstream activities that could potentially impact Clear Creek may come from abandoned mines or mine site clean up activities, permitted discharge facilities, or aboveground or underground tanks. The Source Water reports are designed to help water suppliers, like Golden, to develop and implement water management strategies to protect the quality of our drinking water. The report is available online at www.cdphe.state.co.us/wq/sw/swaphom.html or may be obtained by contacting the City of Golden Environmental Services Division at 303-384-8181.

Clear Creek



Water Sources

Golden's drinking water source is exclusively Clear Creek and its tributaries. As it flows through the watershed, it may pick up substances from construction and highway maintenance, mining and remediation projects, land and rock slides, septic systems and pollutants transported by stormwater runoff. Contaminants that may be present in raw water sources include: bacteria and viruses, salts and metals, pesticides and herbicides from agricultural runoff, organic contaminants from petroleum spills and gas stations, and radioactive contaminants that are naturally occurring or as a result of mining activity.

In order to ensure that tap water is safe to drink, the EPA has set regulations that limit the amount of certain contaminants in water provided by public water systems.



If You Have Special Health Concerns:

Because not all contaminants can be completely eliminated, 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.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised individuals, such as such as persons undergoing chemotherapy, persons who have undergone organ transplants,

those with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk for infection. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the EPA/CDC guidelines to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants, contact the EPA Safe Drinking Water Hotline toll free at 1-800-426-4791.



Contaminant Monitoring Results

Detected Unregulated Substances

Monitored leaving the treatment plant

Substance	Sample Date	Average	Range Found	MCL	SMCL	Common Sources
Sodium, ppm	3-6-2006	32	n/a	Not Regulated	None	Erosion of Natural Deposits
Total Dissolved Solids, ppm	3-31-06	299	116 - 299	Not Regulated	500	Natural Run-off
Bromodichloromethane, ppb	3-26-06	2.4	n/a	Not Regulated	None	By-product of chlorination
Chloroform, ppb	6-26-06	7.1	n/a	Not Regulated	None	By-product of chlorination

Other Substances Detected (unregulated but of public interest)

Monitored in the distribution system

Substance	Sample Date	Average	Range Found	MCL	SMCLG	Common Sources
Manganese, ppm	monthly	0.01	0.006 - 0.016	n/a	0.05	Erosion of Natural Deposits
Iron, ppm	monthly	0.008	0.001 - 0.022	n/a	0.3	Erosion of Natural Deposits

Glossary of Terms and Definitions

Action Limit (AL): The concentration, which if exceeded, triggers a treatment modification. 90% of households tested must be below the AL.

C/100ml: Counts per 100 milliliters

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set at close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (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.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of drinking water disinfectant below which there is no known health risk.

n/a: - not applicable

NTU: nephelometric turbidity unit, used to measure water clarity

pCi/L: picocuries per liter, used to measure radioactivity

ppb: part per billion - corresponds to 1 inch in 16,000 miles

ppm: part per million - corresponds to one inch in 16 miles

Running Annual Average (RAA): Annual average based on weekly or quarterly monitoring.

Secondary Maximum Contaminant Level (SMCL): Non-enforceable levels that primarily affect the aesthetic quality of drinking water.

Secondary Maximum Contaminant Level Goal (SMCLG): The desirable goal, but not enforceable.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water instead of a MCL.

Detected Regulated Substances

Monitored leaving the treatment plant

Substance	Sample Date	Average	Range Found	MCL	MCLG	No Violations	Common Sources
Barium, ppm	3-1-06	0.032	n/a	15	0		Natural Erosion
Fluoride, ppm	monthly	0.74	0.43 - 1.05	4	4		Natural Erosion
Nitrate, ppm	3-1-06	0.49	n/a	10	10		Fertilizer Run-off
Turbidity, NTU <i>(measures of the cloudiness of water. It is a good indicator of the effectiveness of our filtration system)</i>	10-23-06	0.168*	highest single measurement	TT	None		Natural Run-off
Total Organic Carbon (TOC), ratio <i>(TOC, reported as a ratio, must remain above 1.0 for optimal water treatment.)</i>	monthly - RAA	1.38	1.2 - 1.52	TT	TT	Naturally present in the environment	

Monitored in the distribution system

Substance	Sample Date	Average	Range Found	MCL	MCLG	No Violations	Common Sources
Total Trihalomethanes, ppb	quarterly RAA	37.12	22.4 - 65	80	n/a		By-product of Chlorination
Total Haloacetic Acids, ppb	quarterly RAA	19.55	10.1 - 33	60	n/a		By-product of Chlorination
Chlorine (free), ppm	quarterly RAA	0.89	0.13 - 1.36	MRDL - 4	MRDLG - 4	Drinking Water Disinfectant	

Monitored at consumer taps

Substance	Sample Date	Average	Range Found	AL	MCLG	No Violations	Common Sources
Lead, ppb	2005-2007	0	0	15	n/a		Corrosion of household plumbing
Copper, ppm	2005-2007	0.044	0	1.3	n/a	Corrosion of household plumbing	

The requirement to monitor for lead and copper at consumer taps has been reduced to once every 3 years.

*Monthly averages must be less than 0.3 NTU for 95% of the time. In Golden, 100% of all turbidity measurements were less than 0.3 NTU for 2006.



Water Quality in Clear Creek is Everyone's Responsibility

Stormwater runoff (rain and snowmelt) from urban areas is known to be a significant source of pollution to creeks, rivers, lakes and reservoirs. Pollutants can have harmful effects on drinking water supplies, recreation and wildlife.

It is more effective and economical to prevent contamination of a raw water supply than to clean up a polluted source. Every citizen can take steps to maintain and improve the quality of water in Clear Creek, Golden's drinking water source. Here's how:

1. Pick up after pets and throw waste in the trash.
2. Minimize or eliminate the use of lawn and garden chemicals.
3. Conserve water in the landscape – if water is running down the gutter, you're over-watering.
4. Repair your car as soon as leaks are noticed.
5. Take your car to a commercial car wash, where the wastewater is treated, rather than washing it in the driveway.
6. Take unused portions of household chemicals to the Rooney Road Recycling Center. Call 303-316-6262 to schedule an appointment for a drop-off at the facility or a pick-up from home.
7. Volunteer to Adopt-a-Spot in Golden and help keep trails, drainage ways and open space litter-free. Call 303-384-8155 for information and to sign-up.



Water Treatment Plant Being Upgraded

The City of Golden's Water Treatment Plant is excited to be upgrading its SCADA (Supervisory Control and Data Acquisition) system over the next several years. The SCADA system allows City staff to monitor water quality throughout the treatment process. It also allows them to control the plant electronically and has automatic functionality.

To keep up with new technologies and phase out aging hardware, replacement of the existing system will be implemented over the next several years. The new system will allow staff to utilize the data and controls more effectively, ultimately making the treatment plant more efficient. As part of this upgrade, an aggressive preventative maintenance plan for equipment is being established. A proper preventative maintenance program limits general maintenance and operational costs. This also predicts future budget issues more accurately.





Help Prevent Backflow from Sprinkler Systems

Sprinkler systems for watering your lawn, garden or shrubbery make landscaping maintenance much more convenient than hand watering with a garden hose. But when a sprinkler system is installed, it creates a potentially dangerous situation.

The chemicals, pesticides, fertilizers and animal waste that is on the lawn or in the mulch around your plants become a potentially life-threatening source of contamination to your drinking water.

By installing a sprinkler system, a direct cross-connection between these contaminants and your plumbing system is created. Should a backflow event occur, the contaminants may be drawn backward from the lawn into the house. If the event lasts long enough, contaminants can even draw back into the City's distribution system. Once the event is over, the contaminants in the plumbing system will come out somewhere, such as in a glass of water from your kitchen sink or in your neighbor's house.

Anytime a sprinkler system is installed, a plumbing permit is required. By obtaining a permit, or insisting that your contractor obtain a permit, the City can make sure that the proper protection is installed as part of the sprinkler system. Once the proper backflow preventer is installed, it must be inspected and maintained to ensure that it functions properly.

Keeping the water safe is everyone's responsibility. If you have a sprinkler system, please make sure it is properly isolated and the backflow preventer is properly maintained.

If you have any questions about backflow prevention on your system you may contact the City's Cross-Connection Control Program Administrator at backflow@cityofgolden.net or 303-384-8178.

Golden's New North Water Storage Reservoir

Golden is constructing a new 1.25-million-gallon storage reservoir that will store treated water for residents on the north side of town. The old reservoir, built in the 1930s, will be demolished and the hole filled. The new tank will be underground and the area above landscaped.

Here are some quick facts about our new tank:

1. 128-foot inside diameter, 14-foot tall
2. \$ 1.9 million dollars to construct
3. Post-tensioned circular concrete construction
4. Tank elevation is at 6000-feet above sea level

You can view the progress being made on this project by going to the City web site, clicking on the Public Works Department and going to Capital Projects/6000 North Reservoir.





North Reservoir
Under Construction

ESPAÑOL

Este informe contiene información importante sobre su agua de beber. Si no puede leer, por favor busque la ayuda de alguien que lo puede traducir.

For more information, contact:



City of
Golden

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