The 1996 Safe Drinking Water Act Amendments directed that each state develop a Source Water Assessment and Protection (SWAP) Program. This Program is that each state develop a Source Water Assessment and Protection (SWAP) Program. This Program is designed to provide the consuming public information about their drinking water, as well as provide the community with a way to get involved in protecting the quality of that drinking water. The concept behind SWAP is that by providing citizens with fundamental knowledge about their drinking water sources, they will be the most effective advocates for protecting it.

The State of Colorado will perform the source water assessments for public water supplies across the State. When the assessments are completed in August 2003, the information will be available to the public. For more information about Colorado’s SWAP Program, visit http://www.cdphe.state.co.us/wq/sw/swaphom.html.

Annual Drinking Water Quality Report
City of Greeley, Colorado
for Reporting Year 2002

How Can I Help Protect Greeley’s Water Supply?
The 1996 Safe Drinking Water Act Amendments directed that each state develop a Source Water Assessment and Protection (SWAP) Program. This Program is designed to provide the consuming public information about their drinking water, as well as provide the community with a way to get involved in protecting the quality of that drinking water. The concept behind SWAP is that by providing citizens with fundamental knowledge about their drinking water sources, they will be the most effective advocates for protecting it.

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Partners for Safe Water

Water Quality Information
Updated Water Restrictions
Drought Information
And much more!
Why am I Receiving This Report?

Congress amended the Safe Drinking Water Act in 1996 to require most drinking water suppliers to provide annual reports on the quality of their drinking water. The first such reports were required for data generated during calendar year 1998. Greeley distributed that report to its customers in the fall of 1999. This, the fifth annual water quality report, covers data from calendar year 2002 for the City of Greeley public water system. The report provides an excellent opportunity for our customers to learn more about the quality of the water they consume.

Where does Greeley Get Its Water?

Greeley drinking water comes from surface waters located in three major river basins: the Cache la Poudre River, the Big Thompson River, and the Colorado River. Greeley also uses six high-mountain reservoirs in the Cache la Poudre River basin (Barnes, Longs, Corner, Horagles, Peterson, Milton Seaman, and Twin Lake) within the Roosevelt National Forest to retain water from spring snowmelt for redistribution during the drier seasons. The water is treated with an advanced treatment combination—coagulation, filtration, and disinfection (chlorine and/or chloramines)—to remove the presence of microscopic organisms such as virus and Cryptosporidium and other bacteria, which may come from sewage treatment facilities, storm water runoff, and industrial processes. Greeley drinking water comes from surface waters located in three major river basins: the Cache la Poudre River, the Big Thompson River, and the Colorado River. Greeley also has agreements with neighboring water suppliers whereby Greeley may provide water to, or receive water from, these entities under special circumstances, such as water main repair, unusual demand, or plant shutdown. Pursuant to these agreements, Greeley received water from the West Fort Collins Water District, the East Larimer County Water District, the North Weld Water District, and the City of Loveland, totaling about 85 million gallons. This is a tiny fraction of the 9.1 billion (about 17%) gallons Greeley provided to its customers. Such a small percentage should have no real impact on the data presented in this report. However, if you wish to obtain a water quality report from these entities, please call 350-9209.

A Word About Cryptosporidium... Cryptosporidium is a microorganism that is found in rivers and lakes across Colorado. It can cause a severe intestinal disorder in people, and consequently, is receiving increasing attention by drinking water professionals. Symptoms of infection include nausea, diarrhea, fatigue, fever, and abdominal cramps. Healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people face a greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to ask their doctor about appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. In 2002, Cryptosporidium was detected in treated water samples taken from source water supplied by the Cache la Poudre River. Current test methods do not allow us to determine whether the organisms died or became non-infectious. Cryptosporidium is eliminated from drinking water by an effective treatment combination, including coagulation, sedimentation, filtration, and disinfection (all of which Greeley does). The City did not detect the organism in treated water supplies.

Important Information About Your Drinking Water

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. Due to an oversight during the 2002 dates in the table below, we did not complete all monitoring for chlorine and chloride dioxide and therefore cannot be sure of the quality of our drinking water at that time. Since chlorine and chlorine dioxide values for the other days of the year were well within the standards, we have reason to believe that the drinking water was within the standards for the days that monitoring did not occur.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required Sampling Frequency</th>
<th>Dates Samples Not Taken in 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorite</td>
<td>Daily and monthly</td>
<td>July 27th and December 1st</td>
</tr>
<tr>
<td>Chloride</td>
<td>Daily</td>
<td>May 20th through 31st and July 27th</td>
</tr>
</tbody>
</table>

Procedures have been implemented to prevent further occurrences. Please share this information with all other people who drink this water, or those who may not receive this Annual Drinking Water Quality Report (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this Public Notification in a public place or distributing copies by hand or mail. For further information please contact Angela Miles, Regulatory Compliance Coordinator at 350-9209.

Partnership for Safe Water

In support of our efforts to provide the highest quality drinking water, Greeley Water and Sewer Department is a member of the Partnership for Safe Water. The Partnership is a national, volunteer initiative for water suppliers that strives to provide superior drinking water quality. For more information about the Partnership contact Andrew C. Degner at the Bellvue Water Treatment Plant, (970) 482-2446.

Where Can I Get Further Information?

If you would like further information on the material covered in this report, call Angela Miles, Regulatory Compliance Coordinator at (970) 350-9209 or, if you’d like to view this report online you can do so at www.greeleygov.com/dwater. You can also access information about drinking water in general on EPA’s drinking water web site at http://www.epa.gov/safewater/. Additionally, interested persons may attend public meetings of the City’s Water and Sewer Board, which are usually held on the third Wednesday of every month at the Greeley City Hall. For more information on the times, dates, and location of Water and Sewer Board meetings, call Norma Wegher at (970) 350-9812.

* The State of Colorado and Environmental Protection Agency identify the Greeley public water system with identification # 162321.
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 Goal or MCLG:
The level of a contaminant that is allowed in drinking water. MCLGs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level or MRDL:
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.

Maximum Residual Disinfectant Level Goal or MRDLG:
The level of a drinking water disinfectant, below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Action Level:
The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique:
A required process intended to reduce the level of a contaminant in drinking water.

Waiver:
State permission not to test for a specific contaminant.

**Inorganic Contaminants**

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>MCLG ppm</th>
<th>MCL ppm</th>
<th>Level Detected in Finished Water</th>
<th>Violation Yes/No</th>
<th>Major Source of this Contaminant in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbidity (NTU) (a)</td>
<td>n/a</td>
<td>TT</td>
<td>Highest Single Value: 0.28</td>
<td>No</td>
<td>Soil Runoff</td>
</tr>
<tr>
<td>Total Organic Carbon (ppm)</td>
<td>n/a</td>
<td>TT</td>
<td>Running Average: 0.01 (B)</td>
<td>No</td>
<td>Naturally present in the environment</td>
</tr>
</tbody>
</table>

**Volatile Organic Contaminants**

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>MCLG ppm</th>
<th>MCL ppm</th>
<th>Level Detected in Finished Water</th>
<th>Violation Yes/No</th>
<th>Major Source of this Contaminant in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine (ppm)</td>
<td>MRDLG 4</td>
<td>MRDL 4</td>
<td>Running Average: 4.00</td>
<td>No</td>
<td>Water additive used to control microbiology.</td>
</tr>
<tr>
<td>Chlorine Dioxide (ppm)</td>
<td>MRDLG 800</td>
<td>MRDL 800</td>
<td>Highest Average: 4.00</td>
<td>No</td>
<td>Water additive used to control microbiology.</td>
</tr>
<tr>
<td>Chlorite (ppm)</td>
<td>MRDLG 4</td>
<td>MRDL 4</td>
<td>Running Average: 0.7</td>
<td>No</td>
<td>Water additive used to control microbiology.</td>
</tr>
<tr>
<td>HAA5s (Halogenated Acids) (ppm)</td>
<td>n/a</td>
<td>50</td>
<td>Running Average: 3.5</td>
<td>No</td>
<td>Product of drinking water chlorination</td>
</tr>
<tr>
<td>TTHM5s (Total Trihalomethanes) (ppm)</td>
<td>n/a</td>
<td>50</td>
<td>Running Average: 3.5</td>
<td>No</td>
<td>Product of drinking water chlorination</td>
</tr>
</tbody>
</table>

**Radical Contaminants**

| Alpha emitters (pc/l) (a)         | 0        | 15      | Range: Non detect to 5          | No               | Erosion of natural deposits.                    |

**Bacterial Contaminants**

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>MCLG</th>
<th>MCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escherichia coli</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Salmonella</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Biological Monitoring**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Level Detected in Finished Water</th>
<th>Violation Yes/No</th>
<th>Major Source of this Contaminant in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giardia</td>
<td>n/a</td>
<td>No</td>
<td>’Brien’ contamination.</td>
</tr>
<tr>
<td>Cryptosporidium</td>
<td>n/a</td>
<td>No</td>
<td>’Brien’ contamination.</td>
</tr>
</tbody>
</table>

**Radiological Contaminants**

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>MCLG ppm</th>
<th>MCL ppm</th>
<th>Level Detected in Finished Water</th>
<th>Violation Yes/No</th>
<th>Major Source of this Contaminant in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uranium</td>
<td>n/a</td>
<td>n/a</td>
<td>Radioactive surveillance</td>
<td>No</td>
<td>Radioactive surveillance.</td>
</tr>
<tr>
<td>Thorium</td>
<td>n/a</td>
<td>n/a</td>
<td>Radioactive surveillance</td>
<td>No</td>
<td>Radioactive surveillance.</td>
</tr>
</tbody>
</table>

**Microbiological Contaminants**

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>MCLG ppm</th>
<th>MCL ppm</th>
<th>Level Detected in Finished Water</th>
<th>Violation Yes/No</th>
<th>Major Source of this Contaminant in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial</td>
<td>n/a</td>
<td>n/a</td>
<td>Radioactive surveillance</td>
<td>No</td>
<td>Radioactive surveillance.</td>
</tr>
<tr>
<td>Viral</td>
<td>n/a</td>
<td>n/a</td>
<td>Radioactive surveillance</td>
<td>No</td>
<td>Radioactive surveillance.</td>
</tr>
</tbody>
</table>
The Safe Drinking Water Act establishes the standards for most drinking water systems in the country, including Greeley’s. In 2002, the Greeley public water system operated without exemption (i.e., state or federal permission to operate a system under certain conditions). The City routinely monitors for contaminants in your drinking water according to federal and state laws. The table identifies drinking water contaminants that Greeley detected in its water, the contaminant levels detected, and the maximum allowable levels for these contaminants. All such contaminants were detected at levels below applicable health limits. Sampling was performed between January 1 and December 31, 2002, unless otherwise indicated.

### The following definitions will help you understand the information presented in the table:

- **Maximum Contaminant Level Goal or 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 Contaminant Level or 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.
- **Maximum Residual Disinfectant Level or MRDL**: The highest level of a disinfectant allowed in water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
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- **Treatment Technique**: A required process intended to reduce the level of a contaminant in drinking water.
- **Waiver**: State permission not to test for a specific contaminant.

### Inorganic Contaminants

<table>
<thead>
<tr>
<th>Contaminant (Units)</th>
<th>MCLG</th>
<th>MCL</th>
<th>Level Detected in Finished Water</th>
<th>Violation Yes/No</th>
<th>Major Source of This Contaminant in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium (ppm)</td>
<td>2</td>
<td>2</td>
<td>Range: 0.03 - 0.03</td>
<td>No</td>
<td>Discharge of drilling water, erosion of natural deposits.</td>
</tr>
<tr>
<td>Copper (ppm)</td>
<td>1.3</td>
<td>Action Level: 1-5</td>
<td>90 percentile value: 0.14 (a)</td>
<td>No</td>
<td>Corrosion of household plumbing systems.</td>
</tr>
<tr>
<td>Fluoride (ppm)</td>
<td>4</td>
<td>4</td>
<td>Range: 0.79 – 0.94</td>
<td>No</td>
<td>Natural-present in the environment.</td>
</tr>
<tr>
<td>Lead (ppb)</td>
<td>0</td>
<td>Action Level = 15</td>
<td>90 percentile value: 3 (a)</td>
<td>No</td>
<td>Corrosion of household plumbing systems.</td>
</tr>
<tr>
<td>Selenium (ppb)</td>
<td>50</td>
<td>50</td>
<td>Range: Non-detect to 2</td>
<td>No</td>
<td>Natural-present in the environment.</td>
</tr>
</tbody>
</table>

### Microbiological Contaminants

#### turbidity

- **Turbidity (NTU)** (a): n/a
- **Highest Single Value**: 0.28
- **Lowest single monthly percentage of samples meeting the turbidity limits**: 100%

#### Total Organic Carbon

- **Total Organic Carbon**: n/a
- **Running Annual Average**: (b) (Bolling Lake WTP)

### Inorganic Contaminants

- **Alpha emitters (pCi/L)** (a): 0
- **Range**: Non-detect to 5
- **No Emission of natural deposit.**

### Radiological Contaminants

- **Chlorine (ppm)**: MRLDG 4
- **MRDL**: 4
- **Running Annual Average**: 0.7
- **Range**: 0.02 – 1.42
- **No**: (a)
- **Water additive used to control microbes.**

### Volatile Organic Compounds

- **Chloroform (ppm)**: MRLDG 4
- **MRDL**: 4
- **Running Annual Average**: 0.7
- **Range**: 0.02 – 1.42
- **No**: (a)
- **Water additive used to control microbes.**

### Fines for both drought levels

<table>
<thead>
<tr>
<th>Offences</th>
<th>Residential</th>
<th>Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>$100</td>
<td>$250</td>
</tr>
<tr>
<td>Second</td>
<td>$250</td>
<td>$500</td>
</tr>
<tr>
<td>Third</td>
<td>$500</td>
<td>$1000</td>
</tr>
<tr>
<td>Fourth</td>
<td>$400 + flow restrictor</td>
<td>$1000 + flow restrictor</td>
</tr>
</tbody>
</table>

### 2003 Water Restriction Categories

#### Level 1

- **Residential Even Watering Days**: No lawn watering on Mondays.
- **Residential Odd Watering Days**:
- **Commercial / HOA Watering Days**:

#### Level 2

- **Residential Even Watering Days**:
- **Residential Odd Watering Days**:
- **Commercial / HOA Watering Days**:

#### Level 3

- **Residential Even Watering Days**:
- **Residential Odd Watering Days**:
- **Commercial / HOA Watering Days**:

### Drought Level 1

- **No lawn watering on Mondays.**
- **No lawn watering on Tuesdays, Thursdays, and Saturdays.**
- **No lawn watering on Saturdays and Sundays.**

### Drought Level 2

- **No lawn watering on Mondays, Tuesdays, Thursdays, and Saturdays.**
- **No lawn watering on Saturdays and Sundays.**
- **No lawn watering on Sundays and Saturdays.**

### Drought Level 3

- **No lawn watering on Mondays, Tuesdays, Thursdays, and Saturdays.**
- **No lawn watering on Saturdays and Sundays.**
- **No lawn watering on Sundays and Saturdays.**

### Key to the Table

- **MCLG**: Maximum Contaminant Level Goal
- **MCL**: Maximum Contaminant Level Goal
- **MRDL**: Maximum Residual Disinfectant Level
- **MRDLG**: Maximum Residual Disinfectant Level Goal
- **N/a**: Not Applicable
- **Non-Detect**: (laboratory analysis indicates that the constituent is not present)
- **NTU**: Nephelometric Turbidity Units (a measure of turbidity or cloudiness)
- **pCi/L**: picocuries per liter (a measure of radioactivity)
- **ppm**: parts per million, or milligrams per liter (mg/L) (one ppm corresponds to one part in two years or a single penny in $10,000)
- **ppb**: parts per billion, or micrograms per liter (µg/L) (one ppb corresponds to one part in 2,000,000, or a single penny in $10,000,000)
- **TT**: Treatment Technique
- **WTP**: Water Treatment Plant

### Notes

- **(a)** Turbidity is a measure of the cloudiness of the water. The City monitors turbidity because it is a good indicator of the effectiveness of our filtration system.
- **(b)** Total Organic Carbon is the total amount of carbon in water that is present as organic molecules. It is used as a surrogate measure for disinfection byproducts.
- **(c)** These values represent the ratio of how much organic carbon is removed to how much organic carbon is required to be removed. The ratio must exceed 1 for compliance.
- **(d)** This statistical expression is used to measure compliance. It indicates that 90% of all sample results were equal to or lower than this value.
- **(e)** The data presented are from the most recent testing performed (August 2001). The State permits monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.
- **(f)** As noted on the reverse side of this report, we did not complete all required monitoring for chlorine and chlorite dioxide in 2002.
- **(g)** Compliance is based on a running annual average of samples taken throughout the entire water distribution system. The range of values shows that one sampling location had a THM value at the MCL. However, the running annual average remained well under the MCL.