



ANNUAL
WATER
QUALITY
REPORT

Water testing performed in 2008



TOWN OF ESTES PARK



PWS ID#: CO0135257

Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2008. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

The Town of Estes Park encourages public interest and participation in matters concerning our community's water system. The Utilities Committee meets on the second Thursday of every month. The public is always welcome. Specific questions or information relating to water quality can be directed anytime to the Estes Park Water Department by calling Jeff Boles, Water Superintendent, at (970) 577-3608 or Tom Blaue, Water Quality Manager, at (970) 577-3619. You can also visit the Web site for the Town of Estes Park at www.estesnet.com.



Where Your Water Comes From

Estes Park water originates in the high peaks of Rocky Mountain National Park, providing a source water virtually uncontaminated by introduced toxins such as industrial waste, petroleum by-products, or agricultural runoff. Our treatment process is primarily an effort to eliminate naturally occurring hazards and undesirable chemical characteristics contributed by Mother Nature.

The Town of Estes Park operates two water treatment facilities. The Glacier Creek plant is situated on a tributary to the Big Thompson River, on the eastern boundary to the National Park. This facility has a production capacity of three million gallons a day. The second facility, Marys Lake, can intake water either directly from the Adams Tunnel or pump it into the plant from Marys Lake reservoir, which is supplied from Grand Lake on the west slope. The differences between the source waters are minimal, and most customers should not notice any quality changes as the town alternates the source of supply. The Marys Lake plant is currently being converted to membrane filtration. When completed, that facility will have a four-million-gallon-per-day capacity with enhanced technologies and superior water quality.



Important Health Information

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 the water poses a health risk. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, AIDS or other immune system disorders, some elderly, and infants can be particularly at risk of infections. 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 U.S. Environmental Protection Agency (U.S. EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and microbiological contaminants, call the U.S. EPA Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

In 2005 the Colorado State Department of Health and Environment finalized an assessment of all drinking water sources in the state. The purpose of this ambitious study was to determine the susceptibility of each public water system to potential sources of contamination and to establish a uniform susceptibility rating of high, moderate, or low for every watershed and the affected water provider.

That state assessment reported an overall susceptibility rating of moderately low for the Glacier Creek Facility and moderate for Marys Lake. The dispersed and discrete sources of the potential contaminants listed in the report include commercial/industrial/transportation, low density residential, urban recreational grasses, pasture/hay, one hazardous waste generator, above ground and below ground storage tank sites, mine sites, deciduous forest, evergreen forest, mixed forest, two septic systems, roads, chemical inventory/storage sites, a solid waste site, an oil/gas well, and permitted wastewater discharge sites.

The results of the State's assessment have not been verified, and there is currently no evidence to suggest that any of the above suggested contaminants are affecting your drinking water in an adverse manner. The complete Source Water Assessment Report is available at the water shop, and a copy can be requested by contacting Jeff Boles, Water Superintendent, at (970) 577-3608.

Monitoring for *Cryptosporidium* and *Giardia lamblia*

Cryptosporidium and *Giardia* are microbial parasites found in surface water throughout the United States. Although filtration removes *Cryptosporidium* and *Giardia*, the most commonly used filtration methods cannot guarantee 100 percent removal. Symptoms of *Cryptosporidium* or *Giardia* infection include nausea, diarrhea, and abdominal cramps. *Cryptosporidium* and *Giardia* cysts must be ingested to cause disease, and they may be spread through means other than drinking water.

The Estes Park Water Department annually submits water samples to an independent certified laboratory to perform a microscopic particulate analysis on the potential presence of *Giardia* and *Cryptosporidium*. While these parasites can be found in local streams and lakes, neither has been recently detected in the town's drinking water supply, including the most recent testing conducted during 2008.

Sampling of our water source has shown the following:

Cryptosporidium: 0–6.24 #/L

Giardia lamblia: 0–12.39 #/L

E. coli: 0–135.4 MPN/100 mL

It is important to note that these results are from our raw water source only and not our treated drinking water supply. Typically Estes Park's source water shows no detects for these contaminants. For more information, contact the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Health Risks and Drinking Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Lead and Drinking Water

In the summer of 2008, the Town of Estes Park conducted routine EPA Lead and Copper analysis from 20 high-risk residences in the community. Test results indicated four of those homes exceeded the "action level" for lead. Exceeding the EPA's action level is not a drinking water violation, but indicates refinement may be needed to optimize the Town's corrosion control efforts. Since that time, the water department has implemented treatment adjustments, and follow-up testing indicates significant reduction in lead concentrations. Additional sampling will continue to ensure the success of the corrosion control program.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Town of Estes Park is responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Sampling Results

During the past year we have taken thousands of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The vast majority of substances we tested for did not exist at detectable levels and, therefore, are not listed in this report. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water. Water test schedules are established by the state and federal government. The sampling frequency is variable from one contaminant to another. Bacteriological tests, for instance, are performed several times a month, while inorganic compounds are sampled once a year. Chlorine and turbidity at the treatment plants are monitored continually. The concentrations shown in the table as Amount Detected may represent the highest value of all samples analyzed in 2008 for that specific contaminant. When this value is not typical, an averaged concentration is noted. Compliance values for some contaminants are based on not a single test, but rather a "running annual average" of numerous tests; where appropriate, this fact is noted on the table.

REGULATED SUBSTANCES¹

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2008	2	2	0.006	0.006–0.006	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2008	[4]	[4]	0.66 (RAA)	0.23–1.00	No	Water additive used to control microbes
Chromium (ppb)	2008	100	100	0.8	0.8–0.8	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	2008	4	4	0.09	0.08–0.09	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA]² (ppb)	2008	60	NA	34.68 (RAA)	7.1–63.0	No	By-product of drinking water disinfection
Hexachlorocyclopentadiene (ppb)	2008	50	50	0.1	0.1–0.1	No	Discharge from chemical factories
Nitrate (ppm)	2008	10	10	0.44	0.04–0.44	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes]² (ppb)	2008	80	NA	43.3 (RAA)	24.2–54.4	No	By-product of drinking water chlorination
Total Organic Carbon^{2,3} (ppm)	2008	TT	NA	1.4 (RAA)	0.8–1.8	No	Naturally present in the environment
Turbidity⁴ (NTU)	2008	TT	NA	0.26	0.03–0.26	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2008	TT	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2008	1.3	1.3	0.045	0/20	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2008	15	0	26.2	4/20	No	Corrosion of household plumbing systems; Erosion of natural deposits

OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Microscopic particulate analysis⁵ (% removal)	2008	3.3	3.1–3.3	Parasite from warm blooded animals; Naturally occurring in the environment
Sodium (ppm)	2008	5.73	4.6–5.73	Erosion; Naturally occurring in the environment

¹The Town of Estes Park analyzed over 200 drinking water samples for Total Coliform Bacteria last year without a single positive result.

²Multiple samples are collected throughout the year. Compliance is based on a running annual average (RAA) of these test results.

³We used enhanced treatment to remove the required amount of natural organic matter and/or demonstrated compliance with alternative treatment.

⁴Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. The average turbidity of water going into the Town of Estes Park's distribution system is 0.04 NTU.

⁵The amount detected represents log removal from raw water to the finished water during the treatment process.

Definitions

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

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.

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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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

