

# ***2003 Annual Drinking Water Quality Report City of Saratoga Springs***

We're pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water delivery process and protect our water resources. We are committed to ensuring the quality of your water. We are pleased to report that our drinking water meets all federal and state requirements.

The City of Saratoga Springs has a Drinking Water Source Protection Plan that is available for review. It provides more information such as potential sources of contamination and our source protection areas. It has been determined we have a low susceptibility to potential sources of contamination, such as septic systems, animal feeding operations and roads. If you have any questions about this report or concerning your water utility, please contact George Leatham at 801-766-9793. We want our valued customers to be informed about their water utility.

The City routinely monitors for constituents or contaminants in our drinking water in accordance with the Federal and Utah State laws. The table contained in this report shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2003. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

The test results show that our system had no violations during 2002. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected, but according to the EPA, your water is safe at these levels.

We are also required to inform you that in November 2003 we failed to test for coliform bacteria. This violation does not necessarily pose a health risk or mean that coliform was present in our system. In fact, subsequent testing in March showed that no coliform was present in the system. We have reviewed why we failed to take our routine coliform bacteria tests and have taken steps to ensure that it will not happen again. Water quality may change without any visible indication due to unanticipated environmental factors. For this reason, we are required to sample for coliform bacteria on a monthly basis.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or are man made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. The presence of contaminants does not necessarily indicate that the water poses a health risk. Indeed, Maximum Contaminant Levels or MCL's are set by the EPA at very stringent and high standards. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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 about drinking water from their health care providers. 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 (800-426-4791).

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

**Non-Detects (ND)** - laboratory analysis indicates that the constituent is not present.

**ND/Low - High** - For water systems that have multiple sources of water, the Utah Division of Drinking Water has given water systems the option of listing the test results of the constituents in one table, instead of multiple tables. To accomplish this, the lowest and highest values detected in the multiple sources are recorded in the same space in the report table.

**Parts per million (ppm) or Milligrams per liter (mg/l)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb) or Micrograms per liter (ug/l)** - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts per trillion (ppt) or Nanograms per liter (nanograms/l)** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

**Parts per quadrillion (ppq) or Picograms per liter (picograms/l)** - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

**Picocuries per liter (pCi/L)** - picocuries per liter is a measure of the radioactivity in water.

**Millirems per year (mrem/yr)** - measure of radiation absorbed by the body.

**Million Fibers per Liter (MFL)** - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

**Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

**Treatment Technique (TT)** - (mandatory language) A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

**Maximum Contaminant Level (MCL)** - (mandatory language) The "Maximum Allowed" (MCL) is 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 Contaminant Level Goal (MCLG)** - (mandatory language) The "Goal"(MCLG) is 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.

**Date** - Because of required sampling time frames i.e. yearly, 3 years, 4 years and 6 years, sampling dates may seem out of date.

**Waivers (W)** - Because some chemicals are not used or stored in areas around drinking water sources, some water systems have been given waivers that exempt them from having to take certain chemical samples, these waivers are also tied to Drinking Water Source Protection Plans.

## **TEST RESULTS**

<u><b>Contaminant</b></u>	<u><b>Violation Y/N</b></u>	<u><b>Level Detected ND/Low-High</b></u>	<u><b>Unit Measurement</b></u>	<u><b>MCLG</b></u>	<u><b>MCL</b></u>	<u><b>Date Sampled</b></u>	<u><b>Likely Source of Contamination</b></u>
<b><u>Microbiological Contaminants</u></b>							
1. Total Coliform Bacteria	N	ND	N/A	0	Presence of coliform bacteria in 5% of monthly samples	2003	Naturally present in the environment
2. Fecal coliform and <i>E.coli</i>	N	ND	N/A	0	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	2001	Human and animal fecal waste
3.a. Turbidity for Ground Water	N	.3-10	NTU	N/A	5	11/21/02	Soil runoff
3.b. Turbidity for Surface Water	N	NA	NTU	N/A	0.5 in at least 95% of the samples and must never exceed 5.0		Soil Runoff (highest single measurement & the lowest monthly percentage of samples meeting the turbidity limits)
<b><u>Radioactive Contaminants</u></b>							
4. Alpha emitters	N	ND-3	pCi/l	0	15	3/19/03	Erosion of natural deposits
5. Beta emitters*	N	2-3	pCi/l	0	50	11/21/02	Erosion of natural deposits
6. Combined radium	N		pCi/l	0	5	1999	Erosion of natural deposits
* <b>Beta Particles:</b> The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/l to be the level of concern for beta particles.							
<b><u>Inorganic Contaminants</u></b>							
7. Antimony	N	ND	ppb	6	6	11/21/02	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
8. Arsenic	N	2400	ppt	N/A	7000	11/21/02	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
9. Asbestos	N	W	MFL	7	7	11/21/02	Decay of asbestos cement water mains; erosion of natural deposits
10. Barium	N	90-180	ppb	2000	2000	11/21/02	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
11. Beryllium	N	ND	ppb	4	4	11/21/02	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
12. Cadmium	N	ND	ppb	5	5	11/21/02	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
13. Chromium	N	ND	ppb	100	100	11/21/02	Discharge from steel and pulp mills; erosion of natural deposits
14. Copper a. 90% results b. # of sites that exceed the <b>AL</b>	N	A. .24 b.10	Mg/l	1.3	AL=1.3	2001	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

15. Cyanide	N	ND	ppb	200	200	11/21/02	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
16. Fluoride	N	300-400	ppb	4000	4000	11/21/02	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
17. Lead a. 90% results b. # of sites that exceed the <b>AL</b>	N	a. .005 b.10	ppb	0	AL=15	2001	Corrosion of household plumbing systems, erosion of natural deposits
18. Mercury (inorganic)	N	ND	ppt	300	300	11/21/02	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
19. Nitrate (as Nitrogen)	N	100-300	ppb	10000	10000	11/25/02	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
20. Nitrite (as Nitrogen)	N	ND-10	ppb	1000	1000	2/5/02	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
21. Selenium	N	ND	ppb	50	50	11/21/02	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
22. Sodium	N	11-24	ppm	None set by EPA	None set by EPA	11/21/02	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills.
23. Sulfate	N	10-18	ppm	500*	500	11/21/02	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland
24. Thallium	N	ND	ppb	1	2	11/21/02	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
25. TDS (Total Dissolved Solids)	N	160-208	ppm	1000* *	1000**	11/21/02	Erosion of natural deposits
<p>*If the sulfate level of a public water system is greater than 500 ppm, the supplier must satisfactorily demonstrate that: a) no better water is available, and b) the water shall not be available for human consumption from commercial establishments. In no case shall water having a level above 1000 ppm be used. **If TDS is greater than 1000 ppm the supplier shall demonstrate to the Utah Drinking Water Board that no better water is available. The Board shall not allow the use of an inferior source of water if a better source is available.</p>							