



Redlands

Municipal Utilities Department

2005 Consumer
Confidence Report

Each year the Consumer Confidence Report is published by the City of Redlands Municipal Utilities Department to keep you, our customers, up-to-date about water quality issues related to your drinking water.

Each day, Municipal Utilities Water Division employees are hard at work maintaining their commitments to provide you with reliable, high quality water that meets or surpasses all state and federal standards for drinking water quality.

If you have any inquiries or comments regarding water quality issues you should contact the Municipal Utilities Department. You may also express comments on water quality issues to the Redlands City Council. Their regular meetings are held in the Council Chambers at 35 Cajon Street in Redlands the first and third Tuesdays of each month.

Water Resources Protection

The City of Redlands Municipal Utilities Department is committed to protecting its water sources from all types of possible contamination. In fact, in 2002, the City completed source water assessments for all of our drinking water sources.

The assessments help to identify the vulnerability of drinking water supplies to contamination from typical human activities.

These assessments are intended to facilitate and provide the basic information necessary for the Redlands Municipal Utilities Department to develop a program to protect our drinking water supplies.

Possible contaminants can originate from: agricultural drainage, urban runoff, septic systems, sewer collection systems, junk/scrap/salvage operations, crop irrigation, and underground storage tanks at automobile gas stations.

Anyone interested in receiving a copy of the complete report may contact Pat McKasy, Regulatory Compliance Officer-Water at (909) 798-7698.

You can do your part to protect our precious water resources by properly disposing of household and commercial hazardous wastes.

To find out how to properly dispose of these wastes so they do not contaminate the groundwater, please phone our Customer Service Office at (909) 798-7529. Or visit redlandssolidwaste.org

For additional information on water quality in the City of Redlands you may contact the Municipal Utilities Department in person at 35 Cajon Street, Suite 15A, in Redlands; by phone at (909) 789-7698; or via email at mutilities@cityofredlands.org

Gary Phelps, Municipal Utilities Director

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Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

City of
Redlands
Municipal Utilities Department

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www.redlandswater.org



Serving Redlands with High Quality Drinking Water For Over 90 Years

For more than 90 years, the City of Redlands has been responsible for providing high quality drinking water to its service areas in the Redlands and Mentone communities.

Today, a system consisting of 17 potable wells, 39 booster pumps, 38 water transfer stations, two water filtration plants, and 15 reservoirs with 51 million gallons of storage capacity, continue to meet our water service commitments.

A series of pipelines extending over 400 miles provides service to 3,000 fire hydrants and more than 20,000 metered accounts in our nearly 46 square mile service territory.

More than 75,000 residents in Redlands, Mentone, the Crafton area, San Timoteo Canyon, and a small part of San Bernardino depend on the City of Redlands to provide water to their homes and businesses.

By supplying a blend of local groundwater, local surface water, and imported water from the State Water Project, we are able to meet the daily demands of our customers.

Local groundwater is pumped from wells in Redlands, Mentone, Yucaipa, and Mill Creek, while surface water is diverted from Mill Creek and the Santa Ana River.

Imported water is delivered from Northern California through State Water Project facilities owned by the San Bernardino Valley Municipal Water District.

During 2005, the City delivered just over 9 billion gallons of water to our customers, which met or surpassed all state and federal drinking water quality standards.



From January 1, 2005 to December 31, 2005, the City of Redlands conducted over 26,000 water quality tests from samples taken at various locations throughout the water system in accordance with state and federal laws. The following tables list only those contaminants that were detected. It is important to note, that the presence of these contaminants, as detected, in the water does not necessarily indicate that the water poses a health risk.

Primary Drinking Water Standards

Chemical / Constituent	MCL, (AL), or [MRDL]	PHG, {MCLG}, (AL), [MRDLG]	Redlands Water	Range of Detection	Typical Source Of Contaminant
<u>Inorganic Contaminants</u>					
Aluminum (ppm)	1	0.6	0.04	ND - 0.14	Erosion of natural deposits
Fluoride (ppm)	2.0	1	0.45	0.3 - 0.95	Erosion of natural deposits
Nitrate as NO ₃ (ppm)	45	45	5.42	ND - 33	Runoff and leaching from fertilizer use; leaching from septic tanks and sewers
Nitrate + Nitrite [as N] (ppm)	10	10	.65	2.3 - 4.5	
Nitrate as Nitrogen (ppm)	10	10	0.82	ND - 3.5	
<u>Synthetic Organic Contaminants</u>					
Dibromochloropropane DBCP (ppt)	200	1.7	1.0	ND - 16	Banned nematocide in soils due to leaching from former use on citrus trees
<u>Disinfection By-products, Disinfectant Residuals, Disinfection By-product Precursors</u>					
Total Trihalomethanes TTHMs (ppb)	80	N/A	15	ND - 68	By-product of drinking water chlorination
Halocetic Acids (ppb)	60	N/A	9	ND - 38	By-product of drinking water disinfection
Chlorine (ppm)	[4]	[4]	0.48	0.01 - 1.48	Drinking water disinfectant added for treatment
<u>Radioactive Contaminants</u>					
Gross Alpha* Activity (pCi/L)	15	N/A	2	ND - 12	Erosion of natural deposits
Gross Beta* Activity (pCi/L)	50	N/A	0.04	ND - 4.8	Erosion of natural deposits
Total Tritium (pCi/L)*	20,000	N/A	6	ND - 682	Decay of natural and man-made deposits
Combined Radium (pCi/L)*	5	N/A	0.002	ND - 0.053	Erosion of natural deposits
Uranium (pCi/L)*	20	0.5	6.8	ND - 14.6	Erosion of natural deposits

Terms Used in This Report

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

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 are set by the US Environmental Protection Agency (US EPA).

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standards (PDWS): MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Maximum Residual Disinfectant Level (MRDL): The level of disinfectant added for water treatment that may not be exceeded at the customer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected health risk. MRDLs are set by the US EPA.

Primary Drinking Water Standard (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

ND: Not detectable at testing limit.

ppm: Parts per million or milligrams per liter (mg/L).

ppb: Parts per billion or micrograms per liter (ug/L).

ppt: Parts per trillion or nanograms per liter (ng/L).

pCi/L: Picocuries per liter (a measure of radiation).

Micromhos: A measure of conductivity in water.

Redlands Water: Water system weighted average for water supplied to customers.

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

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

Secondary Drinking Water Standards (Aesthetic Standards)

Chemical/Constituent	MCL	Redlands Water	Range of Detection	Typical Source Of Contaminant
Aluminum (ppb)	200	41	ND - 140	Erosion of natural deposits
Foaming Agents MBAS (ppb)	500	6	ND - 50	Municipal and industrial waste discharges
Iron (ppb)	300	6	ND - 300	Leaching from natural deposits; industrial wastes
Odor -Threshold (units)*	3	0.9	ND - 1.0	Naturally occurring organic materials
Turbidity - NTU (units)	5	0.2	ND - 3.9	Soil runoff
Total Dissolved Solids TDS - (ppm)	1,000	158	110 - 370	Runoff / leaching of natural deposits
Specific Conductance (micromhos)	1,600	249	200 - 580	Substances that form ions in water
Chloride (ppm)	500	7	ND - 34	Runoff / leaching of natural deposits
Sulfate (ppm)	500	18	12 - 51	Runoff / leaching of natural deposits
Maganese (ppb)	50	1.8	ND - 41	

Sampling Results for Sodium and Hardness

Chemical/Constituent	MCL	PHG	Redlands Water	Range of Detection	Typical Source Of Contaminant
Sodium (ppm)	N/A	N/A	12	7 - 72	Generally found in ground and surface water
Hardness (ppm)	N/A	N/A	97	65 - 230	Generally found in ground and surface water

Additional Monitoring (State Regulated & Unregulated Contaminants with no MCLs)

Chemical/Constituent	Action Level, [Notification Level]	Redlands Water	Range of Detection
Boron (ppb)*	1,000	10	ND - 110
Perchlorate (ppb)	[6]	0.4	ND - 3.6 **
Vanadium (ppb)	50	1.2	ND - 12
Radon (pCi/L)*	N/A	410	ND - 1,900
Calcium (ppm)	N/A	31	20 - 76
Magnesium (ppm)	N/A	6.3	3.9 - 13
Potassium (ppm)	N/A	1.9	1.6 - 3.8
Bicarbonate (ppm)	N/A	111	77 - 220
Alkalinity (ppm)	N/A	91	60 - 180
PH (units)	N/A	6.4	7.2 - 8.9
Silica (ppm)	N/A	1	15 - 23

** For more information on perchlorate issues in Redlands please see page 6.



* Data reported is from 2004. The state allows us to monitor for some contaminants less than once per year because these contaminants do not change frequently. Some of our data, though representative, is more than one year old.

Important Facts About Drinking Water From the US EPA

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 and, in some cases, radioactive material, and can pick up 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, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban storm water 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 storm water runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application, and septic systems.

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

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (US EPA) and the California Department of Health Services (DHS) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

DHS regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.



Additional Information About Drinking Water

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. More information about contaminants and potential health effects can be obtained by calling the US EPA's Safe Drinking Water Hotline (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. US EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Sampling Results Showing Treatment of Surface Water Sources

Treatment Technique is a required process intended to reduce the level of a contaminant in drinking water.* Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.**

*Treatment Technique	Conventional Filtration	**Turbidity Performance Standards (TPS): The turbidity level of the combined filter effluent shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1.0 NTU for more than one hour. Additionally, the turbidity level of the combined filter effluent shall not exceed 1.0 NTU for more than eight consecutive hours while the plant is operating.
Lowest Monthly % of Samples Meeting TPS No. 1	100%	
Highest single turbidity measurement during 2005	3.9	
Number of Violations to Any Surface Water Treatment Regulations	None	

Lead and Copper Analysis Results

The Municipal Utilities Department performs a lead and copper water analysis of residential homes in Redlands every three years. The last test was conducted in 2005. While lead and copper have not been detected in our water sources, when water comes in contact with plumbing lead and copper can become detectable. Out of 30 samples tested, none exceeded the Action Level (AL) for lead or copper. The 90th percentile value for lead in the testing was 5.3 ppb, while the 90th percentile value for copper testing was .61 ppm.

Questions and Answers about Perchlorate

What is perchlorate?

Perchlorate is an inorganic chemical that is used in solid rocket propellants, fireworks, and a variety of industrial uses.

What is the concern about perchlorate in drinking water?

Perchlorate is known to interfere with the uptake of iodine in the thyroid gland. This can effect the production of thyroid hormones needed for healthy growth and development of unborn and newborn children, as well as normal body metabolism in adults.

What is the regulatory status of perchlorate in drinking water?

Currently, there is no maximum contaminant level (MCL) for perchlorate. After extensive review of various scientific data, the United States Environmental Protection Agency (EPA) set a reference dose level for perchlorate at 24.5 ppb.

The California Department of Health Services (DHS) set a notification level for perchlorate of 6 parts per billion (ppb) until an MCL is in place. Notification levels are non-regulatory, health-based levels established by the DHS for contaminants in drinking water for which MCLs have not been set. These are used as precautionary measures for contaminants that may be considered candidates for establishment of MCLs, but have not undergone or completed the regulatory standard setting process.

Does Redlands' drinking water comply with all regulatory standards for perchlorate?

YES! In fact, the average level of perchlorate detected in Redlands' water in 2005 was well below the DHS notification level of 6 parts per billion (ppb). *Note:* 6 ppb is about the equivalent of 3 drops of water in an Olympic size swimming pool.

Is the City of Redlands actively working to remove perchlorate from drinking water?

YES! Since discovering perchlorate in some of its water wells nine years ago, the City of Redlands Municipal Utilities Department has been hard at work developing its water facilities to reduce and eliminate the need to deliver water with any detectable perchlorate.

Efforts in recent years have included shutting down highly contaminated wells, or treating the water from these wells to remove all detectable amounts of perchlorate. Water from less contaminated wells is also blended with uncontaminated sources to reduce perchlorate to below detectable levels.

In 2003 the City of Redlands drilled two new high volume, perchlorate-free water wells to replace water supply capacity lost due to perchlorate contamination, and increased production capacity from its surface water treatment facility to optimize the use of perchlorate-free water sources.

In 2004, under a cooperative agreement with Lockheed-Martin Corporation, Lockheed installed a new state-of-the-art ion exchange water purification system to remove perchlorate from a City well.



Treatment facilities like this help to ensure high quality water is delivered to all of our customers

Information about Radon: We constantly monitor the water supply for various contaminants including radon, which is a naturally occurring gas formed from the normal radioactive decay of uranium. In our latest testing year, 2004, we detected radon in the finished water supply in 14 out of 16 samples tested. There is no federal regulation for radon levels in drinking water. Exposure over a long period of time to air transmitting radon may cause adverse health effects.

fun facts about



Did you know?

- Frogs don't drink water. They absorb it through their skin.
- A dairy cow must drink 4 gallons of water to produce a gallon of milk.
- 75% of a chicken, 80% of a pineapple, 95% of a tomato is water.
- The kangaroo rat is so good at conserving water, it does not have to drink.
- 96.5% of the Earth's water is salt water! Only 2.8% is fresh water, 1.7% of which is in glaciers and icecaps.

How much water does it take to...

- Brush your teeth? 2 to 5 gallons.
- Use the dishwasher? 8 to 15 gallons
- Take a shower or bath? 17 to 24 gallons
- Wash the car? 50 gallons
- Flush the toilet? 1.5 to 4 gallons (each flush)
- Run the washing machine? 35 to 50 gallons

Are those bubbles supposed to be there?

Tap water that appears cloudy could simply have air (bubbles) in the water. Some well sources produce water with dissolved air that remains pressurized in the distribution pipelines until reaching the consumer. When the water flows from the faucet, the air is released and may form tiny air bubbles.

After filling a glass, these bubbles will slowly rise and disappear. If your water remains cloudy or particles are found, please call our Customer Service Office at (909) 798-7516.



Be Water Wise & Conserve!

Fresh, clean drinking water is yours to use whenever you want. However, it's too valuable to waste! While storms over the past year have helped to replenish our groundwater and surface water resources, wise water use helps ensure we'll have plenty of water now, and in the future. Remember to be "Water Wise" and conserve whenever and wherever you can.

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