City of Redlands

CONSUMER CONFIDENCE REPORT

2024

This brochure is a snapshot of last year's water quality.

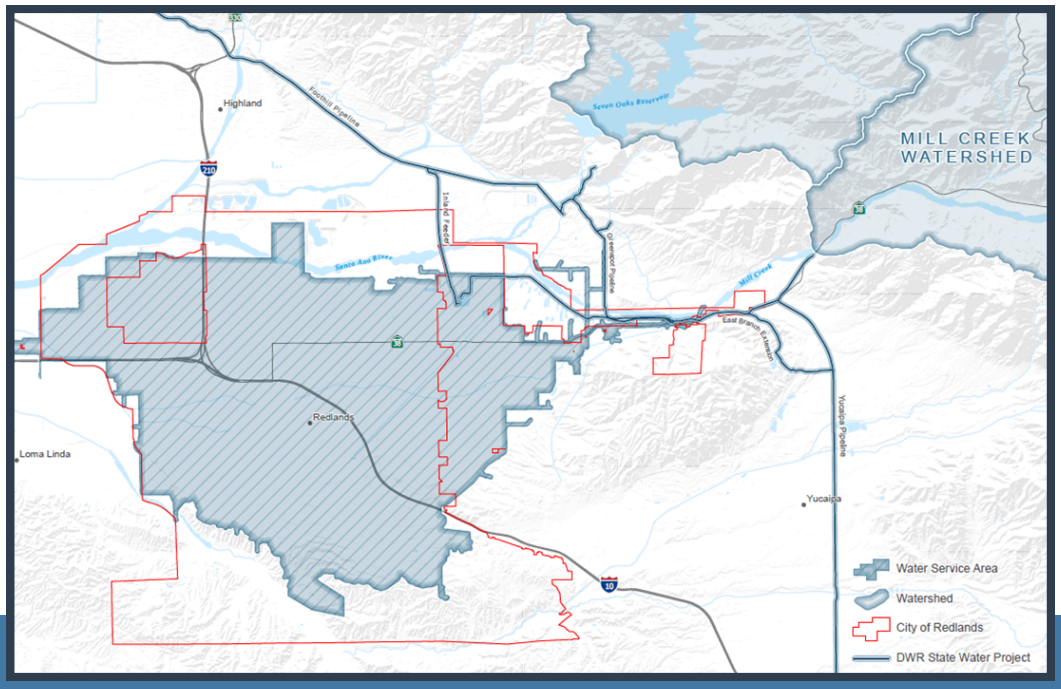
Included are details about:

- Where your water comes from
- What it contains
- How it compares to State Standards

Redlands: Providing Water to Communities Since 1888

The City of Redlands was incorporated in 1888 and has developed extensively from its origin as an agricultural area. More than 75,000 residents in Redlands, Mentone, parts of Crafton Hills and San Timoteo Canyon, and small parts of Loma Linda and San Bernardino depend on the Redlands Municipal Utilities & Engineering Department to provide water service to their homes and businesses.

The City's water system relies on surface water sources primarily drawn from the Santa Ana River and Mill Creek watersheds. During times of high demand, additional water is supplemented from imported State Water provided by the Department of Water Resources. Groundwater extracted from the Bunker Hill Basin contributes roughly half of the water production required to fulfill the City's normal water demands. In 2023, the City's water system treated and produced nearly 21,000 acre-feet of potable water.



Understanding the Sources and Risks

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

- Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Radioactive contaminants that can be naturally-occurring or be the result of oil and gas production and mining activities.

Regulations and Safety Measures for Drinking Water Quality

In order to ensure that tap water is safe to drink, the U.S. EPA and the State Water Resources Control Board (State Water Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Water Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

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. More information about contaminants and potential health effects can be obtained by calling the U.S. 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. U.S. 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).

The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health. Additional information on bottled water is available on California Department of Public Health's website at:

https://www.cdph.ca.gov/Programs/CEH/DFDCS/Pages/FDBPrograms/FoodSafetyProgram/Water.aspx

of Drinking Water Contaminants

in source water include:

- 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, that 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application, and septic systems.

Water Quality Standards

Maximum Contaminant Level (MCL):

Maximum Contaminant Level Goal (MCLG):

Public Health Goal (PHG):

Primary Drinking Water Standard (PDWS):

Maximum Residual Disinfectant Level (MRDL):

Maximum Residual Disinfectant Level Goal (MRDLG):

Regulatory Action Level (AL):

Treatment Technique (TT):

UCMR:

NTU:

N/A

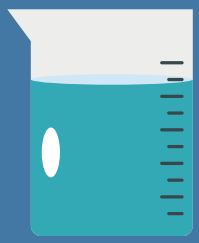
ND

Water Conservation Tip

Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.

Unit of Measure

Parts per million (ppm) or milligrams per liter (mg/L).
Parts per billion (ppb) or micrograms per liter (µg/L).
Parts per trillion (ppt) or nanograms per liter (ng/L).
Picocuries per liter (pCi/L): a measurement of the radioactivity in water.
Umhos/cm: A measure of conductivity in water.



and Definitions

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.

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

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.

MCLs, MRDLs and treatment techniques (TTs) for contaminants that affect health, along with their monitoring and reporting requirements.

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.

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.

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

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

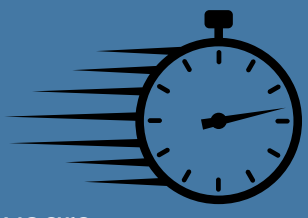
Unregulated Contaminant Monitoring Rule

Nephelometric Turbidity Units

Not Applicable

Non Detect

UNITS: A COMPARISON TO TIME



mg/L (milligrams per liter) OR ppm (parts per million) = 1 second in 11.5 days
µg/L (micrograms per liter) OR ppb (parts per billion) = 1 second in nearly 32 years
ng/L (nanograms per liter) OR ppt (parts per trillion) = 1 second in nearly 32,000 years
pg/L (picograms per liter) OR ppq (parts per quadrillion) = 1 second in nearly 32,000,000 years

Monitoring and Understanding Contaminants in Water

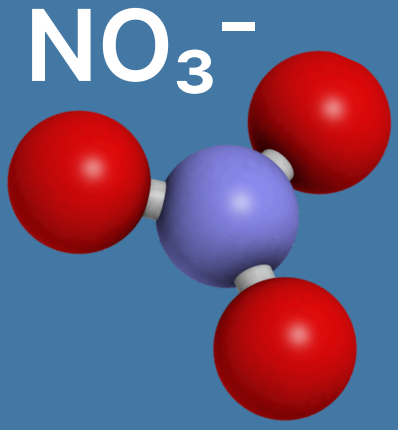
Inorganic

Contaminant (CCR units)	Year	MCL in CCR units	PHG (MCLG) in CCR units	Groundwater Supply Average	Groundwater Supply Range	Surface Water Supply Average (Treated)	Surface Water Supply Range (Treated)
Chromium [Total] (µg/L)	2023	50	(100)	3.5	ND - 14	ND	ND
Fluoride (naturally occurring) (mg/L)	2023	2	1	0.6	0.3 - 1.1	0.4	0.2 - 0.6
Nitrate (mg/L)	2023	10 (as N)	10 (as N)	2.7	0.6 - 5.9	ND	ND
Perchlorate (µg/L)	2023	6	1	1.3	ND - 4.8	ND	ND

The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Contaminants

Violation	Major Sources in Drinking Water	Health Effects Language
No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits	Some people who use water containing chromium in excess of the MCL over many years may experience allergic dermatitis.
No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth.
No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die because high nitrate levels can interfere with the capacity of the infant's blood to carry oxygen. Symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women.
No	Perchlorate is an inorganic chemical used in solid rocket propellant, fireworks, explosives, flares, matches, and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aerospace or other industrial operations that used or use, store, or dispose of perchlorate and its salts.	Perchlorate has been shown to interfere with uptake of iodide by the thyroid gland, and to thereby reduce the production of thyroid hormones, leading to adverse effects associated with inadequate hormone levels. Thyroid hormones are needed for normal prenatal growth and development of the fetus, as well as for normal growth and development in the infant and child. In adults, thyroid hormones are needed for normal metabolism and mental function.



Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness. Symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Microbiological Contaminants

Contaminant (CCR units)	Year	Traditional MCL	PHG (MCLG) in CCR units	Distribution Supply	Surface Water Supply (Treated)
E. coli (State Revised Total Coliform Rule)	2023	0	0	0	0
Coliform & E. coli Assessment and/or Corrective Action Violations	2023	0	0	0	0
Turbidity	2023	TT*	N/A	0.02 (Average)	0.03 (Average)
Giardia lamblia, Viruses, Heterotrophic Plate Count (HPC) Bacteria, *Legionella, Cryptosporidium* Surface water treatment = TT	2023	TT*	HPC = N/A; Others = (0)	0	0

Radioactive

Contaminant (CCR units)	Year	MCL in CCR Units	PHG	Groundwater Supply Average	Groundwater Supply Range	Surface Water Supply Average (Treated)	Surface Water Supply Range (Treated)
Gross Alpha Particle Activity (pCi/L)	2023	15	0	4.8	2.5 - 8.6	2	1.5 -3.1
Gross Beta Particle Activity (pCi/L)	2023	50*	0	6.4	1.1 - 10.3	13	9.6 - 16.7
Uranium (pCi/L)	2023	20	0.43	4.2	0.9 - 8.9	0.5	ND - 1.0

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

*TT is a contaminant regulated by treatment techniques in connection to surface water treatment.

Violation	Major Sources in Drinking Water	Health Effects Language
No	Human and animal fecal waste	E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, some of the elderly, and people with severely-compromised immune systems.
No	N/A	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found.
No	Soil runoff	Turbidity has no health effects. However, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
No	Naturally present in the environment	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Contaminants

Violation	Major Sources in Drinking Water	Health Effects Language
No	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
No	Decay of natural and man-made deposits	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
No	Erosion of natural deposits	Some people who drink water containing uranium in excess of the MCL over many years may have kidney problems or an increased risk of getting cancer.

*Effective June 11, 2006, the gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. 50 pCi/L is used as a screening level.

Lead & Copper

Contaminant (CCR units)	MCL In CCR Units	PHG (MCLG) in CCR units	Average	Range	Sample Date	Violation	Number of schools requesting lead sampling	Typical Source
Lead (µg/L)	AL = 15	0.2	ND	34 sites sampled; 0 sites over AL	2023	No	1	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (mg/L)	AL = 1.3	0.3	ND	34 sites sampled; 0 sites over AL	2023	No	N/A	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Redlands 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 http://www.epa.gov/lead

Conventional Surface Water Treatment Plant Filter Performance

Contaminant	MCL	PHG	Level Found	Range	Sample Date	Violation	Typical Source
Turbidity (Treatment)	TT = 1 NTU	N/A	0.28 NTU	0.03 - 0.28	2023	No	Soil Runoff
Turbidity (Distribution)	TT = 95% of samples ≤0.3 NTU	N/A	100%	0.03 - 0.28	2023	No	Soil Runoff

Water Conservation Tips

Shut off water while brushing your teeth, washing your hair, and shaving and save up to 500 gallons a month.

Fix leaking toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace.

Safeguarding Redlands' Water: Source Water Protection and Public Engagement

The City of Redlands is committed to protecting our water sources from possible contamination. Source water assessments were completed in 2002 for groundwater supplies. You can view the source water assessments at our office. The assessments help to identify the vulnerability of drinking water supplies to contamination from typical human activities. These assessments are intended to provide basic information necessary for us to develop programs 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, underground storage tanks at automobile gas stations and illegal dumping. Anyone interested in receiving a copy of the source water assessment should contact: Paul Mariscal, Utilities Operations Manager at (909) 798-7502.

Contaminant (CCR units)	Year	MCL or [MRDL] in CCR units	PHG, (MCLG) or [MRDLG]	Distribution System Average	Distribution System Range
TTHMs [Total Trihalomethanes] (µg/L)	2023	80	N/A	18	ND - 42
HAA5 [Sum of 5 Haloacetic Acids] (µg/L)	2023	60	N/A	12	ND - 27
Chlorine (mg/L)	2023	[MRDL = 4.0 (as Cl2)]	[MRDLG = 4 (as Cl2)]	0.9	0.24 - 2.0
Control of DBP Precursors (TOC)	2023	TT	N/A	1.2	0.5 - 2.6

Sampling Results for Sodium and Hardness

Constituent	Year	MCL / PHG (MCLG)	Ground-water Supply Average	Ground-water Supply Range	Surface Water Supply Average (Treated)	Surface Water Supply Range (Treated)	Source Information
Sodium mg/L	2023	N/A	24	11 - 80	9	6 - 13	"Sodium" refers to the salt present in the water and is generally naturally occurring.
Hardness mg/L	2023	N/A	155	110 - 210	81	66 - 95	"Hardness" is the sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally occurring.

and Disinfection Byproduct Precursors

Violation	Major Sources in Drinking Water	Health Effects Language
No	Byproduct of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer.
No	Byproduct of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
No	Drinking water disinfectant added for treatment	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
No	Various natural and manmade sources	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of cancer.

Regulated Contaminants with Secondary Drinking Water Standards

Monitoring required by section 64449 of the California Code of Regulations, Title 22.

Constituent	Year	Secondary MCL (units)	Ground-water Supply Average	Ground-water Supply Range	Surface Water Supply Average (Treated)	Surface Water Supply Range (Treated)	Typical Source of Contaminant
Turbidity	2023	5 Units	0.1	ND - 0.5	0.03	0.03 - 0.28	Soil Runoff
Total Dissolved Solids [TDS]	2023	1,000 mg/L	242	170 - 390	212	150 - 270	Runoff/leaching from natural deposits
Specific Conductance	2023	1,600 µS/cm	416	280 - 660	205	190 - 220	Substances that form ions when in water; seawater influence
Chloride	2023	500 mg/L	21	4 - 52	7	6 - 8	Runoff/leaching from natural deposits; seawater influence
Sulfate	2023	500 mg/L	32	16 - 37	10	7 - 13	Runoff/leaching from natural deposits; industrial wastes

Note: There are no PHGs, MCLGs, or mandatory standard health effects language for these constituents because secondary MCLs are set on the basis of aesthetic concerns.

Public Participation Opportunities

City Council meetings are held on the first and third Tuesdays of every month and the Municipal Utilities /Public Works Commission (MUPWC) meetings are held the first Monday of even numbered months. All items that are heard by the City Council or the MUPWC are placed on the required agendas and posted at City Hall located at 35 Cajon Street, Redlands, California.

State Contaminants with Notification Levels

For more information on PFAS , visit the City's website at https://redlands-pfas-faq-coredlands.hub.arcgis.com/

** The July 2018 notification levels for PFOA of 14 ng/L and for PFOS of 13 ng/L were superseded on August 22, 2019, with new notification levels 5.1 ng/L for PFOA and 6.5 ng/L for PFOS.

Chemical	Year	Notification Level (NL)	Ground-water Supply Average	Ground-water Range	Surface Water Supply Average (Treated)	Surface Water Supply Range (Treated)	Typical Source of Contaminant
Perfluoro-octanoic Acid [PFOA]	2023	5.1 ng/L**	5.3	3.5 - 7.3	ND	ND	Perfluorooctanoic acid exposures resulted in increased liver weight and cancer in laboratory animals.
Perfluoro-octanesulfonic Acid [PFOS]	2023	6.5 ng/L**	6.0	4.3 - 8.0	ND	ND	Perfluorooctanesulfonic acid exposures resulted in immune suppression and cancer in laboratory animals.

Unregulated Contaminant Monitoring Rule (UCMR) 4

Background

The 1996 Amendments to the Safe Drinking Water Act (SDWA) required the U.S. EPA to establish criteria for a monitoring program for unregulated contaminants and to publish, once every five years, a list of no more than 30 contaminants to be monitored by public water systems (PWS).

Section 64450 of the California Code of Regulations also required certain water systems to monitor a number of unregulated contaminants with contaminant lists that were published or revised in 1990, 1996, 2000, and 2003. This section of the California Code of Regulations was repealed effective October 18, 2007.

Water systems that continued to monitor for state unregulated contaminants are encouraged, but not required, to include the information regarding detected contaminants in the CCR. Although Section 64450 of the California Code of Regulations was repealed, the State Water Board may request water systems to monitor for specific contaminants per Health and Safety Code (HSC) section 116375(b).

Unregulated contaminant monitoring helps U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

Chemical Contaminants	Year	Minimum Reporting Level	System Average	System Range	Typical Source of Contaminant	Health Effects Language
Manganese	2019	0.4 µg/L	0.41	ND - 1.5	Leaching from natural deposits	Manganese exposures resulted in neurological effects. High levels of manganese in people have been shown to result in adverse effects to the nervous system.
Total Organic Carbon (TOC)*	2019	N/A	1	0 - 3.7	Various natural and manmade sources	Total organic carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes(THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver, or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.
Bromide*	2019	N/A	0.02	ND - 1.1	N/A	N/A

** Raw surface water sources*

The City of Redlands vigilantly safeguards its water supplies and once again, we are proud to report that our system has never violated a maximum contaminant level or any other water quality standard. Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (U.S. EPA) and State drinking water health standards.

This report contains very important information about your drinking water.

For assistance in English, please contact the City of Redlands located at

35 Cajon Street, Suite 15A, Redlands, CA, 92373 or call our Customer Service at (909) 798-7516.

Este informe contiene información muy importante sobre su agua potable.

Para asistencia en español, favor de comunicarse con la ciudad de Redlands ubicado al

35 Cajon Street, Suite 15A Redlands, CA, 92373 o llame a nuestro Servicio al Cliente al (909) 798-7516.

We are committed to providing you with information because informed customers are our best allies.

For questions about this report please contact Paul Mariscal, Water Utility Manager at (909) 798-7502.