Consumer Confidence Report

Based on 2009 Averages

Serving the City of Orange for Over 100 Years

City of Orange
Water Division

Class 1 Water Utility

CITY OF ORANGE WATER DIVISION CONSUMER CONFIDENCE REPORT - 2009

Since 1990, the City of Orange has provided its water customers an annual water quality report. The federal government recently adopted new guidelines for water agencies to follow when communicating water quality information to consumers. The State of California tailored these guidelines, and the former water quality report is now called the Consumer Confidence Report. The new format is intended to provide customers a summary of the water quality data, key definitions, and other related information.

This report summarizes the quality of the water provided in 2009. It includes details about water sources, what the water contains, and how it compares to standards set by the State of California. Orange vigilantly monitors and safeguards its water supplies. We are pleased to report that your tap water met all Federal and State drinking water health standards. For more information about your water, call (714) 288-2475 and ask for Willie Kralich or Chris Costlow.

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 microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Orange's water comes from two sources. The primary source is groundwater drawn from 16 municipal wells drilled about 1000 feet into the Santa Ana River Aquifer. Well water goes directly into the distribution system, is disinfected with chlorine and meets all state regulations. The second source is water imported by the Metropolitan Water District, from the Colorado River and from Northern California (San Francisco-San Joaquin Bay Delta). Metropolitan water is filtered and disinfected with chloramines.

The Orange City Council meets on the second and fourth Tuesday of each month at 4:30 and 7:00 p.m. in the City Hall Council Chambers, 300 East Chapman Avenue. The community is welcome to participate in these meetings.

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 EPA's Safe Drinking Water Hotline (800-426-4791).

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. It also can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water before it is treated include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, and mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture and residential uses.
- Radioactive contaminants, which are naturally occurring.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, can also come from gas stations, urban stormwater runoff, and septic systems.

In order to ensure that tap water is safe to drink, the California Department of Public Health prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Department's Food and Drug Branch regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

WATER QUALITY DATA

The table below lists all the drinking water contaminants detected by the City of Orange during the 2009 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2009. The State requires the City of Orange to monitor for certain contaminants less than once per year because the concentrations of these contaminants is not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Terms and abbreviations used below:

- **Primary Drinking Water Standard or PDWS:** MCLs and MRDLs for contaminants that effect health along with their monitoring and reporting requirements, and water treatment requirements.
- **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.
- **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 U.S. Environmental Protection Agency.
- **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.
- **Regulatory Action Level (AL):** The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **NA:** not applicable • **ND:** not detected • **NS:** no standard • **NTU:** Nephelometric Turbidity Units
- **ppm:** parts per million • **ppb:** parts per billion • **pCi/l:** picocuries per liter (a measure of radiation)
- **Maximum Residual Disinfectant Level (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 (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.

PRIMARY DRINKING WATER STANDARDS

(Mandatory Health Related Standards Established by the State of California, Department of Health Services)

Contaminant	Unit Measurement	MCL	PHG (MCLG)	Range	Average	Date Sampled	Typical Source of Contaminant
Microbiological Contaminants							
Total Coliform Bacteria	MCL 5.0% of monthly samples are positive		(0)	ND	ND	Weekly	Naturally present in the environment

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Microbiological Contaminants							
Total Coliform Bacteria	MCL 5.0% of monthly samples are positive		(0)	ND	ND	Weekly	Naturally present in the environment
Turbidity: Import	NTU	0.5 TT	NA	0.04-0.05	0.04	Daily	Soil runoff

Turbidity is a measure of the cloudiness of the water. Turbidity is a good indicator of the effectiveness of the filtration process.

Radioactive Contaminants							
Gross Alpha Activity	pCi/l	15	0	1.8-10.6	6.08	2009	Erosion of natural deposits
Uranium	pCi/l	20	0.43	1.08-9.84	5.49	2009	Erosion of natural deposits
Gross Beta Activity	pCi/l	50	0	ND-6.4	ND	2009	Erosion of natural deposits
Inorganic Contaminants							
Arsenic	ppb	50	4	ND-4.0	0.85	2009	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride	ppm	2	1	0.10-0.80	0.33	2009	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (NO_3)	ppm	45	45	5-18	11	2009	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrite	ppm	1	1	ND	ND	2009	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate (N)+ Nitrite	ppm	10	10	1.1-4.0	2.4	2009	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Copper	ppm	AL=1.3	0.3	0 of 50 exceeded the AL	90% was 0.18	2009	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	ppb	AL=15	0.2	1 of 50 exceeded the AL	90% was 3.1	2009	Internal corrosion of household plumbing systems; discharges from industrial manufactures; erosion of natural deposits

SECONDARY DRINKING WATER STANDARDS

(Aesthetic Standards Established by the State of California, Department of Health Services)

Contaminant	Unit Measurement	MCL	PHG (MCLG)	Range	Average	Date Sampled	Typical Source of Contaminant
Color	Units	15 units	NA	<5	<5	Monthly	Naturally-occurring organic materials
Corrosivity	---	Non-corrosive	NA	Non-corrosive	Non-corrosive	2009	Natural/industrial-influenced balance of hydrogen/carbon/oxygen in the water; affected by temperature and other factors
Methyl-tert-butyl ether (MTBE)	ppb	5	NA	ND	ND	2009	Leaking underground storage tanks and pipelines
Odor-Threshold	Units	3 units	NA	1	1	Monthly	Naturally-occurring organic materials
Turbidity: Distribution System	NTU	5	NA	0.04-0.26	0.09	Monthly	Soil runoff
Turbidity: Wells	NTU	5	NA	0.04-0.28	0.08	Monthly	Soil runoff
Total Dissolved Solids (TDS)	ppm	1000	NA	322-692	528	2009	Runoff/leaching from natural deposits
Specific Conductance	micromhos	1600	NA	542-1000	840	2009	Substances that form ions when in water; seawater influence
Chloride	ppm	500	NA	35-115	84	2009	Runoff/leaching of natural deposits; seawater influence
Sulfate	ppm	500	NA	67-240	129	2009	Runoff/leaching of natural deposits; industrial wastes
Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors							
Total Trihalomethanes (TTHMS)**	ppb	80	NA	ND-71	15	December 2009	By-product of drinking water chlorination
Haloacetic acids (HAA5)**	ppb	60	NA	ND-28	6	December 2009	By-product of drinking water chlorination

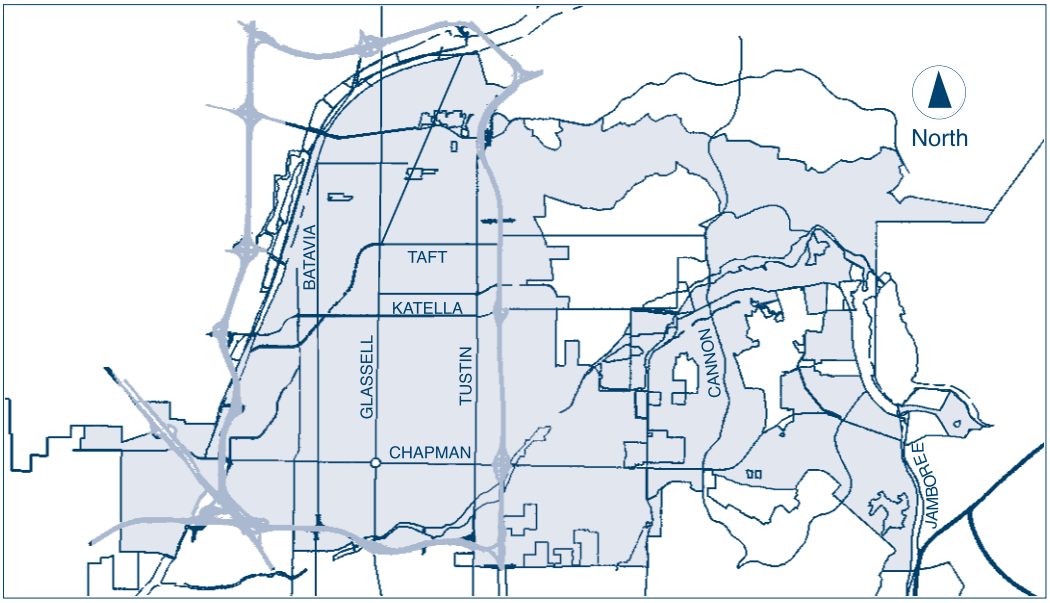
**16 SAMPLES ARE COLLECTED AND ANALYZED QUARTERLY FROM THE DISTRIBUTION SYSTEM

		MRDL	MRDLG				
Total Chlorine Residual	ppm	4.0	4.0	ND-2.7	0.8	Weekly	Drinking water disinfectant
Other Parameters							
Calcium	ppm	NS	NS	50-113	91	2009	Naturally-occuring dissolved mineral
Magnesium	ppm	NS	NS	9-27	19	2009	Naturally-occuring dissolved mineral
Iron	ppb	300	NS	ND-9	3	2009	Naturally-occuring; Industrial waste
pH: Wells	pH Units	NS	NS	6.6-8.4	7.8	Monthly	
pH: Distribution System	pH Units	NS	NS	6.4-8.6	7.7	Monthly	
Sodium	ppm	NS	NS	41-98	59	2009	Erosion of natural deposits
Hardness ($CaCO_3$)	Grains/Gallon	NS	NS	9-21	18	2009	Erosion of natural deposits

SOURCE WATER ASSESSMENT

City of Orange water supplies are from various sources including groundwater, purchased water from Northern California and the Colorado River, and local watersheds. An assessment of our drinking water sources was completed in December 2002. Water sources are considered most vulnerable to contamination from those activities associated with urban industrial environments such as chemical processing, petroleum pipelines and storage, gas stations and sewer collection systems. The City of Orange carefully tests all water supply sources to assure the safety and compliance with all Drinking Water Standards. A copy of the assessment summary is available at the City of Orange Water Division, located at 189 S. Water St., or you may request a summary be sent to you by contacting Michael Wolfe at (714) 288-2475.

City of Orange Water Division Service Area Map



Water Supply, Water Quality, and Related Topics

CUSTOMER SERVICE: We are committed to provide prompt courteous service to our customers. If you have questions about water quality, pressure or other supply issues, please call (714) 288-2475 or after regular business hours call (714) 538-1961. Questions about your bill should be directed to our utility billing office at (714) 744-2233.

ONGOING WATER QUALITY PROGRAMS AND ACTIVITIES: The City of Orange adheres to strict regulatory standards for materials used in our water system. Rigorous third party testing assures all materials are approved for use in potable water systems. We also operate our own state-certified drinking water laboratory. With testing performed in the city's lab and contracted testing with other public and private laboratories, we are able to assure that our water supply meets or exceeds all applicable drinking water standards. In addition, our staff administers a cross-connection control program to check that water service connections are protected where there is a possibility of reverse flow contaminating our water system.

DISINFECTION: Water supplies are made safe to drink in several ways. All of the city's well water sources are naturally filtered as the water percolates through the ground removing impurities. As an added protection, the city chlorinates all well water pumped into the distribution system. Other water sources require treatment at facilities designed to remove impurities and make water safe to drink. Water treatment facilities use various forms of disinfection including chlorine, chloramines and ozone. Each, or a combination of these, may be used to treat surface water purchased by the city for delivery to our customers. **All treatment methods are designed to make the water safe for humans to drink. Chloramine disinfection can be toxic to fish and other aquatic animals and is of concern for kidney dialysis patients. Water supplied with chloramines generally makes up about 25% to 35% of our total supply. Pet fish owners should take appropriate remedies when changing or adding water from the tap to fishponds or fish tanks. Dialysis patients should consult a health care professional for appropriate precautions.**

FIRE HYDRANTS: The City of Orange maintains high standards for water supplies available for fire protection and is rated a Class I Water System by the Insurance Services Office. We have over 4,500 public fire hydrants located throughout our service area. Many other hydrants are privately owned and maintained by the property owner. The city tests all public hydrants on a regular interval, usually once each year. It is very important that hydrants function properly and are accessible to firefighters when emergency supplies are needed. **If there is a hydrant in front of your home or on your property, please maintain a sufficiently clear, three-foot minimum area around the hydrant. Bushes, shrubs, trees, etc. should be trimmed to keep the hydrant visible and accessible.**

REGIONAL WATER SUPPLY SOURCES: Water supplies throughout Southern California are derived from several sources. These sources include water from Northern California via the State Water Project, the Colorado River, local groundwater basins, local watersheds, reclamation and water reuse projects, and ocean desalinization. The combination of some or all of these sources is available to the City of Orange now or in the future. Reliable water supplies are essential to our health, safety, and welfare. **No single source is sufficient to meet all of our water supply needs. The challenge is to find a cost-effective, reliable combination that will ensure adequate water supplies now and into the future. Please help recognize the value of a reliable water supply. Use what you need, but please don't waste water. For water conservation information, please call (714) 288-2475.**

ABOUT LEAD IN TAP WATER: 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 materiels and components associated with service lines and home plumbing. The City of Orange 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.

Important water quality information inside

City of Orange Water Division
189 South Water Street

PRESORTED
STANDARD

supplies available for fire protection and is rated a Class I Water System by the

Important water quality information inside

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

NEED TO CONTACT US?

BY MAIL: City of Orange Water Division
P.O. Box 449, Orange, California 92866

BY PHONE: Water Quality (714) 288-2475
Willie Kralich, *Sr. Water Quality Inspector* Chris Costlow, *Water Quality Inspector*
Water Engineering (714) 288-2475
24 Hour Emergency (714) 538-1961
Water Billing (714) 744-2233

WEBSITE: www.cityoforange.org