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Fountain Valley
PUBLIC WORKS DEPARTMENT

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AGENCY FOR COMMUNITY DEVELOPMENT

LET'S GET
SMART ABOUT **WATER**



2017
WATER QUALITY
REPORT

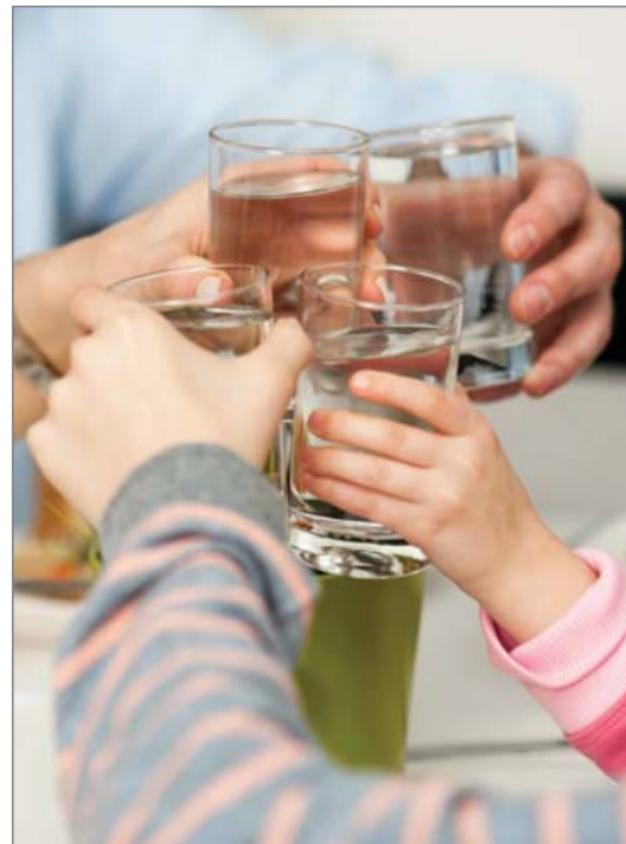
Your 2017 Water Quality Report

Since 1990, California public water utilities have been providing an annual Water Quality Report to their customers. **This year's report covers calendar year 2016 drinking water quality testing and reporting.** The City of Fountain Valley Water Department (City) vigilantly safeguards your water supply and, as in years past, the water delivered to your home meets or exceeds the quality standards required by federal and state regulatory agencies. The U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board, Division of Drinking Water (DDW) are the agencies responsible for establishing and enforcing drinking water quality standards.

Pursuant to the California Safe Drinking Water Act, the City monitors over 100 chemicals in your water supply. This report includes only the chemicals actually detected in the water. In some cases, the City goes beyond what is required by testing for unregulated chemicals that may have known health risks but do not have drinking water standards. Unregulated chemical monitoring helps USEPA and DDW determine where certain chemicals occur and whether new standards need to be established for those chemicals to protect public health.

Through drinking water quality testing programs carried out by OCWD for groundwater, MWDSC for treated surface water and the City for the water distribution system, your drinking water is constantly monitored from source to tap for constituents that are regulated and unregulated.

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



The Quality of Your Water Is Our Primary Concern

Sources of Supply

The City's water supply is a blend of groundwater from six City wells and one imported water connection originating from Northern California and the Colorado



River by the Municipal Water District of Orange County (MWDOC) via MWDOC. Groundwater comes from a natural underground aquifer that is replenished with water from the Santa Ana River, local rainfall, recycled Groundwater Replenishment System (GWRS) water, and imported water. The groundwater basin is 350 square miles and lies beneath north and central Orange County from Irvine to the Los Angeles County border and from Yorba Linda to the Pacific Ocean. More than 20 cities and retail water districts draw from the basin to provide water to homes and businesses.

Orange County's Water Future

For years, Orange County has enjoyed an abundant, seemingly endless supply of high-quality water. However, as water demand continues to increase statewide, we must be even more conscientious about our water supply and maximize the efficient use of this precious natural resource.

OCWD and MWDOC work cooperatively to evaluate new and innovative water management and supply development programs, including water reuse and recycling, wetlands expansion, recharge facility construction, ocean and brackish water desalination, surface storage and water use efficiency programs. These efforts are helping to enhance long-term countywide water reliability and water quality.

A healthy water future for Orange County rests on finding and developing new water supplies, as well as protecting the quality of the water that we have today. Your local and regional water agencies are committed to making the necessary investments today in new water management projects to ensure an abundant and high-quality water supply for our future.



Basic Information About Drinking Water Constituents

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 land or through the layers of the ground it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animal and human activity.

Constituents that may be present in source water include:

- **Microbial constituents**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Inorganic constituents**, such as salts and metals, which can be naturally occurring



or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming.

- **Radioactive constituents**, which can be naturally occurring or be the result of oil and gas production or mining activities.
- **Organic chemical constituents**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gasoline stations, urban stormwater runoff, agricultural application and septic systems.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.



In order to ensure that tap water is safe to drink, USEPA and the DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that must 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 USEPA's Safe Drinking Water Hotline at (800) 426-4791.

Questions about your water? Contact us for answers.

For information or concerns about this report, or your water quality in general, please contact Duc Nguyen, Water Quality Technician, at (714) 593-4624, or send e-mail to duc.nguyen@fountainvalley.org.

You may also address your concerns at the regularly scheduled City Council Meetings held at City Hall at 10200 Slater Avenue in Fountain Valley on the first and third Tuesdays of each month at 6:00 pm in the City Hall Council Chambers. Please feel free to participate in these meetings. The City firmly believes in the public's right to know as much as possible about the quality of their drinking water and the health of their watershed.

Your input and concerns are very important to us.

For more information about the health effects of the listed constituents in the following tables, call the USEPA hotline at (800) 426-4791.

Federal and State Water Quality Regulations

Water Quality Issues that Could Affect Your Health



Drinking Water Fluoridation

Fluoride occurs naturally in the City's water supplies. In addition to the natural levels, the City's water system adds a small concentration of sodium fluoride to the water to promote dental benefits per a majority vote of the community. Fluoridating the water especially helps to prevent tooth decay in children. Because of the dramatic health benefits of fluoridating drinking water, a 1997 assembly bill of the state of California has mandated all large system water suppliers to begin fluoridating their systems. In 2007 MWSDSC began fluoridation of their water supply. The City's water is fluoridated to the DDW optimal range between 0.6 to 1.2 parts per million.

There are many places to go for additional information about the fluoridation of drinking water.

U.S. Centers for Disease Control and Prevention:

1-800-232-4636 • www.cdc.gov/fluoridation/

State Water Resources Control Board, Division of Drinking Water:

www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml

For more information about MWSDSC's fluoridation program, please contact Edgar G. Dymally at (213) 217-5709 or edymally@mwdh2o.com.

What are Water Quality Standards?

Drinking water standards established by USEPA and DDW set limits for substances that may affect consumer health or aesthetic qualities of drinking water. The chart in this report shows the following types of water quality standards:

- **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.
- **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.
- **Secondary MCLs:** Set to protect the odor, taste, and appearance of drinking water.
- **Primary Drinking Water Standard:** MCLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.
- **Regulatory Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

How are Contaminants Measured?

Water is sampled and tested throughout the year.

Contaminants are measured in:

- 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)

What is a Water Quality Goal?

In addition to mandatory water quality standards, USEPA and DDW have set voluntary water quality goals for some contaminants. Water quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guideposts and direction for water management practices. The chart in this report includes three types of water quality goals:

- **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 USEPA.
- **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.
- **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.

2016 City of Fountain Valley Drinking Water Quality Local Groundwater and Metropolitan Water District Treated Surface Water

Chemical	MCL	PHG (MCLG)	Avg. Groundwater Amount	Avg. Imported MWD Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Radiologicals – Tested in 2013, 2014 and 2015							
Alpha Radiation (pCi/L)	15	(0)	ND	ND	ND – 4	No	Erosion of Natural Deposits
Beta Radiation (pCi/L)	50	(0)	< 4	5	ND – 6	No	Decay of Man-made or Natural Deposits
Uranium (pCi/L)	20	0.43	2.38	3	ND – 5.34	No	Erosion of Natural Deposits
Inorganic Chemicals – Tested in 2016							
Aluminum (ppm)	1	0.6	ND	0.168	ND – 0.24	No	Treatment Process Residue, Natural Deposits
Barium (ppm)	1	2	ND	0.138	ND – 0.138	No	Refinery Discharge, Erosion of Natural
Chromium, Hexavalent (ppb)	10	0.02	< 1	ND	ND – 2.4	No	Erosion of Natural Deposits; Industrial Discharge
Fluoride (ppm) naturally-occurring	2	1	0.38	NR	0.31 – 0.41	No	Erosion of Natural Deposits
Fluoride (ppm) treatment-related	Control Range 0.6 – 1.2 ppm Optimal Level 0.7 ppm		See Footnote 1	0.7	0.6 – 0.9	No	Water Additive for Dental Health
Nitrate as N (ppm)	10	10	1.27	ND	ND – 1.99	No	Agriculture Runoff and Sewage
Nitrate and Nitrite as N (ppm)	10	10	1.28	ND	ND – 1.99	No	Agriculture runoff and sewage
Secondary Standards* – Tested in 2016							
Aluminum (ppb)	200*	600	ND	168	ND – 240	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	n/a	41.5	103	26.7 – 103	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	n/a	ND	1	ND – 1	No	Runoff or Leaching from Natural Deposits
Copper (ppm)	1*	n/a	<0.05	ND	ND – 0.0913	No	Erosion of Natural Deposits
Odor (odor units)	3*	n/a	ND	3	ND – 3	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	n/a	641	1,040	515 – 1,050	No	Substances that form ions in water
Sulfate (ppm)	500*	n/a	83	260	53.8 – 262	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	401	654	304 – 658	No	Runoff or Leaching from Natural Deposits
Turbidity (NTU)	5*	n/a	0.13	ND	ND – 0.4	No	Runoff or Leaching from Natural Deposits
Unregulated Chemicals – Tested in 2016							
Alkalinity, total as CaCO ₃ (ppm)	Not Regulated	n/a	179	120	115 – 196	n/a	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL=1	n/a	< 0.1	0.15	ND – 0.15	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	n/a	70.5	76	50.2 – 96.3	n/a	Runoff or Leaching from Natural Deposits
Hardness, total as CaCO ₃ (ppm)	Not Regulated	n/a	228	296	161 – 310	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gal)	Not Regulated	n/a	13.4	17	9.44 – 18.2	n/a	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	13	27	8.7 – 27	n/a	Runoff or Leaching from Natural Deposits
pH (pH units)	Not Regulated	n/a	7.9	8.1	7.7 – 8.1	n/a	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	n/a	2.6	5.1	1.5 – 5.1	n/a	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	n/a	41.2	103	34.6 – 107	n/a	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	Not Regulated	TT	ND	2.5	ND – 2.6	n/a	Various Natural and Man-made Sources

ppb = parts-per-billion; ppm = parts-per-million; pCi/L = picoCuries per liter; NTU = nephelometric turbidity units; µmho/cm = micromhos per centimeter; ND = not detected; NR = Not Required to be analyzed; MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; n/a = not applicable; PHG = California Public Health Goal; NL = Notification Level *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color)
(1) The Fountain Valley water system treats your water by adding fluoride to the naturally occurring level in order to help prevent dental caries in consumers. The fluoride levels in the treated water are maintained by the City within a control range of 0.6 ppm to 1.2 ppm.

Turbidity – combined filter effluent Metropolitan Water District Diemer Filtration Plant	Treatment Technique	Turbidity Measurements	TT Violation?	Typical Source of Contaminant
1) Highest single turbidity measurement	0.3 NTU	0.07	No	Soil Runoff
2) Percentage of samples less than 0.3 NTU	95%	100%	No	Soil Runoff

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT). A treatment technique is a required process intended to reduce the level of contaminants in drinking water that are difficult and sometimes impossible to measure directly.

Unregulated Chemicals Requiring Monitoring

Chemical	Notification Level	PHG	Average Groundwater	Average Imported MWD Water	Range of Detections	Most Recent Sampling
1,4-Dioxane (ppb)	1	n/a	1.9	ND	ND – 4.1	2013
Chlorate (ppb)	800	n/a	< 20	53	ND – 95	2013
Chromium, Hexavalent (ppb)**	MCL = 10	0.02	1.2	0.07	0.03 – 2.8	2013
Chromium, Total (ppb)***	MCL = 50	MCLG = 100	0.93	< 0.2	ND – 2.4	2014
Molybdenum, Total (ppb)	n/a	n/a	4.4	4.7	3.1 – 5.9	2014
Strontium, Total (ppb)	n/a	n/a	660	930	490 – 1,100	2014
Vanadium, Total (ppb)	50	n/a	3.2	2.8	2.3 – 3.5	2014

**Hexavalent chromium was included as part of the unregulated chemicals requiring monitoring.
***Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb.
Total chromium was included as part of the unregulated chemicals requiring monitoring.

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 materials and components associated with service lines and home plumbing.

The City 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.



Immuno-Compromised People

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as those with cancer who are undergoing chemotherapy, persons who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.



Chloramines

The City imports water from MWDSC which produces water using chloramines, a combination of chlorine and ammonia, as its drinking water disinfectant. Chloramines are effective killers of bacteria and other microorganisms that may cause disease. Chloramines form fewer disinfection by-products and have no odor when used properly. People who use kidney dialysis machines may want to take special precautions and consult their physician for the appropriate type of water treatment.

Customers who maintain fish ponds, tanks or aquaria should also make necessary adjustments in water quality treatment, as these disinfectants are toxic to fish. For further information or if you have any questions about chloramines please call (714) 593-4624.

2017 Water Monitoring Requirement Violation

The City monitors your drinking water on a regular basis. Laboratory test results from regular monitoring for specific contaminants indicate whether or not the drinking water meets very stringent health standards as prescribed in the California Code of Regulations, Title 22, Chapter 15, "Domestic Water Quality and Monitoring Regulations" (Title 22).

During the first quarter of 2017 the City performed the required testing and analysis for trihalomethanes and haloacetic acids but did not meet the approved schedule listed in the Stage 2 Disinfection Byproduct Rule (see chart at right).

The concern here is that 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. Also, some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Test results in the first quarter of 2017 indicated all drinking water standards were met.

Please share this information with all the people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools and businesses). You can do this by posting this public notice in a public place or distributing copies by hand or mail.

Constituent to be monitored: Disinfection byproducts (THM/HAA5)
Required number of samples to be collected: 8 samples per quarter
Date samples should have been collected: 2 nd week of March, 2017
Date samples were collected: 4 th week of February, 2017

2016 City of Fountain Valley Distribution System Water Quality

Disinfection Byproducts	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Trihalomethanes (ppb)	80	32	ND – 38	No	Byproducts of chlorine disinfection
Haloacetic Acids (ppb)	60	8	ND – 17	No	Byproducts of chlorine disinfection
Chlorine Residual (ppm)	(4 / 4)	0.75	0.01 – 2.8	No	Disinfectant added for treatment
Aesthetic Quality					
Odor (threshold odor number)	3*	1	1	No	Erosion of natural deposits
Turbidity (NTU)	5*	<1	ND – 1.1	No	Erosion of natural deposits

Eight locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids; thirty are tested monthly for color, odor and turbidity. Color was not detected in 2016. MRDL = Maximum Residual Disinfectant Level; MRDLG = Maximum Residual Disinfectant Level Goal; NTU = nephelometric turbidity units; ND = not detected. *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color)

Lead and Copper Action Levels at Residential Taps

	Action Level (AL)	Health Goal	90 th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Source of Contaminant
Copper (ppm)	1.3	0.3	0.215	0 / 32	No	Corrosion of household plumbing
Lead (ppb)	15	0.2	ND	0 / 32	No	Corrosion of household plumbing

For the sampling event, 32 residences were tested for lead and copper at-the-tap. The most recent set of samples was collected in August 2015. Lead was detected in two homes, none of which exceeded the Action Level (AL). Copper was detected in 28 samples, none of which exceeded the AL. A regulatory AL is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Unregulated Chemicals Requiring Monitoring in the Distribution System

Chemical	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Dates
Chlorate (ppb)	800	n/a	39	ND – 57	2013
Chromium, Hexavalent (ppb)**	MCL = 10	0.02	0.19	0.04 – 0.6	2013
Chromium, Total (ppb)***	MCL = 50	MCLG = 100	< 0.2	ND – 0.5	2013
Molybdenum, Total (ppb)	n/a	n/a	4.2	3.6 – 4.6	2013
Strontium, Total (ppb)	n/a	n/a	890	740 – 1,100	2013
Vanadium, Total (ppb)	50	n/a	2.9	2.6 – 3.4	2013

**Hexavalent chromium is regulated with an MCL of 10 ppb but was not detected, based on the detection limit for purposes of reporting of 1 ppb. Hexavalent chromium was included as part of the unregulated chemicals requiring monitoring.

***Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated chemicals requiring monitoring.

Source Water Assessments

Imported (MWDSC) Water Assessment

Every five years, MWDSC is required by DDW to examine possible sources of drinking water contamination in its State Water Project and Colorado River source waters.

The most recent watershed sanitary surveys for MWDSC's source waters are the Colorado River Watershed Sanitary Survey — 2015 Update, and the State Water Project Watershed Sanitary Survey — 2011 Update.

Water from the Colorado River is considered to be most vulnerable to contamination from recreation, urban/stormwater runoff, increasing urbanization in the watershed, and wastewater. Water supplies from Northern California's State Water Project are most vulnerable to contamination from urban/stormwater runoff, wildlife, agriculture, recreation, and wastewater.

USEPA also requires MWDSC to complete one Source Water Assessment (SWA) that utilizes information collected in the watershed sanitary surveys. MWDSC completed its SWA in December 2002. The SWA is used to evaluate the vulnerability of water sources to contamination and helps determine whether more protective measures are needed.

A copy of the most recent summary of either Watershed Sanitary Survey or the SWA can be obtained by calling MWDSC at (800) CALL-MWD (225-5693).

Groundwater Assessment

An assessment of the drinking water sources for the City was completed in February 2003 and was updated in October 2016 for Wells 6, 9 and 10. The groundwater sources are considered most vulnerable to the following activities not associated with detected contaminants: dry cleaners, gas stations, historic gas stations, NPDES/WDR permitted discharges, and sewer collection systems.

A copy of the complete assessment is available at State Water Resources Control Board, Division of Drinking Water, Santa Ana District, 605 W. Santa Ana Boulevard, Building 6, Room 325, Santa Ana, California 92701.

Your Water: Always Available, Always Assured

THE DIEMER WATER TREATMENT PLANT, located in the hills above Yorba Linda, processes up to 520 million gallons of clean water per day — enough to fill the Rose Bowl every 4 hours. The water is a blend from both the Colorado River Aqueduct and the State Water Project. At 212-acres, it's one of the largest water treatment plants in the U.S. It provides nearly half of Orange County's total water supply.



Water flowing from Diemer meets — or exceeds — all state and federal regulations. And it is kept safe from the treatment plant to your tap by constant testing throughout the distribution network. The City of Fountain Valley Public Works Dept. monitors the water quality at all sources, reservoirs, and various points on the distribution system. In addition, the Orange County Water District performs testing on the District's groundwater wells by analyzing for hundreds of compounds, many more than are required by state and federal laws and regulations. This constant surveillance ensures your drinking water stays within the requirements mandated by the federal Safe Drinking Water Act.



This report contains important information about your drinking water.

Translate it, or speak with someone who understands it.

Este informe contiene información importante sobre su agua potable.

Traducir, o hable con alguien que entienda.

Bản báo cáo có ghi những chi tiết quan trọng về phẩm chất nước trong cộng đồng quý vị. Hãy nhờ người thông dịch, hoặc hỏi một người bạn biết rõ về vấn đề này.



City of Fountain Valley

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