2016 WATER QUALITY REPORT

ANAHEIM
PUBLIC UTILITIES

TABLE OF CONTENTS

LETTER FROM THE GENERAL MANAGER

Dear Anaheim Water Customer:

Over the past year, the importance of having clean, reliable water has been a major issue throughout our nation. In the face of a historic drought, Anaheim residents and businesses helped to meet our state–mandated goal of saving 3.3 billion gallons of water, which resulted in using 20% less than in 2013. This achievement would not have been possible without the contributions of the entire community to make changes to indoor and outdoor water use. While much of the focus was on conserving water supplies and capturing rainfall from a relatively mild El Niño weather pattern in Southern California, Anaheim Public Utilities was working every day to provide water that surpasses all federal and state standards.

By operating our own testing laboratory that is inspected by the State Water Resources Control Board, Anaheim Public Utilities was able to efficiently conduct more than 44,000 water quality tests throughout the entire city. This report provides you with the quantified results of those tests that validate the water delivered to homes and businesses is clean and safe to drink. If you have any questions or concerns about your water quality, Anaheim provides a free service where a technician will test the water both inside and outside of your home or business.

The water system requires a continuous commitment to systematically replace aging pipelines, and to maintain and upgrade numerous wells, pumps, and storage tanks to meet the needs of all Anaheim water customers. We have also worked to maximize access to the local aquifer to take advantage of the lower cost groundwater that Anaheim sits above, and to utilize our very own water treatment plants – one that recycles water for outdoor irrigation (which saves potable water) and the other that takes untreated imported water at a lower cost than fully treated water. As the state's 10th largest city—with a population of more than 350,000 residents, nearly 15,000 businesses, and around 22 million visitors each year—having access to reliable water at an affordable price is essential to the quality of life and economy of Anaheim.

By working together, we were able to achieve our state-mandated water conservation goal; keep our aging water infrastructure updated; and ensure that high–quality water is delivered reliably to the Anaheim community. Thank you for joining us this year to continue protecting and preserving the reliability, affordability, and quality of our local water supply. This Water Quality Report gives you an overview of the high–water quality we've been able to deliver in 2015 and the testing methods and standards used. If you have any further questions about your water quality, please call **714.765.4556** or email **waterquality@anaheim.net**. And, of course, we're here to help you continue saving money, conserving water, and making life easier through our many incentive programs.

Dukku Lee

LET'S DO OUR PART

Congratulations! Anaheim's water customers have stepped up and reduced water usage by 22%, exceeding the state-mandated 20% conservation requirement. The four years of historic drought has depleted reservoir and groundwater storage in Southern California. Good rainfall in early 2016 has helped replenish some of the water storage we rely on in Anaheim; however we will need to continue to do our part until the reservoirs and groundwater levels reach normal levels. There are many rebates, training, and conservation programs available for City customers. Let's continue to do our part to use water wisely.

Where to start?

1. Outdoor Irrigation
It's where more than half of water use goes. In addition to our mandatory landscape watering schedule, you can conserve water by reducing vehicle washing, using drought-tolerant plants, or participating in our Turf Removal Program.

2. Get a Free Home Utility Check-Up
You'll discover ways to be more water-wise in your home and find out about special rebates for water-saving toilets, washing machines, and other appliances.

3. Your Business
If you own a business in Anaheim, take advantage of our rebates and incentives that will help you save money and meet conservation requirements.

Together, we can do this. Find out more at **anaheim.net/savewater** and follow us on **facebook.com/anaheimutilities**

ANAHEIM'S SOURCES OF SUPPLY

ANAHEIM AND MORE THAN 20 CITIES AND RETAIL WATER DISTRICTS PUMP FROM THE GROUNDWATER BASIN TO PROVIDE WATER TO HOMES AND BUSINESSES.

Anaheim's water supply is a blend of groundwater from our own wells, as well as water imported from Northern California and the Colorado River by the Metropolitan Water District of Southern California (MWD). Customers may also receive water from Anaheim's owned and operated Lenain Water Treatment Facility. The source water for our wells is a natural aquifer that is replenished with water from the Santa Ana River, local rainfall, recycled, and imported water. Managed by the Orange County Water District, the groundwater basin is 350 square miles in area and lies beneath most of northern and central Orange County. Anaheim and more than 20 cities and retail water districts pump from the groundwater basin to provide water to homes and businesses.

BASIC INFORMATION ABOUT DRINKING WATER

The sources of drinking water (both tap water and bottled water) can include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through layers of the ground, it dissolves naturally-occurring minerals and, in some cases, this may include radioactive material, and can pick up substances resulting from the presence of animal or human activity. 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 water poses a health risk. In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in the water provided by public water systems. More information about contaminants and potential health effects can be obtained at **water.epa.gov/drink** or by calling the U.S. EPA's Safe Drinking Water Hotline at **800.426.4791**.

CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife
- Pesticides and herbicides, which may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses
- Inorganic contaminants, 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
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production (They can also come from gasoline 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 or mining activities


WATER
QUALITY
INFORMATION
THE EPA WOULD LIKE
YOU TO KNOW

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. Anaheim Public Utilities is responsible for providing high-quality drinking water, but cannot control the variety of materials used in home plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by running your tap for 30 seconds to two minutes before using it for drinking or cooking. If you are concerned about lead in your water, you may want to have it tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the U.S. EPA's Safe Drinking Water Hotline, **800.426.4791**, or online at **epa.gov/safewater/lead**.

IMMUNOCOMPROMISED PEOPLE

Some individuals may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people, such as persons with cancer undergoing chemotherapy; those who have undergone organ transplants; those with HIV/AIDS or other immune system disorders; some elderly; and infants can be particularly at risk from infections. These individuals or their caretakers should seek advice about drinking water from their health care providers. The 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 **water.epa.gov/drink** or the Safe Drinking Water Hotline **800.426.4791**.

WHAT ARE WATER QUALITY STANDARDS?

DRINKING WATER STANDARDS ESTABLISHED BY THE U.S. EPA AND STATE WATER RESOURCES CONTROL BOARD 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 CONTAMINENT LEVEL (MCL):
The highest level of a contaminant that is allowed in drinking water. primary MCLs are set as close to the public health goals (PHGs) or maximum contaminant levels goals (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 the addition of a disinfectant is necessary for control of microbial contaminants.

NOTIFICATION LEVEL (NL):
The level above which a water agency is required to notify its governing body if an unregulated contaminant is found in its drinking water.

PRIMARY DRINKING WATER STANDARD:
MCLs for contaminants that affect health, along with their monitoring and reporting requirements, as well as water treatment requirements.

SECONDARY MCLS:
Set to protect the odor, taste, and appearance of 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.

WHAT IS A WATER QUALITY GOAL?

IN ADDITION TO MANDATORY WATER QUALITY STANDARDS, U.S. EPA AND CAL/EPA HAVE SET VOLUNTARY WATER QUALITY GOALS FOR SOME CONTAMINANTS. 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 U.S. EPA.

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.

CITY OF ANAHEIM

WATER QUALITY

BASED ON 2015 DATA

BASED ON 2015 DATA

CHEMICAL (UNITS)	MCL	PHG (MCLG)	GROUNDWATER AVERAGE AMOUNT	LENAIN AVERAGE AMOUNT	MWD AVERAGE AMOUNT	RANGE OF DETECTIONS	MOST RECENT SAMPLING DATE	TYPICAL SOURCE OF CONTAMINANT
Radiologicals								
Uranium (pCi/L)	20	0.43	5.1	4.7	3.0	2.0 - 8.5	2015	Erosion of Natural Deposits
Gross Alpha (pCi/L)	15	(0)	<3	ND	ND	ND - 4	2015	Erosion of Natural Deposits
Gross Beta (pCi/L)	50(a)	(0)	n/a	n/a	5	4 - 6	2014	Erosion of Natural Deposits
Organic Chemicals								
Trichloroethylene (ppb)	5	1.7	<0.5	ND	ND	ND - 1.0	2015	Chemical Factories Discharge
1,1-Dichloroethene (ppb)	6	10	<0.5	ND	ND	ND - 1.8	2015	Chemical Factories Discharge
Inorganic Chemicals								
Aluminum (ppm)	1	0.6	ND	0.15	0.16	ND - 0.32	2015	Water Treatment Chemical
Arsenic (ppb)	10	0.004	<2	<2	2.2	ND - 2.3	2015	Erosion of Natural Deposits
Barium (ppm)	1	2	<0.1	0.12	0.12	ND - 0.12	2015	Erosion of Natural Deposits
Chromium, Hexavalent (ppb)	10	0.02	<1	ND	ND	ND - 2.3	2015	Erosion of Natural Deposits
Fluoride (ppm)	2	1	0.43	0.34	0.8	0.29 - 1.0	2015	Erosion of Natural Deposits/Additive
Nitrate as N (ppm)	10	10	2.7	ND	ND	ND - 4.3	2015	Fertilizers, Septic Tanks
Nitrate+Nitrite as N (ppm)	10	10	2.8	ND	ND	ND - 4.3	2015	Fertilizers, Septic Tanks
Disinfection Byproducts								
Bromate (ppb)	10	0.1	n/a	2	ND	ND - 5	2015	Water Disinfection Byproduct
Secondary Standards*								
Aluminum (ppb)	200*	600	ND	150	160	ND - 320	2015	Water Treatment Chemical
Chloride (ppm)	500*	n/a	87	92	100	57 - 115	2015	Erosion of Natural Deposits
Color (units)	15*	n/a	ND	ND	1	ND - 1	2015	Natural Organic Materials
Odor (threshold odor number)	3*	n/a	ND	1	2	ND - 2	2015	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	n/a	917	969	1040	743 - 1070	2015	Erosion of Natural Deposits
Sulfate (ppm)	500*	n/a	140	240	257	120 - 261	2015	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	576	620	662	464 - 702	2015	Erosion of Natural Deposits
Turbidity (NTU)	5*	n/a	0.05	0.04	ND	ND - 0.22	2015	Erosion of Natural Deposits

BASED ON 2015 DATA

CHEMICAL (UNITS)	MCL	PHG (MCLG)	GROUNDWATER AVERAGE AMOUNT	LENAIN AVERAGE AMOUNT	MWD AVERAGE AMOUNT	RANGE OF DETECTIONS	MOST RECENT SAMPLING DATE	TYPICAL SOURCE OF CONTAMINANT
Unregulated Contaminants Requiring Monitoring								
Bicarbonate (as HCO3) (ppm)	Not Regulated	n/a	231	160	n/a	160 - 265	2015	Erosion of Natural Deposits
Boron (ppb)	NL=1,000	n/a	150	130	120	ND - 240	2015	Erosion of Natural Deposits
Chromium, Total (ppb) (b)	50	n/a	0.64	<0.2	<0.2	ND - 2.0	2015	Erosion of Natural Deposits
Chromium, Hexavalent (ppb) (b)	10	0.02	0.44	0.03	0.04	ND - 2.3	2015	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	n/a	99	66	78	57 - 108	2015	Erosion of Natural Deposits
Dichlorodifluoromethane (ppb)	NL=1,000	n/a	<0.5	ND	ND	ND - 0.8	2015	Industrial Waste Discharge
Magnesium (ppm)	Not Regulated	n/a	18	28	27	16 - 28	2015	Erosion of Natural Deposits
pH (pH units)	Not Regulated	n/a	7.9	7.6	8.1	7.2 - 8.1	2015	Erosion of Natural Deposits
Potassium (ppm)	Not Regulated	n/a	4.1	4.8	4.9	3.3 - 5.0	2015	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	n/a	66	97	100	39 - 104	2015	Erosion of Natural Deposits
Total Alkalinity (ppm as CaCO3)	Not Regulated	n/a	190	118	126	90 - 217	2015	Erosion of Natural Deposits
Total Hardness (grains/gal)	Not Regulated	n/a	19	15	18	13 - 20	2015	Erosion of Natural Deposits
Total Hardness (ppm as CaCO3)	Not Regulated	n/a	321	264	302	217 - 342	2015	Erosion of Natural Deposits
Total Organic Carbon (ppm)	Not Regulated	TT	0.35	2.5	2.6	ND - 2.8	2015	Natural and Man-made Sources
Chlorate (ppb) (b)	NL = 800	n/a	233	222	125	ND - 622	2015	Byproduct of chlorine disinfection
Molybdenum (ppb) (b)	Not Regulated	n/a	4.5	4.7	5.0	3.1 - 6.1	2015	Erosion of Natural Deposits
Strontium (ppb) (b)	Not Regulated	n/a	938	1038	986	539 - 1200	2015	Erosion of Natural Deposits
Vanadium (ppb) (b)	NL=50	n/a	3.8	2.5	2.6	2.1 - 6.1	2015	Erosion of Natural Deposits
1,4-Dioxane (ppb) (b)	NL=1	n/a	0.39	ND	ND	0.18 - 0.64	2015	Chemical Factories Discharge
Chlorodifluoromethane (ppb) (b)	Not Regulated	n/a	<0.08	ND	ND	ND - 0.17	2015	Industrial Waste Discharge
Perfluorooctane Sulfonate (ppb) (b)	Not Regulated	n/a	<0.04	ND	ND	ND - 0.07	2015	Industrial Waste Discharge
Perfluorooctanoic Acid (ppb) (b)	Not Regulated	n/a	<0.02	ND	ND	ND - 0.03	2015	Industrial Waste Discharge

ppm = parts-per-million; **ppb** = parts-per-billion; **pCi/L** = picoCuries per liter; **NTU** = nephelometric turbidity units; **NL** = notification level; **n/a** = not applicable **ND** = not detected; < = average is less than the detection limit for reporting purposes; **MCL** = Maximum Contaminant Level; **MCLG** = federal MCL Goal; **PHG** = California Public Health Goal **µmho/cm** = micromho per centimeter; **TT** = treatment technique; *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color). (a) **Gross Beta MCL**: DDW considers 50 pCi/L to be the level of concern. The official MCL is '4 millirem/year (approximately 200 pCi//L) annual dose equivalent to the total body or any internal organ'. (b) **UCMR3** (Federal Unregulated Contaminant Monitoring Rule / Phase 3) - detection/reporting levels are much lower than current California regulatory detection/reporting level standards.

BASED ON 2015 DATA

TURBIDITY - TREATMENT PLANT COMBINED FILTER EFFLUENT	TREATMENT TECHNIQUE	TURBIDITY MEASUREMENTS	SAMPLE DATE	TYPICAL SOURCE OF CONTAMINANT
1) Highest single turbidity measurement	1 NTU	Lenain = 0.22 NTU	2015	Soil run-off
	1 NTU	MWD = 0.05 NTU	2015	Soil run-off
2) Percentage of samples less than 0.3 NTU	95%	Lenain = 100%	2015	Soil run-off
	95%	MWD = 100%	2015	Soil run-off

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 the City of Anaheim's and Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique". 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.

DISINFECTION BYPRODUCTS	MCL (MRDL/MRDLG)	AVERAGE AMOUNT	RANGE OF DETECTIONS	TYPICAL SOURCE OF CONTAMINANT
Total Trihalomethanes (ppb)	80	Highest LRAA = 60	13 - 98	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	Highest LRAA = 11	ND - 14	Byproducts of Chlorine Disinfection
Chlorine Residual (ppm)	(4 / 4)	0.9	ND - 2.7	Disinfectant Added for Treatment
AESTHETIC QUALITY				
Color (color units)	15*	ND	ND - 5	Erosion of Natural Deposits
Odor (threshold odor number)	3*	ND	ND - 1	Erosion of Natural Deposits
Turbidity (ntu)	5*	0.10	0.06 - 0.32	Erosion of Natural Deposits

Total trihalomethanes and haloacetic acids are tested quarterly at 12 locations. Chlorine residual disinfectant levels are tested weekly at 51 locations.Color, odor, and turbidity are tested monthly at 12 locations. **MRDL** = Maximum Residual Disinfectant Level; **MRDLG** = Maximum Residual Disinfectant Level Goal; **LRAA** = Locational Running Annual Average; **ND** = not detected; **ntu** = nephelometric turbidity units; *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (color, odor, clarity).

LEAD AND COPPER ACTION LEVELS AT RESIDENTIAL TAPS					
	Action Level (AL)	**Health Goal**	**90th Percentile Value**	**Sites Exceeding AL / Number of Sites**	**Typical Source Of Contaminant**
Lead (ppb)	15	0.2	ND<5	0 / 52	Corrosion of Household Plumbing
Copper (ppm)	1.3	0.3	0.11	0 / 52	Corrosion of Household Plumbing

Every three years, at least 50 residences are tested for lead and copper at-the-tap. The most recent set of samples was collected in 2015. Lead was detected in 2 samples; none exceeded the action level. Copper was detected in 23 samples; none exceeded the action level. The regulatory action level is the concentration which, if exceeded in more than ten percent of the homes tested, triggers treatment or other requirements that a water system must follow. The City of Anaheim complied with the lead and copper action levels.

SOURCE WATER ASSESMENTS

IMPORTED WATER ASSESSMENT

The Metropolitan Water District of Southern California (MWD) updated its source water assessment of the Colorado River and State Water Project supplies in 2012. Colorado River supplies are considered to be most vulnerable to recreation contamination, urban/storm water runoff, increasing urbanization, and wastewater. State Water Project supplies are considered to be most vulnerable to urban/storm water runoff, wildlife, agriculture, recreation and wastewater. A copy of the assessment can be obtained by contacting MWD by phone, at **213.217.6850**.

GROUND WATER ASSESSMENT

Anaheim has completed source water assessments of areas around each well and around the Walnut Canyon Reservoir, which provides imported water to the Lenain Water Treatment Facility. As in any urban area, Orange County's groundwater is considered potentially vulnerable to contamination from sources such as gas stations, dry cleaners, and industrial activities. To help prevent surface contamination of our wells, we seal the upper 400 to 500 feet of the well casing. A copy of the complete assessment is available at the State Water Resources Control Board, Division of Drinking Water, 605 W. Santa Ana Boulevard, Building 28, Santa Ana, CA 92701. You may request a summary of the assessment by contacting the Division of Drinking Water - Sanitary Engineer at **714.547.0430** or Anaheim's Environmental Services Division at **714.765.4288**.

CITY OF ANAHEIM

CITY COUNCIL

Tom Tait, Mayor

Lucille Kring, Mayor Pro Tem

Kris Murray, Council Member

Jordan Brandman, Council Member

James Vanderbilt, Council Member

Paul Emery, City Manager

PUBLIC UTILITIES BOARD

John Machiaverna, Chairperson

Susan Faessel, Vice-Chairperson

Robert W. Hernandez, Board Member

David Wain, Board Member

Lon Cahill, Board Member

AB Abdulrahman, Board Member

Ernesto Medrano, Board Member

Dukku Lee, Public Utilities General Manager

ANAHEIM

PUBLIC UTILITIES

CONTACT

QUESTIONS ABOUT YOUR WATER? CONTACT US FOR ANSWERS

For information about this report or your water quality in general, please contact our Water Quality Laboratory at **714.765.4556**, or e-mail us at **waterquality@anaheim.net**. You may also address water quality and other utility issues by attending a Public Utilities Board meeting scheduled for 5 p.m. on the fourth Wednesday of each month, at Anaheim West Tower, 11th Floor Conference Room, Anaheim, California.

Contact the U.S. Environmental Protection Agency to learn more about the potential health effects of contaminants listed in this report, visit **water.epa.gov/drink** or call their hotline at **800.426.4791**.

We comply with the Americans with Disabilities Act. For this information in other formats, contact: 714.765.3300, TTY 714.765.5125 or visit anaheim.net/utilities.

Este informe contiene información importante acerca del agua potable de Anaheim.
Para obtener un informe de la calidad del agua en español, llama por favor al 765-4151.
Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.
此份有关你的食水报告,内有重要资料和讯息,请找他人为你翻译及解释清楚。
Chi tiết này thật quan trọng. Xin nhờ người dịch cho quý vị.
이 안내는 매우 중요합니다. 번역을 위해 번역인을 사용하십시오.