

CONSUMER CONFIDENCE REPORT 2017

Water Quality Report - June 1, 2018



This Consumer Confidence Report (CCR) is a summary of results of tests conducted to detect contaminants in your drinking water. It has been provided to educate you, our customer, about the quality of your drinking water for the monitoring period of **January 1 – December 31, 2017**. This report does not include all tests results, rather the focus is on reporting constituents which may be of particular public health interest. All testing results are available as a matter of public record.

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. Environmental Protection Agency (USEPA's) Safe Drinking Water Hotline at (1-800-426-4791).

TRADITION OF EXCELLENCE Since its founding, the Kirkwood Meadows Public Utility District (District) has considered water quality of utmost importance. This Consumer Confidence Report is presented to enhance your understanding of where your water comes from and what it contains to confirm that your drinking water continues to meet or exceed all state and federal drinking water standards.

The District is committed to providing high quality, reliable, and environmentally sensitive water services to the residents and guests of Kirkwood. In doing so, we work to conserve and preserve our water sources.

Your drinking water meets or exceeds federal and state drinking water standards

The District is governed by a five member, elected Board of Directors. The Board meets every second Saturday of the month in the Community Services Building in Kirkwood. Your attendance is encouraged. These meetings are televised regularly on community Channel 19. Agendas and Minutes from Board meetings are regularly posted on the District's Web site www.kmpud.com

For more information, please contact:

Derek Dornbrook, Superintendent Water and Wastewater Operations at 209-258-4444 or ddornbrook@kmpud.com

IS OUR WATER SAFE? Last year, as in years past, your tap water met all EPA and state drinking water health standards

However, The District was issued a citation by the State Water Resources Control Board for receiving more than one total coliform-positive result for bacteriological sampling during the month of January 2017, when Kirkwood received 8 inches of rain and 296 inches of snow. These results may have been a result of contamination of Well #2 from flood water intrusion, sampling site contamination due to severe weather, sampling error, lab error, or a combination of factors. All following repeat samples were negative for coliform. A violation narrative is provided at the end of this report.

WHERE DOES OUR WATER COME FROM?

There are 4 active ground water wells that provide drinking water to nearly 850 homes and businesses. The District's water distribution system consists of two water storage tanks with a total capacity of 950,000 gallons and several miles of distribution lines varying in size from two to ten inches in diameter.

NAME AND LOCATION OF WATER SOURCES

Well #2 is located near the Kirkwood Community Playground. Wells #4 and #5 are located in the East Meadows, and Well #3 is

located adjacent to the District's employee housing.

Cross Connection Control

Backflow prevention assemblies are designed to allow water to flow into your home or business from the public water system but not allow water to flow in the reverse direction, creating effective cross connection protection. Reverse flow can carry untreatable pollutants and contaminants into the public water system, compromising water quality for all customers. Annual testing of backflow prevention assemblies is required to ensure they are effectively protecting the public water system. If your residence has fire sprinklers and/or landscaping, you are required to have a backflow prevention assembly.

Special Health Considerations for Drinking Water

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. USEPA/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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).

CALIFORNIA SOURCE WATER QUALITY

The sources of drinking water (both tap water and bottled water) include rivers, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: **Microbial, Inorganic, Pesticides and Herbicides, Chemical, and Radioactive.**

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

The following tables list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily pose a health risk. The Division allows us to monitor for certain contaminants less than once a year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one-year-old.

TERMS USED IN THIS REPORT

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

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (USEPA).

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

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

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

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

Variations and Exemptions: Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

MFL: million fibers per liter.

ND: not detectable at testing limit.

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

ppb: parts per billion or micrograms per liter (µg/L)

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

ppq: parts per quadrillion or picogram per liter (pg/L)

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

PRIMARY DRINKING WATER CONSTITUENTS regulated to protect your health

INORGANIC CONTAMINANTS

Constituent	Units	MCL/PHG, MCLG, or MRDL	AVERAGE FROM ALL WATER SOURCES	SAMPLE DATE	VIOLATION	TYPICAL SOURCES
Arsenic	ppb	0.010/0	ND	2016	NO	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Asbestos	ppm	7 MFL	ND	2017	NO	Decay of water mains constructed of asbestos-containing cement.
Asbestos-Distribution System	ppm	7 MFL	ND	2017	NO	Decay of water mains constructed of asbestos-containing cement.
Barium	ppm	1/1	0.016	2016	NO	Erosion of natural deposits
Cyanide	ppm	0.15	ND	2017	NO	Erosion of natural deposits
Fluoride	ppm	2.0/2.0	ND	2016	NO	Erosion of natural deposits. KMPUD does not add fluoride to drinking water
Gross Alpha Radionuclide	pCi/l	15/NA	0.336	2015	NO	Erosion of natural deposits
Hexavalent Chromium	ppb	1/NA	0.025	2014	NO	Erosion of natural deposits, predominantly volcanic rock
Nitrates (as nitrogen)	ppm	10/10	0.0375	2017	NO	Runoff from fertilizer use; Leaching from septic tanks, sewage. Erosion from natural deposits
Nitrites (as nitrogen)	ppm	1	ND	2017	NO	Runoff from fertilizer use; Leaching from septic tanks, sewage. Erosion from natural deposits
Perchlorate	ppm	0.004	ND	2017	NO	Production of matches, flares, explosives, pyrotechnics

DISINFECTANTS AND DISINFECTION BYPRODUCTS-STAGE 2 MONITORING

Constituent	Units	MCL/PHG, MCLG, or MRDL	AVERAGE FROM ALL WATER SOURCES	SAMPLE DATE	VIOLATION	TYPICAL SOURCES
Chlorine	ppm	4.0	0.94	2017 Running Annual Average	NO	Drinking water disinfectant added for treatment
Total Trihalomethanes	ppb	80/NA	2.33	2017	NO	By-product of disinfection
Haloacetic Acids	ppb	60/NA	<2.0	2017	NO	By-product of disinfection

DETECTED PRIMARY DRINKING WATER CONSTITUENTS regulated to protect your health
MICROBIOLOGICAL CONTAMINANTS

Contaminant (complete if bacteria is detected)	Highest number of detections	Number of months in violation	MCL	MCLG	FULL COMPLIANCE FOR 2017	TYPICAL SOURCES
Total Coliform Bacteria	2	1	2 samples in a month with a detection	0	NO	Naturally present in the environment
Fecal Coliform or E. coli	0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or E. coli	0	YES	Human and animal fecal waste

DETECTED PRIMARY DRINKING WATER CONSTITUENTS regulated to protect your health

LEAD AND COPPER September 20, 2016

Constituent	Number of samples collected	90 th percentile level detected	Number of sites exceeding AL	AL	PHG	TYPICAL SOURCES
Lead (ppb)	10	0.0031	0	0.015	0	Internal corrosion of household plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	10	0.28	0	1.3	1.3	Same as for lead; leaching from wood preservatives

DETECTED SECONDARY DRINKING WATER CONSTITUENTS REGULATED FOR AESTHETIC QUALITIES

National Secondary Drinking Water Standards are non-enforceable guidelines regulating contaminants that may cause cosmetic effects or aesthetic effects in drinking water. The EPA recommends secondary standards but does not require systems to comply with secondary MCLs.

Constituent	Units	Secondary MCL	AVERAGE FROM ALL WATER SOURCES	SAMPLE DATE	VIOLATION	TYPICAL SOURCES
Calcium	ppm	NA	5.13	2014	NO	Erosion of natural deposits
Conductance	uS/cm	1600	130	2014	NO	Erosion of natural deposits
Hardness	ppm	NA	33.75	2014	NO	Erosion of natural deposits
Iron*	ppm	.3	0.24	2017	NO	Erosion of natural deposits
Magnesium	ppm	NA	4.35	2014	NO	Erosion of natural deposits
Manganese	ppm	.05	0.042	2017	NO	Erosion of natural deposits
Sodium	ppm	NA	5.25	2014	NO	Erosion of natural deposits
Sulfate	ppm	250	2.95	2014	NO	Erosion of natural deposits
Total Dissolved Solids	ppm	500	47.5	2014	NO	Erosion of natural deposits
True Color	Units	15	2.5	2014	NO	Naturally occurring organic materials

*Iron monitoring for Well 2 due to past concerns for this constituent's presence. 2015 sample below Secondary MCL.

TOTAL COLIFORM RULE VIOLATION OF JANUARY 2017
NARRATIVE OF FAILURE TO COMPLY
AND
DISTRICT RESPONSE

The District failed to comply with the Maximum Contaminant Level (MCL) of the Total Coliform Rule (TCR) in the month of January 2017

On January 24, 2017, the District collected two routine bacteriological samples from the distribution system. Of the two samples taken on January 24, 2017, one of the samples had results of total coliform-positive. A coliform-positive result does not necessarily signal a direct threat to public health but rather indicates that a potential exists for one. In response to the positive result, the District collected five repeat distribution samples on January 26, 2017. Two samples were collected at points downstream of the positive result sample point and two samples were collected at points upstream of the positive result sample point. An additional sample was collected at the nearest raw water source. All five repeat samples had results of total coliform-negative

On January 31, 2017, the District collected two routine bacteriological samples from the distribution system. Of the two samples taken on January 31, 2017, both of the samples had results of total coliform-positive. In response to the positive results, the District collected seven repeat distribution samples on February 2, 2017. Two samples were collected at points downstream of the positive result sample points and two samples were collected at points upstream of the positive result sample point. Additional samples were collected at the nearest raw water source and at the two positive sample points. All seven repeat samples had results of total coliform-negative.

On March 6, 2017, the State Water Resources Control Board Division of Drinking Water (Division) issued a Citation for Violation of California Code of Regulations Title 22, Division 4, Chapter 15, Article 3, Section 64426.1 which mandated the District comply with the five following Directives:

1. Comply with the TCR in future monitoring periods.
2. Notify of all persons served by the District of the MCL violation.
3. Complete a Certification of Completion of Public Notification and file with the Division.
4. Submit a written response to the Division indicating the District's willingness to comply with the Directives of the Citation.
5. Conduct and submit a Level 1 assessment in accordance to Federal revised Total Coliform Rule.

The District complied with all five Directives within the deadline period. District staff also investigated possible causes for the MCL violation of the TCR and concluded that they were possibly linked to the flooding and severe weather events that took place earlier in the month. District staff also reviewed and improved the disinfection systems at all raw water pumping sources, reviewed sampling procedures and purchased new sampling equipment, and improved all sampling sites to avoid false positive results. Additionally, the District revised its Bacteriological Site Sampling Plan (BSSP) to eliminate as many fire hydrants, which are considered inferior sampling points, from the sampling schedule.

All routine bacteriological samples taken from the distribution since the violation have been total coliform-negative, E.coli-negative.